JAERI 1320

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NEANDC (J)-151/U
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JNDC Nuclear Data Library of Fission Products

—Second Version—

September 1990

日 本 原 子 力 研 究 所
Japan Atomic Energy Research Institute

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編集兼発行　日本原子力研究所
印　　刷　いばらき印刷㈱

JNDC Nuclear Data Library of Fission Products
– Second Version –

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(Received July 19, 1990)

Abstract

The second version of the JNDC (Japanese Nuclear Data Committee) FP (Fission Product) nuclear data library is described in this report. The library contains nuclear decay and fission yield data for 1078 unstable and 149 stable FP nuclides, and neutron cross section data for 166 nuclides. The decay data include half-life, branching ration, and total beta- and gamma-ray energies released per decay of each unstable nuclide. The theoretical and the experimental values of average beta and gamma decay energies have been thoroughly reexamined for each nuclide, and the best values or most reliable ones have been chosen for inclusion into the new version. The comparison of decay power curves between the calculaions with the new version and the measurements performed at the University of Tokyo, Oak Ridge National Laboratory and Los Alamos National Laboratory for variety of fissiles from ^{232}Th to ^{241}Pu shows clear improvement in agreement, in particular, around 1000 s and also after 1000 s. The decay power of fission products has been calcuated for twenty fission types and the results have been fitted by an analytical function with 33 exponentials. This permits the easy application of the present results of decay power calculations to a LOCA (Loss-of-Coolant Accident) analsis of a light water reactor and so on.

Keywords: Fission Product, Decay Data, Fission Yield Data, Neutron Capture Cross Section Data, Gross Theory, Data Library, Fission Energy, Decay Heat Power, Evaluation, Fitting Equation

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The work was performed in the evaluation work of the Working Group on Evaluation of Decay Heat, Japanese Nuclear Data Committee.

* Toshiba Corporation

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JNDCによる核分裂生成物の核データライブラリー
— 第2版 —

日本原子力研究所東海研究所シグマ研究委員会

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(1990年7月19日受理)

要　旨

JNDCの核分裂生成物核データライブラリーの第2版が整備された。ライブラリーには1078不安定FP核種と149安定FP核種に対する崩壊および核分裂収率データ，更に166核種に対する中性子断面積データが与えられている。崩壊データとしては各不安定核種の半減期と単位崩壊あたりのベータ線ならびにガンマ線崩壊エネルギーが含まれている。これらの崩壊エネルギーについては測定値および理論計算値をすべて見なおし，最適値すなわち最も信頼性の高い値を今回の第2版ライブラリーの値として採用した。東京大学，オークリッジ国立研究所ならびにロスアラモス国立研究所における^{232}Thから^{241}Puにわたる数多くの核分裂核種の崩壊熱の測定結果と新しい第2版ライブラリーによる計算結果との比較から1000秒近傍ならびにそれ以上の冷却時間範囲において第1版より一致度が向上していることが明らかとなった。第2版をもとに20の核分裂タイプの崩壊熱を計算し，その結果を33項の指数関数でフィティングを行った。このフィティングされた関数を使うことにより軽水炉のLOCA（冷却材喪失事故）での崩壊熱の計算その他に容易に今回のライブラリーに基づく崩壊熱の計算結果を適用出来る。

本報告書はシグマ研究委員会崩壊熱評価作業部会の評価作業をとりまとめたものである。

＊　㈱東芝

＊＊法政大学

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1. Introduction

The first self-sustaining chain reaction was achieved by Enrico Fermi group at Chicago University in 1942 shortly after the discovery of nuclear fission in 1939. Since then many types of reactors have been developed, for example Gas-Cooled Reactor (GCR), Light Water Reactor (LWR), Heavy Water Reactor (HWR), Liquid-Metal-Cooled Fast Breeder Reactor (LMFBR), and so on. Irrespective of a reactor type being considered, there are a number of important designing and operating criteria which require a knowledge of decay heat power of fission products (FPs), as well as other characteristics. The decay heat power of fission products plays an important role in predicting the heatup of nuclear fuel rods during a loss-of-coolant accident (LOCA) of LWR. The decay heat power is also important in designing the heat removal system of a reactor and also spent fuel handling equipments. Certain fission-products are important foe accurate reactivity predictions during fuel depletion, conversion, and burnup in nuclear reactor calculations.

Decay heat power may be determined by either integral measurements on mixed fission products or by calculations. Although the calculation may be preferred, by virtue of its generality, the integrally measured data were required in the earlier years to fill up the gaps between the calculations and the measurements at short cooling times because the decay data of short-lived fission products were scarce to calculate the decay heat power accurately at the short cooling times.

Extensive works have been done for decay heat power measurements and calculations since 1940s and the accuracy has been improved with time both in the measurement and calculation. There has been considerable improvement, in recent years, in the status of decay heat calculation, because of the progress of the evaluation of fission product decay data. It is, nevertheless, still necessary to measure the decay heat power accurately for some typical conditions in order to verify the calculation and to establish the confidence in the calculation method and its results. The measurements and the calculations of the decay heat power are considered as being complementary.

Since 1973, several new measurements of fission-product decay power were done in the United States, Japan and Sweden to improve the accuracy of fission-product decay power: (a) beta- and gamma-ray spectral measurement at Oak Ridge National Laboratory (ORNL)[1-4], (b) a fast response calorimetric measurement at Los Alamos National Laboratory (LANL)[5,6], (c) a total absorption or nuclear calorimetric measurement at Intelcom Radiation Technology (IRT) Corporation[7,8], (d) a second calorimetric measurement using different techniques at the University of California, Berkeley (UCB)[9], (e) beta- and gamma-ray spectral measurement at the University of Tokyo, Tokai (UTT)[10-12] for fast neutron fission and (f) beta- and gamma-ray spectral measurement at the Studsvik Neutron Research Laboratory[13] for the 2.3 MeV neutron fission of ^{238}U and the thernmal neutron fission of ^{235}U and ^{239}Pu. These experiments were planned mostly to support the safety analysis of the hypothetical LOCA in a light water reactor.

These recent and accurate measurements enable one to examine the accuracy of the summation calculation[14,15] of decay power. The summation calculation is based on solving analytically the large set of ordinary differential equations that describe the production and decay of each nuclide. The calculation, having the merit of versatility, can predict the decay power for a mixture of fissionable isotopes with complicated history including the transformation of fission products by neutron capture, and can also give detailed isotopic inventories of fission products. Although the method of the summation calculation is essentially exact, many of the required nuclear data for the calculation are imprecisely known. Theoretical or statistical estimations are necessary for giving half-lives and decay energies of such short-lived nuclides having imprecise data. The reliability of fission-product nuclear data library for the summation calcula-

tion of decay power should be examined by comparing the results of the summation calculation with the experimental data.

There exist several nuclear decay data libraries for the summation calculation of decay power: ENDF /B–IV, /B–V, French[16] and English[17] files, Tasaka's libraries[18,19], and JNDC–V1 library[20]. The latest ones may be ENDF/B–V and the JNDC–V1 library.

The decay powers calculated by the JNDC–V1 library showed much better agreement with the measured ones at ORNL, LANL and UTT (the University of Tokyo, Tokai) for the short cooling times up to 10^3 s than the results by the other existing nuclear data libraries such as ENDF/B–V did. The drastic improvement of the accuracy comes primarily from the adoption of the theoretical values of $\overline{E}_\beta$ and $\overline{E}_\gamma$ by the Gross Theory of beta decay for the nuclides with Q_β–values higher than 5 MeV with known and unknown half–lives and decay energies $\overline{E}_\beta$ and $\overline{E}_\gamma$. There are difficulties in constructing a decay scheme of a nuclide with high Q_β–value from experimental information based on gamma–ray spectrum measurements by Ge–detectors, because many high energy gamma–rays may remain unobserved and also because an appreciable amount of detected gamma–rays fail to be placed in right positions in the decay scheme. In that case some gama rays are often excluded from the decay scheme. For that reason $\overline{E}_\gamma$ value could be underestimated and the $\overline{E}_\beta$ value overestimated, when we use the decay scheme constructed from the gamma–ray spectroscopic data for the nuclides with high Q_β–value in order to derive those values. On the other hand, the Gross Theory can be applied satisfactorily to the high Q_β–value nuclides for which the strength of beta decay can be described by the continuous beta stength function. The introduction of the theoretical values of $\overline{E}_\beta$ and $\overline{E}_\gamma$ explained the overestimation of the beta deccay power and the underestimation of the gamma decay power in the existing libraries and brought about the remarkable improvement in the JNDC–V1 library.

The gamma decay heat powers calulated by the JNDC–V1 library, however, were larger than the measured ones of ^{235}U at ORNL or UTT by as much as 20% at the cooling times longer than 10^3 s and the beta decay heat powers were smaller than the measured values at that cooling times. To resolve these discrepancies the theoretical and/or experimental decay energies of each FP nuclide have been reevaluated[21–23] for the JNDC–V2 library. The evaluated decay energies have come out well to remove the discrepancy and are put in the JNDC–V2 library.

In Section 2, the nuclear data of fission products in the JNDC–V2 library will be described with the explanation of the data estimation method for nuclides with no or unreliable experimental information. The calculated decay heat power of fission products will be compared with measured results in Section 3. In Section 4, the decay heat power will be calculated for instantaneously burst fission, one–year irradiation and infinite irradiation of various fissionable nuclides and the results will be given in tabular forms and in simple equations. The summary will be described in Section 5.

2. Nuclear Data Library of Fission Products

The nuclear data of fission products have been compiled for the summation calculation of the decay power of fission products. The nuclear data included in the JNDC-V2 library are decay data (decay constant, Q_β-value for beta or electron capture decay, excitation energy of isomeric state, energies and intensities of beta-ray, positron, gamma-ray and internal conversion electron, and branching ratio of each decay mode including delayed neutron emission), fission yield data, and neutron capture cross section data. A library of the nuclear data has been prepared for 1227 fission products, of which 149 are stable and the others are unstable. **Table 2.0.1** summarizes the number of nuclides for which data of various types are available. The JNDC-V2 library contains the decay data and the fission yield data for all of the 1227 fission product nuclides and the neutron capture cross section data for 166 fission product nuclides of mass number from 66 to 172.

Table 2.0.1 General contents of present JNDC fission product nuclear data library

Number of Nuclide	Type, Comment
1227	Total number of nuclides in library
149	Stable nuclides
1078	Unstable nuclides
129	Nuclides with delayed neutron emission
536	Nuclides with known decay energies
542	Nuclides with estimated decay energies

2.1 Necessary Nuclear Data for Decay Power Calculation

Buildup and decay of fission product nuclides in a nuclear reactor can be described as:

$$\frac{dN_i}{dt} = -(\lambda_i + \sigma_i \phi) N_i - \sum_j f_{j\to i}(\lambda_j N_j) + \sum_k g_{k\to i}(\sigma_k \phi N_k) + y_i F, \tag{2.1.1}$$

where

N_i = atom number of nuclide i
λ_i = decay constant of nuclide i
σ_i = neutron reaction cross section of nuclide i
ϕ = neutron flux
$f_{j\to i}$ = production rate of nuclide i by the unit decay of nuclide j
$g_{k\to i}$ = production rate of nuclide i by the unit neutron reaction of nuclide k
y_i = independent fission yield for nuclide i
F = fission rate.

The decay power of fission products, $P(t)$, can be calculated as the summation of the activities of all fission product nuclides with the weight of decay energy of each nuclide,

$$P(t) = \sum_i E_i \{\lambda_i N_i(t)\}, \tag{2.1.2}$$

where

$P(t)$ = decay power of fission products

E_i = sensible decay energy of nuclide i.

The following nuclear data are necessary on each fission product nuclide to calculate the decay power of fission products by the summation method:

(1) Fission yields (y_i)

(2) Decay schemes ($f_{j\to i}$)

(3) Half-lives ($T_{i,1/2} = (\ln 2)/\lambda_i$)

(4) Decay energies (E_i)

(5) Neutron reaction cross section (σ_i, $g_{k\to i}$)

(6) Fission energies.

The sensible fission energy per unit fission in item (6) is necessary on each fissionable nuclide to calculate the fission rate from the operating power of a nuclear reactor. Different weights E_i become necessary in Eq. (2.1.2) to calculate the different characteristics of fission products. For example, the beta- and gamma-decay energies of each nuclide are necessary as the weight in Eq. (2.1.2) to calculate the beta and gamma decay powers of fission products, respectively. Beta- and gamma-ray spectral data of each nuclide are used to calculate the beta- and the gamma-ray spectra of aggregate fission products. The Q_β-value of each nuclide for beta decay and/or electron capture decay becomes necessary to calculate the total decay power of fission products including antineutrino energy. The Q_β-value is also indispensable in estimating the unknown decay data as will be shown in Sec. 2.3.

2.2 Decay Data

The decay data needed for the calculation of decay power by the summation method are half-lives, branching ratios and decay energies. The decay energies are the most important data among them. The primary source of the decay energies is the measured decay scheme. The measured data have been accumulated from various journals issued since the first version (JNDC-V1)[20] was published in 1983. The data in ENSDF (Evaluated Nuclear Structure Data File)[24] and TRI (Table of Radioactive Isotopes)[25] were also used to obtain the necessary decay data. The accumulated decay data were processed to calculate the average beta and gamma decay energies by using computer code PROFP[26].

Some of the measured data, however, suffer from a problem of missing gamma rays. In this case, it is known that the average beta energy is enhanced and the gamma energy is depressed when the measured decay scheme is used[27]. In order to avoid the situation, the theoretically estimated decay energies were adopted for the nuclides with the problem. Furtermore, there exist the nuclides with no measured infomation at all on the decay data. For those nuclides, the theoretically estimated decay data were also adopted. The method of the theoretical estimation and the criteria for the adoption of the estimated decay energies will be described in Section 2.3.

Delayed neutron emission probabilites are also included in the JNDC-V2 library for 129 nuclides based on the recommendation by Reeder[28] and the estimation by a systematics. The nuclides with the neutron emission probabilities were selected to have the cumulative fission yields larger than 10^{-3} for ^{235}U fission by either thermal or fast neutrons.

2.3 Theoretical Estimation of Half-Lives and Average Energies

In the previous version, JNDC-V1[20], we applied the Gross Theory of beta-decay[29] in order to estimate the half-lives and the average energies of beta- and gamma-rays emitted from beta decaying nuclides, the decay scheme of which is scarecely known experimentally. Most of those nuclides were short-lived and their half-lives were shorter than several minutes. They play, generally, quite an important role in decay heat generation shortly after the termination of an irradiation or a reactor shut-down. The adoption of the estimated decay energies for those nuclides led to a good agreement between

the calculated and the measured decay power curves even in a relatively short cooling-time rang[27]. In the JNDC-V2 library, the Gros Theory is applied again for the estimation of decay data of the short-lived nuclides whose experimental data are scarce even now or are insufficient from the view point of the reliable calculation of the beta decay energy $\overline{E}_\beta$ and the gamma $\overline{E}_\gamma$.

2.3.1 Beta Strength Function and Gross Theory

Excepting the case of beta decay of very low Q_β-value where only a few final levels are involved, the decay of a parent nucleus (Z, N) feeds many excied levels ε_i in a daughter nucleus (Z+1, N−1) as is illustrated in **Fig. 2.3.1.** At first, the excess energy $Q_\beta-\varepsilon_i$ is released by the beta ray and the antineutrino. Then the populated level at the excitation energy of ε_i is de-excited by the emission of gama rays. It is essential to know the branching ratios a_i to each excited level in order to calculate the averge values of the beta-ray and the gama-ray energies released per decay of a parent nucleus. Because the probability that an antineutrino makes an interaction with matters is substantially zero, we are not interested in calculating the average antineutrino energy for application purposes.

In high Q_β-value decays, it is more convenient to use the beta strength function rather than to speak about the branching ratio to each level, because the final levels are quite dense. The beta strength function, $S_\beta(E)$, is defined as

$$S_\beta(E)=\frac{1}{\ln 2\cdot f}\bar{\lambda}_i\rho, \tag{2.3.1}$$

where $f(E)$ is the integrated Fermi function[30] and ρ is the level density in the vicinity of the i-th level. The partial decay constant λ_i is expressed as $\lambda_i=a_i\lambda$ by the use of the branching ratio a_i and the total decay constant λ. The bar above λ_i in Eq. (2.3.1) denotes that an averaging procedure should be taken over a suitable energy range around E. When the beta-strength function, $S_\beta(E)$, is given, we can calculate the average beta- and gamma-ray energies and the half-life.

The Gross Theory exprssion of total decay constant is[29]

$$\lambda=\frac{1}{2\pi^3}\int_{-Q}^{0}\sum_{\Omega}|g_\Omega|^2\cdot|M_\Omega(E_g)|^2 f(-E_g+1)dE_g. \tag{2.3.2}$$

Here the notation $\sum_\Omega|g_\Omega|^2\cdot M_\Omega(E_g)|^2$ is used for the beta-strength function instead of $S_\beta(E)$, where the energy variable, E_g, is related to E in Eq. (2.3.1) through $E_g=Q_\beta-E$. The essence of the Gross Theory lies in a way to evaluate the strength function with the aid of the following sum rules and a relatively simple nuclear model,

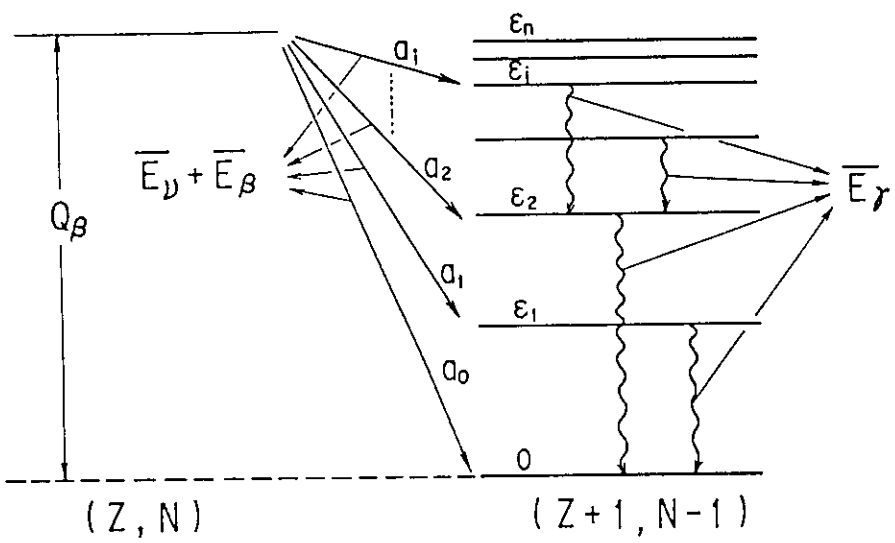


Fig. 2.3.1 Schematic diagram of beta- and gamma-decays of a parent nuclide (Z, N) to the daughter nuclide (Z+1, Z−1)

$$\int_{-Q}^{\infty} |M_{\Omega}(E_g)|^2 dE_g = (\Psi, \Omega^{+}\Omega\Psi)$$

$$\int_{-Q}^{\infty} E_g |M_{\Omega}(E_g)|^2 dE_g = (\Psi, \Omega^{+}[H, \Omega]\Psi)$$

$$\int_{-Q}^{\infty} E_g^2 |M_{\Omega}(E_g)^2| dE_g = (\Psi, [\Omega^{+}, H][H, \Omega]\Psi), \tag{2.3.3}$$

where Ψ is the wave function of an initial state, and H stands for the hamiltonian of the whole system considered.

A close parallel procedure with the decay constant leads to the Gross Theory expressions for the average beta– and the gamma–ray energies,

$$\overline{E}_{\beta} = \frac{1}{2\pi^3\lambda}\int_{-Q}^{0} \sum_{\Omega} |g_{\Omega}|^2 \cdot |M_{\Omega}(E_g)|^2 \int_{1}^{-E_g+1} mc^2(E-1) \times pE(-E_g+1-E)^2 F(E)\, dE\, dE_g, \tag{2.3.4}$$

$$\overline{E}_{\gamma} = \frac{1}{2\pi^3\lambda}\int_{-Q}^{0} \sum_{\Omega} |g_{\Omega}|^2 \cdot |M_{\Omega}(E_g)|^2 mc^2(Q+E_g) \times \int_{1}^{-E_g-1} pE(-E_g+1-E)^2 F(E)\, dE\, dE_g, \tag{2.3.5}$$

where F stands for the Fermi function, and p for the electron momentum.

As for the types of the beta transitions: the Fermi, the Gamow–Teller and the first–forbidden transitions, are taken into account in a computer code[31] employed here. In the present purpose of the estimation of the average beta– and the gamma–energies, the effect of the selection rules applied to decays to low–lying levels plays a critical role, because the prohibition of the decay to the ground and the lowest several leves of a daughter nucleus appreciably increases the gamma energy and decreases the beta energy (see **Fig. 2.3.1**). To introduce the effect into the calculation of the values of $\overline{E}_{\beta}$ and $\overline{E}_{\gamma}$, the calculate beta strengths were modified to be zero below the lowest level which is actually fed by a direct beta transition. The energy of the lowest level, denoted as Q_{00} hereafter, is not known for nuclides for which the estimation of $\overline{E}_{\beta}$ and $\overline{E}_{\gamma}$ values are required. The Q_{00} value was determined by the method described in Sec. 2.3.2. The strengths over the prohibited energy range was assumed to be concentrated at the energy of Q_{00}. A schematic display of the beta strength functions is given in **Fig. 2.3.2**. The broad peak of the Gamow –Teller strength shown in **Fig. 2.3.2** corresponds to Gamow–Teller giant resonance.

2.3.2 Adoption of Theoretically Estimated Average Energies

The theoretically estimated average decay energies are adopted for the nuclides with no experimental information and for those which are considered to have a measurement problem of missimg gamma rays: some gamma rays have not been measured at all or may have not been placed in a right position in the decay scheme. For a nuclide with no experimental information about the average decay energies, the energies were estimated by the same method, i.e. the Gross Theory, as used in the fist version JNDC–V1[20].

For the nuclide with a measured decay scheme, it is very important to examine whether the decay scheme is suitable or not for deducing the average energies. The Q_{β} value was considered as a guide of assorting the nuclides with such a problem as missing gamma rays when JNDC–V1 was complied. And the average energies of a nuclide with higher Q_{β} value than 5 MeV were estimated by the Gross Theory even through the decay scheme was measured.

After the compilation of the JNDC–V1 library, it has been recognized from the examination of the decay schemes that there exist some nuclides whose decay schemes are well established even if their Q_{β} values are greater than 5 MeV. And also some of the nuclides with lower Q_{β} value than 5 MeV have the decay schemes which are not established well by experiment. The criterion on Q_{β} value is not used in the

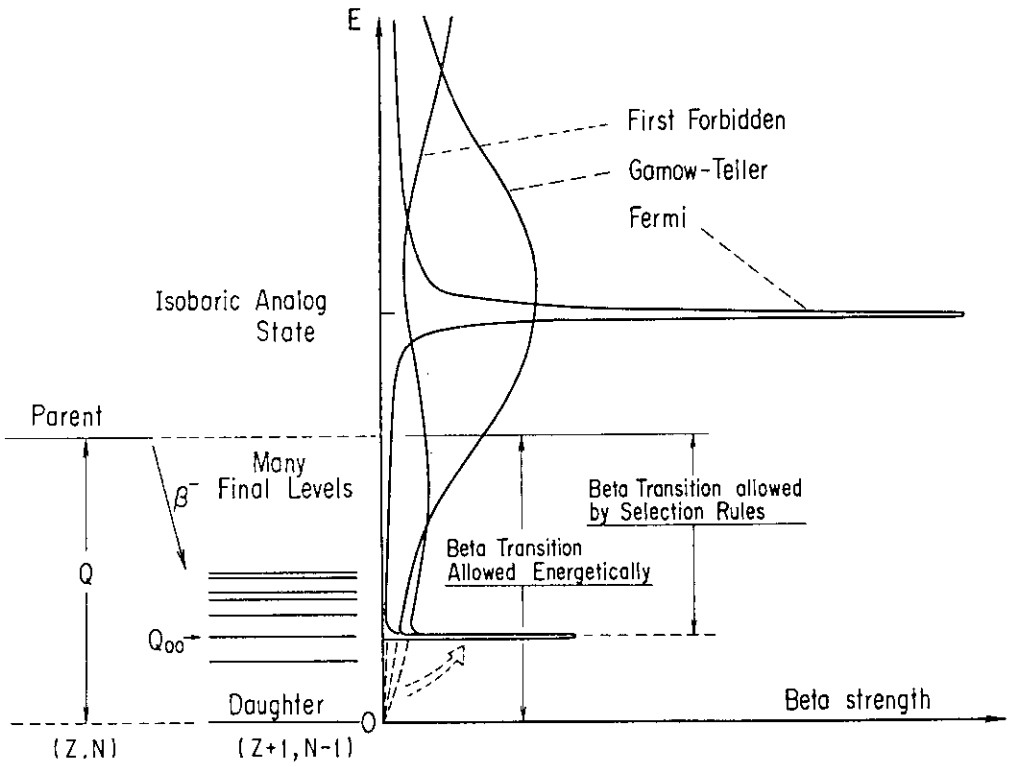


Fig. 2.3.2 Schematic diagram of beta strength function and beta decay.

present version JNDC–V2.

In stead of that criterion, we payed an attention to the ratio(E_L/Q_β) of the energy E_L of the highest level confirmed by the measurement to the Q_β value, and also to the number (N_L) of levels observed.[21,32,33] They offer rough measures of the reliability of the measured decay scheme or the degree of the missing beta intensity to highly excited levels. The larger E_L/Q_β and N_L would be preferable. Of course this is not always true for every nuclides. It is obvious that some nuclides decay to only low–lying levels according to the selection rule depending on the nuclear structure. Those values, however, offer a useful guide to assort the nuclides with a defect decay scheme at the first step of the examination of decay schemes.

The average energies of a nuclide considered to have some defects in the decay scheme are also estimated by the Gross Theory. In the estimation, a parameter Q_{00}, which is introduced to take into account the effect of the prohibition of beta decay to low–lying levels by the selection rule as described in the previous section, affects the calculated average energy values considerably. It is difficult to determine the definite Q_{00} value theoretically for each individual nuclide. It is observed that strong intensity of beta transition can be portioned in several low–lying levels of a daughter nucleus. We have tried to estimate the Q_{00} value by paying an attention to the measured low–lying levels. The Q_{00} value was determined as the mean energy of the levels strongly populated by beta decay.[21,32,33]

As an examample, the distribution of beta feeding and the calculated $\overline{E}_\beta$ value are shown as a function of the Q_{00} value in **Fig. 2.3.3** for ^{87}Br decay[34]. The decay scheme of that nuclide is considered to be well established and the $\overline{E}_\beta$ and $\overline{E}_\gamma$ values deduced from the decay scheme are adopted in the JNDC–V2 library. The $\overline{E}_\beta$ value is 1.52 MeV. The Q_{00} value which gives the $\overline{E}_\beta$ value of 1.52 MeV is 2.57 MeV according to the calculation by the Gross Theory. The Q_{00} value of 2.57 MeV is nearly equal to the mean energy value of 2.63 MeV for the levels strongly fed by the beta decay. The value of 2.63 MeV was calculated by averaging the energies of the levels which have the beta feeds greater than 1 % of total decay.

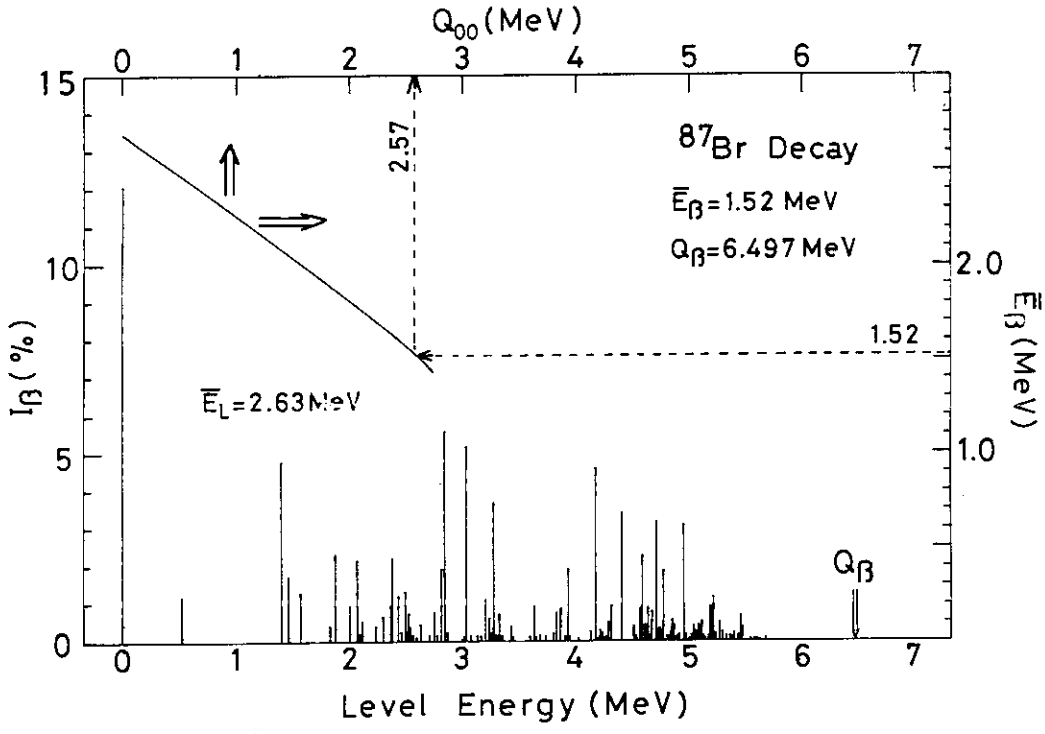


Fig. 2.3.3 Distribution of experimental beta feeding in ^{87}Br decay[34] and calcuated average beta energy value as a function of a-paramter Q_{00} in the gross theory. The $\bar{E}_L$ value in the figure is the mean energy value of levels strongly fed by beta deccy.

For some nuclides, directly-measured $\bar{E}_\beta$ values was available. The average energies were determined so that the calculated average $\bar{E}_\beta$ energy of the nuclide agreed with the directly measured ones. The $\bar{E}_\beta$ and $\bar{E}_\gamma$ values calculated by the present method are adopted in the JNDC-V2 library.

2.4 Fission Yields

Data of independent and cumulative yields of fission products are very important in the calculation of decay power. The experimental data are, however, far from complete, because the behavior of the measured yields shows a very complicated function of independent yields of the preceding nuclides in the decay chain including many short-lived nuclides. It is usually difficult to compare and to evaluate many measured data on yields in a region of interest even for the case of the thermal neutron fission of ^{235}U. The individual yields, generally, have been evaluated empirically by using an appropriate theoretical assumption.

The fission yield data included in the JNDC-V2 library are based on those compiled by Rider and Meek[35]. When a new isomer is found or some isomer adopted in the compilation proves not to exist, the independent yield given by Rider and Meek should by revised as will be described in this section. The cumulative yields have been calculated from the independent yields using the branching ratios adopted in our decay scheme evaluation. The fission yield data evaluated in the present work are those for the thermal neutron fissions of ^{233}U, ^{235}U, ^{239}Pu, ^{241}Pu, the fast neutron fissions of ^{232}Th, ^{233}U, ^{235}U, ^{236}U, ^{238}U, ^{237}Np, ^{239}Pu, ^{240}Pu, ^{241}Pu, ^{242}Pu, the 14 MeV neutron fissions of ^{232}Th, ^{233}U, ^{235}U, ^{238}U, ^{239}Pu, and the spontaneous fission of ^{252}Cf.

In the compilation works in 1978 and 1987, Rider et al.[35-37] postulated that the independent yields were expressed as a symmetric Gaussian charge distribution with even-odd effects in proton and neutron pairing. They made further adjustment by taking account of available experimental data. The results were

adopted in ENDF/B–V. In the present work most of the yield data have been taken from the compliation by Rider et al.[35]. But it requested further information about short–lived nuclides far from stability line than theirs, and up–to–date data on isomeric state. We calculated the necessary yield values by following the treatment described in Ref. 35. The main items of the revision are summarized as follows:

1) The distribution of independent yield strength between the ground and isomeric states of primary fission products was evaluated by the method of Madland and England with the recent experimental data of spin–parity values[38]. The values of metastable nuclide fraction of yields are tabulated in **Table 2.4.1** for a total of 189 nuclides.
2) The increase in the number of nuclides in the JNDC–V2 library is about 140 and their yields have been estimated.
3) Recent experiments have denied the existence of the isomeric state of ^{74}As, ^{85}Se, ^{109}Rh and ^{162}Tb adopted in Ref. 35. These isomeric states were removed and their yields were added to those of the ground states.

The equations and the parameter values in the present evaluation will be briefly described in the following. In a given mass chain of mass number A the fractional independent yield of an isobar of atomic number Z is approximated by a symmetric Gaussian function[39, 40] as follows:

$$f(A,\ Z)=\frac{1}{\sigma\sqrt{2\pi}}\int_{Z-0.5}^{Z+0.5} exp\left[\frac{(Z-Z_p(A))^2}{2\sigma^2}\right]dZ, \tag{2.4.1}$$

where $Z_p(A)$ is the most probable charge and σ the Gaussian width. The sum is given by the well–known relation as

$$\sum_{Z=0}^{\infty} f(A,\ Z)=1 \tag{2.4.2}$$

Wahl el al.[39] had proposed the Gaussian distribution of the independent yield in their phenomenological model. After that several investigations[41,42] presented the evidence for the fact that the even–odd effect in proton– and neutron–pairing distorts the Gaussian distribution of the yield. We modified the independent yield distribution as follows. Let $F_x(A,\ Z)$ be a correction factor for the even–odd effect and let $Y(A)$ be a mass yield before delayed–neutron emission. The yields $Y(A,\ Z)$ and $Y(A)$ are given by

$$Y(A,\ Z)=N(A)\cdot F_x(A,\ Z)\cdot f(A,\ Z), \tag{2.4.3a}$$

$$Y(A)=\sum_z Y(A,\ Z)=N(A)\cdot\sum_z F_x(A,\ Z)\cdot f(A,\ Z), \tag{2.4.3b}$$

where $N(A)$ is a normalization constant such that the sum of yields becomes 200% per fission. The $F_x(A,\ Z)$'s are expressed in the following forms[35,43],

$$\begin{aligned} F_x(A,\ Z) &= 1+(p+n) && \text{for even A – even Z,}\\ &= 1-(p-n) && \text{for odd A – even Z,}\\ &= 1-(p-n) && \text{for odd A – odd Z,}\\ &= 1-(p-n) && \text{for even A – odd Z,} \end{aligned}$$

where p is proton–pairing term and n neutron–pairing term.

Expereimental data are not enough, but indicate that the values of the magnitude of p and n depend on fissile and the incident energy of neutron. The values were esimated with the simple empirical equation proposed by Madland and England[43]. The results are tabulated in **Table 2.4.2**. The Gaussian width parmameter σ is taken to be 0.56 ± 0.06 irrespective of number, fissile nuclide and neutron energy.

The most probable charge $Z_p(A)$ has been estimated by several investigators. Rider and Meek adopted the values by Wahl et al.[40] and Nethaway[44] and added another correction term for ternary fission, which was estimated by Madland and Stewart[45]. The $Z_p(A)$ value is expressed as the sum of standard value for thermal neutron fission of ^{235}U and the small correction terms as follows:

Table 2.4.1 The fraction (M/M+G) of meta stable state yield

NO.	NAME(NUCLIDE)			SPIN G	SPIN M	THERMAL	FAST	HIGH ENG
1	CU	68	(290680)	1+	6−	0.70078	0.73162	0.81873
2	ZN	69	(300690)	1/2−	9/2+	0.81219	0.83243	0.88840
3	CU	70	(290700)	1+	5−	0.75105	0.77695	0.84977
4	ZN	71	(300710)	1/2−	9/2+	0.81219	0.83243	0.88840
5	GE	73	(320730)	9/2+	1/2−	0.18781	0.16757	0.11160
6	GA	74	(310740)	4−	1+	0.19211	0.17097	0.11308
7	GE	75	(320750)	1/2−	7/2+	0.86743	0.88250	0.92312
8	GE	77	(320770)	7/2+	1/2−	0.13257	0.11750	0.07688
9	SE	77	(340770)	1/2−	7/2+	0.86743	0.88250	0.92312
10	BR	77	(350770)	3/2−	9/2+	0.76593	0.79107	0.86071
11	GE	79	(320790)	1/2−	7/2+	0.86743	0.88250	0.92312
12	SE	79	(340790)	7/2+	1/2−	0.13257	0.11750	0.07688
13	BR	79	(350790)	3/2−	9/2+	0.76593	0.79107	0.86071
14	KR	79	(360790)	1/2−	7/2+	0.86743	0.88250	0.92312
15	BR	80	(350800)	1+	5−	0.75105	0.77695	0.84977
16	SE	81	(340810)	1/2−	7/2+	0.86743	0.88250	0.92312
17	KR	81	(360810)	7/2+	1/2−	0.13257	0.11750	0.07688
18	RB	81	(370810)	3/2−	9/2+	0.76593	0.79107	0.86071
19	AS	82	(330820)	1+	5−	0.75105	0.77695	0.84977
20	BR	82	(350820)	5−	2−	0.29922	0.26838	0.18127
21	RB	82	(370820)	1+	5−	0.75105	0.77695	0.84977
22	SE	83	(340830)	9/2+	1/2−	0.18781	0.16757	0.11160
23	KR	83	(360830)	9/2+	1/2−	0.18781	0.16757	0.11160
24	AS	84	(330840)	1−	5+	0.75105	0.77695	0.84977
25	BR	84	(350840)	2−	6−	0.64271	0.67723	0.77766
26	RB	84	(370840)	2−	6+	0.64271	0.67723	0.77766
27	KR	85	(360850)	9/2+	1/2−	0.18781	0.16757	0.11160
28	SR	85	(380850)	9/2+	1/2−	0.18781	0.16757	0.11160
29	RB	86	(370860)	2−	6−	0.64271	0.67723	0.77766
30	Y	86	(390860)	4−	8+	0.42429	0.46955	0.61392
31	SR	87	(380870)	9/2+	1/2−	0.18781	0.16757	0.11160
32	Y	87	(390870)	1/2−	9/2+	0.81219	0.83243	0.88840
33	Y	89	(390890)	1/2−	9/2+	0.81219	0.83243	0.88840
34	ZR	89	(400890)	9/2+	1/2−	0.18781	0.16757	0.11160
35	RB	90	(370900)	1−	4−	0.80789	0.82903	0.88692
36	Y	90	(390900)	2−	7+	0.58665	0.62578	0.74082
37	ZR	90	(400900)	0+	5−	0.80789	0.82903	0.88692
38	Y	91	(390910)	1/2−	9/2+	0.81219	0.83243	0.88840
39	NB	91	(410910)	9/2+	1/2−	0.18781	0.16757	0.11160
40	NB	92	(410920)	7+	2+	0.41335	0.37422	0.25918
41	Y	93	(390930)	1/2−	9/2+	0.81219	0.83243	0.88840
42	NB	93	(410930)	9/2+	1/2−	0.18781	0.16757	0.11160
43	MO	93	(420930)	5/2+	21/2+	0.37929	0.42534	0.57591
44	NB	94	(410940)	6+	3+	0.41335	0.37422	0.25918
45	NB	95	(410950)	9/2+	1/2−	0.18781	0.16757	0.11160
46	TC	95	(430950)	9/2+	1/2−	0.18781	0.16757	0.11160
47	Y	96	(390960)	0−	4+	0.85135	0.86810	0.91345
48	TC	96	(430960)	7+	4+	0.52606	0.48121	0.34295
49	Y	97	(390970)	1/2−	9/2+	0.81219	0.83243	0.88840
50	NB	97	(410970)	9/2+	1/2−	0.18781	0.16757	0.11160

Table 2.4.1 Continued

NO.	NAME(NUCLIDE)			SPIN G	SPIN M	THERMAL	FAST	HIGH ENG
51	TC	97	(430970)	9/2+	1/2−	0.18781	0.16757	0.11160
52	Y	98	(390980)	1+	5+	0.75105	0.77695	0.84977
53	NB	98	(410980)	1+	5+	0.75105	0.77695	0.84977
54	NB	99	(410990)	9/2+	1/2−	0.18781	0.16757	0.11160
55	TC	99	(430990)	9/2+	1/2−	0.18781	0.16757	0.11160
56	Y	100	(391000)	1+	5+	0.75105	0.77695	0.84977
57	NB	100	(411000)	1+	5+	0.75105	0.77695	0.84977
58	RH	100	(451000)	1−	5+	0.75105	0.77695	0.84977
59	RH	101	(451010)	1/2−	9/2+	0.81219	0.83243	0.88840
60	NB	102	(411020)	1+	5+	0.75105	0.77695	0.84977
61	TC	102	(431020)	1+	5+	0.75105	0.77695	0.84977
62	RH	102	(451020)	6+	2−	0.35729	0.32277	0.22234
63	RH	103	(451030)	1/2−	7/2+	0.86743	0.88250	0.92312
64	NB	104	(411040)	6+	1+	0.29922	0.26838	0.18127
65	RH	104	(451040)	1+	5+	0.75105	0.77695	0.84977
66	RH	105	(451050)	7/2+	1/2−	0.13257	0.11750	0.07688
67	AG	105	(471050)	1/2−	7/2+	0.86743	0.88250	0.92312
68	RH	106	(451060)	1+	6+	0.70078	0.73162	0.81873
69	AG	106	(471060)	1+	6+	0.70078	0.73162	0.81873
70	PD	107	(461070)	5/2+	11/2−	0.65268	0.68729	0.78663
71	AG	107	(471070)	1/2−	7/2+	0.86743	0.88250	0.92312
72	RH	108	(451080)	1+	6+	0.70078	0.73162	0.81873
73	AG	108	(471080)	1+	6+	0.70078	0.73162	0.81873
74	RU	109	(441090)	3/2+	11/2+	0.70715	0.73673	0.82106
75	PD	109	(461090)	5/2+	11/2−	0.65268	0.68729	0.78663
76	AG	109	(471090)	1/2−	7/2+	0.86743	0.88250	0.92312
77	RH	110	(451100)	1+	6+	0.70078	0.73162	0.81873
78	AG	110	(471100)	1+	6+	0.70078	0.73162	0.81873
79	IN	110	(491100)	2+	7+	0.58665	0.62578	0.74082
80	PD	111	(461110)	5/2+	11/2−	0.65268	0.68729	0.78663
81	AG	111	(471110)	1/2−	7/2+	0.86743	0.88250	0.92311
82	CD	111	(481110)	1/2+	11/2−	0.76593	0.79107	0.86071
83	IN	111	(491110)	9/2+	1/2−	0.18781	0.16757	0.11160
84	IN	112	(491120)	1+	4+	0.80789	0.82903	0.88692
85	AG	113	(471130)	1/2−	7/2+	0.86743	0.88250	0.92312
86	CD	113	(481130)	1/2+	11/2−	0.76593	0.79107	0.86071
87	IN	113	(491130)	9/2+	1/2−	0.18781	0.16757	0.11160
88	SN	113	(501130)	1/2+	7/2+	0.86743	0.88250	0.92312
89	IN	114	(491140)	1+	5+	0.75105	0.77695	0.84977
90	AG	115	(471150)	1/2−	7/2+	0.86743	0.88250	0.92312
91	CD	115	(481150)	1/2+	11/2−	0.76593	0.79107	0.86071
92	IN	115	(491150)	9/2+	1/2−	0.18781	0.16757	0.11160
93	AG	116	(471160)	1+	4+	0.80789	0.82903	0.88692
94	IN	116	(491160)	1+	5+	0.55497	0.56588	0.59450
					8−	0.26107	0.27166	0.30040
95	SB	116	(511160)	3+	8−	0.47394	0.51879	0.65705
96	AG	117	(471170)	1/2−	7/2+	0.86743	0.88250	0.92312
97	CD	117	(481170)	1/2+	11/2−	0.76593	0.79107	0.86071
98	IN	117	(491170)	9/2+	1/2−	0.18781	0.16757	0.11160
99	SN	117	(501170)	1/2+	11/2−	0.76593	0.79107	0.86071
100	AG	118	(471180)	1+	4+	0.80789	0.82903	0.88692

Table 2.4.1 Continued

NO.	NAME(NUCLIDE)			SPIN G	SPIN M	THERMAL	FAST	HIGH ENG
101	IN	118	(491180)	1+	5+	0.55497	0.56588	0.59450
					8−	0.26107	0.27166	0.30040
102	SB	118	(511180)	1+	8−	0.58665	0.62578	0.74082
103	CD	119	(481190)	1/2+	11/2−	0.76593	0.79107	0.86071
104	IN	119	(491190)	9/2+	1/2−	0.18781	0.16757	0.11160
105	SN	119	(501190)	1/2+	11/2−	0.76593	0.79107	0.86071
106	TE	119	(521190)	1/2+	11/2−	0.76593	0.79107	0.86071
107	AG	120	(471200)	3+	6−	0.58665	0.62578	0.74082
108	IN	120	(491200)	1+	5+	0.75105	0.77695	0.84977
109	SB	120	(511200)	1+	8−	0.58665	0.62578	0.74082
110	CD	121	(481210)	3/2+	11/2−	0.70715	0.73673	0.82106
111	IN	121	(491210)	9/2+	1/2−	0.18781	0.16757	0.11160
112	SN	121	(501210)	3/2+	11/2−	0.70715	0.73673	0.82106
113	TE	121	(521210)	1/2+	11/2−	0.76593	0.79107	0.86071
114	IN	122	(491220)	1+	4+	0.80789	0.82903	0.88692
115	SB	122	(511220)	2−	8−	0.53130	0.57257	0.69779
116	IN	123	(491230)	9/2+	1/2−	0.18781	0.16757	0.11160
117	SN	123	(501230)	11/2−	3/2+	0.29285	0.26327	0.17894
118	TE	123	(521230)	1/2+	11/2−	0.76593	0.79107	0.86071
119	IN	124	(491240)	2+	5+	0.70078	0.73162	0.81873
120	SB	124	(511240)	3−	5+	0.48620	0.50240	0.54536
					8−	0.24351	0.25815	0.29872
121	IN	125	(491250)	9/2+	1/2−	0.18781	0.16757	0.11160
122	SN	125	(501250)	11/2−	3/2+	0.29285	0.26327	0.17894
123	TE	125	(521250)	1/2+	11/2−	0.76593	0.79107	0.86071
124	IN	126	(491260)	5+	1+	0.24895	0.22305	0.15023
115	SB	126	(511260)	8−	5+	0.63048	0.58314	0.42879
126	IN	127	(491270)	11/2−	3/2+	0.29285	0.26327	0.17894
127	SN	127	(501270)	11/2−	3/2+	0.29285	0.26327	0.17894
128	TE	127	(521270)	3/2+	11/2−	0.70715	0.73673	0.82106
129	XE	117	(541270)	1/2+	9/2−	0.81219	0.83243	0.88840
130	IN	128	(491280)	1+	4+	0.80789	0.82903	0.88692
131	SB	128	(511280)	8−	5+	0.63048	0.58314	0.42879
132	IN	129	(491190)	9/2+	1/2+	0.18781	0.16757	0.11160
133	SN	129	(501290)	3/2+	11/2−	0.70715	0.73673	0.82106
134	SB	129	(511290)	7/2+	1/2+	0.13257	0.11750	0.07688
135	TE	129	(521290)	3/2+	11/2−	0.70715	0.73673	0.82106
136	XE	129	(541290)	1/2+	11/2−	0.76593	0.79107	0.86071
137	SN	130	(501300)	0−	7−	0.70078	0.73162	0.81873
138	SB	130	(511300)	4+	8−	0.42429	0.46955	0.61392
139	I	130	(531300)	5+	2+	0.29922	0.26838	0.18127
140	IN	131	(491310)	9/2+	1/2−	0.14144	0.11834	0.05999
					21/2+	0.24691	0.29378	0.46242
141	SN	131	(501310)	3/2+	11/2−	0.70715	0.73673	0.82106
142	TE	131	(521310)	3/2+	11/2−	0.70715	0.73673	0.82106
143	XE	131	(541310)	3/2+	11/2−	0.70715	0.73673	0.82106
144	SB	132	(511320)	4+	8−	0.42429	0.46955	0.61392
145	I	132	(531320)	4+	8−	0.42429	0.46955	0.61392
146	TE	133	(521330)	3/2+	11/2−	0.70715	0.73673	0.82106
147	I	133	(531330)	7/2+	19/2−	0.37929	0.42534	0.57591
148	XE	133	(541330)	3/2+	11/2−	0.70715	0.73673	0.82106
149	BA	133	(561330)	1/2+	11/2−	0.76593	0.79107	0.86071
150	SB	134	(511340)	1+	4+	0.80789	0.82903	0.88692

Table 2.4.1 Continued

NO.	NAME(NUCLIDE)			SPIN G	SPIN M	THERMAL	FAST	HIGH ENG
151	I	134	(531340)	4+	8−	0.42429	0.46955	0.61392
152	XE	134	(541340)	0+	7−	0.70078	0.73162	0.81873
153	CS	134	(551340)	4+	8−	0.42429	0.46955	0.61392
154	XE	135	(541350)	3/2+	11/2−	0.70715	0.73673	0.82106
155	CS	135	(551350)	7/2+	19/2−	0.37929	0.42534	0.57591
156	BA	135	(561350)	3/2+	11/2−	0.70715	0.73673	0.82106
157	I	136	(531360)	2−	5−	0.70078	0.73162	0.81873
158	CS	136	(551360)	5+	2−	0.29922	0.26838	0.18127
159	BA	136	(561360)	0+	7−	0.70078	0.73162	0.81873
160	BA	137	(561370)	3/2+	11/2−	0.70715	0.73673	0.82106
161	CE	137	(581370)	3/2+	11/2−	0.70715	0.73673	0.82106
162	CS	138	(551380)	3−	6−	0.58665	0.62578	0.74082
163	PR	138	(591380)	1+	7−	0.64271	0.67723	0.77766
164	CE	139	(581390)	3/2+	11/2−	0.70715	0.73673	0.82106
165	PR	142	(591420)	2−	5−	0.70078	0.73162	0.81873
166	XE	143	(541430)	3/2+	11/2−	0.70715	0.73673	0.82106
167	PR	144	(591440)	0−	3−	0.88532	0.89822	0.93316
168	LA	146	(571460)	1−	5−	0.75105	0.77695	0.84977
169	PR	148	(591480)	3+	6−	0.58665	0.62578	0.74082
170	PM	148	(611480)	1−	6−	0.70078	0.73162	0.81873
171	EU	150	(631500)	4−	0−	0.14865	0.13190	0.08655
172	PM	152	(611520)	1+	4+	0.55719	0.56548	0.58708
					6+	0.31032	0.31790	0.33807
173	EU	152	(631520)	3−	0−	0.06380	0.05171	0.02398
					8−	0.44371	0.49197	0.64129
174	PM	154	(611540)	0+	3+	0.89883	0.91051	0.94176
175	EU	154	(631540)	3−	8−	0.47394	0.51879	0.65705
176	TB	154	(651540)	0+	3−	0.72664	0.73195	0.74564
					7−	0.19157	0.19611	0.20825
177	TB	156	(651560)	3−	0+	0.10117	0.08949	0.05824
178	TB	158	(651580)	3−	0−	0.11468	0.10178	0.06684
179	HO	158	(671580)	5+	2−	0.22313	0.18687	0.09433
					9+	0.25427	0.30371	0.47964
180	HO	160	(671600)	5+	2−	0.29922	0.26838	0.18127
181	HO	161	(671610)	7/2−	1/2+	0.13257	0.11750	0.07688
182	HO	162	(671620)	1−	6−	0.70078	0.73162	0.81873
183	HO	163	(671630)	7/2−	1/2+	0.13257	0.11750	0.07688
184	HO	164	(671640)	1+	6−	0.70078	0.73162	0.81873
185	DY	165	(661650)	7/2+	1/2−	0.13257	0.11750	0.07688
186	HO	166	(671660)	0−	7−	0.69234	0.72314	0.81130
187	ER	167	(681670)	7/2−	1/2−	0.13257	0.11750	0.07688
188	HO	170	(671700)	1+	4+	0.80789	0.82903	0.88692
189	LU	172	(711720)	4+	1−	0.19211	0.17097	0.11308

Table 2.4.2 Parameters of pairing effects on the distribution of independent yield in neutron-induced fission (taken from the report by Rider and Meek[35])

Fissile	Proton effects (p)	Neutron effects (n)
^{235}U(T)[a]	0.228	0.044
^{235}U(F)[b]	0.151	0.029
^{235}U(H)[c]	0.015	0.003
^{238}U(F)	0.329	0.063
^{238}U(H)	0.018	0.003
^{239}Pu(T)	0.171	0.033
^{239}Pu(F)	0.124	0.024
^{241}Pu(T)	0.206	0.040
^{233}U(T)	0.210	0.041
^{232}Th(F)	0.327	0.063
^{232}Th(H)	0.018	0.003
^{233}U(F)	0.143	0.028
^{233}U(H)	0.015	0.003
^{236}U(F)	0.166	0.022
^{237}Np(F)	0.0	0.0
^{239}Pu(H)	0.015	0.003
^{240}Pu(F)	0.244	0.047
^{241}Pu(F)	0.141	0.027
^{242}Pu(F)	0.364	0.070
^{252}Cf(S)[d]	0.005	0.0097

a: thermal neutrons
b: fission spectrum neutrons
c: 14-MeV neutrons
d: spontaneous fission

$$Z_p(A) = Z_p(A,\ Standard) + \Delta Z_p(Ternary) - \Delta Z_p(A). \tag{2.4.4}$$

The first term in the right hand side is the standard value for thermal neutron fission of ^{235}U and it is tabulated in Table A-11 of Ref. 44. The second term is the correction term for the ternay fission, and the third term is decomposed again into the following three terms:

$$\Delta Z_p(A) = a(Z_c - 92) + b(A_c - 236) + c(E^* - 6.52), \tag{2.4.5}$$

where Z_c and A_c are the charge and the mass number of a compound nucleus, respectively, and E^* is the excitation energy in MeV. the values of the coefficients a, b and c and determined by the least-squares treatment of the available fractional chain yield data for spontaneous and neutron induced fission[44]. We adopted the following values derived by Nethaway[44],

$a = 0.414 \pm 0.016$ and $b = -0.143 \pm 0.007$ for light fragment products;
$a = 0.547 \pm 0.010$ and $b = -0.183 \pm 0.004$ for heavy fragment products;
$a = 0.50 \pm 0.03$ and $b = -0.165 \pm 0.02$ for valley products.

The values of c are given in **Table 2.4.3**. The values of $\Delta Z_p(Ternary)$and E^* are summarized in **Table 2.4.4**.

Table 2.4.3 Values of the parameter c for the evaluation of the most probable charge

Mass No.	c	Mass No.	c	Mass No.	c
66– 74	0.0200±0.0030	104	0.0190±0.0023	134	0.0472±0.0024
76	0.0200±0.0025	106	0.0211±0.0030	136	0.0416±0.0021
78	0.0200±0.0025	108	0.0233±0.0037	138	0.0329±0.0016
80	0.0200±0.0020	110	0.0257±0.0046	140	0.0276±0.0014
82	0.0200±0.0016	112	0.0283±0.0057	142	0.0241±0.0012
84	0.0200±0.0016	114	0.0311±0.0062	144	0.0217±0.0013
86	0.0200±0.0016	116	0.0341±0.0068	146	0.0203±0.0016
88	0.0196±0.0012	118	0.0371±0.0067	148	0.0195±0.0019
90	0.0189±0.0011	120	0.0402±0.0064	150	0.0195±0.0023
92	0.0181±0.0011	122	0.0433±0.0061	152	0.0195±0.0027
94	0.0171±0.0010	124	0.0464±0.0056	154	0.0195±0.0031
96	0.0160±0.0010	126	0.0495±0.0050	156	0.0195±0.0035
98	0.0157±0.0009	128	0.0505±0.0041	158–172	0.0195±0.0039
100	0.0159±0.0013	130	0.0509±0.0031		
102	0.0173±0.0017	132	0.0500±0.0025		

Table 2.4.4 Correction factor ΔZ_p (Ternary) due to ternay fission[35], mass number A_c, and excitation energy E^* (MeV) of compound nucleus[44]

Fissile	ΔZ_p(Ternary)	Z_c	A_c	E^*(MeV)
^{235}U(T)[a]	−0.07749	92	236	6.52
^{235}U(F)[b]	−0.08917	92	236	8.31
^{235}U(H)[c]	−0.09376	92	236	21.26
^{238}U(F)	−0.03203	92	239	6.57
^{238}U(H)	−0.08899	92	239	19.52
^{239}Pu(T)	0.01009	94	240	6.50
^{239}Pu(F)	−0.05864	94	240	8.30
^{241}Pu(T)	−0.05304	94	242	6.27
^{233}U(T)	−0.06801	92	234	6.81
^{232}Th(F)	0.00366	90	233	6.56
^{232}Th(H)	−0.06907	90	233	19.51
^{233}U(F)	0.01658	92	234	8.60
^{233}U(H)	−0.18123	92	234	21.55
^{236}U(F)	0.01884	92	237	6.89
^{237}Np(F)	−0.01988	93	238	7.25
^{239}Pu(H)	−0.11058	94	240	21.24
^{240}Pu(F)	−0.02928	94	241	8.07
^{241}Pu(F)	−0.09882	94	242	8.07
^{242}Pu(F)	−0.05050	94	243	8.07
^{252}Cf(S)[d]	0.09169	98	252	0.0

a, b, c, d: refer to Table 2.4.2

2.5 Fission Energies

The average energy per fission is one of the necessary nuclear data in determining the fission rates for various fissionable nuclides from the power in a nuclear reactor. This section gives the evaluation of the magnitude of the energy released for the thermal fissions of ^{233}U, ^{235}U, ^{239}Pu, ^{241}Pu, the fast fissions of ^{232}Th, ^{233}U, ^{235}U, ^{236}U, ^{238}U, ^{237}Np, ^{239}Pu, ^{240}Pu, ^{241}Pu, ^{242}Pu, the high energy (14 MeV) neutron fission of ^{232}Th, ^{233}U, ^{235}U, ^{238}U, ^{239}Pu, and the spontaneous fission of $^{252}C_f$. Several evaluations have been made of the average energy per fission for various fissile and fissionable nuclides[46-49]. Those evaluations have often included the estimates of the uncertainty in the average energy per fission, based on various empirical and rational arguments. In this section the average energy per fission is determined so as to be consisten with the nuclear data in the JNDC–V2 library.

A fission event produes two excited fragments which emit neutrons and gamma–rays within a very short period. Occasionally, charged particles such as alpha particles, tritons, ect., may by emitted or more than two fragments may result. The probability of the emission of those particles is quite low, and is neglected in the present section. After the emission of the particles, the fission products undergo beta decay followed by radioactive transitions; occasionally delayed–neutron emission intervenes between these decay processes. Such a radioactive decay process is repeated until a fission product transmutes into a stable nucleus. The total energy released directly in each fission event is the sum of the kinetic energies of the fission fragments, E_K, neutrons, E_n, gamma rays, E_γ, beta particles, E_β, and antineutrinos, E_a. To distinguish the neutrons or gamma rays emitted during the deexcitation of the fission fragments from those emitted following beta decay of the fission products, we consider the former as prompt processes and the latter as delayed processes, and designate the energies with the appropriate subscript, p or d; i.e.

$$E_\gamma = E_{\gamma p} + E_{\gamma d} \tag{2.5.1}$$

and

$$E_n = E_{np} + E_{nd}. \tag{2.5.2}$$

For a statistically large number of fission events, the average energies total energy, Q_f directly released per fission is the sum of the aveage for each deexcitation mode:

$$Q_f = \overline{E}_K + \overline{E}_{np} + \overline{E}_{\gamma p} + \overline{E}_\beta + \overline{E}_{nd} + \overline{E}_{\gamma d} + \overline{E}_a. \tag{2.5.3}$$

Thermodynamically, the energy released by fission is equal to the energy equivalent masses of the reactants minus the sum of the products:

$$Q_f = M(A, Z) + M_n + E_i - \sum_i y_i M(A_i, Z_i) - \nu M_n, \tag{2.5.4}$$

where $M(A, Z)$ is the atomic mass in MeV of the fissionable target nucleus with mass number A and charge Z, M_n and E_i are the energy–equivalent mass and the incident energy of the neutron, respectively, y_i is the yield of the stable fission product (A_i, Z_i), and ν is the average total number of neutrons emitted per fission $(\nu = \nu_p + \nu_d)$.

If $m(A, Z)$ denotes the mass excess in MeV,

$$m(A, Z) = M(A, Z) - Am_o, \tag{2.5.5}$$

where m_o is the rest energy of one atomic mass unit, then Eq. 2.5.4 is rewritten as

$$Q_f = m(A, Z) + E_i - \sum_i y_i m(A_i, Z_i) - (\nu - 1) m_n, \tag{2.5.6}$$

where m_n is the neutron mass excess. The accuracy of Q_f obtained by the means of Eq. 2.5.6 is very good.

In a critical reactor, a neutron of energy E_i is required to perpetuate the chain reaction. This reduces the average total energy released directly in the fission process to a net value,

$$Q'_f = Q_f - E_i \tag{2.5.7}$$

The effective average total energy, $Q_f(\infty)$, absorbed in a reactor is the value, Q'_f, substracted by an amount, $\overline{E}_a$, because of the low absorption probability of antineutrinos in the reactor;

$$Q_{eff}(\infty) = Q'_f - \overline{E}_a. \tag{2.5.8}$$

Also, the quantities, $\overline{E}_{nd}$, $\overline{E}_{\gamma d}$, $\overline{E}_\beta$ and $\overline{E}_a$, are time-dependent, and the full magnitude of the latter three quantites is not realized for practicable irradiation and cooling times in a reactor. This in turn changes the effective average total energy resulting directly from fission so that

$$Q_{eff} = \{Q'_f - (\Delta\overline{E}_{\gamma d} + \Delta\overline{E}_\beta)\} - \{\overline{E}_a - \Delta\overline{E}_a\},$$

where, $\Delta\overline{E}_a = \Delta\overline{Q}_\beta - (\Delta\overline{E}_{\gamma d} + \Delta\overline{E}_\beta)$,

$\overline{Q}_\beta$ = average Q value for beta decay.

Thus Q_{eff} can be rewritten as

$$Q_{eff} = Q'_f - \overline{E}_a + \{\Delta\overline{Q}_\beta - 2(\Delta\overline{E}_{\gamma d} + \Delta\overline{E}_\beta)\}, \tag{2.5.9}$$

where the energies, $\Delta\overline{Q}_\beta$, $\Delta\overline{E}_\beta$ and $\Delta\overline{E}_{\gamma d}$, depend on the irradiation history of a reactor. In addition to Q_{eff}, energy Q_c is liberated by the capture of the remaining (ν - 1) neutrons in reactor materials.
This latter energy depends on the neutron energy spectrum and the arrangement, amount, and constituent of reactor materials. Finally the total energy, Q_T, released in fission and absorbed in a reactor is given by

$$Q_T = Q_{eff} + Q_c. \tag{2.5.10}$$

The quantity, Q'_f, the net average energy released directly from the fission process, has been calculated for various fissioning systems with known complete mass-yield distributions by using; (1) Eqs. 2.5.6 and 2.5.7, (2) the fission product (FP) atomic masses in Ref. 50, (3) the average total number ν of neutrons emitted per fission in Ref. 51. and (4) fission mass-yield distributions of the JNDC-V2 library. To compare the energy release, Q'_f, calculated from nuclear masses with the individual contributions, the values of the average fragment mass excesses, $\overline{X}_f = \sum_i y_i m(A_i, Z_i)$, were aclculated for the stable end products of fission-product beta decay (in infinite time after fission). The results of those calculations for the averge fragment mass excesses and the Q'_f values are given in **Table 2.5.1**. The constancy of the average fragment mass excesses for different fissioning systems is clearly demonstrated by the FP mass excess values given in **Table 2.5.1**. This is attributable to the fact that the mass yields for the different fissioning systems considered here are similar to one another and the mass excesses are rather constant over the entire mass region of interest. As a result, the relative Q'_f values for different fissioning systems are dependent mainly on the relative masses of the targets and the average number of emited neutrons.

The average antineutrino energy, $\overline{E}_a$, has been calculated by the DCHAIN code[14] using the JNDC-V2 library with

$$\overline{E}_a = \overline{Q}_\beta - (\overline{E}_{\gamma d} + \overline{E}_\beta). \tag{2.5.11}$$

The results are shown in **Table 2.5.2**.

The capture energy, Q_c, can be given as

$$Q_c = (\nu - 1) Q_{nc}, \tag{2.5.12}$$

where Q_{nc} is the capture energy per captured neutron and it was estimated to be 5.99 MeV for a ^{235}U-fueled pressurized water reactor (PWR) and to be 5.98 MeV for a fast breeder (FBR) as summarized in **Tables 2.5.3** and **2.5.4**. The value for FBR differs little from that for PWR, then the PWR value of 5.99 MeV was used for thermal fission, fast fission and also 14 MeV neutron fission. The summary of Q_{eff} and

Q_T is given in **Table 2.5.5**.

The correction, Δ, of the fission energy in Eq. 2.5.9 for a finite irradiation,

$$\Delta = \Delta\overline{Q}_\beta - 2(\Delta\overline{E}_\beta + \Delta\overline{E}_\gamma),$$

was calculated by the DCHAIN code as a function of irradiation time for the thermal fission of ^{235}U and the results are shown in **Table 2.5.6**. It is clear from the table that the correction, Δ, is very small being less than 0.07 MeV and changes only a little (less than 0.02 MeV) for the realistic irradiation time of 90 days to 10 years. The total fission energy, Q_T, calculated for one-year irradition can be considered to be applicable to the realistic irradiation history in a nuclear reactor. The calculated Q_T value for one-year irradiation is summarized in **Table 2.5.7**.

Table 2.5.1 Q'_f calculated from nuclear masses

Target Nuclide	Neutron Energy	Target Mass Excess Mev	FP Mass Excess MeV	ν^e	$(\nu-1)m_n$ MeV	Q'_f MeV
^{232}Th	f	35.48	−172.02	2.4236	11.49	196.01
^{232}Th	h	35.48	−173.08	3.9965	24.19	184.37
^{233}U	t[a]	36.97	−173.06	2.4930	12.05	197.98
^{233}U	f[b]	36.97	−173.18	2.7340	14.00	196.15
^{233}U	h[c]	36.97	−174.04	4.2174	25.97	185.04
^{235}U	t	40.92	−173.16	2.4361	11.59	202.49
^{235}U	f	40.92	−173.17	2.6769	13.53	200.56
^{235}U	h	40.92	−173.88	4.4120	27.54	187.26
^{236}U	f	42.43	−173.17	2.7797	14.36	201.24
^{238}U	f	47.32	−173.39	2.7880	14.43	206.28
^{238}U	h	47.32	−173.62	4.4437	27.97	193.15
^{237}Np	f	44.86	−173.32	2.8959	15.30	202.88
^{239}Pu	t	48.63	−173.62	2.8843	15.21	207.04
^{239}Pu	f	48.63	−173.60	3.1878	17.66	204.57
^{239}Pu	h	48.63	−174.25	4.9265	31.69	191.19
^{240}Pu	f	50.15	−173.47	3.1631	17.46	206.16
^{241}Pu	t	52.98	−173.50	2.9313	15.59	210.89
^{241}Pu	f	52.98	−173.55	3.2277	17.98	208.55
^{242}Pu	f	54.70	−173.37	3.1503	17.36	210.71
$^{252}C_f$	sp[d]	76.03	−172.03	3.8923	22.24	225.82

a thermal neutrons.
b fission spectrum neutrons.
c 14-MeV neutrons.
d spontaneous fission.
e data from Ref. 51

Table 2.5.2 Averge antineutrino energy $\overline{E}_a$

Target Nuclide	Neutron[a] Energy	$\overline{Q}_\beta$ MeV	$\overline{E}_\beta$ MeV	$\overline{E}_{\gamma d}$ MeV	$\overline{E}_a$ MeV
^{232}Th	f	27.52	8.31	8.12	11.09
^{232}Th	h	23.22	6.94	6.81	9.46
^{233}U	t	17.48	5.05	5.30	7.13
^{233}U	f	17.73	5.12	5.38	7.23
^{233}U	h	16.22	4.65	4.83	6.74
^{235}U	t	21.86	6.51	6.44	8.91
^{225}U	f	21.97	6.53	6.49	8.95
^{225}U	h	18.01	5.22	5.38	7.42
^{236}U	f	23.48	7.05	6.38	9.57
^{238}U	f	27.25	8.31	7.82	11.12
^{238}U	h	24.40	7.38	7.02	10.00
^{237}Np	f	20.13	5.93	5.96	8.24
^{239}Pu	t	18.04	5.27	5.35	7.42
^{239}Pu	f	18.26	5.34	5.40	7.52
^{239}Pu	h	14.97	4.26	4.47	6.24
^{240}Pu	f	19.79	5.88	5.75	8.16
^{241}Pu	t	22.47	6.76	6.47	9.24
^{241}Pu	f	22.20	6.68	6.38	9.14
^{242}Pu	f	22.60	6.84	6.41	9.35
$^{252}C_f$	sp	19.86	6.10	5.25	8.52

a refer to Table 2.5.1

Table 2.5.3 Effective Q values for neutron capture in PWR

Material	Effective Q–value (MeV/capture)	Capture Fraction
^{235}U	6.566	0.2531
^{238}U	5.702*	0.6309
Zircaloy–4	7.075	0.0213
^{1}H	6.257	0.0889
^{16}O	4.201	0.0058
Average	5.991	1.0

* Decay energies of ^{239}U and ^{239}Np are included.

Table 2.5.4 Effective Q values for neutron capture in FBR

Material	Effective Q–value (MeV/capture)	Capture Fraction
^{235}U	6.566	0.0027
^{238}U	5.702*	0.6029
^{239}Pu	6.548	0.1339
^{240}Pu	5.245	0.0639
^{241}Pu	6.351	0.0202
^{242}Pu	5.028	0.0091
^{241}Am	5.529	0.0074
FP of ^{239}Pu fission	5.924	0.0470
FP of ^{241}Pu fission	6.124	0.0147
^{16}O	4.201	0.0044
^{23}Na	6.366	0.0038
Cr(Natural)	7.798	0.0111
^{55}Mn	7.422	0.0051
Fe(Natural)	7.738	0.0419
Ni(Natural)	9.081	0.0199
Mo(Natural)	6.082	0.0114
Average	5.981	1.0

* Decay energies of ^{239}U and ^{239}Np are included.

Table 2.5.5 Summary of Q_{eff} and Q_T

(unit: MeV)

Target Nuclide	Neutron[a] Energy	Q'_f	$\bar{E}_a$	Q_c	$Q_{eff}(\infty)$	$Q_T(\infty)$
^{232}Th	f	196.01	11.09	8.53	184.92	193.45
^{232}Th	h	184.37	9.46	17.95	174.91	192.86
^{233}U	t	197.98	7.13	8.94	190.85	199.79
^{233}U	f	196.15	7.23	10.39	188.92	199.31
^{233}U	h	185.04	6.74	19.27	178.30	197.57
^{235}U	t	202.49	8.91	8.60	193.58	202.18
^{235}U	f	200.56	8.95	10.04	191.61	201.65
^{235}U	h	187.26	7.42	20.44	179.84	200.28
^{236}U	f	201.24	9.57	10.66	191.67	202.33
^{238}U	f	206.28	11.12	10.71	195.16	205.87
^{238}U	h	193.15	10.00	20.63	183.15	203.78
^{237}Np	f	202.88	8.24	11.36	194.64	206.00
^{239}Pu	t	207.04	7.42	11.29	199.62	210.91
^{239}Pu	f	204.57	7.52	13.10	197.05	210.15
^{239}Pu	h	191.19	6.24	23.52	184.95	208.47
^{240}Pu	f	206.16	8.16	12.96	198.00	210.96
^{241}Pu	t	210.89	9.24	11.57	201.65	213.22
^{241}Pu	f	208.55	9.14	13.34	199.41	212.75
^{242}Pu	f	210.71	9.35	12.88	201.36	214.24
$^{252}C_f$	Sp	225.82	8.52	17.32	217.30	234.62

a refer to Table 2.5.1

Table 2.5.6 Correction for finite irradiation for thermal fission of ^{235}U

Irradiation Time (d)	$\overline{E}_\beta$ (MeV)	$\overline{E}_\gamma$ (MeV)	$\overline{Q}_\beta$ (MeV)	$2(\overline{E}_\beta+\overline{E}_\gamma)-\overline{Q}_\beta$ (MeV)	Δ^* (MeV)
30	6.609	6.161	22.030	3.508	0.024
90	6.667	6.234	22.265	3.539	0.054
180	6.699	6.268	22.383	3.551	0.066
365	6.726	6.288	22.474	3.553	0.069
730	6.748	6.292	22.535	3.545	0.060
1095	6.758	6.293	22.562	3.540	0.055
1825	6.766	6.295	22.588	3.535	0.050
3650	6.776	6.298	22.619	3.529	0.044
**	6.843	6.327	22.857	3.485	0.0

$*\Delta=\Delta\overline{Q}_\beta-2(\Delta\overline{E}_\beta+\Delta\overline{E}_\gamma)$ cf. Eq. 2.5.9

$**10^{13}$ s

Table 2.5.7 Q_T for irradiation of one year

(unit: MeV)

Target Nuclide	Neutron[a] Energy	$Q_T(\infty)$	$\Delta(1y)$	$Q_T(1y)$
^{232}Th	f	193.45	0.086	193.54
^{232}Th	h	192.86	0.042	192.90
^{233}U	t	199.79	0.070	199.86
^{233}U	f	199.31	0.066	199.38
^{233}U	h	197.57	0.022	197.59
^{235}U	t	202.18	0.069	202.25
^{235}U	f	201.65	0.064	201.71
^{235}U	h	200.28	0.037	200.32
^{236}U	f	202.33	0.057	202.39
^{238}U	f	205.87	0.054	205.92
^{238}U	h	203.78	0.022	203.80
^{237}Np	f	206.00	0.051	206.05
^{239}Pu	t	210.91	0.045	210.96
^{239}Pu	f	210.15	0.043	210.19
^{239}Pu	h	208.47	0.011	208.48
^{240}Pu	f	210.96	0.045	211.01
^{241}Pu	t	213.22	0.051	213.27
^{241}Pu	f	212.75	0.047	212.80
^{242}Pu	f	214.24	0.047	214.29
$^{252}C_f$	sp	234.62	0.047	234.67

a refer to Table 2.5.1

2.6 Neutron Capture Cross Section

The neutron capture is the only nuclear reaction for the transmutation of fission product nuclides. The neutron capture cross section data have been prepared for 166 fission product nuclides as listed in **Table 2.6.1** based on the fission product neutron cross section file of JENDL-3 (Report in prepartion)[51].

Table 2.6.1 Fission product nuclides with neutron capture cross section data

No.	Nuclide Z A	No.	Nuclide Z A	No.	Nuclide Z A
1	34Se 74	37	41Nb 95	73	50Sn 114
2	33As 75	38	42Mo 95	74	49In 115
3	34Se 76	39	40Zr 96	75	50Sn 115
4	34Se 77	40	42Mo 96	76	48Cd 116
5	34Se 78	41	42Mo 97	77	50Sn 116
6	34Se 79	42	42Mo 98	78	50Sn 117
7	35Br 79	43	44Ru 98	79	50Sn 118
8	34Se 80	44	42Mo 99	80	50Sn 119
9	36Kr 80	45	43Tc 99	81	50Sn 120
10	35Br 81	46	44Ru 99	82	52Te 120
11	34Se 82	47	42Mo 100	83	51Sb 121
12	36Kr 82	48	44Ru 100	84	50Sn 122
13	36Kr 83	49	44Ru 101	85	52Te 122
14	36Kr 84	50	44Ru 102	86	50Su 123
15	38Sr 84	51	46Pd 102	87	51Sb 123
16	36Kr 85	52	44Ru 103	88	52Te 123
17	37Rb 85	53	45Rh 103	89	50Sn 124
18	36Kr 86	54	44Ru 104	90	51Sb 124
19	38Sr 86	55	46Pd 104	91	52Te 124
20	37Rb 87	56	45Rh 105	92	51Sb 125
21	38Sr 87	57	46Pb 105	93	52Te 125
22	38Sr 88	58	44Ru 106	94	50Sn 126
23	38Sr 89	59	46Pd 106	95	52Te 126
24	39Y 89	60	46Pd 107	96	54Xe 126
25	38Sr 90	61	47Ag 107	97	52Te 127m
26	40Zr 90	62	46Pd 108	98	53I 127
27	39Y 91	63	48Cd 108	99	52Te 128
28	40Zr 91	64	47Ag 109	100	54Xe 128
29	40Zr 92	65	46Pd 110	101	52Te 129m
30	42Mo 92	66	47Ag 110m*	102	53I 129
31	40Zr 93	67	48Cd 110	103	54Xe 129
32	41Nb 93	68	48Cd 111	104	52Te 130
33	40Zr 94	69	48Cd 112	105	54Xe 130
34	41Nb 94	70	48Cd 113	106	53I 131
35	42Mo 94	71	49In 113	107	54Xe 131
36	40Zr 95	72	48Cd 114	108	54Xe 132

* m: metastable state

Table 2.6.1 Continued

No.	Nuclide Z	A	No.	Nuclide Z	A	No.	Nuclide Z	A
109	56Ba	132	129	59Pr	141	149	62Sm	151
110	54Xe	133	130	58Ce	142	150	63Eu	151
111	55Cs	133	131	60Nd	142	151	62Sm	152
112	54Xe	134	132	59Pr	143	152	62Eu	152
113	55Cs	134	133	60Nd	143	153	64Gd	152
114	56Ba	134	134	58Ce	144	154	62Sm	153
115	54Xe	135	135	60Nd	144	155	63Eu	153
116	55Cs	135	136	60Nd	145	156	62Sm	154
117	56Ba	135	137	60Nd	146	157	62Eu	154
118	54Xe	136	138	60Nd	147	158	64Gd	154
119	55Cs	136	139	61Pm	147	159	63Eu	155
120	56Ba	136	140	62Sm	147	160	64Gd	155
121	55Cs	137	141	60Nd	148	161	63Eu	156
122	56Ba	137	142	61Pm	148	162	64Gd	156
123	56Ba	138	143	61Pm	148m	163	64Gd	157
124	57La	138	144	62Sm	148	164	64Gd	158
125	57La	139	145	61Pm	149	165	65Tb	159
126	56Ba	140	146	62Sm	149	166	64Gd	160
127	58Ce	140	147	60Nd	150			
128	58Ce	141	148	62Sm	150			

These neutron capture cross sections have been converted into twenty–seven group cross sections. The group structure is shown in **Table 2.6.2**. Groups 1 to 25, in **Table 2.6.2**, are for fast reactor calculations. Groups 26 and 27 are for thermal reactor calculations. The resonance integral is given in Group 26 and the product of the g factor (see Eqs. (2.6.2) and (2.6.5) below) and the 2200m/s neutron capture cross section is in Group 27.

For fast reactor calculations, the 25–group neutron capture cross sections were calculated by computer codes RESENDD[52] and CRECTJ–5[53] for the 166 nuclides, which cover more than 99.8% of the total neutron capture reactions of fission products.

For thermal reactor systems, the neutron energies are divided into 3 groups according to the convention adopted in neutronics calculation of commercial LWR's (Light Water Reactors). The divisions are the thermal group below 0.625 eV, the epi–thermal group between 0.625 eV and 5.53 keV, and the fast group above 5.53 keV. The neutron capture rate or the equivalent decay constant is given as the product of effective thermal neutron cross esction $\sigma_{\rm eff}$ and thermal neutron flux ϕ_{th} by

$$\lambda^* = \sigma_{eff}\phi_{th} \tag{2.6.1}$$

The effective cross section $\sigma_{\rm eff}$ is given by

$$\sigma_{eff} = Ag\sigma_{2200} + r \cdot RI \tag{2.6.2}$$

where

$$A = \sqrt{\pi T_0/4T_n}, T_0 = 293.16K. \tag{2.6.3}$$

T_n is the neutron temperature in fuel, assumed as 858 K: the average temperature of fuel in an operating reactor. The variable r in Eq. (2.6.2) is the epi-thermal index or the ratio resonance flux per unit lethargy to total theramal neutron flux. Thus,

$$r=\phi_{epi}/\phi_{th}/\Delta u,\ \Delta u=(5.53keV/0.625eV)=9.09 \tag{2.6.4}$$

RI in Eq. (2.6.2) is the resonance integral above 0.625 eV.

The g-factor represents the deviation of cross section from $1/v$ form, expressed by

$$g=1+\frac{1}{A}\int_0^{0.625eV}(\sigma(E)-\sigma_{2200}v_{2200}/v)M(E;\ T_n)dE, \tag{2.6.5}$$

$$M(E;\ T_n)=\frac{E}{T_n^2}e^{-E/T_n} \tag{2.6.6}$$

Table 2.6.3 shows the thermal cross sections, the resonance integral and the g-factors of 27 muclides important for the calculation of the neutron capture effect on decay power.

Table 2.6.2 Structure of group constants of neutron capture cross section

Group	Energy Range Upper		Energy Range Lower		Lethargy width
1	10.0	(MeV)	6.0653	(MeV)	0.500
2	6.0653		3.6788		0.500
3	3.6788		2.2313		0.500
4	2.2313		1.3534		0.500
5	1.3534		0.82085		0.500
6	0.82085		0.38774		0.750
7	0.38774		0.18316		0.750
8	0.18316		0.086517		0.750
9	86.517	(KeV)	40.863	(KeV)	0.750
10	40.863		19.305		0.750
11	19.305		9.1188		0.750
12	9.1188		4.3074		0.750
13	4.3074		2.0347		0.750
14	2.0347		0.96112		0.750
15	961.12	(eV)	454.0	(eV)	0.750
16	454.0		214.45		0.750
17	214.45		101.30		0.750
18	101.30		47.851		0.750
19	47.851		22.603		0.750
20	22.603		10.677		0.750
21	10.677		5.0435		0.750
22	5.0435		2.3824		0.750
23	2.3824		1.1254		0.750
24	1.1254		0.53158		0.750
25	0.53158		0.00001		10.881
RI		>	0.625		—
T		0.0252			—

Table 2.6.3 σ_{2200}, g factor and RI for important FP nuclides

Z	Nuclide	A	σ_{2200}	g factor	RI
42	Mo	98	1.3044E−01	1.0036E+00	6.0636E+00
43	Tc	99	1.9858E+01	1.0309E+00	3.1378E+02
44	Ru	102	1.2357E+00	9.9818E−01	3.3236E+00
44	Ru	103	8.0043E+00	1.0002E+00	8.8218E+01
45	Rh	105	1.6008E+04	1.0002E+00	4.6962E+03
46	Pd	107	2.0162E+00	1.0063E+00	1.0338E+02
46	Pd	108	8.5335E+00	1.0071E+00	2.5097E+02
47	Ag	109	9.0855E+01	1.0351E+00	1.4628E+03
47	Ag	110m*	8.2214E+01	9.2715E−01	7.8985E+01
53	I	129	2.7121E+01	9.8325E−01	2.6169E+01
54	Xe	135	2.7097E+06	1.0886E+00	4.1705E+03
55	Cs	133	2.9107E+01	1.0164E+00	3.9163E−02
55	Cs	134	1.4016E+02	9.8854E−01	9.3611E+01
55	Cs	135	8.7300E+00	9.9892E−01	6.0965E+01
55	Cs	136	1.3005E+01	1.0006E+00	5.5578E+01
55	Cs	137	1.1037E−01	9.9998E−01	5.6104E−01
57	La	139	8.9569E−00	9.9949E−01	1.1019E+01
59	Pr	141	1.3392E−01	9.9586E−01	1.7775E+01
61	Pm	147	1.6824E−02	9.8107E−01	2.1945E+03
61	Pm	148	2.0007E−03	1.0004E+00	2.4006E+03
61	Pm	148	1.0775E−04	3.8354E+00	3.2110E+03
62	Sm	149	4.2458E−04	2.7740E+00	3.3862E+03
62	Sm	150	1.0890E−02	9.5891E−01	3.1942E+02
62	Sm	152	2.0718E+02	1.0178E+00	2.7544E+03
63	Eu	153	3.9305E−02	8.9698E−01	1.3865E+03
63	Eu	154	1.3648E+03	2.3673E+00	1.2693E+03
63	Eu	155	4.0705E+03	1.5318E+00	6.7513E+03

* metastable state

2.7 Nuclear Data Tables

The evaluated nuclear data of fission products in the JNDC-V2 library are tabulated in this section.

The decay and fission yield data are given in **Table 2.7.1** for each mass number. A decay chain diagram is also shown graphically for each mass number. The branching ratios are given in the decay chain diagram if more than one decay modes exist for some fission product nuclides in the decay chain. The feeding mode throgh neutron capture is designated by (n, γ) and that through delayed neutron emission by (d. n) in the diagram. When there are ground and isomeric states in a neutron captured nuclide, the mognitude of the capture cross section must be shared among them. Since there is not enough information about partial capture cross sections, the fractions in the diagram are taken from the ratios of the thermal neutron capture cross sections, which were taken from Mughabghab data[54].

The decay constant (λ), Q_β–value and the average decay energies of beta–rays ($\bar{E}_\beta$), gamma–rays ($\bar{E}_\gamma$) and internal conversion electrons ($\bar{E}_{CE}$) are given for each nucilde as the decay data in **Table 2.7.1** in addition to the decay chain diagram. If there are more than one decay mode for some nuclides, the Q_β–value is averaged with the weight of branching ratio. The average energies: $\bar{E}_\beta$, $\bar{E}_\gamma$ and $\bar{E}_{CE}$ were calculated by the PROFP code[26]using the intensity and energy data. For the nuclide with no or incomplete experimental data, the necessary decay data had been estimated with the Gross Theory of beta decay as described in Sec. 2.3.

The most of the independent fission yield data have been taken from the compilation by Rider and Meek[35] and supplemented by the present authors for the additional nuclides and isomeric states. Independent yield values are normalized so that the sum of yields becomes 200% per fission. Cumulative yields have been calculated from the independent yields using the branching ratios in the JNDC–V2 library as described in Sec. 2.4. The cumulative yields are also given in **Table 2.7.1** wih decay data including the decay chain diagram for each mass number. Twenty sets of different cumulative yields are given in the table for eleven fissionable nuclides and three neutron energies. The twenty sets are:

(1) ^{232}Th, f ; f=fission spectrum neutron fission
(2) ^{232}Th, h ; h=14 MeV neutron fission
(3) ^{233}U, t ; t=thermal neutron fission
(4) ^{233}U, f
(5) ^{233}U, h
(6) ^{235}U, t
(7) ^{235}U, f
(8) ^{235}U, h
(9) ^{236}U, f
(10) ^{238}U, f
(11) ^{238}U, h
(12) ^{237}Np, f
(13) ^{239}Pu, t
(14) ^{239}Pu, f
(15) ^{239}Pu, h
(16) ^{240}Pu, f
(17) ^{241}Pu, t
(18) ^{241}Pu, f
(19) ^{242}Pu, f
(20) ^{252}Cf, s ; s=spontaneous fission

Twenty–seven group neutron capture cross sections are given for 166 nuclides in **Table 2.7.2**. Groups 1 to 25 shown in **Table 2.6.1** are for fast reactor calculations. Groups 26 and 27 are for thermal reactor calculations; the resonance integral in Group 26 and the thermal neutron capture cross section for 2200 m/s–neutrons multiplied by the g–factor in Group 27, respectively (cf. Sec. 2.6). The calculation of fission yields, the data edition, the tabulation and the graphical representation of decay–chain diagram have been perfomed by computer code PROFP–Y[55]

Table 2.7.1 Decay data and yield data of each fission product nuclide

Mass No. 66	$_{23}V \rightarrow {}_{24}Cr \rightarrow {}_{25}Mn \rightarrow {}_{26}Fe \rightarrow {}_{27}Co \rightarrow {}_{28}Ni \rightarrow {}_{29}Cu \rightarrow {}_{30}Zn$								PAGE 1
	$_{23}V$	$_{24}Cr$	$_{25}Mn$	$_{26}Fe$	$_{27}Co$	$_{28}Ni$	$_{29}Cu$	$_{30}Zn$	
λ(1/sec)	1.8734E+02	2.5941E+00	3.9496E+00	1.8908E-01	2.4889E-01	3.5071E-06	2.2652E-03	0.0	
Q-value(MeV)	1.6214E+01	9.8500E+00	1.4570E+01	6.0260E+00	9.6530E+00	2.3600E-01	2.6416E+00	0.0	
E-beta (MeV)	5.4830E+00	3.8630E+00	4.7390E+00	2.2570E+00	2.9050E+00	6.8147E-02	1.0749E+00	0.0	Mass
E-gamma(MeV)	4.7990E+00	1.6930E+00	4.6440E+00	1.0470E+00	3.3730E+00	0.0	8.4716E-02	0.0	Yield
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Spin							1+		
Cumulative yield ^{232}Th(F)	2.5393E-13	4.6911E-09	1.1672E-07	1.0769E-06	1.2100E-06	1.2167E-06	1.2167E-06	1.2167E-06	1.21673E-06
^{232}Th(H)	3.8550E-12	9.9001E-08	1.0399E-05	8.5600E-05	1.2720E-04	1.2909E-04	1.2910E-04	1.2910E-04	1.29096E-04
^{233}U (T)	2.7405E-17	1.0696E-11	2.7395E-09	1.1269E-07	2.3264E-07	2.6293E-07	2.6311E-07	2.6311E-07	2.63109E-07
^{233}U (F)	5.7977E-17	1.8000E-11	5.3181E-09	1.8232E-07	4.0432E-07	4.5032E-07	4.5063E-07	4.5063E-07	4.50630E-07
^{233}U (H)	5.3166E-14	1.5400E-08	7.1855E-06	2.0819E-04	5.9919E-04	6.5699E-04	6.6771E-04	6.6771E-04	6.67707E-04
^{235}U (T)	1.8996E-16	2.1095E-11	2.3108E-09	4.8600E-08	7.3095E-08	7.6224E-08	7.6232E-08	7.6232E-08	7.62318E-08
^{235}U (F)	9.7295E-15	4.8878E-10	4.5968E-08	5.9772E-07	8.6160E-07	8.8169E-07	8.8174E-07	8.8174E-07	8.81737E-07
^{235}U (H)	1.2656E-13	1.9301E-08	5.9996E-06	1.2201E-04	2.8201E-04	3.0151E-04	3.0165E-04	3.0165E-04	3.01656E-04
^{236}U (F)	1.7550E-14	6.4799E-10	4.7947E-08	5.4294E-07	7.3494E-07	7.4744E-07	7.4746E-07	7.4746E-07	7.47461E-07
^{238}U (F)	6.7753E-15	9.5512E-11	1.9877E-09	1.5804E-08	1.7426E-08	1.7495E-08	1.7495E-08	1.7495E-08	1.74947E-08
^{238}U (H)	1.2111E-11	1.5503E-07	1.0858E-05	6.4067E-05	8.4470E-05	8.5088E-05	8.5089E-05	8.5089E-05	8.50891E-05
^{237}Np(F)	3.7469E-16	2.9700E-11	6.5798E-09	9.2861E-08	1.8328E-07	1.9063E-07	1.9067E-07	1.9067E-07	1.90670E-07
^{239}Pu(T)	3.8529E-17	1.0503E-11	2.5413E-09	8.2767E-08	1.6739E-07	1.8420E-07	1.8429E-07	1.8429E-07	1.84292E-07
^{239}Pu(F)	3.6836E-16	6.9521E-11	1.6174E-08	4.0929E-07	8.1742E-07	8.8024E-07	8.8057E-07	8.8057E-07	8.80570E-07
^{239}Pu(H)	1.7738E-15	7.5504E-10	4.5378E-07	1.6555E-05	5.4957E-05	6.3227E-05	6.3338E-05	6.3338E-05	6.33383E-05
^{240}Pu(F)	1.0892E-14	1.3501E-09	1.4937E-07	3.4297E-06	5.1699E-06	5.4129E-06	5.4135E-06	5.4135E-06	5.41350E-06
^{241}Pu(T)	2.7488E-15	1.1603E-10	7.9382E-09	1.0006E-07	1.3287E-07	1.3528E-07	1.3529E-07	1.3529E-07	1.35288E-07
^{241}Pu(F)	3.1613E-15	1.2799E-10	1.1127E-08	1.2812E-07	1.8052E-07	1.8403E-07	1.8404E-07	1.8404E-07	1.84035E-07
^{242}Pu(F)	4.0889E-15	2.2300E-10	9.0631E-09	1.5509E-07	1.8619E-07	1.8937E-07	1.8937E-07	1.8937E-07	1.89368E-07
^{252}Cf(S)	3.4980E-18	5.5168E-14	5.9937E-11	1.1589E-09	2.2180E-09	2.3219E-09	2.3225E-09	2.3225E-09	2.32189E-09

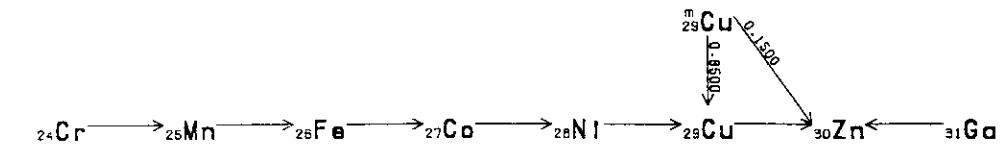
Table 2.7.1 Continued

Mass No. 67	$_{24}Cr \rightarrow {}_{25}Mn \rightarrow {}_{26}Fe \rightarrow {}_{27}Co \rightarrow {}_{28}Ni \rightarrow {}_{29}Cu \rightarrow {}_{30}Zn \leftarrow {}_{31}Ga$								PAGE 2
	$_{24}Cr$	$_{25}Mn$	$_{26}Fe$	$_{27}Co$	$_{28}Ni$	$_{29}Cu$	$_{30}Zn$	$_{31}Ga$	
λ(1/sec)	6.1449E+00	3.2060E+00	9.6663E-01	3.0321E-01	4.0773E-02	3.1115E-06	0.0	2.4601E-06	
Q-value(MeV)	1.3423E+01	1.1962E+01	9.7130E+00	7.8480E+00	3.8350E+00	5.7500E-01	0.0	1.0011E+00	
E-beta (MeV)	4.9320E+00	4.5310E+00	3.7080E+00	3.0550E+00	1.1492E+00	1.4082E-01	0.0	0.0	Mass
E-gamma(MeV)	3.1370E+00	2.4530E+00	1.8520E+00	1.2490E+00	1.4341E+00	1.1996E-01	0.0	1.4794E-01	Yield
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	1.5130E-02	0.0	3.2708E-02	
Spin						3/2-	5/2-	3/2-	
Cumulative yield ^{232}Th(F)	1.5303E-09	1.5057E-07	2.7812E-06	4.0515E-06	4.1935E-06	4.1939E-06	4.1939E-06	3.9879E-19	4.19387E-06
^{232}Th(H)	1.2200E-08	4.0423E-06	8.5844E-05	2.0465E-04	2.1975E-04	2.1986E-04	2.1986E-04	3.2226E-16	2.19880E-04
^{233}U (T)	1.8582E-12	1.8311E-09	1.8675E-07	8.2449E-07	1.1873E-06	1.1949E-06	1.1949E-06	2.7987E-16	1.19495E-06
^{233}U (F)	2.8800E-12	3.0529E-09	2.7407E-07	1.2841E-06	1.7871E-06	1.7985E-06	1.7985E-06	1.6907E-15	1.79850E-06
^{233}U (H)	1.3800E-09	2.1014E-06	1.7610E-04	1.0881E-03	1.5061E-03	1.5195E-03	1.5195E-03	2.1300E-12	1.51954E-03
^{235}U (T)	5.1486E-12	2.5555E-09	1.2553E-07	9.9048E-07	9.9077E-07	9.9133E-07	9.9133E-07	2.5151E-16	9.91331E-07
^{235}U (F)	1.0395E-10	9.4289E-08	1.0838E-05	2.5532E-06	2.8330E-06	2.8351E-06	2.8351E-06	2.5116E-17	2.83513E-06
^{235}U (H)	2.0001E-09	2.0221E-06	1.1503E-04	5.3405E-04	6.7105E-04	6.7405E-04	6.7405E-04	1.3874E-13	6.74050E-04
^{236}U (F)	1.1700E-10	3.0517E-08	8.1551E-07	1.7205E-06	1.8675E-06	1.8684E-06	1.8684E-06	7.7441E-18	1.86837E-06
^{238}U (F)	3.3339E-11	2.7065E-09	4.2653E-08	5.9072E-08	6.0614E-08	6.0617E-08	6.0617E-08	2.3604E-21	6.06170E-08
^{238}U (H)	2.2003E-08	4.7328E-06	6.6944E-05	1.3425E-04	1.3990E-04	1.3992E-04	1.3992E-04	1.0655E-16	1.39923E-04
^{237}Np(F)	3.2200E-12	2.2632E-09	8.8664E-08	3.2567E-07	3.8017E-07	3.8102E-07	3.8102E-07	3.2016E-17	3.81017E-07
^{239}Pu(T)	1.0495E-13	7.8625E-10	6.5107E-08	2.7017E-07	3.6620E-07	3.6804E-07	3.6805E-07	1.4224E-16	3.68048E-07
^{239}Pu(F)	1.0503E-11	8.5931E-09	5.6776E-07	2.2583E-06	2.8985E-06	2.9099E-06	2.9099E-06	8.0373E-16	2.90989E-06
^{239}Pu(H)	4.2302E-11	8.3347E-08	8.8939E-06	6.6197E-05	9.8599E-05	9.9909E-05	9.9912E-05	2.8809E-13	9.99120E-05
^{240}Pu(F)	1.1201E-10	4.7817E-08	2.5381E-06	6.7686E-06	8.1086E-06	8.1214E-06	8.1214E-06	5.2623E-16	8.12143E-06
^{241}Pu(T)	1.4304E-11	3.6953E-09	1.0973E-07	2.2975E-07	2.5137E-07	2.5149E-07	2.5149E-07	1.4440E-18	2.51432E-07
^{241}Pu(F)	6.2197E-11	1.8661E-08	5.2264E-07	1.1786E-06	1.2898E-06	1.2904E-06	1.2904E-06	6.9101E-18	1.29036E-06
^{242}Pu(F)	3.3700E-11	5.8138E-09	1.9862E-07	3.4682E-07	3.7902E-07	3.7814E-07	3.7814E-07	4.9771E-19	3.78141E-07
^{252}Cf(S)	1.2841E-14	6.1145E-11	2.7187E-09	9.7424E-09	1.1571E-08	1.1598E-08	1.1598E-08	1.4126E-18	1.15984E-08

Table 2.7.1 Continued

PAGE 3

Mass No. 68



	$_{24}$Cr	$_{25}$Mn	$_{26}$Fe	$_{27}$Co	$_{28}$Ni	$_{29}$Cu	$^{m}_{29}$Cu	$_{30}$Zn	$_{31}$Ga	Mass Yield
λ[1/sec]	5.2831E+00	6.3475E+00	4.7185E-01	9.3808E-01	1.2032E-03	2.2360E-02	3.0806E-03	0.0	1.6989E-04	
Q-value(MeV)	1.1210E+01	1.5637E+01	7.1130E+00	1.1670E+01	2.2570E+00	4.6160E+00	5.3373E+00	0.0	2.9211E+00	
E-beta (MeV)	4.3910E+00	5.0720E+00	2.7290E+00	3.6850E+00	5.6370E-01	1.4977E+00	1.2975E-01	0.0	7.4052E-01	
E-gamma(MeV)	2.0090E+00	5.0500E+00	1.2150E+00	3.8090E+00	5.8190E-01	1.2242E+00	1.0257E+00	0.0	9.5111E-01	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	7.7416E-02	0.0	0.0	
Spin						1+	6-		1+	
Cumulative yield										
^{232}Th(F)	3.9409E-10	9.1916E-08	6.2334E-06	1.2075E-05	1.4485E-05	1.4497E-05	9.2206E-09	1.4498E-05	1.7910E-16	1.44990E-05
^{232}Th(H)	1.8700E-09	1.9619E-06	1.2096E-04	5.7297E-04	7.2997E-04	7.3311E-04	2.9311E-06	7.3356E-04	1.2016E-13	7.33557E-04
^{233}U (T)	8.4467E-15	4.1163E-10	1.5435E-07	1.3838E-06	3.5629E-06	3.6619E-06	7.7475E-08	3.6744E-06	5.0003E-14	3.67444E-06
^{233}U (F)	1.3395E-14	7.3501E-10	2.2574E-07	2.2958E-06	5.3158E-06	5.4728E-06	1.2906E-07	5.4934E-06	2.6813E-13	5.49345E-06
^{233}U (H)	4.1100E-11	2.0304E-07	5.3303E-05	8.1531E-04	1.7423E-03	1.8162E-03	5.8938E-06	1.8270E-03	1.4000E-10	1.82702E-03
^{235}U (T)	3.5904E-14	4.5490E-10	8.0137E-08	3.7507E-07	6.5401E-07	6.5975E-07	4.4980E-09	6.5045E-07	3.7617E-16	6.60453E-07
^{235}U (F)	8.0764E-12	7.6545E-09	7.9030E-07	3.3891E-06	4.8665E-06	4.9152E-06	2.1939E-08	4.9165E-06	4.0115E-15	4.91859E-06
^{235}U (H)	7.8904E-11	2.5709E-07	4.5159E-05	4.9318E-04	8.8120E-04	9.0278E-04	2.0142E-05	9.0590E-04	1.8001E-11	9.05904E-04
^{236}U (F)	1.1600E-11	8.5515E-09	7.5054E-07	2.7305E-06	3.7205E-06	3.7345E-06	1.1518E-08	3.7363E-06	1.4869E-15	3.73828E-06
^{238}U (F)	1.0112E-11	1.9324E-09	1.1005E-07	1.9746E-07	2.2810E-07	2.2822E-07	9.6833E-11	2.2823E-07	1.2459E-18	2.28230E-07
^{238}U (H)	2.6004E-09	1.7529E-06	7.1765E-05	2.5580E-04	3.0010E-04	3.0069E-04	5.4373E-07	3.0077E-04	2.7718E-14	3.00767E-04
^{237}Np(F)	4.6111E-14	1.2500E-09	1.4726E-07	1.2273E-06	1.8863E-06	1.9134E-06	2.2241E-08	1.9166E-06	1.2063E-14	1.91677E-06
^{239}Pu(T)	5.3959E-15	2.2407E-10	6.4845E-08	5.6000E-07	1.2552E-06	1.2855E-06	2.3694E-08	1.2893E-06	2.8129E-14	1.28926E-06
^{239}Pu(F)	6.3076E-14	2.2707E-09	5.0242E-07	4.2436E-06	8.3548E-06	8.5277E-06	1.4212E-07	8.5500E-06	1.4393E-13	8.55004E-06
^{239}Pu(H)	2.1001E-12	1.3503E-08	4.5236E-06	8.5928E-05	2.0594E-04	2.1902E-04	1.1283E-05	2.2082E-04	3.8002E-11	2.20822E-04
^{240}Pu(F)	1.0001E-11	1.1411E-08	2.2016E-06	1.0372E-05	1.8743E-05	1.8917E-05	1.4239E-07	1.8939E-05	6.1402E-14	1.89387E-05
^{241}Pu(T)	1.6405E-12	1.1520E-09	1.1718E-07	4.0927E-07	5.7731E-07	5.7959E-07	1.7805E-09	5.7986E-07	3.0245E-16	5.79860E-07
^{241}Pu(F)	6.2797E-12	5.4260E-09	4.9140E-07	1.9913E-06	2.7553E-06	2.7679E-06	1.0359E-08	2.7695E-06	1.3993E-15	2.76948E-06
^{242}Pu(F)	3.3700E-12	1.3434E-09	1.6335E-07	4.5035E-07	6.6135E-07	6.6297E-07	1.3330E-09	6.6318E-07	8.4786E-17	6.63180E-07
^{252}Cf(S)	7.3825E-16	1.9482E-11	2.6971E-09	2.1080E-08	3.4268E-08	3.4776E-08	3.9768E-10	3.4838E-08	2.9763E-16	3.48377E-08

Table 2.7.1 Continued

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Mass No. 69

$_{24}Cr \rightarrow {}_{25}Mn \rightarrow {}_{26}Fe \rightarrow {}_{27}Co \rightarrow {}_{28}Ni \rightarrow {}_{29}Cu \rightarrow {}_{30}Zn \rightarrow {}_{31}Ga \leftarrow {}_{32}Ge$

${}^{m}_{30}Zn \xrightarrow{0.5997} {}_{30}Zn$, ${}^{m}_{30}Zn \xrightarrow{0.0003} {}_{31}Ga$

	$_{24}Cr$	$_{25}Mn$	$_{26}Fe$	$_{27}Co$	$_{28}Ni$	$_{29}Cu$	$_{30}Zn$	$^{m}_{30}Zn$	$_{31}Ga$	$_{32}Ge$	Mass Yield
λ(1/sec)	2.2216E+01	6.3417E+00	1.8178E+00	7.6287E-01	7.4612E-02	3.8508E-03	2.0778E-04	1.3759E-05	0.0	4.9306E-06	
Q-value(MeV)	1.4516E+01	1.3477E+01	1.0766E+01	9.2260E+00	6.0510E+00	2.4770E+00	9.0450E-01	1.3432E+00	0.0	2.2253E+00	
E-beta (MeV)	5.1210E+00	4.9840E+00	4.0460E+00	3.5610E+00	2.3270E+00	9.3540E-01	3.2068E-01	8.7000E-05	0.0	1.7662E-01	
E-gamma(MeV)	3.8210E+00	3.0700E+00	2.2360E+00	1.5130E+00	9.3270E-01	2.2339E-01	6.0003E-05	4.1658E-01	0.0	8.7053E-01	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2094E-02	0.0	0.0	
Spin						3/2-	1/2-	9/2+	3/2-	5/2-	
Cumulative yield											
^{232}Th(F)	3.0077E-12	3.0507E-08	4.5716E-06	2.0275E-05	3.3279E-05	3.3549E-05	3.3549E-05	7.6935E-10	3.3549E-05	2.9601E-19	3.35495E-05
^{232}Th(H)	6.7267E-12	3.6601E-07	5.7567E-05	7.7758E-04	1.4186E-03	1.4615E-03	1.4617E-03	1.6071E-07	1.4617E-03	1.2489E-16	1.46187E-03
^{233}U(T)	1.8219E-16	6.5273E-11	6.5438E-08	1.8747E-06	8.9218E-06	1.0091E-05	1.0117E-05	2.1149E-08	1.0117E-05	2.3381E-16	1.01173E-05
^{233}U(F)	2.9846E-16	1.1400E-10	9.9015E-08	3.0591E-06	1.3159E-05	1.4979E-05	1.5014E-05	2.9265E-08	1.5014E-05	1.3890E-15	1.50144E-05
^{233}U(H)	2.8668E-14	1.5900E-08	1.3917E-05	6.0492E-04	2.4629E-03	2.9319E-03	2.9405E-03	7.5566E-06	2.9405E-03	5.1472E-13	2.94047E-03
^{235}U(T)	7.8897E-16	7.6583E-11	3.4869E-08	4.7177E-07	1.3616E-06	1.4319E-06	1.4326E-06	5.9439E-10	1.4326E-06	8.0065E-19	1.43259E-06
^{235}U(F)	2.3288E-14	1.4494E-09	4.0827E-07	4.5164E-06	1.0244E-05	1.0612E-05	1.0614E-05	1.9845E-09	1.0614E-05	7.6629E-18	1.06141E-05
^{235}U(H)	7.6396E-14	2.4201E-08	1.3225E-05	3.9724E-04	1.2553E-03	1.4069E-03	1.4102E-03	1.6676E-06	1.4102E-03	2.2177E-14	1.41018E-03
^{236}U(F)	4.2833E-14	1.6500E-09	4.3385E-07	4.0339E-06	8.1838E-06	8.4028E-06	8.4039E-06	9.8069E-10	8.4039E-06	2.7064E-18	8.40394E-06
^{238}U(F)	1.1040E-13	8.2797E-10	1.0595E-07	4.0430E-07	6.1555E-07	6.1920E-07	6.1921E-07	8.6341E-12	6.1921E-07	2.1914E-21	6.19212E-07
^{238}U(H)	1.2260E-11	3.2706E-07	3.9434E-05	3.2048E-04	4.9751E-04	5.0546E-04	5.0548E-04	1.9273E-08	5.0548E-04	2.2113E-17	5.05483E-04
^{237}Np(F)	2.6246E-15	4.6901E-10	1.7047E-07	3.7205E-06	9.3706E-06	1.0109E-05	1.0115E-05	5.0945E-09	1.0115E-05	5.0412E-17	1.01147E-05
^{239}Pu(T)	1.5030E-16	4.7915E-11	3.8360E-08	1.0067E-06	4.1197E-06	4.5988E-06	4.6074E-06	6.9709E-09	4.6074E-06	1.7189E-16	4.60742E-06
^{239}Pu(F)	5.5297E-14	5.0586E-10	3.2498E-07	8.1044E-06	2.8550E-05	3.1683E-05	3.1728E-05	3.6778E-08	3.1728E-05	7.8154E-16	3.17276E-05
^{239}Pu(H)	6.2101E-14	1.0701E-09	1.1411E-06	5.2445E-05	3.0046E-04	3.7476E-04	3.7648E-04	1.5272E-06	3.7648E-04	9.7710E-14	3.76482E-04
^{240}Pu(F)	1.3255E-14	1.3701E-09	6.7444E-07	9.3053E-06	2.8207E-05	2.9727E-05	2.9745E-05	1.4336E-08	2.9745E-05	1.8688E-16	2.97445E-05
^{241}Pu(T)	5.4206E-15	2.3707E-10	6.2454E-08	5.7160E-07	1.2228E-06	1.2565E-06	1.2567E-06	1.6541E-10	1.2567E-06	5.0401E-19	1.25669E-06
^{241}Pu(F)	3.4709E-14	1.8199E-09	4.5280E-07	4.7226E-06	9.8323E-06	1.0139E-05	1.0141E-05	1.4542E-09	1.0141E-05	4.0993E-18	1.01411E-05
^{242}Pu(F)	1.1643E-14	3.1100E-10	9.4212E-08	6.1322E-07	1.3922E-06	1.4194E-06	1.4196E-06	1.5660E-10	1.4196E-06	1.9608E-19	1.41962E-06
^{252}Cf(S)	2.5170E-17	4.5059E-12	1.8728E-09	3.9639E-08	1.0748E-07	1.1604E-07	1.1612E-07	5.5728E-11	1.1612E-07	1.0959E-18	1.16120E-07

Table 2.7.1 Continued

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Mass No. 70

$_{24}Cr \rightarrow {}_{25}Mn \rightarrow {}_{26}Fe \rightarrow {}_{27}Co \rightarrow {}_{28}Ni \rightarrow {}_{29}Cu \rightarrow {}_{30}Zn \xleftarrow{0.0041} {}_{31}Ga \xrightarrow{0.9959} {}_{32}Ge$

$^{m}_{29}Cu \rightarrow {}_{30}Zn$

	$_{24}Cr$	$_{25}Mn$	$_{26}Fe$	$_{27}Co$	$_{28}Ni$	$_{29}Cu$	$^{m}_{29}Cu$	$_{30}Zn$	$_{31}Ga$	$_{32}Ge$	Mass Yield
λ(1/sec)	1.2067E-01	1.0483E+01	1.2908E+00	1.9918E+00	1.4080E-02	1.5403E-01	1.5056E-02	0.0	5.4522E-04	0.0	
Q-value(MeV)	1.3117E+01	1.6898E+01	8.5340E+00	1.3010E+01	3.6070E+00	6.1700E+00	6.3100E+00	0.0	1.6563E+00	0.0	
E-beta (MeV)	5.0840E+00	5.4450E+00	3.3200E+00	4.1540E+00	1.2400E+00	2.4160E+00	1.4492E+00	0.0	5.4514E-01	0.0	
E-gamma(MeV)	2.5320E+00	5.5650E+00	1.4600E+00	4.2080E+00	7.1290E-01	8.6570E-01	2.9819E+00	0.0	5.5719E-03	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Spin						1+	5-		1+		
Cumulative yield											
^{232}Th(F)	1.4503E-12	3.5923E-09	2.2541E-06	1.8259E-05	5.4069E-05	6.4529E-05	1.6009E-06	6.6159E-05	4.1009E-12	4.0842E-12	6.61591E-05
^{232}Th(H)	3.4500E-12	3.9304E-08	2.3140E-05	7.1815E-04	2.3772E-03	2.4229E-03	2.5833E-04	2.6862E-03	2.5500E-09	2.5396E-09	2.68522E-03
^{233}U (T)	9.8754E-16	7.8268E-12	3.0295E-08	2.1594E-06	2.6848E-05	3.1302E-05	7.4023E-06	3.9477E-05	1.2394E-09	1.2344E-09	3.94782E-05
^{233}U (F)	3.3201E-16	1.4500E-11	4.5415E-08	3.7965E-06	4.2497E-05	4.6168E-05	1.2789E-05	6.0017E-05	1.9495E-09	1.9420E-09	6.00191E-05
^{239}U (H)	1.0918E-14	8.8101E-10	2.3909E-06	3.0739E-04	2.9414E-03	3.2016E-03	1.4718E-03	4.7674E-03	2.7400E-07	2.7292E-07	4.76770E-03
^{235}U (T)	2.7101E-15	7.0694E-12	1.2404E-08	3.9332E-07	2.8528E-06	2.9618E-06	3.2889E-07	3.3075E-06	1.1297E-11	1.1261E-11	3.30748E-06
^{235}U (F)	4.4428E-16	1.5193E-10	1.5408E-07	4.2423E-06	2.0335E-05	2.0910E-05	2.0036E-06	2.2972E-05	3.3083E-11	3.2950E-11	2.29718E-05
^{235}U (H)	6.7815E-14	1.5701E-09	2.8017E-06	2.4361E-04	1.7019E-03	1.8047E-03	5.8127E-04	2.4114E-03	4.9503E-08	4.9404E-08	2.41148E-03
^{236}U (F)	8.9163E-16	2.1300E-10	1.8021E-07	3.9702E-06	1.6970E-05	1.7343E-05	1.2991E-06	1.8674E-05	1.4099E-11	1.4042E-11	1.86738E-05
^{238}U (F)	4.0730E-15	1.4918E-10	7.7740E-08	5.3828E-07	1.6596E-06	1.6791E-06	3.3137E-08	1.7128E-06	4.8360E-14	4.8163E-14	1.71277E-06
^{238}U (H)	5.6409E-12	4.0813E-08	1.5543E-05	3.2660E-04	8.4268E-04	8.5242E-04	5.5074E-05	9.0805E-04	2.2803E-10	2.2710E-10	9.08065E-04
^{237}Np(F)	1.7453E-15	5.1201E-11	5.9952E-08	3.7600E-06	1.9260E-05	2.0482E-05	4.2578E-06	2.4878E-05	1.8899E-10	1.8823E-10	2.48784E-05
^{239}Pu(T)	2.3100E-16	5.4117E-12	1.6111E-08	1.0865E-05	1.1690E-05	1.2631E-05	2.8399E-06	1.5702E-05	3.4906E-10	3.4768E-10	1.57025E-05
^{239}Pu(F)	1.8541E-15	5.3016E-11	1.1909E-07	7.7914E-06	6.6509E-05	7.1205E-05	1.6010E-05	8.8190E-05	1.4102E-09	1.4046E-09	8.81911E-05
^{239}Pu(H)	1.0097E-15	5.5403E-11	1.9807E-07	3.2500E-05	3.8052E-04	4.2288E-04	2.3965E-04	6.8174E-04	7.1704E-08	7.1424E-08	6.81807E-04
^{240}Pu(F)	1.2258E-15	2.3602E-11	4.5528E-08	1.4557E-06	1.1407E-05	1.1804E-05	1.3831E-06	1.3261E-05	5.0997E-11	5.0796E-11	1.32515E-05
^{241}Pu(T)	1.6072E-16	4.2112E-11	4.1554E-08	8.6779E-07	4.1387E-06	4.2373E-06	2.9750E-07	4.5436E-06	3.7008E-12	3.6859E-12	4.54356E-05
^{241}Pu(F)	1.0061E-15	2.9599E-10	2.6028E-07	6.6300E-06	2.6929E-05	2.9669E-05	2.5794E-06	3.2314E-05	3.3897E-11	3.3759E-11	3.23137E-05
^{242}Pu(F)	2.2060E-16	2.7200E-11	3.5928E-08	4.4693E-07	2.5770E-06	2.7120E-06	1.2198E-07	2.8386E-06	1.1200E-12	1.1154E-12	2.83863E-06
^{252}Cf(S)	2.1718E-17	8.4642E-14	1.0091E-09	5.8356E-08	3.4809E-07	3.7162E-07	7.0985E-08	4.4543E-07	3.6063E-12	3.5919E-12	4.45430E-07

Table 2.7.1 Continued

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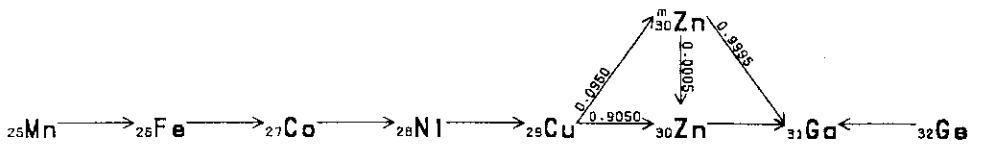
Mass No. 71



	25Mn	26Fe	27Co	28Ni	29Cu	30Zn	m30Zn	31Ga	32Ge	Mass Yield
λ(1/sec)	1.3780E+01	3.3421E+00	1.9265E+00	2.1620E-01	9.5546E-02	4.8135E-03	4.9118E-05	0.0	5.7988E-07	
Q-value(MeV)	1.5503E+01	1.1943E+01	1.0859E+01	7.3560E+00	3.8120E+00	2.8180E+00	2.9750E+00	0.0	2.3570E-01	
E-beta (MeV)	5.5740E+00	4.4010E+00	4.1020E+00	2.8220E+00	1.3588E+00	1.0514E+00	5.6372E-01	0.0	0.0	
E-gamma(MeV)	3.9100E+00	2.7100E+00	2.1620E+00	1.2440E+00	7.1207E-01	3.0026E-01	1.5498E+00	0.0	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Spin						1/2-	9/2+	3/2-	1/2-	
Cumulative Yield										
232Th(F)	5.2413E-10	7.9272E-07	2.2598E-06	1.4563E-04	1.6673E-04	1.5101E-04	1.6397E-05	1.6740E-04	2.7256E-14	1.67402E-04
232Th(H)	2.8000E-09	5.2929E-06	4.8930E-04	3.5464E-03	5.0584E-03	4.5847E-03	5.3305E-04	5.1176E-03	1.2880E-11	5.11758E-03
233U (T)	3.5275E-14	9.3461E-09	2.4583E-06	7.5528E-05	1.5909E-04	1.4691E-04	2.7746E-05	1.7474E-04	5.5177E-11	1.74740E-04
233U (F)	1.5200E-12	1.4202E-08	4.0443E-05	1.0805E-04	2.3805E-04	2.1899E-04	4.0171E-05	2.5927E-04	7.1601E-11	2.59274E-04
233U (H)	2.8400E-11	2.5203E-07	1.0325E-04	2.5853E-03	6.8933E-03	6.3115E-03	1.2318E-03	7.5487E-03	2.9800E-09	7.54871E-03
235U (T)	3.8897E-14	2.7694E-09	3.1469E-07	4.8937E-06	7.4731E-06	6.8086E-06	9.0442E-07	7.7132E-06	4.0564E-14	7.71315E-06
235U (F)	1.4094E-11	4.0996E-08	3.7593E-06	3.8844E-05	5.5636E-05	5.0520E-05	6.1092E-05	5.5528E-05	3.6818E-13	5.55277E-05
235U (H)	5.3003E-11	3.6708E-07	9.9572E-05	1.7568E-03	3.8099E-03	3.4724E-03	5.5455E-04	4.0280E-03	4.3802E-10	4.02802E-03
238U (F)	2.1800E-11	5.2321E-08	3.8323E-06	3.4232E-05	4.6132E-05	4.1851E-05	4.8763E-06	4.5725E-05	1.5590E-13	4.57248E-05
238U (F)	2.5331E-11	3.2865E-08	7.8475E-07	4.4390E-06	4.9396E-06	4.4729E-06	4.8081E-07	4.9535E-06	3.7765E-16	4.95349E-06
238U (H)	3.2105E-09	3.8839E-06	2.3692E-04	1.2481E-03	1.5952E-03	1.4447E-03	1.5957E-04	1.5042E-03	1.0510E-12	1.50420E-03
237Np(F)	3.6100E-12	1.3804E-08	2.6438E-06	3.3044E-05	6.1145E-05	5.5685E-05	7.5227E-06	6.3219E-05	2.2615E-12	6.32126E-05
239Pu(T)	1.1541E-14	2.1807E-09	5.2135E-07	1.3025E-05	2.6430E-05	2.4303E-05	4.1650E-06	2.8477E-05	5.3217E-12	2.84774E-05
239Pu(F)	3.3010E-12	2.2210E-08	4.9137E-06	9.9642E-05	1.9557E-04	1.7897E-04	2.8355E-05	2.0737E-04	2.2407E-11	2.07374E-04
239Pu(H)	1.8601E-12	2.1303E-08	1.1122E-05	3.5114E-04	1.0782E-03	9.9104E-04	2.2326E-04	1.2158E-03	1.0281E-09	1.21579E-03
240Pu(F)	2.3502E-12	1.2204E-08	1.4223E-06	2.3825E-05	3.5628E-05	3.3364E-05	4.5517E-06	3.7917E-05	1.4867E-12	3.79174E-05
241Pu(T)	2.5907E-12	7.0046E-09	5.0414E-07	4.9654E-06	5.5659E-06	6.0508E-06	7.1028E-07	6.7609E-06	3.1386E-14	6.76086E-06
241Pu(F)	2.9599E-11	7.5426E-08	6.3051E-06	5.8702E-05	8.1801E-05	7.4237E-05	8.7742E-06	8.3009E-05	3.3452E-13	8.30086E-05
242Pu(F)	2.2400E-12	5.9223E-09	3.3593E-07	3.7760E-06	4.6710E-06	4.2372E-06	4.9178E-07	4.7289E-06	7.5307E-15	4.72876E-06
252Cf(S)	3.8360E-15	2.8174E-10	5.2335E-08	7.3472E-07	1.3432E-05	1.2251E-06	1.6858E-07	1.3938E-06	7.2716E-14	1.39385E-06

Table 2.7.1 Continued

Mass No. 72	$_{25}$Mn → $_{26}$Fe → $_{27}$Co → $_{28}$Ni → $_{29}$Cu → $_{30}$Zn → $_{31}$Ga → $_{32}$Ge ← $_{33}$As									PAGE 7
	$_{25}$Mn	$_{26}$Fe	$_{27}$Co	$_{28}$Ni	$_{29}$Cu	$_{30}$Zn	$_{31}$Ga	$_{32}$Ge	$_{33}$As	Mass Yield
λ (1/sec)	2.9124E-01	3.7698E+00	3.9250E+00	8.8378E-02	1.0502E-01	4.1407E-06	1.3665E-05	0.0	7.4054E-06	
Q-value(MeV)	1.6740E-01	1.0426E+01	1.4408E+01	5.1260E+00	7.5210E+00	4.5700E-01	3.9916E+00	0.0	4.3510E+00	
E-beta (MeV)	6.0900E+00	4.0610E+00	4.6080E+00	1.8820E+00	2.0350E+00	8.5161E-02	4.9606E-01	0.0	1.0218E+00	
E-gamma(MeV)	6.1000E+00	1.8740E+00	4.6940E+00	9.1310E-01	2.9940E+00	1.4365E-01	2.7023E+00	0.0	1.7422E+00	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	1.9159E-02	0.0	0.0	0.0	
Spin							3-		2-	
Cumulative yield										
^{232}Th(F)	2.7058E-12	2.4206E-07	1.5646E-05	3.3072E-04	4.3275E-04	4.4585E-04	4.4587E-04	4.4587E-04	1.7663E-17	4.45871E-04
^{232}Th(H)	4.6208E-12	5.1201E-07	1.7261E-04	3.2567E-03	7.1907E-03	7.6347E-03	7.6378E-03	7.6378E-03	5.8629E-16	7.63784E-03
^{233}U (T)	1.1258E-13	1.3294E-09	9.4794E-07	1.0001E-04	3.5290E-04	5.0384E-04	5.0615E-04	5.0615E-04	6.1798E-14	5.06155E-04
^{233}U (F)	4.6042E-14	2.0300E-09	1.6520E-06	1.4365E-04	5.6066E-04	7.6686E-04	7.6927E-04	7.6928E-04	3.9653E-13	7.69279E-04
^{233}U (H)	4.2607E-13	1.8300E-08	2.3718E-05	1.7487E-03	9.6019E-03	1.2622E-02	1.2911E-02	1.2911E-02	1.0400E-11	1.29108E-02
^{235}U (T)	1.2474E-15	6.7885E-10	2.0263E-07	1.0400E-05	2.2898E-05	2.6787E-05	2.6813E-05	2.6813E-05	6.3301E-17	2.68127E-05
^{235}U (F)	4.4124E-14	1.1395E-08	2.8801E-05	8.9041E-05	1.8420E-04	2.0209E-04	2.0219E-04	2.0219E-04	9.4497E-16	2.02194E-04
^{235}U (H)	3.8193E-14	2.7702E-08	2.3729E-05	1.1958E+03	4.9680E-03	6.0660E-03	6.0866E-03	6.0867E-03	1.0501E-12	6.08667E-03
^{236}U (F)	6.3728E-14	1.6000E-08	3.1660E-06	8.4065E-05	1.5636E-04	1.6806E-04	1.6812E-04	1.6812E-04	3.4606E-16	1.68117E-04
^{238}U (F)	1.1383E-13	7.5188E-09	3.9998E-07	7.2380E-06	9.1102E-06	9.3144E-06	9.3147E-06	9.3147E-06	1.4779E-19	9.31466E-06
^{238}U (H)	1.0286E-11	6.7111E-07	1.2369E-04	1.6039E-03	2.9192E-03	3.0202E-03	3.0206E-03	3.0206E-03	1.2173E-15	3.02061E-03
^{237}Np(F)	4.9403E-15	1.9400E-09	1.1720E-06	4.0172E-05	1.3437E-04	1.5347E-04	1.5373E-04	1.5373E-04	7.1776E-15	1.53732E-04
^{239}Pu(T)	1.3690E-14	3.8112E-10	2.5446E-07	2.0961E-05	7.1776E-05	9.5785E-05	9.6135E-05	9.6135E-05	1.9876E-14	9.61351E-05
^{239}Pu(F)	3.4170E-15	3.0809E-09	1.9637E-06	1.2500E-04	4.2109E-04	5.3012E-04	5.3165E-04	5.3166E-04	7.9561E-14	5.31656E-04
^{239}Pu(H)	4.6514E-14	1.4901E-09	2.4916E-06	2.3350E-04	1.5986E-03	2.1966E-03	2.2216E-03	2.2217E-03	4.4902E-12	2.22166E-03
^{240}Pu(F)	4.0772E-15	2.5203E-09	7.6060E-07	4.2765E-05	9.4370E-05	1.1187E-04	1.1199E-04	1.1199E-04	3.6328E-15	1.11991E-04
^{241}Pu(T)	9.6620E-15	2.2106E-09	4.1733E-07	1.2821E-05	2.9224E-05	2.5174E-05	2.5183E-05	2.5183E-05	7.0660E-17	2.51826E-05
^{241}Pu(F)	5.1551E-14	1.0799E-08	2.5107E-05	5.8407E-05	1.3620E-04	1.4750E-04	1.4756E-04	1.4756E-04	3.9924E-16	1.47563E-04
^{242}Pu(F)	5.2037E-15	1.4700E-09	1.5847E-07	6.4986E-06	9.6086E-06	1.0403E-05	1.0405E-05	1.0405E-05	5.7712E-18	1.04046E-05
^{252}Cf(S)	1.1435E-16	5.4850E-11	3.1027E-08	1.2499E-06	3.9775E-06	4.6299E-06	4.6381E-06	4.6381E-06	3.1079E-15	4.63809E-06

Table 2.7.1 Continued

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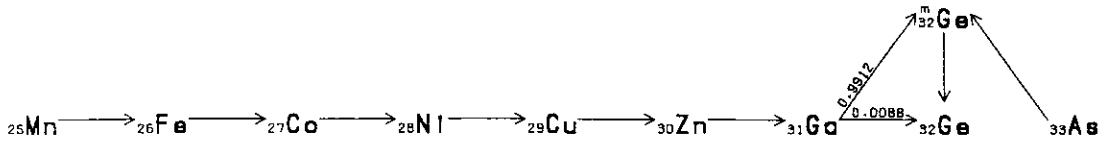
Mass No. 73



		25Mn	26Fe	27Co	28Ni	29Cu	30Zn	31Ga	32Ge	m32Ge	33As	Mass Yield
	λ(1/sec)	1.8593E+01	7.1245E+00	5.0705E+00	5.4924E-01	1.7773E-01	2.9495E-02	3.9498E-05	0.0	1.3863E+00	9.9907E-08	
	Q-value(MeV)	1.7283E+01	1.3538E+01	1.2920E+01	8.6500E+00	5.2010E+00	4.7000E+00	1.5500E+00	0.0	5.5700E-02	3.4450E-01	
	E-beta (MeV)	6.0090E+00	4.9030E+00	4.7180E+00	3.2810E+00	1.9850E+00	1.5496E+00	4.3939E-01	0.0	0.0	0.0	Mass
	E-gamma(MeV)	4.8040E+00	3.4070E+00	2.9800E+00	1.5190E+00	7.7230E-01	1.1709E+00	3.5193E-01	0.0	5.5109E-03	0.0	
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	5.2148E-02	0.0	6.1089E-02	0.0	Yield
	Spin							3/2-	9/2+	1/2-	3/2-	
Cumulative yield	232Th(F)	5.2996E-14	2.3206E-08	6.1747E-06	2.7724E-04	5.7931E-04	6.6193E-04	6.6243E-04	6.6243E-04	6.5560E-04	6.1830E-15	6.62431E-04
	232Th(H)	7.0440E-12	6.1801E-06	5.6463E-05	2.9825E-03	1.2929E-02	1.5949E-02	1.6009E-02	1.6009E-02	1.5868E-02	3.8001E-12	1.60091E-02
	233U (T)	2.5028E-15	7.2270E-11	1.9999E-07	5.4478E-05	5.0629E-04	1.1020E-03	1.1334E-03	1.1336E-03	1.1235E-03	3.0487E-11	1.13363E-03
	233U (F)	8.4511E-16	1.1400E-10	3.4212E-07	6.1043E-05	6.1105E-04	1.6511E-03	1.6992E-03	1.6994E-03	1.6843E-03	4.9601E-11	1.69942E-03
	233U (H)	4.7894E-15	7.0801E-10	3.0407E-06	6.8105E-04	9.3081E-03	1.8453E-02	1.9190E-02	1.9194E-02	1.9022E-02	9.1101E-10	1.91940E-02
	235U (T)	1.0089E-14	1.0498E-10	1.2108E-07	1.5418E-05	7.5404E-05	1.1680E-04	1.1779E-04	1.1780E-04	1.1676E-04	4.2124E-14	1.17798E-04
	235U (F)	4.1209E-14	1.4394E-09	1.3108E-06	1.0526E-04	4.4611E-04	6.0004E-04	6.0307E-04	6.0307E-04	5.9776E-04	2.9871E-13	6.03075E-04
	235U (H)	3.9840E-14	1.6201E-09	4.5919E-06	6.8963E-04	6.7569E-03	1.1354E-02	1.1611E-02	1.1612E-02	1.1509E-02	1.4201E-10	1.16121E-02
	236U (F)	9.4297E-14	2.9500E-09	2.1229E-06	1.4212E-04	5.1912E-04	6.6512E-04	6.6742E-04	6.6742E-04	6.6154E-04	1.6037E-13	6.67419E-04
	238U (F)	8.3167E-15	2.6932E-09	5.8938E-07	2.2315E-05	4.2939E-05	4.7715E-05	4.7738E-05	4.7738E-05	4.7318E-05	1.6426E-16	4.77384E-05
	238U (H)	1.6486E-13	6.6911E-08	3.9373E-05	1.3906E-03	4.6681E-03	5.2332E-03	5.2420E-03	5.2420E-03	5.1958E-03	2.7017E-13	5.24198E-03
	237Np(F)	3.4158E-15	1.7100E-10	3.3518E-07	3.3936E-05	2.5194E-04	3.5894E-04	3.7367E-04	3.7368E-04	3.7039E-04	1.1800E-12	3.73681E-04
	239Pu(T)	3.0880E-16	2.4308E-11	6.0844E-08	1.3265E-05	1.1530E-04	2.2533E-04	2.3069E-04	2.3071E-04	2.2866E-04	3.7612E-12	2.30712E-04
	239Pu(F)	1.5858E-15	1.2704E-10	2.9222E-07	5.0707E-05	4.1482E-04	7.3591E-04	7.5052E-04	7.5058E-04	7.4392E-04	7.4523E-12	7.50576E-04
	239Pu(H)	6.0221E-16	6.0103E-11	3.3408E-07	9.5739E-05	1.6178E-03	3.6029E-03	3.8029E-03	3.8042E-03	3.7596E-03	4.0902E-10	3.80424E-03
	240Pu(F)	2.8066E-15	2.5502E-10	3.0428E-07	4.1708E-05	2.0772E-04	3.3074E-04	3.3379E-04	3.3380E-04	3.3085E-04	9.5021E-13	3.33795E-04
	241Pu(T)	5.7489E-15	2.3206E-10	1.5528E-07	1.2369E-05	4.4378E-05	5.8182E-05	5.8395E-05	5.8396E-05	5.7882E-05	1.8861E-14	5.83959E-05
	241Pu(F)	5.4580E-14	1.5499E-09	1.2815E-06	9.0477E-05	3.6146E-04	4.7046E-04	4.7242E-04	4.7242E-04	4.6826E-04	1.4313E-13	4.72422E-04
	242Pu(F)	5.3752E-17	1.1600E-10	5.4817E-08	4.7349E-06	1.3075E-05	1.7275E-05	1.7319E-05	1.7319E-05	1.7156E-05	1.4878E-15	1.73189E-05
	252Cf(S)	6.4206E-17	4.5459E-12	8.6667E-09	9.9776E-07	7.2021E-06	1.0979E-05	1.1127E-05	1.1127E-05	1.1029E-05	5.7529E-14	1.11270E-05

Table 2.7.1 Continued

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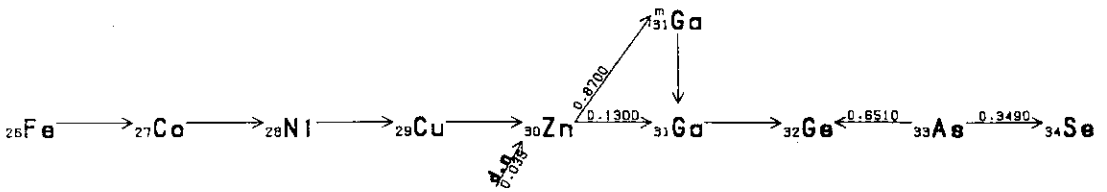
Mass No. 74



	26Fe	27Co	28Ni	29Cu	30Zn	31Ga	m31Ga	32Ge	33As	34Se	Mass Yield
λ (1/sec)	8.2576E+00	8.4171E+00	4.8236E-01	1.3805E-01	7.2963E-03	1.4262E-03	7.2963E-02	0.0	4.5121E-07	0.0	
Q-value (MeV)	1.2093E+01	1.6260E+01	7.0310E+00	8.6970E+00	2.3500E+00	5.4000E+00	5.9700E-02	0.0	1.3531E+00	0.0	
E-beta (MeV)	4.6700E+00	5.1670E+00	2.6830E+00	2.5110E+00	5.7770E-01	1.0586E+00	0.0	0.0	2.7809E-01	0.0	
E-gamma (MeV)	2.3240E+00	5.4200E+00	1.1990E+00	3.2060E+00	8.5970E-01	3.1866E+00	3.9517E-02	0.0	7.5453E-01	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	2.0086E-02	0.0	0.0	0.0	
Spin						4-	1+		2-		
Cumulative Yield: 232Th(F)	1.9405E-09	1.2522E-06	2.1931E-04	7.0742E-04		1.2187E-03	1.2252E-03	1.0614E-03	1.2252E-03	7.5225E-13	2.6254E-13	1.18803E-03
232Th(H)	3.4201E-09	1.0104E-05	1.6301E-03	1.5452E-02	2.8990E-02	2.9883E-02	2.5299E-02	2.9685E-02	4.2200E-10	1.4728E-10	2.91491E-02
233U (T)	3.0487E-12	2.3593E-08	2.4114E-05	5.1191E-04	2.5290E-03	2.7739E-03	2.2473E-03	2.7795E-03	2.4140E-09	8.4251E-10	2.75862E-03
233U (F)	4.9601E-12	4.3908E-08	3.6944E-05	8.9296E-04	3.8160E-03	4.2250E-03	3.3898E-03	4.2327E-03	3.7798E-09	1.3194E-09	4.19769E-03
233U (H)	1.7200E-11	2.4302E-07	1.7424E-04	6.5193E-03	2.4466E-02	2.8378E-02	2.1727E-02	2.8440E-02	4.8890E-08	1.7055E-08	2.83220E-02
235U (T)	7.8183E-12	2.4702E-08	1.1722E-05	1.1770E-04	3.5500E-04	3.6829E-04	3.1140E-04	3.6844E-04	2.5554E-11	8.9185E-12	3.62086E-04
235U (F)	9.8256E-11	2.6198E-07	7.1830E-05	6.4657E-04	1.4942E-03	1.5231E-03	1.2979E-03	1.5234E-03	3.6663E-11	1.2761E-11	1.45136E-03
235U (H)	4.7202E-11	4.3707E-07	2.0645E-04	5.3997E-03	1.5895E-02	1.7499E-02	1.4010E-02	1.7516E-02	8.9403E-09	3.1203E-09	1.74016E-02
236U (F)	2.2000E-10	4.5421E-07	1.0545E-04	7.7645E-04	1.6663E-03	1.6978E-03	1.4551E-03	1.6980E-03	1.9320E-11	6.7428E-12	1.58810E-03
238U (F)	2.7032E-10	1.4244E-07	2.0967E-05	6.0213E-05	9.6258E-05	9.6628E-05	8.9808E-05	9.6629E-05	2.5634E-14	9.9934E-15	9.32216E-05
238U (H)	3.7506E-09	7.0649E-06	7.4819E-04	5.3710E-03	8.1661E-03	8.2671E-03	7.1169E-03	8.2674E-03	2.5244E-11	8.8104E-12	8.07365E-03
237Np(F)	7.0101E-12	4.5208E-08	1.4245E-05	2.7225E-04	6.4338E-04	6.8498E-04	5.5686E-04	6.8528E-04	1.0800E-10	3.7694E-11	6.77169E-04
239Pu(T)	1.0403E-12	7.4935E-09	5.9194E-06	1.1996E-04	4.9285E-04	5.3656E-04	4.3724E-04	5.3734E-04	3.1289E-10	1.0921E-10	5.33466E-04
239Pu(F)	5.8718E-12	4.0518E-08	2.4348E-05	4.7849E-04	1.6383E-03	1.7713E-03	1.4481E-03	1.7731E-03	6.9719E-10	2.4334E-10	1.76259E-03
239Pu(H)	1.4001E-12	2.5703E-08	2.3827E-06	1.1209E-03	4.9481E-03	5.9821E-03	4.4217E-03	6.0031E-03	2.1101E-08	7.3654E-09	5.98217E-03
240Pu(F)	1.5802E-11	5.0721E-08	2.6353E-05	2.5738E-04	8.4116E-04	8.7416E-04	7.3745E-04	8.7456E-04	7.0804E-11	2.4714E-11	8.71631E-04
241Pu(T)	1.1803E-11	2.3318E-08	6.2651E-06	4.4076E-05	9.7117E-05	9.9057E-05	8.4864E-05	9.9069E-05	1.7486E-12	6.1030E-13	9.65423E-05
241Pu(F)	1.0800E-10	2.6309E-07	6.2960E-05	5.2894E-04	1.0839E-03	1.1098E-03	9.4741E-04	1.1099E-03	1.9319E-11	6.7425E-12	1.10595E-03
242Pu(F)	1.0600E-11	1.1811E-08	4.2819E-06	1.9282E-05	4.7518E-05	4.8125E-05	4.1445E-05	4.8130E-05	2.3175E-13	8.0886E-14	4.73945E-05
252Cf(S)	1.4037E-14	1.9083E-09	7.1326E-07	1.2802E-05	3.3322E-05	3.5440E-05	2.9397E-05	3.5458E-05	6.1043E-12	2.1306E-12	3.48204E-05

Table 2.7.1 Continued

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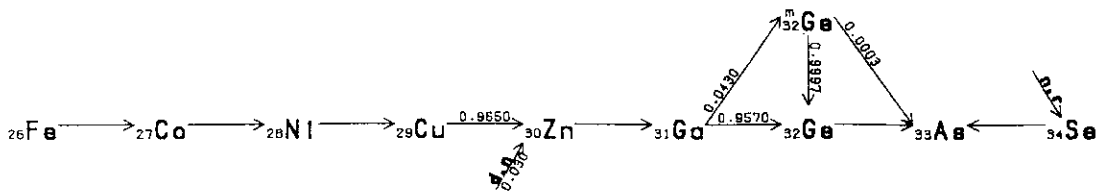
Mass No. 75



		26Fe	27Co	28Ni	29Cu	30Zn	31Ga	32Ge	m32Ge	33As	34Se	Mass Yield
	λ(1/sec)	1.4351E+01	1.0672E+01	1.5359E+00	5.3319E-01	6.7955E-02	5.5012E-03	1.3956E-04	1.4351E-02	0.0	6.6655E-08	
	Q-value(MeV)	1.5870E+01	1.4778E+01	1.0340E+01	6.9360E+00	5.7250E+00	3.3000E+00	1.1778E+00	1.3175E+00	0.0	6.6490E-01	
	E-beta (MeV)	5.4750E+00	5.2590E+00	3.8270E+00	2.6880E+00	1.7331E+00	1.2465E+00	4.1826E-01	9.6977E-05	0.0	0.0	
	E-gamma(MeV)	4.4550E+00	3.7450E+00	2.2160E+00	1.0900E+00	1.8100E+00	3.7754E-01	3.4830E-02	5.4545E-02	0.0	3.7525E-01	
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.5205E-02	0.0	8.4425E-03	
	Spin						3/2-	1/2-	7/2+	3/2-	5/2+	
Cumulative yield	232Th(F)	5.3876E-12	2.8207E-07	1.1531E-04	1.0615E-03	2.8525E-03	2.9569E-03	2.9578E-03	1.2793E-04	2.9578E-03	2.3705E-15	2.96829E-03
	232Th(H)	4.0629E-12	1.1100E-06	5.5912E-04	1.5319E-02	4.5643E-02	5.0871E-02	5.0927E-02	2.2401E-03	5.0928E-02	3.4571E-13	5.11740E-02
	233U (T)	3.5701E-13	2.8988E-09	8.1295E-06	5.9589E-04	6.0298E-03	8.1419E-03	8.2535E-03	4.5571E-04	8.2538E-03	3.1287E-11	8.27770E-03
	233U (F)	1.2256E-13	5.1801E-09	1.2605E-05	9.9962E-04	8.9418E-03	1.2303E-02	1.2471E-02	6.7746E-04	1.2471E-02	4.0600E-11	1.24942E-02
	233U (H)	1.8691E-13	1.3000E-08	3.0013E-05	3.3770E-03	2.8350E-02	4.3093E-02	4.3783E-02	2.4902E-03	4.3785E-02	2.2700E-10	4.38693E-02
	235U (T)	9.4695E-15	4.3890E-09	5.5032E-06	1.8145E-04	1.0149E-03	1.1729E-03	1.1772E-03	5.4211E-05	1.1772E-03	4.3695E-14	1.17850E-03
	235U (F)	3.2069E-13	9.8558E-08	7.5164E-05	2.0579E-03	8.1475E-03	9.1190E-03	9.1357E-03	4.0696E-04	9.1358E-03	4.3396E-13	9.17290E-03
	235U (H)	1.4003E-12	2.8202E-08	4.2830E-05	3.2720E-03	2.0179E-02	2.7300E-02	2.7528E-02	1.3847E-03	2.7528E-02	3.2702E-11	2.76060E-02
	236U (F)	1.0365E-12	2.2400E-07	1.4322E-04	3.1402E-03	1.1044E-02	1.2070E-02	1.2085E-02	5.3214E-04	1.2085E-02	2.7234E-13	1.21410E-02
	238U (F)	9.5399E-13	3.6443E-08	1.2351E-05	9.7350E-05	2.3663E-04	2.4272E-04	2.4276E-04	1.0479E-05	2.4277E-04	8.3942E-17	2.42648E-04
	238U (H)	6.6452E-12	9.1315E-07	2.9696E-04	5.5348E-03	1.3049E-02	1.3896E-02	1.3902E-02	6.0333E-04	1.3902E-02	5.1000E-14	1.39845E-02
	237Np(F)	1.6904E-13	4.2301E-09	4.2643E-06	2.3227E-04	1.0764E-03	1.3414E-03	1.3472E-03	6.2766E-05	1.3472E-03	4.4868E-13	1.34605E-03
	239Pu(T)	3.1953E-14	7.3824E-10	1.6413E-06	1.1068E-04	9.3079E-04	1.2279E-03	1.2417E-03	6.4774E-05	1.2417E-03	2.5708E-12	1.24386E-03
	239Pu(F)	1.0110E-13	2.7208E-09	4.7942E-06	2.9888E-04	2.0898E-03	2.7050E-03	2.7279E-03	1.3657E-04	2.7280E-03	3.0809E-12	2.73960E-03
	239Pu(H)	2.8820E-14	1.4001E-09	4.1716E-06	5.9920E-04	6.1363E-03	1.0154E-02	1.0389E-02	6.5438E-04	1.0390E-02	1.2901E-10	1.04064E-02
	240Pu(F)	3.4608E-15	1.6902E-09	2.3019E-06	7.7909E-05	4.6196E-04	5.3618E-04	5.3837E-04	2.5011E-05	5.3838E-04	1.8677E-13	5.39372E-04
	241Pu(T)	2.0455E-14	4.4913E-09	3.2254E-06	6.9344E-05	2.6422E-04	2.8892E-04	2.8932E-04	1.2771E-05	2.8932E-04	9.3444E-15	2.89505E-04
	241Pu(F)	2.5937E-14	6.7897E-09	4.5966E-06	1.1369E-04	4.1460E-04	4.5880E-04	4.5946E-04	2.0329E-05	4.5947E-04	1.2807E-14	4.61448E-04
	242Pu(F)	1.2723E-14	1.7200E-09	1.4217E-06	2.1022E-05	8.8536E-05	9.4396E-05	9.4449E-05	4.1518E-06	9.4444E-05	9.4301E-16	9.46311E-05
	252Cf(S)	1.0045E-14	2.9873E-10	3.4399E-07	1.8228E-05	9.2808E-05	1.1529E-04	1.1585E-04	5.4434E-06	1.1585E-04	5.8790E-14	1.16100E-04

Table 2.7.1 Continued

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$_{26}Fe \rightarrow {}_{27}Co \rightarrow {}_{28}Ni \rightarrow {}_{29}Cu \xrightarrow{0.9700} {}_{30}Zn \rightarrow {}_{31}Ga \rightarrow {}_{32}Ge \xleftarrow{0.0002} {}_{33}As \xrightarrow{0.9998} {}_{34}Se$

	$_{26}Fe$	$_{27}Co$	$_{28}Ni$	$_{29}Cu$	$_{30}Zn$	$_{31}Ga$	$_{32}Ge$	$_{33}As$	$_{34}Se$	Mass Yield
λ(1/sec)	1.4155E+01	1.9227E+01	1.5807E+00	4.4037E-01	1.2160E-01	2.5577E-02	0.0	7.3154E-06	0.0	
Q-value(MeV)	1.3410E+01	1.8630E+01	8.7570E+00	1.0205E+01	3.8900E+00	6.7740E+00	0.0	2.9686E+00	0.0	
E-beta (MeV)	5.1330E+00	5.8660E+00	3.3790E+00	3.1130E+00	1.3960E+00	1.8051E+00	0.0	1.0624E+00	0.0	
E-gamma(MeV)	2.7160E+00	6.3710E+00	1.5270E+00	3.5040E+00	7.6410E-01	2.7925E+00	0.0	4.3001E-01	0.0	
E-i.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Spin						3-		2-		
Cumulative yield: ^{232}Th(F)	3.8409E-12	2.7110E-08	4.6738E-05	8.8994E-04	6.4816E-03	7.0867E-03	7.1099E-03	9.0215E-09	8.0204E-09	7.13656E-03
^{232}Th(H)	2.2800E-12	7.4409E-08	1.2208E-04	9.6772E-03	6.3139E-02	8.6356E-02	8.7158E-02	1.4100E-06	1.4099E-06	8.74477E-02
^{233}U (T)	5.4521E-15	1.1095E-10	1.2196E-06	2.3412E-04	7.4021E-03	1.3515E-02	1.4702E-02	5.1779E-06	5.1800E-06	1.47143E-02
^{233}U (F)	1.5771E-15	2.0500E-10	1.8402E-06	4.0384E-04	1.0579E-02	2.0580E-02	2.2178E-02	8.0001E-06	8.0026E-06	2.21981E-02
^{233}U (H)	1.7820E-15	4.2800E-10	3.2905E-06	1.1433E-03	2.5476E-02	5.2421E-02	5.7369E-02	3.9100E-05	3.9109E-05	6.74419E-02
^{235}U (T)	6.1494E-14	4.0991E-10	2.0200E-06	1.6598E-04	2.5994E-03	3.7502E-03	3.8532E-03	1.9096E-07	1.9097E-07	3.65836E-03
^{235}U (F)	1.8152E-13	5.8374E-09	1.6498E-05	1.1650E-03	1.1861E-02	1.5877E-02	1.6110E-02	3.6884E-07	3.6882E-07	1.61456E-02
^{235}U (H)	1.6493E-14	1.0501E-09	5.3313E-06	1.2354E-03	1.9366E-02	3.9033E-02	4.0871E-02	9.7605E-06	9.7613E-06	4.09183E-02
^{236}U (F)	5.0124E-13	1.3600E-08	3.2213E-05	1.7942E-03	1.5977E-02	2.0282E-02	2.0495E-02	2.6300E-07	2.6298E-07	2.05493E-02
^{238}U (F)	2.8592E-14	5.1560E-09	7.3638E-06	1.1749E-04	7.4170E-04	7.9887E-04	8.0069E-04	5.8164E-10	5.8156E-10	8.04217E-04
^{238}U (H)	3.2605E-12	6.7415E-08	7.0979E-05	3.7206E-03	1.7733E-02	2.1960E-02	2.2057E-02	1.1002E-07	1.1000E-07	2.21685E-02
^{237}Np(F)	6.6786E-15	5.7001E-10	1.8706E-06	3.0987E-04	3.4156E-03	5.9647E-03	6.1277E-03	5.1501E-07	6.1500E-07	6.13757E-03
^{239}Pu(T)	5.6944E-16	3.7912E-11	3.1914E-07	5.7538E-05	1.4393E-03	2.5785E-03	2.7527E-03	7.1723E-07	7.1743E-07	2.75513E-03
^{239}Pu(F)	1.7649E-15	1.4604E-10	9.2643E-07	1.6098E-04	3.1441E-03	5.5708E-03	5.8579E-03	1.1403E-06	1.1405E-06	5.86385E-03
^{239}Pu(H)	2.7430E-16	4.3302E-11	4.3207E-07	1.9244E-04	5.3630E-03	1.5023E-02	1.6634E-02	1.6201E-05	1.6207E-05	1.66555E-02
^{240}Pu(F)	2.2424E-15	1.2801E-10	5.9420E-07	5.7700E-05	1.0221E-03	1.4231E-03	1.4660E-03	8.0808E-08	8.0815E-08	1.46782E-03
^{241}Pu(T)	1.7205E-14	5.1414E-10	1.4109E-06	7.4832E-05	7.5778E-04	9.5283E-04	9.6404E-04	1.3204E-08	1.3203E-08	9.66295E-04
^{241}Pu(F)	1.5400E-14	4.1898E-10	1.0204E-06	5.5617E-05	6.0659E-04	7.9558E-04	8.0521E-04	1.3899E-08	1.3898E-08	8.07225E-04
^{242}Pu(F)	1.9216E-14	1.6200E-10	5.9417E-07	1.8294E-05	2.4275E-04	2.8015E-04	2.8305E-04	1.9397E-09	1.9398E-09	2.83600E-04
^{252}Cf(S)	2.1450E-16	2.1381E-11	8.3446E-08	1.2872E-05	1.5535E-04	2.8124E-04	2.8999E-04	3.0772E-08	3.0773E-08	2.90411E-04

Table 2.7.1 Continued

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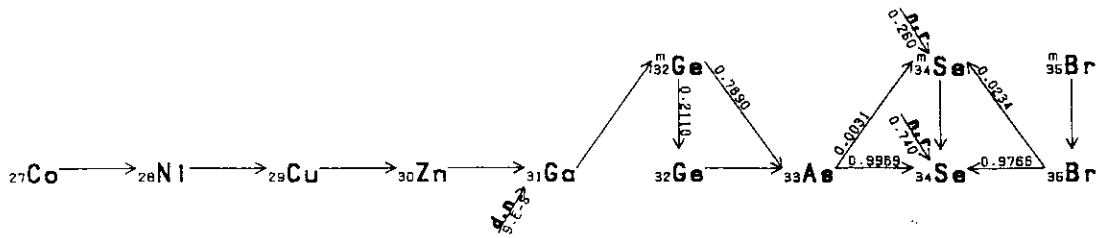

		27Co	28Ni	29Cu	30Zn	31Ga	32Ge	32Ge	33As	34Se	34Se	35Br	35Br	Mass Yield
	λ(1/sec)	7.7016E+00	4.5215E+00	5.5012E-01	4.9510E-01	5.3319E-02	1.7039E-05	1.2835E-02	4.9624E-05	0.0	3.9608E-02	3.3766E-06	2.6992E-03	
	Q-value(MeV)	1.6325E+01	1.2525E+01	8.5170E+00	7.3460E+00	4.9150E+00	2.7015E+00	2.8812E+00	5.9040E-01	0.0	1.6190E-01	1.3647E+00	1.0520E-01	
	E-beta (MeV)	5.6470E+00	4.4810E+00	3.2670E+00	2.6350E+00	2.0430E+00	5.9798E-01	9.3503E-01	2.2866E-01	0.0	0.0	1.1266E-03	0.0	
	E-gamma(MeV)	4.5600E+00	3.0880E+00	1.5060E+00	1.1710E+00	7.8930E-01	1.1430E+00	6.7139E-02	7.5099E-03	0.0	8.6940E-02	3.0188E-01	1.4443E-02	
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	1.5012E-02	0.0	0.0	7.4960E-02	0.0	9.1757E-02	
	Spin						7/2+	1/2-	3/2-	1/2-	7/2+	3/2-	9/2+	
Cumulative yield	232Th(F)	1.4115E-10	7.8819E-06	5.9802E-04	8.8240E-03	1.2012E-02	2.7873E-03	1.2045E-02	1.2291E-02	1.2291E-02	9.8109E-05	3.4271E-16	2.7111E-16	1.22898E-02
	232Th(H)	1.2257E-10	1.3300E-05	3.3694E-03	5.6653E-02	1.1901E-01	3.0992E-02	1.1849E-01	1.2531E-01	1.2531E-01	3.8846E-04	5.7718E-14	4.9679E-14	1.25304E-01
	233U (T)	9.8831E-12	8.6563E-06	6.6361E-05	5.2812E-03	1.9550E-02	9.9409E-03	2.0411E-02	2.5151E-02	2.5151E-02	8.1226E-05	7.5669E-12	5.7957E-12	2.61508E-02
	233U (F)	4.0637E-12	1.4100E-07	1.1414E-04	7.9122E-03	3.1112E-02	1.4924E-02	3.2194E-02	4.0487E-02	4.0487E-02	1.2573E-04	1.0920E-11	8.6385E-12	4.04869E-02
	233U (H)	5.4766E-12	2.0400E-07	2.3721E-04	1.5487E-02	7.8960E-02	3.8524E-02	8.0750E-02	1.0282E-01	1.0282E-01	3.1950E-04	5.3370E-11	4.5936E-11	1.02617E-01
	235U (T)	5.8409E-13	2.5594E-07	8.1538E-05	3.1409E-03	7.2183E-03	2.6018E-03	7.3780E-03	8.4327E-03	8.4327E-03	2.6148E-05	1.7474E-14	1.3384E-14	8.43236E-03
	235U (F)	1.3227E-11	2.4989E-06	5.9522E-04	1.5765E-02	3.2815E-02	9.2519E-03	3.3116E-02	3.5396E-02	3.5396E-02	1.0973E-04	1.0653E-13	8.4116E-14	3.53946E-02
	235U (H)	7.1220E-13	4.2702E-07	3.2844E-04	1.4654E-02	5.6867E-02	2.2304E-02	5.7710E-02	6.8024E-02	6.8024E-02	2.1104E-04	7.5104E-12	6.4649E-12	6.80230E-02
	236U (F)	3.5895E-11	4.9599E-06	9.9595E-04	2.1050E-02	3.9568E-02	1.0498E-02	3.9846E-02	4.1946E-02	4.1946E-02	1.3004E-04	5.5600E-14	4.3963E-14	4.19464E-02
	238U (F)	7.7234E-11	3.1737E-06	1.9940E-04	2.5161E-03	3.2785E-03	7.4266E-04	3.2851E-03	3.3347E-03	3.3347E-03	1.0398E-05	3.7458E-17	2.9632E-17	3.33417E-03
	238U (H)	1.7030E-10	9.0515E-06	1.4973E-03	1.7465E-02	3.0488E-02	7.2632E-03	3.0556E-02	3.1375E-02	3.1375E-02	9.7264E-05	7.5423E-15	6.4917E-15	3.13744E-02
	237Np(F)	5.7550E-13	1.8600E-07	1.0119E-04	3.1022E-03	9.6745E-03	3.1310E-03	9.6157E-03	1.0890E-02	1.0890E-02	3.3767E-05	3.1598E-13	2.4996E-13	1.08898E-02
	239Pu(T)	4.0369E-14	3.7712E-08	2.5646E-05	1.6472E-03	5.7737E-03	2.5987E-03	5.9778E-03	7.3361E-03	7.3361E-03	2.2769E-05	1.0198E-12	7.8110E-13	7.33694E-03
	239Pu(F)	1.5553E-13	1.0603E-07	5.6426E-05	3.4254E-03	1.1511E-02	4.6451E-03	1.1798E-02	1.3988E-02	1.3988E-02	4.3996E-05	1.0303E-12	8.1504E-13	1.39875E-02
	239Pu(H)	5.5073E-13	2.2901E-08	3.4325E-05	2.8355E-03	1.7266E-02	9.7873E-03	1.7789E-02	2.4029E-02	2.4029E-02	7.4839E-05	3.1692E-11	2.7226E-11	2.40290E-02
	240Pu(F)	8.6084E-13	3.6204E-07	1.1837E-04	4.9259E-03	1.1451E-02	3.9024E-03	1.1643E-02	1.3101E-02	1.3101E-02	4.0622E-05	2.9064E-13	2.2991E-13	1.31008E-02
	241Pu(T)	1.3089E-12	2.0906E-07	4.1421E-05	9.7268E-04	1.8121E-03	4.8948E-04	1.8280E-03	1.9323E-03	1.9323E-03	5.9903E-06	3.5700E-15	2.7344E-15	1.93209E-03
	241Pu(F)	5.7136E-12	8.8596E-07	2.0368E-04	4.5137E-03	9.0058E-03	2.4457E-03	9.0764E-03	9.6101E-03	9.6101E-03	2.9792E-05	1.6573E-14	1.3110E-14	9.60977E-03
	242Pu(F)	9.4383E-12	1.5900E-06	2.1059E-04	5.6897E-03	9.0592E-03	2.4188E-03	9.1249E-03	9.6200E-03	9.6200E-03	2.9823E-05	3.9126E-15	3.0951E-15	9.61950E-03
	252Cf(S)	3.6695E-14	1.4087E-08	7.3474E-06	2.5612E-04	7.8067E-04	2.6205E-04	7.9509E-04	8.9063E-04	8.9064E-04	2.7618E-06	3.7796E-14	2.8949E-14	8.90618E-04

Table 2.7.1 Continued

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Mass No. 78

$_{27}Co \rightarrow {}_{28}Ni \rightarrow {}_{29}Cu \rightarrow {}_{30}Zn \xrightarrow{0.9999} {}_{31}Ga \rightarrow {}_{32}Ge \rightarrow {}_{33}As \rightarrow {}_{34}Se \xleftarrow{0.9999} {}_{35}Br$

	$_{27}Co$	$_{28}Ni$	$_{29}Cu$	$_{30}Zn$	$_{31}Ga$	$_{32}Ge$	$_{33}As$	$_{34}Se$	$_{35}Br$	Mass Yield
λ(1/sec)	1.1382E+01	3.5785E+00	1.4946E+00	4.7153E-01	1.2626E-01	1.3279E-04	1.2737E-04	0.0	1.7883E-03	
Q-value(MeV)	2.0140E+01	1.0212E+01	1.2193E+01	5.6000E+00	8.0800E+00	9.8000E-01	4.2900E+00	0.0	6.9200E-01	
E-beta (MeV)	6.4240E+00	3.9290E+00	3.8300E+00	1.6237E+00	2.5433E+00	2.3677E-01	1.2304E+00	0.0	1.0280E+00	
E-gamma(MeV)	6.8150E+00	1.8770E+00	4.0530E+00	1.5222E+00	2.5255E+00	2.7806E-01	1.4412E+00	0.0	1.0299E+00	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Spin							2-		1+	
Cumulative yield ^{232}Th(F)	3.1969E-12	1.6604E-06	3.1374E-04	1.7606E-02	3.1593E-02	3.6406E-02	3.6426E-02	3.6426E-02	1.8747E-13	3.62198E-02
^{232}Th(H)	1.5066E-12	1.1000E-06	9.3811E-04	4.7442E-02	1.9563E-01	2.3958E-01	2.4038E-01	2.4039E-01	4.0901E-11	2.39225E-01
^{233}U (T)	1.4301E-13	4.5981E-09	1.0100E-05	3.0748E-03	2.3469E-02	5.3874E-02	5.5153E-02	5.5162E-02	1.0995E-09	5.51183E-02
^{233}U (F)	4.2368E-14	6.0301E-09	1.5106E-05	3.7932E-03	3.2702E-02	6.8229E-02	6.9947E-02	6.9957E-02	1.3900E-09	6.99229E-02
^{233}U (H)	5.0346E-14	7.0601E-09	2.8207E-05	6.0243E-03	7.7555E-02	1.5065E-01	1.5617E-01	1.5620E-01	6.0500E-09	1.56134E-01
^{235}U (T)	2.1539E-12	2.6794E-08	2.4221E-05	3.4955E-03	1.4280E-02	2.1661E-02	2.1823E-02	2.1823E-02	2.1895E-11	2.17846E-02
^{235}U (F)	5.2911E-12	1.9491E-07	1.4913E-04	1.2682E-02	4.7536E-02	6.4404E-02	6.4682E-02	6.4683E-02	2.1890E-11	6.45857E-02
^{235}U (H)	4.4669E-13	1.5801E-06	4.2818E-05	6.3141E-03	5.9622E-02	9.9668E-02	1.0202E-01	1.0202E-01	1.1001E-09	1.01962E-01
^{236}U (F)	2.7981E-13	2.9300E-07	1.7429E-04	1.2593E-02	4.0431E-02	5.2136E-02	5.2268E-02	5.2288E-02	7.7399E-12	5.21640E-02
^{238}U (F)	2.0839E-12	8.1596E-07	1.2696E-04	6.0149E-03	1.0086E-02	1.1274E-02	1.1279E-02	1.1279E-02	2.5131E-14	1.11820E-02
^{238}U (H)	1.6352E-12	6.1310E-07	3.3667E-04	1.1364E-02	3.5926E-02	4.0941E-02	4.1002E-02	4.1002E-02	1.2602E-12	4.07195E-02
^{237}Np(F)	2.9308E-13	1.3800E-08	2.5314E-05	2.4263E-03	1.7246E-02	2.4864E-02	2.5143E-02	2.5144E-02	6.3901E-11	2.51083E-02
^{239}Pu(T)	4.5815E-14	3.8813E-09	7.9755E-06	1.8836E-03	1.3831E-02	2.7960E-02	2.8529E-02	2.8532E-02	3.5311E-10	2.85223E-02
^{239}Pu(F)	9.6940E-14	8.0424E-09	1.5813E-05	2.8477E-03	2.0481E-02	3.6794E-02	3.7432E-02	3.7434E-02	2.8809E-10	3.74087E-02
^{239}Pu(H)	6.3419E-15	6.0203E-10	3.1208E-06	8.5117E-04	1.3522E-02	2.9447E-02	3.0950E-02	3.0960E-02	2.7301E-09	3.09402E-02
^{240}Pu(F)	2.6202E-13	2.7303E-08	2.5030E-05	3.9644E-03	1.6268E-02	2.6878E-02	2.7081E-02	2.7082E-02	3.6904E-11	2.70494E-02
^{241}Pu(T)	1.0852E-12	4.8614E-08	2.7656E-05	2.3012E-03	7.1065E-03	9.4364E-03	9.4651E-03	9.4652E-03	1.6104E-12	9.4[illegible]794E-03
^{241}Pu(F)	2.5264E-12	7.5196E-08	5.2573E-05	3.9114E-03	1.3901E-02	1.8187E-02	1.8252E-02	1.8252E-02	4.0398E-12	1.82138E-02
^{242}Pu(F)	1.0452E-13	1.6300E-07	5.2764E-05	5.9228E-03	1.3156E-02	1.7942E-02	1.7976E-02	1.7976E-02	1.4500E-12	1.79290E-02
^{252}Cf(S)	1.5086E-14	1.0391E-09	1.7994E-06	2.0362E-04	1.3580E-03	2.0558E-03	2.0805E-03	2.0806E-03	6.0546E-12	2.07669E-03

Table 2.7.1 Continued

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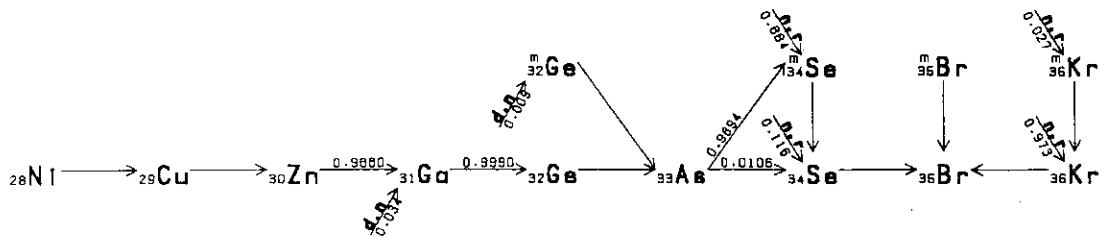
Mass No. 79



	28Ni	29Cu	30Zn	31Ga	32Ge	m32Ge	33As	34Se	m34Se	35Br	m35Br	36Kr	m36Kr	Mass Yield
λ(1/sec)	4.7193E+00	1.2621E+00	2.6355E-01	2.3105E-01	3.6290E-02	1.7773E-02	1.4088E-03	3.3792E-13	2.9546E-03	0.0	1.4204E-01	5.4951E-05	1.3863E-02	
Q-value(MeV)	1.4055E+01	9.8660E+00	9.4280E+00	6.7600E+00	4.1100E+00	4.2960E+00	2.2000E+00	1.4900E-01	9.5730E-02	0.0	2.0720E-01	1.6310E+00	1.3001E-01	
E-beta (MeV)	4.8410E+00	3.7090E+00	3.0160E+00	2.6130E+00	1.6449E+00	1.2767E+00	8.4761E-01	4.0544E-02	0.0	0.0	0.0	1.8173E-02	0.0	
E-gamma(MeV)	3.9030E+00	1.9700E+00	2.9170E+00	1.0620E+00	4.0743E-01	1.7710E+00	2.6200E-02	0.0	8.7401E-03	0.0	1.6954E-01	2.5007E-01	3.7183E-02	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6990E-02	0.0	4.7656E-02	0.0	9.2827E-02	
Spin					1/2-	7/2+	3/2-	7/2+	1/2-	3/2-	9/2+	1/2-	7/2+	
Cumulative yield 232Th(F)	1.0398E-08	9.2022E-05	1.2905E-02	5.3044E-02	5.6610E-02	2.7693E-02	8.4893E-02	8.4895E-02	6.3999E-02	8.4895E-02	7.4081E-11	4.9020E-16	4.3260E-16	8.43242E-02
232Th(H)	9.1869E-09	9.0300E-04	5.1284E-02	5.4904E-01	5.9742E-01	5.9066E-01	1.2139E+00	1.2140E+00	1.2010E+00	1.2140E+00	1.9125E-08	6.9161E-14	6.3862E-14	1.21155E+00
233U(T)	3.9754E-12	1.2395E-06	1.1348E-03	2.9918E-02	4.3782E-02	9.1034E-02	1.5083E-01	1.5116E-01	1.4928E-01	1.5116E-01	1.3613E-07	8.6363E-12	7.6649E-12	1.51075E-01
233U(F)	3.1831E-12	1.0600E-06	8.4407E-04	2.4043E-02	3.2541E-02	6.4872E-02	1.0976E-01	1.0998E-01	1.0862E-01	1.0998E-01	1.0110E-07	5.5101E-12	4.8626E-12	1.09888E-01
233U(H)	3.3134E-12	1.7100E-06	1.2677E-03	5.1467E-02	6.2668E-02	1.3532E-01	2.3221E-01	2.3278E-01	2.2979E-01	2.3278E-01	4.1340E-07	1.9700E-11	1.8186E-11	2.32635E-01
235U(T)	3.4109E-11	4.0191E-06	1.6776E-03	1.8767E-02	2.1897E-02	2.0692E-02	4.5302E-02	4.5321E-02	4.4824E-02	4.5321E-02	3.2927E-09	1.7184E-14	1.4906E-14	4.52529E-02
235U(F)	3.1404E-10	1.5692E-05	4.3689E-03	4.5855E-02	5.1866E-02	4.5787E-02	1.0077E-01	1.0078E-01	9.9699E-02	1.0078E-01	2.6117E-09	4.9356E-14	4.3556E-14	1.00536E-01
235U(H)	1.2022E-11	3.4602E-06	1.7936E-03	5.0892E-02	5.8672E-02	9.6669E-02	1.7320E-01	1.7340E-01	1.7138E-01	1.7340E-01	1.0105E-07	3.2502E-12	3.0003E-12	1.73222E-01
236U(F)	7.5639E-10	2.6100E-05	6.0590E-03	5.2534E-02	5.8321E-02	4.4181E-02	1.0492E-01	1.0493E-01	1.0361E-01	1.0493E-01	1.3218E-09	2.2791E-14	2.0113E-14	1.04668E-01
238U(F)	8.0941E-09	5.2962E-05	6.2142E-03	2.2499E-02	2.3731E-02	9.6228E-03	3.3524E-02	3.3525E-02	3.3169E-02	3.3525E-02	1.4430E-11	7.7086E-17	6.8028E-17	3.33079E-02
238U(H)	5.6564E-09	1.3102E-04	1.4476E-02	1.0984E-01	1.1402E-01	5.2139E-02	1.6846E-01	1.6847E-01	1.6668E-01	1.6847E-01	6.3157E-10	4.8862E-15	4.5105E-15	1.67815E-01
237Np(F)	2.1543E-11	3.3401E-06	1.1144E-03	2.2476E-02	2.6157E-02	2.7976E-02	5.7941E-02	5.7970E-02	5.7331E-02	5.7970E-02	8.8124E-09	2.3806E-13	2.1009E-13	5.78341E-02
239Pu(T)	2.6088E-12	3.5912E-07	2.6344E-04	6.3889E-03	1.1052E-02	3.0628E-02	4.6955E-02	4.7042E-02	4.6469E-02	4.7042E-02	3.2631E-08	1.8805E-12	1.4677E-12	4.69724E-02
239Pu(F)	5.7986E-12	1.2804E-06	7.4151E-04	1.6827E-02	2.1376E-02	3.4374E-02	6.0972E-02	6.1040E-02	6.0334E-02	6.1040E-02	2.4348E-08	1.0474E-12	8.2434E-13	6.09731E-02
239Pu(H)	2.0297E-11	3.2002E-07	3.1034E-04	1.5647E-02	1.9884E-02	5.1127E-02	8.6998E-02	8.7337E-02	8.6102E-02	8.7337E-02	3.1624E-07	1.9601E-11	1.8094E-11	8.72814E-02
240Pu(F)	3.2508E-11	2.9103E-06	1.3130E-03	1.6809E-02	2.0495E-02	2.7893E-02	5.0737E-02	5.0762E-02	5.0202E-02	5.0762E-02	4.4856E-09	2.2026E-13	1.9438E-13	5.08962E-02
241Pu(T)	9.3171E-11	3.5210E-06	8.5076E-04	7.2449E-03	8.2460E-03	6.6496E-03	1.5259E-02	1.5261E-02	1.5097E-02	1.5261E-02	2.1291E-10	4.9625E-15	4.3046E-15	1.52158E-02
241Pu(F)	1.7429E-10	7.9096E-06	1.7998E-03	1.7479E-02	1.9510E-02	1.5512E-02	3.5988E-02	3.5994E-02	3.5608E-02	3.5994E-02	6.4310E-10	9.8223E-15	8.5681E-15	3.58911E-02
242Pu(F)	4.1333E-10	9.5601E-06	2.6496E-03	1.6132E-02	1.8326E-02	1.6689E-02	3.5621E-02	3.5625E-02	3.5244E-02	3.5625E-02	2.7933E-10	3.3085E-15	2.9200E-15	3.55499E-02
252Cf(S)	2.0789E-12	3.2271E-07	1.2321E-04	2.4061E-03	2.9088E-03	3.3231E-03	6.6762E-03	6.6801E-03	6.6050E-03	6.6801E-03	1.1094E-09	4.3515E-14	3.7745E-14	6.66314E-03

Table 2.7.1 Continued

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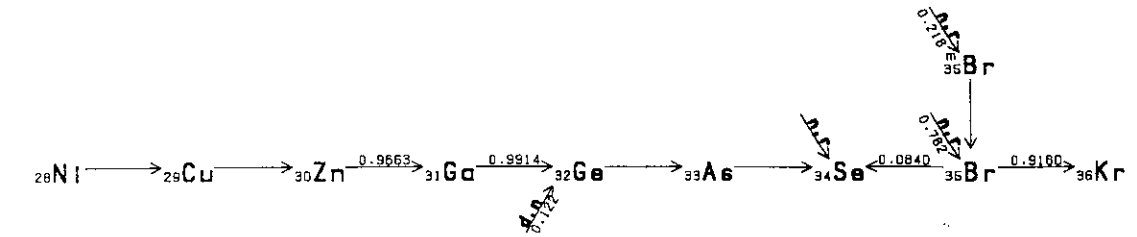
Mass No. 80



		28Ni	29Cu	30Zn	31Ga	32Ge	33As	34Se	35Br	m35Br	36Kr	Mass Yield
	λ(1/sec)	1.7828E+01	3.2496E+00	6.1558E-01	4.1756E-01	2.3497E-02	4.2009E-02	0.0	6.6393E-04	4.3561E-05	0.0	
	Q-value(MeV)	1.4063E+01	1.3729E+01	7.2340E+00	9.9000E+00	2.6300E+00	5.7000E+00	0.0	2.0060E+00	8.5950E-02	0.0	
	E-beta (MeV)	5.3050E+00	4.3270E+00	2.7580E+00	3.1220E+00	8.1510E-01	2.1993E+00	0.0	7.2772E-01	0.0	0.0	
	E-gamma(MeV)	2.9610E+00	4.5870E+00	1.2420E+00	3.5480E+00	6.1970E-01	8.2709E-01	0.0	7.9410E-02	1.4724E-02	0.0	
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.1196E-02	0.0	
	Spin						1+		1+	5-		
Cumulative yield	232Th(F)	6.1115E-09	1.3809E-05	7.9257E-03	5.9442E-02	2.0288E-01	2.0660E-01	2.0867E-01	9.5421E-09	7.4137E-09	6.7408E-09	2.02210E-01
	232Th(H)	2.3000E-09	2.3903E-05	1.2894E-02	3.6820E-01	1.1661E+00	1.3001E+00	1.3017E+00	9.4201E-07	6.0050E-07	8.6291E-07	1.28976E+00
	233U (T)	2.2491E-12	5.2077E-08	1.1697E-04	1.4381E-02	1.7903E-01	2.3532E-01	2.3938E-01	1.6613E-05	1.2477E-05	1.5219E-05	2.39006E-01
	233U (F)	2.0300E-12	6.4103E-08	1.8507E-04	1.3928E-02	1.4548E-01	1.9728E-01	2.0035E-01	5.1801E-06	4.0247E-06	4.7458E-06	1.99750E-01
	233U (H)	1.6500E-12	8.3202E-08	2.0609E-04	2.4324E-02	2.1749E-01	3.3503E-01	3.4092E-01	1.5760E-05	1.3393E-05	1.4438E-05	3.40195E-01
	235U (T)	2.0895E-11	2.3397E-07	3.7516E-04	1.0928E-02	1.1964E-01	1.9073E-01	1.9129E-01	7.8082E-08	5.8644E-08	7.1656E-08	1.30693E-01
	235U (F)	1.5793E-10	1.4895E-06	1.3709E-03	3.4832E-02	1.5864E-01	1.7701E-01	1.7739E-01	1.9491E-07	1.5144E-07	1.7865E-07	1.75610E-01
	235U (H)	6.0103E-12	2.0402E-07	3.4422E-04	2.8220E-02	1.8892E-01	2.6044E-01	2.6297E-01	4.8232E-06	3.9287E-06	4.2369E-06	2.62333E-01
	236U (F)	3.3400E-10	2.4303E-06	1.8804E-03	3.8166E-02	1.5559E-01	1.6936E-01	1.6960E-01	9.7399E-08	7.5674E-08	8.9221E-08	1.67483E-01
	238U (F)	4.0247E-09	7.4027E-06	3.5335E-03	2.2732E-02	6.9525E-02	7.1057E-02	7.1074E-02	1.7330E-09	1.3465E-09	1.5875E-09	6.85524E-02
	238U (H)	1.8203E-09	1.2004E-05	4.1827E-03	8.1123E-02	2.0427E-01	2.1807E-01	2.1818E-01	4.0586E-08	3.4489E-08	3.7178E-08	2.12824E-01
	237Np(F)	1.3300E-11	3.0402E-07	3.2531E-04	1.8745E-02	9.1618E-02	1.1512E-01	1.1565E-01	5.8201E-07	5.2989E-07	5.2475E-07	1.14584E-01
	239Pu(T)	1.9906E-12	5.1219E-08	1.3910E-04	8.6282E-03	8.5437E-02	1.1213E-01	1.1358E-01	1.6005E-06	1.2021E-06	1.4663E-06	1.13262E-01
	239Pu(F)	3.3510E-12	8.2128E-08	1.6913E-04	1.0127E-02	8.1140E-02	1.0421E-01	1.0521E-01	1.3224E-06	1.0274E-06	1.2115E-06	1.04880E-01
	239Pu(H)	3.4837E-13	1.7701E-08	5.6721E-05	8.5203E-03	9.2997E-02	1.5528E-01	1.6026E-01	1.3641E-05	1.1592E-05	1.2497E-05	1.50018E-01
	240Pu(F)	1.7002E-11	1.9404E-07	3.4223E-04	1.0058E-02	7.4276E-02	8.4836E-02	8.5243E-02	2.6393E-07	1.9729E-07	2.3252E-07	8.46895E-02
	241Pu(T)	5.0114E-11	3.4715E-07	3.1243E-04	8.0235E-03	2.7575E-02	2.9936E-02	2.9984E-02	1.8414E-08	1.3830E-08	1.6868E-08	2.94565E-02
	241Pu(F)	8.7396E-11	7.4905E-07	6.0072E-04	1.4102E-02	5.8771E-02	6.4813E-02	6.4922E-02	5.1797E-08	4.0244E-08	4.7449E-08	6.41515E-02
	242Pu(F)	1.9600E-10	7.6821E-07	9.2678E-04	1.0662E-02	6.0636E-02	6.3839E-02	6.3925E-02	1.9110E-08	1.4848E-08	1.7506E-08	6.31210E-02
	252Cf(S)	1.5486E-12	3.3072E-08	4.1995E-05	2.2586E-03	1.2572E-02	1.5662E-02	1.5747E-02	9.9210E-08	7.4512E-08	9.0883E-08	1.56228E-02

Table 2.7.1 Continued

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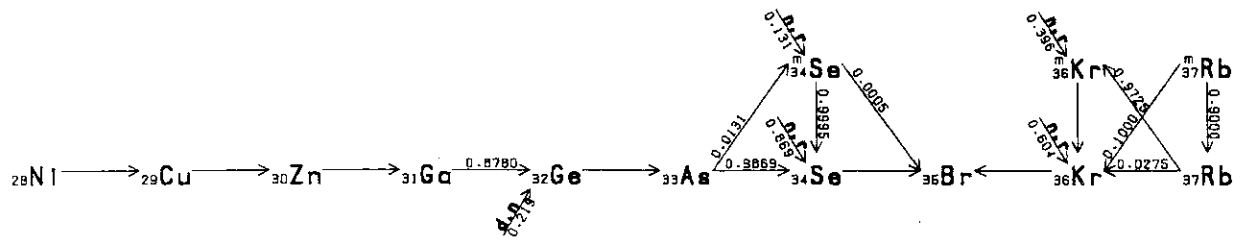
Mass No 81



	$_{28}$Ni	$_{29}$Cu	$_{30}$Zn	$_{31}$Ga	$_{32}$Ge	$_{33}$As	$_{34}$Se	$^{m}_{34}$Se	$_{35}$Br	$_{36}$Kr	$^{m}_{36}$Kr	$_{37}$Rb	$^{m}_{37}$Rb	Mass Yield
λ(1/sec)	8.1355E+00	7.2649E+00	2.5951E+00	5.5953E-01	6.8628E-02	2.1004E-02	6.2446E-04	2.0179E-04	0.0	1.0467E-13	5.3319E-02	4.2039E-05	3.6101E-04	
Q-value(MeV)	1.5364E+01	1.3600E+01	1.1265E+01	8.1120E+00	6.1980E+00	3.7500E+00	1.5850E+00	1.5880E+00	0.0	2.6900E-01	1.9010E-01	2.2620E+00	2.9470E+00	
E-beta (MeV)	5.2520E+00	4.8260E+00	4.0320E+00	2.7840E+00	2.4426E+00	1.5706E+00	6.1184E-01	2.1702E-04	0.0	0.0	0.0	1.5100E-01	3.4940E-02	
E-gamma(MeV)	4.3870E+00	3.4570E+00	2.7130E+00	1.1870E+00	8.4067E-01	1.3966E-01	5.6986E-09	1.3372E-02	0.0	9.9366E-03	1.2366E-01	5.8737E-01	6.5571E-02	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.9903E-02	0.0	0.0	6.8535E-02	0.0	7.2250E-02	
Spin						3/2-	1/2-	7/2+	3/2-	7/2+	1/2-	3/2-	9/2+	
Cumulative yield ^{232}Th(F)	3.7544E-12	1.4604E-06	2.1380E-03	5.9359E-02	3.7517E-01	4.2540E-01	4.2702E-01	7.0028E-03	4.2703E-01	7.6048E-11	8.9360E-12	6.5312E-17	5.6104E-17	4.25722E-01
^{232}Th(H)	5.8225E-11	7.7701E-07	1.4228E-03	1.2772E-01	8.9667E-01	1.4422E+00	1.4565E+00	3.2080E-02	1.4565E+00	3.4671E-09	2.8656E-10	4.6655E-15	4.3938E-15	1.46380E+00
^{233}U (T)	5.9761E-14	1.5993E-09	1.6695E-05	4.2809E-03	1.2749E-01	2.6557E-01	2.9060E-01	2.5197E-02	2.9076E-01	8.5156E-08	1.1291E-08	1.0615E-12	8.6046E-13	2.91051E-01
^{233}U (F)	1.4520E-14	2.4000E-09	2.1703E-05	5.0176E-03	1.5573E-01	3.4037E-01	3.6942E-01	3.0107E-02	3.6961E-01	8.2602E-08	1.0906E-08	1.2524E-12	1.0769E-12	3.70073E-01
^{233}U (H)	8.2861E-15	2.2900E-09	1.9702E-05	7.7936E-03	1.9021E-01	5.0020E-01	5.4570E-01	4.8577E-02	5.4614E-01	1.9671E-07	1.5127E-08	3.7837E-12	3.5634E-12	5.46749E-01
^{235}U (T)	1.8080E-12	1.3797E-08	6.3999E-05	7.0944E-03	1.3073E-01	1.8727E-01	1.9518E-01	9.3199E-03	1.9520E-01	3.7362E-09	4.9518E-10	3.1109E-15	2.5804E-15	1.94649E-01
^{235}U (F)	1.6809E-12	6.9069E-08	1.9496E-04	1.7420E-02	1.7477E-01	2.4655E-01	2.5279E-01	6.9996E-03	2.5280E-01	1.3614E-09	1.5860E-10	6.1326E-15	5.2682E-15	2.63735E-01
^{235}U (H)	7.0660E-14	4.6402E-09	2.7006E-05	7.3424E-03	1.2890E-01	2.8124E-01	2.9717E-01	1.8393E-02	2.9727E-01	3.2502E-08	2.4991E-09	2.3761E-13	2.2377E-13	2.97667E-01
^{236}U (F)	3.5129E-12	1.2400E-07	2.8912E-04	2.0557E-02	1.7824E-01	2.3883E-01	2.4177E-01	5.7214E-03	2.4177E-01	6.0679E-10	7.1302E-11	2.4064E-15	2.0572E-15	2.42856E-01
^{238}U (F)	2.8641E-12	8.2497E-07	1.0010E-03	2.3245E-02	1.2752E-01	1.4161E-01	1.4199E-01	2.1904E-03	1.4199E-01	1.1954E-11	1.4046E-12	8.2995E-16	7.1294E-16	1.42578E-01
^{238}U (H)	2.3855E-11	7.2912E-07	8.5587E-04	5.0744E-02	2.5913E-01	3.2979E-01	3.3157E-01	5.9701E-03	3.3157E-01	1.5102E-10	1.1612E-11	5.2494E-16	4.9437E-16	3.33676E-01
^{237}Np(F)	1.5369E-13	1.4900E-08	5.5416E-05	1.0273E-02	1.2437E-01	2.2804E-01	2.3542E-01	9.5056E-03	2.3546E-01	6.5341E-09	7.5783E-10	6.9542E-14	5.9824E-14	2.96151E-01
^{239}Pu(T)	1.9706E-14	1.7005E-09	1.4106E-05	3.2772E-03	7.9659E-02	1.5950E-01	1.7131E-01	1.2341E-02	1.7138E-01	2.9099E-08	3.8580E-09	2.7871E-13	2.3118E-13	1.71665E-01
^{239}Pu(F)	2.4250E-14	2.5008E-09	1.6307E-05	3.5114E-03	6.9159E-02	1.3425E-01	1.4201E-01	8.5063E-03	1.4205E-01	1.3974E-08	1.5421E-09	1.5784E-13	1.3669E-13	1.42302E-01
^{239}Pu(H)	2.5026E-15	4.7003E-10	5.2508E-06	2.6664E-03	8.1422E-02	2.4611E-01	2.7616E-01	3.0974E-02	2.7652E-01	2.1412E-07	1.6467E-08	5.3376E-12	5.0268E-12	2.76755E-01
^{240}Pu(F)	1.2123E-13	9.6310E-09	4.8414E-05	5.5040E-03	8.9186E-02	1.3624E-01	1.4083E-01	5.8306E-03	1.4084E-01	3.3413E-09	3.9264E-10	2.9943E-14	2.5722E-14	1.41213E-01
^{241}Pu(T)	6.5637E-13	2.5307E-08	6.9146E-05	4.8325E-03	4.5417E-02	6.1926E-02	6.2765E-02	1.5401E-03	6.2767E-02	1.9205E-10	2.5462E-11	8.9065E-16	7.3875E-16	6.28771E-02
^{241}Pu(F)	1.0815E-12	3.7198E-08	9.2133E-05	7.4748E-03	5.7644E-02	9.3683E-02	9.5007E-02	2.3974E-03	9.5011E-02	3.3408E-10	3.9257E-11	1.2627E-15	1.0847E-15	9.53678E-02
^{242}Pu(F)	4.1045E-12	5.3901E-08	1.5105E-04	7.6052E-03	8.3213E-02	1.0248E-01	1.0369E-01	2.4085E-03	1.0369E-01	2.1020E-10	2.4700E-11	2.6056E-16	2.4101E-16	1.04081E-01
^{252}Cf(S)	1.3180E-14	1.5466E-09	6.5956E-06	1.1885E-03	1.6204E-02	2.9327E-02	3.0387E-02	1.3046E-03	3.0392E-02	1.0421E-09	1.3816E-10	1.9565E-14	1.1252E-14	3.04643E-02

Table 2.7.1 Continued

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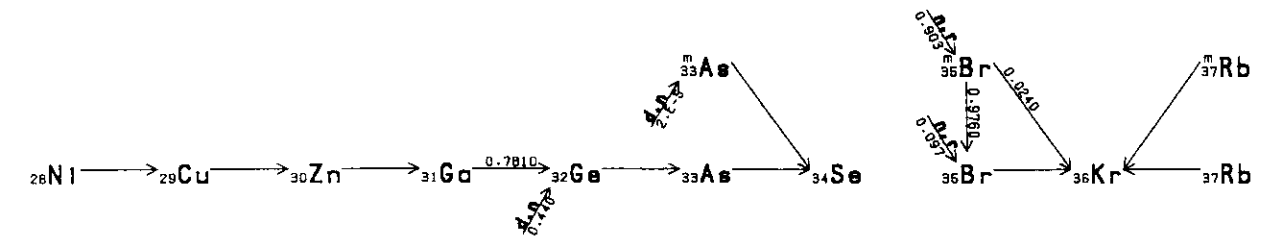
Mass No. 82



	28Ni	29Cu	30Zn	31Ga	32Ge	33As	m33As	34Se	35Br	m35Br	36Kr	37Rb	m37Rb	Mass Yield
λ (1/sec)	3.4348E+01	5.5630E+00	5.6862E+00	1.1553E+00	1.5068E-01	3.6290E-02	4.9511E-02	0.0	5.4644E-06	1.8846E-03	0.0	9.2420E-03	3.1055E-05	
Q-value(MeV)	1.8006E+01	1.4930E+01	1.1142E+01	1.2212E+01	4.4000E+00	7.4000E+00	7.4000E+00	0.0	3.0926E+00	3.1386E+00	0.0	4.3780E+00	4.4780E+00	
E-beta (MeV)	5.9830E+00	4.6890E+00	4.2340E+00	3.7960E+00	1.4490E+00	2.9171E+00	1.8179E+00	0.0	1.3696E-01	3.0680E-02	0.0	1.4051E+00	9.0006E-02	
E-gamma(MeV)	3.5360E+00	5.0620E+00	2.1810E+00	4.1310E+00	7.6520E-01	1.0849E+00	3.3033E+00	0.0	2.6507E+00	2.6300E-03	0.0	1.1780E-01	2.8751E+00	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4800E-02	0.0	2.2708E-04	3.8825E-03	
Spin						1+	5-		5-	2-		1+	5-	
Cumulative yield: 232Th(F)	3.3508E-12	9.2525E-08	6.0624E-04	3.9021E-02	8.2337E-01	8.7985E-01	1.9678E-01	1.1095E+00	4.7404E-05	1.2805E-05	4.7729E-05	9.7510E-15	3.3966E-14	1.10985E+00
232Th(H)	4.5452E-13	2.1400E-08	1.3502E-04	3.8018E-02	7.0907E-01	8.3890E-01	7.3441E-01	1.6709E+00	6.2727E-04	1.1420E-04	5.9023E-04	1.9345E-13	1.0943E-12	1.87764E+00
233U (T)	5.0414E-16	3.4186E-11	1.4594E-06	1.0380E-03	1.0933E-01	1.7818E-01	2.0771E-01	5.5112E-01	7.5620E-04	2.2851E-04	7.6572E-04	1.6779E-11	5.0621E-11	5.52040E-01
233U (F)	8.3066E-17	4.4001E-11	1.5401E-06	1.2536E-03	1.0868E-01	1.7901E-01	2.4533E-01	5.7977E-01	2.7125E-03	7.3270E-04	2.7362E-03	6.6994E-11	2.3336E-10	5.82703E-01
233U (H)	3.9922E-17	3.9600E-11	1.1900E-06	1.5382E-03	1.1320E-01	1.6977E-01	4.9310E-01	6.3187E-01	5.7400E-03	1.0450E-03	5.7744E-03	1.4496E-10	8.1998E-10	8.37900E-01
235U (T)	2.0144E-14	1.2197E-09	2.3196E-06	6.9077E-03	1.3947E-01	1.7355E-01	1.2092E-01	3.2724E-01	6.1046E-05	1.8398E-06	6.1891E-06	2.5419E-13	7.6686E-13	3.28649E-01
235U (F)	1.5490E-14	1.9791E-09	2.1492E-06	5.4411E-03	1.6731E-01	2.0740E-01	1.3965E-01	3.8086E-01	1.9336E-04	5.2231E-06	1.9473E-04	3.9795E-13	1.3862E-12	3.81754E-01
235U (H)	5.0367E-16	1.2901E-10	2.6003E-06	2.2987E-03	1.1866E-01	1.7656E-01	3.2749E-01	6.1905E-01	4.7395E-03	8.6289E-04	4.7622E-03	1.0808E-11	6.1138E-11	6.24151E-01
236U (F)	3.3332E-14	3.6400E-09	3.2903E-05	6.5128E-03	1.7207E-01	2.0525E-01	1.1559E-01	3.4495E-01	1.0830E-04	2.9254E-05	1.0905E-04	1.5879E-13	5.6313E-13	3.45834E-01
238U (F)	1.5919E-12	3.5643E-08	1.9226E-04	1.0251E-02	1.8398E-01	1.9456E-01	3.7205E-02	2.9709E-01	6.1872E-06	1.5713E-06	6.2292E-06	8.4180E-16	2.9329E-15	2.37861E-01
238U (H)	2.3652E-13	2.5404E-08	1.0204E-04	1.8676E-02	2.4004E-01	2.6899E-01	1.6938E-01	4.5460E-01	6.3732E-05	1.1803E-05	6.4025E-05	2.7651E-14	1.5641E-13	4.56731E-01
237Np(F)	9.7439E-16	3.3400E-10	4.2504E-06	2.5669E-03	8.7451E-02	1.3346E-01	1.6027E-01	3.3552E-01	5.6236E-04	1.5191E-04	5.6641E-04	3.5043E-12	1.2207E-11	3.36504E-01
239Pu(T)	9.7032E-17	2.4608E-11	8.0529E-07	5.3798E-04	4.4168E-02	7.0906E-02	8.0684E-02	2.0233E-01	3.2873E-03	9.9073E-04	3.3142E-03	1.0589E-11	3.1947E-11	2.06793E-01
239Pu(F)	1.5267E-16	5.0215E-11	1.2404E-06	7.9348E-04	5.0123E-02	7.6746E-02	9.2739E-02	2.1347E-01	6.1421E-04	1.6591E-04	6.1903E-04	7.1592E-12	2.4936E-11	2.14218E-01
239Pu(H)	1.0048E-17	6.1203E-12	2.3802E-07	3.9826E-04	3.7263E-02	6.8604E-02	1.7728E-01	3.5135E-01	3.6572E-03	6.6584E-04	3.6809E-03	8.9412E-11	5.0577E-10	3.65097E-01
240Pu(F)	9.0530E-16	2.1502E-10	4.5107E-06	1.3626E-03	7.6491E-02	9.7104E-02	7.1809E-02	2.0031E-01	2.1115E-04	5.7037E-05	2.1277E-04	1.4522E-12	5.0686E-12	2.00711E-01
241Pu(T)	9.0768E-15	1.1003E-09	1.1604E-05	2.1902E-03	6.6787E-02	8.0370E-02	4.0978E-02	1.3158E-01	4.3597E-05	1.3139E-05	4.3938E-05	9.2108E-14	2.7788E-13	1.31869E-01
241Pu(F)	1.0470E-14	1.1199E-09	1.0501E-05	2.4434E-03	5.6340E-02	8.1090E-02	5.1381E-02	1.4345E-01	5.7723E-05	1.5592E-05	5.8128E-05	8.6796E-14	3.0234E-13	1.49831E-01
242Pu(F)	5.0766E-14	1.6200E-09	2.2702E-05	2.4497E-03	1.0021E-01	1.1093E-01	3.7368E-02	1.6057E-01	2.9936E-05	8.0865E-06	3.0154E-05	1.9898E-14	6.9313E-14	1.60835E-01
252Cf(S)	9.4938E-17	3.8865E-11	5.8851E-07	3.3229E-04	1.3355E-02	2.0649E-02	2.2007E-02	4.9553E-02	8.7587E-05	2.6397E-05	8.6294E-05	8.3050E-13	2.5055E-12	4.97958E-02

Table 2.7.1 Continued

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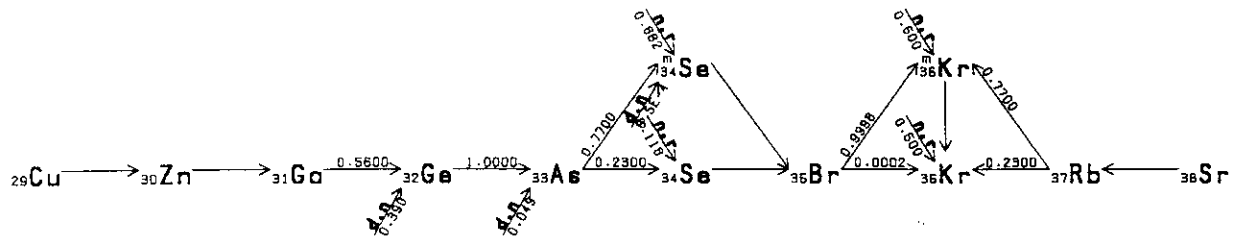
Mass No. 83



		$_{29}$Cu	$_{30}$Zn	$_{31}$Ga	$_{32}$Ge	$_{33}$As	$_{34}$Se	$^{m}_{34}$Se	$_{35}$Br	$_{36}$Kr	$^{m}_{36}$Kr	$_{37}$Rb	$_{38}$Sr	Mass Yield
	λ(1/sec)	1.4146E+01	4.3349E+00	2.2360E+00	3.6481E-01	5.2116E-02	5.1344E-04	9.6458E-03	8.0561E-05	0.0	1.0521E-04	9.3069E-08	5.9426E-06	
	Q-value(MeV)	1.5374E+01	1.2550E+01	1.1996E+01	8.3070E+00	5.4600E+00	3.6150E+00	3.8435E+00	9.6000E-01	0.0	4.1680E-02	9.9800E-01	2.2500E+00	
	E-beta (MeV)	5.2810E+00	4.1020E+00	3.8810E+00	2.5890E+00	1.2556E+00	4.8607E-01	1.2409E+00	3.2003E-01	0.0	0.0	0.0	1.2718E-01	
	E-gamma(MeV)	4.3320E+00	3.9530E+00	3.7430E+00	2.4440E+00	2.7514E+00	2.4350E+00	9.2672E-01	8.5855E-03	0.0	4.7568E-04	5.0412E-01	7.8977E-01	
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1083E-02	0.0	2.2842E-02	
	Spin						9/2+	1/2-	3/2-	9/2+	1/2-	5/2-	7/2+	
Cumulative yield	^{232}Th(F)	1.3486E-10	5.5115E-05	1.8665E-02	8.7796E-01	1.9015E+00	6.7971E-01	1.5138E+00	2.1953E+00	2.1953E+00	2.1949E+00	2.8307E-11	4.0555E-17	2.16967E+00
	^{232}Th(H)	5.8755E-10	5.4601E-06	5.3035E-03	2.9404E-01	1.3365E+00	5.0208E-01	1.0684E+00	1.6754E+00	1.6755E+00	1.6751E+00	4.5101E-10	3.9076E-16	1.67234E+00
	^{233}U (T)	1.7403E-12	5.9775E-08	1.7599E-04	5.0693E-02	4.9508E-01	5.1018E-01	4.7292E-01	1.0173E+00	1.0175E+00	1.0171E+00	3.7385E-08	1.1947E-13	1.01695E+00
	^{233}U (F)	3.8022E-13	5.4901E-08	1.7506E-04	4.3773E-02	4.6039E-01	5.2437E-01	4.3880E-01	9.9356E-01	9.9374E-01	9.9340E-01	3.1200E-08	5.3425E-13	9.93174E-01
	^{233}U (H)	2.5045E-13	3.9600E-08	1.8104E-04	4.2735E-02	6.1542E-01	7.0742E-01	5.4502E-01	1.3066E+00	1.3069E+00	1.3064E+00	7.5501E-08	1.4027E-12	1.30647E+00
	^{235}U (T)	3.6139E-11	3.0293E-07	3.7322E-04	5.3514E-02	3.5094E-01	2.1702E-01	3.0181E-01	5.3804E-01	5.3805E-01	5.3793E-01	1.0298E-09	1.0152E-15	5.33197E-01
	^{235}U (F)	3.0716E-11	1.1395E-06	1.1105E-03	9.3331E-02	4.1520E-01	2.2207E-01	3.4529E-01	5.7053E-01	5.7053E-01	5.7041E-01	2.6998E-10	1.4224E-15	5.68809E-01
	^{235}U (H)	2.9740E-12	1.1701E-07	3.6314E-04	5.9303E-02	6.2615E-01	5.5295E-01	5.3357E-01	1.1145E+00	1.1146E+00	1.1143E+00	1.8101E-08	8.2264E-14	1.11398E+00
	^{236}U (F)	5.8323E-11	1.9500E-06	1.4909E-03	1.0512E-01	4.0044E-01	1.9165E-01	3.2849E-01	5.2213E-01	5.2213E-01	5.2203E-01	1.3000E-10	5.3266E-16	5.20088E-01
	^{238}U (F)	6.4540E-11	1.4417E-05	3.3563E-03	1.3312E-01	3.5446E-01	1.0796E-01	2.7845E-01	3.8660E-01	3.8660E-01	3.8652E-01	2.4929E-12	2.5630E-18	3.79842E-01
	^{238}U (H)	1.4783E-11	7.3612E-06	4.5951E-03	1.6952E-01	5.3602E-01	2.0435E-01	4.2454E-01	6.3017E-01	6.3017E-01	6.3004E-01	2.9505E-11	7.0276E-17	6.27644E-01
	^{237}Np(F)	3.4347E-12	1.5500E-07	3.2216E-04	3.4443E-02	2.6867E-01	2.3367E-01	2.4158E-01	4.8099E-01	4.8101E-01	4.8090E-01	2.0000E-09	1.2108E-14	4.80425E-01
	^{239}Pu(T)	3.0522E-13	2.4508E-08	6.5246E-05	1.5083E-02	1.3714E-01	1.5392E-01	1.3391E-01	2.9496E-01	2.9500E-01	2.9491E-01	5.9819E-09	5.8376E-14	2.94864E-01
	^{239}Pu(F)	5.0517E-13	4.3113E-08	1.0508E-04	1.9339E-02	1.6631E-01	1.5119E-01	1.5082E-01	3.0854E-01	3.0857E-01	3.0849E-01	3.7511E-09	3.8224E-14	3.08318E-01
	^{239}Pu(H)	5.8071E-14	6.1603E-09	3.6508E-05	1.1067E-02	1.9714E-01	2.7123E-01	1.8020E-01	4.7846E-01	4.7867E-01	4.7841E-01	5.2303E-08	7.9673E-13	4.78539E-01
	^{240}Pu(F)	1.9834E-12	1.9202E-07	2.4322E-04	3.5291E-02	1.8396E-01	1.3858E-01	1.6105E-01	3.0267E-01	3.0268E-01	3.0261E-01	7.0107E-10	8.4660E-16	3.02227E-01
	^{241}Pu(T)	1.6457E-11	7.0920E-07	5.3585E-04	4.2253E-02	1.5860E-01	7.9022E-02	1.3201E-01	2.1169E-01	2.1169E-01	2.1164E-01	6.2418E-11	3.3981E-16	2.11056E-01
	^{241}Pu(F)	1.8016E-11	5.4397E-07	4.7952E-04	3.5595E-02	1.4867E-01	7.3951E-02	1.2252E-01	1.9738E-01	1.9738E-01	1.9734E-01	7.2096E-11	2.5834E-15	1.96716E-01
	^{242}Pu(F)	3.9928E-13	1.3500E-05	6.8136E-04	6.1818E-02	1.7778E-01	9.1694E-02	1.4716E-01	2.3952E-01	2.3952E-01	2.3947E-01	3.6600E-11	9.6902E-17	2.38483E-01
	^{252}Cf(S)	2.6894E-13	2.0282E-08	4.1083E-05	4.9980E-03	3.7931E-02	2.5796E-02	3.3163E-02	5.9826E-02	5.9828E-02	5.9814E-02	3.0872E-10	2.5238E-15	5.97547E-02

Table 2.7.1 Continued

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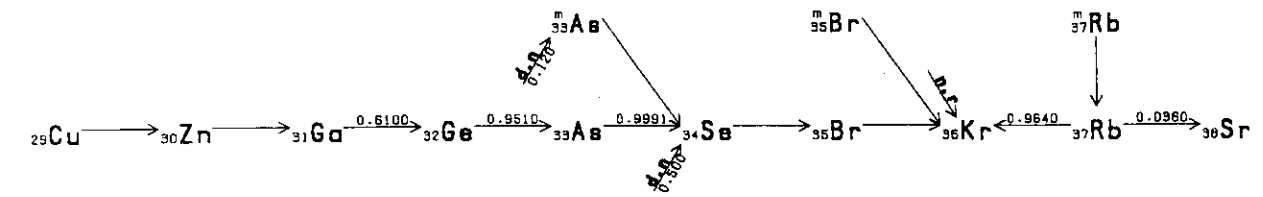
Mass No. 84



	$_{29}$Cu	$_{30}$Zn	$_{31}$Ga	$_{32}$Ge	$_{33}$As	$^{m}_{33}$As	$_{34}$Se	$_{35}$Br	$^{m}_{35}$Br	$_{36}$Kr	$_{37}$Rb	$^{m}_{37}$Rb	$_{38}$Sr	Mass Yield
λ(1/sec)	2.4321E+01	1.0974E+01	3.1279E+00	5.7762E-01	1.3078E-01	1.0664E+00	3.5007E-03	3.6328E-04	1.9254E-03	0.0	2.4311E-07	5.6353E-04	0.0	
Q-value(MeV)	1.6180E+01	1.3043E+01	1.3581E+01	8.0340E+00	9.7800E+00	9.7800E+00	1.8180E+00	4.6730E+00	4.9930E+00	0.0	8.9000E-01	4.6420E-01	0.0	
E-beta (MeV)	5.1820E+00	4.6230E+00	4.2280E+00	2.5460E+00	3.6681E+00	2.9180E+00	5.3532E-01	1.2537E+00	9.0771E-01	0.0	1.4740E-01	0.0	0.0	
E-gamma(MeV)	5.3400E+00	3.2970E+00	4.6330E+00	2.4600E+00	1.9824E+00	3.4620E+00	4.0690E-01	1.7876E+00	2.7684E+00	0.0	9.1382E-01	3.7949E-01	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.5506E-02	0.0	
Spin					1-	5+		2-	6-		2-	6+		
Cumulative Yield														
^{232}Th(F)	6.7330E-11	4.5311E-06	3.3073E-03	6.4828E-01	9.7248E-01	1.2564E+00	4.4954E+00	4.5048E+00	1.7735E-02	4.5227E+00	4.6911E-09	3.1769E-09	1.6891E-10	3.81742E+00
^{232}Th(H)	5.2741E-12	1.7000E-07	5.6518E-04	1.0234E-01	2.5289E-01	8.8447E-01	2.5505E+00	2.5637E+00	4.6317E-02	2.6103E+00	4.6101E-08	3.5851E-08	1.6598E-09	2.00957E+00
^{233}U (T)	1.0446E-14	1.1995E-09	1.0497E-05	1.2081E-02	7.9420E-02	2.0512E-01	1.5683E+00	1.6284E+00	1.0797E-01	1.7407E+00	2.3490E-08	1.5097E-08	9.7760E-10	1.67494E+00
^{233}U (F)	2.0493E-15	1.2300E-09	1.2301E-05	1.1677E-02	7.8656E-02	2.3549E-01	1.4994E+00	1.5565E+00	1.1978E-01	1.6800E+00	2.0700E-06	1.4019E-06	7.4628E-08	1.60769E+00
^{233}U (H)	1.3190E-15	7.6401E-10	1.2201E-05	9.8755E-03	6.9826E-02	3.4197E-01	1.7480E+00	1.8241E+00	2.6629E-01	2.0959E+00	4.7900E-06	3.7250E-06	1.7265E-07	2.02807E+00
^{235}U (T)	3.5334E-13	2.5694E-06	9.1945E-03	2.7870E-02	8.0855E-02	1.6450E-01	9.8538E-01	1.0031E+00	3.1806E-02	1.0354E+00	8.2981E-10	5.3333E-10	3.2649E-11	9.61828E-01
^{235}U (F)	2.9119E-13	4.5180E-08	1.3598E-04	4.1933E-02	1.2313E-01	2.9102E-01	1.0699E+00	1.0800E+00	2.1035E-02	1.1012E+00	3.7089E-08	2.6113E-08	1.3366E-09	9.67465E-01
^{235}U (H)	1.7689E-14	2.4001E-09	2.5904E-05	1.4345E-02	7.5275E-02	3.4885E-01	1.4188E+00	1.4561E+00	1.2693E-01	1.5841E+00	1.2201E-06	9.4879E-07	4.3958E-08	1.50253E+00
^{236}U (F)	5.9367E-13	8.4599E-08	1.9708E-04	5.1324E-02	1.2999E-01	2.8447E-01	1.0353E+00	1.0421E+00	1.4257E-02	1.0565E+00	1.6400E-08	1.1106E-08	5.9065E-10	8.78349E-01
^{238}U (F)	2.9426E-11	1.6019E-06	9.5672E-04	1.5658E-01	2.2134E-01	2.5605E-01	8.9270E-01	6.9392E-01	2.5683E-03	8.9650E-01	4.5853E-10	3.1063E-10	1.6510E-11	7.60900E-01
^{238}U (H)	4.8989E-12	3.3506E-07	7.1246E-04	8.4245E-02	1.6711E-01	4.9414E-01	1.1720E+00	1.1755E+00	1.2107E-02	1.1877E+00	4.9608E-09	3.8578E-09	1.7863E-10	1.00253E+00
^{237}Np(F)	2.5756E-14	5.1301E-09	3.7406E-05	1.3237E-02	7.2983E-02	2.0659E-01	7.5033E-01	7.6741E-01	3.5841E-02	8.0368E-01	1.7400E-07	1.1784E-07	6.2673E-09	7.31059E-01
^{239}Pu(T)	1.7412E-15	4.1213E-10	3.3715E-06	2.9990E-03	1.8686E-02	4.8407E-02	4.3543E-01	4.5200E-01	2.8018E-02	4.8089E-01	1.4004E-08	9.0008E-09	5.2327E-10	4.69549E-01
^{239}Pu(F)	3.0349E-15	1.0503E-09	8.1735E-06	6.5947E-03	3.0955E-02	8.9583E-02	4.6226E-01	4.7562E-01	2.8020E-02	5.0427E-01	2.7508E-07	1.8629E-07	9.9130E-09	4.76548E-01
^{239}Pu(H)	3.1505E-16	1.2001E-10	2.4803E-06	2.5837E-03	2.2502E-02	1.1342E-01	6.6633E-01	7.0052E-01	1.1961E-01	8.2363E-01	3.9702E-06	3.0875E-06	1.4316E-07	7.99709E-01
^{240}Pu(F)	1.0984E-14	5.0105E-09	1.8207E-05	1.0652E-02	3.4369E-02	8.4649E-02	4.2881E-01	4.3470E-01	1.2357E-02	4.4730E-01	4.9705E-08	3.3661E-08	1.7909E-09	4.11525E-01
^{241}Pu(T)	1.5435E-13	3.0308E-08	6.7449E-05	2.0349E-02	5.3343E-02	1.0297E-01	3.8723E-01	3.9030E-01	5.5314E-03	3.9589E-01	7.4319E-09	4.7766E-09	2.6771E-10	3.53023E-01
^{241}Pu(F)	1.7990E-13	2.2399E-08	6.1519E-05	1.6529E-02	4.6080E-02	1.0613E-01	3.6354E-01	3.6654E-01	6.3019E-03	3.7290E-01	8.8294E-09	5.9795E-09	3.1798E-10	3.28672E-01
^{242}Pu(F)	4.3403E-13	5.1001E-08	6.4952E-05	2.6058E-02	4.7330E-02	7.9127E-02	3.6990E-01	3.7153E-01	3.4200E-03	3.7500E-01	3.3200E-09	2.2484E-09	1.1957E-10	3.34224E-01
^{252}Cf(S)	2.0045E-15	5.8547E-10	3.9970E-06	1.6799E-03	9.4806E-03	2.3826E-02	1.0244E-01	1.0488E-01	4.3870E-03	1.0933E-01	2.4977E-08	1.6053E-08	8.9999E-10	9.80114E-02

Table 2.7.1 Continued

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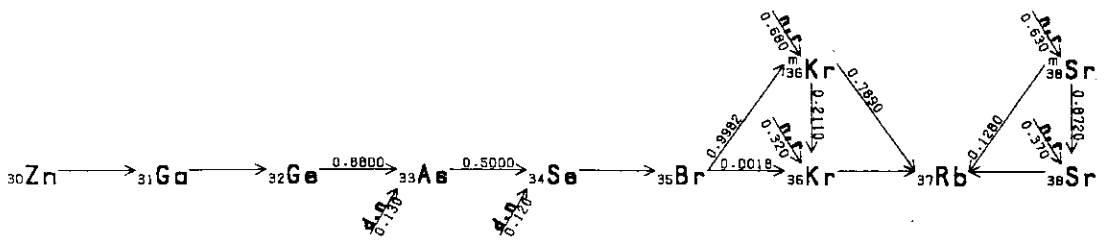
Mass No. 85



		30Zn	31Ga	32Ge	33As	34Se	35Br	36Kr	m36Kr	37Rb	38Sr	m38Sr	Mass Yield
	λ(1/sec)	3.5007E+01	7.1260E+00	8.9346E-01	3.3324E-01	2.2075E-02	4.0299E-03	2.0471E-09	4.4161E-05	0.0	1.2306E-07	1.6622E-04	
	Q-value(MeV)	1.4055E+01	1.3824E+01	9.7300E+00	9.1640E+00	5.1000E+00	2.8000E+00	6.8700E-01	9.9187E-01	0.0	1.0640E+00	1.9027E+00	
	E-beta (MeV)	4.7860E+00	4.5090E+00	9.0290E+00	2.6360E+00	1.7038E+00	1.0116E+00	2.2787E-01	2.2674E-01	0.0	0.0	0.0	
	E-gamma(MeV)	4.0100E+00	4.3050E+00	3.1830E+00	3.0060E+00	2.2390E+00	5.6031E-02	2.2100E-03	1.5733E-01	0.0	5.0583E-01	2.1503E-01	
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5181E-02	0.0	5.1399E-03	1.1766E-02	
	Spin						3/2-	9/2+	1/2-	5/2-	9/2+	1/2-	
Cumulative yield	232Th(F)	3.9670E-05	2.8107E-04	1.3709E-01	1.4454E+00	3.6920E+00	3.8670E+00	8.2316E-01	3.8603E+00	3.8690E+00	9.3376E-12	1.5990E-12	4.52538E+00
	232Th(H)	1.7197E-10	6.2401E-05	3.7511E-02	1.2094E+00	3.4619E+00	3.9899E+00	8.5416E-01	3.9835E+00	3.9972E+00	1.5377E-10	1.7410E-11	4.56154E+00
	233U (T)	4.6956E-11	4.5281E-07	1.5218E-03	1.3238E-01	1.4859E+00	2.1178E+00	4.8666E-01	2.1221E+00	2.1611E+00	1.5511E-08	2.9649E-09	2.22377E+00
	233U (F)	1.0352E-11	5.3001E-07	1.5435E-03	1.4534E-01	1.4325E+00	2.0961E+00	4.7928E-01	2.0989E+00	2.1354E+00	1.3308E-08	2.2790E-09	2.20421E+00
	233U (H)	4.1581E-12	3.6800E-07	1.0194E-03	1.3642E-01	1.2565E+00	1.9608E+00	4.5715E-01	1.9623E+00	2.0055E+00	2.0700E-08	2.3436E-09	2.07024E+00
	235U (T)	9.3192E-10	2.9393E-06	4.4130E-03	1.5605E-01	1.0113E+00	1.2633E+00	2.7429E-01	1.2623E+00	1.2703E+00	4.7324E-10	9.1067E-11	1.93734E+00
	235U (F)	2.2755E-11	9.2259E-06	8.5264E-03	2.6989E-01	1.0841E+00	1.2536E+00	2.5938E-01	1.2519E+00	1.2571E+00	1.1444E-10	1.9597E-11	1.38067E+00
	235U (H)	4.2656E-11	9.3905E-07	1.7670E-03	1.6424E-01	1.1095E+00	1.6211E+00	3.6249E-01	1.6204E+00	1.6411E+00	4.2881E-09	4.8548E-10	1.71718E+00
	236U (F)	6.3988E-11	1.8300E-05	1.4041E-02	3.5827E-01	1.2519E+00	1.4118E+00	3.0228E-01	1.4097E+00	1.4145E+00	5.8125E-11	9.9534E-12	1.58224E+00
	238U (F)	1.5086E-09	7.7190E-05	3.1250E-02	2.8017E-01	6.3411E-01	6.5864E-01	1.4011E-01	6.5750E-01	6.5887E-01	5.7210E-13	9.7966E-14	7.83999E-01
	238U (H)	2.3855E-10	4.4608E-05	1.7291E-02	3.7500E-01	7.9942E-01	8.7827E-01	1.8720E-01	8.7575E-01	8.7896E-01	5.9547E-12	6.7417E-13	1.04454E+00
	237Np(F)	6.2008E-11	1.8800E-06	2.2719E-03	1.4614E-01	6.9745E-01	9.2030E-01	2.0054E-01	9.1962E-01	9.2613E-01	5.3625E-10	9.1828E-11	9.93911E-01
	239Pu(T)	7.2053E-12	1.0803E-07	2.8920E-04	2.2943E-02	3.7795E-01	5.5815E-01	1.2627E-01	5.5885E-01	5.6722E-01	2.3040E-09	4.4337E-10	6.77432E-01
	239Pu(F)	1.1042E-11	3.6911E-07	7.5759E-04	5.6861E-02	4.2233E-01	5.7861E-01	1.2887E-01	5.7872E-01	5.8559E-01	1.3019E-09	2.2293E-10	6.11855E-01
	239Pu(H)	1.3007E-12	7.8604E-08	2.5109E-04	4.8072E-02	5.4703E-01	9.4915E-01	2.2924E-01	9.5083E-01	9.7959E-01	2.3963E-08	2.6450E-09	1.00261E+00
	240Pu(F)	4.5791E-11	1.1101E-05	1.5153E-03	7.2240E-02	4.5595E-01	5.4970E-01	1.1964E-01	5.4927E-01	5.5301E-01	2.5053E-10	4.2901E-11	5.86750E-01
	241Pu(T)	1.3851E-11	4.0411E-06	3.4710E-03	6.7047E-02	3.3258E-01	3.7504E-01	8.0360E-02	3.7452E-01	3.7586E-01	1.5841E-11	3.6257E-12	4.15250E-01
	241Pu(F)	1.0956E-11	3.8098E-06	3.0867E-03	6.9466E-02	3.2509E-01	3.7248E-01	7.9667E-02	3.7195E-01	3.7334E-01	2.2114E-11	3.7688E-12	4.14059E-01
	242Pu(F)	2.7396E-11	4.9201E-06	4.8390E-03	8.3067E-02	3.5999E-01	3.9158E-01	8.3786E-02	3.9099E-01	3.9228E-01	1.2428E-11	2.1281E-12	4.30612E-01
	252Cf(S)	7.3289E-12	2.6476E-07	3.6394E-04	2.2739E-02	1.2146E-01	1.5964E-01	3.4869E-02	1.5956E-01	1.5077E-01	1.1506E-10	2.2141E-11	1.71505E-01

Table 2.7.1 Continued

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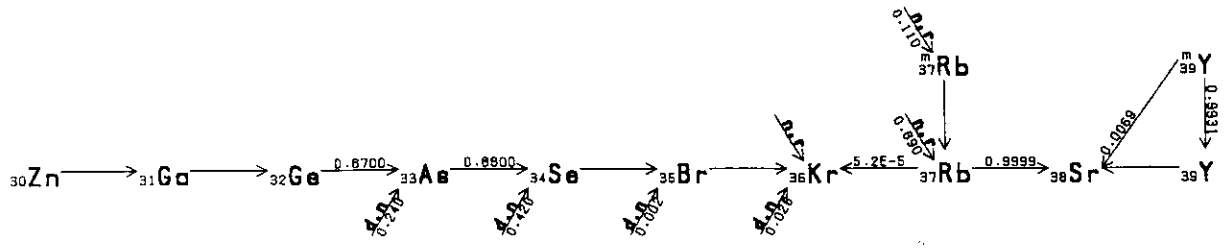
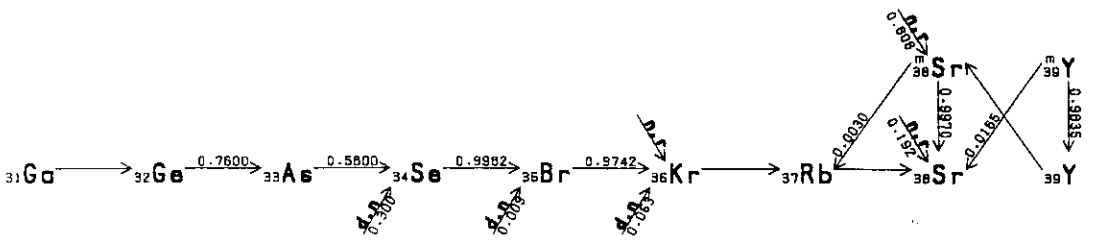
Mass No. 86



	30Zn	31Ga	32Ge	33As	34Se	35Br	36Kr	37Rb	m37Rb	38Sr	39Y	m39Y	Mass Yield
λ(1/sec)	2.1107E+01	5.7762E+00	2.4484E+00	7.7016E-01	4.8135E-02	1.2444E-02	0.0	4.2993E-07	1.1359E-02	0.0	1.3062E-05	2.4068E-04	
Q-value(MeV)	1.4720E+01	1.4963E+01	9.8560E+00	1.0905E+01	5.4790E+00	7.3000E+00	0.0	1.7748E+00	5.5605E-01	0.0	5.2730E+00	5.4913E+00	
E-beta (MeV)	5.2610E+00	4.6470E+00	3.3620E+00	3.3170E+00	1.4310E+00	1.7377E+00	0.0	6.5615E-01	0.0	0.0	2.2438E-01	3.0030E-03	
E-gamma(MeV)	3.6850E+00	5.1720E+00	2.6360E+00	3.7780E+00	2.1740E+00	3.6395E+00	0.0	9.4561E-02	5.4604E-01	0.0	3.2516E+00	2.1582E-01	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0009E-02	0.0	5.1225E-03	1.8904E-02	
Spin						2-		2-	6-		4-	8+	
Cumulative yield													
232Th(F)	1.3003E-09	1.2104E-05	2.7358E-02	6.5979E-01	5.8029E+00	6.5172E+00	5.7247E+00	1.6104E-05	1.2261E-05	1.6106E-05	1.8065E-15	6.5099E-15	6.52614E+00
232Th(H)	4.4901E-11	1.9401E-06	4.1840E-03	4.2741E-01	3.4038E+00	5.0123E+00	5.1922E+00	1.3700E-05	1.0654E-05	1.3719E-05	3.5448E-14	2.1865E-14	5.10156E+00
233U (T)	3.2178E-13	8.4265E-09	1.2196E-04	3.0416E-02	1.2237E+00	2.4948E+00	2.8621E+00	2.3190E-04	1.4905E-04	2.4066E-04	4.7977E-12	2.0416E-12	2.60634E+00
233U (F)	5.7319E-14	9.9201E-09	1.1701E-04	3.3611E-02	1.1171E+00	2.4477E+00	2.7866E+00	1.7460E-03	1.1824E-03	1.7471E-03	2.3089E-11	1.0877E-11	2.71890E+00
233U (H)	2.0209E-14	6.4800E-09	6.5907E-05	2.9850E-02	8.4172E-01	2.3636E+00	2.6911E+00	2.6720E-03	2.0779E-03	2.6734E-03	5.4334E-11	3.3498E-11	2.64866E+00
235U (T)	2.7894E-12	1.2997E-07	8.4594E-04	9.4722E-02	1.2695E+00	1.8164E+00	1.9725E+00	8.0182E-06	6.1534E-06	8.0831E-06	5.7461E-14	2.4451E-14	1.69878E+00
235U (F)	7.7265E-12	3.0287E-07	1.1208E-03	1.0242E-01	1.2956E+00	1.6396E+00	1.9359E+00	8.5961E-05	5.8215E-05	8.5975E-05	9.0203E-14	4.2493E-14	1.86085E+00
235U (H)	3.1925E-13	2.4101E-08	1.6603E-04	5.1584E-02	1.0416E+00	2.4176E+00	2.6261E+00	2.3901E-04	1.8587E-04	2.3946E-04	4.2382E-12	2.6130E-12	2.58801E+00
236U (F)	1.6000E-11	4.6301E-07	1.4975E-03	1.0756E-01	1.1870E+00	1.5962E+00	1.6744E+00	4.1900E-05	2.8375E-05	4.1905E-05	3.1773E-14	1.4967E-14	1.61921E+00
238U (F)	5.1761E-10	3.9251E-06	7.3405E-03	1.4794E-01	1.1188E+00	1.2357E+00	1.2785E+00	1.9923E-06	1.3493E-06	1.9924E-06	1.3059E-15	5.1520E-17	1.23504E+00
238U (H)	7.7513E-11	2.1204E-06	2.9236E-03	1.9680E-01	1.1146E+00	1.4628E+00	1.5126E+00	1.2602E-05	9.8002E-06	1.2603E-05	5.0909E-15	3.1387E-15	1.47318E+00
237Np(F)	4.3295E-13	4.9701E-08	2.1505E-04	4.6136E-02	5.3344E-01	1.2232E+00	1.3092E+00	2.4100E-04	1.6321E-04	2.4105E-04	7.7664E-13	3.6680E-13	1.27344E+00
239Pu(T)	4.6750E-14	4.1319E-09	4.6819E-05	1.0773E-02	3.4079E-01	6.7664E-01	7.6026E-01	6.5121E-05	4.1854E-05	6.5336E-05	2.2850E-12	9.7233E-13	7.42678E-01
239Pu(F)	6.9902E-14	7.7123E-09	5.4727E-05	1.4604E-02	3.5958E-01	7.0526E-01	7.7725E-01	2.7108E-04	1.8358E-04	2.7119E-04	1.6364E-12	7.7182E-13	7.68415E-01
239Pu(H)	5.3106E-15	1.1101E-09	1.4602E-05	6.4923E-03	3.0031E-01	9.8223E-01	1.1479E+00	1.8691E-03	1.4535E-03	1.8704E-03	3.4981E-11	2.1567E-11	1.12777E+00
240Pu(F)	3.6021E-13	2.7903E-08	1.9905E-04	2.1456E-02	4.6870E-01	7.0443E-01	7.5711E-01	7.9108E-05	5.3574E-05	7.9135E-05	2.8895E-13	1.3512E-13	7.36578E-01
241Pu(T)	5.2615E-12	1.5105E-07	5.4630E-04	3.7271E-02	4.5739E-01	6.1199E-01	6.4023E-01	1.7405E-05	1.1186E-05	1.7407E-05	1.6977E-14	7.2242E-15	6.29613E-01
241Pu(F)	3.7498E-12	1.3400E-07	4.3011E-04	3.6045E-02	3.9514E-01	5.5765E-01	5.8514E-01	1.9999E-05	1.3544E-05	2.0002E-05	1.5068E-14	7.0981E-15	5.67757E-01
242Pu(F)	1.0200E-11	1.6601E-07	7.9818E-04	3.1449E-02	5.2123E-01	6.2442E-01	6.5400E-01	8.9101E-06	6.0342E-06	8.9121E-06	2.9118E-15	1.3717E-15	6.32592E-01
252Cf(S)	4.0815E-14	5.4251E-09	2.7960E-05	5.5977E-03	9.0066E-02	1.7009E-01	1.8334E-01	5.5250E-06	3.5510E-06	5.5349E-06	1.6000E-13	6.8084E-14	1.77780E-01

Table 2.7.1 Continued

Mass No. 87



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	$_{31}$Ga	$_{32}$Ge	$_{33}$As	$_{34}$Se	$_{35}$Br	$_{36}$Kr	$_{37}$Rb	$_{38}$Sr	$^{m}_{38}$Sr	$_{39}$Y	$^{m}_{39}$Y
λ(1/sec)	2.1593E+01	2.1197E+00	9.4952E-01	1.2378E-01	1.2447E-02	1.5139E-04	4.6734E-19	0.0	6.8036E-05	2.3978E-06	1.4586E-05
Q-value(MeV)	1.5460E+01	1.1148E+01	1.0647E+01	7.3800E+00	6.5000E+00	3.8890E+00	2.7330E-01	0.0	1.1510E-01	1.8617E+00	2.2428E+00
E-beta (MeV)	5.2640E+00	3.5330E+00	3.4400E+00	2.0790E+00	1.5203E+00	1.3144E+00	7.8771E-02	0.0	0.0	3.2527E-04	4.0340E-03
E-gamma(MeV)	4.4360E+00	3.5850E+00	3.4730E+00	2.5440E+00	3.3371E+00	7.7643E-01	0.0	0.0	3.1072E-01	4.5008E-01	3.0492E-01
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.8747E-02	0.0	7.7963E-02
Spin					3/2-	5/2+	3/2-	9/2+	1/2-	1/2-	9/2+
Cumulative yield											
^{232}Th(F)	2.2867E-08	2.3026E-03	2.3915E-01	4.5658E+00	6.6689E+00	7.1492E+00	7.1498E+00	7.1498E+00	3.5956E-08	1.1049E-12	8.3255E-13
^{232}Th(H)	1.2116E-09	1.1100E-04	7.4270E-02	1.6302E+00	4.1967E+00	4.7805E+00	4.7836E+00	4.7836E+00	1.5928E-07	2.6112E-11	2.3543E-11
^{233}U (T)	4.2890E-10	6.6273E-06	5.9232E-03	7.4835E-01	2.1475E+00	3.9816E+00	4.0098E+00	4.0099E+00	1.2770E-05	3.6955E-09	3.2068E-09
^{233}U (F)	1.0280E-10	5.1301E-06	5.8030E-03	5.4575E-01	2.6792E+00	3.7642E+00	3.7893E+00	3.7894E+00	8.8258E-06	3.2547E-09	2.7471E-09
^{233}U (H)	4.8280E-11	2.1700E-06	3.4147E-03	2.9370E-01	1.8107E+00	3.2924E+00	3.3166E+00	3.3167E+00	5.2219E-06	4.0301E-09	3.6336E-09
^{235}U (T)	6.7778E-11	1.9721E-02	6.4481E-02	7.5910E-01	2.0180E+00	2.5147E+00	2.5543E+00	2.5543E+00	8.3229E-07	1.0456E-10	8.6073E-11
^{235}U (F)	2.3573E-10	7.5868E-05	2.6638E-02	8.7511E-01	2.1249E+00	2.4682E+00	2.4703E+00	2.4703E+00	2.3602E-07	2.8026E-11	2.1966E-11
^{235}U (H)	3.9469E-10	5.9303E-06	6.3498E-03	3.8161E-01	1.5967E+00	2.4506E+00	2.4622E+00	2.4622E+00	1.7073E-06	8.9376E-10	8.0582E-10
^{236}U (F)	5.0921E-10	1.2300E-04	3.4070E-02	9.4698E-01	2.0273E+00	2.2968E+00	2.2980E+00	2.2980E+00	1.1127E-07	9.6258E-12	8.1245E-12
^{238}U (F)	1.2323E-08	6.1772E-04	5.2976E-02	9.3769E-01	1.4765E+00	1.5878E+00	1.5880E+00	1.5880E+00	4.3854E-09	7.7328E-14	6.5267E-14
^{238}U (H)	2.3484E-09	2.3604E-04	5.3670E-02	8.0273E-01	1.5270E+00	1.6630E+00	1.6634E+00	1.6634E+00	1.1978E-08	1.2417E-12	1.1196E-12
^{237}Np(F)	2.2661E-11	1.2500E-05	9.2876E-03	3.8099E-01	1.4327E+00	1.7216E+00	1.7259E+00	1.7259E+00	6.3189E-07	1.5090E-10	1.2736E-10
^{239}Pu(T)	6.6305E-11	1.9406E-06	1.8341E-03	1.4850E-01	6.9407E-01	9.8388E-01	9.8913E-01	9.8914E-01	1.9018E-06	6.2307E-10	4.3060E-10
^{239}Pu(F)	1.0197E-10	3.0109E-06	2.6241E-03	1.8247E-01	7.5348E-01	9.9818E-01	1.0028E+00	1.0028E+00	1.1703E-06	3.3050E-10	2.7896E-10
^{239}Pu(H)	1.2739E-11	4.7103E-07	9.8541E-04	1.1100E-01	8.6726E-01	1.3126E+00	1.3318E+00	1.3318E+00	5.4609E-06	6.6365E-09	5.0819E-09
^{240}Pu(F)	1.6070E-11	1.1701E-05	5.3044E-03	2.9531E-01	7.9252E-01	9.8605E-01	9.8781E-01	9.8781E-01	3.4726E-07	5.0403E-11	4.2542E-11
^{241}Pu(T)	1.5524E-10	3.3509E-05	9.1510E-03	2.3592E-01	6.5498E-01	7.8338E-01	7.8384E-01	7.8384E-01	5.4033E-08	4.1153E-12	3.3878E-12
^{241}Pu(F)	1.1173E-10	3.2198E-05	1.0263E-02	2.9903E-01	6.5617E-01	7.4836E-01	7.4887E-01	7.4887E-01	5.0474E-08	5.0297E-12	4.2452E-12
^{242}Pu(F)	2.1589E-10	6.6601E-05	1.2152E-02	4.3454E-01	7.5162E-01	8.5247E-01	8.5279E-01	8.5279E-01	3.7538E-08	2.1205E-12	1.7898E-12
^{252}Cf(S)	2.6596E-12	1.8283E-05	1.3252E-03	6.1732E-02	2.1605E-01	2.7012E-01	2.7087E-01	2.7087E-01	1.3907E-07	2.8881E-11	2.3776E-11

Mass Yield
7.02015E+00
4.72027E+00
3.97117E+00
3.73533E+00
3.26061E+00
2.49731E+00
2.38663E+00
2.38726E+00
2.22856E+00
1.53237E+00
1.52298E+00
1.69020E+00
9.73523E-01
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1.31053E+00
9.69960E-01
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6.31252E-01
2.53573E-01

Table 2.7.1 Continued

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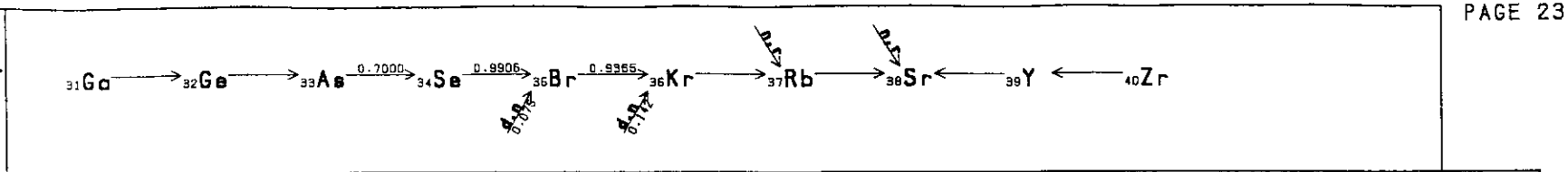
Mass No. 88



	31Ga	32Ge	33As	34Se	35Br	36Kr	37Rb	38Sr	39Y	40Zr	Mass Yield
λ (1/sec)	4.2787E+01	5.8150E+00	1.6840E+00	4.5304E-01	4.2524E-02	6.7322E-05	5.4901E-04	0.0	7.5251E-08	9.6193E-08	
Q-value(MeV)	1.7449E+01	1.1520E+01	1.2223E+01	7.2550E+00	8.6000E+00	2.9130E+00	5.3090E+00	0.0	3.5128E+00	6.7700E-01	
E-beta (MeV)	5.5050E+00	4.0060E+00	3.7520E+00	2.2150E+00	2.6177E+00	3.6133E-01	2.0911E+00	0.0	7.0017E-04	0.0	
E-gamma(MeV)	5.9410E+00	3.0030E+00	4.2210E+00	2.0320E+00	3.0572E+00	1.9698E+00	5.3645E-01	0.0	2.6689E+00	3.8307E-01	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	6.2650E-03	0.0	0.0	0.0	1.0630E-02	
Spin					1-		2-		4-		
Cumulative yield											
232Th(F)	1.3093E-10	1.2603E-04	3.5117E-02	2.7981E+00	5.6923E+00	7.5355E+00	7.5447E+00	7.5447E+00	2.3306E-10	6.1251E-16	7.27650E+00
232Th(H)	5.5574E-10	7.5001E-06	9.4466E-03	6.0340E-01	3.0983E+00	5.1325E+00	5.1665E+00	5.1665E+00	3.7901E-09	4.0336E-15	4.96696E+00
233U (T)	2.5619E-12	1.0895E-07	3.5696E-04	1.6066E-01	1.5205E+00	5.3458E+00	5.5184E+00	5.5205E+00	3.9385E-07	9.1562E-12	5.49250E+00
233U (F)	5.6164E-13	1.2200E-07	4.5513E-04	1.5671E-01	1.9664E+00	4.9280E+00	5.1354E+00	5.1371E+00	3.6601E-07	6.9701E-12	5.11957E+00
233U (H)	2.4809E-13	5.3600E-08	3.1006E-04	9.3853E-02	1.6343E+00	3.7992E+00	4.0042E+00	4.0056E+00	4.6001E-07	7.3001E-12	3.99487E+00
235U (T)	7.6149E-11	2.4095E-05	3.2413E-02	3.5637E-01	2.0344E+00	3.5676E+00	3.6488E+00	3.6490E+00	1.5996E-08	2.6729E-14	3.59489E+00
235U (F)	5.9716E-11	3.6863E-05	4.0579E-03	4.8188E-01	2.2918E+00	3.4879E+00	3.5147E+00	3.5146E+00	4.3680E-09	3.1752E-14	3.39804E+00
235U (H)	3.1390E-12	1.7601E-07	6.8621E-04	1.4371E-01	1.6566E+00	3.3411E+00	3.4712E+00	3.4718E+00	1.3401E-07	1.4301E-12	3.44080E+00
236U (F)	1.0575E-10	5.5399E-06	4.8855E-03	5.0617E-01	2.0727E+00	2.9679E+00	2.9849E+00	2.9850E+00	1.9200E-09	1.1367E-14	2.87526E+00
238U (F)	7.7508E-11	5.6066E-05	1.2810E-02	8.5777E-01	1.6678E+00	2.0838E+00	2.0854E+00	2.0854E+00	2.5932E-11	5.9797E-17	1.93245E+00
238U (H)	1.3826E-11	1.1502E-05	9.3061E-03	4.4521E-01	1.5256E+00	2.1976E+00	2.2040E+00	2.2040E+00	2.5305E-10	8.2231E-16	2.08578E+00
237Np(F)	5.0985E-12	3.2800E-07	6.9734E-04	1.2432E-01	1.1935E+00	2.1585E+00	2.2095E+00	2.2096E+00	2.4700E-08	1.8505E-13	2.18009E+00
239Pu(T)	4.0056E-13	4.9615E-08	1.5210E-04	5.2309E-02	5.3590E-01	1.3250E+00	1.3704E+00	1.3707E+00	5.1621E-08	1.1004E-12	1.35418E+00
239Pu(F)	6.4100E-13	8.0624E-08	2.3515E-04	6.1911E-02	5.0327E-01	1.2816E+00	1.3184E+00	1.3185E+00	3.5311E-08	5.4426E-13	1.30440E+00
239Pu(H)	7.8374E-14	1.0101E-08	7.7914E-05	3.1189E-02	6.9267E-01	1.8156E+00	2.0115E+00	2.0130E+00	6.6005E-07	1.4001E-11	2.01533E+00
240Pu(F)	2.3320E-12	3.7404E-07	5.1042E-04	1.1704E-01	5.2683E-01	1.2252E+00	1.2418E+00	1.2418E+00	6.6207E-09	1.2413E-13	1.22521E+00
241Pu(T)	2.4890E-11	1.4204E-06	1.1928E-03	1.4330E-01	5.0133E-01	1.0219E+00	1.0280E+00	1.0280E+00	7.5621E-10	6.2936E-15	1.00623E+00
241Pu(F)	2.8340E-11	5.2897E-07	7.4149E-04	1.0542E-01	5.9438E-01	9.5213E-01	9.7280E-01	9.7283E-01	2.5899E-09	4.6364E-15	9.33683E-01
242Pu(F)	7.2923E-11	3.3200E-06	1.5869E-03	2.5611E-01	6.9204E-01	1.0971E+00	1.1011E+00	1.1012E+00	3.8500E-10	1.8380E-15	1.08942E+00
252Cf(S)	5.0230E-13	5.5250E-08	1.4193E-04	2.3246E-02	2.0905E-01	3.6049E-01	3.6830E-01	3.6833E-01	4.2062E-09	5.4394E-14	3.65278E-01

Table 2.7.1 Continued

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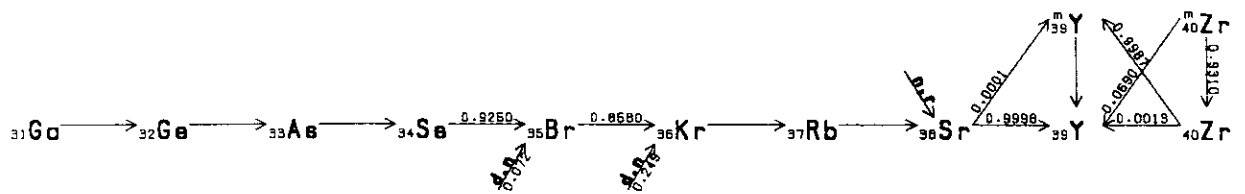
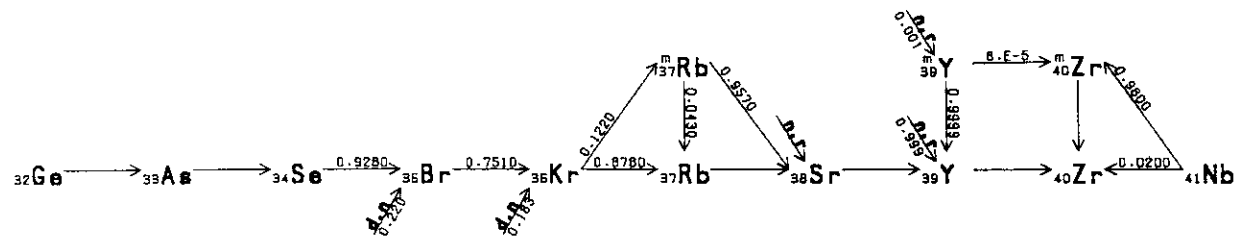
Mass No 89



	31Ga	32Ge	33As	34Se	35Br	36Kr	37Rb	38Sr	39Y	m39Y	40Zr	m40Zr	Mass Yield
λ(1/sec)	1.1152E+02	1.8583E+01	3.9227E+00	1.6906E+00	1.5825E-01	3.7630E-03	7.5016E-04	1.5866E-07	0.0	4.3160E-02	2.4685E-06	2.7770E-03	
Q-value(MeV)	1.7500E+01	1.3606E+01	1.2404E+01	8.8320E+00	8.0000E+00	4.9270E+00	4.4860E+00	1.4922E+00	0.0	9.0910E-01	2.8368E+00	3.4236E+00	
E-beta (MeV)	5.9290E+00	4.5980E+00	3.9770E+00	3.1260E+00	2.3730E+00	1.3280E+00	1.0117E+00	5.6835E-01	0.0	0.0	8.9089E-02	1.1630E-02	
E-gamma(MeV)	5.1370E+00	3.9170E+00	3.9430E+00	1.8940E+00	2.7680E+00	1.9444E+00	2.0711E+00	0.0	0.0	9.0128E-01	2.4615E-01	6.9425E-01	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8183E-03	0.0	4.0568E-02	
Spin							3/2-	5/2+	1/2-	9/2+	9/2+	1/2-	
Cumulative yield 232Th(F)	5.9342E-11	2.8581E-07	4.4551E-03	8.5575E-01	4.3310E+00	7.5039E+00	7.5962E+00	7.5966E+00	7.5966E+00	1.1395E-03	2.0353E-13	3.4504E-14	7.80071E+00
232Th(H)	5.5184E-12	1.1949E-08	9.5801E-04	2.1698E-01	2.7275E+00	5.4735E+00	5.7433E+00	5.7446E+00	5.7446E+00	8.6195E-04	3.4532E-12	3.8949E-13	5.78979E+00
233U (T)	1.2527E-14	4.1455E-11	1.6993E-05	2.1725E-02	8.7866E-01	5.4090E+00	6.2956E+00	6.3205E+00	6.3205E+00	9.6312E-04	1.2826E-09	2.4405E-10	6.93577E+00
233U (F)	2.2765E-15	4.2531E-11	2.3600E-05	2.6115E-02	1.0012E+00	4.9855E+00	5.8365E+00	5.8583E+00	5.8583E+00	8.9288E-04	1.0181E-09	1.7260E-10	5.92631E+00
233U (H)	9.6545E-16	5.1746E-10	1.5100E-05	1.5322E-02	8.0519E-01	3.7550E+00	4.5866E+00	4.6063E+00	4.6064E+00	7.1042E-04	1.2106E-09	1.3615E-10	4.65930E+00
235U (T)	6.1216E-13	1.0966E-09	1.5197E-04	1.2047E-01	1.3190E+00	4.6113E+00	4.8508E+00	4.8850E+00	4.8850E+00	7.3384E-04	4.0558E-11	7.7172E-12	4.90930E+00
235U (F)	4.5593E-13	4.3153E-09	3.9182E-04	1.3594E-01	1.8165E+00	4.3243E+00	4.5330E+00	4.5347E+00	4.5346E+00	6.8053E-04	7.2124E-12	1.2227E-12	4.68979E+00
235U (H)	1.6788E-14	9.5976E-11	4.2902E-05	2.8951E-02	1.0444E+00	3.6288E+00	4.2063E+00	4.2150E+00	4.2150E+00	5.3803E-04	2.3618E-10	2.6562E-11	4.26851E+00
236U (F)	8.6474E-13	7.5829E-09	4.9799E-04	1.4782E-01	1.6583E+00	3.6635E+00	3.8015E+00	3.8024E+00	3.8024E+00	5.7052E-04	2.6368E-12	4.8091E-13	3.84757E+00
238U (F)	4.4226E-11	2.1135E-07	2.4098E-03	3.8618E-01	1.7027E+00	2.7546E+00	2.8484E+00	2.8485E+00	2.8485E+00	4.2728E-04	3.0863E-14	5.2321E-15	2.89208E+00
238U (H)	5.1544E-12	3.6467E-08	1.2452E-03	1.8382E-01	1.4569E+00	2.8500E+00	2.9140E+00	2.9142E+00	2.9142E+00	4.3716E-04	3.2004E-13	3.5994E-14	2.86934E+00
237Np(F)	2.6062E-14	2.5014E-10	5.9401E-05	2.7473E-02	7.3736E-01	2.2481E+00	2.5182E+00	2.5205E+00	2.5205E+00	3.7929E-04	3.5683E-11	6.0493E-12	2.52827E+00
239Pu(T)	1.9309E-15	2.0369E-11	1.0603E-05	1.0825E-02	3.5424E-01	1.4458E+00	1.7073E+00	1.7123E+00	1.7123E+00	2.5960E-04	1.8651E-10	3.5507E-11	1.70566E+00
239Pu(F)	3.4399E-15	4.0799E-11	1.5105E-05	1.2123E-02	3.6813E-01	1.4667E+00	1.7479E+00	1.7517E+00	1.7517E+00	2.5489E-04	9.9863E-11	1.8930E-11	1.77053E+00
239Pu(H)	2.6118E-16	1.5591E-10	3.3602E-06	4.4096E-03	2.9318E-01	1.6053E+00	2.0704E+00	2.0837E+00	2.0838E+00	3.2963E-04	1.3693E-09	1.5626E-10	2.10339E+00
240Pu(F)	1.3381E-14	2.4982E-10	3.7304E-05	2.3360E-02	3.9387E-01	1.3758E+00	1.4741E+00	1.4755E+00	1.4755E+00	2.2172E-04	1.5817E-11	2.6813E-12	1.49218E+00
241Pu(T)	1.7896E-13	2.1725E-09	1.1103E-04	3.6880E-02	4.1496E-01	1.1821E+00	1.2288E+00	1.2292E+00	1.2292E+00	1.8443E-04	1.1650E-12	2.2168E-13	1.22139E+00
241Pu(F)	2.2925E-13	1.6638E-09	1.3299E-04	4.1822E-02	5.2797E-01	1.1993E+00	1.2522E+00	1.2526E+00	1.2526E+00	1.8798E-04	1.3837E-12	2.3468E-13	1.26530E+00
242Pu(F)	6.8841E-13	4.3426E-09	1.7500E-04	6.6872E-02	5.1793E-01	1.3090E+00	1.3451E+00	1.3454E+00	1.3454E+00	2.0184E-04	5.1944E-13	8.8060E-14	1.36758E+00
252Cf(S)	2.1656E-15	3.1500E-11	8.3424E-06	4.3984E-03	1.1451E-01	3.5241E-01	3.8993E-01	3.9038E-01	3.9038E-01	5.8754E-05	7.1298E-12	1.3566E-12	3.89462E-01

Table 2.7.1 Continued

Mass No. 90



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		$_{32}$Ge	$_{33}$As	$_{34}$Se	$_{35}$Br	$_{36}$Kr	$_{37}$Rb	$_{37}^{m}$Rb	$_{38}$Sr	$_{39}$Y	$_{39}^{m}$Y	$_{40}$Zr	$_{40}^{m}$Zr	$_{41}$Nb	Mass Yield
λ(1/sec)		5.2912E+01	1.5101E+01	1.1553E+00	3.6101E-01	2.1446E-02	4.5904E-03	2.6866E-03	7.7070E-10	3.0038E-06	6.0358E-05	0.0	8.5679E-01	1.3188E-05	
Q-value(MeV)		1.3573E+01	1.4520E+01	8.9300E+00	9.6100E+00	4.3900E+00	6.5780E+00	6.6849E+00	5.4600E-01	2.2839E+00	6.8204E-01	0.0	2.3189E+00	6.1110E+00	
E-beta (MeV)		4.9960E+00	4.5970E+00	2.9040E+00	3.1085E+00	1.3360E+00	1.9916E+00	1.3834E+00	1.7388E-01	9.2977E-01	1.7002E-05	0.0	0.0	3.5271E-01	
E-gamma(MeV)		3.0740E+00	4.3800E+00	2.6330E+00	2.9042E+00	1.2361E+00	2.1641E+00	3.3603E+00	0.0	0.0	6.3052E-01	0.0	2.3025E+00	2.3035E+00	
E-I.C (MeV)		0.0	0.0	0.0	0.0	6.3156E-03	0.0	4.2768E-03	0.0	2.8171E-04	5.1356E-02	0.0	1.5202E-02	3.1053E-02	
Spin							1-	4-		2-	7+		5-	8+	
Cumulative yield	^{232}Th(F)	2.7136E-09	3.9690E-05	1.8549E-01	1.8544E+00	7.3231E+00	6.5395E+00	1.1797E+00	7.6748E+00	7.6746E+00	7.2608E-07	7.6748E+00	9.9714E-11	1.3633E-17	6.00486E+00
	^{232}Th(H)	9.3725E-11	7.2424E-06	3.7158E-02	1.4288E+00	4.9262E+00	4.4916E+00	1.4253E+00	5.8709E+00	5.8709E+00	9.1122E-06	5.8709E+00	1.1733E-09	2.5032E-16	5.15010E+00
	^{233}U (T)	5.9428E-11	5.1404E-06	5.4437E-03	4.4496E-01	4.4740E+00	4.4353E+00	2.2717E+00	6.8924E+00	6.8925E+00	5.7957E-05	6.8925E+00	1.0639E-07	1.2797E-13	6.99374E+00
	^{233}U (F)	1.2106E-11	4.9412E-06	2.8810E-03	3.0502E-01	4.1781E+00	4.1226E+00	2.2445E+00	6.4426E+00	6.4430E+00	2.6908E-04	6.4430E+00	1.0089E-07	5.6933E-13	6.50676E+00
	^{233}U (H)	4.3161E-12	3.2426E-06	1.5930E-03	2.5072E-01	2.5500E+00	2.5621E+00	2.1285E+00	4.7395E+00	4.7400E+00	3.5189E-04	4.7400E+00	1.0762E-07	1.1007E-12	4.79289E+00
	^{235}U (T)	1.7906E-09	6.9421E-07	2.3751E-02	6.8412E-01	5.0419E+00	4.6408E+00	1.2832E+00	5.9045E+00	5.9045E+00	2.5220E-05	5.9045E+00	6.4519E-09	1.4737E-16	6.03125E+00
	^{235}U (F)	3.9364E-11	2.5614E-06	2.4775E-02	8.4771E-01	4.6346E+00	4.2641E+00	1.2101E+00	5.4341E+00	5.4341E+00	9.9455E-06	5.4341E+00	1.7237E-09	2.1839E-16	5.61232E+00
	^{235}U (H)	5.4739E-11	1.3387E-07	3.5552E-03	3.8799E-01	2.9201E+00	2.8309E+00	1.6326E+00	4.6606E+00	4.6617E+00	7.9642E-04	4.6617E+00	6.4912E-08	6.9510E-14	4.74331E+00
	^{236}U (F)	7.1756E-11	3.6977E-06	2.8640E-02	8.0069E-01	3.9713E+00	3.6184E+00	9.2900E-01	4.5207E+00	4.5207E+00	4.8060E-06	4.5207E+00	7.6997E-10	7.1418E-16	4.65987E+00
	^{238}U (F)	2.6818E-09	2.7764E-05	1.0371E-01	6.8247E-01	3.1267E+00	2.7853E+00	4.7648E-01	3.2431E+00	3.2431E+00	1.6477E-07	3.2431E+00	2.0987E-11	2.1180E-18	3.38061E+00
	^{238}U (H)	3.2586E-10	1.4217E-05	4.0932E-02	1.0602E+00	2.8400E+00	2.5590E+00	6.4346E-01	3.1784E+00	3.1784E+00	1.3115E-06	3.1784E+00	1.4546E-10	6.4623E-17	3.37179E+00
	^{237}Np(F)	8.2931E-11	3.3169E-07	4.9091E-03	3.9613E-01	2.3836E+00	2.2940E+00	1.0460E+00	3.3264E+00	3.3265E+00	3.3167E-05	3.3265E+00	6.4089E-09	2.1271E-14	3.40500E+00
	^{239}Pu(T)	1.0593E-11	3.8473E-08	1.3364E-03	2.3189E-01	1.3797E+00	1.3708E+00	7.1031E-01	2.1011E+00	2.1012E+00	5.8666E-05	2.1012E+00	2.2384E-08	7.5462E-14	2.15589E+00
	^{239}Pu(F)	1.4921E-11	4.6873E-08	1.6345E-03	1.3753E-01	1.4231E+00	1.3762E+00	6.5219E-01	2.0352E+00	2.0353E+00	4.6672E-05	2.0353E+00	1.3014E-08	4.8407E-14	2.06259E+00
	^{239}Pu(H)	1.4074E-12	5.9636E-09	4.4502E-04	8.9573E-02	1.2249E+00	1.2498E+00	1.1339E+00	2.4260E+00	2.4264E+00	3.1042E-04	2.4264E+00	1.1531E-07	1.0501E-12	2.44641E+00
	^{240}Pu(F)	5.2633E-11	1.7174E-07	3.9924E-03	1.6338E-01	1.5469E+00	1.4318E+00	4.5154E-01	1.8810E+00	1.8810E+00	9.7632E-06	1.8810E+00	2.6051E-09	6.9997E-15	1.91116E+00
	^{241}Pu(T)	2.0127E-11	1.1348E-06	1.0157E-02	2.7600E-01	1.3643E+00	1.2507E+00	3.2906E-01	1.5713E+00	1.5713E+00	1.8250E-06	1.5713E+00	3.2376E-10	3.5618E-15	1.62413E+00
	^{241}Pu(F)	1.5745E-11	9.6500E-07	8.0256E-03	2.6038E-01	1.3169E+00	1.2058E+00	3.3199E-01	1.5288E+00	1.5288E+00	2.4091E-06	1.5288E+00	3.8335E-10	3.2694E-15	1.57504E+00
	^{242}Pu(F)	4.4079E-11	1.2124E-06	1.4201E-02	2.2226E-01	1.5971E+00	1.4365E+00	2.9881E-01	1.7273E+00	1.7273E+00	9.5120E-07	1.7273E+00	1.9455E-10	5.7684E-17	1.76360E+00
	^{252}Cf(S)	1.0432E-11	5.1400E-08	9.3016E-04	7.0032E-02	4.8607E-01	4.6932E-01	2.0173E-01	6.6912E-01	6.6913E-01	6.6231E-06	6.6913E-01	1.4581E-09	7.1749E-15	6.83683E-01

