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PRODUCTION OF FP GROUP CONSTANTS  
FOR FAST REACTORS WITH COOK'S  
EVALUATED DATA

December 1973

Y. Kikuchi, K. Tasaka, H. Nishimura,  
A. Hasegawa, S. Katsuragi

日本原子力研究所  
Japan Atomic Energy Research Institute

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Production of Fp Group Constants for Fast Reactors  
with Cook's Evaluated Data

Yasuyuki KIKUCHI, Kanji TASAKA, Hideo NISHIMURA,  
Akira HASEGAWA and Satoru KATSURAGI

Japanese Nuclear Data Committee, JAERI

( Received November 21, 1973 )

A set of group constants of 184 FP nuclides was produced with the evaluated data by Cook. They are lumped to those of a pseudo FP nuclide at various burn-up stages, with using the concentrations as weights. The concentrations were calculated by solving the beta chain equations with the yield data compiled by Meek and Rider.

Some anomalous behaviors were observed at the resonance energy region and the method for evaluating the resonance structure is briefly discussed.

Cook による評価済データに基づくFP高速炉用炉定数の作成

日本原子力研究所シグマ研究委員会

菊池康之，田坂完二，西村秀夫

長谷川明，桂木 学

(1973年11月21日受理)

Cook による評価データを用いて，184核種の核分裂生成物の群定数が作成された。これらの群定数は，燃焼状態に応じた濃度を重みとして，一つの疑核種の群定数にランブされた。濃度は $\beta$ -チェーン方程式を解いて求められた。生成率としては，MeekとRiderの収集した値を用いた。

この群定数において，共鳴エネルギー領域で，いくつかの異常な傾向が発見された。この原因となる共鳴領域の評価方法について議論された。

目 次 な し

## 1. Introduction

A set of group constants with 25 or 70 groups (JAERI Fast set)<sup>(1)</sup> was produced at Japan Atomic Energy Research Institute in 1970. This set has been widely used as the standard set in Japan. At that time, however, no evaluated data of the fission product nuclides were available, and therefore the values in the ABBN set<sup>(2)</sup> has been temporarily adopted. Now the role of fission products becomes more important in the fast reactor calculation, as prediction of the detailed burn-up characteristics is required in design works.

The FP group constants are generally lumped to those of a pseudo FP nuclide. This makes the problem more difficult. The lumped FP group constants depends not only on the nuclear data but also on the concentration which varies with burn-up condition. Such detailed informations are not clear for the ABBN-set nor for some other sets<sup>(3, 4, 5)</sup> produced in other countries. Hence it has been much required to produce a new set of FP group constants by ourselves.

From this situation, Japanese Nuclear Data Committee (JNDC) started the evaluation of the FP data. While this evaluation proceeded, we examined the FP data already evaluated in other countries as another working group of JNDC (Fast FP Reactor Constants Working Group). We decided to produce a set of group constants with these evaluated data in order to respond the urgent request from users. The results are given in this report. When the evaluation by JNDC is completed, the present FP group constants set will be revised.

A brief discussion is given in Section 2 on the available evaluated data set. The method for producing the FP group constants is described in Section 3. The reliability of these group constants is discussed in Section 4.

## 2. Available Evaluated Data Set

The following evaluated data sets of fission product nuclides are now available in Japan:

- 1) Data evaluated by Cook <sup>(6)</sup>:

$$\sigma_T, \sigma_{el}, \sigma_{nonel}, \sigma_{inel}, \sigma_{nr} \text{ and } \sigma_{transport} \text{ for 184 nuclides}^* (10^{-3} \text{ eV} \leq E \leq 15 \text{ MeV})$$

- 2) Data evaluated by Benzi and Reffo <sup>(7)</sup>:

$$\sigma_{nr} \text{ for 142 stable nuclides } (1 \text{ keV} \leq E \leq 10 \text{ MeV}).$$

- 3) Data evaluated by Benzi et al. <sup>(8)</sup>:

$$\sigma_{inel}, \sigma_{n.2n} \text{ and } \sigma_{nr} \text{ for 18 nuclides} \\ (1 \text{ keV} \leq E \leq 10 \text{ MeV})$$

- 4) ENDF/B version III <sup>(9)</sup> for 27 nuclides

These evaluated data were plotted on a same graph to be compared with each other. We found good agreements for nuclides of which plenty of experimental data exist. As an example, capture cross section of <sup>103</sup>Rh is shown in Fig. 1. On the other hand, there are large disagreements among the evaluated data for nuclides whose experimental data do not exist. The case of <sup>135</sup>Cs is shown in Fig. 2.

It is not possible from this comparison to decide which evaluated data are the most reliable. Then we took the Cook's data set from the following reasons:

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\* Cook's evaluated data contains 184 ground state nuclides and 8 metastable nuclides. There are some tape troubles, however, on the files of the metastable nuclides, and therefore only ground state nuclides are considered.

- 1) The largest number of nuclides is contained.
- 2) All the required reaction types are contained.
- 3) The data below 1 keV are also contained.
- 4) It seems better to use the data of the same origin, considering the systematic error in the evaluation.

The evaluation method adopted by Cook has some drawbacks in the resonance region. This problem will be discussed in Section 4.



### 3. Production of FP Group Constants

The original Cook's data sent from CCDN were converted from the UKNDL format to the ENDF/A format because of the requirement of our processing code. Then  $\sigma_T$ ,  $\sigma_{el}$ ,  $\sigma_{inel}$  and  $\sigma_{ng}$  of 184 nuclides were processed to the group constants with the PROF-GROUCH-G code <sup>(10)</sup>. The group structure is the same as that of the JAERI Fast set with 25 or 70 groups.

The weighting flux is assumed to be 1/E spectrum below 1 MeV and to be fission spectrum above 1 MeV. The fission spectrum is assumed as:

$$\phi(E) = A_0 e^{-E/A_1} \sinh \sqrt{A_2 E},$$

where  $A_0$ ,  $A_1$  and  $A_2$  are  $4.84 \times 10^{-7}$ ,  $1 \times 10^6$  and  $2 \times 10^{-6}$  respectively.

Neither the angular distribution nor the energy distribution is given in the Cook's data set, but  $\bar{\mu}$  was found to be  $2/3A$  from the comparison between the transport cross section and the total cross section. Hence the elastic removal cross section can be calculated with assuming the isotropic scattering in the center of mass system.

As for the inelastic scattering matrix, the energy distribution was determined with the evaporation model as:

$$F(E) dE = \frac{E}{T^2} e^{-E/T} dE.$$

The same nuclear temperature (T) was taken for all the nuclides and was determined to be 0.638 MeV with averaging the values recommended by Gilbert and Cameron <sup>(11)</sup>.

The group constants of an individual FP nuclide are not generally used for the actual calculation, but are lumped to those of a few pseudo FP nuclides by using the concentration of each nuclide as the weighting factor.

The concentration was calculated with the FP-S code <sup>(12)</sup> which solves the beta-decay

chain with Bateman's equation. The transfer from one beta-decay chain to another chain by neutron capture reaction is neglected in this code. The fission yield data were taken from the compilation by Meek and Rider<sup>(13)</sup>.

As the total number of FP nuclides is more than 700, the number of 184 is not enough to obtain the lumped group constants. If a nuclide is not contained in the Cook's data set, the concentration of this nuclide was added to that of the next nuclide in the beta-decay chain, i.e., the cross sections of the neighboring nuclides are assumed to be the same. The error of this approximation is expected to be small, because such nuclides not contained in the Cook's set are generally short-lived and their concentrations are small.

Three types of the lumped group constants were produced. They correspond to the fission products due to  $^{235}\text{U}$  fission with thermal neutrons, to  $^{239}\text{Pu}$  fission with thermal neutrons and to  $^{238}\text{U}$  fission with fission spectrum neutrons.

The lumped group constants varies through burn-up accompanied by the change of the concentration. Therefore we gave them for burn-up of 1, 30, 60, 180, 360 and 720 days.

The multi group cross sections are tabulated in Appendix 1. The inelastic scattering matrices are tabulated in Appendix 2. These matrices are common for all the burn-up stages and for all the fission types (i.e. due to  $^{235}\text{U}$  fission, to  $^{239}\text{Pu}$  fission and to  $^{238}\text{U}$  fission). The group constants due to  $^{239}\text{Pu}$  fission are shown in figures of Appendix 3. The concentration of the pseudo FP nuclides are tabulated in Appendix 4 for various burn-up stages.

## Discussion

The following trends can be pointed out from the figures in Appendix 3.

- 1) The elastic scattering cross sections have little burn-up dependence except in the resonance region. This indicates that the elastic scattering cross section is nearly the same among isobar nuclides, as expected from the optical model.
- 2) The capture cross sections increase with burn-up time, but nearly reach the saturated values after several ten days. It was found by Otake<sup>(14)</sup> that the chains with mass number  $A=95, 99, 103, 131, 133$  and  $147$  had remarkable contribution.
- 3) Evident discontinuity of energy dependence is observed at  $4.65$  keV.

Cook's group constants were lumped with even- $A$  nuclides and with odd- $A$  nuclides separately, in order to know where this discontinuity comes from. The results for capture cross section are shown in Fig. 3. We can point out the following two problems from these figures.

- a) The discontinuity is due to the odd- $A$  lump.
- b) Time dependence of the even- $A$  lump is anomalously large in the energy range from  $465$  eV to  $1$  keV.

These two problems (a and b) were investigated by Kikuchi<sup>(15)</sup> and were found to be caused by the method for evaluating the resonance structure. In Cook's evaluation, the cross section was calculated with the statistical model in the high energy region. In the resonance region, on the other hand, the cross section was calculated with the resonance parameters. For nuclides whose resonance parameters are not experimentally known, Monte Carlo method was used to produce them so as to fit the calculated resonance integral to the experimental data if they exist<sup>(16)</sup>.

The cross section thus obtained may be suitable for thermal reactor calculations, as the resonance integral takes the important role in reactor calculations. On the other hand,

this method has the following drawbacks:

- 1) A very strong resonance appears sometimes at several hundred eV for an even-A nuclide because of the random sampling biased to fit the resonance integrals. If this happens to a radioactive nuclide, the effect of the strong resonance changes drastically with burn-up according to the change of the concentration. The large time dependence of the even-A lump was found to be caused by the strong resonance of  $^{140}\text{Ba}$  as shown in Fig. 4.
- 2) The cross section curve has often large discontinuity at the connecting energy point between the statistical model calculation and the Monte Carlo calculation. The case of  $^{90}\text{Sr}$  is shown in Fig. 5. This discontinuity itself is not anomalous, as we cannot say whether the connecting point fall at the peak or at the valley of resonance. However, the discontinuity of the lumped group constants is too large to be explained as the statistical fluctuation<sup>(15)</sup>. We found such a systematic discontinuity not caused by the position of resonance in Cook's evaluated data. For example, the capture cross section of  $^{99}\text{Tc}$  is shown in Fig. 6. We cannot explain this systematic discontinuity.

These two drawbacks cause rather severe problem for fast reactor calculations, as these anomalous trends appear at the energy range which is important for fast reactors.

It was also pointed out by Kikuchi that the standard deviation of the cross sections was much reduced through the lumping process, as the errors cancell each other. Hence in order to avoid these anomalies, he proposed to extrapolate the statistical calculation to the resonance energy region, where this model is not applicable for an individual nuclide any longer. His proposed method is taken into account in the evaluation by JNDC.

### Summary

A set of group constants of 184 FP nuclides was produced from the data evaluated by Cook, and was processed to lumped group constants of a pseudo FP nuclide.

This set has fairly anomalous energy dependence and time dependence, partly due to the evaluation in the resonance region. We are now preparing to revise this set with the newly evaluated JNDC data.

### Acknowledgement

The authors thank the members of JNDC Fast FP Reactor Constants Working Group<sup>\*</sup> for their cooperation and helpful discussion. They also thank Mr. Sasamoto for his help to use the FP-S code. The general advice from the members of JNDC Fast FP Nuclear Data Working Group is also much appreciated.

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\* The members of this working group other than the authors are: I. Otake (Fuji Electric Co., Ltd.), S. Iizima (Nippon Atomic Industry Group Co., Ltd.) and H. Matsunobu (Sumitomo Atomic Energy Industries, Ltd.)

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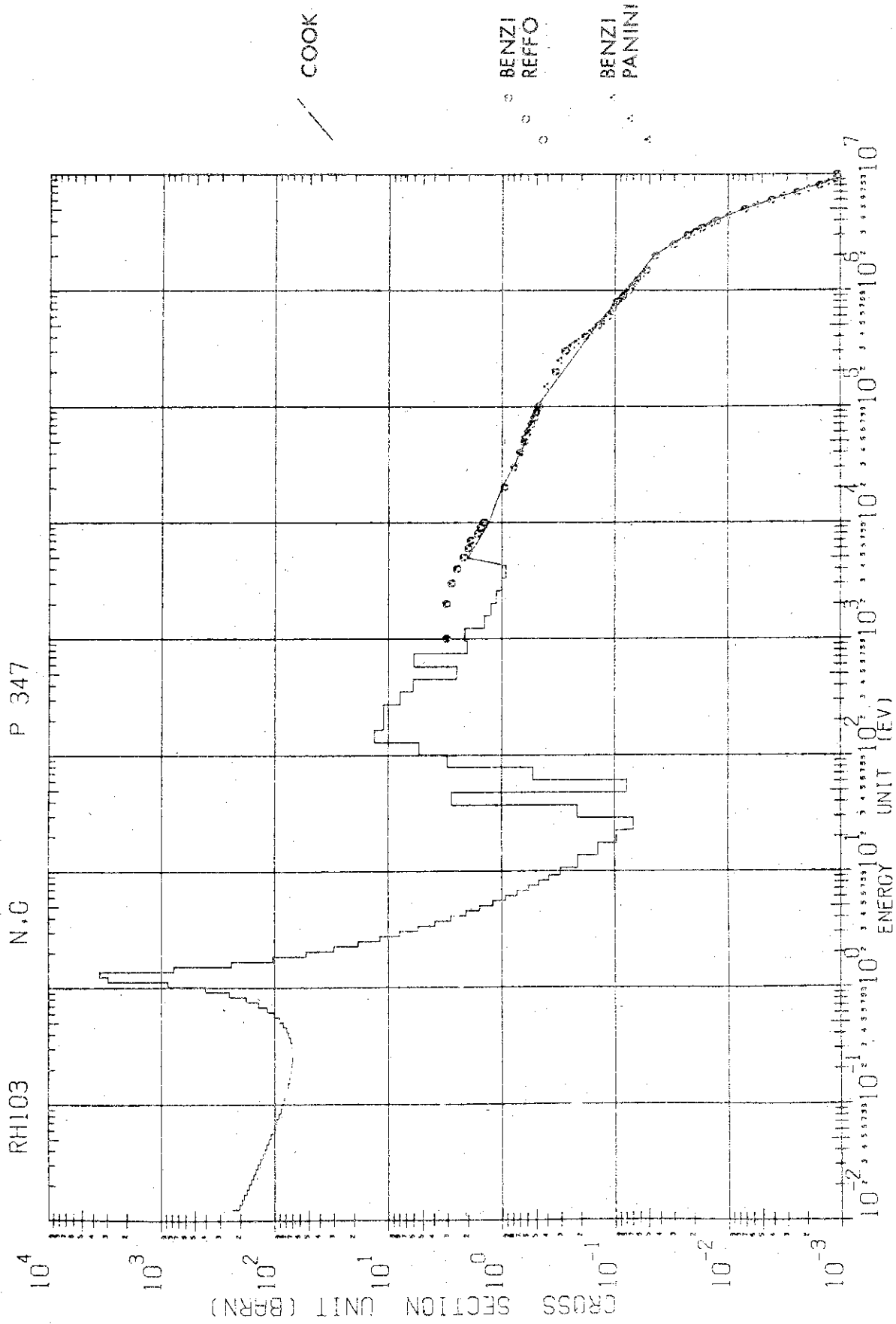


Fig. 1 Various evaluated capture cross section of  $^{103}\text{Rh}$

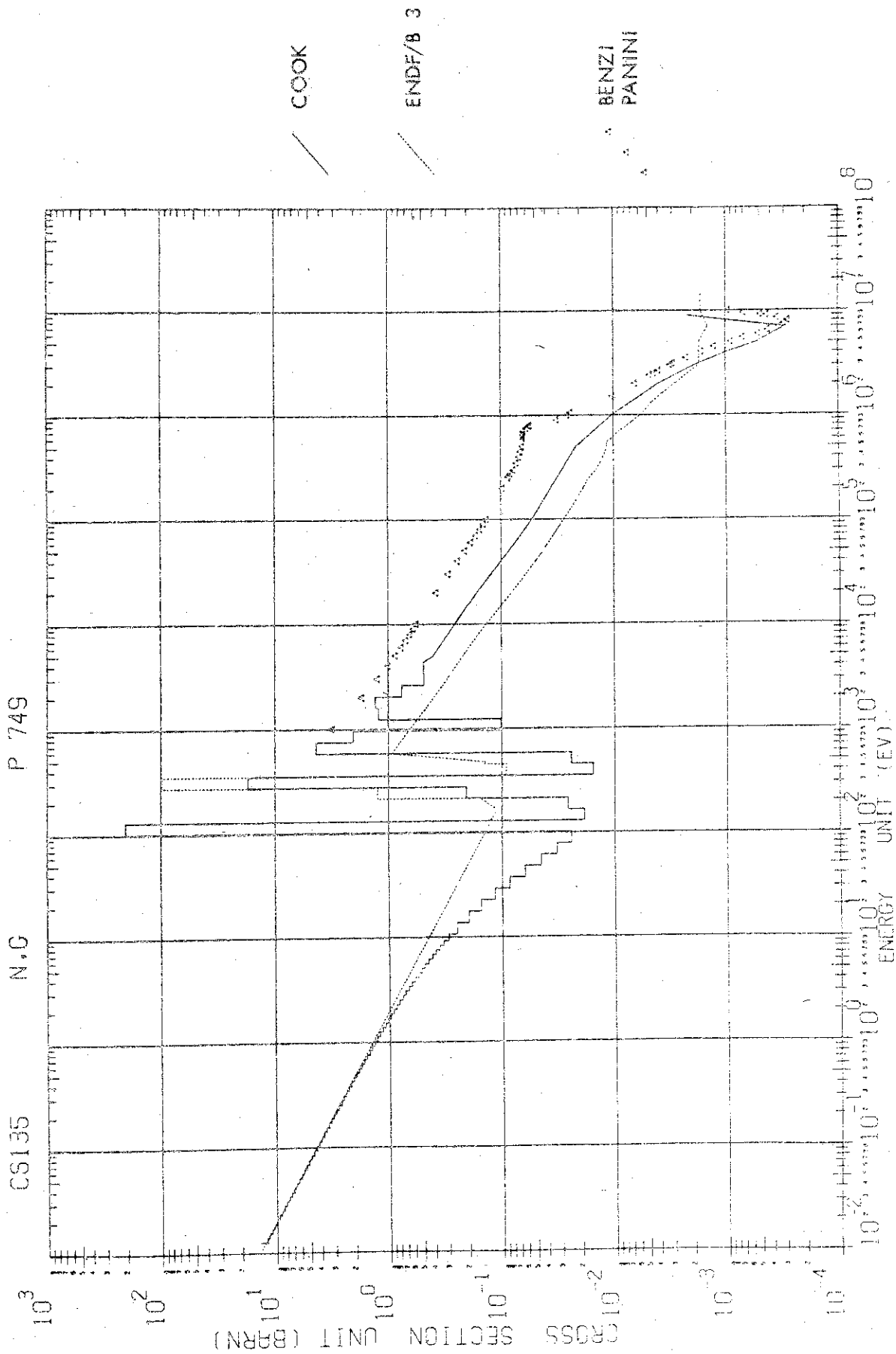


Fig. 2 Various evaluated capture cross section of <sup>135</sup>Cs



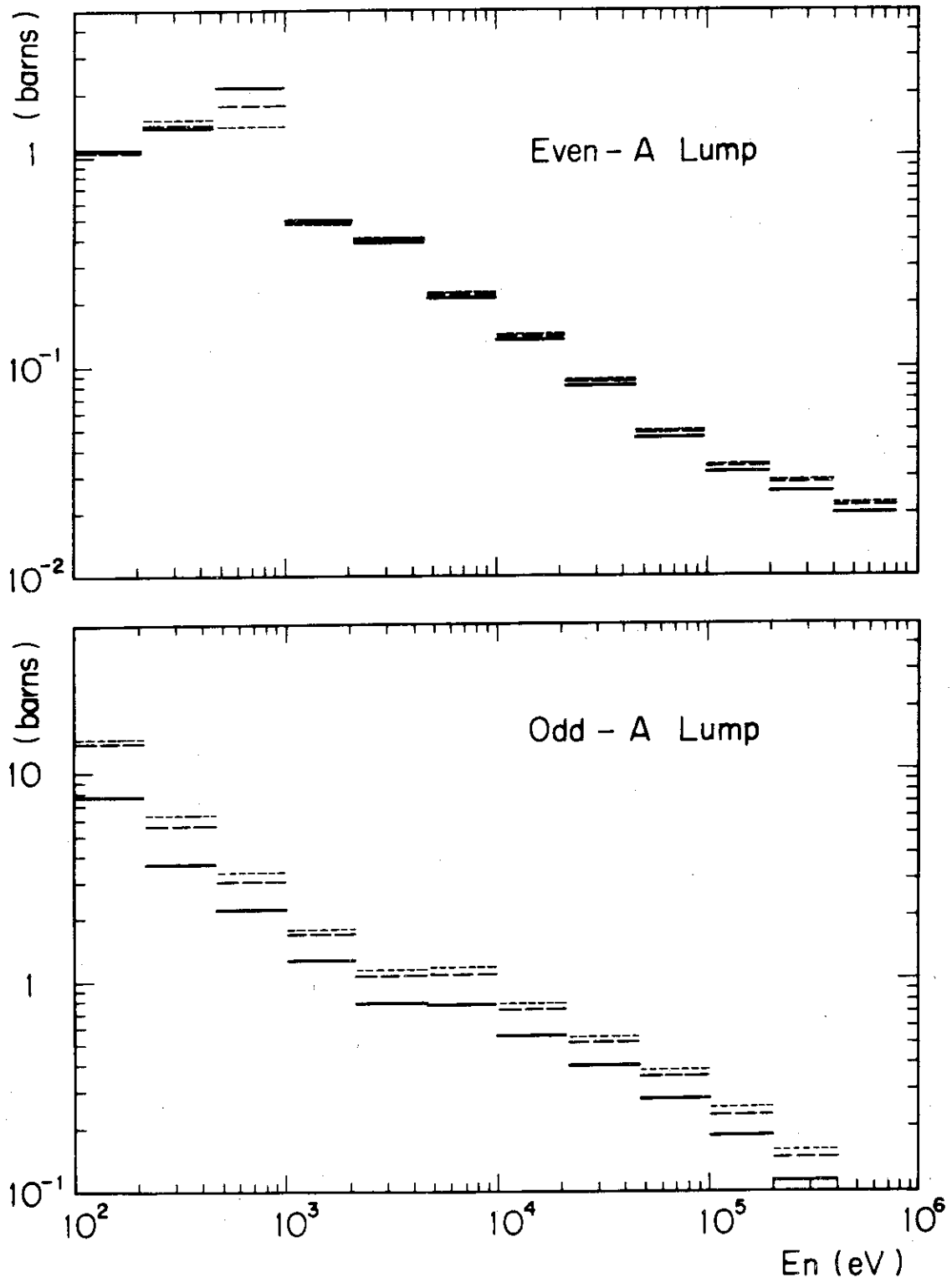


Fig. 3 Lumped capture cross sections

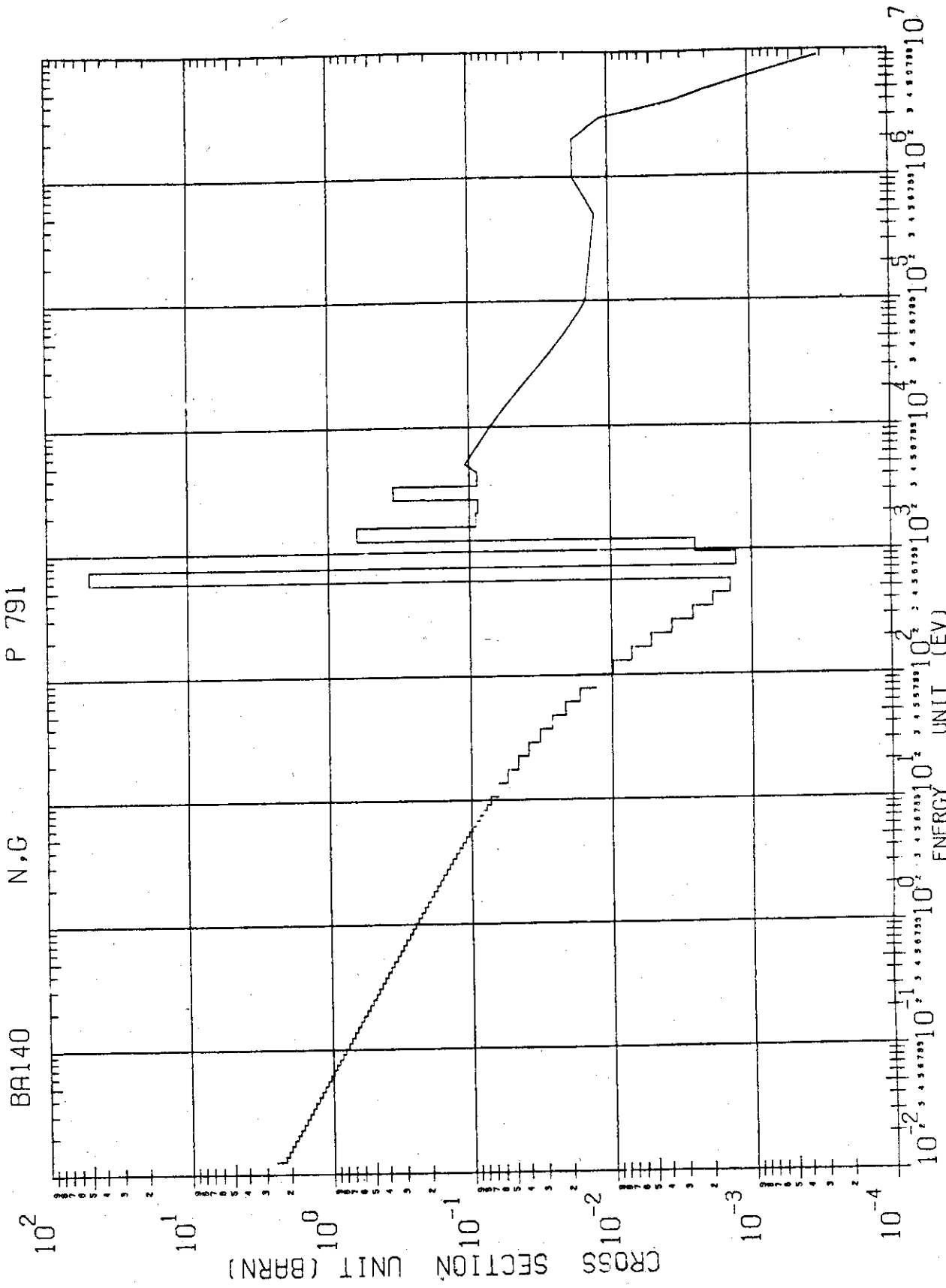


Fig. 4 Capture cross section of  $^{140}\text{Ba}$  evaluated by Cook

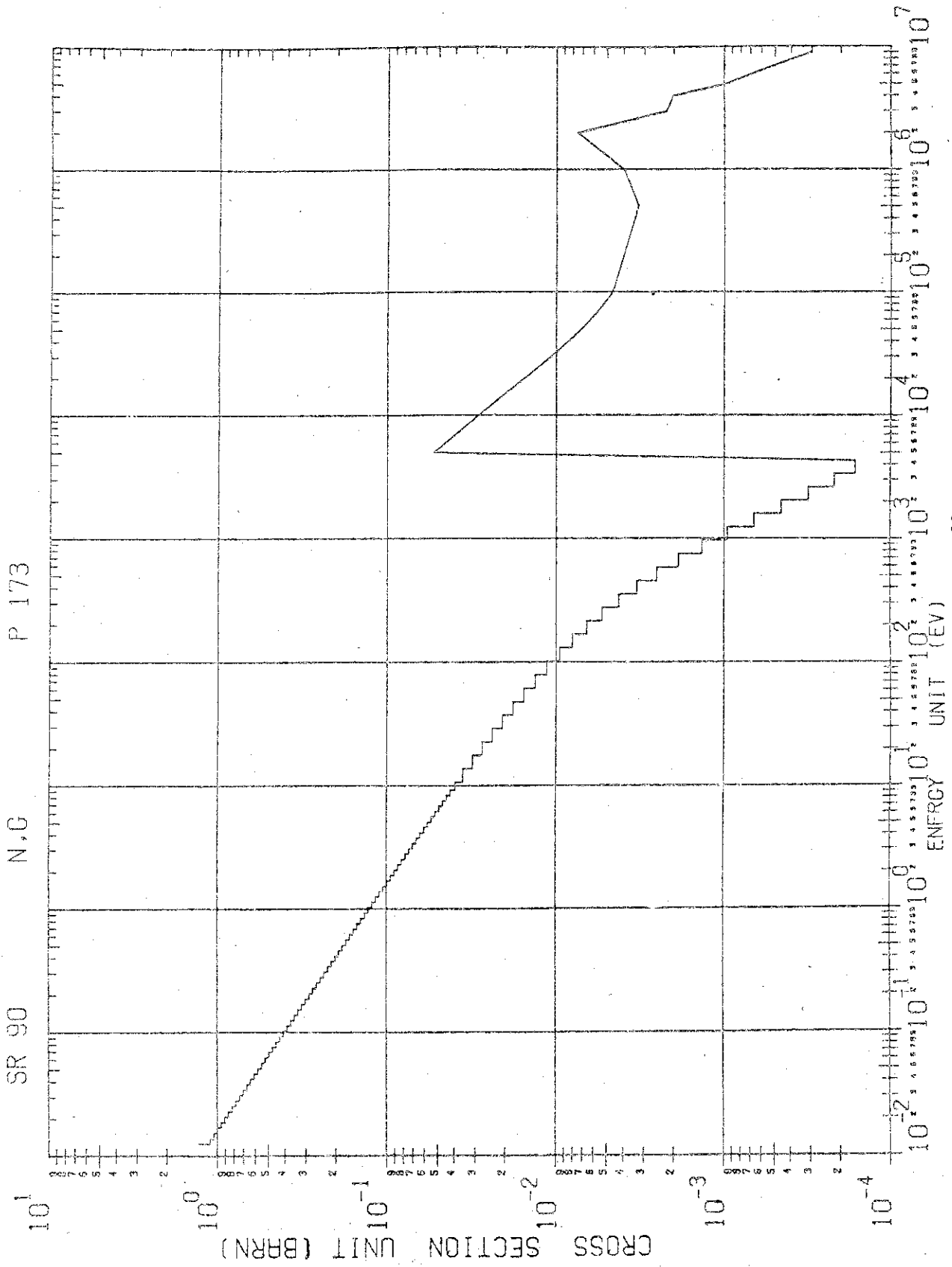


Fig. 5 Capture cross section of  $^{90}\text{Sr}$  evaluated by Cook

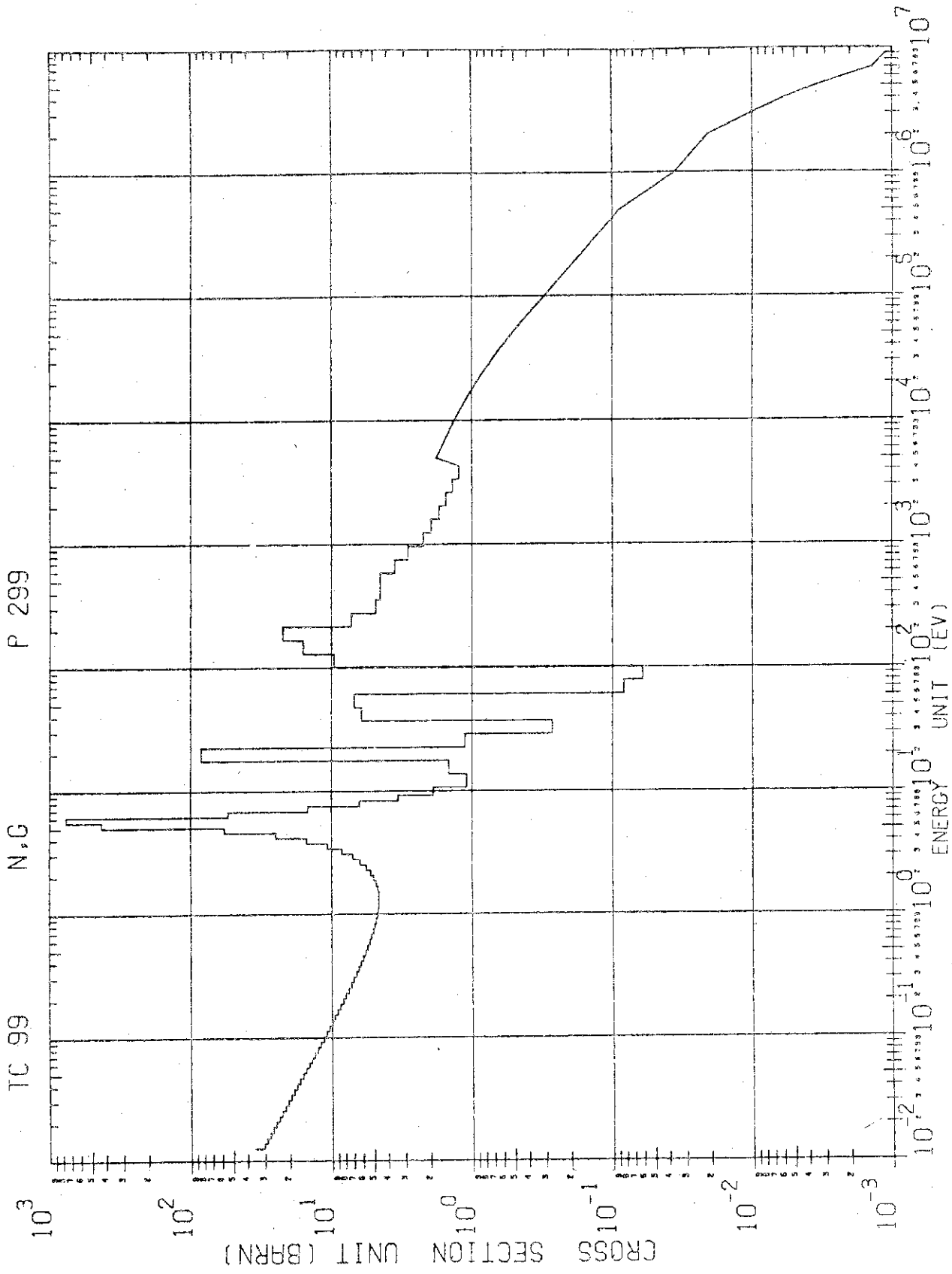


Fig. 6 Capture cross section of  $^{99}\text{Tc}$  evaluated by Cook

Appendix 1.

