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JNDC Nuclear Data Library of Fission Products

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JNDC Nuclear Data Library of Fission Products

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Abstract

The JNDC (Japanese Nuclear Data Committee) FP (Fission Product) nuclear data library for 1172 fission products is described in this report. The gross theory of beta decay has been used extensively for estimating unknown decay data and also some of known decay data with poor accuracy. The calculated decay powers of fission products using the present library show excellent agreement with the latest measurements at ORNL (Oak Ridge National Laboratory), LANL (Los Alamos National Laboratory) and UTT (University of Tokyo, Tokai) for cooling times shorter than 10^3 s after irradiation. The calculated decay powers by the existing libraries showed systematic deviations at short cooling times; the calculated beta and gamma decay powers after burst fission were smaller than the experimental results for cooling times shorter than 10 s, and in the cooling time range 10 to 10^3 s the beta-decay power was larger than the measured values and the gamma decay power smaller than the measured results. The present JNDC FP nuclear data library resolved these discrepancies in the short cooling time ranges. The decay power of fission products has been calculated for ten fission types and the results have been fitted by an analytical function with 31 exponentials. This permits the easy application of the present results of decay power calculations to a LOCA (Loss-of-Coolant Accident) analysis of a light water reactor and so on.

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

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

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JNDCによる核分裂生成物の核データ・ライブラリー

日本原子力研究所東海研究所シグマ研究委員会

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要　　旨

1172核種の核分裂生成物に対する核データ・ライブラリーが，JNDCの核分裂生成物核データ・ライブラリーとして整備された．未測定の崩壊データや，測定精度の低い崩壊データに対しては，β崩壊の大局的理論を広範囲に適用した．このライブラリーを用いた核分裂生成物の崩壊熱の計算結果は，照射直後より，10^3秒までの冷却時間において，最新のORNL（Oak Ridge National Laboratory）LANL（Los Alamos National Laboratory），UTT（University of Tokyo，Tokai）の測定結果との一致が非常に良いことが確認された．過去に整備されたライブラリーを用いた崩壊熱の計算結果は，冷却時間の短いところで測定値との間に系統的な偏差の存在を示していた．すなわち瞬時照射の場合に，10秒以下の冷却時間ではβおよびγ崩壊熱共に計算結果は過小評価であり，また10秒から10^3秒の冷却時間では，β崩壊熱は過大評価，これに反してγ崩壊熱は過小評価になっていた．短い冷却時間におけるこれらのずれは，このJNDCによる核分裂生成物核データ・ライブラリーが整備されたことによって解決された．

現在，核分裂生成物を10種類の核分裂に対して計算することができる．またこの崩壊熱の計算結果は，軽水炉のLOCA解析のみならず，より広い範囲での利用を容易に行えるようにするために，31項からなる指数関数多項式へのフィッティングを行い，それらの結果についても報告している．

本報告書は，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・グループの作業の一環として行われた仕事をまとめたものである．

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1. Introduction

A reliable nuclear data library of fission products (FPs) is indispensable for accurate calculation of fission-product accumulation in the nuclear power reactors. It should consist of half-lives, decay schemes, decay energies, neutron reaction cross sections, and fission yields.

Accurate knowledge of fission-product accumulation during operation and after shutdown of power reactors is essential to many aspects of nuclear reactor safety, operation, and nuclear safeguard considerations. Certain fission-products are important for accurate reactivity predictions during fuel depletion, conversion, and burnup in nuclear reactor calculations.

The decay power of fission products is of great importance in the safety analysis of power reactors. The loss-of-coolant accident (LOCA) is a major current issue today concerning the use of nuclear power. The major defense against a LOCA is the emergency core cooling system (ECCS), and one of the significant constraints on the power rating of a nuclear power reactor is the maximum amount of energy the ECCS can handle. Thus, accurate decay power data are important in evaluating how well the ECCS will work and in calculating the consequences of a LOCA. Decay power also plays an important role in the design of spent-fuel containers and reprocessing facilities.

At present the American Nuclear Society Draft Standard ANS 5.1[1] is widely used for the specification of the decay power of fission products for the analysis of a LOCA. The ANS Draft Standard relies upon the work of K. Shure[2]; of which uncertainties are estimated to be +20%, –40% for the first 10^3 s after shutdown.

Since 1973, five new measurements of fission-product decay power were initiated in the United States and Japan to improve the accuracy of fission-product decay power: (a) beta- and gamma-ray spectra measurement at Oak Ridge National Laboratory (ORNL)[3-6], (b) a fast response calorimeter measurement at Los Alamos National Laboratory (LANL)[7,8], (c) a total absorption or nuclear calorimetric measurement at Intelcom Radiation Technology (IRT) Corporation[9,10], (d) a second calorimetric measurement using different techniques at the University of California, Berkeley (UCB)[11], and (e) beta- and gamma-ray spectra measurement at the University of Tokyo, Tokai (UTT)[12-14] for the fast neutron fission. These experiments were planned mostly to support the safety analysis of the hypothetical LOCA in a light water reactor.

These recent accurate measurements enable one the examination of the accuracy of the summation calculation[15,16] of decay power. This calculation is based on solving analytically the large set of ordinary differential equations that describe the production and decay of each nuclide. The summation calculation, having the merit of versatility, can predict the decay power for a mixture of fissionable isotopes with complicated history including the neutron capture transformation of fission products, and can also give detailed isotopic inventories of fission products. The method of summation calculation is essentially exact. However, many of the required nuclear data are imprecisely known. Theoretical or statistical estimations are necessary for half-lives and decay energies of many short-lived nuclides. Therefore, reliability of the fission-product nuclear data library for the summation calculation of decay power should be examined by comparing the summation calculation results with experimental data.

There exist several nuclear decay data libraries for the summation calculation of decay power, which include ENDF/B-IV, /B-V, French[17] and English[18] files, and Tasaka's libraries[19,20]. The latest ones may be ENDF/B-V and new Tasaka's library[20]. The last one is a

revision of the old library including the fruits of his study on estimation method[20] of the half lives and the average beta- and gamma-ray energies $\bar{E}_\beta$ and $\bar{E}_\gamma$ released per one disintegration for data-unknown nuclides.

In spite of these elaborations, the agreement between calculation and experiment is not satisfactory for short cooling-time in the range 1 to 1,000 s. Schmittroth & Schenter[21,22] pointed out the importance of uncertainty of the values $\bar{E}_\beta$ and $\bar{E}_\gamma$. Schmittroth estimated unknown $\bar{E}_\beta$ and $\bar{E}_\gamma$ based on measured beta strength functions[23]. French and English files apply a relatively simple method to estimate these values[17,18]. One of the present authors developed an estimation method of $\bar{E}_\beta$ and $\bar{E}_\gamma$ [24] on the basis of gross theory of beta decay[25,26] as a part of the activity of the Decay Heat Evaluation Working Group (DHEWG) of the Japanese Nuclear Data Committee (JNDC). Recently, DHEWG has completed the Fission Product Nuclear Data Library for summation calculations by compiling recent experimental results and by estimating unknown decay data of short-lived nuclides by the gross theory of beta decay. This library contains the complete set of basic data on 1172 fission product nuclides needed for the summation calculation. Nearly a half of them are short-lived fission products with beta-decay Q-values larger than 4~5 MeV, which play an important role in the decay power in the short cooling time range.

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

2. Nuclear Data Library of Fission Products

The nuclear data of fission products have been compiled for the summation calculation of the decay power of fission products. The nuclear data to be included in the Fission Product Nuclear Data Library are the decay data (decay constant, Q-value for beta or electron capture decay, excitation energy of isomeric state, energies and intensities of beta-ray, positron, gamma-ray and internal conversion electron, and branching ratio of each decay mode including delayed neutron emission), the fission yield data and the neutron capture cross section data. A library of nuclear data has been prepared for 1172 fission products, of which 140 are stable and the others are unstable. **Table 2.0.1** summarizes the number of nuclides for which data of various types are available. The present library contains the decay data and the fission yield data for 1172 fission product nuclides and neutron capture cross section data for 80 fission product nuclides of mass number from 66 to 172.

Table 2.0.1 General contents of JNDC fission product nuclear data library

Number of Nuclide	Type, Comment
1172	Total number of nuclides in library
152	Stable nuclides
1020	Unstable nuclides
189	Excited state nuclides
551	Nuclides with known decay energies
469	Nuclides with estimated decay energies
737	Nuclides with known half-lives
283	Nuclides with estimated half-lives

2.1 Necessary Nuclear Data for Decay Power Calculation

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

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

where

N_i = atom number of nuclide i

λ_i = decay constant of nuclide i

σ_i = neutron reaction cross section of nuclide i

ϕ = neutron flux

$f_{j\to i}$ = production rate of nuclide i by the unit decay of nuclide j

$g_{k\to i}$ = production rate of nuclide i by the unit neutron reaction of nuclide k

y_i = fission yield for nuclide i

F = fission rate.

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

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

where

P = decay power of fission products

E_i = sensible decay energy of nuclide i.

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

(1) Fission yields (y_i)
(2) Decay schemes ($f_{j\to i}$)
(3) Half-lives ($T_{1/2}=(\ln 2)/\lambda$)
(4) Decay energies (E_i)
(5) Neutron reaction cross sections ($\sigma_i, g_{k\to i}$)
(6) Fission energies.

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

2.2 Decay Data

The first task of our working group was to compile the decay data. When the compilation work was started out, the 7th edition of Table of Isotopes (TOI) and Evaluated Nuclear Structure Data File (ENSDF) had not been available yet. Therefore, we devoted ourselves to collect the experimental information from various publications, and to put the data into our own file named as NDFILE[27]. This work was continued until TOI and ENSDF became available.

Most of the adopted experimental data on the decay have been taken mainly from Evaluated Nuclear Structure Data File (ENSDF), Nuclear Data Sheets and the 7th edition of Table of Isotopes. Some of them not yet compiled in these issues were taken from the journals published up to early 1980. The accumulated experimental decay data have been processed by using a computer code PROFP[28]. Furthermore the present library contains the nuclides with no information on the decay data or lack of some items of decay data; most of them are short-lived nuclides or short-lived isomers which have been investigated mainly with the on-line mass separators. For these nuclides some of items such as the mean beta- and gamma-ray energies, the half-lives and so on have been estimated theoretically (see section 2.3).

The experimental data on the emission probability of delayed neutron have been adopted for 71 precursors compiled by Rudstam in 1977[29]. For 23 precursors of them which were identified experimentally but whose emission probabilities were not determined, their neutron emission probabilities have been estimated with the help of the systematics. Many new experimental results for many precursors have been reported since 1977, and these were reviewed by Rudstam in 1979[30]. However, the hard time-schedule of the compilation prevented the present library from containing the revised delayed-neutron data reviewed by Rudstam[30]. A preliminary calculation based on the revised delayed neutron data shows that the cumulative yields for some nuclides are affected a little bit, but that the result of the summation calculation is almost unchanged because of their small fission yields. The delayed neutron data will be revised in the 2nd version of the JNDC FP Nuclear Data Library.

2.3 Theoretical Estimation of Half-lives and Average Energies

Since the early 1970's, experimental data on decay characteristics (half-life, decay scheme, etc.) of short-lived nuclides have rapidly been accumulated owing to the development of on-line mass separation technique. These data, however, are not sufficient to cover all the fission products which play important role in the decay power shortly after the fission event. In order to complete a decay data file for decay power calculations, it is necessary to estimate the half-lives and average energies of beta- and gamma-rays emitted per one decay for these 'data-unknown' nuclides. For this purpose we adopted the gross theory of beta decay proposed and developed by M. Yamada and K. Takahashi[25,26].

2.3.1 Beta Strength Function and Gross Theory

Except the case of a very low Q-value beta-decay where only a few final levels are involved, the decay of a parent nucleus (Z, N) feeds many excited levels ε_i in the daughter $(Z+1, N-1)$ as is illustrated in **Fig. 2.3.1**. At first, the excess energy $Q-\varepsilon_i$ is released by the beta-ray and the antineutrino. Then the populated level at excitation energy of ε_i is de-excited by emission of gamma-rays. Therefore, it is essential to know the branching ratios a_i in order to calculate the average values of the beta-ray and the gamma-ray energies released per decay of the parent.*)

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

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

where $f(E)$ is the integrated Fermi function[31] and ρ is the level density in the vicinity of the i-th level. The partial decay constant λ_i is expressed as $\lambda_i=a_i\lambda$ by use of the branching ratio a_i and the total decay constant λ. The bar above λ_i in Eq. (2.3.1) denotes that an average

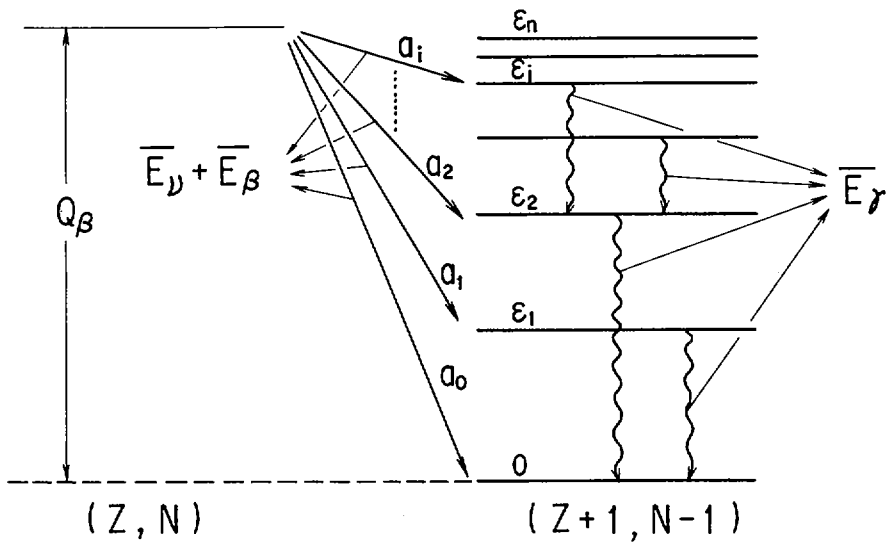


Fig. 2.3.1 Schematic diagram of beta- and gamma-decays of a parent nuclide (Z, N) to the daughter nuclide $(Z+1, N-1)$.

*) The probability that an antineutrino makes an interaction with matters is substantially zero. Hence we are not interested in calculating the average antineutrino energy for application purposes.

should be taken over a suitable energy range around E. When the beta-strength function $S_\beta(E)$ is given, we can calculate the average beta- and gamma-ray energies and the half-life.

Before the studies by Ikeda et al.[32] and by Yamada[33], most studies of the beta decay had mainly been concentrated to transitions to several low-lying levels whose wave functions are relatively easy to assume. Ikeda et al. and Yamada examined the energy profile of the beta strength function up to very high excitation energy to which real beta transitions are energetically prohibited, and proposed the gross theory of beta decay[33]. This theory enables us to calculate the beta-strength functions of the Gamow-Teller[25], Fermi[26], and the first-forbidden[34] transitions in the whole energy range.

The gross theory expression of the total decay constant is

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

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

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

where ψ is the wave function of the initial state, and H stands for the Hamiltonian of the whole system.

A close parallel procedure with the decay constant leads to the gross theory expressions for the average beta- and gamma-ray energies,

$$\bar{E}_\beta=\frac{1}{2\pi^3\lambda}\int_{-Q}^{0}\sum_{\Omega}|g_\Omega|^2\cdot|M_\Omega(E_g)|^2\int_1^{-E_g+1}mc^2(E-1)pE(-E_g+1-E)^2F(E)dEdE_g\,, \tag{2.3.4}$$

$$\bar{E}_\gamma=\frac{1}{2\pi^3\lambda}\int_{-Q}^{0}\sum_{\Omega}|g_\Omega|^2\cdot|M_\Omega(E_g)|^2mc^2(Q+E_g)\int_1^{-E_g+1}pE(-E_g+1-E)^2F(E)dEdE_g, \tag{2.3.5}$$

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

As for the types of the beta transitions, the Fermi, the Gamow-Teller and the first-forbidden transitions are taken into account in the computer code[35] employed in the present work. In the present purpose of the estimation of the average beta- and gamma-energies, the effect of the selection rules applied to decays to low-lying levels plays a critical role, because the prohibition of the decay to the ground and the lowest several levels appreciably increases the gamma-energy and decreases the beta-energy (see **Fig. 2.3.1**). To introduce this effect into the values of $\bar{E}_\beta$ and $\bar{E}_\gamma$, the calculated beta strengths were modified to be zero below the lowest level which is actually fed by a direct beta transition. The energy of this level, denoted as Q_{00} hereafter, is not known for nuclides for which the estimation of $\bar{E}_\beta$ and $\bar{E}_\gamma$ are required. The strengths over the prohibited energy range was assumed to be concentrated at energy Q_{00}. A schemetic display of the beta strength functions is given in **Fig. 2.3.2**. Note that the real beta transition to the tails of the beta-strength below Q_{00} is energetically possible except for light nuclides. The broad peak of the Gamow-Teller strength shown in **Fig. 2.3.2** corre-

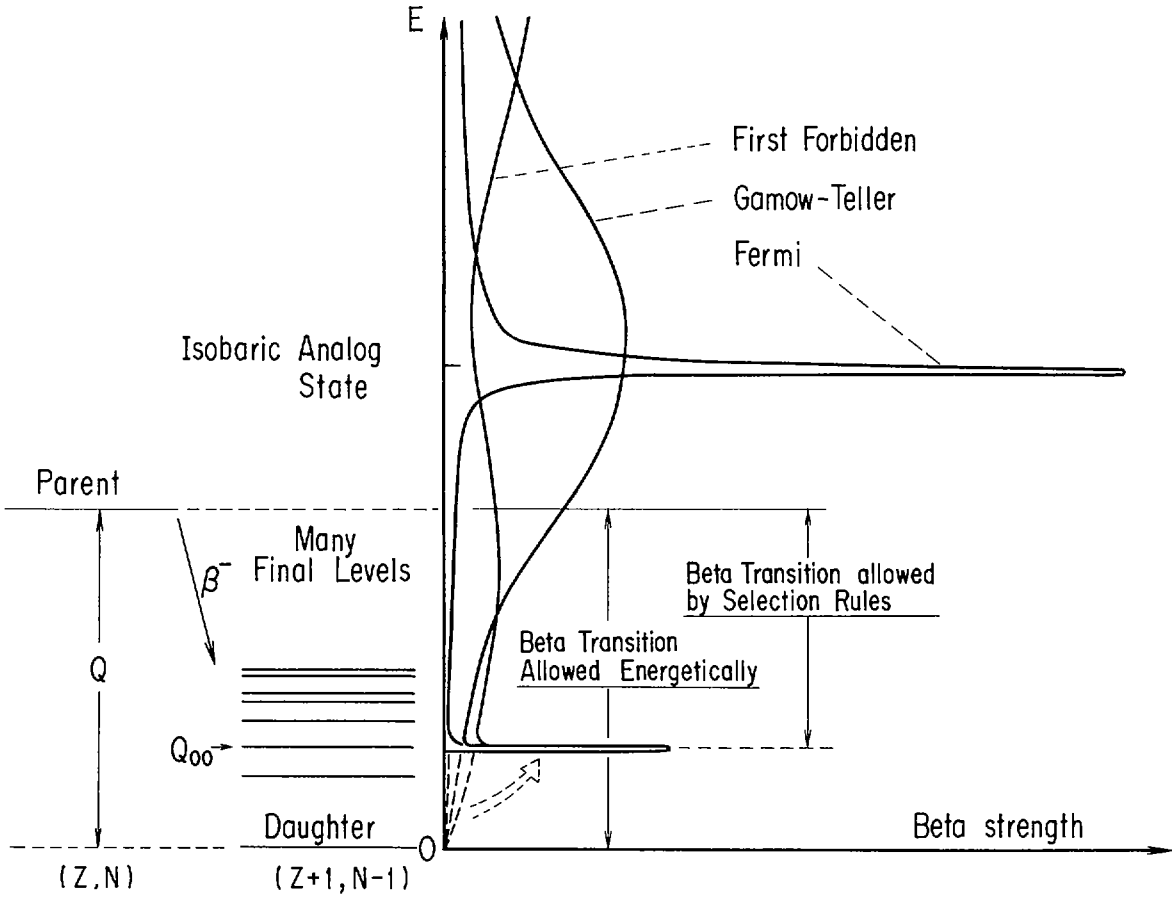


Fig. 2.3.2 Schematic diagram of beta strength function and beta decay.

sponds to so-called Gamow-Teller giant resonance. The existence of the Gamow-Teller giant resonance in a broad range of nuclides was confirmed experimentally by recent measurements of the neutron spectra in (p, n) reactions[36-38].

2.3.2 Estimation of Unknown Decay Data

The estimation method of $\bar{E}_\beta$ and $\bar{E}_\gamma$ is essentially the same as that proposed in Ref. 24. The details of the method are given in Ref. 39.

1) When the half-life $T_{1/2}$ is known

The key parameter Q_{00} was searched for and then fixed in the following energy range so as to give the best agreement between the calculated half-life and the measured half-life for each nuclide.

$0.0\ \text{MeV} \leq Q_{00} \leq 2.0\ \text{MeV}$ for odd-odd nuclides,

$0.5\ \text{MeV} \leq Q_{00} \leq 2.0\ \text{MeV}$ for others.

Then, the average beta- and gamma-energies $\bar{E}_\beta$ and $\bar{E}_\gamma$ were calculated by the use of this value of Q_{00}, which was expected to reflect the effect of the selection rules as was discussed in Ref. 24. Those values are finally adopted in the JNDC Nuclear Data Library.

2) When the half-life $T_{1/2}$ is unknown

The key parameter Q_{00} for these nuclides was determined in the following two methods, namely,

(a) The Q_{00}-value was fixed at 1.0 MeV.

(b) Systematic behavior of the values of Q_{00} was examined for each mass region and each even-old category, and the Q_{00} -value was extrapolated to each nuclide.

By use of the Q_{00} -values determined by the above methods, $\bar{E}_\beta$, $\bar{E}_\gamma$ and $T_{1/2}$ were calculated. There was, however, no essential difference between the two decay power curves corresponding to the above two methods (a) and (b). This is due to a fact that the contribution from these nuclides is small in the calculated decay power even at very short cooling time. In practice, we stored the $\bar{E}_\beta$, $\bar{E}_\gamma$ and $T_{1/2}$ data based on the method (b) in the JNDC Library.

Furthermore $\bar{E}_\beta$ and $\bar{E}_\gamma$ were calculated for 87 high Q-value nuclides, in the same way as in the case 1) providing the experimental half-life and the decay scheme information. The importance of these 87 nuclides will be described in the following section.

2.3.3 Adoption of the Theoretical Values for $\bar{E}_\beta$ and $\bar{E}_\gamma$ of Some Short-lived Nuclides with Measured Data

The nuclear theories[32,33] give the large beta strength at high excitation energy as shown in **Fig. 2.3.2**. With the mitigation due to rapid decrease of the Fermi function $f(E)$ in Eqs. 2.3.4 and 2.3.5, this decreases $\bar{E}_\beta$, and increased $\bar{E}_\gamma$. On the other hand the energy levels at

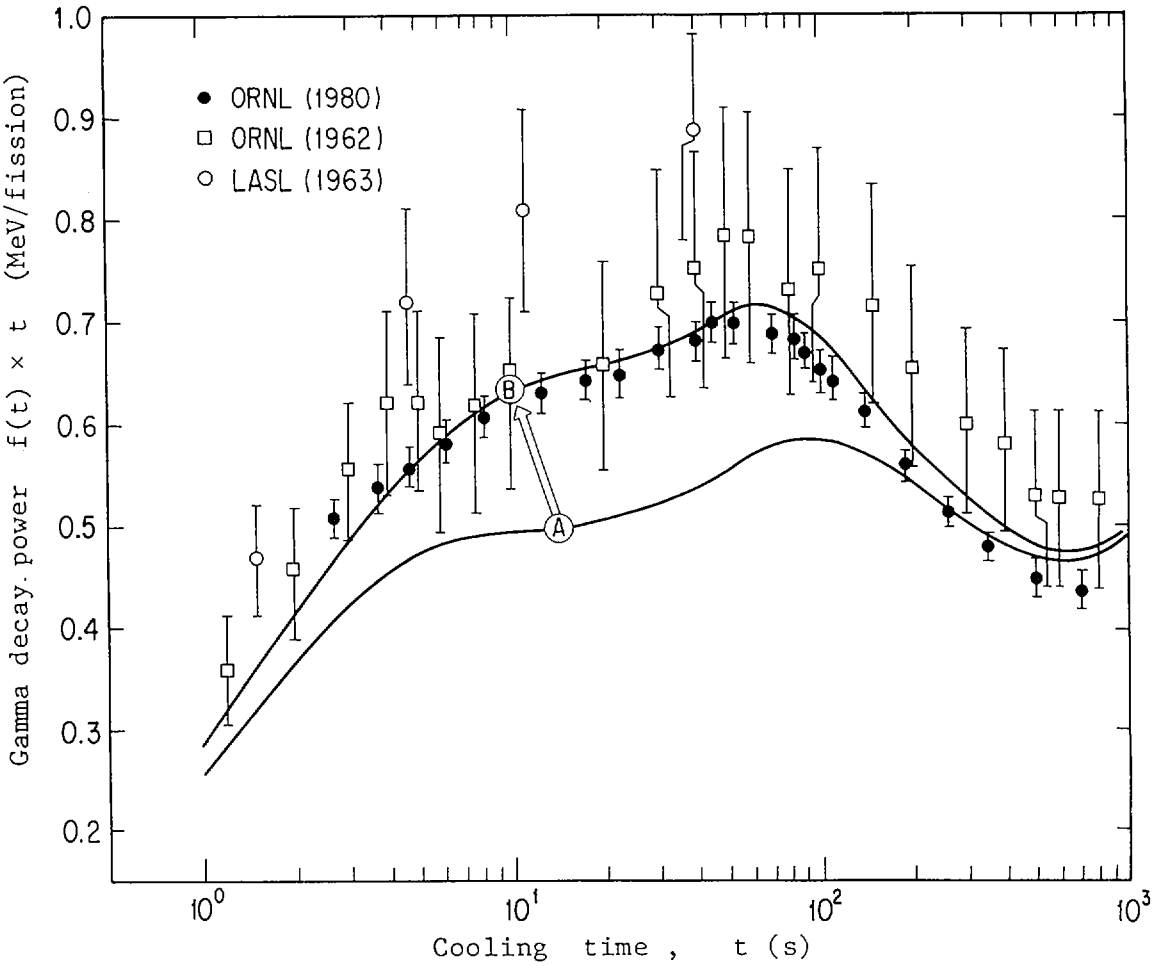


Fig. 2.3.3 Effect of using theoretical values of $\bar{E}_\gamma$ on the calculated results of ^{235}U gamma decay power. The solid curve with Ⓑ corresponds to calculation after the replacement of experimental $\bar{E}_\beta$ and $\bar{E}_\gamma$ values for 87 nuclides with theoretically estimated ones. The solid curve with Ⓐ corresponds to calculation before the replacement. The experimental data are taken from the papers by ORNL (Ref. 3 and Perry A.M. et al. : ORNL-TM-4197 (1973)) and by LANL (Fischer P.C. and Engle L.B. : Phys. Rev. **134**, B796 (1964)).

high energies are too dense and complicated for existing gamma-ray detectors to detect and resolve all transitions from them. The oversimplification of the high energy part leads to an underestimation or a missing of the beta strength at high energy, and leads to an overestimation of $\bar{E}_\beta$ and an underestimation of $\bar{E}_\gamma$[40]. As is shown by solid line with Ⓐ in **Figs. 2.3.3** and **2.3.4**, a full adoption of experiment-based values of $\bar{E}_\beta$ and $\bar{E}_\gamma$ results in an overestimation of the beta-ray component of decay power and an underestimation of the gamma-ray component.

This defect of the preliminary version of JNDC FP DECAY DATA FILE (1980) was revised by replacing the experimental values of $\bar{E}_\beta$ and $\bar{E}_\gamma$ by the theoretical values calculated with the gross theory for all short-lived FPs with Q-values larger than 5 MeV. ^{96}Y has been excluded from the group because this nuclide has a large contribution to the decay power and needs a special consideration. The accuracy of the decay power calculation has been greatly improved not only for ^{235}U as is seen in **Figs. 2.3.3** and **2.3.4** (solid line with Ⓑ) but also for ^{239}Pu and ^{241}Pu. The final version of JNDC FP Nuclear Data Library adopted the theoretical values of $\bar{E}_\beta$ and $\bar{E}_\gamma$ for all FPs whose beta decay Q-values are larger than 5 MeV though experimental branching ratios are available for 87 nuclides of them. This is because the theoretical values of $\bar{E}_\beta$ and $\bar{E}_\gamma$ for high Q-value FPs are more reliable than the experimental

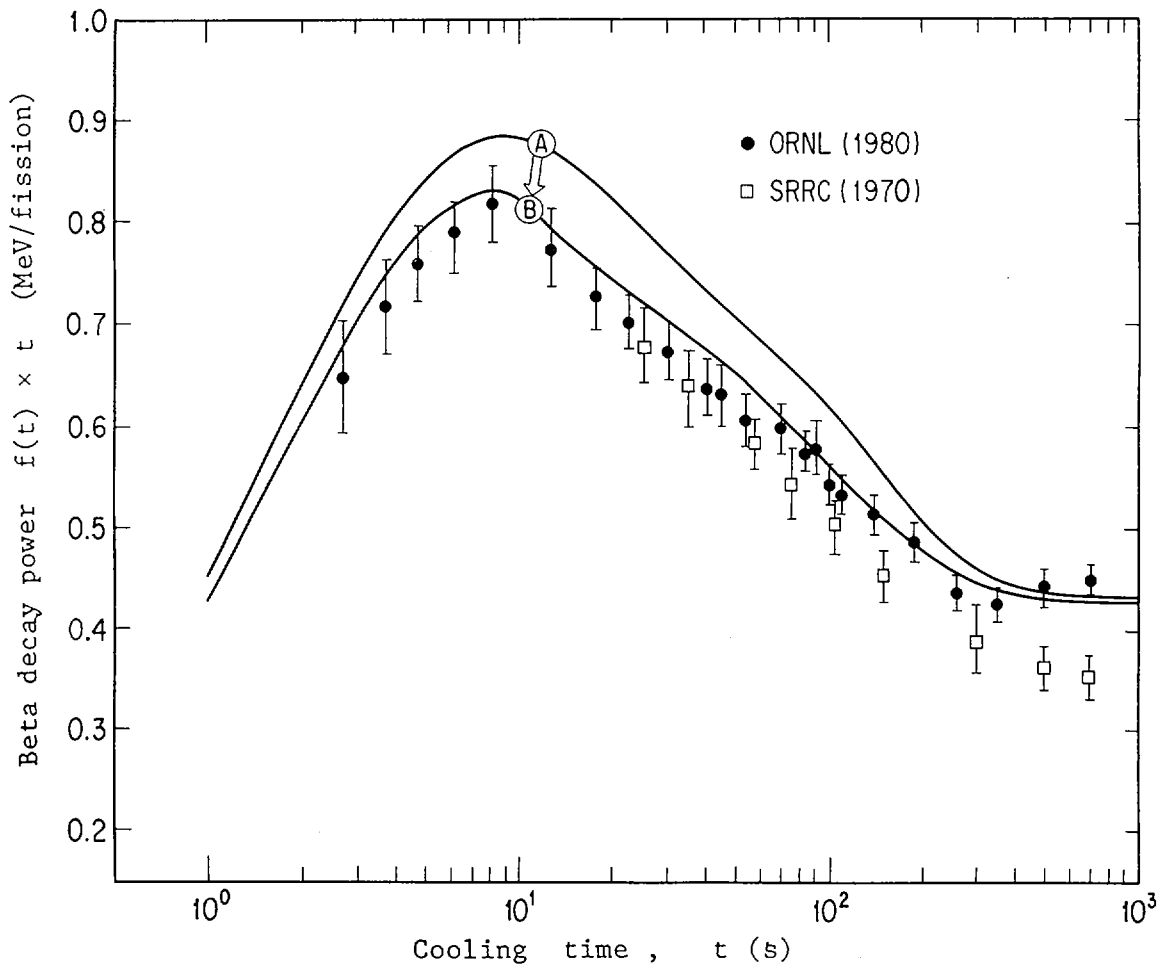


Fig. 2.3.4 Effect of using theoretical values of $\bar{E}_\beta$ on the calculated results of ^{235}U beta decay power. See the caption of **Fig. 2.3.3** for the further details. The experimental data are taken from the papers by ORNL (Ref. 3), and by SRRC (Scotisch Research Reactor Center; MacMahon T.P., Wellum R., and Wilson H.W. : J. Nucl. Energy **24** (1970) 493).

values when evaluated for the whole nuclides but not the individual. The adopted data of $\overline{Q}_\beta$, $\overline{E}_\beta$ and $\overline{E}_\gamma$ are given in Ref. 39 for these 87 nuclides as well as those with unknown data.