Table 2.7.1 Continued

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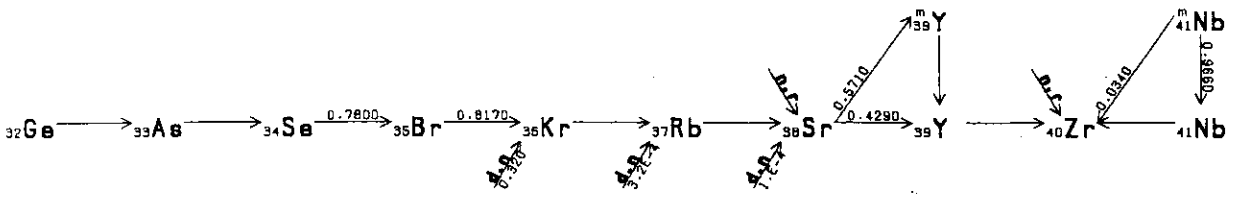
Mass No. 91



		32Ge	33As	34Se	35Br	36Kr	37Rb	38Sr	39Y	m39Y	40Zr	41Nb	m41Nb	Mass Yield
	λ(1/sec)	8.6427E+01	4.4150E+01	2.5672E+00	1.2769E+00	8.0881E-02	1.1910E-02	2.0310E-05	1.3711E-07	2.3240E-04	0.0	3.4665E-11	1.2940E-07	
	Q-value(MeV)	1.5253E+01	1.4332E+01	1.1202E+01	9.4760E+00	6.2000E+00	5.7000E+00	2.6840E+00	1.5430E+00	5.5557E-01	0.0	1.2557E+00	1.3602E+00	
	E-beta (MeV)	5.1300E+00	4.8610E+00	3.7850E+00	3.4170E+00	1.8714E+00	1.4773E+00	6.5229E-01	5.8897E-01	0.0	0.0	1.8980E-04	0.0	
	E-gamma(MeV)	4.4790E+00	4.1060E+00	3.1260E+00	2.1390E+00	1.8897E+00	2.2190E+00	7.0293E-01	2.6676E-03	5.2724E-01	0.0	1.7370E-09	4.1555E-02	
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	3.8388E-02	0.0	0.0	2.8334E-02	0.0	0.0	1.0092E-01	
	Spin							5/2+	1/2-	9/2+	5/2+	9/2+	1/2-	
Cumulative yield	232Th(F)	8.4712E-10	1.2425E-06	2.0677E-02	7.6788E-01	6.0441E+00	7.2871E+00	7.3382E+00	7.3383E+00	4.1902E+00	7.3383E+00	6.0857E-15	1.0256E-15	7.42909E+00
	232Th(H)	7.8996E-11	1.3297E-07	3.6981E-03	4.2851E-01	3.5940E+00	5.7431E+00	5.8395E+00	5.8397E+00	3.3348E+00	5.8397E+00	7.2559E-14	8.1284E-15	5.88974E+00
	233U (T)	3.1404E-13	4.1052E-10	1.5294E-04	5.4257E-02	2.1499E+00	5.6104E+00	6.5270E+00	6.5340E+00	3.7326E+00	6.5340E+00	1.0329E-10	1.9524E-11	6.64151E+00
	233U (F)	5.8730E-14	5.3810E-10	1.8200E-04	6.7557E-02	2.2918E+00	5.7527E+00	6.4595E+00	6.4655E+00	3.6934E+00	6.4655E+00	8.1037E-11	1.3667E-11	6.47472E+00
	233U (H)	2.3131E-14	3.4302E-10	1.0500E-04	5.2570E-02	1.2715E+00	4.5416E+00	5.1461E+00	5.1523E+00	2.9439E+00	5.1523E+00	1.0251E-10	1.1495E-11	5.15934E+00
	235U (T)	1.4255E-11	1.0485E-08	1.6136E-03	2.4583E-01	3.3956E+00	5.6580E+00	5.9177E+00	5.9187E+00	3.3798E+00	5.9187E+00	2.7219E-12	5.1448E-13	5.95145E+00
	235U (F)	9.9064E-12	6.2288E-08	1.5813E-03	1.8759E-01	2.3866E+00	5.4964E+00	5.6545E+00	5.6549E+00	3.2290E+00	5.6549E+00	6.3499E-13	1.0701E-13	5.66044E+00
	235U (H)	3.6220E-13	1.4508E-09	2.4201E-04	8.3234E-02	1.8015E+00	4.5236E+00	4.8897E+00	4.8924E+00	2.7945E+00	4.8924E+00	2.1320E-11	2.9683E-12	4.90279E+00
	236U (F)	2.1434E-11	8.3864E-08	3.4610E-03	3.3592E-01	3.7712E+00	5.5083E+00	5.6226E+00	5.6229E+00	3.2107E+00	5.6229E+00	2.7270E-13	4.5958E-14	5.66043E+00
	238U (F)	9.9438E-10	1.5032E-06	1.5153E-02	4.7073E-01	3.2708E+00	4.0269E+00	4.0454E+00	4.0454E+00	2.3099E+00	4.0454E+00	1.2968E-15	2.1851E-16	4.09843E+00
	238U (H)	9.2139E-11	4.6999E-07	5.1949E-03	3.9576E-01	2.4149E+00	3.6994E+00	3.7317E+00	3.7317E+00	2.1308E+00	3.7317E+00	2.3235E-14	2.6028E-15	3.76872E+00
	237Np(F)	6.1405E-13	4.2482E-09	4.3601E-04	1.1146E-01	1.7716E+00	3.7164E+00	3.9064E+00	3.9075E+00	2.2315E+00	3.9075E+00	4.2060E-12	7.0882E-13	3.92140E+00
	239Pu(T)	6.5592E-14	3.2298E-10	5.3317E-05	1.7139E-02	7.2802E-01	2.1131E+00	2.5003E+00	2.5021E+00	1.4292E+00	2.5021E+00	2.0773E-11	3.9265E-12	2.50409E+00
	239Pu(F)	9.9206E-14	5.8515E-10	1.2904E-04	3.8382E-02	1.0046E+00	2.2364E+00	2.4326E+00	2.4340E+00	1.3901E+00	2.4340E+00	1.0642E-11	1.7935E-12	2.43871E+00
	239Pu(H)	5.7917E-15	4.1061E-11	1.9501E-05	1.2967E-02	6.0408E-01	1.8095E+00	2.1088E+00	2.1133E+00	1.2081E+00	2.1133E+00	1.3250E-10	1.4843E-11	2.11553E+00
	240Pu(F)	4.8705E-13	2.9442E-09	3.7404E-04	5.8477E-02	1.2512E+00	2.1498E+00	2.2550E+00	2.2654E+00	1.2937E+00	2.2654E+00	1.3424E-12	2.2624E-13	2.27210E+00
	241Pu(T)	5.0923E-12	2.7321E-08	9.4027E-04	8.9738E-02	1.0866E+00	1.8457E+00	1.8865E+00	1.8865E+00	1.0773E+00	1.8865E+00	1.3098E-13	2.4757E-14	1.89769E+00
	241Pu(F)	5.7289E-12	2.0110E-08	9.3395E-04	1.0369E-01	1.2149E+00	1.8476E+00	1.8913E+00	1.8914E+00	1.0600E+00	1.8914E+00	1.1864E-13	1.9994E-14	1.90234E+00
	242Pu(F)	2.2543E-11	3.3393E-08	1.5800E-03	1.0770E-01	1.5370E+00	2.0170E+00	2.0580E+00	2.0580E+00	1.1751E+00	2.0580E+00	2.7336E-14	4.5069E-15	2.06965E+00
	252Cf(S)	8.0208E-14	5.1807E-10	6.2843E-05	1.6077E-02	2.9579E-01	6.3640E-01	6.7304E-01	6.7326E-01	3.8448E-01	6.7326E-01	1.0324E-12	1.9514E-13	6.75298E-01

Table 2.7.1 Continued

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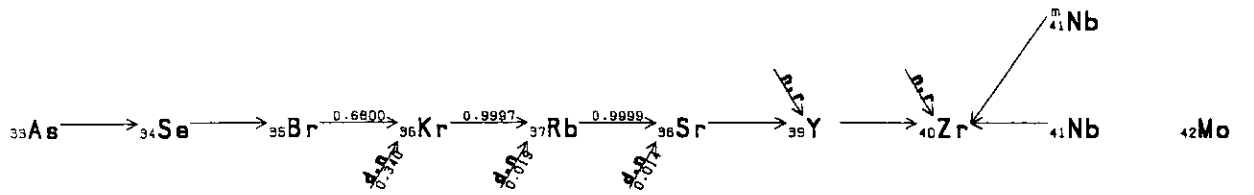
Mass No. 92



	33As	34Se	35Br	36Kr	37Rb	38Sr	39Y	40Zr	41Nb	m41Nb	42Mo
λ(1/sec)	7.5424E+01	5.6445E+00	1.9148E+00	3.7467E-01	1.5403E-01	7.1048E-05	5.4390E-05	0.0	6.1014E-16	7.9040E-07	0.0
Q-value(MeV)	1.6072E+01	1.0976E+01	1.1720E+01	5.9700E+00	7.7700E+00	1.9300E+00	3.6340E+00	0.0	3.5900E-01	2.1440E+00	0.0
E-beta (MeV)	5.0490E+00	4.1130E+00	4.0060E+00	2.0365E+00	3.4992E+00	1.9321E-01	1.4550E+00	0.0	0.0	5.3100E-05	0.0
E-gamma(MeV)	5.4090E+00	2.2370E+00	3.1890E+00	1.4237E+00	5.2010E-01	1.3391E+00	2.4840E-01	0.0	1.4956E+00	9.5814E-01	0.0
E-i.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spin					1-		2-		7+	2+	

Cumulative Yield	33As	34Se	35Br	36Kr	37Rb	38Sr	39Y	40Zr	41Nb	m41Nb	42Mo	Mass Yield
232Th(F)	1.1872E-08	1.8435E-03	1.6293E-01	4.5387E+00	6.4172E+00	6.8102E+00	6.8108E+00	6.8108E+00	9.3264E-13	5.6772E-13	1.1410E-18	5.74194E+00
232Th(H)	1.1019E-09	2.3800E-04	8.7872E-02	2.1020E+00	5.0938E+00	5.5621E+00	5.5657E+00	5.5657E+00	2.4596E-11	8.6050E-12	9.0730E-18	5.42273E+00
235U (T)	4.1243E-10	5.6577E-06	5.6193E-03	8.0225E-01	3.9706E+00	5.5410E+00	5.5922E+00	5.5924E+00	5.3714E-09	3.7847E-09	1.3574E-14	5.65906E+00
235U (F)	1.0865E-10	7.0901E-06	7.8272E-03	8.9868E-01	4.2649E+00	5.4416E+00	5.4911E+00	5.4912E+00	4.6936E-09	2.8264E-09	6.3306E-14	5.45334E+00
235U (H)	5.7988E-11	3.8800E-06	6.4009E-03	4.8714E-01	3.8015E+00	5.4709E+00	5.5292E+00	5.5293E+00	8.2231E-09	2.8769E-09	7.5278E-14	5.49833E+00
235U (T)	7.7132E-11	8.7260E-05	3.6136E-02	1.7188E+00	4.8748E+00	5.9060E+00	5.9618E+00	5.9738E+00	2.1525E-10	1.5167E-10	1.4531E-16	5.92600E+00
235U (F)	3.8564E-10	7.6566E-05	2.6127E-02	1.0467E+00	4.1585E+00	5.7315E+00	5.7375E+00	5.7375E+00	5.6796E-11	3.3963E-11	1.7439E-16	5.69646E+00
235U (H)	7.3730E-10	1.1801E-05	1.3292E-02	8.5664E-01	4.1175E+00	5.3141E+00	5.3547E+00	5.3548E+00	1.9114E-09	6.6872E-10	4.0870E-16	5.31926E+00
236U (F)	8.2280E-10	2.6600E-04	7.2881E-02	2.5686E+00	5.5201E+00	6.2027E+00	6.2067E+00	6.2067E+00	2.5594E-11	1.5305E-11	7.5523E-17	6.15997E+00
238U (F)	1.5549E-08	1.5108E-03	1.1022E-01	2.5021E+00	3.7156E+00	4.6092E+00	4.6094E+00	4.6094E+00	2.0073E-13	1.2004E-13	2.5336E-19	4.45442E+00
238U (H)	4.6396E-09	4.6608E-04	1.1143E-01	1.7740E+00	3.6823E+00	3.9095E+00	3.9105E+00	3.9105E+00	2.8156E-12	9.8505E-13	2.9573E-18	3.88451E+00
237Np(F)	3.5196E-11	2.2300E-05	1.8726E-02	6.5950E-01	3.6003E+00	4.4598E+00	4.4742E+00	4.4743E+00	4.0864E-10	2.4437E-10	1.6702E-15	4.43922E+00
239Pu(T)	1.1866E-10	3.0310E-06	2.8199E-03	3.1243E-01	1.9556E+00	2.9878E+00	3.0058E+00	3.0069E+00	1.4377E-09	1.0130E-09	1.0705E-14	2.97961E+00
239Pu(F)	1.9070E-10	6.7520E-06	6.0186E-03	5.1624E-01	2.1494E+00	2.9639E+00	2.9792E+00	2.9792E+00	6.9514E-10	5.3529E-10	5.9769E-15	2.95666E+00
239Pu(H)	2.3634E-11	6.3603E-09	5.2810E-05	3.1951E-02	8.7554E-01	2.6699E+00	2.9489E+00	2.9523E+00	1.3556E-06	4.7433E-07	5.0003E-11	2.95564E+00
240Pu(F)	2.6477E-11	2.8903E-05	1.1299E-02	8.5715E-01	2.2321E+00	2.8715E+00	2.8772E+00	2.8772E+00	1.3330E-10	7.9715E-11	1.2289E-15	2.84787E+00
241Pu(T)	2.5980E-10	6.1717E-05	1.6096E-02	6.3521E-01	1.8175E+00	2.3643E+00	2.3660E+00	2.3660E+00	1.1601E-11	8.1040E-12	4.7775E-17	2.33685E+00
241Pu(F)	2.1421E-10	7.5896E-05	2.4385E-02	8.8357E-01	2.0484E+00	2.3312E+00	2.3331E+00	2.3331E+00	1.4830E-11	8.8684E-12	3.5462E-17	2.30512E+00
242Pu(F)	3.4243E-10	1.6300E-04	2.4350E-02	1.3329E+00	2.1866E+00	2.4993E+00	2.5002E+00	2.5002E+00	5.2892E-12	3.1509E-12	1.1059E-17	2.46813E+00
252Cf(S)	3.8353E-12	3.1571E-06	2.5538E-03	1.4239E-01	5.6719E-01	7.1271E-01	7.1515E-01	7.1515E-01	7.9711E-11	5.6165E-11	5.4547E-16	7.07953E-01

Table 2.7.1 Continued

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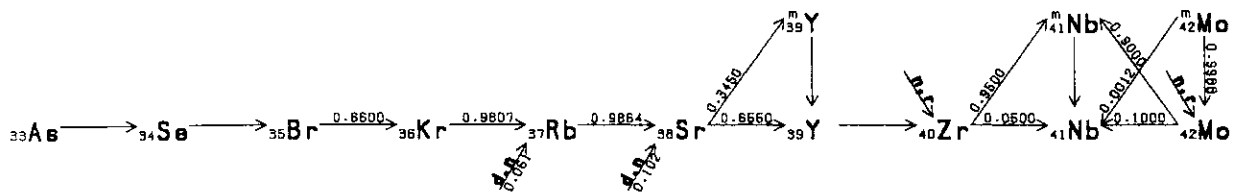
Mass No. 93



		33As	34Se	35Br	36Kr	37Rb	38Sr	39Y	m39Y	40Zr	41Nb	m41Nb	42Mo	m42Mo	Mass Yield
	λ(1/sec)	6.6649E+01	5.2313E+00	2.3299E+00	5.3774E-01	1.1689E-01	1.6548E-03	1.9064E-[illegible]	6.4530E-01	1.4356E-14	0.0	1.6151E-09	6.2757E-12	2.7704E-05	
	Q-value(MeV)	1.4319E+01	1.2892E+01	1.1290E+01	8.0000E+00	7.3600E+00	3.9470E+00	2.8900E+00	7.6878E-01	9.2300E-02	0.0	3.0400E-02	4.0650E-01	2.8319E+00	
	E-beta (MeV)	4.8490E+00	4.1170E+00	3.5540E+00	2.5173E+00	2.7167E+00	6.8754E-01	1.1730E+00	0.0	1.6390E-02	0.0	0.0	0.0	0.0	
	E-gamma(MeV)	4.1110E+00	4.1420E+00	3.6720E+00	2.4807E+00	1.3934E+00	1.9782E+00	8.8913E-02	6.7834E-01	0.0	0.0	0.0	0.0	2.3098E+00	
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0634E-02	0.0	0.0	3.0400E-02	0.0	1.1682E-01	
	Spin							1/2-	9/2+	5/2+	9/2+	1/2-	5/2+	21/2+	
Cumulative yield	232Th(F)	1.0547E-10	1.2586E-05	3.2727E-02	2.0866E+00	5.2705E+00	6.7449E+00	6.7555E+00	2.3358E+00	6.7555E+00	6.7555E+00	6.4177E+00	6.5427E-16	2.7843E-16	6.54717E+00
	232Th(H)	7.4874E-10	8.8077E-07	3.0821E-01	7.5540E-01	3.8820E+00	5.4507E+00	5.4834E+00	1.9095E+00	5.4834E+00	5.4834E+00	5.2092E+00	3.8532E-15	2.2264E-15	6.23680E+00
	233U (T)	2.8923E-12	5.8979E-09	7.4459E-03	1.5331E-01	2.2249E+00	6.7087E+00	7.0122E+00	2.5610E+00	7.0151E+00	7.0151E+00	6.5643E+00	1.9988E-11	5.3079E-12	6.95704E+00
	233U (F)	5.4749E-13	6.8233E-09	5.0301E-04	2.0270E-01	2.7205E+00	6.5746E+00	6.8801E+00	2.5224E+00	6.8824E+00	6.8824E+00	6.5383E+00	9.7451E-12	4.1471E-12	6.81372E+00
	233U (H)	3.8143E-13	3.8139E-09	4.5400E-04	1.3211E-01	2.2668E+00	5.1045E+00	5.3919E+00	2.0163E+00	5.3938E+00	5.3938E+00	5.1241E+00	9.2937E-12	5.3560E-12	5.32936E+00
	235U (T)	1.1413E-10	1.2355E-07	3.1373E-03	5.2659E-01	3.6134E+00	6.2542E+00	6.3898E+00	2.2678E+00	6.3902E+00	6.3902E+00	6.0707E+00	5.5929E-14	2.1223E-14	6.26543E+00
	235U (F)	3.0507E-11	5.6225E-07	2.5569E-03	2.8682E-01	3.2956E+00	6.0814E+00	6.1392E+00	2.1462E+00	6.1394E+00	6.1394E+00	5.8324E+00	6.5444E-14	2.7850E-14	6.95372E+00
	235U (H)	5.3840E-12	1.6663E-08	1.1751E-03	2.0852E-01	2.6487E+00	5.1215E+00	5.2950E+00	1.9211E+00	5.2958E+00	5.2958E+00	5.0310E+00	1.8168E-12	1.0482E-12	5.18734E+00
	236U (F)	1.7161E-10	8.6890E-07	8.5509E-03	8.2311E-01	3.8660E+00	5.6625E+00	5.6995E+00	1.9643E+00	5.6995E+00	5.6995E+00	5.4146E+00	2.6717E-14	1.1370E-14	5.53019E+00
	238U (F)	1.9264E-10	1.4361E-05	2.6694E-02	1.4321E+00	4.0271E+00	4.9959E+00	5.0009E+00	1.7280E+00	5.0009E+00	5.0009E+00	4.7509E+00	1.7613E-16	7.4954E-17	4.75554E+00
	238U (H)	3.7204E-11	3.4761E-06	5.5539E-03	7.6304E-01	3.3773E+00	4.4758E+00	4.4896E+00	1.5564E+00	4.4896E+00	4.4896E+00	4.2651E+00	1.5099E-16	6.7014E-16	4.22009E+00
	237Np(F)	9.2843E-12	4.8033E-08	2.0490E-03	3.0090E-01	3.0257E+00	5.0210E+00	5.1386E+00	1.8301E+00	5.1390E+00	5.1390E+00	4.8821E+00	5.4532E-13	2.3207E-13	5.01690E+00
	239Pu(T)	9.4521E-13	4.8848E-09	7.1773E-03	6.6695E-02	1.8183E+00	3.7457E+00	3.8952E+00	1.4137E+00	3.8963E+00	3.8963E+00	3.7015E+00	3.8995E-12	1.4797E-12	3.84096E+00
	239Pu(F)	1.5361E-12	1.0455E-08	5.7117E-04	1.4461E-01	1.6132E+00	3.6145E+00	3.7300E+00	1.3431E+00	3.7307E+00	3.7307E+00	3.5442E+00	1.8196E-12	7.7435E-13	3.67101E+00
	239Pu(H)	1.4317E-13	7.4610E-10	1.3701E-04	5.2667E-02	1.1523E+00	3.0118E+00	3.2509E+00	1.2515E+00	3.2530E+00	3.2530E+00	3.0904E+00	1.6088E-11	1.0424E-11	3.21889E+00
	240Pu(F)	6.9805E-12	6.3498E-08	1.5172E-03	3.0227E-01	1.9931E+00	3.7183E+00	3.7794E+00	1.3337E+00	3.7797E+00	3.7797E+00	3.5907E+00	4.3110E-13	1.8346E-13	3.71141E+00
	241Pu(T)	6.2555E-11	3.9683E-07	1.5150E-02	1.9447E-01	1.8936E+00	3.0682E+00	3.0940E+00	1.0794E+00	3.0940E+00	3.0940E+00	2.9393E+00	2.2819E-14	8.6589E-15	2.98738E+00
	241Pu(F)	7.4700E-11	3.0555E-07	3.8298E-03	3.8848E-01	2.0171E+00	2.9509E+00	2.9744E+00	1.0376E+00	2.9744E+00	2.9744E+00	2.8257E+00	1.6983E-14	7.2188E-15	2.86713E+00
	242Pu(F)	2.0430E-10	7.6583E-07	4.7300E-03	5.8665E-01	2.0317E+00	3.1215E+00	3.1366E+00	1.0885E+00	3.1366E+00	3.1366E+00	2.9796E+00	5.7718E-15	2.4562E-15	3.04855E+00
	252Cf(S)	8.3384E-13	6.6540E-09	2.9973E-04	5.1632E-02	5.1616E-01	9.1977E-01	9.4258E-01	3.3585E-01	9.4267E-01	9.4267E-01	8.9553E-01	2.0492E-13	7.7759E-14	9.08215E-01

Table 2.7.1 Continued

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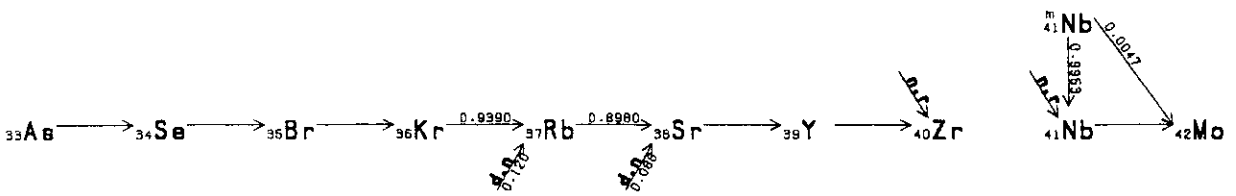
Mass No. 94



	33As	34Se	35Br	36Kr	37Rb	38Sr	39Y	40Zr	41Nb	41Nb	42Mo
λ(1/sec)	1.0861E+02	6.3650E+00	2.8466E+00	3.3324E+00	2.5114E-01	9.0371E-03	6.1778E-04	0.0	1.0820E-12	1.6464E-05	0.0
Q-value(MeV)	1.7158E+01	1.1193E+01	1.3216E+01	7.8730E+00	9.5000E+00	3.4200E+00	4.8820E+00	0.0	2.0452E+00	2.0862E+00	0.0
E-beta (MeV)	5.3720E+00	4.1890E+00	4.0190E+00	2.9470E+00	2.7162E+00	7.3250E-01	1.8131E+00	0.0	1.4572E-01	2.0910E-03	0.0
E-gamma(MeV)	5.9020E+00	2.3000E+00	4.6510E+00	1.4600E+00	3.5747E+00	1.5733E+00	7.7248E-01	0.0	1.5737E+00	4.1218E-03	0.0
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0739E-02	0.0
Spin							2-		6+	3+	
Cumulative yield 232Th(F)	3.0038E-11	2.6406E-06	2.6153E-03	6.8431E-01	2.8401E+00	5.6039E+00	5.6642E+00	5.6645E+00	1.9790E-08	7.4187E-09	1.9825E-08
232Th(H)	8.7889E-12	4.4201E-07	1.7695E-03	3.8225E-01	3.8770E+00	6.7762E+00	7.0535E+00	7.0549E+00	3.0773E-07	7.9855E-08	9.0811E-07
233U (T)	1.0560E-14	1.5693E-09	1.8794E-05	2.9251E-02	9.0205E-01	5.8960E+00	6.7856E+00	6.8150E+00	1.9813E-05	8.2068E-06	1.9853E-05
233U (F)	2.2352E-15	1.8800E-09	2.4902E-05	3.0835E-02	1.0582E+00	5.7719E+00	6.7149E+00	6.7406E+00	1.8707E-05	7.0129E-06	1.8741E-05
233U (H)	1.4681E-15	1.1900E-09	2.1101E-05	1.9837E-02	9.4850E-01	4.1419E+00	5.0431E+00	5.0616E+00	1.9037E-05	4.9400E-06	1.9061E-05
235U (T)	6.3425E-13	3.3593E-08	1.6400E-04	2.2177E-01	1.7808E+00	6.0136E+00	6.4008E+00	6.4385E+00	1.6843E-06	6.9758E-07	1.6877E-06
235U (F)	5.3867E-13	1.1295E-07	4.4891E-04	1.8021E-01	2.2146E+00	5.9217E+00	6.1929E+00	6.1948E+00	5.6874E-07	2.1321E-07	5.6976E-07
235U (H)	2.8276E-14	4.8903E-09	5.1608E-05	3.9604E-02	1.3983E+00	4.5521E+00	5.2257E+00	5.2353E+00	6.8822E-06	1.7340E-06	6.8905E-06
236U (F)	1.0507E-12	1.9800E-07	6.2619E-04	2.1819E-01	2.2298E+00	5.3863E+00	5.5807E+00	5.5822E+00	2.7551E-07	1.0326E-07	2.7600E-07
238U (F)	5.9261E-11	4.9351E-06	3.5024E-03	7.6440E-01	2.8454E+00	4.9165E+00	4.9569E+00	4.9571E+00	8.6148E-09	5.2295E-09	8.6301E-09
238U (H)	1.1372E-11	9.4316E-07	2.4073E-03	3.3947E-01	3.0526E+00	4.7962E+00	4.8961E+00	4.8964E+00	4.5851E-08	1.1898E-08	4.5908E-08
237Np(F)	4.8054E-14	1.2500E-08	1.2401E-04	5.9066E-02	1.6291E+00	4.6086E+00	5.1213E+00	5.1268E+00	3.0547E-06	1.1451E-06	3.0601E-06
239Pu(T)	3.9881E-15	1.6305E-09	1.8108E-05	2.1808E-02	8.0844E-01	3.8937E+00	4.4156E+00	4.4298E+00	8.7159E-06	3.5097E-06	8.7334E-06
239Pu(F)	7.0966E-15	2.9509E-09	3.1312E-05	2.8608E-02	8.1274E-01	3.5582E+00	4.1961E+00	4.2060E+00	5.8515E-06	2.1936E-06	5.8621E-06
239Pu(H)	6.0732E-16	2.6501E-10	5.6106E-06	8.2611E-03	5.1333E-01	2.7282E+00	3.5145E+00	3.5366E+00	2.8757E-05	7.4623E-06	2.8794E-05
240Pu(F)	2.9809E-14	1.7102E-08	8.4725E-05	6.6670E-02	9.5716E-01	3.8647E+00	4.1131E+00	4.1176E+00	1.2250E-06	4.5921E-07	1.2272E-06
241Pu(T)	4.1484E-13	1.1003E-07	5.3120E-04	1.3426E-01	1.3049E+00	3.4172E+00	3.5406E+00	3.5417E+00	1.9428E-07	8.0461E-08	1.9456E-07
241Pu(F)	5.4211E-13	8.4996E-08	3.1707E-04	1.1427E-01	1.3388E+00	3.2689E+00	3.4086E+00	3.4098E+00	2.4106E-07	9.0369E-08	2.4149E-07
242Pu(F)	1.3790E-12	2.0500E-07	3.5121E-04	1.9063E-01	1.1470E+00	3.5671E+00	3.6475E+00	3.6485E+00	9.6032E-08	3.6000E-08	9.6204E-08
252Cf(S)	4.5756E-15	2.1381E-09	2.1183E-05	1.2691E-02	4.0975E-01	9.7939E-01	1.1381E+00	1.1399E+00	9.7521E-07	4.0389E-07	9.7714E-07

Mass Yield

5.85946E+00
7.37908E+00
6.89927E+00
6.82395E+00
5.13589E+00
6.56352E+00
6.34320E+00
5.33717E+00
5.71966E+00
5.13422E+00
6.07689E+00
5.24155E+00
4.48136E+00
4.26287E+00
3.67577E+00
4.18324E+00
3.62272E+00
3.49413E+00
3.72108E+00
1.17172E+00

Table 2.7.1 Continued

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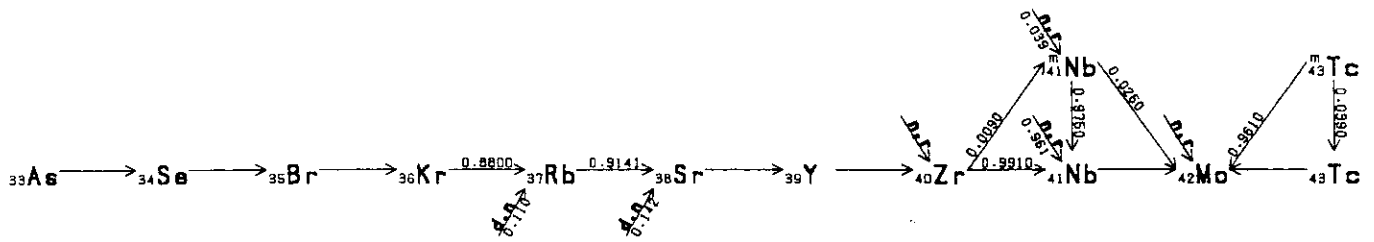
Mass No. 95



	33As	34Se	35Br	36Kr	37Rb	38Sr	39Y	40Zr	41Nb	m41Nb	42Mo	43Tc	m43Tc	Mass Yield
λ(1/sec)	9.6137E+01	9.1000E+00	2.6465E+00	8.8865E-01	1.8051E+00	2.7615E-02	1.1216E-03	1.2625E-07	2.2941E-07	2.2233E-06	0.0	9.6270E-06	1.3152E-07	
Q-value(MeV)	1.5332E+01	1.4134E+01	1.1410E+01	9.9680E+00	8.5900E+00	6.0900E+00	4.4300E+00	1.1231E+00	9.2660E-01	1.1613E+00	0.0	1.7000E+00	1.7369E+00	
E-beta (MeV)	6.1760E+00	4.5590E+00	3.5930E+00	3.0550E+00	3.1020E+00	2.0979E+00	1.3701E+00	1.1682E-01	4.3522E-02	8.3800E-03	0.0	0.0	8.1580E-04	
E-gamma(MeV)	4.4660E+00	4.4970E+00	3.7130E+00	3.3550E+00	1.8870E+00	1.5350E+00	1.2867E+00	7.3345E-01	7.6464E-01	6.5216E-02	0.0	7.8521E-01	7.1181E-01	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8970E-01	0.0	0.0	1.5171E-09	
Spin							1/2-	5/2+	9/2+	1/2-	5/2+	9/2+	1/2-	
Cumulative yield 232Th(F)	1.5068E-13	1.4036E-09	2.7768E-06	1.0613E-01	1.4407E+00	5.0735E+00	5.3706E+00	5.3751E+00	5.3739E+00	4.8376E-02	5.3751E+00	1.3194E-17	2.5353E-18	5.45912E+00
232Th(H)	2.6073E-14	8.2420E-11	5.7030E-06	2.8084E-02	1.0618E+00	3.9137E+00	4.5561E+00	4.5654E+00	4.7519E+00	6.2070E-02	4.7534E+00	1.5032E-15	1.8791E-17	4.80714E+00
233U (T)	2.4535E-17	3.9385E-11	3.5299E-08	3.1567E-04	1.2183E-01	3.5405E+00	5.9643E+00	6.1897E+00	6.1893E+00	5.5886E-02	6.1907E+00	1.3607E-13	3.1164E-14	6.19460E+00
233U (F)	4.4984E-18	9.2564E-12	4.5814E-08	2.5010E-03	3.0522E-01	3.8992E+00	6.1059E+00	6.2715E+00	6.2705E+00	5.6521E-02	6.2719E+00	7.1200E-13	1.4221E-13	6.28081E+00
233U (H)	3.1183E-18	5.4911E-12	4.1192E-08	1.8140E-03	2.7269E-01	2.8885E+00	4.9018E+00	5.0235E+00	5.0228E+00	4.5259E-02	5.0239E+00	8.4962E-13	1.0621E-13	5.04015E+00
235U (T)	2.2782E-15	1.4705E-09	7.1415E-07	6.9705E-03	8.1829E-01	5.3915E+00	6.4207E+00	6.4951E+00	6.4947E+00	5.8486E-02	6.4962E+00	2.0091E-15	4.5043E-16	6.53785E+00
235U (F)	1.8821E-15	1.1309E-09	2.6472E-06	2.4573E-02	9.9509E-01	5.3229E+00	6.3374E+00	6.3643E+00	6.3629E+00	5.7263E-02	6.3643E+00	2.8546E-15	5.7215E-16	6.41442E+00
235U (H)	7.4869E-17	6.9530E-11	1.7015E-07	4.0822E-03	4.2556E-01	3.3442E+00	4.9795E+00	5.0500E+00	5.0490E+00	4.5469E-02	5.0502E+00	5.4591E-14	6.8241E-15	5.07279E+00
236U (F)	4.3701E-15	7.2366E-11	4.6779E-06	3.4487E-02	1.1545E+00	5.5323E+00	6.3917E+00	6.4113E+00	6.4099E+00	5.7704E-02	6.4114E+00	1.2100E-15	2.4168E-16	6.47109E+00
238U (F)	3.4936E-13	2.8994E-09	4.7142E-05	1.4434E-01	1.5580E+00	4.8694E+00	5.1038E+00	5.1068E+00	5.1057E+00	4.5961E-02	5.1068E+00	4.5356E-18	9.0689E-19	5.18180E+00
238U (H)	5.4284E-14	5.4619E-10	2.2577E-05	7.0711E-02	1.6663E+00	4.5116E+00	4.9448E+00	4.9498E+00	4.9487E+00	4.4548E-02	4.9498E+00	7.3494E-17	9.1872E-18	5.00120E+00
237Np(F)	1.3661E-15	1.1205E-10	4.6023E-07	7.3641E-03	6.3019E-01	4.0507E+00	5.6445E+00	5.6996E+00	5.6983E+00	5.1313E-02	5.6996E+00	3.8798E-14	7.7487E-15	5.73930E+00
239Pu(T)	1.0444E-17	1.7989E-11	5.6443E-08	9.2130E-04	3.7351E-01	3.3072E+00	4.7788E+00	4.8942E+00	4.8937E+00	4.4156E-02	4.8948E+00	2.0282E-13	4.6435E-14	4.92000E+00
239Pu(F)	1.9167E-17	2.7051E-11	8.9082E-08	3.2560E-03	3.1930E-01	3.2204E+00	4.6042E+00	4.6858E+00	4.6849E+00	4.2201E-02	4.6859E+00	1.2243E-13	2.4453E-14	4.70362E+00
239Pu(H)	1.3490E-18	2.5560E-12	1.0582E-08	7.4504E-04	1.4729E-01	1.9665E+00	3.7001E+00	3.8371E+00	3.8368E+00	3.4603E-02	3.8377E+00	1.1874E-12	1.4843E-13	3.84596E+00
240Pu(F)	9.4727E-17	1.1276E-10	3.7770E-07	7.7648E-03	4.0839E-01	3.4515E+00	4.3554E+00	4.3965E+00	4.3966E+00	3.9577E-02	4.3966E+00	1.9765E-14	3.9477E-15	4.41758E+00
241Pu(T)	1.6910E-15	3.8857E-11	2.4243E-08	2.0477E-02	6.7357E-01	3.5160E+00	4.0605E+00	4.0745E+00	4.0736E+00	3.8672E-02	4.0745E+00	1.1241E-15	2.5760E-16	4.10388E+00
241Pu(F)	2.2111E-15	2.9579E-11	2.1576E-08	1.7449E-02	6.5465E-01	3.3121E+00	3.9055E+00	3.9196E+00	3.9187E+00	3.5278E-02	3.9196E+00	9.4434E-16	1.8851E-16	3.94784E+00
242Pu(F)	5.7502E-15	7.3387E-11	2.9886E-08	2.7439E-02	6.1430E-01	3.5198E+00	4.0111E+00	4.0226E+00	4.0217E+00	3.6204E-02	4.0226E+00	1.6281E-16	3.6512E-17	4.05268E+00
252Cf(S)	1.2013E-17	1.2973E-11	5.6867E-08	1.4027E-03	1.2307E-01	9.2451E-01	1.3043E+00	1.3199E+00	1.3196E+00	1.1885E-02	1.3199E+00	1.9039E-14	4.3631E-15	1.32659E+00

Table 2.7.1 Continued

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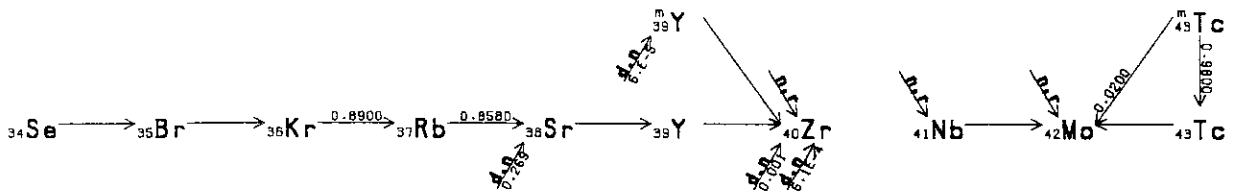
Mass No. 96



	34Se	35Br	36Kr	37Rb	38Sr	39Y	m39Y	40Zr	41Nb	42Mo	43Tc	m43Tc	Mass Yield
λ(1/sec)	1.0608E+01	4.8642E+00	1.3958E+00	3.4145E+00	5.8290E-01	1.1652E-01	6.9315E-02	0.0	8.2459E-06	0.0	1.8667E-06	2.2216E-04	
Q-value(MeV)	1.2356E+01	1.4280E+01	8.2130E+00	1.1547E+01	5.3600E+00	7.0150E+00	7.0150E+00	0.0	3.1870E+00	0.0	2.9740E+00	3.0084E+00	
E-beta (MeV)	4.6120E+00	4.4690E+00	3.0730E+00	3.8210E+00	1.7937E+00	2.6555E+00	1.3270E+00	0.0	2.4855E-01	0.0	0.0	0.0	
E-gamma(MeV)	2.6180E+00	4.8220E+00	1.5560E+00	3.0840E+00	1.3543E+00	1.2056E+00	3.9096E+00	0.0	2.4709E+00	0.0	2.5031E+00	4.7857E-02	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1231E-03	2.5429E-02	
Spin							4+		6+		7+	4+	
Cumulative yield 232Th(F)	3.8109E-10	4.4115E-06	1.2326E-02	3.6006E-01	3.7929E+00	3.8686E+00	4.8372E-01	4.3891E+00	2.1205E-05	2.1208E-05	3.3302E-15	1.6181E-15	4.40465E+00
232Th(H)	2.5100E-11	1.1500E-06	2.6422E-03	2.8585E-01	2.3699E+00	2.4773E+00	1.0928E+00	3.6287E+00	3.3500E-05	3.3518E-05	3.2559E-14	1.1243E-14	3.65258E+00
233U (T)	2.5964E-13	8.0967E-09	1.4495E-04	4.4646E-02	2.1567E+00	2.5759E+00	2.2801E+00	5.6500E+00	5.5597E-03	5.5652E-03	2.3000E-11	1.2228E-11	5.55703E+00
233U (F)	5.1999E-14	1.1000E-08	1.5701E-04	5.3707E-02	2.0935E+00	2.4872E+00	2.5139E+00	5.6905E+00	5.2971E-03	5.3013E-03	1.0226E-10	4.9687E-11	5.69818E+00
233U (H)	3.2161E-14	1.0500E-08	1.1101E-04	5.1868E-02	1.5009E+00	1.7537E+00	2.5708E+00	4.8178E+00	1.8985E-02	1.8989E-02	1.1152E-10	3.8509E-11	4.83907E+00
235U (T)	3.3793E-12	1.9596E-07	1.5808E-03	2.0632E-01	3.8965E+00	4.2178E+00	1.7900E+00	5.2541E+00	5.6888E-04	5.5934E-04	4.8932E-13	2.5015E-13	6.26863E+00
235U (F)	1.1795E-11	5.5576E-07	2.4754E-03	2.6875E-01	3.9097E+00	4.1796E+00	1.7234E+00	5.0815E+00	4.2981E-04	4.2951E-04	6.7978E-13	3.3030E-13	6.10107E+00
235U (H)	5.6554E-13	4.4602E-08	3.1506E-04	1.0134E-01	2.0965E+00	2.3512E+00	2.5906E+00	5.3011E+00	3.6142E-03	3.6153E-03	9.9789E-12	3.4459E-12	5.91117E+00
236U (F)	2.4100E-11	8.0401E-07	3.4579E-03	3.0426E-01	3.9519E+00	4.1756E+00	1.4280E+00	5.7342E+00	2.5200E-04	2.5205E-04	2.8714E-13	1.3952E-13	5.75767E+00
238U (F)	1.0913E-09	1.0313E-05	2.3758E-02	5.7846E-01	5.2282E+00	5.3155E+00	5.5716E-01	5.9091E+00	1.6720E-05	1.6722E-05	1.7398E-15	8.4523E-16	5.98663E+00
238U (H)	2.3004E-10	6.6813E-06	9.6043E-03	6.9810E-01	4.1553E+00	4.2796E+00	1.2637E+00	5.5907E+00	1.0802E-04	1.0802E-04	2.5065E-14	8.6556E-15	5.64194E+00
237Np(F)	7.7785E-13	1.0600E-07	5.6911E-04	1.4980E-01	2.4456E+00	2.8248E+00	2.4213E+00	5.5253E+00	1.6550E-03	1.6555E-03	7.9500E-12	3.8628E-12	5.53571E+00
239Pu(T)	1.2409E-13	1.2304E-08	1.7007E-04	4.9070E-02	2.0261E+00	2.4011E+00	2.0895E+00	5.0655E+00	3.6342E-03	3.6371E-03	3.7225E-11	1.9791E-11	5.07175E+00
239Pu(F)	1.9033E-13	2.6208E-08	2.6411E-04	7.1163E-02	2.0480E+00	2.3535E+00	2.0143E+00	4.7900E+00	2.5046E-03	2.5062E-03	2.2725E-11	1.1042E-11	4.79595E+00
239Pu(H)	1.7722E-14	3.8702E-09	5.2507E-05	3.1530E-02	1.1445E+00	1.3835E+00	2.4310E+00	4.3926E+00	7.7194E-03	7.7252E-03	1.5546E-10	5.3683E-11	4.40091E+00
240Pu(F)	1.3901E-12	8.4510E-08	7.7216E-04	1.0501E-01	2.8677E+00	3.1044E+00	1.5118E+00	4.9142E+00	2.2272E-03	2.2280E-03	4.4244E-12	2.1497E-12	4.92198E+00
241Pu(T)	1.6205E-11	5.7918E-07	2.5873E-03	2.1563E-01	3.2024E+00	3.3963E+00	1.0802E+00	4.5935E+00	1.2625E-02	1.2625E-02	3.2901E-13	1.7492E-13	4.61919E+00
241Pu(F)	1.1999E-11	5.2999E-07	2.1094E-03	2.1628E-01	2.8660E+00	3.0539E+00	1.1897E+00	4.3664E+00	2.5499E-04	2.5504E-04	2.7583E-13	1.3402E-13	4.38134E+00
242Pu(F)	3.0800E-11	6.2404E-07	9.7227E-03	1.7882E-01	3.5388E+00	3.6514E+00	7.1946E-01	4.4747E+00	1.0800E-04	1.0804E-04	5.0225E-14	2.4403E-14	4.48149E+00
252Cf(S)	1.0270E-13	1.9782E-08	1.3390E-04	3.5044E-02	7.0598E-01	8.2698E-01	6.7421E-01	1.5994E+00	5.7648E-04	5.7870E-04	4.8549E-12	2.5811E-12	1.60217E+00

Table 2.7.1 Continued

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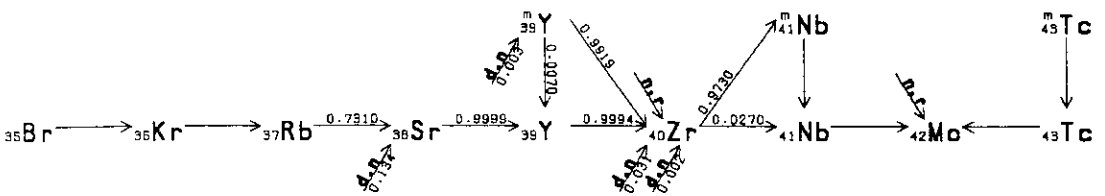
Mass No. 97



		35Br	36Kr	37Rb	38Sr	39Y	m39Y	40Zr	41Nb	m41Nb	42Mo	43Tc	m43Tc	Mass Yield
	λ(1/sec)	3.3324E+01	2.7793E+00	4.0779E+00	1.5718E+00	1.8734E-01	5.1341E-01	1.1393E-05	1.6023E-04	1.1563E-02	0.0	6.4460E-15	6.8647E-08	
	Q-value(MeV)	1.2406E+01	1.1170E+01	9.4260E+00	7.2000E+00	5.5700E+00	7.3375E+00	2.6574E+00	1.9329E+00	7.4336E-01	0.0	3.2000E-01	9.6600E-02	
	E-beta (MeV)	4.1950E+00	3.8340E+00	3.0248E+00	2.2850E+00	2.3548E+00	2.0750E+00	5.9805E-01	4.5582E-01	0.0	0.0	0.0	0.0	
	E-gamma(MeV)	3.5080E+00	2.9930E+00	2.8767E+00	2.1433E+00	1.4579E+00	2.6795E+00	1.8299E-01	6.6484E-01	7.2849E-01	0.0	0.0	2.9915E-04	
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4867E-02	0.0	0.0	9.6201E-02	
	Spin					1/2-	9/2+	1/2+	9/2+	1/2-	5/2+	9/2+	1/2-	
Cumulative yield	232Th(F)	8.4141E-09	2.1038E-04	1.2498E-01	2.7477E+00	3.0034E+00	1.2331E+00	4.4916E+00	4.4922E+00	4.3704E+00	4.4922E+00	1.3603E-12	2.2795E-13	4.48160E+00
	232Th(H)	8.3919E-10	2.6522E-05	5.3578E-02	1.1851E+00	1.3923E+00	1.5641E+00	3.2188E+00	3.2208E+00	3.1322E+00	3.2208E+00	1.5500E-11	1.7298E-12	3.18208E+00
	233U (T)	3.3352E-10	4.3393E-07	5.5817E-03	7.0938E-01	1.2705E+00	2.3559E+00	5.4375E+00	5.4953E+00	5.3016E+00	5.4955E+00	8.8963E-09	1.6708E-09	5.46269E+00
	233U (F)	9.0761E-11	5.2031E-07	6.5551E-03	6.9201E-01	1.2111E+00	2.4927E+00	5.4512E+00	5.4974E+00	5.3118E+00	5.4975E+00	7.7501E-09	1.2987E-09	5.45832E+00
	233U (H)	7.8220E-11	4.3847E-07	6.5120E-03	5.4548E-01	8.7892E-01	2.5149E+00	4.7133E+00	4.7552E+00	4.5907E+00	4.7553E+00	6.6501E-09	7.4214E-10	4.71477E+00
	235U (T)	6.7106E-11	7.9845E-06	7.8057E-02	2.0281E+00	2.6434E+00	2.5865E+00	5.9964E+00	6.0082E+00	5.8369E+00	6.0082E+00	4.5690E-10	6.5809E-11	5.96040E+00
	235U (F)	3.5935E-10	2.2111E-05	5.4468E-02	2.0040E+00	2.5590E+00	2.6676E+00	5.9839E+00	5.9905E+00	5.8234E+00	5.9905E+00	1.0495E-10	1.7587E-11	5.93064E+00
	235U (H)	1.0203E-09	1.7781E-06	1.4890E-02	8.7237E-01	1.2566E+00	2.9001E+00	5.2756E+00	5.6625E+00	5.1763E+00	5.6625E+00	1.8001E-09	2.0089E-10	5.61540E+00
	236U (F)	5.4508E-10	3.1970E-05	5.1041E-02	1.9516E+00	2.4037E+00	2.1792E+00	5.1402E+00	5.1439E+00	5.0021E+00	5.1439E+00	4.0700E-11	6.8199E-12	5.08416E+00
	238U (F)	2.2428E-08	4.0470E-04	8.5621E-02	3.3987E+00	3.7245E+00	1.5726E+00	5.5742E+00	5.5746E+00	5.4257E+00	5.5746E+00	5.5566E-13	9.3110E-14	5.52666E+00
	238U (H)	8.0126E-09	1.4106E-04	1.6832E-01	2.5145E+00	2.8120E+00	2.2485E+00	5.3727E+00	5.3738E+00	5.2277E+00	5.3738E+00	3.7406E-12	4.1745E-13	5.32280E+00
	237Np(F)	4.3614E-11	3.9630E-06	2.5367E-02	1.1994E+00	1.8674E+00	3.2089E+00	6.1849E+00	6.2055E+00	6.0213E+00	6.2055E+00	9.7201E-10	1.6288E-10	6.13452E+00
	239Pu(T)	2.0341E-10	7.2566E-07	6.6622E-03	7.5076E-01	1.3390E+00	2.4282E+00	5.3659E+00	5.4452E+00	5.2359E+00	5.4452E+00	5.1617E-09	9.6941E-10	5.39722E+00
	239Pu(F)	3.3050E-10	1.3375E-06	1.1190E-02	6.7283E-01	1.3992E+00	2.5279E+00	5.2957E+00	5.3240E+00	5.1574E+00	5.3240E+00	2.6408E-09	4.4251E-10	5.27288E+00
	239Pu(H)	4.8070E-11	1.5153E-07	3.5132E-03	3.8501E-01	6.6566E-01	2.2676E+00	4.4581E+00	4.5195E+00	4.3428E+00	4.5197E+00	1.7801E-08	1.9866E-09	4.47542E+00
	240Pu(F)	4.5547E-11	5.6733E-06	2.1339E-02	1.3591E+00	1.8431E+00	2.2776E+00	5.1860E+00	5.1983E+00	5.0481E+00	5.1983E+00	4.8505E-10	8.1278E-11	5.15061E+00
	241Pu(T)	4.8771E-10	2.7508E-05	5.2496E-02	1.8724E+00	2.3461E+00	1.9913E+00	4.9078E+00	4.9117E+00	4.7761E+00	4.9117E+00	4.6513E-11	8.7356E-12	4.86416E+00
	241Pu(F)	4.2581E-10	2.9739E-05	4.7636E-02	1.5621E+00	1.9608E+00	1.9168E+00	4.7072E+00	4.7113E+00	4.5808E+00	4.7113E+00	5.2397E-11	8.7801E-12	4.65823E+00
	242Pu(F)	8.1933E-10	4.8723E-05	5.7747E-02	2.3147E+00	2.6644E+00	1.6826E+00	4.8805E+00	4.8829E+00	4.7492E+00	4.8829E+00	2.0100E-11	3.3682E-12	4.84425E+00
	252Cf(S)	1.9256E-10	8.1275E-07	5.6439E-03	3.2044E-01	5.2302E-01	8.5078E-01	1.7319E+00	1.7381E+00	1.6863E+00	1.7381E+00	3.9065E-10	7.3367E-11	1.71427E+00

Table 2.7.1 Continued

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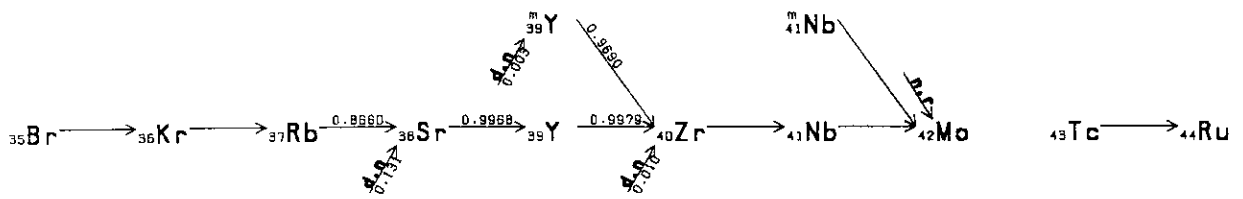
Mass No. 98



	35Br	36Kr	37Rb	38Sr	39Y	m39Y	40Zr	41Nb	m41Nb	42Mo	43Tc	44Ru	Mass Yield
λ(1/sec)	5.5452E+01	2.6918E+00	6.4180E+00	1.0502E+00	1.0664E+00	3.4657E-01	2.2578E-02	2.4236E-01	2.2519E-04	0.0	5.2297E-15	0.0	
Q-value(MeV)	1.5656E+01	8.3470E+00	1.2343E+01	5.8100E+00	8.1020E+00	8.1020E+00	2.2390E+00	4.5850E+00	4.6890E+00	0.0	1.7920E+00	0.0	
E-beta (MeV)	4.8800E+00	3.4920E+00	3.7110E+00	2.1390E+00	2.7592E+00	2.2275E+00	8.3571E-01	1.6275E+00	7.6650E-01	0.0	1.1816E-01	0.0	
E-gamma(MeV)	5.3770E+00	1.8510E+00	2.9230E+00	1.0510E+00	2.0819E+00	3.1542E+00	1.6467E-01	8.6560E-01	2.8201E+00	0.0	1.3978E+00	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2360E-02	0.0	0.0	0.0	
Spin					1+	5+		1+	5+		6+		
Cumulative yield													
232Th(F)	5.8226E-11	5.8714E-05	1.6867E-02	1.3845E+00	1.7246E+00	1.2012E+00	3.6594E+00	3.6605E+00	3.7940E-03	3.6643E+00	1.3203E-10	1.3203E-10	3.69541E+00
232Th(H)	5.5297E-10	5.6201E-06	6.2657E-03	4.0611E-01	6.4581E-01	1.3635E+00	2.5613E+00	2.5634E+00	1.1997E-02	2.5754E+00	1.2400E-09	1.2400E-09	2.61075E+00
233U (T)	2.2251E-12	1.0396E-07	3.4896E-04	1.6036E-01	5.4492E-01	1.1618E+00	4.9277E+00	4.9771E+00	1.4904E-01	5.1283E+00	3.9784E-07	3.9785E-07	5.15848E+00
233U (F)	5.4992E-13	1.2000E-07	4.4913E-04	1.6449E-01	5.5972E-01	1.3767E+00	4.8973E+00	4.9430E+00	1.5940E-01	5.1041E+00	3.6100E-07	3.6101E-07	5.14085E+00
233U (H)	4.8052E-13	9.0701E-08	4.4909E-04	1.1759E-01	3.7033E-01	1.4318E+00	3.8068E+00	3.8347E+00	1.5800E-01	3.9939E+00	3.1000E-07	3.1001E-07	4.03228E+00
235U (T)	1.0805E-10	1.7596E-06	2.4452E-03	6.8532E-01	1.4085E+00	2.1895E+00	5.5659E+00	5.5763E+00	3.1654E-02	5.7083E+00	7.2284E-07	7.2284E-07	5.75775E+00
235U (F)	9.9315E-11	5.6675E-06	6.4318E-03	7.8693E-01	1.4577E+00	2.3460E+00	5.7564E+00	5.7671E+00	3.7268E-02	5.8046E+00	8.3062E-09	8.3063E-09	5.86149E+00
235U (H)	6.9127E-12	3.2702E-07	1.0984E-03	1.9835E-01	5.0166E-01	1.7196E+00	3.9744E+00	3.9920E+00	9.9082E-02	4.0915E+00	9.0704E-08	9.0706E-08	4.19304E+00
236U (F)	1.9234E-10	9.8299E-06	8.9347E-03	9.5368E-01	1.5220E+00	2.3395E+00	5.7043E+00	5.7120E+00	2.6963E-02	5.7390E+00	4.1499E-09	4.1500E-09	5.79401E+00
238U (F)	2.0144E-10	1.5218E-04	3.5882E-02	2.4758E+00	2.9875E+00	1.8128E+00	5.7415E+00	5.7427E+00	4.0402E-03	5.7467E+00	9.4510E-11	9.4511E-11	5.78268E+00
238U (H)	7.1237E-11	4.0207E-05	2.8822E-02	1.2422E+00	1.7432E+00	2.8577E+00	5.3919E+00	5.3939E+00	1.1486E-02	5.4054E+00	4.8208E-10	4.8209E-10	5.47038E+00
237Np(F)	1.3079E-11	9.1801E-07	2.5930E-03	3.7026E-01	1.0970E+00	2.5360E+00	5.9236E+00	5.9530E+00	1.0250E-01	6.0561E+00	6.7900E-08	6.7901E-08	6.11916E+00
239Pu(T)	1.5094E-12	1.9306E-07	6.0839E-04	2.3129E-01	7.7543E-01	1.5440E+00	5.5208E+00	5.5622E+00	1.2481E-01	5.7885E+00	2.7409E-07	2.7409E-07	5.83042E+00
239Pu(F)	2.6578E-12	3.4210E-07	9.9754E-04	2.6265E-01	7.7399E-01	1.7822E+00	5.4209E+00	5.4570E+00	1.2592E-01	5.5839E+00	1.6005E-07	1.6005E-07	5.62865E+00
239Pu(H)	3.6402E-13	4.2202E-08	2.7906E-04	9.6571E-02	3.6458E-01	1.6178E+00	4.5694E+00	4.6172E+00	2.7042E-01	4.8901E+00	9.3005E-07	9.3007E-07	4.93187E+00
240Pu(F)	9.8965E-12	1.4901E-05	2.0947E-03	4.9505E-01	9.8608E-01	1.7163E+00	5.3523E+00	5.3692E+00	5.8869E-02	5.4285E+00	3.2103E-08	3.2103E-08	5.46954E+00
241Pu(T)	1.1108E-10	7.8922E-05	5.6268E-03	8.4500E-01	1.4694E+00	1.8928E+00	5.0545E+00	5.0625E+00	2.3848E-02	5.0864E+00	4.2011E-09	4.2012E-09	5.12652E+00
241Pu(F)	1.4332E-10	6.6597E-06	5.8993E-03	7.3846E-01	1.3223E+00	2.0427E+00	4.6701E+00	4.6778E+00	2.6529E-02	4.9044E+00	4.6797E-09	4.6798E-09	4.95066E+00
242Pu(F)	3.3671E-10	1.5700E-05	7.5108E-03	1.2140E+00	1.6677E+00	1.5949E+00	5.1153E+00	5.1196E+00	1.5006E-02	5.1347E+00	1.8200E-09	1.8200E-09	5.17145E+00
252Cf(S)	1.9535E-12	2.4977E-07	7.0161E-04	1.2588E-01	3.9610E-01	8.1653E-01	2.1640E+00	2.1773E+00	4.0086E-02	2.2176E+00	3.4468E-08	3.4469E-08	2.23688E+00

Table 2.7.1 Continued

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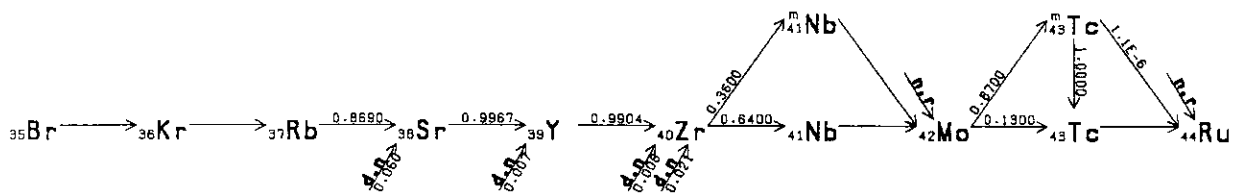
Mass No. 99



	35Br	36Kr	37Rb	38Sr	39Y	40Zr	41Nb	m41Nb	42Mo	43Tc	m43Tc	44Ru	Mass Yield
λ(1/sec)	4.8135E+01	5.5809E+00	1.1748E+01	2.6058E+00	4.9510E-01	3.3007E-01	4.6210E-02	4.4493E-03	2.9164E-06	1.0264E-13	3.1983E-05	0.0	
Q-value(MeV)	1.3580E+01	1.2650E+01	1.0489E+01	8.6880E+00	6.3900E+00	4.4560E+00	3.6240E+00	3.9892E+00	1.3567E+00	2.9360E-01	4.3623E-01	0.0	
E-beta (MeV)	4.5720E+00	4.2990E+00	3.6540E+00	3.0410E+00	2.3750E+00	1.4090E+00	1.2746E+00	1.1760E+00	3.8522E-01	8.4590E-02	0.0	0.0	
E-gamma(MeV)	3.9200E+00	3.5310E+00	2.6560E+00	2.1060E+00	1.1470E+00	1.1841E+00	5.2173E-01	1.7155E+00	2.7159E-01	4.9900E-09	1.2509E-01	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.8500E-03	1.8757E-02	9.8450E-09	1.8625E-02	0.0	
Spin						1/2+	9/2+	1/2-	1/2+	9/2+	1/2-	5/2+	
Cumulative yield 232Th(F)	2.2385E-11	1.1993E-07	3.9287E-04	3.1659E-01	1.5957E+00	2.8411E+00	1.8447E+00	1.0281E+00	2.8730E+00	2.8730E+00	2.4995E+00	2.8730E+00	2.88596E+00
232Th(H)	3.8561E-12	7.2765E-09	8.9513E-05	8.6892E-02	1.0554E+00	1.9388E+00	1.2984E+00	7.0520E-01	2.0039E+00	2.0039E+00	1.7434E+00	2.0039E+00	2.01204E+00
233U (T)	1.1269E-14	3.7170E-11	2.2381E-06	2.2450E-02	7.7626E-01	4.2865E+00	3.1990E+00	1.5485E+00	4.8663E+00	4.8664E+00	4.2337E+00	4.8664E+00	4.87227E+00
233U (F)	2.3073E-15	4.3531E-11	3.0005E-06	2.2675E-02	8.2532E-01	3.9895E+00	3.1084E+00	1.5480E+00	4.6716E+00	4.6718E+00	4.0643E+00	4.6716E+00	4.67793E+00
233U (H)	1.8512E-15	3.5186E-11	2.8891E-06	1.7100E-02	7.4278E-01	3.0169E+00	2.4419E+00	1.1503E+00	3.6026E+00	3.6026E+00	3.1343E+00	3.6026E+00	3.60879E+00
235U (T)	8.7401E-13	1.1283E-09	3.9531E-06	3.5303E-01	2.3703E+00	5.6194E+00	3.9321E+00	2.1006E+00	5.1105E+00	6.1105E+00	5.3161E+00	6.1105E+00	6.13008E+00
235U (F)	7.0684E-13	6.1635E-09	9.6241E-05	1.7158E-01	2.2524E+00	5.4666E+00	3.7029E+00	2.0091E+00	5.7139E+00	5.7139E+00	4.9711E+00	5.7139E+00	5.72602E+00
235U (H)	4.6856E-14	2.4322E-10	1.2713E-05	4.5518E-02	1.4018E+00	4.4945E+00	3.3801E+00	1.6813E+00	5.0686E+00	5.0686E+00	4.4097E+00	5.0686E+00	5.08015E+00
236U (F)	1.5370E-12	1.3191E-08	1.5549E-04	2.3040E-01	2.5454E+00	5.5708E+00	3.7966E+00	2.0752E+00	5.8731E+00	5.8731E+00	5.1096E+00	5.8731E+00	5.88998E+00
238U (F)	1.0761E-10	5.2361E-07	1.3447E-03	8.5671E-01	3.7729E+00	6.1439E+00	3.9751E+00	2.2204E+00	6.1957E+00	6.1957E+00	5.3903E+00	6.1957E+00	6.21485E+00
238U (H)	2.0143E-11	1.0857E-07	7.1821E-04	4.0954E-01	3.5108E+00	5.5010E+00	3.6070E+00	1.9912E+00	5.5985E+00	5.5985E+00	4.8707E+00	5.5985E+00	5.62257E+00
237Np(F)	7.5651E-14	6.7908E-10	2.8022E-05	7.5729E-02	1.9887E+00	5.5851E+00	4.0446E+00	2.1055E+00	6.1558E+00	6.1558E+00	5.3556E+00	6.1558E+00	6.16902E+00
239Pu(T)	8.0272E-15	8.7135E-11	5.3039E-06	3.7413E-02	1.1882E+00	5.3634E+00	4.0516E+00	2.0718E+00	6.1403E+00	6.1403E+00	5.3420E+00	6.1403E+00	6.14863E+00
239Pu(F)	1.4651E-14	1.8458E-10	9.4477E-06	4.7056E-02	1.3590E+00	5.3026E+00	3.9513E+00	2.0212E+00	5.9838E+00	5.9838E+00	5.2059E+00	5.9839E+00	5.99340E+00
239Pu(H)	1.2541E-15	6.1876E-10	1.3383E-05	1.1811E-02	6.6636E-01	3.2631E+00	2.8280E+00	1.2676E+00	4.1154E+00	4.1155E+00	3.5804E+00	4.1155E+00	4.12057E+00
240Pu(F)	6.6484E-14	1.1259E-09	2.7584E-05	9.8655E-02	1.6302E+00	5.5837E+00	3.8943E+00	2.0747E+00	5.9743E+00	5.9743E+00	5.1976E+00	5.9743E+00	5.98591E+00
241Pu(T)	1.0345E-12	1.1745E-08	1.4022E-04	2.3546E-01	2.5536E+00	6.0116E+00	4.0263E+00	2.2055E+00	6.2335E+00	6.2334E+00	5.4231E+00	6.2335E+00	6.24968E+00
241Pu(F)	1.2228E-12	9.2622E-09	1.2498E-04	1.9292E-01	2.3380E+00	5.2808E+00	3.5536E+00	1.9361E+00	5.4911E+00	5.4911E+00	4.7772E+00	5.4911E+00	5.50529E+00
242Pu(F)	3.3097E-12	2.1718E-08	1.5528E-04	2.8047E-01	2.0972E+00	5.2311E+00	3.4556E+00	1.9049E+00	5.3617E+00	5.3617E+00	4.6647E+00	5.3617E+00	5.37586E+00
252Cf(S)	1.2473E-14	1.9019E-10	8.3861E-06	2.8209E-02	7.5744E-01	2.3799E+00	1.7349E+00	9.0573E-01	2.6438E+00	2.6438E+00	2.3001E+00	2.6438E+00	2.64850E+00

Table 2.7.1 Continued

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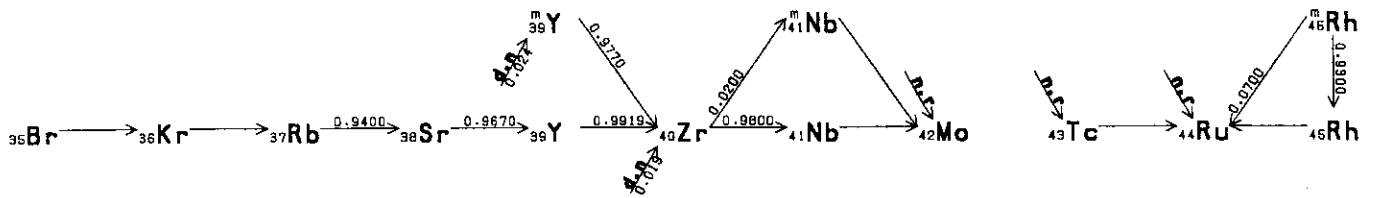
Mass No. 100



		35Br	36Kr	37Rb	38Sr	39Y	m39Y	40Zr	41Nb	m41Nb	42Mo	43Tc	44Ru	45Rh	m45Rh	Mass Yield
	λ(1/sec)	7.5846E+01	5.2195E+00	3.9676E+00	5.7907E-01	7.3739E-01	1.2603E+00	9.7626E-02	4.6210E-01	2.2360E-01	0.0	4.3870E-02	0.0	9.2568E-06	2.4580E-03	
	Q-value(MeV)	1.6167E+01	1.0648E+01	1.3742E+01	6.8320E+00	9.3420E+00	9.3420E+00	3.3600E+00	6.2300E+00	6.2300E+00	0.0	3.2028E+00	0.0	3.6370E+00	3.9765E+00	
	E-beta (MeV)	5.0300E+00	3.9700E+00	4.2760E+00	2.5310E+00	2.9420E+00	3.2900E+00	1.1141E+00	1.9465E+00	1.6960E+00	0.0	1.3195E+00	0.0	5.5214E-02	0.0	
	E-gamma(MeV)	5.5850E+00	2.1890E+00	4.6740E+00	1.2750E+00	2.9890E+00	2.2530E+00	6.9823E-01	1.6464E+00	2.3614E+00	0.0	8.2764E-02	0.0	2.7107E+00	2.4241E-01	
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1171E-03	0.0	
	Spin					1+	5+		1+	5+		1+		1-	5+	
Cumulative yield	232Th(F)	8.2280E-14	2.0105E-08	5.6334E-05	3.9770E-02	1.0847E-01	2.4395E-01	1.3423E+00	1.3265E+00	6.5292E-02	1.3926E+00	1.2503E-07	1.2503E-07	1.0555E-18	8.6726E-19	1.39847E+00
	232Th(H)	2.5203E-14	2.2600E-09	2.4903E-05	1.4259E-02	7.6250E-02	3.5337E-01	1.3925E+00	1.3907E+00	1.7510E-01	1.5660E+00	1.3700E-06	1.3701E-06	1.5576E-17	1.4074E-17	1.57418E+00
	233U (T)	4.5524E-17	1.7693E-11	6.0677E-07	2.6525E-03	5.4806E-02	1.5761E-01	3.1241E+00	3.3574E+00	9.5504E-01	4.4162E+00	1.8792E-04	1.8797E-04	3.7773E-14	2.9943E-14	4.41976E+00
	233U (F)	8.9553E-18	2.1400E-11	8.1503E-07	2.8308E-03	5.8390E-02	1.9386E-01	3.0271E+00	3.2507E+00	1.0502E+00	4.3899E+00	1.7900E-04	1.7904E-04	1.9977E-13	1.6414E-13	4.39998E+00
	233U (H)	6.8544E-18	1.3600E-11	7.0402E-07	1.8007E-03	3.4304E-02	1.8420E-01	1.9903E+00	2.1176E+00	9.8418E-01	3.1587E+00	1.5700E-04	1.5702E-04	1.9248E-13	1.7391E-13	3.16262E+00
	235U (T)	5.2273E-15	5.5088E-10	7.6688E-06	1.5194E-02	1.4442E-01	3.9146E-01	5.7782E+00	5.7612E+00	4.1312E-01	6.2323E+00	3.0293E-05	3.0296E-05	6.9311E-16	5.4945E-16	6.23509E+00
	235U (F)	4.8125E-15	2.9087E-09	3.2888E-05	3.6361E-02	2.5953E-01	8.1648E-01	5.5390E+00	5.6001E+00	7.0963E-01	6.3286E+00	1.1795E-05	1.1795E-05	1.0385E-15	8.5327E-16	6.34409E+00
	235U (H)	1.9554E-16	9.1405E-11	3.1003E-06	5.2292E-03	6.8782E-02	3.6048E-01	2.8604E+00	2.9666E+00	9.8167E-01	3.9867E+00	7.0304E-05	7.0310E-05	1.4783E-14	1.3357E-14	3.99385E+00
	236U (F)	9.5000E-15	5.1699E-09	4.6605E-05	4.4543E-02	2.7628E-01	8.1247E-01	5.0368E+00	5.0618E+00	5.3873E-01	5.6126E+00	6.0199E-06	6.0203E-06	3.8301E-16	3.1470E-16	5.62696E+00
	238U (F)	9.5858E-13	1.9122E-07	4.3670E-04	2.5604E-01	5.2421E-01	1.3127E+00	6.5058E+00	6.4184E+00	2.7885E-01	6.6998E+00	3.2939E-07	3.2940E-07	1.8230E-18	1.4978E-18	6.72493E+00
	238U (H)	1.6275E-13	3.5406E-08	2.4908E-04	9.1972E-02	3.5782E-01	1.5214E+00	4.7576E+00	4.7157E+00	3.9645E-01	5.1151E+00	1.1702E-06	1.1702E-06	2.3605E-17	2.1328E-17	5.13856E+00
	237Np(F)	4.5254E-16	3.3800E-10	9.6105E-06	1.2696E-02	2.0797E-01	6.8170E-01	4.9582E+00	5.2140E+00	1.3358E+00	6.5946E+00	6.9201E-05	6.9206E-05	1.8725E-14	1.5386E-14	6.60777E+00
	239Pu(T)	3.9047E-17	5.1417E-11	1.6406E-06	5.5253E-03	1.0813E-01	3.1011E-01	4.9256E+00	5.2700E+00	1.4348E+00	6.8263E+00	2.0707E-04	2.0711E-04	1.1399E-13	9.0351E-14	6.83276E+00
	239Pu(F)	7.5000E-17	1.0203E-10	3.0210E-06	7.4751E-03	1.2386E-01	4.0629E-01	4.8483E+00	5.1169E+00	1.9704E+00	6.5712E+00	1.3304E-04	1.3306E-04	6.7946E-14	5.5827E-14	6.58009E+00
	239Pu(H)	6.4260E-18	7.7304E-12	5.2204E-07	1.7256E-03	4.1534E-02	2.2551E-01	2.9732E+00	3.2273E+00	1.8331E+00	5.1950E+00	4.7503E-04	4.7511E-04	5.1110E-13	4.6179E-13	5.20005E+00
	240Pu(F)	3.2582E-16	5.4405E-10	7.6913E-06	1.6773E-02	1.4589E-01	4.5173E-01	5.1292E+00	5.2256E+00	8.0004E-01	6.0689E+00	3.2403E-05	3.2407E-05	9.6814E-15	7.9546E-15	6.07777E+00
	241Pu(T)	6.2032E-15	4.8414E-09	4.1617E-05	4.6230E-02	3.0068E-01	7.7240E-01	5.5551E+00	5.5943E+00	5.6453E-01	6.1738E+00	7.1220E-06	7.1224E-06	6.2327E-16	4.9409E-16	6.18727E+00
	241Pu(F)	9.1257E-15	3.9698E-09	4.2102E-05	4.1693E-02	2.9473E-01	8.6635E-01	5.5735E+00	5.6237E+00	6.7487E-01	6.3146E+00	9.3795E-06	9.3800E-06	5.5504E-16	4.5604E-16	6.32986E+00
	242Pu(F)	2.0113E-14	8.1101E-09	3.9509E-05	5.6715E-02	2.2426E-01	5.8358E-01	5.2940E+00	5.2663E+00	3.7825E-01	5.6562E+00	3.1600E-06	3.1603E-06	7.7568E-17	6.3733E-17	5.66560E+00
	252Cf(S)	8.0341E-17	1.0590E-10	2.9974E-06	5.0043E-03	8.9810E-02	2.5636E-01	2.3122E+00	2.5112E+00	7.8589E-01	3.3270E+00	4.5958E-06	4.5963E-06	2.1670E-14	1.7178E-14	3.33134E+00

Table 2.7.1 Continued

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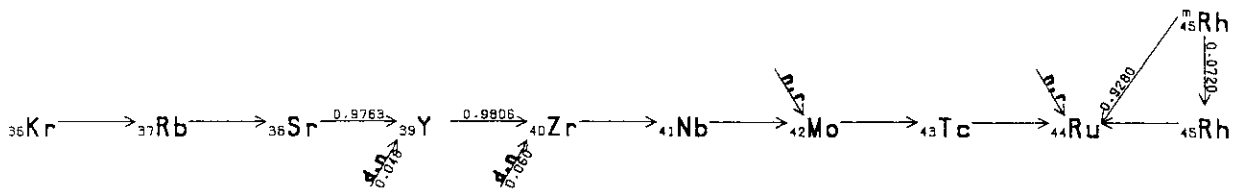
Mass No. 101



	36Kr	37Rb	38Sr	39Y	40Zr	41Nb	42Mo	43Tc	44Ru	45Rh	m45Rh	Mass Yield
λ(1/sec)	2.3902E+01	3.7086E+00	5.7285E+00	1.3863E+00	2.8881E-01	8.4952E-02	7.9018E-04	6.1355E-04	0.0	5.8640E-09	1.8465E-06	
Q-value(MeV)	1.3330E+01	1.1709E+01	1.0104E+01	7.4050E+00	5.9000E+00	4.5700E+00	2.8110E+00	1.6250E+00	0.0	5.4100E-01	6.9832E-01	
E-beta (MeV)	4.4400E+00	4.0360E+00	3.4660E+00	2.6910E+00	2.1600E+00	1.6860E+00	5.1133E-01	4.6837E-01	0.0	0.0	0.0	
E-gamma(MeV)	3.9300E+00	3.1230E+00	2.6620E+00	1.5230E+00	1.0910E+00	7.1960E-01	1.5526E+00	3.4301E-01	0.0	2.6347E-01	2.9247E-01	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Spin							1/2+	9/2+	5/2+	1/2-	9/2+	
Cumulative yield 232Th(F)	2.0913E-10	2.5371E-07	3.1038E-03	9.3492E-02	5.3382E-01	7.2616E-01	7.2941E-01	7.2941E-01	7.2941E-01	4.2866E-17	1.5685E-16	7.30603E-01
232Th(H)	7.0954E-11	9.5115E-08	1.7790E-03	1.5530E-01	1.0758E+00	1.4905E+00	1.5066E+00	1.5066E+00	1.5066E+00	7.5553E-16	3.8232E-15	1.50801E+00
233U(T)	4.5329E-13	5.2754E-10	1.4894E-04	4.1745E-02	1.3481E+00	2.9204E+00	3.2287E+00	3.2306E+00	3.2306E+00	4.5864E-12	1.5125E-11	3.29117E+00
233U(F)	1.0751E-13	8.2442E-10	1.9000E-04	5.5747E-02	1.5347E+00	3.4223E+00	3.7369E+00	3.7390E+00	3.7390E+00	4.0018E-12	1.4643E-11	3.79879E+00
233U(H)	5.6779E-14	5.9512E-10	1.1700E-04	4.3701E-02	1.0152E+00	2.5818E+00	2.8002E+00	2.8020E+00	2.8020E+00	2.9003E-12	1.4676E-11	2.80252E+00
235U(T)	3.2690E-11	2.9213E-08	3.3472E-03	4.0463E-01	3.0545E+00	4.9327E+00	5.0810E+00	5.0814E+00	5.0814E+00	3.2718E-14	1.0790E-13	5.07373E+00
235U(F)	2.6415E-11	1.0026E-07	3.6084E-03	3.4063E-01	3.6071E+00	5.2526E+00	5.3496E+00	5.3496E+00	5.3496E+00	4.4327E-14	1.6219E-13	5.35243E+00
235U(H)	1.0727E-12	9.7988E-09	3.9002E-04	9.7183E-02	1.5862E+00	3.3008E+00	3.4678E+00	3.4687E+00	3.4687E+00	5.7061E-13	2.8875E-12	3.46971E+00
236U(F)	5.4040E-11	1.8744E-07	5.2649E-03	4.0751E-01	3.8175E+00	5.2172E+00	5.2909E+00	5.2910E+00	5.2910E+00	1.9300E-14	7.0618E-14	5.29345E+00
238U(F)	8.1359E-11	3.8799E-06	3.6403E-02	9.1639E-01	5.4143E+00	6.0632E+00	6.0822E+00	6.0822E+00	6.0822E+00	1.3607E-16	4.9787E-16	6.08434E+00
238U(H)	4.7733E-10	1.5340E-05	1.5326E-02	8.8451E-01	4.4665E+00	5.6211E+00	5.6498E+00	5.6499E+00	5.6499E+00	1.3947E-15	7.0575E-15	5.65469E+00
237Np(F)	2.8157E-12	1.7190E-08	1.1820E-03	2.3940E-01	3.1391E+00	5.9686E+00	6.1780E+00	6.1770E+00	6.1770E+00	4.5046E-13	1.6482E-12	6.17895E+00
239Pu(T)	4.5395E-13	1.8914E-09	3.9113E-04	9.9255E-02	2.6175E+00	5.4429E+00	5.8953E+00	5.8979E+00	5.8979E+00	4.3804E-12	1.4445E-11	5.89888E+00
239Pu(F)	8.1236E-13	5.1093E-09	3.9512E-04	9.2852E-02	1.9782E+00	6.0315E+00	6.5379E+00	6.5403E+00	6.5403E+00	2.6239E-12	9.6008E-12	6.54065E+00
239Pu(H)	6.2912E-14	3.8436E-10	1.1201E-04	5.3665E-02	1.5573E+00	4.5425E+00	6.0599E+00	6.0655E+00	6.0655E+00	1.4738E-11	7.4575E-11	6.06806E+00
240Pu(F)	3.7611E-12	9.7787E-09	1.1481E-03	1.6962E-01	3.4642E+00	5.7656E+00	6.0507E+00	6.0517E+00	6.0517E+00	5.0965E-13	1.8648E-12	6.05315E+00
241Pu(T)	4.3038E-11	1.6956E-07	5.5205E-03	4.2021E-01	4.3421E+00	5.9115E+00	6.0041E+00	6.0042E+00	6.0042E+00	3.4734E-14	1.1454E-13	6.00611E+00
241Pu(F)	5.3086E-11	1.8157E-07	5.0958E-03	4.5059E-01	4.3978E+00	6.2265E+00	6.3276E+00	6.3278E+00	6.3278E+00	2.9124E-14	1.0657E-13	6.32984E+00
242Pu(F)	1.7317E-10	2.2932E-07	7.6681E-03	3.9314E-01	4.6492E+00	5.8044E+00	5.8835E+00	5.8836E+00	5.8836E+00	5.5625E-15	2.0353E-14	5.88604E+00
252Cf(S)	8.7326E-13	6.6824E-09	6.1544E-04	1.2844E-01	1.9920E+00	3.8185E+00	3.9988E+00	3.9995E+00	3.9995E+00	4.7244E-13	1.5580E-12	3.98995E+00

Table 2.7.1 Continued

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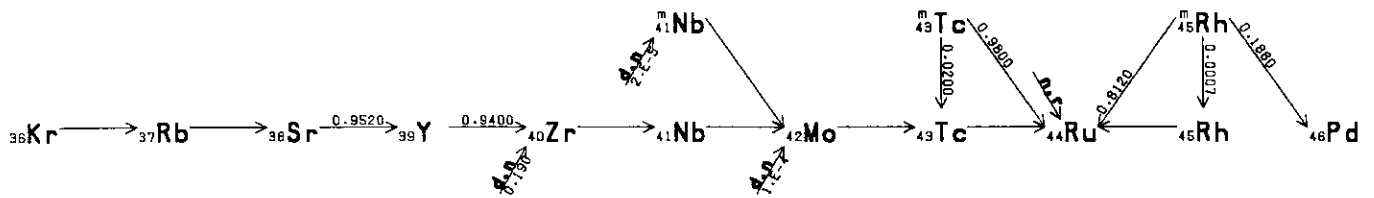
Mass No. 102



	36Kr	37Rb	38Sr	39Y	40Zr	41Nb	m41Nb	42Mo	43Tc	m43Tc	44Ru	45Rh	m45Rh	46Pd	Mass Yield
λ(1/sec)	3.2542E+01	9.2420E+00	1.3827E+00	7.7016E-01	2.3902E-01	5.3319E-01	1.6120E-01	1.0315E-03	1.3128E-01	2.6557E-03	0.0	7.6003E-09	3.8756E-06	0.0	
Q-value(MeV)	1.1753E+01	1.4382E+01	8.1150E+00	1.0600E+01	3.6800E+00	7.6330E+00	7.6330E+00	1.0400E+00	4.5000E+00	4.5200E+00	0.0	1.1480E+00	1.2160E+00	0.0	
E-beta (MeV)	4.2990E+00	4.6180E+00	3.0170E+00	3.0960E+00	1.2500E+00	2.8320E+00	2.8320E+00	3.5055E-01	1.4201E+00	6.4870E-01	0.0	0.0	1.5442E-01	0.0	
E-gamma(MeV)	2.6340E+00	4.6170E+00	1.5760E+00	3.8230E+00	7.3730E-01	1.4610E+00	1.4610E+00	4.7304E-02	1.1933E+00	2.8481E+00	0.0	2.0934E+00	5.5402E-01	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Spin						1+	5+		1+	5+		5+	2-		
Cumulative yield: 232Th(F)	1.4367E-12	2.2550E-09	2.0305E-04	1.3047E-02	2.7652E-01	2.9548E-01	6.6050E-02	3.7254E-01	3.7255E-01	1.2403E-05	3.7256E-01	9.9996E-15	4.7358E-16	8.9093E-16	3.73030E-01
232Th(H)	4.5281E-13	9.1312E-10	1.0500E-04	2.7135E-02	4.7262E-01	5.5199E-01	4.4897E-01	1.0562E+00	1.0562E+00	2.7703E-04	1.0565E+00	4.0099E-13	1.1450E-13	2.1546E-14	1.05721E+00
233U (T)	2.2625E-15	5.4972E-10	6.4473E-06	4.5932E-03	4.8437E-01	7.8905E-01	9.1918E-01	2.4365E+00	2.4414E+00	8.3993E-03	2.4497E+00	6.5812E-10	3.6571E-10	6.8755E-11	2.44980E+00
233U (F)	4.3841E-15	1.8066E-10	8.1301E-06	5.4338E-03	5.4277E-01	8.8540E-01	1.1935E+00	2.8159E+00	2.8188E+00	9.7866E-03	2.8284E+00	6.8955E-10	3.2869E-10	6.1780E-11	2.82853E+00
233U (H)	2.2093E-16	1.3474E-10	5.0500E-06	5.8039E-03	3.8263E-01	6.1557E-01	1.3176E+00	2.5085E+00	2.5109E+00	1.2065E-02	2.5228E+00	1.0127E-09	2.8949E-10	5.4430E-11	2.52287E+00
235U (T)	2.5947E-13	1.5284E-10	8.7081E-04	2.5958E-01	2.3405E+00	2.7310E+00	1.1781E+00	4.2291E+00	4.2302E+00	2.9945E-03	4.2331E+00	1.5556E-07	8.6445E-08	1.6252E-08	4.23328E+00
235U (F)	1.9625E-13	1.1140E-09	2.7388E-04	6.7410E-02	2.0278E+00	2.4988E+00	1.6411E+00	4.5273E+00	4.5278E+00	1.6868E-03	4.5295E+00	1.1254E-11	5.3621E-12	1.0081E-12	4.53156E+00
235U (H)	5.5928E-15	3.0007E-11	1.9001E-05	1.4914E-02	6.9125E-01	9.9482E-01	1.7171E+00	3.2568E+00	3.2584E+00	7.9986E-03	3.2663E+00	3.0959E-10	8.8496E-11	1.5638E-11	3.25663E+00
238U (F)	4.8150E-13	2.4538E-09	4.6800E-04	9.2749E-02	2.4531E+00	2.9367E+00	1.6463E+00	4.9257E+00	4.9261E+00	1.2074E-03	4.9273E+00	5.5279E-12	2.6338E-12	4.9517E-13	4.92965E+00
238U (F)	5.4112E-11	7.7145E-08	5.0990E-03	2.7135E-01	4.9121E+00	5.1951E+00	9.8572E-01	6.3196E+00	6.3197E+00	1.2819E-04	6.3198E+00	6.7795E-14	3.2301E-14	6.0727E-15	6.31918E+00
238U (H)	9.7534E-12	2.2098E-08	1.2542E-03	2.1101E-01	2.5461E+00	2.8347E+00	1.6328E+00	4.6048E+00	4.6048E+00	4.4026E-04	4.6053E+00	9.1247E-13	2.6083E-13	4.9037E-14	4.60915E+00
237Np(F)	1.7506E-14	1.8758E-10	7.4201E-05	4.4845E-02	1.5338E+00	2.3379E+00	2.8007E+00	5.8683E+00	5.8706E+00	7.6733E-03	5.8782E+00	1.5446E-10	7.3594E-11	1.3836E-11	5.87990E+00
239Pu(T)	2.8107E-15	8.6122E-10	2.3608E-05	1.5804E-02	1.2991E+00	2.0842E+00	2.3686E+00	5.9429E+00	5.9486E+00	1.6261E-02	5.9646E+00	9.1715E-10	5.0966E-10	9.5821E-11	5.95476E+00
239Pu(F)	5.0773E-15	4.2742E-11	3.8512E-05	2.4516E-02	1.5582E+00	2.3842E+00	2.8772E+00	6.6252E+00	6.6298E+00	1.4894E-02	6.6444E+00	6.1938E-10	2.9510E-10	6.5482E-11	6.64486E+00
239Pu(H)	2.8523E-16	1.9500E-10	5.3203E-05	7.8885E-03	6.5921E-01	1.1582E+00	2.8227E+00	5.5010E+00	5.5090E+00	4.0292E-02	5.5485E+00	5.6472E-09	1.6149E-09	3.0950E-10	5.54864E+00
240Pu(F)	2.9091E-14	1.0550E-10	8.5608E-05	3.0933E-02	2.0515E+00	2.6937E+00	2.2971E+00	6.0714E+00	6.0796E+00	7.1265E-03	6.0806E+00	1.7073E-10	8.1347E-11	1.5294E-11	6.08103E+00
241Pu(T)	4.3553E-13	2.4547E-09	5.6316E-04	1.0806E-01	3.2450E+00	3.9027E+00	1.9842E+00	6.3808E+00	6.3811E+00	1.5972E-03	6.3827E+00	7.9521E-12	4.4245E-12	8.3183E-13	6.38474E+00
241Pu(F)	5.1498E-13	2.3301E-09	4.6998E-04	1.1371E-01	3.0998E+00	3.7855E+00	2.3865E+00	6.6853E+00	6.6860E+00	2.1008E-03	6.6880E+00	1.1760E-11	5.6031E-12	1.0534E-12	6.69054E+00
242Pu(F)	1.9401E-12	2.9150E-09	6.2301E-04	8.8715E-02	3.6374E+00	4.0260E+00	1.3537E+00	5.8243E+00	5.8246E+00	6.4689E-04	5.8254E+00	3.2518E-12	1.5493E-12	2.9128E-13	5.82616E+00
252Cf(S)	6.0562E-15	8.2962E-11	6.0245E-05	3.5035E-02	1.4512E+00	1.9915E+00	1.6300E+00	4.0758E+00	4.0778E+00	5.8289E-03	4.0835E+00	1.3618E-10	7.5677E-11	1.4228E-11	4.08432E+00

Table 2.7.1 Continued

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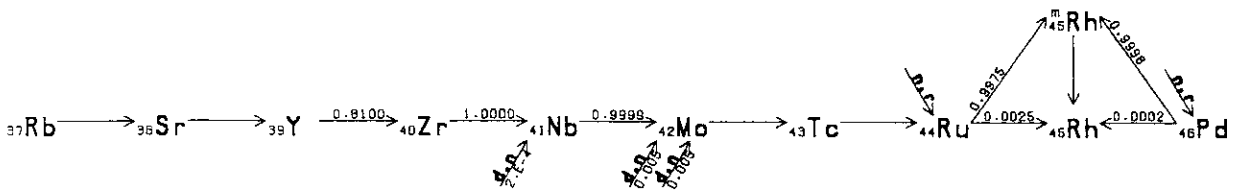
Mass No. 103



		37Rb	38Sr	39Y	40Zr	41Nb	42Mo	43Tc	44Ru	45Rh	m45Rh	46Pd	Mass Yield
	λ(1/sec)	5.9909E+00	2.4791E+00	6.8970E-01	5.3319E-01	4.6210E-01	1.0269E-02	1.2789E-02	2.0346E-07	0.0	2.0268E-04	4.6843E-07	
	Q-value(MeV)	1.2740E+01	1.0850E+01	8.5530E+00	6.8740E+00	5.2000E+00	4.3000E+00	2.3500E+00	7.5290E-01	0.0	3.8750E-02	5.4600E-01	
	E-beta (MeV)	4.3620E+00	3.5940E+00	3.0340E+00	2.4570E+00	2.1110E+00	1.1440E+00	7.0399E-01	7.2135E-02	0.0	0.0	0.0	
	E-gamma(MeV)	3.5020E+00	2.9490E+00	1.9810E+00	1.4670E+00	9.8200E-01	1.1340E+00	5.5265E-01	4.7010E-01	0.0	2.7825E-05	1.1656E-04	
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9722E-02	0.0	
	Spin								5/2+	1/2-	7/2+	5/2+	
Cumulative yield	232Th(F)	1.7527E-11	1.1245E-06	1.6164E-03	6.6954E-02	1.3493E-01	1.5237E-01	1.5246E-01	1.5246E-01	1.5246E-01	1.5208E-01	1.3082E-18	1.52509E-01
	232Th(H)	8.8026E-12	7.7931E-07	4.4621E-03	2.0475E-01	7.9104E-01	9.5126E-01	9.5405E-01	9.5405E-01	9.5405E-01	9.5167E-01	7.4168E-17	9.52091E-01
	233U (T)	5.4216E-12	9.1882E-09	3.6165E-04	9.0173E-02	7.8131E-01	1.6282E+00	1.6694E+00	1.6696E+00	1.6696E+00	1.6655E+00	1.0006E-13	1.66874E+00
	233U (F)	1.3658E-12	1.1751E-08	4.6701E-04	9.8455E-02	8.9623E-01	1.7290E+00	1.7718E+00	1.7720E+00	1.7720E+00	1.7675E+00	4.7377E-13	1.77073E+00
	233U (H)	1.2435E-12	9.8119E-09	5.6000E-04	1.0500E-01	1.2398E+00	2.2735E+00	2.3448E+00	2.3451E+00	2.3451E+00	2.3393E+00	9.2173E-13	2.34281E+00
	235U (T)	3.6872E-10	3.6902E-07	8.0037E-02	6.0613E-01	2.2273E+00	2.9533E+00	3.0274E+00	3.0274E+00	3.0274E+00	3.0199E+00	2.8230E-15	3.03934E+00
	235U (F)	3.2990E-10	1.3736E-06	8.9100E-03	6.3504E-01	2.5015E+00	3.2615E+00	3.2749E+00	3.2749E+00	3.2749E+00	3.2667E+00	3.8203E-15	3.27239E+00
	235U (H)	2.2464E-11	5.6941E-08	1.7521E-03	2.2743E-01	1.9847E+00	3.1504E+00	3.2178E+00	3.2180E+00	3.2180E+00	3.2098E+00	8.3949E-14	3.21496E+00
	236U (F)	2.7136E-11	3.2198E-06	1.5678E-02	9.6560E-01	3.3357E+00	4.1907E+00	4.2030E+00	4.2030E+00	4.2030E+00	4.1925E+00	2.0609E-15	4.19790E+00
	238U (F)	1.5322E-09	7.6669E-05	8.7046E-02	3.0450E+00	5.6337E+00	6.2070E+00	6.2096E+00	6.2096E+00	6.2096E+00	6.1940E+00	1.9001E-17	6.21040E+00
	238U (H)	2.7006E-10	1.3949E-05	4.4239E-02	1.3604E+00	4.1025E+00	4.6192E+00	4.6250E+00	4.6250E+00	4.6250E+00	4.6134E+00	1.7048E-16	4.62192E+00
	237Np(F)	7.4731E-11	3.1552E-07	6.0301E-03	5.5992E-01	3.8953E+00	5.5211E+00	5.5830E+00	5.5831E+00	5.5831E+00	5.5692E+00	6.9322E-14	5.57686E+00
	239Pu(T)	1.3622E-11	6.9146E-08	2.2347E-03	4.4749E-01	3.6155E+00	6.8063E+00	6.9494E+00	6.9500E+00	6.9500E+00	6.9326E+00	7.1111E-13	6.94365E+00
	239Pu(F)	2.1953E-11	1.1915E-07	3.2290E-03	5.1379E-01	3.9302E+00	6.7163E+00	6.8337E+00	6.8341E+00	6.8341E+00	6.8170E+00	4.1585E-13	6.82487E+00
	239Pu(H)	1.7589E-12	8.1899E-09	7.0404E-04	1.6889E-01	2.4553E+00	5.0141E+00	5.2339E+00	5.2351E+00	5.2351E+00	5.2220E+00	3.8602E-12	5.22976E+00
	240Pu(F)	8.4450E-11	3.5267E-07	5.0965E-03	7.6212E-01	4.0467E+00	6.6411E+00	6.7117E+00	6.7119E+00	6.7119E+00	6.6951E+00	9.1190E-14	6.70476E+00
	241Pu(T)	3.0936E-11	4.1817E-06	2.0266E-02	1.3955E+00	4.7474E+00	6.1249E+00	6.1440E+00	6.1440E+00	6.1440E+00	6.1287E+00	4.8242E-15	6.13208E+00
	241Pu(F)	1.0807E-09	3.5778E-06	2.0199E-02	1.3088E+00	4.9437E+00	6.3963E+00	6.4188E+00	6.4189E+00	6.4189E+00	6.4028E+00	3.9201E-15	6.40564E+00
	242Pu(F)	4.6451E-11	7.0266E-06	2.1690E-02	1.7207E+00	4.5378E+00	5.8643E+00	5.8768E+00	5.8768E+00	5.8768E+00	5.8621E+00	1.0907E-15	5.86903E+00
	252Cf(S)	4.0519E-11	2.5086E-07	4.9555E-03	5.3886E-01	3.7237E+00	5.5670E+00	5.6352E+00	5.6354E+00	5.6354E+00	5.6213E+00	1.4180E-13	5.62508E+00

Table 2.7.1 Continued

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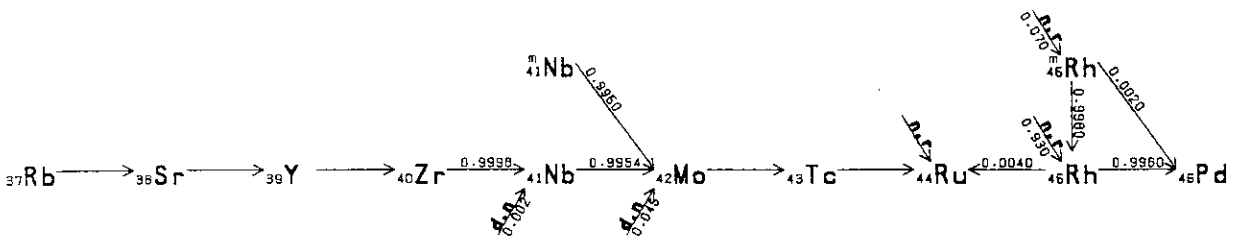
Mass No. 104



		37Rb	38Sr	39Y	40Zr	41Nb	m41Nb	42Mo	43Tc	44Ru	45Rh	m45Rh	46Pd	Mass Yield
	λ(1/sec)	4.2787E+01	2.6455E+00	1.2270E+00	5.7762E-01	1.4441E-01	8.6643E-01	1.1669E-02	6.3475E-04	0.0	1.6387E-02	2.6619E-03	0.0	
	Q-value(MeV)	1.5552E+01	9.2190E+00	1.1253E+01	4.8480E+00	8.8990E+00	8.8990E+00	2.2000E+00	5.4000E+00	0.0	2.4480E+00	5.5770E+00	0.0	
	E-beta (MeV)	4.8140E+00	3.4300E+00	3.4940E+00	1.7420E+00	2.5100E+00	3.1250E+00	6.2290E-01	1.4031E+00	0.0	9.9119E-01	5.7298E-04	0.0	
	E-gamma(MeV)	5.3890E+00	1.8520E+00	3.7500E+00	6.9440E-01	3.3760E+00	2.1340E+00	5.8470E-01	2.1305E+00	0.0	1.1114E-02	3.1329E-02	0.0	
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.9181E-02	0.0	
	Spin					6+	1+		3+		1+	5+		
Cumulative yield	232Th(F)	5.2813E-12	2.5106E-07	1.3528E-04	2.0012E-02	4.7929E-02	1.0241E-02	9.0653E-02	9.1022E-02	9.1023E-02	3.5963E-11	2.7985E-11	3.5875E-11	9.04622E-02
	232Th(H)	1.0460E-11	2.7100E-07	6.0726E-04	7.5642E-02	5.2009E-01	9.6399E-02	9.7813E-01	9.9406E-01	9.9410E-01	5.6255E-09	4.7885E-09	5.5126E-09	9.81607E-01
	233U (T)	2.5909E-14	2.2091E-09	1.4196E-05	1.2134E-02	1.5763E-01	6.2124E-02	9.5188E-01	1.0291E+00	1.0305E+00	5.3198E-07	4.0015E-07	5.3068E-07	1.02981E+00
	233U (F)	5.7283E-15	2.8300E-09	2.0803E-05	1.4633E-02	2.2509E-01	7.7181E-02	1.1389E+00	1.2403E+00	1.2419E+00	6.5798E-07	5.1202E-07	6.5640E-07	1.23969E+00
	233U (H)	6.7164E-15	2.9200E-09	3.2203E-05	1.8202E-02	4.5258E-01	9.6173E-02	1.7737E+00	1.9922E+00	1.9950E+00	1.7031E-06	1.4497E-06	1.6992E-06	1.99078E+00
	235U (T)	2.4802E-12	1.0798E-07	2.8504E-04	1.1318E-01	5.5568E-01	1.6886E-01	1.7846E+00	1.8392E+00	1.8397E+00	7.3772E-08	5.6490E-08	7.3590E-08	1.83140E+00
	235U (F)	2.5822E-12	2.5788E-07	5.6401E-04	1.2413E-01	7.2744E-01	2.2132E-01	2.2427E+00	2.2817E+00	2.2820E+00	2.9301E-08	2.2801E-08	2.9230E-08	2.27425E+00
	235U (H)	1.2062E-13	1.2201E-08	9.0817E-05	3.5216E-02	5.2775E-01	1.3119E-01	1.9804E+00	2.1373E+00	2.1387E+00	5.7665E-07	4.9085E-07	5.7534E-07	2.13336E+00
	236U (F)	8.2430E-12	8.2899E-07	1.4248E-03	2.7756E-01	1.3841E+00	4.0591E-01	3.3257E+00	3.3779E+00	3.3781E+00	2.2255E-08	1.7318E-08	2.2201E-08	3.35496E+00
	238U (F)	6.1804E-10	2.4128E-05	1.0667E-02	1.3199E+00	2.8728E+00	5.6958E-01	5.0087E+00	5.0232E+00	5.0233E+00	9.5463E-10	7.4288E-10	9.5230E-10	4.95225E+00
	239U (H)	6.9693E-11	3.1305E-06	4.7539E-03	4.1324E-01	2.1557E+00	3.8576E-01	3.5936E+00	3.6257E+00	3.6258E+00	5.3328E-09	4.5394E-09	5.3205E-09	3.57530E+00
	237Np(F)	5.7388E-13	8.0601E-08	4.3209E-04	1.1397E-01	1.4008E+00	4.7207E-01	4.0127E+00	4.2213E+00	4.2226E+00	3.7882E-07	2.9478E-07	3.7789E-07	4.20491E+00
	239Pu(T)	8.8788E-14	2.2007E-08	1.3206E-04	8.7572E-02	1.0870E+00	4.2573E-01	5.5170E+00	5.9208E+00	5.9263E+00	1.8378E-06	1.3824E-06	1.8333E-06	5.90919E+00
	239Pu(F)	1.7044E-13	4.4814E-08	2.5612E-04	1.2909E-01	1.6222E+00	5.4774E-01	6.1174E+00	6.5357E+00	6.5402E+00	1.4592E-06	1.1366E-06	1.4556E-06	6.52044E+00
	239Pu(H)	1.1355E-14	2.8602E-09	4.2105E-05	3.1591E-02	1.0115E+00	2.1698E-01	4.7188E+00	5.5110E+00	5.5242E+00	1.0742E-05	9.1441E-06	1.0718E-05	5.51721E+00
	240Pu(F)	6.2829E-13	1.0701E-07	9.4314E-04	1.7840E-01	1.3735E+00	4.3640E-01	5.6932E+00	5.9166E+00	5.9193E+00	4.7930E-07	3.7297E-07	4.7814E-07	5.89434E+00
	241Pu(T)	1.0950E-11	1.5104E-06	2.4762E-03	5.5984E-01	2.6809E+00	8.6292E-01	6.8008E+00	6.9092E+00	6.9098E+00	5.1137E-08	3.8464E-08	5.1010E-08	6.85388E+00
	241Pu(F)	1.4396E-11	1.2499E-06	2.5291E-03	5.0892E-01	2.9609E+00	8.5279E-01	7.0393E+00	7.1645E+00	7.1651E+00	6.8090E-08	5.2985E-08	6.7924E-08	7.10429E+00
	242Pu(F)	2.7564E-11	2.3300E-06	2.1704E-03	6.5648E-01	2.0978E+00	5.2794E-01	5.7834E+00	5.8419E+00	5.8423E+00	2.0987E-08	1.6332E-08	2.0936E-08	5.79243E+00
	252Cf(S)	4.5457E-13	1.0191E-07	5.1264E-04	1.6042E-01	1.7741E+00	6.8897E-01	5.9693E+00	6.2671E+00	6.2692E+00	6.0155E-07	4.5247E-07	6.0006E-07	6.23161E+00

Table 2.7.1 Continued

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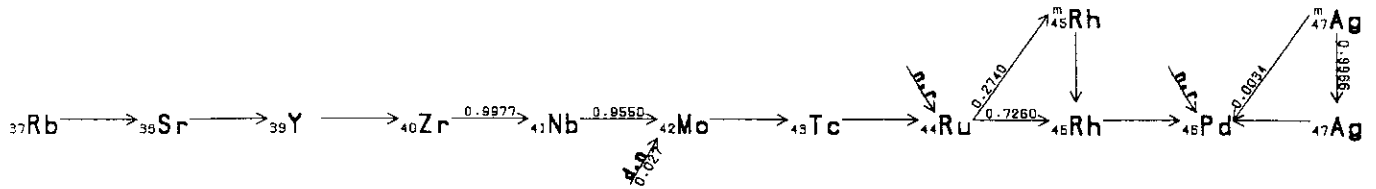
Mass No. 105



	37Rb	38Sr	39Y	40Zr	41Nb	42Mo	43Tc	44Ru	45Rh	m45Rh	46Pd	47Ag	m47Ag	Mass Yield
λ(1/sec)	4.0299E+01	4.5452E+00	1.2505E+00	3.5896E-01	2.4755E-01	1.6887E-02	1.4811E-03	4.3365E-05	5.4452E-06	1.5403E-02	0.0	1.9430E-07	1.5979E-03	
Q-value(MeV)	1.3966E+01	1.2076E+01	9.5310E+00	7.5870E+00	6.9040E+00	5.4000E+00	3.4000E+00	1.9177E+00	5.5690E-01	1.2951E-01	0.0	1.3480E+00	1.3735E+00	
E-beta (MeV)	4.6720E+00	4.0830E+00	3.3250E+00	2.6520E+00	2.4990E+00	1.7411E+00	1.1819E+00	4.1439E-01	1.5154E-01	0.0	0.0	0.0	1.0021E-06	
E-gamma(MeV)	4.0870E+00	3.3880E+00	2.3720E+00	1.7540E+00	1.4040E+00	1.4361E+00	5.3022E-01	7.5786E-01	8.0623E-02	2.5922E-02	0.0	5.5366E-01	1.3368E-03	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0369E-01	0.0	9.7250E-03	2.5383E-02	
Spin								3/2+	7/2+	1/2-	5/2+	1/2-	7/2+	
Cumulative yield: 232Th(F)	2.4986E-14	1.7210E-10	1.3368E-06	2.3056E-03	1.8472E-02	4.4527E-02	4.5713E-02	4.5722E-02	4.5722E-02	1.2528E-02	4.5722E-02	4.1499E-21	3.5733E-21	4.53846E-02
232Th(H)	5.8958E-14	2.0426E-10	6.6729E-06	1.5333E-02	3.4130E-01	8.8332E-01	9.5742E-01	9.5809E-01	9.5809E-01	2.5252E-01	9.5809E-01	2.2694E-18	2.1015E-18	9.69356E-01
233U (T)	3.8643E-17	3.3404E-11	2.3419E-08	5.0075E-04	3.9402E-02	3.5221E-01	4.7839E-01	4.8220E-01	4.8220E-01	1.3212E-01	4.8220E-01	7.9636E-16	5.9283E-16	4.83653E-01
233U (F)	1.2748E-17	1.4324E-11	5.2413E-08	1.1490E-03	8.1514E-02	6.5304E-01	8.8564E-01	8.9668E-01	8.9668E-01	2.4569E-01	8.9668E-01	8.7403E-15	7.7365E-15	9.00192E-01
233U (H)	1.1364E-17	1.2596E-11	5.4867E-08	1.4510E-03	1.5014E-01	1.1734E+00	1.7882E+00	1.8125E+00	1.8126E+00	4.9563E-01	1.8126E+00	4.7182E-14	4.3692E-14	1.81871E+00
235U (T)	5.9408E-15	1.2730E-11	6.5248E-07	8.8807E-02	2.5871E-01	9.3396E-01	9.6116E-01	9.6384E-01	9.6384E-01	2.6409E-01	9.6384E-01	1.8792E-17	1.6349E-17	9.76293E-01
235U (F)	5.7489E-15	7.2298E-11	2.6121E-06	1.1103E-02	2.7012E-01	1.0950E+00	1.2032E+00	1.2048E+00	1.2048E+00	3.3013E-01	1.2048E+00	3.6819E-17	3.2590E-17	1.21587E+00
235U (H)	2.6087E-15	1.5234E-10	3.8834E-07	2.8021E-03	1.9571E-01	1.1324E+00	1.8752E+00	1.8861E+00	1.8861E+00	5.1678E-01	1.8861E+00	2.8157E-15	2.6074E-15	1.89364E+00
236U (F)	2.8093E-14	3.4767E-10	1.0457E-05	3.5506E-02	7.0009E-01	2.2867E+00	2.4545E+00	2.4569E+00	2.4569E+00	6.7320E-01	2.4569E+00	2.8314E-17	2.5062E-17	2.48604E+00
238U (F)	3.8368E-12	2.5286E-08	1.6075E-04	2.3711E-01	1.7069E+00	3.8530E+00	3.9387E+00	3.9393E+00	3.9393E+00	1.0794E+00	3.9393E+00	1.7631E-19	1.5617E-19	4.00613E+00
238U (H)	2.9010E-13	2.4867E-09	5.2368E-05	8.1825E-02	1.3828E+00	3.0283E+00	3.1997E+00	3.2009E+00	3.2009E+00	8.7704E-01	3.2009E+00	4.8672E-18	4.5072E-18	3.25211E+00
237Np(F)	1.4255E-15	6.3435E-10	1.5162E-06	1.1397E-02	5.8852E-01	2.5957E+00	3.1538E+00	3.1663E+00	3.1663E+00	8.6756E-01	3.1663E+00	1.5397E-15	1.3628E-15	3.16964E+00
239Pu(T)	2.4156E-16	2.2211E-10	4.7813E-07	8.9729E-03	5.3781E-01	4.1254E+00	5.3073E+00	5.3513E+00	5.3514E+00	1.4663E+00	5.3514E+00	1.6779E-14	1.4698E-14	5.37328E+00
239Pu(F)	4.1773E-16	3.2104E-10	8.6910E-07	1.1954E-02	6.6530E-01	4.2502E+00	5.3540E+00	5.3913E+00	5.3913E+00	1.4772E+00	5.3913E+00	1.1216E-14	9.9282E-15	5.41783E+00
239Pu(H)	1.5538E-17	1.9190E-11	6.4308E-08	2.2071E-03	2.8253E-01	2.6251E+00	4.1502E+00	4.2317E+00	4.2319E+00	1.1595E+00	4.2319E+00	1.7602E-13	1.6300E-13	4.24353E+00
240Pu(F)	2.1277E-15	1.3764E-09	1.7321E-06	2.0220E-02	7.4289E-01	4.6806E+00	5.5059E+00	5.5327E+00	5.5327E+00	1.5160E+00	5.5327E+00	1.8230E-15	1.6136E-15	5.66172E+00
241Pu(T)	4.4660E-14	7.1139E-10	2.1630E-05	8.2634E-02	1.6000E+00	5.6255E+00	6.1007E+00	6.1073E+00	6.1074E+00	1.6734E+00	6.1074E+00	1.0387E-16	9.0362E-17	6.16567E+00
241Pu(F)	5.7399E-14	5.9005E-10	2.1132E-05	7.7806E-02	1.7371E+00	5.8218E+00	6.3688E+00	6.3762E+00	6.3763E+00	1.7471E+00	6.3763E+00	1.0061E-16	8.9057E-17	6.44012E+00
242Pu(F)	1.4553E-13	1.2515E-09	2.4119E-05	1.0320E-01	1.3794E+00	5.3281E+00	5.6370E+00	5.6422E+00	5.6422E+00	1.5460E+00	5.6422E+00	1.6181E-17	1.4322E-17	5.69468E+00
252Cf(S)	1.9298E-15	8.7512E-10	3.0532E-06	2.3061E-02	1.0934E+00	5.1053E+00	6.2694E-00	6.2940E+00	6.2940E+00	1.7246E+00	6.2940E+00	4.7666E-15	4.1469E-15	6.33436E+00

Table 2.7.1 Continued

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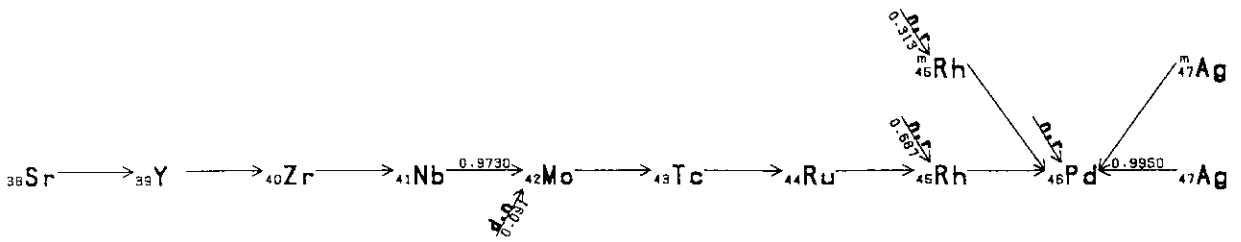
Mass No. 106



	38Sr	39Y	40Zr	41Nb	42Mo	43Tc	44Ru	45Rh	m45Rh	46Pd	47Ag	m47Ag	Mass Yield
λ(1/sec)	2.1068E+01	2.1698E+00	2.8536E-01	6.9315E-01	8.2517E-02	1.9254E-02	2.1587E-08	2.2801E-02	8.7519E-05	0.0	4.8215E-04	9.5393E-07	
Q-value(MeV)	1.0493E+01	1.2332E+01	5.8500E+00	9.6940E+00	3.6540E+00	6.3000E+00	3.9400E-02	3.5410E+00	3.5790E+00	0.0	2.0200E-01	3.0710E+00	
E-beta (MeV)	3.8190E+00	3.8190E+00	2.1360E+00	3.3190E+00	1.2320E+00	1.6916E+00	1.0047E-02	1.4211E+00	3.1618E-01	0.0	5.0768E-01	0.0	
E-gamma(MeV)	2.3260E+00	4.1870E+00	1.0910E+00	2.5490E+00	7.4590E-01	2.9330E+00	0.0	1.9721E-01	2.9171E+00	0.0	7.0339E-01	2.8083E+00	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	5.4425E-03	0.0	0.0	0.0	0.0	0.0	0.0	
Spin								1+	6+		1+	6+	
Cumulative yield: 232Th(F)	1.4873E-12	4.1521E-08	3.9710E-04	6.4536E-03	4.1269E-02	4.4482E-02	4.4586E-02	4.4586E-02	2.4735E-06	4.4585E-02	3.5198E-19	9.5949E-19	4.44938E-02
232Th(H)	1.2343E-10	1.9658E-07	2.3490E-03	1.5288E-01	8.4641E-01	1.0894E+00	1.0967E+00	1.0967E+00	8.2038E-06	1.0967E+00	1.9575E-16	8.6414E-16	1.09788E+00
233U (T)	1.1035E-13	9.9683E-11	2.3090E-05	4.2873E-03	1.3227E-01	2.3865E-01	2.5879E-01	2.5879E-01	1.8073E-05	2.5881E-01	3.5875E-14	6.4023E-14	2.58906E-01
233U (F)	2.3386E-14	1.3160E-10	2.7700E-05	5.9048E-03	1.5090E-01	2.7043E-01	2.9207E-01	2.9209E-01	7.0968E-05	2.9216E-01	1.9395E-13	5.2872E-13	2.92290E-01
233U (H)	3.4876E-14	3.4306E-10	6.3001E-05	2.2537E-02	5.1574E-01	1.3129E+00	1.4183E+00	1.4185E+00	7.3566E-04	1.4192E+00	1.3722E-12	6.1978E-12	1.41961E+00
235U (T)	8.1540E-12	2.2585E-09	1.8996E-04	1.4723E-02	3.6997E-01	3.9275E-01	4.0231E-01	4.0231E-01	1.2107E-05	4.0232E-01	7.9333E-16	1.8580E-16	4.02534E-01
235U (F)	7.8320E-12	2.2738E-08	6.3871E-04	4.2719E-02	4.1815E-01	5.5205E-01	5.5937E-01	5.5937E-01	8.0586E-06	5.5938E-01	1.6347E-15	4.4563E-15	5.60025E-01
235U (H)	6.6607E-13	2.1647E-09	2.0501E-04	4.7571E-02	7.4609E-01	1.5008E+00	1.5715E+00	1.5715E+00	3.0468E-04	1.5719E+00	1.8853E-13	8.5153E-13	1.57276E+00
235U (F)	3.3063E-11	7.6800E-08	1.6890E-03	9.1640E-02	7.9946E-01	1.0084E+00	1.0185E+00	1.0185E+00	8.8232E-06	1.0185E+00	1.0964E-15	2.9888E-15	1.01903E+00
238U (F)	1.1586E-10	2.9501E-06	2.5751E-02	3.9096E-01	2.3555E+00	2.5259E+00	2.5311E+00	2.5311E+00	1.1251E-05	2.5311E+00	1.4150E-17	3.8573E-17	2.53484E+00
238U (H)	3.0119E-10	9.5054E-07	7.8773E-03	4.1353E-01	1.9785E+00	2.4463E+00	2.4570E+00	2.4570E+00	9.7937E-06	2.4570E+00	3.9501E-16	1.7841E-15	2.46151E+00
237Np(F)	3.1221E-12	1.8345E-08	7.4601E-04	1.1635E-01	1.2244E+00	2.1917E+00	2.2441E+00	2.2441E+00	1.7705E-04	2.2443E+00	8.8495E-14	2.4124E-13	2.24610E+00
239Pu(T)	1.1501E-12	3.5935E-09	5.0216E-04	8.5498E-02	2.0302E+00	3.7391E+00	4.2851E+00	4.2852E+00	3.3368E-04	4.2856E+00	1.2092E-12	2.8321E-12	4.28687E+00
239Pu(F)	1.6591E-12	7.4431E-09	7.9124E-04	1.2936E-01	2.4028E+00	4.1604E+00	4.3581E+00	4.3583E+00	5.3424E-04	4.3585E+00	4.0270E-13	1.0978E-12	4.36112E+00
239Pu(H)	6.2219E-14	3.4498E-10	9.3205E-05	4.1564E-02	1.1567E+00	3.2289E+00	3.5804E+00	3.5810E+00	2.8297E-03	3.5838E+00	8.3334E-12	3.7639E-11	3.58466E+00
240Pu(F)	9.5614E-12	1.7697E-08	1.7142E-03	1.6464E-01	3.3105E+00	4.7961E+00	4.9759E+00	4.9760E+00	2.9121E-04	4.9763E+00	1.2370E-13	3.3719E-13	4.97844E+00
241Pu(T)	1.4196E-10	4.0794E-07	1.0257E-02	5.1375E-01	4.9748E+00	6.1847E+00	6.2504E+00	6.2505E+00	5.0190E-05	6.2505E+00	1.1030E-14	2.5832E-14	6.25427E+00
241Pu(F)	1.4525E-10	3.7952E-07	8.7266E-03	5.3633E-01	4.6899E+00	6.0429E+00	6.1091E+00	6.1091E+00	6.1453E-05	6.1092E+00	9.7160E-15	2.6466E-14	6.11468E+00
242Pu(F)	4.4732E-10	3.9542E-07	1.2483E-02	3.6353E-01	4.6124E+00	5.2837E-00	5.3330E+00	5.3330E+00	2.2680E-05	5.3331E+00	1.4144E-15	3.8557E-15	5.33332E+00
252Cf(S)	7.2800E-12	4.9015E-08	2.3279E-03	3.2924E-01	3.9348E+00	6.7847E+00	6.9561E+00	6.9563E+00	4.2429E-04	6.9567E+00	4.0739E-13	9.5413E-13	6.96047E+00

Table 2.7.1 Continued

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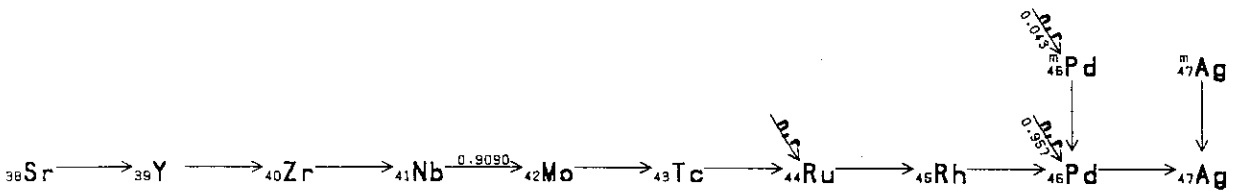
Mass No. 107



	38Sr	39Y	40Zr	41Nb	42Mo	43Tc	44Ru	45Rh	46Pd	46mPd	47Ag	47mAg	Mass Yield
λ(1/sec)	3.1364E+01	2.3190E+00	7.4922E-01	4.7672E-01	1.9804E-01	3.3007E-02	2.7506E-03	5.3237E-04	3.3792E-15	3.2542E-02	0.0	1.5647E-02	
Q-value(MeV)	1.3586E+01	1.0652E+01	8.6720E+00	7.9540E+00	6.5260E+00	4.2000E+00	3.1500E+00	1.5100E+00	3.3100E-02	2.1400E-01	0.0	9.3100E-02	
E-beta (MeV)	4.5040E+00	3.6670E+00	2.9820E+00	2.8150E+00	2.3170E+00	1.1582E+00	1.0561E+00	4.3375E-01	8.4130E-03	0.0	0.0	0.0	
E-gamma(MeV)	4.0360E+00	2.6010E+00	2.2010E+00	1.8160E+00	1.3930E+00	1.4147E+00	5.9519E-01	3.1240E-01	0.0	1.4552E-01	0.0	4.2826E-03	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.8480E-02	0.0	8.8617E-02	
Spin								5/2+	5/2+	11/2-	1/2-	7/2+	
Cumulative yield													
232Th(F)	5.7776E-13	1.0293E-09	1.0324E-05	2.9277E-03	3.8475E-02	5.0741E-02	5.1677E-02	5.1679E-02	5.1679E-02	1.9922E-10	5.1679E-02	5.0993E-16	5.19450E-02
232Th(H)	6.3789E-13	1.5948E-09	2.7268E-05	9.2030E-02	4.8594E-01	9.7052E-01	1.0143E+00	1.0145E+00	1.0145E+00	4.8614E-08	1.0145E+00	3.1215E-13	1.01742E+00
233U (T)	1.1608E-16	2.1392E-13	3.6819E-08	2.5190E-04	2.1815E-02	8.5529E-02	1.1679E-01	1.1734E-01	1.1734E-01	6.8568E-07	1.1734E-01	4.1264E-11	1.17367E-01
233U (F)	2.2551E-17	3.2837E-13	4.9077E-08	3.5800E-04	2.6998E-02	1.1260E-01	1.4925E-01	1.4995E-01	1.4995E-01	7.9589E-07	1.4995E-01	5.0047E-11	1.49984E-01
233U (H)	5.0804E-17	1.0718E-12	1.6829E-07	2.2740E-03	1.8042E-01	1.0676E+00	1.4548E+00	1.4666E+00	1.4666E+00	1.6244E-05	1.4666E+00	1.5250E-09	1.45579E+00
235U (T)	1.1810E-14	5.8852E-12	1.1635E-06	2.0525E-03	1.0303E-01	1.2053E-01	1.4014E-01	1.4028E-01	1.4028E-01	5.7423E-08	1.4028E-01	1.1521E-12	1.40467E-01
235U (F)	1.7785E-14	1.0867E-10	3.8211E-06	5.5075E-03	1.4295E-01	3.0228E-01	3.2687E-01	3.2702E-01	3.2702E-01	4.9462E-08	3.2702E-01	1.0346E-12	3.27525E-01
235U (H)	1.1909E-15	7.1942E-12	6.9564E-07	4.8092E-03	2.4600E-01	1.0532E+00	1.2793E+00	1.2840E+00	1.2840E+00	4.0199E-06	1.2840E+00	2.1279E-10	1.28444E+00
236U (F)	1.3852E-13	7.0365E-10	1.8921E-05	2.0993E-02	4.5544E-01	8.6833E-01	9.2256E-01	9.2282E-01	9.2282E-01	7.1408E-08	9.2282E-01	1.1100E-12	9.24726E-01
238U (F)	1.4839E-11	2.7036E-08	2.6837E-04	7.4587E-02	9.7093E-01	1.2730E+00	1.2961E+00	1.2961E+00	1.2961E+00	4.6653E-09	1.2961E+00	1.4868E-14	1.30291E+00
238U (H)	1.0744E-12	6.6439E-09	8.2437E-05	7.3471E-02	9.2019E-01	1.6672E+00	1.7223E+00	1.7225E+00	1.7225E+00	3.9259E-08	1.7225E+00	5.3542E-13	1.72921E+00
237Np(F)	7.3240E-15	7.9070E-11	4.2497E-06	1.4926E-02	4.7084E-01	1.4975E+00	1.6900E+00	1.6924E+00	1.6924E+00	1.0571E-06	1.6924E+00	4.0516E-11	1.69379E+00
239Pu(T)	2.2761E-15	1.6290E-11	2.0972E-06	1.1111E-02	7.3508E-01	2.6269E+00	3.3499E+00	3.3610E+00	3.3610E+00	1.0335E-05	3.3610E+00	5.2661E-10	3.36202E+00
239Pu(F)	3.0013E-15	2.6405E-11	2.7288E-06	1.3082E-02	7.1229E-01	2.4845E+00	3.0444E+00	3.0526E+00	3.0526E+00	6.5662E-06	3.0526E+00	3.0694E-10	3.05384E+00
239Pu(H)	7.8637E-17	1.0395E-12	1.8795E-07	3.2712E-03	3.0264E-01	2.0157E+00	2.8710E+00	2.9011E+00	2.9012E+00	4.9088E-05	2.9012E+00	5.4384E-09	2.90149E+00
240Pu(F)	2.4597E-14	1.0201E-10	9.4049E-06	2.5658E-02	1.3252E+00	3.4803E+00	4.1445E+00	4.1507E+00	4.1507E+00	4.5709E-05	4.1507E+00	1.3230E-10	4.15307E+00
241Pu(T)	4.9908E-13	3.5225E-09	1.0427E-04	1.1110E-01	2.5126E+00	4.8767E+00	5.1985E+00	5.2011E+00	5.2011E+00	4.2110E-07	5.2011E+00	5.0151E-12	5.21121E+00
241Pu(F)	4.7865E-13	2.5661E-09	7.6058E-05	9.8815E-02	2.2438E+00	4.5441E+00	4.8601E+00	4.8618E+00	4.8618E+00	5.0582E-07	4.8618E+00	6.0656E-12	4.87084E+00
242Pu(F)	2.0002E-12	4.3913E-09	1.4672E-04	1.0501E-01	2.9250E+00	4.7082E+00	5.0123E+00	5.0132E+00	5.0132E+00	3.3746E-07	5.0132E+00	2.6828E-12	5.02277E+00
252Cf(S)	2.2769E-14	3.0217E-10	1.7511E-05	5.6352E-02	1.9086E+00	5.7340E+00	6.5022E+00	6.5109E+00	6.5109E+00	3.9617E-06	6.5109E+00	1.4343E-10	5.51503E+00

Table 2.7.1 Continued

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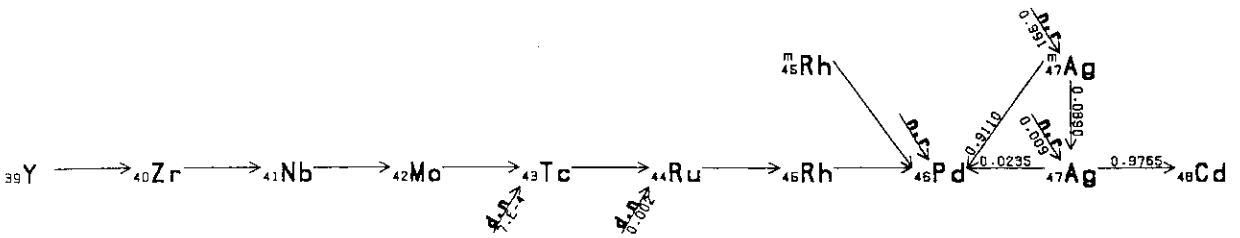
Mass No. 108



		39Y	40Zr	41Nb	42Mo	43Tc	44Ru	45Rh	45mRh	46Pd	47Ag	47mAg	48Cd	Mass Yield
	λ(1/sec)	1.5134E+01	6.8833E-01	1.0822E+00	4.6210E-01	1.3863E-01	2.5672E-03	4.1259E-02	1.9254E-03	0.0	4.8745E-03	1.7295E-10	0.0	
	Q-value(MeV)	1.3672E+01	6.9710E+00	1.0809E+01	4.8160E+00	7.6770E+00	1.2000E+00	4.5000E+00	4.5000E+00	0.0	1.6490E+00	2.0306E+00	0.0	
	E-beta (MeV)	4.2100E+00	2.5670E+00	3.5870E+00	1.5938E+00	2.2490E+00	4.1399E-01	1.3904E+00	5.3450E-01	0.0	6.1039E-01	0.0	0.0	
	E-gamma(MeV)	4.7140E+00	1.3390E+00	3.1060E+00	1.1523E+00	2.9930E+00	4.9485E-02	1.2493E+00	2.8541E+00	0.0	1.7672E-02	1.6125E+00	0.0	
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3670E-03	0.0	
	Spin							1+	6+		1+	6+		
Cumulative yield	232Th(F)	1.2516E-12	1.1503E-06	3.1123E-04	2.4183E-02	4.9898E-02	6.1994E-02	6.2013E-02	5.3128E-05	6.2066E-02	5.6042E-13	1.2733E-12	5.6679E-13	6.20079E-02
	232Th(H)	9.2013E-11	1.4300E-06	1.6495E-03	1.3821E-01	7.5705E-01	1.0133E+00	1.0146E+00	5.8180E-03	1.0205E+00	2.1424E-10	6.9020E-10	2.0921E-10	1.01960E+00
	233U (T)	6.3814E-15	4.9280E-10	2.1896E-06	1.3116E-03	1.7455E-02	5.9792E-02	6.0771E-02	2.2920E-03	6.3107E-02	4.0119E-09	7.7754E-09	3.9177E-09	6.30997E-02
	233U (F)	2.9297E-15	9.0601E-10	4.6110E-06	2.2656E-03	3.4303E-02	1.0356E-01	1.0521E-01	4.5039E-03	1.0978E-01	6.5697E-09	1.4412E-08	6.4161E-09	1.09768E-01
	233U (H)	1.1379E-14	3.7100E-09	3.5104E-05	1.7100E-02	4.5123E-01	1.3336E+00	1.3587E+00	1.1377E-01	1.4740E+00	2.0509E-07	6.6072E-07	2.0029E-07	1.47377E+00
	235U (T)	6.0219E-13	1.1997E-08	1.9908E-05	5.0958E-03	3.1542E-02	6.5806E-02	6.6142E-02	7.8891E-04	6.6936E-02	2.2196E-10	4.3018E-10	2.1675E-10	6.69245E-02
	235U (F)	1.1738E-12	8.6961E-08	1.2203E-04	1.8271E-02	1.0234E-01	1.5918E-01	1.5970E-01	1.4070E-03	1.7111E-01	1.7001E-10	3.7295E-10	1.5602E-10	1.71049E-01
	235U (H)	1.9322E-13	1.5601E-08	8.8220E-05	2.6219E-02	4.4805E-01	1.0158E+00	1.0253E+00	4.7432E-02	1.0741E+00	3.1769E-08	1.0235E-07	3.1024E-08	1.07978E+00
	236U (F)	6.2968E-12	3.4200E-07	3.7334E-04	4.7282E-02	2.2155E-01	3.4209E-01	3.4283E-01	2.0119E-03	3.4465E-01	1.5774E-10	3.4605E-10	1.5404E-10	3.44763E-01
	238U (F)	1.2761E-11	1.1514E-05	3.0661E-03	2.3649E-01	4.8294E-01	5.9807E-01	5.9825E-01	4.9808E-04	5.9875E-01	5.2754E-12	1.1573E-11	5.1515E-12	5.98495E-01
	238U (H)	9.9826E-11	3.0605E-06	3.2365E-03	2.0041E-01	9.5422E-01	1.2195E+00	1.2206E+00	4.9738E-03	1.2256E+00	1.2175E-10	3.9224E-10	1.1889E-10	1.22454E+00
	237Np(F)	7.9318E-13	7.3001E-08	2.5508E-04	4.4641E-02	5.1810E-01	9.2441E-01	9.3178E-01	2.0090E-02	9.5198E-01	7.1702E-09	1.5730E-08	7.0020E-09	9.51798E-01
	239Pu(T)	2.5258E-13	3.9513E-08	1.5009E-04	6.3493E-02	7.5065E-01	2.0767E+00	2.1039E+00	6.3723E-02	2.1685E+00	6.7636E-08	1.9109E-07	6.6053E-08	2.16809E+00
	239Pu(F)	3.4111E-13	5.1716E-08	1.9311E-04	6.4234E-02	7.5909E-01	1.8319E+00	1.8517E+00	5.4051E-02	1.9063E+00	3.9365E-08	8.6357E-08	3.8442E-08	1.90683E+00
	239Pu(H)	1.6992E-14	2.7301E-09	3.2505E-05	1.9731E-02	6.3483E-01	2.1380E+00	2.1899E+00	2.3442E-01	2.4282E+00	6.5571E-07	2.1124E-06	6.4038E-07	2.42794E+00
	240Pu(F)	2.1658E-12	2.3002E-07	4.8128E-04	1.6599E-01	1.2102E+00	2.9602E+00	2.9789E+00	5.1161E-02	3.0307E+00	2.1646E-08	4.7486E-08	2.1139E-08	3.03013E+00
	241Pu(T)	4.1854E-11	3.6511E-06	3.8759E-03	5.5350E-01	2.4322E+00	3.8945E+00	3.9037E+00	2.1538E-02	3.9253E+00	1.9929E-09	3.8624E-09	1.9461E-09	3.92402E+00
	241Pu(F)	4.2177E-11	2.2699E-06	2.9951E-03	4.0302E-01	2.1679E+00	3.4431E+00	3.4525E+00	2.5475E-02	3.4781E+00	2.5878E-09	5.5770E-09	2.5270E-09	3.47654E+00
	242Pu(F)	1.1706E-10	6.2801E-06	3.8193E-03	7.7537E-01	2.3868E+00	4.1914E+00	4.1976E+00	1.6877E-02	4.2146E+00	1.1839E-09	2.5973E-09	1.1561E-09	4.21290E+00
	252Cf(S)	4.8256E-12	6.7539E-07	1.9549E-03	3.6125E-01	3.7562E-00	5.9172E+00	5.9549E+00	1.1182E-01	6.0774E+00	3.9377E-08	7.6916E-06	3.8453E-08	6.07494E+00

Table 2.7.1 Continued

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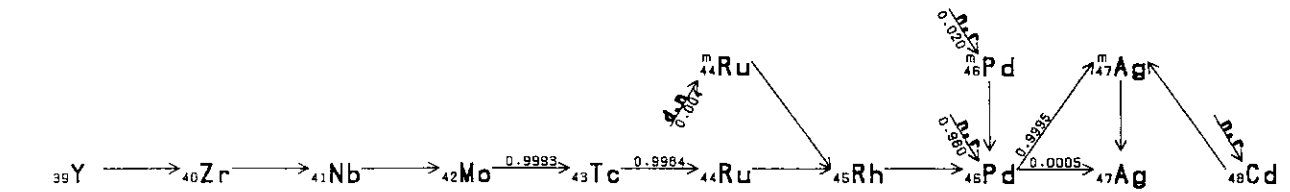
Mass No. 109



	39Y	40Zr	41Nb	42Mo	43Tc	44Ru	m44Ru	45Rh	46Pd	m46Pd	47Ag	m47Ag	48Cd	Mass Yield
λ (1/sec)	1.5576E+01	1.6496E+00	9.8823E-01	4.0253E-01	4.9510E-01	2.0091E-02	5.3732E-02	8.5643E-03	1.4305E-05	2.4632E-03	0.0	1.7504E-02	1.7702E-08	
Q-value (MeV)	1.1347E+01	9.9940E+00	9.0980E+00	7.7360E+00	5.8860E+00	4.0940E+00	4.0940E+00	2.5000E+00	1.1159E+00	1.8890E-01	0.0	8.8032E-02	1.8200E-01	
E-beta (MeV)	3.7810E+00	3.3870E+00	3.1580E+00	2.6750E+00	2.1440E+00	1.3283E+00	1.2321E+00	8.5167E-01	3.6059E-01	0.0	0.0	0.0	0.0	
E-gamma (MeV)	3.2550E+00	2.7030E+00	2.2630E+00	1.8760E+00	1.0990E+00	9.7123E-01	1.1592E+00	3.7431E-01	5.6025E-04	1.0578E-01	0.0	3.4333E-03	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3116E-02	0.0	8.4599E-02	0.0	
Spin						3/2+	11/2+	5/2+	5/2+	11/2-	1/2-	7/2+	5/2+	
Cumulative Yield														
232Th (F)	5.0668E-13	2.5325E-09	3.5909E-05	6.7065E-03	3.3682E-02	4.0604E-02	1.9648E-02	6.0922E-02	6.0924E-02	1.9427E-06	6.0924E-02	6.0894E-02	1.2974E-15	6.09104E-02
232Th (H)	5.7442E-13	1.3373E-09	1.3000E-04	3.4126E-02	5.2893E-01	6.3505E-01	4.9167E-01	1.1820E+00	1.1823E+00	2.6085E-04	1.1823E+00	1.1817E+00	1.1900E-12	1.18225E+00
233U (T)	1.4070E-17	5.4390E-14	4.8960E-08	9.2511E-05	4.7055E-03	1.3658E-02	2.1639E-02	4.3892E-02	4.4238E-02	2.2573E-04	4.4238E-02	4.4216E-02	4.8180E-11	4.42428E-02
233U (F)	4.7758E-18	1.2622E-13	1.2100E-07	1.9912E-04	1.0947E-02	2.7296E-02	4.5813E-02	9.2106E-02	9.2770E-02	4.5637E-04	9.2770E-02	9.2724E-02	7.2801E-11	9.27760E-02
233U (H)	1.6063E-17	4.3426E-13	8.5801E-07	1.6479E-03	1.5645E-01	3.3369E-01	8.1449E-01	1.6515E+00	1.6715E+00	1.5717E-02	1.6715E+00	1.6707E+00	1.2400E-09	1.67161E+00
235U (T)	1.2717E-15	2.3516E-12	5.0589E-07	3.8142E-04	7.9855E-03	1.4872E-02	1.6669E-02	3.4493E-02	3.4482E-02	3.2105E-05	3.4482E-02	3.4465E-02	1.0098E-12	3.44850E-02
235U (F)	2.9656E-15	3.2807E-11	4.5879E-06	2.1376E-03	3.6979E-02	5.5545E-02	5.2169E-02	1.1495E-01	1.1503E-01	5.2760E-05	1.1503E-01	1.1497E-01	7.7450E-13	1.15043E-01
235U (H)	5.0557E-16	3.7385E-12	3.4702E-06	3.9027E-03	2.2508E-01	3.8597E-01	7.4008E-01	1.4176E+00	1.4247E+00	5.6302E-03	1.4247E+00	1.4240E+00	5.2103E-10	1.42489E+00
236U (F)	1.1948E-14	1.1026E-10	1.0300E-05	3.6503E-03	5.2966E-02	7.4920E-02	6.1736E-02	1.4341E-01	1.4347E-01	3.9991E-05	1.4347E-01	1.4340E-01	3.2994E-13	1.43495E-01
238U (F)	1.6705E-12	9.4390E-09	1.4417E-04	2.8136E-02	1.4530E-01	1.7668E-01	8.8600E-02	2.6842E-01	2.6844E-01	9.6058E-06	2.6844E-01	2.6830E-01	6.9446E-15	2.68652E-01
238U (H)	4.7997E-13	3.4350E-09	2.3104E-04	4.8251E-02	5.1704E-01	7.1774E-01	4.6764E-01	1.2282E+00	1.2284E+00	1.6129E-04	1.2284E+00	1.2278E+00	5.5619E-13	1.22835E+00
237Np (F)	9.7420E-16	1.1206E-11	4.8201E-06	3.0919E-03	1.1171E-01	1.8420E-01	2.0349E-01	4.4648E-01	4.4732E-01	5.7939E-04	4.4732E-01	4.4710E-01	2.2300E-11	4.47417E-01
239Pu (T)	4.5264E-16	6.6878E-12	4.4614E-06	6.1394E-03	2.6325E-01	6.4157E-01	9.1464E-01	1.8701E+00	1.8795E+00	6.1124E-03	1.8795E+00	1.8785E+00	6.5621E-10	1.87982E+00
239Pu (F)	6.9864E-16	1.0171E-11	6.3519E-06	7.3166E-03	3.0884E-01	6.4851E-01	9.5204E-01	1.9114E+00	1.9192E+00	5.3962E-03	1.9192E+00	1.9183E+00	3.9112E-10	1.91960E+00
239Pu (H)	1.9037E-17	2.4011E-13	6.4504E-07	1.5527E-03	1.8235E-01	4.3334E-01	1.1531E+00	2.4415E+00	2.4831E+00	3.2742E-02	2.4832E+00	2.4820E+00	1.4601E-08	2.48349E+00
240Pu (F)	4.0370E-16	3.6054E-11	1.1801E-05	1.2253E-02	3.2469E-01	5.5875E-01	9.3657E-01	1.7903E+00	1.7948E+00	3.0972E-03	1.7946E+00	1.7939E+00	1.5302E-10	1.79502E+00
241Pu (T)	1.0020E-13	1.4541E-09	1.3704E-04	5.7771E-02	7.8053E-01	1.1812E+00	9.7106E-01	2.2606E+00	2.2616E+00	6.8094E-04	2.2616E+00	2.2605E+00	5.0217E-12	2.26229E+00
241Pu (F)	1.2290E-13	1.0135E-09	1.2599E-04	5.3162E-02	8.6803E-01	1.2658E+00	1.1177E+00	2.5301E+00	2.5315E+00	9.6834E-04	2.5315E+00	2.5302E+00	9.6195E-12	2.53211E+00
242Pu (F)	4.4486E-13	3.1246E-09	1.9900E-04	1.0210E-01	1.0121E+00	1.5697E+00	1.5658E+00	3.2554E+00	3.2568E+00	9.6634E-04	3.2568E+00	3.2551E+00	6.5801E-12	3.25753E+00
252Cf (S)	1.5221E-14	2.2880E-10	7.8929E-05	4.9799E-02	1.5255E+00	2.6197E+00	2.6503E+00	5.9482E+00	5.9578E+00	6.2640E-03	5.9578E+00	5.9548E+00	2.0581E-10	5.95792E+00

Table 2.7.1 Continued

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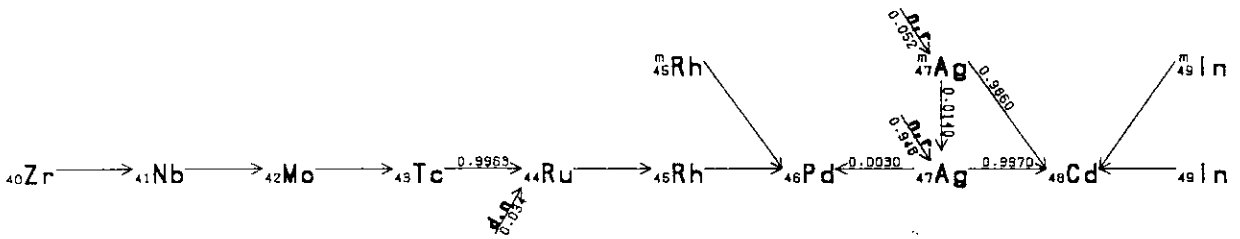
Mass No. 110



		40Zr	41Nb	42Mo	43Tc	44Ru	45Rh	m45Rh	46Pd	47Ag	m47Ag	48Cd	49In	m49In	Mass Yield
	λ (1/sec)	1.1453E+00	2.1440E+00	3.4948E-01	6.9315E-01	4.3594E-02	2.3105E-01	2.4321E-02	0.0	2.8211E-02	3.2039E-08	0.0	1.5718E-04	3.9294E-05	
	Q-value (MeV)	7.7030E+00	1.2136E+01	6.0470E+00	6.7600E+00	2.2890E+00	5.4050E+00	5.4050E+00	0.0	2.8928E+00	3.0105E+00	0.0	3.9400E+00	3.9400E+00	
	E-beta (MeV)	2.8440E+00	3.9270E+00	2.1990E+00	3.0320E+00	5.5850E-01	1.9101E+00	1.1446E+00	0.0	1.1861E+00	6.5572E-02	0.0	6.2317E-01	7.8101E-05	
	E-gamma (MeV)	1.5090E+00	3.7450E+00	1.1520E+00	2.1700E+00	5.9690E-01	1.0811E+00	2.6664E+00	0.0	3.0684E-02	2.7890E+00	0.0	9.2777E-01	3.0963E+00	
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6470E-03	0.0	1.9387E-03	9.7530E-03	
	Spin						1+	6+		1+	6+		2+	7+	
Cumulative yield	232Th (F)	1.4403E-09	3.6723E-06	2.3722E-03	1.9634E-02	7.0734E-02	7.1361E-02	1.7095E-03	7.3105E-02	1.3795E-09	3.6224E-09	4.9472E-09	1.2511E-20	2.0922E-20	7.27866E-02
	232Th (H)	5.8501E-10	6.5307E-06	6.3916E-03	2.4583E-01	9.4636E-01	9.7483E-01	1.2859E-01	1.1060E+00	2.1081E-06	8.9554E-05	1.0932E-04	1.2057E-17	3.4464E-17	1.10349E+00
	233U (T)	9.9023E-14	1.1595E-09	7.3361E-06	8.3100E-04	1.6524E-02	1.9094E-02	6.0201E-03	2.6150E-02	8.2538E-07	1.8717E-05	2.5694E-06	4.6976E-15	5.9509E-16	2.61492E-02
	233U (F)	6.2252E-14	4.9201E-09	2.5405E-05	3.2944E-03	5.4541E-02	6.3217E-02	2.3650E-02	9.0073E-02	2.6414E-06	5.9358E-06	9.4749E-06	9.8212E-15	1.6424E-14	9.00688E-02
	233U (H)	1.3672E-13	2.3700E-08	1.9402E-04	3.4690E-02	5.9830E-01	7.1939E-01	5.4687E-01	1.3351E+00	7.8500E-05	3.3347E-04	4.0720E-04	6.7963E-13	1.9428E-12	1.33536E+00
	235U (T)	1.4697E-12	2.5396E-08	6.2211E-05	2.6666E-03	2.4942E-02	2.6509E-02	3.6573E-03	3.0432E-02	7.8568E-08	1.7817E-07	2.6404E-07	4.1128E-18	5.8371E-18	3.04176E-02
	235U (F)	1.4893E-11	2.2291E-07	3.2308E-04	1.2333E-02	7.6388E-02	8.0107E-02	1.0139E-02	9.0662E-02	9.9620E-08	2.5158E-07	3.5727E-07	2.1050E-17	3.5201E-17	9.05467E-02
	235U (H)	1.5901E-12	1.0701E-07	3.5113E-04	5.4228E-02	6.0308E-01	6.7940E-01	9.4470E-01	1.0512E+00	1.8349E-05	7.7947E-05	9.5167E-05	2.0529E-14	5.8679E-14	1.05094E+00
	236U (F)	4.8499E-11	5.2604E-07	6.0152E-04	1.7300E-02	9.0891E-02	9.4160E-02	8.9110E-03	1.0338E-01	5.1518E-08	1.3527E-07	1.8476E-07	5.9687E-18	9.9812E-18	1.03278E-01
	238U (F)	2.8433E-09	7.1112E-06	4.5554E-03	3.7123E-02	1.3258E-01	1.3373E-01	3.1467E-03	1.3694E-01	2.4560E-09	6.4751E-09	8.8432E-09	2.3746E-20	3.9709E-20	1.36632E-01
	238U (H)	1.6203E-09	1.7505E-05	9.8031E-03	2.9007E-01	9.3583E-01	9.5625E-01	5.2259E-02	1.0499E+00	1.6462E-07	5.9931E-07	8.5366E-07	1.2057E-17	3.4464E-17	1.04622E+00
	237Np (F)	3.5800E-12	1.3901E-07	2.4814E-04	2.3066E-02	1.6019E-01	1.7869E-01	5.0149E-02	2.3128E-01	1.4787E-06	3.8776E-05	5.2962E-05	1.0867E-15	1.5172E-15	2.31269E-01
	239Pu (T)	1.3104E-12	5.7320E-08	2.6114E-04	2.6345E-02	3.9632E-01	4.5218E-01	1.3082E-01	5.9972E-01	1.1840E-05	2.6849E-05	3.8287E-05	1.7964E-14	2.5496E-14	5.99733E-01
	239Pu (F)	1.5706E-12	8.7128E-08	3.2018E-04	3.2899E-02	4.0940E-01	4.6232E-01	1.4428E-01	6.2100E-01	9.3535E-05	2.4560E-05	3.3549E-05	1.3377E-14	2.2370E-14	6.20969E-01
	239Pu (H)	1.3444E-13	1.1901E-08	9.0117E-05	9.0772E-02	6.7638E-01	8.5128E-01	7.8994E-01	1.7685E+00	1.9081E-04	8.1059E-04	9.8990E-04	1.1930E-12	3.4100E-12	1.76945E+00
	240Pu (F)	1.7902E-11	4.0206E-07	1.3835E-03	7.5027E-02	9.1953E-01	9.8456E-01	1.7725E-01	1.1790E+00	5.7988E-06	1.5226E-05	2.0799E-05	2.9586E-15	4.9475E-15	1.17889E+00
	241Pu (T)	4.1912E-10	4.4717E-06	6.1262E-03	1.7184E-01	1.0351E+00	1.0765E+00	9.6988E-02	1.1777E+00	7.5949E-07	1.7229E-06	2.4556E-06	1.5669E-16	2.2238E-16	1.17719E+00
	241Pu (F)	3.2196E-10	4.5201E-06	5.8602E-03	2.1224E-01	1.2117E+00	1.2671E+00	1.5099E-01	1.4239E+00	1.2593E-06	3.3067E-05	4.5163E-05	1.9421E-16	3.2478E-16	1.42316E+00
	242Pu (F)	1.1500E-09	7.4012E-06	1.4413E-02	2.5127E-01	2.0271E+00	2.0738E+00	1.2731E-01	2.2086E+00	7.4088E-07	1.9454E-05	2.6571E-05	4.4791E-17	7.4902E-17	2.20703E+00
	252Cf (S)	1.7984E-10	5.2254E-06	8.9851E-03	6.3959E-01	4.3784E+00	4.8302E+00	1.0580E+00	5.9424E+00	2.5450E-05	6.0003E-05	8.5551E-05	1.8352E-14	2.6046E-14	5.93796E+00

Table 2.7.1 Continued

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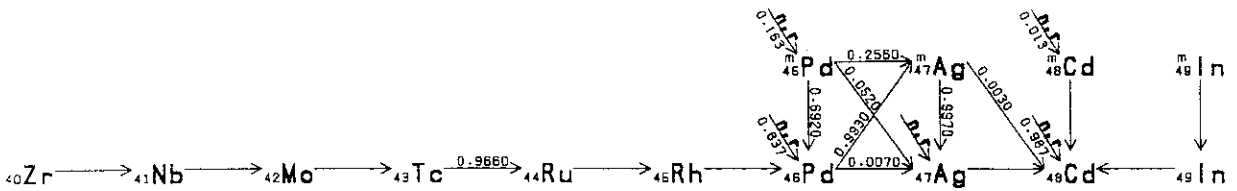

	$_{40}$Zr	$_{41}$Nb	$_{42}$Mo	$_{43}$Tc	$_{44}$Ru	$_{45}$Rh	$_{46}$Pd	$^{m}_{46}$Pd	$_{47}$Ag	$^{m}_{47}$Ag	$_{48}$Cd	$^{m}_{48}$Cd	$_{49}$In	$^{m}_{49}$In	Mass Yield
λ(1/sec)	1.7157E+01	1.5800E+00	1.0041E+00	2.4398E-01	3.1507E-01	6.3013E-02	5.2511E-04	3.5007E-05	1.0758E-06	9.3668E-03	0.0	2.3722E-04	2.6348E-06	1.5003E-03	
Q-value(MeV)	1.0893E+01	9.8520E+00	9.1320E+00	6.9830E+00	5.1670E+00	3.5000E+00	2.2000E+00	2.3720E+00	1.0280E+00	1.0879E+00	0.0	3.9600E-01	8.4900E-01	5.3630E-01	
E-beta (MeV)	3.5750E+00	3.3990E+00	3.0980E+00	2.4650E+00	1.8670E+00	1.0774E+00	8.3079E-01	1.6467E-01	3.5062E-01	6.7400E-04	0.0	0.0	0.0	0.0	
E-gamma(MeV)	3.2090E+00	2.5680E+00	2.4130E+00	1.5010E+00	9.6240E-01	8.9819E-01	5.1213E-02	2.6951E-01	2.3540E-02	1.4071E-03	0.0	2.7988E-01	3.8683E-01	4.6558E-01	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	5.1465E-04	6.9323E-02	0.0	5.9371E-02	0.0	1.1632E-01	2.8129E-02	6.9719E-02	
Spin							5/2+	11/2-	1/2-	7/2+	1/2+	11/2-	9/2+	1/2-	
Cumulative yield: ^{232}Th(F)	1.1860E-12	5.2516E-08	4.6111E-04	1.1203E-02	5.3403E-02	7.0734E-02	7.0896E-02	1.4134E-04	7.0728E-02	7.0436E-02	7.0940E-02	5.6179E-12	5.2241E-16	8.7539E-19	7.13207E-02
^{232}Th(H)	3.1575E-11	4.5088E-08	1.0370E-03	1.0440E-01	8.0679E-01	1.1841E+00	1.1962E+00	1.2561E-02	1.1955E+00	1.1911E+00	1.2001E+00	3.5925E-09	5.8606E-15	7.5564E-16	1.20367E+00
^{233}U (T)	1.1052E-15	1.3428E-12	5.2678E-07	1.8145E-04	7.0534E-03	1.6878E-02	1.8725E-02	1.5084E-03	1.9150E-02	1.8995E-02	1.9207E-02	1.0849E-08	5.4857E-14	1.2181E-14	1.82135E-02
^{233}U (F)	6.8344E-16	5.7034E-12	2.0000E-06	7.6601E-04	2.5782E-02	6.8274E-02	7.5156E-02	6.0001E-03	7.6851E-02	7.5232E-02	7.7079E-02	4.2322E-08	1.1000E-12	1.8433E-13	7.71063E-02
^{233}U (H)	1.2769E-15	1.9584E-11	1.0600E-05	7.6077E-03	3.1836E-01	1.1835E+00	1.3442E+00	1.5563E-01	1.3948E+00	1.3806E+00	1.3990E+00	2.5623E-06	1.1700E-10	1.3057E-11	1.39922E+00
^{235}U (T)	1.0104E-13	6.4251E-11	5.5288E-06	7.0837E-04	1.2153E-02	1.9263E-02	1.9872E-02	4.8092E-04	1.9952E-02	1.9858E-02	2.0022E-02	4.9851E-10	6.9035E-16	1.2965E-16	2.00482E-02
^{235}U (F)	1.3189E-13	6.1368E-10	2.2690E-05	2.4228E-03	2.8178E-02	4.2113E-02	4.2866E-02	6.4851E-04	4.2930E-02	4.2724E-02	4.3058E-02	3.4032E-10	2.6535E-15	4.4464E-16	4.31408E-02
^{235}U (H)	3.6810E-14	1.5029E-10	3.7102E-05	1.5592E-02	4.0784E-01	1.0935E+00	1.1756E+00	8.5264E-02	1.2005E+00	1.1914E+00	1.2042E+00	4.6739E-07	1.2301E-11	1.3727E-12	1.20471E+00
^{236}U (F)	6.5303E-13	2.0810E-09	6.1299E-05	4.8812E-03	4.6563E-02	6.4300E-02	6.5052E-02	6.5587E-04	6.5061E-02	6.4766E-02	6.5265E-02	1.9832E-10	1.0756E-15	1.8023E-16	6.54213E-02
^{238}U (F)	1.6217E-12	6.7797E-08	5.6366E-04	1.3100E-02	7.2049E-02	7.9991E-02	8.0150E-02	1.4746E-04	7.9966E-02	7.9636E-02	8.0205E-02	5.3539E-12	4.9154E-16	8.2367E-19	8.05507E-02
^{238}U (H)	3.2792E-11	1.2669E-07	1.8943E-03	1.4068E-01	8.4085E-01	1.0998E+00	1.1068E+00	7.3098E-03	1.1058E+00	1.1009E+00	1.1091E+00	1.0907E-09	5.5452E-15	6.1884E-16	1.11386E+00
^{237}Np(F)	1.9648E-14	1.3251E-10	1.2200E-05	2.9362E-03	4.4632E-02	9.1687E-02	9.5045E-02	2.9258E-03	9.5682E-02	9.5147E-02	9.5967E-02	5.1105E-09	9.6966E-14	1.6248E-14	9.60670E-02
^{239}Pu(T)	9.0872E-16	4.4758E-11	1.1104E-05	3.4682E-03	1.0994E-01	2.7614E-01	2.9793E-01	1.7800E-02	3.0270E-01	3.0057E-01	3.0360E-01	9.3320E-08	2.0206E-12	3.7950E-13	3.03721E-01
^{239}Pu(F)	1.3427E-14	6.6231E-11	1.8506E-05	5.5032E-03	1.4455E-01	3.2657E-01	3.4917E-01	1.9699E-02	3.5437E-01	3.5193E-01	3.5543E-01	7.8497E-08	1.5605E-12	2.6148E-13	3.55613E-01
^{239}Pu(H)	7.8715E-16	5.6218E-12	4.8303E-06	4.7431E-03	2.6454E-01	1.2041E+00	1.4311E+00	2.3569E-01	1.5057E+00	1.4679E+00	1.5101E+00	6.6536E-06	4.1802E-10	4.6651E-11	1.51028E+00
^{240}Pu(F)	1.4378E-13	4.5179E-10	7.5607E-05	1.2564E-02	2.8400E-01	4.7404E-01	4.9678E-01	1.9826E-02	5.0150E-01	4.9847E-01	5.0300E-01	3.6345E-08	3.5712E-13	5.9841E-14	5.03423E-01
^{241}Pu(T)	2.7151E-12	1.1787E-09	4.0411E-04	3.3486E-02	3.9530E-01	5.6066E-01	5.6801E-01	6.0847E-03	5.6820E-01	5.6550E-01	5.6990E-01	2.3482E-09	2.1190E-14	3.9797E-15	5.71036E-01
^{241}Pu(F)	3.3035E-12	1.1033E-08	4.4198E-04	4.5149E-02	4.9487E-01	7.3125E-01	7.4306E-01	1.0292E-02	7.4404E-01	7.4052E-01	7.4626E-01	4.8331E-09	3.0867E-14	5.1724E-15	7.47798E-01
^{242}Pu(F)	2.2545E-11	2.8634E-08	1.2470E-03	7.3635E-02	3.7943E-01	1.2601E+00	1.2774E+00	1.5072E-02	1.2782E+00	1.2723E+00	1.2820E+00	4.8888E-09	9.8114E-15	1.6441E-15	1.28454E+00
^{252}Cf(S)	2.1238E-12	1.6112E-08	1.1170E-03	2.0142E-01	2.7510E+00	5.0069E+00	5.1504E+00	1.1724E-01	5.1719E+00	5.1450E+00	5.1673E+00	1.9514E-07	1.6185E-12	3.0397E-13	5.19414E+00

Table 2.7.1 Continued

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$_{40}Zr \rightarrow {}_{41}Nb \rightarrow {}_{42}Mo \rightarrow {}_{43}Tc \rightarrow {}_{44}Ru \rightarrow {}_{45}Rh \rightarrow {}_{46}Pd \rightarrow {}_{47}Ag \rightarrow {}_{48}Cd \xleftarrow{0.6000} {}_{49}In$, $\rightarrow {}^{m}_{49}In \rightarrow {}_{49}In$

	$_{40}Zr$	$_{41}Nb$	$_{42}Mo$	$_{43}Tc$	$_{44}Ru$	$_{45}Rh$	$_{46}Pd$	$_{47}Ag$	$_{48}Cd$	$_{49}In$	$^{m}_{49}In$	Mass Yield
λ(1/sec)	2.2578E+01	3.4028E+00	7.0008E-01	7.0356E-01	1.9254E-01	1.4905E-01	9.1165E-06	6.1712E-05	0.0	8.0225E-04	5.5275E-04	
Q-value(MeV)	8.5240E+00	1.3083E+01	6.9660E+00	1.0005E+01	3.3910E+00	6.6280E+00	2.9300E-01	3.9580E+00	0.0	6.5800E-01	1.5500E-01	
E-beta (MeV)	3.0300E+00	4.1780E+00	2.5520E+00	3.3400E+00	1.1140E+00	2.4770E+00	7.8165E-02	1.4027E+00	0.0	1.4938E-01	0.0	
E-gamma(MeV)	1.9430E+00	4.1660E+00	1.3540E+00	2.7900E+00	7.2600E-01	1.1560E+00	3.7000E-03	6.8210E-01	0.0	3.1220E-01	1.8500E-02	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	1.4800E-02	0.0	0.0	0.0	1.3640E-01	
Spin								2-		1+	4+	
Cumulative yield ^{232}Th(F)	2.1687E-12	2.6227E-09	1.1503E-04	4.8302E-03	7.0367E-02	8.4953E-02	8.6207E-02	8.6208E-02	8.6208E-02	3.8833E-16	3.2193E-16	8.62079E-02
^{232}Th(H)	6.4815E-13	1.3491E-09	1.4900E-04	3.6301E-02	6.0180E-01	1.1998E+00	1.2629E+00	1.2766E+00	1.2766E+00	1.1500E-12	1.0200E-12	1.27657E+00
^{233}U (T)	1.3852E-17	2.0941E-14	3.6084E-08	2.7127E-05	2.8590E-03	1.0081E-02	1.4394E-02	1.4398E-02	1.4398E-02	5.7076E-12	4.6111E-12	1.49984E-02
^{233}U (F)	6.3025E-18	1.1077E-13	1.6700E-07	1.4017E-04	1.2511E-02	4.9765E-02	8.8562E-02	6.8901E-02	6.8902E-02	3.0850E-11	2.5576E-11	6.89017E-02
^{233}U (H)	1.2945E-17	3.6836E-13	6.0901E-07	1.5078E-03	1.5631E-01	1.1151E+00	1.6422E+00	1.6616E+00	1.6616E+00	4.9320E-09	4.3743E-09	1.66163E+00
^{235}U (T)	1.9059E-15	1.3622E-12	5.9187E-07	1.5256E-04	5.8391E-03	1.4069E-02	1.6034E-02	1.6035E-02	1.6035E-02	2.6336E-14	2.1276E-14	1.60353E-02
^{235}U (F)	2.4843E-16	1.3412E-11	2.8587E-06	6.4457E-04	1.7941E-02	3.5246E-02	3.8181E-02	3.8193E-02	3.8193E-02	1.1476E-13	9.5127E-14	3.81932E-02
^{235}U (H)	3.5665E-16	2.3073E-12	2.4601E-06	2.6866E-03	1.6901E-01	8.0001E-01	1.0490E+00	1.0543E+00	1.0543E+00	4.3822E-10	3.8857E-10	1.05430E+00
^{236}U (F)	1.1361E-14	4.7852E-11	6.8499E-06	1.1388E-03	2.5902E-02	4.4983E-02	4.7624E-02	4.7634E-02	4.7634E-02	4.0436E-14	3.3522E-14	4.76344E-02
^{238}U (F)	2.2135E-12	2.5565E-09	1.0002E-04	3.9085E-03	5.3806E-02	6.4201E-02	6.5039E-02	6.5040E-02	6.5040E-02	2.0362E-15	1.6881E-15	6.50398E-02
^{238}U (H)	5.8300E-13	3.8564E-09	2.4204E-04	4.3207E-02	5.4830E-01	9.8098E-01	1.0136E+00	1.0137E+00	1.0137E+00	3.6753E-13	3.2597E-13	1.01372E+00
^{237}Np(F)	2.1622E-16	2.3349E-12	9.1701E-07	5.5392E-04	1.8968E-02	6.3512E-02	7.2532E-02	7.2651E-02	7.2651E-02	2.2800E-12	1.8902E-12	7.26509E-02
^{239}Pu(T)	4.8976E-17	3.6207E-13	4.8616E-07	3.3459E-04	2.8298E-02	9.8744E-02	1.3289E-01	1.3331E-01	1.3331E-01	3.4031E-11	2.7493E-11	1.33308E-01
^{239}Pu(F)	8.5065E-17	8.3507E-13	8.8127E-07	6.1707E-04	4.2457E-02	1.4843E-01	1.9170E-01	1.9235E-01	1.9235E-01	3.7011E-11	3.0683E-11	1.92353E-01
^{239}Pu(H)	4.6830E-16	5.9315E-14	2.1601E-07	5.8825E-04	8.7177E-02	8.2811E-01	1.3838E+00	1.4137E+00	1.4138E+00	1.5391E-08	1.3650E-08	1.41383E+00
^{240}Pu(F)	1.0782E-15	6.2088E-12	4.1304E-06	1.3643E-03	8.3386E-02	1.9814E-01	2.3892E-01	2.3924E-01	2.3924E-01	7.3907E-12	6.1271E-12	2.39244E-01
^{241}Pu(T)	2.3084E-14	1.2680E-10	2.5107E-05	4.3323E-03	1.2258E-01	2.1500E-01	2.3102E-01	2.3109E-01	2.3109E-01	4.5361E-13	3.6646E-13	2.31089E-01
^{241}Pu(F)	3.1279E-14	1.4190E-10	2.8399E-05	5.3921E-03	1.6989E-01	3.3399E-01	3.6055E-01	3.6069E-01	3.6069E-01	8.2620E-13	6.6494E-13	3.60687E-01
^{242}Pu(F)	2.9473E-13	3.6176E-10	3.7301E-05	1.0197E-02	4.0712E-01	5.9720E-01	6.4443E-01	6.4454E-01	6.4454E-01	2.5233E-13	2.0919E-13	6.44642E-01
^{252}Cf(S)	3.4405E-14	3.7961E-10	8.6322E-05	3.5129E-02	1.0541E+00	3.3137E+00	4.1226E+00	4.1620E+00	4.1620E+00	5.1184E-11	4.1351E-11	4.16199E+00

Table 2.7.1 Continued

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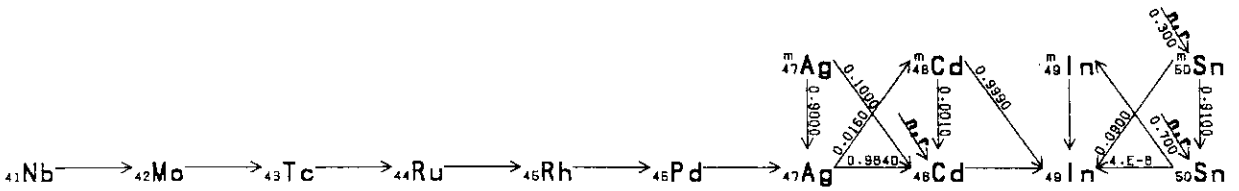
Mass No. 113



		41Nb	42Mo	43Tc	44Ru	45Rh	46Pd	47Ag	m47Ag	48Cd	m48Cd	49In	m49In	50Sn	m50Sn	Mass Yield
	λ(1/sec)	8.6970E+00	1.8708E+00	4.4376E-01	2.3105E-01	7.7016E-01	7.7016E-03	3.5855E-05	9.5270E-03	2.3618E-24	1.6161E-09	0.0	1.1513E-04	6.9689E-08	5.7762E-04	
	Q-value(MeV)	1.0761E+01	1.0190E+01	7.8070E+00	6.4190E+00	4.7730E+00	3.2410E+00	2.0100E+00	2.0532E+00	3.2200E-01	5.8570E-01	0.0	3.9169E-01	1.0401E+00	1.1194E+00	
	E-beta (MeV)	3.2941E+00	3.4300E+00	2.7320E+00	2.2490E+00	1.7330E+00	1.0900E+00	7.6678E-01	1.0624E-01	9.3258E-02	1.8513E-01	0.0	0.0	0.0	0.0	Mass
	E-gamma(MeV)	3.6375E+00	2.8020E+00	1.6220E+00	1.4160E+00	8.1590E-01	6.1020E-01	5.6113E-02	1.1489E-01	0.0	6.0650E-05	0.0	2.5421E-01	4.7242E-03	4.7580E-04	Yield
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2102E-03	0.0	2.0040E-04	0.0	1.3748E-01	0.0	7.1687E-02	
	Spin							1/2-	7/2+	1/2+	11/2-	9/2+	1/2-	1/2+	7/2+	
Cumulative Yield	232Th(F)	1.0441E-10	2.9499E-05	2.0625E-03	5.0809E-02	8.1672E-02	8.5291E-02	8.6304E-02	1.2543E-05	8.4926E-02	1.3809E-03	8.6305E-02	5.5398E-15	2.6443E-20	2.4391E-20	8.63050E-02
	232Th(H)	2.4174E-11	1.7117E-06	7.4261E-03	2.9053E-01	1.0412E+00	1.2179E+00	1.2201E+00	2.2663E-03	1.2008E+00	1.9524E-02	1.2203E+00	7.9873E-12	5.7556E-17	3.7810E-17	1.22035E+00
	233U(T)	8.5792E-14	1.3419E-10	4.1383E-06	8.9377E-04	6.8903E-03	1.3386E-02	1.3637E-02	2.3922E-04	1.9444E-02	2.1924E-04	1.3663E-02	3.1070E-11	3.7140E-16	3.4945E-16	1.36627E-02
	233U(F)	7.8001E-14	6.2712E-10	2.1500E-05	4.1645E-03	3.5303E-02	6.5478E-02	6.6784E-02	1.2638E-03	6.5844E-02	1.0735E-03	6.6917E-02	1.4328E-10	1.0839E-14	1.0390E-14	6.69165E-02
	233U(H)	1.9473E-13	2.0268E-09	1.4400E-04	3.8444E-02	6.1103E-01	1.6555E+00	1.7158E+00	6.1366E-02	1.6946E+00	2.7802E-02	1.7223E+00	1.3159E-08	1.4946E-12	1.5047E-12	1.72235E+00
	235U(T)	6.1783E-12	5.5072E-09	3.5692E-05	3.1380E-03	1.1892E-02	1.6252E-02	1.6329E-02	6.3898E-05	1.5075E-02	2.5138E-04	1.6336E-02	7.9426E-13	3.2388E-18	3.0473E-18	1.63359E-02
	235U(F)	2.7921E-13	3.0436E-08	1.3994E-04	8.0244E-03	2.7189E-02	3.3585E-02	3.3667E-02	7.9389E-05	3.3137E-02	5.3676E-04	3.3675E-02	5.3431E-13	1.1440E-17	1.0967E-17	3.36750E-02
	235U(H)	3.1617E-12	8.9505E-09	3.6602E-04	5.8254E-02	5.9888E-01	1.0587E+00	1.0817E+00	2.3401E-02	1.0668E+00	1.7386E-02	1.0841E+00	1.7310E-09	6.6788E-14	6.7240E-14	1.08412E+00
	236U(F)	9.8128E-13	7.9756E-08	2.4900E-04	1.1367E-02	3.2373E-02	3.8073E-02	3.8128E-02	6.3346E-05	3.7524E-02	6.1009E-04	3.8133E-02	2.0443E-13	3.0180E-18	2.8932E-18	3.81331E-02
	238U(F)	8.4603E-11	2.1604E-06	1.3766E-03	3.1964E-02	5.0109E-02	5.2662E-02	5.2668E-02	6.4356E-06	5.1827E-02	8.4270E-04	5.2669E-02	2.4108E-15	1.0259E-20	9.8344E-21	5.26690E-02
	238U(H)	7.2391E-11	3.2482E-06	9.5466E-03	2.8003E-01	8.5210E-01	9.4558E-01	9.4649E-01	9.2927E-04	9.3145E-01	1.5144E-02	9.4658E-01	1.5933E-12	2.5184E-17	2.5354E-17	9.46582E-01
	237Np(F)	1.2616E-12	5.0353E-09	7.4501E-05	6.0156E-03	3.7415E-02	5.1282E-02	5.1691E-02	3.9607E-04	5.0905E-02	8.2770E-04	5.1732E-02	1.1512E-11	2.9706E-15	2.8477E-15	5.17318E-02
	239Pu(T)	1.5709E-13	8.1651E-10	2.3908E-05	4.5204E-03	3.4850E-02	6.3924E-02	6.5052E-02	1.0716E-03	6.4120E-02	1.0449E-03	6.5164E-02	1.2043E-10	4.9575E-15	4.6644E-15	6.51641E-02
	239Pu(F)	3.8361E-13	2.2105E-09	5.9518E-05	9.4904E-03	7.2524E-02	1.2411E-01	1.2608E-01	1.9112E-03	1.2426E-01	2.0235E-03	1.2628E-01	1.5422E-10	7.5252E-15	7.2139E-15	1.26280E-01
	239Pu(H)	5.6790E-14	3.0504E-10	5.5703E-05	2.1435E-02	4.6880E-01	1.2145E+00	1.3032E+00	9.0118E-02	1.2915E+00	2.1566E-02	1.3130E+00	4.0385E-08	6.7581E-12	6.8037E-12	1.31302E+00
	240Pu(F)	2.9882E-12	1.9922E-08	1.9602E-04	2.3349E-02	1.0502E-01	1.5853E-01	1.5958E-01	1.0185E-03	1.5713E-01	2.5557E-03	1.5969E-01	2.9278E-11	1.2761E-15	1.2234E-15	1.59686E-01
	241Pu(T)	1.7913E-12	1.9018E-07	6.9620E-04	3.9626E-02	1.1902E-01	1.4550E-01	1.4589E-01	2.5924E-04	1.4358E-01	2.3345E-03	1.4591E-01	2.0168E-12	3.7559E-17	3.5339E-17	1.45913E-01
	241Pu(F)	1.7299E-12	1.8659E-07	8.7896E-04	4.9746E-02	1.7089E-01	2.1085E-01	2.1138E-01	5.0644E-04	2.0805E-01	3.3825E-03	2.1143E-01	4.1388E-12	5.7265E-17	5.4897E-17	2.11429E-01
	242Pu(F)	4.5585E-12	5.8049E-07	1.4640E-03	1.0141E-01	2.4731E-01	3.0734E-01	3.0780E-01	4.3922E-04	3.0292E-01	4.9253E-03	3.0784E-01	2.4533E-12	1.9025E-17	1.8238E-17	3.07841E-01
	252Cf(S)	2.0727E-10	1.0602E-06	8.4364E-03	5.5289E-01	2.5989E+00	3.4624E+00	3.4779E+00	1.4780E-02	3.4238E+00	5.5685E-02	3.4794E+00	2.8195E-10	7.0165E-15	6.5017E-15	3.47939E+00

Table 2.7.1 Continued

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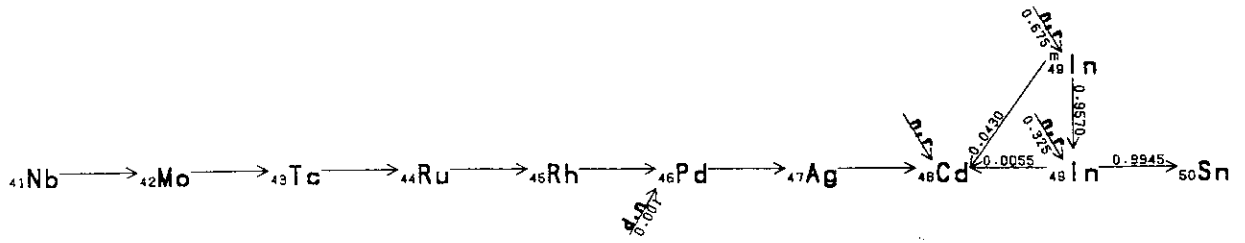
Mass No. 114



	41Nb	42Mo	43Tc	44Ru	45Rh	46Pd	47Ag	48Cd	49In	49In	50Sn	Mass Yield
λ(1/sec)	1.5472E+01	1.3634E+00	1.2007E+00	6.1999E-02	4.1259E-01	4.8135E-03	1.5335E-01	0.0	9.6404E-03	1.6204E-07	0.0	
Q-value(MeV)	1.3471E+01	7.9480E+00	1.0954E+01	4.2580E+00	7.7640E+00	1.3920E+00	4.8600E+00	0.0	1.9846E+00	1.6343E+00	0.0	
E-beta (MeV)	4.1200E+00	2.9250E+00	3.5780E+00	1.4730E+00	2.7420E+00	4.8249E-01	2.0432E+00	0.0	7.7270E-01	0.0	0.0	
E-gamma(MeV)	4.6780E+00	1.5780E+00	3.2570E+00	8.4370E-01	1.7530E+00	8.4923E-02	2.1066E-01	0.0	2.6963E-03	8.4499E-02	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5678E-01	0.0	
Spin							1+		1+	5+		
Cumulative yield												
232Th(F)	2.2102E-12	1.7704E-06	4.3786E-04	3.1369E-02	6.2269E-02	7.5768E-02	7.5842E-02	7.5842E-02	1.0800E-12	8.6811E-13	1.0741E-12	7.57754E-02
232Th(H)	4.5498E-11	7.2101E-07	1.2277E-03	1.1837E-01	7.8980E-01	1.1389E+00	1.1513E+00	1.1513E+00	2.4280E-09	2.1415E-09	2.4146E-09	1.15043E+00
233U (T)	1.5224E-15	9.1752E-11	4.2092E-07	2.5931E-04	3.5440E-03	1.2375E-02	1.3074E-02	1.3084E-02	2.4376E-09	1.8919E-09	2.4242E-09	1.30819E-02
233U (F)	1.2109E-15	3.7800E-10	2.1104E-06	1.1341E-03	1.8536E-02	5.9043E-02	6.2936E-02	6.2984E-02	1.4363E-08	1.1545E-08	1.4285E-08	6.29714E-02
233U (H)	1.6737E-15	8.5901E-10	1.1801E-05	8.1979E-03	2.9847E-01	1.0941E+00	1.2643E+00	1.2670E+00	1.9269E-06	1.6995E-06	1.9164E-06	1.26678E+00
235U (T)	1.4286E-13	2.7594E-09	4.4618E-06	1.1092E-03	6.7170E-03	1.3808E-02	1.4035E-02	1.4035E-02	1.1262E-10	8.7403E-11	1.1200E-10	1.40316E-02
235U (F)	2.1494E-13	1.5293E-08	2.2105E-05	3.3975E-03	1.9442E-02	3.2524E-02	3.2911E-02	3.2912E-02	1.0512E-10	8.4494E-11	1.0454E-10	3.28957E-02
235U (H)	4.3222E-14	4.5302E-09	3.5906E-05	1.4778E-02	3.3555E-01	9.0227E-01	9.7924E-01	9.7996E-01	3.0640E-07	2.7024E-07	3.0472E-07	9.79746E-01
236U (F)	7.2400E-13	3.8800E-08	3.9838E-05	4.7698E-03	2.1455E-02	3.2487E-02	3.2724E-02	3.2724E-02	3.4990E-11	2.8125E-11	3.4798E-11	3.26901E-02
238U (F)	1.5479E-12	1.1113E-06	2.5441E-04	1.7095E-02	3.2850E-02	3.9327E-02	3.9360E-02	3.9360E-02	4.0903E-13	3.2879E-13	4.0679E-13	3.93263E-02
238U (H)	3.2169E-11	1.1702E-06	1.4454E-03	1.0292E-01	5.4519E-01	7.2175E-01	7.2638E-01	7.2639E-01	4.7603E-10	4.1985E-10	4.7341E-10	7.25736E-01
237Np(F)	2.9295E-14	2.9300E-09	1.1203E-05	2.1462E-03	2.6801E-02	4.9629E-02	5.1297E-02	5.1305E-02	1.5137E-09	1.2167E-09	1.5054E-09	5.12831E-02
239Pu(T)	2.5988E-15	5.3117E-10	2.4913E-06	1.2999E-03	1.8315E-02	5.7369E-02	6.0582E-02	6.0620E-02	9.7187E-09	7.5428E-09	9.6655E-09	6.06123E-02
239Pu(F)	5.1183E-15	1.0079E-09	4.9265E-06	2.1299E-03	3.1472E-02	8.6160E-02	9.3097E-02	9.3145E-02	1.3129E-08	1.0553E-08	1.3057E-08	9.31275E-02
239Pu(H)	6.0316E-16	2.1201E-10	4.2605E-06	4.3155E-03	2.2089E-01	1.0314E+00	1.2687E+00	1.2739E+00	5.5691E-06	4.9120E-06	5.5388E-06	1.27383E+00
240Pu(F)	3.0350E-14	7.4907E-09	1.5709E-05	5.4022E-03	3.9366E-02	9.6375E-02	9.8651E-02	9.8669E-02	2.0493E-09	1.6473E-09	2.0381E-09	9.86465E-02
241Pu(T)	5.4691E-13	5.4115E-08	5.9671E-05	9.2763E-03	4.3307E-02	7.1861E-02	7.2512E-02	7.2514E-02	1.3571E-10	1.0533E-10	1.3496E-10	7.24899E-02
241Pu(F)	8.4325E-13	5.2697E-08	7.8449E-05	1.1842E-02	6.9996E-02	1.1535E-01	1.1675E-01	1.1675E-01	3.8468E-10	3.0921E-10	3.8257E-10	1.16699E-01
242Pu(F)	9.3027E-12	1.5600E-07	1.0716E-04	2.4437E-02	8.0747E-02	1.5046E-01	1.5145E-01	1.5146E-01	1.8829E-10	1.5135E-10	1.8726E-10	1.51402E-01
252Cf(S)	5.7437E-12	6.2244E-07	1.5003E-03	2.3902E-01	1.9969E+00	3.3923E+00	3.4522E+00	3.4524E+00	2.7661E-08	2.1460E-08	2.7499E-08	3.45107E+00

Table 2.7.1 Continued

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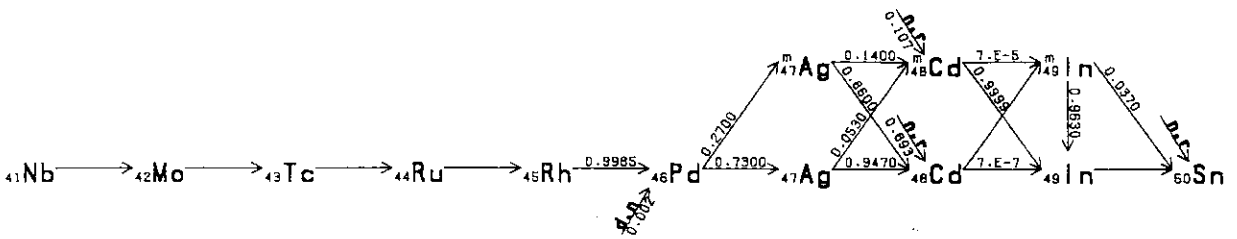
Mass No. 115



	41Nb	42Mo	43Tc	44Ru	45Rh	46Pd	47Ag	m47Ag	48Cd	m48Cd	49In	m49In	50Sn	Mass Yield
λ(1/sec)	1.5789E+01	2.5390E+00	7.9453E-01	3.2696E-01	8.0533E-02	1.8533E-02	5.7762E-04	3.8508E-02	3.5016E-06	1.7988E-07	4.3068E-23	4.4777E-05	0.0	
Q-value(MeV)	1.1291E+01	1.0731E+01	8.6810E+00	7.3970E+00	5.6000E+00	4.4140E+00	3.1830E+00	3.1830E+00	1.4476E+00	1.6210E+00	4.9500E-01	8.3123E-01	0.0	
E-beta (MeV)	3.7360E+00	3.5980E+00	2.9950E+00	2.6380E+00	2.0210E+00	1.3453E+00	1.1101E+00	9.3299E-01	3.1867E-01	6.0977E-01	1.5216E-01	1.0370E-02	0.0	
E-gamma(MeV)	3.2730E+00	2.9980E+00	2.1520E+00	1.8060E+00	1.0640E+00	1.2612E+00	4.5307E-01	8.8150E-01	1.9188E-01	2.1889E-02	0.0	1.6328E-01	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4965E-03	0.0	0.0	1.6075E-01	0.0	
Spin							1/2-	7/2+	1/2+	11/2-	9/2+	1/2-	1/2+	
Cumulative yield 232Th(F)	1.7794E-12	7.9389E-09	1.8252E-05	1.0547E-02	4.4346E-02	7.0999E-02	5.1891E-02	1.9632E-02	6.6025E-02	5.5001E-03	6.9082E-02	6.6025E-02	7.1525E-02	7.15338E-02
232Th(H)	5.2183E-13	1.1608E-09	2.3497E-05	3.5043E-02	5.7329E-01	1.2424E+00	9.1205E-01	3.9686E-01	1.2051E+00	1.0425E-01	1.2647E+00	1.2051E+00	1.3093E+00	1.30942E+00
233U (T)	1.2169E-17	4.1635E-14	3.4642E-09	3.9184E-05	1.5965E-03	1.0025E-02	7.5990E-03	4.5432E-03	1.1119E-02	1.0910E-03	1.1799E-02	1.1119E-02	1.2210E-02	1.22114E-02
233U (F)	7.7862E-18	1.7146E-13	1.5667E-08	1.7400E-04	8.0961E-03	4.7440E-02	3.5848E-02	2.1943E-02	5.2883E-02	5.2142E-03	5.6140E-02	5.2883E-02	5.8097E-02	5.81024E-02
233U (H)	7.2674E-18	2.4765E-13	4.8658E-08	1.1650E-03	1.2061E-01	9.4772E-01	7.2620E-01	6.6847E-01	1.2653E+00	1.4864E-01	1.3674E+00	1.2653E+00	1.4142E+00	1.41429E+00
235U (T)	1.3894E-15	2.3030E-12	5.6112E-08	1.8796E-04	3.1263E-03	1.0414E-02	7.6982E-03	3.4380E-03	1.0246E-02	8.9398E-04	1.0763E-02	1.0246E-02	1.1142E-02	1.11426E-02
235U (F)	2.1865E-16	2.0214E-11	3.6961E-07	7.6586E-04	1.1125E-02	2.8835E-02	2.1227E-02	9.1174E-03	2.7945E-02	2.4116E-03	2.9323E-02	2.7946E-02	3.0557E-02	3.03606E-02
235U (H)	2.2959E-16	1.7673E-12	2.1934E-07	2.2931E-03	1.4392E-01	7.6802E-01	5.7755E-01	4.1024E-01	9.0065E-01	9.3034E-02	9.6028E-01	9.0056E-01	9.9360E-01	9.93710E-01
236U (F)	1.4904E-14	1.1895E-10	1.3924E-06	2.0630E-03	2.2791E-02	5.1096E-02	3.7512E-02	1.5386E-02	4.8758E-02	4.1516E-03	5.1105E-02	4.8758E-02	5.2910E-02	5.29274E-02
238U (F)	1.1772E-12	5.0599E-09	1.0560E-05	5.5805E-03	2.2291E-02	3.4740E-02	2.5387E-02	9.5811E-03	3.2281E-02	2.6874E-03	3.3774E-02	3.2281E-02	3.4969E-02	3.49587E-02
238U (H)	3.9142E-13	2.7679E-09	3.3665E-05	3.4462E-02	4.3186E-01	8.3602E-01	6.1394E-01	2.5250E-01	7.9867E-01	5.8003E-02	8.3702E-01	7.9857E-01	8.6657E-01	8.66784E-01
237Np(F)	2.5285E-16	2.6691E-12	1.3817E-07	4.6701E-04	1.4387E-02	4.4867E-02	3.3408E-02	1.7033E-02	4.6300E-02	4.2065E-03	4.8796E-02	4.6301E-02	5.0509E-02	5.05169E-02
239Pu(T)	1.2429E-17	1.6967E-13	1.3360E-08	1.3404E-04	5.4478E-03	3.0862E-02	2.3307E-02	1.3421E-02	3.3652E-02	3.2406E-03	3.5648E-02	3.3652E-02	3.6893E-02	3.68950E-02
239Pu(F)	3.0449E-17	4.4549E-13	3.5226E-08	2.9709E-04	1.2217E-02	5.2025E-02	4.6655E-02	2.7093E-02	6.7542E-02	6.4930E-03	7.1535E-02	6.7543E-02	7.4036E-02	7.40457E-02
239Pu(H)	1.7184E-18	3.2935E-14	8.7603E-09	3.7602E-04	5.5679E-02	5.8519E-01	4.5770E-01	5.2429E-01	8.8764E-01	1.1809E-01	9.7297E-01	8.8766E-01	1.0058E+00	1.00586E+00
240Pu(F)	1.9202E-16	3.7553E-12	1.3441E-07	6.9807E-04	1.4971E-02	6.2497E-02	4.6322E-02	2.2125E-02	6.2917E-02	5.6392E-03	6.6229E-02	6.2918E-02	6.8657E-02	6.86641E-02
241Pu(T)	3.9098E-15	5.1178E-11	7.1189E-07	1.3794E-03	1.6500E-02	4.1650E-02	3.0784E-02	1.2825E-02	4.0185E-02	3.4383E-03	4.2137E-02	4.0185E-02	4.3624E-02	4.36370E-02
241Pu(F)	8.5068E-15	6.8627E-11	1.2834E-06	2.6359E-03	3.8978E-02	1.0031E-01	7.9856E-02	3.1792E-02	9.7293E-02	8.4014E-03	1.0209E-01	9.7293E-02	1.0569E-01	1.05714E-01
242Pu(F)	3.1950E-14	1.6467E-10	1.6379E-06	3.9380E-03	3.5521E-02	1.0237E-01	7.5126E-02	3.0634E-02	9.7497E-02	8.2965E-03	1.0219E-01	9.7498E-02	1.0580E-01	1.05821E-01
252Cf(S)	4.8631E-14	6.3753E-10	1.8489E-05	4.2997E-02	8.8808E-01	2.4019E+00	1.7775E+00	8.0653E-01	2.3773E+00	2.0841E-01	2.4978E+00	2.3779E+00	2.5857E+00	2.58653E+00

Table 2.7.1 Continued

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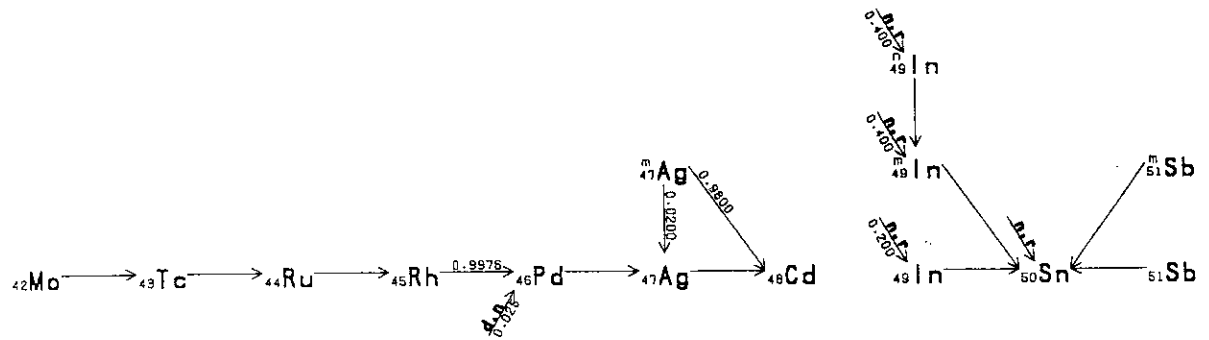
Mass No. 116



		42Mo	43Tc	44Ru	45Rh	46Pd	47Ag	m47Ag	48Cd	49In	m49In	n49In	50Sn	51Sb	m51Sb	Mass Yield
	λ(1/sec)	2.0747E+00	1.5633E+00	1.6578E-01	3.4657E-01	5.0967E-02	4.3106E-03	8.1547E-02	0.0	4.9159E-02	2.1334E-04	3.2090E-01	0.0	7.3117E-04	1.9158E-04	
	Q-value(MeV)	6.6170E+00	1.1428E+01	5.1620E+00	6.6890E+00	2.3110E+00	6.0300E+00	6.1110E+00	0.0	3.2730E+00	3.4003E+00	2.8966E-01	0.0	4.6000E+00	5.2100E+00	
	E-beta (MeV)	3.1730E+00	3.6330E+00	1.8430E+00	2.9670E+00	5.6230E-01	1.5317E+00	1.3458E+00	0.0	1.3702E+00	3.0357E-01	0.0	0.0	4.6635E-01	1.2498E-01	
	E-gamma(MeV)	1.7370E+00	3.4950E+00	9.8600E-01	2.2200E+00	6.0400E-01	2.4773E+00	2.7148E+00	0.0	1.8215E-02	2.4729E+00	5.6836E-02	0.0	1.7165E+00	2.9801E+00	
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0555E-01	0.0	3.2559E-03	5.0356E-02	
	Spin						1+	4+		1+	5+	8-		3+	8-	
Cumulative yield	232Th(F)	3.4308E-09	6.8351E-06	3.4927E-03	2.3993E-02	7.3904E-02	7.4150E-02	1.5908E-03	7.5671E-02	3.9323E-10	2.0273E-09	5.5758E-10	2.4206E-09	4.7760E-21	5.1490E-21	7.54197E-02
	232Th(H)	5.8701E-10	9.3807E-06	7.6955E-03	3.2123E-01	1.3090E+00	1.3402E+00	2.1215E-01	1.5525E+00	4.0148E-07	3.4188E-05	1.1476E-06	3.8202E-06	3.4695E-17	6.5470E-17	1.54986E+00
	233U (T)	1.4108E-13	1.3694E-09	6.7466E-06	6.0650E-04	9.8578E-03	1.0724E-02	3.3610E-03	1.4423E-02	1.5188E-07	6.7378E-07	2.1566E-07	8.2589E-07	1.1822E-15	1.0651E-18	1.44215E-02
	233U (F)	9.8583E-14	6.1001E-09	2.6206E-05	2.8612E-03	4.0795E-02	4.4868E-02	1.7120E-02	6.3188E-02	7.0181E-07	3.5182E-06	1.1736E-06	4.3211E-06	3.8570E-15	4.1583E-15	6.31832E-02
	233U (H)	7.7221E-14	1.5600E-08	1.0502E-04	3.0828E-02	5.8890E-01	6.8437E-01	6.4727E-01	1.4022E+00	5.8225E-05	4.9578E-04	1.8642E-04	5.5420E-04	1.6901E-12	3.2380E-12	1.40274E+00
	235U (T)	2.0795E-12	2.8095E-08	5.3916E-05	1.8525E-03	1.4405E-02	1.4906E-02	1.9468E-03	1.5914E-02	1.3610E-08	6.0374E-08	1.9316E-08	7.3991E-08	9.0047E-19	8.1127E-19	1.69052E-02
	235U (F)	1.2694E-11	1.5294E-07	1.7907E-04	5.6516E-03	3.0156E-02	3.0989E-02	3.6809E-03	3.4711E-02	1.2373E-08	5.3782E-08	2.0891E-08	7.6171E-08	4.0224E-18	4.3366E-18	3.46557E-02
	235U (H)	1.4632E-12	6.7404E-08	2.5108E-04	4.3456E-02	5.3245E-01	6.8661E-01	3.6718E-01	9.7809E-01	1.2339E-05	1.0607E-04	3.5269E-05	1.1743E-04	4.5308E-14	8.8804E-14	9.76062E-01
	236U (F)	3.8600E-11	3.2704E-07	2.9432E-04	6.8272E-03	3.0440E-02	3.1037E-02	2.5395E-03	3.3688E-02	4.9080E-09	2.5294E-08	8.2041E-09	3.0201E-08	7.9974E-19	8.6221E-19	3.36242E-02
	238U (F)	2.4429E-09	4.4977E-06	2.1460E-03	1.3876E-02	4.0827E-02	4.1002E-02	7.7190E-04	4.1769E-02	1.7078E-10	8.6046E-10	2.8558E-10	1.0513E-09	1.7573E-21	1.8945E-21	4.16254E-02
	238U (H)	8.4914E-10	9.7525E-06	5.8017E-03	1.8113E-01	6.0440E-01	6.1460E-01	6.9158E-02	6.8342E-01	6.9797E-08	5.9431E-07	1.9950E-07	6.6413E-07	1.3224E-17	2.5335E-17	6.81943E-01
	237Np(F)	1.3600E-12	4.5202E-08	6.9446E-05	5.6025E-03	3.4869E-02	3.7291E-02	1.0706E-02	4.8202E-02	1.2184E-07	6.2817E-07	2.0375E-07	7.5007E-07	1.3149E-16	1.4176E-16	4.81769E-02
	239Pu(T)	1.8156E-13	6.2520E-09	2.6015E-05	2.4078E-03	3.3669E-02	3.6717E-02	1.1823E-02	4.9512E-02	4.6739E-07	2.0734E-06	6.6334E-07	2.5414E-06	1.2595E-15	1.1349E-15	4.95006E-02
	239Pu(F)	2.3028E-13	1.0103E-08	3.4821E-05	3.3778E-03	4.0192E-02	4.3621E-02	1.5156E-02	5.9737E-02	4.5176E-07	2.3291E-06	7.5545E-07	2.7814E-06	1.3559E-15	1.4618E-15	5.97157E-02
	239Pu(H)	2.4856E-14	3.7802E-05	3.5306E-05	1.4698E-02	3.9350E-01	4.8147E-01	5.9640E-01	1.1723E+00	1.0637E-04	9.0569E-04	3.0402E-04	1.0126E-03	3.3703E-12	6.4570E-12	1.17332E+00
	240Pu(F)	2.7703E-12	5.0208E-08	1.4006E-04	6.2197E-03	6.4469E-02	6.7103E-02	1.1646E-02	7.9338E-02	1.3095E-07	6.7513E-07	2.1898E-07	8.0621E-07	2.0044E-16	2.1609E-16	7.92966E-02
	241Pu(T)	1.7905E-11	1.6306E-07	1.9322E-04	4.7275E-03	2.5599E-02	2.6212E-02	2.3791E-03	2.8621E-02	7.1762E-09	3.1835E-08	1.0185E-08	3.9013E-08	2.3261E-18	2.0956E-18	2.85864E-02
	241Pu(F)	3.4298E-11	4.2501E-07	4.8840E-04	1.5872E-02	8.3321E-02	8.5681E-02	1.0429E-02	9.6220E-02	3.5413E-08	1.8268E-07	5.9220E-08	2.1800E-07	1.0117E-17	1.0907E-17	9.61167E-02
	242Pu(F)	7.7501E-11	4.4008E-07	7.6045E-04	1.1932E-02	8.7777E-02	8.9035E-02	5.5629E-03	9.4745E-02	1.3191E-08	6.8010E-08	2.2059E-08	8.1209E-08	1.1320E-18	1.2204E-18	9.46256E-02
	252Cf(S)	1.5296E-10	3.2672E-05	4.1555E-03	2.2349E-01	1.2311E+00	1.3798E+00	5.7669E-01	1.9570E+00	2.6024E-06	1.1545E-05	3.6935E-06	1.4148E-05	1.8235E-15	1.6429E-15	1.95634E+00

Table 2.7.1 Continued

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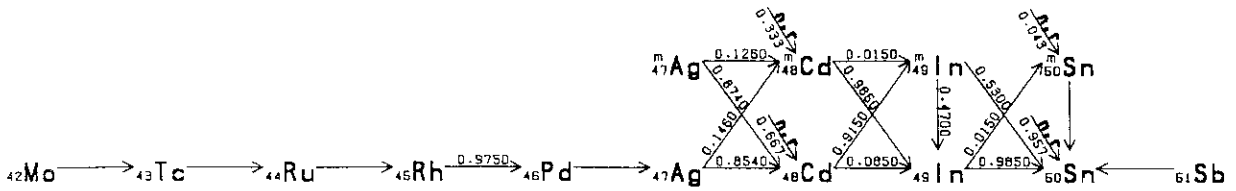
Mass No. 117



		^{42}Mo	^{43}Tc	^{44}Ru	^{45}Rh	^{46}Pd	^{47}Ag	$^{m}_{47}$Ag	^{48}Cd	$^{m}_{48}$Cd	^{49}In	$^{m}_{49}$In	^{50}Sn	$^{m}_{50}$Sn	^{51}Sb	Mass Yield
λ(1/sec)		1.1572E+01	1.1549E+00	4.8744E-01	4.0773E-01	1.3863E-01	1.2980E-01	9.5475E-03	7.7326E-05	5.7304E-05	2.7311E-04	9.9762E-05	0.0	5.7304E-07	6.8766E-05	
Q-value(MeV)		1.1558E+01	9.2680E+00	7.9420E+00	6.4520E+00	5.4170E+00	4.1760E+00	4.2660E+00	2.5280E+00	2.6645E+00	1.4550E+00	1.7703E+00	0.0	3.1458E-01	1.7450E+00	
E-beta (MeV)		3.7800E+00	3.1730E+00	2.6970E+00	2.2890E+00	1.9150E+00	1.4574E+00	1.2374E+00	4.1954E-01	2.0619E-01	2.4700E-01	3.5090E-01	0.0	0.0	4.4443E-03	
E-gamma(MeV)		3.4420E+00	2.3900E+00	2.0260E+00	1.3590E+00	1.0870E+00	8.4610E-01	1.3374E+00	1.1055E+00	2.0258E+00	6.8107E-01	6.6676E-02	0.0	1.3684E-01	1.6347E-01	
E-I.C (MeV)		0.0	0.0	0.0	0.0	0.0	1.5273E-02	9.7398E-03	1.0609E-02	0.0	2.1094E-02	9.8238E-02	0.0	1.7709E-01	0.0	
Spin							1/2-	7/2+	1/2+	11/2-	9/2+	1/2-	1/2+	11/2-	5/2+	
Cumulative Yield	^{232}Th(F)	2.4172E-12	8.6354E-08	5.9814E-04	1.2379E-02	6.1725E-02	6.2424E-02	5.2451E-03	5.7923E-02	9.8859E-03	3.9541E-02	5.3148E-02	6.7809E-02	5.9461E-04	2.0523E-18	6.81188E-02
	^{232}Th(H)	2.5968E-11	3.9977E-08	1.1710E-03	1.3600E-01	1.1809E+00	1.2295E+00	5.8336E-01	1.5541E+00	2.7948E-01	1.0829E+00	1.4354E+00	1.8437E+00	1.6244E-02	2.1648E-14	1.84710E+00
	^{233}U (T)	1.4116E-15	1.8515E-12	4.8980E-07	1.4143E-04	4.5780E-03	5.4193E-03	4.8504E-03	9.1310E-03	2.2662E-03	6.9568E-03	8.3902E-03	1.1404E-02	1.0436E-04	1.8553E-14	1.14071E-02
	^{233}U (F)	6.3577E-16	7.1658E-12	1.9900E-06	6.5800E-04	2.0129E-02	2.3353E-02	2.4214E-02	4.2167E-02	1.0475E-02	3.2145E-02	3.8746E-02	5.2580E-02	4.8219E-04	5.7977E-13	5.26967E-02
	^{233}U (H)	4.4426E-16	7.6794E-12	5.6700E-06	5.0267E-03	2.5503E-01	3.1878E-01	7.6552E-01	9.7510E-01	3.5183E-01	8.5569E-01	8.9602E-01	1.3316E+00	1.2840E-02	2.4900E-10	1.33177E+00
	^{235}U (T)	1.1385E-13	5.9009E-11	4.9289E-06	5.3081E-04	7.6399E-03	8.1821E-03	2.2392E-03	9.0410E-03	1.7921E-03	6.4351E-03	8.2995E-03	1.0834E-02	9.6527E-05	1.6354E-15	1.08471E-02
	^{235}U (F)	1.7990E-13	6.9975E-10	2.4489E-05	2.2465E-03	2.3190E-02	2.4367E-02	8.8369E-03	2.8656E-02	5.1391E-03	1.9859E-02	2.6298E-02	3.3796E-02	2.9788E-04	1.1354E-15	3.36526E-02
	^{235}U (H)	1.3184E-14	5.7431E-11	1.9101E-05	9.9696E-03	3.1233E-01	3.6192E-01	5.9532E-01	8.4615E-01	2.3143E-01	6.8673E-01	7.7786E-01	1.0790E+00	1.0002E-02	2.5301E-11	1.07924E+00
	^{236}U (F)	7.1004E-13	2.1577E-09	4.7799E-05	3.2148E-03	2.6747E-02	2.7753E-02	7.5523E-03	3.0384E-02	5.3140E-03	2.0921E-02	2.7881E-02	3.5698E-02	3.1382E-04	2.6699E-16	3.57786E-02
	^{238}U (F)	1.7833E-12	5.7998E-08	3.6543E-04	7.0653E-03	3.3554E-02	3.3904E-02	2.6312E-03	3.1268E-02	5.3336E-03	2.1396E-02	2.8690E-02	3.6601E-02	3.2093E-04	7.5588E-19	3.67779E-02
	^{238}U (H)	1.1507E-11	5.0743E-08	6.9415E-04	7.6457E-02	5.2002E-01	5.3584E-01	1.8993E-01	6.2465E-01	1.0860E-01	4.2948E-01	5.7319E-01	7.3327E-01	6.4422E-03	7.5456E-15	7.35178E-01
	^{237}Np(F)	1.5098E-14	9.5850E-11	7.2501E-06	1.5575E-03	2.1423E-02	2.3809E-02	1.7925E-02	3.6345E-02	7.0424E-03	2.5714E-02	3.3363E-02	4.3396E-02	3.8570E-04	2.4452E-14	4.34349E-02
	^{239}Pu(T)	2.4148E-15	1.1221E-11	2.7909E-06	7.9805E-04	2.3367E-02	2.7073E-02	2.4244E-02	4.5471E-02	1.0811E-02	3.4174E-02	4.1775E-02	5.6314E-02	5.1252E-04	2.5110E-13	5.63342E-02
	^{239}Pu(F)	3.4547E-15	2.1459E-11	4.4414E-06	1.2798E-03	3.2747E-02	3.7422E-02	3.5109E-02	6.3932E-02	1.4763E-02	4.7611E-02	5.8726E-02	7.8736E-02	7.1418E-04	3.4390E-13	7.87677E-02
	^{239}Pu(H)	1.3942E-16	1.5482E-12	1.8801E-06	2.3540E-03	1.6416E-01	2.1925E-01	6.6140E-01	8.0418E-01	3.5558E-01	7.7396E-01	7.4189E-01	1.1672E+00	1.1619E-02	7.9304E-10	1.16728E+00
	^{240}Pu(F)	2.5366E-14	1.4274E-10	1.5902E-05	2.2861E-03	4.5510E-02	4.8975E-02	2.6020E-02	5.5310E-02	1.3243E-02	4.6786E-02	5.9959E-02	7.8564E-02	7.0179E-04	4.9309E-14	7.86213E-02
	^{241}Pu(T)	1.9288E-13	7.9972E-10	2.4807E-05	1.8333E-03	1.8459E-02	1.9323E-02	5.6520E-03	2.1529E-02	3.8189E-03	1.4878E-02	1.9756E-02	2.5349E-02	2.2316E-04	5.5848E-16	2.53944E-02
	^{241}Pu(F)	5.1158E-13	1.6101E-09	5.8597E-05	5.8493E-03	5.9071E-02	6.2210E-02	2.3572E-02	7.4064E-02	1.3321E-02	5.1365E-02	6.7969E-02	8.7388E-02	7.7047E-04	2.6514E-15	8.76295E-02
	^{242}Pu(F)	2.6206E-12	2.6666E-09	1.0600E-04	5.9341E-03	7.5230E-02	7.7629E-02	1.8023E-02	8.2362E-02	1.4799E-02	5.7104E-02	7.5584E-02	9.7169E-02	8.6656E-04	4.4901E-16	9.73119E-02
	^{252}Cf(S)	8.7015E-13	6.3848E-09	3.1671E-04	4.8438E-02	5.9742E-01	6.6105E-01	4.1632E-01	9.3540E-01	1.7185E-01	6.5239E-01	8.5849E-01	1.1074E+00	9.7858E-03	2.9241E-13	1.10862E+00

Table 2.7.1 Continued

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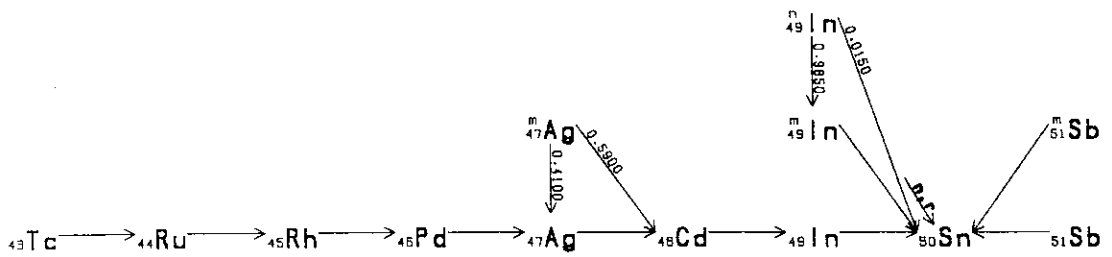
Mass No. 118



	43Tc	44Ru	45Rh	46Pd	47Ag	m47Ag	48Cd	49In	m49In	n49In	50Sn	51Sb	m51Sb	Mass Yield
λ(1/sec)	2.2756E+00	3.0071E-01	4.5602E-01	2.2360E-01	1.7329E-01	2.4755E-01	2.2967E-04	1.3863E-01	2.5961E-03	8.1547E-02	0.0	3.2090E-03	3.8508E-05	
Q-value(MeV)	1.2130E+01	5.8060E+00	9.2230E+00	3.2430E+00	7.2620E+00	7.3897E+00	7.5000E-01	4.2000E+00	4.2600E+00	4.4600E+00	0.0	3.6863E+00	3.8983E+00	
E-beta (MeV)	3.8770E+00	2.0940E+00	3.0940E+00	1.0440E+00	2.5790E+00	1.1278E+00	2.3452E-01	1.7845E+00	5.7190E-01	1.0680E-02	0.0	8.8787E-01	2.0600E-04	
E-gamma(MeV)	3.8350E+00	1.1180E+00	2.4940E+00	7.1540E-01	1.5630E+00	1.8527E+00	2.9919E-02	7.7824E-02	2.7201E+00	7.1610E-02	0.0	8.0317E-01	2.5596E+00	
E-i.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0343E-01	0.0	0.0	2.1730E-02	
Spin					1+	4+		1+	5+	8-		1+	8-	
Cumulative yield 232Th(F)	2.1928E-09	9.1522E-05	3.7454E-03	5.3249E-02	5.8741E-02	8.9109E-03	6.4897E-02	6.4897E-02	6.7894E-07	2.2064E-07	6.4898E-02	9.5462E-17	1.5964E-16	6.48979E-02
232Th(H)	4.3600E-10	7.6801E-05	2.5894E-02	5.6948E-01	9.5261E-01	7.1281E-01	1.4793E+00	1.4794E+00	7.2667E-04	2.4513E-04	1.4801E+00	1.5940E-12	4.5561E-12	1.48011E+00
233U (T)	2.0574E-14	3.5086E-08	2.4225E-05	2.4892E-03	5.6960E-03	4.9503E-03	1.2186E-02	1.2196E-02	4.3187E-05	1.3883E-05	1.2239E-02	1.8924E-12	2.6857E-12	1.22395E-02
233U (F)	7.3229E-14	1.1500E-07	9.9716E-05	9.1548E-03	2.3444E-02	2.3188E-02	5.1595E-02	5.1639E-02	2.2337E-04	7.2807E-05	5.1864E-02	9.7484E-12	1.6302E-11	5.18640E-02
233U (H)	5.7777E-14	2.0700E-07	5.5621E-04	8.1366E-02	4.0735E-01	6.0649E-01	1.2727E+00	1.2756E+00	2.4060E-02	8.1241E-03	1.2999E+00	3.5042E-09	1.0016E-08	1.29986E+00
235U (T)	1.3041E-12	3.0193E-07	7.5185E-05	3.2895E-03	6.5544E-03	5.0401E-03	1.0927E-02	1.0926E-02	6.4144E-06	2.0620E-06	1.0935E-02	6.5286E-15	9.2656E-15	1.09346E-02
235U (F)	1.0334E-11	2.3090E-06	5.3607E-04	1.5308E-02	2.3048E-02	1.2569E-02	3.3092E-02	3.3095E-02	1.1613E-05	3.7853E-06	3.3106E-02	4.0031E-14	6.5941E-14	3.31064E-02
235U (H)	5.2120E-13	8.9705E-07	1.4070E-03	1.2405E-01	4.3673E-01	5.8175E-01	1.0946E+00	1.0957E+00	9.1983E-03	3.1033E-03	1.1049E+00	4.5903E-10	1.3121E-09	1.10492E+00
236U (F)	4.0558E-11	5.5299E-06	8.9352E-04	1.9798E-02	2.7060E-02	1.1784E-02	3.5928E-02	3.5929E-02	5.8842E-06	1.8179E-06	3.5935E-02	1.0461E-14	1.7494E-14	3.59352E-02
239U (F)	1.7281E-09	6.4576E-05	2.4524E-03	3.2940E-02	3.6105E-02	5.1360E-03	3.9622E-02	3.9622E-02	2.8037E-07	9.1386E-08	3.9622E-02	4.0536E-17	6.7787E-17	3.96222E-02
238U (H)	8.8054E-10	9.3116E-05	2.2916E-02	3.8269E-01	5.7756E-01	3.5255E-01	8.3222E-01	8.3224E-01	1.9592E-04	6.6099E-05	8.3244E-01	3.0080E-13	8.5977E-13	8.32437E-01
237Np(F)	1.7787E-12	5.9801E-07	4.2170E-04	1.4443E-02	3.1770E-02	2.8118E-02	5.5227E-02	5.5242E-02	7.7514E-06	2.5265E-06	5.5320E-02	6.0520E-13	8.4482E-13	5.53205E-02
239Pu(T)	8.7438E-14	1.2204E-07	8.6450E-05	7.5199E-03	1.7571E-02	1.5516E-02	3.6270E-02	3.6297E-02	1.1910E-04	3.8286E-05	3.6417E-02	4.5112E-12	6.4024E-12	3.64171E-02
239Pu(F)	1.8748E-13	2.2007E-07	1.6827E-04	1.2608E-02	3.0447E-02	2.8949E-02	6.2490E-02	6.2530E-02	2.0675E-04	6.7393E-05	6.2739E-02	6.4123E-12	1.0725E-11	6.27385E-02
239Pu(H)	1.0423E-14	6.1603E-08	2.4207E-04	5.0802E-02	3.3391E-01	5.2672E-01	1.2427E+00	1.2474E+00	3.9098E-02	1.3191E-02	1.2869E+00	1.2053E-08	3.4450E-08	1.28687E+00
240Pu(F)	1.6592E-12	1.3201E-06	4.3536E-04	2.6578E-02	4.4232E-02	2.8649E-02	7.3814E-02	7.3829E-02	7.8021E-05	2.5430E-05	7.3907E-02	5.0524E-13	8.4489E-13	7.39073E-02
241Pu(T)	1.3064E-11	2.5907E-06	4.4672E-04	1.2639E-02	1.7626E-02	7.6981E-03	2.3819E-02	2.3820E-02	5.2803E-06	1.6975E-06	2.3826E-02	2.0292E-14	2.8800E-14	2.38257E-02
241Pu(F)	2.5647E-11	5.6297E-06	1.3466E-03	3.7705E-02	5.7307E-02	3.1810E-02	8.2613E-02	8.2618E-02	2.9670E-05	9.6707E-06	8.2648E-02	9.0842E-14	1.5191E-13	8.26481E-02
242Pu(F)	3.8603E-11	1.1400E-05	1.2694E-03	5.3446E-02	6.6854E-02	2.1757E-02	8.6564E-02	8.6566E-02	1.4469E-05	4.7161E-06	8.6581E-02	1.4646E-14	2.4492E-14	8.65808E-02
252Cf(S)	5.7428E-11	2.1580E-05	9.6089E-03	3.1237E-01	5.8663E-01	3.9249E-01	8.9475E-01	8.9494E-01	7.8705E-04	2.5901E-04	8.9573E-01	5.3021E-12	8.9441E-12	8.95732E-01

Table 2.7.1 Continued

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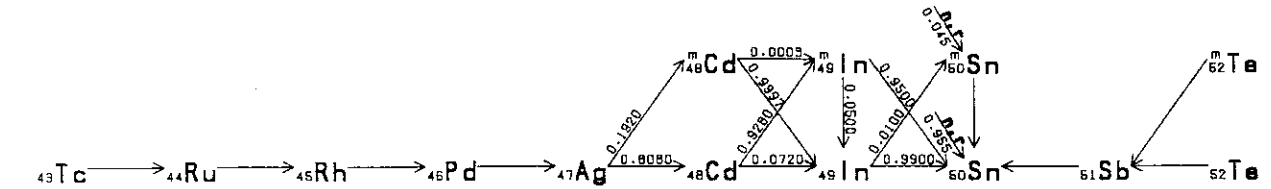
Mass No. 119



		$_{43}$Tc	$_{44}$Ru	$_{45}$Rh	$_{46}$Pd	$_{47}$Ag	$_{48}$Cd	$_{48}^{m}$Cd	$_{49}$In	$_{49}^{m}$In	$_{50}$Sn	$_{50}^{m}$Sn	$_{51}$Sb	$_{52}$Te	$_{52}^{m}$Te	Mass Yield
	λ(1/sec)	5.4579E+00	8.0702E-01	2.7214E-01	1.1636E-01	3.3007E-01	4.2767E-03	6.0802E-03	5.5012E-03	6.4180E-04	0.0	3.2745E-08	5.0669E-06	1.1996E-05	1.7142E-06	
	Q-value(MeV)	9.9200E+00	8.6820E+00	7.0690E+00	6.0720E+00	5.3500E+00	3.5000E+00	3.6464E+00	2.3370E+00	2.6463E+00	0.0	8.9540E-02	5.8400E-01	2.2940E+00	2.5940E+00	
	E-beta (MeV)	3.2640E+00	2.9200E+00	2.4760E+00	2.1110E+00	1.5613E+00	9.1680E-01	7.9995E-01	5.6373E-01	9.7774E-01	0.0	0.0	0.0	8.0420E-03	7.1396E-03	
	E-gamma(MeV)	2.8470E+00	2.3110E+00	1.5980E+00	1.3370E+00	1.7351E+00	1.1975E+00	2.3653E+00	8.3750E-01	1.2970E-01	0.0	3.8924E-03	3.8924E-03	7.4990E-01	1.4889E+00	
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	4.0200E-03	0.0	0.0	0.0	0.0	8.5648E-02	1.9988E-02	0.0	9.1194E-03	
	Spin					7/2+	1/2+	11/2-	9/2+	1/2-	1/2+	11/2-	5/2+	1/2+	11/2-	
Cumulative yield	^{232}Th(F)	8.9709E-11	1.2003E-05	1.5294E-03	3.5523E-02	5.6014E-02	4.5867E-02	1.3056E-02	1.8490E-02	4.2670E-02	5.8931E-02	1.8490E-04	1.7412E-14	2.8593E-21	1.0826E-20	5.89307E-02
	^{232}Th(H)	7.9195E-12	5.9401E-06	5.2720E-03	2.7093E-01	1.1515E+00	9.6672E-01	4.4546E-01	5.5432E-01	8.9781E-01	1.4172E+00	5.6490E-03	2.7200E-10	2.8023E-17	1.7315E-16	1.41724E+00
	^{233}U (T)	9.8037E-14	2.1391E-09	4.3503E-06	8.8699E-04	5.5297E-03	6.6382E-03	5.7111E-03	6.6881E-03	5.2060E-03	1.2585E-02	8.7716E-05	1.2495E-10	5.8659E-17	2.2434E-16	1.25848E-02
	^{233}U (F)	7.5224E-14	8.5601E-09	2.0709E-05	3.9988E-03	3.3896E-02	3.3441E-02	2.9427E-02	3.4534E-02	3.1273E-02	6.4250E-02	3.5014E-04	8.2101E-10	2.3196E-15	8.7826E-15	6.42495E-02
	^{233}U (H)	2.9783E-14	8.0601E-09	5.6409E-05	2.1541E-02	4.5393E-01	4.8372E-01	5.8619E-01	8.1938E-01	4.4033E-01	1.2384E+00	8.8281E-03	2.9901E-07	8.1208E-13	5.0180E-12	1.23843E+00
	^{235}U (T)	5.7477E-12	4.0291E-08	2.9734E-05	2.4672E-03	9.0057E-03	8.0035E-03	4.1075E-03	5.0946E-03	7.4378E-03	1.2161E-02	5.1015E-05	3.6492E-12	4.5493E-19	1.4886E-18	1.21505E-02
	^{235}U (F)	2.8238E-13	2.2190E-07	1.4216E-04	8.1146E-03	2.7494E-02	2.3566E-02	1.0395E-02	1.3259E-02	2.1888E-02	3.4052E-02	1.3267E-04	3.8783E-12	2.4771E-18	9.3788E-18	3.40521E-02
	^{235}U (H)	7.8347E-13	4.4102E-08	1.8605E-04	4.0585E-02	5.4677E-01	5.1524E-01	5.5883E-01	6.5699E-01	4.8297E-01	1.1160E+00	6.7501E-03	4.9403E-08	4.6115E-14	2.8495E-13	1.11602E+00
	^{236}U (F)	1.1540E-12	5.6399E-07	2.5256E-04	1.0869E-02	3.0010E-02	2.5278E-02	9.6619E-03	1.2694E-02	2.3469E-02	3.4990E-02	1.2697E-04	1.0700E-12	4.8913E-19	1.8619E-18	3.49898E-02
	^{238}U (F)	7.2106E-11	8.5801E-06	1.0148E-03	2.2200E-02	3.4164E-02	2.7938E-02	7.8218E-03	1.1191E-02	2.5929E-02	3.5764E-02	1.1131E-04	7.5330E-15	1.1484E-21	4.3406E-21	3.57697E-02
	^{238}U (H)	1.5893E-11	7.3912E-06	4.7542E-03	1.8217E-01	6.3188E-01	5.2470E-01	2.0870E-01	2.7206E-01	4.8715E-01	7.3485E-01	2.7216E-03	4.0607E-11	1.2615E-17	7.7952E-17	7.34852E-01
	^{237}Np(F)	1.5957E-12	5.7001E-08	8.5058E-05	6.6721E-03	4.0608E-02	3.5866E-02	1.9362E-02	2.5990E-02	3.3366E-02	5.5669E-02	2.4053E-04	6.6301E-11	6.0101E-17	2.2756E-16	5.55888E-02
	^{238}Pu(T)	1.2154E-13	8.0826E-09	1.6313E-05	2.9143E-03	2.1464E-02	2.1305E-02	1.7086E-02	2.0164E-02	1.9904E-02	3.9076E-02	2.0376E-04	3.1310E-10	5.7644E-16	1.8862E-15	3.90757E-02
	^{239}Pu(F)	2.0206E-13	1.4204E-08	2.9823E-05	4.7502E-03	3.6300E-02	3.4725E-02	2.7393E-02	3.2408E-02	3.2414E-02	6.3205E-02	3.2718E-04	4.6114E-10	6.0954E-16	3.0651E-15	6.32048E-02
	^{239}Pu(H)	1.1754E-14	2.1801E-09	2.3203E-05	1.2373E-02	3.6181E-01	3.9883E-01	7.2761E-01	8.9339E-01	3.8517E-01	1.2609E+00	1.0308E-02	9.4508E-07	3.7750E-12	2.3326E-11	1.26090E+00
	^{240}Pu(F)	1.2834E-12	8.8609E-08	9.0898E-05	1.0821E-02	4.8674E-02	4.4509E-02	2.8951E-02	3.4872E-02	4.1403E-02	7.4008E-02	3.4785E-04	8.1008E-11	1.4642E-16	5.5438E-16	7.40064E-02
	^{241}Pu(T)	8.6821E-12	1.5904E-11	1.6706E-07	1.6121E-04	4.5254E-03	7.5301E-03	1.3544E-02	1.6646E-02	7.4981E-03	2.3827E-02	2.1097E-04	3.3711E-08	4.1675E-13	1.3637E-12	2.38270E-02
	^{241}Pu(F)	6.6661E-13	5.2197E-07	3.4050E-04	1.9219E-02	6.6041E-02	5.5587E-02	2.4892E-02	3.1771E-02	5.2557E-02	8.1700E-02	3.1792E-04	9.5435E-12	5.1828E-18	1.9547E-17	8.17002E-02
	^{242}Pu(F)	1.2821E-12	1.1100E-06	4.1312E-04	2.8524E-02	6.9557E-02	5.9730E-02	2.6711E-02	3.3893E-02	5.5461E-02	8.6681E-02	3.9910E-04	4.1401E-12	1.1689E-18	4.4267E-18	6.65812E-02
	^{252}Cf(S)	1.0522E-11	4.7357E-07	5.8984E-04	4.5723E-02	2.4322E-01	2.1642E-01	1.1182E-01	1.3927E-01	2.0130E-01	3.3061E-01	1.3957E-03	2.6876E-10	3.5733E-16	1.1693E-15	3.30507E-01

Table 2.7.1 Continued

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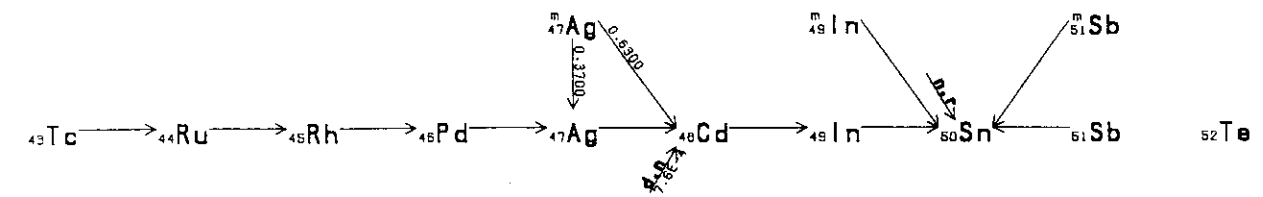
Mass No. 120



	43Tc	44Ru	45Rh	46Pd	47Ag	m47Ag	48Cd	49In	m49In	50Sn	51Sb	m51Sb	52Te	Mass Yield
λ (1/sec)	8.5786E+00	5.3278E-01	6.9377E-01	4.5482E-02	5.9243E-01	2.1661E+00	1.3645E-02	2.2505E-01	1.5611E-02	0.0	7.2703E-04	1.3928E-06	0.0	
Q-value (MeV)	1.2592E+01	6.4990E+00	9.9070E+00	3.9560E+00	7.9880E+00	8.1910E+00	1.7200E+00	5.4000E+00	5.4000E+00	0.0	9.8300E-01	2.6810E+00	0.0	
E-beta (MeV)	3.8240E+00	2.3610E+00	3.2610E+00	1.3430E+00	2.2870E+00	1.3708E+00	6.0720E-01	2.1134E+00	9.5274E-01	0.0	3.0503E-01	0.0	0.0	
E-gamma (MeV)	4.3820E+00	1.2660E+00	2.8370E+00	8.1370E-01	2.8811E+00	2.0659E+00	1.2748E-01	6.4542E-01	2.9758E+00	0.0	4.4063E-01	2.4447E+00	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3485E-03	0.0	0.0	3.9015E-02	0.0	
Spin					3+	6-		1+	5+		1+	8-		
Cumulative yield: ^{232}Th (F)	1.8431E-12	1.4103E-06	3.3849E-04	2.3600E-02	3.7341E-02	1.4195E-02	5.5900E-02	5.5912E-02	4.0100E-05	5.5952E-02	2.7426E-13	4.5854E-13	2.0245E-18	5.59266E-02
^{232}Th (R)	1.4707E-11	3.1200E-07	7.4332E-04	9.8138E-02	4.9402E-01	5.4994E-01	1.3460E+00	1.3496E+00	2.0527E-02	1.3702E+00	2.4985E-09	7.1416E-09	2.2022E-14	1.36989E+00
^{233}U (T)	1.7784E-15	1.0795E-10	4.7991E-07	2.8735E-04	2.5200E-03	2.0776E-03	1.3118E-02	1.3295E-02	5.3903E-04	1.3845E-02	1.0082E-09	1.4308E-09	2.0112E-14	1.38436E-02
^{233}U (F)	1.2180E-15	4.3000E-10	2.4005E-06	1.2904E-03	1.3285E-02	1.2391E-02	6.7178E-02	6.8166E-02	3.4419E-03	7.1662E-02	6.3241E-09	1.0575E-08	6.8183E-13	7.16535E-02
^{233}U (H)	2.4635E-16	2.0600E-10	4.0802E-06	4.0791E-03	1.1195E-01	1.4985E-01	9.5539E-01	9.8798E-01	1.8440E-01	1.1771E+00	1.3374E-06	3.8227E-06	2.8300E-10	1.17705E+00
^{235}U (T)	1.3933E-13	2.6294E-09	4.1117E-06	9.9289E-04	4.0762E-03	2.8692E-03	1.1917E-02	1.1963E-02	1.4087E-04	1.2105E-02	3.7524E-11	5.3266E-11	1.7942E-16	1.21020E-02
^{235}U (F)	2.0756E-13	1.5893E-08	2.3006E-05	3.5474E-03	1.3695E-02	1.0483E-02	3.3952E-02	3.4043E-02	3.1375E-04	3.4358E-02	4.2492E-11	7.1057E-11	1.0549E-15	3.43470E-02
^{235}U (H)	9.0840E-15	1.4401E-09	1.6602E-05	9.7391E-03	1.6668E-01	2.1801E-01	1.0039E+00	1.0234E+00	1.1001E-01	1.1351E+00	2.8252E-07	8.0753E-07	3.4602E-11	1.13499E+00
^{236}U (F)	9.0744E-13	4.9099E-08	4.8949E-05	5.6909E-03	1.7450E-02	1.2148E-02	3.7578E-02	3.7635E-02	2.0356E-04	3.7840E-02	1.4070E-11	2.3529E-11	2.4672E-16	3.78272E-02
^{238}U (F)	1.5997E-12	1.0913E-06	2.4237E-04	1.5839E-02	2.4459E-02	8.9066E-03	3.5766E-02	3.5773E-02	2.1936E-05	3.5795E-02	1.2804E-13	2.1411E-13	8.7799E-19	3.57723E-02
^{238}U (H)	1.0383E-11	5.2509E-07	9.0368E-04	8.7785E-02	3.5533E-01	3.7167E-01	8.5190E-01	8.5931E-01	7.9450E-03	8.6127E-01	5.0600E-10	1.4465E-09	1.2198E-14	8.60990E-01
^{237}Np (F)	3.3053E-14	3.1700E-09	1.2103E-05	2.3191E-03	1.8456E-02	1.6671E-02	5.3616E-02	5.4018E-02	1.4001E-03	5.5426E-02	6.3317E-10	1.0588E-09	1.9381E-14	5.54127E-02
^{239}Pu (T)	1.8013E-15	3.5611E-10	1.6209E-06	8.2089E-04	7.4096E-03	6.1313E-03	3.4678E-02	3.5145E-02	1.4094E-03	3.6576E-02	2.2624E-09	3.2393E-09	1.3195E-13	3.65712E-02
^{239}Pu (F)	3.1147E-15	6.6020E-10	3.2416E-06	1.4077E-03	1.3173E-02	1.2154E-02	5.8359E-02	5.9086E-02	2.5352E-03	6.1664E-02	3.3314E-09	5.5710E-09	2.2339E-13	6.16443E-02
^{239}Pu (H)	9.5669E-17	5.1503E-11	1.5001E-06	2.1846E-03	8.4365E-02	1.1419E-01	9.3838E-01	9.8483E-01	2.6271E-01	1.2571E+00	3.9087E-06	1.1172E-05	1.2201E-09	1.25703E+00
^{240}Pu (F)	2.2779E-14	5.3705E-09	1.1607E-05	4.1120E-03	2.0203E-02	1.6623E-02	7.6325E-02	7.6742E-02	1.4546E-03	7.8212E-02	6.9010E-10	1.1540E-09	5.1111E-14	7.81975E-02
^{241}Pu (T)	2.1029E-13	1.9805E-08	2.0925E-05	3.1658E-03	1.0300E-02	6.6392E-03	2.3746E-02	2.3797E-02	1.5476E-04	2.3953E-02	1.7200E-11	2.4411E-11	4.8266E-16	2.39454E-02
^{241}Pu (F)	5.6910E-13	3.7398E-08	5.5735E-05	8.4093E-03	3.3166E-02	2.5575E-02	8.1898E-02	8.2120E-02	7.7225E-04	8.2895E-02	1.0552E-10	1.7646E-10	2.2156E-15	8.28689E-02
^{242}Pu (F)	1.6972E-12	8.4501E-08	5.7965E-05	1.3198E-02	3.1621E-02	1.9032E-02	8.1256E-02	8.1375E-02	4.1645E-04	8.1795E-02	3.9368E-11	6.5833E-11	5.7470E-16	8.17698E-02
^{252}Cf (S)	1.4328E-13	2.0182E-08	6.5960E-05	1.3692E-02	9.8797E-02	7.9197E-02	2.8530E-01	2.8671E-01	4.2636E-03	2.9100E-01	2.0401E-09	2.8953E-09	1.2309E-13	2.90973E-01

Table 2.7.1 Continued

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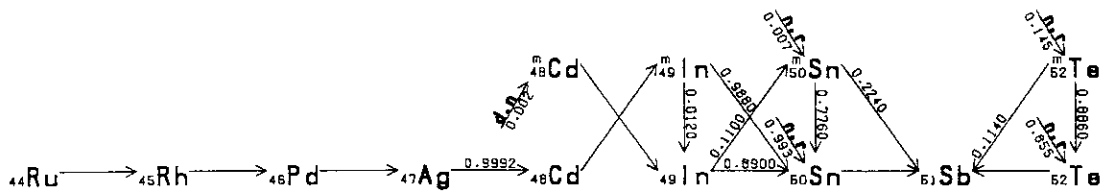
Mass No. 121



	44Ru	45Rh	46Pd	47Ag	48Cd	48mCd	49In	49mIn	50Sn	50mSn	51Sb	52Te	52mTe	Mass Yield
λ(1/sec)	1.0075E+01	4.4065E-01	2.1935E-01	8.7740E-01	5.1344E-02	1.4441E-01	2.3105E-02	2.9774E-03	7.1153E-06	3.9936E-10	0.0	4.7810E-07	5.2094E-08	
Q-value(MeV)	9.1740E+00	7.7220E+00	6.8310E+00	5.9060E+00	4.5130E+00	4.5830E+00	3.3600E+00	3.6736E+00	3.8660E-01	3.9289E-01	0.0	1.0800E+00	1.3740E+00	
E-beta (MeV)	2.9510E+00	2.6710E+00	2.3350E+00	1.6573E+00	1.2957E+00	1.3151E+00	9.2327E-01	1.5033E+00	1.1443E-01	1.0412E-01	0.0	0.0	9.8935E-06	
E-gamma(MeV)	2.7290E+00	1.8520E+00	1.6360E+00	2.0715E+00	1.8837E+00	2.3331E+00	1.0735E+00	5.2907E-02	0.0	9.0800E-03	0.0	5.5673E-01	2.0283E-01	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2308E-02	0.0	9.7800E-03	0.0	8.6953E-04	9.1569E-02	
Spin					3/2+	11/2-	9/2+	1/2-	3/2+	11/2-	5/2+	1/2+	11/2-	
Cumulative yield														
232Th(F)	1.0452E-08	7.3518E-05	8.9477E-03	3.3345E-02	3.7684E-02	1.2242E-02	1.2924E-02	3.7730E-02	4.9884E-02	1.4222E-03	5.0202E-02	1.2224E-16	1.0629E-16	5.02003E-02
232Th(H)	4.7715E-10	6.4801E-05	2.0885E-02	3.8687E-01	4.8061E-01	4.3192E-01	4.8959E-01	4.8712E-01	9.5915E-01	5.4207E-02	9.7129E-01	2.2618E-12	2.1776E-12	9.71107E-01
233U (T)	1.1096E-13	5.4278E-08	6.7227E-05	2.3223E-03	5.3939E-03	7.4229E-03	9.1765E-03	5.7838E-03	1.4714E-02	1.0495E-03	1.4949E-02	2.5545E-12	2.1437E-12	1.49495E-02
233U (F)	1.1616E-11	2.3600E-07	2.8524E-04	1.1903E-02	2.5627E-02	3.8439E-02	4.9102E-02	2.7707E-02	7.5540E-02	5.6430E-03	7.6804E-02	1.7742E-11	1.5426E-11	7.68056E-02
233U (H)	3.7239E-12	2.2700E-07	6.0823E-04	7.9114E-02	1.9883E-01	5.4961E-01	1.3356E+00	2.9711E-01	1.5157E+00	1.5652E-01	1.6531E+00	9.6500E-09	9.1236E-09	1.66309E+00
235U (T)	5.5997E-12	5.9787E-07	2.8853E-04	4.1057E-03	6.4956E-03	5.7802E-03	5.4118E-03	6.6233E-03	1.2804E-02	7.1071E-04	1.2963E-02	6.5404E-15	7.1572E-15	1.29624E-02
235U (F)	4.2552E-11	3.3685E-06	1.0999E-03	1.4052E-02	1.9196E-02	1.4439E-02	1.5890E-02	1.9441E-02	3.4715E-02	1.7560E-03	3.5109E-02	4.8792E-14	4.2423E-14	9.51046E-02
235U (H)	5.2444E-11	1.0000E-05	1.5581E-03	1.2315E-01	2.3851E-01	5.2985E-01	7.6714E-01	2.6792E-01	1.0205E+00	9.2022E-02	1.0412E+00	1.2717E-09	1.2137E-09	1.04115E+00
236U (F)	1.6707E-10	7.5399E-06	1.8255E-03	1.7398E-02	2.2220E-02	1.3553E-02	1.4651E-02	2.2387E-02	3.6413E-02	1.6157E-03	3.6775E-02	1.1651E-14	1.0131E-14	3.67546E-02
238U (F)	1.1557E-08	7.2985E-05	6.3186E-03	2.9507E-02	3.3064E-02	1.0043E-02	1.0615E-02	3.3099E-02	4.3056E-02	1.1580E-03	4.3317E-02	7.3753E-17	6.4126E-17	4.93118E-02
238U (H)	1.3163E-09	1.0702E-04	2.5882E-02	3.7476E-01	4.4946E-01	3.4446E-01	3.8003E-01	4.5325E-01	8.1863E-01	4.1958E-02	8.2803E-01	7.3651E-13	7.0479E-13	8.27906E-01
237Np(F)	5.3383E-12	1.3900E-06	5.4040E-04	1.7234E-02	2.5674E-02	2.3674E-02	2.8288E-02	2.5539E-02	5.3857E-02	9.1514E-03	5.4553E-02	7.6910E-13	6.6571E-13	5.45581E-02
239Pu(T)	3.7768E-13	1.7706E-07	1.9124E-04	6.5913E-03	1.4296E-02	1.8625E-02	2.3049E-02	1.5277E-02	3.7680E-02	2.6234E-03	3.8267E-02	4.8753E-12	4.0914E-12	3.82662E-02
239Pu(F)	7.7668E-13	3.7111E-07	3.5748E-04	1.2805E-02	2.4877E-02	3.3818E-02	4.2060E-02	2.5472E-02	6.7346E-02	4.7759E-03	6.8416E-02	7.3081E-12	6.3542E-12	6.84157E-02
239Pu(H)	1.4038E-12	8.3405E-08	3.2710E-04	6.1044E-02	1.8949E-01	5.8958E-01	1.1663E+00	2.6154E-01	1.4356E+00	1.6817E-01	1.4735E+00	4.1128E-08	3.9250E-08	1.47350E+00
240Pu(F)	7.9962E-12	1.4401E-06	1.0185E-03	1.9133E-02	3.3150E-02	3.9262E-02	4.4575E-02	3.4133E-02	7.7279E-02	4.9722E-03	7.8393E-02	1.1920E-12	1.0364E-12	7.83906E-02
241Pu(T)	5.6203E-11	3.1309E-06	9.5440E-04	9.8359E-03	1.3594E-02	9.1014E-03	9.8836E-03	1.3737E-02	2.3215E-02	1.0910E-03	2.3461E-02	2.0685E-14	1.7359E-14	2.34590E-02
241Pu(F)	9.1750E-11	7.7996E-06	2.5947E-03	3.4619E-02	4.7494E-02	3.6136E-02	3.9908E-02	4.8137E-02	8.6508E-02	4.4113E-03	8.7496E-02	1.0688E-13	9.2930E-14	8.74886E-02
242Pu(F)	2.3079E-10	1.0000E-05	4.0571E-03	3.3223E-02	4.7935E-02	4.1267E-02	4.3974E-02	4.8363E-02	9.0693E-02	4.8648E-03	9.1781E-02	2.9277E-14	2.6456E-14	9.17789E-02
252Cf(S)	1.4824E-11	3.1971E-06	1.4978E-03	3.5184E-02	5.4719E-02	4.7255E-02	5.5529E-02	5.6476E-02	1.1004E-01	6.1783E-03	1.1143E-01	1.0486E-12	8.6002E-13	1.11432E-01

Table 2.7.1 Continued

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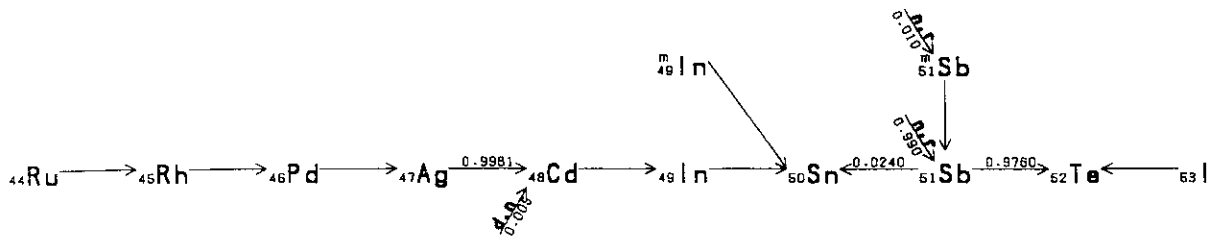
Mass No. 122



		44Ru	45Rh	46Pd	47Ag	48Cd	49In	m49In	50Sn	51Sb	m51Sb	52Te	53I	Mass Yield
	λ(1/sec)	9.8110E-01	9.1408E-01	1.0990E-01	1.2160E+00	1.3591E-01	4.6210E-01	7.5342E-02	0.0	2.9713E-06	2.7506E-09	0.0	3.1913E-03	
	Q-value(MeV)	7.9330E+00	1.0359E+01	4.7100E+00	8.7730E+00	2.4650E+00	6.3460E+00	6.3460E+00	0.0	1.9809E+00	1.6324E-01	0.0	4.1400E+00	
	E-beta (MeV)	2.6800E+00	3.3700E+00	1.6500E+00	3.0480E+00	7.9681E-01	2.3630E+00	1.5408E+00	0.0	5.6105E-01	0.0	0.0	1.0560E+00	
	E-gamma(MeV)	1.4500E+00	3.0700E+00	9.2090E-01	2.5110E+00	4.5565E-01	1.2420E+00	2.7635E+00	0.0	4.5688E-01	4.6788E-02	0.0	1.5961E-01	
	E-I,C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1545E-01	0.0	1.1693E-03	
	Spin						1+	4+		2-	8-		1+	
Cumulative yield	232Th(F)	5.1913E-09	7.4070E-06	2.7431E-03	1.4758E-02	3.6940E-02	3.7045E-02	5.1061E-04	3.7561E-02	4.1710E-10	2.9882E-10	4.0710E-10	9.2917E-22	9.75517E-02
	232Th(H)	4.2701E-10	7.0405E-06	5.9531E-03	2.5541E-01	1.0570E+00	1.0796E+00	1.7751E-01	1.2608E+00	3.4001E-06	2.3725E-06	3.9186E-06	1.0221E-16	1.26086E+00
	233U (T)	4.6397E-13	3.5086E-09	1.2798E-05	8.6145E-04	1.0942E-02	1.1623E-02	2.8536E-03	1.4750E-02	3.9784E-07	2.1137E-07	3.8837E-07	5.8864E-17	1.47501E-02
	233U (F)	3.0045E-13	1.4600E-08	4.9115E-05	4.2522E-03	4.9656E-02	5.3343E-02	1.6909E-02	7.1638E-02	2.7200E-06	1.5574E-06	2.6553E-06	3.0470E-15	7.16426E-02
	233U (H)	4.1345E-14	8.8801E-09	6.6309E-05	2.2350E-02	4.8575E-01	5.6326E-01	6.0795E-01	1.2607E+00	6.8701E-04	4.7939E-04	6.7090E-04	7.1345E-12	1.26136E+00
	235U (T)	5.9187E-12	5.8593E-08	8.3340E-05	2.1789E-03	1.3648E-02	1.3874E-02	1.3715E-03	1.5289E-02	2.9093E-08	1.5458E-08	2.8398E-08	3.4973E-19	1.52993E-02
	235U (F)	3.6184E-11	3.4088E-07	3.1420E-04	7.9958E-03	3.6116E-02	3.5828E-02	3.4536E-03	4.0368E-02	4.4780E-08	2.5640E-08	4.3708E-08	2.8374E-18	4.03632E-02
	235U (H)	1.1488E-12	5.6403E-08	2.3707E-04	4.6157E-02	6.2972E-01	6.8479E-01	4.7856E-01	1.2063E+00	1.9141E-04	1.3356E-04	1.8686E-04	2.6165E-13	1.20654E+00
	236U (F)	1.7000E-10	1.0602E-06	7.0705E-04	1.2616E-02	4.6136E-02	4.6737E-02	2.9049E-03	4.9595E-02	1.8430E-08	1.0552E-08	1.7988E-08	5.7368E-19	4.95746E-02
	238U (F)	6.0070E-09	8.1455E-06	2.9025E-03	1.5070E-02	3.6847E-02	3.6946E-02	4.7608E-04	3.7428E-02	3.5842E-10	2.0522E-10	3.4982E-10	6.5441E-22	3.74057E-02
	239U (H)	8.6414E-10	1.0503E-05	6.6866E-03	2.1962E-01	7.5639E-01	7.6824E-01	9.2908E-02	8.6263E-01	1.0042E-06	7.0070E-07	9.8010E-07	6.5395E-17	8.62577E-01
	237Np(F)	5.6001E-12	1.3601E-07	1.5514E-04	9.4373E-03	4.7467E-02	4.9705E-02	1.0852E-02	6.0677E-02	4.2601E-07	2.4392E-07	4.1581E-07	9.2127E-17	6.08774E-02
	238Pu(T)	6.2689E-13	1.5805E-08	4.8631E-05	3.3797E-03	3.7067E-02	3.9436E-02	9.9645E-03	5.0175E-02	1.2084E-06	6.4202E-07	1.1796E-06	6.1148E-16	5.01790E-02
	239Pu(F)	6.1549E-13	2.6608E-08	7.2048E-05	5.5677E-03	5.4705E-02	5.8132E-02	1.6519E-02	7.5865E-02	1.9306E-06	1.1054E-06	1.8845E-06	1.1362E-15	7.58678E-02
	239Pu(H)	1.9161E-14	3.0902E-09	3.2805E-05	1.5499E-02	4.5518E-01	5.5268E-01	7.6475E-01	1.4687E+00	1.6141E-03	1.1263E-03	1.5763E-03	1.8989E-11	1.47031E+00
	240Pu(F)	8.6109E-12	1.2102E-07	2.5615E-04	8.8720E-03	7.4469E-02	7.6532E-02	1.0488E-02	8.7698E-02	4.3204E-07	2.4737E-07	4.2172E-07	1.3652E-16	8.76951E-02
	241Pu(T)	4.4512E-11	2.9913E-07	2.6137E-04	4.9217E-03	2.1623E-02	2.1974E-02	1.4772E-03	2.3487E-02	1.3464E-08	7.1534E-09	1.3142E-08	7.9696E-19	2.34839E-02
	241Pu(F)	7.9296E-11	7.6804E-07	6.9473E-04	1.8173E-02	8.0832E-02	8.2465E-02	7.9202E-03	9.0578E-02	1.0369E-07	5.9373E-08	1.0121E-07	5.5778E-18	9.05700E-02
	242Pu(F)	1.8700E-10	8.3220E-07	1.1309E-03	1.4440E-02	8.8386E-02	8.9301E-02	4.4287E-03	9.3693E-02	4.0400E-08	2.3132E-08	3.9434E-08	6.4573E-19	9.38799E-02
	252Cf(S)	9.7612E-12	1.9084E-07	2.2099E-04	1.0940E-02	5.6544E-02	5.9009E-02	1.0369E-02	6.9702E-02	3.4668E-07	1.8420E-07	3.3839E-07	8.1811E-17	6.97103E-02

Table 2.7.1 Continued

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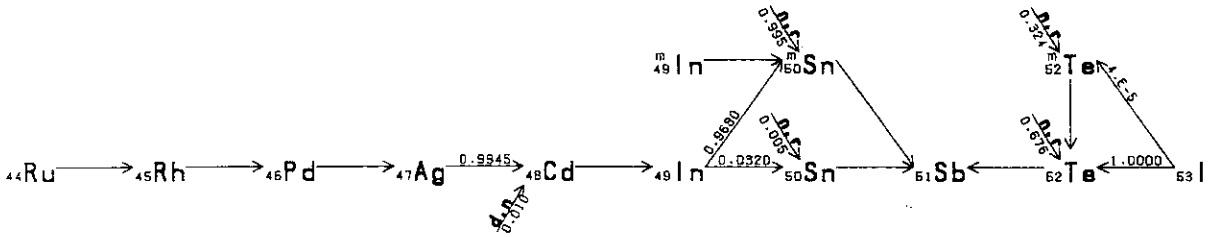
Mass No. 123



	44Ru	45Rh	46Pd	47Ag	48Cd	49In	m49In	50Sn	m50Sn	51Sb	52Te	m52Te	53I	Mass Yield
λ (1/sec)	1.5647E+01	7.4556E-01	3.3730E-01	2.3105E+00	1.3863E-01	1.1610E-01	1.4501E-02	6.2094E-08	2.8824E-04	0.0	1.7714E-21	5.7022E-08	1.4586E-05	
Q-value (MeV)	9.7390E+00	8.4890E+00	7.3760E+00	6.6920E+00	5.3440E+00	4.3810E+00	4.7010E+00	1.3970E+00	1.4217E+00	0.0	5.2000E-02	2.4746E-01	1.2000E+00	
E-beta (MeV)	3.1430E+00	2.9030E+00	2.4950E+00	2.6400E+00	1.8660E+00	1.3537E+00	2.0036E+00	5.1219E-01	4.5627E-01	0.0	0.0	0.0	0.0	
E-gamma (MeV)	2.9030E+00	2.1470E+00	1.8590E+00	1.8590E+00	1.0990E+00	1.1027E+00	6.5423E-02	6.8920E-03	1.6060E-01	0.0	0.0	1.3364E-01	1.4669E-01	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	1.2690E-02	0.0	0.0	0.0	0.0	1.1365E-01	0.0	
Spin						9/2+	1/2-	11/2-	3/2+	7/2+	1/2+	11/2-	5/2+	
Cumulative yield: 232Th (F)	2.9776E-12	4.8412E-07	4.0258E-04	6.7521E-03	2.8690E-02	3.0471E-02	3.5851E-04	1.0046E-03	2.9865E-02	3.0869E-02	4.4979E-13	3.5581E-13	2.8020E-19	3.08731E-02
232Th (H)	1.0868E-11	2.5100E-07	6.6226E-04	8.3811E-02	7.8291E-01	1.1860E+00	5.0635E-02	5.7622E-02	1.2030E+00	1.2607E+00	1.0160E-08	8.7449E-09	2.5711E-14	1.26064E+00
233U (T)	5.2803E-15	1.3494E-10	1.3196E-06	3.1919E-04	9.0415E-03	1.6567E-02	1.7403E-03	1.5590E-03	1.8245E-02	1.9913E-02	4.8180E-09	3.6902E-09	1.5335E-14	1.99129E-02
233U (F)	2.0825E-15	3.9200E-10	3.7804E-06	1.1088E-03	3.0541E-02	5.1798E-02	6.2919E-03	6.5889E-03	5.7750E-02	7.4391E-02	2.2530E-08	1.7823E-08	4.9057E-13	7.43905E-02
233U (H)	1.4414E-16	1.1700E-10	2.9701E-06	3.3510E-03	2.1244E-01	9.6617E-01	9.4682E-02	2.8003E-01	1.0842E+00	1.3716E+00	1.0211E-06	8.7879E-06	6.3600E-10	1.37164E+00
235U (T)	3.8721E-13	2.1495E-09	7.7704E-06	6.8462E-04	8.5293E-03	1.1406E-02	5.5526E-04	3.0586E-03	1.2822E-02	1.5881E-02	1.5497E-10	1.0339E-10	9.0174E-17	1.58779E-02
235U (F)	4.6276E-13	1.7692E-08	4.4398E-05	3.5268E-03	3.2441E-02	4.2583E-02	2.0416E-03	1.8251E-03	4.3427E-02	4.5253E-02	1.5683E-10	1.2406E-10	7.2820E-16	4.52452E-02
235U (H)	5.0060E-15	1.0001E-08	1.3802E-05	8.6203E-03	3.1769E-01	9.8753E-01	8.4144E-02	1.6818E-01	1.0698E+00	1.2403E+00	1.7681E-06	1.5218E-06	6.0003E-11	1.24035E+00
236U (F)	3.1691E-12	8.1399E-08	1.4508E-04	7.9780E-03	5.5815E-02	6.9196E-02	2.4920E-03	2.6283E-03	8.9621E-02	7.2250E-02	8.7199E-11	5.3159E-11	2.1122E-16	7.22379E-02
238U (F)	4.7458E-12	7.1784E-07	5.7339E-04	9.2155E-03	3.8136E-02	4.0386E-02	4.5280E-04	1.3283E-03	3.9559E-02	4.0867E-02	4.9613E-13	3.9247E-13	2.9351E-19	4.08834E-02
238U (H)	8.0417E-12	4.1807E-07	6.4656E-04	8.3475E-02	6.3757E-01	8.9538E-01	3.2385E-02	3.8557E-02	9.0127E-01	9.3987E-01	3.0235E-09	2.6023E-09	1.9308E-14	9.39802E-01
237Np (F)	5.6605E-14	5.1601E-09	1.8005E-05	3.1560E-03	3.6827E-02	6.0573E-02	4.8201E-03	3.3691E-03	6.3968E-02	5.7343E-02	1.5200E-09	1.2024E-09	1.6619E-14	5.73416E-02
239Pu (T)	4.7943E-15	4.3314E-10	3.5916E-06	8.3586E-04	2.0379E-02	3.6907E-02	3.8218E-03	3.3109E-03	4.0430E-02	4.3757E-02	7.4324E-09	5.6928E-09	8.0448E-14	4.37537E-02
239Pu (F)	7.7247E-15	9.1126E-10	6.9330E-06	1.7265E-03	3.8815E-02	7.3292E-02	5.9401E-03	5.4936E-03	7.9369E-02	8.5895E-02	1.3664E-08	1.0809E-08	1.9127E-13	8.58918E-02
239Pu (H)	7.7900E-17	4.3302E-11	1.5201E-06	2.3466E-03	1.9946E-01	1.1269E+00	1.1643E-01	4.3319E-01	1.2933E+00	1.7422E+00	2.9764E-05	2.5616E-05	2.5501E-09	1.74218E+00
240Pu (F)	5.7026E-14	5.2005E-09	2.8608E-05	3.5500E-03	5.2273E-02	9.1731E-02	5.9298E-03	5.6873E-03	9.5709E-02	1.0141E-01	3.2653E-09	2.5831E-09	3.0635E-14	1.01407E-01
241Pu (T)	4.5629E-13	1.6405E-08	3.6827E-05	2.2374E-03	1.9175E-02	2.3696E-02	1.0453E-03	9.4445E-04	2.4050E-02	2.5005E-02	4.4412E-11	3.4017E-11	2.0167E-16	2.50034E-02
241Pu (F)	1.1295E-12	3.8198E-08	9.4434E-05	7.6681E-03	6.9777E-02	9.2011E-02	4.4757E-03	3.9462E-03	9.3900E-02	9.7649E-02	3.4188E-10	2.7045E-10	1.3779E-15	9.78460E-02
242Pu (F)	5.1398E-12	5.1201E-08	1.5305E-04	7.2211E-03	7.9381E-02	9.4609E-02	3.0654E-03	3.8725E-03	9.4949E-02	9.8822E-02	1.9880E-10	1.5727E-10	2.0720E-16	9.86233E-02
252Cf (S)	4.9926E-14	4.6558E-09	1.5491E-05	2.2175E-03	2.4963E-02	3.8170E-02	3.0538E-03	1.9717E-03	4.0313E-02	4.2288E-02	5.4342E-10	4.9281E-10	7.3207E-15	4.22937E-02