Tables of Lumped FP Group Cross Sections

Appendix 2

Tables of Inelastic Scattering Matrices

Appendix 3

- Fig. 1 Lumped total cross sections with 25 group structure
- 2 Lumped elastic scattering cross sections with 25 group structure
- 3 Lumped inelastic scattering cross sections with 25 group structure
- 4 Lumped capture cross sections with 25 group structure
- 5 Lumped total cross sections with 70 group structure
- 6 Lumped elastic scattering cross sections with 70 group structure
- 7 Lumped inelastic scattering cross sections with 70 group structure
- 8 Lumped capture cross sections with 70 group structure

Appendix 4

Tables of Concentrations of the Pseudo FP Nuclides at various burn-up stages

## Appendix 1

## Tables of Lumped FP Group Cross Sections

## Fission Products of Pu-239 (Burn-up 1 Day)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.49630E 00	1.26200E-03	4.22930E 00	4.26450E 00
2	8.54620E 00	5.01180E-03	4.25920E 00	4.25340E 00
3	1.00570E 01	1.58070E-02	4.20830E 00	5.74830E 00
4	1.16910E 01	3.19990E-02	3.19870E 00	8.20290E 00
5	1.31200E 01	5.07820E-02	1.92950E 00	1.08030E 01
6	1.39870E 01	8.71980E-02	6.14840E-01	1.29150E 01
7	1.55890E 01	1.38830E-01	0.0	1.49480E 01
8	1.75280E 01	2.17340E-01	0.0	1.71390E 01
9	1.84250E 01	3.28890E-01	0.0	1.80960E 01
10	1.90460E 01	4.79530E-01	0.0	1.85670E 01
11	2.07680E 01	6.89410E-01	0.0	2.00720E 01
12	2.43230E 01	9.96060E-01	0.0	2.33230E 01
13	2.19490E 01	1.18020E 00	0.0	2.07660E 01
14	2.41010E 01	1.75210E 00	0.0	2.23480E 01
15	3.58360E 01	4.39900E 00	0.0	3.14360E 01
16	2.96280E 01	5.09600E 00	0.0	2.45310E 01
17	2.95610E 01	8.84360E 00	0.0	2.07170E 01
18	4.14390E 01	1.35560E 01	0.0	2.78820E 01
19	4.54230E 01	1.99550E 01	0.0	2.54670E 01
20	3.66850E 01	1.67660E 01	0.0	1.99160E 01
21	7.91920E 01	3.94860E 01	0.0	3.97050E 01
22	4.15350E 01	1.99850E 01	0.0	2.15500E 01
23	9.93510E 01	4.67170E 01	0.0	5.26340E 01
24	2.07880E 03	1.07020E 03	0.0	1.00850E 03
25	4.05920E 03	2.67960E 03	0.0	1.37960E 03

## Fission Products of Pu-239 (Burn-up 1 Day)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.77940E 00	6.20300E-04	4.08550E 00	4.68990E 00
2	8.44860E 00	1.43720E-03	4.25180E 00	4.19260E 00
3	8.29390E 00	2.97470E-03	4.21620E 00	4.07140E 00
4	8.69590E 00	6.12740E-03	4.28590E 00	4.36210E 00
5	9.62770E 00	1.18590E-02	4.30970E 00	5.22630E 00
6	1.04270E 01	1.96000E-02	4.10980E 00	6.25380E 00
7	1.12510E 01	2.78710E-02	3.61640E 00	7.49390E 00
8	1.20690E 01	3.58160E-02	2.81520E 00	8.83670E 00
9	1.27760E 01	4.43570E-02	2.32680E 00	1.01360E 01
10	1.33980E 01	5.67710E-02	1.56530E 00	1.14040E 01
11	1.36790E 01	7.15500E-02	1.01270E 00	1.22240E 01
12	1.39130E 01	8.71720E-02	7.95840E-01	1.29040E 01
13	1.42980E 01	1.03390E-01	0.0	1.35170E 01
14	1.48580E 01	1.20040E-01	0.0	1.41340E 01
15	1.54200E 01	1.38490E-01	0.0	1.47580E 01
16	1.59910E 01	1.59330E-01	0.0	1.53960E 01
17	1.67210E 01	1.87530E-01	0.0	1.62200E 01
18	1.74480E 01	2.22430E-01	0.0	1.70480E 01
19	1.80690E 01	2.53760E-01	0.0	1.77610E 01
20	1.83360E 01	2.86960E-01	0.0	1.80490E 01
21	1.83960E 01	3.27990E-01	0.0	1.80680E 01
22	1.85440E 01	3.72630E-01	0.0	1.81710E 01
23	1.86870E 01	4.21780E-01	0.0	1.82650E 01
24	1.89170E 01	4.76580E-01	0.0	1.84400E 01
25	1.95260E 01	5.38350E-01	0.0	1.89870E 01
26	2.00270E 01	6.06840E-01	0.0	1.94200E 01
27	2.06280E 01	6.82440E-01	0.0	1.99450E 01
28	2.14360E 01	7.72740E-01	0.0	2.06610E 01
29	2.25170E 01	8.74180E-01	0.0	2.16370E 01
30	2.45830E 01	9.96030E-01	0.0	2.35770E 01
31	2.51390E 01	1.10330E 00	0.0	2.40270E 01
32	2.18590E 01	1.01900E 00	0.0	2.08330E 01
33	2.26270E 01	1.26240E 00	0.0	2.13640E 01
34	2.13510E 01	1.25800E 00	0.0	2.00930E 01
35	2.58510E 01	1.57000E 00	0.0	2.42800E 01
36	2.51210E 01	1.83900E 00	0.0	2.32820E 01
37	2.12970E 01	1.85080E 00	0.0	1.94460E 01
38	2.09940E 01	2.54690E 00	0.0	1.84460E 01
39	5.32830E 01	5.57310E 00	0.0	4.77080E 01
40	3.32040E 01	5.09670E 00	0.0	2.81070E 01
41	2.87130E 01	4.85630E 00	0.0	2.38560E 01
42	3.25220E 01	5.55140E 00	0.0	2.69700E 01
43	2.76370E 01	4.88000E 00	0.0	2.27570E 01
44	2.90350E 01	7.22000E 00	0.0	2.18140E 01
45	2.65710E 01	6.20440E 00	0.0	2.03660E 01
46	3.30580E 01	1.31070E 01	0.0	1.99500E 01
47	4.66880E 01	1.59220E 01	0.0	3.07640E 01
48	4.87690E 01	1.51190E 01	0.0	3.36500E 01
49	2.86030E 01	9.54830E 00	0.0	1.90540E 01
50	5.83980E 01	2.46480E 01	0.0	3.37480E 01
51	5.06250E 01	2.43080E 01	0.0	2.63160E 01
52	2.73050E 01	1.09170E 01	0.0	1.63880E 01
53	4.38520E 01	2.15140E 01	0.0	2.23370E 01
54	4.13130E 01	1.98490E 01	0.0	2.14630E 01
55	2.48520E 01	8.91720E 00	0.0	1.59350E 01
56	1.25730E 02	6.20700E 01	0.0	6.36600E 01
57	7.41290E 01	3.72480E 01	0.0	3.68800E 01
58	3.66510E 01	1.86190E 01	0.0	1.80310E 01
59	3.38650E 01	1.58390E 01	0.0	1.80260E 01
60	4.31350E 01	2.23430E 01	0.0	2.07920E 01
61	4.75690E 01	2.17470E 01	0.0	2.58220E 01
62	6.42370E 01	3.00040E 01	0.0	3.42330E 01
63	8.77680E 01	3.84830E 01	0.0	4.92850E 01
64	1.46490E 02	7.18500E 01	0.0	7.46420E 01
65	2.60840E 02	1.40110E 02	0.0	1.20740E 02
66	1.20180E 03	6.21780E 02	0.0	5.80010E 02
67	4.83280E 03	2.47910E 03	0.0	2.35370E 03
68	1.66190E 03	1.02430E 03	0.0	6.37550E 02
69	3.31640E 03	2.14440E 03	0.0	1.17190E 03
70	7.19440E 03	4.86670E 03	0.0	2.32780E 03

## Fission Products of Pu-239 (Burn-up 30 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.49640E 00	1.50600E-03	4.22880E 00	4.26480E 00
2	8.54580E 00	5.78210E-03	4.25800E 00	4.25410E 00
3	1.00570E 01	1.81110E-02	4.20420E 00	5.74890E 00
4	1.16960E 01	3.73980E-02	3.19630E 00	8.20570E 00
5	1.31320E 01	6.23540E-02	1.96380E 00	1.07960E 01
6	1.40170E 01	1.09630E-01	6.52320E-01	1.28860E 01
7	1.57020E 01	1.73740E-01	0.0	1.49900E 01
8	1.77760E 01	2.68670E-01	0.0	1.73170E 01
9	1.87570E 01	4.06820E-01	0.0	1.83500E 01
10	1.94130E 01	6.03420E-01	0.0	1.88090E 01
11	2.12210E 01	8.85320E-01	0.0	2.03270E 01
12	2.48640E 01	1.29570E 00	0.0	2.35400E 01
13	2.23120E 01	1.46160E 00	0.0	2.08470E 01
14	2.40530E 01	2.18260E 00	0.0	2.18700E 01
15	3.71010E 01	4.84690E 00	0.0	3.22540E 01
16	3.44650E 01	6.98290E 00	0.0	2.74810E 01
17	3.68490E 01	1.50290E 01	0.0	2.18180E 01
18	3.81910E 01	1.49950E 01	0.0	2.31960E 01
19	5.39510E 01	2.49630E 01	0.0	2.89870E 01
20	1.25660E 02	4.05910E 01	0.0	8.50620E 01
21	1.36180E 02	8.80790E 01	0.0	4.80980E 01
22	3.10220E 01	1.64150E 01	0.0	1.46070E 01
23	5.77370E 01	4.19420E 01	0.0	1.57950E 01
24	2.62440E 02	1.51670E 02	0.0	1.11170E 02
25	2.82270E 02	1.98890E 02	0.0	8.33790E 01



## Fission Products of Pu-239 (Burn-up 30 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.77960E 00	8.16940E-04	4.08510E 00	4.69020E 00
2	8.44860E 00	1.69420E-03	4.25130E 00	4.19300E 00
3	8.29370E 00	3.43390E-03	4.21540E 00	4.07130E 00
4	8.69540E 00	7.06810E-03	4.28450E 00	4.36310E 00
5	9.62730E 00	1.36150E-02	4.30680E 00	5.22620E 00
6	1.04270E 01	2.24300E-02	4.10450E 00	6.25560E 00
7	1.12530E 01	3.21660E-02	3.61010E 00	7.49840E 00
8	1.20740E 01	4.22360E-02	2.81550E 00	8.83830E 00
9	1.27850E 01	5.37120E-02	2.33060E 00	1.01330E 01
10	1.34120E 01	7.04020E-02	1.62780E 00	1.13950E 01
11	1.36990E 01	8.94920E-02	1.07690E 00	1.22040E 01
12	1.39390E 01	1.09780E-01	8.41760E-01	1.28730E 01
13	1.43420E 01	1.30360E-01	0.0	1.34960E 01
14	1.49350E 01	1.50750E-01	0.0	1.41450E 01
15	1.55320E 01	1.73250E-01	0.0	1.48020E 01
16	1.61400E 01	1.98560E-01	0.0	1.54780E 01
17	1.69230E 01	2.32790E-01	0.0	1.63550E 01
18	1.77040E 01	2.74680E-01	0.0	1.72390E 01
19	1.83730E 01	3.12260E-01	0.0	1.80020E 01
20	1.86630E 01	3.53220E-01	0.0	1.83100E 01
21	1.87280E 01	4.05340E-01	0.0	1.83220E 01
22	1.88820E 01	4.63090E-01	0.0	1.84190E 01
23	1.90360E 01	5.26700E-01	0.0	1.85090E 01
24	1.92810E 01	5.99280E-01	0.0	1.86810E 01
25	1.99120E 01	6.81800E-01	0.0	1.92300E 01
26	2.04400E 01	7.69080E-01	0.0	1.96650E 01
27	2.10750E 01	8.75750E-01	0.0	2.01970E 01
28	2.19250E 01	9.96520E-01	0.0	2.09260E 01
29	2.30320E 01	1.13400E 00	0.0	2.18900E 01
30	2.51200E 01	1.29860E 00	0.0	2.38090E 01
31	2.56560E 01	1.43910E 00	0.0	2.42060E 01
32	2.19510E 01	1.26160E 00	0.0	2.06810E 01
33	2.23870E 01	1.51890E 00	0.0	2.08680E 01
34	2.25960E 01	1.60340E 00	0.0	2.09930E 01
35	2.62410E 01	1.95510E 00	0.0	2.42860E 01
36	2.45860E 01	2.30490E 00	0.0	2.22810E 01
37	2.12890E 01	2.29250E 00	0.0	1.89960E 01
38	2.43040E 01	3.39410E 00	0.0	2.09090E 01
39	5.30880E 01	5.24550E 00	0.0	4.78420E 01
40	3.38650E 01	5.92850E 00	0.0	2.79360E 01
41	3.09260E 01	6.28040E 00	0.0	2.46450E 01
42	3.70980E 01	7.55870E 00	0.0	2.95390E 01
43	3.53520E 01	7.10830E 00	0.0	2.82440E 01
44	2.94890E 01	8.67140E 00	0.0	2.08170E 01
45	2.80870E 01	9.33610E 00	0.0	1.87490E 01
46	5.30000E 01	2.71230E 01	0.0	2.58750E 01
47	4.33260E 01	1.51290E 01	0.0	2.81950E 01
48	3.52470E 01	1.51000E 01	0.0	2.01460E 01
49	3.59640E 01	1.47560E 01	0.0	2.12070E 01
50	7.81810E 01	3.44440E 01	0.0	4.37350E 01
51	5.08700E 01	2.45450E 01	0.0	2.63240E 01
52	3.29930E 01	1.59700E 01	0.0	1.70220E 01
53	9.65310E 01	3.66730E 01	0.0	5.98560E 01
54	2.18360E 02	6.43700E 01	0.0	1.53990E 02
55	6.31440E 01	2.09700E 01	0.0	4.21720E 01
56	1.35990E 02	6.92200E 01	0.0	6.67690E 01
57	9.62180E 01	6.14900E 01	0.0	3.47270E 01
58	1.77070E 02	1.34470E 02	0.0	4.26000E 01
59	4.15480E 01	2.64090E 01	0.0	1.51380E 01
60	2.43440E 01	1.00610E 01	0.0	1.42820E 01
61	2.72610E 01	1.28560E 01	0.0	1.44040E 01
62	3.47000E 01	1.99350E 01	0.0	1.47640E 01
63	5.09740E 01	3.53480E 01	0.0	1.56260E 01
64	8.78270E 01	7.08170E 01	0.0	1.70100E 01
65	1.23950E 02	1.04000E 02	0.0	1.99480E 01
66	1.47320E 02	8.24620E 01	0.0	6.48520E 01
67	5.22710E 02	2.70990E 02	0.0	2.51720E 02
68	1.33080E 02	8.76770E 01	0.0	4.54010E 01
69	2.35150E 02	1.62420E 02	0.0	7.27320E 01
70	4.78280E 02	3.46370E 02	0.0	1.31920E 02

## Fission Products of Pu-239 (Burn-up 60 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.49660E 00	1.54040E-03	4.22890E 00	4.26480E 00
2	8.54660E 00	5.88910E-03	4.25770E 00	4.25500E 00
3	1.00590E 01	1.84220E-02	4.20180E 00	5.75210E 00
4	1.16970E 01	3.81240E-02	3.19220E 00	8.21150E 00
5	1.31340E 01	6.39390E-02	1.96740E 00	1.07980E 01
6	1.40200E 01	1.12590E-01	6.57180E-01	1.28810E 01
7	1.57110E 01	1.78380E-01	0.0	1.49890E 01
8	1.77940E 01	2.75620E-01	0.0	1.73250E 01
9	1.87810E 01	4.16680E-01	0.0	1.83640E 01
10	1.94430E 01	6.17670E-01	0.0	1.88250E 01
11	2.12610E 01	9.07880E-01	0.0	2.03450E 01
12	2.48790E 01	1.33130E 00	0.0	2.35120E 01
13	2.24260E 01	1.49260E 00	0.0	2.09310E 01
14	2.39730E 01	2.23160E 00	0.0	2.17420E 01
15	3.75390E 01	4.80800E 00	0.0	3.27300E 01
16	3.63160E 01	7.29150E 00	0.0	2.90230E 01
17	3.73920E 01	1.53970E 01	0.0	2.19930E 01
18	3.72520E 01	1.49410E 01	0.0	2.23090E 01
19	5.40320E 01	2.50140E 01	0.0	2.90160E 01
20	1.48850E 02	4.56450E 01	0.0	1.03210E 02
21	1.46710E 02	9.64830E 01	0.0	5.02270E 01
22	3.12070E 01	1.66130E 01	0.0	1.45940E 01
23	6.90450E 01	5.41100E 01	0.0	1.49350E 01
24	1.68170E 02	1.05530E 02	0.0	6.26370E 01
25	1.82330E 02	1.33660E 02	0.0	4.86630E 01

Fission Products of Pu-239 (Burn-up 60 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.77970E 00	8.43290E-04	4.08530E 00	4.69010E 00
2	8.44880E 00	1.73070E-03	4.25140E 00	4.19300E 00
3	8.29410E 00	3.49920E-03	4.21530E 00	4.07180E 00
4	8.69630E 00	7.19800E-03	4.28400E 00	4.36430E 00
5	9.62880E 00	1.38520E-02	4.30540E 00	5.22810E 00
6	1.04290E 01	2.28130E-02	4.10120E 00	6.25960E 00
7	1.12550E 01	3.27450E-02	3.60480E 00	7.50460E 00
8	1.20760E 01	4.30960E-02	2.81240E 00	8.84380E 00
9	1.27870E 01	5.49810E-02	2.32950E 00	1.01360E 01
10	1.34140E 01	7.22800E-02	1.63580E 00	1.13950E 01
11	1.37010E 01	9.19010E-02	1.08540E 00	1.22010E 01
12	1.39410E 01	1.12750E-01	8.47670E-01	1.28680E 01
13	1.43450E 01	1.33900E-01	0.0	1.34910E 01
14	1.49410E 01	1.54810E-01	0.0	1.41420E 01
15	1.55400E 01	1.77880E-01	0.0	1.48030E 01
16	1.61510E 01	2.03810E-01	0.0	1.54810E 01
17	1.69370E 01	2.38890E-01	0.0	1.63610E 01
18	1.77220E 01	2.81770E-01	0.0	1.72480E 01
19	1.83940E 01	3.20240E-01	0.0	1.80150E 01
20	1.86860E 01	3.61990E-01	0.0	1.83240E 01
21	1.87510E 01	4.15200E-01	0.0	1.83360E 01
22	1.89070E 01	4.74040E-01	0.0	1.84330E 01
23	1.90630E 01	5.38780E-01	0.0	1.85240E 01
24	1.93100E 01	6.13330E-01	0.0	1.86970E 01
25	1.99440E 01	6.98340E-01	0.0	1.92450E 01
26	2.04760E 01	7.84820E-01	0.0	1.96820E 01
27	2.11140E 01	8.98140E-01	0.0	2.02150E 01
28	2.19690E 01	1.02230E 00	0.0	2.09440E 01
29	2.30630E 01	1.16440E 00	0.0	2.18900E 01
30	2.51310E 01	1.33510E 00	0.0	2.37820E 01
31	2.56560E 01	1.47880E 00	0.0	2.41660E 01
32	2.19870E 01	1.28870E 00	0.0	2.06910E 01
33	2.22630E 01	1.54500E 00	0.0	2.07180E 01
34	2.30310E 01	1.64330E 00	0.0	2.13870E 01
35	2.62920E 01	1.99210E 00	0.0	2.43000E 01
36	2.42770E 01	2.35100E 00	0.0	2.19260E 01
37	2.13060E 01	2.35650E 00	0.0	1.89500E 01
38	2.52190E 01	3.49890E 00	0.0	2.17200E 01
39	5.33320E 01	4.94100E 00	0.0	4.83900E 01
40	3.40110E 01	6.01390E 00	0.0	2.79970E 01
41	3.16100E 01	6.42970E 00	0.0	2.51800E 01
42	3.81100E 01	7.82660E 00	0.0	3.02830E 01
43	3.92110E 01	7.61660E 00	0.0	3.15940E 01
44	2.89850E 01	8.72720E 00	0.0	2.02570E 01
45	2.86370E 01	9.76900E 00	0.0	1.88660E 01
46	5.46000E 01	2.77440E 01	0.0	2.68540E 01
47	4.10500E 01	1.45250E 01	0.0	2.65240E 01
48	3.40630E 01	1.49480E 01	0.0	1.91130E 01
49	3.66410E 01	1.53680E 01	0.0	2.12720E 01
50	8.02310E 01	3.56150E 01	0.0	4.46140E 01
51	4.91140E 01	2.34840E 01	0.0	2.56290E 01
52	3.29630E 01	1.60280E 01	0.0	1.69330E 01
53	1.07530E 02	3.80050E 01	0.0	6.95210E 01
54	2.67170E 02	7.56870E 01	0.0	1.91480E 02
55	7.32660E 01	2.35730E 01	0.0	4.96910E 01
56	1.21490E 02	5.77950E 01	0.0	6.36980E 01
57	1.03070E 02	6.79340E 01	0.0	3.51350E 01
58	2.16980E 02	1.65170E 02	0.0	5.18080E 01
59	4.27880E 01	2.74440E 01	0.0	1.53440E 01
60	2.37790E 01	9.54190E 00	0.0	1.42370E 01
61	2.71490E 01	1.29430E 01	0.0	1.42050E 01
62	3.48520E 01	2.05140E 01	0.0	1.43380E 01
63	6.39750E 01	4.91160E 01	0.0	1.48590E 01
64	1.08780E 02	9.31640E 01	0.0	1.56170E 01
65	1.26080E 02	1.08720E 02	0.0	1.73620E 01
66	9.73600E 01	5.80260E 01	0.0	3.93300E 01
67	2.83410E 02	1.50700E 02	0.0	1.32710E 02
68	9.31790E 01	6.35980E 01	0.0	2.95810E 01
69	1.53560E 02	1.10260E 02	0.0	4.33030E 01
70	3.00060E 02	2.27000E 02	0.0	7.30640E 01

Fission Products of Pu-239 (Burn-up 180 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.49680E 00	1.58720E-03	4.22910E 00	4.26470E 00
2	8.54740E 00	6.04620E-03	4.25740E 00	4.25590E 00
3	1.00610E 01	1.88720E-02	4.19960E 00	5.75510E 00
4	1.16990E 01	3.91370E-02	3.18960E 00	8.21580E 00
5	1.31370E 01	6.59850E-02	1.97950E 00	1.07920E 01
6	1.40230E 01	1.16270E-01	6.67150E-01	1.28700E 01
7	1.57220E 01	1.84030E-01	0.0	1.49850E 01
8	1.78170E 01	2.84040E-01	0.0	1.73340E 01
9	1.88100E 01	4.27860E-01	0.0	1.83820E 01
10	1.94790E 01	6.32930E-01	0.0	1.88460E 01
11	2.13100E 01	9.31600E-01	0.0	2.03700E 01
12	2.48700E 01	1.36830E 00	0.0	2.34570E 01
13	2.25970E 01	1.52150E 00	0.0	2.10730E 01
14	2.39300E 01	2.26860E 00	0.0	2.16620E 01
15	3.81770E 01	4.78220E 00	0.0	3.33940E 01
16	3.98350E 01	7.69950E 00	0.0	3.21340E 01
17	3.77920E 01	1.56560E 01	0.0	2.21350E 01
18	3.60480E 01	1.47280E 01	0.0	2.13200E 01
19	5.60190E 01	2.59390E 01	0.0	3.00790E 01
20	1.66110E 02	4.88300E 01	0.0	1.17280E 02
21	1.52650E 02	1.01260E 02	0.0	5.13920E 01
22	3.16700E 01	1.70620E 01	0.0	1.46080E 01
23	9.30490E 01	7.86210E 01	0.0	1.44280E 01
24	1.07440E 02	7.71160E 01	0.0	3.03250E 01
25	1.16850E 02	9.12990E 01	0.0	2.55540E 01

## Fission Products of Pu-239 (Burn-up 180 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.77990E 00	8.71940E-04	4.08550E 00	4.68990E 00
2	8.44900E 00	1.78250E-03	4.25150E 00	4.19300E 00
3	8.29470E 00	3.59660E-03	4.21520E 00	4.07230E 00
4	8.69740E 00	7.38780E-03	4.28360E 00	4.36540E 00
5	9.63040E 00	1.41960E-02	4.30400E 00	5.22930E 00
6	1.04310E 01	2.33650E-02	4.09810E 00	6.26330E 00
7	1.12570E 01	3.35730E-02	3.59950E 00	7.51030E 00
8	1.20790E 01	4.42810E-02	2.81220E 00	8.84690E 00
9	1.27890E 01	5.66550E-02	2.33560E 00	1.01340E 01
10	1.34170E 01	7.46700E-02	1.65360E 00	1.13870E 01
11	1.37040E 01	9.49330E-02	1.10220E 00	1.21900E 01
12	1.39430E 01	1.16440E-01	8.60210E-01	1.28560E 01
13	1.43490E 01	1.38240E-01	0.0	1.34810E 01
14	1.49480E 01	1.59770E-01	0.0	1.41360E 01
15	1.55510E 01	1.83510E-01	0.0	1.48010E 01
16	1.61650E 01	2.10190E-01	0.0	1.54830E 01
17	1.69550E 01	2.46270E-01	0.0	1.63680E 01
18	1.77440E 01	2.90340E-01	0.0	1.72600E 01
19	1.84200E 01	3.29870E-01	0.0	1.80310E 01
20	1.87130E 01	3.72400E-01	0.0	1.83410E 01
21	1.87800E 01	4.26560E-01	0.0	1.83530E 01
22	1.89380E 01	4.85820E-01	0.0	1.84520E 01
23	1.90970E 01	5.51510E-01	0.0	1.85450E 01
24	1.93460E 01	6.28450E-01	0.0	1.87180E 01
25	1.99830E 01	7.16160E-01	0.0	1.92660E 01
26	2.05200E 01	7.98300E-01	0.0	1.97040E 01
27	2.11630E 01	9.21720E-01	0.0	2.02400E 01
28	2.20230E 01	1.04910E 00	0.0	2.09710E 01
29	2.30900E 01	1.19630E 00	0.0	2.18850E 01
30	2.51160E 01	1.37400E 00	0.0	2.37280E 01
31	2.56180E 01	1.51920E 00	0.0	2.40870E 01
32	2.20380E 01	1.31030E 00	0.0	2.07200E 01
33	2.21860E 01	1.56800E 00	0.0	2.06180E 01
34	2.35740E 01	1.68540E 00	0.0	2.18880E 01
35	2.62110E 01	2.01350E 00	0.0	2.41980E 01
36	2.40440E 01	2.38390E 00	0.0	2.16600E 01
37	2.14010E 01	2.41350E 00	0.0	1.90780E 01
38	2.66660E 01	3.59900E 00	0.0	2.30670E 01
39	5.36930E 01	4.69040E 00	0.0	4.90020E 01
40	3.41010E 01	6.08910E 00	0.0	2.80110E 01
41	3.30680E 01	6.66350E 00	0.0	2.64050E 01
42	4.10430E 01	8.22740E 00	0.0	3.28150E 01
43	4.53750E 01	8.20590E 00	0.0	3.71700E 01
44	2.82310E 01	8.72190E 00	0.0	1.95090E 01
45	2.94590E 01	1.02400E 01	0.0	1.92170E 01
46	5.57560E 01	2.80620E 01	0.0	2.76910E 01
47	3.74610E 01	1.34800E 01	0.0	2.39800E 01
48	3.28450E 01	1.46110E 01	0.0	1.82330E 01
49	3.78940E 01	1.61310E 01	0.0	2.17620E 01
50	8.79850E 01	3.94850E 01	0.0	4.84980E 01
51	4.74620E 01	2.24830E 01	0.0	2.49780E 01
52	3.28850E 01	1.59640E 01	0.0	1.69200E 01
53	1.15470E 02	3.82910E 01	0.0	7.71770E 01
54	3.03520E 02	8.30960E 01	0.0	2.20430E 02
55	8.09970E 01	2.55000E 01	0.0	5.54950E 01
56	1.06410E 02	4.60050E 01	0.0	6.04000E 01
57	1.07560E 02	7.21920E 01	0.0	3.53680E 01
58	2.45920E 02	1.87420E 02	0.0	5.84970E 01
59	4.37920E 01	2.82820E 01	0.0	1.55100E 01
60	2.37520E 01	9.52340E 00	0.0	1.42290E 01
61	2.75680E 01	1.34760E 01	0.0	1.40920E 01
62	3.60760E 01	2.19660E 01	0.0	1.40700E 01
63	9.13350E 01	7.69110E 01	0.0	1.44240E 01
64	1.52620E 02	1.37820E 02	0.0	1.47960E 01
65	1.31370E 02	1.15710E 02	0.0	1.56610E 01
66	6.58880E 01	4.35400E 01	0.0	2.23470E 01
67	1.25330E 02	7.18720E 01	0.0	5.34610E 01
68	6.77700E 01	4.86630E 01	0.0	1.90570E 01
69	1.00280E 02	7.65680E 01	0.0	2.37140E 01
70	1.82460E 02	1.48590E 02	0.0	3.38760E 01

Fission Products of Pu-239 (Burn-up 360 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.49680E 00	1.61400E-03	4.22910E 00	4.26470E 00
2	8.54770E 00	6.14210E-03	4.25730E 00	4.25610E 00
3	1.00610E 01	1.91510E-02	4.19900E 00	5.75590E 00
4	1.17000E 01	3.97370E-02	3.18930E 00	8.21660E 00
5	1.31380E 01	6.70900E-02	1.98590E 00	1.07880E 01
6	1.40250E 01	1.18220E-01	6.71550E-01	1.28640E 01
7	1.57270E 01	1.86930E-01	0.0	1.49830E 01
8	1.78260E 01	2.88180E-01	0.0	1.73370E 01
9	1.88210E 01	4.33250E-01	0.0	1.83880E 01
10	1.94930E 01	6.40600E-01	0.0	1.88520E 01
11	2.13290E 01	9.43250E-01	0.0	2.03770E 01
12	2.48640E 01	1.38570E 00	0.0	2.34290E 01
13	2.26940E 01	1.53460E 00	0.0	2.11570E 01
14	2.39170E 01	2.27830E 00	0.0	2.16390E 01
15	3.82090E 01	4.79540E 00	0.0	3.34130E 01
16	4.19750E 01	7.90080E 00	0.0	3.40730E 01
17	3.78940E 01	1.57250E 01	0.0	2.21680E 01
18	3.57780E 01	1.46530E 01	0.0	2.11240E 01
19	5.85750E 01	2.71920E 01	0.0	3.13820E 01
20	1.70620E 02	4.95540E 01	0.0	1.21060E 02
21	1.51400E 02	1.00490E 02	0.0	5.09100E 01
22	3.20240E 01	1.74260E 01	0.0	1.45980E 01
23	1.04250E 02	8.99310E 01	0.0	1.43170E 01
24	9.29900E 01	7.07340E 01	0.0	2.22550E 01
25	1.00910E 02	8.11290E 01	0.0	1.97810E 01