2.4 Fission Yields

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

The fission yield data included in the present library are based on those compiled by Rider and Meek[41]. When a new isomer is found or some isomer adopted proves not to exist, the independent yield given by Rider and Meek should be revised as will be described in this section. The cumulative yields have been calculated from the independent yields using the branching ratios adopted in our decay scheme evaluation. The fission yield data thus evaluated are those for thermal neutron fissions of ^{235}U, ^{239}Pu, ^{241}Pu and ^{233}U, fast neutron fissions of ^{235}U, ^{238}U, ^{239}Pu and ^{232}Th, and high-energy neutron fissions of ^{235}U and ^{238}U.

In the compilation work in 1977, Rider and Meek[41] postulated that the independent yields were expressed as the symmetric Gaussian charge distribution with even-odd effects in proton and neutron pairing. They made further adjustment by taking account of available experimental data. The results were adopted in ENDF/B-IV. In the present work most of the yield data has been taken from the compilation by Rider and Meek. However it requested further information about short-lived nuclides far from stability line than theirs and up to date data on isomeric state. Thus we calculated the necessary yield values by following the treatment described in Ref. 41. The main items of the revision are summarized as follows.

1) The distribution of independent yield strength between ground and isomeric states of primary fission products was evaluated by Madland and England method with recent experimental data of the spin-parity values[42]. The values of fraction at yields for a total of 191 nuclides are tabulated in **Table 2.4.1**. We have used these values for all yields of relevant nuclides in our file, while Rider and Meek used only a part of them.
2) The increase in number of nuclides in this library is about 140 and their yields have been estimated.
3) Recent experiments have denied the existence of the isomeric state of ^{74}As, ^{85}Se, ^{86}Rb, ^{109}Rh and ^{162}Tb adopted in Ref. 41. Thus these isomeric states were removed and their yields were added to those of the ground states.
4) The increase in number of isomeric states is 68 and the nuclides are expressed with asterisk at upper right of the names in **Table 2.4.1**.

The equations and the parameter values used in the present evaluation will be briefly described in the following. In a given mass chain of mass number A the fractional independent yield of an isobar of atomic number Z is approximated by the symmetric Gaussian function[43,44] as follows:

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

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

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

Isotope	Metastable state spin	Ground state spin	Fraction of yield metastable (M/M+G) Thermal	Fast	High energy
Cu-68	(6−)	1+	0.70	0.73	0.82
Zn-69	9/2+	1/2−	0.81	0.83	0.89
Cu-70	(5−)	1+	0.75	0.78	0.85
Zn-71	(9/2+)	1/2−	0.81	0.83	0.89
Ge-73	1/2−	9/2+	0.19	0.17	0.11
Se-73*	1/2−	7/2+	0.13	0.12	0.08
Ga-74*	1+	(4)−	0.19	0.17	0.11
Ge-75	7/2+	1/2−	0.87	0.88	0.92
Ge-77	1/2−	7/2(+)	0.13	0.12	0.08
Se-77	7/2+	1/2−	0.87	0.88	0.92
Br-77*	9/2+	3/2−	0.77	0.79	0.86
Se-79	1/2−	7/2+	0.13	0.12	0.08
Br-79	9/2+	3/2−	0.77	0.79	0.86
Kr-79*	7/2+	1/2−	0.87	0.88	0.92
Br-80	5−	1+	0.75	0.78	0.85
Se-81	(7/2)+	(1/2)−	0.87	0.88	0.92
Kr-81	1/2−	7/2+	0.13	0.12	0.08
Rb-81*	9/2+	3/2−	0.77	0.79	0.86
As-82	(5−)	(1+)	0.75	0.78	0.85
Br-82	2−	5−	0.30	0.27	0.18
Se-83	(1/2)−	(9/2)+	0.19	0.17	0.11
Kr-83	1/2−	9/2+	0.19	0.17	0.11
Br-84	(6−)	2−	0.64	0.68	0.78
Rb-84	(6+)	2−	0.64	0.68	0.78
Kr-85	1/2−	9/2+	0.19	0.17	0.11
Sr-85	1/2−	9/2+	0.19	0.17	0.11
Y-85*	(9/2)+	(1/2)−	0.81	0.83	0.89
Rb-86	6−	2−	0.64	0.68	0.78
Sr-87	1/2−	9/2+	0.19	0.17	0.11
Y-87*	9/2+	1/2−	0.81	0.83	0.89
Zr-87*	(1/2−)	(9/2+)	0.19	0.17	0.11
Y-89	9/2+	1/2−	0.81	0.83	0.89
Zr-89	1/2−	9/2+	0.19	0.17	0.11
Nb-89*	(1/2)−	(9/2+)	0.19	0.17	0.11
Rb-90	(4−)	(1−)	0.81	0.83	0.89
Y-90*	7+	2−	0.59	0.63	0.74
Zr-90*	5−	0+	0.81	0.83	0.89
Nb-90*	4−	8+	0.58	0.53	0.39
Y-91*	9/2+	1/2−	0.81	0.83	0.89
Nb-91*	1/2−	9/2+	0.19	0.17	0.11
Mo-91*	1/2−	9/2+	0.19	0.17	0.11
Nb-92	2+	7+	0.41	0.37	0.26
Y-93*	9/2+	1/2−	0.81	0.83	0.89
Nb-93	1/2−	9/2+	0.19	0.17	0.11
Mo-93*	21/2+	5/2+	0.38	0.43	0.58
Tc-93*	1/2−	9/2+	0.19	0.17	0.11
Nb-94	3+	6+	0.41	0.37	0.26
Nb-95	1/2−	9/2+	0.19	0.17	0.11
Tc-95*	1/2−	9/2+	0.19	0.17	0.11
Y-96	−	(0−)	0.5	0.5	0.5
Y-97	(9/2)+	(1/2−)	0.81	0.83	0.89
Nb-97	1/2−	9/2+	0.19	0.17	0.11

Table 2.4.1 Continued

Isotope	Metastable state spin	Ground state spin	Fraction of yield metastable (M/M+G) Thermal	Fast	High energy
Tc-97*	1/2−	9/2+	0.19	0.17	0.11
Y-98*	−	(1+)	0.5	0.5	0.5
Nb-98	(5+)	1+	0.75	0.78	0.85
Nb-99	(1/2)−	(9/2)+	0.19	0.17	0.11
Tc-99	1/2−	9/2+	0.19	0.17	0.11
Rh-99*	9/2+	(1/2−)	0.81	0.83	0.89
Y-100*	−	−	0.5	0.5	0.5
Nb-100*	− N		0.33	0.33	0.33
	− M		0.33	0.33	0.33
		−	0.33	0.33	0.33
Rh-101*	9/2+	1/2−	0.81	0.83	0.89
Rh-102*	−	−	0.5	0.5	0.5
Tc-102	(5)	1+	0.75	0.78	0.85
Rh-102*	(2−)	(6+)	0.36	0.32	0.22
Rh-103	7/2+	1/2−	0.87	0.88	0.92
Ag-103*	(1/2)−	7/2+	0.13	0.12	0.08
Nb-104*	−	−	0.5	0.5	0.5
Rh-104	5+	1+	0.75	0.78	0.85
Rh-105	1/2−	(7/2)+	0.13	0.12	0.08
Ag-105*	(7/2)+	1/2−	0.87	0.88	0.92
Rh-106	$4, 5, 6^+$	1+	0.5	0.5	0.5
Ag-106*	6+	1+	0.70	0.73	0.82
Pd-107	11/2−	5/2+	0.65	0.69	0.79
Ag-107	7/2+	1/2−	0.87	0.88	0.92
Rh-108	−	1+	0.5	0.5	0.5
Ag-108	6+	1+	0.70	0.73	0.82
Pd-109	11/2−	5/2+	0.65	0.69	0.79
Ag-109	7/2+	1/2−	0.87	0.88	0.92
In-109*	1/2− N		0.42	0.47	0.63
	(19/2) M		0.11	0.09	0.04
		9/2+	0.47	0.44	0.33
Rh-110	−	−	0.5	0.5	0.5
Ag-110	6+	1+	0.70	0.73	0.82
Pd-111	(11/2−)	(5/2+)	0.65	0.69	0.79
Ag-111	(7/2+)	1/2−	0.87	0.88	0.92
Cd-111	11/2−	1/2+	0.77	0.79	0.86
In-111*	1/2−	9/2+	0.19	0.17	0.11
In-112*	4+	1+	0.81	0.83	0.89
Ag-113	7/2+	1/2−	0.87	0.88	0.92
Cd-113	11/2−	1/2+	0.77	0.79	0.86
In-113	1/2−	9/2+	0.19	0.17	0.11
Sn-113*	7/2+	1/2+	0.87	0.88	0.92
In-114	5+	1+	0.75	0.78	0.85
Ag-115	7/2+	1/2−	0.87	0.88	0.92
Cd-115	11/2−	1/2+	0.77	0.79	0.86
In-115	1/2−	9/2+	0.19	0.17	0.11
Ag-116	−	−	0.5	0.5	0.5
In-116*	8− N		0.27	0.27	0.30
	5+ M		0.55	0.57	0.60
		1+	0.18	0.16	0.10
Ag-117	7/2+	1/2−	0.87	0.88	0.92
Cd-117	11/2−	1/2+	0.77	0.79	0.86

Table 2.4.1 Continued

Isotope	Metastable state spin	Ground state spin	Fraction of yield metastable (M/M+G) Thermal	Fast	High energy
In-117	1/2–	9/2+	0.19	0.17	0.11
Sn-117*	11/2–	1/2+	0.77	0.79	0.86
Ag-118	–	–	0.5	0.5	0.5
In-118	(8)–	(5)+	0.37	0.42	0.57
Sb-118*	8–	1+	0.59	0.63	0.74
Cd-119	11/2–	1/2+	0.77	0.79	0.86
In-119	1/2–	9/2+	0.19	0.17	0.11
Sn-119	11/2–	1/2+	0.77	0.79	0.86
Te-119*	11/2–	1/2+	0.77	0.79	0.86
Ag-120*	(6–)	(3+)	0.59	0.63	0.74
In-120	(5)+	1+	0.75	0.78	0.85
Sb-120	8–	1+	0.59	0.63	0.74
Cd-121*	–	–	0.5	0.5	0.5
In-121	1/2–	9/2+	0.19	0.17	0.11
Sn-121	(11/2)–	3/2+	0.71	0.74	0.82
Te-121*	11/2–	1/2+	0.77	0.79	0.86
In-122	–	(1+)	0.5	0.5	0.5
Sb-122	(8–)	2–	0.53	0.57	0.70
In-123	(1/2)–	(9/2)+	0.19	0.17	0.11
Sn-123	(3/2)+	11/2–	0.29	0.26	0.18
Te-123	11/2–	1/2+	0.77	0.79	0.86
In-124*	–	(2+)	0.5	0.5	0.5
Sb-124	(5)+	3–	0.64	0.68	0.78
In-125	–	(9/2)+	0.5	0.5	0.5
Sn-125	3/2+	11/2–	0.29	0.26	0.18
Te-125	11/2–	1/2+	0.77	0.79	0.86
Xe-125*	(9/2)–	(1/2)+	0.81	0.83	0.89
In-126*	–	–	0.5	0.5	0.5
Sb-126	(5)+	(8–)	0.63	0.58	0.43
In-127	–	–	0.5	0.5	0.5
Sn-127	(3/2)+	(11/2–)	0.29	0.26	0.18
Te-127*	11/2–	3/2+	0.71	0.74	0.82
Xe-127*	(9/2–)	(1/2+)	0.81	0.83	0.89
In-128*	–	–	0.5	0.5	0.5
Sb-128	5+	8–	0.63	0.58	0.43
In-129	–	–	0.5	0.5	0.5
Sn-129	(11/2–)	(3/2+)	0.71	0.74	0.82
Te-129	11/2–	3/2+	0.71	0.74	0.82
Xe-129*	11/2–	1/2+	0.77	0.79	0.86
Ba-129*	(11/2)–	1/2+	0.77	0.79	0.86
Sn-130*	(7–)	0+	0.70	0.73	0.82
Sb-130	(8–)	(4,5)+	0.5	0.5	0.5
I-130	2+	5+	0.30	0.27	0.18
Sn-131*	(3/2+)	–	0.5	0.5	0.5
Te-131	11/2–	3/2+	0.71	0.74	0.82
Xe-131	11/2–	3/2+	0.71	0.74	0.82
Ba-131*	9/2–	1/2+	0.81	0.83	0.89
Sb-132	(8–)	(4+)	0.42	0.47	0.61
I-132*	(8–)	4+	0.42	0.47	0.61
Te-133	(11/2–)	(3/2+)	0.71	0.74	0.82
I-133	(19/2–)	7/2+	0.38	0.43	0.58
Xe-133	11/2–	3/2+	0.71	0.74	0.82

Table 2.4.1 Continued

Isotope	Metastable state spin	Ground state spin	Fraction of yield metastable (M/M+G) Thermal	Fast	High energy
Ba-133*	11/2−	1/2+	0.77	0.79	0.86
Sb-134	−	−	0.5	0.5	0.5
I-134	(8−)	(4)+	0.42	0.47	0.61
Xe-134	(7−)	0+	0.70	0.73	0.82
Cs-134*	8−	4+	0.42	0.47	0.61
Xe-135	11/2−	3/2+	0.71	0.74	0.82
Cs-135*	(19/2−)	7/2+	0.38	0.43	0.58
Ba-135*	11/2−	3/2+	0.71	0.74	0.82
Ce-135*	(11/2−)	1/2(+)	0.77	0.79	0.86
I-136	(5,6−)	(2−)	0.5	0.5	0.5
Ba-136*	7−	0+	0.70	0.73	0.82
Ba-137	11/2−	3/2+	0.71	0.74	0.82
Ce-137*	11/2−	3/2+	0.71	0.74	0.82
Cs-138	(6−)	3−	0.59	0.63	0.74
Ce-139	11/2−	3/2+	0.71	0.74	0.82
Nd-141*	11/2−	3/2+	0.71	0.74	0.82
Pr-142	5−	2−	0.70	0.73	0.82
Sm-143*	11/2−	3/2+	0.71	0.74	0.82
Xe-144*	−	−	0.5	0.5	0.5
Pr-144	3−	0−	0.90	0.91	0.94
Pm-148	6−	1−	0.70	0.73	0.82
Pr-149*	−	(5/2+)	0.5	0.5	0.5
Pm-152*	≧6 N		0.33	0.33	0.33
	(4) M		0.33	0.33	0.33
		(1+)	0.33	0.33	0.33
Eu-152*	8− N		0.44	0.50	0.65
	0− M		0.06	0.05	0.02
		3−	0.50	0.45	0.33
Pm-154	(3,4)	(0,1)	0.5	0.5	0.5
Eu-154*	(8−)	3−	0.47	0.52	0.66
Tb-156*	(0)+	3−	0.10	0.09	0.06
Tb-158	0−	3−	0.10	0.09	0.06
Ho-159*	1/2+	7/2−	0.13	0.12	0.08
Ho-161*	1/2+	7/2−	0.13	0.12	0.08
Ho-162*	6−	1+	0.70	0.73	0.82
Ho-163	1/2+	7/2−	0.13	0.12	0.08
Ho-164	6(−)	1+	0.70	0.73	0.82
Dy-165	1/2−	7/2+	0.13	0.12	0.08
Ho-166	(7−)	0−	0.70	0.73	0.82
Er-167	1/2−	7/2+	0.13	0.12	0.08
Yb-169*	1/2−	7/2+	0.13	0.12	0.08
Lu-169*	1/2−	7/2+	0.13	0.12	0.08
Ho-170	−	−	0.5	0.5	0.5
Lu-171*	1/2−	7/2+	0.13	0.12	0.08
Lu-172*	1−	4+	0.19	0.17	0.11

* Isomers were not give in Rider-Meek's compilation.

well-known relation as

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

Wahl et al.[43] had proposed the Gaussian distribution of the independent yield in their phenomenological model. After that several investigations[45,46] presented evidence for the fact that the even-odd effect in proton- and neutron-pairing distorts the Gaussian distribution of the yield. So we modify independent yield distribution as follows. Let $F_X(A, Z)$ be a correction factor for the even-odd effect and let $Y(A)$ be the mass yield before delayed-neutron emission. Then the yield $Y(A, Z)$ is given by

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

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

where $N(A)$ is a normalization constant such that the sum of yields is 200% per fission. The $F(A, Z)$'s are expressed in the following form[41,47].

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

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

Experimental data are not enough, but indicate that the magnitudes of p and n depend on fissile and incident energy of neutron. These values were estimated with the simple empirical equation proposed by Madland and England[47]. The results are tabulated in **Table 2.4.2**. The Gaussian width parameter σ is taken to be 0.56 ± 0.06[44] irrespective of mass number, fissile nuclide and neutron energy.

The most probable charge $Z_p(A)$ has been estimated by several investigators. Rider and Meek adopted the values by Wahl et al.[44] and Nethaway[48] and added another correction term for ternary fission, which was estimated by Madland and Stewart[49]. The $Z_p(A)$ is expressed as the sum of standard value for thermal-neutron fission of ^{235}U and the small correction terms

Table 2.4.2 Parameters of pairing effects on the distribution of independent yield in neutron-induced fission (taken from the report by Rider and Meek[41])

Fissile	Proton effects (p)	Neutron effects (n)
^{235}U (T)[a]	0.228	0.044
^{235}U (F)[b]	0.151	0.029
^{235}U (H)[c]	0.015	0.003
^{238}U (F)	0.329	0.063
^{238}U (H)	0.018	0.003
^{239}Pu (T)	0.171	0.033
^{239}Pu (F)	0.124	0.024
^{241}Pu (T)	0.206	0.040
^{233}U (T)	0.210	0.041
^{232}Th (F)	0.327	0.063

a thermal neutrons.
b fission spectrum neutrons.
c 14-MeV neutrons.

as follows:

$$Z_p(A)=Z_p(A, Standard)+\Delta Z_p(Ternary)+\Delta Z_p(A). \quad (2.4.4)$$

The first term in the right hand side is the standard value for thermal-neutron fission of ^{235}U and it is tabulated in **Table A-11** of Ref. 48. The second term is the correction term for ternary fission, and the third term is further decomposed into the following three terms.

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

where Z_c and A_c are the charge and mass number of the compound nucleus, respectively, and E^* is the excitation energy in MeV. The values of the coefficients a, b and c were determined by a least-squares treatment of the available fractional chain yield data for spontaneous and neutron induced fissions[48]. Nethaway derived the values,

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

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

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

Table 2.4.4 Correction factor $\Delta Z_p(Ternary)$ due to ternary fission[41], mass number A_c, and excitation energy E^*(MeV) of compound nucleus[48]

Fissile	$\Delta Z_p(Ternary)$	Z_c	A_c	E^*(MeV)
^{235}U (T)	0.05062	92	236	6.52
^{235}U (F)	−0.10021	92	236	8.31
^{235}U (H)	−0.06241	92	236	21.26
^{238}U (F)	−0.00860	92	239	6.57
^{238}U (H)	−0.10089	92	239	19.52
^{239}Pu (T)	0.01846	94	240	6.50
^{239}Pu (F)	−0.06287	94	240	8.30
^{241}Pu (T)	−0.08924	94	242	6.27
^{233}U (T)	0.03989	92	234	6.81
^{232}Th (F)	0.01299	90	233	6.56

The values of c are given in **Table 2.4.3**. The values of ΔZ_p(Ternary), Z_c, A_c and E^* are given in **Table 2.4.4**.

2.5 Fission Energies

The average energy per fission is a necessary nuclear data in determining the fission rates for various fissionable nuclides from the power in nuclear reactor. This section evaluates the magnitude of the energy released for the thermal fission of ^{235}U, ^{239}Pu, ^{241}Pu, ^{233}U, fast fission of ^{235}U, ^{238}U, ^{239}Pu, ^{232}Th, and high energy (14 MeV) neutron fission of ^{235}U and ^{238}U. Several evaluations have been made of the average energy per fission for various fissile and fissionable nuclides[50-53]. These evaluations have often included estimates of the uncertainty in the average energy per fission based on various empirical and rational arguments. In this section the average energy per fission is determined so as to be consistent with the nuclear data in the present JNDC nuclear data library of fission products.

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

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

and

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

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

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

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

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

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

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

$$m(A, Z) = M(A, Z) - Am_0, \tag{2.5.5}$$

where m_0 is the rest energy of one atomic mass unit, then Eq. 2.5.4 may be rewritten

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

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

very good.

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

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

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

$$Q_f(\infty) = Q'_f - \bar{E}_a \,. \tag{2.5.8}$$

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

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

where, $\Delta E_a = \Delta Q_\beta - (\Delta\bar{E}_{\gamma d} + \Delta\bar{E}_\beta)$,

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

Therefore, Q_{eff} can be rewritten as

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

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

Finally the total energy Q_T released in fission and absorbed in a reactor is given by

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

The quantity Q'_f, the net average energy released directly from the fission process, has been calculated for various fissioning systems with known complete mass-yield distributions by using: (1) Eqs. 2.5.6 and 2.5.7, (2) the fission product (FP) atomic masses in the Tables of Isotopes and (3) fission mass-yield distributions compiled by Rider and Meek[41]. To compare the energy release Q'_f calculated from nuclear masses with that obtained by summation of the

Table 2.5.1 Q'_f calculated from nuclear masses

Target Nuclide	Neutron Energy	Target Mass Excess MeV	FP Mass Excess MeV	ν^d	$(\nu-1)m_n$ MeV	Q'_f MeV
^{235}U	t[a]	40.92	−173.23	2.4229 ± 0.0066	11.48	202.67
^{235}U	f[b]	40.92	−173.25	2.52 ± 0.02	12.27	201.90
^{235}U	h[c]	40.92	−173.97	4.46 ± 0.10	27.93	201.96
^{238}U	f	47.31	−173.24	2.81 ± 0.05	14.61	205.94
^{238}U	h	47.31	−173.72	4.31 ± 0.08	26.72	194.31
^{239}Pu	t	48.59	−173.68	2.8799 ± 0.0090	15.17	207.10
^{239}Pu	f	48.59	−173.50	3.01 ± 0.05	16.22	205.87
^{241}Pu	t	52.95	−173.47	2.934 ± 0.0012	15.61	210.81
^{233}U	t	36.91	−173.20	2.4866 ± 0.0069	12.00	198.11
^{232}Th	f	35.45	−173.02	2.36 ± 0.07	10.98	196.49

a thermal neutrons.
b fission spectrum neutrons.
c 14-MeV neutrons.
d data from Ref. 52.

individual contributions, the values of the average fragment mass excesses $\overline{X}_f=\sum_i y_i m(A_i, Z_i)$ and Q'_f were calculated for the stable end products of fission-product beta decay (in infinite time after fission). The results of these calculations for the average fragment mass excesses and Q'_f values are given in **Table 2.5.1**. The constancy of the average fragment mass excesses for different fissioning systems is clearly demonstrated by the FP mass excess values given in **Table 2.5.1**. This is attributable to the fact that the mass yields for the different fissioning systems considered here are similar to one another and the mass excesses are rather constant over the entire mass region of interest. As a result, the relative Q'_f values for different fissioning systems are dependent mainly on the relative masses of the targets and the average number of emitted neutrons.

The average antineutrino energy $\overline{E}_a$ has been calculated by the DCHAIN code[15] using the present JNDC library with

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

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

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

Target Nuclide	Neutron Energy	$\overline{Q}_\beta$ MeV	$\overline{E}_\beta$ MeV	$\overline{E}_{\gamma d}$ MeV	$\overline{E}_a$ MeV
^{235}U	t	21.7612	6.5421	6.49623	8.72
^{235}U	f	21.8747	6.60948	6.47077	8.79
^{235}U	h	17.8343	5.39646	5.21277	7.23
^{238}U	f	27.3217	8.43626	7.82821	11.06
^{238}U	h	24.3734	7.56574	6.87161	9.94
^{239}Pu	t	17.8302	5.38670	5.22238	7.22
^{239}Pu	f	17.9959	5.46127	5.23570	7.30
^{241}Pu	t	22.4091	6.92158	6.33562	9.15
^{233}U	t	17.2464	5.06542	5.31512	6.87
^{232}Th	f	27.9579	8.37239	8.47861	11.11

Table 2.5.3 Summary of Q_{eff} and Q_T

(unit : MeV)

Target Nuclide	Neutron[a] Energy	Q'_f	E_a	Q_c	$Q_{eff}(\infty)$	$Q_T(\infty)$
^{235}U	*t*	202.67	8.72	8.68	193.94	202.62
^{235}U	*f*	201.90	8.79	9.93	193.11	203.04
^{235}U	*h*	186.96	7.23	22.59	179.73	202.32
^{238}U	*f*	205.94	11.06	11.82 F[b] 11.04 T	194.88	206.70 F 205.92 T
^{238}U	*h*	194.31	9.94	21.61	184.37	205.98
^{239}Pu	*t*	207.10	7.22	11.47	199.87	211.34
^{239}Pu	*f*	205.87	7.30	13.13	198.56	211.69
^{241}Pu	*t*	210.81	9.15	11.80	201.66	213.46
^{233}U	*t*	198.11	6.87	9.07	191.25	200.32
^{232}Th	*f*	196.49	11.11	8.88	185.38	194.26

a refer to **Table 2.5.1**
b F = fast reactor
T = thermal reactor

The capture energy Q_c can be given as

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

where Q_{nc} is the capture energy per captured neutron and it was estimated to be 6.53 ± 0.2 MeV for a ^{235}U-fueled FBR-II type of fast reactor by Unik and Gindler[52] and to be 6.1 ± 0.3 MeV for thermal reactor by James[51]. The value for the fast reactor is also used for the 14 MeV neutron fissions in the present evaluation. The summary of Q_{eff} and Q_T are given in **Table 2.5.3**.

2.6 Neutron Capture Cross Section

The neutron capture is the only reaction involved for the transmutation of fission product nuclides. The neutron capture cross section data have been prepared for 80 fission product nuclides as listed in **Table 2.6.1**. The neutron capture cross section data for 54 fission product nuclides have been evaluated by other working group of JNDC for JENDL-1 and -2[54,55] and the data are compiled in the present library. The data for the remaining 26 nuclides have been taken from ENDF/B-IV.

These neutron capture cross sections have been converted to twenty-seven group cross sections. The group structure is shown in **Table 2.6.2**. Groups 1 to 25, in **Table 2.6.2**, are for fast reactor calculations. Groups 26 and 27 are for thermal reactor calculations. The resonance capture integral is given in Group 26. The lower-energy limit for the resonance integral is 0.5 eV. The thermal neutron capture cross section, for 2200 m/s-neutrons, is given in Group 27.

For fast reactor calculations, the 25-group neutron capture cross sections were calculated by the computer code SUPERTOG[56] using the nuclear data evaluated by Japanese Nuclear Data Committee (JNDC) for 54 nuclides, which cover more than 80% of the total neutron

Table 2.6.1 Fission product nuclides with neutron capture cross section data in the present library

No.	Nuclide	No.	Nuclide	No.	Nuclide	No.	Nuclide
1	^{79}Se	21	^{102}Ru	41	^{133}Xe	61	^{147}Sm
2	^{84}Kr	22	^{103}Rh	42	^{133}Cs	62	^{148}Nd
3	^{85}Kr	23	^{104}Ru	43	^{134}Cs	63	^{148}Pm
4	^{85}Rb	24	^{104}Rh	44	^{135}Xe	64	^{148}Sm
5	^{87}Kr	25	^{105}Rh	45	^{135}Cs	65	^{149}Pm
6	^{87}Rb	26	^{105}Pd	46	^{137}Cs	66	^{149}Sm
7	^{89}Y	27	^{106}Ru	47	^{138}Ba	67	^{150}Nd
8	^{90}Sr	28	^{107}Pd	48	^{139}La	68	^{150}Sm
9	^{91}Zr	29	^{108}Pd	49	^{140}Ba	69	^{151}Sm
10	^{92}Zr	30	^{109}Ag	50	^{140}Ce	70	^{151}Eu
11	^{93}Zr	31	^{110}Pd	51	^{141}Ce	71	^{152}Sm
12	^{94}Zr	32	^{113}Cd	52	^{141}Pr	72	^{153}Eu
13	^{95}Mo	33	^{115}In	53	^{142}Ce	73	^{154}Sm
14	^{96}Zr	34	^{121}Sb	54	^{143}Pr	74	^{154}Eu
15	^{97}Mo	35	^{123}Sb	55	^{143}Nd	75	^{155}Eu
16	^{98}Mo	36	^{127}I	56	^{144}Ce	76	^{155}Gd
17	^{99}Tc	37	^{128}Te	57	^{144}Nd	77	^{156}Eu
18	^{100}Mo	38	^{129}I	58	^{145}Nd	78	^{158}Gd
19	^{100}Ru	39	^{130}Te	59	^{146}Nd	79	^{159}Tb
20	^{101}Ru	40	^{131}Xe	60	^{147}Pm	80	^{148m}Pm

capture reactions of fission products. For the other 26 nuclides, fast-neutron 25-group cross sections were calculated using the data of ENDF/B-IV.

For thermal reactor calculations the data in BNL-325 were used for the resonance integral. Calculated values by JNDC were used for the resonance integral when there are no data in BNL-325. The thermal neutron (2200 m/s) cross sections are evaluated by JNDC. For the thermal reactor systems, the neutron capture rate or the equivalent decay constant λ^* is given as the product of thermal neutron equivalent cross section and thermal neutron flux by

$$\lambda^* = \sigma_{eq} \cdot \phi_{th} . \tag{2.6.1}$$

Thermal neutron equivalent cross section σ_{eq} is given by

$$\sigma_{eq} = A \cdot \sigma_{2200} + r \cdot RI, \tag{2.6.2}$$

where A is the ratio of the average thermal neutron cross section σ_{th} for the neutron energies below 0.5 eV to the cross section σ_{2200} for 2200 m/s neutrons. Therefore, A depends upon the thermal neutron spectrum or the thermal neutron temperature of $T_n(K)$, and is given by

$$A = \sqrt{\frac{\pi}{4} \cdot \frac{T_o}{T_n}} , \qquad T_o = 293.16\ K. \tag{2.6.3}$$

The variable r in Eq. (2.6.2) is the epithermal index or the ratio of resonance neutron flux per unit lethargy to the total thermal neutron flux. RI in Eq. (2.6.2) means the resonance integral for the neutron capture reaction. For the thermal reactor analysis, the variables r

Table 2.6.2 Structure of group constants of neutron capture cross section

Group	Energy Range Upper	Energy Range Lower	Lethargy width
1	10.5 (MeV)	6.5 (MeV)	0.480
2	6.5	4.0	0.480
3	4.0	2.5	0.570
4	2.5	1.4	0.570
5	1.4	0.8	0.690
6	0.8	0.4	0.690
7	0.4	0.2	0.690
8	0.2	0.1	0.770
9	100.0 (KeV)	46.5 (KeV)	0.770
10	46.5	21.5	0.770
11	21.5	10.0	0.770
12	10.0	4.65	0.770
13	4.65	2.15	0.770
14	2.15	1.0	0.770
15	1000.0 (eV)	465.0 (eV)	0.770
16	465.0	215.0	0.770
17	215.0	100.0	0.770
18	100.0	46.5	0.770
19	46.5	21.5	0.770
20	21.5	10.0	0.770
21	10.0	4.65	0.770
22	4.65	2.15	0.770
23	2.15	1.0	0.770
24	1.0	0.465	0.770
25	0.465	0.215	0.770
T	0.0252		–

and A are given as neutron spectral data in Groups 26 and 27, respectively. The thermal neutron flux ϕ_{th} in Eq. (2.6.1) is given as the integral of the neutron flux below 0.5 eV.

$$\phi_{th} = \int_0^{0.5eV} \phi(E)dE. \tag{2.6.4}$$

2.7 Nuclear Data Tables

The evaluated nuclear data of fission products in the present JNDC FP Nuclear Data Library are tabulated in this section.

The decay data and fission yield data are given in **Table 2.7.1** for each mass number. The decay chain diagram is shown graphically for each mass number. The branching ratios are given in the decay chain diagram if more than one decay modes exist for some fission product nuclides in the decay chain. The feeding mode through neutron capture is designated by (n, γ) and the one through the delayed neutron emission by $(d. n)$ in the diagram. When there are the ground and isomeric states in a neutron captured nuclide, the capture cross section must be divided among them. However, there is not enough information about partial capture cross sections. The fractions in the diagram are taken from the ratios of the thermal neutron capture cross sections, which were taken from Table of Isotopes or BNL-325[57].