Table 2.7.1 Continued

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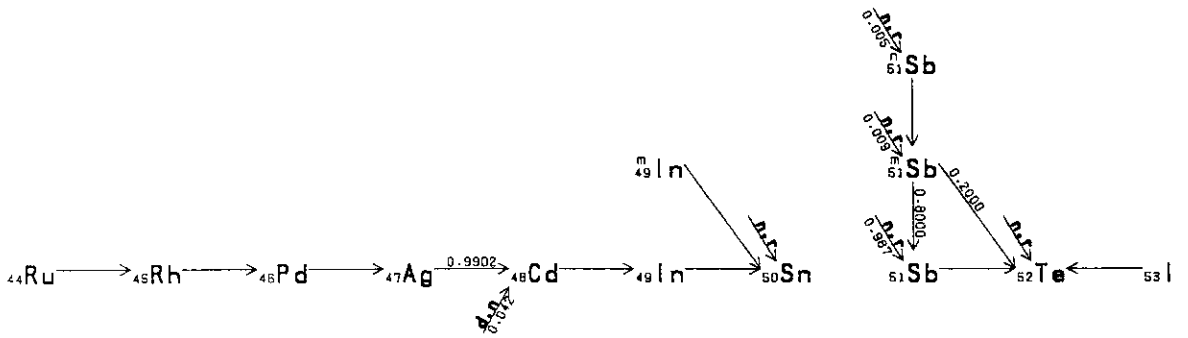
Mass No. 124



	44Ru	45Rh	46Pd	47Ag	48Cd	49In	m49In	50Sn	51Sb	m51Sb	p51Sb	52Te	53I	Mass Yield
λ(1/sec)	1.9027E+00	1.2338E+00	2.4969E-01	4.0773E+00	5.6353E-01	2.1593E-01	2.8881E-01	0.0	1.3327E-07	7.4532E-09	5.7190E-04	0.0	1.9331E-06	
Q-value(MeV)	8.3570E+00	1.0873E+01	5.6430E+00	9.3610E+00	3.3120E+00	7.1400E+00	7.1400E+00	0.0	2.9050E+00	2.9157E+00	3.5000E-02	0.0	3.1570E+00	
E-beta (MeV)	3.0570E+00	3.4960E+00	1.9810E+00	3.0900E+00	1.1413E+00	2.1893E+00	2.2734E+00	0.0	3.8303E-01	8.3809E-02	0.0	0.0	1.9022E-01	
E-gamma(MeV)	1.6840E+00	3.3260E+00	1.0720E+00	2.6220E+00	5.6755E-01	2.2229E+00	2.0512E+00	0.0	1.8558E+00	3.5161E-01	2.5000E-07	0.0	8.4888E-01	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0730E-02	2.5000E-02	0.0	5.6123E-03	
Spin						2+	5+		3-	5+	8-		2-	
Cumulative yield: 232Th(F)	1.4704E-11	1.0404E-07	1.7915E-04	3.4149E-03	2.5044E-02	2.5867E-02	1.6992E-03	2.7455E-02	2.9344E-08	2.6321E-08	8.9342E-09	3.4612E-08	2.0352E-18	2.73735E-02
232Th(H)	1.4473E-12	5.0001E-08	2.3105E-04	4.8769E-02	7.1295E-01	8.3282E-01	5.4142E-01	1.4317E+00	5.6277E-02	5.7150E-02	2.0226E-02	6.7707E-02	3.2047E-13	1.49936E+00
233U (T)	7.3382E-15	2.5190E-11	4.9582E-07	1.6743E-04	8.8148E-03	1.2336E-02	8.2476E-03	2.4321E-02	2.4074E-05	2.0559E-05	6.6642E-06	2.6219E-05	1.4784E-13	2.43436E-02
233U (F)	2.8223E-16	7.5901E-11	1.4301E-06	6.3844E-04	3.1846E-02	4.5727E-02	4.0565E-02	1.0376E-01	1.3956E-04	1.2519E-04	4.2492E-05	1.6477E-04	5.2499E-12	1.03926E-01
233U (H)	8.7466E-19	1.1900E-11	5.6902E-07	1.1616E-03	1.3117E-01	2.8891E-01	7.1246E-01	1.5188E+00	1.7940E-02	1.8219E-02	6.4477E-03	2.1639E-02	7.8919E-09	1.54048E+00
235U (T)	9.5901E-14	8.8580E-10	6.2955E-06	7.3214E-04	1.6175E-02	1.8743E-02	6.0142E-03	2.5913E-02	1.0614E-05	9.0683E-06	3.0262E-06	1.2428E-05	1.1867E-15	2.59230E-02
235U (F)	9.3745E-14	5.4476E-09	2.4994E-05	2.7988E-03	4.2173E-02	4.8035E-02	1.5982E-02	6.5976E-02	4.2206E-06	3.7558E-06	1.2850E-06	4.9790E-06	9.0036E-16	6.59653E-02
235U (H)	4.6587E-16	1.3601E-10	3.3203E-06	3.5115E-03	2.1479E-01	3.5187E-01	5.5430E-01	1.3076E+00	5.3514E-05	5.4345E-03	1.9233E-03	6.4469E-03	3.3491E-10	1.31406E+00
236U (F)	6.1191E-13	2.2900E-08	7.5422E-05	5.7434E-03	6.6684E-02	7.3162E-02	1.7550E-02	9.2439E-02	2.3571E-06	2.1143E-06	7.1766E-07	2.7805E-05	2.3213E-15	9.23222E-02
238U (F)	2.5230E-11	1.7423E-07	2.9852E-04	5.5837E-03	4.0635E-02	4.1628E-02	2.7087E-03	4.4477E-02	4.5500E-08	4.0813E-08	1.3853E-08	5.3668E-08	2.8230E-18	4.43632E-02
238U (H)	1.5503E-12	1.0402E-07	3.4716E-04	5.3605E-02	6.0250E-01	6.7883E-01	3.4476E-01	1.0510E+00	8.0140E-05	8.1383E-05	2.8802E-05	9.6434E-05	2.0140E-13	1.05079E+00
237Np(F)	7.6411E-15	1.1700E-09	6.6813E-06	1.8677E-03	3.2308E-02	4.2701E-02	2.8331E-02	7.5031E-02	2.1706E-05	1.9470E-05	6.6088E-06	2.5609E-05	1.4780E-13	7.50381E-02
239Pu(T)	1.1859E-15	1.5305E-10	2.3809E-06	7.7663E-04	3.3041E-02	4.5060E-02	3.0493E-02	8.7732E-02	7.0226E-05	6.0002E-05	2.0029E-05	8.2298E-05	1.1113E-12	8.78109E-02
239Pu(F)	1.3796E-15	2.5308E-10	3.4713E-06	1.2599E-03	4.7502E-02	6.6154E-02	5.0847E-02	1.3278E-01	1.0941E-04	9.8141E-05	3.3312E-05	1.2914E-04	2.1300E-12	1.92912E-01
239Pu(H)	5.4564E-18	5.4903E-12	3.4102E-07	8.9939E-04	1.2941E-01	3.2359E-01	8.7706E-01	1.9846E+00	3.4183E-02	3.4714E-02	1.2265E-02	4.1251E-02	1.7096E-08	2.02584E+00
240Pu(F)	1.0017E-14	1.0901E-09	1.2002E-05	1.9482E-03	5.2455E-02	7.4331E-02	3.2348E-02	1.1539E-01	2.7305E-05	2.4492E-05	8.3133E-06	3.2223E-05	2.5519E-13	1.15421E-01
241Pu(T)	7.9858E-14	4.0111E-09	1.7409E-05	1.4088E-03	2.0556E-02	2.2923E-02	5.5420E-03	2.9149E-02	1.0713E-06	9.1532E-07	3.0545E-07	1.2547E-06	1.8937E-15	2.91639E-02
241Pu(F)	1.7301E-13	8.8596E-09	3.9907E-05	4.5947E-03	6.7918E-02	7.7522E-02	2.6455E-02	1.0725E-01	7.0541E-06	6.3275E-06	2.1477E-06	8.3217E-06	1.2881E-14	1.07247E-01
242Pu(F)	9.0957E-13	1.0900E-08	7.3312E-05	3.9524E-03	8.6815E-02	9.2869E-02	1.6503E-02	1.1240E-01	3.1203E-06	2.7989E-06	9.5002E-07	3.5814E-06	1.8052E-15	1.12398E-01
252Cf(S)	3.9984E-15	5.8047E-10	3.1777E-06	6.7557E-04	1.1449E-02	1.4647E-02	7.4902E-03	2.3220E-02	4.5053E-08	3.8494E-06	1.2846E-06	5.2758E-06	2.7751E-14	2.32234E-02

Table 2.7.1 Continued

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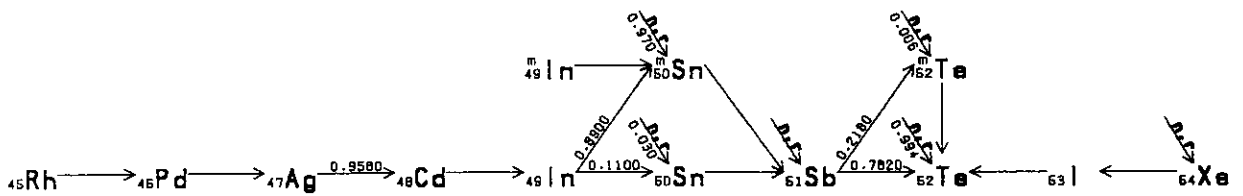
Mass No. 125



		45Rh	46Pd	47Ag	48Cd	49In	m49In	50Sn	m50Sn	51Sb	52Te	m52Te	53I	54Xe	Mass Yield
	λ(1/sec)	1.4811E+01	5.2352E-01	3.9227E-01	1.1101E-01	2.9877E-01	5.5815E-02	6.3221E-07	1.2135E-03	7.9296E-09	0.0	1.3832E-07	1.3340E-07	1.1326E-06	
	Q-value(MeV)	9.4230E+00	7.9720E+00	7.5400E+00	5.9970E+00	5.4000E+00	5.4000E+00	2.3500E+00	2.3775E+00	7.8660E-01	0.0	1.4473E-01	1.7720E-01	1.7350E+00	
	E-beta (MeV)	3.2700E+00	2.6710E+00	2.5910E+00	2.0610E+00	1.9113E+00	2.0970E+00	8.1240E-01	7.9541E-01	6.3913E-02	0.0	0.0	0.0	1.5860E-03	Mass
	E-gamma(MeV)	2.7270E+00	2.0920E+00	1.8150E+00	1.3480E+00	1.0536E+00	5.7203E-01	3.1328E-01	3.4667E-01	4.1903E-01	0.0	2.6744E-03	2.3652E-03	2.4781E-01	Yield
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3047E-02	0.0	1.4206E-01	3.3084E-02	3.0229E-02	
	Spin					9/2+	1/2-	11/2-	3/2+	7/2+	1/2+	11/2-	5/2+	1/2+	
Cumulative yield	232Th(F)	1.6139E-09	5.0812E-05	2.7405E-03	3.0064E-02	3.6668E-02	1.3264E-03	4.4012E-03	3.4092E-02	3.8494E-02	3.8494E-02	8.3916E-03	1.8924E-16	5.7951E-23	3.86087E-02
	232Th(H)	7.4169E-11	2.3600E-05	1.1875E-02	3.6341E-01	1.0086E+00	8.1043E-02	1.2984E-01	1.0024E+00	1.2237E+00	1.2237E+00	2.6678E-01	2.5200E-11	1.1569E-17	1.22424E+00
	233U (T)	1.7172E-11	1.8992E-07	1.8111E-04	1.8065E-02	6.6840E-02	1.1274E-02	3.0949E-02	8.0534E-02	1.1216E-01	1.1216E-01	2.4452E-02	7.9167E-11	7.7800E-17	1.12170E-01
	233U (F)	2.9864E-12	1.5600E-07	1.8716E-04	1.8659E-02	8.2346E-02	1.2820E-02	4.0018E-02	9.7170E-02	1.3825E-01	1.3825E-01	3.0141E-02	1.6200E-10	1.0174E-15	1.38261E-01
	233U (H)	1.9996E-13	3.3100E-08	1.7703E-04	4.8449E-02	7.0712E-01	8.2741E-02	5.4402E-01	8.7908E-01	1.8137E+00	1.8142E+00	3.9587E-01	1.7000E-07	2.4300E-12	1.81424E+00
	235U (T)	1.9436E-12	7.3184E-07	2.3268E-04	6.9740E-03	1.8447E-02	2.1905E-03	8.1969E-03	2.1162E-02	2.9378E-02	2.9378E-02	5.4044E-03	6.0901E-14	6.3257E-20	2.93880E-02
	235U (F)	1.4569E-11	3.4894E-06	1.0260E-03	2.9017E-02	5.8758E-02	5.9869E-03	1.0978E-02	5.9894E-02	7.0912E-02	7.0912E-02	1.5459E-02	3.9868E-13	4.6014E-19	7.09546E-02
	235U (H)	5.1136E-12	2.1901E-07	6.0025E-04	6.7539E-02	7.5443E-01	8.3773E-02	5.3834E-01	8.5445E-01	1.4229E+00	1.4230E+00	3.1029E-01	1.5401E-08	6.2938E-14	1.42307E+00
	236U (F)	1.7561E-10	2.2200E-05	4.1992E-03	8.4122E-02	1.4273E-01	1.1799E-02	2.1995E-02	1.4106E-01	1.6311E-01	1.6311E-01	3.5569E-02	1.8636E-13	1.4886E-19	1.63290E-01
	238U (F)	2.8487E-09	8.0194E-05	4.0168E-03	4.1721E-02	6.0226E-02	1.7119E-03	5.9696E-03	4.6572E-02	5.2642E-02	5.2642E-02	1.1454E-02	1.9706E-16	5.7038E-23	5.27105E-02
	238U (H)	2.7677E-10	5.3209E-05	1.9423E-02	4.4748E-01	1.0564E+00	7.6494E-02	1.9341E-01	1.0935E+00	1.2277E+00	1.2277E+00	2.6764E-01	6.7911E-12	8.9417E-18	1.22654E+00
	237Np(F)	2.9131E-12	1.3100E-06	8.6632E-04	3.2114E-02	9.9995E-02	1.3664E-02	2.4133E-02	1.0735E-01	1.3175E-01	1.3175E-01	2.8721E-02	7.0301E-12	1.3079E-17	1.31785E-01
	239Pu(T)	1.0316E-11	2.9009E-07	2.5037E-04	2.0164E-02	7.0558E-02	1.1653E-02	2.7769E-02	8.2735E-02	1.1103E-01	1.1103E-01	2.4205E-02	4.4314E-11	1.4359E-16	1.11042E-01
	239Pu(F)	1.1607E-11	3.4911E-07	3.3345E-04	2.5914E-02	9.6558E-02	1.4341E-02	3.7713E-02	1.0996E-01	1.4643E-01	1.4643E-01	3.2358E-02	7.8224E-11	2.3625E-16	1.46443E-01
	239Pu(H)	1.3337E-13	1.5401E-08	1.0602E-04	3.7448E-02	6.7725E-01	8.0372E-02	9.9009E-01	8.8268E-01	2.0180E+00	2.0191E+00	4.4091E-01	4.4603E-07	8.2805E-12	2.01915E+00
	240Pu(F)	1.7823E-12	1.2401E-06	5.6330E-04	3.1528E-02	7.7542E-02	9.2627E-03	2.2074E-02	8.3115E-02	1.0537E-01	1.0537E-01	2.2972E-02	7.5307E-12	2.2174E-17	1.05399E-01
	241Pu(T)	3.1831E-10	5.8216E-10	2.5713E-06	1.0638E-03	1.2099E-02	2.5470E-03	1.9520E-02	2.0847E-02	4.2400E-02	4.2420E-02	9.2583E-03	4.8514E-09	1.2805E-19	4.24201E-02
	241Pu(F)	2.1031E-11	4.7598E-06	1.3867E-03	3.7814E-02	7.6343E-02	7.7560E-03	1.4025E-02	7.7713E-02	9.1789E-02	9.1788E-02	2.0010E-02	4.5266E-13	4.9631E-19	9.18468E-02
	242Pu(F)	2.5819E-11	6.3801E-06	1.0674E-03	3.5529E-02	5.7029E-02	4.3280E-03	1.0174E-02	5.6478E-02	6.6672E-02	6.6672E-02	1.4534E-02	6.0578E-14	5.7109E-20	6.67164E-02
	252Cf(S)	1.1604E-12	4.0653E-07	1.9923E-04	5.5801E-03	1.7007E-02	2.4112E-03	3.6569E-03	1.8287E-02	2.1972E-02	2.1972E-02	4.7889E-03	7.5098E-13	1.1496E-18	2.19605E-02

Table 2.7.1 Continued

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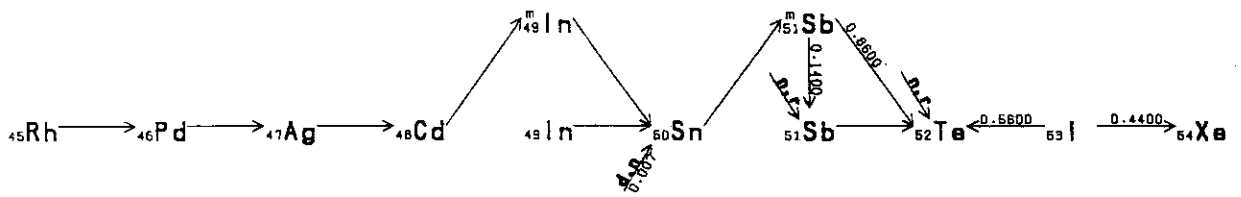
Mass No. 126



	45Rh	46Pd	47Ag	48Cd	49In	m49In	50Sn	51Sb	m51Sb	52Te	53I	54Xe	Mass Yield
λ(1/sec)	1.8997E+01	5.6308E-01	6.7231E-01	1.3699E+00	4.5904E-01	9.3007E-01	2.1980E-19	6.4698E-07	6.0802E-04	0.0	6.1617E-07	0.0	
Q-value(MeV)	1.1490E+01	6.5210E+00	9.9900E+00	4.1960E+00	8.1240E+00	8.1240E+00	3.7800E-01	3.6650E+00	3.6827E+00	0.0	1.2510E+00	0.0	
E-beta (MeV)	3.4620E+00	2.3590E+00	2.9950E+00	1.4905E+00	2.4566E+00	2.7740E+00	7.0193E-02	3.1276E-01	6.2922E-01	0.0	1.4280E-01	0.0	
E-gamma(MeV)	3.9960E+00	1.2750E+00	3.4380E+00	7.2089E-01	2.6573E+00	2.0970E+00	1.3055E-01	2.8453E+00	1.7995E+00	0.0	3.9838E-01	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	6.2277E-02	0.0	2.4780E-03	0.0	0.0	0.0	
Spin					6+	1+		8-	6+		2-		
Cumulative yield													
232Th(F)	7.0054E-11	1.1803E-05	1.1081E-03	3.2843E-02	1.0930E-02	3.5981E-02	4.9569E-02	6.9424E-03	4.9572E-02	4.9574E-02	1.1386E-14	5.0098E-15	4.94963E-02
232Th(H)	1.4158E-10	1.8200E-06	2.3609E-03	1.7637E-01	6.7219E-01	2.9520E-01	1.2958E+00	1.8714E-01	1.2997E+00	1.3049E+00	1.0800E-09	4.7521E-10	1.30422E+00
233U(T)	8.2504E-13	2.4980E-08	5.1504E-05	1.4809E-02	5.9913E-02	3.7983E-02	2.4011E-01	3.6028E-02	2.4343E-01	2.4542E-01	4.0183E-09	1.7681E-09	2.45121E-01
233U(F)	1.0836E-13	1.7000E-08	4.6718E-06	1.2757E-02	8.1780E-02	3.6234E-02	2.6402E-01	4.1242E-02	2.8903E-01	2.7268E-01	8.3000E-09	3.6521E-09	2.72428E-01
233U(H)	2.1753E-15	1.0800E-09	1.5801E-05	1.1666E-02	3.7118E-01	7.7285E-02	1.7067E+00	4.1771E-01	1.8281E+00	1.9946E+00	3.7500E-06	1.6502E-06	1.99431E+00
235U(T)	1.9051E-11	1.6896E-07	1.1014E-04	1.1624E-02	2.0264E-02	1.8340E-02	5.4932E-02	7.8074E-03	5.5093E-02	5.5188E-02	2.8094E-10	1.2973E-10	5.50791E-02
235U(F)	6.5410E-13	5.9269E-07	4.4249E-04	3.1783E-02	5.8117E-02	4.8468E-02	1.3794E-01	1.9528E-02	1.3819E-01	1.3837E-01	2.3689E-11	1.0423E-11	1.38116E-01
235U(H)	1.1550E-13	1.1101E-08	8.0215E-05	3.0204E-02	5.1327E-01	1.2094E-01	1.6496E+00	3.0953E-01	1.7030E+00	1.7752E+00	4.5002E-07	1.9802E-07	1.77473E+00
236U(F)	6.6989E-12	3.9200E-06	1.5839E-03	7.9951E-02	9.8006E-02	1.0609E-01	2.4452E-01	3.4405E-02	2.4472E-01	2.4486E-01	7.9199E-12	3.4846E-12	2.44641E-01
238U(F)	1.1753E-10	1.7721E-05	1.5345E-03	4.2834E-02	1.3321E-02	4.6658E-02	6.3042E-02	8.6288E-03	6.3046E-02	6.3048E-02	9.9343E-15	4.3711E-15	6.29411E-02
238U(H)	2.3958E-10	6.2110E-06	5.6512E-03	3.0501E-01	8.6057E-01	4.5715E-01	1.6322E+00	2.3244E-01	1.6349E+00	1.6384E+00	2.7204E-10	1.1970E-10	1.63736E+00
237Np(F)	3.3624E-12	1.2900E-07	2.1013E-04	1.7952E-02	7.6691E-02	3.9969E-02	1.6278E-01	2.3569E-02	1.6369E-01	1.6434E-01	2.7100E-10	1.1924E-10	1.64037E-01
239Pu(T)	6.0757E-13	4.9318E-08	9.2479E-05	2.0014E-02	8.8081E-02	4.9210E-02	2.6570E-01	3.9050E-02	2.6625E-01	2.6976E-01	2.1007E-09	9.2431E-10	2.69444E-01
239Pu(F)	5.7566E-13	5.0715E-08	1.0908E-04	2.1454E-02	1.1163E-01	5.3501E-02	3.0522E-01	4.6756E-02	3.0676E-01	3.1132E-01	3.2810E-09	1.4437E-09	3.10997E-01
239Pu(H)	1.5050E-15	4.8903E-10	8.9510E-06	8.2804E-03	3.2447E-01	6.5642E-02	1.7149E+00	4.6721E-01	1.8692E+00	2.0820E+00	7.3604E-06	3.2346E-06	2.08181E+00
240Pu(F)	2.7862E-12	3.3903E-07	2.9237E-04	4.3760E-02	1.0006E-01	7.2484E-02	2.7805E-01	3.9862E-02	2.7917E-01	2.7997E-01	3.0903E-10	1.3598E-10	2.79672E-01
241Pu(T)	8.5540E-13	7.4821E-07	3.3384E-04	2.2333E-02	2.8507E-02	3.1782E-02	7.5549E-02	1.0545E-02	7.5643E-02	7.5698E-02	5.1314E-12	2.2578E-12	7.54684E-02
241Pu(F)	3.4501E-11	9.2195E-07	6.0789E-04	4.2755E-02	7.9872E-02	6.5664E-02	1.8796E-01	2.6617E-02	1.8832E-01	1.8857E-01	3.3398E-11	1.4695E-11	1.88277E-01
242Pu(F)	1.3219E-12	1.8900E-06	5.7490E-04	5.1033E-02	5.4818E-02	7.6770E-02	1.7625E-01	2.4824E-02	1.7642E-01	1.7655E-01	1.1300E-11	4.9721E-12	1.76304E-01
252Cf(S)	5.9157E-13	4.4160E-08	4.9799E-05	3.7934E-03	1.1235E-02	7.5175E-03	2.5230E-02	3.6025E-03	2.5327E-02	2.5384E-02	1.6085E-11	7.0776E-12	2.52839E-02

Table 2.7.1 Continued

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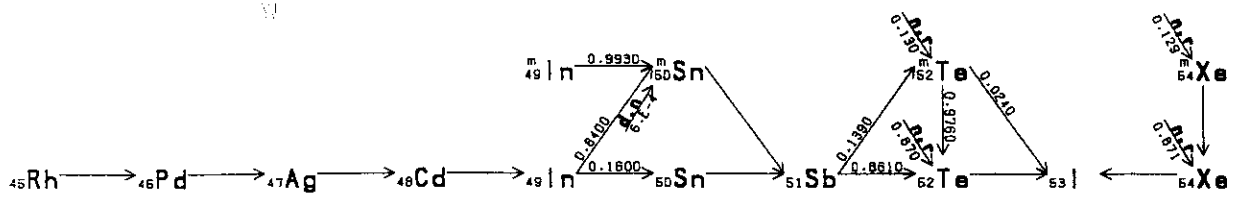
Mass No. 127



		45Rh	46Pd	47Ag	48Cd	49In	m49In	50Sn	m50Sn	51Sb	52Te	m52Te	53I	54Xe	m54Xe	Mass Yield
	λ(1/sec)	2.3417E+01	7.6676E+00	7.6795E-01	1.6902E-01	6.0274E-01	1.8734E-01	9.1686E-05	2.7972E-03	2.0947E-06	2.0593E-06	7.3601E-08	0.0	2.2034E-07	9.9021E-03	
	Q-value(MeV)	1.0408E+01	8.6430E+00	8.5170E+00	6.6770E+00	6.4900E+00	6.5900E+00	3.1000E+00	3.1050E+00	1.5610E+00	6.9400E-01	7.8226E-01	0.0	6.6400E-01	2.9720E-01	
	E-beta (MeV)	3.4010E+00	2.7470E+00	2.8870E+00	2.0730E+00	2.2520E+00	2.1910E+00	4.6016E-01	8.9031E-01	3.0867E-01	2.2287E-01	5.6740E-03	0.0	0.0	0.0	
	E-gamma(MeV)	3.0370E+00	2.5990E+00	2.1810E+00	2.0010E+00	1.4430E+00	1.7270E+00	1.9158E+00	6.8645E-01	6.8724E-01	4.6476E-03	4.6172E-04	0.0	2.5412E-01	1.4610E-01	
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7495E-03	0.0	8.7149E-02	0.0	2.4526E-02	1.4900E-01	
	Spin					11/2-	3/2+	11/2-	3/2+	7/2+	3/2+	11/2-	5/2+	1/2+	9/2-	
Cumulative yield	232Th(F)	3.9055E-12	3.4175E-07	5.6216E-04	3.4162E-02	6.5313E-02	1.1132E-02	2.0125E-02	6.9403E-02	6.9520E-02	6.9321E-02	1.2457E-02	6.9620E-02	2.6695E-18	2.2222E-18	8.86686E-02
	232Th(H)	2.6978E-12	5.4394E-09	2.7200E-04	5.0205E-02	4.6364E-01	9.4464E-02	5.1215E-01	6.9485E-01	1.1389E+00	1.1352E+00	1.5842E-01	1.1390E+00	9.6696E-14	8.5018E-14	1.13966E+00
	233U (T)	3.1812E-14	7.4059E-11	1.2996E-05	8.1067E-03	1.0957E-01	4.2018E-02	2.7810E-01	2.4168E-01	5.6121E-01	5.5987E-01	7.8389E-02	5.6175E-01	6.6273E-12	5.3014E-12	6.62033E-01
	233U (F)	2.7476E-15	3.9157E-11	9.0701E-06	5.6841E-03	9.7946E-02	3.2970E-02	2.5420E-01	2.0026E-01	4.9862E-01	4.9757E-01	6.9768E-02	4.9926E-01	9.6701E-12	8.0497E-12	4.99466E-01
	233U (H)	1.8955E-17	1.9741E-11	1.1500E-06	2.2022E-03	1.7207E-01	3.7022E-02	1.1158E+00	4.1848E-01	2.2067E+00	2.2252E+00	3.2636E-01	2.2331E+00	6.0200E-09	5.3482E-09	2.23336E+00
	235U (T)	1.2357E-12	1.4420E-09	3.9991E-05	8.5131E-03	4.6101E-02	1.5566E-02	4.7803E-02	7.0938E-02	1.2464E-01	1.2424E-01	1.7335E-02	1.2466E-01	2.2226E-15	1.8052E-15	1.24752E-01
	235U (F)	1.1208E-12	6.8653E-09	1.5393E-04	2.3703E-02	1.2674E-01	3.6819E-02	1.0251E-01	1.7244E-01	2.7910E-01	2.7616E-01	3.8805E-02	2.7911E-01	1.3418E-14	1.1170E-14	2.79337E-01
	235U (H)	1.7063E-15	6.8733E-10	8.1004E-06	7.8355E-03	3.2437E-01	5.8987E-02	1.1855E+00	5.8870E-01	2.1759E+00	2.1770E+00	3.0948E-01	2.1845E+00	4.9103E-10	4.3623E-10	2.18493E+00
	236U (F)	4.2917E-12	2.5763E-08	2.9000E-04	3.0463E-02	1.1996E-01	3.1983E-02	7.0830E-02	1.5102E-01	2.2958E-01	2.2284E-01	3.1080E-02	2.2358E-01	1.8908E-15	1.5738E-15	2.23766E-01
	238U (F)	8.3745E-12	6.4419E-07	1.0903E-03	5.1415E-02	9.4159E-02	1.5274E-02	2.7258E-02	9.8599E-02	1.2606E-01	1.2564E-01	1.7522E-02	1.2605E-01	1.9791E-18	1.5475E-18	1.26085E-01
	238U (H)	5.8373E-12	3.1788E-06	9.3515E-04	1.1622E-01	8.1456E-01	1.5220E-01	5.4780E-01	9.2641E-01	1.4995E+00	1.4946E+00	2.0849E-01	1.4995E+00	7.3952E-14	6.5699E-14	1.50061E+00
	237Np(F)	1.4986E-13	8.8455E-10	6.4001E-05	1.3354E-02	1.3582E-01	4.3764E-02	1.4301E-01	2.0091E-01	3.5703E-01	3.5591E-01	4.9674E-02	3.5710E-01	1.7801E-13	1.4818E-13	3.57382E-01
	239Pu(T)	2.0119E-14	1.5372E-10	2.1607E-05	1.0115E-02	1.2028E-01	4.5522E-02	2.2821E-01	2.3206E-01	4.8922E-01	4.8791E-01	6.8295E-02	4.8955E-01	2.5508E-12	2.0718E-12	4.89657E-01
	239Pu(F)	1.7836E-14	1.5784E-10	2.3207E-05	1.0276E-02	1.3866E-01	4.5878E-02	2.6696E-01	2.4951E-01	5.5235E-01	5.5086E-01	7.7043E-02	5.5271E-01	2.9109E-12	2.4231E-12	5.53017E-01
	239Pu(H)	1.4445E-17	1.5977E-11	5.9403E-07	1.4307E-03	1.3815E-01	2.9797E-02	1.0838E+00	3.7703E-01	2.2488E+00	2.2789E+00	3.4405E-01	2.2872E+00	1.3701E-06	1.2172E-06	2.26742E+00
	240Pu(F)	9.1704E-14	1.4165E-09	6.6807E-05	2.0025E-02	1.3953E-01	4.2704E-02	1.6749E-01	2.1865E-01	4.1817E-01	4.1685E-01	5.8183E-02	4.1825E-01	3.7680E-13	3.1366E-13	4.18533E-01
	241Pu(T)	1.9618E-12	1.4865E-08	2.0405E-04	2.6955E-02	1.0951E-01	3.4190E-02	7.6076E-02	1.5021E-01	2.2852E-01	2.2777E-01	3.1789E-02	2.2853E-01	4.7883E-15	3.6890E-15	2.28747E-01
	241Pu(F)	1.6304E-12	8.3571E-09	1.8289E-04	2.7049E-02	1.4393E-01	4.1756E-02	1.1292E-01	1.9452E-01	3.1195E-01	3.1093E-01	4.3372E-02	3.1197E-01	1.1281E-14	9.3905E-15	3.12232E-01
	242Pu(F)	5.8309E-12	1.9220E-08	2.1600E-04	3.8846E-02	1.3721E-01	3.5152E-02	1.1677E-01	1.8407E-01	3.0359E-01	3.0259E-01	4.2208E-02	3.0361E-01	2.5137E-15	2.0925E-15	3.03828E-01
	252Cf(S)	8.7141E-14	7.3889E-10	8.1372E-05	5.4175E-03	3.8841E-02	1.4256E-02	3.5967E-02	5.9857E-02	9.8243E-02	9.7925E-02	1.3662E-02	9.8252E-02	2.3019E-14	1.8596E-14	9.83437E-02

Table 2.7.1 Continued

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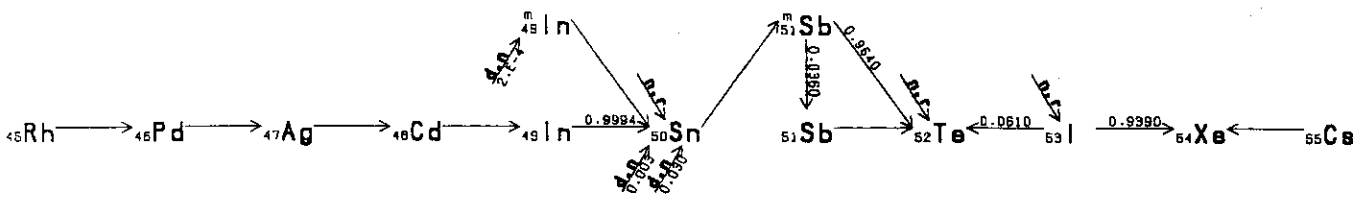
Mass No. 128



	45Rh	46Pd	47Ag	48Cd	49In	m49In	50Sn	51Sb	m51Sb	52Te	53I	54Xe	55Cs	Mass Yield
λ(1/sec)	3.1223E+01	1.1978E+00	1.0264E+00	7.3739E-01	8.2518E-01	1.2378E-01	2.0387E-04	2.1370E-05	1.1108E-03	0.0	4.6228E-04	0.0	3.1913E-03	
Q-value(MeV)	1.5143E+01	7.5700E+00	1.0644E+01	5.1820E+00	9.1000E+00	9.1000E+00	1.2900E+00	4.2600E+00	4.2800E+00	0.0	2.1270E+00	0.0	3.9260E+00	
E-beta (MeV)	4.5950E+00	2.7610E+00	3.1990E+00	1.8310E+00	2.7060E+00	2.4849E+00	1.9962E-01	4.2557E-01	9.3295E-01	0.0	7.4844E-01	0.0	8.6660E-01	
E-gamma(MeV)	5.3420E+00	1.5060E+00	3.6990E+00	1.0030E+00	3.1212E+00	3.5730E+00	5.0339E-01	3.0923E+00	1.9146E+00	0.0	8.9846E-02	0.0	1.8807E-01	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	5.0648E-02	0.0	7.2000E-04	0.0	0.0	0.0	3.1389E-03	
Spin					1+	4+		8-	6+		1+		1+	
Cumulative yield 232Th(F)	5.4031E-12	3.0908E-07	1.9936E-04	3.4978E-02	4.8278E-02	6.4494E-02	1.8928E-01	7.2658E-03	1.8988E-01	1.9031E-01	1.4504E-10	1.3619E-10	6.2512E-23	1.89379E-01
232Th(H)	3.7762E-14	3.0400E-09	3.0504E-05	1.5997E-02	6.4539E-02	3.8074E-01	1.3746E+00	1.9970E-01	1.4405E+00	1.5902E+00	1.0200E-06	9.5789E-07	9.9007E-18	1.52919E+00
233U (T)	3.1887E-16	5.9875E-11	9.4367E-07	1.9311E-03	1.6241E-02	6.0176E-02	6.2104E-01	7.4009E-02	7.0407E-01	7.5894E-01	6.0275E-05	5.6626E-05	1.9219E-16	7.58650E-01
233U (F)	3.9976E-17	5.3701E-11	1.1301E-06	2.2062E-03	2.1475E-02	9.3424E-02	8.8438E-01	1.2929E-01	1.0128E+00	1.1198E+00	1.0400E-05	9.7668E-06	3.9423E-15	1.11342E+00
233U (H)	8.5587E-20	2.6870E-13	4.5800E-08	2.5905E-04	7.8119E-03	5.9240E-02	1.1563E+00	7.9902E-01	1.7099E+00	2.5804E+00	7.8701E-04	7.3925E-04	4.9888E-12	2.58109E+00
235U (T)	3.8933E-14	1.9396E-09	9.1599E-05	6.3627E-03	2.2169E-02	6.6471E-02	3.3501E-01	1.8963E-02	3.4610E-01	3.5279E-01	1.0696E-06	1.0046E-06	2.0336E-19	3.52082E-01
235U (F)	2.9599E-14	7.3667E-09	3.4092E-05	1.5866E-02	5.1060E-02	1.7075E-01	6.4924E-01	3.8665E-02	6.6961E-01	6.8464E-01	9.6357E-08	9.0481E-08	1.6319E-18	6.84551E-01
235U (H)	1.0525E-17	7.9804E-12	4.4503E-07	1.2205E-03	1.8978E-02	1.3828E-01	1.5244E+00	5.8564E-01	1.9124E+00	2.4787E+00	1.4601E-04	1.3712E-04	8.9470E-14	2.47851E+00
236U (F)	1.5447E-13	3.1400E-08	8.6030E-05	2.7284E-02	5.6116E-02	1.8830E-01	5.9266E-01	2.9150E-02	6.0326E-01	6.1082E-01	1.9900E-08	1.8666E-08	1.6444E-19	6.09271E-01
238U (F)	2.5521E-11	1.2314E-05	6.7402E-04	1.0156E-01	1.3495E-01	1.8193E-01	4.5529E-01	1.7598E-02	4.6637E-01	4.6718E-01	1.9523E-10	1.8332E-10	5.8763E-23	4.64412E-01
238U (H)	8.6242E-14	1.7603E-08	1.0904E-04	3.5833E-02	1.0654E-01	5.5451E-01	1.5807E+00	1.2082E-01	1.6274E+00	1.6905E+00	2.8405E-07	2.6673E-07	4.7719E-18	1.68853E+00
237Np(F)	2.8391E-15	8.4301E-10	1.0101E-05	5.7942E-03	3.6556E-02	1.4945E-01	6.0200E-01	5.6528E-02	6.4856E-01	6.8265E-01	6.7801E-07	6.3667E-07	3.2910E-17	6.81740E-01
239Pu(T)	2.3024E-16	9.8532E-11	1.3605E-05	2.0220E-03	1.5445E-02	6.6448E-02	6.2254E-01	7.0732E-02	7.0021E-01	7.4949E-01	9.4431E-05	8.8672E-05	2.9995E-16	7.49024E-01
239Pu(F)	2.2836E-16	1.5605E-10	2.4809E-06	3.3515E-03	2.8019E-02	1.0991E-01	7.9037E-01	9.4852E-02	8.7880E-01	9.4647E-01	3.8812E-06	3.6447E-06	5.6751E-16	9.45920E-01
239Pu(H)	6.6314E-20	2.2102E-13	2.2701E-08	1.6103E-04	6.0171E-03	4.5931E-02	1.0640E+00	9.0040E-01	1.7138E+00	2.7363E+00	1.3491E-03	1.2673E-03	6.7264E-12	2.73748E+00
240Pu(F)	1.2313E-15	1.1401E-09	7.2219E-06	7.2209E-03	2.7856E-02	1.0006E-01	6.1963E-01	4.4337E-02	5.4897E-01	5.7108E-01	3.9804E-07	3.7378E-07	3.2846E-17	5.70424E-01
241Pu(T)	3.8640E-14	1.0703E-08	3.2420E-05	1.3119E-02	3.5214E-02	9.2917E-02	3.4527E-01	1.7156E-02	3.5289E-01	3.5746E-01	1.9005E-08	1.7847E-08	2.2028E-19	3.56380E-01
241Pu(F)	3.9028E-14	7.7095E-09	3.4508E-05	1.4868E-02	4.7043E-02	1.5602E-01	5.5778E-01	3.3165E-02	5.8473E-01	5.9713E-01	7.1786E-08	6.7418E-08	8.5802E-19	5.95956E-01
242Pu(F)	1.2173E-13	1.5000E-08	3.0915E-05	2.0014E-02	4.0377E-02	9.8740E-02	4.9709E-01	2.3791E-02	5.0494E-01	5.1075E-01	2.3100E-08	2.1692E-08	6.8377E-20	5.09865E-01
252Cf(S)	1.9390E-15	7.1235E-10	5.5756E-06	2.7832E-03	1.4232E-02	4.8230E-02	1.8685E-01	1.3227E-02	1.9730E-01	2.0361E-01	8.1426E-08	7.6461E-08	3.4258E-18	2.03232E-01

Table 2.7.1 Continued

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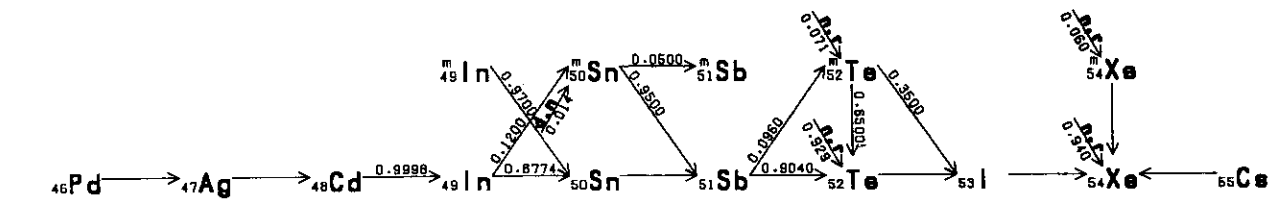
Mass No. 129



	$_{46}$Pd	$_{47}$Ag	$_{48}$Cd	$_{49}$In	$^{m}_{49}$In	$_{50}$Sn	$^{m}_{50}$Sn	$_{51}$Sb	$^{m}_{51}$Sb	$_{52}$Te	$^{m}_{52}$Te	$_{53}$I	$_{54}$Xe	$^{m}_{54}$Xe	$_{55}$Cs	Mass Yield
λ(1/sec)	1.1982E+01	6.6963E+00	3.0697E-01	1.1748E+00	5.7752E-01	5.1805E-03	1.6743E-03	4.4570E-05	5.5268E-04	1.6598E-04	2.3877E-07	1.3990E-15	0.0	1.0028E-05	6.0056E-05	
Q-value(MeV)	1.2280E+01	9.5770E+00	7.3740E+00	7.5200E+00	7.7200E+00	3.9900E+00	4.0250E+00	2.3770E+00	2.3770E+00	1.4950E+00	1.8035E+00	1.9200E-01	0.0	2.3614E-01	1.1340E+00	
E-beta (MeV)	3.9990E+00	3.1070E+00	2.3040E+00	2.5880E+00	2.1550E+00	1.2576E+00	8.0838E-01	3.4592E-01	3.7428E-01	5.2228E-01	1.9899E-01	4.0935E-02	0.0	0.0	9.9835E-07	
E-gamma(MeV)	3.5810E+00	2.7900E+00	2.2280E+00	1.8610E+00	2.9470E+00	1.4457E+00	2.0908E+00	1.4564E+00	2.1446E+00	5.5142E-02	2.9379E-02	2.9690E-03	0.0	1.2207E-02	2.5054E-01	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4195E-02	6.8364E-02	3.6612E-02	0.0	2.2413E-01	1.8334E-02	
Spin				9/2+	1/2+	3/2+	11/2-	7/2+	1/2+	3/2+	11/2-	7/2+	1/2+	11/2-	1/2+	
Cumulative yield																
^{232}Th(F)	9.9238E-10	8.7401E-06	1.6785E-02	1.2292E-01	2.1366E-02	1.8826E-01	1.8347E-01	3.7218E-01	1.0455E-02	3.5974E-01	3.5798E-02	3.7227E-01	3.7227E-01	1.6515E-19	5.6627E-20	3.81987E-01
^{232}Th(H)	1.3067E-10	1.7456E-07	2.4270E-03	1.6369E-01	2.0257E-02	3.3480E-01	8.0775E-01	1.4829E+00	7.2927E-02	1.4522E+00	1.5431E-01	1.5063E+00	1.5063E+00	1.6440E-09	2.2735E-15	1.57918E+00
^{233}U (T)	6.2872E-12	5.5530E-09	4.5481E-04	4.8218E-02	1.1045E-02	3.2211E-01	6.5578E-01	1.4493E+00	1.0984E-01	1.4440E+00	1.7990E-01	1.5071E+00	1.5071E+00	3.7874E-08	7.4809E-14	1.61718E+00
^{233}U (F)	6.8077E-15	5.9227E-09	3.4800E-04	4.7363E-02	9.4640E-03	2.8164E-01	6.5263E-01	1.5048E+00	1.1292E-01	1.5043E+00	1.9415E-01	1.5725E+00	1.5725E+00	5.8143E-08	8.6245E-13	1.60564E+00
^{233}U (H)	1.8907E-15	3.1065E-11	1.8400E-05	1.2451E-02	1.5617E-03	1.2086E-01	4.9899E-01	2.2305E+00	1.5118E-01	2.4512E+00	5.8931E-01	2.6952E+00	2.6952E+00	5.2058E-05	3.0000E-10	2.85643E+00
^{235}U (T)	3.3332E-10	1.2953E-07	2.1595E-03	7.5737E-02	1.7245E-02	2.4792E-01	4.0625E-01	7.1280E-01	3.2377E-02	6.9264E-01	7.1987E-02	7.1785E-01	7.1785E-01	3.4785E-10	1.1579E-15	7.48587E-01
^{235}U (F)	1.5537E-10	2.5448E-06	3.8483E-06	2.3802E-03	4.7836E-04	5.1206E-02	1.3774E-01	6.3134E-01	6.6708E-02	7.5325E-01	2.0258E-01	8.2731E-01	8.2732E-01	3.5108E-06	1.8092E-10	8.92740E-01
^{235}U (H)	1.6495E-13	6.4565E-10	1.3501E-04	4.6542E-02	5.8296E-03	2.6247E-01	9.9670E-01	3.0636E+00	2.0427E-01	3.1670E+00	5.3189E-01	3.3557E+00	3.3557E+00	1.0329E-05	2.4701E-11	3.55019E+00
^{236}U (F)	3.6483E-11	1.6676E-06	8.5759E-03	1.8960E-01	3.6440E-02	3.8261E-01	5.3115E-01	9.8076E-01	3.9014E-02	9.4919E-01	9.5532E-02	9.8263E-01	9.8263E-01	3.4016E-11	7.1260E-17	1.02109E+00
^{238}U (F)	5.7395E-09	3.8370E-05	5.8668E-02	3.6962E-01	5.2598E-02	5.3481E-01	4.6794E-01	9.9959E-01	2.6091E-02	9.6613E-01	9.6083E-02	9.9976E-01	9.9976E-01	1.8174E-13	4.9960E-20	1.02426E+00
^{238}U (H)	3.1236E-10	9.6129E-07	7.2082E-03	3.2280E-01	3.9628E-02	5.6267E-01	1.1013E+00	1.9420E+00	8.3651E-02	1.8818E+00	1.9223E-01	1.9491E+00	1.9491E+00	3.5295E-10	1.3558E-15	2.09218E+00
^{237}Np(F)	2.6467E-11	1.0258E-07	1.8140E-03	1.3306E-01	2.6426E-02	3.7939E-01	6.8008E-01	1.3784E+00	8.1133E-02	1.3442E+00	1.4351E-01	1.3945E+00	1.3945E+00	1.9935E-09	1.3145E-14	1.47564E+00
^{239}Pu(T)	3.9780E-12	1.2235E-08	6.5321E-04	5.9842E-02	1.3640E-02	3.2452E-01	6.3282E-01	1.3557E+00	9.7385E-02	1.3385E+00	1.5872E-01	1.3934E+00	1.3934E+00	1.5860E-08	1.0557E-13	1.49098E+00
^{239}Pu(F)	3.1835E-12	1.3407E-08	5.4620E-04	6.6553E-02	1.3267E-02	3.0849E-01	6.7223E-01	1.4517E+00	1.0479E-01	1.4549E+00	1.7503E-01	1.5253E+00	1.5253E+00	2.0257E-08	1.6392E-13	1.53130E+00
^{239}Pu(H)	1.7049E-15	7.2532E-10	1.1901E-05	1.0048E-02	1.2607E-03	1.1785E-01	4.9594E-01	2.5492E+00	1.8806E-01	2.9341E+00	7.8688E-01	3.2232E+00	3.2232E+00	1.3858E-05	8.4305E-10	3.41134E+00
^{240}Pu(F)	1.7022E-11	6.8566E-08	1.5462E-03	7.8851E-02	1.5541E-02	2.6572E-01	5.7384E-01	1.0395E+00	5.6477E-02	1.0135E+00	1.0864E-01	1.0516E+00	1.0516E+00	1.6218E-09	1.0692E-14	1.10811E+00
^{241}Pu(T)	1.5512E-11	7.8589E-07	5.1895E-03	1.1922E-01	2.6369E-02	2.8610E-01	3.9227E-01	7.3395E-01	3.1105E-02	7.1070E-01	7.1781E-02	7.3582E-01	7.3582E-01	4.3823E-11	1.1451E-16	7.86550E-01
^{241}Pu(F)	7.5469E-12	5.4683E-07	4.4488E-03	1.4220E-01	2.7729E-02	3.3128E-01	5.2103E-01	9.5689E-01	4.3445E-02	9.2741E-01	9.4511E-02	9.6049E-01	9.6049E-01	1.3843E-10	3.1488E-16	1.00382E+00
^{242}Pu(F)	1.5523E-11	6.3117E-07	5.7911E-03	1.0941E-01	2.0858E-02	2.8515E-01	4.8678E-01	8.2057E-01	3.4055E-02	7.9480E-01	8.0568E-02	8.2300E-01	8.2300E-01	6.4473E-11	2.9803E-17	8.57039E-01
^{252}Cf(S)	1.6414E-11	5.6630E-08	8.0127E-04	4.0886E-02	8.2690E-03	1.1542E-01	1.7568E-01	3.6522E-01	1.9928E-02	3.4507E-01	3.5781E-02	3.5760E-01	3.5760E-01	1.8054E-10	1.2632E-16	3.77529E-01

Table 2.7.1 Continued

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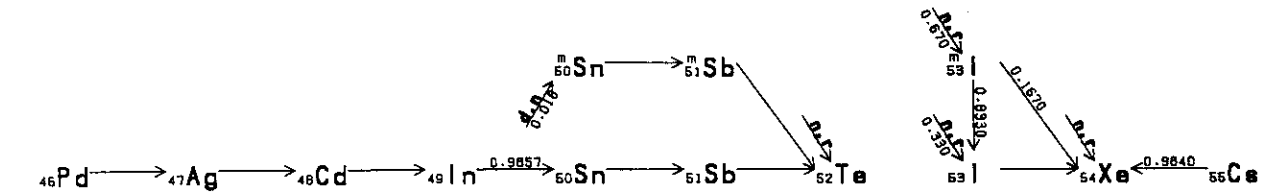
Mass No. 130



	46Pd	47Ag	48Cd	49In	50Sn	m50Sn	51Sb	m51Sb	52Te	53I	m53I	54Xe	55Cs	Mass Yield
λ(1/sec)	6.4419E+00	6.3128E+00	4.7902E-01	1.2034E+00	3.1223E-03	6.7956E-03	1.7746E-03	2.8246E-04	0.0	1.5578E-05	1.2836E-03	0.0	3.8637E-04	
Q-value(MeV)	1.0587E+01	1.4237E+01	6.2810E+00	9.5970E+00	2.0000E+00	3.9470E+00	4.9680E+00	4.9680E+00	0.0	2.9840E+00	3.0322E+00	0.0	3.0100E+00	
E-beta (MeV)	3.8930E+00	4.3000E+00	2.2580E+00	3.0630E+00	3.3762E-01	1.2086E+00	9.6842E-01	6.9851E-01	0.0	2.8663E-01	1.5946E-01	0.0	3.9165E-01	
E-gamma(MeV)	2.2110E+00	5.0220E+00	1.2250E+00	2.6930E+00	1.0264E+00	1.0521E+00	2.7057E+00	3.2691E+00	0.0	2.1381E+00	1.0953E-01	0.0	6.0133E-02	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	1.4949E-02	2.5684E-02	0.0	0.0	4.0161E-02	0.0	2.7279E-03	
Spin						7-	4+	8-		5+	2+		1+	
Cumulative yield 232Th(F)	7.9519E-10	4.8020E-06	7.1415E-03	1.1916E-01	2.9286E-01	4.7902E-01	3.2601E-01	5.0837E-01	8.3645E-01	6.6306E-07	1.8630E-07	6.9422E-07	2.9769E-17	8.37276E-01
232Th(H)	1.9578E-12	7.0601E-08	3.3706E-04	7.3098E-02	2.5733E-01	8.3696E-01	6.6101E-01	1.4788E+00	2.2329E+00	2.5675E-02	4.7993E-03	2.6476E-02	5.4005E-13	2.26033E+00
233U (T)	7.9577E-14	2.4190E-09	4.6163E-05	1.5067E-02	2.4175E-01	6.3144E-01	7.5869E-01	9.1242E-01	2.0981E+00	2.7186E-03	8.5630E-04	2.8656E-03	1.1110E-11	2.10117E+00
233U (F)	7.1435E-15	2.0500E-09	3.7403E-05	1.6253E-02	2.2339E-01	5.6531E-01	9.3375E-01	1.1941E+00	2.5157E+00	3.5972E-03	1.0107E-03	3.7698E-03	1.2279E-10	2.51967E+00
233U (H)	7.7590E-18	1.5200E-11	8.2502E-07	1.9038E-03	4.5235E-02	1.9564E-01	7.3103E-01	1.2863E+00	3.1831E+00	5.2592E-02	9.8309E-03	5.4369E-02	2.9489E-08	3.23754E+00
235U (T)	3.2093E-12	1.4597E-07	9.1694E-04	9.4873E-02	4.0890E-01	7.3895E-01	7.4316E-01	9.8530E-01	1.7849E+00	2.0611E-04	6.4915E-05	2.1897E-04	4.7249E-14	1.78619E+00
235U (F)	4.7878E-12	2.1191E-07	8.8881E-04	9.1239E-02	4.0753E-01	8.6637E-01	7.3151E-01	1.1591E+00	1.9351E+00	1.1237E-04	3.1575E-05	1.1767E-04	1.7210E-13	1.93618E+00
235U (H)	8.7891E-16	2.6601E-10	7.1206E-06	8.2536E-03	1.0616E-01	4.4275E-01	9.7129E-01	1.8184E+00	3.5275E+00	2.0214E-02	3.7786E-03	2.0875E-02	1.2531E-09	3.64849E+00
236U (F)	3.1800E-11	8.5002E-07	2.3328E-03	1.4980E-01	5.1066E-01	9.9066E-01	7.5668E-01	1.2083E+00	1.9913E+00	3.6105E-05	1.0145E-05	3.7805E-05	2.4375E-14	1.99288E+00
238U (F)	3.6443E-09	1.7925E-05	2.2063E-02	3.1007E-01	6.9187E-01	1.0552E+00	7.5334E-01	1.1098E+00	1.8661E+00	8.3963E-07	2.3592E-07	8.7909E-07	2.3521E-17	1.86829E+00
238U (H)	6.9012E-12	4.2308E-07	1.2866E-03	1.8203E-01	4.9108E-01	1.4080E+00	9.6439E-01	2.1606E+00	3.1986E+00	2.2957E-04	4.2914E-05	2.3676E-04	3.7696E-13	3.20107E+00
237Np(F)	3.7931E-13	4.8701E-08	2.5305E-04	6.4796E-02	3.2490E-01	7.1173E-01	9.9541E-01	1.2522E+00	2.2974E+00	6.1419E-04	1.7257E-04	6.4320E-04	2.8558E-12	2.29877E+00
239Pu(T)	5.3031E-14	6.3420E-09	8.7235E-06	2.6249E-02	3.0571E-01	6.5777E-01	9.2295E-01	1.1127E+00	2.3236E+00	6.2639E-03	1.6578E-03	5.6432E-03	1.8451E-11	2.32945E+00
239Pu(F)	4.0298E-14	6.7220E-09	8.4232E-05	2.7919E-02	2.8063E-01	5.9005E-01	9.7687E-01	1.3081E+00	2.5637E+00	3.5572E-03	9.9950E-04	3.7267E-03	2.8538E-11	2.56777E+00
239Pu(H)	7.8781E-18	8.2905E-12	5.6504E-07	1.5367E-03	4.7653E-02	2.0885E-01	9.3597E-01	1.8211E+00	4.3892E+00	9.9980E-02	1.6589E-02	1.0347E-01	4.9897E-08	4.47274E+00
240Pu(F)	3.3305E-13	3.4203E-08	3.1306E-04	4.2567E-02	3.4340E-01	8.2187E-01	7.1916E-01	1.1545E+00	1.9929E+00	3.5336E-04	9.9265E-05	3.7013E-04	2.3240E-12	1.99371E+00
241Pu(T)	1.7405E-11	4.7115E-07	1.6009E-03	1.0334E-01	4.4160E-01	7.9666E-01	6.6359E-01	9.6011E-01	1.6505E+00	3.6776E-05	1.1583E-05	3.6718E-05	3.7740E-14	1.65152E+00
241Pu(F)	6.6997E-12	2.6999E-07	9.8222E-04	9.2506E-02	3.7501E-01	7.7412E-01	6.4491E-01	1.0130E+00	1.6949E+00	7.5360E-05	2.1174E-05	7.8912E-05	8.0935E-14	1.69594E+00
242Pu(F)	1.4700E-11	2.7102E-07	1.4723E-03	6.5142E-02	3.6802E-01	8.2861E-01	5.0669E-01	9.5048E-01	1.4850E+00	2.7089E-05	7.6115E-06	2.6389E-05	7.0867E-15	1.48651E+00
252Cf(S)	2.9993E-13	3.5066E-08	1.5490E-04	2.6845E-02	1.3246E-01	2.4637E-01	3.0344E-01	3.7438E-01	7.0275E-01	8.3778E-05	2.9535E-05	9.8735E-05	3.4335E-13	7.03132E-01

Table 2.7.1 Continued

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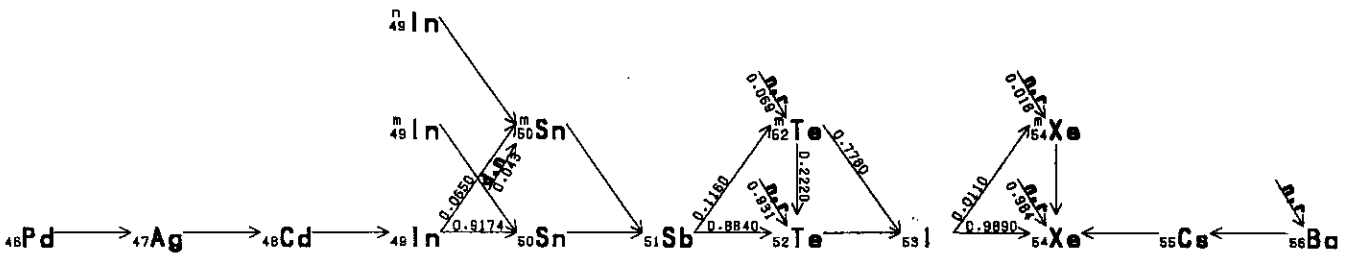
Mass No. 131



	46Pd	47Ag	48Cd	49In	m49In	n49In	50Sn	m50Sn	51Sb	52Te	m52Te	53I	54Xe	m54Xe	55Cs	56Ba	
λ(1/sec)	1.8386E+01	8.4530E+00	9.0160E+00	2.6872E+00	1.9804E+00	2.1661E+00	1.7779E-02	1.9863E-02	5.0228E-04	4.6210E-04	6.4180E-06	9.9783E-07	0.0	6.7416E-07	8.2792E-07	6.7988E-07	
Q-value(MeV)	1.2148E+01	1.2586E+01	1.0900E+01	8.5090E+00	8.8090E+00	1.2609E+01	4.6200E+00	4.8610E+00	3.1000E+00	2.2490E+00	2.4319E+00	9.7060E-01	0.0	1.6993E-01	3.5500E-01	1.3410E+00	
E-beta (MeV)	3.9500E+00	4.1220E+00	3.5180E+00	2.7070E+00	3.0128E+00	3.3891E+00	1.4644E+00	1.2459E+00	5.7959E-01	6.9661E-01	1.6323E-01	1.8153E-01	0.0	0.0	0.0	0.0	Mass
E-gamma(MeV)	3.6490E+00	3.7240E+00	3.2670E+00	2.0170E+00	2.2012E+00	5.2293E+00	1.1937E+00	1.8924E+00	1.8694E+00	4.1195E-01	1.4028E+00	3.7704E-01	0.0	3.1149E-03	0.0	4.4770E-01	Yield
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4403E-02	5.3585E-02	6.6454E-03	0.0	1.5082E-01	0.0	3.0973E-02	
Spin				9/2+	1/2-	21/2+	3/2+	11/2-	7/2+	3/2+	11/2-	7/2+	3/2+	11/2-	5/2+	1/2+	
Cumulative yield 232Th(F)	1.5279E-11	2.7084E-08	1.2473E-03	5.0148E-02	9.8437E-03	2.4437E-02	3.6018E-01	8.8063E-01	1.6074E+00	1.4889E+00	1.9788E-01	1.6227E+00	1.6227E+00	1.7850E-02	2.6118E-14	1.0455E-20	1.62229E+00
232Th(H)	9.9283E-16	3.1922E-11	1.8400E-06	6.5017E-03	8.1441E-04	6.2775E-03	1.1031E-01	4.8179E-01	2.2421E+00	2.1914E+00	6.0477E-01	2.8688E+00	2.6688E+00	2.9362E-02	2.5900E-10	1.5080E-16	2.56882E+00
233U (T)	3.3553E-16	1.5437E-10	2.5289E-06	2.1444E-03	4.9525E-04	8.6456E-04	1.4120E-01	3.3601E-01	2.0749E+00	2.5550E+00	1.2898E+00	3.6061E+00	3.6062E+00	9.9743E-02	7.8967E-09	1.1935E-14	3.60627E+00
233U (F)	2.2569E-17	2.0071E-11	1.5500E-08	1.5277E-03	3.0721E-04	7.8267E-04	9.4527E-02	2.8081E-01	2.2928E+00	2.6622E+00	1.2954E+00	3.7379E+00	3.7380E+00	4.1225E-02	1.3800E-08	1.3102E-13	3.73805E+00
233U (H)	1.1471E-20	5.2562E-14	1.6400E-08	6.2103E-05	7.7991E-06	8.0115E-05	9.4445E-03	4.3102E-02	1.1975E+00	1.8062E+00	1.7682E+00	3.4543E+00	3.4558E+00	4.0050E-02	1.1100E-06	2.3800E-11	3.45683E+00
235U (T)	8.2790E-14	9.1534E-11	6.9984E-05	1.7846E-02	4.1104E-03	7.1755E-03	2.7056E-01	6.1248E-01	2.6810E+00	2.4626E+00	5.1095E-01	2.8843E+00	2.8843E+00	9.1731E-02	9.6378E-11	2.5541E-17	2.88435E+00
235U (F)	2.9026E-14	2.1897E-10	7.9754E-05	1.6045E-02	3.6164E-03	8.9778E-03	3.0224E-01	7.9970E-01	2.6078E+00	2.7119E+00	5.9764E-01	3.1801E+00	3.1801E+00	3.4983E-02	4.6979E-11	8.8477E-17	3.18022E+00
236U (H)	1.9530E-18	3.4493E-12	1.9401E-07	3.5747E-04	4.6137E-05	3.5562E-04	2.8669E-02	1.9017E-01	2.0317E+00	2.5195E+00	1.7612E+00	3.9947E+00	3.9952E+00	4.4301E-02	9.7306E-08	1.0300E-12	3.99517E+00
236U (F)	2.0821E-13	1.2798E-09	2.3500E-04	3.9261E-02	6.6461E-03	1.8504E-02	3.8878E-01	1.0031E+00	2.8216E+00	2.8583E+00	4.6508E-01	3.0389E+00	3.0389E+00	3.3408E-02	6.9499E-12	8.7557E-18	3.03703E+00
238U (F)	7.0209E-11	1.1599E-07	3.8875E-03	1.2976E-01	2.5339E-02	6.2904E-02	7.4415E-01	1.7527E+00	3.1908E+00	2.9232E+00	4.0532E-01	3.2386E+00	3.2386E+00	3.5624E-02	1.9802E-14	6.9977E-21	3.23789E+00
238U (H)	3.1823E-14	3.4954E-10	1.0102E-04	2.2371E-02	2.7975E-03	2.1563E-02	2.5324E-01	1.0782E+00	3.7419E+00	3.5121E+00	6.7930E-01	4.0449E+00	4.0449E+00	4.4495E-02	5.0510E-11	1.0200E-16	4.04508E+00
237Np(F)	2.0616E-16	2.6260E-11	1.7700E-06	8.9947E-03	1.8071E-03	4.4861E-03	1.9712E-01	5.2864E-01	3.0477E+00	3.0449E+00	8.2345E-01	3.6977E+00	3.6977E+00	4.0684E-02	5.8501E-10	1.4345E-15	3.69777E+00
239Pu(T)	2.2506E-16	1.2075E-10	5.2517E-06	3.6452E-03	8.4168E-04	1.4593E-03	1.8314E-01	4.3388E-01	2.4766E+00	2.8562E+00	1.2353E+00	3.8466E+00	3.8467E+00	4.2361E-02	4.3214E-09	1.8349E-14	3.84669E+00
239Pu(F)	1.5528E-16	9.6430E-11	4.2513E-06	3.1298E-03	6.2916E-04	1.5619E-03	1.3991E-01	3.8182E-01	2.7428E+00	2.9636E+00	1.1268E+00	3.8697E+00	3.8698E+00	4.2608E-02	3.9012E-09	2.4087E-14	3.86982E+00
239Pu(H)	1.1213E-20	5.4759E-14	1.0101E-08	4.8249E-05	6.0596E-06	4.6708E-05	9.1446E-03	4.1778E-02	1.4117E+00	2.3078E+00	2.4902E+00	4.7575E+00	4.7630E+00	5.6852E-02	3.0703E-06	8.2705E-11	4.76300E+00
240Pu(F)	1.9984E-15	2.5133E-11	2.4102E-05	7.9524E-03	1.5950E-03	3.9620E-03	2.4704E-01	5.7097E-01	2.8237E+00	2.8728E+00	8.5205E-01	3.5451E+00	3.5451E+00	3.9005E-02	3.9404E-10	2.1755E-15	3.54515E+00
241Pu(T)	1.0826E-13	8.1736E-10	1.9405E-04	2.8886E-02	6.6947E-03	1.1682E-02	4.0825E-01	9.1961E-01	2.6064E+00	2.4781E+00	4.7035E-01	2.8453E+00	2.8453E+00	3.1299E-02	8.1823E-12	1.7515E-17	2.84547E+00
241Pu(F)	6.2838E-14	4.0311E-10	1.1499E-04	2.2986E-02	4.6040E-03	1.1430E-02	3.3500E-01	8.7878E-01	2.9005E+00	2.7741E+00	5.6996E-01	3.2199E+00	3.2199E+00	3.5420E-02	2.7099E-11	3.7729E-17	3.22005E+00
242Pu(F)	4.8147E-13	6.8405E-10	2.1400E-04	2.4490E-02	4.8867E-03	1.2131E-02	4.9228E-01	1.1471E+00	2.8816E+00	2.7514E+00	5.5640E-01	3.1872E+00	3.1872E+00	3.5060E-02	1.0300E-11	4.9407E-18	3.18735E+00
252Cf(S)	2.2422E-15	3.3047E-11	1.6185E-05	5.9848E-03	1.3802E-03	2.4094E-03	1.1609E-01	2.7141E-01	1.2845E+00	1.2649E+00	3.0038E-01	1.5015E+00	1.5015E+00	1.6518E-02	7.1435E-11	2.9610E-16	1.50154E+00

Table 2.7.1 Continued

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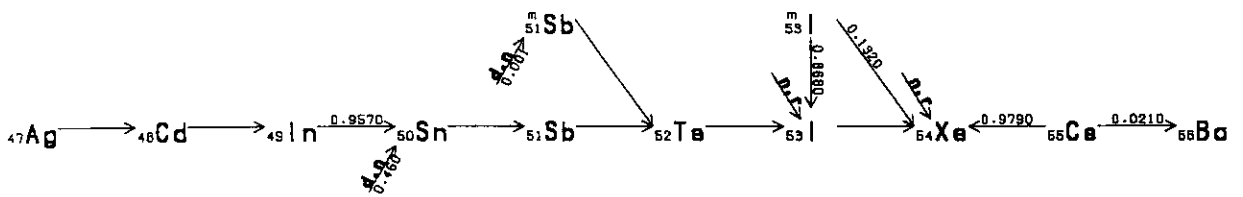
Mass No. 132



	47Ag	48Cd	49In	50Sn	51Sb	m51Sb	52Te	53I	m53I	54Xe	55Cs	56Ba	Mass Yield
λ(1/sec)	1.2649E+01	3.4112E+00	5.9319E+00	1.7329E-02	4.1259E-03	2.7506E-03	2.5038E-06	8.4448E-05	1.3819E-04	0.0	1.2990E-06	0.0	
Q-value(MeV)	1.4197E+01	9.3050E+00	1.3010E+01	3.2200E+00	5.6000E+00	5.6000E+00	4.9300E-01	3.5800E+00	3.7000E+00	0.0	1.2790E+00	0.0	
E-beta (MeV)	4.2810E+00	3.4050E+00	3.8173E+00	8.3475E-01	1.1968E+00	1.1113E+00	5.9414E-02	4.9359E-01	6.3660E-02	0.0	7.7112E-03	0.0	
E-gamma(MeV)	5.0160E+00	1.8970E+00	4.8443E+00	1.1218E+00	2.7279E+00	2.9074E+00	2.0507E-01	2.2768E+00	3.1250E-01	0.0	7.0485E-01	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	5.5498E-02	0.0	1.0044E-01	0.0	0.0	0.0	
Spin					4+	8-		4+	8-		2-		
Cumulative yield													
232Th(F)	3.5015E-10	1.8104E-04	3.0402E-02	1.5296E+00	2.0075E+00	4.2387E-01	2.8876E+00	2.8888E+00	5.7910E-04	2.8888E+00	1.1103E-11	2.3317E-13	2.86873E+00
232Th(H)	2.9552E-11	6.2901E-07	1.5426E-03	2.0956E-01	6.3805E-01	9.9944E-01	3.0836E+00	3.1912E+00	7.1858E-02	3.2008E+00	2.6000E-06	5.4607E-10	3.20083E+00
233U (T)	1.0999E-12	5.9275E-08	2.3296E-04	1.2395E-01	8.7017E-01	5.4897E-01	4.6260E+00	4.9186E+00	1.3152E-01	4.9387E+00	6.0475E-07	1.2717E-08	4.93869E+00
233U (F)	1.1558E-13	3.6100E-08	1.6904E-04	9.5765E-02	8.3400E-01	5.6351E-01	4.6056E+00	4.9280E+00	1.6087E-01	4.9526E+00	9.8301E-07	2.0670E-08	4.95255E+00
233U (H)	1.8303E-16	2.0700E-10	5.7803E-06	8.0456E-03	2.1848E-01	3.3462E-01	3.2197E+00	3.9777E+00	5.0638E-01	4.0705E+00	3.9400E-05	8.3045E-07	4.07055E+00
235U (T)	1.4733E-10	5.6887E-06	6.7472E-03	5.7736E-01	1.8517E+00	9.3931E-01	4.2830E+00	4.2988E+00	7.1027E-03	4.2999E+00	7.4083E-08	1.5558E-09	4.30002E+00
235U (F)	5.7862E-11	4.1581E-06	4.6670E-03	6.1316E-01	1.8939E+00	1.1339E+00	4.5645E+00	4.5994E+00	1.7498E-02	4.6019E+00	5.9488E-09	1.4594E-10	4.60184E+00
235U (H)	1.7823E-14	3.0402E-09	4.2106E-05	2.9581E-02	4.3740E-01	6.4648E-01	4.0024E+00	4.7057E+00	4.7052E-01	4.7790E+00	7.8304E-06	1.6474E-07	4.77904E+00
236U (F)	3.7770E-10	1.4600E-05	1.0419E-02	8.8887E-01	2.1013E+00	1.0737E+00	4.2901E+00	4.3062E+00	8.0936E-03	4.3073E+00	1.2700E-09	2.6676E-11	4.30729E+00
238U (F)	1.5362E-09	4.9858E-04	6.8952E-02	2.9298E+00	3.8635E+00	8.2820E-01	5.1450E+00	5.1464E+00	5.8535E-04	5.1465E+00	8.5800E-12	1.8019E-13	5.14615E+00
235U (H)	8.5898E-11	3.8406E-06	5.0228E-03	5.3725E-01	1.6341E+00	1.7444E+00	4.8061E+00	4.8502E+00	2.9463E-02	4.8542E+00	8.5114E-09	1.7878E-10	4.85426E+00
237Np(F)	8.5404E-12	6.2901E-07	1.8867E-03	2.8557E-01	1.6930E+00	1.2459E+00	4.8918E+00	5.0004E+00	5.4367E-02	5.0060E+00	6.4400E-08	1.3530E-09	5.00601E+00
239Pu(T)	8.7272E-13	3.6512E-07	1.2526E-03	4.9011E-01	1.9143E+00	1.0496E+00	5.2022E+00	5.3806E+00	8.0205E-02	5.3931E+00	3.6312E-07	7.6328E-09	5.39311E+00
239Pu(F)	6.9441E-13	1.1703E-07	4.6526E-04	1.6426E-01	1.1591E+00	8.8069E-01	5.0901E+00	5.2940E+00	1.0205E-01	5.3091E+00	3.7511E-07	7.8843E-09	5.30912E+00
239Pu(H)	1.7470E-16	1.0601E-10	3.7303E-06	6.5119E-03	2.1713E-01	3.3491E-01	3.7793E+00	5.1401E+00	9.0905E-01	5.3142E+00	1.0201E-04	2.1520E-06	5.31416E+00
240Pu(F)	4.9213E-12	8.8909E-07	1.4120E-03	3.7480E-01	1.3605E+00	8.7263E-01	4.7303E+00	4.8018E+00	3.5776E-02	4.8070E+00	4.1103E-08	8.6408E-10	4.80696E+00
241Pu(T)	1.9337E-10	1.2103E-05	8.4535E-03	8.5929E-01	2.0925E+00	9.0919E-01	4.2022E+00	4.2180E+00	7.5697E-03	4.2201E+00	1.5404E-09	3.2362E-11	4.21999E+00
241Pu(F)	1.3573E-10	6.0697E-06	6.2908E-03	6.7396E-01	1.9469E+00	1.1270E+00	4.6098E+00	4.6403E+00	1.5298E-02	4.6424E+00	4.4698E-09	9.3889E-11	4.64241E+00
242Pu(F)	5.0502E-10	1.3900E-05	6.6240E-03	1.0713E+00	2.0333E+00	8.5198E-01	4.5503E+00	4.5662E+00	7.9984E-03	4.5674E+00	1.5100E-09	3.3815E-11	4.56721E+00
252Cf(S)	5.9449E-12	5.2643E-07	1.2565E-03	1.5421E-01	7.7526E-01	4.5040E-01	1.9448E+00	1.9744E+00	1.3311E-02	1.9752E+00	9.4513E-09	1.9880E-10	1.97620E+00

Table 2.7.1 Continued

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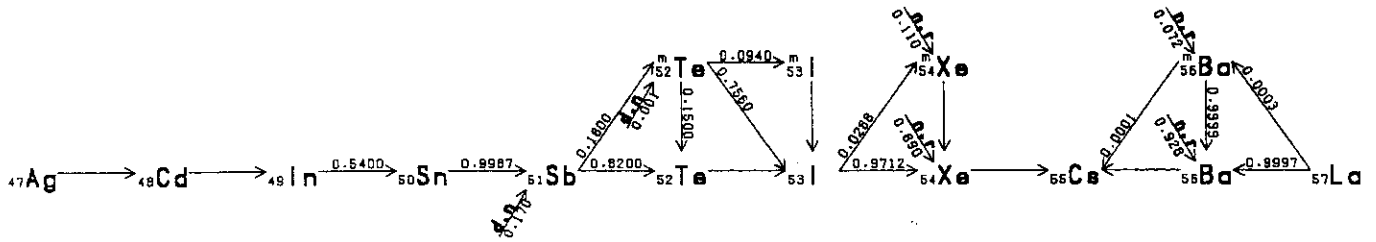
Mass No. 133



		47Ag	48Cd	49In	50Sn	51Sb	52Te	m52Te	53I	m53I	54Xe	m54Xe	55Cs	56Ba	m56Ba	57La	Mass Yield
	λ(1/sec)	2.0033E+01	7.3949E+00	3.0944E+00	4.7153E-01	4.9370E-03	9.2791E-04	2.0853E-04	9.2568E-06	7.7016E-02	1.5165E-05	3.6533E-05	0.0	2.0919E-09	4.9496E-06	4.9218E-05	
	Q-value(MeV)	1.3350E+01	1.0975E+01	1.1566E+01	7.9170E+00	3.9500E+00	2.9700E+00	3.3114E+00	1.7600E+00	1.6342E+00	4.2730E-01	2.3922E-01	0.0	5.2040E-01	8.0876E-01	2.0000E+00	
	E-beta (MeV)	4.3830E+00	3.5390E+00	3.7560E+00	2.4100E+00	7.4827E-01	1.0222E+00	3.3474E-01	4.0641E-01	0.0	1.0011E-01	0.0	0.0	0.0	0.0	2.6606E-02	Mass
	E-gamma(MeV)	3.9620E+00	3.2960E+00	3.4140E+00	1.8610E+00	1.9542E+00	1.1939E+00	1.7591E+00	6.1129E-01	1.5633E+00	3.0149E-02	2.3320E-02	0.0	3.4531E-01	4.9864E-02	1.1879E-01	Yield
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	3.4650E-02	0.0	7.0940E-02	5.1441E-02	2.0888E-01	0.0	6.2695E-02	2.3826E-01	1.1960E-02	
	Spin						3/2+	11/2-	7/2+	19/2-	3/2+	11/2-	7/2+	1/2+	11/2-	5/2+	
Cumulative yield	232Th(F)	1.4787E-10	6.5586E-07	1.2652E-03	6.4572E-01	2.5313E+00	2.6429E+00	1.4397E+00	3.9584E+00	1.7436E-01	3.9565E+00	1.1405E-01	3.9565E+00	1.5060E-14	1.1915E-14	1.2751E-21	3.93815E+00
	232Th(H)	1.7167E-13	4.9303E-10	1.9527E-05	5.3835E-02	1.3673E+00	1.9257E+00	2.3326E+00	4.2942E+00	4.4146E-01	4.2983E+00	1.2700E-01	4.2983E+00	4.9995E-11	2.3035E-11	1.6380E-17	4.29629E+00
	233U (T)	3.3361E-15	1.9000E-09	1.1221E-06	1.7796E-02	8.1048E-01	2.3669E+00	3.1230E+00	5.9621E+00	6.5069E-01	6.0224E+00	2.1453E-01	6.0224E+00	3.4483E-09	2.6414E-09	1.4792E-15	6.02213E+00
	233U (F)	2.8712E-16	2.5053E-10	8.0252E-07	1.2156E-02	5.6667E-01	2.0834E+00	3.0809E+00	5.9596E+00	8.2443E-01	6.0048E+00	2.0493E-01	6.0048E+00	5.2598E-09	4.1610E-09	1.8853E-14	6.00480E+00
	233U (H)	2.8670E-19	7.8808E-13	6.6443E-09	6.0300E-04	1.4040E-01	7.3012E-01	1.6864E+00	4.3637E+00	1.4256E+00	4.5626E+00	2.8862E-01	4.5636E+00	2.9397E-07	2.6306E-07	3.5400E-12	4.56361E+00
	235U (T)	9.6521E-13	1.4326E-09	3.9868E-05	1.4588E-01	2.3727E+00	3.6631E+00	3.3585E+00	6.6992E+00	3.8446E-01	6.7019E+00	1.9491E-01	6.7019E+00	5.0164E-11	3.8441E-11	3.7274E-18	6.69967E+00
	235U (F)	3.7654E-13	3.5092E-09	6.9665E-05	1.5577E-01	2.3792E+00	3.5061E+00	3.3675E+00	6.7235E+00	4.5753E-01	6.7299E+00	1.9637E-01	6.7299E+00	1.8290E-11	1.5261E-11	1.3185E-17	6.72655E+00
	235U (H)	4.2546E-17	4.5201E-11	9.2952E-08	3.9622E-03	4.7722E-01	1.5529E+00	3.2080E+00	5.3364E+00	9.1013E-01	5.5265E+00	3.0977E-01	5.5268E+00	3.6598E-08	3.1503E-08	1.1952E-13	5.52672E+00
	236U (F)	2.8221E-12	2.2431E-08	2.3180E-04	3.0849E-01	3.1762E+00	4.0486E+00	3.2500E+00	7.0246E+00	3.9632E-01	7.0259E+00	2.0326E-01	7.0259E+00	3.0397E-12	2.4048E-12	1.2863E-18	7.01801E+00
	238U (F)	5.5517E-10	2.1651E-06	3.3720E-03	1.3237E+00	4.6028E+00	4.6355E+00	2.2826E+00	6.6046E+00	2.2687E-01	6.6065E+00	1.9156E-01	6.6065E+00	9.3893E-15	7.4283E-16	6.3703E-22	6.55280E+00
	238U (H)	5.0456E-13	4.1573E-09	9.0897E-05	1.4712E-01	2.5531E+00	3.1409E+00	3.1194E+00	6.1263E+00	4.8554E-01	6.1449E+00	1.9171E-01	6.1449E+00	1.1801E-11	9.3859E-12	1.0154E-17	6.14107E+00
	237Np(F)	3.2004E-14	3.0893E-10	1.6774E-05	5.8390E-02	1.8460E+00	3.0534E+00	3.2889E+00	6.6309E+00	5.3723E-01	6.6397E+00	1.9780E-01	6.6398E+00	1.8099E-10	1.4318E-10	2.7397E-16	6.63846E+00
	239Pu(T)	2.6533E-15	1.5507E-09	3.2932E-06	3.1505E-02	1.2448E+00	2.8059E+00	3.3292E+00	6.9260E+00	8.0232E-01	6.9756E+00	2.3454E-01	6.9756E+00	1.8304E-09	1.4021E-09	2.7396E-15	6.97509E+00
	239Pu(F)	2.1018E-15	1.2062E-09	2.6689E-06	2.4860E-02	1.0794E+00	2.6464E+00	3.6086E+00	6.8902E+00	8.1411E-01	6.8902E+00	2.4092E-01	6.8902E+00	1.7704E-09	1.4006E-09	3.7475E-15	6.88976E+00
	239Pu(H)	2.3947E-19	7.0455E-13	3.2332E-09	4.2502E-04	1.2302E-01	7.5683E-01	1.6008E+00	5.1163E+00	1.7874E+00	5.4313E+00	4.0599E-01	5.4330E+00	5.5998E-07	4.8202E-07	8.4705E-12	5.43294E+00
	240Pu(F)	2.1421E-14	4.2014E-10	1.4978E-05	7.4921E-02	1.5652E+00	3.1345E+00	3.8474E+00	6.9954E+00	6.1279E-01	7.0055E+00	2.0896E-01	7.0055E+00	1.8200E-10	1.4399E-10	2.7140E-16	7.00428E+00
	241Pu(T)	1.3170E-12	1.6185E-08	1.7537E-04	2.7434E-01	2.8399E+00	3.8648E+00	3.1343E+00	6.7682E+00	3.7779E-01	6.7696E+00	1.9590E-01	6.7696E+00	3.9607E-12	3.0339E-12	2.7312E-18	6.76313E+00
	241Pu(F)	7.9536E-13	6.1921E-09	1.0410E-04	1.8903E-01	2.6959E+00	3.6082E+00	3.2461E+00	6.5893E+00	4.4204E-01	6.6916E+00	1.9440E-01	6.6916E+00	1.0798E-11	8.5431E-12	5.5632E-18	6.68705E+00
	242Pu(F)	3.9588E-12	1.4671E-08	1.2909E-04	2.7845E-01	2.3439E+00	3.5009E+00	3.4096E+00	6.5906E+00	4.0200E-01	6.5925E+00	1.9115E-01	6.5925E+00	5.6695E-12	4.4854E-12	4.7250E-18	6.58619E+00
	252Cf(S)	3.1418E-14	4.9952E-10	1.7338E-05	4.6665E-02	1.0703E+00	1.6862E+00	1.5927E+00	3.3201E+00	2.5214E-01	3.3229E+00	9.7587E-02	3.3229E+00	3.0270E-11	2.3187E-11	5.9494E-17	3.32198E+00

Table 2.7.1 Continued

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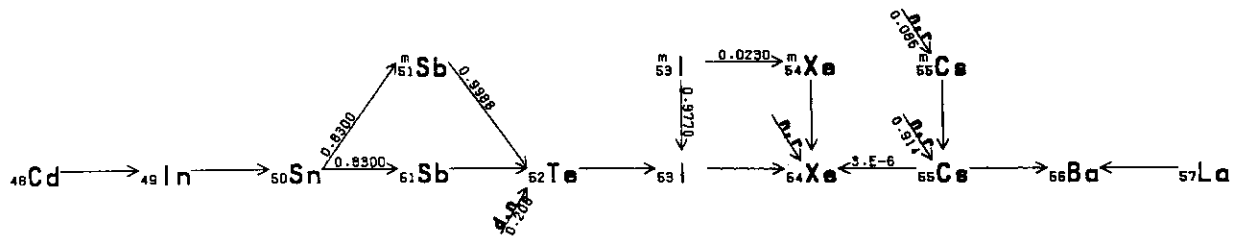
Mass No. 134



	48Cd	49In	50Sn	51Sb	51mSb	52Te	53I	53mI	54Xe	54mXe	55Cs	55mCs	56Ba	57La	Mass Yield
λ(1/sec)	1.3512E+01	4.2865E+00	6.6649E-01	8.1547E-01	6.6649E-02	2.7637E-04	2.1963E-04	3.0401E-03	0.0	2.3902E+00	1.0652E-08	6.6393E-05	0.0	1.7911E-03	
Q-value(MeV)	1.0112E+01	1.3307E+01	5.3980E+00	6.8000E+00	6.8000E+00	1.7280E+00	4.1500E+00	4.4689E+00	0.0	1.9658E+00	2.0564E+00	1.3668E-01	0.0	3.7000E+00	
E-beta (MeV)	3.6300E+00	3.9920E+00	2.2950E+00	2.7810E+00	2.6410E+00	2.0519E-01	6.1090E-01	2.3206E-02	0.0	0.0	1.5326E-01	0.0	0.0	7.5615E-01	
E-gamma(MeV)	2.2440E+00	4.6990E+00	1.2480E+00	2.2560E+00	2.9392E+00	8.9352E-01	2.5766E+00	2.2047E-01	0.0	1.8920E+00	1.5647E+00	1.5943E-02	0.0	7.3989E-02	
E-i.C (MeV)	0.0	0.0	0.0	0.0	0.0	4.2888E-02	0.0	8.9784E-02	0.0	7.3804E-02	0.0	1.2262E-01	0.0	2.0574E-03	
Spin				1+	4+		4+	8-		7-	4+	8-		1+	
Cumulative yield: 232Th(F)	4.8090E-09	1.8304E-04	1.2194E-01	2.5707E-01	8.5696E-01	5.3912E+00	5.5186E+00	6.0963E-02	5.5239E+00	3.4985E-03	4.2210E-07	1.9820E-07	4.2212E-07	3.1217E-18	5.31178E+00
232Th(H)	2.9845E-10	4.4301E-06	7.9675E-03	8.3382E-02	6.0874E-01	4.8391E+00	6.7430E+00	1.1855E+00	6.8421E+00	8.6106E-02	1.3900E-04	8.5336E-05	1.3902E-04	2.1130E-14	6.81428E+00
233U (T)	7.5644E-12	1.1655E-07	9.6972E-04	2.8023E-02	1.1526E-01	3.5778E+00	5.8974E+00	9.9367E-01	6.3135E+00	2.9838E-01	1.3204E-03	5.6025E-04	1.3211E-03	9.9487E-13	6.31008E+00
233U (F)	7.8638E-13	9.5001E-08	7.3110E-04	2.4170E-02	1.1487E-01	3.1981E+00	5.8211E+00	1.2451E+00	6.2214E+00	3.0052E-01	1.6080E-03	7.5605E-04	1.6087E-03	9.9079E-12	6.21870E+00
233U (H)	1.5769E-15	9.9101E-10	1.8901E-05	1.9810E-03	1.5424E-02	8.9369E-01	4.1034E+00	1.9987E+00	4.9990E+00	7.4161E-01	1.6287E-02	9.9989E-03	1.6305E-02	1.3375E-09	5.01497E+00
235U (T)	1.1637E-09	4.0691E-06	1.1242E-02	1.4383E-01	5.7494E-01	5.9209E+00	7.7449E+00	3.5307E-01	7.8351E+00	8.5842E-02	1.2697E-05	5.3872E-06	1.2704E-05	4.5572E-15	7.79798E+00
235U (F)	4.5767E-10	9.3958E-06	1.6806E-02	1.4436E-01	6.4640E-01	6.2876E+00	7.5263E+00	5.8802E-01	7.5879E+00	4.8639E-02	4.6578E-05	2.2810E-05	4.8583E-05	1.4443E-14	7.53947E+00
235U (H)	1.4517E-13	1.6001E-08	1.5902E-04	8.1054E-03	6.2670E-02	1.9634E+00	5.4172E+00	2.1507E+00	6.0509E+00	5.2779E-01	5.8683E-03	3.8027E-03	5.8715E-03	4.5170E-11	6.05502E+00
236U (F)	8.2117E-11	3.4800E-05	4.2275E-02	2.4724E-01	1.0538E+00	7.0818E+00	8.0706E+00	4.6936E-01	8.1081E+00	3.0399E-02	1.7100E-05	8.0292E-06	1.7101E-05	1.7876E-15	8.02510E+00
238U (F)	1.3285E-08	5.8168E-04	3.2170E-01	6.1071E-01	1.9336E+00	7.8012E+00	8.0074E+00	9.7907E-02	8.0123E+00	4.1614E-03	3.1437E-07	1.4761E-07	3.1438E-07	1.5125E-18	7.62150E+00
238U (H)	5.3458E-10	1.5403E-05	1.7668E-02	1.2670E-01	8.9331E-01	5.2026E+00	6.5178E+00	8.1901E-01	6.5688E+00	4.5112E-02	3.9807E-05	2.4438E-05	3.9809E-05	9.4349E-15	6.51018E+00
237Np(F)	3.9736E-11	2.1400E-06	4.8732E-03	1.0058E-01	4.7215E-01	4.7667E+00	7.2490E+00	1.1783E+00	7.3936E+00	1.1904E-01	3.1100E-04	1.4603E-04	3.1104E-04	2.5385E-13	7.35987E+00
239Pu(T)	6.0651E-12	3.0810E-07	1.8499E-03	4.7699E-02	1.9567E-01	4.5805E+00	7.2747E+00	1.1544E+00	7.6326E+00	2.5871E-01	9.8932E-04	4.1976E-04	9.8965E-04	1.8934E-12	7.62141E+00
239Pu(F)	4.5503E-12	2.9909E-07	1.6358E-03	4.2990E-02	2.0323E-01	4.2335E+00	7.0547E+00	1.3392E+00	7.3613E+00	2.4724E-01	1.0123E-03	4.7538E-04	1.0126E-03	2.4321E-12	7.37303E+00
239Pu(H)	1.3741E-15	5.1603E-10	1.3001E-05	1.6218E-03	1.2647E-02	9.0039E-01	4.3511E+00	2.1488E+00	5.6483E+00	1.0718E+00	2.9466E-02	1.8101E-02	2.9525E-02	1.9438E-08	5.67855E+00
240Pu(F)	4.0273E-11	1.5301E-06	6.1371E-03	5.9598E-02	3.1787E-01	5.3245E+00	6.9035E+00	7.4950E-01	7.0510E+00	1.1247E-01	1.8202E-04	8.5467E-05	1.8208E-04	1.9440E-13	7.02813E+00
241Pu(T)	5.5430E-11	2.4007E-05	3.5001E-02	2.2147E-01	8.3823E-01	5.5556E+00	7.4689E+00	3.9131E-01	7.5074E+00	2.9713E-02	1.8505E-05	7.8515E-06	1.8507E-05	3.3218E-15	7.42504E+00
241Pu(F)	8.8405E-10	1.4799E-05	2.3046E-02	1.8352E-01	8.1624E-01	6.4430E+00	7.7273E+00	5.0952E-01	7.7850E+00	4.5980E-02	4.0398E-05	1.8969E-05	4.0401E-05	8.8452E-15	7.72158E+00
242Pu(F)	5.0355E-11	1.5100E-05	3.5255E-02	1.4649E-01	5.9772E-01	5.7376E+00	7.4107E+00	3.1851E-01	7.4528E+00	3.2790E-02	1.4800E-05	6.9495E-06	1.4802E-05	5.4349E-16	7.36149E+00
252Cf(S)	2.9066E-11	2.0881E-06	3.9405E-03	6.1152E-02	2.4672E-01	2.2512E+00	3.0513E+00	3.4283E-01	3.0973E+00	3.4609E-02	5.5840E-05	2.7935E-05	5.5847E-05	5.5779E-14	3.07866E+00

Table 2.7.1 Continued

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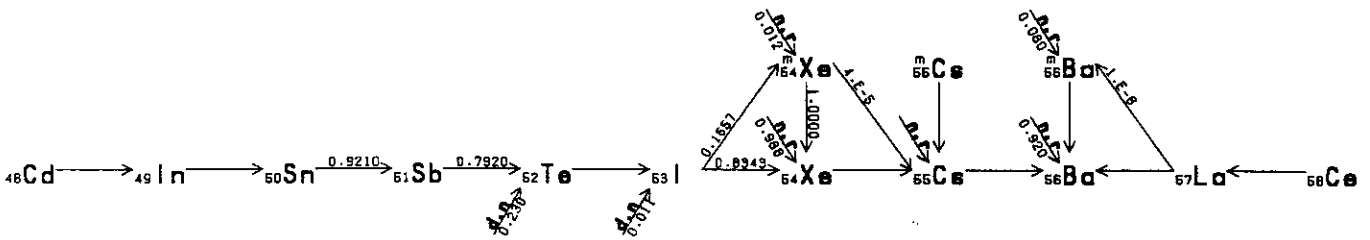
Mass No. 135



	48Cd	49In	50Sn	51Sb	52Te	53I	54Xe	m54Xe	55Cs	m55Cs	56Ba	m56Ba	57La	58Ce	Mass Yield
λ(1/sec)	1.9095E+01	7.5589E+00	5.7956E-01	4.0535E-01	3.5101E-02	2.9396E-05	2.1206E-05	7.3583E-04	9.5500E-15	2.1797E-04	0.0	6.7087E-06	9.8739E-06	1.0841E-05	
Q-value(MeV)	1.2193E+01	1.2436E+01	8.1620E+00	7.3220E+00	6.2000E+00	2.7100E+00	1.1590E+00	1.6855E+00	2.0500E-01	1.6210E+00	0.0	2.6824E-01	1.2000E+00	2.1200E+00	
E-beta (MeV)	3.9560E+00	4.0590E+00	2.5550E+00	2.4800E+00	2.0842E+00	3.7232E-01	3.0257E-01	1.2994E-05	5.6272E-02	0.0	0.0	0.0	1.3189E-05	1.7920E-03	
E-gamma(MeV)	3.6620E+00	3.6850E+00	2.4620E+00	1.7900E+00	1.4779E+00	1.5657E+00	2.4658E-01	4.3966E-01	0.0	1.5842E+00	0.0	4.2818E-02	1.0484E-02	8.0014E-01	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	1.4988E-02	8.9505E-02	0.0	3.5783E-02	0.0	2.2532E-01	0.0	2.4208E-02	
Spin						7/2+	3/2+	11/2-	7/2+	19/2-	3/2+	11/2-	5/2+	1/2+	
Cumulative yield: 232Th(F)	8.7196E-10	1.2003E-06	1.6494E-02	6.3772E-01	4.4827E+00	5.3140E+00	5.3449E+00	9.0329E-01	5.3449E+00	9.7851E-06	5.3449E+00	1.7465E-09	2.8907E-15	5.4304E-22	5.40851E+00
232Th(H)	1.4170E-12	2.8922E-09	3.9401E-04	1.1258E-01	2.1819E+00	4.6482E+00	4.9864E+00	1.0479E+00	4.9865E+00	1.1484E-03	4.9865E+00	5.7064E-07	1.0400E-11	2.0049E-18	4.99515E+00
233U (T)	1.9565E-14	3.2660E-11	3.1287E-05	2.0156E-02	1.3816E+00	4.9125E+00	5.1954E+00	1.7213E+00	6.2140E+00	7.0379E-03	6.2141E+00	1.9580E-05	9.8059E-10	6.0877E-16	6.21315E+00
233U (F)	1.7643E-15	7.1065E-10	2.4000E-05	1.8917E-02	1.2722E+00	4.9220E+00	6.3337E+00	1.8557E+00	6.3564E+00	1.0475E-02	6.3565E+00	2.8523E-05	1.5800E-09	6.5267E-15	6.35778E+00
233U (H)	3.8596E-18	6.2467E-12	6.0300E-07	1.7956E-03	2.8281E-01	2.8905E+00	4.9487E+00	2.1689E+00	5.0692E+00	5.9322E-02	5.0696E+00	3.5552E-04	7.2301E-08	8.4431E-13	5.08907E+00
235U (T)	4.4312E-12	3.5205E-09	6.3386E-04	1.4628E-01	3.2433E+00	5.2897E+00	6.5315E+00	1.2133E+00	6.5337E+00	7.8989E-04	6.5337E+00	7.2820E-07	1.0998E-11	1.2563E-18	6.54366E+00
235U (F)	1.7569E-12	8.9643E-09	9.9755E-04	1.8318E-01	3.3917E+00	6.2271E+00	6.5697E+00	1.2843E+00	6.5710E+00	6.5290E-04	6.5710E+00	3.2917E-07	4.2281E-12	3.5945E-18	6.58661E+00
235U (H)	4.7047E-16	2.9571E-10	5.6103E-06	8.3766E-03	6.8808E-01	4.1868E+00	5.8624E+00	2.0696E+00	5.9116E+00	2.8292E-02	5.9117E+00	7.3817E-05	7.4704E-09	1.5824E-14	5.91153E+00
236U (F)	9.7939E-12	3.9298E-08	2.2800E-03	2.7115E-01	3.5961E+00	5.6165E+00	5.7749E+00	1.0474E+00	5.7754E+00	1.8247E-04	5.7754E+00	7.1536E-08	6.7113E-13	3.0992E-19	5.79704E+00
238U (F)	4.8926E-11	2.7524E-06	3.0222E-02	6.6897E-01	5.8556E+00	6.7830E+00	6.8109E+00	1.1445E+00	6.8110E+00	7.6650E-06	6.8110E+00	1.0326E-09	1.3409E-15	2.0322E-22	6.89515E+00
238U (H)	3.3237E-12	1.9659E-08	1.2422E-03	2.3076E-01	2.9283E+00	5.4778E+00	5.8166E+00	1.1875E+00	5.8195E+00	4.8211E-04	5.8195E+00	1.5685E-07	1.8003E-12	9.9043E-19	5.84136E+00
237Np(F)	1.3284E-13	1.1557E-09	2.5000E-04	1.0276E-01	2.4687E+00	6.6547E+00	7.5375E+00	1.7532E+00	7.5437E+00	2.5720E-03	7.5437E+00	1.9309E-06	5.7301E-11	7.5581E-17	7.55354E+00
239Pu(T)	1.5065E-14	9.3027E-11	9.7532E-05	5.3673E-02	2.4362E+00	6.4468E+00	7.5991E+00	1.8831E+00	7.6151E+00	6.0243E-03	7.6151E+00	1.2691E-05	5.9417E-10	1.1396E-16	7.61969E+00
239Pu(F)	1.2011E-14	1.0043E-10	6.9121E-05	4.0690E-02	1.9775E+00	5.0476E+00	7.4312E+00	2.0215E+00	7.4470E+00	6.6845E-03	7.4470E+00	1.2012E-05	5.2216E-10	1.2519E-15	7.44883E+00
239Pu(H)	3.0859E-16	5.3646E-12	3.3902E-07	1.2684E-03	2.4779E-01	3.0301E+00	5.6653E+00	2.6658E+00	5.8572E+00	1.1047E-01	5.8581E+00	7.0368E-04	1.8001E-07	1.7901E-12	5.85772E+00
240Pu(F)	1.4205E-13	1.1447E-09	3.5003E-04	9.2992E-02	3.1956E+00	6.7436E+00	7.4420E+00	1.6320E+00	7.4464E+00	1.8788E-03	7.4464E+00	2.0999E-06	4.0304E-11	1.0819E-16	7.45095E+00
241Pu(T)	6.3514E-12	3.1297E-08	2.3377E-03	2.8981E-01	4.4801E+00	7.0544E+00	7.2858E+00	1.3325E+00	7.2865E+00	2.5458E-04	7.2865E+00	1.2237E-07	1.0803E-12	9.8675E-19	7.31354E+00
241Pu(F)	3.9314E-12	1.6079E-08	1.4169E-03	2.3640E-01	3.9068E+00	7.0200E+00	7.3095E+00	1.3765E+00	7.3107E+00	4.9592E-04	7.3107E+00	2.4532E-07	2.8399E-12	1.6505E-18	7.33206E+00
242Pu(F)	2.5657E-11	2.4533E-08	2.4410E-03	2.3440E-01	4.7356E+00	6.8895E+00	7.1539E+00	1.3364E+00	7.1545E+00	2.4500E-04	7.1545E+00	1.4661E-07	3.3439E-13	1.8406E-19	7.16514E+00
252Cf(S)	9.9052E-14	1.8094E-09	2.7375E-04	7.8886E-02	1.6053E+00	3.5945E+00	4.0036E+00	6.8482E-01	4.0051E+00	5.9002E-04	4.0051E+00	4.2744E-07	9.1417E-12	3.0274E-17	4.01134E+00

Table 2.7.1 Continued

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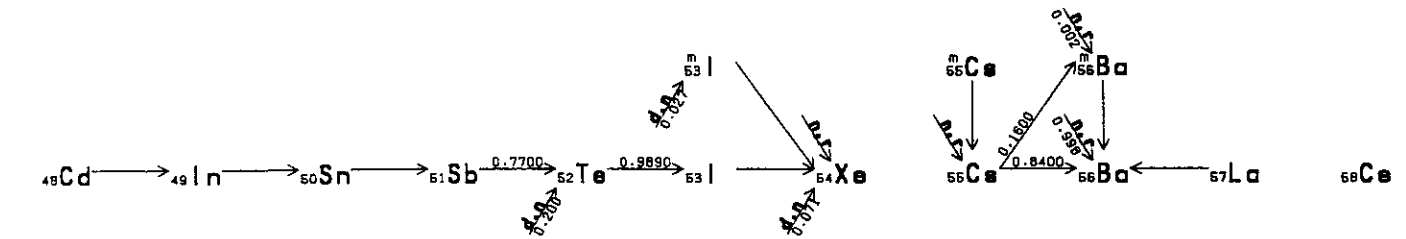
Mass No. 136



	48Cd	49In	50Sn	51Sb	52Te	53I	53mI	54Xe	55Cs	55mCs	56Ba	56mBa	57La	58Ce	Mass Yield
λ(1/sec)	8.8785E+00	7.7188E+00	1.0084E+00	8.4530E-01	3.9508E-02	8.1461E-03	1.5472E-02	0.0	6.1807E-07	3.6481E-02	0.0	2.1661E+00	1.1705E-03	0.0	
Q-value(MeV)	1.1170E+01	1.4565E+01	7.2330E+00	9.1020E+00	4.6000E+00	7.0000E+00	7.0000E+00	0.0	2.5481E+00	1.0000E-01	0.0	2.0305E+00	2.6700E+00	0.0	
E-beta (MeV)	4.0980E+00	4.3830E+00	2.6140E+00	2.9530E+00	1.0362E+00	2.0542E+00	2.2679E+00	0.0	9.9755E-02	0.0	0.0	0.0	2.9853E-01	0.0	
E-gamma(MeV)	2.3510E+00	5.1570E+00	1.4270E+00	2.6050E+00	2.2872E+00	2.4660E+00	2.0021E+00	0.0	1.8522E+00	5.5000E-03	0.0	1.9120E+00	4.5654E-02	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	1.3095E-02	0.0	3.7278E-02	0.0	1.1205E-02	7.9360E-02	0.0	1.1849E-01	3.2235E-03	0.0	
Spin						2-	5-		5+	2-		7-	1+		
Cumulative yield															
232Th(F)	4.6711E-12	1.7605E-07	1.5645E-03	1.3427E-01	3.6034E+00	3.9389E+00	1.0816E+00	5.6502E+00	3.0157E-03	8.0937E-04	3.0160E-03	4.5269E-04	8.0812E-13	7.5560E-19	5.27533E+00
232Th(H)	8.4095E-15	1.1800E-09	2.9902E-05	2.0959E-02	1.0651E+00	1.7070E+00	2.8715E+00	5.8369E+00	1.2636E-02	2.2905E-03	1.2659E-02	2.0402E-03	4.5930E-10	8.4928E-16	5.64725E+00
233U (T)	4.5605E-17	6.8972E-12	8.1967E-07	1.5902E-03	4.3134E-01	1.3218E+00	2.0986E+00	7.0140E+00	1.0509E-01	3.1445E-02	1.0562E-01	1.7167E-02	3.0132E-08	2.9129E-13	7.00547E+00
233U (F)	3.3715E-18	6.1301E-12	6.5501E-07	1.5947E-03	3.8746E-01	1.1551E+00	2.1060E+00	6.8211E+00	1.5131E-01	4.3293E-02	1.6221E-01	2.6468E-02	1.6144E-07	2.1685E-12	6.87461E+00
233U (H)	1.0299E-20	5.4081E-14	1.6300E-08	1.6802E-04	7.9189E-02	4.3298E-01	1.6021E+00	5.9666E+00	9.4663E-01	1.7168E-01	9.5291E-01	1.5686E-01	4.7900E-06	1.3647E-10	6.87171E+00
235U (T)	1.5777E-14	5.8585E-10	2.9595E-05	1.5767E-02	1.5330E+00	2.4721E+00	2.2504E+00	6.3069E+00	5.4718E-03	1.6372E-03	5.4835E-03	8.8368E-04	3.1579E-10	9.2144E-16	6.08116E+00
235U (F)	5.5602E-15	1.8592E-09	4.4862E-05	2.4728E-02	1.5397E+00	2.3604E+00	2.3499E+00	6.1429E+00	1.4745E-02	3.9574E-03	1.4761E-02	2.3708E-03	7.0356E-10	2.0690E-15	5.92817E+00
235U (H)	1.1058E-18	1.9501E-12	1.4701E-07	6.7018E-04	1.6192E-01	5.5142E-01	1.7882E+00	4.8520E+00	2.1445E-01	3.8874E-02	2.1568E-01	3.5236E-02	2.0582E-07	2.3021E-12	4.98672E+00
236U (F)	4.2864E-14	8.0199E-09	1.9401E-04	4.8103E-02	2.1674E+00	2.9775E+00	2.2924E+00	6.4034E+00	4.0410E-03	1.0845E-03	4.0473E-03	6.5121E-04	1.3847E-10	2.7197E-16	6.13598E+00
238U (F)	1.3015E-11	3.9648E-07	2.9178E-03	2.0679E-01	4.5757E+00	5.0416E+00	1.2019E+00	6.8506E+00	9.1107E-04	2.4452E-04	9.1130E-04	1.4594E-04	3.8768E-13	2.9317E-19	6.50029E+00
238U (H)	1.7455E-14	5.9110E-09	7.6119E-05	4.2930E-02	1.4644E+00	2.0630E+00	2.7027E+00	5.6806E+00	2.1825E-02	3.9561E-03	2.1837E-02	3.5019E-03	2.3728E-10	3.7101E-16	5.47550E+00
237Np(F)	2.8934E-16	2.3900E-10	7.4603E-06	1.0795E-02	8.2100E-01	1.9066E+00	2.9889E+00	6.8160E+00	4.9856E-02	1.3381E-02	4.9946E-02	8.0421E-03	8.9229E-09	3.1268E-14	6.86635E+00
239Pu(T)	2.5452E-17	1.8606E-11	1.5905E-06	2.7245E-03	5.4024E-01	1.4102E+00	2.0549E+00	6.6256E+00	8.1342E-02	2.4339E-02	8.1769E-02	1.3307E-02	4.0871E-08	3.9482E-13	6.53732E+00
239Pu(F)	2.3059E-17	2.1506E-11	1.6305E-06	3.0956E-03	5.4243E-01	1.4146E+00	2.3969E+00	6.9002E+00	1.2661E-01	3.4570E-02	1.2928E-01	2.0956E-02	4.8603E-08	4.2807E-13	6.89657E+00
239Pu(H)	6.5284E-21	3.6946E-14	8.2605E-09	9.5214E-05	5.5159E-02	3.6428E-01	1.3946E+00	5.8560E+00	7.1429E-01	1.2948E-01	7.2314E-01	1.2153E-01	5.6390E-06	1.7296E-10	6.64561E+00
240Pu(F)	3.4746E-16	2.0902E-10	1.1401E-05	8.7623E-03	1.1668E+00	1.9859E+00	2.2746E+00	6.7476E+00	5.7743E-02	1.5497E-02	5.7885E-02	9.3427E-03	5.8496E-09	4.8016E-14	6.63030E+00
241Pu(T)	2.1401E-14	5.3315E-09	1.1104E-04	3.9968E-02	2.2005E+00	3.1145E+00	2.2161E+00	5.6645E+00	1.2545E-02	3.7536E-03	1.2560E-02	2.0174E-03	2.6983E-10	6.9917E-16	5.59781E+00
241Pu(F)	1.3326E-14	3.1998E-09	6.6900E-05	3.3634E-02	1.8380E+00	2.7692E+00	2.6087E+00	6.8073E+00	1.2657E-02	3.4507E-03	1.2672E-02	2.0681E-03	4.2092E-10	1.0159E-15	5.55465E+00
242Pu(F)	1.2401E-13	4.6301E-09	1.4501E-04	3.3653E-02	2.7789E+00	3.4348E+00	1.8933E+00	6.8760E+00	6.6761E-03	1.7918E-03	6.6677E-03	1.0767E-03	5.7475E-11	1.6159E-16	6.63511E+00
252Cf(S)	1.7743E-16	4.0563E-10	1.0691E-05	1.0382E-02	7.1301E-01	1.4159E+00	1.6701E+00	3.9725E+00	2.3262E-02	6.9603E-03	2.3301E-02	3.7496E-03	4.5016E-09	1.8997E-14	3.82339E+00

Table 2.7.1 Continued

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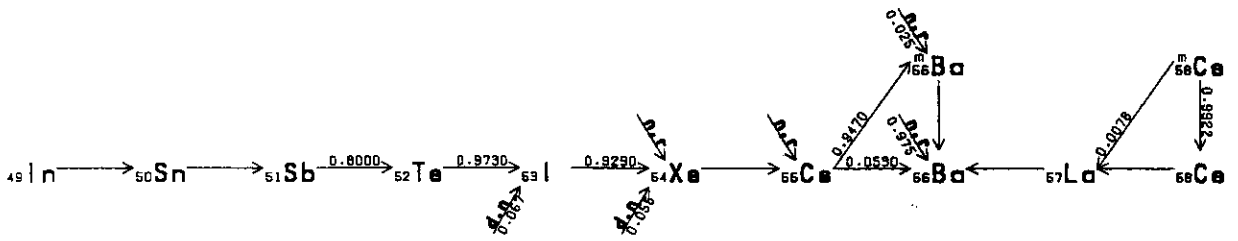
Mass No. 137



		49In	50Sn	51Sb	52Te	53I	54Xe	55Cs	56Ba	m56Ba	57La	58Ce	m58Ce	Mass Yield
	λ(1/sec)	1.1728E+01	1.3203E+00	5.7143E-01	1.9804E-01	2.8292E-02	3.0163E-03	7.2804E-10	0.0	4.5258E-03	3.6608E-13	2.1393E-05	5.5971E-06	
	Q-value(MeV)	1.3583E+01	9.3630E+00	6.1140E+00	6.5150E+00	5.5000E+00	4.3440E+00	1.1732E+00	0.0	6.6164E-01	6.0000E-01	1.2200E+00	1.4743E+00	
	E-beta (MeV)	4.4340E+00	2.9700E+00	2.5730E+00	2.1730E+00	1.7981E+00	1.7668E+00	1.7046E-01	0.0	0.0	0.0	1.4000E-05	0.0	
	E-gamma(MeV)	4.0210E+00	2.6310E+00	2.3690E+00	1.6090E+00	1.1364E+00	1.8762E-01	0.0	0.0	6.9084E-01	0.0	1.3685E-02	3.4652E-02	
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0795E-02	0.0	1.0398E-02	2.2454E-01	
	Spin						7/2-	7/2+	3/2+	11/2-	7/2+	3/2+	11/2-	
Cumulative yield	232Th(F)	1.1992E-10	9.2322E-05	3.5137E-02	2.1807E+00	5.3872E+00	6.7319E+00	6.7433E+00	6.7434E+00	6.3860E+00	3.0607E-10	5.9187E-16	4.3857E-16	6.84561E+00
	232Th(H)	4.2275E-11	9.2301E-07	2.3630E-03	3.2611E-01	2.9554E+00	5.1705E+00	5.3198E+00	5.3202E+00	5.0362E+00	5.0601E-08	1.2408E-13	1.0269E-13	5.42939E+00
	233U(T)	1.5820E-13	1.2095E-08	9.7972E-05	7.5023E-02	1.6516E+00	5.0543E+00	6.8194E+00	6.8300E+00	6.4655E+00	4.7982E-06	1.9683E-10	1.3996E-10	6.91649E+00
	233U(F)	2.0065E-14	9.3301E-09	8.7110E-05	6.1449E-02	1.5727E+00	5.9571E+00	6.6381E+00	6.6490E+00	6.2943E+00	5.6603E-06	2.1476E-10	1.6914E-10	6.73369E+00
	233U(H)	2.6965E-16	3.0200E-10	8.0004E-06	1.0366E-02	6.8168E-01	3.8351E+00	4.9358E+00	4.9691E+00	4.7007E+00	4.5604E-05	3.3186E-09	2.7424E-09	4.99879E+00
	235U(T)	2.5686E-11	2.1095E-05	5.2383E-02	4.2565E-01	3.2222E+00	6.1109E+00	6.2685E+00	6.2696E+00	5.9370E+00	1.3097E-07	1.7201E-12	1.2231E-12	6.42811E+00
	235U(F)	1.4071E-11	1.1495E-05	2.4710E-03	4.3749E-01	3.3775E+00	5.9044E+00	6.2032E+00	6.2037E+00	5.8748E+00	5.7474E-08	5.7071E-13	4.2289E-13	6.35357E+00
	235U(H)	2.0961E-14	9.8202E-09	5.0107E-05	3.2812E-02	1.1539E+00	4.0333E+00	4.9221E+00	4.9314E+00	4.6889E+00	6.8308E-08	2.4146E-10	1.9953E-10	4.98927E+00
	236U(F)	7.2332E-11	4.0700E-05	5.7100E-03	7.1040E-01	4.0154E+00	6.0543E+00	6.1288E+00	6.1290E+00	5.8041E+00	1.4300E-08	9.5049E-14	7.0430E-14	6.30865E+00
	238U(F)	2.5564E-10	1.4517E-04	4.5322E-02	2.3647E+00	5.3137E+00	6.0839E+00	6.0907E+00	6.0907E+00	5.7879E+00	1.2715E-10	1.8772E-16	1.3810E-16	6.31660E+00
	238U(H)	7.6780E-11	4.0907E-05	6.4922E-03	5.7120E-01	3.3921E+00	4.9312E+00	4.9857E+00	4.9858E+00	4.7215E+00	9.0215E-09	5.6028E-14	4.6298E-14	5.12672E+00
	237Np(F)	1.2038E-12	1.4800E-07	7.4816E-04	1.8576E-01	2.9007E+00	6.0202E+00	6.3049E+00	6.3066E+00	5.9720E+00	4.8201E-07	5.1645E-12	4.5878E-12	6.44524E+00
	239Pu(T)	1.0426E-13	3.3111E-08	2.2811E-04	1.3138E-01	2.4368E+00	6.0725E+00	6.7274E+00	6.7340E+00	6.3755E+00	2.5509E-06	7.8590E-11	5.6883E-11	6.84581E+00
	239Pu(F)	1.0798E-13	2.5408E-08	1.6108E-04	9.3110E-02	1.9026E+00	5.7506E+00	6.5049E+00	6.5109E+00	6.1645E+00	2.3908E-06	5.5044E-11	4.8197E-11	6.59004E+00
	239Pu(H)	1.5862E-16	1.0601E-10	3.5403E-06	5.7441E-03	4.6551E-01	2.9900E+00	4.4918E+00	4.5342E+00	4.2885E+00	7.5411E-05	8.8462E-09	5.6574E-09	4.56122E+00
	240Pu(F)	5.3009E-13	2.2902E-07	7.2630E-04	2.5169E-01	2.5788E+00	6.2723E+00	6.4928E+00	6.4946E+00	6.1500E+00	3.2804E-07	5.6458E-12	4.3324E-12	6.62939E+00
	241Pu(T)	3.8066E-11	3.1809E-06	4.6765E-03	5.9007E-01	4.1281E+00	6.6469E+00	6.9346E+00	6.9349E+00	6.5673E+00	2.3206E-08	2.4797E-13	1.7632E-13	7.10849E+00
	241Pu(F)	2.9464E-11	1.9599E-06	3.6818E-03	5.5780E-01	3.9112E+00	6.5271E+00	6.6277E+00	6.6281E+00	6.2767E+00	3.7898E-08	2.9979E-13	2.2214E-13	6.81093E+00
	242Pu(F)	1.3245E-10	4.1401E-06	4.4362E-03	8.1978E-01	3.7018E+00	6.3674E+00	6.4304E+00	6.4306E+00	6.0898E+00	1.7000E-08	5.2010E-14	3.6539E-14	6.62546E+00
	252Cf(S)	7.5106E-13	2.5377E-07	9.4540E-04	2.0580E-01	2.4917E+00	4.7226E+00	4.8969E+00	4.8976E+00	4.6360E+00	1.7984E-07	1.8176E-12	1.3636E-12	5.00986E+00

Table 2.7.1 Continued

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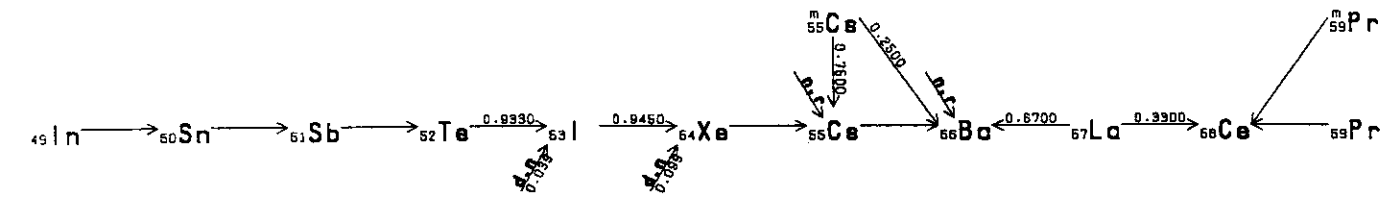
Mass No. 138



	49In	50Sn	51Sb	52Te	53I	54Xe	55Cs	m55Cs	56Ba	57La	58Ce	59Pr	m59Pr	Mass Yield
λ (1/sec)	1.6824E+01	2.0114E+00	8.5248E-01	4.9510E-01	1.0730E-01	8.2049E-04	3.5877E-04	3.9836E-03	0.0	2.0795E-19	0.0	7.9672E-03	9.1886E-05	
Q-value (MeV)	1.5426E+01	8.2810E+00	1.0297E+01	5.5120E+00	7.3980E+00	2.7400E+00	5.5000E+00	5.5799E+00	0.0	1.0410E+00	0.0	4.4370E+00	4.8010E+00	
E-beta (MeV)	4.5520E+00	3.0110E+00	3.0300E+00	1.9450E+00	2.1279E+00	5.4516E-01	1.2474E+00	2.8320E-01	0.0	2.3940E-02	0.0	1.1587E+00	1.7579E-01	
E-gamma (MeV)	5.4650E+00	1.5610E+00	3.5780E+00	1.0660E+00	2.5792E+00	1.2166E+00	2.3314E+00	7.0660E-01	0.0	1.2222E+00	0.0	4.8654E-02	2.2410E+00	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	1.3783E-02	0.0	0.0	0.0	0.0	0.0	1.3609E-03	4.9805E-02	
Spin					3-		3-	6-		5+		1+	7-	
Cumulative yield														
232Th(F)	4.1283E-11	3.4808E-06	3.3403E-03	8.4930E-01	3.4407E+00	6.9531E+00	7.0115E+00	4.3277E-02	7.0227E+00	2.1405E-08	7.0639E-09	6.5747E-21	1.4004E-20	7.07185E+00
232Th(H)	4.9376E-13	3.0800E-08	2.2803E-04	8.8656E-02	1.8906E+00	4.7939E+00	5.1560E+00	3.2916E-01	5.2418E+00	1.4600E-06	4.8184E-07	1.6284E-18	5.6805E-18	5.26069E+00
233U (T)	3.9720E-15	1.4394E-10	3.3987E-06	1.0309E-02	5.8461E-01	4.6505E+00	5.6506E+00	6.8756E-01	5.8963E+00	9.3461E-05	3.0850E-05	3.2510E-15	5.8481E-15	5.90846E+00
233U (F)	5.5667E-17	1.0700E-10	2.9801E-06	7.6421E-03	5.1186E-01	4.8283E+00	6.1383E+00	9.7184E-01	6.4639E+00	1.2400E-04	4.0838E-05	2.7393E-14	5.7474E-14	6.47999E+00
233U (H)	1.7604E-18	6.8001E-12	5.1301E-07	1.8915E-03	3.2458E-01	2.5148E+00	5.1249E+00	2.3732E+00	5.9352E+00	8.4901E-04	2.8035E-04	4.5271E-13	1.5834E-12	5.94734E+00
235U (T)	1.2552E-13	9.3679E-09	6.5885E-06	6.7463E-02	1.5927E+00	6.3731E+00	6.6457E+00	1.8743E-01	6.7054E+00	3.4592E-05	1.1417E-05	1.0336E-17	1.8593E-17	6.70015E+00
235U (F)	7.2778E-14	2.4489E-08	1.5396E-04	9.6737E-02	1.7408E+00	6.0324E+00	6.4185E+00	2.8543E-01	6.4958E+00	1.0785E-05	3.5628E-06	2.1420E-17	4.4942E-17	6.53409E+00
235U (H)	1.4305E-16	6.5603E-11	2.5202E-06	4.7956E-03	4.4855E-01	3.1887E+00	4.3119E+00	1.0212E+00	4.5206E+00	1.1001E-04	3.8314E-05	5.2303E-15	2.1791E-14	4.63326E+00
236U (F)	3.6358E-13	9.3799E-08	3.8009E-04	1.6756E-01	2.0828E+00	5.8723E+00	6.1074E+00	1.7443E-01	6.1539E+00	6.3699E-07	2.1088E-07	2.8155E-18	5.9073E-18	6.19120E+00
238U (F)	7.6862E-11	5.1360E-06	4.0268E-03	8.5399E-01	3.0377E+00	5.4990E+00	5.5497E+00	3.7619E-02	5.5693E+00	8.9004E-09	2.9372E-09	1.6461E-21	3.4538E-21	5.58328E+00
238U (H)	8.9027E-13	1.3002E-07	5.9523E-04	1.4574E-01	1.8659E+00	4.2378E+00	4.5562E+00	2.8852E-01	4.6284E+00	2.8105E-07	9.8050E-08	6.1544E-19	2.1528E-18	4.65053E+00
237Np(F)	4.7849E-15	2.0200E-09	3.5003E-05	2.8579E-02	1.2826E+00	5.1292E+00	5.9872E+00	6.3651E-01	6.1646E+00	1.7500E-05	5.7758E-06	5.5908E-16	1.1730E-15	6.20065E+00
239Pu(T)	2.6363E-15	2.5108E-10	5.2119E-06	1.1435E-02	1.1647E+00	5.0810E+00	5.8363E+00	5.1925E-01	5.0217E+00	6.2320E-05	2.0579E-05	5.8007E-15	1.0435E-14	6.05574E+00
239Pu(F)	3.3236E-16	5.0115E-10	1.0804E-05	1.9788E-02	1.0397E+00	4.6548E+00	5.8004E+00	8.4984E-01	6.0820E+00	5.7717E-05	1.9059E-05	6.0046E-15	1.0500E-14	6.10198E+00
239Pu(H)	8.0746E-19	1.2601E-12	1.2301E-07	5.8916E-04	1.1210E-01	1.9288E+00	3.6122E+00	1.6305E+00	4.1730E+00	6.9205E-04	2.9461E-04	4.4867E-13	1.5700E-12	4.17679E+00
240Pu(F)	3.2871E-15	3.2703E-09	2.9106E-05	4.0408E-02	9.5522E-01	5.8256E+00	6.3869E+00	4.1640E-01	6.5114E+00	1.0001E-05	3.3011E-06	3.8062E-16	8.1957E-16	6.53449E+00
241Pu(T)	1.6820E-13	7.5921E-08	3.2117E-04	1.7995E-01	2.3097E+00	6.3158E+00	6.6390E+00	2.2220E-01	6.6989E+00	1.0303E-06	3.4003E-07	6.2520E-18	1.4844E-17	6.75247E+00
241Pu(F)	1.4797E-13	3.5998E-08	2.0603E-04	1.1245E-01	1.8750E+00	5.9531E+00	6.2988E+00	2.5645E-01	6.3680E+00	1.6299E-06	5.3792E-07	9.6977E-18	2.0347E-17	6.40260E+00
242Pu(F)	6.4846E-13	8.0401E-08	2.1108E-04	1.7346E-01	1.4436E+00	6.0617E+00	6.2451E+00	1.3612E-01	6.2632E+00	6.0101E-07	1.9836E-07	7.2663E-19	1.5248E-18	6.30637E+00
252Cf(S)	2.4940E-15	3.2870E-09	4.2864E-05	3.3649E-02	1.2415E+00	3.9990E+00	4.9995E+00	6.8769E-01	5.1839E+00	8.6919E-06	2.9347E-06	7.2149E-16	1.2978E-15	5.21370E+00

Table 2.7.1 Continued

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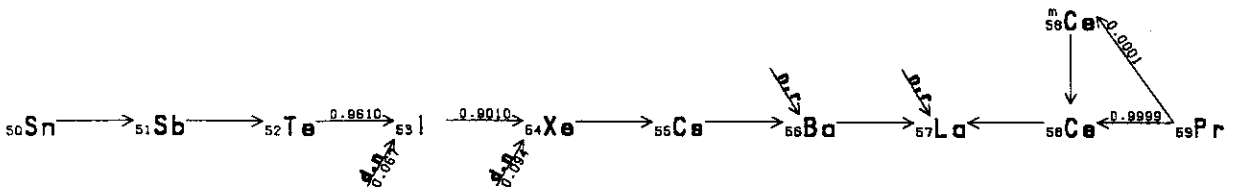
Mass No. 139



	50Sn	51Sb	52Te	53I	54Xe	55Cs	56Ba	57La	58Ce	m58Ce	59Pr	Mass Yield
λ(1/sec)	5.6012E+00	1.1315E+00	4.1731E-01	3.0137E-01	1.6989E-02	1.1836E-03	1.3967E-04	0.0	5.6346E-08	1.2534E-02	4.3660E-05	
Q-value(MeV)	1.0188E+01	9.0960E+00	7.6760E+00	6.3110E+00	4.8600E+00	4.2900E+00	2.9060E+00	0.0	2.6500E-01	7.5440E-01	2.1120E+00	
E-beta (MeV)	3.2550E+00	2.9080E+00	2.3760E+00	2.0590E+00	1.7144E+00	1.6987E+00	8.9231E-01	0.0	0.0	0.0	2.9837E-02	
E-gamma(MeV)	3.0720E+00	2.5840E+00	2.3510E+00	1.3240E+00	8.8507E-01	3.2947E-01	4.9778E-02	0.0	1.3268E-01	6.9782E-01	7.9126E-02	
E-i.C (MeV)	0.0	0.0	0.0	0.0	2.0631E-02	0.0	9.1218E-03	0.0	3.3171E-02	5.6580E-02	0.0	
Spin					7/2-	7/2+	7/2-	7/2+	3/2+	11/2-	5/2+	
Cumulative yield												
232Th(F)	2.4053E-09	2.4106E-04	1.4898E-01	1.9311E+00	6.7364E+00	7.0782E+00	7.0833E+00	7.0833E+00	4.0110E-11	2.9550E-11	1.5174E-17	7.21720E+00
232Th(H)	1.3838E-09	1.4100E-05	1.5986E-02	9.1311E-01	4.3767E+00	5.4601E+00	5.4683E+00	5.4683E+00	2.1820E-09	1.7918E-09	2.0032E-16	5.55097E+00
233U (T)	3.1128E-12	5.5473E-08	5.6883E-04	2.0861E-01	3.0400E+00	5.8019E+00	5.3302E+00	5.3324E+00	1.0456E-06	7.3937E-07	1.1695E-11	5.35144E+00
233U (F)	4.7849E-13	5.8701E-08	5.3308E-04	1.2738E-01	2.9093E+00	5.9094E+00	5.3260E+00	5.3282E+00	9.8802E-07	7.2790E-07	1.2300E-11	5.33912E+00
233U (H)	2.7633E-14	1.1100E-08	1.2301E-04	6.1482E-02	1.1624E+00	5.1048E+00	5.8624E+00	5.8700E+00	4.6832E-08	3.8450E-08	1.2600E-10	5.87547E+00
235U (T)	4.0429E-10	2.3995E-06	5.8209E-03	9.8141E-01	5.1415E+00	5.2823E+00	5.3523E+00	5.3524E+00	2.3085E-08	1.6324E-08	1.1768E-14	6.42930E+00
235U (F)	2.3311E-10	5.2372E-06	1.1183E-02	6.5138E-01	4.5887E+00	5.2599E+00	5.3114E+00	5.3115E+00	5.7270E-09	4.9560E-09	2.3239E-14	5.35264E+00
235U (H)	1.2670E-12	8.8905E-08	4.8711E-04	1.2472E-01	2.0535E+00	4.4800E+00	4.7342E+00	4.7365E+00	4.3803E-07	3.6046E-07	5.6503E-12	4.74582E+00
236U (F)	9.1945E-10	1.7100E-05	2.1788E-02	8.8472E-01	4.8787E+00	5.8199E+00	5.8461E+00	5.8461E+00	1.5960E-09	1.1758E-09	3.6585E-15	5.91230E+00
238U (F)	4.3185E-09	3.3039E-04	1.6898E-01	1.8558E+00	5.5501E+00	5.9003E+00	5.9033E+00	5.9033E+00	1.5568E-11	1.1470E-11	4.3105E-18	6.03701E+00
238U (H)	6.8752E-11	3.2505E-05	2.3673E-02	9.0271E-01	3.3858E+00	4.7730E+00	5.0446E+00	5.0446E+00	3.4876E-10	2.8635E-10	8.3707E-16	5.10137E+00
237Np(F)	1.4900E-11	1.0200E-06	2.7201E-03	3.6596E-01	3.4003E+00	5.5307E+00	5.6424E+00	5.6428E+00	5.1301E-08	3.7794E-08	4.2543E-13	5.67253E+00
239Pu(T)	1.7158E-12	1.2604E-07	8.1639E-04	3.1065E-01	3.0209E+00	5.3422E+00	5.6164E+00	5.6176E+00	4.3815E-07	3.0963E-07	4.1613E-12	5.64280E+00
239Pu(F)	1.9825E-12	1.8005E-07	1.0055E-03	1.8659E-01	3.2301E+00	5.3689E+00	5.5922E+00	5.5929E+00	2.0396E-07	1.5027E-07	1.9406E-12	5.60887E+00
239Pu(H)	1.2970E-14	3.2002E-09	4.4306E-05	2.7773E-02	1.0244E+00	3.5043E+00	4.0426E+00	4.0499E+00	5.5605E-06	4.6839E-06	1.9301E-10	4.05236E+00
240Pu(F)	1.8501E-11	1.0301E-06	3.7974E-03	3.2377E-01	4.0867E+00	5.7472E+00	5.8706E+00	5.8709E+00	4.9305E-08	3.6324E-08	3.4010E-13	5.89792E+00
241Pu(T)	4.5179E-10	1.1303E-05	1.7788E-02	8.5702E-01	4.7302E+00	5.6595E+00	5.8971E+00	5.8972E+00	3.0569E-09	2.1618E-09	8.7432E-16	5.94382E+00
241Pu(F)	4.1307E-10	9.1395E-06	1.4355E-02	7.6298E-01	4.8753E+00	6.1133E+00	6.1550E+00	6.1550E+00	4.2198E-09	3.1068E-09	1.1141E-14	6.21538E+00
242Pu(F)	2.2389E-09	1.1500E-05	2.1806E-02	6.7728E-01	5.1829E+00	5.9794E+00	6.0123E+00	6.0123E+00	2.2970E-09	1.6923E-09	1.0873E-15	6.06783E+00
252Cf(S)	1.1171E-11	1.3088E-06	3.5091E-03	4.0960E-01	3.8618E+00	5.8195E+00	5.9313E+00	5.9315E+00	4.1962E-08	2.9573E-08	5.3581E-13	5.96305E+00

Table 2.7.1 Continued

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$_{50}Sn \rightarrow {}_{51}Sb \rightarrow {}_{52}Te \xrightarrow{0.9990} {}_{53}I \xrightarrow{0.9060} {}_{54}Xe \rightarrow {}_{55}Cs \rightarrow {}_{56}Ba \rightarrow {}_{57}La \rightarrow {}_{58}Ce \leftarrow {}_{59}Pr$

	$_{50}Sn$	$_{51}Sb$	$_{52}Te$	$_{53}I$	$_{54}Xe$	$_{55}Cs$	$_{56}Ba$	$_{57}La$	$_{58}Ce$	$_{59}Pr$	Mass Yield
λ(1/sec)	6.0802E+00	5.3319E+00	6.2558E-01	8.0599E-01	6.0967E-02	1.0582E-02	6.2942E-07	4.7810E-06	0.0	3.4078E-03	
Q-value(MeV)	8.7490E+00	1.1016E+01	6.5240E+00	8.4490E+00	4.0800E+00	6.0450E+00	1.0350E+00	3.7605E+00	0.0	3.3880E+00	
E-beta (MeV)	3.0770E+00	3.2630E+00	2.3360E+00	2.7620E+00	1.0581E+00	1.7518E+00	2.8499E-01	5.4489E-01	0.0	5.1780E-01	
E-gamma(MeV)	1.9940E+00	3.8770E+00	1.2750E+00	2.3280E+00	1.4875E+00	2.2181E+00	1.4649E-01	2.3122E+00	0.0	5.0569E-01	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	3.5221E-02	3.5509E-03	0.0	0.0	
Spin						2-		3-		1+	
Cumulative yield											
^{232}Th(F)	9.5064E-10	1.0844E-06	2.2989E-02	6.5450E-01	6.5791E+00	7.6889E+00	7.7468E+00	7.7468E+00	7.7468E+00	5.0886E-15	7.75938E+00
^{232}Th(H)	1.8471E-11	3.1260E-06	1.8540E-03	3.0060E-01	3.4160E+00	5.6277E+00	5.7935E+00	5.7941E+00	5.7941E+00	3.5340E-13	5.80564E+00
^{233}U (T)	1.5673E-14	3.0873E-09	2.9988E-05	1.7284E-02	1.4989E+00	4.8693E+00	5.4702E+00	5.4944E+00	5.4945E+00	1.2595E-09	5.49449E+00
^{233}U (F)	1.9768E-15	7.0094E-10	2.7200E-05	1.8510E-02	1.3572E+00	4.7386E+00	5.1933E+00	5.2150E+00	5.2150E+00	1.2900E-09	5.21503E+00
^{233}U (H)	1.0807E-16	8.5986E-11	4.4600E-06	6.5282E-03	4.1469E-01	3.1527E+00	4.3854E+00	4.4268E+00	4.4269E+00	5.6300E-09	4.42859E+00
^{235}U (T)	3.1295E-12	1.4668E-09	1.1737E-03	2.1784E-01	3.7662E+00	5.7448E+00	6.2946E+00	6.3001E+00	6.3001E+00	1.4397E-11	6.31541E+00
^{235}U (F)	1.7275E-12	8.0951E-09	8.9550E-04	1.4611E-01	3.0422E+00	5.6357E+00	6.1187E+00	6.1199E+00	6.1199E+00	3.9382E-12	6.12819E+00
^{235}U (H)	6.6214E-15	4.6446E-11	3.0602E-05	2.9230E-02	9.2533E-01	3.7000E+00	4.4477E+00	4.4802E+00	4.4802E+00	5.0003E-10	4.48065E+00
^{236}U (F)	7.6715E-12	2.8892E-08	1.2170E-03	2.3514E-01	3.7327E+00	5.6265E+00	5.8158E+00	5.8163E+00	5.8163E+00	8.5508E-13	5.82614E+00
^{238}U (F)	1.6355E-09	1.6110E-06	2.4636E-02	5.8508E-01	5.1832E+00	5.9551E+00	5.9882E+00	5.9882E+00	5.9882E+00	1.4325E-15	5.00269E+00
^{238}U (H)	2.8910E-11	1.4478E-07	3.3366E-03	3.5400E-01	2.8824E+00	4.5809E+00	4.5523E+00	4.8525E+00	4.8525E+00	1.3720E-13	4.66887E+00
^{237}Np(F)	7.5715E-14	6.8159E-10	1.8300E-04	7.0982E-02	1.8060E+00	4.9909E+00	5.4911E+00	5.4958E+00	5.4958E+00	5.6301E-11	5.49890E+00
^{239}Pu(T)	7.5769E-16	4.6431E-11	1.1304E-04	5.9298E-02	1.5495E+00	4.4471E+00	5.5453E+00	5.5581E+00	5.5581E+00	6.1617E-10	5.56087E+00
^{239}Pu(F)	9.0724E-15	7.9006E-11	5.0315E-05	2.6863E-02	1.4398E+00	4.3788E+00	5.3171E+00	5.3282E+00	5.3282E+00	3.6711E-10	5.32892E+00
^{239}Pu(H)	6.0801E-17	5.2924E-11	1.7901E-06	3.3819E-03	3.5462E-01	2.5569E+00	3.7844E+00	3.8311E+00	3.8312E+00	1.1601E-08	3.83096E+00
^{240}Pu(F)	1.0159E-13	6.2468E-10	2.4302E-04	5.4827E-02	2.9426E+00	4.6341E+00	5.1103E+00	5.1132E+00	5.1132E+00	2.9403E-11	5.11520E+00
^{241}Pu(T)	3.7404E-12	2.3499E-08	1.5764E-03	4.1259E-01	3.5982E+00	5.6509E+00	6.2150E+00	6.2157E+00	6.2157E+00	1.3904E-12	6.24572E+00
^{241}Pu(F)	2.8781E-12	1.0874E-08	1.1130E-03	1.5633E-01	3.0592E+00	5.1442E+00	5.3777E+00	5.3786E+00	5.3785E+00	2.0199E-12	5.38612E+00
^{242}Pu(F)	1.8644E-11	1.3699E-08	1.8760E-03	1.3063E-01	3.6143E+00	4.8007E+00	5.0050E+00	5.0053E+00	5.0053E+00	1.9456E-13	5.00642E+00
^{252}Cf(S)	5.8135E-14	7.5015E-10	2.6276E-04	9.7769E-02	2.7003E+00	5.5622E+00	6.0902E+00	6.0950E+00	6.0950E+00	5.1753E-11	6.09965E+00

Table 2.7.1 Continued

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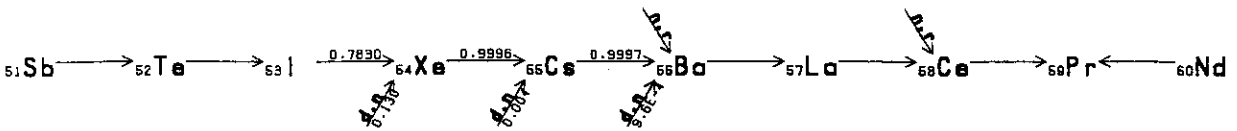
Mass No. 141



	51Sb	52Te	53I	54Xe	55Cs	56Ba	57La	58Ce	59Pr	60Nd	Mass Yield
λ(1/sec)	5.9243E+00	1.9254E+00	1.5120E+00	4.0066E-01	2.7837E-02	6.3232E-04	4.8993E-05	2.4776E-07	0.0	7.5710E-05	
Q-value(MeV)	9.5150E+00	8.5060E+00	7.2120E+00	6.0000E+00	4.9600E+00	3.0280E+00	2.4300E+00	5.8000E-01	0.0	1.8150E+00	
E-beta (MeV)	3.0500E+00	2.5580E+00	2.4250E+00	2.3954E+00	1.6006E+00	8.0726E-01	9.5133E-01	1.4453E-01	0.0	9.2000E-03	
E-gamma(MeV)	2.8110E+00	2.5980E+00	1.7790E+00	1.0355E+00	9.9743E-01	8.4388E-01	4.2467E-02	7.1270E-02	0.0	4.4596E-02	
E-I.C (MeV)	0.0	0.0	0.0	2.9477E-02	1.0836E-02	1.3416E-02	0.0	3.0544E-02	0.0	0.0	
Spin								7/2-	5/2+	3/2+	
Cumulative yield											
232Th(F)	1.5692E-08	3.5335E-04	2.1269E-01	4.5727E+00	7.0118E+00	7.3346E+00	7.3355E+00	7.3355E+00	7.3355E+00	1.1251E-18	7.36019E+00
232Th(H)	3.5086E-10	1.7043E-05	5.3099E-02	1.5458E+00	5.0182E+00	5.6642E+00	5.6713E+00	5.6713E+00	5.6713E+00	4.4698E-17	5.67561E+00
233U (T)	3.0071E-11	4.9270E-08	1.7383E-03	3.4622E-01	3.2039E+00	6.3775E+00	6.5303E+00	6.5310E+00	6.5310E+00	1.0995E-12	6.53090E+00
233U (F)	5.9216E-12	4.6921E-09	1.8530E-03	3.7903E-01	3.3704E+00	6.2520E+00	6.4037E+00	6.4044E+00	6.4044E+00	1.0100E-12	6.40434E+00
233U (H)	7.9917E-13	7.3478E-09	6.4001E-04	9.5019E-02	2.1490E+00	4.4352E+00	4.6283E+00	4.6293E+00	4.6293E+00	9.3200E-12	4.62914E+00
235U (T)	2.7399E-09	2.4407E-06	1.4553E-02	1.3193E+00	4.4240E+00	5.7772E+00	5.7967E+00	5.7967E+00	5.7967E+00	9.2646E-16	5.79881E+00
235U (F)	6.1549E-11	8.4213E-06	1.7082E-02	9.2203E-01	4.2259E+00	5.9382E+00	5.9536E+00	5.9536E+00	5.9536E+00	1.4798E-15	5.95414E+00
235U (H)	3.3103E-11	8.4806E-08	2.4581E-03	2.4658E-01	2.5474E+00	4.2964E+00	4.3740E+00	4.3742E+00	4.3742E+00	1.0377E-13	4.37385E+00
236U (F)	2.5521E-10	1.7900E-05	4.5087E-02	1.8302E+00	4.8244E+00	5.5995E+00	5.5461E+00	5.5461E+00	5.5461E+00	2.4431E-16	5.55163E+00
238U (F)	2.5527E-08	3.6850E-04	1.7985E-01	3.2888E+00	5.1614E+00	5.4827E+00	5.4832E+00	5.4832E+00	5.4832E+00	2.8652E-19	5.51033E+00
238U (H)	1.9225E-09	5.2040E-05	6.9936E-02	1.4080E+00	3.9872E+00	4.3963E+00	4.3985E+00	4.3985E+00	4.3985E+00	1.5067E-17	4.40901E+00
237Np(F)	1.7222E-10	6.4556E-07	8.8571E-03	6.7414E-01	4.0245E+00	5.3961E+00	5.4392E+00	5.4392E+00	5.4392E+00	2.4992E-14	5.44022E+00
239Pu(T)	1.5696E-11	7.8389E-08	6.9242E-03	4.6663E-01	3.2872E+00	5.1567E+00	5.2572E+00	5.2576E+00	5.2576E+00	3.4158E-13	5.25841E+00
239Pu(F)	2.1731E-11	1.1473E-07	2.8099E-03	4.2198E-01	3.0850E+00	5.1589E+00	5.2379E+00	5.2381E+00	5.2381E+00	2.4278E-13	5.23824E+00
239Pu(H)	3.9947E-13	2.0523E-09	2.5801E-04	7.6316E-02	1.3999E+00	3.1961E+00	3.3842E+00	3.3855E+00	3.3855E+00	6.8304E-12	3.38553E+00
240Pu(F)	1.3529E-10	1.0016E-06	7.8078E-03	8.0646E-01	3.2916E+00	4.7378E+00	4.7648E+00	4.7648E+00	4.7648E+00	2.5557E-14	4.76534E+00
241Pu(T)	1.2692E-10	1.1460E-05	3.1642E-02	1.4977E+00	4.1093E+00	4.9590E+00	4.9664E+00	4.9664E+00	4.9664E+00	6.1287E-16	4.96641E+00
241Pu(F)	8.5957E-11	7.5263E-06	2.8194E-02	1.3476E+00	4.1775E+00	4.9786E+00	4.9885E+00	4.9885E+00	4.9885E+00	5.8653E-16	4.99192E+00
242Pu(F)	1.5910E-10	1.6295E-05	3.2515E-02	1.9051E+00	4.2693E+00	5.1040E+00	5.1098E+00	5.1098E+00	5.1098E+00	8.7136E-17	5.11378E+00
252Cf(S)	1.3677E-10	7.9349E-07	1.1720E-02	9.8631E-01	4.5022E+00	6.1262E+00	6.1734E+00	6.1735E+00	6.1735E+00	4.3572E-14	6.17447E+00

Table 2.7.1 Continued

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Mass No. 142

	51Sb	52Te	53I	54Xe	55Cs	56Ba	57La	58Ce	59Pr	m59Pr	60Nd	Mass Yield
λ(1/sec)	8.7188E+00	8.9635E-01	3.4557E+00	5.5899E-01	4.0535E-01	1.0797E-03	1.2462E-04	0.0	1.0065E-05	7.9126E-04	0.0	
Q-value(MeV)	1.1096E+01	6.9860E+00	9.1860E+00	4.9000E+00	6.8700E+00	2.2000E+06	4.5170E+00	0.0	2.1588E+00	3.6630E-09	0.0	
E-beta (MeV)	3.2630E+00	2.5130E+00	2.6920E+00	1.4034E+00	2.4490E+00	3.9786E-01	9.1464E-01	0.0	6.1850E-01	0.0	0.0	
E-gamma(MeV)	3.9160E+00	1.3750E+00	3.2030E+00	1.5764E+00	1.7870E+00	1.0689E+00	2.5229E+00	0.0	5.6112E-02	0.0	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	2.1290E-02	0.0	0.0	0.0	3.6630E-03	0.0	
Spin							2-		2-	5-		
Cumulative Yield 232Th(F)	9.9609E-11	1.0002E-04	2.6764E-02	2.3611E+00	4.9968E+00	6.3097E+00	6.3180E+00	6.3180E+00	2.1905E-10	1.5587E-10	2.1302E-10	6.27369E+00
232Th(H)	3.0216E-10	1.9400E-05	2.9268E-02	6.2673E-01	3.5801E+00	4.9780E+00	5.0221E+00	5.0222E+00	7.0101E-09	5.7394E-08	7.0089E-09	4.99613E+00
233U (T)	1.4287E-13	1.2995E-08	8.6077E-05	8.7328E-02	1.4143E+00	6.1330E+00	6.6466E+00	6.6570E+00	3.8084E-06	2.6689E-06	3.8080E-06	6.65215E+00
233U (F)	2.6246E-14	1.1900E-08	9.2813E-05	6.9205E-02	1.5065E+00	6.6994E+00	6.4600E+00	6.4694E+00	4.1000E-06	2.9997E-06	4.0995E-06	6.46311E+00
233U (H)	4.3714E-15	2.4200E-09	3.5303E-05	2.6092E-02	1.0031E+00	3.8202E+00	4.4536E+00	4.4641E+00	8.3901E-06	6.8692E-06	8.3890E-06	4.46096E+00
235U (T)	2.2006E-11	2.9493E-06	6.0896E-03	4.4544E-01	2.6770E+00	5.7801E+00	5.8786E+00	5.8794E+00	1.0598E-07	7.4967E-08	1.0596E-07	5.86034E+00
236U (F)	1.5850E-11	1.4493E-06	2.5243E-03	4.6131E-01	3.0101E+00	5.5858E+00	5.6698E+00	5.6701E+00	3.5384E-08	2.5887E-08	3.6378E-08	5.65067E+00
235U (H)	2.5595E-13	2.8801E-08	2.1504E-04	8.3249E-02	1.5963E+00	3.8273E+00	4.2456E+00	4.2465E+00	1.2101E-06	8.9071E-07	1.2099E-06	4.24089E+00
236U (F)	6.6126E-11	4.3900E-06	5.2423E-03	7.2275E-01	3.6019E+00	5.7661E+00	5.8193E+00	5.8195E+00	1.1000E-08	8.0478E-09	1.0998E-08	5.78952E+00
238U (F)	1.6988E-10	1.1914E-04	2.8102E-02	1.9375E+00	3.9052E+00	4.7266E+00	4.7297E+00	4.7297E+00	7.7090E-11	5.6400E-11	7.7078E-11	4.70521E+00
238U (H)	4.6528E-10	1.2902E-05	1.2465E-02	5.0790E-01	3.0935E+00	4.1226E+00	4.1407E+00	4.1408E+00	1.1702E-09	9.5807E-10	1.1700E-09	4.11075E+00
237Np(F)	1.0362E-12	1.1500E-07	5.6512E-04	1.3628E-01	2.0766E+00	4.5982E+00	4.9010E+00	4.9022E+00	3.4000E-07	2.4875E-07	3.3995E-07	4.88913E+00
239Pu(T)	6.8939E-14	3.9213E-08	2.3512E-04	1.3579E-01	1.4841E+00	4.6292E+00	4.9797E+00	4.9855E+00	1.9506E-06	1.3670E-06	1.9504E-06	4.97867E+00
239Pu(F)	1.0131E-13	2.5308E-08	1.5407E-04	8.2427E-02	1.4588E+00	4.4517E+00	4.7717E+00	4.7756E+00	1.3004E-06	9.5138E-07	1.3002E-06	4.76848E+00
239Pu(H)	1.9485E-15	6.3603E-10	1.2001E-05	1.1449E-02	5.5453E-01	2.4865E+00	3.0224E+00	3.0334E+00	1.1401E-05	9.3340E-06	1.1399E-05	3.03146E+00
240Pu(F)	8.0236E-13	2.2702E-07	5.5428E-04	2.2109E-01	1.6100E+00	4.8267E+00	4.9642E+00	4.9655E+00	1.7202E-07	1.2585E-07	1.7199E-07	4.95507E+00
241Pu(T)	2.3651E-11	2.3607E-05	2.9440E-02	5.7744E-01	2.8699E+00	4.9802E+00	5.0346E+00	5.0351E+00	1.5004E-08	1.0515E-08	1.5002E-08	5.02007E+00
241Pu(F)	2.4547E-11	1.7399E-06	2.7626E-03	4.4106E-01	2.5997E+00	4.5022E+00	4.6632E+00	4.6634E+00	1.9499E-06	1.4266E-06	1.9496E-06	4.64339E+00
242Pu(F)	9.7388E-11	3.9500E-06	2.8760E-03	5.9310E-01	2.3732E+00	4.5668E+00	4.5998E+00	4.6000E+00	7.3001E-09	5.3408E-09	7.2989E-09	4.58232E+00
252Cf(S)	7.0415E-13	1.4287E-07	6.5555E-04	1.8763E-01	2.7547E+00	5.7295E+00	6.0310E+00	6.0328E+00	4.6258E-07	3.2417E-07	4.6251E-07	6.01631E+00

Table 2.7.1 Continued

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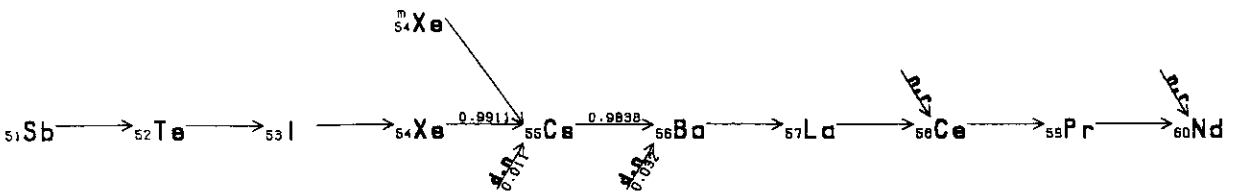
Mass No. 143



	$_{51}$Sb	$_{52}$Te	$_{53}$I	$_{54}$Xe	$^{m}_{54}$Xe	$_{55}$Cs	$_{56}$Ba	$_{57}$La	$_{58}$Ce	$_{59}$Pr	$_{60}$Nd	Mass Yield
λ(1/sec)	9.3165E+00	3.4495E+00	2.4933E+00	2.3105E+00	7.2203E-01	9.8941E-01	4.7803E-02	8.1701E-04	5.8946E-06	5.9076E-07	0.0	
Q-value(MeV)	9.7590E+00	8.6650E+00	7.5840E+00	6.7550E+00	6.7550E+00	5.6500E+00	4.9000E+00	3.3000E+00	1.4550E+00	8.3530E-01	0.0	
E-beta (MeV)	3.1320E+00	2.7100E+00	2.3750E+00	2.0500E+00	2.2250E+00	1.9350E+00	1.4582E+00	1.3408E+00	4.1044E-01	3.1558E-01	0.0	
E-gamma(MeV)	2.8860E+00	2.6610E+00	2.2520E+00	2.0800E+00	1.7280E+00	1.2170E+00	8.5680E-01	3.1134E-02	2.4143E-01	8.9040E-09	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0600E-02	4.4745E-02	0.0	0.0	
Spin				3/2+	11/2-				3/2-	7/2+	7/2-	
Cumulative yield ^{232}Th(F)	5.1128E-11	2.6772E-07	9.1466E-04	1.9478E-01	5.4250E-01	3.7172E+00	6.4584E+00	6.5324E+00	6.5327E+00	6.5327E+00	6.5327E+00	6.53460E+00
^{232}Th(H)	2.9247E-12	6.3031E-09	1.0804E-04	2.5921E-02	1.1644E-01	2.1900E+00	4.6762E+00	4.8957E+00	4.8970E+00	4.8970E+00	4.8970E+00	4.90587E+00
^{233}U (T)	5.4239E-16	4.5319E-10	3.1154E-07	1.2774E-03	3.0838E-03	4.0273E-01	4.3780E+00	5.8226E+00	5.8920E+00	5.8921E+00	5.8921E+00	5.89571E+00
^{233}U (F)	8.3424E-17	9.2546E-11	3.8478E-07	1.8864E-03	5.2777E-03	4.8409E-01	3.9437E+00	5.4755E+00	5.5317E+00	5.5318E+00	5.5318E+00	5.53694E+00
^{233}U (H)	1.2307E-17	1.5123E-11	9.2053E-08	4.2131E-04	1.9327E-03	2.5790E-01	2.1188E+00	3.2260E+00	3.2748E+00	3.2749E+00	3.2749E+00	3.27760E+00
^{235}U (T)	1.4547E-13	2.5728E-10	1.2413E-06	1.5548E-02	3.7515E-02	1.4811E+00	5.2795E+00	5.9074E+00	5.9388E+00	5.9388E+00	5.9388E+00	5.95158E+00
^{235}U (F)	1.0108E-13	1.1541E-09	2.8993E-05	1.6711E-02	4.6589E-02	1.5074E+00	5.2763E+00	5.6842E+00	5.6887E+00	5.6887E+00	5.6887E+00	5.69584E+00
^{235}U (H)	1.2337E-16	6.0073E-10	1.0276E-06	1.7632E-03	8.0853E-03	5.6451E-01	2.9819E+00	3.7860E+00	3.8061E+00	3.8062E+00	3.8062E+00	3.81122E+00
^{238}U (F)	4.9464E-13	4.6769E-09	7.9522E-05	4.3063E-02	1.2034E-01	2.2539E+00	5.7989E+00	6.0860E+00	6.0865E+00	6.0865E+00	6.0865E+00	6.10251E+00
^{238}U (F)	8.3580E-11	4.1160E-07	9.1603E-04	1.0806E-01	2.9984E-01	2.3751E+00	4.5272E+00	4.5664E+00	4.5666E+00	4.5666E+00	4.5666E+00	4.56613E+00
^{238}U (H)	4.5666E-12	3.0761E-08	2.8376E-04	3.8953E-02	1.7743E-01	2.2366E+00	3.8269E+00	3.9226E+00	3.9229E+00	3.9229E+00	3.9229E+00	3.92489E+00
^{237}Np(F)	4.5657E-15	5.5815E-11	4.3823E-06	6.3518E-03	1.7763E-02	1.0273E+00	3.9806E+00	4.6912E+00	4.7036E+00	4.7037E+00	4.7037E+00	4.71139E+00
^{239}Pu(T)	2.4592E-16	2.1636E-10	5.1692E-07	2.7101E-03	6.5429E-03	5.4269E-01	3.4652E+00	4.3920E+00	4.4286E+00	4.4286E+00	4.4286E+00	4.43319E+00
^{239}Pu(F)	3.7875E-16	2.8304E-10	7.6884E-07	2.6308E-03	7.3594E-03	5.4164E-01	3.3982E+00	4.2672E+00	4.2952E+00	4.2952E+00	4.2952E+00	4.30037E+00
^{239}Pu(H)	5.1609E-18	8.3067E-12	2.8139E-08	2.0045E-04	9.1961E-04	1.5636E-01	1.5652E+00	2.5438E+00	2.6008E+00	2.6010E+00	2.6010E+00	2.60244E+00
^{240}Pu(F)	3.9873E-15	9.4616E-11	4.6167E-06	7.9726E-03	2.2298E-02	8.0286E-01	4.1454E+00	4.7099E+00	4.7210E+00	4.7210E+00	4.7210E+00	4.72768E+00
^{241}Pu(T)	1.4559E-13	2.1401E-09	3.9153E-05	2.9238E-02	7.0506E-02	1.4564E+00	4.4563E+00	4.7042E+00	4.7067E+00	4.7067E+00	4.7067E+00	4.71456E+00
^{241}Pu(F)	1.6097E-13	1.4298E-09	3.4404E-05	2.3119E-02	6.4599E-02	1.5107E+00	4.2778E+00	4.5609E+00	4.5637E+00	4.5637E+00	4.5637E+00	4.57291E+00
^{242}Pu(F)	8.5440E-13	3.5161E-09	4.5124E-05	3.5441E-02	9.9052E-02	1.4021E+00	4.4929E+00	4.6777E+00	4.6800E+00	4.6800E+00	4.6800E+00	4.69063E+00
^{252}Cf(S)	2.9965E-15	5.3833E-11	4.5512E-06	8.4733E-03	2.0449E-02	1.2266E+00	5.3327E+00	6.4120E+00	6.4321E+00	6.4321E+00	6.4321E+00	6.43493E+00

Table 2.7.1 Continued

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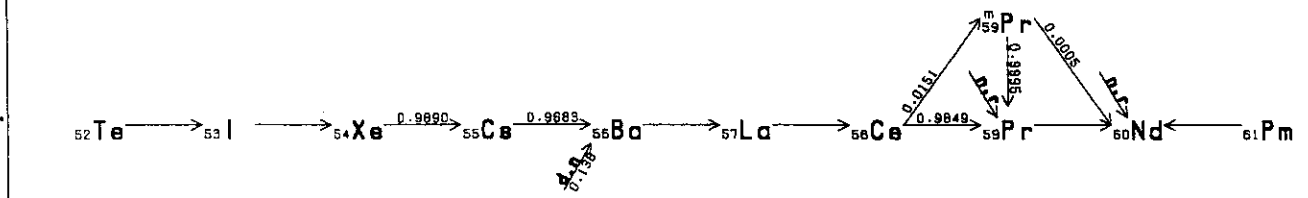

	52Te	53I	54Xe	55Cs	56Ba	57La	58Ce	59Pr	m59Pr	60Nd	61Pm	Mass Yield
λ(1/sec)	3.8295E+00	3.8295E+00	6.0274E-01	5.9176E-01	6.0274E-02	1.7073E-02	2.8228E-08	6.6855E-04	1.6045E-03	0.0	2.2101E-08	
Q-value(MeV)	7.3220E+00	9.2850E+00	5.1680E+00	8.1000E+00	3.0600E+00	5.5000E+00	3.1920E-01	2.9960E+00	3.0550E+00	0.0	5.4800E-01	
E-beta (MeV)	2.4960E+00	2.7190E+00	1.5050E+00	2.6490E+00	9.4630E-01	1.4655E+00	8.2308E-02	1.2137E+00	2.2800E-04	0.0	0.0	
E-gamma(MeV)	1.7450E+00	3.2480E+00	9.2320E-01	2.1930E+00	7.0500E-01	2.0966E+00	1.5997E-02	3.0130E-02	6.5089E-04	0.0	1.5323E+00	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	1.2596E-02	0.0	5.8959E-02	0.0	0.0	
Spin									3-		5-	
Cumulative yield 232Th(F)	3.0017E-09	4.1198E-05	1.8662E-01	1.8285E+00	7.4866E+00	7.8022E+00	7.8080E+00	7.8079E+00	1.1790E-01	7.8080E+00	1.1387E-17	7.78954E+00
232Th(H)	4.8473E-11	3.6235E-06	2.0655E-02	8.3971E-01	3.9422E+00	3.9144E+00	3.9249E+00	3.9248E+00	5.9273E-02	3.9249E+00	2.3403E-16	3.92774E+00
233U (T)	2.6545E-12	2.4006E-09	5.2174E-04	9.1848E-02	2.6180E+00	4.3156E+00	4.6379E+00	4.6389E+00	7.1040E-02	4.6390E+00	5.4070E-12	4.64043E+00
233U (F)	5.1747E-13	3.1945E-09	4.6601E-04	8.0989E-02	2.1507E+00	4.1995E+00	4.4836E+00	4.4849E+00	6.8872E-02	4.4849E+00	5.6001E-12	4.48628E+00
233U (H)	8.0677E-14	8.6478E-10	1.4100E-04	4.6070E-02	9.7484E-01	2.3381E+00	2.5053E+00	2.5065E+00	3.9071E-02	2.5066E+00	9.2201E-12	2.50727E+00
235U (T)	4.0719E-10	1.6620E-07	5.2555E-03	3.5584E-01	4.4516E+00	5.4070E+00	5.4724E+00	5.4725E+00	8.2727E-02	5.4725E+00	7.5662E-15	5.47590E+00
235U (F)	2.6979E-10	6.9404E-07	1.1225E-02	5.5077E-01	4.1599E+00	5.2163E+00	5.2580E+00	5.2580E+00	7.9436E-02	5.2580E+00	1.2359E-14	5.25990E+00
235U (H)	4.8501E-12	1.3770E-08	8.0304E-04	1.3916E-01	1.7025E+00	3.0266E+00	3.1216E+00	3.1219E+00	4.7487E-02	3.1219E+00	4.0741E-15	3.12325E+00
236U (F)	9.7890E-10	1.9676E-06	2.0526E-02	7.1427E-01	4.4165E+00	5.1639E+00	5.2061E+00	5.2061E+00	7.8628E-02	5.2061E+00	2.4243E-15	5.20602E+00
238U (F)	4.0364E-09	3.9231E-05	1.2705E-01	1.1508E+00	4.3855E+00	4.5350E+00	4.5372E+00	4.5372E+00	6.8512E-02	4.5372E+00	2.2407E-18	4.50879E+00
238U (H)	2.7881E-10	1.2440E-05	3.9409E-02	1.0780E+00	3.2799E+00	3.6360E+00	3.6402E+00	3.6402E+00	5.4969E-02	3.6402E+00	9.6237E-17	3.62829E+00
237Np(F)	1.3523E-11	6.4748E-08	2.1510E-03	2.8208E-01	2.5740E+00	4.1167E+00	4.1962E+00	4.1964E+00	6.3578E-02	4.1964E+00	2.5308E-13	4.19891E+00
239Pu(T)	1.3592E-12	4.9519E-09	6.2620E-04	1.3343E-01	2.0977E+00	3.5434E+00	3.7368E+00	3.7372E+00	5.6786E-02	3.7372E+00	1.3004E-12	3.73847E+00
239Pu(F)	1.8530E-12	7.8170E-09	7.5023E-04	1.1566E-01	2.0424E+00	3.4711E+00	3.6205E+00	3.6211E+00	5.5152E-02	3.6211E+00	1.3104E-12	3.62247E+00
239Pu(H)	5.7795E-14	3.3225E-10	8.1904E-05	3.4393E-02	9.0766E-01	2.4514E+00	2.7008E+00	2.7031E+00	4.2943E-02	2.7031E+00	2.6901E-11	2.70370E+00
240Pu(F)	1.8135E-11	6.4741E-08	3.0443E-03	2.0136E-01	2.9246E+00	3.9866E+00	4.0665E+00	4.0665E+00	5.1518E-02	4.0666E+00	1.4901E-13	4.08690E+00
241Pu(T)	3.7801E-10	9.5271E-07	1.3945E-02	5.0030E-01	3.6697E+00	4.3066E+00	4.3316E+00	4.3316E+00	6.5425E-02	4.3317E+00	5.0487E-15	4.33115E+00
241Pu(F)	3.7775E-10	8.0226E-07	1.1168E-02	5.0449E-01	3.4225E+00	4.1596E+00	4.1658E+00	4.1658E+00	6.3229E-02	4.1658E+00	4.9809E-15	4.18601E+00
242Pu(F)	2.1882E-09	9.4551E-07	1.7884E-02	3.6586E-01	3.8186E+00	4.2357E+00	4.2576E+00	4.2575E+00	6.4298E-02	4.2576E+00	4.2324E-16	4.25315E+00
252Cf(S)	9.9775E-12	7.2257E-08	4.2631E-03	5.3959E-01	4.1200E+00	5.9365E+00	6.0353E+00	6.0356E+00	9.1483E-02	6.0356E+00	7.3358E-13	6.04457E+00

Table 2.7.1 Continued

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Mass No. 145

$_{52}Te \rightarrow {}_{53}I \rightarrow {}_{54}Xe \rightarrow {}_{55}Cs \xrightarrow{0.8620} {}_{56}Ba \rightarrow {}_{57}La \rightarrow {}_{58}Ce \rightarrow {}_{59}Pr \rightarrow {}_{60}Nd \leftarrow {}_{61}Pm$

	$_{52}Te$	$_{53}I$	$_{54}Xe$	$_{55}Cs$	$_{56}Ba$	$_{57}La$	$_{58}Ce$	$_{59}Pr$	$_{60}Nd$	$_{61}Pm$	Mass Yield
λ(1/sec)	5.6353E+00	4.3322E+00	7.7016E-01	1.1457E+00	1.8004E-01	2.3738E-02	3.8508E-03	3.2198E-05	0.0	1.2410E-09	
Q-value(MeV)	9.0800E+00	7.8660E+00	5.9920E+00	6.1000E+00	5.1000E+00	4.2000E+00	2.6000E+00	1.6050E+00	0.0	1.5970E-01	
E-beta (MeV)	2.8520E+00	2.4580E+00	2.2910E+00	2.0700E+00	1.7570E+00	9.9780E-01	5.9790E-01	6.7793E-01	0.0	0.0	
E-gamma(MeV)	2.7740E+00	2.3420E+00	1.8270E+00	1.3870E+00	1.1590E+00	1.7290E+00	1.0400E+00	1.4988E-02	0.0	1.8490E-03	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9450E-04	0.0	8.6470E-03	
Spin								7/2+	7/2-	5/2+	
Cumulative yield											
^{232}Th(F)	6.9195E-10	9.3917E-07	1.5572E-02	5.6863E-01	4.4477E+00	5.2502E+00	5.2846E+00	5.2846E+00	5.2846E+00	3.7683E-15	5.34898E+00
^{232}Th(H)	2.5410E-11	4.1649E-08	1.4130E-03	1.7376E-01	1.5645E+00	2.3949E+00	2.4408E+00	2.4410E+00	2.4410E+00	4.0937E-14	2.46090E+00
^{233}U (T)	8.8709E-15	1.5212E-11	1.6093E-05	1.0698E-02	7.6012E-01	2.6171E+00	3.3606E+00	3.3917E+00	3.3918E+00	6.2374E-10	3.39316E+00
^{233}U (F)	1.3442E-15	1.7090E-11	1.5500E-05	1.1119E-02	5.8638E-01	2.6140E+00	3.1697E+00	3.1800E+00	3.1800E+00	5.4401E-10	3.18146E+00
^{233}U (H)	2.5513E-16	5.4328E-12	5.2200E-06	5.5433E-03	3.3160E-01	1.5921E+00	2.0303E+00	2.0402E+00	2.0402E+00	7.7601E-10	2.04091E+00
^{235}U (T)	2.0559E-12	1.5409E-09	7.9182E-05	5.7815E-02	1.6392E+00	3.6105E+00	3.9161E+00	3.9175E+00	3.9175E+00	8.6161E-12	3.92324E+00
^{235}U (F)	1.3339E-12	6.4755E-09	6.5770E-04	1.1999E-01	2.0109E+00	3.5750E+00	3.7422E+00	3.7429E+00	3.7429E+00	1.8891E-12	3.75895E+00
^{235}U (H)	2.3236E-14	1.1149E-10	4.0702E-05	2.2515E-02	7.4193E-01	2.3595E+00	2.6773E+00	2.6812E+00	2.6812E+00	8.0004E-11	2.68408E+00
^{236}U (F)	5.3997E-12	2.2374E-08	1.3590E-03	1.6643E-01	2.2703E+00	3.5528E+00	3.6679E+00	3.6682E+00	3.6682E+00	4.9702E-13	3.66821E+00
^{238}U (F)	1.0953E-09	1.2622E-06	1.6259E-02	4.9499E-01	3.2621E+00	3.7384E+00	3.7559E+00	3.7559E+00	3.7559E+00	9.7561E-16	3.80921E+00
^{238}U (H)	5.0331E-11	2.5951E-07	4.1707E-03	3.3719E-01	2.1603E+00	2.9778E+00	3.0059E+00	3.0060E+00	3.0060E+00	2.4070E-14	3.04585E+00
^{237}Np(F)	5.8918E-14	4.9274E-10	1.1100E-04	4.7039E-02	1.1631E+00	3.1794E+00	3.4793E+00	3.4822E+00	3.4822E+00	3.1800E-11	3.48814E+00
^{239}Pu(T)	4.4192E-15	3.2008E-11	3.6612E-05	2.1413E-02	7.6101E-01	2.4341E+00	2.9844E+00	2.9915E+00	2.9915E+00	2.7009E-10	2.99431E+00
^{239}Pu(F)	5.5139E-15	5.4152E-11	3.0609E-05	1.6992E-02	7.6215E-01	2.4705E+00	2.9589E+00	2.9647E+00	2.9647E+00	1.6905E-10	2.96890E+00
^{239}Pu(H)	1.6973E-15	1.9248E-12	2.6602E-06	3.6439E-03	2.7615E-01	1.5605E+00	2.1114E+00	2.1273E+00	2.1273E+00	1.9801E-09	2.12776E+00
^{240}Pu(F)	7.8133E-14	6.4034E-10	1.7702E-04	4.4398E-02	1.4442E+00	2.9717E+00	3.2755E+00	3.2772E+00	3.2772E+00	1.4801E-11	3.28281E+00
^{241}Pu(T)	2.0861E-12	1.1845E-08	9.1226E-04	1.1995E-01	1.9565E+00	3.2258E+00	3.3434E+00	3.3438E+00	3.3438E+00	1.0885E-12	3.35815E+00
^{241}Pu(F)	2.1538E-12	8.8385E-09	7.3296E-04	1.1648E-01	1.8198E+00	3.1213E+00	3.2448E+00	3.2453E+00	3.2453E+00	1.0116E-12	3.25922E+00
^{242}Pu(F)	1.5229E-11	1.4952E-08	1.3450E-03	1.2205E-01	2.3481E+00	3.3490E+00	3.4666E+00	3.4669E+00	3.4669E+00	1.3005E-13	3.48167E+00
^{252}Cf(S)	4.0632E-14	4.6707E-10	1.3688E-04	5.9618E-02	1.7601E+00	4.8703E+00	5.4237E+00	5.4291E+00	5.4291E+00	7.5432E-11	5.43614E+00

Table 2.7.1 Continued

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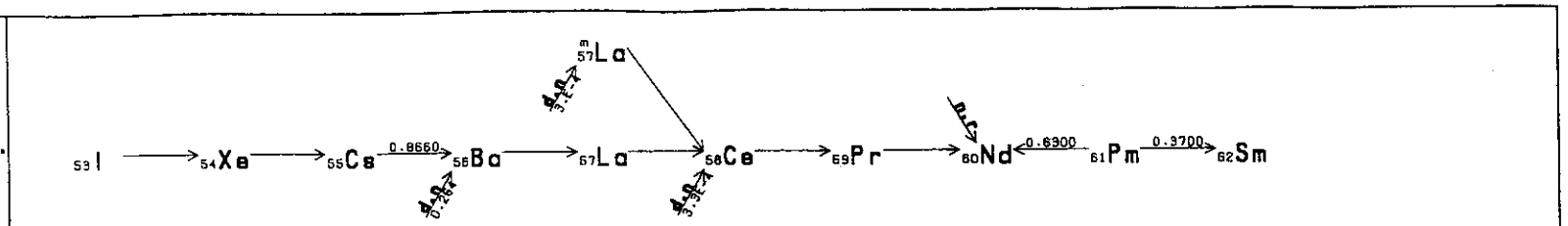
Mass No. 146



	53I	54Xe	55Cs	56Ba	57La	57mLa	58Ce	59Pr	60Nd	61Pm	62Sm	Mass Yield
λ (1/sec)	6.4780E+00	3.0956E-01	2.0691E+00	3.1796E-01	1.0746E-01	7.2661E-02	6.5447E-04	4.7995E-04	0.0	3.9719E-09	0.0	
Q-value (MeV)	9.6260E+00	5.5940E+00	6.0620E+00	3.5880E+00	6.3800E+00	6.5700E+00	1.0800E+00	4.0800E+00	0.0	1.5420E+00	0.0	
E-beta (MeV)	2.8190E+00	1.9710E+00	2.6320E+00	1.1590E+00	2.1131E+00	2.1739E+00	2.9606E-01	1.2185E+00	0.0	9.1156E-02	0.0	
E-gamma (MeV)	3.3810E+00	1.0860E+00	2.1900E+00	7.7380E-01	1.4924E+00	1.4315E+00	3.0589E-01	1.1602E+00	0.0	7.4747E-01	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	1.4279E-02	0.0	2.2370E-02	0.0	0.0	0.0	0.0	
Spin					1-	5+		2-		3-		
Cumulative yield: ^{232}Th (F)	7.1770E-09	1.1553E-03	1.0508E-01	3.0210E+00	3.3036E+00	9.8469E-01	4.5153E+00	4.5157E+00	4.5157E+00	1.1503E-12	4.2560E-13	4.52793E+00
^{232}Th (H)	3.2110E-10	7.4901E-05	3.0182E-02	7.7296E-01	9.6525E-01	1.0677E+00	2.2509E+00	2.2527E+00	2.2527E+00	1.9700E-11	7.2891E-12	2.25616E+00
^{233}U (T)	9.6074E-12	2.8486E-07	5.7005E-04	1.5924E-01	4.0201E-01	7.3243E-01	2.4838E+00	2.5363E+00	2.5366E+00	1.0995E-08	4.0684E-09	2.53656E+00
^{233}U (F)	2.1073E-12	2.7500E-07	6.3028E-04	1.4452E-01	3.7143E-01	7.9043E-01	2.3231E+00	2.3749E+00	2.3752E+00	3.4900E-08	1.2913E-08	2.37514E+00
^{233}U (H)	7.4104E-13	1.0000E-07	3.6510E-04	7.1341E-02	1.8885E-01	6.6472E-01	1.5960E+00	1.6478E+00	1.6480E+00	4.7400E-08	1.7539E-08	1.64795E+00
^{235}U (T)	1.1513E-09	1.0098E-06	1.6837E-02	9.9584E-01	1.3554E+00	1.0847E+00	2.9643E+00	2.9754E+00	2.9755E+00	4.2690E-10	1.5869E-10	2.97738E+00
^{235}U (F)	2.8196E-11	2.2790E-05	1.2200E-02	7.3999E-01	1.0743E+00	1.1647E+00	2.8964E+00	2.9027E+00	2.9027E+00	2.5788E-10	9.5417E-11	2.90389E+00
^{235}U (H)	4.0052E-11	1.0501E-06	1.9691E-03	2.0551E-01	3.9680E-01	1.0815E+00	2.1869E+00	2.2144E+00	2.2144E+00	6.7803E-09	2.5087E-09	2.21449E+00
^{235}U (F)	1.1697E-10	5.9499E-05	2.1981E-02	1.0196E+00	1.3543E+00	1.1657E+00	2.9396E+00	2.9431E+00	2.9431E+00	6.6399E-11	2.4568E-11	2.94546E+00
^{238}U (F)	1.0615E-08	1.4887E-03	1.1179E-01	2.5057E+00	2.6743E+00	5.8782E-01	3.3951E+00	3.3959E+00	3.3953E+00	2.6311E-13	9.7351E-14	3.40814E+00
^{238}U (H)	1.9046E-09	1.9703E-04	5.1338E-02	6.9560E-01	1.0705E+00	9.8949E-01	2.1672E+00	2.1679E+00	2.1679E+00	3.1305E-12	1.1583E-12	2.17368E+00
^{237}Np (F)	8.2524E-11	2.8700E-06	4.2729E-03	3.3471E-01	7.1505E-01	1.3249E+00	2.7748E+00	2.7980E+00	2.7980E+00	3.3300E-09	1.2321E-09	2.79823E+00
^{239}Pu (T)	6.1002E-12	7.9326E-07	1.4423E-03	1.8883E-01	4.5696E-01	8.0890E-01	2.4202E+00	2.4619E+00	2.4621E+00	2.0306E-08	7.5136E-09	2.46209E+00
^{239}Pu (F)	9.6224E-12	6.9621E-07	1.2461E-03	2.0521E-01	4.5949E-01	9.1711E-01	2.3995E+00	2.4361E+00	2.4362E+00	1.3804E-08	5.1076E-09	2.43618E+00
^{239}Pu (H)	5.3133E-13	4.6303E-08	2.1806E-04	5.4696E-02	1.6727E-01	6.3735E-01	1.6799E+00	1.7562E+00	1.7567E+00	1.1601E-07	4.2924E-08	1.76559E+00
^{240}Pu (F)	6.9085E-11	5.5506E-06	4.0730E-03	5.1289E-01	8.0161E-01	1.0058E+00	2.7227E+00	2.7368E+00	2.7368E+00	1.5701E-09	5.8097E-10	2.73682E+00
^{241}Pu (T)	5.0605E-11	4.2212E-05	1.6220E-02	9.4434E-01	1.2971E+00	1.0644E+00	2.8590E+00	2.8622E+00	2.8622E+00	1.0803E-10	3.9971E-11	2.85386E+00
^{241}Pu (F)	4.5448E-11	3.0299E-05	1.4764E-02	7.8614E-01	1.1159E+00	1.1487E+00	2.7325E+00	2.7376E+00	2.7376E+00	1.5099E-10	5.5868E-11	2.73906E+00
^{242}Pu (F)	7.7728E-11	7.0701E-05	1.5953E-02	1.2828E+00	1.5403E+00	8.9677E-01	2.9999E+00	3.0027E+00	3.0027E+00	5.8301E-11	2.1571E-11	3.00430E+00
^{252}Cf (S)	5.9716E-11	5.5746E-06	8.8510E-03	8.6836E-01	1.5141E+00	2.2498E+00	4.7505E+00	4.7931E+00	4.7932E+00	7.6930E-09	2.8465E-09	4.79380E+00

Table 2.7.1 Continued

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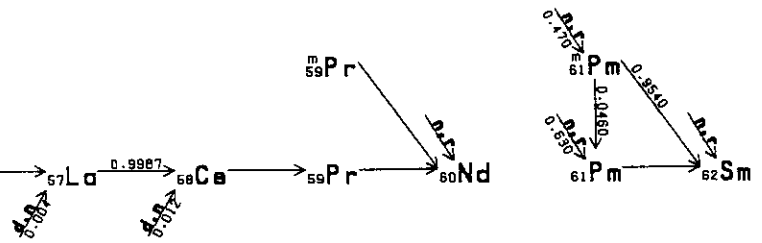
Mass No. 147

$_{53}I \longrightarrow {}_{54}Xe \longrightarrow {}_{55}Cs \xrightarrow{0.7960} {}_{56}Ba \xrightarrow{0.9997} {}_{57}La \xrightarrow{0.9997} {}_{58}Ce \longrightarrow {}_{59}Pr \longrightarrow {}_{60}Nd \longrightarrow {}_{61}Pm \longrightarrow {}_{62}Sm$

	$_{53}I$	$_{54}Xe$	$_{55}Cs$	$_{56}Ba$	$_{57}La$	$_{58}Ce$	$_{59}Pr$	$_{60}Nd$	$_{61}Pm$	$_{62}Sm$	Mass Yield
λ(1/sec)	9.9153E+00	2.6256E+00	3.1796E+00	9.9021E-01	1.5647E-01	1.2225E-02	8.6961E-04	7.2536E-07	6.3740E-09	0.0	
Q-value(MeV)	9.3190E+00	7.4540E+00	6.6040E+00	5.5810E+00	4.7000E+00	3.2000E+00	2.7000E+00	6.9580E-01	2.2470E-01	0.0	
E-beta (MeV)	2.9850E+00	2.2790E+00	2.2190E+00	1.8580E+00	1.6320E+00	6.5910E-01	7.8814E-01	2.2953E-01	5.1953E-02	0.0	
E-gamma(MeV)	2.7720E+00	2.3130E+00	1.5810E+00	1.3010E+00	9.3630E-01	1.0810E+00	8.3272E-01	1.3538E-01	4.8480E-06	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2635E-02	0.0	0.0	
Spin								5/2-	7/2+	7/2-	
Cumulative yield											
^{232}Th(F)	2.2321E-11	3.4089E-06	3.3984E-03	8.2270E-01	2.2959E+00	3.0038E+00	3.0105E+00	3.0105E+00	3.0105E+00	3.0105E+00	3.01132E+00
^{232}Th(H)	8.994DE-11	1.3130E-07	5.2653E-04	1.9087E-01	1.2433E+00	1.7574E+00	1.7748E+00	1.7748E+00	1.7748E+00	1.7748E+00	1.77489E+00
^{233}U(T)	1.6272E-14	4.5911E-11	2.1649E-06	1.3438E-02	3.5460E-01	1.5624E+00	1.7460E+00	1.7499E+00	1.7499E+00	1.7499E+00	1.74995E+00
^{233}U(F)	3.0534E-15	4.8697E-11	2.4509E-06	1.2808E-02	3.6829E-01	1.4907E+00	1.6780E+00	1.6813E+00	1.6813E+00	1.6813E+00	1.68134E+00
^{233}U(H)	1.0688E-15	1.7121E-11	1.2479E-06	6.4867E-03	2.5963E-01	1.0172E+00	1.1926E+00	1.1955E+00	1.1955E+00	1.1955E+00	1.19550E+00
^{235}U(T)	3.8559E-12	5.2413E-09	5.5456E-05	9.1156E-02	9.1956E-01	2.1602E+00	2.2528E+00	2.2533E+00	2.2533E+00	2.2533E+00	2.25336E+00
^{235}U(F)	2.8260E-12	1.8211E-08	1.4068E-04	1.3266E-01	1.1299E+00	2.0488E+00	2.0959E+00	2.0961E+00	2.0961E+00	2.0961E+00	2.09606E+00
^{235}U(H)	6.8583E-14	3.8340E-10	1.2075E-05	2.6668E-02	5.8286E-01	1.5050E+00	1.6255E+00	1.6266E+00	1.6266E+00	1.6266E+00	1.62656E+00
^{236}U(F)	1.2236E-11	7.3994E-08	3.3141E-04	2.1372E-01	1.3866E+00	2.3094E+00	2.3406E+00	2.3407E+00	2.3407E+00	2.3407E+00	2.34063E+00
^{236}U(F)	4.3955E-11	4.9094E-08	4.4270E-03	6.4019E-01	2.1128E+00	2.5257E+00	2.5298E+00	2.5298E+00	2.5298E+00	2.5298E+00	2.53057E+00
^{238}U(H)	1.9950E-10	7.0202E-07	1.6432E-03	3.4280E-01	1.5427E+00	2.0870E+00	2.0969E+00	2.0969E+00	2.0969E+00	2.0969E+00	2.09662E+00
^{237}Np(F)	1.9259E-13	1.3062E-09	3.1894E-05	5.2019E-02	9.4973E-01	2.0818E+00	2.2099E+00	2.2108E+00	2.2108E+00	2.2108E+00	2.21077E+00
^{239}Pu(T)	1.1670E-14	1.1712E-10	4.6097E-06	2.0663E-02	4.8886E-01	1.8506E+00	2.0398E+00	2.0428E+00	2.0428E+00	2.0428E+00	2.04289E+00
^{239}Pu(F)	1.8842E-14	1.8751E-10	5.8406E-06	2.4295E-02	5.5251E-01	1.8070E+00	1.9759E+00	1.9782E+00	1.9782E+00	1.9782E+00	1.97817E+00
^{239}Pu(H)	1.0215E-15	8.7242E-12	8.4479E-07	6.3481E-03	3.2015E-01	1.4499E+00	1.7691E+00	1.7760E+00	1.7760E+00	1.7760E+00	1.77602E+00
^{240}Pu(F)	1.7547E-13	8.5560E-08	3.1787E-04	2.2409E-01	1.2739E+00	2.2065E+00	2.2328E+00	2.2329E+00	2.2329E+00	2.2329E+00	2.23320E+00
^{241}Pu(T)	4.9725E-12	4.4998E-08	2.3867E-04	1.9506E-01	1.3277E+00	2.3292E+00	2.3676E+00	2.3678E+00	2.3678E+00	2.3678E+00	2.36772E+00
^{241}Pu(F)	5.6275E-12	3.0519E-08	1.9314E-04	1.5592E-01	1.2330E+00	2.1935E+00	2.2353E+00	2.2354E+00	2.2354E+00	2.2354E+00	2.23532E+00
^{242}Pu(F)	2.8578E-11	7.8595E-08	2.5587E-04	2.5025E-01	1.2609E+00	2.3906E+00	2.4191E+00	2.4193E+00	2.4193E+00	2.4193E+00	2.41930E+00
^{252}Cf(S)	1.4322E-13	1.7636E-09	4.4453E-05	8.9424E-02	1.5561E+00	4.1729E+00	4.4506E+00	4.4528E+00	4.4528E+00	4.4528E+00	4.45251E+00

Table 2.7.1 Continued

Mass No. 148



		53I	54Xe	55Cs	56Ba	57La	58Ce	59Pr	m59Pr	60Nd	61Pm	m61Pm	62Sm	Mass Yield
	λ(1/sec)	1.4292E+01	1.0376E+00	4.0773E+00	1.1363E+00	6.6014E-01	1.4441E-02	5.0228E-03	5.7762E-03	0.0	1.4940E-06	1.9425E-07	0.0	
	Q-value(MeV)	1.0577E+01	7.1120E+00	8.4770E+00	4.1490E+00	6.7160E+00	1.6000E+00	4.8970E+00	4.8970E+00	0.0	2.4640E+00	2.6012E+00	0.0	
	E-beta (MeV)	3.1050E+00	2.5530E+00	2.4540E+00	1.3430E+00	2.1750E+00	6.3652E-01	1.5571E+00	1.2907E+00	0.0	7.2565E-01	1.4598E-01	0.0	
	E-gamma(MeV)	3.7450E+00	1.4020E+00	2.9690E+00	8.3530E-01	1.3610E+00	3.8681E-01	1.2359E+00	1.7970E+00	0.0	5.7446E-01	1.9930E+00	0.0	
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	3.8668E-02	0.0	0.0	0.0	0.0	1.4758E-02	0.0	
	Spin							3+	6+		1-	6-		
Cumulative yield	232Th(F)	3.7097E-12	4.0610E-07	5.1263E-04	1.6903E-01	8.3549E-01	1.9509E+00	1.9613E+00	1.7381E-02	1.5789E+00	4.4662E-09	1.0823E-08	1.4794E-08	1.97772E+00
	232Th(H)	2.7986E-13	1.4400E-08	8.0516E-05	2.4011E-02	4.0740E-01	9.2706E-01	9.4065E-01	3.8864E-02	9.7988E-01	2.4608E-08	9.2027E-08	1.1240E-07	9.78683E-01
	233U(T)	2.3596E-17	8.3266E-12	2.5190E-07	9.7583E-04	6.9690E-02	9.2951E-01	1.0808E+00	1.8631E-01	1.2720E+00	4.2706E-07	9.0294E-07	1.2571E-06	1.27194E+00
	233U(F)	4.0163E-18	8.4101E-12	2.9101E-07	9.2328E-04	7.5523E-02	8.4393E-01	9.6636E-01	2.0472E-01	1.1921E+00	1.1719E-05	2.8387E-05	3.8807E-05	1.19214E+00
	233U(H)	1.5680E-18	3.4200E-12	1.8301E-07	4.8317E-04	6.0302E-02	5.6324E-01	6.4688E-01	2.3906E-01	9.0297E-01	1.0572E-05	3.9637E-05	4.6297E-05	9.03005E-01
	235U(T)	8.9049E-15	8.2881E-10	7.7191E-06	1.0338E-02	2.5616E-01	1.5239E+00	1.6820E+00	8.2383E-02	1.6695E+00	3.6982E-09	7.8190E-09	1.1363E-08	1.66919E+00
	235U(F)	7.3840E-15	2.9087E-09	2.2693E-05	1.7529E-02	3.8026E-01	1.5238E+00	1.5782E+00	9.0931E-02	1.6716E+00	3.3119E-07	8.0222E-07	1.0966E-06	1.67118E+00
	235U(H)	1.8549E-16	6.3403E-11	1.7302E-06	2.3607E-03	1.5912E-01	9.1246E-01	9.8568E-01	2.0924E-01	1.2031E+00	2.6669E-06	9.9808E-06	1.2192E-05	1.20310E+00
	235U(F)	3.3648E-14	1.0200E-08	5.4410E-05	3.1288E-02	4.9079E-01	1.6342E+00	1.6735E+00	6.5709E-02	1.7405E+00	1.2414E-07	3.0069E-07	4.1101E-07	1.73935E+00
	238U(F)	9.4060E-12	8.0194E-07	8.2677E-04	2.2700E-01	9.7871E-01	2.0591E+00	2.0674E+00	1.4016E-02	2.0816E+00	2.4373E-09	5.9037E-09	8.0684E-09	2.07797E+00
	238U(H)	1.0038E-12	1.1102E-07	3.9818E-04	7.7134E-02	9.0691E-01	1.6919E+00	1.7058E+00	3.9677E-02	1.7457E+00	1.0416E-08	3.8953E-08	4.7578E-08	1.74282E+00
	237Np(F)	4.1413E-16	2.2500E-10	5.0003E-06	5.1657E-03	2.9074E-01	1.3753E+00	1.5049E+00	2.1662E-01	1.7293E+00	2.8609E-06	5.9265E-06	9.4707E-06	1.72894E+00
	239Pu(T)	1.8287E-17	2.2607E-11	6.1822E-07	1.7841E-03	1.1720E-01	1.2257E+00	1.3852E+00	2.2644E-01	1.5947E+00	1.1174E-05	2.9624E-05	3.5716E-05	1.63462E+00
	239Pu(F)	3.3003E-17	3.5611E-11	9.8434E-07	2.2206E-03	1.4471E-01	1.2362E+00	1.3796E+00	2.3971E-01	1.6374E+00	7.9098E-06	1.9159E-05	2.6191E-05	1.63724E+00
	239Pu(H)	1.3982E-18	1.7101E-12	1.1901E-07	4.0613E-04	6.4647E-02	7.3835E-01	8.7512E-01	3.9379E-01	1.3052E+00	2.8047E-05	1.0489E-04	1.2813E-04	1.30525E+00
	240Pu(F)	3.5128E-16	4.6405E-10	5.1810E-06	8.6116E-03	2.4002E-01	1.6786E+00	1.7646E+00	1.4213E-01	1.9150E+00	1.4681E-06	3.5560E-06	4.8609E-06	1.91465E+00
	241Pu(T)	1.3533E-14	7.2520E-09	4.0419E-05	2.9588E-02	4.7632E-01	1.8582E+00	1.9117E+00	7.6954E-02	1.9898E+00	2.2180E-07	4.6898E-07	6.6921E-07	1.98870E+00
	241Pu(F)	1.8957E-14	4.9998E-09	3.5603E-05	2.3878E-02	4.7936E-01	1.7536E+00	1.8099E+00	9.4070E-02	1.9062E+00	2.7533E-07	6.6208E-07	9.0499E-07	1.90523E+00
	242Pu(F)	9.2362E-14	1.2300E-08	4.0213E-05	4.0518E-02	4.0273E-01	1.9736E+00	2.0064E+00	5.4883E-02	2.0533E+00	1.1051E-07	2.6865E-07	3.6722E-07	2.06214E+00
	252Cf(S)	3.1412E-16	3.6557E-10	6.3428E-06	1.1261E-02	6.4046E-01	3.0661E+00	3.5186E+00	6.4214E-01	4.1888E+00	1.1590E-05	2.4505E-05	3.4971E-06	4.18846E+00

Table 2.7.1 Continued

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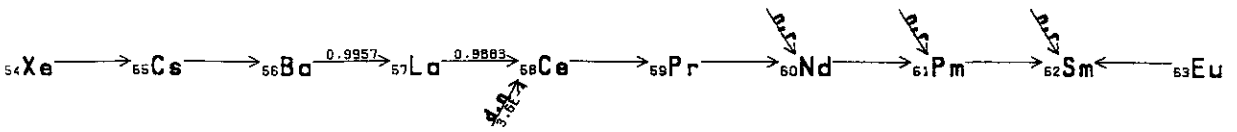
Mass No. 149



	54Xe	55Cs	56Ba	57La	58Ce	59Pr	60Nd	61Pm	62Sm	63Eu	Mass Yield
λ(1/sec)	6.3691E-00	5.4579E+00	9.9021E-01	5.7762E-01	1.3863E-01	5.0228E-03	1.1129E-04	3.6274E-06	0.0	8.6171E-08	
Q-value(MeV)	8.5000E+00	8.0240E+00	6.1290E+00	5.2170E+00	3.9000E+00	3.0000E+00	1.6890E+00	1.0713E+00	0.0	6.9600E-01	
E-beta (MeV)	2.6370E+00	2.5070E+00	2.0160E+00	1.7830E+00	1.1752E+00	9.5260E-01	4.6476E-01	3.6532E-01	0.0	0.0	
E-gamma(MeV)	2.6190E+00	2.4040E+00	1.5200E+00	1.0870E+00	1.0450E+00	6.1610E-01	3.6892E-01	1.0590E-02	0.0	2.7828E-02	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	4.4315E-02	3.5990E-05	0.0	2.9249E-03	
Spin						5/2+	5/2-	7/2+	7/2-	5/2+	
Cumulative yield 232Th(F)	6.5263E-11	2.2630E-06	1.1551E-02	1.9389E-01	8.1970E-01	8.8115E-01	8.8231E-01	8.8231E-01	8.8231E-01	8.5287E-16	8.84619E-01
232Th(H)	2.9488E-10	3.7050E-07	2.8640E-03	1.4680E-01	5.9363E-01	7.4985E-01	7.5325E-01	7.5325E-01	7.5325E-01	1.5223E-16	7.54978E-01
233U (T)	1.0782E-13	1.2770E-10	3.5685E-05	9.9624E-03	3.2196E-01	7.0293E-01	7.7655E-01	7.7702E-01	7.7702E-01	4.4761E-12	7.77136E-01
233U (F)	1.8629E-14	1.2835E-10	3.6201E-05	1.0954E-02	3.0952E-01	6.3584E-01	7.0266E-01	7.0314E-01	7.0314E-01	3.5800E-12	7.03269E-01
233U (H)	6.9251E-15	6.1444E-11	1.9300E-05	8.0993E-03	2.0902E-01	5.6755E-01	6.2285E-01	6.2337E-01	6.2337E-01	6.0500E-12	6.23468E-01
235U (T)	2.0482E-11	1.1051E-08	6.2286E-04	5.8070E-02	7.5881E-01	1.0412E+00	1.0663E+00	1.0664E+00	1.0664E+00	8.0198E-15	1.06703E+00
235U (F)	1.4294E-11	4.5465E-08	1.1205E-03	8.4238E-02	7.4338E-01	1.0131E+00	1.0259E+00	1.0259E+00	1.0259E+00	1.1626E-14	1.02691E+00
235U (H)	3.6839E-13	1.1293E-09	9.5805E-05	2.1206E-02	3.1290E-01	6.1792E-01	6.4399E-01	6.4412E-01	6.4412E-01	2.3514E-13	6.44369E-01
236U (F)	6.9579E-11	1.8921E-07	2.9020E-03	1.5570E-01	1.0824E+00	1.3582E+00	1.3683E+00	1.3684E+00	1.3684E+00	3.3604E-15	1.37018E+00
238U (F)	3.4534E-10	7.2489E-06	2.9241E-02	4.1401E-01	1.5127E+00	1.6061E+00	1.6076E+00	1.6076E+00	1.6076E+00	5.3715E-18	1.61251E+00
238U (H)	4.0588E-11	2.4438E-06	1.0112E-02	3.4671E-01	1.2363E+00	1.4202E+00	1.4227E+00	1.4227E+00	1.4227E+00	1.2977E-16	1.42676E+00
237Np(F)	1.0381E-12	5.2532E-09	3.5000E-04	6.3108E-02	7.4978E-01	1.2322E+00	1.2742E+00	1.2743E+00	1.2743E+00	3.2513E-13	1.27507E+00
239Pu(T)	1.0071E-13	4.7268E-10	8.2927E-05	2.0445E-02	5.2513E-01	1.1525E+00	1.2387E+00	1.2392E+00	1.2392E+00	3.4711E-12	1.23944E+00
239Pu(F)	1.5156E-13	7.6213E-10	1.1804E-04	2.7719E-02	5.9155E-01	1.1611E+00	1.2384E+00	1.2388E+00	1.2388E+00	1.9606E-12	1.23916E+00
239Pu(H)	7.7125E-15	4.9208E-11	1.7201E-05	9.3006E-03	3.0044E-01	9.3871E-01	1.0613E+00	1.0628E+00	1.0628E+00	2.8502E-11	1.06289E+00
240Pu(F)	1.5118E-12	7.7845E-09	5.3205E-04	5.7133E-02	8.8367E-01	1.3284E+00	1.3691E+00	1.3692E+00	1.3692E+00	2.4241E-13	1.36986E+00
241Pu(T)	3.4401E-11	1.2179E-07	2.6527E-03	1.4546E-01	1.1973E+00	1.5086E+00	1.5232E+00	1.5233E+00	1.5233E+00	9.6047E-15	1.52497E+00
241Pu(F)	3.5944E-11	9.7130E-08	1.9989E-03	1.3691E-01	1.0832E+00	1.4346E+00	1.4498E+00	1.4498E+00	1.4498E+00	8.4581E-15	1.45139E+00
242Pu(F)	2.2976E-10	1.5589E-07	3.5250E-03	1.4054E-01	1.3386E+00	1.5005E+00	1.5145E+00	1.5145E+00	1.5145E+00	9.8250E-16	1.51613E+00
252Cf(S)	9.6834E-13	7.4002E-09	5.4251E-04	1.0369E-01	1.4907E+00	2.8412E+00	2.9493E+00	2.9498E+00	2.9498E+00	1.2589E-12	2.95104E+00

Table 2.7.1 Continued

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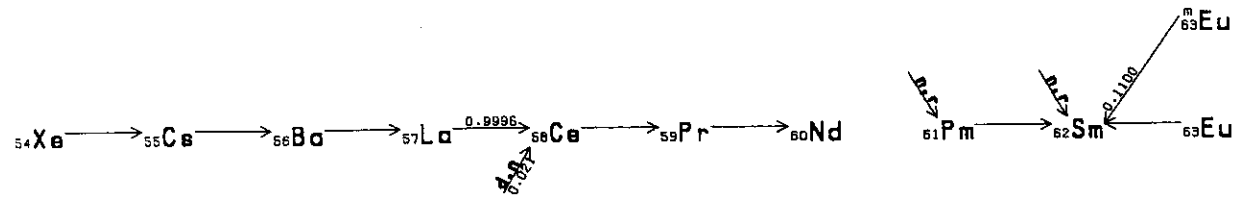
Mass No. 150



	54Xe	55Cs	56Ba	57La	58Ce	59Pr	60Nd	61Pm	62Sm	63Eu	m63Eu	Mass Yield
λ(1/sec)	2.6405E+00	5.6862E-01	3.3779E-01	1.0260E-01	1.4441E-01	1.1180E-01	0.0	7.1364E-05	0.0	6.4288E-10	1.5257E-05	
Q-value(MeV)	8.5460E+00	9.4550E+00	5.6450E+00	7.2060E+00	2.2410E+00	5.0000E+00	0.0	3.5000E+00	0.0	2.2940E+00	1.0130E+00	
E-beta (MeV)	3.0920E+00	2.7510E+00	1.9850E+00	2.0370E+00	5.8918E-01	2.0170E+00	0.0	7.3999E-01	0.0	0.0	3.1023E-01	
E-gamma(MeV)	1.7220E+00	3.3310E+00	1.0960E+00	2.5470E+00	4.3969E-01	1.0760E+00	0.0	1.5804E+00	0.0	1.4880E+00	4.1522E-02	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2304E-03	5.5374E-04	
Spin								1-		4-		
Cumulative yield 232Th(F)	9.1922E-12	1.4504E-07	5.4928E-04	2.1240E-02	2.8756E-01	3.4258E-01	3.4693E-01	3.7009E-06	3.7017E-06	9.4370E-16	1.4779E-16	3.46806E-01
232Th(H)	1.1275E-12	3.1701E-08	1.1103E-04	1.8041E-02	2.1130E-01	3.6588E-01	3.7642E-01	3.9001E-05	3.9008E-05	2.2237E-14	2.1868E-15	3.76422E-01
233U (T)	2.5693E-16	1.9292E-11	9.3163E-07	7.4862E-04	8.8455E-02	3.3605E-01	4.9946E-01	2.7948E-03	2.8022E-03	8.2084E-11	1.4732E-11	5.02262E-01
233U (F)	3.6896E-17	2.1900E-11	8.6403E-07	7.9587E-04	7.7305E-02	3.2596E-01	4.6118E-01	2.6560E-03	2.6617E-03	3.1763E-10	4.9743E-11	4.63640E-01
233U (H)	1.3030E-17	1.4800E-11	4.8602E-07	6.9049E-04	5.5421E-02	3.2443E-01	4.4327E-01	3.5520E-03	3.5584E-03	6.6738E-10	6.5631E-11	4.46835E-01
235U (T)	7.7057E-14	1.4697E-09	2.3896E-05	6.1525E-03	2.7649E-01	5.6844E-01	6.4829E-01	2.9993E-05	3.0415E-05	9.0274E-13	1.6202E-13	6.48310E-01
235U (F)	5.4914E-14	5.9273E-09	5.4981E-05	1.2047E-02	3.2649E-01	5.3338E-01	6.6405E-01	2.6289E-04	2.6302E-04	1.4563E-12	2.2608E-13	6.84287E-01
235U (H)	1.1376E-15	2.1101E-10	3.5604E-06	2.6197E-03	1.1603E-01	4.3412E-01	5.1596E-01	1.3351E-03	1.3363E-03	2.7779E-11	2.7318E-12	5.17297E-01
236U (F)	2.4471E-13	1.8800E-08	1.2902E-04	1.9587E-02	4.1243E-01	6.9361E-01	7.2956E-01	1.2500E-04	1.2505E-04	3.8067E-13	5.9617E-14	7.29642E-01
238U (F)	7.2084E-11	9.2616E-07	2.8933E-03	9.3049E-02	1.0815E+00	1.2546E+00	1.2660E+00	8.0094E-06	8.0108E-06	1.2790E-15	1.9937E-16	1.26557E+00
238U (H)	7.2812E-12	9.3706E-07	7.8047E-04	8.5179E-02	7.2064E-01	1.0835E+00	1.1005E+00	4.2007E-05	4.2013E-05	3.1389E-14	3.0868E-15	1.10030E+00
237Np(F)	3.1661E-15	9.7801E-10	1.2401E-05	7.5125E-03	2.5720E-01	8.6115E-01	9.8345E-01	1.6540E-03	1.6552E-03	3.6442E-11	5.7071E-12	9.85092E-01
239Pu(T)	2.6852E-16	8.3027E-11	2.9611E-06	2.1777E-03	1.9477E-01	7.0512E-01	9.5517E-01	1.1504E-03	1.1564E-03	2.5463E-10	4.5863E-11	9.66321E-01
239Pu(F)	4.2069E-16	1.4504E-10	4.0814E-06	2.9480E-03	2.0866E-01	7.5707E-01	9.8080E-01	3.5181E-03	3.5235E-03	1.9049E-10	2.9633E-11	9.84321E-01
239Pu(H)	1.7828E-17	1.1701E-11	4.9604E-07	9.1955E-04	9.3147E-02	6.5598E-01	9.6235E-01	1.1568E-02	1.1614E-02	2.0241E-09	1.9905E-10	9.79967E-01
240Pu(F)	5.9000E-15	1.3601E-09	2.7704E-05	8.1115E-03	4.4437E-01	9.6651E-01	1.1394E+00	1.1391E-03	1.1404E-03	2.8449E-11	4.4555E-12	1.14056E+00
241Pu(T)	1.7525E-13	1.9005E-08	1.5707E-04	2.6339E-02	5.8913E-01	1.1715E+00	1.2465E+00	2.7808E-04	2.7821E-04	1.4930E-12	2.6796E-13	1.24873E+00
241Pu(F)	1.7948E-13	1.5399E-08	1.2401E-04	2.4909E-02	5.9646E-01	1.1168E+00	1.1926E+00	3.4698E-04	3.4714E-04	1.3886E-12	2.1747E-13	1.19290E+00
242Pu(F)	1.5172E-12	2.2200E-08	2.6803E-04	2.4977E-02	8.9728E-01	1.2756E+00	1.3602E+00	1.7900E-04	1.7912E-04	1.7234E-13	2.6990E-14	1.36034E+00
252Cf(S)	2.9357E-15	1.6985E-09	2.8176E-05	1.7420E-02	7.5255E-01	2.2789E+00	2.3930E+00	1.5206E-02	1.5211E-02	1.9706E-10	3.5370E-11	2.40815E+00

Table 2.7.1 Continued

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Mass No. 151

$_{55}Cs \rightarrow {}_{56}Ba \rightarrow {}_{57}La \xrightarrow{0.9790} {}_{58}Ce \rightarrow {}_{59}Pr \rightarrow {}_{60}Nd \rightarrow {}_{61}Pm \rightarrow {}_{62}Sm \rightarrow {}_{63}Eu \leftarrow {}_{64}Gd$

	$_{55}Cs$	$_{56}Ba$	$_{57}La$	$_{58}Ce$	$_{59}Pr$	$_{60}Nd$	$_{61}Pm$	$_{62}Sm$	$_{63}Eu$	$_{64}Gd$	Mass Yield
λ(1/sec)	9.0607E+00	2.4236E+00	2.2734E-01	6.7956E-01	1.7329E-01	9.2865E-04	6.7796E-06	2.4405E-10	0.0	6.5855E-06	
Q-value(MeV)	9.3590E+00	7.2090E+00	6.6020E+00	4.294DE+00	3.5000E+00	2.441DE+00	1.1880E+00	7.6100E-02	0.0	4.8200E-01	
E-beta (MeV)	2.9640E+00	2.1830E+00	2.2020E+00	1.4400E+00	1.2340E+00	5.9187E-01	2.8105E-01	1.9658E-02	0.0	0.0	
E-gamma(MeV)	2.7950E+00	2.2510E+00	1.5010E+00	8.7740E-01	7.011DE-01	9.2663E-01	3.3232E-01	6.4620E-06	0.0	3.3033E-02	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	3.5465E-02	2.6202E-02	1.8960E-04	0.0	3.5986E-02	
Spin						3/2+	5/2+	5/2-	5/2+	7/2-	
Cumulative yield ^{232}Th(F)	2.0674E-10	7.5927E-06	6.3495E-03	1.7783E-01	2.9297E-01	3.1995E-01	3.1403E-01	3.1403E-01	3.1403E-01	2.4426E-19	3.14161E-01
^{232}Th(H)	1.1187E-11	5.7589E-07	1.8750E-03	5.9086E-02	1.6387E-01	2.0655E-01	2.0682E-01	2.0682E-01	2.0682E-01	2.1265E-18	2.06856E-01
^{233}U (T)	4.1851E-13	7.5822E-10	4.2682E-05	1.3076E-02	1.3378E-01	3.0496E-01	3.1525E-01	3.1533E-01	3.1533E-01	4.8192E-14	3.15327E-01
^{233}U (F)	9.0907E-14	7.6134E-10	5.0501E-05	1.3439E-02	1.4907E-01	2.9364E-01	3.0452E-01	3.0458E-01	3.0458E-01	2.0904E-13	3.04583E-01
^{233}U (H)	5.3613E-14	4.8422E-10	4.2500E-05	1.0378E-02	1.5296E-01	3.1563E-01	3.2984E-01	3.2989E-01	3.2989E-01	4.1535E-13	3.29894E-01
^{235}U (T)	6.2906E-11	6.3593E-08	5.2988E-04	5.8386E-02	2.7122E-01	4.1681E-01	4.1838E-01	4.1838E-01	4.1838E-01	2.9086E-16	4.18396E-01
^{235}U (F)	5.0387E-11	1.9120E-07	1.1825E-03	6.2177E-02	3.1251E-01	4.0601E-01	4.0761E-01	4.0761E-01	4.0761E-01	3.6932E-16	4.07637E-01
^{235}U (H)	2.4738E-12	6.2738E-09	1.9201E-04	2.5019E-02	2.1808E-01	3.4731E-01	3.5361E-01	3.5363E-01	3.5363E-01	9.1567E-15	3.53636E-01
^{236}U (F)	5.8237E-12	5.6551E-07	2.1500E-03	1.1255E-01	3.4890E-01	4.2176E-01	4.2264E-01	4.2264E-01	4.2264E-01	8.0378E-17	4.22689E-01
^{238}U (F)	1.1375E-09	3.0724E-05	2.0294E-02	4.8288E-01	7.5985E-01	8.0052E-01	8.0064E-01	8.0064E-01	8.0064E-01	2.0128E-19	8.01065E-01
^{238}U (H)	2.5905E-10	7.6515E-06	1.4472E-02	3.0949E-01	7.4540E-01	8.0102E-01	8.0144E-01	8.0144E-01	8.0144E-01	3.5951E-18	8.01745E-01
^{237}Np(F)	7.1405E-12	2.8105E-08	5.7601E-04	6.8507E-02	5.0755E-01	7.0418E-01	7.1374E-01	7.1375E-01	7.1376E-01	1.2356E-14	7.13773E-01
^{239}Pu(T)	6.5005E-13	3.9749E-09	1.5705E-04	3.7480E-02	3.4829E-01	7.5284E-01	7.7195E-01	7.7206E-01	7.7206E-01	1.8847E-13	7.72062E-01
^{239}Pu(F)	1.0498E-12	6.2535E-09	2.2607E-04	4.4072E-02	3.9619E-01	7.5955E-01	7.7691E-01	7.7699E-01	7.7699E-01	1.1763E-13	7.76993E-01
^{239}Pu(H)	7.9450E-14	3.9013E-10	5.3503E-05	1.5730E-02	3.0531E-01	6.9000E-01	7.3416E-01	7.3446E-01	7.3446E-01	1.7101E-12	7.34465E-01
^{240}Pu(F)	7.9989E-12	6.9966E-08	7.9508E-04	1.0615E-01	5.1801E-01	8.3597E-01	8.4315E-01	8.4317E-01	8.4317E-01	1.5740E-14	8.43189E-01
^{241}Pu(T)	7.0049E-12	8.3377E-07	3.5210E-03	2.2366E-01	7.4267E-01	9.3442E-01	9.3682E-01	9.3683E-01	9.3683E-01	5.1754E-16	9.36901E-01
^{241}Pu(F)	5.0999E-12	6.0659E-07	3.2378E-03	1.9898E-01	7.2279E-01	9.0906E-01	9.1199E-01	9.1200E-01	9.1200E-01	4.0560E-16	9.12064E-01
^{242}Pu(F)	1.0476E-11	1.4679E-06	4.1391E-03	3.1136E-01	8.0405E-01	1.0227E+00	1.0247E+00	1.0247E+00	1.0247E+00	6.9612E-17	1.02476E+00
^{252}Cf(S)	7.2796E-12	4.8409E-08	1.1949E-03	1.5013E-01	1.1598E+00	1.8328E+00	1.8608E+00	1.8609E+00	1.8609E+00	9.1508E-14	1.86093E+00

Table 2.7.1 Continued

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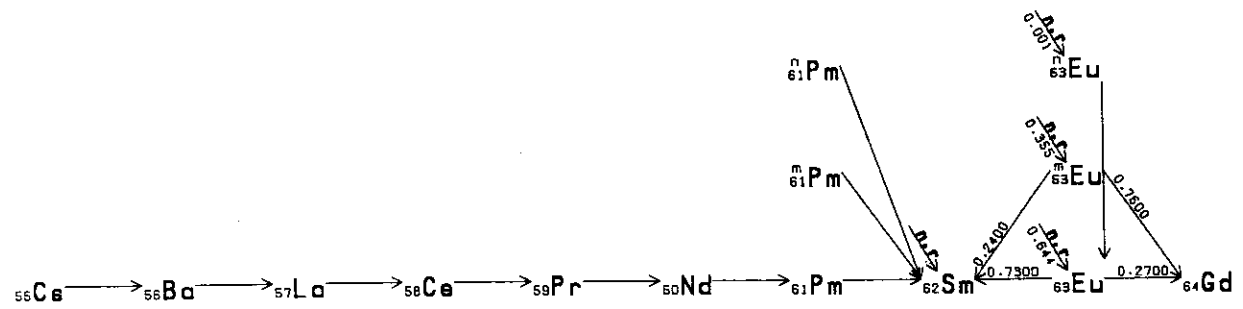
Mass No. 152



	55Cs	56Ba	57La	58Ce	59Pr	60Nd	61Pm	m61Pm	n61Pm	62Sm	63Eu	m63Eu	n63Eu	64Gd	Mass Yield
λ(1/sec)	1.3005E+01	1.0415E+00	2.3560E-01	3.7206E-02	2.1393E-01	1.0134E-03	2.7506E-03	1.5403E-03	7.7016E-04	0.0	1.6151E-09	2.0659E-05	1.2034E-04	0.0	
Q-value(MeV)	1.0269E+01	7.0570E+00	6.2030E+00	3.6170E+00	5.7700E+00	1.1500E+00	3.4700E+00	3.4700E+00	3.4700E+00	0.0	1.8192E+00	1.8677E+00	1.4783E-01	0.0	
E-beta (MeV)	2.3760E+00	2.5240E+00	2.3550E+00	1.1660E+00	1.5490E+00	3.3575E-01	1.3766E+00	7.7426E-01	6.6079E-01	0.0	6.2955E-02	5.2734E-01	0.0	0.0	
E-gamma(MeV)	1.6980E+00	1.3900E+00	2.8850E+00	7.7840E-01	2.1190E+00	1.5635E-01	1.5014E-01	1.4663E+00	1.7332E+00	0.0	1.1584E+00	2.5373E-01	6.4914E-02	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	1.6347E-02	1.7239E-02	6.9442E-02	0.0	0.0	5.0315E-02	8.5246E-03	8.2915E-02	0.0	
Spin							1+	4+	6+		3-		8-		
Cumulative Yield															
232Th(F)	3.4138E-13	5.3713E-07	2.0759E-04	2.2671E-02	6.5065E-02	7.5729E-02	7.5749E-02	9.8983E-05	5.5646E-05	7.5904E-02	8.3473E-12	3.9479E-13	4.3305E-12	2.5538E-12	7.59042E-02
232Th(H)	4.4585E-12	7.4301E-08	1.2708E-04	1.2210E-02	8.1469E-02	1.1740E-01	1.1749E-01	7.4677E-04	4.3004E-04	1.1867E-01	2.5460E-10	5.3894E-12	1.6729E-10	7.2847E-11	1.18671E-01
233U (T)	1.1596E-15	1.3494E-10	1.2196E-06	1.4486E-03	3.5101E-02	1.9120E-01	1.9408E-01	1.2135E-02	5.7584E-03	2.1355E-01	2.7179E-07	1.8094E-08	1.2801E-07	8.5633E-08	2.13552E-01
233U (F)	2.1385E-16	1.2900E-10	1.3401E-06	1.3044E-03	3.6087E-02	1.6898E-01	1.7147E-01	1.2075E-02	6.7886E-03	1.9080E-01	2.5399E-07	1.2013E-08	1.3177E-07	7.7721E-08	1.90799E-01
233U (H)	1.3832E-16	8.5501E-11	1.3701E-06	1.1054E-03	4.6123E-02	1.8593E-01	1.8847E-01	1.9931E-02	1.1478E-02	2.2049E-01	5.2487E-07	1.1191E-08	3.4487E-07	1.5020E-07	2.20491E-01
235U (T)	2.8013E-13	8.7380E-09	2.4503E-05	1.0288E-02	9.4198E-02	2.5922E-01	2.6035E-01	4.7562E-03	2.6489E-03	2.6783E-01	1.2214E-08	7.2324E-10	5.7887E-09	3.8474E-09	2.67834E-01
235U (F)	2.4246E-13	2.8087E-08	6.5298E-05	1.6188E-02	1.3263E-01	2.7326E-01	2.7401E-01	3.6310E-03	2.0413E-03	2.7972E-01	4.5238E-09	2.1396E-10	2.3469E-09	1.3841E-09	2.79721E-01
235U (H)	1.0240E-14	1.0901E-09	8.9216E-06	3.7811E-03	8.8134E-02	2.4090E-01	2.4249E-01	1.2500E-02	7.1980E-03	2.6239E-01	9.1661E-08	1.9439E-09	5.0226E-08	2.6228E-08	2.62392E-01
236U (F)	1.3039E-12	1.1600E-07	1.8711E-04	3.4427E-02	2.1244E-01	3.6219E-01	3.6284E-01	3.1282E-03	1.7588E-03	3.6775E-01	2.0051E-09	9.4833E-11	1.0402E-09	6.1348E-10	3.87746E-01
238U (F)	2.3589E-10	3.3139E-10	2.2229E-06	3.6865E-03	6.7171E-02	4.7690E-01	4.8183E-01	2.3913E-02	1.3443E-02	5.2075E-01	5.5053E-07	2.6042E-08	2.8666E-07	1.6852E-07	5.20748E-01
238U (H)	4.1706E-11	1.3402E-06	1.4675E-03	9.9416E-02	4.5548E-01	5.8571E-01	5.8694E-01	1.7991E-03	1.0350E-03	5.8878E-01	2.5079E-10	5.3171E-12	1.6474E-10	7.1738E-11	5.88789E-01
237Np(F)	2.6668E-14	4.7301E-09	3.0505E-05	9.5866E-03	1.8364E-01	4.2808E-01	4.3135E-01	1.5849E-02	8.9103E-03	4.5831E-01	6.9513E-08	3.2877E-09	3.6063E-08	2.1288E-08	4.56312E-01
239Pu(T)	1.9931E-15	7.3324E-10	6.0027E-06	5.3417E-03	1.2000E-01	5.3032E-01	5.3745E-01	2.9961E-02	1.6686E-02	5.8517E-01	4.6087E-07	2.7290E-08	2.1843E-07	1.4520E-07	5.85170E-01
239Pu(F)	3.5931E-15	1.1804E-09	9.5041E-06	6.6285E-03	1.4641E-01	5.5175E-01	5.5800E-01	3.0275E-02	1.7020E-02	6.0613E-01	3.8104E-07	1.7075E-08	1.8730E-07	1.1047E-07	6.06133E-01
239Pu(H)	2.2252E-16	8.2104E-11	1.7002E-06	1.7768E-03	9.3503E-02	4.4552E-01	4.5343E-01	6.2064E-02	3.5740E-02	5.5364E-01	2.8637E-05	5.6489E-08	1.7502E-06	7.6228E-07	5.53836E-01
240Pu(F)	3.0291E-14	1.1901E-08	3.8216E-05	1.9884E-02	2.0195E-01	6.3236E-01	6.3527E-01	1.4092E-02	7.9223E-03	6.5758E-01	5.0993E-08	2.4118E-09	2.5455E-08	1.5603E-08	6.57577E-01
241Pu(T)	9.7254E-13	1.4904E-07	2.5122E-04	5.8449E-02	3.6760E-01	7.3428E-01	7.3590E-01	6.8219E-03	3.7993E-03	7.4659E-01	5.7983E-09	3.4334E-10	2.7481E-09	1.8266E-09	7.46591E-01
241Pu(F)	1.1569E-12	1.0199E-07	2.2009E-04	4.6906E-02	3.5929E-01	6.9406E-01	6.9571E-01	7.9921E-03	4.4930E-03	7.0826E-01	7.9056E-09	3.7390E-10	4.1014E-09	2.4188E-09	7.08262E-01
242Pu(F)	5.5603E-12	2.7700E-07	2.7328E-04	6.7974E-02	3.8494E-01	8.2556E-01	8.2663E-01	5.1629E-03	2.9025E-03	8.3476E-01	3.5329E-09	1.5709E-10	1.8329E-09	1.0809E-09	8.34760E-01
252Cf(S)	2.9963E-14	8.5622E-09	5.8458E-05	2.4568E-02	4.8735E-01	1.3317E+00	1.3525E+00	8.7655E-02	4.8619E-02	1.4905E+00	5.4519E-07	3.2283E-08	2.5839E-07	1.7175E-07	1.49052E+00

Table 2.7.1 Continued

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Mass No. 153: $_{56}Ba \rightarrow {}_{57}La \rightarrow {}_{58}Ce \rightarrow {}_{59}Pr \rightarrow {}_{60}Nd \rightarrow {}_{61}Pm \rightarrow {}_{62}Sm \rightarrow {}_{63}Eu \leftarrow {}_{64}Gd$

	$_{55}Ba$	$_{57}La$	$_{58}Ce$	$_{59}Pr$	$_{60}Nd$	$_{61}Pm$	$_{62}Sm$	$_{63}Eu$	$_{64}Gd$	Mass Yield
λ(1/sec)	4.2265E+00	6.2515E-01	5.1921E-02	5.2791E-02	2.1661E-02	2.1393E-05	4.1229E-06	0.0	3.3206E-08	
Q-value(MeV)	8.1360E+00	7.9060E+00	5.3110E+00	4.9940E+00	3.4000E+00	1.7970E+00	8.0520E-01	0.0	2.4390E-01	
E-beta (MeV)	2.4980E+00	2.5950E+00	1.5800E+00	1.7000E+00	1.1110E+00	6.0720E-01	2.2164E-01	0.0	0.0	
E-gamma(MeV)	2.5250E+00	2.0880E+00	1.1250E+00	1.0270E+00	6.7230E-01	1.7220E-01	3.5175E-02	0.0	5.2699E-02	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	6.7412E-02	0.0	5.5783E-02	
Spin						5/2-	3/2+	5/2+	3/2-	
Cumulative Yield										
^{232}Th(F)	4.4579E-10	1.0203E-05	2.5518E-03	1.5882E-02	3.2687E-02	3.3242E-02	3.3245E-02	3.3245E-02	2.6927E-15	3.32454E-02
^{232}Th(H)	5.8237E-11	6.8401E-06	2.0179E-03	3.4615E-02	7.8217E-02	8.2678E-02	8.2708E-02	8.2708E-02	5.9700E-14	8.27082E-02
^{233}U (T)	2.4978E-12	2.3290E-06	7.5992E-05	6.4334E-03	7.3444E-02	1.0264E-01	1.0478E-01	1.0478E-01	7.6069E-10	1.04781E-01
^{233}U (F)	6.2368E-13	3.0500E-08	8.6232E-05	7.8963E-03	7.9646E-02	1.1389E-01	1.1586E-01	1.1586E-01	6.1201E-10	1.15864E-01
^{233}U (H)	3.6093E-13	2.9400E-08	7.6630E-05	9.8907E-03	8.9563E-02	1.4142E-01	1.4413E-01	1.4413E-01	1.1500E-09	1.44135E-01
^{235}U (T)	2.1595E-12	6.2562E-07	9.1962E-04	2.7258E-02	1.4159E-01	1.6066E-01	1.6135E-01	1.6135E-01	1.8096E-11	1.61350E-01
^{235}U (F)	9.9637E-12	2.5586E-06	1.8238E-03	4.4315E-02	1.5790E-01	1.7492E-01	1.7519E-01	1.7519E-01	4.5679E-12	1.75187E-01
^{235}U (H)	1.7843E-11	3.0002E-07	4.0432E-04	2.7561E-02	1.5144E-01	2.0037E-01	2.0178E-01	2.0178E-01	1.4901E-10	2.01781E-01
^{236}U (F)	5.8335E-11	8.6999E-06	4.3937E-03	7.7967E-02	2.3832E-01	2.5514E-01	2.5533E-01	2.5533E-01	1.7600E-12	2.55329E-01
^{238}U (F)	1.1444E-08	1.9723E-04	4.0816E-02	2.1993E-01	4.0558E-01	4.1092E-01	4.1095E-01	4.1095E-01	1.4146E-14	4.10948E-01
^{236}U (H)	1.5246E-09	9.2216E-05	1.7679E-02	2.1006E-01	3.7932E-01	3.9174E-01	3.9180E-01	3.9180E-01	1.4098E-13	3.91795E-01
^{237}Np(F)	4.3779E-11	1.1600E-06	1.2022E-03	6.7363E-02	2.7746E-01	3.5773E-01	3.5942E-01	3.5942E-01	1.0500E-10	3.59420E-01
^{239}Pu(T)	5.3745E-12	1.5105E-07	3.8027E-04	2.8552E-02	2.6451E-01	3.5879E-01	3.6369E-01	3.6369E-01	1.1604E-09	3.63694E-01
^{239}Pu(F)	9.3744E-12	2.9709E-07	6.0848E-04	4.3658E-02	3.2120E-01	4.2941E-01	4.3437E-01	4.3437E-01	8.2325E-10	4.34374E-01
^{239}Pu(H)	7.7402E-13	4.2602E-08	1.4405E-04	2.3156E-02	2.6162E-01	4.4233E-01	4.5481E-01	4.5485E-01	8.3605E-09	4.54852E-01
^{240}Pu(F)	3.5935E-12	1.8602E-06	2.5311E-03	8.5607E-02	4.9569E-01	5.7724E-01	5.7967E-01	5.7967E-01	1.2301E-10	5.79669E-01
^{241}Pu(T)	7.2001E-11	1.2503E-05	7.7507E-03	1.4601E-01	5.0754E-01	5.4760E-01	5.4816E-01	5.4816E-01	6.7519E-12	5.48159E-01
^{241}Pu(F)	4.9607E-11	1.0799E-05	6.5035E-03	1.4499E-01	4.9189E-01	5.3760E-01	5.3822E-01	5.3822E-01	8.8796E-12	5.38218E-01
^{242}Pu(F)	1.4466E-10	1.8300E-05	1.1867E-02	1.5871E-01	6.1927E-01	5.5463E-01	5.5542E-01	5.5542E-01	5.7901E-12	5.55417E-01
^{252}Cf(S)	6.8991E-11	2.3679E-06	3.0556E-03	1.6137E-01	1.0086E+00	1.2861E+00	1.2938E+00	1.2938E+00	7.1735E-10	1.29376E+00

Table 2.7.1 Continued

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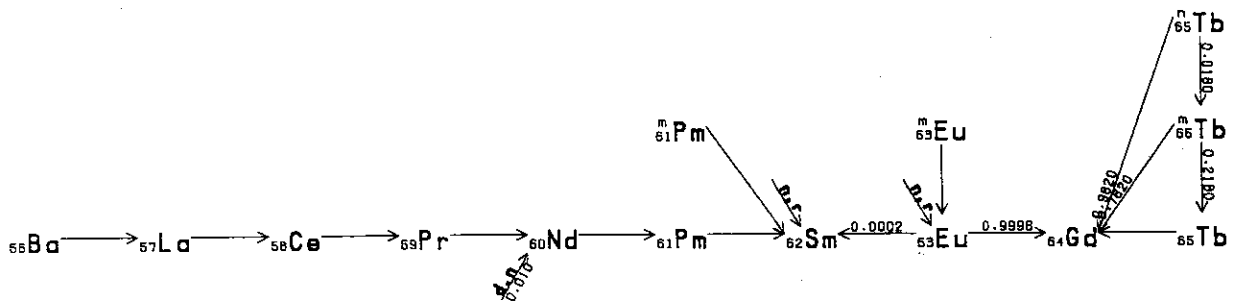
Mass No. 154



	$_{56}$Ba	$_{57}$La	$_{58}$Ce	$_{59}$Pr	$_{60}$Nd	$_{61}$Pm	$^{m}_{61}$Pm	$_{62}$Sm	$_{63}$Eu	$^{m}_{63}$Eu	$_{64}$Gd	$_{65}$Tb	$^{m}_{65}$Tb	$^{n}_{65}$Tb	Mass Yield
λ(1/sec)	2.2519E+00	4.4922E-01	1.7776E-01	6.9747E-02	1.7329E-02	6.4180E-03	4.2787E-03	0.0	2.5541E-09	2.5114E-04	0.0	8.9972E-06	2.1395E-06	8.5196E-06	
Q-value(MeV)	8.2050E+00	9.0590E+00	4.9160E+00	6.7460E+00	2.2900E+00	4.0004E+00	4.0004E+00	0.0	1.9780E+00	1.7500E-01	0.0	3.4640E+00	3.4890E+00	3.5390E+00	
E-beta (MeV)	2.9560E+00	2.6150E+00	1.5940E+00	1.8730E+00	6.0718E-01	8.3682E-01	8.2306E-01	0.0	2.3470E-01	0.0	0.0	9.5800E-03	0.0	0.0	
E-gamma(MeV)	1.6450E+00	3.1990E+00	9.5870E-01	2.4140E+00	6.0759E-01	1.6519E+00	1.9989E+00	0.0	1.2142E+00	5.7829E-02	0.0	2.3627E+00	1.5614E+00	2.2514E+00	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	4.5037E-02	7.6138E-02	0.0	4.7409E-02	1.1536E-01	0.0	3.8613E-02	5.3405E-02	1.0169E-01	
Spin							3+		3-	6-			9-	7-	
Cumulative yield: ^{232}Th(F)	2.5906E-11	1.0805E-07	1.1214E-04	1.3764E-03	5.8973E-03	6.9317E-03	3.4972E-04	7.2904E-03	2.1105E-09	1.0949E-09	2.1102E-09	9.7590E-21	3.0901E-20	8.2394E-21	7.28691E-03
^{232}Th(H)	1.0900E-11	2.0301E-07	1.9321E-04	9.2603E-03	4.1575E-02	4.2093E-02	8.3781E-03	5.0657E-02	1.9100E-07	1.2550E-07	1.9098E-07	1.5780E-18	5.6459E-18	1.5668E-18	5.06392E-02
^{233}U (T)	9.0617E-15	2.1191E-10	2.7091E-06	5.0146E-04	2.1767E-02	2.9830E-02	1.8327E-02	4.5668E-02	2.2791E-06	1.0801E-05	2.2803E-06	1.1505E-14	3.4860E-14	9.1458E-15	4.66903E-02
^{233}U (F)	2.2764E-15	3.4200E-10	3.5804E-06	9.1059E-04	2.7251E-02	2.9867E-02	2.6624E-02	6.1615E-02	3.0800E-06	1.5879E-05	3.0812E-05	7.3550E-14	2.3269E-13	6.2098E-14	6.18452E-02
^{233}U (H)	1.4595E-15	4.1300E-10	3.5904E-06	1.4035E-03	3.4779E-02	3.8031E-02	5.2583E-02	9.6910E-02	7.3601E-05	4.8359E-05	7.3622E-05	2.4013E-13	8.5907E-13	2.3873E-13	9.89619E-02
^{235}U (T)	1.8875E-12	1.1297E-08	4.9100E-05	3.6013E-03	5.3180E-02	5.5061E-02	1.6714E-02	7.3404E-02	2.6894E-06	1.2748E-06	2.6895E-06	8.7955E-17	2.6850E-16	6.9927E-17	7.34023E-02
^{235}U (F)	1.4693E-12	3.8484E-08	9.5995E-05	6.0613E-03	5.6374E-02	5.7900E-02	1.5526E-02	7.4313E-02	1.2494E-06	6.4820E-07	1.2494E-06	1.3646E-16	4.3209E-16	1.1521E-16	7.42999E-02
^{235}U (H)	5.9719E-14	3.0802E-09	1.3804E-05	2.6410E-03	4.0356E-02	4.2499E-02	3.4663E-02	8.0255E-02	1.4601E-05	9.5934E-06	1.4602E-05	4.5944E-15	1.6794E-14	4.6671E-15	8.02545E-02
^{236}U (F)	9.6499E-12	1.7201E-07	3.1817E-04	1.4204E-02	1.0572E-01	1.0775E-01	2.0637E-02	1.2928E-01	8.7299E-07	4.5290E-07	8.7291E-07	5.0497E-17	1.5990E-16	4.2634E-17	1.25248E-01
^{238}U (F)	1.5318E-09	5.2176E-06	4.4875E-03	4.6572E-02	2.0411E-01	2.0494E-01	8.4084E-03	2.1353E-01	3.4440E-06	1.7867E-06	3.4435E-06	9.8715E-20	3.1257E-19	8.3344E-20	2.13382E-01
^{238}U (H)	2.8605E-10	3.3809E-06	2.0777E-03	6.6627E-02	2.2602E-01	2.2778E-01	2.8433E-02	2.5863E-01	2.7305E-07	1.7940E-07	2.7300E-07	3.5935E-18	1.2856E-17	3.5725E-18	2.56472E-01
^{237}Np(F)	1.9498E-13	1.5600E-08	5.3016E-05	9.0141E-03	1.0213E-01	1.0911E-01	7.1084E-02	1.8533E-01	1.9900E-05	1.0324E-05	1.9900E-05	8.4367E-15	2.5714E-14	7.1291E-15	1.85333E-01
^{239}Pu(T)	3.0675E-14	2.5008E-09	2.3810E-05	4.8284E-03	1.3413E-01	1.4502E-01	1.0564E-01	2.7159E-01	9.2230E-05	4.3712E-05	9.2261E-05	1.1552E-13	3.5009E-13	9.1844E-14	2.71675E-01
^{239}Pu(F)	4.5954E-14	4.1713E-09	3.0914E-05	6.2076E-03	1.3801E-01	1.4865E-01	1.1025E-01	2.7544E-01	7.4923E-05	3.8869E-05	7.4940E-05	7.8195E-14	2.4760E-13	6.6020E-14	2.75506E-01
^{239}Pu(H)	3.1841E-15	5.5803E-10	6.3009E-06	3.1525E-03	9.7998E-02	1.0938E-01	1.8402E-01	3.2948E-01	4.0802E-04	2.6809E-04	4.0820E-04	1.1609E-12	4.1531E-12	1.1641E-12	3.29866E-01
^{240}Pu(F)	4.8300E-13	2.7609E-08	1.5004E-04	1.2468E-02	2.2114E-01	2.2890E-01	7.8911E-02	3.1707E-01	1.7402E-05	9.0279E-06	1.7404E-05	8.7559E-15	2.7725E-14	7.3926E-15	3.17062E-01
^{241}Pu(T)	1.7505E-11	3.2611E-07	7.7054E-04	3.6472E-02	3.2089E-01	3.2815E-01	6.4482E-02	3.9621E-01	3.6210E-06	1.7162E-06	3.6208E-06	4.0359E-16	1.2229E-15	3.2086E-16	3.95145E-01
^{241}Pu(F)	1.1499E-11	2.7400E-07	5.9424E-04	3.4509E-02	2.8736E-01	2.9451E-01	7.2710E-02	3.7086E-01	4.6798E-06	2.4278E-06	4.6794E-06	3.5129E-16	1.1123E-15	2.9660E-16	3.70771E-01
^{242}Pu(F)	3.4000E-11	3.7104E-07	1.2044E-03	3.3177E-02	4.0100E-01	4.0595E-01	5.0336E-02	4.6012E-01	2.2800E-06	1.1829E-06	2.2800E-06	3.7640E-17	1.1918E-16	3.1779E-17	4.60015E-01
^{252}Cf(S)	4.5370E-13	3.2071E-08	1.4190E-04	2.4540E-02	3.4874E-01	4.1603E-01	5.9775E-01	1.0452E+00	1.5985E-04	7.5752E-05	1.5986E-04	1.2109E-13	3.5691E-13	9.5272E-14	1.04627E+00

Table 2.7.1 Continued

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Mass No. 155

$_{57}La \rightarrow {}_{58}Ce \rightarrow {}_{59}Pr \xrightarrow{0.9900} {}_{60}Nd \rightarrow {}_{61}Pm \rightarrow {}_{62}Sm \rightarrow {}_{63}Eu \rightarrow {}_{64}Gd \leftarrow {}_{65}Tb$

		$_{57}La$	$_{58}Ce$	$_{59}Pr$	$_{60}Nd$	$_{61}Pm$	$_{62}Sm$	$_{63}Eu$	$_{64}Gd$	$_{65}Tb$	Mass Yield
	λ(1/sec)	5.2912E+00	1.5920E-01	1.7098E-01	1.7952E-02	1.4441E-02	5.2274E-04	4.4284E-09	0.0	1.5080E-05	
	Q-value(MeV)	8.9770E+00	5.1940E+00	5.2260E+00	4.1040E+00	3.0960E+00	1.6294E+00	2.4600E-01	0.0	8.1600E-01	
	E-beta (MeV)	2.8170E+00	2.0150E+00	2.0710E+00	1.3660E+00	1.0200E+00	5.5326E-01	4.5773E-02	0.0	0.0	Mass
	E-gamma(MeV)	2.6980E+00	1.5710E+00	1.4800E+00	8.3390E-01	5.3300E-01	9.4232E-02	5.0021E-02	0.0	1.1674E-01	Yield
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	2.6566E-02	2.8800E-02	0.0	2.5559E-02	
	Spin						3/2-	5/2+	3/2-	3/2+	
Cumulative yield	^{232}Th(F)	4.0662E-10	8.4320E-06	3.5351E-04	3.1487E-03	3.7938E-03	3.8255E-03	3.8256E-03	3.8256E-03	5.5254E-18	3.82909E-03
	^{232}Th(H)	3.5956E-10	1.3400E-05	1.7984E-03	1.7591E-02	2.8370E-02	2.8971E-02	2.8973E-02	2.8973E-02	7.3324E-16	2.89907E-02
	^{233}U (T)	5.1432E-14	6.7772E-08	5.2346E-05	4.2841E-03	1.6156E-02	2.1700E-02	2.1792E-02	2.1793E-02	7.0571E-12	2.17931E-02
	^{233}U (F)	9.2570E-14	1.0400E-07	8.7205E-05	5.2174E-03	2.4923E-02	3.2539E-02	3.2677E-02	3.2677E-02	9.8701E-12	3.26776E-02
	^{233}U (H)	1.2080E-13	1.3200E-07	1.5413E-04	1.0019E-02	5.1060E-02	6.6136E-02	6.6512E-02	6.6513E-02	3.4500E-11	6.65141E-02
	^{235}U (T)	5.9946E-12	1.8096E-06	4.5571E-04	1.4172E-02	2.9184E-02	3.2028E-02	3.2044E-02	3.2044E-02	2.3741E-14	3.20484E-02
	^{235}U (F)	5.4026E-11	6.9769E-06	1.3994E-03	2.8240E-02	5.3099E-02	5.6131E-02	5.6145E-02	5.6145E-02	6.0238E-14	5.61588E-02
	^{235}U (H)	1.8299E-12	7.6504E-07	4.6379E-04	1.6616E-02	5.5602E-02	6.3870E-02	6.3982E-02	6.3982E-02	2.7301E-12	6.39862E-02
	^{236}U (F)	3.1727E-10	2.4600E-05	3.4766E-03	5.4153E-02	8.9030E-02	9.2273E-02	9.2283E-02	9.2283E-02	2.3998E-14	9.23181E-02
	^{238}U (F)	2.6892E-08	4.1949E-04	1.4638E-02	1.1270E-01	1.3187E-01	1.3266E-01	1.3266E-01	1.3266E-01	7.0296E-17	1.32603E-01
	^{238}U (H)	9.8073E-09	1.8103E-04	1.5919E-02	1.1094E-01	1.5608E-01	1.5777E-01	1.5777E-01	1.5777E-01	1.9070E-15	1.57931E-01
	^{237}Np(F)	9.1226E-12	2.6000E-06	1.2746E-03	3.6143E-02	1.0706E-01	1.1907E-01	1.1920E-01	1.1920E-01	2.0000E-12	1.19213E-01
	^{239}Pu(T)	9.1053E-13	8.5028E-07	5.7704E-04	3.7150E-02	1.3023E-01	1.6496E-01	1.6547E-01	1.6547E-01	2.6609E-11	1.65477E-01
	^{239}Pu(F)	2.2013E-12	1.6005E-06	1.0299E-03	5.4563E-02	1.8444E-01	2.2539E-01	2.2597E-01	2.2597E-01	2.3107E-11	2.25979E-01
	^{239}Pu(H)	1.3952E-13	2.2401E-07	3.3524E-04	2.7733E-02	1.6587E-01	2.2980E-01	2.3182E-01	2.3182E-01	2.9802E-10	2.31826E-01
	^{240}Pu(F)	2.7291E-11	8.9109E-06	2.5902E-03	9.6624E-02	2.2125E-01	2.4743E-01	2.4760E-01	2.4760E-01	2.2502E-12	2.47626E-01
	^{241}Pu(T)	4.5683E-10	4.8414E-05	7.3605E-03	1.3719E-01	2.3107E-01	2.4164E-01	2.4167E-01	2.4167E-01	1.5159E-13	2.41745E-01
	^{241}Pu(F)	4.8920E-10	5.1697E-05	9.4112E-03	1.6950E-01	3.0871E-01	3.2157E-01	3.2163E-01	3.2163E-01	1.8631E-13	3.21728E-01
	^{242}Pu(F)	9.0032E-10	1.0300E-04	1.0810E-02	2.3763E-01	3.5230E-01	3.6769E-01	3.6772E-01	3.6772E-01	2.6329E-14	3.67831E-01
	^{252}Cf(S)	3.6106E-11	1.3788E-05	7.2033E-03	2.5074E-01	7.6696E-01	8.7361E-01	8.7486E-01	8.7486E-01	2.5077E-11	8.74930E-01

Table 2.7.1 Continued

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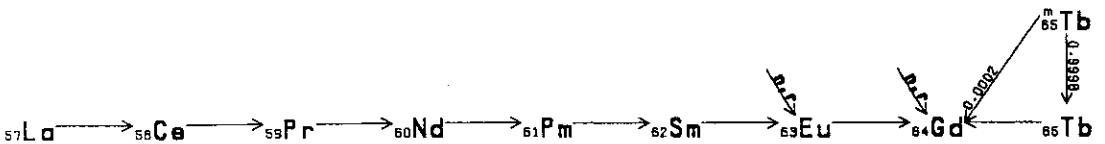
Mass No. 156



	57La	58Ce	59Pr	60Nd	61Pm	62Sm	63Eu	64Gd	65Tb	m65Tb	Mass Yield
λ:1/sec)	7.9581E+00	4.9020E-01	1.4960E-01	3.3994E-02	1.1201E-02	2.0483E-06	5.2615E-07	0.0	1.5023E-06	3.8508E-05	
Q-value(MeV)	1.0460E+01	6.0130E+00	7.5950E+00	3.5200E+00	5.0660E+00	7.1400E-01	2.4530E+00	0.0	4.2800E-01	2.5254E+00	
E-beta (MeV)	3.0360E+00	2.1180E+00	2.1490E+00	1.1220E+00	1.3140E+00	1.7609E-01	3.8908E-01	0.0	0.0	0.0	
E-gamma(MeV)	3.7320E+00	1.1710E+00	2.6860E+00	7.6570E-01	1.8940E+00	1.1751E-01	1.3927E+00	0.0	1.7659E+00	1.4269E-03	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	3.3977E-02	2.7486E-02	0.0	7.7648E-02	9.7428E-02	
Spin									3-		
Cumulative yield											
232Th(F)	6.3730E-12	8.4420E-07	6.6461E-05	1.7619E-03	2.4540E-03	2.5621E-03	2.5623E-03	2.5623E-03	2.9618E-16	2.6505E-17	2.56226E-03
232Th(H)	4.3822E-12	8.0901E-07	2.8081E-04	6.3439E-03	1.5531E+02	1.6776E-02	1.6788E-02	1.6788E-02	3.2624E-14	1.8941E-15	1.87869E-02
233U (T)	7.0914E-14	1.8792E-09	3.3305E-06	8.2799E-04	5.3881E-03	1.1111E-02	1.1311E-02	1.1312E-02	1.1225E-10	1.1357E-11	1.13118E-02
233U (F)	2.6944E-14	3.0300E-05	6.1531E-06	1.2562E-03	9.2093E-03	1.7436E-02	1.7766E-02	1.7768E-02	1.7470E-10	1.5634E-11	1.77679E-02
233U (H)	3.8274E-14	4.2900E-09	1.3404E-05	2.2704E-03	2.4048E-02	4.2324E-02	4.9439E-02	4.3443E-02	7.9150E-10	4.6094E-11	4.94433E-02
235U (T)	7.9333E-12	6.2096E-08	3.4754E-05	3.1861E-03	9.6946E-03	1.3146E-02	1.3186E-02	1.3186E-02	2.2095E-12	2.2356E-13	1.31869E-02
235U (F)	3.6568E-13	2.3689E-07	1.0919E-04	5.7696E-03	1.6026E-02	1.9254E-02	1.9287E-02	1.9287E-02	1.1425E-12	1.0226E-13	1.92867E-02
235U (H)	1.7746E-12	3.9102E-06	6.3242E-05	5.7385E-03	3.6862E-02	5.2191E-02	5.2708E-02	5.2709E-02	9.4264E-11	5.4898E-12	5.27090E-02
236U (F)	2.1815E-12	9.2399E-07	3.0292E-04	1.2540E-02	2.9392E-02	3.3617E-02	3.3648E-02	3.3648E-02	5.3965E-13	4.8294E-14	3.36478E-02
238U (F)	3.4392E-10	3.3439E-05	2.2390E-03	4.9585E-02	6.5343E-02	6.7477E-02	6.7481E-02	6.7481E-02	3.0151E-15	2.6983E-16	6.74807E-02
238U (H)	1.6264E-10	1.4902E-05	3.3555E-03	5.1947E-02	1.0324E-01	1.0796E-01	1.0798E-01	1.0798E-01	1.0565E-13	6.1466E-15	1.07963E-01
237Np(F)	4.7731E-12	1.4500E-07	1.9215E-04	1.3458E-02	7.5170E-02	9.9238E-02	9.9914E-02	9.9915E-02	7.4990E-11	6.8572E-12	9.99155E-02
239Pu(T)	4.8584E-13	3.4811E-08	5.5953E-05	1.0486E-02	6.4366E-02	1.1669E-01	1.1838E-01	1.1838E-01	6.4680E-10	6.5441E-11	1.18382E-01
239Pu(F)	9.7623E-13	6.1219E-08	9.7091E-05	1.4332E-02	8.8150E-02	1.4561E-01	1.4747E-01	1.4747E-01	5.0017E-10	5.3710E-11	1.47468E-01
239Pu(H)	1.2496E-13	9.1305E-09	3.7011E-05	7.9884E-03	1.0390E-01	2.0289E-01	2.1045E-01	2.1049E-01	8.3194E-09	4.8449E-10	2.10486E-01
240Pu(F)	7.2529E-12	5.1305E-07	3.2754E-04	3.6924E-02	1.2095E-01	1.7459E-01	1.7543E-01	1.7543E-01	7.2096E-11	6.4519E-12	1.75431E-01
241Pu(T)	6.1143E-12	3.5510E-06	1.2099E-03	6.3299E-02	1.4891E-01	1.7584E-01	1.7606E-01	1.7606E-01	3.8310E-12	3.8761E-13	1.76058E-01
241Pu(F)	5.3892E-12	3.5498E-06	1.5355E-03	7.3497E-02	1.9808E-01	2.3364E-01	2.3398E-01	2.3398E-01	7.3095E-12	6.5414E-13	2.33984E-01
242Pu(F)	1.1174E-11	8.4601E-06	1.6945E-03	1.2234E-01	2.2169E-01	2.6546E-01	2.6566E-01	2.6566E-01	2.8700E-12	2.5694E-13	2.65558E-01
252Cf(S)	1.2619E-11	8.3624E-07	1.1308E-03	1.0200E-01	6.7177E-01	6.6921E-01	6.7467E-01	6.7468E-01	8.7479E-10	8.8508E-11	6.74681E-01

Table 2.7.1 Continued

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Mass No. 157: $_{57}$La → $_{58}$Ce → $_{59}$Pr → $_{60}$Nd → $_{61}$Pm → $_{62}$Sm → $_{63}$Eu → $_{64}$Gd ← $_{65}$Tb ← $_{66}$Dy

	$_{57}$La	$_{58}$Ce	$_{59}$Pr	$_{60}$Nd	$_{61}$Pm	$_{62}$Sm	$_{63}$Eu	$_{64}$Gd	$_{65}$Tb	$_{66}$Dy	Mass Yield
λ (1/sec)	6.1739E+00	5.0265E-01	4.1210E-01	5.3732E-02	2.5032E-02	1.4441E-03	1.2709E-03	0.0	1.4643E-10	2.3770E-05	
Q-value (MeV)	1.0239E+01	7.5780E+00	7.2860E+00	5.0480E+00	4.2970E+00	2.6000E+00	1.3600E+00	0.0	5.7600E-02	1.3420E+00	
E-beta (MeV)	3.2500E+00	2.4310E+00	2.3870E+00	1.6580E+00	1.4510E+00	8.6260E-01	3.7019E-01	0.0	0.0	0.0	
E-gamma (MeV)	3.0650E+00	2.0890E+00	1.8810E+00	1.1400E+00	8.4080E-01	4.0160E-01	2.3525E-01	0.0	2.1840E-05	3.1670E-01	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	3.2652E-02	0.0	1.6380E-04	8.6929E-03	
Spin							5/2+	3/2-	3/2+	3/2-	
Cumulative yield: ^{232}Th (F)	4.7051E-14	2.4706E-08	7.4165E-06	3.7150E-04	6.1961E-04	9.5565E-04	9.5656E-04	9.5656E-04	1.2102E-14	2.3963E-20	9.56561E-04
^{232}Th (H)	2.9692E-12	2.9201E-08	2.9230E-06	1.6763E-03	7.7143E-03	9.6904E-03	9.7339E-03	9.7333E-03	2.9400E-12	2.7329E-16	9.73333E-03
^{233}U (T)	4.5224E-16	2.7389E-11	1.6896E-07	9.6828E-05	1.7541E-03	5.6694E-03	6.3213E-03	6.3270E-03	1.9792E-09	1.6162E-14	6.32700E-03
^{233}U (F)	1.4732E-16	4.4901E-11	2.9905E-07	1.5230E-04	2.9123E-03	8.9314E-03	9.6144E-03	9.6223E-03	2.9400E-09	1.0313E-13	9.62232E-03
^{233}U (H)	2.2736E-16	7.7701E-11	7.2008E-07	3.3672E-04	6.7508E-03	2.5250E-02	2.7811E-02	2.7836E-02	1.4200E-08	5.3633E-13	2.78364E-02
^{235}U (T)	6.6926E-14	1.1197E-09	2.1705E-05	4.4907E-04	3.1785E-03	6.0426E-03	6.1526E-03	6.1534E-03	5.3265E-11	9.5572E-17	6.15337E-03
^{235}U (F)	1.0078E-13	6.4671E-09	9.6322E-06	1.2091E-03	7.1494E-03	1.1139E-02	1.1262E-02	1.1262E-02	2.8687E-11	2.2502E-16	1.12619E-02
^{235}U (H)	1.6297E-14	1.0000E-09	4.7812E-06	1.1768E-03	7.7470E-02	3.6198E-02	3.7846E-02	3.7855E-02	2.4801E-09	1.8364E-14	3.78551E-02
^{236}U (F)	7.5403E-13	3.3300E-08	3.5633E-05	3.4366E-03	1.6129E-02	2.2925E-02	2.3079E-02	2.3080E-02	1.9800E-11	1.0502E-16	2.30797E-02
^{238}U (F)	4.1710E-12	1.6319E-06	4.0210E-04	1.6957E-02	3.4247E-02	3.8694E-02	3.8719E-02	3.8719E-02	2.0677E-13	3.3034E-19	3.87188E-02
^{238}U (H)	1.8121E-12	8.4314E-07	5.4193E-04	2.0771E-02	7.2049E-02	8.3625E-02	8.3791E-02	8.3791E-02	4.6508E-12	1.0845E-17	8.37909E-02
^{237}Np (F)	2.0950E-14	1.9000E-09	7.2920E-06	1.3939E-03	1.7403E-02	3.2213E-02	3.3296E-02	3.3300E-02	1.0200E-09	1.1036E-14	3.33004E-02
^{239}Pu (T)	3.3659E-15	6.1920E-10	3.3317E-06	1.5168E-03	2.4244E-02	6.9762E-02	7.4053E-02	7.4098E-02	1.3404E-08	2.9706E-13	7.40977E-02
^{239}Pu (F)	8.4684E-15	1.4304E-09	7.2936E-06	2.7081E-03	4.1719E-02	1.0680E-01	1.1272E-01	1.1277E-01	1.4604E-08	2.8685E-13	1.12772E-01
^{239}Pu (H)	5.9361E-15	1.2601E-10	1.5002E-06	9.0155E-04	2.9349E-02	9.8087E-02	1.1133E-01	1.1150E-01	1.1501E-07	3.7402E-12	1.11503E-01
^{240}Pu (F)	7.5795E-14	1.3601E-08	3.0717E-05	7.7275E-05	6.1091E-02	1.2747E-01	1.3038E-01	1.3040E-01	2.1702E-09	4.5406E-14	1.30401E-01
^{241}Pu (T)	1.8657E-12	1.3504E-07	1.5618E-04	1.8354E-02	9.0015E-02	1.3605E-01	1.3716E-01	1.3716E-01	1.8805E-10	1.7143E-15	1.37162E-01
^{241}Pu (F)	2.5395E-12	1.1499E-07	1.6011E-04	1.8188E-02	1.0254E-01	1.5448E-01	1.5598E-01	1.5599E-01	2.9599E-10	1.5877E-15	1.55987E-01
^{242}Pu (F)	1.3234E-11	2.8500E-07	2.2529E-04	3.1393E-02	1.1889E-01	1.6281E-01	1.6391E-01	1.6392E-01	1.5000E-10	3.1845E-16	1.63918E-01
^{252}Cf (S)	1.2329E-13	1.9482E-08	7.9547E-05	1.8896E-02	2.4650E-01	5.1119E-01	5.3082E-01	5.3094E-01	2.6876E-08	4.7178E-13	5.30941E-01

