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**CALCULATION OF THE DELAYED FISSION
GAMMA-RAY SPECTRA FROM U-235, -238,
Pu-239, -240 AND Pu-241; TABULAR DATA**

March 1989

Tadashi YOSHIDA*, Jun-ichi KATAKURA and Hitoshi IHARA

日本原子力研究所
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Calculation of the Delayed Fission Gamma-Ray Spectra from
U-235, -238, Pu-239, -240 and Pu-241; Tabular Data

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The delayed fission-gamma-ray, which is emitted aggregatively from the unstable nuclides produced by fission, must be taken into account properly in calculation of the gamma-ray source in nuclear reactors. Despite its importance, the delayed gamma-ray data is not well organized nor prepared even in major nuclear data libraries such as JENDL and ENDF/B. Here we prepare the delayed gamma-ray spectra for five major fissioning nuclides. In calculating these spectra, theoretical estimation of the unknown spectra was carried out widely for a lot of no-data nuclides, which had been a major source of ambiguity in calculating the delayed gamma-ray spectra.

Keywords: Fission-gamma-ray, Fission Yield, Energy Spectrum, Decay Heat

This work was performed as an activity of the Decay Heat Evaluation Working Group of Japanese Nuclear Data Committee

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U-235, -238, Pu-239, -240及びPu-241からの
核分裂遅発ガンマ線スペクトルの計算；表形式のデータ

日本原子力研究所東海研究所

シグマ研究委員会

吉田 正^{*}・片倉 純一⁺・井原 均⁺

核分裂遅発ガンマ線は、核分裂により生じた多数の不安定核種から放出され、原子炉で発生するガンマ線の線源等の計算に際してはこれを正しく考慮しておくことがぜひ必要である。しかし、その重要性にもかかわらず、遅発ガンマ線データは十分整備されていないのが現状であり、またJENDLやENDF/Bなどの主要な核データライブラリーにも収納されていない。本報告には5つの重要な核分裂核種につき遅発ガンマ線スペクトルの計算結果をまとめる。計算に当たっては、従来この種の計算を行う上での最大の誤差要因であった測定スペクトルデータの不足を、理論計算により補っている。

本作業は、シグマ研究委員会・核構造データ専門部会・崩壊熱評価ワーキンググループの活動の一環として行ったものである。

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1. Introduction

The delayed fission-gamma-ray, which compares well with the prompt one in its strength (Table 1), must be taken into account properly in calculation of the gamma-ray source from nuclear reactors. Despite its importance, the delayed gamma-ray data is not well organized nor prepared even in major nuclear data libraries such as JENDL or ENDF/B. One reason for this may lie in the fact that the strength and the energy spectrum of the delayed gamma-ray are not definite but depend on the elapse of time after the fission event. Further, the fact that it is emitted not from the fissioning nuclide itself but from hundreds of its fission daughters, or fission products (FPs), complicates evaluation, preparation and storage of the data. As the authors described elsewhere¹⁾, it is particularly important to supplement the measured spectra with the theoretical spectra to do a reliable calculation of the aggregate spectrum. In this report we calculate and prepare the delayed gamma-ray spectra for five major fissioning nuclides in tabular form using the theoretical spectra for data-unknown FPs. We hope these tables serve the users in calculations of nuclear design and analysis.

2. Calculation of the Delayed Gamma-Ray Spectra

An obstacle to do reliable calculation of the delayed gamma-ray spectra is the lack of the measured spectrum data for short-lived FP nuclides, which emit relatively intense gamma-rays early after the fission event. The authors proposed a method¹⁾ to obtain theoretically the unknown gamma-ray spectra from short-lived FPs. The idea is based on a couple of the gross beta-strength²⁾ and a cascade gamma-ray transition models. Applicability of the model has been demonstrated through an extensive comparison of the results with the measured delayed gamma-ray data³⁾ (see Fig. 1).

Here we use the Gamma-Ray Spectrum Data Library⁴⁾ which stores both the measured spectrum data, and the theoretical spectra for the no-data nuclides. This library is organized in a consistent way with the JNDC FP Decay Data Library^{5),6)}, which is used mainly for the decay-heat summation calculations. Calculations here were made for five major fissioning systems, U-235, -238, Pu-239, -240, -241.

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3. Calculated Spectra

Before presenting the calculated results in a tabular form, we try to describe some of their features. Firstly the calculated equilibrium spectra were summed up over the whole energy range and the results are shown in Table 2 in comparison with the Sher's evaluation⁷⁾ of the delayed gamma-ray energy release. Here the equilibrium spectrum is defined as the delayed gamma-ray spectra immediately after a duration of fission events long enough to equilibrate the spectrum shape. Though, in principle, it takes infinite time to fully equilibrate the spectrum and the energy release rate, they can be regarded essentially equilibrium after more than one-year duration of fissions. Additional two-year operation increases only about 1% in energy release. In Table 2, a good agreement is seen except for the case of Pu-240. Some problem might lie in the fission yield data of Pu-240 used here. Though, this overall agreement supports the adequacy of the present calculation.

Figure 2 shows the equilibrium spectra for U-235 calculated with and without the theoretical spectra. The contribution from the theoretical spectra, in other words, from the no-data nuclides, amounts to 25% of the total energy.

Figures 3 and 4 compare the equilibrium delayed gamma-ray spectra with the prompt fission-gamma-ray spectra^{8),9)}. Except for the higher energy part for Pu-239, the both types of the spectra resemble well each other. This leads to an important suggestion to reactor analysts and designers, that is, both the delayed and the prompt spectra can be represented approximately by a single prompt spectrum as far as they are interested in calculating the gamma-ray sources in an operating reactor. This approximation largely simplifies the calculation procedure and reduces the requirement for the data base.¹⁰⁾

Fig. 5 exemplifies the cooling-time dependence of the spectra for U-235 irradiated for three years. (Cooling time is defined as the elapse of time after the end of the irradiation or the reactor operation.) As is seen here the spectrum varies drastically with the cooling time. Therefore, the use of the prompt spectrum in calculating the gamma-ray source for a shut-down reactor or spent fuels is not adequate.

Figures 6 and 7 compare the equilibrium delayed gamma-ray spectrum for four major fissioning nuclides, U-235, -238, Pu-239 and -241. Dependence of the spectrum shape on fissioning nuclide is not so remarkable.

4. Tabular Presentation of the Spectra

The calculated delayed gamma-ray spectra after one- and three- year duration of fissions are presented in a tabular form in DATA 1 though 20 for equilibrium and for 13 cooling times up to 3 years. The spectra are given both in 50 divisions (DATA 1 through 10) and 10 divisions (DATA 11 through 20) of equal gamma-ray energy intervals. The unit used here is MeV/Fission, or more precisely (MeV/unit time)/(Fission/unit time). A simple sum of the spectrum over all the 50 (or 10) energy-groups gives the gamma-ray energy release in MeV per one fission event. This sum for zero cooling-time tends to the total delayed gamma-ray energy per fission in the limit of infinite irradiation. This can be directly compared with the Sher's evaluation of energy release⁷⁾ as is done in Table 2. 'Equilibrium' cases stand for the zero cooling-time and are regarded essentially as these limiting cases.

5. Remarks

In this report we prepared the tabular presentation of the delayed gamma-ray for major fissioning nuclides. The reliability of the present calculation has been much improve by introduction of the theoretical spectra for no-data short-lived FP nuclides. These results can be used in gamma-ray source calculations for various fields and purposes such as the gamma-ray heating in reactors, gamma-ray shielding, and design of in-core monitors. Anyway, proper treatment of the delayed fission-gamma-ray is essential when one deals with the gamma-ray production from any fissioning system.

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Table 1 Recoverable Energy Released per Fission Event
 (all in MeV, due to Sher, ref. 7)

	U-235	U-238	Pu-239	Pu-241
Gamma-Ray Energy				
Prompt Gamma-Ray	6.97	6.54	7.76	7.64
Delayed Gamma-Ray	6.33	8.02	5.17	6.40
Other Forms of Energy Release				
Fragment Kinetic Energy	169.12	169.57	175.78	175.36
Neutron Kinetic Energy	4.79	5.51	5.9	5.99
Beta-Ray Energy	6.50	8.25	5.31	6.58

Table 2 Evaluated and Calculated Total Delayed Gamma-Ray Energy
 (all in MeV)

	U-235	U-238	Pu-239	Pu-240	Pu-241
Sher's Evaluation	6.33	8.02	5.17	6.31	6.40
Present Calculation*	6.42	7.80	5.33	5.74	6.45

*) Just after a three-year irradiation of neutron

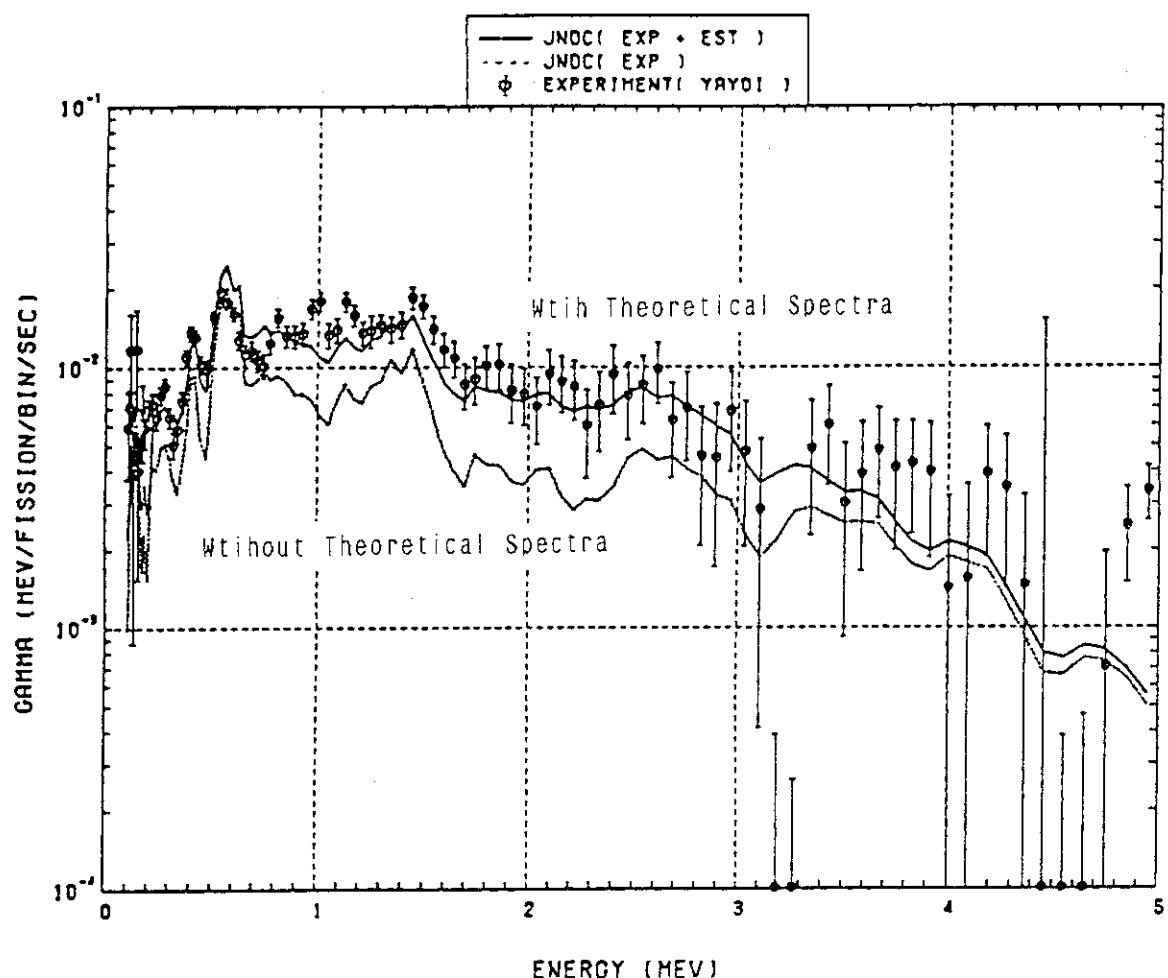


Fig. 1 Comparison of gamma-ray energy spectrum at 19 sec after a fission burst of ^{235}U by fast neutron.
 Solid line is a calculation complemented by the estimated spectra and dotted line a calculation excluding them.
 The measurements were performed at the University of Tokyo/3/.

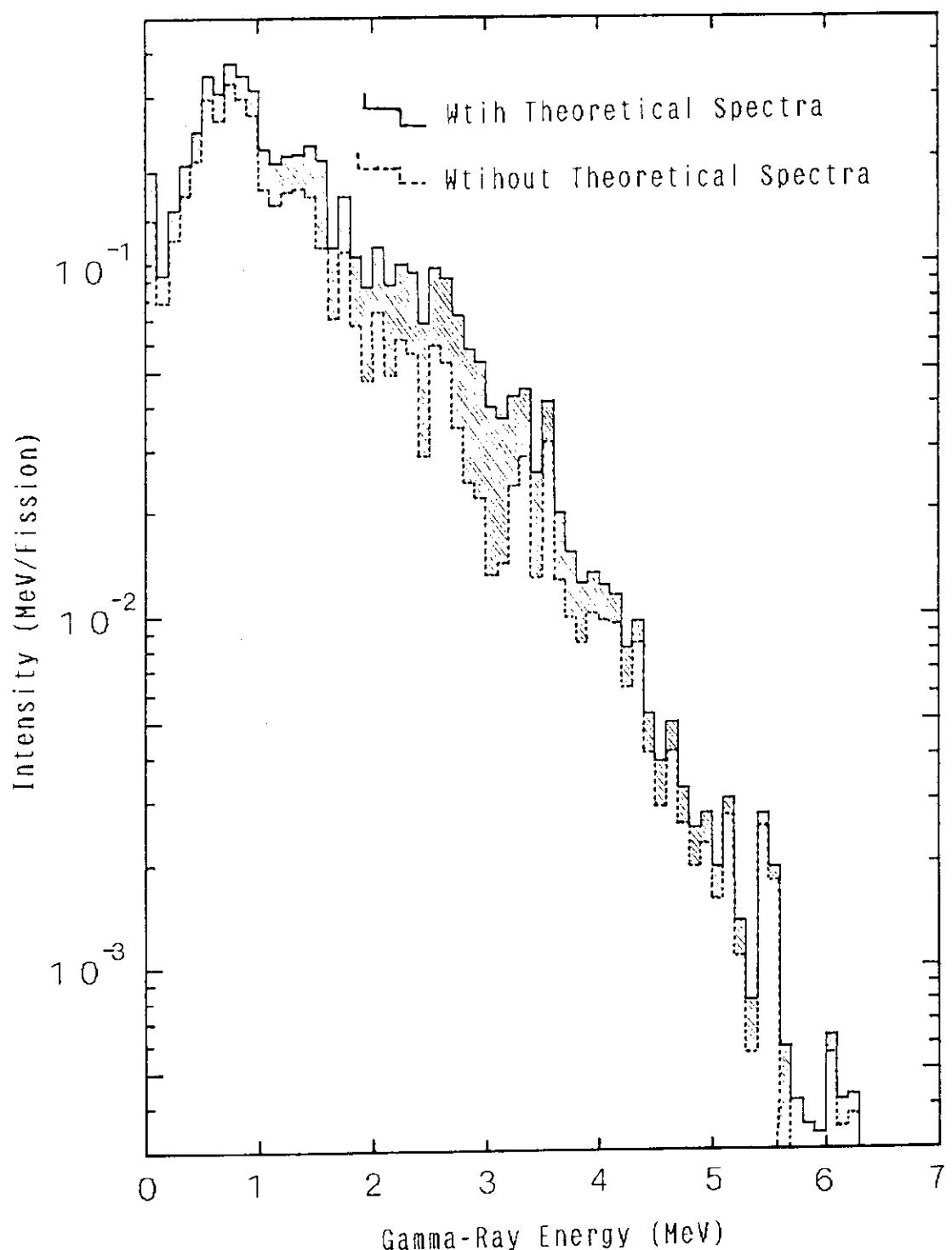


Fig. 2 Calculated Delayed Gamma-Ray Spectra with and without the Theoretical Spectra for Data-Unknown Nuclides (Equilibrium after one-year thermal n irradiation on Pu-239)

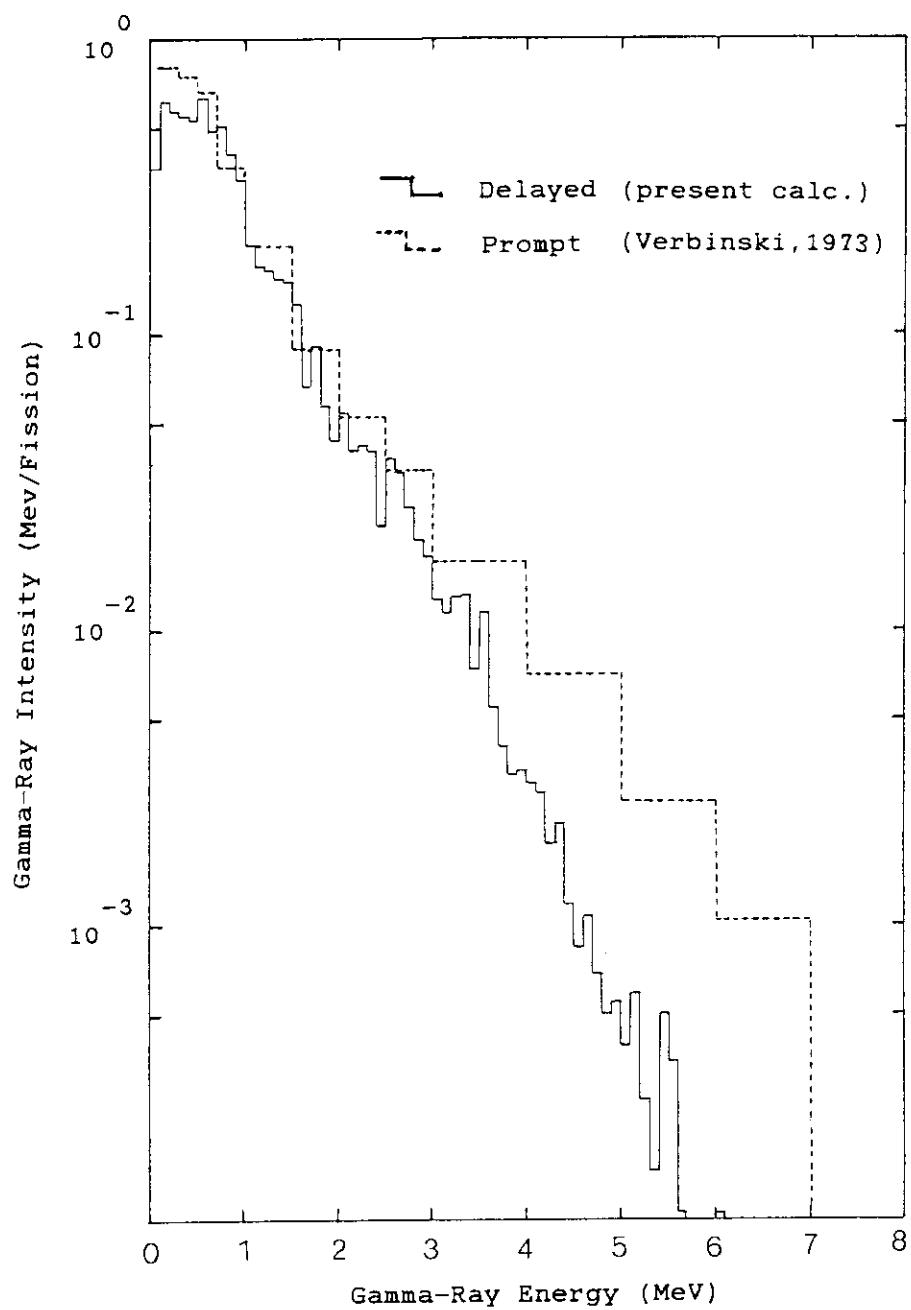


Fig. 3 Comparison of Delayed and Prompt Gamma-Ray Spectra
Pu-239 (Equilibrium spectrum for delayed one)

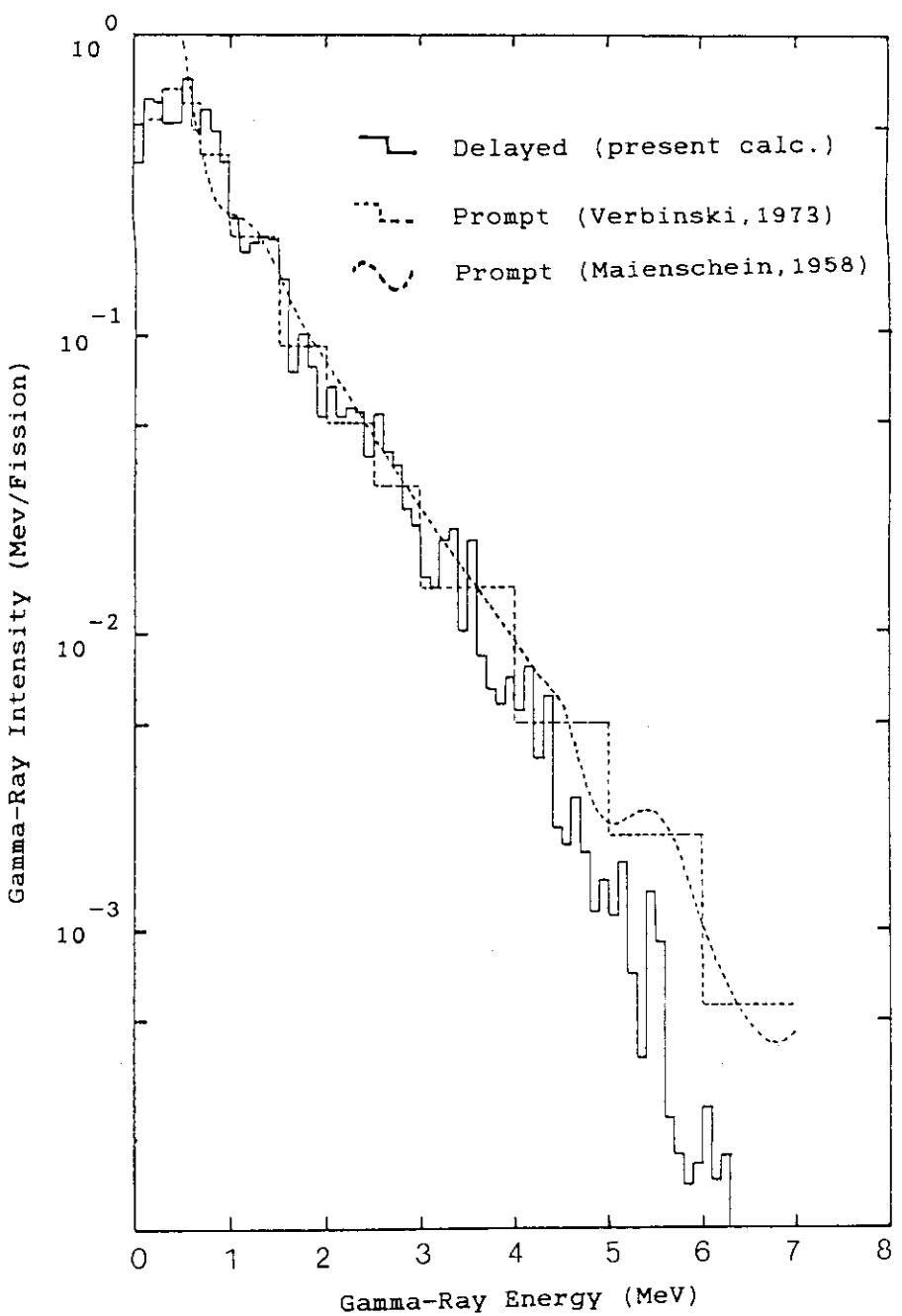


Fig. 4 Comparison of Delayed and Prompt Gamma-Ray Spectra
U-235 (Equilibrium spectrum for delayed one)