The decay constant (λ), Q-value and the average decay energies of beta-rays $(\bar{E}_\beta)$, gamma-rays $(\bar{E}_\gamma)$ and internal conversion electrons $(\bar{E}_{CE})$ are given for each nuclide as the decay data in **Table 2.7.1** in addition to the decay chain diagram. If there are more than one decay modes for some nuclide, Q-value is averaged with the weight of branching ratio. The average energies $\bar{E}_\beta$, $\bar{E}_\gamma$ and $\bar{E}_{CE}$ were calculated by the PROFP code[28] using the intensity and energy data. For the nuclide with no or with incomplete experimental data, the necessary decay data had been estimated with the gross theory of beta decay as described in Sec. 2.3.

The most of the independent fission yield data have been taken from the compilation by Rider and Meek[41] and supplemented by the present authors for the additional nuclides and isomeric states. Independent yield values are normalized so that the sum of yields is 200% per fission. Then, the cumulative yields have been calculated from the independent yields using the branching ratios in this library as described in Sec. 2.4. Ten sets of different independent and cumulative yields are given in the table for six fissionable nuclides and three neutron energies. The ten sets are:

(1) ^{235}U , t ; t = thermal neutron fission
(2) ^{235}U , f ; f = fission spectrum neutron fission
(3) ^{235}U , h ; h = 14 MeV neutron fission
(4) ^{238}U , f
(5) ^{238}U , h
(6) ^{239}Pu , t
(7) ^{239}Pu , f
(8) ^{241}Pu , t
(9) ^{233}U , t
(10) ^{232}Th , f

Twenty-seven group neutron capture cross sections are given for 80 nuclides in **Table 2.7.2**. Groups 1 to 25 shown in **Table 2.6.1** are for fast reactor calculations. Groups 26 and 27 are for thermal reactor calculations; the resonance integral and the thermal neutron capture cross section for 2200 m/s-neutrons, respectively (cf. Sec. 2.6). The calculation of fission yields, the data edition, the tabulation and the graphical representation of decay-chain diagram have been performed by a computer code PROFP-Y[58].

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

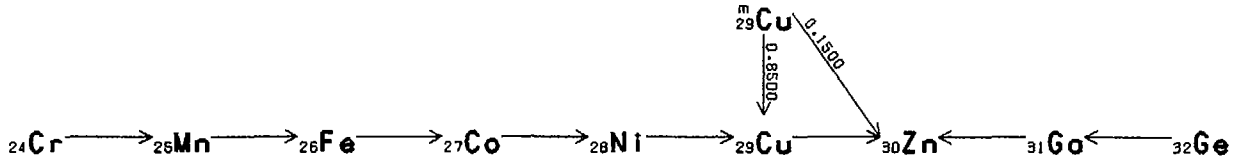
Mass No. 66	$_{24}Cr \rightarrow {}_{25}Mn \rightarrow {}_{26}Fe \rightarrow {}_{27}Co \rightarrow {}_{28}Ni \rightarrow {}_{29}Cu \rightarrow {}_{30}Zn \leftarrow {}_{31}Ga \leftarrow {}_{32}Ge$								
	$_{24}Cr$	$_{25}Mn$	$_{26}Fe$	$_{27}Co$	$_{28}Ni$	$_{29}Cu$	$_{30}Zn$	$_{31}Ga$	$_{32}Ge$
λ(1/sec)	2.5941E+00	3.9496E+00	1.6907E-01	2.4889E-01	3.5071E-06	2.2652E-03	0.0	2.0483E-05	8.4820E-05
Q-value(MeV)	9.8780E+00	1.4580E+01	6.0360E+00	9.6630E+00	2.3600E-01	2.6416E+00	0.0	5.1750E+00	2.1020E+00
E-beta (MeV)	3.8630E+00	4.7390E+00	2.2670E+00	2.8050E+00	6.8147E-02	1.0749E+00	0.0	9.7324E-01	8.7308E-02
E-gamma(MeV)	1.5930E+00	4.6440E+00	1.0470E+00	3.3730E+00	0.0	8.4716E-02	0.0	2.4805E+00	6.8444E-01
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3162E-02
Cumulative yield ^{235}U (T)	2.2100E-11	2.3721E-09	4.8872E-08	7.2972E-08	7.5992E-08	7.5999E-08	7.5999E-08	1.4984E-20	1.0921E-26
Cumulative yield ^{235}U (F)	4.8400E-10	4.5684E-08	5.9568E-07	8.5968E-07	8.7988E-07	8.7993E-07	8.7993E-07	4.1743E-20	1.7456E-26
Cumulative yield ^{236}U (H)	2.0200E-08	6.1202E-06	1.2112E-04	2.7612E-04	2.9462E-04	2.9466E-04	2.9466E-04	8.1691E-16	6.2518E-22
Cumulative yield ^{238}U (F)	9.7200E-11	2.0372E-09	1.6237E-08	1.7917E-08	1.7989E-08	1.7989E-08	1.7989E-08	3.1161E-24	6.4275E-31
Cumulative yield ^{238}U (H)	1.4500E-07	1.0345E-05	5.2645E-05	8.3245E-05	8.3885E-05	8.3886E-05	8.3886E-05	2.8344E-19	4.5020E-26
Cumulative yield ^{239}Pu(T)	1.0800E-11	2.6108E-09	8.4711E-08	1.7101E-07	1.8811E-07	1.8820E-07	1.8820E-07	7.3203E-19	9.3183E-25
Cumulative yield ^{239}Pu(F)	7.1500E-11	1.6671E-08	4.2267E-07	8.4467E-07	9.0967E-07	9.1002E-07	9.1002E-07	2.1221E-18	2.0869E-24
Cumulative yield ^{241}Pu(T)	1.1700E-10	7.9370E-09	9.9137E-08	1.3134E-07	1.3368E-07	1.3368E-07	1.3368E-07	2.5433E-21	1.0109E-27
Cumulative yield ^{233}U (T)	1.0900E-11	2.7709E-09	1.1377E-07	2.3377E-07	2.6367E-07	2.6384E-07	2.6384E-07	2.0010E-18	3.3671E-24
Cumulative yield ^{232}Th(F)	4.9600E-09	1.1996E-07	1.0760E-06	1.2060E-06	1.2113E-06	1.2113E-06	1.2113E-06	4.4660E-22	1.0746E-28
Independent yield ^{235}U (T)	2.2100E-11	2.3500E-09	4.6500E-08	2.4100E-08	3.0200E-09	7.3000E-12	2.7379E-15	1.4984E-20	1.0921E-26
Independent yield ^{235}U (F)	4.8400E-10	4.5200E-08	5.5000E-07	2.6400E-07	2.0200E-08	4.3300E-11	8.9965E-15	4.1743E-20	1.7456E-26
Independent yield ^{235}U (H)	2.0200E-08	6.1000E-06	1.1500E-04	1.5500E-04	1.8400E-05	1.3000E-07	4.8500E-11	8.1690E-16	6.2518E-22
Independent yield ^{238}U (F)	9.7200E-11	1.9400E-09	1.4200E-08	1.6800E-09	7.1600E-11	3.1756E-14	3.4251E-18	3.1161E-24	6.4275E-31
Independent yield ^{238}U (H)	1.4500E-07	1.0200E-05	5.2300E-05	2.0600E-05	6.4000E-07	1.0200E-09	8.4193E-14	2.8344E-19	4.5020E-26
Independent yield ^{239}Pu(T)	1.0800E-11	2.6000E-09	8.2100E-08	8.6300E-08	1.7100E-08	9.3700E-11	5.7749E-14	7.3203E-19	9.3183E-25
Independent yield ^{239}Pu(F)	7.1500E-11	1.6600E-08	4.0600E-07	4.2200E-07	6.5000E-08	3.4500E-10	1.7168E-13	2.1221E-18	2.0869E-24
Independent yield ^{241}Pu(T)	1.1700E-10	7.8200E-09	9.1200E-08	3.2200E-08	2.3400E-09	3.5600E-12	7.5913E-15	2.5433E-21	1.0109E-27
Independent yield ^{233}U (T)	1.0900E-11	2.7600E-09	1.1100E-07	1.2000E-07	2.9900E-08	1.7200E-10	1.4557E-13	2.0010E-18	3.3671E-24
Independent yield ^{232}Th(F)	4.9600E-09	1.1600E-07	9.5600E-07	1.2900E-07	5.3400E-09	3.2300E-12	4.1463E-16	4.4560E-22	1.0746E-28

Table 2.7.1 Continued

Mass No. 67	$_{24}Cr \rightarrow {}_{25}Mn \rightarrow {}_{26}Fe \rightarrow {}_{27}Co \rightarrow {}_{28}Ni \rightarrow {}_{29}Cu \rightarrow {}_{30}Zn \leftarrow {}_{31}Ga \leftarrow {}_{32}Ge$								
	$_{24}Cr$	$_{26}Mn$	$_{26}Fe$	$_{27}Co$	$_{28}Ni$	$_{29}Cu$	$_{30}Zn$	$_{31}Ga$	$_{32}Ge$
λ(1/sec)	6.1449E+00	3.2060E+00	9.8693E-01	3.0321E-01	3.8508E-02	3.1115E-06	0.0	2.4601E-06	5.1778E-04
Q-value(MeV)	1.3450E+01	1.1970E+01	9.7310E+00	7.8280E+00	3.5500E+00	5.7500E-01	0.0	1.0011E+00	4.4300E+00
E-beta (MeV)	4.9320E+00	4.5310E+00	3.7080E+00	3.0560E+00	1.0213E+00	1.4082E-01	0.0	0.0	1.2919E+00
E-gamma(MeV)	3.1370E+00	2.4530E+00	1.8520E+00	1.2490E+00	1.4341E+00	1.1396E-01	0.0	1.4794E-01	1.4115E+00
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	1.5130E-02	0.0	3.2708E-02	0.0
Cumulative yield ^{235}U (T)	5.5000E-12	2.5465E-09	1.2755E-07	3.3165E-07	3.9045E-07	3.9098E-07	3.9098E-07	1.1994E-17	2.4700E-23
Cumulative yield ^{235}U (F)	1.0300E-10	3.4103E-08	1.0741E-06	2.5441E-06	2.8251E-06	2.8272E-06	2.8272E-06	2.2730E-17	2.8729E-23
Cumulative yield ^{236}U (H)	2.1100E-09	2.0721E-06	1.1607E-04	6.2307E-04	6.5307E-04	6.5584E-04	6.5585E-04	1.9286E-13	4.9564E-19
Cumulative yield ^{238}U (F)	3.3800E-11	2.7638E-09	4.3764E-08	6.0664E-08	6.2264E-08	6.2267E-08	6.2267E-08	3.3392E-21	1.7677E-27
Cumulative yield ^{238}U (H)	2.0100E-08	4.4601E-06	6.6660E-05	1.3136E-04	1.3710E-04	1.3713E-04	1.3713E-04	9.1245E-17	4.8747E-23
Cumulative yield ^{239}Pu(T)	9.5512E-13	8.0995E-10	6.6710E-08	2.7671E-07	3.7461E-07	3.7648E-07	3.7648E-07	1.5977E-16	5.0281E-22
Cumulative yield ^{239}Pu(F)	1.0800E-11	8.8508E-09	5.8585E-07	2.3258E-06	2.9868E-06	2.9985E-06	2.9987E-06	7.8939E-16	2.3930E-21
Cumulative yield ^{241}Pu(T)	1.4500E-11	3.7145E-09	1.0971E-07	2.2771E-07	2.4881E-07	2.4894E-07	2.4894E-07	9.0874E-19	1.0423E-24
Cumulative yield ^{233}U (T)	1.9200E-12	1.8619E-09	1.8886E-07	8.2586E-07	1.1859E-06	1.1933E-06	1.1933E-06	9.3139E-16	4.4891E-21
Cumulative yield ^{232}Th(F)	1.5400E-09	1.5564E-07	2.7956E-06	4.0366E-06	4.1596E-06	4.1599E-06	4.1599E-06	4.4974E-19	2.7887E-25
Independent yield ^{235}U (T)	5.5000E-12	2.5400E-09	1.2500E-07	2.0400E-07	5.8800E-08	5.3700E-10	5.4105E-13	1.1994E-17	2.4700E-23
Independent yield ^{235}U (F)	1.0300E-10	3.4000E-08	1.0400E-06	1.4700E-06	2.8100E-07	2.1200E-09	1.3300E-12	2.2730E-17	2.8729E-23
Independent yield ^{236}U (H)	2.1100E-09	2.0700E-06	1.1300E-04	4.0800E-04	1.3000E-04	2.7700E-06	3.4200E-09	1.9286E-13	4.9564E-19
Independent yield ^{238}U (F)	3.3800E-11	2.7300E-09	4.1000E-08	1.6900E-08	1.6000E-09	2.9600E-12	8.1483E-16	3.3392E-21	1.7677E-27
Independent yield ^{238}U (H)	2.0100E-08	4.4400E-06	6.2100E-05	5.4800E-05	5.7400E-05	2.8100E-08	2.8100E-12	9.1245E-17	4.8747E-23
Independent yield ^{239}Pu(T)	9.5512E-13	8.0900E-10	6.5900E-08	2.1000E-07	9.7900E-08	1.8700E-09	3.3800E-12	1.5977E-16	5.0281E-22
Independent yield ^{239}Pu(F)	1.0800E-11	8.8400E-09	5.7700E-07	1.7400E-06	6.6100E-07	1.1800E-08	1.7000E-11	7.8939E-16	2.3930E-21
Independent yield ^{241}Pu(T)	1.4500E-11	3.7000E-09	1.0600E-07	1.1800E-07	2.1100E-08	1.2300E-10	5.8026E-14	9.0874E-19	1.0423E-24
Independent yield ^{233}U (T)	1.9200E-12	1.8600E-09	1.8700E-07	6.3700E-07	3.6000E-07	7.4400E-09	1.6700E-11	9.3139E-16	4.4891E-21
Independent yield ^{232}Th(F)	1.5400E-09	1.5400E-07	2.6400E-06	1.2400E-06	1.3400E-07	2.8100E-10	9.3161E-14	4.4974E-19	2.7887E-25

Table 2.7.1 Continued

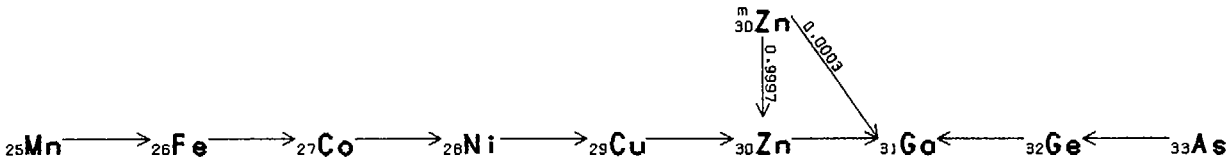
Mass No. 68



		24Cr	25Mn	26Fe	27Co	28Ni	m29Cu	29Cu	30Zn	31Ga	32Ge
	λ(1/sec)	5.2831E+00	6.3475E+00	4.7185E-01	9.3808E-01	1.2032E-03	3.0807E-03	2.2360E-02	0.0	1.6989E-04	2.7656E-06
	Q-value(MeV)	1.1250E+01	1.5650E+01	7.1330E+00	1.1650E+01	2.2560E+00	1.4143E+00	4.6200E+00	0.0	2.9211E+00	1.1400E-01
	E-beta (MeV)	4.3910E+00	6.0720E+00	2.7290E+00	3.6850E+00	5.6370E-01	1.9700E-01	1.4977E+00	0.0	7.4052E-01	0.0
	E-gamma(MeV)	2.0090E+00	5.0500E+00	1.2150E+00	3.8090E+00	5.8190E-01	9.5600E-01	1.2242E+00	0.0	9.5111E-01	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cumulative yield	235U (T)	4.3772E-13	4.7644E-10	8.1876E-08	3.7888E-07	6.5268E-07	3.0900E-09	6.5869E-07	6.5908E-07	1.4888E-15	1.2518E-20
	236U (F)	7.9800E-12	7.5780E-09	7.8568E-07	3.3766E-06	4.8766E-06	1.5100E-08	4.9045E-05	4.9068E-06	3.5456E-15	1.7139E-20
	236U (H)	8.5400E-11	2.7009E-07	4.5170E-05	4.9417E-04	8.7317E-04	1.1700E-05	8.9481E-04	8.9666E-04	1.6200E-11	1.5087E-16
	238U (F)	1.0100E-11	1.9501E-09	1.1195E-07	2.0125E-07	2.3275E-07	6.8400E-11	2.3288E-07	2.3289E-07	1.7041E-18	4.0866E-24
	238U (H)	2.3500E-09	1.5323E-06	6.8732E-05	2.4973E-04	2.9433E-04	3.4400E-07	2.9497E-04	2.9502E-04	2.3563E-14	4.3592E-20
	239Pu(T)	9.5122E-14	2.3110E-10	5.5531E-08	5.7353E-07	1.2835E-05	1.7200E-08	1.3154E-06	1.3182E-06	3.1224E-14	4.5646E-19
	239Pu(F)	9.5535E-13	2.3410E-09	5.1834E-07	4.3783E-06	8.5183E-05	1.0000E-07	8.8033E-06	8.8184E-06	1.4230E-13	1.5087E-18
	241Pu(T)	1.5700E-12	1.1617E-09	1.1716E-07	4.0615E-07	5.7116E-07	1.2300E-09	5.7344E-07	5.7363E-07	2.0007E-16	9.2025E-22
	233U (T)	1.5604E-13	4.2216E-10	1.5642E-07	1.3964E-06	3.5554E-05	5.4500E-08	3.5672E-06	3.5753E-06	1.4354E-13	2.7704E-18
	232Th(F)	3.9600E-10	8.9196E-08	5.8692E-05	1.1219E-05	1.3359E-05	5.4300E-09	1.3359E-05	1.3370E-05	1.8522E-16	5.1896E-22
Independent yield	235U (T)	4.3772E-13	4.7500E-10	8.1400E-08	2.8700E-07	2.7400E-07	3.0900E-09	3.0900E-09	2.4100E-11	1.4888E-15	1.2518E-20
	235U (F)	7.9600E-12	7.5700E-09	7.7900E-07	2.5900E-06	1.5000E-06	1.5100E-08	1.5100E-08	5.9600E-11	3.5455E-15	1.7139E-20
	236U (H)	8.5400E-11	2.7000E-07	4.5900E-05	4.4800E-04	3.7900E-04	1.1700E-05	1.1700E-05	9.1000E-08	1.6200E-11	1.5087E-16
	238U (F)	1.0100E-11	1.9400E-09	1.1000E-07	8.9300E-08	3.1500E-08	5.8400E-11	5.8400E-11	1.5422E-13	1.7041E-18	4.0866E-24
	238U (H)	2.3500E-09	1.5300E-06	6.7100E-05	1.8100E-04	4.4600E-05	3.4400E-07	3.4400E-07	6.0900E-10	2.3563E-14	4.3592E-20
	239Pu(T)	9.5122E-14	2.3100E-10	5.5300E-08	5.0700E-07	7.1000E-07	1.7200E-08	1.7200E-08	2.2700E-10	3.1223E-14	4.5646E-19
	239Pu(F)	9.5535E-13	2.3400E-09	5.1600E-07	3.8600E-06	4.2400E-05	1.0000E-07	1.0000E-07	1.0200E-09	1.4230E-13	1.5087E-18
	241Pu(T)	1.5700E-12	1.1500E-09	1.1500E-07	2.8900E-07	1.5500E-07	1.2300E-09	1.2300E-09	5.4600E-12	2.0007E-16	9.2026E-22
	233U (T)	1.5604E-13	4.2200E-10	1.5600E-07	1.2400E-06	2.1700E-06	5.4500E-08	5.4500E-08	9.2500E-10	1.4353E-13	2.7704E-18
	232Th(F)	3.9600E-10	8.8800E-08	5.7800E-05	5.3500E-06	2.1400E-05	5.4300E-09	5.4300E-09	1.4800E-11	1.8522E-16	5.1896E-22

Table 2.7.1 Continued

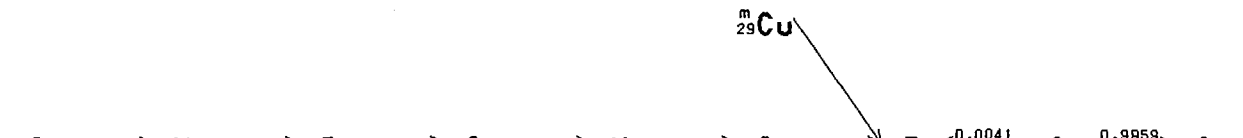
Mass No. 69



		25Mn	26Fe	27Co	28Ni	29Cu	30mZn	30Zn	31Ga	32Ge	33As
	λ(1/sec)	6.3417E+00	1.8179E+00	7.6287E-01	7.4612E-02	3.6506E-03	1.3753E-05	2.0776E-04	0.0	4.9306E-06	7.6003E-04
	Q-value(MeV)	1.3490E+01	1.0790E+01	9.2030E+00	6.0510E+00	2.6500E+00	4.3890E-01	9.0450E-01	0.0	2.2253E+00	3.9700E+00
	E-beta (MeV)	4.9840E+00	4.0460E+00	3.6610E+00	2.3270E+00	1.0168E+00	8.7000E-05	3.2068E-01	0.0	1.7552E-01	1.2618E+00
	E-gamma(MeV)	3.0700E+00	2.2360E+00	1.6130E+00	9.3270E-01	2.2339E-01	4.1656E-01	6.0003E-06	0.0	8.7053E-01	1.0064E+00
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	2.2094E-02	0.0	0.0	0.0	3.5855E-03
Cumulative yield	235U (T)	8.0600E-11	3.5881E-08	4.7688E-07	1.3679E-06	1.4261E-06	6.1900E-10	1.4268E-06	1.4268E-06	4.0247E-18	1.9739E-24
	235U (F)	1.4300E-09	4.0643E-07	4.6064E-05	1.0235E-05	1.0506E-05	2.1400E-09	1.0509E-05	1.0509E-05	6.6472E-18	2.5796E-24
	235U (H)	2.4400E-08	1.3024E-05	3.7902E-04	1.1800E-03	1.3190E-03	1.4800E-05	1.3207E-03	1.3207E-03	3.0311E-14	3.7246E-20
	238U (F)	8.3400E-10	1.0683E-07	4.1083E-07	6.2683E-07	6.3060E-07	8.9300E-12	6.3061E-07	6.3061E-07	3.1024E-21	2.7682E-28
	238U (H)	3.0200E-07	3.7602E-06	3.1250E-04	4.8950E-04	4.9768E-04	2.0600E-08	4.9770E-04	4.9770E-04	1.8528E-17	4.6761E-24
	239Pu(T)	4.9400E-11	3.9449E-08	1.0334E-05	4.2134E-05	4.7004E-05	7.7500E-09	4.7092E-05	4.7092E-05	1.9399E-16	2.1080E-22
	239Pu(F)	6.3882E-10	1.2339E-09	2.8623E-07	1.0695E-05	2.8795E-05	3.5000E-06	3.2726E-05	3.2765E-05	2.7800E-11	7.8099E-22
	241Pu(T)	2.4000E-10	6.2540E-08	5.6754E-07	1.2085E-06	1.2414E-06	1.7500E-10	1.2416E-06	1.2416E-06	3.7358E-19	1.0971E-26
	233U (T)	6.7200E-11	5.6667E-08	1.8867E-06	8.9267E-06	1.0077E-05	2.2700E-08	1.0102E-05	1.0102E-05	8.3570E-16	1.0201E-21
	232Th(F)	3.0300E-08	4.4803E-05	1.9080E-05	3.0880E-05	3.1117E-05	6.5300E-10	3.1118E-05	3.1118E-05	3.1242E-19	3.2886E-26
Independent yield	235U (T)	8.0600E-11	3.5800E-08	4.4100E-07	8.8100E-07	6.8200E-08	6.1900E-10	7.6500E-11	1.7082E-13	4.0247E-18	1.9739E-24
	235U (F)	1.4300E-09	4.0500E-07	4.2000E-05	5.6300E-05	3.7000E-07	2.1400E-09	2.6400E-10	4.5844E-13	6.6472E-18	2.5796E-24
	235U (H)	2.4400E-08	1.3000E-05	3.6500E-04	8.0100E-04	1.3900E-04	1.4800E-05	1.8300E-07	9.8500E-10	3.0311E-14	3.7246E-20
	238U (F)	8.3400E-10	1.0600E-07	3.0400E-07	2.1600E-07	3.7700E-09	8.9300E-12	1.8300E-12	6.0714E-16	3.1024E-21	2.7682E-28
	238U (H)	3.0200E-07	3.7200E-05	2.7500E-04	1.7700E-04	8.1800E-06	2.0500E-08	2.5300E-09	2.9400E-12	1.8528E-17	4.6761E-24
	239Pu(T)	4.9400E-11	3.9400E-08	9.9400E-07	3.1800E-06	4.8700E-07	7.7500E-09	9.5800E-10	4.6600E-12	1.9399E-16	2.1080E-22
	239Pu(F)	6.3992E-10	6.9400E-10	2.9400E-07	1.0400E-05	1.8100E-05	3.5000E-06	4.3200E-07	3.7600E-08	2.7800E-11	7.8099E-22
	241Pu(T)	2.4000E-10	6.2300E-08	5.0500E-07	5.4100E-07	3.2900E-08	1.7500E-10	2.1600E-11	2.8366E-14	3.7368E-19	1.0971E-26
	233U (T)	6.7200E-11	6.6600E-08	1.8200E-05	7.0400E-06	1.1500E-06	2.2700E-08	2.8000E-09	1.4900E-11	8.3570E-16	1.0201E-21
	232Th(F)	3.0300E-08	4.4500E-05	1.4600E-05	1.1800E-05	2.3700E-07	6.5300E-10	1.3400E-10	4.3639E-14	3.1242E-19	3.2886E-26

Table 2.7.1 Continued

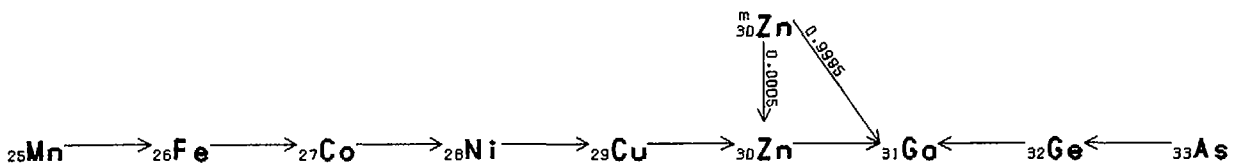
Mass No. 70



		$_{24}Cr$	$_{25}Mn$	$_{26}Fe$	$_{27}Co$	$_{28}Ni$	$^{m}_{29}Cu$	$_{29}Cu$	$_{30}Zn$	$_{31}Ga$	$_{32}Ge$
	λ(1/sec)	1.2067E+01	1.0483E+01	1.2908E+00	1.9918E+00	1.4080E-02	1.5068E-02	1.5403E-01	0.0	5.4622E-04	0.0
	Q-value(MeV)	1.3150E+01	1.6910E+01	8.5640E+00	1.2980E+01	3.6070E+00	6.3100E+00	6.1700E+00	0.0	1.6522E+00	0.0
	E-beta (MeV)	5.0840E+00	6.4450E+00	3.3200E+00	4.1540E+00	1.2400E+00	1.6500E+00	2.6970E+00	0.0	6.4514E-01	0.0
	E-gamma(MeV)	2.5320E+00	5.5550E+00	1.4600E+00	4.2080E+00	7.1290E-01	2.1670E+00	2.9500E-01	0.0	5.5719E-03	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cumulative yield	^{235}U (T)	6.3217E-16	7.5006E-12	1.2907E-08	3.9891E-07	2.8489E-06	2.1400E-07	3.0629E-06	3.2929E-06	1.0600E-11	1.0568E-11
	^{235}U (F)	1.5422E-14	1.5002E-10	1.5215E-07	4.2221E-06	2.0322E-05	1.2900E-06	2.1512E-05	2.2960E-05	3.3400E-11	3.3265E-11
	^{236}U (H)	4.5076E-14	1.6900E-09	2.9317E-05	2.4893E-04	1.6989E-03	3.3200E-04	2.0309E-03	2.3870E-03	4.5500E-08	4.5417E-08
	^{238}U (F)	7.3167E-14	1.5007E-10	7.8550E-08	5.4655E-07	1.7065E-06	2.1900E-08	1.7284E-06	1.7509E-06	5.1740E-14	5.1488E-14
	^{238}U (H)	4.9900E-12	3.7205E-08	1.4637E-05	3.1464E-04	8.2464E-04	3.2900E-05	8.5754E-04	8.9102E-04	2.4600E-10	2.4400E-10
	^{239}Pu(T)	2.1268E-16	5.5902E-12	1.5505E-08	1.1166E-06	1.1917E-05	1.9200E-06	1.3837E-05	1.5992E-05	3.5400E-10	3.5250E-10
	^{239}Pu(F)	2.0164E-15	5.4602E-11	1.2305E-07	8.0431E-06	5.8743E-05	1.0700E-05	7.9443E-05	9.1153E-05	1.4600E-09	1.4542E-09
	^{241}Pu(T)	1.1698E-14	4.2812E-11	4.1700E-05	4.8930E-06	8.2230E-05	1.9400E-07	8.4170E-06	8.5195E-06	3.5400E-12	3.5258E-12
	^{233}U (T)	2.5844E-16	8.0903E-12	3.0908E-08	2.1909E-06	2.8891E-05	4.9000E-06	3.3791E-05	3.8450E-05	1.2100E-09	1.2053E-09
	^{232}Th(F)	1.5400E-12	3.6715E-09	2.2337E-05	1.7534E-05	6.0334E-05	9.3200E-07	5.1266E-05	5.2224E-05	3.4800E-12	3.4558E-12
Independent yield	^{236}U (T)	6.3217E-16	7.5000E-12	1.2900E-08	3.8600E-07	2.4500E-06	2.1400E-07	2.1400E-07	1.5000E-08	1.0600E-11	1.0129E-15
	^{235}U (F)	1.5422E-14	1.5000E-10	1.5200E-07	4.0700E-06	1.6100E-05	1.2900E-06	1.2800E-06	5.8200E-08	3.3400E-11	1.7801E-15
	^{236}U (H)	4.5076E-14	1.6900E-09	2.9300E-05	2.4600E-04	1.4500E-03	3.3200E-04	3.3200E-04	2.4100E-05	4.5500E-08	4.4200E-12
	^{238}U (F)	7.3167E-14	1.5000E-10	7.8400E-08	4.6800E-07	1.1500E-05	2.1900E-08	2.1900E-08	5.2700E-10	5.1740E-14	1.5978E-18
	^{238}U (H)	4.9900E-12	3.7200E-08	1.4600E-05	3.0000E-04	5.1000E-04	3.2900E-05	3.2900E-05	5.8700E-07	2.4500E-10	5.2455E-15
	^{239}Pu(T)	2.1266E-16	5.5900E-12	1.5600E-08	1.1000E-06	1.0800E-05	1.9200E-06	1.9200E-06	2.3500E-07	3.5400E-10	5.5389E-14
	^{239}Pu(F)	2.0164E-15	5.4600E-11	1.2300E-07	7.9200E-06	6.0700E-05	1.0700E-05	1.0700E-05	1.0100E-06	1.4600E-09	1.8968E-13
	^{241}Pu(T)	1.1698E-14	4.2800E-11	4.1700E-05	8.2300E-07	3.2300E-05	1.9400E-07	1.9400E-07	8.4900E-09	3.5400E-12	3.4375E-15
	^{233}U (T)	2.5844E-16	8.0900E-12	3.0900E-08	2.1600E-06	2.6700E-05	4.9000E-06	4.9000E-06	7.5900E-07	1.2100E-09	2.5605E-13
	^{232}Th(F)	1.5400E-12	3.6700E-09	2.2300E-05	1.5300E-05	4.2800E-05	9.3200E-07	9.3200E-07	2.5000E-08	3.4800E-12	1.1446E-16