## Fission Products of Pu-239 (Burn-up 360 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.77990E 00	8.85720E-04	4.08560E 00	4.68990E 00
2	8.44900E 00	1.81280E-03	4.25160E 00	4.19300E 00
3	8.29480E 00	3.65570E-03	4.21520E 00	4.07250E 00
4	8.69770E 00	7.50400E-03	4.28350E 00	4.36570E 00
5	9.63090E 00	1.44080E-02	4.30370E 00	5.22910E 00
6	1.04310E 01	2.37070E-02	4.09730E 00	6.26430E 00
7	1.12580E 01	3.40770E-02	3.59780E 00	7.51180E 00
8	1.20800E 01	4.49710E-02	2.81320E 00	8.84710E 00
9	1.27910E 01	5.75790E-02	2.34020E 00	1.01320E 01
10	1.34180E 01	7.59430E-02	1.66160E 00	1.13810E 01
11	1.37050E 01	9.65520E-02	1.10940E 00	1.21850E 01
12	1.39450E 01	1.18420E-01	8.65960E-01	1.28510E 01
13	1.43520E 01	1.40530E-01	0.0	1.34770E 01
14	1.49520E 01	1.62350E-01	0.0	1.41330E 01
15	1.55560E 01	1.86400E-01	0.0	1.47990E 01
16	1.61710E 01	2.13410E-01	0.0	1.54830E 01
17	1.69620E 01	2.49960E-01	0.0	1.63710E 01
18	1.77530E 01	2.94550E-01	0.0	1.72640E 01
19	1.84300E 01	3.34550E-01	0.0	1.80360E 01
20	1.87240E 01	3.77450E-01	0.0	1.83470E 01
21	1.87910E 01	4.32100E-01	0.0	1.83590E 01
22	1.89500E 01	4.91400E-01	0.0	1.84590E 01
23	1.91100E 01	5.57760E-01	0.0	1.85520E 01
24	1.93600E 01	6.36160E-01	0.0	1.87240E 01
25	1.99980E 01	7.25190E-01	0.0	1.92730E 01
26	2.05370E 01	8.05300E-01	0.0	1.97110E 01
27	2.11820E 01	9.33270E-01	0.0	2.02470E 01
28	2.20440E 01	1.06220E 00	0.0	2.09790E 01
29	2.31000E 01	1.21160E 00	0.0	2.18790E 01
30	2.51080E 01	1.39230E 00	0.0	2.37010E 01
31	2.55980E 01	1.53770E 00	0.0	2.40480E 01
32	2.20640E 01	1.31800E 00	0.0	2.07380E 01
33	2.22190E 01	1.57850E 00	0.0	2.06410E 01
34	2.38040E 01	1.70670E 00	0.0	2.20980E 01
35	2.60200E 01	2.01110E 00	0.0	2.40090E 01
36	2.39450E 01	2.39250E 00	0.0	2.15530E 01
37	2.17440E 01	2.43670E 00	0.0	1.93080E 01
38	2.73320E 01	3.64250E 00	0.0	2.36890E 01
39	5.32450E 01	4.65710E 00	0.0	4.85870E 01
40	3.39750E 01	6.11880E 00	0.0	2.78560E 01
41	3.38160E 01	6.80010E 00	0.0	2.70160E 01
42	4.42650E 01	8.50820E 00	0.0	3.57570E 01
43	4.78160E 01	8.39210E 00	0.0	3.94240E 01
44	2.79080E 01	8.68740E 00	0.0	1.92200E 01
45	2.98380E 01	1.04370E 01	0.0	1.93980E 01
46	5.60160E 01	2.81090E 01	0.0	2.79040E 01
47	3.61800E 01	1.30490E 01	0.0	2.31300E 01
48	3.22440E 01	1.42900E 01	0.0	1.79520E 01
49	3.89960E 01	1.66730E 01	0.0	2.23220E 01
50	9.55370E 01	4.32100E 01	0.0	5.23250E 01
51	4.73200E 01	2.24150E 01	0.0	2.49040E 01
52	3.31930E 01	1.60910E 01	0.0	1.71010E 01
53	1.18430E 02	3.86270E 01	0.0	7.98060E 01
54	3.12210E 02	8.44830E 01	0.0	2.27730E 02
55	8.29210E 01	2.59600E 01	0.0	5.69590E 01
56	1.02330E 02	4.28290E 01	0.0	5.95050E 01
57	1.07560E 02	7.22660E 01	0.0	3.52960E 01
58	2.46290E 02	1.88270E 02	0.0	5.80180E 01
59	4.40370E 01	2.85230E 01	0.0	1.55130E 01
60	2.40930E 01	9.87050E 00	0.0	1.42230E 01
61	2.80440E 01	1.39800E 01	0.0	1.40640E 01
62	3.66600E 01	2.26580E 01	0.0	1.40020E 01
63	1.04110E 02	8.97770E 01	0.0	1.43340E 01
64	1.72990E 02	1.58370E 02	0.0	1.46200E 01
65	1.33820E 02	1.18580E 02	0.0	1.52380E 01
66	5.86080E 01	4.05020E 01	0.0	1.81050E 01
67	8.62780E 01	5.26120E 01	0.0	3.36650E 01
68	6.17460E 01	4.53180E 01	0.0	1.64280E 01
69	8.73680E 01	6.85460E 01	0.0	1.88220E 01
70	1.53550E 02	1.29460E 02	0.0	2.40870E 01

## Fission Products of Pu-239 (Burn-up 720 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.49680E 00	1.63510E-03	4.22910E 00	4.26480E 00
2	8.54780E 00	6.22380E-03	4.25710E 00	4.25640E 00
3	1.00620E 01	1.94010E-02	4.19800E 00	5.75680E 00
4	1.17010E 01	4.02510E-02	3.18700E 00	8.21900E 00
5	1.31390E 01	6.79420E-02	1.98340E 00	1.07900E 01
6	1.40260E 01	1.19730E-01	6.69360E-01	1.28660E 01
7	1.57300E 01	1.89080E-01	0.0	1.49850E 01
8	1.78310E 01	2.91100E-01	0.0	1.73390E 01
9	1.88280E 01	4.37050E-01	0.0	1.83910E 01
10	1.95020E 01	6.46300E-01	0.0	1.88560E 01
11	2.13420E 01	9.51810E-01	0.0	2.03810E 01
12	2.48630E 01	1.39830E 00	0.0	2.34140E 01
13	2.27880E 01	1.54410E 00	0.0	2.12410E 01
14	2.38910E 01	2.28160E 00	0.0	2.16090E 01
15	3.79260E 01	4.81360E 00	0.0	3.31120E 01
16	4.40040E 01	8.06750E 00	0.0	3.59360E 01
17	3.79530E 01	1.57610E 01	0.0	2.21900E 01
18	3.57610E 01	1.46010E 01	0.0	2.11580E 01
19	6.08600E 01	2.82900E 01	0.0	3.25690E 01
20	1.73420E 02	5.00850E 01	0.0	1.23330E 02
21	1.46620E 02	9.71440E 01	0.0	4.94770E 01
22	3.24910E 01	1.79230E 01	0.0	1.45680E 01
23	1.10260E 02	9.60010E 01	0.0	1.42580E 01
24	8.57420E 01	6.75230E 01	0.0	1.82180E 01
25	9.30630E 01	7.61690E 01	0.0	1.68940E 01



## Fission Products of Pu-239 (Burn-up 720 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.77990E 00	8.95970E-04	4.08560E 00	4.68990E 00
2	8.44910E 00	1.83690E-03	4.25160E 00	4.19300E 00
3	8.29490E 00	3.70460E-03	4.21510E 00	4.07260E 00
4	8.69790E 00	7.60370E-03	4.28330E 00	4.36600E 00
5	9.63120E 00	1.45960E-02	4.30310E 00	5.22910E 00
6	1.04320E 01	2.40160E-02	4.09600E 00	6.26550E 00
7	1.12580E 01	3.45230E-02	3.59550E 00	7.51390E 00
8	1.20800E 01	4.55480E-02	2.81110E 00	8.84970E 00
9	1.27910E 01	5.83070E-02	2.33910E 00	1.01350E 01
10	1.34190E 01	7.69100E-02	1.65790E 00	1.13830E 01
11	1.37070E 01	9.77930E-02	1.10560E 00	1.21860E 01
12	1.39470E 01	1.19940E-01	8.63200E-01	1.28530E 01
13	1.43540E 01	1.42290E-01	0.0	1.34790E 01
14	1.49540E 01	1.64290E-01	0.0	1.41360E 01
15	1.55580E 01	1.88530E-01	0.0	1.48030E 01
16	1.61740E 01	2.15760E-01	0.0	1.54870E 01
17	1.69670E 01	2.52590E-01	0.0	1.63740E 01
18	1.77580E 01	2.97510E-01	0.0	1.72680E 01
19	1.84360E 01	3.37790E-01	0.0	1.80390E 01
20	1.87300E 01	3.80950E-01	0.0	1.83490E 01
21	1.87980E 01	4.36010E-01	0.0	1.83620E 01
22	1.89580E 01	4.95410E-01	0.0	1.84620E 01
23	1.91180E 01	5.62380E-01	0.0	1.85560E 01
24	1.93690E 01	6.41900E-01	0.0	1.87270E 01
25	2.00080E 01	7.31880E-01	0.0	1.92760E 01
26	2.05480E 01	8.11090E-01	0.0	1.97150E 01
27	2.11940E 01	9.41750E-01	0.0	2.02510E 01
28	2.20570E 01	1.07170E 00	0.0	2.09830E 01
29	2.31070E 01	1.22270E 00	0.0	2.18750E 01
30	2.51060E 01	1.40550E 00	0.0	2.36870E 01
31	2.55910E 01	1.55100E 00	0.0	2.40280E 01
32	2.20950E 01	1.32280E 00	0.0	2.07650E 01
33	2.22920E 01	1.58550E 00	0.0	2.07060E 01
34	2.39820E 01	1.72340E 00	0.0	2.22580E 01
35	2.57370E 01	1.99720E 00	0.0	2.37400E 01
36	2.37870E 01	2.39420E 00	0.0	2.13930E 01
37	2.21130E 01	2.45890E 00	0.0	1.96540E 01
38	2.78170E 01	3.68260E 00	0.0	2.41340E 01
39	5.21380E 01	4.65070E 00	0.0	4.74870E 01
40	3.37470E 01	6.13970E 00	0.0	2.76070E 01
41	3.42730E 01	6.89260E 00	0.0	2.73800E 01
42	4.85110E 01	8.82280E 00	0.0	3.96870E 01
43	4.91880E 01	8.48430E 00	0.0	4.07030E 01
44	2.77300E 01	8.66210E 00	0.0	1.90680E 01
45	3.00600E 01	1.05550E 01	0.0	1.95030E 01
46	5.61520E 01	2.81270E 01	0.0	2.80230E 01
47	3.57010E 01	1.28000E 01	0.0	2.29000E 01
48	3.18010E 01	1.39910E 01	0.0	1.78090E 01
49	3.98870E 01	1.70760E 01	0.0	2.28090E 01
50	1.01400E 02	4.59680E 01	0.0	5.54310E 01
51	4.76920E 01	2.26830E 01	0.0	2.50070E 01
52	3.38520E 01	1.63770E 01	0.0	1.74740E 01
53	1.21640E 02	3.94190E 01	0.0	8.22200E 01
54	3.16470E 02	8.50700E 01	0.0	2.31400E 02
55	8.38640E 01	2.61700E 01	0.0	5.76920E 01
56	1.00260E 02	4.12060E 01	0.0	5.90500E 01
57	1.05780E 02	7.07270E 01	0.0	3.50540E 01
58	2.35670E 02	1.81300E 02	0.0	5.43660E 01
59	4.41260E 01	2.86730E 01	0.0	1.54520E 01
60	2.47530E 01	1.05420E 01	0.0	1.42110E 01
61	2.86910E 01	1.46440E 01	0.0	1.40470E 01
62	3.69540E 01	2.29920E 01	0.0	1.39620E 01
63	1.11040E 02	9.67510E 01	0.0	1.42860E 01
64	1.83890E 02	1.69370E 02	0.0	1.45300E 01
65	1.34920E 02	1.19890E 02	0.0	1.50230E 01
66	5.49890E 01	3.90070E 01	0.0	1.59820E 01
67	6.67930E 01	4.30260E 01	0.0	2.37670E 01
68	5.88200E 01	4.37080E 01	0.0	1.51120E 01
69	8.10160E 01	6.46430E 01	0.0	1.63730E 01
70	1.39290E 02	1.20100E 02	0.0	1.91920E 01

## Fission Products of U-235 (Burn-up 1 Day)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.49050E 00	1.04370E-03	4.19160E 00	4.29660E 00
2	8.52530E 00	3.96030E-03	4.21070E 00	4.28000E 00
3	9.98820E 00	1.20110E-02	4.17470E 00	5.72080E 00
4	1.15440E 01	2.45840E-02	3.07180E 00	8.14800E 00
5	1.29790E 01	3.96930E-02	1.73450E 00	1.08200E 01
6	1.39670E 01	6.80570E-02	5.09710E-01	1.30260E 01
7	1.58130E 01	1.06400E-01	0.0	1.52780E 01
8	1.80370E 01	1.63400E-01	0.0	1.77230E 01
9	1.90550E 01	2.43240E-01	0.0	1.88120E 01
10	1.96410E 01	3.50930E-01	0.0	1.92900E 01
11	2.14830E 01	5.05270E-01	0.0	2.09720E 01
12	2.56300E 01	7.42330E-01	0.0	2.48900E 01
13	2.28550E 01	9.28890E-01	0.0	2.19240E 01
14	2.41080E 01	1.39010E 00	0.0	2.27180E 01
15	3.79580E 01	3.85720E 00	0.0	3.41000E 01
16	2.92110E 01	4.48520E 00	0.0	2.47250E 01
17	2.90000E 01	7.67130E 00	0.0	2.13280E 01
18	3.95800E 01	1.11310E 01	0.0	2.84480E 01
19	3.51630E 01	1.23020E 01	0.0	2.28600E 01
20	3.08550E 01	1.22070E 01	0.0	1.86470E 01
21	6.36550E 01	3.38590E 01	0.0	2.97960E 01
22	3.71740E 01	1.67260E 01	0.0	2.04480E 01
23	8.56540E 01	3.74490E 01	0.0	4.82040E 01
24	7.12160E 02	3.82120E 02	0.0	3.30030E 02
25	3.60290E 03	2.36950E 03	0.0	1.23340E 03

Fission Products of U-235 (Burn-up 1 Day)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.75430E 00	5.23350E-04	4.05580E 00	4.69490E 00
2	8.44600E 00	1.18540E-03	4.21280E 00	4.22950E 00
3	8.27940E 00	2.38350E-03	4.16270E 00	4.11110E 00
4	8.67170E 00	4.82390E-03	4.24080E 00	4.38120E 00
5	9.57750E 00	9.11020E-03	4.28080E 00	5.21750E 00
6	1.03410E 01	1.47980E-02	4.07060E 00	6.20630E 00
7	1.11120E 01	2.13570E-02	3.53170E 00	7.43210E 00
8	1.19140E 01	2.75750E-02	2.64920E 00	8.78490E 00
9	1.26240E 01	3.44150E-02	2.15170E 00	1.01180E 01
10	1.32650E 01	4.46050E-02	1.35150E 00	1.14450E 01
11	1.35980E 01	5.60290E-02	8.37290E-01	1.23030E 01
12	1.38830E 01	6.81190E-02	6.61970E-01	1.30200E 01
13	1.43330E 01	8.04070E-02	0.0	1.36850E 01
14	1.49750E 01	9.25980E-02	0.0	1.43720E 01
15	1.56200E 01	1.06060E-01	0.0	1.50670E 01
16	1.62740E 01	1.21230E-01	0.0	1.57790E 01
17	1.71120E 01	1.41670E-01	0.0	1.67000E 01
18	1.79460E 01	1.66970E-01	0.0	1.76240E 01
19	1.86580E 01	1.89590E-01	0.0	1.84210E 01
20	1.89620E 01	2.13360E-01	0.0	1.87480E 01
21	1.90170E 01	2.42660E-01	0.0	1.87750E 01
22	1.91890E 01	2.74360E-01	0.0	1.89150E 01
23	1.92750E 01	3.09280E-01	0.0	1.89660E 01
24	1.94390E 01	3.48420E-01	0.0	1.90900E 01
25	2.02000E 01	3.93710E-01	0.0	1.98060E 01
26	2.07280E 01	4.44080E-01	0.0	2.02830E 01
27	2.13380E 01	5.00510E-01	0.0	2.08370E 01
28	2.21540E 01	5.68070E-01	0.0	2.15840E 01
29	2.33410E 01	6.45760E-01	0.0	2.26900E 01
30	2.62020E 01	7.42960E-01	0.0	2.54510E 01
31	2.65960E 01	8.28200E-01	0.0	2.57600E 01
32	2.26030E 01	7.87450E-01	0.0	2.18090E 01
33	2.37590E 01	1.01100E 00	0.0	2.27480E 01
34	2.21920E 01	9.87010E-01	0.0	2.12050E 01
35	2.66570E 01	1.30970E 00	0.0	2.53470E 01
36	2.47780E 01	1.40640E 00	0.0	2.33710E 01
37	2.08390E 01	1.45530E 00	0.0	1.93830E 01
38	2.09400E 01	2.15070E 00	0.0	1.87890E 01
39	6.03650E 01	5.33820E 00	0.0	5.50260E 01
40	3.24830E 01	4.09150E 00	0.0	2.83910E 01
41	2.82760E 01	4.15900E 00	0.0	2.41170E 01
42	3.22770E 01	5.01600E 00	0.0	2.72610E 01
43	2.70670E 01	4.27980E 00	0.0	2.27870E 01
44	2.76900E 01	5.99720E 00	0.0	2.16920E 01
45	2.62150E 01	4.88350E 00	0.0	2.13300E 01
46	3.30910E 01	1.21320E 01	0.0	2.09570E 01
47	3.74530E 01	1.10820E 01	0.0	2.63700E 01
48	5.36570E 01	1.45280E 01	0.0	3.91290E 01
49	2.73950E 01	7.71790E 00	0.0	1.96770E 01
50	5.54070E 01	1.95330E 01	0.0	3.58730E 01
51	2.55210E 01	8.67790E 00	0.0	1.68430E 01
52	2.47740E 01	8.77670E 00	0.0	1.59970E 01
53	4.07150E 01	1.91980E 01	0.0	2.15170E 01
54	3.20310E 01	1.26830E 01	0.0	1.93480E 01
55	1.97160E 01	4.66700E 00	0.0	1.50490E 01
56	9.37970E 01	5.09900E 01	0.0	4.28080E 01
57	6.33340E 01	3.45310E 01	0.0	2.88030E 01
58	3.30830E 01	1.56120E 01	0.0	1.74710E 01
59	3.42060E 01	1.68420E 01	0.0	1.73640E 01
60	3.75470E 01	1.77980E 01	0.0	1.97490E 01
61	3.97600E 01	1.55350E 01	0.0	2.42250E 01
62	5.33340E 01	2.15890E 01	0.0	3.17450E 01
63	7.65020E 01	3.12790E 01	0.0	4.52240E 01
64	1.27550E 02	5.96710E 01	0.0	6.78750E 01
65	2.27770E 02	1.18720E 02	0.0	1.09050E 02
66	5.23410E 02	2.78560E 02	0.0	2.44840E 02
67	1.40030E 03	7.57280E 02	0.0	6.43010E 02
68	1.47400E 03	9.03390E 02	0.0	5.70650E 02
69	2.94130E 03	1.89330E 03	0.0	1.04790E 03
70	6.38920E 03	4.30900E 03	0.0	2.08020E 03

## Fission Products of U-235 (Burn-up 30 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.49050E 00	1.24160E-03	4.19100E 00	4.29700E 00
2	8.52460E 00	4.54350E-03	4.20940E 00	4.28080E 00
3	9.98750E 00	1.37240E-02	4.16970E 00	5.72180E 00
4	1.15470E 01	2.87420E-02	3.06870E 00	8.15100E 00
5	1.29880E 01	4.91860E-02	1.78310E 00	1.08050E 01
6	1.39930E 01	8.64420E-02	5.65100E-01	1.29770E 01
7	1.59230E 01	1.34360E-01	0.0	1.53100E 01
8	1.82860E 01	2.03410E-01	0.0	1.79110E 01
9	1.93900E 01	3.04220E-01	0.0	1.90850E 01
10	2.00090E 01	4.51940E-01	0.0	1.95570E 01
11	2.19360E 01	6.72010E-01	0.0	2.12560E 01
12	2.61570E 01	1.00530E 00	0.0	2.51320E 01
13	2.31440E 01	1.19050E 00	0.0	2.19510E 01
14	2.40300E 01	1.80830E 00	0.0	2.22220E 01
15	3.89050E 01	4.26790E 00	0.0	3.46360E 01
16	3.40710E 01	6.37750E 00	0.0	2.76920E 01
17	3.69500E 01	1.41090E 01	0.0	2.28400E 01
18	3.37490E 01	1.19500E 01	0.0	2.17980E 01
19	4.42420E 01	1.71810E 01	0.0	2.70590E 01
20	9.38670E 01	2.88040E 01	0.0	6.50610E 01
21	1.23470E 02	8.42560E 01	0.0	3.92170E 01
22	2.81440E 01	1.38710E 01	0.0	1.42740E 01
23	3.86820E 01	2.34100E 01	0.0	1.52720E 01
24	1.06750E 02	6.80310E 01	0.0	3.87200E 01
25	2.44970E 02	1.66940E 02	0.0	7.80300E 01

## Fission Products of U-235 (Burn-up 30 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.75430E 00	6.88430E-04	4.05520E 00	4.69520E 00
2	8.44600E 00	1.39200E-03	4.21220E 00	4.22990E 00
3	8.27900E 00	2.73750E-03	4.16180E 00	4.11110E 00
4	8.67080E 00	5.53270E-03	4.23910E 00	4.38230E 00
5	9.57650E 00	1.04180E-02	4.27730E 00	5.21820E 00
6	1.03400E 01	1.69000E-02	4.06410E 00	6.20880E 00
7	1.11130E 01	2.46100E-02	3.52350E 00	7.43780E 00
8	1.19180E 01	3.25710E-02	2.65070E 00	8.78560E 00
9	1.26320E 01	4.19500E-02	2.16150E 00	1.01100E 01
10	1.32770E 01	5.59170E-02	1.43630E 00	1.14250E 01
11	1.36150E 01	7.08310E-02	9.28980E-01	1.22660E 01
12	1.39050E 01	8.66700E-02	7.33110E-01	1.29670E 01
13	1.43720E 01	1.02390E-01	0.0	1.36420E 01
14	1.50490E 01	1.17400E-01	0.0	1.43660E 01
15	1.57290E 01	1.33890E-01	0.0	1.51010E 01
16	1.64220E 01	1.52360E-01	0.0	1.58560E 01
17	1.73130E 01	1.77260E-01	0.0	1.68360E 01
18	1.82030E 01	2.07610E-01	0.0	1.78230E 01
19	1.89650E 01	2.34740E-01	0.0	1.86770E 01
20	1.92910E 01	2.64550E-01	0.0	1.90270E 01
21	1.93510E 01	3.03040E-01	0.0	1.90480E 01
22	1.95290E 01	3.45950E-01	0.0	1.91830E 01
23	1.96260E 01	3.93500E-01	0.0	1.92320E 01
24	1.98040E 01	4.48280E-01	0.0	1.93550E 01
25	2.05870E 01	5.12140E-01	0.0	2.00740E 01
26	2.11410E 01	5.82100E-01	0.0	2.05560E 01
27	2.17840E 01	6.65150E-01	0.0	2.11180E 01
28	2.26420E 01	7.61210E-01	0.0	2.18780E 01
29	2.38510E 01	8.72170E-01	0.0	2.29720E 01
30	2.67320E 01	1.00890E 00	0.0	2.57120E 01
31	2.70830E 01	1.12410E 00	0.0	2.59480E 01
32	2.25600E 01	1.00840E 00	0.0	2.15440E 01
33	2.34760E 01	1.24830E 00	0.0	2.22280E 01
34	2.33920E 01	1.31390E 00	0.0	2.20780E 01
35	2.69430E 01	1.66930E 00	0.0	2.52740E 01
36	2.42000E 01	1.86140E 00	0.0	2.23390E 01
37	2.08900E 01	1.89670E 00	0.0	1.89930E 01
38	2.34560E 01	2.97780E 00	0.0	2.04780E 01
39	5.95690E 01	4.82420E 00	0.0	5.47440E 01
40	3.36020E 01	5.02120E 00	0.0	2.85800E 01
41	3.01520E 01	5.44180E 00	0.0	2.47100E 01
42	3.75910E 01	7.16140E 00	0.0	3.04300E 01
43	3.44440E 01	6.52620E 00	0.0	2.79180E 01
44	2.84850E 01	7.65580E 00	0.0	2.08280E 01
45	2.58090E 01	7.39060E 00	0.0	1.84160E 01
46	5.65820E 01	2.73170E 01	0.0	2.92630E 01
47	3.29290E 01	9.78920E 00	0.0	2.31380E 01
48	3.36040E 01	1.32670E 01	0.0	2.03350E 01
49	3.47540E 01	1.28220E 01	0.0	2.19310E 01
50	7.82300E 01	3.01300E 01	0.0	4.80980E 01
51	2.60660E 01	9.22380E 00	0.0	1.68420E 01
52	2.87930E 01	1.23400E 01	0.0	1.64520E 01
53	7.91800E 01	3.09810E 01	0.0	4.81970E 01
54	1.58430E 02	4.45270E 01	0.0	1.13900E 02
55	4.46640E 01	1.10040E 01	0.0	3.36590E 01
56	1.06150E 02	5.98360E 01	0.0	4.63110E 01
57	7.94270E 01	5.39280E 01	0.0	2.54990E 01
58	1.86110E 02	1.40170E 02	0.0	4.59420E 01
59	4.23760E 01	2.74890E 01	0.0	1.48850E 01
60	2.04990E 01	6.58060E 00	0.0	1.39180E 01
61	2.16670E 01	7.64480E 00	0.0	1.40220E 01
62	2.62190E 01	1.18510E 01	0.0	1.43680E 01
63	3.37670E 01	1.86820E 01	0.0	1.50850E 01
64	5.62040E 01	3.98300E 01	0.0	1.63750E 01
65	1.02830E 02	8.36790E 01	0.0	1.91490E 01
66	6.97230E 01	4.00810E 01	0.0	2.96400E 01
67	1.48530E 02	8.05280E 01	0.0	6.80000E 01
68	1.15810E 02	7.29720E 01	0.0	4.28350E 01
69	2.04750E 02	1.36580E 02	0.0	6.81690E 01
70	4.14100E 02	2.91100E 02	0.0	1.23010E 02

## Fission Products of U-235 (Burn-up 60 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.49070E 00	1.27020E-03	4.19120E 00	4.29700E 00
2	8.52550E 00	4.63070E-03	4.20860E 00	4.28220E 00
3	9.98920E 00	1.39850E-02	4.16510E 00	5.72720E 00
4	1.15490E 01	2.93720E-02	3.05900E 00	8.16180E 00
5	1.29900E 01	5.06390E-02	1.78310E 00	1.08110E 01
6	1.39950E 01	8.90730E-02	5.69520E-01	1.29730E 01
7	1.59290E 01	1.38350E-01	0.0	1.53080E 01
8	1.82970E 01	2.09210E-01	0.0	1.79150E 01
9	1.94050E 01	3.12640E-01	0.0	1.90930E 01
10	2.00290E 01	4.65100E-01	0.0	1.95640E 01
11	2.14650E 01	6.93640E-01	0.0	2.12630E 01
12	2.61470E 01	1.03930E 00	0.0	2.50820E 01
13	2.32760E 01	1.22300E 00	0.0	2.20510E 01
14	2.39520E 01	1.85870E 00	0.0	2.20930E 01
15	3.92620E 01	4.21230E 00	0.0	3.50490E 01
16	3.60020E 01	6.66860E 00	0.0	2.93320E 01
17	3.75210E 01	1.44590E 01	0.0	2.30600E 01
18	3.25350E 01	1.18430E 01	0.0	2.06910E 01
19	4.40510E 01	1.70510E 01	0.0	2.70000E 01
20	1.09580E 02	3.20200E 01	0.0	7.75590E 01
21	1.33880E 02	9.25420E 01	0.0	4.13360E 01
22	2.82940E 01	1.40370E 01	0.0	1.42560E 01
23	4.29850E 01	2.85480E 01	0.0	1.44370E 01
24	8.29290E 01	5.67030E 01	0.0	2.62250E 01
25	1.52330E 02	1.06540E 02	0.0	4.57870E 01

Fission Products of U-235 (Burn-up 60 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.75450E 00	7.10490E-04	4.05550E 00	4.69510E
2	8.44620F 00	1.42240E-03	4.21230E 00	4.22990E
3	8.27950E 00	2.79070E-03	4.16160E 00	4.11190E
4	8.67190F 00	5.63850E-03	4.23810E 00	4.38420E
5	9.57810E 00	1.06150E-02	4.27440E 00	5.22190E
6	1.03420F 01	1.72230E-02	4.05800E 00	6.21550E
7	1.11150F 01	2.51070E-02	3.51320E 00	7.44860E
8	1.19200F 01	3.33240E-02	2.64160E 00	8.79650E
9	1.26340E 01	4.30950E-02	2.15560E 00	1.01190E
10	1.32790F 01	5.76530E-02	1.44170E 00	1.14290E
11	1.36170E 01	7.30070E-02	9.36560E-01	1.22660E
12	1.39060E 01	8.93130E-02	7.38640E-01	1.29630E
13	1.43750E 01	1.05500E-01	0.0	1.36370E
14	1.50520F 01	1.20920E-01	0.0	1.43630F
15	1.57350E 01	1.37860E-01	0.0	1.51000E
16	1.64290F 01	1.56830E-01	0.0	1.58570E
17	1.73230F 01	1.82400E-01	0.0	1.68390E
18	1.82150E 01	2.13500E-01	0.0	1.78290F
19	1.89790F 01	2.41320E-01	0.0	1.86840E
20	1.93060F 01	2.71860E-01	0.0	1.90340F
21	1.93670F 01	3.11450E-01	0.0	1.90550E
22	1.95460F 01	3.55520E-01	0.0	1.91910E
23	1.96450F 01	4.04460E-01	0.0	1.92400E
24	1.98240F 01	4.61270E-01	0.0	1.93630E
25	2.06090E 01	5.27580E-01	0.0	2.00810E
26	2.11660E 01	5.98780E-01	0.0	2.05630E
27	2.18130F 01	6.86610E-01	0.0	2.11250E
28	2.26740F 01	7.86240E-01	0.0	2.18850E
29	2.38670E 01	9.01700E-01	0.0	2.29570E
30	2.67200E 01	1.04410E 00	0.0	2.56650E
31	2.70510F 01	1.16110F 00	0.0	2.58790E
32	2.25660F 01	1.03520E 00	0.0	2.15230E
33	2.33570F 01	1.27560E 00	0.0	2.20820E
34	2.39050F 01	1.35730E 00	0.0	2.25480E
35	2.69690F 01	1.70590E 00	0.0	2.52630E
36	2.39150E 01	1.91110E 00	0.0	2.20040E
37	2.09120F 01	1.96180E 00	0.0	1.89500E
38	2.43490F 01	3.08530E 00	0.0	2.12640E
39	5.96710F 01	4.46000F 00	0.0	5.52100F
40	3.36710E 01	5.11390E 00	0.0	2.85560E
41	3.07880F 01	5.57340E 00	0.0	2.52150E
42	3.89670F 01	7.45770F 00	0.0	3.15090E
43	3.82240F 01	6.97110E 00	0.0	3.12530E
44	2.79960F 01	7.72080E 00	0.0	2.02740E 01
45	2.60670E 01	7.71850E 00	0.0	1.83460E 01
46	5.85380E 01	2.79790E 01	0.0	3.05570E 01
47	3.02800E 01	9.03480E 00	0.0	2.12440E 01
48	3.18560F 01	1.29570F 01	0.0	1.88990E 01
49	3.55510E 01	1.35850E 01	0.0	2.19660E 01
50	8.04860E 01	3.13930E 01	0.0	4.90920E 01
51	2.37060F 01	7.79740E 00	0.0	1.59070E 01
52	2.83530F 01	1.21280F 01	0.0	1.62240E 01
53	8.50370E 01	3.07280E 01	0.0	5.43070E 01
54	1.93020F 02	5.28070E 01	0.0	1.40210E 02
55	5.16210F 01	1.27020F 01	0.0	3.89180E 01
56	8.70580E 01	4.50310E 01	0.0	4.20270E 01
57	8.63210E 01	6.04900E 01	0.0	2.58300E 01
58	2.30290E 02	1.73840E 02	0.0	5.64430E 01
59	4.35940E 01	2.85060E 01	0.0	1.50880E 01
60	2.00080E 01	6.14320E 00	0.0	1.38650E 01
61	2.13960E 01	7.57370E 00	0.0	1.38230E 01
62	2.59660F 01	1.20090E 01	0.0	1.39570E 01
63	3.88200E 01	2.44900E 01	0.0	1.43310E 01
64	6.43900E 01	4.93590E 01	0.0	1.50300E 01
65	1.03200F 02	8.64690F 01	0.0	1.67270E 01
66	5.38910E 01	3.23270E 01	0.0	2.15640E 01
67	9.18080E 01	5.11120F 01	0.0	4.06950E 01
68	7.86300E 01	5.04960E 01	0.0	2.81340E 01
69	1.29250F 02	8.84150E 01	0.0	4.08350E 01
70	2.48960E 02	1.80600E 02	0.0	6.83540E 01

## Fission Products of U-235 (Burn-up 180 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.49090E 00	1.31300E-03	4.19130E 00	4.29700E 00
2	8.52650E 00	4.77000E-03	4.20750E 00	4.28410E 00
3	9.99120E 00	1.43920E-02	4.15880E 00	5.73420E 00
4	1.15510E 01	3.03230E-02	3.04560E 00	8.17510E 00
5	1.29930E 01	5.26280E-02	1.79200E 00	1.08120E 01
6	1.39980E 01	9.25380E-02	5.81850E-01	1.29600E 01
7	1.59350E 01	1.43470E-01	0.0	1.52980E 01
8	1.83090E 01	2.16530E-01	0.0	1.79140E 01
9	1.94190E 01	3.22790E-01	0.0	1.90960E 01
10	2.00480E 01	4.80880E-01	0.0	1.95670E 01
11	2.19910E 01	7.19060E-01	0.0	2.12640E 01
12	2.60880E 01	1.07760E 00	0.0	2.49750E 01
13	2.34910E 01	1.25830E 00	0.0	2.22300E 01
14	2.39390E 01	1.89830E 00	0.0	2.20410E 01
15	3.96780E 01	4.17410E 00	0.0	3.55030E 01
16	3.98350E 01	7.05840E 00	0.0	3.27750E 01
17	3.78840E 01	1.46870E 01	0.0	2.31950E 01
18	3.12170E 01	1.16660E 01	0.0	1.95490E 01
19	4.65140E 01	1.82030E 01	0.0	2.83100E 01
20	1.21310E 02	3.40550E 01	0.0	8.72560E 01
21	1.39060E 02	9.67030E 01	0.0	4.23560E 01
22	2.86310E 01	1.43680E 01	0.0	1.42630E 01
23	5.31710E 01	3.92560E 01	0.0	1.39150E 01
24	6.81170E 01	5.02010E 01	0.0	1.79160E 01
25	9.11100E 01	6.67850E 01	0.0	2.43250E 01