Table 2.7.1 Continued

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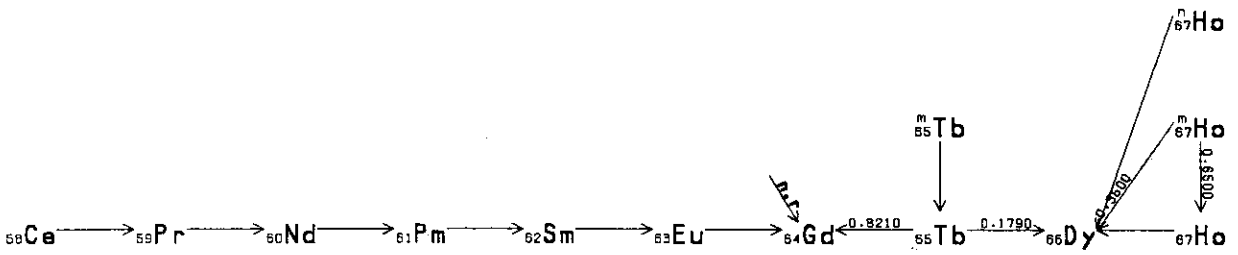
Mass No. 158



	58Ce	59Pr	60Nd	61Pm	62Sm	63Eu	64Gd	65Tb	m65Tb	66Dy	67Ho	m67Ho	n67Ho	Mass Yield
λ(1/sec)	1.3153E+00	4.1756E-01	1.4367E-01	2.9787E-02	2.0966E-03	2.5169E-04	0.0	1.2211E-10	5.6014E-02	0.0	1.0599E-03	4.2787E-04	5.6012E-04	
Q-value(MeV)	7.3040E+00	8.9020E+00	4.6710E+00	5.8690E+00	1.7180E+00	3.4500E+00	0.0	9.3540E-01	1.1000E-01	0.0	3.9770E+00	4.0443E+00	4.1770E+00	
E-beta (MeV)	2.6080E+00	2.5620E+00	1.5890E+00	1.5690E+00	4.0843E-01	9.1644E-01	0.0	4.8170E-02	0.0	0.0	0.0	0.0	0.0	
E-gamma(MeV)	1.4450E+00	3.1560E+00	9.2390E-01	2.1640E+00	5.5492E-01	1.1181E+00	0.0	7.4935E-01	9.6712E-04	0.0	0.0	0.0	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	5.2693E-02	0.0	8.9070E-02	1.0893E-01	0.0	0.0	0.0	0.0	
Spin						1-		3-			6+	2-	9+	
Cumulative yield 232Th(F)	5.2615E-10	4.4373E-07	8.4664E-05	2.8771E-04	5.0076E-04	5.0392E-04	5.0393E-04	4.3640E-13	3.9053E-14	7.8120E-14	1.7150E-25	5.0800E-26	8.2569E-26	5.03929E-04
232Th(H)	5.5601E-10	1.7405E-06	2.9775E-04	3.1588E-03	5.5878E-03	5.7358E-03	5.7364E-03	1.0170E-10	5.9226E-12	1.8205E-11	4.6106E-23	8.9238E-24	4.5377E-23	5.73640E-03
233U (T)	5.3360E-13	2.4690E-09	5.3702E-06	2.2428E-04	1.9076E-03	2.2964E-03	2.3144E-03	1.6433E-08	1.6626E-09	2.9435E-09	5.9186E-19	1.7776E-19	2.0256E-19	2.31443E-03
233U (F)	1.7341E-13	4.1500E-09	7.3942E-05	3.5440E-04	2.5454E-03	3.1274E-03	3.1497E-03	2.3190E-08	2.0753E-09	4.1534E-09	4.3140E-18	1.2779E-18	2.0767E-18	3.14966E-03
233U (H)	4.5135E-13	1.4789E-08	2.4130E-05	1.9252E-03	1.2594E-02	1.7251E-02	1.7412E-02	2.8718E-07	1.6724E-08	5.1431E-08	4.8984E-17	9.4808E-18	4.6209E-17	1.74118E-02
235U (T)	1.1597E-11	5.9798E-08	4.5450E-05	6.8331E-04	2.7338E-03	2.9128E-03	2.9169E-03	8.9200E-10	9.0248E-11	1.5968E-10	1.7963E-21	6.0036E-22	6.8415E-22	2.91590E-03
235U (F)	9.9655E-11	4.2091E-07	1.7934E-04	2.3254E-03	5.4565E-03	5.7684E-03	5.7724E-03	7.2068E-10	5.4484E-11	1.2900E-10	6.4339E-21	1.9068E-21	3.0973E-21	5.77243E-03
235U (H)	1.3001E-11	1.5702E-07	1.2817E-04	5.1114E-03	1.9942E-02	2.3392E-02	2.3461E-02	4.9263E-08	2.8688E-09	6.8201E-09	9.3475E-19	1.8092E-19	9.1997E-19	2.34513E-02
236U (F)	4.6600E-10	1.3905E-06	4.5739E-04	4.4713E-03	1.0727E-02	1.1076E-02	1.1079E-02	4.3959E-10	3.9339E-11	7.8696E-11	1.8906E-21	5.6000E-22	9.1010E-22	1.10789E-02
238U (F)	3.8545E-08	2.2365E-05	3.5605E-03	1.0756E-02	1.7220E-02	1.7269E-02	1.7299E-02	8.2396E-12	7.3736E-13	1.4749E-12	1.7803E-24	5.2734E-25	8.5702E-25	1.72993E-02
238U (H)	1.6803E-08	3.3522E-05	3.7612E-03	2.8253E-02	4.2732E-02	4.3324E-02	4.3325E-02	1.6703E-10	9.7269E-12	2.9899E-11	1.4201E-22	2.7486E-23	1.3977E-22	4.33253E-02
237Np(F)	1.4600E-11	1.8002E-07	1.0618E-04	3.5242E-03	1.1589E-02	1.3161E-02	1.3202E-02	1.4290E-08	1.2788E-09	2.5564E-09	4.5594E-19	1.9505E-19	2.1949E-19	1.32023E-02
239Pu(T)	5.3117E-12	8.0731E-08	1.3112E-04	5.0587E-03	3.4189E-02	4.0516E-02	4.0738E-02	1.8456E-07	1.8673E-08	3.3053E-08	1.7475E-17	5.8404E-18	6.6555E-18	4.07384E-02
239Pu(F)	1.5105E-11	2.2608E-07	2.8631E-04	1.1004E-02	6.1642E-02	7.2726E-02	7.3035E-02	2.5278E-07	2.2621E-08	4.5265E-08	1.9748E-17	5.8496E-18	9.5067E-18	7.30346E-02
239Pu(H)	1.0401E-12	4.0203E-08	7.6744E-05	7.0851E-03	5.1872E-02	7.4005E-02	7.4861E-02	1.8091E-06	1.0535E-07	3.2402E-07	3.2304E-16	5.2524E-17	3.1793E-16	7.48816E-02
240Pu(F)	1.8102E-10	1.0703E-06	1.0112E-03	1.6997E-02	7.8880E-02	8.4904E-02	8.5032E-02	4.2314E-08	3.7867E-09	7.5764E-09	1.6643E-18	4.9297E-19	8.0116E-19	8.50324E-02
241Pu(T)	2.3407E-09	7.2744E-06	3.0331E-03	3.0351E-02	8.3202E-02	8.6220E-02	8.6246E-02	5.0344E-09	5.0935E-10	9.0133E-10	4.4056E-20	1.4724E-20	1.6779E-20	8.62483E-02
241Pu(F)	2.0999E-09	8.3217E-06	3.1832E-03	3.9337E-02	1.0255E-01	1.0720E-01	1.0724E-01	6.8676E-09	7.9356E-10	1.5675E-09	4.8559E-20	1.4384E-20	2.3376E-20	1.07241E-01
242Pu(F)	5.4701E-09	9.9656E-06	5.7360E-03	3.6394E-02	1.1975E-01	1.2257E-01	1.2261E-01	3.8130E-09	3.4123E-10	6.8258E-10	4.1224E-21	1.2211E-21	1.9845E-21	1.22612E-01
252Cf(S)	2.7675E-10	3.4971E-06	2.5651E-03	8.9866E-02	3.5101E-01	4.6100E-01	4.6269E-01	1.3218E-06	1.3379E-07	2.3666E-07	4.8618E-17	1.5580E-17	1.7754E-17	4.62868E-01

Table 2.7.1 Continued

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Mass No. 159

$_{58}Ce \rightarrow {}_{59}Pr \rightarrow {}_{60}Nd \rightarrow {}_{61}Pm \rightarrow {}_{62}Sm \rightarrow {}_{63}Eu \rightarrow {}_{64}Gd \rightarrow {}_{65}Tb \leftarrow {}_{66}Dy$

	$_{58}Ce$	$_{59}Pr$	$_{60}Nd$	$_{61}Pm$	$_{62}Sm$	$_{63}Eu$	$_{64}Gd$	$_{65}Tb$	$_{66}Dy$	Mass Yield
λ(1/sec)	5.2446E+00	1.0284E+00	1.9935E-01	7.6111E-02	7.8559E-03	5.1778E-04	1.0374E-05	0.0	5.5558E-08	
Q-value(MeV)	7.8100E+00	8.5440E+00	5.4030E+00	5.3130E+00	3.4620E+00	2.5300E+00	9.7470E-01	0.0	3.5570E-01	
E-beta (MeV)	2.3700E+00	2.7730E+00	2.0630E+00	1.7820E+00	1.0002E+00	8.7290E-01	3.0447E-01	0.0	0.0	
E-gamma(MeV)	2.4490E+00	2.3380E+00	1.5660E+00	1.1500E+00	9.5497E-01	4.0515E-01	4.0806E-02	0.0	1.3381E-03	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	1.0440E-02	0.0	1.3340E-02	
Spin						5/2+	3/2-	3/2+	3/2-	
Cumulative yield ^{232}Th(F)	1.3441E-13	8.1220E-09	3.6290E-06	3.5937E-05	1.0245E-04	1.0620E-04	1.0624E-04	1.0624E-04	1.2244E-16	1.06242E-04
^{232}Th(H)	2.5815E-13	7.7501E-08	4.1278E-05	1.1953E-03	3.7223E-03	4.1579E-03	4.1626E-03	4.1625E-03	3.7080E-14	4.16256E-03
^{233}U (T)	1.8027E-15	2.9388E-11	1.7696E-07	2.6566E-05	4.9837E-04	8.3623E-04	8.7441E-04	8.7455E-04	4.4382E-11	8.74547E-04
^{233}U (F)	7.2524E-15	5.5801E-11	3.4807E-07	5.5749E-05	9.3376E-04	1.6178E-03	1.5852E-03	1.5854E-03	7.3401E-11	1.58542E-03
^{233}U (H)	2.0418E-15	3.1700E-10	1.5203E-06	3.4352E-04	5.1596E-03	1.0271E-02	1.0727E-02	1.0729E-02	6.4400E-10	1.07290E-02
^{235}U (T)	2.2557E-13	9.5579E-10	1.9505E-06	1.0033E-04	7.9817E-04	9.9513E-04	1.0029E-03	1.0029E-03	2.3886E-13	1.00291E-03
^{235}U (F)	5.0644E-13	9.5457E-09	1.1704E-05	4.7450E-04	2.5566E-03	3.0394E-03	3.0521E-03	3.0522E-03	9.1203E-13	3.05216E-03
^{235}U (H)	9.5291E-14	2.8601E-09	7.0532E-06	8.5011E-04	7.5505E-03	1.1723E-02	1.1931E-02	1.1931E-02	7.4604E-11	1.19312E-02
^{236}U (F)	5.2753E-14	3.1000E-08	2.5331E-05	5.5432E-04	3.6103E-03	4.3283E-03	4.3388E-03	4.3388E-03	3.7820E-13	4.33879E-03
^{238}U (F)	2.2295E-11	9.8215E-07	3.5441E-04	3.0765E-03	7.8532E-03	8.0895E-03	8.0914E-03	8.0914E-03	3.8591E-15	8.09138E-03
^{238}U (H)	9.8385E-12	1.4902E-06	5.1256E-04	1.0064E-02	2.4614E-02	2.6323E-02	2.6336E-02	2.6336E-02	1.2093E-13	2.63363E-02
^{237}Np(F)	7.5839E-14	3.3600E-09	6.3834E-06	6.2839E-04	4.5624E-03	6.6285E-03	6.7095E-03	6.7097E-03	1.9000E-11	6.70965E-03
^{239}Pu(T)	2.5527E-14	1.3304E-09	6.1733E-06	8.2344E-04	1.2370E-02	1.9913E-02	2.0587E-02	2.0589E-02	5.3317E-10	2.05888E-02
^{239}Pu(F)	7.7033E-14	4.2513E-09	1.6009E-05	2.0376E-03	2.5865E-02	4.0549E-02	4.1756E-02	4.1759E-02	6.7521E-10	4.17599E-02
^{239}Pu(H)	6.5820E-15	5.5304E-10	4.0609E-06	1.1741E-03	2.1858E-02	4.8852E-02	5.1860E-02	5.1879E-02	5.6804E-09	5.18791E-02
^{240}Pu(F)	5.3941E-13	2.0502E-08	5.1226E-05	3.0165E-03	2.8122E-02	3.6095E-02	3.6510E-02	3.6511E-02	1.0101E-10	3.65106E-02
^{241}Pu(T)	5.2352E-13	2.2606E-07	2.5530E-04	8.1775E-03	4.2218E-02	4.8510E-02	4.8666E-02	4.8666E-02	6.4918E-12	4.86660E-02
^{241}Pu(F)	4.6832E-13	2.5299E-07	2.7624E-04	1.0546E-02	5.2885E-02	6.2171E-02	6.2394E-02	6.2394E-02	1.0900E-11	6.23944E-02
^{242}Pu(F)	1.3325E-12	3.7501E-07	4.9738E-04	1.1161E-02	5.6259E-02	7.3357E-02	7.3566E-02	7.3565E-02	6.9901E-12	7.35664E-02
^{252}Cf(S)	1.5724E-12	1.0790E-07	2.5687E-04	2.5759E-02	2.9318E-01	3.4684E-01	3.5226E-01	3.5227E-01	1.7584E-09	3.52273E-01

Table 2.7.1 Continued

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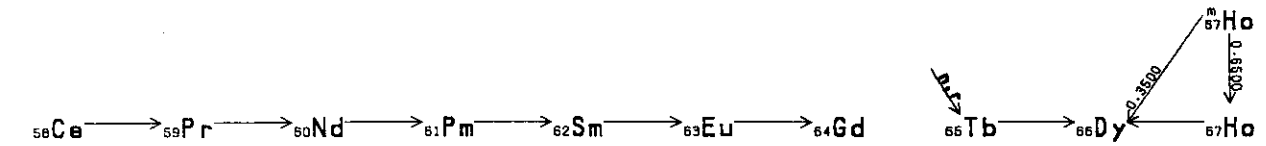

	58Ce	59Pr	60Nd	61Pm	62Sm	63Eu	64Gd	65Tb	66Dy	67Ho	m67Ho	Mass Yield
λ(1/sec)	2.2245E+00	5.0696E-01	4.6898E-01	1.1529E-01	1.0961E-02	1.6906E-02	0.0	1.1127E-07	0.0	4.5127E-04	3.6356E-05	
Q-value(MeV)	6.2350E+00	9.1650E+00	6.0240E+00	7.0460E+00	2.8540E+00	4.4030E+00	0.0	1.8334E+00	0.0	3.2860E+00	9.3460E+00	
E-beta (MeV)	2.9310E+00	2.6390E+00	2.1000E+00	1.9690E+00	8.4570E-01	1.1696E+00	0.0	2.0333E-01	0.0	0.0	0.0	
E-gamma(MeV)	1.7000E+00	3.2330E+00	1.2060E+00	2.5000E+00	6.8960E-01	1.6389E+00	0.0	9.5218E-01	0.0	0.0	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6738E-02	0.0	0.0	0.0	
Spin								3-		5+	2-	
Cumulative yield												
232Th(F)	8.0397E-16	2.2305E-10	4.2133E-07	8.6833E-06	6.7998E-05	7.4888E-05	7.5176E-05	1.2203E-10	1.2204E-10	7.7530E-21	2.2966E-21	7.51764E-05
232Th(H)	7.7861E-14	1.1300E-09	1.9512E-06	1.6496E-04	1.1290E-03	1.5670E-03	1.5829E-03	2.9800E-08	2.9803E-08	4.0004E-18	7.7427E-19	1.58292E-03
233U (T)	4.7253E-18	5.8730E-15	4.5181E-09	1.8138E-05	1.1277E-04	2.8869E-04	3.5377E-04	5.8276E-07	5.8352E-07	4.0949E-15	1.3465E-15	3.64351E-04
233U (F)	9.1730E-19	8.4403E-15	5.0301E-09	2.3251E-06	1.1933E-04	3.3233E-04	3.9713E-04	1.4300E-06	1.4315E-06	2.0933E-14	5.2006E-15	3.98561E-04
233U (H)	5.3258E-18	3.4000E-12	5.4904E-08	3.8956E-05	1.6520E-03	6.0840E-03	7.1840E-03	3.0800E-06	3.0816E-06	8.4274E-13	1.6311E-13	7.21482E-03
235U (T)	7.1270E-15	7.3484E-12	5.8994E-08	7.7073E-06	1.8867E-04	2.9964E-04	3.1624E-04	2.6694E-08	2.6716E-08	2.2337E-17	7.4654E-18	3.16266E-04
235U (F)	1.6599E-15	1.0696E-10	4.7689E-07	5.1854E-05	7.6254E-04	1.1474E-03	1.1609E-03	8.2963E-08	8.2983E-08	1.3096E-16	3.8790E-17	1.18103E-03
235U (H)	3.8240E-16	3.5702E-11	2.9505E-07	1.0930E-04	2.5964E-03	6.5866E-03	7.1537E-03	2.1001E-05	2.1003E-05	2.4324E-14	4.7079E-15	7.17486E-03
236U (F)	1.1787E-14	4.3900E-10	1.4904E-06	1.1649E-04	1.3865E-03	1.9035E-03	1.9391E-03	6.2799E-08	6.2811E-08	4.8662E-17	1.4420E-17	1.93914E-03
238U (F)	2.5730E-12	1.6222E-08	2.5346E-05	4.3783E-04	2.9708E-03	3.2191E-03	3.2278E-03	3.0235E-09	3.0237E-09	1.1876E-19	3.5177E-20	3.22776E-03
238U (H)	1.8603E-12	4.0909E-08	4.5749E-05	2.5342E-03	1.2562E-02	1.5848E-02	1.5926E-02	2.1504E-05	2.1504E-05	1.8732E-17	3.6256E-18	1.59470E-02
237Np(F)	1.9825E-16	2.9800E-11	1.8603E-07	5.5887E-05	1.0609E-03	2.4369E-03	2.5909E-03	1.0700E-06	1.0704E-06	5.0564E-15	1.7940E-15	2.59199E-03
239Pu(T)	7.2974E-17	1.1004E-11	1.9407E-07	7.1317E-05	3.3804E-03	8.3090E-03	9.7124E-03	1.1604E-06	1.1615E-05	1.8465E-13	5.1780E-14	9.72404E-03
239Pu(F)	2.9319E-16	4.9515E-11	6.8126E-07	2.4676E-04	9.3095E-03	2.2930E-02	2.6023E-02	2.5308E-05	2.5327E-05	3.5220E-13	1.0433E-13	2.60479E-02
239Pu(H)	2.1400E-17	6.9204E-12	1.4501E-07	1.3215E-04	7.0795E-03	3.0642E-02	3.7875E-02	1.4401E-04	1.4417E-04	6.3182E-12	1.2229E-12	3.80194E-02
240Pu(F)	3.5658E-15	3.8904E-10	3.8906E-06	5.7895E-04	1.7154E-02	2.8404E-02	3.0453E-02	6.9407E-06	6.9446E-06	4.5636E-14	1.3518E-14	3.04598E-02
241Pu(T)	5.0743E-14	2.6307E-09	1.1406E-05	9.2666E-04	1.3521E-02	1.8720E-02	1.9170E-02	8.2429E-07	8.2443E-07	1.1555E-15	3.8653E-16	1.91706E-02
241Pu(F)	1.0868E-13	4.5798E-09	1.8204E-05	1.8721E-03	2.5067E-02	3.7074E-02	3.8021E-02	2.1999E-06	2.2004E-06	2.2325E-15	5.5129E-16	3.80236E-02
242Pu(F)	3.4837E-13	6.3901E-09	3.8107E-05	1.8351E-03	3.6420E-02	4.4952E-02	4.5980E-02	1.1100E-06	1.1104E-06	2.5588E-16	7.5795E-17	4.59809E-02
252Cf(S)	6.1795E-15	1.7884E-09	1.4589E-05	4.5385E-03	1.0739E-01	2.4889E-01	2.6892E-01	1.4187E-04	1.4194E-04	1.4681E-12	4.9067E-13	2.69063E-01

Table 2.7.1 Continued

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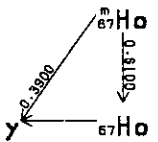
$_{59}Pr \rightarrow {}_{60}Nd \rightarrow {}_{61}Pm \rightarrow {}_{62}Sm \rightarrow {}_{63}Eu \rightarrow {}_{64}Gd \rightarrow {}_{65}Tb \rightarrow {}_{66}Dy \leftarrow {}_{67}Ho \leftarrow {}^{m}_{67}Ho$

	$_{59}Pr$	$_{60}Nd$	$_{61}Pm$	$_{62}Sm$	$_{63}Eu$	$_{64}Gd$	$_{65}Tb$	$_{66}Dy$	$_{67}Ho$	$^{m}_{67}Ho$	Mass Yield
λ(1/sec)	5.4579E+00	9.0202E-01	2.4253E-01	3.9383E-02	2.7949E-02	3.1223E-03	1.1610E-05	0.0	7.7637E-05	1.0299E-01	
Q-value(MeV)	9.4630E+00	6.8240E+00	6.5350E+00	4.7180E+00	3.5190E+00	1.9591E+00	6.9050E-01	0.0	8.5310E-01	2.1115E-01	
E-beta (MeV)	2.9760E+00	2.1600E+00	2.1080E+00	1.5070E+00	1.0059E+00	5.6200E-01	1.5990E-01	0.0	0.0	0.0	
E-gamma(MeV)	2.6370E+00	1.6790E+00	1.6960E+00	1.1360E+00	1.0062E+00	3.6927E-01	2.2884E-02	0.0	2.1718E-02	9.5018E-02	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	3.0347E-02	5.8363E-02	0.0	3.3596E-02	1.1613E-01	
Spin						5/2-	3/2+	5/2+	7/2-	1/2+	
Cumulative yield ^{232}Th(F)	1.5225E-13	9.3623E-09	7.5254E-07	1.1655E-05	1.6096E-05	1.6506E-05	1.6507E-05	1.6507E-05	5.9736E-19	7.0192E-20	1.65070E-05
^{232}Th(H)	8.6425E-13	9.8101E-08	2.5698E-05	4.4271E-04	9.4271E-04	9.9431E-04	9.9462E-04	9.9462E-04	5.3886E-16	4.1430E-17	9.94623E-04
^{233}U (T)	2.8078E-15	4.8080E-11	7.4517E-08	1.1670E-05	7.0545E-05	1.1923E-04	1.2076E-04	1.2077E-04	1.4983E-13	1.9731E-14	1.20770E-04
^{233}U (F)	5.0975E-16	3.7300E-11	6.2538E-08	8.5526E-06	5.5153E-05	8.8754E-05	8.9904E-05	8.9907E-05	4.1538E-13	4.8809E-14	8.99072E-05
^{233}U (H)	1.4836E-14	1.1900E-09	2.7812E-06	3.4878E-04	2.8458E-03	4.6298E-03	4.7091E-03	4.7093E-03	3.0000E-11	2.3065E-12	4.70934E-03
^{235}U (T)	1.1128E-15	8.2982E-10	4.1374E-07	2.3909E-05	5.9498E-05	8.5095E-05	8.5267E-05	8.5267E-05	1.1476E-16	1.5214E-16	8.52670E-05
^{235}U (F)	2.4764E-14	9.0159E-09	3.4675E-06	1.2441E-04	3.1733E-04	3.5901E-04	3.5937E-04	3.5937E-04	6.8080E-15	7.9996E-16	3.59370E-04
^{235}U (H)	5.7017E-13	9.2405E-09	1.1210E-05	7.5525E-04	3.9564E-03	5.1595E-03	5.2009E-03	5.2009E-03	2.8001E-12	2.1529E-13	5.20092E-03
^{236}U (F)	1.1387E-13	2.6600E-08	7.3765E-05	2.0737E-04	4.4937E-04	4.9077E-04	4.9103E-04	4.9103E-04	2.4492E-15	2.8779E-16	4.91034E-04
^{238}U (F)	2.3896E-11	1.0813E-06	7.1764E-05	9.5179E-04	1.2552E-03	1.2798E-03	1.2798E-03	1.2798E-03	1.7707E-17	2.0806E-18	1.27981E-03
^{238}U (H)	4.1090E-11	2.2904E-06	3.9036E-04	4.6661E-03	8.2397E-03	8.4887E-03	8.4897E-03	8.4897E-03	2.2821E-15	1.7546E-16	8.48968E-03
^{237}Np(F)	1.2367E-13	3.0000E-09	2.8430E-06	1.4685E-04	5.5285E-04	8.0285E-04	8.0595E-04	8.0595E-04	2.2078E-13	2.5942E-14	8.05957E-04
^{239}Pu(T)	7.3216E-14	3.3511E-09	4.5748E-06	5.5275E-04	3.1106E-03	4.7981E-03	4.8457E-03	4.8459E-03	9.9732E-12	1.3222E-12	4.84587E-03
^{239}Pu(F)	2.0962E-13	8.7426E-09	1.1312E-05	1.1367E-03	6.1092E-03	8.8500E-03	8.9242E-03	8.9244E-03	1.6025E-11	1.8830E-12	8.92442E-03
^{239}Pu(H)	3.9086E-14	2.0801E-09	6.2824E-06	1.0023E-03	1.0339E-02	1.7786E-02	1.8229E-02	1.8231E-02	2.6531E-10	2.0398E-11	1.82309E-02
^{240}Pu(F)	7.3523E-14	7.3107E-08	4.2277E-05	2.9506E-03	9.2882E-03	1.1889E-02	1.1902E-02	1.1902E-02	1.7902E-12	2.1035E-13	1.19022E-02
^{241}Pu(T)	1.0944E-12	3.3910E-07	1.0137E-04	3.4423E-03	7.6925E-03	8.5667E-03	8.5727E-03	8.5727E-03	9.8449E-14	1.3051E-14	8.57268E-03
^{241}Pu(F)	2.2004E-12	6.9097E-07	2.4768E-04	8.1433E-03	2.0049E-02	2.2405E-02	2.2424E-02	2.2424E-02	2.3752E-13	2.7909E-14	2.24237E-02
^{242}Pu(F)	4.4940E-12	1.5500E-06	3.1755E-04	1.2763E-02	2.3629E-02	2.6552E-02	2.6565E-02	2.6565E-02	3.9887E-14	4.6869E-15	2.65647E-02
^{252}Cf(S)	1.2680E-11	4.7757E-07	4.9703E-04	3.2551E-02	1.5389E-01	1.9853E-01	1.9953E-01	1.9953E-01	8.5622E-11	1.1351E-11	1.99532E-01

Table 2.7.1 Continued

Mass No. 162

$_{59}Pr \rightarrow {}_{60}Nd \rightarrow {}_{61}Pm \rightarrow {}_{62}Sm \rightarrow {}_{63}Eu \rightarrow {}_{64}Gd \rightarrow {}_{65}Tb \rightarrow {}_{66}Dy \rightarrow {}_{67}Ho$



	$_{59}Pr$	$_{60}Nd$	$_{61}Pm$	$_{62}Sm$	$_{63}Eu$	$_{64}Gd$	$_{65}Tb$	$_{66}Dy$	$_{67}Ho$	$^{m}_{67}Ho$	Mass Yield
λ(1/sec)	8.8579E+00	1.0513E+00	1.5942E-01	7.8713E-02	2.1374E-02	1.2836E-03	1.4887E-03	0.0	7.7016E-04	1.6989E-04	
Q-value(MeV)	1.0100E+01	7.0560E+00	7.4020E+00	4.2000E+00	5.3840E+00	1.4000E+00	2.4200E+00	0.0	2.8800E-01	3.9800E-01	
E-beta (MeV)	2.9270E+00	2.4850E+00	2.0790E+00	1.3830E+00	1.4030E+00	2.8618E-01	4.4878E-01	0.0	2.0634E-02	0.0	
E-gamma(MeV)	3.5770E+00	1.4310E+00	2.6200E+00	8.7780E-01	2.0180E+00	5.3704E-01	1.1130E+00	0.0	1.2424E-01	5.3802E-01	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	4.3793E-02	0.0	3.7104E-02	1.3145E-01	
Spin							1-		1+	6-	
Cumulative Yield ^{232}Th(F)	7.5080E-16	3.9710E-10	7.5115E-08	4.2161E-06	7.5269E-06	8.6672E-06	8.6721E-06	8.6721E-06	3.1675E-17	3.2426E-17	8.67208E-06
^{232}Th(H)	3.3664E-15	2.3400E-09	1.9324E-06	9.4934E-05	3.8494E-04	4.6744E-04	4.6894E-04	4.6894E-04	2.1266E-14	2.5567E-14	4.68937E-04
^{233}U (T)	2.2932E-18	5.8399E-15	5.8476E-10	3.4044E-07	4.4188E-06	1.4814E-05	1.5600E-05	1.5611E-05	1.2784E-12	1.2329E-12	1.56105E-05
^{233}U (F)	7.0054E-19	8.6747E-15	9.7601E-10	4.6598E-07	6.6861E-06	2.0386E-05	2.1558E-05	2.1571E-05	1.8367E-12	1.8603E-12	2.15710E-05
^{233}U (H)	5.3243E-17	1.5200E-11	1.1602E-07	4.5718E-05	1.0037E-03	2.6427E-03	2.8587E-03	2.8607E-03	5.6226E-10	6.7628E-10	2.86066E-03
^{235}U (T)	4.0624E-16	6.7185E-12	9.0247E-09	1.8886E-06	1.0047E-05	1.8935E-05	1.9177E-05	1.9178E-05	1.5249E-14	1.4705E-14	1.91779E-05
^{235}U (F)	1.0623E-15	6.4771E-11	7.1333E-08	8.4976E-06	4.0283E-05	5.0974E-05	5.1452E-05	5.1453E-05	5.7957E-14	6.9568E-14	5.14531E-05
^{235}U (H)	2.5014E-15	1.3601E-10	5.3116E-07	1.1054E-04	1.4036E-03	2.7017E-03	2.7979E-03	2.7983E-03	5.8022E-11	5.2776E-11	2.79834E-03
^{236}U (F)	3.1206E-14	1.3100E-09	1.0213E-06	9.4720E-05	3.5772E-04	4.9572E-04	4.9804E-04	4.9804E-04	1.6699E-13	1.7095E-13	4.98041E-04
^{238}U (F)	9.1886E-14	3.5942E-08	5.5925E-06	2.6490E-04	4.4110E-04	4.9246E-04	4.9264E-04	4.9264E-04	7.4198E-16	7.5958E-16	4.92643E-04
^{238}U (H)	2.7448E-13	9.8318E-08	5.2207E-05	1.7225E-03	5.3251E-03	6.0312E-03	6.0396E-03	6.0396E-03	1.4508E-13	1.7450E-13	6.03964E-03
^{237}Np(F)	4.2465E-16	3.5300E-11	1.0904E-07	1.7009E-05	1.7901E-04	3.0501E-04	3.1267E-04	3.1270E-04	3.3733E-12	3.4533E-12	3.12700E-04
^{239}Pu(T)	2.2484E-16	3.9313E-11	1.5409E-07	6.7076E-05	8.1332E-04	2.2908E-03	2.3946E-03	2.3957E-03	1.6516E-10	1.5927E-10	2.39557E-03
^{239}Pu(F)	1.1242E-15	1.7405E-10	6.5838E-07	2.2874E-04	2.7755E-03	6.8157E-03	7.1006E-03	7.1031E-03	3.4457E-10	3.5274E-10	7.10306E-03
^{239}Pu(H)	1.1315E-15	2.0001E-11	1.9803E-07	1.0020E-04	2.7554E-03	8.3507E-03	9.2647E-03	9.2752E-03	3.9278E-09	4.7243E-09	9.27521E-03
^{240}Pu(F)	7.5861E-15	1.3701E-09	2.1215E-06	5.4618E-04	3.1824E-03	6.6388E-03	6.7444E-03	6.7450E-03	3.8310E-11	3.9218E-11	6.74500E-03
^{241}Pu(T)	6.4642E-14	4.5713E-09	3.7256E-06	4.3665E-04	1.6702E-03	2.4774E-03	2.4914E-03	2.4914E-03	9.3693E-13	8.0612E-13	2.49144E-03
^{241}Pu(F)	3.3334E-13	1.3999E-08	1.4515E-05	1.5564E-03	7.0962E-03	1.0378E-02	1.0450E-02	1.0450E-02	7.0463E-12	7.2134E-12	1.04500E-02
^{242}Pu(F)	1.7233E-12	4.3501E-08	2.0744E-05	3.3556E-03	9.0369E-03	1.4251E-02	1.4304E-02	1.4305E-02	3.6020E-12	3.5674E-12	1.43045E-02
^{252}Cf(S)	8.6523E-14	1.1889E-08	3.8877E-05	8.0765E-03	8.7713E-02	1.6828E-01	1.7333E-01	1.7336E-01	3.1946E-09	3.0807E-09	1.73359E-01

Table 2.7.1 Continued

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Mass No. 163

$_{60}Nd \rightarrow {}_{61}Pm \rightarrow {}_{62}Sm \rightarrow {}_{63}Eu \rightarrow {}_{64}Gd \rightarrow {}_{65}Tb \rightarrow {}_{66}Dy \leftarrow {}_{67}Ho$, ${}^{m}_{67}Ho \rightarrow {}_{67}Ho$, ${}^{m}_{67}Ho \xrightarrow{0.0002} {}_{68}Er$, ${}_{67}Ho \xrightarrow{0.9998} {}_{68}Er$

		$_{60}Nd$	$_{61}Pm$	$_{62}Sm$	$_{63}Eu$	$_{64}Gd$	$_{65}Tb$	$_{66}Dy$	$_{67}Ho$	$^{m}_{67}Ho$	$_{68}Er$	Mass Yield
	λ(1/sec)	6.7690E-01	5.1497E-01	7.2225E-02	4.2866E-02	1.0193E-02	5.9243E-04	0.0	4.8095E-12	6.4160E-01	1.5403E-04	
	Q-value(MeV)	7.8360E+00	7.4570E+00	5.2500E+00	4.7300E+00	3.1570E+00	1.7000E+00	0.0	2.6000E-03	2.9780E-01	1.2120E+00	
	E-beta (MeV)	2.4820E+00	2.3930E+00	1.6690E+00	1.5410E+00	8.5917E-01	2.9474E-01	0.0	0.0	0.0	4.1587E-06	
	E-gamma(MeV)	2.2190E+00	2.0190E+00	1.3340E+00	1.0720E+00	9.5128E-01	7.8414E-01	0.0	0.0	2.3050E-01	1.0574E-03	
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	2.4082E-02	0.0	0.0	6.7303E-02	6.7313E-06	
	Spin						3/2+	5/2-	7/2-	1/2+	5/2-	
Cumulative yield	^{232}Th(F)	8.6321E-12	6.9703E-09	8.7218E-07	3.3128E-06	5.0132E-06	5.0423E-06	5.0424E-06	2.9594E-15	3.4774E-16	1.6479E-20	5.04237E-06
	^{232}Th(H)	3.6401E-11	9.9039E-08	1.4499E-05	1.3750E-04	2.2900E-04	2.3393E-04	2.3395E-04	2.3100E-12	1.7760E-13	7.0163E-18	2.33949E-04
	^{233}U (T)	2.8456E-15	1.3594E-11	2.1405E-08	9.2003E-07	6.0379E-06	7.2774E-06	7.3195E-06	3.9184E-11	5.1945E-12	9.6560E-16	7.31953E-06
	^{233}U (F)	9.4455E-16	2.1700E-11	2.9522E-08	1.3796E-06	8.0797E-06	9.8397E-06	9.8919E-06	5.2611E-11	6.1813E-12	5.0276E-15	9.89169E-06
	^{233}U (H)	8.3066E-14	3.1400E-09	3.9432E-06	2.5194E-04	1.3650E-03	1.7640E-03	1.7747E-03	1.5111E-08	1.1617E-09	1.0500E-12	1.77467E-03
	^{235}U (T)	2.0318E-15	2.6194E-10	1.4223E-07	2.2418E-06	7.2006E-06	7.5595E-06	7.6652E-06	1.4797E-12	1.9616E-13	9.1990E-18	7.66522E-06
	^{235}U (F)	1.2405E-14	9.8156E-10	9.2084E-07	4.0981E-06	9.8066E-06	1.0233E-05	1.0237E-05	6.6870E-13	1.0207E-13	1.5671E-17	1.02366E-05
	^{235}U (H)	1.3001E-12	1.7102E-08	1.1218E-05	5.9324E-04	1.3843E-03	1.5893E-03	1.5925E-03	2.1851E-09	1.6800E-10	4.7150E-14	1.59230E-03
	^{236}U (F)	7.2799E-12	2.1207E-08	5.2912E-06	5.1591E-05	1.0759E-04	1.1071E-04	1.1073E-04	2.5600E-12	3.0080E-13	4.3217E-17	1.10728E-04
	^{238}U (F)	3.6543E-10	2.4165E-07	2.5271E-05	8.4841E-05	1.2028E-04	1.2079E-04	1.2079E-04	3.2660E-14	3.8377E-15	1.4681E-19	1.20788E-04
	^{238}U (H)	2.0904E-09	3.6427E-06	3.4970E-04	2.3710E-03	3.4142E-03	3.4519E-03	3.4520E-03	7.2312E-12	5.5596E-13	4.9557E-17	3.45201E-03
	^{237}Np(F)	1.0252E-14	2.9200E-09	1.4329E-06	4.0633E-05	1.2033E-04	1.3363E-04	1.3398E-04	6.5201E-11	1.0011E-11	2.7994E-16	1.33984E-04
	^{239}Pu(T)	5.7543E-15	3.2210E-09	3.9345E-06	1.5098E-04	8.1920E-04	9.6625E-04	9.7016E-04	3.2080E-09	4.2527E-10	1.9858E-13	9.70160E-04
	^{239}Pu(F)	1.3404E-12	1.8907E-08	1.8725E-05	6.8993E-04	3.2257E-03	3.7649E-03	3.7767E-03	9.1728E-09	1.0778E-09	5.1258E-13	3.77667E-03
	^{239}Pu(H)	1.0660E-13	2.7701E-09	4.4930E-06	3.6451E-04	2.3626E-03	3.2457E-03	3.2758E-03	5.4248E-08	4.1704E-09	4.8903E-12	3.27583E-03
	^{240}Pu(F)	7.8908E-12	4.9113E-08	3.2652E-05	5.8171E-04	2.1199E-03	2.2809E-03	2.2833E-03	8.4108E-10	9.8824E-11	4.8305E-14	2.28329E-03
	^{241}Pu(T)	3.8011E-11	1.2007E-07	3.6530E-05	3.7663E-04	8.8977E-04	8.9887E-04	8.9906E-04	3.5990E-11	4.7711E-12	8.8597E-16	8.99076E-04
	^{241}Pu(F)	1.8399E-10	6.9715E-07	2.0669E-04	2.4935E-03	5.6654E-03	5.8884E-03	5.8899E-03	3.2268E-10	3.7916E-11	4.8458E-15	5.88992E-03
	^{242}Pu(F)	4.1201E-10	6.8642E-07	3.1989E-04	2.3869E-03	5.9820E-03	6.1300E-03	6.1312E-03	1.4770E-10	1.7355E-11	9.6812E-16	6.13119E-03
	^{252}Cf(S)	1.6985E-10	1.9184E-06	1.2078E-03	3.6998E-02	1.2791E-01	1.4438E-01	1.4461E-01	1.4587E-07	1.9338E-08	4.9755E-12	1.44809E-01

Table 2.7.1 Continued

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Mass No. 164

$^{m}_{67}Ho$

$_{60}Nd \rightarrow {}_{61}Pm \rightarrow {}_{62}Sm \rightarrow {}_{63}Eu \rightarrow {}_{64}Gd \rightarrow {}_{65}Tb \rightarrow {}_{66}Dy \xleftarrow{0.6000} {}_{67}Ho \xrightarrow{0.4000} {}_{68}Er$

	$_{60}Nd$	$_{61}Pm$	$_{62}Sm$	$_{63}Eu$	$_{64}Gd$	$_{65}Tb$	$_{66}Dy$	$_{67}Ho$	$^{m}_{67}Ho$	$_{68}Er$	Mass Yield
λ(1/sec)	1.7123E+00	3.2897E-01	2.5060E-01	3.6909E-02	5.3243E-03	3.8508E-03	0.0	3.9836E-04	3.0606E-04	0.0	
Q-value(MeV)	7.7460E+00	8.2710E+00	5.2540E+00	5.8540E+00	2.5310E+00	3.8600E+00	0.0	1.0020E+00	1.4000E-01	0.0	
E-beta (MeV)	2.7410E+00	2.3480E+00	1.8030E+00	1.5630E+00	7.1810E-01	6.8724E-01	0.0	1.3081E-01	0.0	0.0	
E-gamma(MeV)	1.5880E+00	2.9260E+00	1.0490E+00	2.1470E+00	5.4690E-01	2.4260E+00	0.0	3.7473E-03	8.0228E-03	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	7.5510E-02	0.0	2.0335E-02	1.3162E-01	0.0	
Spin						5+		1+	6-		
Cumulative Yield ^{232}Th(F)	5.5815E-15	2.0005E-10	1.0222E-07	7.0237E-07	2.1527E-06	2.2067E-06	2.2074E-06	5.9363E-14	4.3431E-14	2.3747E-14	2.20737E-06
^{232}Th(H)	1.3974E-14	3.2901E-09	1.5339E-06	3.8334E-05	1.1033E-04	1.2114E-04	1.2125E-04	5.6200E-11	4.6019E-11	2.2481E-11	1.21248E-04
^{233}U (T)	9.7990E-18	7.4350E-15	7.2070E-10	7.9288E-08	1.5387E-06	2.3174E-06	2.4090E-06	2.2988E-10	1.8110E-10	9.1978E-11	2.40906E-06
^{233}U (F)	2.8562E-18	1.2877E-14	1.0000E-09	1.2500E-07	2.0360E-06	3.2180E-06	3.3302E-06	3.2589E-10	2.3843E-10	1.3047E-10	3.33096E-06
^{233}U (H)	4.0002E-16	5.2200E-11	2.1805E-07	6.2018E-05	5.6302E-04	1.0460E-03	1.0843E-03	1.6860E-07	1.3804E-07	6.7480E-08	1.08439E-03
^{235}U (T)	9.9981E-16	3.0793E-12	6.4816E-09	2.4243E-07	2.0120E-06	2.3790E-06	2.3955E-06	1.3397E-11	9.3882E-12	5.3590E-12	2.39556E-06
^{235}U (F)	6.3204E-17	2.6988E-11	3.1719E-08	1.0013E-06	5.3393E-06	6.1260E-06	6.1464E-06	1.3513E-11	9.8862E-12	5.4062E-12	6.14639E-06
^{235}U (H)	1.4685E-14	3.7102E-10	7.9741E-07	8.2202E-05	6.5723E-04	9.7025E-04	9.8407E-04	3.2002E-08	2.5201E-08	1.2804E-08	9.84081E-04
^{236}U (F)	1.6459E-15	4.3100E-10	3.8743E-07	8.9973E-06	3.9997E-05	4.4197E-05	4.4262E-05	3.9797E-11	2.9116E-11	1.5921E-11	4.42816E-05
^{238}U (F)	3.4540E-12	5.6200E-09	2.3884E-06	1.4102E-05	3.8431E-05	3.9188E-05	3.9196E-05	5.3734E-13	3.9313E-13	2.1495E-13	3.91958E-05
^{238}U (H)	2.8805E-11	1.6306E-07	4.9071E-05	6.3920E-04	1.9164E-03	2.0264E-03	2.0272E-03	2.4003E-10	1.9652E-10	9.6019E-11	2.02716E-03
^{237}Np(F)	1.2043E-16	4.5601E-11	7.4447E-08	6.3645E-06	4.1365E-05	5.7565E-05	5.8121E-05	1.0559E-09	7.7252E-10	4.2247E-10	5.81213E-05
^{239}Pu(T)	8.9990E-16	3.5011E-11	1.5909E-07	1.6054E-05	2.4214E-04	3.5617E-04	3.6639E-04	2.3408E-08	1.6404E-08	9.3690E-09	3.66400E-04
^{239}Pu(F)	8.5141E-15	3.6511E-10	1.3008E-06	1.3034E-04	1.5848E-03	2.3260E-03	2.3787E-03	1.1924E-07	8.7235E-08	4.7718E-08	2.37874E-03
^{238}Pu(H)	4.6333E-16	3.9002E-11	2.1006E-07	5.1913E-05	8.6096E-04	1.7830E-03	1.8745E-03	5.1403E-07	4.2085E-07	2.0577E-07	1.87473E-03
^{240}Pu(F)	3.2446E-14	8.6108E-10	2.2511E-06	9.4860E-05	5.3694E-04	1.1300E-03	1.1407E-03	9.8810E-09	7.2291E-09	3.9536E-09	1.14067E-03
^{241}Pu(T)	6.1208E-15	1.7905E-09	2.0524E-06	4.8868E-06	2.5892E-04	2.8763E-04	2.8857E-04	3.6207E-10	2.5373E-10	1.4486E-10	2.88670E-04
^{241}Pu(F)	1.5199E-12	1.7201E-08	1.6116E-05	5.4109E-04	2.6640E-03	3.0320E-03	3.0405E-03	5.3394E-09	3.9064E-09	2.1361E-09	3.04054E-03
^{242}Pu(F)	3.5100E-12	1.8204E-08	2.8719E-05	4.1672E-04	2.8578E-03	3.0578E-03	3.0648E-03	2.0400E-09	1.4925E-09	8.1805E-10	3.06484E-03
^{252}Cf(S)	1.2389E-12	4.4961E-08	9.5558E-05	8.2981E-03	5.8446E-02	9.3355E-02	9.4548E-02	2.2979E-06	1.6103E-06	9.1944E-07	9.45491E-02

Table 2.7.1 Continued

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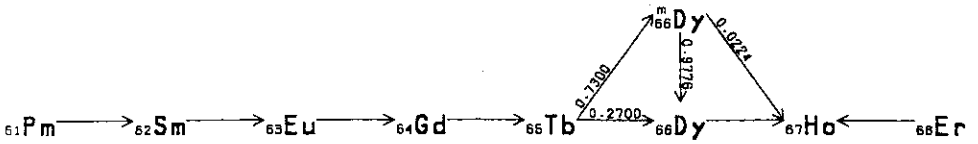
Mass No. 165



	61Pm	62Sm	63Eu	64Gd	65Tb	66Dy	m66Dy	67Ho	68Er	Mass Yield
λ(1/sec)	8.0627E-01	1.9001E-01	1.1653E-01	1.4321E-02	5.4761E-03	8.2494E-05	9.1832E-03	0.0	1.8585E-05	
Q-value(MeV)	8.0490E+00	6.2380E+00	5.6800E+00	3.8840E+00	2.6490E+00	1.2851E+00	1.3933E+00	0.0	3.7710E-01	
E-beta (MeV)	2.5790E+00	1.9630E+00	1.8300E+00	1.2300E+00	7.5361E-01	4.4144E-01	6.9000E-03	0.0	0.0	
E-gamma(MeV)	2.2210E+00	1.5910E+00	1.4070E+00	8.8110E-01	7.3109E-01	2.1990E-02	1.3442E-02	0.0	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	6.4000E-03	1.0451E-02	1.0331E-01	0.0	0.0	
Spin						7/2+	1/2-	7/2-	5/2-	
Cumulative yield										
232Th(F)	2.0805E-12	2.5527E-09	6.0267E-08	3.3533E-07	3.7274E-07	3.5766E-07	2.7222E-07	3.7376E-07	2.6690E-17	3.73762E-07
232Th(H)	7.4701E-11	1.1008E-07	8.1402E-06	4.9441E-05	6.6241E-05	6.5883E-05	4.8396E-05	6.5768E-05	3.2078E-14	6.67680E-05
233U (T)	2.5377E-17	1.3095E-11	5.3809E-09	2.4728E-07	6.4811E-07	7.4704E-07	4.8769E-07	7.5898E-07	3.5779E-13	7.58979E-07
233U (F)	4.4600E-17	1.9700E-11	8.7498E-09	3.5075E-07	9.6676E-07	1.0983E-06	7.2309E-07	1.1159E-06	1.2100E-12	1.11593E-06
233U (H)	1.6821E-14	7.2601E-09	4.4873E-06	1.6449E-04	5.5649E-04	5.3192E-04	4.1275E-04	5.4233E-04	8.6601E-10	6.42332E-04
235U (T)	2.9732E-15	2.8194E-10	3.8273E-08	6.9213E-07	1.1190E-06	1.1471E-06	8.2306E-07	1.1657E-06	1.1571E-14	1.16571E-06
235U (F)	2.9272E-14	1.2994E-09	1.3824E-07	1.6076E-06	2.4012E-06	2.4155E-06	1.7592E-06	2.4551E-06	2.9646E-14	2.45507E-06
235U (H)	4.5702E-12	3.2006E-08	1.0333E-05	2.1334E-04	5.0436E-04	5.3203E-04	3.7095E-04	5.4061E-04	1.0401E-10	5.40806E-04
236U (F)	6.6199E-12	1.6906E-08	1.3069E-06	1.2307E-05	1.6807E-05	1.6769E-05	1.2297E-05	1.7045E-05	6.6673E-14	1.70445E-05
238U (F)	1.4116E-10	1.4231E-07	2.8254E-06	1.3738E-05	1.5000E-05	1.4783E-05	1.0963E-05	1.5028E-05	4.7364E-16	1.50283E-05
238U (H)	4.4007E-09	4.1751E-06	2.0421E-04	9.1339E-04	1.1124E-03	1.0983E-03	8.1294E-04	1.1165E-03	2.9255E-13	1.11861E-03
237Np(F)	1.8592E-14	2.0100E-09	5.3002E-07	8.7101E-06	1.8530E-05	1.9295E-05	1.3714E-05	1.9608E-05	1.7600E-12	1.96081E-05
239Pu(T)	1.0493E-14	3.7912E-09	1.3742E-06	4.9790E-05	1.2281E-04	1.3673E-04	9.1772E-05	1.3892E-04	9.5831E-11	1.38920E-04
239Pu(F)	3.7311E-12	3.9816E-08	1.3744E-05	4.1186E-04	9.9404E-04	1.0830E-03	7.3805E-04	1.1004E-03	4.9115E-10	1.10040E-03
239Pu(H)	6.6552E-15	4.3202E-09	3.4445E-06	1.5845E-04	6.2748E-04	7.4201E-04	4.6767E-04	7.5469E-04	2.1501E-09	7.54688E-04
240Pu(F)	1.3301E-11	9.3623E-08	1.4695E-05	3.1572E-04	5.9575E-04	5.5567E-04	3.9447E-04	5.6461E-04	4.0704E-11	5.64612E-04
241Pu(T)	2.1906E-11	6.9041E-08	5.7208E-06	6.3537E-05	8.8444E-05	8.8690E-05	6.4775E-05	9.0044E-05	7.5827E-13	9.00443E-05
241Pu(F)	2.9798E-10	9.1125E-07	9.0307E-05	9.5926E-04	1.4182E-03	1.4227E-03	1.0385E-03	1.4450E-03	1.0699E-11	1.44603E-03
242Pu(F)	5.6501E-10	2.0906E-06	1.2009E-04	1.5631E-03	1.9981E-03	1.9984E-03	1.4625E-03	2.0312E-03	8.7701E-12	2.03123E-03
252Cf(S)	7.4532E-10	5.0262E-06	1.4048E-03	2.8111E-02	6.1683E-02	6.4699E-02	4.5564E-02	6.5745E-02	9.7212E-09	6.57452E-02

Table 2.7.1 Continued

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Mass No. 166

$_{61}Pm \rightarrow {}_{62}Sm \rightarrow {}_{63}Eu \rightarrow {}_{64}Gd \rightarrow {}_{65}Tb \rightarrow {}_{66}Dy \rightarrow {}_{67}Ho \rightarrow {}_{68}Er \leftarrow {}_{69}Tm$, $_{67}^{m}Ho \rightarrow {}_{68}Er$

	$_{61}Pm$	$_{62}Sm$	$_{63}Eu$	$_{64}Gd$	$_{65}Tb$	$_{66}Dy$	$_{67}Ho$	$_{67}^{m}Ho$	$_{68}Er$	$_{69}Tm$	Mass Yield
λ(1/sec)	5.6353E+00	4.9369E-01	6.7079E-02	4.3133E-02	3.1209E-03	2.9596E-06	7.1844E-06	1.8304E-11	0.0	2.5005E-05	
Q-value(MeV)	9.3560E+00	6.0120E+00	6.6840E+00	3.6930E+00	4.0000E+00	4.8400E-01	1.8543E+00	1.8593E+00	0.0	3.0470E+00	
E-beta (MeV)	2.6820E+00	2.0840E+00	1.8380E+00	1.1740E+00	7.4794E-01	1.0823E-01	6.7160E-01	1.6530E-02	0.0	1.4160E-02	
E-gamma(MeV)	3.3230E+00	1.2050E+00	2.3950E+00	8.0610E-01	2.0496E+00	1.5003E-02	2.9546E-02	1.7257E+00	0.0	1.7491E+00	
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	6.5999E-02	3.0518E-02	1.0496E-01	0.0	8.1274E-02	
Spin								7-		2+	
Cumulative Yield											
^{232}Th(F)	1.9454E-15	1.2503E-10	6.5866E-09	1.1661E-07	1.4652E-07	1.4972E-07	1.4972E-07	2.7862E-12	1.4973E-07	2.2095E-21	1.49725E-07
^{232}Th(H)	4.3424E-14	3.9201E-09	8.7493E-07	1.3475E-05	2.6675E-05	2.7875E-05	2.7876E-05	4.8651E-09	2.7881E-05	7.8116E-18	2.78813E-05
^{233}U(T)	1.8048E-17	2.9670E-14	3.5685E-10	5.7733E-08	2.7264E-07	4.5857E-07	4.5986E-07	3.0261E-09	4.5290E-07	3.0491E-16	4.62801E-07
^{233}U(F)	6.3597E-18	4.2249E-14	5.7201E-10	7.5973E-08	4.0098E-07	6.3298E-07	6.3464E-07	4.5214E-09	6.3918E-07	1.6542E-15	6.39178E-07
^{233}U(H)	1.4071E-15	9.7301E-11	1.9310E-07	2.1193E-05	1.5619E-04	2.3759E-04	2.3818E-04	2.6363E-06	2.4082E-04	1.2772E-12	2.40823E-04
^{235}U(T)	1.2415E-17	8.7880E-12	3.1381E-09	1.9010E-07	4.5504E-07	5.5112E-07	5.5146E-07	8.0993E-10	5.5227E-07	3.6446E-18	5.52273E-07
^{235}U(F)	1.2240E-16	3.9782E-11	1.1795E-08	4.1355E-07	9.1533E-07	1.0233E-06	1.0235E-06	5.2433E-10	1.0240E-06	9.9835E-18	1.02400E-06
^{235}U(H)	5.2498E-14	7.4404E-10	7.5478E-07	4.5467E-05	2.1248E-04	2.6908E-04	2.6930E-04	9.9235E-07	2.7029E-04	5.7083E-14	2.70292E-04
^{236}U(F)	3.9917E-15	8.3699E-10	1.7583E-07	4.9258E-06	9.3857E-06	1.0148E-05	1.0149E-05	2.6748E-09	1.0151E-05	2.5228E-17	1.01514E-05
^{238}U(F)	1.3905E-13	6.5777E-09	2.8691E-07	4.3617E-06	5.2998E-06	5.3842E-06	5.3842E-06	5.9843E-11	5.3843E-06	2.9899E-20	5.38425E-06
^{238}U(H)	5.4031E-12	2.3904E-07	3.4845E-05	3.7290E-04	6.1994E-04	6.3515E-04	6.3515E-04	4.0845E-08	6.3520E-04	8.7536E-17	6.35196E-04
^{237}Np(F)	1.0643E-16	6.5501E-11	5.3366E-08	2.4034E-06	9.6935E-06	1.1594E-05	1.1603E-05	2.5044E-08	1.1628E-05	1.7984E-15	1.16278E-05
^{239}Pu(T)	1.7713E-15	7.9926E-11	8.1506E-08	9.9447E-06	4.4556E-05	6.7763E-05	6.7912E-05	3.4840E-07	6.8262E-05	7.1442E-14	6.82619E-05
^{239}Pu(F)	3.1238E-14	1.2304E-09	1.2416E-06	1.1928E-04	5.3540E-04	7.5647E-04	7.5975E-04	3.4982E-06	7.6326E-04	5.8413E-13	7.63262E-04
^{239}Pu(H)	2.0667E-15	9.5705E-11	2.4511E-07	3.4247E-05	3.1026E-04	5.0727E-04	5.0910E-04	8.2451E-06	5.1737E-04	4.5903E-12	5.17376E-04
^{240}Pu(F)	5.4492E-15	5.3005E-09	2.1555E-06	1.6017E-04	4.0820E-04	5.1721E-04	5.1747E-04	7.1778E-07	5.1819E-04	5.4678E-14	5.18190E-04
^{241}Pu(T)	1.2880E-14	3.7310E-09	8.1396E-07	2.8422E-05	5.4729E-05	6.0341E-05	6.0349E-05	1.9529E-08	6.0369E-05	3.4318E-16	6.03688E-05
^{241}Pu(F)	9.7315E-14	2.6999E-08	7.4666E-06	2.3948E-04	5.1646E-04	5.7016E-04	5.7025E-04	2.4749E-07	5.7050E-04	3.0879E-15	5.70497E-04
^{242}Pu(F)	2.5494E-13	9.5801E-08	1.2296E-05	5.9230E-04	9.2231E-04	1.0209E-03	1.0210E-03	2.1049E-07	1.0212E-03	6.4808E-15	1.02120E-03
^{252}Cf(S)	4.8679E-12	1.6385E-07	1.4004E-04	8.3236E-03	3.4361E-02	4.3221E-02	4.3271E-02	1.1615E-04	4.3397E-02	1.0091E-11	4.33670E-02

Table 2.7.1 Continued

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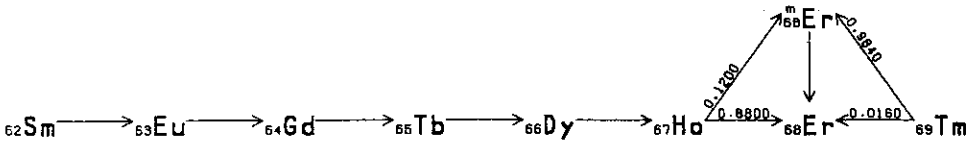
Mass No. 167



		62Sm	63Eu	64Gd	65Tb	66Dy	67Ho	68Er	m68Er	69Tm	Mass Yield
	λ(1/sec)	5.2511E-01	2.1427E-01	5.0706E-02	2.2578E-02	1.8633E-03	6.2110E-05	0.0	3.0401E-01	6.6824E-07	
	Q-value(MeV)	7.4330E+00	6.3260E+00	4.8920E+00	3.5660E+00	1.9390E+00	9.7000E-01	0.0	2.0780E-01	7.4890E-01	
	E-beta (MeV)	2.3380E+00	2.0240E+00	1.5450E+00	1.0140E+00	6.4982E-01	1.7520E-01	0.0	0.0	0.0	
	E-gamma(MeV)	2.1010E+00	1.6430E+00	1.2170E+00	1.0273E+00	5.1729E-01	3.4212E-01	0.0	8.6653E-02	1.0636E-02	
	E-I.C (MeV)	0.0	0.0	0.0	0.0	7.2662E-02	2.5324E-02	0.0	1.2115E-01	1.1420E-02	
	Spin					1/2-	7/2-	7/2+	1/2-	1/2+	
Cumulative Yield	232Th(F)	6.2115E-12	1.3465E-09	5.0058E-08	9.5769E-08	1.0617E-07	1.0622E-07	1.0622E-07	1.2747E-08	3.4150E-19	1.06223E-07
	232Th(H)	1.0900E-10	7.8510E-08	3.3286E-06	1.2359E-05	1.4599E-05	1.4634E-05	1.4634E-05	1.7561E-06	5.4265E-16	1.46345E-05
	233U (T)	4.2080E-17	3.9364E-12	1.6632E-09	2.2355E-08	6.1738E-08	6.4827E-08	6.4857E-08	7.7832E-09	2.5994E-15	6.48570E-08
	233U (F)	6.2866E-17	5.2601E-12	2.2863E-09	3.3197E-08	8.4697E-08	8.8977E-08	8.9014E-08	1.0882E-08	1.1914E-14	8.90141E-08
	233U (H)	2.0200E-12	1.3302E-08	4.5033E-06	8.7704E-05	2.1170E-04	2.2621E-04	2.2632E-04	2.7153E-05	4.1400E-11	2.26317E-04
	235U (T)	1.3787E-14	2.1395E-10	3.2307E-08	1.7927E-07	2.9725E-07	3.0062E-07	3.0063E-07	3.6076E-08	2.0922E-16	3.00628E-07
	235U (F)	5.9819E-14	6.7170E-10	6.1844E-08	2.8974E-07	4.0669E-07	4.0934E-07	4.0934E-07	4.9121E-08	3.6918E-16	4.09344E-07
	236U (H)	1.4601E-11	4.9717E-08	8.8702E-06	1.0037E-04	1.8068E-04	1.8595E-04	1.8597E-04	2.2316E-05	4.1002E-12	1.85971E-04
	236U (F)	1.7900E-11	1.3718E-08	9.7371E-07	3.6837E-06	4.7837E-06	4.8021E-06	4.8021E-06	5.7625E-07	1.3647E-15	4.80209E-06
	238U (F)	1.4817E-10	2.6379E-08	8.3132E-07	1.4721E-06	1.5962E-06	1.5967E-06	1.5967E-06	1.9151E-07	2.1092E-18	1.59672E-06
	238U (H)	8.9315E-09	4.1396E-06	1.1816E-04	3.3720E-04	3.7460E-04	3.7499E-04	3.7499E-04	4.4999E-05	7.3072E-15	3.74992E-04
	237Np(F)	2.2136E-14	7.7201E-10	1.0377E-07	9.7376E-07	1.5738E-06	1.6055E-06	1.6056E-06	1.9267E-07	1.7447E-14	1.60559E-06
	239Pu(T)	2.7023E-14	1.9806E-09	6.5219E-07	7.9145E-06	1.9018E-05	1.9801E-05	1.9807E-05	2.3769E-06	1.2704E-12	1.98073E-05
	239Pu(F)	1.3104E-11	4.7728E-08	1.2852E-05	1.4989E-04	3.2495E-04	3.3685E-04	3.3692E-04	4.0431E-05	1.5005E-11	3.36923E-04
	239Pu(H)	1.0301E-12	8.8515E-09	3.8291E-06	9.3034E-05	2.5704E-04	2.6084E-04	2.6106E-04	3.3719E-05	1.1201E-10	2.81078E-04
	240Pu(F)	8.6108E-11	1.3910E-07	2.5442E-05	1.5745E-04	2.8247E-04	2.8654E-04	2.8655E-04	3.4386E-05	1.5301E-12	2.86554E-04
	241Pu(T)	7.0920E-11	5.6687E-08	5.0501E-06	1.9954E-05	2.7216E-05	2.7345E-05	2.7346E-05	3.2815E-06	1.6610E-14	2.73466E-05
	241Pu(F)	5.5797E-10	5.5453E-07	4.6252E-05	2.0724E-04	2.8294E-04	2.8455E-04	2.8455E-04	3.4146E-05	1.5996E-13	2.84553E-04
	242Pu(F)	1.6100E-09	9.1462E-07	9.3315E-05	2.8532E-04	3.9732E-04	3.9870E-04	3.9870E-04	4.7844E-05	3.8573E-14	3.98703E-04
	252Cf(S)	2.8176E-09	7.6357E-06	1.3174E-03	1.3158E-02	2.3337E-02	2.3919E-02	2.3920E-02	2.8705E-03	3.7466E-10	2.39203E-02

Table 2.7.1 Continued

Mass No. 168	$_{62}Sm \rightarrow {}_{63}Eu \rightarrow {}_{64}Gd \rightarrow {}_{65}Tb \rightarrow {}_{66}Dy \rightarrow {}_{67}Ho \rightarrow {}_{68}Er \xleftarrow{0.9800} {}_{69}Tm \xrightarrow{0.0200} {}_{70}Yb$									PAGE 103
	$_{62}Sm$	$_{63}Eu$	$_{64}Gd$	$_{65}Tb$	$_{66}Dy$	$_{67}Ho$	$_{68}Er$	$_{69}Tm$	$_{70}Yb$	
λ(1/sec)	1.0568E+00	2.2432E-01	1.2843E-01	9.7297E-03	4.0702E-04	9.8508E-03	0.0	8.6171E-08	0.0	
Q-value(MeV)	6.9750E+00	7.7310E+00	4.5640E+00	4.7310E+00	1.4910E+00	2.7200E+00	0.0	2.5900E-01	0.0	
E-beta (MeV)	2.4430E+00	2.1680E+00	1.5210E+00	1.1700E+00	3.1869E-01	6.6241E-01	0.0	2.3001E-04	0.0	Mass
E-gamma(MeV)	1.4150E+00	2.7490E+00	9.3250E-01	1.8530E+00	5.4286E-01	8.4861E-01	0.0	1.1015E+00	0.0	Yield
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	4.7722E-02	0.0	6.6871E-02	0.0	
Spin						3+		3+		
Cumulative Yield ^{232}Th(F)	2.0509E-14	9.0922E-11	1.3094E-08	3.7400E-08	5.7205E-08	5.7428E-08	5.7428E-08	1.6640E-17	3.3290E-19	5.74278E-08
^{232}Th(H)	1.8400E-12	4.2519E-09	5.4526E-07	4.5653E-06	7.2354E-06	7.3594E-06	7.3597E-06	2.2070E-14	4.4151E-16	7.35972E-06
^{233}U (T)	1.1939E-17	5.3946E-15	6.6872E-11	2.1260E-09	1.4421E-08	1.6620E-08	1.6697E-08	2.0833E-14	4.1798E-16	1.66973E-08
^{233}U (F)	4.1123E-18	9.4586E-15	9.4901E-11	3.4449E-09	1.9845E-08	2.3245E-08	2.3343E-08	9.0053E-14	1.8082E-15	2.33432E-08
^{233}U (H)	1.1678E-14	3.7200E-10	4.0638E-07	2.2307E-05	1.1001E-04	1.3741E-04	1.3806E-04	7.7394E-10	1.5546E-11	1.38057E-04
^{235}U (T)	3.5764E-17	3.0193E-12	1.7026E-09	1.9899E-08	6.5788E-08	6.8878E-08	6.8917E-08	2.3921E-15	4.7889E-17	6.89174E-08
^{235}U (F)	2.3587E-16	1.2994E-11	4.1411E-09	4.2024E-08	9.8999E-08	1.0231E-07	1.0233E-07	5.0101E-15	1.0029E-16	1.02331E-07
^{235}U (H)	5.1628E-15	1.5901E-09	9.6674E-07	2.9368E-05	9.5272E-05	1.0717E-04	1.0732E-04	9.4303E-11	1.8878E-12	1.07324E-04
^{236}U (F)	9.2082E-15	3.0000E-10	7.3699E-08	5.6969E-07	1.1747E-06	1.2005E-06	1.2006E-06	2.0074E-14	4.0174E-16	1.20063E-06
^{238}U (F)	3.6142E-12	1.5454E-09	1.8576E-07	4.7710E-07	6.8034E-07	6.8223E-07	6.8224E-07	8.9801E-17	1.7965E-18	6.82237E-07
^{238}U (H)	1.9403E-10	2.8724E-07	2.4191E-05	1.4521E-04	2.0132E-04	2.0306E-04	2.0306E-04	3.4192E-13	6.8399E-15	2.03064E-04
^{237}Np(F)	5.1572E-17	1.2200E-11	5.3023E-09	1.3530E-07	3.7531E-07	4.1191E-07	4.1227E-07	1.9636E-13	3.9319E-15	4.12269E-07
^{239}Pu(T)	6.4583E-17	2.5308E-11	3.0435E-08	8.5271E-07	4.8540E-06	5.5232E-06	5.5410E-06	1.0903E-11	2.1872E-13	5.54102E-06
^{239}Pu(F)	1.8748E-15	6.8021E-10	6.3987E-07	1.8745E-05	8.5165E-05	9.6469E-05	9.6705E-05	1.4304E-10	2.8683E-12	9.67050E-05
^{239}Pu(H)	8.3310E-15	1.8401E-10	2.5920E-07	1.8060E-05	1.0607E-04	1.3997E-04	1.4099E-04	1.5600E-09	3.1299E-11	1.40989E-04
^{240}Pu(F)	3.2962E-14	3.5204E-09	2.4638E-06	3.2067E-05	1.2146E-04	1.2820E-04	1.2830E-04	2.6101E-11	5.2360E-13	1.28303E-04
^{241}Pu(T)	5.7617E-14	2.1306E-09	6.6332E-07	5.2346E-06	1.2157E-05	1.2460E-05	1.2462E-05	3.9001E-13	7.8071E-15	1.24619E-05
^{241}Pu(F)	6.1597E-12	1.8005E-08	5.1278E-06	4.9626E-05	1.1062E-04	1.1399E-04	1.1401E-04	3.5998E-12	7.2047E-14	1.14014E-04
^{242}Pu(F)	2.1500E-11	2.8822E-08	1.2329E-05	5.3030E-05	1.7103E-04	1.7383E-04	1.7386E-04	2.0700E-12	4.1416E-14	1.73858E-04
^{252}Cf(S)	2.4578E-11	2.2782E-07	1.2911E-04	3.3282E-03	1.0800E-02	1.1943E-02	1.1958E-02	7.5528E-09	1.5140E-10	1.19580E-02

Table 2.7.1 Continued

Mass No. 169	$_{63}$Eu → $_{64}$Gd → $_{65}$Tb → $_{66}$Dy → $_{67}$Ho → $_{68}$Er → $_{69}$Tm ← $_{70}$Yb								PAGE 104
	$_{63}$Eu	$_{64}$Gd	$_{65}$Tb	$_{66}$Dy	$_{67}$Ho	$_{68}$Er	$_{69}$Tm	$_{70}$Yb	
λ(1/sec)	4.3268E-01	1.7934E-01	2.4051E-02	3.0793E-03	2.5114E-03	8.6264E-07	0.0	2.5094E-07	
Q-value(MeV)	7.1520E+00	6.1180E+00	4.2050E+00	2.8520E+00	2.1240E+00	3.5200E-01	0.0	9.0840E-01	
E-beta (MeV)	2.2770E+00	1.9130E+00	1.3550E+00	8.6605E-01	4.9327E-01	9.9953E-02	0.0	0.0	Mass
E-gamma(MeV)	1.9350E+00	1.6640E+00	9.2740E-01	6.3222E-01	8.5964E-01	1.8394E-05	0.0	2.1101E-01	Yield
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	5.7673E-03	0.0	1.6675E-01	
Spin					7/2-	1/2-	1/2+	7/2+	
Cumulative yield									
^{232}Th(F)	4.5510E-12	1.5149E-09	1.1817E-08	2.8421E-08	2.9141E-08	2.9146E-08	2.9146E-08	9.3766E-21	2.91461E-08
^{232}Th(H)	1.4200E-10	5.6243E-08	1.2463E-06	3.2863E-06	3.5579E-06	3.5597E-06	3.5597E-06	9.1672E-18	3.55974E-06
^{233}U (T)	3.4121E-17	2.1891E-12	2.4709E-10	3.6057E-09	5.4849E-09	5.6478E-09	5.6480E-09	3.3106E-17	5.64785E-09
^{233}U (F)	5.7084E-17	3.1100E-12	3.8011E-10	4.8802E-09	7.6302E-09	7.8372E-09	7.8379E-09	1.5351E-16	7.83720E-09
^{233}U (H)	6.5500E-12	2.3107E-08	3.9031E-06	4.5904E-05	8.0704E-05	8.3084E-05	8.3093E-05	1.6700E-12	8.30930E-05
^{235}U (T)	7.9694E-15	9.5279E-11	3.7145E-09	2.3610E-08	2.7989E-08	2.8132E-08	2.8132E-08	2.1088E-18	2.81320E-08
^{235}U (F)	6.4594E-14	3.9582E-10	1.2291E-08	5.3872E-08	6.1349E-08	6.1497E-08	6.1498E-08	5.8174E-18	6.14975E-08
^{235}U (H)	4.6102E-11	8.4050E-08	7.6045E-06	5.3707E-05	7.6108E-05	7.6958E-05	7.6960E-05	1.1077E-13	7.69597E-05
^{236}U (F)	4.6699E-12	3.1746E-09	7.3174E-08	2.6817E-07	2.9467E-07	2.9508E-07	2.9508E-07	7.9024E-18	2.95077E-07
^{238}U (F)	5.4462E-11	1.5072E-08	1.0117E-07	2.2031E-07	2.2462E-07	2.2465E-07	2.2465E-07	2.9266E-20	2.24645E-07
^{238}U (H)	1.5102E-08	3.8658E-06	5.8875E-05	1.2439E-04	1.3031E-04	1.3034E-04	1.3034E-04	1.7016E-16	1.30342E-04
^{237}Np(F)	1.7811E-14	2.2900E-10	1.7029E-08	9.9230E-08	1.3293E-07	1.3393E-07	1.3393E-07	1.4012E-16	1.33932E-07
^{239}Pu(T)	2.4216E-14	1.0704E-09	1.0710E-07	1.2575E-06	1.8437E-06	1.8837E-06	1.8838E-06	1.6138E-14	1.88377E-06
^{239}Pu(F)	8.4525E-12	2.3416E-08	2.2941E-06	2.2140E-05	3.2013E-05	3.2568E-05	3.2569E-05	1.9032E-13	3.25694E-05
^{239}Pu(H)	2.2701E-12	1.0403E-08	2.2405E-06	3.2342E-05	6.3144E-05	6.5774E-05	6.5767E-05	3.0702E-12	6.57870E-05
^{240}Pu(F)	1.2401E-10	2.2815E-07	1.0179E-05	7.5486E-05	9.1687E-05	9.2325E-05	9.2326E-05	9.8329E-14	9.23258E-05
^{241}Pu(T)	5.5015E-11	4.5968E-08	1.1263E-06	4.7373E-06	5.2564E-06	5.2651E-06	5.2651E-06	3.2977E-16	5.26513E-06
^{241}Pu(F)	4.9497E-10	4.0147E-07	1.1701E-05	4.7899E-05	5.4059E-05	5.4171E-05	5.4171E-05	2.8942E-15	5.41708E-05
^{242}Pu(F)	1.1100E-09	1.0911E-06	1.8791E-05	8.9792E-05	9.6882E-05	9.7039E-05	9.7039E-05	1.0942E-15	9.70394E-05
^{252}Cf(S)	2.4678E-09	4.3565E-06	3.4205E-04	2.3622E-03	3.2224E-03	3.2541E-03	3.2542E-03	4.5858E-12	3.25417E-03

Table 2.7.1 Continued

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Mass No. 170

$^{m}_{67}Ho$

$_{63}Eu \rightarrow {}_{64}Gd \rightarrow {}_{65}Tb \rightarrow {}_{66}Dy \rightarrow {}_{67}Ho \rightarrow {}_{68}Er \xleftarrow{0.0014} {}_{69}Tm \xrightarrow{0.9986} {}_{70}Yb$

	$_{63}Eu$	$_{64}Gd$	$_{65}Tb$	$_{66}Dy$	$_{67}Ho$	$^{m}_{67}Ho$	$_{68}Er$	$_{69}Tm$	$_{70}Yb$	Mass Yield
λ(1/sec)	2.2595E-01	3.5914E-01	3.2239E-02	4.7089E-03	1.6120E-02	4.1259E-03	0.0	6.2384E-08	0.0	
Q-value(MeV)	7.7310E+00	5.5820E+00	5.6770E+00	2.3600E+00	4.0000E+00	4.0000E+00	0.0	9.6790E-01	0.0	
E-beta (MeV)	2.1650E+00	1.9140E+00	1.4940E+00	6.4785E-01	1.5870E+00	9.5764E-01	0.0	3.1508E-01	0.0	
E-gamma(MeV)	2.7530E+00	1.1160E+00	2.1070E+00	6.2895E-01	1.6094E-01	1.3172E+00	0.0	2.6992E-03	0.0	
E-I.C (MeV)	0.0	0.0	0.0	0.0	3.3369E-02	6.2960E-02	0.0	1.7545E-02	0.0	
Spin					1+	4+		1-		
Cumulative yield ^{232}Th(F)	1.1802E-14	1.0903E-10	1.7194E-09	1.0732E-08	1.0870E-08	6.7333E-10	1.1569E-08	6.8245E-15	6.8151E-15	1.15693E-08
^{232}Th(H)	2.7500E-12	3.5428E-09	2.2355E-07	1.2336E-06	1.2740E-06	3.1752E-07	1.6014E-06	1.3700E-11	1.3680E-11	1.60145E-06
^{233}U (T)	9.4558E-20	7.4539E-15	1.3694E-11	6.5243E-10	6.0375E-10	6.3535E-10	1.6660E-09	1.6188E-12	1.6172E-12	1.66753E-09
^{233}U (F)	1.6414E-19	1.0503E-14	2.2000E-11	8.6301E-10	1.0672E-09	9.8987E-10	2.3390E-09	2.1779E-12	2.1769E-12	2.34121E-09
^{233}U (H)	2.1649E-15	7.5101E-10	3.9475E-07	1.2795E-05	1.5803E-05	2.3592E-05	4.4495E-05	6.0300E-08	6.0253E-08	4.45554E-05
^{235}U (T)	2.3646E-17	2.1195E-12	2.0707E-10	3.9252E-09	4.2693E-09	1.4425E-09	5.9168E-09	1.6654E-13	1.6634E-13	5.91680E-09
^{235}U (F)	3.9071E-16	1.5393E-11	1.2548E-09	1.4449E-08	1.5406E-08	4.6405E-09	2.0419E-08	7.8235E-13	7.8138E-13	2.04193E-08
^{235}U (H)	2.2129E-14	2.7902E-09	7.7083E-07	1.4072E-05	1.5952E-05	1.4830E-05	3.2822E-05	1.1601E-08	1.1588E-08	3.26341E-05
^{236}U (F)	4.9320E-15	1.2500E-10	7.3649E-09	6.8964E-08	7.2308E-08	1.6216E-08	8.9544E-08	1.3398E-12	1.3381E-12	8.95452E-08
^{238}U (F)	1.2282E-13	8.8704E-10	1.1800E-08	6.4161E-08	6.4842E-08	3.3034E-09	5.8250E-08	2.1817E-14	2.1787E-14	6.82498E-08
^{238}U (H)	3.5806E-10	2.9641E-07	1.2499E-05	5.1005E-05	5.2070E-05	6.3562E-06	6.0599E-05	1.5302E-10	1.5281E-10	6.05987E-05
^{237}Np(F)	8.2832E-16	6.5701E-11	1.4566E-08	2.0557E-07	2.3970E-07	1.6548E-07	4.2187E-07	8.4375E-11	8.4260E-11	4.21956E-07
^{239}Pu(T)	5.1071E-17	1.6705E-11	4.5682E-09	1.6552E-07	2.0156E-07	1.5112E-07	3.9379E-07	2.5391E-10	2.5372E-10	3.94048E-07
^{239}Pu(F)	2.2483E-15	5.3716E-10	1.4458E-07	4.1758E-06	4.9864E-06	3.9308E-06	9.7475E-06	5.0915E-09	5.0871E-09	9.75259E-06
^{239}Pu(H)	8.0860E-16	4.1302E-10	2.7943E-07	1.1380E-05	1.4682E-05	2.5899E-05	4.7552E-05	1.0501E-07	1.0494E-07	4.76671E-05
^{240}Pu(F)	1.0901E-12	8.0019E-09	8.8609E-07	2.0290E-05	2.2051E-05	6.5398E-06	3.2031E-05	3.6404E-09	3.6366E-09	3.20348E-05
^{241}Pu(T)	4.7677E-14	1.6705E-09	1.0170E-07	1.1620E-06	1.2281E-06	2.7799E-07	1.5287E-06	3.0801E-11	3.0764E-11	1.52673E-06
^{241}Pu(F)	4.5998E-12	1.3504E-08	1.0435E-06	1.0953E-05	1.1637E-05	3.3159E-06	1.5194E-05	4.1691E-10	4.1638E-10	1.51942E-05
^{242}Pu(F)	1.5600E-11	6.8416E-08	2.4884E-06	3.8389E-05	3.9572E-05	5.7370E-06	4.5943E-05	5.0596E-10	5.0628E-10	4.59435E-05
^{252}Cf(S)	2.3679E-11	1.4289E-07	3.3113E-05	6.0459E-04	7.2168E-04	4.9235E-04	1.2810E-03	3.5568E-07	3.5529E-07	1.28134E-03

Table 2.7.1 Continued

Mass No. 171	$_{64}$Gd → $_{65}$Tb → $_{66}$Dy → $_{67}$Ho → $_{68}$Er → $_{69}$Tm → $_{70}$Yb							PAGE 106
	$_{64}$Gd	$_{66}$Tb	$_{66}$Dy	$_{67}$Ho	$_{68}$Er	$_{69}$Tm	$_{70}$Yb	
λ(1/sec)	2.2929E-01	5.8641E-02	1.7277E-02	1.7178E-03	2.5604E-05	1.1440E-08	0.0	
Q-value(MeV)	6.3760E+00	4.9570E+00	3.9840E+00	2.4570E+00	1.4904E+00	9.6700E-02	0.0	
E-beta (MeV)	1.9880E+00	1.5940E+00	1.2500E+00	7.1300E-01	3.6232E-01	2.4888E-02	0.0	Mass
E-gamma(MeV)	1.7600E+00	1.1680E+00	9.2900E-01	5.8130E-01	3.5543E-01	1.0010E-04	0.0	Yield
E-I.C (MeV)	0.0	0.0	0.0	0.0	7.5247E-02	1.3010E-03	0.0	
Spin					5/2-	1/2+	6-	
Cumulative yield								
^{232}Th(F)	5.2411E-12	3.1692E-10	3.8372E-09	4.9574E-09	5.0362E-09	5.0363E-09	5.0363E-09	5.03625E-09
^{232}Th(H)	1.4800E-10	2.8948E-08	3.8795E-07	7.2496E-07	7.5158E-07	7.5168E-07	7.5168E-07	7.51679E-07
^{233}U (T)	5.6002E-17	1.5705E-13	7.4069E-11	3.6395E-10	5.5087E-10	5.5535E-10	5.5535E-10	5.55350E-10
^{233}U (F)	7.6272E-17	2.2971E-13	9.3401E-11	4.9041E-10	7.1341E-10	7.1920E-10	7.1922E-10	7.19219E-10
^{233}U (H)	1.5600E-11	2.6916E-08	2.5269E-06	1.7027E-05	2.4377E-05	2.4640E-05	2.4641E-05	2.46406E-05
^{235}U (T)	9.5351E-15	2.2195E-11	9.8098E-10	2.4307E-09	2.8146E-09	2.8178E-09	2.8178E-09	2.81778E-09
^{235}U (F)	6.5979E-14	1.0795E-10	2.9867E-09	6.5651E-09	7.1628E-09	7.1667E-09	7.1667E-09	7.16668E-09
^{235}U (H)	7.3604E-11	5.5777E-08	3.3659E-06	1.4367E-05	1.7617E-05	1.7680E-05	1.7680E-05	1.76804E-05
^{236}U (F)	3.2599E-12	5.7425E-10	1.4574E-08	2.7774E-08	2.9504E-08	2.9512E-08	2.9512E-08	2.95122E-08
^{238}U (F)	2.9133E-11	1.4608E-09	1.5177E-08	1.8891E-08	1.9111E-08	1.9111E-08	1.9111E-08	1.91105E-08
^{238}U (H)	1.7302E-08	2.2077E-06	2.0811E-05	3.2913E-05	3.3559E-05	3.3561E-05	3.3561E-05	3.35607E-05
^{237}Np(F)	1.4133E-13	7.0601E-10	2.8506E-08	1.0651E-07	1.2491E-07	1.2520E-07	1.2520E-07	1.25203E-07
^{239}Pu(T)	3.5985E-14	3.2210E-10	2.9932E-08	1.3367E-07	1.8768E-07	1.8883E-07	1.8884E-07	1.88836E-07
^{239}Pu(F)	7.6523E-12	7.3099E-09	5.5548E-07	2.4360E-06	3.2423E-06	3.2588E-06	3.2588E-06	3.25882E-06
^{239}Pu(H)	1.1001E-11	2.4512E-08	2.9347E-06	2.9936E-05	3.7037E-05	3.7627E-05	3.7628E-05	3.76282E-05
^{240}Pu(F)	2.4502E-10	1.0425E-07	5.5548E-06	1.4806E-05	1.7726E-05	1.7754E-05	1.7754E-05	1.77539E-05
^{241}Pu(T)	2.3506E-11	5.2250E-09	1.3626E-07	2.6630E-07	2.8700E-07	2.8711E-07	2.8711E-07	2.87110E-07
^{241}Pu(F)	3.4298E-10	9.1538E-08	2.3114E-06	4.9213E-06	5.3203E-06	5.3227E-06	5.3227E-06	5.32270E-06
^{242}Pu(F)	3.0100E-09	4.6002E-07	1.4160E-05	2.3700E-05	2.5510E-05	2.5517E-05	2.5517E-05	2.55167E-05
^{252}Cf(S)	3.3370E-09	2.5710E-06	1.2746E-04	4.9213E-04	5.9703E-04	5.9881E-04	5.9881E-04	5.98813E-04

Table 2.7.1 Continued

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$_{64}Gd \rightarrow {}_{65}Tb \rightarrow {}_{66}Dy \rightarrow {}_{67}Ho \rightarrow {}_{68}Er \rightarrow {}_{69}Tm \rightarrow {}_{70}Yb \leftarrow {}_{71}Lu$, $_{71}^{m}Lu \rightarrow {}_{71}Lu$

		$_{64}Gd$	$_{65}Tb$	$_{66}Dy$	$_{67}Ho$	$_{68}Er$	$_{69}Tm$	$_{70}Yb$	$_{71}Lu$	$_{71}^{m}Lu$	Mass Yield
	λ(1/sec)	6.9245E-01	3.4779E-02	2.6355E-02	3.5114E-03	3.9055E-06	3.0274E-06	0.0	1.1974E-06	3.1223E-03	
	Q-value(MeV)	6.3440E+00	5.7370E+00	3.3070E+00	4.0360E+00	8.6900E-01	1.6700E+00	0.0	2.5240E+00	4.1860E-02	
	E-beta (MeV)	2.1990E+00	1.5110E+00	1.0140E+00	7.5713E-01	9.2159E-02	4.9194E-01	0.0	3.6999E-04	0.0	
	E-gamma(MeV)	1.2790E+00	2.1250E+00	7.5300E-01	2.0579E+00	4.9289E-01	4.7818E-01	0.0	1.9099E+00	1.4388E-03	
	E-I.C (MeV)	0.0	0.0	0.0	0.0	4.1671E-02	3.9865E-02	0.0	6.9482E-02	3.3910E-02	
	Spin						2-		4+	1-	
Cumulative yield	^{232}Th(F)	4.3393E-14	3.3808E-11	1.4642E-09	2.3564E-09	2.6934E-09	2.5941E-09	2.5941E-09	3.7039E-21	6.3326E-22	2.69343E-09
	^{232}Th(H)	3.9300E-12	2.4040E-09	9.0005E-08	3.0201E-07	3.4901E-07	3.4965E-07	3.4965E-07	7.0856E-18	8.0123E-19	3.49650E-07
	^{233}U (T)	2.3337E-19	2.7118E-15	6.2674E-12	6.3644E-11	1.7860E-10	1.6524E-10	1.6528E-10	4.1207E-18	7.9164E-19	1.66244E-10
	^{233}U (F)	3.6247E-19	4.7747E-15	8.9801E-12	1.0358E-10	2.5958E-10	2.6998E-10	2.7008E-10	2.1038E-17	3.6968E-18	2.68983E-10
	^{233}U (H)	1.3730E-14	1.5900E-09	4.6759E-07	7.9277E-06	1.7908E-05	1.8918E-05	1.8925E-05	2.1400E-12	2.4199E-13	1.89245E-05
	^{235}U (T)	8.3965E-17	2.0805E-13	1.3397E-10	5.8187E-10	9.6278E-10	9.7065E-10	9.7066E-10	3.5497E-19	6.8194E-20	9.70563E-10
	^{235}U (F)	5.1918E-16	4.2381E-12	3.8007E-10	1.4798E-09	2.0383E-09	2.0481E-09	2.0481E-09	1.0645E-18	1.8199E-19	2.04811E-09
	^{235}U (H)	2.0601E-12	5.9424E-09	9.2999E-07	9.2304E-06	1.5751E-05	1.6091E-05	1.6092E-05	1.3759E-13	1.5568E-14	1.60920E-05
	^{236}U (F)	6.5655E-15	2.7900E-11	1.9679E-09	6.1678E-09	7.9178E-09	7.9397E-09	7.9398E-09	1.2040E-18	2.0585E-19	7.93971E-09
	^{238}U (F)	1.4517E-12	1.6865E-10	6.1156E-09	9.2693E-09	9.9781E-09	9.9800E-09	9.9800E-09	5.7352E-21	9.8056E-22	9.98000E-09
	^{238}U (H)	7.5712E-10	2.9881E-07	7.5500E-06	1.9752E-05	2.1602E-05	2.1619E-05	2.1619E-05	2.2824E-16	2.5809E-17	2.16190E-05
	^{237}Np(F)	1.0417E-14	2.9900E-10	3.6000E-06	3.0700E-07	4.7601E-07	4.8404E-07	4.8406E-07	3.1311E-15	5.3532E-16	4.84057E-07
	^{239}Pu(T)	1.4514E-15	7.3124E-12	2.3781E-09	2.2585E-08	5.3895E-08	5.5585E-08	5.5598E-08	1.9016E-15	3.6532E-16	5.55978E-08
	^{239}Pu(F)	3.9840E-15	1.8306E-10	4.6797E-08	4.4492E-07	9.3907E-07	9.6578E-07	9.6593E-07	2.5440E-14	4.3495E-15	9.65932E-07
	^{239}Pu(H)	4.9757E-15	8.5605E-10	5.2287E-07	6.8032E-06	1.7504E-05	1.8854E-05	1.8865E-05	4.7003E-12	5.3150E-13	1.88865E-05
	^{240}Pu(F)	5.4705E-12	6.2161E-09	1.2063E-06	5.6758E-06	1.0257E-05	1.0363E-05	1.0364E-05	4.4643E-14	7.6326E-15	1.03637E-05
	^{241}Pu(T)	5.3232E-14	2.5007E-10	2.2156E-08	7.0770E-08	9.5477E-08	9.5801E-08	9.5802E-08	3.0862E-17	5.8906E-18	9.58010E-08
	^{241}Pu(F)	4.8698E-12	3.7247E-09	3.0171E-07	1.1307E-06	1.5136E-06	1.5200E-06	1.5200E-06	4.6543E-16	7.9575E-17	1.52001E-06
	^{242}Pu(F)	1.0900E-10	3.8510E-08	4.7086E-06	1.0889E-05	1.5299E-05	1.5333E-05	1.5333E-05	5.8919E-16	1.1783E-16	1.53329E-05
	^{252}Cf(S)	6.7739E-11	1.6292E-07	2.5340E-05	2.1717E-04	3.5903E-04	3.7630E-04	3.7633E-04	3.4769E-12	6.6796E-13	3.76327E-04

Table 2.7.2 Neutron capture cross section data of each fission product nuclide

(Unit:Barns)

GROUP	SE- 74 (340740)	AS- 75 (330750)	SE- 76 (340760)	SE- 77 (340770)	SE- 78 (340780)	SE- 79 (340790)	BR- 79 (350790)	SE- 80 (340800)	KR- 80 (360800)	BR- 81 (350810)
1	3.209E-03	2.640E-03	1.873E-03	1.332E-03	1.658E-03	8.317E-04	2.807E-03	6.213E-04	3.011E-02	1.996E-03
2	1.009E-02	5.934E-03	4.446E-03	3.279E-03	4.684E-03	2.197E-03	7.916E-03	2.086E-03	9.176E-02	6.669E-03
3	1.879E-02	1.025E-02	8.865E-03	7.024E-03	9.923E-03	7.514E-03	1.537E-02	4.328E-03	7.029E-02	1.592E-02
4	2.934E-02	1.555E-02	1.314E-02	1.077E-02	1.660E-02	1.783E-02	2.295E-02	6.788E-03	6.668E-02	2.122E-02
5	4.297E-02	2.363E-02	1.834E-02	1.592E-02	2.042E-02	2.852E-02	3.013E-02	7.233E-03	7.781E-02	2.486E-02
6	7.290E-02	4.113E-02	3.314E-02	3.420E-02	3.639E-02	4.813E-02	5.541E-02	1.471E-02	1.066E-01	5.334E-02
7	7.591E-02	1.168E-01	3.862E-02	1.080E-01	3.953E-02	8.281E-02	1.526E-01	1.614E-02	1.095E-01	9.501E-02
8	9.244E-02	1.960E-01	4.370E-02	2.038E-01	4.494E-02	1.665E-01	2.755E-01	1.750E-02	1.364E-01	1.415E-01
9	1.393E-01	2.982E-01	6.253E-02	3.177E-01	6.439E-02	2.838E-01	4.300E-01	2.295E-02	2.065E-01	2.274E-01
10	2.229E-01	4.714E-01	1.029E-01	4.805E-01	1.066E-01	4.554E-01	6.437E-01	1.188E-02	3.192E-01	3.668E-01
11	3.396E-01	7.552E-01	1.641E-01	6.810E-01	1.196E-01	6.857E-01	9.059E-01	1.140E-02	4.640E-01	4.701E-01
12	4.805E-01	1.270E+00	2.063E-01	9.337E-01	1.311E-01	9.927E-01	1.337E+00	2.734E-01	6.339E-01	5.968E-01
13	6.550E-01	1.492E+00	4.800E-01	1.694E+00	2.695E-01	1.481E+00	2.999E+00	9.791E-02	8.830E-01	8.003E-01
14	2.814E+00	1.964E+00	2.315E-01	3.036E+00	1.944E-01	2.359E+00	4.047E+00	3.902E-01	1.218E+00	2.700E+00
15	4.177E-02	9.393E+00	1.840E+00	2.518E+00	1.601E-01	3.957E+00	9.480E+00	5.863E-03	1.436E+00	3.572E+00
16	2.102E+01	1.271E+01	5.422E+00	5.046E+00	4.869E+00	6.713E+00	2.175E+01	6.364E-03	3.127E+00	2.652E-01
17	4.716E-01	7.320E-02	5.197E-01	8.693E+00	7.639E-03	1.128E+01	4.269E+00	8.511E-03	6.366E+01	3.383E+01
18	7.269E-01	7.834E+00	1.088E+00	1.452E-01	8.921E-03	1.845E+01	2.111E+01	1.202E-02	1.689E+00	1.789E+01
19	7.049E+02	4.621E+01	1.939E+00	3.536E-01	1.237E-02	8.630E+00	9.815E+01	1.726E-02	3.325E-01	1.200E-01
20	1.320E+01	2.679E-01	3.139E+00	8.537E-01	1.773E-02	2.031E+00	7.666E-01	2.499E-02	4.432E-01	1.289E-01
21	5.214E+00	3.051E-01	4.811E+00	1.724E+00	2.565E-02	2.956E+00	7.096E-01	3.629E-02	6.555E-01	1.702E-01
22	5.543E+00	4.108E-01	7.176E+00	3.019E+00	3.721E-02	4.301E+00	9.560E-01	5.273E-02	9.713E-01	2.387E-01
23	7.151E+00	5.794E-01	1.056E+01	4.828E+00	5.406E-02	6.259E+00	1.376E+00	7.666E-02	1.429E+00	3.420E-01
24	9.878E+00	8.314E-01	1.545E+01	7.360E+00	7.859E-02	9.102E+00	2.003E+00	1.115E-01	2.090E+00	4.942E-01
25	2.719E+01	2.353E+00	4.437E+01	2.184E+01	2.246E-01	2.604E+01	5.745E+00	3.186E-01	6.004E+00	1.406E+00
RI	5.778E+02	6.370E+01	3.709E+01	3.013E+01	4.719E+00	5.848E+01	1.281E+02	8.961E-01	5.969E+01	4.673E+01
THERM	5.200E+01	4.516E+00	8.529E+01	4.216E+01	4.315E-01	5.002E+01	1.105E+01	6.121E-01	1.154E+01	2.700E+00
G	1.005E+00	1.002E+00	9.998E-01	9.956E-01	1.000E+00	1.000E+00	9.991E-01	1.000E+00	9.998E-01	1.001E+00

GROUP	SE- 82 (340820)	KR- 82 (360820)	KR- 83 (360830)	KR- 84 (360840)	SR- 84 *) (380840)	KR- 85 (360850)	RB- 85 (370850)	KR- 86 (360860)	SR- 86 (380860)	RB- 87 (370870)
1	1.309E-03	3.999E-03	8.000E-04	1.309E-03	8.930E-03	7.569E-04	1.282E-03	1.733E-04	2.036E-03	3.471E-04
2	5.128E-03	1.259E-02	1.312E-03	3.434E-03	2.557E-02	1.600E-03	3.584E-03	6.640E-04	6.073E-03	6.927E-04
3	9.267E-03	1.995E-02	4.916E-03	5.930E-03	5.674E-02	8.649E-03	8.405E-03	1.033E-03	1.539E-02	1.770E-03
4	9.553E-03	2.722E-02	1.348E-02	9.129E-03	6.486E-02	1.027E-02	1.685E-02	2.152E-03	2.296E-02	2.473E-03
5	8.456E-03	3.132E-02	3.197E-02	1.074E-02	6.492E-02	1.051E-02	2.658E-02	2.089E-03	3.198E-02	2.998E-03
6	1.667E-02	4.803E-02	4.443E-02	1.702E-02	1.019E-01	1.216E-02	4.668E-02	1.555E-03	3.339E-02	4.219E-03
7	1.819E-02	4.203E-02	5.941E-02	1.714E-02	1.032E-01	1.677E-02	6.814E-02	1.707E-03	3.122E-02	7.654E-03
8	1.973E-02	4.664E-02	9.242E-02	1.908E-02	1.246E-01	2.468E-02	1.130E-01	3.062E-03	3.321E-02	1.063E-02
9	2.620E-02	6.619E-02	1.620E-01	2.570E-02	1.687E-01	4.065E-02	1.878E-01	5.174E-03	4.752E-02	1.610E-02
10	4.197E-02	1.087E-01	2.909E-01	4.136E-02	2.397E-01	7.309E-02	3.136E-01	4.850E-03	6.068E-02	2.785E-02
11	8.887E-03	1.788E-01	5.034E-01	7.183E-02	3.486E-01	1.328E-01	4.974E-01	3.617E-03	1.261E-01	3.512E-02
12	5.165E-03	2.731E-01	7.978E-01	1.206E-01	5.102E-01	2.279E-01	5.513E-01	4.547E-03	1.792E-01	2.553E-02
13	1.979E-02	3.906E-01	1.195E+00	1.263E-01	5.850E-01	3.671E-01	1.137E+00	1.010E-05	3.338E-01	2.741E-02
14	1.242E-01	5.612E-01	1.911E+00	8.270E-05	5.138E-01	5.324E-01	2.563E+00	1.353E-05	1.261E-01	3.067E-04
15	7.349E-01	8.876E-01	3.225E+00	2.700E+00	2.997E+00	1.615E-02	4.842E+00	1.916E-05	4.726E+00	4.206E-02
16	1.238E-03	2.046E-01	9.321E+00	3.089E-03	7.703E+00	1.505E-02	8.865E-01	2.755E-05	5.309E-02	3.346E+00
17	7.141E-04	8.898E-02	4.803E-02	1.152E-03	2.325E-02	2.189E-02	1.169E-01	3.988E-05	2.465E-02	4.189E-03
18	8.641E-04	1.150E+00	8.004E-02	1.564E-03	2.294E-02	3.186E-02	1.065E-02	5.789E-05	2.567E-02	3.287E-03
19	1.213E-03	2.844E+02	1.327E+02	2.522E-03	2.992E-02	4.635E-02	1.424E-02	8.415E-05	3.261E-02	3.914E-03
20	1.769E-03	1.953E+00	1.641E+00	4.024E-03	3.730E-02	6.743E-02	2.007E-02	1.224E-04	4.468E-02	5.242E-03
21	2.594E-03	1.947E+00	1.883E+00	6.177E-03	5.665E-02	9.814E-02	2.882E-02	1.781E-04	6.323E-02	7.349E-03
22	3.794E-03	2.567E+00	4.980E+00	9.246E-03	8.528E-02	1.428E-01	4.167E-02	2.590E-04	9.081E-02	1.052E-02
23	5.535E-03	3.608E+00	1.187E+01	1.364E-02	1.114E-01	2.078E-01	6.045E-02	3.768E-04	1.313E-01	1.518E-02
24	8.066E-03	5.175E+00	2.358E+01	1.998E-02	2.051E-01	3.022E-01	8.781E-02	5.481E-04	1.905E-01	2.200E-02
25	2.309E-02	1.465E+01	9.028E+01	5.746E-02	8.194E-01	8.643E-01	2.507E-01	1.566E-03	5.436E-01	6.272E-02
RI	7.965E-01	2.268E+02	1.410E+02	2.412E+00	1.054E+01	1.742E+00	8.700E+00	2.308E-02	4.766E+00	2.711E+00
THERM	4.441E-02	2.815E+01	1.805E+02	1.105E-01	1.896E+00	1.661E+00	4.816E-01	3.009E-03	1.045E+00	1.205E-01
G	9.994E-01	1.000E+00	9.613E-01	9.996E-01	8.307E-01	1.000E+00	1.000E+00	1.000E+00	9.998E-01	1.000E+00

*) generated from the data of ENDF/B-V

Table 2.7.2 Continued

(Unit:Barns)

GROUP	SR- 87 (380870)	SR- 88 (380880)	SR- 89 (380890)	Y - 89 (390890)	SR- 90 (380900)	ZR- 90 (400900)	Y - 91 (390910)	ZR- 91 (400910)	ZR- 92 (400920)	MO- 92 (420920)
1	1.236E-03	2.161E-04	2.444E-04	9.334E-04	4.521E-04	9.475E-04	6.825E-04	7.338E-04	2.126E-03	2.272E-03
2	1.731E-03	1.044E-03	5.135E-04	2.495E-03	1.666E-03	3.339E-03	2.915E-03	1.903E-03	6.639E-03	9.172E-03
3	4.853E-03	2.614E-03	1.351E-03	4.142E-03	2.794E-03	7.497E-03	5.141E-03	5.527E-03	1.238E-02	2.440E-02
4	1.124E-02	3.136E-03	2.887E-03	5.746E-03	3.502E-03	1.203E-02	6.089E-03	1.562E-02	1.796E-02	3.517E-02
5	1.297E-02	2.338E-03	2.942E-03	7.721E-03	4.172E-03	7.823E-03	1.175E-02	1.422E-02	2.505E-02	3.524E-02
6	1.503E-02	1.874E-03	2.956E-03	9.196E-03	7.370E-03	6.376E-03	2.756E-02	1.391E-02	3.095E-02	2.990E-02
7	2.033E-02	2.446E-03	3.911E-03	1.002E-02	7.845E-03	6.814E-03	3.138E-02	1.673E-02	2.786E-02	2.792E-02
8	2.924E-02	2.692E-03	5.531E-03	1.109E-02	8.411E-03	1.181E-02	3.503E-02	2.257E-02	2.861E-02	2.924E-02
9	4.864E-02	2.842E-03	8.332E-03	1.219E-02	1.001E-02	1.931E-02	5.228E-02	3.632E-02	2.627E-02	3.777E-02
10	9.005E-02	6.938E-03	1.455E-02	2.220E-02	1.535E-02	1.765E-02	9.278E-02	7.034E-02	4.140E-02	7.796E-02
11	1.456E-01	1.979E-02	2.800E-02	3.800E-02	2.806E-02	2.035E-02	1.661E-01	1.361E-01	5.849E-02	9.139E-02
12	2.700E-01	5.394E-05	5.451E-02	2.433E-02	2.604E-02	5.350E-02	2.810E-01	2.310E-01	1.827E-01	1.834E-01
13	2.754E-01	4.643E-02	1.027E-01	3.132E-01	2.648E-03	7.741E-02	4.351E-01	4.590E-01	3.165E-01	3.006E-01
14	3.805E-01	3.563E-05	8.012E-02	2.873E-04	3.854E-03	1.440E-04	6.324E-01	4.834E-01	6.255E-02	7.297E-02
15	1.349E+00	4.186E-05	2.616E-03	7.084E-04	5.606E-03	2.238E-04	9.295E-01	8.683E-01	8.465E-04	2.289E-04
16	1.258E-01	5.628E-05	3.806E-03	2.462E-03	8.161E-03	3.627E-04	3.179E-01	5.333E+00	9.952E-04	3.572E-01
17	4.048E-03	7.904E-05	5.538E-03	6.892E-03	1.187E-02	5.657E-04	1.846E-02	8.865E-01	1.473E-03	4.311E-04
18	1.366E-02	1.131E-04	8.061E-03	1.521E-02	1.727E-02	8.531E-04	2.686E-02	2.300E-02	2.498E-03	4.628E-04
19	1.765E-01	1.634E-04	1.172E-02	2.806E-02	2.513E-02	1.264E-03	3.909E-02	3.349E-02	4.382E-03	6.183E-04
20	1.373E-01	2.368E-04	1.706E-02	4.629E-02	3.658E-02	1.855E-03	5.688E-02	4.966E-02	7.390E-03	8.697E-04
21	1.272E+00	3.441E-04	2.483E-02	7.158E-02	5.320E-02	2.710E-03	8.273E-02	7.310E-02	1.175E-02	1.247E-03
22	1.461E+02	5.002E-04	3.614E-02	1.073E-01	7.739E-02	3.950E-03	1.204E-01	1.070E-01	1.793E-02	1.802E-03
23	6.595E+00	7.274E-04	5.255E-02	1.584E-01	1.126E-01	5.752E-03	1.753E-01	1.562E-01	2.672E-02	2.614E-03
24	4.376E+00	1.058E-03	7.645E-02	2.320E-01	1.639E-01	8.373E-03	2.551E-01	2.277E-01	3.934E-02	3.797E-03
25	8.707E+00	3.025E-03	2.187E-01	6.669E-01	4.687E-01	2.396E-02	7.288E-01	6.519E-01	1.136E-01	1.085E-02
RI	1.203E+02	6.975E-02	3.948E-01	7.994E-01	4.420E-01	1.938E-01	2.797E+00	6.892E+00	6.913E-01	9.673E-01
THERM	1.607E+01	5.808E-03	4.202E-01	1.281E+00	9.005E-01	4.603E-02	1.401E+00	1.254E+00	2.185E-01	2.082E-02
G	1.042E+00	1.001E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	9.990E-01	9.990E-01	1.001E+00

GROUP	ZR- 93 (400930)	NB- 93 (410930)	ZR- 94 (400940)	NB- 94 (410940)	MO- 94 (420940)	ZR- 95 (400950)	NB- 95 (410950)	MO- 95 (420950)	ZR- 96 (400960)	MO- 96 (420960)
1	4.445E-04	5.924E-04	1.026E-03	4.287E-04	1.932E-03	4.854E-04	1.708E-03	1.731E-03	3.823E-04	2.039E-03
2	1.554E-03	2.242E-03	4.111E-03	9.529E-04	1.034E-02	3.623E-03	9.424E-03	7.552E-03	2.105E-03	8.650E-03
3	6.372E-03	6.650E-03	7.702E-03	3.579E-03	2.461E-02	1.955E-02	4.467E-02	1.898E-02	5.965E-03	1.530E-02
4	1.711E-02	1.607E-02	1.100E-02	1.140E-02	3.637E-02	3.237E-02	7.333E-02	3.250E-02	1.222E-02	2.591E-02
5	1.891E-02	3.666E-02	1.617E-02	1.940E-02	4.111E-02	3.352E-02	7.445E-02	5.123E-02	9.866E-03	3.034E-02
6	1.940E-02	5.627E-02	2.024E-02	2.476E-02	5.517E-02	3.234E-02	9.289E-02	7.911E-02	7.331E-03	4.915E-02
7	2.524E-02	6.547E-02	1.857E-02	3.838E-02	4.742E-02	3.640E-02	1.078E-01	9.607E-02	7.259E-03	4.233E-02
8	3.513E-02	9.445E-02	1.860E-02	8.379E-02	5.154E-02	4.963E-02	1.570E-01	1.503E-01	6.239E-03	4.483E-02
9	5.775E-02	1.630E-01	2.000E-02	2.034E-01	7.705E-02	8.277E-02	2.640E-01	2.536E-01	3.642E-03	6.572E-02
10	1.058E-01	2.846E-01	2.609E-02	3.656E-01	1.226E-01	1.501E-01	4.480E-01	4.354E-01	1.044E-02	2.274E-01
11	1.932E-01	4.899E-01	5.464E-02	5.967E-01	1.939E-01	2.674E-01	7.081E-01	6.898E-01	2.070E-02	2.232E-01
12	3.320E-01	7.892E-01	1.153E-01	8.921E-01	3.414E-01	4.441E-01	1.026E+00	9.911E-01	5.282E-02	3.017E-01
13	5.242E-01	1.278E+00	9.777E-02	1.256E+00	4.698E-01	6.792E-01	1.417E+00	1.337E+00	7.867E-02	4.069E-01
14	4.529E-01	2.006E+00	2.041E-04	1.801E+00	3.463E-01	1.001E+00	2.022E+00	2.001E+00	3.808E-04	4.758E-02
15	1.313E+00	1.152E+00	1.888E-04	2.761E+00	2.003E-04	1.535E+00	3.093E+00	2.392E+00	3.051E-02	6.832E-04
16	9.542E-01	1.848E+00	3.349E-04	4.461E+00	1.737E-04	2.522E+00	4.950E+00	2.736E+00	7.576E+00	1.879E-01
17	1.894E+01	3.306E+00	5.633E-04	7.332E+00	7.527E-02	2.838E+00	8.018E+00	1.764E+00	5.580E-03	2.151E+01
18	2.042E-01	1.160E-01	8.873E-04	1.187E+01	5.427E-04	2.303E-02	1.281E+01	1.969E+00	1.719E-03	6.380E-02
19	5.038E-02	3.852E-01	1.344E-03	1.239E+01	3.965E-04	3.351E-02	1.678E+01	1.365E+02	1.272E-03	2.968E-02
20	6.622E-02	3.765E-02	1.995E-03	1.125E+02	5.501E-04	4.874E-02	2.845E-01	6.540E-01	1.309E-03	3.102E-02
21	1.068E-01	6.102E-02	2.930E-03	4.313E+00	7.875E-04	7.096E-02	4.139E-01	7.385E-01	1.597E-03	3.946E-02
22	1.715E-01	9.409E-02	4.283E-03	1.329E+00	1.138E-03	1.032E-01	6.020E-01	1.093E+00	2.131E-03	5.410E-02
23	2.647E-01	1.409E-01	6.243E-03	1.807E+00	1.651E-03	1.502E-01	8.765E-01	1.657E+00	2.973E-03	7.656E-02
24	3.973E-01	2.079E-01	9.093E-03	2.716E+00	2.398E-03	2.186E-01	1.275E+00	2.481E+00	4.241E-03	1.100E-01
25	1.166E+00	6.010E-01	2.602E-02	8.169E+00	6.850E-03	6.248E-01	3.645E+00	7.280E+00	1.194E-02	3.115E-01
RI	1.810E+01	9.419E+00	3.181E-01	1.245E+02	1.397E+00	7.715E+00	4.135E+01	1.181E+02	5.874E+00	1.761E+01
THERM	2.247E+00	1.157E+00	5.004E-02	1.582E+01	1.316E-02	1.200E+00	7.003E+00	1.404E+01	2.292E-02	5.977E-01
G	9.969E-01	9.981E-01	9.995E-01	9.926E-01	1.000E+00	1.000E+00	1.000E+00	9.968E-01	1.001E+00	1.002E+00

Table 2.7.2 Continued

(Unit:Barns)

GROUP	MO- 97 (420970)	MO- 98 (420980)	RU- 98 (440980)	MO- 99 (420990)	TC- 99 (430990)	RU- 99 (440990)	MO-100 (421000)	RU-100 (441000)	RU-101 (441010)	RU-102 (441020)
1	9.931E-04	1.566E-03	1.423E-02	8.498E-04	2.290E-03	1.613E-03	8.596E-04	7.102E-03	2.293E-03	2.273E-03
2	4.074E-03	5.892E-03	4.682E-02	5.291E-03	1.444E-02	8.218E-03	5.337E-03	2.571E-02	2.056E-02	1.272E-02
3	1.025E-02	1.277E-02	6.972E-02	1.310E-02	3.747E-02	2.773E-02	1.482E-02	4.619E-02	9.234E-02	2.757E-02
4	2.033E-02	2.534E-02	7.680E-02	2.197E-02	6.324E-02	5.300E-02	1.800E-02	5.596E-02	6.588E-02	3.470E-02
5	4.940E-02	3.026E-02	7.794E-02	3.030E-02	9.069E-02	6.184E-02	2.102E-02	5.863E-02	6.079E-02	4.374E-02
6	8.630E-02	5.002E-02	1.009E-01	5.151E-02	1.484E-01	1.001E-01	3.707E-02	7.725E-02	1.227E-01	6.052E-02
7	1.050E-01	4.277E-02	9.401E-02	8.854E-02	1.915E-01	1.850E-01	4.065E-02	8.223E-02	2.603E-01	7.614E-02
8	1.513E-01	4.515E-02	1.066E-01	1.788E-01	3.297E-01	2.983E-01	4.173E-02	9.194E-02	4.302E-01	8.499E-02
9	2.548E-01	6.595E-02	1.574E-01	3.373E-01	5.470E-01	5.128E-01	5.932E-02	1.354E-01	6.792E-01	1.238E-01
10	4.316E-01	9.326E-02	2.568E-01	5.396E-01	8.800E-01	7.884E-01	9.422E-02	2.207E-01	1.046E+00	2.039E-01
11	6.834E-01	1.334E-01	4.020E-01	7.959E-01	1.243E+00	1.110E+00	1.204E-01	3.453E-01	1.460E+00	3.167E-01
12	9.917E-01	3.036E-01	5.786E-01	1.072E+00	1.707E+00	1.483E+00	2.229E-01	5.525E-01	1.926E+00	4.697E-01
13	1.370E+00	3.905E-01	7.861E-01	1.403E+00	1.958E+00	2.031E+00	3.523E-01	6.273E-01	2.563E+00	6.525E-01
14	1.982E+00	2.805E-01	1.102E+00	1.942E+00	2.764E+00	2.793E+00	1.006E+00	1.066E+00	4.029E+00	1.225E+00
15	3.647E+00	3.495E+00	1.704E+00	2.937E+00	4.554E+00	7.993E+00	2.181E-01	1.230E+00	6.030E+00	2.925E-01
16	4.009E+00	1.515E+00	2.870E+00	4.694E+00	8.388E+00	5.816E+00	2.655E+00	4.977E+00	1.286E+01	4.049E-01
17	3.299E-01	2.812E-03	2.543E+00	7.612E+00	1.399E+01	2.204E+01	4.173E-03	2.762E+00	6.975E+00	2.048E-01
18	7.845E+00	3.229E-03	1.535E-01	1.221E+01	3.941E+00	1.333E+01	2.148E-01	5.642E-02	2.368E+01	1.237E-02
19	2.264E-02	5.697E-03	2.233E-01	1.730E+01	2.597E+00	4.832E+01	5.080E-03	1.031E-01	2.394E+01	3.363E-01
20	6.381E-02	2.178E+00	3.249E-01	4.516E-01	4.421E+01	5.060E+00	7.656E-03	1.753E-01	4.625E+01	1.131E-01
21	7.454E-02	3.560E-02	4.730E-01	4.729E-01	3.078E+02	1.092E+02	1.145E-02	2.763E-01	5.616E-01	5.923E-01
22	1.380E-01	1.424E-02	6.877E-01	6.879E-01	2.111E+01	1.295E+00	1.692E-02	4.182E-01	4.147E-01	1.029E-01
23	2.306E-01	1.767E-02	1.001E+00	1.002E+00	4.870E+00	1.216E+00	2.481E-02	6.200E-01	4.906E-01	1.517E-01
24	3.599E-01	2.452E-02	1.457E+00	1.457E+00	4.756E+00	1.508E+00	3.623E-02	9.103E-01	6.563E-01	2.227E-01
25	1.090E+00	6.812E-02	4.165E+00	4.166E+00	1.065E+01	3.868E+00	1.039E-01	2.622E+00	1.768E+00	6.418E-01
RI	1.705E+01	6.551E+00	1.113E+01	4.117E+01	3.171E+02	1.686E+02	3.894E+00	1.097E+01	1.008E+02	4.248E+00
THERM	2.111E+00	1.304E-01	8.003E+00	8.003E+00	1.986E+01	7.344E+00	1.997E-01	5.043E+00	3.372E+00	1.236E+00
G	9.927E-01	1.004E+00	1.000E+00	1.000E+00	1.031E+00	1.013E+00	9.999E-01	9.994E-01	1.008E+00	9.982E-01

GROUP	PD-102 (461020)	RU-103 (441030)	RH-103 (451030)	RU-104 (441040)	PD-104 (461040)	RH-105 (451050)	PD-105 (461050)	RU-106 (441060)	PD-106 (461060)	PD-107 (461070)
1	5.428E-03	9.375E-04	6.164E-03	5.061E-03	4.814E-03	2.488E-03	2.822E-03	7.612E-04	9.635E-03	2.399E-03
2	3.272E-02	3.798E-03	2.883E-02	1.579E-02	2.334E-02	1.079E-02	1.245E-02	4.422E-03	2.699E-02	1.402E-02
3	8.070E-02	9.586E-03	5.736E-02	2.589E-02	5.522E-02	2.484E-02	3.146E-02	9.627E-03	4.884E-02	3.933E-02
4	1.218E-01	1.608E-02	7.518E-02	2.785E-02	7.775E-02	4.538E-02	6.029E-02	1.235E-02	6.807E-02	7.325E-02
5	1.197E-01	2.390E-02	9.012E-02	3.021E-02	8.689E-02	7.939E-02	9.784E-02	1.330E-02	8.260E-02	1.035E-01
6	1.495E-01	4.515E-02	1.477E-01	3.947E-02	1.137E-01	1.334E-01	1.948E-01	1.828E-02	1.097E-01	1.779E-01
7	1.624E-01	1.060E-01	3.014E-01	6.748E-02	1.253E-01	2.136E-01	4.224E-01	3.525E-02	1.250E-01	4.418E-01
8	1.899E-01	2.183E-01	4.614E-01	7.436E-02	1.438E-01	3.828E-01	6.129E-01	4.626E-02	1.429E-01	6.701E-01
9	2.708E-01	3.771E-01	6.986E-01	1.064E-01	2.025E-01	6.013E-01	8.943E-01	6.336E-02	2.015E-01	9.795E-01
10	4.102E-01	6.368E-01	1.056E+00	1.759E-01	3.139E-01	8.978E-01	1.256E+00	1.039E-01	3.103E-01	1.353E+00
11	5.930E-01	1.022E+00	1.532E+00	2.735E-01	4.697E-01	1.235E+00	1.705E+00	1.774E-01	4.623E-01	1.817E+00
12	8.181E-01	1.489E+00	2.057E+00	4.961E-01	6.595E-01	1.625E+00	2.386E+00	2.925E-01	6.498E-01	2.532E+00
13	1.159E+00	2.101E+00	2.579E+00	5.183E-01	9.327E-01	2.211E+00	3.464E+00	4.446E-01	9.168E-01	2.029E+00
14	1.810E+00	3.072E+00	2.529E+00	1.408E+00	1.429E+00	3.233E+00	4.151E+00	6.273E-01	1.402E+00	2.573E+00
15	3.085E+00	4.649E+00	4.135E+00	1.266E+00	2.419E+00	4.963E+00	7.212E+00	7.469E-01	2.361E+00	8.220E+00
16	3.902E+00	7.278E+00	1.030E+01	3.087E+00	2.444E+00	7.758E+00	1.021E+01	1.324E-03	5.321E+00	1.147E+01
17	1.186E+01	1.146E+01	1.112E+01	1.009E-02	1.942E+01	1.211E+01	1.013E+01	1.926E-03	1.011E-02	2.043E+01
18	1.331E-02	1.793E+01	1.294E+00	9.834E-01	2.722E-02	1.854E+01	1.810E+01	2.801E-03	5.383E-03	2.157E+01
19	1.521E-02	2.775E+01	1.026E+00	9.607E-03	2.176E-02	2.815E+01	1.879E+01	4.078E-03	6.778E-03	6.398E+01
20	3.241E-02	3.910E+01	7.260E-02	1.319E-02	2.540E-02	4.269E+01	4.066E+01	5.931E-03	1.038E-02	1.601E-01
21	7.907E-02	9.943E-01	4.648E-01	1.912E-02	3.364E-02	6.760E+03	1.288E+00	8.630E-03	1.624E-02	4.937E+00
22	1.725E-01	6.882E-01	5.686E+00	2.783E-02	4.688E-02	1.127E+04	1.425E+00	1.256E-02	2.481E-02	1.012E+00
23	3.224E-01	1.001E+00	1.038E+03	4.050E-02	6.685E-02	1.779E+03	2.260E+00	1.828E-02	3.707E-02	2.957E-01
24	5.389E-01	1.457E+00	3.048E+02	5.892E-02	9.633E-02	2.536E+03	3.486E+00	2.659E-02	5.468E-02	3.893E-01
25	1.730E+00	4.166E+00	9.023E+01	1.685E-01	2.734E-01	8.110E+03	1.050E+01	7.601E-02	1.581E-01	1.056E+00
RI	1.925E+01	9.074E+01	1.023E+03	6.543E+00	2.184E+01	1.636E+04	9.584E+01	1.993E+00	9.230E+00	1.088E+02
THERM	3.374E+00	8.004E+00	1.476E+02	3.240E-01	5.249E-01	1.591E+04	2.032E+01	1.461E-01	3.044E-01	2.016E+00
G	9.851E-01	1.000E+00	1.178E+00	9.996E-01	1.001E+00	9.796E-01	9.934E-01	1.000E+00	9.980E-01	1.006E+00

Table 2.7.2 Continued

(Unit:Barns)

GROUP	AG-107 (471070)	PD-108 (461080)	CD-108 (481080)	AG-109 (471090)	PD-110 (461100)	AG-110M (471101)	CD-110 (481100)	CD-111 (481110)	CD-112 (481120)	CD-113 (481130)
1	6.198E-03	7.003E-03	3.701E-02	3.019E-03	2.731E-03	5.041E-03	7.459E-03	2.942E-03	5.741E-03	1.783E-03
2	3.247E-02	2.194E-02	9.124E-02	1.898E-02	8.980E-03	3.187E-02	3.260E-02	1.786E-02	2.176E-02	1.006E-02
3	5.669E-02	4.342E-02	1.234E-01	4.426E-02	1.752E-02	1.300E-01	5.657E-02	5.140E-02	4.442E-02	2.872E-02
4	8.588E-02	4.574E-02	1.448E-01	7.052E-02	2.195E-02	3.806E-01	8.058E-02	9.104E-02	6.266E-02	4.995E-02
5	1.074E-01	5.590E-02	1.260E-01	9.682E-02	2.766E-02	7.448E-01	8.032E-02	1.091E-01	7.239E-02	6.776E-02
6	1.462E-01	7.614E-02	1.554E-01	1.498E-01	4.063E-02	1.138E+00	1.050E-01	1.656E-01	9.360E-02	1.192E-01
7	2.692E-01	1.068E-01	1.545E-01	2.518E-01	6.990E-02	1.445E+00	1.023E-01	3.109E-01	9.400E-02	2.543E-01
8	4.257E-01	1.203E-01	1.781E-01	3.969E-01	7.675E-02	1.825E+00	1.147E-01	4.429E-01	1.043E-01	3.388E-01
9	5.970E-01	1.670E-01	2.739E-01	6.209E-01	1.025E-01	2.208E+00	1.590E-01	6.768E-01	1.429E-01	4.911E-01
10	9.316E-01	2.598E-01	4.627E-01	9.364E-01	1.611E-01	2.593E+00	2.474E-01	9.292E-01	2.229E-01	7.173E-01
11	1.252E+00	3.833E-01	7.183E-01	1.275E+00	2.568E-01	3.197E+00	3.787E-01	1.195E+00	3.442E-01	9.999E-01
12	1.494E+00	5.678E-01	1.077E+00	1.496E+00	4.719E-01	4.257E+00	5.203E-01	1.501E+00	5.586E-01	1.387E+00
13	1.529E+00	5.622E-01	1.434E+00	1.815E+00	4.986E-01	6.016E+00	7.419E-01	2.010E+00	7.920E-01	1.879E+00
14	2.037E+00	9.925E-01	1.865E+00	2.807E+00	5.024E-01	8.742E+00	7.574E-01	1.725E+00	1.069E+00	8.171E-01
15	5.095E+00	2.017E+00	2.895E+00	5.663E+00	6.153E-01	1.285E+01	1.454E+00	2.515E+00	1.223E+00	2.910E+00
16	4.877E+00	2.217E+00	2.535E+01	6.891E+00	4.049E-01	1.879E+01	1.608E+00	7.197E+00	3.097E+00	6.186E+00
17	2.890E+00	1.164E+00	9.406E-02	1.875E+01	4.297E-02	1.834E+01	1.100E-01	9.302E+00	1.157E-02	7.944E+00
18	2.922E+01	4.593E+01	6.242E-01	3.419E+01	3.561E-01	2.829E+00	4.134E+01	6.210E+00	8.818E+00	1.733E+01
19	1.527E+01	2.636E+02	3.649E-02	4.661E+01	1.396E-03	3.914E+00	2.301E-01	2.363E+01	4.704E-02	4.292E-02
20	5.737E+01	1.283E+00	4.689E-02	1.446E+00	3.444E-03	2.144E+01	3.687E-01	1.589E-01	7.397E-02	2.213E+00
21	1.248E+00	8.510E-01	6.600E-02	1.410E+03	7.704E-03	5.046E-01	5.902E-01	3.729E-01	1.181E-01	7.636E-01
22	2.151E+00	1.317E+01	9.478E-02	3.818E+02	1.464E-02	1.127E+00	9.049E-01	9.375E-01	1.806E-01	5.149E+00
23	3.836E+00	1.450E+00	1.371E-01	2.463E+01	2.470E-02	3.378E+00	1.351E+00	1.595E+00	2.693E-01	3.859E+01
24	6.290E+00	1.666E+00	1.989E-01	2.262E+01	3.874E-02	8.159E+00	1.991E+00	3.155E+00	3.964E-01	3.559E+02
25	1.990E+01	4.471E+00	5.678E-01	4.892E+01	1.176E-01	3.968E+01	5.746E+00	1.202E+01	1.144E+00	3.149E+04
RI	1.015E+02	2.521E+02	2.711E+01	1.466E+03	2.797E+00	9.094E+01	3.950E+01	4.747E+01	1.327E+01	2.144E+02
THERM	3.878E+01	8.533E+00	1.091E+00	9.085E+01	2.277E-01	8.221E+01	1.106E+01	2.403E+01	2.202E+00	2.102E+04
G	9.862E-01	1.007E+00	1.001E+00	1.035E+00	9.925E-01	9.272E-01	9.991E-01	9.611E-01	9.983E-01	2.873E+00

GROUP	IN-113 (491130)	CD-114 (481140)	SN-114 (501140)	IN-115 (491150)	SN-115 (501150)	CD-116 (481160)	SN-116 (501160)	SN-117 (501170)	SN-118 (501180)	SN-119 (501190)
1	9.672E-04	3.649E-03	5.993E-03	3.135E-03	2.685E-03	8.280E-04	3.711E-03	2.905E-03	1.050E-03	1.571E-03
2	1.321E-02	1.437E-02	3.682E-02	1.941E-02	1.797E-02	5.093E-03	1.788E-02	1.803E-02	6.796E-03	7.919E-03
3	7.741E-02	2.679E-02	8.791E-02	5.623E-02	5.112E-02	1.295E-02	4.586E-02	4.722E-02	2.416E-02	2.118E-02
4	2.066E-01	3.421E-02	1.193E-01	1.218E-01	7.316E-02	1.839E-02	7.596E-02	6.254E-02	4.170E-02	3.020E-02
5	2.992E-01	4.545E-02	1.132E-01	1.882E-01	8.445E-02	2.502E-02	7.636E-02	7.752E-02	4.531E-02	4.030E-02
6	2.888E-01	6.235E-02	8.034E-02	1.932E-01	1.288E-01	3.632E-02	5.512E-02	9.237E-02	3.434E-02	5.170E-02
7	3.244E-01	6.759E-02	6.918E-02	2.176E-01	1.515E-01	4.334E-02	4.832E-02	1.068E-01	3.075E-02	5.569E-02
8	4.468E-01	7.390E-02	7.546E-02	2.999E-01	1.847E-01	4.712E-02	5.259E-02	1.857E-01	3.343E-02	7.320E-02
9	6.720E-01	9.855E-02	1.022E-01	4.642E-01	2.721E-01	6.102E-02	6.939E-02	2.756E-01	4.289E-02	1.246E-01
10	9.819E-01	1.546E-01	1.607E-01	7.109E-01	4.201E-01	9.456E-02	1.090E-01	4.244E-01	6.598E-02	2.668E-01
11	1.368E+00	2.471E-01	2.548E-01	1.034E+00	6.221E-01	1.510E-01	1.787E-01	6.254E-01	1.107E-01	4.563E-01
12	1.928E+00	3.599E-01	3.793E-01	1.483E+00	8.848E-01	2.197E-01	2.767E-01	8.886E-01	1.943E-01	6.703E-01
13	2.891E+00	5.062E-01	3.838E-01	2.170E+00	1.296E+00	2.380E-01	3.899E-01	1.117E+00	2.542E-01	9.806E-01
14	4.585E+00	1.374E+00	7.791E-01	1.759E+00	2.035E+00	5.459E-01	5.628E-01	8.160E-01	3.946E-01	8.677E-01
15	3.539E+00	1.985E+00	9.492E-01	2.908E+00	7.124E-01	4.296E-01	4.458E-01	7.502E-01	7.992E-01	8.837E-01
16	4.502E+00	3.841E+00	5.262E+00	6.758E+00	1.248E+00	3.702E-04	7.702E-04	2.253E+00	3.070E+00	6.453E-01
17	9.019E+00	1.341E+01	7.673E-02	6.684E+00	2.327E-03	6.657E-04	1.408E+01	4.582E+00	2.898E-03	8.662E-01
18	1.209E+01	1.668E-01	4.180E-03	5.426E+00	1.051E-02	1.182E-03	3.206E-02	4.936E-02	1.753E-02	3.232E-02
19	6.046E+01	1.395E-02	4.430E-03	1.116E+01	4.996E-02	3.718E-01	7.036E-03	1.107E+01	1.893E+00	4.218E-03
20	1.028E+02	1.607E-02	5.675E-03	3.924E+00	1.980E-01	3.403E-03	6.878E-03	5.470E-02	8.376E-03	1.540E-02
21	9.263E-01	2.153E-02	7.804E-03	5.557E+01	6.081E-01	4.464E-03	8.579E-03	9.293E-02	1.223E-02	3.066E-01
22	1.629E+01	3.025E-02	1.106E-02	7.784E+01	1.443E+00	6.456E-03	1.167E-02	1.658E-01	1.824E-02	1.084E-01
23	2.043E+02	4.332E-02	1.590E-02	3.898E+03	2.789E+00	9.390E-03	1.647E-02	7.159E-01	2.695E-02	2.042E-01
24	6.228E+00	6.258E-02	2.301E-02	2.028E+02	4.731E+00	1.367E-02	2.362E-02	4.690E-01	3.951E-02	3.453E-01
25	6.884E+00	1.780E-01	6.551E-02	1.203E+02	1.534E+01	3.911E-02	6.682E-02	1.135E+00	1.137E-01	1.118E+00
RI	3.243E+02	1.692E+01	6.656E+00	3.190E+03	1.254E+01	1.735E+00	1.239E+01	1.857E+01	5.337E+00	5.201E+00
THERM	1.213E+01	3.418E-01	1.260E-01	2.019E+02	2.999E+01	7.515E-02	1.282E-01	2.185E+00	2.186E-01	2.184E+00
G	1.093E+00	1.001E+00	9.996E-01	1.147E+00	9.829E-01	1.000E+00	1.002E+00	9.980E-01	9.995E-01	9.840E-01

Table 2.7.2 Continued

(Unit:Barns)

GROUP	SN-120 (501200)	TE-120 (521200)	SB-121 (511210)	SN-122 (501220)	TE-122 (521220)	SN-123 (501230)	SB-123 (511230)	TE-123 (521230)	SN-124 (501240)	SB-124 (511240)
1	6.886E-04	9.187E-03	2.865E-03	6.671E-04	2.456E-02	1.452E-03	2.646E-03	3.211E-03	3.795E-04	1.314E-03
2	3.714E-03	4.823E-02	2.373E-02	2.721E-03	7.234E-02	7.721E-03	1.749E-02	2.005E-02	2.178E-03	6.340E-03
3	1.229E-02	9.802E-02	6.724E-02	6.660E-03	1.335E-01	2.527E-02	4.682E-02	6.047E-02	6.662E-03	2.118E-02
4	2.289E-02	1.006E-01	1.034E-01	1.200E-02	1.497E-01	6.069E-02	7.638E-02	1.053E-01	1.382E-02	4.374E-02
5	2.567E-02	1.041E-01	1.370E-01	1.493E-02	1.485E-01	7.817E-02	1.001E-01	1.433E-01	1.624E-02	7.153E-02
6	2.044E-02	1.310E-01	1.479E-01	1.290E-02	1.711E-01	8.696E-02	1.015E-01	2.477E-01	1.356E-02	1.295E-01
7	1.855E-02	1.421E-01	1.750E-01	1.223E-02	1.795E-01	1.052E-01	1.205E-01	3.506E-01	1.249E-02	2.618E-01
8	2.021E-02	1.576E-01	2.600E-01	1.365E-02	1.981E-01	1.485E-01	1.886E-01	5.273E-01	1.375E-02	4.927E-01
9	2.330E-02	2.075E-01	4.627E-01	1.703E-02	2.620E-01	2.370E-01	2.964E-01	7.167E-01	1.709E-02	7.671E-01
10	4.450E-02	3.017E-01	7.916E-01	1.656E-02	3.746E-01	3.896E-01	4.759E-01	9.746E-01	2.470E-02	1.034E+00
11	6.506E-02	4.322E-01	1.139E+00	2.626E-02	5.269E-01	6.134E-01	7.297E-01	1.264E+00	3.661E-02	1.286E+00
12	1.430E-01	6.115E-01	1.621E+00	1.111E-01	8.314E-01	9.224E-01	1.077E+00	1.637E+00	4.530E-02	1.584E+00
13	1.110E-01	9.147E-01	2.756E+00	1.997E-01	8.852E-01	1.399E+00	1.386E+00	2.244E+00	1.907E-01	2.078E+00
14	2.045E-01	1.514E+00	1.861E+00	2.254E-01	1.976E+00	2.260E+00	1.566E+00	3.598E+00	2.845E-04	2.929E+00
15	3.847E-01	2.696E+00	3.833E+00	2.668E-04	4.304E+00	3.858E+00	2.058E+00	5.316E+00	6.010E-02	4.302E+00
16	4.213E-01	4.937E+00	3.794E+00	1.425E-01	4.434E+00	6.721E+00	3.094E+00	1.141E+01	7.509E-04	6.406E+00
17	1.238E-02	9.034E+00	1.190E+01	3.726E-01	8.064E-02	1.164E+01	8.810E+00	2.660E+01	5.166E-03	9.551E+00
18	4.238E-02	7.444E+00	1.077E+01	2.130E-03	9.187E+01	1.961E+01	5.697E+00	6.517E+00	1.002E+01	1.418E+01
19	3.569E-03	6.533E-02	1.489E+01	8.515E-04	3.392E-01	3.163E+01	1.495E+00	1.265E+02	2.321E-02	2.103E+01
20	5.422E-03	9.508E-02	7.565E+01	1.836E-03	2.213E-01	2.153E+00	1.350E+02	3.156E+00	6.270E-03	3.099E+01
21	8.080E-03	1.383E-01	1.522E+02	4.415E-03	2.470E-01	1.773E-01	3.968E-01	7.554E+00	6.502E-03	4.553E+01
22	1.189E-02	2.014E-01	2.743E+00	9.529E-03	3.218E-01	2.579E-01	4.052E-01	2.064E+03	9.802E-03	5.946E+01
23	1.740E-02	2.928E-01	1.253E+00	1.771E-02	4.455E-01	3.755E-01	5.424E-01	5.094E+03	1.540E-02	2.318E+00
24	2.538E-02	4.261E-01	1.350E+00	2.951E-02	6.337E-01	5.462E-01	7.721E-01	1.727E+02	2.354E-02	3.169E+00
25	7.271E-02	1.219E+00	3.203E+00	9.453E-02	1.781E+00	1.562E+00	2.189E+00	2.366E+02	7.037E-02	9.060E+00
RI	1.209E+00	2.239E+01	2.155E+02	9.254E-01	8.118E+01	6.230E+01	1.231E+02	5.617E+03	7.905E+00	1.551E+02
THERM	1.399E-01	2.341E+00	6.014E+00	1.844E-01	3.418E+00	3.001E+00	4.201E+00	4.205E+02	1.360E-01	1.741E+01
G	9.992E-01	1.000E+00	1.024E+00	9.854E-01	1.002E+00	1.000E+00	1.002E+00	1.083E+00	9.941E-01	1.000E+00

GROUP	TE-124 (521240)	SB-125 (511250)	TE-125 (521250)	SN-126 (501260)	TE-126 (521260)	XE-126 (541260)	TE-127M (521271)	I -127 (531270)	TE-128 (521280)	XE-128 (541280)
1	5.351E-03	1.418E-03	1.315E-03	1.811E-04	2.474E-03	8.358E-02	1.207E-03	1.784E-03	6.358E-04	9.755E-03
2	1.664E-02	1.862E-02	6.934E-03	6.694E-04	1.092E-02	2.331E-01	9.168E-03	1.038E-02	3.174E-03	4.739E-02
3	4.410E-02	1.054E-01	2.428E-02	2.116E-03	2.670E-02	3.728E-01	4.672E-02	3.063E-02	9.603E-03	9.570E-02
4	6.505E-02	1.227E-01	4.470E-02	5.352E-03	3.438E-02	3.093E-01	1.293E-01	5.554E-02	1.661E-02	1.005E-01
5	6.775E-02	1.422E-01	5.342E-02	6.819E-03	3.418E-02	2.845E-01	2.031E-01	7.311E-02	1.675E-02	9.716E-02
6	8.089E-02	1.449E-01	8.507E-02	5.768E-03	4.327E-02	2.922E-01	2.316E-01	1.116E-01	2.265E-02	1.124E-01
7	8.279E-02	1.788E-01	1.274E-01	5.392E-03	4.208E-02	3.487E-01	3.118E-01	1.641E-01	2.029E-02	1.443E-01
8	9.017E-02	2.434E-01	1.656E-01	6.114E-03	4.667E-02	3.891E-01	4.359E-01	2.630E-01	2.285E-02	1.576E-01
9	1.146E-01	3.794E-01	2.779E-01	7.568E-03	5.815E-02	5.101E-01	6.339E-01	4.671E-01	2.866E-02	2.056E-01
10	1.687E-01	5.765E-01	4.946E-01	1.048E-02	8.445E-02	6.884E-01	9.189E-01	7.226E-01	4.003E-02	2.981E-01
11	2.536E-01	8.020E-01	7.076E-01	1.678E-02	1.014E-01	9.332E-01	1.325E+00	1.055E+00	6.389E-02	4.262E-01
12	2.973E-01	1.062E+00	8.592E-01	2.964E-02	1.594E-01	1.345E+00	1.997E+00	1.536E+00	7.527E-02	6.029E-01
13	5.281E-01	1.451E+00	1.147E+00	5.101E-02	5.205E-01	2.130E+00	3.205E+00	1.711E+00	7.910E-02	9.020E-01
14	1.175E+00	2.122E+00	2.483E+00	3.178E-03	2.907E-01	3.607E+00	5.331E+00	2.974E+00	1.844E-01	6.573E-01
15	2.271E+00	3.273E+00	3.060E+00	5.607E-04	6.754E-04	1.713E+01	8.916E+00	6.322E+00	6.607E-02	2.294E+00
16	2.449E-01	5.135E+00	1.269E+01	8.157E-04	2.090E-01	6.764E-01	1.474E+01	8.340E+00	9.882E-01	6.483E+00
17	1.751E-03	8.047E+00	3.133E+00	1.187E-03	8.667E+00	3.228E-02	2.390E+01	1.441E+01	1.904E-03	3.749E-02
18	4.882E-03	1.238E+01	6.571E-02	1.727E-03	1.005E-02	4.579E-02	3.775E+01	1.635E+01	3.350E-03	5.975E-02
19	1.813E-02	1.889E+01	3.984E+00	2.513E-03	1.330E-02	8.198E-02	5.855E+01	1.309E+02	5.421E-03	1.318E-01
20	6.217E-02	1.686E+01	5.709E-02	3.657E-03	2.476E-02	1.418E-01	9.091E+01	8.671E+00	8.310E-03	2.477E-01
21	1.707E-01	2.956E-01	7.060E-02	5.322E-03	4.530E-02	2.282E-01	1.442E+02	4.097E-01	1.241E-02	4.148E-01
22	3.716E-01	4.302E-01	1.153E-01	7.744E-03	7.640E-02	3.503E-01	2.904E+02	5.472E-01	1.828E-02	6.472E-01
23	6.798E-01	6.258E-01	1.805E-01	1.126E-02	1.203E-01	5.233E-01	4.230E+02	7.828E-01	2.675E-02	9.741E-01
24	1.114E+00	9.111E-01	2.729E-01	1.638E-02	1.821E-01	7.713E-01	6.154E+02	1.134E+00	3.901E-02	1.441E+00
25	3.507E+00	2.604E+00	8.056E-01	4.687E-02	5.377E-01	2.228E+00	1.760E+03	3.240E+00	1.118E-01	4.174E+00
RI	5.679E+00	5.535E+01	2.246E+01	1.454E-01	8.038E+00	2.314E+01	1.177E+03	1.474E+02	1.296E+00	1.208E+01
THERM	6.824E+00	5.003E+00	1.554E+00	9.005E-02	1.037E+00	4.286E+00	3.382E+03	6.220E+00	2.147E-01	8.033E+00
G	9.877E-01	1.000E+00	9.962E-01	1.000E+00	9.962E-01	9.989E-01	1.000E+00	1.001E+00	1.001E+00	9.986E-01

Table 2.7.2 Continued

(Unit:Barns)

GROUP	TE-129M (521291)	I -129 (531290)	XE-129 (541290)	TE-130 (521300)	XE-130 (541300)	I -131 (531310)	XE-131 (541310)	XE-132 (541320)	BA-132 (561320)	XE-133 (541330)
1	1.151E-03	1.120E-03	1.324E-03	2.303E-04	1.200E-02	6.416E-04	1.472E-03	8.412E-04	1.429E-01	9.496E-04
2	1.053E-02	7.101E-03	5.483E-03	1.154E-03	4.283E-02	3.285E-03	6.837E-03	3.825E-03	2.295E-01	2.333E-03
3	6.626E-02	2.569E-02	1.685E-02	3.515E-03	9.010E-02	1.053E-02	1.956E-02	8.696E-03	2.972E-01	6.113E-03
4	2.158E-01	5.588E-02	2.824E-02	5.816E-03	1.087E-01	2.283E-02	3.106E-02	1.214E-02	3.177E-01	9.264E-03
5	2.122E-01	6.771E-02	3.712E-02	6.770E-03	1.064E-01	3.632E-02	3.848E-02	1.476E-02	2.687E-01	1.208E-02
6	2.141E-01	1.087E-01	6.109E-02	8.761E-03	1.274E-01	5.622E-02	6.280E-02	2.226E-02	2.436E-01	2.409E-02
7	2.727E-01	1.371E-01	1.175E-01	7.583E-03	1.381E-01	7.099E-02	1.103E-01	2.265E-02	2.450E-01	3.992E-02
8	3.610E-01	1.919E-01	1.599E-01	8.612E-03	1.510E-01	1.127E-01	1.583E-01	2.605E-02	2.667E-01	5.616E-02
9	5.286E-01	2.967E-01	2.774E-01	1.114E-02	1.968E-01	1.733E-01	2.489E-01	3.294E-02	3.442E-01	8.192E-02
10	7.795E-01	4.953E-01	4.858E-01	1.148E-02	2.862E-01	2.781E-01	3.866E-01	4.655E-02	4.534E-01	1.326E-01
11	1.135E+00	7.022E-01	7.001E-01	1.519E-02	4.114E-01	4.410E-01	5.887E-01	7.479E-02	6.104E-01	2.192E-01
12	1.713E+00	1.003E+00	1.026E+00	5.575E-02	5.821E-01	6.829E-01	8.782E-01	1.112E-01	8.859E-01	3.490E-01
13	2.758E+00	1.247E+00	2.940E+00	2.673E-02	1.620E+00	1.083E+00	1.378E+00	6.309E-01	1.405E+00	5.462E-01
14	4.634E+00	2.066E+00	3.284E+00	8.562E-02	1.024E+00	1.839E+00	2.143E+00	2.579E-03	2.351E+00	9.006E-01
15	7.872E+00	3.607E+00	6.310E+00	3.637E-05	2.639E+00	3.285E+00	2.384E+00	4.733E+00	3.990E+00	1.599E+00
16	1.324E+01	2.878E+00	7.161E+00	1.401E-04	2.024E+00	5.970E+00	5.054E+00	1.556E-02	6.715E+00	2.968E+00
17	2.187E+01	8.719E+00	1.922E+01	5.470E-04	1.879E-01	1.078E+01	1.246E+01	9.064E-03	1.110E+01	5.596E+00
18	3.509E+01	8.240E+00	2.626E+01	1.701E-03	3.657E-01	1.896E+01	6.488E+00	1.009E-02	8.504E+00	5.189E+00
19	5.521E+01	6.052E-02	2.307E-01	4.098E-03	6.240E-01	1.909E+01	1.827E+01	1.336E-02	1.954E-01	5.305E+00
20	8.699E+01	1.902E-01	2.967E+00	8.028E-03	9.842E-01	3.250E+00	1.086E+03	1.879E-02	2.844E-01	7.719E+00
21	1.126E+02	5.608E-01	2.596E+02	1.372E-02	1.489E+00	4.729E+00	2.121E+01	2.697E-02	4.137E-01	1.123E+01
22	1.376E+02	1.314E+00	2.710E+00	2.163E-02	2.207E+00	6.880E+00	1.168E+01	3.901E-02	6.023E-01	1.635E+01
23	2.003E+02	2.531E+00	2.975E+00	3.273E-02	3.239E+00	1.002E+01	1.293E+01	5.665E-02	8.757E-01	2.377E+01
24	2.914E+02	4.284E+00	4.018E+00	4.852E-02	4.732E+00	1.456E+01	1.690E+01	8.232E-02	1.275E+00	3.460E+01
25	8.331E+02	1.388E+01	1.102E+01	1.408E-01	1.358E+01	4.166E+01	4.484E+01	2.352E-01	3.645E+00	9.894E+01
RI	6.764E+02	2.816E+01	2.547E+02	2.717E-01	1.656E+01	7.399E+01	8.959E+02	4.485E+00	3.093E+01	8.103E+01
THERM	1.601E+03	2.712E+01	2.111E+01	2.713E-01	2.610E+01	8.003E+01	8.538E+01	4.515E-01	7.003E+00	1.901E+02
G	1.000E+00	9.833E-01	1.004E+00	9.974E-01	9.999E-01	1.001E+00	1.009E+00	1.001E+00	1.000E+00	1.000E+00

GROUP	CS-133 (551330)	XE-134 (541340)	CS-134 (551340)	BA-134 (561340)	XE-135 (541350)	CS-135 (551350)	BA-135 (561350)	XE-136 (541360)	CS-136 (551360)	BA-136 (561360)
1	1.010E-03	7.243E-04	1.454E-03	3.834E-02	7.099E-04	9.231E-04	2.819E-03	4.332E-05	7.521E-04	2.966E-03
2	5.791E-03	3.105E-03	5.252E-03	9.873E-02	1.650E-03	3.590E-03	1.666E-02	1.330E-04	9.893E-04	1.198E-02
3	1.738E-02	6.949E-03	1.579E-02	1.510E-01	5.194E-03	1.040E-02	5.225E-02	3.049E-04	3.515E-03	3.014E-02
4	3.120E-02	1.012E-02	3.084E-02	1.602E-01	9.097E-03	2.228E-02	9.742E-02	6.780E-04	9.572E-03	4.885E-02
5	4.854E-02	1.108E-02	4.801E-02	1.389E-01	1.223E-02	3.637E-02	1.119E-01	1.032E-03	1.966E-02	4.319E-02
6	9.958E-02	1.374E-02	8.667E-02	1.345E-01	1.647E-02	4.257E-02	1.411E-01	5.563E-04	3.534E-02	4.233E-02
7	1.402E-01	1.200E-02	2.176E-01	1.270E-01	2.135E-02	5.982E-02	1.811E-01	2.043E-04	5.933E-02	3.607E-02
8	2.179E-01	1.365E-02	4.786E-01	1.352E-01	2.859E-02	8.774E-02	2.325E-01	8.793E-05	9.440E-02	3.921E-02
9	3.581E-01	1.735E-02	7.841E-01	1.734E-01	4.173E-02	1.314E-01	3.389E-01	9.845E-04	1.466E-01	4.861E-02
10	5.447E-01	2.390E-02	1.194E+00	2.429E-01	6.687E-02	2.090E-01	5.194E-01	5.384E-04	2.341E-01	6.361E-02
11	8.250E-01	5.273E-02	1.893E+00	3.535E-01	1.134E-01	3.366E-01	7.461E-01	5.219E-04	3.755E-01	8.087E-02
12	1.186E+00	7.469E-02	3.146E+00	3.445E-01	1.897E-01	5.350E-01	1.210E+00	8.955E-06	5.975E-01	2.352E-01
13	1.731E+00	2.180E-01	5.214E+00	3.511E-01	3.026E-01	8.757E-01	2.718E+00	3.594E-02	9.901E-01	2.505E-01
14	2.747E+00	2.375E-01	8.735E+00	9.205E-01	4.859E-01	1.538E+00	3.771E+00	1.872E-04	1.759E+00	1.125E-01
15	4.896E+00	6.269E-04	1.455E+01	7.584E-01	8.352E-01	2.850E+00	4.058E+00	5.144E-04	3.271E+00	1.447E+00
16	1.354E+01	2.611E-04	2.377E+01	1.647E-01	1.536E+00	5.389E+00	1.049E+01	1.256E-03	6.189E+00	8.019E-02
17	1.823E+01	7.086E-04	1.062E+01	2.390E+01	3.328E-01	1.017E+01	1.539E+01	2.482E-03	1.163E+01	2.817E-03
18	1.297E+01	1.925E-03	1.298E+00	4.028E+00	7.545E-02	2.577E+00	5.176E+01	4.264E-03	2.130E+01	5.288E-03
19	2.638E+01	4.341E-03	3.060E+00	5.543E-02	4.937E-01	5.399E+01	7.904E+01	6.741E-03	2.293E+01	9.207E-03
20	2.306E+01	8.201E-03	1.329E+01	7.471E-02	3.242E+00	3.303E-01	1.327E+00	1.022E-02	5.282E-01	1.480E-02
21	3.959E+02	1.374E-02	3.886E+00	1.122E-01	2.144E+01	4.546E-01	4.198E-01	1.516E-02	7.686E-01	2.264E-02
22	1.410E+01	2.143E-02	7.869E+00	1.677E-01	1.441E+02	6.973E-01	5.303E-01	2.226E-02	1.118E+00	3.377E-02
23	5.498E+00	3.227E-02	1.418E+01	2.477E-01	1.001E+03	1.052E+00	7.455E-01	3.253E-02	1.628E+00	4.971E-02
24	6.174E+00	4.773E-02	2.304E+01	3.631E-01	7.478E+03	1.561E+00	1.074E+00	4.742E-02	2.367E+00	7.273E-02
25	1.539E+01	1.383E-01	7.209E+01	1.045E+00	1.537E+06	4.537E+00	3.052E+00	1.358E-01	6.770E+00	2.089E-01
RI	3.937E+02	6.036E-01	9.859E+01	2.466E+01	4.171E+03	6.189E+01	1.309E+02	1.291E-01	5.657E+01	2.036E+00
THERM	2.911E+01	2.662E-01	1.402E+02	2.009E+00	2.710E+06	8.730E+00	5.860E+00	2.612E-01	1.301E+01	4.017E-01
G	1.016E+00	9.985E-01	9.885E-01	9.994E-01	1.089E+00	9.989E-01	1.001E+00	9.992E-01	1.001E+00	9.996E-01

Table 2.7.2 Continued

(Unit:Barns)

GROUP	CS-137 (551370)	BA-137 (561370)	BA-138 (561380)	LA-138 (571380)	LA-139 (571390)	BA-140 (561400)	CE-140 (581400)	CE-141 (581410)	PR-141 (591410)	CE-142 (581420)
1	1.360E-04	1.002E-03	1.055E-03	1.079E-03	2.839E-04	1.016E-04	4.641E-04	8.731E-04	5.435E-04	5.417E-04
2	6.756E-04	2.986E-03	1.241E-03	2.329E-03	1.082E-03	2.004E-04	1.814E-03	8.485E-03	2.432E-03	2.638E-03
3	3.911E-03	1.060E-02	2.280E-03	7.947E-03	3.387E-03	4.131E-04	4.732E-03	4.173E-02	8.936E-03	6.934E-03
4	6.846E-03	1.656E-02	5.127E-03	1.975E-02	7.967E-03	5.931E-04	1.030E-02	8.987E-02	2.150E-02	8.167E-03
5	5.556E-03	1.610E-02	4.710E-03	3.932E-02	9.922E-03	7.341E-04	7.532E-03	1.014E-01	2.427E-02	9.199E-03
6	5.250E-03	1.946E-02	3.099E-03	6.229E-02	8.687E-03	1.605E-03	4.841E-03	8.952E-02	2.179E-02	1.227E-02
7	6.054E-03	2.285E-02	2.480E-03	8.844E-02	1.011E-02	1.766E-03	3.883E-03	9.905E-02	2.828E-02	1.133E-02
8	8.607E-03	3.028E-02	2.632E-03	1.374E-01	1.607E-02	1.982E-03	4.090E-03	1.294E-01	4.848E-02	1.276E-02
9	1.388E-02	4.769E-02	3.620E-03	2.190E-01	2.449E-02	2.613E-03	5.670E-03	1.895E-01	7.438E-02	1.613E-02
10	2.267E-02	5.917E-02	4.759E-03	3.334E-01	2.703E-02	3.701E-03	8.200E-03	2.878E-01	1.186E-01	1.760E-02
11	3.845E-02	9.610E-02	2.739E-03	4.914E-01	4.905E-02	3.421E-03	1.204E-02	4.318E-01	1.891E-01	2.938E-02
12	6.782E-02	1.798E-01	8.598E-03	7.263E-01	1.058E-01	3.236E-03	9.649E-03	6.599E-01	3.680E-01	6.100E-02
13	1.162E-01	3.555E-01	4.970E-04	1.135E+00	2.122E-01	4.709E-03	2.746E-02	1.070E+00	5.980E-01	1.033E-01
14	4.953E-02	8.278E-01	1.036E-03	1.879E+00	2.096E-01	6.851E-03	3.732E-05	1.834E+00	6.902E-01	3.799E-01
15	5.005E-01	1.111E+00	1.841E-03	3.188E+00	2.563E-01	9.970E-03	6.699E-05	3.216E+00	2.297E+00	1.436E-02
16	6.321E-04	1.408E+00	2.965E-03	1.390E+01	2.150E-02	1.450E-02	2.123E-04	5.768E+00	1.209E+01	8.912E-03
17	1.017E-03	4.864E-02	4.537E-03	5.324E+00	2.855E-02	2.110E-02	7.993E-04	2.730E-02	3.867E-01	1.188E-02
18	1.735E-03	9.609E-03	6.763E-03	1.382E+01	9.605E+00	3.071E-02	2.682E-03	2.781E+01	2.402E+00	1.783E-02
19	2.787E-03	3.116E-02	9.955E-03	3.814E-01	1.666E-01	4.470E-02	7.137E-03	4.680E+01	1.146E-01	2.689E-02
20	4.270E-03	8.554E-02	1.457E-02	2.576E+01	2.939E-01	6.499E-02	1.515E-02	5.890E+01	2.646E-01	4.001E-02
21	6.371E-03	1.881E-01	2.126E-02	2.064E+00	4.765E-01	9.456E-02	2.720E-02	5.065E+02	5.356E-01	5.890E-02
22	9.385E-03	3.467E-01	3.096E-02	3.857E+02	7.321E-01	1.376E-01	4.418E-02	6.372E+00	9.451E-01	8.616E-02
23	1.373E-02	5.721E-01	4.507E-02	1.793E+01	1.098E+00	2.002E-01	6.787E-02	4.696E+00	1.524E+00	1.258E-01
24	2.003E-02	8.854E-01	6.560E-02	1.247E+01	1.975E+00	2.914E-01	1.013E-01	5.803E+00	2.331E+00	1.832E-01
25	5.743E-02	2.660E+00	1.876E-01	3.020E+01	4.658E+00	8.334E-01	2.958E-01	1.534E+01	6.939E+00	5.245E-01
RI	6.719E-01	4.595E+00	1.707E-01	3.618E+02	1.118E+01	6.519E-01	2.503E-01	5.018E+02	1.826E+01	8.929E-01
THERM	1.104E-01	5.145E+00	3.609E-01	5.729E+01	8.957E+00	1.601E+00	5.705E-01	2.924E+01	1.339E+01	1.009E+00
G	1.000E+00	9.937E-01	9.991E-01	1.013E+00	9.995E-01	1.000E+00	9.963E-01	1.008E+00	9.959E-01	9.988E-01

GROUP	ND-142 (601420)	PR-143 (591430)	ND-143 (601430)	CE-144 (581440)	ND-144 (601440)	ND-145 (601450)	ND-146 (601460)	ND-147 (601470)	PM-147 (611470)	SM-147 (621470)
1	1.246E-02	3.108E-04	8.167E-04	5.172E-04	1.220E-03	7.867E-04	2.932E-03	7.875E-04	7.434E-04	8.916E-04
2	2.818E-02	1.077E-03	4.698E-03	2.200E-03	7.239E-03	5.329E-03	8.525E-03	8.169E-03	7.004E-03	4.610E-03
3	4.975E-02	4.338E-03	2.793E-02	4.990E-03	1.850E-02	2.365E-02	1.989E-02	3.434E-02	3.345E-02	2.382E-02
4	8.672E-02	1.567E-02	7.932E-02	6.473E-03	2.864E-02	5.563E-02	3.460E-02	7.610E-02	9.517E-02	6.820E-02
5	6.517E-02	1.932E-02	1.021E-01	6.305E-03	3.388E-02	8.992E-02	4.567E-02	1.203E-01	2.010E-01	1.531E-01
6	4.039E-02	2.039E-02	8.949E-02	7.650E-03	4.279E-02	1.314E-01	5.154E-02	1.592E-01	3.158E-01	2.329E-01
7	3.327E-02	2.576E-02	9.889E-02	1.206E-02	3.838E-02	1.648E-01	6.962E-02	2.380E-01	3.695E-01	2.981E-01
8	3.797E-02	3.907E-02	1.324E-01	1.379E-02	4.566E-02	2.341E-01	8.134E-02	4.151E-01	4.809E-01	4.406E-01
9	4.729E-02	6.804E-02	1.914E-01	1.751E-02	5.839E-02	3.646E-01	9.729E-02	6.528E-01	7.076E-01	6.095E-01
10	5.290E-02	1.143E-01	2.956E-01	2.343E-02	7.226E-02	5.357E-01	1.177E-01	1.022E+00	1.044E+00	8.887E-01
11	5.047E-02	1.895E-01	4.670E-01	3.571E-02	8.678E-02	8.404E-01	1.459E-01	1.651E+00	1.653E+00	1.414E+00
12	9.026E-02	3.097E-01	8.423E-01	5.698E-02	1.143E-01	1.436E+00	1.635E-01	2.887E+00	2.824E+00	2.453E+00
13	1.280E-01	5.072E-01	1.163E+00	8.600E-02	9.881E-02	2.182E+00	2.404E-01	5.234E+00	5.067E+00	4.515E+00
14	8.313E-02	8.771E-01	2.355E+00	1.263E-01	5.258E-01	4.203E+00	4.624E-01	9.547E+00	9.213E+00	6.811E+00
15	7.437E-02	1.630E+00	2.806E+00	1.998E-01	7.514E-01	6.374E+00	5.989E-01	1.723E+01	1.670E+01	1.920E+01
16	2.712E-01	3.155E+00	9.608E+00	3.528E-01	1.803E+00	9.532E+00	1.022E+00	3.060E+01	2.977E+01	3.087E+01
17	1.908E-01	6.182E+00	3.404E+01	6.752E-01	5.244E-02	1.860E+01	8.005E-03	5.307E+01	4.914E+01	6.100E+01
18	3.187E-01	1.198E+01	2.474E+01	1.215E+00	5.175E-02	5.648E+00	1.644E-02	8.894E+01	6.696E+01	8.148E+01
19	4.976E-01	2.300E+01	4.033E-01	4.657E-02	7.898E-02	6.817E+01	3.018E-02	1.479E+02	9.069E+01	1.991E+02
20	7.487E-01	4.419E+01	1.245E+00	4.063E-02	1.290E-01	1.026E+00	5.011E-02	1.999E+02	4.482E+01	3.329E+02
21	1.107E+00	8.282E+01	4.292E+00	5.911E-02	2.047E-01	3.549E+00	7.798E-02	1.232E+02	2.392E+03	2.617E+00
22	1.623E+00	4.225E+01	1.188E+01	8.604E-02	3.128E-01	1.344E+02	1.173E-01	5.613E+01	1.706E+02	2.759E+02
23	2.369E+00	1.126E+01	2.607E+01	1.251E-01	4.667E-01	5.933E+00	1.733E-01	3.225E+01	2.744E+01	7.758E+00
24	3.452E+00	1.639E+01	4.783E+01	1.821E-01	6.873E-01	8.056E+00	2.540E-01	6.046E+01	2.998E+01	8.809E+00
25	9.886E+00	4.686E+01	1.677E+02	5.208E-01	1.984E+00	2.289E+01	7.302E-01	2.181E+02	8.588E+01	2.928E+01
RI	7.883E+00	1.807E+02	1.170E+02	2.497E+00	4.129E+00	2.020E+02	2.839E+00	6.114E+02	2.199E+03	7.750E+02
THERM	1.900E+01	9.004E+01	3.311E+02	1.000E+00	3.818E+00	4.405E+01	1.404E+00	4.332E+02	1.682E+02	5.822E+01
G	1.000E+00	1.000E+00	9.735E-01	1.000E+00	9.990E-01	9.987E-01	9.995E-01	9.673E-01	9.811E-01	9.663E-01

Table 2.7.2 Continued

(Unit:Barns)

GROUP	ND-148 (601480)	PM-148 (611480)	PM-148M (611481)	SM-148 (621480)	PM-149 (611490)	SM-149 (621490)	ND-150 (601500)	SM-150 (621500)	SM-151 (621510)	EU-151 (631510)
1	1.025E-03	8.023E-04	7.540E-04	6.632E-03	4.404E-04	1.769E-03	1.468E-03	1.737E-02	1.170E-03	2.216E-03
2	4.633E-03	5.448E-03	4.588E-03	2.287E-02	4.183E-03	1.501E-02	6.807E-03	4.428E-02	7.430E-03	2.896E-02
3	1.489E-02	2.959E-02	3.396E-02	5.307E-02	1.937E-02	5.821E-02	1.856E-02	8.944E-02	2.786E-02	1.120E-01
4	2.592E-02	8.309E-02	1.488E-01	9.094E-02	5.086E-02	1.332E-01	2.882E-02	1.271E-01	6.014E-02	2.290E-01
5	3.013E-02	1.642E-01	4.003E-01	1.151E-01	9.805E-02	2.352E-01	3.058E-02	1.642E-01	9.940E-02	3.791E-01
6	3.654E-02	3.214E-01	7.525E-01	1.399E-01	1.667E-01	4.135E-01	3.450E-02	1.876E-01	1.787E-01	6.425E-01
7	6.696E-02	5.593E-01	1.036E+00	1.530E-01	3.057E-01	6.373E-01	4.216E-02	2.812E-01	3.759E-01	1.144E+00
8	8.226E-02	7.552E-01	1.340E+00	1.674E-01	4.892E-01	8.308E-01	9.588E-02	3.020E-01	7.621E-01	1.589E+00
9	9.821E-02	1.143E+00	1.879E+00	2.008E-01	6.834E-01	1.135E+00	1.318E-01	3.607E-01	1.382E+00	2.271E+00
10	1.185E-01	1.699E+00	2.864E+00	2.738E-01	1.007E+00	1.776E+00	1.585E-01	4.812E-01	2.073E+00	3.716E+00
11	1.577E-01	2.746E+00	4.699E+00	3.926E-01	1.606E+00	3.160E+00	1.914E-01	6.704E-01	3.212E+00	6.223E+00
12	2.175E-01	4.735E+00	7.982E+00	3.028E-01	2.771E+00	5.647E+00	3.167E-01	9.855E-01	5.378E+00	9.851E+00
13	3.846E-01	8.374E+00	1.358E+01	8.106E-01	5.027E+00	1.032E+01	4.348E-01	1.602E+00	9.276E+00	1.588E+01
14	8.954E-01	1.479E+01	2.282E+01	1.268E+00	9.266E+00	1.881E+01	1.136E+00	2.026E+00	1.543E+01	2.539E+01
15	9.690E-01	2.581E+01	3.763E+01	3.354E+00	1.699E+01	3.399E+01	2.523E+00	5.143E+00	2.531E+01	4.026E+01
16	4.483E+00	4.413E+01	6.071E+01	4.948E+00	3.068E+01	4.239E+01	3.263E+00	1.078E+01	4.360E+01	6.305E+01
17	1.043E+01	7.363E+01	9.601E+01	1.460E+01	5.437E+01	7.025E+01	9.214E-03	6.594E+00	7.921E+01	9.929E+01
18	2.730E-01	1.188E+02	1.479E+02	3.222E+01	9.294E+01	2.588E+02	1.235E+01	2.811E+01	1.409E+02	1.441E+02
19	9.091E-02	1.875E+02	2.250E+02	1.161E-01	1.552E+02	2.372E+02	1.456E-02	7.950E+00	1.501E+02	2.288E+02
20	1.129E-01	2.962E+02	3.414E+02	1.106E-01	2.596E+02	1.286E+02	1.949E-02	3.416E+02	4.798E+02	2.072E+02
21	1.549E-01	4.548E+02	5.125E+02	1.396E-01	4.209E+02	5.005E+02	3.641E-02	1.646E+00	6.330E+02	3.260E+02
22	2.198E-01	6.760E+02	7.591E+02	1.956E-01	5.783E+02	2.324E+02	6.922E-02	3.162E+00	1.916E+02	4.963E+02
23	3.160E-01	9.841E+02	1.123E+03	2.867E-01	1.753E+02	7.299E+01	1.216E-01	7.102E+00	1.234E+03	1.468E+02
24	4.574E-01	4.066E+02	1.379E+03	4.254E-01	2.550E+02	3.007E+03	1.975E-01	1.405E+01	1.487E+03	1.580E+03
25	1.303E+00	1.041E+03	2.155E+04	1.254E+00	7.290E+02	4.783E+04	6.204E-01	5.435E+01	4.626E+03	3.943E+03
RI	1.463E+01	2.408E+03	3.435E+03	4.508E+01	1.497E+03	3.384E+03	1.586E+01	3.217E+02	3.308E+03	1.960E+03
THERM	2.502E+00	2.001E+03	1.078E+04	2.422E+00	1.401E+03	4.142E+04	1.209E+00	1.089E+02	1.511E+04	9.123E+03
G	1.001E+00	1.000E+00	3.835E+00	9.951E-01	1.000E+00	2.215E+00	9.864E-01	9.589E-01	5.878E-01	8.332E-01

GROUP	SM-152 (621520)	EU-152 (631520)	GD-152 (641520)	SM-153 (621530)	EU-153 (631530)	SM-154 (621540)	EU-154 (631540)	GD-154 (641540)	EU-155 (631550)	GD-155 (641550)
1	1.122E-02	1.483E-03	9.498E-03	8.381E-04	9.999E-04	4.162E-03	1.518E-03	2.945E-02	2.157E-03	4.836E-03
2	3.106E-02	1.216E-02	7.017E-02	2.866E-03	1.653E-02	1.402E-02	1.417E-02	1.031E-01	1.895E-02	2.925E-02
3	6.175E-02	5.456E-02	1.851E-01	9.796E-03	8.305E-02	2.997E-02	8.943E-02	1.911E-01	6.121E-02	6.856E-02
4	9.147E-02	1.345E-01	2.858E-01	1.816E-02	1.881E-01	4.328E-02	2.706E-01	2.637E-01	1.031E-01	1.281E-01
5	1.179E-01	2.558E-01	3.710E-01	2.501E-02	2.773E-01	5.572E-02	4.732E-01	3.243E-01	1.239E-01	2.002E-01
6	1.369E-01	5.291E-01	4.156E-01	3.846E-02	4.136E-01	5.373E-02	6.996E-01	3.418E-01	1.594E-01	3.373E-01
7	1.573E-01	1.064E+00	5.245E-01	8.118E-02	6.639E-01	6.346E-02	9.774E-01	3.654E-01	2.610E-01	6.988E-01
8	2.708E-01	1.765E+00	5.379E-01	1.869E-01	1.141E+00	1.018E-01	1.389E+00	5.097E-01	4.751E-01	1.232E+00
9	3.609E-01	2.692E+00	7.252E-01	3.834E-01	1.756E+00	1.988E-01	2.087E+00	6.398E-01	7.627E-01	2.026E+00
10	4.721E-01	4.048E+00	9.857E-01	7.077E-01	2.545E+00	2.628E-01	3.066E+00	8.332E-01	1.139E+00	2.905E+00
11	6.700E-01	6.244E+00	1.414E+00	1.160E+00	4.020E+00	3.679E-01	4.751E+00	1.178E+00	1.858E+00	4.388E+00
12	8.772E-01	9.680E+00	2.402E+00	2.179E+00	6.632E+00	4.930E-01	7.557E+00	1.854E+00	3.236E+00	6.902E+00
13	1.193E+00	1.492E+01	3.269E+00	3.869E+00	1.101E+01	5.938E-01	1.203E+01	2.843E+00	5.764E+00	1.095E+01
14	2.412E+00	2.271E+01	5.481E+00	6.942E+00	1.808E+01	1.302E+00	1.895E+01	6.678E+00	1.025E+01	1.725E+01
15	5.115E+00	3.422E+01	1.149E+01	1.249E+01	2.888E+01	3.709E+00	2.952E+01	9.950E+00	1.791E+01	2.690E+01
16	1.222E+01	5.109E+01	3.590E+01	2.218E+01	4.659E+01	4.864E+00	4.524E+01	1.248E+01	3.064E+01	4.127E+01
17	1.543E+01	7.569E+01	2.510E+01	3.859E+01	7.383E+01	1.049E-01	6.843E+01	5.729E+01	5.117E+01	6.461E+01
18	4.097E+01	1.113E+02	5.640E+01	6.503E+01	1.196E+02	3.214E+01	1.023E+02	4.160E+01	8.274E+01	7.327E+01
19	8.657E-01	1.635E+02	2.294E+02	1.073E+02	9.308E+01	1.033E-01	1.201E+02	1.779E+01	8.579E+01	1.335E+02
20	1.695E+01	2.400E+02	1.695E+02	1.771E+02	2.305E+02	1.924E-01	8.802E+01	1.127E+02	1.442E+02	2.091E+02
21	3.453E+03	2.809E+02	4.306E+02	2.842E+02	1.695E+02	3.616E-01	2.721E+02	1.045E+00	1.360E+01	2.471E+02
22	5.331E+01	2.567E+02	6.224E+01	9.495E+01	8.350E+02	6.163E-01	1.418E+02	1.986E+00	1.584E+01	7.916E+02
23	3.831E+01	7.331E+02	9.980E+01	5.257E+01	1.993E+02	9.745E-01	5.239E+02	4.912E+00	2.013E+02	3.038E+02
24	4.440E+01	8.454E+02	1.680E+02	7.648E+01	3.783E+01	1.477E+00	2.645E+02	1.029E+01	2.186E+04	9.493E+01
25	1.097E+02	3.907E+03	5.428E+02	2.187E+02	1.501E+02	4.365E+00	1.684E+03	4.220E+01	3.003E+03	1.579E+04
RI	2.757E+03	2.091E+03	9.449E+02	6.952E+02	1.403E+03	3.575E+01	1.259E+03	2.122E+02	6.755E+03	1.500E+03
THERM	2.072E+02	1.274E+04	1.060E+03	4.202E+02	3.137E+02	8.422E+00	1.365E+03	8.526E+01	4.071E+03	6.056E+04
G	1.018E+00	5.891E-01	9.842E-01	1.000E+00	9.197E-01	9.960E-01	2.367E+00	9.510E-01	1.532E+00	5.007E-01

Table 2.7.2 Continued

(Unit:Barns)

GROUP	EU-156 (631560)	GD-156 (641560)	GD-157 (641570)	GD-158 (641580)	TB-159 (651590)	GD-160 (641600)
1	7.629E-04	7.602E-03	1.752E-03	1.957E-03	3.733E-03	8.444E-04
2	3.216E-03	4.716E-02	1.240E-02	1.038E-02	1.985E-02	5.862E-03
3	1.785E-02	1.137E-01	4.116E-02	3.014E-02	5.730E-02	1.832E-02
4	4.686E-02	1.602E-01	7.571E-02	5.086E-02	1.150E-01	2.416E-02
5	7.401E-02	2.241E-01	1.095E-01	7.533E-02	1.795E-01	3.067E-02
6	1.137E-01	1.966E-01	1.904E-01	7.347E-02	2.821E-01	2.996E-02
7	1.622E-01	2.168E-01	2.878E-01	8.590E-02	5.524E-01	3.560E-02
8	2.135E-01	3.060E-01	4.783E-01	1.318E-01	9.078E-01	5.645E-02
9	3.432E-01	4.600E-01	8.657E-01	2.406E-01	1.417E+00	1.236E-01
10	5.240E-01	5.986E-01	1.341E+00	3.163E-01	2.194E+00	1.694E-01
11	9.644E-01	8.320E-01	2.035E+00	4.398E-01	3.374E+00	2.395E-01
12	1.675E+00	1.265E+00	3.328E+00	4.884E-01	5.263E+00	3.345E-01
13	3.049E+00	1.912E+00	5.673E+00	1.039E+00	8.150E+00	7.402E-01
14	5.650E+00	4.877E+00	9.769E+00	2.597E+00	1.081E+01	2.045E+00
15	1.042E+01	9.976E+00	1.667E+01	4.623E+00	1.664E+01	5.060E+00
16	1.892E+01	5.538E+00	2.141E+01	9.209E+00	2.560E+01	6.732E+00
17	3.369E+01	3.201E+01	7.499E+01	1.371E-01	3.668E+01	2.123E-02
18	5.812E+01	4.180E+01	8.152E+01	3.737E-01	4.017E+01	7.651E-03
19	9.798E+01	5.911E+01	3.117E+01	4.980E+00	7.259E+01	1.257E-02
20	1.653E+02	1.926E-01	2.254E+02	5.921E+01	2.378E+02	2.276E-02
21	2.694E+02	1.682E-01	2.395E+00	2.143E-01	1.353E+01	3.904E-02
22	4.220E+02	2.108E-01	1.490E+02	2.414E-01	1.442E+02	6.245E-02
23	6.614E+02	2.887E-01	4.930E+01	3.272E-01	4.296E+00	9.546E-02
24	1.452E+02	4.087E-01	2.861E+02	4.642E-01	3.313E+00	1.423E-01
25	5.207E+01	1.146E+00	6.851E+04	1.306E+00	1.078E+01	4.149E-01
RI	1.418E+03	1.204E+02	6.357E+02	6.383E+01	4.692E+02	1.199E+01
THERM	1.000E+02	2.198E+00	2.531E+05	2.505E+00	2.652E+01	7.993E-01
G	1.000E+00	1.002E+00	5.197E-01	1.002E+00	7.810E-01	9.977E-01

3. Comparison of Calculated and Measured Decay Powers

Decay powers of fission products were calculated by the DCHAIN[14] code using the three different libraries: the JNDC–V1 library[20], the JNDC–V2 library described in Section 2 and the ENDF/B–V file, for the thermal neutron fissions of ^{233}U, ^{235}U, ^{239}Pu and ^{241}Pu, and for the fast neutron fissions of ^{232}Th, ^{233}U, ^{235}U, ^{238}U and ^{239}Pu. The results are compared with the recent decay power experiments at the University of Tokyo, Tokai (UTT)[10–12], ORNL[1–4] and LANL[5,6].

3.1 Comparison with UTT Experiment

Akiyama et al.[10–12] measured the decay power of fission products for the fast neutron fissions of ^{232}Th, ^{233}U, ^{235}U, ^{238}U and ^{239}Pu. Samples of approximately 2 mg were irradiated for 10 to 300 sec in the core of fast neutron source reactor YAYOI of the University of Tokyo. The beta and gamma rays emitted from the sample were measured for times–after–fission of 11 to 26000 sec. The data were obtained for beta and gamma rays separately as spectral distributions. For the beta ray, the spectra were obtained by using a plastic scintillation detector combined with a transmission type proportional counter to eliminate gamma–ray effects; and for the gamma ray, the spectra were obtained by using an NaI(Tl) scintillation detector. These spectra were integrated over full energy range of the beta or gamma rays to provide the total yields and the energy integrated values as a function of time after a fission pulse in the range of 19 to 24000 sec.

The rate of energy release after t seconds following an instantaneous pulse of fission can be estimated by dividing the energy by integrals the counting time, t_{count}. The cooling time, t, is taken as

$$t = t_{wait} + 0.5(t_{irrad} + t_{count}),$$

where, t_{wait} = waiting time before counting after irradiation,
t_{irrad} = irradiation time,
t_{count} = counting time.

Figures 3.1.1(a) through **3.1.3(a)** show the comparisons of calculated and measured decay heat powers of beta, gamma, and (beta+gamma) rays by fast neutron fission of ^{235}U. The abscissa is the cooling time, t, after burst fission and the ordinate is the decay power multipled by the time, t. The ratios of the calculated decay powers to the measured ones are also shown in the figures (b) for evaluating easily the percent discrepancies between the calculated and measured decay powers.

It is seen in the figures that the calculated decay powers by JNDC–V2 are in much better agreement with the measured ones than the calculations by ENDF/B–V, in partticular, at short cooling times shorter than 10^3 sec. The improvement is also noticeable when compared to the calculation by JNDC–V1 at longer cooling times than 10^3 sec. The calculation by JNDC–V2 agrees satisfactorily with the measured date within ±4% for total decay powers, ±5% for beta–decay powers and ±5% for gamma–decay powers. The measurement uncertainties (1σ) are estimated to be 5% for both beta– and gamma–decay powers. Whereas the calculation by ENDF/B–V underestimates the total and gamma–decay powers by as much as 8% and 22%, respectively, and overestimates the beta–decay powers by as much as 8% at cooling times shorter than 10^3 sec. Considerable discrepancies between the calculated decay powers by JNDC–V1 and the measured ones are seen at cooling times longer than 2×10^3 sec when the calculation by JNDC–V1 overestimates the total and gamma–decay powers by 5% and 10%, respectively, and underestimates the beta–decay powers by 10%.

Figures 3.1.4 through **3.1.6** show the comparisons of calculated and measured beta–, gamma– and

(beta+gamma) decay powers by the fast neutron fissions of ^{239}Pu, **Figs. 3.1.7** through **3.1.9** of ^{238}U, **Figs. 3.1.10** through **3.1.12** of ^{233}U and **Figs. 3.1.13** through **3.1.15** of ^{232}Th. The calculated total sensible decay powers by JNDC–V2 agree very well within ±5% with the measured ones with some exceptions for ^{238}U and ^{232}Th. The calculation for ^{238}U underestimates the total sensible decay power by 7% at cooling times around 10^3 sec, but the discrepancy stays within the experimental uncertainty. The calculation for ^{232}Th underestimates the total sensible decay power by 12% and 15% at cooling times shorter than 10^2 sec and longer than 10^4 sec, respectively. The discrepancy at short cooling times shorter than 10^2 sec is close to the experimental uncertainty. For the discrepancy at longer cooling times than 10^4 sec, it seems to be necessary to examine the fission yield data as well as the uncertainty in the experiment in order to remove the descrepancy. The calculated beta– and gamma–decay powers by JNDC–V2 agree much better with the measured ones than those by the other two libraries do. Improvement is apparent at cooling times shorter than 10^3 sec compared to the calculation by ENDF/B–V and at cooling times longer than 10^3 sec compared to the calculation by JNDC–V1. The calculated beta– and gamma–decay powers for ^{239}Pu and ^{233}U agree with the measured data within ±8% except for the beta–decay powers of ^{239}Pu at cooling times longer than 10^4 sec when the calculation shows the overprediction by as much as 12%. The calculated results of beta– and gamma–decay powers for ^{238}U and ^{232}Th agree with the measured ones within ±10% except at cooling times longer than 10^4 sec when the calculation shows the underprediction of the gamma–decay powers of ^{238}U by 20%, the overprediction of the beta–decay powers of ^{238}U by 20% and also the underprediction of the beta–decay powers of ^{232}Th by 23%.

3.2 Comparison with ORNL Experiment

Dickens et al.[1-4] of ORNL measured the decay power of fission products for the thermal neutron fissions of ^{235}U, ^{239}Pu and ^{241}Pu. Samples of mass 1 to 10 g were irradiated for 1 to 100 sec using the fast pneumatic–tube facility at the Oak Ridge Research Reactor. The resulting beta and gamma rays emitted from the samples were counted for times–after–fission of 2 to 14000 s. The data were obtained for beta and gamma ray separately as spectral distributions, $N(E_\gamma)$ versus E_γ and $N(E_\beta)$ versus E_β. For the gamma ray, the spectra were obtained using an NaI detector; and for the beta ray, the spectra were obtained using an NE110 detector with an anticoincidence mantle. The raw data were unfolded to provide spectral distributions with modest resolution.

Figures 3.2.1(a) through **3.2.3(a)** show the comparisons of calculated and measured decay heat powers of beta, gamma, and (beta+gamma) rays by the thermal neutron fissions of ^{235}U. The ratios of the calculated decay powers to the measured ones are also shown in the figures (b). The comparison of calculated and measured decay powers are also shown in **Figs. 3.2.4** through **3.2.6** for thermal neutron fission of ^{239}Pu and **Figs. 3.2.7** through **3.2.9** of ^{241}Pu.

The total sensible decay power or the beta plus gamma decay power calculated by the JNDC–V2 library agrees very well with the measured decay power within the accuracy of ±5% for all the three fissile nuclides of ^{235}U, ^{239}Pu and ^{241}Pu except for the thermal neutron fission of ^{235}U for cooling times of 10^3 to 10^4 sec when the discrepancy is large (+8%) due to large inconsistency of gamma decay power as will be discussed later in this section. The accuracy of the calculations based on JNDC–V2 is improved a little compared to the calculated results by JNDC–V1, whereas the improvement is notable compared to those by ENDF/B–V for the whole cooling time range. The maximum deviation for the JNDC–V1 library is −6% for ^{239}Pu fission at cooling time of 1000 sec and that for the ENDF/B–V file is 11% for ^{241}Pu fission at cooling time of 70 sec, respectively, except for a large discrepancy in the gamma–decay power for the thermal neutron fission of ^{235}U at cooling times of 10^3 to 10^4 sec.

The beta– and gamma–decay powers calculated by the JNDC–V2 library agree with the measured ones within the accuracy of ±7% for the fissions of all three nuclides: ^{235}U, ^{239}Pu and ^{241}Pu, except for the discrepancy of +11% for the gamma–decay powers of ^{241}Pu at cooling times shorter than 10 sec when

the uncertainty in the measurement is also large. The accuracy has been improved considerably compared to the accuracies of (+11, −13%) by JNDC–V1 and (+15, −25%) by ENDF/B–V. The gamma–decay powers of ^{235}U at cooling times of 10^3 to 10^4 sec were excluded in the above discussion due to possible large systematic errors in the experiment as discussed below.

The gamma–decay powers for the thermal neutron fission of ^{235}U were measured also at UTT for cooling times longer than 400 sec to examine the large discrepancies of the gamma–decay powers between the calculation and the measurement performed at ORNL for cooling times of 10^3 to 10^4 sec. The results are shown in **Fig. 3.2.2(a)**. The results by UTT agree much better within the accuracy of (+10%, −4%) with the calculated gamma–decay powers by JNDC–V2 than the results by ORNL does. That indicates some possible trouble in the measurement of the gamma–dacay powers of ^{235}U at ORNL for the cooling times of 10^3 to 10^4 sec. The gamma–ray spectrum comparison shows another evidence as shown in **Figs. 3.2.10** and **3.2.11**. The gamma–ray spectrum at the cooling time of 3500 sec measured at UTT (cf. **Fig. 3.2.10**) agree well with the calculated one by JNDC–V2, whereas the measured one at ORNL (cf. **Fig. 3.2.11**) is considerably smaller than the calculate one for the wide gamma–ray energy range of 1 to 3 MeV.

3.3 Comparison with LANL Experiment

Yarnell et al.[5,6] at LANL measured the decay power of fission products for the thermal neutron fissions of ^{235}U, ^{233}U and ^{239}Pu by a fast–response cryogenic boil–off calorimeter. The measurement was done for cooling times of 20 to 10^5 sec after 2×10^4 sec irradiation at a constant thermal neutron flux. Foil samples of 60 to 87 mg were irradiated in a thermal neutron flux of 3×10^{13} n/cm^2 s in the 125–mm–diameter port of the 8 MW OWR (Los Alamos Omega Water Reactor). During the irradiation, the sample is encased in a dart. At the end of the irradiation, each dart was blown into a release chamber, where the outer sleeve of the dart was stripped away, and the sample was freed to fall into a calorimeter. The copper block of the calorimeter absorbs the radiation energy emitted by the sample, and evaporates liquid helium from a reservoir in the top of the block. The boil–off helium gas was measured by a flowmeter of the hot–film anemometer type, and the decay power of fission products was obtained from the helium flow rate. The time constant of the calorimeter was 0.9 sec. The experimental uncertainty (1 σ) is 2% for ^{235}U, 5% for ^{233}U, and 3~4% for ^{239}Pu.

The calculated decay powers of fission products by the JNDC–V1, –V2 libraries and the ENDF/B –V file are compared with the measurements in **Figs. 3.3.1** through **3.3.3** for the thermal neutron fissions of ^{235}U, ^{233}U and ^{239}Pu. The ratios of the calculated values to the measured results are also shown in the figures.

It is seen in **Fig. 3.3.1** that the calculated decay powers of ^{235}U by JNDC–V2 agree with measured ones within ±4% accuracy at cooling times longer than 20 sec. Systematic deviations, however, are seen between calculated and measured results. The calculated decay power by JNDC–V2 is smaller than the measured one at cooling times shorter than 600 sec. The maximum deviation is −7% at the shortest cooling time of 10 sec and the absolute deviation decreases with the increase in cooling time. The calculated decay power becomes greater than the measured result at cooling times longer than 600 sec. The deviation increases with cooling time, reaches the maximum of +4% at 5000 sec, and decreases again after 5000 sec. The calculated results are in agreement with measured ones within the accuracy of ±2% after 2×10^4 sec.

The above trends are also shown for the calculated results by JNDC–V1 or ENDF/B–V. The maximum deviation for JNDC–V2, however, is (+4%, −7%) being smaller than (+8%, −6%) of JNDC–V1 or (+5%, −9%) of ENDF/B–V.

The trends of deviations between the calculated and measured results are similar also to the thermal neutron fissions of ^{233}U and ^{239}Pu (cf. **Figs. 3.3.2** and **3.3.3**), while, the deviation is shifted to negative

side, (+1%, −7%) for ^{233}U and (+0%, −11%) for ^{239}Pu compared to deviation of (+4%, −7%) for ^{235}U when the JNDC–V2 library is used in the calculation. The evaluation of the normalization factor used might have some problems. The trend of the systematic deviation between the calculated and measured results is similar to the three fissile nuclides which indicate some remaining problems for the correction of the calorimetric measurements such as corrections for the time constant and the gamma–ray leakage.

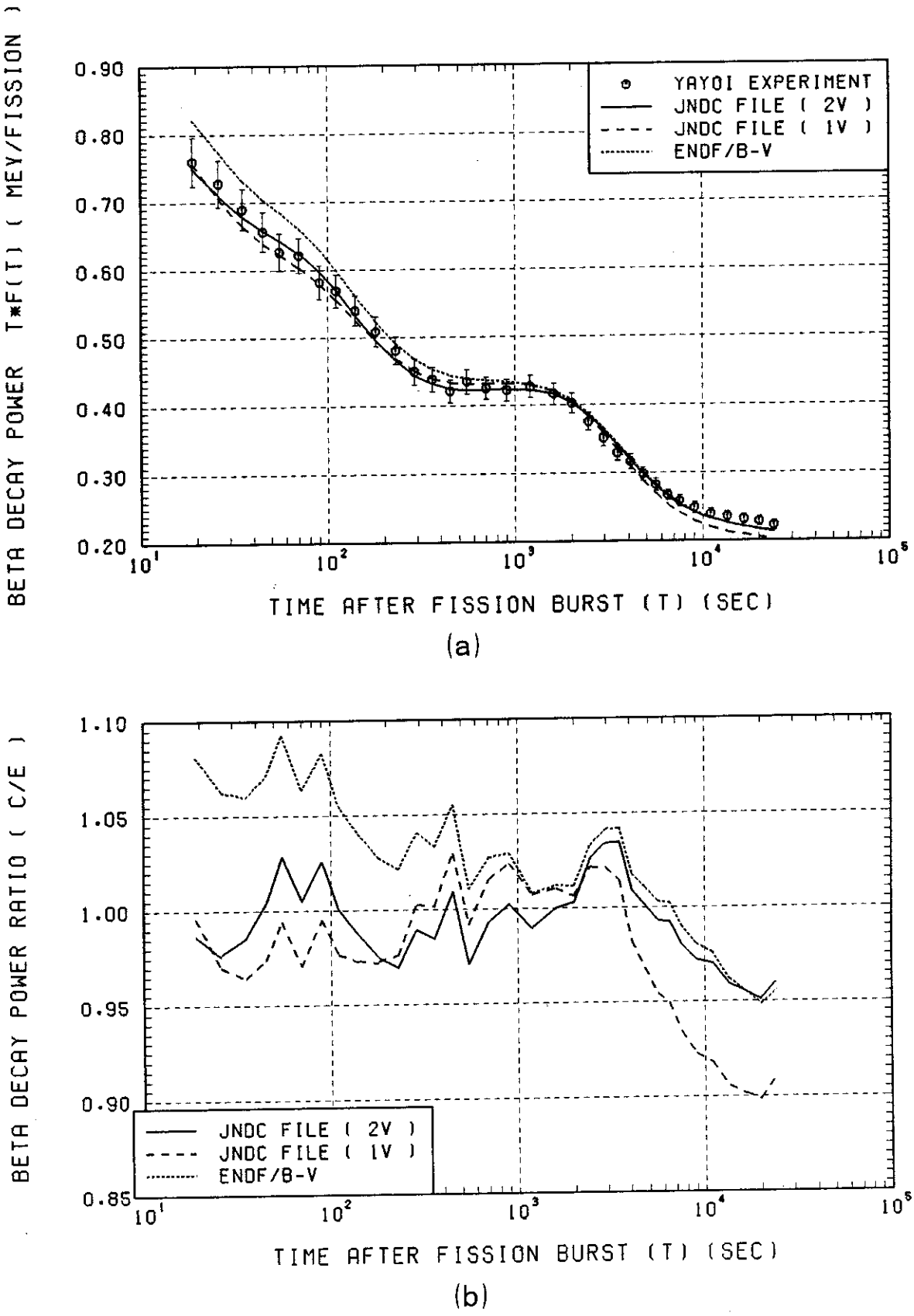
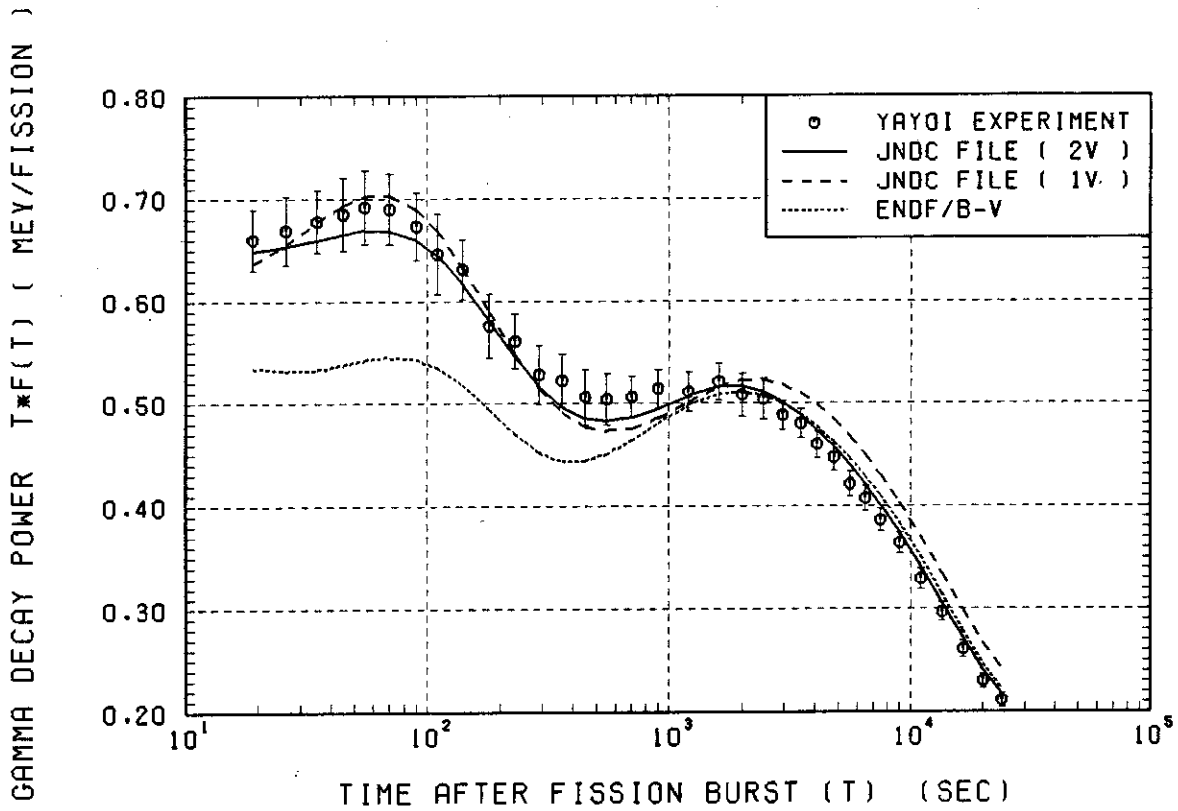
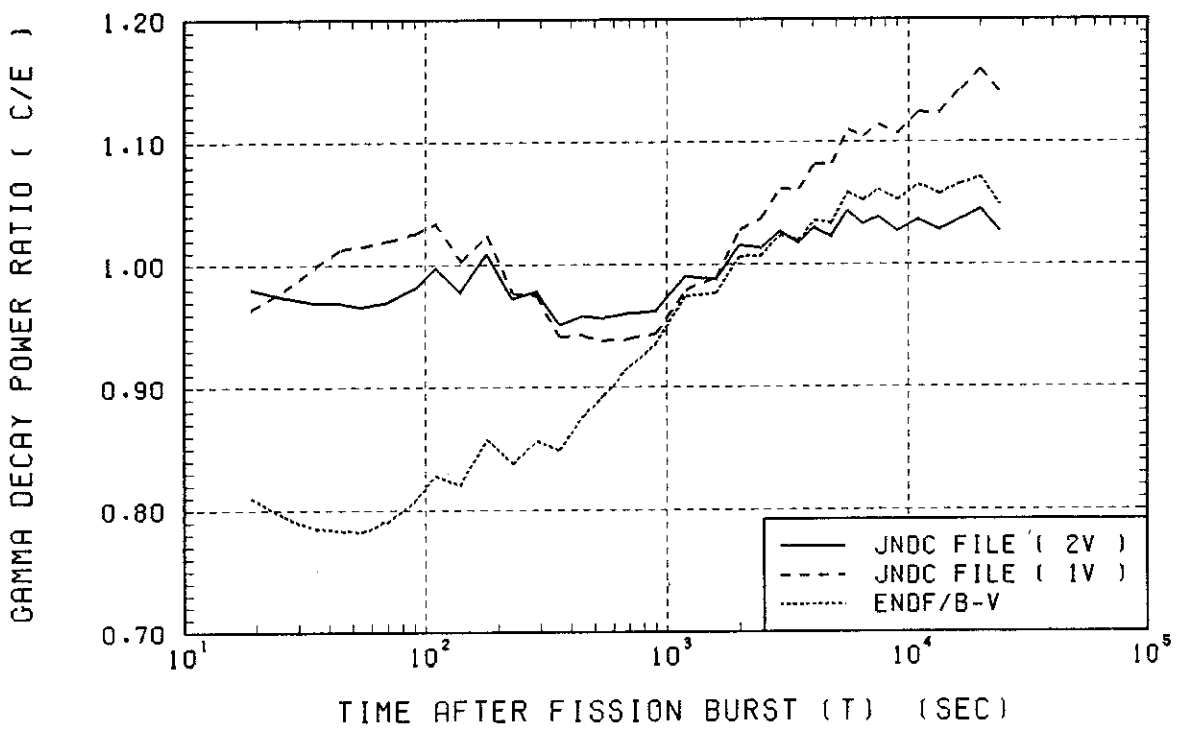


Fig. 3.1.1 Comparison of calculated beta decay power to measured results at the University of Tokyo for the burst fission of ^{235}U by fast neutrons.
(a) (Beta decay power) × (Time)
(b) Ratio of calculated to measured beta decay powers

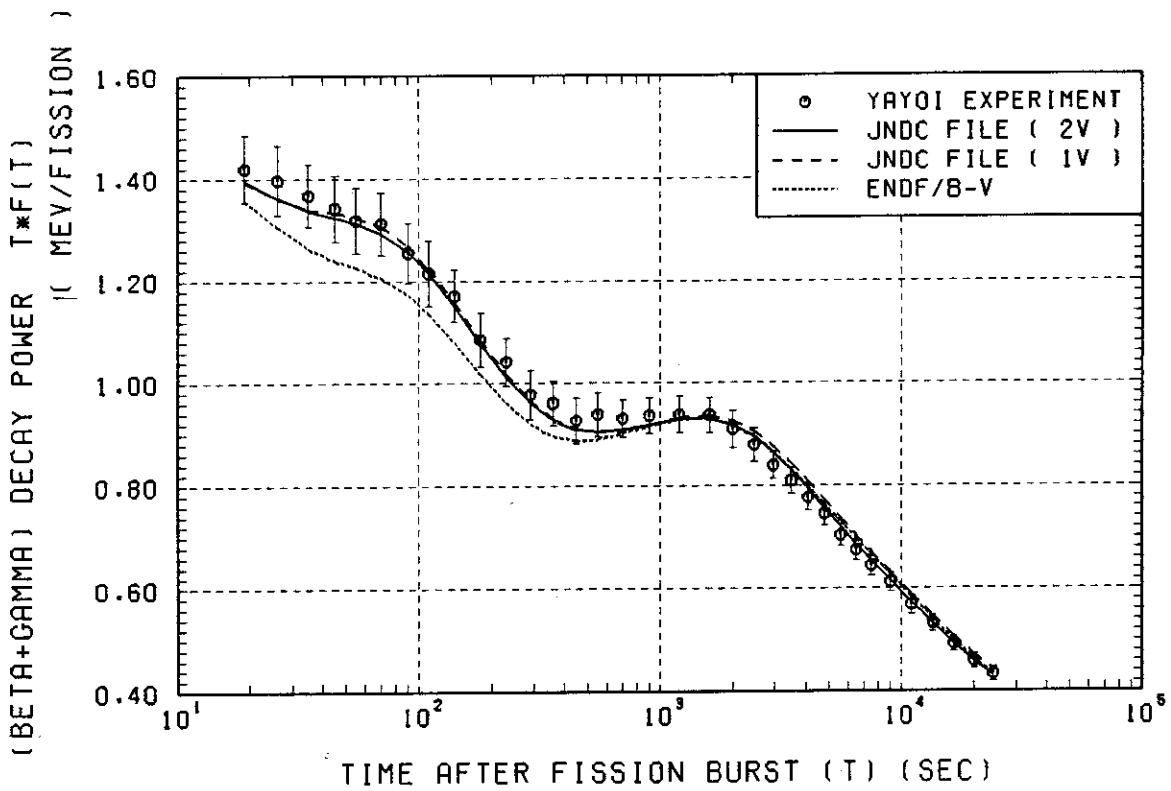


(a)

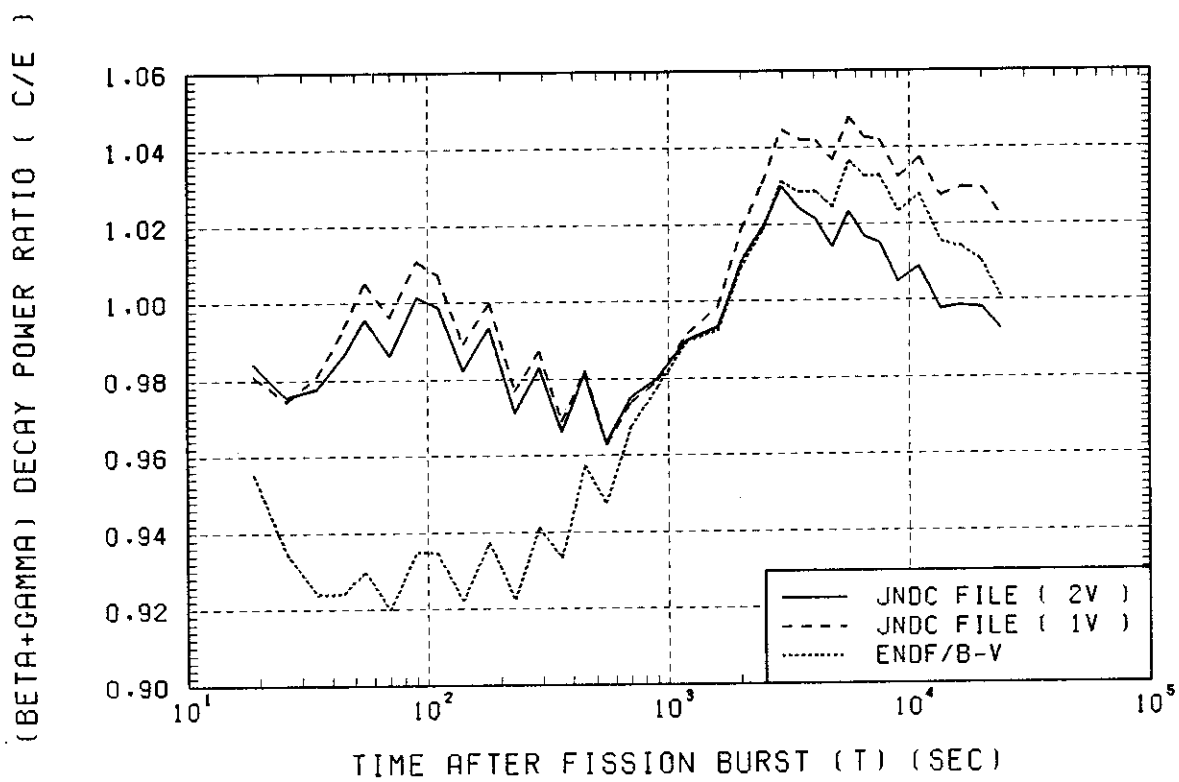


(b)

Fig. 3.1.2 Comparison of calculated gamma decay power to measured results at the University of Tokyo for the burst fission of ^{235}U by fast neutrons.
(a) (Gamma decay power) × (Time)
(b) Ratio of calculated to measured gamma decay powers

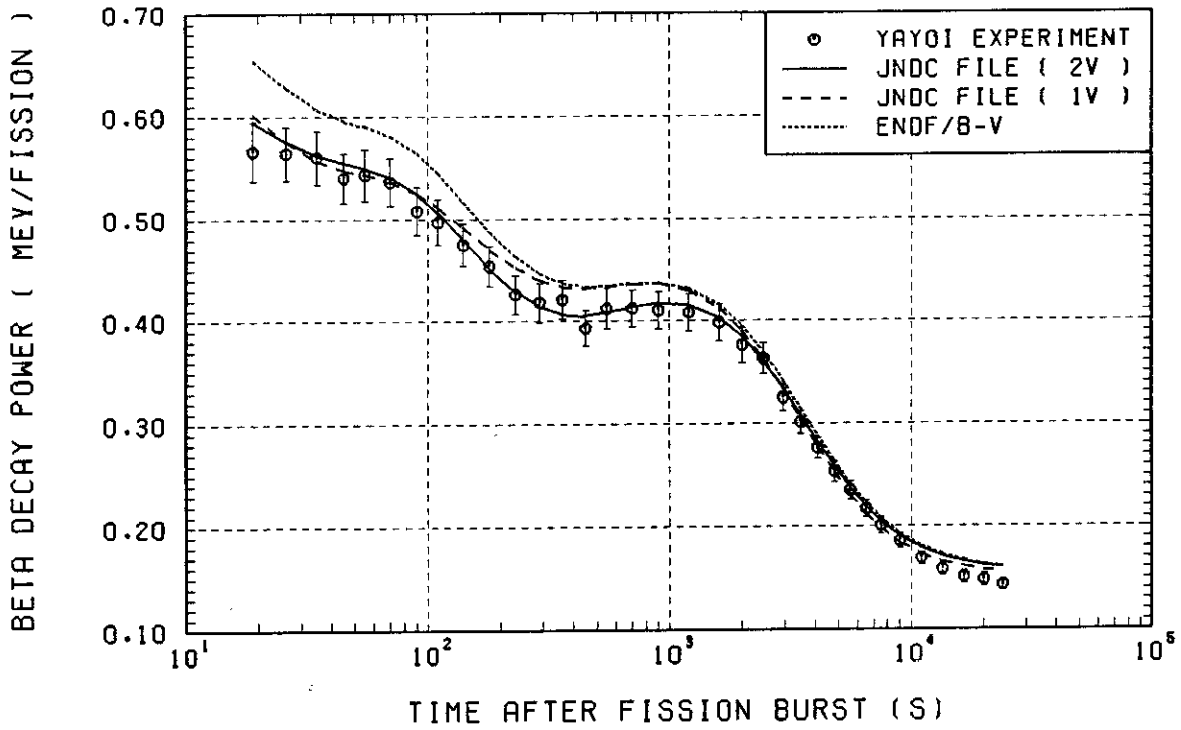


(a)

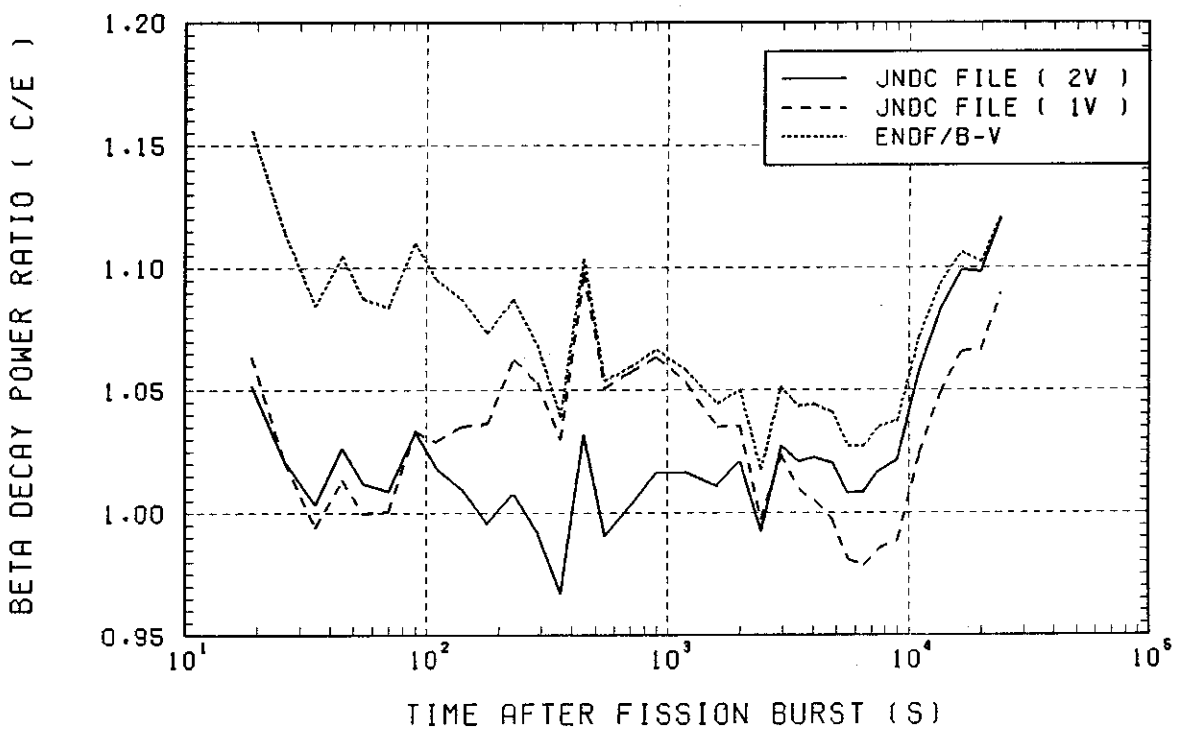


(b)

Fig. 3.1.3 Comparison of calculated total sensible decay power to measured results at the University of Tokyo for the burst fission of ^{235}U by fast neutrons.
(a) (Total sensible decay power) × (Time)
(b) Ratio of calculated to measured total sensible decay powers

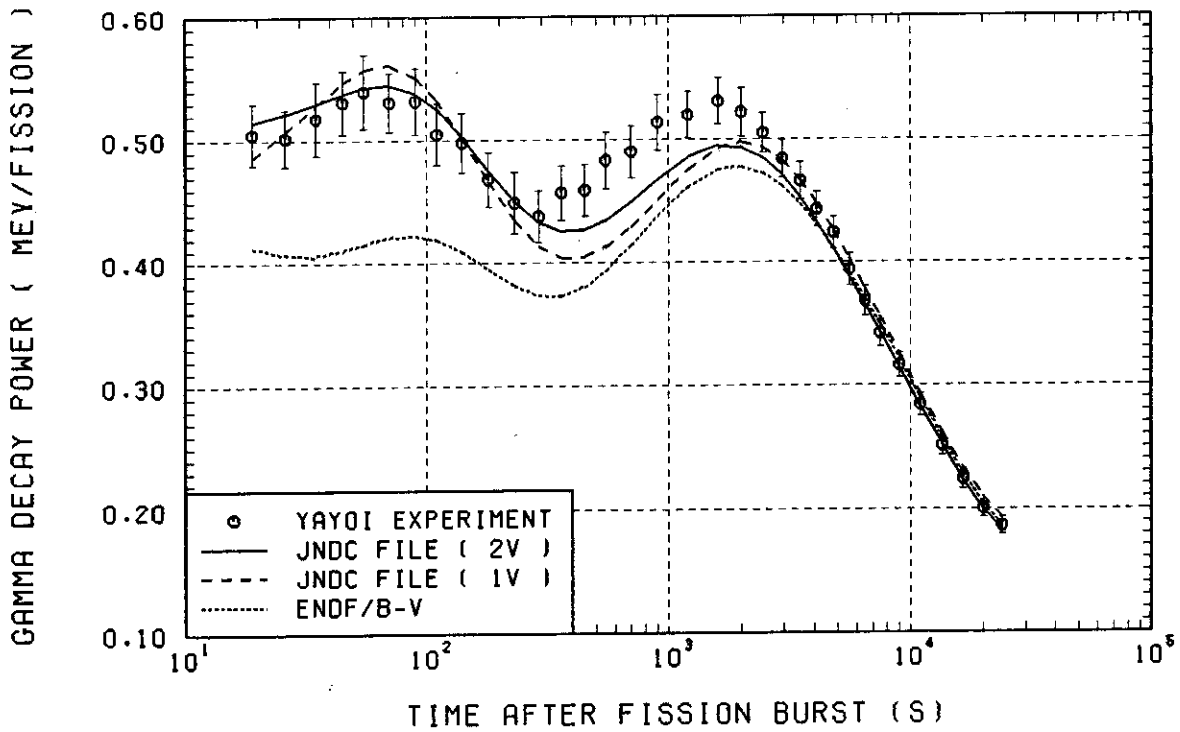


(a)



(b)

Fig. 3.1.4 Comparison of calculated beta decay power to measured results at the University of Tokyo for the burst fission of ^{239}Pu by fast neutrons.
(a) (Beta decay power) × (Time)
(b) Ratio of calculated to measured beta decay powers



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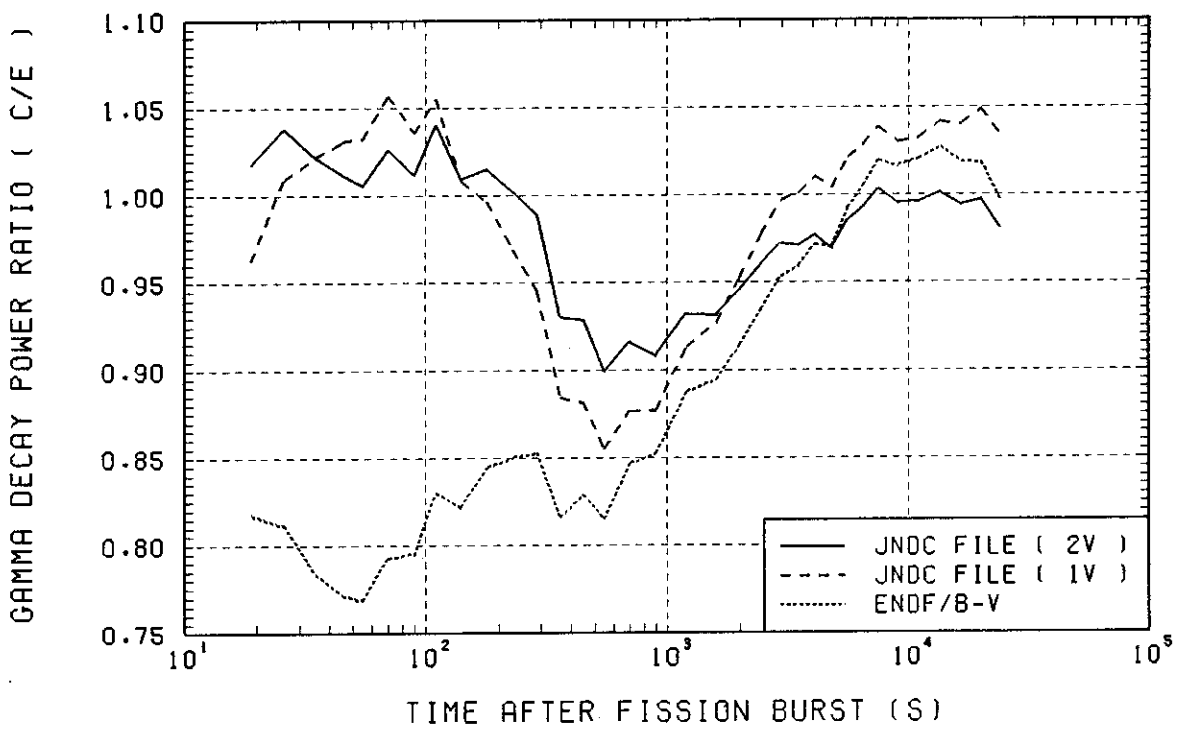
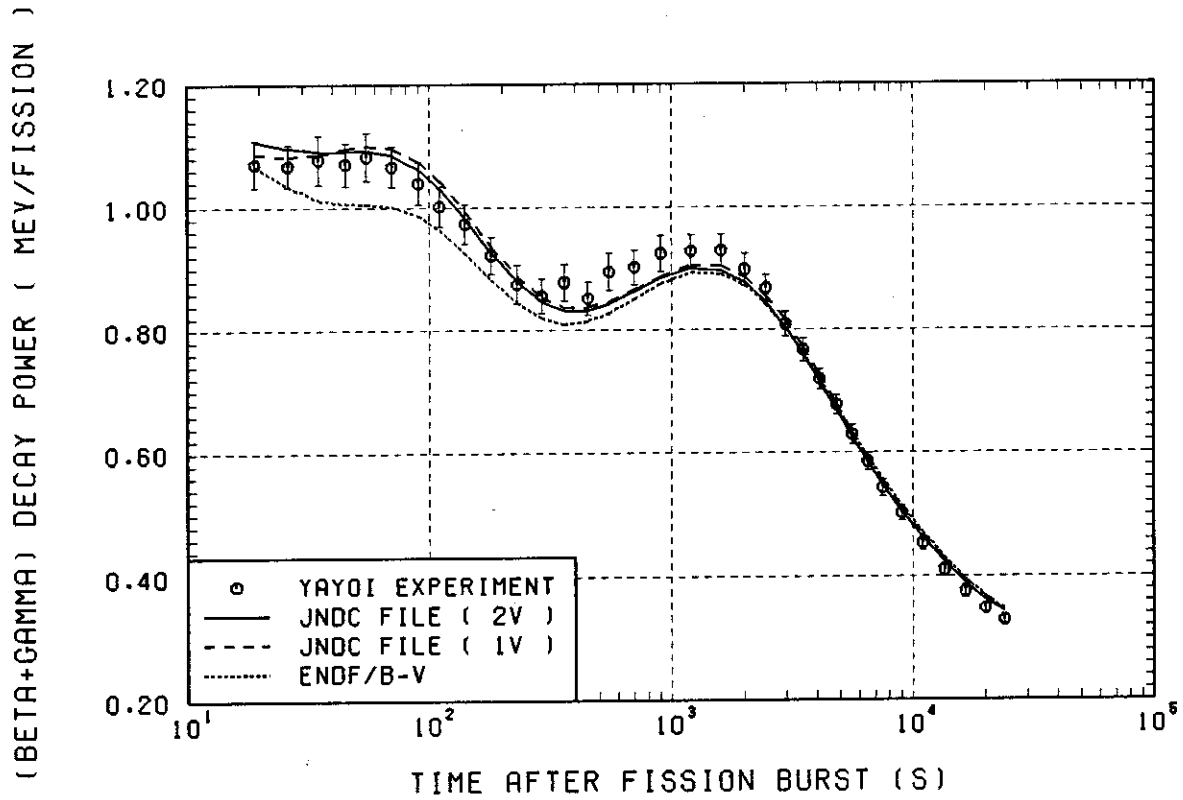
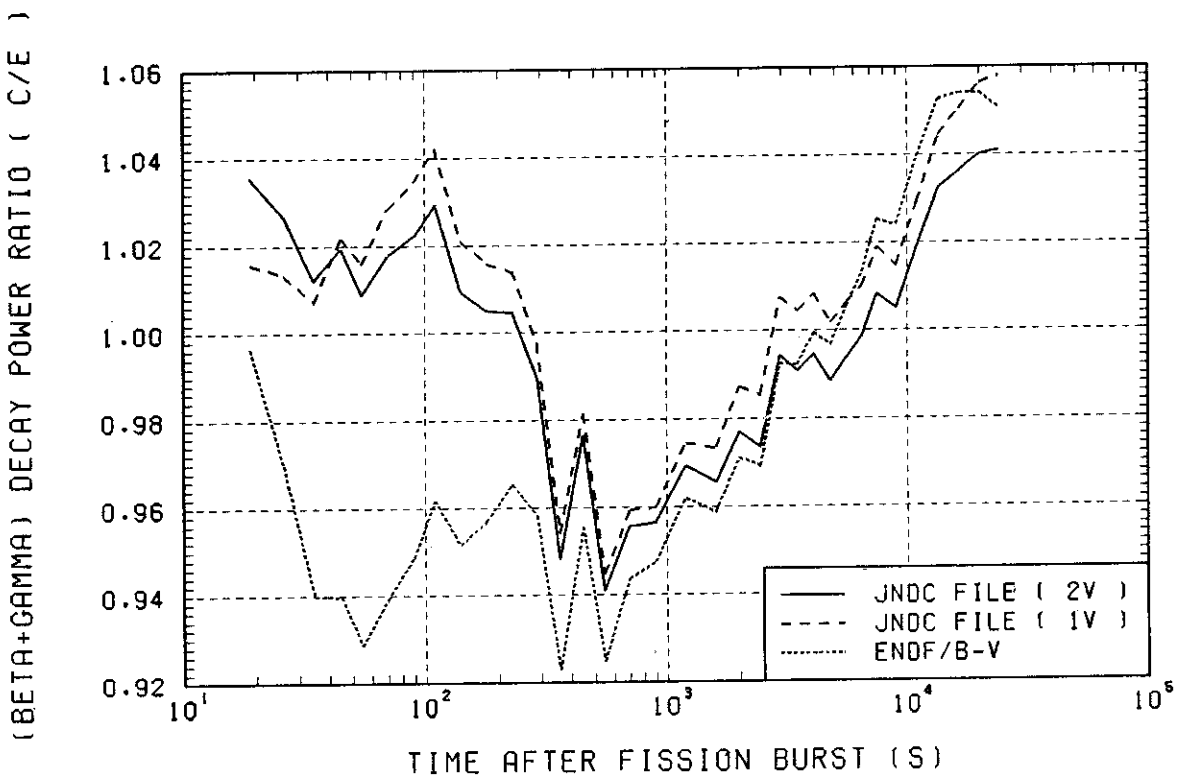


(b)

Fig. 3.1.5 Comparison of calculated gamma decay power to measured results at the University of Tokyo for the burst fission of ^{239}Pu by fast neutrons.
(a) (Gamma decay power) × (Time)
(b) Ratio of calculated to measured gamma decay powers

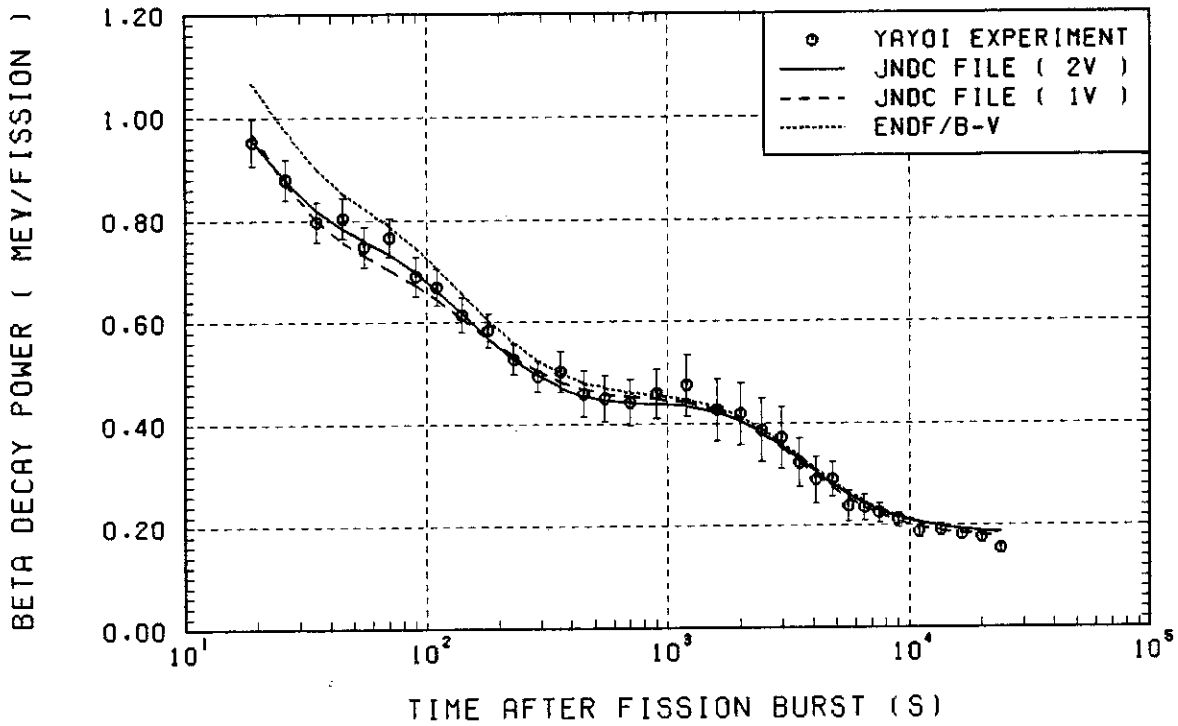


(a)

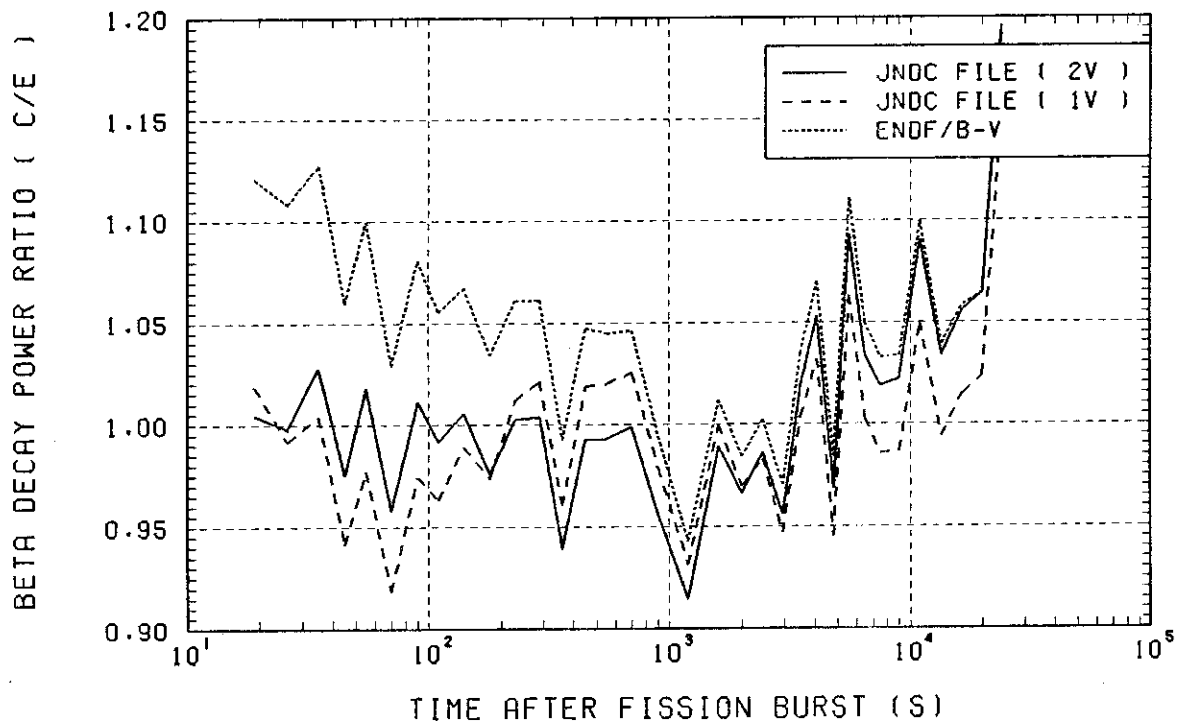


(b)

Fig. 3.1.6 Comparison of calculated total sensible decay power to measured results at the University of Tokyo for the burst fission of ^{239}Pu by fast neutrons.
(a) (Total sensible decay power) × (Time)
(b) Ratio of calculated to measured total sensible decay powers

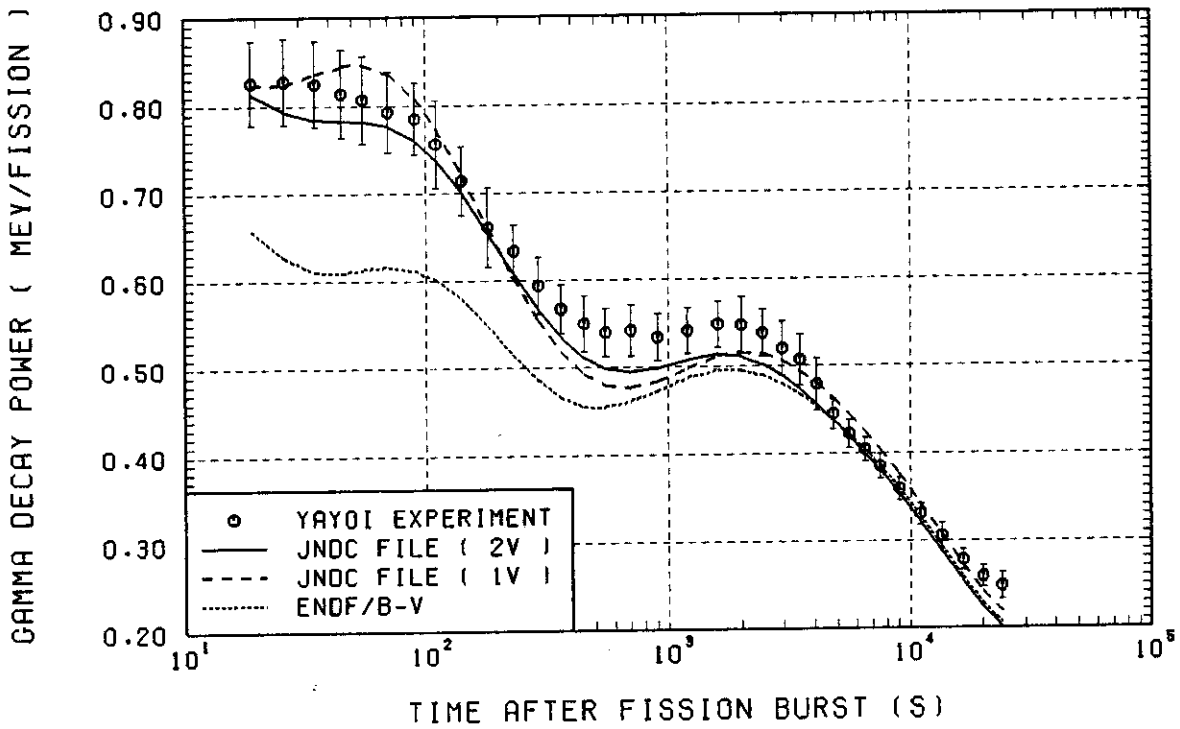


(a)

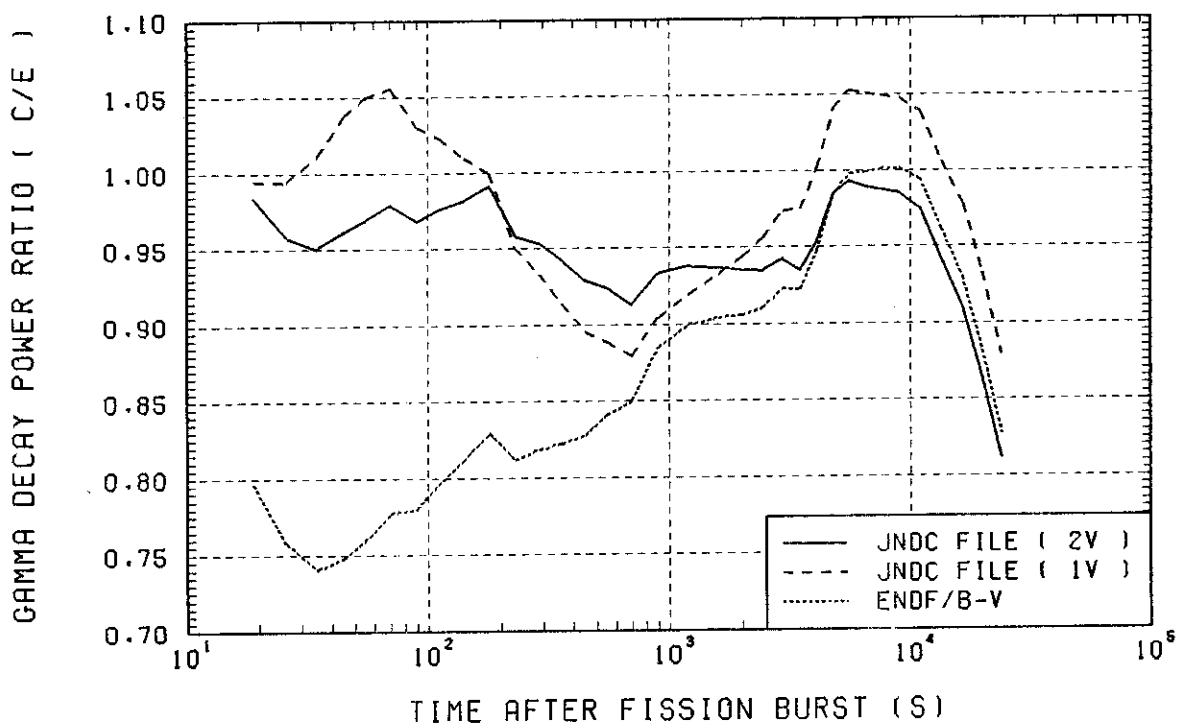


(b)

Fig. 3.1.7 Comparison of calculated beat decay power to measured results at the University of Tokyo for the burst fission of ^{238}U by fast neutrons.
(a) (Beta decay power) × (Time)
(b) Ratio of calculated to measured beta decay powers

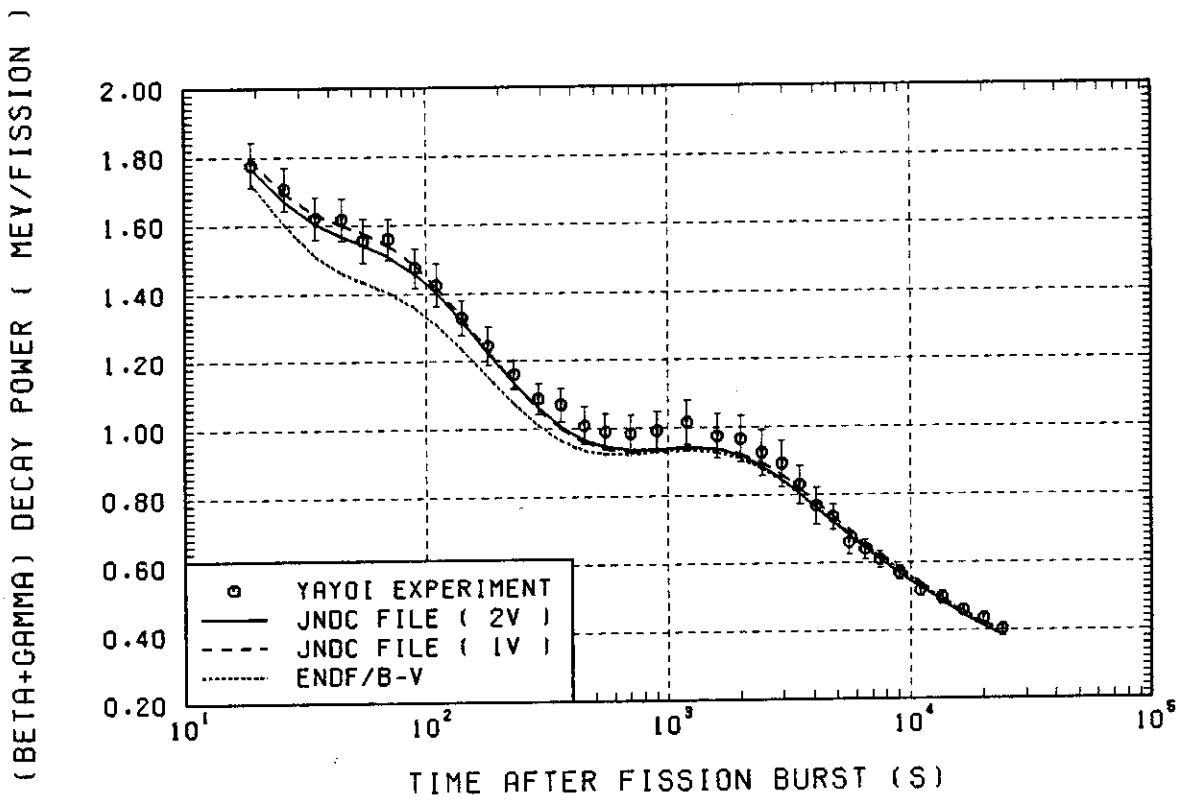


(a)

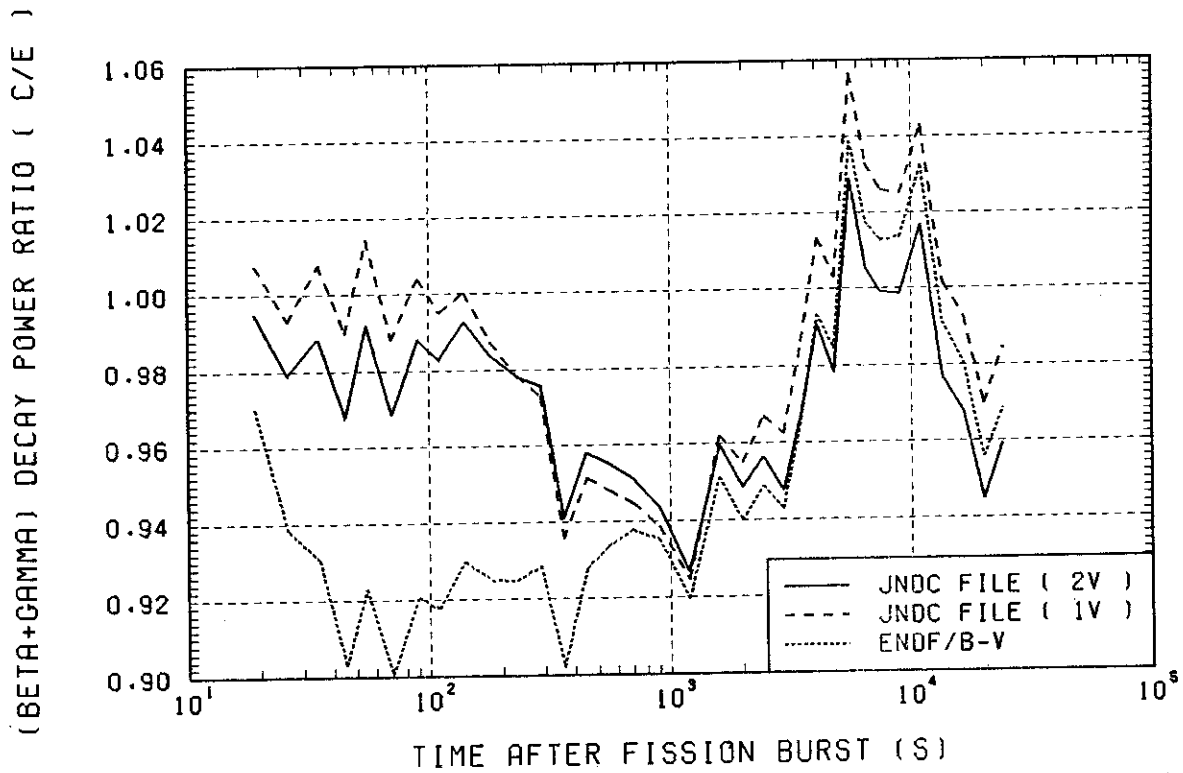


(b)

Fig. 3.1.8 Comparison of calculated gamma decay power to measured results at the University of Tokyo for the burst fission of ^{238}U fast neutrons.
(a) (Gamma decay power) × (Time)
(b) Ratio of calculated to measured gamma decay powers

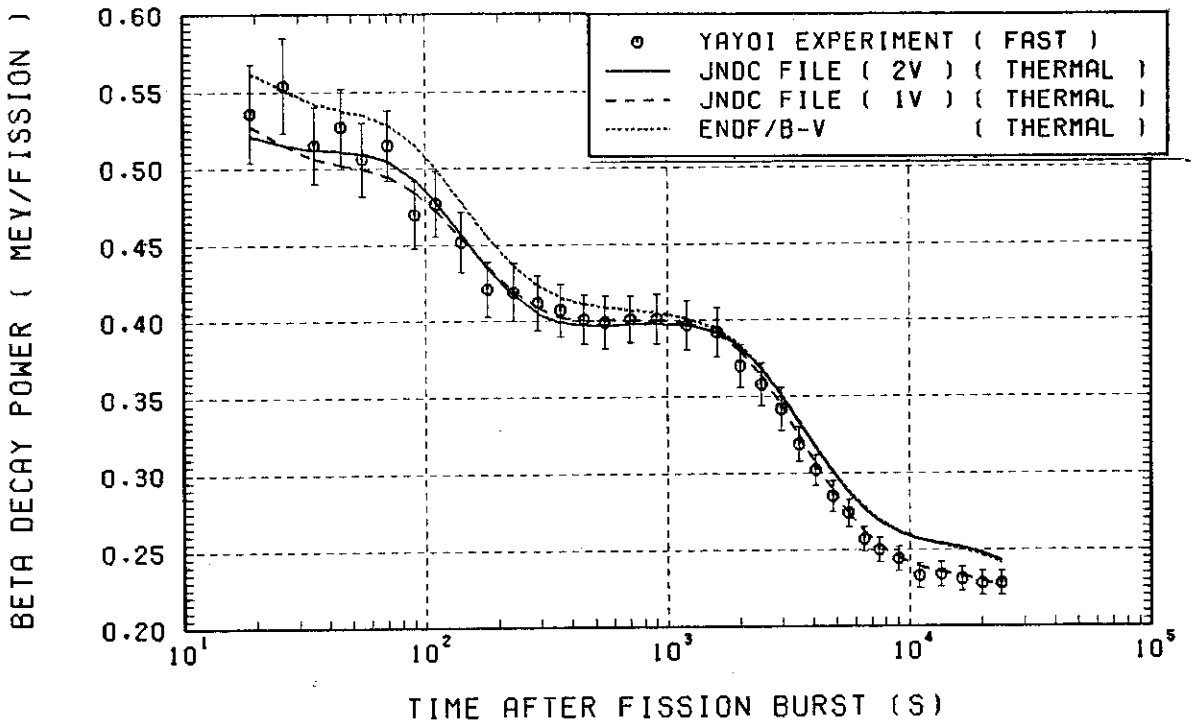


(a)



(b)

Fig. 3.1.9 Comparison of calculated total sensible decay power to measured results at the University of Tokyo for the burst fission of ^{238}U by fast neutrons.
(a) (Total sensible decay power) × (Time)
(b) Ratio of calculated to measured total sensible decay powers



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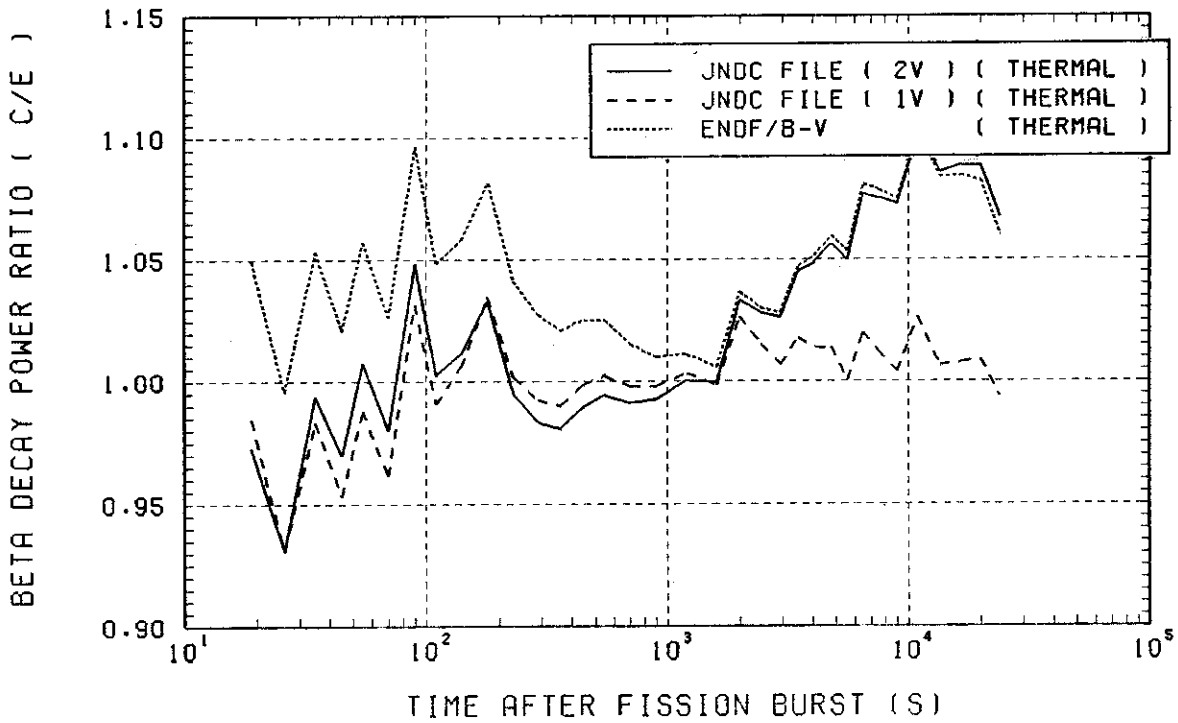
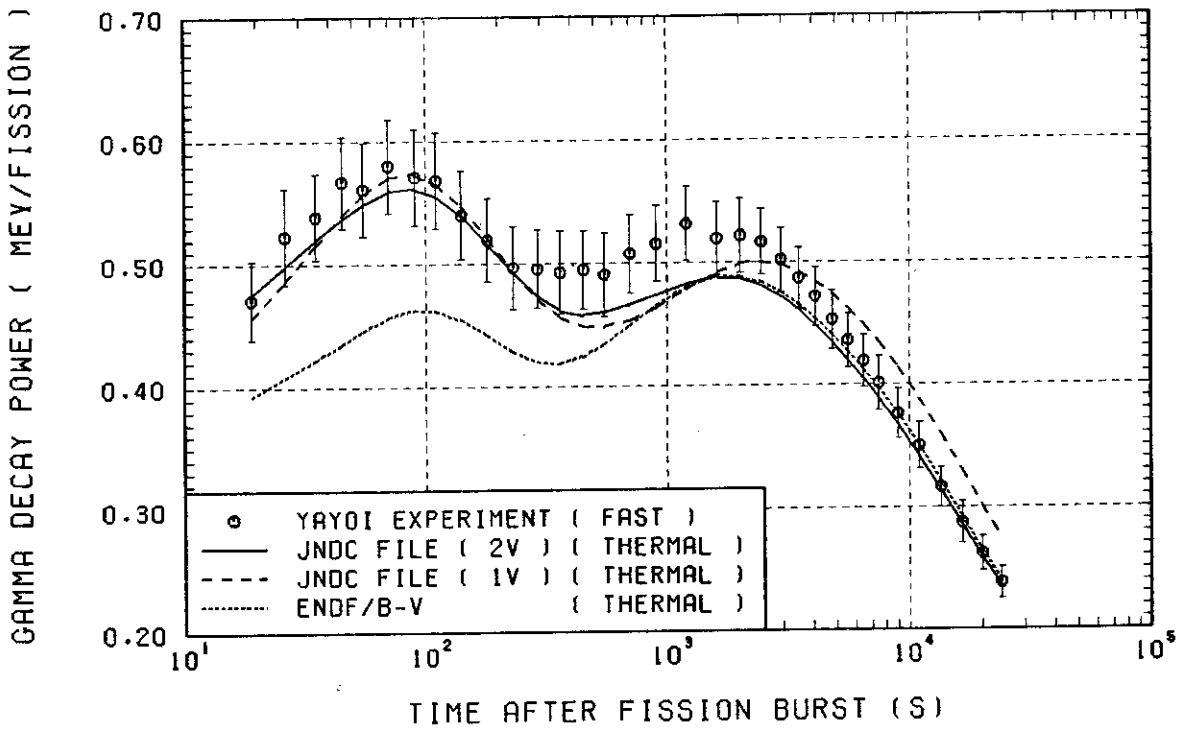
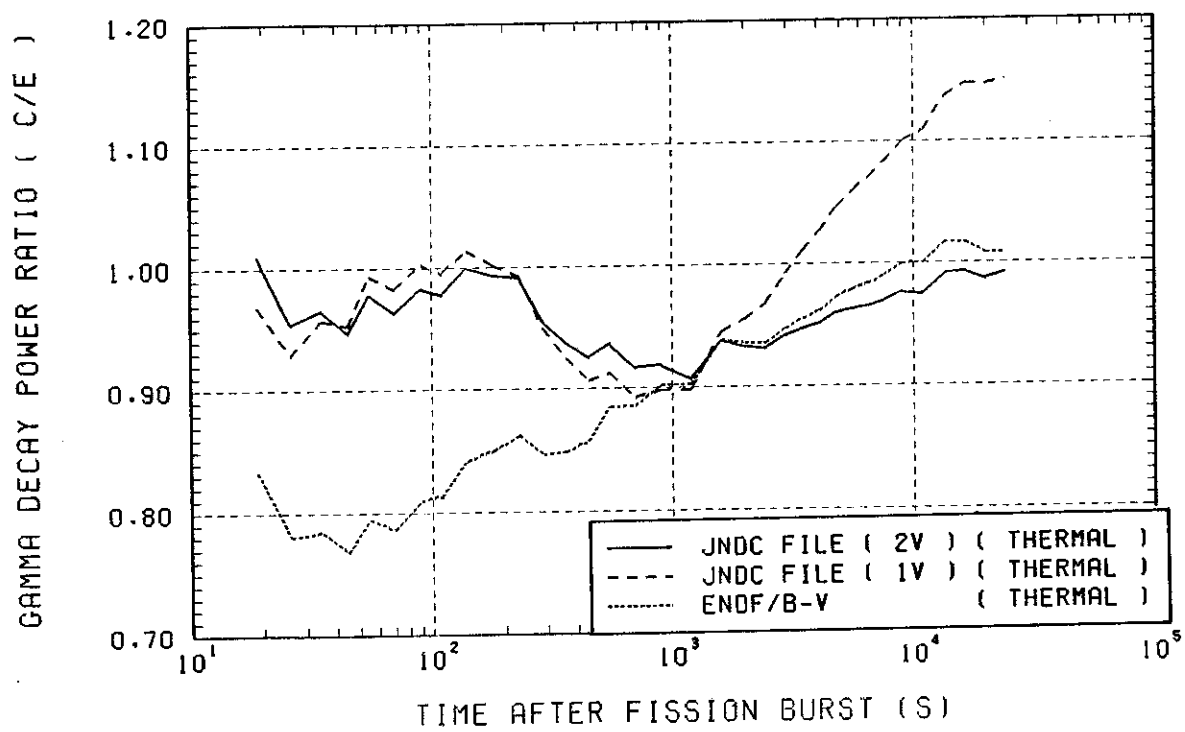


(b)

Fig. 3.1.10 Comparison of calculated beta decay power to measured results at the University of Tokyo for the burst fission of ^{233}U by fast neutrons.
(a) (Beta decay power) × (Time)
(b) Ratio of calculated to measured beta decay powers



(a)



(b)

Fig. 3.1.11 Comparison of calculated gamma decay power to measured results at the University of Tokyo for the burst fission of ^{233}U by fast neutrons.
(a) (Gamma decay power) × (Time)
(b) ratio of calculated to measured gamma decay powers