Table 2.7.1 Continued

Mass No. 71



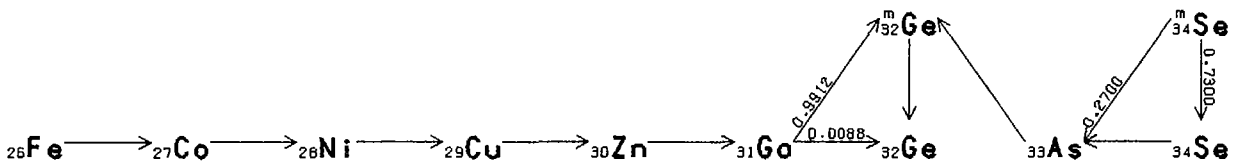
		25Mn	26Fe	27Co	28Ni	29Cu	m30Zn	30Zn	31Ga	32Ge	33As
	λ(1/sec)	1.3780E+01	3.3421E+00	1.9265E+00	2.1620E-01	8.4830E-03	4.9118E-05	4.8135E-03	0.0	6.7989E-07	2.9713E-06
	Q-value(MeV)	1.6520E+01	1.1970E+01	1.0830E+01	7.3660E+00	3.8120E+00	2.8736E+00	2.8180E+00	0.0	2.3670E-01	2.0130E+00
	E-beta (MeV)	6.5740E+00	4.4010E+00	4.1020E+00	2.8220E+00	1.3730E+00	5.6372E-01	1.0614E+00	0.0	0.0	1.0131E-01
	E-gamma(MeV)	3.9100E+00	2.7100E+00	2.1620E+00	1.2440E+00	6.3670E-01	1.6498E+00	3.0026E-01	0.0	0.0	5.8986E-01
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.2826E-04
Cumulative yield	235U (T)	6.2461E-13	2.8806E-09	3.2188E-07	4.9119E-06	7.4619E-06	2.0600E-07	7.4774E-06	7.5839E-06	1.5493E-13	8.7365E-19
	236U (F)	1.3900E-11	4.0614E-08	3.7405E-06	3.8841E-05	5.5641E-05	8.8600E-07	5.5750E-05	5.5637E-05	3.2762E-13	1.4662E-18
	235U (H)	6.8400E-11	3.8707E-07	1.0239E-04	1.7594E-03	3.7654E-03	1.8400E-04	3.7882E-03	3.9733E-03	3.9601E-10	5.8861E-15
	238U (F)	2.6400E-11	3.3226E-08	7.9623E-07	4.5262E-06	5.0402E-05	1.1900E-08	5.0427E-06	5.0546E-06	5.0636E-16	5.2399E-22
	238U (H)	2.8900E-09	3.6029E-06	2.2660E-04	1.2146E-03	1.5526E-03	8.2800E-06	1.5636E-03	1.5719E-03	9.0198E-13	2.6331E-18
	239Pu(T)	2.7777E-13	2.2403E-09	5.3624E-07	1.3336E-05	2.6935E-05	1.8400E-06	2.7163E-05	2.9013E-05	5.3701E-12	6.4424E-17
	239Pu(F)	4.3200E-12	2.9104E-08	5.4491E-06	1.3145E-04	2.5745E-04	1.3800E-06	2.5916E-04	2.7303E-04	2.9500E-11	3.5400E-16
	241Pu(T)	2.6400E-12	7.0726E-09	5.0307E-07	4.9231E-06	6.5931E-06	8.2100E-08	6.6032E-06	6.5854E-06	2.1036E-14	7.1273E-20
	233U (T)	8.9269E-13	9.5709E-09	2.4996E-06	7.5800E-05	1.6880E-04	1.3600E-05	1.6050E-04	1.7418E-04	5.4101E-11	7.7386E-16
	232Th(F)	5.4300E-10	7.9454E-07	2.1995E-05	1.3899E-04	1.5749E-04	5.9400E-07	1.5750E-04	1.5829E-04	2.8696E-14	3.5006E-20
Independent yield	235U (T)	6.2451E-13	2.8800E-09	3.1900E-07	4.5900E-06	2.5400E-05	2.0600E-07	2.5400E-08	5.8700E-10	1.5493E-13	8.7365E-19
	235U (F)	1.3900E-11	4.0600E-08	3.7000E-06	3.5100E-05	1.6800E-05	8.8500E-07	1.0900E-07	2.0700E-09	3.2762E-13	1.4652E-18
	236U (H)	6.8400E-11	3.8700E-07	1.0200E-04	1.6670E-03	2.0060E-03	1.8400E-04	2.2700E-06	1.2500E-06	3.9600E-10	5.8861E-15
	238U (F)	2.6400E-11	3.3200E-08	7.6300E-07	3.7300E-06	5.1400E-07	1.1900E-08	2.4400E-09	7.1000E-12	5.0636E-16	5.2399E-22
	238U (H)	2.8900E-09	3.6000E-06	2.2200E-04	9.8900E-04	3.4800E-04	8.2800E-06	1.0200E-06	1.2800E-08	9.0198E-13	2.6331E-18
	239Pu(T)	2.7777E-13	2.2400E-09	5.3300E-07	1.2800E-05	1.3600E-05	1.8400E-06	2.2700E-07	1.1200E-08	5.3700E-12	6.4424E-17
	239Pu(F)	4.3200E-12	2.9100E-08	5.4200E-06	1.2500E-04	1.2500E-04	1.3800E-05	1.7000E-06	7.8300E-08	2.9500E-11	3.5400E-16
	241Pu(T)	2.6400E-12	7.0700E-09	4.9600E-07	4.4200E-06	1.6700E-05	8.2100E-08	1.0100E-08	1.4700E-10	2.1036E-14	7.1273E-20
	233U (T)	8.9269E-13	9.5700E-09	2.4900E-06	7.3300E-05	8.3000E-05	1.3600E-05	1.6900E-06	9.0900E-08	5.4100E-11	7.7386E-16
	232Th(F)	5.4300E-10	7.9400E-07	2.1200E-05	1.1700E-04	1.8500E-05	5.8400E-07	1.0100E-07	3.4600E-10	2.8696E-14	3.5006E-20

Table 2.7.1 Continued

Mass No. 72	$_{26}$Fe → $_{27}$Co → $_{28}$Ni → $_{29}$Cu → $_{30}$Zn → $_{31}$Ga → $_{32}$Ge ← $_{33}$As ← $_{34}$Se								
	$_{26}$Fe	$_{27}$Co	$_{28}$Ni	$_{29}$Cu	$_{30}$Zn	$_{31}$Ga	$_{32}$Ge	$_{33}$As	$_{34}$Se
λ (1/sec)	3.7898E+00	3.9250E+00	8.8378E-02	4.6866E-02	4.1407E-08	1.3655E-05	0.0	7.4054E-06	9.5506E-07
Q-value (MeV)	1.0460E+01	1.4370E+01	5.1260E+00	7.5210E+00	4.5700E-01	3.9916E+00	0.0	4.3610E+00	3.3700E-01
E-beta (MeV)	4.0610E+00	4.6080E+00	1.8820E+00	2.0350E+00	8.5161E-02	4.9606E-01	0.0	1.0218E+00	0.0
E-gamma (MeV)	1.8740E+00	4.6940E+00	9.1310E-01	2.9940E+00	1.4355E-01	2.7023E+00	0.0	1.7422E+00	2.7048E-02
E-I.C (MeV)	0.0	0.0	0.0	0.0	1.9159E-02	0.0	0.0	0.0	1.8952E-02
Cumulative yield									
^{235}U (T)	7.1500E-10	2.0872E-07	1.0609E-05	2.2909E-05	2.5629E-05	2.5653E-05	2.5654E-05	4.0726E-16	8.6338E-22
^{235}U (F)	1.1200E-08	2.8612E-06	8.8761E-05	1.8395E-04	2.0196E-04	2.0207E-04	2.0207E-04	8.2231E-16	1.0010E-21
^{235}U (H)	2.9800E-08	2.4830E-05	1.2208E-03	4.9808E-03	6.0488E-03	6.0688E-03	6.0688E-03	1.0043E-12	2.2327E-18
^{238}U (F)	7.6400E-09	4.0864E-07	7.4386E-06	9.3686E-06	9.5806E-06	9.5809E-06	9.5809E-06	2.1043E-19	1.2663E-25
^{238}U (H)	6.1700E-07	1.1662E-04	1.5656E-03	2.8666E-03	2.9696E-03	2.9701E-03	2.9701E-03	1.0246E-15	4.7436E-22
^{239}Pu (T)	4.0400E-10	2.5940E-07	2.2069E-05	7.5369E-05	1.0047E-04	1.0083E-04	1.0083E-04	2.2925E-14	8.4742E-20
^{239}Pu (F)	3.9600E-09	2.5340E-06	1.6053E-04	5.4353E-04	6.8453E-04	6.8651E-04	6.8652E-04	9.7967E-14	2.7987E-19
^{241}Pu (T)	2.2400E-09	4.1824E-07	1.2718E-05	2.2918E-05	2.4818E-05	2.4826E-05	2.4826E-05	4.3919E-17	5.0837E-23
^{233}U (T)	1.3700E-09	9.6637E-07	1.0087E-04	3.5287E-04	5.0187E-04	5.0413E-04	5.0413E-04	2.0897E-13	1.0206E-18
^{232}Th (F)	2.5500E-07	1.5955E-05	3.2895E-04	4.2726E-04	4.3956E-04	4.3958E-04	4.3958E-04	1.9682E-17	1.3844E-23
Independent yield									
^{235}U (T)	7.1500E-10	2.0800E-07	1.0300E-05	1.2400E-05	3.7200E-05	2.4800E-08	2.5700E-11	4.0726E-16	8.6338E-22
^{235}U (F)	1.1200E-08	2.8500E-06	8.5900E-05	9.5200E-05	1.8000E-05	1.0400E-07	6.3300E-11	8.2231E-16	1.0010E-21
^{235}U (H)	2.9800E-08	2.4800E-05	1.1950E-03	3.7600E-03	1.0680E-03	2.0000E-05	2.1000E-08	1.0043E-12	2.2327E-18
^{238}U (F)	7.6400E-09	4.0100E-07	7.0300E-06	1.9300E-06	2.1200E-07	2.6400E-10	7.9866E-14	2.1043E-19	1.2663E-25
^{238}U (H)	6.1700E-07	1.1600E-04	1.4390E-03	1.3110E-03	1.0300E-04	4.4900E-07	1.0400E-10	1.0246E-15	4.7435E-22
^{239}Pu (T)	4.0400E-10	2.6900E-07	2.1800E-05	5.3300E-05	2.5100E-05	3.6400E-07	6.5000E-10	2.2925E-14	8.4742E-20
^{239}Pu (F)	3.9600E-09	2.5300E-06	1.5800E-04	3.8300E-04	1.4100E-04	1.9800E-06	2.7000E-09	9.7967E-14	2.7987E-19
^{241}Pu (T)	2.2400E-09	4.1600E-07	1.2300E-05	1.0200E-05	1.9000E-05	8.0800E-09	4.7200E-12	4.3919E-17	5.0837E-23
^{233}U (T)	1.3700E-09	9.6500E-07	9.9900E-05	2.5200E-04	1.4900E-04	2.2600E-06	5.2000E-09	2.0897E-13	1.0206E-18
^{232}Th (F)	2.5600E-07	1.5700E-05	3.1300E-04	9.8300E-06	1.2300E-05	2.0100E-08	7.1300E-12	1.9682E-17	1.3844E-23

Table 2.7.1 Continued

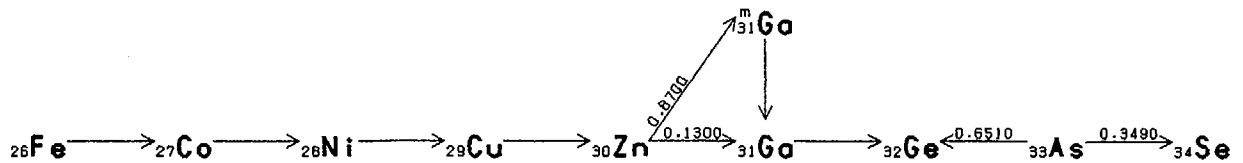
Mass No. 73



		26Fe	27Co	28Ni	29Cu	30Zn	31Ga	m32Ge	32Ge	33As	m34Se	34Se
	λ(1/sec)	7.1245E+00	5.0706E+00	5.4924E-01	3.8875E-02	2.9496E-02	3.9214E-05	1.3863E+00	0.0	9.9907E-08	2.9929E-04	2.6816E-05
	Q-value(MeV)	1.3670E+01	1.2880E+01	8.6600E+00	5.2010E+00	4.7000E+00	1.4939E+00	6.6700E-02	0.0	2.7780E-01	7.6651E-01	2.7400E+00
	E-beta (MeV)	4.9030E+00	4.7180E+00	3.2810E+00	1.9860E+00	1.8772E+00	4.8696E-01	0.0	0.0	0.0	1.4674E-01	3.6744E-01
	E-gamma(MeV)	3.4070E+00	2.9800E+00	1.6190E+00	7.7230E-01	4.6910E-01	2.0080E-01	5.6109E-03	0.0	0.0	2.2861E-01	1.0357E+00
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	5.1089E-02	0.0	0.0	1.8768E-02	1.8401E-02
Cumulative yield	235U (T)	1.1100E-10	1.2611E-07	1.5726E-05	7.5725E-05	1.1633E-04	1.1729E-04	1.1626E-04	1.1729E-04	1.7114E-13	1.3286E-19	1.1190E-18
	235U (F)	2.0000E-09	1.8420E-06	1.4784E-04	6.2884E-04	8.4684E-04	8.5115E-04	8.4366E-04	8.5116E-04	3.7272E-13	1.6409E-19	1.4872E-18
	235U (H)	1.7200E-09	4.7117E-06	6.8871E-04	6.5037E-03	1.0981E-02	1.1219E-02	1.1120E-02	1.1220E-02	1.2300E-10	7.7161E-17	1.0208E-16
	238U (F)	2.7000E-09	5.9370E-07	2.2594E-05	4.3494E-05	4.8374E-05	4.8398E-05	4.7972E-05	4.8398E-05	2.2368E-16	4.1358E-23	3.7464E-22
	238U (H)	6.1100E-08	3.6961E-06	1.3420E-03	4.4890E-03	6.1640E-03	6.1731E-03	6.1276E-03	6.1731E-03	2.3162E-13	2.8780E-20	3.8075E-19
	239Pu(T)	2.6600E-11	6.3426E-08	1.3863E-05	1.1986E-04	2.3386E-04	2.3939E-04	2.3729E-04	2.3942E-04	3.8600E-12	6.2884E-18	4.4640E-17
	239Pu(F)	1.6300E-10	3.6116E-07	6.1061E-05	6.0105E-04	8.8906E-04	9.0675E-04	8.9878E-04	9.0682E-04	9.0301E-12	9.7747E-18	8.8691E-17
	241Pu(T)	2.3800E-10	1.6724E-07	1.2467E-05	4.4367E-05	5.7867E-05	5.8176E-05	5.7864E-05	5.8177E-05	1.2475E-14	5.4016E-21	4.5494E-20
	233U (T)	7.5300E-11	2.0608E-07	5.5605E-05	5.1161E-04	1.1076E-03	1.1387E-03	1.1287E-03	1.1389E-03	2.9600E-11	5.4925E-17	4.6259E-16
	232Th(F)	2.4200E-08	5.2442E-06	2.7224E-04	5.5024E-04	6.3674E-04	6.3719E-04	6.3158E-04	6.3719E-04	5.5966E-16	1.2117E-21	1.0982E-20
Independent yield	235U (T)	1.1100E-10	1.2600E-07	1.5600E-05	6.0000E-05	4.0600E-05	9.6500E-07	2.9500E-10	2.3900E-09	1.7114E-13	1.3286E-19	1.0220E-18
	235U (F)	2.0000E-09	1.8400E-06	1.4600E-04	4.8100E-04	2.1800E-04	4.3100E-06	8.3400E-10	6.7500E-09	3.7272E-13	1.6409E-19	1.3674E-18
	235U (H)	1.7200E-09	4.7100E-06	6.8400E-04	5.9150E-03	4.3770E-03	2.3800E-04	8.7900E-08	7.1100E-07	1.2300E-10	7.7161E-17	9.6461E-16
	238U (F)	2.7000E-09	5.9100E-07	2.2000E-05	2.0900E-05	4.8800E-05	2.4400E-08	3.1400E-12	1.5300E-11	2.2368E-16	4.1358E-23	3.4465E-22
	238U (H)	6.1100E-08	3.6900E-05	1.3050E-03	3.1470E-03	6.7500E-04	9.1400E-06	7.3600E-10	5.9500E-09	2.3162E-13	2.8780E-20	3.5975E-19
	239Pu(T)	2.6600E-11	6.3400E-08	1.3800E-05	1.0600E-04	1.1400E-04	5.5300E-06	3.0300E-09	2.4600E-08	3.8600E-12	6.2884E-18	4.0680E-17
	239Pu(F)	1.6300E-10	3.5100E-07	6.0700E-05	4.4000E-04	3.8800E-04	1.7700E-05	7.7000E-09	6.2300E-08	9.0300E-12	9.7747E-18	8.1466E-17
	241Pu(T)	2.3800E-10	1.6700E-07	1.2300E-05	3.1900E-05	1.3600E-05	2.0900E-07	3.7000E-11	2.9900E-10	1.2476E-14	5.4016E-21	4.1651E-20
	233U (T)	7.5300E-11	2.0600E-07	5.5400E-05	4.5600E-04	5.9600E-04	3.1100E-05	2.1100E-08	1.7100E-07	2.9500E-11	5.4925E-17	4.2250E-16
	232Th(F)	2.4200E-08	5.2200E-06	2.6600E-04	2.8800E-04	7.6500E-05	4.4600E-07	8.0500E-11	3.9300E-10	5.5966E-16	1.2117E-21	1.0097E-20

Table 2.7.1 Continued

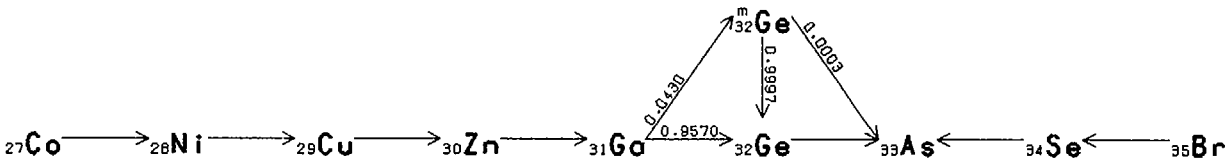
Mass No. 74



		26Fe	27Co	28Ni	29Cu	30Zn	m31Ga	31Ga	32Ge	33As	34Se
	λ(1/sec)	8.2576E+00	8.4171E+00	4.8236E-01	1.3905E-01	7.2963E-03	7.2963E-02	1.4003E-03	0.0	4.5121E-07	0.0
	Q-value(MeV)	1.2130E+01	1.6220E+01	7.0290E+00	8.6970E+00	2.2981E+00	5.9700E-02	5.4000E+00	0.0	2.1404E+00	0.0
	E-beta (MeV)	4.6700E+00	5.1670E+00	2.6830E+00	2.5110E+00	8.8798E-01	0.0	1.2880E+00	0.0	2.7809E-01	0.0
	E-gamma(MeV)	2.3240E+00	5.4200E+00	1.1990E+00	3.2060E+00	1.4162E-01	3.9617E-02	2.4010E+00	0.0	7.6463E-01	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	1.0549E-02	2.0086E-02	0.0	0.0	0.0	0.0
Cumulative yield	235U (T)	8.4400E-12	2.6108E-08	1.2126E-05	1.2013E-04	3.4913E-04	3.0606E-04	3.6203E-04	3.6216E-04	2.3780E-11	8.2998E-12
	236U (F)	1.3100E-10	3.4913E-07	9.5249E-05	8.5926E-04	1.9022E-03	1.6639E-03	1.9649E-03	1.9553E-03	4.9990E-11	1.7447E-11
	235U (H)	5.0800E-11	4.5605E-07	2.1146E-04	5.3515E-03	1.5393E-02	1.3559E-02	1.5908E-02	1.5924E-02	7.9900E-09	2.7887E-09
	238U (F)	2.7300E-10	1.4527E-07	2.1445E-05	6.1745E-05	9.5445E-05	8.3103E-05	9.5829E-05	9.5831E-05	3.8168E-14	1.3321E-14
	238U (H)	3.3600E-08	6.5234E-06	7.1052E-04	5.2155E-03	7.8135E-03	6.8091E-03	7.9165E-03	7.9168E-03	2.7550E-11	9.5151E-12
	239Pu(T)	1.0800E-12	7.8111E-09	6.1478E-05	1.2415E-04	5.0415E-04	4.4567E-04	5.4895E-04	5.4974E-04	3.1950E-10	1.1152E-10
	239Pu(F)	5.0400E-12	4.1705E-08	2.5042E-05	4.9304E-04	1.5800E-03	1.4861E-03	1.8180E-03	1.8199E-03	7.2300E-10	2.5235E-10
	241Pu(T)	1.2100E-11	2.3512E-08	6.2735E-05	4.3773E-05	9.3574E-05	8.1749E-05	9.5463E-05	9.5475E-05	1.0900E-12	3.5949E-13
	233U (T)	3.1700E-12	2.4203E-08	2.4524E-05	5.1552E-04	2.5065E-03	2.2242E-03	2.7485E-03	2.7540E-03	2.3410E-09	8.1714E-10
	232Th(F)	2.0900E-09	1.3021E-05	2.2130E-04	5.9930E-04	1.1513E-03	1.0026E-03	1.1573E-03	1.1573E-03	8.1086E-13	2.8300E-13
Independent yield	235U (T)	8.4400E-12	2.5100E-08	1.2100E-05	1.0800E-04	2.2900E-04	2.3220E-05	1.0578E-05	1.3700E-07	2.3780E-11	5.8342E-16
	235U (F)	1.3100E-10	3.4900E-07	9.5900E-05	7.7300E-04	1.0330E-03	8.9590E-06	4.3741E-05	3.3300E-07	4.9990E-11	6.7656E-16
	235U (H)	5.0800E-11	4.5600E-07	2.1100E-04	5.1400E-03	1.0042E-02	1.5665E-04	1.3483E-03	1.5900E-05	7.9900E-09	2.1317E-13
	238U (F)	2.7300E-10	1.4500E-07	2.1300E-05	4.0300E-05	3.3700E-05	5.5280E-08	3.1872E-07	1.2500E-09	3.8168E-14	2.5564E-19
	238U (H)	3.3600E-08	6.5200E-06	7.0400E-04	4.5050E-03	2.5980E-03	1.1330E-05	9.1670E-05	2.5400E-07	2.7550E-11	1.5005E-16
	239Pu(T)	1.0800E-12	7.8100E-09	6.1400E-05	1.1800E-04	3.8000E-04	8.0640E-06	3.6735E-05	7.9600E-07	3.1950E-10	1.3025E-14
	239Pu(F)	5.0400E-12	4.1700E-08	2.5000E-05	4.5800E-04	1.1870E-03	2.3460E-05	1.1454E-04	1.8800E-06	7.2300E-10	2.4110E-14
	241Pu(T)	1.2100E-11	2.3500E-08	6.2600E-05	3.7500E-05	4.9800E-05	3.4020E-07	1.5498E-06	1.1500E-08	1.0300E-12	1.5051E-17
	233U (T)	3.1700E-12	2.4200E-08	2.4500E-05	4.9100E-04	1.9910E-03	4.3560E-05	1.9844E-04	5.5000E-06	2.3410E-09	1.3291E-13
	232Th(F)	2.0900E-09	1.3000E-05	2.2000E-04	4.7800E-04	4.5200E-04	1.0166E-06	4.9634E-06	2.2700E-08	8.1086E-13	6.5907E-18

Table 2.7.1 Continued

Mass No. 75



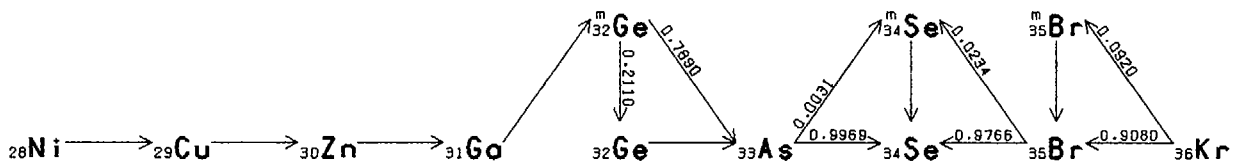
		27Co	28Ni	29Cu	30Zn	31Ga	m32Ge	32Ge	33As	34Se	35Br
	λ(1/sec)	1.0672E+01	1.5359E+00	1.7513E-01	6.7956E-02	5.5012E-03	1.4351E-02	1.3956E-04	0.0	6.6854E-08	1.1438E-04
	Q-value(MeV)	1.4730E+01	1.0340E+01	6.9360E+00	5.6200E+00	3.2940E+00	1.4006E-01	1.1778E+00	0.0	8.6490E-01	3.0100E+00
	E-beta (MeV)	6.2590E+00	3.8270E+00	2.6880E+00	2.1430E+00	1.2466E+00	9.6977E-05	4.1826E-01	0.0	0.0	5.0139E-01
	E-gamma(MeV)	3.7460E+00	2.2160E+00	1.0900E+00	8.7030E-01	3.7764E-01	5.4646E-02	3.4830E-02	0.0	3.7625E-01	1.2012E+00
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	8.5205E-02	0.0	0.0	9.4425E-03	2.5350E-03
Cumulative yield	235U (T)	4.6500E-09	5.7146E-06	1.8471E-04	1.0167E-03	1.1717E-03	5.4224E-05	1.1769E-03	1.1769E-03	1.9427E-13	2.7679E-19
	235U (F)	1.7600E-07	1.3718E-04	3.7112E-03	1.4799E-02	1.6563E-02	7.4042E-04	1.6594E-02	1.6594E-02	6.8890E-13	7.7734E-19
	235U (H)	2.9700E-08	4.3930E-05	3.2679E-03	1.9819E-02	2.6698E-02	1.3387E-03	2.6810E-02	2.6810E-02	2.8700E-11	1.0899E-16
	238U (F)	3.6600E-08	1.2537E-05	9.8937E-05	2.4094E-04	2.4719E-04	1.0672E-05	2.4723E-04	2.4724E-04	1.1561E-16	3.0066E-23
	238U (H)	8.3200E-07	2.7783E-04	5.3088E-03	1.2816E-02	1.3674E-02	5.9401E-04	1.3680E-02	1.3680E-02	4.2996E-14	3.1596E-20
	239Pu(T)	7.6900E-10	1.7108E-06	1.1471E-04	9.5371E-04	1.2697E-03	5.7698E-06	1.2839E-03	1.2840E-03	2.6100E-12	7.9478E-18
	239Pu(F)	2.9300E-09	5.1629E-06	3.2216E-04	2.2602E-03	2.9242E-03	1.4854E-04	2.9489E-03	2.9490E-03	3.3400E-12	1.0166E-17
	241Pu(T)	4.5600E-09	3.2446E-06	6.9045E-05	2.6204E-04	2.8614E-04	1.2660E-05	2.8653E-04	2.8653E-04	6.0024E-15	5.1276E-21
	233U (T)	2.9900E-09	8.2830E-06	6.0228E-04	5.0473E-03	8.1393E-03	4.5999E-04	8.2587E-03	8.2590E-03	3.0000E-11	1.0937E-16
	232Th(F)	3.0300E-07	1.2030E-04	1.0763E-03	2.8563E-03	2.9463E-03	1.2741E-04	2.9471E-03	2.9471E-03	2.6494E-15	8.1260E-22
Independent yield	235U (T)	4.6500E-09	5.7100E-06	1.7900E-04	8.3200E-04	1.5500E-04	3.8400E-06	3.3400E-07	2.8500E-09	1.9427E-13	2.7679E-19
	235U (F)	1.7600E-07	1.3700E-04	3.5740E-03	1.1088E-02	1.7640E-03	2.8200E-05	2.4500E-06	1.7000E-08	6.8890E-13	7.7734E-19
	235U (H)	2.9700E-08	4.3900E-05	3.2240E-03	1.6661E-02	6.7790E-03	1.9600E-04	1.7000E-05	3.4900E-07	2.8700E-11	1.0899E-16
	238U (F)	3.6600E-08	1.2500E-05	8.6400E-05	1.4200E-04	6.2600E-06	4.3100E-08	5.8800E-09	6.3500E-12	1.1561E-16	3.0066E-23
	238U (H)	8.3200E-07	2.7700E-04	5.0310E-03	7.5060E-03	8.5900E-04	6.0400E-06	5.2500E-07	2.3800E-09	4.2996E-14	3.1596E-20
	239Pu(T)	7.6900E-10	1.7100E-06	1.1300E-04	8.4900E-04	3.0600E-04	1.3100E-05	1.1400E-06	2.1100E-08	2.6100E-12	7.9478E-18
	239Pu(F)	2.9300E-09	5.1600E-06	3.1700E-04	1.9360E-03	5.6400E-04	2.2800E-05	1.9800E-06	3.4100E-08	3.3400E-12	1.0166E-17
	241Pu(T)	4.5600E-09	3.2400E-06	6.5800E-05	1.9300E-04	2.4100E-05	3.5600E-07	3.1000E-08	1.6400E-10	6.0024E-15	5.1276E-21
	233U (T)	2.9900E-09	8.2800E-06	6.9400E-04	5.4450E-03	2.0820E-03	1.1000E-04	9.5300E-06	1.9400E-07	3.0000E-11	1.0937E-16
	232Th(F)	3.0300E-07	1.2000E-04	9.5600E-04	1.7800E-03	8.0000E-05	7.1900E-07	9.8000E-08	1.2500E-10	2.6494E-15	8.1260E-22

Table 2.7.1 Continued

Mass No. 76	$_{26}Fe \rightarrow {}_{27}Co \rightarrow {}_{28}Ni \rightarrow {}_{29}Cu \rightarrow {}_{30}Zn \rightarrow {}_{31}Ga \rightarrow {}_{32}Ge \xleftarrow{0.0002} {}_{33}As \xrightarrow{0.9998} {}_{34}Se$								
	$_{26}Fe$	$_{27}Co$	$_{28}Ni$	$_{29}Cu$	$_{30}Zn$	$_{31}Ga$	$_{32}Ge$	$_{33}As$	$_{34}Se$
λ(1/sec)	1.4155E+01	1.9227E+01	1.5607E+00	4.4037E-01	1.2160E-01	2.5577E-02	0.0	7.3154E-06	0.0
Q-value(MeV)	1.3460E+01	1.8570E+01	8.7520E+00	1.0200E+01	3.9800E+00	6.7700E+00	0.0	2.9682E+00	0.0
E-beta (MeV)	5.1330E+00	5.8660E+00	3.3790E+00	3.1130E+00	1.3980E+00	1.7460E+00	0.0	1.0624E+00	0.0
E-gamma(MeV)	2.7160E+00	6.3710E+00	1.5270E+00	3.5040E+00	7.5410E-01	2.4960E+00	0.0	4.3001E-01	0.0
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cumulative yield ^{235}U (T)	1.2868E-14	4.3701E-10	2.1004E-06	1.6910E-04	2.7101E-03	3.7431E-03	3.8419E-03	1.8000E-07	1.8001E-07
Cumulative yield ^{235}U (F)	3.5568E-13	9.8904E-09	2.8010E-05	1.9870E-03	2.0363E-02	2.7264E-02	2.7666E-02	6.3900E-07	6.3897E-07
Cumulative yield ^{235}U (H)	1.0635E-14	1.1200E-09	5.5211E-06	1.2465E-03	1.9109E-02	3.8005E-02	3.9728E-02	8.9000E-06	8.9007E-06
Cumulative yield ^{238}U (F)	8.8629E-13	5.1709E-09	7.4352E-06	1.1944E-04	7.6044E-04	8.1904E-04	8.2091E-04	6.0400E-10	6.0393E-10
Cumulative yield ^{238}U (H)	2.8600E-12	6.0703E-08	6.5861E-05	3.5499E-03	1.7377E-02	2.1619E-02	2.1719E-02	1.1700E-07	1.1698E-07
Cumulative yield ^{239}Pu(T)	5.2662E-16	3.9601E-11	3.3204E-07	5.9632E-05	1.4886E-03	2.5626E-03	2.8416E-03	7.3300E-07	7.3320E-07
Cumulative yield ^{239}Pu(F)	1.9382E-15	1.5100E-10	9.5215E-07	1.5696E-04	3.2710E-03	5.7940E-03	5.0930E-03	1.1800E-06	1.1802E-06
Cumulative yield ^{241}Pu(T)	2.6230E-14	5.2403E-10	1.4205E-06	7.4721E-05	7.5272E-04	9.4472E-04	9.5562E-04	1.2600E-08	1.2599E-08
Cumulative yield ^{233}U (T)	1.3300E-15	1.1500E-10	1.2501E-06	2.3725E-04	7.4412E-03	1.3522E-02	1.4692E-02	5.0500E-06	5.0621E-06
Cumulative yield ^{232}Th(F)	4.4000E-12	3.0004E-08	5.0030E-05	9.2503E-04	6.5950E-03	7.1890E-03	7.2110E-03	8.2900E-09	8.2891E-09
Independent yield ^{235}U (T)	1.2868E-14	4.3700E-10	2.1000E-06	1.6700E-04	2.5410E-03	1.0330E-03	9.8800E-05	1.8000E-07	4.8500E-11
Independent yield ^{235}U (F)	3.5558E-13	9.8900E-09	2.8000E-05	1.9590E-03	1.8376E-02	5.9010E-03	4.0200E-04	6.3900E-07	1.0100E-10
Independent yield ^{235}U (H)	1.0635E-14	1.1200E-09	5.5200E-06	1.2400E-03	1.7863E-02	1.8896E-02	1.7230E-03	8.9000E-06	2.4500E-09
Independent yield ^{238}U (F)	8.8629E-13	5.1700E-09	7.4300E-06	1.1200E-04	6.4100E-04	5.8600E-06	1.8800E-06	6.0400E-10	4.8994E-14
Independent yield ^{238}U (H)	2.8500E-12	6.0700E-08	6.5800E-05	3.4840E-03	1.3827E-02	4.2420E-03	9.9800E-05	1.1700E-07	5.9700E-12
Independent yield ^{239}Pu(T)	5.2662E-16	3.9600E-11	3.3200E-07	5.9300E-05	1.4290E-03	1.1740E-03	1.7900E-04	7.3300E-07	3.4500E-10
Independent yield ^{239}Pu(F)	1.9382E-15	1.5100E-10	9.5200E-07	1.5600E-04	3.1040E-03	2.5230E-03	2.9900E-04	1.1800E-06	4.2400E-10
Independent yield ^{241}Pu(T)	2.6230E-14	5.2400E-10	1.4200E-06	7.3300E-05	5.7800E-04	1.9200E-04	1.0900E-05	1.2500E-08	1.9100E-12
Independent yield ^{233}U (T)	1.3300E-15	1.1500E-10	1.2500E-06	2.3600E-04	7.2040E-03	6.0810E-03	1.1700E-03	5.0500E-06	3.0700E-09
Independent yield ^{232}Th(F)	4.4000E-12	3.0000E-08	5.0000E-05	8.7500E-04	5.5700E-03	6.9400E-04	2.2000E-05	8.2900E-09	7.8242E-13