## Fission Products of U-235 (Burn-up 180 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.75460E 00	7.36700E-04	4.05580E 00	4.69500E 00
2	8.44640E 00	1.46970E-03	4.21240E 00	4.23000E 00
3	8.28010E 00	2.87750E-03	4.16110E 00	4.11280E 00
4	8.67310E 00	5.80680E-03	4.23670E 00	4.38650E 00
5	9.57990E 00	1.09220E-02	4.27030E 00	5.22640E 00
6	1.03440E 01	1.77250E-02	4.04960E 00	6.22410E 00
7	1.11180E 01	2.58770E-02	3.49820E 00	7.46280E 00
8	1.19220E 01	3.44440E-02	2.62990E 00	8.80910E 00
9	1.26360E 01	4.47060E-02	2.15440E 00	1.01250E 01
10	1.32810E 01	5.99940E-02	1.46010E 00	1.14260E 01
11	1.36190E 01	7.59160E-02	9.56950E-01	1.22570E 01
12	1.39090E 01	9.27960E-02	7.54580E-01	1.29490E 01
13	1.43780E 01	1.09530E-01	0.0	1.36230E 01
14	1.50570E 01	1.25470E-01	0.0	1.43530E 01
15	1.57400E 01	1.42960E-01	0.0	1.50930E 01
16	1.64370E 01	1.62530E-01	0.0	1.58520E 01
17	1.73320E 01	1.88910E-01	0.0	1.68380E 01
18	1.82260E 01	2.20940E-01	0.0	1.78310E 01
19	1.89920E 01	2.49580E-01	0.0	1.86890E 01
20	1.93180E 01	2.80950E-01	0.0	1.90370E 01
21	1.93800E 01	3.21760E-01	0.0	1.90580E 01
22	1.95610E 01	3.66580E-01	0.0	1.91950E 01
23	1.96620E 01	4.17310E-01	0.0	1.92450E 01
24	1.98430E 01	4.77010E-01	0.0	1.93660E 01
25	2.06300E 01	5.46240E-01	0.0	2.00830E 01
26	2.11900E 01	6.17390E-01	0.0	2.05650E 01
27	2.18400E 01	7.11830E-01	0.0	2.11260E 01
28	2.27030E 01	8.15410E-01	0.0	2.18850E 01
29	2.38600E 01	9.36080E-01	0.0	2.29160E 01
30	2.66610E 01	1.08500E 00	0.0	2.55640E 01
31	2.69440E 01	1.20030E 00	0.0	2.57330E 01
32	2.25560E 01	1.05890E 00	0.0	2.14900E 01
33	2.33270E 01	1.30460E 00	0.0	2.20230E 01
34	2.45920E 01	1.41050E 00	0.0	2.31810E 01
35	2.68270E 01	1.72830E 00	0.0	2.50980E 01
36	2.38140E 01	1.95450E 00	0.0	2.18590E 01
37	2.11200E 01	2.01530E 00	0.0	1.91050E 01
38	2.57960E 01	3.18990E 00	0.0	2.26050E 01
39	5.96610E 01	4.16360E 00	0.0	5.54960E 01
40	3.34640E 01	5.19360E 00	0.0	2.82700E 01
41	3.22440E 01	5.80930E 00	0.0	2.64350E 01
42	4.29480E 01	7.91650E 00	0.0	3.50310E 01
43	4.42820E 01	7.44540E 00	0.0	3.68360E 01
44	2.71720E 01	7.68630E 00	0.0	1.94860E 01
45	2.64780E 01	8.05740E 00	0.0	1.84180E 01
46	6.00580E 01	2.83620E 01	0.0	3.16940E 01
47	2.63370E 01	7.87080E 00	0.0	1.84660E 01
48	3.01260E 01	1.24450E 01	0.0	1.76800E 01
49	3.73400E 01	1.47610E 01	0.0	2.25780E 01
50	9.06370E 01	3.65590E 01	0.0	5.40770E 01
51	2.14510E 01	6.42870E 00	0.0	1.50220E 01
52	2.79250E 01	1.18280E 01	0.0	1.60960E 01
53	8.90000E 01	2.98170E 01	0.0	5.91820E 01
54	2.19110E 02	5.86070E 01	0.0	1.60510E 02
55	5.69560E 01	1.39820E 01	0.0	4.29730E 01
56	6.72310E 01	2.97330E 01	0.0	3.74980E 01
57	9.07460E 01	6.47530E 01	0.0	2.59920E 01
58	2.61840E 02	1.97820E 02	0.0	6.40180E 01
59	4.45780E 01	2.93310E 01	0.0	1.52470E 01
60	2.00490E 01	6.20140E 00	0.0	1.38470E 01
61	2.13860E 01	7.68450E 00	0.0	1.37020E 01
62	2.62910E 01	1.25950E 01	0.0	1.36950E 01
63	5.04890E 01	3.66230E 01	0.0	1.38660E 01
64	8.31150E 01	6.89290E 01	0.0	1.41860E 01
65	1.05200E 02	9.00700E 01	0.0	1.51270E 01
66	4.41630E 01	2.79670E 01	0.0	1.61960E 01
67	5.46100E 01	3.20880E 01	0.0	2.25220E 01
68	5.43600E 01	3.60060E 01	0.0	1.83540E 01
69	7.94380E 01	5.67970E 01	0.0	2.26410E 01
70	1.39460E 02	1.07490E 02	0.0	3.19670E 01

## Fission Products of U-235 (Burn-up 360 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.49100E 00	1.34040E-03	4.19130E 00	4.29700E 00
2	8.52680E 00	4.86460E-03	4.20700E 00	4.28480E 00
3	9.99190E 00	1.46660E-02	4.15600E 00	5.73700E 00
4	1.15520E 01	3.09380E-02	3.03960E 00	8.18040E 00
5	1.29940E 01	5.37880E-02	1.79830E 00	1.08100E 01
6	1.39990E 01	9.45420E-02	5.89140E-01	1.29520E 01
7	1.59370E 01	1.46350E-01	0.0	1.52920E 01
8	1.83120E 01	2.20500E-01	0.0	1.79110E 01
9	1.94220E 01	3.28160E-01	0.0	1.90940E 01
10	2.00540E 01	4.89580E-01	0.0	1.95640E 01
11	2.19990E 01	7.32610E-01	0.0	2.12580E 01
12	2.60540E 01	1.09710E 00	0.0	2.49180E 01
13	2.36140E 01	1.27610E 00	0.0	2.23360E 01
14	2.39590E 01	1.90740E 00	0.0	2.20520E 01
15	3.94790E 01	4.18370E 00	0.0	3.52950E 01
16	4.22830E 01	7.24660E 00	0.0	3.50350E 01
17	3.79470E 01	1.47400E 01	0.0	2.32050E 01
18	3.09890E 01	1.16350E 01	0.0	1.93530E 01
19	4.98140E 01	1.98350E 01	0.0	2.99780E 01
20	1.24570E 02	3.46030E 01	0.0	8.99680E 01
21	1.36900E 02	9.52080E 01	0.0	4.16890E 01
22	2.88610E 01	1.46150E 01	0.0	1.42460E 01
23	5.80160E 01	4.42270E 01	0.0	1.37900E 01
24	6.47440E 01	4.89040E 01	0.0	1.58400E 01
25	7.59780E 01	5.70140E 01	0.0	1.89640E 01

## Fission Products of U-235 (Burn-up 360 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.75470E 00	7.50950E-04	4.05580E 00	4.69490E 00
2	8.44650F 00	1.50060E-03	4.21240E 00	4.23000E 00
3	8.28030F 00	2.93630E-03	4.16080E 00	4.11320E 00
4	8.67350E 00	5.92100E-03	4.23600E 00	4.38740E 00
5	9.58060F 00	1.11310E-02	4.26860E 00	5.22770E 00
6	1.03450F 01	1.80620E-02	4.04590E 00	6.22740E 00
7	1.11190E 01	2.63910E-02	3.49130E 00	7.46870E 00
8	1.19230F 01	3.51540E-02	2.62470E 00	8.81400E 00
9	1.26380E 01	4.56690E-02	2.15590E 00	1.01270E 01
10	1.32830E 01	6.13350E-02	1.47110E 00	1.14220E 01
11	1.36210E 01	7.75990E-02	9.68740E-01	1.22500E 01
12	1.39100E 01	9.48200E-02	7.64210E-01	1.29410E 01
13	1.43790F 01	1.11850E-01	0.0	1.36150E 01
14	1.50590F 01	1.28050E-01	0.0	1.43460E 01
15	1.57430E 01	1.45820E-01	0.0	1.50870E 01
16	1.64390E 01	1.65690E-01	0.0	1.58480E 01
17	1.73350E 01	1.92480E-01	0.0	1.68360E 01
18	1.82290F 01	2.24960E-01	0.0	1.78290E 01
19	1.89960F 01	2.54000E-01	0.0	1.86880E 01
20	1.93210F 01	2.85810E-01	0.0	1.90360E 01
21	1.93840E 01	3.27300E-01	0.0	1.90560E 01
22	1.95650E 01	3.72300E-01	0.0	1.91930E 01
23	1.96670E 01	4.24240E-01	0.0	1.92430E 01
24	1.98480E 01	4.85800E-01	0.0	1.93630E 01
25	2.06360E 01	5.56570E-01	0.0	2.00790E 01
26	2.11970E 01	6.27760E-01	0.0	2.05600E 01
27	2.18470E 01	7.25250E-01	0.0	2.11210E 01
28	2.27110E 01	8.30730E-01	0.0	2.18780E 01
29	2.38520E 01	9.53940E-01	0.0	2.28900E 01
30	2.66780E 01	1.10600E 00	0.0	2.55100E 01
31	2.68870E 01	1.21960E 00	0.0	2.56560E 01
32	2.25470E 01	1.06900E 00	0.0	2.14700E 01
33	2.34050E 01	1.31980E 00	0.0	2.20850E 01
34	2.48930E 01	1.43870E 00	0.0	2.34550E 01
35	2.66030E 01	1.72390E 00	0.0	2.48800E 01
36	2.37980E 01	1.96890E 00	0.0	2.18290E 01
37	2.14240E 01	2.03300E 00	0.0	1.93910E 01
38	2.64470E 01	3.22780E 00	0.0	2.32190E 01
39	5.87750F 01	4.12620E 00	0.0	5.46480E 01
40	3.30960F 01	5.22230E 00	0.0	2.78730E 01
41	3.30270E 01	5.96210E 00	0.0	2.70650E 01
42	4.71060E 01	8.20180E 00	0.0	3.89040E 01
43	4.66710E 01	7.57170E 00	0.0	3.90990E 01
44	2.67860E 01	7.62020E 00	0.0	1.91660E 01
45	2.66920E 01	8.20950E 00	0.0	1.84800E 01
46	6.04280E 01	2.84390E 01	0.0	3.19870E 01
47	2.49810E 01	7.41530E 00	0.0	1.75650E 01
48	2.92970E 01	1.20060E 01	0.0	1.72900E 01
49	3.88830F 01	1.55800E 01	0.0	2.33010E 01
50	1.00640E 02	4.15760E 01	0.0	5.90640E 01
51	2.11630E 01	6.26350E 00	0.0	1.48980E 01
52	2.81780E 01	1.19060E 01	0.0	1.62710E 01
53	9.11210F 01	2.99260E 01	0.0	6.11950E 01
54	2.25470E 02	5.98360E 01	0.0	1.65630E 02
55	5.82970F 01	1.42990E 01	0.0	4.39970E 01
56	6.18880E 01	2.56150E 01	0.0	3.62740E 01
57	9.04940E 01	6.46140E 01	0.0	2.58790E 01
58	2.60980F 02	1.97620E 02	0.0	6.33560E 01
59	4.47930E 01	2.95530E 01	0.0	1.52390E 01
60	2.04570E 01	6.61940E 00	0.0	1.38380E 01
61	2.14530E 01	7.78610E 00	0.0	1.36670E 01
62	2.65090F 01	1.28820E 01	0.0	1.36270E 01
63	5.60340E 01	4.22780E 01	0.0	1.37570E 01
64	9.19630E 01	7.79760E 01	0.0	1.39870E 01
65	1.06230E 02	9.15020E 01	0.0	1.47280E 01
66	4.19920E 01	2.71370E 01	0.0	1.48550E 01
67	4.55050E 01	2.75220E 01	0.0	1.79820E 01
68	4.84570E 01	3.25450E 01	0.0	1.59110E 01
69	6.71500E 01	4.90530E 01	0.0	1.80970E 01
70	1.12270F 02	8.93960E 01	0.0	2.28790E 01

## Fission Products of U-235 (Burn-up 720 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.49100F 00	1.36260E-03	4.19130E 00	4.29710E 00
2	8.52700F 00	4.94760E-03	4.20660E 00	4.28530E 00
3	9.99240F 00	1.49180E-02	4.15360E 00	5.73930E 00
4	1.15530E 01	3.14770E-02	3.03330E 00	8.18600E 00
5	1.29950E 01	5.46940E-02	1.79600E 00	1.08140E 01
6	1.40010F 01	9.61050E-02	5.89250E-01	1.29520E 01
7	1.59380E 01	1.48530E-01	0.0	1.52920E 01
8	1.83130E 01	2.23390E-01	0.0	1.79100E 01
9	1.94240E 01	3.32060E-01	0.0	1.90920E 01
10	2.00570E 01	4.96030E-01	0.0	1.95610E 01
11	2.20030E 01	7.42540E-01	0.0	2.12520E 01
12	2.60350E 01	1.11140E 00	0.0	2.48830E 01
13	2.37260E 01	1.28930E 00	0.0	2.24340E 01
14	2.39710F 01	1.90730E 00	0.0	2.20640E 01
15	3.89010E 01	4.19570E 00	0.0	3.47050E 01
16	4.46490E 01	7.38770F 00	0.0	3.72600E 01
17	3.79790E 01	1.47650E 01	0.0	2.32130E 01
18	3.10170E 01	1.16030E 01	0.0	1.94130E 01
19	5.26990E 01	2.12240E 01	0.0	3.14740E 01
20	1.26A20F 02	3.50710E 01	0.0	9.17520E 01
21	1.30510E 02	9.05760E 01	0.0	3.99360E 01
22	2.91530E 01	1.49490E 01	0.0	1.42040E 01
23	6.05900E 01	4.68690E 01	0.0	1.37210E 01
24	6.30360E 01	4.82370E 01	0.0	1.47990E 01
25	6.83990E 01	5.21180E 01	0.0	1.62820E 01

Fission Products of U-235 (Burn-up 720 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.75470E 00	7.61990E-04	4.05580E 00	4.69490E 00
2	8.44650E 00	1.52580E-03	4.21240E 00	4.23010E 00
3	8.28040E 00	2.98630E-03	4.16060E 00	4.11350E 00
4	8.67370E 00	6.02220E-03	4.23540E 00	4.38810E 00
5	9.58090E 00	1.13210E-02	4.26690E 00	5.22860E 00
6	1.03460E 01	1.83730E-02	4.04270E 00	6.23040E 00
7	1.11190E 01	2.68570E-02	3.48530E 00	7.47380E 00
8	1.19240E 01	3.57620E-02	2.61810E 00	8.82000E 00
9	1.26380E 01	4.64400E-02	2.15220E 00	1.01330E 01
10	1.32840E 01	6.23670E-02	1.47010E 00	1.14250E 01
11	1.36220E 01	7.89060E-02	9.68790E-01	1.22510E 01
12	1.39120E 01	9.64040E-02	7.64400E-01	1.29410E 01
13	1.43810E 01	1.13670E-01	0.0	1.36150E 01
14	1.50600E 01	1.30040E-01	0.0	1.43460E 01
15	1.57440E 01	1.47990E-01	0.0	1.50880E 01
16	1.64400E 01	1.68060E-01	0.0	1.58490E 01
17	1.73360E 01	1.95110E-01	0.0	1.68360E 01
18	1.82300E 01	2.27880E-01	0.0	1.78290E 01
19	1.89970E 01	2.57180E-01	0.0	1.86860E 01
20	1.93220E 01	2.89300E-01	0.0	1.90330E 01
21	1.93850E 01	3.31310E-01	0.0	1.90540E 01
22	1.95670E 01	3.76490E-01	0.0	1.91900E 01
23	1.96700E 01	4.29380E-01	0.0	1.92400E 01
24	1.98520E 01	4.92340E-01	0.0	1.93590E 01
25	2.06400E 01	5.64220E-01	0.0	2.00750E 01
26	2.12010E 01	6.35680E-01	0.0	2.05550E 01
27	2.18510E 01	7.35070E-01	0.0	2.11150E 01
28	2.27160E 01	8.41900E-01	0.0	2.18720E 01
29	2.38480E 01	9.66920E-01	0.0	2.28730E 01
30	2.66110E 01	1.12110E 00	0.0	2.54780E 01
31	2.68550E 01	1.23390E 00	0.0	2.56100E 01
32	2.25520E 01	1.07680E 00	0.0	2.14680E 01
33	2.35170E 01	1.33120E 00	0.0	2.21860E 01
34	2.51100E 01	1.45910E 00	0.0	2.36510E 01
35	2.63120E 01	1.70390E 00	0.0	2.46080E 01
36	2.36730E 01	1.97350E 00	0.0	2.17000E 01
37	2.18820E 01	2.04840E 00	0.0	1.98330E 01
38	2.68980E 01	3.25330E 00	0.0	2.36440E 01
39	5.70390E 01	4.11820E 00	0.0	5.29200E 01
40	3.26470E 01	5.24110E 00	0.0	2.74060E 01
41	3.35100E 01	6.06740E 00	0.0	2.74420E 01
42	5.23380E 01	8.46440E 00	0.0	4.38740E 01
43	4.80350E 01	7.62650E 00	0.0	4.04080E 01
44	2.65620E 01	7.56890E 00	0.0	1.89930E 01
45	2.68230E 01	8.30270E 00	0.0	1.85180E 01
46	6.06240E 01	2.84730E 01	0.0	3.21490E 01
47	2.45010E 01	7.15670E 00	0.0	1.73430E 01
48	2.86830E 01	1.15980E 01	0.0	1.70830E 01
49	4.00890E 01	1.61660E 01	0.0	2.39220E 01
50	1.08360E 02	4.52780E 01	0.0	6.30760E 01
51	2.14660E 01	6.47230E 00	0.0	1.49930E 01
52	2.88670E 01	1.21870E 01	0.0	1.66790E 01
53	9.40910E 01	3.06460E 01	0.0	6.34440E 01
54	2.28590E 02	6.03660E 01	0.0	1.68220E 02
55	5.89600E 01	1.44500E 01	0.0	4.45090E 01
56	5.91710E 01	2.35190E 01	0.0	3.56520E 01
57	8.82250E 01	6.26430E 01	0.0	2.55820E 01
58	2.46640E 02	1.87680E 02	0.0	5.89600E 01
59	4.48190E 01	2.96620E 01	0.0	1.51560E 01
60	2.12380E 01	7.41610E 00	0.0	1.38210E 01
61	2.15150E 01	7.87550E 00	0.0	1.36400E 01
62	2.65800E 01	1.29950E 01	0.0	1.35850E 01
63	5.90200E 01	4.53230E 01	0.0	1.36970E 01
64	9.66680E 01	8.27850E 01	0.0	1.38840E 01
65	1.06710E 02	9.21880E 01	0.0	1.45240E 01
66	4.08920E 01	2.67110E 01	0.0	1.41810E 01
67	4.09350E 01	2.52250E 01	0.0	1.57100E 01
68	4.54860E 01	3.07990E 01	0.0	1.46870E 01
69	6.09900E 01	4.51670E 01	0.0	1.58220E 01
70	9.86780E 01	8.03450E 01	0.0	1.83330E 01

## Fission Products of U-238 (Burn-up 1 Day)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.49970E 00	1.27360E-03	4.21650E 00	4.28060E 00
2	8.54980E 00	5.04000E-03	4.24250E 00	4.27230E 00
3	1.00400E 01	1.55490E-02	4.19820E 00	5.74330E 00
4	1.16430E 01	3.16390E-02	3.16200E 00	8.17450E 00
5	1.30800E 01	5.10700E-02	1.87930E 00	1.07970E 01
6	1.40130E 01	8.75810E-02	5.87420E-01	1.29650E 01
7	1.57420E 01	1.38940E-01	0.0	1.51130E 01
8	1.78340E 01	2.16810E-01	0.0	1.74460E 01
9	1.88110E 01	3.26120E-01	0.0	1.84850E 01
10	1.94510E 01	4.72790E-01	0.0	1.89790E 01
11	2.12700E 01	6.79590E-01	0.0	2.05830E 01
12	2.51170E 01	9.90420E-01	0.0	2.41250E 01
13	2.25930E 01	1.18150E 00	0.0	2.14090E 01
14	2.46150E 01	1.77550E 00	0.0	2.28390E 01
15	3.79830E 01	4.58440E 00	0.0	3.33980E 01
16	3.05870E 01	5.35400E 00	0.0	2.52320E 01
17	3.08190E 01	9.53860E 00	0.0	2.12790E 01
18	4.13210E 01	1.36420E 01	0.0	2.76790E 01
19	4.22030E 01	1.78270E 01	0.0	2.43750E 01
20	3.88870E 01	1.83210E 01	0.0	2.05630E 01
21	8.58090E 01	4.50670E 01	0.0	4.07420E 01
22	4.21530E 01	2.25160E 01	0.0	1.96370E 01
23	8.17590E 01	3.88890E 01	0.0	4.28700E 01
24	1.30260E 03	6.75540E 02	0.0	6.27060E 02
25	3.05970E 03	2.01860E 03	0.0	1.04100E 03

## Fission Products of U-238 (Burn-up 1 Day)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.77050F 00	6.30860E-04	4.07480E 00	4.69180E 00
2	8.45400F 00	1.44900E-03	4.23860E 00	4.21130E 00
3	8.30160E 00	2.99080E-03	4.20050E 00	4.09470E 00
4	8.69700F 00	6.16210E-03	4.26860E 00	4.37840E 00
5	9.61690E 00	1.17680E-02	4.29880E 00	5.23340E 00
6	1.04030F 01	1.91810E-02	4.09990E 00	6.23860E 00
7	1.12050F 01	2.74520E-02	3.59330E 00	7.46600E 00
8	1.20180F 01	3.55100E-02	2.76600E 00	8.80620E 00
9	1.27300E 01	4.43710E-02	2.28020E 00	1.01170E 01
10	1.33640E 01	5.73050E-02	1.51170E 00	1.14090E 01
11	1.36730E 01	7.20330E-02	9.66920E-01	1.22530E 01
12	1.39340E 01	8.75370E-02	7.60810E-01	1.29560E 01
13	1.43530F 01	1.03670E-01	0.0	1.35990E 01
14	1.49580E 01	1.20230E-01	0.0	1.42550E 01
15	1.55640E 01	1.38560E-01	0.0	1.49180E 01
16	1.61800F 01	1.59250E-01	0.0	1.55970E 01
17	1.69700E 01	1.87210F-01	0.0	1.64750E 01
18	1.77550E 01	2.21790E-01	0.0	1.73580E 01
19	1.84260E 01	2.52790E-01	0.0	1.81190E 01
20	1.87160F 01	2.85350E-01	0.0	1.84310E 01
21	1.87790E 01	3.25270E-01	0.0	1.84540E 01
22	1.89410E 01	3.68650E-01	0.0	1.85720E 01
23	1.90750F 01	4.16440E-01	0.0	1.86590E 01
24	1.92960F 01	4.69780E-01	0.0	1.88270E 01
25	1.99730E 01	5.30310E-01	0.0	1.94420E 01
26	2.04990E 01	5.97670E-01	0.0	1.99010E 01
27	2.11240F 01	6.72660E-01	0.0	2.04500E 01
28	2.19610E 01	7.63060E-01	0.0	2.11960E 01
29	2.31140E 01	8.65340E-01	0.0	2.22420E 01
30	2.54890F 01	9.90010E-01	0.0	2.44880E 01
31	2.60230F 01	1.10130E 00	0.0	2.49120E 01
32	2.24560E 01	1.01900E 00	0.0	2.14290E 01
33	2.31840E 01	1.25620E 00	0.0	2.19280E 01
34	2.21320E 01	1.26830E 00	0.0	2.08630E 01
35	2.68550F 01	1.60790E 00	0.0	2.52470E 01
36	2.54110F 01	1.83360E 00	0.0	2.35770E 01
37	2.15360F 01	1.88790E 00	0.0	1.96480E 01
38	2.14530E 01	2.74240E 00	0.0	1.87100E 01
39	5.83930F 01	5.84640E 00	0.0	5.25450E 01
40	3.40520F 01	5.18180E 00	0.0	2.88690E 01
41	2.87840E 01	4.95520E 00	0.0	2.38290E 01
42	3.48120E 01	5.86640E 00	0.0	2.89450E 01
43	2.81440E 01	5.23940E 00	0.0	2.29040E 01
44	3.00300E 01	7.77370E 00	0.0	2.22560E 01
45	2.73220E 01	6.45970E 00	0.0	2.08610E 01
46	3.50840E 01	1.43810E 01	0.0	2.07020E 01
47	4.20770E 01	1.41550E 01	0.0	2.79200E 01
48	5.07390E 01	1.59680E 01	0.0	3.47710E 01
49	3.09490F 01	1.07500F 01	0.0	2.01990E 01
50	6.27960E 01	2.59520F 01	0.0	3.68430E 01
51	3.48840E 01	1.53920E 01	0.0	1.94910E 01
52	2.91300E 01	1.22180E 01	0.0	1.69110E 01
53	4.95470E 01	2.54850E 01	0.0	2.40610E 01
54	4.21710E 01	2.04490E 01	0.0	2.17210E 01
55	2.48510E 01	8.97300E 00	0.0	1.58780E 01
56	1.34130E 02	6.85400E 01	0.0	6.55900E 01
57	8.20010E 01	4.38970E 01	0.0	3.81040E 01
58	4.01520E 01	2.21910E 01	0.0	1.79600F 01
59	3.47020E 01	1.76930E 01	0.0	1.70090E 01
60	4.67180E 01	2.75920E 01	0.0	1.91260E 01
61	4.49870F 01	2.22180E 01	0.0	2.27690E 01
62	5.68010E 01	2.77420E 01	0.0	2.90590E 01
63	7.13490E 01	3.10150E 01	0.0	4.03330E 01
64	1.17420E 02	5.80120E 01	0.0	5.94110E 01
65	2.08900E 02	1.14750E 02	0.0	9.41460E 01
66	7.80550E 02	4.05680E 02	0.0	3.74830E 02
67	2.95380E 03	1.52440E 03	0.0	1.42940E 03
68	1.25630E 03	7.73460E 02	0.0	4.82810E 02
69	2.50240F 03	1.61750E 03	0.0	8.84780E 02
70	5.41660F 03	3.66250E 03	0.0	1.75420E 03

## Fission Products of U-238 (Burn-up 30 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.49970E 00	1.50310E-03	4.21580E 00	4.28110E 00
2	8.54920E 00	5.77390E-03	4.24100E 00	4.27300E 00
3	1.00390E 01	1.77660E-02	4.19270E 00	5.74470E 00
4	1.16470E 01	3.69110E-02	3.15610E 00	8.17970E 00
5	1.30930E 01	6.26480E-02	1.91270E 00	1.07930E 01
6	1.40440E 01	1.09620E-01	6.28210E-01	1.29340E 01
7	1.58620E 01	1.72770E-01	0.0	1.51610E 01
8	1.81030E 01	2.66050E-01	0.0	1.76480E 01
9	1.91720E 01	4.00950E-01	0.0	1.87710E 01
10	1.98520E 01	5.93990E-01	0.0	1.92580E 01
11	2.17660E 01	8.75520E-01	0.0	2.08820E 01
12	2.57120E 01	1.29670E 00	0.0	2.43880E 01
13	2.29760E 01	1.46770E 00	0.0	2.15060E 01
14	2.45670E 01	2.21450E 00	0.0	2.23520E 01
15	3.91390E 01	5.02330E 00	0.0	3.41150E 01
16	3.51920E 01	7.20100E 00	0.0	2.79900E 01
17	3.77910E 01	1.53360E 01	0.0	2.24530E 01
18	3.82350E 01	1.49630E 01	0.0	2.32710E 01
19	5.17410E 01	2.31500E 01	0.0	2.85900E 01
20	1.21660E 02	3.98130E 01	0.0	8.18460E 01
21	1.50900E 02	9.92420E 01	0.0	5.16550E 01
22	3.32690E 01	1.86780E 01	0.0	1.45900E 01
23	5.99860E 01	4.46010E 01	0.0	1.53860E 01
24	2.03480E 02	1.30180E 02	0.0	7.33070E 01
25	2.51380E 02	1.82390E 02	0.0	6.89890E 01



## Fission Products of U-238 (Burn-up 30 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.77060E 00	8.15190E-04	4.07420E 00	4.69220E 00
2	8.45400E 00	1.69070E-03	4.23800E 00	4.21180E 00
3	8.30130E 00	3.42530E-03	4.19960E 00	4.09480E 00
4	8.69620E 00	7.06010E-03	4.26680E 00	4.37940E 00
5	9.61610E 00	1.34530E-02	4.29490E 00	5.23400E 00
6	1.04030E 01	2.19080E-02	4.09280E 00	6.24160E 00
7	1.12070E 01	3.16220E-02	3.58400E 00	7.47260E 00
8	1.20240E 01	4.18010E-02	2.76270E 00	8.81040E 00
9	1.27390E 01	5.36670E-02	2.28140E 00	1.01160E 01
10	1.33780E 01	7.10000E-02	1.57510E 00	1.14010E 01
11	1.36930E 01	8.98430E-02	1.03560E 00	1.22310E 01
12	1.39600E 01	1.09740E-01	8.12060E-01	1.29220E 01
13	1.43980E 01	1.29980E-01	0.0	1.35750E 01
14	1.50390E 01	1.50090E-01	0.0	1.42660E 01
15	1.56840E 01	1.72240E-01	0.0	1.49680E 01
16	1.63410E 01	1.97130E-01	0.0	1.56890E 01
17	1.71870E 01	2.30780E-01	0.0	1.66260E 01
18	1.80320E 01	2.71860E-01	0.0	1.75720E 01
19	1.87560E 01	3.08700E-01	0.0	1.83890E 01
20	1.90710E 01	3.48700E-01	0.0	1.87220E 01
21	1.91390E 01	3.99480E-01	0.0	1.87400E 01
22	1.93090E 01	4.55820E-01	0.0	1.88540E 01
23	1.94560E 01	5.18230E-01	0.0	1.89370E 01
24	1.96940E 01	5.89750E-01	0.0	1.91040E 01
25	2.03950E 01	6.71520E-01	0.0	1.97230E 01
26	2.09520E 01	7.58860E-01	0.0	2.01870E 01
27	2.16130E 01	8.65750E-01	0.0	2.07460E 01
28	2.24970E 01	9.88700E-01	0.0	2.15050E 01
29	2.36810E 01	1.12950E 00	0.0	2.25420E 01
30	2.60850E 01	1.29970E 00	0.0	2.47720E 01
31	2.65930E 01	1.44570E 00	0.0	2.51350E 01
32	2.25610E 01	1.26610E 00	0.0	2.12860E 01
33	2.29550E 01	1.51620E 00	0.0	2.14390E 01
34	2.34130E 01	1.62010E 00	0.0	2.17930E 01
35	2.72120E 01	1.99350E 00	0.0	2.52180E 01
36	2.48510E 01	2.30770E 00	0.0	2.25430E 01
37	2.15860E 01	2.34650E 00	0.0	1.92400E 01
38	2.44970E 01	3.60290E 00	0.0	2.08930E 01
39	5.78440E 01	5.42190E 00	0.0	5.24210E 01
40	3.50140E 01	6.07150E 00	0.0	2.89420E 01
41	3.08100E 01	6.32140E 00	0.0	2.44880E 01
42	3.93740E 01	7.84490E 00	0.0	3.15280E 01
43	3.53650E 01	7.43450E 00	0.0	2.79310E 01
44	3.05020E 01	9.31710E 00	0.0	2.11840E 01
45	2.81610E 01	9.27370E 00	0.0	1.88860E 01
46	5.47290E 01	2.74530E 01	0.0	2.72750E 01
47	3.85430E 01	1.29230E 01	0.0	2.56190E 01
48	3.70480E 01	1.58120E 01	0.0	2.12350E 01
49	3.91510E 01	1.61900E 01	0.0	2.29600E 01
50	8.69350E 01	3.76900E 01	0.0	4.92440E 01
51	3.47140E 01	1.54530E 01	0.0	1.92600E 01
52	3.39360E 01	1.64630E 01	0.0	1.74710E 01
53	9.74700E 01	3.85140E 01	0.0	5.89550E 01
54	2.09450E 02	6.27480E 01	0.0	1.46700E 02
55	5.90280E 01	1.83760E 01	0.0	4.06500E 01
56	1.43860E 02	7.54220E 01	0.0	6.84370E 01
57	1.03620E 02	6.79260E 01	0.0	3.56910E 01
58	2.06280E 02	1.55540E 02	0.0	5.07380E 01
59	4.66660E 01	3.13500E 01	0.0	1.53150E 01
60	2.51080E 01	1.08980E 01	0.0	1.42110E 01
61	2.81410E 01	1.38910E 01	0.0	1.42500E 01
62	3.67440E 01	2.22210E 01	0.0	1.45230E 01
63	5.17860E 01	3.65210E 01	0.0	1.52650E 01
64	9.17100E 01	7.53290E 01	0.0	1.63800E 01
65	1.59530E 02	1.40310E 02	0.0	1.92140E 01
66	1.16050E 02	7.03500E 01	0.0	4.56900E 01
67	3.37610E 02	1.80810E 02	0.0	1.56790E 02
68	1.23210E 02	8.44070E 01	0.0	3.88020E 01
69	2.11090E 02	1.50570E 02	0.0	6.05200E 01
70	4.19580E 02	3.12000E 02	0.0	1.07580E 02

## Fission Products of U-238 (Burn-up 60 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.49990E 00	1.53710E-03	4.21590E 00	4.28110E 00
2	8.54990E 00	5.87970E-03	4.24040E 00	4.27420E 00
3	1.00410E 01	1.80770E-02	4.18920E 00	5.74900E 00
4	1.16490E 01	3.76500E-02	3.14880E 00	8.18790E 00
5	1.30950E 01	6.43320E-02	1.91440E 00	1.07960E 01
6	1.40460E 01	1.12680E-01	6.32820E-01	1.29290E 01
7	1.58700E 01	1.77480E-01	0.0	1.51610E 01
8	1.81200E 01	2.72990E-01	0.0	1.76550E 01
9	1.91950E 01	4.10820E-01	0.0	1.87840E 01
10	1.98810E 01	6.08590E-01	0.0	1.92720E 01
11	2.18060E 01	8.99080E-01	0.0	2.08970E 01
12	2.57230E 01	1.33440E 00	0.0	2.43550E 01
13	2.31050E 01	1.50200E 00	0.0	2.16010E 01
14	2.44870E 01	2.26800E 00	0.0	2.22190E 01
15	3.95090E 01	4.98000E 00	0.0	3.45280E 01
16	3.70230E 01	7.51330E 00	0.0	2.95090E 01
17	3.83090E 01	1.57030E 01	0.0	2.26040E 01
18	3.73460E 01	1.49420E 01	0.0	2.24030E 01
19	5.18390E 01	2.31900E 01	0.0	2.86480E 01
20	1.42840E 02	4.43180E 01	0.0	9.85210E 01
21	1.63970E 02	1.09430E 02	0.0	5.45450E 01
22	3.34780E 01	1.88440E 01	0.0	1.46340E 01
23	7.08600E 01	5.61290E 01	0.0	1.47310E 01
24	1.48090E 02	1.04320E 02	0.0	4.37770E 01
25	1.73890E 02	1.32390E 02	0.0	4.14950E 01