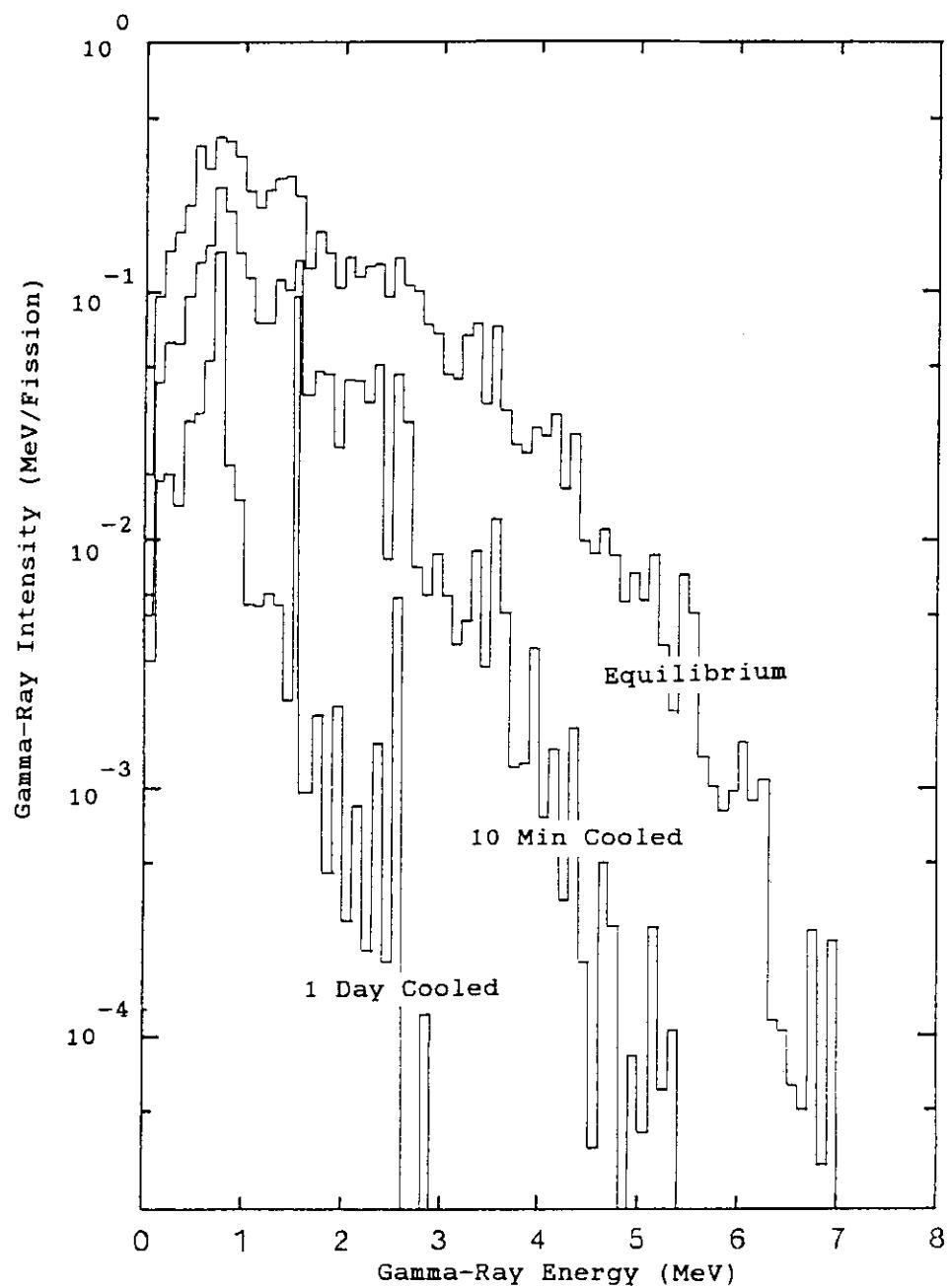


Fig. 5 Cooling-Time Dependence of the Delayed Gamma-Ray Spectrum
(Three-year thermal neutron irradiation on U-235)

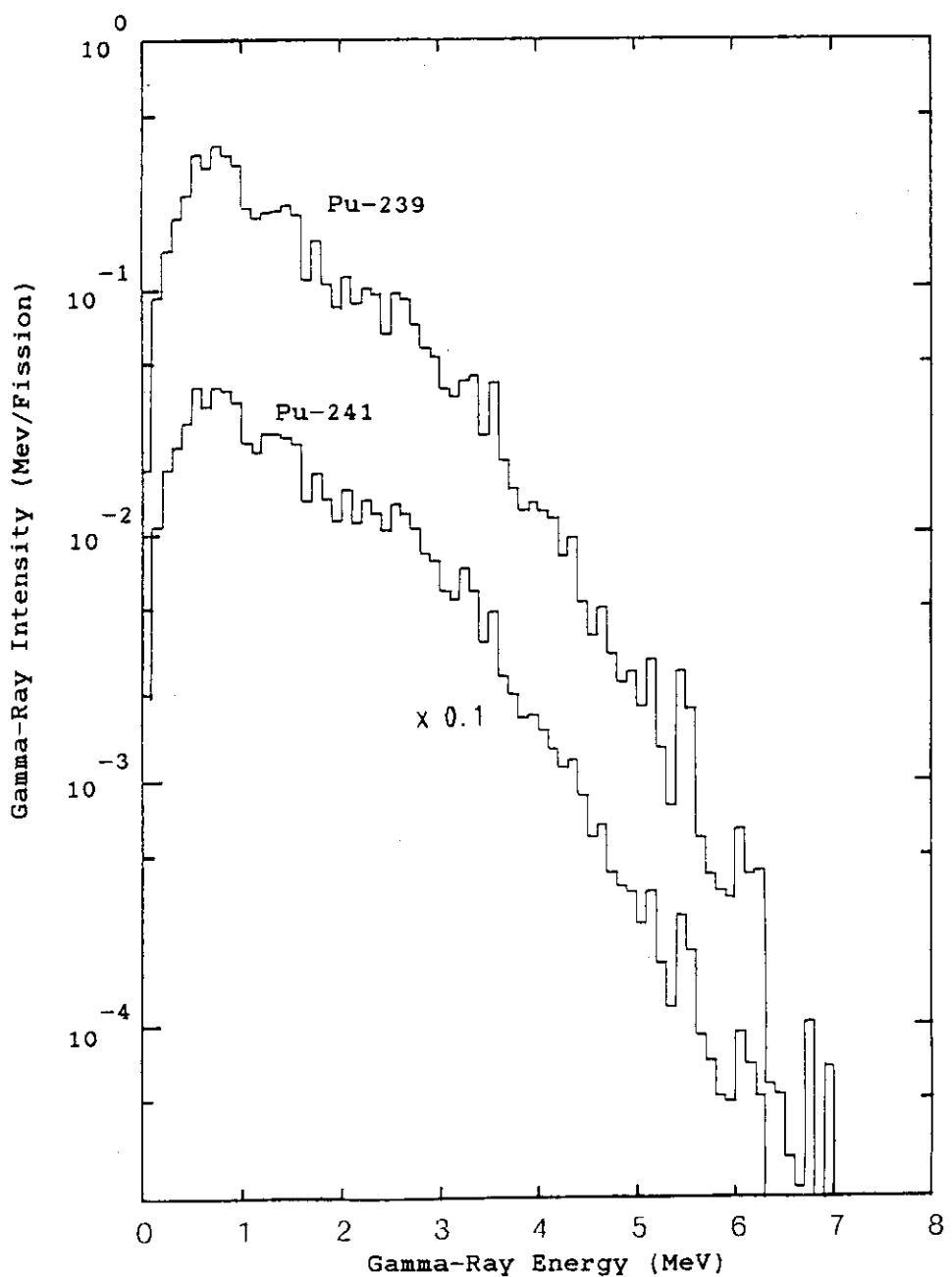


Fig. 6 Equilibrium Delayed Gamma-Ray Spectra of Plutonium Isotopes

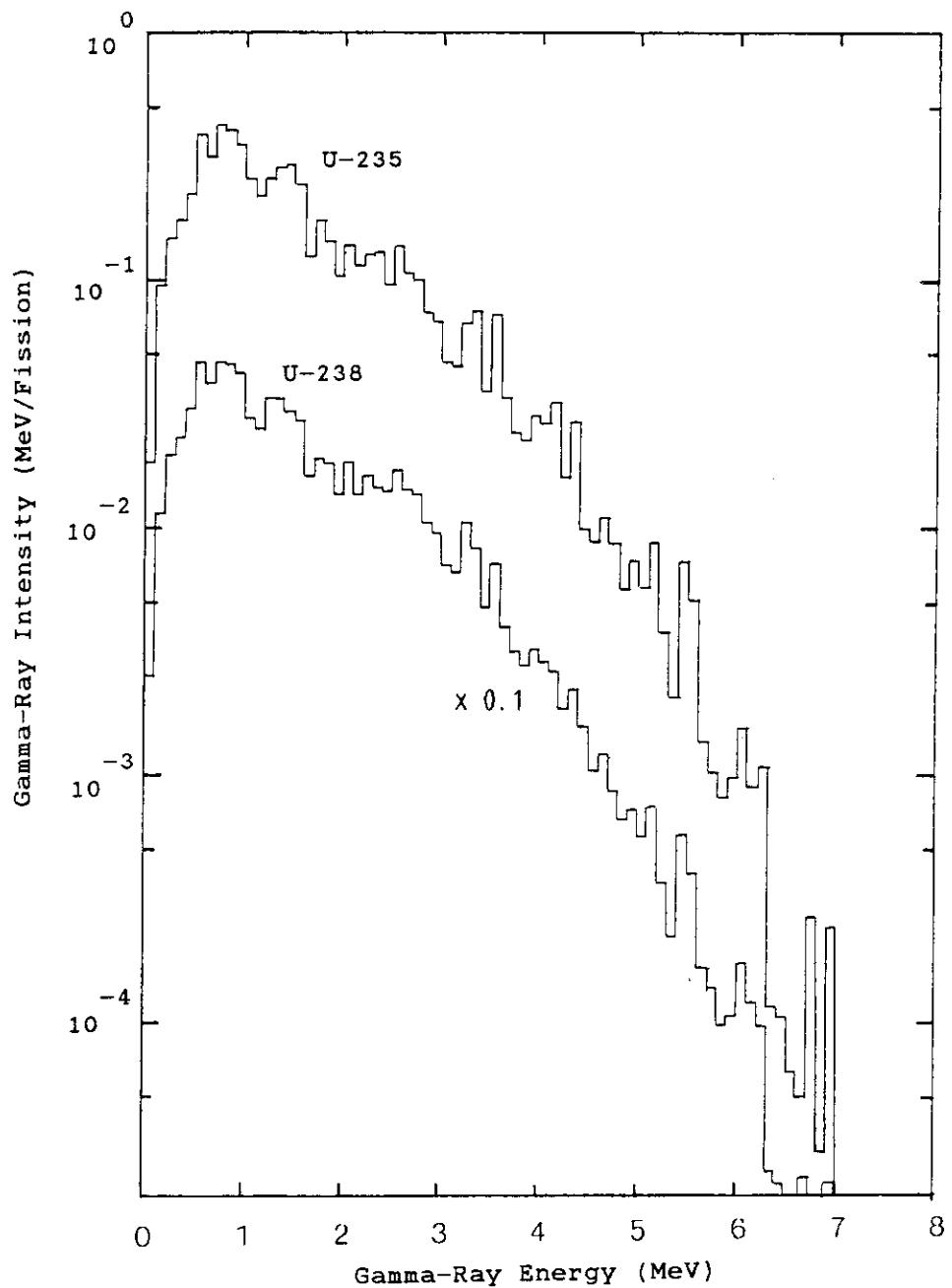


Fig. 7 Equilibrium Delayed Gamma-Ray Spectra of Uranium Isotopes

DATA 1 through 10

Fifty energy-group presentation of the calculated delayed gamma-ray energy spectra as a function of the cooling-time given in unit of MeV/Fission. (Note that the effect of neutron capture by FPs themselves is not included in these calculations.)

DATA 1 Delayed Gamma-Ray Spectra of U-235 Thermal Fission
(1 Year Irrd) (MeV/Fission)

Enrg(MeV)	EQUILIB	10 SEC	100 SEC	10 MIN	1 HOUR	5 HOURS	10 HOUR
0.0- 0.2	1.152E-01	8.857E-02	6.316E-02	4.967E-02	3.472E-02	2.559E-02	2.363E-02
0.2- 0.4	3.252E-01	2.531E-01	1.762E-01	1.256E-01	7.045E-02	4.907E-02	4.344E-02
0.4- 0.6	6.167E-01	4.528E-01	3.115E-01	2.285E-01	1.472E-01	9.930E-02	8.425E-02
0.6- 0.8	7.301E-01	6.089E-01	4.963E-01	4.174E-01	3.367E-01	2.675E-01	2.418E-01
0.8- 1.0	7.558E-01	6.110E-01	4.893E-01	3.585E-01	2.041E-01	6.446E-02	4.527E-02
1.0- 1.2	4.778E-01	3.630E-01	2.641E-01	1.891E-01	9.568E-02	4.126E-02	2.642E-02
1.2- 1.4	5.434E-01	3.985E-01	2.709E-01	1.878E-01	1.101E-01	5.072E-02	2.707E-02
1.4- 1.6	5.314E-01	4.486E-01	3.167E-01	2.343E-01	1.643E-01	1.109E-01	1.038E-01
1.6- 1.8	3.003E-01	2.067E-01	1.314E-01	8.666E-02	4.231E-02	1.777E-02	1.009E-02
1.8- 2.0	2.469E-01	1.670E-01	1.052E-01	7.079E-02	3.762E-02	1.152E-02	5.451E-03
2.0- 2.2	2.539E-01	1.948E-01	1.319E-01	8.887E-02	3.508E-02	9.404E-03	3.360E-03
2.2- 2.4	2.568E-01	1.907E-01	1.300E-01	8.631E-02	5.747E-02	1.484E-02	5.123E-03
2.4- 2.6	2.329E-01	1.654E-01	8.932E-02	5.466E-02	2.825E-02	9.796E-03	6.840E-03
2.6- 2.8	2.084E-01	1.443E-01	7.827E-02	3.789E-02	1.313E-02	1.321E-03	2.273E-04
2.8- 3.0	1.421E-01	8.406E-02	3.538E-02	1.487E-02	7.337E-03	1.164E-03	1.976E-04
3.0- 3.2	9.179E-02	5.263E-02	2.207E-02	9.696E-03	3.982E-03	6.135E-04	9.351E-05
3.2- 3.4	1.412E-01	7.937E-02	4.019E-02	1.382E-02	4.701E-03	6.101E-04	7.520E-05
3.4- 3.6	1.082E-01	7.644E-02	4.285E-02	1.533E-02	1.534E-03	1.514E-04	2.233E-05
3.6- 3.8	5.803E-02	3.514E-02	1.433E-02	6.335E-03	3.477E-03	5.585E-04	5.588E-05
3.8- 4.0	5.082E-02	2.915E-02	1.250E-02	4.439E-03	1.339E-03	7.949E-05	6.356E-06
4.0- 4.2	5.835E-02	4.457E-02	2.110E-02	2.206E-03	1.018E-04	4.503E-06	1.018E-06
4.2- 4.4	4.305E-02	3.164E-02	1.944E-02	2.121E-03	8.547E-05	1.407E-05	1.352E-06
4.4- 4.6	1.884E-02	8.305E-03	2.563E-03	2.333E-04	0.000E-01	0.000E-01	0.000E-01
4.6- 4.8	2.176E-02	1.545E-02	7.044E-03	7.748E-04	2.103E-04	8.061E-05	2.399E-05
4.8- 5.0	1.299E-02	8.105E-03	2.478E-03	1.020E-04	1.349E-05	5.170E-06	1.539E-06
5.0- 5.2	1.444E-02	1.078E-02	4.439E-03	3.135E-04	7.319E-09	1.099E-25	0.000E-01
5.2- 5.4	5.796E-03	3.554E-03	1.670E-03	1.639E-04	3.849E-09	5.782E-26	0.000E-01
5.4- 5.6	1.236E-02	1.020E-02	3.612E-03	1.532E-05	1.965E-10	2.951E-27	0.000E-01
5.6- 5.8	2.354E-03	1.059E-03	2.593E-04	3.520E-06	1.026E-14	1.121E-41	0.000E-01
5.8- 6.0	1.794E-03	6.635E-04	3.891E-05	5.268E-07	4.230E-15	4.647E-42	0.000E-01
6.0- 6.2	2.419E-03	1.612E-03	6.008E-04	5.759E-06	1.538E-15	1.557E-42	0.000E-01
6.2- 6.4	1.212E-03	9.742E-04	3.751E-04	1.350E-06	4.354E-16	4.610E-43	0.000E-01
6.4- 6.6	1.687E-04	3.521E-05	1.528E-05	2.617E-07	1.068E-16	1.107E-43	0.000E-01
6.6- 6.8	3.171E-04	2.202E-04	8.159E-05	1.629E-07	1.399E-17	1.541E-44	0.000E-01
6.8- 7.0	2.726E-04	1.479E-04	3.177E-06	1.622E-13	4.788E-19	0.000E-01	0.000E-01
7.0- 7.2	3.132E-05	1.044E-06	4.541E-10	1.526E-24	0.000E-01	0.000E-01	0.000E-01
7.2- 7.4	1.957E-05	5.685E-07	2.471E-10	8.306E-25	0.000E-01	0.000E-01	0.000E-01
7.4- 7.6	1.204E-05	2.922E-07	1.270E-10	4.267E-25	0.000E-01	0.000E-01	0.000E-01
7.6- 7.8	7.319E-06	1.397E-07	6.068E-11	2.039E-25	0.000E-01	0.000E-01	0.000E-01
7.8- 8.0	4.409E-06	6.095E-08	2.640E-11	8.873E-26	0.000E-01	0.000E-01	0.000E-01
8.0- 8.2	2.643E-06	2.351E-08	1.011E-11	3.399E-26	0.000E-01	0.000E-01	0.000E-01
8.2- 8.4	1.581E-06	7.648E-09	3.222E-12	1.083E-26	0.000E-01	0.000E-01	0.000E-01
8.4- 8.6	9.445E-07	1.954E-09	7.665E-13	2.576E-27	0.000E-01	0.000E-01	0.000E-01
8.6- 8.8	5.603E-07	3.781E-10	1.062E-13	3.568E-28	0.000E-01	0.000E-01	0.000E-01
8.8- 9.0	3.264E-07	9.079E-11	3.621E-15	1.217E-29	0.000E-01	0.000E-01	0.000E-01
9.0- 9.2	1.841E-07	4.672E-11	3.216E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.2- 9.4	9.917E-08	2.519E-11	1.735E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.4- 9.6	5.050E-08	1.284E-11	8.843E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.6- 9.8	2.395E-08	6.094E-12	4.198E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.8-10.0	1.035E-08	2.635E-12	1.816E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
All sum	6.383E+00	4.788E+00	3.285E+00	2.297E+00	1.400E+00	7.767E-01	6.273E-01

DATA 1 (CONT'D) Delayed Gamma-Ray Spectra of U-235 Thermal
Fission (1 Year Irrd)

Enrg(MeV)	1 DAY	1 WEEK	10 DAYS	1 MONTH	3 MONTH	1 YEAR	3YEARS
0.0- 0.2	2.096E-02	8.813E-03	6.632E-03	2.969E-03	1.023E-03	2.110E-04	3.658E-05
0.2- 0.4	3.274E-02	1.118E-02	8.295E-03	1.839E-03	6.441E-05	1.151E-06	2.434E-07
0.4- 0.6	6.289E-02	3.168E-02	2.759E-02	1.319E-02	3.076E-03	1.332E-04	3.381E-05
0.6- 0.8	1.996E-01	1.117E-01	1.017E-01	8.078E-02	4.943E-02	3.890E-03	7.851E-04
0.8- 1.0	3.475E-02	1.872E-02	1.509E-02	4.656E-03	1.873E-04	4.769E-06	1.145E-06
1.0- 1.2	1.078E-02	8.954E-04	5.008E-04	7.070E-05	3.996E-05	2.291E-05	5.860E-06
1.2- 1.4	1.167E-02	1.983E-03	1.102E-03	1.369E-04	5.701E-05	3.380E-06	2.388E-07
1.4- 1.6	9.761E-02	7.523E-02	6.429E-02	2.179E-02	9.436E-04	5.911E-05	1.023E-05
1.6- 1.8	2.938E-03	1.190E-04	6.200E-05	3.071E-06	1.864E-06	1.091E-06	2.790E-07
1.8- 2.0	2.592E-03	5.486E-04	3.133E-04	3.014E-05	2.555E-06	8.600E-07	2.202E-07
2.0- 2.2	1.141E-03	6.303E-04	5.790E-04	4.922E-04	4.160E-04	2.124E-04	3.583E-05
2.2- 2.4	1.745E-03	1.100E-03	9.171E-04	2.995E-04	1.319E-05	1.063E-06	2.723E-07
2.4- 2.6	6.086E-03	4.666E-03	3.987E-03	1.347E-03	5.255E-05	6.301E-07	1.613E-07
2.6- 2.8	5.172E-06	3.363E-06	2.008E-06	5.360E-07	4.572E-07	2.618E-07	6.101E-08
2.8- 3.0	1.209E-04	9.902E-05	8.473E-05	2.876E-05	1.242E-06	8.830E-08	2.261E-08
3.0- 3.2	3.946E-05	3.360E-05	2.876E-05	9.785E-06	4.517E-07	4.826E-08	1.236E-08
3.2- 3.4	7.925E-06	7.287E-06	6.234E-06	2.108E-06	8.071E-08	1.785E-12	1.713E-12
3.4- 3.6	0.000E-01	5.280E-13	9.919E-13	9.908E-13	9.874E-13	9.757E-13	9.510E-13
3.6- 3.8	0.000E-01	2.683E-13	5.056E-13	5.054E-13	5.043E-13	4.996E-13	4.871E-13
3.8- 4.0	0.000E-01	1.244E-13	2.341E-13	2.339E-13	2.335E-13	2.312E-13	2.255E-13
4.0- 4.2	0.000E-01	5.043E-14	9.472E-14	9.468E-14	9.448E-14	9.359E-14	9.126E-14
4.2- 4.4	0.000E-01	1.690E-14	3.168E-14	3.166E-14	3.159E-14	3.130E-14	3.052E-14
4.4- 4.6	0.000E-01	4.206E-15	7.859E-15	7.855E-15	7.839E-15	7.765E-15	7.572E-15
4.6- 4.8	8.059E-07	6.057E-16	1.128E-15	1.128E-15	1.125E-15	1.115E-15	1.087E-15
4.8- 5.0	5.165E-08	2.133E-17	3.959E-17	3.958E-17	3.949E-17	3.912E-17	3.815E-17
5.0- 5.2	0.000E-01						
5.2- 5.4	0.000E-01						
5.4- 5.6	0.000E-01						
5.6- 5.8	0.000E-01						
5.8- 6.0	0.000E-01						
6.0- 6.2	0.000E-01						
6.2- 6.4	0.000E-01						
6.4- 6.6	0.000E-01						
6.6- 6.8	0.000E-01						
6.8- 7.0	0.000E-01						
7.0- 7.2	0.000E-01						
7.2- 7.4	0.000E-01						
7.4- 7.6	0.000E-01						
7.6- 7.8	0.000E-01						
7.8- 8.0	0.000E-01						
8.0- 8.2	0.000E-01						
8.2- 8.4	0.000E-01						
8.4- 8.6	0.000E-01						
8.6- 8.8	0.000E-01						
8.8- 9.0	0.000E-01						
9.0- 9.2	0.000E-01						
9.2- 9.4	0.000E-01						
9.4- 9.6	0.000E-01						
9.6- 9.8	0.000E-01						
9.8-10.0	0.000E-01						
All sum	4.857E-01	2.674E-01	2.312E-01	1.276E-01	5.531E-02	4.542E-03	9.100E-04