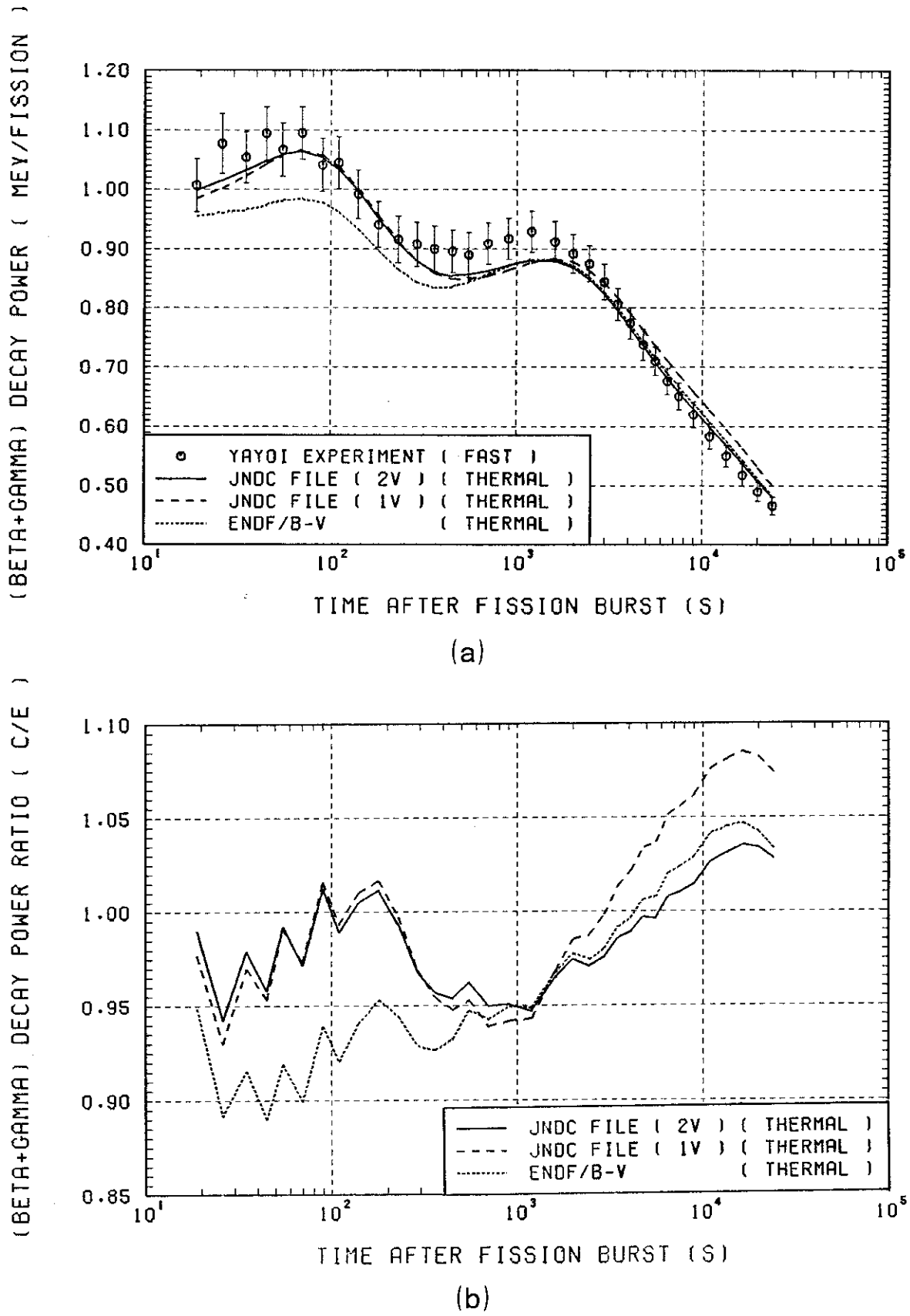
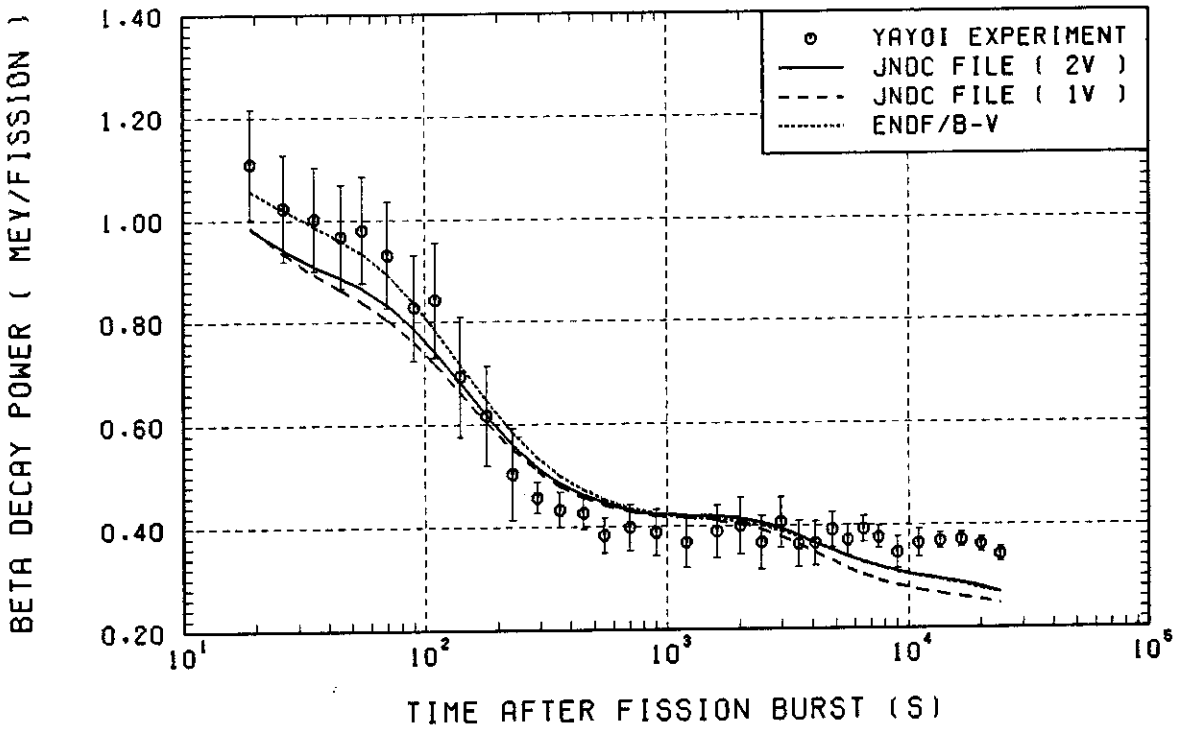
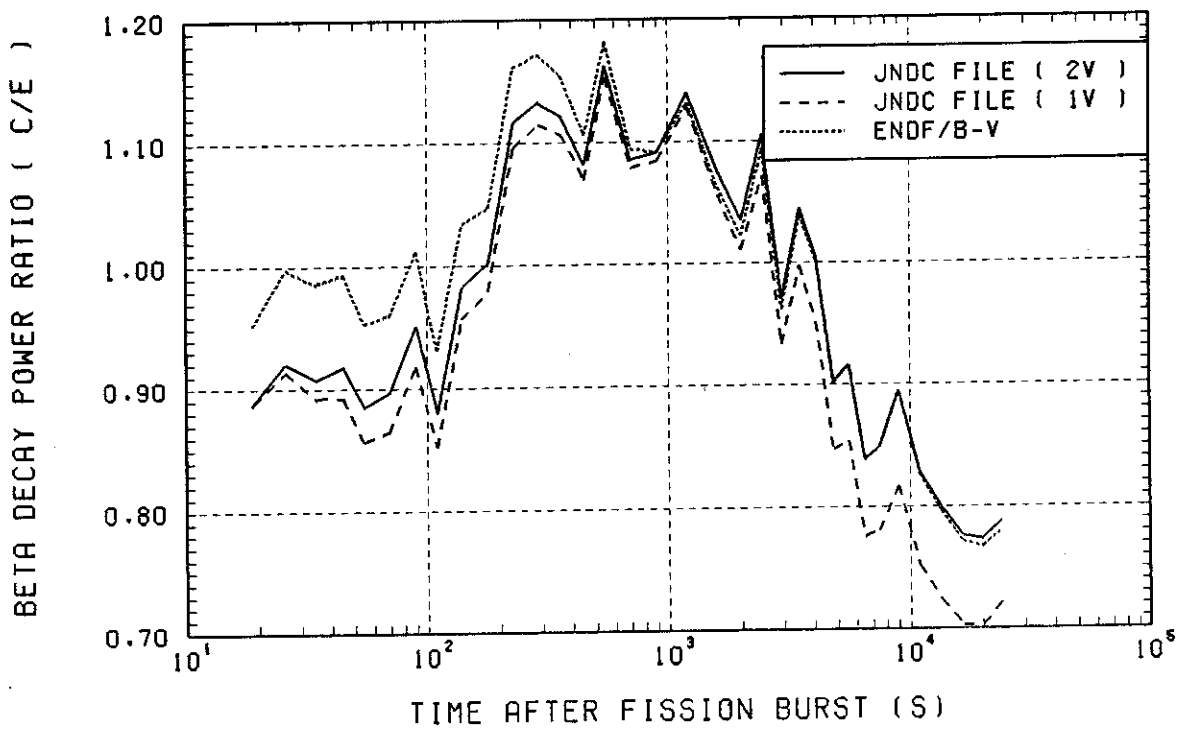


Fig. 3.1.12 Comparison of calculated total sensible decay power to measured results at the University of Tokyo for the burst fission of ^{233}U by fast neutrons.
(a) (Total sensible decay power) × (Time)
(b) Ratio of calculated to measured total sensible decay powers

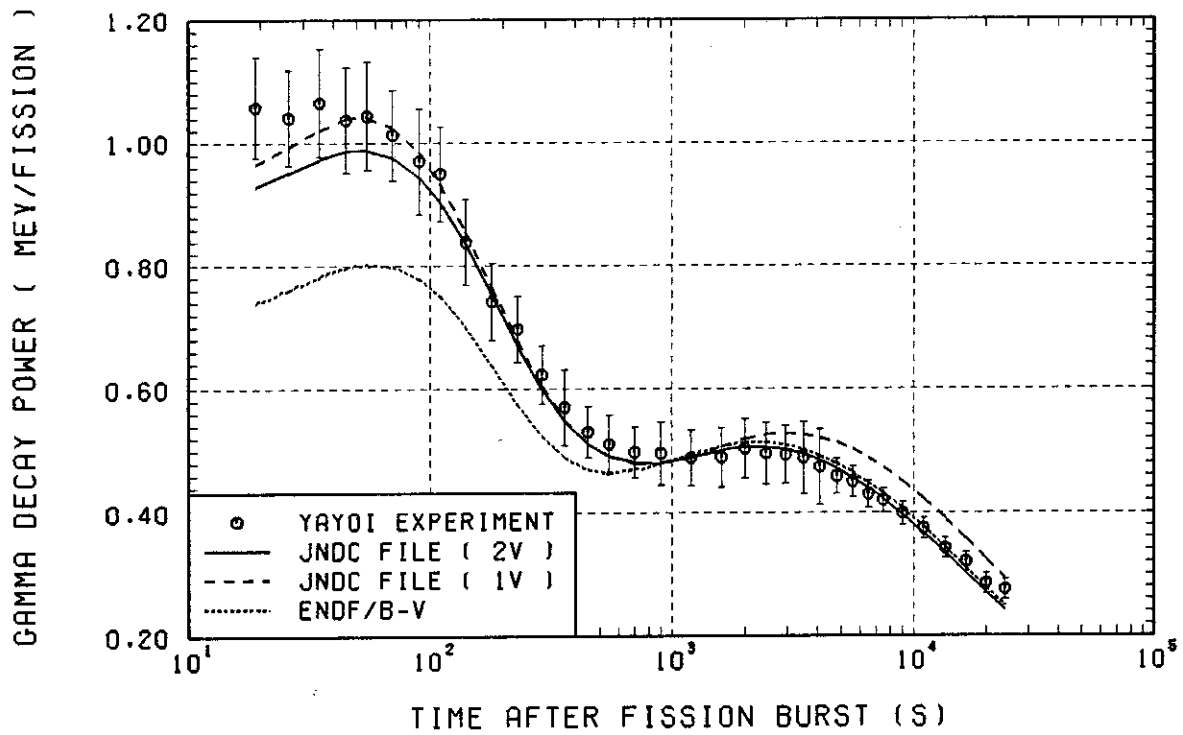


(a)



(b)

Fig. 3.1.13 Comparison of calculated beta decay power to measured results at the University of Tokyo for the burst fission of ^{232}Th by fast neutrons.
(a) (Beta decay power) × (Time)
(b) Ratio of calculated to measure beta decay powers



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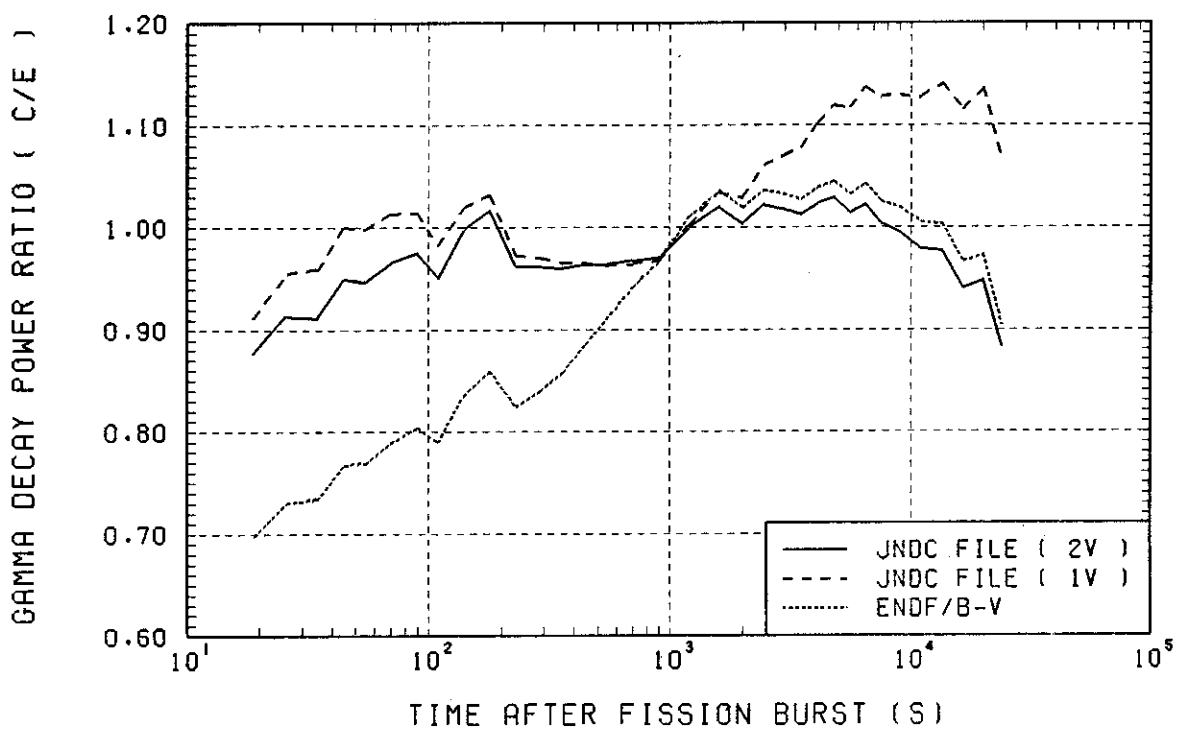


(b)

Fig. 3.1.14 Comparison of calculated gamma decay power to measured results at the University of Tokyo for the burst fission of ^{232}Th by fast neutrons.
(a) (Gamma decay power) × (Time)
(b) Ratio of calculated to measured gamma decay powers

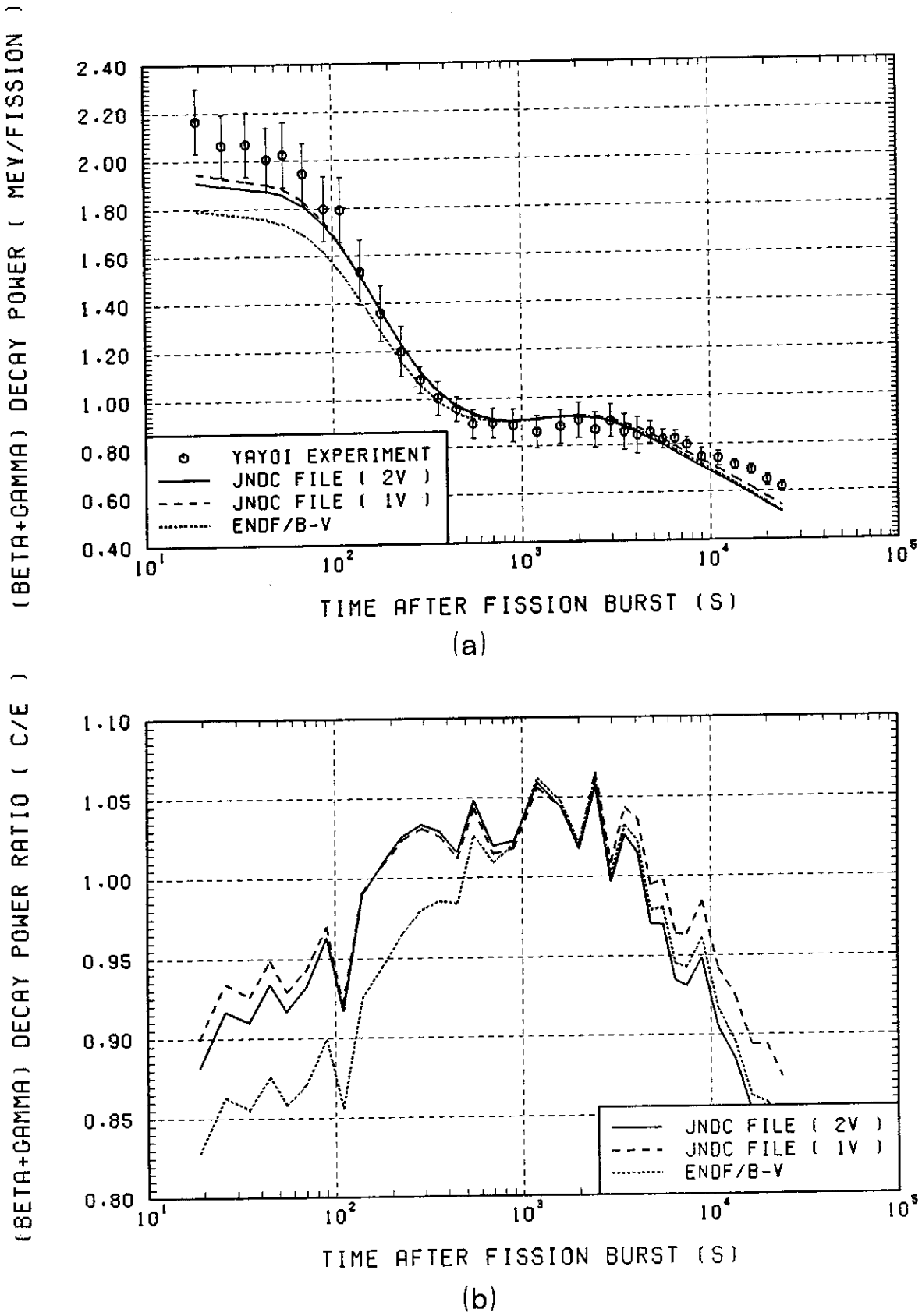


Fig. 3.1.15 Comparison of calculated total sensible decay power to measured results at university of Tokyo for the burst fission of ^{232}Th by fast neutrons.
(a) (Total sensible decay power) × (Time)
(b) Ratio of calculated to measured total sensible decay powers

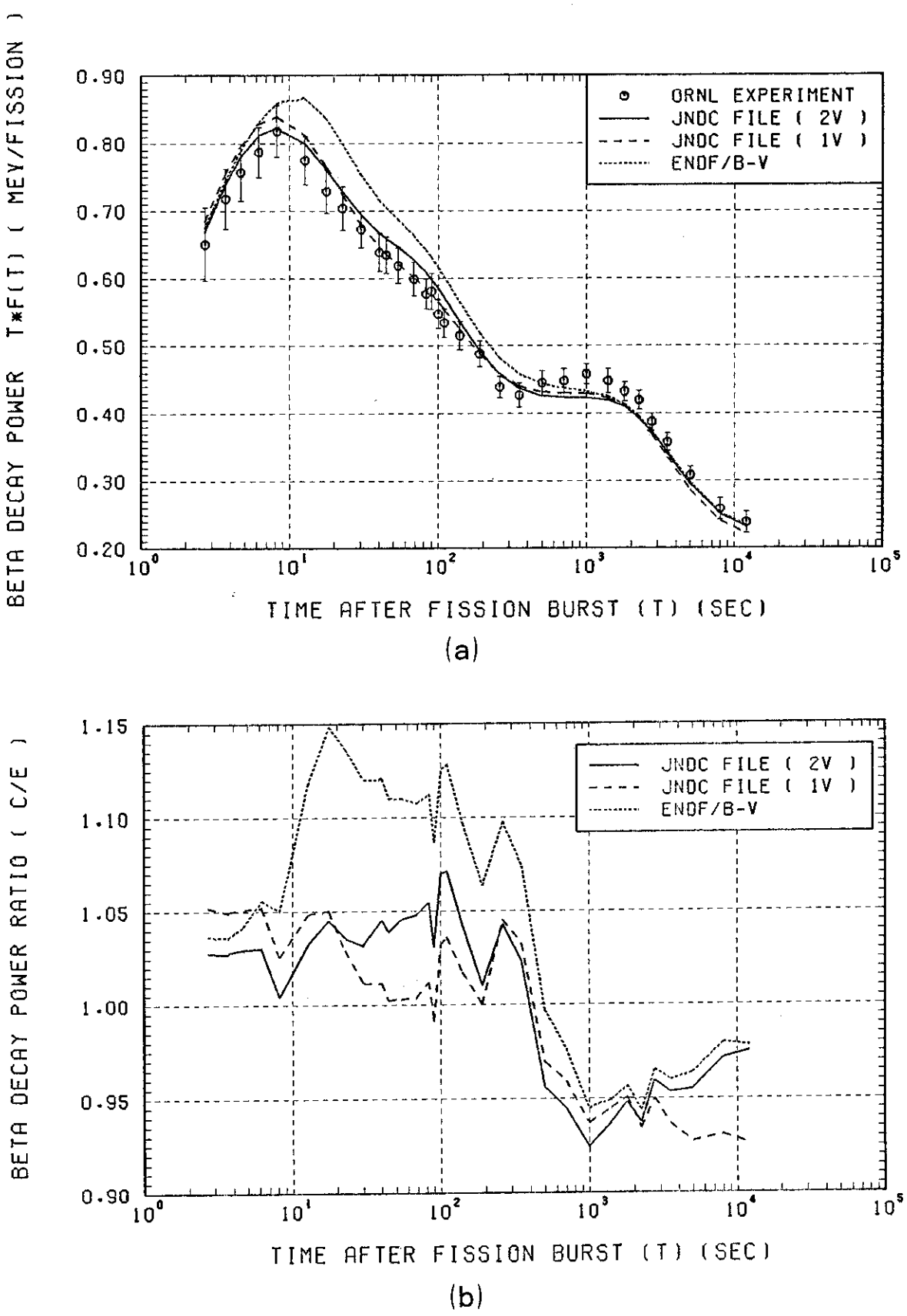


Fig. 3.2.1 Comparison of calculated beta decay power with measured results at ORNL for the thermal neutron fission of ^{235}U.
(a) (Beta decay power) × (Time)
(b) Ratio of calculated to measured beta decay powers

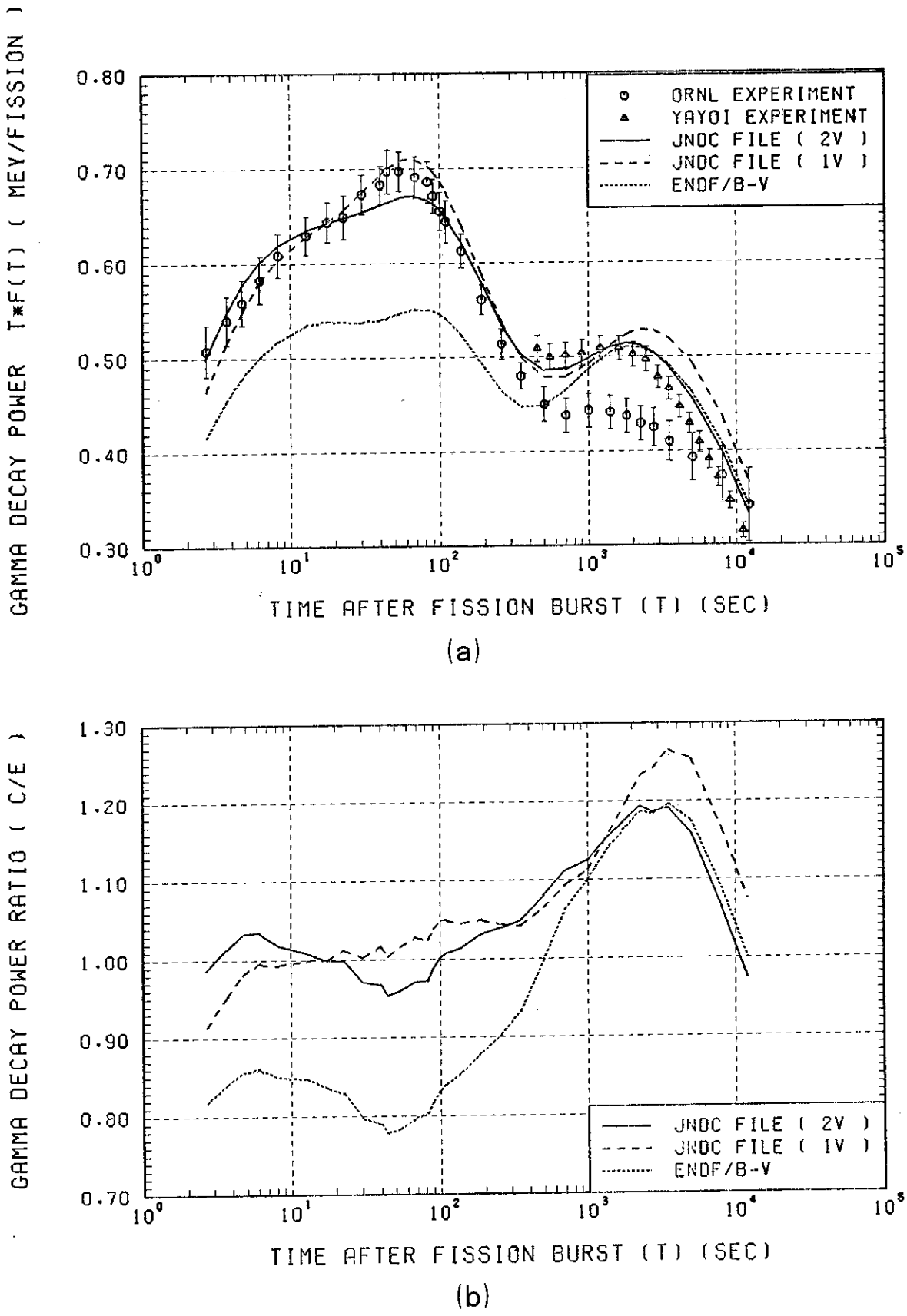


Fig. 3.2.2 Comparison of calculated gamma decay power with measured results at ORNL for the thermal neutron fission of ^{235}U.
(a) (Gamma decay power) × (Time)
(b) Ratio of calculated to measured gamma decay powers

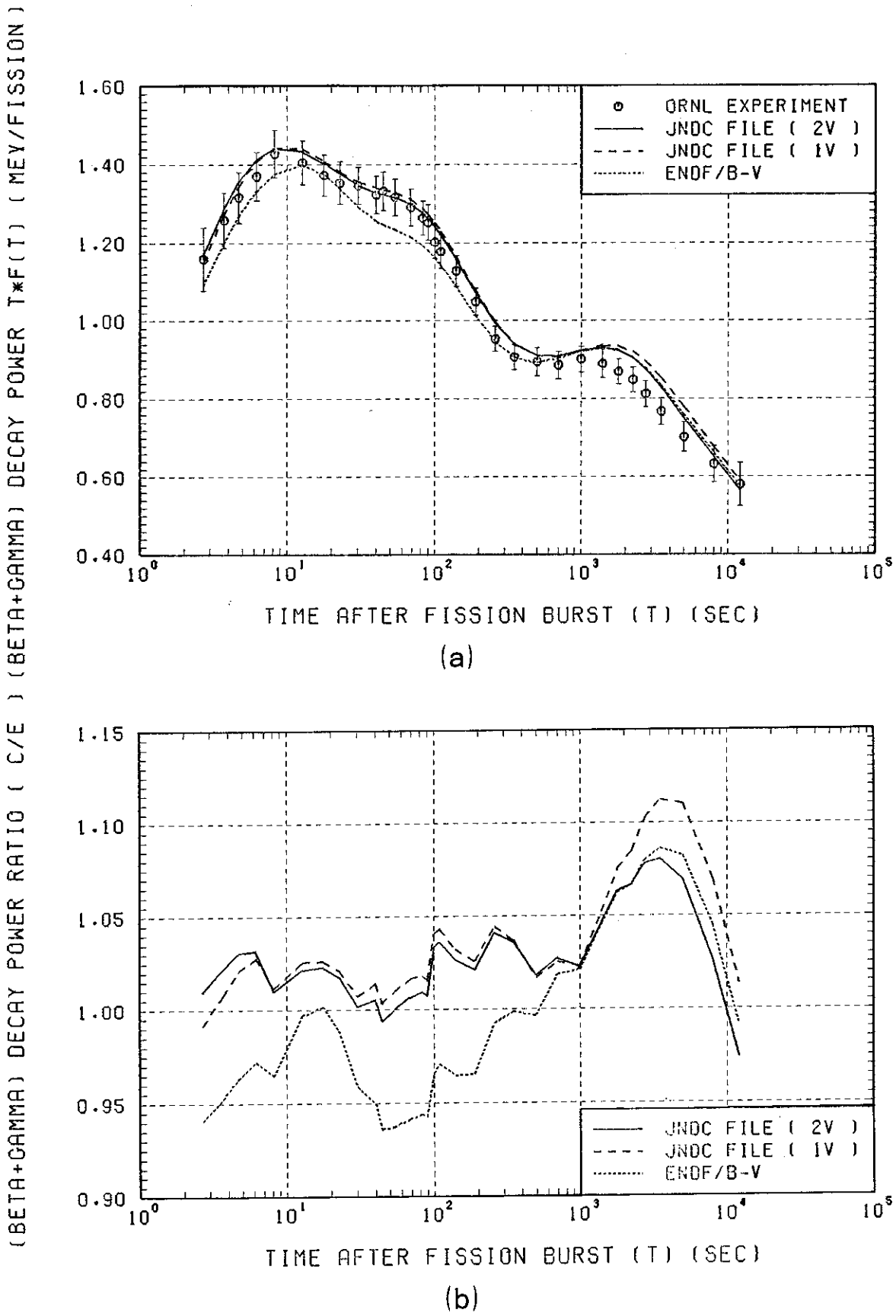
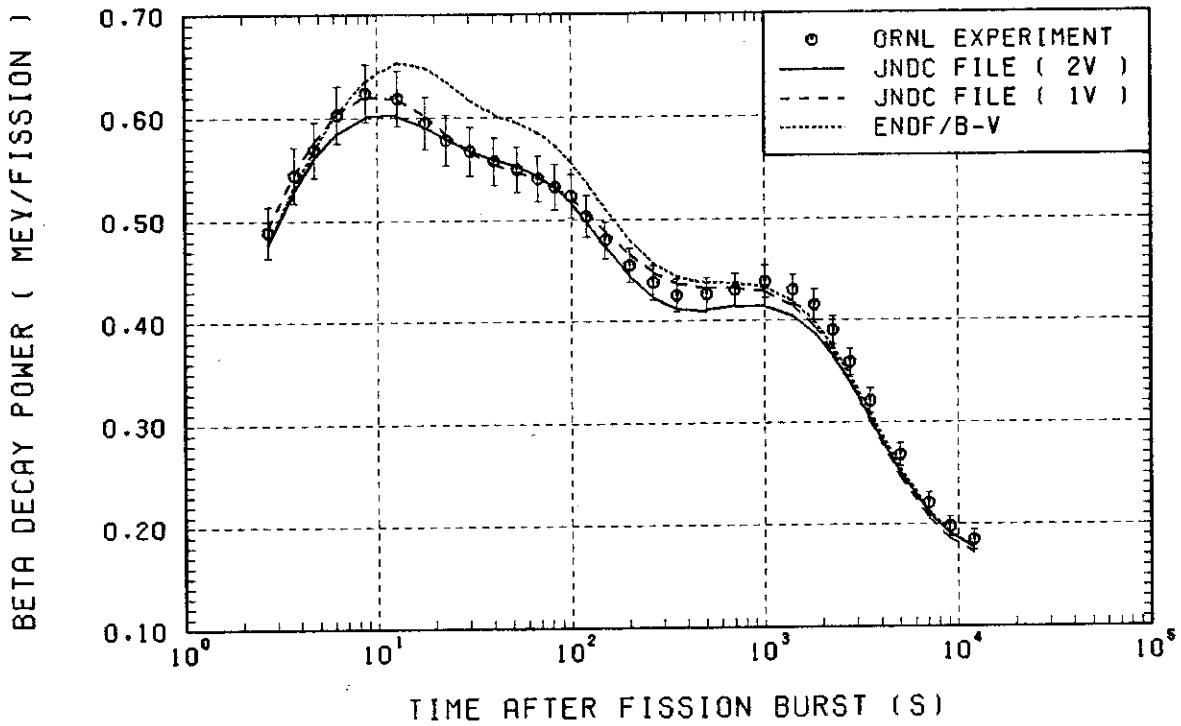
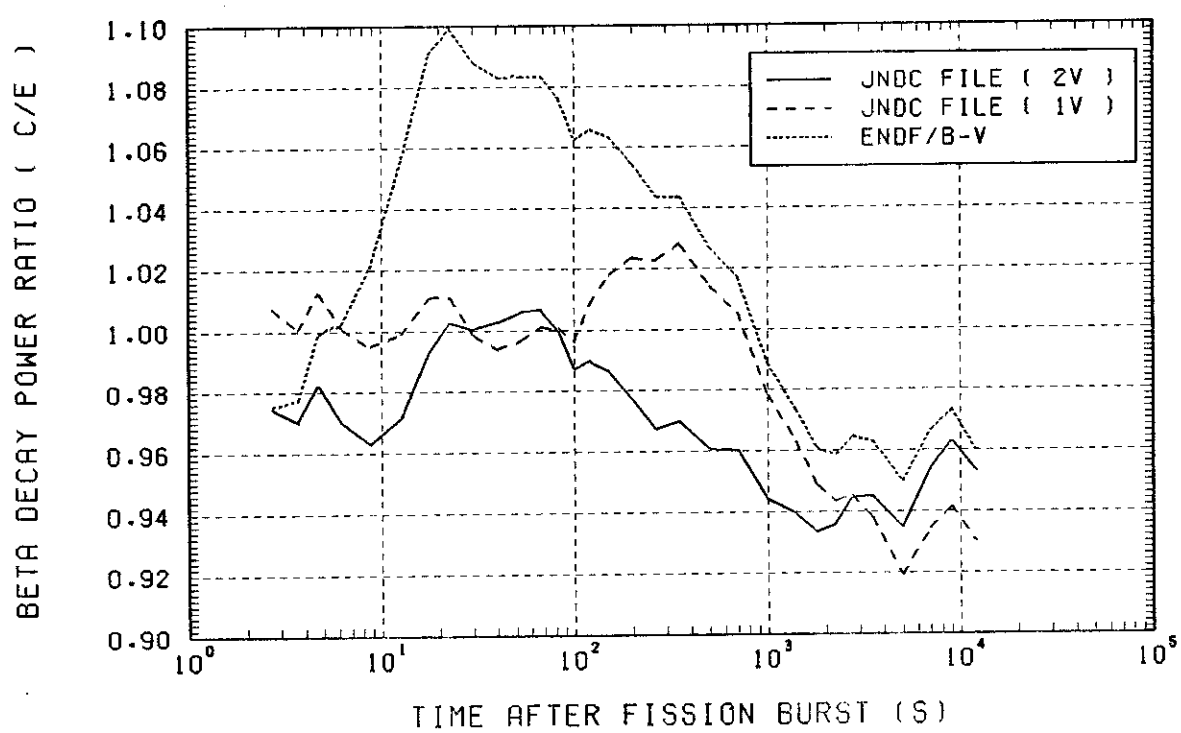


Fig. 3.2.3 Comparison of calculated total sensible decay power with measured results a ORNL for the thermal neutron fission of ^{235}U.
(a) (Total sensible decay power) × (Time)
(b) Ratio of calculated to measured total sensible decay powers

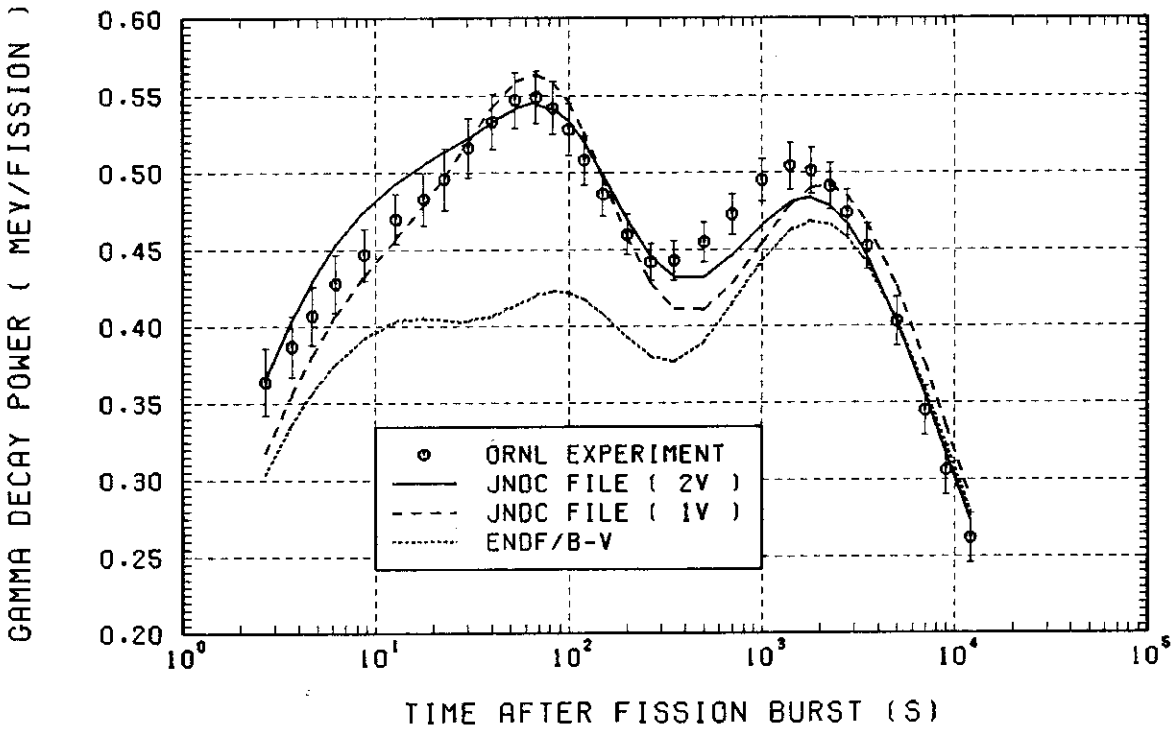


(a)

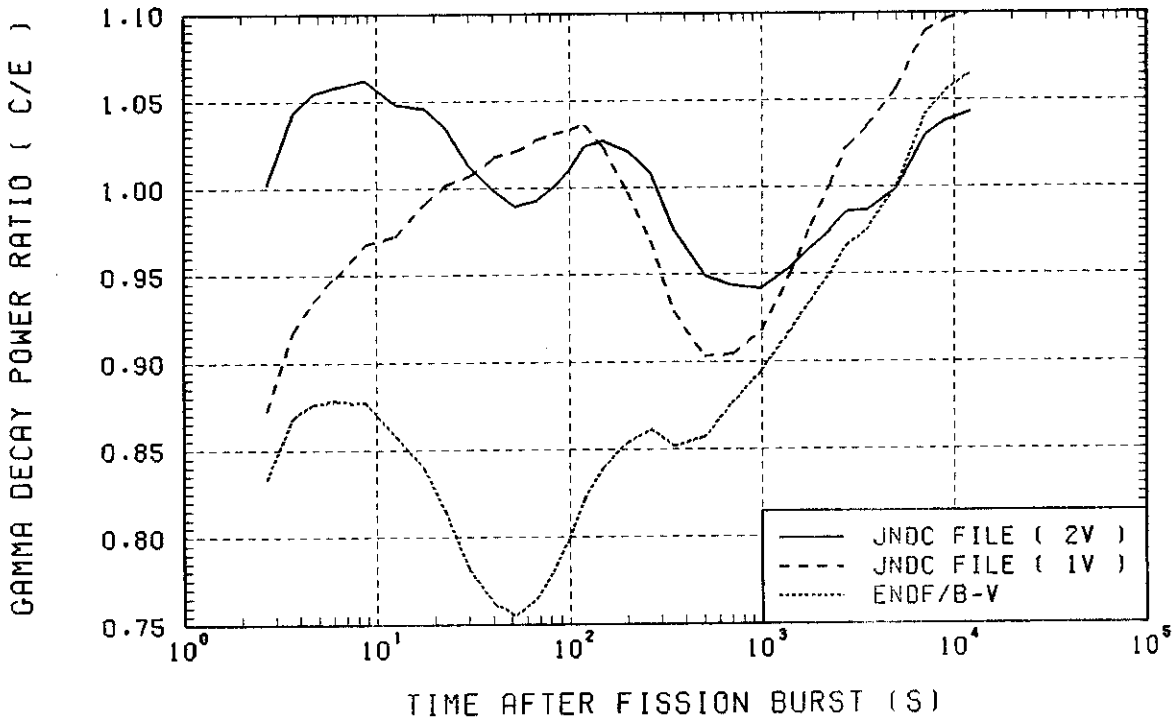


(b)

Fig. 3.2.4 Comparison of calculated beta decay power with measured results at ORNL for the thermal neutron fission of ^{239}Pu.
(a) (Beta decay power) × (Time)
(b) Ratio of calculated to measured beta decay powers



(a)



(b)

Fig. 3.2.5 Comparison of calculated gamma deccy power with measured results at ORNL for the thermal neutron fission of ^{239}Pu.
(a) (Gamma decay power) × (Time)
(b) Ratio of calculated to measured gamma decay powers

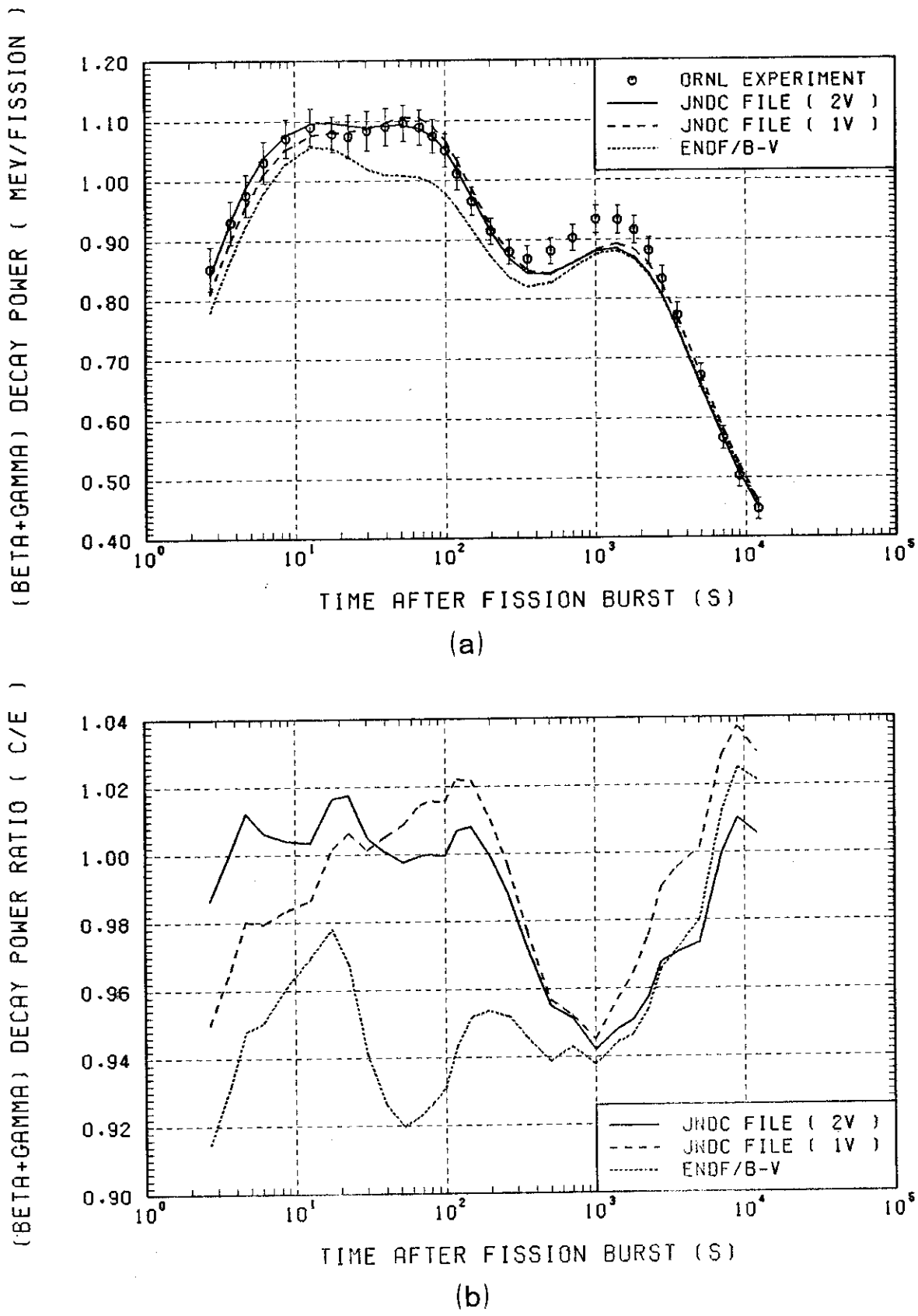
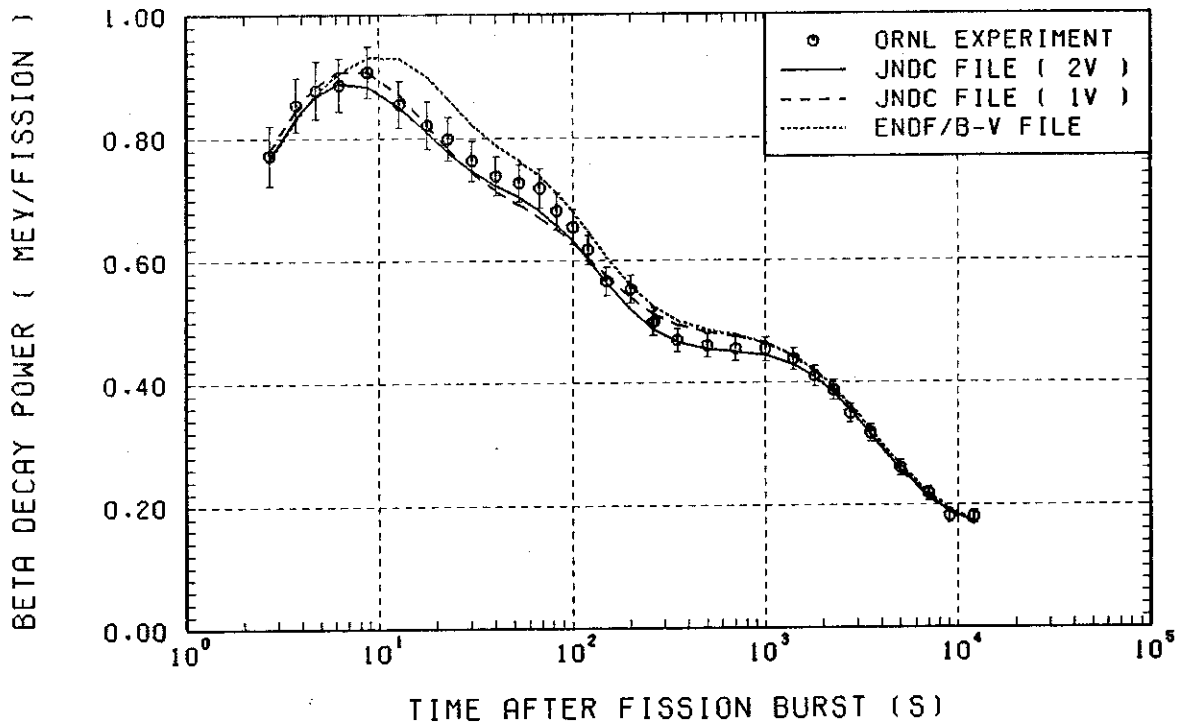
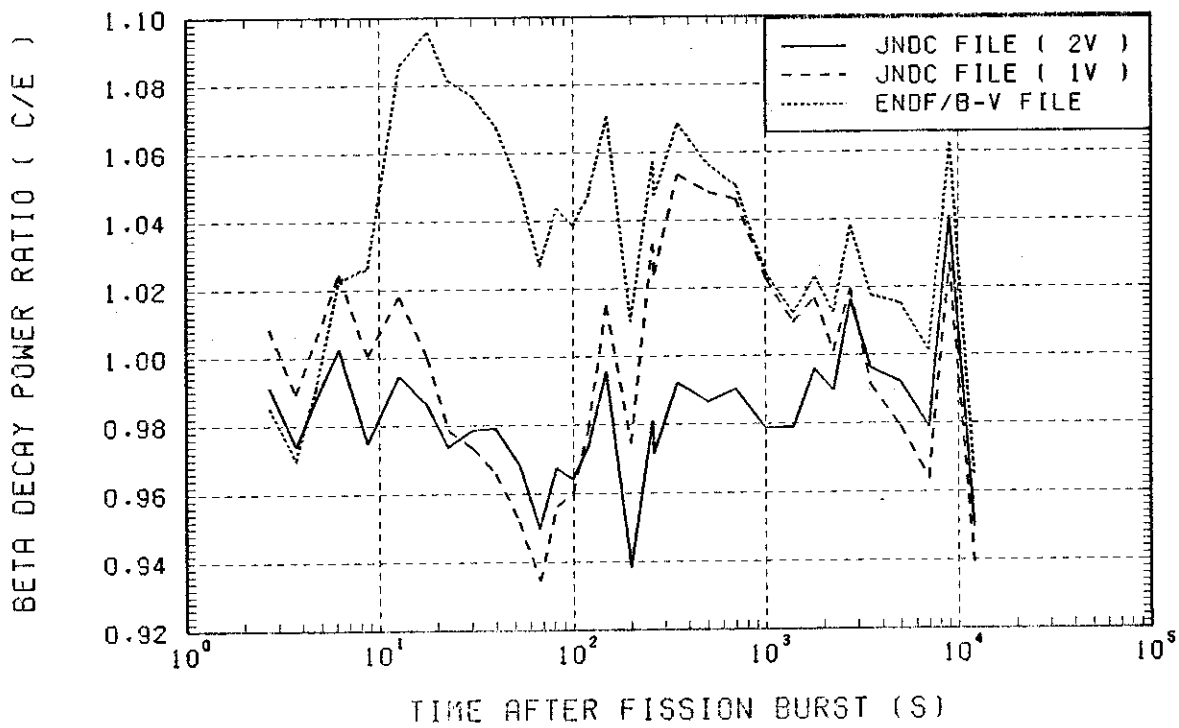


Fig. 3.2.6 Comparison of calculated total sensible decay power with measured results at ORNL for the thermal neutron fission of ^{239}Pu.
(a) (Total sensible decay power) × (Time)
(b) Ratio of calculated to measured total sensible decay powers

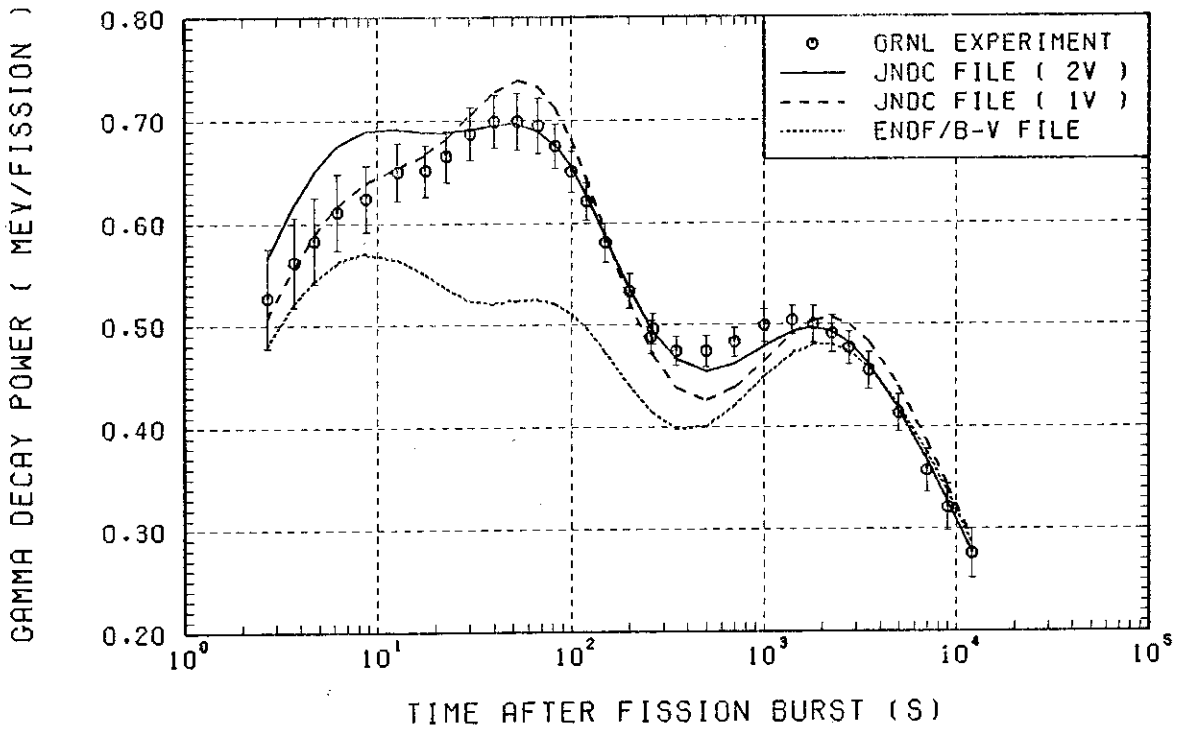


(a)

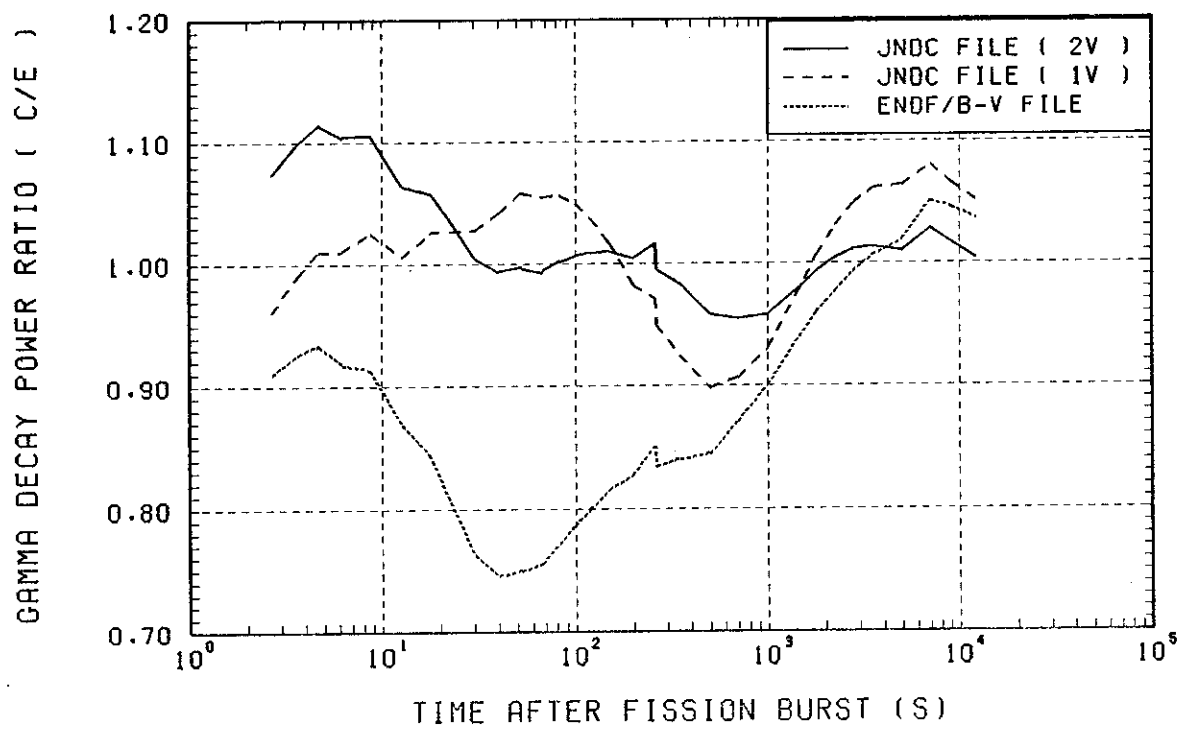


(b)

Fig. 3.2.7 Comparison of calculated beta decay power with measured results at ORNL for the thermal neutron fission of ^{241}Pu.
(a) (Beta decay power) × (Time)
(b) Ratio of calculated to measured beta decay powers



(a)



(b)

Fig. 3.2.8 Comparison of calculated gamma decay power with measured results at ORNL for the thermal neutron fission of ^{241}Pu.
(a) (Gamma decay power) × (Time)
(b) Ratio of calculated to measured gamma decay powers

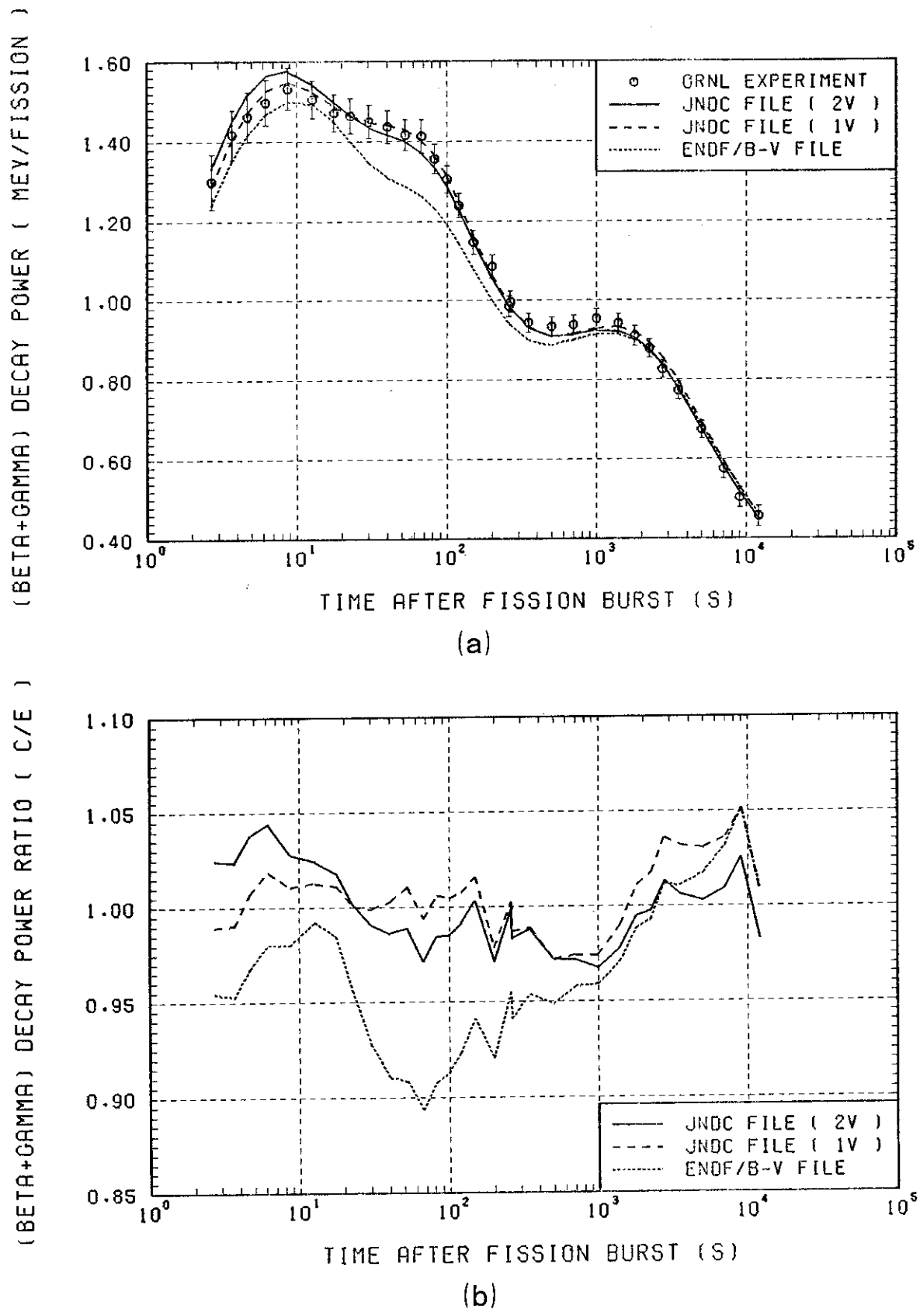


Fig. 3.2.9 Comparison of calculated total sensible decay power with measured results at ORNL for the Thermon neutron fission of ^{241}Pu.
(a) (Total sensible decay power) × (Time)
(b) Ratio of calculated to measured total sensible decay powers

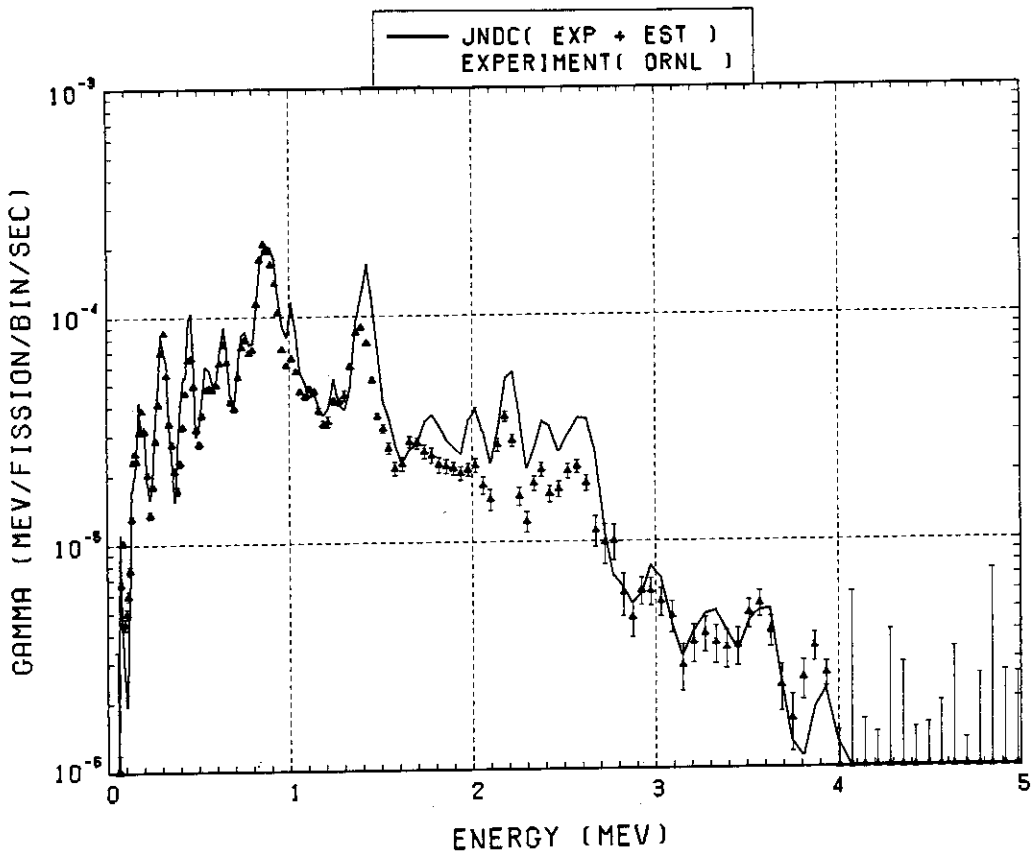


Fig. 3.2.10 Comparison of gamma-ray spectrum at 3500 s cooling after one thermal neutron fission of ^{235}U between the calculated spectrum by using JNDC-V2 and the measured one at ORNL.

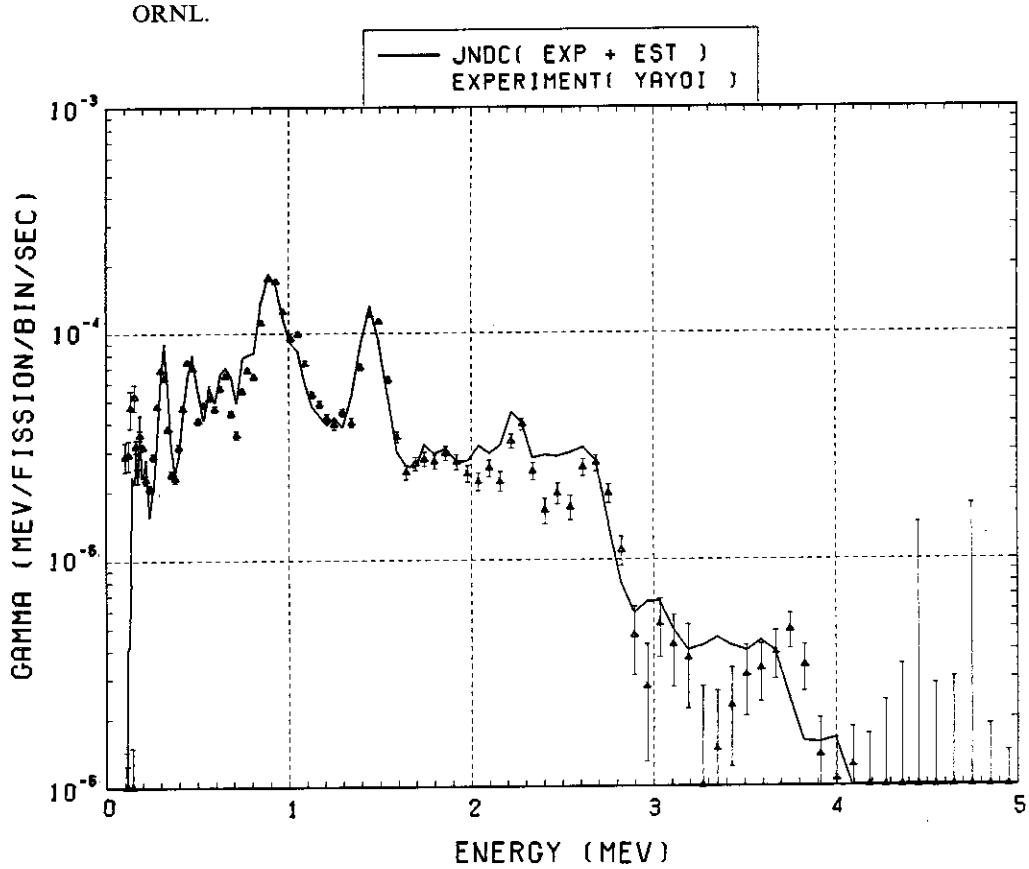
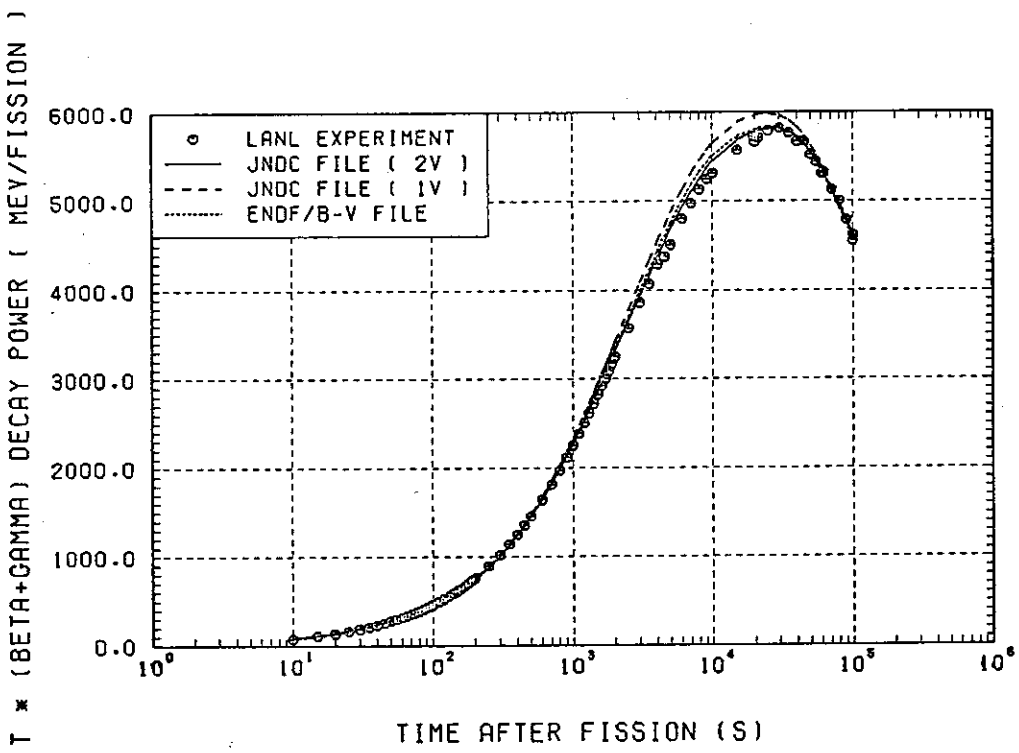


Fig. 3.2.11 Comparison of gamma-ray spectrum at 3500 s cooling after one thermal neutron fission of ^{235}U between the calculated spectrum by using JNDC-V2 and the measured one at the University of Tokyo (UTT).



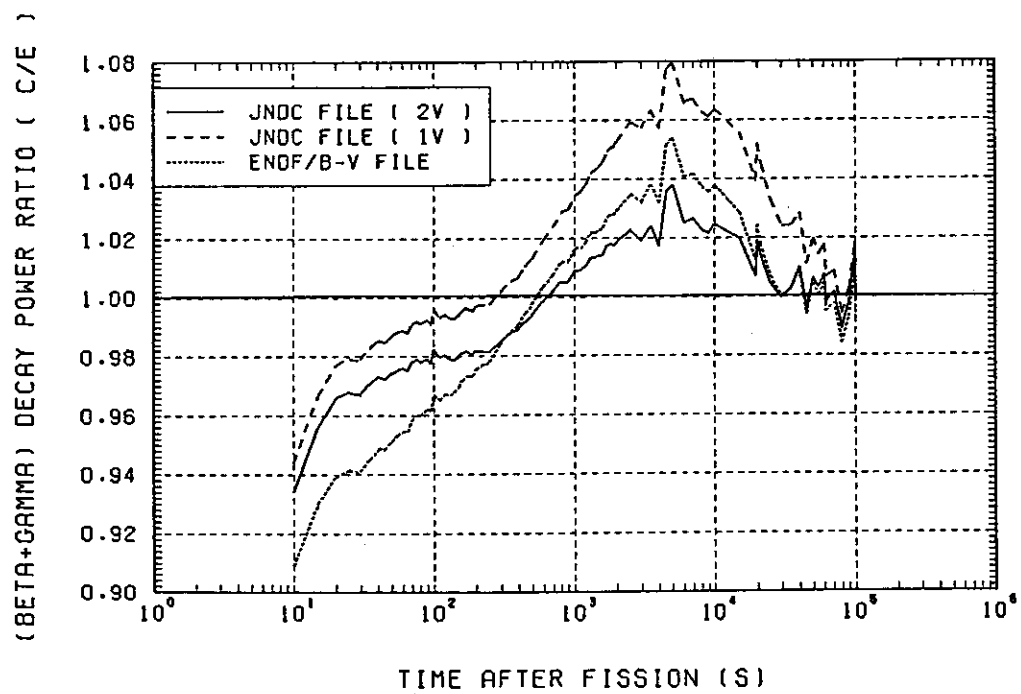


Fig. 3.3.1 Comparison of calculated total sensible decay power of fission products with measured results at LANL for the thermal neutron fission of ^{235}U irradiated for 2×10^4 s.

(a) Absolute value comparison

(b) Ratio of calculated to measured decay powers

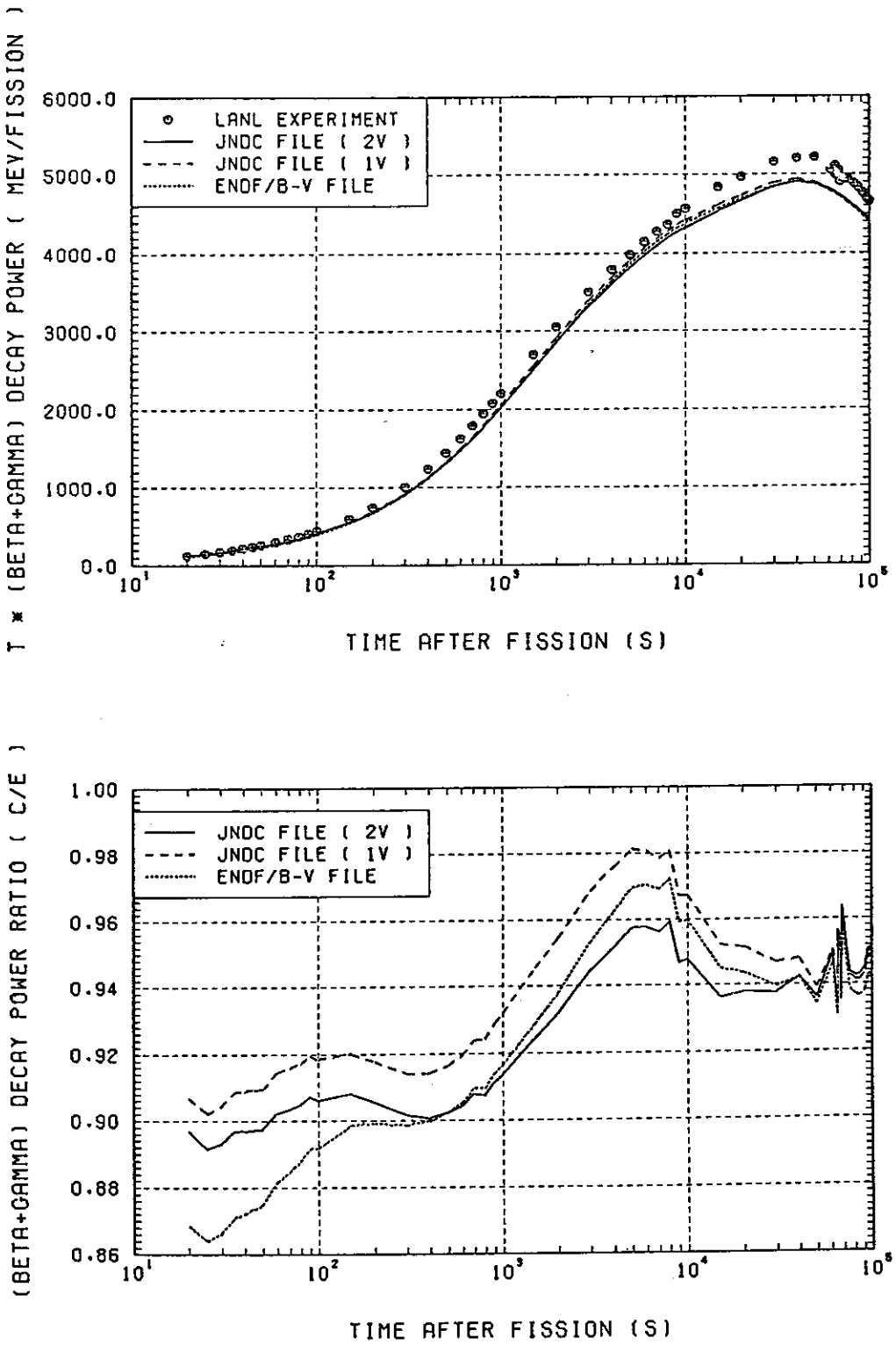


Fig. 3.3.2 Comparison of calculated total sensible decay power of fission products with measured results at LANL for the thermal neutron fission of ^{239}Pu irradiated for 2×10^4s.
(a) Absolute value comparison
(b) Ratio of calculated to measured decay powers

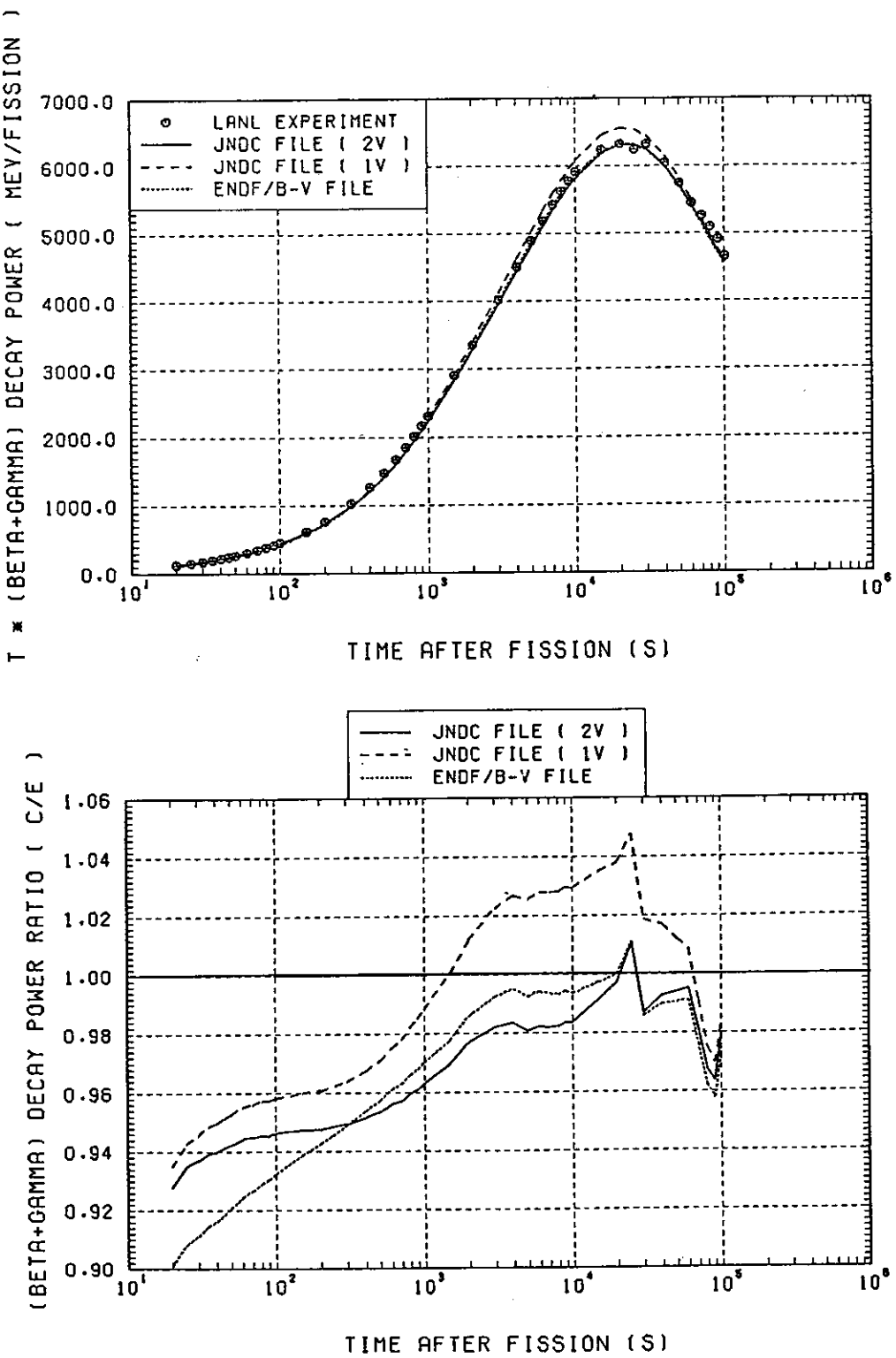


Fig. 3.3.3 Comparison of calculated total sensible decay power of fission products with measured results at LANL for the thermal neutron fission of ^{233}U irradiated for 2×10^4s.
(a) Absolute value comparison
(b) Ratio of calculated to measured decay powers

4. Calculation of Decay Power of Fission Products

The decay power of fission products has been calculated by the DCHAIN code using the JNDC–V2 library described in Sec. 2 for instantaneous fission pulse, one–year irradiation and infinite irradiation. The one–year irradiation is considered to be a typical irradiation time in a light water reactor operation. Thermal neutron fissions of ^{233}U, ^{235}U, ^{239}Pu, ^{241}Pu, fast neutron fissions of ^{232}Th, ^{233}U, ^{235}U, ^{236}U, ^{238}U, ^{237}Np, ^{239}Pu, ^{240}Pu, ^{241}Pu, ^{242}Pu, 14 MeV neutron fissions of ^{232}Th, ^{233}U, ^{235}U, ^{238}U, ^{239}Pu, and spontaneous fission of ^{252}Cf were considered in the analysis. Neutron capture transformations of fission products during operation were not considered in the present calculation. The cooling time after irradiation ranged from 0 to 10^{13} s.

The calculations of decay power in this section aim at the comparison of the present results with other evaluations and, furthermore, at the application for the best–estimate calculation of LOCA. In order to compare the JNDC–V2 library with others and to study the sensitivities of the nuclear data of each fission product, contributions of important nuclides to the decay power are evaluated for the thermal neutron fission of ^{235}U.

The calculated results have been fitted to an analytical function with thirty–three exponential terms to apply the present results conveniently to a LOCA analysis and other applications.

4.1 Tables of Calculated Results

Calculations of decay powers for instantaneous burst fission, one–year irradiation, and infinite irradiation are given in **Tables 4.1.1**, **4.1.2**, and **4.1.3**, respectively. The contribution of each fission–product nuclide to the decay power is shown for the thermal neutron fission of ^{235}U in **Tables 4.1.4**, **4.1.5**, and **4.1.6**, respectively, for the instantaneous fission, the one–year irradiation, and the infinite irradiation.

Methods are given subsequently for obtaining the decay power, $P(t, T)$, for an arbitrary reactor power history without any neutron capture by fission products. The neutron capture in fission products has only a small effect upon the decay power for the cooling time shorter than 10^3 sec[56]. The direct summation calculation of the neutron capture effect, however, is necessary for the accurate evaluation of the decay power, in particular, for long cooling times after a long–term and high–neutron flux irradiation.

The decay power, $P(t, T)$, for an arbitrary irradiation history, $P_0(T)$, can be obtained either from $f(t)$ for the instantaneous fission, or $F(t)$ for the infinite irradiation. From $f(t)$, the decay power, $P(t, T)$, can be calculated as

$$P(t, T)=\int_0^T \frac{P_0(T')}{Q} f(t+T-T')dT' \tag{4.1.1}$$

where

t = cooling time after irradiation (s)
T = total irradiation time (s)
P_0 = reactor power (MeV/s)
Q = fission energy (MeV/fission)
$f(t)$ = decay power after one fission (MeV/s/fission).

From $F(t)$, $P(t, T)$ *can be calculated as*

$$P(t, T)=\sum_{m=1}^{N} \frac{P_0^m}{Q} F(t_m, T_m), \tag{4.1.2}$$

where

P_0^m = reactor power for time interval m

$t_m = t$ (for $m=1$; time interval just before the shutdown)

$t_m = t + \sum_{n=1}^{m-1} T_n$ (for $m \geq 2$)

$T = \sum_{m=1}^{N} T_m$

$F(t_m, T_m) = F(t_m) - F(t_m + T_m)$

$F(t)$ = decay power after an infinite irradiation [(MeV/s)/(fission/s)], representing the reactor operating history by a histogram composed of N time intervals with constant power, $P_0{}^m$, in the m–th time interval.

For the case of a mixture of multi fissionable nuclides Eq. (4.1.1) or (4.1.2) should be evaluated for each fissionable nuclide with the corresponding $P_0(t)$, $f(t)$, $P_0{}^m$, and $F(t)$, and then the results should be summed up.

4.2 Fitting of Calculated Results

A least–squares method was used to derive an optimum set of parameters which give the best fit to the calculated results of decay powers given in Sec. 4.1. The decay power burst function was represented by a weighted sum of thirty–three decaying exponentials,

$$f(t) = \sum_{i=1}^{33} \alpha_i e^{-\lambda_i t}, \tag{4.2.1}$$

where α_i and λ_i are the fitting parameters, except for the spontaneous fission of ^{252}Cf which needs two more decaying exponential terms to fit accurately due to considerable differences of fission yields from those of other fissile nuclides. The decay constants λ_i are selected to be same for every fissile nuclides. The exponential representation of the decay power is very convenient because the decay power can be integrated analytically. The integrated decay power, $P(t, T)$, following an irradiation of T at a constant fission rate of one fission per second, is given by

$$P(t, T) = \sum_{i=1}^{33} \frac{\alpha_i}{\lambda_i} e^{-\lambda_i t}(1 - e^{-\lambda_i T}). \tag{4.2.2}$$

It should be noted that an infinite irradiation is represented by this equation with $T = \infty$ or

$$\mathbf{P}(t, \infty) = \sum_{i=1}^{33} \frac{\alpha_i}{\lambda_i} e^{-\lambda_i t}. \tag{4.2.3}$$

The parameters obtained for the twenty fission types are summarized in **Tables 4.2.1** for the beta, gamma, and beta+gamma decay powers.

The present least–squares method for fitting the decay power has the following advantages:

(1) The data are fitted for a wide range of cooling time from 0 to 10^{13} sec.

(2) The decay constants λ_i are obtained by the least–squares method for the thermal fissions of ^{235}U and ^{239}Pu, and the fast fissions of ^{238}U by fixing several decay constants to those of long–lived fission products that have ruling contributions to the decay power at long cooling times. Then the decay constants are averaged for the three fission types and this same set of fixed decay constants are used to obtain the parameters for beta–decay power α_i^β and gamma–decay power α_i^γ for the all twenty fission types.

(3) The parameter α_i^τ for the total of beta– and gamma–decay powers are given as the sum of α_i^β and α_i^γ.

(4) The weights of $(1/f_n^2)$ are used in the least–squares method where f_n is the calculated burst–fission decay power of the n–th data point.

The fitting errors are shown in **Tables 4.2.2** through **4.2.10** and **Figs. 4.2.1** through **4.2.27**. The fitting erros for the burst fission are given in **Table 4.2.2** for (beta+gamma) decay power, in **Table**

4.2.3 for beta–decay power and in **Tabel 4.2.4** for gamma–decay power. The results for the one–year irradiation are given in **Tables 4.2.5** through **4.2.7** and those for the infinite irradiation are given in **Tables 4.2.8** throuth **4.2.10**. The fitting errors for the burst fission of ^{235}U by thermal neutrons are shown in **Fig. 4.2.1** for (beta+gamma) decay power, in **Fig. 4.2.2** for beta–decay power, and in **Fig. 4.2.3** for gamma–decay power. The results for fast fission of ^{238}U and thermal fission of ^{239}Pu are shown in **Figs. 4.2.4** through **4.2.6** and **Figs. 4.2.7** through **4.2.9**, respectively. The results for the one–year irradiation are shown in **Figs. 4.2.10** through **4.2.18**, and those for the infinite irradiation in **Figs. 4.2.19** through **4.2.27**.

It is seen from these tables and figurs that the fitting errors are very small. The fitting errors are especially small (within $\pm 0.1\%$) for the cooling times shorter than 10^7 sec after longer irradiation than one year for the beta, gamma and beta+gamma decay powers irrespective of the fission type. The error increases as the wider cooling time ranges up to 10^{13} sec but still remains within $\pm 0.5\%$ except for ^{232}Th at cooling times $> 8 \times 10^{12}$ sec. The maximum fitting error decreases considerably with irradiation time; $\pm 0.5\%$ for burst fission and $\pm 0.1\%$ for one–year irradiation with minor exceptions.

Table 4.1.1 Calculated decay powers of fission products after one fission

(a) Beta decay power (MeV/s/fission)

TIME(S)	TH232(F)	TH232(H)	U233(T)	U233(F)	U233(H)	U235(T)	U235(F)	U235(H)	U236(F)	NP237(F)
0.0	1.2660E+00	9.1539E-01	3.3900E-01	3.6882E-01	3.6274E-01	7.6706E-01	7.9732E-01	4.9881E-01	9.3732E-01	6.4755E-01
1.0E-01	1.1466E+00	8.3360E-01	3.2033E-01	3.4727E-01	3.4178E-01	7.0371E-01	7.3285E-01	4.6680E-01	8.6101E-01	6.0344E-01
1.5E-01	1.0953E+00	7.9828E-01	3.1186E-01	3.3753E-01	3.3228E-01	6.7615E-01	7.0470E-01	4.5245E-01	8.2776E-01	5.8376E-01
2.0E-01	1.0487E+00	7.6606E-01	3.0388E-01	3.2839E-01	3.2335E-01	6.5090E-01	6.7883E-01	4.3906E-01	7.9725E-01	5.6542E-01
3.0E-01	9.6710E-01	7.0948E-01	2.8924E-01	3.1169E-01	3.0702E-01	6.0628E-01	6.3289E-01	4.1475E-01	7.4316E-01	5.3225E-01
4.0E-01	8.9804E-01	6.6144E-01	2.7611E-01	2.9679E-01	2.9241E-01	5.6809E-01	5.9333E-01	3.9325E-01	6.9664E-01	5.0303E-01
5.0E-01	8.3883E-01	6.2016E-01	2.6424E-01	2.8340E-01	2.7925E-01	5.3501E-01	5.5888E-01	3.7407E-01	6.5616E-01	4.7704E-01
6.0E-01	7.8744E-01	5.8428E-01	2.5345E-01	2.7128E-01	2.6732E-01	5.0606E-01	5.2856E-01	3.5683E-01	6.2056E-01	4.5375E-01
8.0E-01	7.0248E-01	5.2488E-01	2.3449E-01	2.5017E-01	2.4647E-01	4.5769E-01	4.7755E-01	3.2701E-01	5.6066E-01	4.1366E-01
1.0E+00	6.3484E-01	4.7750E-01	2.1834E-01	2.3234E-01	2.2879E-01	4.1871E-01	4.3614E-01	3.0203E-01	5.1201E-01	3.8026E-01
1.5E+00	5.1252E-01	3.9151E-01	1.8655E-01	1.9768E-01	1.9426E-01	3.4709E-01	3.5953E-01	2.5393E-01	4.2178E-01	3.1655E-01
2.0E+00	4.2939E-01	3.3257E-01	1.6298E-01	1.7229E-01	1.6882E-01	2.9736E-01	3.0620E-01	2.1899E-01	3.5871E-01	2.7089E-01
3.0E+00	3.2201E-01	2.5516E-01	1.3003E-01	1.3714E-01	1.3345E-01	2.3117E-01	2.3559E-01	1.7098E-01	2.7482E-01	2.0917E-01
4.0E+00	2.5521E-01	2.0571E-01	1.0794E-01	1.1367E-01	1.0981E-01	1.8815E-01	1.9026E-01	1.3924E-01	2.2079E-01	1.6904E-01
5.0E+00	2.0971E-01	1.7115E-01	9.2036E-02	9.6781E-02	9.2841E-02	1.5757E-01	1.5845E-01	1.1664E-01	1.8287E-01	1.4077E-01
6.0E+00	1.7687E-01	1.4565E-01	8.0013E-02	8.4009E-02	8.0061E-02	1.3465E-01	1.3488E-01	9.9739E-02	1.5482E-01	1.1982E-01
8.0E+00	1.3301E-01	1.1071E-01	6.3035E-02	6.5962E-02	6.2113E-02	1.0269E-01	1.0241E-01	7.6271E-02	1.1636E-01	9.1020E-02
1.0E+01	1.0536E-01	8.8100E-02	5.1639E-02	5.3845E-02	5.0163E-02	8.1701E-02	8.1329E-02	6.0880E-02	9.1591E-02	7.2369E-02
1.5E+01	6.7582E-02	5.6494E-02	3.4924E-02	3.6104E-02	3.2895E-02	5.2149E-02	5.1911E-02	3.9069E-02	5.7482E-02	4.6342E-02
2.0E+01	4.8789E-02	4.0595E-02	2.6032E-02	2.6720E-02	2.3949E-02	3.7290E-02	3.7175E-02	2.7994E-02	4.0699E-02	3.3280E-02
3.0E+01	3.0831E-02	2.5502E-02	1.7115E-02	1.7401E-02	1.5321E-02	2.3172E-02	2.3155E-02	1.7483E-02	2.5031E-02	2.0851E-02
4.0E+01	2.2436E-02	1.8576E-02	1.2783E-02	1.2928E-02	1.1324E-02	1.6703E-02	1.6706E-02	1.2711E-02	1.7959E-02	1.5143E-02
5.0E+01	1.7542E-02	1.4598E-02	1.0211E-02	1.0295E-02	9.0209E-03	1.3035E-02	1.3036E-02	1.0016E-02	1.3975E-02	1.1893E-02
6.0E+01	1.4276E-02	1.1960E-02	8.4759E-03	8.5279E-03	7.4913E-03	1.0643E-02	1.0638E-02	8.2546E-03	1.1383E-02	9.7615E-03
8.0E+01	1.0137E-02	8.6036E-03	6.2401E-03	6.2602E-03	5.5369E-03	7.6552E-03	7.6386E-03	6.0405E-03	8.1506E-03	7.0764E-03
1.0E+02	7.6382E-03	6.5512E-03	4.8547E-03	4.8601E-03	4.3274E-03	5.8523E-03	5.8304E-03	4.6890E-03	6.2056E-03	5.4394E-03
1.5E+02	4.4209E-03	3.8572E-03	3.0053E-03	2.9978E-03	2.6998E-03	3.5073E-03	3.4853E-03	2.8906E-03	3.6874E-03	3.2873E-03
2.0E+02	2.9622E-03	2.6168E-03	2.1326E-03	2.1231E-03	1.9204E-03	2.4315E-03	2.4135E-03	2.0372E-03	2.5390E-03	2.2918E-03
3.0E+02	1.7065E-03	1.5421E-03	1.3465E-03	1.3398E-03	1.2092E-03	1.4873E-03	1.4758E-03	1.2652E-03	1.5375E-03	1.4150E-03
4.0E+02	1.1836E-03	1.0892E-03	9.9417E-04	9.9128E-04	8.8862E-04	1.0774E-03	1.0701E-03	9.2209E-04	1.1077E-03	1.0342E-03
5.0E+02	9.0614E-04	8.4435E-04	7.9326E-04	7.9322E-04	7.0635E-04	8.5077E-04	8.4617E-04	7.2982E-04	8.7269E-04	8.2336E-04
6.0E+02	7.3490E-04	6.9044E-04	6.6162E-04	6.6341E-04	5.8743E-04	7.0589E-04	7.0314E-04	6.0580E-04	7.2367E-04	6.8790E-04
8.0E+02	5.3495E-04	5.0665E-04	4.9730E-04	5.0069E-04	4.3952E-04	5.2892E-04	5.2815E-04	4.5305E-04	5.4227E-04	5.1976E-04
1.0E+03	4.2250E-04	4.0071E-04	3.9795E-04	4.0156E-04	3.5028E-04	4.2316E-04	4.2317E-04	3.6141E-04	4.3350E-04	4.1663E-04
1.5E+03	2.7966E-04	2.6319E-04	2.6248E-04	2.6519E-04	2.2915E-04	2.7840E-04	2.7875E-04	2.3693E-04	2.8360E-04	2.7192E-04
2.0E+03	2.0748E-04	1.9327E-04	1.9114E-04	1.9297E-04	1.6614E-04	2.0127E-04	2.0154E-04	1.7179E-04	2.0364E-04	1.9437E-04
3.0E+03	1.3122E-04	1.2019E-04	1.1646E-04	1.1729E-04	1.0105E-04	1.2018E-04	1.2026E-04	1.0405E-04	1.2024E-04	1.1373E-04
4.0E+03	9.2425E-05	8.3517E-05	7.9815E-05	8.0122E-05	6.9270E-05	8.0611E-05	8.0539E-05	7.0828E-05	7.9978E-05	7.4815E-05
5.0E+03	7.0017E-05	6.2554E-05	5.9443E-05	5.9437E-05	5.1557E-05	5.8821E-05	5.8647E-05	5.2289E-05	5.7997E-05	5.3575E-05
6.0E+03	5.5888E-05	4.9469E-05	4.7042E-05	4.6841E-05	4.0739E-05	4.5697E-05	4.5461E-05	4.0986E-05	4.4846E-05	4.0918E-05
8.0E+03	3.9557E-05	3.4540E-05	3.3247E-05	3.2852E-05	2.8693E-05	3.1330E-05	3.1044E-05	2.8478E-05	3.0555E-05	2.7336E-05
1.0E+04	3.0584E-05	2.6455E-05	2.5899E-05	2.5453E-05	2.2318E-05	2.3871E-05	2.3588E-05	2.1945E-05	2.3197E-05	2.0519E-05
1.5E+04	1.9429E-05	1.6587E-05	1.6853E-05	1.6473E-05	1.4596E-05	1.5077E-05	1.4853E-05	1.4222E-05	1.4597E-05	1.2843E-05
2.0E+04	1.3992E-05	1.1912E-05	1.2406E-05	1.2129E-05	1.0848E-05	1.1014E-05	1.0841E-05	1.0585E-05	1.0659E-05	9.4346E-06
3.0E+04	8.4803E-06	7.2816E-06	7.8073E-06	7.6612E-06	6.9338E-06	7.0253E-06	6.9105E-06	6.8429E-06	6.8078E-06	6.1249E-06
4.0E+04	5.6770E-06	4.9335E-06	5.3903E-06	5.3084E-06	4.8345E-06	4.9672E-06	4.8849E-06	4.8261E-06	4.8119E-06	4.4054E-06
5.0E+04	4.0097E-06	3.5267E-06	3.9096E-06	3.8610E-06	3.5349E-06	3.6861E-06	3.6259E-06	3.5616E-06	3.5626E-06	3.3223E-06
6.0E+04	2.9449E-06	2.6228E-06	2.9403E-06	2.9099E-06	2.6802E-06	2.8277E-06	2.7833E-06	2.7204E-06	2.7239E-06	2.5873E-06
8.0E+04	1.7524E-06	1.6022E-06	1.8222E-06	1.8081E-06	1.6893E-06	1.8057E-06	1.7807E-06	1.7332E-06	1.7288E-06	1.6952E-06
1.0E+05	1.1622E-06	1.0900E-06	1.2481E-06	1.2397E-06	1.1759E-06	1.2599E-06	1.2451E-06	1.2147E-06	1.2034E-06	1.2062E-06
1.5E+05	5.6202E-07	5.5370E-07	6.3564E-07	6.3080E-07	6.1741E-07	6.5281E-07	6.4815E-07	6.4315E-07	6.2926E-07	6.4404E-07
2.0E+05	3.4329E-07	3.4755E-07	3.9837E-07	3.9424E-07	3.9215E-07	4.0956E-07	4.0789E-07	4.1098E-07	4.0098E-07	4.1045E-07
3.0E+05	1.8669E-07	1.8965E-07	2.1786E-07	2.1422E-07	2.1147E-07	2.2180E-07	2.2138E-07	2.2435E-07	2.2159E-07	2.2378E-07
4.0E+05	1.3357E-07	1.3193E-07	1.5230E-07	1.4904E-07	1.4312E-07	1.5325E-07	1.5288E-07	1.5299E-07	1.5370E-07	1.5305E-07
5.0E+05	1.0807E-07	1.0346E-07	1.1965E-07	1.1673E-07	1.0938E-07	1.1926E-07	1.1883E-07	1.1706E-07	1.1919E-07	1.1738E-07
6.0E+05	9.2733E-08	8.6416E-08	9.9727E-08	9.7112E-08	8.9360E-08	9.8692E-08	9.8191E-08	9.5334E-08	9.8083E-08	9.5686E-08
8.0E+05	7.4171E-08	6.6314E-08	7.5757E-08	7.3602E-08	6.6102E-08	7.4192E-08	7.3590E-08	6.9690E-08	7.2972E-08	6.9974E-08
1.0E+06	6.2613E-08	5.4292E-08	6.1331E-08	5.9497E-08	5.2517E-08	5.9627E-08	5.8965E-08	5.4662E-08	5.8203E-08	5.4927E-08
1.5E+06	4.5408E-08	3.7446E-08	4.1554E-08	4.0212E-08	3.4393E-08	3.9981E-08	3.9293E-08	3.4968E-08	3.8589E-08	3.5295E-08
2.0E+06	3.5321E-08	2.8314E-08	3.1243E-08	3.0194E-08	2.5305E-08	2.9906E-08	2.9281E-08	2.5427E-08	2.8690E-08	2.5736E-08
3.0E+06	2.3571E-08	1.8381E-08	2.0283E-08	1.9592E-08	1.6109E-08	1.9302E-08	1.8839E-08	1.6060E-08	1.8406E-08	1.6160E-08
4.0E+06	1.7068E-08	1.3146E-08	1.4515E-08	1.4030E-08	1.1493E-08	1.3768E-08	1.3425E-08	1.1442E-08	1.3100E-08	1.1361E-08
5.0E+06	1.3146E-08	1.0050E-08	1.1081E-08	1.0722E-08	8.8064E-09	1.0505E-08	1.0239E-08	8.7732E-09	9.9934E-09	8.6041E-09
6.0E+06	1.0624E-08	8.0752E-09	8.8783E-09	8.6005E-09	7.0937E-09	8.4348E-09	8.2187E-09	7.0817E-09	8.0334E-09	6.8945E-09
8.0E+06	7.6557E-09	5.7526E-09	6.2784E-09	6.0922E-09	5.0591E-09	6.0273E-09	5.8699E-09	5.0876E-09	5.7684E-09	4.9634E-09
1.0E+07	5.9538E-09	4.4193E-09	4.7846E-09	4.6477E-09	3.8718E-09	4.6631E-09	4.5405E-09	3.9327E-09	4.4933E-09	3.9046E-09
1.5E+07	3.6785E-09	2.6465E-09	2.8041E-09	2.7279E-09	2.2791E-09	2.8549E-09	2.7835E-09	2.3847E-09	2.8062E-09	2.5297E-09
2.0E+07	2.5501E-09	1.7861E-09	1.8494E-09	1.8005E-09	1.5114E-09	1.9634E-09	1.9199E-09	1.6293E-09	1.9680E-09	1.8445E-09
3.0E+07	1.5277E-09	1.0392E-09	1.0346E-09	1.0075E-09	8.5875E-10	1.1628E-09	1.1438E-09	9.6582E-10	1.1984E-09	1.1899E-09
4.0E+07	1.0755E-09	7.3059E-10	7.1030E-10	6.9137E-10	5.9897E-10	8.1554E-10	8.0477E-10	6.8506E-10	8.5141E-10	8.7102E-10
5.0E+07	8.0820E-10	5.5590E-10	5.3328E-10	5.1871E-10	4.5644E-10	6.1363E-10	6.0636E-10	5.2330E-10	6.4377E-10	6.6881E-10
6.0E+07	6.2409E-10	4.3705E-10	4.1577E-10	4.0410E-10	3.6098E-10	4.7551E-10	4.7008E-10	4.1225E-10	4.9942E-10	5.2361E-10
8.0E+07	3.8837E-10	2.8349E-10	2.6731E-10	2.5926E-10	2.3792E-10	2.9863E-10	2.9497E-10	2.6754E-10	3.1217E-10	3.3033E-10
1.0E+08	2.5466E-10	1.9384E-10	1.8289E-10	1.7683E-10	1.6521E-10	1.9761E-10	1.9458E-10	1.8200E-10	2.0372E-10	2.1536E-10
1.5E+08	1.1848E-10	9.6946E-11	9.5527E-11	9.1398E-11	8.4088E-11	9.3155E-11	9.0174E-11	8.7496E-11	8.9274E-11	8.9355E-11
2.0E+08	8.2065E-11	6.7728E-11	7.1124E-11	6.7497E-11	5.8118E-11	6.4441E-11	6.1237E-11	5.8094E-11	5.6889E-11	5.1709E-11
3.0E+08	6.5249E-11	5.2150E-11	5.8632E-11	5.5339E-11	4.3529E-11	5.0933E-11	4.7709E-11	4.2557E-11	4.1966E-11	3.4344E-11
4.0E+08	5.9023E-11	4.6409E-11	5.3345E-11	5.0294E-11	3.8326E-11	4.6095E-11	4.3072E-11	3.7457E-11	3.7467E-11	3.0072E-11
5.0E+08	5.4176E-11	4.2298E-11	4.9095E-11	4.6269E-11	3.4810E-11	4.2390E-11	3.9588E-11	3.4067E-11	3.4322E-11	2.7464E-11
6.0E+08	4.9912E-11	3.8826E-11	4.5312E-11	4.2695E-11	3.1925E-11	3.9128E-11	3.6532E-11	3.1276E-11	3.1625E-11	2.5296E-11
8.0E+08	4.2549E-11	3.2978E-11	3.8718E-11	3.6474E-11	2.7140E-11	3.3462E-11	3.1236E-11	2.6622E-11	2.7006E-11	2.1611E-11
1.0E+09	3.6362E-11	2.8132E-11	3.3142E-11	3.1218E-11	2.3192E-11	2.8668E-11	2.6760E-11	2.2766E-11	2.3124E-11	1.8520E-11
1.5E+09	2.4657E-11	1.9034E-11	2.2534E-11	2.1224E-11	1.5753E-11	1.9525E-11	1.8227E-11	1.5478E-11	1.5745E-11	1.2637E-11
2.0E+09	1.6775E-11	1.2937E-11	1.5354E-11	1.4463E-11	1.0737E-11	1.3319E-11	1.2435E-11	1.0553E-11	1.0744E-11	8.6409E-12
3.0E+09	7.7983E-12	6.0140E-12	7.1507E-12	6.7370E-12	5.0129E-12	6.2106E-12	5.8015E-12	4.9249E-12	5.0179E-12	4.0516E-12
4.0E+09	3.6345E-12	2.8063E-12	3.3366E-12	3.1447E-12	2.3499E-12	2.9008E-12	2.7113E-12	2.3059E-12	2.3486E-12	1.9047E-12
5.0E+09	1.6962E-12	1.3126E-12	1.5589E-12	1.4699E-12	1.1058E-12	1.3568E-12	1.2690E-12	1.0831E-12	1.1012E-12	8.9790E-13
6.0E+09	7.9263E-13	6.1580E-13	7.2948E-13	6.8819E-13	5.2331E-13	6.3581E-13	5.9518E-13	5.1121E-13	5.1764E-13	4.2504E-13
8.0E+09	1.7426E-13	1.3804E-13	1.6119E-13	1.5232E-13	1.2116E-13	1.4118E-13	1.3252E-13	1.1740E-13	1.1610E-13	9.7590E-14
1.0E+10	3.9169E-14	3.3184E-14	3.6793E-14	3.4899E-14	3.1327E-14	3.2548E-14	3.0760E-14	3.0020E-14	2.7433E-14	2.4205E-14
1.5E+10	1.6490E-15	3.7073E-15	2.1155E-15	2.0891E-15	4.7179E-15	1.9082E-15	1.9756E-15	4.6121E-15	2.1138E-15	2.2681E-15
2.0E+10	5.5573E-16	2.7997E-15	1.0811E-15	1.0973E-15	3.6065E-15	8.7949E-16	9.9365E-16	3.6170E-15	1.1935E-15	1.1791E-15
3.0E+10	4.3073E-16	2.6954E-15	9.5609E-16	9.7551E-16	3.4315E-15	7.2280E-16	8.4084E-16	3.4545E-15	1.0369E-15	9.2665E-16
4.0E+10	4.2104E-16	2.6833E-15	9.4542E-16	9.6507E-16	3.4140E-15	7.0977E-16	8.2781E-16	3.4367E-15	1.0230E-15	9.0454E-16
5.0E+10	4.1975E-16	2.6770E-15	9.4317E-16	9.6280E-16	3.4061E-15	7.0792E-16	8.2568E-16	3.4289E-15	1.0204E-15	9.0152E-16
6.0E+10	4.1918E-16	2.6713E-15	9.4167E-16	9.6124E-16	3.3990E-15	7.0705E-16	8.2450E-16	3.4219E-15	1.0188E-15	9.0015E-16
8.0E+10	4.1819E-16	2.6598E-15	9.3880E-16	9.5826E-16	3.3850E-15	7.0547E-16	8.2231E-16	3.4082E-15	1.0158E-15	8.9772E-16
1.0E+11	4.1721E-16	2.6485E-15	9.3594E-16	9.5529E-16	3.3711E-15	7.0391E-16	8.2013E-16	3.3945E-15	1.0127E-15	8.9532E-16
1.5E+11	4.1477E-16	2.6202E-15	9.2886E-16	9.4793E-16	3.3365E-15	7.0004E-16	8.1473E-16	3.3605E-15	1.0052E-15	8.8935E-16
2.0E+11	4.1235E-16	2.5923E-15	9.2184E-16	9.4063E-16	3.3023E-15	6.9619E-16	8.0937E-16	3.3269E-15	9.9780E-16	8.8343E-16
3.0E+11	4.0757E-16	2.5375E-15	9.0800E-16	9.2625E-16	3.2351E-15	6.8856E-16	7.9880E-16	3.2607E-15	9.8314E-16	8.7173E-16
4.0E+11	4.0287E-16	2.4838E-15	8.9441E-16	9.1214E-16	3.1693E-15	6.8104E-16	7.8839E-16	3.1959E-15	9.6873E-16	8.6023E-16
5.0E+11	3.9825E-16	2.4314E-15	8.8108E-16	8.9830E-16	3.1048E-15	6.7363E-16	7.7816E-16	3.1325E-15	9.5459E-16	8.4892E-16
6.0E+11	3.9370E-16	2.3802E-15	8.6800E-16	8.8471E-16	3.0418E-15	6.6632E-16	7.6810E-16	3.0704E-15	9.4070E-16	8.3780E-16
8.0E+11	3.8481E-16	2.2811E-15	8.4255E-16	8.5829E-16	2.9197E-15	6.5199E-16	7.4847E-16	2.9502E-15	9.1366E-16	8.1609E-16
1.0E+12	3.7621E-16	2.1864E-15	8.1803E-16	8.3284E-16	2.8028E-15	6.3804E-16	7.2948E-16	2.8349E-15	8.8757E-16	7.9509E-16
1.5E+12	3.5586E-16	1.9674E-15	7.6056E-16	7.7320E-16	2.5315E-15	6.0479E-16	6.8464E-16	2.5673E-15	8.2627E-16	7.4551E-16
2.0E+12	3.3704E-16	1.7718E-15	7.0810E-16	7.1883E-16	2.2879E-15	5.7370E-16	6.4329E-16	2.3266E-15	7.7015E-16	6.9978E-16
3.0E+12	3.0346E-16	1.4404E-15	6.1636E-16	6.2385E-16	1.8723E-15	5.1734E-16	5.6984E-16	1.9149E-15	6.7153E-16	6.1856E-16
4.0E+12	2.7452E-16	1.1751E-15	5.3946E-16	5.4443E-16	1.5365E-15	4.6781E-16	5.0696E-16	1.5812E-15	5.8837E-16	5.4909E-16
5.0E+12	2.4945E-16	9.6225E-16	4.7474E-16	4.7774E-16	1.2649E-15	4.2415E-16	4.5291E-16	1.3102E-15	5.1795E-16	4.8941E-16
6.0E+12	2.2764E-16	7.9127E-16	4.2003E-16	4.2153E-16	1.0450E-15	3.8556E-16	4.0626E-16	1.0899E-15	4.5809E-16	4.3797E-16
8.0E+12	1.9185E-16	5.4273E-16	3.3398E-16	3.3351E-16	7.2182E-16	3.2099E-16	3.3065E-16	7.6408E-16	3.6321E-16	3.5477E-16
1.0E+13	1.6410E-16	3.8062E-16	2.7092E-16	2.6943E-16	5.0808E-16	2.6982E-16	2.7305E-16	5.4636E-16	2.9301E-16	2.9160E-16

(b) Gamma decay power (MeV/s/fission)

TIME(S)	TH232(F)	TH232(H)	U233(T)	U233(F)	U233(H)	U235(T)	U235(F)	U235(H)	U236(F)	NP237(F)
0.0	1.0104E+00	7.5436E-01	2.9455E-01	3.1684E-01	3.3894E-01	5.9964E-01	6.2335E-01	4.3276E-01	7.1778E-01	5.1189E-01
1.0E-01	9.1827E-01	6.8788E-01	2.7602E-01	2.9633E-01	3.1429E-01	5.4968E-01	5.7302E-01	4.0145E-01	6.5899E-01	4.7630E-01
1.5E-01	8.7855E-01	6.5904E-01	2.6767E-01	2.8710E-01	3.0333E-01	5.2790E-01	5.5099E-01	3.8753E-01	6.3337E-01	4.6042E-01
2.0E-01	8.4232E-01	6.3266E-01	2.5986E-01	2.7848E-01	2.9317E-01	5.0791E-01	5.3072E-01	3.7460E-01	6.0984E-01	4.4563E-01
3.0E-01	7.7861E-01	5.8615E-01	2.4563E-01	2.6282E-01	2.7492E-01	4.7250E-01	4.9465E-01	3.5135E-01	5.6809E-01	4.1888E-01
4.0E-01	7.2434E-01	5.4647E-01	2.3300E-01	2.4895E-01	2.5900E-01	4.4208E-01	4.6349E-01	3.3101E-01	5.3211E-01	3.9530E-01
5.0E-01	6.7750E-01	5.1223E-01	2.2171E-01	2.3657E-01	2.4501E-01	4.1565E-01	4.3628E-01	3.1307E-01	5.0075E-01	3.7435E-01
6.0E-01	6.3659E-01	4.8236E-01	2.1154E-01	2.2546E-01	2.3262E-01	3.9247E-01	4.1227E-01	2.9712E-01	4.7311E-01	3.5557E-01
8.0E-01	5.6838E-01	4.3270E-01	1.9395E-01	2.0629E-01	2.1161E-01	3.5360E-01	3.7176E-01	2.6996E-01	4.2651E-01	3.2325E-01
1.0E+00	5.1358E-01	3.9294E-01	1.7920E-01	1.9030E-01	1.9445E-01	3.2220E-01	3.3877E-01	2.4762E-01	3.8856E-01	2.9636E-01
1.5E+00	4.1355E-01	3.2057E-01	1.5087E-01	1.5975E-01	1.6241E-01	2.6447E-01	2.7760E-01	2.0563E-01	3.1808E-01	2.4520E-01
2.0E+00	3.4523E-01	2.7101E-01	1.3041E-01	1.3784E-01	1.3982E-01	2.2463E-01	2.3512E-01	1.7589E-01	2.6894E-01	2.0876E-01
3.0E+00	2.5739E-01	2.0632E-01	1.0266E-01	1.0827E-01	1.0946E-01	1.7245E-01	1.7942E-01	1.3597E-01	2.0421E-01	1.6004E-01
4.0E+00	2.0354E-01	1.6554E-01	8.4716E-02	8.9192E-02	8.9789E-02	1.3946E-01	1.4433E-01	1.1022E-01	1.6330E-01	1.2894E-01
5.0E+00	1.6754E-01	1.3751E-01	7.2211E-02	7.5897E-02	7.6008E-02	1.1665E-01	1.2019E-01	9.2290E-02	1.3518E-01	1.0743E-01
6.0E+00	1.4203E-01	1.1715E-01	6.3029E-02	6.6131E-02	6.5844E-02	9.9967E-02	1.0262E-01	7.9148E-02	1.1476E-01	9.1742E-02
8.0E+00	1.0874E-01	8.9840E-02	5.0481E-02	5.2776E-02	5.1901E-02	7.7320E-02	7.8912E-02	6.1315E-02	8.7378E-02	7.0557E-02
1.0E+01	8.8252E-02	7.2592E-02	4.2304E-02	4.4075E-02	4.2808E-02	6.2808E-02	6.3822E-02	4.9880E-02	7.0125E-02	5.7068E-02
1.5E+01	6.0618E-02	4.8963E-02	3.0452E-02	3.1493E-02	2.9733E-02	4.2618E-02	4.2990E-02	3.3864E-02	4.6660E-02	3.8410E-02
2.0E+01	4.6554E-02	3.7024E-02	2.3971E-02	2.4650E-02	2.2748E-02	3.2265E-02	3.2413E-02	2.5574E-02	3.4939E-02	2.8917E-02
3.0E+01	3.2056E-02	2.5073E-02	1.6969E-02	1.7312E-02	1.5481E-02	2.1784E-02	2.1811E-02	1.7175E-02	2.3337E-02	1.9425E-02
4.0E+01	2.4498E-02	1.9067E-02	1.3226E-02	1.3423E-02	1.1777E-02	1.6523E-02	1.6526E-02	1.2986E-02	1.7608E-02	1.4722E-02
5.0E+01	1.9748E-02	1.5380E-02	1.0867E-02	1.0989E-02	9.5271E-03	1.3339E-02	1.3332E-02	1.0471E-02	1.4161E-02	1.1893E-02
6.0E+01	1.6425E-02	1.2832E-02	9.2173E-03	9.2956E-03	7.9982E-03	1.1172E-02	1.1155E-02	8.7715E-03	1.1818E-02	9.9685E-03
8.0E+01	1.2024E-02	9.4735E-03	7.0142E-03	7.0490E-03	6.0160E-03	8.3483E-03	8.3186E-03	6.5761E-03	8.7707E-03	7.4580E-03
1.0E+02	9.2390E-03	7.3401E-03	5.5880E-03	5.6033E-03	4.7652E-03	6.5620E-03	6.5268E-03	5.1950E-03	6.8524E-03	5.8663E-03
1.5E+02	5.4291E-03	4.3922E-03	3.5591E-03	3.5574E-03	3.0198E-03	4.0833E-03	4.0497E-03	3.2746E-03	4.2152E-03	3.6580E-03
2.0E+02	3.5865E-03	2.9538E-03	2.5300E-03	2.5246E-03	2.1469E-03	2.8547E-03	2.8278E-03	2.3174E-03	2.9236E-03	2.5701E-03
3.0E+02	1.9659E-03	1.6793E-03	1.5704E-03	1.5668E-03	1.3386E-03	1.7245E-03	1.7080E-03	1.4332E-03	1.7483E-03	1.5773E-03
4.0E+02	1.3189E-03	1.1607E-03	1.1480E-03	1.1484E-03	9.8265E-04	1.2344E-03	1.2243E-03	1.0460E-03	1.2450E-03	1.1480E-03
5.0E+02	9.9776E-04	8.9622E-04	9.1649E-04	9.2008E-04	7.8619E-04	9.7134E-04	9.6524E-04	8.3437E-04	9.7808E-04	9.1653E-04
6.0E+02	8.0985E-04	7.3706E-04	7.6890E-04	7.7451E-04	6.6002E-04	8.0788E-04	8.0435E-04	6.9974E-04	8.1370E-04	7.7116E-04
8.0E+02	5.9866E-04	5.5214E-04	5.8722E-04	5.9450E-04	5.0335E-04	6.1293E-04	6.1216E-04	5.3431E-04	6.1892E-04	5.9406E-04
1.0E+03	4.8158E-04	4.4602E-04	4.7710E-04	4.8446E-04	4.0767E-04	4.9811E-04	4.9851E-04	4.3410E-04	5.0419E-04	4.8631E-04
1.5E+03	3.3077E-04	3.0600E-04	3.2476E-04	3.3072E-04	2.7511E-04	3.4126E-04	3.4237E-04	2.9556E-04	3.4626E-04	3.3380E-04
2.0E+03	2.5240E-04	2.3317E-04	2.4350E-04	2.4808E-04	2.0484E-04	2.5702E-04	2.5797E-04	2.2177E-04	2.6071E-04	2.4999E-04
3.0E+03	1.6709E-04	1.5496E-04	1.5716E-04	1.5987E-04	1.3067E-04	1.6635E-04	1.6664E-04	1.4319E-04	1.6836E-04	1.5917E-04
4.0E+03	1.2142E-04	1.1333E-04	1.1269E-04	1.1424E-04	9.2684E-05	1.1928E-04	1.1903E-04	1.0242E-04	1.2047E-04	1.1203E-04
5.0E+03	9.3379E-05	8.7671E-05	8.6170E-05	8.6964E-05	7.0209E-05	9.1088E-05	9.0515E-05	7.7973E-05	9.1846E-05	8.4015E-05
6.0E+03	7.4640E-05	7.0400E-05	6.8786E-05	6.9089E-05	5.5665E-05	7.2518E-05	7.1783E-05	6.1940E-05	7.3026E-05	6.5840E-05
8.0E+03	5.1521E-05	4.8823E-05	4.7633E-05	4.7429E-05	3.8375E-05	4.9728E-05	4.8938E-05	4.2564E-05	4.9965E-05	4.4134E-05
1.0E+04	3.8054E-05	3.6047E-05	3.5369E-05	3.4995E-05	2.8676E-05	3.6378E-05	3.5682E-05	3.1518E-05	3.6466E-05	3.1902E-05
1.5E+04	2.1097E-05	1.9782E-05	1.9878E-05	1.9542E-05	1.6794E-05	1.9520E-05	1.9125E-05	1.7934E-05	1.9419E-05	1.7127E-05
2.0E+04	1.3497E-05	1.2555E-05	1.2925E-05	1.2720E-05	1.1421E-05	1.2225E-05	1.2017E-05	1.1958E-05	1.2060E-05	1.0955E-05
3.0E+04	7.0944E-06	6.5979E-06	7.0623E-06	7.0000E-06	6.5525E-06	6.5658E-06	6.4989E-06	6.8215E-06	6.3966E-06	6.1696E-06
4.0E+04	4.5136E-06	4.2205E-06	4.6734E-06	4.6581E-06	4.3753E-06	4.4426E-06	4.4143E-06	4.6083E-06	4.2956E-06	4.3082E-06
5.0E+04	3.1880E-06	2.9923E-06	3.4235E-06	3.4239E-06	3.1929E-06	3.3358E-06	3.3230E-06	3.4019E-06	3.2079E-06	3.2972E-06
6.0E+04	2.4069E-06	2.2651E-06	2.6698E-06	2.6750E-06	2.4759E-06	2.6477E-06	2.6432E-06	2.6588E-06	2.5355E-06	2.6487E-06
8.0E+04	1.5599E-06	1.4759E-06	1.8228E-06	1.8277E-06	1.6775E-06	1.8363E-06	1.8403E-06	1.8144E-06	1.7500E-06	1.8623E-06
1.0E+05	1.1238E-06	1.0713E-06	1.3653E-06	1.3674E-06	1.2523E-06	1.3763E-06	1.3842E-06	1.3570E-06	1.3108E-06	1.4077E-06
1.5E+05	6.2672E-07	6.1179E-07	8.1165E-07	8.0981E-07	7.4159E-07	8.0505E-07	8.1559E-07	8.0458E-07	7.7302E-07	8.3831E-07
2.0E+05	4.2367E-07	4.2095E-07	5.6565E-07	5.6251E-07	5.1307E-07	5.5182E-07	5.6195E-07	5.5753E-07	5.3541E-07	5.8251E-07
3.0E+05	2.6663E-07	2.6522E-07	3.5393E-07	3.5028E-07	3.1403E-07	3.3868E-07	3.4640E-07	3.4080E-07	3.3254E-07	3.6038E-07
4.0E+05	2.0655E-07	2.0078E-07	2.6326E-07	2.5972E-07	2.2898E-07	2.5039E-07	2.5597E-07	2.4668E-07	2.4637E-07	2.6461E-07
5.0E+05	1.7394E-07	1.6458E-07	2.1216E-07	2.0887E-07	1.8206E-07	2.0179E-07	2.0578E-07	1.9409E-07	1.9816E-07	2.1088E-07
6.0E+05	1.5190E-07	1.4025E-07	1.7810E-07	1.7507E-07	1.5160E-07	1.6976E-07	1.7258E-07	1.5972E-07	1.6620E-07	1.7535E-07
8.0E+05	1.2144E-07	1.0784E-07	1.3357E-07	1.3103E-07	1.1293E-07	1.2798E-07	1.2928E-07	1.1616E-07	1.2456E-07	1.2942E-07
1.0E+06	1.0023E-07	8.6497E-08	1.0509E-07	1.0295E-07	8.8748E-08	1.0117E-07	1.0161E-07	8.9297E-08	9.8057E-08	1.0055E-07
1.5E+06	6.7270E-08	5.5609E-08	6.5621E-08	6.4197E-08	5.5497E-08	6.3901E-08	6.3521E-08	5.3725E-08	6.1647E-08	6.1738E-08
2.0E+06	4.8466E-08	3.9361E-08	4.5995E-08	4.5015E-08	3.8917E-08	4.5296E-08	4.4790E-08	3.7054E-08	4.3734E-08	4.3262E-08
3.0E+06	2.7850E-08	2.2598E-08	2.6568E-08	2.6103E-08	2.2496E-08	2.6713E-08	2.6349E-08	2.1431E-08	2.6036E-08	2.5531E-08
4.0E+06	1.7368E-08	1.4331E-08	1.7150E-08	1.6950E-08	1.4569E-08	1.7582E-08	1.7359E-08	1.4093E-08	1.7357E-08	1.6959E-08
5.0E+06	1.1680E-08	9.8551E-09	1.2041E-08	1.1979E-08	1.0273E-08	1.2562E-08	1.2421E-08	1.0113E-08	1.2554E-08	1.2217E-08
6.0E+06	8.4764E-09	7.3079E-09	9.1079E-09	9.1147E-09	7.7981E-09	9.6337E-09	9.5357E-09	7.7941E-09	9.7187E-09	9.4098E-09
8.0E+06	5.4001E-09	4.7913E-09	6.1405E-09	6.1944E-09	5.2730E-09	6.5909E-09	6.5275E-09	5.3649E-09	6.7106E-09	6.4226E-09
1.0E+07	4.0077E-09	3.5916E-09	4.6589E-09	4.7159E-09	3.9997E-09	5.0151E-09	4.9631E-09	4.0893E-09	5.1106E-09	4.8411E-09
1.5E+07	2.2740E-09	2.0390E-09	2.6420E-09	2.6780E-09	2.2730E-09	2.8268E-09	2.7908E-09	2.3126E-09	2.8649E-09	2.6737E-09
2.0E+07	1.3158E-09	1.1854E-09	1.5087E-09	1.5286E-09	1.3173E-09	1.6043E-09	1.5826E-09	1.3307E-09	1.6224E-09	1.5100E-09
3.0E+07	4.4254E-10	4.1885E-10	4.9103E-10	4.9674E-10	4.6669E-10	5.1811E-10	5.1281E-10	4.6478E-10	5.3009E-10	5.0577E-10
4.0E+07	1.6901E-10	1.7955E-10	1.7847E-10	1.8005E-10	2.0328E-10	1.8671E-10	1.8686E-10	1.9840E-10	1.9809E-10	2.0199E-10
5.0E+07	8.3796E-11	1.0333E-10	8.3676E-11	8.4064E-11	1.1959E-10	8.6064E-11	8.7628E-11	1.1395E-10	9.6245E-11	1.0678E-10
6.0E+07	5.5217E-11	7.5988E-11	5.3435E-11	5.3468E-11	8.9421E-11	5.3643E-11	5.5394E-11	8.3558E-11	6.2383E-11	7.3191E-11
8.0E+07	3.8326E-11	5.6445E-11	3.7449E-11	3.7305E-11	6.7262E-11	3.6045E-11	3.7447E-11	6.1497E-11	4.2257E-11	5.0247E-11
1.0E+08	3.2480E-11	4.7180E-11	3.2579E-11	3.2364E-11	5.6163E-11	3.0529E-11	3.1548E-11	5.0799E-11	3.4925E-11	4.0407E-11
1.5E+08	2.6599E-11	3.4493E-11	2.7439E-11	2.7091E-11	3.9973E-11	2.4944E-11	2.5377E-11	3.5949E-11	2.6839E-11	2.9059E-11
2.0E+08	2.4423E-11	2.7952E-11	2.5204E-11	2.4771E-11	3.1123E-11	2.2794E-11	2.2950E-11	2.8295E-11	2.3609E-11	2.4692E-11
3.0E+08	2.2246E-11	2.1327E-11	2.2740E-11	2.2238E-11	2.2051E-11	2.0683E-11	2.0622E-11	2.0727E-11	2.0715E-11	2.1288E-11
4.0E+08	2.0603E-11	1.7950E-11	2.0943E-11	2.0433E-11	1.7663E-11	1.9147E-11	1.9017E-11	1.7044E-11	1.8937E-11	1.9447E-11
5.0E+08	1.9127E-11	1.5862E-11	1.9390E-11	1.8896E-11	1.5171E-11	1.7775E-11	1.7623E-11	1.4871E-11	1.7481E-11	1.7965E-11
6.0E+08	1.7770E-11	1.4374E-11	1.7991E-11	1.7524E-11	1.3543E-11	1.6515E-11	1.6359E-11	1.3388E-11	1.6197E-11	1.6654E-11
8.0E+08	1.5353E-11	1.2192E-11	1.5529E-11	1.5119E-11	1.1356E-11	1.4269E-11	1.4125E-11	1.1299E-11	1.3964E-11	1.4363E-11
1.0E+09	1.3269E-11	1.0491E-11	1.3419E-11	1.3064E-11	9.7451E-12	1.2333E-11	1.2206E-11	9.7116E-12	1.2062E-11	1.2408E-11
1.5E+09	9.2187E-12	7.2802E-12	9.3230E-12	9.0754E-12	6.7577E-12	8.5687E-12	8.4799E-12	6.7377E-12	8.3790E-12	8.6190E-12
2.0E+09	6.4053E-12	5.0601E-12	6.4783E-12	6.3063E-12	4.6978E-12	5.9540E-12	5.8924E-12	4.6840E-12	5.8223E-12	5.9891E-12
3.0E+09	3.0928E-12	2.4465E-12	3.1286E-12	3.0456E-12	2.2729E-12	2.8750E-12	2.8454E-12	2.2660E-12	2.8119E-12	2.8922E-12
4.0E+09	1.4935E-12	1.1848E-12	1.5113E-12	1.4713E-12	1.1021E-12	1.3883E-12	1.3743E-12	1.0986E-12	1.3584E-12	1.3969E-12
5.0E+09	7.2125E-13	5.7551E-13	7.3036E-13	7.1110E-13	5.3674E-13	6.7051E-13	6.6395E-13	5.3485E-13	6.5654E-13	6.7495E-13
6.0E+09	3.4839E-13	2.8133E-13	3.5329E-13	3.4406E-13	2.6373E-13	3.2390E-13	3.2096E-13	2.6264E-13	3.1766E-13	3.2634E-13
8.0E+09	8.1422E-14	7.0681E-14	8.3311E-14	8.1253E-14	6.8216E-14	7.5734E-14	7.5372E-14	6.7720E-14	7.5021E-14	7.6724E-14
1.0E+10	1.9178E-14	2.1559E-14	2.0365E-14	1.9979E-14	2.2607E-14	1.7873E-14	1.8114E-14	2.2259E-14	1.8449E-14	1.8527E-14
1.5E+10	7.4973E-16	7.0035E-15	1.7277E-15	1.8364E-15	9.0759E-15	7.4218E-16	1.1608E-15	8.7806E-15	1.6990E-15	1.2952E-15
2.0E+10	2.6567E-16	6.6131E-15	1.2371E-15	1.3586E-15	8.7076E-15	2.9213E-16	7.1494E-16	8.4157E-15	1.2579E-15	8.4180E-16
3.0E+10	2.5204E-16	6.5881E-15	1.2212E-15	1.3427E-15	8.6781E-15	2.7935E-16	7.0136E-16	8.3873E-15	1.2432E-15	8.2771E-16
4.0E+10	2.5148E-16	6.5736E-15	1.2185E-15	1.3398E-15	8.6590E-15	2.7873E-16	6.9981E-16	8.3688E-15	1.2405E-15	8.2587E-16
5.0E+10	2.5093E-16	6.5592E-15	1.2158E-15	1.3368E-15	8.6399E-15	2.7811E-16	6.9827E-16	8.3504E-15	1.2378E-15	8.2406E-16
6.0E+10	2.5037E-16	6.5448E-15	1.2131E-15	1.3339E-15	8.6208E-15	2.7750E-16	6.9674E-16	8.3320E-15	1.2350E-15	8.2225E-16
8.0E+10	2.4928E-16	6.5161E-15	1.2078E-15	1.3280E-15	8.5829E-15	2.7629E-16	6.9368E-16	8.2955E-15	1.2296E-15	8.1864E-16
1.0E+11	2.4818E-16	6.4875E-15	1.2025E-15	1.3222E-15	8.5452E-15	2.7507E-16	6.9064E-16	8.2591E-15	1.2242E-15	8.1505E-16
1.5E+11	2.4547E-16	6.4166E-15	1.1893E-15	1.3077E-15	8.4517E-15	2.7207E-16	6.8309E-16	8.1688E-15	1.2109E-15	8.0614E-16
2.0E+11	2.4279E-16	6.3465E-15	1.1763E-15	1.2934E-15	8.3593E-15	2.6909E-16	6.7562E-16	8.0795E-15	1.1976E-15	7.9732E-16
3.0E+11	2.3751E-16	6.2085E-15	1.1507E-15	1.2653E-15	8.1776E-15	2.6324E-16	6.6093E-16	7.9038E-15	1.1716E-15	7.7999E-16
4.0E+11	2.3235E-16	6.0735E-15	1.1257E-15	1.2378E-15	7.9998E-15	2.5752E-16	6.4657E-16	7.7320E-15	1.1461E-15	7.6303E-16
5.0E+11	2.2730E-16	5.9415E-15	1.1012E-15	1.2108E-15	7.8258E-15	2.5192E-16	6.3251E-16	7.5639E-15	1.1212E-15	7.4644E-16
6.0E+11	2.2235E-16	5.8123E-15	1.0773E-15	1.1845E-15	7.6557E-15	2.4644E-16	6.1876E-16	7.3994E-15	1.0968E-15	7.3021E-16
8.0E+11	2.1279E-16	5.5624E-15	1.0309E-15	1.1335E-15	7.3264E-15	2.3584E-16	5.9215E-16	7.0812E-15	1.0497E-15	6.9880E-16
1.0E+12	2.0364E-16	5.3231E-15	9.8654E-16	1.0848E-15	7.0113E-15	2.2570E-16	5.6668E-16	6.7766E-15	1.0045E-15	6.6875E-16
1.5E+12	1.8245E-16	4.7691E-15	8.8384E-16	9.7184E-16	6.2816E-15	2.0221E-16	5.0771E-16	6.0714E-15	8.9997E-16	5.9915E-16
2.0E+12	1.6346E-16	4.2728E-15	7.9183E-16	8.7068E-16	5.6278E-15	1.8116E-16	4.5487E-16	5.4395E-15	8.0631E-16	5.3679E-16
3.0E+12	1.3121E-16	3.4297E-15	6.3558E-16	6.9887E-16	4.5173E-15	1.4542E-16	3.6512E-16	4.3662E-15	6.4722E-16	4.3088E-16
4.0E+12	1.0532E-16	2.7530E-15	5.1018E-16	5.6098E-16	3.6260E-15	1.1673E-16	2.9308E-16	3.5047E-15	5.1951E-16	3.4587E-16
5.0E+12	8.4543E-17	2.2097E-15	4.0952E-16	4.5029E-16	2.9105E-15	9.3703E-17	2.3526E-16	2.8132E-15	4.1701E-16	2.7763E-16
6.0E+12	6.7864E-17	1.7737E-15	3.2872E-16	3.6145E-16	2.3362E-15	7.5220E-17	1.8884E-16	2.2581E-15	3.3473E-16	2.2286E-16
8.0E+12	4.3730E-17	1.1428E-15	2.1182E-16	2.3291E-16	1.5053E-15	4.8474E-17	1.2168E-16	1.4549E-15	2.1568E-16	1.4361E-16
1.0E+13	2.8180E-17	7.3634E-16	1.3649E-16	1.5008E-16	9.6987E-16	3.1242E-17	7.8411E-17	9.3744E-16	1.3898E-16	9.2547E-17

(c) Total sensible decay power (MeV/s/fission)

TIME(S)	TH232(F)	TH232(H)	U233(T)	U233(F)	U233(H)	U235(T)	U235(F)	U235(H)	U236(F)	NP237(F)
0.0	2.2765E+00	1.6697E+00	6.3355E-01	6.8566E-01	7.0168E-01	1.3667E+00	1.4207E+00	9.3157E-01	1.6551E+00	1.1594E+00
1.0E-01	2.0649E+00	1.5215E+00	5.9635E-01	6.4360E-01	6.5606E-01	1.2534E+00	1.3059E+00	8.6825E-01	1.5200E+00	1.0797E+00
1.5E-01	1.9739E+00	1.4573E+00	5.7953E-01	6.2464E-01	6.3561E-01	1.2041E+00	1.2557E+00	8.3998E-01	1.4611E+00	1.0442E+00
2.0E-01	1.8910E+00	1.3987E+00	5.6374E-01	6.0688E-01	6.1652E-01	1.1588E+00	1.2095E+00	8.1366E-01	1.4071E+00	1.0111E+00
3.0E-01	1.7457E+00	1.2956E+00	5.3487E-01	5.7451E-01	5.8193E-01	1.0788E+00	1.1275E+00	7.6610E-01	1.3112E+00	9.5113E-01
4.0E-01	1.6224E+00	1.2079E+00	5.0911E-01	5.4574E-01	5.5141E-01	1.0102E+00	1.0568E+00	7.2427E-01	1.2288E+00	8.9833E-01
5.0E-01	1.5163E+00	1.1324E+00	4.8595E-01	5.1997E-01	5.2426E-01	9.5066E-01	9.9516E-01	6.8715E-01	1.1569E+00	8.5139E-01
6.0E-01	1.4240E+00	1.0666E+00	4.6499E-01	4.9675E-01	4.9993E-01	8.9853E-01	9.4083E-01	6.5396E-01	1.0937E+00	8.0932E-01
8.0E-01	1.2709E+00	9.5758E-01	4.2844E-01	4.5646E-01	4.5808E-01	8.1129E-01	8.4931E-01	5.9697E-01	9.8717E-01	7.3691E-01
1.0E+00	1.1484E+00	8.7043E-01	3.9754E-01	4.2264E-01	4.2324E-01	7.4091E-01	7.7491E-01	5.4965E-01	9.0057E-01	6.7662E-01
1.5E+00	9.2607E-01	7.1208E-01	3.3742E-01	3.5743E-01	3.5667E-01	6.1156E-01	6.3713E-01	4.5955E-01	7.3986E-01	5.6175E-01
2.0E+00	7.7462E-01	6.0358E-01	2.9339E-01	3.1013E-01	3.0865E-01	5.2200E-01	5.4132E-01	3.9488E-01	6.2765E-01	4.7965E-01
3.0E+00	5.7940E-01	4.6148E-01	2.3269E-01	2.4541E-01	2.4291E-01	4.0363E-01	4.1501E-01	3.0695E-01	4.7903E-01	3.6921E-01
4.0E+00	4.5875E-01	3.7125E-01	1.9266E-01	2.0286E-01	1.9960E-01	3.2761E-01	3.3459E-01	2.4947E-01	3.8409E-01	2.9798E-01
5.0E+00	3.7725E-01	3.0866E-01	1.6425E-01	1.7268E-01	1.6885E-01	2.7422E-01	2.7864E-01	2.0893E-01	3.1805E-01	2.4820E-01
6.0E+00	3.1891E-01	2.6281E-01	1.4304E-01	1.5014E-01	1.4591E-01	2.3462E-01	2.3750E-01	1.7889E-01	2.6958E-01	2.1156E-01
8.0E+00	2.4174E-01	2.0055E-01	1.1352E-01	1.1874E-01	1.1401E-01	1.8001E-01	1.8132E-01	1.3759E-01	2.0373E-01	1.6158E-01
1.0E+01	1.9361E-01	1.6069E-01	9.3943E-02	9.7920E-02	9.2972E-02	1.4451E-01	1.4515E-01	1.1076E-01	1.6172E-01	1.2944E-01
1.5E+01	1.2820E-01	1.0546E-01	6.5376E-02	6.7597E-02	6.2628E-02	9.4767E-02	9.4901E-02	7.2933E-02	1.0414E-01	8.4753E-02
2.0E+01	9.5343E-02	7.7619E-02	5.0003E-02	5.1370E-02	4.6697E-02	6.9555E-02	6.9588E-02	5.3568E-02	7.5637E-02	6.2197E-02
3.0E+01	6.2887E-02	5.0575E-02	3.4084E-02	3.4713E-02	3.0802E-02	4.4956E-02	4.4967E-02	3.4658E-02	4.8368E-02	4.0277E-02
4.0E+01	4.6935E-02	3.7643E-02	2.6009E-02	2.6351E-02	2.3101E-02	3.3225E-02	3.3232E-02	2.5697E-02	3.5567E-02	2.9865E-02
5.0E+01	3.7290E-02	2.9978E-02	2.1078E-02	2.1284E-02	1.8548E-02	2.6374E-02	2.6368E-02	2.0486E-02	2.8136E-02	2.3785E-02
6.0E+01	3.0701E-02	2.4792E-02	1.7693E-02	1.7823E-02	1.5490E-02	2.1815E-02	2.1793E-02	1.7026E-02	2.3201E-02	1.9730E-02
8.0E+01	2.2161E-02	1.8077E-02	1.3254E-02	1.3309E-02	1.1553E-02	1.6003E-02	1.5957E-02	1.2617E-02	1.6921E-02	1.4534E-02
1.0E+02	1.6877E-02	1.3891E-02	1.0443E-02	1.0463E-02	9.0926E-03	1.2414E-02	1.2357E-02	9.8839E-03	1.3058E-02	1.1306E-02
1.5E+02	9.8500E-03	8.2494E-03	6.5644E-03	6.5551E-03	5.7197E-03	7.5906E-03	7.5350E-03	6.1653E-03	7.9026E-03	6.9452E-03
2.0E+02	6.5487E-03	5.5706E-03	4.6626E-03	4.6477E-03	4.0673E-03	5.2863E-03	5.2413E-03	4.3546E-03	5.4626E-03	4.8619E-03
3.0E+02	3.6723E-03	3.2214E-03	2.9169E-03	2.9067E-03	2.5478E-03	3.2117E-03	3.1837E-03	2.6984E-03	3.2858E-03	2.9923E-03
4.0E+02	2.5025E-03	2.2499E-03	2.1422E-03	2.1397E-03	1.8713E-03	2.3118E-03	2.2943E-03	1.9681E-03	2.3528E-03	2.1822E-03
5.0E+02	1.9039E-03	1.7406E-03	1.7097E-03	1.7133E-03	1.4925E-03	1.8221E-03	1.8114E-03	1.5642E-03	1.8508E-03	1.7399E-03
6.0E+02	1.5448E-03	1.4275E-03	1.4305E-03	1.4379E-03	1.2475E-03	1.5138E-03	1.5075E-03	1.3055E-03	1.5374E-03	1.4591E-03
8.0E+02	1.1336E-03	1.0588E-03	1.0845E-03	1.0952E-03	9.4287E-04	1.1419E-03	1.1403E-03	9.8736E-04	1.1612E-03	1.1138E-03
1.0E+03	9.0407E-04	8.4673E-04	8.7505E-04	8.8602E-04	7.5796E-04	9.2127E-04	9.2168E-04	7.9552E-04	9.3770E-04	9.0294E-04
1.5E+03	6.1043E-04	5.6918E-04	5.8724E-04	5.9591E-04	5.0426E-04	6.1967E-04	6.2112E-04	5.3249E-04	6.2986E-04	6.0572E-04
2.0E+03	4.5988E-04	4.2644E-04	4.3464E-04	4.4105E-04	3.7098E-04	4.5829E-04	4.5951E-04	3.9356E-04	4.6435E-04	4.4436E-04
3.0E+03	2.9831E-04	2.7515E-04	2.7362E-04	2.7716E-04	2.3172E-04	2.8653E-04	2.8690E-04	2.4725E-04	2.8860E-04	2.7290E-04
4.0E+03	2.1385E-04	1.9685E-04	1.9251E-04	1.9436E-04	1.6195E-04	1.9989E-04	1.9957E-04	1.7325E-04	2.0045E-04	1.8684E-04
5.0E+03	1.6340E-04	1.5022E-04	1.4561E-04	1.4640E-04	1.2177E-04	1.4991E-04	1.4916E-04	1.3026E-04	1.4984E-04	1.3759E-04
6.0E+03	1.3053E-04	1.1987E-04	1.1583E-04	1.1593E-04	9.6404E-05	1.1821E-04	1.1724E-04	1.0293E-04	1.1787E-04	1.0676E-04
8.0E+03	9.1078E-05	8.3362E-05	8.0880E-05	8.0282E-05	6.7068E-05	8.1057E-05	7.9982E-05	7.1041E-05	8.0520E-05	7.1470E-05
1.0E+04	6.8637E-05	6.2502E-05	6.1268E-05	6.0448E-05	5.0994E-05	6.0249E-05	5.9270E-05	5.3463E-05	5.9663E-05	5.2421E-05
1.5E+04	4.0526E-05	3.6369E-05	3.6731E-05	3.6016E-05	3.1389E-05	3.4598E-05	3.3977E-05	3.2156E-05	3.4016E-05	2.9969E-05
2.0E+04	2.7489E-05	2.4467E-05	2.5331E-05	2.4849E-05	2.2269E-05	2.3239E-05	2.2858E-05	2.2542E-05	2.2720E-05	2.0389E-05
3.0E+04	1.5575E-05	1.3880E-05	1.4870E-05	1.4661E-05	1.3486E-05	1.3591E-05	1.3409E-05	1.3664E-05	1.3204E-05	1.2294E-05
4.0E+04	1.0191E-05	9.1539E-06	1.0064E-05	9.9665E-06	9.2098E-06	9.4098E-06	9.2993E-06	9.4344E-06	9.1075E-06	8.7135E-06
5.0E+04	7.1977E-06	6.5191E-06	7.3330E-06	7.2848E-06	6.7278E-06	7.0219E-06	6.9490E-06	6.9634E-06	6.7705E-06	6.6195E-06
6.0E+04	5.3519E-06	4.8879E-06	5.6101E-06	5.5849E-06	5.1561E-06	5.4754E-06	5.4266E-06	5.3793E-06	5.2594E-06	5.2360E-06
8.0E+04	3.3123E-06	3.0782E-06	3.6451E-06	3.6358E-06	3.3668E-06	3.6420E-06	3.6210E-06	3.5476E-06	3.4788E-06	3.5575E-06
1.0E+05	2.2859E-06	2.1613E-06	2.6134E-06	2.6071E-06	2.4282E-06	2.6362E-06	2.6293E-06	2.5716E-06	2.5143E-06	2.6139E-06
1.5E+05	1.1887E-06	1.1655E-06	1.4473E-06	1.4406E-06	1.3590E-06	1.4579E-06	1.4637E-06	1.4477E-06	1.4023E-06	1.4823E-06
2.0E+05	7.6696E-07	7.6850E-07	9.6402E-07	9.5675E-07	9.0522E-07	9.6139E-07	9.6984E-07	9.6851E-07	9.3639E-07	9.9296E-07
3.0E+05	4.5332E-07	4.5487E-07	5.7179E-07	5.6450E-07	5.2550E-07	5.6048E-07	5.6778E-07	5.6515E-07	5.5413E-07	5.8415E-07
4.0E+05	3.4012E-07	3.3271E-07	4.1557E-07	4.0876E-07	3.7211E-07	4.0363E-07	4.0885E-07	3.9967E-07	4.0008E-07	4.1766E-07
5.0E+05	2.8201E-07	2.6804E-07	3.3181E-07	3.2560E-07	2.9143E-07	3.2105E-07	3.2461E-07	3.1115E-07	3.1736E-07	3.2826E-07
6.0E+05	2.4464E-07	2.2667E-07	2.7783E-07	2.7219E-07	2.4096E-07	2.6845E-07	2.7078E-07	2.5506E-07	2.6428E-07	2.7103E-07
8.0E+05	1.9561E-07	1.7415E-07	2.0933E-07	2.0464E-07	1.7903E-07	2.0217E-07	2.0287E-07	1.8585E-07	1.9754E-07	1.9940E-07
1.0E+06	1.6285E-07	1.4079E-07	1.6642E-07	1.6245E-07	1.4126E-07	1.6079E-07	1.6058E-07	1.4396E-07	1.5626E-07	1.5547E-07
1.5E+06	1.1268E-07	9.3055E-08	1.0717E-07	1.0441E-07	8.9890E-08	1.0388E-07	1.0281E-07	8.8694E-08	1.0024E-07	9.7033E-08
2.0E+06	8.3787E-08	6.7675E-08	7.7237E-08	7.5209E-08	6.4222E-08	7.5203E-08	7.4072E-08	6.2481E-08	7.2424E-08	6.8998E-08
3.0E+06	5.1421E-08	4.0978E-08	4.6851E-08	4.5695E-08	3.8605E-08	4.6015E-08	4.5188E-08	3.7491E-08	4.4443E-08	4.1691E-08
4.0E+06	3.4436E-08	2.7477E-08	3.1665E-08	3.0980E-08	2.6063E-08	3.1350E-08	3.0784E-08	2.5535E-08	3.0457E-08	2.8320E-08
5.0E+06	2.4826E-08	1.9905E-08	2.3122E-08	2.2701E-08	1.9080E-08	2.3067E-08	2.2660E-08	1.8886E-08	2.2547E-08	2.0821E-08
6.0E+06	1.9101E-08	1.5383E-08	1.7986E-08	1.7715E-08	1.4892E-08	1.8069E-08	1.7754E-08	1.4876E-08	1.7752E-08	1.6304E-08
8.0E+06	1.3056E-08	1.0544E-08	1.2419E-08	1.2287E-08	1.0332E-08	1.2618E-08	1.2397E-08	1.0452E-08	1.2479E-08	1.1386E-08
1.0E+07	9.9615E-09	8.0109E-09	9.4435E-09	9.3636E-09	7.8715E-09	9.6783E-09	9.5036E-09	8.0220E-09	9.6038E-09	8.7457E-09
1.5E+07	5.9525E-09	4.6855E-09	5.4462E-09	5.4059E-09	4.5521E-09	5.6817E-09	5.5743E-09	4.6973E-09	5.6711E-09	5.2034E-09
2.0E+07	3.8659E-09	2.9715E-09	3.3581E-09	3.3291E-09	2.8287E-09	3.5677E-09	3.5025E-09	2.9600E-09	3.5904E-09	3.3544E-09
3.0E+07	1.9703E-09	1.4580E-09	1.5256E-09	1.5043E-09	1.3254E-09	1.6809E-09	1.6566E-09	1.4306E-09	1.7285E-09	1.6957E-09
4.0E+07	1.2445E-09	9.1013E-10	8.8877E-10	8.7142E-10	8.0225E-10	1.0023E-09	9.9164E-10	8.8346E-10	1.0495E-09	1.0730E-09
5.0E+07	8.9200E-10	6.5922E-10	6.1696E-10	6.0277E-10	5.7604E-10	6.9969E-10	6.9398E-10	6.3725E-10	7.4002E-10	7.7559E-10
6.0E+07	6.7931E-10	5.1303E-10	4.6921E-10	4.5757E-10	4.5040E-10	5.2915E-10	5.2547E-10	4.9580E-10	5.6181E-10	5.9680E-10
8.0E+07	4.2670E-10	3.3994E-10	3.0476E-10	2.9656E-10	3.0518E-10	3.3468E-10	3.3242E-10	3.2903E-10	3.5442E-10	3.8058E-10
1.0E+08	2.8714E-10	2.4102E-10	2.1547E-10	2.0920E-10	2.2138E-10	2.2814E-10	2.2612E-10	2.3280E-10	2.3864E-10	2.5577E-10
1.5E+08	1.4508E-10	1.3144E-10	1.2297E-10	1.1849E-10	1.2406E-10	1.1810E-10	1.1555E-10	1.2344E-10	1.1611E-10	1.1841E-10
2.0E+08	1.0649E-10	9.5681E-11	9.6328E-11	9.2269E-11	8.9241E-11	8.7235E-11	8.4187E-11	8.6389E-11	8.0498E-11	7.6401E-11
3.0E+08	8.7495E-11	7.3477E-11	8.1372E-11	7.7577E-11	6.5579E-11	7.1616E-11	6.8331E-11	6.3284E-11	6.2681E-11	5.5632E-11
4.0E+08	7.9625E-11	6.4359E-11	7.4288E-11	7.0727E-11	5.5989E-11	6.5242E-11	6.2089E-11	5.4501E-11	5.6404E-11	4.9519E-11
5.0E+08	7.3303E-11	5.8160E-11	6.8486E-11	6.5166E-11	4.9981E-11	6.0166E-11	5.7211E-11	4.8938E-11	5.1803E-11	4.5429E-11
6.0E+08	6.7683E-11	5.3200E-11	6.3303E-11	6.0218E-11	4.5467E-11	5.5643E-11	5.2892E-11	4.4664E-11	4.7822E-11	4.1950E-11
8.0E+08	5.7902E-11	4.5170E-11	5.4247E-11	5.1593E-11	3.8496E-11	4.7731E-11	4.5361E-11	3.7921E-11	4.0970E-11	3.5975E-11
1.0E+09	4.9632E-11	3.8623E-11	4.6561E-11	4.4282E-11	3.2937E-11	4.1001E-11	3.8966E-11	3.2478E-11	3.5187E-11	3.0929E-11
1.5E+09	3.3876E-11	2.6314E-11	3.1856E-11	3.0299E-11	2.2510E-11	2.8094E-11	2.6707E-11	2.2215E-11	2.4124E-11	2.1256E-11
2.0E+09	2.3180E-11	1.7998E-11	2.1833E-11	2.0769E-11	1.5435E-11	1.9273E-11	1.8328E-11	1.5237E-11	1.6567E-11	1.4630E-11
3.0E+09	1.0891E-11	8.4606E-12	1.0279E-11	9.7826E-12	7.2858E-12	9.0856E-12	8.6470E-12	7.1909E-12	7.8298E-12	6.9438E-12
4.0E+09	5.1280E-12	3.9910E-12	4.8479E-12	4.6159E-12	3.4520E-12	4.2892E-12	4.0856E-12	3.4044E-12	3.7069E-12	3.3016E-12
5.0E+09	2.4174E-12	1.8881E-12	2.2893E-12	2.1810E-12	1.6426E-12	2.0273E-12	1.9330E-12	1.6180E-12	1.7578E-12	1.5729E-12
6.0E+09	1.1410E-12	8.9713E-13	1.0828E-12	1.0322E-12	7.8704E-13	9.5972E-13	9.1614E-13	7.7386E-13	8.3530E-13	7.5138E-13
8.0E+09	2.5569E-13	2.0872E-13	2.4450E-13	2.3358E-13	1.8938E-13	2.1691E-13	2.0789E-13	1.8512E-13	1.9113E-13	1.7431E-13
1.0E+10	5.8347E-14	5.4743E-14	5.7158E-14	5.4878E-14	5.3934E-14	5.0421E-14	4.8873E-14	5.2278E-14	4.5883E-14	4.2731E-14
1.5E+10	2.3988E-15	1.0711E-14	3.8432E-15	3.9255E-15	1.3794E-14	2.6504E-15	3.1364E-15	1.3393E-14	3.8128E-15	3.5633E-15
2.0E+10	8.2140E-16	9.4128E-15	2.3182E-15	2.4558E-15	1.2314E-14	1.1716E-15	1.7086E-15	1.2033E-14	2.4514E-15	2.0210E-15
3.0E+10	6.8278E-16	9.2835E-15	2.1773E-15	2.3182E-15	1.2110E-14	1.0022E-15	1.5422E-15	1.1842E-14	2.2801E-15	1.7544E-15
4.0E+10	6.7252E-16	9.2570E-15	2.1639E-15	2.3048E-15	1.2073E-14	9.8850E-16	1.5276E-15	1.1806E-14	2.2635E-15	1.7304E-15
5.0E+10	6.7067E-16	9.2363E-15	2.1590E-15	2.2996E-15	1.2046E-14	9.8604E-16	1.5239E-15	1.1779E-14	2.2582E-15	1.7256E-15
6.0E+10	6.6956E-16	9.2161E-15	2.1548E-15	2.2951E-15	1.2020E-14	9.8455E-16	1.5212E-15	1.1754E-14	2.2538E-15	1.7224E-15
8.0E+10	6.6747E-16	9.1759E-15	2.1466E-15	2.2863E-15	1.1968E-14	9.8176E-16	1.5160E-15	1.1704E-14	2.2454E-15	1.7164E-15
1.0E+11	6.6539E-16	9.1360E-15	2.1384E-15	2.2775E-15	1.1916E-14	9.7899E-16	1.5108E-15	1.1654E-14	2.2370E-15	1.7104E-15
1.5E+11	6.6024E-16	9.0368E-15	2.1182E-15	2.2557E-15	1.1788E-14	9.7210E-16	1.4978E-15	1.1529E-14	2.2161E-15	1.6955E-15
2.0E+11	6.5514E-16	8.9388E-15	2.0982E-15	2.2341E-15	1.1662E-14	9.6528E-16	1.4850E-15	1.1406E-14	2.1954E-15	1.6808E-15
3.0E+11	6.4508E-16	8.7460E-15	2.0587E-15	2.1915E-15	1.1413E-14	9.5180E-16	1.4597E-15	1.1165E-14	2.1547E-15	1.6517E-15
4.0E+11	6.3522E-16	8.5574E-15	2.0201E-15	2.1499E-15	1.1169E-14	9.3856E-16	1.4350E-15	1.0928E-14	2.1149E-15	1.6233E-15
5.0E+11	6.2554E-16	8.3729E-15	1.9823E-15	2.1091E-15	1.0931E-14	9.2555E-16	1.4107E-15	1.0696E-14	2.0758E-15	1.5954E-15
6.0E+11	6.1605E-16	8.1925E-15	1.9452E-15	2.0692E-15	1.0697E-14	9.1276E-16	1.3869E-15	1.0470E-14	2.0375E-15	1.5680E-15
8.0E+11	5.9761E-16	7.8434E-15	1.8734E-15	1.9918E-15	1.0246E-14	8.8783E-16	1.3406E-15	1.0031E-14	1.9633E-15	1.5149E-15
1.0E+12	5.7985E-16	7.5095E-15	1.8046E-15	1.9176E-15	9.8141E-15	8.6374E-16	1.2962E-15	9.6116E-15	1.8921E-15	1.4638E-15
1.5E+12	5.3831E-16	6.7366E-15	1.6444E-15	1.7450E-15	8.8131E-15	8.0700E-16	1.1923E-15	8.6387E-15	1.7262E-15	1.3447E-15
2.0E+12	5.0050E-16	6.0446E-15	1.4999E-15	1.5895E-15	7.9157E-15	7.5487E-16	1.0982E-15	7.7660E-15	1.5765E-15	1.2366E-15
3.0E+12	4.3467E-16	4.8701E-15	1.2519E-15	1.3227E-15	6.3896E-15	6.6276E-16	9.3496E-16	6.2811E-15	1.3187E-15	1.0494E-15
4.0E+12	3.7984E-16	3.9280E-15	1.0496E-15	1.1054E-15	5.1625E-15	5.8454E-16	8.0004E-16	5.0858E-15	1.1079E-15	8.9496E-16
5.0E+12	3.3400E-16	3.1720E-15	8.8426E-16	9.2804E-16	4.1754E-15	5.1786E-16	6.8817E-16	4.1234E-15	9.3496E-16	7.6705E-16
6.0E+12	2.9551E-16	2.5650E-15	7.4875E-16	7.8298E-16	3.3812E-15	4.6078E-16	5.9510E-16	3.3480E-15	7.9283E-16	6.6083E-16
8.0E+12	2.3558E-16	1.6856E-15	5.4579E-16	5.6641E-16	2.2271E-15	3.6946E-16	4.5234E-16	2.2190E-15	5.7889E-16	4.9838E-16
1.0E+13	1.9228E-16	1.1170E-15	4.0742E-16	4.1951E-16	1.4779E-15	3.0107E-16	3.5146E-16	1.4838E-15	4.3198E-16	3.8414E-16

Table 4.1.1 Continued

(a) Beta decay power (MeV/s/fission)

TIME(S)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU239(H)	PU240(F)	PU241(T)	PU241(F)	PU242(F)	CF252(S)
0.0	1.5157E+00	1.3033E+00	4.5290E-01	4.8205E-01	3.2781E-01	5.8330E-01	8.4281E-01	8.1806E-01	8.3213E-01	5.2809E-01
1.0E-01	1.3657E+00	1.1759E+00	4.2728E-01	4.5397E-01	3.1101E-01	5.4631E-01	7.8063E-01	7.5907E-01	7.7175E-01	5.0314E-01
1.5E-01	1.3023E+00	1.1215E+00	4.1563E-01	4.4125E-01	3.0330E-01	5.2975E-01	7.5332E-01	7.3309E-01	7.4529E-01	4.9158E-01
2.0E-01	1.2451E+00	1.0721E+00	4.0465E-01	4.2929E-01	2.9600E-01	5.1431E-01	7.2812E-01	7.0906E-01	7.2091E-01	4.8057E-01
3.0E-01	1.1460E+00	9.8612E-01	3.8448E-01	4.0739E-01	2.8250E-01	4.8629E-01	6.8308E-01	6.6601E-01	6.7739E-01	4.5999E-01
4.0E-01	1.0630E+00	9.1368E-01	3.6635E-01	3.8778E-01	2.7025E-01	4.6151E-01	6.4392E-01	6.2846E-01	6.3963E-01	4.4111E-01
5.0E-01	9.9255E-01	8.5179E-01	3.4995E-01	3.7009E-01	2.5909E-01	4.3939E-01	6.0948E-01	5.9534E-01	6.0644E-01	4.2369E-01
6.0E-01	9.3175E-01	7.9827E-01	3.3502E-01	3.5403E-01	2.4884E-01	4.1948E-01	5.7887E-01	5.6584E-01	5.7698E-01	4.0755E-01
8.0E-01	8.3180E-01	7.1013E-01	3.0881E-01	3.2589E-01	2.3067E-01	3.8498E-01	5.2665E-01	5.1536E-01	5.2671E-01	3.7852E-01
1.0E+00	7.5250E-01	6.4027E-01	2.8649E-01	3.0199E-01	2.1500E-01	3.5600E-01	4.8349E-01	4.7354E-01	4.8514E-01	3.5310E-01
1.5E+00	6.0884E-01	5.1470E-01	2.4262E-01	2.5515E-01	1.8365E-01	2.9993E-01	4.015BE-01	3.9394E-01	4.0590E-01	3.0137E-01
2.0E+00	5.1026E-01	4.2995E-01	2.1015E-01	2.2060E-01	1.6000E-01	2.5898E-01	3.4290E-01	3.3680E-01	3.4866E-01	2.6176E-01
3.0E+00	3.8096E-01	3.2109E-01	1.6490E-01	1.7263E-01	1.2644E-01	2.0247E-01	2.6331E-01	2.5921E-01	2.7006E-01	2.0535E-01
4.0E+00	2.9917E-01	2.5341E-01	1.3473E-01	1.4076E-01	1.0374E-01	1.6499E-01	2.1146E-01	2.0855E-01	2.1810E-01	1.6748E-01
5.0E+00	2.4286E-01	2.0705E-01	1.1320E-01	1.1805E-01	8.7400E-02	1.3826E-01	1.7497E-01	1.7282E-01	1.8116E-01	1.4056E-01
6.0E+00	2.0197E-01	1.7335E-01	9.7113E-02	1.0109E-01	7.5117E-02	1.1826E-01	1.4799E-01	1.4634E-01	1.5362E-01	1.2058E-01
8.0E+00	1.4728E-01	1.2794E-01	7.4854E-02	7.7605E-02	5.7980E-02	9.0524E-02	1.1113E-01	1.1005E-01	1.1567E-01	9.3138E-02
1.0E+01	1.1316E-01	9.9196E-02	6.0335E-02	6.2270E-02	4.6689E-02	7.2408E-02	8.7555E-02	8.6750E-02	9.1190E-02	7.5323E-02
1.5E+01	6.8170E-02	6.0352E-02	3.9815E-02	4.0630E-02	3.0578E-02	4.6934E-02	5.5399E-02	5.4820E-02	5.7554E-02	5.0075E-02
2.0E+01	4.7123E-02	4.1697E-02	2.9275E-02	2.9607E-02	2.2297E-02	3.4036E-02	3.9691E-02	3.9174E-02	4.1060E-02	3.6960E-02
3.0E+01	2.8223E-02	2.4798E-02	1.8915E-02	1.8939E-02	1.4286E-02	2.1600E-02	2.4906E-02	2.4484E-02	2.5572E-02	2.3905E-02
4.0E+01	1.9973E-02	1.7484E-02	1.3964E-02	1.3933E-02	1.0557E-02	1.5776E-02	1.806BE-02	1.7739E-02	1.8453E-02	1.7593E-02
5.0E+01	1.5434E-02	1.3503E-02	1.106BE-02	1.1037E-02	8.4149E-03	1.2414E-02	1.4137E-02	1.3881E-02	1.4382E-02	1.3883E-02
6.0E+01	1.2527E-02	1.0971E-02	9.1382E-03	9.1155E-03	6.9987E-03	1.0191E-02	1.1547E-02	1.1346E-02	1.1711E-02	1.1414E-02
8.0E+01	8.9447E-03	7.8569E-03	6.6759E-03	6.6658E-03	5.1918E-03	7.3794E-03	8.2877E-03	8.1560E-03	8.3679E-03	8.2947E-03
1.0E+02	6.8014E-03	5.9919E-03	5.1614E-03	5.1551E-03	4.0682E-03	5.6644E-03	6.3148E-03	6.2206E-03	6.3582E-03	6.4007E-03
1.5E+02	4.0272E-03	3.5692E-03	3.1571E-03	3.1458E-03	2.5433E-03	3.4157E-03	3.7566E-03	3.7018E-03	3.7700E-03	3.9019E-03
2.0E+02	2.7559E-03	2.4571E-03	2.2230E-03	2.2068E-03	1.8091E-03	2.3796E-03	2.5938E-03	2.5540E-03	2.5978E-03	2.7213E-03
3.0E+02	1.6383E-03	1.4823E-03	1.3912E-03	1.3758E-03	1.1401E-03	1.4698E-03	1.5837E-03	1.5592E-03	1.5785E-03	1.6516E-03
4.0E+02	1.1587E-03	1.0619E-03	1.0242E-03	1.0139E-03	8.4073E-04	1.0746E-03	1.1484E-03	1.1329E-03	1.1391E-03	1.1756E-03
5.0E+02	9.0061E-04	8.3166E-04	8.1845E-04	8.1285E-04	6.7194E-04	8.5506E-04	9.0771E-04	8.9782E-04	8.9702E-04	9.1107E-04
6.0E+02	7.4034E-04	6.8593E-04	6.8501E-04	6.8283E-04	5.6228E-04	7.1343E-04	7.5304E-04	7.4684E-04	7.4233E-04	7.4314E-04
8.0E+02	5.4976E-04	5.0958E-04	5.1749E-04	5.1928E-04	4.2493E-04	5.3669E-04	5.6131E-04	5.5919E-04	5.5206E-04	5.4140E-04
1.0E+03	4.3751E-04	4.0495E-04	4.1350E-04	4.1697E-04	3.4009E-04	4.2772E-04	4.4425E-04	4.4398E-04	4.3680E-04	4.2360E-04
1.5E+03	2.8397E-04	2.6299E-04	2.6680E-04	2.7075E-04	2.2070E-04	2.7522E-04	2.8264E-04	2.8361E-04	2.7858E-04	2.6776E-04
2.0E+03	2.0237E-04	1.8860E-04	1.8881E-04	1.9191E-04	1.5695E-04	1.9474E-04	1.9864E-04	1.9957E-04	1.9651E-04	1.8853E-04
3.0E+03	1.1764E-04	1.1153E-04	1.0884E-04	1.1045E-04	9.1154E-05	1.1244E-04	1.1367E-04	1.1423E-04	1.1329E-04	1.0796E-04
4.0E+03	7.7021E-05	7.4095E-05	7.0731E-05	7.1520E-05	5.9642E-05	7.3124E-05	7.3393E-05	7.3741E-05	7.3623E-05	6.9191E-05
5.0E+03	5.5007E-05	5.3431E-05	5.0091E-05	5.0457E-05	4.2564E-05	5.1720E-05	5.1588E-05	5.1827E-05	5.2017E-05	4.8055E-05
6.0E+03	4.1953E-05	4.0967E-05	3.7875E-05	3.8017E-05	3.2478E-05	3.8984E-05	3.8677E-05	3.8853E-05	3.9152E-05	3.5588E-05
8.0E+03	2.7982E-05	2.7382E-05	2.4887E-05	2.4845E-05	2.1803E-05	2.5375E-05	2.4953E-05	2.5059E-05	2.5392E-05	2.2595E-05
1.0E+04	2.0950E-05	2.0450E-05	1.8446E-05	1.8353E-05	1.6520E-05	1.8616E-05	1.8169E-05	1.8238E-05	1.8550E-05	1.6412E-05
1.5E+04	1.2964E-05	1.2587E-05	1.1301E-05	1.1206E-05	1.0571E-05	1.1187E-05	1.0744E-05	1.0770E-05	1.1029E-05	9.8880E-06
2.0E+04	9.4173E-06	9.1421E-06	8.2015E-06	8.1270E-06	7.8600E-06	8.0371E-06	7.6256E-06	7.6390E-06	7.8595E-06	7.1246E-06
3.0E+04	6.0438E-06	5.8782E-06	5.2922E-06	5.2404E-06	5.1197E-06	5.1553E-06	4.8388E-06	4.8466E-06	5.0135E-06	4.5442E-06
4.0E+04	4.3309E-06	4.2170E-06	3.8330E-06	3.7912E-06	3.6657E-06	3.7398E-06	3.5088E-06	3.5136E-06	3.6442E-06	3.2960E-06
5.0E+04	3.2593E-06	3.1815E-06	2.9258E-06	2.8902E-06	2.7605E-06	2.8641E-06	2.6960E-06	2.6981E-06	2.8025E-06	2.5481E-06
6.0E+04	2.5334E-06	2.4839E-06	2.3098E-06	2.2791E-06	2.1573E-06	2.2685E-06	2.1445E-06	2.1446E-06	2.2298E-06	2.0491E-06
8.0E+04	1.6546E-06	1.6422E-06	1.5536E-06	1.5305E-06	1.4383E-06	1.5334E-06	1.4614E-06	1.4594E-06	1.5191E-06	1.4353E-06
1.0E+05	1.1753E-06	1.1817E-06	1.1295E-06	1.1121E-06	1.0473E-06	1.1179E-06	1.0723E-06	1.0697E-06	1.1137E-06	1.0832E-06
1.5E+05	6.2905E-07	6.4763E-07	6.2573E-07	6.1680E-07	5.9033E-07	6.2020E-07	6.0130E-07	5.9885E-07	6.2170E-07	6.4487E-07
2.0E+05	4.0409E-07	4.2037E-07	4.0844E-07	4.0319E-07	3.9071E-07	4.0424E-07	3.9506E-07	3.9274E-07	4.0529E-07	4.3976E-07
3.0E+05	2.2437E-07	2.3216E-07	2.2820E-07	2.2534E-07	2.1890E-07	2.2461E-07	2.2237E-07	2.1987E-07	2.2379E-07	2.4975E-07
4.0E+05	1.5545E-07	1.5808E-07	1.5691E-07	1.5473E-07	1.4891E-07	1.5351E-07	1.5354E-07	1.5085E-07	1.5196E-07	1.6747E-07
5.0E+05	1.2008E-07	1.2016E-07	1.2005E-07	1.1822E-07	1.1287E-07	1.1687E-07	1.1790E-07	1.1517E-07	1.1530E-07	1.2516E-07
6.0E+05	9.8287E-08	9.7078E-08	9.7401E-08	9.5817E-08	9.1064E-08	9.4514E-08	9.6055E-08	9.3372E-08	9.3148E-08	1.0048E-07
8.0E+05	7.2182E-08	6.9846E-08	7.0515E-08	6.9262E-08	6.5557E-08	6.8203E-08	7.0207E-08	6.7719E-08	6.7320E-08	7.3363E-08
1.0E+06	5.6822E-08	5.4049E-08	5.4864E-08	5.3832E-08	5.0786E-08	5.3026E-08	5.5165E-08	5.2898E-08	5.2487E-08	5.8501E-08
1.5E+06	3.6736E-08	3.3795E-08	3.4649E-08	3.3948E-08	3.1589E-08	3.3534E-08	3.5497E-08	3.3732E-08	3.3356E-08	3.8904E-08
2.0E+06	2.6906E-08	2.4255E-08	2.4949E-08	2.4437E-08	2.2373E-08	2.4188E-08	2.5779E-08	2.4423E-08	2.4084E-08	2.8455E-08
3.0E+06	1.6974E-08	1.5079E-08	1.5414E-08	1.5116E-08	1.3545E-08	1.4998E-08	1.5950E-08	1.5167E-08	1.4902E-08	1.7200E-08
4.0E+06	1.1955E-08	1.0632E-08	1.0739E-08	1.0556E-08	9.3969E-09	1.0507E-08	1.1083E-08	1.0630E-08	1.0424E-08	1.1598E-08
5.0E+06	9.0634E-09	8.1090E-09	8.1061E-09	7.9863E-09	7.1164E-09	7.9887E-09	8.3695E-09	8.0975E-09	7.9285E-09	8.5712E-09
6.0E+06	7.2687E-09	6.5445E-09	6.5057E-09	6.4215E-09	5.7380E-09	6.4650E-09	6.7517E-09	6.5765E-09	6.4289E-09	6.8387E-09
8.0E+06	5.2436E-09	4.7585E-09	4.7496E-09	4.6985E-09	4.2036E-09	4.8015E-09	5.0345E-09	4.9372E-09	4.8056E-09	5.1118E-09
1.0E+07	4.1353E-09	3.7595E-09	3.8195E-09	3.7819E-09	3.3640E-09	3.9231E-09	4.1613E-09	4.0853E-09	3.9558E-09	4.3062E-09
1.5E+07	2.6980E-09	2.4377E-09	2.6351E-09	2.6116E-09	2.2683E-09	2.7951E-09	3.0623E-09	2.9968E-09	2.8664E-09	3.3549E-09
2.0E+07	1.9804E-09	1.7743E-09	2.0318E-09	2.0156E-09	1.7159E-09	2.2036E-09	2.4732E-09	2.4138E-09	2.2877E-09	2.8272E-09
3.0E+07	1.2897E-09	1.1436E-09	1.4078E-09	1.3990E-09	1.1653E-09	1.5620E-09	1.7980E-09	1.7512E-09	1.6424E-09	2.1424E-09
4.0E+07	9.4796E-10	8.3902E-10	1.0645E-09	1.0591E-09	8.7578E-10	1.1904E-09	1.3834E-09	1.3469E-09	1.2571E-09	1.6672E-09
5.0E+07	7.2863E-10	6.4661E-10	8.2968E-10	8.2614E-10	6.8281E-10	9.2997E-10	1.0849E-09	1.0562E-09	9.8332E-10	1.3077E-09
6.0E+07	5.7014E-10	5.0838E-10	6.5452E-10	6.5213E-10	5.4074E-10	7.3379E-10	8.5741E-10	8.3485E-10	7.7596E-10	1.0295E-09
8.0E+07	3.5841E-10	3.2364E-10	4.1482E-10	4.1366E-10	3.4766E-10	4.6400E-10	5.4229E-10	5.2819E-10	4.9007E-10	6.4325E-10
1.0E+08	2.3221E-10	2.1285E-10	2.6844E-10	2.6781E-10	2.2972E-10	2.9878E-10	3.4816E-10	3.3921E-10	3.1476E-10	4.0637E-10
1.5E+08	9.3723E-11	8.9416E-11	1.0251E-10	1.0208E-10	9.4237E-11	1.1101E-10	1.2606E-10	1.2287E-10	1.1534E-10	1.3788E-10
2.0E+08	5.2375E-11	5.1266E-11	5.0836E-11	5.0288E-11	5.0332E-11	5.2428E-11	5.6287E-11	5.4838E-11	5.3095E-11	5.4680E-11
3.0E+08	3.3562E-11	3.2709E-11	2.7356E-11	2.6701E-11	2.8377E-11	2.6034E-11	2.5073E-11	2.4347E-11	2.5161E-11	1.8065E-11
4.0E+08	2.9199E-11	2.7990E-11	2.2902E-11	2.2255E-11	2.3247E-11	2.1334E-11	1.9952E-11	1.9327E-11	2.0334E-11	1.2489E-11
5.0E+08	2.6640E-11	2.5288E-11	2.0769E-11	2.0152E-11	2.0678E-11	1.9256E-11	1.7933E-11	1.7348E-11	1.8294E-11	1.0695E-11
6.0E+08	2.4537E-11	2.3168E-11	1.9107E-11	1.8527E-11	1.8810E-11	1.7688E-11	1.6467E-11	1.5917E-11	1.6786E-11	9.6134E-12
8.0E+08	2.0971E-11	1.9710E-11	1.6329E-11	1.5822E-11	1.5913E-11	1.5099E-11	1.4068E-11	1.3586E-11	1.4322E-11	8.0715E-12
1.0E+09	1.7980E-11	1.6869E-11	1.4008E-11	1.3568E-11	1.3596E-11	1.2949E-11	1.2076E-11	1.1657E-11	1.2283E-11	6.8916E-12
1.5E+09	1.2279E-11	1.1500E-11	9.5868E-12	9.2835E-12	9.2630E-12	8.8639E-12	8.2833E-12	7.9928E-12	8.4153E-12	4.7248E-12
2.0E+09	8.3996E-12	7.8593E-12	6.5748E-12	6.3664E-12	6.3376E-12	6.0819E-12	5.6938E-12	5.4934E-12	5.7795E-12	3.2607E-12
3.0E+09	3.9404E-12	3.6843E-12	3.1016E-12	3.0035E-12	2.9838E-12	2.8726E-12	2.6981E-12	2.6029E-12	2.7346E-12	1.5641E-12
4.0E+09	1.8530E-12	1.7335E-12	1.4675E-12	1.4214E-12	1.4132E-12	1.3613E-12	1.2827E-12	1.2376E-12	1.2985E-12	7.5682E-13
5.0E+09	8.7397E-13	8.1941E-13	6.9690E-13	6.7527E-13	6.7415E-13	6.4780E-13	6.1254E-13	5.9109E-13	6.1958E-13	3.7064E-13
6.0E+09	4.1403E-13	3.9018E-13	3.3278E-13	3.2267E-13	3.2509E-13	3.1023E-13	2.9447E-13	2.8430E-13	2.9782E-13	1.8480E-13
8.0E+09	9.5355E-14	9.2653E-14	7.8402E-14	7.6249E-14	8.0407E-14	7.3841E-14	7.0732E-14	6.8481E-14	7.1778E-14	5.0286E-14
1.0E+10	2.3786E-14	2.5574E-14	2.0429E-14	2.0022E-14	2.3708E-14	1.9649E-14	1.8981E-14	1.8535E-14	1.9509E-14	1.6646E-14
1.5E+10	2.1770E-15	4.9574E-15	2.4255E-15	2.4802E-15	5.0542E-15	2.4998E-15	2.2511E-15	2.3508E-15	2.4701E-15	2.8444E-15
2.0E+10	1.0286E-15	3.7727E-15	1.3706E-15	1.4291E-15	3.7819E-15	1.4030E-15	1.0904E-15	1.2186E-15	1.2285E-15	9.9729E-16
3.0E+10	7.4823E-16	3.4759E-15	1.1001E-15	1.1564E-15	3.4751E-15	1.1085E-15	7.6643E-16	9.0203E-16	8.7385E-16	3.6526E-16
4.0E+10	7.2399E-16	3.4454E-15	1.0759E-15	1.1319E-15	3.4457E-15	1.0821E-15	7.3817E-16	8.7410E-16	8.4268E-16	3.1023E-16
5.0E+10	7.2113E-16	3.4364E-15	1.0723E-15	1.1282E-15	3.4367E-15	1.0783E-15	7.3493E-16	8.7054E-16	8.3889E-16	3.0494E-16
6.0E+10	7.2014E-16	3.4294E-15	1.0705E-15	1.1263E-15	3.4295E-15	1.0765E-15	7.3386E-16	8.6911E-16	8.3748E-16	3.0402E-16
8.0E+10	7.1849E-16	3.4156E-15	1.0673E-15	1.1228E-15	3.4155E-15	1.0733E-15	7.3213E-16	8.6662E-16	8.3511E-16	3.0304E-16
1.0E+11	7.1687E-16	3.4020E-15	1.0641E-15	1.1193E-15	3.4015E-15	1.0700E-15	7.3043E-16	8.6417E-16	8.3277E-16	3.0219E-16
1.5E+11	7.1283E-16	3.3681E-15	1.0563E-15	1.1107E-15	3.3669E-15	1.0620E-15	7.2618E-16	8.5807E-16	8.2695E-16	3.0027E-16
2.0E+11	7.0882E-16	3.3346E-15	1.0484E-15	1.1022E-15	3.3327E-15	1.0540E-15	7.2197E-16	8.5203E-16	8.2118E-16	2.9851E-16
3.0E+11	7.0089E-16	3.2687E-15	1.0330E-15	1.0854E-15	3.2653E-15	1.0382E-15	7.1363E-16	8.4009E-16	8.0979E-16	2.9516E-16
4.0E+11	6.9306E-16	3.2041E-15	1.0179E-15	1.0689E-15	3.1993E-15	1.0227E-15	7.0541E-16	8.2836E-16	7.9860E-16	2.9191E-16
5.0E+11	6.8535E-16	3.1409E-15	1.0030E-15	1.0527E-15	3.1348E-15	1.0076E-15	6.9731E-16	8.1684E-16	7.8760E-16	2.8871E-16
6.0E+11	6.7774E-16	3.0790E-15	9.8835E-16	1.0368E-15	3.0716E-15	9.9264E-16	6.8932E-16	8.0551E-16	7.7678E-16	2.8556E-16
8.0E+11	6.6283E-16	2.9591E-15	9.5989E-16	1.0058E-15	2.9492E-15	9.6359E-16	6.7368E-16	7.8342E-16	7.5570E-16	2.7937E-16
1.0E+12	6.4834E-16	2.8441E-15	9.3241E-16	9.7597E-16	2.8319E-15	9.3558E-16	6.5847E-16	7.6208E-16	7.3532E-16	2.7336E-16
1.5E+12	6.1379E-16	2.5771E-15	8.6784E-16	9.0594E-16	2.5597E-15	8.6978E-16	6.2227E-16	7.1180E-16	6.8729E-16	2.5900E-16
2.0E+12	5.8151E-16	2.3368E-15	8.086BE-16	8.4194E-16	2.3150E-15	8.0956E-16	5.8849E-16	6.6559E-16	6.4311E-16	2.4557E-16
3.0E+12	5.2307E-16	1.9256E-15	7.0466E-16	7.2982E-16	1.8971E-15	7.0384E-16	5.2749E-16	5.8392E-16	5.6498E-16	2.2121E-16
4.0E+12	4.7182E-16	1.5919E-15	6.1689E-16	6.3568E-16	1.5589E-15	6.1483E-16	4.7413E-16	5.1453E-16	4.9851E-16	1.9980E-16
5.0E+12	4.2673E-16	1.3206E-15	5.4255E-16	5.5635E-16	1.2848E-15	5.3960E-16	4.2734E-16	4.5535E-16	4.4176E-16	1.8092E-16
6.0E+12	3.8695E-16	1.0997E-15	4.7934E-16	4.8925E-16	1.0625E-15	4.7579E-16	3.8618E-16	4.0468E-16	3.9312E-16	1.6424E-16
8.0E+12	3.2057E-16	7.7243E-16	3.7919E-16	3.8370E-16	7.3507E-16	3.7500E-16	3.1779E-16	3.2360E-16	3.1513E-16	1.3635E-16
1.0E+13	2.6817E-16	5.5302E-16	3.0517E-16	3.0646E-16	5.1773E-16	3.0082E-16	2.6410E-16	2.6286E-16	2.5657E-16	1.1429E-16

(b) Gamma decay power (MeV/s/fission)

TIME(S)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU239(H)	PU240(F)	PU241(T)	PU241(F)	PU242(F)	CF252(S)
0.0	1.1292E+00	1.0066E+00	3.6287E-01	3.8542E-01	3.2159E-01	4.4981E-01	6.3434E-01	6.1465E-01	6.1924E-01	3.7996E-01
1.0E-01	1.0159E+00	9.0750E-01	3.4051E-01	3.6116E-01	2.9771E-01	4.1997E-01	5.8612E-01	5.6927E-01	5.7287E-01	3.6158E-01
1.5E-01	9.6818E-01	8.6521E-01	3.3042E-01	3.5024E-01	2.8715E-01	4.0663E-01	5.6501E-01	5.4933E-01	5.5257E-01	3.5313E-01
2.0E-01	9.2521E-01	8.2688E-01	3.2095E-01	3.4001E-01	2.7740E-01	3.9420E-01	5.4556E-01	5.3091E-01	5.3387E-01	3.4510E-01
3.0E-01	8.5089E-01	7.6005E-01	3.0368E-01	3.2138E-01	2.5996E-01	3.7169E-01	5.1088E-01	4.9797E-01	5.0053E-01	3.3018E-01
4.0E-01	7.8876E-01	7.0376E-01	2.8830E-01	3.0482E-01	2.4487E-01	3.5183E-01	4.8082E-01	4.6930E-01	4.7163E-01	3.1657E-01
5.0E-01	7.3594E-01	6.5566E-01	2.7451E-01	2.9000E-01	2.3168E-01	3.3415E-01	4.5444E-01	4.4406E-01	4.4628E-01	3.0409E-01
6.0E-01	6.9037E-01	6.1404E-01	2.6206E-01	2.7663E-01	2.2008E-01	3.1828E-01	4.3106E-01	4.2162E-01	4.2380E-01	2.9258E-01
8.0E-01	6.1538E-01	5.4545E-01	2.4041E-01	2.5344E-01	2.0056E-01	2.9090E-01	3.9131E-01	3.8332E-01	3.8556E-01	2.7202E-01
1.0E+00	5.5580E-01	4.9103E-01	2.2220E-01	2.3396E-01	1.8473E-01	2.6804E-01	3.5860E-01	3.5168E-01	3.5408E-01	2.5412E-01
1.5E+00	4.4789E-01	3.9316E-01	1.8698E-01	1.9635E-01	1.5534E-01	2.2426E-01	2.9698E-01	2.9182E-01	2.9462E-01	2.1800E-01
2.0E+00	3.7413E-01	3.2717E-01	1.6136E-01	1.6907E-01	1.3455E-01	1.9274E-01	2.5330E-01	2.4923E-01	2.5224E-01	1.9052E-01
3.0E+00	2.7830E-01	2.4284E-01	1.2626E-01	1.3185E-01	1.0616E-01	1.5001E-01	1.9488E-01	1.9205E-01	1.9509E-01	1.5153E-01
4.0E+00	2.1860E-01	1.9099E-01	1.0328E-01	1.0759E-01	8.7340E-02	1.2228E-01	1.5738E-01	1.5524E-01	1.5806E-01	1.2533E-01
5.0E+00	1.7811E-01	1.5592E-01	8.7118E-02	9.0554E-02	7.3927E-02	1.0285E-01	1.3127E-01	1.2954E-01	1.3211E-01	1.0662E-01
6.0E+00	1.4906E-01	1.3073E-01	7.5184E-02	7.7988E-02	6.3915E-02	8.8514E-02	1.1209E-01	1.1063E-01	1.1297E-01	9.2641E-02
8.0E+00	1.1067E-01	9.7283E-02	5.8846E-02	6.0784E-02	5.0034E-02	6.8892E-02	8.5947E-02	8.4808E-02	8.6789E-02	7.3221E-02
1.0E+01	8.6905E-02	7.6431E-02	4.8269E-02	4.9646E-02	4.0920E-02	5.6202E-02	6.9180E-02	6.8219E-02	6.9929E-02	6.0414E-02
1.5E+01	5.5488E-02	4.8588E-02	3.3301E-02	3.3924E-02	2.7846E-02	3.8352E-02	4.6024E-02	4.5269E-02	4.6553E-02	4.1868E-02
2.0E+01	4.0456E-02	3.5174E-02	2.5463E-02	2.5762E-02	2.0968E-02	2.9125E-02	3.4409E-02	3.3751E-02	3.4783E-02	3.1965E-02
3.0E+01	2.6262E-02	2.2571E-02	1.7408E-02	1.7491E-02	1.3994E-02	1.9771E-02	2.2991E-02	2.2465E-02	2.3186E-02	2.1731E-02
4.0E+01	1.9566E-02	1.6719E-02	1.3307E-02	1.3340E-02	1.0542E-02	1.5046E-02	1.7359E-02	1.6935E-02	1.7458E-02	1.6484E-02
5.0E+01	1.5639E-02	1.3334E-02	1.0793E-02	1.0811E-02	8.4868E-03	1.2147E-02	1.3935E-02	1.3591E-02	1.3975E-02	1.3224E-02
6.0E+01	1.3005E-02	1.1082E-02	9.0631E-03	9.0738E-03	7.1056E-03	1.0145E-02	1.1579E-02	1.1296E-02	1.1584E-02	1.0957E-02
8.0E+01	9.6120E-03	8.1957E-03	6.7845E-03	6.7837E-03	5.3257E-03	7.5074E-03	8.4857E-03	8.2865E-03	8.4577E-03	7.9679E-03
1.0E+02	7.4907E-03	6.3941E-03	5.3338E-03	5.3227E-03	4.2060E-03	5.8351E-03	6.5379E-03	6.3901E-03	6.5024E-03	6.0887E-03
1.5E+02	4.5913E-03	3.9323E-03	3.3280E-03	3.3007E-03	2.6546E-03	3.5521E-03	3.9121E-03	3.8286E-03	3.8839E-03	3.5698E-03
2.0E+02	3.1722E-03	2.7344E-03	2.3488E-03	2.3179E-03	1.8913E-03	2.4608E-03	2.6768E-03	2.6225E-03	2.6550E-03	2.3983E-03
3.0E+02	1.8688E-03	1.6471E-03	1.4603E-03	1.4374E-03	1.1948E-03	1.4958E-03	1.5976E-03	1.5710E-03	1.5780E-03	1.3922E-03
4.0E+02	1.3050E-03	1.1780E-03	1.0744E-03	1.0619E-03	8.8905E-04	1.0891E-03	1.1468E-03	1.1330E-03	1.1268E-03	9.7784E-04
5.0E+02	1.0074E-03	9.2610E-04	8.6433E-04	8.5952E-04	7.1964E-04	8.7216E-04	9.0812E-04	9.0090E-04	8.8835E-04	7.5934E-04
6.0E+02	8.2728E-04	7.6941E-04	7.3121E-04	7.3162E-04	6.1035E-04	7.3664E-04	7.6044E-04	7.5688E-04	7.4150E-04	6.2510E-04
8.0E+02	6.1979E-04	5.8246E-04	5.6729E-04	5.7314E-04	4.7315E-04	5.7171E-04	5.8373E-04	5.8354E-04	5.6714E-04	4.6772E-04
1.0E+03	5.0137E-04	4.7224E-04	4.6626E-04	4.7405E-04	3.8737E-04	4.7083E-04	4.7798E-04	4.7901E-04	4.6379E-04	3.7701E-04
1.5E+03	3.4173E-04	3.2168E-04	3.2139E-04	3.2889E-04	2.6369E-04	3.2631E-04	3.2959E-04	3.3114E-04	3.2012E-04	2.5555E-04
2.0E+03	2.5569E-04	2.4112E-04	2.4103E-04	2.4675E-04	1.9531E-04	2.4579E-04	2.4792E-04	2.4924E-04	2.4152E-04	1.9067E-04
3.0E+03	1.6274E-04	1.5461E-04	1.5342E-04	1.5632E-04	1.2162E-04	1.5739E-04	1.5848E-04	1.5924E-04	1.5543E-04	1.1939E-04
4.0E+03	1.1487E-04	1.0966E-04	1.0770E-04	1.0904E-04	8.3948E-05	1.1083E-04	1.1146E-04	1.1187E-04	1.0994E-04	8.1635E-05
5.0E+03	8.6643E-05	8.2784E-05	8.0511E-05	8.1008E-05	6.2107E-05	8.2929E-05	8.3362E-05	8.3567E-05	8.2585E-05	5.9293E-05
6.0E+03	6.8368E-05	6.5211E-05	6.2888E-05	6.2943E-05	4.8340E-05	6.4743E-05	6.5085E-05	6.5183E-05	6.4691E-05	4.5119E-05
8.0E+03	4.6384E-05	4.3981E-05	4.1905E-05	4.1621E-05	3.2543E-05	4.2983E-05	4.3218E-05	4.3230E-05	4.3133E-05	2.8957E-05
1.0E+04	3.3729E-05	3.1841E-05	3.0130E-05	2.9784E-05	2.4020E-05	3.0739E-05	3.0862E-05	3.0851E-05	3.0864E-05	2.0425E-05
1.5E+04	1.7921E-05	1.6978E-05	1.5986E-05	1.5723E-05	1.3949E-05	1.6057E-05	1.5925E-05	1.5918E-05	1.5947E-05	1.0713E-05
2.0E+04	1.1174E-05	1.0740E-05	1.0146E-05	9.9697E-06	9.5585E-06	1.0047E-05	9.7970E-06	9.8104E-06	9.8133E-06	6.7328E-06
3.0E+04	6.0786E-06	5.9415E-06	5.7098E-06	5.6090E-06	5.6716E-06	5.5697E-06	5.3234E-06	5.3580E-06	5.3425E-06	3.6157E-06
4.0E+04	4.2041E-06	4.1011E-06	4.0223E-06	3.9462E-06	3.9216E-06	3.9098E-06	3.7250E-06	3.7584E-06	3.7461E-06	2.4460E-06
5.0E+04	3.2094E-06	3.1143E-06	3.1080E-06	3.0448E-06	2.9455E-06	3.0181E-06	2.8772E-06	2.9037E-06	2.8974E-06	1.8514E-06
6.0E+04	2.5742E-06	2.4900E-06	2.5171E-06	2.4633E-06	2.3368E-06	2.4412E-06	2.3276E-06	2.3477E-06	2.3463E-06	1.4873E-06
8.0E+04	1.8052E-06	1.7471E-06	1.7923E-06	1.7524E-06	1.6359E-06	1.7311E-06	1.6469E-06	1.6591E-06	1.6632E-06	1.0590E-06
1.0E+05	1.3628E-06	1.3255E-06	1.3694E-06	1.3390E-06	1.2495E-06	1.3158E-06	1.2475E-06	1.2564E-06	1.2617E-06	8.1622E-07
1.5E+05	8.1418E-07	8.0134E-07	8.3661E-07	8.1896E-07	7.7064E-07	7.9410E-07	7.4900E-07	7.5537E-07	7.5771E-07	5.1476E-07
2.0E+05	5.7091E-07	5.6337E-07	5.9391E-07	5.8167E-07	5.4735E-07	5.5859E-07	5.2771E-07	5.3284E-07	5.3164E-07	3.7578E-07
3.0E+05	3.6071E-07	3.5158E-07	3.7597E-07	3.6806E-07	3.4107E-07	3.4980E-07	3.3501E-07	3.3735E-07	3.3263E-07	2.4656E-07
4.0E+05	2.6906E-07	2.5753E-07	2.7766E-07	2.7164E-07	2.4728E-07	2.5706E-07	2.5054E-07	2.5038E-07	2.4472E-07	1.8725E-07
5.0E+05	2.1656E-07	2.0385E-07	2.2107E-07	2.1616E-07	1.9417E-07	2.0427E-07	2.0249E-07	2.0046E-07	1.9476E-07	1.5373E-07
6.0E+05	1.8116E-07	1.6809E-07	1.8328E-07	1.7913E-07	1.5956E-07	1.6926E-07	1.7037E-07	1.6706E-07	1.6163E-07	1.3185E-07
8.0E+05	1.3455E-07	1.2191E-07	1.3445E-07	1.3129E-07	1.1615E-07	1.2421E-07	1.2830E-07	1.2362E-07	1.1892E-07	1.0368E-07
1.0E+06	1.0483E-07	9.3141E-08	1.0393E-07	1.0140E-07	8.9623E-08	9.6108E-08	1.0132E-07	9.6210E-08	9.2166E-08	8.5306E-08
1.5E+06	6.4505E-08	5.5300E-08	6.3264E-08	6.1602E-08	5.4365E-08	5.8618E-08	6.3816E-08	5.9152E-08	5.6308E-08	5.7499E-08
2.0E+06	4.5131E-08	3.7974E-08	4.4067E-08	4.2854E-08	3.7542E-08	4.0883E-08	4.5003E-08	4.1309E-08	3.9240E-08	4.1482E-08
3.0E+06	2.6373E-08	2.2056E-08	2.5764E-08	2.5023E-08	2.1501E-08	2.3924E-08	2.6072E-08	2.3980E-08	2.2835E-08	2.3511E-08
4.0E+06	1.7250E-08	1.4600E-08	1.6941E-08	1.6441E-08	1.3907E-08	1.5727E-08	1.6704E-08	1.5545E-08	1.4893E-08	1.4184E-08
5.0E+06	1.2206E-08	1.0522E-08	1.2061E-08	1.1696E-08	9.7853E-09	1.1188E-08	1.1540E-08	1.0886E-08	1.0506E-08	9.0528E-09
6.0E+06	9.2401E-09	8.1203E-09	9.1764E-09	8.8908E-09	7.3875E-09	8.5023E-09	8.5366E-09	8.1524E-09	7.9258E-09	6.1370E-09
8.0E+06	6.1402E-09	5.5714E-09	6.1300E-09	5.9297E-09	4.9035E-09	5.6668E-09	5.4842E-09	5.3211E-09	5.2340E-09	3.3638E-09
1.0E+07	4.5561E-09	4.2204E-09	4.5527E-09	4.3987E-09	3.6445E-09	4.2028E-09	4.0045E-09	3.9075E-09	3.8704E-09	2.2103E-09
1.5E+07	2.4769E-09	2.3580E-09	2.4763E-09	2.3901E-09	2.0088E-09	2.2889E-09	2.1793E-09	2.1245E-09	2.1161E-09	1.1027E-09
2.0E+07	1.3936E-09	1.3515E-09	1.4042E-09	1.3566E-09	1.1650E-09	1.3075E-09	1.2627E-09	1.2276E-09	1.2199E-09	6.5817E-10
3.0E+07	4.7182E-10	4.7755E-10	4.9762E-10	4.8428E-10	4.4705E-10	4.7912E-10	4.8575E-10	4.7201E-10	4.5968E-10	3.1376E-10
4.0E+07	1.9411E-10	2.0968E-10	2.2229E-10	2.1906E-10	2.2529E-10	2.2505E-10	2.4262E-10	2.3659E-10	2.2356E-10	1.9989E-10
5.0E+07	1.0600E-10	1.2321E-10	1.3161E-10	1.3117E-10	1.4936E-10	1.3879E-10	1.5649E-10	1.5314E-10	1.4146E-10	1.4891E-10
6.0E+07	7.3893E-11	9.0714E-11	9.5924E-11	9.6165E-11	1.1720E-10	1.0298E-10	1.1833E-10	1.1604E-10	1.0612E-10	1.1880E-10
8.0E+07	5.0575E-11	6.5349E-11	6.6344E-11	6.6612E-11	8.6887E-11	7.1021E-11	8.1548E-11	8.0077E-11	7.3180E-11	8.1638E-11
1.0E+08	4.0067E-11	5.2593E-11	5.1470E-11	5.1546E-11	6.9353E-11	5.4209E-11	6.1380E-11	6.0267E-11	5.5447E-11	5.9018E-11
1.5E+08	2.8018E-11	3.5651E-11	3.3790E-11	3.3527E-11	4.4718E-11	3.4156E-11	3.7296E-11	3.6504E-11	3.4297E-11	3.1872E-11
2.0E+08	2.3579E-11	2.7657E-11	2.7232E-11	2.6795E-11	3.2608E-11	2.6831E-11	2.8683E-11	2.7925E-11	2.6663E-11	2.2427E-11
3.0E+08	2.0365E-11	2.0393E-11	2.2771E-11	2.2199E-11	2.1559E-11	2.2073E-11	2.3403E-11	2.2589E-11	2.1841E-11	1.7092E-11
4.0E+08	1.8689E-11	1.6985E-11	2.0739E-11	2.0137E-11	1.6707E-11	2.0050E-11	2.1312E-11	2.0477E-11	1.9852E-11	1.5325E-11
5.0E+08	1.7311E-11	1.4941E-11	1.9162E-11	1.8571E-11	1.4095E-11	1.8513E-11	1.9722E-11	1.8904E-11	1.8340E-11	1.4095E-11
6.0E+08	1.6068E-11	1.3509E-11	1.7767E-11	1.7202E-11	1.2462E-11	1.7160E-11	1.8303E-11	1.7522E-11	1.7003E-11	1.3033E-11
8.0E+08	1.3871E-11	1.1436E-11	1.5326E-11	1.4827E-11	1.0368E-11	1.4797E-11	1.5797E-11	1.5107E-11	1.4660E-11	1.1200E-11
1.0E+09	1.1985E-11	9.8353E-12	1.3240E-11	1.2805E-11	8.8781E-12	1.2781E-11	1.3648E-11	1.3047E-11	1.2660E-11	9.6562E-12
1.5E+09	8.3257E-12	6.8241E-12	9.1970E-12	8.8934E-12	6.1511E-12	8.8766E-12	9.4794E-12	9.0608E-12	8.7911E-12	6.6960E-12
2.0E+09	5.7851E-12	4.7439E-12	6.3908E-12	6.1798E-12	4.2761E-12	6.1681E-12	6.5867E-12	6.2958E-12	6.1083E-12	4.6514E-12
3.0E+09	2.7935E-12	2.2949E-12	3.0865E-12	2.9847E-12	2.0693E-12	2.9790E-12	3.1805E-12	3.0404E-12	2.9498E-12	2.2459E-12
4.0E+09	1.3490E-12	1.1124E-12	1.4910E-12	1.4420E-12	1.0038E-12	1.4391E-12	1.5359E-12	1.4686E-12	1.4248E-12	1.0845E-12
5.0E+09	6.5154E-13	5.4149E-13	7.2065E-13	6.9708E-13	4.8932E-13	6.9563E-13	7.4184E-13	7.0960E-13	6.8844E-13	5.2376E-13
6.0E+09	3.1477E-13	2.6579E-13	3.4867E-13	3.3740E-13	2.4086E-13	3.3663E-13	3.5840E-13	3.4313E-13	3.3289E-13	2.5299E-13
8.0E+09	7.3636E-14	6.8373E-14	8.2336E-14	7.9862E-14	6.2919E-14	7.9576E-14	8.3858E-14	8.0740E-14	7.8305E-14	5.9111E-14
1.0E+10	1.7416E-14	2.2337E-14	2.0238E-14	1.9817E-14	2.1406E-14	1.9643E-14	1.9848E-14	1.9562E-14	1.8948E-14	1.3906E-14
1.5E+10	7.7060E-16	8.6947E-15	1.8516E-15	2.0376E-15	9.0874E-15	1.8973E-15	8.9661E-16	1.4476E-15	1.3733E-15	5.1846E-16
2.0E+10	3.3314E-16	8.3266E-15	1.3672E-15	1.5689E-15	8.7504E-15	1.4296E-15	3.9851E-16	9.7077E-16	9.1072E-16	1.6386E-16
3.0E+10	3.2058E-16	8.2985E-15	1.3511E-15	1.5526E-15	8.7212E-15	1.4139E-15	3.8416E-16	9.5574E-16	8.9618E-16	1.4955E-16
4.0E+10	3.1986E-16	8.2802E-15	1.3481E-15	1.5491E-15	8.7017E-15	1.4107E-15	3.8330E-16	9.5361E-16	8.9419E-16	1.4568E-16
5.0E+10	3.1915E-16	8.2621E-15	1.3452E-15	1.5456E-15	8.6824E-15	1.4076E-15	3.8246E-16	9.5151E-16	8.9222E-16	1.4244E-16
6.0E+10	3.1845E-16	8.2439E-15	1.3422E-15	1.5421E-15	8.6631E-15	1.4045E-15	3.8162E-16	9.4942E-16	8.9026E-16	1.3970E-16
8.0E+10	3.1706E-16	8.2078E-15	1.3363E-15	1.5352E-15	8.6249E-15	1.3983E-15	3.7994E-16	9.4524E-16	8.8635E-16	1.3538E-16
1.0E+11	3.1566E-16	8.1718E-15	1.3304E-15	1.5284E-15	8.5868E-15	1.3922E-15	3.7827E-16	9.4109E-16	8.8245E-16	1.3223E-16
1.5E+11	3.1222E-16	8.0824E-15	1.3159E-15	1.5116E-15	8.4927E-15	1.3769E-15	3.7414E-16	9.3080E-16	8.7280E-16	1.2732E-16
2.0E+11	3.0880E-16	7.9941E-15	1.3015E-15	1.4951E-15	8.3998E-15	1.3619E-15	3.7005E-16	9.2062E-16	8.6326E-16	1.2454E-16
3.0E+11	3.0209E-16	7.8203E-15	1.2732E-15	1.4625E-15	8.2171E-15	1.3322E-15	3.6201E-16	9.0061E-16	8.4449E-16	1.2106E-16
4.0E+11	2.9552E-16	7.6503E-15	1.2455E-15	1.4307E-15	8.0384E-15	1.3033E-15	3.5414E-16	8.8103E-16	8.2613E-16	1.1830E-16
5.0E+11	2.8910E-16	7.4840E-15	1.2184E-15	1.3996E-15	7.8636E-15	1.2749E-15	3.4644E-16	8.6188E-16	8.0817E-16	1.1571E-16
6.0E+11	2.8282E-16	7.3213E-15	1.1919E-15	1.3692E-15	7.6927E-15	1.2472E-15	3.3891E-16	8.4314E-16	7.9060E-16	1.1319E-16
8.0E+11	2.7065E-16	7.0064E-15	1.1406E-15	1.3103E-15	7.3618E-15	1.1936E-15	3.2433E-16	8.0688E-16	7.5660E-16	1.0832E-16
1.0E+12	2.5902E-16	6.7051E-15	1.0916E-15	1.2539E-15	7.0451E-15	1.1423E-15	3.1038E-16	7.7218E-16	7.2406E-16	1.0366E-16
1.5E+12	2.3206E-16	6.0073E-15	9.7796E-16	1.1234E-15	6.3119E-15	1.0234E-15	2.7808E-16	6.9182E-16	6.4871E-16	9.2874E-17
2.0E+12	2.0791E-16	5.3820E-15	8.7617E-16	1.0065E-15	5.6549E-15	9.1687E-16	2.4914E-16	6.1982E-16	5.8120E-16	8.3209E-17
3.0E+12	1.6690E-16	4.3201E-15	7.0329E-16	8.0790E-16	4.5391E-15	7.3596E-16	1.9999E-16	4.9752E-16	4.6652E-16	6.6792E-17
4.0E+12	1.3397E-16	3.4677E-15	5.6453E-16	6.4850E-16	3.6435E-15	5.9075E-16	1.6053E-16	3.9936E-16	3.7447E-16	5.3615E-17
5.0E+12	1.0755E-16	2.7834E-15	4.5314E-16	5.2055E-16	2.9245E-15	4.7419E-16	1.2886E-16	3.2056E-16	3.0059E-16	4.3038E-17
6.0E+12	8.6333E-17	2.2342E-15	3.6374E-16	4.1785E-16	2.3475E-15	3.8063E-16	1.0344E-16	2.5732E-16	2.4128E-16	3.4549E-17
8.0E+12	5.5638E-17	1.4395E-15	2.3438E-16	2.6924E-16	1.5125E-15	2.4525E-16	6.6657E-17	1.6580E-16	1.5547E-16	2.2265E-17
1.0E+13	3.5862E-17	9.2750E-16	1.5103E-16	1.7349E-16	9.7456E-16	1.5803E-16	4.2957E-17	1.0684E-16	1.0018E-16	1.4350E-17

(c) Total sensible decay power (MeV/s/fission)

TIME(S)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU239(H)	PU240(F)	PU241(T)	PU241(F)	PU242(F)	CF252(S)
0.0	2.6449E+00	2.3099E+00	8.1577E-01	8.6747E-01	6.4940E-01	1.0331E+00	1.4771E+00	1.4327E+00	1.4514E+00	9.0805E-01
1.0E-01	2.3816E+00	2.0834E+00	7.6780E-01	8.1513E-01	6.0872E-01	9.6627E-01	1.3668E+00	1.3283E+00	1.3446E+00	8.6472E-01
1.5E-01	2.2705E+00	1.9867E+00	7.4605E-01	7.9149E-01	5.9046E-01	9.3638E-01	1.3183E+00	1.2824E+00	1.2979E+00	8.4471E-01
2.0E-01	2.1703E+00	1.8990E+00	7.2561E-01	7.6930E-01	5.7340E-01	9.0851E-01	1.2737E+00	1.2400E+00	1.2548E+00	8.2567E-01
3.0E-01	1.9969E+00	1.7462E+00	6.8816E-01	7.2877E-01	5.4246E-01	8.5799E-01	1.1940E+00	1.1640E+00	1.1779E+00	7.9017E-01
4.0E-01	1.8518E+00	1.6174E+00	6.5465E-01	6.9260E-01	5.1512E-01	8.1334E-01	1.1247E+00	1.0978E+00	1.1113E+00	7.5768E-01
5.0E-01	1.7285E+00	1.5075E+00	6.2446E-01	6.6009E-01	4.9077E-01	7.7353E-01	1.0639E+00	1.0394E+00	1.0527E+00	7.2778E-01
6.0E-01	1.6221E+00	1.4123E+00	5.9708E-01	6.3066E-01	4.6892E-01	7.3775E-01	1.0099E+00	9.8745E-01	1.0008E+00	7.0013E-01
8.0E-01	1.4472E+00	1.2556E+00	5.4923E-01	5.7933E-01	4.3123E-01	6.7588E-01	9.1796E-01	8.9868E-01	9.1228E-01	6.5054E-01
1.0E+00	1.3083E+00	1.1313E+00	5.0869E-01	5.3594E-01	3.9973E-01	6.2404E-01	8.4210E-01	8.2522E-01	8.3922E-01	6.0723E-01
1.5E+00	1.0567E+00	9.0786E-01	4.2961E-01	4.5151E-01	3.3900E-01	5.2419E-01	6.9856E-01	6.8576E-01	7.0052E-01	5.1937E-01
2.0E+00	8.8440E-01	7.5712E-01	3.7151E-01	3.8967E-01	2.9455E-01	4.5173E-01	5.9620E-01	5.8602E-01	6.0091E-01	4.5229E-01
3.0E+00	6.5926E-01	5.6394E-01	2.9116E-01	3.0448E-01	2.3260E-01	3.5248E-01	4.5819E-01	4.5126E-01	4.6514E-01	3.5688E-01
4.0E+00	5.1777E-01	4.4439E-01	2.3801E-01	2.4834E-01	1.9108E-01	2.8727E-01	3.6884E-01	3.6379E-01	3.7616E-01	2.9281E-01
5.0E+00	4.2097E-01	3.6297E-01	2.0032E-01	2.0860E-01	1.6133E-01	2.4110E-01	3.0624E-01	3.0236E-01	3.1327E-01	2.4718E-01
6.0E+00	3.5103E-01	3.0408E-01	1.7230E-01	1.7908E-01	1.3903E-01	2.0678E-01	2.6008E-01	2.5697E-01	2.6659E-01	2.1322E-01
8.0E+00	2.5795E-01	2.2522E-01	1.3370E-01	1.3839E-01	1.0801E-01	1.5942E-01	1.9708E-01	1.9486E-01	2.0246E-01	1.6636E-01
1.0E+01	2.0007E-01	1.7563E-01	1.0860E-01	1.1192E-01	8.7609E-02	1.2861E-01	1.5674E-01	1.5497E-01	1.6112E-01	1.3574E-01
1.5E+01	1.2366E-01	1.0894E-01	7.3115E-02	7.4555E-02	5.8424E-02	8.5286E-02	1.0142E-01	1.0009E-01	1.0411E-01	9.1943E-02
2.0E+01	8.7579E-02	7.6871E-02	5.4737E-02	5.5369E-02	4.3265E-02	6.3160E-02	7.4100E-02	7.2925E-02	7.5844E-02	6.8925E-02
3.0E+01	5.4485E-02	4.7369E-02	3.6322E-02	3.6429E-02	2.8279E-02	4.1372E-02	4.7896E-02	4.6950E-02	4.8758E-02	4.5635E-02
4.0E+01	3.9540E-02	3.4203E-02	2.7270E-02	2.7273E-02	2.1099E-02	3.0822E-02	3.5426E-02	3.4674E-02	3.5911E-02	3.4077E-02
5.0E+01	3.1073E-02	2.6837E-02	2.1862E-02	2.1849E-02	1.6902E-02	2.4561E-02	2.8071E-02	2.7472E-02	2.8357E-02	2.7107E-02
6.0E+01	2.5533E-02	2.2053E-02	1.8201E-02	1.8189E-02	1.4104E-02	2.0337E-02	2.3126E-02	2.2643E-02	2.3295E-02	2.2371E-02
8.0E+01	1.8557E-02	1.6053E-02	1.3460E-02	1.3449E-02	1.0518E-02	1.4887E-02	1.6773E-02	1.6442E-02	1.6826E-02	1.6263E-02
1.0E+02	1.4292E-02	1.2386E-02	1.0495E-02	1.0478E-02	8.2742E-03	1.1499E-02	1.2853E-02	1.2611E-02	1.2861E-02	1.2489E-02
1.5E+02	8.6185E-03	7.5015E-03	6.4850E-03	6.4465E-03	5.1979E-03	6.9677E-03	7.6687E-03	7.5304E-03	7.6540E-03	7.4718E-03
2.0E+02	5.9282E-03	5.1916E-03	4.5718E-03	4.5247E-03	3.7003E-03	4.8404E-03	5.2707E-03	5.1766E-03	5.2529E-03	5.1196E-03
3.0E+02	3.5070E-03	3.1294E-03	2.8516E-03	2.8132E-03	2.3350E-03	2.9656E-03	3.1813E-03	3.1302E-03	3.1565E-03	3.0439E-03
4.0E+02	2.4637E-03	2.2399E-03	2.0986E-03	2.0758E-03	1.7298E-03	2.1637E-03	2.2953E-03	2.2659E-03	2.2660E-03	2.1535E-03
5.0E+02	1.9081E-03	1.7578E-03	1.6828E-03	1.6724E-03	1.3916E-03	1.7272E-03	1.8158E-03	1.7987E-03	1.7854E-03	1.6704E-03
6.0E+02	1.5676E-03	1.4553E-03	1.4162E-03	1.4144E-03	1.1726E-03	1.4501E-03	1.5135E-03	1.5037E-03	1.4838E-03	1.3682E-03
8.0E+02	1.1696E-03	1.0920E-03	1.0848E-03	1.0924E-03	8.9807E-04	1.1084E-03	1.1450E-03	1.1427E-03	1.1192E-03	1.0091E-03
1.0E+03	9.3888E-04	8.7719E-04	8.7976E-04	8.9102E-04	7.2746E-04	8.9855E-04	9.2223E-04	9.2299E-04	9.0060E-04	8.0061E-04
1.5E+03	6.2570E-04	5.8468E-04	5.8819E-04	5.9963E-04	4.8438E-04	6.0153E-04	6.1223E-04	6.1475E-04	5.9870E-04	5.2331E-04
2.0E+03	4.5806E-04	4.2972E-04	4.2984E-04	4.3866E-04	3.5226E-04	4.4053E-04	4.4656E-04	4.4881E-04	4.3803E-04	3.7919E-04
3.0E+03	2.8038E-04	2.6614E-04	2.6226E-04	2.6677E-04	2.1277E-04	2.6983E-04	2.7215E-04	2.7347E-04	2.6872E-04	2.2735E-04
4.0E+03	1.9189E-04	1.8375E-04	1.7843E-04	1.8056E-04	1.4359E-04	1.8395E-04	1.8486E-04	1.8561E-04	1.8356E-04	1.5083E-04
5.0E+03	1.4165E-04	1.3621E-04	1.3060E-04	1.3146E-04	1.0467E-04	1.3465E-04	1.3495E-04	1.3539E-04	1.3460E-04	1.0735E-04
6.0E+03	1.1032E-04	1.0618E-04	1.0076E-04	1.0096E-04	8.0819E-05	1.0373E-04	1.0376E-04	1.0404E-04	1.0384E-04	8.0707E-05
8.0E+03	7.4365E-05	7.1363E-05	6.6792E-05	6.6466E-05	5.4346E-05	6.8359E-05	6.8172E-05	6.8289E-05	6.8526E-05	5.1552E-05
1.0E+04	5.4679E-05	5.2291E-05	4.8576E-05	4.8137E-05	4.0540E-05	4.9355E-05	4.9032E-05	4.9088E-05	4.9414E-05	3.6837E-05
1.5E+04	3.0885E-05	2.9566E-05	2.7287E-05	2.6930E-05	2.4520E-05	2.7244E-05	2.6669E-05	2.6688E-05	2.6976E-05	2.0601E-05
2.0E+04	2.0591E-05	1.9882E-05	1.8347E-05	1.8097E-05	1.7419E-05	1.8084E-05	1.7423E-05	1.7449E-05	1.7673E-05	1.3857E-05
3.0E+04	1.2122E-05	1.1820E-05	1.1002E-05	1.0849E-05	1.0791E-05	1.0725E-05	1.0162E-05	1.0205E-05	1.0356E-05	8.1599E-06
4.0E+04	8.5350E-06	8.3181E-06	7.8553E-06	7.7374E-06	7.5873E-06	7.6496E-06	7.2338E-06	7.2721E-06	7.3904E-06	5.7420E-06
5.0E+04	6.4687E-06	6.2958E-06	6.0338E-06	5.9350E-06	5.7059E-06	5.8821E-06	5.5732E-06	5.6017E-06	5.6999E-06	4.3995E-06
6.0E+04	5.1076E-06	4.9738E-06	4.8269E-06	4.7424E-06	4.4941E-06	4.7098E-06	4.4721E-06	4.4922E-06	4.5761E-06	3.5364E-06
8.0E+04	3.4597E-06	3.3893E-06	3.3459E-06	3.2829E-06	3.0742E-06	3.2646E-06	3.1083E-06	3.1185E-06	3.1824E-06	2.4943E-06
1.0E+05	2.5380E-06	2.5072E-06	2.4989E-06	2.4511E-06	2.2967E-06	2.4337E-06	2.3198E-06	2.3261E-06	2.3755E-06	1.8994E-06
1.5E+05	1.4432E-06	1.4490E-06	1.4623E-06	1.4358E-06	1.3610E-06	1.4143E-06	1.3503E-06	1.3542E-06	1.3794E-06	1.1596E-06
2.0E+05	9.7499E-07	9.8373E-07	1.0024E-06	9.8486E-07	9.3806E-07	9.6283E-07	9.2276E-07	9.2557E-07	9.3693E-07	8.1554E-07
3.0E+05	5.8508E-07	5.8374E-07	6.0417E-07	5.9340E-07	5.5997E-07	5.7442E-07	5.5738E-07	5.5721E-07	5.5643E-07	4.9631E-07
4.0E+05	4.2451E-07	4.1561E-07	4.3457E-07	4.2637E-07	3.9619E-07	4.1057E-07	4.0408E-07	4.0123E-07	3.9668E-07	3.5472E-07
5.0E+05	3.3664E-07	3.2401E-07	3.4111E-07	3.3438E-07	3.0704E-07	3.2114E-07	3.2039E-07	3.1563E-07	3.1006E-07	2.7889E-07
6.0E+05	2.7945E-07	2.6517E-07	2.8068E-07	2.7495E-07	2.5062E-07	2.6377E-07	2.6643E-07	2.6043E-07	2.5478E-07	2.3233E-07
8.0E+05	2.0673E-07	1.9176E-07	2.0496E-07	2.0055E-07	1.8170E-07	1.9242E-07	1.9850E-07	1.9134E-07	1.8624E-07	1.7704E-07
1.0E+06	1.6165E-07	1.4719E-07	1.5880E-07	1.5523E-07	1.4041E-07	1.4913E-07	1.5648E-07	1.4911E-07	1.4465E-07	1.4381E-07
1.5E+06	1.0124E-07	8.9095E-08	9.7914E-08	9.5549E-08	8.5955E-08	9.2152E-08	9.9314E-08	9.2884E-08	8.9665E-08	9.6403E-08
2.0E+06	7.2037E-08	6.2229E-08	6.9016E-08	6.7291E-08	5.9915E-08	6.5071E-08	7.0782E-08	6.5731E-08	6.3325E-08	6.9937E-08
3.0E+06	4.3347E-08	3.7134E-08	4.1178E-08	4.0140E-08	3.5046E-08	3.8922E-08	4.2022E-08	3.9147E-08	3.7737E-08	4.0711E-08
4.0E+06	2.9205E-08	2.5232E-08	2.7681E-08	2.6997E-08	2.3304E-08	2.6234E-08	2.7788E-08	2.6175E-08	2.5316E-08	2.5782E-08
5.0E+06	2.1270E-08	1.8631E-08	2.0167E-08	1.9682E-08	1.6902E-08	1.9176E-08	1.9909E-08	1.8983E-08	1.8434E-08	1.7624E-08
6.0E+06	1.6509E-08	1.4665E-08	1.5682E-08	1.5312E-08	1.3125E-08	1.4967E-08	1.5288E-08	1.4729E-08	1.4355E-08	1.2976E-08
8.0E+06	1.1384E-08	1.0330E-08	1.0880E-08	1.0628E-08	9.1071E-09	1.0468E-08	1.0519E-08	1.0258E-08	1.0040E-08	8.4756E-09
1.0E+07	8.6914E-09	7.9799E-09	8.3722E-09	8.1806E-09	7.0084E-09	8.1260E-09	8.1658E-09	7.9928E-09	7.8261E-09	6.5164E-09
1.5E+07	5.1748E-09	4.7956E-09	5.1114E-09	5.0017E-09	4.2772E-09	5.0839E-09	5.2416E-09	5.1213E-09	4.9824E-09	4.4575E-09
2.0E+07	3.3740E-09	3.1258E-09	3.4360E-09	3.3722E-09	2.8810E-09	3.5111E-09	3.7359E-09	3.6415E-09	3.5075E-09	3.4854E-09
3.0E+07	1.7616E-09	1.6211E-09	1.9055E-09	1.8833E-09	1.6124E-09	2.0411E-09	2.2837E-09	2.2232E-09	2.1020E-09	2.4561E-09
4.0E+07	1.1421E-09	1.0487E-09	1.2868E-09	1.2782E-09	1.1011E-09	1.4155E-09	1.6260E-09	1.5834E-09	1.4807E-09	1.8670E-09
5.0E+07	8.3463E-10	7.6982E-10	9.6129E-10	9.5731E-10	8.3218E-10	1.0688E-09	1.2414E-09	1.2094E-09	1.1248E-09	1.4566E-09
6.0E+07	6.4403E-10	5.9909E-10	7.5044E-10	7.4829E-10	6.5793E-10	8.3677E-10	9.7573E-10	9.5088E-10	8.8207E-10	1.1483E-09
8.0E+07	4.0898E-10	3.8899E-10	4.8116E-10	4.8027E-10	4.3454E-10	5.3502E-10	6.2384E-10	6.0826E-10	5.6325E-10	7.2488E-10
1.0E+08	2.7228E-10	2.6545E-10	3.1991E-10	3.1935E-10	2.9907E-10	3.5299E-10	4.0954E-10	3.9948E-10	3.7021E-10	4.6539E-10
1.5E+08	1.2174E-10	1.2507E-10	1.3630E-10	1.3560E-10	1.3896E-10	1.4516E-10	1.6336E-10	1.5938E-10	1.4964E-10	1.6976E-10
2.0E+08	7.5954E-11	7.8923E-11	7.8068E-11	7.7084E-11	8.2940E-11	7.9260E-11	8.4970E-11	8.2764E-11	7.9759E-11	7.7107E-11
3.0E+08	5.3927E-11	5.3102E-11	5.0127E-11	4.8900E-11	4.9936E-11	4.8108E-11	4.8476E-11	4.6936E-11	4.7002E-11	3.5157E-11
4.0E+08	4.7887E-11	4.4975E-11	4.3641E-11	4.2392E-11	3.9954E-11	4.1384E-11	4.1265E-11	3.9804E-11	4.0187E-11	2.7815E-11
5.0E+08	4.3951E-11	4.0229E-11	3.9930E-11	3.8723E-11	3.4773E-11	3.7769E-11	3.7655E-11	3.6252E-11	3.6634E-11	2.4791E-11
6.0E+08	4.0605E-11	3.6677E-11	3.6874E-11	3.5729E-11	3.1272E-11	3.4848E-11	3.4770E-11	3.3439E-11	3.3789E-11	2.2646E-11
8.0E+08	3.4842E-11	3.1146E-11	3.1655E-11	3.0649E-11	2.6281E-11	2.9897E-11	2.9865E-11	2.8693E-11	2.8981E-11	1.9272E-11
1.0E+09	2.9965E-11	2.6705E-11	2.7248E-11	2.6373E-11	2.2474E-11	2.5730E-11	2.5724E-11	2.4704E-11	2.4943E-11	1.6548E-11
1.5E+09	2.0604E-11	1.8324E-11	1.8784E-11	1.8177E-11	1.5414E-11	1.7740E-11	1.7763E-11	1.7054E-11	1.7206E-11	1.1421E-11
2.0E+09	1.4185E-11	1.2603E-11	1.2966E-11	1.2546E-11	1.0614E-11	1.2250E-11	1.2280E-11	1.1789E-11	1.1888E-11	7.9121E-12
3.0E+09	6.7338E-12	5.9792E-12	6.1881E-12	5.9882E-12	5.0531E-12	5.8515E-12	5.8786E-12	5.6433E-12	5.6844E-12	3.8099E-12
4.0E+09	3.2020E-12	2.8460E-12	2.9586E-12	2.8634E-12	2.4170E-12	2.8005E-12	2.8187E-12	2.7061E-12	2.7233E-12	1.8413E-12
5.0E+09	1.5255E-12	1.3609E-12	1.4175E-12	1.3723E-12	1.1635E-12	1.3434E-12	1.3544E-12	1.3007E-12	1.3080E-12	8.9440E-13
6.0E+09	7.2880E-13	6.5596E-13	6.8145E-13	6.6006E-13	5.6595E-13	6.4686E-13	6.5287E-13	6.2744E-13	6.3070E-13	4.3778E-13
8.0E+09	1.6899E-13	1.6103E-13	1.6074E-13	1.5611E-13	1.4333E-13	1.5342E-13	1.5459E-13	1.4922E-13	1.5008E-13	1.0940E-13
1.0E+10	4.1201E-14	4.7911E-14	4.0667E-14	3.9839E-14	4.5114E-14	3.9292E-14	3.8829E-14	3.8097E-14	3.8458E-14	3.0552E-14
1.5E+10	2.9476E-15	1.3652E-14	4.2771E-15	4.5177E-15	1.4142E-14	4.3971E-15	3.1477E-15	3.7984E-15	3.8435E-15	3.3629E-15
2.0E+10	1.3618E-15	1.2099E-14	2.7379E-15	2.9979E-15	1.2532E-14	2.8326E-15	1.4889E-15	2.1894E-15	2.1392E-15	1.1611E-15
3.0E+10	1.0688E-15	1.1774E-14	2.4512E-15	2.7090E-15	1.2196E-14	2.5223E-15	1.1506E-15	1.8578E-15	1.7700E-15	5.1481E-16
4.0E+10	1.0438E-15	1.1726E-14	2.4240E-15	2.6810E-15	1.2147E-14	2.4928E-15	1.1215E-15	1.8277E-15	1.7369E-15	4.5591E-16
5.0E+10	1.0403E-15	1.1698E-14	2.4175E-15	2.6738E-15	1.2119E-14	2.4859E-15	1.1174E-15	1.8221E-15	1.7311E-15	4.4738E-16
6.0E+10	1.0386E-15	1.1673E-14	2.4127E-15	2.6684E-15	1.2093E-14	2.4810E-15	1.1155E-15	1.8185E-15	1.7277E-15	4.4371E-16
8.0E+10	1.0355E-15	1.1623E-14	2.4036E-15	2.6580E-15	1.2040E-14	2.4716E-15	1.1121E-15	1.8119E-15	1.7215E-15	4.3843E-16
1.0E+11	1.0325E-15	1.1574E-14	2.3946E-15	2.6477E-15	1.1988E-14	2.4622E-15	1.1087E-15	1.8053E-15	1.7152E-15	4.3441E-16
1.5E+11	1.0250E-15	1.1451E-14	2.3721E-15	2.6223E-15	1.1860E-14	2.4389E-15	1.1003E-15	1.7889E-15	1.6998E-15	4.2758E-16
2.0E+11	1.0176E-15	1.1329E-14	2.3499E-15	2.5972E-15	1.1732E-14	2.4158E-15	1.0920E-15	1.7726E-15	1.6844E-15	4.2305E-16
3.0E+11	1.0030E-15	1.1089E-14	2.3062E-15	2.5479E-15	1.1482E-14	2.3705E-15	1.0756E-15	1.7407E-15	1.6543E-15	4.1622E-16
4.0E+11	9.8859E-16	1.0854E-14	2.2633E-15	2.4996E-15	1.1238E-14	2.3260E-15	1.0595E-15	1.7094E-15	1.6247E-15	4.1022E-16
5.0E+11	9.7445E-16	1.0625E-14	2.2214E-15	2.4523E-15	1.0998E-14	2.2825E-15	1.0437E-15	1.6787E-15	1.5958E-15	4.0442E-16
6.0E+11	9.6056E-16	1.0400E-14	2.1803E-15	2.4059E-15	1.0764E-14	2.2399E-15	1.0282E-15	1.6486E-15	1.5674E-15	3.9875E-16
8.0E+11	9.3349E-16	9.9655E-15	2.1005E-15	2.3161E-15	1.0311E-14	2.1572E-15	9.9801E-16	1.5903E-15	1.5123E-15	3.8770E-16
1.0E+12	9.0735E-16	9.5492E-15	2.0240E-15	2.2299E-15	9.8771E-15	2.0778E-15	9.6886E-16	1.5343E-15	1.4594E-15	3.7702E-16
1.5E+12	8.4585E-16	8.5844E-15	1.8458E-15	2.0294E-15	8.8716E-15	1.8932E-15	9.0035E-16	1.4036E-15	1.3360E-15	3.5187E-16
2.0E+12	7.8942E-16	7.7188E-15	1.6849E-15	1.8484E-15	7.9700E-15	1.7264E-15	8.3764E-16	1.2854E-15	1.2243E-15	3.2878E-16
3.0E+12	6.8997E-16	6.2457E-15	1.4080E-15	1.5377E-15	6.4362E-15	1.4398E-15	7.2748E-16	1.0814E-15	1.0315E-15	2.8800E-16
4.0E+12	6.0579E-16	5.0595E-15	1.1814E-15	1.2842E-15	5.2023E-15	1.2056E-15	6.3467E-16	9.1389E-16	8.7299E-16	2.5341E-16
5.0E+12	5.3427E-16	4.1040E-15	9.9569E-16	1.0769E-15	4.2094E-15	1.0138E-15	5.5620E-16	7.7591E-16	7.4235E-16	2.2396E-16
6.0E+12	4.7328E-16	3.3340E-15	8.4308E-16	9.0709E-16	3.4100E-15	8.5642E-16	4.8962E-16	6.6200E-16	6.3440E-16	1.9879E-16
8.0E+12	3.7621E-16	2.2120E-15	6.1357E-16	6.5294E-16	2.2476E-15	6.2025E-16	3.8445E-16	4.8940E-16	4.7060E-16	1.5862E-16
1.0E+13	3.0403E-16	1.4805E-15	4.5619E-16	4.7995E-16	1.4923E-15	4.5885E-16	3.0706E-16	3.6970E-16	3.5675E-16	1.2864E-16

Table 4.1.2 Calculated decay power of fission products after one-year irradiation at constant rate of 1 fission/s

(a) Beta decay power (MeV/s)

TIME(S)	TH232(F)	TH232(H)	U233(T)	U233(F)	U233(H)	U235(T)	U235(F)	U235(H)	U236(F)	NP237(F)
0.0	8.1578E+00	6.8235E+00	4.9275E+00	5.0023E+00	4.5453E+00	6.3918E+00	6.4167E+00	5.1065E+00	6.9446E+00	5.8372E+00
1.0E-01	8.0374E+00	6.7362E+00	4.8945E+00	4.9665E+00	4.5101E+00	6.3184E+00	6.3403E+00	5.0583E+00	6.8548E+00	5.7747E+00
1.5E-01	7.9814E+00	6.6954E+00	4.8787E+00	4.9494E+00	4.4932E+00	6.2839E+00	6.3044E+00	5.0353E+00	6.8126E+00	5.7450E+00
2.0E-01	7.9278E+00	6.6563E+00	4.8633E+00	4.9328E+00	4.4768E+00	6.2507E+00	6.2698E+00	5.0130E+00	6.7720E+00	5.7163E+00
3.0E-01	7.8271E+00	6.5826E+00	4.8337E+00	4.9008E+00	4.4453E+00	6.1879E+00	6.2043E+00	4.9703E+00	6.6950E+00	5.6614E+00
4.0E-01	7.7339E+00	6.5141E+00	4.8054E+00	4.8704E+00	4.4154E+00	6.1293E+00	6.1430E+00	4.9300E+00	6.6231E+00	5.6097E+00
5.0E-01	7.6472E+00	6.4501E+00	4.7784E+00	4.8414E+00	4.3868E+00	6.0742E+00	6.0855E+00	4.8916E+00	6.5555E+00	5.5607E+00
6.0E-01	7.5659E+00	6.3899E+00	4.7525E+00	4.8136E+00	4.3595E+00	6.0221E+00	6.0311E+00	4.8551E+00	6.4917E+00	5.5142E+00
8.0E-01	7.4173E+00	6.2793E+00	4.7038E+00	4.7616E+00	4.3082E+00	5.9259E+00	5.9307E+00	4.7868E+00	6.3738E+00	5.4276E+00
1.0E+00	7.2838E+00	6.1792E+00	4.6586E+00	4.7134E+00	4.2607E+00	5.8384E+00	5.8395E+00	4.7240E+00	6.2667E+00	5.3483E+00
1.5E+00	6.9991E+00	5.9635E+00	4.5578E+00	4.6063E+00	4.1554E+00	5.6482E+00	5.6418E+00	4.5857E+00	6.0347E+00	5.1751E+00
2.0E+00	6.7648E+00	5.7833E+00	4.4707E+00	4.5141E+00	4.0649E+00	5.4878E+00	5.4761E+00	4.4679E+00	5.8404E+00	5.0288E+00
3.0E+00	6.3939E+00	5.4926E+00	4.3254E+00	4.3608E+00	3.9151E+00	5.2262E+00	5.2081E+00	4.2747E+00	5.5271E+00	4.7912E+00
4.0E+00	6.1076E+00	5.2638E+00	4.2070E+00	4.2360E+00	3.7942E+00	5.0179E+00	4.9967E+00	4.1206E+00	5.2811E+00	4.6034E+00
5.0E+00	5.8765E+00	5.0763E+00	4.1074E+00	4.1312E+00	3.6933E+00	4.8458E+00	4.8232E+00	3.9932E+00	5.0803E+00	4.4493E+00
6.0E+00	5.6840E+00	4.9185E+00	4.0217E+00	4.0411E+00	3.6071E+00	4.7002E+00	4.6771E+00	3.8854E+00	4.9121E+00	4.3194E+00
8.0E+00	5.3778E+00	4.6649E+00	3.8799E+00	3.8925E+00	3.4663E+00	4.4653E+00	4.4423E+00	3.7112E+00	4.6439E+00	4.1109E+00
1.0E+01	5.1414E+00	4.4676E+00	3.7659E+00	3.7734E+00	3.3547E+00	4.2822E+00	4.2600E+00	3.5750E+00	4.4377E+00	3.9487E+00
1.5E+01	4.7215E+00	4.1163E+00	3.5544E+00	3.5538E+00	3.1524E+00	3.9571E+00	3.9364E+00	3.3320E+00	4.0763E+00	3.6603E+00
2.0E+01	4.4352E+00	3.8775E+00	3.4040E+00	3.3989E+00	3.0124E+00	3.7372E+00	3.7173E+00	3.1671E+00	3.8351E+00	3.4645E+00
3.0E+01	4.0503E+00	3.5583E+00	3.1945E+00	3.1848E+00	2.8224E+00	3.4454E+00	3.4261E+00	2.9476E+00	3.5184E+00	3.2031E+00
4.0E+01	3.7883E+00	3.3416E+00	3.0471E+00	3.0355E+00	2.6913E+00	3.2495E+00	3.2302E+00	2.7992E+00	3.3073E+00	3.0262E+00
5.0E+01	3.5903E+00	3.1772E+00	2.9331E+00	2.9203E+00	2.5904E+00	3.1023E+00	3.0830E+00	2.6867E+00	3.1492E+00	2.8923E+00
6.0E+01	3.4321E+00	3.0452E+00	2.8402E+00	2.8267E+00	2.5083E+00	2.9846E+00	2.9653E+00	2.5959E+00	3.0232E+00	2.7847E+00
8.0E+01	3.1918E+00	2.8427E+00	2.6950E+00	2.6809E+00	2.3798E+00	2.8044E+00	2.7854E+00	2.4550E+00	2.8310E+00	2.6188E+00
1.0E+02	3.0160E+00	2.6926E+00	2.5850E+00	2.5707E+00	2.2820E+00	2.6707E+00	2.6521E+00	2.3487E+00	2.6889E+00	2.4948E+00
1.5E+02	2.7263E+00	2.4421E+00	2.3950E+00	2.3808E+00	2.1119E+00	2.4452E+00	2.4277E+00	2.1654E+00	2.4507E+00	2.2843E+00
2.0E+02	2.5459E+00	2.2837E+00	2.2689E+00	2.2551E+00	1.9985E+00	2.2998E+00	2.2832E+00	2.0445E+00	2.2983E+00	2.1476E+00
3.0E+02	2.3230E+00	2.0847E+00	2.1011E+00	2.0882E+00	1.8475E+00	2.1115E+00	2.0964E+00	1.8854E+00	2.1027E+00	1.9694E+00
4.0E+02	2.1816E+00	1.9558E+00	1.9860E+00	1.9735E+00	1.7443E+00	1.9855E+00	1.9714E+00	1.7780E+00	1.9729E+00	1.8490E+00
5.0E+02	2.0784E+00	1.8602E+00	1.8974E+00	1.8850E+00	1.6653E+00	1.8901E+00	1.8765E+00	1.6961E+00	1.8749E+00	1.7570E+00
6.0E+02	1.9969E+00	1.7839E+00	1.8250E+00	1.8126E+00	1.6010E+00	1.8127E+00	1.7995E+00	1.6298E+00	1.7955E+00	1.6819E+00
8.0E+02	1.8721E+00	1.6661E+00	1.7107E+00	1.6977E+00	1.4997E+00	1.6910E+00	1.6781E+00	1.5254E+00	1.6707E+00	1.5627E+00
1.0E+03	1.7773E+00	1.5762E+00	1.6219E+00	1.6082E+00	1.4214E+00	1.5965E+00	1.5837E+00	1.4446E+00	1.5739E+00	1.4698E+00
1.5E+03	1.6067E+00	1.4150E+00	1.4611E+00	1.4458E+00	1.2804E+00	1.4257E+00	1.4127E+00	1.2990E+00	1.3993E+00	1.3021E+00
2.0E+03	1.4866E+00	1.3024E+00	1.3493E+00	1.3328E+00	1.1830E+00	1.3074E+00	1.2943E+00	1.1982E+00	1.2792E+00	1.1872E+00
3.0E+03	1.3220E+00	1.1504E+00	1.2003E+00	1.1826E+00	1.0537E+00	1.1520E+00	1.1387E+00	1.0648E+00	1.1228E+00	1.0385E+00
4.0E+03	1.2121E+00	1.0504E+00	1.1041E+00	1.0859E+00	9.7023E-01	1.0537E+00	1.0404E+00	9.7906E-01	1.0249E+00	9.4633E-01
5.0E+03	1.1318E+00	9.7820E-01	1.0354E+00	1.0170E+00	9.1060E-01	9.8496E-01	9.7183E-01	9.1832E-01	9.5690E-01	8.8311E-01
6.0E+03	1.0693E+00	9.2266E-01	9.8262E-01	9.6436E-01	8.6486E-01	9.3321E-01	9.2029E-01	8.7211E-01	9.0600E-01	8.3637E-01
8.0E+03	9.7574E-01	8.4038E-01	9.0399E-01	8.8635E-01	7.9687E-01	8.5796E-01	8.4557E-01	8.0417E-01	8.3238E-01	7.6986E-01
1.0E+04	9.0637E-01	7.8009E-01	8.4549E-01	8.2871E-01	7.4644E-01	8.0346E-01	7.9164E-01	7.5436E-01	7.7933E-01	7.2268E-01
1.5E+04	7.8537E-01	6.7617E-01	7.4188E-01	7.2722E-01	6.5701E-01	7.0950E-01	6.9896E-01	6.6691E-01	6.8822E-01	6.4244E-01
2.0E+04	7.0312E-01	6.0609E-01	6.6977E-01	6.5674E-01	5.9428E-01	6.4531E-01	6.3576E-01	6.0578E-01	6.2609E-01	5.8764E-01
3.0E+04	5.9438E-01	5.1321E-01	5.7160E-01	5.6061E-01	5.0777E-01	5.5778E-01	5.4963E-01	5.2094E-01	5.4133E-01	5.1206E-01
4.0E+04	5.2493E-01	4.5324E-01	5.0670E-01	4.9681E-01	4.4985E-01	4.9873E-01	4.9156E-01	4.6346E-01	4.8411E-01	4.6016E-01
5.0E+04	4.7717E-01	4.1150E-01	4.6076E-01	4.5151E-01	4.0848E-01	4.5593E-01	4.4946E-01	4.2198E-01	4.4268E-01	4.2190E-01
6.0E+04	4.4278E-01	3.8107E-01	4.2685E-01	4.1798E-01	3.7770E-01	4.2364E-01	4.1769E-01	3.9085E-01	4.1153E-01	3.9259E-01
8.0E+04	3.9733E-01	3.4010E-01	3.8057E-01	3.7212E-01	3.3518E-01	3.7847E-01	3.7319E-01	3.4747E-01	3.6815E-01	3.5075E-01
1.0E+05	3.6884E-01	3.1373E-01	3.5046E-01	3.4222E-01	3.0706E-01	3.4835E-01	3.4346E-01	3.1851E-01	3.3936E-01	3.2220E-01
1.5E+05	3.2871E-01	2.7517E-01	3.0621E-01	2.9828E-01	2.6473E-01	3.0324E-01	2.9878E-01	2.7461E-01	2.9615E-01	2.7836E-01
2.0E+05	3.0691E-01	2.5336E-01	2.8118E-01	2.7347E-01	2.4023E-01	2.7751E-01	2.7319E-01	2.4902E-01	2.7117E-01	2.5277E-01
3.0E+05	2.8216E-01	2.2810E-01	2.5221E-01	2.4488E-01	2.1178E-01	2.4785E-01	2.4361E-01	2.1904E-01	2.4182E-01	2.2289E-01
4.0E+05	2.6667E-01	2.1251E-01	2.3424E-01	2.2725E-01	1.9459E-01	2.2967E-01	2.2547E-01	2.0073E-01	2.2361E-01	2.0462E-01
5.0E+05	2.5486E-01	2.0098E-01	2.2090E-01	2.1421E-01	1.8221E-01	2.1631E-01	2.1215E-01	1.8749E-01	2.1024E-01	1.9138E-01
6.0E+05	2.4501E-01	1.9164E-01	2.1009E-01	2.0368E-01	1.7242E-01	2.0560E-01	2.0148E-01	1.7704E-01	1.9956E-01	1.8091E-01
8.0E+05	2.2878E-01	1.7676E-01	1.9297E-01	1.8702E-01	1.5728E-01	1.8877E-01	1.8476E-01	1.6098E-01	1.8293E-01	1.6483E-01
1.0E+06	2.1545E-01	1.6498E-01	1.7955E-01	1.7400E-01	1.4567E-01	1.7570E-01	1.7182E-01	1.4883E-01	1.7014E-01	1.5268E-01
1.5E+06	1.8959E-01	1.4301E-01	1.5492E-01	1.5014E-01	1.2494E-01	1.5197E-01	1.4841E-01	1.2754E-01	1.4715E-01	1.3135E-01
2.0E+06	1.7026E-01	1.2722E-01	1.3740E-01	1.3320E-01	1.1060E-01	1.3523E-01	1.3200E-01	1.1311E-01	1.3108E-01	1.1686E-01
3.0E+06	1.4276E-01	1.0536E-01	1.1317E-01	1.0980E-01	9.1230E-02	1.1228E-01	1.0957E-01	9.3831E-02	1.0921E-01	9.7579E-02
4.0E+06	1.2399E-01	9.0697E-02	9.6884E-02	9.4071E-02	7.8360E-02	9.6961E-02	9.4646E-02	8.1112E-02	9.4710E-02	8.5064E-02
5.0E+06	1.1026E-01	8.0051E-02	8.5034E-02	8.2617E-02	6.9000E-02	8.5885E-02	8.3857E-02	7.1889E-02	8.4255E-02	7.6176E-02
6.0E+06	9.9646E-02	7.1858E-02	7.5913E-02	7.3790E-02	6.1766E-02	7.7384E-02	7.5583E-02	6.4770E-02	7.6244E-02	6.9438E-02
8.0E+06	8.3937E-02	5.9808E-02	6.2524E-02	6.0815E-02	5.1079E-02	6.4894E-02	6.3438E-02	5.4244E-02	6.4475E-02	5.9620E-02
1.0E+07	7.2575E-02	5.1177E-02	5.2973E-02	5.1546E-02	4.3416E-02	5.5916E-02	5.4716E-02	4.6660E-02	5.5990E-02	5.2556E-02
1.5E+07	5.4016E-02	3.7362E-02	3.7815E-02	3.6813E-02	3.1240E-02	4.1341E-02	4.0567E-02	3.4439E-02	4.2089E-02	4.0836E-02
2.0E+07	4.2887E-02	2.9363E-02	2.9179E-02	2.8408E-02	2.4315E-02	3.2678E-02	3.2147E-02	2.7288E-02	3.3672E-02	3.3500E-02
3.0E+07	3.0153E-02	2.0630E-02	2.0013E-02	1.9475E-02	1.6958E-02	2.2900E-02	2.2599E-02	1.9351E-02	2.3905E-02	2.4512E-02
4.0E+07	2.2707E-02	1.5740E-02	1.5070E-02	1.4653E-02	1.2965E-02	1.7270E-02	1.7065E-02	1.4822E-02	1.8110E-02	1.8852E-02
5.0E+07	1.7595E-02	1.2424E-02	1.1802E-02	1.1466E-02	1.0297E-02	1.3431E-02	1.3275E-02	1.1719E-02	1.4090E-02	1.4794E-02
6.0E+07	1.3855E-02	9.9864E-03	9.4411E-03	9.1625E-03	8.3406E-03	1.0624E-02	1.0496E-02	9.4228E-03	1.1121E-02	1.1736E-02
8.0E+07	8.9446E-03	6.7252E-03	6.3442E-03	6.1396E-03	5.7065E-03	6.9219E-03	6.8220E-03	6.3236E-03	7.1653E-03	7.5770E-03
1.0E+08	6.1321E-03	4.7919E-03	4.5575E-03	4.3938E-03	4.1177E-03	4.7833E-03	4.6912E-03	4.4611E-03	4.8485E-03	5.0788E-03
1.5E+08	3.2397E-03	2.6699E-03	2.6838E-03	2.5604E-03	2.3120E-03	2.5484E-03	2.4518E-03	2.3714E-03	2.3781E-03	2.3143E-03
2.0E+08	2.4387E-03	2.0034E-03	2.1373E-03	2.0253E-03	1.7102E-03	1.9123E-03	1.8102E-03	1.6977E-03	1.6581E-03	1.4693E-03
3.0E+08	2.0209E-03	1.6094E-03	1.8185E-03	1.7159E-03	1.3400E-03	1.5772E-03	1.4764E-03	1.3095E-03	1.2949E-03	1.0539E-03
4.0E+08	1.8357E-03	1.4413E-03	1.6599E-03	1.5649E-03	1.1893E-03	1.4340E-03	1.3398E-03	1.1626E-03	1.1646E-03	9.3390E-04
5.0E+08	1.6863E-03	1.3157E-03	1.5287E-03	1.4406E-03	1.0825E-03	1.3199E-03	1.2326E-03	1.0596E-03	1.0683E-03	8.5472E-04
6.0E+08	1.5542E-03	1.2085E-03	1.4112E-03	1.3297E-03	9.9364E-04	1.2187E-03	1.1378E-03	9.7357E-04	9.8484E-04	7.8775E-04
8.0E+08	1.3253E-03	1.0270E-03	1.2061E-03	1.1362E-03	8.4527E-04	1.0424E-03	9.7311E-04	8.2920E-04	8.4127E-04	6.7327E-04
1.0E+09	1.1327E-03	8.7622E-04	1.0325E-03	9.7255E-04	7.2246E-04	8.9319E-04	8.3374E-04	7.0923E-04	7.2043E-04	5.7704E-04
1.5E+09	7.6820E-04	5.9298E-04	7.0207E-04	6.6127E-04	4.9080E-04	6.0837E-04	5.6792E-04	4.8224E-04	4.9059E-04	3.9378E-04
2.0E+09	5.2265E-04	4.0309E-04	4.7841E-04	4.5063E-04	3.3455E-04	4.1500E-04	3.8747E-04	3.2881E-04	3.3479E-04	2.6926E-04
3.0E+09	2.4299E-04	1.8739E-04	2.2281E-04	2.0992E-04	1.5621E-04	1.9352E-04	1.8078E-04	1.5346E-04	1.5636E-04	1.2626E-04
4.0E+09	1.1325E-04	8.7445E-05	1.0397E-04	9.7990E-05	7.3229E-05	9.0392E-05	8.4488E-05	7.1857E-05	7.3186E-05	5.9358E-05
5.0E+09	5.2854E-05	4.0904E-05	4.8577E-05	4.5803E-05	3.4464E-05	4.2280E-05	3.9545E-05	3.3755E-05	3.4317E-05	2.7984E-05
6.0E+09	2.4699E-05	1.9190E-05	2.2732E-05	2.1446E-05	1.6311E-05	1.9814E-05	1.8548E-05	1.5933E-05	1.6132E-05	1.3248E-05
8.0E+09	5.4308E-06	4.3031E-06	5.0237E-06	4.7474E-06	3.7783E-06	4.4002E-06	4.1304E-06	3.6606E-06	3.6191E-06	3.0428E-06
1.0E+10	1.2210E-06	1.0354E-06	1.1472E-06	1.0882E-06	9.7826E-07	1.0150E-06	9.5926E-07	8.5572E-07	8.5572E-07	7.5541E-07
1.5E+10	5.1643E-08	1.1662E-07	6.6378E-08	6.5560E-08	1.4846E-07	5.9862E-08	6.2002E-08	1.4516E-07	6.6388E-08	7.1243E-08
2.0E+10	1.7505E-08	8.8273E-08	3.4073E-08	3.4584E-08	1.1370E-07	2.7711E-08	3.1312E-08	1.1404E-07	3.7615E-08	3.7150E-08
3.0E+10	1.3582E-08	8.5001E-08	3.0150E-08	3.0762E-08	1.0821E-07	2.2793E-08	2.6515E-08	1.0894E-07	3.2698E-08	2.9220E-08
4.0E+10	1.3278E-08	8.4621E-08	2.9814E-08	3.0434E-08	1.0766E-07	2.2383E-08	2.6106E-08	1.0838E-07	3.2261E-08	2.8525E-08
5.0E+10	1.3237E-08	8.4423E-08	2.9744E-08	3.0363E-08	1.0741E-07	2.2325E-08	2.6039E-08	1.0813E-07	3.2179E-08	2.8430E-08
6.0E+10	1.3219E-08	8.4241E-08	2.9696E-08	3.0314E-08	1.0719E-07	2.2297E-08	2.6001E-08	1.0791E-07	3.2129E-08	2.8387E-08
8.0E+10	1.3188E-08	8.3880E-08	2.9606E-08	3.0219E-08	1.0675E-07	2.2248E-08	2.5932E-08	1.0748E-07	3.2033E-08	2.8311E-08
1.0E+11	1.3157E-08	8.3521E-08	2.9516E-08	3.0126E-08	1.0631E-07	2.2199E-08	2.5864E-08	1.0705E-07	3.1938E-08	2.8235E-08
1.5E+11	1.3080E-08	8.2632E-08	2.9292E-08	2.9894E-08	1.0522E-07	2.2076E-08	2.5693E-08	1.0598E-07	3.1701E-08	2.8046E-08
2.0E+11	1.3004E-08	8.1752E-08	2.9071E-08	2.9664E-08	1.0414E-07	2.1955E-08	2.5524E-08	1.0492E-07	3.1467E-08	2.7860E-08
3.0E+11	1.2853E-08	8.0022E-08	2.8635E-08	2.9210E-08	1.0202E-07	2.1714E-08	2.5191E-08	1.0283E-07	3.1004E-08	2.7491E-08
4.0E+11	1.2705E-08	7.8330E-08	2.8206E-08	2.8765E-08	9.9945E-08	2.1477E-08	2.4863E-08	1.0079E-07	3.0550E-08	2.7128E-08
5.0E+11	1.2559E-08	7.6677E-08	2.7786E-08	2.8329E-08	9.7914E-08	2.1244E-08	2.4540E-08	9.8787E-08	3.0104E-08	2.6772E-08
6.0E+11	1.2416E-08	7.5061E-08	2.7373E-08	2.7900E-08	9.5926E-08	2.1013E-08	2.4223E-08	9.6829E-08	2.9666E-08	2.6421E-08
8.0E+11	1.2136E-08	7.1936E-08	2.6571E-08	2.7067E-08	9.2076E-08	2.0561E-08	2.3604E-08	9.3037E-08	2.8813E-08	2.5736E-08
1.0E+12	1.1864E-08	6.8949E-08	2.5797E-08	2.6264E-08	8.8388E-08	2.0121E-08	2.3005E-08	8.9402E-08	2.7990E-08	2.5074E-08
1.5E+12	1.1222E-08	6.2045E-08	2.3985E-08	2.4384E-08	7.9834E-08	1.9073E-08	2.1591E-08	8.0962E-08	2.6057E-08	2.3510E-08
2.0E+12	1.0629E-08	5.5875E-08	2.2331E-08	2.2669E-08	7.2151E-08	1.8092E-08	2.0287E-08	7.3370E-08	2.4287E-08	2.2068E-08
3.0E+12	9.5700E-09	4.5425E-08	1.9437E-08	1.9674E-08	5.9045E-08	1.6315E-08	1.7970E-08	6.0388E-08	2.1177E-08	1.9507E-08
4.0E+12	8.6573E-09	3.7057E-08	1.7012E-08	1.7169E-08	4.8456E-08	1.4753E-08	1.5987E-08	4.9864E-08	1.8555E-08	1.7316E-08
5.0E+12	7.8667E-09	3.0345E-08	1.4971E-08	1.5066E-08	3.9891E-08	1.3376E-08	1.4283E-08	4.1319E-08	1.6334E-08	1.5434E-08
6.0E+12	7.1789E-09	2.4953E-08	1.3246E-08	1.3293E-08	3.2955E-08	1.2159E-08	1.2812E-08	3.4371E-08	1.4446E-08	1.3812E-08
8.0E+12	6.0503E-09	1.7115E-08	1.0532E-08	1.0518E-08	2.2763E-08	1.0123E-08	1.0428E-08	2.4096E-08	1.1454E-08	1.1188E-08
1.0E+13	5.1750E-09	1.2003E-08	8.5438E-09	8.4966E-09	1.6023E-08	8.5092E-09	8.6110E-09	1.7230E-08	9.2402E-09	9.1958E-09

(b) Gamma decay power (MeV/s)