Table 2.7.1 Continued

Mass No. 77



		28Ni	29Cu	30Zn	31Ga	m32Ge	32Ge	33As	m34Se	34Se	m35Br	35Br	36Kr
λ(1/sec)		4.5215E+00	5.5012E-01	4.9511E-01	5.3319E-02	1.2836E-02	1.7039E-05	4.9624E-06	3.9608E-02	0.0	2.6992E-03	3.4382E-06	1.5465E-04
Q-value(MeV)		1.2620E+01	8.5120E+00	6.9100E+00	5.1803E+00	2.2912E+00	2.7016E+00	6.8990E-01	1.6190E-01	0.0	1.0520E-01	1.3609E+00	2.9962E+00
E-beta (MeV)		4.4810E+00	3.2670E+00	2.6360E+00	2.0430E+00	9.3503E-01	5.9798E-01	2.2866E-01	0.0	0.0	0.0	1.1266E-03	6.2089E-01
E-gamma(MeV)		3.0860E+00	1.6060E+00	1.1710E+00	7.8930E-01	6.7139E-02	1.1430E+00	7.6099E-03	8.6940E-02	0.0	1.4443E-02	3.0188E-01	1.0132E+00
E-I.C (MeV)		0.0	0.0	0.0	0.0	1.5012E-02	0.0	0.0	7.4960E-02	0.0	9.1757E-02	0.0	8.1271E-03
Cumulative yield	235U (T)	2.7000E-07	8.4170E-05	3.1792E-03	7.2292E-03	7.3237E-03	2.6323E-03	8.4199E-03	2.6102E-05	8.4199E-03	6.6738E-14	1.5341E-13	1.3459E-19
	235U (F)	2.9200E-06	7.4292E-04	1.8615E-02	3.8607E-02	3.8850E-02	1.0988E-02	4.1669E-02	1.2914E-04	4.1669E-02	8.6006E-14	1.9487E-13	1.0374E-19
	236U (H)	4.4700E-07	3.3446E-04	1.4623E-02	6.6362E-02	6.6191E-02	2.1391E-02	6.5897E-02	2.0429E-04	6.5897E-02	6.1342E-12	1.1104E-11	1.3378E-17
	238U (F)	3.1700E-06	2.0017E-04	2.5442E-03	3.3192E-03	3.3260E-03	7.5230E-04	3.3766E-03	1.0466E-05	3.3766E-03	4.1511E-17	9.4056E-17	2.0956E-23
	238U (H)	8.4500E-06	1.4404E-03	1.7213E-02	3.0396E-02	3.0469E-02	7.2739E-03	3.1318E-02	9.7084E-05	3.1318E-02	5.5348E-15	1.1971E-14	2.5911E-21
	239Pu(T)	3.8400E-08	2.5938E-05	1.5639E-03	5.8199E-03	5.9439E-03	2.5762E-03	7.3888E-03	2.2908E-05	7.3889E-03	8.1620E-13	1.8762E-12	3.2190E-18
	239Pu(F)	1.0600E-07	5.6406E-05	3.4274E-03	1.1526E-02	1.1721E-02	4.7262E-03	1.4008E-02	4.3429E-05	1.4008E-02	9.9540E-13	2.2554E-12	2.9988E-18
	241Pu(T)	2.1000E-07	4.1110E-05	9.5711E-04	1.7761E-03	1.7854E-03	4.8371E-04	1.8929E-03	5.8680E-06	1.8929E-03	1.6938E-15	3.8936E-15	1.9019E-21
	233U (T)	9.1200E-08	6.7691E-05	5.3276E-03	1.9584E-02	2.0098E-02	1.0166E-02	2.6116E-02	8.0972E-05	2.6116E-02	5.1369E-12	1.1806E-11	2.7243E-17
	232Th(F)	8.4500E-06	6.2246E-04	8.9286E-03	1.2059E-02	1.2091E-02	2.7853E-03	1.2326E-02	3.8210E-05	1.2325E-02	3.0872E-16	5.9950E-16	1.8268E-22
Independent yield	235U (T)	2.7000E-07	8.3900E-05	3.0950E-03	4.0500E-03	9.4500E-05	1.0870E-03	9.2700E-06	5.8000E-10	6.7900E-09	6.6738E-14	8.6673E-14	1.3459E-19
	235U (F)	2.9200E-06	7.4000E-04	1.7772E-02	2.0092E-02	2.4300E-04	2.7910E-03	1.7600E-05	6.7500E-10	7.7500E-09	8.6006E-14	1.0887E-13	1.0374E-19
	236U (H)	4.4700E-07	3.3400E-04	1.4189E-02	4.0839E-02	8.2900E-04	9.5350E-03	1.7100E-04	1.2700E-08	1.4600E-07	6.1342E-12	5.9700E-12	1.3378E-17
	238U (F)	3.1700E-06	1.9700E-04	2.3440E-03	7.7600E-04	6.8800E-05	6.0600E-06	8.1200E-08	1.8300E-12	1.3400E-11	4.1511E-17	5.2545E-17	2.0966E-23
	238U (H)	8.4500E-06	1.4320E-03	1.5773E-02	1.3182E-02	7.3500E-05	8.4500E-04	3.5700E-06	5.8300E-11	6.7100E-10	5.5348E-15	5.4359E-15	2.5911E-21
	239Pu(T)	3.8400E-08	2.5900E-05	1.6380E-03	4.1560E-03	1.2400E-04	1.4220E-03	2.2900E-05	2.4700E-09	2.8500E-08	8.1620E-13	1.0600E-12	3.2190E-18
	239Pu(F)	1.0600E-07	5.6300E-05	3.3610E-03	8.0980E-03	1.9600E-04	2.2530E-03	3.3900E-05	3.2000E-09	3.6800E-08	9.9540E-13	1.2600E-12	2.9988E-18
	241Pu(T)	2.1000E-07	4.0900E-05	9.1600E-04	8.1900E-04	9.2700E-05	1.0700E-04	5.1800E-07	1.8100E-11	2.0800E-10	1.6938E-15	2.1998E-15	1.9019E-21
	233U (T)	9.1200E-08	5.7500E-05	5.2600E-03	1.4256E-02	5.1400E-04	5.9150E-03	1.0300E-04	1.4200E-08	1.6300E-07	5.1369E-12	6.6700E-12	2.7243E-17
	232Th(F)	8.4500E-06	6.1400E-04	8.3060E-03	3.1310E-03	3.1900E-05	2.3400E-04	4.4000E-07	1.2900E-11	9.4500E-11	3.0872E-16	3.9078E-16	1.8268E-22

Table 2.7.1 Continued

Mass No. 78

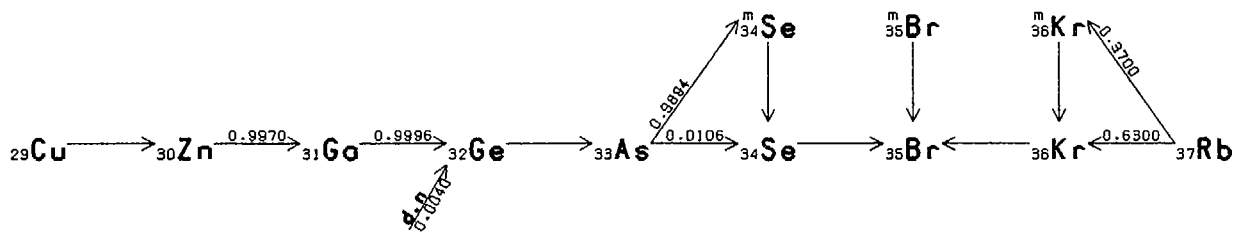
$_{28}Ni \rightarrow {}_{29}Cu \rightarrow {}_{30}Zn \rightarrow {}_{31}Ga \rightarrow {}_{32}Ge \rightarrow {}_{33}As \rightarrow {}_{34}Se \xleftarrow{0.9999} {}_{35}Br \xrightarrow{0.0001} {}_{36}Kr$

β^- 0.0030 β^- 0.0004

		$_{28}Ni$	$_{29}Cu$	$_{30}Zn$	$_{31}Ga$	$_{32}Ge$	$_{33}As$	$_{34}Se$	$_{35}Br$	$_{36}Kr$
	λ (1/sec)	3.5785E+00	1.4946E+00	4.3322E-01	1.3618E-01	1.3279E-04	1.2737E-04	0.0	1.7883E-03	0.0
	Q-value (MeV)	1.0200E+01	1.2180E+01	5.0100E+00	8.1400E+00	9.8000E-01	4.2900E+00	0.0	3.5734E+00	0.0
	E-beta (MeV)	3.9280E+00	3.8300E+00	2.2580E+00	2.8010E+00	2.3677E-01	1.2304E+00	0.0	1.0280E+00	0.0
	E-gamma (MeV)	1.8770E+00	4.0530E+00	1.0320E+00	2.1610E+00	2.7806E-01	1.4412E+00	0.0	1.0299E+00	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cumulative yield	^{235}U (T)	2.8500E-08	2.5228E-05	3.5592E-03	1.4317E-02	2.1579E-02	2.1742E-02	2.1742E-02	2.0300E-11	2.1874E-15
	^{235}U (F)	2.0900E-07	1.5021E-04	1.3672E-02	5.1334E-02	6.9609E-02	6.9912E-02	6.9913E-02	2.4000E-11	2.4901E-15
	^{235}U (H)	1.6700E-08	4.4017E-05	6.3190E-03	5.8543E-02	9.6719E-02	9.8717E-02	9.8723E-02	9.5400E-10	1.0293E-13
	^{238}U (F)	8.1700E-07	1.2782E-04	6.0828E-03	1.0163E-02	1.1365E-02	1.1369E-02	1.1369E-02	3.4378E-14	3.5040E-18
	^{238}U (H)	5.6000E-07	3.1556E-04	1.0985E-02	3.5213E-02	4.0245E-02	4.0310E-02	4.0310E-02	1.3900E-12	1.4109E-16
	^{239}Pu (T)	3.9800E-09	8.1440E-06	1.9181E-03	1.4044E-02	2.8339E-02	2.8912E-02	2.8915E-02	3.5400E-10	3.9416E-14
	^{239}Pu (F)	6.6900E-09	1.3107E-05	2.3761E-03	1.7092E-02	3.0720E-02	3.1264E-02	3.1266E-02	2.4200E-10	2.6456E-14
	^{241}Pu (T)	6.0700E-08	2.8451E-05	2.3565E-03	7.2231E-03	9.5622E-03	9.5908E-03	9.5908E-03	1.5700E-12	1.6259E-16
	^{233}U (T)	5.2900E-09	1.1505E-05	3.4605E-03	2.5179E-02	5.9739E-02	5.1137E-02	5.1147E-02	1.1800E-09	1.3577E-13
	^{232}Th (F)	1.7900E-06	3.2679E-04	1.7804E-02	3.1448E-02	3.5016E-02	3.5035E-02	3.5035E-02	2.0933E-13	2.1403E-17
Independent yield	^{235}U (T)	2.8500E-08	2.5200E-05	3.5340E-03	1.0753E-02	7.2540E-03	1.5300E-04	4.1300E-07	2.0300E-11	1.5737E-16
	^{235}U (F)	2.0900E-07	1.5000E-04	1.3512E-02	3.7548E-02	1.8257E-02	3.0300E-04	5.5600E-07	2.4000E-11	9.0100E-17
	^{235}U (H)	1.6700E-08	4.4000E-05	6.2750E-03	5.2218E-02	3.8166E-02	1.9980E-03	6.5300E-06	9.5400E-10	5.5290E-15
	^{238}U (F)	8.1700E-07	1.2700E-04	5.9550E-03	4.0620E-03	1.1930E-03	4.2400E-06	4.0000E-09	3.4378E-14	5.6180E-20
	^{238}U (H)	5.5000E-07	3.1500E-04	1.0669E-02	2.4187E-02	4.9900E-03	5.3800E-05	4.5500E-08	1.3900E-12	2.0895E-18
	^{239}Pu (T)	3.9800E-09	8.1400E-06	1.9100E-03	1.2125E-02	1.4293E-02	5.7300E-04	3.0800E-06	3.5400E-10	4.0163E-15
	^{239}Pu (F)	5.6900E-09	1.3100E-05	2.3520E-03	1.4715E-02	1.3621E-02	5.3400E-04	2.2000E-06	2.4200E-10	2.2555E-15
	^{241}Pu (T)	5.0700E-08	2.8400E-05	2.3270E-03	4.8650E-03	2.3360E-03	2.8600E-05	5.0900E-08	1.5700E-12	5.5927E-18
	^{233}U (T)	5.2900E-09	1.1500E-05	3.4490E-03	2.2715E-02	3.3548E-02	1.3980E-03	9.6700E-06	1.1800E-09	1.8770E-14
	^{232}Th (F)	1.7900E-06	3.2500E-04	1.7477E-02	1.3602E-02	4.5480E-03	1.8800E-05	2.0700E-08	2.0933E-13	4.7084E-19

Table 2.7.1 Continued

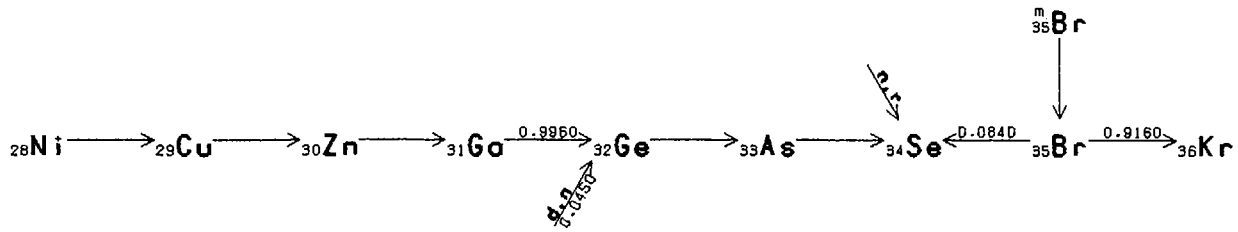
Mass No. 79



		29Cu	30Zn	31Ga	32Ge	33As	m34Se	34Se	m35Br	35Br	m36Kr	36Kr	37Rb
	λ(1/sec)	1.2621E+00	6.9316E-01	2.3106E-01	1.6604E-02	1.2836E-03	2.9646E-03	3.3792E-13	1.4204E-01	0.0	1.3863E-02	6.4951E-06	5.0447E-04
	Q-value(MeV)	9.8680E+00	8.6500E+00	6.7600E+00	4.1500E+00	2.1053E+00	9.5730E-02	1.4900E-01	2.0720E-01	0.0	1.3001E-01	1.6310E+00	3.6319E+00
	E-beta (MeV)	3.7090E+00	3.0160E+00	2.6130E+00	1.7443E+00	8.4776E-01	0.0	4.0544E-02	0.0	0.0	0.0	1.6173E-02	8.0222E-01
	E-gamma(MeV)	1.9700E+00	2.9170E+00	1.0620E+00	2.0615E-01	1.9270E-02	8.7401E-03	0.0	1.6954E-01	0.0	3.7183E-02	2.5007E-01	1.3885E+00
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	8.6990E-02	0.0	4.7665E-02	0.0	9.2827E-02	0.0	1.4304E-03
Cumulative yield	235U (T)	4.2000E-06	1.7132E-03	1.8572E-02	4.1716E-02	4.4307E-02	4.3846E-02	4.4324E-02	1.9500E-09	4.4324E-02	7.4728E-14	8.5894E-14	3.8338E-20
	235U (F)	1.7100E-05	4.4421E-03	4.6769E-02	9.9656E-02	1.0285E-01	1.0177E-01	1.0287E-01	1.7100E-09	1.0287E-01	3.8491E-14	4.3740E-14	1.5447E-20
	235U (H)	3.6700E-06	1.8417E-03	5.0963E-02	1.5296E-01	1.6981E-01	1.6810E-01	1.7000E-01	5.3000E-08	1.7000E-01	2.6220E-12	2.8500E-12	3.0375E-18
	238U (F)	5.1700E-06	5.0997E-03	2.2108E-02	3.2789E-02	3.2959E-02	3.2610E-02	3.2960E-02	9.2000E-12	3.2960E-02	9.3383E-17	1.0512E-16	8.5149E-24
	238U (H)	1.2200E-04	1.3857E-02	1.0766E-01	1.5393E-01	1.6632E-01	1.6466E-01	1.6632E-01	3.3800E-10	1.6632E-01	3.7795E-15	4.1082E-15	9.4344E-22
	239Pu (T)	3.3300E-07	2.4233E-04	5.8656E-03	3.9619E-02	4.4669E-02	4.4237E-02	4.4752E-02	2.0200E-08	4.4752E-02	1.3833E-12	1.5900E-12	1.2758E-18
	239Pu (F)	1.2000E-06	6.9720E-04	1.6849E-02	5.2609E-02	5.7438E-02	5.6861E-02	5.7502E-02	1.4600E-08	5.7502E-02	8.2552E-13	9.3809E-13	8.6930E-19
	241Pu (T)	3.7600E-06	8.9876E-04	7.6881E-03	1.5506E-02	1.5878E-02	1.5711E-02	1.5880E-02	1.4000E-10	1.5880E-02	2.8073E-15	3.2268E-15	8.6235E-22
	233U (T)	1.2800E-06	1.1573E-03	3.0207E-02	1.3461E-01	1.5038E-01	1.4896E-01	1.5072E-01	8.5000E-08	1.5072E-01	7.3689E-12	8.4700E-12	9.7464E-18
	232Th (F)	9.9000E-05	1.3457E-02	5.3971E-02	8.4554E-02	8.5117E-02	8.4215E-02	8.5118E-02	4.1800E-11	8.5118E-02	4.9493E-16	5.6242E-16	5.3866E-23
Independent yield	235U (T)	4.2000E-06	1.7090E-03	1.6864E-02	2.3104E-02	2.5920E-03	8.8300E-06	8.8300E-06	1.9500E-09	1.9500E-09	7.4728E-14	1.1166E-14	3.8338E-20
	235U (F)	1.7100E-06	4.4250E-03	4.2340E-02	5.2768E-02	3.1980E-03	9.6100E-06	9.6100E-06	1.7100E-09	1.7100E-09	3.8491E-14	5.2488E-15	1.5447E-20
	235U (H)	3.6700E-06	1.8380E-03	4.9127E-02	1.0190E-01	1.6846E-02	9.5300E-05	9.5300E-05	5.3000E-08	5.3000E-08	2.6220E-12	2.2800E-13	3.0375E-18
	238U (F)	5.1700E-05	5.0460E-03	1.6027E-02	1.0597E-02	1.7000E-04	2.2100E-07	2.2100E-07	9.2000E-12	9.2000E-12	9.3383E-17	1.2734E-17	8.6149E-24
	238U (H)	1.2200E-04	1.3736E-02	9.3730E-02	5.6114E-02	2.3880E-03	2.8000E-06	2.8000E-06	3.3800E-10	3.3800E-10	3.7795E-15	3.2865E-16	9.4344E-22
	239Pu (T)	3.3300E-07	2.4200E-04	5.6240E-03	3.3721E-02	5.0600E-03	4.1400E-06	4.1400E-06	2.0200E-08	2.0200E-08	1.3833E-12	2.0670E-13	1.2758E-18
	239Pu (F)	1.2000E-06	6.9600E-04	1.5154E-02	3.6631E-02	4.9290E-03	3.2300E-05	3.2300E-05	1.4600E-08	1.4600E-08	8.2552E-13	1.1257E-13	8.6930E-19
	241Pu (T)	3.7600E-06	8.9500E-04	6.6920E-03	7.8940E-03	3.7300E-04	1.0200E-06	1.0200E-06	1.4000E-10	1.4000E-10	2.8073E-15	4.1948E-16	8.6235E-22
	233U (T)	1.2800E-06	1.1660E-03	2.9063E-02	1.0426E-01	1.6868E-02	1.8100E-04	1.6100E-04	8.5000E-08	8.6000E-08	7.3689E-12	1.1011E-12	9.7464E-18
	232Th (F)	9.9000E-06	1.3358E-02	4.0664E-02	3.0357E-02	5.6300E-04	5.4000E-08	8.6400E-07	4.1800E-11	4.1800E-11	4.9493E-16	6.7490E-17	5.3866E-23

Table 2.7.1 Continued

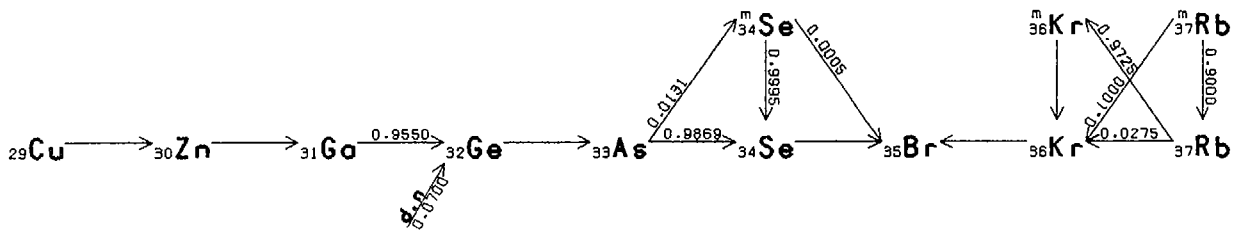
Mass No. 80



		28Ni	29Cu	30Zn	31Ga	32Ge	33As	34Se	m36Br	36Br	36Kr
	λ(1/sec)	1.7828E+01	3.2496E+00	6.1568E-01	4.1756E-01	2.8292E-02	4.2009E-02	0.0	4.3661E-05	6.6393E-04	0.0
	Q-value(MeV)	1.4060E+01	1.3710E+01	7.2270E+00	9.9000E+00	2.6300E+00	5.7000E+00	0.0	8.5960E-02	1.9946E+00	0.0
	E-beta (MeV)	5.3050E+00	4.9270E+00	2.7580E+00	3.1220E+00	6.1510E-01	2.4790E+00	0.0	0.0	7.2772E-01	0.0
	E-gamma(MeV)	2.9610E+00	4.5870E+00	1.2420E+00	3.5480E+00	6.1970E-01	2.5900E-01	0.0	1.4724E-02	7.9410E-02	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.1196E-02	0.0	0.0
Cumulative yield	236U (T)	2.3600E-11	2.5702E-07	4.0326E-04	1.1520E-02	1.2297E-01	1.3370E-01	1.3424E-01	6.0100E-08	8.0100E-08	7.3403E-08
	235U (F)	1.5500E-10	1.4602E-06	1.3535E-03	3.4558E-02	1.5684E-01	1.7497E-01	1.7534E-01	9.8200E-08	1.9640E-07	1.7991E-07
	235U (H)	6.6100E-12	2.1801E-07	3.5722E-04	2.8535E-02	1.8570E-01	2.5564E-01	2.5821E-01	2.1100E-06	4.2200E-06	3.8659E-06
	238U (F)	4.0100E-09	7.4240E-06	3.5564E-03	2.3173E-02	5.9215E-02	7.0787E-02	7.0805E-02	9.0000E-10	1.8000E-09	1.6488E-09
	238U (H)	1.6100E-09	1.0902E-05	3.9259E-03	7.8280E-02	1.9628E-01	2.1028E-01	2.1039E-01	2.1800E-08	4.3600E-08	3.9938E-08
	239Pu(T)	2.0500E-12	5.2502E-08	1.4205E-04	8.7921E-03	8.7568E-02	1.1356E-01	1.1504E-01	1.2400E-06	1.6530E-06	1.5143E-06
	239Pu(F)	2.8900E-12	7.0803E-08	1.4607E-04	8.7631E-03	7.0062E-02	9.0067E-02	9.0825E-02	5.7800E-07	1.1540E-06	1.0572E-06
	241Pu(T)	5.5900E-11	3.8306E-07	3.4138E-04	5.5334E-03	2.9272E-02	3.1782E-02	3.1832E-02	9.5100E-09	1.9220E-08	1.7605E-08
	233U (T)	2.3600E-12	5.4202E-08	2.2406E-04	1.4567E-02	1.7894E-01	2.3482E-01	2.3882E-01	3.5400E-06	1.4640E-05	1.3412E-05
	232Th(F)	6.9700E-09	1.5207E-05	8.4472E-03	5.2009E-02	2.0144E-01	2.0703E-01	2.0710E-01	4.3600E-09	8.7200E-09	7.9878E-09
Independent yield	236U (T)	2.3600E-11	2.5700E-07	4.0300E-04	1.1117E-02	1.1113E-01	1.0726E-02	5.4700E-04	6.0100E-08	2.0000E-08	3.2000E-11
	235U (F)	1.5500E-10	1.4600E-06	1.3520E-03	3.3206E-02	1.2164E-01	1.8127E-02	3.7500E-04	9.8200E-08	9.8200E-08	9.8900E-12
	235U (H)	6.6100E-12	2.1800E-07	3.5700E-04	2.8176E-02	1.5793E-01	5.8932E-02	2.5710E-03	2.1100E-06	2.1100E-06	3.8500E-10
	238U (F)	4.0100E-09	7.4200E-06	3.5590E-03	1.8607E-02	4.5044E-02	1.5720E-03	1.7300E-05	9.0000E-10	9.0000E-10	4.6374E-14
	238U (H)	1.6100E-09	1.0900E-05	3.9160E-03	7.4353E-02	1.1611E-01	1.4001E-02	1.1500E-04	2.1800E-08	2.1800E-08	8.4617E-13
	239Pu(T)	2.0500E-12	5.2500E-08	1.4200E-04	8.6500E-03	7.8660E-02	2.5009E-02	1.4610E-03	1.2400E-06	4.1300E-07	1.8300E-10
	239Pu(F)	2.8900E-12	7.0800E-08	1.4600E-04	8.6170E-03	6.1181E-02	1.9995E-02	8.6800E-04	5.7800E-07	5.7600E-07	1.3200E-10
	241Pu(T)	5.5900E-11	3.8300E-07	3.4100E-04	5.1920E-03	2.2547E-02	2.5100E-03	5.0400E-05	9.6100E-09	9.6100E-09	8.8406E-13
	233U (T)	2.3600E-12	5.4200E-08	2.2400E-04	1.4333E-02	1.6423E-01	5.5886E-02	3.9920E-03	3.6400E-06	1.1000E-05	1.4200E-09
	232Th(F)	6.9700E-09	1.5200E-05	8.4320E-03	5.3562E-02	1.3693E-01	5.5880E-03	7.1300E-05	4.3600E-09	4.3600E-09	2.5898E-13

Table 2.7.1 Continued

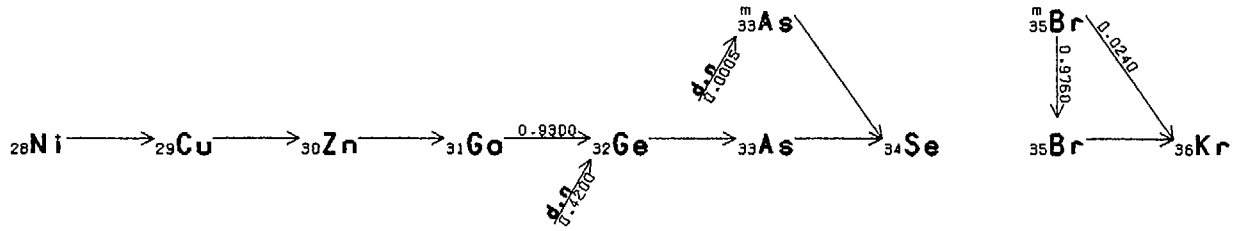
Mass No. 81



		29Cu	30Zn	31Ga	32Ge	33As	m34Se	34Se	35Br	m36Kr	36Kr	m37Rb	37Rb
	λ(1/sec)	7.2649E+00	2.6961E+00	5.6353E-01	6.8628E-02	2.1004E-02	2.0179E-04	6.2446E-04	0.0	5.3319E-02	1.0466E-13	3.6101E-04	4.2039E-05
	Q-value(MeV)	1.3580E+01	1.1250E+01	7.2300E+00	5.5000E+00	3.7485E+00	1.0389E-01	1.5850E+00	0.0	1.9010E-01	2.5900E-01	3.1120E-01	2.0771E+00
	E-beta (MeV)	4.8250E+00	4.0320E+00	2.7840E+00	2.1250E+00	1.5706E+00	2.1702E-04	6.1184E-01	0.0	0.0	0.0	3.4940E-02	1.5100E-01
	E-gamma(MeV)	3.4670E+00	2.7130E+00	1.1870E+00	8.6100E-01	1.3965E-01	1.3372E-02	5.5886E-03	0.0	1.2366E-01	9.9356E-03	5.5571E-02	5.8737E-01
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	8.9903E-02	0.0	0.0	5.5535E-02	0.0	7.2250E-02	0.0
Cumulative yield	235U (T)	1.5700E-08	7.5617E-05	8.2025E-03	1.3225E-01	1.8693E-01	1.0060E-02	1.9567E-01	1.9569E-01	1.7300E-09	3.4600E-09	1.4993E-14	1.7972E-14
	235U (F)	7.5700E-08	2.1808E-04	1.9472E-02	1.9660E-01	2.7963E-01	6.0291E-03	2.8439E-01	2.8440E-01	7.5701E-10	1.5340E-09	5.0755E-15	5.9171E-15
	235U (H)	5.3100E-08	3.0105E-05	7.9481E-03	1.3645E-01	2.7230E-01	1.1583E-02	2.8832E-01	2.8842E-01	1.5400E-08	3.0800E-08	3.2376E-13	3.4408E-13
	238U (F)	8.5000E-07	1.0378E-03	2.4239E-02	1.3267E-01	1.4742E-01	2.1332E-03	1.4782E-01	1.4782E-01	6.4400E-12	1.2880E-11	1.0469E-17	1.2205E-17
	238U (H)	6.6300E-07	8.0066E-04	4.8854E-02	2.5281E-01	3.2438E-01	5.1793E-03	3.2623E-01	3.2624E-01	8.1600E-11	1.6300E-10	4.0859E-16	4.3424E-16
	239Pu(T)	1.7500E-09	1.4502E-05	3.3525E-03	8.1392E-02	1.6255E-01	8.1153E-03	1.7451E-01	1.7458E-01	1.4700E-08	2.9400E-08	2.5308E-13	3.1535E-13
	239Pu(F)	2.4200E-09	1.5802E-05	3.3968E-03	5.7118E-02	1.3022E-01	5.4708E-03	1.3774E-01	1.3778E-01	5.7901E-09	1.3580E-08	1.2425E-13	1.4485E-13
	241Pu(T)	2.5900E-08	5.9827E-05	4.8298E-03	4.5044E-02	5.1274E-02	1.2117E-03	5.2092E-02	5.2093E-02	9.1501E-11	1.8320E-10	4.4408E-16	5.3232E-16
	233U (T)	1.7300E-09	1.7802E-05	4.5278E-03	1.3369E-01	2.5485E-01	1.5332E-02	2.9057E-01	2.9073E-01	4.2801E-08	8.5601E-08	8.7780E-13	1.0522E-12
	232Th(F)	1.6000E-06	2.2666E-03	6.1064E-02	3.7414E-01	4.2294E-01	6.3035E-03	4.2445E-01	4.2447E-01	3.3500E-11	6.7000E-11	5.4056E-17	7.4677E-17
Independent yield	235U (T)	1.5700E-08	7.5600E-05	8.1270E-03	1.2423E-01	5.4573E-02	7.5110E-03	1.1370E-03	1.3700E-05	1.7300E-09	1.7300E-09	1.4993E-14	4.4784E-15
	235U (F)	7.5700E-08	2.1800E-04	1.9254E-02	1.7761E-01	8.3030E-02	2.3660E-03	2.3950E-03	9.5500E-05	7.5700E-10	7.5700E-10	5.0755E-15	1.3492E-15
	235U (H)	5.3100E-08	3.0100E-05	7.9180E-03	1.2859E-01	1.3584E-01	8.0150E-03	8.0150E-03	9.7000E-05	1.5400E-08	1.5400E-08	3.2376E-13	5.2704E-14
	238U (F)	8.5000E-07	1.0370E-03	2.3201E-02	1.0867E-01	1.4852E-02	2.0200E-04	2.0200E-04	1.0400E-07	5.4400E-12	5.4400E-12	1.0469E-17	2.7829E-18
	238U (H)	6.6300E-07	8.0000E-04	4.8053E-02	2.0493E-01	7.1563E-02	9.3000E-04	9.3000E-04	2.4400E-06	8.1500E-11	8.1500E-11	4.0859E-16	6.5514E-17
	239Pu(T)	1.7500E-09	1.4500E-05	3.3380E-03	7.8152E-02	8.1153E-02	5.9850E-03	5.9850E-03	5.3300E-05	1.4700E-08	1.4700E-08	2.5308E-13	7.8582E-14
	239Pu(F)	2.4200E-09	1.5800E-05	3.3810E-03	5.3819E-02	6.3099E-02	3.7650E-03	3.7650E-03	3.7000E-05	5.7900E-09	5.7900E-09	1.2425E-13	3.3028E-14
	241Pu(T)	2.5900E-08	5.9800E-05	4.7500E-03	4.1300E-02	5.5230E-02	4.0900E-04	4.0800E-04	1.2700E-06	8.1500E-11	9.1500E-11	4.4408E-16	1.3255E-15
	233U (T)	1.7300E-09	1.7900E-05	4.5100E-03	1.2929E-01	1.3117E-01	1.2862E-02	1.2862E-02	1.4800E-04	4.2800E-08	4.2800E-08	8.7780E-13	2.5220E-13
	232Th(F)	1.6000E-06	2.2650E-03	6.8797E-02	3.1303E-01	4.8803E-02	7.5300E-04	7.5300E-04	8.5100E-07	3.3500E-11	3.3500E-11	5.4056E-17	1.7027E-17