DATA 2 Delayed Gamma-Ray Spectra of U-238 Fast Fission
(1 Year Irrad)

Enrg(MeV)	EQUILIB	10 SEC	100 SEC	10 MIN	1 HOUR	5 HOURS	10 HOUR
0.0- 0.2	1.418E-01	1.002E-01	6.898E-02	5.182E-02	3.475E-02	2.545E-02	2.365E-02
0.2- 0.4	4.347E-01	3.073E-01	2.097E-01	1.468E-01	7.824E-02	5.414E-02	4.790E-02
0.4- 0.6	7.723E-01	5.303E-01	3.470E-01	2.531E-01	1.625E-01	1.116E-01	9.666E-02
0.6- 0.8	8.537E-01	6.664E-01	5.238E-01	4.224E-01	3.329E-01	2.591E-01	2.317E-01
0.8- 1.0	8.844E-01	6.595E-01	5.015E-01	3.487E-01	2.011E-01	6.407E-02	4.547E-02
1.0- 1.2	5.344E-01	3.724E-01	2.589E-01	1.770E-01	9.004E-02	3.836E-02	2.458E-02
1.2- 1.4	6.711E-01	4.497E-01	2.750E-01	1.706E-01	9.822E-02	4.788E-02	2.755E-02
1.4- 1.6	5.682E-01	4.304E-01	2.956E-01	2.191E-01	1.521E-01	1.049E-01	9.878E-02
1.6- 1.8	3.542E-01	2.191E-01	1.406E-01	9.212E-02	4.396E-02	1.873E-02	1.073E-02
1.8- 2.0	3.245E-01	1.785E-01	1.006E-01	6.365E-02	3.115E-02	9.426E-03	5.046E-03
2.0- 2.2	3.263E-01	2.091E-01	1.207E-01	7.567E-02	2.667E-02	7.027E-03	2.857E-03
2.2- 2.4	3.144E-01	1.930E-01	1.163E-01	7.711E-02	4.238E-02	1.025E-02	3.889E-03
2.4- 2.6	3.169E-01	1.913E-01	8.890E-02	4.772E-02	2.365E-02	8.870E-03	6.518E-03
2.6- 2.8	2.822E-01	1.686E-01	8.403E-02	3.577E-02	1.109E-02	8.951E-04	1.302E-04
2.8- 3.0	2.029E-01	9.883E-02	3.830E-02	1.423E-02	6.153E-03	9.379E-04	1.699E-04
3.0- 3.2	1.387E-01	6.597E-02	2.462E-02	1.091E-02	3.590E-03	4.669E-04	6.744E-05
3.2- 3.4	1.922E-01	8.649E-02	3.111E-02	1.146E-02	3.921E-03	4.635E-04	5.171E-05
3.4- 3.6	1.210E-01	6.750E-02	3.390E-02	1.246E-02	1.274E-03	1.080E-04	1.310E-05
3.6- 3.8	7.167E-02	3.454E-02	1.224E-02	5.333E-03	2.840E-03	4.492E-04	4.387E-05
3.8- 4.0	6.042E-02	2.718E-02	1.005E-02	3.730E-03	1.154E-03	6.360E-05	4.579E-06
4.0- 4.2	5.567E-02	3.325E-02	1.410E-02	1.417E-03	8.099E-05	2.298E-06	3.456E-07
4.2- 4.4	4.106E-02	2.243E-02	1.242E-02	1.258E-03	6.917E-05	1.126E-05	1.043E-06
4.4- 4.6	2.561E-02	7.765E-03	2.089E-03	1.162E-04	0.000E-01	0.000E-01	0.000E-01
4.6- 4.8	2.093E-02	1.190E-02	4.845E-03	4.573E-04	1.226E-04	4.710E-05	1.402E-05
4.8- 5.0	1.390E-02	7.103E-03	2.059E-03	6.434E-05	7.864E-06	3.020E-06	8.989E-07
5.0- 5.2	1.306E-02	8.433E-03	3.146E-03	1.908E-04	2.917E-09	4.262E-26	0.000E-01
5.2- 5.4	5.923E-03	2.927E-03	1.188E-03	1.001E-04	1.534E-09	2.241E-26	0.000E-01
5.4- 5.6	9.720E-03	7.331E-03	2.595E-03	1.002E-05	7.835E-11	1.144E-27	0.000E-01
5.6- 5.8	3.086E-03	1.430E-03	4.796E-04	7.515E-06	2.834E-14	3.103E-41	0.000E-01
5.8- 6.0	2.054E-03	6.978E-04	7.443E-05	1.149E-06	1.170E-14	1.286E-41	0.000E-01
6.0- 6.2	2.981E-03	2.012E-03	8.775E-04	1.169E-05	4.185E-15	4.309E-42	0.000E-01
6.2- 6.4	1.236E-03	8.050E-04	3.269E-04	1.962E-06	1.195E-15	1.277E-42	0.000E-01
6.4- 6.6	3.671E-04	8.136E-05	3.324E-05	5.701E-07	2.919E-16	3.069E-43	0.000E-01
6.6- 6.8	3.492E-04	1.628E-04	5.854E-05	1.170E-07	3.873E-17	4.344E-44	0.000E-01
6.8- 7.0	2.942E-04	1.305E-04	2.696E-06	5.350E-13	1.325E-18	1.401E-45	0.000E-01
7.0- 7.2	6.581E-05	3.541E-06	1.550E-09	5.202E-24	0.000E-01	0.000E-01	0.000E-01
7.2- 7.4	4.019E-05	1.926E-06	8.433E-10	2.831E-24	0.000E-01	0.000E-01	0.000E-01
7.4- 7.6	2.410E-05	9.889E-07	4.332E-10	1.454E-24	0.000E-01	0.000E-01	0.000E-01
7.6- 7.8	1.424E-05	4.722E-07	2.070E-10	6.951E-25	0.000E-01	0.000E-01	0.000E-01
7.8- 8.0	8.323E-06	2.053E-07	9.009E-11	3.025E-25	0.000E-01	0.000E-01	0.000E-01
8.0- 8.2	4.848E-06	7.867E-08	3.451E-11	1.159E-25	0.000E-01	0.000E-01	0.000E-01
8.2- 8.4	2.831E-06	2.519E-08	1.100E-11	3.691E-26	0.000E-01	0.000E-01	0.000E-01
8.4- 8.6	1.663E-06	6.134E-09	2.615E-12	8.781E-27	0.000E-01	0.000E-01	0.000E-01
8.6- 8.8	9.779E-07	9.755E-10	3.622E-13	1.216E-27	0.000E-01	0.000E-01	0.000E-01
8.8- 9.0	5.684E-07	1.267E-10	1.235E-14	4.148E-29	0.000E-01	0.000E-01	0.000E-01
9.0- 9.2	3.205E-07	5.613E-11	2.321E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.2- 9.4	1.727E-07	3.027E-11	1.252E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.4- 9.6	8.796E-08	1.543E-11	6.381E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.6- 9.8	4.172E-08	7.324E-12	3.030E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.8-10.0	1.803E-08	3.168E-12	1.311E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
All sum	7.762E+00	5.163E+00	3.326E+00	2.243E+00	1.348E+00	7.632E-01	6.258E-01

DATA 2 (CONT'D) Delayed Gamma-Ray Spectra of U-238
First Fission (1 Year Irrd)

Enrg(MeV)	1 DAY	1 WEEK	10 DAYS	1 MONTH	3 MONTH	1 YEAR	3YEARS
0.0- 0.2	2.099E-02	8.625E-03	6.422E-03	2.786E-03	9.293E-04	1.818E-04	3.524E-05
0.2- 0.4	3.614E-02	1.206E-02	8.838E-03	1.884E-03	6.569E-05	1.364E-06	4.359E-07
0.4- 0.6	7.627E-02	4.447E-02	3.972E-02	2.209E-02	6.769E-03	6.792E-04	1.717E-04
0.6- 0.8	1.888E-01	9.691E-02	8.578E-02	6.530E-02	3.990E-02	3.577E-03	8.519E-04
0.8- 1.0	3.537E-02	1.854E-02	1.477E-02	4.486E-03	2.141E-04	2.570E-05	6.519E-06
1.0- 1.2	1.047E-02	1.364E-03	8.915E-04	3.314E-04	2.448E-04	1.440E-04	3.686E-05
1.2- 1.4	1.299E-02	2.396E-03	1.337E-03	1.432E-04	4.367E-05	3.455E-06	4.412E-07
1.4- 1.6	9.306E-02	7.164E-02	6.121E-02	2.074E-02	9.126E-04	6.632E-05	1.292E-05
1.6- 1.8	3.123E-03	1.548E-04	8.691E-05	1.475E-05	1.152E-05	6.856E-06	1.755E-06
1.8- 2.0	2.882E-03	7.134E-04	4.272E-04	6.261E-05	1.170E-05	5.410E-06	1.385E-06
2.0- 2.2	1.276E-03	6.993E-04	6.235E-04	4.643E-04	3.561E-04	1.810E-04	3.096E-05
2.2- 2.4	1.733E-03	1.097E-03	9.118E-04	3.032E-04	2.253E-05	6.690E-06	1.713E-06
2.4- 2.6	5.826E-03	4.449E-03	3.801E-03	1.288E-03	5.562E-05	3.964E-06	1.015E-06
2.6- 2.8	6.801E-06	5.925E-06	4.260E-06	2.422E-06	2.141E-06	1.271E-06	3.205E-07
2.8- 3.0	1.184E-04	9.515E-05	8.152E-05	2.825E-05	1.970E-06	5.555E-07	1.422E-07
3.0- 3.2	3.724E-05	3.247E-05	2.786E-05	9.791E-06	8.604E-07	3.036E-07	7.774E-08
3.2- 3.4	7.427E-06	6.934E-06	5.930E-06	2.006E-06	7.678E-08	2.912E-12	2.815E-12
3.4- 3.6	0.000E-01	1.122E-12	1.622E-12	1.621E-12	1.618E-12	1.603E-12	1.563E-12
3.6- 3.8	0.000E-01	5.750E-13	8.310E-13	8.306E-13	8.289E-13	8.210E-13	8.006E-13
3.8- 4.0	0.000E-01	2.664E-13	3.847E-13	3.845E-13	3.837E-13	3.800E-13	3.706E-13
4.0- 4.2	0.000E-01	1.079E-13	1.557E-13	1.556E-13	1.553E-13	1.538E-13	1.500E-13
4.2- 4.4	0.000E-01	3.613E-14	5.206E-14	5.203E-14	5.193E-14	5.143E-14	5.016E-14
4.4- 4.6	0.000E-01	8.976E-15	1.292E-14	1.291E-14	1.288E-14	1.276E-14	1.244E-14
4.6- 4.8	4.707E-07	1.291E-15	1.854E-15	1.853E-15	1.849E-15	1.832E-15	1.786E-15
4.8- 5.0	3.014E-08	4.537E-17	6.508E-17	6.504E-17	6.491E-17	6.429E-17	6.269E-17
5.0- 5.2	0.000E-01						
5.2- 5.4	0.000E-01						
5.4- 5.6	0.000E-01						
5.6- 5.8	0.000E-01						
5.8- 6.0	0.000E-01						
6.0- 6.2	0.000E-01						
6.2- 6.4	0.000E-01						
6.4- 6.6	0.000E-01						
6.6- 6.8	0.000E-01						
6.8- 7.0	0.000E-01						
7.0- 7.2	0.000E-01						
7.2- 7.4	0.000E-01						
7.4- 7.6	0.000E-01						
7.6- 7.8	0.000E-01						
7.8- 8.0	0.000E-01						
8.0- 8.2	0.000E-01						
8.2- 8.4	0.000E-01						
8.4- 8.6	0.000E-01						
8.6- 8.8	0.000E-01						
8.8- 9.0	0.000E-01						
9.0- 9.2	0.000E-01						
9.2- 9.4	0.000E-01						
9.4- 9.6	0.000E-01						
9.6- 9.8	0.000E-01						
9.8-10.0	0.000E-01						
All sum	4.891E-01	2.633E-01	2.249E-01	1.199E-01	4.954E-02	4.885E-03	1.153E-03

DATA 3 Delayed Gamma-Ray Spectra of Pu-239 Thermal Fission
(1 Year Irrd)

Enrg(MeV)	EQUILIB	10 SEC	100 SEC	10 MIN	1 HOUR	5 HOURS	10 HOUR
0.0- 0.2	1.113E-01	9.136E-02	6.614E-02	4.937E-02	3.354E-02	2.552E-02	2.374E-02
0.2- 0.4	3.345E-01	2.802E-01	2.088E-01	1.504E-01	8.323E-02	5.877E-02	5.186E-02
0.4- 0.6	5.864E-01	4.444E-01	3.239E-01	2.420E-01	1.579E-01	1.130E-01	9.887E-02
0.6- 0.8	6.875E-01	5.950E-01	4.964E-01	4.185E-01	3.371E-01	2.632E-01	2.340E-01
0.8- 1.0	6.644E-01	5.540E-01	4.440E-01	3.305E-01	1.856E-01	6.267E-02	4.640E-02
1.0- 1.2	4.061E-01	3.139E-01	2.305E-01	1.629E-01	8.254E-02	3.633E-02	2.407E-02
1.2- 1.4	4.134E-01	3.118E-01	2.081E-01	1.414E-01	8.285E-02	4.348E-02	2.710E-02
1.4- 1.6	4.177E-01	3.596E-01	2.687E-01	2.071E-01	1.415E-01	9.670E-02	9.144E-02
1.6- 1.8	2.696E-01	1.982E-01	1.296E-01	8.856E-02	4.210E-02	1.815E-02	1.050E-02
1.8- 2.0	1.922E-01	1.412E-01	8.842E-02	5.818E-02	2.789E-02	8.752E-03	5.145E-03
2.0- 2.2	1.989E-01	1.588E-01	1.068E-01	6.783E-02	2.363E-02	6.145E-03	2.685E-03
2.2- 2.4	1.960E-01	1.515E-01	9.882E-02	6.990E-02	3.700E-02	8.242E-03	3.278E-03
2.4- 2.6	1.655E-01	1.226E-01	6.910E-02	4.209E-02	2.167E-02	8.326E-03	6.090E-03
2.6- 2.8	1.627E-01	1.199E-01	6.794E-02	3.439E-02	1.074E-02	7.992E-04	1.052E-04
2.8- 3.0	1.108E-01	7.262E-02	3.240E-02	1.403E-02	6.224E-03	9.922E-04	1.796E-04
3.0- 3.2	7.620E-02	4.934E-02	2.254E-02	1.106E-02	3.557E-03	4.647E-04	6.342E-05
3.2- 3.4	8.641E-02	5.000E-02	2.423E-02	1.048E-02	3.675E-03	4.562E-04	4.812E-05
3.4- 3.6	6.674E-02	4.706E-02	2.661E-02	1.141E-02	1.214E-03	1.004E-04	1.034E-05
3.6- 3.8	3.515E-02	2.256E-02	9.946E-03	5.412E-03	2.959E-03	4.695E-04	4.624E-05
3.8- 4.0	2.579E-02	1.435E-02	6.126E-03	2.507E-03	8.036E-04	6.451E-05	4.979E-06
4.0- 4.2	2.399E-02	1.692E-02	7.381E-03	9.201E-04	5.821E-05	1.137E-06	4.715E-08
4.2- 4.4	1.775E-02	1.149E-02	6.374E-03	7.655E-04	7.208E-05	1.178E-05	1.108E-06
4.4- 4.6	9.104E-03	3.714E-03	1.216E-03	1.101E-04	0.000E-01	0.000E-01	0.000E-01
4.6- 4.8	8.244E-03	5.272E-03	2.289E-03	2.586E-04	7.818E-05	2.992E-05	8.906E-06
4.8- 5.0	5.254E-03	3.007E-03	9.123E-04	3.527E-05	5.016E-06	1.919E-06	5.711E-07
5.0- 5.2	5.029E-03	3.539E-03	1.415E-03	9.562E-05	3.829E-09	5.886E-26	0.000E-01
5.2- 5.4	2.157E-03	1.200E-03	5.309E-04	5.007E-05	2.014E-09	3.096E-26	0.000E-01
5.4- 5.6	4.677E-03	3.713E-03	1.265E-03	4.987E-06	1.028E-10	1.580E-27	0.000E-01
5.6- 5.8	1.009E-03	4.572E-04	1.298E-04	1.889E-06	2.498E-14	2.748E-41	0.000E-01
5.8- 6.0	6.930E-04	2.319E-04	1.988E-05	2.882E-07	1.034E-14	1.139E-41	0.000E-01
6.0- 6.2	1.051E-03	6.952E-04	2.661E-04	2.996E-06	3.530E-15	3.814E-42	0.000E-01
6.2- 6.4	4.875E-04	3.770E-04	1.395E-04	6.027E-07	1.035E-15	1.131E-42	0.000E-01
6.4- 6.6	8.086E-05	2.266E-05	8.331E-06	1.415E-07	2.496E-16	2.705E-43	0.000E-01
6.6- 6.8	1.237E-04	8.268E-05	2.867E-05	5.715E-08	3.429E-17	3.784E-44	0.000E-01
6.8- 7.0	7.920E-05	4.008E-05	8.305E-07	4.931E-13	1.174E-18	1.401E-45	0.000E-01
7.0- 7.2	1.136E-05	9.921E-07	1.558E-10	5.189E-25	0.000E-01	0.000E-01	0.000E-01
7.2- 7.4	6.469E-06	5.395E-07	8.476E-11	2.824E-25	0.000E-01	0.000E-01	0.000E-01
7.4- 7.6	3.548E-06	2.768E-07	4.355E-11	1.451E-25	0.000E-01	0.000E-01	0.000E-01
7.6- 7.8	1.874E-06	1.320E-07	2.081E-11	6.934E-26	0.000E-01	0.000E-01	0.000E-01
7.8- 8.0	9.550E-07	5.730E-08	9.055E-12	3.017E-26	0.000E-01	0.000E-01	0.000E-01
8.0- 8.2	4.752E-07	2.189E-08	3.469E-12	1.156E-26	0.000E-01	0.000E-01	0.000E-01
8.2- 8.4	2.364E-07	6.956E-09	1.105E-12	3.682E-27	0.000E-01	0.000E-01	0.000E-01
8.4- 8.6	1.217E-07	1.656E-09	2.628E-13	8.759E-28	0.000E-01	0.000E-01	0.000E-01
8.6- 8.8	6.639E-08	2.363E-10	3.640E-14	1.213E-28	0.000E-01	0.000E-01	0.000E-01
8.8- 9.0	3.772E-08	1.406E-11	1.241E-15	4.137E-30	0.000E-01	0.000E-01	0.000E-01
9.0- 9.2	2.124E-08	3.626E-12	1.112E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.2- 9.4	1.144E-08	1.956E-12	5.998E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.4- 9.6	5.827E-09	9.968E-13	3.058E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.6- 9.8	2.764E-09	4.732E-13	1.452E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.8-10.0	1.194E-09	2.047E-13	6.280E-32	0.000E-01	0.000E-01	0.000E-01	0.000E-01
All sum	5.287E+00	4.149E+00	2.951E+00	2.120E+00	1.286E+00	7.527E-01	6.256E-01

DATA 3 (CONT'D) Delayed Gamma-Ray Spectra of Pu-239 Thermal
Fission (1 Year Irrd)

Enrg(MeV)	1 DAY	1 WEEK	10 DAYS	1 MONTH	3 MONTH	1 YEAR	3YEARS
0.0- 0.2	2.097E-02	8.389E-03	6.194E-03	2.622E-03	8.505E-04	1.547E-04	3.239E-05
0.2- 0.4	3.915E-02	1.330E-02	9.739E-03	2.017E-03	6.705E-05	2.183E-06	9.225E-07
0.4- 0.6	7.926E-02	4.699E-02	4.219E-02	2.442E-02	8.159E-03	1.137E-03	2.979E-04
0.6- 0.8	1.901E-01	9.568E-02	8.420E-02	6.351E-02	3.892E-02	3.843E-03	1.005E-03
0.8- 1.0	3.625E-02	1.807E-02	1.432E-02	4.348E-03	2.370E-04	4.304E-05	1.098E-05
1.0- 1.2	1.148E-02	2.204E-03	1.608E-03	6.976E-04	4.201E-04	2.438E-04	6.244E-05
1.2- 1.4	1.399E-02	2.657E-03	1.530E-03	1.930E-04	3.485E-05	3.650E-06	6.795E-07
1.4- 1.6	8.640E-02	6.640E-02	5.672E-02	1.923E-02	8.614E-04	7.198E-05	1.508E-05
1.6- 1.8	3.137E-03	1.719E-04	9.998E-05	2.480E-05	1.971E-05	1.162E-05	2.972E-06
1.8- 2.0	3.252E-03	8.052E-04	4.977E-04	9.234E-05	1.941E-05	9.160E-06	2.345E-06
2.0- 2.2	1.403E-03	7.559E-04	6.634E-04	4.436E-04	3.048E-04	1.539E-04	2.675E-05
2.2- 2.4	1.705E-03	1.058E-03	8.781E-04	2.983E-04	2.994E-05	1.133E-05	2.900E-06
2.4- 2.6	5.428E-03	4.128E-03	3.527E-03	1.198E-03	5.658E-05	6.711E-06	1.718E-06
2.6- 2.8	1.276E-05	7.622E-06	5.893E-06	3.972E-06	3.527E-06	2.103E-06	5.343E-07
2.8- 3.0	1.155E-04	8.901E-05	7.632E-05	2.695E-05	2.536E-06	9.405E-07	2.408E-07
3.0- 3.2	3.467E-05	3.053E-05	2.625E-05	9.502E-06	1.186E-06	5.140E-07	1.316E-07
3.2- 3.4	7.038E-06	6.425E-06	5.492E-06	1.857E-06	7.110E-08	6.520E-12	6.324E-12
3.4- 3.6	0.000E-01	3.194E-12	3.667E-12	3.658E-12	3.645E-12	3.602E-12	3.511E-12
3.6- 3.8	0.000E-01	1.626E-12	1.868E-12	1.866E-12	1.862E-12	1.844E-12	1.798E-12
3.8- 4.0	0.000E-01	7.525E-13	8.646E-13	8.636E-13	8.618E-13	8.536E-13	8.324E-13
4.0- 4.2	0.000E-01	3.046E-13	3.499E-13	3.495E-13	3.488E-13	3.455E-13	3.369E-13
4.2- 4.4	0.000E-01	1.019E-13	1.170E-13	1.169E-13	1.166E-13	1.155E-13	1.127E-13
4.4- 4.6	0.000E-01	2.529E-14	2.903E-14	2.900E-14	2.894E-14	2.866E-14	2.795E-14
4.6- 4.8	2.989E-07	3.633E-15	4.167E-15	4.163E-15	4.154E-15	4.115E-15	4.012E-15
4.8- 5.0	1.913E-08	1.276E-16	1.462E-16	1.461E-16	1.458E-16	1.444E-16	1.408E-16
5.0- 5.2	0.000E-01						
5.2- 5.4	0.000E-01						
5.4- 5.6	0.000E-01						
5.6- 5.8	0.000E-01						
5.8- 6.0	0.000E-01						
6.0- 6.2	0.000E-01						
6.2- 6.4	0.000E-01						
6.4- 6.6	0.000E-01						
6.6- 6.8	0.000E-01						
6.8- 7.0	0.000E-01						
7.0- 7.2	0.000E-01						
7.2- 7.4	0.000E-01						
7.4- 7.6	0.000E-01						
7.6- 7.8	0.000E-01						
7.8- 8.0	0.000E-01						
8.0- 8.2	0.000E-01						
8.2- 8.4	0.000E-01						
8.4- 8.6	0.000E-01						
8.6- 8.8	0.000E-01						
8.8- 9.0	0.000E-01						
9.0- 9.2	0.000E-01						
9.2- 9.4	0.000E-01						
9.4- 9.6	0.000E-01						
9.6- 9.8	0.000E-01						
9.8-10.0	0.000E-01						
All sum	4.926E-01	2.607E-01	2.223E-01	1.191E-01	4.999E-02	5.695E-03	1.463E-03