Fission Products of U-238 (Burn-up 60 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.77080E 00	8.41130E-04	4.07440E 00	4.69210E 00
2	8.45420E 00	1.72690E-03	4.23810E 00	4.21180E 00
3	8.30180E 00	3.48980E-03	4.19930E 00	4.09550E 00
4	8.69720E 00	7.18860E-03	4.26600E 00	4.38090E 00
5	9.61760E 00	1.36890E-02	4.29270E 00	5.23680E 00
6	1.04040E 01	2.22910E-02	4.08810E 00	6.24700E 00
7	1.12080E 01	3.22070E-02	3.57600E 00	7.48110E 00
8	1.20250E 01	4.26830E-02	2.75600E 00	8.81850E 00
9	1.27410E 01	5.50000E-02	2.27760E 00	1.01220E 01
10	7.33800E 01	7.30110E-02	1.58180E 00	1.14030E 01
11	1.36960E 01	9.23730E-02	1.04360E 00	1.22300E 01
12	1.39620E 01	1.12820E-01	8.17720E-01	1.29170E 01
13	1.44020E 01	1.33610E-01	0.0	1.35710E 01
14	1.50450E 01	1.54220E-01	0.0	1.42640E 01
15	1.56920E 01	1.76930E-01	0.0	1.49680E 01
16	1.63520E 01	2.02420E-01	0.0	1.56920E 01
17	1.72010E 01	2.36890E-01	0.0	1.66330E 01
18	1.80490E 01	2.78930E-01	0.0	1.75810E 01
19	1.87760E 01	3.16620E-01	0.0	1.84010E 01
20	1.90920E 01	3.57440E-01	0.0	1.87350E 01
21	1.91620E 01	4.09350E-01	0.0	1.87530E 01
22	1.93340E 01	4.66840E-01	0.0	1.88670E 01
23	1.94820E 01	5.30520E-01	0.0	1.89520E 01
24	1.97220E 01	6.04140E-01	0.0	1.91180E 01
25	2.04260E 01	6.88560E-01	0.0	1.97370E 01
26	2.09870E 01	7.75600E-01	0.0	2.02020E 01
27	2.16520E 01	8.89110E-01	0.0	2.07610E 01
28	2.25400E 01	1.01580E 00	0.0	2.15220E 01
29	2.37110E 01	1.16170E 00	0.0	2.25400E 01
30	2.60930E 01	1.33850E 00	0.0	2.47410E 01
31	2.65850E 01	1.48770E 00	0.0	2.50850E 01
32	2.25840E 01	1.29510E 00	0.0	2.12810E 01
33	2.28390E 01	1.54510E 00	0.0	2.12940E 01
34	2.38960E 01	1.66490E 00	0.0	2.22310E 01
35	2.72520E 01	2.03410E 00	0.0	2.52180E 01
36	2.45580E 01	2.35960E 00	0.0	2.21980E 01
37	2.15960E 01	2.41470E 00	0.0	1.91810E 01
38	2.53850E 01	2.71430E 00	0.0	2.16700E 01
39	5.79890E 01	5.09460E 00	0.0	5.28940E 01
40	3.50800E 01	6.16010E 00	0.0	2.89200E 01
41	3.14470E 01	6.47320E 00	0.0	2.49730E 01
42	4.06050E 01	8.15110E 00	0.0	3.24540E 01
43	3.89900E 01	7.91290E 00	0.0	3.10770E 01
44	2.99870E 01	9.38990E 00	0.0	2.05970E 01
45	2.86290E 01	9.68840E 00	0.0	1.89390E 01
46	5.63450E 01	2.80710E 01	0.0	2.82720E 01
47	3.62880E 01	1.23040E 01	0.0	2.39830E 01
48	3.58920E 01	1.56990E 01	0.0	2.01920E 01
49	3.99300E 01	1.68740E 01	0.0	2.30550E 01
50	8.94150E 01	3.90780E 01	0.0	5.03350E 01
51	3.27480E 01	1.42650E 01	0.0	1.84820E 01
52	3.37450E 01	1.63990E 01	0.0	1.73450E 01
53	1.06960E 02	3.92800E 01	0.0	6.76750E 01
54	2.54610E 02	7.33000E 01	0.0	1.81300E 02
55	6.82510E 01	2.06640E 01	0.0	4.75850E 01
56	1.27700E 02	6.27260E 01	0.0	6.49690E 01
57	1.11030E 02	7.49160E 01	0.0	3.61100E 01
58	2.55060E 02	1.92400E 02	0.0	6.26600E 01
59	4.82140E 01	3.26230E 01	0.0	1.55900E 01
60	2.42760E 01	1.00740E 01	0.0	1.42020E 01
61	2.80650E 01	1.39490E 01	0.0	1.41160E 01
62	3.71050E 01	2.29000E 01	0.0	1.42050E 01
63	6.41390E 01	4.94520E 01	0.0	1.46870E 01
64	1.11790E 02	9.64810E 01	0.0	1.53070E 01
65	1.65070E 02	1.47840E 02	0.0	1.72190E 01
66	8.59420E 01	5.61830E 01	0.0	2.97570E 01
67	1.94110E 02	1.08870E 02	0.0	8.52380E 01
68	9.25850E 01	6.63040E 01	0.0	2.62800E 01
69	1.47850E 02	1.10630E 02	0.0	3.72140E 01
70	2.81080E 02	2.20120E 02	0.0	6.09580E 01

## Fission Products of U-238 (Burn-up 180 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.50010E 00	1.58550E-03	4.21600E 00	4.28110E 00
2	8.55080F 00	6.04240E-03	4.23960E 00	4.27560E 00
3	1.00430F 01	1.85450E-02	4.18470E 00	5.75410E 00
4	1.16510F 01	3.87220E-02	3.13950E 00	8.19710E 00
5	1.30970E 01	6.65490E-02	1.92360E 00	1.07950E 01
6	1.40500E 01	1.16590E-01	6.43410E-01	1.29190E 01
7	1.58820E 01	1.83380E-01	0.0	1.51560E 01
8	1.81420F 01	2.81650E-01	0.0	1.76630E 01
9	1.92220E 01	4.22420E-01	0.0	1.88000E 01
10	1.99140E 01	6.25010E-01	0.0	1.92890E 01
11	2.18510F 01	9.25030E-01	0.0	2.09160E 01
12	2.57010E 01	1.37500E 00	0.0	2.42830F 01
13	2.33040E 01	1.53570E 00	0.0	2.17660E 01
14	2.44590E 01	2.30960E 00	0.0	2.21490E 01
15	3.99870F 01	4.95310E 00	0.0	3.50330F 01
16	4.06220F 01	7.93650E 00	0.0	3.26840E 01
17	3.86940F 01	1.59700E 01	0.0	2.27230E 01
18	3.62660F 01	1.47920E 01	0.0	2.14730E 01
19	5.42130F 01	2.43000E 01	0.0	2.99120E 01
20	1.58650E 02	4.71470E 01	0.0	1.11500E 02
21	1.71440E 02	1.15230E 02	0.0	5.62130E 01
22	3.39630E 01	1.92770E 01	0.0	1.46850E 01
23	9.31590E 01	7.88040E 01	0.0	1.43550E 01
24	1.13350E 02	8.92220F 01	0.0	2.41250E 01
25	1.23270E 02	1.00070E 02	0.0	2.31950E 01

## Fission Products of U-238 (Burn-up 180 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.77090E 00	8.70550E-04	4.07460E 00	4.69200E 00
2	8.45440E 00	1.78050E-03	4.23820E 00	4.21180E 00
3	8.30230E 00	3.59040E-03	4.19900E 00	4.09620E 00
4	8.69820E 00	7.38540E-03	4.26500E 00	4.38270E 00
5	9.61920E 00	1.40460E-02	4.28980E 00	5.23950E 00
6	1.04060E 01	2.28660E-02	4.08210E 00	6.25320E 00
7	1.12110E 01	3.30790E-02	3.56520E 00	7.49120E 00
8	1.20280E 01	4.39420E-02	2.74810E 00	8.82690E 00
9	1.27440E 01	5.68020E-02	2.27850E 00	1.01250E 01
10	1.33830E 01	7.56150E-02	1.59890E 00	1.13980E 01
11	1.36990E 01	9.56310E-02	1.06130E 00	1.22210E 01
12	1.39650E 01	1.16740E-01	8.31180E-01	1.29060E 01
13	1.44060E 01	1.38180E-01	0.0	1.35600E 01
14	1.50520E 01	1.59420E-01	0.0	1.42580E 01
15	1.57020E 01	1.82800E-01	0.0	1.49660E 01
16	1.63650E 01	2.09050E-01	0.0	1.56940E 01
17	1.72180E 01	2.44530E-01	0.0	1.66390E 01
18	1.80710E 01	2.87740E-01	0.0	1.75920E 01
19	1.88010E 01	3.26480E-01	0.0	1.84160E 01
20	1.91180E 01	3.68140E-01	0.0	1.87500E 01
21	1.91890E 01	4.21130E-01	0.0	1.87680E 01
22	1.93620E 01	4.79180E-01	0.0	1.88830E 01
23	1.95140E 01	5.44110E-01	0.0	1.89690E 01
24	1.97560E 01	6.20450E-01	0.0	1.91350E 01
25	2.04620E 01	7.07840E-01	0.0	1.97540E 01
26	2.10270E 01	7.91470E-01	0.0	2.02200E 01
27	2.16970E 01	9.14850E-01	0.0	2.07800E 01
28	2.25900E 01	1.04540E 00	0.0	2.15410E 01
29	2.37310E 01	1.19700E 00	0.0	2.25240E 01
30	2.60690E 01	1.38150E 00	0.0	2.46730E 01
31	2.65240E 01	1.53100E 00	0.0	2.49810E 01
32	2.26050E 01	1.31890E 00	0.0	2.12780E 01
33	2.27960E 01	1.57250E 00	0.0	2.12230E 01
34	2.45180E 01	1.71500E 00	0.0	2.28030E 01
35	2.71380E 01	2.05900E 00	0.0	2.50790E 01
36	2.44090E 01	2.40130E 00	0.0	2.20070E 01
37	2.17770E 01	2.47340E 00	0.0	1.93040E 01
38	2.67790E 01	3.81970E 00	0.0	2.29590E 01
39	5.81400E 01	4.83600E 00	0.0	5.33030E 01
40	3.49550E 01	6.23480E 00	0.0	2.87200E 01
41	3.28520E 01	6.71870E 00	0.0	2.61330E 01
42	4.41830E 01	8.63380E 00	0.0	3.55490E 01
43	4.47970E 01	8.45400E 00	0.0	3.63430E 01
44	2.92430E 01	9.40910E 00	0.0	1.98340E 01
45	2.93630E 01	1.01440E 01	0.0	1.92170E 01
46	5.75340E 01	2.84010E 01	0.0	2.91300E 01
47	3.28150E 01	1.12750E 01	0.0	2.15390E 01
48	3.46840E 01	1.53850E 01	0.0	1.92980E 01
49	4.14310E 01	1.77910E 01	0.0	2.36390E 01
50	9.85480E 01	4.36660E 01	0.0	5.48800E 01
51	3.09560E 01	1.31810E 01	0.0	1.77730E 01
52	3.35980E 01	1.62630E 01	0.0	1.73340E 01
53	1.13920E 02	3.91940E 01	0.0	7.47260E 01
54	2.88250E 02	8.02330E 01	0.0	2.08010E 02
55	7.53100E 01	2.23700E 01	0.0	5.29380E 01
56	1.11000E 02	4.97010E 01	0.0	6.12970E 01
57	1.15790E 02	7.94610E 01	0.0	3.63300E 01
58	2.90040E 02	2.18770E 02	0.0	7.12730E 01
59	4.94460E 01	3.36420E 01	0.0	1.58030E 01
60	2.41540E 01	9.93580E 00	0.0	1.42180E 01
61	2.84150E 01	1.43720E 01	0.0	1.40430E 01
62	3.83370E 01	2.43270E 01	0.0	1.40100E 01
63	8.94590E 01	7.50880E 01	0.0	1.43720E 01
64	1.52480E 02	1.37790E 02	0.0	1.46900E 01
65	1.72310E 02	1.56400E 02	0.0	1.59110E 01
66	6.75510E 01	4.83900E 01	0.0	1.91590E 01
67	9.97270E 01	6.21950E 01	0.0	3.75910E 01
68	7.32050E 01	5.52530E 01	0.0	1.79520E 01
69	1.06690E 02	8.49820E 01	0.0	2.17030E 01
70	1.89820E 02	1.59900E 02	0.0	2.99180E 01

## Fission Products of U-238 (Burn-up 360 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.50020E 00	1.61410E-03	4.21600E 00	4.28120E 00
2	8.55110E 00	6.14470E-03	4.23930E 00	4.27610E 00
3	1.00430E 01	1.88410E-02	4.18290E 00	5.75590E 00
4	1.16520E 01	3.93710E-02	3.13550E 00	8.20050E 00
5	1.30990E 01	6.77580E-02	1.92890E 00	1.07930E 01
6	1.40520E 01	1.18700E-01	6.48720E-01	1.29130E 01
7	1.58870E 01	1.86470E-01	0.0	1.51530E 01
8	1.81510E 01	2.86020E-01	0.0	1.76650E 01
9	1.92330E 01	4.28170E-01	0.0	1.88040E 01
10	1.99270E 01	6.33510E-01	0.0	1.92930E 01
11	2.18680E 01	9.38080E-01	0.0	2.09200E 01
12	2.56850E 01	1.39450E 00	0.0	2.42440E 01
13	2.34180E 01	1.55140E 00	0.0	2.18630E 01
14	2.44630E 01	2.32010E 00	0.0	2.21430E 01
15	3.98910E 01	4.96710E 00	0.0	3.49230E 01
16	4.28960E 01	8.14570E 00	0.0	3.47490E 01
17	3.87920E 01	1.60410E 01	0.0	2.27490E 01
18	3.60770E 01	1.47430E 01	0.0	2.13330E 01
19	5.72080E 01	2.57690E 01	0.0	3.14370E 01
20	1.62920E 02	4.78310E 01	0.0	1.15080E 02
21	1.69470E 02	1.13870E 02	0.0	5.55960E 01
22	3.43050E 01	1.96270E 01	0.0	1.46770E 01
23	1.03470E 02	8.92000E 01	0.0	1.42740E 01
24	1.05330E 02	8.61100E 01	0.0	1.92160E 01
25	1.10970E 02	9.23460E 01	0.0	1.86230E 01

## Fission Products of U-238 (Burn-up 360 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.77100E 00	8.85300E-04	4.07470E 00	4.69190E 00
2	8.45450E 00	1.81280E-03	4.23820E 00	4.21190E 00
3	8.30250E 00	3.65330E-03	4.19880E 00	4.09650E 00
4	8.69860E 00	7.50920E-03	4.26460E 00	4.38330E 00
5	9.61970E 00	1.42720E-02	4.28870E 00	5.24010E 00
6	1.04070E 01	2.32290E-02	4.07970E 00	6.25550E 00
7	1.12110E 01	3.36220E-02	3.56040E 00	7.49510E 00
8	1.20290E 01	4.46890E-02	2.74470E 00	8.82990E 00
9	1.27450E 01	5.78090E-02	2.28050E 00	1.01260E 01
10	1.33850E 01	7.70090E-02	1.60730E 00	1.13940E 01
11	1.37000E 01	9.73920E-02	1.06990E 00	1.22160E 01
12	1.39670E 01	1.18870E-01	8.38150E-01	1.28990E 01
13	1.44090E 01	1.40640E-01	0.0	1.35540E 01
14	1.50560E 01	1.62180E-01	0.0	1.42540E 01
15	1.57070E 01	1.85880E-01	0.0	1.49640E 01
16	1.63710E 01	2.12480E-01	0.0	1.56930E 01
17	1.72260E 01	2.48430E-01	0.0	1.66410E 01
18	1.80790E 01	2.92190E-01	0.0	1.75950E 01
19	1.88110E 01	3.31400E-01	0.0	1.84210E 01
20	1.91280E 01	3.73470E-01	0.0	1.87540E 01
21	1.91990E 01	4.27040E-01	0.0	1.87720E 01
22	1.93730E 01	4.85180E-01	0.0	1.88880E 01
23	1.95260E 01	5.50980E-01	0.0	1.89750E 01
24	1.97680E 01	6.28990E-01	0.0	1.91390E 01
25	2.04760E 01	7.17870E-01	0.0	1.97580E 01
26	2.10420E 01	7.99930E-01	0.0	2.02240E 01
27	2.17130E 01	9.27780E-01	0.0	2.07840E 01
28	2.26080E 01	1.06010E 00	0.0	2.15450E 01
29	2.37360E 01	1.21430E 00	0.0	2.25110E 01
30	2.60540E 01	1.40220E 00	0.0	2.46370E 01
31	2.64900E 01	1.55110E 00	0.0	2.49260E 01
32	2.26130E 01	1.32780E 00	0.0	2.12770E 01
33	2.28570E 01	1.58530E 00	0.0	2.12720E 01
34	2.47890E 01	1.74030E 00	0.0	2.30490E 01
35	2.69250E 01	2.05630E 00	0.0	2.48690E 01
36	2.43650E 01	2.41390E 00	0.0	2.19510E 01
37	2.20500E 01	2.49510E 00	0.0	1.95540E 01
38	2.74180E 01	3.86190E 00	0.0	2.35550E 01
39	5.74830E 01	4.80860E 00	0.0	5.26740E 01
40	3.46780E 01	6.26200E 00	0.0	2.84150E 01
41	3.35910E 01	6.86560E 00	0.0	2.67260E 01
42	4.79520E 01	8.95050E 00	0.0	3.90010E 01
43	4.70990E 01	8.61730E 00	0.0	3.84820E 01
44	2.89240E 01	9.38060E 00	0.0	1.95430E 01
45	2.97120E 01	1.03390E 01	0.0	1.93710E 01
46	5.78080E 01	2.84540E 01	0.0	2.93520E 01
47	3.16260E 01	1.08530E 01	0.0	2.07730E 01
48	3.40400E 01	1.50300E 01	0.0	1.90090E 01
49	4.27310E 01	1.84380E 01	0.0	2.42920E 01
50	1.07320E 02	4.80040E 01	0.0	5.93130E 01
51	3.08430E 01	1.31310E 01	0.0	1.77110E 01
52	3.39820E 01	1.64110E 01	0.0	1.75700E 01
53	1.16960E 02	3.95460E 01	0.0	7.74130E 01
54	2.96290E 02	8.15290E 01	0.0	2.14760E 02
55	7.70720E 01	2.27810E 01	0.0	5.42890E 01
56	1.06500E 02	4.61940E 01	0.0	6.03040E 01
57	1.15460E 02	7.92450E 01	0.0	3.62110E 01
58	2.88970E 02	2.18430E 02	0.0	7.05330E 01
59	4.97110E 01	3.39080E 01	0.0	1.58020E 01
60	2.45730E 01	1.03570E 01	0.0	1.42160E 01
61	2.87560E 01	1.47350E 01	0.0	1.40210E 01
62	3.89310E 01	2.49730E 01	0.0	1.39580E 01
63	1.01210E 02	8.68970E 01	0.0	1.43090E 01
64	1.71240E 02	1.56680E 02	0.0	1.45610E 01
65	1.75180E 02	1.59600E 02	0.0	1.55850E 01
66	6.34830E 01	4.69710E 01	0.0	1.65110E 01
67	7.65330E 01	5.08440E 01	0.0	2.56880E 01
68	6.86980E 01	5.28270E 01	0.0	1.58710E 01
69	9.67350E 01	7.89070E 01	0.0	1.78280E 01
70	1.67400E 02	1.45230E 02	0.0	2.21630E 01

## Fission Products of U-238 (Burn-up 720 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.50020E 00	1.63650E-03	4.21600E 00	4.28120E 00
2	8.55120E 00	6.23140E-03	4.23890E 00	4.27650E 00
3	1.00440E 01	1.91030E-02	4.18120E 00	5.75760E 00
4	1.16530E 01	3.99210E-02	3.13070E 00	8.20460E 00
5	1.31000E 01	6.86790E-02	1.92570E 00	1.07960E 01
6	1.40540E 01	1.20310E-01	6.47190E-01	1.29140E 01
7	1.58900E 01	1.88750E-01	0.0	1.51560E 01
8	1.81560E 01	2.89090E-01	0.0	1.76680E 01
9	1.92390E 01	4.32220E-01	0.0	1.88070E 01
10	1.99360E 01	6.39770E-01	0.0	1.92960E 01
11	2.18790E 01	9.47580E-01	0.0	2.09210E 01
12	2.56800E 01	1.40850E 00	0.0	2.42220E 01
13	2.35230E 01	1.56270E 00	0.0	2.19570E 01
14	2.44540E 01	2.32240E 00	0.0	2.21320E 01
15	3.94620E 01	4.98400E 00	0.0	3.44770E 01
16	4.50910E 01	8.31170E 00	0.0	3.67780E 01
17	3.88470E 01	1.60770E 01	0.0	2.27690E 01
18	3.61300E 01	1.46950E 01	0.0	2.14340E 01
19	5.99140E 01	2.70600E 01	0.0	3.28530E 01
20	1.65760E 02	4.83920E 01	0.0	1.17370E 02
21	1.62520E 02	1.08840E 02	0.0	5.36800E 01
22	3.47400E 01	2.01020E 01	0.0	1.46370E 01
23	1.08980E 02	9.47510E 01	0.0	1.42280E 01
24	1.01290E 02	8.45290E 01	0.0	1.67580E 01
25	1.04870E 02	8.85390E 01	0.0	1.63340E 01



Fission Products of U-238 (Burn-up 720 Days)

GROUP	TOTAL	CAPURE	INELASTIC	ELASTIC
1	8.77100E 00	8.96350E-04	4.07470E 00	4.69190E 00
2	8.45450E 00	1.83840E-03	4.23810E 00	4.21190E 00
3	8.30260E 00	3.70510E-03	4.19860E 00	4.09670E 00
4	8.69870E 00	7.61520E-03	4.26410E 00	4.38380E 00
5	9.62010E 00	1.44710E-02	4.28750E 00	5.24050E 00
6	1.04070E 01	2.35530E-02	4.07740E 00	6.25760E 00
7	1.12120E 01	3.40970E-02	3.55600E 00	7.49880E 00
8	1.20300E 01	4.53070E-02	2.73960E 00	8.83430E 00
9	1.27460E 01	5.85930E-02	2.27730E 00	1.01300E 01
10	1.33860E 01	7.80570E-02	1.60410E 00	1.13970E 01
11	1.37020E 01	9.87270E-02	1.06730E 00	1.22180E 01
12	1.39680E 01	1.20500E-01	8.36230E-01	1.29010E 01
13	1.44110E 01	1.42520E-01	0.0	1.35560E 01
14	1.50580E 01	1.64240E-01	0.0	1.42560E 01
15	1.57100E 01	1.88150E-01	0.0	1.49670E 01
16	1.63750E 01	2.14960E-01	0.0	1.56960E 01
17	1.72300E 01	2.51210E-01	0.0	1.66440E 01
18	1.80840E 01	2.95290E-01	0.0	1.75980E 01
19	1.88170E 01	3.34810E-01	0.0	1.84240E 01
20	1.91340E 01	3.77170E-01	0.0	1.87570E 01
21	1.92060E 01	4.31200E-01	0.0	1.87740E 01
22	1.93800E 01	4.89480E-01	0.0	1.88910E 01
23	1.95340E 01	5.56030E-01	0.0	1.89770E 01
24	1.97770E 01	6.35310E-01	0.0	1.91420E 01
25	2.04860E 01	7.25250E-01	0.0	1.97600E 01
26	2.10520E 01	8.06670E-01	0.0	2.02260E 01
27	2.17250E 01	9.37180E-01	0.0	2.07860E 01
28	2.26200E 01	1.07070E 00	0.0	2.15460E 01
29	2.37410E 01	1.22680E 00	0.0	2.25040E 01
30	2.60490E 01	1.41700E 00	0.0	2.46170E 01
31	2.64740E 01	1.56560E 00	0.0	2.48960E 01
32	2.26320E 01	1.33380E 00	0.0	2.12890E 01
33	2.29530E 01	1.59430E 00	0.0	2.13590E 01
34	2.49910E 01	1.75940E 00	0.0	2.32310E 01
35	2.66290E 01	2.04000E 00	0.0	2.45890E 01
36	2.42330E 01	2.41760E 00	0.0	2.18150E 01
37	2.24590E 01	2.51510E 00	0.0	1.99430E 01
38	2.78810E 01	3.89700E 00	0.0	2.39840E 01
39	5.60870E 01	4.80620E 00	0.0	5.12800E 01
40	3.43230E 01	6.28000E 00	0.0	2.80420E 01
41	3.40450E 01	6.96510E 00	0.0	2.70790E 01
42	5.27540E 01	9.26890E 00	0.0	4.34850E 01
43	4.84120E 01	8.69680E 00	0.0	3.97150E 01
44	2.87440E 01	9.35500E 00	0.0	1.93890E 01
45	2.99130E 01	1.04530E 01	0.0	1.94580E 01
46	5.79550E 01	2.84730E 01	0.0	2.94800E 01
47	3.12630E 01	1.06080E 01	0.0	2.06540E 01
48	3.35350E 01	1.46710E 01	0.0	1.88630E 01
49	4.37800E 01	1.89100E 01	0.0	2.48690E 01
50	1.14170E 02	5.12140E 01	0.0	6.29530E 01
51	3.13190E 01	1.34580E 01	0.0	1.78590E 01
52	3.48220E 01	1.67660E 01	0.0	1.80550E 01
53	1.20690E 02	4.05050E 01	0.0	8.01820E 01
54	3.00230E 02	8.20600E 01	0.0	2.18170E 02
55	7.79360E 01	2.29690E 01	0.0	5.49660E 01
56	1.04190E 02	4.43950E 01	0.0	5.97980E 01
57	1.12880E 02	7.69980E 01	0.0	3.58780E 01
58	2.72810E 02	2.07250E 02	0.0	6.55590E 01
59	4.97410E 01	3.40270E 01	0.0	1.57130E 01
60	2.54260E 01	1.12240E 01	0.0	1.42020E 01
61	2.91730E 01	1.51700E 01	0.0	1.40030E 01
62	3.91830E 01	2.52600E 01	0.0	1.39230E 01
63	1.07550E 02	9.32790E 01	0.0	1.42720E 01
64	1.81240E 02	1.66750E 02	0.0	1.44930E 01
65	1.76520E 02	1.61100E 02	0.0	1.54180E 01
66	6.14510E 01	4.62670E 01	0.0	1.51840E 01
67	6.49440E 01	4.52100E 01	0.0	1.97330E 01
68	6.64610E 01	5.16330E 01	0.0	1.48270E 01
69	9.18020E 01	7.59150E 01	0.0	1.58870E 01
70	1.56290E 02	1.38000E 02	0.0	1.82830E 01

Appendix 2

Tables of Inelastic Scattering Matrices for Pseudo Nuclides  
Pseudo

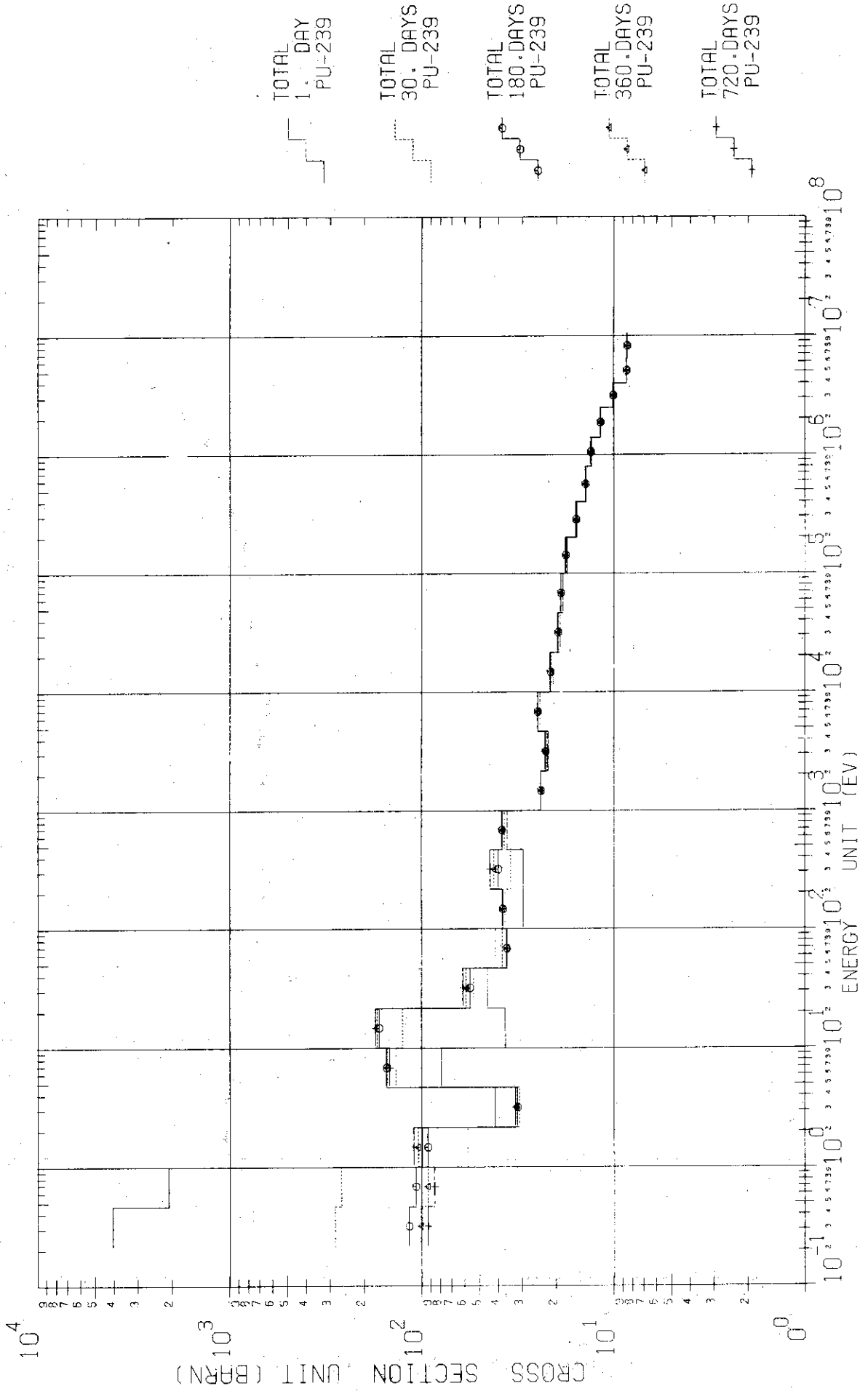
GROUP	UPPER EN.	LOWER EN.	SIGMA(I,I+K) AT K EQUAL TO									
			0	1	2	3	4	5	6	7	8	9
1	0.105E 08	0.650E 07	0.0	0.013	0.084	0.258	0.287	0.226	0.091	0.029	0.009	0.002
2	0.650E 07	0.400E 07	0.003	0.085	0.261	0.291	0.229	0.092	0.029	0.009	0.002	0.0
3	0.400E 07	0.250E 07	0.040	0.275	0.306	0.241	0.097	0.031	0.009	0.002	0.0	0.0
4	0.250E 07	0.140E 07	0.186	0.363	0.285	0.115	0.037	0.011	0.002	0.001	0.0	0.0
5	0.140E 07	0.800E 06	0.302	0.442	0.178	0.057	0.017	0.004	0.001	0.0	0.0	0.0
6	0.800E 06	0.400E 06	0.472	0.366	0.117	0.034	0.008	0.002	0.0	0.0	0.0	0.0
7	0.400E 06	0.700E 06	0.536	0.335	0.099	0.023	0.005	0.001	0.0	0.0	0.0	0.0
8	0.200E 06	0.100E 06	0.568	0.333	0.077	0.017	0.004	0.001	0.0	0.0	0.0	0.0
9	0.100E 06	0.465E 05	0.628	0.290	0.064	0.014	0.003	0.001	0.0	0.0	0.0	0.0
10	0.465E 05	0.215E 05	0.640	0.281	0.062	0.013	0.003	0.001	0.0	0.0	0.0	0.0
11	0.215E 05	0.100E 05	0.640	0.282	0.061	0.013	0.003	0.001	0.0	0.0	0.0	0.0