Table 2.7.1 Continued

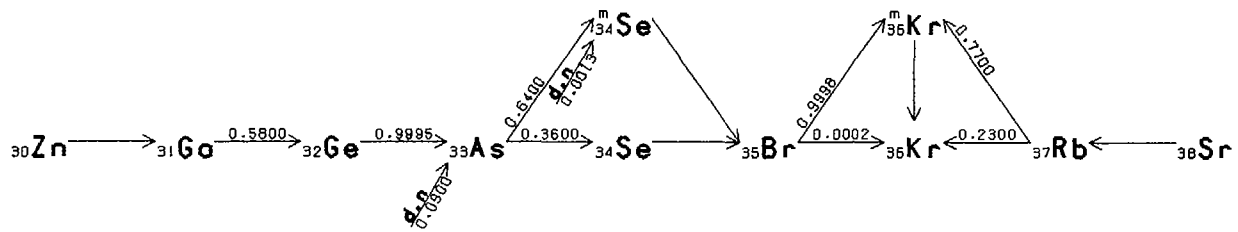
Mass No. 82



		28Ni	29Cu	30Zn	31Ga	32Ge	33mAs	33As	34Se	35mBr	35Br	36Kr
	λ(1/sec)	3.4348E+01	5.5630E+00	5.6862E+00	1.1552E+00	1.5068E-01	5.3319E-02	3.3007E-02	0.0	1.8846E-03	5.4544E-05	0.0
	Q-value(MeV)	1.5990E+01	1.4910E+01	1.1130E+01	1.2300E+01	4.4000E+00	7.4000E+00	7.4000E+00	0.0	1.2022E-01	3.0925E+00	0.0
	E-beta (MeV)	5.9830E+00	4.6890E+00	4.2340E+00	3.7960E+00	1.4490E+00	1.9540E+00	1.9800E+00	0.0	3.1739E-02	1.3686E-01	0.0
	E-gamma(MeV)	3.5360E+00	5.0620E+00	2.1810E+00	4.1310E+00	7.6520E-01	2.7630E+00	2.9540E+00	0.0	2.1638E-03	2.6507E+00	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4758E-02	0.0	0.0
Cumulative yield	235U (T)	3.4752E-15	4.9600E-10	9.2105E-06	2.5862E-03	1.3046E-01	7.9561E-02	2.1010E-01	3.2204E-01	1.8600E-05	8.1364E-05	8.2120E-06
	235U (F)	1.8593E-14	2.0300E-09	2.2102E-05	5.5241E-03	1.7439E-01	9.3578E-02	2.5792E-01	3.9481E-01	1.0200E-04	2.0155E-04	2.0412E-04
	235U (H)	3.8505E-15	1.4400E-10	2.8201E-06	2.4258E-03	1.2234E-01	1.9333E-01	3.1572E-01	6.2175E-01	8.3600E-04	4.5259E-03	4.5484E-03
	238U (F)	1.5300E-12	3.7002E-08	2.0104E-04	1.0754E-02	1.9419E-01	2.5470E-02	2.1958E-01	2.5062E-01	3.3400E-05	5.5998E-05	5.5820E-05
	238U (H)	2.7034E-13	2.2600E-08	9.3123E-05	1.7515E-02	2.3512E-01	9.9028E-02	3.3404E-01	4.4850E-01	3.3500E-05	5.5394E-05	5.7214E-05
	239Pu(T)	8.7533E-17	2.5500E-11	8.2903E-07	5.5283E-04	4.5258E-02	5.4764E-02	1.0001E-01	2.0638E-01	1.0130E-03	3.3517E-03	3.3791E-03
	239Pu(F)	1.6352E-16	5.0300E-11	1.2400E-06	7.9724E-04	5.0649E-02	6.0123E-02	1.1066E-01	2.1514E-01	3.1200E-04	5.1551E-04	5.2485E-04
	241Pu(T)	1.2422E-14	9.6801E-10	1.0101E-05	1.8811E-03	5.7153E-02	2.3040E-02	8.0181E-02	1.1177E-01	1.8200E-05	3.5953E-05	3.5421E-05
	233U (T)	1.0345E-15	3.5700E-11	1.5000E-05	1.0595E-03	1.1058E-01	1.3832E-01	2.4894E-01	5.5105E-01	2.3100E-04	7.5546E-04	7.7303E-04
	232Th(F)	3.7900E-12	1.0100E-07	5.4010E-04	3.8917E-02	8.2398E-01	1.2189E-01	9.4550E-01	1.0993E+00	2.1700E-05	4.2579E-05	4.3415E-05
Independent yield	235U (T)	3.4752E-15	4.9600E-10	9.2100E-06	2.5770E-03	1.2780E-01	7.9636E-02	7.9636E-02	3.2280E-02	1.8600E-05	5.3200E-05	3.2000E-07
	235U (F)	1.8593E-14	2.0300E-09	2.2100E-05	5.5020E-03	1.5870E-01	9.3532E-02	9.3532E-02	3.3309E-02	1.0200E-04	1.0200E-04	1.2500E-07
	235U (H)	3.8506E-15	1.4400E-10	2.8200E-06	2.4230E-03	1.1992E-01	1.9330E-01	1.9338E-01	1.1271E-01	8.3600E-04	3.8110E-03	1.4100E-06
	238U (F)	1.5300E-12	3.7000E-08	2.0100E-04	1.0553E-02	1.8240E-01	2.5385E-02	2.5385E-02	5.5570E-03	3.3400E-05	3.3400E-05	2.0300E-09
	238U (H)	2.7034E-13	2.2600E-08	9.3100E-05	1.7522E-02	2.1548E-01	9.8926E-02	9.8926E-02	1.5533E-02	3.3500E-05	3.3500E-05	1.3500E-08
	239Pu(T)	8.7533E-17	2.5500E-11	8.2900E-07	5.5200E-04	4.4715E-02	5.4755E-02	5.4755E-02	5.1503E-02	1.0130E-03	2.3530E-03	3.1400E-06
	239Pu(F)	1.6352E-16	5.0300E-11	1.2400E-06	7.9500E-04	4.9763E-02	6.0113E-02	6.0113E-02	4.4352E-02	3.1200E-04	3.1200E-04	8.5000E-07
	241Pu(T)	1.2422E-14	9.5800E-10	1.0100E-05	1.8710E-03	5.5181E-02	2.3018E-02	2.3018E-02	8.5530E-03	1.8200E-05	1.8200E-05	2.1200E-08
	233U (T)	1.0345E-15	3.5700E-11	1.5000E-05	1.0580E-03	1.0953E-01	1.3830E-01	1.3836E-01	1.5379E-01	2.3100E-04	5.4000E-04	2.0300E-06
	232Th(F)	3.7900E-12	1.0100E-07	5.4000E-04	3.9277E-02	7.7875E-01	1.2145E-01	1.2252E-01	3.0819E-02	2.1700E-05	2.1700E-05	1.5400E-08

Table 2.7.1 Continued

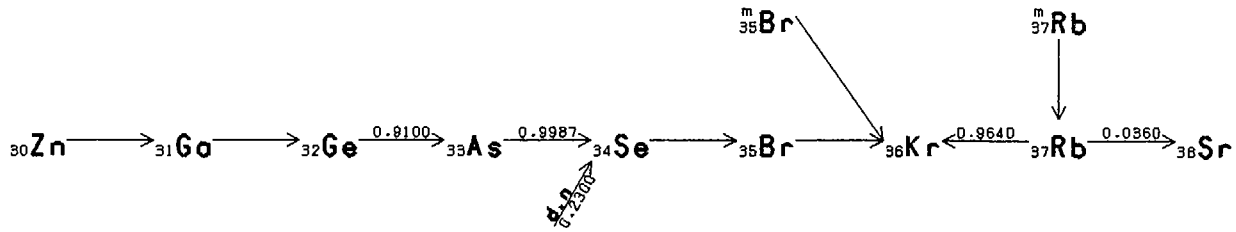
Mass No. 83



		30Zn	31Ga	32Ge	33As	m34Se	34Se	35Br	m36Kr	36Kr	37Rb	38Sr
	λ(1/sec)	4.3349E+00	2.2360E+00	3.6481E-01	4.9159E-02	9.8458E-03	5.1344E-04	8.0561E-05	1.0521E-04	0.0	9.3069E-08	5.9426E-06
	Q-value(MeV)	1.2630E+01	1.1000E+01	7.4000E+00	5.3138E+00	3.8435E+00	3.6150E+00	9.1845E-01	4.1550E-02	0.0	9.5600E-01	2.2500E+00
	E-beta (MeV)	4.1020E+00	3.8810E+00	2.6890E+00	2.0000E+00	1.2409E+00	4.8607E-01	3.2003E-01	0.0	0.0	0.0	1.2718E-01
	E-gamma(MeV)	3.9630E+00	3.7430E+00	2.4440E+00	9.9300E-01	9.2672E-01	2.4350E+00	8.5855E-03	4.7668E-04	0.0	5.0412E-01	7.8977E-01
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1083E-02	0.0	0.0	2.2842E-02
Cumulative yield	235U (T)	3.2100E-07	3.8632E-04	5.0640E-02	3.5116E-01	2.6697E-01	2.5242E-01	5.3778E-01	5.3768E-01	5.3780E-01	9.5201E-10	5.1460E-15
	235U (F)	1.1300E-05	1.1021E-03	9.2971E-02	4.1638E-01	3.4332E-01	2.2619E-01	5.7270E-01	5.7259E-01	5.7271E-01	2.7700E-10	1.2159E-15
	235U (H)	1.3100E-07	3.9413E-04	6.2555E-02	5.4663E-01	5.4664E-01	4.5498E-01	1.1390E+00	1.1388E+00	1.1391E+00	1.7100E-08	1.2771E-13
	238U (F)	1.8200E-05	4.2592E-03	1.5947E-01	3.4866E-01	2.4425E-01	1.4601E-01	3.9047E-01	3.9039E-01	3.9047E-01	2.1600E-12	3.5764E-18
	238U (H)	8.3400E-05	5.3663E-03	2.0334E-01	5.1425E-01	3.8725E-01	2.4241E-01	5.3130E-01	5.3117E-01	5.3130E-01	4.0800E-11	5.8661E-17
	239Pu(T)	2.5900E-08	5.8525E-05	1.5784E-02	1.4321E-01	1.5397E-01	1.2379E-01	2.9515E-01	2.9511E-01	2.9519E-01	5.1401E-09	5.5136E-14
	239Pu(F)	4.3200E-08	1.0604E-04	1.9428E-02	1.5744E-01	1.7574E-01	1.2870E-01	3.1102E-01	3.1097E-01	3.1105E-01	3.7900E-09	3.5383E-14
	241Pu(T)	7.4100E-07	5.5374E-04	4.3240E-02	1.5192E-01	1.3018E-01	8.4537E-02	2.1558E-01	2.1553E-01	2.1558E-01	5.1400E-11	2.0399E-15
	233U (T)	5.5000E-08	1.5305E-04	4.5477E-02	4.5042E-01	5.8135E-01	3.9715E-01	1.0190E+00	1.0189E+00	1.0192E+00	3.2600E-08	4.8883E-13
	232Th(F)	7.0600E-05	1.9298E-02	8.7969E-01	1.9044E+00	1.3629E+00	8.2354E-01	2.1862E+00	2.1877E+00	2.1882E+00	2.4100E-11	4.5059E-17
Independent yield	235U (T)	3.2100E-07	3.8600E-04	5.0415E-02	2.9768E-01	3.1901E-02	1.3600E-01	1.8395E-02	7.0900E-05	7.0900E-05	9.5200E-10	5.1460E-15
	235U (F)	1.1300E-05	1.1010E-03	9.2332E-02	3.1968E-01	7.5299E-02	7.5299E-02	3.1920E-03	2.5500E-05	2.5500E-05	2.7700E-10	1.2159E-15
	235U (H)	1.3100E-07	3.9400E-04	5.2336E-02	5.8263E-01	2.3219E-01	2.3222E-01	2.7432E-02	5.0700E-05	5.0700E-05	1.7100E-08	1.2771E-13
	238U (F)	1.8200E-05	4.2410E-03	1.5700E-01	1.5501E-01	2.0492E-02	2.0492E-02	2.1700E-04	8.7200E-08	8.7200E-08	2.1600E-12	3.5764E-18
	238U (H)	8.3400E-05	5.3580E-03	2.0022E-01	3.0364E-01	5.7279E-02	5.7279E-02	1.5420E-03	5.8400E-07	5.8400E-07	4.0800E-11	5.8661E-17
	239Pu(T)	2.5900E-08	5.8500E-05	1.5744E-02	1.2717E-01	7.2231E-02	7.2231E-02	7.3880E-03	2.0700E-05	2.0700E-05	5.1400E-09	5.5136E-14
	239Pu(F)	4.3200E-08	1.0600E-04	1.9366E-02	1.4752E-01	5.8418E-02	5.8418E-02	5.5860E-03	1.3800E-05	1.3800E-05	3.7900E-09	3.5383E-14
	241Pu(T)	7.4100E-07	5.5300E-04	4.2919E-02	1.1679E-01	2.5347E-02	2.5347E-02	5.5600E-04	7.4500E-07	7.4500E-07	5.1400E-11	2.0399E-15
	233U (T)	5.5000E-08	1.5300E-04	4.5382E-02	4.0286E-01	3.0272E-01	2.3500E-01	3.0476E-02	9.9800E-05	9.9800E-05	3.2600E-08	4.8883E-13
	232Th(F)	7.0600E-05	1.9227E-02	8.5850E-01	9.5448E-01	1.4121E-01	1.3796E-01	1.7070E-03	8.2400E-07	8.2400E-07	2.4100E-11	4.5059E-17

Table 2.7.1 Continued

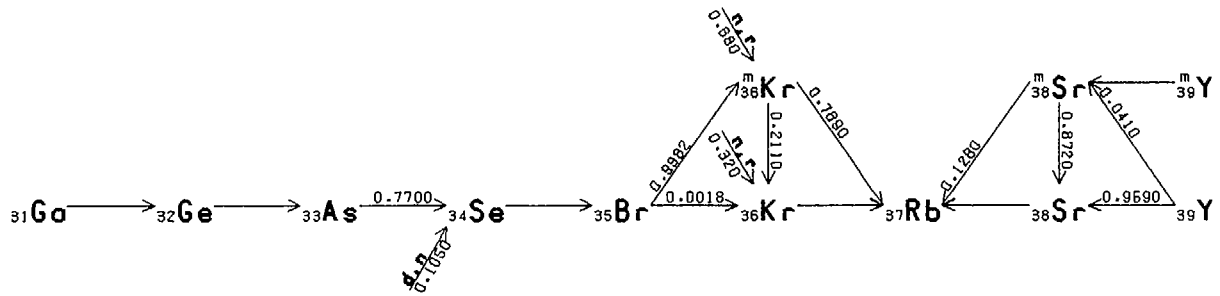
Mass No. 84



		$_{30}$Zn	$_{31}$Ga	$_{32}$Ge	$_{33}$As	$_{34}$Se	$^{m}_{35}$Br	$_{35}$Br	$_{36}$Kr	$^{m}_{37}$Rb	$_{37}$Rb	$_{38}$Sr
λ(1/sec)		1.0974E+01	3.1279E+00	6.7762E-01	1.1951E-01	3.5007E-03	1.8254E-03	3.6328E-04	0.0	5.6363E-04	2.4311E-07	0.0
Q-value(MeV)		1.3030E+01	1.3670E+01	6.7000E+00	9.7800E+00	1.8180E+00	4.9930E+00	4.6730E+00	0.0	4.6420E-01	2.6157E+00	0.0
E-beta (MeV)		4.6230E+00	4.2280E+00	2.5460E+00	2.8340E+00	5.3632E-01	9.0771E-01	1.2537E+00	0.0	0.0	1.4740E-01	0.0
E-gamma(MeV)		3.2970E+00	4.6330E+00	2.4600E+00	3.4050E+00	4.0690E-01	2.7684E+00	1.7876E+00	0.0	3.7949E-01	9.1382E-01	0.0
E-I.C (MeV)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.5505E-02	0.0	0.0
Cumulative yield	^{235}U (T)	2.9200E-06	1.0204E-02	3.1859E-02	2.5389E-01	9.6005E-01	2.4595E-02	9.8465E-01	1.0097E+00	1.5000E-09	2.3380E-09	8.6728E-11
	^{235}U (F)	4.4800E-08	1.3504E-04	4.1942E-02	4.1284E-01	1.0038E+00	1.5675E-02	1.0195E+00	1.0354E+00	1.8900E-08	3.7800E-08	1.3614E-09
	^{235}U (H)	2.7000E-09	2.8303E-05	1.6212E-02	4.3762E-01	1.3972E+00	8.0374E-02	1.4776E+00	1.5599E+00	5.6900E-07	1.1380E-06	4.1001E-08
	^{238}U (F)	1.6000E-06	9.5960E-04	1.5833E-01	4.7469E-01	8.2867E-01	1.9440E-03	8.3062E-01	8.3268E-01	2.3800E-10	4.7600E-10	1.7140E-11
	^{238}U (H)	3.0600E-07	6.7131E-04	8.1956E-02	6.5187E-01	1.0718E+00	8.1600E-03	1.0800E+00	1.0882E+00	2.7600E-09	5.5200E-09	1.9876E-10
	^{239}Pu(T)	4.1800E-10	3.4004E-06	3.0194E-03	6.7350E-02	4.3164E-01	2.1746E-02	4.5339E-01	4.7600E-01	2.4900E-08	3.8900E-08	1.4192E-09
	^{239}Pu(F)	1.0500E-09	8.2210E-06	5.5772E-03	1.2125E-01	4.5284E-01	2.0901E-02	4.7374E-01	4.9628E-01	1.3900E-07	2.7800E-07	1.0018E-08
	^{241}Pu(T)	3.2200E-08	7.0832E-05	2.1185E-02	1.6014E-01	3.7390E-01	4.3550E-03	3.7826E-01	3.8257E-01	3.6800E-09	7.3600E-09	2.5505E-10
	^{233}U (T)	1.2500E-09	1.0801E-05	1.2328E-02	2.8682E-01	1.5392E+00	8.3242E-02	1.6224E+00	1.7098E+00	4.1900E-08	5.5400E-08	2.4804E-09
	^{232}Th(F)	5.0200E-06	3.5410E-03	5.7379E-01	2.2274E+00	4.1052E+00	1.2450E-02	4.1177E+00	4.1302E+00	2.0900E-09	4.1800E-09	1.5052E-10
Independent yield	^{235}U (T)	2.9200E-06	1.0201E-02	2.1655E-02	2.2490E-01	5.7024E-01	2.4595E-02	2.4595E-02	4.7800E-04	1.5000E-09	8.3800E-10	2.5600E-12
	^{235}U (F)	4.4800E-08	1.3500E-04	4.1807E-02	3.7467E-01	5.3028E-01	1.5675E-02	1.5675E-02	2.2300E-04	1.8900E-08	1.8900E-08	5.5699E-13
	^{235}U (H)	2.7000E-09	2.8300E-05	1.5184E-02	4.2377E-01	9.2246E-01	8.0374E-02	8.0374E-02	1.9500E-03	5.6900E-07	5.6900E-07	3.3000E-11
	^{238}U (F)	1.6000E-06	9.5800E-04	1.5737E-01	3.3061E-01	2.8526E-01	1.9440E-03	1.9440E-03	1.4300E-05	2.3800E-10	2.3800E-10	3.7934E-15
	^{238}U (H)	3.0600E-07	6.7100E-04	8.1284E-02	5.7729E-01	3.3901E-01	8.1600E-03	8.1600E-03	4.5100E-06	2.7600E-09	2.7600E-09	3.3234E-14
	^{239}Pu(T)	4.1800E-10	3.4000E-06	3.0160E-03	6.4602E-02	3.5901E-01	2.1746E-02	2.1746E-02	8.5600E-04	2.4900E-08	1.4000E-08	1.8800E-11
	^{239}Pu(F)	1.0500E-09	8.2200E-06	5.5690E-03	1.1618E-01	3.1892E-01	2.0901E-02	2.0901E-02	6.4000E-04	1.3900E-07	1.3900E-07	1.0100E-11
	^{241}Pu(T)	3.2200E-08	7.0800E-05	2.1114E-02	1.4086E-01	1.9307E-01	4.3550E-03	4.3550E-03	5.9700E-05	3.6800E-09	3.6800E-09	1.0307E-13
	^{233}U (T)	1.2500E-09	1.0800E-05	1.2317E-02	2.7560E-01	1.2220E+00	8.3242E-02	8.3242E-02	4.2340E-03	4.1900E-08	2.3500E-08	1.2500E-10
	^{232}Th(F)	5.0200E-06	3.5360E-03	5.7024E-01	1.5143E+00	1.5470E+00	1.2450E-02	1.2450E-02	1.0600E-04	2.0900E-09	2.0900E-09	3.8286E-14

Table 2.7.1 Continued

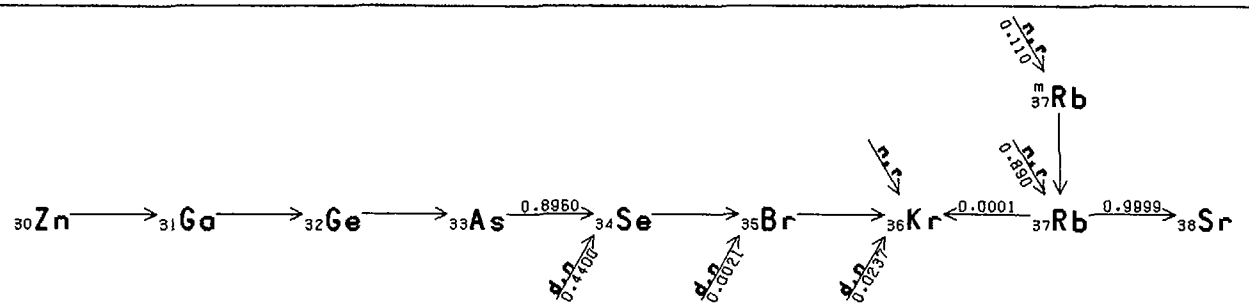
Mass No. 85



	^{31}Ga	^{32}Ge	^{33}As	^{34}Se	^{35}Br	$^{m}_{36}$Kr	^{36}Kr	^{37}Rb	$^{m}_{38}$Sr	^{38}Sr	$^{m}_{39}$Y	^{39}Y
λ(1/sec)	7.1260E+00	8.9346E-01	3.3324E-01	2.1133E-02	4.0299E-03	4.4161E-05	2.0470E-09	0.0	1.6622E-04	1.2306E-07	7.1844E-05	4.0113E-05
Q-value(MeV)	1.3810E+01	8.7180E+00	9.1000E+00	6.1000E+00	2.4857E+00	8.4691E-01	6.8700E-01	0.0	3.7484E-01	1.0640E+00	3.0613E+00	3.2502E+00
E-beta (MeV)	4.6090E+00	3.0290E+00	2.8360E+00	1.6300E+00	1.0115E+00	2.2874E-01	2.2787E-01	0.0	0.0	0.0	6.0419E-01	6.6697E-01
E-gamma(MeV)	4.3060E+00	3.1830E+00	3.0060E+00	2.3880E+00	6.6031E-02	1.6733E-01	2.2100E-03	0.0	2.1503E-01	5.0383E-01	1.0874E+00	1.2874E+00
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	2.6181E-02	0.0	0.0	1.1786E-02	5.1399E-03	0.0	0.0
Cumulative yield ^{235}U (T)	2.8100E-06	4.1318E-03	1.5761E-01	1.0529E+00	1.3003E+00	1.3013E+00	2.8026E-01	1.3070E+00	8.4551E-11	4.3418E-10	6.0948E-16	1.4297E-16
Cumulative yield ^{236}U (F)	9.0000E-06	8.3610E-03	2.6626E-01	1.1426E+00	1.3146E+00	1.3140E+00	2.8139E-01	1.3181E+00	1.9690E-11	1.1445E-10	1.3002E-16	2.6632E-17
Cumulative yield ^{236}U (H)	9.9100E-07	1.8100E-03	1.6408E-01	1.1276E+00	1.6130E+00	1.6193E+00	3.6380E-01	1.6316E+00	4.1801E-10	3.7466E-09	1.3941E-14	1.7231E-16
Cumulative yield ^{238}U (F)	7.4700E-05	3.0402E-02	2.9713E-01	7.1171E-01	7.3597E-01	7.3476E-01	1.5547E-01	7.3620E-01	1.3464E-13	7.7477E-13	2.0643E-19	4.2280E-20
Cumulative yield ^{238}U (H)	3.9800E-05	1.5699E-02	3.5571E-01	8.7469E-01	9.5305E-01	9.5159E-01	2.0288E-01	9.5376E-01	7.2271E-13	6.4775E-12	5.3114E-18	6.5545E-19
Cumulative yield ^{239}Pu (T)	1.1000E-07	2.9411E-04	2.3338E-02	3.9278E-01	6.5996E-01	6.6366E-01	1.2461E-01	6.6916E-01	4.5031E-10	2.3124E-09	6.6334E-15	1.5560E-15
Cumulative yield ^{239}Pu (F)	3.5700E-07	7.6436E-04	5.5772E-02	4.3676E-01	5.9297E-01	5.9534E-01	1.3012E-01	5.9996E-01	2.2610E-10	1.3011E-09	4.0587E-15	8.3130E-16
Cumulative yield ^{241}Pu (T)	4.2800E-06	3.6423E-03	9.0860E-02	3.6981E-01	4.1307E-01	4.1273E-01	8.8243E-02	4.1389E-01	3.7620E-12	1.9318E-11	1.5396E-17	3.6115E-18
Cumulative yield ^{233}U (T)	4.6700E-07	1.5505E-03	1.3366E-01	1.5210E+00	2.1516E+00	2.1689E+00	4.8266E-01	2.1940E+00	2.9071E-09	1.4928E-08	5.4500E-14	1.2784E-14
Cumulative yield ^{232}Th (F)	2.9700E-04	1.3997E-01	1.4507E+00	3.9998E+00	4.1673E+00	4.1607E+00	8.8632E-01	4.1692E+00	1.3615E-12	7.7770E-12	2.6048E-18	5.3362E-19
Independent yield ^{236}U (T)	2.8100E-06	4.1290E-03	1.5348E-01	9.2246E-01	2.4742E-01	3.3460E-03	3.3460E-03	5.4900E-05	8.4650E-11	3.6046E-10	6.0948E-16	1.4297E-16
Independent yield ^{236}U (F)	9.0000E-06	8.3420E-03	2.5780E-01	9.2682E-01	1.7207E-01	1.7730E-03	1.7730E-03	2.3200E-06	1.9890E-11	9.7110E-11	1.3002E-16	2.6632E-17
Independent yield ^{236}U (H)	9.9100E-07	1.8090E-03	1.6228E-01	9.9676E-01	4.8546E-01	9.2160E-03	9.2160E-03	3.7300E-05	4.1800E-10	3.3820E-09	1.3941E-14	1.7231E-15
Independent yield ^{238}U (F)	7.4700E-06	3.0327E-02	2.6673E-01	4.5762E-01	2.4263E-02	1.1300E-04	1.1300E-04	1.1000E-07	1.3464E-13	6.6736E-13	2.0643E-19	4.2280E-20
Independent yield ^{238}U (H)	3.9800E-06	1.5869E-02	3.3981E-01	5.8103E-01	7.8361E-02	3.5600E-04	3.5600E-04	3.1000E-07	7.2270E-13	5.8473E-12	5.3114E-18	6.5646E-19
Independent yield ^{239}Pu (T)	1.1000E-07	2.9400E-04	2.3044E-02	3.7368E-01	1.5717E-01	4.5920E-03	4.5920E-03	1.5900E-05	4.5030E-10	1.9197E-09	6.6334E-15	1.5560E-15
Independent yield ^{239}Pu (F)	3.5700E-07	7.6400E-04	5.5018E-02	3.9227E-01	1.5622E-01	3.4360E-03	3.4360E-03	1.1200E-04	2.2610E-10	1.1039E-09	4.0587E-15	8.3130E-16
Independent yield ^{241}Pu (T)	4.2800E-06	3.6380E-03	8.7218E-02	2.9582E-01	4.3258E-02	4.1200E-04	4.1200E-04	4.3000E-07	3.7620E-12	1.6038E-11	1.5396E-17	3.6115E-18
Independent yield ^{233}U (T)	4.6700E-07	1.5500E-03	1.3211E-01	1.4148E+00	6.3060E-01	2.1159E-02	2.1159E-02	8.2100E-05	2.9070E-09	1.2393E-08	5.4500E-14	1.2784E-14
Independent yield ^{232}Th (F)	2.9700E-04	1.3967E-01	1.3107E+00	2.8124E+00	1.6752E-01	9.0600E-04	9.0600E-04	3.2300E-07	1.3515E-12	6.5985E-12	2.6048E-18	5.3352E-19