DATA 4 Delayed Gamma-Ray Spectra of Pu-240 Fast Fission
(1 Year Irrd)

Enrg(MeV)	EQUILIB	10 SEC	100 SEC	10 MIN	1 HOUR	5 HOURS	10 HOUR
0.0- 0.2	1.196E-01	9.563E-02	6.761E-02	4.977E-02	3.321E-02	2.471E-02	2.293E-02
0.2- 0.4	3.683E-01	2.986E-01	2.159E-01	1.536E-01	8.254E-02	5.694E-02	5.011E-02
0.4- 0.6	6.197E-01	4.656E-01	3.296E-01	2.432E-01	1.566E-01	1.100E-01	9.589E-02
0.6- 0.8	6.967E-01	5.887E-01	4.797E-01	4.008E-01	3.181E-01	2.441E-01	2.161E-01
0.8- 1.0	6.809E-01	5.534E-01	4.365E-01	3.266E-01	1.843E-01	5.826E-02	4.227E-02
1.0- 1.2	4.278E-01	3.230E-01	2.306E-01	1.620E-01	8.206E-02	3.513E-02	2.297E-02
1.2- 1.4	4.547E-01	3.352E-01	2.145E-01	1.403E-01	8.133E-02	4.234E-02	2.620E-02
1.4- 1.6	4.413E-01	3.710E-01	2.705E-01	2.075E-01	1.382E-01	8.991E-02	8.465E-02
1.6- 1.8	2.848E-01	2.056E-01	1.336E-01	9.082E-02	4.299E-02	1.851E-02	1.068E-02
1.8- 2.0	2.177E-01	1.512E-01	9.051E-02	5.842E-02	2.748E-02	8.258E-03	4.766E-03
2.0- 2.2	2.249E-01	1.729E-01	1.105E-01	6.885E-02	2.363E-02	6.205E-03	2.848E-03
2.2- 2.4	2.201E-01	1.636E-01	1.030E-01	7.149E-02	3.723E-02	7.871E-03	3.095E-03
2.4- 2.6	1.915E-01	1.362E-01	7.113E-02	4.157E-02	2.126E-02	7.957E-03	5.711E-03
2.6- 2.8	1.857E-01	1.319E-01	7.103E-02	3.526E-02	1.125E-02	7.855E-04	1.065E-04
2.8- 3.0	1.290E-01	8.130E-02	3.430E-02	1.418E-02	6.212E-03	9.901E-04	1.806E-04
3.0- 3.2	8.875E-02	5.523E-02	2.351E-02	1.107E-02	3.534E-03	4.571E-04	5.889E-05
3.2- 3.4	1.038E-01	5.633E-02	2.424E-02	1.028E-02	3.705E-03	4.531E-04	4.671E-05
3.4- 3.6	7.261E-02	4.862E-02	2.593E-02	1.072E-02	1.196E-03	9.858E-05	9.670E-06
3.6- 3.8	4.038E-02	2.463E-02	1.020E-02	5.384E-03	2.963E-03	4.699E-04	4.613E-05
3.8- 4.0	2.960E-02	1.562E-02	6.231E-03	2.428E-03	7.902E-04	6.435E-05	4.896E-06
4.0- 4.2	2.657E-02	1.814E-02	7.704E-03	8.832E-04	5.794E-05	9.489E-07	0.000E-01
4.2- 4.4	1.977E-02	1.216E-02	6.610E-03	7.400E-04	7.204E-05	1.179E-05	1.100E-06
4.4- 4.6	1.076E-02	4.109E-03	1.232E-03	8.288E-05	0.000E-01	0.000E-01	0.000E-01
4.6- 4.8	9.551E-03	5.952E-03	2.498E-03	2.509E-04	7.214E-05	2.767E-05	8.237E-06
4.8- 5.0	6.184E-03	3.489E-03	1.048E-03	3.462E-05	4.627E-06	1.775E-06	5.281E-07
5.0- 5.2	5.838E-03	4.061E-03	1.582E-03	9.871E-05	2.539E-09	3.836E-26	0.000E-01
5.2- 5.4	2.532E-03	1.383E-03	5.866E-04	5.170E-05	1.335E-09	2.017E-26	0.000E-01
5.4- 5.6	5.056E-03	3.999E-03	1.385E-03	5.299E-06	6.823E-11	1.030E-27	0.000E-01
5.6- 5.8	1.260E-03	6.036E-04	1.846E-04	2.779E-06	4.582E-14	5.042E-41	0.000E-01
5.8- 6.0	8.398E-04	2.925E-04	2.851E-05	4.268E-07	1.898E-14	2.090E-41	0.000E-01
6.0- 6.2	1.307E-03	8.914E-04	3.579E-04	4.352E-06	6.453E-15	7.001E-42	0.000E-01
6.2- 6.4	5.516E-04	4.166E-04	1.603E-04	7.992E-07	1.897E-15	2.075E-42	0.000E-01
6.4- 6.6	1.098E-04	3.139E-05	1.226E-05	2.088E-07	4.568E-16	4.975E-43	0.000E-01
6.6- 6.8	1.410E-04	8.829E-05	3.126E-05	6.238E-08	6.292E-17	7.006E-44	0.000E-01
6.8- 7.0	9.712E-05	4.749E-05	9.804E-07	9.029E-13	2.153E-18	2.803E-45	0.000E-01
7.0- 7.2	1.600E-05	1.274E-06	2.527E-10	8.438E-25	0.000E-01	0.000E-01	0.000E-01
7.2- 7.4	9.303E-06	6.929E-07	1.375E-10	4.592E-25	0.000E-01	0.000E-01	0.000E-01
7.4- 7.6	5.251E-06	3.555E-07	7.064E-11	2.359E-25	0.000E-01	0.000E-01	0.000E-01
7.6- 7.8	2.881E-06	1.696E-07	3.376E-11	1.127E-25	0.000E-01	0.000E-01	0.000E-01
7.8- 8.0	1.545E-06	7.363E-08	1.468E-11	4.906E-26	0.000E-01	0.000E-01	0.000E-01
8.0- 8.2	8.194E-07	2.814E-08	5.627E-12	1.879E-26	0.000E-01	0.000E-01	0.000E-01
8.2- 8.4	4.378E-07	8.952E-09	1.793E-12	5.987E-27	0.000E-01	0.000E-01	0.000E-01
8.4- 8.6	2.402E-07	2.140E-09	4.264E-13	1.424E-27	0.000E-01	0.000E-01	0.000E-01
8.6- 8.8	1.362E-07	3.110E-10	5.905E-14	1.972E-28	0.000E-01	0.000E-01	0.000E-01
8.8- 9.0	7.835E-08	2.246E-11	2.014E-15	6.727E-30	0.000E-01	0.000E-01	0.000E-01
9.0- 9.2	4.417E-08	7.146E-12	1.122E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.2- 9.4	2.381E-08	3.854E-12	6.051E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.4- 9.6	1.213E-08	1.964E-12	3.085E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.6- 9.8	5.758E-09	9.325E-13	1.464E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.8-10.0	2.490E-09	4.034E-13	6.335E-32	0.000E-01	0.000E-01	0.000E-01	0.000E-01
All sum	5.689E+00	4.330E+00	2.973E+00	2.106E+00	1.259E+00	7.135E-01	5.887E-01

DATA 4 (CONT'D) Delayed Gamma-Ray Spectra of Pu-240 Fast
Fission (1 Year Irrd)

Enrg(MeV)	1 DAY	1 WEEK	10 DAYS	1 MONTH	3 MONTH	1 YEAR	3YEARS
0.0- 0.2	2.023E-02	8.026E-03	5.894E-03	2.464E-03	8.279E-04	1.715E-04	3.789E-05
0.2- 0.4	3.747E-02	1.223E-02	8.934E-03	1.851E-03	6.180E-05	2.045E-06	8.751E-07
0.4- 0.6	7.651E-02	4.513E-02	4.062E-02	2.380E-02	8.206E-03	1.298E-03	3.382E-04
0.6- 0.8	1.745E-01	8.690E-02	7.643E-02	5.761E-02	3.539E-02	3.709E-03	1.006E-03
0.8- 1.0	3.298E-02	1.659E-02	1.317E-02	4.023E-03	2.360E-04	4.987E-05	1.271E-05
1.0- 1.2	1.067E-02	2.161E-03	1.623E-03	7.714E-04	4.866E-04	2.831E-04	7.247E-05
1.2- 1.4	1.317E-02	2.523E-03	1.489E-03	2.175E-04	3.542E-05	3.834E-06	7.108E-07
1.4- 1.6	7.967E-02	6.121E-02	5.230E-02	1.775E-02	8.198E-04	8.079E-05	1.704E-05
1.6- 1.8	3.143E-03	1.639E-04	9.865E-05	2.882E-05	2.277E-05	1.348E-05	3.451E-06
1.8- 2.0	3.004E-03	8.196E-04	5.320E-04	1.188E-04	2.348E-05	1.064E-05	2.723E-06
2.0- 2.2	1.598E-03	9.141E-04	8.090E-04	5.225E-04	3.354E-04	1.682E-04	2.929E-05
2.2- 2.4	1.604E-03	1.005E-03	8.366E-04	2.891E-04	3.272E-05	1.315E-05	3.367E-06
2.4- 2.6	5.031E-03	3.807E-03	3.253E-03	1.107E-03	5.483E-05	7.793E-06	1.995E-06
2.6- 2.8	1.884E-05	8.035E-06	6.390E-06	4.599E-06	4.089E-06	2.439E-06	6.199E-07
2.8- 3.0	1.142E-04	8.254E-05	7.078E-05	2.526E-05	2.714E-06	1.092E-06	2.796E-07
3.0- 3.2	3.183E-05	2.837E-05	2.443E-05	8.987E-06	1.299E-06	5.969E-07	1.528E-07
3.2- 3.4	6.631E-06	5.925E-06	5.062E-06	1.712E-06	6.553E-08	1.231E-11	1.198E-11
3.4- 3.6	0.0000E-01	6.413E-12	6.909E-12	6.904E-12	6.889E-12	6.823E-12	6.653E-12
3.6- 3.8	0.0000E-01	3.284E-12	3.538E-12	3.536E-12	3.528E-12	3.495E-12	3.408E-12
3.8- 4.0	0.0000E-01	1.520E-12	1.638E-12	1.637E-12	1.633E-12	1.618E-12	1.578E-12
4.0- 4.2	0.0000E-01	6.154E-13	6.628E-13	6.624E-13	6.610E-13	6.547E-13	6.385E-13
4.2- 4.4	0.0000E-01	2.058E-13	2.217E-13	2.215E-13	2.210E-13	2.190E-13	2.135E-13
4.4- 4.6	0.0000E-01	5.108E-14	5.499E-14	5.496E-14	5.484E-14	5.432E-14	5.297E-14
4.6- 4.8	2.764E-07	7.335E-15	7.895E-15	7.889E-15	7.873E-15	7.799E-15	7.604E-15
4.8- 5.0	1.768E-08	2.575E-16	2.771E-16	2.769E-16	2.763E-16	2.737E-16	2.669E-16
5.0- 5.2	0.0000E-01						
5.2- 5.4	0.0000E-01						
5.4- 5.6	0.0000E-01						
5.6- 5.8	0.0000E-01						
5.8- 6.0	0.0000E-01						
6.0- 6.2	0.0000E-01						
6.2- 6.4	0.0000E-01						
6.4- 6.6	0.0000E-01						
6.6- 6.8	0.0000E-01						
6.8- 7.0	0.0000E-01						
7.0- 7.2	0.0000E-01						
7.2- 7.4	0.0000E-01						
7.4- 7.6	0.0000E-01						
7.6- 7.8	0.0000E-01						
7.8- 8.0	0.0000E-01						
8.0- 8.2	0.0000E-01						
8.2- 8.4	0.0000E-01						
8.4- 8.6	0.0000E-01						
8.6- 8.8	0.0000E-01						
8.8- 9.0	0.0000E-01						
9.0- 9.2	0.0000E-01						
9.2- 9.4	0.0000E-01						
9.4- 9.6	0.0000E-01						
9.6- 9.8	0.0000E-01						
9.8-10.0	0.0000E-01						
All sum	4.597E-01	2.416E-01	2.061E-01	1.106E-01	4.654E-02	5.815E-03	1.528E-03

DATA 5 Delayed Gamma-Ray Spectra of Pu-241 Thermal Fission
(1 Year Irrd)

Enrg(MeV)	EQUILIB	10 SEC	100 SEC	10 MIN	1 HOUR	5 HOURS	10 HOUR
0.0- 0.2	1.307E-01	1.014E-01	6.986E-02	5.077E-02	3.364E-02	2.519E-02	2.348E-02
0.2- 0.4	4.132E-01	3.204E-01	2.244E-01	1.571E-01	8.026E-02	5.455E-02	4.795E-02
0.4- 0.6	6.897E-01	5.007E-01	3.383E-01	2.466E-01	1.573E-01	1.092E-01	9.548E-02
0.6- 0.8	7.330E-01	5.947E-01	4.678E-01	3.809E-01	2.979E-01	2.261E-01	1.992E-01
0.8- 1.0	7.347E-01	5.789E-01	4.419E-01	3.218E-01	1.856E-01	5.799E-02	4.237E-02
1.0- 1.2	4.588E-01	3.372E-01	2.336E-01	1.609E-01	8.131E-02	3.322E-02	2.129E-02
1.2- 1.4	5.185E-01	3.657E-01	2.183E-01	1.338E-01	7.520E-02	3.932E-02	2.441E-02
1.4- 1.6	4.877E-01	3.963E-01	2.887E-01	2.273E-01	1.561E-01	1.064E-01	1.013E-01
1.6- 1.8	3.156E-01	2.185E-01	1.401E-01	9.437E-02	4.410E-02	1.880E-02	1.080E-02
1.8- 2.0	2.554E-01	1.636E-01	9.212E-02	5.767E-02	2.634E-02	7.377E-03	4.139E-03
2.0- 2.2	2.638E-01	1.898E-01	1.184E-01	6.880E-02	2.287E-02	5.836E-03	2.695E-03
2.2- 2.4	2.600E-01	1.804E-01	1.079E-01	7.203E-02	3.690E-02	7.529E-03	3.109E-03
2.4- 2.6	2.354E-01	1.573E-01	7.740E-02	4.308E-02	2.226E-02	8.996E-03	6.762E-03
2.6- 2.8	2.272E-01	1.515E-01	7.859E-02	3.696E-02	1.168E-02	7.401E-04	8.848E-05
2.8- 3.0	1.601E-01	9.296E-02	3.763E-02	1.480E-02	6.352E-03	1.013E-03	1.991E-04
3.0- 3.2	1.133E-01	6.480E-02	2.599E-02	1.195E-02	3.691E-03	4.653E-04	6.430E-05
3.2- 3.4	1.312E-01	6.515E-02	2.458E-02	1.036E-02	3.765E-03	4.539E-04	4.642E-05
3.4- 3.6	8.479E-02	5.070E-02	2.534E-02	1.040E-02	1.216E-03	9.885E-05	8.671E-06
3.6- 3.8	4.887E-02	2.693E-02	1.058E-02	5.495E-03	3.023E-03	4.776E-04	4.675E-05
3.8- 4.0	3.672E-02	1.664E-02	6.081E-03	2.300E-03	7.632E-04	6.518E-05	4.913E-06
4.0- 4.2	2.976E-02	1.721E-02	6.904E-03	7.934E-04	5.593E-05	6.393E-07	0.000E-01
4.2- 4.4	2.345E-02	1.173E-02	5.990E-03	6.535E-04	7.343E-05	1.198E-05	1.112E-06
4.4- 4.6	1.477E-02	4.563E-03	1.315E-03	6.835E-05	0.000E-01	0.000E-01	0.000E-01
4.6- 4.8	1.097E-02	5.663E-03	2.273E-03	2.154E-04	6.013E-05	2.309E-05	6.871E-06
4.8- 5.0	7.313E-03	3.507E-03	1.048E-03	3.142E-05	3.857E-06	1.480E-06	4.405E-07
5.0- 5.2	6.160E-03	3.803E-03	1.447E-03	8.709E-05	1.888E-09	2.830E-26	0.000E-01
5.2- 5.4	2.973E-03	1.414E-03	5.757E-04	4.586E-05	9.933E-10	1.488E-26	0.000E-01
5.4- 5.6	4.811E-03	3.545E-03	1.227E-03	4.632E-06	5.072E-11	7.595E-28	0.000E-01
5.6- 5.8	1.629E-03	7.752E-04	2.781E-04	4.417E-06	1.802E-14	1.975E-41	0.000E-01
5.8- 6.0	1.006E-03	3.194E-04	4.376E-05	6.776E-07	7.444E-15	8.185E-42	0.000E-01
6.0- 6.2	1.622E-03	1.103E-03	4.861E-04	6.827E-06	2.649E-15	2.741E-42	0.000E-01
6.2- 6.4	6.462E-04	4.192E-04	1.654E-04	1.101E-06	7.589E-16	8.128E-43	0.000E-01
6.4- 6.6	1.973E-04	5.160E-05	1.970E-05	3.360E-07	1.851E-16	1.948E-43	0.000E-01
6.6- 6.8	1.757E-04	8.196E-05	2.779E-05	5.547E-08	2.464E-17	2.662E-44	0.000E-01
6.8- 7.0	1.212E-04	4.807E-05	9.464E-07	3.734E-13	8.433E-19	1.401E-45	0.000E-01
7.0- 7.2	3.103E-05	2.387E-06	6.661E-10	2.230E-24	0.000E-01	0.000E-01	0.000E-01
7.2- 7.4	1.829E-05	1.298E-06	3.625E-10	1.213E-24	0.000E-01	0.000E-01	0.000E-01
7.4- 7.6	1.050E-05	6.662E-07	1.862E-10	6.233E-25	0.000E-01	0.000E-01	0.000E-01
7.6- 7.8	5.892E-06	3.179E-07	8.900E-11	2.979E-25	0.000E-01	0.000E-01	0.000E-01
7.8- 8.0	3.247E-06	1.381E-07	3.872E-11	1.296E-25	0.000E-01	0.000E-01	0.000E-01
8.0- 8.2	1.777E-06	5.280E-08	1.483E-11	4.966E-26	0.000E-01	0.000E-01	0.000E-01
8.2- 8.4	9.801E-07	1.683E-08	4.726E-12	1.582E-26	0.000E-01	0.000E-01	0.000E-01
8.4- 8.6	5.515E-07	4.041E-09	1.124E-12	3.763E-27	0.000E-01	0.000E-01	0.000E-01
8.6- 8.8	3.171E-07	6.015E-10	1.557E-13	5.212E-28	0.000E-01	0.000E-01	0.000E-01
8.8- 9.0	1.832E-07	5.280E-11	5.309E-15	1.778E-29	0.000E-01	0.000E-01	0.000E-01
9.0- 9.2	1.033E-07	1.943E-11	1.454E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.2- 9.4	5.568E-08	1.048E-11	7.841E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.4- 9.6	2.835E-08	5.342E-12	3.997E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.6- 9.8	1.345E-08	2.536E-12	1.898E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.8-10.0	5.816E-09	1.097E-12	8.209E-32	0.000E-01	0.000E-01	0.000E-01	0.000E-01
All sum	6.404E+00	4.628E+00	3.044E+00	2.109E+00	1.251E+00	7.038E-01	5.834E-01

DATA 5 (CONT'D) Delayed Gamma-Ray Spectra of Pu-241 Thermal
Fission (1 Year Irrd)