SIGIN(I+K) AT K EQUAL TO

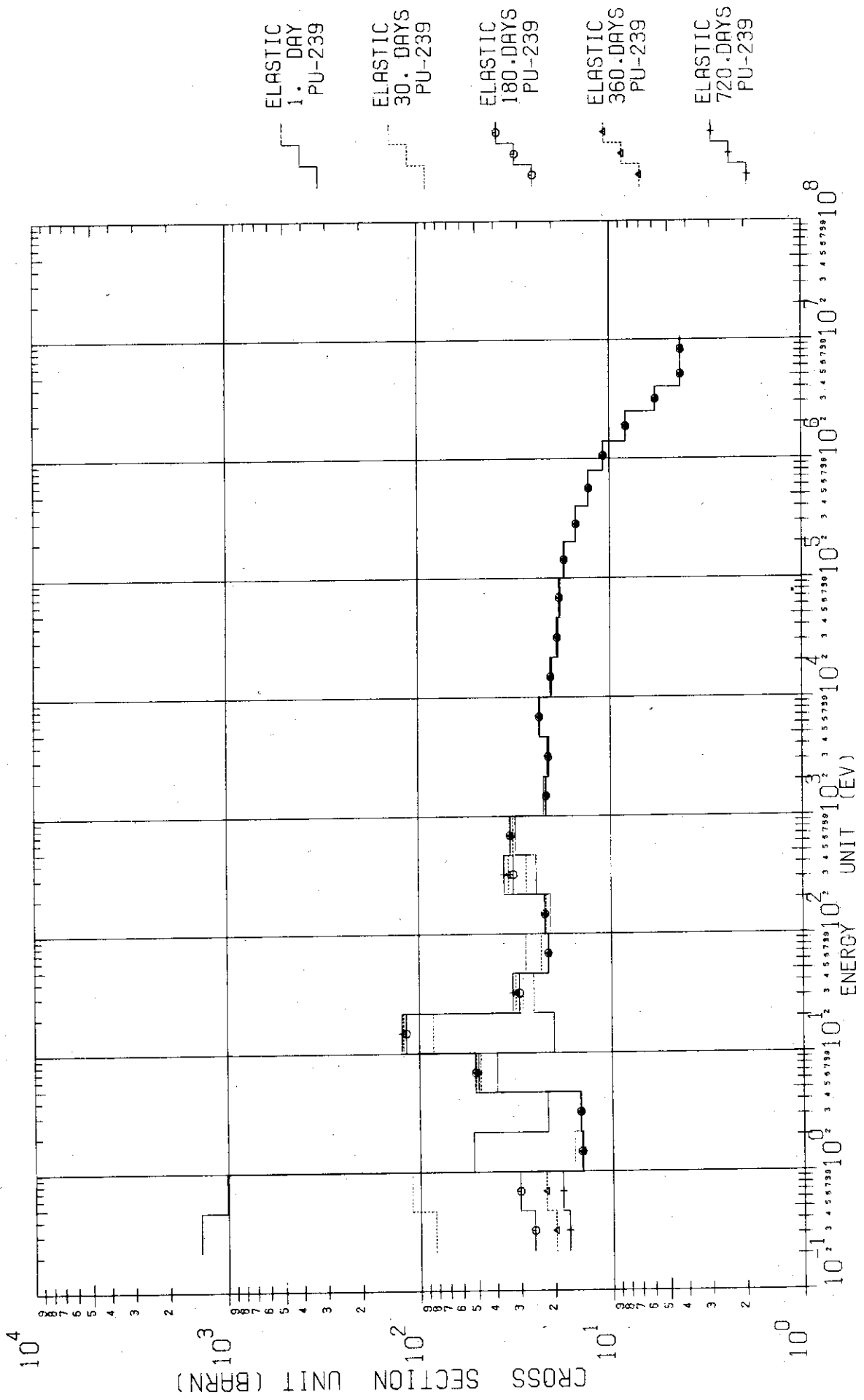
GROUP	UPPER EN.	LOWER EN.	SIGIN(I+K) AT K EQUAL TO																			
			0	1	2	3	4	5	6	7	8	9										
			10	11	12	13	14	15	16	17	18	19										
			20	21	22	23																
1	0.105E 08	0.830E 07	0.0	0.0	0.003	0.011	0.032	0.052	0.105	0.153	0.130	0.157	0.097	0.074	0.055	0.045	0.027	0.019	0.016	0.008	0.005	0.004
2	0.830E 07	0.650E 07	0.0	0.003	0.011	0.032	0.052	0.105	0.154	0.130	0.158	0.097	0.074	0.055	0.045	0.027	0.019	0.016	0.008	0.005	0.004	0.003
3	0.650E 07	0.510E 07	0.002	0.001	0.001	0.0	0.105	0.154	0.130	0.158	0.097	0.074	0.055	0.045	0.027	0.019	0.016	0.009	0.005	0.004	0.003	0.002
4	0.510E 07	0.400E 07	0.001	0.001	0.0	0.0	0.105	0.154	0.130	0.158	0.097	0.074	0.055	0.045	0.027	0.019	0.016	0.009	0.005	0.004	0.003	0.002
5	0.400E 07	0.310E 07	0.004	0.032	0.053	0.106	0.155	0.131	0.159	0.098	0.075	0.055	0.045	0.027	0.020	0.016	0.008	0.005	0.004	0.003	0.002	0.001
6	0.310E 07	0.250E 07	0.015	0.054	0.108	0.158	0.134	0.163	0.100	0.077	0.056	0.046	0.027	0.020	0.017	0.008	0.005	0.004	0.003	0.002	0.001	0.001
7	0.250E 07	0.190E 07	0.027	0.020	0.017	0.008	0.005	0.004	0.003	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
8	0.190E 07	0.140E 07	0.0	0.0	0.0	0.0	0.113	0.087	0.063	0.052	0.031	0.023	0.018	0.015	0.012	0.009	0.007	0.005	0.004	0.003	0.002	0.001
9	0.140E 07	0.110E 07	0.0	0.0	0.0	0.0	0.113	0.087	0.063	0.052	0.031	0.023	0.018	0.015	0.012	0.009	0.007	0.005	0.004	0.003	0.002	0.001
10	0.110E 07	0.800E 06	0.0118	0.178	0.216	0.133	0.102	0.075	0.062	0.036	0.027	0.022	0.018	0.015	0.012	0.009	0.007	0.005	0.004	0.003	0.002	0.001
11	0.800E 06	0.630E 06	0.011	0.006	0.006	0.004	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
12	0.630E 06	0.500E 06	0.0	0.0	0.0	0.0	0.086	0.063	0.053	0.026	0.015	0.014	0.011	0.009	0.007	0.005	0.004	0.003	0.002	0.001	0.001	0.001
13	0.500E 06	0.400E 06	0.0	0.0	0.0	0.0	0.086	0.063	0.053	0.026	0.015	0.014	0.011	0.009	0.007	0.005	0.004	0.003	0.002	0.001	0.001	0.001
14	0.400E 06	0.310E 06	0.0	0.0	0.0	0.0	0.086	0.063	0.053	0.026	0.015	0.014	0.011	0.009	0.007	0.005	0.004	0.003	0.002	0.001	0.001	0.001
15	0.310E 06	0.250E 06	0.0	0.0	0.0	0.0	0.086	0.063	0.053	0.026	0.015	0.014	0.011	0.009	0.007	0.005	0.004	0.003	0.002	0.001	0.001	0.001
16	0.250E 06	0.200E 06	0.0	0.0	0.0	0.0	0.086	0.063	0.053	0.026	0.015	0.014	0.011	0.009	0.007	0.005	0.004	0.003	0.002	0.001	0.001	0.001
17	0.200E 06	0.150E 06	0.0	0.0	0.0	0.0	0.086	0.063	0.053	0.026	0.015	0.014	0.011	0.009	0.007	0.005	0.004	0.003	0.002	0.001	0.001	0.001
18	0.150E 06	0.120E 06	0.0	0.0	0.0	0.0	0.086	0.063	0.053	0.026	0.015	0.014	0.011	0.009	0.007	0.005	0.004	0.003	0.002	0.001	0.001	0.001
19	0.120E 06	0.100E 06	0.0	0.0	0.0	0.0	0.086	0.063	0.053	0.026	0.015	0.014	0.011	0.009	0.007	0.005	0.004	0.003	0.002	0.001	0.001	0.001
20	0.100E 06	0.773E 05	0.0	0.0	0.0	0.0	0.086	0.063	0.053	0.026	0.015	0.014	0.011	0.009	0.007	0.005	0.004	0.003	0.002	0.001	0.001	0.001
21	0.773E 05	0.598E 05	0.0	0.0	0.0	0.0	0.086	0.063	0.053	0.026	0.015	0.014	0.011	0.009	0.007	0.005	0.004	0.003	0.002	0.001	0.001	0.001
22	0.598E 05	0.465E 05	0.0	0.0	0.0	0.0	0.086	0.063	0.053	0.026	0.015	0.014	0.011	0.009	0.007	0.005	0.004	0.003	0.002	0.001	0.001	0.001
23	0.465E 05	0.360E 05	0.0	0.0	0.0	0.0	0.086	0.063	0.053	0.026	0.015	0.014	0.011	0.009	0.007	0.005	0.004	0.003	0.002	0.001	0.001	0.001
24	0.360E 05	0.278E 05	0.0	0.0	0.0	0.0	0.086	0.063	0.053	0.026	0.015	0.014	0.011	0.009	0.007	0.005	0.004	0.003	0.002	0.001	0.001	0.001
25	0.278E 05	0.215E 05	0.0	0.0	0.0	0.0	0.086	0.063	0.053	0.026	0.015	0.014	0.011	0.009	0.007	0.005	0.004	0.003	0.002	0.001	0.001	0.001
26	0.215E 05	0.166E 05	0.0	0.0	0.0	0.0	0.086	0.063	0.053	0.026	0.015	0.014	0.011	0.009	0.007	0.005	0.004	0.003	0.002	0.001	0.001	0.001
27	0.166E 05	0.129E 05	0.0	0.0	0.0	0.0	0.086	0.063	0.053	0.026	0.015	0.014	0.011	0.009	0.007	0.005	0.004	0.003	0.002	0.001	0.001	0.001
28	0.129E 05	0.100E 05	0.0	0.0	0.0	0.0	0.086	0.063	0.053	0.026	0.015	0.014	0.011	0.009	0.007	0.005	0.004	0.003	0.002	0.001	0.001	0.001

PU-239 T (M R) FP (N, TOTAL) 25G

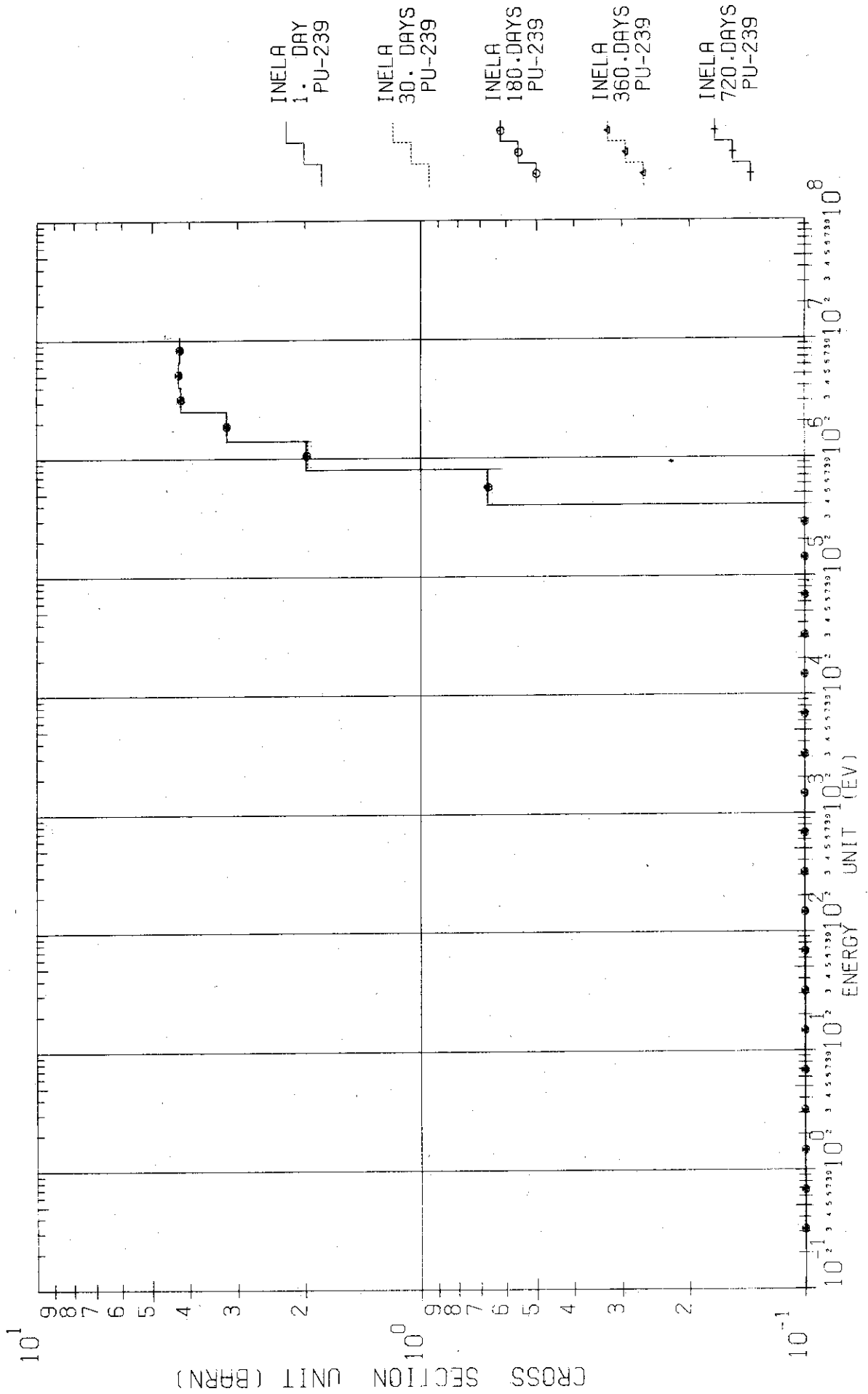
Appendix 3



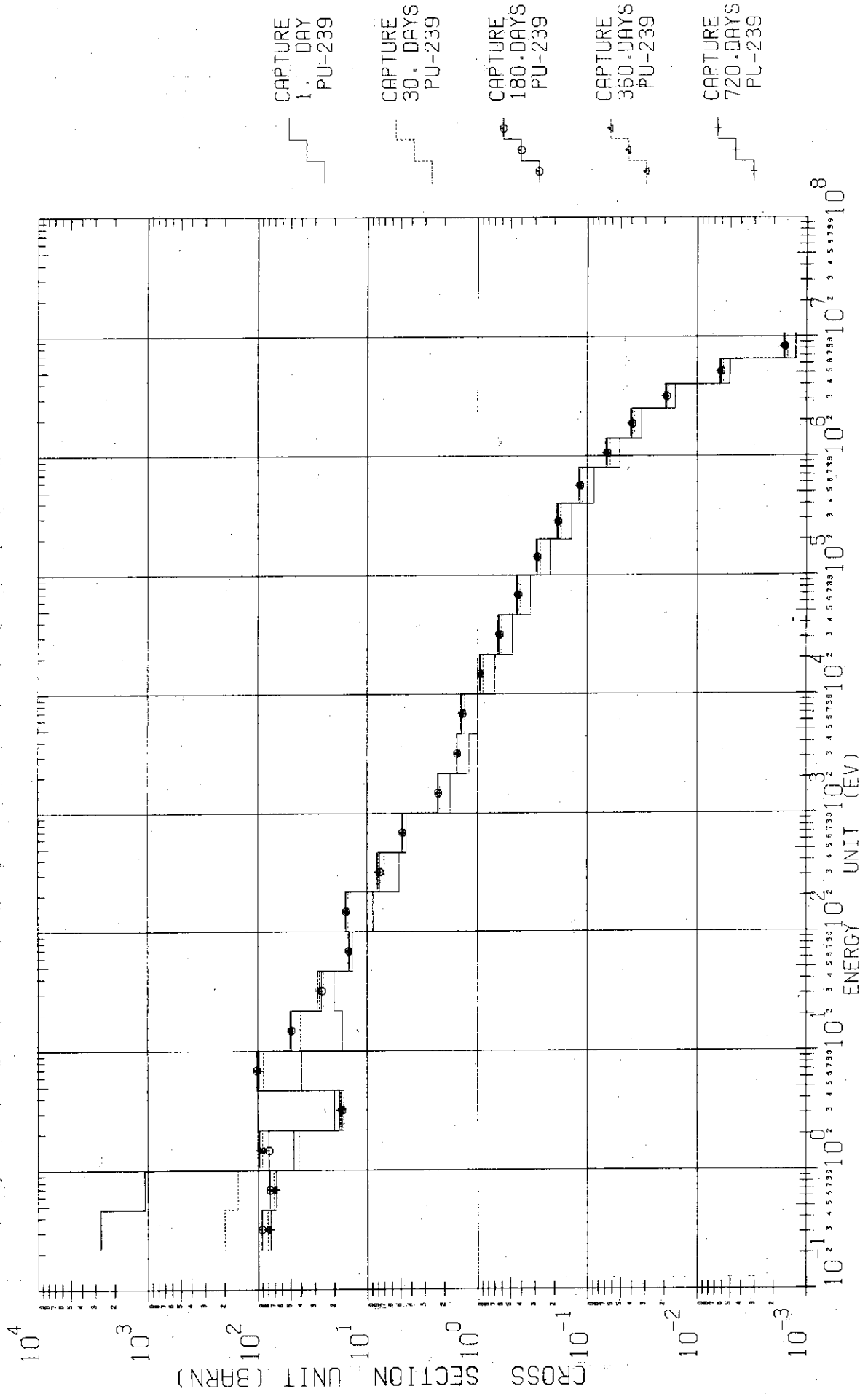
PU-239 T (M R) FP (N,ELASTIC) 25G



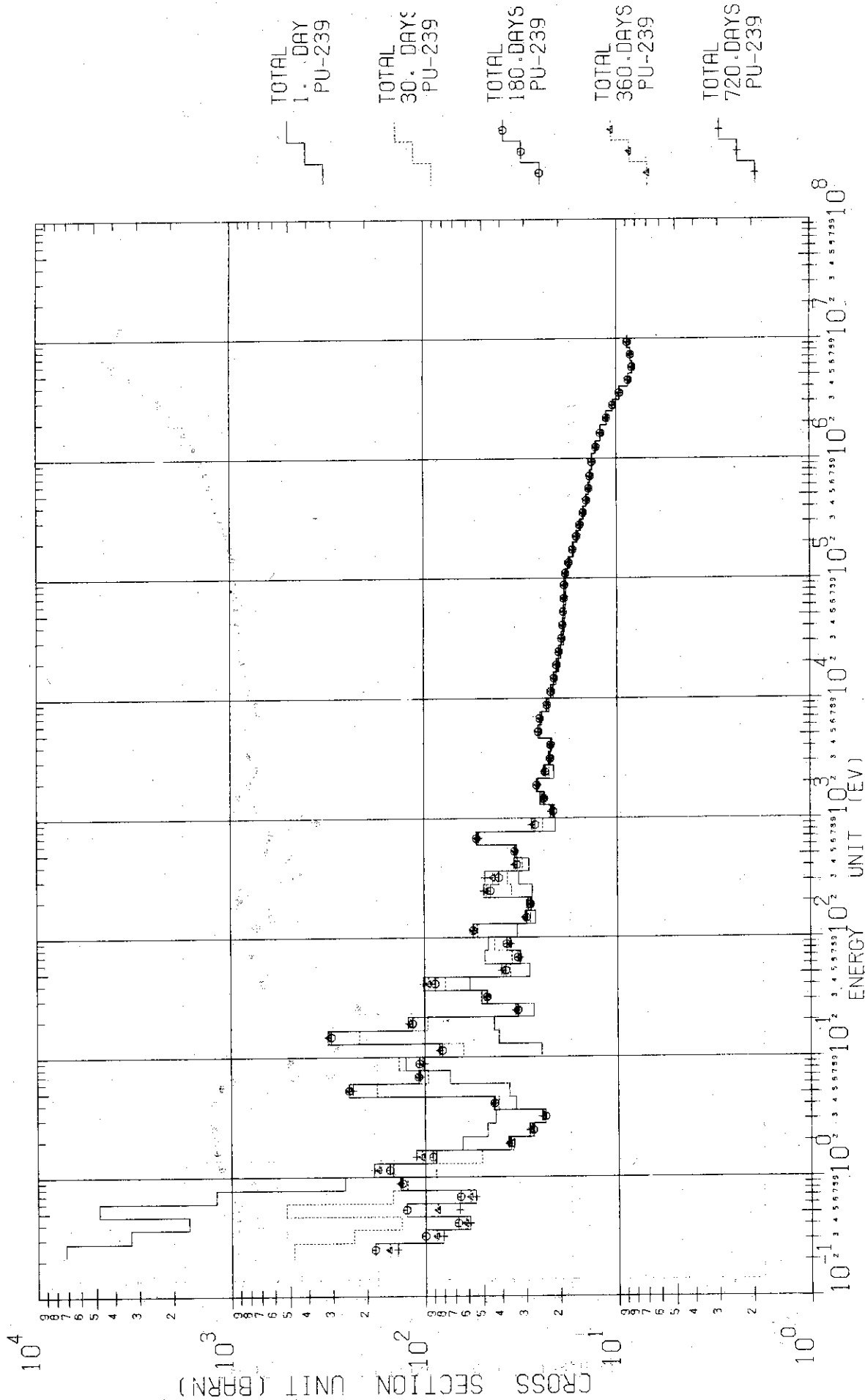
PU-239 T.(M R) FP (N. INELASTIC) 25G



PU-239 I (M R) FP (N.CAPTURE) 25G



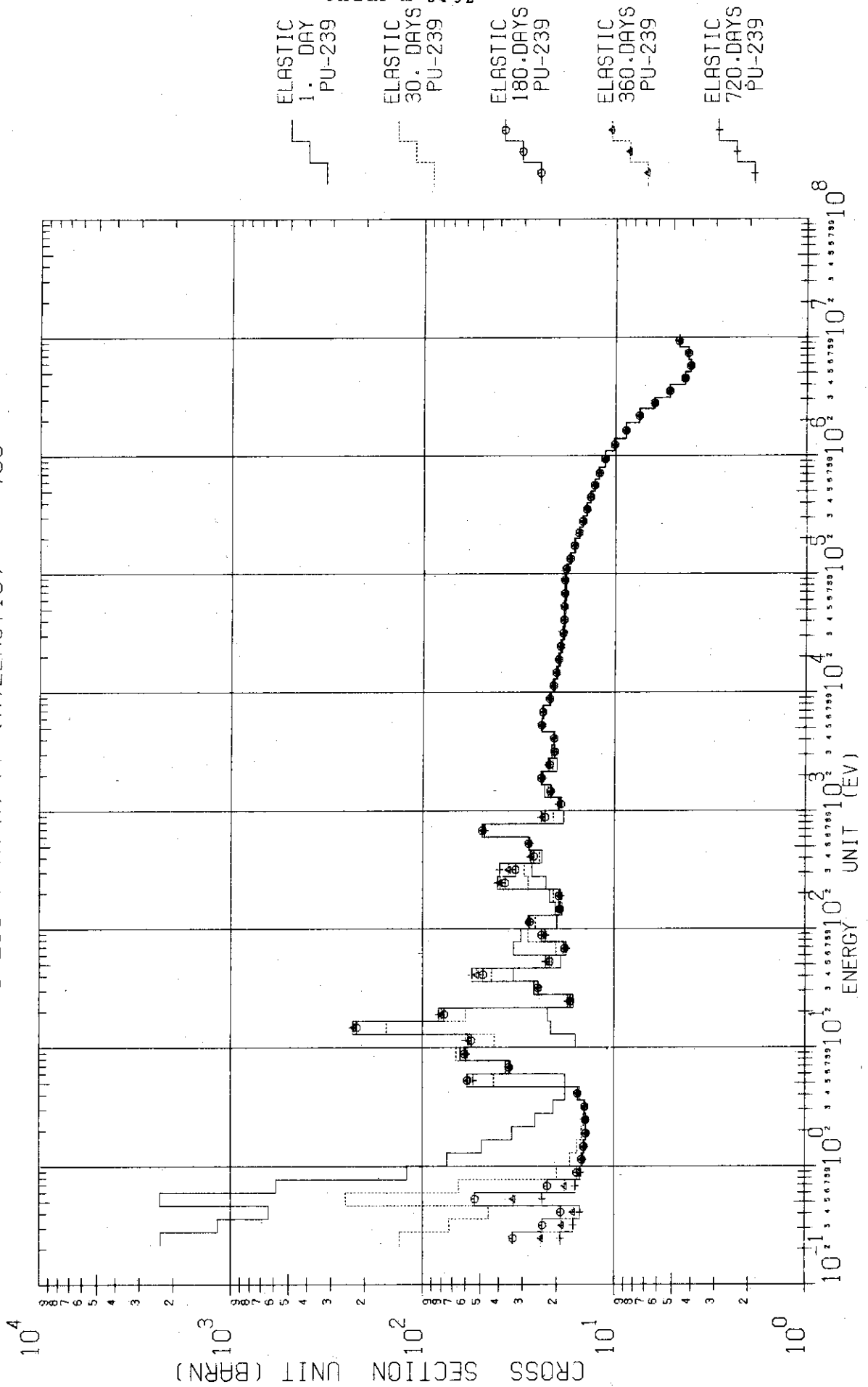
PU-239 T (M R) FP (N, TOTAL) 70G



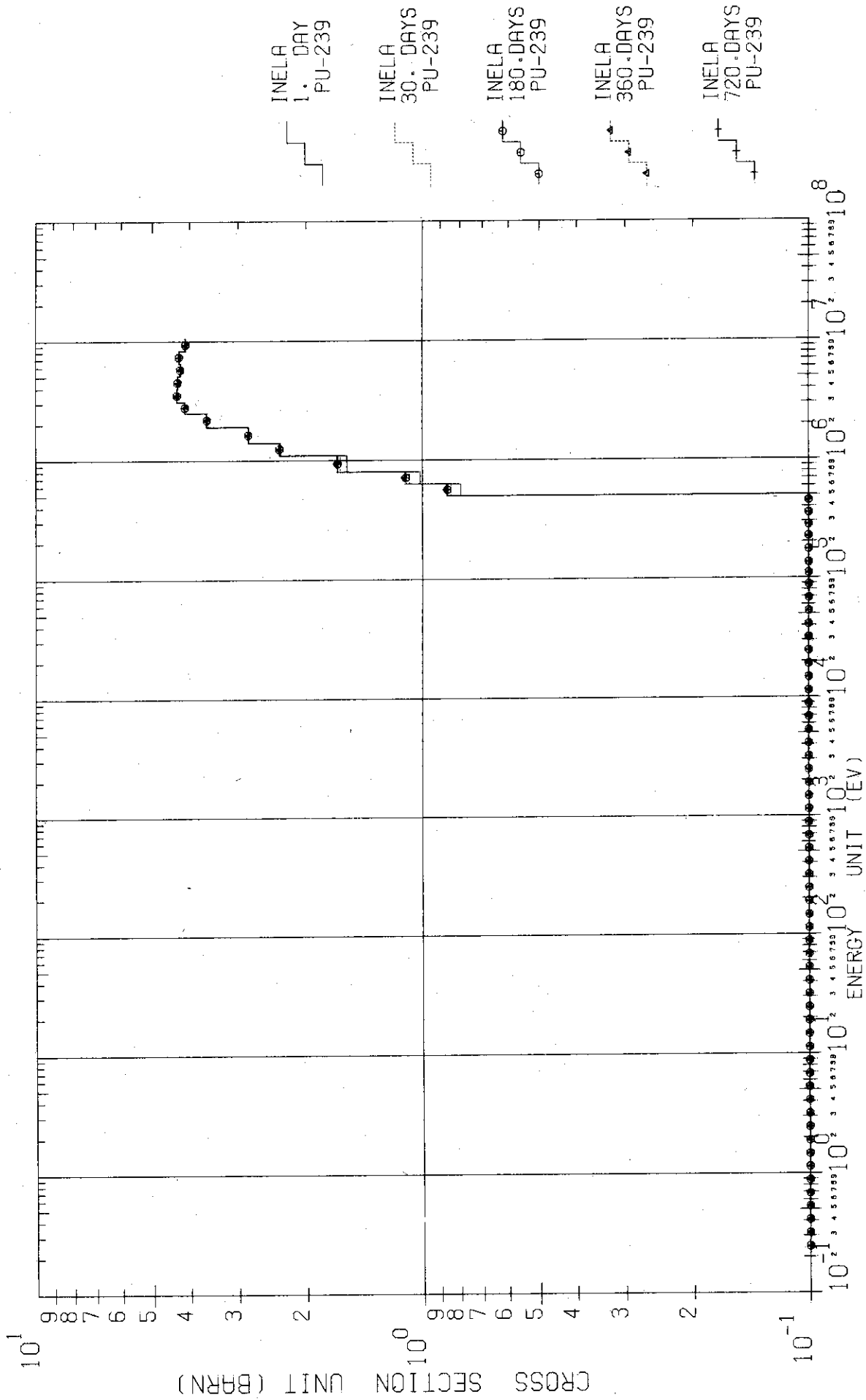


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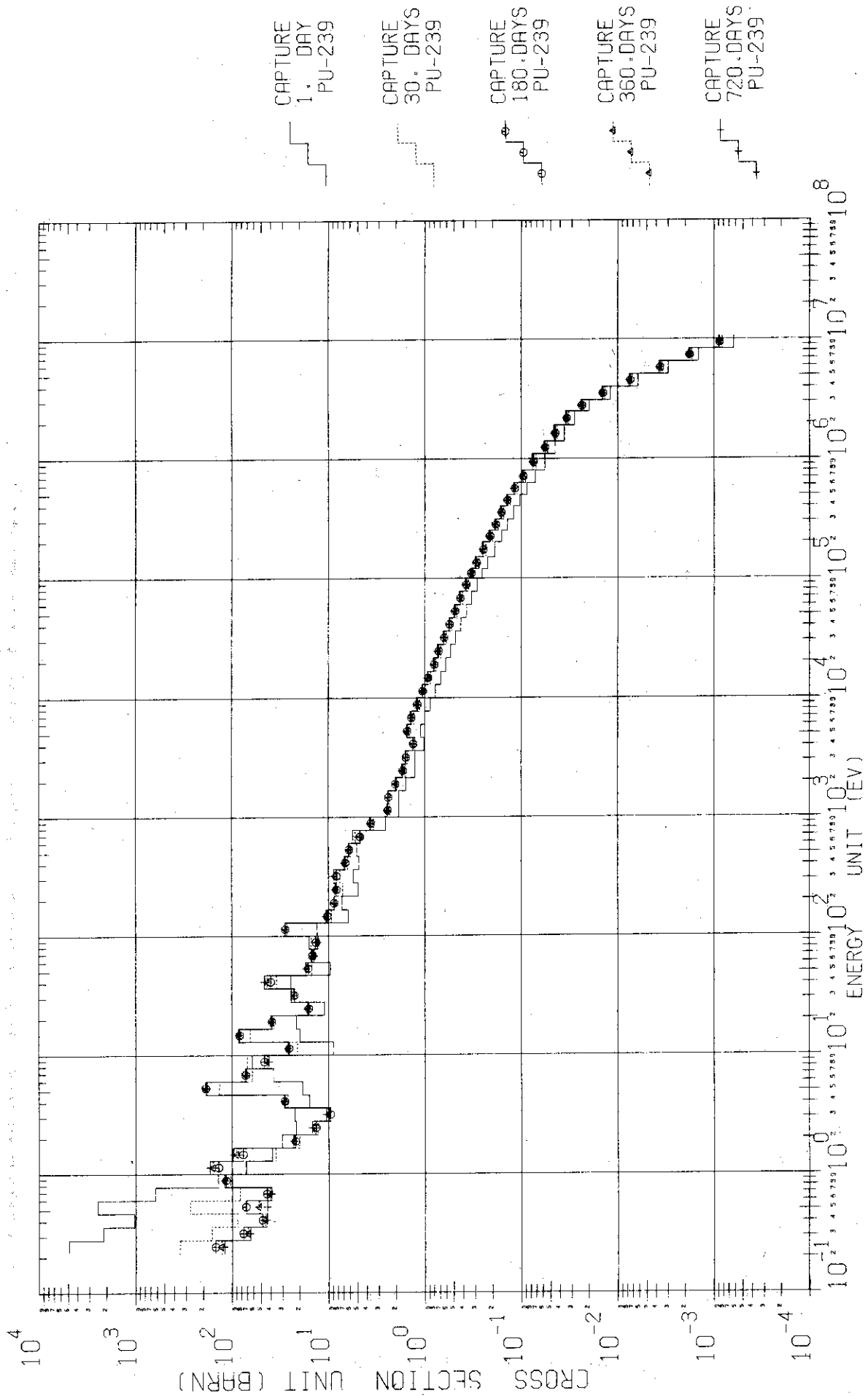
JAERI-M 5492



PU-239 T (M R) FP (N, INELASTIC) 70G



PU-239 T (M R) FP (N,CAPTURE) 70G



Appendix 4

Tables of Concentrations of the Pseudo FP Nuclides at Various Burn-up Stages

PU-239(THERMAL)