TIME(S)	TH232(F)	TH232(H)	U233(T)	U233(F)	U233(H)	U235(T)	U235(F)	U235(H)	U236(F)	NP237(F)
0.0	8.0777E+00	6.7483E+00	5.2509E+00	5.3326E+00	4.7533E+00	6.3980E+00	6.4490E+00	5.3054E+00	6.8105E+00	5.9156E+00
1.0E-01	7.9815E+00	6.6763E+00	5.2224E+00	5.3020E+00	4.7206E+00	6.3407E+00	6.3892E+00	5.2638E+00	6.7418E+00	5.8663E+00
1.5E-01	7.9366E+00	6.6426E+00	5.2088E+00	5.2874E+00	4.7052E+00	6.3137E+00	6.3611E+00	5.2440E+00	6.7095E+00	5.8429E+00
2.0E-01	7.8935E+00	6.6103E+00	5.1956E+00	5.2733E+00	4.6903E+00	6.2878E+00	6.3341E+00	5.2250E+00	6.6784E+00	5.8202E+00
3.0E-01	7.8126E+00	6.5495E+00	5.1704E+00	5.2462E+00	4.6619E+00	6.2389E+00	6.2829E+00	5.1887E+00	6.6196E+00	5.7770E+00
4.0E-01	7.7375E+00	6.4929E+00	5.1464E+00	5.2206E+00	4.6352E+00	6.1932E+00	6.2350E+00	5.1546E+00	6.5646E+00	5.7363E+00
5.0E-01	7.6675E+00	6.4400E+00	5.1237E+00	5.1964E+00	4.6100E+00	6.1503E+00	6.1901E+00	5.1224E+00	6.5130E+00	5.6979E+00
6.0E-01	7.6018E+00	6.3903E+00	5.1021E+00	5.1733E+00	4.5862E+00	6.1099E+00	6.1477E+00	5.0920E+00	6.4643E+00	5.6614E+00
8.0E-01	7.4816E+00	6.2990E+00	5.0616E+00	5.1302E+00	4.5418E+00	6.0355E+00	6.0694E+00	5.0353E+00	6.3746E+00	5.5936E+00
1.0E+00	7.3736E+00	6.2166E+00	5.0243E+00	5.0906E+00	4.5013E+00	5.9680E+00	5.9985E+00	4.9836E+00	6.2932E+00	5.5317E+00
1.5E+00	7.1436E+00	6.0395E+00	4.9422E+00	5.0035E+00	4.4126E+00	5.8223E+00	5.8454E+00	4.8710E+00	6.1177E+00	5.3971E+00
2.0E+00	6.9548E+00	5.8923E+00	4.8721E+00	4.9294E+00	4.3373E+00	5.7006E+00	5.7178E+00	4.7760E+00	5.9716E+00	5.2841E+00
3.0E+00	6.6575E+00	5.6564E+00	4.7567E+00	4.8075E+00	4.2139E+00	5.5043E+00	5.5129E+00	4.6217E+00	5.7378E+00	5.1017E+00
4.0E+00	6.4290E+00	5.4718E+00	4.6636E+00	4.7094E+00	4.1149E+00	5.3494E+00	5.3522E+00	4.4994E+00	5.5554E+00	4.9583E+00
5.0E+00	6.2445E+00	5.3211E+00	4.5855E+00	4.6272E+00	4.0324E+00	5.2220E+00	5.2207E+00	4.3987E+00	5.4070E+00	4.8407E+00
6.0E+00	6.0904E+00	5.1943E+00	4.5181E+00	4.5565E+00	3.9617E+00	5.1141E+00	5.1097E+00	4.3133E+00	5.2825E+00	4.7415E+00
8.0E+00	5.8426E+00	4.9896E+00	4.4056E+00	4.4386E+00	3.8450E+00	4.9387E+00	4.9301E+00	4.1743E+00	5.0827E+00	4.5809E+00
1.0E+01	5.6471E+00	4.8283E+00	4.3133E+00	4.3423E+00	3.7509E+00	4.7995E+00	4.7884E+00	4.0638E+00	4.9264E+00	4.4542E+00
1.5E+01	5.2841E+00	4.5322E+00	4.1349E+00	4.1571E+00	3.5735E+00	4.5424E+00	4.5281E+00	3.8595E+00	4.6422E+00	4.2216E+00
2.0E+01	5.0194E+00	4.3201E+00	4.0002E+00	4.0182E+00	3.4438E+00	4.3576E+00	4.3421E+00	3.7128E+00	4.4410E+00	4.0555E+00
3.0E+01	4.6356E+00	4.0176E+00	3.7997E+00	3.8129E+00	3.2574E+00	4.0943E+00	4.0781E+00	3.5047E+00	4.1576E+00	3.8202E+00
4.0E+01	4.3562E+00	3.7997E+00	3.6504E+00	3.6609E+00	3.1228E+00	3.9053E+00	3.8890E+00	3.3559E+00	3.9556E+00	3.6517E+00
5.0E+01	4.1365E+00	3.6288E+00	3.5307E+00	3.5397E+00	3.0171E+00	3.7571E+00	3.7408E+00	3.2396E+00	3.7980E+00	3.5197E+00
6.0E+01	3.9565E+00	3.4884E+00	3.4307E+00	3.4387E+00	2.9299E+00	3.6352E+00	3.6190E+00	3.1438E+00	3.6688E+00	3.4109E+00
8.0E+01	3.6758E+00	3.2682E+00	3.2702E+00	3.2771E+00	2.7915E+00	3.4424E+00	3.4267E+00	2.9923E+00	3.4656E+00	3.2388E+00
1.0E+02	3.4650E+00	3.1015E+00	3.1450E+00	3.1515E+00	2.6845E+00	3.2945E+00	3.2795E+00	2.8755E+00	3.3106E+00	3.1066E+00
1.5E+02	3.1111E+00	2.8179E+00	2.9227E+00	2.9289E+00	2.4955E+00	3.0364E+00	3.0232E+00	2.6700E+00	3.0427E+00	2.8757E+00
2.0E+02	2.8906E+00	2.6380E+00	2.7731E+00	2.7795E+00	2.3685E+00	2.8661E+00	2.8544E+00	2.5326E+00	2.8675E+00	2.7229E+00
3.0E+02	2.6267E+00	2.4170E+00	2.5755E+00	2.5824E+00	2.2005E+00	2.6460E+00	2.6364E+00	2.3520E+00	2.6433E+00	2.5233E+00
4.0E+02	2.4667E+00	2.2783E+00	2.4420E+00	2.4490E+00	2.0865E+00	2.5010E+00	2.4927E+00	2.2302E+00	2.4966E+00	2.3896E+00
5.0E+02	2.3525E+00	2.1767E+00	2.3397E+00	2.3466E+00	1.9989E+00	2.3919E+00	2.3843E+00	2.1371E+00	2.3867E+00	2.2874E+00
6.0E+02	2.2628E+00	2.0956E+00	2.2559E+00	2.2623E+00	1.9270E+00	2.3035E+00	2.2964E+00	2.0609E+00	2.2977E+00	2.2035E+00
8.0E+02	2.1244E+00	1.9687E+00	2.1221E+00	2.1271E+00	1.8121E+00	2.1634E+00	2.1567E+00	1.9390E+00	2.1564E+00	2.0687E+00
1.0E+03	2.0173E+00	1.8697E+00	2.0164E+00	2.0200E+00	1.7217E+00	2.0531E+00	2.0465E+00	1.8429E+00	2.0450E+00	1.9614E+00
1.5E+03	1.8193E+00	1.6863E+00	1.8207E+00	1.8209E+00	1.5551E+00	1.8482E+00	1.8411E+00	1.6648E+00	1.8372E+00	1.7609E+00
2.0E+03	1.6752E+00	1.5531E+00	1.6804E+00	1.6780E+00	1.4367E+00	1.7003E+00	1.6927E+00	1.5371E+00	1.6872E+00	1.6166E+00
3.0E+03	1.4705E+00	1.3637E+00	1.4854E+00	1.4795E+00	1.2736E+00	1.4942E+00	1.4860E+00	1.3595E+00	1.4784E+00	1.4176E+00
4.0E+03	1.3283E+00	1.2315E+00	1.3526E+00	1.3446E+00	1.1637E+00	1.3537E+00	1.3454E+00	1.2386E+00	1.3362E+00	1.2843E+00
5.0E+03	1.2219E+00	1.1319E+00	1.2542E+00	1.2450E+00	1.0832E+00	1.2495E+00	1.2417E+00	1.1493E+00	1.2311E+00	1.1873E+00
6.0E+03	1.1384E+00	1.0534E+00	1.1773E+00	1.1676E+00	1.0207E+00	1.1683E+00	1.1612E+00	1.0799E+00	1.1493E+00	1.1130E+00
8.0E+03	1.0146E+00	9.3623E-01	1.0630E+00	1.0533E+00	9.2852E-01	1.0483E+00	1.0428E+00	9.7737E-01	1.0286E+00	1.0053E+00
1.0E+04	9.2608E-01	8.5235E-01	9.8099E-01	9.7187E-01	8.6229E-01	9.6329E-01	9.5920E-01	9.0420E-01	9.4325E-01	9.3032E-01
1.5E+04	7.8457E-01	7.1885E-01	8.4865E-01	8.4143E-01	7.5316E-01	8.2994E-01	8.2856E-01	7.8583E-01	8.1001E-01	8.1368E-01
2.0E+04	7.0028E-01	6.4015E-01	7.6865E-01	7.6277E-01	6.8409E-01	7.5285E-01	7.5293E-01	7.1283E-01	7.3362E-01	7.4544E-01
3.0E+04	6.0287E-01	5.4965E-01	6.7377E-01	6.6910E-01	5.9798E-01	6.6430E-01	6.6559E-01	6.2316E-01	6.4680E-01	6.6430E-01
4.0E+04	5.4644E-01	4.9704E-01	6.1655E-01	6.1223E-01	5.4457E-01	6.1061E-01	6.1235E-01	5.6727E-01	5.9470E-01	6.1303E-01
5.0E+04	5.0857E-01	4.6156E-01	5.7665E-01	5.7239E-01	5.0726E-01	5.7222E-01	5.7415E-01	5.2775E-01	5.5767E-01	5.7543E-01
6.0E+04	4.8091E-01	4.3557E-01	5.4647E-01	5.4218E-01	4.7919E-01	5.4254E-01	5.4456E-01	4.9773E-01	5.2920E-01	5.4592E-01
8.0E+04	4.4231E-01	3.9915E-01	5.0254E-01	4.9814E-01	4.3862E-01	4.9858E-01	5.0058E-01	4.5397E-01	4.8721E-01	5.0162E-01
1.0E+05	4.1589E-01	3.7407E-01	4.7107E-01	4.6659E-01	4.0971E-01	4.6684E-01	4.6872E-01	4.2267E-01	4.5698E-01	4.6929E-01
1.5E+05	3.7423E-01	3.3394E-01	4.1880E-01	4.1434E-01	3.6186E-01	4.1450E-01	4.1590E-01	3.7078E-01	4.0698E-01	4.1531E-01
2.0E+05	3.4864E-01	3.0872E-01	3.8509E-01	3.8076E-01	3.3115E-01	3.8134E-01	3.8221E-01	3.3744E-01	3.7498E-01	3.8053E-01
3.0E+05	3.1564E-01	2.7581E-01	3.4091E-01	3.3693E-01	2.9147E-01	3.3868E-01	3.3866E-01	2.9432E-01	3.3332E-01	3.3525E-01
4.0E+05	2.9239E-01	2.5291E-01	3.1060E-01	3.0698E-01	2.6485E-01	3.0979E-01	3.0910E-01	2.6551E-01	3.0491E-01	3.0458E-01
5.0E+05	2.7353E-01	2.3482E-01	2.8707E-01	2.8379E-01	2.4453E-01	2.8741E-01	2.8626E-01	2.4373E-01	2.8291E-01	2.8106E-01
6.0E+05	2.5733E-01	2.1968E-01	2.6769E-01	2.6473E-01	2.2798E-01	2.6897E-01	2.6748E-01	2.2618E-01	2.6483E-01	2.6190E-01
8.0E+05	2.3028E-01	1.9519E-01	2.3698E-01	2.3457E-01	2.0194E-01	2.3963E-01	2.3773E-01	1.9906E-01	2.3619E-01	2.3190E-01
1.0E+06	2.0829E-01	1.7596E-01	2.1337E-01	2.1143E-01	1.8201E-01	2.1697E-01	2.1491E-01	1.7878E-01	2.1419E-01	2.0918E-01
1.5E+06	1.6746E-01	1.4153E-01	1.7218E-01	1.7111E-01	1.4723E-01	1.7712E-01	1.7509E-01	1.4447E-01	1.7568E-01	1.7015E-01
2.0E+06	1.3906E-01	1.1831E-01	1.4493E-01	1.4446E-01	1.2420E-01	1.5045E-01	1.4866E-01	1.2239E-01	1.4996E-01	1.4456E-01
3.0E+06	1.0244E-01	8.8710E-02	1.1028E-01	1.1051E-01	9.4938E-02	1.1602E-01	1.1467E-01	9.4591E-02	1.1662E-01	1.1174E-01
4.0E+06	8.0645E-02	7.0949E-02	8.9215E-02	8.9762E-02	7.7126E-02	9.4654E-02	9.3589E-02	7.7519E-02	9.5687E-02	9.1250E-02
5.0E+06	6.6641E-02	5.9316E-02	7.5125E-02	7.5799E-02	6.5184E-02	8.0091E-02	7.9203E-02	6.5873E-02	8.1239E-02	7.7163E-02
6.0E+06	5.6930E-02	5.1072E-02	6.4915E-02	6.5615E-02	5.6507E-02	6.9364E-02	6.8593E-02	5.7264E-02	7.0478E-02	6.6722E-02
8.0E+06	4.3910E-02	3.9739E-02	5.0488E-02	5.1118E-02	4.4233E-02	5.3972E-02	5.3354E-02	4.4863E-02	5.4884E-02	5.1725E-02
1.0E+07	3.4970E-02	3.1818E-02	4.0159E-02	4.0678E-02	3.5464E-02	4.2853E-02	4.2350E-02	3.5896E-02	4.3570E-02	4.0979E-02
1.5E+07	2.0405E-02	1.8894E-02	2.3101E-02	2.3390E-02	2.1064E-02	2.4511E-02	2.4231E-02	2.1152E-02	2.4967E-02	2.3579E-02
2.0E+07	1.2086E-02	1.1567E-02	1.3425E-02	1.3580E-02	1.2932E-02	1.4173E-02	1.4044E-02	1.2868E-02	1.4550E-02	1.3964E-02
3.0E+07	4.7342E-03	5.1006E-03	5.0011E-03	5.0439E-03	5.7950E-03	5.2184E-03	5.2283E-03	5.6373E-03	5.5516E-03	5.6860E-03
4.0E+07	2.4108E-03	3.0104E-03	2.4141E-03	2.4240E-03	3.4948E-03	2.4686E-03	2.5153E-03	3.3158E-03	2.7631E-03	3.0701E-03
5.0E+07	1.6264E-03	2.2518E-03	1.5837E-03	1.5837E-03	2.6547E-03	1.5780E-03	1.6292E-03	2.4710E-03	1.8303E-03	2.1411E-03
6.0E+07	1.3150E-03	1.9055E-03	1.2797E-03	1.2763E-03	2.2636E-03	1.2460E-03	1.2928E-03	2.0812E-03	1.4592E-03	1.7316E-03
8.0E+07	1.0635E-03	1.5503E-03	1.0598E-03	1.0535E-03	1.8459E-03	9.9950E-04	1.0343E-03	1.6741E-03	1.1505E-03	1.3406E-03
1.0E+08	9.4526E-04	1.3331E-03	9.6065E-04	9.5240E-04	1.5775E-03	8.8853E-04	9.1353E-04	1.4213E-03	9.9584E-04	1.1264E-03
1.5E+08	8.1216E-04	1.0118E-03	8.3889E-04	8.2693E-04	1.1587E-03	7.6039E-04	7.7071E-04	1.0445E-03	8.0690E-04	8.6200E-04
2.0E+08	7.5664E-04	8.3701E-04	7.7969E-04	7.6549E-04	9.2026E-04	7.0545E-04	7.0869E-04	8.4077E-04	7.2498E-04	7.5408E-04
3.0E+08	6.9289E-04	6.5178E-04	7.0750E-04	6.9153E-04	6.6767E-04	6.4413E-04	6.4169E-04	6.3060E-04	6.4338E-04	6.6088E-04
4.0E+08	6.4213E-04	5.5393E-04	6.5236E-04	6.3632E-04	5.4204E-04	5.9674E-04	5.9247E-04	5.2465E-04	5.8951E-04	6.0546E-04
5.0E+08	5.9622E-04	4.9195E-04	6.0427E-04	5.8882E-04	4.6910E-04	5.5410E-04	5.4925E-04	4.6062E-04	5.4461E-04	5.5976E-04
6.0E+08	5.5398E-04	4.4699E-04	5.6080E-04	5.4619E-04	4.2048E-04	5.1486E-04	5.0995E-04	4.1604E-04	5.0478E-04	5.1905E-04
8.0E+08	4.7864E-04	3.7987E-04	4.8413E-04	4.7134E-04	3.5369E-04	4.4485E-04	4.4034E-04	3.5199E-04	4.3531E-04	4.4776E-04
1.0E+09	4.1369E-04	3.2703E-04	4.1837E-04	4.0727E-04	3.0375E-04	3.8450E-04	3.8054E-04	3.0272E-04	3.7606E-04	3.8683E-04
1.5E+09	2.8741E-04	2.2697E-04	2.9066E-04	2.8294E-04	2.1068E-04	2.6714E-04	2.6437E-04	2.1006E-04	2.6123E-04	2.6871E-04
2.0E+09	1.9970E-04	1.5776E-04	2.0197E-04	1.9661E-04	1.4647E-04	1.8563E-04	1.8371E-04	1.4603E-04	1.8152E-04	1.8672E-04
3.0E+09	9.6422E-05	7.6277E-05	9.7539E-05	9.4952E-05	7.0865E-05	8.9633E-05	8.8712E-05	7.0650E-05	8.7666E-05	9.0170E-05
4.0E+09	4.6561E-05	3.6939E-05	4.7117E-05	4.5869E-05	3.4363E-05	4.3284E-05	4.2846E-05	3.4253E-05	4.2350E-05	4.3552E-05
5.0E+09	2.2486E-05	1.7945E-05	2.2771E-05	2.2170E-05	1.6737E-05	2.0904E-05	2.0700E-05	1.6678E-05	2.0469E-05	2.1043E-05
6.0E+09	1.0862E-05	8.7733E-06	1.1015E-05	1.0727E-05	8.2255E-06	1.0098E-05	1.0007E-05	8.1914E-06	9.9041E-06	1.0174E-05
8.0E+09	2.5386E-06	2.2060E-06	2.5978E-06	2.5337E-06	2.1299E-06	2.3612E-06	2.3501E-06	2.1143E-06	2.3394E-06	2.3923E-06
1.0E+10	5.9799E-07	6.7451E-07	6.3534E-07	6.2336E-07	7.0794E-07	5.5732E-07	5.6497E-07	6.9698E-07	5.7563E-07	5.7790E-07
1.5E+10	2.3465E-08	2.2072E-07	5.4303E-08	5.7737E-08	2.8609E-07	2.3239E-08	3.6443E-08	2.7677E-07	5.3417E-08	4.0679E-08
2.0E+10	8.3733E-09	2.0855E-07	3.9007E-08	4.2839E-08	2.7460E-07	9.2081E-09	2.2542E-08	2.6539E-07	3.9664E-08	2.6543E-08
3.0E+10	7.9484E-09	2.0776E-07	3.8511E-08	4.2344E-08	2.7367E-07	8.8096E-09	2.2118E-08	2.6450E-07	3.9206E-08	2.6102E-08
4.0E+10	7.9306E-09	2.0731E-07	3.8426E-08	4.2250E-08	2.7307E-07	8.7899E-09	2.2069E-08	2.6392E-07	3.9120E-08	2.6045E-08
5.0E+10	7.9131E-09	2.0685E-07	3.8341E-08	4.2157E-08	2.7247E-07	8.7706E-09	2.2021E-08	2.6334E-07	3.9034E-08	2.5987E-08
6.0E+10	7.8958E-09	2.0640E-07	3.8257E-08	4.2065E-08	2.7187E-07	8.7513E-09	2.1972E-08	2.6276E-07	3.8948E-08	2.5930E-08
8.0E+10	7.8611E-09	2.0549E-07	3.8089E-08	4.1880E-08	2.7067E-07	8.7129E-09	2.1876E-08	2.6161E-07	3.8778E-08	2.5816E-08
1.0E+11	7.8267E-09	2.0459E-07	3.7922E-08	4.1696E-08	2.6948E-07	8.6747E-09	2.1780E-08	2.6046E-07	3.8607E-08	2.5703E-08
1.5E+11	7.7411E-09	2.0235E-07	3.7507E-08	4.1240E-08	2.6653E-07	8.5799E-09	2.1542E-08	2.5761E-07	3.8185E-08	2.5422E-08
2.0E+11	7.6565E-09	2.0014E-07	3.7096E-08	4.0789E-08	2.6362E-07	8.4861E-09	2.1306E-08	2.5479E-07	3.7768E-08	2.5144E-08
3.0E+11	7.4901E-09	1.9579E-07	3.6289E-08	3.9902E-08	2.5789E-07	8.3015E-09	2.0843E-08	2.4925E-07	3.6947E-08	2.4598E-08
4.0E+11	7.3272E-09	1.9153E-07	3.5500E-08	3.9034E-08	2.5228E-07	8.1210E-09	2.0390E-08	2.4383E-07	3.6144E-08	2.4063E-08
5.0E+11	7.1680E-09	1.8737E-07	3.4728E-08	3.8185E-08	2.4679E-07	7.9444E-09	1.9947E-08	2.3853E-07	3.5358E-08	2.3540E-08
6.0E+11	7.0121E-09	1.8330E-07	3.3972E-08	3.7354E-08	2.4143E-07	7.7717E-09	1.9513E-08	2.3335E-07	3.4589E-08	2.3028E-08
8.0E+11	6.7106E-09	1.7541E-07	3.2510E-08	3.5747E-08	2.3104E-07	7.4374E-09	1.8674E-08	2.2331E-07	3.3102E-08	2.2037E-08
1.0E+12	6.4220E-09	1.6787E-07	3.1111E-08	3.4209E-08	2.2111E-07	7.1175E-09	1.7871E-08	2.1371E-07	3.1678E-08	2.1090E-08
1.5E+12	5.7537E-09	1.5040E-07	2.7873E-08	3.0648E-08	1.9809E-07	6.3768E-09	1.6011E-08	1.9147E-07	2.8381E-08	1.8895E-08
2.0E+12	5.1549E-09	1.3475E-07	2.4971E-08	2.7458E-08	1.7748E-07	5.7131E-09	1.4345E-08	1.7154E-07	2.5428E-08	1.6928E-08
3.0E+12	4.1378E-09	1.0816E-07	2.0044E-08	2.2040E-08	1.4246E-07	4.5860E-09	1.1514E-08	1.3769E-07	2.0411E-08	1.3588E-08
4.0E+12	3.3214E-09	8.6817E-08	1.6089E-08	1.7691E-08	1.1435E-07	3.6812E-09	9.2426E-09	1.1052E-07	1.6383E-08	1.0907E-08
5.0E+12	2.6661E-09	6.9686E-08	1.2915E-08	1.4200E-08	9.1786E-08	2.9550E-09	7.4190E-09	8.8715E-08	1.3151E-08	8.7554E-09
6.0E+12	2.1402E-09	5.5936E-08	1.0367E-08	1.1399E-08	7.3675E-08	2.3721E-09	5.9553E-09	7.1211E-08	1.0556E-08	7.0282E-09
8.0E+12	1.3791E-09	3.6040E-08	6.6798E-09	7.3449E-09	4.7470E-08	1.5287E-09	3.8373E-09	4.5882E-08	6.8017E-09	4.5288E-09
1.0E+13	8.8869E-10	2.3221E-08	4.3044E-09	4.7330E-09	3.0586E-08	9.8524E-10	2.4728E-09	2.9563E-08	4.3828E-09	2.9185E-09

(c) Total sensible decay power (MeV/s)

TIME(S)	TH232(F)	TH232(H)	U233(T)	U233(F)	U233(H)	U235(T)	U235(F)	U235(H)	U236(F)	NP237(F)
0.0	1.6236E+01	1.3572E+01	1.0178E+01	1.0335E+01	9.2985E+00	1.2790E+01	1.2866E+01	1.0412E+01	1.3755E+01	1.1753E+01
1.0E-01	1.6019E+01	1.3412E+01	1.0117E+01	1.0269E+01	9.2307E+00	1.2659E+01	1.2730E+01	1.0322E+01	1.3597E+01	1.1641E+01
1.5E-01	1.5918E+01	1.3338E+01	1.0088E+01	1.0237E+01	9.1984E+00	1.2598E+01	1.2666E+01	1.0279E+01	1.3522E+01	1.1588E+01
2.0E-01	1.5821E+01	1.3267E+01	1.0059E+01	1.0206E+01	9.1671E+00	1.2539E+01	1.2604E+01	1.0238E+01	1.3450E+01	1.1537E+01
3.0E-01	1.5640E+01	1.3132E+01	1.0004E+01	1.0147E+01	9.1072E+00	1.2427E+01	1.2487E+01	1.0159E+01	1.3315E+01	1.1438E+01
4.0E-01	1.5471E+01	1.3007E+01	9.9519E+00	1.0091E+01	9.0506E+00	1.2322E+01	1.2378E+01	1.0085E+01	1.3188E+01	1.1346E+01
5.0E-01	1.5315E+01	1.2890E+01	9.9021E+00	1.0038E+01	8.9968E+00	1.2224E+01	1.2276E+01	1.0014E+01	1.3068E+01	1.1259E+01
6.0E-01	1.5168E+01	1.2780E+01	9.8546E+00	9.9869E+00	8.9457E+00	1.2132E+01	1.2179E+01	9.9470E+00	1.2956E+01	1.1176E+01
8.0E-01	1.4899E+01	1.2578E+01	9.7654E+00	9.8917E+00	8.8500E+00	1.1961E+01	1.2000E+01	9.8221E+00	1.2748E+01	1.1021E+01
1.0E+00	1.4657E+01	1.2396E+01	9.6829E+00	9.8039E+00	8.7620E+00	1.1806E+01	1.1838E+01	9.7076E+00	1.2560E+01	1.0880E+01
1.5E+00	1.4143E+01	1.2003E+01	9.5000E+00	9.6099E+00	8.5680E+00	1.1471E+01	1.1487E+01	9.4567E+00	1.2152E+01	1.0572E+01
2.0E+00	1.3720E+01	1.1676E+01	9.3428E+00	9.4435E+00	8.4022E+00	1.1188E+01	1.1194E+01	9.2439E+00	1.1812E+01	1.0313E+01
3.0E+00	1.3051E+01	1.1149E+01	9.0821E+00	9.1683E+00	8.1290E+00	1.0730E+01	1.0721E+01	8.8964E+00	1.1265E+01	9.8930E+00
4.0E+00	1.2537E+01	1.0736E+01	8.8706E+00	8.9455E+00	7.9091E+00	1.0367E+01	1.0349E+01	8.6200E+00	1.0836E+01	9.5617E+00
5.0E+00	1.2121E+01	1.0397E+01	8.6929E+00	8.7585E+00	7.7257E+00	1.0068E+01	1.0044E+01	8.3919E+00	1.0487E+01	9.2899E+00
6.0E+00	1.1774E+01	1.0113E+01	8.5398E+00	8.5976E+00	7.5688E+00	9.8143E+00	9.7867E+00	8.1987E+00	1.0195E+01	9.0609E+00
8.0E+00	1.1220E+01	9.6545E+00	8.2854E+00	8.3311E+00	7.3113E+00	9.4039E+00	9.3724E+00	7.8855E+00	9.7266E+00	8.6918E+00
1.0E+01	1.0788E+01	9.2960E+00	8.0792E+00	8.1157E+00	7.1056E+00	9.0817E+00	9.0483E+00	7.6389E+00	9.3640E+00	8.4029E+00
1.5E+01	1.0006E+01	8.6485E+00	7.6893E+00	7.7109E+00	6.7258E+00	8.4995E+00	8.4645E+00	7.1915E+00	8.7185E+00	7.8819E+00
2.0E+01	9.4546E+00	8.1976E+00	7.4042E+00	7.4171E+00	6.4562E+00	8.0948E+00	8.0594E+00	6.8799E+00	8.2761E+00	7.5200E+00
3.0E+01	8.6859E+00	7.5759E+00	6.9942E+00	6.9977E+00	6.0798E+00	7.5397E+00	7.5042E+00	6.4523E+00	7.6760E+00	7.0233E+00
4.0E+01	8.1445E+00	7.1413E+00	6.6975E+00	6.6964E+00	5.8141E+00	7.1548E+00	7.1192E+00	6.1552E+00	7.2629E+00	6.6779E+00
5.0E+01	7.7268E+00	6.8060E+00	6.4638E+00	6.4600E+00	5.6075E+00	6.8594E+00	6.8238E+00	5.9262E+00	6.9473E+00	6.4120E+00
6.0E+01	7.3887E+00	6.5336E+00	6.2709E+00	6.2654E+00	5.4382E+00	6.6198E+00	6.5844E+00	5.7397E+00	6.6921E+00	6.1956E+00
8.0E+01	6.8676E+00	6.1108E+00	5.9652E+00	5.9580E+00	5.1713E+00	6.2468E+00	6.2121E+00	5.4473E+00	6.2965E+00	5.8576E+00
1.0E+02	6.4810E+00	5.7941E+00	5.7301E+00	5.7222E+00	4.9665E+00	5.9652E+00	5.9315E+00	5.2242E+00	5.9995E+00	5.6014E+00
1.5E+02	5.8374E+00	5.2599E+00	5.3177E+00	5.3097E+00	4.6074E+00	5.4817E+00	5.4509E+00	4.8354E+00	5.4934E+00	5.1601E+00
2.0E+02	5.4365E+00	4.9217E+00	5.0420E+00	5.0346E+00	4.3670E+00	5.1659E+00	5.1376E+00	4.5771E+00	5.1659E+00	4.8705E+00
3.0E+02	4.9497E+00	4.5017E+00	4.6766E+00	4.6706E+00	4.0480E+00	4.7575E+00	4.7328E+00	4.2374E+00	4.7460E+00	4.4927E+00
4.0E+02	4.6483E+00	4.2341E+00	4.4279E+00	4.4225E+00	3.8308E+00	4.4865E+00	4.4641E+00	4.0082E+00	4.4695E+00	4.2386E+00
5.0E+02	4.4308E+00	4.0369E+00	4.2371E+00	4.2316E+00	3.6642E+00	4.2819E+00	4.2609E+00	3.8333E+00	4.2615E+00	4.0444E+00
6.0E+02	4.2597E+00	3.8796E+00	4.0810E+00	4.0750E+00	3.5280E+00	4.1162E+00	4.0959E+00	3.6906E+00	4.0932E+00	3.8854E+00
8.0E+02	3.9965E+00	3.6348E+00	3.8328E+00	3.8249E+00	3.3118E+00	3.8543E+00	3.8348E+00	3.4644E+00	3.8271E+00	3.6314E+00
1.0E+03	3.7946E+00	3.4459E+00	3.6383E+00	3.6282E+00	3.1431E+00	3.6497E+00	3.6302E+00	3.2875E+00	3.6189E+00	3.4312E+00
1.5E+03	3.4260E+00	3.1013E+00	3.2818E+00	3.2667E+00	2.8355E+00	3.2738E+00	3.2538E+00	2.9638E+00	3.2365E+00	3.0629E+00
2.0E+03	3.1617E+00	2.8555E+00	3.0296E+00	3.0108E+00	2.6197E+00	3.0078E+00	2.9871E+00	2.7353E+00	2.9664E+00	2.8038E+00
3.0E+03	2.7925E+00	2.5141E+00	2.6858E+00	2.6621E+00	2.3273E+00	2.6462E+00	2.6247E+00	2.4242E+00	2.6012E+00	2.4561E+00
4.0E+03	2.5403E+00	2.2818E+00	2.4567E+00	2.4305E+00	2.1340E+00	2.4073E+00	2.3858E+00	2.2176E+00	2.3611E+00	2.2306E+00
5.0E+03	2.3537E+00	2.1101E+00	2.2896E+00	2.2620E+00	1.9938E+00	2.2345E+00	2.2136E+00	2.0676E+00	2.1880E+00	2.0704E+00
6.0E+03	2.2078E+00	1.9760E+00	2.1599E+00	2.1319E+00	1.8856E+00	2.1015E+00	2.0815E+00	1.9520E+00	2.0553E+00	1.9494E+00
8.0E+03	1.9903E+00	1.7766E+00	1.9670E+00	1.9396E+00	1.7254E+00	1.9063E+00	1.8883E+00	1.7815E+00	1.8610E+00	1.7752E+00
1.0E+04	1.8325E+00	1.6324E+00	1.8265E+00	1.8006E+00	1.6087E+00	1.7667E+00	1.7508E+00	1.6586E+00	1.7226E+00	1.6530E+00
1.5E+04	1.5699E+00	1.3950E+00	1.5905E+00	1.5686E+00	1.4102E+00	1.5394E+00	1.5275E+00	1.4527E+00	1.4982E+00	1.4561E+00
2.0E+04	1.4034E+00	1.2462E+00	1.4384E+00	1.4195E+00	1.2784E+00	1.3982E+00	1.3887E+00	1.3186E+00	1.3597E+00	1.3331E+00
3.0E+04	1.1972E+00	1.0629E+00	1.2454E+00	1.2297E+00	1.1057E+00	1.2221E+00	1.2152E+00	1.1441E+00	1.1881E+00	1.1764E+00
4.0E+04	1.0714E+00	9.5028E-01	1.1233E+00	1.1090E+00	9.9441E-01	1.1093E+00	1.1039E+00	1.0307E+00	1.0788E+00	1.0732E+00
5.0E+04	9.8574E-01	8.7306E-01	1.0374E+00	1.0239E+00	9.1575E-01	1.0281E+00	1.0236E+00	9.4974E-01	1.0004E+00	9.9734E-01
6.0E+04	9.2369E-01	8.1664E-01	9.7332E-01	9.6016E-01	8.5689E-01	9.6618E-01	9.6225E-01	8.8858E-01	9.4072E-01	9.3851E-01
8.0E+04	8.3964E-01	7.3925E-01	8.8311E-01	8.7025E-01	7.7380E-01	8.7705E-01	8.7377E-01	8.0144E-01	8.5535E-01	8.5236E-01
1.0E+05	7.8473E-01	6.8780E-01	8.2153E-01	8.0882E-01	7.1677E-01	8.1519E-01	8.1218E-01	7.4118E-01	7.9633E-01	7.9149E-01
1.5E+05	7.0295E-01	6.0911E-01	7.2502E-01	7.1262E-01	6.2659E-01	7.1774E-01	7.1468E-01	6.4540E-01	7.0313E-01	6.9366E-01
2.0E+05	6.5555E-01	5.6208E-01	6.6628E-01	6.5423E-01	5.7138E-01	6.5885E-01	6.5541E-01	5.8646E-01	6.4615E-01	6.3330E-01
3.0E+05	5.9780E-01	5.0391E-01	5.9313E-01	5.8181E-01	5.0325E-01	5.8653E-01	5.8227E-01	5.1336E-01	5.7514E-01	5.5814E-01
4.0E+05	5.5906E-01	4.6543E-01	5.4484E-01	5.3423E-01	4.5943E-01	5.3945E-01	5.3457E-01	4.6625E-01	5.2852E-01	5.0920E-01
5.0E+05	5.2839E-01	4.3580E-01	5.0796E-01	4.9800E-01	4.2673E-01	5.0373E-01	4.9841E-01	4.3122E-01	4.9315E-01	4.7244E-01
6.0E+05	5.0234E-01	4.1132E-01	4.7778E-01	4.6841E-01	4.0040E-01	4.7457E-01	4.6896E-01	4.0322E-01	4.6439E-01	4.4281E-01
8.0E+05	4.5906E-01	3.7196E-01	4.2994E-01	4.2159E-01	3.5922E-01	4.2839E-01	4.2249E-01	3.6003E-01	4.1912E-01	3.9673E-01
1.0E+06	4.2374E-01	3.4093E-01	3.9292E-01	3.8543E-01	3.2769E-01	3.9267E-01	3.8672E-01	3.2761E-01	3.8433E-01	3.6185E-01
1.5E+06	3.5704E-01	2.8455E-01	3.2709E-01	3.2125E-01	2.7217E-01	3.2908E-01	3.2350E-01	2.7201E-01	3.2282E-01	3.0150E-01
2.0E+06	3.0932E-01	2.4553E-01	2.8232E-01	2.7765E-01	2.3480E-01	2.8568E-01	2.8066E-01	2.3549E-01	2.8105E-01	2.6142E-01
3.0E+06	2.4520E-01	1.9407E-01	2.2346E-01	2.2031E-01	1.8617E-01	2.2830E-01	2.2424E-01	1.8842E-01	2.2583E-01	2.0932E-01
4.0E+06	2.0464E-01	1.6165E-01	1.8610E-01	1.8383E-01	1.5549E-01	1.9162E-01	1.8823E-01	1.5863E-01	1.9040E-01	1.7631E-01
5.0E+06	1.7690E-01	1.3937E-01	1.6016E-01	1.5842E-01	1.3418E-01	1.6598E-01	1.6306E-01	1.3776E-01	1.6549E-01	1.5334E-01
6.0E+06	1.5658E-01	1.2293E-01	1.4083E-01	1.3941E-01	1.1827E-01	1.4675E-01	1.4418E-01	1.2203E-01	1.4672E-01	1.3616E-01
8.0E+06	1.2785E-01	9.9547E-02	1.1301E-01	1.1193E-01	9.5312E-02	1.1887E-01	1.1679E-01	9.9107E-02	1.1936E-01	1.1135E-01
1.0E+07	1.0755E-01	8.2995E-02	9.3133E-02	9.2224E-02	7.8880E-02	9.8769E-02	9.7066E-02	8.2556E-02	9.9560E-02	9.3535E-02
1.5E+07	7.4421E-02	5.6256E-02	6.0916E-02	6.0203E-02	5.2305E-02	6.5852E-02	6.4799E-02	5.5591E-02	6.7056E-02	6.4415E-02
2.0E+07	5.4974E-02	4.0930E-02	4.2604E-02	4.1988E-02	3.7246E-02	4.6851E-02	4.6191E-02	4.0157E-02	4.8222E-02	4.7464E-02
3.0E+07	3.4887E-02	2.5731E-02	2.5014E-02	2.4518E-02	2.2753E-02	2.8119E-02	2.7827E-02	2.4988E-02	2.9457E-02	3.0198E-02
4.0E+07	2.5118E-02	1.8751E-02	1.7484E-02	1.7077E-02	1.6460E-02	1.9739E-02	1.9580E-02	1.8138E-02	2.0873E-02	2.1922E-02
5.0E+07	1.9222E-02	1.4676E-02	1.3386E-02	1.3050E-02	1.2951E-02	1.5009E-02	1.4904E-02	1.4190E-02	1.5921E-02	1.6935E-02
6.0E+07	1.5170E-02	1.1892E-02	1.0721E-02	1.0439E-02	1.0604E-02	1.1870E-02	1.1789E-02	1.1504E-02	1.2581E-02	1.3467E-02
8.0E+07	1.0008E-02	8.2755E-03	7.4040E-03	7.1930E-03	7.5524E-03	7.9214E-03	7.8563E-03	7.9976E-03	8.3158E-03	8.9177E-03
1.0E+08	7.0773E-03	6.1250E-03	5.5181E-03	5.3462E-03	5.6953E-03	5.6718E-03	5.6048E-03	5.8824E-03	5.8443E-03	6.2052E-03
1.5E+08	4.0519E-03	3.6817E-03	3.5227E-03	3.3873E-03	3.4707E-03	3.3087E-03	3.2225E-03	3.4159E-03	3.1850E-03	3.1763E-03
2.0E+08	3.1953E-03	2.8405E-03	2.9170E-03	2.7908E-03	2.6304E-03	2.6177E-03	2.5189E-03	2.5384E-03	2.3831E-03	2.2233E-03
3.0E+08	2.7138E-03	2.2612E-03	2.5260E-03	2.4074E-03	2.0077E-03	2.2213E-03	2.1181E-03	1.9401E-03	1.9383E-03	1.7147E-03
4.0E+08	2.4778E-03	1.9952E-03	2.3123E-03	2.2012E-03	1.7313E-03	2.0308E-03	1.9323E-03	1.6872E-03	1.7541E-03	1.5394E-03
5.0E+08	2.2826E-03	1.8076E-03	2.1330E-03	2.0294E-03	1.5516E-03	1.8740E-03	1.7818E-03	1.5202E-03	1.6129E-03	1.4145E-03
6.0E+08	2.1081E-03	1.6554E-03	1.9720E-03	1.8759E-03	1.4141E-03	1.7335E-03	1.6478E-03	1.3896E-03	1.4896E-03	1.3068E-03
8.0E+08	1.8039E-03	1.4068E-03	1.6902E-03	1.6075E-03	1.1990E-03	1.4873E-03	1.4134E-03	1.1812E-03	1.2766E-03	1.1210E-03
1.0E+09	1.5464E-03	1.2033E-03	1.4509E-03	1.3798E-03	1.0262E-03	1.2777E-03	1.2143E-03	1.0119E-03	1.0965E-03	9.6388E-04
1.5E+09	1.0556E-03	8.1995E-04	9.9273E-04	9.4421E-04	7.0148E-04	8.7551E-04	8.3229E-04	6.9230E-04	7.5182E-04	6.6250E-04
2.0E+09	7.2235E-04	5.6085E-04	6.8038E-04	6.4724E-04	4.8102E-04	6.0062E-04	5.7118E-04	4.7485E-04	5.1631E-04	4.5598E-04
3.0E+09	3.3941E-04	2.6367E-04	3.2035E-04	3.0488E-04	2.2707E-04	2.8316E-04	2.6949E-04	2.2411E-04	2.4403E-04	2.1643E-04
4.0E+09	1.5981E-04	1.2438E-04	1.5109E-04	1.4386E-04	1.0759E-04	1.3368E-04	1.2733E-04	1.0611E-04	1.1554E-04	1.0291E-04
5.0E+09	7.5340E-05	5.8849E-05	7.1348E-05	6.7974E-05	5.1201E-05	6.3184E-05	6.0246E-05	5.0433E-05	5.4787E-05	4.9027E-05
6.0E+09	3.5561E-05	2.7964E-05	3.3747E-05	3.2173E-05	2.4536E-05	2.9912E-05	2.8554E-05	2.4125E-05	2.6036E-05	2.3422E-05
8.0E+09	7.9694E-06	6.5090E-06	7.6215E-06	7.2811E-06	5.9082E-06	6.7615E-06	6.4805E-06	5.7749E-06	5.9585E-06	5.4351E-06
1.0E+10	1.8190E-06	1.7099E-06	1.7825E-06	1.7115E-06	1.6862E-06	1.5723E-06	1.5242E-06	1.6343E-06	1.4314E-06	1.3333E-06
1.5E+10	7.5108E-08	3.3734E-07	1.2068E-07	1.2330E-07	4.3455E-07	8.3102E-08	9.8445E-08	4.2193E-07	1.1980E-07	1.1192E-07
2.0E+10	2.5878E-08	2.9682E-07	7.3080E-08	7.7422E-08	3.8830E-07	3.6919E-08	5.3854E-08	3.7943E-07	7.7278E-08	6.3692E-08
3.0E+10	2.1531E-08	2.9276E-07	6.8661E-08	7.3106E-08	3.8189E-07	3.1602E-08	4.8633E-08	3.7344E-07	7.1904E-08	5.5322E-08
4.0E+10	2.1208E-08	2.9193E-07	6.8240E-08	7.2685E-08	3.8073E-07	3.1173E-08	4.8175E-08	3.7230E-07	7.1381E-08	5.4570E-08
5.0E+10	2.1150E-08	2.9127E-07	6.8085E-08	7.2520E-08	3.7988E-07	3.1096E-08	4.8059E-08	3.7147E-07	7.1213E-08	5.4417E-08
6.0E+10	2.1115E-08	2.9064E-07	6.7953E-08	7.2378E-08	3.7906E-07	3.1049E-08	4.7973E-08	3.7067E-07	7.1077E-08	5.4317E-08
8.0E+10	2.1049E-08	2.8937E-07	6.7695E-08	7.2100E-08	3.7742E-07	3.0961E-08	4.7808E-08	3.6908E-07	7.0810E-08	5.4127E-08
1.0E+11	2.0984E-08	2.8811E-07	6.7437E-08	7.1822E-08	3.7579E-07	3.0873E-08	4.7644E-08	3.6750E-07	7.0545E-08	5.3938E-08
1.5E+11	2.0821E-08	2.8499E-07	6.6799E-08	7.1134E-08	3.7175E-07	3.0656E-08	4.7235E-08	3.6359E-07	6.9886E-08	5.3469E-08
2.0E+11	2.0660E-08	2.8189E-07	6.6168E-08	7.0453E-08	3.6776E-07	3.0441E-08	4.6831E-08	3.5971E-07	6.9235E-08	5.3004E-08
3.0E+11	2.0343E-08	2.7581E-07	6.4924E-08	6.9112E-08	3.5991E-07	3.0016E-08	4.6034E-08	3.5208E-07	6.7951E-08	5.2089E-08
4.0E+11	2.0032E-08	2.6986E-07	6.3706E-08	6.7799E-08	3.5222E-07	2.9598E-08	4.5253E-08	3.4462E-07	6.6694E-08	5.1191E-08
5.0E+11	1.9727E-08	2.6405E-07	6.2513E-08	6.6513E-08	3.4471E-07	2.9188E-08	4.4487E-08	3.3732E-07	6.5462E-08	5.0311E-08
6.0E+11	1.9428E-08	2.5836E-07	6.1345E-08	6.5254E-08	3.3735E-07	2.8785E-08	4.3736E-08	3.3018E-07	6.4255E-08	4.9449E-08
8.0E+11	1.8846E-08	2.4735E-07	5.9081E-08	6.2814E-08	3.2312E-07	2.7998E-08	4.2278E-08	3.1635E-07	6.1915E-08	4.7774E-08
1.0E+12	1.8286E-08	2.3682E-07	5.6909E-08	6.0473E-08	3.0950E-07	2.7239E-08	4.0876E-08	3.0311E-07	5.9669E-08	4.6164E-08
1.5E+12	1.6976E-08	2.1244E-07	5.1857E-08	5.5031E-08	2.7793E-07	2.5450E-08	3.7602E-08	2.7243E-07	5.4439E-08	4.2405E-08
2.0E+12	1.5784E-08	1.9062E-07	4.7302E-08	5.0126E-08	2.4963E-07	2.3805E-08	3.4631E-08	2.4491E-07	4.9715E-08	3.8996E-08
3.0E+12	1.3708E-08	1.5358E-07	3.9481E-08	4.1713E-08	2.0150E-07	2.0901E-08	2.9485E-08	1.9808E-07	4.1588E-08	3.3095E-08
4.0E+12	1.1979E-08	1.2387E-07	3.3101E-08	3.4860E-08	1.6280E-07	1.8434E-08	2.5230E-08	1.6039E-07	3.4938E-08	2.8223E-08
5.0E+12	1.0533E-08	1.0003E-07	2.7886E-08	2.9267E-08	1.3168E-07	1.6331E-08	2.1702E-08	1.3003E-07	2.9485E-08	2.4190E-08
6.0E+12	9.3191E-09	8.0889E-08	2.3612E-08	2.4692E-08	1.0663E-07	1.4531E-08	1.8767E-08	1.0558E-07	2.5003E-08	2.0840E-08
8.0E+12	7.4294E-09	5.3155E-08	1.7212E-08	1.7862E-08	7.0233E-08	1.1651E-08	1.4265E-08	6.9978E-08	1.8256E-08	1.5717E-08
1.0E+13	6.0637E-09	3.5224E-08	1.2848E-08	1.3230E-08	4.6608E-08	9.4944E-09	1.1084E-08	4.6793E-08	1.3623E-08	1.2114E-08

Table 4.1.2 Continued

(a) Beta decay power (MeV/s)

TIME(S)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU239(H)	PU240(F)	PU241(T)	PU241(F)	PU242(F)	CF252(S)
0.0	8.2074E+00	7.2742E+00	5.1679E+00	5.2426E+00	4.1600E+00	5.7745E+00	6.6568E+00	6.5727E+00	6.7411E+00	5.9884E+00
1.0E-01	8.0636E+00	7.1504E+00	5.1240E+00	5.1959E+00	4.1281E+00	5.7181E+00	6.5757E+00	6.4940E+00	6.6610E+00	5.9369E+00
1.5E-01	7.9970E+00	7.0930E+00	5.1029E+00	5.1735E+00	4.1128E+00	5.6912E+00	6.5373E+00	6.4567E+00	6.6231E+00	5.9120E+00
2.0E-01	7.9333E+00	7.0382E+00	5.0824E+00	5.1517E+00	4.0978E+00	5.6651E+00	6.5003E+00	6.4206E+00	6.5865E+00	5.8877E+00
3.0E-01	7.8139E+00	6.9354E+00	5.0429E+00	5.1099E+00	4.0689E+00	5.6151E+00	6.4298E+00	6.3519E+00	6.5166E+00	5.8407E+00
4.0E-01	7.7036E+00	6.8405E+00	5.0054E+00	5.0702E+00	4.0412E+00	5.5677E+00	6.3635E+00	6.2872E+00	6.4508E+00	5.7957E+00
5.0E-01	7.6009E+00	6.7523E+00	4.9696E+00	5.0323E+00	4.0148E+00	5.5227E+00	6.3009E+00	6.2261E+00	6.3885E+00	5.7524E+00
6.0E-01	7.5048E+00	6.6699E+00	4.9354E+00	4.9961E+00	3.9894E+00	5.4798E+00	6.2415E+00	6.1680E+00	6.3294E+00	5.7109E+00
8.0E-01	7.3288E+00	6.5194E+00	4.8711E+00	4.9282E+00	3.9415E+00	5.3994E+00	6.1311E+00	6.0601E+00	6.2192E+00	5.6323E+00
1.0E+00	7.1707E+00	6.3846E+00	4.8116E+00	4.8655E+00	3.8970E+00	5.3254E+00	6.0302E+00	5.9613E+00	6.1181E+00	5.5592E+00
1.5E+00	6.8329E+00	6.0982E+00	4.6799E+00	4.7268E+00	3.7977E+00	5.1622E+00	5.8102E+00	5.7457E+00	5.8966E+00	5.3962E+00
2.0E+00	6.5545E+00	5.8633E+00	4.5671E+00	4.6083E+00	3.7120E+00	5.0230E+00	5.6248E+00	5.5637E+00	5.7086E+00	5.2559E+00
3.0E+00	6.1144E+00	5.4926E+00	4.3813E+00	4.4135E+00	3.5700E+00	4.7944E+00	5.3249E+00	5.2688E+00	5.4023E+00	5.0243E+00
4.0E+00	5.7771E+00	5.2077E+00	4.2324E+00	4.2578E+00	3.4556E+00	4.6118E+00	5.0891E+00	5.0365E+00	5.1598E+00	4.8391E+00
5.0E+00	5.5076E+00	4.9788E+00	4.1089E+00	4.1289E+00	3.3604E+00	4.4609E+00	4.8969E+00	4.8467E+00	4.9611E+00	4.6858E+00
6.0E+00	5.2862E+00	4.7894E+00	4.0042E+00	4.0198E+00	3.2795E+00	4.3331E+00	4.7360E+00	4.6878E+00	4.7943E+00	4.5557E+00
8.0E+00	4.9416E+00	4.4919E+00	3.8339E+00	3.8429E+00	3.1477E+00	4.1264E+00	4.4799E+00	4.4343E+00	4.5280E+00	4.3441E+00
1.0E+01	4.6836E+00	4.2667E+00	3.6997E+00	3.7040E+00	3.0437E+00	3.9647E+00	4.2828E+00	4.2390E+00	4.3228E+00	4.1768E+00
1.5E+01	4.2463E+00	3.8811E+00	3.4557E+00	3.4536E+00	2.8555E+00	3.6744E+00	3.9362E+00	3.8958E+00	3.9622E+00	3.8711E+00
2.0E+01	3.9638E+00	3.6309E+00	3.2855E+00	3.2807E+00	2.7253E+00	3.4752E+00	3.7025E+00	3.6648E+00	3.7198E+00	3.6566E+00
3.0E+01	3.6021E+00	3.3119E+00	3.0519E+00	3.0457E+00	2.5483E+00	3.2060E+00	3.3905E+00	3.3575E+00	3.3983E+00	3.3614E+00
4.0E+01	3.3658E+00	3.1047E+00	2.8900E+00	2.8839E+00	2.4260E+00	3.0222E+00	3.1793E+00	3.1500E+00	3.1819E+00	3.1570E+00
5.0E+01	3.1906E+00	2.9515E+00	2.7660E+00	2.7602E+00	2.3320E+00	2.8825E+00	3.0198E+00	2.9934E+00	3.0194E+00	3.0011E+00
6.0E+01	3.0518E+00	2.8299E+00	2.6655E+00	2.6600E+00	2.2554E+00	2.7702E+00	2.8921E+00	2.8680E+00	2.8897E+00	2.8753E+00
8.0E+01	2.8405E+00	2.6447E+00	2.5096E+00	2.5044E+00	2.1351E+00	2.5970E+00	2.6968E+00	2.6760E+00	2.6921E+00	2.6811E+00
1.0E+02	2.6846E+00	2.5076E+00	2.3923E+00	2.3873E+00	2.0432E+00	2.4679E+00	2.5523E+00	2.5336E+00	2.5463E+00	2.5356E+00
1.5E+02	2.4240E+00	2.2773E+00	2.1915E+00	2.1868E+00	1.8831E+00	2.2489E+00	2.3098E+00	2.2947E+00	2.3027E+00	2.2868E+00
2.0E+02	2.2580E+00	2.1298E+00	2.0595E+00	2.0556E+00	1.7763E+00	2.1070E+00	2.1544E+00	2.1416E+00	2.1468E+00	2.1244E+00
3.0E+02	2.0474E+00	1.9407E+00	1.8854E+00	1.8831E+00	1.6340E+00	1.9218E+00	1.9538E+00	1.9441E+00	1.9463E+00	1.9141E+00
4.0E+02	1.9103E+00	1.8159E+00	1.7667E+00	1.7657E+00	1.5366E+00	1.7968E+00	1.8196E+00	1.8119E+00	1.8129E+00	1.7753E+00
5.0E+02	1.8085E+00	1.7222E+00	1.6754E+00	1.6752E+00	1.4616E+00	1.7013E+00	1.7178E+00	1.7114E+00	1.7121E+00	1.6721E+00
6.0E+02	1.7270E+00	1.6468E+00	1.6006E+00	1.6008E+00	1.4003E+00	1.6233E+00	1.6353E+00	1.6296E+00	1.6307E+00	1.5900E+00
8.0E+02	1.5999E+00	1.5290E+00	1.4819E+00	1.4821E+00	1.3028E+00	1.4999E+00	1.5056E+00	1.5008E+00	1.5030E+00	1.4636E+00
1.0E+03	1.5020E+00	1.4383E+00	1.3895E+00	1.3891E+00	1.2269E+00	1.4042E+00	1.4059E+00	1.4013E+00	1.4050E+00	1.3680E+00
1.5E+03	1.3265E+00	1.2759E+00	1.2239E+00	1.2215E+00	1.0903E+00	1.2332E+00	1.2293E+00	1.2244E+00	1.2312E+00	1.2003E+00
2.0E+03	1.2066E+00	1.1646E+00	1.1117E+00	1.1076E+00	9.9733E-01	1.1175E+00	1.1109E+00	1.1055E+00	1.1143E+00	1.0881E+00
3.0E+03	1.0523E+00	1.0197E+00	9.6833E-01	9.6189E-01	8.7769E-01	9.6951E-01	9.6058E-01	9.5444E-01	9.6506E-01	9.4528E-01
4.0E+03	9.5719E-01	9.2886E-01	8.8064E-01	8.7304E-01	8.0402E-01	8.7887E-01	8.6926E-01	8.6268E-01	8.7376E-01	8.5880E-01
5.0E+03	8.9220E-01	8.6603E-01	8.2119E-01	8.1304E-01	7.5371E-01	8.1743E-01	8.0779E-01	8.0092E-01	8.1194E-01	8.0116E-01
6.0E+03	8.4424E-01	8.1931E-01	7.7770E-01	7.6930E-01	7.1660E-01	7.7259E-01	7.6318E-01	7.5610E-01	7.6687E-01	7.5985E-01
8.0E+03	7.7611E-01	7.5267E-01	7.1664E-01	7.0818E-01	6.6373E-01	7.1000E-01	7.0135E-01	6.9400E-01	7.0411E-01	7.0344E-01
1.0E+04	7.2787E-01	7.0551E-01	6.7395E-01	6.6564E-01	6.2593E-01	6.6669E-01	6.5891E-01	6.5139E-01	6.6086E-01	6.6510E-01
1.5E+04	6.4634E-01	6.2616E-01	6.0259E-01	5.9478E-01	5.6062E-01	5.9537E-01	5.8984E-01	5.8210E-01	5.9014E-01	6.0224E-01
2.0E+04	5.9133E-01	5.7277E-01	5.5469E-01	5.4729E-01	5.1522E-01	5.4820E-01	5.4482E-01	5.3698E-01	5.4384E-01	5.6047E-01
3.0E+04	5.1637E-01	4.9992E-01	4.8927E-01	4.8249E-01	4.5206E-01	4.8435E-01	4.8461E-01	4.7668E-01	4.8161E-01	5.0400E-01
4.0E+04	4.6527E-01	4.5019E-01	4.4432E-01	4.3800E-01	4.0877E-01	4.4054E-01	4.4352E-01	4.3553E-01	4.3898E-01	4.6543E-01
5.0E+04	4.2770E-01	4.1357E-01	4.1085E-01	4.0492E-01	3.7698E-01	4.0783E-01	4.1280E-01	4.0477E-01	4.0706E-01	4.3650E-01
6.0E+04	3.9897E-01	3.8547E-01	3.8487E-01	3.7927E-01	3.5259E-01	3.8236E-01	3.8878E-01	3.8074E-01	3.8208E-01	4.1369E-01
8.0E+04	3.5806E-01	3.4515E-01	3.4705E-01	3.4198E-01	3.1745E-01	3.4513E-01	3.5345E-01	3.4543E-01	3.4534E-01	3.7951E-01
1.0E+05	3.3023E-01	3.1735E-01	3.2061E-01	3.1595E-01	2.9297E-01	3.1900E-01	3.2847E-01	3.2050E-01	3.1939E-01	3.5466E-01
1.5E+05	2.8750E-01	2.7387E-01	2.7882E-01	2.7478E-01	2.5393E-01	2.7760E-01	2.8857E-01	2.8073E-01	2.7800E-01	3.1318E-01
2.0E+05	2.6242E-01	2.4789E-01	2.5367E-01	2.4998E-01	2.3002E-01	2.5270E-01	2.6435E-01	2.5662E-01	2.5303E-01	2.8670E-01
3.0E+05	2.3277E-01	2.1704E-01	2.2357E-01	2.2025E-01	2.0111E-01	2.2299E-01	2.3516E-01	2.2766E-01	2.2332E-01	2.5390E-01
4.0E+05	2.1434E-01	1.9810E-01	2.0489E-01	2.0182E-01	1.8326E-01	2.0468E-01	2.1696E-01	2.0972E-01	2.0515E-01	2.3374E-01
5.0E+05	2.0085E-01	1.8448E-01	1.9135E-01	1.8847E-01	1.7045E-01	1.9148E-01	2.0372E-01	1.9675E-01	1.9212E-01	2.1952E-01
6.0E+05	1.9013E-01	1.7380E-01	1.8069E-01	1.7798E-01	1.6044E-01	1.8113E-01	1.9327E-01	1.8657E-01	1.8193E-01	2.0854E-01
8.0E+05	1.7358E-01	1.5760E-01	1.6444E-01	1.6201E-01	1.4527E-01	1.6543E-01	1.7725E-01	1.7106E-01	1.6646E-01	1.9188E-01
1.0E+06	1.6104E-01	1.4555E-01	1.5228E-01	1.5008E-01	1.3396E-01	1.5372E-01	1.6517E-01	1.5944E-01	1.5491E-01	1.7922E-01
1.5E+06	1.3893E-01	1.2484E-01	1.3127E-01	1.2949E-01	1.1458E-01	1.3350E-01	1.4402E-01	1.3927E-01	1.3488E-01	1.5649E-01
2.0E+06	1.2384E-01	1.1109E-01	1.1725E-01	1.1577E-01	1.0185E-01	1.2001E-01	1.2975E-01	1.2576E-01	1.2150E-01	1.4086E-01
3.0E+06	1.0368E-01	9.3060E-02	9.8967E-02	9.7867E-02	8.5555E-02	1.0244E-01	1.1114E-01	1.0816E-01	1.0409E-01	1.2067E-01
4.0E+06	9.0552E-02	8.1401E-02	8.7346E-02	8.6473E-02	7.5310E-02	9.1271E-02	9.9448E-02	9.7021E-02	9.3095E-02	1.0845E-01
5.0E+06	8.1228E-02	7.3079E-02	7.9222E-02	7.8491E-02	6.8131E-02	8.3454E-02	9.1374E-02	8.9260E-02	8.5423E-02	1.0035E-01
6.0E+06	7.4159E-02	6.6722E-02	7.3129E-02	7.2492E-02	6.2704E-02	7.7572E-02	8.5370E-02	8.3434E-02	7.9660E-02	9.4516E-02
8.0E+06	6.3859E-02	5.7369E-02	6.4301E-02	6.3782E-02	5.4764E-02	6.8983E-02	7.6678E-02	7.4923E-02	7.1238E-02	8.6273E-02
1.0E+07	5.6440E-02	5.0585E-02	5.7913E-02	5.7471E-02	4.8993E-02	6.2684E-02	7.0293E-02	6.8634E-02	6.5032E-02	8.0230E-02
1.5E+07	4.4091E-02	3.9293E-02	4.6982E-02	4.6664E-02	3.9229E-02	5.1640E-02	5.8861E-02	5.7383E-02	5.4019E-02	6.8958E-02
2.0E+07	3.6308E-02	3.2242E-02	3.9703E-02	3.9465E-02	3.2898E-02	4.4034E-02	5.0694E-02	4.9383E-02	4.6290E-02	6.0287E-02
3.0E+07	2.6668E-02	2.3649E-02	3.0010E-02	2.9865E-02	2.4728E-02	3.3552E-02	3.9003E-02	3.7975E-02	3.5427E-02	4.6905E-02
4.0E+07	2.0527E-02	1.8258E-02	2.3417E-02	2.3322E-02	1.9317E-02	2.6238E-02	3.0614E-02	2.9807E-02	2.7738E-02	3.6816E-02
5.0E+07	1.6096E-02	1.4389E-02	1.8502E-02	1.8437E-02	1.5332E-02	2.0731E-02	2.4222E-02	2.3586E-02	2.1916E-02	2.9010E-02
6.0E+07	1.2747E-02	1.1466E-02	1.4718E-02	1.4673E-02	1.2281E-02	1.6475E-02	1.9253E-02	1.8751E-02	1.7407E-02	2.2924E-02
8.0E+07	8.1851E-03	7.4692E-03	9.4656E-03	9.4419E-03	8.0496E-03	1.0551E-02	1.2306E-02	1.1988E-02	1.1124E-02	1.4434E-02
1.0E+08	5.4410E-03	5.0453E-03	6.2350E-03	6.2194E-03	5.4344E-03	6.8999E-03	8.0023E-03	7.7979E-03	7.2481E-03	9.2045E-03
1.5E+08	2.4021E-03	2.3137E-03	2.5456E-03	2.5309E-03	2.3948E-03	2.7217E-03	3.0482E-03	2.9711E-03	2.8095E-03	3.2396E-03
2.0E+08	1.4752E-03	1.4478E-03	1.3794E-03	1.3611E-03	1.3877E-03	1.4002E-03	1.4735E-03	1.4350E-03	1.4056E-03	1.3681E-03
3.0E+08	1.0280E-03	9.9893E-04	8.2881E-04	8.0810E-04	8.5784E-04	7.8428E-04	7.4920E-04	7.2716E-04	7.5524E-04	5.2278E-04
4.0E+08	9.0652E-04	8.6732E-04	7.0982E-04	6.8953E-04	7.1791E-04	6.6044E-04	6.1688E-04	5.9739E-04	6.2900E-04	3.8204E-04
5.0E+08	8.2906E-04	7.8614E-04	6.4614E-04	6.2688E-04	6.4190E-04	5.9887E-04	5.5764E-04	5.3936E-04	5.6883E-04	3.3114E-04
6.0E+08	7.6411E-04	7.2107E-04	5.9499E-04	5.7688E-04	5.8503E-04	5.5071E-04	5.1273E-04	4.9554E-04	5.2260E-04	2.9867E-04
8.0E+08	6.5333E-04	6.1395E-04	5.0873E-04	4.9292E-04	4.9556E-04	4.7041E-04	4.3831E-04	4.2326E-04	4.4617E-04	2.5131E-04
1.0E+09	5.6021E-04	5.2557E-04	4.3647E-04	4.2278E-04	4.2355E-04	4.0349E-04	3.7631E-04	3.6324E-04	3.8275E-04	2.1471E-04
1.5E+09	3.8262E-04	3.5832E-04	2.9876E-04	2.8930E-04	2.8864E-04	2.7623E-04	2.5815E-04	2.4910E-04	2.6226E-04	1.4727E-04
2.0E+09	2.6175E-04	2.4491E-04	2.0490E-04	1.9841E-04	1.9750E-04	1.8954E-04	1.7746E-04	1.7121E-04	1.8012E-04	1.0164E-04
3.0E+09	1.2279E-04	1.1481E-04	9.6665E-05	9.3607E-05	9.2992E-05	8.9529E-05	8.4094E-05	8.1127E-05	8.5230E-05	4.8761E-05
4.0E+09	5.7748E-05	5.4025E-05	4.5739E-05	4.4303E-05	4.4048E-05	4.2430E-05	3.9983E-05	3.8575E-05	4.0475E-05	2.3598E-05
5.0E+09	2.7238E-05	2.5539E-05	2.1722E-05	2.1048E-05	2.1015E-05	2.0193E-05	1.9094E-05	1.8426E-05	1.9314E-05	1.1559E-05
6.0E+09	1.2905E-05	1.2163E-05	1.0374E-05	1.0059E-05	1.0136E-05	9.6714E-06	9.1808E-06	8.8638E-06	9.2850E-06	5.7653E-06
8.0E+09	2.9732E-06	2.8902E-06	2.4452E-06	2.3781E-06	2.5093E-06	2.3032E-06	2.2064E-06	2.1363E-06	2.2392E-06	1.5707E-06
1.0E+10	7.4237E-07	7.9920E-07	6.3793E-07	6.2525E-07	7.4133E-07	6.1369E-07	5.9285E-07	5.7898E-07	6.0945E-07	5.2091E-07
1.5E+10	6.8364E-08	1.5605E-07	7.6233E-08	7.7959E-08	1.5909E-07	7.8574E-08	7.0723E-08	7.3875E-08	7.7616E-08	8.9344E-08
2.0E+10	3.2399E-08	1.1893E-07	4.3186E-08	4.5029E-08	1.1922E-07	4.4203E-08	3.4342E-08	3.8386E-08	3.8692E-08	3.1365E-08
3.0E+10	2.3593E-08	1.0961E-07	3.4688E-08	3.6466E-08	1.0959E-07	3.4953E-08	2.4167E-08	2.8443E-08	2.7554E-08	1.1512E-08
4.0E+10	2.2831E-08	1.0865E-07	3.3928E-08	3.5696E-08	1.0866E-07	3.4126E-08	2.3279E-08	2.7565E-08	2.6574E-08	9.7828E-09
5.0E+10	2.2742E-08	1.0837E-07	3.3816E-08	3.5579E-08	1.0838E-07	3.4007E-08	2.3177E-08	2.7453E-08	2.6455E-08	9.6166E-09
6.0E+10	2.2710E-08	1.0815E-07	3.3760E-08	3.5518E-08	1.0815E-07	3.3949E-08	2.3143E-08	2.7408E-08	2.6411E-08	9.5875E-09
8.0E+10	2.2658E-08	1.0772E-07	3.3659E-08	3.5408E-08	1.0771E-07	3.3846E-08	2.3088E-08	2.7330E-08	2.6336E-08	9.5567E-09
1.0E+11	2.2607E-08	1.0729E-07	3.3559E-08	3.5298E-08	1.0727E-07	3.3744E-08	2.3035E-08	2.7252E-08	2.6262E-08	9.5297E-09
1.5E+11	2.2480E-08	1.0622E-07	3.3310E-08	3.5027E-08	1.0618E-07	3.3490E-08	2.2901E-08	2.7060E-08	2.6079E-08	9.4692E-09
2.0E+11	2.2353E-08	1.0516E-07	3.3063E-08	3.4758E-08	1.0510E-07	3.3238E-08	2.2768E-08	2.6869E-08	2.5897E-08	9.4137E-09
3.0E+11	2.2103E-08	1.0308E-07	3.2577E-08	3.4228E-08	1.0297E-07	3.2741E-08	2.2505E-08	2.6493E-08	2.5538E-08	9.3083E-09
4.0E+11	2.1856E-08	1.0104E-07	3.2099E-08	3.3708E-08	1.0089E-07	3.2253E-08	2.2246E-08	2.6123E-08	2.5185E-08	9.2057E-09
5.0E+11	2.1613E-08	9.9050E-08	3.1630E-08	3.3197E-08	9.8858E-08	3.1774E-08	2.1990E-08	2.5760E-08	2.4838E-08	9.1048E-09
6.0E+11	2.1373E-08	9.7099E-08	3.1169E-08	3.2695E-08	9.6866E-08	3.1304E-08	2.1738E-08	2.5402E-08	2.4497E-08	9.0053E-09
8.0E+11	2.0903E-08	9.3317E-08	3.0271E-08	3.1719E-08	9.3006E-08	3.0388E-08	2.1245E-08	2.4706E-08	2.3832E-08	8.8103E-09
1.0E+12	2.0446E-08	8.9692E-08	2.9405E-08	3.0778E-08	8.9308E-08	2.9504E-08	2.0766E-08	2.4033E-08	2.3189E-08	8.6206E-09
1.5E+12	1.9356E-08	8.1271E-08	2.7368E-08	2.8570E-08	8.0724E-08	2.7429E-08	1.9624E-08	2.2447E-08	2.1674E-08	8.1678E-09
2.0E+12	1.8338E-08	7.3693E-08	2.5503E-08	2.6551E-08	7.3007E-08	2.5530E-08	1.8559E-08	2.0990E-08	2.0281E-08	7.7443E-09
3.0E+12	1.6496E-08	6.0726E-08	2.2222E-08	2.3016E-08	5.9828E-08	2.2196E-08	1.6635E-08	1.8414E-08	1.7817E-08	6.9761E-09
4.0E+12	1.4879E-08	5.0201E-08	1.9454E-08	2.0047E-08	4.9161E-08	1.9389E-08	1.4952E-08	1.6226E-08	1.5721E-08	6.3008E-09
5.0E+12	1.3457E-08	4.1646E-08	1.7110E-08	1.7545E-08	4.0519E-08	1.7017E-08	1.3477E-08	1.4360E-08	1.3931E-08	5.7056E-09
6.0E+12	1.2203E-08	3.4681E-08	1.5117E-08	1.5429E-08	3.3508E-08	1.5005E-08	1.2178E-08	1.2762E-08	1.2397E-08	5.1796E-09
8.0E+12	1.0110E-08	2.4359E-08	1.1958E-08	1.2100E-08	2.3181E-08	1.1826E-08	1.0022E-08	1.0205E-08	9.9378E-09	4.3000E-09
1.0E+13	8.4571E-09	1.7440E-08	9.6237E-09	9.6646E-09	1.6327E-08	9.4868E-09	8.3288E-09	8.2897E-09	8.0913E-09	3.6043E-09

(b) Gamma decay power (MeV/s)

TIME(S)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU239(H)	PU240(F)	PU241(T)	PU241(F)	PU242(F)	CF252(S)
0.0	7.7787E+00	6.9541E+00	5.3005E+00	5.3500E+00	4.3976E+00	5.7024E+00	6.4186E+00	6.3303E+00	6.3642E+00	5.2156E+00
1.0E-01	7.6716E+00	6.8586E+00	5.2654E+00	5.3127E+00	4.3666E+00	5.6589E+00	6.3576E+00	6.2711E+00	6.3046E+00	5.1785E+00
1.5E-01	7.6221E+00	6.8143E+00	5.2486E+00	5.2949E+00	4.3520E+00	5.6382E+00	6.3288E+00	6.2432E+00	6.2765E+00	5.1606E+00
2.0E-01	7.5747E+00	6.7720E+00	5.2323E+00	5.2776E+00	4.3379E+00	5.6182E+00	6.3011E+00	6.2162E+00	6.2494E+00	5.1432E+00
3.0E-01	7.4861E+00	6.6927E+00	5.2011E+00	5.2446E+00	4.3111E+00	5.5800E+00	6.2483E+00	6.1648E+00	6.1977E+00	5.1094E+00
4.0E-01	7.4042E+00	6.6196E+00	5.1715E+00	5.2133E+00	4.2858E+00	5.5438E+00	6.1988E+00	6.1165E+00	6.1491E+00	5.0771E+00
5.0E-01	7.3280E+00	6.5517E+00	5.1434E+00	5.1835E+00	4.2620E+00	5.5095E+00	6.1520E+00	6.0708E+00	6.1032E+00	5.0461E+00
6.0E-01	7.2567E+00	6.4883E+00	5.1166E+00	5.1552E+00	4.2395E+00	5.4769E+00	6.1078E+00	6.0275E+00	6.0597E+00	5.0162E+00
8.0E-01	7.1265E+00	6.3726E+00	5.0664E+00	5.1023E+00	4.1975E+00	5.4161E+00	6.0257E+00	5.9472E+00	5.9789E+00	4.9598E+00
1.0E+00	7.0096E+00	6.2691E+00	5.0202E+00	5.0536E+00	4.1590E+00	5.3603E+00	5.9508E+00	5.8738E+00	5.9051E+00	4.9073E+00
1.5E+00	6.7606E+00	6.0499E+00	4.9184E+00	4.9466E+00	4.0744E+00	5.2378E+00	5.7879E+00	5.7138E+00	5.7438E+00	4.7897E+00
2.0E+00	6.5561E+00	5.8708E+00	4.8316E+00	4.8555E+00	4.0022E+00	5.1340E+00	5.6508E+00	5.5791E+00	5.6077E+00	4.6878E+00
3.0E+00	6.2341E+00	5.5896E+00	4.6892E+00	4.7065E+00	3.8830E+00	4.9643E+00	5.4292E+00	5.3608E+00	5.3863E+00	4.5182E+00
4.0E+00	5.9877E+00	5.3745E+00	4.5751E+00	4.5876E+00	3.7868E+00	4.8290E+00	5.2543E+00	5.1884E+00	5.2109E+00	4.3806E+00
5.0E+00	5.7906E+00	5.2021E+00	4.4804E+00	4.4890E+00	3.7065E+00	4.7170E+00	5.1107E+00	5.0467E+00	5.0665E+00	4.2651E+00
6.0E+00	5.6277E+00	5.0594E+00	4.3995E+00	4.4050E+00	3.6378E+00	4.6217E+00	4.9894E+00	4.9270E+00	4.9444E+00	4.1658E+00
8.0E+00	5.3713E+00	4.8343E+00	4.2668E+00	4.2676E+00	3.5249E+00	4.4658E+00	4.7935E+00	4.7337E+00	4.7468E+00	4.0014E+00
1.0E+01	5.1755E+00	4.6621E+00	4.1604E+00	4.1579E+00	3.4345E+00	4.3415E+00	4.6395E+00	4.5818E+00	4.5912E+00	3.8685E+00
1.5E+01	4.8305E+00	4.3591E+00	3.9611E+00	3.9539E+00	3.2666E+00	4.1108E+00	4.3591E+00	4.3055E+00	4.3076E+00	3.6184E+00
2.0E+01	4.5945E+00	4.1532E+00	3.8159E+00	3.8066E+00	3.1461E+00	3.9442E+00	4.1608E+00	4.1108E+00	4.1071E+00	3.4360E+00
3.0E+01	4.2713E+00	3.8738E+00	3.6068E+00	3.5958E+00	2.9760E+00	3.7060E+00	3.8817E+00	3.8376E+00	3.8252E+00	3.1742E+00
4.0E+01	4.0456E+00	3.6804E+00	3.4552E+00	3.4436E+00	2.8550E+00	3.5341E+00	3.6826E+00	3.6432E+00	3.6247E+00	2.9855E+00
5.0E+01	3.8710E+00	3.5314E+00	3.3355E+00	3.3238E+00	2.7607E+00	3.3991E+00	3.5274E+00	3.4918E+00	3.4688E+00	2.8380E+00
6.0E+01	3.7286E+00	3.4100E+00	3.2367E+00	3.2248E+00	2.6831E+00	3.2882E+00	3.4005E+00	3.3680E+00	3.3417E+00	2.7177E+00
8.0E+01	3.5054E+00	3.2198E+00	3.0802E+00	3.0682E+00	2.5603E+00	3.1139E+00	3.2024E+00	3.1747E+00	3.1439E+00	2.5310E+00
1.0E+02	3.3358E+00	3.0751E+00	2.9600E+00	2.9481E+00	2.4658E+00	2.9816E+00	3.0536E+00	3.0293E+00	2.9957E+00	2.3918E+00
1.5E+02	3.0434E+00	2.8252E+00	2.7500E+00	2.7392E+00	2.2993E+00	2.7547E+00	2.8014E+00	2.7826E+00	2.7452E+00	2.1591E+00
2.0E+02	2.8530E+00	2.6617E+00	2.6107E+00	2.6013E+00	2.1877E+00	2.6073E+00	2.6401E+00	2.6247E+00	2.5851E+00	2.0132E+00
3.0E+02	2.6112E+00	2.4512E+00	2.4273E+00	2.4207E+00	2.0389E+00	2.4174E+00	2.4353E+00	2.4238E+00	2.3823E+00	1.8322E+00
4.0E+02	2.4558E+00	2.3127E+00	2.3028E+00	2.2979E+00	1.9364E+00	2.2906E+00	2.3008E+00	2.2912E+00	2.2498E+00	1.7162E+00
5.0E+02	2.3416E+00	2.2086E+00	2.2067E+00	2.2027E+00	1.8567E+00	2.1935E+00	2.1991E+00	2.1906E+00	2.1501E+00	1.6303E+00
6.0E+02	2.2505E+00	2.1244E+00	2.1274E+00	2.1236E+00	1.7905E+00	2.1135E+00	2.1162E+00	2.1082E+00	2.0692E+00	1.5616E+00
8.0E+02	2.1081E+00	1.9911E+00	1.9991E+00	1.9946E+00	1.6834E+00	1.9842E+00	1.9836E+00	1.9758E+00	1.9401E+00	1.4540E+00
1.0E+03	1.9969E+00	1.8865E+00	1.8964E+00	1.8905E+00	1.5979E+00	1.8807E+00	1.8781E+00	1.8703E+00	1.8377E+00	1.3702E+00
1.5E+03	1.7911E+00	1.6927E+00	1.7037E+00	1.6938E+00	1.4387E+00	1.6855E+00	1.6807E+00	1.6721E+00	1.6461E+00	1.2160E+00
2.0E+03	1.6435E+00	1.5537E+00	1.5647E+00	1.5515E+00	1.3254E+00	1.5441E+00	1.5380E+00	1.5287E+00	1.5073E+00	1.1057E+00
3.0E+03	1.4400E+00	1.3612E+00	1.3728E+00	1.3554E+00	1.1715E+00	1.3478E+00	1.3401E+00	1.3298E+00	1.3139E+00	9.5491E-01
4.0E+03	1.3035E+00	1.2311E+00	1.2444E+00	1.2250E+00	1.0706E+00	1.2159E+00	1.2073E+00	1.1965E+00	1.1834E+00	8.5617E-01
5.0E+03	1.2039E+00	1.1359E+00	1.1514E+00	1.1311E+00	9.9845E-01	1.1201E+00	1.1110E+00	1.0998E+00	1.0881E+00	7.8660E-01
6.0E+03	1.1270E+00	1.0625E+00	1.0803E+00	1.0597E+00	9.4371E-01	1.0469E+00	1.0374E+00	1.0261E+00	1.0151E+00	7.3489E-01
8.0E+03	1.0145E+00	9.5552E-01	9.7771E-01	9.5746E-01	8.6464E-01	9.4144E-01	9.3141E-01	9.2000E-01	9.0951E-01	6.6272E-01
1.0E+04	9.3541E-01	8.8070E-01	9.0668E-01	8.8708E-01	8.0884E-01	8.6876E-01	8.5836E-01	8.4696E-01	8.3653E-01	6.1414E-01
1.5E+04	8.1237E-01	7.6454E-01	7.9712E-01	7.7908E-01	7.1795E-01	7.5775E-01	7.4742E-01	7.3608E-01	7.2549E-01	5.4040E-01
2.0E+04	7.4178E-01	6.9724E-01	7.3368E-01	7.1672E-01	6.6044E-01	6.9447E-01	6.8515E-01	6.7379E-01	6.6311E-01	4.9804E-01
3.0E+04	6.6053E-01	6.1838E-01	6.5866E-01	6.4301E-01	5.8732E-01	6.2079E-01	6.1409E-01	6.0246E-01	5.9189E-01	4.4922E-01
4.0E+04	6.1031E-01	5.6930E-01	6.1103E-01	5.9625E-01	5.4031E-01	5.7443E-01	5.6988E-01	5.5790E-01	5.4747E-01	4.1968E-01
5.0E+04	5.7367E-01	5.3365E-01	5.7576E-01	5.6167E-01	5.0640E-01	5.4016E-01	5.3722E-01	5.2495E-01	5.1461E-01	3.9847E-01
6.0E+04	5.4496E-01	5.0584E-01	5.4783E-01	5.3432E-01	4.8020E-01	5.1305E-01	5.1137E-01	4.9887E-01	4.8856E-01	3.8191E-01
8.0E+04	5.0196E-01	4.6426E-01	5.0547E-01	4.9289E-01	4.4127E-01	4.7204E-01	4.7230E-01	4.5948E-01	4.4914E-01	3.5691E-01
1.0E+05	4.7065E-01	4.3389E-01	4.7419E-01	4.6231E-01	4.1276E-01	4.4191E-01	4.4369E-01	4.3066E-01	4.2022E-01	3.3836E-01
1.5E+05	4.1835E-01	3.8271E-01	4.2106E-01	4.1033E-01	3.6404E-01	3.9115E-01	3.9570E-01	3.8231E-01	3.7166E-01	3.0624E-01
2.0E+05	3.8444E-01	3.4928E-01	3.8598E-01	3.7598E-01	3.3170E-01	3.5801E-01	3.6444E-01	3.5076E-01	3.4009E-01	2.8436E-01
3.0E+05	3.3962E-01	3.0525E-01	3.3923E-01	3.3020E-01	2.8888E-01	3.1428E-01	3.2290E-01	3.0885E-01	2.9850E-01	2.5423E-01
4.0E+05	3.0867E-01	2.7534E-01	3.0711E-01	2.9877E-01	2.6001E-01	2.8448E-01	2.9413E-01	2.7997E-01	2.7015E-01	2.3289E-01
5.0E+05	2.8463E-01	2.5252E-01	2.8243E-01	2.7463E-01	2.3819E-01	2.6166E-01	2.7170E-01	2.5766E-01	2.4841E-01	2.1600E-01
6.0E+05	2.6488E-01	2.3407E-01	2.6237E-01	2.5501E-01	2.2065E-01	2.4313E-01	2.5319E-01	2.3942E-01	2.3073E-01	2.0182E-01
8.0E+05	2.3377E-01	2.0555E-01	2.3110E-01	2.2447E-01	1.9356E-01	2.1426E-01	2.2376E-01	2.1080E-01	2.0312E-01	1.7856E-01
1.0E+06	2.1011E-01	1.8432E-01	2.0756E-01	2.0149E-01	1.7324E-01	1.9250E-01	2.0105E-01	1.8908E-01	1.8228E-01	1.5983E-01
1.5E+06	1.6934E-01	1.4877E-01	1.6739E-01	1.6233E-01	1.3866E-01	1.5533E-01	1.6119E-01	1.5171E-01	1.4659E-01	1.2500E-01
2.0E+06	1.4260E-01	1.2611E-01	1.4124E-01	1.3689E-01	1.1629E-01	1.3110E-01	1.3463E-01	1.2723E-01	1.2332E-01	1.0070E-01
3.0E+06	1.0846E-01	9.7591E-02	1.0796E-01	1.0455E-01	8.8234E-02	1.0022E-01	1.0069E-01	9.6119E-02	9.3755E-02	6.9507E-02
4.0E+06	8.7415E-02	7.9967E-02	8.7384E-02	8.4576E-02	7.1244E-02	8.1134E-02	8.0119E-02	7.711BE-02	7.5615E-02	5.1378E-02
5.0E+06	7.3188E-02	6.7877E-02	7.3403E-02	7.1016E-02	5.9878E-02	6.8179E-02	6.6548E-02	6.4419E-02	6.3406E-02	4.0239E-02
6.0E+06	6.2834E-02	5.8915E-02	6.3177E-02	6.1107E-02	5.1660E-02	5.8717E-02	5.6928E-02	5.5296E-02	5.4566E-02	3.3001E-02
8.0E+06	4.8299E-02	4.6013E-02	4.8757E-02	4.7155E-02	4.0191E-02	4.5411E-02	4.3862E-02	4.2720E-02	4.2253E-02	2.4365E-02
1.0E+07	3.8116E-02	3.6736E-02	3.8641E-02	3.7383E-02	3.2194E-02	3.6105E-02	3.4988E-02	3.4083E-02	3.3705E-02	1.9327E-02
1.5E+07	2.1915E-02	2.1646E-02	2.2591E-02	2.1909E-02	1.9507E-02	2.1383E-02	2.1135E-02	2.0562E-02	2.0209E-02	1.2439E-02
2.0E+07	1.3065E-02	1.3257E-02	1.3847E-02	1.3487E-02	1.2555E-02	1.3363E-02	1.3574E-02	1.3205E-02	1.2830E-02	8.9364E-03
3.0E+07	5.4708E-03	5.9534E-03	6.2903E-03	6.2026E-03	6.4599E-03	6.3756E-03	6.8822E-03	6.7145E-03	6.3375E-03	5.7045E-03
4.0E+07	3.0451E-03	3.5709E-03	3.7856E-03	3.7737E-03	4.3529E-03	3.9888E-03	4.4949E-03	4.4000E-03	4.0642E-03	4.2702E-03
5.0E+07	2.1560E-03	2.6665E-03	2.7930E-03	2.7994E-03	3.4496E-03	2.9907E-03	3.4292E-03	3.3633E-03	3.0783E-03	3.4223E-03
6.0E+07	1.7455E-03	2.2255E-03	2.2859E-03	2.2945E-03	2.9401E-03	2.4505E-03	2.8160E-03	2.7642E-03	2.5259E-03	2.8261E-03
8.0E+07	1.3346E-03	1.7448E-03	1.7240E-03	1.7277E-03	2.3059E-03	1.8237E-03	2.0728E-03	2.0353E-03	1.8691E-03	2.0155E-03
1.0E+08	1.1054E-03	1.4481E-03	1.3925E-03	1.3909E-03	1.8852E-03	1.4475E-03	1.6202E-03	1.5899E-03	1.4718E-03	1.5043E-03
1.5E+08	8.2757E-04	1.0292E-03	9.8259E-04	9.7224E-04	1.2671E-03	9.8394E-04	1.0658E-03	1.0415E-03	9.8408E-04	8.8296E-04
2.0E+08	7.1964E-04	8.2127E-04	8.2418E-04	8.0937E-04	9.5028E-04	8.0837E-04	8.6138E-04	8.3727E-04	8.0204E-04	6.6165E-04
3.0E+08	6.3274E-04	6.2177E-04	7.0617E-04	6.8785E-04	6.4852E-04	6.8403E-04	7.2544E-04	6.9954E-04	6.7686E-04	5.2779E-04
4.0E+08	5.8216E-04	5.2366E-04	6.4566E-04	6.2669E-04	5.1092E-04	6.2412E-04	6.6370E-04	6.3737E-04	6.1803E-04	4.7666E-04
5.0E+08	5.3951E-04	4.6319E-04	5.9707E-04	5.7853E-04	4.3503E-04	5.7682E-04	6.1463E-04	5.8900E-04	5.7145E-04	4.3898E-04
6.0E+08	5.0086E-04	4.1997E-04	5.5378E-04	5.3611E-04	3.8652E-04	5.3484E-04	5.7051E-04	5.4611E-04	5.2992E-04	4.0606E-04
8.0E+08	4.3243E-04	3.5629E-04	4.7779E-04	4.6219E-04	3.2283E-04	4.6128E-04	4.9246E-04	4.7095E-04	4.5699E-04	3.4908E-04
1.0E+09	3.7365E-04	3.0658E-04	4.1278E-04	3.9920E-04	2.7670E-04	3.9845E-04	4.2548E-04	4.0676E-04	3.9468E-04	3.0101E-04
1.5E+09	2.5957E-04	2.1276E-04	2.8673E-04	2.7727E-04	1.9177E-04	2.7674E-04	2.9554E-04	2.8248E-04	2.7408E-04	2.0875E-04
2.0E+09	1.8036E-04	1.4790E-04	1.9925E-04	1.9267E-04	1.3332E-04	1.9230E-04	2.0535E-04	1.9628E-04	1.9044E-04	1.4501E-04
3.0E+09	8.7091E-05	7.1551E-05	9.6227E-05	9.3053E-05	6.4518E-05	9.2875E-05	9.9159E-05	9.4790E-05	9.1966E-05	7.0019E-05
4.0E+09	4.2058E-05	3.4686E-05	4.6486E-05	4.4957E-05	3.1299E-05	4.4868E-05	4.7886E-05	4.5785E-05	4.4421E-05	3.3812E-05
5.0E+09	2.0313E-05	1.6885E-05	2.2468E-05	2.1733E-05	1.5259E-05	2.1688E-05	2.3128E-05	2.2123E-05	2.1464E-05	1.6329E-05
6.0E+09	9.8135E-06	8.2893E-06	1.0871E-05	1.0519E-05	7.5123E-06	1.0495E-05	1.1174E-05	1.0698E-05	1.0379E-05	7.8873E-06
8.0E+09	2.2958E-06	2.1346E-06	2.5674E-06	2.4904E-06	1.9648E-06	2.4814E-06	2.6146E-06	2.5176E-06	2.4416E-06	1.8429E-06
1.0E+10	5.4308E-07	6.9939E-07	6.3144E-07	6.1839E-07	6.7053E-07	6.1292E-07	6.1894E-07	6.1022E-07	5.9107E-07	4.3360E-07
1.5E+10	2.4141E-08	2.7406E-07	5.8213E-08	6.4085E-08	2.8646E-07	5.9661E-08	2.8092E-08	4.5475E-08	4.3139E-08	1.6220E-08
2.0E+10	1.0502E-08	2.6258E-07	4.3112E-08	4.9471E-08	2.7595E-07	4.5081E-08	1.2563E-08	3.0609E-08	2.8716E-08	5.1637E-09
3.0E+10	1.0110E-08	2.6170E-07	4.2609E-08	4.8963E-08	2.7503E-07	4.4587E-08	1.2115E-08	3.0140E-08	2.8262E-08	4.7160E-09
4.0E+10	1.0087E-08	2.6112E-07	4.2515E-08	4.8852E-08	2.7442E-07	4.4488E-08	1.2088E-08	3.0073E-08	2.8199E-08	4.5939E-09
5.0E+10	1.0065E-08	2.6055E-07	4.2421E-08	4.8742E-08	2.7381E-07	4.4390E-08	1.2061E-08	3.0007E-08	2.8137E-08	4.4917E-09
6.0E+10	1.0043E-08	2.5998E-07	4.2328E-08	4.8632E-08	2.7320E-07	4.4292E-08	1.2035E-08	2.9941E-08	2.8075E-08	4.4053E-09
8.0E+10	9.9986E-09	2.5884E-07	4.2141E-08	4.8415E-08	2.7199E-07	4.4097E-08	1.1982E-08	2.9809E-08	2.7952E-08	4.2694E-09
1.0E+11	9.9548E-09	2.5770E-07	4.1956E-08	4.8200E-08	2.7079E-07	4.3903E-08	1.1929E-08	2.9678E-08	2.7829E-08	4.1698E-09
1.5E+11	9.8460E-09	2.5489E-07	4.1497E-08	4.7670E-08	2.6783E-07	4.3422E-08	1.1799E-08	2.9354E-08	2.7525E-08	4.0151E-09
2.0E+11	9.7384E-09	2.5210E-07	4.1043E-08	4.7148E-08	2.6489E-07	4.2947E-08	1.1670E-08	2.9033E-08	2.7224E-08	3.9275E-09
3.0E+11	9.5267E-09	2.4662E-07	4.0151E-08	4.6122E-08	2.5913E-07	4.2013E-08	1.1416E-08	2.8401E-08	2.6632E-08	3.8177E-09
4.0E+11	9.3196E-09	2.4126E-07	3.9278E-08	4.5119E-08	2.5350E-07	4.1100E-08	1.1168E-08	2.7784E-08	2.6053E-08	3.7308E-09
5.0E+11	9.1170E-09	2.3601E-07	3.8424E-08	4.4138E-08	2.4799E-07	4.0207E-08	1.0925E-08	2.7180E-08	2.5486E-08	3.6490E-09
6.0E+11	8.9188E-09	2.3088E-07	3.7588E-08	4.3178E-08	2.4259E-07	3.9332E-08	1.0688E-08	2.6589E-08	2.4932E-08	3.5696E-09
8.0E+11	8.5353E-09	2.2095E-07	3.5971E-08	4.1321E-08	2.3216E-07	3.7641E-08	1.0228E-08	2.5446E-08	2.3860E-08	3.4160E-09
1.0E+12	8.1683E-09	2.1145E-07	3.4424E-08	3.9544E-08	2.2217E-07	3.6022E-08	9.7882E-09	2.4351E-08	2.2834E-08	3.2691E-09
1.5E+12	7.3183E-09	1.8944E-07	3.0841E-08	3.5428E-08	1.9905E-07	3.2273E-08	8.7696E-09	2.1817E-08	2.0458E-08	2.9289E-09
2.0E+12	6.5568E-09	1.6973E-07	2.7631E-08	3.1741E-08	1.7833E-07	2.8914E-08	7.8570E-09	1.9547E-08	1.8329E-08	2.6241E-09
3.0E+12	5.2632E-09	1.3624E-07	2.2179E-08	2.5478E-08	1.4314E-07	2.3209E-08	6.3068E-09	1.5690E-08	1.4712E-08	2.1063E-09
4.0E+12	4.2250E-09	1.0936E-07	1.7803E-08	2.0451E-08	1.1490E-07	1.8630E-08	5.0625E-09	1.2594E-08	1.1809E-08	1.6908E-09
5.0E+12	3.3915E-09	8.7778E-08	1.4290E-08	1.6416E-08	9.2228E-08	1.4954E-08	4.0638E-09	1.0109E-08	9.4794E-09	1.3573E-09
6.0E+12	2.7226E-09	7.0458E-08	1.1471E-08	1.3177E-08	7.4030E-08	1.2004E-08	3.2621E-09	8.1148E-09	7.6091E-09	1.0895E-09
8.0E+12	1.7546E-09	4.5397E-08	7.3912E-09	8.4906E-09	4.7699E-08	7.7343E-09	2.1021E-09	5.2287E-09	4.9029E-09	7.0214E-10
1.0E+13	1.1309E-09	2.9250E-08	4.7628E-09	5.4712E-09	3.0734E-08	4.9836E-09	1.3547E-09	3.3693E-09	3.1593E-09	4.5255E-10

(c) Total sensible decay power (MeV/s)

TIME(S)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU239(H)	PU240(F)	PU241(T)	PU241(F)	PU242(F)	CF252(S)
0.0	1.5986E+01	1.4228E+01	1.0468E+01	1.0593E+01	8.5576E+00	1.1477E+01	1.3075E+01	1.2903E+01	1.3105E+01	1.1204E+01
1.0E-01	1.5735E+01	1.4009E+01	1.0389E+01	1.0509E+01	8.4948E+00	1.1377E+01	1.2933E+01	1.2765E+01	1.2966E+01	1.1115E+01
1.5E-01	1.5619E+01	1.3907E+01	1.0352E+01	1.0468E+01	8.4648E+00	1.1329E+01	1.2866E+01	1.2700E+01	1.2900E+01	1.1073E+01
2.0E-01	1.5508E+01	1.3810E+01	1.0315E+01	1.0429E+01	8.4357E+00	1.1283E+01	1.2801E+01	1.2637E+01	1.2836E+01	1.1031E+01
3.0E-01	1.5300E+01	1.3628E+01	1.0244E+01	1.0354E+01	8.3799E+00	1.1195E+01	1.2678E+01	1.2517E+01	1.2714E+01	1.0950E+01
4.0E-01	1.5108E+01	1.3460E+01	1.0177E+01	1.0283E+01	8.3271E+00	1.1112E+01	1.2562E+01	1.2404E+01	1.2600E+01	1.0873E+01
5.0E-01	1.4929E+01	1.3304E+01	1.0113E+01	1.0216E+01	8.2768E+00	1.1032E+01	1.2453E+01	1.2297E+01	1.2492E+01	1.0799E+01
6.0E-01	1.4761E+01	1.3158E+01	1.0052E+01	1.0151E+01	8.2289E+00	1.0957E+01	1.2349E+01	1.2196E+01	1.2389E+01	1.0727E+01
8.0E-01	1.4455E+01	1.2892E+01	9.9375E+00	1.0030E+01	8.1390E+00	1.0815E+01	1.2157E+01	1.2007E+01	1.2198E+01	1.0592E+01
1.0E+00	1.4180E+01	1.2654E+01	9.8318E+00	9.9191E+00	8.0559E+00	1.0686E+01	1.1981E+01	1.1835E+01	1.2023E+01	1.0466E+01
1.5E+00	1.3593E+01	1.2148E+01	9.5983E+00	9.6734E+00	7.8721E+00	1.0400E+01	1.1598E+01	1.1460E+01	1.1640E+01	1.0186E+01
2.0E+00	1.3111E+01	1.1734E+01	9.3987E+00	9.4638E+00	7.7143E+00	1.0157E+01	1.1276E+01	1.1143E+01	1.1316E+01	9.9437E+00
3.0E+00	1.2348E+01	1.1082E+01	9.0704E+00	9.1200E+00	7.4530E+00	9.7587E+00	1.0754E+01	1.0630E+01	1.0789E+01	9.5425E+00
4.0E+00	1.1765E+01	1.0582E+01	8.8075E+00	8.8454E+00	7.2424E+00	9.4409E+00	1.0343E+01	1.0225E+01	1.0371E+01	9.2196E+00
5.0E+00	1.1298E+01	1.0181E+01	8.5893E+00	8.6179E+00	7.0669E+00	9.1779E+00	1.0008E+01	9.8934E+00	1.0028E+01	8.9508E+00
6.0E+00	1.0914E+01	9.8488E+00	8.4037E+00	8.4248E+00	6.9173E+00	8.9547E+00	9.7255E+00	9.6148E+00	9.7388E+00	8.7214E+00
8.0E+00	1.0313E+01	9.3262E+00	8.1007E+00	8.1105E+00	6.6726E+00	8.5922E+00	9.2734E+00	9.1680E+00	9.2748E+00	8.3455E+00
1.0E+01	9.8591E+00	8.9288E+00	7.8600E+00	7.8619E+00	6.4782E+00	8.3062E+00	8.9223E+00	8.8208E+00	8.9140E+00	8.0453E+00
1.5E+01	9.0768E+00	8.2403E+00	7.4168E+00	7.4075E+00	6.1221E+00	7.7852E+00	8.2953E+00	8.2013E+00	8.2697E+00	7.4895E+00
2.0E+01	8.5583E+00	7.7841E+00	7.1015E+00	7.0872E+00	5.8715E+00	7.4194E+00	7.8633E+00	7.7756E+00	7.8269E+00	7.0926E+00
3.0E+01	7.8734E+00	7.1857E+00	6.6587E+00	6.6415E+00	5.5243E+00	6.9120E+00	7.2722E+00	7.1951E+00	7.2235E+00	6.5355E+00
4.0E+01	7.4113E+00	6.7851E+00	6.3452E+00	6.3275E+00	5.2811E+00	6.5562E+00	6.8619E+00	6.7932E+00	6.8067E+00	6.1425E+00
5.0E+01	7.0617E+00	6.4829E+00	6.1015E+00	6.0839E+00	5.0927E+00	6.2816E+00	6.5472E+00	6.4852E+00	6.4881E+00	5.8391E+00
6.0E+01	6.7803E+00	6.2400E+00	5.9022E+00	5.8848E+00	4.9385E+00	6.0584E+00	6.2926E+00	6.2360E+00	6.2314E+00	5.5931E+00
8.0E+01	6.3459E+00	5.8645E+00	5.5898E+00	5.5725E+00	4.6954E+00	5.7109E+00	5.8993E+00	5.8507E+00	5.8360E+00	5.2122E+00
1.0E+02	6.0205E+00	5.5827E+00	5.3523E+00	5.3353E+00	4.5090E+00	5.4495E+00	5.6058E+00	5.5629E+00	5.5420E+00	4.9273E+00
1.5E+02	5.4675E+00	5.1025E+00	4.9415E+00	4.9260E+00	4.1825E+00	5.0036E+00	5.1112E+00	5.0774E+00	5.0479E+00	4.4459E+00
2.0E+02	5.1110E+00	4.7914E+00	4.6702E+00	4.6569E+00	3.9639E+00	4.7142E+00	4.7945E+00	4.7663E+00	4.7319E+00	4.1376E+00
3.0E+02	4.6585E+00	4.3920E+00	4.3127E+00	4.3038E+00	3.6729E+00	4.3392E+00	4.3891E+00	4.3679E+00	4.3286E+00	3.7463E+00
4.0E+02	4.3661E+00	4.1286E+00	4.0694E+00	4.0636E+00	3.4730E+00	4.0874E+00	4.1204E+00	4.1032E+00	4.0627E+00	3.4916E+00
5.0E+02	4.1501E+00	3.9308E+00	3.8821E+00	3.8779E+00	3.3183E+00	3.8947E+00	3.9169E+00	3.9019E+00	3.8623E+00	3.3025E+00
6.0E+02	3.9775E+00	3.7712E+00	3.7280E+00	3.7244E+00	3.1908E+00	3.7368E+00	3.7515E+00	3.7378E+00	3.6998E+00	3.1516E+00
8.0E+02	3.7080E+00	3.5201E+00	3.4810E+00	3.4766E+00	2.9862E+00	3.4841E+00	3.4892E+00	3.4766E+00	3.4431E+00	2.9176E+00
1.0E+03	3.4989E+00	3.3248E+00	3.2859E+00	3.2796E+00	2.8248E+00	3.2849E+00	3.2841E+00	3.2716E+00	3.2427E+00	2.7382E+00
1.5E+03	3.1175E+00	2.9686E+00	2.9276E+00	2.9153E+00	2.5291E+00	2.9188E+00	2.9100E+00	2.8965E+00	2.8773E+00	2.4163E+00
2.0E+03	2.8502E+00	2.7183E+00	2.6765E+00	2.6591E+00	2.3227E+00	2.6617E+00	2.6489E+00	2.6342E+00	2.6215E+00	2.1938E+00
3.0E+03	2.4923E+00	2.3808E+00	2.3412E+00	2.3173E+00	2.0492E+00	2.3174E+00	2.3007E+00	2.2842E+00	2.2790E+00	1.9002E+00
4.0E+03	2.2607E+00	2.1600E+00	2.1251E+00	2.0980E+00	1.8746E+00	2.0948E+00	2.0766E+00	2.0591E+00	2.0571E+00	1.7150E+00
5.0E+03	2.0961E+00	2.0020E+00	1.9726E+00	1.9441E+00	1.7522E+00	1.9375E+00	1.9188E+00	1.9008E+00	1.9001E+00	1.5878E+00
6.0E+03	1.9712E+00	1.8818E+00	1.8580E+00	1.8290E+00	1.6603E+00	1.8195E+00	1.8006E+00	1.7822E+00	1.7819E+00	1.4947E+00
8.0E+03	1.7906E+00	1.7082E+00	1.6943E+00	1.6656E+00	1.5284E+00	1.6514E+00	1.6328E+00	1.6140E+00	1.6136E+00	1.3662E+00
1.0E+04	1.6633E+00	1.5862E+00	1.5806E+00	1.5527E+00	1.4348E+00	1.5355E+00	1.5173E+00	1.4984E+00	1.4974E+00	1.2792E+00
1.5E+04	1.4587E+00	1.3907E+00	1.3997E+00	1.3739E+00	1.2786E+00	1.3531E+00	1.3373E+00	1.3182E+00	1.3156E+00	1.1426E+00
2.0E+04	1.3331E+00	1.2700E+00	1.2884E+00	1.2640E+00	1.1757E+00	1.2427E+00	1.2300E+00	1.2108E+00	1.2070E+00	1.0585E+00
3.0E+04	1.1769E+00	1.1183E+00	1.1479E+00	1.1255E+00	1.0394E+00	1.1051E+00	1.0987E+00	1.0791E+00	1.0735E+00	9.5322E-01
4.0E+04	1.0756E+00	1.0195E+00	1.0553E+00	1.0343E+00	9.4908E-01	1.0150E+00	1.0134E+00	9.9343E-01	9.8645E-01	8.8511E-01
5.0E+04	1.0014E+00	9.4722E-01	9.8661E-01	9.6659E-01	8.8337E-01	9.4800E-01	9.5002E-01	9.2972E-01	9.2167E-01	8.3498E-01
6.0E+04	9.4393E-01	8.9131E-01	9.3270E-01	9.1359E-01	8.3280E-01	8.9542E-01	9.0015E-01	8.7961E-01	8.7065E-01	7.9560E-01
8.0E+04	8.6002E-01	8.0941E-01	8.5251E-01	8.3487E-01	7.5872E-01	8.1717E-01	8.2575E-01	8.0491E-01	7.9449E-01	7.3642E-01
1.0E+05	8.0088E-01	7.5124E-01	7.9481E-01	7.7826E-01	7.0573E-01	7.6091E-01	7.7216E-01	7.5116E-01	7.3961E-01	6.9302E-01
1.5E+05	7.0585E-01	6.5658E-01	6.9988E-01	6.8511E-01	6.1797E-01	6.6875E-01	6.8427E-01	6.6304E-01	6.4967E-01	6.1942E-01
2.0E+05	6.4687E-01	5.9717E-01	6.3966E-01	6.2596E-01	5.6173E-01	6.1071E-01	6.2878E-01	6.0737E-01	5.9312E-01	5.7106E-01
3.0E+05	5.7239E-01	5.2228E-01	5.6279E-01	5.5044E-01	4.8999E-01	5.3727E-01	5.5806E-01	5.3651E-01	5.2182E-01	5.0813E-01
4.0E+05	5.2301E-01	4.7344E-01	5.1201E-01	5.0059E-01	4.4327E-01	4.8916E-01	5.1109E-01	4.8969E-01	4.7530E-01	4.6663E-01
5.0E+05	4.8548E-01	4.3700E-01	4.7378E-01	4.6310E-01	4.0864E-01	4.5314E-01	4.7543E-01	4.5441E-01	4.4053E-01	4.3552E-01
6.0E+05	4.5501E-01	4.0787E-01	4.4306E-01	4.3299E-01	3.8109E-01	4.2426E-01	4.4647E-01	4.2599E-01	4.1266E-01	4.1036E-01
8.0E+05	4.0735E-01	3.6315E-01	3.9554E-01	3.8648E-01	3.3882E-01	3.7969E-01	4.0101E-01	3.8186E-01	3.6959E-01	3.7044E-01
1.0E+06	3.7115E-01	3.2987E-01	3.5984E-01	3.5157E-01	3.0721E-01	3.4622E-01	3.6622E-01	3.4852E-01	3.3718E-01	3.3904E-01
1.5E+06	3.0828E-01	2.7361E-01	2.9866E-01	2.9182E-01	2.5324E-01	2.8882E-01	3.0521E-01	2.9098E-01	2.8147E-01	2.8150E-01
2.0E+06	2.6644E-01	2.3719E-01	2.5849E-01	2.5266E-01	2.1814E-01	2.5111E-01	2.6438E-01	2.5299E-01	2.4482E-01	2.4155E-01
3.0E+06	2.1213E-01	1.9065E-01	2.0692E-01	2.0241E-01	1.7379E-01	2.0265E-01	2.1184E-01	2.0428E-01	1.9785E-01	1.9017E-01
4.0E+06	1.7797E-01	1.6137E-01	1.7473E-01	1.7105E-01	1.4655E-01	1.7240E-01	1.7957E-01	1.7414E-01	1.6871E-01	1.5983E-01
5.0E+06	1.5442E-01	1.4096E-01	1.5263E-01	1.4951E-01	1.2801E-01	1.5163E-01	1.5792E-01	1.5368E-01	1.4883E-01	1.4059E-01
6.0E+06	1.3699E-01	1.2564E-01	1.3631E-01	1.3360E-01	1.1436E-01	1.3629E-01	1.4230E-01	1.3873E-01	1.3423E-01	1.2752E-01
8.0E+06	1.1216E-01	1.0338E-01	1.1306E-01	1.1094E-01	9.4955E-02	1.1439E-01	1.2054E-01	1.1764E-01	1.1349E-01	1.1064E-01
1.0E+07	9.4556E-02	8.7321E-02	9.6554E-02	9.4854E-02	8.1186E-02	9.8789E-02	1.0528E-01	1.0272E-01	9.8738E-02	9.9557E-02
1.5E+07	6.6006E-02	6.0939E-02	6.9573E-02	6.8573E-02	5.8736E-02	7.3023E-02	7.9996E-02	7.7945E-02	7.4228E-02	8.1397E-02
2.0E+07	4.9373E-02	4.5499E-02	5.3550E-02	5.2952E-02	4.5453E-02	5.7397E-02	6.4269E-02	6.2588E-02	5.9121E-02	6.9224E-02
3.0E+07	3.2139E-02	2.9602E-02	3.6301E-02	3.6067E-02	3.1188E-02	3.9928E-02	4.5885E-02	4.4690E-02	4.1764E-02	5.2609E-02
4.0E+07	2.3572E-02	2.1829E-02	2.7203E-02	2.7095E-02	2.3670E-02	3.0227E-02	3.5108E-02	3.4207E-02	3.1802E-02	4.1086E-02
5.0E+07	1.8252E-02	1.7056E-02	2.1295E-02	2.1236E-02	1.8781E-02	2.3722E-02	2.7651E-02	2.6949E-02	2.4994E-02	3.2432E-02
6.0E+07	1.4493E-02	1.3692E-02	1.7004E-02	1.6967E-02	1.5221E-02	1.8925E-02	2.2069E-02	2.1515E-02	1.9933E-02	2.5750E-02
8.0E+07	9.5197E-03	9.2140E-03	1.1190E-02	1.1170E-02	1.0356E-02	1.2375E-02	1.4379E-02	1.4024E-02	1.2993E-02	1.6449E-02
1.0E+08	6.5465E-03	6.4933E-03	7.6275E-03	7.6103E-03	7.3196E-03	8.3474E-03	9.6225E-03	9.3878E-03	8.7199E-03	1.0709E-02
1.5E+08	3.2296E-03	3.3430E-03	3.5282E-03	3.5031E-03	3.6619E-03	3.7056E-03	4.1140E-03	4.0126E-03	3.7936E-03	4.1226E-03
2.0E+08	2.1949E-03	2.2691E-03	2.2035E-03	2.1705E-03	2.3379E-03	2.2085E-03	2.3348E-03	2.2723E-03	2.2077E-03	2.0297E-03
3.0E+08	1.6607E-03	1.6207E-03	1.5350E-03	1.4959E-03	1.5064E-03	1.4683E-03	1.4746E-03	1.4267E-03	1.4321E-03	1.0506E-03
4.0E+08	1.4887E-03	1.3910E-03	1.3555E-03	1.3162E-03	1.2288E-03	1.2846E-03	1.2806E-03	1.2348E-03	1.2470E-03	8.5870E-04
5.0E+08	1.3686E-03	1.2493E-03	1.2432E-03	1.2054E-03	1.0769E-03	1.1757E-03	1.1723E-03	1.1284E-03	1.1403E-03	7.7012E-04
6.0E+08	1.2650E-03	1.1410E-03	1.1488E-03	1.1130E-03	9.7155E-04	1.0855E-03	1.0832E-03	1.0417E-03	1.0525E-03	7.0472E-04
8.0E+08	1.0858E-03	9.7023E-04	9.8652E-04	9.5511E-04	8.1840E-04	9.3169E-04	9.3077E-04	8.9421E-04	9.0316E-04	6.0040E-04
1.0E+09	9.3387E-04	8.3215E-04	8.4925E-04	8.2199E-04	7.0025E-04	8.0194E-04	8.0179E-04	7.7000E-04	7.7743E-04	5.1572E-04
1.5E+09	6.4218E-04	5.7108E-04	5.8549E-04	5.6657E-04	4.8041E-04	5.5297E-04	5.5369E-04	5.3158E-04	5.3633E-04	3.5602E-04
2.0E+09	4.4211E-04	3.9281E-04	4.0415E-04	3.9107E-04	3.3082E-04	3.8184E-04	3.8281E-04	3.6749E-04	3.7056E-04	2.4666E-04
3.0E+09	2.0989E-04	1.8636E-04	1.9289E-04	1.8666E-04	1.5751E-04	1.8240E-04	1.8325E-04	1.7592E-04	1.7720E-04	1.1878E-04
4.0E+09	9.9806E-05	8.8711E-05	9.2225E-05	8.9260E-05	7.5347E-05	8.7298E-05	8.7869E-05	8.4360E-05	8.4896E-05	5.7410E-05
5.0E+09	4.7551E-05	4.2424E-05	4.4190E-05	4.2781E-05	3.6274E-05	4.1881E-05	4.2223E-05	4.0549E-05	4.0778E-05	2.7888E-05
6.0E+09	2.2718E-05	2.0452E-05	2.1245E-05	2.0578E-05	1.7649E-05	2.0167E-05	2.0355E-05	1.9562E-05	1.9664E-05	1.3653E-05
8.0E+09	5.2691E-06	5.024BE-06	5.0126E-06	4.8685E-06	4.4740E-06	4.7846E-06	4.8210E-06	4.6538E-06	4.6808E-06	3.4136E-06
1.0E+10	1.2854E-06	1.4986E-06	1.2694E-06	1.2436E-06	1.4119E-06	1.2266E-06	1.2118E-06	1.1892E-06	1.2005E-06	9.5451E-07
1.5E+10	9.2505E-08	4.3011E-07	1.3445E-07	1.4204E-07	4.4554E-07	1.3824E-07	9.8815E-08	1.1935E-07	1.2076E-07	1.0556E-07
2.0E+10	4.2901E-08	3.8152E-07	8.6298E-08	9.4500E-08	3.9517E-07	8.9284E-08	4.6904E-08	6.8996E-08	6.7408E-08	3.6529E-08
3.0E+10	3.3703E-08	3.7131E-07	7.7298E-08	8.5429E-08	3.8462E-07	7.9540E-08	3.6281E-08	5.8583E-08	5.5815E-08	1.6228E-08
4.0E+10	3.2918E-08	3.6978E-07	7.6443E-08	8.4548E-08	3.8308E-07	7.8614E-08	3.5366E-08	5.7638E-08	5.4773E-08	1.4377E-08
5.0E+10	3.2806E-08	3.6892E-07	7.6237E-08	8.4320E-08	3.8219E-07	7.8396E-08	3.5238E-08	5.7460E-08	5.4592E-08	1.4108E-08
6.0E+10	3.2753E-08	3.6813E-07	7.6088E-08	8.4150E-08	3.8135E-07	7.8241E-08	3.5178E-08	5.7349E-08	5.4486E-08	1.3993E-08
8.0E+10	3.2657E-08	3.6655E-07	7.5800E-08	8.3823E-08	3.7970E-07	7.7943E-08	3.5070E-08	5.7139E-08	5.4288E-08	1.3826E-08
1.0E+11	3.2562E-08	3.6499E-07	7.5515E-08	8.3499E-08	3.7806E-07	7.7646E-08	3.4964E-08	5.6931E-08	5.4091E-08	1.3700E-08
1.5E+11	3.2326E-08	3.6110E-07	7.4807E-08	8.2697E-08	3.7400E-07	7.6912E-08	3.4700E-08	5.6414E-08	5.3603E-08	1.3484E-08
2.0E+11	3.2092E-08	3.5726E-07	7.4107E-08	8.1906E-08	3.6999E-07	7.6185E-08	3.443BE-08	5.5902E-08	5.3120E-08	1.3341E-08
3.0E+11	3.1630E-08	3.4970E-07	7.272BE-08	8.0350E-08	3.6211E-07	7.4754E-08	3.3921E-08	5.4895E-08	5.2169E-08	1.3126E-08
4.0E+11	3.1176E-08	3.4230E-07	7.1377E-08	7.8827E-08	3.5439E-07	7.3353E-08	3.3414E-08	5.3907E-08	5.1237E-08	1.2937E-08
5.0E+11	3.0730E-08	3.3506E-07	7.0053E-08	7.7335E-08	3.4685E-07	7.1981E-08	3.2916E-08	5.2940E-08	5.0324E-08	1.2754E-08
6.0E+11	3.0292E-08	3.2798E-07	6.8757E-08	7.5873E-08	3.3946E-07	7.0636E-08	3.2426E-08	5.1992E-08	4.9429E-08	1.2575E-08
8.0E+11	2.9438E-08	3.1427E-07	6.6242E-08	7.3040E-08	3.2517E-07	6.8029E-08	3.1473E-08	5.0152E-08	4.7692E-08	1.2226E-08
1.0E+12	2.8614E-08	3.0114E-07	6.3828E-08	7.0322E-08	3.1148E-07	6.5526E-08	3.0554E-08	4.8384E-08	4.6023E-08	1.1890E-08
1.5E+12	2.6675E-08	2.7072E-07	5.8209E-08	6.3998E-08	2.7977E-07	5.9702E-08	2.8394E-08	4.4264E-08	4.2132E-08	1.1097E-08
2.0E+12	2.4895E-08	2.4342E-07	5.3133E-08	5.8292E-08	2.5134E-07	5.4444E-08	2.6416E-08	4.0536E-08	3.8610E-08	1.0368E-08
3.0E+12	2.1759E-08	1.9696E-07	4.4401E-08	4.8494E-08	2.0297E-07	4.5405E-08	2.2942E-08	3.4104E-08	3.2529E-08	9.0825E-09
4.0E+12	1.9104E-08	1.5956E-07	3.7257E-08	4.0498E-08	1.6406E-07	3.8019E-08	2.0015E-08	2.8820E-08	2.7530E-08	7.9916E-09
5.0E+12	1.6849E-08	1.2942E-07	3.1400E-08	3.3961E-08	1.3275E-07	3.1971E-08	1.7540E-08	2.4469E-08	2.3411E-08	7.0628E-09
6.0E+12	1.4925E-08	1.0514E-07	2.6587E-08	2.8606E-08	1.0754E-07	2.7008E-08	1.5441E-08	2.0877E-08	2.0006E-08	6.2691E-09
8.0E+12	1.1864E-08	6.9756E-08	1.9349E-08	2.0591E-08	7.0880E-08	1.9560E-08	1.2124E-08	1.5434E-08	1.4841E-08	5.0022E-09
1.0E+13	9.5880E-09	4.6690E-08	1.4386E-08	1.5136E-08	4.7061E-08	1.4470E-08	9.6835E-09	1.1659E-08	1.1251E-08	4.0568E-09

Table 4.1.3 Calculated decay power of fission products after infinite (10^{13}s) irradiation at constant rate of 1 fission/s

(a) Beta decay power (MeV/s)

TIME(S)	TH232(F)	TH232(H)	U233(T)	U233(F)	U233(H)	U235(T)	U235(F)	U235(H)	U236(F)	NP237(F)
0.0	8.3055E+00	6.9449E+00	5.0527E+00	5.1217E+00	4.6516E+00	6.5096E+00	6.5296E+00	5.2161E+00	7.0515E+00	5.9343E+00
1.0E-01	8.1851E+00	6.8575E+00	5.0198E+00	5.0859E+00	4.6164E+00	6.4361E+00	6.4531E+00	5.1679E+00	6.9617E+00	5.8718E+00
1.5E-01	8.1291E+00	6.8168E+00	5.0040E+00	5.0688E+00	4.5996E+00	6.4016E+00	6.4172E+00	5.1449E+00	6.9195E+00	5.8421E+00
2.0E-01	8.0755E+00	6.7777E+00	4.9886E+00	5.0522E+00	4.5832E+00	6.3685E+00	6.3826E+00	5.1226E+00	6.8789E+00	5.8134E+00
3.0E-01	7.9748E+00	6.7040E+00	4.9589E+00	5.0202E+00	4.5517E+00	6.3057E+00	6.3171E+00	5.0799E+00	6.8019E+00	5.7585E+00
4.0E-01	7.8817E+00	6.6355E+00	4.9307E+00	4.9898E+00	4.5217E+00	6.2470E+00	6.2558E+00	5.0395E+00	6.7300E+00	5.7068E+00
5.0E-01	7.7949E+00	6.5714E+00	4.9037E+00	4.9608E+00	4.4932E+00	6.1919E+00	6.1983E+00	5.0012E+00	6.6624E+00	5.6578E+00
6.0E-01	7.7136E+00	6.5113E+00	4.8778E+00	4.9330E+00	4.4659E+00	6.1399E+00	6.1439E+00	4.9647E+00	6.5986E+00	5.6113E+00
8.0E-01	7.5650E+00	6.4006E+00	4.8290E+00	4.8810E+00	4.4145E+00	6.0437E+00	6.0435E+00	4.8964E+00	6.4807E+00	5.5247E+00
1.0E+00	7.4315E+00	6.3005E+00	4.7838E+00	4.8328E+00	4.3671E+00	5.9562E+00	5.9523E+00	4.8335E+00	6.3736E+00	5.4454E+00
1.5E+00	7.1469E+00	6.0848E+00	4.6830E+00	4.7257E+00	4.2618E+00	5.7659E+00	5.7546E+00	4.6953E+00	6.1417E+00	5.2722E+00
2.0E+00	6.9126E+00	5.9046E+00	4.5959E+00	4.6335E+00	4.1713E+00	5.6055E+00	5.5889E+00	4.5774E+00	5.9474E+00	5.1259E+00
3.0E+00	6.5416E+00	5.6140E+00	4.4506E+00	4.4802E+00	4.0215E+00	5.3439E+00	5.3210E+00	4.3843E+00	5.6341E+00	4.8883E+00
4.0E+00	6.2553E+00	5.3852E+00	4.3323E+00	4.3555E+00	3.9006E+00	5.1356E+00	5.1095E+00	4.2302E+00	5.3880E+00	4.7005E+00
5.0E+00	6.0242E+00	5.1977E+00	4.2327E+00	4.2506E+00	3.7997E+00	4.9635E+00	4.9360E+00	4.1028E+00	5.1872E+00	4.5463E+00
6.0E+00	5.8317E+00	5.0399E+00	4.1469E+00	4.1605E+00	3.7135E+00	4.8179E+00	4.7899E+00	3.9950E+00	5.0190E+00	4.4165E+00
8.0E+00	5.5255E+00	4.7863E+00	4.0051E+00	4.0119E+00	3.5726E+00	4.5830E+00	4.5551E+00	3.8208E+00	4.7509E+00	4.2080E+00
1.0E+01	5.2891E+00	4.5890E+00	3.8911E+00	3.8928E+00	3.4611E+00	4.4000E+00	4.3728E+00	3.6846E+00	4.5446E+00	4.0458E+00
1.5E+01	4.8692E+00	4.2376E+00	3.6796E+00	3.6732E+00	3.2587E+00	4.0748E+00	4.0492E+00	3.4416E+00	4.1832E+00	3.7574E+00
2.0E+01	4.5829E+00	3.9988E+00	3.5293E+00	3.5183E+00	3.1188E+00	3.8549E+00	3.8301E+00	3.2767E+00	3.9420E+00	3.5616E+00
3.0E+01	4.1980E+00	3.6796E+00	3.3197E+00	3.3042E+00	2.9288E+00	3.5631E+00	3.5389E+00	3.0572E+00	3.6253E+00	3.3002E+00
4.0E+01	3.9360E+00	3.4629E+00	3.1724E+00	3.1549E+00	2.7976E+00	3.3672E+00	3.3430E+00	2.9088E+00	3.4142E+00	3.1233E+00
5.0E+01	3.7380E+00	3.2986E+00	3.0583E+00	3.0397E+00	2.6968E+00	3.2200E+00	3.1958E+00	2.7963E+00	3.2562E+00	2.9894E+00
6.0E+01	3.5799E+00	3.1666E+00	2.9654E+00	2.9461E+00	2.6147E+00	3.1023E+00	3.0782E+00	2.7055E+00	3.1302E+00	2.8818E+00
8.0E+01	3.3396E+00	2.9640E+00	2.8202E+00	2.8003E+00	2.4862E+00	2.9222E+00	2.8982E+00	2.5646E+00	2.9379E+00	2.7159E+00
1.0E+02	3.1637E+00	2.8140E+00	2.7103E+00	2.6901E+00	2.3884E+00	2.7884E+00	2.7649E+00	2.4582E+00	2.7958E+00	2.5919E+00
1.5E+02	2.8741E+00	2.5634E+00	2.5202E+00	2.5002E+00	2.2183E+00	2.5629E+00	2.5405E+00	2.2750E+00	2.5577E+00	2.3814E+00
2.0E+02	2.6936E+00	2.4050E+00	2.3941E+00	2.3745E+00	2.1048E+00	2.4175E+00	2.3961E+00	2.1541E+00	2.4052E+00	2.2447E+00
3.0E+02	2.4707E+00	2.2060E+00	2.2263E+00	2.2076E+00	1.9539E+00	2.2292E+00	2.2092E+00	1.9950E+00	2.2096E+00	2.0664E+00
4.0E+02	2.3293E+00	2.0771E+00	2.1112E+00	2.0929E+00	1.8507E+00	2.1033E+00	2.0842E+00	1.8875E+00	2.0798E+00	1.9461E+00
5.0E+02	2.2261E+00	1.9815E+00	2.0226E+00	2.0044E+00	1.7717E+00	2.0078E+00	1.9893E+00	1.8057E+00	1.9818E+00	1.8541E+00
6.0E+02	2.1446E+00	1.9053E+00	1.9503E+00	1.9320E+00	1.7074E+00	1.9304E+00	1.9124E+00	1.7394E+00	1.9025E+00	1.7790E+00
8.0E+02	2.0198E+00	1.7875E+00	1.8359E+00	1.8171E+00	1.6061E+00	1.8087E+00	1.7909E+00	1.6350E+00	1.7776E+00	1.6598E+00
1.0E+03	1.9250E+00	1.6976E+00	1.7471E+00	1.7276E+00	1.5277E+00	1.7143E+00	1.6966E+00	1.5542E+00	1.6809E+00	1.5669E+00
1.5E+03	1.7545E+00	1.5363E+00	1.5863E+00	1.5652E+00	1.3868E+00	1.5434E+00	1.5256E+00	1.4086E+00	1.5062E+00	1.3992E+00
2.0E+03	1.6343E+00	1.4237E+00	1.4745E+00	1.4522E+00	1.2894E+00	1.4251E+00	1.4071E+00	1.3078E+00	1.3861E+00	1.2843E+00
3.0E+03	1.4697E+00	1.2717E+00	1.3256E+00	1.3020E+00	1.1601E+00	1.2697E+00	1.2515E+00	1.1743E+00	1.2297E+00	1.1356E+00
4.0E+03	1.3598E+00	1.1717E+00	1.2293E+00	1.2053E+00	1.0766E+00	1.1714E+00	1.1533E+00	1.0886E+00	1.1318E+00	1.0434E+00
5.0E+03	1.2795E+00	1.0995E+00	1.1606E+00	1.1364E+00	1.0170E+00	1.1027E+00	1.0846E+00	1.0279E+00	1.0638E+00	9.8019E-01
6.0E+03	1.2171E+00	1.0440E+00	1.1078E+00	1.0838E+00	9.7122E-01	1.0509E+00	1.0331E+00	9.8170E-01	1.0129E+00	9.3345E-01
8.0E+03	1.1234E+00	9.6170E-01	1.0292E+00	1.0057E+00	9.0323E-01	9.7568E-01	9.5839E-01	9.1376E-01	9.3930E-01	8.6694E-01
1.0E+04	1.0541E+00	9.0142E-01	9.7071E-01	9.4811E-01	8.5279E-01	9.2117E-01	9.0445E-01	8.6394E-01	8.8624E-01	8.1976E-01
1.5E+04	9.3307E-01	7.9749E-01	8.6710E-01	8.4660E-01	7.6337E-01	8.2720E-01	8.1176E-01	7.7649E-01	7.9513E-01	7.3951E-01
2.0E+04	8.5081E-01	7.2740E-01	7.9499E-01	7.7613E-01	7.0063E-01	7.6301E-01	7.4856E-01	7.1535E-01	7.3300E-01	6.8471E-01
3.0E+04	7.4205E-01	6.3451E-01	6.9680E-01	6.7998E-01	6.1411E-01	6.7547E-01	6.6242E-01	6.3051E-01	6.4822E-01	6.0911E-01
4.0E+04	6.7259E-01	5.7454E-01	6.3190E-01	6.1618E-01	5.5618E-01	6.1641E-01	6.0434E-01	5.7302E-01	5.9099E-01	5.5720E-01
5.0E+04	6.2481E-01	5.3278E-01	5.8595E-01	5.7086E-01	5.1481E-01	5.7360E-01	5.6223E-01	5.3153E-01	5.4956E-01	5.1894E-01
6.0E+04	5.9042E-01	5.0235E-01	5.5202E-01	5.3733E-01	4.8401E-01	5.4130E-01	5.3045E-01	5.0039E-01	5.1839E-01	4.8961E-01
8.0E+04	5.4493E-01	4.6135E-01	5.0572E-01	4.9144E-01	4.4148E-01	4.9611E-01	4.8593E-01	4.5699E-01	4.7498E-01	4.4774E-01
1.0E+05	5.1641E-01	4.3496E-01	4.7560E-01	4.6153E-01	4.1334E-01	4.6597E-01	4.5618E-01	4.2801E-01	4.4617E-01	4.1917E-01
1.5E+05	4.7621E-01	3.9636E-01	4.3130E-01	4.1754E-01	3.7098E-01	4.2080E-01	4.1144E-01	3.8407E-01	4.0291E-01	3.7528E-01
2.0E+05	4.5434E-01	3.7449E-01	4.0622E-01	3.9268E-01	3.4643E-01	3.9502E-01	3.8580E-01	3.5843E-01	3.7788E-01	3.4963E-01
3.0E+05	4.2945E-01	3.4915E-01	3.7716E-01	3.6400E-01	3.1790E-01	3.6525E-01	3.5611E-01	3.2836E-01	3.4842E-01	3.1964E-01
4.0E+05	4.1382E-01	3.3346E-01	3.5909E-01	3.4628E-01	3.0063E-01	3.4696E-01	3.3786E-01	3.0996E-01	3.3009E-01	3.0126E-01
5.0E+05	4.0186E-01	3.2183E-01	3.4565E-01	3.3315E-01	2.8817E-01	3.3350E-01	3.2444E-01	2.9663E-01	3.1661E-01	2.8791E-01
6.0E+05	3.9187E-01	3.1240E-01	3.3475E-01	3.2252E-01	2.7831E-01	3.2267E-01	3.1366E-01	2.8609E-01	3.0582E-01	2.7733E-01
8.0E+05	3.7536E-01	2.9733E-01	3.1744E-01	3.0569E-01	2.6301E-01	3.0563E-01	2.9673E-01	2.6985E-01	2.8897E-01	2.6103E-01
1.0E+06	3.6176E-01	2.8535E-01	3.0383E-01	2.9248E-01	2.5125E-01	2.9235E-01	2.8358E-01	2.5753E-01	2.7696E-01	2.4866E-01
1.5E+06	3.3521E-01	2.6292E-01	2.7874E-01	2.6817E-01	2.3013E-01	2.6810E-01	2.5967E-01	2.3581E-01	2.5243E-01	2.2679E-01
2.0E+06	3.1521E-01	2.4668E-01	2.6077E-01	2.5079E-01	2.1542E-01	2.5085E-01	2.4275E-01	2.2095E-01	2.3583E-01	2.1176E-01
3.0E+06	2.8640E-01	2.2392E-01	2.3567E-01	2.2655E-01	1.9532E-01	2.2690E-01	2.1934E-01	2.0084E-01	2.1293E-01	1.9145E-01
4.0E+06	2.6637E-01	2.0840E-01	2.1854E-01	2.0999E-01	1.8174E-01	2.1063E-01	2.0347E-01	1.8732E-01	1.9743E-01	1.7792E-01
5.0E+06	2.5142E-01	1.9693E-01	2.0588E-01	1.9775E-01	1.7170E-01	1.9862E-01	1.9177E-01	1.7732E-01	1.8601E-01	1.6806E-01
6.0E+06	2.3962E-01	1.8794E-01	1.9598E-01	1.8816E-01	1.6381E-01	1.8923E-01	1.8261E-01	1.6945E-01	1.7707E-01	1.6037E-01
8.0E+06	2.2166E-01	1.7436E-01	1.8110E-01	1.7373E-01	1.5187E-01	1.7503E-01	1.6878E-01	1.5750E-01	1.6352E-01	1.4874E-01
1.0E+07	2.0818E-01	1.6429E-01	1.7015E-01	1.6311E-01	1.4303E-01	1.6444E-01	1.5847E-01	1.4856E-01	1.5336E-01	1.3996E-01
1.5E+07	1.8484E-01	1.4722E-01	1.5184E-01	1.4531E-01	1.2818E-01	1.4625E-01	1.4075E-01	1.3328E-01	1.3566E-01	1.2433E-01
2.0E+07	1.6956E-01	1.3637E-01	1.4047E-01	1.3424E-01	1.1891E-01	1.3443E-01	1.2921E-01	1.2345E-01	1.2394E-01	1.1357E-01
3.0E+07	1.4999E-01	1.2288E-01	1.2677E-01	1.2090E-01	1.0764E-01	1.1945E-01	1.1453E-01	1.1103E-01	1.0871E-01	9.8869E-02
4.0E+07	1.3722E-01	1.1421E-01	1.1824E-01	1.1260E-01	1.0051E-01	1.0975E-01	1.0496E-01	1.0293E-01	9.8644E-02	8.8710E-02
5.0E+07	1.2789E-01	1.0784E-01	1.1209E-01	1.0661E-01	9.5288E-02	1.0268E-01	9.7980E-02	9.6948E-02	9.1240E-02	8.1073E-02
6.0E+07	1.2078E-01	1.0291E-01	1.0738E-01	1.0203E-01	9.1227E-02	9.7272E-02	9.2635E-02	9.2301E-02	8.5562E-02	7.5147E-02
8.0E+07	1.1088E-01	9.5845E-02	1.0070E-01	9.5540E-02	8.5351E-02	8.9699E-02	8.5151E-02	8.5634E-02	7.7620E-02	6.6778E-02
1.0E+08	1.0458E-01	9.1150E-02	9.6270E-02	9.1254E-02	8.1381E-02	8.4828E-02	8.0346E-02	8.1211E-02	7.2558E-02	6.1418E-02
1.5E+08	9.5995E-02	8.4373E-02	8.9779E-02	8.5007E-02	7.5542E-02	7.8123E-02	7.3787E-02	7.4941E-02	6.5836E-02	5.4435E-02
2.0E+08	9.1167E-02	8.0389E-02	8.5731E-02	8.1150E-02	7.2100E-02	7.4326E-02	7.0145E-02	7.1433E-02	6.2341E-02	5.1086E-02
3.0E+08	8.4020E-02	7.4583E-02	7.9389E-02	7.5152E-02	6.7191E-02	6.8734E-02	6.4878E-02	6.6597E-02	5.7606E-02	4.7040E-02
4.0E+08	7.7827E-02	6.9679E-02	7.3806E-02	6.9886E-02	6.3123E-02	6.3900E-02	6.0357E-02	6.2622E-02	5.3657E-02	4.3847E-02
5.0E+08	7.2173E-02	6.5251E-02	6.8688E-02	6.5062E-02	5.9474E-02	5.9481E-02	5.6229E-02	5.9053E-02	5.0072E-02	4.0976E-02
6.0E+08	6.6973E-02	6.1199E-02	6.3971E-02	6.0617E-02	5.6141E-02	5.5408E-02	5.2426E-02	5.5790E-02	4.6778E-02	3.8340E-02
8.0E+08	5.7749E-02	5.4039E-02	5.5588E-02	5.2719E-02	5.0252E-02	4.8165E-02	4.5664E-02	5.0016E-02	4.0929E-02	3.3661E-02
1.0E+09	4.9875E-02	4.7942E-02	4.8417E-02	4.5964E-02	4.5230E-02	4.1965E-02	3.9877E-02	4.5089E-02	3.5927E-02	2.9657E-02
1.5E+09	3.4815E-02	3.6305E-02	3.4672E-02	3.3017E-02	3.5618E-02	3.0065E-02	2.8769E-02	3.5648E-02	2.6330E-02	2.1963E-02
2.0E+09	2.4585E-02	2.8412E-02	2.5315E-02	2.4204E-02	2.9077E-02	2.1954E-02	2.1196E-02	2.9220E-02	1.9788E-02	1.6707E-02
3.0E+09	1.2870E-02	1.9378E-02	1.4583E-02	1.4095E-02	2.1565E-02	1.2639E-02	1.2497E-02	2.1838E-02	1.2269E-02	1.0650E-02
4.0E+09	7.4171E-03	1.5171E-02	9.5804E-03	9.3804E-03	1.8052E-02	8.2916E-03	8.4355E-03	1.8389E-02	8.7539E-03	7.8063E-03
5.0E+09	4.8741E-03	1.3206E-02	7.2449E-03	7.1788E-03	1.6403E-02	6.2602E-03	6.5362E-03	1.6771E-02	7.1075E-03	6.4682E-03
6.0E+09	3.6867E-03	1.2286E-02	6.1531E-03	6.1492E-03	1.5625E-02	5.3094E-03	5.6467E-03	1.6011E-02	6.3350E-03	5.8364E-03
8.0E+09	2.8714E-03	1.1650E-02	5.4018E-03	5.4400E-03	1.5079E-02	4.6537E-03	5.0323E-03	1.5479E-02	5.7995E-03	5.3935E-03
1.0E+10	2.6912E-03	1.1505E-02	5.2346E-03	5.2819E-03	1.4949E-02	4.5068E-03	4.8942E-03	1.5353E-02	5.6780E-03	5.2898E-03
1.5E+10	2.6380E-03	1.1452E-02	5.1830E-03	5.2326E-03	1.4894E-02	4.4608E-03	4.8501E-03	1.5301E-02	5.6373E-03	5.2517E-03
2.0E+10	2.6345E-03	1.1439E-02	5.1775E-03	5.2271E-03	1.4877E-02	4.4562E-03	4.8451E-03	1.5284E-02	5.6314E-03	5.2454E-03
3.0E+10	2.6315E-03	1.1415E-02	5.1702E-03	5.2197E-03	1.4847E-02	4.4512E-03	4.8389E-03	1.5255E-02	5.6235E-03	5.2383E-03
4.0E+10	2.6289E-03	1.1392E-02	5.1634E-03	5.2126E-03	1.4818E-02	4.4468E-03	4.8333E-03	1.5225E-02	5.6161E-03	5.2321E-03
5.0E+10	2.6263E-03	1.1369E-02	5.1567E-03	5.2057E-03	1.4789E-02	4.4424E-03	4.8278E-03	1.5197E-02	5.6088E-03	5.2260E-03
6.0E+10	2.6237E-03	1.1346E-02	5.1500E-03	5.1987E-03	1.4760E-02	4.4380E-03	4.8222E-03	1.5168E-02	5.6016E-03	5.2198E-03
8.0E+10	2.6186E-03	1.1300E-02	5.1365E-03	5.1849E-03	1.4702E-02	4.4292E-03	4.8112E-03	1.5110E-02	5.5870E-03	5.2076E-03
1.0E+11	2.6135E-03	1.1255E-02	5.1231E-03	5.1711E-03	1.4644E-02	4.4205E-03	4.8001E-03	1.5053E-02	5.5725E-03	5.1955E-03
1.5E+11	2.6008E-03	1.1141E-02	5.0899E-03	5.1368E-03	1.4502E-02	4.3987E-03	4.7727E-03	1.4911E-02	5.5365E-03	5.1652E-03
2.0E+11	2.5883E-03	1.1029E-02	5.0569E-03	5.1028E-03	1.4360E-02	4.3771E-03	4.7456E-03	1.4770E-02	5.5008E-03	5.1352E-03
3.0E+11	2.5633E-03	1.0809E-02	4.9918E-03	5.0356E-03	1.4082E-02	4.3342E-03	4.6918E-03	1.4493E-02	5.4302E-03	5.0759E-03
4.0E+11	2.5388E-03	1.0594E-02	4.9278E-03	4.9697E-03	1.3809E-02	4.2919E-03	4.6388E-03	1.4222E-02	5.3609E-03	5.0175E-03
5.0E+11	2.5146E-03	1.0383E-02	4.8649E-03	4.9049E-03	1.3543E-02	4.2501E-03	4.5867E-03	1.3956E-02	5.2926E-03	4.9599E-03
6.0E+11	2.4907E-03	1.0177E-02	4.8030E-03	4.8412E-03	1.3281E-02	4.2088E-03	4.5353E-03	1.3696E-02	5.2255E-03	4.9032E-03
8.0E+11	2.4440E-03	9.7788E-03	4.6825E-03	4.7170E-03	1.2775E-02	4.1278E-03	4.4348E-03	1.3191E-02	5.0946E-03	4.7924E-03
1.0E+12	2.3986E-03	9.3973E-03	4.5660E-03	4.5971E-03	1.2290E-02	4.0488E-03	4.3372E-03	1.2707E-02	4.9678E-03	4.6848E-03
1.5E+12	2.2905E-03	8.5139E-03	4.2913E-03	4.3147E-03	1.1164E-02	3.8596E-03	4.1056E-03	1.1581E-02	4.6685E-03	4.4295E-03
2.0E+12	2.1896E-03	7.7222E-03	4.0387E-03	4.0553E-03	1.0150E-02	3.6817E-03	3.8904E-03	1.0565E-02	4.3925E-03	4.1923E-03
3.0E+12	2.0072E-03	6.3754E-03	3.5917E-03	3.5973E-03	8.4145E-03	3.3566E-03	3.5036E-03	8.8222E-03	3.9019E-03	3.7666E-03
4.0E+12	1.8473E-03	5.2906E-03	3.2111E-03	3.2084E-03	7.0061E-03	3.0680E-03	3.1675E-03	7.4007E-03	3.4820E-03	3.3971E-03
5.0E+12	1.7066E-03	4.4152E-03	2.8856E-03	2.8769E-03	5.8611E-03	2.8112E-03	2.8743E-03	6.2392E-03	3.1211E-03	3.0754E-03
6.0E+12	1.5823E-03	3.7074E-03	2.6060E-03	2.5931E-03	4.9288E-03	2.5822E-03	2.6177E-03	5.2883E-03	2.8098E-03	2.7943E-03
8.0E+12	1.3742E-03	2.6683E-03	2.1561E-03	2.1386E-03	3.5465E-03	2.1945E-03	2.1939E-03	3.8661E-03	2.3057E-03	2.3311E-03
1.0E+13	1.2086E-03	1.9800E-03	1.8161E-03	1.7973E-03	2.6190E-03	1.8829E-03	1.8629E-03	2.8988E-03	1.9220E-03	1.9708E-03

(b) Gamma decay power (MeV/s)

TIME(S)	TH232(F)	TH232(H)	U233(T)	U233(F)	U233(H)	U235(T)	U235(F)	U235(H)	U236(F)	NP237(F)
0.0	8.1198E+00	6.8122E+00	5.2976E+00	5.3789E+00	4.8260E+00	6.4380E+00	6.4905E+00	5.3758E+00	6.8547E+00	5.9597E+00
1.0E-01	8.0235E+00	6.7402E+00	5.2691E+00	5.3483E+00	4.7934E+00	6.3806E+00	6.4308E+00	5.3341E+00	6.7859E+00	5.9103E+00
1.5E-01	7.9786E+00	6.7066E+00	5.2555E+00	5.3337E+00	4.7779E+00	6.3537E+00	6.4027E+00	5.3144E+00	6.7536E+00	5.8869E+00
2.0E-01	7.9356E+00	6.6743E+00	5.2423E+00	5.3196E+00	4.7630E+00	6.3278E+00	6.3757E+00	5.2954E+00	6.7226E+00	5.8643E+00
3.0E-01	7.8546E+00	6.6134E+00	5.2170E+00	5.2925E+00	4.7347E+00	6.2788E+00	6.3244E+00	5.2591E+00	6.6637E+00	5.8211E+00
4.0E-01	7.7796E+00	6.5568E+00	5.1931E+00	5.2669E+00	4.7080E+00	6.2332E+00	6.2766E+00	5.2250E+00	6.6088E+00	5.7804E+00
5.0E-01	7.7095E+00	6.5039E+00	5.1704E+00	5.2427E+00	4.6828E+00	6.1903E+00	6.2316E+00	5.1928E+00	6.5572E+00	5.7419E+00
6.0E-01	7.6439E+00	6.4542E+00	5.1487E+00	5.2196E+00	4.6589E+00	6.1499E+00	6.1892E+00	5.1623E+00	6.5085E+00	5.7054E+00
8.0E-01	7.5236E+00	6.3629E+00	5.1082E+00	5.1765E+00	4.6146E+00	6.0755E+00	6.1109E+00	5.1057E+00	6.4187E+00	5.6377E+00
1.0E+00	7.4156E+00	6.2805E+00	5.0710E+00	5.1369E+00	4.5740E+00	6.0080E+00	6.0400E+00	5.0540E+00	6.3373E+00	5.5758E+00
1.5E+00	7.1856E+00	6.1034E+00	4.9889E+00	5.0498E+00	4.4853E+00	5.8623E+00	5.8869E+00	4.9414E+00	6.1618E+00	5.4412E+00
2.0E+00	6.9969E+00	5.9562E+00	4.9188E+00	4.9757E+00	4.4101E+00	5.7406E+00	5.7593E+00	4.8464E+00	6.0157E+00	5.3282E+00
3.0E+00	6.6995E+00	5.7203E+00	4.8034E+00	4.8538E+00	4.2866E+00	5.5443E+00	5.5545E+00	4.6921E+00	5.7819E+00	5.1458E+00
4.0E+00	6.4710E+00	5.5358E+00	4.7103E+00	4.7557E+00	4.1876E+00	5.3894E+00	5.3938E+00	4.5698E+00	5.5995E+00	5.0023E+00
5.0E+00	6.2866E+00	5.3850E+00	4.6321E+00	4.6735E+00	4.1051E+00	5.2620E+00	5.2622E+00	4.4690E+00	5.4511E+00	4.8847E+00
6.0E+00	6.1325E+00	5.2582E+00	4.5647E+00	4.6028E+00	4.0344E+00	5.1541E+00	5.1512E+00	4.3836E+00	5.3266E+00	4.7855E+00
8.0E+00	5.8847E+00	5.0535E+00	4.4522E+00	4.4849E+00	3.9178E+00	4.9786E+00	4.9716E+00	4.2446E+00	5.1268E+00	4.6250E+00
1.0E+01	5.6892E+00	4.8923E+00	4.3600E+00	4.3886E+00	3.8237E+00	4.8395E+00	4.8299E+00	4.1342E+00	4.9705E+00	4.4983E+00
1.5E+01	5.3261E+00	4.5961E+00	4.1815E+00	4.2034E+00	3.6462E+00	4.5824E+00	4.5697E+00	3.9299E+00	4.6863E+00	4.2656E+00
2.0E+01	5.0614E+00	4.3840E+00	4.0468E+00	4.0645E+00	3.5166E+00	4.3976E+00	4.3837E+00	3.7832E+00	4.4852E+00	4.0995E+00
3.0E+01	4.6776E+00	4.0815E+00	3.8464E+00	3.8592E+00	3.3301E+00	4.1343E+00	4.1197E+00	3.5751E+00	4.2017E+00	3.8643E+00
4.0E+01	4.3982E+00	3.8636E+00	3.6970E+00	3.7072E+00	3.1956E+00	3.9453E+00	3.9305E+00	3.4263E+00	3.9998E+00	3.6958E+00
5.0E+01	4.1786E+00	3.6927E+00	3.5773E+00	3.5860E+00	3.0898E+00	3.7971E+00	3.7824E+00	3.3099E+00	3.8422E+00	3.5637E+00
6.0E+01	3.9986E+00	3.5523E+00	3.4773E+00	3.4850E+00	3.0027E+00	3.6752E+00	3.6606E+00	3.2142E+00	3.7129E+00	3.4550E+00
8.0E+01	3.7178E+00	3.3321E+00	3.3168E+00	3.3234E+00	2.8642E+00	3.4824E+00	3.4683E+00	3.0627E+00	3.5097E+00	3.2828E+00
1.0E+02	3.5071E+00	3.1654E+00	3.1917E+00	3.1978E+00	2.7573E+00	3.3345E+00	3.3210E+00	2.9459E+00	3.3548E+00	3.1507E+00
1.5E+02	3.1531E+00	2.8818E+00	2.9694E+00	2.9752E+00	2.5682E+00	3.0764E+00	3.0647E+00	2.7403E+00	3.0868E+00	2.9198E+00
2.0E+02	2.9326E+00	2.7020E+00	2.8197E+00	2.8258E+00	2.4413E+00	2.9061E+00	2.8959E+00	2.6030E+00	2.9117E+00	2.7669E+00
3.0E+02	2.6687E+00	2.4809E+00	2.6221E+00	2.6287E+00	2.2733E+00	2.6860E+00	2.6780E+00	2.4223E+00	2.6875E+00	2.5674E+00
4.0E+02	2.5087E+00	2.3422E+00	2.4886E+00	2.4954E+00	2.1592E+00	2.5410E+00	2.5342E+00	2.3006E+00	2.5408E+00	2.4336E+00
5.0E+02	2.3945E+00	2.2406E+00	2.3864E+00	2.3929E+00	2.0716E+00	2.4318E+00	2.4259E+00	2.2075E+00	2.4308E+00	2.3314E+00
6.0E+02	2.3049E+00	2.1596E+00	2.3026E+00	2.3086E+00	1.9997E+00	2.3434E+00	2.3380E+00	2.1312E+00	2.3418E+00	2.2475E+00
8.0E+02	2.1664E+00	2.0326E+00	2.1687E+00	2.1734E+00	1.8849E+00	2.2033E+00	2.1983E+00	2.0094E+00	2.2006E+00	2.1127E+00
1.0E+03	2.0593E+00	1.9336E+00	2.0631E+00	2.0663E+00	1.7944E+00	2.0931E+00	2.0880E+00	1.9133E+00	2.0891E+00	2.0054E+00
1.5E+03	1.8613E+00	1.7502E+00	1.8673E+00	1.8672E+00	1.6279E+00	1.8881E+00	1.8826E+00	1.7352E+00	1.8813E+00	1.8049E+00
2.0E+03	1.7172E+00	1.6170E+00	1.7270E+00	1.7243E+00	1.5094E+00	1.7403E+00	1.7343E+00	1.6074E+00	1.7314E+00	1.6607E+00
3.0E+03	1.5125E+00	1.4277E+00	1.5321E+00	1.5258E+00	1.3463E+00	1.5342E+00	1.5276E+00	1.4298E+00	1.5225E+00	1.4617E+00
4.0E+03	1.3703E+00	1.2954E+00	1.3993E+00	1.3909E+00	1.2365E+00	1.3936E+00	1.3870E+00	1.3089E+00	1.3804E+00	1.3283E+00
5.0E+03	1.2639E+00	1.1958E+00	1.3009E+00	1.2913E+00	1.1559E+00	1.2895E+00	1.2833E+00	1.2197E+00	1.2753E+00	1.2314E+00
6.0E+03	1.1805E+00	1.1173E+00	1.2239E+00	1.2139E+00	1.0934E+00	1.2083E+00	1.2027E+00	1.1502E+00	1.1934E+00	1.1570E+00
8.0E+03	1.0566E+00	1.0002E+00	1.1097E+00	1.0996E+00	1.0013E+00	1.0883E+00	1.0843E+00	1.0477E+00	1.0728E+00	1.0494E+00
1.0E+04	9.6812E-01	9.1628E-01	1.0276E+00	1.0182E+00	9.3503E-01	1.0033E+00	1.0007E+00	9.7456E-01	9.8738E-01	9.7435E-01
1.5E+04	8.2661E-01	7.8278E-01	8.9531E-01	8.8773E-01	8.2590E-01	8.6992E-01	8.7010E-01	8.5619E-01	8.5415E-01	8.5771E-01
2.0E+04	7.4231E-01	7.0407E-01	8.1531E-01	8.0907E-01	7.5683E-01	7.9282E-01	7.9447E-01	7.8319E-01	7.7775E-01	7.8947E-01
3.0E+04	6.4490E-01	6.1357E-01	7.2042E-01	7.1539E-01	6.7072E-01	7.0427E-01	7.0713E-01	6.9351E-01	6.9093E-01	7.0832E-01
4.0E+04	5.8847E-01	5.6096E-01	6.6320E-01	6.5851E-01	6.1730E-01	6.5058E-01	6.5388E-01	6.3762E-01	6.3882E-01	6.5705E-01
5.0E+04	5.5060E-01	5.2548E-01	6.2329E-01	6.1867E-01	5.7999E-01	6.1218E-01	6.1567E-01	5.9810E-01	6.0179E-01	6.1945E-01
6.0E+04	5.2293E-01	4.9948E-01	5.9311E-01	5.8845E-01	5.5192E-01	5.8250E-01	5.8608E-01	5.6806E-01	5.7331E-01	5.8993E-01
8.0E+04	4.8432E-01	4.6305E-01	5.4917E-01	5.4440E-01	5.1134E-01	5.3852E-01	5.4209E-01	5.2431E-01	5.3131E-01	5.4562E-01
1.0E+05	4.5790E-01	4.3797E-01	5.1769E-01	5.1285E-01	4.8242E-01	5.0677E-01	5.1022E-01	4.9299E-01	5.0107E-01	5.1329E-01
1.5E+05	4.1622E-01	3.9782E-01	4.6540E-01	4.6058E-01	4.3454E-01	4.5441E-01	4.5738E-01	4.4109E-01	4.5105E-01	4.5928E-01
2.0E+05	3.9061E-01	3.7258E-01	4.3167E-01	4.2698E-01	4.0382E-01	4.2123E-01	4.2367E-01	4.0773E-01	4.1903E-01	4.2449E-01
3.0E+05	3.5757E-01	3.3963E-01	3.8745E-01	3.8310E-01	3.6410E-01	3.7853E-01	3.8008E-01	3.6457E-01	3.7733E-01	3.7916E-01
4.0E+05	3.3429E-01	3.1670E-01	3.5710E-01	3.5312E-01	3.3744E-01	3.4959E-01	3.5048E-01	3.3572E-01	3.4887E-01	3.4845E-01
5.0E+05	3.1539E-01	2.9857E-01	3.3353E-01	3.2989E-01	3.1708E-01	3.2718E-01	3.2759E-01	3.1389E-01	3.2683E-01	3.2489E-01
6.0E+05	2.9916E-01	2.8340E-01	3.1411E-01	3.1079E-01	3.0049E-01	3.0870E-01	3.0877E-01	2.9631E-01	3.0871E-01	3.0568E-01
8.0E+05	2.7203E-01	2.5885E-01	2.8332E-01	2.8055E-01	2.7438E-01	2.7927E-01	2.7895E-01	2.6911E-01	2.7998E-01	2.7560E-01
1.0E+06	2.4998E-01	2.3954E-01	2.5964E-01	2.5733E-01	2.5438E-01	2.5653E-01	2.5604E-01	2.4876E-01	2.5790E-01	2.5280E-01
1.5E+06	2.0897E-01	2.0496E-01	2.1826E-01	2.1683E-01	2.1941E-01	2.1649E-01	2.1603E-01	2.1427E-01	2.1919E-01	2.1359E-01
2.0E+06	1.8042E-01	1.8158E-01	1.9084E-01	1.9000E-01	1.9621E-01	1.8964E-01	1.8942E-01	1.9202E-01	1.9329E-01	1.8782E-01
3.0E+06	1.4351E-01	1.5169E-01	1.5588E-01	1.5573E-01	1.6662E-01	1.5488E-01	1.5510E-01	1.6390E-01	1.5960E-01	1.5465E-01
4.0E+06	1.2145E-01	1.3367E-01	1.3452E-01	1.3469E-01	1.4852E-01	1.3321E-01	1.3372E-01	1.4654E-01	1.3835E-01	1.3385E-01
5.0E+06	1.0720E-01	1.2179E-01	1.2017E-01	1.2047E-01	1.3630E-01	1.1837E-01	1.1906E-01	1.3462E-01	1.2362E-01	1.1948E-01
6.0E+06	9.7270E-02	1.1332E-01	1.0972E-01	1.1004E-01	1.2737E-01	1.0739E-01	1.0820E-01	1.2577E-01	1.1260E-01	1.0879E-01
8.0E+06	8.3866E-02	1.0159E-01	9.4887E-02	9.5133E-02	1.1465E-01	9.1573E-02	9.2534E-02	1.1292E-01	9.6553E-02	9.3333E-02
1.0E+07	7.4602E-02	9.3321E-02	8.4218E-02	8.4350E-02	1.0548E-01	8.0098E-02	8.1173E-02	1.0357E-01	8.4860E-02	8.2199E-02
1.5E+07	5.9418E-02	7.9701E-02	6.6520E-02	6.6417E-02	9.0288E-02	6.1090E-02	6.2385E-02	8.8059E-02	6.5537E-02	6.4039E-02
2.0E+07	5.0654E-02	7.1832E-02	5.6396E-02	5.6158E-02	8.1531E-02	5.0291E-02	5.1729E-02	7.9179E-02	5.4608E-02	5.3861E-02
3.0E+07	4.2671E-02	6.4529E-02	4.7357E-02	4.7005E-02	7.3415E-02	4.0713E-02	4.2272E-02	7.1026E-02	4.4893E-02	4.4757E-02
4.0E+07	3.9876E-02	6.1765E-02	4.4315E-02	4.3930E-02	7.0317E-02	3.7513E-02	3.9092E-02	6.7966E-02	4.1575E-02	4.1512E-02
5.0E+07	3.8691E-02	6.0420E-02	4.3095E-02	4.2701E-02	6.8778E-02	3.6245E-02	3.7814E-02	6.6480E-02	4.0199E-02	4.0055E-02
6.0E+07	3.8020E-02	5.9544E-02	4.2436E-02	4.2041E-02	6.7755E-02	3.5575E-02	3.7126E-02	6.5515E-02	3.9435E-02	3.9181E-02
8.0E+07	3.7123E-02	5.8254E-02	4.1568E-02	4.1175E-02	6.6226E-02	3.4722E-02	3.6241E-02	6.4103E-02	3.8433E-02	3.7990E-02
1.0E+08	3.6422E-02	5.7225E-02	4.0874E-02	4.0484E-02	6.4999E-02	3.4063E-02	3.5559E-02	6.2988E-02	3.7669E-02	3.7093E-02
1.5E+08	3.4973E-02	5.5223E-02	3.9395E-02	3.9019E-02	6.2641E-02	3.2702E-02	3.4163E-02	6.0865E-02	3.6160E-02	3.5405E-02
2.0E+08	3.3705E-02	5.3677E-02	3.8085E-02	3.7729E-02	6.0884E-02	3.1515E-02	3.2962E-02	5.9277E-02	3.4909E-02	3.4076E-02
3.0E+08	3.1381E-02	5.1257E-02	3.5698E-02	3.5389E-02	5.8286E-02	2.9351E-02	3.0796E-02	5.6879E-02	3.2711E-02	3.1804E-02
4.0E+08	2.9240E-02	4.9308E-02	3.3516E-02	3.3259E-02	5.6324E-02	2.7361E-02	2.8816E-02	5.5009E-02	3.0732E-02	2.9772E-02
5.0E+08	2.7255E-02	4.7625E-02	3.1501E-02	3.1294E-02	5.4692E-02	2.5516E-02	2.6986E-02	5.3421E-02	2.8913E-02	2.7904E-02
6.0E+08	2.5411E-02	4.6117E-02	2.9633E-02	2.9474E-02	5.3262E-02	2.3803E-02	2.5288E-02	5.2012E-02	2.7231E-02	2.6174E-02
8.0E+08	2.2104E-02	4.3472E-02	2.6288E-02	2.6217E-02	5.0787E-02	2.0730E-02	2.2245E-02	4.9556E-02	2.4221E-02	2.3079E-02
1.0E+09	1.9247E-02	4.1209E-02	2.3398E-02	2.3404E-02	4.8683E-02	1.8074E-02	1.9617E-02	4.7461E-02	2.1623E-02	2.0406E-02
1.5E+09	1.3687E-02	3.6817E-02	1.7775E-02	1.7930E-02	4.4606E-02	1.2906E-02	1.4502E-02	4.3396E-02	1.6569E-02	1.5207E-02
2.0E+09	9.8234E-03	3.3766E-02	1.3868E-02	1.4126E-02	4.1773E-02	9.3150E-03	1.0948E-02	4.0572E-02	1.3058E-02	1.1595E-02
3.0E+09	5.2737E-03	3.0171E-02	9.2659E-03	9.6466E-03	3.8435E-02	5.0858E-03	6.7626E-03	3.7244E-02	8.9216E-03	7.3410E-03
4.0E+09	3.0768E-03	2.8432E-02	7.0434E-03	7.4831E-03	3.6819E-02	3.0435E-03	4.7413E-03	3.5632E-02	6.9241E-03	5.2864E-03
5.0E+09	2.0159E-03	2.7589E-02	5.9697E-03	6.4377E-03	3.6034E-02	2.0573E-03	3.7649E-03	3.4851E-02	5.9590E-03	4.2940E-03
6.0E+09	1.5036E-03	2.7179E-02	5.4507E-03	5.9324E-03	3.5651E-02	1.5810E-03	3.2932E-03	3.4469E-02	5.4924E-03	3.8144E-03
8.0E+09	1.1364E-03	2.6878E-02	5.0777E-03	5.5690E-03	3.5367E-02	1.2396E-03	2.9546E-03	3.4186E-02	5.1569E-03	3.4700E-03
1.0E+10	1.0505E-03	2.6798E-02	4.9890E-03	5.4825E-03	3.5289E-02	1.1596E-03	2.8747E-03	3.4109E-02	5.0769E-03	3.3886E-03
1.5E+10	1.0240E-03	2.6749E-02	4.9580E-03	5.4515E-03	3.5232E-02	1.1349E-03	2.8483E-03	3.4053E-02	5.0484E-03	3.3613E-03
2.0E+10	1.0222E-03	2.6719E-02	4.9519E-03	5.4449E-03	3.5193E-02	1.1330E-03	2.8446E-03	3.4015E-02	5.0422E-03	3.3570E-03
3.0E+10	1.0200E-03	2.6660E-02	4.9410E-03	5.4329E-03	3.5115E-02	1.1305E-03	2.8383E-03	3.3940E-02	5.0311E-03	3.3496E-03
4.0E+10	1.0177E-03	2.6602E-02	4.9301E-03	5.4210E-03	3.5038E-02	1.1280E-03	2.8321E-03	3.3866E-02	5.0201E-03	3.3422E-03
5.0E+10	1.0155E-03	2.6543E-02	4.9193E-03	5.4091E-03	3.4961E-02	1.1255E-03	2.8259E-03	3.3791E-02	5.0091E-03	3.3349E-03
6.0E+10	1.0133E-03	2.6485E-02	4.9085E-03	5.3972E-03	3.4884E-02	1.1231E-03	2.8196E-03	3.3717E-02	4.9981E-03	3.3276E-03
8.0E+10	1.0088E-03	2.6369E-02	4.8870E-03	5.3735E-03	3.4731E-02	1.1181E-03	2.8073E-03	3.3569E-02	4.9762E-03	3.3130E-03
1.0E+11	1.0044E-03	2.6253E-02	4.8655E-03	5.3500E-03	3.4579E-02	1.1132E-03	2.7950E-03	3.3422E-02	4.9543E-03	3.2984E-03
1.5E+11	9.9343E-04	2.5966E-02	4.8123E-03	5.2915E-03	3.4201E-02	1.1011E-03	2.7644E-03	3.3057E-02	4.9002E-03	3.2624E-03
2.0E+11	9.8258E-04	2.5683E-02	4.7597E-03	5.2336E-03	3.3827E-02	1.0890E-03	2.7342E-03	3.2696E-02	4.8466E-03	3.2267E-03
3.0E+11	9.6122E-04	2.5124E-02	4.6563E-03	5.1199E-03	3.3092E-02	1.0654E-03	2.6748E-03	3.1985E-02	4.7413E-03	3.1566E-03
4.0E+11	9.4032E-04	2.4578E-02	4.5550E-03	5.0086E-03	3.2372E-02	1.0422E-03	2.6166E-03	3.1289E-02	4.6382E-03	3.0880E-03
5.0E+11	9.1988E-04	2.4044E-02	4.4560E-03	4.8997E-03	3.1669E-02	1.0196E-03	2.5598E-03	3.0609E-02	4.5374E-03	3.0209E-03
6.0E+11	8.9989E-04	2.3521E-02	4.3591E-03	4.7931E-03	3.0980E-02	9.9740E-04	2.5041E-03	2.9944E-02	4.4388E-03	2.9552E-03
8.0E+11	8.6119E-04	2.2509E-02	4.1716E-03	4.5870E-03	2.9648E-02	9.5451E-04	2.3964E-03	2.8656E-02	4.2479E-03	2.8281E-03
1.0E+12	8.2416E-04	2.1541E-02	3.9922E-03	4.3897E-03	2.8373E-02	9.1347E-04	2.2934E-03	2.7424E-02	4.0652E-03	2.7065E-03
1.5E+12	7.3840E-04	1.9300E-02	3.5768E-03	3.9329E-03	2.5420E-02	8.1843E-04	2.0547E-03	2.4570E-02	3.6421E-03	2.4249E-03
2.0E+12	6.6157E-04	1.7291E-02	3.2046E-03	3.5236E-03	2.2774E-02	7.3328E-04	1.8409E-03	2.2013E-02	3.2631E-03	2.1726E-03
3.0E+12	5.3106E-04	1.3879E-02	2.5723E-03	2.8285E-03	1.8281E-02	5.8864E-04	1.4777E-03	1.7669E-02	2.6193E-03	1.7440E-03
4.0E+12	4.2630E-04	1.1141E-02	2.0649E-03	2.2705E-03	1.4674E-02	4.7255E-04	1.1862E-03	1.4183E-02	2.1026E-03	1.4000E-03
5.0E+12	3.4221E-04	8.9425E-03	1.6576E-03	1.8226E-03	1.1779E-02	3.7936E-04	9.5221E-04	1.1385E-02	1.6878E-03	1.1238E-03
6.0E+12	2.7472E-04	7.1781E-03	1.3306E-03	1.4631E-03	9.4546E-03	3.0456E-04	7.6439E-04	9.1386E-03	1.3548E-03	9.0219E-04
8.0E+12	1.7705E-04	4.6250E-03	8.5752E-04	9.4288E-04	6.0919E-03	1.9633E-04	4.9261E-04	5.8884E-03	8.7304E-04	5.8148E-04
1.0E+13	1.1413E-04	2.9801E-03	5.5271E-04	6.0772E-04	3.9254E-03	1.2660E-04	3.1750E-04	3.7944E-03	5.6263E-04	3.7484E-04

(c) Total sensible decay power (MeV/s)

TIME(S)	TH232(F)	TH232(H)	U233(T)	U233(F)	U233(H)	U235(T)	U235(F)	U235(H)	U236(F)	NP237(F)
0.0	1.6425E+01	1.3757E+01	1.0350E+01	1.0501E+01	9.4777E+00	1.2948E+01	1.3020E+01	1.0592E+01	1.3906E+01	1.1894E+01
1.0E-01	1.6209E+01	1.3598E+01	1.0289E+01	1.0434E+01	9.4098E+00	1.2817E+01	1.2884E+01	1.0502E+01	1.3748E+01	1.1782E+01
1.5E-01	1.6108E+01	1.3523E+01	1.0259E+01	1.0403E+01	9.3775E+00	1.2755E+01	1.2820E+01	1.0459E+01	1.3673E+01	1.1729E+01
2.0E-01	1.6011E+01	1.3452E+01	1.0231E+01	1.0372E+01	9.3462E+00	1.2696E+01	1.2758E+01	1.0418E+01	1.3601E+01	1.1678E+01
3.0E-01	1.5829E+01	1.3317E+01	1.0176E+01	1.0313E+01	9.2864E+00	1.2585E+01	1.2642E+01	1.0339E+01	1.3466E+01	1.1580E+01
4.0E-01	1.5661E+01	1.3192E+01	1.0124E+01	1.0257E+01	9.2297E+00	1.2480E+01	1.2532E+01	1.0265E+01	1.3339E+01	1.1487E+01
5.0E-01	1.5504E+01	1.3075E+01	1.0074E+01	1.0203E+01	9.1760E+00	1.2382E+01	1.2430E+01	1.0194E+01	1.3220E+01	1.1400E+01
6.0E-01	1.5357E+01	1.2965E+01	1.0027E+01	1.0153E+01	9.1248E+00	1.2290E+01	1.2333E+01	1.0127E+01	1.3107E+01	1.1317E+01
8.0E-01	1.5089E+01	1.2764E+01	9.9373E+00	1.0057E+01	9.0291E+00	1.2119E+01	1.2154E+01	1.0002E+01	1.2899E+01	1.1162E+01
1.0E+00	1.4847E+01	1.2581E+01	9.8548E+00	9.9696E+00	8.9411E+00	1.1964E+01	1.1992E+01	9.8876E+00	1.2711E+01	1.1021E+01
1.5E+00	1.4332E+01	1.2188E+01	9.6719E+00	9.7756E+00	8.7471E+00	1.1628E+01	1.1642E+01	9.6366E+00	1.2303E+01	1.0713E+01
2.0E+00	1.3909E+01	1.1861E+01	9.5147E+00	9.6092E+00	8.5814E+00	1.1346E+01	1.1348E+01	9.4238E+00	1.1963E+01	1.0454E+01
3.0E+00	1.3241E+01	1.1334E+01	9.2540E+00	9.3340E+00	8.3081E+00	1.0888E+01	1.0875E+01	9.0764E+00	1.1416E+01	1.0034E+01
4.0E+00	1.2726E+01	1.0921E+01	9.0425E+00	9.1112E+00	8.0882E+00	1.0525E+01	1.0503E+01	8.8000E+00	1.0988E+01	9.7028E+00
5.0E+00	1.2311E+01	1.0583E+01	8.8648E+00	8.9242E+00	7.9048E+00	1.0226E+01	1.0198E+01	8.5719E+00	1.0638E+01	9.4311E+00
6.0E+00	1.1964E+01	1.0298E+01	8.7117E+00	8.7633E+00	7.7479E+00	9.9720E+00	9.9411E+00	8.3786E+00	1.0346E+01	9.2021E+00
8.0E+00	1.1410E+01	9.8398E+00	8.4573E+00	8.4968E+00	7.4904E+00	9.5616E+00	9.526BE+00	8.0654E+00	9.8777E+00	8.8329E+00
1.0E+01	1.0978E+01	9.4812E+00	8.2511E+00	8.2814E+00	7.2848E+00	9.2394E+00	9.2027E+00	7.8188E+00	9.5151E+00	8.5441E+00
1.5E+01	1.0195E+01	8.8337E+00	7.8612E+00	7.8766E+00	6.9049E+00	8.6572E+00	8.6189E+00	7.3715E+00	8.8695E+00	8.0230E+00
2.0E+01	9.6444E+00	8.3828E+00	7.5761E+00	7.5828E+00	6.6353E+00	8.2525E+00	8.2138E+00	7.0599E+00	8.4272E+00	7.6611E+00
3.0E+01	8.8756E+00	7.7612E+00	7.1661E+00	7.1634E+00	6.2589E+00	7.6974E+00	7.6586E+00	6.6323E+00	7.8270E+00	7.1644E+00
4.0E+01	8.3342E+00	7.3266E+00	6.8694E+00	6.8621E+00	5.9932E+00	7.3125E+00	7.2736E+00	6.3351E+00	7.4140E+00	6.8190E+00
5.0E+01	7.9165E+00	6.9913E+00	6.6357E+00	6.6257E+00	5.7867E+00	7.0171E+00	6.9782E+00	6.1062E+00	7.0983E+00	6.5531E+00
6.0E+01	7.5784E+00	6.7189E+00	6.4428E+00	6.4311E+00	5.6174E+00	6.7775E+00	6.7387E+00	5.9197E+00	6.8431E+00	6.3367E+00
8.0E+01	7.0574E+00	6.2961E+00	6.1371E+00	6.1237E+00	5.3504E+00	6.4046E+00	6.3665E+00	5.6272E+00	6.4476E+00	5.9987E+00
1.0E+02	6.6708E+00	5.9793E+00	5.9020E+00	5.8879E+00	5.1456E+00	6.1229E+00	6.0859E+00	5.4041E+00	6.1506E+00	5.7426E+00
1.5E+02	6.0272E+00	5.4452E+00	5.4896E+00	5.4754E+00	4.7865E+00	5.6394E+00	5.6052E+00	5.0153E+00	5.6445E+00	5.3012E+00
2.0E+02	5.6263E+00	5.1070E+00	5.2139E+00	5.2003E+00	4.5461E+00	5.3236E+00	5.2920E+00	4.7571E+00	5.3169E+00	5.0116E+00
3.0E+02	5.1395E+00	4.6870E+00	4.8485E+00	4.8363E+00	4.2272E+00	4.9152E+00	4.8872E+00	4.4174E+00	4.8971E+00	4.6338E+00
4.0E+02	4.8381E+00	4.4193E+00	4.5998E+00	4.5882E+00	4.0099E+00	4.6442E+00	4.6184E+00	4.1882E+00	4.6206E+00	4.3798E+00
5.0E+02	4.6206E+00	4.2221E+00	4.4090E+00	4.3973E+00	3.8433E+00	4.4396E+00	4.4152E+00	4.0132E+00	4.4126E+00	4.1855E+00
6.0E+02	4.4495E+00	4.0648E+00	4.2529E+00	4.2407E+00	3.7071E+00	4.2739E+00	4.2503E+00	3.8706E+00	4.2443E+00	4.0265E+00
8.0E+02	4.1862E+00	3.8201E+00	4.0047E+00	3.9906E+00	3.4909E+00	4.0120E+00	3.9892E+00	3.6444E+00	3.9782E+00	3.7725E+00
1.0E+03	3.9844E+00	3.6312E+00	3.8102E+00	3.7939E+00	3.3222E+00	3.8074E+00	3.7846E+00	3.4675E+00	3.7700E+00	3.5723E+00
1.5E+03	3.6158E+00	3.2865E+00	3.4537E+00	3.4324E+00	3.0146E+00	3.4315E+00	3.4082E+00	3.1437E+00	3.3876E+00	3.2041E+00
2.0E+03	3.3515E+00	3.0408E+00	3.2015E+00	3.1765E+00	2.7988E+00	3.1655E+00	3.1414E+00	2.9152E+00	3.1175E+00	2.9449E+00
3.0E+03	2.9822E+00	2.6994E+00	2.8577E+00	2.8278E+00	2.5064E+00	2.8039E+00	2.7791E+00	2.6042E+00	2.7522E+00	2.5972E+00
4.0E+03	2.7301E+00	2.4671E+00	2.6286E+00	2.5962E+00	2.3131E+00	2.5650E+00	2.5402E+00	2.3976E+00	2.5122E+00	2.3717E+00
5.0E+03	2.5434E+00	2.2953E+00	2.4615E+00	2.4277E+00	2.1729E+00	2.3922E+00	2.3679E+00	2.2476E+00	2.3391E+00	2.2116E+00
6.0E+03	2.3975E+00	2.1613E+00	2.3318E+00	2.2976E+00	2.0647E+00	2.2592E+00	2.2358E+00	2.1319E+00	2.2064E+00	2.0905E+00
8.0E+03	2.1801E+00	1.9619E+00	2.1389E+00	2.1053E+00	1.9045E+00	2.0640E+00	2.0427E+00	1.9615E+00	2.0121E+00	1.9163E+00
1.0E+04	2.0222E+00	1.8177E+00	1.9984E+00	1.9663E+00	1.7878E+00	1.9244E+00	1.9052E+00	1.8385E+00	1.8736E+00	1.7941E+00
1.5E+04	1.7597E+00	1.5803E+00	1.7624E+00	1.7343E+00	1.5893E+00	1.6971E+00	1.6819E+00	1.6327E+00	1.6493E+00	1.5972E+00
2.0E+04	1.5931E+00	1.4315E+00	1.6103E+00	1.5852E+00	1.4575E+00	1.5558E+00	1.5430E+00	1.4985E+00	1.5107E+00	1.4742E+00
3.0E+04	1.3869E+00	1.2481E+00	1.4172E+00	1.3954E+00	1.2848E+00	1.3797E+00	1.3695E+00	1.3240E+00	1.3391E+00	1.3174E+00
4.0E+04	1.2611E+00	1.1355E+00	1.2951E+00	1.2747E+00	1.1735E+00	1.2670E+00	1.2582E+00	1.2106E+00	1.2298E+00	1.2143E+00
5.0E+04	1.1754E+00	1.0583E+00	1.2092E+00	1.1895E+00	1.0948E+00	1.1858E+00	1.1779E+00	1.1296E+00	1.1513E+00	1.1384E+00
6.0E+04	1.1133E+00	1.0018E+00	1.1451E+00	1.1258E+00	1.0359E+00	1.1238E+00	1.1165E+00	1.0685E+00	1.0917E+00	1.0795E+00
8.0E+04	1.0293E+00	9.2441E-01	1.0549E+00	1.0358E+00	9.5282E-01	1.0346E+00	1.0280E+00	9.8129E-01	1.0063E+00	9.9336E-01
1.0E+05	9.7431E-01	8.7293E-01	9.9329E-01	9.7439E-01	8.9576E-01	9.7274E-01	9.6640E-01	9.2101E-01	9.4725E-01	9.3246E-01
1.5E+05	8.9244E-01	7.9417E-01	8.9671E-01	8.7812E-01	8.0552E-01	8.7522E-01	8.6882E-01	8.2515E-01	8.5396E-01	8.3456E-01
2.0E+05	8.4495E-01	7.4708E-01	8.3790E-01	8.1966E-01	7.5025E-01	8.1625E-01	8.0947E-01	7.6615E-01	7.9690E-01	7.7412E-01
3.0E+05	7.8702E-01	6.8878E-01	7.6461E-01	7.4711E-01	6.8200E-01	7.4378E-01	7.3619E-01	6.9293E-01	7.2574E-01	6.9880E-01
4.0E+05	7.4810E-01	6.5016E-01	7.1619E-01	6.9940E-01	6.3807E-01	6.9655E-01	6.8834E-01	6.4568E-01	6.7896E-01	6.4971E-01
5.0E+05	7.1725E-01	6.2040E-01	6.7918E-01	6.6303E-01	6.0525E-01	6.6068E-01	6.5203E-01	6.1052E-01	6.4344E-01	6.1280E-01
6.0E+05	6.9103E-01	5.9580E-01	6.4886E-01	6.3331E-01	5.7880E-01	6.3137E-01	6.2243E-01	5.8240E-01	6.1453E-01	5.8301E-01
8.0E+05	6.4739E-01	5.5617E-01	6.0076E-01	5.8623E-01	5.3739E-01	5.8490E-01	5.7568E-01	5.3896E-01	5.6895E-01	5.3663E-01
1.0E+06	6.1174E-01	5.2490E-01	5.6347E-01	5.4981E-01	5.0562E-01	5.4889E-01	5.3962E-01	5.0629E-01	5.3386E-01	5.0146E-01
1.5E+06	5.4418E-01	4.6788E-01	4.9701E-01	4.8500E-01	4.4954E-01	4.8459E-01	4.7570E-01	4.5008E-01	4.7162E-01	4.4037E-01
2.0E+06	4.9563E-01	4.2826E-01	4.5161E-01	4.4079E-01	4.1163E-01	4.4049E-01	4.3217E-01	4.1296E-01	4.2913E-01	3.9958E-01
3.0E+06	4.2991E-01	3.7561E-01	3.9155E-01	3.8228E-01	3.6194E-01	3.8178E-01	3.7444E-01	3.6474E-01	3.7253E-01	3.4610E-01
4.0E+06	3.8782E-01	3.4207E-01	3.5306E-01	3.4469E-01	3.3026E-01	3.4383E-01	3.3719E-01	3.3386E-01	3.3578E-01	3.1178E-01
5.0E+06	3.5862E-01	3.1872E-01	3.2605E-01	3.1822E-01	3.0800E-01	3.1699E-01	3.1083E-01	3.1195E-01	3.0963E-01	2.8754E-01
6.0E+06	3.3689E-01	3.0126E-01	3.0570E-01	2.9820E-01	2.9118E-01	2.9662E-01	2.9081E-01	2.9522E-01	2.8967E-01	2.6916E-01
8.0E+06	3.0552E-01	2.7595E-01	2.7598E-01	2.6887E-01	2.6651E-01	2.6660E-01	2.6131E-01	2.7042E-01	2.6007E-01	2.4207E-01
1.0E+07	2.8278E-01	2.5761E-01	2.5437E-01	2.4746E-01	2.4851E-01	2.4454E-01	2.3965E-01	2.5214E-01	2.3822E-01	2.2215E-01
1.5E+07	2.4426E-01	2.2692E-01	2.1836E-01	2.1173E-01	2.1847E-01	2.0734E-01	2.0313E-01	2.2134E-01	2.0120E-01	1.8837E-01
2.0E+07	2.2022E-01	2.0820E-01	1.9687E-01	1.9040E-01	2.0045E-01	1.8472E-01	1.8094E-01	2.0263E-01	1.7855E-01	1.6743E-01
3.0E+07	1.9266E-01	1.8741E-01	1.7412E-01	1.6790E-01	1.8106E-01	1.6017E-01	1.5680E-01	1.8206E-01	1.5361E-01	1.4363E-01
4.0E+07	1.7709E-01	1.7597E-01	1.6256E-01	1.5653E-01	1.7083E-01	1.4726E-01	1.4406E-01	1.7090E-01	1.4022E-01	1.3022E-01
5.0E+07	1.6658E-01	1.6826E-01	1.5519E-01	1.4932E-01	1.6407E-01	1.3892E-01	1.3579E-01	1.6343E-01	1.3144E-01	1.2113E-01
6.0E+07	1.5880E-01	1.6245E-01	1.4982E-01	1.4407E-01	1.5898E-01	1.3285E-01	1.2976E-01	1.5782E-01	1.2500E-01	1.1433E-01
8.0E+07	1.4801E-01	1.5410E-01	1.4226E-01	1.3671E-01	1.5158E-01	1.2442E-01	1.2139E-01	1.4974E-01	1.1605E-01	1.0477E-01
1.0E+08	1.4100E-01	1.4837E-01	1.3714E-01	1.3174E-01	1.4638E-01	1.1889E-01	1.1590E-01	1.4420E-01	1.1023E-01	9.8511E-02
1.5E+08	1.3097E-01	1.3960E-01	1.2917E-01	1.2403E-01	1.3818E-01	1.1082E-01	1.0795E-01	1.3581E-01	1.0200E-01	8.9839E-02
2.0E+08	1.2487E-01	1.3407E-01	1.2382E-01	1.1888E-01	1.3298E-01	1.0584E-01	1.0311E-01	1.3071E-01	9.7250E-02	8.5163E-02
3.0E+08	1.1540E-01	1.2584E-01	1.1509E-01	1.1054E-01	1.2548E-01	9.8085E-02	9.5674E-02	1.2348E-01	9.0317E-02	7.8844E-02
4.0E+08	1.0707E-01	1.1899E-01	1.0732E-01	1.0314E-01	1.1945E-01	9.1261E-02	8.9173E-02	1.1763E-01	8.4389E-02	7.3620E-02
5.0E+08	9.9428E-02	1.1288E-01	1.0019E-01	9.6356E-02	1.1417E-01	8.4997E-02	8.3214E-02	1.1247E-01	7.8986E-02	6.8880E-02
6.0E+08	9.2384E-02	1.0732E-01	9.3605E-02	9.0091E-02	1.0940E-01	7.9210E-02	7.7713E-02	1.0780E-01	7.4008E-02	6.4514E-02
8.0E+08	7.9854E-02	9.7510E-02	8.1875E-02	7.8935E-02	1.0104E-01	6.8895E-02	6.7909E-02	9.9572E-02	6.5150E-02	5.6740E-02
1.0E+09	6.9123E-02	8.9151E-02	7.1815E-02	6.9367E-02	9.3913E-02	6.0040E-02	5.9494E-02	9.2549E-02	5.7550E-02	5.0063E-02
1.5E+09	4.8502E-02	7.3122E-02	5.2447E-02	5.0947E-02	8.0223E-02	4.2971E-02	4.3271E-02	7.9044E-02	4.2899E-02	3.7170E-02
2.0E+09	3.4409E-02	6.2178E-02	3.9183E-02	3.8331E-02	7.0850E-02	3.1269E-02	3.2144E-02	6.9793E-02	3.2846E-02	2.8302E-02
3.0E+09	1.8144E-02	4.9549E-02	2.3849E-02	2.3741E-02	6.0000E-02	1.7724E-02	1.9260E-02	5.9082E-02	2.1191E-02	1.7991E-02
4.0E+09	1.0494E-02	4.3603E-02	1.6624E-02	1.6863E-02	5.4871E-02	1.1335E-02	1.3177E-02	5.4021E-02	1.5678E-02	1.3093E-02
5.0E+09	6.8900E-03	4.0795E-02	1.3215E-02	1.3617E-02	5.2437E-02	8.3175E-03	1.0301E-02	5.1622E-02	1.3067E-02	1.0762E-02
6.0E+09	5.1903E-03	3.9465E-02	1.1604E-02	1.2082E-02	5.1277E-02	6.8904E-03	8.9399E-03	5.0480E-02	1.1827E-02	9.6508E-03
8.0E+09	4.0078E-03	3.8527E-02	1.0479E-02	1.1009E-02	5.0446E-02	5.8933E-03	7.9869E-03	4.9665E-02	1.0956E-02	8.8635E-03
1.0E+10	3.7417E-03	3.8303E-02	1.0224E-02	1.0764E-02	5.0238E-02	5.6665E-03	7.7690E-03	4.9462E-02	1.0755E-02	8.6784E-03
1.5E+10	3.6620E-03	3.8201E-02	1.0141E-02	1.0684E-02	5.0126E-02	5.5957E-03	7.6984E-03	4.9354E-02	1.0686E-02	8.6130E-03
2.0E+10	3.6568E-03	3.8158E-02	1.0129E-02	1.0672E-02	5.0069E-02	5.5892E-03	7.6896E-03	4.9299E-02	1.0674E-02	8.6024E-03
3.0E+10	3.6515E-03	3.8075E-02	1.0111E-02	1.0653E-02	4.9962E-02	5.5817E-03	7.6772E-03	4.9195E-02	1.0655E-02	8.5879E-03
4.0E+10	3.6466E-03	3.7994E-02	1.0094E-02	1.0634E-02	4.9856E-02	5.5748E-03	7.6654E-03	4.9091E-02	1.0636E-02	8.5743E-03
5.0E+10	3.6418E-03	3.7912E-02	1.0076E-02	1.0615E-02	4.9750E-02	5.5679E-03	7.6536E-03	4.8988E-02	1.0618E-02	8.5608E-03
6.0E+10	3.6370E-03	3.7831E-02	1.0058E-02	1.0596E-02	4.9644E-02	5.5610E-03	7.6419E-03	4.8885E-02	1.0600E-02	8.5474E-03
8.0E+10	3.6275E-03	3.7669E-02	1.0023E-02	1.0558E-02	4.9434E-02	5.5473E-03	7.6184E-03	4.8680E-02	1.0563E-02	8.5206E-03
1.0E+11	3.6179E-03	3.7508E-02	9.9887E-03	1.0521E-02	4.9224E-02	5.5337E-03	7.5951E-03	4.8475E-02	1.0527E-02	8.4939E-03
1.5E+11	3.5943E-03	3.7108E-02	9.9022E-03	1.0428E-02	4.8703E-02	5.4998E-03	7.5372E-03	4.7968E-02	1.0437E-02	8.4276E-03
2.0E+11	3.5708E-03	3.6712E-02	9.8166E-03	1.0336E-02	4.8188E-02	5.4661E-03	7.4798E-03	4.7466E-02	1.0347E-02	8.3620E-03
3.0E+11	3.5246E-03	3.5934E-02	9.6480E-03	1.0155E-02	4.7174E-02	5.3996E-03	7.3666E-03	4.6478E-02	1.0172E-02	8.2325E-03
4.0E+11	3.4791E-03	3.5172E-02	9.4828E-03	9.9782E-03	4.6182E-02	5.3341E-03	7.2555E-03	4.5511E-02	9.9991E-03	8.1055E-03
5.0E+11	3.4345E-03	3.4427E-02	9.3209E-03	9.8045E-03	4.5211E-02	5.2696E-03	7.1464E-03	4.4565E-02	9.8300E-03	7.9808E-03
6.0E+11	3.3906E-03	3.3698E-02	9.1621E-03	9.6343E-03	4.4262E-02	5.2062E-03	7.0394E-03	4.3639E-02	9.6643E-03	7.8584E-03
8.0E+11	3.3052E-03	3.2288E-02	8.8541E-03	9.3040E-03	4.2423E-02	5.0823E-03	6.8312E-03	4.1847E-02	9.3424E-03	7.6205E-03
1.0E+12	3.2227E-03	3.0939E-02	8.5582E-03	8.9868E-03	4.0663E-02	4.9623E-03	6.6306E-03	4.0131E-02	9.0330E-03	7.3913E-03
1.5E+12	3.0289E-03	2.7813E-02	7.8681E-03	8.2476E-03	3.6584E-02	4.6780E-03	6.1604E-03	3.6151E-02	8.3107E-03	6.8544E-03
2.0E+12	2.8511E-03	2.5013E-02	7.2433E-03	7.5789E-03	3.2924E-02	4.4150E-03	5.7313E-03	3.2578E-02	7.6556E-03	6.3649E-03
3.0E+12	2.5382E-03	2.0255E-02	6.1641E-03	6.4257E-03	2.6695E-02	3.9452E-03	4.9813E-03	2.6492E-02	6.5212E-03	5.5106E-03
4.0E+12	2.2736E-03	1.6431E-02	5.2760E-03	5.4789E-03	2.1680E-02	3.5405E-03	4.3537E-03	2.1584E-02	5.5846E-03	4.7971E-03
5.0E+12	2.0488E-03	1.3358E-02	4.5431E-03	4.6995E-03	1.7640E-02	3.1905E-03	3.8265E-03	1.7624E-02	4.8089E-03	4.1992E-03
6.0E+12	1.8570E-03	1.0886E-02	3.9366E-03	4.0562E-03	1.4383E-02	2.8868E-03	3.3821E-03	1.4427E-02	4.1646E-03	3.6965E-03
8.0E+12	1.5512E-03	7.2933E-03	3.0136E-03	3.0815E-03	9.6385E-03	2.3908E-03	2.6865E-03	9.7545E-03	3.1787E-03	2.9126E-03
1.0E+13	1.3228E-03	4.9601E-03	2.3688E-03	2.4050E-03	6.5444E-03	2.0095E-03	2.1804E-03	6.6931E-03	2.4847E-03	2.3456E-03

Table 4.1.3 Continued

(a) Beta decay power (MeV/s)

TIME(S)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU239(H)	PU240(F)	PU241(T)	PU241(F)	PU242(F)	CF252(S)
0.0	8.3062E+00	7.3766E+00	5.2654E+00	5.3390E+00	4.2573E+00	5.8759E+00	6.7650E+00	6.6784E+00	6.8433E+00	6.0952E+00
1.0E-01	8.1624E+00	7.2529E+00	5.2214E+00	5.2922E+00	4.2254E+00	5.8195E+00	6.6839E+00	6.5997E+00	6.7632E+00	6.0437E+00
1.5E-01	8.0958E+00	7.1955E+00	5.2003E+00	5.2699E+00	4.2100E+00	5.7926E+00	6.6456E+00	6.5624E+00	6.7252E+00	6.0188E+00
2.0E-01	8.0321E+00	7.1407E+00	5.1798E+00	5.2481E+00	4.1951E+00	5.7665E+00	6.6085E+00	6.5263E+00	6.6886E+00	5.9945E+00
3.0E-01	7.9127E+00	7.0379E+00	5.1404E+00	5.2063E+00	4.1661E+00	5.7165E+00	6.5380E+00	6.4576E+00	6.6187E+00	5.9475E+00
4.0E-01	7.8024E+00	6.9430E+00	5.1029E+00	5.1665E+00	4.1385E+00	5.6691E+00	6.4717E+00	6.3929E+00	6.5529E+00	5.9024E+00
5.0E-01	7.6997E+00	6.8548E+00	5.0671E+00	5.1287E+00	4.1121E+00	5.6241E+00	6.4091E+00	6.3318E+00	6.4906E+00	5.8592E+00
6.0E-01	7.6035E+00	6.7724E+00	5.0328E+00	5.0925E+00	4.0867E+00	5.5812E+00	6.3497E+00	6.2737E+00	6.4315E+00	5.8177E+00
8.0E-01	7.4276E+00	6.6219E+00	4.9685E+00	5.0246E+00	4.0388E+00	5.5008E+00	6.2393E+00	6.1658E+00	6.3213E+00	5.7391E+00
1.0E+00	7.2695E+00	6.4871E+00	4.9091E+00	4.9618E+00	3.9942E+00	5.4268E+00	6.1384E+00	6.0670E+00	6.2202E+00	5.6660E+00
1.5E+00	6.9317E+00	6.2007E+00	4.7774E+00	4.8232E+00	3.8950E+00	5.2636E+00	5.9184E+00	5.8514E+00	5.9987E+00	5.5030E+00
2.0E+00	6.6533E+00	5.9657E+00	4.6646E+00	4.7047E+00	3.8093E+00	5.1244E+00	5.7330E+00	5.6694E+00	5.8107E+00	5.3626E+00
3.0E+00	6.2132E+00	5.5951E+00	4.4787E+00	4.5099E+00	3.6673E+00	4.8958E+00	5.4331E+00	5.3745E+00	5.5044E+00	5.1311E+00
4.0E+00	5.8759E+00	5.3102E+00	4.329BE+00	4.3541E+00	3.5529E+00	4.7132E+00	5.1974E+00	5.1422E+00	5.2619E+00	4.9458E+00
5.0E+00	5.6064E+00	5.0812E+00	4.2064E+00	4.2253E+00	3.4577E+00	4.5623E+00	5.0051E+00	4.9524E+00	5.0632E+00	4.7925E+00
6.0E+00	5.3850E+00	4.8919E+00	4.1016E+00	4.1161E+00	3.3767E+00	4.4345E+00	4.8443E+00	4.7935E+00	4.8965E+00	4.6624E+00
8.0E+00	5.0404E+00	4.5943E+00	3.9314E+00	3.9393E+00	3.2449E+00	4.2278E+00	4.5881E+00	4.5400E+00	4.6302E+00	4.4509E+00
1.0E+01	4.7824E+00	4.3692E+00	3.7971E+00	3.8004E+00	3.1410E+00	4.0661E+00	4.3910E+00	4.3447E+00	4.4249E+00	4.2835E+00
1.5E+01	4.3451E+00	3.9836E+00	3.5532E+00	3.5500E+00	2.9528E+00	3.7758E+00	4.0445E+00	4.0015E+00	4.0643E+00	3.9779E+00
2.0E+01	4.0626E+00	3.7334E+00	3.3830E+00	3.3770E+00	2.8226E+00	3.5766E+00	3.8107E+00	3.7705E+00	3.8220E+00	3.7634E+00
3.0E+01	3.7009E+00	3.4144E+00	3.1494E+00	3.1420E+00	2.6455E+00	3.3074E+00	3.4987E+00	3.4632E+00	3.5004E+00	3.4681E+00
4.0E+01	3.4646E+00	3.2072E+00	2.9875E+00	2.9803E+00	2.5233E+00	3.1236E+00	3.2875E+00	3.2557E+00	3.2840E+00	3.2638E+00
5.0E+01	3.2894E+00	3.0539E+00	2.8634E+00	2.8566E+00	2.4293E+00	2.9839E+00	3.1280E+00	3.0991E+00	3.1215E+00	3.1078E+00
6.0E+01	3.1506E+00	2.9324E+00	2.7630E+00	2.7564E+00	2.3526E+00	2.8716E+00	3.0004E+00	2.9737E+00	2.9918E+00	2.9821E+00
8.0E+01	2.9393E+00	2.7471E+00	2.6070E+00	2.6008E+00	2.2323E+00	2.6984E+00	2.8050E+00	2.7817E+00	2.7942E+00	2.7879E+00
1.0E+02	2.7834E+00	2.6100E+00	2.4898E+00	2.4836E+00	2.1405E+00	2.5693E+00	2.6605E+00	2.6393E+00	2.6485E+00	2.6423E+00
1.5E+02	2.5228E+00	2.3798E+00	2.2889E+00	2.2832E+00	1.9804E+00	2.3503E+00	2.4181E+00	2.4004E+00	2.4048E+00	2.3935E+00
2.0E+02	2.3568E+00	2.2322E+00	2.1570E+00	2.1519E+00	1.8735E+00	2.2083E+00	2.2626E+00	2.2473E+00	2.2489E+00	2.2311E+00
3.0E+02	2.1462E+00	2.0432E+00	1.9829E+00	1.9795E+00	1.7313E+00	2.0232E+00	2.0620E+00	2.0498E+00	2.0484E+00	2.0208E+00
4.0E+02	2.0091E+00	1.9184E+00	1.8641E+00	1.8620E+00	1.6339E+00	1.8982E+00	1.9278E+00	1.9176E+00	1.9150E+00	1.8821E+00
5.0E+02	1.9073E+00	1.8247E+00	1.7728E+00	1.7715E+00	1.5589E+00	1.8027E+00	1.8260E+00	1.8171E+00	1.8142E+00	1.7789E+00
6.0E+02	1.8258E+00	1.7493E+00	1.6981E+00	1.6972E+00	1.4975E+00	1.7247E+00	1.7435E+00	1.7353E+00	1.7328E+00	1.6967E+00
8.0E+02	1.6987E+00	1.6315E+00	1.5794E+00	1.5784E+00	1.4001E+00	1.6013E+00	1.6139E+00	1.6065E+00	1.6052E+00	1.5703E+00
1.0E+03	1.6008E+00	1.5408E+00	1.4870E+00	1.4855E+00	1.3242E+00	1.5056E+00	1.5141E+00	1.5070E+00	1.5071E+00	1.4747E+00
1.5E+03	1.4252E+00	1.3784E+00	1.3214E+00	1.3179E+00	1.1876E+00	1.3346E+00	1.3375E+00	1.3301E+00	1.3333E+00	1.3071E+00
2.0E+03	1.3054E+00	1.2671E+00	1.2092E+00	1.2040E+00	1.0946E+00	1.2189E+00	1.2191E+00	1.2112E+00	1.2164E+00	1.1949E+00
3.0E+03	1.1511E+00	1.1221E+00	1.0658E+00	1.0583E+00	9.7496E-01	1.0709E+00	1.0688E+00	1.0601E+00	1.0672E+00	1.0520E+00
4.0E+03	1.0560E+00	1.0313E+00	9.7809E-01	9.6941E-01	9.0128E-01	9.8025E-01	9.7747E-01	9.6836E-01	9.7588E-01	9.6555E-01
5.0E+03	9.9099E-01	9.6849E-01	9.1864E-01	9.0940E-01	8.509BE-01	9.1882E-01	9.1600E-01	9.0660E-01	9.1406E-01	9.0791E-01
6.0E+03	9.4303E-01	9.2177E-01	8.7515E-01	8.6567E-01	8.1386E-01	8.7398E-01	8.7138E-01	8.6178E-01	8.6898E-01	8.6660E-01
8.0E+03	8.7490E-01	8.5512E-01	8.1408E-01	8.0454E-01	7.6099E-01	8.1138E-01	8.0955E-01	7.9967E-01	8.0622E-01	8.1019E-01
1.0E+04	8.2665E-01	8.0796E-01	7.7139E-01	7.6200E-01	7.2319E-01	7.6807E-01	7.6711E-01	7.5707E-01	7.6297E-01	7.7185E-01
1.5E+04	7.4512E-01	7.2861E-01	7.0003E-01	6.9113E-01	6.5787E-01	6.9674E-01	6.9803E-01	6.8776E-01	6.9225E-01	7.0897E-01
2.0E+04	6.9011E-01	6.7521E-01	6.5211E-01	6.4364E-01	6.1246E-01	6.4957E-01	6.5300E-01	6.4264E-01	6.4593E-01	6.6719E-01
3.0E+04	6.1513E-01	6.0236E-01	5.8669E-01	5.7883E-01	5.4929E-01	5.8570E-01	5.9278E-01	5.8232E-01	5.8369E-01	6.1070E-01
4.0E+04	5.6402E-01	5.5262E-01	5.4172E-01	5.3432E-01	5.0600E-01	5.4187E-01	5.5167E-01	5.4115E-01	5.4105E-01	5.7211E-01
5.0E+04	5.2643E-01	5.1599E-01	5.0824E-01	5.0122E-01	4.7419E-01	5.0915E-01	5.2093E-01	5.1038E-01	5.0911E-01	5.4316E-01
6.0E+04	4.9769E-01	4.8787E-01	4.8224E-01	4.7556E-01	4.4979E-01	4.8367E-01	4.9689E-01	4.8633E-01	4.8411E-01	5.2033E-01
8.0E+04	4.5676E-01	4.4752E-01	4.4440E-01	4.3825E-01	4.1463E-01	4.4640E-01	4.6153E-01	4.5099E-01	4.4734E-01	4.8611E-01
1.0E+05	4.2890E-01	4.1970E-01	4.1793E-01	4.1219E-01	3.9013E-01	4.2025E-01	4.3652E-01	4.2603E-01	4.2136E-01	4.6121E-01
1.5E+05	3.8611E-01	3.7617E-01	3.7608E-01	3.7096E-01	3.5103E-01	3.7877E-01	3.9653E-01	3.8617E-01	3.7989E-01	4.1964E-01
2.0E+05	3.6098E-01	3.5014E-01	3.5086E-01	3.4609E-01	3.2707E-01	3.5380E-01	3.7222E-01	3.6197E-01	3.5485E-01	3.9305E-01
3.0E+05	3.3120E-01	3.1918E-01	3.2062E-01	3.1622E-01	2.9804E-01	3.2393E-01	3.4286E-01	3.3285E-01	3.2498E-01	3.6005E-01
4.0E+05	3.1266E-01	3.0014E-01	3.0181E-01	2.9766E-01	2.8009E-01	3.0548E-01	3.2449E-01	3.1475E-01	3.0665E-01	3.3968E-01
5.0E+05	2.9904E-01	2.8640E-01	2.8814E-01	2.8418E-01	2.6717E-01	2.9213E-01	3.1109E-01	3.0161E-01	2.9346E-01	3.2526E-01
6.0E+05	2.8820E-01	2.7562E-01	2.7734E-01	2.7356E-01	2.5705E-01	2.8164E-01	3.0046E-01	2.9126E-01	2.8312E-01	3.1408E-01
8.0E+05	2.7141E-01	2.5921E-01	2.6083E-01	2.5732E-01	2.4166E-01	2.6564E-01	2.8411E-01	2.7542E-01	2.6735E-01	2.9701E-01
1.0E+06	2.5863E-01	2.4695E-01	2.4841E-01	2.4514E-01	2.3014E-01	2.5364E-01	2.7168E-01	2.6348E-01	2.5548E-01	2.8395E-01
1.5E+06	2.3594E-01	2.2572E-01	2.2675E-01	2.2390E-01	2.1022E-01	2.3270E-01	2.4970E-01	2.4249E-01	2.3470E-01	2.6022E-01
2.0E+06	2.2027E-01	2.1145E-01	2.1210E-01	2.0954E-01	1.9696E-01	2.1850E-01	2.3461E-01	2.2818E-01	2.2057E-01	2.4360E-01
3.0E+06	1.9897E-01	1.9243E-01	1.9256E-01	1.9040E-01	1.7964E-01	1.9953E-01	2.1439E-01	2.0901E-01	2.0169E-01	2.2148E-01
4.0E+06	1.8476E-01	1.7980E-01	1.7972E-01	1.7780E-01	1.6839E-01	1.8701E-01	2.0113E-01	1.9635E-01	1.8926E-01	2.0738E-01
5.0E+06	1.7437E-01	1.7054E-01	1.7042E-01	1.6864E-01	1.6023E-01	1.7787E-01	1.9152E-01	1.8710E-01	1.8020E-01	1.9744E-01
6.0E+06	1.6627E-01	1.6327E-01	1.6317E-01	1.6150E-01	1.5386E-01	1.7071E-01	1.8403E-01	1.7982E-01	1.7308E-01	1.8981E-01
8.0E+06	1.5399E-01	1.5217E-01	1.5213E-01	1.5059E-01	1.4410E-01	1.5965E-01	1.7247E-01	1.6851E-01	1.6205E-01	1.7811E-01
1.0E+07	1.4471E-01	1.4373E-01	1.4365E-01	1.4218E-01	1.3660E-01	1.5100E-01	1.6335E-01	1.5957E-01	1.5336E-01	1.6878E-01
1.5E+07	1.2810E-01	1.2867E-01	1.2791E-01	1.2659E-01	1.2288E-01	1.3457E-01	1.4565E-01	1.4221E-01	1.3666E-01	1.4995E-01
2.0E+07	1.1659E-01	1.1830E-01	1.1638E-01	1.1516E-01	1.1306E-01	1.2220E-01	1.3193E-01	1.2881E-01	1.2390E-01	1.3458E-01
3.0E+07	1.0073E-01	1.0418E-01	9.9568E-02	9.8473E-02	9.9015E-02	1.0374E-01	1.1092E-01	1.0832E-01	1.0459E-01	1.0999E-01
4.0E+07	8.9691E-02	9.4404E-02	8.7335E-02	8.6309E-02	8.8926E-02	9.0106E-02	9.5143E-02	9.2962E-02	9.0224E-02	9.1060E-02
5.0E+07	8.1375E-02	8.7035E-02	7.7927E-02	7.6945E-02	8.1187E-02	7.9570E-02	8.2873E-02	8.1017E-02	7.9090E-02	7.6264E-02
6.0E+07	7.4920E-02	8.1294E-02	7.0545E-02	6.9593E-02	7.5103E-02	7.1295E-02	7.3210E-02	7.1609E-02	7.0339E-02	6.4637E-02
8.0E+07	6.5820E-02	7.3135E-02	6.0051E-02	5.9133E-02	6.6381E-02	5.9540E-02	5.9470E-02	5.8228E-02	5.7914E-02	4.8225E-02
1.0E+08	6.0020E-02	6.7862E-02	5.3337E-02	5.2435E-02	6.0702E-02	5.2045E-02	5.0720E-02	4.9705E-02	5.0006E-02	3.7920E-02
1.5E+08	5.2568E-02	6.0913E-02	4.4866E-02	4.3987E-02	5.3243E-02	4.2706E-02	3.9928E-02	3.9187E-02	4.0215E-02	2.5614E-02
2.0E+08	4.9112E-02	5.7571E-02	4.1272E-02	4.0418E-02	4.9823E-02	3.8892E-02	3.5692E-02	3.5059E-02	3.6293E-02	2.1189E-02
3.0E+08	4.5098E-02	5.3635E-02	3.7730E-02	3.6938E-02	4.6201E-02	3.5388E-02	3.2127E-02	3.1591E-02	3.2826E-02	1.8150E-02
4.0E+08	4.1991E-02	5.0633E-02	3.5258E-02	3.4531E-02	4.3661E-02	3.3066E-02	2.9932E-02	2.9462E-02	3.0601E-02	1.6690E-02
5.0E+08	3.9205E-02	4.7976E-02	3.3081E-02	3.2418E-02	4.1474E-02	3.1044E-02	2.8046E-02	2.7636E-02	2.8677E-02	1.5541E-02
6.0E+08	3.6649E-02	4.5557E-02	3.1089E-02	3.0486E-02	3.9503E-02	2.9199E-02	2.6328E-02	2.5975E-02	2.6926E-02	1.4529E-02
8.0E+08	3.2109E-02	4.1282E-02	2.7555E-02	2.7061E-02	3.6044E-02	2.5929E-02	2.3283E-02	2.3034E-02	2.3824E-02	1.2769E-02
1.0E+09	2.8223E-02	3.7633E-02	2.4528E-02	2.4128E-02	3.3100E-02	2.3131E-02	2.0675E-02	2.0515E-02	2.1169E-02	1.1277E-02
1.5E+09	2.0750E-02	3.0629E-02	1.8701E-02	1.8484E-02	2.7458E-02	1.7744E-02	1.5646E-02	1.5662E-02	1.6057E-02	8.4097E-03
2.0E+09	1.5642E-02	2.5847E-02	1.4708E-02	1.4618E-02	2.3605E-02	1.4051E-02	1.2192E-02	1.2330E-02	1.2550E-02	6.4365E-03
3.0E+09	9.7526E-03	2.0339E-02	1.0087E-02	1.0143E-02	1.9156E-02	9.7743E-03	8.1825E-03	8.4612E-03	8.4829E-03	4.1287E-03
4.0E+09	6.9867E-03	1.7753E-02	7.9041E-03	8.0295E-03	1.7056E-02	7.7514E-03	6.2798E-03	6.6256E-03	6.5555E-03	3.0177E-03
5.0E+09	5.6846E-03	1.6534E-02	6.8700E-03	7.0277E-03	1.6059E-02	6.7913E-03	5.3737E-03	5.7514E-03	5.6386E-03	2.4775E-03
6.0E+09	5.0695E-03	1.5957E-02	6.3779E-03	6.5508E-03	1.5581E-02	6.3334E-03	4.9400E-03	5.3328E-03	5.2000E-03	2.2110E-03
8.0E+09	4.6376E-03	1.5547E-02	6.0282E-03	6.2114E-03	1.5235E-02	6.0064E-03	4.6285E-03	5.0319E-03	4.8846E-03	2.0070E-03
1.0E+10	4.5360E-03	1.5445E-02	5.9437E-03	6.1290E-03	1.5145E-02	5.9262E-03	4.5514E-03	4.9570E-03	4.8060E-03	1.9476E-03
1.5E+10	4.4985E-03	1.5396E-02	5.9094E-03	6.0950E-03	1.5097E-02	5.8923E-03	4.5189E-03	4.9247E-03	4.7718E-03	1.9127E-03
2.0E+10	4.4927E-03	1.5378E-02	5.9022E-03	6.0875E-03	1.5078E-02	5.8849E-03	4.5127E-03	4.9179E-03	4.7647E-03	1.9047E-03
3.0E+10	4.4871E-03	1.5348E-02	5.8934E-03	6.0782E-03	1.5048E-02	5.8759E-03	4.5066E-03	4.9105E-03	4.7574E-03	1.9002E-03
4.0E+10	4.4824E-03	1.5319E-02	5.8856E-03	6.0698E-03	1.5018E-02	5.8680E-03	4.5018E-03	4.9043E-03	4.7514E-03	1.8981E-03
5.0E+10	4.4779E-03	1.5290E-02	5.8779E-03	6.0616E-03	1.4989E-02	5.8602E-03	4.4970E-03	4.8981E-03	4.7456E-03	1.8961E-03
6.0E+10	4.4733E-03	1.5261E-02	5.8702E-03	6.0533E-03	1.4960E-02	5.8524E-03	4.4923E-03	4.8921E-03	4.7398E-03	1.8942E-03
8.0E+10	4.4642E-03	1.5204E-02	5.8549E-03	6.0369E-03	1.4902E-02	5.8369E-03	4.4829E-03	4.8799E-03	4.7281E-03	1.8904E-03
1.0E+11	4.4552E-03	1.5146E-02	5.8396E-03	6.0206E-03	1.4844E-02	5.8214E-03	4.4735E-03	4.8678E-03	4.7165E-03	1.8866E-03
1.5E+11	4.4327E-03	1.5004E-02	5.8016E-03	5.9799E-03	1.4700E-02	5.7829E-03	4.4501E-03	4.8377E-03	4.6877E-03	1.8772E-03
2.0E+11	4.4103E-03	1.4863E-02	5.7640E-03	5.9396E-03	1.4557E-02	5.7447E-03	4.4269E-03	4.8078E-03	4.6590E-03	1.8679E-03
3.0E+11	4.3661E-03	1.4586E-02	5.6896E-03	5.8600E-03	1.4277E-02	5.6693E-03	4.3809E-03	4.7488E-03	4.6025E-03	1.8494E-03
4.0E+11	4.3223E-03	1.4314E-02	5.6164E-03	5.7817E-03	1.4002E-02	5.5952E-03	4.3355E-03	4.6907E-03	4.5468E-03	1.8311E-03
5.0E+11	4.2792E-03	1.4049E-02	5.5444E-03	5.7048E-03	1.3733E-02	5.5224E-03	4.2907E-03	4.6336E-03	4.4920E-03	1.8130E-03
6.0E+11	4.2365E-03	1.3788E-02	5.4736E-03	5.6292E-03	1.3470E-02	5.4507E-03	4.2465E-03	4.5773E-03	4.4380E-03	1.7952E-03
8.0E+11	4.1529E-03	1.3283E-02	5.3355E-03	5.4817E-03	1.2960E-02	5.3109E-03	4.1597E-03	4.4674E-03	4.3326E-03	1.7602E-03
1.0E+12	4.0714E-03	1.2798E-02	5.2018E-03	5.3391E-03	1.2470E-02	5.1757E-03	4.0752E-03	4.3609E-03	4.2305E-03	1.7261E-03
1.5E+12	3.8763E-03	1.1670E-02	4.8861E-03	5.0030E-03	1.1333E-02	4.8565E-03	3.8731E-03	4.1087E-03	3.9885E-03	1.6444E-03
2.0E+12	3.6929E-03	1.0652E-02	4.5948E-03	4.6937E-03	1.0309E-02	4.5624E-03	3.6835E-03	3.8752E-03	3.7643E-03	1.5675E-03
3.0E+12	3.3585E-03	8.9032E-03	4.0773E-03	4.1463E-03	8.5538E-03	4.0408E-03	3.3384E-03	3.4583E-03	3.3636E-03	1.4272E-03
4.0E+12	3.0621E-03	7.4747E-03	3.6344E-03	3.6802E-03	7.1267E-03	3.5953E-03	3.0334E-03	3.0991E-03	3.0180E-03	1.3027E-03
5.0E+12	2.7988E-03	6.3057E-03	3.2540E-03	3.2817E-03	5.9645E-03	3.2135E-03	2.7633E-03	2.7884E-03	2.7187E-03	1.1919E-03
6.0E+12	2.5645E-03	5.3470E-03	2.9259E-03	2.9398E-03	5.0163E-03	2.8849E-03	2.5235E-03	2.5187E-03	2.4586E-03	1.0933E-03
8.0E+12	2.1689E-03	3.9093E-03	2.3953E-03	2.3908E-03	3.6068E-03	2.3552E-03	2.1202E-03	2.0787E-03	2.0335E-03	9.2657E-04
1.0E+13	1.8519E-03	2.9276E-03	1.9923E-03	1.9776E-03	2.6573E-03	1.9544E-03	1.7988E-03	1.7405E-03	1.7062E-03	7.9289E-04

(b) Gamma decay power (MeV/s)

TIME(S)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU239(H)	PU240(F)	PU241(T)	PU241(F)	PU242(F)	CF252(S)
0.0	7.8193E+00	7.0247E+00	5.3506E+00	5.3997E+00	4.4706E+00	5.7519E+00	6.4673E+00	6.3796E+00	6.4114E+00	5.2521E+00
1.0E-01	7.7123E+00	6.9292E+00	5.3154E+00	5.3624E+00	4.4397E+00	5.7084E+00	6.4063E+00	6.3205E+00	6.3519E+00	5.2150E+00
1.5E-01	7.6627E+00	6.8849E+00	5.2986E+00	5.3446E+00	4.4251E+00	5.6878E+00	6.3776E+00	6.2925E+00	6.3237E+00	5.1971E+00
2.0E-01	7.6154E+00	6.8426E+00	5.2824E+00	5.3274E+00	4.4110E+00	5.6678E+00	6.3498E+00	6.2655E+00	6.2966E+00	5.1797E+00
3.0E-01	7.5267E+00	6.7633E+00	5.2511E+00	5.2943E+00	4.3841E+00	5.6295E+00	6.2970E+00	6.2141E+00	6.2449E+00	5.1459E+00
4.0E-01	7.4448E+00	6.6902E+00	5.2216E+00	5.2630E+00	4.3589E+00	5.5933E+00	6.2475E+00	6.1658E+00	6.1963E+00	5.1136E+00
5.0E-01	7.3686E+00	6.6223E+00	5.1934E+00	5.2333E+00	4.3351E+00	5.5591E+00	6.2007E+00	6.1201E+00	6.1504E+00	5.0826E+00
6.0E-01	7.2974E+00	6.5589E+00	5.1666E+00	5.2050E+00	4.3125E+00	5.5264E+00	6.1565E+00	6.0769E+00	6.1070E+00	5.0527E+00
8.0E-01	7.1671E+00	6.4432E+00	5.1164E+00	5.1520E+00	4.2705E+00	5.4656E+00	6.0744E+00	5.9965E+00	6.0262E+00	4.9963E+00
1.0E+00	7.0502E+00	6.3398E+00	5.0702E+00	5.1033E+00	4.2320E+00	5.4098E+00	5.9995E+00	5.9231E+00	5.9523E+00	4.9438E+00
1.5E+00	6.8012E+00	6.1205E+00	4.9684E+00	4.9963E+00	4.1475E+00	5.2874E+00	5.8366E+00	5.7632E+00	5.7911E+00	4.8262E+00
2.0E+00	6.5967E+00	5.9414E+00	4.8817E+00	4.9053E+00	4.0753E+00	5.1835E+00	5.6996E+00	5.6284E+00	5.6549E+00	4.7243E+00
3.0E+00	6.2747E+00	5.6402E+00	4.7392E+00	4.7563E+00	3.9560E+00	5.0138E+00	5.4779E+00	5.4101E+00	5.4335E+00	4.5547E+00
4.0E+00	6.0283E+00	5.4451E+00	4.6252E+00	4.6373E+00	3.8598E+00	4.8786E+00	5.3030E+00	5.2377E+00	5.2581E+00	4.4171E+00
5.0E+00	5.8312E+00	5.2727E+00	4.5304E+00	4.5387E+00	3.7796E+00	4.7665E+00	5.1594E+00	5.0960E+00	5.1137E+00	4.3016E+00
6.0E+00	5.6683E+00	5.1300E+00	4.4495E+00	4.4548E+00	3.7109E+00	4.6712E+00	5.0381E+00	4.9764E+00	4.9917E+00	4.2023E+00
8.0E+00	5.4120E+00	4.9049E+00	4.3168E+00	4.3173E+00	3.5980E+00	4.5153E+00	4.8422E+00	4.7830E+00	4.7940E+00	4.0379E+00
1.0E+01	5.2161E+00	4.7327E+00	4.2104E+00	4.2076E+00	3.5076E+00	4.3911E+00	4.6882E+00	4.6311E+00	4.6384E+00	3.9050E+00
1.5E+01	4.8711E+00	4.4297E+00	4.0111E+00	4.0036E+00	3.3397E+00	4.1603E+00	4.4078E+00	4.3549E+00	4.3548E+00	3.6549E+00
2.0E+01	4.6352E+00	4.2238E+00	3.8660E+00	3.8563E+00	3.2192E+00	3.9938E+00	4.2095E+00	4.1601E+00	4.1543E+00	3.4725E+00
3.0E+01	4.3119E+00	3.9444E+00	3.6569E+00	3.6456E+00	3.0491E+00	3.7555E+00	3.9304E+00	3.8869E+00	3.8724E+00	3.2107E+00
4.0E+01	4.0862E+00	3.7510E+00	3.5052E+00	3.4934E+00	2.9281E+00	3.5836E+00	3.7314E+00	3.6926E+00	3.6720E+00	3.0220E+00
5.0E+01	3.9117E+00	3.6021E+00	3.3856E+00	3.3735E+00	2.8337E+00	3.4486E+00	3.5761E+00	3.5411E+00	3.5160E+00	2.8745E+00
6.0E+01	3.7692E+00	3.4806E+00	3.2868E+00	3.2746E+00	2.7562E+00	3.3377E+00	3.4492E+00	3.4173E+00	3.3889E+00	2.7542E+00
8.0E+01	3.5460E+00	3.2904E+00	3.1302E+00	3.1179E+00	2.6334E+00	3.1634E+00	3.2512E+00	3.2240E+00	3.1912E+00	2.5675E+00
1.0E+02	3.3764E+00	3.1458E+00	3.0100E+00	2.9978E+00	2.5388E+00	3.0311E+00	3.1023E+00	3.0786E+00	3.0429E+00	2.4283E+00
1.5E+02	3.0841E+00	2.8958E+00	2.8001E+00	2.7889E+00	2.3724E+00	2.8042E+00	2.8501E+00	2.8320E+00	2.7924E+00	2.1956E+00
2.0E+02	2.8936E+00	2.7323E+00	2.6607E+00	2.6510E+00	2.2607E+00	2.6568E+00	2.6888E+00	2.6740E+00	2.6323E+00	2.0497E+00
3.0E+02	2.6518E+00	2.5219E+00	2.4773E+00	2.4704E+00	2.1119E+00	2.4669E+00	2.4840E+00	2.4731E+00	2.4296E+00	1.8687E+00
4.0E+02	2.4965E+00	2.3833E+00	2.3528E+00	2.3477E+00	2.0095E+00	2.3401E+00	2.3495E+00	2.3405E+00	2.2970E+00	1.7527E+00
5.0E+02	2.3822E+00	2.2793E+00	2.2568E+00	2.2525E+00	1.9297E+00	2.2430E+00	2.2478E+00	2.2399E+00	2.1973E+00	1.6668E+00
6.0E+02	2.2911E+00	2.1950E+00	2.1774E+00	2.1733E+00	1.8636E+00	2.1630E+00	2.1649E+00	2.1575E+00	2.1164E+00	1.5981E+00
8.0E+02	2.1487E+00	2.0617E+00	2.0491E+00	2.0443E+00	1.7565E+00	2.0338E+00	2.0323E+00	2.0252E+00	1.9873E+00	1.4905E+00
1.0E+03	2.0375E+00	1.9571E+00	1.9464E+00	1.9402E+00	1.6710E+00	1.9302E+00	1.9269E+00	1.9196E+00	1.8849E+00	1.4067E+00
1.5E+03	1.8317E+00	1.7633E+00	1.7537E+00	1.7435E+00	1.5118E+00	1.7351E+00	1.7294E+00	1.7214E+00	1.6933E+00	1.2525E+00
2.0E+03	1.6841E+00	1.6243E+00	1.6148E+00	1.6013E+00	1.3985E+00	1.5937E+00	1.5867E+00	1.5780E+00	1.5545E+00	1.1422E+00
3.0E+03	1.4807E+00	1.4318E+00	1.4229E+00	1.4052E+00	1.2466E+00	1.3974E+00	1.3888E+00	1.3791E+00	1.3612E+00	9.9141E-01
4.0E+03	1.3442E+00	1.3017E+00	1.2944E+00	1.2747E+00	1.1436E+00	1.2654E+00	1.2561E+00	1.2458E+00	1.2306E+00	8.9266E-01
5.0E+03	1.2445E+00	1.2066E+00	1.2014E+00	1.1808E+00	1.0715E+00	1.1696E+00	1.1597E+00	1.1492E+00	1.1354E+00	8.2310E-01
6.0E+03	1.1676E+00	1.1331E+00	1.1303E+00	1.1094E+00	1.0168E+00	1.0964E+00	1.0861E+00	1.0754E+00	1.0623E+00	7.7139E-01
8.0E+03	1.0551E+00	1.0261E+00	1.0277E+00	1.0072E+00	9.3770E-01	9.9097E-01	9.8012E-01	9.6932E-01	9.5672E-01	6.9921E-01
1.0E+04	9.7604E-01	9.5131E-01	9.5670E-01	9.3681E-01	8.8190E-01	9.1829E-01	9.0707E-01	8.9628E-01	8.8374E-01	6.5063E-01
1.5E+04	8.5299E-01	8.3515E-01	8.4714E-01	8.2881E-01	7.9101E-01	8.0728E-01	7.9613E-01	7.8540E-01	7.7270E-01	5.7689E-01
2.0E+04	7.8240E-01	7.6784E-01	7.8370E-01	7.6645E-01	7.3349E-01	7.4399E-01	7.3385E-01	7.2310E-01	7.1033E-01	5.3453E-01
3.0E+04	7.0115E-01	6.8898E-01	7.0868E-01	6.9274E-01	6.6037E-01	6.7031E-01	6.6279E-01	6.5177E-01	6.3909E-01	4.8571E-01
4.0E+04	6.5092E-01	6.3990E-01	6.6105E-01	6.4597E-01	6.1336E-01	6.2394E-01	6.1857E-01	6.0721E-01	5.9467E-01	4.5617E-01
5.0E+04	6.1427E-01	6.0424E-01	6.2577E-01	6.1139E-01	5.7944E-01	5.8967E-01	5.8591E-01	5.7425E-01	5.6181E-01	4.3496E-01
6.0E+04	5.8556E-01	5.7643E-01	5.9783E-01	5.8403E-01	5.5324E-01	5.6256E-01	5.6006E-01	5.4816E-01	5.3576E-01	4.1839E-01
8.0E+04	5.4256E-01	5.3484E-01	5.5546E-01	5.4259E-01	5.1431E-01	5.2154E-01	5.2098E-01	5.0877E-01	4.9633E-01	3.9339E-01
1.0E+05	5.1124E-01	5.0447E-01	5.2418E-01	5.1201E-01	4.8578E-01	4.9140E-01	4.9236E-01	4.7994E-01	4.6740E-01	3.7483E-01
1.5E+05	4.5892E-01	4.5327E-01	4.7102E-01	4.6000E-01	4.3705E-01	4.4062E-01	4.4435E-01	4.3157E-01	4.1882E-01	3.4269E-01
2.0E+05	4.2499E-01	4.1981E-01	4.3593E-01	4.2564E-01	4.0469E-01	4.0746E-01	4.1307E-01	4.0000E-01	3.8722E-01	3.2080E-01
3.0E+05	3.8013E-01	3.7574E-01	3.8913E-01	3.7981E-01	3.6183E-01	3.6369E-01	3.7149E-01	3.5804E-01	3.4560E-01	2.9064E-01
4.0E+05	3.4914E-01	3.4579E-01	3.5697E-01	3.4834E-01	3.3292E-01	3.3385E-01	3.4267E-01	3.2912E-01	3.1721E-01	2.6927E-01
5.0E+05	3.2506E-01	3.2293E-01	3.3225E-01	3.2416E-01	3.1106E-01	3.1099E-01	3.2021E-01	3.0677E-01	2.9543E-01	2.5236E-01
6.0E+05	3.0527E-01	3.0444E-01	3.1215E-01	3.0450E-01	2.9348E-01	2.9242E-01	3.0166E-01	2.8849E-01	2.7771E-01	2.3815E-01
8.0E+05	2.7409E-01	2.7584E-01	2.8080E-01	2.7388E-01	2.6631E-01	2.6346E-01	2.7214E-01	2.5980E-01	2.5003E-01	2.1483E-01
1.0E+06	2.5035E-01	2.5454E-01	2.5718E-01	2.5082E-01	2.4593E-01	2.4163E-01	2.4935E-01	2.3800E-01	2.2911E-01	1.9604E-01
1.5E+06	2.0940E-01	2.1881E-01	2.1681E-01	2.1148E-01	2.1116E-01	2.0427E-01	2.0930E-01	2.0044E-01	1.9324E-01	1.6108E-01
2.0E+06	1.8249E-01	1.9596E-01	1.9048E-01	1.8586E-01	1.8862E-01	1.7986E-01	1.8254E-01	1.7578E-01	1.6980E-01	1.3665E-01
3.0E+06	1.4803E-01	1.6712E-01	1.5685E-01	1.5317E-01	1.6024E-01	1.4864E-01	1.4825E-01	1.4432E-01	1.3990E-01	1.0520E-01
4.0E+06	1.2669E-01	1.4919E-01	1.3595E-01	1.3289E-01	1.4294E-01	1.2924E-01	1.2735E-01	1.2500E-01	1.2145E-01	8.6831E-02
5.0E+06	1.1220E-01	1.3682E-01	1.2168E-01	1.1904E-01	1.3129E-01	1.1599E-01	1.1347E-01	1.1200E-01	1.0895E-01	7.5459E-02
6.0E+06	1.0160E-01	1.2760E-01	1.1118E-01	1.0886E-01	1.2281E-01	1.0625E-01	1.0356E-01	1.0260E-01	9.9841E-02	6.7997E-02
8.0E+06	8.6627E-02	1.1423E-01	9.6266E-02	9.4422E-02	1.1085E-01	9.2452E-02	8.9969E-02	8.9505E-02	8.7040E-02	5.8939E-02
1.0E+07	7.6070E-02	1.0455E-01	8.5720E-02	8.4226E-02	1.0241E-01	8.2710E-02	8.0623E-02	8.0407E-02	7.8058E-02	5.3509E-02
1.5E+07	5.9130E-02	8.8634E-02	6.8793E-02	6.7883E-02	8.8794E-02	6.7084E-02	6.5775E-02	6.5915E-02	6.3653E-02	4.5742E-02
2.0E+07	4.9722E-02	7.9601E-02	5.9362E-02	5.8778E-02	8.1071E-02	5.8342E-02	5.7403E-02	5.7764E-02	5.5540E-02	4.1476E-02
3.0E+07	4.1298E-02	7.1297E-02	5.0743E-02	5.0430E-02	7.3708E-02	5.0220E-02	4.9413E-02	5.0002E-02	4.7881E-02	3.6960E-02
4.0E+07	3.8236E-02	6.8116E-02	4.7404E-02	4.7164E-02	7.0552E-02	4.6936E-02	4.5992E-02	4.6673E-02	4.4682E-02	3.4481E-02
5.0E+07	3.6814E-02	6.6527E-02	4.5711E-02	4.5486E-02	6.8740E-02	4.5186E-02	4.4063E-02	4.4788E-02	4.2921E-02	3.2764E-02
6.0E+07	3.5938E-02	6.5481E-02	4.4597E-02	4.4372E-02	6.7426E-02	4.3999E-02	4.2710E-02	4.3463E-02	4.1704E-02	3.1435E-02
8.0E+07	3.4735E-02	6.3960E-02	4.3019E-02	4.2788E-02	6.5423E-02	4.2303E-02	4.0757E-02	4.1547E-02	3.9954E-02	2.9465E-02
1.0E+08	3.3838E-02	6.2791E-02	4.1853E-02	4.1619E-02	6.3872E-02	4.1065E-02	3.9344E-02	4.0159E-02	3.8682E-02	2.8076E-02
1.5E+08	3.2189E-02	6.0643E-02	3.9798E-02	3.9569E-02	6.1099E-02	3.8943E-02	3.6982E-02	3.7843E-02	3.6530E-02	2.5924E-02
2.0E+08	3.0916E-02	5.9082E-02	3.8297E-02	3.8086E-02	5.9198E-02	3.7446E-02	3.5367E-02	3.6266E-02	3.5036E-02	2.4606E-02
3.0E+08	2.8746E-02	5.6735E-02	3.5840E-02	3.5681E-02	5.6576E-02	3.5050E-02	3.2822E-02	3.3799E-02	3.2663E-02	2.2696E-02
4.0E+08	2.6798E-02	5.4883E-02	3.3671E-02	3.3572E-02	5.4691E-02	3.2952E-02	3.0594E-02	3.1654E-02	3.0586E-02	2.1084E-02
5.0E+08	2.4999E-02	5.3294E-02	3.1678E-02	3.1638E-02	5.3163E-02	3.1025E-02	2.8544E-02	2.9687E-02	2.8678E-02	1.9615E-02
6.0E+08	2.3331E-02	5.1875E-02	2.9833E-02	2.9851E-02	5.1840E-02	2.9243E-02	2.6644E-02	2.7867E-02	2.6912E-02	1.8259E-02
8.0E+08	2.0343E-02	4.9392E-02	2.6530E-02	2.6655E-02	4.9573E-02	2.6054E-02	2.3241E-02	2.4611E-02	2.3752E-02	1.5842E-02
1.0E+09	1.7762E-02	4.7271E-02	2.3679E-02	2.3897E-02	4.7655E-02	2.3301E-02	2.0302E-02	2.1801E-02	2.1025E-02	1.3760E-02
1.5E+09	1.2740E-02	4.3154E-02	1.8131E-02	1.8532E-02	4.3943E-02	1.7946E-02	1.4583E-02	1.6335E-02	1.5722E-02	9.7185E-03
2.0E+09	9.2510E-03	4.0294E-02	1.4277E-02	1.4805E-02	4.1365E-02	1.4226E-02	1.0611E-02	1.2538E-02	1.2038E-02	6.9128E-03
3.0E+09	5.1417E-03	3.6923E-02	9.7373E-03	1.0415E-02	3.8326E-02	9.8449E-03	5.9320E-03	8.0654E-03	7.6986E-03	3.6089E-03
4.0E+09	3.1574E-03	3.5291E-02	7.5446E-03	8.2949E-03	3.6854E-02	7.7286E-03	3.6727E-03	5.9055E-03	5.6031E-03	2.0136E-03
5.0E+09	2.1991E-03	3.4499E-02	6.4853E-03	7.2703E-03	3.6140E-02	6.7061E-03	2.5817E-03	4.8622E-03	4.5909E-03	1.2432E-03
6.0E+09	1.7362E-03	3.4113E-02	5.9731E-03	6.7749E-03	3.5790E-02	6.2117E-03	2.0546E-03	4.3580E-03	4.1017E-03	8.7108E-04
8.0E+09	1.4044E-03	3.3827E-02	5.6049E-03	6.4184E-03	3.5530E-02	5.8561E-03	1.6769E-03	3.9959E-03	3.7504E-03	6.0448E-04
1.0E+10	1.3266E-03	3.3749E-02	5.5172E-03	6.3331E-03	3.5458E-02	5.7712E-03	1.5882E-03	3.9101E-03	3.6673E-03	5.4209E-04
1.5E+10	1.3023E-03	3.3693E-02	5.4859E-03	6.3018E-03	3.5402E-02	5.7406E-03	1.5605E-03	3.8810E-03	3.6392E-03	5.2298E-04
2.0E+10	1.3003E-03	3.3656E-02	5.4792E-03	6.2942E-03	3.5362E-02	5.7336E-03	1.5581E-03	3.8761E-03	3.6345E-03	5.2179E-04
3.0E+10	1.2974E-03	3.3582E-02	5.4672E-03	6.2804E-03	3.5285E-02	5.7210E-03	1.5547E-03	3.8675E-03	3.6265E-03	5.2040E-04
4.0E+10	1.2946E-03	3.3508E-02	5.4552E-03	6.2666E-03	3.5207E-02	5.7084E-03	1.5512E-03	3.8590E-03	3.6186E-03	5.1906E-04
5.0E+10	1.2918E-03	3.3434E-02	5.4432E-03	6.2528E-03	3.5130E-02	5.6959E-03	1.5478E-03	3.8506E-03	3.6106E-03	5.1777E-04
6.0E+10	1.2889E-03	3.3361E-02	5.4312E-03	6.2391E-03	3.5053E-02	5.6834E-03	1.5444E-03	3.8421E-03	3.6027E-03	5.1650E-04
8.0E+10	1.2833E-03	3.3215E-02	5.4074E-03	6.2117E-03	3.4899E-02	5.6585E-03	1.5377E-03	3.8253E-03	3.5869E-03	5.1403E-04
1.0E+11	1.2776E-03	3.3069E-02	5.3837E-03	6.1845E-03	3.4746E-02	5.6337E-03	1.5309E-03	3.8085E-03	3.5712E-03	5.1164E-04
1.5E+11	1.2637E-03	3.2708E-02	5.3248E-03	6.1169E-03	3.4366E-02	5.5721E-03	1.5142E-03	3.7669E-03	3.5321E-03	5.0586E-04
2.0E+11	1.2499E-03	3.2350E-02	5.2666E-03	6.0500E-03	3.3991E-02	5.5112E-03	1.4976E-03	3.7257E-03	3.4935E-03	5.0025E-04
3.0E+11	1.2227E-03	3.1647E-02	5.1522E-03	5.9185E-03	3.3252E-02	5.3914E-03	1.4651E-03	3.6447E-03	3.4176E-03	4.8934E-04
4.0E+11	1.1961E-03	3.0959E-02	5.0402E-03	5.7898E-03	3.2529E-02	5.2742E-03	1.4332E-03	3.5655E-03	3.3433E-03	4.7869E-04
5.0E+11	1.1701E-03	3.0286E-02	4.9306E-03	5.6640E-03	3.1822E-02	5.1595E-03	1.4021E-03	3.4880E-03	3.2706E-03	4.6829E-04
6.0E+11	1.1447E-03	2.9627E-02	4.8234E-03	5.5408E-03	3.1130E-02	5.0474E-03	1.3716E-03	3.4122E-03	3.1995E-03	4.5811E-04
8.0E+11	1.0955E-03	2.8353E-02	4.6160E-03	5.3026E-03	2.9791E-02	4.8303E-03	1.3126E-03	3.2654E-03	3.0619E-03	4.3841E-04
1.0E+12	1.0484E-03	2.7134E-02	4.4175E-03	5.0745E-03	2.8510E-02	4.6226E-03	1.2562E-03	3.1250E-03	2.9303E-03	4.1956E-04
1.5E+12	9.3933E-04	2.4310E-02	3.9578E-03	4.5464E-03	2.5543E-02	4.1415E-03	1.1255E-03	2.7998E-03	2.6253E-03	3.7591E-04
2.0E+12	8.4161E-04	2.1780E-02	3.5459E-03	4.0733E-03	2.2884E-02	3.7105E-03	1.0084E-03	2.5084E-03	2.3521E-03	3.3680E-04
3.0E+12	6.7562E-04	1.7482E-02	2.8463E-03	3.2697E-03	1.8369E-02	2.9785E-03	8.0947E-04	2.0136E-03	1.8881E-03	2.7037E-04
4.0E+12	5.4239E-04	1.4033E-02	2.2848E-03	2.6246E-03	1.4745E-02	2.3908E-03	6.4980E-04	1.6163E-03	1.5156E-03	2.1705E-04
5.0E+12	4.3545E-04	1.1264E-02	1.8341E-03	2.1069E-03	1.1836E-02	1.9192E-03	5.2164E-04	1.2975E-03	1.2166E-03	1.7425E-04
6.0E+12	3.4960E-04	9.0416E-03	1.4723E-03	1.6913E-03	9.5004E-03	1.5405E-03	4.1877E-04	1.0415E-03	9.7660E-04	1.3990E-04
8.0E+12	2.2539E-04	5.8258E-03	9.4878E-04	1.0899E-03	6.1215E-03	9.9272E-04	2.6992E-04	6.7119E-04	6.2934E-04	9.0186E-05
1.0E+13	1.4536E-04	3.7538E-03	6.1150E-04	7.0243E-04	3.9445E-03	6.3975E-04	1.7401E-04	4.325BE-04	4.0560E-04	5.8158E-05

(c) Total sensible decay power (MeV/s)

TIME(S)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU239(H)	PU240(F)	PU241(T)	PU241(F)	PU242(F)	CF252(S)
0.0	1.6126E+01	1.4401E+01	1.0616E+01	1.0739E+01	8.7280E+00	1.1628E+01	1.3232E+01	1.3058E+01	1.3255E+01	1.1347E+01
1.0E-01	1.5875E+01	1.4182E+01	1.0537E+01	1.0655E+01	8.6651E+00	1.1528E+01	1.3090E+01	1.2920E+01	1.3115E+01	1.1259E+01
1.5E-01	1.5758E+01	1.4080E+01	1.0499E+01	1.0614E+01	8.6351E+00	1.1480E+01	1.3023E+01	1.2855E+01	1.3049E+01	1.1216E+01
2.0E-01	1.5647E+01	1.3983E+01	1.0462E+01	1.0575E+01	8.6060E+00	1.1434E+01	1.2958E+01	1.2792E+01	1.2985E+01	1.1174E+01
3.0E-01	1.5439E+01	1.3801E+01	1.0392E+01	1.0501E+01	8.5503E+00	1.1346E+01	1.2835E+01	1.2672E+01	1.2864E+01	1.1093E+01
4.0E-01	1.5247E+01	1.3633E+01	1.0324E+01	1.0430E+01	8.4974E+00	1.1262E+01	1.2719E+01	1.2559E+01	1.2749E+01	1.1016E+01
5.0E-01	1.5068E+01	1.3477E+01	1.0261E+01	1.0362E+01	8.4471E+00	1.1183E+01	1.2610E+01	1.2452E+01	1.2641E+01	1.0942E+01
6.0E-01	1.4901E+01	1.3331E+01	1.0199E+01	1.0297E+01	8.3992E+00	1.1108E+01	1.2506E+01	1.2351E+01	1.2538E+01	1.0870E+01
8.0E-01	1.4595E+01	1.3065E+01	1.0085E+01	1.0177E+01	8.3093E+00	1.0966E+01	1.2314E+01	1.2162E+01	1.2347E+01	1.0735E+01
1.0E+00	1.4320E+01	1.2827E+01	9.9793E+00	1.0065E+01	8.2263E+00	1.0837E+01	1.2138E+01	1.1990E+01	1.2173E+01	1.0610E+01
1.5E+00	1.3733E+01	1.2321E+01	9.7458E+00	9.8195E+00	8.0425E+00	1.0551E+01	1.1755E+01	1.1615E+01	1.1790E+01	1.0329E+01
2.0E+00	1.3250E+01	1.1907E+01	9.5462E+00	9.6099E+00	7.8846E+00	1.0308E+01	1.1433E+01	1.1298E+01	1.1466E+01	1.0087E+01
3.0E+00	1.2488E+01	1.1255E+01	9.2179E+00	9.2661E+00	7.6233E+00	9.9096E+00	1.0911E+01	1.0785E+01	1.0938E+01	9.6858E+00
4.0E+00	1.1904E+01	1.0755E+01	8.9550E+00	8.9915E+00	7.4127E+00	9.5918E+00	1.0500E+01	1.0380E+01	1.0520E+01	9.3629E+00
5.0E+00	1.1438E+01	1.0354E+01	8.7368E+00	8.7641E+00	7.2373E+00	9.3288E+00	1.0164E+01	1.0048E+01	1.0177E+01	9.0941E+00
6.0E+00	1.1053E+01	1.0022E+01	8.5512E+00	8.5709E+00	7.0876E+00	9.1057E+00	9.8824E+00	9.7698E+00	9.8881E+00	8.8647E+00
8.0E+00	1.0452E+01	9.4992E+00	8.2482E+00	8.2566E+00	6.8429E+00	8.7432E+00	9.4303E+00	9.3230E+00	9.4241E+00	8.4887E+00
1.0E+01	9.9986E+00	9.1019E+00	8.0075E+00	8.0080E+00	6.6486E+00	8.4571E+00	9.0792E+00	8.9758E+00	9.0633E+00	8.1886E+00
1.5E+01	9.2163E+00	8.4133E+00	7.5643E+00	7.5536E+00	6.2925E+00	7.9361E+00	8.4522E+00	8.3563E+00	8.4191E+00	7.6327E+00
2.0E+01	8.6977E+00	7.9572E+00	7.2489E+00	7.2333E+00	6.0418E+00	7.5703E+00	8.0203E+00	7.9306E+00	7.9763E+00	7.2358E+00
3.0E+01	8.0128E+00	7.3588E+00	6.8062E+00	6.7876E+00	5.6946E+00	7.0629E+00	7.4291E+00	7.3501E+00	7.3728E+00	6.6788E+00
4.0E+01	7.5508E+00	6.9582E+00	6.4927E+00	6.4737E+00	5.4514E+00	6.7072E+00	7.0188E+00	6.9482E+00	6.9560E+00	6.2858E+00
5.0E+01	7.2011E+00	6.6560E+00	6.2490E+00	6.2301E+00	5.2630E+00	6.4326E+00	6.7041E+00	6.6402E+00	6.6375E+00	5.9824E+00
6.0E+01	6.9198E+00	6.4130E+00	6.0497E+00	6.0309E+00	5.1088E+00	6.2093E+00	6.4495E+00	6.3910E+00	6.3807E+00	5.7363E+00
8.0E+01	6.4853E+00	6.0375E+00	5.7373E+00	5.7187E+00	4.8657E+00	5.8619E+00	6.0562E+00	6.0057E+00	5.9854E+00	5.3554E+00
1.0E+02	6.1599E+00	5.7558E+00	5.4998E+00	5.4814E+00	4.6794E+00	5.6004E+00	5.7628E+00	5.7179E+00	5.6914E+00	5.0706E+00
1.5E+02	5.6069E+00	5.2756E+00	5.0890E+00	5.0721E+00	4.3528E+00	5.1545E+00	5.2682E+00	5.2324E+00	5.1972E+00	4.5892E+00
2.0E+02	5.2504E+00	4.9645E+00	4.8177E+00	4.8030E+00	4.1343E+00	4.8652E+00	4.9514E+00	4.9213E+00	4.8812E+00	4.2808E+00
3.0E+02	4.7980E+00	4.5650E+00	4.4602E+00	4.4499E+00	3.8432E+00	4.4901E+00	4.5460E+00	4.5229E+00	4.4780E+00	3.8895E+00
4.0E+02	4.5055E+00	4.3017E+00	4.2169E+00	4.2097E+00	3.6433E+00	4.2383E+00	4.2774E+00	4.2582E+00	4.2121E+00	3.6348E+00
5.0E+02	4.2895E+00	4.1039E+00	4.0296E+00	4.0240E+00	3.4886E+00	4.0456E+00	4.0739E+00	4.0570E+00	4.0116E+00	3.4457E+00
6.0E+02	4.1169E+00	3.9443E+00	3.8755E+00	3.8705E+00	3.3611E+00	3.8877E+00	3.9084E+00	3.8928E+00	3.8492E+00	3.2948E+00
8.0E+02	3.8474E+00	3.6932E+00	3.6285E+00	3.6227E+00	3.1565E+00	3.6351E+00	3.6461E+00	3.6316E+00	3.5925E+00	3.0608E+00
1.0E+03	3.6383E+00	3.4979E+00	3.4334E+00	3.4257E+00	2.9951E+00	3.4358E+00	3.4410E+00	3.4266E+00	3.3921E+00	2.8815E+00
1.5E+03	3.2570E+00	3.1417E+00	3.0751E+00	3.0614E+00	2.6994E+00	3.0697E+00	3.0669E+00	3.0515E+00	3.0266E+00	2.5596E+00
2.0E+03	2.9896E+00	2.8914E+00	2.8239E+00	2.8052E+00	2.4930E+00	2.8126E+00	2.8058E+00	2.7892E+00	2.7709E+00	2.3371E+00
3.0E+03	2.6317E+00	2.5539E+00	2.4886E+00	2.4634E+00	2.2195E+00	2.4683E+00	2.4576E+00	2.4393E+00	2.4283E+00	2.0434E+00
4.0E+03	2.4001E+00	2.3331E+00	2.2725E+00	2.2441E+00	2.0449E+00	2.2457E+00	2.2335E+00	2.2142E+00	2.2065E+00	1.8582E+00
5.0E+03	2.2355E+00	2.1750E+00	2.1200E+00	2.0902E+00	1.9225E+00	2.0884E+00	2.0757E+00	2.0558E+00	2.0494E+00	1.7310E+00
6.0E+03	2.1106E+00	2.0549E+00	2.0054E+00	1.9751E+00	1.8306E+00	1.9704E+00	1.9575E+00	1.9372E+00	1.9313E+00	1.6380E+00
8.0E+03	1.9300E+00	1.8813E+00	1.8418E+00	1.8117E+00	1.6987E+00	1.8024E+00	1.7897E+00	1.7690E+00	1.7629E+00	1.5094E+00
1.0E+04	1.8027E+00	1.7593E+00	1.7281E+00	1.6988E+00	1.6051E+00	1.6864E+00	1.6742E+00	1.6533E+00	1.6467E+00	1.4225E+00
1.5E+04	1.5981E+00	1.5638E+00	1.5472E+00	1.5199E+00	1.4489E+00	1.5040E+00	1.4942E+00	1.4732E+00	1.4649E+00	1.2859E+00
2.0E+04	1.4725E+00	1.4431E+00	1.4358E+00	1.4101E+00	1.3460E+00	1.3936E+00	1.3868E+00	1.3657E+00	1.3563E+00	1.2017E+00
3.0E+04	1.3163E+00	1.2913E+00	1.2954E+00	1.2716E+00	1.2097E+00	1.2560E+00	1.2556E+00	1.2341E+00	1.2228E+00	1.0964E+00
4.0E+04	1.2149E+00	1.1925E+00	1.2028E+00	1.1803E+00	1.1194E+00	1.1658E+00	1.1702E+00	1.1484E+00	1.1357E+00	1.0283E+00
5.0E+04	1.1407E+00	1.1202E+00	1.1340E+00	1.1126E+00	1.0536E+00	1.0988E+00	1.1068E+00	1.0846E+00	1.0709E+00	9.7812E-01
6.0E+04	1.0833E+00	1.0643E+00	1.0801E+00	1.0596E+00	1.0030E+00	1.0462E+00	1.0570E+00	1.0345E+00	1.0199E+00	9.3872E-01
8.0E+04	9.9932E-01	9.8237E-01	9.9986E-01	9.8084E-01	9.2893E-01	9.6794E-01	9.8251E-01	9.5976E-01	9.4367E-01	8.7949E-01
1.0E+05	9.4014E-01	9.2417E-01	9.4212E-01	9.2419E-01	8.7591E-01	9.1164E-01	9.2887E-01	9.0597E-01	8.8876E-01	8.3605E-01
1.5E+05	8.4503E-01	8.2944E-01	8.4710E-01	8.3096E-01	7.8808E-01	8.1939E-01	8.4088E-01	8.1773E-01	7.9872E-01	7.6233E-01
2.0E+05	7.8597E-01	7.6995E-01	7.8679E-01	7.7172E-01	7.3176E-01	7.6125E-01	7.8528E-01	7.6197E-01	7.4207E-01	7.1385E-01
3.0E+05	7.1133E-01	6.9492E-01	7.0975E-01	6.9603E-01	6.5987E-01	6.8762E-01	7.1434E-01	6.9089E-01	6.7058E-01	6.5069E-01
4.0E+05	6.6179E-01	6.4593E-01	6.5879E-01	6.4600E-01	6.1301E-01	6.3933E-01	6.6717E-01	6.4387E-01	6.2386E-01	6.0896E-01
5.0E+05	6.2410E-01	6.0934E-01	6.2039E-01	6.0834E-01	5.7823E-01	6.0312E-01	6.3129E-01	6.0839E-01	5.8889E-01	5.7762E-01
6.0E+05	5.9347E-01	5.8006E-01	5.8949E-01	5.7806E-01	5.5053E-01	5.7406E-01	6.0212E-01	5.7976E-01	5.6083E-01	5.5222E-01
8.0E+05	5.4550E-01	5.3506E-01	5.4163E-01	5.3120E-01	5.0797E-01	5.2911E-01	5.5624E-01	5.3522E-01	5.1737E-01	5.1184E-01
1.0E+06	5.0898E-01	5.0149E-01	5.0559E-01	4.9596E-01	4.7607E-01	4.9527E-01	5.2104E-01	5.0148E-01	4.8459E-01	4.7999E-01
1.5E+06	4.4535E-01	4.4453E-01	4.4356E-01	4.3538E-01	4.2138E-01	4.3696E-01	4.5899E-01	4.4293E-01	4.2794E-01	4.2131E-01
2.0E+06	4.0276E-01	4.0742E-01	4.0258E-01	3.9540E-01	3.8558E-01	3.9836E-01	4.1716E-01	4.0396E-01	3.9036E-01	3.8025E-01
3.0E+06	3.4700E-01	3.5954E-01	3.4941E-01	3.4357E-01	3.3987E-01	3.4817E-01	3.6265E-01	3.5333E-01	3.4159E-01	3.2668E-01
4.0E+06	3.1145E-01	3.2899E-01	3.1568E-01	3.1069E-01	3.1133E-01	3.1625E-01	3.2848E-01	3.2135E-01	3.1071E-01	2.9421E-01
5.0E+06	2.8657E-01	3.0735E-01	2.9210E-01	2.8768E-01	2.9153E-01	2.9386E-01	3.0500E-01	2.9910E-01	2.8915E-01	2.7290E-01
6.0E+06	2.6787E-01	2.9086E-01	2.7435E-01	2.7035E-01	2.7667E-01	2.7696E-01	2.8759E-01	2.8242E-01	2.7292E-01	2.5781E-01
8.0E+06	2.4062E-01	2.6639E-01	2.4840E-01	2.4501E-01	2.5495E-01	2.5210E-01	2.6244E-01	2.5802E-01	2.4909E-01	2.3705E-01
1.0E+07	2.2078E-01	2.4827E-01	2.2936E-01	2.2641E-01	2.3901E-01	2.3371E-01	2.4397E-01	2.3997E-01	2.3142E-01	2.2229E-01
1.5E+07	1.8723E-01	2.1730E-01	1.9670E-01	1.9448E-01	2.1168E-01	2.0166E-01	2.1143E-01	2.0813E-01	2.0032E-01	1.9569E-01
2.0E+07	1.6631E-01	1.9790E-01	1.7574E-01	1.7394E-01	1.9413E-01	1.8054E-01	1.8933E-01	1.8657E-01	1.7944E-01	1.7606E-01
3.0E+07	1.4203E-01	1.7547E-01	1.5031E-01	1.4890E-01	1.7272E-01	1.5396E-01	1.6033E-01	1.5833E-01	1.5248E-01	1.4695E-01
4.0E+07	1.2793E-01	1.6252E-01	1.3474E-01	1.3347E-01	1.5948E-01	1.3704E-01	1.4114E-01	1.3964E-01	1.3491E-01	1.2554E-01
5.0E+07	1.1819E-01	1.5356E-01	1.2364E-01	1.2243E-01	1.4993E-01	1.2476E-01	1.2694E-01	1.2581E-01	1.2201E-01	1.0903E-01
6.0E+07	1.1086E-01	1.4678E-01	1.1514E-01	1.1396E-01	1.4253E-01	1.1529E-01	1.1592E-01	1.1507E-01	1.1204E-01	9.6072E-02
8.0E+07	1.0055E-01	1.3710E-01	1.0307E-01	1.0192E-01	1.3180E-01	1.0184E-01	1.0023E-01	9.9775E-02	9.7867E-02	7.7690E-02
1.0E+08	9.3858E-02	1.3065E-01	9.5190E-02	9.4054E-02	1.2457E-01	9.3110E-02	9.0064E-02	8.9864E-02	8.8688E-02	6.5995E-02
1.5E+08	8.4757E-02	1.2156E-01	8.4663E-02	8.3556E-02	1.1434E-01	8.1648E-02	7.6910E-02	7.7030E-02	7.6745E-02	5.1538E-02
2.0E+08	8.0028E-02	1.1665E-01	7.9568E-02	7.8504E-02	1.0902E-01	7.6338E-02	7.1059E-02	7.1325E-02	7.1329E-02	4.5795E-02
3.0E+08	7.3844E-02	1.1037E-01	7.3570E-02	7.2619E-02	1.0278E-01	7.0438E-02	6.4949E-02	6.5390E-02	6.5489E-02	4.0846E-02
4.0E+08	6.8789E-02	1.0552E-01	6.8929E-02	6.8103E-02	9.8352E-02	6.6017E-02	6.0526E-02	6.1116E-02	6.1186E-02	3.7774E-02
5.0E+08	6.4204E-02	1.0127E-01	6.4759E-02	6.4056E-02	9.4636E-02	6.2069E-02	5.6590E-02	5.7324E-02	5.7355E-02	3.5156E-02
6.0E+08	5.9980E-02	9.7432E-02	6.0922E-02	6.0337E-02	9.1343E-02	5.8442E-02	5.2972E-02	5.3843E-02	5.3838E-02	3.2788E-02
8.0E+08	5.2453E-02	9.0674E-02	5.4085E-02	5.3715E-02	8.5617E-02	5.1983E-02	4.6524E-02	4.7645E-02	4.7576E-02	2.8611E-02
1.0E+09	4.5985E-02	8.4903E-02	4.8207E-02	4.8025E-02	8.0755E-02	4.6432E-02	4.0976E-02	4.2316E-02	4.2194E-02	2.5037E-02
1.5E+09	3.3490E-02	7.3782E-02	3.6832E-02	3.7017E-02	7.1401E-02	3.5690E-02	3.0229E-02	3.1997E-02	3.1779E-02	1.8128E-02
2.0E+09	2.4893E-02	6.6141E-02	2.8985E-02	2.9423E-02	6.4970E-02	2.8278E-02	2.2803E-02	2.4867E-02	2.4588E-02	1.3349E-02
3.0E+09	1.4894E-02	5.7262E-02	1.9824E-02	2.0559E-02	5.7482E-02	1.9619E-02	1.4115E-02	1.6527E-02	1.6182E-02	7.7376E-03
4.0E+09	1.0144E-02	5.3044E-02	1.5449E-02	1.6324E-02	5.3910E-02	1.5480E-02	9.9526E-03	1.2531E-02	1.2159E-02	5.0312E-03
5.0E+09	7.8837E-03	5.1033E-02	1.3355E-02	1.4298E-02	5.2198E-02	1.3497E-02	7.9554E-03	1.0614E-02	1.0230E-02	3.7206E-03
6.0E+09	6.8058E-03	5.0070E-02	1.2351E-02	1.3326E-02	5.1372E-02	1.2545E-02	6.9947E-03	9.6908E-03	9.3017E-03	3.0821E-03
8.0E+09	6.0420E-03	4.9374E-02	1.1633E-02	1.2630E-02	5.0765E-02	1.1862E-02	6.3054E-03	9.0277E-03	8.6351E-03	2.6115E-03
1.0E+10	5.8627E-03	4.9194E-02	1.1461E-02	1.2462E-02	5.0603E-02	1.1697E-02	6.1396E-03	8.8671E-03	8.4733E-03	2.4896E-03
1.5E+10	5.8008E-03	4.9089E-02	1.1395E-02	1.2397E-02	5.0499E-02	1.1633E-02	6.0794E-03	8.8056E-03	8.4110E-03	2.4356E-03
2.0E+10	5.7930E-03	4.9034E-02	1.1381E-02	1.2382E-02	5.0441E-02	1.1619E-02	6.0708E-03	8.7939E-03	8.3992E-03	2.4265E-03
3.0E+10	5.7845E-03	4.8930E-02	1.1361E-02	1.2359E-02	5.0333E-02	1.1597E-02	6.0613E-03	8.7780E-03	8.3840E-03	2.4206E-03
4.0E+10	5.7770E-03	4.8827E-02	1.1341E-02	1.2336E-02	5.0226E-02	1.1576E-02	6.0530E-03	8.7633E-03	8.3700E-03	2.4171E-03
5.0E+10	5.7696E-03	4.8724E-02	1.1321E-02	1.2314E-02	5.0119E-02	1.1556E-02	6.0449E-03	8.7487E-03	8.3562E-03	2.4139E-03
6.0E+10	5.7622E-03	4.8622E-02	1.1301E-02	1.2292E-02	5.0013E-02	1.1536E-02	6.0368E-03	8.7342E-03	8.3425E-03	2.4107E-03
8.0E+10	5.7475E-03	4.8418E-02	1.1262E-02	1.2249E-02	4.9801E-02	1.1495E-02	6.0206E-03	8.7052E-03	8.3150E-03	2.4045E-03
1.0E+11	5.7328E-03	4.8215E-02	1.1223E-02	1.2205E-02	4.9590E-02	1.1455E-02	6.0044E-03	8.6763E-03	8.2877E-03	2.3983E-03
1.5E+11	5.6964E-03	4.7712E-02	1.1126E-02	1.2097E-02	4.9066E-02	1.1355E-02	5.9643E-03	8.6046E-03	8.2198E-03	2.3831E-03
2.0E+11	5.6602E-03	4.7213E-02	1.1031E-02	1.1990E-02	4.8548E-02	1.1256E-02	5.9246E-03	8.5335E-03	8.1526E-03	2.3681E-03
3.0E+11	5.5888E-03	4.6233E-02	1.0842E-02	1.1778E-02	4.7528E-02	1.1061E-02	5.8460E-03	8.3935E-03	8.0201E-03	2.3387E-03
4.0E+11	5.5185E-03	4.5273E-02	1.0657E-02	1.1572E-02	4.6531E-02	1.0869E-02	5.7687E-03	8.2562E-03	7.8901E-03	2.3098E-03
5.0E+11	5.4493E-03	4.4334E-02	1.0475E-02	1.1369E-02	4.5555E-02	1.0682E-02	5.6928E-03	8.1215E-03	7.7626E-03	2.2813E-03
6.0E+11	5.3813E-03	4.3415E-02	1.0297E-02	1.1170E-02	4.4600E-02	1.0498E-02	5.6181E-03	7.9894E-03	7.6376E-03	2.2533E-03
8.0E+11	5.2484E-03	4.1636E-02	9.9515E-03	1.0784E-02	4.2751E-02	1.0141E-02	5.4723E-03	7.7328E-03	7.3946E-03	2.1986E-03
1.0E+12	5.1198E-03	3.9932E-02	9.6193E-03	1.0414E-02	4.0980E-02	9.7983E-03	5.3314E-03	7.4859E-03	7.1607E-03	2.1456E-03
1.5E+12	4.8156E-03	3.5980E-02	8.8439E-03	9.5495E-03	3.6876E-02	8.9980E-03	4.9986E-03	6.9085E-03	6.6138E-03	2.0203E-03
2.0E+12	4.5346E-03	3.2432E-02	8.1407E-03	8.7671E-03	3.3193E-02	8.2730E-03	4.6919E-03	6.3837E-03	6.1164E-03	1.9043E-03
3.0E+12	4.0341E-03	2.6386E-02	6.9236E-03	7.4160E-03	2.6923E-02	7.0192E-03	4.1478E-03	5.4719E-03	5.2517E-03	1.6976E-03
4.0E+12	3.6044E-03	2.1508E-02	5.9192E-03	6.3048E-03	2.1871E-02	5.9861E-03	3.6832E-03	4.7154E-03	4.5336E-03	1.5197E-03
5.0E+12	3.2343E-03	1.7570E-02	5.0880E-03	5.3886E-03	1.7800E-02	5.1326E-03	3.2849E-03	4.0858E-03	3.9353E-03	1.3662E-03
6.0E+12	2.9141E-03	1.4389E-02	4.3981E-03	4.6311E-03	1.4517E-02	4.4255E-03	2.9423E-03	3.5603E-03	3.4352E-03	1.2332E-03
8.0E+12	2.3942E-03	9.7351E-03	3.3441E-03	3.4807E-03	9.7283E-03	3.3479E-03	2.3901E-03	2.7498E-03	2.6628E-03	1.0168E-03
1.0E+13	1.9973E-03	6.6813E-03	2.6038E-03	2.6800E-03	6.6018E-03	2.5941E-03	1.9728E-03	2.1731E-03	2.1117E-03	8.5105E-04