Enrg(MeV)	1 DAY	1 WEEK	10 DAYS	1 MONTH	3 MONTH	1 YEAR	3YEARS
0.0- 0.2	2.079E-02	8.319E-03	6.127E-03	2.584E-03	8.667E-04	1.797E-04	3.841E-05
0.2- 0.4	3.551E-02	1.128E-02	8.297E-03	1.833E-03	6.429E-05	1.136E-06	3.569E-07
0.4- 0.6	7.686E-02	4.628E-02	4.156E-02	2.375E-02	8.207E-03	1.569E-03	3.980E-04
0.6- 0.8	1.602E-01	8.070E-02	7.129E-02	5.408E-02	3.337E-02	3.821E-03	1.105E-03
0.8- 1.0	3.418E-02	1.880E-02	1.519E-02	4.778E-03	2.848E-04	6.248E-05	1.594E-05
1.0- 1.2	9.485E-03	1.930E-03	1.488E-03	8.289E-04	6.042E-04	3.555E-04	9.103E-05
1.2- 1.4	1.191E-02	2.207E-03	1.300E-03	1.880E-04	3.202E-05	4.280E-06	8.493E-07
1.4- 1.6	9.625E-02	7.433E-02	6.354E-02	2.157E-02	9.873E-04	9.353E-05	2.006E-05
1.6- 1.8	3.098E-03	1.549E-04	9.762E-05	3.503E-05	2.846E-05	1.693E-05	4.335E-06
1.8- 2.0	2.623E-03	7.752E-04	5.171E-04	1.270E-04	2.817E-05	1.336E-05	3.421E-06
2.0- 2.2	1.559E-03	9.339E-04	8.342E-04	5.514E-04	3.602E-04	1.813E-04	3.174E-05
2.2- 2.4	1.783E-03	1.181E-03	9.917E-04	3.472E-04	4.033E-05	1.652E-05	4.230E-06
2.4- 2.6	6.067E-03	4.625E-03	3.954E-03	1.347E-03	6.721E-05	9.789E-06	2.506E-06
2.6- 2.8	1.703E-05	8.884E-06	7.402E-06	5.747E-06	5.117E-06	3.053E-06	7.770E-07
2.8- 3.0	1.357E-04	1.004E-04	8.616E-05	3.080E-05	3.373E-06	1.372E-06	3.512E-07
3.0- 3.2	3.912E-05	3.455E-05	2.976E-05	1.097E-05	1.619E-06	7.498E-07	1.920E-07
3.2- 3.4	8.132E-06	7.203E-06	6.156E-06	2.082E-06	7.969E-08	2.722E-12	2.630E-12
3.4- 3.6	0.000E-01	9.951E-13	1.515E-12	1.515E-12	1.511E-12	1.497E-12	1.460E-12
3.6- 3.8	0.000E-01	5.099E-13	7.762E-13	7.758E-13	7.742E-13	7.668E-13	7.478E-13
3.8- 4.0	0.000E-01	2.363E-13	3.593E-13	3.591E-13	3.584E-13	3.550E-13	3.461E-13
4.0- 4.2	0.000E-01	9.573E-14	1.454E-13	1.453E-13	1.450E-13	1.437E-13	1.401E-13
4.2- 4.4	0.000E-01	3.206E-14	4.863E-14	4.860E-14	4.850E-14	4.804E-14	4.685E-14
4.4- 4.6	0.000E-01	7.967E-15	1.206E-14	1.206E-14	1.203E-14	1.192E-14	1.162E-14
4.6- 4.8	2.305E-07	1.146E-15	1.732E-15	1.731E-15	1.727E-15	1.711E-15	1.669E-15
4.8- 5.0	1.473E-08	4.029E-17	6.078E-17	6.075E-17	6.062E-17	6.005E-17	5.856E-17
5.0- 5.2	0.000E-01						
5.2- 5.4	0.000E-01						
5.4- 5.6	0.000E-01						
5.6- 5.8	0.000E-01						
5.8- 6.0	0.000E-01						
6.0- 6.2	0.000E-01						
6.2- 6.4	0.000E-01						
6.4- 6.6	0.000E-01						
6.6- 6.8	0.000E-01						
6.8- 7.0	0.000E-01						
7.0- 7.2	0.000E-01						
7.2- 7.4	0.000E-01						
7.4- 7.6	0.000E-01						
7.6- 7.8	0.000E-01						
7.8- 8.0	0.000E-01						
8.0- 8.2	0.000E-01						
8.2- 8.4	0.000E-01						
8.4- 8.6	0.000E-01						
8.6- 8.8	0.000E-01						
8.8- 9.0	0.000E-01						
9.0- 9.2	0.000E-01						
9.2- 9.4	0.000E-01						
9.4- 9.6	0.000E-01						
9.6- 9.8	0.000E-01						
9.8-10.0	0.000E-01						
All sum	4.606E-01	2.517E-01	2.153E-01	1.121E-01	4.495E-02	6.330E-03	1.717E-03

DATA 6 Delayed Gamma-Ray Spectra of U-235 Thermal Fission
(3 Year Irrd)

Enrg(MeV)	EQUILIB	10 SEC	100 SEC	10 MIN	1 HOUR	5 HOURS	10 HOUR
0.0- 0.2	1.157E-01	8.900E-02	6.359E-02	5.010E-02	3.515E-02	2.601E-02	2.406E-02
0.2- 0.4	3.252E-01	2.531E-01	1.762E-01	1.256E-01	7.045E-02	4.908E-02	4.345E-02
0.4- 0.6	6.172E-01	4.534E-01	3.121E-01	2.290E-01	1.477E-01	9.980E-02	8.476E-02
0.6- 0.8	7.685E-01	6.472E-01	5.346E-01	4.557E-01	3.750E-01	3.058E-01	2.801E-01
0.8- 1.0	7.558E-01	6.110E-01	4.894E-01	3.585E-01	2.041E-01	6.449E-02	4.530E-02
1.0- 1.2	4.779E-01	3.630E-01	2.641E-01	1.892E-01	9.574E-02	4.132E-02	2.649E-02
1.2- 1.4	5.434E-01	3.985E-01	2.709E-01	1.878E-01	1.101E-01	5.072E-02	2.708E-02
1.4- 1.6	5.315E-01	4.487E-01	3.168E-01	2.344E-01	1.644E-01	1.110E-01	1.039E-01
1.6- 1.8	3.003E-01	2.067E-01	1.314E-01	8.666E-02	4.231E-02	1.777E-02	1.009E-02
1.8- 2.0	2.469E-01	1.670E-01	1.052E-01	7.079E-02	3.762E-02	1.152E-02	5.452E-03
2.0- 2.2	2.543E-01	1.952E-01	1.323E-01	8.923E-02	3.544E-02	9.764E-03	3.720E-03
2.2- 2.4	2.568E-01	1.907E-01	1.300E-01	8.631E-02	5.747E-02	1.485E-02	5.126E-03
2.4- 2.6	2.329E-01	1.854E-01	8.932E-02	5.466E-02	2.825E-02	9.797E-03	6.842E-03
2.6- 2.8	2.084E-01	1.443E-01	7.827E-02	3.789E-02	1.313E-02	1.322E-03	2.278E-04
2.8- 3.0	1.421E-01	8.406E-02	3.538E-02	1.487E-02	7.337E-03	1.165E-03	1.978E-04
3.0- 3.2	9.179E-02	5.263E-02	2.207E-02	8.696E-03	3.982E-03	6.136E-04	9.361E-05
3.2- 3.4	1.412E-01	7.937E-02	4.019E-02	1.382E-02	4.701E-03	6.101E-04	7.520E-05
3.4- 3.6	1.082E-01	7.644E-02	4.285E-02	1.533E-02	1.534E-03	1.514E-04	2.233E-05
3.6- 3.8	5.803E-02	3.514E-02	1.433E-02	6.335E-03	3.477E-03	5.595E-04	5.588E-05
3.8- 4.0	5.082E-02	2.915E-02	1.250E-02	4.439E-03	1.339E-03	7.949E-05	6.356E-06
4.0- 4.2	5.835E-02	4.457E-02	2.110E-02	2.206E-03	1.018E-04	4.503E-06	1.018E-06
4.2- 4.4	4.305E-02	3.164E-02	1.944E-02	2.121E-03	8.547E-05	1.407E-05	1.352E-06
4.4- 4.6	1.884E-02	8.305E-03	2.563E-03	2.333E-04	0.000E-01	0.000E-01	0.000E-01
4.6- 4.8	2.176E-02	1.545E-02	7.044E-03	7.748E-04	2.103E-04	8.061E-05	2.399E-05
4.8- 5.0	1.299E-02	8.105E-03	2.478E-03	1.020E-04	1.349E-05	5.170E-06	1.539E-06
5.0- 5.2	1.444E-02	1.078E-02	4.439E-03	3.135E-04	7.319E-09	1.099E-25	0.000E-01
5.2- 5.4	5.796E-03	3.554E-03	1.670E-03	1.639E-04	3.849E-09	5.782E-26	0.000E-01
5.4- 5.6	1.236E-02	1.020E-02	3.612E-03	1.532E-05	1.965E-10	2.951E-27	0.000E-01
5.6- 5.8	2.354E-03	1.059E-03	2.593E-04	3.520E-06	1.026E-14	1.121E-41	0.000E-01
5.8- 6.0	1.794E-03	6.635E-04	3.891E-05	5.268E-07	4.230E-15	4.647E-42	0.000E-01
6.0- 6.2	2.419E-03	1.612E-03	6.008E-04	5.759E-06	1.538E-15	1.557E-42	0.000E-01
6.2- 6.4	1.212E-03	9.742E-04	3.751E-04	1.350E-06	4.354E-16	4.610E-43	0.000E-01
6.4- 6.6	1.687E-04	3.521E-05	1.528E-05	2.617E-07	1.068E-16	1.107E-43	0.000E-01
6.6- 6.8	3.171E-04	2.202E-04	8.159E-05	1.629E-07	1.399E-17	1.541E-44	0.000E-01
6.8- 7.0	2.726E-04	1.479E-04	3.177E-06	1.622E-13	4.788E-19	0.000E-01	0.000E-01
7.0- 7.2	3.132E-05	1.044E-06	4.541E-10	1.526E-24	0.000E-01	0.000E-01	0.000E-01
7.2- 7.4	1.957E-05	5.685E-07	2.471E-10	8.306E-25	0.000E-01	0.000E-01	0.000E-01
7.4- 7.6	1.204E-05	2.922E-07	1.270E-10	4.267E-25	0.000E-01	0.000E-01	0.000E-01
7.6- 7.8	7.319E-06	1.397E-07	6.068E-11	2.039E-25	0.000E-01	0.000E-01	0.000E-01
7.8- 8.0	4.409E-06	6.095E-08	2.640E-11	8.873E-26	0.000E-01	0.000E-01	0.000E-01
8.0- 8.2	2.643E-06	2.351E-08	1.011E-11	3.399E-26	0.000E-01	0.000E-01	0.000E-01
8.2- 8.4	1.581E-06	7.648E-09	3.222E-12	1.083E-26	0.000E-01	0.000E-01	0.000E-01
8.4- 8.6	9.445E-07	1.954E-09	7.665E-13	2.576E-27	0.000E-01	0.000E-01	0.000E-01
8.6- 8.8	5.603E-07	3.781E-10	1.062E-13	3.568E-28	0.000E-01	0.000E-01	0.000E-01
8.8- 9.0	3.264E-07	9.079E-11	3.621E-15	1.217E-29	0.000E-01	0.000E-01	0.000E-01
9.0- 9.2	1.841E-07	4.672E-11	3.216E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.2- 9.4	9.917E-08	2.519E-11	1.735E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.4- 9.6	5.050E-08	1.284E-11	8.843E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.6- 9.8	2.395E-08	6.094E-12	4.198E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.8-10.0	1.035E-08	2.635E-12	1.816E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
All sum	6.423E+00	4.827E+00	3.325E+00	2.336E+00	1.440E+00	8.165E-01	6.671E-01

DATA 6 (CONT'D) Delayed Gamma-Ray Spectra of U-235 Thermal
Fission (3 Year Irrd)

Enrg(MeV)	1 DAY	1 WEEK	10 DAYS	1 MONTH	3 MONTH	1 YEAR	3YEARS
0.0- 0.2	2.138E-02	9.235E-03	7.052E-03	3.371E-03	1.380E-03	4.283E-04	1.304E-04
0.2- 0.4	3.274E-02	1.119E-02	8.299E-03	1.843E-03	6.796E-05	4.140E-06	2.662E-06
0.4- 0.6	6.340E-02	3.219E-02	2.809E-02	1.368E-02	3.533E-03	5.091E-04	3.154E-04
0.6- 0.8	2.379E-01	1.498E-01	1.397E-01	1.182E-01	8.564E-02	3.830E-02	3.351E-02
0.8- 1.0	3.478E-02	1.875E-02	1.512E-02	4.686E-03	2.166E-04	3.085E-05	2.376E-05
1.0- 1.2	1.084E-02	9.556E-04	5.608E-04	1.290E-04	9.360E-05	6.081E-05	2.632E-05
1.2- 1.4	1.167E-02	1.989E-03	1.108E-03	1.423E-04	6.141E-05	6.209E-06	2.243E-06
1.4- 1.6	9.771E-02	7.533E-02	6.439E-02	2.189E-02	1.028E-03	1.043E-04	2.065E-05
1.6- 1.8	2.940E-03	1.212E-04	6.417E-05	5.159E-06	3.731E-06	2.208E-06	5.660E-07
1.8- 2.0	2.593E-03	5.504E-04	3.150E-04	3.178E-05	4.028E-06	1.742E-06	4.469E-07
2.0- 2.2	1.501E-03	9.846E-04	9.307E-04	8.273E-04	7.055E-04	3.604E-04	6.084E-05
2.2- 2.4	1.748E-03	1.103E-03	9.192E-04	3.015E-04	1.501E-05	2.154E-06	5.522E-07
2.4- 2.6	6.088E-03	4.667E-03	3.988E-03	1.348E-03	5.363E-05	1.276E-06	3.274E-07
2.6- 2.8	5.319E-06	3.864E-06	2.506E-06	1.015E-06	8.819E-07	5.081E-07	1.204E-07
2.8- 3.0	1.211E-04	9.920E-05	8.490E-05	2.893E-05	1.394E-06	1.792E-07	4.623E-08
3.0- 3.2	3.946E-05	3.370E-05	2.885E-05	9.878E-06	5.346E-07	9.796E-08	2.528E-08
3.2- 3.4	7.925E-06	7.287E-06	6.234E-06	2.109E-06	8.085E-08	1.403E-10	1.368E-10
3.4- 3.6	0.000E-01	7.838E-11	7.884E-11	7.878E-11	7.862E-11	7.787E-11	7.593E-11
3.6- 3.8	0.000E-01	4.015E-11	4.038E-11	4.035E-11	4.027E-11	3.989E-11	3.890E-11
3.8- 4.0	0.000E-01	1.858E-11	1.869E-11	1.868E-11	1.864E-11	1.847E-11	1.801E-11
4.0- 4.2	0.000E-01	7.521E-12	7.565E-12	7.560E-12	7.544E-12	7.473E-12	7.287E-12
4.2- 4.4	0.000E-01	2.515E-12	2.530E-12	2.528E-12	2.523E-12	2.499E-12	2.437E-12
4.4- 4.6	0.000E-01	6.241E-13	6.277E-13	6.272E-13	6.259E-13	6.200E-13	6.046E-13
4.6- 4.8	8.059E-07	8.959E-14	9.011E-14	9.004E-14	8.986E-14	8.901E-14	8.679E-14
4.8- 5.0	5.165E-08	3.144E-15	3.162E-15	3.160E-15	3.154E-15	3.124E-15	3.046E-15
5.0- 5.2	0.000E-01						
5.2- 5.4	0.000E-01						
5.4- 5.6	0.000E-01						
5.6- 5.8	0.000E-01						
5.8- 6.0	0.000E-01						
6.0- 6.2	0.000E-01						
6.2- 6.4	0.000E-01						
6.4- 6.6	0.000E-01						
6.6- 6.8	0.000E-01						
6.8- 7.0	0.000E-01						
7.0- 7.2	0.000E-01						
7.2- 7.4	0.000E-01						
7.4- 7.6	0.000E-01						
7.6- 7.8	0.000E-01						
7.8- 8.0	0.000E-01						
8.0- 8.2	0.000E-01						
8.2- 8.4	0.000E-01						
8.4- 8.6	0.000E-01						
8.6- 8.8	0.000E-01						
8.8- 9.0	0.000E-01						
9.0- 9.2	0.000E-01						
9.2- 9.4	0.000E-01						
9.4- 9.6	0.000E-01						
9.6- 9.8	0.000E-01						
9.8-10.0	0.000E-01						
All sum	5.255E-01	3.070E-01	2.707E-01	1.665E-01	9.281E-02	3.982E-02	3.409E-02

DATA 7 Delayed Gamma-Ray Spectra of U-238 Fast Fission
(3 Year Irrd)

Enrg(MeV)	EQUILIB	10 SEC	100 SEC	10 MIN	1 HOUR	5 HOURS	10 HOUR
0.0- 0.2	1.422E-01	1.006E-01	6.941E-02	5.225E-02	3.518E-02	2.587E-02	2.407E-02
0.2- 0.4	4.347E-01	3.073E-01	2.097E-01	1.468E-01	7.825E-02	5.415E-02	4.790E-02
0.4- 0.6	7.739E-01	5.319E-01	3.487E-01	2.547E-01	1.641E-01	1.133E-01	9.831E-02
0.6- 0.8	8.912E-01	7.039E-01	5.613E-01	4.598E-01	3.704E-01	2.966E-01	2.692E-01
0.8- 1.0	8.845E-01	6.596E-01	5.016E-01	3.488E-01	2.012E-01	6.415E-02	4.555E-02
1.0- 1.2	5.347E-01	3.727E-01	2.592E-01	1.773E-01	9.035E-02	3.866E-02	2.489E-02
1.2- 1.4	6.711E-01	4.497E-01	2.750E-01	1.708E-01	9.823E-02	4.788E-02	2.756E-02
1.4- 1.6	5.683E-01	4.305E-01	2.958E-01	2.192E-01	1.522E-01	1.050E-01	9.890E-02
1.6- 1.8	3.543E-01	2.191E-01	1.406E-01	9.214E-02	4.398E-02	1.874E-02	1.074E-02
1.8- 2.0	3.245E-01	1.785E-01	1.006E-01	6.367E-02	3.116E-02	9.437E-03	5.057E-03
2.0- 2.2	3.266E-01	2.094E-01	1.210E-01	7.597E-02	2.698E-02	7.335E-03	3.165E-03
2.2- 2.4	3.144E-01	1.931E-01	1.163E-01	7.713E-02	4.240E-02	1.026E-02	3.902E-03
2.4- 2.6	3.169E-01	1.913E-01	8.891E-02	4.773E-02	2.366E-02	8.878E-03	6.526E-03
2.6- 2.8	2.822E-01	1.686E-01	8.403E-02	3.578E-02	1.109E-02	8.976E-04	1.328E-04
2.8- 3.0	2.029E-01	9.883E-02	3.830E-02	1.423E-02	6.154E-03	9.390E-04	1.710E-04
3.0- 3.2	1.387E-01	6.597E-02	2.462E-02	1.091E-02	3.591E-03	4.675E-04	6.806E-05
3.2- 3.4	1.922E-01	8.649E-02	3.111E-02	1.146E-02	3.921E-03	4.635E-04	5.171E-05
3.4- 3.6	1.210E-01	6.750E-02	3.390E-02	1.245E-02	1.274E-03	1.080E-04	1.310E-05
3.6- 3.8	7.167E-02	3.454E-02	1.224E-02	5.333E-03	2.840E-03	4.492E-04	4.387E-05
3.8- 4.0	6.042E-02	2.718E-02	1.005E-02	3.730E-03	1.154E-03	6.360E-05	4.579E-06
4.0- 4.2	5.567E-02	3.325E-02	1.410E-02	1.417E-03	8.099E-05	2.298E-06	3.456E-07
4.2- 4.4	4.106E-02	2.243E-02	1.242E-02	1.258E-03	6.917E-05	1.126E-05	1.043E-06
4.4- 4.6	2.561E-02	7.765E-03	2.089E-03	1.162E-04	0.000E-01	0.000E-01	0.000E-01
4.6- 4.8	2.093E-02	1.190E-02	4.845E-03	4.573E-04	1.226E-04	4.710E-05	1.402E-05
4.8- 5.0	1.390E-02	7.103E-03	2.059E-03	6.434E-05	7.864E-06	3.020E-06	8.989E-07
5.0- 5.2	1.306E-02	8.433E-03	3.146E-03	1.908E-04	2.917E-09	4.262E-26	0.000E-01
5.2- 5.4	5.923E-03	2.927E-03	1.188E-03	1.001E-04	1.534E-09	2.241E-26	0.000E-01
5.4- 5.6	9.720E-03	7.331E-03	2.595E-03	1.002E-05	7.835E-11	1.144E-27	0.000E-01
5.6- 5.8	3.086E-03	1.430E-03	4.796E-04	7.515E-06	2.834E-14	3.103E-41	0.000E-01
5.8- 6.0	2.054E-03	6.978E-04	7.443E-05	1.149E-06	1.170E-14	1.286E-41	0.000E-01
6.0- 6.2	2.981E-03	2.012E-03	8.775E-04	1.169E-05	4.185E-15	4.309E-42	0.000E-01
6.2- 6.4	1.236E-03	8.050E-04	3.269E-04	1.962E-06	1.195E-15	1.277E-42	0.000E-01
6.4- 6.6	3.671E-04	8.136E-05	3.324E-05	5.701E-07	2.919E-16	3.069E-43	0.000E-01
6.6- 6.8	3.492E-04	1.628E-04	5.854E-05	1.170E-07	3.873E-17	4.344E-44	0.000E-01
6.8- 7.0	2.942E-04	1.305E-04	2.696E-06	5.350E-13	1.325E-18	1.401E-45	0.000E-01
7.0- 7.2	6.581E-05	3.541E-06	1.550E-09	5.202E-24	0.000E-01	0.000E-01	0.000E-01
7.2- 7.4	4.019E-05	1.926E-06	8.433E-10	2.831E-24	0.000E-01	0.000E-01	0.000E-01
7.4- 7.6	2.410E-05	9.889E-07	4.332E-10	1.454E-24	0.000E-01	0.000E-01	0.000E-01
7.6- 7.8	1.424E-05	4.722E-07	2.070E-10	6.951E-25	0.000E-01	0.000E-01	0.000E-01
7.8- 8.0	8.323E-06	2.053E-07	9.009E-11	3.025E-25	0.000E-01	0.000E-01	0.000E-01
8.0- 8.2	4.848E-06	7.867E-08	3.451E-11	1.159E-25	0.000E-01	0.000E-01	0.000E-01
8.2- 8.4	2.831E-06	2.519E-08	1.100E-11	3.691E-26	0.000E-01	0.000E-01	0.000E-01
8.4- 8.6	1.663E-06	6.134E-09	2.615E-12	8.781E-27	0.000E-01	0.000E-01	0.000E-01
8.6- 8.8	9.779E-07	9.755E-10	3.622E-13	1.216E-27	0.000E-01	0.000E-01	0.000E-01
8.8- 9.0	5.684E-07	1.267E-10	1.235E-14	4.148E-29	0.000E-01	0.000E-01	0.000E-01
9.0- 9.2	3.205E-07	5.613E-11	2.321E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.2- 9.4	1.727E-07	3.027E-11	1.252E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.4- 9.6	8.796E-08	1.543E-11	6.381E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.6- 9.8	4.172E-08	7.324E-12	3.030E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.8-10.0	1.803E-08	3.168E-12	1.311E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
All sum	7.803E+00	5.203E+00	3.367E+00	2.284E+00	1.388E+00	8.037E-01	6.663E-01

DATA 7 (CONT'D) Delay Gamma-Ray Spectra of U-238 Fast
Fission (3 Year Irrd)