NUCLIDE	BURN - UP ( DAYS )					
	1.	30.	60.	180.	360.	720.
ZN- 72	9.3539E-07	1.0382E-07	5.1878E-08	1.7281E-08	8.6391E-09	4.3192E-09
GA- 72	1.2279E-07	3.1481E-08	1.5731E-08	5.2403E-09	2.6197E-09	1.3097E-09
GE- 72	5.4786E-08	9.7898E-07	1.0460E-06	1.0903E-06	1.1014E-06	1.1069E-06
GE- 73	2.4759E-06	2.4795E-06	2.4779E-06	2.4763E-06	2.4759E-06	2.4757E-06
GE- 74	5.9542E-06	5.9529E-06	5.9531E-06	5.9552E-06	5.9542E-06	5.9537E-06
GE- 76	3.0744E-05	3.0788E-05	3.0769E-05	3.0748E-05	3.0743E-05	3.0741E-05
GE- 77	4.5015E-05	1.9501E-06	9.7441E-07	3.2459E-07	1.6227E-07	8.1128E-08
AS- 75	1.3883E-05	1.3903E-05	1.3895E-05	1.3885E-05	1.3883E-05	1.3882E-05
AS- 76	1.6229E-10	1.1620E-11	5.8064E-12	1.9342E-12	9.6693E-13	4.8343E-13
AS- 77	3.5165E-05	6.6798E-06	3.3378E-06	1.1119E-06	5.5583E-07	2.7790E-07
SE- 76	5.6234E-11	2.0722E-10	2.1289E-10	2.1662E-10	2.1755E-10	2.1802E-10
SE- 77	5.8362E-06	7.7511E-05	8.1774E-05	8.4593E-05	8.5297E-05	8.5649E-05
SE- 78	2.8597E-04	2.8639E-04	2.8621E-04	2.8602E-04	2.8597E-04	2.8595E-04
SE- 79	2.4789E-04	2.4825E-04	2.4810E-04	2.4793E-04	2.4789E-04	2.4787E-04
SE- 80	4.7794E-04	4.7864E-04	4.7833E-04	4.7802E-04	4.7794E-04	4.7790E-04
BR- 81	1.8188E-03	1.8214E-03	1.8203E-03	1.8191E-03	1.8187E-03	1.8186E-03
BR- 82	1.5145E-03	1.1794E-04	5.8933E-05	1.9631E-05	9.8140E-06	4.9067E-06
KR- 82	3.3663E-04	1.5476E-03	1.6056E-03	1.6438E-03	1.6533E-03	1.6581E-03
KR- 83	2.9287E-03	2.9330E-03	2.9311E-03	2.9291E-03	2.9286E-03	2.9284E-03
KR- 84	4.6942E-03	4.7011E-03	4.6981E-03	4.6950E-03	4.6942E-03	4.6938E-03
KR- 85	1.5128E-03	1.5128E-03	1.5079E-03	1.4911E-03	1.4675E-03	1.4222E-03
KR- 86	7.4471E-03	7.4580E-03	7.4532E-03	7.4483E-03	7.4470E-03	7.4465E-03
RB- 85	4.6168E-03	4.6274E-03	4.6284E-03	4.6412E-03	4.6637E-03	4.7085E-03
RB- 86	1.3481E-07	8.2919E-08	5.5028E-08	2.0516E-08	1.0269E-08	5.1343E-09
RB- 87	9.5130E-03	9.5268E-03	9.5208E-03	9.5145E-03	9.5129E-03	9.5122E-03
SR- 86	2.5193E-09	5.4610E-08	8.2413E-08	1.1683E-07	1.2706E-07	1.3218E-07
SR- 88	1.3497E-02	1.3517E-02	1.3508E-02	1.3499E-02	1.3497E-02	1.3496E-02
SR- 89	1.6613E-02	1.3805E-02	1.1522E-02	6.3385E-03	3.4564E-03	1.7423E-03
SR- 90	2.1264E-02	2.1274E-02	2.1239E-02	2.1139E-02	2.1008E-02	2.0754E-02
SR- 91	1.0975E-02	4.4624E-04	2.2298E-04	7.4277E-05	3.7132E-05	1.8565E-05
Y - 89	1.0730E-04	2.9400E-03	5.2117E-03	1.0384E-02	1.3264E-02	1.4977E-02
Y - 90	6.9119E-07	4.8272E-06	5.1708E-06	5.3800E-06	5.4046E-06	5.3679E-06
Y - 91	1.2900E-02	1.9877E-02	1.7063E-02	9.9223E-03	5.5591E-03	2.8195E-03
Y - 93	1.8924E-02	7.8550E-04	3.9250E-04	1.3075E-04	6.5362E-05	3.2679E-05
ZR- 90	6.2443E-08	1.6781E-05	3.7954E-05	1.2349E-04	2.5122E-04	5.0369E-04
ZR- 91	5.0078E-04	4.0887E-03	7.1099E-03	1.4383E-02	1.8779E-02	1.8779E-02
ZR- 92	2.9337E-02	2.9380E-02	2.9361E-02	2.9342E-02	2.9337E-02	2.9335E-02
ZR- 93	1.8963E-02	3.7157E-02	3.7526E-02	3.7762E-02	3.7821E-02	3.7851E-02
ZR- 94	4.3063E-02	4.3126E-02	4.3099E-02	4.3070E-02	4.3063E-02	4.3060E-02
ZR- 95	4.8796E-02	4.2045E-02	3.6266E-02	2.1812E-02	1.2504E-02	6.3860E-03
ZR- 96	4.9403E-02	4.9475E-02	4.9443E-02	4.9411E-02	4.9402E-02	4.9399E-02
ZR- 97	3.4895E-02	1.8663E-03	9.3256E-04	3.1065E-04	1.5530E-04	7.7643E-05
NB- 95	2.6932E-04	5.8552E-03	8.8191E-03	9.8676E-03	6.5820E-03	3.4448E-03
MO- 95	1.6412E-06	1.2383E-03	4.0218E-03	1.7395E-02	2.9981E-02	3.9232E-02
MO- 96	3.6658E-05	3.6711E-05	3.6588E-05	3.6663E-05	3.6657E-05	3.6655E-05
MO- 97	2.1046E-02	5.4156E-02	5.5054E-02	5.5639E-02	5.5785E-02	5.5859E-02
MO- 98	5.7189E-02	5.7272E-02	5.7236E-02	5.7198E-02	5.7188E-02	5.7184E-02
MO- 99	5.7135E-02	8.6695E-03	4.3345E-03	1.4439E-03	7.2182E-04	3.6088E-04
MO-100	6.8880E-02	6.8980E-02	6.8936E-02	6.8890E-02	6.8879E-02	6.8874E-02
TC- 99	7.3494E-03	5.5909E-02	6.0203E-02	6.3051E-02	6.3762E-02	6.4118E-02
RU-100	1.8234E-05	1.8260E-05	1.8249E-05	1.8236E-05	1.8233E-05	1.8232E-05
RU-101	6.0540E-02	6.0628E-02	6.0589E-02	6.0549E-02	6.0539E-02	6.0535E-02
RU-102	6.1013E-02	6.1101E-02	6.1062E-02	6.1022E-02	6.1012E-02	6.1007E-02
RU-103	6.9292E-02	5.4458E-02	4.3307E-02	2.1239E-02	1.1072E-02	5.5459E-03
RU-104	6.0489E-02	6.0578E-02	6.0539E-02	6.0499E-02	6.0489E-02	6.0484E-02
RU-105	1.1213E-02	3.8338E-04	1.9157E-04	6.3813E-05	3.1901E-05	1.5949E-05
RU-106	4.2575E-02	4.1491E-02	4.0322E-02	3.6133E-02	3.0921E-02	2.3292E-02
RH-103	6.0602E-04	1.5542E-02	2.6648E-02	4.8670E-02	5.8824E-02	6.4346E-02
RH-105	3.5305E-02	3.8924E-03	1.9450E-03	6.4790E-04	3.2389E-04	1.6194E-04
PD-104	3.3648E-07	3.3697E-07	3.3675E-07	3.3653E-07	3.3648E-07	3.3645E-07
PD-105	7.5101E-03	4.9832E-02	5.1936E-02	5.3325E-02	5.3672E-02	5.3846E-02

PD-106	8.3463E-05	1.2299E-03	2.3711E-03	6.5325E-03	1.1737E-02	1.9363E-02
PD-107	3.0046E-02	3.0089E-02	3.0070E-02	3.0050E-02	3.0045E-02	3.0043E-02
PD-108	2.5315E-02	2.5352E-02	2.5336E-02	2.5319E-02	2.5315E-02	2.5313E-02
PD-109	1.3831E-02	1.3823E-02	1.3785E-02	1.3661E-02	1.3487E-02	1.3152E-02
PD-110	7.4072E-03	7.4179E-03	7.4132E-03	7.4083E-03	7.4071E-03	7.4065E-03
PD-112	7.7837E-04	4.7490E-05	2.3730E-05	7.9047E-06	3.9517E-06	1.9757E-06
AG-109	8.7515E-07	2.9146E-05	5.8279E-05	1.7395E-04	3.4504E-04	6.7870E-04
AG-111	2.6074E-03	9.2440E-04	4.9077E-04	1.6412E-04	8.2048E-05	4.1021E-05
CD-110	1.1671E-07	1.1688E-07	1.1681E-07	1.1673E-07	1.1671E-07	1.1670E-07
CD-111	1.1661E-04	1.8036E-03	2.2355E-03	2.5604E-03	2.6420E-03	2.6828E-03
CD-112	3.9526E-04	1.1279E-03	1.1509E-03	1.1659E-03	1.1697E-03	1.1716E-03
CD-113	8.4136E-04	8.4259E-04	8.4205E-04	8.4149E-04	8.4135E-04	8.4129E-04
CD-114	5.4268E-04	5.4347E-04	5.4312E-04	5.4276E-04	5.427E-04	5.4263E-04
CD-115	3.2084E-04	4.0077E-05	2.0027E-05	6.6714E-06	3.3351E-06	1.6675E-06
CD-116	3.6986E-04	3.7040E-04	3.7017E-04	3.6992E-04	3.6986E-04	3.6983E-04
IN-115	4.7763E-05	3.1500E-04	3.3382E-04	3.4628E-04	3.4939E-04	3.5095E-04
SN-115	2.5152E-06	1.6580E-05	1.7571E-05	1.8226E-05	1.8390E-05	1.8472E-05
SN-116	6.2942E-07	6.2942E-07	6.2942E-07	6.2860E-07	6.2850E-07	6.2845E-07
SN-117	3.5499E-04	3.5551E-04	3.5528E-04	3.5504E-04	3.5498E-04	3.5496E-04
SN-118	3.4964E-04	3.5015E-04	3.4992E-04	3.4969E-04	3.4963E-04	3.4961E-04
SN-119	3.5934E-04	3.5986E-04	3.5963E-04	3.5940E-04	3.5934E-04	3.5931E-04
SN-120	3.7336E-04	3.7390E-04	3.7366E-04	3.7341E-04	3.7335E-04	3.7332E-04
SN-121	3.0729E-04	2.2301E-05	1.1144E-05	3.7121E-06	1.8557E-06	9.2780E-07
SN-122	4.7444E-04	4.7513E-04	4.7483E-04	4.7452E-04	4.7444E-04	4.7440E-04
SN-123	5.6001E-04	5.1809E-04	4.7809E-04	3.5531E-04	2.4309E-04	1.3805E-04
SN-124	6.9601E-04	6.9703E-04	6.9658E-04	6.9612E-04	6.9601E-04	6.9596E-04
SN-125	4.5220E-04	3.9821E-04	2.2076E-04	7.4429E-05	3.7208E-05	1.8603E-05
SN-126	1.3652E-03	1.3672E-03	1.3664E-03	1.3655E-03	1.3652E-03	1.3651E-03
SB-121	1.0847E-04	3.9407E-04	4.0496E-04	4.1212E-04	4.1390E-04	4.1480E-04
SB-122	3.2943E-07	5.0118E-08	2.5058E-08	8.3472E-09	4.1729E-09	2.0863E-09
SB-123	3.5253E-06	4.6263E-05	8.5908E-05	2.0832E-04	3.2044E-04	4.2544E-04
SB-124	8.7806E-04	7.4744E-04	6.3757E-04	3.7167E-04	2.0903E-04	1.0614E-04
SB-125	1.4328E-04	6.9302E-04	8.6005E-04	9.6297E-04	9.3866E-04	8.4819E-04
SB-126	7.9458E-04	3.9855E-04	2.3688E-04	8.1842E-05	4.0916E-05	2.0457E-05
SB-127	4.8966E-03	9.9554E-04	4.9978E-04	1.6649E-04	8.3229E-05	4.1611E-05
SB-128	4.4721E-04	1.4929E-05	7.4596E-06	2.4849E-06	1.2422E-06	6.2107E-07
TE-122	4.2587E-08	3.2244E-07	3.4727E-07	3.6373E-07	3.6784E-07	3.6990E-07
TE-123	0.0	0.0	0.0	0.0	0.0	0.0
TE-124	5.0977E-06	1.3701E-04	2.4631E-04	5.1163E-04	6.7412E-04	7.7695E-04
TE-125	2.5672E-07	6.1133E-06	1.5828E-05	5.8514E-05	1.1986E-04	2.2885E-04
TE-126	2.3139E-05	4.2035E-04	5.8150E-04	7.3600E-04	7.7679E-04	7.9720E-04
TE-127	2.5319E-04	7.1619E-04	6.8707E-04	5.0750E-04	3.3664E-04	1.8571E-04
TE-128	8.0128E-03	8.4574E-03	8.4595E-03	8.4588E-03	8.4586E-03	8.4587E-03
TE-129	1.4368E-02	1.5778E-03	8.1333E-04	2.7993E-04	1.4035E-04	7.0178E-05
TE-130	2.6856E-02	2.5895E-02	2.6878E-02	2.6860E-02	2.6856E-02	2.6854E-02
TE-131	3.2562E-03	1.4643E-04	7.3169E-05	2.4373E-05	1.2185E-05	6.0919E-06
TE-132	4.5945E-02	7.9721E-03	3.9901E-03	1.3292E-03	6.6447E-04	3.3221E-04
I -127	1.1946E-04	3.5658E-03	4.0873E-03	4.5966E-03	4.8499E-03	5.0420E-03
I -129	2.6798E-03	1.5465E-02	1.6198E-02	1.6682E-02	1.6802E-02	1.6863E-02
I -130	2.6041E-05	1.1770E-06	5.8812E-07	1.9591E-07	9.7938E-08	4.8966E-08
I -131	3.5219E-02	1.4230E-02	7.6546E-03	2.5647E-03	1.2821E-03	6.4101E-04
I -133	4.8205E-02	2.9424E-03	1.4703E-03	4.8977E-04	2.4484E-04	1.2241E-04
I -135	2.2372E-02	8.1487E-04	4.0718E-04	1.3564E-04	6.7807E-05	3.3901E-05
XE-128	1.5401E-06	1.5423E-06	1.5413E-06	1.5403E-06	1.5401E-06	1.5399E-06
XE-130	2.1382E-05	4.6316E-05	4.6874E-05	4.7235E-05	4.7325E-05	4.7370E-05
XE-131	1.2895E-03	2.4689E-02	3.1299E-02	3.6404E-02	3.7690E-02	3.8333E-02
XE-132	5.8095E-03	4.3858E-02	4.7807E-02	5.0434E-02	5.1090E-02	5.1418E-02
XE-133	1.9441E-02	1.6993E-02	8.6893E-03	2.8958E-03	1.4477E-03	7.2378E-04
XE-134	7.2413E-02	7.2519E-02	7.2473E-02	7.2425E-02	7.2413E-02	7.2407E-02
XE-135	2.6257E-02	1.3370E-03	6.6805E-04	2.2254E-04	1.1125E-04	5.5621E-05
XE-136	6.5684E-02	6.5779E-02	6.5737E-02	6.5694E-02	6.5683E-02	6.5678E-02
CS-133	8.9477E-04	4.8706E-02	5.8437E-02	6.5166E-02	6.6848E-02	6.7689E-02
CS-134	3.8174E-07	3.7720E-07	3.7180E-07	3.5182E-07	3.2475E-07	2.7868E-07
CS-135	2.3759E-02	7.0342E-02	7.1373E-02	7.2042E-02	7.2209E-02	7.2293E-02
CS-136	9.8117E-04	5.0340E-04	3.0234E-04	1.0499E-04	5.2490E-05	2.6243E-05
CS-137	6.5493E-02	6.5528E-02	6.5424E-02	6.5133E-02	6.4754E-02	6.4019E-02

BA-134	7.6400E-07	7.7021E-07	7.7488E-07	7.9409E-07	8.2097E-07	8.6696E-07
BA-136	2.7242E-05	5.0648E-04	7.0689E-04	9.0358E-04	9.5591E-04	9.8208E-04
BA-137	5.5756E-06	6.5747E-05	1.2783E-04	3.7528E-04	7.4412E-04	1.4735E-03
BA-138	5.7049E-02	5.7132E-02	5.7096E-02	5.7058E-02	5.7048E-02	5.7044E-02
BA-140	5.3560E-02	2.7237E-02	1.6291E-02	5.6454E-03	2.8224E-03	1.4111E-03
LA-139	5.8549E-02	5.8635E-02	5.8597E-02	5.8559E-02	5.8549E-02	5.8544E-02
LA-140	2.9070E-06	2.9111E-06	2.9092E-06	2.9070E-06	2.9061E-06	2.9050E-06
CE-140	1.8997E-04	2.4466E-02	3.6693E-02	4.8683E-02	5.1867E-02	5.3459E-02
CE-141	5.6399E-02	4.2394E-02	3.2464E-02	1.4751E-02	7.5423E-03	3.7728E-03
CE-142	4.9876E-02	4.9949E-02	4.9917E-02	4.9884E-02	4.9876E-02	4.9872E-02
CE-143	3.4655E-02	2.9219E-03	1.4600E-03	4.8635E-04	2.4313E-04	1.2156E-04
CE-144	3.7759E-02	3.6507E-02	3.5196E-02	3.0599E-02	2.5155E-02	1.7801E-02
PR-141	3.3575E-03	1.7450E-02	2.7341E-02	4.5015E-02	5.2214E-02	5.5979E-02
PR-142	1.9512E-08	1.1239E-09	5.6158E-10	1.8707E-10	9.3518E-11	4.6756E-11
PR-143	9.0068E-03	2.1775E-02	1.3591E-02	4.7767E-03	2.3882E-03	1.1940E-03
PR-145	1.0279E-02	3.6578E-04	1.8277E-04	6.0884E-05	3.0437E-05	1.5217E-05
ND-142	9.6582E-09	2.8088E-08	2.8632E-08	2.8987E-08	2.9076E-08	2.9121E-08
ND-143	1.0318E-03	2.0062E-02	2.9679E-02	3.9438E-02	4.2062E-02	4.3374E-02
ND-144	7.8208E-05	1.3850E-03	2.6720E-03	7.2439E-03	1.2681E-02	2.0033E-02
ND-145	1.9954E-02	2.9911E-02	3.0075E-02	3.0177E-02	3.0202E-02	3.0215E-02
ND-146	2.4867E-02	2.4903E-02	2.4887E-02	2.4871E-02	2.4867E-02	2.4865E-02
ND-147	1.8935E-02	8.8379E-03	5.0945E-03	1.7380E-03	8.6887E-04	4.3441E-04
ND-148	1.6625E-02	1.6649E-02	1.6639E-02	1.6628E-02	1.6625E-02	1.6624E-02
ND-150	0.0	0.0	0.0	0.0	0.0	0.0
PM-147	5.8207E-04	1.0621E-02	1.4185E-02	1.6757E-02	1.6502E-02	1.4944E-02
PM-148	4.1267E-06	1.1192E-06	5.7114E-07	1.9034E-07	9.5154E-08	4.7573E-08
PM-149	1.1037E-02	1.3741E-03	6.8668E-04	2.2874E-04	1.1435E-04	5.7172E-05
PM-151	5.8091E-03	4.3292E-04	2.1632E-04	7.2060E-05	3.6024E-05	1.8011E-05
SM-147	1.3977E-07	8.7527E-05	2.5383E-04	1.0251E-03	2.1469E-03	4.1375E-03
SM-148	2.7383E-07	3.2877E-06	3.8330E-06	4.2109E-06	4.3053E-06	4.3526E-06
SM-149	1.4427E-03	1.1124E-02	1.1803E-02	1.2253E-02	1.2425E-02	1.2422E-02
SM-150	1.0005E-02	1.0020E-02	1.0013E-02	1.0007E-02	1.0005E-02	1.0004E-02
SM-151	1.8602E-03	7.2453E-03	7.4545E-03	7.5837E-03	7.6034E-03	7.5910E-03
SM-152	5.7698E-03	5.7782E-03	5.7745E-03	5.7707E-03	5.7697E-03	5.7693E-03
SM-153	3.2440E-03	3.6328E-04	1.8153E-04	6.0469E-05	3.0229E-05	1.5114E-05
SM-154	2.7209E-03	2.7249E-03	2.7232E-03	2.7214E-03	2.7209E-03	2.7207E-03
SM-156	2.8698E-04	1.1547E-05	5.7699E-06	1.9220E-06	9.6086E-07	4.8039E-07
EU-153	6.0494E-04	3.4912E-03	3.6705E-03	3.7890E-03	3.8186E-03	3.8335E-03
EU-154	3.0511E-05	3.0503E-05	3.0429E-05	3.0194E-05	2.9870E-05	2.9243E-05
EU-155	2.0703E-03	2.0421E-03	2.0091E-03	1.8878E-03	1.7251E-03	1.4537E-03
EU-156	5.2379E-04	4.4191E-04	2.7750E-04	9.8707E-05	4.9357E-05	2.4677E-05
EU-157	4.3617E-04	2.1886E-05	1.0936E-05	3.6430E-06	1.8212E-06	9.1053E-07
GD-155	2.1118E-06	3.3331E-05	6.4926E-05	1.8489E-04	3.4726E-04	6.1854E-04
GD-156	1.6582E-05	3.7510E-04	5.4476E-04	7.2685E-04	7.7702E-04	8.0212E-04
GD-157	3.2031E-04	7.3570E-04	7.4617E-04	7.5296E-04	7.5465E-04	7.5551E-04
GD-158	4.2154E-04	4.2216E-04	4.2189E-04	4.2161E-04	4.2154E-04	4.2151E-04
GD-159	1.4303E-04	7.9168E-06	3.9559E-06	1.3178E-06	6.5877E-07	3.2936E-07
GD-160	9.8095E-05	9.8238E-05	9.8175E-05	9.8110E-05	9.8093E-05	9.8086E-05
TB-159	8.1892E-05	2.1733E-04	2.2115E-04	2.2364E-04	2.2426E-04	2.2457E-04
TB-160	1.7518E-05	1.5313E-05	1.3387E-05	8.3707E-06	4.9262E-06	2.5402E-06
TB-161	4.1953E-05	1.3933E-05	7.3041E-06	2.4390E-06	1.2193E-06	6.0959E-07
DY-160	3.7504E-07	2.6054E-06	4.5209E-06	9.5249E-06	1.2966E-05	1.5351E-05
DY-161	3.2017E-06	3.1287E-05	3.7887E-05	4.2722E-05	4.3934E-05	4.4541E-05
DY-162	0.0	0.0	0.0	0.0	0.0	0.0
DY-163	0.0	0.0	0.0	0.0	0.0	0.0
DY-164	0.0	0.0	0.0	0.0	0.0	0.0
HO-165	0.0	0.0	0.0	0.0	0.0	0.0

U-235 (THERMAL)

NUCLIDE	BURN UP ( DAYS )					
	1.	30.	60.	180.	360.	720.
ZN- 72	1.9912E-07	2.2101E-08	1.1042E-08	3.6779E-09	1.8386E-09	9.1919E-10
GA- 72	2.6140E-08	6.7017E-09	3.3484E-09	1.1153E-09	5.5752E-10	2.7873E-10
GE- 72	1.1599E-08	2.0840E-07	2.2264E-07	2.3205E-07	2.3440E-07	2.3557E-07
GE- 73	1.0394E-06	1.0409E-06	1.0401E-06	1.0393E-06	1.0391E-06	1.0390E-06
GE- 74	3.4080E-06	3.4130E-06	3.4104E-06	3.4077E-06	3.4070E-06	3.4067E-06
GE- 76	3.5210E-05	3.5261E-05	3.5234E-05	3.5206E-05	3.5199E-05	3.5196E-05
GE- 77	4.8080E-05	2.0829E-06	1.0406E-06	3.4661E-07	1.7327E-07	8.6626E-08
AS- 75	1.2075E-05	1.2092E-05	1.2083E-05	1.2074E-05	1.2071E-05	1.2070E-05
AS- 76	5.2996E-11	3.7946E-12	1.8959E-12	6.3146E-13	3.1566E-13	1.5782E-13
AS- 77	3.7554E-05	7.1341E-06	3.5644E-06	1.1872E-06	5.9348E-07	2.9671E-07
SE- 76	1.8363E-11	6.7667E-11	6.9512E-11	7.0721E-11	7.1022E-11	7.1173E-11
SE- 77	6.2323E-06	8.2783E-05	8.7326E-05	9.0325E-05	9.1073E-05	9.1447E-05
SE- 78	2.0333E-04	2.0363E-04	2.0347E-04	2.0331E-04	2.0327E-04	2.0325E-04
SE- 79	5.5053E-04	5.5133E-04	5.5091E-04	5.5048E-04	5.5036E-04	5.5031E-04
SE- 80	9.4676E-04	9.4813E-04	9.4742E-04	9.4667E-04	9.4648E-04	9.4639E-04
BR- 81	1.9658E-03	1.9686E-03	1.9671E-03	1.9656E-03	1.9652E-03	1.9650E-03
BR- 82	1.9424E-03	1.7270E-04	8.6284E-05	2.8739E-05	1.4366E-05	7.1825E-06
KR- 82	4.9293E-04	2.2661E-03	2.3507E-03	2.4064E-03	2.4202E-03	2.4272E-03
KR- 83	5.3509E-03	5.3586E-03	5.3546E-03	5.3504E-03	5.3493E-03	5.3488E-03
KR- 84	9.9754E-03	9.9898E-03	9.9823E-03	9.9744E-03	9.9724E-03	9.9714E-03
KR- 85	3.0606E-03	3.0572E-03	3.0468E-03	3.0125E-03	2.9648E-03	2.8732E-03
KR- 86	1.9366E-02	1.9394E-02	1.9380E-02	1.9365E-02	1.9361E-02	1.9359E-02
RB- 85	1.0296E-02	1.0319E-02	1.0319E-02	1.0343E-02	1.0388E-02	1.0478E-02
RB- 86	1.0802E-05	6.6439E-06	4.4086E-06	1.6435E-06	8.2261E-07	4.1126E-07
RB- 87	2.5539E-02	2.5576E-02	2.5557E-02	2.5537E-02	2.5532E-02	2.5529E-02
SR- 86	1.2712E-06	5.4466E-06	7.6728E-06	1.0428E-05	1.1247E-05	1.1657E-05
SR- 88	3.6471E-02	3.6524E-02	3.6496E-02	3.6468E-02	3.6460E-02	3.6456E-02
SR- 89	4.7800E-02	3.9719E-02	3.3148E-02	1.8233E-02	9.9419E-03	5.0114E-03
SR- 90	5.9317E-02	5.9345E-02	5.9240E-02	5.8954E-02	5.8586E-02	5.7876E-02
SR- 91	2.7352E-02	1.1121E-03	5.5565E-04	1.8507E-04	9.2516E-05	4.6253E-05
Y - 89	3.0759E-04	8.4577E-03	1.4992E-02	2.9870E-02	3.8151E-02	4.3077E-02
Y - 90	5.8253E-06	1.4034E-05	1.4706E-05	1.5099E-05	1.5119E-05	1.4993E-05
Y - 91	3.0317E-02	4.7981E-02	4.1197E-02	2.3958E-02	1.3422E-02	6.8074E-03
Y - 93	3.2005E-02	1.3284E-03	6.6372E-04	2.2107E-04	1.1051E-04	5.5250E-05
ZR- 90	7.0263E-07	5.0675E-05	1.1001E-04	3.4873E-04	7.0497E-04	1.4090E-03
ZR- 91	1.4716E-03	1.0133E-02	1.7429E-02	3.4992E-02	4.5608E-02	5.2263E-02
ZR- 92	5.9890E-02	5.9976E-02	5.9931E-02	5.9884E-02	5.9872E-02	5.9866E-02
ZR- 93	3.2087E-02	6.2856E-02	6.3472E-02	6.3864E-02	6.3962E-02	6.4011E-02
ZR- 94	6.4502E-02	6.4596E-02	6.4547E-02	6.4496E-02	6.4483E-02	6.4477E-02
ZR- 95	6.4652E-02	5.5706E-02	4.8045E-02	2.8893E-02	1.6562E-02	8.4584E-03
ZR- 96	6.2808E-02	6.2899E-02	6.2852E-02	6.2803E-02	6.2790E-02	6.2784E-02
ZR- 97	3.7826E-02	2.0230E-03	1.0108E-03	3.3665E-04	1.6829E-04	8.4138E-05
NB- 95	3.5722E-04	7.7568E-03	1.1683E-02	1.3070E-02	8.7180E-03	4.5626E-03
MO- 95	4.4215E-04	2.0824E-03	5.7693E-03	2.3482E-02	4.0152E-02	5.2404E-02
MO- 96	5.1370E-06	5.1445E-06	5.1406E-06	5.1366E-06	5.1355E-06	5.1350E-06
MO- 97	2.1608E-02	5.7496E-02	5.8464E-02	5.9091E-02	5.9248E-02	5.9326E-02
MO- 98	5.7900E-02	5.7984E-02	5.7940E-02	5.7895E-02	5.7883E-02	5.7877E-02
MO- 99	5.4331E-02	8.2439E-03	4.1213E-03	1.3727E-03	6.8619E-04	3.4306E-04
MO-100	6.2852E-02	6.2942E-02	6.2895E-02	6.2846E-02	6.2833E-02	6.2827E-02
TC- 99	6.9898E-03	5.3165E-02	5.7242E-02	5.9942E-02	6.0616E-02	6.0953E-02
RU-100	1.2493E-06	1.2511E-06	1.2501E-06	1.2492E-06	1.2489E-06	1.2488E-06
RU-101	5.0982E-02	5.1056E-02	5.1018E-02	5.0978E-02	5.0967E-02	5.0962E-02
RU-102	4.2073E-02	4.2134E-02	4.2102E-02	4.2069E-02	4.2060E-02	4.2056E-02
RU-103	3.0767E-02	2.4180E-02	1.9227E-02	9.4282E-03	4.9150E-03	2.4618E-03
RU-104	1.8322E-02	1.8348E-02	1.8334E-02	1.8320E-02	1.8316E-02	1.8314E-02
RU-105	2.5373E-03	8.6747E-05	4.3341E-05	1.4436E-05	7.2163E-06	3.6078E-06
RU-106	3.9038E-03	3.8043E-03	3.6968E-03	3.3123E-03	2.8344E-03	2.1350E-03
RH-103	2.6905E-04	6.9008E-03	1.1831E-02	2.1605E-02	2.6112E-02	2.8562E-02
RH-105	5.7817E-03	6.8209E-04	3.4079E-04	1.1351E-04	5.6742E-05	2.8368E-05
PD-104	9.9540E-10	9.9684E-10	9.9609E-10	9.9531E-10	9.9510E-10	9.9501E-10
PD-105	1.1486E-03	8.7124E-03	9.0900E-03	9.3388E-03	9.4008E-03	9.4319E-03

PD-106	3.7732E-06	1.0888E-04	2.1350E-04	5.9495E-04	1.0720E-03	1.7710E-03
PD-107	1.9116E-03	1.9144E-03	1.9130E-03	1.9115E-03	1.9111E-03	1.9109E-03
PD-108	7.0428E-04	7.0530E-04	7.0477E-04	7.0422E-04	7.0407E-04	7.0400E-04
PD-109	2.7411E-04	2.7395E-04	2.7317E-04	2.7066E-04	2.6721E-04	2.6058E-04
PD-110	2.0011E-04	2.0040E-04	2.0025E-04	2.0010E-04	2.0005E-04	2.0004E-04
PD-112	8.0777E-05	4.9283E-06	2.4623E-06	8.2012E-07	4.0997E-07	2.0497E-07
AG-109	2.3423E-08	5.8370E-07	1.1609E-06	3.4526E-06	6.8422E-06	1.3453E-05
AG-111	1.7440E-04	6.1826E-05	3.2820E-05	1.0974E-05	5.4861E-06	2.7428E-06
CD-110	1.2957E-10	1.2976E-10	1.2966E-10	1.2956E-10	1.2954E-10	1.2952E-10
CD-111	7.7994E-06	1.2063E-04	1.4950E-04	1.7120E-04	1.7665E-04	1.7938E-04
CD-112	4.6899E-05	1.2293E-04	1.2530E-04	1.2684E-04	1.2723E-04	1.2742E-04
CD-113	1.2794E-04	1.2812E-04	1.2802E-04	1.2792E-04	1.2790E-04	1.2788E-04
CD-114	1.2939E-04	1.2957E-04	1.2948E-04	1.2937E-04	1.2935E-04	1.2933E-04
CD-115	9.0971E-05	1.1363E-05	5.6778E-06	1.8911E-06	9.4535E-07	4.7263E-07
CD-116	1.1068E-04	1.1084E-04	1.1075E-04	1.1067E-04	1.1064E-04	1.1063E-04
IN-115	1.3667E-05	8.9439E-05	9.4765E-05	9.8284E-05	9.9161E-05	9.9601E-05
SN-115	7.2137E-07	4.7094E-06	4.9897E-06	5.1749E-06	5.2211E-06	5.2442E-06
SN-116	4.6373E-08	4.6440E-08	4.6405E-08	4.6369E-08	4.6359E-08	4.6355E-08
SN-117	1.6093E-04	1.6116E-04	1.6104E-04	1.6091E-04	1.6088E-04	1.6086E-04
SN-118	1.4757E-04	1.4779E-04	1.4768E-04	1.4756E-04	1.4753E-04	1.4752E-04
SN-119	1.2612E-04	1.2630E-04	1.2620E-04	1.2610E-04	1.2608E-04	1.2607E-04
SN-120	1.3067E-04	1.3086E-04	1.3076E-04	1.3066E-04	1.3064E-04	1.3062E-04
SN-121	1.3314E-04	9.6626E-06	4.8277E-06	1.6080E-06	8.0382E-07	4.0187E-07
SN-122	1.5066E-04	1.5088E-04	1.5077E-04	1.5065E-04	1.5063E-04	1.5060E-04
SN-123	2.3865E-04	2.2078E-04	2.0371E-04	1.5138E-04	1.0356E-04	5.8810E-05
SN-124	1.7841E-04	1.7866E-04	1.7853E-04	1.7839E-04	1.7835E-04	1.7834E-04
SN-125	2.4025E-04	1.0047E-04	5.5692E-05	1.8774E-05	9.3853E-06	4.6922E-06
SN-126	5.0269E-04	5.0342E-04	5.0304E-04	5.0264E-04	5.0254E-04	5.0249E-04
SB-121	4.4994E-05	1.6873E-04	1.7343E-04	1.7651E-04	1.7728E-04	1.7766E-04
SB-122	2.2045E-08	3.3537E-09	1.6766E-09	5.5843E-10	2.7916E-10	1.3956E-10
SB-123	8.7151E-07	1.9083E-05	3.5974E-05	8.8122E-05	1.3589E-04	1.8062E-04
SB-124	1.1926E-07	1.0152E-07	8.6586E-08	5.0469E-08	2.8383E-08	1.4412E-08
SB-125	1.2711E-05	1.5162E-04	1.9400E-04	2.2088E-04	2.1606E-04	1.9555E-04
SB-126	1.9492E-05	9.7770E-06	5.8104E-06	2.0073E-06	1.0036E-06	5.0184E-07
SB-127	1.0675E-03	2.1709E-04	1.0897E-04	3.6295E-05	1.8144E-05	9.0710E-06
SB-128	2.3194E-04	7.7424E-06	3.8683E-06	1.2884E-06	6.4407E-07	3.2201E-07
TE-122	2.8411E-09	2.1568E-08	2.3226E-08	2.4325E-08	2.4599E-08	2.4736E-08
TE-123	0.0	0.0	0.0	0.0	0.0	0.0
TE-124	6.9021E-10	1.8606E-08	3.3448E-08	6.9471E-08	9.1532E-08	1.0549E-07
TE-125	1.3421E-08	1.2532E-06	3.4616E-06	1.3293E-05	2.7458E-05	5.2632E-05
TE-126	5.6651E-07	1.0310E-05	1.4262E-05	1.8050E-05	1.9050E-05	1.9552E-05
TE-127	2.9541E-04	3.7728E-04	3.5159E-04	2.5509E-04	1.6858E-04	9.2901E-05
TE-128	3.7929E-03	4.0229E-03	4.0237E-03	4.0232E-03	4.0230E-03	4.0229E-03
TE-129	5.5828E-03	5.8372E-04	2.9188E-04	9.7300E-05	4.8644E-05	2.4320E-05
TE-130	2.0035E-02	2.0064E-02	2.0049E-02	2.0033E-02	2.0029E-02	2.0027E-02
TE-131	2.1329E-03	8.1951E-05	4.0945E-05	1.3637E-05	6.8173E-06	3.4083E-06
TE-132	3.7063E-02	6.4308E-03	3.2184E-03	1.0719E-03	5.3586E-04	2.6790E-04
I -127	2.6861E-05	7.9744E-04	9.3020E-04	1.0983E-03	1.2027E-03	1.2873E-03
I -129	2.9440E-03	7.9551E-03	8.2403E-03	8.4279E-03	8.4746E-03	8.4980E-03
I -130	1.7524E-06	7.9202E-08	3.9571E-08	1.3180E-08	6.5887E-09	3.2940E-09
I -131	2.5196E-02	1.0007E-02	5.3806E-03	1.8025E-03	9.0105E-04	4.5048E-04
I -133	4.7569E-02	2.9035E-03	1.4507E-03	4.8318E-04	2.4154E-04	1.2076E-04
I -135	2.3621E-02	8.6033E-04	4.2984E-04	1.4317E-04	7.1569E-05	3.5781E-05
XE-128	3.8178E-07	3.8233E-07	3.8205E-07	3.8175E-07	3.8167E-07	3.8163E-07
XE-130	1.4308E-06	3.1086E-06	3.1458E-06	3.1697E-06	3.1756E-06	3.1786E-06
XE-131	9.9671E-04	1.7694E-02	2.2331E-02	2.5908E-02	2.6808E-02	2.7259E-02
XE-132	4.1877E-03	3.4880E-02	3.8061E-02	4.0175E-02	4.0703E-02	4.0967E-02
XE-133	1.9168E-02	1.6763E-02	8.5707E-03	2.8559E-03	1.4277E-03	7.1376E-04
XE-134	7.1897E-02	7.2001E-02	7.1947E-02	7.1891E-02	7.1876E-02	7.1869E-02
XE-135	2.3452E-02	1.2410E-03	6.2006E-04	2.0652E-04	1.0324E-04	5.1615E-05
XE-136	6.1185E-02	6.1274E-02	6.1228E-02	6.1180E-02	6.1167E-02	6.1161E-02
CS-133	8.8260E-04	4.8051E-02	5.7645E-02	6.4274E-02	6.5930E-02	6.6758E-02
CS-134	1.0249E-07	1.0128E-07	9.9812E-08	9.4439E-08	8.7169E-08	7.4801E-08
CS-135	2.0149E-02	6.5218E-02	6.6219E-02	6.6866E-02	6.7027E-02	6.7108E-02
CS-136	6.5957E-05	3.3839E-05	2.0322E-05	7.0560E-06	3.5275E-06	1.7636E-06
CS-137	6.2241E-02	6.2274E-02	6.2168E-02	6.1884E-02	6.1521E-02	6.0822E-02