Table 4.1.4 Contribution of each important nuclide to decay power for burst thermal neutron fission of ^{235}U as a function of cooling time between 0 and 10^{13}s

(1) 0 second after fission

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA + GAMMA) (MEV)	RATIO
1	AS 84M	1.53638E+10	1.63839E+10	7.65979E-03	0.0092	9.08780E-03	0.0141	1.67476E-02	0.0114
2	BR 90	4.86112E+10	1.75491E+10	8.74017E-03	0.0105	8.16574E-03	0.0127	1.69059E-02	0.0115
3	BR 91	1.70161E+10	2.17619E+10	1.19139E-02	0.0144	7.45799E-03	0.0116	1.93719E-02	0.0132
4	KR 92	1.47711E+11	5.53430E+10	1.80576E-02	0.0218	1.26239E-02	0.0196	3.06816E-02	0.0208
5	RB 92	1.69379E+11	2.60895E+10	1.46267E-02	0.0177	2.17403E-03	0.0034	1.68008E-02	0.0114
6	KR 93	5.15208E+10	2.77048E+10	1.11739E-02	0.0135	1.10114E-02	0.0171	2.21853E-02	0.0151
7	RB 93	1.99508E+11	2.33205E+10	1.01506E-02	0.0123	5.20627E-03	0.0081	1.53569E-02	0.0104
8	KR 94	1.29859E+10	4.32743E+10	2.04326E-02	0.0247	1.02614E-02	0.0159	3.06939E-02	0.0208
9	RB 94	1.19440E+11	2.99961E+10	1.30539E-02	0.0158	1.71798E-02	0.0267	3.02337E-02	0.0205
10	RB 95	5.74586E+10	1.03718E+11	5.15480E-02	0.0622	3.13575E-02	0.0487	8.29055E-02	0.0563
11	RB 96	1.53321E+10	5.23514E+10	3.20493E-02	0.0387	2.58676E-02	0.0402	5.79169E-02	0.0393
12	SR 96	2.52972E+11	1.72754E+11	4.96469E-02	0.0599	3.74850E-02	0.0582	8.71319E-02	0.0592
13	SR 97	1.33136E+11	2.09264E+11	7.66113E-02	0.0925	7.18605E-02	0.1116	1.48472E-01	0.1008
14	Y 97M	1.53053E+11	9.38844E+10	3.12273E-02	0.0377	4.03052E-02	0.0626	7.15325E-02	0.0486
15	SR 98	5.36806E+10	5.63754E+10	1.93203E-02	0.0233	9.49304E-03	0.0147	2.88133E-02	0.0196
16	Y 98	4.18843E+10	4.46654E+10	1.97455E-02	0.0238	1.48986E-02	0.0231	3.46440E-02	0.0235
17	Y 98M	1.26361E+11	4.37930E+10	1.56292E-02	0.0189	2.21313E-02	0.0344	3.77605E-02	0.0256
18	SR 99	1.23788E+10	3.22568E+10	1.57163E-02	0.0190	1.08841E-02	0.0169	2.66004E-02	0.0181
19	Y 99	1.29930E+11	6.43286E+10	2.44783E-02	0.0295	1.18217E-02	0.0184	3.63000E-02	0.0247
20	ZR 99	2.25222E+11	7.43389E+10	1.67819E-02	0.0203	1.41032E-02	0.0219	3.08851E-02	0.0210
21	Y 100M	4.26228E+10	5.37175E+10	2.83156E-02	0.0342	1.93906E-02	0.0301	4.77061E-02	0.0324
22	Y 101	1.89086E+10	2.62130E+10	1.13017E-02	0.0136	6.39631E-03	0.0099	1.76980E-02	0.0120
23	ZR101	2.04791E+11	5.91457E+10	2.04687E-02	0.0247	1.03386E-02	0.0161	3.08073E-02	0.0209
24	NB103	1.02184E+11	4.72191E+10	1.59705E-02	0.0193	7.42921E-03	0.0115	2.33997E-02	0.0159
25	XE141	1.01194E+11	4.05443E+10	1.53623E-02	0.0185	6.72657E-03	0.0104	2.20889E-02	0.0150
26	CS142	1.54879E+11	6.27802E+10	2.46334E-02	0.0297	1.79747E-02	0.0279	4.26081E-02	0.0289
27	CS143	1.00982E+11	3.93232E+10	1.21911E-02	0.0147	7.66749E-03	0.0119	1.98586E-02	0.0135
28	CS144	3.23045E+10	2.23470E+10	9.48450E-03	0.0114	7.85184E-03	0.0122	1.73363E-02	0.0118
	TOTAL	2.74080E+12	1.56044E+12	6.06291E-01	0.7317	4.57151E-01	0.7100	1.06344E+00	0.7222

(2) 1 second after fission

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA + GAMMA) (MEV)	RATIO
1	BR 89	9.40233E+10	1.48792E+10	5.65706E-03	0.0124	6.59871E-03	0.0188	1.22558E-02	0.0152
2	BR 90	3.48399E+10	1.25775E+10	6.26412E-03	0.0137	5.85242E-03	0.0167	1.21165E-02	0.0150
3	KR 91	2.19889E+11	1.77849E+10	5.33250E-03	0.0117	5.66959E-03	0.0161	1.10021E-02	0.0136
4	KR 92	1.03091E+11	3.86251E+10	1.26028E-02	0.0276	8.81054E-03	0.0251	2.14133E-02	0.0265
5	RB 92	1.88533E+11	2.90397E+10	1.62807E-02	0.0356	2.41987E-03	0.0069	1.87006E-02	0.0231
6	KR 93	3.02657E+10	1.62751E+10	6.56404E-03	0.0144	6.46861E-03	0.0184	1.30326E-02	0.0161
7	RB 93	1.98001E+11	2.31443E+10	1.00740E-02	0.0220	5.16695E-03	0.0147	1.52409E-02	0.0188
8	RB 94	1.02823E+11	2.58229E+10	1.12378E-02	0.0246	1.47897E-02	0.0421	2.60275E-02	0.0322
9	RB 95	9.80840E+09	1.77051E+10	8.79944E-03	0.0192	5.35285E-03	0.0152	1.41523E-02	0.0175
10	SR 96	1.36138E+11	9.29686E+10	2.67178E-02	0.0584	2.01727E-02	0.0574	4.68905E-02	0.0580
11	Y 96	1.37252E+11	1.58554E+10	6.74838E-03	0.0148	3.06262E-03	0.0087	9.81100E-03	0.0121
12	SR 97	2.84164E+10	4.46649E+10	1.63518E-02	0.0358	1.53378E-02	0.0436	3.16896E-02	0.0392
13	Y 97	1.25246E+11	2.34635E+10	8.85241E-03	0.0194	5.51828E-03	0.0157	1.43707E-02	0.0178
14	Y 97M	8.29582E+10	5.08874E+10	1.69259E-02	0.0370	2.18463E-02	0.0622	3.87721E-02	0.0479
15	SR 98	1.89166E+10	1.98663E+10	6.80833E-03	0.0149	3.34528E-03	0.0095	1.01536E-02	0.0126
16	Y 98	3.40363E+10	3.62963E+10	1.60457E-02	0.0351	1.21070E-02	0.0345	2.81527E-02	0.0348
17	Y 98M	8.93811E+10	3.09768E+10	1.10552E-02	0.0242	1.56545E-02	0.0445	2.67097E-02	0.0330
18	Y 99	8.73784E+10	4.32610E+10	1.64617E-02	0.0360	7.95012E-03	0.0226	2.44118E-02	0.0302
19	ZR 99	2.07154E+11	6.83753E+10	1.54356E-02	0.0338	1.29718E-02	0.0369	2.84074E-02	0.0351
20	Y 100M	1.20885E+10	1.52351E+10	8.03074E-03	0.0176	5.49947E-03	0.0156	1.35302E-02	0.0167
21	ZR100	2.97280E+11	2.90223E+10	5.18047E-03	0.0113	3.24671E-03	0.0092	8.42718E-03	0.0104
22	NB100	2.90696E+10	1.34331E+10	4.19362E-03	0.0092	3.97388E-03	0.0113	8.16750E-03	0.0101
23	ZR101	1.65341E+11	4.77522E+10	1.65257E-02	0.0361	8.34703E-03	0.0238	2.48728E-02	0.0308
24	NB102	3.68571E+10	1.96518E+10	8.91683E-03	0.0195	4.60010E-03	0.0131	1.35169E-02	0.0167
25	NB103	7.72687E+10	3.57059E+10	1.20765E-02	0.0264	5.61778E-03	0.0160	1.76943E-02	0.0219
26	XE141	6.86895E+10	2.75211E+10	1.04278E-02	0.0228	4.56594E-03	0.0130	1.49937E-02	0.0185
27	CS142	1.15473E+11	4.68069E+10	1.83659E-02	0.0402	1.34013E-02	0.0381	3.17672E-02	0.0393
28	CS143	7.17788E+10	2.79514E+10	8.66559E-03	0.0189	5.45014E-03	0.0155	1.41157E-02	0.0175
29	CS144	1.64420E+10	1.13739E+10	4.82730E-03	0.0106	3.99633E-03	0.0114	8.82363E-03	0.0109
30	BA145	1.15779E+11	2.08449E+10	5.86794E-03	0.0128	3.87077E-03	0.0110	9.73871E-03	0.0120
	TOTAL	2.93421E+12	9.17767E+11	3.27293E-01	0.7157	2.41664E-01	0.6877	5.68958E-01	0.7035

Table 4.1.4 Continued

(3) 10 seconds after fission

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA + GAMMA) (MEV)	RATIO
1	SE 87	1.80598E+10	2.23544E+09	7.44614E-04	0.0086	9.46974E-04	0.0143	1.69159E-03	0.0111
2	BR 88	9.39487E+10	3.99507E+09	1.67535E-03	0.0194	1.95687E-03	0.0295	3.63242E-03	0.0238
3	BR 89	2.30740E+10	3.65146E+09	1.38828E-03	0.0160	1.61937E-03	0.0244	3.00765E-03	0.0197
4	KR 90	2.59937E+11	5.57460E+09	1.20067E-03	0.0139	1.10403E-03	0.0166	2.30470E-03	0.0151
5	KR 91	1.08282E+11	8.75799E+09	2.62594E-03	0.0304	2.79194E-03	0.0421	5.41788E-03	0.0354
6	RB 91	2.29404E+11	2.73220E+09	6.63498E-04	0.0077	9.71368E-04	0.0146	1.63487E-03	0.0107
7	RB 92	8.52068E+10	1.31244E+10	7.35803E-03	0.0850	1.09365E-03	0.0165	8.45169E-03	0.0553
8	RB 93	8.21161E+10	9.59855E+09	4.17793E-03	0.0483	2.14287E-03	0.0323	6.32080E-03	0.0413
9	RB 94	1.07885E+10	2.70943E+09	1.17911E-03	0.0136	1.55178E-03	0.0234	2.73089E-03	0.0179
10	SR 95	2.62572E+11	7.25093E+09	2.36750E-03	0.0274	1.78326E-03	0.0269	4.15076E-03	0.0272
11	Y 96	1.06332E+11	1.22834E+10	5.22809E-03	0.0604	2.37267E-03	0.0358	7.60077E-03	0.0497
12	Y 96M	4.73439E+10	3.28164E+09	6.97711E-04	0.0081	2.05559E-03	0.0310	2.75330E-03	0.0180
13	Y 97	2.93385E+10	5.49628E+09	2.07366E-03	0.0240	1.29264E-03	0.0195	3.36630E-03	0.0220
14	NB 98	2.46558E+10	5.97558E+09	1.55817E-03	0.0180	8.19343E-04	0.0123	2.37751E-03	0.0156
15	ZR 99	2.10663E+10	6.95336E+09	1.56971E-03	0.0181	1.31916E-03	0.0199	2.88887E-03	0.0189
16	NB 99	1.69979E+11	7.85475E+09	1.60406E-03	0.0185	7.82434E-04	0.0118	2.38649E-03	0.0156
17	ZR100	1.33086E+11	1.29927E+10	2.31919E-03	0.0268	1.45348E-03	0.0219	3.77268E-03	0.0247
18	NB100	3.39859E+10	1.57049E+10	4.90285E-03	0.0567	4.64594E-03	0.0700	9.54879E-03	0.0625
19	ZR101	1.27433E+10	3.68038E+09	1.27368E-03	0.0147	6.43326E-04	0.0097	1.91701E-03	0.0125
20	NB101	1.44445E+11	1.37153E+10	3.70491E-03	0.0428	1.58129E-03	0.0238	5.28619E-03	0.0346
21	NB102	9.36140E+09	4.99140E+09	2.26480E-03	0.0262	1.16839E-03	0.0176	3.43318E-03	0.0225
22	NB102M	1.65170E+10	2.66254E+09	1.20810E-03	0.0140	6.23248E-04	0.0094	1.83135E-03	0.0120
23	TE135	1.67056E+11	6.03088E+09	2.01388E-03	0.0233	1.42804E-03	0.0215	3.44192E-03	0.0225
24	TE136	8.14166E+10	3.22475E+09	5.42137E-04	0.0063	1.18172E-03	0.0178	1.72385E-03	0.0113
25	I 137	1.66919E+11	4.72246E+09	1.36049E-03	0.0157	8.59831E-04	0.0130	2.22032E-03	0.0145
26	I 138	3.66562E+10	3.93321E+09	1.34095E-03	0.0155	1.62535E-03	0.0245	2.96629E-03	0.0194
27	XE139	2.70416E+11	4.59409E+09	1.27706E-03	0.0148	6.51465E-04	0.0098	1.92853E-03	0.0126
28	XE140	1.43868E+11	7.33254E+09	1.24307E-03	0.0144	1.72404E-03	0.0260	2.96710E-03	0.0194
29	CS141	2.27686E+11	6.33811E+09	1.83945E-03	0.0213	1.01287E-03	0.0153	2.85232E-03	0.0187
30	BA143	2.22688E+11	1.06452E+10	2.48704E-03	0.0287	1.46132E-03	0.0220	3.94836E-03	0.0258
31	BA144	1.57777E+11	9.50986E+09	1.44184E-03	0.0167	1.07418E-03	0.0162	2.51602E-03	0.0165
32	LA144	1.61815E+11	2.76267E+09	6.48676E-04	0.0075	9.28021E-04	0.0140	1.57670E-03	0.0103
33	BA145	2.33865E+10	4.21050E+09	1.18527E-03	0.0137	7.81863E-04	0.0118	1.96714E-03	0.0129
34	LA145	1.73891E+11	4.12782E+09	6.59900E-04	0.0076	1.14348E-03	0.0172	1.80338E-03	0.0118
35	LA146	3.33997E+10	3.58914E+09	1.22336E-03	0.0141	8.58200E-04	0.0129	2.08156E-03	0.0136
	TOTAL	3.78921E+12	2.26243E+11	6.90489E-02	0.7981	4.94500E-02	0.7453	1.18499E-01	0.7752

(4) 10^2 seconds after fission

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA + GAMMA) (MEV)	RATIO
1	BR 86	4.12033E+10	5.12734E+08	1.42751E-04	0.0237	2.98983E-04	0.0441	4.41735E-04	0.0345
2	BR 87	4.19431E+10	5.22066E+08	1.27165E-04	0.0211	2.79131E-04	0.0412	4.06296E-04	0.0317
3	KR 89	2.00797E+11	7.55600E+08	1.60770E-04	0.0267	2.23286E-04	0.0329	3.84055E-04	0.0300
4	KR 90	3.78842E+10	8.12465E+08	1.74990E-04	0.0290	1.60906E-04	0.0237	3.35896E-04	0.0262
5	RB 90	1.91264E+11	8.66501E+08	2.76493E-04	0.0459	3.00441E-04	0.0443	5.76935E-04	0.0451
6	RB 91	1.21924E+11	1.45211E+09	3.52636E-04	0.0585	5.16263E-04	0.0762	8.68899E-04	0.0679
7	SR 93	3.42841E+11	5.33050E+08	5.87190E-05	0.0097	1.68947E-04	0.0249	2.27666E-04	0.0178
8	SR 94	1.57902E+11	1.42697E+09	1.67470E-04	0.0278	3.59700E-04	0.0531	5.27170E-04	0.0412
9	SR 95	2.18714E+10	6.03978E+08	1.97205E-04	0.0327	1.48540E-04	0.0219	3.45744E-04	0.0270
10	Y 95	3.50872E+11	3.93537E+08	8.63877E-05	0.0143	8.11291E-05	0.0120	1.67517E-04	0.0131
11	ZR 98	3.82536E+10	8.63690E+08	1.15783E-04	0.0192	2.27869E-05	0.0034	1.38570E-04	0.0108
12	NB 98	3.92976E+09	9.52416E+08	2.48348E-04	0.0412	1.30591E-04	0.0193	3.78939E-04	0.0296
13	NB 99M	8.79063E+10	3.90594E+08	7.40264E-05	0.0123	1.07357E-04	0.0158	1.81383E-04	0.0142
14	MO103	6.91945E+10	7.10559E+08	1.30239E-04	0.0216	1.29100E-04	0.0190	2.59339E-04	0.0203
15	TC103	6.18410E+10	7.90884E+08	8.92057E-05	0.0148	7.00288E-05	0.0103	1.59234E-04	0.0124
16	SB132	7.90753E+10	3.26257E+08	6.25597E-05	0.0104	1.42594E-04	0.0210	2.05154E-04	0.0160
17	SB133	9.51956E+10	4.69981E+08	5.63445E-05	0.0094	1.47151E-04	0.0217	2.03495E-04	0.0159
18	TE135	6.49120E+09	2.34339E+08	7.82523E-05	0.0130	5.54884E-05	0.0082	1.33741E-04	0.0104
19	I 136	8.82611E+10	7.18896E+08	2.36604E-04	0.0393	2.84035E-04	0.0419	5.20639E-04	0.0407
20	I 136M	2.77501E+10	4.29349E+08	1.58574E-04	0.0263	1.37724E-04	0.0203	2.96298E-04	0.0231
21	I 137	1.35220E+10	3.82564E+08	1.10213E-04	0.0183	6.96545E-05	0.0103	1.79867E-04	0.0140
22	XE137	2.89548E+11	8.73364E+08	2.50026E-04	0.0415	2.62535E-05	0.0039	2.76279E-04	0.0216
23	XE139	5.90670E+10	1.00349E+09	2.78950E-04	0.0463	1.42300E-04	0.0210	4.21249E-04	0.0329
24	CS140	1.49806E+11	1.58524E+09	4.44932E-04	0.0738	5.62858E-04	0.0830	1.00779E-03	0.0787
25	CS141	1.87549E+10	5.22079E+08	1.51518E-04	0.0251	8.34319E-05	0.0123	2.34950E-04	0.0183
26	LA144	8.12055E+10	1.38642E+09	3.25533E-04	0.0540	4.65719E-04	0.0687	7.91251E-04	0.0618
27	LA145	2.37133E+10	5.62906E+08	8.99897E-05	0.0149	1.55935E-04	0.0230	2.45925E-04	0.0192
28	CE145	1.70922E+11	6.58186E+08	5.67236E-05	0.0094	1.09672E-04	0.0162	1.66396E-04	0.0130
29	CE147	4.24453E+10	5.18894E+08	7.14226E-05	0.0119	8.98706E-05	0.0133	1.61293E-04	0.0126
	TOTAL	2.91537E+12	2.12591E+10	4.77382E-03	0.7923	5.46986E-03	0.8069	1.02437E-02	0.8000

Table 4.1.4 Continued

(5) 10^3 seconds after fission

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	KR 89	6.79098E+09	2.55545E+07	5.43724E-06	0.0128	7.55154E-06	0.0151	1.29888E-05	0.0140
2	RB 89	1.68780E+11	1.26612E+08	2.05229E-05	0.0483	4.20135E-05	0.0840	6.25364E-05	0.0676
3	RB 90	4.23574E+09	1.91896E+07	6.12324E-06	0.0144	6.65360E-06	0.0133	1.27768E-05	0.0138
4	RB 90M	5.50178E+09	1.47811E+07	3.28636E-06	0.0077	7.93420E-06	0.0159	1.12206E-05	0.0121
5	SR 93	8.46015E+10	1.31538E+08	1.44899E-05	0.0341	4.16905E-05	0.0834	5.61802E-05	0.0607
6	Y 94	2.31343E+11	1.42919E+08	4.15170E-05	0.0977	1.76885E-05	0.0354	5.92055E-05	0.0640
7	Y 95	1.36174E+11	1.52732E+08	3.35271E-05	0.0789	3.14863E-05	0.0630	6.50134E-05	0.0703
8	MO101	1.45117E+11	1.14668E+08	9.39417E-06	0.0221	2.85244E-05	0.0570	3.79186E-05	0.0410
9	TC101	1.11895E+11	9.10324E+07	6.83123E-06	0.0161	5.00284E-06	0.0100	1.18341E-05	0.0128
10	TC102	7.49413E+08	9.83829E+07	2.23847E-05	0.0527	1.88097E-05	0.0376	4.11945E-05	0.0445
11	TC104	6.43481E+10	4.08449E+07	9.18206E-06	0.0216	1.39423E-05	0.0279	2.31243E-05	0.0250
12	SB130	1.09423E+10	1.94182E+07	3.05942E-06	0.0072	8.41787E-06	0.0168	1.14773E-05	0.0124
13	SB131	9.95842E+10	5.00192E+07	4.64484E-06	0.0109	1.49333E-05	0.0299	1.95781E-05	0.0212
14	TE133	9.31860E+10	8.64682E+07	1.41614E-05	0.0333	1.65401E-05	0.0331	3.07015E-05	0.0332
15	TE133M	1.64903E+11	3.43872E+07	2.03514E-06	0.0048	9.69172E-06	0.0194	1.17269E-05	0.0127
16	TE134	3.18512E+11	8.80272E+07	3.49882E-06	0.0082	1.26019E-05	0.0252	1.61007E-05	0.0174
17	I 134	1.43853E+11	3.15945E+07	3.09239E-06	0.0073	1.30438E-05	0.0261	1.61362E-05	0.0174
18	XE137	2.01071E+10	6.06490E+07	1.73625E-05	0.0409	1.82312E-06	0.0036	1.91856E-05	0.0207
19	XE138	1.73293E+11	1.42185E+08	1.50112E-05	0.0353	2.77151E-05	0.0554	4.27262E-05	0.0462
20	CS138	1.94377E+11	6.97365E+07	1.39373E-05	0.0328	2.60490E-05	0.0521	3.99863E-05	0.0432
21	CS139	1.28348E+11	1.51913E+08	4.13451E-05	0.0973	8.01905E-06	0.0160	4.93641E-05	0.0534
22	BA141	1.95547E+11	1.23648E+08	1.62583E-05	0.0383	1.67199E-05	0.0334	3.29782E-05	0.0357
23	BA142	1.23351E+11	1.33182E+08	8.94396E-06	0.0210	2.28085E-05	0.0456	3.17525E-05	0.0343
24	LA142	2.26596E+11	2.82384E+07	4.13813E-06	0.0097	1.14144E-05	0.0228	1.55525E-05	0.0168
25	LA143	1.66469E+11	1.36007E+08	2.98840E-05	0.0703	6.78437E-07	0.0014	3.05624E-05	0.0330
26	PR146	8.17147E+10	3.92190E+07	7.65659E-06	0.0180	7.29026E-06	0.0146	1.49469E-05	0.0162
27	PR147	6.36162E+10	5.52577E+07	6.97766E-06	0.0164	7.37234E-06	0.0147	1.43500E-05	0.0155
	TOTAL	3.16393E+12	2.20820E+09	3.64701E-04	0.8583	4.26414E-04	0.8526	7.91116E-04	0.8552

(6) 10^4 seconds after fission

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	KR 87	3.57526E+10	5.41259E+06	1.13985E-06	0.0475	6.72452E-07	0.0185	1.81230E-06	0.0300
2	KR 88	1.17456E+11	7.90740E+06	4.65718E-07	0.0194	2.49557E-06	0.0686	2.96128E-06	0.0491
3	RB 88	1.35554E+10	8.79761E+06	2.94749E-06	0.1229	8.97104E-07	0.0247	3.84459E-06	0.0637
4	SR 91	3.02072E+11	6.13509E+06	6.41173E-07	0.0267	6.90950E-07	0.0190	1.33212E-06	0.0221
5	SR 92	1.83434E+11	1.30326E+07	4.03436E-07	0.0168	2.79613E-06	0.0769	3.19957E-06	0.0530
6	Y 92	1.41885E+11	7.71712E+06	1.79900E-06	0.0750	3.07129E-07	0.0084	2.10613E-06	0.0349
7	Y 93	3.34838E+11	6.38334E+06	1.19966E-06	0.0500	9.09342E-08	0.0025	1.29060E-06	0.0214
8	SB130M	3.98910E+09	1.12676E+06	1.30737E-07	0.0055	5.90165E-07	0.0162	7.20902E-07	0.0119
9	TE133M	2.52762E+10	5.27084E+06	3.11945E-07	0.0130	1.48554E-06	0.0408	1.79748E-06	0.0298
10	TE134	2.64784E+10	7.31785E+06	2.90863E-07	0.0121	1.04761E-06	0.0288	1.33848E-06	0.0222
11	I 134	1.06071E+11	2.32964E+07	2.28020E-06	0.0951	9.61796E-06	0.2645	1.18982E-05	0.1972
12	I 135	2.91431E+11	8.56692E+06	5.11040E-07	0.0213	2.14905E-06	0.0591	2.66009E-06	0.0441
13	CS138	1.97090E+10	7.07099E+06	1.41319E-06	0.0589	2.64126E-06	0.0726	4.05444E-06	0.0672
14	BA139	1.12298E+11	1.56846E+07	2.26527E-06	0.0945	1.10013E-07	0.0030	2.37529E-06	0.0394
15	LA141	2.39807E+11	1.17489E+07	1.79078E-06	0.0747	7.99395E-08	0.0022	1.87072E-06	0.0310
16	LA142	1.19235E+11	1.48591E+07	2.17749E-06	0.0908	6.00628E-06	0.1652	8.18377E-06	0.1356
17	PR145	1.78578E+11	5.74986E+06	6.25077E-07	0.0261	1.32547E-08	0.0004	6.38331E-07	0.0106
18	PR146	3.42043E+09	1.64163E+06	3.20491E-07	0.0134	3.05157E-07	0.0084	6.25647E-07	0.0104
	TOTAL	2.25528E+12	1.57720E+08	2.07134E-05	0.8637	3.19964E-05	0.8799	5.27098E-05	0.8734

Table 4.1.4 Continued

(7) 10^5 seconds after fission

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	SR 91	4.85584E+10	9.86220E+05	1.03069E-07	0.0817	1.11071E-07	0.0807	2.14140E-07	0.0812
2	Y 91M	2.65515E+09	6.17058E+05	2.80122E-09	0.0022	5.21252E-08	0.0379	5.49264E-08	0.0208
3	Y 92	5.60895E+09	3.05071E+05	7.11175E-08	0.0564	1.21413E-08	0.0088	8.32588E-08	0.0316
4	Y 93	6.02129E+10	1.14790E+06	2.15732E-07	0.1710	1.63524E-08	0.0119	2.32085E-07	0.0880
5	ZR 97	1.19987E+11	1.36701E+06	1.52888E-07	0.1212	4.00787E-08	0.0291	1.92966E-07	0.0732
6	NB 97	9.19343E+09	1.47306E+06	1.09939E-07	0.0872	1.56910E-07	0.1141	2.66849E-07	0.1012
7	NB 97M	1.15244E+08	1.33142E+06	3.17140E-09	0.0025	1.55400E-07	0.1130	1.58571E-07	0.0601
8	MO 99	2.85277E+11	8.31982E+05	5.38502E-08	0.0427	3.62027E-08	0.0263	9.00529E-08	0.0341
9	TE131M	1.67195E+10	1.07305E+05	3.72765E-09	0.0030	2.41174E-08	0.0175	2.78451E-08	0.0106
10	TE132	2.07903E+11	5.20548E+05	9.58368E-09	0.0076	1.71032E-08	0.0124	2.66868E-08	0.0101
11	I 132	6.35118E+09	5.36344E+05	4.24146E-08	0.0336	1.95651E-07	0.1422	2.38065E-07	0.0903
12	I 133	1.70561E+11	1.57885E+06	1.02806E-07	0.0815	1.54632E-07	0.1124	2.57438E-07	0.0976
13	I 135	2.06800E+10	6.07908E+05	3.62633E-08	0.0287	1.52496E-07	0.1108	1.88759E-07	0.0716
14	XE135	9.64675E+10	2.04559E+06	1.04078E-07	0.0825	8.08147E-08	0.0587	1.84892E-07	0.0701
15	LA140	1.90664E+10	9.11564E+04	8.00995E-09	0.0063	3.37696E-08	0.0245	4.17796E-08	0.0158
16	CE143	2.08426E+11	1.21608E+06	8.86889E-08	0.0703	4.70400E-08	0.0342	1.35729E-07	0.0515
17	PR145	9.84737E+09	3.17066E+05	3.44688E-08	0.0273	7.30909E-10	0.0005	3.51997E-08	0.0133
	TOTAL	1.28763E+12	1.50806E+07	1.14261E-06	0.9058	1.28663E-06	0.9353	2.42924E-06	0.9212

(8) 10^6 seconds after fission

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	SR 89	2.58223E+11	4.10214E+04	3.73542E-09	0.0626	0.0	0.0	3.73542E-09	0.0232
2	Y 91	3.24412E+11	4.44802E+04	4.19733E-09	0.0704	1.89396E-11	0.0002	4.21627E-09	0.0262
3	ZR 95	3.57444E+11	4.47699E+04	8.37946E-10	0.0141	5.26102E-09	0.0519	6.09896E-09	0.0379
4	MO 99	2.06703E+10	6.02830E+04	3.90183E-09	0.0654	2.62315E-09	0.0259	6.52497E-09	0.0405
5	RU103	1.54926E+11	3.15212E+04	3.64302E-10	0.0061	2.37414E-09	0.0234	2.73844E-09	0.0170
6	I 131	6.87083E+10	6.85591E+04	2.08903E-09	0.0350	4.14158E-09	0.0409	6.23061E-09	0.0387
7	TE132	2.18380E+10	5.46781E+04	1.00666E-09	0.0169	1.79651E-09	0.0177	2.80317E-09	0.0174
8	I 132	6.67259E+08	5.63487E+04	4.45610E-09	0.0747	2.05552E-08	0.2029	2.50113E-08	0.1554
9	XE133	1.11678E+11	1.69360E+05	4.11226E-09	0.0690	8.18084E-10	0.0081	4.93035E-09	0.0306
10	BA140	2.09854E+11	1.32086E+05	6.77650E-09	0.1136	3.10012E-09	0.0306	9.87662E-09	0.0614
11	LA140	3.13154E+10	1.49719E+05	1.31558E-08	0.2206	5.54645E-08	0.5475	6.86203E-08	0.4264
12	CE141	2.83861E+11	7.03294E+04	1.97271E-09	0.0331	8.03077E-10	0.0079	2.77578E-09	0.0172
13	PR143	2.27503E+11	1.34399E+05	6.79548E-09	0.1140	1.91733E-16	0.0000	6.79548E-09	0.0422
14	PR144	1.40305E+07	9.38007E+03	1.82403E-09	0.0306	4.52813E-11	0.0004	1.86931E-09	0.0116
15	ND147	6.81621E+10	4.94420E+04	2.23522E-09	0.0375	1.07242E-09	0.0106	3.30764E-09	0.0206
	TOTAL	2.13927E+12	1.11638E+06	5.74606E-08	0.9635	9.80739E-08	0.9682	1.55535E-07	0.9664

(9) 10^7 seconds after fission

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	SR 89	6.18113E+10	9.81934E+03	8.94152E-10	0.1920	0.0	0.0	8.94151E-10	0.0925
2	Y 91	9.44456E+10	1.29494E+04	1.22196E-09	0.2624	5.51384E-12	0.0011	1.22748E-09	0.1269
3	ZR 95	1.15784E+11	1.45020E+04	2.71430E-10	0.0583	1.70416E-09	0.3399	1.97559E-09	0.2043
4	NB 95	9.00940E+10	2.06685E+04	1.44122E-10	0.0309	2.53176E-09	0.5050	2.67588E-09	0.2767
5	RU103	2.48239E+10	5.05066E+03	5.83724E-11	0.0125	3.80410E-10	0.0759	4.38783E-10	0.0454
6	RH106	1.91456E+04	4.36539E+02	9.93943E-11	0.0213	1.37932E-11	0.0028	1.13187E-10	0.0117
7	LA140	1.10271E+08	5.27205E+02	4.63257E-11	0.0099	1.95307E-10	0.0390	2.41633E-10	0.0250
8	CE141	3.05281E+10	7.56363E+03	2.12156E-10	0.0456	8.63675E-11	0.0172	2.98524E-10	0.0309
9	CE144	2.57738E+11	7.27541E+03	1.10626E-10	0.0238	1.86470E-11	0.0037	1.29273E-10	0.0134
10	PR144	1.08828E+07	7.27567E+03	1.41481E-09	0.3038	3.51225E-11	0.0070	1.44993E-09	0.1499
	TOTAL	6.75346E+11	8.60682E+04	4.47335E-09	0.9606	4.97107E-09	0.9915	9.44442E-09	0.9766

Table 4.1.4 Continued

(10) 10^8 seconds after fission

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	SR 90	3.39803E+11	2.61886E+02	7.29584E-12	0.0370	0.0	0.0	7.29583E-12	0.0320
2	Y 90	8.72072E+07	2.61953E+02	3.90340E-11	0.1977	0.0	0.0	3.90340E-11	0.1713
3	RH106	2.74353E+03	6.25551E+01	1.42430E-11	0.0721	1.97654E-12	0.0648	1.62195E-11	0.0712
4	CS137	3.63296E+11	2.64494E+02	7.22357E-12	0.0366	0.0	0.0	7.22357E-12	0.0317
5	BA137M	5.53319E+04	2.50476E+02	2.84108E-12	0.0144	2.37110E-11	0.7774	2.65521E-11	0.1165
6	CE144	2.03163E+10	5.73488E+02	8.72011E-12	0.0442	1.46986E-12	0.0482	1.01900E-11	0.0447
7	PR144	8.57838E+05	5.73507E+02	1.11523E-10	0.5649	2.76854E-12	0.0908	1.14291E-10	0.5014
8	PM147	6.15946E+10	5.15793E+02	5.12061E-12	0.0259	4.00638E-16	0.0000	5.12101E-12	0.0225
	TOTAL	7.85098E+11	2.76415E+03	1.96001E-10	0.9927	2.99263E-11	0.9812	2.25927E-10	0.9912

(11) 10^9 seconds after fission

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	SR 90	1.69819E+11	1.30880E+02	3.64615E-12	0.1277	0.0	0.0	3.64615E-12	0.0892
2	Y 90	4.35825E+07	1.30913E+02	1.95076E-11	0.6830	0.0	0.0	1.95076E-11	0.4772
3	CS137	1.88667E+11	1.37357E+02	3.75134E-12	0.1314	0.0	0.0	3.75134E-12	0.0918
4	BA137M	2.87349E+04	1.30077E+02	1.47543E-12	0.0517	1.23136E-11	0.9998	1.37890E-11	0.3373
	TOTAL	3.58529E+11	5.29227E+02	2.83805E-11	0.9937	1.23136E-11	0.9998	4.06941E-11	0.9955

(12) 10^{10} seconds after fission

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	SR 90	1.65041E+08	1.27197E-01	3.54356E-15	0.1092	0.0	0.0	3.54355E-15	0.0705
2	Y 90	4.23562E+04	1.27229E-01	1.89587E-14	0.5843	0.0	0.0	1.89586E-14	0.3769
3	TC 99	3.81378E+11	3.91446E-02	5.30524E-16	0.0164	2.75328E-23	0.0000	5.30524E-16	0.0105
4	CS137	2.69179E+08	1.95973E-01	5.35220E-15	0.1650	0.0	0.0	5.35220E-15	0.1064
5	BA137M	4.09973E+01	1.85587E-01	2.10505E-15	0.0649	1.75683E-14	0.9842	1.96734E-14	0.3911
6	SM151	2.27538E+09	5.55307E-01	1.76589E-15	0.0544	5.74928E-19	0.0000	1.76646E-15	0.0351
	TOTAL	3.84087E+11	1.23044E+00	3.22559E-14	0.9941	1.75689E-14	0.9842	4.98248E-14	0.9906

(13) 10^{11} seconds after fission

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	ZR 93	3.99622E+11	5.73698E-03	1.50652E-17	0.0214	0.0	0.0	1.50652E-17	0.0154
2	NB 93M	3.37451E+06	5.45017E-03	2.65459E-17	0.0377	0.0	0.0	2.65459E-17	0.0271
3	TC 99	3.77871E+11	3.87847E-02	5.25646E-16	0.7457	2.72796E-23	0.0000	5.25646E-16	0.5359
4	SN126	3.36465E+09	7.39550E-04	1.56964E-17	0.0223	1.54689E-17	0.0561	3.11652E-17	0.0318
5	SB126	1.60031E+02	1.03537E-04	5.18824E-18	0.0074	4.71995E-17	0.1711	5.23877E-17	0.0534
6	SB126M	1.21632E+00	7.39550E-04	7.48500E-17	0.1062	2.13222E-16	0.7727	2.88072E-16	0.2937
7	CS135	4.07108E+11	3.88788E-03	3.50525E-17	0.0497	0.0	0.0	3.50525E-17	0.0357
	TOTAL	1.18797E+12	5.54423E-02	6.98043E-16	0.9903	2.75891E-16	0.9999	9.73934E-16	0.9930

Table 4.1.4 Continued

(14) 10^{12} seconds after fission

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA + GAMMA) (MEV)	RATIO
1	ZR 93	3.94492E+11	5.66333E-03	1.48718E-17	0.0233	0.0	0.0	1.48718E-17	0.0172
2	NB 93M	3.33119E+06	5.38020E-03	2.62051E-17	0.0410	0.0	0.0	2.62051E-17	0.0303
3	TC 99	3.44529E+11	3.53624E-02	4.79264E-16	0.7501	2.48725E-23	0.0000	4.79264E-16	0.5539
4	SN126	2.76076E+09	6.06814E-04	1.28791E-17	0.0202	1.26925E-17	0.0561	2.55716E-17	0.0296
5	SB126	1.31308E+02	8.49539E-05	4.25704E-18	0.0067	3.87280E-17	0.1711	4.29850E-17	0.0497
6	SB126M	9.98016E-01	6.06814E-04	6.14157E-17	0.0961	1.74953E-16	0.7727	2.36368E-16	0.2732
7	CS135	4.03624E+11	3.85460E-03	3.47525E-17	0.0544	0.0	0.0	3.47525E-17	0.0402
	TOTAL	1.14541E+12	5.15591E-02	6.33645E-16	0.9918	2.26373E-16	0.9999	8.60018E-16	0.9939

(15) 10^{13} seconds after fission

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA + GAMMA) (MEV)	RATIO
1	ZR 93	3.46678E+11	4.97690E-03	1.30693E-17	0.0484	0.0	0.0	1.30693E-17	0.0433
2	NB 93M	2.92743E+06	4.72809E-03	2.30289E-17	0.0852	0.0	0.0	2.30289E-17	0.0764
3	TC 99	1.36786E+11	1.40397E-02	1.90279E-16	0.7043	9.87496E-24	0.0000	1.90279E-16	0.6311
4	SN126	3.81862E+08	8.39332E-05	1.78141E-18	0.0066	1.75560E-18	0.0560	3.53701E-18	0.0117
5	SB126	1.81623E+01	1.17506E-05	5.88826E-19	0.0022	5.35678E-18	0.1709	5.94560E-18	0.0197
6	SB126M	1.38044E-01	8.39332E-05	8.49491E-18	0.0314	2.41991E-17	0.7721	3.26940E-17	0.1084
7	CS135	3.70381E+11	3.53714E-03	3.18903E-17	0.1180	0.0	0.0	3.18903E-17	0.1058
	TOTAL	8.54229E+11	2.74614E-02	2.69132E-16	0.9962	3.13115E-17	0.9991	3.00443E-16	0.9965

Table 4.1.5 Contribution of each important nuclide to decay power for one-year irradiation of ^{235}U by thermal neutrons as a function of cooling time between 0 and 10^{13}s

(1) 0 second after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	KR 89	7.70821E+13	2.90060E+11	6.17162E-02	0.0093	8.57149E-02	0.0130	1.47431E-01	0.0111
2	RB 89	4.03241E+14	3.02495E+11	4.90325E-02	0.0074	1.00377E-01	0.0152	1.49409E-01	0.0113
3	KR 90	1.49684E+13	3.21013E+11	6.91404E-02	0.0104	6.35754E-02	0.0096	1.32716E-01	0.0100
4	RB 90	6.48135E+13	2.93631E+11	9.36953E-02	0.0141	1.01811E-01	0.0154	1.95506E-01	0.0148
5	KR 91	2.99360E+12	2.42126E+11	7.25974E-02	0.0109	7.71866E-02	0.0117	1.49784E-01	0.0113
6	RB 91	3.01837E+13	3.59488E+11	8.72994E-02	0.0131	1.27807E-01	0.0194	2.15106E-01	0.0162
7	RB 92	2.07963E+12	3.20325E+11	1.79586E-01	0.0270	2.66926E-02	0.0040	2.06279E-01	0.0156
8	RB 93	2.14815E+12	2.51098E+11	1.09294E-01	0.0165	5.60573E-02	0.0085	1.65352E-01	0.0125
9	SR 93	2.55303E+14	3.96945E+11	4.37263E-02	0.0066	1.25810E-01	0.0191	1.69536E-01	0.0128
10	RB 94	5.25048E+11	1.31861E+11	5.73839E-02	0.0086	7.55211E-02	0.0114	1.32905E-01	0.0100
11	SR 94	4.26397E+13	3.85339E+11	4.52235E-02	0.0068	9.71333E-02	0.0147	1.42357E-01	0.0108
12	Y 94	6.48445E+14	4.00596E+11	1.16370E-01	0.0175	4.95801E-02	0.0075	1.65950E-01	0.0125
13	SR 95	1.24998E+13	3.45183E+11	1.12706E-01	0.0170	8.48929E-02	0.0129	1.97598E-01	0.0149
14	Y 95	3.59637E+14	4.03369E+11	8.85459E-02	0.0133	8.31560E-02	0.0126	1.71702E-01	0.0130
15	SR 96	3.91206E+11	2.67155E+11	7.67761E-02	0.0116	5.79684E-02	0.0088	1.34745E-01	0.0102
16	Y 96	2.45573E+12	2.83686E+11	1.20743E-01	0.0182	5.47968E-02	0.0083	1.75540E-01	0.0133
17	NB 98	1.46292E+12	3.54552E+11	9.24517E-02	0.0139	4.86146E-02	0.0074	1.41066E-01	0.0107
18	ZR 99	1.11082E+12	3.66649E+11	8.27703E-02	0.0125	6.95588E-02	0.0105	1.52329E-01	0.0115
19	NB100	7.57313E+11	3.49955E+11	1.09251E-01	0.0164	1.03526E-01	0.0157	2.12777E-01	0.0161
20	I 134	2.14655E+15	4.71448E+11	4.61442E-02	0.0069	1.94638E-01	0.0295	2.40782E-01	0.0182
21	TE135	6.61841E+12	2.38931E+11	7.97858E-02	0.0120	5.65759E-02	0.0086	1.36362E-01	0.0103
22	CS138	1.14604E+15	4.11164E+11	8.21739E-02	0.0124	1.53584E-01	0.0233	2.35757E-01	0.0178
23	XE139	1.88708E+13	3.20596E+11	8.91193E-02	0.0134	4.54621E-02	0.0069	1.34581E-01	0.0102
24	CS140	3.53613E+13	3.74193E+11	1.05025E-01	0.0158	1.32861E-01	0.0201	2.37887E-01	0.0180
25	LA140	8.23729E+16	3.93825E+11	3.46056E-02	0.0052	1.45896E-01	0.0221	1.80501E-01	0.0136
26	CS141	1.06239E+13	2.95737E+11	8.58289E-02	0.0129	4.72609E-02	0.0072	1.33090E-01	0.0101
27	LA142	2.94658E+15	3.67203E+11	5.38109E-02	0.0081	1.48429E-01	0.0225	2.02240E-01	0.0153
28	LA144	1.98703E+13	3.39246E+11	7.96552E-02	0.0120	1.13958E-01	0.0173	1.93613E-01	0.0146
	TOTAL	9.06261E+16	9.27786E+12	2.32445E+00	0.3499	2.52844E+00	0.3831	4.85289E+00	0.3665

(2) 1 second after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	BR 88	3.20009E+12	1.36081E+11	5.70729E-02	0.0094	6.66552E-02	0.0109	1.23728E-01	0.0102
2	KR 89	7.68917E+13	2.89343E+11	6.15638E-02	0.0102	8.55032E-02	0.0139	1.47067E-01	0.0121
3	RB 89	4.03228E+14	3.02486E+11	4.90309E-02	0.0081	1.00374E-01	0.0164	1.49405E-01	0.0123
4	KR 90	1.46841E+13	3.14915E+11	6.78270E-02	0.0112	6.23678E-02	0.0102	1.30195E-01	0.0107
5	RB 90	6.48023E+13	2.93580E+11	9.36790E-02	0.0155	1.01793E-01	0.0166	1.95472E-01	0.0161
6	KR 91	2.76899E+12	2.23959E+11	6.71502E-02	0.0111	7.13952E-02	0.0116	1.38545E-01	0.0114
7	RB 91	3.00580E+13	3.57990E+11	8.69358E-02	0.0144	1.27275E-01	0.0207	2.14210E-01	0.0176
8	RB 92	1.89901E+12	2.92505E+11	1.63989E-01	0.0271	2.43744E-02	0.0040	1.88363E-01	0.0155
9	RB 93	1.94830E+12	2.27737E+11	9.91264E-02	0.0164	5.08421E-02	0.0083	1.49969E-01	0.0123
10	SR 93	2.55154E+14	3.96714E+11	4.37008E-02	0.0072	1.25737E-01	0.0205	1.69437E-01	0.0139
11	SR 94	4.23632E+13	3.82840E+11	4.49303E-02	0.0074	9.65034E-02	0.0157	1.41434E-01	0.0116
12	Y 94	6.48428E+14	4.00586E+11	1.16367E-01	0.0193	4.95789E-02	0.0081	1.65946E-01	0.0136
13	SR 95	1.21850E+13	3.36490E+11	1.09867E-01	0.0182	8.27549E-02	0.0135	1.92622E-01	0.0158
14	Y 95	3.59575E+14	4.03299E+11	8.85305E-02	0.0147	8.31415E-02	0.0136	1.71672E-01	0.0141
15	Y 96	2.37095E+12	2.73892E+11	1.16574E-01	0.0193	5.29048E-02	0.0086	1.69479E-01	0.0139
16	NB 98	1.46065E+12	3.54003E+11	9.23085E-02	0.0153	4.85392E-02	0.0079	1.40848E-01	0.0116
17	ZR 99	8.93336E+11	2.94863E+11	6.65649E-02	0.0110	5.59400E-02	0.0091	1.22505E-01	0.0101
18	NB100	7.37080E+11	3.40604E+11	1.06332E-01	0.0176	1.00760E-01	0.0164	2.07092E-01	0.0170
19	I 134	2.14652E+15	4.71439E+11	4.61434E-02	0.0076	1.94635E-01	0.0317	2.40778E-01	0.0198
20	TE135	6.39247E+12	2.30774E+11	7.70620E-02	0.0128	5.46444E-02	0.0089	1.31706E-01	0.0108
21	I 136	2.14039E+13	1.74337E+11	5.73779E-02	0.0095	6.88803E-02	0.0112	1.26258E-01	0.0104
22	CS138	1.14603E+15	4.11160E+11	8.21732E-02	0.0136	1.53582E-01	0.0250	2.35755E-01	0.0194
23	XE139	1.85869E+13	3.15773E+11	8.77784E-02	0.0145	4.47781E-02	0.0073	1.32557E-01	0.0109
24	CS139	3.33669E+14	3.94931E+11	1.07486E-01	0.0178	2.08473E-02	0.0034	1.28333E-01	0.0105
25	CS140	3.52209E+13	3.72708E+11	1.04608E-01	0.0173	1.32334E-01	0.0216	2.36942E-01	0.0195
26	LA140	8.23729E+16	3.93825E+11	3.46055E-02	0.0057	1.45895E-01	0.0238	1.80501E-01	0.0148
27	CS141	1.04158E+13	2.89944E+11	8.41475E-02	0.0139	4.63350E-02	0.0076	1.30483E-01	0.0107
28	LA142	2.94658E+15	3.67203E+11	5.38108E-02	0.0089	1.48429E-01	0.0242	2.02240E-01	0.0166
29	BA143	6.97730E+12	3.33536E+11	7.79243E-02	0.0129	4.57863E-02	0.0075	1.23711E-01	0.0102
30	LA144	1.98091E+13	3.38200E+11	7.94096E-02	0.0131	1.13606E-01	0.0185	1.93016E-01	0.0159
	TOTAL	9.09869E+16	9.71570E+12	2.42407E+00	0.4012	2.55618E+00	0.4167	4.98026E+00	0.4090

Table 4.1.5 Continued

(3) 10 seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	BR 86	8.88090E+12	1.10514E+11	3.07684E-02	0.0070	6.44425E-02	0.0132	9.52109E-02	0.0103
2	BR 87	1.01683E+13	1.26564E+11	3.08287E-02	0.0071	6.76697E-02	0.0139	9.84984E-02	0.0106
3	RB 88	3.56841E+14	2.31593E+11	7.75915E-02	0.0177	2.36158E-02	0.0048	1.01207E-01	0.0109
4	KR 89	7.47406E+13	2.81249E+11	5.98415E-02	0.0137	8.31112E-02	0.0170	1.42953E-01	0.0154
5	RB 89	4.03075E+14	3.02371E+11	4.90123E-02	0.0112	1.00335E-01	0.0206	1.49348E-01	0.0161
6	KR 90	1.21689E+13	2.60975E+11	5.62093E-02	0.0129	5.16851E-02	0.0106	1.07894E-01	0.0117
7	RB 90	6.44656E+13	2.92055E+11	9.31924E-02	0.0213	1.01264E-01	0.0207	1.94456E-01	0.0210
8	RB 91	2.83533E+13	3.37687E+11	8.20052E-02	0.0188	1.20056E-01	0.0246	2.02061E-01	0.0218
9	Y 92	6.86545E+15	3.73411E+11	8.70491E-02	0.0199	1.48612E-02	0.0030	1.01910E-01	0.0110
10	SR 93	2.52917E+14	3.93235E+11	4.33175E-02	0.0099	1.24634E-01	0.0255	1.67951E-01	0.0182
11	SR 94	3.93681E+13	3.55773E+11	4.17537E-02	0.0095	8.96806E-02	0.0184	1.31434E-01	0.0142
12	Y 94	6.48150E+14	4.00414E+11	1.16317E-01	0.0266	4.95576E-02	0.0102	1.65875E-01	0.0179
13	SR 95	9.50834E+12	2.62573E+11	8.57326E-02	0.0196	6.45760E-02	0.0132	1.50309E-01	0.0162
14	Y 95	3.58632E+14	4.02241E+11	8.82983E-02	0.0202	8.29235E-02	0.0170	1.71222E-01	0.0185
15	NB 98	1.30485E+12	3.16243E+11	8.24622E-02	0.0189	4.33617E-02	0.0089	1.25824E-01	0.0136
16	NB100	3.55868E+11	1.64446E+11	5.13379E-02	0.0117	4.86479E-02	0.0100	9.99858E-02	0.0108
17	MO101	3.99827E+14	3.15935E+11	2.58829E-02	0.0059	7.85907E-02	0.0161	1.04474E-01	0.0113
18	TC102	2.00724E+12	2.63511E+11	5.99558E-02	0.0137	5.03804E-02	0.0103	1.10336E-01	0.0119
19	I 132	3.17578E+15	2.68188E+11	2.12085E-02	0.0049	9.78314E-02	0.0200	1.19040E-01	0.0129
20	I 134	2.14616E+15	4.71361E+11	4.61358E-02	0.0106	1.94602E-01	0.0399	2.40738E-01	0.0260
21	TE135	4.63256E+12	1.67240E+11	5.58461E-02	0.0128	3.96003E-02	0.0081	9.54464E-02	0.0103
22	I 135	1.32933E+16	3.90770E+11	2.33105E-02	0.0053	9.80265E-02	0.0201	1.21337E-01	0.0131
23	I 136	2.07286E+13	1.68837E+11	5.55678E-02	0.0127	6.67073E-02	0.0137	1.22275E-01	0.0132
24	XE137	1.25693E+14	3.79127E+11	1.08536E-01	0.0248	1.13966E-02	0.0023	1.19933E-01	0.0130
25	XE138	4.75533E+14	3.90170E+11	4.11920E-02	0.0094	7.60528E-02	0.0156	1.17245E-01	0.0127
26	CS138	1.14593E+15	4.11124E+11	8.21660E-02	0.0188	1.53569E-01	0.0315	2.35735E-01	0.0255
27	XE139	1.60335E+13	2.72393E+11	7.57197E-02	0.0173	3.86267E-02	0.0079	1.14346E-01	0.0124
28	CS139	3.32764E+14	3.93859E+11	1.07194E-01	0.0245	2.07907E-02	0.0043	1.27985E-01	0.0138
29	CS140	3.35826E+13	3.55371E+11	9.97423E-02	0.0228	1.26178E-01	0.0259	2.25920E-01	0.0244
30	LA140	8.23729E+16	3.93825E+11	3.46055E-02	0.0079	1.45895E-01	0.0299	1.80501E-01	0.0195
31	CS141	8.24666E+12	2.29562E+11	6.66236E-02	0.0152	3.66857E-02	0.0075	1.03309E-01	0.0112
32	BA141	5.69895E+14	3.60356E+11	4.73827E-02	0.0108	4.87279E-02	0.0100	9.61105E-02	0.0104
33	LA142	2.94652E+15	3.67195E+11	5.38098E-02	0.0123	1.48426E-01	0.0304	2.02236E-01	0.0219
34	LA144	1.87215E+13	3.19632E+11	7.50499E-02	0.0172	1.07369E-01	0.0220	1.82419E-01	0.0197
	TOTAL	1.16223E+17	1.05298E+13	2.15564E+00	0.4930	2.66987E+00	0.5471	4.82551E+00	0.5215

(4) 10^2 seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	KR 88	3.39756E+15	2.28730E+11	1.34714E-02	0.0050	7.21870E-02	0.0218	8.56584E-02	0.0143
2	RB 88	3.56648E+14	2.31468E+11	7.75495E-02	0.0288	2.36031E-02	0.0071	1.01153E-01	0.0169
3	KR 89	5.33610E+13	2.00797E+11	4.27238E-02	0.0159	5.93372E-02	0.0179	1.02061E-01	0.0170
4	RB 89	3.97516E+14	2.98201E+11	4.83364E-02	0.0180	9.89518E-02	0.0299	1.47288E-01	0.0245
5	RB 90	5.01396E+13	2.27152E+11	7.24825E-02	0.0269	7.87604E-02	0.0238	1.51243E-01	0.0252
6	RB 91	1.02434E+13	1.21998E+11	2.96266E-02	0.0110	4.33736E-02	0.0131	7.30001E-02	0.0122
7	SR 91	1.81752E+16	3.69138E+11	3.85783E-02	0.0143	4.15733E-02	0.0126	8.01516E-02	0.0134
8	SR 92	5.21674E+15	3.70639E+11	1.14734E-02	0.0043	7.95202E-02	0.0240	9.09935E-02	0.0152
9	Y 92	6.86530E+15	3.73404E+11	8.70472E-02	0.0324	1.48608E-02	0.0045	1.01908E-01	0.0170
10	SR 93	2.20507E+14	3.42844E+11	3.77666E-02	0.0140	1.08663E-01	0.0328	1.46429E-01	0.0244
11	Y 93	2.09888E+16	4.00131E+11	7.51994E-02	0.0280	5.70009E-03	0.0017	8.08995E-02	0.0135
12	Y 94	6.34353E+14	3.91890E+11	1.13841E-01	0.0423	4.85027E-02	0.0146	1.62344E-01	0.0270
13	Y 95	3.32331E+14	3.72742E+11	8.18228E-02	0.0304	7.68421E-02	0.0232	1.58665E-01	0.0264
14	NB 97	2.34196E+15	3.75252E+11	2.80062E-02	0.0104	3.99718E-02	0.0121	6.79779E-02	0.0113
15	MO101	3.73976E+14	2.95509E+11	2.42095E-02	0.0090	7.35095E-02	0.0222	9.77188E-02	0.0163
16	TC102	1.83837E+12	2.41341E+11	5.49115E-02	0.0204	4.61418E-02	0.0139	1.01053E-01	0.0168
17	TC104	1.73910E+14	1.10389E+11	2.48159E-02	0.0092	3.76810E-02	0.0114	6.24969E-02	0.0104
18	SB131	3.10088E+14	1.55751E+11	1.44632E-02	0.0054	4.64997E-02	0.0140	6.09629E-02	0.0102
19	I 132	3.17570E+15	2.68181E+11	2.12080E-02	0.0079	9.78289E-02	0.0295	1.19037E-01	0.0198
20	TE133	2.38551E+14	2.21354E+11	3.62524E-02	0.0135	4.23417E-02	0.0128	7.85941E-02	0.0131
21	TE133M	9.51588E+14	1.98435E+11	1.17440E-02	0.0044	5.59270E-02	0.0169	6.76709E-02	0.0113
22	I 133	4.51960E+16	4.18370E+11	2.72420E-02	0.0101	4.09752E-02	0.0124	6.82171E-02	0.0114
23	TE134	1.44868E+15	4.00372E+11	1.59136E-02	0.0059	5.73168E-02	0.0173	7.32304E-02	0.0122
24	I 134	2.14191E+15	4.70427E+11	4.60443E-02	0.0171	1.94217E-01	0.0586	2.40261E-01	0.0400
25	I 135	1.32627E+16	3.89869E+11	2.32567E-02	0.0086	9.78004E-02	0.0295	1.21057E-01	0.0202
26	I 136	1.11159E+13	9.05403E+10	2.97988E-02	0.0111	3.57724E-02	0.0108	6.55711E-02	0.0109
27	XE137	1.00159E+14	3.02110E+11	8.64878E-02	0.0321	9.08151E-03	0.0027	9.55693E-02	0.0159
28	XE138	4.41986E+14	3.62645E+11	3.82861E-02	0.0142	7.06876E-02	0.0213	1.08974E-01	0.0182
29	CS138	1.14347E+15	4.10242E+11	8.19896E-02	0.0305	1.53239E-01	0.0463	2.35229E-01	0.0392
30	CS139	3.10901E+14	3.67983E+11	1.00151E-01	0.0372	1.94248E-02	0.0059	1.19576E-01	0.0199
31	BA139	2.84829E+15	3.97820E+11	5.74556E-02	0.0214	2.79034E-03	0.0008	6.02460E-02	0.0100
32	CS140	1.42951E+13	1.51271E+11	4.24574E-02	0.0158	5.37103E-02	0.0162	9.61676E-02	0.0160
33	LA140	8.23729E+16	3.93825E+11	3.46055E-02	0.0129	1.45895E-01	0.0441	1.80501E-01	0.0301
34	BA141	5.45653E+14	3.45027E+11	4.53671E-02	0.0169	4.66551E-02	0.0141	9.20221E-02	0.0153
35	BA142	3.01863E+14	3.25921E+11	2.18875E-02	0.0081	5.58166E-02	0.0169	7.77040E-02	0.0129
36	LA142	2.94429E+15	3.66917E+11	5.37690E-02	0.0200	1.48314E-01	0.0448	2.02082E-01	0.0337
37	LA143	4.22223E+14	3.44960E+11	7.57961E-02	0.0282	1.72075E-03	0.0005	7.75168E-02	0.0129
38	PR146	3.86461E+14	1.85482E+11	3.62110E-02	0.0135	3.44784E-02	0.0104	7.06894E-02	0.0118
	TOTAL	2.18159E+17	1.15191E+13	1.76224E+00	0.6551	2.35966E+00	0.7125	4.12191E+00	0.6867

Table 4.1.5 Continued

(5) 10^3 seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	KR 87	9.22446E+14	1.39649E+11	2.94089E-02	0.0184	1.73498E-02	0.0085	4.67587E-02	0.0128
2	KR 88	3.19785E+15	2.15286E+11	1.26796E-02	0.0079	6.79440E-02	0.0332	8.06236E-02	0.0221
3	RB 88	3.49710E+14	2.26966E+11	7.60411E-02	0.0476	2.31440E-02	0.0113	9.91850E-02	0.0272
4	RB 89	2.34044E+14	1.75570E+11	2.84588E-02	0.0178	5.82594E-02	0.0284	8.67182E-02	0.0238
5	SR 91	1.78560E+16	3.62656E+11	3.79009E-02	0.0237	4.08433E-02	0.0199	7.87442E-02	0.0216
6	SR 92	4.89360E+15	3.47680E+11	1.07628E-02	0.0067	7.45945E-02	0.0364	8.53572E-02	0.0234
7	Y 92	6.85260E+15	3.72713E+11	8.68862E-02	0.0543	1.48333E-02	0.0072	1.01720E-01	0.0279
8	Y 93	2.07963E+16	3.96460E+11	7.45094E-02	0.0466	5.64779E-03	0.0028	8.01572E-02	0.0220
9	Y 94	3.74550E+14	2.31389E+11	6.72169E-02	0.0420	2.86381E-02	0.0140	9.58549E-02	0.0263
10	Y 95	1.21410E+14	1.36173E+11	2.98922E-02	0.0187	2.80726E-02	0.0137	5.79649E-02	0.0159
11	ZR 95	3.17183E+18	3.97272E+11	7.43564E-03	0.0047	4.66844E-02	0.0228	5.41200E-02	0.0148
12	NB 95	1.69202E+18	3.88167E+11	2.70670E-03	0.0017	4.75480E-02	0.0232	5.02547E-02	0.0138
13	ZR 97	3.25342E+16	3.70662E+11	4.14552E-02	0.0259	1.08672E-02	0.0053	5.23224E-02	0.0143
14	NB 97	2.33996E+15	3.74932E+11	2.79824E-02	0.0175	3.99377E-02	0.0195	6.79200E-02	0.0186
15	NB 97M	3.12482E+13	3.61010E+11	8.59916E-04	0.0005	4.21363E-02	0.0206	4.29962E-02	0.0118
16	MO 99	1.30560E+17	3.80764E+11	2.46450E-02	0.0154	1.65685E-02	0.0081	4.12135E-02	0.0113
17	MO101	1.83650E+14	1.45117E+11	1.18886E-02	0.0074	3.60986E-02	0.0176	4.79872E-02	0.0132
18	TC102	7.26527E+11	9.53785E+10	2.17012E-02	0.0136	1.82353E-02	0.0089	3.99365E-02	0.0109
19	SB131	1.98079E+14	9.94909E+10	9.23884E-03	0.0058	2.97032E-02	0.0145	3.89420E-02	0.0107
20	I 132	3.17469E+15	2.68096E+11	2.12012E-02	0.0133	9.77976E-02	0.0477	1.18999E-01	0.0326
21	TE133	1.28103E+14	1.18868E+11	1.94677E-02	0.0122	2.27377E-02	0.0111	4.22055E-02	0.0116
22	TE133M	7.91715E+14	1.65096E+11	9.77094E-03	0.0061	4.65309E-02	0.0227	5.63019E-02	0.0154
23	I 133	4.51091E+16	4.17566E+11	2.71896E-02	0.0170	4.08965E-02	0.0200	6.80860E-02	0.0187
24	TE134	1.12967E+15	3.12206E+11	1.24093E-02	0.0078	4.46950E-02	0.0218	5.71042E-02	0.0157
25	I 134	2.05028E+13	4.50304E+11	4.40747E-02	0.0276	1.85909E-01	0.0907	2.29983E-01	0.0630
26	I 135	1.29166E+16	3.79695E+11	2.26498E-02	0.0142	9.52482E-02	0.0465	1.17898E-01	0.0323
27	XE135	1.92014E+16	4.07166E+11	2.07162E-02	0.0130	1.60858E-02	0.0078	3.68020E-02	0.0101
28	XE138	2.11207E+14	1.73293E+11	1.82953E-02	0.0114	3.37787E-02	0.0165	5.20740E-02	0.0143
29	CS138	1.02243E+15	3.66816E+11	7.33107E-02	0.0459	1.37018E-01	0.0669	2.10329E-01	0.0577
30	CS139	1.08439E+14	1.28348E+11	3.49316E-02	0.0218	6.77514E-03	0.0033	4.17068E-02	0.0114
31	BA139	2.70326E+15	3.77564E+11	5.45301E-02	0.0341	2.64826E-03	0.0013	5.71783E-02	0.0157
32	LA140	8.23727E+16	3.93824E+11	3.46055E-02	0.0216	1.45895E-01	0.0712	1.80501E-01	0.0495
33	BA141	3.09252E+14	1.95546E+11	2.57121E-02	0.0161	2.64421E-02	0.0129	5.21541E-02	0.0143
34	LA141	7.29467E+15	3.57388E+11	5.44734E-02	0.0341	2.43167E-03	0.0012	5.69050E-02	0.0156
35	LA142	2.80781E+15	3.49910E+11	5.12767E-02	0.0321	1.41439E-01	0.0690	1.92716E-01	0.0528
36	LA143	2.02427E+14	1.65385E+11	3.63390E-02	0.0227	8.24980E-04	0.0004	3.71639E-02	0.0102
37	CE143	6.30337E+16	3.67776E+11	2.68219E-02	0.0168	1.42262E-02	0.0069	4.10481E-02	0.0113
38	PR144	3.01338E+14	2.01459E+11	3.91753E-02	0.0245	9.72523E-04	0.0005	4.01478E-02	0.0110
39	PR146	3.36088E+14	1.61306E+11	3.14911E-02	0.0197	2.99844E-02	0.0146	6.14756E-02	0.0169
	TOTAL	5.33049E+18	1.09749E+13	1.26011E+00	0.7881	1.73944E+00	0.8488	2.99954E+00	0.8222

(6) 10^4 seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	KR 88	1.74470E+15	1.17457E+11	6.91777E-03	0.0086	3.70692E-02	0.0385	4.39869E-02	0.0249
2	RB 88	2.01864E+14	1.31012E+11	4.38934E-02	0.0545	1.33595E-02	0.0139	5.72529E-02	0.0324
3	SR 89	1.88962E+18	3.00186E+11	2.73350E-02	0.0340	0.0	0.0	2.73350E-02	0.0155
4	SR 91	1.48731E+16	3.02072E+11	3.15693E-02	0.0392	3.40202E-02	0.0353	6.55894E-02	0.0371
5	Y 91	2.65837E+18	3.64489E+11	3.43947E-02	0.0427	1.55199E-04	0.0002	3.45499E-02	0.0195
6	SR 92	2.58183E+15	1.83434E+11	5.67835E-03	0.0071	3.93555E-02	0.0409	4.50338E-02	0.0255
7	Y 92	5.98122E+15	3.25318E+11	7.58377E-02	0.0942	1.29471E-02	0.0134	8.87848E-02	0.0502
8	Y 93	1.75639E+16	3.34838E+11	6.29283E-02	0.0782	4.76994E-03	0.0050	6.76982E-02	0.0383
9	ZR 95	3.16838E+18	3.96839E+11	7.42755E-03	0.0092	4.66336E-02	0.0484	5.40611E-02	0.0306
10	NB 95	1.69210E+18	3.88185E+11	2.70683E-03	0.0034	4.75502E-02	0.0494	5.02570E-02	0.0284
11	ZR 97	2.93636E+16	3.34539E+11	3.74152E-02	0.0465	9.80818E-03	0.0102	4.72233E-02	0.0267
12	NB 97	2.21372E+15	3.54704E+11	2.64727E-02	0.0329	3.77830E-02	0.0392	6.42556E-02	0.0363
13	NB 97M	2.82029E+13	3.25828E+11	7.76113E-04	0.0010	3.80299E-02	0.0395	3.88060E-02	0.0220
14	MO 99	1.27178E+17	3.70901E+11	2.40066E-02	0.0298	1.61393E-02	0.0168	4.01459E-02	0.0227
15	I 132	3.14390E+15	2.65496E+11	2.09957E-02	0.0261	9.68493E-02	0.1006	1.17845E-01	0.0667
16	I 133	4.22538E+16	3.91135E+11	2.54686E-02	0.0316	3.83078E-02	0.0398	6.37763E-02	0.0361
17	I 134	5.88898E+14	1.29340E+11	1.26594E-02	0.0157	5.33981E-02	0.0555	6.60575E-02	0.0374
18	I 135	9.91397E+15	2.91431E+11	1.73846E-02	0.0216	7.31068E-02	0.0759	9.04915E-02	0.0512
19	XE135	1.86111E+16	3.94648E+11	2.00793E-02	0.0249	1.55913E-02	0.0162	3.56706E-02	0.0202
20	BA140	6.21722E+17	3.91324E+11	2.00764E-02	0.0249	9.18456E-03	0.0095	2.92609E-02	0.0166
21	LA140	8.23604E+16	3.93765E+11	3.46003E-02	0.0430	1.45873E-01	0.1515	1.80474E-01	0.1021
22	LA141	4.90819E+15	2.40467E+11	3.66522E-02	0.0455	1.63614E-03	0.0017	3.82884E-02	0.0217
23	LA142	9.56748E+14	1.19230E+11	1.74722E-02	0.0217	4.81946E-02	0.0501	6.56669E-02	0.0371
24	CE143	6.00024E+16	3.50090E+11	2.55321E-02	0.0317	1.35421E-02	0.0141	3.90741E-02	0.0221
25	PR143	6.23577E+17	3.68384E+11	1.86262E-02	0.0231	5.25533E-10	0.0000	1.86262E-02	0.0105
26	PR144	3.01271E+14	2.01415E+11	3.91666E-02	0.0487	9.72308E-04	0.0010	4.01389E-02	0.0227
27	PR145	5.54625E+15	1.78578E+11	1.94135E-02	0.0241	4.11663E-04	0.0004	1.98252E-02	0.0112
	TOTAL	1.10841E+19	7.94509E+12	6.95486E-01	0.8640	8.34688E-01	0.8670	1.53017E+00	0.8656

Table 4.1.5 Continued

(7) 10^5 seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	SR 89	1.86280E+18	2.95924E+11	2.69470E-02	0.0774	0.0	0.0	2.69470E-02	0.0331
2	SR 91	2.39086E+15	4.85583E+10	5.07479E-03	0.0146	5.46876E-03	0.0117	1.05436E-02	0.0129
3	Y 91	2.63882E+18	3.61809E+11	3.41417E-02	0.0981	1.54057E-04	0.0003	3.42958E-02	0.0421
4	Y 93	3.15846E+15	6.02129E+10	1.13162E-02	0.0325	8.57765E-04	0.0018	1.21740E-02	0.0149
5	ZR 95	3.13286E+18	3.92391E+11	7.34429E-03	0.0211	4.61109E-02	0.0987	5.34551E-02	0.0656
6	NB 95	1.69267E+18	3.88314E+11	2.70773E-03	0.0078	4.75661E-02	0.1019	5.02738E-02	0.0617
7	ZR 97	1.05317E+16	1.19987E+11	1.34194E-02	0.0386	3.51783E-03	0.0075	1.69373E-02	0.0208
8	NB 97	8.06939E+14	1.29296E+11	9.64975E-03	0.0277	1.37726E-02	0.0295	2.34223E-02	0.0287
9	NB 97M	1.01154E+13	1.16863E+11	2.78364E-04	0.0008	1.36400E-02	0.0292	1.39183E-02	0.0171
10	MO 99	9.78180E+16	2.85276E+11	1.84646E-02	0.0530	1.24135E-02	0.0266	3.08780E-02	0.0379
11	RU103	9.12940E+17	1.85747E+11	2.14675E-03	0.0062	1.39902E-02	0.0300	1.61370E-02	0.0198
12	I 131	1.65952E+17	1.65592E+11	5.04564E-03	0.0145	1.00032E-02	0.0214	1.50488E-02	0.0185
13	TE132	8.30350E+16	2.07903E+11	3.82765E-03	0.0110	6.83087E-03	0.0146	1.06585E-02	0.0131
14	I 132	2.53711E+15	2.14254E+11	1.69434E-02	0.0487	7.81569E-02	0.1674	9.51003E-02	0.1167
15	I 133	1.84250E+16	1.70557E+11	1.11057E-02	0.0319	1.67044E-02	0.0358	2.78101E-02	0.0341
16	XE133	2.63195E+17	3.99136E+11	9.69148E-03	0.0278	1.92800E-03	0.0041	1.16195E-02	0.0143
17	XE135	5.53123E+15	1.17290E+11	5.96760E-03	0.0171	4.63374E-03	0.0099	1.06013E-02	0.0130
18	BA140	5.87482E+17	3.69773E+11	1.89707E-02	0.0545	8.67874E-03	0.0186	2.76494E-02	0.0339
19	LA140	8.13300E+16	3.88839E+11	3.41674E-02	0.0982	1.44048E-01	0.3085	1.78216E-01	0.2187
20	CE141	1.43127E+18	3.54612E+11	9.94668E-03	0.0286	4.04923E-03	0.0087	1.39959E-02	0.0172
21	CE143	3.54908E+16	2.07075E+11	1.51020E-02	0.0434	8.00999E-03	0.0172	2.31119E-02	0.0284
22	PR143	6.15105E+17	3.63379E+11	1.83731E-02	0.0528	5.18393E-10	0.0000	1.83731E-02	0.0225
23	PR144	3.00507E+14	2.00904E+11	3.90673E-02	0.1122	9.69841E-04	0.0021	4.00371E-02	0.0491
24	ND147	1.80512E+17	1.30936E+11	5.91949E-03	0.0170	2.84006E-03	0.0061	8.75956E-03	0.0107
	TOTAL	1.38250E+19	5.67461E+12	3.25618E-01	0.9355	4.44345E-01	0.9516	7.69963E-01	0.9447

(8) 10^6 seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	SR 89	1.61463E+18	2.56500E+11	2.33570E-02	0.1331	0.0	0.0	2.33570E-02	0.0595
2	Y 91	2.33472E+18	3.20114E+11	3.02073E-02	0.1721	1.36304E-04	0.0006	3.03435E-02	0.0773
3	ZR 95	2.79889E+18	3.50561E+11	6.56136E-03	0.0374	4.11953E-02	0.1897	4.77566E-02	0.1216
4	NB 95	1.67810E+18	3.84973E+11	2.68444E-03	0.0153	4.71568E-02	0.2171	4.98412E-02	0.1269
5	RU103	7.60181E+17	1.54666E+11	1.78754E-03	0.0102	1.16493E-02	0.0536	1.34368E-02	0.0342
6	I 131	6.88531E+16	6.87037E+10	2.09343E-03	0.0119	4.15032E-03	0.0191	6.24375E-03	0.0159
7	I 132	2.66499E+14	2.25053E+10	1.77974E-03	0.0101	8.20962E-03	0.0378	9.98935E-03	0.0254
8	BA140	3.33408E+17	2.09854E+11	1.07663E-02	0.0613	4.92536E-03	0.0227	1.56916E-02	0.0400
9	LA140	5.04432E+16	2.41169E+11	2.11916E-02	0.1207	8.93430E-02	0.4114	1.10535E-01	0.2815
10	CE141	1.14525E+18	2.83747E+11	7.95895E-03	0.0453	3.24004E-03	0.0149	1.11990E-02	0.0285
11	PR143	3.84442E+17	2.27113E+11	1.14832E-02	0.0654	3.23997E-10	0.0000	1.14832E-02	0.0292
12	PR144	2.92969E+14	1.95864E+11	3.80873E-02	0.2170	9.45512E-04	0.0044	3.90328E-02	0.0994
13	ND147	9.39699E+16	6.81620E+10	3.08153E-03	0.0176	1.47846E-03	0.0068	4.55999E-03	0.0116
	TOTAL	1.12634E+19	2.78393E+12	1.61039E-01	0.9175	2.12430E-01	0.9782	3.73469E-01	0.9511

(9) 10^7 seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	SR 89	3.86496E+17	6.13988E+10	5.59100E-03	0.1001	0.0	0.0	5.59100E-03	0.0566
2	Y 90	2.91217E+15	8.74757E+09	1.30349E-03	0.0233	0.0	0.0	1.30349E-03	0.0132
3	Y 91	6.79705E+17	9.31944E+10	8.79420E-03	0.1574	3.96819E-05	0.0009	8.83388E-03	0.0895
4	ZR 95	9.06624E+17	1.13555E+11	2.12537E-03	0.0380	1.33441E-02	0.3116	1.54694E-02	0.1567
5	NB 95	8.76319E+17	2.01036E+11	1.40184E-03	0.0251	2.46257E-02	0.5750	2.60275E-02	0.2637
6	RU103	1.21804E+17	2.47823E+10	2.86419E-04	0.0051	1.86658E-03	0.0436	2.15299E-03	0.0218
7	RH106	4.37929E+11	9.98521E+09	2.27350E-03	0.0407	3.15500E-04	0.0074	2.58900E-03	0.0262
8	CE141	1.23166E+17	3.05157E+10	8.55950E-04	0.0153	3.48452E-04	0.0081	1.20440E-03	0.0122
9	CE144	5.38179E+18	1.51917E+11	2.30996E-03	0.0413	3.89367E-04	0.0091	2.69933E-03	0.0273
10	PR144	2.27242E+14	1.51922E+11	2.95425E-02	0.5287	7.33389E-04	0.0171	3.02758E-02	.0.3067
	TOTAL	8.47904E+18	8.47054E+11	5.44842E-02	0.9751	4.16627E-02	0.9728	9.61468E-02	0.9741

Table 4.1.5 Continued

(10) 10^8 seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	SR 90	1.05868E+19	8.15928E+09	2.27308E-04	0.0476	0.0	0.0	2.27308E-04	0.0401
2	Y 90	2.71702E+15	8.16137E+09	1.21614E-03	0.2546	0.0	0.0	1.21614E-03	0.2147
3	RH106	6.27542E+10	1.43086E+09	3.25788E-04	0.0682	4.52105E-05	0.0509	3.70998E-04	0.0655
4	CS137	1.13264E+19	8.24606E+09	2.25207E-04	0.0471	0.0	0.0	2.25207E-04	0.0398
5	BA137M	1.72507E+12	7.80903E+09	8.85754E-05	0.0185	7.39231E-04	0.8330	8.27806E-04	0.1461
6	CE144	4.24222E+17	1.19749E+10	1.82084E-04	0.0381	3.06920E-05	0.0346	2.12776E-04	0.0376
7	PR144	1.79124E+13	1.19753E+10	2.32869E-03	0.4875	5.78095E-05	0.0651	2.38650E-03	0.4213
8	PM147	1.70713E+18	1.42955E+10	1.41920E-04	0.0297	1.11039E-08	0.0000	1.41931E-04	0.0251
	TOTAL	2.40473E+19	7.20523E+10	4.73571E-03	0.9913	8.72954E-04	0.9836	5.60866E-03	0.9901

(11) 10^9 seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	SR 90	5.29086E+18	4.07767E+09	1.13599E-04	0.1277	0.0	0.0	1.13599E-04	0.0892
2	Y 90	1.35785E+15	4.07872E+09	6.07776E-04	0.6830	0.0	0.0	6.07776E-04	0.4771
3	CS137	5.88201E+18	4.28234E+09	1.16955E-04	0.1314	0.0	0.0	1.16955E-04	0.0918
4	BA137M	8.95860E+11	4.05538E+09	4.59989E-05	0.0517	3.83897E-04	0.9998	4.29896E-04	0.3375
	TOTAL	1.11742E+19	1.64941E+10	8.84328E-04	0.9938	3.83897E-04	0.9998	1.26823E-03	0.9956

(12) 10^{10} seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	SR 90	5.14198E+15	3.96292E+06	1.10402E-07	0.1091	0.0	0.0	1.10402E-07	0.0704
2	Y 90	1.31964E+12	3.96394E+06	5.90673E-07	0.5838	0.0	0.0	5.90672E-07	0.3766
3	TC 99	1.20271E+19	1.23446E+06	1.67306E-08	0.0165	8.68273E-16	0.0000	1.67306E-08	0.0107
4	CS137	8.39213E+15	6.10981E+06	1.66864E-07	0.1649	0.0	0.0	1.66864E-07	0.1064
5	BA137M	1.27816E+09	5.78599E+06	6.56287E-08	0.0649	5.47724E-07	0.9840	6.13352E-07	0.3911
6	SM151	7.14810E+16	1.74449E+07	5.54753E-08	0.0548	1.80613E-11	0.0000	5.54933E-08	0.0354
	TOTAL	1.21121E+19	3.85020E+07	1.00577E-06	0.9941	5.47742E-07	0.9841	1.55351E-06	0.9905

(13) 10^{11} seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	ZR 93	1.26025E+19	1.80921E+05	4.75097E-10	0.0214	0.0	0.0	4.75097E-10	0.0154
2	NB 93M	1.06419E+14	1.71877E+05	8.37152E-10	0.0377	0.0	0.0	8.37151E-10	0.0271
3	TC 99	1.19165E+19	1.22311E+06	1.65767E-08	0.7458	8.60288E-16	0.0000	1.65767E-08	0.5360
4	SN126	1.06061E+17	2.33123E+04	4.94785E-10	0.0223	4.87614E-10	0.0561	9.82398E-10	0.0318
5	SB126	5.04455E+09	3.26372E+03	1.63545E-10	0.0074	1.48784E-09	0.1711	1.65138E-09	0.0534
6	SB126M	3.83413E+07	2.33123E+04	2.35944E-09	0.1061	6.72126E-09	0.7727	9.08070E-09	0.2936
7	CS135	1.28395E+19	1.22617E+05	1.10549E-09	0.0497	0.0	0.0	1.10549E-09	0.0357
	TOTAL	3.74646E+19	1.74841E+06	2.20122E-08	0.9903	8.69671E-09	0.9998	3.07089E-08	0.9930

Table 4.1.5 Continued

(14) 10^{12} seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA + GAMMA) (MEV)	RATIO
1	ZR 93	1.24407E+19	1.78599E+05	4.68998E-10	0.0233	0.0	0.0	4.68998E-10	0.0172
2	NB 93M	1.05053E+14	1.69670E+05	8.26405E-10	0.0410	0.0	0.0	8.26405E-10	0.0303
3	TC 99	1.08650E+19	1.11519E+06	1.51140E-08	0.7502	7.84379E-16	0.0000	1.51140E-08	0.5539
4	SN126	8.70252E+16	1.91281E+04	4.05979E-10	0.0202	4.00095E-10	0.0561	8.06074E-10	0.0295
5	SB126	4.13914E+09	2.67794E+03	1.34192E-10	0.0067	1.22080E-09	0.1711	1.35499E-09	0.0497
6	SB126M	3.14597E+07	1.91282E+04	1.93596E-09	0.0961	5.51491E-09	0.7727	7.45088E-09	0.2731
7	CS135	1.27296E+19	1.21568E+05	1.09603E-09	0.0544	0.0	0.0	1.09603E-09	0.0402
	TOTAL	3.61224E+19	1.62596E+06	1.99816E-08	0.9918	7.13580E-09	0.9998	2.71174E-08	0.9939

(15) 10^{13} seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA + GAMMA) (MEV)	RATIO
1	ZR 93	1.09328E+19	1.56952E+05	4.12153E-10	0.0484	0.0	0.0	4.12153E-10	0.0434
2	NB 93M	9.23196E+13	1.49105E+05	7.26240E-10	0.0852	0.0	0.0	7.26240E-10	0.0764
3	TC 99	4.31368E+18	4.42756E+05	6.00063E-09	0.7044	3.11417E-16	0.0000	6.00063E-09	0.6312
4	SN126	1.20372E+16	2.64577E+03	5.61543E-11	0.0066	5.53404E-11	0.0560	1.11495E-10	0.0117
5	SB126	5.72518E+08	3.70407E+02	1.85611E-11	0.0022	1.68858E-10	0.1709	1.87419E-10	0.0197
6	SB126M	4.35145E+06	2.64577E+03	2.67779E-10	0.0314	7.62811E-10	0.7721	1.03059E-09	0.1084
7	CS135	1.16812E+19	1.11555E+05	1.00576E-09	0.1181	0.0	0.0	1.00576E-09	0.1058
	TOTAL	2.69398E+19	8.66030E+05	8.48728E-09	0.9962	9.87010E-10	0.9991	9.47428E-09	0.9965

Table 4.1.6 Contribution of each important nuclide to decay power for infinite (10^{13}s) irradiation of ^{235}U by thermal neutrons as a function of cooling time between 0 and 10^{13}s

(1) 0 second after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA + GAMMA) (MEV)	RATIO
1	XR 89	7.70821E+13	2.90060E+11	6.17162E-02	0.0091	8.57149E-02	0.0129	1.47431E-01	0.0110
2	RB 89	4.03241E+14	3.02495E+11	4.90325E-02	0.0073	1.00377E-01	0.0151	1.49409E-01	0.0112
3	RB 90	6.48135E+13	2.93631E+11	9.36953E-02	0.0139	1.01811E-01	0.0153	1.95506E-01	0.0146
4	XR 91	2.99360E+12	2.42126E+11	7.25974E-02	0.0107	7.71866E-02	0.0116	1.49784E-01	0.0112
5	RB 91	3.01837E+13	3.59488E+11	8.72994E-02	0.0129	1.27807E-01	0.0192	2.15106E-01	0.0161
6	RB 92	2.07963E+12	3.20325E+11	1.79586E-01	0.0266	2.66926E-02	0.0040	2.06279E-01	0.0154
7	RB 93	2.14815E+12	2.51098E+11	1.09294E-01	0.0162	5.60573E-02	0.0084	1.65352E-01	0.0123
8	SR 93	2.55303E+14	3.96945E+11	4.37263E-02	0.0065	1.25810E-01	0.0189	1.69536E-01	0.0127
9	SR 94	4.26397E+13	3.85339E+11	4.52235E-02	0.0067	9.71333E-02	0.0146	1.42357E-01	0.0106
10	Y 94	6.48445E+14	4.00596E+11	1.16370E-01	0.0172	4.95801E-02	0.0075	1.65950E-01	0.0124
11	SR 95	1.24998E+13	3.45183E+11	1.12706E-01	0.0167	8.48929E-02	0.0128	1.97598E-01	0.0147
12	Y 95	3.59637E+14	4.03369E+11	8.85459E-02	0.0131	8.31559E-02	0.0125	1.71702E-01	0.0128
13	SR 96	3.91206E+11	2.67155E+11	7.67761E-02	0.0114	5.79684E-02	0.0087	1.34745E-01	0.0101
14	Y 96	2.45573E+12	2.83686E+11	1.20743E-01	0.0179	5.47968E-02	0.0083	1.75540E-01	0.0131
15	NB 98	1.46292E+12	3.54552E+11	9.24517E-02	0.0137	4.86146E-02	0.0073	1.41066E-01	0.0105
16	ZR 99	1.11082E+12	3.66649E+11	8.27704E-02	0.0122	6.95588E-02	0.0105	1.52329E-01	0.0114
17	NB100	7.57313E+11	3.49955E+11	1.09251E-01	0.0162	1.03526E-01	0.0156	2.12777E-01	0.0159
18	I 134	2.14655E+15	4.71448E+11	4.61442E-02	0.0068	1.94638E-01	0.0293	2.40782E-01	0.0180
19	TE135	6.61841E+12	2.38931E+11	7.97858E-02	0.0118	5.65759E-02	0.0085	1.36362E-01	0.0102
20	CS138	1.14604E+15	4.11164E+11	8.21739E-02	0.0122	1.53584E-01	0.0231	2.35757E-01	0.0176
21	XE139	1.88708E+13	3.20596E+11	8.91193E-02	0.0132	4.54621E-02	0.0068	1.34581E-01	0.0100
22	CS140	3.53613E+13	3.74193E+11	1.05025E-01	0.0155	1.32861E-01	0.0200	2.37887E-01	0.0178
23	LA140	8.23729E+16	3.93825E+11	3.46055E-02	0.0051	1.45896E-01	0.0220	1.80501E-01	0.0135
24	LA142	2.94658E+15	3.67203E+11	5.38109E-02	0.0080	1.48429E-01	0.0224	2.02240E-01	0.0151
25	LA144	1.98703E+13	3.39246E+11	7.96552E-02	0.0118	1.13958E-01	0.0172	1.93613E-01	0.0144
	TOTAL	9.06000E+16	8.52925E+12	2.11210E+00	0.3124	2.34208E+00	0.3527	4.45418E+00	0.3324

(2) 1 second after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA + GAMMA) (MEV)	RATIO
1	BR 88	3.20009E+12	1.36081E+11	5.70729E-02	0.0093	6.66552E-02	0.0108	1.23728E-01	0.0100
2	XR 89	7.68917E+13	2.89343E+11	6.15638E-02	0.0100	8.55032E-02	0.0138	1.47067E-01	0.0119
3	RB 89	4.03228E+14	3.02486E+11	4.90309E-02	0.0080	1.00374E-01	0.0163	1.49405E-01	0.0121
4	KR 90	1.46841E+13	3.14915E+11	6.78270E-02	0.0110	6.23678E-02	0.0101	1.30195E-01	0.0106
5	RB 90	6.48023E+13	2.93580E+11	9.36790E-02	0.0152	1.01793E-01	0.0165	1.95472E-01	0.0158
6	KR 91	2.76899E+12	2.23959E+11	6.71503E-02	0.0109	7.13952E-02	0.0116	1.38545E-01	0.0112
7	RB 91	3.00580E+13	3.57990E+11	8.69357E-02	0.0141	1.27275E-01	0.0206	2.14210E-01	0.0174
8	RB 92	1.89901E+12	2.92505E+11	1.63989E-01	0.0266	2.43744E-02	0.0039	1.88363E-01	0.0153
9	RB 93	1.94830E+12	2.27737E+11	9.91264E-02	0.0161	5.08421E-02	0.0082	1.49969E-01	0.0122
10	SR 93	2.55154E+14	3.96714E+11	4.37008E-02	0.0071	1.25737E-01	0.0204	1.69437E-01	0.0137
11	SR 94	4.23632E+13	3.82840E+11	4.49303E-02	0.0073	9.65034E-02	0.0156	1.41434E-01	0.0115
12	Y 94	6.48428E+14	4.00586E+11	1.16367E-01	0.0189	4.95789E-02	0.0080	1.65946E-01	0.0135
13	SR 95	1.21850E+13	3.36490E+11	1.09867E-01	0.0178	8.27549E-02	0.0134	1.92622E-01	0.0156
14	Y 95	3.59575E+14	4.03299E+11	8.85305E-02	0.0144	8.31415E-02	0.0135	1.71672E-01	0.0139
15	Y 96	2.37095E+12	2.73892E+11	1.16574E-01	0.0189	5.29048E-02	0.0086	1.69479E-01	0.0137
16	NB 98	1.46065E+12	3.54003E+11	9.23085E-02	0.0150	4.85393E-02	0.0079	1.40848E-01	0.0114
17	NB100	7.37080E+11	3.40604E+11	1.06332E-01	0.0173	1.00760E-01	0.0163	2.07092E-01	0.0168
18	I 134	2.14652E+15	4.71439E+11	4.61434E-02	0.0075	1.94635E-01	0.0315	2.40778E-01	0.0195
19	TE135	6.39247E+12	2.30774E+11	7.70620E-02	0.0125	5.46445E-02	0.0089	1.31706E-01	0.0107
20	I 136	2.14039E+13	1.74337E+11	5.73779E-02	0.0093	6.88803E-02	0.0112	1.26258E-01	0.0102
21	CS138	1.14603E+15	4.11160E+11	8.21732E-02	0.0133	1.53582E-01	0.0249	2.35755E-01	0.0191
22	XE139	1.85869E+13	3.15773E+11	8.77784E-02	0.0143	4.47782E-02	0.0073	1.32557E-01	0.0107
23	CS139	3.33669E+14	3.94931E+11	1.07486E-01	0.0175	2.08473E-02	0.0034	1.28333E-01	0.0104
24	CS140	3.52209E+13	3.72708E+11	1.04608E-01	0.0170	1.32334E-01	0.0214	2.36942E-01	0.0192
25	LA140	8.23729E+16	3.93825E+11	3.46055E-02	0.0056	1.45895E-01	0.0236	1.80501E-01	0.0146
26	CS141	1.04158E+13	2.89944E+11	8.41475E-02	0.0137	4.63350E-02	0.0075	1.30483E-01	0.0106
27	LA142	2.94658E+15	3.67203E+11	5.38108E-02	0.0087	1.48429E-01	0.0240	2.02240E-01	0.0164
28	BA143	6.97730E+12	3.33536E+11	7.79243E-02	0.0127	4.57863E-02	0.0074	1.23711E-01	0.0100
29	LA144	1.98091E+13	3.38200E+11	7.94096E-02	0.0129	1.13606E-01	0.0184	1.93016E-01	0.0157
	TOTAL	9.09860E+16	9.42084E+12	2.35750E+00	0.3828	2.50024E+00	0.4050	4.85775E+00	0.3939

Table 4.1.6 Continued

(3) 10 seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA + GAMMA) (MEV)	RATIO
1	BR 86	8.88090E+12	1.10514E+11	3.07684E-02	0.0069	6.44425E-02	0.0131	9.52109E-02	0.0101
2	BR 87	1.01683E+13	1.26564E+11	3.08287E-02	0.0069	6.76697E-02	0.0138	9.84984E-02	0.0105
3	RB 88	3.56841E+14	2.31593E+11	7.75915E-02	0.0173	2.36158E-02	0.0048	1.01207E-01	0.0108
4	KR 89	7.47406E+13	2.81249E+11	5.98415E-02	0.0133	8.31112E-02	0.0169	1.42953E-01	0.0152
5	RB 89	4.03075E+14	3.02371E+11	4.90123E-02	0.0109	1.00335E-01	0.0204	1.49348E-01	0.0159
6	KR 90	1.21689E+13	2.60975E+11	5.62093E-02	0.0125	5.16851E-02	0.0105	1.07894E-01	0.0115
7	RB 90	6.44656E+13	2.92055E+11	9.31924E-02	0.0208	1.01264E-01	0.0206	1.94456E-01	0.0207
8	RB 91	2.83533E+13	3.37687E+11	8.20052E-02	0.0183	1.20056E-01	0.0244	2.02061E-01	0.0215
9	Y 92	6.86545E+15	3.73411E+11	8.70491E-02	0.0194	1.48612E-02	0.0030	1.01910E-01	0.0108
10	SR 93	2.52917E+14	3.93235E+11	4.33175E-02	0.0096	1.24634E-01	0.0253	1.67951E-01	0.0178
11	SR 94	3.93681E+13	3.55773E+11	4.17537E-02	0.0093	8.96806E-02	0.0182	1.31434E-01	0.0140
12	Y 94	6.48150E+14	4.00414E+11	1.16317E-01	0.0259	4.95576E-02	0.0101	1.65875E-01	0.0176
13	SR 95	9.50834E+12	2.62573E+11	8.57326E-02	0.0191	6.45760E-02	0.0131	1.50309E-01	0.0160
14	Y 95	3.58632E+14	4.02241E+11	8.82983E-02	0.0197	8.29235E-02	0.0169	1.71222E-01	0.0182
15	NB 98	1.30485E+12	3.16243E+11	8.24622E-02	0.0184	4.33617E-02	0.0088	1.25824E-01	0.0134
16	NB100	3.55868E+11	1.64446E+11	5.13379E-02	0.0114	4.86479E-02	0.0099	9.99858E-02	0.0106
17	MO101	3.99827E+14	3.15935E+11	2.58829E-02	0.0058	7.85907E-02	0.0160	1.04474E-01	0.0111
18	TC102	2.00724E+12	2.63511E+11	5.99558E-02	0.0134	5.03804E-02	0.0102	1.10336E-01	0.0117
19	I 132	3.17578E+15	2.68188E+11	2.12085E-02	0.0047	9.78314E-02	0.0199	1.19040E-01	0.0127
20	I 134	2.14616E+15	4.71361E+11	4.61358E-02	0.0103	1.94602E-01	0.0396	2.40738E-01	0.0256
21	TE135	4.63256E+12	1.67240E+11	5.58461E-02	0.0124	3.96003E-02	0.0080	9.54464E-02	0.0101
22	I 135	1.32933E+16	3.90770E+11	2.33105E-02	0.0052	9.80265E-02	0.0199	1.21337E-01	0.0129
23	I 136	2.07286E+13	1.68837E+11	5.55678E-02	0.0124	6.67073E-02	0.0136	1.22275E-01	0.0130
24	XE137	1.25693E+14	3.79127E+11	1.08536E-01	0.0242	1.13966E-02	0.0023	1.19933E-01	0.0127
25	XE138	4.75533E+14	3.90170E+11	4.11920E-02	0.0092	7.60528E-02	0.0155	1.17245E-01	0.0125
26	CS138	1.14593E+15	4.11124E+11	8.21660E-02	0.0183	1.53569E-01	0.0312	2.35735E-01	0.0251
27	XE139	1.60335E+13	2.72393E+11	7.57197E-02	0.0169	3.86267E-02	0.0079	1.14346E-01	0.0122
28	CS139	3.32764E+14	3.93859E+11	1.07194E-01	0.0239	2.07907E-02	0.0042	1.27985E-01	0.0136
29	CS140	3.35826E+13	3.55371E+11	9.97423E-02	0.0222	1.26178E-01	0.0256	2.25920E-01	0.0240
30	LA140	8.23729E+16	3.93825E+11	3.46055E-02	0.0077	1.45895E-01	0.0297	1.80501E-01	0.0192
31	CS141	8.24666E+12	2.29562E+11	6.66236E-02	0.0148	3.66857E-02	0.0075	1.03309E-01	0.0110
32	BA141	5.69895E+14	3.60356E+11	4.73827E-02	0.0106	4.87279E-02	0.0099	9.61105E-02	0.0102
33	LA142	2.94652E+15	3.67195E+11	5.38098E-02	0.0120	1.48426E-01	0.0302	2.02236E-01	0.0215
34	LA144	1.87215E+13	3.19632E+11	7.50499E-02	0.0167	1.07369E-01	0.0218	1.82419E-01	0.0194
	TOTAL	1.16223E+17	1.05298E+13	2.15564E+00	0.4801	2.66987E+00	0.5426	4.82551E+00	0.5128

(4) 10^2 seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA + GAMMA) (MEV)	RATIO
1	KR 88	3.39756E+15	2.28730E+11	1.34714E-02	0.0048	7.21870E-02	0.0215	8.56584E-02	0.0139
2	RB 88	3.56648E+14	2.31468E+11	7.75495E-02	0.0276	2.36031E-02	0.0070	1.01153E-01	0.0164
3	KR 89	5.33610E+13	2.00797E+11	4.27238E-02	0.0152	5.93372E-02	0.0177	1.02061E-01	0.0166
4	RB 89	3.97516E+14	2.98201E+11	4.83364E-02	0.0172	9.89518E-02	0.0295	1.47288E-01	0.0239
5	RB 90	5.01396E+13	2.27152E+11	7.24825E-02	0.0258	7.87604E-02	0.0235	1.51243E-01	0.0246
6	RB 91	1.02434E+13	1.21998E+11	2.96266E-02	0.0106	4.33736E-02	0.0129	7.30001E-02	0.0119
7	SR 91	1.81752E+16	3.69138E+11	3.85783E-02	0.0137	4.15733E-02	0.0124	8.01516E-02	0.0130
8	SR 92	5.21674E+15	3.70639E+11	1.14734E-02	0.0041	7.95202E-02	0.0237	9.09936E-02	0.0148
9	Y 92	6.86530E+15	3.73404E+11	8.70472E-02	0.0310	1.48608E-02	0.0044	1.01908E-01	0.0165
10	SR 93	2.20507E+14	3.42844E+11	3.77666E-02	0.0135	1.08663E-01	0.0324	1.46429E-01	0.0238
11	Y 93	2.09888E+16	4.00131E+11	7.51994E-02	0.0268	5.70009E-03	0.0017	8.08994E-02	0.0131
12	Y 94	6.34353E+14	3.91890E+11	1.13841E-01	0.0405	4.85027E-02	0.0145	1.62344E-01	0.0264
13	Y 95	3.32331E+14	3.72742E+11	8.18228E-02	0.0291	7.68421E-02	0.0229	1.58665E-01	0.0258
14	NB 97	2.34196E+15	3.75252E+11	2.80062E-02	0.0100	3.99718E-02	0.0119	6.79778E-02	0.0110
15	MO101	3.73976E+14	2.95509E+11	2.42095E-02	0.0086	7.35095E-02	0.0219	9.77188E-02	0.0159
16	TC102	1.83837E+12	2.41341E+11	5.49115E-02	0.0196	4.61418E-02	0.0138	1.01053E-01	0.0164
17	TC104	1.73910E+14	1.10389E+11	2.48159E-02	0.0088	3.76810E-02	0.0112	6.24969E-02	0.0101
18	I 132	3.17570E+15	2.68181E+11	2.12080E-02	0.0076	9.78289E-02	0.0292	1.19037E-01	0.0193
19	TE133	2.38551E+14	2.21354E+11	3.62524E-02	0.0129	4.23417E-02	0.0126	7.85941E-02	0.0128
20	TE133M	9.51588E+14	1.98435E+11	1.17440E-02	0.0042	5.59270E-02	0.0167	6.76709E-02	0.0110
21	I 133	4.51960E+16	4.18370E+11	2.72420E-02	0.0097	4.09752E-02	0.0122	6.82171E-02	0.0111
22	TE134	1.44868E+15	4.00372E+11	1.59136E-02	0.0057	5.73168E-02	0.0171	7.32304E-02	0.0119
23	I 134	2.14191E+15	4.70427E+11	4.60443E-02	0.0164	1.94217E-01	0.0579	2.40261E-01	0.0390
24	I 135	1.32627E+16	3.89869E+11	2.32567E-02	0.0083	9.78004E-02	0.0292	1.21057E-01	0.0197
25	I 136	1.11159E+13	9.05403E+10	2.97988E-02	0.0106	3.57724E-02	0.0107	6.55711E-02	0.0106
26	XE137	1.00159E+14	3.02110E+11	8.64878E-02	0.0308	9.08151E-03	0.0027	9.55693E-02	0.0155
27	XE138	4.41986E+14	3.62645E+11	3.82861E-02	0.0136	7.06876E-02	0.0211	1.08974E-01	0.0177
28	CS138	1.14347E+15	4.10242E+11	8.19896E-02	0.0292	1.53239E-01	0.0457	2.35229E-01	0.0382
29	CS139	3.10901E+14	3.67983E+11	1.00151E-01	0.0357	1.94248E-02	0.0058	1.19576E-01	0.0194
30	CS140	1.42951E+13	1.51271E+11	4.24573E-02	0.0151	5.37103E-02	0.0160	9.61676E-02	0.0156
31	LA140	8.23729E+16	3.93825E+11	3.46055E-02	0.0123	1.45895E-01	0.0435	1.80501E-01	0.0293
32	BA141	5.45653E+14	3.45027E+11	4.53671E-02	0.0162	4.66551E-02	0.0139	9.20221E-02	0.0149
33	BA142	3.01863E+14	3.25921E+11	2.18875E-02	0.0078	5.58166E-02	0.0167	7.77040E-02	0.0126
34	LA142	2.94429E+15	3.66917E+11	5.37690E-02	0.0192	1.48314E-01	0.0442	2.02082E-01	0.0328
35	LA143	4.22223E+14	3.44960E+11	7.57961E-02	0.0270	1.72075E-03	0.0005	7.75168E-02	0.0126
36	PR144	5.11251E+14	3.41797E+11	6.64650E-02	0.0237	1.64999E-03	0.0005	6.81149E-02	0.0111
37	PR146	3.86461E+14	1.85482E+11	3.62110E-02	0.0129	3.44784E-02	0.0103	7.06894E-02	0.0115
	TOTAL	2.15511E+17	1.13073E+13	1.75679E+00	0.6257	2.31202E+00	0.6898	4.06881E+00	0.6606

Table 4.1.6 Continued

(5) 10^3 seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	KR 87	9.22446E+14	1.39649E+11	2.94089E-02	0.0171	1.73498E-02	0.0083	4.67587E-02	0.0123
2	KR 88	3.19785E+15	2.15286E+11	1.26796E-02	0.0074	6.79440E-02	0.0325	8.06236E-02	0.0212
3	RB 88	3.49710E+14	2.26966E+11	7.60411E-02	0.0443	2.31440E-02	0.0111	9.91850E-02	0.0261
4	RB 89	2.34044E+14	1.75570E+11	2.84588E-02	0.0166	5.82594E-02	0.0279	8.67182E-02	0.0228
5	Y 90	1.22187E+17	3.67027E+11	5.46912E-02	0.0319	0.0	0.0	5.46912E-02	0.0144
6	SR 91	1.78560E+16	3.62656E+11	3.79009E-02	0.0221	4.08433E-02	0.0196	7.87442E-02	0.0207
7	SR 92	4.89360E+15	3.47680E+11	1.07627E-02	0.0063	7.45945E-02	0.0357	8.53572E-02	0.0224
8	Y 92	6.85260E+15	3.72713E+11	8.68862E-02	0.0506	1.48333E-02	0.0071	1.01720E-01	0.0267
9	Y 93	2.07963E+16	3.96460E+11	7.45094E-02	0.0434	5.64779E-03	0.0027	8.01572E-02	0.0211
10	Y 94	3.74550E+14	2.31389E+11	6.72169E-02	0.0392	2.86381E-02	0.0137	9.58549E-02	0.0252
11	Y 95	1.21410E+14	1.36173E+11	2.98922E-02	0.0174	2.80726E-02	0.0134	5.79649E-02	0.0152
12	ZR 95	3.23411E+18	4.05072E+11	7.58164E-03	0.0044	4.76011E-02	0.0228	5.51827E-02	0.0145
13	NB 95	1.76540E+18	4.05001E+11	2.82409E-03	0.0016	4.96101E-02	0.0237	5.24342E-02	0.0138
14	ZR 97	3.25342E+16	3.70662E+11	4.14552E-02	0.0242	1.08672E-02	0.0052	5.23224E-02	0.0137
15	NB 97	2.33996E+15	3.74932E+11	2.79824E-02	0.0163	3.99377E-02	0.0191	6.79200E-02	0.0178
16	NB 97M	3.12482E+13	3.61010E+11	8.59916E-04	0.0005	4.21363E-02	0.0202	4.29963E-02	0.0113
17	MO 99	1.30560E+17	3.80764E+11	2.46450E-02	0.0144	1.65685E-02	0.0079	4.12135E-02	0.0108
18	MO101	1.83650E+14	1.45117E+11	1.18886E-02	0.0069	3.60986E-02	0.0173	4.79872E-02	0.0126
19	TC102	7.26527E+11	9.53785E+10	2.17012E-02	0.0126	1.82353E-02	0.0087	3.99365E-02	0.0105
20	SB131	1.98079E+14	9.94909E+10	9.23884E-03	0.0054	2.97032E-02	0.0142	3.89420E-02	0.0102
21	I 132	3.17469E+15	2.68096E+11	2.12012E-02	0.0124	9.77976E-02	0.0468	1.18999E-01	0.0313
22	TE133	1.28103E+14	1.18868E+11	1.94677E-02	0.0113	2.27377E-02	0.0109	4.22055E-02	0.0111
23	TE133M	7.91715E+14	1.65096E+11	9.77094E-03	0.0057	4.65309E-02	0.0223	5.63019E-02	0.0148
24	I 133	4.51091E+16	4.17566E+11	2.71896E-02	0.0158	4.08965E-02	0.0196	6.80860E-02	0.0179
25	TE134	1.12967E+15	3.12206E+11	1.24093E-02	0.0072	4.46950E-02	0.0214	5.71042E-02	0.0150
26	I 134	2.05028E+15	4.50304E+11	4.40747E-02	0.0257	1.85908E-01	0.0890	2.29983E-01	0.0604
27	I 135	1.29166E+16	3.79695E+11	2.26498E-02	0.0132	9.52482E-02	0.0456	1.17898E-01	0.0310
28	BA137M	8.17406E+13	3.70023E+11	4.19706E-03	0.0024	3.50278E-02	0.0168	3.92248E-02	0.0103
29	XE138	2.11207E+14	1.73293E+11	1.82953E-02	0.0107	3.37787E-02	0.0162	5.20740E-02	0.0137
30	CS138	1.02243E+15	3.66816E+11	7.33107E-02	0.0427	1.37018E-01	0.0656	2.10329E-01	0.0553
31	CS139	1.08439E+14	1.28348E+11	3.49316E-02	0.0204	6.77514E-03	0.0032	4.17068E-02	0.0110
32	BA139	2.70326E+15	3.77564E+11	5.45301E-02	0.0318	2.64826E-03	0.0013	5.71783E-02	0.0150
33	LA140	8.23727E+16	3.93824E+11	3.46055E-02	0.0202	1.45895E-01	0.0698	1.80501E-01	0.0474
34	BA141	3.09252E+14	1.95546E+11	2.57121E-02	0.0150	2.64421E-02	0.0127	5.21541E-02	0.0137
35	LA141	7.29467E+15	3.57388E+11	5.44734E-02	0.0317	2.43167E-03	0.0012	5.69050E-02	0.0150
36	LA142	2.80781E+15	3.49910E+11	5.12767E-02	0.0299	1.41439E-01	0.0677	1.92716E-01	0.0506
37	CE143	6.30337E+16	3.67776E+11	2.68219E-02	0.0156	1.42262E-02	0.0068	4.10481E-02	0.0108
38	PR144	5.11247E+14	3.41794E+11	6.64644E-02	0.0387	1.64997E-03	0.0008	6.81144E-02	0.0179
39	PR146	3.36088E+14	1.61306E+11	3.14911E-02	0.0183	2.99844E-02	0.0144	6.14756E-02	0.0162
	TOTAL	5.56923E+18	1.13044E+13	1.28949E+00	0.7513	1.76121E+00	0.8430	3.05070E+00	0.8017

(6) 10^4 seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	KR 88	1.74470E+15	1.17457E+11	6.91777E-03	0.0075	3.70692E-02	0.0370	4.39869E-02	0.0228
2	RB 88	2.01864E+14	1.31012E+11	4.38934E-02	0.0476	1.33595E-02	0.0133	5.72529E-02	0.0297
3	SR 89	1.90232E+18	3.02202E+11	2.75186E-02	0.0298	0.0	0.0	2.75186E-02	0.0143
4	Y 90	1.22187E+17	3.67027E+11	5.46912E-02	0.0593	0.0	0.0	5.46912E-02	0.0284
5	SR 91	1.48731E+16	3.02072E+11	3.15693E-02	0.0342	3.40202E-02	0.0339	6.55894E-02	0.0341
6	Y 91	2.69427E+18	3.69412E+11	3.48592E-02	0.0378	1.57295E-04	0.0002	3.50165E-02	0.0182
7	SR 92	2.58183E+15	1.83434E+11	5.67835E-03	0.0062	3.93555E-02	0.0392	4.50338E-02	0.0234
8	Y 92	5.98122E+15	3.25318E+11	7.58377E-02	0.0822	1.29471E-02	0.0129	8.87848E-02	0.0461
9	Y 93	1.75639E+16	3.34838E+11	6.29283E-02	0.0682	4.76994E-03	0.0048	6.76982E-02	0.0352
10	ZR 95	3.23059E+18	4.04631E+11	7.57338E-03	0.0082	4.75492E-02	0.0474	5.51226E-02	0.0286
11	NB 95	1.76540E+18	4.05001E+11	2.82409E-03	0.0031	4.96100E-02	0.0495	5.24341E-02	0.0272
12	ZR 97	2.93636E+16	3.34539E+11	3.74152E-02	0.0406	9.80818E-03	0.0098	4.72233E-02	0.0245
13	NB 97	2.21372E+15	3.54704E+11	2.64727E-02	0.0287	3.77830E-02	0.0377	6.42556E-02	0.0334
14	NB 97M	2.82029E+13	3.25828E+11	7.76113E-04	0.0008	3.80299E-02	0.0379	3.88060E-02	0.0202
15	MO 99	1.27178E+17	3.70901E+11	2.40066E-02	0.0260	1.61393E-02	0.0161	4.01459E-02	0.0209
16	I 132	3.14390E+15	2.65496E+11	2.09957E-02	0.0228	9.68493E-02	0.0966	1.17845E-01	0.0612
17	I 133	4.22538E+16	3.91135E+11	2.54686E-02	0.0276	3.83078E-02	0.0382	6.37763E-02	0.0331
18	I 134	5.88898E+14	1.29340E+11	1.26594E-02	0.0137	5.33981E-02	0.0533	6.60575E-02	0.0343
19	I 135	9.91397E+15	2.91431E+11	1.73846E-02	0.0188	7.31068E-02	0.0729	9.04915E-02	0.0470
20	XE135	1.86111E+16	3.94648E+11	2.00793E-02	0.0218	1.55913E-02	0.0155	3.56706E-02	0.0185
21	BA137M	8.17400E+13	3.70021E+11	4.19703E-03	0.0046	3.50275E-02	0.0349	3.92246E-02	0.0204
22	BA140	6.21722E+17	3.91324E+11	2.00764E-02	0.0218	9.18456E-03	0.0092	2.92609E-02	0.0152
23	LA140	8.23604E+16	3.93765E+11	3.46003E-02	0.0375	1.45873E-01	0.1455	1.80474E-01	0.0937
24	LA141	4.90819E+15	2.40467E+11	3.66522E-02	0.0397	1.63614E-03	0.0016	3.82884E-02	0.0199
25	LA142	9.56748E+14	1.19230E+11	1.74722E-02	0.0189	4.81946E-02	0.0481	6.56669E-02	0.0341
26	CE143	6.00024E+16	3.50090E+11	2.55321E-02	0.0277	1.35421E-02	0.0135	3.90741E-02	0.0203
27	PR144	5.11127E+14	3.41714E+11	6.64488E-02	0.0720	1.64959E-03	0.0016	6.80984E-02	0.0354
28	PR145	5.54625E+15	1.78578E+11	1.94135E-02	0.0210	4.11663E-04	0.0004	1.98252E-02	0.0103
	TOTAL	1.07671E+19	8.48560E+12	7.63941E-01	0.8282	8.73371E-01	0.8710	1.63731E+00	0.8505

Table 4.1.6 Continued

(7) 10^5 seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	SR 89	1.87531E+18	2.97912E+11	2.71280E-02	0.0583	0.0	0.0	2.71280E-02	0.0279
2	SR 90	4.76187E+20	3.66997E+11	1.02241E-02	0.0220	0.0	0.0	1.02241E-02	0.0105
3	Y 90	1.22186E+17	3.67022E+11	5.46906E-02	0.1175	0.0	0.0	5.46906E-02	0.0563
4	SR 91	2.39086E+15	4.85583E+10	5.07479E-03	0.0109	5.46876E-03	0.0108	1.05436E-02	0.0108
5	Y 91	2.67428E+18	3.66671E+11	3.46006E-02	0.0743	1.56128E-04	0.0003	3.47567E-02	0.0357
6	Y 93	3.15846E+15	6.02129E+10	1.13162E-02	0.0243	8.57765E-04	0.0017	1.21740E-02	0.0125
7	ZR 95	3.19438E+18	4.00096E+11	7.48850E-03	0.0161	4.70162E-02	0.0928	5.45047E-02	0.0561
8	NB 95	1.76516E+18	4.04945E+11	2.82370E-03	0.0061	4.96032E-02	0.0979	5.24269E-02	0.0539
9	ZR 97	1.05317E+16	1.19987E+11	1.34194E-02	0.0288	3.51783E-03	0.0069	1.69373E-02	0.0174
10	NB 97	8.06939E+14	1.29296E+11	9.64975E-03	0.0207	1.37726E-02	0.0272	2.34223E-02	0.0241
11	NB 97M	1.01154E+13	1.16863E+11	2.78364E-04	0.0006	1.36400E-02	0.0269	1.39183E-02	0.0143
12	MO 99	9.78180E+16	2.85276E+11	1.84646E-02	0.0397	1.24135E-02	0.0245	3.08780E-02	0.0318
13	RU103	9.14435E+17	1.86051E+11	2.15026E-03	0.0046	1.40131E-02	0.0276	1.61634E-02	0.0166
14	I 131	1.65952E+17	1.65592E+11	5.04564E-03	0.0108	1.00032E-02	0.0197	1.50488E-02	0.0155
15	TE132	8.30350E+16	2.07903E+11	3.82765E-03	0.0082	6.83087E-03	0.0135	1.06585E-02	0.0110
16	I 132	2.53711E+15	2.14254E+11	1.69434E-02	0.0364	7.81569E-02	0.1542	9.51003E-02	0.0978
17	I 133	1.84250E+16	1.70557E+11	1.11057E-02	0.0239	1.67044E-02	0.0330	2.78101E-02	0.0286
18	XE133	2.63195E+17	3.99136E+11	9.69148E-03	0.0208	1.92800E-03	0.0038	1.16195E-02	0.0120
19	XE135	5.53123E+15	1.17290E+11	5.96760E-03	0.0128	4.63374E-03	0.0091	1.06013E-02	0.0109
20	CS137	5.36651E+20	3.90703E+11	1.06705E-02	0.0229	0.0	0.0	1.06705E-02	0.0110
21	BA137M	8.17346E+13	3.69996E+11	4.19676E-03	0.0090	3.50252E-02	0.0691	3.92220E-02	0.0403
22	BA140	5.87482E+17	3.69773E+11	1.89707E-02	0.0408	8.67874E-03	0.0171	2.76494E-02	0.0284
23	LA140	8.13300E+16	3.88839E+11	3.41674E-02	0.0734	1.44048E-01	0.2842	1.78216E-01	0.1833
24	CE141	1.43185E+18	3.54755E+11	9.95070E-03	0.0214	4.05087E-03	0.0080	1.40016E-02	0.0144
25	CE143	3.54908E+16	2.07075E+11	1.51020E-02	0.0324	8.00999E-03	0.0158	2.31119E-02	0.0238
26	PR143	6.15105E+17	3.63379E+11	1.83731E-02	0.0395	5.18393E-10	0.0000	1.83731E-02	0.0189
27	PR144	5.09830E+14	3.40847E+11	6.62802E-02	0.1424	1.64540E-03	0.0032	6.79256E-02	0.0699
	TOTAL	1.02679E+21	7.20997E+12	4.27601E-01	0.9188	4.80174E-01	0.9474	9.07775E-01	0.9337

(8) 10^6 seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	SR 89	1.62548E+18	2.58223E+11	2.35139E-02	0.0806	0.0	0.0	2.35139E-02	0.0429
2	SR 90	4.75857E+20	3.66743E+11	1.02170E-02	0.0350	0.0	0.0	1.02170E-02	0.0186
3	Y 90	1.22123E+17	3.66832E+11	5.46622E-02	0.1873	0.0	0.0	5.46622E-02	0.0996
4	Y 91	2.36607E+18	3.24412E+11	3.06128E-02	0.1049	1.38134E-04	0.0005	3.07510E-02	0.0561
5	ZR 95	2.85384E+18	3.57444E+11	6.69019E-03	0.0229	4.20041E-02	0.1636	4.86943E-02	0.0888
6	NB 95	1.74299E+18	3.99858E+11	2.78823E-03	0.0096	4.89802E-02	0.1908	5.17684E-02	0.0944
7	RU103	7.61426E+17	1.54920E+11	1.79046E-03	0.0061	1.16684E-02	0.0455	1.34588E-02	0.0245
8	RH106	1.07709E+12	2.45588E+10	5.59171E-03	0.0192	7.75977E-04	0.0030	6.36769E-03	0.0116
9	I 131	6.88531E+16	6.87037E+10	2.09343E-03	0.0072	4.15032E-03	0.0162	6.24375E-03	0.0114
10	I 132	2.66499E+14	2.25053E+10	1.77974E-03	0.0061	8.20962E-03	0.0320	9.98935E-03	0.0182
11	CS137	5.36299E+20	3.90447E+11	1.06635E-02	0.0365	0.0	0.0	1.06635E-02	0.0194
12	BA137M	8.16811E+13	3.69754E+11	4.19401E-03	0.0144	3.50023E-02	0.1364	3.91963E-02	0.0715
13	BA140	3.33408E+17	2.09854E+11	1.07663E-02	0.0369	4.92536E-03	0.0192	1.56916E-02	0.0286
14	LA140	5.04432E+16	2.41169E+11	2.11916E-02	0.0726	8.93430E-02	0.3481	1.10535E-01	0.2015
15	CE141	1.14571E+18	2.83861E+11	7.96217E-03	0.0273	3.24135E-03	0.0126	1.12035E-02	0.0204
16	PR143	3.84442E+17	2.27113E+11	1.14832E-02	0.0393	3.23996E-10	0.0000	1.14832E-02	0.0209
17	CE144	1.17715E+19	3.32285E+11	5.05253E-03	0.0173	8.51654E-04	0.0033	5.90419E-03	0.0108
18	PR144	4.97041E+14	3.32296E+11	6.46176E-02	0.2214	1.60413E-03	0.0062	6.62217E-02	0.1207
	TOTAL	1.03538E+21	4.73097E+12	2.75670E-01	0.9445	2.50894E-01	0.9774	5.26565E-01	0.9599

(9) 10^7 seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	SR 89	3.89092E+17	6.18112E+10	5.62855E-03	0.0343	0.0	0.0	5.62855E-03	0.0231
2	SR 90	4.72567E+20	3.64207E+11	1.01464E-02	0.0618	0.0	0.0	1.01464E-02	0.0416
3	Y 90	1.21280E+17	3.64301E+11	5.42851E-02	0.3308	0.0	0.0	5.42851E-02	0.2223
4	Y 91	6.88831E+17	9.44456E+10	8.91228E-03	0.0543	4.02147E-05	0.0005	8.95249E-03	0.0367
5	ZR 95	9.24426E+17	1.15784E+11	2.16711E-03	0.0132	1.36061E-02	0.1700	1.57732E-02	0.0646
6	NB 95	8.97577E+17	2.05913E+11	1.43584E-03	0.0087	2.52231E-02	0.3152	2.66589E-02	0.1092
7	TC 99	2.38955E+24	2.45263E+11	3.32403E-03	0.0203	1.72508E-10	0.0000	3.32403E-03	0.0136
8	RH106	8.86904E+11	2.02223E+10	4.60435E-03	0.0281	6.38959E-04	0.0080	5.24331E-03	0.0215
9	CS137	5.32797E+20	3.87897E+11	1.05938E-02	0.0645	0.0	0.0	1.05938E-02	0.0434
10	BA137M	8.11477E+13	3.67339E+11	4.16661E-03	0.0254	3.47737E-02	0.4345	3.89403E-02	0.1595
11	CE144	9.13057E+18	2.57738E+11	3.91901E-03	0.0239	6.60587E-04	0.0083	4.57959E-03	0.0188
12	PR144	3.85530E+14	2.57746E+11	5.01208E-02	0.3054	1.24424E-03	0.0155	5.13650E-02	0.2104
	TOTAL	2.39056E+24	2.74267E+12	1.59304E-01	0.9706	7.61867E-02	0.9520	2.35490E-01	0.9645

Table 4.1.6 Continued

(10) 10^8 seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	SR 90	4.40900E+20	3.39801E+11	9.46647E-03	0.1120	0.0	0.0	9.46647E-03	0.0798
2	Y 90	1.13153E+17	3.39889E+11	5.06473E-02	0.5990	0.0	0.0	5.06473E-02	0.4271
3	TC 99	2.38952E+24	2.45261E+11	3.32400E-03	0.0393	1.72507E-10	0.0000	3.32400E-03	0.0280
4	SB126M	5.02920E+12	3.05785E+09	3.09486E-04	0.0037	8.81621E-04	0.0259	1.19111E-03	0.0100
5	CS137	4.99005E+20	3.63296E+11	9.92193E-03	0.1174	0.0	0.0	9.92193E-03	0.0837
6	BA137M	7.60010E+13	3.44042E+11	3.90236E-03	0.0462	3.25682E-02	0.9573	3.64706E-02	0.3076
7	PR144	3.03896E+13	2.03170E+10	3.95079E-03	0.0467	9.80779E-05	0.0029	4.04886E-03	0.0341
	TOTAL	2.39046E+24	1.65566E+12	8.15222E-02	0.9642	3.35479E-02	0.9861	1.15070E-01	0.9705

(11) 10^9 seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	SR 90	2.20344E+20	1.69819E+11	4.73095E-03	0.1131	0.0	0.0	4.73095E-03	0.0790
2	Y 90	5.65492E+16	1.69862E+11	2.53114E-02	0.6050	0.0	0.0	2.53114E-02	0.4226
3	TC 99	2.38930E+24	2.45238E+11	3.32369E-03	0.0794	1.72491E-10	0.0000	3.32369E-03	0.0555
4	SB126M	5.02820E+12	3.05725E+09	3.09425E-04	0.0074	8.81446E-04	0.0488	1.19087E-03	0.0199
5	CS137	2.59143E+20	1.88667E+11	5.15265E-03	0.1232	0.0	0.0	5.15265E-03	0.0860
6	BA137M	3.94688E+13	1.78667E+11	2.02657E-03	0.0484	1.69133E-02	0.9368	1.89399E-02	0.3162
	TOTAL	2.38978E+24	9.55310E+11	4.08547E-02	0.9766	1.77948E-02	0.9856	5.86495E-02	0.9793

(12) 10^{10} seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	ZR 93	3.73436E+24	5.36105E+10	1.40780E-04	0.0312	0.0	0.0	1.40780E-04	0.0248
2	NB 93M	3.15339E+19	5.09304E+10	2.48064E-04	0.0550	0.0	0.0	2.48064E-04	0.0437
3	TC 99	2.38710E+24	2.45012E+11	3.32062E-03	0.7359	1.72332E-10	0.0000	3.32062E-03	0.5851
4	SN126	1.38817E+22	3.05120E+09	6.47594E-05	0.0144	6.38207E-05	0.0549	1.28580E-04	0.0227
5	SB126	6.60250E+14	4.27169E+08	2.14054E-05	0.0047	1.94734E-04	0.1675	2.16139E-04	0.0381
6	SB126M	5.01826E+12	3.05121E+09	3.08813E-04	0.0684	8.79705E-04	0.7566	1.18852E-03	0.2094
7	CS135	3.89375E+24	3.71853E+10	3.35256E-04	0.0743	0.0	0.0	3.35256E-04	0.0591
	TOTAL	1.00291E+25	3.93267E+11	4.43970E-03	0.9839	1.13826E-03	0.9790	5.57796E-03	0.9829

(13) 10^{11} seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	ZR 93	3.72954E+24	5.35413E+10	1.40599E-04	0.0318	0.0	0.0	1.40599E-04	0.0254
2	NB 93M	3.14932E+19	5.08647E+10	2.47744E-04	0.0560	0.0	0.0	2.47744E-04	0.0447
3	TC 99	2.36515E+24	2.42759E+11	3.29009E-03	0.7434	1.70747E-10	0.0000	3.29009E-03	0.5936
4	SN126	1.36098E+22	2.99144E+09	6.34909E-05	0.0143	6.25707E-05	0.0561	1.26062E-04	0.0227
5	SB126	6.47318E+14	4.18801E+08	2.09861E-05	0.0047	1.90919E-04	0.1710	2.11905E-04	0.0382
6	SB126M	4.91997E+12	2.99144E+09	3.02764E-04	0.0684	8.62473E-04	0.7726	1.16524E-03	0.2102
7	CS135	3.89040E+24	3.71533E+10	3.34968E-04	0.0757	0.0	0.0	3.34968E-04	0.0604
	TOTAL	9.99873E+24	3.90720E+11	4.40064E-03	0.9943	1.11596E-03	0.9997	5.51660E-03	0.9954

Table 4.1.6 Continued

(14) 10^{12} seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	ZR 93	3.68166E+24	5.28539E+10	1.38794E-04	0.0342	0.0	0.0	1.38794E-04	0.0279
2	NB 93M	3.10889E+19	5.02117E+10	2.44564E-04	0.0603	0.0	0.0	2.44564E-04	0.0492
3	TC 99	2.15645E+24	2.21338E+11	2.99978E-03	0.7400	1.55681E-10	0.0000	2.99978E-03	0.6036
4	SN126	1.11671E+22	2.45453E+09	5.20954E-05	0.0129	5.13403E-05	0.0561	1.03436E-04	0.0208
5	SB126	5.31136E+14	3.43634E+08	1.72195E-05	0.0042	1.56653E-04	0.1710	1.73872E-04	0.0350
6	SB126M	4.03692E+12	2.45453E+09	2.48423E-04	0.0613	7.07674E-04	0.7726	9.56097E-04	0.1924
7	CS135	3.85711E+24	3.68354E+10	3.32102E-04	0.0819	0.0	0.0	3.32101E-04	0.0668
	TOTAL	9.70642E+24	3.66492E+11	4.03298E-03	0.9949	9.15667E-04	0.9997	4.94864E-03	0.9958

(15) 10^{13} seconds after the end of irradiation

NO.	NUCLIDE	ATOM NUMBER	ACTIVITY (BQ)	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA + GAMMA) (MEV)	(BETA + GAMMA) RATIO
1	ZR 93	3.23543E+24	4.64478E+10	1.21971E-04	0.0647	0.0	0.0	1.21971E-04	0.0606
2	NB 93M	2.73208E+19	4.41258E+10	2.14921E-04	0.1140	0.0	0.0	2.14921E-04	0.1068
3	TC 99	8.56162E+23	8.78765E+10	1.19098E-03	0.6318	6.18088E-11	0.0000	1.19098E-03	0.5919
4	SB126	7.34656E+13	4.75308E+07	2.38177E-06	0.0013	2.16679E-05	0.1707	2.40496E-05	0.0120
5	SB126M	5.58379E+11	3.39505E+08	3.43614E-05	0.0182	9.78841E-05	0.7711	1.32245E-04	0.0657
6	CS135	3.53944E+24	3.38016E+10	3.04750E-04	0.1617	0.0	0.0	3.04750E-04	0.1515
	TOTAL	7.63105E+24	2.12639E+11	1.86937E-03	0.9916	1.19552E-04	0.9418	1.98892E-03	0.9885

Table 4.2.1 Exponential fit parameters for the calculated beta, gamma, and total sensible decay powers

FITTING PARAMETER(TH232(F))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	2.351E-01	1.649E-01	4.000E-01
2	1.001E+00	4.120E-01	3.529E-01	7.649E-01
3	5.157E-01	1.651E-01	1.031E-01	2.681E-01
4	2.951E-01	1.934E-01	2.583E-01	4.517E-01
5	1.959E-01	1.009E-01	-1.606E-02	8.483E-02
6	1.037E-01	1.088E-01	9.410E-02	2.029E-01
7	3.488E-02	3.556E-02	3.000E-02	6.555E-02
8	1.330E-02	1.480E-02	2.011E-02	3.491E-02
9	5.004E-03	1.640E-03	2.619E-03	4.260E-03
10	3.591E-03	1.217E-03	7.972E-04	2.014E-03
11	1.357E-03	4.256E-04	4.558E-04	8.814E-04
12	5.645E-04	3.237E-04	3.320E-04	6.557E-04
13	1.850E-04	6.723E-05	1.300E-04	1.973E-04
14	5.435E-05	1.188E-05	5.178E-05	6.367E-05
15	4.918E-05	1.300E-05	-2.914E-05	-1.613E-05
16	1.922E-05	3.999E-06	4.340E-06	8.339E-06
17	8.422E-06	6.142E-07	4.275E-07	1.042E-06
18	2.504E-06	1.022E-07	1.884E-07	2.906E-07
19	7.254E-07	8.606E-09	3.394E-08	4.255E-08
20	6.294E-07	6.135E-08	1.133E-07	1.746E-07
21	2.035E-07	6.535E-09	-1.034E-08	-3.806E-09
22	1.371E-07	8.576E-09	3.949E-09	1.253E-08
23	1.253E-07	1.884E-09	1.407E-08	1.595E-08
24	2.823E-08	2.773E-09	1.102E-10	2.884E-09
25	2.159E-08	1.122E-10	-3.792E-12	1.084E-10
26	8.374E-09	-7.009E-12	1.668E-12	-5.340E-12
27	4.366E-09	1.318E-11	5.728E-14	1.324E-11
28	7.707E-10	6.692E-11	5.723E-14	6.697E-11
29	7.280E-10	1.051E-11	2.742E-11	3.793E-11
30	2.441E-10	1.546E-14	8.960E-18	1.547E-14
31	2.198E-13	1.091E-16	2.538E-16	3.629E-16
32	1.026E-13	2.403E-16	-1.102E-19	2.402E-16
33	9.550E-15	7.256E-17	5.155E-20	7.261E-17

FITTING PARAMETER(TH232(H))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	1.607E-01	1.223E-01	2.831E-01
2	1.001E+00	2.903E-01	2.642E-01	5.545E-01
3	5.157E-01	9.245E-02	3.477E-02	1.272E-01
4	2.951E-01	1.444E-01	2.161E-01	3.604E-01
5	1.959E-01	9.258E-02	-3.660E-03	8.892E-02
6	1.037E-01	9.451E-02	8.138E-02	1.759E-01
7	3.488E-02	2.726E-02	2.197E-02	4.923E-02
8	1.330E-02	1.285E-02	1.574E-02	2.859E-02
9	5.004E-03	1.112E-03	1.757E-03	2.869E-03
10	3.591E-03	1.259E-03	9.031E-04	2.162E-03
11	1.357E-03	4.252E-04	4.481E-04	8.734E-04
12	5.645E-04	3.076E-04	2.858E-04	5.934E-04
13	1.850E-04	6.088E-05	1.283E-04	1.891E-04
14	5.435E-05	7.107E-06	3.967E-05	4.678E-05
15	4.918E-05	1.323E-05	-1.937E-05	-6.138E-06
16	1.922E-05	3.312E-06	3.576E-06	6.888E-06
17	8.422E-06	7.212E-07	5.074E-07	1.229E-06
18	2.504E-06	1.226E-07	2.331E-07	3.556E-07
19	7.254E-07	2.978E-08	3.788E-08	6.767E-08
20	6.294E-07	2.973E-08	7.750E-08	1.072E-07
21	2.035E-07	6.977E-09	-7.705E-09	-7.282E-10
22	1.371E-07	2.776E-09	3.557E-09	6.333E-09
23	1.253E-07	4.536E-09	1.187E-08	1.641E-08
24	2.823E-08	1.341E-09	7.168E-11	1.413E-09
25	2.159E-08	4.369E-10	2.809E-11	4.650E-10
26	8.374E-09	-2.025E-12	4.301E-11	4.098E-11
27	4.366E-09	1.495E-11	1.319E-12	1.627E-11
28	7.707E-10	5.017E-11	-6.632E-14	5.011E-11
29	7.280E-10	9.412E-12	2.172E-11	3.114E-11
30	2.441E-10	1.419E-14	2.980E-18	1.419E-14
31	2.198E-13	2.614E-15	6.629E-15	9.243E-15
32	1.026E-13	-1.833E-17	3.429E-18	-1.490E-17
33	9.550E-15	1.072E-16	-1.007E-18	1.062E-16

FITTING PARAMETER(U233(T))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	1.953E-02	2.155E-02	4.108E-02
2	1.001E+00	7.959E-02	8.901E-02	1.686E-01
3	5.157E-01	6.394E-02	2.880E-02	9.274E-02
4	2.951E-01	4.252E-02	9.417E-02	1.367E-01
5	1.959E-01	5.094E-02	-1.450E-02	3.644E-02
6	1.037E-01	5.350E-02	4.848E-02	1.020E-01
7	3.488E-02	1.810E-02	1.360E-02	3.170E-02
8	1.330E-02	8.525E-03	1.053E-02	1.906E-02
9	5.004E-03	1.041E-03	1.550E-03	2.591E-03
10	3.591E-03	8.646E-04	7.410E-04	1.606E-03
11	1.357E-03	4.963E-04	5.633E-04	1.060E-03
12	5.645E-04	3.040E-04	3.124E-04	6.164E-04
13	1.850E-04	5.091E-05	1.180E-04	1.689E-04
14	5.435E-05	7.047E-06	4.627E-05	5.332E-05
15	4.918E-05	1.378E-05	-2.584E-05	-1.207E-05
16	1.922E-05	4.030E-06	4.261E-06	8.291E-06
17	8.422E-06	7.572E-07	7.717E-07	1.529E-06
18	2.504E-06	1.604E-07	3.410E-07	5.014E-07
19	7.254E-07	2.373E-08	4.594E-08	6.967E-08
20	6.294E-07	4.009E-08	8.439E-08	1.245E-07
21	2.035E-07	6.854E-09	-1.076E-08	-3.908E-09
22	1.371E-07	5.905E-09	4.640E-09	1.054E-08
23	1.253E-07	3.063E-09	1.616E-08	1.922E-08
24	2.823E-08	1.649E-09	7.094E-11	1.720E-09
25	2.159E-08	1.362E-10	3.645E-12	1.399E-10
26	8.374E-09	-2.934E-12	4.621E-12	1.687E-12
27	4.366E-09	7.756E-12	4.885E-14	7.805E-12
28	7.707E-10	5.972E-11	7.705E-14	5.980E-11
29	7.280E-10	1.101E-11	2.771E-11	3.872E-11
30	2.441E-10	1.552E-14	3.069E-17	1.555E-14
31	2.198E-13	4.651E-16	1.230E-15	1.695E-15
32	1.026E-13	4.021E-16	-8.634E-19	4.013E-16
33	9.550E-15	8.278E-17	3.185E-19	8.309E-17

FITTING PARAMETER(U233(F))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	2.460E-02	2.449E-02	4.909E-02
2	1.001E+00	9.663E-02	1.012E-01	1.978E-01
3	5.157E-01	5.693E-02	2.358E-02	8.051E-02
4	2.951E-01	5.181E-02	1.060E-01	1.578E-01
5	1.959E-01	5.254E-02	-1.819E-02	3.435E-02
6	1.037E-01	5.718E-02	5.237E-02	1.095E-01
7	3.488E-02	1.833E-02	1.393E-02	3.226E-02
8	1.330E-02	8.679E-03	1.073E-02	1.941E-02
9	5.004E-03	9.329E-04	1.393E-03	2.326E-03
10	3.591E-03	8.932E-04	8.111E-04	1.704E-03
11	1.357E-03	4.931E-04	5.435E-04	1.037E-03
12	5.645E-04	3.123E-04	3.329E-04	6.452E-04
13	1.850E-04	5.137E-05	1.185E-04	1.699E-04
14	5.435E-05	4.580E-06	4.073E-05	4.531E-05
15	4.918E-05	1.530E-05	-2.132E-05	-6.014E-06
16	1.922E-05	3.996E-06	4.199E-06	8.194E-06
17	8.422E-06	7.617E-07	7.894E-07	1.551E-06
18	2.504E-06	1.567E-07	3.373E-07	4.940E-07
19	7.254E-07	2.612E-08	4.726E-08	7.338E-08
20	6.294E-07	3.581E-08	7.939E-08	1.152E-07
21	2.035E-07	6.828E-09	-1.083E-08	-4.006E-09
22	1.371E-07	5.106E-09	4.693E-09	9.799E-09
23	1.253E-07	3.466E-09	1.637E-08	1.984E-08
24	2.823E-08	1.592E-09	6.961E-11	1.662E-09
25	2.159E-08	1.463E-10	4.545E-12	1.508E-10
26	8.374E-09	-2.905E-12	5.525E-12	2.620E-12
27	4.366E-09	7.771E-12	1.340E-13	7.905E-12
28	7.707E-10	5.567E-11	4.058E-14	5.571E-11
29	7.280E-10	1.090E-11	2.700E-11	3.790E-11
30	2.441E-10	1.525E-14	6.800E-18	1.526E-14
31	2.198E-13	4.963E-16	1.352E-15	1.849E-15
32	1.026E-13	3.926E-16	-1.259E-18	3.913E-16
33	9.550E-15	8.103E-17	4.389E-19	8.147E-17

FITTING PARAMETER(U233(H))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	2.326E-02	3.774E-02	6.101E-02
2	1.001E+00	9.131E-02	1.140E-01	2.054E-01
3	5.157E-01	6.285E-02	8.079E-03	7.093E-02
4	2.951E-01	5.043E-02	1.214E-01	1.719E-01
5	1.959E-01	5.450E-02	-2.208E-02	3.243E-02
6	1.037E-01	5.577E-02	5.598E-02	1.118E-01
7	3.488E-02	1.497E-02	1.284E-02	2.781E-02
8	1.330E-02	7.712E-03	9.055E-03	1.677E-02
9	5.004E-03	8.447E-04	9.116E-04	1.756E-03
10	3.591E-03	8.849E-04	9.488E-04	1.834E-03
11	1.357E-03	4.278E-04	4.302E-04	8.580E-04
12	5.645E-04	2.682E-04	3.012E-04	5.694E-04
13	1.850E-04	4.340E-05	8.291E-05	1.263E-04
14	5.435E-05	2.674E-06	3.747E-05	4.015E-05
15	4.918E-05	1.506E-05	-1.827E-05	-3.216E-06
16	1.922E-05	3.357E-06	3.546E-06	6.903E-06
17	8.422E-06	8.815E-07	8.530E-07	1.735E-06
18	2.504E-06	1.528E-07	2.860E-07	4.388E-07
19	7.254E-07	4.994E-08	4.598E-08	9.592E-08
20	6.294E-07	4.960E-09	6.390E-08	6.886E-08
21	2.035E-07	8.460E-09	-7.821E-09	6.392E-10
22	1.371E-07	-2.819E-09	4.099E-09	1.280E-09
23	1.253E-07	8.123E-09	1.288E-08	2.100E-08
24	2.823E-08	8.719E-10	5.982E-11	9.317E-10
25	2.159E-08	4.959E-10	3.643E-11	5.323E-10
26	8.374E-09	9.578E-12	6.584E-11	7.542E-11
27	4.366E-09	1.071E-11	1.756E-12	1.246E-11
28	7.707E-10	3.625E-11	-1.189E-13	3.613E-11
29	7.280E-10	1.266E-11	2.021E-11	3.287E-11
30	2.441E-10	2.797E-14	2.066E-16	2.818E-14
31	2.198E-13	3.081E-15	8.737E-15	1.182E-14
32	1.026E-13	2.898E-16	-2.844E-18	2.870E-16
33	9.550E-15	6.838E-17	9.154E-19	6.930E-17

FITTING PARAMETER(U235(T))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	1.150E-01	8.462E-02	1.996E-01
2	1.001E+00	2.503E-01	2.153E-01	4.655E-01
3	5.157E-01	4.263E-02	1.721E-02	5.984E-02
4	2.951E-01	1.576E-01	1.861E-01	3.437E-01
5	1.959E-01	7.128E-02	-1.290E-02	5.837E-02
6	1.037E-01	9.327E-02	7.536E-02	1.686E-01
7	3.488E-02	2.538E-02	1.917E-02	4.455E-02
8	1.330E-02	1.051E-02	1.229E-02	2.280E-02
9	5.004E-03	1.560E-03	2.395E-03	3.955E-03
10	3.591E-03	6.624E-04	4.086E-04	1.071E-03
11	1.357E-03	5.508E-04	6.116E-04	1.162E-03
12	5.645E-04	3.306E-04	3.112E-04	6.418E-04
13	1.850E-04	5.411E-05	1.392E-04	1.933E-04
14	5.435E-05	-4.364E-07	3.274E-05	3.230E-05
15	4.918E-05	1.651E-05	-1.716E-05	-6.495E-07
16	1.922E-05	4.017E-06	4.479E-06	8.496E-06
17	8.422E-06	8.196E-07	7.725E-07	1.592E-06
18	2.504E-06	1.649E-07	3.158E-07	4.807E-07
19	7.254E-07	1.929E-08	4.205E-08	6.133E-08
20	6.294E-07	4.293E-08	8.189E-08	1.248E-07
21	2.035E-07	5.576E-09	-1.040E-08	-4.821E-09
22	1.371E-07	5.717E-09	5.144E-09	1.086E-08
23	1.253E-07	2.463E-09	1.679E-08	1.925E-08
24	2.823E-08	1.981E-09	8.234E-11	2.063E-09
25	2.159E-08	1.600E-10	9.594E-12	1.696E-10
26	8.374E-09	4.275E-12	1.666E-12	5.941E-12
27	4.366E-09	4.485E-12	-2.348E-14	4.462E-12
28	7.707E-10	5.086E-11	5.148E-14	5.091E-11
29	7.280E-10	1.040E-11	2.550E-11	3.590E-11
30	2.441E-10	2.042E-14	8.515E-18	2.043E-14
31	2.198E-13	1.087E-16	2.812E-16	3.899E-16
32	1.026E-13	5.274E-16	-1.307E-21	5.274E-16
33	9.550E-15	7.575E-17	2.993E-20	7.578E-17

FITTING PARAMETER(U235(F))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	1.098E-01	7.978E-02	1.896E-01
2	1.001E+00	2.634E-01	2.208E-01	4.842E-01
3	5.157E-01	6.636E-02	3.762E-02	1.040E-01
4	2.951E-01	1.593E-01	1.774E-01	3.367E-01
5	1.959E-01	6.904E-02	-8.445E-04	6.820E-02
6	1.037E-01	9.206E-02	7.392E-02	1.660E-01
7	3.488E-02	2.562E-02	1.949E-02	4.511E-02
8	1.330E-02	1.053E-02	1.231E-02	2.284E-02
9	5.004E-03	1.502E-03	2.287E-03	3.790E-03
10	3.591E-03	6.670E-04	4.431E-04	1.110E-03
11	1.357E-03	5.453E-04	5.882E-04	1.134E-03
12	5.645E-04	3.342E-04	3.269E-04	6.611E-04
13	1.850E-04	5.386E-05	1.363E-04	1.902E-04
14	5.435E-05	-2.606E-07	3.048E-05	3.022E-05
15	4.918E-05	1.604E-05	-1.536E-05	6.824E-07
16	1.922E-05	3.931E-06	4.373E-06	8.304E-06
17	8.422E-06	8.196E-07	7.876E-07	1.607E-06
18	2.504E-06	1.667E-07	3.340E-07	5.006E-07
19	7.254E-07	2.333E-08	4.473E-08	6.805E-08
20	6.294E-07	3.801E-08	7.721E-08	1.152E-07
21	2.035E-07	6.292E-09	-9.688E-09	-3.396E-09
22	1.371E-07	3.892E-09	4.787E-09	8.679E-09
23	1.253E-07	3.442E-09	1.661E-08	2.005E-08
24	2.823E-08	1.896E-09	7.866E-11	1.975E-09
25	2.159E-08	2.116E-10	1.673E-11	2.283E-10
26	8.374E-09	3.954E-12	3.032E-12	6.986E-12
27	4.366E-09	4.472E-12	9.147E-14	4.563E-12
28	7.707E-10	4.685E-11	5.363E-14	4.691E-11
29	7.280E-10	1.028E-11	2.522E-11	3.550E-11
30	2.441E-10	1.998E-14	1.726E-17	2.000E-14
31	2.198E-13	2.707E-16	7.059E-16	9.766E-16
32	1.026E-13	4.833E-16	6.167E-20	4.834E-16
33	9.550E-15	7.690E-17	1.963E-20	7.692E-17

FITTING PARAMETER(U235(H))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	4.175E-02	4.574E-02	8.749E-02
2	1.001E+00	1.366E-01	1.435E-01	2.801E-01
3	5.157E-01	7.314E-02	2.286E-02	9.601E-02
4	2.951E-01	9.003E-02	1.475E-01	2.375E-01
5	1.959E-01	5.805E-02	-1.723E-02	4.081E-02
6	1.037E-01	7.178E-02	6.420E-02	1.360E-01
7	3.488E-02	1.726E-02	1.434E-02	3.160E-02
8	1.330E-02	8.464E-03	9.910E-03	1.837E-02
9	5.004E-03	9.969E-04	1.133E-03	2.130E-03
10	3.591E-03	8.611E-04	9.211E-04	1.782E-03
11	1.357E-03	4.291E-04	4.486E-04	8.777E-04
12	5.645E-04	2.861E-04	3.114E-04	5.975E-04
13	1.850E-04	4.504E-05	1.021E-04	1.471E-04
14	5.435E-05	-2.403E-06	2.942E-05	2.701E-05
15	4.918E-05	1.859E-05	-1.136E-05	7.227E-06
16	1.922E-05	3.447E-06	3.708E-06	7.156E-06
17	8.422E-06	8.843E-07	9.144E-07	1.799E-06
18	2.504E-06	1.794E-07	3.462E-07	5.256E-07
19	7.254E-07	4.892E-08	5.057E-08	9.948E-08
20	6.294E-07	6.420E-09	5.022E-08	5.664E-08
21	2.035E-07	8.066E-09	-7.039E-09	1.027E-09
22	1.371E-07	-2.392E-09	4.001E-09	1.609E-09
23	1.253E-07	7.422E-09	1.301E-08	2.044E-08
24	2.823E-08	1.095E-09	6.319E-11	1.158E-09
25	2.159E-08	5.406E-10	4.668E-11	5.873E-10
26	8.374E-09	1.068E-11	5.082E-11	6.150E-11
27	4.366E-09	8.320E-12	1.467E-12	9.786E-12
28	7.707E-10	3.748E-11	-8.884E-14	3.739E-11
29	7.280E-10	1.075E-11	2.012E-11	3.088E-11
30	2.441E-10	2.380E-14	7.077E-17	2.387E-14
31	2.198E-13	2.966E-15	8.443E-15	1.141E-14
32	1.026E-13	4.237E-16	-5.786E-19	4.231E-16
33	9.550E-15	7.175E-17	2.996E-19	7.205E-17

Table 4.2.1 Continued

FITTING PARAMETER(U236(F))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	1.323E-01	9.633E-02	2.287E-01
2	1.001E+00	2.963E-01	2.425E-01	5.389E-01
3	5.157E-01	9.311E-02	5.562E-02	1.487E-01
4	2.951E-01	1.822E-01	2.015E-01	3.838E-01
5	1.959E-01	9.078E-02	4.650E-03	9.543E-02
6	1.037E-01	1.024E-01	7.984E-02	1.823E-01
7	3.488E-02	2.753E-02	2.139E-02	4.892E-02
8	1.330E-02	1.132E-02	1.299E-02	2.432E-02
9	5.004E-03	1.715E-03	2.596E-03	4.312E-03
10	3.591E-03	5.714E-04	2.476E-04	8.190E-04
11	1.357E-03	5.969E-04	6.350E-04	1.232E-03
12	5.645E-04	3.327E-04	3.139E-04	6.466E-04
13	1.850E-04	5.368E-05	1.418E-04	1.955E-04
14	5.435E-05	-7.031E-06	2.968E-05	2.265E-05
15	4.918E-05	2.248E-05	-1.418E-05	8.297E-06
16	1.922E-05	3.475E-06	4.051E-06	7.526E-06
17	8.422E-06	8.280E-07	7.493E-07	1.577E-06
18	2.504E-06	1.727E-07	3.218E-07	4.945E-07
19	7.254E-07	1.745E-08	4.081E-08	5.827E-08
20	6.294E-07	4.251E-08	7.494E-08	1.174E-07
21	2.035E-07	5.194E-09	-9.285E-09	-4.091E-09
22	1.371E-07	4.797E-09	5.470E-09	1.027E-08
23	1.253E-07	2.615E-09	1.629E-08	1.890E-08
24	2.823E-08	1.880E-09	8.089E-11	1.960E-09
25	2.159E-08	3.529E-10	3.447E-11	3.873E-10
26	8.374E-09	5.583E-12	6.153E-12	1.174E-11
27	4.366E-09	5.129E-12	3.232E-13	5.452E-12
28	7.707E-10	3.918E-11	2.229E-14	3.920E-11
29	7.280E-10	1.007E-11	2.494E-11	3.501E-11
30	2.441E-10	2.074E-14	4.477E-18	2.074E-14
31	2.198E-13	4.608E-16	1.252E-15	1.713E-15
32	1.026E-13	4.966E-16	-6.725E-19	4.959E-16
33	9.550E-15	7.031E-17	2.684E-19	7.058E-17

FITTING PARAMETER(NP237(F))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	5.918E-02	4.516E-02	1.043E-01
2	1.001E+00	1.944E-01	1.678E-01	3.622E-01
3	5.157E-01	8.785E-02	5.270E-02	1.406E-01
4	2.951E-01	1.241E-01	1.444E-01	2.685E-01
5	1.959E-01	6.649E-02	4.686E-03	7.118E-02
6	1.037E-01	8.196E-02	6.660E-02	1.486E-01
7	3.488E-02	2.183E-02	1.683E-02	3.866E-02
8	1.330E-02	1.006E-02	1.124E-02	2.130E-02
9	5.004E-03	1.224E-03	1.705E-03	2.929E-03
10	3.591E-03	7.016E-04	5.706E-04	1.272E-03
11	1.357E-03	5.557E-04	5.435E-04	1.099E-03
12	5.645E-04	3.333E-04	3.521E-04	6.854E-04
13	1.850E-04	4.784E-05	1.215E-04	1.693E-04
14	5.435E-05	-3.835E-06	1.573E-05	1.190E-05
15	4.918E-05	1.640E-05	-3.482E-06	1.292E-05
16	1.922E-05	3.589E-06	4.004E-06	7.593E-06
17	8.422E-06	8.642E-07	8.731E-07	1.737E-06
18	2.504E-06	1.814E-07	3.650E-07	5.464E-07
19	7.254E-07	2.433E-08	4.483E-08	6.916E-08
20	6.294E-07	3.225E-08	6.840E-08	1.007E-07
21	2.035E-07	5.849E-09	-6.048E-09	-1.991E-10
22	1.371E-07	5.430E-10	4.213E-09	4.756E-09
23	1.253E-07	4.053E-09	1.491E-08	1.896E-08
24	2.823E-08	1.506E-09	6.390E-11	1.570E-09
25	2.159E-08	7.291E-10	8.905E-11	8.182E-10
26	8.374E-09	6.764E-12	5.000E-12	1.176E-11
27	4.366E-09	3.704E-12	3.442E-13	4.048E-12
28	7.707E-10	2.872E-11	2.457E-14	2.874E-11
29	7.280E-10	1.061E-11	2.566E-11	3.627E-11
30	2.441E-10	3.488E-14	8.311E-18	3.489E-14
31	2.198E-13	3.030E-16	8.331E-16	1.136E-15
32	1.026E-13	5.289E-16	-7.951E-20	5.289E-16
33	9.550E-15	7.527E-17	8.716E-20	7.536E-17

FITTING PARAMETER(U238(F))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	3.122E-01	2.291E-01	5.413E-01
2	1.001E+00	4.472E-01	3.490E-01	7.962E-01
3	5.157E-01	1.783E-01	1.285E-01	3.068E-01
4	2.951E-01	2.918E-01	2.423E-01	5.340E-01
5	1.959E-01	1.144E-01	4.227E-02	1.567E-01
6	1.037E-01	1.275E-01	9.537E-02	2.229E-01
7	3.488E-02	3.018E-02	2.458E-02	5.476E-02
8	1.330E-02	1.236E-02	1.370E-02	2.606E-02
9	5.004E-03	2.328E-03	3.542E-03	5.870E-03
10	3.591E-03	3.521E-04	-9.338E-05	2.587E-04
11	1.357E-03	6.266E-04	6.632E-04	1.290E-03
12	5.645E-04	3.375E-04	3.192E-04	6.567E-04
13	1.850E-04	5.110E-05	1.331E-04	1.842E-04
14	5.435E-05	-4.377E-06	1.942E-05	1.504E-05
15	4.918E-05	1.695E-05	-6.862E-06	1.009E-05
16	1.922E-05	3.451E-06	4.068E-06	7.519E-06
17	8.422E-06	8.203E-07	7.376E-07	1.558E-06
18	2.504E-06	1.867E-07	3.760E-07	5.627E-07
19	7.254E-07	1.867E-08	3.901E-08	5.769E-08
20	6.294E-07	3.951E-08	8.062E-08	1.201E-07
21	2.035E-07	5.539E-09	-4.286E-09	1.254E-09
22	1.371E-07	2.355E-09	3.935E-09	6.290E-09
23	1.253E-07	2.762E-09	1.325E-08	1.601E-08
24	2.823E-08	1.645E-09	6.751E-11	1.713E-09
25	2.159E-08	8.071E-10	1.020E-10	9.092E-10
26	8.374E-09	9.434E-12	2.242E-12	1.168E-11
27	4.366E-09	2.745E-12	2.771E-13	3.023E-12
28	7.707E-10	2.792E-11	2.712E-14	2.795E-11
29	7.280E-10	1.029E-11	2.479E-11	3.508E-11
30	2.441E-10	3.896E-14	8.839E-18	3.897E-14
31	2.198E-13	1.201E-16	3.228E-16	4.429E-16
32	1.026E-13	5.356E-16	-1.640E-19	5.355E-16
33	9.550E-15	6.921E-17	9.300E-20	6.931E-17

FITTING PARAMETER(U238(H))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	2.536E-01	1.938E-01	4.475E-01
2	1.001E+00	4.495E-01	3.588E-01	8.083E-01
3	5.157E-01	1.153E-01	7.503E-02	1.904E-01
4	2.951E-01	2.309E-01	2.262E-01	4.571E-01
5	1.959E-01	9.852E-02	2.941E-02	1.279E-01
6	1.037E-01	1.181E-01	8.915E-02	2.073E-01
7	3.488E-02	2.555E-02	2.019E-02	4.574E-02
8	1.330E-02	1.115E-02	1.224E-02	2.339E-02
9	5.004E-03	1.382E-03	1.875E-03	3.257E-03
10	3.591E-03	8.463E-04	7.073E-04	1.554E-03
11	1.357E-03	5.129E-04	5.252E-04	1.038E-03
12	5.645E-04	3.193E-04	3.252E-04	6.444E-04
13	1.850E-04	5.116E-05	1.230E-04	1.742E-04
14	5.435E-05	-3.539E-06	1.664E-05	1.310E-05
15	4.918E-05	1.567E-05	-4.056E-06	1.161E-05
16	1.922E-05	3.203E-06	3.555E-06	6.757E-06
17	8.422E-06	9.260E-07	8.369E-07	1.763E-06
18	2.504E-06	1.967E-07	3.824E-07	5.791E-07
19	7.254E-07	3.891E-08	4.873E-08	8.765E-08
20	6.294E-07	1.523E-08	5.146E-08	6.669E-08
21	2.035E-07	6.435E-09	-5.451E-09	9.846E-10
22	1.371E-07	-1.548E-09	3.800E-09	2.252E-09
23	1.253E-07	5.544E-09	1.282E-08	1.837E-08
24	2.823E-08	1.298E-09	6.832E-11	1.366E-09
25	2.159E-08	7.979E-10	8.568E-11	8.836E-10
26	8.374E-09	1.722E-11	4.321E-11	6.043E-11
27	4.366E-09	4.890E-12	1.535E-12	6.426E-12
28	7.707E-10	2.622E-11	-6.695E-14	2.615E-11
29	7.280E-10	9.503E-12	2.036E-11	2.986E-11
30	2.441E-10	4.207E-14	2.926E-17	4.210E-14
31	2.198E-13	2.934E-15	8.353E-15	1.129E-14
32	1.026E-13	4.707E-16	4.797E-20	4.707E-16
33	9.550E-15	6.434E-17	2.021E-19	6.454E-17

FITTING PARAMETER(PU239(T))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	2.661E-02	2.583E-02	5.243E-02
2	1.001E+00	1.115E-01	1.031E-01	2.145E-01
3	5.157E-01	7.727E-02	4.454E-02	1.218E-01
4	2.951E-01	9.326E-02	1.000E-01	1.933E-01
5	1.959E-01	4.667E-02	8.368E-03	5.504E-02
6	1.037E-01	6.625E-02	5.281E-02	1.191E-01
7	3.488E-02	1.988E-02	1.571E-02	3.559E-02
8	1.330E-02	9.400E-03	1.016E-02	1.956E-02
9	5.004E-03	1.115E-03	1.413E-03	2.527E-03
10	3.591E-03	7.224E-04	5.764E-04	1.299E-03
11	1.357E-03	5.849E-04	5.103E-04	1.095E-03
12	5.645E-04	3.215E-04	3.438E-04	6.653E-04
13	1.850E-04	4.616E-05	1.182E-04	1.643E-04
14	5.435E-05	-1.363E-06	9.584E-06	8.222E-06
15	4.918E-05	1.176E-05	9.803E-07	1.274E-05
16	1.922E-05	3.124E-06	3.464E-06	6.588E-06
17	8.422E-06	8.766E-07	8.953E-07	1.772E-06
18	2.504E-06	1.935E-07	3.938E-07	5.873E-07
19	7.254E-07	2.565E-08	4.234E-08	6.799E-08
20	6.294E-07	3.121E-08	7.252E-08	1.037E-07
21	2.035E-07	6.029E-09	-2.981E-09	3.048E-09
22	1.371E-07	-1.709E-09	3.506E-09	1.797E-09
23	1.253E-07	4.377E-09	1.287E-08	1.724E-08
24	2.823E-08	1.347E-09	5.562E-11	1.403E-09
25	2.159E-08	1.350E-09	1.777E-10	1.527E-09
26	8.374E-09	7.846E-12	4.268E-12	1.211E-11
27	4.366E-09	2.669E-12	4.189E-13	3.088E-12
28	7.707E-10	1.815E-11	3.587E-14	1.819E-11
29	7.280E-10	1.144E-11	2.737E-11	3.881E-11
30	2.441E-10	3.770E-14	3.992E-17	3.774E-14
31	2.198E-13	4.835E-16	1.359E-15	1.843E-15
32	1.026E-13	5.278E-16	4.094E-19	5.283E-16
33	9.550E-15	6.858E-17	-8.932E-20	6.849E-17

FITTING PARAMETER(PU239(F))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	3.048E-02	2.876E-02	5.924E-02
2	1.001E+00	1.210E-01	1.103E-01	2.312E-01
3	5.157E-01	8.407E-02	5.196E-02	1.360E-01
4	2.951E-01	8.979E-02	9.485E-02	1.846E-01
5	1.959E-01	5.702E-02	1.779E-02	7.481E-02
6	1.037E-01	6.878E-02	5.355E-02	1.223E-01
7	3.488E-02	1.934E-02	1.557E-02	3.491E-02
8	1.330E-02	9.601E-03	1.044E-02	2.004E-02
9	5.004E-03	1.139E-03	1.342E-03	2.481E-03
10	3.591E-03	6.219E-04	4.953E-04	1.117E-03
11	1.357E-03	5.881E-04	5.082E-04	1.096E-03
12	5.645E-04	3.314E-04	3.660E-04	6.975E-04
13	1.850E-04	4.586E-05	1.167E-04	1.626E-04
14	5.435E-05	-1.703E-06	8.966E-06	7.263E-06
15	4.918E-05	1.207E-05	1.430E-06	1.350E-05
16	1.922E-05	3.033E-06	3.354E-86	6.387E-06
17	8.422E-06	8.729E-07	8.822E-07	1.755E-06
18	2.504E-06	1.914E-07	3.863E-07	5.777E-07
19	7.254E-07	2.557E-08	4.197E-08	6.754E-08
20	6.294E-07	2.984E-08	6.981E-08	9.965E-08
21	2.035E-07	5.966E-09	-2.591E-09	3.375E-09
22	1.371E-07	-1.601E-09	3.280E-09	1.680E-09
23	1.253E-07	4.245E-09	1.237E-08	1.661E-08
24	2.823E-08	1.297E-09	5.528E-11	1.353E-09
25	2.159E-08	1.378E-09	1.796E-10	1.557E-09
26	8.374E-09	7.402E-12	5.745E-12	1.315E-11
27	4.366E-09	3.048E-12	5.347E-13	3.583E-12
28	7.707E-10	1.749E-11	5.654E-14	1.755E-11
29	7.280E-10	1.114E-11	2.645E-11	3.759E-11
30	2.441E-10	3.805E-14	7.005E-17	3.812E-14
31	2.198E-13	5.573E-16	1.564E-15	2.121E-15
32	1.026E-13	5.120E-16	-2.185E-18	5.098E-16
33	9.550E-15	6.726E-17	7.092E-19	6.797E-17

FITTING PARAMETER(PU239(H))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	1.464E-02	4.143E-02	5.607E-02
2	1.001E+00	6.915E-02	9.898E-02	1.681E-01
3	5.157E-01	6.587E-02	7.672E-03	7.355E-02
4	2.951E-01	5.953E-02	1.074E-01	1.670E-01
5	1.959E-01	4.184E-02	-7.614E-03	3.423E-02
6	1.037E-01	5.396E-02	5.249E-02	1.064E-01
7	3.488E-02	1.347E-02	1.198E-02	2.544E-02
8	1.330E-02	7.311E-03	7.926E-03	1.524E-02
9	5.004E-03	1.008E-03	9.096E-04	1.917E-03
10	3.591E-03	5.601E-04	6.288E-04	1.189E-03
11	1.357E-03	4.647E-04	4.178E-04	8.826E-04
12	5.645E-04	2.730E-04	3.143E-04	5.873E-04
13	1.850E-04	3.376E-05	7.079E-05	1.045E-04
14	5.435E-05	1.666E-06	2.123E-05	2.290E-05
15	4.918E-05	9.934E-06	-6.824E-06	3.110E-06
16	1.922E-05	2.561E-06	2.810E-06	5.372E-06
17	8.422E-06	9.127E-07	9.875E-07	1.900E-06
18	2.504E-06	1.764E-07	3.360E-07	5.124E-07
19	7.254E-07	5.960E-08	5.111E-08	1.107E-07
20	6.294E-07	-4.871E-09	5.156E-08	4.669E-08
21	2.035E-07	9.098E-09	-2.372E-09	6.725E-09
22	1.371E-07	-1.084E-08	2.793E-09	-8.051E-09
23	1.253E-07	1.119E-08	1.008E-08	2.127E-08
24	2.823E-08	9.560E-10	6.031E-11	1.016E-09
25	2.159E-08	1.152E-09	1.304E-10	1.283E-09
26	8.374E-09	2.100E-11	7.437E-11	9.537E-11
27	4.366E-09	7.403E-12	2.253E-12	9.656E-12
28	7.707E-10	1.672E-11	-1.595E-13	1.656E-11
29	7.280E-10	1.168E-11	1.843E-11	3.011E-11
30	2.441E-10	4.798E-14	1.998E-16	4.818E-14
31	2.198E-13	3.058E-15	8.781E-15	1.184E-14
32	1.026E-13	3.568E-16	-5.276E-18	3.515E-16
33	9.550E-15	5.531E-17	1.832E-18	5.714E-17

Table 4.2.1 Continued

FITTING PARAMETER(PU240(F))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	4.753E-02	3.857E-02	8.610E-02
2	1.001E+00	1.562E-01	1.324E-01	2.886E-01
3	5.157E-01	7.963E-02	5.842E-02	1.380E-01
4	2.951E-01	1.219E-01	1.028E-01	2.247E-01
5	1.959E-01	6.188E-02	2.814E-02	9.002E-02
6	1.037E-01	8.046E-02	5.653E-02	1.370E-01
7	3.488E-02	2.307E-02	1.901E-02	4.208E-02
8	1.330E-02	1.057E-02	1.161E-02	2.218E-02
9	5.004E-03	1.054E-03	1.386E-03	2.440E-03
10	3.591E-03	8.860E-04	6.256E-04	1.512E-03
11	1.357E-03	5.882E-04	4.893E-04	1.077E-03
12	5.645E-04	3.331E-04	3.511E-04	6.842E-04
13	1.850E-04	4.985E-05	1.246E-04	1.744E-04
14	5.435E-05	-2.518E-06	7.838E-06	5.320E-06
15	4.918E-05	1.223E-05	2.112E-06	1.434E-05
16	1.922E-05	3.045E-06	3.437E-06	6.483E-06
17	8.422E-06	8.949E-07	8.585E-07	1.753E-06
18	2.504E-06	1.878E-07	3.614E-07	5.491E-07
19	7.254E-07	2.298E-08	3.767E-08	6.065E-08
20	6.294E-07	3.193E-08	6.863E-08	1.006E-07
21	2.035E-07	5.262E-09	-2.311E-09	2.951E-09
22	1.371E-07	-1.154E-09	3.363E-09	2.210E-09
23	1.253E-07	3.679E-09	1.141E-08	1.509E-08
24	2.823E-08	1.464E-09	6.090E-11	1.525E-09
25	2.159E-08	1.568E-09	2.063E-10	1.774E-09
26	8.374E-09	8.378E-12	4.135E-12	1.251E-11
27	4.366E-09	2.987E-12	5.410E-13	3.528E-12
28	7.707E-10	1.616E-11	5.249E-14	1.622E-11
29	7.280E-10	1.114E-11	2.640E-11	3.754E-11
30	2.441E-10	4.128E-14	2.872E-17	4.131E-14
31	2.198E-13	5.059E-16	1.423E-15	1.929E-15
32	1.026E-13	5.136E-16	1.784E-20	5.136E-16
33	9.550E-15	6.663E-17	2.228E-20	6.665E-17

FITTING PARAMETER(PU241(T))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	9.654E-02	7.512E-02	1.717E-01
2	1.001E+00	2.410E-01	1.925E-01	4.335E-01
3	5.157E-01	1.067E-01	8.027E-02	1.870E-01
4	2.951E-01	1.828E-01	1.259E-01	3.087E-01
5	1.959E-01	8.099E-02	5.662E-02	1.376E-01
6	1.037E-01	9.330E-02	6.499E-02	1.583E-01
7	3.488E-02	2.765E-02	2.349E-02	5.114E-02
8	1.330E-02	1.184E-02	1.300E-02	2.483E-02
9	5.004E-03	1.123E-03	1.702E-03	2.824E-03
10	3.591E-03	1.017E-03	5.948E-04	1.612E-03
11	1.357E-03	6.279E-04	5.184E-04	1.146E-03
12	5.645E-04	3.375E-04	3.447E-04	6.823E-04
13	1.850E-04	5.059E-05	1.285E-04	1.791E-04
14	5.435E-05	-6.789E-07	7.740E-06	7.061E-06
15	4.918E-05	9.767E-06	1.547E-06	1.131E-05
16	1.922E-05	2.891E-06	3.450E-06	6.341E-06
17	8.422E-06	8.677E-07	7.489E-07	1.617E-06
18	2.504E-06	1.794E-07	3.196E-07	4.990E-07
19	7.254E-07	1.805E-08	3.327E-08	5.132E-08
20	6.294E-07	4.219E-08	9.015E-08	1.323E-07
21	2.035E-07	4.730E-09	-2.024E-09	2.706E-09
22	1.371E-07	-7.280E-10	2.809E-09	2.081E-09
23	1.253E-07	2.952E-09	1.079E-08	1.374E-08
24	2.823E-08	1.570E-09	6.099E-11	1.631E-09
25	2.159E-08	1.954E-09	2.630E-10	2.217E-09
26	8.374E-09	9.941E-12	1.812E-12	1.175E-11
27	4.366E-09	2.175E-12	4.758E-13	2.651E-12
28	7.707E-10	1.357E-11	4.450E-14	1.362E-11
29	7.280E-10	1.184E-11	2.821E-11	4.005E-11
30	2.441E-10	4.551E-14	1.619E-17	4.553E-14
31	2.198E-13	1.376E-16	3.867E-16	5.243E-16
32	1.026E-13	5.409E-16	-1.499E-19	5.407E-16
33	9.550E-15	6.048E-17	8.428E-20	6.056E-17

FITTING PARAMETER(PU241(F))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	8.889E-02	6.821E-02	1.571E-01
2	1.001E+00	2.332E-01	1.840E-01	4.172E-01
3	5.157E-01	1.078E-01	8.183E-02	1.897E-01
4	2.951E-01	1.675E-01	1.197E-01	2.872E-01
5	1.959E-01	8.724E-02	5.799E-02	1.452E-01
6	1.037E-01	9.306E-02	6.511E-02	1.582E-01
7	3.488E-02	2.672E-02	2.265E-02	4.937E-02
8	1.330E-02	1.178E-02	1.278E-02	2.455E-02
9	5.004E-03	1.122E-03	1.598E-03	2.719E-03
10	3.591E-03	9.382E-04	5.910E-04	1.529E-03
11	1.357E-03	6.315E-04	5.156E-04	1.147E-03
12	5.645E-04	3.389E-04	3.495E-04	6.884E-04
13	1.850E-04	5.102E-05	1.285E-04	1.796E-04
14	5.435E-05	-1.291E-06	4.982E-06	3.691E-06
15	4.918E-05	1.037E-05	4.193E-06	1.457E-05
16	1.922E-05	2.865E-06	3.347E-06	6.212E-06
17	8.422E-06	8.739E-07	7.670E-07	1.641E-06
18	2.504E-06	1.809E-07	3.459E-07	5.268E-07
19	7.254E-07	2.122E-08	3.409E-08	5.531E-08
20	6.294E-07	3.473E-08	7.575E-08	1.105E-07
21	2.035E-07	5.082E-09	-1.356E-09	3.726E-09
22	1.371E-07	-1.242E-09	2.604E-09	1.362E-09
23	1.253E-07	3.293E-09	1.044E-08	1.373E-08
24	2.823E-08	1.516E-09	5.949E-11	1.576E-09
25	2.159E-08	1.911E-09	2.563E-10	2.167E-09
26	8.374E-09	9.633E-12	3.531E-12	1.316E-11
27	4.366E-09	2.545E-12	7.128E-13	3.257E-12
28	7.707E-10	1.311E-11	4.914E-14	1.316E-11
29	7.280E-10	1.141E-11	2.695E-11	3.836E-11
30	2.441E-10	4.456E-14	3.893E-17	4.460E-14
31	2.198E-13	3.430E-16	9.616E-16	1.305E-15
32	1.026E-13	4.723E-16	5.812E-19	4.729E-16
33	9.550E-15	6.112E-17	-1.811E-19	6.094E-17

FITTING PARAMETER(PU242(F))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	9.663E-02	7.302E-02	1.696E-01
2	1.001E+00	2.212E-01	1.808E-01	4.020E-01
3	5.157E-01	1.032E-01	7.614E-02	1.793E-01
4	2.951E-01	1.812E-01	1.285E-01	3.096E-01
5	1.959E-01	8.881E-02	5.491E-02	1.437E-01
6	1.037E-01	9.854E-02	6.638E-02	1.649E-01
7	3.488E-02	2.873E-02	2.427E-02	5.300E-02
8	1.330E-02	1.182E-02	1.277E-02	2.459E-02
9	5.004E-03	1.201E-03	1.792E-03	2.994E-03
10	3.591E-03	1.008E-03	5.694E-04	1.577E-03
11	1.357E-03	6.008E-04	4.974E-04	1.098E-03
12	5.645E-04	3.341E-04	3.285E-04	6.626E-04
13	1.850E-04	5.140E-05	1.290E-04	1.804E-04
14	5.435E-05	-1.299E-06	7.020E-06	5.721E-06
15	4.918E-05	1.057E-05	2.206E-06	1.278E-05
16	1.922E-05	3.000E-06	3.387E-06	6.387E-06
17	8.422E-06	9.309E-07	8.030E-07	1.734E-06
18	2.504E-06	1.792E-07	3.414E-07	5.205E-07
19	7.254E-07	2.683E-08	3.419E-08	6.101E-08
20	6.294E-07	2.900E-08	6.933E-08	9.834E-08
21	2.035E-07	5.361E-09	-2.039E-09	3.322E-09
22	1.371E-07	-1.623E-09	2.604E-09	9.808E-10
23	1.253E-07	3.679E-09	1.076E-08	1.444E-08
24	2.823E-08	1.544E-09	6.027E-11	1.604E-09
25	2.159E-08	1.670E-09	2.237E-10	1.894E-09
26	8.374E-09	1.027E-11	2.617E-12	1.289E-11
27	4.366E-09	2.745E-12	7.994E-13	3.544E-12
28	7.707E-10	1.475E-11	2.529E-14	1.478E-11
29	7.280E-10	1.111E-11	2.617E-11	3.728E-11
30	2.441E-10	5.001E-14	9.587E-18	5.002E-14
31	2.198E-13	3.218E-16	9.021E-16	1.224E-15
32	1.026E-13	4.618E-16	-1.291E-19	4.616E-16
33	9.550E-15	6.092E-17	1.038E-19	6.103E-17

FITTING PARAMETER(CF252(S))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	1.476E-02	1.386E-02	2.863E-02
2	1.001E+00	9.669E-02	6.873E-02	1.654E-01
3	5.157E-01	1.340E-01	1.016E-01	2.356E-01
4	2.951E-01	1.084E-01	4.498E-02	1.534E-01
5	1.959E-01	4.731E-02	5.857E-02	1.059E-01
6	1.037E-01	8.651E-02	5.370E-02	1.402E-01
7	3.488E-02	2.559E-02	2.342E-02	4.901E-02
8	1.330E-02	1.132E-02	1.247E-02	2.378E-02
9	5.004E-03	1.718E-03	1.202E-03	2.920E-03
10	3.591E-03	1.034E-03	9.390E-04	1.973E-03
11	1.357E-03	5.413E-04	3.182E-04	8.595E-04
12	5.645E-04	3.457E-04	3.270E-04	6.727E-04
13	1.850E-04	4.102E-05	7.654E-05	1.176E-04
14	5.435E-05	3.714E-06	1.469E-05	1.840E-05
15	4.918E-05	5.752E-06	-5.934E-06	-1.814E-07
16	1.922E-05	2.149E-06	1.797E-06	3.946E-06
17	8.422E-06	1.105E-06	6.415E-07	1.746E-06
18	2.504E-06	7.792E-08	1.562E-07	2.341E-07
19	7.254E-07	5.413E-08	1.049E-08	6.462E-08
20	6.294E-07	2.414E-08	1.119E-07	1.360E-07
21	2.035E-07	8.259E-09	4.043E-09	1.230E-08
22	1.371E-07	-8.958E-09	-1.697E-10	-9.127E-09
23	1.253E-07	6.955E-09	4.175E-09	1.113E-08
24	2.823E-08	2.180E-09	7.648E-11	2.257E-09
25	2.159E-08	2.183E-09	2.975E-10	2.480E-09
26	8.374E-09	2.029E-11	7.257E-13	2.101E-11
27	4.366E-09	4.219E-12	1.945E-12	6.164E-12
28	7.707E-10	5.798E-12	1.094E-14	5.809E-12
29	7.280E-10	8.421E-12	1.994E-11	2.836E-11
30	2.441E-10	9.068E-14	4.693E-17	9.073E-14
31	2.198E-13	4.697E-17	1.292E-16	1.761E-16
32	1.026E-13	2.282E-16	-4.532E-20	2.281E-16
33	9.550E-15	3.006E-17	2.781E-20	3.009E-17
34	3.627E-06	1.297E-07	1.698E-08	1.467E-07
35	1.830E-11	2.231E-18	3.670E-17	3.893E-17

Table 4.2.2 Discrepancies between exponential fitting and calculated results of the total sensible decay powr after instantaneus burst fission

(B+G) FITTING ERROR TABEL FOR BURST

(UNIT : %)

TIME(S)	TH232(F)	TH232(H)	U233(T)	U233(F)	U233(H)	U235(T)	U235(F)	U235(H)	U236(F)	NP237(F)
0.0	0.20	0.29	0.13	0.15	0.20	0.23	0.20	0.20	0.19	0.17
1.0D-01	0.03	0.02	-0.01	-0.01	-0.02	0.01	0.01	-0.01	0.01	0.00
1.5D-01	-0.04	-0.07	-0.05	-0.06	-0.08	-0.06	-0.05	-0.07	-0.05	-0.05
2.0D-01	-0.09	-0.13	-0.08	-0.09	-0.11	-0.11	-0.10	-0.11	-0.09	-0.09
3.0D-01	-0.15	-0.18	-0.09	-0.10	-0.13	-0.15	-0.14	-0.13	-0.13	-0.11
4.0D-01	-0.15	-0.17	-0.07	-0.08	-0.10	-0.14	-0.13	-0.10	-0.12	-0.10
5.0D-01	-0.11	-0.11	-0.04	-0.03	-0.05	-0.09	-0.08	-0.05	-0.08	-0.06
6.0D-01	-0.05	-0.03	0.00	0.02	0.02	-0.02	-0.02	0.01	-0.03	-0.01
8.0D-01	0.09	0.14	0.08	0.10	0.12	0.12	0.10	0.12	0.10	0.10
1.0D+00	0.21	0.26	0.12	0.15	0.18	0.22	0.20	0.19	0.19	0.17
1.5D+00	0.27	0.28	0.09	0.11	0.12	0.22	0.21	0.15	0.22	0.17
2.0D+00	0.07	0.05	-0.02	-0.02	-0.05	0.03	0.03	-0.02	0.05	0.02
3.0D+00	-0.27	-0.31	-0.14	-0.17	-0.21	-0.26	-0.24	-0.22	-0.23	-0.20
4.0D+00	-0.25	-0.25	-0.08	-0.10	-0.11	-0.19	-0.19	-0.14	-0.20	-0.16
5.0D+00	-0.04	-0.01	0.02	0.03	0.04	0.01	-0.01	0.02	-0.02	-0.02
6.0D+00	0.14	0.18	0.08	0.11	0.13	0.15	0.13	0.13	0.13	0.09
8.0D+00	0.20	0.23	0.06	0.08	0.09	0.18	0.17	0.11	0.19	0.13
1.0D+01	0.04	0.04	-0.02	-0.03	-0.06	0.03	0.03	-0.04	0.06	0.02
1.5D+01	-0.22	-0.26	-0.08	-0.10	-0.12	-0.19	-0.18	-0.14	-0.18	-0.14
2.0D+01	-0.03	-0.07	0.00	0.01	0.05	-0.05	-0.05	0.03	-0.07	-0.04
3.0D+01	0.19	0.21	0.05	0.06	0.08	0.13	0.14	0.08	0.15	0.10
4.0D+01	0.04	0.08	0.02	-0.00	-0.06	0.06	0.08	-0.06	0.09	0.05
5.0D+01	-0.06	-0.03	0.03	0.01	-0.05	0.01	0.03	-0.05	0.01	0.00
6.0D+01	-0.06	-0.06	0.03	0.03	0.02	-0.02	-0.01	0.03	-0.04	-0.03
8.0D+01	-0.02	-0.08	-0.05	-0.02	0.05	-0.11	-0.09	0.07	-0.13	-0.10
1.0D+02	-0.03	-0.10	-0.12	-0.09	-0.02	-0.16	-0.14	0.01	-0.16	-0.13
1.5D+02	0.05	0.10	0.06	0.04	0.01	0.10	0.10	-0.00	0.11	0.13
2.0D+02	0.11	0.19	0.17	0.12	0.04	0.25	0.22	0.00	0.25	0.18
3.0D+02	-0.16	-0.18	-0.10	-0.12	-0.17	-0.09	-0.12	-0.18	-0.12	-0.21
4.0D+02	-0.09	-0.14	-0.08	-0.06	-0.02	-0.12	-0.13	-0.01	-0.13	-0.11
5.0D+02	0.12	0.09	0.04	0.08	0.17	0.02	0.03	0.18	0.03	0.11
6.0D+02	0.15	0.17	0.07	0.09	0.16	0.07	0.08	0.17	0.08	0.15
8.0D+02	-0.06	-0.02	-0.02	-0.06	-0.11	0.01	-0.00	-0.13	-0.00	-0.05
1.0D+03	-0.17	-0.16	-0.04	-0.11	-0.25	0.02	-0.01	-0.27	0.01	-0.14
1.5D+03	0.04	0.00	0.07	0.06	0.02	0.09	0.09	0.03	0.11	0.05
2.0D+03	0.13	0.12	-0.00	0.08	0.21	-0.09	-0.05	0.25	-0.10	0.07
3.0D+03	0.06	0.07	-0.10	-0.00	0.14	-0.19	-0.15	0.19	-0.24	-0.01
4.0D+03	-0.03	-0.00	0.02	0.01	-0.02	0.06	0.04	-0.01	0.04	0.04
5.0D+03	-0.11	-0.08	0.08	-0.03	-0.18	0.18	0.12	-0.20	0.21	0.01
6.0D+03	-0.15	-0.14	0.04	-0.11	-0.28	0.12	0.05	-0.33	0.17	-0.10
8.0D+03	-0.00	-0.07	-0.05	-0.10	-0.14	-0.09	-0.12	-0.19	-0.06	-0.18
1.0D+04	0.25	0.17	0.02	0.11	0.26	-0.10	-0.07	0.25	-0.10	0.05
1.5D+04	0.16	0.27	0.05	0.24	0.47	0.06	0.14	0.58	0.03	0.39
2.0D+04	-0.32	-0.17	-0.18	-0.15	-0.15	-0.02	-0.03	-0.07	-0.04	-0.00
3.0D+04	-0.16	-0.28	-0.01	-0.17	-0.37	0.00	-0.09	-0.49	-0.00	-0.31
4.0D+04	0.26	0.10	0.21	0.13	0.04	0.08	0.05	-0.09	0.10	-0.05
5.0D+04	0.19	0.17	0.07	0.10	0.15	-0.01	0.01	0.14	0.02	0.06
6.0D+04	-0.07	0.02	-0.16	-0.06	0.05	-0.12	-0.08	0.14	-0.10	0.04
8.0D+04	-0.29	-0.19	-0.22	-0.15	-0.10	-0.08	-0.06	0.02	-0.10	0.01
1.0D+05	-0.01	-0.04	0.09	0.07	0.01	0.15	0.13	0.02	0.10	0.06
1.5D+05	0.40	0.27	0.30	0.20	0.11	0.16	0.10	-0.01	0.17	-0.02
2.0D+05	-0.09	-0.06	-0.14	-0.17	-0.16	-0.23	-0.24	-0.18	-0.12	-0.20
3.0D+05	-0.25	-0.20	-0.18	-0.13	-0.07	-0.09	-0.04	0.00	-0.08	0.06
4.0D+05	0.15	0.09	0.13	0.16	0.17	0.23	0.26	0.21	0.13	0.27
5.0D+05	0.18	0.13	0.14	0.13	0.11	0.14	0.16	0.11	0.08	0.11
6.0D+05	0.02	0.04	0.02	-0.00	-0.01	-0.05	-0.05	-0.03	-0.03	-0.10
8.0D+05	-0.17	-0.09	-0.10	-0.12	-0.11	-0.19	-0.21	-0.13	-0.08	-0.21
1.0D+06	-0.17	-0.12	-0.09	-0.10	-0.09	-0.11	-0.14	-0.09	-0.02	-0.11
1.5D+06	-0.01	-0.07	-0.03	-0.01	-0.05	0.03	0.02	-0.04	-0.00	0.02
2.0D+06	0.09	0.05	0.04	0.07	0.06	0.07	0.09	0.07	-0.00	0.06
3.0D+06	0.10	0.15	0.11	0.11	0.17	0.08	0.10	0.18	0.07	0.10
4.0D+06	0.01	0.02	0.00	-0.01	-0.00	-0.01	-0.02	-0.01	0.02	0.01
5.0D+06	-0.05	-0.09	-0.08	-0.10	-0.14	-0.07	-0.09	-0.16	-0.05	-0.08
6.0D+06	-0.05	-0.10	-0.08	-0.08	-0.13	-0.06	-0.07	-0.15	-0.06	-0.08
8.0D+06	0.02	0.04	0.05	0.06	0.08	0.05	0.07	0.08	0.03	0.05
1.0D+07	0.04	0.10	0.09	0.10	0.15	0.08	0.10	0.17	0.06	0.11
1.5D+07	-0.04	-0.04	-0.05	-0.05	-0.07	-0.05	-0.05	-0.05	-0.04	-0.04
2.0D+07	-0.02	-0.06	-0.06	-0.07	-0.10	-0.05	-0.07	-0.09	-0.05	-0.07
3.0D+07	0.05	0.07	0.09	0.09	0.11	0.06	0.08	0.11	0.03	0.06
4.0D+07	-0.03	-0.02	0.04	0.04	0.02	0.02	0.04	0.03	-0.01	0.03
5.0D+07	-0.08	-0.10	-0.05	-0.05	-0.11	-0.04	-0.03	-0.09	-0.04	-0.03
6.0D+07	-0.05	-0.08	-0.05	-0.06	-0.09	-0.04	-0.04	-0.10	-0.02	-0.04
8.0D+07	0.06	0.06	0.03	0.02	0.06	0.01	0.01	0.03	0.03	0.00
1.0D+08	0.12	0.13	0.07	0.06	0.12	0.03	0.05	0.10	0.06	0.04
1.5D+08	-0.01	-0.03	-0.02	-0.02	-0.03	-0.01	0.01	0.00	-0.01	0.02
2.0D+08	-0.11	-0.14	-0.07	-0.07	-0.11	-0.05	-0.04	-0.09	-0.05	-0.04
3.0D+08	0.08	0.08	0.05	0.05	0.07	0.03	0.02	0.03	0.04	0.00
4.0D+08	0.15	0.19	0.09	0.09	0.15	0.06	0.06	0.12	0.08	0.05
5.0D+08	0.05	0.08	0.03	0.03	0.07	0.02	0.02	0.08	0.03	0.03
6.0D+08	-0.08	-0.10	-0.05	-0.06	-0.08	-0.03	-0.03	-0.03	-0.03	-0.02
8.0D+08	-0.27	-0.36	-0.16	-0.18	-0.33	-0.10	-0.10	-0.22	-0.12	-0.09
1.0D+09	-0.30	-0.43	-0.18	-0.20	-0.42	-0.11	-0.11	-0.30	-0.14	-0.10
1.5D+09	-0.12	-0.21	-0.06	-0.08	-0.27	-0.04	-0.03	-0.20	-0.05	-0.04
2.0D+09	0.06	0.06	0.05	0.04	-0.03	0.03	0.04	-0.03	0.04	0.03
3.0D+09	0.20	0.29	0.13	0.13	0.27	0.08	0.09	0.18	0.10	0.08
4.0D+09	0.20	0.32	0.12	0.13	0.40	0.08	0.08	0.26	0.09	0.08
5.0D+09	0.15	0.28	0.09	0.10	0.42	0.06	0.06	0.28	0.07	0.06
6.0D+09	0.10	0.20	0.05	0.07	0.36	0.03	0.03	0.24	0.03	0.03
8.0D+09	-0.01	-0.05	-0.03	-0.02	-0.10	-0.02	-0.02	-0.02	-0.04	-0.02
1.0D+10	-0.12	-0.37	-0.10	-0.11	-0.80	-0.06	-0.07	-0.43	-0.09	-0.08
1.5D+10	-0.10	-0.01	-0.00	-0.04	0.03	-0.00	-0.00	0.01	0.01	-0.02
2.0D+10	0.12	0.14	0.05	0.07	0.36	0.06	0.05	0.20	0.05	0.05
3.0D+10	-0.00	-0.01	-0.01	0.00	0.04	-0.00	-0.00	0.02	0.00	-0.00
4.0D+10	-0.02	-0.03	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.01
5.0D+10	-0.02	-0.03	-0.02	-0.01	-0.02	-0.01	-0.01	-0.02	-0.00	-0.01
6.0D+10	-0.02	-0.03	-0.02	-0.01	-0.02	-0.01	-0.01	-0.02	-0.00	-0.01
8.0D+10	-0.02	-0.03	-0.02	-0.01	-0.02	-0.01	-0.01	-0.02	-0.00	-0.01
1.0D+11	-0.02	-0.03	-0.02	-0.01	-0.02	-0.01	-0.01	-0.02	-0.00	-0.01
1.5D+11	-0.02	-0.03	-0.01	-0.01	-0.02	-0.01	-0.01	-0.02	-0.00	-0.01
2.0D+11	-0.01	-0.02	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01	-0.00	-0.01
3.0D+11	-0.01	-0.02	-0.01	-0.00	-0.01	-0.00	-0.00	-0.01	0.00	-0.01
4.0D+11	-0.00	-0.01	-0.00	0.00	-0.01	-0.00	-0.00	-0.01	0.00	-0.00
5.0D+11	0.00	-0.01	-0.00	0.00	-0.01	0.00	0.00	-0.01	0.01	-0.00
6.0D+11	0.01	-0.00	0.00	0.00	-0.01	0.00	0.00	-0.01	0.01	-0.00
8.0D+11	0.01	0.01	0.01	0.01	-0.01	0.01	0.01	-0.01	0.01	0.00
1.0D+12	0.02	0.02	0.01	0.01	-0.00	0.01	0.01	-0.01	0.01	0.00
1.5D+12	0.03	0.03	0.02	0.02	-0.00	0.01	0.02	-0.00	0.01	0.01
2.0D+12	0.03	0.04	0.02	0.02	0.00	0.01	0.02	-0.00	0.02	0.01
3.00+12	0.02	0.04	0.02	0.02	0.01	0.01	0.02	0.00	0.01	0.01
4.0D+12	0.00	0.03	0.01	0.01	0.01	-0.00	0.01	0.00	0.00	0.01
5.0D+12	-0.02	0.00	-0.01	-0.01	0.00	-0.01	-0.01	0.00	-0.01	-0.00
6.0D+12	-0.04	-0.03	-0.03	-0.02	0.00	-0.02	-0.02	0.00	-0.01	-0.01
8.0D+12	-0.04	-0.06	-0.03	-0.02	-0.01	-0.01	-0.01	-0.00	-0.02	-0.01
1.0D+13	0.05	0.04	0.03	0.02	-0.00	0.03	0.04	0.00	0.02	0.01

Table 4.2.2 Continued

---------- (B+G) FITTING ERROR TABEL FOR BURST ----------

(UNIT : %)

TIME(S)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU239(H)	PU240(F)	PU241(T)	PU241(F)	PU242(F)	CF252(S)
0.0	0.08	0.19	0.16	0.16	0.21	0.15	0.14	0.15	0.14	0.05
1.0D-01	0.05	0.04	-0.00	-0.00	-0.01	-0.00	0.01	0.01	0.01	-0.00
1.5D-01	0.02	-0.03	-0.05	-0.05	-0.08	-0.05	-0.04	-0.03	-0.03	-0.02
2.0D-01	-0.02	-0.08	-0.08	-0.08	-0.11	-0.08	-0.07	-0.07	-0.07	-0.02
3.0D-01	-0.08	-0.14	-0.10	-0.10	-0.13	-0.10	-0.10	-0.10	-0.10	-0.03
4.0D-01	-0.11	-0.16	-0.08	-0.08	-0.09	-0.08	-0.10	-0.10	-0.09	-0.02
5.0D-01	-0.11	-0.13	-0.04	-0.04	-0.04	-0.05	-0.07	-0.07	-0.06	-0.01
6.0D-01	-0.08	-0.07	0.00	0.00	0.03	-0.00	-0.02	-0.02	-0.02	0.00
8.0D-01	0.03	0.08	0.09	0.09	0.14	0.09	0.07	0.07	0.07	0.03
1.0D+00	0.14	0.21	0.15	0.14	0.19	0.14	0.15	0.15	0.14	0.05
1.5D+00	0.23	0.29	0.13	0.13	0.13	0.14	0.17	0.17	0.15	0.04
2.0D+00	0.10	0.11	0.01	0.02	-0.04	0.01	0.05	0.04	0.03	0.00
3.0D+00	-0.18	-0.26	-0.15	-0.15	-0.21	-0.17	-0.16	-0.18	-0.16	-0.05
4.0D+00	-0.18	-0.26	-0.11	-0.11	-0.11	-0.12	-0.15	-0.17	-0.13	-0.04
5.0D+00	-0.04	-0.07	0.00	-0.01	0.04	-0.00	-0.03	-0.05	-0.01	0.00
6.0D+00	0.09	0.12	0.09	0.08	0.12	0.09	0.08	0.06	0.08	0.03
8.0D+00	0.18	0.22	0.10	0.10	0.09	0.12	0.14	0.15	0.13	0.04
1.0D+01	0.10	0.08	0.01	0.02	-0.03	0.03	0.06	0.08	0.06	0.02
1.5D+01	-0.14	-0.22	-0.12	-0.11	-0.11	-0.13	-0.15	-0.14	-0.14	-0.05
2.0D+01	-0.09	-0.10	-0.05	-0.05	0.04	-0.07	-0.11	-0.12	-0.09	-0.03
3.0D+01	0.12	0.18	0.08	0.09	0.08	0.11	0.13	0.12	0.11	0.03
4.0D+01	0.08	0.09	0.06	0.08	-0.00	0.11	0.16	0.16	0.12	0.03
5.0D+01	0.02	-0.02	0.03	0.04	-0.00	0.05	0.07	0.08	0.04	0.02
6.0D+01	-0.03	-0.08	-0.02	-0.02	0.02	-0.03	-0.05	-0.04	-0.04	-0.01
8.0D+01	-0.10	-0.13	-0.13	-0.15	-0.04	-0.17	-0.23	-0.24	-0.19	-0.12
1.0D+02	-0.13	-0.13	-0.14	-0.16	-0.11	-0.18	-0.24	-0.25	-0.20	-0.18
1.5D+02	0.11	0.14	0.17	0.18	0.08	0.20	0.25	0.25	0.20	0.17
2.0D+02	0.19	0.20	0.20	0.25	0.15	0.28	0.40	0.41	0.31	0.37
3.0D+02	-0.16	-0.23	-0.26	-0.23	-0.20	-0.25	-0.22	-0.22	-0.25	-0.15
4.0D+02	-0.10	-0.15	-0.15	-0.15	-0.09	-0.17	-0.24	-0.25	-0.21	-0.18
5.0D+02	0.07	0.11	0.11	0.11	0.13	0.12	0.06	0.05	0.10	0.10
6.0D+02	0.08	0.19	0.17	0.17	0.16	0.21	0.19	0.18	0.20	0.21
8.0D+02	-0.07	-0.03	-0.05	-0.03	-0.07	-0.02	0.03	0.04	-0.00	-0.02
1.0D+03	-0.02	-0.16	-0.14	-0.12	-0.17	-0.17	-0.10	-0.08	-0.14	-0.20
1.5D+03	0.19	0.01	0.05	0.04	0.04	0.00	0.02	0.02	0.03	0.01
2.0D+03	-0.08	0.08	0.06	0.04	0.12	0.08	0.01	-0.01	0.05	0.15
3.0D+03	-0.35	0.03	-0.07	-0.06	0.03	-0.00	-0.10	-0.12	-0.09	0.01
4.0D+03	-0.02	0.05	0.01	0.03	0.04	0.02	0.04	0.03	0.00	-0.02
5.0D+03	0.24	-0.01	0.03	0.03	-0.03	-0.01	0.12	0.12	0.06	-0.03
6.0D+03	0.26	-0.13	-0.05	-0.07	-0.16	-0.10	0.06	0.06	0.01	-0.07
8.0D+03	-0.02	-0.20	-0.14	-0.19	-0.22	-0.16	-0.11	-0.12	-0.11	-0.04
1.0D+04	-0.17	0.05	0.03	0.01	0.08	0.07	-0.06	-0.07	-0.03	0.14
1.5D+04	-0.08	0.45	0.32	0.39	0.47	0.39	0.14	0.18	0.19	0.03
2.0D+04	-0.04	0.06	-0.03	0.00	-0.07	-0.03	-0.07	-0.04	-0.04	-0.48
3.0D+04	0.04	-0.36	-0.23	-0.29	-0.40	-0.28	-0.12	-0.14	-0.15	-0.04
4.0D+04	0.07	-0.10	0.05	-0.00	0.02	0.03	0.10	0.08	0.06	0.46
5.0D+04	-0.02	0.08	0.10	0.10	0.19	0.12	0.09	0.10	0.08	0.20
6.0D+04	-0.11	0.10	0.01	0.04	0.10	0.04	-0.04	-0.01	-0.01	-0.23
8.0D+04	-0.07	0.06	-0.09	-0.06	-0.12	-0.08	-0.12	-0.12	-0.09	-0.45
1.0D+05	0.12	0.06	-0.00	0.01	-0.08	-0.01	0.03	-0.00	0.03	-0.00
1.5D+05	0.14	-0.05	0.07	0.05	0.08	0.07	0.15	0.13	0.11	0.55
2.0D+05	-0.17	-0.21	-0.10	-0.12	-0.06	-0.09	-0.09	-0.07	-0.10	0.07
3.0D+05	-0.06	0.07	-0.01	0.01	-0.04	-0.01	-0.06	-0.05	-0.04	-0.33
4.0D+05	0.19	0.28	0.13	0.15	0.07	0.13	0.11	0.10	0.12	-0.09
5.0D+05	0.12	0.13	0.04	0.05	0.04	0.05	0.06	0.06	0.05	0.06
6.0D+05	-0.03	-0.07	-0.06	-0.07	-0.01	-0.05	-0.04	-0.02	-0.05	0.09
8.0D+05	-0.12	-0.20	-0.07	-0.09	0.01	-0.05	-0.06	-0.03	-0.06	0.05
1.0D+06	-0.06	-0.14	-0.00	-0.02	0.01	0.02	0.00	0.02	0.01	-0.03
1.5D+06	-0.01	-0.02	-0.03	-0.03	-0.13	-0.03	-0.02	-0.05	-0.04	-0.13
2.0D+06	0.01	0.07	-0.03	-0.01	-0.05	-0.04	-0.03	-0.05	-0.04	-0.02
3.0D+06	0.08	0.17	0.09	0.12	0.21	0.11	0.07	0.10	0.10	0.17
4.0D+06	0.03	0.01	0.03	0.05	0.06	0.06	0.04	0.06	0.04	0.07
5.0D+06	-0.05	-0.13	-0.07	-0.06	-0.13	-0.05	-0.05	-0.05	-0.07	-0.09
6.0D+06	-0.06	-0.14	-0.09	-0.09	-0.16	-0.09	-0.09	-0.09	-0.10	-0.14
8.0D+06	0.02	0.06	0.03	0.03	0.06	0.01	-0.00	0.00	0.02	0.04
1.0D+07	0.07	0.14	0.09	0.11	0.16	0.08	0.06	0.08	0.10	0.15
1.5D+07	-0.03	-0.04	-0.04	-0.01	-0.07	-0.00	-0.01	0.00	-0.02	-0.06
2.0D+07	-0.04	-0.07	-0.06	-0.05	-0.09	-0.03	-0.04	-0.03	-0.06	-0.11
3.0D+07	0.04	0.09	0.07	0.05	0.12	0.03	0.01	0.02	0.03	0.08
4.0D+07	0.02	0.04	0.04	0.02	0.02	0.00	0.00	0.01	0.02	0.09
5.0D+07	-0.02	-0.04	-0.01	-0.03	-0.10	-0.03	-0.02	-0.02	-0.01	0.01
6.0D+07	-0.03	-0.06	-0.03	-0.04	-0.10	-0.03	-0.02	-0.03	-0.03	-0.04
8.0D+07	-0.00	-0.00	-0.01	-0.00	0.04	0.00	0.01	-0.01	-0.01	-0.04
1.0D+08	0.02	0.05	0.01	0.04	0.12	0.03	0.03	0.02	0.01	0.00
1.5D+08	0.01	0.04	0.01	0.04	0.04	0.03	0.03	0.03	0.02	0.06
2.0D+08	-0.02	-0.04	-0.03	-0.02	-0.09	-0.03	-0.01	-0.01	-0.02	0.01
3.0D+08	0.01	-0.02	-0.00	-0.01	-0.02	-0.02	-0.02	-0.01	-0.02	-0.03
4.0D+08	0.04	0.06	0.04	0.03	0.11	0.03	0.01	0.03	0.02	0.04
5.0D+08	0.02	0.06	0.03	0.03	0.10	0.02	0.01	0.03	0.01	0.05
6.0D+08	-0.01	0.01	-0.00	-0.01	-0.00	-0.01	-0.00	0.01	-0.01	0.02
8.0D+08	-0.06	-0.10	-0.05	-0.06	-0.23	-0.06	-0.03	-0.03	-0.05	-0.04
1.0D+09	-0.07	-0.16	-0.07	-0.08	-0.34	-0.07	-0.04	-0.04	-0.06	-0.07
1.5D+09	-0.02	-0.12	-0.02	-0.03	-0.25	-0.03	-0.01	-0.01	-0.03	-0.05
2.0D+09	0.02	-0.02	0.03	0.02	-0.04	0.02	0.02	0.02	0.01	0.01
3.0D+09	0.06	0.10	0.06	0.06	0.25	0.06	0.04	0.05	0.04	0.06
4.0D+09	0.06	0.14	0.06	0.06	0.39	0.06	0.04	0.04	0.05	0.07
5.0D+09	0.04	0.14	0.04	0.04	0.40	0.04	0.03	0.03	0.04	0.05
6.0D+09	0.02	0.12	0.02	0.03	0.28	0.02	0.01	0.02	0.03	0.03
8.0D+09	-0.01	-0.03	-0.02	-0.02	-0.33	-0.03	-0.01	-0.02	-0.01	-0.04
1.0D+10	-0.04	-0.22	-0.05	-0.07	-1.11	-0.07	-0.04	-0.06	-0.06	-0.10
1.5D+10	0.01	0.03	0.03	0.01	0.05	0.00	-0.01	0.01	-0.03	-0.01
2.0D+10	0.04	0.10	0.04	0.04	0.36	0.05	0.02	0.06	0.04	0.13
3.0D+10	0.00	0.00	-0.01	-0.01	0.04	-0.00	-0.00	0.00	0.00	0.01
4.0D+10	-0.00	-0.01	-0.02	-0.02	-0.02	-0.01	-0.00	-0.01	-0.01	-0.03
5.0D+10	-0.00	-0.01	-0.02	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.02
6.0D+10	-0.00	-0.01	-0.01	-0.01	-0.02	-0.01	-0.00	-0.01	-0.01	-0.02
8.0D+10	-0.00	-0.01	-0.01	-0.01	-0.02	-0.01	-0.00	-0.01	-0.01	-0.01
1.0D+11	-0.00	-0.01	-0.01	-0.00	-0.01	-0.01	-0.00	-0.01	-0.00	-0.00
1.5D+11	-0.00	-0.01	-0.01	0.00	-0.01	-0.01	-0.00	-0.00	-0.00	0.00
2.0D+11	-0.00	-0.01	-0.01	0.00	-0.01	-0.01	-0.00	-0.00	-0.00	0.01
3.0D+11	-0.00	-0.01	-0.01	0.01	-0.01	-0.00	-0.00	-0.00	-0.00	0.01
4.0D+11	-0.00	-0.01	-0.01	0.01	-0.01	-0.00	-0.00	-0.00	-0.00	0.01
5.0D+11	0.00	-0.01	-0.01	0.01	-0.01	-0.00	-0.00	-0.00	-0.00	0.01
6.0D+11	0.00	-0.01	-0.01	0.01	-0.01	-0.00	-0.00	-0.00	0.00	0.01
8.0D+11	0.00	-0.00	-0.00	0.01	-0.00	0.00	-0.00	0.00	0.00	0.01
1.0D+12	0.00	-0.00	-0.00	0.01	-0.00	0.00	0.00	0.00	0.00	0.01
1.5D+12	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01
2.0D+12	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.00
3.0D+12	0.00	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.00
4.0D+12	-0.00	0.01	0.00	0.00	0.01	0.00	-0.00	0.00	0.00	-0.00
5.0D+12	-0.01	0.01	-0.00	-0.01	0.01	-0.00	-0.00	-0.00	0.00	-0.01
6.0D+12	-0.01	0.01	-0.01	-0.01	0.01	-0.01	-0.01	-0.01	-0.00	-0.01
8.0D+12	-0.01	0.00	-0.01	-0.01	0.01	-0.01	-0.01	-0.01	-0.00	-0.00
1.0D+13	0.02	0.00	0.01	0.01	0.01	-0.00	0.01	0.01	0.02	0.02

Table 4.2.3 Discrepancies between exponential fitting and calculated results of the beta decay power after instantaneous burst fission

---------- (BETA) FITTING ERROR TABEL FOR BURST ----------

(UNIT : %)

TIME(S)	TH232(F)	TH232(H)	U233(T)	U233(F)	U233(H)	U235(T)	U235(F)	U235(H)	U236(F)	NP237(F)
0.0	0.26	0.31	0.13	0.16	0.15	0.25	0.23	0.19	0.22	0.20
1.0D-01	0.04	0.02	-0.01	-0.01	-0.01	0.01	0.01	-0.00	0.01	0.00
1.5D-01	-0.04	-0.08	-0.05	-0.06	-0.05	-0.07	-0.06	-0.06	-0.05	-0.06
2.0D-01	-0.11	-0.14	-0.07	-0.08	-0.08	-0.12	-0.11	-0.09	-0.10	-0.10
3.0D-01	-0.17	-0.20	-0.09	-0.10	-0.10	-0.17	-0.16	-0.12	-0.15	-0.13
4.0D-01	-0.18	-0.18	-0.07	-0.08	-0.08	-0.15	-0.15	-0.10	-0.14	-0.11
5.0D-01	-0.14	-0.12	-0.04	-0.04	-0.04	-0.10	-0.10	-0.05	-0.10	-0.07
6.0D-01	-0.06	-0.04	-0.00	0.01	0.01	-0.02	-0.03	0.00	-0.03	-0.01
8.0D-01	0.10	0.14	0.07	0.09	0.09	0.13	0.11	0.10	0.11	0.10
1.0D+00	0.24	0.28	0.11	0.15	0.14	0.24	0.21	0.17	0.22	0.18
1.5D+00	0.32	0.32	0.11	0.14	0.12	0.25	0.24	0.16	0.25	0.20
2.0D+00	0.11	0.09	0.01	0.01	-0.00	0.05	0.06	0.01	0.07	0.05
3.0D+00	-0.29	-0.30	-0.14	-0.17	-0.17	-0.27	-0.25	-0.21	-0.24	-0.20
4.0D+00	-0.29	-0.28	-0.12	-0.13	-0.14	-0.23	-0.22	-0.17	-0.23	-0.19
5.0D+00	-0.08	-0.05	-0.03	-0.01	-0.02	-0.04	-0.03	-0.03	-0.06	-0.05
6.0D+00	0.13	0.16	0.05	0.09	0.08	0.14	0.13	0.09	0.11	0.09
8.0D+00	0.28	0.29	0.11	0.14	0.12	0.23	0.22	0.14	0.23	0.18
1.0D+01	0.14	0.13	0.06	0.05	0.04	0.11	0.09	0.04	0.13	0.09
1.5D+01	-0.26	-0.30	-0.11	-0.16	-0.14	-0.23	-0.22	-0.16	-0.21	-0.18
2.0D+01	-0.16	-0.20	-0.11	-0.11	-0.08	-0.17	-0.15	-0.08	-0.16	-0.13
3.0D+01	0.25	0.26	0.10	0.14	0.11	0.16	0.19	0.13	0.18	0.14
4.0D+01	0.19	0.24	0.15	0.17	0.08	0.20	0.21	0.07	0.19	0.15
5.0D+01	0.02	0.05	0.08	0.08	0.01	0.09	0.10	0.00	0.06	0.05
6.0D+01	-0.08	-0.11	-0.04	-0.03	-0.05	-0.04	-0.04	-0.02	-0.08	-0.07
8.0D+01	-0.19	-0.28	-0.25	-0.23	-0.14	-0.27	-0.26	-0.07	-0.28	-0.25
1.0D+02	-0.21	-0.28	-0.29	-0.26	-0.15	-0.31	-0.30	-0.11	-0.31	-0.25
1.5D+02	0.15	0.22	0.21	0.20	0.15	0.21	0.21	0.11	0.21	0.23
2.0D+02	0.36	0.45	0.45	0.40	0.24	0.49	0.46	0.19	0.46	0.37
3.0D+02	-0.13	-0.17	-0.09	-0.13	-0.20	-0.09	-0.12	-0.20	-0.11	-0.22
4.0D+02	-0.25	-0.32	-0.26	-0.26	-0.18	-0.27	-0.28	-0.15	-0.26	-0.24
5.0D+02	-0.02	-0.04	-0.08	-0.06	0.05	-0.08	-0.07	0.09	-0.05	0.03
6.0D+02	0.14	0.17	0.07	0.10	0.15	0.08	0.09	0.17	0.10	0.16
8.0D+02	0.10	0.15	0.15	0.14	0.04	0.14	0.14	0.00	0.12	0.06
1.0D+03	-0.02	-0.01	0.13	0.09	-0.07	0.13	0.11	-0.13	0.10	-0.02
1.5D+03	-0.06	-0.10	-0.01	-0.02	-0.03	0.01	0.01	-0.03	0.03	0.00
2.0D+03	-0.05	-0.05	-0.22	-0.16	-0.01	-0.23	-0.20	0.05	-0.22	-0.08
3.0D+03	0.05	0.07	-0.18	-0.09	0.01	-0.20	-0.16	0.10	-0.25	-0.09
4.0D+03	0.10	0.13	0.16	0.16	0.08	0.18	0.18	0.13	0.14	0.13
5.0D+03	0.00	0.03	0.25	0.18	0.02	0.27	0.25	-0.01	0.28	0.15
6.0D+03	-0.12	-0.13	0.11	0.01	-0.14	0.09	0.06	-0.20	0.13	-0.03
8.0D+03	-0.12	-0.20	-0.19	-0.23	-0.21	-0.27	-0.28	-0.26	-0.24	-0.27
1.0D+04	0.13	0.06	-0.16	-0.10	0.06	-0.20	-0.18	0.10	-0.19	-0.07
1.5D+04	0.18	0.35	0.10	0.21	0.41	0.23	0.25	0.54	0.23	0.40
2.0D+04	-0.19	-0.02	0.02	0.02	0.06	0.12	0.09	0.07	0.11	0.08
3.0D+04	-0.12	-0.25	0.04	-0.08	-0.24	-0.05	-0.12	-0.42	-0.09	-0.25
4.0D+04	0.13	-0.05	0.05	-0.02	-0.12	-0.07	-0.09	-0.25	-0.07	-0.13
5.0D+04	0.11	0.06	-0.04	-0.04	-0.03	-0.08	-0.07	-0.02	-0.04	-0.02
6.0D+04	-0.01	0.07	-0.10	-0.04	0.04	-0.04	-0.01	0.14	0.01	0.06
8.0D+04	-0.11	0.03	-0.01	0.07	0.15	0.11	0.14	0.27	0.11	0.15
1.0D+05	-0.06	-0.00	0.11	0.14	0.15	0.14	0.16	0.15	0.06	0.09
1.5D+05	0.06	-0.07	-0.01	-0.08	-0.17	-0.15	-0.16	-0.29	-0.17	-0.22
2.0D+05	0.04	-0.01	-0.11	-0.16	-0.25	-0.18	-0.19	-0.27	-0.03	-0.16
3.0D+05	0.02	0.11	0.09	0.10	0.17	0.18	0.20	0.25	0.22	0.27
4.0D+05	-0.02	0.04	0.08	0.11	0.26	0.14	0.17	0.28	0.02	0.18
5.0D+05	-0.07	-0.08	-0.06	-0.06	0.03	-0.08	-0.07	0.01	-0.19	-0.10
6.0D+05	-0.04	-0.09	-0.12	-0.14	-0.15	-0.17	-0.19	-0.18	-0.19	-0.22
8.0D+05	0.13	0.08	0.01	-0.02	-0.12	-0.00	-0.04	-0.13	0.13	-0.00
1.0D+06	0.16	0.13	0.10	0.09	-0.00	0.15	0.12	0.01	0.28	0.20
1.5D+06	-0.09	-0.10	-0.06	-0.04	-0.04	-0.02	-0.01	-0.03	-0.08	-0.00
2.0D+06	-0.14	-0.09	-0.07	-0.05	0.03	-0.10	-0.07	0.03	-0.21	-0.12
3.0D+06	0.04	0.13	0.11	0.11	0.18	0.09	0.09	0.20	0.08	0.10
4.0D+06	0.08	0.06	0.05	0.02	-0.01	0.07	0.04	-0.00	0.11	0.07
5.0D+06	0.02	-0.06	-0.06	-0.09	-0.17	-0.03	-0.07	-0.17	-0.01	-0.06
6.0D+06	-0.02	-0.08	-0.09	-0.10	-0.15	-0.07	-0.09	-0.16	-0.08	-0.10
8.0D+06	-0.03	0.03	0.02	0.03	0.10	0.01	0.03	0.10	-0.04	0.01
1.0D+07	-0.01	0.09	0.09	0.11	0.19	0.08	0.10	0.20	0.04	0.10
1.5D+07	-0.01	-0.04	-0.03	-0.03	-0.10	0.00	-0.02	-0.08	0.00	-0.02
2.0D+07	0.01	-0.05	-0.06	-0.07	-0.13	-0.04	-0.07	-0.12	-0.04	-0.07
3.0D+07	0.04	0.09	0.08	0.08	0.15	0.04	0.06	0.14	0.01	0.05
4.0D+07	-0.03	-0.01	0.04	0.05	0.02	0.02	0.05	0.04	-0.00	0.03
5.0D+07	-0.08	-0.11	-0.04	-0.04	-0.13	-0.03	-0.02	-0.10	-0.03	-0.03
6.0D+07	-0.06	-0.10	-0.06	-0.07	-0.12	-0.04	-0.05	-0.12	-0.04	-0.05
8.0D+07	0.06	0.07	0.02	0.01	0.08	-0.00	-0.00	0.03	0.02	-0.01
1.0D+08	0.13	0.17	0.08	0.08	0.18	0.04	0.06	0.14	0.06	0.05
1.5D+08	-0.00	-0.04	-0.01	-0.01	-0.05	-0.00	0.02	-0.00	0.00	0.04
2.0D+08	-0.15	-0.22	-0.10	-0.10	-0.20	-0.08	-0.07	-0.17	-0.09	-0.07
3.0D+08	0.09	0.14	0.06	0.06	0.13	0.03	0.02	0.07	0.04	-0.01
4.0D+08	0.20	0.29	0.13	0.13	0.26	0.08	0.08	0.21	0.12	0.08
5.0D+08	0.08	0.12	0.05	0.05	0.11	0.04	0.04	0.11	0.06	0.05
6.0D+08	-0.11	-0.15	-0.06	-0.08	-0.14	-0.04	-0.03	-0.07	-0.04	-0.03
8.0D+08	-0.36	-0.52	-0.22	-0.25	-0.50	-0.14	-0.14	-0.35	-0.18	-0.14
1.0D+09	-0.41	-0.60	-0.25	-0.28	-0.61	-0.16	-0.16	-0.44	-0.21	-0.17
1.5D+09	-0.17	-0.27	-0.09	-0.11	-0.36	-0.06	-0.05	-0.27	-0.07	-0.06
2.0D+09	0.08	0.09	0.06	0.06	-0.02	0.04	0.05	-0.02	0.06	0.05
3.0D+09	0.27	0.42	0.18	0.19	0.40	0.11	0.13	0.27	0.16	0.14
4.0D+09	0.27	0.46	0.17	0.19	0.59	0.11	0.13	0.39	0.15	0.13
5.0D+09	0.22	0.40	0.13	0.15	0.63	0.08	0.10	0.41	0.11	0.10
6.0D+09	0.14	0.29	0.08	0.10	0.53	0.05	0.05	0.35	0.05	0.05
8.0D+09	-0.02	-0.09	-0.04	-0.03	-0.16	-0.03	-0.03	-0.04	-0.06	-0.05
1.0D+10	-0.17	-0.61	-0.14	-0.17	-1.38	-0.09	-0.11	-0.76	-0.15	-0.14
1.5D+10	-0.14	-0.00	-0.01	-0.08	0.08	-0.01	-0.01	0.06	0.02	-0.02
2.0D+10	0.18	0.48	0.10	0.16	1.21	0.07	0.09	0.66	0.09	0.08
3.0D+10	-0.00	-0.03	-0.01	0.00	0.14	0.00	-0.01	0.06	-0.00	-0.00
4.0D+10	-0.03	-0.11	-0.03	-0.02	-0.05	-0.01	-0.02	-0.05	-0.02	-0.02
5.0D+10	-0.03	-0.11	-0.03	-0.03	-0.06	-0.01	-0.02	-0.05	-0.02	-0.02
6.0D+10	-0.03	-0.11	-0.03	-0.03	-0.07	-0.01	-0.02	-0.06	-0.02	-0.02
8.0D+10	-0.03	-0.11	-0.02	-0.03	-0.06	-0.01	-0.02	-0.05	-0.02	-0.02
1.0D+11	-0.03	-0.10	-0.02	-0.02	-0.06	-0.01	-0.02	-0.05	-0.01	-0.02
1.5D+11	-0.03	-0.09	-0.02	-0.02	-0.06	-0.01	-0.02	-0.05	-0.01	-0.01
2.0D+11	-0.02	-0.08	-0.02	-0.02	-0.06	-0.01	-0.01	-0.05	-0.01	-0.01
3.0D+11	-0.01	-0.06	-0.01	-0.01	-0.05	-0.00	-0.01	-0.05	-0.00	-0.01
4.0D+11	-0.00	-0.04	-0.00	-0.01	-0.05	-0.00	-0.00	-0.04	-0.00	-0.01
5.0D+11	0.00	-0.02	0.00	-0.00	-0.04	0.00	0.00	-0.04	0.00	-0.00
6.0D+11	0.01	-0.01	0.01	0.00	-0.04	0.00	0.01	-0.04	0.01	-0.00
8.0D+11	0.02	0.03	0.02	0.01	-0.03	0.01	0.01	-0.03	0.01	0.00
1.0D+12	0.03	0.05	0.03	0.01	-0.02	0.01	0.02	-0.02	0.02	0.01
1.5D+12	0.04	0.10	0.04	0.02	-0.01	0.01	0.03	-0.01	0.03	0.01
2.0D+12	0.05	0.13	0.04	0.03	0.01	0.01	0.03	-0.00	0.03	0.02
3.0D+12	0.04	0.14	0.04	0.02	0.02	0.01	0.02	0.01	0.02	0.02
4.0D+12	0.01	0.08	0.01	0.01	0.03	-0.00	0.01	0.01	0.01	0.01
5.0D+12	-0.02	-0.02	-0.02	-0.01	0.02	-0.01	-0.01	0.01	-0.01	-0.00
6.0D+12	-0.05	-0.11	-0.04	-0.03	0.01	-0.02	-0.02	0.01	-0.03	-0.01
8.0D+12	-0.04	-0.20	-0.05	-0.04	-0.01	-0.02	-0.02	-0.00	-0.03	-0.01
1.0D+13	0.06	0.11	0.04	0.02	-0.00	0.03	0.05	0.00	0.02	0.02

Table 4.2.3 Continued

---------- (BETA) FITTING ERROR TABEL FOR BURST ----------

(UNIT : %)

TIME(S)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU239(H)	PU240(F)	PU241(T)	PU241(F)	PU242(F)	CF252(S)
0.0	0.13	0.20	0.16	0.15	0.10	0.15	0.15	0.16	0.14	0.04
1.0D-01	0.05	0.03	-0.00	0.00	-0.01	-0.00	0.01	0.01	0.01	-0.00
1.5D-01	0.01	-0.04	-0.05	-0.04	-0.04	-0.05	-0.04	-0.04	-0.04	-0.01
2.0D-01	-0.04	-0.10	-0.08	-0.07	-0.06	-0.08	-0.07	-0.07	-0.07	-0.02
3.0D-01	-0.11	-0.16	-0.10	-0.09	-0.06	-0.10	-0.11	-0.11	-0.10	-0.02
4.0D-01	-0.13	-0.17	-0.08	-0.08	-0.05	-0.08	-0.10	-0.10	-0.09	-0.02
5.0D-01	-0.12	-0.14	-0.05	-0.04	-0.02	-0.05	-0.07	-0.07	-0.06	-0.01
6.0D-01	-0.08	-0.08	-0.00	-0.00	0.01	-0.00	-0.02	-0.02	-0.02	0.00
8.0D-01	0.04	0.08	0.08	0.08	0.07	0.08	0.08	0.07	0.07	0.03
1.0D+00	0.16	0.22	0.14	0.14	0.10	0.14	0.15	0.15	0.14	0.04
1.5D+00	0.26	0.32	0.14	0.14	0.08	0.14	0.18	0.18	0.16	0.04
2.0D+00	0.13	0.14	0.02	0.03	-0.01	0.02	0.05	0.05	0.04	0.01
3.0D+00	-0.18	-0.26	-0.16	-0.14	-0.12	-0.15	-0.16	-0.17	-0.15	-0.02
4.0D+00	-0.21	-0.28	-0.14	-0.13	-0.10	-0.12	-0.16	-0.17	-0.13	-0.00
5.0D+00	-0.07	-0.09	-0.03	-0.03	-0.02	-0.00	-0.04	-0.05	-0.03	0.03
6.0D+00	0.08	0.11	0.07	0.06	0.05	0.10	0.07	0.07	0.07	0.04
8.0D+00	0.22	0.26	0.12	0.12	0.08	0.14	0.15	0.17	0.14	0.03
1.0D+01	0.15	0.14	0.05	0.06	0.03	0.06	0.07	0.10	0.08	-0.01
1.5D+01	-0.16	-0.24	-0.14	-0.12	-0.07	-0.14	-0.15	-0.14	-0.13	-0.03
2.0D+01	-0.16	-0.18	-0.11	-0.10	-0.03	-0.09	-0.12	-0.14	-0.11	0.02
3.0D+01	0.13	0.21	0.09	0.11	0.09	0.12	0.14	0.11	0.10	0.01
4.0D+01	0.15	0.18	0.12	0.14	0.09	0.13	0.17	0.16	0.11	-0.06
5.0D+01	0.05	0.02	0.05	0.06	0.06	0.05	0.09	0.09	0.04	-0.03
6.0D+01	-0.05	-0.10	-0.04	-0.04	0.00	-0.05	-0.03	-0.03	-0.04	0.03
8.0D+01	-0.21	-0.24	-0.21	-0.22	-0.13	-0.22	-0.22	-0.24	-0.19	0.00
1.0D+02	-0.23	-0.23	-0.22	-0.23	-0.18	-0.23	-0.25	-0.27	-0.22	-0.10
1.5D+02	0.19	0.22	0.23	0.23	0.14	0.23	0.24	0.24	0.19	0.02
2.0D+02	0.34	0.37	0.32	0.35	0.24	0.35	0.40	0.42	0.32	0.14
3.0D+02	-0.18	-0.23	-0.26	-0.23	-0.21	-0.23	-0.24	-0.23	-0.27	-0.17
4.0D+02	-0.20	-0.26	-0.21	-0.20	-0.16	-0.20	-0.26	-0.26	-0.23	-0.08
5.0D+02	0.04	0.04	0.07	0.06	0.07	0.10	0.05	0.04	0.09	0.16
6.0D+02	0.12	0.20	0.17	0.16	0.14	0.21	0.19	0.19	0.22	0.21
8.0D+02	0.01	0.07	0.02	0.03	-0.01	0.02	0.04	0.05	0.01	-0.08
1.0D+03	-0.00	-0.08	-0.07	-0.05	-0.08	-0.12	-0.10	-0.07	-0.15	-0.24
1.5D+03	0.12	-0.05	0.06	0.04	0.07	0.00	0.02	0.04	0.02	0.07
2.0D+03	-0.10	-0.02	-0.03	-0.06	0.00	0.01	0.00	-0.01	0.06	0.17
3.0D+03	-0.27	0.01	-0.18	-0.18	-0.12	-0.09	-0.14	-0.16	-0.07	-0.06
4.0D+03	0.07	0.13	0.04	0.07	0.07	0.05	0.05	0.05	0.04	-0.04
5.0D+03	0.24	0.06	0.15	0.17	0.14	0.08	0.15	0.15	0.09	0.02
6.0D+03	0.13	-0.14	0.05	0.05	-0.00	-0.04	0.05	0.05	-0.02	-0.01
8.0D+03	-0.22	-0.31	-0.20	-0.24	-0.25	-0.21	-0.19	-0.19	-0.20	-0.07
1.0D+04	-0.19	0.01	-0.08	-0.11	-0.08	0.01	-0.08	-0.07	-0.02	0.08
1.5D+04	0.18	0.54	0.28	0.31	0.37	0.39	0.25	0.27	0.32	0.07
2.0D+04	0.06	0.10	-0.01	0.02	0.04	-0.03	-0.06	-0.04	-0.04	-0.33
3.0D+04	-0.09	-0.38	-0.17	-0.19	-0.27	-0.25	-0.15	-0.16	-0.20	-0.01
4.0D+04	-0.05	-0.19	-0.00	-0.03	-0.08	-0.01	0.06	0.05	0.01	0.31
5.0D+04	-0.03	0.03	0.04	0.03	0.04	0.08	0.07	0.08	0.07	0.13
6.0D+04	0.00	0.15	0.03	0.03	0.07	0.06	-0.01	0.02	0.05	-0.16
8.0D+04	0.08	0.21	0.03	0.05	0.05	0.02	-0.07	-0.03	0.02	-0.30
1.0D+05	0.06	0.08	0.02	0.04	0.02	-0.01	-0.04	-0.02	0.01	-0.02
1.5D+05	-0.13	-0.25	-0.10	-0.09	-0.12	-0.09	-0.01	-0.01	-0.06	0.34
2.0D+05	-0.06	-0.17	-0.06	-0.06	-0.13	-0.00	0.05	0.05	-0.01	0.03
3.0D+05	0.19	0.28	0.16	0.16	0.15	0.18	0.13	0.14	0.18	-0.19
4.0D+05	0.04	0.21	0.02	0.03	0.14	-0.01	-0.07	-0.05	0.01	-0.03
5.0D+05	-0.17	-0.07	-0.18	-0.18	-0.05	-0.21	-0.24	-0.21	-0.20	0.05
6.0D+05	-0.20	-0.20	-0.20	-0.20	-0.13	-0.19	-0.18	-0.15	-0.19	0.09
8.0D+05	0.10	-0.03	0.11	0.11	0.01	0.18	0.24	0.24	0.17	0.10
1.0D+06	0.29	0.15	0.29	0.28	0.11	0.36	0.41	0.40	0.36	-0.02
1.5D+06	-0.03	-0.03	-0.07	-0.07	-0.13	-0.09	-0.09	-0.12	-0.10	-0.24
2.0D+06	-0.21	-0.10	-0.22	-0.20	-0.09	-0.27	-0.31	-0.31	-0.28	-0.03
3.0D+06	0.06	0.15	0.10	0.14	0.23	0.11	0.05	0.09	0.09	0.30
4.0D+06	0.11	0.06	0.11	0.14	0.05	0.16	0.14	0.16	0.12	0.09
5.0D+06	0.00	-0.11	-0.04	-0.03	-0.17	-0.01	0.01	-0.00	-0.04	-0.16
6.0D+06	-0.07	-0.14	-0.11	-0.11	-0.18	-0.10	-0.09	-0.10	-0.12	-0.19
8.0D+06	-0.02	0.05	-0.00	-0.00	0.11	-0.03	-0.05	-0.04	-0.01	0.09
1.0D+07	0.05	0.14	0.09	0.10	0.19	0.06	0.04	0.06	0.10	0.20
1.5D+07	-0.00	-0.05	-0.02	0.01	-0.13	0.01	0.01	0.02	-0.00	-0.09
2.0D+07	-0.04	-0.08	-0.05	-0.04	-0.10	-0.03	-0.03	-0.03	-0.06	-0.13
3.0D+07	0.03	0.10	0.07	0.04	0.16	0.02	-0.00	0.01	0.02	0.09
4.0D+07	0.02	0.05	0.05	0.02	0.01	0.01	0.00	0.01	0.02	0.09
5.0D+07	-0.02	-0.05	-0.01	-0.03	-0.13	-0.03	-0.02	-0.02	-0.01	0.01
6.0D+07	-0.03	-0.08	-0.04	-0.05	-0.13	-0.04	-0.02	-0.03	-0.03	-0.04
8.0D+07	-0.01	-0.00	-0.02	-0.01	0.05	-0.01	0.00	-0.01	-0.01	-0.05
1.0D+08	0.03	0.08	0.02	0.04	0.17	0.04	0.03	0.02	0.02	-0.00
1.5D+08	0.02	0.05	0.03	0.06	0.05	0.04	0.05	0.04	0.03	0.07
2.0D+08	-0.05	-0.09	-0.04	-0.04	-0.20	-0.05	-0.02	-0.02	-0.04	0.02
3.0D+08	-0.00	-0.01	-0.01	-0.04	-0.00	-0.05	-0.04	-0.02	-0.04	-0.06
4.0D+08	0.06	0.12	0.07	0.06	0.24	0.07	0.04	0.07	0.04	0.07
5.0D+08	0.04	0.09	0.05	0.05	0.16	0.06	0.04	0.07	0.04	0.10
6.0D+08	-0.01	-0.02	-0.01	-0.01	-0.06	-0.00	0.00	0.02	-0.01	0.03
8.0D+08	-0.10	-0.20	-0.11	-0.13	-0.45	-0.12	-0.07	-0.07	-0.10	-0.12
1.0D+09	-0.12	-0.27	-0.13	-0.16	-0.59	-0.15	-0.09	-0.10	-0.13	-0.19
1.5D+09	-0.04	-0.16	-0.04	-0.07	-0.38	-0.07	-0.03	-0.04	-0.06	-0.11
2.0D+09	0.04	-0.00	0.05	0.03	-0.02	0.03	0.04	0.03	0.02	0.02
3.0D+09	0.10	0.18	0.12	0.11	0.46	0.11	0.09	0.10	0.09	0.15
4.0D+09	0.09	0.24	0.11	0.11	0.67	0.11	0.08	0.10	0.10	0.16
5.0D+09	0.06	0.24	0.08	0.09	0.68	0.09	0.06	0.07	0.08	0.12
6.0D+09	0.03	0.19	0.04	0.05	0.47	0.05	0.03	0.04	0.06	0.06
8.0D+09	-0.03	-0.06	-0.04	-0.04	-0.62	-0.04	-0.03	-0.04	-0.02	-0.09
1.0D+10	-0.08	-0.42	-0.10	-0.14	-2.11	-0.14	-0.08	-0.12	-0.11	-0.20
1.5D+10	0.01	0.09	0.03	-0.01	0.17	0.01	-0.01	0.00	-0.03	-0.02
2.0D+10	0.06	0.31	0.08	0.09	1.23	0.10	0.03	0.10	0.08	0.15
3.0D+10	0.00	0.02	-0.00	-0.00	0.15	0.00	-0.00	0.01	0.01	0.02
4.0D+10	-0.01	-0.03	-0.01	-0.02	-0.03	-0.01	-0.01	-0.01	-0.01	-0.04
5.0D+10	-0.01	-0.04	-0.01	-0.02	-0.05	-0.02	-0.01	-0.01	-0.01	-0.03
6.0D+10	-0.01	-0.04	-0.01	-0.02	-0.05	-0.02	-0.01	-0.01	-0.01	-0.03
8.0D+10	-0.01	-0.03	-0.01	-0.02	-0.05	-0.01	-0.01	-0.01	-0.01	-0.01
1.0D+11	-0.01	-0.03	-0.01	-0.01	-0.05	-0.01	-0.01	-0.01	-0.01	-0.01
1.5D+11	-0.01	-0.03	-0.01	-0.01	-0.05	-0.01	-0.01	-0.01	-0.01	0.00
2.0D+11	-0.01	-0.03	-0.01	-0.01	-0.05	-0.01	-0.00	-0.01	-0.01	0.01
3.0D+11	-0.00	-0.03	-0.01	-0.01	-0.04	-0.01	-0.00	-0.01	-0.01	0.01
4.0D+11	-0.00	-0.02	-0.01	-0.01	-0.04	-0.01	-0.00	-0.00	-0.00	0.01
5.0D+11	-0.00	-0.02	-0.01	-0.00	-0.04	-0.00	-0.00	-0.00	-0.00	0.01
6.0D+11	0.00	-0.02	-0.00	-0.00	-0.03	-0.00	-0.00	-0.00	-0.00	0.01
8.0D+11	0.00	-0.01	-0.00	0.00	-0.03	0.00	0.00	0.00	0.00	0.01
1.0D+12	0.00	-0.01	0.00	0.01	-0.02	0.00	0.00	0.00	0.00	0.01
1.5D+12	0.01	0.01	0.01	0.01	-0.01	0.01	0.00	0.01	0.01	0.01
2.0D+12	0.01	0.02	0.01	0.01	-0.00	0.01	0.01	0.01	0.01	0.01
3.0D+12	0.00	0.03	0.01	0.01	0.02	0.01	0.00	0.01	0.01	0.00
4.0D+12	-0.00	0.03	0.00	0.01	0.03	0.01	0.00	0.00	0.00	-0.00
5.0D+12	-0.01	0.02	-0.00	-0.00	0.03	-0.00	-0.00	-0.01	-0.00	-0.01
6.0D+12	-0.01	0.02	-0.01	-0.01	0.03	-0.01	-0.00	-0.01	-0.01	-0.01
8.0D+12	-0.01	-0.00	-0.01	-0.01	0.02	-0.02	-0.01	-0.01	-0.01	-0.00
1.0D+13	0.02	-0.01	0.02	0.02	-0.01	0.00	0.01	0.02	0.01	0.02

Table 4.2.4 Discrepancies between exponential fitting and calculated results of the gamma decays power after instantaneous burst fission

(GAMMA) FITTING ERROR TABEL FOR BURST

(UNIT : %)

TIME(S)	TH232(F)	TH232(H)	U233(T)	U233(F)	U233(H)	U235(T)	U235(F)	U235(H)	U236(F)	NP237(F)
0.0	0.13	0.26	0.14	0.14	0.25	0.20	0.16	0.22	0.15	0.15
1.0D-01	0.01	0.01	-0.02	-0.02	-0.02	0.01	0.00	-0.02	0.01	-0.00
1.5D-01	-0.03	-0.07	-0.06	-0.06	-0.10	-0.05	-0.05	-0.08	-0.04	-0.05
2.0D-01	-0.07	-0.12	-0.08	-0.09	-0.15	-0.10	-0.08	-0.12	-0.07	-0.08
3.0D-01	-0.12	-0.16	-0.09	-0.10	-0.16	-0.13	-0.11	-0.14	-0.11	-0.10
4.0D-01	-0.12	-0.15	-0.07	-0.07	-0.12	-0.12	-0.10	-0.11	-0.10	-0.08
5.0D-01	-0.09	-0.09	-0.03	-0.02	-0.05	-0.07	-0.06	-0.05	-0.07	-0.05
6.0D-01	-0.04	-0.01	0.02	0.03	0.03	-0.01	-0.01	0.02	-0.02	0.00
8.0D-01	0.08	0.14	0.09	0.11	0.16	0.11	0.10	0.14	0.08	0.09
1.0D+00	0.18	0.24	0.13	0.15	0.22	0.20	0.18	0.20	0.16	0.15
1.5D+00	0.21	0.23	0.07	0.09	0.13	0.18	0.17	0.14	0.17	0.13
2.0D+00	0.03	-0.01	-0.05	-0.06	-0.10	-0.00	-0.00	-0.06	0.01	-0.01
3.0D+00	-0.26	-0.31	-0.14	-0.17	-0.26	-0.23	-0.23	-0.24	-0.21	-0.19
4.0D+00	-0.19	-0.20	-0.03	-0.05	-0.08	-0.13	-0.15	-0.10	-0.14	-0.13
5.0D+00	0.01	0.04	0.08	0.09	0.12	0.06	0.02	0.09	0.03	0.01
6.0D+00	0.14	0.20	0.12	0.14	0.20	0.17	0.14	0.18	0.15	0.10
8.0D+00	0.11	0.16	0.01	0.02	0.05	0.11	0.10	0.07	0.13	0.07
1.0D+01	-0.08	-0.06	-0.12	-0.12	-0.17	-0.08	-0.06	-0.14	-0.03	-0.05
1.5D+01	-0.18	-0.22	-0.04	-0.04	-0.10	-0.14	-0.14	-0.12	-0.15	-0.09
2.0D+01	0.10	0.07	0.12	0.14	0.19	0.09	0.06	0.15	0.04	0.07
3.0D+01	0.14	0.15	-0.00	-0.03	0.04	0.10	0.09	0.04	0.12	0.07
4.0D+01	-0.10	-0.07	-0.11	-0.17	-0.20	-0.07	-0.05	-0.19	-0.02	-0.06
5.0D+01	-0.13	-0.11	-0.02	-0.06	-0.10	-0.07	-0.04	-0.11	-0.04	-0.04
6.0D+01	-0.03	-0.03	0.09	0.08	0.09	-0.01	0.03	0.07	-0.00	0.01
8.0D+01	0.12	0.09	0.12	0.16	0.22	0.03	0.06	0.21	0.01	0.03
1.0D+02	0.11	0.07	0.02	0.06	0.10	-0.03	0.00	0.11	-0.03	-0.02
1.5D+02	-0.03	0.00	-0.07	-0.09	-0.11	0.00	0.01	-0.10	0.03	0.03
2.0D+02	-0.10	-0.04	-0.06	-0.11	-0.14	0.04	0.02	-0.16	0.06	0.01
3.0D+02	-0.20	-0.19	-0.10	-0.11	-0.14	-0.09	-0.13	-0.17	-0.12	-0.20
4.0D+02	0.06	0.02	0.06	0.10	0.13	0.01	0.00	0.11	-0.02	-0.00
5.0D+02	0.24	0.22	0.15	0.19	0.27	0.11	0.12	0.27	0.10	0.19
6.0D+02	0.17	0.17	0.07	0.09	0.16	0.06	0.07	0.17	0.06	0.15
8.0D+02	-0.21	-0.18	-0.17	-0.22	-0.25	-0.11	-0.13	-0.25	-0.11	-0.16
1.0D+03	-0.30	-0.30	-0.18	-0.27	-0.40	-0.08	-0.11	-0.39	-0.06	-0.24
1.5D+03	0.12	0.09	0.14	0.12	0.06	0.15	0.15	0.08	0.18	0.08
2.0D+03	0.28	0.27	0.17	0.26	0.39	0.02	0.06	0.40	0.00	0.18
3.0D+03	0.07	0.07	-0.05	0.06	0.25	-0.19	-0.14	0.25	-0.24	0.04
4.0D+03	-0.13	-0.10	-0.07	-0.10	-0.10	-0.02	-0.05	-0.10	-0.03	-0.02
5.0D+03	-0.20	-0.16	-0.03	-0.17	-0.33	0.12	0.04	-0.33	0.16	-0.08
6.0D+03	-0.17	-0.15	-0.01	-0.18	-0.39	0.14	0.04	-0.41	0.20	-0.15
8.0D+03	0.09	0.02	0.05	-0.02	-0.08	0.03	-0.02	-0.14	0.06	-0.12
1.0D+04	0.35	0.25	0.15	0.26	0.42	-0.03	0.01	0.36	-0.05	0.12
1.5D+04	0.13	0.20	0.02	0.26	0.52	-0.07	0.05	0.60	-0.12	0.38
2.0D+04	-0.46	-0.32	-0.37	-0.32	-0.34	-0.16	-0.14	-0.19	-0.17	-0.07
3.0D+04	-0.20	-0.31	-0.07	-0.27	-0.51	0.07	-0.05	-0.56	0.09	-0.37
4.0D+04	0.42	0.26	0.39	0.29	0.21	0.25	0.21	0.09	0.28	0.03
5.0D+04	0.30	0.30	0.20	0.25	0.35	0.06	0.10	0.32	0.08	0.15
6.0D+04	-0.15	-0.04	-0.22	-0.09	0.06	-0.21	-0.15	0.14	-0.22	0.03
8.0D+04	-0.49	-0.44	-0.44	-0.36	-0.35	-0.26	-0.25	-0.22	-0.30	-0.12
1.0D+05	0.05	-0.09	0.07	0.00	-0.12	0.17	0.10	-0.11	0.13	0.04
1.5D+05	0.71	0.57	0.55	0.41	0.34	0.40	0.30	0.22	0.45	0.14
2.0D+05	-0.19	-0.09	-0.16	-0.17	-0.09	-0.27	-0.28	-0.12	-0.19	-0.24
3.0D+05	-0.43	-0.42	-0.34	-0.27	-0.23	-0.27	-0.20	-0.16	-0.28	-0.07
4.0D+05	0.26	0.12	0.16	0.19	0.11	0.28	0.32	0.16	0.21	0.31
5.0D+05	0.33	0.26	0.25	0.24	0.17	0.28	0.29	0.18	0.25	0.23
6.0D+05	0.06	0.13	0.10	0.07	0.07	0.03	0.03	0.05	0.06	-0.03
8.0D+05	-0.35	-0.19	-0.16	-0.18	-0.10	-0.29	-0.30	-0.13	-0.20	-0.32
1.0D+06	-0.38	-0.28	-0.20	-0.21	-0.14	-0.27	-0.29	-0.16	-0.19	-0.28
1.5D+06	0.04	-0.06	-0.01	0.01	-0.06	0.07	0.05	-0.05	0.04	0.03
2.0D+06	0.25	0.16	0.13	0.15	0.08	0.19	0.19	0.10	0.13	0.16
3.0D+06	0.14	0.18	0.10	0.11	0.16	0.08	0.10	0.16	0.06	0.11
4.0D+06	-0.06	-0.01	-0.03	-0.04	0.01	-0.07	-0.06	-0.02	-0.05	-0.04
5.0D+06	-0.13	-0.13	-0.10	-0.10	-0.12	-0.10	-0.11	-0.15	-0.08	-0.10
6.0D+06	-0.08	-0.11	-0.07	-0.07	-0.12	-0.05	-0.06	-0.14	-0.03	-0.06
8.0D+06	0.09	0.06	0.08	0.09	0.05	0.09	0.10	0.06	0.08	0.08
1.0D+07	0.11	0.12	0.09	0.10	0.12	0.08	0.11	0.14	0.07	0.11
1.5D+07	-0.08	-0.04	-0.08	-0.08	-0.04	-0.10	-0.08	-0.02	-0.09	-0.07
2.0D+07	-0.06	-0.08	-0.06	-0.06	-0.07	-0.06	-0.06	-0.06	-0.05	-0.06
3.0D+07	0.09	0.02	0.11	0.11	0.04	0.12	0.12	0.05	0.09	0.09
4.0D+07	-0.00	-0.03	0.02	0.02	-0.00	-0.00	0.02	-0.02	-0.02	0.01
5.0D+07	-0.06	-0.03	-0.07	-0.07	-0.01	-0.10	-0.07	-0.04	-0.05	-0.05
6.0D+07	0.02	0.02	0.01	0.01	0.03	-0.00	0.00	0.01	0.10	0.01
8.0D+07	0.07	0.01	0.07	0.06	0.00	0.08	0.08	0.01	0.17	0.06
1.0D+08	-0.02	-0.04	-0.03	-0.04	-0.06	-0.02	-0.02	-0.04	0.03	-0.01
1.5D+08	-0.04	0.01	-0.05	-0.05	0.01	-0.05	-0.04	0.01	-0.04	-0.03
2.0D+08	0.02	0.05	0.02	0.03	0.06	0.04	0.03	0.05	0.03	0.02
3.0D+08	0.03	-0.04	0.02	0.03	-0.05	0.04	0.03	-0.05	0.04	0.03
4.0D+08	0.00	-0.06	-0.01	-0.01	-0.08	-0.00	-0.01	-0.07	0.01	0.00
5.0D+08	-0.01	-0.01	-0.02	-0.02	-0.01	-0.02	-0.02	-0.00	-0.01	-0.01
6.0D+08	-0.02	0.04	-0.02	-0.02	0.06	-0.02	-0.02	0.06	-0.01	-0.01
8.0D+08	-0.02	0.05	-0.01	-0.01	0.09	-0.01	-0.01	0.08	-0.01	-0.00
1.0D+09	-0.01	0.01	0.00	-0.01	0.04	0.00	-0.00	0.04	-0.01	-0.00
1.5D+09	0.00	-0.04	0.01	-0.00	-0.04	0.02	0.00	-0.03	-0.01	-0.00
2.0D+09	0.01	-0.04	0.01	0.00	-0.05	0.02	0.01	-0.04	-0.01	-0.00
3.0D+09	0.01	-0.02	0.01	0.00	-0.03	0.02	0.00	-0.02	-0.00	0.00
4.0D+09	0.01	-0.01	0.00	0.00	-0.01	0.02	0.00	-0.01	-0.00	0.00
5.0D+09	0.01	0.00	-0.00	0.00	0.00	0.01	-0.00	0.01	-0.00	0.00
6.0D+09	0.00	0.01	-0.01	0.00	0.01	0.01	-0.00	0.02	-0.00	0.00
8.0D+09	-0.00	0.02	-0.01	-0.00	0.02	0.00	-0.01	0.02	0.00	0.00
1.0D+10	-0.01	0.00	-0.01	-0.00	0.00	0.00	-0.01	0.01	0.00	0.00
1.5D+10	-0.00	-0.02	0.02	-0.00	0.00	0.00	0.01	-0.01	0.00	-0.01
2.0D+10	0.01	-0.00	0.00	0.00	0.00	0.00	0.01	-0.00	0.01	-0.01
3.0D+10	0.00	-0.00	-0.01	0.00	-0.00	-0.00	-0.00	-0.00	0.01	-0.00
4.0D+10	0.00	-0.00	-0.01	0.00	-0.00	-0.00	-0.00	-0.00	0.01	-0.00
5.0D+10	0.00	-0.00	-0.01	0.00	-0.00	-0.00	-0.00	-0.00	0.01	-0.00
6.0D+10	0.00	-0.00	-0.01	0.00	-0.00	-0.00	-0.00	-0.00	0.01	-0.00
8.0D+10	0.00	-0.00	-0.01	0.00	0.00	-0.00	-0.00	-0.00	0.01	-0.00
1.0D+11	0.00	-0.00	-0.01	0.00	0.00	-0.00	-0.00	-0.00	0.01	-0.00
1.5D+11	0.00	-0.00	-0.01	0.00	0.00	-0.00	-0.00	-0.00	0.01	-0.00
2.0D+11	0.00	0.00	-0.01	0.00	0.00	-0.00	-0.00	-0.00	0.01	-0.00
3.0D+11	0.00	0.00	-0.01	0.01	0.00	-0.00	-0.00	0.00	0.01	-0.00
4.0D+11	0.00	0.00	-0.01	0.01	0.00	0.00	-0.00	0.00	0.01	-0.00
5.0D+11	-0.00	0.00	-0.01	0.01	0.00	0.00	-0.00	0.00	0.01	-0.00
6.0D+11	-0.00	0.00	-0.00	0.01	0.00	0.00	-0.00	0.00	0.01	-0.00
8.0D+11	-0.00	0.00	-0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00
1.0D+12	-0.00	0.00	-0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
1.5D+12	-0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
2.0D+12	-0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
3.0D+12	-0.01	0.01	0.00	0.01	0.00	0.01	0.00	-0.00	0.00	0.00
4.0D+12	-0.01	0.01	-0.00	0.01	-0.00	0.01	0.00	-0.00	0.00	0.00
5.0D+12	-0.01	0.01	-0.00	0.00	-0.00	0.01	0.00	-0.00	-0.00	0.00
6.0D+12	-0.01	0.01	-0.01	-0.00	-0.00	0.01	0.00	-0.00	-0.00	0.00
8.0D+12	-0.01	0.01	-0.01	0.00	-0.00	0.00	0.00	-0.00	0.00	0.00
1.0D+13	0.00	-0.00	0.00	0.01	-0.00	-0.00	0.00	-0.00	0.02	0.00

Table 4.2.4 Continued

---------- (GAMMA) FITTING ERROR TABEL FOR BURST ----------

(UNIT : %)