Enrg(MeV)	1 DAY	1 WEEK	10 DAYS	1 MONTH	3 MONTH	1 YEAR	3YEARS
0.0- 0.2	2.142E-02	9.043E-03	6.838E-03	3.187E-03	1.291E-03	4.229E-04	1.634E-04
0.2- 0.4	3.615E-02	1.207E-02	8.843E-03	1.889E-03	7.077E-05	5.696E-06	3.759E-06
0.4- 0.6	7.792E-02	4.610E-02	4.134E-02	2.366E-02	8.186E-03	1.650E-03	6.420E-04
0.6- 0.8	2.263E-01	1.342E-01	1.230E-01	1.020E-01	7.560E-02	3.750E-02	3.288E-02
0.8- 1.0	3.545E-02	1.862E-02	1.484E-02	4.560E-03	2.824E-04	7.642E-05	3.780E-05
1.0- 1.2	1.078E-02	1.669E-03	1.194E-03	6.236E-04	5.078E-04	3.080E-04	9.121E-05
1.2- 1.4	1.299E-02	2.404E-03	1.344E-03	1.499E-04	4.941E-05	7.342E-06	2.923E-06
1.4- 1.6	9.319E-02	7.176E-02	6.133E-02	2.086E-02	1.013E-03	1.225E-04	2.706E-05
1.6- 1.8	3.137E-03	1.685E-04	1.005E-04	2.788E-05	2.326E-05	1.388E-05	3.555E-06
1.8- 2.0	2.893E-03	7.242E-04	4.379E-04	7.297E-05	2.096E-05	1.095E-05	2.806E-06
2.0- 2.2	1.584E-03	1.003E-03	9.249E-04	7.514E-04	6.045E-04	3.087E-04	5.298E-05
2.2- 2.4	1.747E-03	1.111E-03	9.251E-04	3.160E-04	3.398E-05	1.354E-05	3.469E-06
2.4- 2.6	5.834E-03	4.457E-03	3.809E-03	1.295E-03	6.240E-05	8.026E-06	2.056E-06
2.6- 2.8	9.352E-06	8.447E-06	6.769E-06	4.838E-06	4.298E-06	2.556E-06	6.469E-07
2.8- 3.0	1.192E-04	9.626E-05	8.262E-05	2.931E-05	2.921E-06	1.125E-06	2.887E-07
3.0- 3.2	3.724E-05	3.308E-05	2.846E-05	1.037E-05	1.380E-06	6.150E-07	1.578E-07
3.2- 3.4	7.427E-06	6.934E-06	5.931E-06	2.006E-06	7.701E-08	2.306E-10	2.248E-10
3.4- 3.6	0.000E-01	1.291E-10	1.296E-10	1.295E-10	1.292E-10	1.280E-10	1.248E-10
3.6- 3.8	0.000E-01	6.612E-11	6.637E-11	6.632E-11	6.618E-11	6.556E-11	6.393E-11
3.8- 4.0	0.000E-01	3.060E-11	3.072E-11	3.070E-11	3.064E-11	3.035E-11	2.959E-11
4.0- 4.2	0.000E-01	1.239E-11	1.243E-11	1.242E-11	1.240E-11	1.228E-11	1.198E-11
4.2- 4.4	0.000E-01	4.142E-12	4.158E-12	4.155E-12	4.146E-12	4.107E-12	4.005E-12
4.4- 4.6	0.000E-01	1.028E-12	1.032E-12	1.031E-12	1.029E-12	1.019E-12	9.936E-13
4.6- 4.8	4.707E-07	1.475E-13	1.481E-13	1.480E-13	1.477E-13	1.463E-13	1.426E-13
4.8- 5.0	3.014E-08	5.178E-15	5.197E-15	5.194E-15	5.183E-15	5.134E-15	5.006E-15
5.0- 5.2	0.000E-01						
5.2- 5.4	0.000E-01						
5.4- 5.6	0.000E-01						
5.6- 5.8	0.000E-01						
5.8- 6.0	0.000E-01						
6.0- 6.2	0.000E-01						
6.2- 6.4	0.000E-01						
6.4- 6.6	0.000E-01						
6.6- 6.8	0.000E-01						
6.8- 7.0	0.000E-01						
7.0- 7.2	0.000E-01						
7.2- 7.4	0.000E-01						
7.4- 7.6	0.000E-01						
7.6- 7.8	0.000E-01						
7.8- 8.0	0.000E-01						
8.0- 8.2	0.000E-01						
8.2- 8.4	0.000E-01						
8.4- 8.6	0.000E-01						
8.6- 8.8	0.000E-01						
8.8- 9.0	0.000E-01						
9.0- 9.2	0.000E-01						
9.2- 9.4	0.000E-01						
9.4- 9.6	0.000E-01						
9.6- 9.8	0.000E-01						
9.8-10.0	0.000E-01						
All sum	5.296E-01	3.035E-01	2.651E-01	1.595E-01	8.775E-02	4.045E-02	3.391E-02

**DATA 8 Delayed Gamma-Ray Spectra of Pu-239 Thermal Fission
(3 Year Irrd)**

Enrg(MeV)	EQUILIB	10 SEC	100 SEC	10 MIN	1 HOUR	5 HOURS	10 HOUR
0.0- 0.2	1.119E-01	9.196E-02	6.675E-02	4.998E-02	3.415E-02	2.612E-02	2.435E-02
0.2- 0.4	3.345E-01	2.802E-01	2.088E-01	1.504E-01	8.324E-02	5.878E-02	5.187E-02
0.4- 0.6	5.899E-01	4.479E-01	3.274E-01	2.455E-01	1.613E-01	1.165E-01	1.023E-01
0.6- 0.8	7.318E-01	6.393E-01	5.407E-01	4.628E-01	3.814E-01	3.075E-01	2.783E-01
0.8- 1.0	6.646E-01	5.542E-01	4.442E-01	3.307E-01	1.858E-01	6.286E-02	4.659E-02
1.0- 1.2	4.087E-01	3.145E-01	2.311E-01	1.635E-01	8.310E-02	3.690E-02	2.464E-02
1.2- 1.4	4.134E-01	3.118E-01	2.081E-01	1.414E-01	8.286E-02	4.349E-02	2.711E-02
1.4- 1.6	4.178E-01	3.597E-01	2.688E-01	2.072E-01	1.416E-01	9.685E-02	9.159E-02
1.6- 1.8	2.696E-01	1.982E-01	1.296E-01	8.859E-02	4.212E-02	1.818E-02	1.052E-02
1.8- 2.0	1.922E-01	1.412E-01	8.844E-02	5.820E-02	2.791E-02	8.770E-03	5.164E-03
2.0- 2.2	1.991E-01	1.590E-01	1.071E-01	6.810E-02	2.389E-02	6.409E-03	2.949E-03
2.2- 2.4	1.960E-01	1.515E-01	9.885E-02	6.992E-02	3.702E-02	8.265E-03	3.301E-03
2.4- 2.6	1.655E-01	1.226E-01	6.911E-02	4.211E-02	2.168E-02	8.340E-03	6.104E-03
2.6- 2.8	1.627E-01	1.199E-01	6.794E-02	3.439E-02	1.075E-02	8.035E-04	1.095E-04
2.8- 3.0	1.108E-01	7.262E-02	3.241E-02	1.403E-02	6.226E-03	9.941E-04	1.815E-04
3.0- 3.2	7.620E-02	4.934E-02	2.255E-02	1.107E-02	3.558E-03	4.657E-04	6.446E-05
3.2- 3.4	8.641E-02	5.000E-02	2.423E-02	1.048E-02	3.675E-03	4.562E-04	4.812E-05
3.4- 3.6	6.674E-02	4.706E-02	2.661E-02	1.141E-02	1.214E-03	1.004E-04	1.034E-05
3.6- 3.8	3.515E-02	2.256E-02	9.946E-03	5.412E-03	2.959E-03	4.695E-04	4.624E-05
3.8- 4.0	2.579E-02	1.435E-02	6.126E-03	2.507E-03	8.036E-04	6.451E-05	4.979E-06
4.0- 4.2	2.399E-02	1.692E-02	7.381E-03	9.201E-04	5.821E-05	1.137E-06	4.716E-08
4.2- 4.4	1.775E-02	1.149E-02	6.374E-03	7.655E-04	7.208E-05	1.178E-05	1.106E-06
4.4- 4.6	9.104E-03	3.714E-03	1.216E-03	1.101E-04	0.000E-01	0.000E-01	0.000E-01
4.6- 4.8	8.244E-03	5.272E-03	2.289E-03	2.586E-04	7.818E-05	2.992E-05	8.906E-06
4.8- 5.0	5.254E-03	3.007E-03	9.123E-04	3.527E-05	5.016E-06	1.919E-06	5.711E-07
5.0- 5.2	5.029E-03	3.539E-03	1.415E-03	9.562E-05	3.829E-09	5.886E-26	0.000E-01
5.2- 5.4	2.157E-03	1.200E-03	5.309E-04	5.007E-05	2.014E-09	3.096E-26	0.000E-01
5.4- 5.6	4.677E-03	3.713E-03	1.265E-03	4.987E-06	1.028E-10	1.580E-27	0.000E-01
5.6- 5.8	1.009E-03	4.572E-04	1.298E-04	1.889E-06	2.498E-14	2.748E-41	0.000E-01
5.8- 6.0	6.930E-04	2.319E-04	1.988E-05	2.882E-07	1.034E-14	1.139E-41	0.000E-01
6.0- 6.2	1.051E-03	6.952E-04	2.661E-04	2.996E-06	3.530E-15	3.814E-42	0.000E-01
6.2- 6.4	4.875E-04	3.770E-04	1.395E-04	6.027E-07	1.035E-15	1.131E-42	0.000E-01
6.4- 6.6	8.086E-05	2.266E-05	8.331E-06	1.415E-07	2.496E-16	2.705E-43	0.000E-01
6.6- 6.8	1.237E-04	8.268E-05	2.867E-05	5.715E-08	3.429E-17	3.784E-44	0.000E-01
6.8- 7.0	7.920E-05	4.008E-05	8.305E-07	4.931E-13	1.174E-18	1.401E-45	0.000E-01
7.0- 7.2	1.136E-05	9.921E-07	1.558E-10	5.189E-25	0.000E-01	0.000E-01	0.000E-01
7.2- 7.4	6.469E-06	5.395E-07	8.476E-11	2.824E-25	0.000E-01	0.000E-01	0.000E-01
7.4- 7.6	3.548E-06	2.768E-07	4.355E-11	1.451E-25	0.000E-01	0.000E-01	0.000E-01
7.6- 7.8	1.874E-06	1.320E-07	2.081E-11	6.934E-26	0.000E-01	0.000E-01	0.000E-01
7.8- 8.0	9.550E-07	5.730E-08	9.055E-12	3.017E-26	0.000E-01	0.000E-01	0.000E-01
8.0- 8.2	4.752E-07	2.189E-08	3.469E-12	1.156E-26	0.000E-01	0.000E-01	0.000E-01
8.2- 8.4	2.364E-07	6.956E-09	1.105E-12	3.682E-27	0.000E-01	0.000E-01	0.000E-01
8.4- 8.6	1.217E-07	1.656E-09	2.628E-13	8.759E-28	0.000E-01	0.000E-01	0.000E-01
8.6- 8.8	6.639E-08	2.363E-10	3.640E-14	1.213E-28	0.000E-01	0.000E-01	0.000E-01
8.8- 9.0	3.772E-08	1.406E-11	1.241E-15	4.137E-30	0.000E-01	0.000E-01	0.000E-01
9.0- 9.2	2.124E-08	3.626E-12	1.112E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.2- 9.4	1.144E-08	1.956E-12	5.998E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.4- 9.6	5.827E-09	9.968E-13	3.058E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.6- 9.8	2.764E-09	4.732E-13	1.452E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.8-10.0	1.194E-09	2.047E-13	6.280E-32	0.000E-01	0.000E-01	0.000E-01	0.000E-01
All sum	5.337E+00	4.199E+00	3.001E+00	2.170E+00	1.335E+00	8.024E-01	6.752E-01

DATA 8 (CONT'D) Delayed Gamma-Ray Spectra of Pu-239 Thermal
Fission (3 Year Irrd)

Enrg(MeV)	1 DAY	1 WEEK	10 DAYS	1 MONTH	3 MONTH	1 YEAR	3YEARS
0.0- 0.2	2.158E-02	8.993E-03	6.796E-03	3.213E-03	1.408E-03	6.090E-04	3.862E-04
0.2- 0.4	3.916E-02	1.331E-02	9.754E-03	2.032E-03	8.133E-05	1.512E-05	1.173E-05
0.4- 0.6	8.271E-02	5.041E-02	4.560E-02	2.774E-02	1.124E-02	3.459E-03	1.757E-03
0.6- 0.8	2.343E-01	1.398E-01	1.282E-01	1.070E-01	8.135E-02	4.428E-02	3.917E-02
0.8- 1.0	3.644E-02	1.826E-02	1.451E-02	4.535E-03	4.147E-04	1.911E-04	1.263E-04
1.0- 1.2	1.204E-02	2.761E-03	2.163E-03	1.234E-03	9.074E-04	5.636E-04	1.963E-04
1.2- 1.4	1.400E-02	2.672E-03	1.545E-03	2.079E-04	4.886E-05	1.547E-05	1.045E-05
1.4- 1.6	8.655E-02	6.654E-02	5.686E-02	1.937E-02	9.859E-04	1.479E-04	4.311E-05
1.6- 1.8	3.161E-03	1.951E-04	1.230E-04	4.703E-05	3.958E-05	2.351E-05	6.020E-06
1.8- 2.0	3.271E-03	8.235E-04	5.159E-04	1.099E-04	3.509E-05	1.855E-05	4.751E-06
2.0- 2.2	1.666E-03	1.016E-03	9.213E-04	6.895E-04	5.178E-04	2.842E-04	4.617E-05
2.2- 2.4	1.728E-03	1.081E-03	9.006E-04	3.199E-04	4.933E-05	2.293E-05	5.874E-06
2.4- 2.6	5.441E-03	4.141E-03	3.540E-03	1.211E-03	6.807E-05	1.359E-05	3.482E-06
2.6- 2.8	1.700E-05	1.181E-05	1.006E-05	7.984E-06	7.113E-06	4.244E-06	1.082E-06
2.8- 3.0	1.169E-04	9.089E-05	7.819E-05	2.875E-05	4.147E-06	1.906E-06	4.892E-07
3.0- 3.2	3.467E-05	3.156E-05	2.727E-05	1.049E-05	2.067E-06	1.042E-06	2.674E-07
3.2- 3.4	7.039E-06	6.426E-06	5.493E-06	1.858E-06	7.162E-08	5.179E-10	5.049E-10
3.4- 3.6	0.000E-01	2.906E-10	2.910E-10	2.908E-10	2.902E-10	2.875E-10	2.803E-10
3.6- 3.8	0.000E-01	1.488E-10	1.491E-10	1.490E-10	1.487E-10	1.472E-10	1.436E-10
3.8- 4.0	0.000E-01	6.890E-11	6.900E-11	6.895E-11	6.881E-11	6.816E-11	6.646E-11
4.0- 4.2	0.000E-01	2.788E-11	2.793E-11	2.791E-11	2.785E-11	2.759E-11	2.690E-11
4.2- 4.4	0.000E-01	9.324E-12	9.338E-12	9.332E-12	9.313E-12	9.225E-12	8.995E-12
4.4- 4.6	0.000E-01	2.313E-12	2.317E-12	2.315E-12	2.311E-12	2.289E-12	2.232E-12
4.6- 4.8	2.989E-07	3.321E-13	3.326E-13	3.324E-13	3.317E-13	3.286E-13	3.204E-13
4.8- 5.0	1.913E-08	1.166E-14	1.167E-14	1.166E-14	1.164E-14	1.153E-14	1.124E-14
5.0- 5.2	0.000E-01						
5.2- 5.4	0.000E-01						
5.4- 5.6	0.000E-01						
5.6- 5.8	0.000E-01						
5.8- 6.0	0.000E-01						
6.0- 6.2	0.000E-01						
6.2- 6.4	0.000E-01						
6.4- 6.6	0.000E-01						
6.6- 6.8	0.000E-01						
6.8- 7.0	0.000E-01						
7.0- 7.2	0.000E-01						
7.2- 7.4	0.000E-01						
7.4- 7.6	0.000E-01						
7.6- 7.8	0.000E-01						
7.8- 8.0	0.000E-01						
8.0- 8.2	0.000E-01						
8.2- 8.4	0.000E-01						
8.4- 8.6	0.000E-01						
8.6- 8.8	0.000E-01						
8.8- 9.0	0.000E-01						
9.0- 9.2	0.000E-01						
9.2- 9.4	0.000E-01						
9.4- 9.6	0.000E-01						
9.6- 9.8	0.000E-01						
9.8-10.0	0.000E-01						
All sum	5.422E-01	3.101E-01	2.715E-01	1.678E-01	9.716E-02	4.963E-02	4.177E-02

DATA 9 Delayed Gamma-Ray Spectra of Pu-240 Fast Fission
(3 Year Irrd)

Enrg(MeV)	EQUILIB	10 SEC	100 SEC	10 MIN	1 HOUR	5 HOURS	10 HOUR
0.0- 0.2	1.203E-01	9.630E-02	6.829E-02	5.045E-02	3.389E-02	2.538E-02	2.361E-02
0.2- 0.4	3.683E-01	2.986E-01	2.159E-01	1.536E-01	8.256E-02	5.695E-02	5.012E-02
0.4- 0.6	6.235E-01	4.694E-01	3.334E-01	2.471E-01	1.604E-01	1.138E-01	9.972E-02
0.6- 0.8	7.399E-01	6.319E-01	5.228E-01	4.439E-01	3.613E-01	2.872E-01	2.592E-01
0.8- 1.0	6.811E-01	5.537E-01	4.368E-01	3.268E-01	1.845E-01	5.847E-02	4.248E-02
1.0- 1.2	4.284E-01	3.237E-01	2.313E-01	1.626E-01	8.270E-02	3.577E-02	2.362E-02
1.2- 1.4	4.547E-01	3.353E-01	2.145E-01	1.403E-01	8.135E-02	4.236E-02	2.621E-02
1.4- 1.6	4.415E-01	3.712E-01	2.707E-01	2.077E-01	1.383E-01	9.008E-02	8.482E-02
1.6- 1.8	2.849E-01	2.057E-01	1.836E-01	9.085E-02	4.302E-02	1.854E-02	1.071E-02
1.8- 2.0	2.177E-01	1.513E-01	9.053E-02	5.844E-02	2.750E-02	8.279E-03	4.788E-03
2.0- 2.2	2.252E-01	1.732E-01	1.108E-01	6.914E-02	2.392E-02	6.494E-03	3.136E-03
2.2- 2.4	2.201E-01	1.637E-01	1.031E-01	7.152E-02	3.726E-02	7.897E-03	3.121E-03
2.4- 2.6	1.915E-01	1.362E-01	7.115E-02	4.159E-02	2.128E-02	7.972E-03	5.726E-03
2.6- 2.8	1.858E-01	1.319E-01	7.103E-02	3.527E-02	1.126E-02	7.904E-04	1.114E-04
2.8- 3.0	1.290E-01	8.131E-02	3.431E-02	1.418E-02	6.215E-03	9.923E-04	1.828E-04
3.0- 3.2	8.875E-02	5.524E-02	2.351E-02	1.107E-02	3.535E-03	4.583E-04	6.010E-05
3.2- 3.4	1.038E-01	5.633E-02	2.424E-02	1.028E-02	3.705E-03	4.531E-04	4.671E-05
3.4- 3.6	7.261E-02	4.862E-02	2.593E-02	1.072E-02	1.196E-03	9.858E-05	9.670E-06
3.6- 3.8	4.038E-02	2.463E-02	1.020E-02	5.384E-03	2.963E-03	4.699E-04	4.613E-05
3.8- 4.0	2.960E-02	1.562E-02	6.231E-03	2.428E-03	7.902E-04	6.435E-05	4.896E-06
4.0- 4.2	2.657E-02	1.814E-02	7.704E-03	8.832E-04	5.794E-05	9.489E-07	0.000E-01
4.2- 4.4	1.977E-02	1.216E-02	6.610E-03	7.400E-04	7.204E-05	1.179E-05	1.100E-06
4.4- 4.6	1.076E-02	4.109E-03	1.232E-03	8.288E-05	0.000E-01	0.000E-01	0.000E-01
4.6- 4.8	9.551E-03	5.952E-03	2.498E-03	2.509E-04	7.214E-05	2.767E-05	8.237E-06
4.8- 5.0	6.184E-03	3.489E-03	1.048E-03	3.462E-05	4.627E-06	1.775E-06	5.281E-07
5.0- 5.2	5.838E-03	4.061E-03	1.582E-03	9.871E-05	2.539E-09	3.836E-26	0.000E-01
5.2- 5.4	2.532E-03	1.383E-03	5.866E-04	5.170E-05	1.335E-09	2.017E-26	0.000E-01
5.4- 5.6	5.056E-03	3.999E-03	1.385E-03	5.299E-06	6.823E-11	1.030E-27	0.000E-01
5.6- 5.8	1.260E-03	6.036E-04	1.846E-04	2.779E-06	4.582E-14	5.042E-41	0.000E-01
5.8- 6.0	8.398E-04	2.925E-04	2.851E-05	4.268E-07	1.898E-14	2.090E-41	0.000E-01
6.0- 6.2	1.307E-03	8.914E-04	3.579E-04	4.352E-06	6.453E-15	7.001E-42	0.000E-01
6.2- 6.4	5.516E-04	4.166E-04	1.603E-04	7.992E-07	1.897E-15	2.075E-42	0.000E-01
6.4- 6.6	1.098E-04	3.139E-05	1.226E-05	2.088E-07	4.568E-16	4.975E-43	0.000E-01
6.6- 6.8	1.410E-04	8.829E-05	3.126E-05	6.238E-08	6.292E-17	7.006E-44	0.000E-01
6.8- 7.0	9.712E-05	4.749E-05	9.804E-07	9.029E-13	2.153E-18	2.803E-45	0.000E-01
7.0- 7.2	1.600E-05	1.274E-06	2.527E-10	8.438E-25	0.000E-01	0.000E-01	0.000E-01
7.2- 7.4	9.303E-06	6.929E-07	1.375E-10	4.592E-25	0.000E-01	0.000E-01	0.000E-01
7.4- 7.6	5.251E-06	3.555E-07	7.064E-11	2.359E-25	0.000E-01	0.000E-01	0.000E-01
7.6- 7.8	2.881E-06	1.696E-07	3.376E-11	1.127E-25	0.000E-01	0.000E-01	0.000E-01
7.8- 8.0	1.545E-06	7.363E-08	1.469E-11	4.908E-26	0.000E-01	0.000E-01	0.000E-01
8.0- 8.2	8.194E-07	2.814E-08	5.627E-12	1.879E-26	0.000E-01	0.000E-01	0.000E-01
8.2- 8.4	4.378E-07	8.952E-09	1.793E-12	5.987E-27	0.000E-01	0.000E-01	0.000E-01
8.4- 8.6	2.402E-07	2.140E-09	4.264E-13	1.424E-27	0.000E-01	0.000E-01	0.000E-01
8.6- 8.8	1.362E-07	3.110E-10	5.905E-14	1.972E-28	0.000E-01	0.000E-01	0.000E-01
8.8- 9.0	7.835E-08	2.246E-11	2.014E-15	6.727E-30	0.000E-01	0.000E-01	0.000E-01
9.0- 9.2	4.417E-08	7.146E-12	1.122E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.2- 9.4	2.381E-08	3.854E-12	6.051E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.4- 9.6	1.213E-08	1.964E-12	3.085E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.6- 9.8	5.758E-09	9.325E-13	1.464E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.8-10.0	2.490E-09	4.034E-13	6.335E-32	0.000E-01	0.000E-01	0.000E-01	0.000E-01
All sum	5.738E+00	4.379E+00	3.022E+00	2.156E+00	1.308E+00	7.626E-01	6.378E-01

DATA 9 (CONT'D) Delayed Gamma-Ray Spectra of Pu-240 Fast
Fission (3 Year Irrd)