BA-134	1.4296E-07	1.4454E-07	1.4582E-07	1.5100E-07	1.5822E-07	1.7056E-07
BA-136	3.9028E-06	3.6121E-05	4.9586E-05	6.2797E-05	6.6311E-05	6.8068E-05
BA-137	1.8387E-05	7.5589E-05	1.3456E-04	3.6964E-04	7.2005E-04	1.4130E-03
BA-138	6.7438E-02	6.7535E-02	6.7485E-02	6.7432E-02	6.7418E-02	6.7411E-02
BA-140	6.1296E-02	3.1170E-02	1.8641E-02	6.4593E-03	3.2291E-03	1.6144E-03
LA-139	6.5849E-02	6.5944E-02	6.5895E-02	6.5843E-02	6.5829E-02	6.5823E-02
LA-140	5.5268E-08	5.5347E-08	5.5304E-08	5.5255E-08	5.5236E-08	5.5215E-08
CE-140	2.4824E-04	2.8156E-02	4.2151E-02	5.5869E-02	5.9511E-02	6.1331E-02
CF-141	5.8265E-02	4.3796E-02	3.3535E-02	1.5235E-02	7.7897E-03	3.8965E-03
CE-142	5.9538E-02	5.9624E-02	5.9579E-02	5.9533E-02	5.9520E-02	5.9515E-02
CE-143	4.6539E-02	3.9238E-03	1.9604E-03	6.5296E-04	3.2641E-04	1.6319E-04
CE-144	5.4358E-02	5.2556E-02	5.0663E-02	4.4040E-02	3.6204E-02	2.5618E-02
PR-141	3.7478E-04	1.4929E-02	2.5146E-02	4.3400E-02	5.0833E-02	5.4720E-02
PR-142	6.6383E-10	3.8236E-11	1.9104E-11	6.3629E-12	3.1808E-12	1.5903E-12
PR-143	1.2427E-02	2.9416E-02	1.8356E-02	6.4502E-03	3.2248E-03	1.6122E-03
PR-145	1.3435E-02	4.7809E-04	2.3886E-04	7.9559E-05	3.9771E-05	1.9884E-05
ND-142	3.2859E-10	9.5562E-10	9.7401E-10	9.8597E-10	9.8895E-10	9.9044E-10
ND-143	9.3292E-04	2.6645E-02	3.9624E-02	5.2790E-02	5.6330E-02	5.8100E-02
ND-144	1.0280E-04	1.9840E-03	1.8364E-03	1.0416E-02	1.8241E-02	1.6319E-02
ND-145	2.6077E-02	3.9091E-02	3.9301E-02	3.9429E-02	3.9460E-02	3.9476E-02
ND-146	2.9972E-02	3.0016E-02	2.9993E-02	2.9970E-02	2.9963E-02	2.9961E-02
ND-147	2.1866E-02	1.0206E-02	5.8823E-03	2.0066E-03	1.0031E-03	5.0149E-04
ND-148	1.6899E-02	1.6924E-02	1.6911E-02	1.6898E-02	1.6894E-02	1.6893E-02
ND-150	0.0	0.0	0.0	0.0	0.0	0.0
PM-147	6.7164E-04	1.2264E-02	1.6379E-02	1.9346E-02	1.9050E-02	1.7252E-02
PM-148	1.1170E-06	3.0294E-07	1.5457E-07	5.1507E-08	2.5748E-08	1.2873E-08
PM-149	9.4738E-03	1.1795E-03	5.8935E-04	1.9629E-04	9.8127E-05	4.9059E-05
PM-151	3.2053E-03	2.3887E-04	1.1935E-04	3.9751E-05	1.9871E-05	9.9348E-06
SM-147	1.6122E-07	1.0107E-04	2.9308E-04	1.1835E-03	2.4785E-03	4.7763E-03
SM-148	8.2319E-08	8.9810E-07	1.0456E-06	1.1477E-06	1.1732E-06	1.1860E-06
SM-149	1.2305E-03	9.5402E-03	1.0122E-02	1.0507E-02	1.0603E-02	1.0651E-02
SM-150	6.4953E-03	6.5047E-03	6.4998E-03	6.4947E-03	6.4933E-03	6.4927E-03
SM-151	1.0184E-03	3.9897E-03	4.1047E-03	4.1755E-03	4.1862E-03	4.1793E-03
SM-152	2.6477E-03	2.6515E-03	2.6495E-03	2.6474E-03	2.6469E-03	2.6466E-03
SM-153	1.2762E-03	1.4291E-04	7.1404E-05	2.3782E-05	1.1889E-05	5.9438E-06
SM-154	7.1041E-04	7.1144E-04	7.1090E-04	7.1034E-04	7.1020E-04	7.1013E-04
SM-156	5.6418E-05	2.2701E-06	1.1342E-06	3.7777E-07	1.8885E-07	9.4414E-08
EU-153	3.5904E-04	1.4947E-03	1.5649E-03	1.6113E-03	1.6228E-03	1.6286E-03
EU-154	1.6989E-06	1.6984E-06	1.6942E-06	1.6808E-06	1.6627E-06	1.6278E-06
EU-155	3.3242E-04	3.2789E-04	3.2257E-04	3.0305E-04	2.7692E-04	2.3334E-04
EU-156	7.5375E-05	7.1575E-05	4.4992E-05	1.6006E-05	8.0035E-06	4.0014E-06
EU-157	3.8482E-05	1.9309E-06	9.6474E-07	3.2133E-07	1.6063E-07	8.0307E-08
GD-155	1.8670E-07	5.1993E-06	1.0271E-05	2.9527E-05	5.5591E-05	9.9135E-05
GD-156	1.5495E-06	5.9691E-05	8.7310E-05	1.1695E-04	1.2511E-04	1.2919E-04
GD-157	2.5739E-05	6.2382E-05	6.3300E-05	6.3893E-05	6.4041E-05	6.4115E-05
GD-158	4.2789E-05	4.2851E-05	4.2818E-05	4.2785E-05	4.2776E-05	4.2772E-05
GD-159	7.1627E-06	3.9647E-07	1.9809E-07	6.5977E-08	3.2982E-08	1.6489E-08
GD-160	3.3081E-06	3.3129E-06	3.3104E-06	3.3078E-06	3.3071E-06	3.3068E-06
TB-159	3.7509E-06	1.0533E-05	1.0723E-05	1.0847E-05	1.0877E-05	1.0893E-05
TB-160	4.2869E-09	3.7474E-09	3.2755E-09	2.0479E-09	1.2052E-09	6.2144E-10
TB-161	7.9895E-07	2.6534E-07	1.3908E-07	4.6437E-08	2.3213E-08	1.1606E-08
DY-160	5.0622E-11	5.9636E-10	1.0650E-09	2.2892E-09	3.1310E-09	3.7143E-09
DY-161	4.4551E-08	5.7938E-07	7.0501E-07	7.9699E-07	8.2004E-07	8.3157E-07
DY-162	0.0	0.0	0.0	0.0	0.0	0.0
DY-163	0.0	0.0	0.0	0.0	0.0	0.0
DY-164	0.0	0.0	0.0	0.0	0.0	0.0
HO-165	0.0	0.0	0.0	0.0	0.0	0.0

## U-238(FISSION SPECT)

NUCLIDE	BURN - UP ( DAYS )					
	1.	30.	60.	180.	360.	720.
ZN- 72	3.6511E-08	4.0535E-09	2.0255E-09	6.7477E-10	3.3734E-10	1.6866E-10
GA- 72	4.7929E-09	1.2292E-09	6.1421E-10	2.0462E-10	1.0229E-10	5.1145E-11
GE- 72	2.1267E-09	3.8223E-08	4.0839E-08	4.2573E-08	4.3007E-08	4.3225E-08
GE- 73	2.8754E-07	2.8804E-07	2.8786E-07	2.8769E-07	2.8765E-07	2.8764E-07
GE- 74	9.7844E-07	9.8013E-07	9.7952E-07	9.7894E-07	9.7881E-07	9.7876E-07
GE- 76	9.7744E-06	9.7913E-06	9.7852E-06	9.7794E-06	9.7781E-06	9.7776E-06
GE- 77	1.9828E-05	8.5919E-07	4.2933E-07	1.4302E-07	7.1503E-08	3.5750E-08
AS- 75	3.4551E-06	3.4611E-06	3.4589E-06	3.4568E-06	3.4564E-06	3.4562E-06
AS- 76	4.9605E-13	3.5528E-14	1.7753E-14	5.9141E-15	2.9567E-15	1.4783E-15
AS- 77	1.5484E-05	2.9425E-06	1.4704E-06	4.8983E-07	2.4488E-07	1.2243E-07
SE- 76	1.7188E-13	6.3356E-13	6.5092E-13	6.6236E-13	6.6523E-13	6.6667E-13
SE- 77	2.5694E-06	3.4145E-05	3.6023E-05	3.7267E-05	3.7579E-05	3.7735E-05
SE- 78	1.4250E-04	1.4275E-04	1.4266E-04	1.4258E-04	1.4256E-04	1.4255E-04
SE- 79	4.1032E-04	4.1103E-04	4.1078E-04	4.1053E-04	4.1048E-04	4.1046E-04
SE- 80	8.8128E-04	8.8281E-04	8.8226E-04	8.8173E-04	8.8162E-04	8.8157E-04
BR- 81	1.5877E-03	1.5905E-03	1.5895E-03	1.5885E-03	1.5883E-03	1.5882E-03
BR- 82	2.1063E-03	1.8732E-04	9.3603E-05	3.1183E-05	1.5589E-05	7.7942E-06
KR- 82	5.3451E-04	2.4581E-03	2.5501E-03	2.6110E-03	2.6262E-03	2.6339E-03
KR- 83	4.1174E-03	4.1245E-03	4.1219E-03	4.1195E-03	4.1189E-03	4.1187E-03
KR- 84	8.4843E-03	8.4990E-03	8.4937E-03	8.4887E-03	8.4876E-03	8.4871E-03
KR- 85	1.8626E-03	1.8610E-03	1.8550E-03	1.8344E-03	1.8055E-03	1.7498E-03
KR- 86	1.3620E-02	1.3644E-02	1.3635E-02	1.3627E-02	1.3625E-02	1.3625E-02
RB- 85	6.2710E-03	6.2866E-03	6.2876E-03	6.3033E-03	6.3312E-03	6.3864E-03
RB- 86	1.4799E-09	9.1053E-10	6.0427E-10	2.2531E-10	1.1278E-10	5.6388E-11
RB- 87	1.4139E-02	1.4163E-02	1.4154E-02	1.4146E-02	1.4144E-02	1.4143E-02
SR- 86	2.7657E-11	5.9967E-10	9.0499E-10	1.2831E-09	1.3954E-09	1.4517E-09
SR- 88	1.6778E-02	1.6778E-02	1.6768E-02	1.6758E-02	1.6756E-02	1.6755E-02
SR- 89	2.9917E-02	2.4867E-02	2.0756E-02	1.1418E-02	6.2267E-03	3.1388E-03
SR- 90	3.2767E-02	3.2792E-02	3.2738E-02	3.2587E-02	3.2385E-02	3.1994E-02
SR- 91	2.1518E-02	8.7517E-04	4.3731E-04	1.4568E-04	7.2833E-05	3.6415E-05
Y - 89	1.9246E-04	5.2950E-03	9.3873E-03	1.8706E-02	2.3894E-02	2.6981E-02
Y - 90	4.0966E-06	7.8826E-06	8.1914E-06	8.3670E-06	8.3684E-06	8.2936E-06
Y - 91	2.3371E-02	3.7350E-02	3.2077E-02	1.8659E-02	1.0454E-02	5.3025E-03
Y - 93	2.4082E-02	9.9987E-04	4.9962E-04	1.6644E-04	8.3210E-05	4.1603E-05
ZR- 90	1.4215E-05	4.2605E-05	7.5452E-05	2.0745E-04	4.0439E-04	7.9363E-04
ZR- 91	9.5785E-05	6.8370E-03	1.2520E-02	2.6203E-02	3.4475E-02	3.9661E-02
ZR- 92	3.9035E-02	3.9103E-02	3.9078E-02	3.9055E-02	3.9050E-02	3.9048E-02
ZR- 93	2.4120E-02	4.7285E-02	4.7755E-02	4.8060E-02	4.8137E-02	4.8176E-02
ZR- 94	5.1332E-02	5.1421E-02	5.1389E-02	5.1358E-02	5.1351E-02	5.1349E-02
ZR- 95	5.5411E-02	4.7758E-02	4.1195E-02	2.4778E-02	1.4205E-02	7.2548E-03
ZR- 96	5.4863E-02	5.4958E-02	5.4923E-02	5.4891E-02	5.4884E-02	5.4881E-02
ZR- 97	3.6879E-02	1.9730E-03	9.8587E-04	3.2843E-04	1.6419E-04	8.2092E-05
NB- 95	2.8731E-04	6.6356E-03	1.0006E-02	1.1204E-02	7.4743E-03	3.9120E-03
MO- 95	1.8441E-06	1.4032E-03	4.5616E-03	1.9747E-02	3.4043E-02	4.4552E-02
MO- 96	4.1833E-06	4.1906E-06	4.1879E-06	4.1855E-06	4.1849E-06	4.1847E-06
MO- 97	2.2643E-02	5.7652E-02	5.8602E-02	5.9224E-02	5.9380E-02	5.9459E-02
MO- 98	6.0174E-02	6.0278E-02	6.0240E-02	6.0205E-02	6.0197E-02	6.0194E-02
MO- 99	5.6827E-02	8.6251E-03	4.3124E-03	1.4366E-03	7.1821E-04	3.5909E-04
MO-100	6.3615E-02	6.3725E-02	6.3685E-02	6.3648E-02	6.3639E-02	6.3636E-02
TC- 99	7.3084E-03	5.5621E-02	5.9894E-02	6.2732E-02	6.3442E-02	6.3797E-02
RU-100	3.4345E-08	3.4405E-08	3.4383E-08	3.4363E-08	3.4358E-08	3.4356E-08
RU-101	6.3671E-02	6.3781E-02	6.3741E-02	6.3703E-02	6.3695E-02	6.3692E-02
RU-102	6.3671E-02	6.3781E-02	6.3741E-02	6.3703E-02	6.3695E-02	6.3692E-02
RU-103	6.3296E-02	4.9759E-02	3.9571E-02	1.9408E-02	1.0118E-02	5.0682E-03
RU-104	4.5024E-02	4.5102E-02	4.5074E-02	4.5047E-02	4.5041E-02	4.5039E-02
RU-105	6.9048E-03	2.3614E-04	1.1799E-04	3.9308E-05	1.9652E-05	9.8253E-06
RU-106	2.8275E-02	2.7563E-02	2.6787E-02	2.4005E-02	2.0543E-02	1.5475E-02
RH-103	5.5350E-04	1.4201E-02	2.4349E-02	4.4474E-02	5.3756E-02	5.8803E-02
RH-105	2.0492E-02	2.2852E-03	1.1419E-03	3.8040E-04	1.9018E-04	9.5083E-05
PD-104	6.8652E-11	6.8771E-11	6.8728E-11	6.8687E-11	6.8678E-11	6.8675E-11
PD-105	4.8500E-03	2.9782E-02	3.1023E-02	3.1844E-02	3.2050E-02	3.2153E-02

PD-106	3.1790E-05	7.9333E-04	1.5515E-03	4.3163E-03	1.7746E-03	1.2841E-02
PD-107	1.3048E-02	1.3071E-02	1.3063E-02	1.3055E-02	1.3053E-02	1.3053E-02
PD-108	6.4024E-03	6.4135E-03	6.4095E-03	6.4057E-03	6.4049E-03	6.4045E-03
PD-109	2.6748E-03	2.6740E-03	2.6667E-03	2.6427E-03	2.6093E-03	2.5446E-03
PD-110	1.4164E-03	1.4189E-03	1.4180E-03	1.4171E-03	1.4170E-03	1.4169E-03
PD-112	6.1120E-04	3.7300E-05	1.8638E-05	6.2091E-06	3.1042E-06	1.5520E-06
AG-109	2.3510E-05	2.9019E-05	3.4640E-05	5.7005E-05	9.0102E-05	1.5466E-04
AG-111	9.8380E-04	3.4887E-04	1.8522E-04	6.1946E-05	3.0969E-05	1.5484E-05
CD-110	4.0870E-12	4.0940E-12	4.0915E-12	4.0891E-12	4.0885E-12	4.0883E-12
CD-111	4.3998E-05	6.8070E-04	8.4371E-04	9.6638E-04	9.9722E-04	1.0127E-03
CD-112	2.7373E-04	8.4916E-04	8.6727E-04	8.7917E-04	8.8216E-04	8.8367E-04
CD-113	5.4553E-04	5.4647E-04	5.4613E-04	5.4581E-04	5.4574E-04	5.4571E-04
CD-114	4.1992E-04	4.2065E-04	4.2038E-04	4.2013E-04	4.2008E-04	4.2006E-04
CD-115	4.6011E-04	5.7490E-05	3.7738E-04	9.5709E-06	4.7848E-06	3.7709E-04
CD-116	3.7697E-04	3.7762E-04	3.7738E-04	3.7716E-04	3.7711E-04	3.7709E-04
IN-115	6.8303E-05	4.5167E-04	4.7868E-04	4.9658E-04	5.0106E-04	5.0331E-04
SN-115	3.5934E-06	2.3771E-05	2.5192E-05	2.6134E-05	2.6370E-05	2.6488E-05
SN-116	2.0966E-09	2.1003E-09	2.0990E-09	2.0977E-09	2.0974E-09	2.0973E-09
SN-117	4.0057E-04	4.0126E-04	4.0101E-04	4.0077E-04	4.0072E-04	4.0070E-04
SN-118	3.6859E-04	3.6923E-04	3.6900E-04	3.6878E-04	3.6873E-04	3.6871E-04
SN-119	3.6909E-04	3.6973E-04	3.6950E-04	3.6928E-04	3.6923E-04	3.6922E-04
SN-120	3.7010E-04	3.7074E-04	3.7051E-04	3.7029E-04	3.7024E-04	3.7022E-04
SN-121	2.8098E-04	2.0397E-05	1.0192E-05	3.3954E-06	1.6975E-06	8.4870E-07
SN-122	3.8512E-04	3.8579E-04	3.8555E-04	3.8532E-04	3.8527E-04	3.8525E-04
SN-123	4.1851E-04	3.8729E-04	3.5739E-04	2.6562E-04	1.8174E-04	1.0321E-04
SN-124	4.6325E-04	4.6405E-04	4.6376E-04	4.6349E-04	4.6343E-04	4.6340E-04
SN-125	1.0856E-03	4.5410E-04	2.5175E-04	8.4883E-05	4.2436E-05	2.1217E-05
SN-126	6.3514E-04	6.3623E-04	6.3584E-04	6.3546E-04	6.3537E-04	6.3534E-04
SB-121	9.4631E-05	3.5586E-04	3.6583E-04	3.7241E-04	3.7406E-04	3.7489E-04
SB-122	4.8909E-10	7.4428E-11	3.7213E-11	1.2397E-11	6.1976E-12	3.0987E-12
SB-123	1.1700E-06	3.3116E-05	6.2754E-05	1.5427E-04	2.3810E-04	3.1661E-04
SB-124	4.6655E-08	3.9725E-08	3.3887E-08	1.9755E-08	1.1111E-08	5.6420E-09
SB-125	4.0876E-05	6.6885E-04	8.6069E-04	9.8309E-04	9.6227E-04	8.7123E-04
SB-126	1.8376E-06	9.2208E-07	5.4813E-07	1.8954E-07	9.4869E-08	4.7541E-08
SB-127	9.1674E-04	1.8650E-04	9.3627E-05	3.1191E-05	1.5593E-05	7.7963E-06
SB-128	2.1143E-04	7.0597E-06	3.5277E-06	1.1752E-06	5.8752E-07	2.9374E-07
TE-122	6.3032E-11	4.7865E-10	5.1552E-10	5.4000E-10	5.4613E-10	5.4920E-10
TE-123	0.0	0.0	0.0	0.0	0.0	0.0
TE-124	2.7001E-10	7.2808E-09	1.3090E-08	2.7194E-08	3.5832E-08	4.1299E-08
TE-125	1.2169E-08	5.4478E-06	1.5260E-05	5.9053E-05	1.2218E-04	2.3438E-04
TE-126	5.9421E-08	9.7819E-07	1.3510E-06	1.7095E-06	1.8050E-06	1.8544E-06
TE-127	5.4874E-03	1.8492E-03	1.6319E-03	1.1425E-03	7.4944E-04	4.1210E-04
TE-128	2.8826E-03	3.0923E-03	3.0939E-03	3.0944E-03	3.0946E-03	3.0947E-03
TE-129	5.3250E-03	1.1345E-03	7.4874E-04	3.1504E-04	1.6053E-04	8.0299E-05
TE-130	1.4669E-02	1.4694E-02	1.4685E-02	1.4676E-02	1.4674E-02	1.4674E-02
TE-131	3.0290E-03	1.0938E-04	5.4658E-05	1.8208E-05	9.1030E-06	4.5513E-06
TE-132	4.7670E-02	8.2736E-03	4.1411E-03	1.3795E-03	6.8968E-04	3.4482E-04
I -127	4.2677E-03	8.6546E-03	8.9581E-03	9.5036E-03	9.9109E-03	1.0255E-02
I -129	2.0835E-03	6.0702E-03	6.2984E-03	6.4494E-03	6.4873E-03	6.5064E-03
I -130	1.7808E-08	8.0510E-10	4.0230E-10	1.3402E-10	6.7002E-11	3.3499E-11
I -131	3.3140E-02	1.3158E-02	7.0749E-03	2.3705E-03	1.1851E-03	5.9252E-04
I -133	4.5299E-02	2.7651E-03	1.3817E-03	4.6029E-04	2.3012E-04	1.1505E-04
I -135	2.1003E-02	7.6519E-04	3.8236E-04	1.2738E-04	6.3680E-05	3.1838E-05
XE-128	7.8674E-11	7.8810E-11	7.8761E-11	7.8715E-11	7.8704E-11	7.8700E-11
XE-130	1.4540E-08	3.1599E-08	3.1982E-08	3.2231E-08	3.2294E-08	3.2325E-08
XE-131	1.3480E-03	2.3401E-02	2.9500E-02	3.4208E-02	3.5395E-02	3.5989E-02
XE-132	5.5221E-03	4.5010E-02	4.9110E-02	5.1840E-02	5.2522E-02	5.2865E-02
XE-133	1.8459E-02	1.6022E-02	8.1926E-03	2.7305E-03	1.3651E-03	6.8250E-04
XE-134	7.5178E-02	7.5308E-02	7.5262E-02	7.5217E-02	7.5207E-02	7.5203E-02
XE-135	1.9751E-02	1.0598E-03	5.2956E-04	1.7642E-04	8.8196E-05	4.4096E-05
XE-136	6.7443E-02	6.7559E-02	6.7517E-02	6.7477E-02	6.7468E-02	6.7465E-02
CS-133	8.5318E-04	4.5936E-02	5.5108E-02	6.1453E-02	6.3040E-02	6.3834E-02
CS-134	5.1095E-10	5.0502E-10	4.9779E-10	4.7108E-10	4.3485E-10	3.7317E-10
CS-135	2.5836E-02	6.4879E-02	6.5751E-02	6.6319E-02	6.6463E-02	6.6535E-02
CS-136	1.1141E-04	5.7176E-05	3.4341E-05	1.1926E-05	5.9626E-06	2.9811E-06
CS-137	5.9421E-02	5.9469E-02	5.9376E-02	5.9116E-02	5.8773E-02	5.8108E-02

BA-134	1.0186E-09	1.0272E-09	1.0335E-09	1.0593E-09	1.0953E-09	1.1569E-09
BA-136	3.0065E-06	5.7439E-05	8.0203E-05	1.0255E-04	1.0850E-04	1.1147E-04
BA-137	2.2941E-06	5.6899E-05	1.1324E-04	3.3784E-04	6.7263E-04	1.3347E-03
BA-138	5.9094E-02	5.9196E-02	5.9159E-02	5.9124E-02	5.9116E-02	5.9113E-02
BA-140	5.7796E-02	2.9399E-02	1.7584E-02	6.0942E-03	3.0469E-03	1.5234E-03
LA-139	5.3082E-02	5.3174E-02	5.3141E-02	5.3109E-02	5.3102E-02	5.3099E-02
LA-140	8.1869E-10	8.2009E-10	8.1956E-10	8.1899E-10	8.1877E-10	8.1850E-10
CE-140	1.9698E-04	2.6368E-02	3.9564E-02	5.2509E-02	5.5948E-02	5.7668E-02
CE-141	5.4040E-02	4.0632E-02	3.1116E-02	1.4139E-02	7.2297E-03	3.6166E-03
CE-142	4.6896E-02	4.6977E-02	4.6948E-02	4.6920E-02	4.6914E-02	4.6912E-02
CE-143	3.5797E-02	3.0190E-03	1.5086E-03	5.0255E-04	2.5124E-04	1.2562E-04
CE-144	4.5298E-02	4.3808E-02	4.2236E-02	3.6722E-02	3.0190E-02	2.1364E-02
PR-141	3.4739E-04	1.3850E-02	2.3332E-02	4.0277E-02	4.7179E-02	5.0789E-02
PR-142	2.6914E-14	1.5506E-15	7.7484E-16	2.5813E-16	1.2905E-16	6.4509E-17
PR-143	9.2934E-03	2.2494E-02	1.4040E-02	4.9347E-03	2.4673E-03	1.2336E-03
PR-145	1.2581E-02	4.5139E-04	2.2555E-04	7.5140E-05	3.7565E-05	1.8782E-05
ND-142	1.3322E-14	3.8755E-14	3.9505E-14	3.9998E-14	4.0122E-14	4.0184E-14
ND-143	1.6266E-04	1.9819E-02	2.9755E-02	3.9839E-02	4.2552E-02	4.3991E-02
ND-144	5.5206E-05	1.6233E-03	3.1678E-03	8.6548E-03	1.5180E-02	2.4004E-02
ND-145	2.4614E-02	3.6908E-02	3.7110E-02	3.7239E-02	3.7271E-02	3.7288E-02
ND-146	3.3812E-02	3.3870E-02	3.3849E-02	3.3829E-02	3.3825E-02	3.3823E-02
ND-147	2.4832E-02	1.1593E-02	6.6828E-03	2.2800E-03	1.1399E-03	5.6991E-04
ND-148	2.1125E-02	2.1162E-02	2.1149E-02	2.1136E-02	2.1133E-02	2.1132E-02
ND-150	0.0	0.0	0.0	0.0	0.0	0.0
PM-147	7.8168E-04	1.3950E-02	1.8626E-02	2.2001E-02	2.1665E-02	1.9620E-02
PM-148	1.0103E-09	2.7409E-10	1.3987E-10	4.6616E-11	2.3305E-11	1.1652E-11
PM-149	1.6262E-02	2.0252E-03	1.0121E-03	3.3715E-04	1.6855E-04	8.4273E-05
PM-151	7.0127E-03	5.2276E-04	2.6122E-04	8.7021E-05	4.3505E-05	2.1751E-05
SM-147	7.2554E-05	1.8750E-04	4.0581E-04	1.4184E-03	2.8912E-03	5.5045E-03
SM-148	6.7959E-11	8.0606E-10	9.3960E-10	1.0322E-09	1.0554E-09	1.0670E-09
SM-149	2.1412E-03	1.6410E-02	1.7412E-02	1.8076E-02	1.8242E-02	1.8325E-02
SM-150	1.2833E-02	1.2855E-02	1.2847E-02	1.2840E-02	1.2838E-02	1.2837E-02
SM-151	2.2230E-03	8.7262E-03	8.9789E-03	9.1356E-03	9.1598E-03	9.1451E-03
SM-152	5.8353E-03	5.8454E-03	5.8418E-03	5.8383E-03	5.8376E-03	5.8373E-03
SM-153	3.4378E-03	3.8508E-04	1.9243E-04	6.4104E-05	3.2048E-05	1.6023E-05
SM-154	2.4445E-03	2.4487E-03	2.4472E-03	2.4457E-03	2.4454E-03	2.4453E-03
SM-156	3.4859E-04	1.4030E-05	7.0107E-06	2.3355E-06	1.1676E-06	5.8377E-07
EU-153	6.3631E-04	3.6960E-03	3.8862E-03	4.0121E-03	4.0436E-03	4.0594E-03
EU-154	3.2945E-08	3.2946E-08	3.2867E-08	3.2615E-08	3.2266E-08	3.1589E-08
EU-155	1.3875E-03	1.3690E-03	1.3470E-03	1.2657E-03	1.1567E-03	9.7469E-04
EU-156	3.9173E-04	4.0133E-04	2.5248E-04	8.9853E-05	4.4932E-05	2.2465E-05
EU-157	2.3023E-04	1.1555E-05	5.7742E-06	1.9236E-06	9.6166E-07	4.8081E-07
GD-155	6.9523E-07	2.1624E-05	4.2807E-05	1.2324E-04	2.3212E-04	4.1401E-04
GD-156	6.8637E-06	3.3312E-04	4.8853E-04	6.5538E-04	7.0137E-04	7.2438E-04
GD-157	1.4839E-04	3.6771E-04	3.7326E-04	3.7689E-04	3.7780E-04	3.7826E-04
GD-158	1.7378E-04	1.7408E-04	1.7397E-04	1.7387E-04	1.7385E-04	1.7384E-04
GD-159	5.8013E-05	3.2122E-06	1.6051E-06	5.3471E-07	2.6732E-07	1.3365E-07
GD-160	3.3956E-05	3.4014E-05	3.3993E-05	3.3973E-05	3.3969E-05	3.3967E-05
TB-159	2.9448E-05	8.4399E-05	8.5952E-05	8.6970E-05	8.7226E-05	8.7355E-05
TB-160	4.5508E-08	3.9792E-08	3.4786E-08	2.1753E-08	1.2802E-08	6.6018E-09
TB-161	1.8853E-05	6.2631E-06	3.2833E-06	1.0964E-06	5.4814E-07	2.7405E-07
DY-160	2.1910E-10	6.0137E-09	1.0992E-08	2.3997E-08	3.2942E-08	3.9140E-08
DY-161	9.5555E-07	1.3580E-05	1.6547E-05	1.8722E-05	1.9268E-05	1.9541E-05
DY-162	0.0	0.0	0.0	0.0	0.0	0.0
DY-163	0.0	0.0	0.0	0.0	0.0	0.0
DY-164	0.0	0.0	0.0	0.0	0.0	0.0
HO-165	0.0	0.0	0.0	0.0	0.0	0.0