Table 2.7.1 Continued

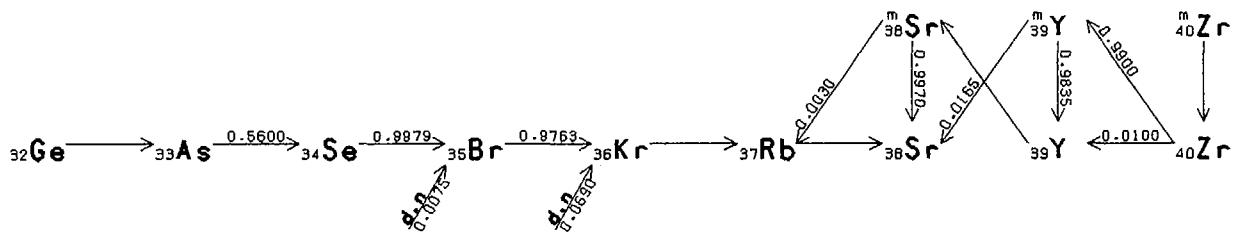
Mass No. 86



		30Zn	31Ga	32Ge	33As	34Se	35Br	36Kr	m37Rb	37Rb	38Sr
	λ(1/sec)	2.1107E+01	5.7762E+00	2.4484E+00	7.7016E-01	4.1506E-02	1.2444E-02	0.0	1.1359E-02	4.2994E-07	0.0
	Q-value(MeV)	1.4700E+01	1.4950E+01	9.8430E+00	1.0180E+01	5.1000E+00	7.3000E+00	0.0	5.5605E-01	1.7743E+00	0.0
	E-beta (MeV)	6.2610E+00	4.6470E+00	3.3620E+00	3.3170E+00	1.3500E+00	1.9470E+00	0.0	0.0	6.5615E-01	0.0
	E-gamma(MeV)	3.6860E+00	5.1720E+00	2.6360E+00	3.7780E+00	1.9540E+00	2.9350E+00	0.0	5.4504E-01	9.4561E-02	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0009E-02	0.0	0.0
Cumulative yield	235U (T)	2.8500E-12	1.3000E-07	8.2713E-04	8.6209E-02	1.2706E+00	1.8219E+00	1.9721E+00	5.1840E-06	8.1000E-06	8.1602E-06
	236U (F)	7.5800E-12	2.9801E-07	1.1063E-03	1.0177E-01	1.2933E+00	1.8376E+00	1.9296E+00	5.8820E-05	8.6500E-06	8.6513E-05
	236U (H)	2.0375E-13	2.5800E-08	1.7203E-04	5.2091E-02	1.0270E+00	2.3506E+00	2.5450E+00	1.7706E-04	2.2700E-04	2.2739E-04
	238U (F)	5.0100E-10	3.8205E-06	7.1976E-03	1.4867E-01	1.1148E+00	1.2316E+00	1.2713E+00	1.3668E-06	2.0100E-06	2.0101E-06
	238U (H)	6.7700E-11	1.9101E-06	2.7149E-03	1.8623E-01	1.0957E+00	1.4460E+00	1.4923E+00	9.7500E-06	1.2500E-05	1.2501E-05
	239Pu(T)	4.1865E-14	4.1900E-09	4.6304E-05	1.0846E-02	3.4216E-01	6.7800E-01	7.6007E-01	4.1728E-05	6.6200E-05	6.6413E-05
	239Pu(F)	7.4273E-14	7.7101E-09	6.4808E-05	1.4549E-02	3.6128E-01	7.0856E-01	7.7962E-01	1.8564E-04	2.7300E-04	2.7311E-04
	241Pu(T)	5.5700E-12	1.5901E-07	5.6715E-04	3.8373E-02	4.6538E-01	6.2164E-01	6.4876E-01	1.1008E-05	1.7200E-05	1.7203E-05
	233U (T)	7.6009E-14	8.7501E-09	1.2501E-04	3.0903E-02	1.2313E+00	2.4979E+00	2.8591E+00	1.4784E-04	2.3100E-04	2.3966E-04
	232Th(F)	1.4500E-09	1.3001E-05	2.8503E-02	6.7009E-01	5.7485E+00	6.4330E+00	6.6226E+00	1.1016E-05	1.6200E-05	1.6201E-05
Independent yield	235U (T)	2.8500E-12	1.3000E-07	8.2700E-04	8.5382E-02	1.1622E+00	5.4973E-01	1.0261E-01	5.1840E-06	2.9160E-06	6.0600E-08
	235U (F)	7.5800E-12	2.9800E-07	1.1080E-03	1.0066E-01	1.1906E+00	5.4229E-01	4.1636E-02	5.8820E-05	2.7680E-05	1.7270E-08
	235U (H)	2.0375E-13	2.5800E-08	1.7200E-04	5.1919E-02	9.7747E-01	1.3228E+00	1.5700E-01	1.7706E-04	4.9940E-05	4.0600E-07
	238U (F)	5.0100E-10	3.8200E-06	7.1940E-03	1.3948E-01	9.6015E-01	1.1484E-01	4.7660E-03	1.3668E-06	6.4320E-07	2.0700E-10
	238U (H)	6.7700E-11	1.9100E-06	2.7130E-03	1.8551E-01	9.0456E-01	3.4865E-01	1.0251E-02	9.7500E-06	2.7500E-06	1.3000E-09
	239Pu(T)	4.1865E-14	4.1900E-09	4.6300E-05	1.0800E-02	3.3162E-01	3.3555E-01	6.5507E-02	4.1728E-05	2.3472E-05	2.1600E-07
	239Pu(F)	7.4273E-14	7.7100E-09	6.4800E-05	1.4584E-02	3.4701E-01	3.4690E-01	6.2840E-02	1.8564E-04	8.7360E-05	1.2800E-07
	241Pu(T)	5.5700E-12	1.5900E-07	5.6700E-04	3.7806E-02	4.2695E-01	1.5574E-01	1.1338E-02	1.1008E-05	6.1920E-06	3.4400E-09
	233U (T)	7.6009E-14	8.7500E-09	1.2500E-04	3.0778E-02	1.2007E+00	1.2550E+00	3.0774E-01	1.4784E-04	8.3160E-05	8.6700E-06
	232Th(F)	1.4500E-09	1.3000E-05	2.8490E-02	6.4158E-01	5.0413E+00	6.7602E-01	3.2722E-02	1.1016E-05	5.1840E-06	1.9600E-09

Table 2.7.1 Continued

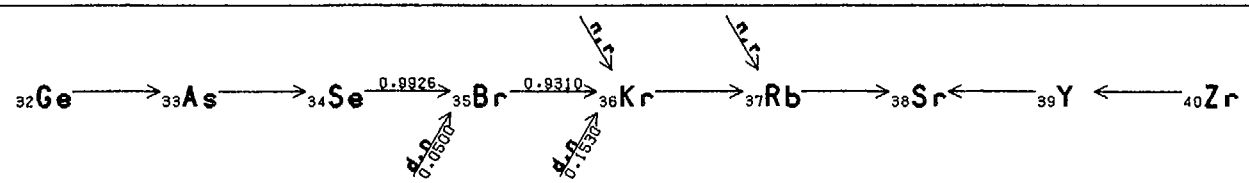
Mass No. 87



		32Ge	33As	34Se	35Br	36Kr	37Rb	38mSr	38Sr	39mY	39Y	40mZr	40Zr
	λ(1/sec)	2.1187E+00	9.4962E-01	1.2378E-01	1.2467E-02	1.6139E-04	4.6733E-19	6.8036E-05	0.0	1.4686E-05	2.3978E-06	4.9611E-02	1.2667E-04
	Q-value(MeV)	1.1130E+01	1.0410E+01	7.2700E+00	6.5000E+00	3.8890E+00	2.7330E-01	3.8768E-01	0.0	4.1182E-01	1.4733E+00	3.3600E-01	3.2027E+00
	E-beta (MeV)	3.5330E+00	3.4400E+00	2.0790E+00	1.8130E+00	1.3144E+00	7.8771E-02	0.0	0.0	4.0340E-03	3.2527E-04	0.0	7.5438E-01
	E-gamma(MeV)	3.5860E+00	3.4730E+00	2.6440E+00	2.4100E+00	7.7643E-01	0.0	3.1072E-01	0.0	3.0492E-01	4.5008E-01	2.3962E-01	9.0938E-01
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	6.8747E-02	0.0	7.7363E-02	0.0	9.6382E-02	0.0
Cumulative yield	235U (T)	2.1672E-02	7.1016E-02	7.5008E-01	2.0070E+00	2.6385E+00	2.6792E+00	2.1101E-06	2.6792E+00	8.0109E-11	9.7578E-11	4.0920E-17	2.1637E-16
	235U (F)	7.5100E-05	2.6485E-02	8.7088E-01	2.1266E+00	2.5005E+00	2.5026E+00	7.1503E-07	2.5026E+00	2.2410E-11	2.6630E-11	5.6256E-18	3.3092E-17
	235U (H)	6.2700E-06	6.6299E-03	3.8167E-01	1.6799E+00	2.4416E+00	2.4623E+00	6.9308E-06	2.4623E+00	7.0844E-10	7.8431E-10	2.6116E-16	2.2832E-15
	238U (F)	6.1400E-04	6.3169E-02	9.2548E-01	1.4769E+00	1.6016E+00	1.6017E+00	1.3200E-08	1.6017E+00	8.9866E-14	1.0679E-13	1.0376E-20	6.1034E-20
	238U (H)	2.1900E-04	6.1432E-02	7.8477E-01	1.6240E+00	1.6766E+00	1.6769E+00	6.8901E-08	1.6769E+00	1.2727E-12	1.4090E-12	8.3943E-20	7.6312E-19
	239Pu(T)	1.9900E-06	1.8710E-03	1.4516E-01	6.9869E-01	9.9723E-01	1.0025E+00	5.0805E-06	1.0025E+00	4.2930E-10	5.2292E-10	3.9797E-16	2.0946E-15
	239Pu(F)	3.0200E-06	2.6340E-03	1.8321E-01	7.6853E-01	1.0446E+00	1.0492E+00	3.6203E-06	1.0492E+00	2.8884E-10	3.4323E-10	1.8493E-16	1.0878E-15
	241Pu(T)	3.4300E-05	9.2963E-03	2.4673E-01	6.6564E-01	7.9843E-01	7.9888E-01	1.4000E-07	7.9888E-01	3.2481E-12	3.9664E-12	8.4492E-19	4.4470E-18
	233U (T)	6.6200E-06	6.7336E-03	7.1984E-01	2.2676E+00	4.0166E+00	4.0423E+00	3.1904E-06	4.0423E+00	2.9646E-09	3.6111E-09	3.7777E-16	1.9883E-14
	232Th(F)	2.4220E-03	2.4422E-01	4.5048E+00	6.6205E+00	7.1193E+00	7.1199E+00	9.3601E-08	7.1199E+00	8.1569E-13	9.6931E-13	1.1032E-19	6.4894E-19
Independent yield	235U (T)	2.1672E-02	4.9444E-02	7.1031E-01	1.2667E+00	4.4408E-01	4.0626E-02	2.1100E-06	2.1100E-06	8.0109E-11	1.8791E-11	4.0920E-17	1.7446E-16
	235U (F)	7.6100E-05	2.6410E-02	8.5605E-01	1.2669E+00	2.6409E-01	2.1390E-03	7.1600E-07	7.1600E-07	2.2410E-11	4.6900E-12	6.6266E-18	2.7466E-17
	235U (H)	6.2700E-06	6.5230E-03	3.7801E-01	1.1979E+00	7.6891E-01	1.0834E-02	6.9300E-06	6.9300E-06	7.0844E-10	8.7560E-11	2.5115E-16	2.0320E-15
	238U (F)	6.1400E-04	5.2545E-02	8.9571E-01	5.4576E-01	4.3716E-02	1.4900E-04	1.3200E-08	1.3200E-08	8.9865E-14	1.8406E-14	1.0376E-20	5.0658E-20
	238U (H)	2.1900E-04	6.1213E-02	7.6697E-01	7.3768E-01	7.8680E-02	4.1600E-04	6.8900E-08	6.8900E-08	1.2727E-12	1.5730E-13	8.3943E-20	6.7918E-19
	239Pu(T)	1.9900E-06	1.8690E-03	1.4411E-01	5.5344E-01	2.7838E-01	5.2880E-03	5.0800E-06	5.0800E-06	4.2930E-10	1.0070E-10	3.9797E-16	1.6956E-15
	239Pu(F)	3.0200E-06	2.6310E-03	1.8173E-01	5.8524E-01	2.5235E-01	4.7450E-03	3.6200E-06	3.6200E-06	2.8884E-10	5.9160E-11	1.8493E-16	9.0290E-16
	241Pu(T)	3.4300E-05	8.2610E-03	2.4163E-01	4.1831E-01	1.0607E-01	4.5700E-04	1.4000E-07	1.4000E-07	3.2481E-12	7.6190E-13	8.4492E-19	3.6020E-18
	233U (T)	6.6200E-06	6.7270E-03	7.1607E-01	1.6378E+00	1.7060E+00	2.5668E-02	3.1900E-06	3.1900E-06	2.9646E-09	6.9640E-10	3.7777E-16	1.6106E-14
	232Th(F)	2.4220E-03	2.4180E-01	4.3680E+00	2.1036E+00	2.4664E-01	5.6500E-04	9.3600E-08	9.3600E-08	8.1669E-13	1.6707E-13	1.1032E-19	5.3862E-19

Table 2.7.1 Continued

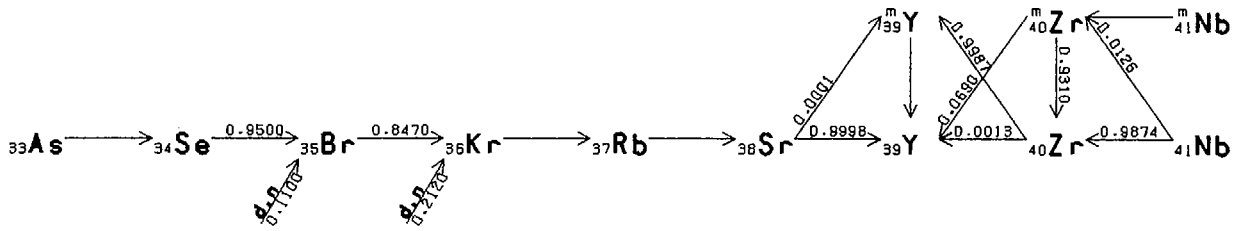
Mass No. 88



		32Ge	33As	34Se	35Br	36Kr	37Rb	38Sr	39Y	40Zr
	λ (1/sec)	5.8160E+00	1.6840E+00	4.6304E-01	4.2624E-02	6.7322E-05	6.4901E-04	0.0	7.5251E-08	9.6193E-08
	Q-value (MeV)	1.1500E+01	1.2210E+01	7.0000E+00	8.6000E+00	2.9130E+00	5.3090E+00	0.0	3.6120E+00	6.7700E-01
	E-beta (MeV)	4.0060E+00	3.7520E+00	2.4040E+00	2.4640E+00	3.6133E-01	1.1930E+00	0.0	7.0017E-04	0.0
	E-gamma (MeV)	3.0030E+00	4.2210E+00	1.7160E+00	3.2100E+00	1.9698E+00	2.4940E+00	0.0	2.6689E+00	3.8307E-01
	E-I.C (MeV)	0.0	0.0	0.0	0.0	6.2660E-03	0.0	0.0	0.0	1.0630E-02
Cumulative yield	235U (T)	2.5100E-05	3.2964E-02	3.7777E-01	1.9564E+00	3.5976E+00	3.6814E+00	3.6816E+00	1.5100E-08	1.5449E-13
	235U (F)	3.6500E-06	4.0376E-03	4.8249E-01	2.2938E+00	3.6188E+00	3.6460E+00	3.6460E+00	4.4600E-09	2.7449E-14
	236U (H)	1.8500E-07	7.0218E-04	1.4292E-01	1.8863E+00	3.2813E+00	3.4249E+00	3.4256E+00	1.2500E-07	1.2900E-12
	238U (F)	5.6300E-06	1.2949E-02	8.7601E-01	1.6951E+00	2.1251E+00	2.1267E+00	2.1267E+00	2.8200E-11	8.7618E-17
	238U (H)	1.0500E-05	8.7505E-03	4.3395E-01	1.5955E+00	2.2785E+00	2.2853E+00	2.2853E+00	3.2600E-10	7.1099E-16
	239Pu (T)	4.9800E-08	1.6206E-04	6.2184E-02	5.3222E-01	1.3326E+00	1.3776E+00	1.3778E+00	6.0601E-08	1.0700E-12
	239Pu (F)	8.0700E-08	2.3608E-04	5.2212E-02	5.0598E-01	1.2936E+00	1.3307E+00	1.3309E+00	3.6701E-08	6.2023E-13
	241Pu (T)	1.4900E-05	1.2405E-03	1.4795E-01	8.1579E-01	1.0400E+00	1.0460E+00	1.0461E+00	7.3600E-10	3.8591E-15
	233U (T)	1.1300E-07	3.6511E-04	1.9096E-01	1.5304E+00	5.3498E+00	5.5217E+00	5.5236E+00	3.7901E-07	8.7100E-12
	232Th (F)	1.3700E-04	3.7018E-02	2.8714E+00	5.9304E+00	7.5356E+00	7.5442E+00	7.5442E+00	2.0600E-10	7.0628E-16
Independent yield	236U (T)	2.5100E-05	3.2939E-02	3.4480E-01	1.6756E+00	1.5743E+00	8.3525E-02	2.0500E-04	1.5100E-08	1.5449E-13
	235U (F)	3.6500E-06	4.0340E-03	4.7846E-01	1.8062E+00	1.1065E+00	2.7159E-02	7.2600E-05	4.4600E-09	2.7449E-14
	235U (H)	1.8500E-07	7.0200E-04	1.4221E-01	1.7429E+00	1.3628E+00	1.4362E-01	5.8500E-04	1.2500E-07	1.2900E-12
	238U (F)	5.6300E-06	1.2893E-02	8.6307E-01	8.0679E-01	2.8910E-01	1.6280E-03	2.2800E-06	2.8200E-11	8.7618E-17
	238U (H)	1.0500E-05	8.7400E-03	4.2520E-01	1.1559E+00	5.4977E-01	6.7370E-03	7.1400E-06	3.2600E-10	7.1099E-16
	239Pu (T)	4.9800E-08	1.5200E-04	5.2032E-02	4.8011E-01	7.8327E-01	4.4937E-02	3.5400E-04	6.0500E-08	1.0700E-12
	239Pu (F)	8.0700E-08	2.3600E-04	6.1976E-02	5.4364E-01	6.7397E-01	3.7081E-02	2.2400E-04	3.6700E-08	6.2023E-13
	241Pu (T)	1.4900E-05	1.2390E-03	1.4671E-01	4.6793E-01	4.0296E-01	6.0620E-03	1.6000E-06	7.3800E-10	3.8691E-15
	233U (T)	1.1300E-07	3.6600E-04	1.9060E-01	1.3366E+00	3.8066E+00	1.7196E-01	2.0910E-03	3.7900E-07	8.7100E-12
	232Th (F)	1.3700E-04	3.6881E-02	2.8344E+00	3.0380E+00	1.3648E+00	8.6060E-03	1.4000E-05	2.0500E-10	7.0628E-16

Table 2.7.1 Continued

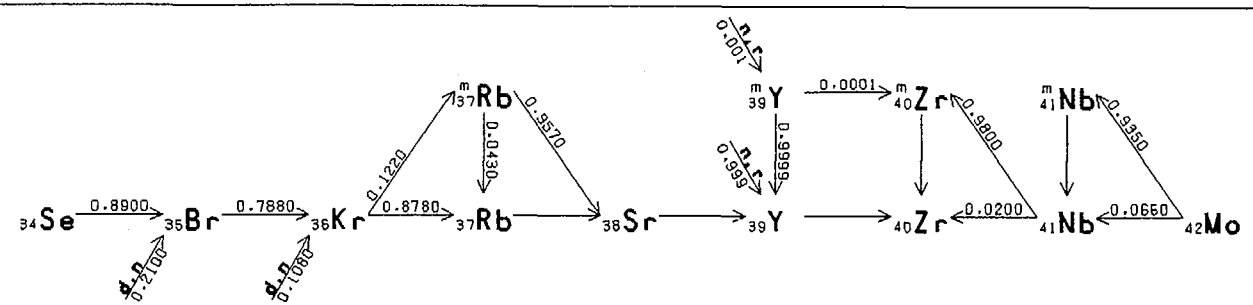
Mass No. 89



		33As	34Se	35Br	36Kr	37Rb	38Sr	m39Y	39Y	m40Zr	40Zr	m41Nb	41Nb
	λ(1/sec)	3.9227E+00	1.6906E+00	1.5625E-01	3.7630E-03	7.5016E-04	1.5686E-07	4.3150E-02	0.0	2.7770E-03	2.4685E-06	1.7504E-04	9.4692E-06
	Q-value(MeV)	1.2390E+01	8.6300E+00	8.0400E+00	4.9700E+00	4.4860E+00	1.4921E+00	9.0910E-01	0.0	7.8347E-01	1.9279E+00	3.7512E+00	4.2316E+00
	E-beta (MeV)	3.9770E+00	3.1260E+00	2.3730E+00	1.3280E+00	1.0117E+00	5.6835E-01	0.0	0.0	1.1630E-02	8.9089E-02	8.2493E-01	1.0851E+00
	E-gamma(MeV)	3.9430E+00	1.8940E+00	2.7680E+00	1.8444E+00	2.0711E+00	0.0	9.0128E-01	0.0	6.3425E-01	2.4615E-01	1.3440E+00	1.3823E+00
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	7.8183E-03	0.0	4.0658E-02	0.0	0.0	0.0
Cumulative yield	236U (T)	2.4100E-04	1.1866E-01	1.3206E+00	4.5720E+00	4.8166E+00	4.8498E+00	7.2809E-04	4.8498E+00	1.8600E-11	3.6917E-11	4.4569E-18	1.9001E-17
	235U (F)	3.8400E-04	1.3366E-01	1.7961E+00	4.2685E+00	4.4778E+00	4.4794E+00	6.7212E-04	4.4794E+00	3.6900E-12	7.1254E-12	6.5964E-19	3.2206E-18
	235U (H)	4.6000E-06	3.0144E-02	1.0611E+00	3.6244E+00	4.2379E+00	4.2466E+00	6.4011E-04	4.2466E+00	1.1100E-10	2.1434E-10	3.7830E-17	3.0608E-16
	238U (F)	2.3400E-03	3.7714E-01	1.6866E+00	2.6961E+00	2.7898E+00	2.7899E+00	4.1849E-04	2.7899E+00	8.8810E-22	4.2879E-14	8.3663E-22	4.0847E-21
	238U (H)	1.1710E-03	1.7792E-01	1.5906E+00	2.8853E+00	2.9521E+00	2.9523E+00	4.4287E-04	2.9523E+00	1.0921E-20	2.8619E-13	9.9106E-21	8.0185E-20
	239Pu(T)	6.2000E-06	6.2912E-03	3.5156E-01	1.4310E+00	1.6810E+00	1.6959E+00	2.5605E-04	1.6959E+00	9.1900E-11	1.7746E-10	4.7520E-17	2.0259E-16
	239Pu(F)	1.4800E-05	1.1906E-02	3.6238E-01	1.4398E+00	1.7668E+00	1.7607E+00	2.6626E-04	1.7607E+00	5.0500E-11	9.7516E-11	2.3583E-17	1.1514E-16
	241Pu(T)	6.1600E-05	2.0320E-02	4.1656E-01	1.1296E+00	1.1753E+00	1.1767E+00	1.7638E-04	1.1767E+00	7.6165E-20	9.9360E-13	7.1333E-20	3.0410E-19
	233U (T)	6.9800E-05	8.7984E-02	7.7430E-01	5.3731E+00	6.2606E+00	6.2760E+00	9.6026E-04	6.2760E+00	6.2300E-10	1.2030E-09	3.9068E-16	1.6666E-15
	232Th(F)	4.5810E-03	8.5222E-01	4.2455E+00	7.1824E+00	7.2667E+00	7.2670E+00	1.0901E-03	7.2670E+00	5.5291E-21	2.2630E-13	5.2087E-21	2.5431E-20
Independent yield	236U (T)	2.4100E-04	1.1842E-01	1.2052E+00	3.3164E+00	2.4359E-01	3.4246E-02	6.2100E-07	6.2100E-07	1.8600E-11	1.8600E-11	4.4569E-18	1.9001E-17
	236U (F)	3.8400E-04	1.3328E-01	1.6666E+00	2.6706E+00	2.0924E-01	1.6680E-03	2.0300E-07	2.0300E-07	3.6900E-12	3.6900E-12	6.5964E-19	3.2206E-18
	236U (H)	4.6000E-05	3.0098E-02	1.0320E+00	2.6389E+00	6.1350E-01	8.6590E-03	3.1200E-06	3.1200E-06	1.1100E-10	1.1100E-10	3.7830E-17	3.0608E-16
	238U (F)	2.3400E-03	3.7480E-01	1.3163E+00	1.0890E+00	9.4747E-02	9.4200E-05	2.6000E-09	2.6000E-09	0.0	4.2879E-14	8.3663E-22	4.0847E-21
	238U (H)	1.1710E-03	1.7674E-01	1.4173E+00	1.3220E+00	6.6771E-02	2.4500E-04	1.9100E-08	1.9100E-08	0.0	2.8619E-13	9.9106E-21	8.0185E-20
	239Pu(T)	6.2000E-06	6.2860E-03	3.4545E-01	1.0845E+00	2.6004E-01	4.8860E-03	1.6600E-06	1.6600E-06	9.1900E-11	9.1900E-11	4.7620E-17	2.0269E-16
	239Pu(F)	1.4800E-05	1.1891E-02	3.5089E-01	1.1041E+00	3.1703E-01	3.8350E-03	1.1600E-06	1.1600E-06	5.0500E-11	5.0500E-11	2.3583E-17	1.1514E-16
	241Pu(T)	6.1600E-05	2.0258E-02	3.9624E-01	7.1418E-01	4.6732E-02	3.4600E-04	3.2700E-08	3.2700E-08	0.0	9.9360E-13	7.1333E-20	3.0410E-19
	233U (T)	6.9800E-05	8.7914E-02	5.9012E-01	4.6236E+00	8.7748E-01	2.4410E-02	9.0000E-06	9.0000E-06	6.2300E-10	6.2300E-10	3.9068E-16	1.6665E-15
	232Th(F)	4.5810E-03	8.4764E-01	3.4160E+00	3.2018E+00	8.4306E-02	3.5500E-04	1.2200E-08	1.2200E-08	0.0	2.2630E-13	5.2087E-21	2.5431E-20

Table 2.7.1 Continued

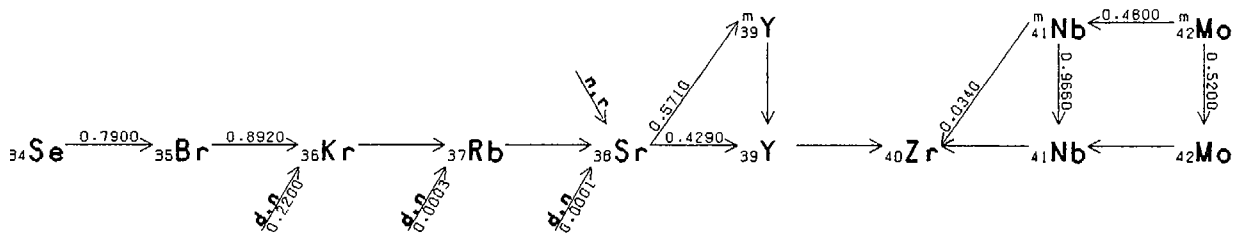
Mass No. 90



		34Se	35Br	36Kr	m37Rb	37Rb	38Sr	m39Y	39Y	m40Zr	40Zr	m41Nb	41Nb	42Mo
	λ (1/sec)	1.1662E+00	3.6101E-01	2.1446E-02	2.5866E-03	4.5304E-03	7.7070E-10	6.0368E-05	3.0038E-06	8.5680E-01	0.0	3.6870E-02	1.3188E-05	3.3958E-05
	Q-value (MeV)	7.4700E+00	1.0330E+01	4.3770E+00	6.1934E+00	6.3600E+00	5.4600E-01	6.8204E-01	2.2839E+00	2.3169E+00	0.0	1.2460E-01	3.8385E+00	2.3725E+00
	E-beta (MeV)	2.9040E+00	3.0890E+00	1.3380E+00	1.5440E+00	1.5710E+00	1.7388E-01	1.7002E-05	9.2977E-01	0.0	0.0	0.0	3.5271E-01	1.1917E-01
	E-gamma (MeV)	2.6330E+00	3.5620E+00	1.2361E+00	2.6660E+00	2.7590E+00	0.0	6.3062E-01	0.0	2.3025E+00	0.0	7.7093E-02	2.3035E+00	8.0938E-01
	E-I.C (MeV)	0.0	0.0	6.3166E-03	0.0	0.0	0.0	5.1356E-02	2.8171E-04	1.6202E-02	0.0	4.7577E-02	3.1053E-02	4.1025E-02
Cumulative yield	235U (T)	2.3659E-02	5.4654E-01	5.0390E+00	1.2903E+00	4.6071E+00	5.8774E+00	2.3600E-05	5.8774E+00	5.9380E-09	5.8774E+00	5.4057E-15	9.3201E-15	2.2580E-21
	236U (F)	2.4302E-02	8.3354E-01	4.5928E+00	9.4578E-01	4.4681E+00	5.3850E+00	1.0017E-05	5.3850E+00	1.7393E-09	5.3850E+00	9.7341E-16	1.8366E-15	2.5355E-22
	236U (H)	3.8670E-03	4.0963E-01	2.9156E+00	1.2005E+00	3.5495E+00	4.7729E+00	8.0216E-04	4.7740E+00	8.3486E-08	4.7740E+00	4.2679E-14	1.0943E-13	2.6484E-20
	238U (F)	9.8897E-02	8.4211E-01	3.0039E+00	4.2202E-01	2.7111E+00	3.1167E+00	1.6443E-07	3.1167E+00	2.0923E-11	3.1167E+00	1.5512E-16	2.9268E-18	2.0015E-25
	238U (H)	3.8466E-02	1.0195E+00	2.8093E+00	5.1554E-01	2.6709E+00	3.1682E+00	1.4282E-05	3.1682E+00	1.5009E-10	3.1682E+00	2.0846E-17	5.3452E-17	2.6931E-24
	239Pu (T)	1.2040E-03	2.3009E-01	1.3597E+00	4.8832E-01	1.5811E+00	2.0982E+00	6.7820E-05	2.0983E+00	2.1960E-08	2.0983E+00	4.8831E-14	8.4191E-14	3.5678E-20
	239Pu (F)	1.6100E-03	1.3555E-01	1.4070E+00	4.5691E-01	1.5400E+00	2.0117E+00	4.1769E-05	2.0118E+00	1.2472E-08	2.0118E+00	2.3896E-14	4.5087E-14	1.4564E-20
	241Pu (T)	9.2700E-03	2.9521E-01	1.3527E+00	2.7117E-01	1.3054E+00	1.5710E+00	1.9234E-06	1.5710E+00	3.3855E-10	1.5710E+00	1.2154E-16	2.0956E-16	2.7686E-23
	233U (T)	5.4590E-03	4.4190E-01	4.4470E+00	1.5823E+00	5.0143E+00	6.8414E+00	5.8174E-05	6.8415E+00	1.0185E-07	6.8415E+00	3.2203E-13	5.5522E-13	3.1081E-19
	232Th (F)	1.8076E-01	1.8139E+00	7.2019E+00	1.0370E+00	6.5262E+00	7.5243E+00	6.3630E-07	7.5243E+00	8.6096E-11	7.5243E+00	8.0944E-18	1.5272E-17	1.2214E-24
Independent yield	235U (T)	2.3659E-02	5.2514E-01	4.5029E+00	6.7550E-01	1.2740E-01	3.5489E-02	2.3600E-05	1.5400E-05	4.0500E-09	9.5000E-10	5.4057E-15	3.9145E-15	2.2580E-21
	235U (F)	2.4302E-02	8.1168E-01	3.9159E+00	3.8546E-01	3.8494E-01	2.1793E-02	1.0017E-05	5.8830E-06	9.3790E-10	1.9210E-10	9.7341E-16	8.6322E-16	2.5355E-22
	235U (H)	3.8570E-03	4.0615E-01	2.5836E+00	8.4475E-01	9.3800E-01	7.4546E-02	8.0216E-04	2.8184E-04	1.9313E-08	2.3870E-09	4.2679E-14	5.5754E-14	2.6484E-20
	238U (F)	9.8897E-02	7.6079E-01	2.2874E+00	5.5542E-02	5.5542E-02	1.7380E-03	1.6443E-07	9.5570E-08	7.7688E-12	1.5912E-12	1.5512E-18	1.3756E-18	2.0015E-25
	238U (H)	3.8466E-02	9.8418E-01	1.9620E+00	1.7282E-01	1.8224E-01	3.8410E-03	1.4282E-05	5.0180E-07	4.5835E-11	5.5550E-12	2.0846E-17	3.2506E-17	2.6931E-24
	239Pu (T)	1.2040E-03	2.2901E-01	1.1766E+00	3.2243E-01	3.6528E-01	4.9800E-02	5.7820E-05	4.0180E-05	1.7334E-08	4.0660E-09	4.8831E-14	3.5360E-14	3.5678E-20
	239Pu (F)	1.6100E-03	1.3411E-01	1.2950E+00	2.8625E-01	2.8499E-01	3.4462E-02	4.1769E-06	2.4531E-06	9.1300E-09	1.8700E-09	2.3896E-14	2.1191E-14	1.4564E-20
	241Pu (T)	9.2700E-03	2.8679E-01	1.1117E+00	1.0615E-01	1.0615E-01	6.0290E-03	1.9234E-06	1.3366E-06	1.8468E-10	4.3320E-11	1.2154E-16	8.8014E-17	2.7686E-23
	233U (T)	6.4590E-03	4.3700E-01	4.0929E+00	1.0397E+00	1.0418E+00	3.1288E-01	5.8174E-05	4.0426E-05	9.7200E-08	2.2800E-08	3.2203E-13	2.3319E-13	3.1081E-19
	232Th (F)	1.8076E-01	1.6485E+00	5.6879E+00	1.5837E-01	1.5827E-01	5.7310E-03	6.3630E-07	3.7370E-07	3.5192E-11	7.2080E-12	8.0944E-18	7.1780E-18	1.2214E-24