Enrg(MeV)	1 DAY	1 WEEK	10 DAYS	1 MONTH	3 MONTH	1 YEAR	3YEARS
0.0- 0.2	2.091E-02	8.699E-03	6.564E-03	3.121E-03	1.449E-03	6.778E-04	4.292E-04
0.2- 0.4	3.748E-02	1.225E-02	8.949E-03	1.866E-03	7.607E-05	1.505E-05	1.186E-05
0.4- 0.6	8.033E-02	4.892E-02	4.439E-02	2.747E-02	1.161E-02	3.827E-03	1.883E-03
0.6- 0.8	2.176E-01	1.299E-01	1.193E-01	1.001E-01	7.683E-02	4.317E-02	3.817E-02
0.8- 1.0	3.319E-02	1.680E-02	1.338E-02	4.227E-03	4.298E-04	2.095E-04	1.344E-04
1.0- 1.2	1.132E-02	2.800E-03	2.259E-03	1.386E-03	1.044E-03	6.462E-04	2.199E-04
1.2- 1.4	1.319E-02	2.538E-03	1.505E-03	2.328E-04	4.987E-05	1.595E-05	1.064E-05
1.4- 1.6	7.983E-02	6.137E-02	5.246E-02	1.791E-02	9.589E-04	1.652E-04	4.756E-05
1.6- 1.8	3.171E-03	1.909E-04	1.254E-04	5.463E-05	4.585E-05	2.730E-05	6.994E-06
1.8- 2.0	3.026E-03	8.409E-04	5.532E-04	1.391E-04	4.169E-05	2.154E-05	5.521E-06
2.0- 2.2	1.886E-03	1.198E-03	1.091E-03	7.913E-04	5.683E-04	2.889E-04	5.061E-05
2.2- 2.4	1.631E-03	1.031E-03	8.628E-04	3.143E-04	5.523E-05	2.663E-05	6.824E-06
2.4- 2.6	5.047E-03	3.822E-03	3.269E-03	1.122E-03	6.818E-05	1.578E-05	4.045E-06
2.6- 2.8	2.376E-05	1.290E-05	1.122E-05	9.254E-06	8.250E-06	4.925E-06	1.257E-06
2.8- 3.0	1.158E-04	8.472E-05	7.295E-05	2.735E-05	4.586E-06	2.214E-06	5.693E-07
3.0- 3.2	3.183E-05	2.957E-05	2.562E-05	1.013E-05	2.322E-06	1.210E-06	3.112E-07
3.2- 3.4	6.631E-06	5.926E-06	5.063E-06	1.713E-06	6.651E-08	9.814E-10	9.570E-10
3.4- 3.6	0.000E-01	5.511E-10	5.515E-10	5.511E-10	5.500E-10	5.448E-10	5.312E-10
3.6- 3.8	0.000E-01	2.823E-10	2.825E-10	2.823E-10	2.817E-10	2.791E-10	2.721E-10
3.8- 4.0	0.000E-01	1.307E-10	1.308E-10	1.307E-10	1.304E-10	1.292E-10	1.260E-10
4.0- 4.2	0.000E-01	5.288E-11	5.293E-11	5.289E-11	5.278E-11	5.228E-11	5.098E-11
4.2- 4.4	0.000E-01	1.769E-11	1.770E-11	1.769E-11	1.765E-11	1.748E-11	1.705E-11
4.4- 4.6	0.000E-01	4.388E-12	4.391E-12	4.388E-12	4.379E-12	4.338E-12	4.230E-12
4.6- 4.8	2.764E-07	6.299E-13	6.304E-13	6.299E-13	6.286E-13	6.227E-13	6.072E-13
4.8- 5.0	1.768E-08	2.211E-14	2.212E-14	2.211E-14	2.206E-14	2.185E-14	2.131E-14
5.0- 5.2	0.000E-01						
5.2- 5.4	0.000E-01						
5.4- 5.6	0.000E-01						
5.6- 5.8	0.000E-01						
5.8- 6.0	0.000E-01						
6.0- 6.2	0.000E-01						
6.2- 6.4	0.000E-01						
6.4- 6.6	0.000E-01						
6.6- 6.8	0.000E-01						
6.8- 7.0	0.000E-01						
7.0- 7.2	0.000E-01						
7.2- 7.4	0.000E-01						
7.4- 7.6	0.000E-01						
7.6- 7.8	0.000E-01						
7.8- 8.0	0.000E-01						
8.0- 8.2	0.000E-01						
8.2- 8.4	0.000E-01						
8.4- 8.6	0.000E-01						
8.6- 8.8	0.000E-01						
8.8- 9.0	0.000E-01						
9.0- 9.2	0.000E-01						
9.2- 9.4	0.000E-01						
9.4- 9.6	0.000E-01						
9.6- 9.8	0.000E-01						
9.8-10.0	0.000E-01						
All sum	5.088E-01	2.905E-01	2.549E-01	1.587E-01	9.323E-02	4.912E-02	4.098E-02

DATA 10 Delayed Gamma-Ray Spectra of Pu-241 Thermal Fission
(3 Year Irrd)

Enrg(MeV)	EQUILIB	10 SEC	100 SEC	10 MIN	1 HOUR	5 HOURS	10 HOUR
0.0- 0.2	1.311E-01	1.019E-01	7.033E-02	5.124E-02	3.411E-02	2.566E-02	2.395E-02
0.2- 0.4	4.132E-01	3.204E-01	2.244E-01	1.571E-01	8.027E-02	5.456E-02	4.795E-02
0.4- 0.6	6.932E-01	5.042E-01	3.418E-01	2.501E-01	1.608E-01	1.127E-01	9.897E-02
0.6- 0.8	7.760E-01	6.377E-01	5.108E-01	4.240E-01	3.410E-01	2.691E-01	2.422E-01
0.8- 1.0	7.349E-01	5.791E-01	4.421E-01	3.220E-01	1.858E-01	5.815E-02	4.253E-02
1.0- 1.2	4.595E-01	3.379E-01	2.344E-01	1.616E-01	8.205E-02	3.396E-02	2.203E-02
1.2- 1.4	5.185E-01	3.657E-01	2.183E-01	1.338E-01	7.522E-02	3.933E-02	2.442E-02
1.4- 1.6	4.878E-01	3.964E-01	2.889E-01	2.275E-01	1.563E-01	1.065E-01	1.014E-01
1.6- 1.8	3.156E-01	2.186E-01	1.401E-01	9.440E-02	4.413E-02	1.883E-02	1.083E-02
1.8- 2.0	2.554E-01	1.636E-01	9.214E-02	5.769E-02	2.637E-02	7.404E-03	4.166E-03
2.0- 2.2	2.641E-01	1.901E-01	1.137E-01	6.911E-02	2.318E-02	6.148E-03	3.007E-03
2.2- 2.4	2.600E-01	1.805E-01	1.079E-01	7.206E-02	3.694E-02	7.562E-03	3.142E-03
2.4- 2.6	2.354E-01	1.573E-01	7.743E-02	4.309E-02	2.228E-02	9.015E-03	6.782E-03
2.6- 2.8	2.272E-01	1.515E-01	7.859E-02	3.697E-02	1.169E-02	7.463E-04	9.464E-05
2.8- 3.0	1.601E-01	9.297E-02	3.763E-02	1.480E-02	6.354E-03	1.016E-03	2.019E-04
3.0- 3.2	1.133E-01	6.480E-02	2.599E-02	1.196E-02	3.692E-03	4.869E-04	6.581E-05
3.2- 3.4	1.312E-01	6.515E-02	2.458E-02	1.036E-02	3.765E-03	4.539E-04	4.642E-05
3.4- 3.6	8.479E-02	5.070E-02	2.534E-02	1.040E-02	1.216E-03	9.685E-05	8.671E-06
3.6- 3.8	4.887E-02	2.693E-02	1.058E-02	5.495E-03	3.023E-03	4.776E-04	4.675E-05
3.8- 4.0	3.672E-02	1.664E-02	6.081E-03	2.300E-03	7.632E-04	6.518E-05	4.913E-06
4.0- 4.2	2.976E-02	1.721E-02	6.904E-03	7.934E-04	5.593E-05	6.393E-07	0.000E-01
4.2- 4.4	2.345E-02	1.173E-02	5.990E-03	6.535E-04	7.343E-05	1.198E-05	1.112E-06
4.4- 4.6	1.477E-02	4.563E-03	1.315E-03	6.835E-05	0.000E-01	0.000E-01	0.000E-01
4.6- 4.8	1.097E-02	5.663E-03	2.273E-03	2.154E-04	6.013E-05	2.309E-05	6.871E-06
4.8- 5.0	7.313E-03	3.507E-03	1.048E-03	3.142E-05	3.857E-06	1.480E-06	4.405E-07
5.0- 5.2	6.160E-03	3.803E-03	1.447E-03	8.709E-05	1.888E-09	2.830E-26	0.000E-01
5.2- 5.4	2.973E-03	1.414E-03	5.757E-04	4.586E-05	9.933E-10	1.488E-26	0.000E-01
5.4- 5.6	4.811E-03	3.545E-03	1.227E-03	4.632E-06	5.072E-11	7.595E-28	0.000E-01
5.6- 5.8	1.629E-03	7.752E-04	2.781E-04	4.417E-06	1.802E-14	1.975E-41	0.000E-01
5.8- 6.0	1.006E-03	3.194E-04	4.376E-05	6.776E-07	7.444E-15	8.185E-42	0.000E-01
6.0- 6.2	1.622E-03	1.103E-03	4.861E-04	6.827E-06	2.649E-15	2.741E-42	0.000E-01
6.2- 6.4	6.462E-04	4.192E-04	1.654E-04	1.101E-06	7.589E-16	8.128E-43	0.000E-01
6.4- 6.6	1.973E-04	5.160E-05	1.970E-05	3.360E-07	1.851E-16	1.948E-43	0.000E-01
6.6- 6.8	1.757E-04	8.196E-05	2.779E-05	5.547E-08	2.464E-17	2.662E-44	0.000E-01
6.8- 7.0	1.212E-04	4.807E-05	9.464E-07	3.734E-13	8.433E-19	1.401E-45	0.000E-01
7.0- 7.2	3.103E-05	2.387E-06	6.661E-10	2.230E-24	0.000E-01	0.000E-01	0.000E-01
7.2- 7.4	1.829E-05	1.298E-06	3.625E-10	1.213E-24	0.000E-01	0.000E-01	0.000E-01
7.4- 7.6	1.050E-05	6.662E-07	1.862E-10	6.233E-25	0.000E-01	0.000E-01	0.000E-01
7.6- 7.8	5.892E-06	3.179E-07	8.900E-11	2.979E-25	0.000E-01	0.000E-01	0.000E-01
7.8- 8.0	3.247E-06	1.381E-07	3.872E-11	1.296E-25	0.000E-01	0.000E-01	0.000E-01
8.0- 8.2	1.777E-06	5.280E-08	1.483E-11	4.966E-26	0.000E-01	0.000E-01	0.000E-01
8.2- 8.4	9.801E-07	1.683E-08	4.726E-12	1.582E-26	0.000E-01	0.000E-01	0.000E-01
8.4- 8.6	5.515E-07	4.041E-09	1.124E-12	3.763E-27	0.000E-01	0.000E-01	0.000E-01
8.6- 8.8	3.171E-07	6.015E-10	1.557E-13	5.212E-28	0.000E-01	0.000E-01	0.000E-01
8.8- 9.0	1.832E-07	5.280E-11	5.309E-15	1.778E-29	0.000E-01	0.000E-01	0.000E-01
9.0- 9.2	1.033E-07	1.943E-11	1.454E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.2- 9.4	5.566E-08	1.048E-11	7.841E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.4- 9.6	2.835E-08	5.342E-12	3.997E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.6- 9.8	1.345E-08	2.536E-12	1.898E-31	0.000E-01	0.000E-01	0.000E-01	0.000E-01
9.8-10.0	5.816E-09	1.097E-12	8.209E-32	0.000E-01	0.000E-01	0.000E-01	0.000E-01
All sum	6.453E+00	4.676E+00	3.093E+00	2.158E+00	1.299E+00	7.523E-01	6.319E-01

**DATA 10 (CONT'D) Delayed Gamma-Ray Spectra of Pu-241 Thermal
Fission (3 Year Irrd)**

Enrg(MeV)	1 DAY	1 WEEK	10 DAYS	1 MONTH	3 MONTH	1 YEAR	3YEARS
0.0- 0.2	2.126E-02	8.783E-03	6.588E-03	3.031E-03	1.276E-03	4.687E-04	2.093E-04
0.2- 0.4	3.551E-02	1.128E-02	8.302E-03	1.838E-03	6.913E-05	5.359E-06	3.750E-06
0.4- 0.6	8.034E-02	4.973E-02	4.499E-02	2.705E-02	1.119E-02	3.489E-03	1.142E-03
0.6- 0.8	2.032E-01	1.235E-01	1.141E-01	9.639E-02	7.467E-02	4.302E-02	3.776E-02
0.8- 1.0	3.433E-02	1.896E-02	1.535E-02	4.927E-03	4.210E-04	1.558E-04	6.177E-05
1.0- 1.2	1.022E-02	2.661E-03	2.214E-03	1.529E-03	1.233E-03	7.396E-04	2.041E-04
1.2- 1.4	1.192E-02	2.217E-03	1.310E-03	1.976E-04	4.065E-05	1.021E-05	4.176E-06
1.4- 1.6	9.643E-02	7.451E-02	6.371E-02	2.174E-02	1.136E-03	1.790E-04	4.234E-05
1.6- 1.8	3.132E-03	1.887E-04	1.313E-04	6.744E-05	5.744E-05	3.427E-05	8.776E-06
1.8- 2.0	2.650E-03	8.019E-04	5.436E-04	1.525E-04	5.104E-05	2.705E-05	6.926E-06
2.0- 2.2	1.871E-03	1.241E-03	1.139E-03	8.419E-04	6.119E-04	3.120E-04	5.500E-05
2.2- 2.4	1.816E-03	1.214E-03	1.025E-03	3.788E-04	6.861E-05	3.344E-05	8.564E-06
2.4- 2.6	6.087E-03	4.644E-03	3.974E-03	1.366E-03	8.396E-05	1.982E-05	5.075E-06
2.6- 2.8	2.318E-05	1.497E-05	1.345E-05	1.157E-05	1.033E-05	6.164E-06	1.571E-06
2.8- 3.0	1.377E-04	1.032E-04	8.889E-05	3.343E-05	5.721E-06	2.778E-06	7.117E-07
3.0- 3.2	3.912E-05	3.605E-05	3.125E-05	1.241E-05	2.903E-06	1.518E-06	3.890E-07
3.2- 3.4	8.133E-06	7.204E-06	6.156E-06	2.082E-06	7.990E-08	2.154E-10	2.100E-10
3.4- 3.6	0.000E-01	1.205E-10	1.210E-10	1.209E-10	1.207E-10	1.195E-10	1.166E-10
3.6- 3.8	0.000E-01	6.173E-11	6.199E-11	6.194E-11	6.182E-11	6.123E-11	5.971E-11
3.8- 4.0	0.000E-01	2.857E-11	2.869E-11	2.867E-11	2.861E-11	2.834E-11	2.764E-11
4.0- 4.2	0.000E-01	1.156E-11	1.161E-11	1.160E-11	1.158E-11	1.147E-11	1.119E-11
4.2- 4.4	0.000E-01	3.867E-12	3.883E-12	3.881E-12	3.873E-12	3.836E-12	3.741E-12
4.4- 4.6	0.000E-01	9.595E-13	9.635E-13	9.628E-13	9.608E-13	9.517E-13	9.280E-13
4.6- 4.8	2.305E-07	1.377E-13	1.383E-13	1.382E-13	1.379E-13	1.366E-13	1.332E-13
4.8- 5.0	1.473E-08	4.834E-15	4.854E-15	4.851E-15	4.841E-15	4.795E-15	4.676E-15
5.0- 5.2	0.000E-01						
5.2- 5.4	0.000E-01						
5.4- 5.6	0.000E-01						
5.6- 5.8	0.000E-01						
5.8- 6.0	0.000E-01						
6.0- 6.2	0.000E-01						
6.2- 6.4	0.000E-01						
6.4- 6.6	0.000E-01						
6.6- 6.8	0.000E-01						
6.8- 7.0	0.000E-01						
7.0- 7.2	0.000E-01						
7.2- 7.4	0.000E-01						
7.4- 7.6	0.000E-01						
7.6- 7.8	0.000E-01						
7.8- 8.0	0.000E-01						
8.0- 8.2	0.000E-01						
8.2- 8.4	0.000E-01						
8.4- 8.6	0.000E-01						
8.6- 8.8	0.000E-01						
8.8- 9.0	0.000E-01						
9.0- 9.2	0.000E-01						
9.2- 9.4	0.000E-01						
9.4- 9.6	0.000E-01						
9.6- 9.8	0.000E-01						
9.8-10.0	0.000E-01						
All sum	5.090E-01	2.999E-01	2.635E-01	1.596E-01	9.092E-02	4.850E-02	3.951E-02

DATA 11 through 20

Ten energy-group presentation of the calculated delayed gamma-ray energy spectra as a function of the cooling-time given in unit of MeV/Fission.

DATA 11 Delayed Gamma-Ray Spectra of U-235 Thermal Fission
(1 Year Irrd) (MeV/Fission)

Enrg(MeV)	EQUILIB	10 SEC	100 SEC	10 MIN	1 HOUR	5 HOURS	10 HOUR
0.0- 1.0	2.543E+00	2.014E+00	1.537E+00	1.180E+00	7.932E-01	5.059E-01	4.384E-01
1.0- 2.0	2.100E+00	1.584E+00	1.088E+00	7.688E-01	4.500E-01	2.322E-01	1.729E-01
2.0- 3.0	1.094E+00	7.793E-01	4.649E-01	2.926E-01	1.413E-01	3.653E-02	1.575E-02
3.0- 4.0	4.500E-01	2.727E-01	1.319E-01	4.962E-02	1.503E-02	2.014E-03	2.533E-04
4.0- 5.0	1.550E-01	1.081E-01	5.262E-02	5.437E-03	4.110E-04	1.043E-04	2.790E-05
5.0- 6.0	3.675E-02	2.626E-02	1.002E-02	4.967E-04	1.136E-08	1.707E-25	0.000E-01
6.0- 7.0	4.390E-03	2.990E-03	1.076E-03	7.533E-06	2.095E-15	2.144E-42	0.000E-01
7.0- 8.0	7.466E-05	2.106E-06	9.153E-10	3.076E-24	0.000E-01	0.000E-01	0.000E-01
8.0- 9.0	6.056E-06	3.358E-08	1.421E-11	4.777E-26	0.000E-01	0.000E-01	0.000E-01
9.0-10.0	3.680E-07	9.348E-11	6.436E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
All sum	6.383E+00	4.788E+00	3.285E+00	2.297E+00	1.400E+00	7.767E-01	6.273E-01

DATA 11 (CONT'D) Delayed Gamma-Ray Spectra of U-235 Thermal
Fission (1 Year Irrd)

Enrg(MeV)	1 DAY	1 WEEK	10 DAYS	1 MONTH	3 MONTH	1 YEAR	3YEARS
0.0- 1.0	3.509E-01	1.821E-01	1.593E-01	1.034E-01	5.378E-02	4.240E-03	8.569E-04
1.0- 2.0	1.256E-01	7.877E-02	6.627E-02	2.203E-02	1.045E-03	8.735E-05	1.683E-05
2.0- 3.0	9.099E-03	6.499E-03	5.570E-03	2.168E-03	4.835E-04	2.144E-04	3.635E-05
3.0- 4.0	4.739E-05	4.089E-05	3.499E-05	1.189E-05	5.325E-07	4.827E-08	1.236E-08
4.0- 5.0	8.576E-07	7.217E-14	1.354E-13	1.354E-13	1.351E-13	1.338E-13	1.305E-13
5.0- 6.0	0.000E-01						
6.0- 7.0	0.000E-01						
7.0- 8.0	0.000E-01						
8.0- 9.0	0.000E-01						
9.0-10.0	0.000E-01						
All sum	4.857E-01	2.674E-01	2.312E-01	1.276E-01	5.531E-02	4.542E-03	9.100E-04

DATA 12 Delayed Gamma-Ray Spectra of U-238 Fast Fission
(1 Year Irrd)

Enrg(MeV)	EQUILIB	10 SEC	100 SEC	10 MIN	1 HOUR	5 HOURS	10 HOUR
0.0- 1.0	3.087E+00	2.264E+00	1.651E+00	1.223E+00	8.095E-01	5.144E-01	4.454E-01
1.0- 2.0	2.452E+00	1.650E+00	1.071E+00	7.224E-01	4.155E-01	2.193E-01	1.667E-01
2.0- 3.0	1.443E+00	8.608E-01	4.482E-01	2.505E-01	1.100E-01	2.798E-02	1.356E-02
3.0- 4.0	5.841E-01	2.817E-01	1.119E-01	4.389E-02	1.278E-02	1.551E-03	1.807E-04
4.0- 5.0	1.572E-01	8.245E-02	3.551E-02	3.313E-03	2.806E-04	6.368E-05	1.681E-05
5.0- 6.0	3.384E-02	2.082E-02	7.482E-03	3.096E-04	4.530E-09	6.618E-26	0.000E-01
6.0- 7.0	5.227E-03	3.191E-03	1.299E-03	1.434E-05	5.712E-15	5.937E-42	0.000E-01
7.0- 8.0	1.527E-04	7.134E-06	3.123E-09	1.049E-23	0.000E-01	0.000E-01	0.000E-01
8.0- 9.0	1.089E-05	1.111E-07	4.850E-11	1.628E-25	0.000E-01	0.000E-01	0.000E-01
9.0-10.0	6.409E-07	1.123E-10	4.645E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
All sum	7.762E+00	5.163E+00	3.326E+00	2.243E+00	1.348E+00	7.632E-01	6.258E-01

**DATA 12 (CONT'D) Delayed Gamma-Ray Spectra of U-238 Fast
Fission (1 Year Irrd)**

Enrg(MeV)	1 DAY	1 WEEK	10 DAYS	1 MONTH	3 MONTH	1 YEAR	3YEARS
0.0- 1.0	3.576E-01	1.806E-01	1.555E-01	9.655E-02	4.788E-02	4.465E-03	1.066E-03
1.0- 2.0	1.225E-01	7.627E-02	6.395E-02	2.130E-02	1.224E-03	2.260E-04	5.336E-05
2.0- 3.0	8.961E-03	6.347E-03	5.422E-03	2.086E-03	4.384E-04	1.934E-04	3.415E-05
3.0- 4.0	4.467E-05	3.940E-05	3.379E-05	1.180E-05	9.372E-07	3.036E-07	7.775E-08
4.0- 5.0	5.008E-07	1.543E-13	2.226E-13	2.225E-13	2.220E-13	2.199E-13	2.144E-13
5.0- 6.0	0.000E-01						
6.0- 7.0	0.000E-01						
7.0- 8.0	0.000E-01						
8.0- 9.0	0.000E-01						
9.0-10.0	0.000E-01						
All sum	4.891E-01	2.633E-01	2.249E-01	1.199E-01	4.954E-02	4.885E-03	1.153E-03

**DATA 13 Delayed Gamma-Ray Spectra of Pu-239 Thermal Fission
(1 Year Irrd)**

Enrg(MeV)	EQUILIB	10 SEC	100 SEC	10 MIN	1 HOUR	5 HOURS	10 HOUR
0.0- 1.0	2.384E+00	1.965E+00	1.539E+00	1.191E+00	7.973E-01	5.232E-01	4.549E-01
1.0- 2.0	1.699E+00	1.325E+00	9.252E-01	6.582E-01	3.769E-01	2.034E-01	1.583E-01
2.0- 3.0	8.339E-01	6.253E-01	3.751E-01	2.282E-01	9.926E-02	2.450E-02	1.234E-02
3.0- 4.0	2.903E-01	1.833E-01	8.946E-02	4.087E-02	1.221E-02	1.555E-03	1.731E-04
4.0- 5.0	6.433E-02	4.041E-02	1.817E-02	2.090E-03	2.135E-04	4.476E-05	1.063E-05
5.0- 6.0	1.357E-02	9.141E-03	3.360E-03	1.528E-04	5.946E-09	9.140E-26	0.000E-01
6.0- 7.0	1.822E-03	1.218E-03	4.435E-04	3.797E-06	4.851E-15	5.255E-42	0.000E-01
7.0- 8.0	2.421E-05	1.998E-06	3.139E-10	1.046E-24	0.000E-01	0.000E-01	0.000E-01
8.0- 9.0	9.374E-07	3.075E-08	4.874E-12	1.624E-26	0.000E-01	0.000E-01	0.000E-01
9.0-10.0	4.247E-08	7.256E-12	2.226E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
All sum	5.287E+00	4.149E+00	2.951E+00	2.120E+00	1.286E+00	7.527E-01	6.256E-01