TIME(S)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU239(H)	PU240(F)	PU241(T)	PU241(F)	PU242(F)	CF252(S)
0.0	0.01	0.18	0.17	0.16	0.33	0.16	0.13	0.14	0.13	0.07
1.0D-01	0.05	0.05	-0.01	-0.01	-0.02	-0.00	0.01	0.02	0.01	0.00
1.5D-01	0.03	-0.01	-0.05	-0.06	-0.12	-0.05	-0.03	-0.03	-0.03	-0.02
2.0D-01	0.01	-0.06	-0.08	-0.09	-0.17	-0.08	-0.06	-0.06	-0.06	-0.03
3.0D-01	-0.05	-0.12	-0.10	-0.10	-0.20	-0.10	-0.09	-0.09	-0.09	-0.04
4.0D-01	-0.08	-0.13	-0.08	-0.08	-0.14	-0.09	-0.09	-0.09	-0.09	-0.03
5.0D-01	-0.09	-0.11	-0.04	-0.04	-0.06	-0.05	-0.06	-0.06	-0.06	-0.02
6.0D-01	-0.07	-0.06	0.01	0.01	0.04	-0.00	-0.02	-0.02	-0.02	0.00
8.0D-01	0.01	0.07	0.10	0.10	0.21	0.09	0.07	0.07	0.08	0.04
1.0D+00	0.11	0.18	0.16	0.15	0.30	0.15	0.14	0.14	0.14	0.06
1.5D+00	0.19	0.26	0.12	0.13	0.19	0.13	0.16	0.16	0.15	0.05
2.0D+00	0.07	0.09	-0.01	0.00	-0.08	-0.01	0.04	0.03	0.02	-0.00
3.0D+00	-0.17	-0.25	-0.15	-0.15	-0.30	-0.19	-0.16	-0.18	-0.17	-0.09
4.0D+00	-0.15	-0.23	-0.08	-0.09	-0.13	-0.13	-0.13	-0.16	-0.13	-0.08
5.0D+00	-0.01	-0.04	0.04	0.03	0.10	-0.01	-0.01	-0.05	-0.00	-0.04
6.0D+00	0.11	0.12	0.11	0.10	0.21	0.08	0.09	0.06	0.10	0.01
8.0D+00	0.13	0.17	0.07	0.08	0.11	0.10	0.14	0.12	0.13	0.07
1.0D+01	0.02	0.01	-0.04	-0.03	-0.11	0.00	0.05	0.05	0.04	0.05
1.5D+01	-0.12	-0.20	-0.10	-0.11	-0.15	-0.13	-0.14	-0.13	-0.14	-0.08
2.0D+01	-0.00	-0.01	0.03	-0.00	0.11	-0.05	-0.10	-0.09	-0.07	-0.10
3.0D+01	0.11	0.15	0.07	0.06	0.08	0.09	0.13	0.14	0.13	0.06
4.0D+01	0.02	-0.00	0.00	0.02	-0.10	0.09	0.14	0.16	0.13	0.12
5.0D+01	-0.02	-0.07	-0.00	0.01	-0.06	0.05	0.04	0.07	0.04	0.06
6.0D+01	-0.00	-0.05	-0.00	-0.01	0.04	-0.00	-0.07	-0.05	-0.05	-0.05
8.0D+01	-0.00	-0.02	-0.05	-0.08	0.05	-0.12	-0.24	-0.23	-0.19	-0.25
1.0D+02	-0.03	-0.02	-0.07	-0.10	-0.04	-0.13	-0.23	-0.23	-0.19	-0.27
1.5D+02	0.05	0.07	0.11	0.13	0.03	0.17	0.26	0.26	0.20	0.34
2.0D+02	0.06	0.05	0.10	0.15	0.07	0.21	0.40	0.40	0.30	0.62
3.0D+02	-0.14	-0.23	-0.26	-0.24	-0.19	-0.27	-0.21	-0.21	-0.23	-0.13
4.0D+02	-0.02	-0.05	-0.09	-0.10	-0.03	-0.14	-0.22	-0.23	-0.19	-0.31
5.0D+02	0.10	0.18	0.15	0.15	0.18	0.15	0.07	0.05	0.10	0.02
6.0D+02	0.04	0.18	0.17	0.17	0.17	0.21	0.19	0.18	0.19	0.22
8.0D+02	-0.14	-0.11	-0.10	-0.08	-0.13	-0.06	0.02	0.03	-0.02	0.06
1.0D+03	-0.03	-0.23	-0.20	-0.18	-0.26	-0.21	-0.10	-0.09	-0.14	-0.16
1.5D+03	0.25	0.05	0.05	0.03	0.02	0.00	0.02	0.00	0.04	-0.05
2.0D+03	-0.05	0.17	0.14	0.11	0.21	0.13	0.02	-0.01	0.04	0.13
3.0D+03	-0.41	0.05	0.01	0.03	0.14	0.06	-0.08	-0.10	-0.10	0.08
4.0D+03	-0.08	-0.01	-0.02	0.01	0.01	-0.00	0.03	0.02	-0.02	-0.00
5.0D+03	0.25	-0.06	-0.05	-0.05	-0.14	-0.07	0.10	0.10	0.05	-0.07
6.0D+03	0.33	-0.12	-0.11	-0.14	-0.27	-0.14	0.06	0.06	0.03	-0.12
8.0D+03	0.10	-0.13	-0.11	-0.17	-0.20	-0.13	-0.07	-0.08	-0.06	-0.03
1.0D+04	-0.15	0.07	0.09	0.07	0.20	0.10	-0.06	-0.07	-0.04	0.19
1.5D+04	-0.26	0.39	0.36	0.44	0.55	0.39	0.07	0.12	0.10	-0.01
2.0D+04	-0.12	0.02	-0.04	-0.01	-0.17	-0.02	-0.08	-0.03	-0.04	-0.64
3.0D+04	0.17	-0.35	-0.28	-0.39	-0.52	-0.31	-0.10	-0.13	-0.10	-0.07
4.0D+04	0.20	-0.01	0.10	0.03	0.12	0.07	0.14	0.11	0.11	0.65
5.0D+04	-0.01	0.14	0.16	0.16	0.33	0.16	0.10	0.12	0.09	0.30
6.0D+04	-0.22	0.05	-0.01	0.04	0.13	0.02	-0.08	-0.04	-0.07	-0.33
8.0D+04	-0.21	-0.08	-0.19	-0.14	-0.27	-0.16	-0.17	-0.19	-0.18	-0.64
1.0D+05	0.17	0.05	-0.02	-0.01	-0.16	-0.00	0.09	0.01	0.05	0.02
1.5D+05	0.35	0.11	0.20	0.15	0.24	0.20	0.28	0.23	0.25	0.83
2.0D+05	-0.25	-0.25	-0.14	-0.16	-0.01	-0.15	-0.20	-0.16	-0.17	0.12
3.0D+05	-0.22	-0.07	-0.12	-0.09	-0.17	-0.13	-0.19	-0.18	-0.19	-0.46
4.0D+05	0.27	0.32	0.18	0.21	0.03	0.21	0.23	0.20	0.19	-0.13
5.0D+05	0.28	0.25	0.17	0.17	0.08	0.20	0.23	0.21	0.20	0.06
6.0D+05	0.06	0.00	0.01	0.00	0.06	0.03	0.03	0.05	0.03	0.09
8.0D+05	-0.24	-0.30	-0.17	-0.19	0.01	-0.17	-0.22	-0.18	-0.19	0.01
1.0D+06	-0.25	-0.30	-0.16	-0.18	-0.04	-0.16	-0.22	-0.18	-0.19	-0.04
1.5D+06	0.01	-0.02	-0.01	-0.00	-0.14	0.00	0.02	-0.01	-0.00	-0.06
2.0D+06	0.13	0.18	0.08	0.10	-0.02	0.09	0.12	0.10	0.10	-0.02
3.0D+06	0.09	0.18	0.08	0.11	0.19	0.10	0.09	0.10	0.10	0.07
4.0D+06	-0.03	-0.02	-0.02	-0.01	0.07	-0.00	-0.03	-0.01	-0.01	0.05
5.0D+06	-0.08	-0.15	-0.09	-0.09	-0.10	-0.08	-0.10	-0.09	-0.09	-0.02
6.0D+06	-0.06	-0.13	-0.07	-0.08	-0.15	-0.07	-0.08	-0.08	-0.08	-0.08
8.0D+06	0.07	0.06	0.05	0.06	0.01	0.05	0.04	0.04	0.05	-0.04
1.0D+07	0.09	0.14	0.09	0.11	0.13	0.10	0.09	0.10	0.10	0.07
1.5D+07	-0.05	-0.03	-0.06	-0.03	0.00	-0.02	-0.04	-0.03	-0.04	0.05
2.0D+07	-0.04	-0.06	-0.06	-0.05	-0.07	-0.03	-0.04	-0.05	-0.06	-0.04
3.0D+07	0.09	0.05	0.06	0.07	0.02	0.05	0.06	0.05	0.07	0.01
4.0D+07	-0.01	0.00	-0.01	0.02	0.02	-0.02	-0.00	-0.01	0.02	0.03
5.0D+07	-0.06	-0.02	-0.05	-0.02	0.02	-0.04	-0.04	-0.04	-0.02	0.00
6.0D+07	0.01	0.02	-0.00	0.01	0.02	0.01	-0.01	-0.02	0.00	-0.02
8.0D+07	0.06	0.00	0.03	0.03	-0.02	0.04	0.02	0.01	0.03	-0.01
1.0D+08	-0.01	-0.04	-0.00	-0.00	-0.05	0.00	0.00	-0.00	0.00	0.00
1.5D+08	-0.03	0.01	-0.03	-0.01	0.02	-0.03	-0.01	-0.01	-0.02	0.02
2.0D+08	0.03	0.05	0.00	0.03	0.07	0.01	-0.00	0.02	0.00	0.00
3.0D+08	0.04	-0.04	0.01	0.02	-0.04	0.01	-0.00	0.01	0.00	-0.00
4.0D+08	0.01	-0.05	0.00	-0.00	-0.07	-0.01	-0.01	-0.00	-0.01	0.01
5.0D+08	-0.00	0.01	-0.00	-0.00	0.01	-0.02	-0.01	-0.01	-0.01	0.02
6.0D+08	-0.01	0.06	-0.00	0.00	0.08	-0.01	-0.01	-0.00	-0.01	0.02
8.0D+08	-0.00	0.08	0.00	0.01	0.10	-0.00	0.00	0.01	-0.00	0.01
1.0D+09	0.00	0.03	0.00	0.01	0.04	0.00	0.01	0.01	0.00	0.01
1.5D+09	0.01	-0.04	0.00	0.01	-0.06	0.01	0.01	0.01	0.00	-0.00
2.0D+09	0.01	-0.05	0.00	0.01	-0.07	0.00	0.01	0.01	0.00	-0.00
3.0D+09	0.01	-0.03	0.00	0.01	-0.04	0.00	0.01	0.00	0.00	0.00
4.0D+09	0.01	-0.02	0.00	0.01	-0.01	-0.00	0.01	0.00	0.00	0.00
5.0D+09	0.01	-0.01	0.00	0.00	0.01	-0.00	0.01	-0.00	0.00	0.00
6.0D+09	0.01	0.00	0.00	0.00	0.03	-0.01	0.00	-0.00	0.00	0.01
8.0D+09	0.01	0.02	0.00	-0.00	0.04	-0.01	0.00	-0.00	0.00	0.01
1.0D+10	0.01	0.01	0.01	0.01	0.01	-0.01	0.00	-0.00	-0.00	0.02
1.5D+10	-0.00	-0.01	0.02	0.03	-0.02	-0.00	-0.00	0.03	-0.02	0.03
2.0D+10	-0.00	-0.00	-0.00	-0.01	-0.01	-0.01	-0.00	0.01	-0.01	0.00
3.0D+10	0.01	-0.00	-0.02	-0.02	-0.01	-0.01	-0.00	-0.00	-0.00	-0.01
4.0D+10	0.01	-0.00	-0.02	-0.02	-0.01	-0.01	-0.00	-0.01	-0.00	-0.00
5.0D+10	0.01	-0.00	-0.02	-0.01	-0.01	-0.01	-0.00	-0.00	-0.00	-0.00
6.0D+10	0.01	-0.00	-0.01	-0.01	-0.00	-0.01	-0.00	-0.00	-0.00	-0.00
8.0D+10	0.01	-0.00	-0.01	0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00
1.0D+11	0.01	-0.00	-0.01	0.01	0.00	-0.00	-0.00	-0.00	0.00	-0.00
1.5D+11	0.01	-0.00	-0.01	0.01	0.00	-0.00	-0.00	-0.00	0.00	-0.00
2.0D+11	0.01	-0.00	-0.01	0.02	0.01	-0.00	-0.00	-0.00	0.00	-0.00
3.0D+11	0.01	-0.00	-0.01	0.02	0.01	0.00	-0.00	-0.00	0.00	-0.00
4.0D+11	0.01	-0.00	-0.01	0.02	0.01	0.00	-0.00	-0.00	0.00	-0.00
5.0D+11	0.00	-0.00	-0.01	0.02	0.01	0.00	-0.00	-0.00	0.00	-0.00
6.0D+11	0.00	-0.00	-0.01	0.02	0.01	0.00	-0.00	-0.00	0.00	-0.00
8.0D+11	0.00	-0.00	-0.01	0.01	0.01	0.00	-0.00	0.00	0.00	-0.00
1.0D+12	0.00	-0.00	-0.00	0.01	0.01	0.00	-0.00	0.00	0.00	-0.00
1.5D+12	0.00	-0.00	-0.00	0.01	0.01	0.00	-0.00	0.00	0.00	0.00
2.0D+12	0.00	-0.00	-0.00	0.01	0.00	0.00	-0.00	0.00	0.00	0.00
3.0D+12	-0.00	-0.00	0.00	0.00	0.00	0.00	-0.01	0.00	0.00	0.00
4.0D+12	-0.00	0.00	0.00	-0.01	0.00	-0.00	-0.01	0.00	0.00	-0.00
5.0D+12	-0.01	0.00	0.00	-0.01	-0.00	-0.00	-0.01	0.00	0.00	-0.00
6.0D+12	-0.01	0.00	0.00	-0.01	-0.00	-0.00	-0.01	0.00	0.01	-0.00
8.0D+12	-0.01	0.01	-0.00	-0.01	0.00	-0.00	-0.00	-0.01	0.01	-0.01
1.0D+13	-0.00	0.01	-0.02	0.01	0.02	-0.01	0.01	-0.03	0.02	-0.01

Table 4.2.5 Discrepancies between exponential fitting and calculated results of the total sensible decay power after one-year irradiation

(B+G) FITTING ERROR TABEL FOR 1 YEAR

(UNIT : %)

TIME(S)	TH232(F)	TH232(H)	U233(T)	U233(F)	U233(H)	U235(T)	U235(F)	U235(H)	U236(F)	NP237(F)
0.0	0.00	0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
1.0D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
1.5D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
2.0D-01	0.00	0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
3.0D-01	0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00	-0.00	0.00	-0.00
4.0D-01	0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	-0.00
5.0D-01	0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	-0.00
6.0D-01	0.01	0.01	-0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	-0.00
8.0D-01	0.01	0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	-0.00
1.0D+00	0.00	0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00
1.5D+00	-0.01	-0.01	-0.00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
2.0D+00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
3.0D+00	-0.01	-0.01	-0.00	-0.00	-0.00	-0.01	-0.01	-0.00	-0.01	-0.01
4.0D+00	0.00	0.01	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.00
5.0D+00	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00
6.0D+00	0.01	0.01	-0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
8.0D+00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01
1.0D+01	-0.01	-0.01	-0.00	-0.00	-0.00	-0.01	-0.01	-0.00	-0.01	-0.01
1.5D+01	0.00	0.00	-0.00	0.00	0.00	-0.00	-0.00	0.00	-0.00	-0.00
2.0D+01	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00
3.0D+01	0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	-0.00
4.0D+01	-0.01	-0.01	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.01	-0.01
5.0D+01	-0.01	-0.01	-0.00	-0.00	0.00	-0.01	-0.01	0.00	-0.01	-0.01
6.0D+01	-0.00	-0.01	-0.00	-0.00	0.00	-0.01	-0.01	0.00	-0.01	-0.01
8.0D+01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01	0.00	-0.00	-0.01
1.0D+02	0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00	-0.00	0.00	0.00
1.5D+02	0.00	0.01	0.00	0.00	-0.00	0.01	0.01	0.00	0.01	0.00
2.0D+02	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01	-0.00	-0.00	-0.01
3.0D+02	-0.00	-0.01	-0.01	-0.00	0.00	-0.01	-0.01	0.01	-0.01	-0.01
4.0D+02	0.01	0.01	-0.00	0.00	0.01	-0.00	-0.00	0.01	-0.00	0.00
5.0D+02	0.01	0.01	0.00	0.00	0.01	-0.00	-0.00	0.01	-0.00	0.00
6.0D+02	0.00	0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.00	-0.00	-0.00
8.0D+02	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01	-0.01	0.00	-0.01	-0.01
1.0D+03	0.00	0.00	-0.00	0.00	0.01	-0.01	-0.01	0.01	-0.01	-0.00
1.5D+03	0.01	0.01	-0.00	0.01	0.03	-0.02	-0.01	0.03	-0.02	0.01
2.0D+03	0.01	0.01	-0.01	-0.00	0.02	-0.02	-0.02	0.02	-0.02	0.00
3.0D+03	-0.01	-0.01	-0.00	-0.00	-0.01	0.01	-0.00	-0.01	0.01	-0.00
4.0D+03	-0.01	-0.01	0.00	-0.00	-0.01	0.01	0.00	-0.02	0.02	-0.00
5.0D+03	-0.00	-0.01	-0.00	-0.01	-0.01	0.00	-0.00	-0.01	0.01	-0.01
6.0D+03	0.00	-0.00	-0.00	-0.00	0.01	-0.01	-0.01	0.01	-0.00	-0.00
8.0D+03	0.02	0.02	-0.00	0.01	0.03	-0.01	-0.01	0.04	-0.01	0.01
1.0D+04	0.01	0.01	-0.00	0.01	0.03	0.00	0.00	0.04	-0.00	0.02
1.5D+04	-0.04	-0.04	-0.01	-0.02	-0.03	0.00	-0.01	-0.03	0.00	-0.02
2.0D+04	-0.04	-0.05	-0.01	-0.03	-0.06	-0.00	-0.01	-0.07	0.00	-0.04
3.0D+04	0.02	0.00	0.01	0.01	-0.01	0.00	-0.00	-0.02	0.01	-0.01
4.0D+04	0.01	0.01	0.00	0.01	0.01	-0.00	0.00	0.02	0.00	0.00
5.0D+04	-0.01	-0.00	-0.01	-0.00	0.00	-0.00	-0.00	0.01	-0.00	0.00
6.0D+04	-0.01	-0.01	-0.01	-0.01	-0.00	-0.00	-0.00	0.00	0.00	0.00
8.0D+04	0.01	0.00	0.01	0.01	-0.00	0.01	0.01	-0.00	0.01	-0.00
1.0D+05	0.02	0.01	0.02	0.01	0.00	0.01	0.01	-0.00	0.02	-0.00
1.5D+05	-0.01	-0.01	-0.01	-0.01	-0.01	-0.02	-0.02	-0.01	-0.01	-0.01
2.0D+05	-0.03	-0.02	-0.02	-0.02	-0.01	-0.02	-0.01	-0.00	-0.01	-0.00
3.0D+05	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01
4.0D+05	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	-0.00
5.0D+05	-0.01	-0.00	-0.00	-0.00	-0.00	-0.01	-0.01	-0.01	-0.00	-0.02
6.0D+05	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.02	-0.01	-0.01	-0.02
8.0D+05	-0.01	-0.00	-0.00	-0.00	0.00	0.00	-0.00	0.00	0.00	-0.00
1.0D+06	0.01	0.00	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
1.5D+06	0.03	0.03	0.02	0.02	0.03	0.02	0.03	0.03	0.01	0.02
2.0D+06	0.03	0.04	0.02	0.02	0.03	0.02	0.02	0.04	0.01	0.02
3.0D+06	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
4.0D+06	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01	-0.01	-0.01
5.0D+06	-0.00	-0.00	-0.00	0.00	-0.00	0.00	0.00	0.00	-0.01	0.00
6.0D+06	0.00	0.01	0.01	0.02	0.02	0.01	0.02	0.03	-0.00	0.01
8.0D+06	0.01	0.02	0.02	0.03	0.03	0.02	0.02	0.05	0.00	0.02
1.0D+07	0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.02	-0.01	0.01
1.5D+07	-0.00	-0.01	-0.01	-0.01	-0.02	-0.01	-0.01	-0.01	-0.02	-0.01
2.0D+07	0.01	0.00	0.03	0.03	0.01	0.02	0.02	0.02	-0.00	0.01
3.0D+07	-0.03	-0.02	0.02	0.03	-0.00	0.01	0.03	0.00	-0.01	0.01
4.0D+07	-0.05	-0.07	-0.03	-0.03	-0.07	-0.03	-0.02	-0.06	-0.02	-0.02
5.0D+07	-0.03	-0.05	-0.03	-0.04	-0.05	-0.03	-0.03	-0.06	-0.01	-0.03
6.0D+07	0.02	0.01	-0.00	-0.01	0.01	-0.01	-0.01	-0.01	0.02	-0.01
8.0D+07	0.10	0.11	0.06	0.05	0.10	0.03	0.04	0.08	0.05	0.03
1.0D+08	0.10	0.11	0.06	0.05	0.09	0.03	0.05	0.09	0.05	0.05
1.5D+08	-0.06	-0.08	-0.05	-0.04	-0.07	-0.03	-0.01	-0.04	-0.03	0.00
2.0D+08	-0.10	-0.13	-0.06	-0.06	-0.10	-0.04	-0.04	-0.09	-0.04	-0.05
3.0D+08	0.10	0.12	0.07	0.07	0.09	0.04	0.03	0.05	0.05	0.01
4.0D+08	0.14	0.18	0.08	0.09	0.15	0.05	0.05	0.12	0.08	0.05
5.0D+08	0.03	0.06	0.02	0.01	0.05	0.01	0.02	0.06	0.02	0.02
6.0D+08	-0.10	-0.12	-0.06	-0.07	-0.10	-0.04	-0.04	-0.05	-0.04	-0.03
8.0D+08	-0.28	-0.38	-0.16	-0.18	-0.34	-0.11	-0.10	-0.23	-0.13	-0.09
1.0D+09	-0.30	-0.43	-0.18	-0.20	-0.42	-0.11	-0.11	-0.30	-0.14	-0.10
1.5D+09	-0.11	-0.20	-0.06	-0.07	-0.26	-0.04	-0.03	-0.19	-0.05	-0.03
2.0D+09	0.06	0.06	0.05	0.04	-0.02	0.03	0.04	-0.02	0.04	0.03
3.0D+09	0.20	0.29	0.13	0.13	0.27	0.08	0.09	0.18	0.10	0.08
4.0D+09	0.20	0.32	0.12	0.13	0.40	0.08	0.08	0.26	0.09	0.08
5.0D+09	0.15	0.28	0.09	0.10	0.42	0.06	0.06	0.28	0.07	0.06
6.0D+09	0.10	0.20	0.05	0.06	0.35	0.03	0.03	0.24	0.03	0.03
8.0D+09	-0.01	-0.06	-0.03	-0.02	-0.10	-0.02	-0.02	-0.02	-0.04	-0.03
1.0D+10	-0.12	-0.37	-0.10	-0.11	-0.81	-0.06	-0.08	-0.44	-0.09	-0.08
1.5D+10	-0.10	-0.01	0.00	-0.04	0.03	-0.00	-0.00	0.02	0.01	-0.02
2.0D+10	0.12	0.14	0.05	0.07	0.36	0.06	0.05	0.20	0.05	0.05
3.0D+10	-0.00	-0.01	-0.01	0.00	0.04	-0.00	-0.00	0.02	0.00	-0.00
4.0D+10	-0.02	-0.03	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.01
5.0D+10	-0.02	-0.03	-0.02	-0.01	-0.02	-0.01	-0.01	-0.02	-0.00	-0.01
6.0D+10	-0.02	-0.03	-0.02	-0.01	-0.02	-0.01	-0.01	-0.02	-0.00	-0.01
8.0D+10	-0.02	-0.03	-0.02	-0.01	-0.02	-0.01	-0.01	-0.02	-0.00	-0.01
1.0D+11	-0.02	-0.03	-0.02	-0.01	-0.02	-0.01	-0.01	-0.02	-0.00	-0.01
1.5D+11	-0.02	-0.03	-0.01	-0.01	-0.02	-0.01	-0.01	-0.02	-0.00	-0.01
2.0D+11	-0.01	-0.02	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01	-0.00	-0.01
3.0D+11	-0.01	-0.02	-0.01	-0.00	-0.01	-0.00	-0.00	-0.01	0.00	-0.01
4.0D+11	-0.00	-0.01	-0.00	0.00	-0.01	-0.00	-0.00	-0.01	0.00	-0.00
5.0D+11	0.00	-0.01	-0.00	0.00	-0.01	0.00	0.00	-0.01	0.01	-0.00
6.0D+11	0.01	-0.00	0.00	0.01	-0.01	0.00	0.00	-0.01	0.01	-0.00
8.0D+11	0.01	0.01	0.01	0.01	-0.01	0.01	0.01	-0.01	0.01	0.00
1.0D+12	0.02	0.02	0.01	0.01	-0.00	0.01	0.01	-0.01	0.01	0.00
1.5D+12	0.03	0.03	0.02	0.02	-0.00	0.01	0.02	-0.00	0.01	0.01
2.0D+12	0.03	0.04	0.02	0.02	0.00	0.01	0.02	-0.00	0.02	0.01
3.0D+12	0.02	0.05	0.02	0.02	0.01	0.01	0.02	0.00	0.01	0.01
4.0D+12	0.00	0.03	0.01	0.01	0.01	-0.00	0.01	0.00	0.00	0.01
5.0D+12	-0.02	0.00	-0.01	-0.01	0.00	-0.01	-0.01	0.00	-0.01	-0.00
6.0D+12	-0.04	-0.03	-0.03	-0.02	0.00	-0.02	-0.02	0.00	-0.02	-0.01
8.0D+12	-0.04	-0.06	-0.03	-0.02	-0.01	-0.01	-0.01	-0.00	-0.02	-0.01
1.0D+13	0.05	0.04	0.03	0.02	-0.00	0.03	0.04	0.00	0.02	0.01

Table 4.2.5 Continued

---------- (B+G) FITTING ERROR TABEL FOR 1 YEAR ----------

(UNIT : %)

TIME(S)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU239(H)	PU240(F)	PU241(T)	PU241(F)	PU242(F)	CF252(S)
0.0	0.00	0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.00
1.0D-01	0.00	-0.00	-0.01	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.00
1.5D-01	0.00	-0.00	-0.01	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.00
2.0D-01	0.00	-0.00	-0.01	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.00
3.0D-01	0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00	-0.00	-0.00	0.00
4.0D-01	0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	-0.00	0.00
5.0D-01	0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	-0.00	0.00
6.0D-01	0.00	0.01	-0.00	-0.00	-0.00	0.00	0.00	0.00	-0.00	0.00
8.0D-01	0.01	0.01	-0.00	-0.00	-0.00	0.00	0.00	0.00	-0.00	0.00
1.0D+00	0.00	0.00	-0.01	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.00
1.5D+00	-0.00	-0.01	-0.01	-0.01	-0.01	-0.00	-0.00	-0.01	-0.01	0.00
2.0D+00	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00
3.0D+00	-0.01	-0.01	-0.01	-0.01	-0.00	-0.00	-0.00	-0.01	-0.01	0.00
4.0D+00	0.00	0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	-0.00	0.00
5.0D+00	0.01	0.01	-0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00
6.0D+00	0.00	0.01	-0.00	-0.00	0.00	0.00	0.00	0.01	0.00	0.00
8.0D+00	-0.00	-0.00	-0.01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01	0.00
1.0D+01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01	-0.01	-0.00
1.5D+01	-0.01	-0.00	-0.01	-0.00	0.00	-0.00	-0.00	-0.00	-0.01	0.00
2.0D+01	-0.00	0.01	-0.00	0.00	0.00	0.01	0.01	0.00	-0.00	0.00
3.0D+01	-0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	-0.00	0.00
4.0D+01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.00	-0.00	-0.00	-0.01	0.00
5.0D+01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01	-0.01	-0.01	0.00
6.0D+01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	0.00
8.0D+01	-0.01	-0.00	-0.01	-0.00	-0.01	-0.00	-0.00	-0.00	-0.01	0.01
1.0D+02	-0.01	0.00	-0.00	0.00	-0.00	0.01	0.01	0.01	0.00	0.02
1.5D+02	-0.00	0.01	-0.00	0.00	0.00	0.01	0.02	0.02	0.01	0.02
2.0D+02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	0.00
3.0D+02	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.02	-0.02	-0.02	-0.01
4.0D+02	-0.01	0.01	0.00	0.00	0.00	0.01	-0.00	-0.00	-0.00	0.00
5.0D+02	-0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
6.0D+02	-0.01	0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	-0.01	-0.00
8.0D+02	-0.02	-0.00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.02
1.0D+03	-0.01	0.00	-0.00	-0.01	0.00	-0.00	-0.01	-0.01	-0.01	-0.01
1.5D+03	-0.03	0.01	0.00	0.00	0.01	0.01	-0.01	-0.01	-0.00	0.01
2.0D+03	-0.04	0.01	-0.00	-0.00	0.00	0.01	-0.01	-0.01	-0.01	0.00
3.0D+03	-0.01	0.00	-0.00	-0.00	-0.01	0.00	-0.00	0.00	-0.00	-0.01
4.0D+03	0.02	-0.00	0.00	0.00	-0.01	0.00	0.00	0.01	0.00	-0.01
5.0D+03	0.01	-0.00	-0.00	-0.00	-0.01	0.00	-0.00	0.00	-0.00	-0.01
6.0D+03	-0.01	0.00	-0.00	-0.00	-0.01	0.01	-0.01	-0.01	-0.01	-0.01
8.0D+03	-0.02	0.02	0.01	0.01	0.01	0.02	-0.01	-0.00	0.00	-0.01
1.0D+04	-0.02	0.03	0.02	0.02	0.02	0.03	0.00	0.01	0.01	-0.01
1.5D+04	-0.00	-0.01	-0.01	-0.01	-0.02	-0.01	-0.01	-0.00	-0.01	-0.03
2.0D+04	0.00	-0.04	-0.03	-0.03	-0.05	-0.03	-0.01	-0.01	-0.02	-0.01
3.0D+04	0.01	-0.01	-0.00	-0.00	-0.01	-0.00	0.00	0.00	0.00	0.03
4.0D+04	0.00	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01
5.0D+04	-0.00	0.01	-0.00	0.00	0.00	0.00	-0.00	0.00	-0.00	-0.01
6.0D+04	0.00	0.01	-0.01	-0.00	-0.01	0.00	-0.01	-0.00	-0.00	-0.01
8.0D+04	0.01	-0.00	-0.00	0.00	-0.01	0.00	0.00	0.00	0.00	0.02
1.0D+05	0.01	-0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.04
1.5D+05	-0.01	-0.01	-0.01	-0.00	-0.00	-0.00	-0.01	-0.00	-0.01	-0.01
2.0D+05	-0.01	0.00	-0.01	-0.00	-0.00	0.00	-0.01	-0.01	-0.01	-0.04
3.0D+05	0.01	0.02	0.01	0.01	0.01	0.01	0.00	0.01	0.01	-0.01
4.0D+05	0.01	0.00	-0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.01
5.0D+05	-0.01	-0.02	-0.01	-0.00	0.00	-0.00	-0.01	-0.00	-0.01	0.01
6.0D+05	-0.01	-0.02	-0.01	-0.00	0.00	0.00	-0.01	-0.00	-0.01	0.00
8.0D+05	-0.00	-0.00	-0.00	0.01	0.00	0.01	-0.00	0.00	0.00	-0.01
1.0D+06	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	-0.01
1.5D+06	0.01	0.03	0.00	0.02	0.02	0.01	0.00	0.00	0.00	0.01
2.0D+06	0.02	0.04	0.01	0.03	0.04	0.02	0.01	0.01	0.01	0.03
3.0D+06	0.01	0.01	0.01	0.02	0.02	0.02	0.00	0.01	0.01	0.02
4.0D+06	-0.00	-0.01	-0.01	0.00	-0.01	0.00	-0.01	-0.00	-0.01	-0.01
5.0D+06	-0.00	0.00	-0.00	0.01	-0.00	-0.00	-0.01	-0.00	-0.00	-0.01
6.0D+06	0.01	0.02	0.01	0.02	0.02	0.01	-0.00	0.00	0.01	0.01
8.0D+06	0.02	0.04	0.02	0.03	0.04	0.02	0.01	0.02	0.02	0.03
1.0D+07	0.01	0.02	0.01	0.02	0.02	0.01	0.00	0.01	0.01	0.02
1.5D+07	-0.00	-0.00	0.00	-0.00	-0.01	-0.00	-0.01	-0.01	-0.01	0.00
2.0D+07	0.01	0.02	0.02	0.01	0.02	0.00	-0.01	-0.00	0.00	0.04
3.0D+07	0.01	0.02	0.02	0.01	-0.01	-0.00	-0.00	-0.00	0.01	0.05
4.0D+07	-0.02	-0.03	-0.01	-0.02	-0.08	-0.02	-0.01	-0.02	-0.01	-0.00
5.0D+07	-0.02	-0.05	-0.03	-0.03	-0.07	-0.02	-0.01	-0.02	-0.02	-0.04
6.0D+07	-0.01	-0.02	-0.02	-0.02	-0.01	-0.01	-0.00	-0.01	-0.02	-0.05
8.0D+07	0.02	0.04	0.01	0.02	0.10	0.02	0.02	0.01	0.01	-0.01
1.0D+08	0.03	0.07	0.02	0.05	0.12	0.04	0.04	0.03	0.02	0.03
1.5D+08	-0.00	0.02	0.00	0.02	-0.01	0.01	0.02	0.02	0.01	0.05
2.0D+08	-0.03	-0.05	-0.03	-0.03	-0.10	-0.04	-0.02	-0.02	-0.03	-0.01
3.0D+08	0.02	-0.01	0.01	-0.00	0.01	-0.01	-0.02	0.00	-0.01	-0.02
4.0D+08	0.04	0.06	0.04	0.03	0.12	0.03	0.01	0.03	0.02	0.04
5.0D+08	0.02	0.06	0.02	0.02	0.09	0.02	0.01	0.03	0.01	0.05
6.0D+08	-0.02	0.00	-0.01	-0.01	-0.02	-0.01	-0.01	0.00	-0.02	0.02
8.0D+08	-0.06	-0.11	-0.06	-0.06	-0.24	-0.06	-0.03	-0.03	-0.05	-0.05
1.0D+09	-0.07	-0.16	-0.07	-0.08	-0.35	-0.07	-0.04	-0.04	-0.06	-0.08
1.5D+09	-0.02	-0.11	-0.02	-0.03	-0.24	-0.03	-0.01	-0.01	-0.03	-0.04
2.0D+09	0.03	-0.01	0.03	0.02	-0.03	0.02	0.02	0.02	0.01	0.01
3.0D+09	0.06	0.10	0.06	0.06	0.26	0.06	0.04	0.05	0.04	0.06
4.0D+09	0.06	0.14	0.06	0.06	0.39	0.06	0.04	0.04	0.05	0.07
5.0D+09	0.04	0.14	0.04	0.04	0.40	0.04	0.03	0.03	0.04	0.05
6.0D+09	0.02	0.12	0.02	0.02	0.28	0.02	0.01	0.02	0.03	0.03
8.0D+09	-0.01	-0.03	-0.02	-0.02	-0.34	-0.03	-0.01	-0.02	-0.01	-0.04
1.0D+10	-0.04	-0.22	-0.05	-0.07	-1.11	-0.08	-0.04	-0.06	-0.06	-0.10
1.5D+10	0.01	0.03	0.03	0.01	0.05	0.00	-0.01	0.01	-0.03	-0.01
2.0D+10	0.04	0.10	0.04	0.04	0.36	0.05	0.02	0.06	0.04	0.13
3.0D+10	0.00	0.00	-0.01	-0.01	0.04	-0.00	-0.00	0.00	0.00	0.01
4.0D+10	-0.00	-0.01	-0.02	-0.02	-0.02	-0.01	-0.00	-0.01	-0.01	-0.03
5.0D+10	-0.00	-0.01	-0.02	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.02
6.0D+10	-0.00	-0.01	-0.01	-0.01	-0.02	-0.01	-0.00	-0.01	-0.01	-0.02
8.0D+10	-0.00	-0.01	-0.01	-0.01	-0.02	-0.01	-0.00	-0.01	-0.01	-0.01
1.0D+11	-0.00	-0.01	-0.01	-0.00	-0.01	-0.01	-0.00	-0.01	-0.00	-0.00
1.5D+11	-0.00	-0.01	-0.01	0.00	-0.01	-0.01	-0.00	-0.01	-0.00	0.00
2.0D+11	-0.00	-0.01	-0.01	0.00	-0.01	-0.01	-0.00	-0.00	-0.00	0.01
3.0D+11	-0.00	-0.01	-0.01	0.01	-0.01	-0.00	-0.00	-0.00	-0.00	0.01
4.0D+11	-0.00	-0.01	-0.01	0.01	-0.01	-0.00	-0.00	-0.00	-0.00	0.01
5.0D+11	0.00	-0.01	-0.01	0.01	-0.01	-0.00	-0.00	-0.00	-0.00	0.01
6.0D+11	0.00	-0.01	-0.01	0.01	-0.01	-0.00	-0.00	-0.00	0.00	0.01
8.0D+11	0.00	-0.00	-0.00	0.01	-0.00	0.00	-0.00	0.00	0.00	0.01
1.0D+12	0.00	-0.00	-0.00	0.01	-0.00	0.00	0.00	0.00	0.00	0.01
1.5D+12	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01
2.0D+12	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.00
3.0D+12	0.00	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.00
4.0D+12	-0.00	0.01	0.00	0.00	0.01	0.00	-0.00	0.00	0.00	-0.00
5.0D+12	-0.01	0.01	-0.00	-0.01	0.01	-0.00	-0.00	-0.00	0.00	-0.01
6.0D+12	-0.01	0.01	-0.01	-0.01	0.01	-0.01	-0.01	-0.01	-0.00	-0.01
8.0D+12	-0.01	0.00	-0.01	-0.01	0.01	-0.01	-0.01	-0.01	-0.00	-0.00
1.0D+13	0.02	0.00	0.01	0.01	0.01	-0.00	0.01	0.01	0.02	0.02

Table 4.2.6 Discrepancies between exponential fitting and calculated results of the beta decay power after one-year irradiation

(BETA) FITTING ERROR TABEL FOR 1 YEAR

(UNIT : %)

TIME(S)	TH232(F)	TH232(H)	U233(T)	U233(F)	U233(H)	U235(T)	U235(F)	U235(H)	U236(F)	NP237(F)
0.0	0.01	0.01	-0.00	0.00	-0.00	0.00	0.00	-0.00	0.00	-0.00
1.0D-01	0.00	0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	-0.00
1.5D-01	0.00	0.00	-0.00	0.00	-0.00	-0.00	0.00	-0.00	-0.00	-0.00
2.0D-01	0.00	0.00	-0.00	0.00	-0.00	0.00	0.00	-0.00	0.00	-0.00
3.0D-01	0.01	0.01	-0.00	0.00	-0.00	0.00	0.00	-0.00	0.00	-0.00
4.0D-01	0.01	0.01	-0.00	0.00	-0.00	0.00	0.01	0.00	0.00	-0.00
5.0D-01	0.01	0.01	0.00	0.00	-0.00	0.00	0.01	0.00	0.00	0.00
6.0D-01	0.01	0.01	0.00	0.00	-0.00	0.01	0.01	0.00	0.01	0.00
8.0D-01	0.01	0.01	-0.00	0.00	-0.00	0.00	0.01	0.00	0.00	-0.00
1.0D+00	0.01	0.01	-0.00	0.00	-0.00	0.00	0.00	-0.00	0.00	-0.00
1.5D+00	-0.00	-0.00	-0.00	-0.00	-0.01	-0.01	-0.00	-0.01	-0.01	-0.01
2.0D+00	-0.01	-0.01	-0.00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
3.0D+00	-0.01	-0.01	-0.00	-0.00	-0.01	-0.01	-0.00	-0.00	-0.01	-0.01
4.0D+00	0.01	0.01	0.00	0.00	-0.00	0.01	0.01	0.00	0.00	-0.00
5.0D+00	0.02	0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.00
6.0D+00	0.02	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00
8.0D+00	0.00	0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	-0.01
1.0D+01	-0.01	-0.01	-0.00	-0.00	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01
1.5D+01	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	-0.00	0.00	-0.01	-0.01
2.0D+01	0.02	0.02	0.00	0.01	0.00	0.01	0.01	0.01	0.00	0.00
3.0D+01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.00
4.0D+01	-0.01	-0.00	-0.00	-0.00	-0.01	-0.00	-0.00	0.00	-0.01	-0.01
5.0D+01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.02	-0.01
6.0D+01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.02	-0.01
8.0D+01	-0.00	0.00	0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00
1.0D+02	0.01	0.02	0.01	0.01	0.00	0.02	0.01	0.01	0.01	0.01
1.5D+02	0.02	0.03	0.02	0.02	0.01	0.03	0.02	0.01	0.02	0.01
2.0D+02	0.00	0.00	0.00	-0.00	-0.00	0.00	0.00	-0.00	-0.00	-0.01
3.0D+02	-0.01	-0.01	-0.02	-0.02	-0.01	-0.02	-0.02	-0.00	-0.02	-0.02
4.0D+02	-0.00	0.00	-0.01	-0.00	0.01	-0.01	-0.00	0.01	-0.01	0.00
5.0D+02	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.01
6.0D+02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	-0.00	0.00
8.0D+02	-0.01	-0.00	-0.01	-0.00	-0.00	-0.01	-0.01	0.00	-0.01	-0.01
1.0D+03	-0.01	-0.00	-0.01	-0.01	-0.00	-0.01	-0.01	0.00	-0.02	-0.01
1.5D+03	-0.00	0.00	-0.02	-0.02	0.01	-0.03	-0.02	0.02	-0.03	-0.01
2.0D+03	0.00	0.01	-0.02	-0.01	0.01	-0.02	-0.02	0.02	-0.03	-0.01
3.0D+03	0.00	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
4.0D+03	-0.00	0.00	0.01	0.01	0.01	0.02	0.01	-0.00	0.02	0.01
5.0D+03	-0.01	-0.00	0.00	-0.01	0.00	0.00	-0.00	-0.01	0.01	-0.00
6.0D+03	-0.01	-0.00	-0.01	-0.01	0.01	-0.01	-0.01	-0.00	-0.01	-0.01
8.0D+03	0.01	0.02	-0.01	0.00	0.02	0.00	-0.00	0.02	-0.00	0.01
1.0D+04	0.01	0.03	0.01	0.01	0.03	0.02	0.02	0.03	0.02	0.02
1.5D+04	-0.03	-0.01	0.01	0.00	-0.01	0.02	0.01	-0.02	0.01	-0.00
2.0D+04	-0.03	-0.04	0.00	-0.01	-0.03	-0.00	-0.01	-0.06	-0.01	-0.03
3.0D+04	0.01	-0.01	0.00	-0.00	-0.01	-0.01	-0.01	-0.03	-0.00	-0.01
4.0D+04	0.01	0.01	-0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.01
5.0D+04	-0.00	0.01	-0.00	0.00	0.02	0.01	0.01	0.03	0.01	0.02
6.0D+04	-0.01	0.01	0.00	0.01	0.02	0.01	0.02	0.03	0.01	0.02
8.0D+04	-0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01
1.0D+05	0.01	0.00	0.01	-0.00	-0.01	0.00	-0.00	-0.02	-0.00	-0.00
1.5D+05	0.01	0.01	-0.00	-0.01	-0.01	-0.00	-0.01	-0.01	0.01	0.00
2.0D+05	0.00	0.02	0.00	0.00	0.01	0.02	0.01	0.03	0.02	0.03
3.0D+05	0.00	0.01	0.01	0.01	0.02	0.02	0.01	0.03	0.01	0.02
4.0D+05	0.00	0.01	-0.00	-0.00	0.00	0.00	-0.00	0.01	-0.01	0.00
5.0D+05	0.00	0.01	-0.00	-0.01	-0.01	0.00	-0.01	-0.00	0.00	-0.00
6.0D+05	0.01	0.01	0.00	0.00	-0.00	0.01	0.00	0.00	0.01	0.01
8.0D+05	0.00	0.01	0.01	0.01	0.01	0.02	0.01	0.02	0.02	0.02
1.0D+06	-0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.03	0.00	0.02
1.5D+06	-0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.03	-0.02	-0.00
2.0D+06	0.00	0.02	0.01	0.01	0.03	0.01	0.01	0.03	-0.00	0.01
3.0D+06	0.01	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
4.0D+06	0.00	0.00	-0.00	-0.01	-0.01	0.01	-0.00	-0.01	-0.01	-0.00
5.0D+06	-0.00	0.00	-0.00	-0.00	0.00	0.00	0.00	0.01	-0.01	-0.00
6.0D+06	-0.00	0.02	0.01	0.01	0.03	0.01	0.01	0.03	-0.01	0.01
8.0D+06	0.00	0.03	0.02	0.03	0.04	0.02	0.02	0.05	0.00	0.02
1.0D+07	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.01
1.5D+07	0.01	0.00	0.00	0.00	-0.02	0.00	-0.00	-0.01	-0.01	-0.01
2.0D+07	0.00	0.01	0.02	0.02	0.02	0.01	0.02	0.03	-0.01	0.01
3.0D+07	-0.03	-0.03	0.02	0.02	-0.01	0.01	0.02	0.00	-0.01	0.01
4.0D+07	-0.06	-0.08	-0.03	-0.03	-0.09	-0.02	-0.02	-0.08	-0.03	-0.03
5.0D+07	-0.03	-0.06	-0.04	-0.04	-0.07	-0.03	-0.03	-0.08	-0.02	-0.04
6.0D+07	0.02	0.01	-0.01	-0.02	0.01	-0.02	-0.02	-0.02	-0.00	-0.02
8.0D+07	0.11	0.14	0.07	0.06	0.15	0.03	0.04	0.11	0.05	0.04
1.0D+08	0.13	0.15	0.08	0.08	0.15	0.04	0.07	0.13	0.06	0.07
1.5D+08	-0.07	-0.13	-0.05	-0.05	-0.13	-0.03	-0.01	-0.07	-0.03	0.01
2.0D+08	-0.14	-0.19	-0.09	-0.09	-0.18	-0.07	-0.07	-0.16	-0.08	-0.08
3.0D+08	0.13	0.19	0.08	0.09	0.18	0.04	0.04	0.11	0.06	0.01
4.0D+08	0.19	0.28	0.12	0.12	0.25	0.08	0.08	0.20	0.11	0.08
5.0D+08	0.05	0.08	0.03	0.03	0.07	0.02	0.03	0.08	0.04	0.04
6.0D+08	-0.13	-0.18	-0.08	-0.10	-0.17	-0.05	-0.04	-0.10	-0.06	-0.04
8.0D+08	-0.37	-0.53	-0.23	-0.25	-0.52	-0.15	-0.14	-0.37	-0.19	-0.15
1.0D+09	-0.40	-0.60	-0.25	-0.28	-0.61	-0.16	-0.16	-0.44	-0.21	-0.17
1.5D+09	-0.16	-0.26	-0.09	-0.10	-0.35	-0.06	-0.05	-0.26	-0.07	-0.06
2.0D+09	0.08	0.10	0.06	0.06	-0.01	0.04	0.06	-0.01	0.06	0.06
3.0D+09	0.27	0.42	0.18	0.19	0.41	0.11	0.13	0.27	0.16	0.14
4.0D+09	0.27	0.46	0.17	0.19	0.59	0.11	0.13	0.39	0.15	0.13
5.0D+09	0.22	0.40	0.13	0.15	0.63	0.08	0.09	0.41	0.11	0.10
6.0D+09	0.14	0.29	0.07	0.10	0.52	0.05	0.05	0.35	0.05	0.05
8.0D+09	-0.02	-0.09	-0.04	-0.03	-0.17	-0.03	-0.03	-0.05	-0.06	-0.05
1.0D+10	-0.18	-0.62	-0.14	-0.17	-1.39	-0.09	-0.11	-0.76	-0.15	-0.14
1.5D+10	-0.14	0.00	-0.01	-0.07	0.09	-0.01	-0.01	0.06	0.02	-0.02
2.0D+10	0.18	0.48	0.10	0.16	1.21	0.07	0.09	0.66	0.09	0.08
3.0D+10	-0.00	-0.03	-0.01	0.00	0.14	0.00	-0.01	0.06	-0.00	-0.00
4.0D+10	-0.03	-0.11	-0.03	-0.02	-0.05	-0.01	-0.02	-0.05	-0.02	-0.02
5.0D+10	-0.03	-0.11	-0.03	-0.03	-0.06	-0.01	-0.02	-0.05	-0.02	-0.02
6.0D+10	-0.03	-0.11	-0.03	-0.03	-0.07	-0.01	-0.02	-0.06	-0.02	-0.02
8.0D+10	-0.03	-0.11	-0.02	-0.03	-0.06	-0.01	-0.02	-0.05	-0.02	-0.02
1.0D+11	-0.03	-0.10	-0.02	-0.02	-0.06	-0.01	-0.02	-0.05	-0.01	-0.02
1.5D+11	-0.03	-0.09	-0.02	-0.02	-0.06	-0.01	-0.01	-0.05	-0.01	-0.01
2.0D+11	-0.02	-0.08	-0.02	-0.02	-0.06	-0.01	-0.01	-0.05	-0.01	-0.01
3.0D+11	-0.01	-0.06	-0.01	-0.01	-0.05	-0.00	-0.01	-0.05	-0.00	-0.01
4.0D+11	-0.00	-0.04	-0.00	-0.01	-0.05	-0.00	-0.00	-0.04	-0.00	-0.01
5.0D+11	0.00	-0.02	0.00	-0.00	-0.04	0.00	0.00	-0.04	0.00	-0.00
6.0D+11	0.01	-0.01	0.01	0.00	-0.04	0.00	0.01	-0.04	0.01	-0.00
8.0D+11	0.02	0.03	0.02	0.01	-0.03	0.01	0.01	-0.03	0.01	0.00
1.0D+12	0.03	0.05	0.03	0.01	-0.02	0.01	0.02	-0.02	0.02	0.01
1.5D+12	0.04	0.10	0.04	0.02	-0.01	0.01	0.03	-0.01	0.03	0.01
2.0D+12	0.05	0.13	0.04	0.03	0.01	0.01	0.03	-0.00	0.03	0.02
3.0D+12	0.04	0.14	0.04	0.02	0.02	0.01	0.02	0.01	0.02	0.02
4.0D+12	0.01	0.08	0.01	0.01	0.03	-0.00	0.01	0.01	0.01	0.01
5.0D+12	-0.02	-0.02	-0.02	-0.01	0.02	-0.01	-0.01	0.01	-0.01	-0.00
6.0D+12	-0.05	-0.11	-0.04	-0.03	0.01	-0.02	-0.02	0.01	-0.03	-0.01
8.0D+12	-0.04	-0.20	-0.05	-0.04	-0.01	-0.02	-0.02	-0.00	-0.03	-0.01
1.0D+13	0.06	0.11	0.04	0.02	-0.00	0.03	0.05	0.00	0.02	0.02

Table 4.2.6 Continued

---------- (BETA) FITTING ERROR TABEL FOR 1 YEAR ----------

(UNIT : %)

TIME(S)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU239(H)	PU240(F)	PU241(T)	PU241(F)	PU242(F)	CF252(S)
0.0	0.00	0.00	-0.01	-0.00	-0.00	0.00	0.00	-0.00	-0.00	-0.00
1.0D-01	0.00	0.00	-0.01	-0.00	-0.00	0.00	-0.00	-0.00	-0.00	-0.00
1.5D-01	0.00	0.00	-0.01	-0.00	-0.00	0.00	-0.00	-0.00	-0.00	-0.00
2.0D-01	0.00	0.00	-0.01	-0.00	-0.00	0.00	0.00	-0.00	-0.00	-0.00
3.0D-01	0.00	0.00	-0.01	-0.00	-0.00	0.00	0.00	0.00	-0.00	-0.00
4.0D-01	0.01	0.01	-0.01	-0.00	-0.00	0.00	0.00	0.00	-0.00	-0.00
5.0D-01	0.01	0.01	-0.01	-0.00	-0.00	0.00	0.00	0.00	0.00	-0.00
6.0D-01	0.01	0.01	-0.01	-0.00	-0.00	0.00	0.00	0.00	0.00	-0.00
8.0D-01	0.01	0.01	-0.01	-0.00	-0.00	0.00	0.00	0.00	0.00	-0.00
1.0D+00	0.01	0.01	-0.01	-0.00	-0.00	0.00	0.00	0.00	-0.00	-0.00
1.5D+00	-0.00	-0.01	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01	-0.01	-0.00
2.0D+00	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00
3.0D+00	-0.01	-0.01	-0.01	-0.01	-0.00	-0.00	-0.01	-0.01	-0.01	-0.00
4.0D+00	0.00	0.00	-0.01	-0.00	-0.00	0.00	0.00	0.00	-0.00	-0.00
5.0D+00	0.01	0.01	-0.00	0.00	0.00	0.01	0.01	0.01	0.00	-0.00
6.0D+00	0.01	0.01	-0.01	0.00	0.00	0.00	0.01	0.01	0.00	-0.00
8.0D+00	-0.00	-0.00	-0.01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01	-0.01
1.0D+01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01	-0.01	-0.01	-0.01
1.5D+01	-0.01	-0.01	-0.01	-0.00	-0.00	-0.00	-0.00	-0.01	-0.01	-0.01
2.0D+01	-0.00	0.01	-0.00	0.00	0.00	0.00	0.01	0.00	-0.00	-0.01
3.0D+01	0.00	0.01	-0.00	0.00	-0.00	0.00	0.01	0.01	-0.00	-0.01
4.0D+01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01
5.0D+01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00
6.0D+01	-0.02	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
8.0D+01	-0.01	-0.00	-0.01	-0.01	-0.01	-0.00	-0.01	-0.00	-0.01	-0.01
1.0D+02	0.00	0.01	0.00	0.01	-0.00	0.01	0.01	0.01	0.00	-0.01
1.5D+02	0.01	0.02	0.00	0.01	0.00	0.01	0.01	0.02	0.01	0.00
2.0D+02	-0.01	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
3.0D+02	-0.02	-0.02	-0.02	-0.02	-0.01	-0.02	-0.02	-0.02	-0.02	-0.01
4.0D+02	-0.01	0.00	-0.00	-0.00	0.00	0.00	-0.00	0.00	0.01	0.01
5.0D+02	-0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00
6.0D+02	-0.01	0.01	-0.01	-0.01	-0.00	-0.00	-0.00	0.00	0.00	-0.01
8.0D+02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.02	-0.01	-0.01	-0.01
1.0D+03	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.02	-0.01	-0.01	-0.00
1.5D+03	-0.03	0.00	-0.01	-0.02	-0.01	-0.00	-0.01	-0.01	0.01	0.01
2.0D+03	-0.03	0.01	-0.02	-0.02	-0.01	-0.00	-0.01	-0.01	0.00	-0.00
3.0D+03	-0.00	0.01	0.00	0.00	-0.00	0.01	-0.00	0.01	0.00	-0.01
4.0D+03	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	-0.00
5.0D+03	-0.00	-0.00	0.00	0.00	-0.01	0.00	-0.00	0.01	0.00	-0.00
6.0D+03	-0.01	-0.00	-0.01	-0.01	-0.01	0.00	-0.01	-0.00	-0.00	-0.01
8.0D+03	-0.01	0.02	0.00	0.00	-0.00	0.02	-0.00	0.01	0.01	-0.00
1.0D+04	0.01	0.04	0.01	0.02	0.01	0.02	0.01	0.02	0.02	-0.00
1.5D+04	0.00	-0.00	-0.00	0.00	-0.01	-0.01	-0.01	0.00	-0.00	-0.02
2.0D+04	-0.01	-0.04	-0.02	-0.02	-0.03	-0.02	-0.02	-0.01	-0.02	-0.01
3.0D+04	-0.00	-0.01	-0.00	0.00	-0.01	0.00	0.00	0.01	0.01	0.02
4.0D+04	0.01	0.02	0.01	0.01	0.01	0.01	0.00	0.02	0.01	0.01
5.0D+04	0.01	0.03	0.01	0.01	0.01	0.01	-0.00	0.01	0.01	-0.01
6.0D+04	0.01	0.02	0.00	0.01	0.00	0.01	-0.00	0.01	0.01	-0.01
8.0D+04	0.01	0.00	0.00	0.01	-0.00	0.00	0.00	0.01	0.01	0.01
1.0D+05	0.00	-0.01	-0.00	0.01	-0.01	0.00	0.01	0.01	0.01	0.03
1.5D+05	0.01	0.00	0.00	0.01	0.00	0.01	0.01	0.02	0.01	0.00
2.0D+05	0.02	0.03	0.01	0.02	0.01	0.02	0.01	0.02	0.02	-0.02
3.0D+05	0.01	0.03	0.01	0.01	0.02	0.01	-0.00	0.01	0.01	-0.00
4.0D+05	-0.00	0.00	-0.00	0.00	0.00	0.00	-0.00	0.00	-0.00	0.01
5.0D+05	0.00	-0.00	0.00	0.01	-0.00	0.01	0.01	0.01	0.00	0.01
6.0D+05	0.01	0.01	0.01	0.02	0.01	0.02	0.02	0.02	0.01	0.01
8.0D+05	0.02	0.02	0.02	0.03	0.02	0.03	0.02	0.02	0.02	-0.00
1.0D+06	0.01	0.02	0.01	0.02	0.01	0.01	-0.01	-0.00	-0.00	-0.01
1.5D+06	-0.02	0.00	-0.02	-0.00	0.01	-0.02	-0.04	-0.03	-0.03	0.02
2.0D+06	-0.00	0.02	0.00	0.02	0.03	0.00	-0.02	-0.00	-0.01	0.04
3.0D+06	0.02	0.02	0.02	0.03	0.02	0.02	0.01	0.02	0.01	0.02
4.0D+06	0.00	-0.00	0.00	0.01	-0.00	0.00	-0.01	0.00	-0.00	-0.01
5.0D+06	-0.01	0.00	0.00	0.00	0.01	-0.01	-0.01	-0.01	-0.01	-0.00
6.0D+06	-0.00	0.02	0.01	0.01	0.03	0.00	-0.01	-0.00	-0.00	0.01
8.0D+06	0.01	0.04	0.03	0.03	0.04	0.01	0.00	0.01	0.01	0.03
1.0D+07	0.01	0.03	0.02	0.02	0.02	0.01	0.00	0.01	0.01	0.01
1.5D+07	-0.00	0.01	0.01	0.00	0.01	-0.00	-0.01	-0.00	-0.01	0.01
2.0D+07	0.01	0.03	0.03	0.01	0.04	-0.00	-0.01	-0.00	0.00	0.04
3.0D+07	0.01	0.02	0.03	0.00	-0.02	-0.01	-0.01	-0.00	0.01	0.05
4.0D+07	-0.02	-0.04	-0.01	-0.03	-0.10	-0.03	-0.01	-0.02	-0.01	-0.00
5.0D+07	-0.03	-0.06	-0.03	-0.04	-0.08	-0.03	-0.01	-0.02	-0.02	-0.04
6.0D+07	-0.02	-0.03	-0.03	-0.02	-0.01	-0.02	-0.00	-0.02	-0.02	-0.05
8.0D+07	0.02	0.05	0.01	0.03	0.14	0.02	0.02	0.01	0.01	-0.02
1.0D+08	0.04	0.10	0.03	0.06	0.18	0.05	0.05	0.04	0.03	0.03
1.5D+08	0.00	0.01	0.01	0.03	-0.04	0.02	0.03	0.03	0.01	0.06
2.0D+08	-0.06	-0.11	-0.06	-0.07	-0.22	-0.08	-0.04	-0.04	-0.05	-0.01
3.0D+08	0.01	0.02	0.01	-0.02	0.06	-0.02	-0.03	-0.00	-0.02	-0.05
4.0D+08	0.06	0.13	0.07	0.07	0.25	0.08	0.04	0.07	0.05	0.09
5.0D+08	0.03	0.08	0.05	0.04	0.13	0.06	0.04	0.06	0.03	0.09
6.0D+08	-0.02	-0.03	-0.02	-0.02	-0.10	-0.01	-0.01	0.01	-0.02	0.02
8.0D+08	-0.11	-0.21	-0.11	-0.13	-0.47	-0.12	-0.08	-0.08	-0.11	-0.13
1.0D+09	-0.12	-0.27	-0.13	-0.16	-0.60	-0.15	-0.09	-0.10	-0.13	-0.19
1.5D+09	-0.04	-0.16	-0.04	-0.07	-0.37	-0.06	-0.03	-0.04	-0.06	-0.10
2.0D+09	0.04	0.00	0.05	0.03	-0.01	0.04	0.04	0.04	0.02	0.02
3.0D+09	0.10	0.18	0.12	0.11	0.46	0.11	0.09	0.10	0.09	0.15
4.0D+09	0.09	0.24	0.11	0.11	0.67	0.11	0.08	0.09	0.10	0.16
5.0D+09	0.06	0.24	0.08	0.09	0.68	0.09	0.06	0.07	0.08	0.12
6.0D+09	0.03	0.19	0.04	0.05	0.47	0.05	0.03	0.04	0.06	0.06
8.0D+09	-0.03	-0.06	-0.04	-0.04	-0.64	-0.04	-0.03	-0.04	-0.02	-0.09
1.0D+10	-0.08	-0.42	-0.10	-0.14	-2.12	-0.14	-0.08	-0.12	-0.11	-0.20
1.5D+10	0.01	0.09	0.03	-0.01	0.18	0.01	-0.01	0.01	-0.03	-0.02
2.0D+10	0.06	0.31	0.08	0.09	1.23	0.10	0.03	0.10	0.08	0.15
3.0D+10	0.00	0.02	-0.00	-0.00	0.15	0.00	-0.00	0.01	0.01	0.02
4.0D+10	-0.01	-0.03	-0.01	-0.02	-0.03	-0.01	-0.01	-0.01	-0.01	-0.04
5.0D+10	-0.01	-0.04	-0.01	-0.02	-0.05	-0.02	-0.01	-0.01	-0.01	-0.03
6.0D+10	-0.01	-0.04	-0.01	-0.02	-0.05	-0.02	-0.01	-0.01	-0.01	-0.03
8.0D+10	-0.01	-0.03	-0.01	-0.02	-0.05	-0.01	-0.01	-0.01	-0.01	-0.01
1.0D+11	-0.01	-0.03	-0.01	-0.01	-0.05	-0.01	-0.01	-0.01	-0.01	-0.01
1.5D+11	-0.01	-0.03	-0.01	-0.01	-0.05	-0.01	-0.01	-0.01	-0.01	0.00
2.0D+11	-0.01	-0.03	-0.01	-0.01	-0.05	-0.01	-0.00	-0.01	-0.01	0.01
3.0D+11	-0.00	-0.03	-0.01	-0.01	-0.04	-0.01	-0.00	-0.01	-0.01	0.01
4.0D+11	-0.00	-0.02	-0.01	-0.01	-0.04	-0.01	-0.00	-0.00	-0.00	0.01
5.0D+11	-0.00	-0.02	-0.01	-0.00	-0.04	-0.00	-0.00	-0.00	-0.00	0.01
6.0D+11	0.00	-0.02	-0.00	-0.00	-0.03	-0.00	-0.00	-0.00	-0.00	0.01
8.0D+11	0.00	-0.01	-0.00	0.00	-0.03	0.00	0.00	0.00	0.00	0.01
1.0D+12	0.00	-0.01	0.00	0.01	-0.02	0.00	0.00	0.00	0.00	0.01
1.5D+12	0.01	0.01	0.01	0.01	-0.01	0.01	0.00	0.01	0.01	0.01
2.0D+12	0.01	0.02	0.01	0.01	-0.00	0.01	0.01	0.01	0.01	0.01
3.0D+12	0.00	0.03	0.01	0.01	0.02	0.01	0.00	0.01	0.01	0.00
4.0D+12	-0.00	0.03	0.00	0.01	0.03	0.01	0.00	-0.00	0.00	-0.00
5.0D+12	-0.01	0.02	-0.00	-0.00	0.03	-0.00	-0.00	-0.01	-0.00	-0.01
6.0D+12	-0.01	0.02	-0.01	-0.01	0.03	-0.01	-0.01	-0.01	-0.01	-0.01
8.0D+12	-0.01	-0.00	-0.01	-0.01	0.02	-0.02	-0.01	-0.01	-0.01	-0.00
1.0D+13	0.02	-0.01	0.02	0.02	-0.01	0.00	0.00	0.02	0.01	0.02

Table 4.2.7 Discrepancies between exponential fitting and calculated results of the gamma decay power after one-year irradiation

(GAMMA) FITTING ERROR TABEL FOR 1 YEAR

(UNIT : %)

TIME(S)	TH232(F)	TH232(H)	U233(T)	U233(F)	U233(H)	U235(T)	U235(F)	U235(H)	U236(F)	NP237(F)
0.0	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
1.0D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01	-0.00	-0.00	-0.01
1.5D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01	-0.00	-0.00	-0.01
2.0D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
3.0D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
4.0D-01	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.00	0.00	-0.00
5.0D-01	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.00	0.00	-0.00
6.0D-01	-0.00	0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.00	0.00	-0.00
8.0D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00
1.0D+00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01
1.5D+00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
2.0D+00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
3.0D+00	-0.01	-0.01	-0.00	-0.00	-0.00	-0.01	-0.01	-0.00	-0.00	-0.01
4.0D+00	0.00	0.00	-0.00	-0.00	0.00	0.00	-0.00	0.00	0.00	-0.00
5.0D+00	0.00	0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	0.00	-0.00
6.0D+00	0.00	0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.00	0.00	-0.00
8.0D+00	-0.00	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01	-0.00	-0.00	-0.01
1.0D+01	-0.01	-0.01	-0.00	-0.00	-0.00	-0.01	-0.01	-0.00	-0.01	-0.01
1.5D+01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	-0.00
2.0D+01	0.01	0.01	-0.00	-0.00	0.01	0.00	0.00	0.01	0.00	0.00
3.0D+01	-0.01	-0.00	-0.01	-0.01	-0.00	-0.01	-0.01	-0.00	-0.00	-0.01
4.0D+01	-0.01	-0.01	-0.00	-0.00	0.00	-0.01	-0.01	0.00	-0.01	-0.01
5.0D+01	0.00	-0.00	-0.00	0.00	0.01	-0.01	-0.00	0.01	-0.00	-0.00
6.0D+01	0.00	0.00	-0.00	0.00	0.01	-0.00	-0.00	0.01	-0.00	-0.00
8.0D+01	0.00	-0.00	-0.01	-0.01	-0.00	-0.01	-0.01	0.00	-0.01	-0.01
1.0D+02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
1.5D+02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01	-0.00	-0.01
2.0D+02	-0.01	-0.01	-0.00	-0.00	-0.00	-0.01	-0.01	0.00	-0.01	-0.01
3.0D+02	0.01	0.00	0.00	0.01	0.01	-0.00	-0.01	0.02	-0.01	-0.00
4.0D+02	0.01	0.01	0.00	0.01	0.01	-0.00	-0.00	0.02	-0.00	0.01
5.0D+02	0.01	0.00	-0.00	0.00	0.00	-0.00	-0.01	0.01	-0.00	0.00
6.0D+02	-0.00	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01	0.00	-0.01	-0.00
8.0D+02	-0.00	-0.01	-0.00	-0.00	-0.00	-0.01	-0.01	0.00	-0.00	-0.01
1.0D+03	0.01	0.01	0.01	0.01	0.02	-0.00	-0.00	0.02	0.00	0.01
1.5D+03	0.03	0.02	0.01	0.02	0.04	-0.01	-0.01	0.05	-0.01	0.02
2.0D+03	0.01	0.01	-0.00	0.01	0.03	-0.02	-0.02	0.03	-0.02	0.01
3.0D+03	-0.02	-0.02	-0.01	-0.02	-0.02	-0.00	-0.01	-0.02	0.00	-0.01
4.0D+03	-0.01	-0.02	-0.01	-0.01	-0.03	0.01	-0.00	-0.03	0.02	-0.01
5.0D+03	0.00	-0.01	-0.00	-0.01	-0.01	0.01	-0.00	-0.01	0.01	-0.01
6.0D+03	0.02	0.00	-0.00	0.01	0.01	-0.00	-0.01	0.01	-0.00	-0.00
8.0D+03	0.03	0.01	-0.00	0.02	0.04	-0.01	-0.01	0.05	-0.02	0.02
1.0D+04	0.01	0.00	-0.01	0.01	0.03	-0.01	-0.01	0.04	-0.02	0.02
1.5D+04	-0.06	-0.06	-0.03	-0.04	-0.06	-0.01	-0.02	-0.04	-0.01	-0.03
2.0D+04	-0.04	-0.06	-0.02	-0.04	-0.08	0.00	-0.01	-0.07	0.01	-0.05
3.0D+04	0.03	0.00	0.02	0.01	0.00	0.01	0.00	-0.01	0.02	-0.01
4.0D+04	0.02	0.01	0.01	0.01	0.02	-0.00	-0.00	0.02	0.00	0.00
5.0D+04	-0.01	-0.02	-0.02	-0.01	-0.01	-0.01	-0.02	0.00	-0.01	-0.01
6.0D+04	-0.02	-0.03	-0.02	-0.02	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01
8.0D+04	0.01	-0.00	0.02	0.01	-0.01	0.01	0.01	-0.01	0.02	-0.01
1.0D+05	0.03	0.02	0.03	0.02	0.01	0.02	0.01	0.00	0.03	-0.00
1.5D+05	-0.02	-0.02	-0.02	-0.02	-0.01	-0.03	-0.03	-0.01	-0.02	-0.02
2.0D+05	-0.05	-0.05	-0.04	-0.03	-0.03	-0.04	-0.03	-0.02	-0.03	-0.02
3.0D+05	-0.00	-0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
4.0D+05	0.00	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	-0.01
5.0D+05	-0.02	-0.01	-0.00	-0.00	-0.00	-0.02	-0.02	-0.01	-0.01	-0.03
6.0D+05	-0.03	-0.02	-0.02	-0.02	-0.01	-0.03	-0.03	-0.02	-0.02	-0.04
8.0D+05	-0.02	-0.02	-0.01	-0.01	-0.01	-0.01	-0.02	-0.01	-0.01	-0.02
1.0D+06	0.02	0.00	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01
1.5D+06	0.07	0.05	0.04	0.04	0.03	0.04	0.05	0.04	0.03	0.05
2.0D+06	0.06	0.05	0.03	0.04	0.04	0.03	0.04	0.04	0.02	0.04
3.0D+06	-0.01	0.00	-0.00	-0.00	0.00	-0.01	-0.01	0.00	-0.01	0.00
4.0D+06	-0.02	-0.02	-0.01	-0.01	-0.02	-0.02	-0.01	-0.02	-0.01	-0.01
5.0D+06	-0.00	-0.01	-0.00	0.00	-0.01	-0.00	0.01	-0.00	0.00	0.01
6.0D+06	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.02	0.01	0.02
8.0D+06	0.02	0.02	0.01	0.02	0.02	0.01	0.02	0.04	0.01	0.02
1.0D+07	-0.01	-0.00	-0.01	-0.00	0.00	-0.02	-0.00	0.02	-0.02	0.00
1.5D+07	-0.02	-0.04	-0.02	-0.02	-0.03	-0.02	-0.02	-0.02	-0.02	-0.02
2.0D+07	0.02	-0.02	0.03	0.03	-0.00	0.03	0.04	-0.00	0.02	0.02
3.0D+07	0.02	-0.01	0.04	0.04	0.01	0.03	0.04	0.00	0.02	0.03
4.0D+07	-0.02	-0.01	-0.02	-0.02	0.01	-0.04	-0.02	-0.01	0.01	-0.01
5.0D+07	0.02	0.01	0.02	0.02	0.02	0.01	0.02	0.01	0.10	0.02
6.0D+07	0.06	0.02	0.06	0.05	0.01	0.06	0.06	0.01	0.16	0.05
8.0D+07	0.00	-0.03	-0.00	-0.02	-0.04	0.01	0.01	-0.03	0.07	0.01
1.0D+08	-0.05	-0.04	-0.06	-0.07	-0.05	-0.06	-0.05	-0.04	-0.03	-0.04
1.5D+08	-0.02	0.03	-0.02	-0.02	0.03	-0.02	-0.01	0.03	-0.02	-0.02
2.0D+08	0.03	0.04	0.03	0.04	0.05	0.05	0.04	0.04	0.04	0.03
3.0D+08	0.03	-0.05	0.01	0.03	-0.07	0.04	0.02	-0.06	0.04	0.02
4.0D+08	0.00	-0.06	-0.02	-0.01	-0.08	-0.00	-0.01	-0.06	0.00	0.00
5.0D+08	-0.01	0.00	-0.02	-0.02	0.00	-0.02	-0.02	0.01	-0.01	-0.01
6.0D+08	-0.02	0.04	-0.02	-0.02	0.07	-0.02	-0.02	0.07	-0.01	-0.01
8.0D+08	-0.02	0.05	-0.01	-0.01	0.09	-0.01	-0.01	0.08	-0.01	-0.00
1.0D+09	-0.01	0.01	0.00	-0.01	0.04	0.01	-0.00	0.04	-0.01	-0.00
1.5D+09	0.00	-0.04	0.01	-0.00	-0.04	0.02	0.00	-0.03	-0.01	-0.00
2.0D+09	0.01	-0.04	0.01	0.00	-0.05	0.02	0.01	-0.04	-0.01	-0.00
3.0D+09	0.01	-0.02	0.01	0.00	-0.03	0.02	0.00	-0.02	-0.00	0.00
4.0D+09	0.01	-0.01	0.00	0.00	-0.01	0.02	0.00	-0.01	-0.00	0.00
5.0D+09	0.01	0.00	-0.00	0.00	0.00	0.01	-0.00	0.01	-0.00	0.00
6.0D+09	0.00	0.01	-0.01	0.00	0.01	0.01	-0.00	0.02	-0.00	0.00
8.0D+09	-0.00	0.02	-0.01	-0.00	0.02	0.00	-0.01	0.02	0.00	0.00
1.0D+10	-0.01	0.00	-0.01	-0.00	0.00	0.00	-0.01	0.01	0.00	0.00
1.5D+10	-0.00	-0.02	0.02	-0.01	0.00	-0.00	0.01	-0.01	0.00	-0.01
2.0D+10	0.01	-0.00	0.00	0.00	0.00	0.00	0.01	-0.00	0.01	-0.01
3.0D+10	0.00	-0.00	-0.01	0.00	-0.00	-0.00	-0.00	-0.00	0.01	-0.00
4.0D+10	0.00	-0.00	-0.01	0.00	-0.00	-0.00	-0.00	-0.00	0.01	-0.00
5.0D+10	0.00	-0.00	-0.01	0.00	-0.00	-0.00	-0.00	-0.00	0.01	-0.00
6.0D+10	0.00	-0.00	-0.01	0.00	-0.00	-0.00	-0.00	-0.00	0.01	-0.00
8.0D+10	0.00	-0.00	-0.01	0.00	0.00	-0.00	-0.00	-0.00	0.01	-0.00
1.0D+11	0.00	-0.00	-0.01	0.00	0.00	-0.00	-0.00	-0.00	0.01	-0.00
1.5D+11	0.00	-0.00	-0.01	0.00	0.00	-0.00	-0.00	-0.00	0.01	-0.00
2.0D+11	0.00	0.00	-0.01	0.00	0.00	-0.00	-0.00	-0.00	0.01	-0.00
3.0D+11	0.00	0.00	-0.01	0.01	0.00	-0.00	-0.00	-0.00	0.01	-0.00
4.0D+11	0.00	0.00	-0.01	0.01	0.00	0.00	-0.00	0.00	0.01	-0.00
5.0D+11	-0.00	0.00	-0.01	0.01	0.00	0.00	-0.00	0.00	0.01	-0.00
6.0D+11	-0.00	0.00	-0.00	0.01	0.00	0.00	-0.00	0.00	0.01	-0.00
8.0D+11	-0.00	0.00	-0.00	0.01	0.00	0.00	-0.00	0.00	0.01	-0.00
1.0D+12	-0.00	0.00	-0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00
1.5D+12	-0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
2.0D+12	-0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
3.0D+12	-0.00	0.01	0.00	0.01	0.00	0.01	0.00	-0.00	0.00	0.00
4.0D+12	-0.01	0.01	-0.00	0.01	-0.00	0.01	0.00	-0.00	0.00	0.00
5.0D+12	-0.01	0.01	-0.00	0.00	-0.00	0.01	0.00	-0.00	-0.00	0.00
6.0D+12	-0.01	0.01	-0.01	-0.00	-0.00	0.01	0.00	-0.00	-0.00	0.00
8.0D+12	-0.01	0.01	-0.01	0.00	-0.00	0.00	0.00	-0.00	0.00	0.00
1.0D+13	0.00	-0.00	0.00	0.01	-0.00	-0.00	0.00	-0.00	0.02	0.00

Table 4.2.7 Continued

---------- (GAMMA) FITTING ERROR TABEL FOR 1 YEAR ----------

(UNIT : %)

TIME(S)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU239(H)	PU240(F)	PU241(T)	PU241(F)	PU242(F)	CF252(S)
0.0	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.01
1.0D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.01
1.5D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.01
2.0D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.01
3.0D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.01
4.0D-01	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	0.00	0.00	-0.00	0.01
5.0D-01	-0.00	0.00	-0.00	-0.00	0.00	-0.00	0.00	0.00	-0.00	0.01
6.0D-01	0.00	0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	-0.00	0.01
8.0D-01	0.00	0.00	-0.00	-0.00	-0.00	-0.00	0.00	0.00	-0.00	0.01
1.0D+00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.01
1.5D+00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01	0.00
2.0D+00	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	0.00
3.0D+00	-0.01	-0.01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01	0.01
4.0D+00	-0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	-0.00	0.01
5.0D+00	0.00	0.00	-0.00	-0.00	0.00	0.00	0.01	0.00	0.00	0.01
6.0D+00	0.00	0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	-0.00	0.01
8.0D+00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.00	0.00	-0.01	0.01
1.0D+01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.00	-0.00	-0.01	0.01
1.5D+01	-0.01	-0.00	-0.00	-0.00	0.00	0.00	-0.00	-0.00	-0.01	0.01
2.0D+01	-0.00	0.00	-0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.01
3.0D+01	-0.01	-0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	-0.00	0.02
4.0D+01	-0.01	-0.01	-0.01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01	0.01
5.0D+01	-0.01	-0.01	-0.01	-0.01	0.00	-0.00	-0.01	-0.01	-0.01	0.01
6.0D+01	-0.01	-0.00	-0.01	-0.01	0.00	-0.00	-0.01	-0.01	-0.01	0.01
8.0D+01	-0.01	-0.00	-0.01	-0.00	-0.00	-0.00	0.00	-0.00	-0.01	0.02
1.0D+02	-0.01	-0.00	-0.00	-0.00	-0.00	0.01	0.01	0.01	0.00	0.04
1.5D+02	-0.01	-0.00	-0.00	0.00	-0.00	0.01	0.02	0.01	0.00	0.04
2.0D+02	-0.02	-0.01	-0.01	-0.01	-0.00	-0.01	-0.00	-0.01	-0.01	0.01
3.0D+02	-0.02	-0.00	-0.01	-0.01	0.00	-0.00	-0.02	-0.02	-0.02	-0.02
4.0D+02	-0.01	0.01	0.01	0.00	0.01	0.01	-0.00	-0.01	-0.01	-0.00
5.0D+02	-0.02	0.01	0.00	0.00	0.00	0.01	0.00	-0.00	-0.00	0.00
6.0D+02	-0.02	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.01	-0.01	-0.00
8.0D+02	-0.02	-0.00	-0.01	-0.01	-0.00	-0.00	-0.01	-0.02	-0.02	-0.01
1.0D+03	-0.01	0.01	0.00	0.00	0.01	0.00	-0.01	-0.01	-0.01	-0.01
1.5D+03	-0.03	0.02	0.01	0.01	0.02	0.02	-0.00	-0.01	-0.01	0.01
2.0D+03	-0.05	0.01	0.01	0.00	0.01	0.01	-0.01	-0.01	-0.01	0.00
3.0D+03	-0.01	-0.00	-0.00	-0.01	-0.01	0.00	-0.00	-0.00	-0.01	-0.02
4.0D+03	0.02	-0.01	-0.00	-0.01	-0.02	-0.00	0.00	0.00	-0.00	-0.02
5.0D+03	0.01	-0.00	-0.00	-0.01	-0.02	0.00	-0.00	-0.00	-0.00	-0.02
6.0D+03	-0.01	0.00	0.00	-0.00	-0.00	0.01	-0.01	-0.01	-0.01	-0.02
8.0D+03	-0.04	0.02	0.02	0.02	0.02	0.03	-0.01	-0.01	-0.01	-0.01
1.0D+04	-0.04	0.02	0.02	0.02	0.02	0.03	-0.00	-0.00	-0.00	-0.02
1.5D+04	-0.01	-0.01	-0.02	-0.02	-0.04	-0.01	-0.01	-0.01	-0.01	-0.05
2.0D+04	0.01	-0.04	-0.03	-0.04	-0.06	-0.03	-0.01	-0.02	-0.01	-0.02
3.0D+04	0.01	-0.01	-0.01	-0.01	-0.00	-0.00	0.00	-0.00	-0.00	0.04
4.0D+04	-0.00	0.00	-0.00	0.00	0.01	0.01	0.00	-0.00	-0.00	0.01
5.0D+04	-0.01	-0.00	-0.01	-0.00	-0.00	-0.00	-0.01	-0.01	-0.01	-0.02
6.0D+04	-0.00	-0.01	-0.02	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.02
8.0D+04	0.02	-0.01	-0.01	-0.00	-0.01	0.00	0.01	0.00	0.00	0.03
1.0D+05	0.02	-0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.05
1.5D+05	-0.02	-0.02	-0.02	-0.01	-0.00	-0.01	-0.02	-0.02	-0.02	-0.01
2.0D+05	-0.03	-0.02	-0.02	-0.01	-0.02	-0.02	-0.03	-0.02	-0.03	-0.05
3.0D+05	0.01	0.01	0.00	0.01	0.00	0.02	0.01	0.01	0.01	-0.02
4.0D+05	0.01	0.00	-0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.00
5.0D+05	-0.02	-0.03	-0.02	-0.01	0.00	-0.01	-0.02	-0.01	-0.01	0.00
6.0D+05	-0.03	-0.04	-0.03	-0.02	-0.00	-0.02	-0.03	-0.02	-0.03	-0.00
8.0D+05	-0.02	-0.02	-0.02	-0.01	-0.01	-0.01	-0.02	-0.01	-0.01	-0.01
1.0D+06	0.01	0.01	0.00	0.01	-0.00	0.01	0.01	0.01	0.01	-0.01
1.5D+06	0.04	0.06	0.02	0.04	0.02	0.04	0.04	0.03	0.03	0.01
2.0D+06	0.03	0.05	0.02	0.03	0.04	0.03	0.03	0.03	0.03	0.02
3.0D+06	0.00	0.00	-0.01	0.01	0.02	0.01	-0.01	0.00	0.00	0.02
4.0D+06	-0.01	-0.02	-0.02	-0.00	-0.01	-0.00	-0.02	-0.01	-0.01	-0.00
5.0D+06	0.00	-0.00	-0.01	0.01	-0.01	0.01	-0.01	-0.00	-0.00	-0.01
6.0D+06	0.02	0.02	0.01	0.02	0.01	0.02	0.01	0.01	0.01	-0.00
8.0D+06	0.02	0.04	0.01	0.03	0.04	0.03	0.02	0.03	0.03	0.03
1.0D+07	0.01	0.02	-0.00	0.02	0.02	0.02	0.01	0.01	0.01	0.03
1.5D+07	-0.01	-0.02	-0.03	-0.01	-0.03	-0.01	-0.01	-0.01	-0.02	-0.00
2.0D+07	0.02	-0.00	0.00	0.02	-0.01	0.01	0.01	0.01	0.01	-0.00
3.0D+07	0.01	0.02	0.01	0.03	0.03	0.00	0.01	0.00	0.02	0.02
4.0D+07	-0.02	-0.00	-0.02	0.00	0.02	-0.01	-0.02	-0.03	-0.00	-0.00
5.0D+07	0.02	0.01	0.01	0.02	0.01	0.02	-0.00	-0.01	0.01	-0.02
6.0D+07	0.05	0.01	0.03	0.03	-0.00	0.04	0.01	0.00	0.02	-0.02
8.0D+07	0.01	-0.03	0.01	0.01	-0.04	0.01	0.01	-0.00	0.01	-0.00
1.0D+08	-0.03	-0.04	-0.02	-0.02	-0.04	-0.02	-0.01	-0.01	-0.01	0.01
1.5D+08	-0.01	0.03	-0.02	0.00	0.05	-0.01	-0.01	0.00	-0.01	0.01
2.0D+08	0.04	0.04	0.01	0.03	0.07	0.01	0.00	0.02	0.01	-0.00
3.0D+08	0.03	-0.05	0.01	0.02	-0.05	0.00	-0.01	0.01	-0.00	-0.00
4.0D+08	0.01	-0.04	-0.00	-0.00	-0.06	-0.01	-0.02	-0.01	-0.01	0.01
5.0D+08	-0.01	0.02	-0.00	-0.00	0.02	-0.02	-0.01	-0.00	-0.01	0.02
6.0D+08	-0.01	0.07	-0.00	0.00	0.09	-0.01	-0.01	0.00	-0.01	0.02
8.0D+08	-0.00	0.07	0.00	0.01	0.10	0.00	0.00	0.01	-0.00	0.01
1.0D+09	0.00	0.03	0.00	0.01	0.04	0.00	0.01	0.01	0.00	0.01
1.5D+09	0.01	-0.04	0.00	0.01	-0.06	0.01	0.01	0.01	0.00	-0.00
2.0D+09	0.01	-0.05	0.00	0.01	-0.07	0.00	0.01	0.01	0.00	-0.00
3.0D+09	0.01	-0.03	0.00	0.01	-0.04	0.00	0.01	0.00	0.00	0.00
4.0D+09	0.01	-0.02	0.00	0.01	-0.01	-0.00	0.01	0.00	0.00	0.00
5.0D+09	0.01	-0.01	0.00	0.00	0.01	-0.00	0.01	-0.00	0.00	0.00
6.0D+09	0.01	0.00	0.00	0.00	0.03	-0.01	0.00	-0.00	0.00	0.01
8.0D+09	0.01	0.02	0.00	-0.00	0.04	-0.01	0.00	-0.00	0.00	0.01
1.0D+10	0.01	0.01	0.01	0.01	0.01	-0.01	0.00	-0.00	-0.00	0.01
1.5D+10	-0.00	-0.01	0.02	0.03	-0.02	-0.00	-0.00	0.03	-0.02	0.03
2.0D+10	-0.00	-0.00	-0.01	-0.01	-0.01	-0.01	-0.00	0.01	-0.01	0.00
3.0D+10	0.01	-0.00	-0.02	-0.02	-0.01	-0.01	-0.00	-0.00	-0.00	-0.01
4.0D+10	0.01	-0.00	-0.02	-0.02	-0.01	-0.01	-0.00	-0.01	-0.00	-0.00
5.0D+10	0.01	-0.00	-0.02	-0.01	-0.01	-0.01	-0.00	-0.00	-0.00	-0.00
6.0D+10	0.01	-0.00	-0.01	-0.01	-0.00	-0.01	-0.00	-0.00	-0.00	-0.00
8.0D+10	0.01	-0.00	-0.01	0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00
1.0D+11	0.01	-0.00	-0.01	0.01	0.00	-0.00	-0.00	-0.00	0.00	-0.00
1.5D+11	0.01	-0.00	-0.01	0.01	0.00	-0.00	-0.00	-0.00	0.00	-0.00
2.0D+11	0.01	-0.00	-0.01	0.02	0.01	-0.00	-0.00	-0.00	0.00	-0.00
3.0D+11	0.01	-0.00	-0.01	0.02	0.01	-0.00	-0.00	-0.00	0.00	-0.00
4.0D+11	0.01	-0.00	-0.01	0.02	0.01	0.00	-0.00	-0.00	0.00	-0.00
5.0D+11	0.00	-0.00	-0.01	0.02	0.01	0.00	-0.00	-0.00	0.00	-0.00
6.0D+11	0.00	-0.00	-0.01	0.02	0.01	0.00	-0.00	-0.00	0.00	-0.00
8.0D+11	0.00	-0.00	-0.01	0.01	0.01	0.00	-0.00	0.00	0.00	-0.00
1.0D+12	0.00	-0.00	-0.01	0.01	0.01	0.00	-0.00	0.00	0.00	-0.00
1.5D+12	0.00	-0.00	-0.00	0.01	0.01	0.00	-0.00	0.00	0.00	0.00
2.0D+12	0.00	-0.00	-0.00	0.01	0.00	0.00	-0.00	0.00	0.00	0.00
3.0D+12	-0.00	-0.00	0.00	0.00	0.00	0.00	-0.01	0.00	0.00	0.00
4.0D+12	-0.00	0.00	0.00	-0.01	0.00	-0.00	-0.01	0.00	0.00	-0.00
5.0D+12	-0.01	0.00	0.00	-0.01	-0.00	-0.00	-0.01	0.00	0.00	-0.00
6.0D+12	-0.01	0.00	0.00	-0.01	-0.00	-0.00	-0.01	0.00	0.01	-0.01
8.0D+12	-0.01	0.01	-0.00	-0.01	0.00	-0.00	-0.00	-0.01	0.01	-0.01
1.0D+13	-0.00	0.01	-0.02	0.01	0.02	-0.01	0.01	-0.03	0.02	-0.01

Table 4.2.8 Discrepancies between exponential fitting and calculated results of the total sensible decay power after infinite (10^{13}s) irradiation

---------- (B+G) FITTING ERROR TABEL FOR INFINITY----------

(UNIT : %)

TIME(S)	TH232(F)	TH232(H)	U233(T)	U233(F)	U233(H)	U235(T)	U235(F)	U235(H)	U236(F)	NP237(F)
0.0	0.00	0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
1.0D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
1.5D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
2.0D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
3.0D-01	0.00	0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	0.00	-0.00
4.0D-01	0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00	-0.00	0.00	-0.00
5.0D-01	0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	-0.00
6.0D-01	0.01	0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	-0.00
8.0D-01	0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00	-0.00	0.00	-0.00
1.0D+00	0.00	0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00
1.5D+00	-0.01	-0.01	-0.00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
2.0D+00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
3.0D+00	-0.01	-0.01	-0.00	-0.00	-0.00	-0.01	-0.01	-0.00	-0.01	-0.01
4.0D+00	0.00	0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.00
5.0D+00	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00
6.0D+00	0.01	0.01	-0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	0.00
8.0D+00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01
1.0D+01	-0.01	-0.01	-0.00	-0.00	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01
1.5D+01	0.00	0.00	-0.00	0.00	0.00	-0.00	-0.00	0.00	-0.00	-0.00
2.0D+01	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00
3.0D+01	0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	-0.00	-0.00
4.0D+01	-0.01	-0.01	-0.00	-0.00	-0.00	-0.01	-0.00	-0.00	-0.01	-0.01
5.0D+01	-0.01	-0.01	-0.00	-0.00	-0.00	-0.01	-0.01	0.00	-0.01	-0.01
6.0D+01	-0.00	-0.01	-0.00	-0.00	-0.00	-0.01	-0.01	0.00	-0.01	-0.01
8.0D+01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01	-0.00	-0.00	-0.01
1.0D+02	0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00	-0.00	0.00	0.00
1.5D+02	0.00	0.01	0.00	0.00	-0.00	0.01	0.00	-0.00	0.01	0.00
2.0D+02	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01	-0.00	-0.00	-0.01
3.0D+02	-0.00	-0.01	-0.01	-0.00	0.00	-0.01	-0.01	0.01	-0.01	-0.01
4.0D+02	0.01	0.00	-0.00	0.00	0.01	-0.00	-0.00	0.01	-0.00	0.00
5.0D+02	0.01	0.01	-0.00	0.00	0.00	-0.00	-0.00	0.01	-0.00	0.00
6.0D+02	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00
8.0D+02	-0.00	-0.01	-0.00	-0.00	-0.00	-0.01	-0.01	0.00	-0.01	-0.01
1.0D+03	0.00	-0.00	-0.00	0.00	0.01	-0.01	-0.01	0.01	-0.01	-0.00
1.5D+03	0.01	0.01	-0.01	0.01	0.02	-0.02	-0.01	0.03	-0.02	0.01
2.0D+03	0.00	0.00	-0.01	-0.00	0.01	-0.02	-0.02	0.02	-0.02	0.00
3.0D+03	-0.01	-0.01	-0.00	-0.01	-0.01	0.00	-0.00	-0.01	0.00	-0.00
4.0D+03	-0.01	-0.01	0.00	-0.01	-0.02	0.01	0.00	-0.02	0.02	-0.00
5.0D+03	-0.01	-0.01	-0.00	-0.01	-0.01	0.00	-0.00	-0.01	0.01	-0.01
6.0D+03	0.00	-0.00	-0.01	-0.00	0.00	-0.01	-0.01	0.00	-0.00	-0.00
8.0D+03	0.01	0.01	-0.00	0.01	0.02	-0.01	-0.01	0.03	-0.01	0.01
1.0D+04	0.00	0.01	-0.00	0.01	0.02	-0.00	0.00	0.03	-0.00	0.02
1.5D+04	-0.04	-0.04	-0.01	-0.02	-0.04	0.00	-0.01	-0.03	0.00	-0.02
2.0D+04	-0.03	-0.05	-0.01	-0.03	-0.06	-0.00	-0.01	-0.06	0.00	-0.04
3.0D+04	0.01	-0.01	0.01	0.00	-0.01	0.00	-0.00	-0.02	0.01	-0.01
4.0D+04	0.01	0.00	0.00	0.00	0.00	-0.00	-0.00	0.01	0.00	0.00
5.0D+04	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.00	0.01	-0.00	0.00
6.0D+04	-0.02	-0.02	-0.01	-0.01	-0.01	-0.00	-0.00	-0.00	-0.00	-0.00
8.0D+04	0.00	-0.01	0.01	0.00	-0.01	0.01	0.01	-0.01	0.01	-0.00
1.0D+05	0.01	0.00	0.02	0.01	-0.01	0.01	0.00	-0.01	0.01	-0.00
1.5D+05	-0.01	-0.02	-0.01	-0.01	-0.02	-0.02	-0.02	-0.02	-0.01	-0.01
2.0D+05	-0.03	-0.02	-0.02	-0.02	-0.02	-0.02	-0.01	-0.01	-0.01	-0.00
3.0D+05	-0.01	-0.01	0.00	0.00	-0.00	0.01	0.01	0.01	0.00	0.01
4.0D+05	-0.00	-0.01	0.00	0.00	-0.01	0.00	0.00	-0.00	0.00	-0.00
5.0D+05	-0.01	-0.01	-0.01	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.02
6.0D+05	-0.02	-0.02	-0.01	-0.01	-0.02	-0.01	-0.01	-0.02	-0.01	-0.02
8.0D+05	-0.01	-0.02	-0.01	-0.01	-0.01	-0.00	-0.00	-0.01	-0.00	-0.00
1.0D+06	-0.00	-0.01	-0.00	0.00	-0.01	0.01	0.01	-0.00	0.00	0.01
1.5D+06	0.01	0.00	0.01	0.01	-0.00	0.01	0.02	0.00	0.00	0.01
2.0D+06	0.01	0.00	0.01	0.01	-0.00	0.01	0.01	0.00	0.00	0.01
3.0D+06	-0.01	-0.01	-0.00	-0.01	-0.02	-0.00	-0.00	-0.02	-0.00	0.00
4.0D+06	-0.02	-0.03	-0.01	-0.01	-0.03	-0.01	-0.01	-0.03	-0.01	-0.01
5.0D+06	-0.02	-0.02	-0.01	-0.01	-0.03	-0.01	-0.00	-0.02	-0.01	-0.00
6.0D+06	-0.01	-0.02	-0.00	-0.00	-0.02	-0.00	0.00	-0.01	-0.01	0.00
8.0D+06	-0.01	-0.02	-0.00	-0.00	-0.02	-0.00	0.01	-0.01	-0.00	0.00
1.0D+07	-0.02	-0.03	-0.01	-0.01	-0.03	-0.01	-0.00	-0.02	-0.01	-0.00
1.5D+07	-0.02	-0.04	-0.02	-0.02	-0.04	-0.01	-0.01	-0.04	-0.01	-0.01
2.0D+07	-0.02	-0.03	-0.01	-0.01	-0.04	-0.01	-0.00	-0.03	-0.01	-0.01
3.0D+07	-0.02	-0.04	-0.01	-0.02	-0.04	-0.01	-0.00	-0.04	-0.01	-0.01
4.0D+07	-0.03	-0.04	-0.02	-0.02	-0.05	-0.01	-0.01	-0.04	-0.01	-0.01
5.0D+07	-0.03	-0.04	-0.02	-0.02	-0.05	-0.01	-0.01	-0.04	-0.01	-0.01
6.0D+07	-0.02	-0.04	-0.02	-0.02	-0.05	-0.01	-0.01	-0.04	-0.01	-0.01
8.0D+07	-0.03	-0.04	-0.02	-0.02	-0.05	-0.01	-0.01	-0.04	-0.01	-0.01
1.0D+08	-0.03	-0.05	-0.02	-0.03	-0.06	-0.01	-0.01	-0.05	-0.02	-0.01
1.5D+08	-0.04	-0.06	-0.02	-0.03	-0.06	-0.02	-0.01	-0.05	-0.02	-0.02
2.0D+08	-0.04	-0.05	-0.02	-0.03	-0.06	-0.02	-0.01	-0.05	-0.02	-0.02
3.0D+08	-0.04	-0.05	-0.02	-0.03	-0.06	-0.02	-0.01	-0.05	-0.02	-0.02
4.0D+08	-0.05	-0.07	-0.03	-0.04	-0.07	-0.02	-0.02	-0.06	-0.03	-0.02
5.0D+08	-0.06	-0.08	-0.04	-0.05	-0.08	-0.03	-0.02	-0.07	-0.03	-0.02
6.0D+08	-0.07	-0.08	-0.04	-0.05	-0.09	-0.03	-0.02	-0.07	-0.03	-0.03
8.0D+08	-0.05	-0.06	-0.03	-0.04	-0.08	-0.02	-0.02	-0.07	-0.03	-0.02
1.0D+09	-0.01	-0.03	-0.01	-0.01	-0.05	-0.01	-0.00	-0.05	-0.01	-0.01
1.5D+09	0.08	0.04	0.04	0.03	0.00	0.02	0.03	-0.01	0.02	0.01
2.0D+09	0.13	0.06	0.05	0.05	0.02	0.03	0.03	-0.00	0.03	0.02
3.0D+09	0.11	0.02	0.02	0.03	0.00	0.01	0.01	-0.02	-0.00	-0.01
4.0D+09	0.05	-0.02	-0.02	-0.02	-0.03	-0.03	-0.03	-0.04	-0.04	-0.04
5.0D+09	-0.02	-0.04	-0.05	-0.05	-0.05	-0.06	-0.06	-0.05	-0.06	-0.07
6.0D+09	-0.07	-0.05	-0.07	-0.07	-0.06	-0.09	-0.08	-0.06	-0.07	-0.08
8.0D+09	-0.10	-0.05	-0.08	-0.08	-0.06	-0.10	-0.09	-0.06	-0.08	-0.09
1.0D+10	-0.11	-0.05	-0.08	-0.08	-0.06	-0.11	-0.09	-0.06	-0.08	-0.09
1.5D+10	-0.10	-0.05	-0.08	-0.08	-0.06	-0.11	-0.09	-0.06	-0.08	-0.09
2.0D+10	-0.11	-0.05	-0.08	-0.08	-0.06	-0.11	-0.09	-0.06	-0.08	-0.09
3.0D+10	-0.11	-0.05	-0.08	-0.08	-0.06	-0.11	-0.09	-0.06	-0.08	-0.09
4.0D+10	-0.11	-0.05	-0.08	-0.08	-0.06	-0.11	-0.09	-0.06	-0.08	-0.09
5.0D+10	-0.11	-0.05	-0.08	-0.08	-0.06	-0.11	-0.09	-0.06	-0.08	-0.09
6.0D+10	-0.11	-0.05	-0.08	-0.08	-0.06	-0.11	-0.09	-0.06	-0.08	-0.09
8.0D+10	-0.10	-0.05	-0.08	-0.08	-0.06	-0.11	-0.09	-0.06	-0.08	-0.09
1.0D+11	-0.10	-0.05	-0.08	-0.08	-0.06	-0.11	-0.09	-0.06	-0.08	-0.09
1.5D+11	-0.10	-0.05	-0.08	-0.08	-0.06	-0.11	-0.09	-0.06	-0.08	-0.09
2.0D+11	-0.10	-0.05	-0.08	-0.08	-0.06	-0.11	-0.09	-0.06	-0.08	-0.09
3.0D+11	-0.10	-0.05	-0.08	-0.08	-0.06	-0.11	-0.09	-0.06	-0.08	-0.09
4.0D+11	-0.10	-0.05	-0.08	-0.08	-0.06	-0.11	-0.09	-0.06	-0.08	-0.09
5.0D+11	-0.10	-0.05	-0.08	-0.08	-0.06	-0.11	-0.09	-0.06	-0.08	-0.09
6.0D+11	-0.10	-0.05	-0.08	-0.08	-0.06	-0.11	-0.09	-0.06	-0.08	-0.09
8.0D+11	-0.10	-0.04	-0.08	-0.08	-0.06	-0.11	-0.09	-0.06	-0.08	-0.09
1.0D+12	-0.10	-0.04	-0.08	-0.08	-0.06	-0.11	-0.09	-0.06	-0.08	-0.09
1.5D+12	-0.10	-0.04	-0.08	-0.08	-0.06	-0.11	-0.09	-0.06	-0.08	-0.09
2.0D+12	-0.10	-0.04	-0.08	-0.08	-0.06	-0.11	-0.09	-0.06	-0.08	-0.09
3.0D+12	-0.09	-0.03	-0.08	-0.08	-0.06	-0.10	-0.08	-0.06	-0.08	-0.09
4.0D+12	-0.06	-0.00	-0.06	-0.07	-0.06	-0.09	-0.06	-0.06	-0.07	-0.08
5.0D+12	-0.02	0.06	-0.03	-0.05	-0.05	-0.07	-0.04	-0.06	-0.05	-0.07
6.0D+12	0.05	0.17	0.02	-0.01	-0.04	-0.04	0.01	-0.05	-0.01	-0.05
8.0D+12	0.27	0.63	0.20	0.12	-0.00	0.05	0.15	-0.02	0.11	0.02
1.0D+13	0.60	1.56	0.50	0.35	0.10	0.21	0.38	0.04	0.32	0.13

Table 4.2.8 Continued

---------- (B+G) FITTING ERROR TABEL FOR INFINITY----------

(UNIT : %)

TIME(S)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU239(H)	PU240(F)	PU241(T)	PU241(F)	PU242(F)	CF252(S)
0.0	0.00	0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.00
1.0D-01	0.00	-0.00	-0.01	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.00
1.5D-01	0.00	-0.00	-0.01	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.00
2.0D-01	0.00	-0.00	-0.01	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.00
3.0D-01	0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00	-0.00	-0.00	0.00
4.0D-01	0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	-0.00	0.00
5.0D-01	0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	-0.00	0.00
6.0D-01	0.00	0.01	-0.00	-0.00	-0.00	0.00	0.00	0.00	-0.00	0.00
8.0D-01	0.01	0.01	-0.00	-0.00	-0.00	0.00	0.00	0.00	-0.00	0.00
1.0D+00	0.00	0.00	-0.01	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.00
1.5D+00	-0.00	-0.01	-0.01	-0.01	-0.01	-0.00	-0.00	-0.01	-0.01	0.00
2.0D+00	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00
3.0D+00	-0.01	-0.01	-0.01	-0.01	-0.00	-0.00	-0.00	-0.01	-0.01	0.00
4.0D+00	0.00	0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	-0.00	0.00
5.0D+00	0.01	0.01	-0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00
6.0D+00	0.00	0.01	-0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	0.00
8.0D+00	-0.00	-0.00	-0.01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01	0.00
1.0D+01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01	-0.01	0.00
1.5D+01	-0.01	-0.01	-0.01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01	0.00
2.0D+01	-0.00	0.01	-0.00	0.00	0.00	0.00	0.01	0.00	-0.00	0.00
3.0D+01	-0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	-0.00	0.00
4.0D+01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.00	-0.00	-0.01	0.00
5.0D+01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	0.00
6.0D+01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	0.00
8.0D+01	-0.01	-0.00	-0.01	-0.00	-0.01	-0.00	-0.00	-0.00	-0.01	0.01
1.0D+02	-0.01	0.00	-0.00	0.00	-0.00	0.01	0.01	0.01	0.00	0.02
1.5D+02	-0.00	0.01	-0.00	0.00	-0.00	0.01	0.02	0.02	0.01	0.02
2.0D+02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	0.00
3.0D+02	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.02	-0.02	-0.02	-0.01
4.0D+02	-0.01	0.01	0.00	0.00	0.00	0.01	-0.00	-0.00	-0.00	0.00
5.0D+02	-0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
6.0D+02	-0.01	0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01	-0.00
8.0D+02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
1.0D+03	-0.01	0.00	-0.00	-0.01	-0.00	-0.00	-0.01	-0.01	-0.01	-0.01
1.5D+03	-0.03	0.01	0.00	0.00	0.01	0.01	-0.01	-0.01	-0.00	0.01
2.0D+03	-0.04	0.01	-0.00	-0.00	0.00	0.01	-0.01	-0.01	-0.01	0.00
3.0D+03	-0.01	0.00	-0.00	-0.00	-0.01	0.00	-0.00	0.00	-0.00	-0.01
4.0D+03	0.01	-0.00	0.00	-0.00	-0.01	0.00	0.00	0.01	0.00	-0.01
5.0D+03	0.01	-0.00	-0.00	-0.00	-0.01	0.00	-0.00	0.00	-0.00	-0.01
6.0D+03	-0.01	-0.00	-0.00	-0.00	-0.01	0.00	-0.01	-0.01	-0.01	-0.01
8.0D+03	-0.02	0.02	0.01	0.01	0.01	0.02	-0.01	-0.00	0.00	-0.00
1.0D+04	-0.02	0.02	0.02	0.02	0.01	0.03	0.00	0.01	0.01	-0.01
1.5D+04	-0.00	-0.01	-0.01	-0.01	-0.03	-0.01	-0.01	-0.00	-0.01	-0.03
2.0D+04	0.00	-0.04	-0.02	-0.03	-0.05	-0.03	-0.01	-0.01	-0.02	-0.01
3.0D+04	0.00	-0.01	-0.00	-0.00	-0.01	-0.00	0.00	0.00	0.00	0.03
4.0D+04	-0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
5.0D+04	-0.00	0.01	-0.00	0.00	-0.00	0.00	-0.00	-0.00	-0.00	-0.01
6.0D+04	0.00	0.00	-0.01	-0.00	-0.01	-0.00	-0.00	-0.00	-0.00	-0.01
8.0D+04	0.01	-0.00	-0.00	0.00	-0.01	0.00	0.00	0.00	0.00	0.02
1.0D+05	0.01	-0.01	0.00	0.00	-0.00	0.00	0.01	0.01	0.00	0.03
1.5D+05	-0.01	-0.01	-0.01	-0.00	-0.01	-0.00	-0.01	-0.00	-0.01	-0.00
2.0D+05	-0.01	-0.00	-0.01	-0.00	-0.01	-0.00	-0.01	-0.00	-0.01	-0.03
3.0D+05	0.01	0.01	0.00	0.01	-0.00	0.01	0.00	0.01	0.00	-0.01
4.0D+05	0.00	-0.01	-0.00	0.00	-0.00	0.00	-0.00	0.00	-0.00	0.01
5.0D+05	-0.01	-0.02	-0.01	-0.00	-0.01	-0.00	-0.01	-0.00	-0.01	0.01
6.0D+05	-0.01	-0.02	-0.01	-0.00	-0.01	-0.00	-0.01	-0.00	-0.01	0.00
8.0D+05	-0.00	-0.01	-0.00	0.00	-0.01	0.00	-0.00	0.00	-0.00	-0.00
1.0D+06	0.00	0.00	0.00	0.01	-0.01	0.00	0.00	0.00	-0.00	-0.00
1.5D+06	0.01	0.01	0.00	0.01	-0.00	0.00	-0.00	0.00	-0.00	0.01
2.0D+06	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.02
3.0D+06	0.00	-0.01	0.00	0.01	-0.01	0.00	0.00	0.01	0.00	0.01
4.0D+06	-0.00	-0.02	-0.01	-0.00	-0.02	-0.00	-0.01	-0.00	-0.01	-0.00
5.0D+06	-0.00	-0.01	-0.00	-0.00	-0.02	-0.01	-0.01	-0.00	-0.01	-0.00
6.0D+06	0.00	-0.01	0.00	0.00	-0.01	-0.00	-0.00	-0.00	-0.00	0.01
8.0D+06	0.00	-0.00	0.00	0.01	-0.01	0.00	0.00	0.01	0.00	0.01
1.0D+07	-0.00	-0.01	-0.00	0.00	-0.02	-0.00	-0.00	0.00	-0.00	0.01
1.5D+07	-0.01	-0.02	-0.01	-0.01	-0.03	-0.01	-0.01	-0.01	-0.01	-0.00
2.0D+07	-0.00	-0.02	-0.00	-0.00	-0.02	-0.01	-0.00	-0.00	-0.01	0.01
3.0D+07	-0.00	-0.02	-0.00	-0.00	-0.03	-0.01	-0.00	-0.00	-0.01	0.01
4.0D+07	-0.01	-0.03	-0.01	-0.01	-0.04	-0.01	-0.00	-0.01	-0.01	-0.00
5.0D+07	-0.01	-0.03	-0.01	-0.01	-0.04	-0.01	-0.00	-0.01	-0.01	-0.01
6.0D+07	-0.01	-0.03	-0.01	-0.01	-0.03	-0.01	-0.00	-0.00	-0.01	-0.01
8.0D+07	-0.01	-0.03	-0.01	-0.01	-0.03	-0.01	0.00	-0.00	-0.01	-0.00
1.0D+08	-0.01	-0.03	-0.01	-0.01	-0.04	-0.01	-0.00	-0.00	-0.01	0.00
1.5D+08	-0.01	-0.04	-0.01	-0.02	-0.05	-0.02	-0.01	-0.01	-0.02	-0.00
2.0D+08	-0.01	-0.04	-0.01	-0.02	-0.05	-0.02	-0.01	-0.01	-0.02	-0.01
3.0D+08	-0.01	-0.04	-0.01	-0.02	-0.05	-0.02	-0.01	-0.01	-0.02	-0.01
4.0D+08	-0.01	-0.04	-0.01	-0.02	-0.06	-0.02	-0.01	-0.01	-0.02	-0.01
5.0D+08	-0.02	-0.05	-0.02	-0.02	-0.06	-0.02	-0.01	-0.01	-0.02	-0.01
6.0D+08	-0.02	-0.05	-0.02	-0.02	-0.07	-0.03	-0.01	-0.01	-0.02	-0.02
8.0D+08	-0.02	-0.05	-0.02	-0.02	-0.06	-0.02	-0.01	-0.01	-0.02	-0.02
1.0D+09	-0.01	-0.04	-0.01	-0.02	-0.05	-0.02	-0.01	-0.01	-0.02	-0.01
1.5D+09	0.01	-0.03	-0.00	-0.00	-0.01	-0.01	0.00	-0.00	-0.01	0.01
2.0D+09	0.01	-0.02	-0.00	-0.00	-0.00	-0.01	-0.00	-0.01	-0.01	0.02
3.0D+09	-0.01	-0.03	-0.03	-0.03	-0.01	-0.03	-0.02	-0.03	-0.02	0.00
4.0D+09	-0.05	-0.04	-0.05	-0.05	-0.04	-0.05	-0.05	-0.05	-0.05	-0.03
5.0D+09	-0.07	-0.05	-0.07	-0.06	-0.05	-0.07	-0.08	-0.07	-0.06	-0.06
6.0D+09	-0.09	-0.06	-0.08	-0.07	-0.06	-0.07	-0.09	-0.08	-0.07	-0.09
8.0D+09	-0.10	-0.06	-0.08	-0.07	-0.06	-0.08	-0.10	-0.08	-0.08	-0.10
1.0D+10	-0.11	-0.06	-0.08	-0.08	-0.06	-0.08	-0.10	-0.08	-0.08	-0.10
1.5D+10	-0.11	-0.06	-0.08	-0.08	-0.06	-0.08	-0.10	-0.08	-0.08	-0.10
2.0D+10	-0.11	-0.06	-0.08	-0.08	-0.06	-0.08	-0.10	-0.08	-0.08	-0.10
3.0D+10	-0.11	-0.06	-0.08	-0.08	-0.06	-0.08	-0.10	-0.08	-0.08	-0.11
4.0D+10	-0.11	-0.06	-0.08	-0.08	-0.06	-0.08	-0.10	-0.08	-0.08	-0.11
5.0D+10	-0.11	-0.06	-0.08	-0.08	-0.06	-0.08	-0.10	-0.08	-0.08	-0.11
6.0D+10	-0.11	-0.06	-0.08	-0.08	-0.06	-0.08	-0.10	-0.08	-0.08	-0.11
8.0D+10	-0.11	-0.06	-0.08	-0.08	-0.06	-0.08	-0.10	-0.08	-0.08	-0.11
1.0D+11	-0.11	-0.06	-0.08	-0.08	-0.06	-0.08	-0.10	-0.08	-0.08	-0.11
1.5D+11	-0.11	-0.06	-0.08	-0.08	-0.06	-0.08	-0.10	-0.08	-0.08	-0.11
2.0D+11	-0.11	-0.06	-0.08	-0.08	-0.06	-0.08	-0.10	-0.08	-0.08	-0.11
3.0D+11	-0.11	-0.06	-0.08	-0.08	-0.06	-0.08	-0.10	-0.08	-0.08	-0.11
4.0D+11	-0.11	-0.06	-0.08	-0.08	-0.06	-0.08	-0.10	-0.08	-0.08	-0.11
5.0D+11	-0.11	-0.06	-0.08	-0.08	-0.05	-0.08	-0.10	-0.08	-0.08	-0.11
6.0D+11	-0.11	-0.06	-0.08	-0.08	-0.05	-0.08	-0.10	-0.08	-0.08	-0.11
8.0D+11	-0.11	-0.06	-0.08	-0.08	-0.05	-0.08	-0.10	-0.09	-0.08	-0.11
1.0D+12	-0.11	-0.06	-0.08	-0.08	-0.05	-0.08	-0.10	-0.09	-0.08	-0.11
1.5D+12	-0.11	-0.05	-0.08	-0.08	-0.05	-0.08	-0.10	-0.09	-0.08	-0.11
2.0D+12	-0.11	-0.05	-0.08	-0.08	-0.05	-0.08	-0.11	-0.09	-0.08	-0.11
3.0D+12	-0.10	-0.05	-0.08	-0.08	-0.05	-0.09	-0.11	-0.09	-0.08	-0.11
4.0D+12	-0.10	-0.05	-0.08	-0.07	-0.05	-0.09	-0.11	-0.09	-0.08	-0.10
5.0D+12	-0.08	-0.05	-0.08	-0.06	-0.05	-0.08	-0.10	-0.08	-0.07	-0.09
6.0D+12	-0.06	-0.05	-0.07	-0.04	-0.05	-0.07	-0.09	-0.07	-0.06	-0.08
8.0D+12	0.01	-0.03	-0.02	0.03	-0.05	-0.03	-0.07	-0.03	-0.01	-0.04
1.0D+13	0.13	0.03	0.06	0.16	-0.04	0.04	-0.02	0.04	0.07	0.02

Table 4.2.9 Discrepancies between exponential fitting and calculated results of the beta decay power after infinite (10^{13}s) irradiation

(BETA) FITTING ERROR TABEL FOR INFINIT

(UNIT : %)

TIME(S)	TH232(F)	TH232(H)	U233(T)	U233(F)	U233(H)	U235(T)	U235(F)	U235(H)	U236(F)	NP237(F)
0.0	0.00	0.00	-0.00	-0.00	-0.01	0.00	0.00	-0.00	0.00	-0.00
1.0D-01	0.00	0.00	-0.00	-0.00	-0.01	-0.00	0.00	-0.00	-0.00	-0.00
1.5D-01	0.00	0.00	-0.00	-0.00	-0.01	-0.00	0.00	-0.00	-0.00	-0.00
2.0D-01	0.00	0.00	-0.00	-0.00	-0.01	0.00	0.00	-0.00	-0.00	-0.00
3.0D-01	0.01	0.01	-0.00	0.00	-0.00	0.00	0.00	-0.00	0.00	-0.00
4.0D-01	0.01	0.01	-0.00	0.00	-0.00	0.00	0.01	-0.00	0.00	-0.00
5.0D-01	0.01	0.01	-0.00	0.00	-0.00	0.00	0.01	0.00	0.00	-0.00
6.0D-01	0.01	0.01	-0.00	0.00	-0.00	0.00	0.01	0.00	0.00	0.00
8.0D-01	0.01	0.01	-0.00	0.00	-0.00	0.00	0.01	-0.00	0.00	-0.00
1.0D+00	0.01	0.01	-0.00	-0.00	-0.01	0.00	0.00	-0.00	0.00	-0.00
1.5D+00	-0.00	-0.01	-0.00	-0.00	-0.01	-0.01	-0.00	-0.01	-0.01	-0.01
2.0D+00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
3.0D+00	-0.01	-0.01	-0.00	-0.00	-0.01	-0.01	-0.00	-0.01	-0.01	-0.01
4.0D+00	0.01	0.01	0.00	0.00	-0.00	0.00	0.01	0.00	0.00	-0.00
5.0D+00	0.01	0.01	0.00	0.00	-0.00	0.01	0.01	0.01	0.01	0.00
6.0D+00	0.01	0.01	0.00	0.00	-0.00	0.01	0.01	0.00	0.01	0.00
8.0D+00	0.00	-0.00	-0.00	-0.00	-0.01	-0.00	0.00	-0.00	-0.00	-0.01
1.0D+01	-0.01	-0.01	-0.00	-0.00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
1.5D+01	-0.00	-0.00	-0.00	-0.00	-0.01	-0.00	-0.00	-0.00	-0.01	-0.01
2.0D+01	0.01	0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.00	0.00
3.0D+01	0.01	0.01	0.00	0.01	-0.00	0.01	0.01	0.00	0.00	0.00
4.0D+01	-0.01	-0.01	-0.00	-0.00	-0.01	-0.00	-0.00	-0.00	-0.01	-0.01
5.0D+01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.02	-0.01
6.0D+01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.02	-0.01
8.0D+01	-0.00	0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
1.0D+02	0.01	0.02	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.01
1.5D+02	0.02	0.02	0.02	0.01	0.00	0.02	0.02	0.01	0.02	0.01
2.0D+02	-0.00	0.00	0.00	-0.00	-0.01	0.00	0.00	-0.00	-0.00	-0.01
3.0D+02	-0.02	-0.02	-0.02	-0.02	-0.01	-0.02	-0.02	-0.00	-0.02	-0.02
4.0D+02	-0.00	0.00	-0.01	-0.00	0.00	-0.01	-0.00	0.01	-0.01	0.00
5.0D+02	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01	-0.00	0.01
6.0D+02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	-0.00	0.00
8.0D+02	-0.01	-0.00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01
1.0D+03	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	0.00	-0.02	-0.01
1.5D+03	-0.01	-0.00	-0.02	-0.02	0.00	-0.03	-0.02	0.01	-0.03	-0.01
2.0D+03	-0.00	0.01	-0.02	-0.01	0.00	-0.02	-0.02	0.01	-0.02	-0.01
3.0D+03	-0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.01
4.0D+03	-0.01	-0.00	0.01	0.00	0.00	0.02	0.01	-0.00	0.02	0.01
5.0D+03	-0.01	-0.01	-0.00	-0.01	-0.00	0.00	-0.00	-0.01	0.00	-0.00
6.0D+03	-0.01	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01	-0.01	-0.01	-0.01
8.0D+03	0.00	0.01	-0.01	-0.00	0.01	-0.00	-0.00	0.02	-0.00	0.01
1.0D+04	0.00	0.02	0.00	0.01	0.02	0.01	0.01	0.02	0.01	0.02
1.5D+04	-0.03	-0.02	0.01	-0.00	-0.01	0.01	0.01	-0.02	0.01	-0.00
2.0D+04	-0.03	-0.04	0.00	-0.01	-0.04	-0.00	-0.01	-0.05	-0.01	-0.03
3.0D+04	0.00	-0.01	0.00	-0.01	-0.02	-0.01	-0.01	-0.03	-0.01	-0.01
4.0D+04	-0.00	0.00	-0.01	-0.00	-0.00	-0.00	0.00	0.00	0.00	0.01
5.0D+04	-0.01	0.00	-0.01	-0.00	0.00	0.00	0.01	0.02	0.00	0.01
6.0D+04	-0.01	-0.00	-0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
8.0D+04	-0.01	-0.01	0.00	0.00	-0.01	0.01	0.01	-0.01	0.00	0.00
1.0D+05	-0.01	-0.01	0.00	-0.01	-0.02	-0.00	-0.00	-0.02	-0.01	-0.01
1.5D+05	-0.01	-0.01	-0.01	-0.01	-0.02	-0.01	-0.01	-0.02	0.00	0.00
2.0D+05	-0.01	-0.00	-0.00	-0.01	-0.01	0.01	0.01	0.00	0.01	0.02
3.0D+05	-0.01	-0.01	-0.00	-0.00	-0.00	0.01	0.01	0.01	-0.00	0.01
4.0D+05	-0.01	-0.01	-0.01	-0.01	-0.02	-0.00	-0.00	-0.01	-0.01	-0.00
5.0D+05	-0.01	-0.01	-0.01	-0.01	-0.03	-0.00	-0.01	-0.02	-0.00	-0.00
6.0D+05	-0.01	-0.01	-0.00	-0.01	-0.02	0.00	-0.00	-0.02	0.00	0.00
8.0D+05	-0.01	-0.01	-0.00	-0.00	-0.02	0.01	0.01	-0.01	0.00	0.01
1.0D+06	-0.02	-0.02	-0.00	-0.01	-0.01	0.00	0.01	-0.00	-0.01	0.01
1.5D+06	-0.02	-0.02	-0.01	-0.01	-0.02	-0.01	-0.00	-0.01	-0.02	-0.01
2.0D+06	-0.01	-0.01	-0.00	-0.01	-0.02	-0.00	0.00	-0.00	-0.01	-0.00
3.0D+06	-0.01	-0.02	-0.00	-0.01	-0.03	0.00	0.00	-0.02	-0.00	0.00
4.0D+06	-0.02	-0.03	-0.01	-0.02	-0.04	-0.01	-0.01	-0.03	-0.01	-0.01
5.0D+06	-0.02	-0.03	-0.01	-0.02	-0.04	-0.01	-0.00	-0.03	-0.02	-0.01
6.0D+06	-0.02	-0.03	-0.01	-0.01	-0.03	-0.01	-0.00	-0.02	-0.01	-0.00
8.0D+06	-0.02	-0.03	-0.01	-0.01	-0.03	-0.00	0.00	-0.02	-0.01	-0.00
1.0D+07	-0.02	-0.03	-0.01	-0.01	-0.04	-0.01	-0.00	-0.03	-0.01	-0.00
1.5D+07	-0.02	-0.04	-0.02	-0.02	-0.05	-0.01	-0.01	-0.04	-0.02	-0.01
2.0D+07	-0.02	-0.04	-0.01	-0.02	-0.05	-0.01	-0.00	-0.04	-0.02	-0.01
3.0D+07	-0.03	-0.05	-0.02	-0.02	-0.05	-0.01	-0.00	-0.04	-0.01	-0.01
4.0D+07	-0.04	-0.05	-0.02	-0.03	-0.07	-0.02	-0.01	-0.05	-0.02	-0.01
5.0D+07	-0.03	-0.05	-0.02	-0.03	-0.07	-0.02	-0.01	-0.05	-0.02	-0.02
6.0D+07	-0.03	-0.05	-0.02	-0.03	-0.06	-0.02	-0.01	-0.05	-0.01	-0.01
8.0D+07	-0.03	-0.05	-0.02	-0.03	-0.07	-0.02	-0.01	-0.05	-0.02	-0.01
1.0D+08	-0.04	-0.06	-0.03	-0.03	-0.08	-0.02	-0.01	-0.06	-0.02	-0.01
1.5D+08	-0.05	-0.07	-0.03	-0.04	-0.09	-0.03	-0.02	-0.07	-0.03	-0.02
2.0D+08	-0.05	-0.07	-0.03	-0.04	-0.09	-0.03	-0.02	-0.07	-0.03	-0.03
3.0D+08	-0.05	-0.07	-0.03	-0.04	-0.09	-0.02	-0.01	-0.07	-0.02	-0.02
4.0D+08	-0.07	-0.09	-0.04	-0.05	-0.11	-0.03	-0.02	-0.08	-0.03	-0.03
5.0D+08	-0.09	-0.11	-0.05	-0.06	-0.13	-0.04	-0.03	-0.10	-0.04	-0.03
6.0D+08	-0.09	-0.12	-0.05	-0.06	-0.13	-0.04	-0.03	-0.11	-0.04	-0.04
8.0D+08	-0.07	-0.09	-0.04	-0.05	-0.11	-0.03	-0.02	-0.09	-0.03	-0.03
1.0D+09	-0.02	-0.03	-0.01	-0.02	-0.06	-0.01	-0.00	-0.06	-0.01	-0.01
1.5D+09	0.11	0.12	0.06	0.06	0.07	0.03	0.04	0.03	0.04	0.03
2.0D+09	0.18	0.17	0.09	0.09	0.13	0.04	0.06	0.07	0.06	0.04
3.0D+09	0.16	0.13	0.06	0.06	0.10	0.02	0.02	0.05	0.02	0.00
4.0D+09	0.08	0.04	-0.01	-0.00	0.03	-0.03	-0.03	-0.01	-0.03	-0.05
5.0D+09	-0.01	-0.02	-0.06	-0.06	-0.03	-0.08	-0.07	-0.05	-0.07	-0.08
6.0D+09	-0.08	-0.05	-0.09	-0.09	-0.06	-0.10	-0.09	-0.07	-0.09	-0.10
8.0D+09	-0.12	-0.06	-0.10	-0.11	-0.08	-0.12	-0.11	-0.08	-0.10	-0.11
1.0D+10	-0.13	-0.05	-0.10	-0.11	-0.07	-0.12	-0.11	-0.08	-0.10	-0.11
1.5D+10	-0.12	-0.05	-0.10	-0.10	-0.07	-0.12	-0.11	-0.08	-0.10	-0.11
2.0D+10	-0.12	-0.05	-0.10	-0.11	-0.07	-0.12	-0.11	-0.08	-0.10	-0.11
3.0D+10	-0.12	-0.05	-0.10	-0.11	-0.07	-0.12	-0.11	-0.08	-0.10	-0.11
4.0D+10	-0.12	-0.05	-0.10	-0.11	-0.07	-0.12	-0.11	-0.08	-0.10	-0.11
5.0D+10	-0.12	-0.05	-0.10	-0.11	-0.07	-0.12	-0.11	-0.08	-0.10	-0.11
6.0D+10	-0.12	-0.05	-0.10	-0.11	-0.07	-0.12	-0.11	-0.08	-0.10	-0.11
8.0D+10	-0.12	-0.05	-0.10	-0.11	-0.07	-0.12	-0.11	-0.08	-0.10	-0.11
1.0D+11	-0.12	-0.05	-0.10	-0.10	-0.07	-0.12	-0.11	-0.08	-0.10	-0.11
1.5D+11	-0.12	-0.05	-0.10	-0.10	-0.07	-0.12	-0.11	-0.08	-0.10	-0.11
2.0D+11	-0.12	-0.05	-0.10	-0.10	-0.07	-0.12	-0.11	-0.08	-0.10	-0.11
3.0D+11	-0.12	-0.04	-0.10	-0.10	-0.07	-0.12	-0.11	-0.07	-0.10	-0.11
4.0D+11	-0.12	-0.04	-0.10	-0.10	-0.07	-0.12	-0.11	-0.07	-0.10	-0.11
5.0D+11	-0.12	-0.04	-0.10	-0.10	-0.06	-0.12	-0.11	-0.07	-0.10	-0.11
6.0D+11	-0.12	-0.04	-0.10	-0.10	-0.06	-0.12	-0.11	-0.07	-0.10	-0.11
8.0D+11	-0.12	-0.04	-0.10	-0.10	-0.06	-0.12	-0.11	-0.07	-0.10	-0.11
1.0D+12	-0.12	-0.03	-0.10	-0.11	-0.06	-0.12	-0.11	-0.07	-0.10	-0.11
1.5D+12	-0.12	-0.03	-0.10	-0.11	-0.06	-0.12	-0.10	-0.07	-0.10	-0.11
2.0D+12	-0.11	-0.02	-0.10	-0.11	-0.06	-0.12	-0.10	-0.07	-0.10	-0.11
3.0D+12	-0.10	0.01	-0.09	-0.10	-0.06	-0.11	-0.09	-0.07	-0.10	-0.11
4.0D+12	-0.07	0.11	-0.07	-0.08	-0.05	-0.10	-0.07	-0.06	-0.08	-0.10
5.0D+12	-0.01	0.30	-0.02	-0.05	-0.05	-0.07	-0.03	-0.06	-0.05	-0.08
6.0D+12	0.07	0.63	0.05	0.00	-0.03	-0.04	0.02	-0.04	-0.01	-0.05
8.0D+12	0.31	1.88	0.28	0.17	0.06	0.07	0.20	0.03	0.15	0.03
1.0D+13	0.66	4.14	0.64	0.44	0.26	0.22	0.46	0.16	0.39	0.17

Table 4.2.9 Continued

---------- (BETA) FITTING ERROR TABEL FOR INFINITY----------

(UNIT : %)

TIME(S)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU239(H)	PU240(F)	PU241(T)	PU241(F)	PU242(F)	CF252(S)
0.0	0.00	0.00	-0.01	-0.00	-0.00	0.00	0.00	-0.00	-0.00	-0.00
1.0D-01	0.00	0.00	-0.01	-0.00	-0.00	0.00	-0.00	-0.00	-0.00	-0.00
1.5D-01	0.00	0.00	-0.01	-0.00	-0.00	0.00	-0.00	-0.00	-0.00	-0.00
2.0D-01	0.00	0.00	-0.01	-0.00	-0.00	0.00	0.00	-0.00	-0.00	-0.00
3.0D-01	0.00	0.00	-0.01	-0.00	-0.00	0.00	0.00	0.00	-0.00	-0.00
4.0D-01	0.01	0.01	-0.01	-0.00	-0.00	0.00	0.00	0.00	-0.00	-0.00
5.0D-01	0.01	0.01	-0.01	-0.00	-0.00	0.00	0.00	0.00	0.00	-0.00
6.0D-01	0.01	0.01	-0.01	-0.00	-0.00	0.00	0.00	0.00	0.00	-0.00
8.0D-01	0.01	0.01	-0.01	-0.00	-0.00	0.00	0.00	0.00	0.00	-0.00
1.0D+00	0.01	0.01	-0.01	-0.00	-0.00	0.00	0.00	0.00	-0.00	-0.00
1.5D+00	-0.00	-0.01	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01	-0.01	-0.00
2.0D+00	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00
3.0D+00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01	-0.01	-0.00
4.0D+00	0.00	0.00	-0.01	-0.00	-0.00	0.00	0.00	0.00	-0.00	-0.00
5.0D+00	0.01	0.01	-0.00	0.00	0.00	0.00	0.01	0.01	0.00	-0.00
6.0D+00	0.01	0.01	-0.01	0.00	-0.00	0.00	0.00	0.01	0.00	-0.00
8.0D+00	-0.00	-0.00	-0.01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01	-0.01
1.0D+01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
1.5D+01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.00	-0.00	-0.01	-0.01	-0.00
2.0D+01	-0.00	0.01	-0.00	0.00	-0.00	0.00	0.01	0.00	-0.00	-0.00
3.0D+01	0.00	0.00	-0.00	0.00	-0.00	0.00	0.01	0.01	-0.00	-0.01
4.0D+01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01
5.0D+01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00
6.0D+01	-0.02	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00
8.0D+01	-0.01	-0.00	-0.01	-0.01	-0.01	-0.00	-0.01	-0.00	-0.01	-0.01
1.0D+02	0.00	0.01	0.00	0.01	-0.00	0.01	0.01	0.01	0.00	-0.01
1.5D+02	0.01	0.02	0.00	0.01	0.00	0.01	0.01	0.02	0.01	0.00
2.0D+02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00
3.0D+02	-0.02	-0.02	-0.02	-0.02	-0.01	-0.02	-0.02	-0.02	-0.02	-0.01
4.0D+02	-0.01	0.00	-0.00	-0.00	-0.00	0.00	-0.00	0.00	0.00	0.01
5.0D+02	-0.00	0.01	0.00	-0.00	-0.00	0.00	0.00	0.01	0.01	0.00
6.0D+02	-0.01	0.00	-0.01	-0.01	-0.01	-0.00	-0.00	0.00	0.00	-0.01
8.0D+02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.02	-0.01	-0.01	-0.01
1.0D+03	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00
1.5D+03	-0.02	0.00	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01	0.01	0.01
2.0D+03	-0.03	0.00	-0.02	-0.02	-0.01	-0.00	-0.01	-0.01	-0.00	0.00
3.0D+03	-0.00	0.01	0.00	0.00	-0.00	0.00	-0.00	0.00	0.00	-0.01
4.0D+03	0.01	0.00	0.01	0.01	-0.00	0.01	0.00	0.01	0.01	-0.00
5.0D+03	-0.00	-0.00	0.00	0.00	-0.01	0.00	-0.00	0.00	-0.00	-0.00
6.0D+03	-0.01	-0.00	-0.00	-0.01	-0.01	0.00	-0.01	-0.00	-0.00	-0.00
8.0D+03	-0.01	0.02	0.00	0.00	-0.00	0.01	-0.00	0.01	0.01	0.00
1.0D+04	0.00	0.03	0.01	0.01	0.01	0.02	0.01	0.01	0.02	0.00
1.5D+04	0.00	-0.01	-0.00	-0.00	-0.01	-0.01	-0.01	0.00	-0.00	-0.01
2.0D+04	-0.01	-0.04	-0.02	-0.02	-0.03	-0.02	-0.02	-0.01	-0.02	-0.01
3.0D+04	-0.00	-0.01	-0.00	-0.00	-0.02	-0.00	0.00	0.01	0.00	0.02
4.0D+04	0.00	0.01	0.01	0.01	-0.00	0.01	0.00	0.01	0.01	0.01
5.0D+04	0.01	0.02	0.00	0.01	-0.00	0.01	-0.00	0.01	0.01	-0.01
6.0D+04	0.01	0.02	0.00	0.01	-0.00	0.00	-0.00	0.01	0.00	-0.01
8.0D+04	0.00	-0.00	0.00	0.00	-0.01	0.00	0.00	0.01	0.00	0.01
1.0D+05	-0.00	-0.01	-0.00	0.00	-0.01	0.00	0.00	0.01	0.00	0.02
1.5D+05	0.00	-0.00	0.00	0.00	-0.01	0.01	0.01	0.01	0.01	0.00
2.0D+05	0.01	0.02	0.01	0.01	-0.00	0.01	0.01	0.01	0.01	-0.01
3.0D+05	0.00	0.01	0.00	0.01	0.00	0.00	-0.00	0.00	0.00	0.00
4.0D+05	-0.00	-0.01	-0.00	-0.00	-0.01	-0.00	-0.00	0.00	-0.01	0.01
5.0D+05	-0.00	-0.01	0.00	0.00	-0.01	0.00	0.00	0.01	-0.00	0.01
6.0D+05	0.01	-0.00	0.01	0.01	-0.01	0.01	0.01	0.01	0.01	0.01
8.0D+05	0.01	0.01	0.01	0.02	-0.01	0.01	0.01	0.01	0.01	0.00
1.0D+06	0.00	0.00	0.00	0.01	-0.01	-0.00	-0.00	-0.00	-0.00	-0.00
1.5D+06	-0.02	-0.01	-0.01	-0.01	-0.01	-0.02	-0.02	-0.02	-0.02	0.01
2.0D+06	-0.01	-0.00	0.00	0.00	-0.00	-0.00	-0.01	-0.00	-0.01	0.03
3.0D+06	0.00	-0.00	0.01	0.01	-0.01	0.01	0.00	0.01	0.00	0.01
4.0D+06	-0.00	-0.01	-0.00	-0.00	-0.02	-0.01	-0.00	-0.00	-0.01	-0.00
5.0D+06	-0.01	-0.01	-0.00	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.00
6.0D+06	-0.01	-0.01	-0.00	-0.00	-0.01	-0.01	-0.01	-0.00	-0.01	0.01
8.0D+06	-0.00	-0.00	0.00	0.00	-0.01	-0.00	-0.00	0.00	-0.00	0.01
1.0D+07	-0.00	-0.01	0.00	-0.00	-0.02	-0.00	-0.00	0.00	-0.00	0.00
1.5D+07	-0.01	-0.02	-0.00	-0.01	-0.03	-0.01	-0.01	-0.01	-0.01	-0.01
2.0D+07	-0.01	-0.01	0.00	-0.01	-0.02	-0.01	-0.01	-0.00	-0.01	0.01
3.0D+07	-0.01	-0.02	-0.00	-0.01	-0.03	-0.01	-0.00	-0.00	-0.01	0.01
4.0D+07	-0.01	-0.03	-0.01	-0.02	-0.05	-0.01	-0.00	-0.01	-0.01	-0.01
5.0D+07	-0.01	-0.03	-0.01	-0.02	-0.04	-0.02	-0.00	-0.01	-0.02	-0.02
6.0D+07	-0.01	-0.03	-0.01	-0.02	-0.04	-0.01	-0.00	-0.00	-0.02	-0.02
8.0D+07	-0.01	-0.03	-0.01	-0.01	-0.03	-0.01	0.00	-0.00	-0.01	-0.00
1.0D+08	-0.01	-0.03	-0.01	-0.02	-0.05	-0.01	-0.00	-0.00	-0.02	0.00
1.5D+08	-0.02	-0.04	-0.02	-0.03	-0.08	-0.03	-0.02	-0.01	-0.03	-0.01
2.0D+08	-0.02	-0.05	-0.02	-0.03	-0.08	-0.03	-0.02	-0.02	-0.03	-0.03
3.0D+08	-0.02	-0.04	-0.02	-0.03	-0.07	-0.03	-0.02	-0.01	-0.03	-0.03
4.0D+08	-0.02	-0.05	-0.02	-0.04	-0.08	-0.03	-0.02	-0.02	-0.03	-0.03
5.0D+08	-0.03	-0.06	-0.03	-0.04	-0.10	-0.04	-0.02	-0.02	-0.04	-0.04
6.0D+08	-0.03	-0.06	-0.03	-0.05	-0.11	-0.04	-0.03	-0.03	-0.04	-0.04
8.0D+08	-0.03	-0.06	-0.03	-0.04	-0.09	-0.04	-0.02	-0.03	-0.04	-0.04
1.0D+09	-0.02	-0.04	-0.01	-0.03	-0.05	-0.03	-0.02	-0.02	-0.03	-0.03
1.5D+09	0.01	0.00	0.01	0.00	0.04	0.00	-0.00	0.00	-0.00	0.02
2.0D+09	0.02	0.02	0.01	0.01	0.09	0.01	-0.00	0.00	0.00	0.04
3.0D+09	-0.01	0.00	-0.02	-0.02	0.05	-0.02	-0.04	-0.03	-0.02	0.01
4.0D+09	-0.06	-0.03	-0.06	-0.06	-0.01	-0.06	-0.07	-0.07	-0.06	-0.04
5.0D+09	-0.09	-0.05	-0.09	-0.08	-0.05	-0.08	-0.10	-0.09	-0.08	-0.09
6.0D+09	-0.11	-0.06	-0.10	-0.09	-0.07	-0.10	-0.11	-0.10	-0.10	-0.11
8.0D+09	-0.12	-0.07	-0.10	-0.10	-0.08	-0.10	-0.12	-0.11	-0.11	-0.12
1.0D+10	-0.12	-0.06	-0.10	-0.10	-0.07	-0.10	-0.12	-0.11	-0.11	-0.12
1.5D+10	-0.12	-0.06	-0.10	-0.10	-0.06	-0.10	-0.12	-0.11	-0.11	-0.12
2.0D+10	-0.12	-0.06	-0.10	-0.10	-0.06	-0.10	-0.12	-0.11	-0.11	-0.12
3.0D+10	-0.12	-0.06	-0.10	-0.10	-0.07	-0.10	-0.12	-0.11	-0.11	-0.12
4.0D+10	-0.12	-0.06	-0.10	-0.10	-0.07	-0.10	-0.12	-0.11	-0.11	-0.12
5.0D+10	-0.12	-0.06	-0.10	-0.10	-0.07	-0.10	-0.12	-0.11	-0.11	-0.12
6.0D+10	-0.12	-0.06	-0.10	-0.10	-0.07	-0.10	-0.12	-0.11	-0.11	-0.12
8.0D+10	-0.12	-0.06	-0.10	-0.10	-0.07	-0.10	-0.12	-0.11	-0.11	-0.12
1.0D+11	-0.12	-0.06	-0.10	-0.10	-0.07	-0.10	-0.12	-0.11	-0.11	-0.12
1.5D+11	-0.12	-0.06	-0.10	-0.10	-0.07	-0.10	-0.12	-0.11	-0.11	-0.12
2.0D+11	-0.12	-0.06	-0.10	-0.10	-0.06	-0.10	-0.12	-0.11	-0.11	-0.12
3.0D+11	-0.12	-0.06	-0.10	-0.10	-0.06	-0.10	-0.12	-0.11	-0.11	-0.12
4.0D+11	-0.12	-0.06	-0.10	-0.10	-0.06	-0.10	-0.12	-0.11	-0.11	-0.12
5.0D+11	-0.12	-0.06	-0.10	-0.10	-0.06	-0.10	-0.12	-0.11	-0.11	-0.12
6.0D+11	-0.12	-0.06	-0.10	-0.10	-0.06	-0.10	-0.12	-0.11	-0.11	-0.12
8.0D+11	-0.12	-0.06	-0.10	-0.10	-0.06	-0.10	-0.12	-0.11	-0.11	-0.12
1.0D+12	-0.12	-0.06	-0.10	-0.10	-0.06	-0.10	-0.12	-0.11	-0.11	-0.12
1.5D+12	-0.12	-0.06	-0.10	-0.10	-0.06	-0.10	-0.12	-0.11	-0.11	-0.12
2.0D+12	-0.12	-0.06	-0.10	-0.10	-0.06	-0.11	-0.12	-0.11	-0.11	-0.12
3.0D+12	-0.11	-0.06	-0.10	-0.10	-0.06	-0.11	-0.12	-0.10	-0.11	-0.12
4.0D+12	-0.10	-0.06	-0.09	-0.09	-0.07	-0.10	-0.12	-0.10	-0.10	-0.11
5.0D+12	-0.09	-0.06	-0.08	-0.07	-0.08	-0.09	-0.11	-0.08	-0.09	-0.10
6.0D+12	-0.06	-0.06	-0.06	-0.05	-0.10	-0.08	-0.10	-0.06	-0.07	-0.08
8.0D+12	0.02	-0.01	0.01	0.03	-0.14	-0.02	-0.07	0.00	-0.01	-0.04
1.0D+13	0.14	0.10	0.12	0.16	-0.19	0.08	-0.02	0.11	0.08	0.02

Table 4.2.10 Discrepancies between exponential fitting and calculated results of the gamma decay power after infinite (10^{13}s) irradiation

(GAMMA) FITTING ERROR TABEL FOR INFINITY

(UNIT : %)

TIME(S)	TH232(F)	TH232(H)	U233(T)	U233(F)	U233(H)	U235(T)	U235(F)	U235(H)	U236(F)	NP237(F)
0.0	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
1.0D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01	-0.00	-0.00	-0.01
1.5D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01	-0.00	-0.00	-0.01
2.0D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
3.0D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
4.0D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00
5.0D-01	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.00	0.00	-0.00
6.0D-01	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.00	0.00	-0.00
8.0D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00
1.0D+00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01
1.5D+00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
2.0D+00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
3.0D+00	-0.01	-0.01	-0.00	-0.00	-0.00	-0.01	-0.01	-0.00	-0.00	-0.01
4.0D+00	0.00	0.00	-0.00	-0.00	0.00	0.00	-0.00	0.00	0.00	-0.00
5.0D+00	0.00	0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	0.00	-0.00
6.0D+00	0.00	0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.00	0.00	-0.00
8.0D+00	-0.00	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01	-0.00	-0.00	-0.01
1.0D+01	-0.01	-0.01	-0.00	-0.00	-0.00	-0.01	-0.01	-0.00	-0.01	-0.01
1.5D+01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	-0.00
2.0D+01	0.01	0.01	-0.00	-0.00	0.01	0.00	0.00	0.01	0.00	0.00
3.0D+01	-0.00	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01	-0.00	-0.00	-0.01
4.0D+01	-0.01	-0.01	-0.00	-0.00	-0.00	-0.01	-0.01	0.00	-0.01	-0.01
5.0D+01	0.00	-0.00	-0.00	0.00	0.01	-0.01	-0.00	0.01	-0.00	-0.00
6.0D+01	0.00	0.00	-0.00	0.00	0.01	-0.00	-0.00	0.01	-0.00	-0.00
8.0D+01	0.00	-0.00	-0.01	-0.01	-0.00	-0.01	-0.01	-0.00	-0.01	-0.01
1.0D+02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
1.5D+02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01	-0.00	-0.01
2.0D+02	-0.01	-0.01	-0.00	-0.00	-0.00	-0.01	-0.01	0.00	-0.01	-0.01
3.0D+02	0.01	-0.00	0.00	0.01	0.01	-0.00	-0.01	0.01	-0.01	-0.00
4.0D+02	0.01	0.01	0.00	0.01	0.01	-0.00	-0.00	0.02	-0.00	0.01
5.0D+02	0.01	0.00	-0.00	0.00	0.00	-0.00	-0.01	0.01	-0.00	0.00
6.0D+02	-0.00	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01	0.00	-0.01	-0.00
8.0D+02	-0.00	-0.01	-0.00	-0.00	-0.00	-0.01	-0.01	0.00	-0.00	-0.00
1.0D+03	0.01	0.00	0.01	0.01	0.02	-0.00	-0.00	0.02	0.00	0.01
1.5D+03	0.03	0.02	0.01	0.02	0.04	-0.01	-0.01	0.04	-0.01	0.02
2.0D+03	0.01	0.00	-0.00	0.01	0.02	-0.02	-0.02	0.03	-0.02	0.01
3.0D+03	-0.01	-0.02	-0.01	-0.01	-0.02	-0.00	-0.01	-0.02	0.00	-0.01
4.0D+03	-0.01	-0.02	-0.01	-0.01	-0.03	0.01	-0.00	-0.03	0.02	-0.01
5.0D+03	0.00	-0.01	-0.00	-0.01	-0.02	0.01	-0.00	-0.01	0.01	-0.01
6.0D+03	0.01	-0.00	-0.00	0.01	0.01	-0.00	-0.01	0.01	-0.00	-0.00
8.0D+03	0.02	0.01	-0.00	0.02	0.03	-0.01	-0.01	0.04	-0.02	0.01
1.0D+04	0.01	-0.00	-0.01	0.01	0.02	-0.01	-0.01	0.04	-0.02	0.02
1.5D+04	-0.05	-0.05	-0.03	-0.04	-0.06	-0.01	-0.02	-0.04	-0.01	-0.02
2.0D+04	-0.04	-0.06	-0.02	-0.04	-0.07	0.00	-0.01	-0.07	0.01	-0.04
3.0D+04	0.03	0.00	0.02	0.01	-0.00	0.01	0.00	-0.01	0.02	-0.01
4.0D+04	0.02	0.00	0.01	0.01	0.01	-0.00	-0.00	0.01	0.00	0.00
5.0D+04	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01
6.0D+04	-0.02	-0.03	-0.02	-0.02	-0.02	-0.01	-0.01	-0.02	-0.01	-0.01
8.0D+04	0.01	-0.01	0.02	0.01	-0.01	0.01	0.01	-0.01	0.02	-0.01
1.0D+05	0.03	0.01	0.03	0.02	0.01	0.02	0.01	-0.00	0.03	-0.00
1.5D+05	-0.02	-0.02	-0.02	-0.02	-0.01	-0.03	-0.02	-0.01	-0.02	-0.02
2.0D+05	-0.04	-0.04	-0.04	-0.03	-0.03	-0.04	-0.03	-0.02	-0.03	-0.02
3.0D+05	-0.00	-0.01	0.01	0.01	-0.00	0.01	0.01	0.00	0.01	0.01
4.0D+05	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.01	-0.00
5.0D+05	-0.02	-0.01	-0.00	-0.00	-0.01	-0.01	-0.02	-0.01	-0.01	-0.03
6.0D+05	-0.03	-0.02	-0.01	-0.01	-0.01	-0.03	-0.03	-0.02	-0.02	-0.03
8.0D+05	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.02
1.0D+06	0.02	-0.00	0.00	0.01	-0.00	0.01	0.01	-0.00	0.01	0.01
1.5D+06	0.06	0.03	0.03	0.03	0.01	0.04	0.04	0.01	0.02	0.04
2.0D+06	0.04	0.02	0.02	0.03	0.01	0.02	0.03	0.01	0.01	0.03
3.0D+06	-0.01	-0.01	-0.00	-0.00	-0.01	-0.01	-0.00	-0.01	-0.01	-0.00
4.0D+06	-0.01	-0.02	-0.01	-0.01	-0.02	-0.01	-0.01	-0.02	-0.01	-0.01
5.0D+06	-0.00	-0.02	-0.00	-0.00	-0.02	-0.00	0.00	-0.02	-0.00	0.00
6.0D+06	0.01	-0.01	0.00	0.01	-0.01	0.01	0.01	-0.01	0.00	0.01
8.0D+06	0.01	-0.01	0.00	0.01	-0.01	0.01	0.01	-0.00	0.00	0.01
1.0D+07	-0.00	-0.02	-0.01	-0.01	-0.02	-0.01	-0.00	-0.01	-0.01	-0.00
1.5D+07	-0.01	-0.03	-0.01	-0.01	-0.03	-0.01	-0.01	-0.03	-0.01	-0.01
2.0D+07	0.00	-0.03	0.00	0.00	-0.03	0.01	0.01	-0.02	0.00	0.00
3.0D+07	0.00	-0.02	-0.00	-0.00	-0.03	0.01	0.00	-0.03	0.00	0.00
4.0D+07	-0.00	-0.03	-0.01	-0.01	-0.03	0.00	-0.00	-0.03	-0.00	-0.00
5.0D+07	-0.00	-0.03	-0.01	-0.01	-0.03	0.01	-0.00	-0.03	-0.00	-0.00
6.0D+07	-0.00	-0.03	-0.01	-0.01	-0.03	0.01	-0.00	-0.03	-0.00	-0.00
8.0D+07	-0.00	-0.03	-0.01	-0.01	-0.03	0.01	-0.00	-0.03	-0.01	-0.00
1.0D+08	-0.00	-0.03	-0.01	-0.01	-0.03	0.01	-0.01	-0.03	-0.01	-0.01
1.5D+08	-0.00	-0.03	-0.01	-0.01	-0.03	0.01	-0.00	-0.03	-0.01	-0.00
2.0D+08	-0.00	-0.03	-0.01	-0.01	-0.03	0.01	-0.00	-0.03	-0.01	-0.00
3.0D+08	-0.00	-0.03	-0.01	-0.01	-0.04	0.00	-0.01	-0.03	-0.01	-0.01
4.0D+08	-0.01	-0.03	-0.01	-0.01	-0.04	0.00	-0.01	-0.03	-0.01	-0.01
5.0D+08	-0.00	-0.03	-0.01	-0.01	-0.03	0.00	-0.01	-0.03	-0.02	-0.01
6.0D+08	-0.00	-0.03	-0.01	-0.01	-0.04	0.01	-0.01	-0.03	-0.02	-0.01
8.0D+08	-0.00	-0.04	-0.01	-0.01	-0.04	0.01	-0.01	-0.04	-0.02	-0.01
1.0D+09	-0.00	-0.04	-0.01	-0.01	-0.05	0.01	-0.00	-0.04	-0.02	-0.01
1.5D+09	0.00	-0.04	-0.01	-0.01	-0.05	0.01	-0.01	-0.05	-0.02	-0.01
2.0D+09	0.00	-0.04	-0.02	-0.02	-0.05	0.01	-0.01	-0.05	-0.02	-0.02
3.0D+09	-0.01	-0.04	-0.03	-0.03	-0.05	-0.00	-0.02	-0.05	-0.03	-0.02
4.0D+09	-0.02	-0.05	-0.04	-0.03	-0.05	-0.01	-0.03	-0.05	-0.04	-0.03
5.0D+09	-0.03	-0.05	-0.05	-0.04	-0.05	-0.02	-0.04	-0.05	-0.04	-0.04
6.0D+09	-0.04	-0.05	-0.05	-0.04	-0.05	-0.03	-0.05	-0.05	-0.05	-0.05
8.0D+09	-0.05	-0.05	-0.06	-0.05	-0.05	-0.05	-0.05	-0.06	-0.05	-0.05
1.0D+10	-0.06	-0.05	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.05	-0.05
1.5D+10	-0.06	-0.05	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.05	-0.05
2.0D+10	-0.06	-0.05	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.05	-0.05
3.0D+10	-0.06	-0.05	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.05	-0.05
4.0D+10	-0.06	-0.05	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.05	-0.05
5.0D+10	-0.06	-0.05	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.05	-0.05
6.0D+10	-0.06	-0.05	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.05	-0.05
8.0D+10	-0.06	-0.05	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.05	-0.05
1.0D+11	-0.06	-0.05	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.05	-0.05
1.5D+11	-0.06	-0.05	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.05	-0.05
2.0D+11	-0.06	-0.05	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.05	-0.05
3.0D+11	-0.06	-0.05	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.05	-0.05
4.0D+11	-0.06	-0.05	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.05	-0.05
5.0D+11	-0.06	-0.05	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.05	-0.05
6.0D+11	-0.06	-0.05	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.05	-0.05
8.0D+11	-0.06	-0.05	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.05	-0.05
1.0D+12	-0.06	-0.05	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.05	-0.05
1.5D+12	-0.06	-0.05	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.05	-0.05
2.0D+12	-0.06	-0.05	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.05	-0.05
3.0D+12	-0.06	-0.05	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.05	-0.05
4.0D+12	-0.06	-0.05	-0.05	-0.04	-0.06	-0.05	-0.05	-0.06	-0.05	-0.05
5.0D+12	-0.05	-0.06	-0.05	-0.04	-0.05	-0.05	-0.05	-0.06	-0.04	-0.05
6.0D+12	-0.05	-0.06	-0.04	-0.03	-0.05	-0.06	-0.06	-0.06	-0.03	-0.05
8.0D+12	-0.02	-0.09	-0.01	0.01	-0.04	-0.06	-0.06	-0.05	0.00	-0.05
1.0D+13	0.02	-0.15	0.05	0.09	-0.01	-0.08	-0.07	-0.05	0.06	-0.04

Table 4.2.10 Continued

---------- (GAMMA) FITTING ERROR TABEL FOR INFINITY----------

(UNIT : %)

TIME(S)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU239(H)	PU240(F)	PU241(T)	PU241(F)	PU242(F)	CF252(S)
0.0	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.01
1.0D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.01
1.5D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.01
2.0D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.01
3.0D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.01
4.0D-01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	0.00	-0.00	0.01
5.0D-01	-0.00	0.00	-0.00	-0.00	0.00	-0.00	0.00	0.00	-0.00	0.01
6.0D-01	0.00	0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	-0.00	0.01
8.0D-01	0.00	0.00	-0.00	-0.00	-0.00	-0.00	0.00	0.00	-0.00	0.01
1.0D+00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	0.01
1.5D+00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01	0.00
2.0D+00	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01	0.00
3.0D+00	-0.01	-0.01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01	0.01
4.0D+00	-0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	-0.00	0.01
5.0D+00	0.00	0.00	-0.00	-0.00	0.00	0.00	0.01	0.00	0.00	0.01
6.0D+00	0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	-0.00	0.01
8.0D+00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.00	0.00	-0.01	0.01
1.0D+01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.00	-0.00	-0.01	0.01
1.5D+01	-0.01	-0.00	-0.00	-0.00	0.00	0.00	-0.00	-0.00	-0.01	0.01
2.0D+01	-0.00	0.00	-0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.01
3.0D+01	-0.01	-0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	-0.00	0.02
4.0D+01	-0.01	-0.01	-0.01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01	0.01
5.0D+01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.00	-0.01	-0.01	-0.01	0.01
6.0D+01	-0.01	-0.00	-0.01	-0.01	-0.00	-0.00	-0.01	-0.01	-0.01	0.01
8.0D+01	-0.01	-0.00	-0.01	-0.00	-0.00	-0.00	0.00	-0.00	-0.01	0.02
1.0D+02	-0.01	-0.00	-0.00	-0.00	-0.00	0.00	0.01	0.01	0.00	0.04
1.5D+02	-0.01	-0.00	-0.00	0.00	-0.00	0.01	0.02	0.01	0.00	0.04
2.0D+02	-0.02	-0.01	-0.01	-0.01	-0.00	-0.01	-0.00	-0.01	-0.01	0.01
3.0D+02	-0.02	-0.00	-0.01	-0.01	-0.00	-0.00	-0.02	-0.02	-0.02	-0.02
4.0D+02	-0.01	0.01	0.01	0.00	0.01	0.01	-0.00	-0.01	-0.01	-0.00
5.0D+02	-0.02	0.01	0.00	0.00	0.00	0.01	0.00	-0.00	-0.00	0.00
6.0D+02	-0.02	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.01	-0.01	-0.00
8.0D+02	-0.02	-0.00	-0.01	-0.01	-0.01	-0.00	-0.01	-0.02	-0.02	-0.01
1.0D+03	-0.01	0.01	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.01	-0.01
1.5D+03	-0.03	0.02	0.01	0.01	0.02	0.02	-0.00	-0.01	-0.01	0.01
2.0D+03	-0.04	0.01	0.01	0.00	0.01	0.01	-0.01	-0.01	-0.01	0.00
3.0D+03	-0.01	-0.00	-0.00	-0.00	-0.01	0.00	-0.00	-0.00	-0.01	-0.02
4.0D+03	0.02	-0.01	-0.00	-0.01	-0.02	-0.00	0.00	0.00	-0.00	-0.02
5.0D+03	0.01	-0.01	-0.00	-0.01	-0.02	0.00	-0.00	-0.00	-0.00	-0.02
6.0D+03	-0.01	0.00	0.00	-0.00	-0.01	0.01	-0.01	-0.01	-0.01	-0.02
8.0D+03	-0.03	0.02	0.02	0.02	0.02	0.03	-0.01	-0.01	-0.01	-0.01
1.0D+04	-0.04	0.02	0.02	0.02	0.02	0.03	-0.00	-0.00	-0.00	-0.02
1.5D+04	-0.00	-0.01	-0.01	-0.01	-0.04	-0.01	-0.01	-0.01	-0.01	-0.04
2.0D+04	0.01	-0.04	-0.03	-0.04	-0.06	-0.03	-0.01	-0.01	-0.01	-0.02
3.0D+04	0.01	-0.01	-0.01	-0.01	-0.01	-0.00	0.00	-0.00	-0.00	0.03
4.0D+04	-0.00	0.00	-0.00	0.00	0.01	0.01	0.00	-0.00	-0.00	0.01
5.0D+04	-0.01	-0.00	-0.01	-0.00	-0.01	-0.00	-0.01	-0.01	-0.01	-0.01
6.0D+04	-0.00	-0.01	-0.01	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01
8.0D+04	0.02	-0.01	-0.01	-0.00	-0.01	0.00	0.00	-0.00	0.00	0.02
1.0D+05	0.02	-0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.04
1.5D+05	-0.02	-0.02	-0.02	-0.01	-0.01	-0.01	-0.02	-0.02	-0.02	-0.01
2.0D+05	-0.03	-0.02	-0.02	-0.01	-0.02	-0.01	-0.03	-0.02	-0.03	-0.05
3.0D+05	0.01	0.01	0.00	0.01	-0.00	0.01	0.01	0.01	0.00	-0.02
4.0D+05	0.01	-0.01	-0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00
5.0D+05	-0.01	-0.03	-0.02	-0.01	-0.00	-0.01	-0.01	-0.01	-0.01	0.00
6.0D+05	-0.03	-0.04	-0.02	-0.02	-0.01	-0.02	-0.02	-0.02	-0.02	-0.00
8.0D+05	-0.02	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
1.0D+06	0.01	0.00	-0.00	0.01	-0.01	0.01	0.01	0.01	0.01	-0.01
1.5D+06	0.03	0.03	0.02	0.03	0.00	0.03	0.03	0.03	0.03	0.01
2.0D+06	0.03	0.02	0.01	0.03	0.02	0.02	0.02	0.02	0.02	0.02
3.0D+06	0.00	-0.01	-0.01	0.01	0.00	0.00	-0.00	0.00	0.00	0.01
4.0D+06	-0.00	-0.02	-0.01	-0.00	-0.02	-0.00	-0.01	-0.01	-0.01	-0.00
5.0D+06	0.00	-0.02	-0.01	0.00	-0.02	0.00	-0.00	-0.00	-0.00	-0.00
6.0D+06	0.01	-0.01	0.00	0.01	-0.01	0.01	0.00	0.01	0.01	0.00
8.0D+06	0.01	-0.00	0.00	0.02	-0.00	0.01	0.01	0.01	0.01	0.01
1.0D+07	0.00	-0.01	-0.01	0.01	-0.01	0.00	0.00	0.00	0.00	0.01
1.5D+07	-0.00	-0.03	-0.01	-0.00	-0.03	-0.01	-0.00	-0.01	-0.01	0.00
2.0D+07	0.01	-0.02	-0.00	0.00	-0.02	-0.00	0.00	-0.00	-0.00	0.00
3.0D+07	0.01	-0.03	-0.00	0.00	-0.02	-0.00	0.00	-0.00	-0.00	0.00
4.0D+07	0.00	-0.03	-0.01	0.00	-0.03	-0.01	-0.00	-0.00	-0.01	0.00
5.0D+07	0.00	-0.03	-0.01	0.00	-0.03	-0.01	-0.00	-0.00	-0.01	0.00
6.0D+07	0.00	-0.03	-0.00	0.00	-0.03	-0.01	0.00	-0.00	-0.00	0.00
8.0D+07	0.00	-0.03	-0.01	-0.00	-0.03	-0.01	-0.00	-0.00	-0.01	0.00
1.0D+08	0.00	-0.03	-0.01	-0.00	-0.03	-0.01	-0.00	-0.00	-0.01	0.00
1.5D+08	0.00	-0.03	-0.01	0.00	-0.03	-0.01	-0.00	-0.00	-0.01	0.00
2.0D+08	0.00	-0.03	-0.01	-0.00	-0.03	-0.01	-0.00	-0.00	-0.01	0.00
3.0D+08	0.00	-0.03	-0.01	-0.00	-0.04	-0.01	-0.00	-0.00	-0.01	0.00
4.0D+08	0.00	-0.03	-0.01	-0.00	-0.03	-0.01	0.00	-0.00	-0.01	0.00
5.0D+08	0.00	-0.03	-0.01	-0.00	-0.03	-0.01	0.00	-0.00	-0.01	0.00
6.0D+08	0.00	-0.04	-0.01	-0.00	-0.04	-0.01	0.00	-0.00	-0.01	0.00
8.0D+08	0.00	-0.04	-0.01	-0.00	-0.04	-0.01	0.00	-0.00	-0.01	0.00
1.0D+09	0.00	-0.05	-0.01	-0.01	-0.05	-0.01	0.00	-0.00	-0.01	-0.00
1.5D+09	0.00	-0.05	-0.01	-0.01	-0.05	-0.02	0.00	-0.01	-0.01	-0.00
2.0D+09	-0.00	-0.05	-0.02	-0.02	-0.05	-0.02	-0.00	-0.01	-0.01	-0.00
3.0D+09	-0.01	-0.05	-0.03	-0.03	-0.05	-0.03	-0.01	-0.03	-0.02	-0.01
4.0D+09	-0.02	-0.05	-0.04	-0.04	-0.05	-0.04	-0.02	-0.04	-0.03	-0.01
5.0D+09	-0.03	-0.05	-0.05	-0.05	-0.05	-0.05	-0.03	-0.04	-0.04	-0.02
6.0D+09	-0.04	-0.05	-0.05	-0.05	-0.05	-0.05	-0.04	-0.05	-0.04	-0.03
8.0D+09	-0.05	-0.05	-0.06	-0.05	-0.05	-0.05	-0.06	-0.05	-0.05	-0.05
1.0D+10	-0.05	-0.05	-0.06	-0.05	-0.05	-0.06	-0.06	-0.05	-0.05	-0.05
1.5D+10	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.06	-0.05	-0.05	-0.06
2.0D+10	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.06	-0.05	-0.05	-0.06
3.0D+10	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.06	-0.05	-0.05	-0.06
4.0D+10	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.06	-0.05	-0.05	-0.06
5.0D+10	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.06	-0.05	-0.05	-0.06
6.0D+10	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.06	-0.05	-0.05	-0.06
8.0D+10	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.06	-0.05	-0.05	-0.06
1.0D+11	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.06	-0.05	-0.05	-0.06
1.5D+11	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.06	-0.05	-0.05	-0.06
2.0D+11	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.06	-0.05	-0.05	-0.06
3.0D+11	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.06	-0.05	-0.05	-0.06
4.0D+11	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.06	-0.06	-0.05	-0.06
5.0D+11	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.06	-0.06	-0.05	-0.06
6.0D+11	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.06	-0.06	-0.05	-0.06
8.0D+11	-0.06	-0.05	-0.06	-0.06	-0.05	-0.06	-0.06	-0.06	-0.05	-0.06
1.0D+12	-0.06	-0.05	-0.06	-0.06	-0.05	-0.06	-0.06	-0.06	-0.05	-0.06
1.5D+12	-0.06	-0.05	-0.06	-0.06	-0.05	-0.06	-0.06	-0.06	-0.05	-0.06
2.0D+12	-0.06	-0.05	-0.06	-0.06	-0.05	-0.06	-0.06	-0.06	-0.05	-0.06
3.0D+12	-0.06	-0.05	-0.06	-0.06	-0.05	-0.06	-0.06	-0.06	-0.04	-0.06
4.0D+12	-0.06	-0.05	-0.06	-0.05	-0.05	-0.06	-0.05	-0.07	-0.04	-0.06
5.0D+12	-0.05	-0.05	-0.07	-0.04	-0.04	-0.06	-0.05	-0.08	-0.04	-0.06
6.0D+12	-0.05	-0.05	-0.08	-0.03	-0.03	-0.06	-0.04	-0.10	-0.03	-0.06
8.0D+12	-0.03	-0.04	-0.10	0.03	0.00	-0.07	-0.02	-0.15	-0.01	-0.05
1.0D+13	0.01	-0.03	-0.14	0.16	0.07	-0.08	0.02	-0.25	0.02	-0.03

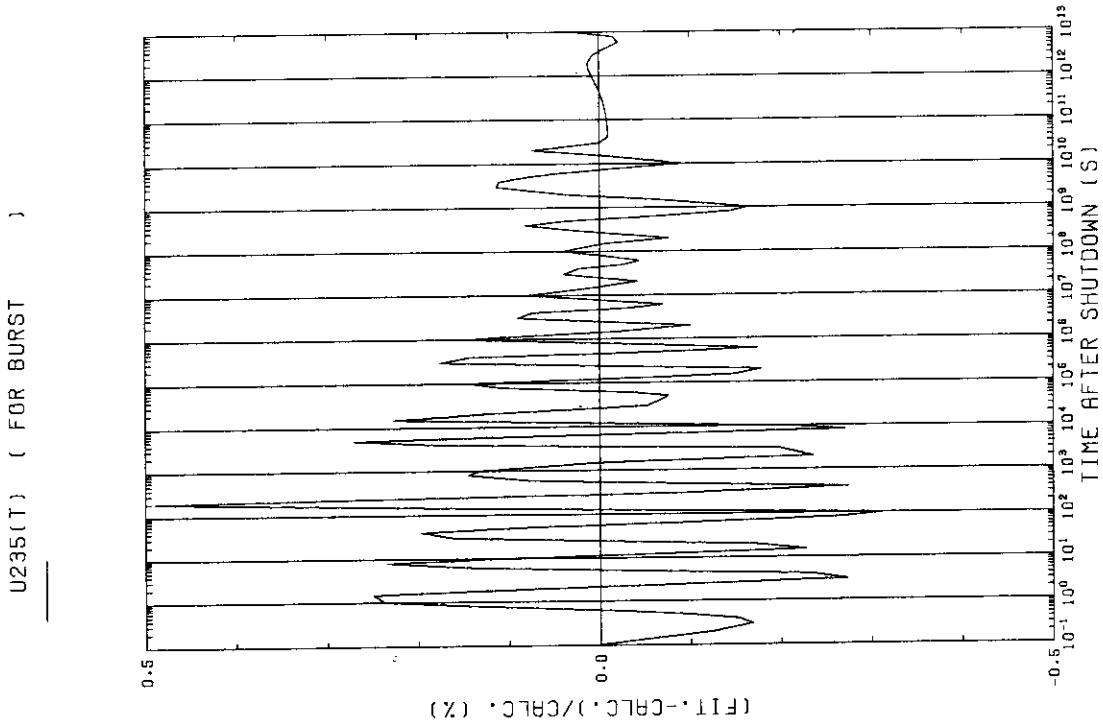


Fig. 4.2.2 Discrepancies between exponential fitting and calculated results of the beta decay power after one thermal-neutron fission of ^{235}U.

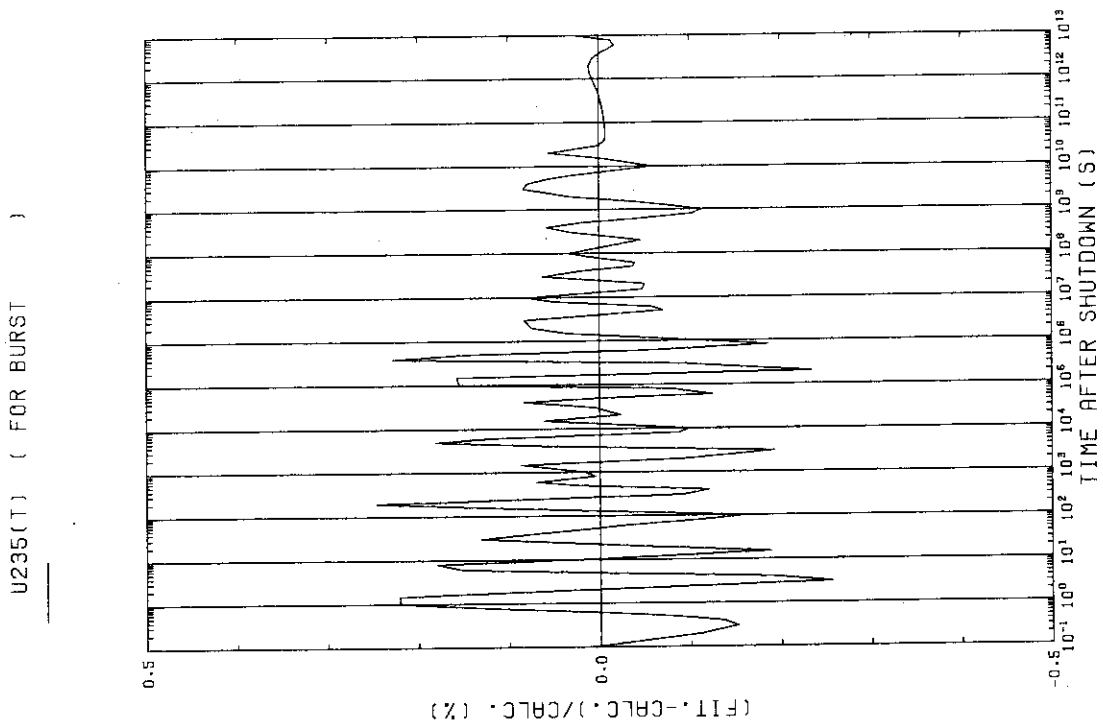


Fig. 4.2.1 Discrepancies between exponential fitting and calculated results of the total sensible decay power after one thermal-neutron fission of ^{235}U.

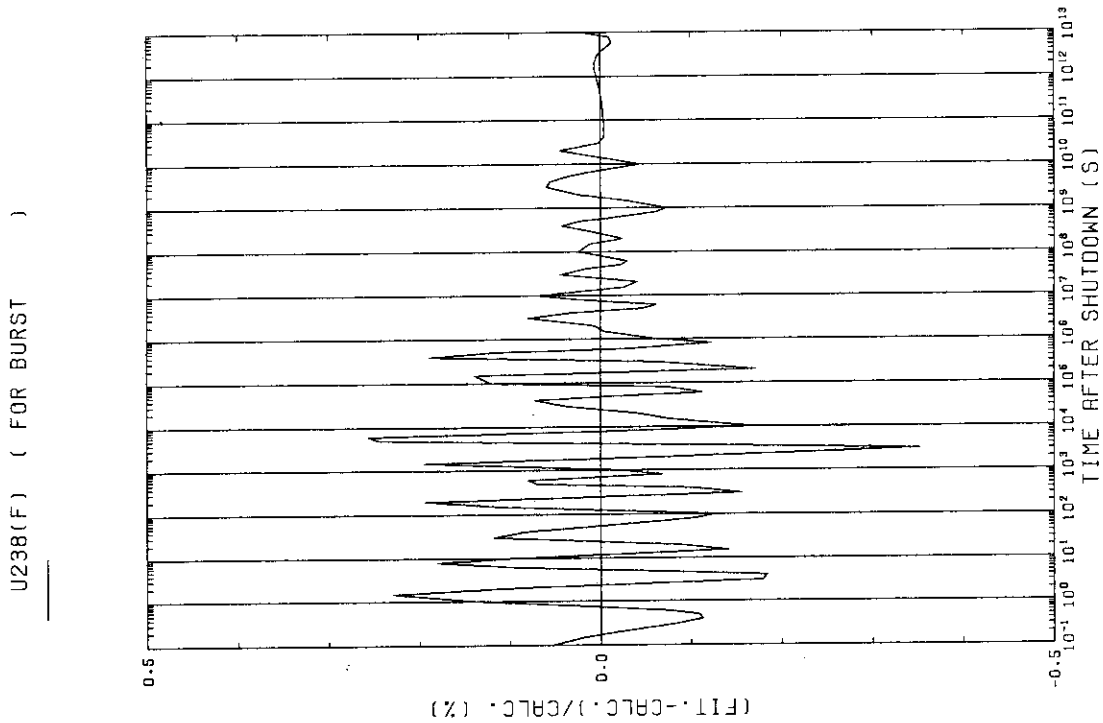


Fig. 4.2.4 Discrepancies between exponential fitting and calculated results of the total sensible decay power after one thermal-neuton fission of ^{238}U.

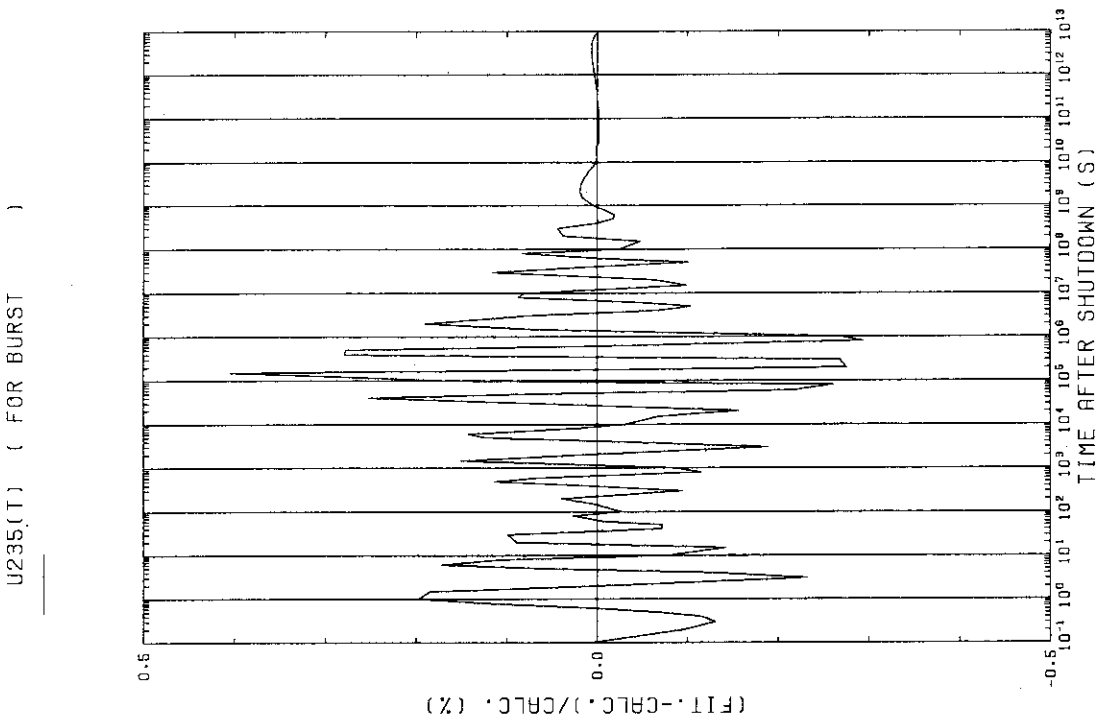


Fig. 4.2.3 Discrepancies between exponential fitting and calculated results of the gamma decay power after one thermal-neutron fission of ^{235}U.

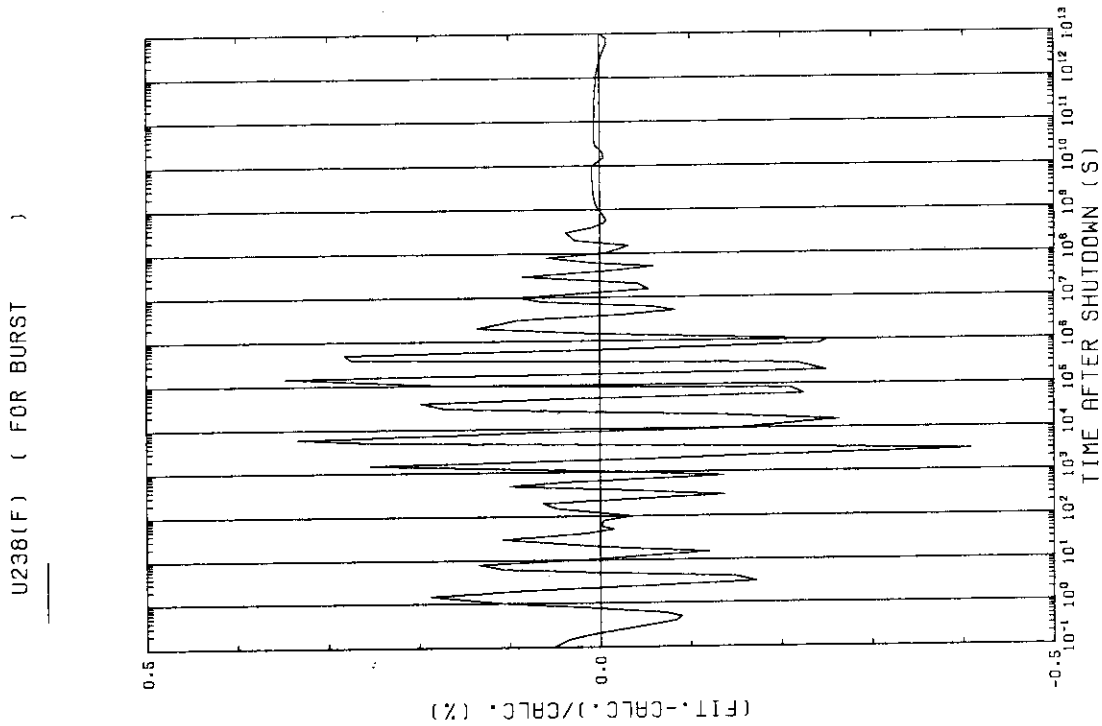


Fig. 4.2.6 Discrepancies between exponential fitting and calculated results of the gamma decay power after one thermal-neutron fission of ^{238}U.

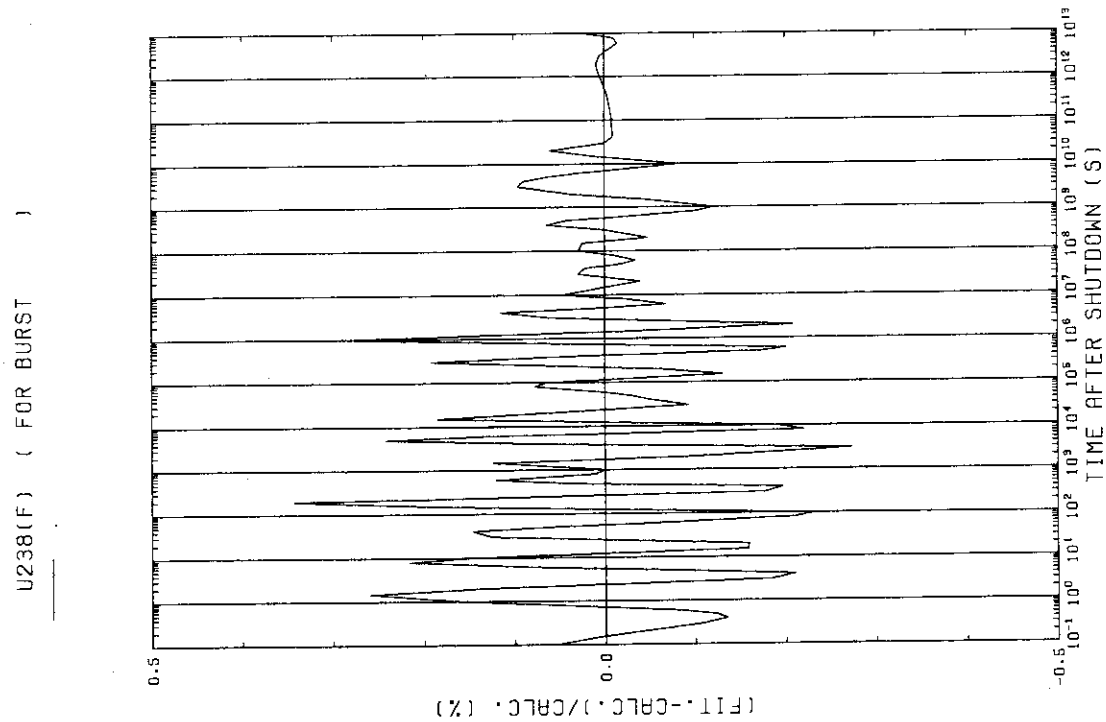


Fig. 4.2.5 Discrepancies between exponential fitting and calculated results of the beta decay power after one thermal-neutron fission of ^{238}U.

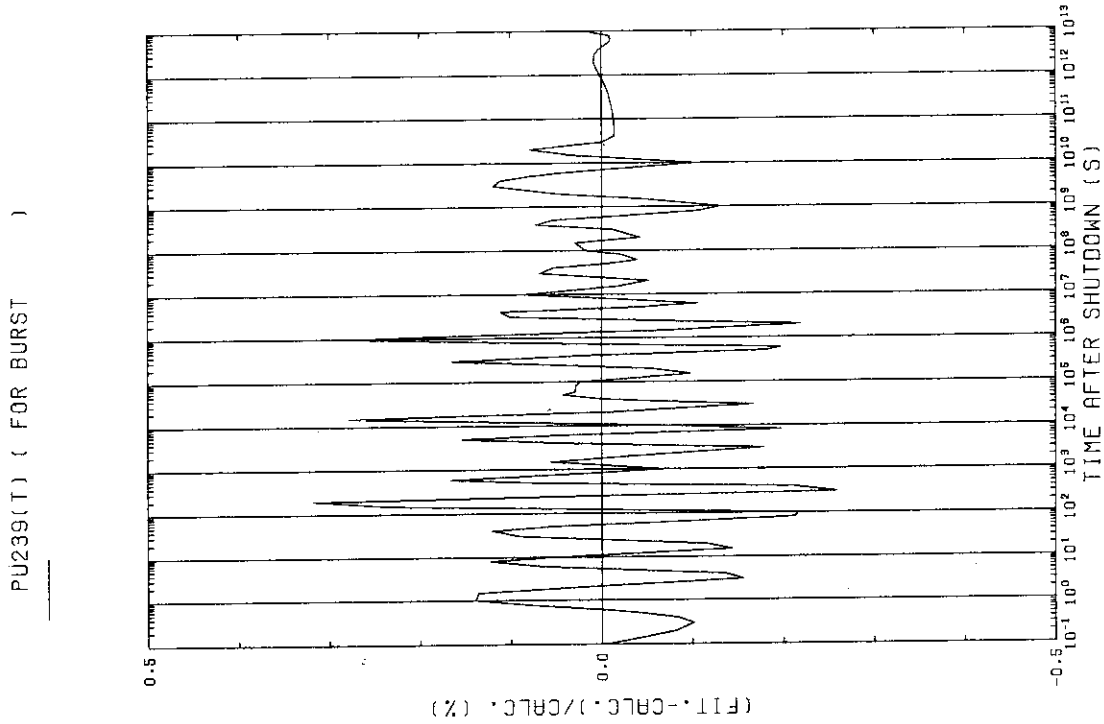


Fig. 4.2.8 Discrepancies between exponential fitting and calculated results of the beta decay power after one thermal-neutron fission of ^{239}Pu.

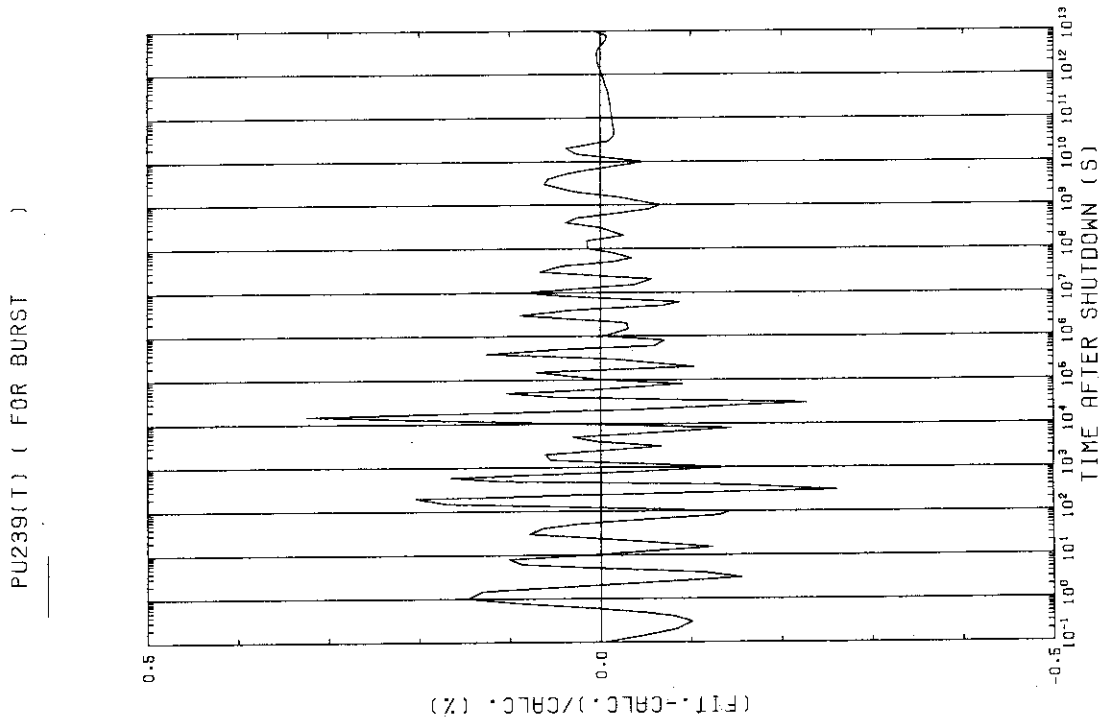


Fig. 4.2.7 Discrepancies between exponential fitting and calculated results of the total sensible decay power after one thermal-neutron fission of ^{239}Pu.

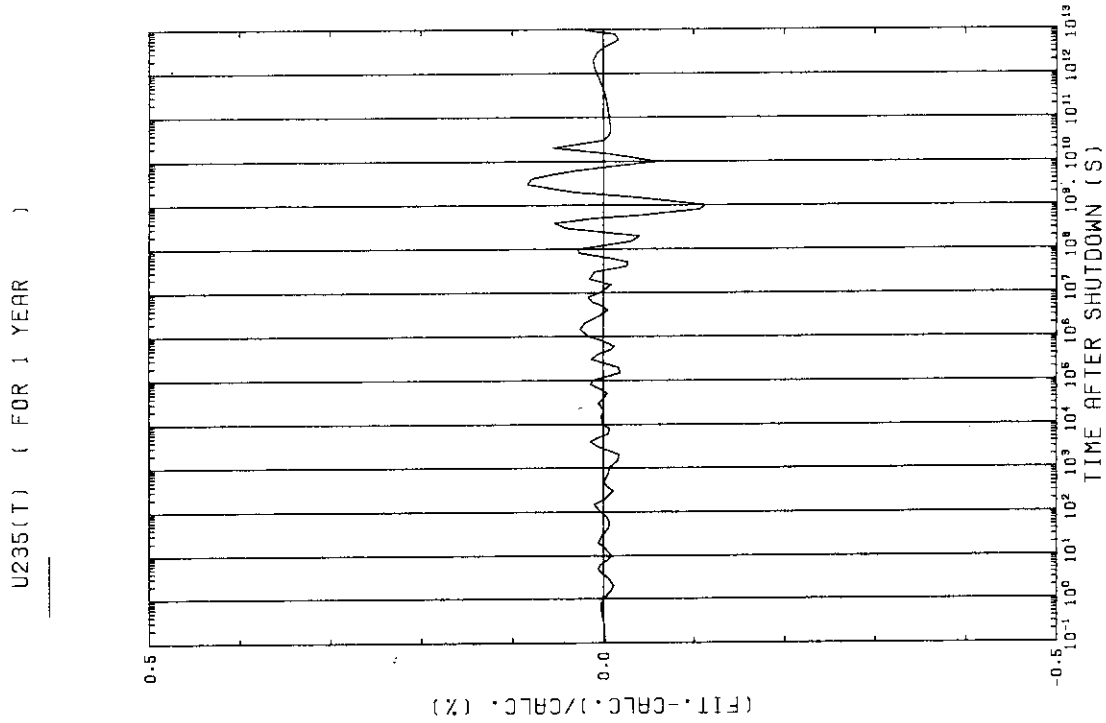


Fig. 4.2.10 Discrepancies between exponential fitting and calculated results of the total sensible decay power after one-year irradiation of ^{235}U by thermal neutrons.

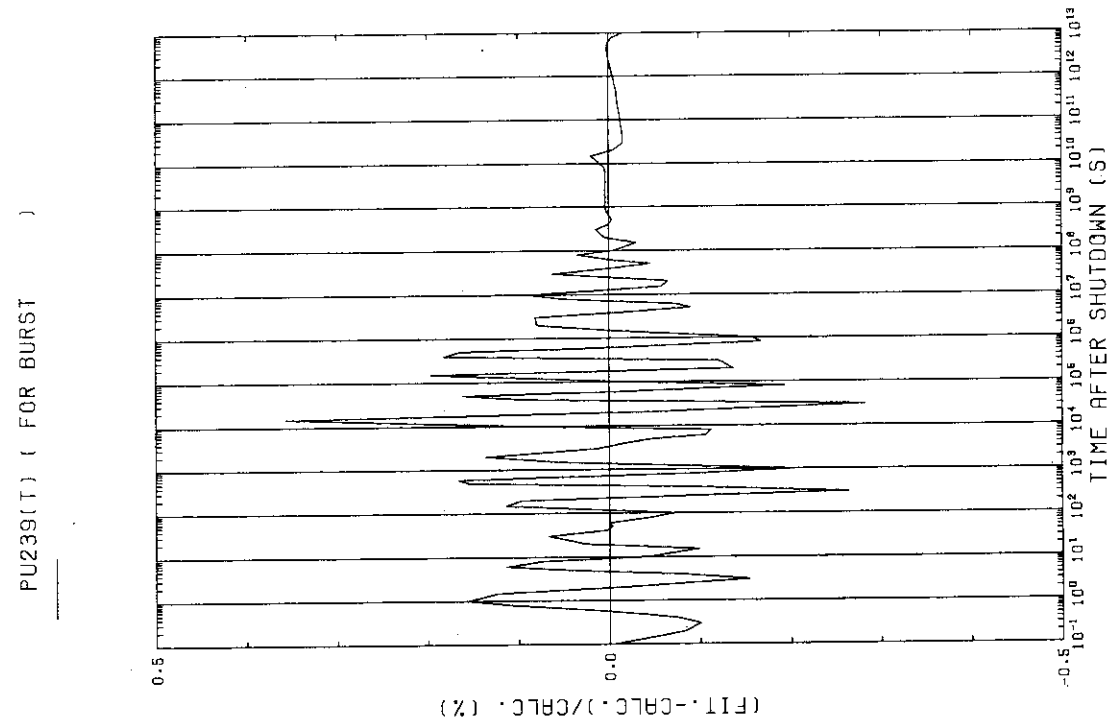


Fig. 4.2.9 Discrepancies between exponential fitting and calculated results of the gamma decay power after one thermal-neutron fission of ^{239}Pu.

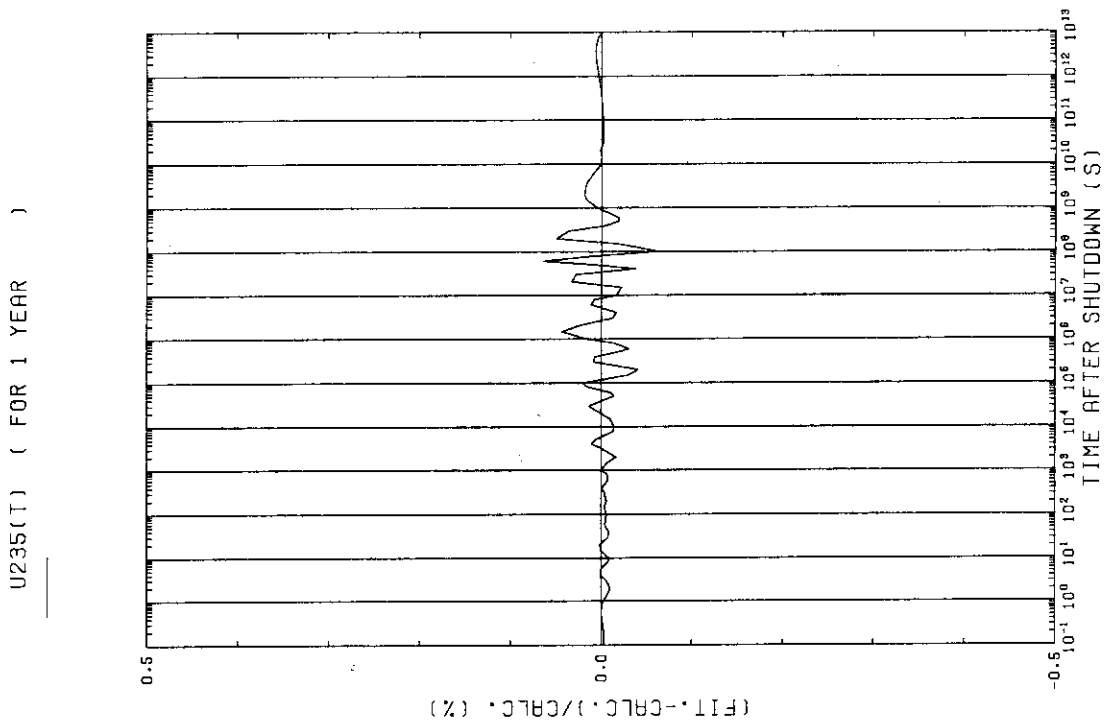


Fig. 4.2.12 Discrepancies between exponential fitting and calculated results of the gamma decay power after one-year irradiation of ^{235}U by thermal neutrons.

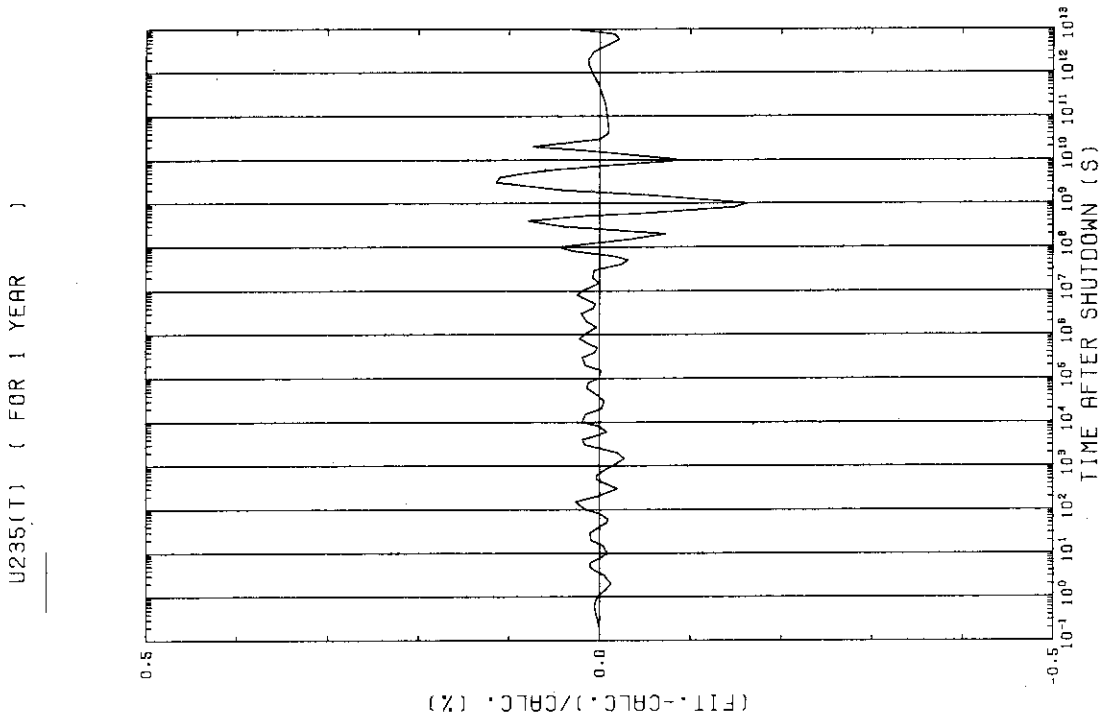


Fig. 4.2.11 Discrepancies between exponential fitting and calculated results of the beta decay power after one-year irradiation of ^{235}U by thermal neutrons.

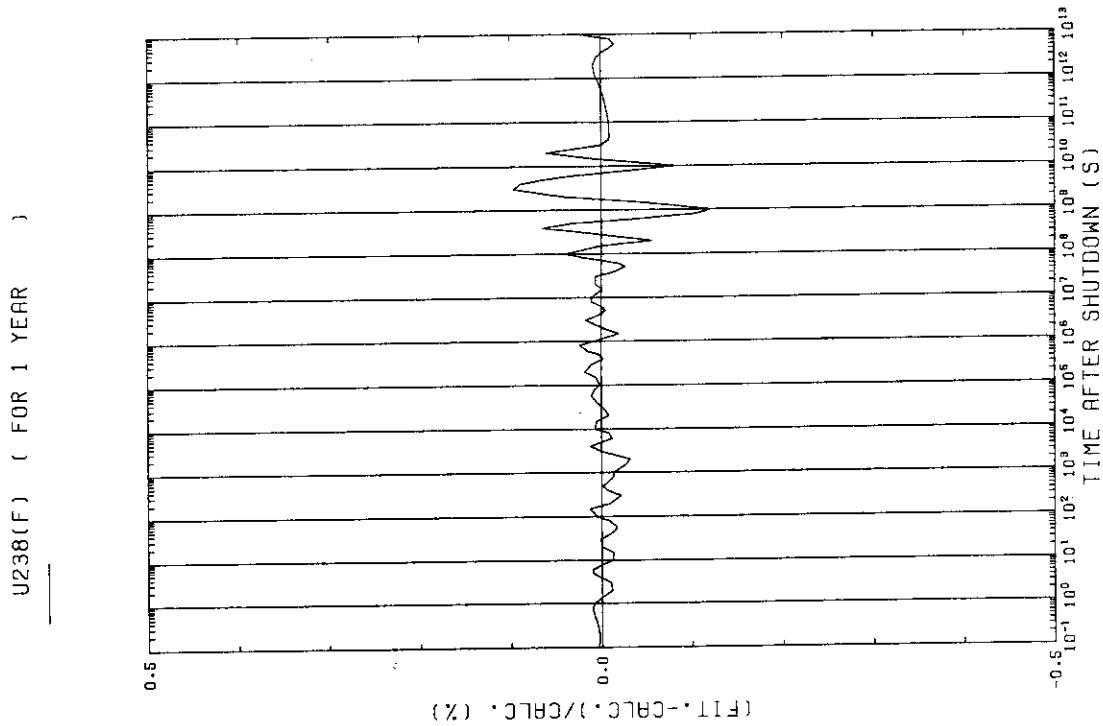


Fig. 4.2.14 Discrepancies between exponential fitting and calculated results of the beta decay power after one-year irradiation of ^{238}U by thermal neutrons.

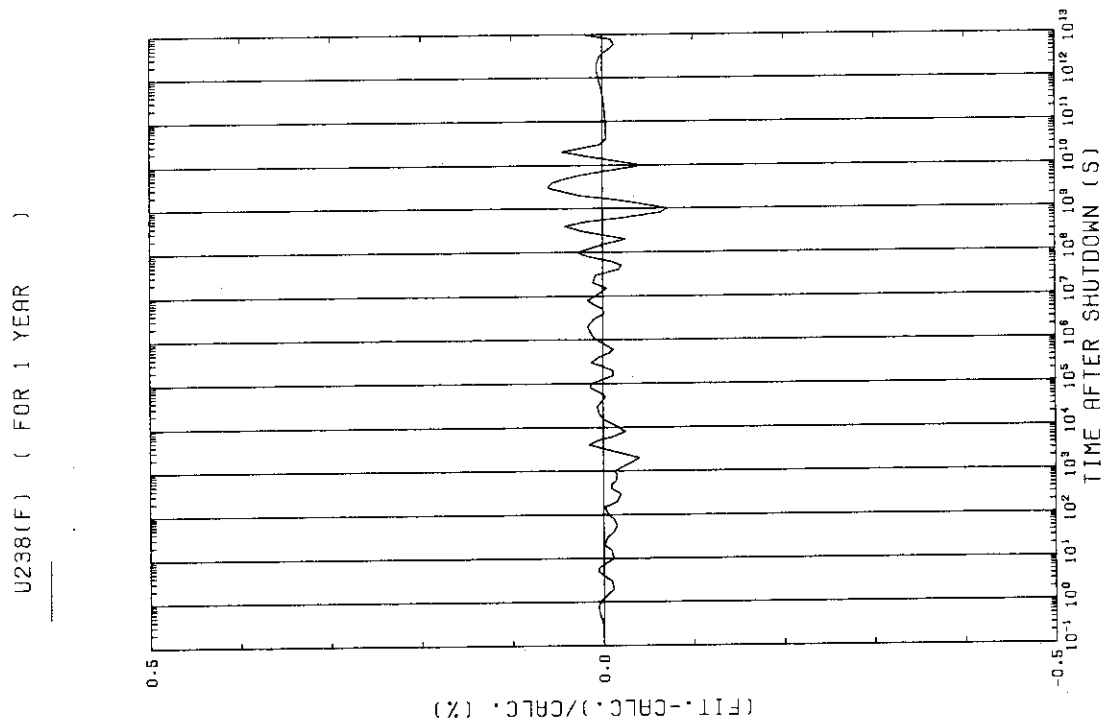


Fig. 4.2.13 Discrepancies between exponential fitting and calculated results of the total sensible decay power after one-year irradiation of ^{238}U by thermal neutrons.

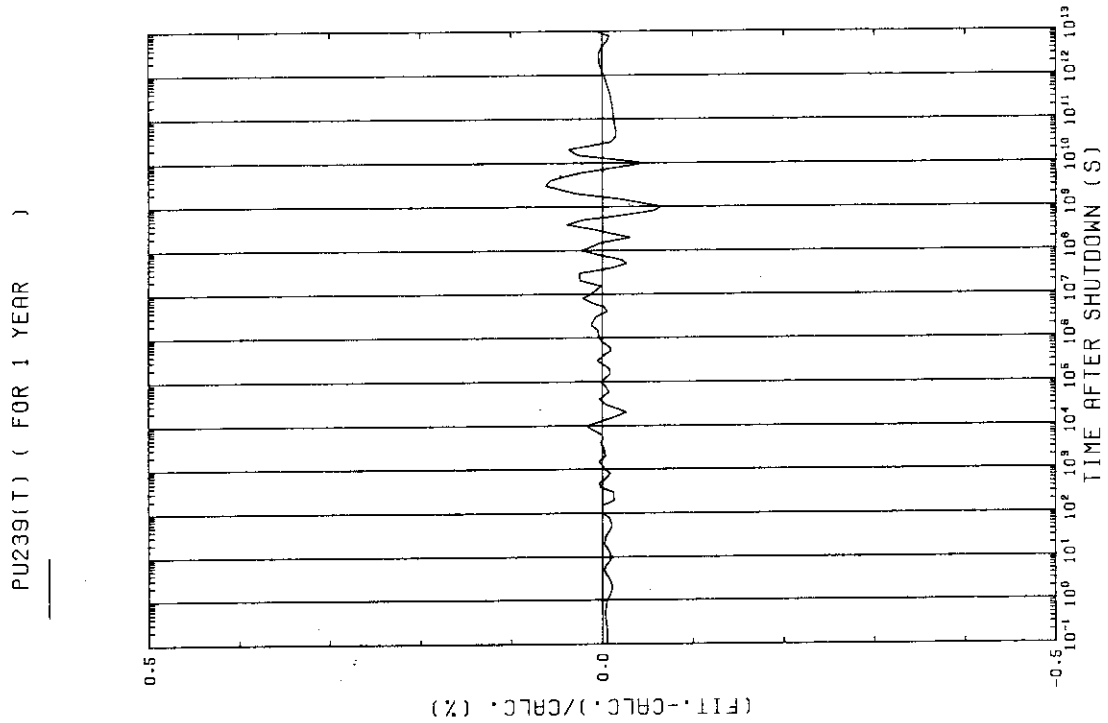


Fig. 4.2.16 Discrepancies between exponential fitting and calculated results of the total sensible decay power after one-year irradiation of ^{239}Pu by thermal neutrons.

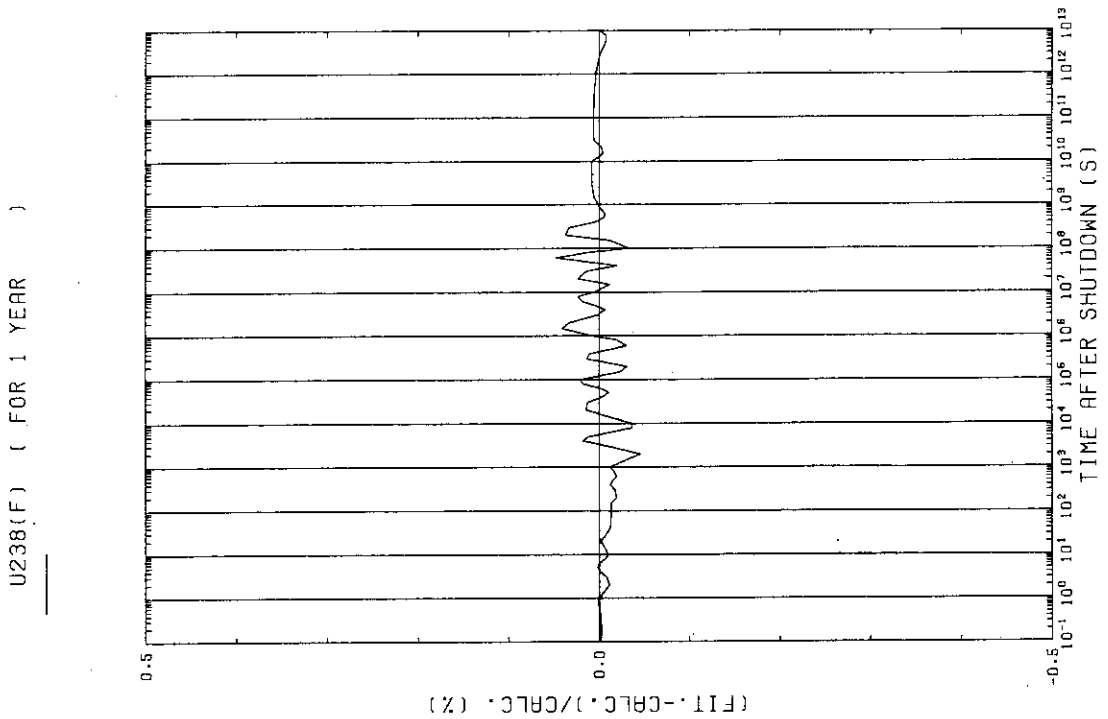


Fig. 4.2.15 Discrepancies between exponential fitting and calculated results of the gamma decay power after one-year irradiation of ^{238}U by thermal neutrons.

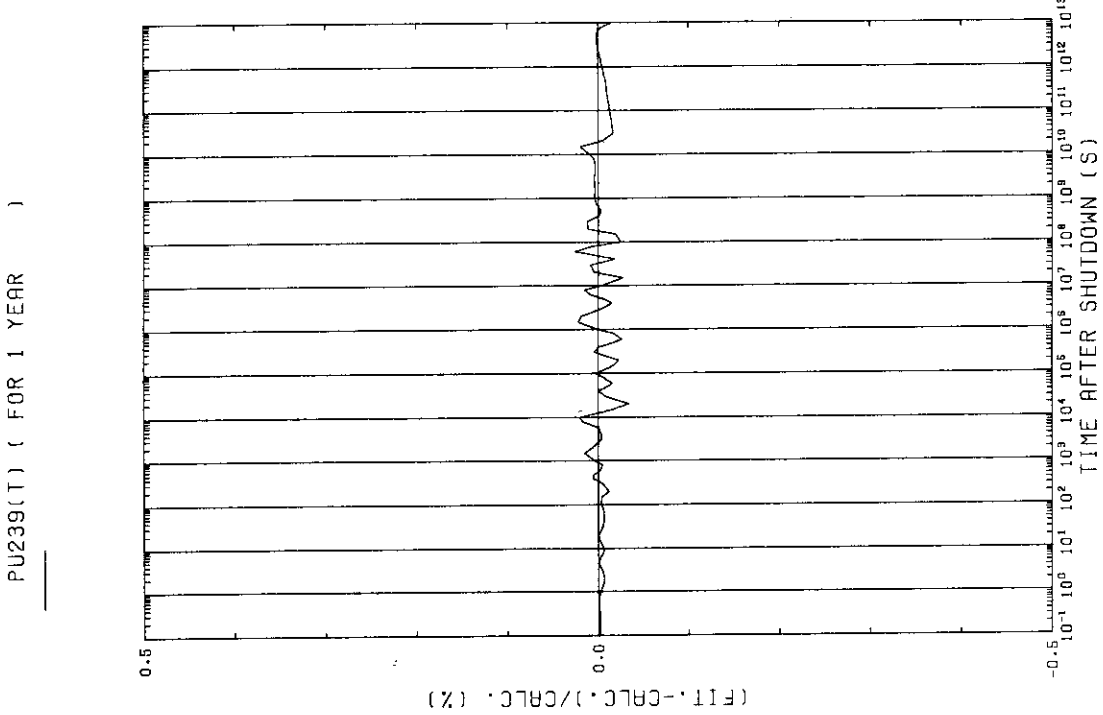


Fig. 4.2.18 Discrepancies between exponential fitting and calculated results of the gamma decay power after one-year irradiation of ^{239}Pu by thermal neutrons.

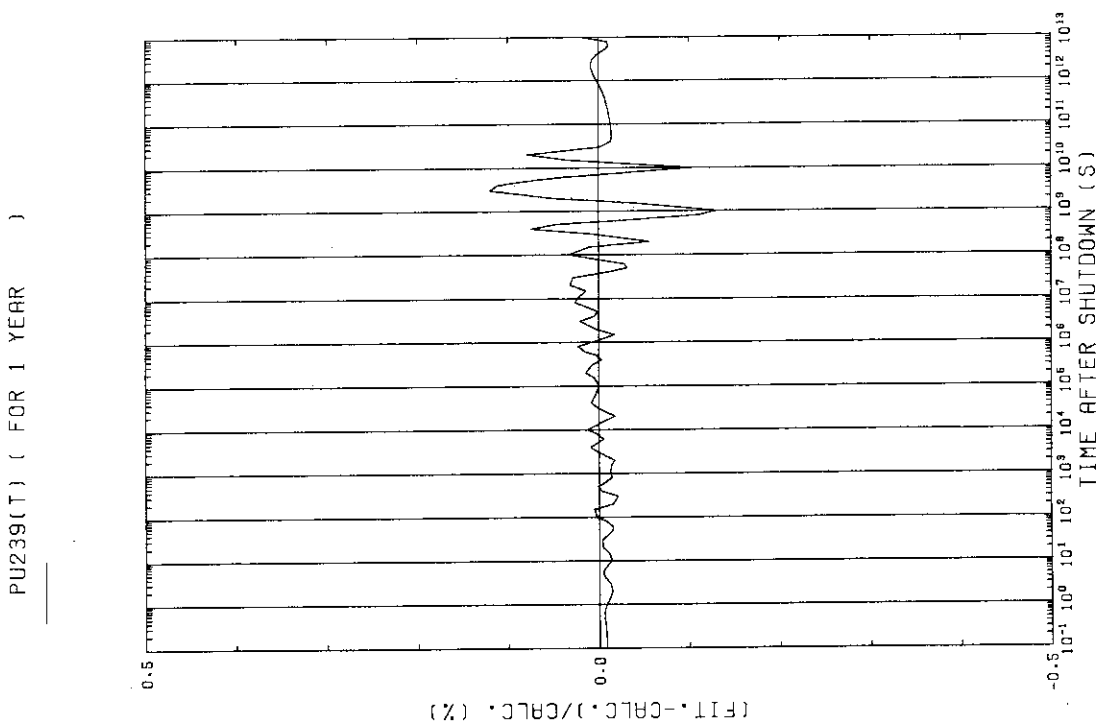


Fig. 4.2.17 Discrepancies between exponential fitting and calculated results of the beta decay power after one year irradiation of ^{239}Pu by thermal neutrons.

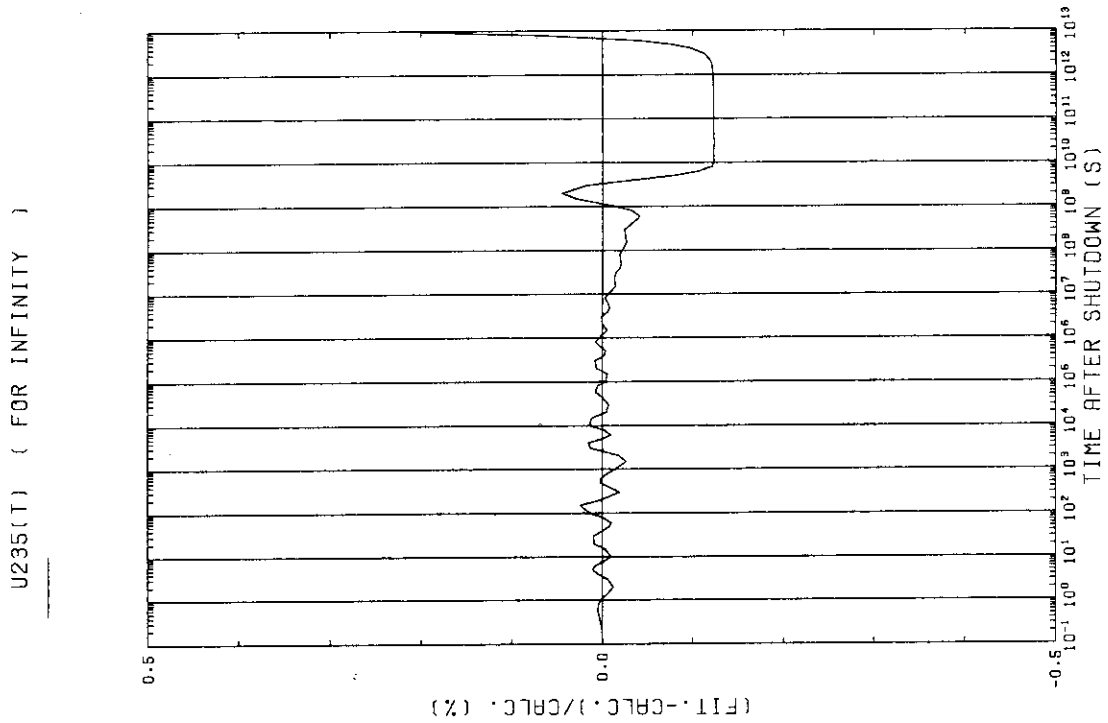


Fig. 4.2.20 Discrepancies between exponential fitting and calculated results of the beta decay power after infinite (10^{13}s) irradiation of ^{235}U by thermal neutrons.

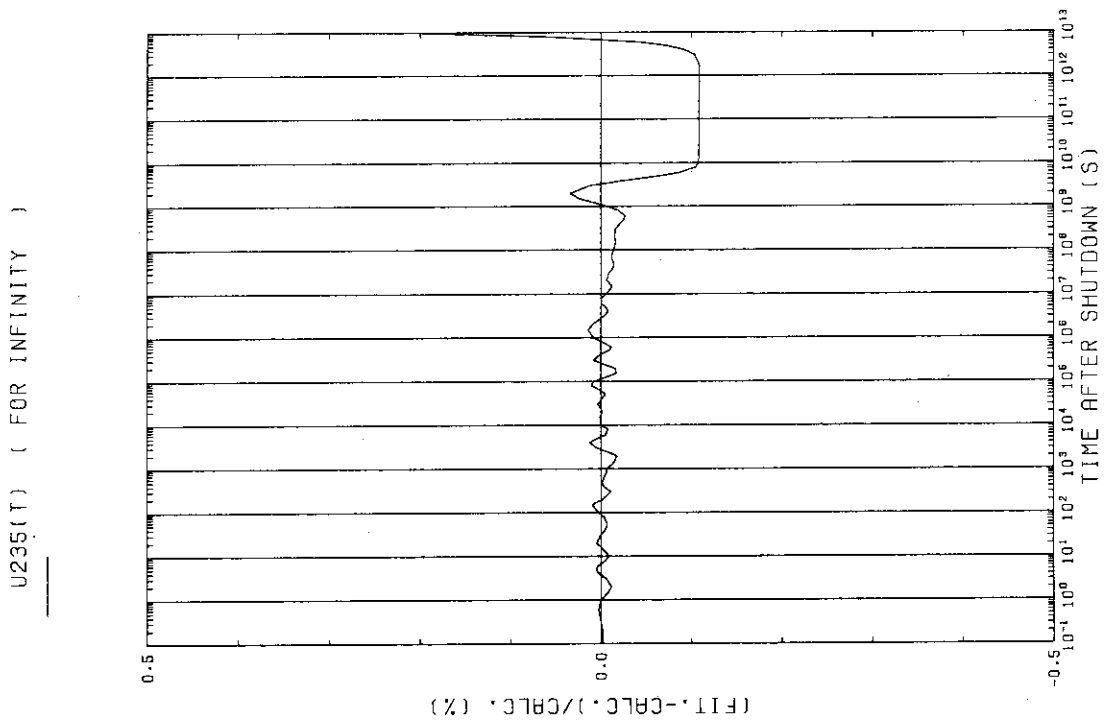


Fig. 4.2.19 Discrepancies between exponential fitting and calculated results of the total sensible decay power after infinite (10^{13}s) irradiation of ^{235}U by thermal neutrons.

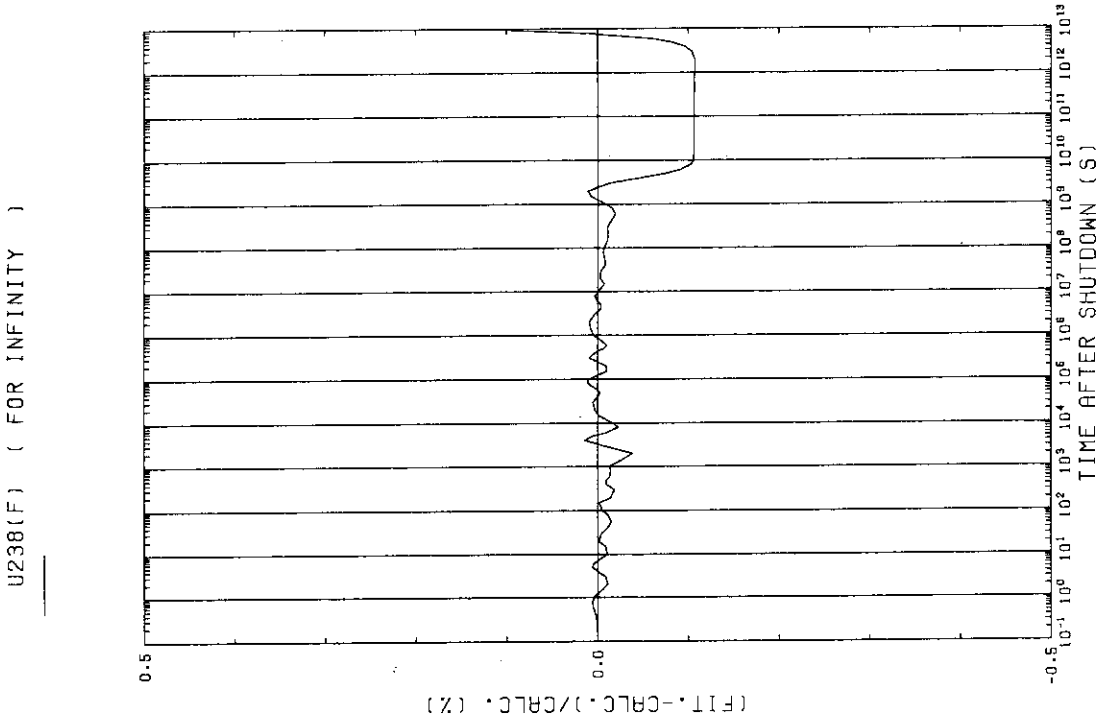


Fig. 4.2.22 Discrepancies between exponential fitting and calculated results of the total sensible decay power after infinite (10^{13}s) irradiation of ^{238}U by thermal neutrons.

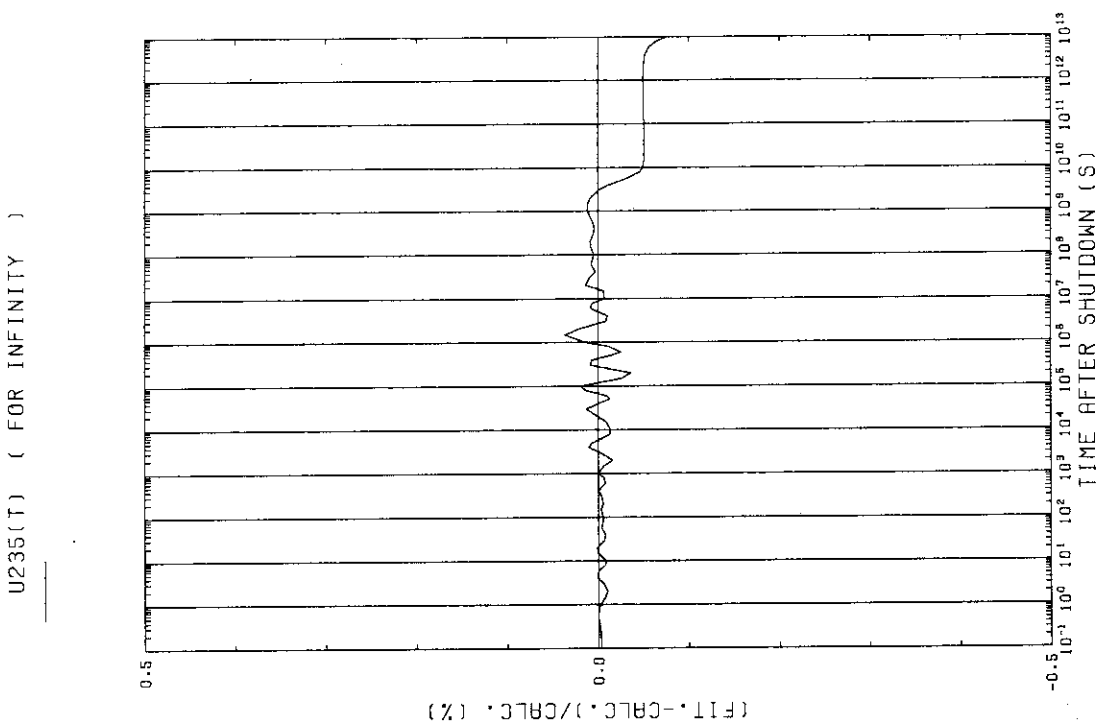


Fig. 4.2.21 Discrepancies between exponential fitting and calculated results of the gamma decay power after infinite (10^{13}s) irradiation of ^{235}U by thermal neutrons.

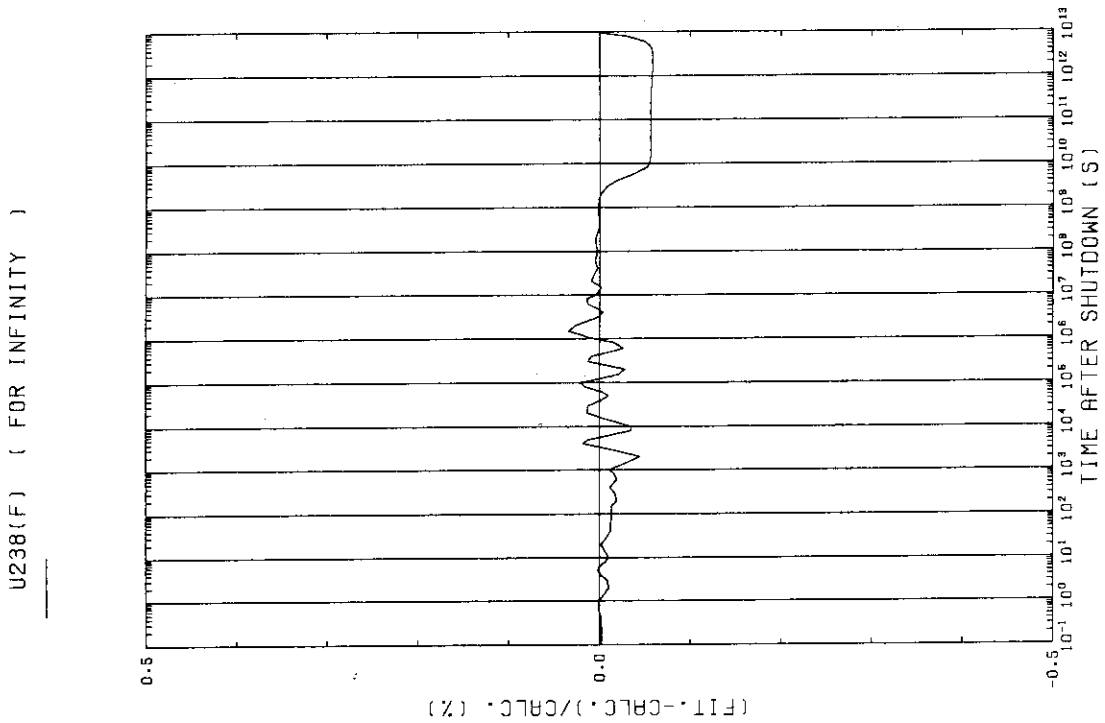


Fig. 4.2.24 Discrepancies between exponential fitting and calculated results of the gamma decay power after infinite (10^{13}s) irradiation of ^{238}U by thermal neutrons.

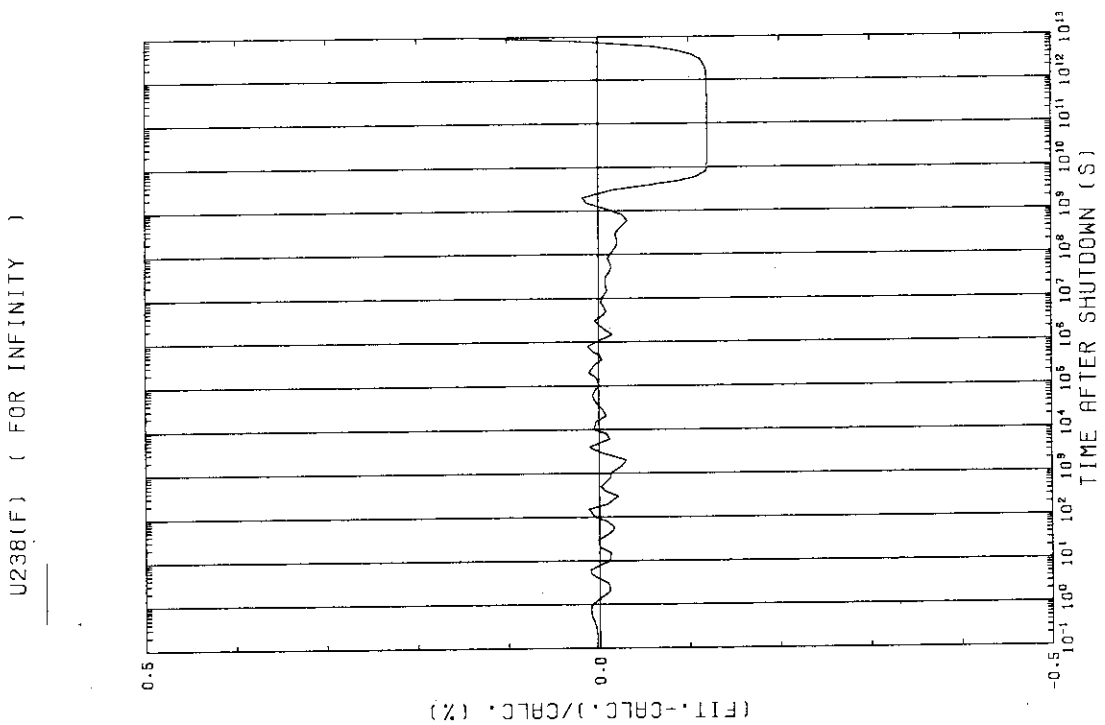


Fig. 4.2.23 Discrepancies between exponential fitting and calculated results of the beta decay power after infinite (10^{13}s) irradiation of ^{238}U by thermal neutrons.

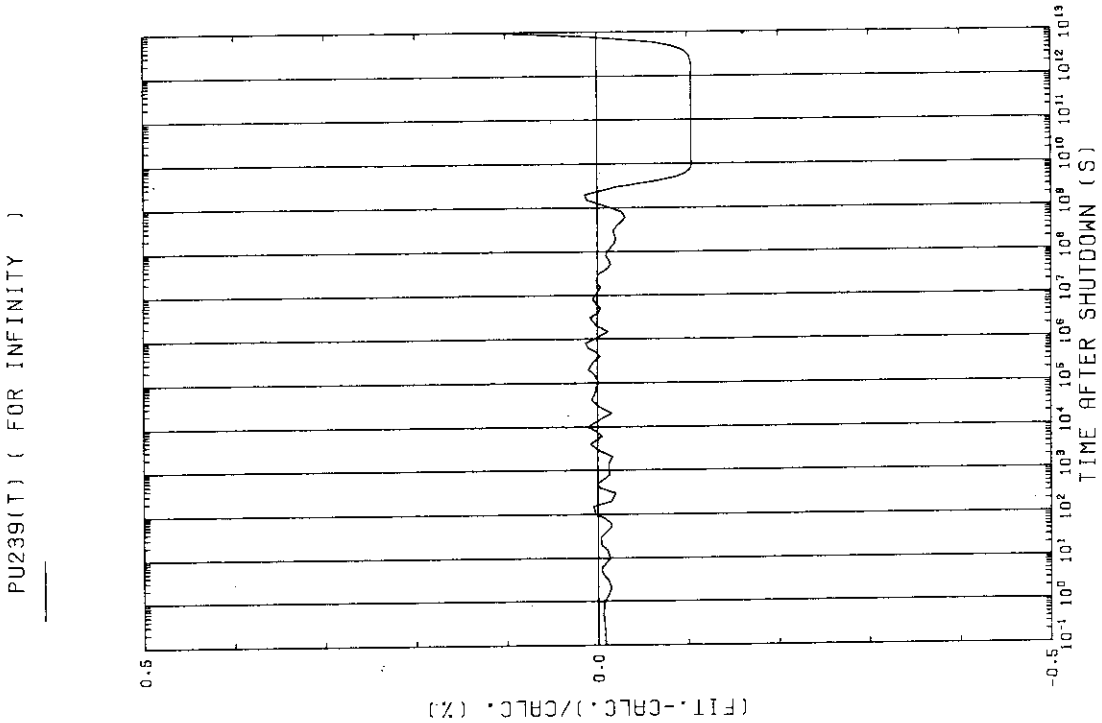


Fig. 4.2.26 Discrepancies between exponential fitting and calculated results of the beta decay power after infinite (10^{13}s) irradiation of ^{239}Pu by thermal neutrons.

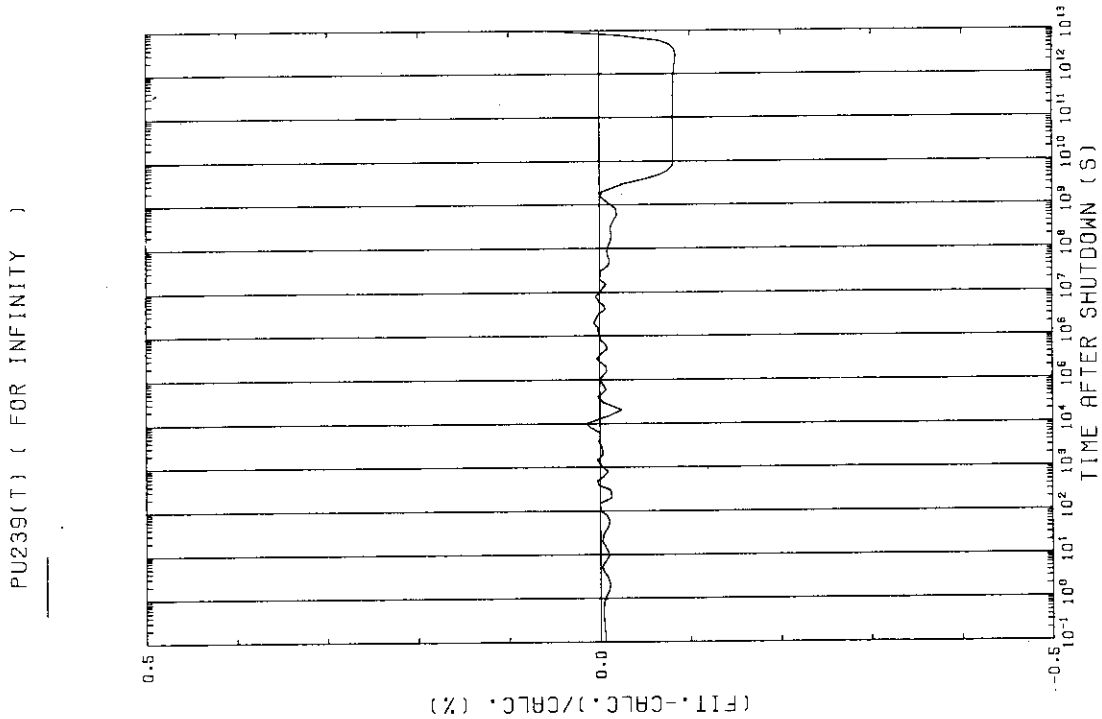


Fig. 4.2.25 Discrepancies between exponential fitting and calculated results of the total sensible decay power afte infinite (10^{13}s) irradiation of ^{239}Pu by thermal neutrons.

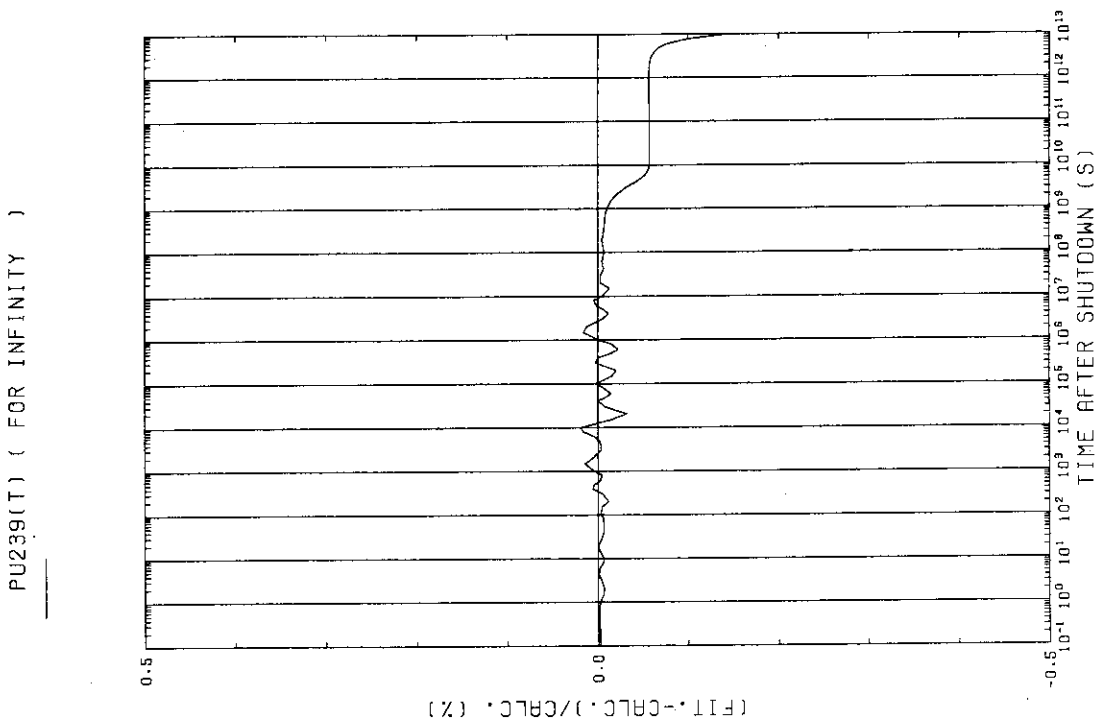


Fig. 4.2.27 Discrepancies between exponential fitting and calculated results of the gamma decay power after infinite (10^{13}s) irradiation of ^{239}Pu by thermal neutrons.

5. Summary

The nuclear data of fission products in the JNDC fission product (FP) nuclear data library have been revised as JNDC–V2. The data for 1227 fission products has been prepared for calculating various characteristics of fission preducts with emphasis on the summation calculation of the decay power of fission products. The fission yield data are expanded in the JNDC–V2 library to include 20 fission types with the combination of eleven fissile nuclides (^{232}Th, ^{233}U, ^{235}U, ^{236}U, ^{237}Np, ^{238}U, ^{239}Pu, ^{240}Pu, ^{241}Pu, ^{242}Pu, and ^{252}Cf (spontaneous fission)) and three neutron energies (thermal neutron, fission spectrum neutron and 14 MeV neutron) compared to 10 fission types in JNDC–V1 with the combination of six fissile nuclides (^{232}Th, ^{233}U, ^{235}U, ^{238}U, ^{239}Pu, and ^{241}Pu) and the three neutron energies. Neutron capture cross section data are given for 166 FP nuclides compared to 80 in JNDC–V1. The cross section data have been published already as the data of JNDC–V2 in Ref. 57. The data in Ref. 57, however, were based on the preliminary version of JENDL–3 and more the resonance integral was given for the neutron energy above 0.5 eV. On the other hand, the data in this report are based on the final version of JENDL–3 and the resonance integral is given the neutron energy above 0.625 eV. The data in Ref. 57 should be replaced by the present ones.

The average decay energies of every FP nuclides were thoroughly reexamined using the new experimental data published after the completion of the first version, JNDC–V1. For a nuclide with no information about the average decay energies, they were estimated by the Gross Theory of beta decay as in JNDC–V1. But the adoption of the estimated average energies by the Gross Theory is different from that used in JNDC–V1. In JNDC–V1, the estimated average energies were adopted for the nuclides with higher Q_β values than 5 MeV, because such nuclides were assumed to have a possible defect in the decay scheme comming from a measurement problem of missing gamma rays. On the other hand, in JNDC–V 2, the ration E_L/Q_β of the highest level E_L of the daughter to the Q_β value and the number N_L of observed levels were considered as a measure to assort the nuclides which have a defect decay scheme. The average decay energies of total 542 nuclides were estimated theoretically by the Gross Theory in JNDC–V2 compared to 469 nuclides in JNDC–V1.

By the revision of the criteria to assort the nuclides with a defect decay scheme, the decay powers calculated by the JNDC–V2 library showed better agreement with the measured ones at UTT (University of Tokyo in Tokai), ORNL and LANL, in particular, for the cooling times $>10^3$ sec than the results by the JNDC–V1 library. The calculated total sensible decay power with JNDC–V2 agrees with the measured results within $\pm 5\%$ for the ^{235}U fission and also other major fission types with minor exceptions. The JNDC–V2 library is considered to be the only library at present giving good agreement between summation calulations and integral measurement even at short cooling times[58].

The beta–, gamma–, and total sensible decay powers calculated by the JNDC–V2 library have been expressed by an analytical function of 33 exponential terms for the burst fission of ^{232}Th(f=fission spectrum neutron fission), ^{232}Th(h=high energy (14 MeV) neutron fission), ^{233}U(t=thermal neutron fission), ^{233}U(f), ^{233}U(h), ^{235}U(t), ^{235}U(f), ^{235}U(h), ^{236}U(f), ^{237}Np(f), ^{238}U(f), ^{238}U(h), ^{239}Pu(t), ^{239}Pu(f), ^{239}Pu(h), ^{240}Pu(f), ^{241}Pu(t), ^{241}Pu(f), ^{242}Pu(f) and 35 exponential terms for the spontaneous burst fission of ^{252}Cf. The present results of decay power calculations cover much wider data than the latest ANS 5.1 standard[59] and can be applied easily by the analytical expression to the LOCA analysis, the design of spent–fuel container, and so on.

Even though the ANS 5.1 standard has been used widely for the decay heat analysis in a light water reactor and so on, it gives for only the total sensible decay powers for the three major fission types ^{235}U(t), ^{239}Pu(t) and ^{238}U(f). A standard of the FP decay power[60] which includes more information than that of

the ANS standard has been evaluated recently at the Atomic Energy Sociey of Japan (JAES) based on the calculated results with JNDC–V2. The standard of JAES does not directly use the measured data because the excellent agreement has been achieved between the calculated results by JNDC–V2 and the recent experimental ones based on beta– and gamma–ray spectral meaurements. The standard of JAES gives beta– and gamma–decay powers separately for seven fissile nuclides: ^{235}U, ^{238}U, ^{239}Pu, ^{240}Pu, ^{241}Pu, ^{232}Th and ^{233}U. The data in the standard are given by an analytical function forms with 33 exponential terms as well as in tabuler forms. The neutron capture effets[56] on beta– and gamma–decay powers are also included in the standard based on the calculation by JNDC–V2 for a boiling water reactor (BWR), pressurized water reactor (PWR) and a liquid–metal–cooled fast breeder reactor (LMFBR) with the parametric variations of neutron flux and operation time, and they are given in tabular forms to be interpolated to a real operation condition. The gamma–ray spectrum data[61] are also given in the standard of JAES.

Acknowledgments

The authors are grateful to the members of DHEWG of JNDC and Dr. Y. Kikuchi, Head of Nuclear Data Center of JAERI for the continuous support and encouragement to the present work. Special thanks are to Professor M. Yamada of Waseda University for the helpful discussions on the Gross Theory of beta decay. They are also indebted to Dr. A. Zukeran for the discussion on fission yields in Sec. 2.4, to Mr. T. Umeki for calculating the decay power, and to Ms. T. Kurosawa and M. Kikuchi for typing the manuscript.

References

1) Dickens J.K., Emery J.F., Love T.A., McConnell J.W., Northcutt K.J., Peelle R.W. and Weaver H.: Fission product energy release for time following thermal neutron fission of ^{235}U between 2 and 14,000 seconds, ORNL/NUREG-14 (1977); Dickens J.K., Love T.A., McConnell J.W. and Peelle R.W.: Nucl. Sci. Eng., **74**, 106 (1980).

2) Dickens J.K., Emery J.F., Love T.A., McConnell J.W., Northcutt K.J., Peelle R.W. and Weaver H.:Fission product energy release for times following thermal neutron fission of ^{239}Pu between 2 and 14,000 seconds, ORNL/NUREG-34 (1978); Dickens J.K., Love T.A., McConnell J.W. and Peelle R.W.: Nucl. Sci. BEng., **78**, 126 (1981).

3) Dickens J.K., Emery J.F., Love T.A., McConnell J.W., Northcutt K.J., Peelle R.W. and Weaver H.: Beta and gamma ray production due to thermal fission of ^{235}U, spectral distributions for times after fission between 2 and 14,000 seconds: tabular and graphical data, NUREG/CR-0162, ORNL/NUREG-39 (1978).

4) Dickens J.K., Emery J.F., Love T.A., McConnell J.W., Northcutt K.J., Peelle P.W. and Weaver H.: Fission product energy release for times following thermal neutron fission of ^{241}Pu between 2 and 14,000 seconds, NUREG/CR-0171, ORNL/NUREG-47 (1978).

5) Yarnell J.L. and Bendt P.J.: Decay heat from products of ^{235}U thermal fission by fast-response boil-off calorimetry, LA-NUREG-6713 (1977).

6) Yarnell J.L. and Bendt P.J.: Calorimetric fission product decay heat measurements for ^{239}Pu, ^{233}U and ^{235}U, LA-7452-MS, NUREG/CR-0349 (1978).

7) Friesenhahn S.J., Lurie N.A., Rogers V.C. and Vagelatos N.: U-235 fission product decay heat from 1 to 100,000 seconds, EPRI-NP-180 (1976).

8) Friesenhahn S.J. and Lurie N.A.: Measurements of fission-product decay heat from ^{235}U and ^{239}Pu, IRT 0304-004 (1977).

9) Schrock V.E., Grossman L.M., Prussin S.G., Sockalingam K.C., Nuh F., Fan C-K, Cho N.Z. and Oh S.J.: A calorimetric measurement of decay heat from ^{235}U fission products from 10 to 10^5 seconds, EPRI Report, NP616, Vol.1 (February 1978).

10) Akiyama M. et al.: Measurements of gamma-ray decay heat of fission products for fast neutron fission of ^{235}U, ^{239}U, J. Atom. Ener. Soc. of Japan, **24**, 709 (1982) (in Japanese).

11) Akiyama M. et al.: Measurements of beta-ray decay heat of fission products for fast neutron fission of ^{235}U, ^{239}Pu and ^{233}U, ibid., 24, 803 (1982) (in Japanese).

12) Akiyama M. and An S.: Measurement of fission product decay heat for fast reactor, presented at Int. Conf. on Nucl. Data for Science and Technology, Antwerp, Belgium (Sept. 1982).

13) Johansson P-I: Integral determination of the beta and gamma heat in thermal-neutron-induced fission of ^{235}U and ^{239}Pu, and of the gamma heat in fast fission of ^{238}U, Proceedings of Int. Conf. on Nucl. Data for Science and Technology, Mito, Japan, 857 (May 1988).

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References

1) Dickens J.K., Emery J.F., Love T.A., McConnell J.W., Northcutt K.J., Peelle R.W. and Weaver H.: Fission product energy release for time following thermal neutron fission of ^{235}U between 2 and 14,000 seconds, ORNL/NUREG–14 (1977); Dickens J.K., Love T.A., McConnell J.W. and Peelle R.W.: Nucl. Sci. Eng., **74**, 106 (1980).

2) Dickens J.K., Emery J.F., Love T.A., McConnell J.W., Northcutt K.J., Peelle R.W. and Weaver H.:Fission product energy release for times following thermal neutron fission of ^{239}Pu between 2 and 14,000 seconds, ORNL/NUREG–34 (1978); Dickens J.K., Love T.A., McConnell J.W. and Peelle R.W.: Nucl. Sci. BEng., **78**, 126 (1981).

3) Dickens J.K., Emery J.F., Love T.A., McConnell J.W., Northcutt K.J., Peelle R.W. and Weaver H.: Beta and gamma ray production due to thermal fission of ^{235}U, spectral distributions for times after fission between 2 and 14,000 seconds: tabular and graphical data, NUREG/CR–0162, ORNL/NUREG–39 (1978).

4) Dickens J.K., Emery J.F., Love T.A., McConnell J.W., Northcutt K.J., Peelle P.W. and Weaver H.: Fission product energy release for times following thermal neutron fission of ^{241}Pu between 2 and 14,000 seconds, NUREG/CR–0171, ORNL/NUREG–47 (1978).

5) Yarnell J.L. and Bendt P.J.: Decay heat from products of ^{235}U thermal fission by fast–response boil–off calorimetry, LA–NUREG–6713 (1977).

6) Yarnell J.L. and Bendt P.J.: Calorimetric fission product decay heat measurements for ^{239}Pu, ^{233}U and ^{235}U, LA–7452–MS, NUREG/CR–0349 (1978).

7) Friesenhahn S.J., Lurie N.A., Rogers V.C. and Vagelatos N.: U–235 fission product decay heat from 1 to 100,000 seconds, EPRI–NP–180 (1976).

8) Friesenhahn S.J. and Lurie N.A.: Measurements of fission–product decay heat from ^{235}U and ^{239}Pu, IRT 0304–004 (1977).

9) Schrock V.E., Grossman L.M., Prussin S.G., Sockalingam K.C., Nuh F., Fan C–K, Cho N.Z. and Oh S.J.: A calorimetric measurement of decay heat from ^{235}U fission products from 10 to 10^5 seconds, EPRI Report, NP616, Vol.1 (February 1978).

10) Akiyama M. et al.: Measurements of gamma–ray decay heat of fission products for fast neutron fission of ^{235}U, ^{239}U, J. Atom. Ener. Soc. of Japan, **24**, 709 (1982) (in Japanese).

11) Akiyama M. et al.: Measurements of beta–ray decay heat of fission products for fast neutron fission of ^{235}U, ^{239}Pu and ^{233}U, ibid., 24, 803 (1982) (in Japanese).

12) Akiyama M. and An S.: Measurement of fission product decay heat for fast reactor, presented at Int. Conf. on Nucl. Data for Science and Technology, Antwerp, Belgium (Sept. 1982).

13) Johansson P–I: Integral determination of the beta and gamma heat in thermal–neutron–induced fission of ^{235}U and ^{239}Pu, and of the gamma heat in fast fission of ^{238}U, Proceedings of Int. Conf. on Nucl. Data for Science and Technology, Mito, Japan, 857 (May 1988).

14) Tasaka K.: DCHAIN–Code for analysis of build–up and decay of nuclides, JAERI 1250 (1977) (in Japanese).
15) Bell M.J.: ORIGEN – The ORNL isotope generation and depletion code, ORNL–4628 (1973).
16) Blachot J. and De Toureil R.: Bibliotheque de donnees nucleaires relatives aux produits de fission, CEA N–1526 (1972).
17) Tobias A.: Data for the calculation of gamma radiation spectra and beta heating from fission products, RD/B/M 2669, U. K. Central Electricity Board (1973).
18) Tasaka K. and Sasamoto N.: Nucl. Sci. Eng., **54**, 177 (1974).
19) Tasaka K.: Nuclear Data library of fission products for decay heat power calculation, NUREG/CR–0705 (1979).
20) Tasaka K., Ihara H., Akiyama M., Yoshida T., Matumoto Z. and Nakasima R.: JNDC nuclear data library of fission products, JAERI 1287 (1983).
21) Katakura J. and Nakasima R.: Average decay energies file version 2, Proceedings of OECD/NEA Specialists' Mtg. on Data for Decay Heat Predictions, Studsvik, Sweeden, 141 (1987).
22) Tasaka K., Katakura J., Ihara H., Yoshida T., Akiyama M. and Nakasima R.: JNDC FP data file version 2 and its assessment, ibid., 277 (1987).
23) Yoshida T., Ihara H., Katakura J., Tasaka K. and Nakasima R.: The overview of the JNDC FP decay data library version 2, Proceedings of Int. Conf. on Nuclear Data for Science and Technology, Mito, Japan, 889 (May 1988).
24) Tuli J.K.: Evaluated Nuclear Structure Data File A Manual for Preparation of Data Sets, BNL–NCS–51655–Rev. 87 (1987).
25) Browne E. and Firestone R.B.: Table of Radioactive Isotopes, ed. by Shirley V.S., John Wiley & Sons Inc., New York (1986).
26) Yamamoto T., Akiyama M., Matumoto Z. and Nakasima R.: JNDC FP Decay Data File, JAERI–M 9357 (1981).
27) Yoshida T. and Nakasima R.: J. Nucl. Sci. Technol. **18**, 393 (1981).
28) Reeder P.L.: Proceeding of the OECD/NEA Nuclear Data Committee Specialists' Meeting on Yields and Decay Data of Fission Product Nuclides, Brookhaven, BNL 51778 (October 1983).
29) Takahashi K., Yamada M. and Kondoh T.: Atom. Data and Nucl. Data Tables, **12**, 101 (1973) and references therein.
30) See, for example, Yamada M. et al.: Beta decay and weak interactions, Baifukan (1974) (in Japanese).
31) Yoshida T.: GROSS–M and GROSS–P, Codes for Prediction of Beta–Decay Probabilities and the Evaluation of Their Applicability to Decay Heat Calculations, JAERI–M 6313 (1975) (in Japanese).
32) Katakura J., Akiyama M., Yoshida T., Matumoto Z. and Nakasima R.: An Attempt for Revision of JNDC FP Decay Data File, JAERI–M 84–117 (1984).
33) Katakura J. and Nakasima R.: Reevaluation of Decay Energies in JNDC FP Decay Data File, JAERI–M 86–041 (1988).
34) Raman S. et al.: Phys. Rev., **C28**, 602 (1983).
35) Rider B.F. and Meek M.E.: Compilation of Fission Product Yields, NEDO–12154–2(E) (1979).
36) England T.R. and Rider B.F.: Status of fission yield evaluations, Proceedings of NEANDC Specialists' Mtg. on Yields and Decay Data for Fission Product Nuclides, Brookhaven National Laboratory, BNL–51778, LA–UR–83–3531 (October 1983).
37) Rider B.F. and England T.R.: Evaluation of fission product yields for the USA national nuclear data files, Proceedings of OECD/NEA Specialists' Mtg. on Data for Decay Heat Predictions, Studsvik, Sweeden, 21 (September 1987).
38) Madland D.G. and England T.R.: Distribution of Independent Fission Product Yields to Isomeric States, LA–6595–MS (1976).
39) Wahl A.C., Ferguson R.L., Nethaway D.R., Troutner D.E. and Wolfsberg K.: Phys. Rev., **126**, 1112 (1962).
40) Wahl A.C., Norris A.E., Rouse R.A. and Wiliams J.C.: Proc. 2nd International Atomic Energy Symposium on Physics and Chemistry of Fission, Vienna, Austria, paper SM–122/116, 813 (1969).
41) Amiel S. and Feldstein H.: Phys. Rev., **C11**, 845 (1975).
42) de L. Musgrove A.R., Cook J.L. and Trimble G.D.: Proc. Fission Product Nuclear Data Panel, held by International Atomic Energy Agency, Bologna, Italy (1973).
43) Madland D.G. and England T.R.: The Influence of Pairing on the Distribution of Independent Yield Strengths in Neutron–Induced Fission, LA–6430–MS (1976).
44) Nethaway D.R.: UCRL–51640 (1974).

45) Madland D.G. and Stewart L.: Light Ternary Fission Product: Probabilities and Charge Distributions, LA-6783-MS (1977).

46) Walker W.H.: Mass balance estimate of the energy released per fission in a reactor, AECC-3109 (1968).

47) James M.F.: Energy released in fission, J. Nucl. Energy, **23**, 517 (1969).

48) Unik J.P. and Gindler J.E.: A critical review of the energy released in nuclear fission, Argonne National Laboratory Report ANL-7748 (1971).

49) Trapp T.J., Jr.: The effects of the depletion and buildup of fissile nuclides and of ^{238}U fast fission on fission product decay power, Ph. D. Thesis, Oregon State University (July 1978).

50) Ando Y., Uno M. and Yamada M.: Prediction of Mass Excess, β-Decay Energy and Neutron Separation Energy from the Atomic Mass Formula with Empirical Shell Terms, JAERI-M 83-025 1983).

51) JAERI Nuclear Data Center: JENDL-3, Private information (1989).

52) Nakagawa T.: Program REGENDO: A Program for Reconstruction of Resonance Cross Sections from Evaluated Nuclear Data in the ENDF/B Format, JAERI-M 84-192 (1984).

53) Nakagawa T.: Program CRECTJ-5, Private communication (1989).

54) Mughabghab S.F.: Neutron cross sections, Vol. I Neutron responance parameters and thermal cross sections, Part B:Z= 61 100, Academic Press, New York & London (1981).

55) Ihara H., Matumoto Z., Tasaka K., Nakasima R., Akiyama M. and Yoshida T.: PROFP-Y A computer code for producing nuclear data library of fission products, JAERI-M 9714 (1981) (in Japanese).

56) Tasaka K.: Effect of neutron capture transformations on the decay power of fission products, Nucl. Sci. Eng., **62**, 167 (1977).

57) Ihara H. et al.: Tables and figures from JNDC nuclear data library of fission products, version 2, JAERI-M 89-204 (1989).

58) Working Group II: Proceedings of OECD/NEA Specialists' Mtg. on Data for Decay Heat Predictions, Studsvik, Sweeden, 373 (1987).

59) American Nuclear Society: American Nuclear Society Proposed ANS 5.1 Standard, Decay Heat Power in Light Water Reactors (June 1978) (revised September 1978).

60) Atomic Energy Society of Japan: Nuclear Reactor Decay Heat Power and Recommended Values (August 1989).

61) Katakura J. and Yoshida T.: Gamma-Ray Spectrum Data Library of Fission Product Nuclides and Its Assessment, JAERI -1311 (1988).