**DATA 13 (CONT'D) Delayed Gamma-Ray Spectra of Pu-239 Thermal
Fission (1 Year Irrd)**

Enrg(MeV)	1 DAY	1 WEEK	10 DAYS	1 MONTH	3 MONTH	1 YEAR	3YEARS
0.0- 1.0	3.657E-01	1.824E-01	1.566E-01	9.692E-02	4.824E-02	5.179E-03	1.347E-03
1.0- 2.0	1.183E-01	7.224E-02	6.045E-02	2.024E-02	1.355E-03	3.402E-04	8.352E-05
2.0- 3.0	8.664E-03	6.038E-03	5.151E-03	1.971E-03	3.974E-04	1.750E-04	3.214E-05
3.0- 4.0	4.171E-05	3.695E-05	3.174E-05	1.136E-05	1.257E-06	5.140E-07	1.316E-07
4.0- 5.0	3.180E-07	4.356E-13	5.002E-13	4.997E-13	4.986E-13	4.939E-13	4.816E-13
5.0- 6.0	0.000E-01						
6.0- 7.0	0.000E-01						
7.0- 8.0	0.000E-01						
8.0- 9.0	0.000E-01						
9.0-10.0	0.000E-01						
All sum	4.926E-01	2.607E-01	2.223E-01	1.191E-01	4.999E-02	5.695E-03	1.463E-03

DATA 14 Delayed Gamma-Ray Spectra of Pu-240 Fast Fission
(1 Year Irrd)

Enrg(MeV)	EQUILIB	10 SEC	100 SEC	10 MIN	1 HOUR	5 HOURS	10 HOUR
0.0- 1.0	2.485E+00	2.002E+00	1.529E+00	1.174E+00	7.748E-01	4.940E-01	4.273E-01
1.0- 2.0	1.826E+00	1.386E+00	9.397E-01	6.591E-01	3.720E-01	1.942E-01	1.493E-01
2.0- 3.0	9.513E-01	6.859E-01	3.900E-01	2.314E-01	9.959E-02	2.381E-02	1.194E-02
3.0- 4.0	3.352E-01	2.004E-01	9.011E-02	3.989E-02	1.219E-02	1.543E-03	1.663E-04
4.0- 5.0	7.283E-02	4.385E-02	1.909E-02	1.992E-03	2.067E-04	4.218E-05	9.865E-06
5.0- 6.0	1.553E-02	1.034E-02	3.766E-03	1.589E-04	3.943E-09	5.956E-26	0.000E-01
6.0- 7.0	2.206E-03	1.475E-03	5.627E-04	5.423E-06	8.871E-15	9.647E-42	0.000E-01
7.0- 8.0	3.498E-05	2.566E-06	5.093E-10	1.701E-24	0.000E-01	0.000E-01	0.000E-01
8.0- 9.0	1.712E-06	3.956E-08	7.907E-12	2.641E-26	0.000E-01	0.000E-01	0.000E-01
9.0-10.0	8.837E-08	1.430E-11	2.245E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
All sum	5.689E+00	4.330E+00	2.973E+00	2.106E+00	1.259E+00	7.135E-01	5.887E-01

DATA 14 (CONT'D) Delayed Gamma-Ray Spectra of Pu-240 Fast Fission (1 Year Irrd)

Enrg(MeV)	1 DAY	1 WEEK	10 DAYS	1 MONTH	3 MONTH	1 YEAR	3YEARS
0.0- 1.0	3.416E-01	1.689E-01	1.450E-01	8.974E-02	4.472E-02	5.230E-03	1.396E-03
1.0- 2.0	1.097E-01	6.688E-02	5.604E-02	1.889E-02	1.388E-03	3.918E-04	9.640E-05
2.0- 3.0	8.366E-03	5.816E-03	4.976E-03	1.948E-03	4.297E-04	1.927E-04	3.555E-05
3.0- 4.0	3.846E-05	3.430E-05	2.949E-05	1.070E-05	1.384E-06	5.969E-07	1.529E-07
4.0- 5.0	2.941E-07	8.799E-13	9.476E-13	9.470E-13	9.450E-13	9.361E-13	9.128E-13
5.0- 6.0	0.000E-01						
6.0- 7.0	0.000E-01						
7.0- 8.0	0.000E-01						
8.0- 9.0	0.000E-01						
9.0-10.0	0.000E-01						
All sum	4.597E-01	2.416E-01	2.061E-01	1.106E-01	4.654E-02	5.815E-03	1.528E-03

DATA 15 Delayed Gamma-Ray Spectra of Pu-241 Thermal Fission (1 Year Irrd)

Enrg(MeV)	EQUILIB	10 SEC	100 SEC	10 MIN	1 HOUR	5 HOURS	10 HOUR
0.0- 1.0	2.701E+00	2.096E+00	1.542E+00	1.157E+00	7.548E-01	4.730E-01	4.085E-01
1.0- 2.0	2.036E+00	1.481E+00	9.728E-01	6.740E-01	3.831E-01	2.051E-01	1.619E-01
2.0- 3.0	1.146E+00	7.720E-01	4.149E-01	2.357E-01	1.001E-01	2.411E-02	1.285E-02
3.0- 4.0	4.150E-01	2.242E-01	9.257E-02	4.051E-02	1.246E-02	1.559E-03	1.710E-04
4.0- 5.0	8.626E-02	4.267E-02	1.753E-02	1.762E-03	1.933E-04	3.718E-05	8.424E-06
5.0- 6.0	1.658E-02	9.857E-03	3.572E-03	1.427E-04	2.933E-09	4.394E-26	0.000E-01
6.0- 7.0	2.762E-03	1.704E-03	6.999E-04	8.319E-06	3.619E-15	3.776E-42	0.000E-01
7.0- 8.0	6.897E-05	4.808E-06	1.343E-09	4.494E-24	0.000E-01	0.000E-01	0.000E-01
8.0- 9.0	3.809E-06	7.433E-08	2.084E-11	6.978E-26	0.000E-01	0.000E-01	0.000E-01
9.0-10.0	2.065E-07	3.889E-11	2.909E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
All sum	6.404E+00	4.628E+00	3.044E+00	2.109E+00	1.251E+00	7.038E-01	5.834E-01

DATA 15 (CONT'D) Delayed Gamma-Ray Spectra of Pu-241 Thermal
Fission (1 Year Irrd)

Enrg(MeV)	1 DAY	1 WEEK	10 DAYS	1 MONTH	3 MONTH	1 YEAR	3YEARS
0.0- 1.0	3.276E-01	1.654E-01	1.425E-01	8.703E-02	4.280E-02	5.638E-03	1.558E-03
1.0- 2.0	1.234E-01	7.940E-02	6.694E-02	2.275E-02	1.680E-03	4.837E-04	1.197E-04
2.0- 3.0	9.562E-03	6.849E-03	5.874E-03	2.282E-03	4.762E-04	2.120E-04	3.960E-05
3.0- 4.0	4.725E-05	4.175E-05	3.591E-05	1.306E-05	1.699E-06	7.498E-07	1.920E-07
4.0- 5.0	2.452E-07	1.369E-13	2.079E-13	2.078E-13	2.073E-13	2.054E-13	2.003E-13
5.0- 6.0	0.000E-01						
6.0- 7.0	0.000E-01						
7.0- 8.0	0.000E-01						
8.0- 9.0	0.000E-01						
9.0-10.0	0.000E-01						
All sum	4.606E-01	2.517E-01	2.153E-01	1.121E-01	4.495E-02	6.330E-03	1.717E-03

DATA 16 Delayed Gamma-Ray Spectra of U-235 Thermal Fission
(3 Year Irrd)

Enrg(MeV)	EQUILIB	10 SEC	100 SEC	10 MIN	1 HOUR	5 HOURS	10 HOUR
0.0- 1.0	2.582E+00	2.054E+00	1.576E+00	1.219E+00	8.324E-01	5.452E-01	4.777E-01
1.0- 2.0	2.100E+00	1.584E+00	1.088E+00	7.689E-01	4.502E-01	2.323E-01	1.730E-01
2.0- 3.0	1.095E+00	7.796E-01	4.653E-01	2.930E-01	1.416E-01	3.689E-02	1.611E-02
3.0- 4.0	4.500E-01	2.727E-01	1.819E-01	4.962E-02	1.503E-02	2.014E-03	2.534E-04
4.0- 5.0	1.550E-01	1.081E-01	5.262E-02	5.437E-03	4.110E-04	1.043E-04	2.790E-05
5.0- 6.0	3.675E-02	2.826E-02	1.002E-02	4.967E-04	1.136E-08	1.707E-25	0.000E-01
6.0- 7.0	4.390E-03	2.990E-03	1.076E-03	7.533E-06	2.095E-15	2.144E-42	0.000E-01
7.0- 8.0	7.466E-05	2.106E-06	9.153E-10	3.076E-24	0.000E-01	0.000E-01	0.000E-01
8.0- 9.0	6.056E-06	3.358E-08	1.421E-11	4.777E-26	0.000E-01	0.000E-01	0.000E-01
9.0-10.0	3.680E-07	9.348E-11	6.436E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
All sum	6.423E+00	4.827E+00	3.325E+00	2.336E+00	1.440E+00	8.165E-01	6.671E-01

DATA 16 (CONT'D) Delayed Gamma-Ray Spectra of U-235 Thermal
Fission (3 Year Irrad)

Enrg(MeV)	1 DAY	1 WEEK	10 DAYS	1 MONTH	3 MONTH	1 YEAR	3YEARS
0.0- 1.0	3.902E-01	2.212E-01	1.983E-01	1.418E-01	9.084E-02	3.928E-02	3.398E-02
1.0- 2.0	1.258E-01	7.895E-02	6.644E-02	2.219E-02	1.191E-03	1.753E-04	5.022E-05
2.0- 3.0	9.463E-03	6.857E-03	5.925E-03	2.507E-03	7.764E-04	3.645E-04	6.189E-05
3.0- 4.0	4.739E-05	4.099E-05	3.509E-05	1.199E-05	6.156E-07	9.824E-08	2.555E-08
4.0- 5.0	8.576E-07	1.075E-11	1.082E-11	1.081E-11	1.079E-11	1.068E-11	1.042E-11
5.0- 6.0	0.000E-01						
6.0- 7.0	0.000E-01						
7.0- 8.0	0.000E-01						
8.0- 9.0	0.000E-01						
9.0-10.0	0.000E-01						
All sum	5.255E-01	3.070E-01	2.707E-01	1.665E-01	9.281E-02	3.982E-02	3.409E-02

DATA 17 Delayed Gamma-Ray Spectra of U-238 Fast Fission
(3 Year Irrd)

Enrg(MeV)	EQUILIB	10 SEC	100 SEC	10 MIN	1 HOUR	5 HOURS	10 HOUR
0.0- 1.0	3.127E+00	2.303E+00	1.691E+00	1.263E+00	8.491E-01	5.540E-01	4.850E-01
1.0- 2.0	2.453E+00	1.650E+00	1.071E+00	7.229E-01	4.160E-01	2.197E-01	1.671E-01
2.0- 3.0	1.443E+00	8.612E-01	4.485E-01	2.508E-01	1.103E-01	2.831E-02	1.390E-02
3.0- 4.0	5.841E-01	2.817E-01	1.119E-01	4.389E-02	1.278E-02	1.552E-03	1.813E-04
4.0- 5.0	1.572E-01	8.245E-02	3.551E-02	3.313E-03	2.806E-04	6.368E-05	1.631E-05
5.0- 6.0	3.384E-02	2.082E-02	7.482E-03	3.096E-04	4.530E-09	6.618E-26	0.000E-01
6.0- 7.0	5.227E-03	3.191E-03	1.299E-03	1.434E-05	5.712E-15	5.937E-42	0.000E-01
7.0- 8.0	1.527E-04	7.134E-06	3.123E-09	1.049E-23	0.000E-01	0.000E-01	0.000E-01
8.0- 9.0	1.089E-05	1.111E-07	4.850E-11	1.628E-25	0.000E-01	0.000E-01	0.000E-01
9.0-10.0	6.409E-07	1.123E-10	4.645E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
All sum	7.803E+00	5.203E+00	3.367E+00	2.284E+00	1.388E+00	8.037E-01	6.663E-01

**DATA 17 (CONT'D) Delayed Gamma-Ray Spectra of U-238 Fast
Fission (3 Year Irrad)**

Enrg(MeV)	1 DAY	1 WEEK	10 DAYS	1 MONTH	3 MONTH	1 YEAR	3YEARS
0.0- 1.0	3.972E-01	2.200E-01	1.949E-01	1.353E-01	8.543E-02	3.965E-02	3.373E-02
1.0- 2.0	1.230E-01	7.673E-02	6.441E-02	2.173E-02	1.615E-03	4.627E-04	1.276E-04
2.0- 3.0	9.293E-03	6.675E-03	5.748E-03	2.397E-03	7.081E-04	3.340E-04	5.944E-05
3.0- 4.0	4.467E-05	4.001E-05	3.439E-05	1.238E-05	1.458E-06	6.155E-07	1.582E-07
4.0- 5.0	5.008E-07	1.771E-11	1.778E-11	1.776E-11	1.773E-11	1.756E-11	1.712E-11
5.0- 6.0	0.000E-01						
6.0- 7.0	0.000E-01						
7.0- 8.0	0.000E-01						
8.0- 9.0	0.000E-01						
9.0-10.0	0.000E-01						
All sum	5.296E-01	3.035E-01	2.651E-01	1.595E-01	8.775E-02	4.045E-02	3.391E-02

**DATA 18 Delayed Gamma-Ray Spectra of Pu-239 Thermal Fission
(3 Year Irrd)**

Enrg(MeV)	EQUILIB	10 SEC	100 SEC	10 MIN	1 HOUR	5 HOURS	10 HOUR
0.0- 1.0	2.433E+00	2.013E+00	1.588E+00	1.239E+00	8.459E-01	5.718E-01	5.034E-01
1.0- 2.0	1.700E+00	1.326E+00	9.260E-01	6.589E-01	3.776E-01	2.042E-01	1.590E-01
2.0- 3.0	8.342E-01	6.256E-01	3.754E-01	2.285E-01	9.957E-02	2.481E-02	1.264E-02
3.0- 4.0	2.903E-01	1.833E-01	8.946E-02	4.087E-02	1.221E-02	1.556E-03	1.741E-04
4.0- 5.0	6.433E-02	4.041E-02	1.817E-02	2.090E-03	2.135E-04	4.476E-05	1.063E-05
5.0- 6.0	1.357E-02	9.141E-03	3.360E-03	1.528E-04	5.946E-09	9.140E-26	0.000E-01
6.0- 7.0	1.822E-03	1.218E-03	4.435E-04	3.797E-06	4.851E-15	5.255E-42	0.000E-01
7.0- 8.0	2.421E-05	1.998E-06	3.139E-10	1.046E-24	0.000E-01	0.000E-01	0.000E-01
8.0- 9.0	9.374E-07	3.075E-08	4.874E-12	1.624E-26	0.000E-01	0.000E-01	0.000E-01
9.0-10.0	4.247E-08	7.256E-12	2.226E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
All sum	5.337E+00	4.199E+00	3.001E+00	2.170E+00	1.335E+00	8.024E-01	6.752E-01

**DATA 18 (CONT'D) Delayed Gamma-Ray Spectra of Pu-239 Thermal
Fission (3 Year Irrd)**

Enrg(MeV)	1 DAY	1 WEEK	10 DAYS	1 MONTH	3 MONTH	1 YEAR	3YEARS
0.0- 1.0	4.142E-01	2.307E-01	2.049E-01	1.445E-01	9.450E-02	4.855E-02	4.145E-02
1.0- 2.0	1.190E-01	7.300E-02	6.121E-02	2.097E-02	2.017E-03	7.690E-04	2.607E-04
2.0- 3.0	8.970E-03	6.340E-03	5.450E-03	2.257E-03	6.464E-04	3.068E-04	5.710E-05
3.0- 4.0	4.171E-05	3.798E-05	3.277E-05	1.235E-05	2.139E-06	1.043E-06	2.684E-07
4.0- 5.0	3.180E-07	3.986E-11	3.992E-11	3.990E-11	3.981E-11	3.944E-11	3.846E-11
5.0- 6.0	0.000E-01						
6.0- 7.0	0.000E-01						
7.0- 8.0	0.000E-01						
8.0- 9.0	0.000E-01						
9.0-10.0	0.000E-01						
All sum	5.422E-01	3.101E-01	2.715E-01	1.678E-01	9.716E-02	4.963E-02	4.177E-02

**DATA 19 Delayed Gamma-Ray Spectra of Pu-240 Fast Fission
(3 Year Irrd)**

Enrg(MeV)	EQUILIB	10 SEC	100 SEC	10 MIN	1 HOUR	5 HOURS	10 HOUR
0.0- 1.0	2.533E+00	2.050E+00	1.577E+00	1.222E+00	8.227E-01	5.418E-01	4.752E-01
1.0- 2.0	1.827E+00	1.387E+00	9.406E-01	6.600E-01	3.729E-01	1.950E-01	1.501E-01
2.0- 3.0	9.517E-01	6.863E-01	3.903E-01	2.317E-01	9.993E-02	2.415E-02	1.228E-02
3.0- 4.0	3.352E-01	2.004E-01	9.011E-02	3.989E-02	1.219E-02	1.544E-03	1.675E-04
4.0- 5.0	7.283E-02	4.385E-02	1.909E-02	1.992E-03	2.067E-04	4.218E-05	9.865E-06
5.0- 6.0	1.553E-02	1.034E-02	3.766E-03	1.589E-04	3.943E-09	5.956E-26	0.000E-01
6.0- 7.0	2.206E-03	1.475E-03	5.627E-04	5.423E-06	8.871E-15	9.647E-42	0.000E-01
7.0- 8.0	3.498E-05	2.566E-06	5.093E-10	1.701E-24	0.000E-01	0.000E-01	0.000E-01
8.0- 9.0	1.712E-06	3.956E-08	7.907E-12	2.641E-26	0.000E-01	0.000E-01	0.000E-01
9.0-10.0	8.837E-08	1.430E-11	2.245E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
All sum	5.738E+00	4.379E+00	3.022E+00	2.156E+00	1.308E+00	7.626E-01	6.378E-01

Data 19 (CONT'D) Delayed Gamma-Ray Spectra of Pu-240 Fast Fission (3 Year Irrd)

Enrg(MeV)	1 DAY	1 WEEK	10 DAYS	1 MONTH	3 MONTH	1 YEAR	3YEARS
0.0- 1.0	3.895E-01	2.166E-01	1.926E-01	1.367E-01	9.039E-02	4.790E-02	4.063E-02
1.0- 2.0	1.105E-01	6.774E-02	5.690E-02	1.972E-02	2.141E-03	8.762E-04	2.906E-04
2.0- 3.0	8.703E-03	6.149E-03	5.307E-03	2.264E-03	7.045E-04	3.384E-04	6.330E-05
3.0- 4.0	3.846E-05	3.550E-05	3.068E-05	1.184E-05	2.390E-06	1.212E-06	3.131E-07
4.0- 5.0	2.941E-07	7.561E-11	7.567E-11	7.562E-11	7.546E-11	7.474E-11	7.289E-11
5.0- 6.0	0.000E-01						
6.0- 7.0	0.000E-01						
7.0- 8.0	0.000E-01						
8.0- 9.0	0.000E-01						
9.0-10.0	0.000E-01						
All sum	5.088E-01	2.905E-01	2.549E-01	1.587E-01	9.323E-02	4.912E-02	4.098E-02

**DATA 20 Delayed Gamma-Ray Spectra of Pu-241 Thermal Fission
(3 Year Irrd)**

Enrg(MeV)	EQUILIB	10 SEC	100 SEC	10 MIN	1 HOUR	5 HOURS	10 HOUR
0.0- 1.0	2.748E+00	2.143E+00	1.589E+00	1.204E+00	8.019E-01	5.201E-01	4.556E-01
1.0- 2.0	2.037E+00	1.482E+00	9.738E-01	6.750E-01	3.841E-01	2.061E-01	1.629E-01
2.0- 3.0	1.147E+00	7.723E-01	4.152E-01	2.360E-01	1.004E-01	2.449E-02	1.323E-02
3.0- 4.0	4.150E-01	2.242E-01	9.257E-02	4.051E-02	1.246E-02	1.560E-03	1.726E-04
4.0- 5.0	8.626E-02	4.267E-02	1.753E-02	1.762E-03	1.933E-04	3.718E-05	8.424E-06
5.0- 6.0	1.658E-02	9.857E-03	3.572E-03	1.427E-04	2.933E-09	4.394E-26	0.000E-01
6.0- 7.0	2.762E-03	1.704E-03	6.999E-04	8.319E-06	3.619E-15	3.776E-42	0.000E-01
7.0- 8.0	6.897E-05	4.808E-06	1.343E-09	4.494E-24	0.000E-01	0.000E-01	0.000E-01
8.0- 9.0	3.809E-06	7.433E-08	2.084E-11	6.978E-26	0.000E-01	0.000E-01	0.000E-01
9.0-10.0	2.065E-07	3.889E-11	2.909E-30	0.000E-01	0.000E-01	0.000E-01	0.000E-01
All sum	6.453E+00	4.676E+00	3.093E+00	2.158E+00	1.299E+00	7.523E-01	6.319E-01

DATA 20 (CONT'D) Delayed Gamma-Ray Spectra of Pu-241 Thermal
Fission (3 Year Irrd)

Enrg(MeV)	1 DAY	1 WEEK	10 DAYS	1 MONTH	3 MONTH	1 YEAR	3YEARS
0.0- 1.0	3.747E-01	2.123E-01	1.893E-01	1.332E-01	8.762E-02	4.714E-02	3.917E-02
1.0- 2.0	1.244E-01	8.038E-02	6.791E-02	2.369E-02	2.518E-03	9.901E-04	2.664E-04
2.0- 3.0	9.935E-03	7.217E-03	6.239E-03	2.631E-03	7.805E-04	3.742E-04	7.092E-05
3.0- 4.0	4.725E-05	4.325E-05	3.740E-05	1.449E-05	2.983E-06	1.519E-06	3.894E-07
4.0- 5.0	2.452E-07	1.653E-11	1.660E-11	1.659E-11	1.656E-11	1.640E-11	1.599E-11
5.0- 6.0	0.000E-01						
6.0- 7.0	0.000E-01						
7.0- 8.0	0.000E-01						
8.0- 9.0	0.000E-01						
9.0-10.0	0.000E-01						
All sum	5.090E-01	2.999E-01	2.635E-01	1.596E-01	9.092E-02	4.850E-02	3.951E-02