Table 2.7.1 Continued

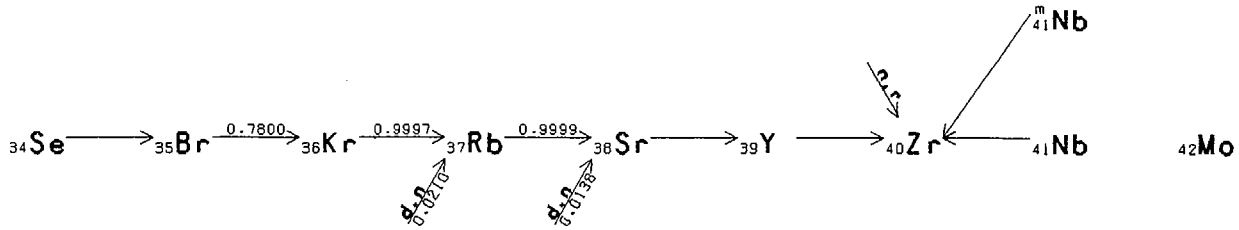
Mass No. 91



		34Se	35Br	36Kr	37Rb	38Sr	m39Y	39Y	40Zr	m41Nb	41Nb	m42Mo	42Mo
λ (1/sec)		2.5672E+00	1.2789E+00	8.0881E-02	1.1910E-02	2.0310E-05	2.3240E-04	1.3711E-07	0.0	1.2940E-07	3.4865E-11	1.0193E-02	7.4580E-04
Q-value (MeV)		1.0310E+01	9.1800E+00	6.2000E+00	5.7000E+00	2.3668E+00	5.5567E-01	1.5430E+00	0.0	1.4719E-01	1.2557E+00	2.7330E+00	4.4380E+00
E-beta (MeV)		3.7850E+00	3.4170E+00	2.0550E+00	1.4760E+00	6.5229E-01	0.0	5.8897E-01	0.0	0.0	1.8980E-04	5.3261E-01	1.4581E+00
E-gamma (MeV)		3.1260E+00	2.1390E+00	1.6170E+00	2.2960E+00	7.0293E-01	6.2724E-01	2.5676E-03	0.0	4.1666E-02	1.7370E-03	1.2371E+00	9.8720E-01
E-I.C (MeV)		0.0	0.0	0.0	0.0	0.0	2.8334E-02	0.0	0.0	1.0032E-01	0.0	1.6975E-02	0.0
Cumulative yield	235U (T)	1.6550E-03	2.4674E-01	3.4366E+00	5.6809E+00	5.9419E+00	3.3936E+00	5.9428E+00	5.9428E+00	4.7500E-13	2.4839E-12	3.4394E-19	1.5451E-18
	235U (F)	1.5630E-03	1.8603E-01	2.3851E+00	5.5032E+00	5.6624E+00	3.2336E+00	5.6628E+00	5.6628E+00	9.3555E-14	5.4714E-13	4.0293E-20	2.1760E-19
	235U (H)	2.6800E-04	8.6263E-02	1.8221E+00	4.6022E+00	4.9769E+00	2.8463E+00	4.9815E+00	4.9815E+00	2.1230E-12	1.9228E-11	1.7899E-18	1.5412E-17
	238U (F)	1.6682E-02	4.9016E-01	3.4468E+00	4.2106E+00	4.2298E+00	2.4152E+00	4.2298E+00	4.2298E+00	3.2401E-16	1.8949E-15	5.8794E-23	3.1763E-22
	238U (H)	6.0500E-03	4.0626E-01	2.4851E+00	3.7367E+00	3.7716E+00	2.1536E+00	3.7716E+00	3.7716E+00	2.1818E-16	1.9761E-14	3.7622E-22	3.2396E-21
	239Pu (T)	5.3600E-05	1.7165E-02	7.3076E-01	2.1155E+00	2.5062E+00	1.4325E+00	2.5080E+00	2.5080E+00	3.9140E-12	2.0467E-11	4.8080E-18	2.2997E-17
	239Pu (F)	1.2900E-04	3.8300E-02	1.0057E+00	2.2442E+00	2.4432E+00	1.3962E+00	2.4446E+00	2.4446E+00	1.8360E-12	1.0738E-11	1.9117E-18	1.0328E-17
	241Pu (T)	8.2000E-04	7.7558E-02	9.5368E-01	1.9147E+00	1.9604E+00	1.1137E+00	1.9605E+00	1.9605E+00	1.5775E-14	8.2488E-14	6.2221E-21	2.9761E-20
	233U (T)	1.6600E-04	6.4781E-02	2.1555E+00	5.6183E+00	6.5245E+00	3.7310E+00	6.5314E+00	6.5314E+00	1.8848E-11	9.8559E-11	3.1274E-17	1.4959E-16
	232Th (F)	2.1651E-02	7.8362E-01	5.1724E+00	7.2782E+00	7.3261E+00	4.1832E+00	7.3261E+00	7.3261E+00	1.1816E-15	6.9107E-15	2.5125E-22	1.3573E-21
Independent yield	235U (T)	1.6550E-03	2.4543E-01	3.2086E+00	2.2437E+00	2.6039E-01	7.5573E-04	1.7727E-04	3.2700E-07	4.7500E-13	2.0250E-12	3.4394E-19	1.4663E-18
	235U (F)	1.5630E-03	1.8480E-01	2.2134E+00	3.1178E+00	1.6868E-01	3.4113E-04	6.9870E-06	8.8600E-08	9.3555E-14	4.5677E-13	4.0293E-20	1.9673E-19
	235U (H)	2.5800E-04	8.6059E-02	1.7422E+00	2.7798E+00	3.7616E-01	2.3318E-03	2.8820E-04	1.0900E-06	2.1230E-12	1.7177E-11	1.7899E-18	1.4482E-17
	238U (F)	1.5682E-02	4.7776E-01	2.9655E+00	7.6292E-01	1.8721E-02	1.1288E-05	2.3120E-06	1.3100E-09	3.2401E-16	1.5819E-15	5.8794E-23	2.8705E-22
	238U (H)	6.0500E-03	4.0226E-01	2.0942E+00	1.2610E+00	3.4446E-02	6.2243E-06	6.4570E-06	1.1100E-09	2.1818E-15	1.7663E-14	3.7622E-22	3.0439E-21
	239Pu (T)	5.3600E-05	1.7123E-02	7.1142E-01	1.3846E+00	3.9048E-01	1.4872E-03	3.4884E-04	3.8000E-06	3.9140E-12	1.6686E-11	4.8080E-18	2.0497E-17
	239Pu (F)	1.2900E-04	3.8198E-02	9.7019E-01	1.2383E+00	1.9881E-01	1.1122E-03	2.2780E-04	6.8400E-07	1.8360E-12	8.9640E-12	1.9117E-18	9.3335E-18
	241Pu (T)	8.2000E-04	7.6920E-02	8.7996E-01	9.6091E-01	3.5480E-02	7.3548E-05	1.7252E-06	1.8200E-08	1.5776E-14	6.7260E-14	6.2221E-21	2.6626E-20
	233U (T)	1.6600E-04	6.4668E-02	2.1013E+00	3.4625E+00	9.0577E-01	6.5210E-03	1.2960E-03	6.2700E-06	1.8848E-11	8.0352E-11	3.1274E-17	1.3332E-16
	232Th (F)	2.1651E-02	7.6662E-01	5.4362E+00	1.1043E+00	4.7153E-02	3.1208E-05	6.3920E-06	3.9500E-09	1.1816E-15	5.7592E-15	2.5125E-22	1.2267E-21

Table 2.7.1 Continued

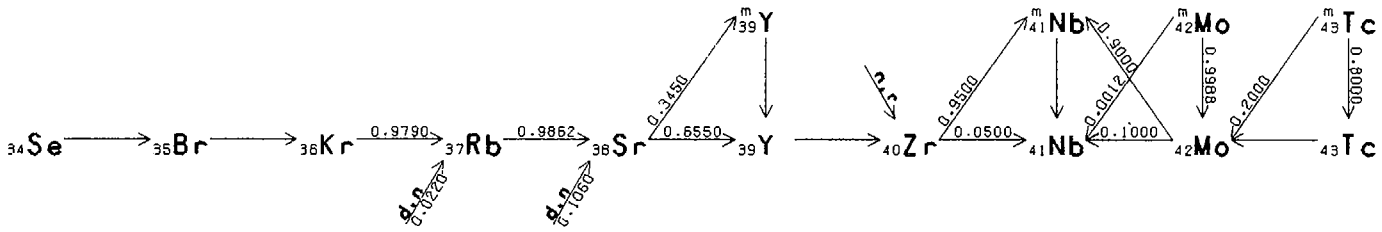
Mass No. 92



		34Se	35Br	36Kr	37Rb	38Sr	39Y	40Zr	m41Nb	41Nb	42Mo
	λ(1/sec)	6.6445E+00	1.9148E+00	3.7467E-01	1.5403E-01	7.1048E-05	5.4390E-05	0.0	7.9040E-07	6.1016E-16	0.0
	Q-value(MeV)	1.0970E+01	1.2010E+01	6.0800E+00	7.7700E+00	1.9300E+00	3.6340E+00	0.0	2.1440E+00	3.6900E-01	0.0
	E-beta (MeV)	4.1130E+00	4.0060E+00	2.2620E+00	2.8560E+00	1.9321E-01	1.4550E+00	0.0	5.3100E-05	0.0	0.0
	E-gamma(MeV)	2.2370E+00	3.1990E+00	1.0780E+00	1.5660E+00	1.3391E+00	2.4840E-01	0.0	9.6814E-01	1.4956E+00	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cumulative yield	235U (T)	8.9300E-05	3.6160E-02	1.7490E+00	4.9001E+00	5.9144E+00	5.9683E+00	5.9802E+00	1.6800E-10	1.6800E-10	1.0140E-15
	235U (F)	7.5500E-05	2.5887E-02	1.0433E+00	4.1503E+00	5.7312E+00	5.7373E+00	5.7373E+00	4.6000E-11	4.6000E-11	1.4720E-16
	235U (H)	1.2300E-06	1.3472E-02	8.4598E-01	4.0506E+00	6.2502E+00	6.2784E+00	6.2784E+00	1.1700E-09	1.1700E-09	6.3259E-15
	238U (F)	1.4960E-03	1.0976E-01	2.6144E+00	3.7305E+00	4.5289E+00	4.5292E+00	4.5292E+00	0.0	4.4260E-13	3.7632E-19
	238U (H)	5.2800E-04	1.2984E-01	1.7653E+00	3.6962E+00	3.9295E+00	3.9306E+00	3.9306E+00	2.2100E-12	2.2100E-12	2.4546E-18
	239Pu(T)	1.9800E-05	1.8351E-02	3.1593E-01	1.9624E+00	2.9870E+00	3.0060E+00	3.0060E+00	1.2100E-09	1.2100E-09	1.2050E-14
	239Pu(F)	6.7200E-06	5.9967E-03	5.1549E-01	2.1467E+00	2.9667E+00	2.9821E+00	2.9821E+00	7.1800E-10	7.1800E-10	5.5302E-16
	241Pu(T)	7.8000E-05	2.0135E-02	6.0493E-01	1.8126E+00	2.4144E+00	2.4161E+00	2.4161E+00	9.5800E-12	9.5800E-12	2.7891E-17
	233U (T)	2.5000E-05	2.4612E-02	8.0674E-01	3.9815E+00	6.5512E+00	6.6017E+00	6.6019E+00	4.4100E-09	4.4100E-09	6.1897E-14
	232Th(F)	1.9740E-03	1.5888E-01	4.5792E+00	6.4253E+00	6.8108E+00	6.8114E+00	6.8114E+00	0.0	1.3357E-12	1.3274E-18
Independent yield	235U (T)	8.9300E-05	3.6071E-02	1.7208E+00	3.1405E+00	9.5496E-01	5.3833E-02	1.1963E-02	1.6800E-10	1.6800E-10	1.0140E-15
	235U (F)	7.5500E-05	2.5812E-02	1.0232E+00	3.1013E+00	1.5362E+00	6.0710E-03	6.0100E-06	4.6000E-11	4.6000E-11	1.4720E-16
	235U (H)	1.2300E-05	1.3460E-02	8.3547E-01	3.2006E+00	1.1635E+00	2.8208E-02	3.8800E-05	1.1700E-09	1.1700E-09	6.3259E-15
	238U (F)	1.4960E-03	1.0827E-01	2.5288E+00	1.0872E+00	7.4413E-01	2.5800E-04	1.4400E-07	0.0	4.4260E-13	3.7632E-19
	238U (H)	5.2800E-04	1.2932E-01	1.6540E+00	1.9244E+00	1.8807E-01	1.0820E-03	6.8700E-08	2.2100E-12	2.2100E-12	2.4546E-18
	239Pu(T)	1.9800E-05	1.8331E-02	3.0161E-01	1.6451E+00	9.9966E-01	1.8930E-02	4.7000E-06	1.2100E-09	1.2100E-09	1.2050E-14
	239Pu(F)	6.7200E-06	5.9900E-03	5.1082E-01	1.6264E+00	7.9808E-01	1.5350E-02	2.9100E-05	7.1800E-10	7.1800E-10	5.5302E-15
	241Pu(T)	7.8000E-05	2.0067E-02	6.8922E-01	1.2039E+00	5.7660E-01	1.7070E-03	1.3900E-06	9.5800E-12	9.5800E-12	2.7891E-17
	233U (T)	2.5000E-05	2.4587E-02	7.8765E-01	3.1719E+00	2.5393E+00	5.0526E-02	1.6200E-04	4.4100E-09	4.4100E-09	6.1897E-14
	232Th(F)	1.9740E-03	1.5691E-01	4.4475E+00	1.7974E+00	3.0510E-01	5.9100E-04	2.9400E-07	0.0	1.3357E-12	1.3274E-18

Table 2.7.1 Continued

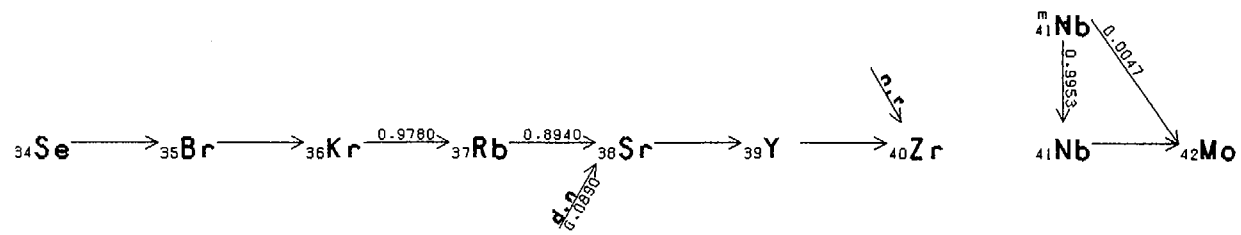
Mass No. 93



		34Se	35Br	36Kr	37Rb	38Sr	m39Y	39Y	40Zr	m41Nb	41Nb	m42Mo	42Mo	m43Tc	43Tc
	λ(1/sec)	5.2313E+00	2.3299E+00	5.3774E-01	1.1910E-01	1.5548E-03	8.4630E-01	1.9063E-05	1.4356E-14	1.6151E-09	0.0	2.7704E-05	6.2757E-12	2.6557E-04	7.0015E-05
	Q-value(MeV)	1.2880E+01	1.1280E+01	8.7000E+00	7.4500E+00	3.5882E+00	7.5878E-01	2.8900E+00	6.3420E-02	3.0400E-02	0.0	2.4253E+00	3.7914E-01	1.0311E+00	3.1927E+00
	E-beta (MeV)	4.1170E+00	3.5540E+00	2.7270E+00	2.1470E+00	5.8754E-01	0.0	1.1730E+00	1.5390E-02	0.0	0.0	0.0	0.0	0.0	3.6750E-02
	E-gamma(MeV)	4.1420E+00	3.5720E+00	2.7570E+00	2.5750E+00	1.9782E+00	5.7834E-01	8.8913E-02	0.0	0.0	0.0	2.3098E+00	0.0	7.5851E-01	1.5578E+00
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	8.0634E-02	0.0	0.0	3.0400E-02	0.0	1.1582E-01	0.0	7.8350E-02	0.0
Cumulative yield	235U (T)	1.8023E-05	4.5988E-03	5.3104E-01	3.5210E+00	5.2476E+00	2.2755E+00	5.3969E+00	5.3963E+00	5.0765E+00	5.3963E+00	1.2220E-13	3.2144E-13	1.1310E-20	5.7262E-20
	235U (F)	4.8340E-05	2.5308E-03	2.8425E-01	3.2758E+00	5.0816E+00	2.1464E+00	5.1396E+00	5.1399E+00	5.8329E+00	5.1399E+00	2.4158E-14	5.5152E-14	1.3791E-21	7.5366E-21
	235U (H)	3.0827E-07	1.1013E-03	2.0708E-01	2.5621E+00	5.1407E+00	1.9222E+00	5.3078E+00	5.3086E+00	5.0431E+00	5.3086E+00	9.3380E-13	1.5089E-12	7.1576E-20	5.3638E-19
	238U (F)	9.8791E-05	2.5204E-02	1.4175E+00	3.9578E+00	4.9544E+00	1.7173E+00	4.9700E+00	4.9700E+00	4.7215E+00	4.9700E+00	1.0787E-16	2.5073E-16	1.4320E-24	8.1371E-24
	238U (H)	2.2579E-05	1.0522E-02	7.5589E-01	3.3825E+00	4.5095E+00	1.5588E+00	4.5241E+00	4.5241E+00	4.2979E+00	4.5241E+00	7.4395E-16	1.2818E-16	1.2150E-23	1.0811E-22
	239Pu(T)	1.1813E-07	9.5591E-03	7.1629E-02	1.8239E+00	3.7369E+00	1.4097E+00	3.8856E+00	3.8857E+00	3.6924E+00	3.8857E+00	1.4592E-12	3.8382E-12	2.7332E-19	1.3838E-18
	239Pu(F)	1.8051E-07	5.6818E-04	1.4423E-01	1.5072E+00	3.5181E+00	1.3440E+00	3.7335E+00	3.7342E+00	3.5475E+00	3.7342E+00	7.8590E-13	1.8281E-12	1.1088E-19	5.3013E-19
	241Pu(T)	4.2303E-05	9.5823E-04	1.8698E-01	1.9190E+00	3.1233E+00	1.0989E+00	3.1496E+00	3.1497E+00	2.9922E+00	3.1497E+00	5.3127E-15	1.3975E-14	2.9459E-22	1.4920E-21
	233U (T)	1.2296E-07	7.5231E-03	1.5594E-01	2.2255E+00	5.7123E+00	2.5578E+00	7.0111E+00	7.0139E+00	5.6632E+00	7.0139E+00	5.0540E-12	1.3294E-11	1.1715E-18	5.9320E-18
	232Th(F)	1.0041E-04	3.8539E-02	2.3922E+00	5.8804E+00	7.3861E+00	2.5573E+00	7.3971E+00	7.3971E+00	7.0273E+00	7.3971E+00	3.5522E-16	8.2800E-16	5.5808E-24	3.1712E-23
Independent yield	235U (T)	1.8023E-05	4.5970E-03	5.2644E-01	3.0960E+00	2.4860E+00	1.2015E-01	2.8184E-02	4.0100E-04	1.8500E-08	1.8500E-08	1.2220E-13	1.9939E-13	1.1310E-20	4.8214E-20
	235U (F)	4.8340E-05	2.5250E-03	2.8173E-01	2.9936E+00	2.5170E+00	4.8233E-02	9.8790E-03	1.4900E-04	5.4000E-09	5.4000E-09	2.4158E-14	3.2023E-14	1.3791E-21	6.7333E-21
	236U (H)	3.0827E-07	1.1010E-03	2.0596E-01	2.4464E+00	2.3838E+00	1.4870E-01	1.8379E-02	7.7600E-04	8.1300E-08	8.1300E-08	9.3380E-13	6.7620E-13	7.1576E-20	5.7912E-19
	238U (F)	9.8791E-05	2.5105E-02	1.3913E+00	2.5630E+00	7.4873E-01	4.6173E-03	9.4571E-04	6.4400E-06	5.4800E-11	5.4800E-11	1.0787E-16	1.4299E-16	1.4320E-24	6.9915E-24
	238U (H)	2.2579E-05	1.0699E-02	7.5627E-01	2.6257E+00	8.6871E-01	1.2976E-02	1.5038E-03	1.5600E-05	3.4600E-10	3.4600E-10	7.4395E-16	5.3872E-16	1.2160E-23	9.8386E-23
	239Pu(T)	1.1813E-07	9.5590E-03	6.2070E-02	1.7533E+00	1.8525E+00	1.2045E-01	2.8255E-02	1.1190E-03	1.1600E-07	1.1600E-07	1.4592E-12	2.3808E-12	2.7332E-19	1.1652E-18
	239Pu(F)	1.8051E-07	5.6800E-04	1.4366E-01	1.4653E+00	1.9471E+00	9.5788E-02	1.9619E-02	7.2400E-04	7.0200E-08	7.0200E-08	7.8590E-13	1.0431E-12	1.1089E-19	5.4142E-19
	241Pu(T)	4.2303E-05	9.5400E-04	1.8601E-01	1.7328E+00	1.0884E+00	2.1317E-02	5.0002E-03	5.0700E-05	1.4700E-09	1.4700E-09	5.3127E-15	6.5582E-15	2.9469E-22	1.2663E-21
	233U (T)	1.2296E-07	7.5230E-03	1.4842E-01	2.0722E+00	4.4209E+00	2.4204E-01	5.5776E-02	2.8310E-03	3.2400E-07	3.2400E-07	5.0540E-12	8.2460E-12	1.1715E-18	4.9947E-18
	232Th(F)	1.0041E-04	3.8439E-02	2.3537E+00	3.5225E+00	1.2750E+00	9.1582E-03	1.8758E-03	1.4100E-05	1.4500E-10	1.4500E-10	3.5522E-16	4.7221E-16	5.5808E-24	2.7247E-23

Table 2.7.1 Continued

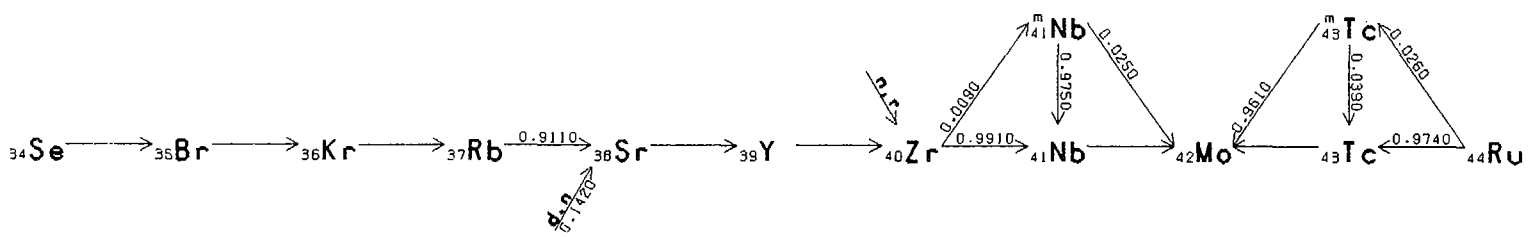
Mass No. 94



		34Se	35Br	36Kr	37Rb	38Sr	39Y	40Zr	m41Nb	41Nb	42Mo
	λ(1/sec)	6.3650E+00	2.8466E+00	3.3324E+00	2.5114E-01	9.2051E-03	6.1778E-04	0.0	1.8454E-03	1.0820E-12	0.0
	Q-value(MeV)	1.1180E+01	1.3200E+01	7.5000E+00	1.0140E+01	3.4200E+00	4.8820E+00	0.0	5.0572E-02	2.0452E+00	0.0
	E-beta (MeV)	4.1890E+00	4.0190E+00	2.9470E+00	2.8940E+00	7.9796E-01	1.8131E+00	0.0	2.0910E-03	1.4572E-01	0.0
	E-gamma(MeV)	2.3000E+00	4.6610E+00	1.4800E+00	3.6550E+00	1.4229E+00	7.7248E-01	0.0	4.1218E-03	1.6737E+00	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0739E-02	0.0	0.0
Cumulative yield	235U (T)	5.4900E-08	2.5105E-04	2.3362E-01	1.8072E+00	5.0231E+00	5.4058E+00	5.4411E+00	7.8900E-07	1.5743E-06	1.5781E-06
	235U (F)	1.1100E-07	4.4311E-04	1.7872E-01	2.2083E+00	5.9108E+00	6.1820E+00	5.1846E+00	2.8800E-07	5.7465E-07	5.7601E-07
	235U (H)	5.2900E-09	6.4705E-05	4.0470E-02	1.3346E+00	4.4544E+00	5.0947E+00	5.1036E+00	3.0000E-06	5.9859E-06	6.0002E-06
	238U (F)	4.3500E-05	3.5334E-03	7.7583E-01	2.8554E+00	4.9178E+00	4.9587E+00	4.9589E+00	4.3200E-09	8.5197E-09	8.5401E-09
	238U (H)	8.4300E-07	2.2188E-03	3.2203E-01	2.9710E+00	4.7043E+00	4.8068E+00	4.8071E+00	2.4400E-08	4.8585E-08	4.8800E-08
	239Pu(T)	1.5300E-09	1.7002E-05	2.0348E-02	8.0825E-01	3.8742E+00	4.3923E+00	4.4063E+00	4.3000E-06	8.5798E-06	8.5005E-06
	239Pu(F)	2.9300E-09	3.1203E-05	2.8511E-02	8.1173E-01	3.5515E+00	4.1871E+00	4.1871E+00	2.8400E-05	5.8652E-05	5.8803E-06
	241Pu(T)	1.1600E-07	3.4612E-04	1.3895E-01	1.3427E+00	3.4772E+00	3.5015E+00	3.5026E+00	9.5800E-08	1.9115E-07	1.9150E-07
	233U (T)	1.6400E-09	1.9302E-05	2.9826E-02	9.1172E-01	5.9017E+00	6.7833E+00	6.8131E+00	9.5500E-06	1.9255E-05	1.9302E-05
	232Th(F)	2.9800E-06	2.8440E-03	7.2063E-01	2.9422E+00	5.6670E+00	5.7252E+00	5.7255E+00	8.9400E-09	1.7838E-08	1.7880E-08
Independent yield	235U (T)	5.4900E-08	2.6100E-04	2.3325E-01	1.5788E+00	4.3331E+00	3.8276E-01	3.5324E-02	7.8900E-07	7.8900E-07	6.8800E-11
	235U (F)	1.1100E-07	4.4300E-04	1.7827E-01	2.0335E+00	3.8478E+00	2.7126E-01	2.5770E-03	2.8800E-07	2.8800E-07	1.2100E-11
	235U (H)	5.2900E-09	6.4700E-05	4.0405E-02	1.2949E+00	3.2325E+00	5.3023E-01	8.8450E-03	3.0000E-06	3.0000E-06	2.0300E-10
	238U (F)	4.3500E-05	3.5290E-03	7.7230E-01	2.0967E+00	2.2165E+00	4.0925E-02	1.9100E-04	4.3200E-09	4.3200E-09	9.8993E-14
	238U (H)	8.4300E-07	2.2180E-03	3.1981E-01	2.6561E+00	1.9005E+00	1.0244E-01	3.3100E-04	2.4400E-08	2.4400E-08	3.7850E-13
	239Pu(T)	1.5300E-09	1.7000E-05	2.0331E-02	7.8834E-01	3.1183E+00	5.1804E-01	1.4020E-02	4.3000E-06	4.3000E-06	5.6200E-10
	239Pu(F)	2.9300E-09	3.1200E-05	2.8480E-02	7.8384E-01	2.7975E+00	5.3565E-01	9.9550E-03	2.9400E-06	2.9400E-06	2.9200E-10
	241Pu(T)	1.1600E-07	3.4600E-04	1.3661E-01	1.2068E+00	2.2169E+00	1.2426E-01	1.1440E-03	9.5800E-08	9.5800E-08	3.9800E-12
	233U (T)	1.6400E-09	1.9300E-05	2.9807E-02	8.8255E-01	5.0757E+00	6.8164E-01	2.9766E-02	9.6500E-06	9.6500E-06	1.6400E-09
	232Th(F)	2.9800E-06	2.8410E-03	7.1778E-01	2.2374E+00	2.9074E+00	5.8164E-02	3.3500E-04	8.9400E-09	8.9400E-09	2.2826E-13

Table 2.7.1 Continued

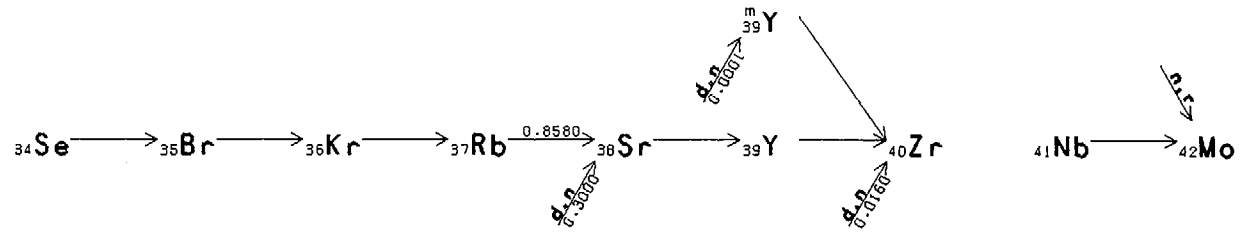
Mass No. 95



		34Se	35Br	36Kr	37Rb	38Sr	39Y	40Zr	m41Nb	41Nb	42Mo	m43Tc	43Tc	44Ru
λ(1/sec)		9.1000E+00	2.6466E+00	8.8865E-01	1.8051E+00	2.8408E-02	1.1216E-03	1.2525E-07	2.2233E-06	2.2941E-07	0.0	1.3152E-07	9.6270E-06	1.1812E-04
Q-value(MeV)		1.4120E+01	1.1400E+01	1.0000E+01	8.5900E+00	6.0900E+00	4.4300E+00	1.1210E+00	2.5883E-01	9.2560E-01	0.0	1.6726E+00	1.7000E+00	2.6600E+00
E-beta (MeV)		4.5590E+00	3.5930E+00	3.0550E+00	3.1020E+00	1.5930E+00	1.3701E+00	1.1682E-01	8.3600E-03	4.3522E-02	0.0	8.1580E-04	0.0	7.1798E-02
E-gamma(MeV)		4.4970E+00	3.7130E+00	3.3550E+00	1.8870E+00	2.4420E+00	1.2867E+00	7.3345E-01	5.5216E-02	7.6454E-01	0.0	7.1181E-01	7.8521E-01	1.2325E+00
E-I.C (MeV)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6970E-01	0.0	0.0	1.6171E-03	0.0	0.0
Cumulative yield	235U (T)	3.3231E-10	6.7181E-06	7.0477E-03	8.3636E-01	6.4420E+00	6.4211E+00	6.4946E+00	5.8476E-02	6.4933E+00	6.4948E+00	2.9426E-15	1.5602E-14	3.3184E-21
	235U (F)	1.2855E-09	2.0277E-05	2.4471E-02	9.9747E-01	5.3301E+00	6.3446E+00	6.3717E+00	5.7358E-02	6.3703E+00	6.3718E+00	4.9508E-16	2.9316E-15	3.7503E-22
	235U (H)	4.7271E-11	2.0319E-06	4.2990E-03	4.3661E-01	3.3630E+00	4.9662E+00	5.0223E+00	4.6279E-02	5.0213E+00	5.0224E+00	1.0313E-14	9.4158E-14	2.1419E-20
	238U (F)	6.3447E-08	2.3992E-04	1.4363E-01	1.5695E+00	4.8899E+00	5.1269E+00	5.1299E+00	4.6169E-02	5.1287E+00	5.1299E+00	1.3263E-18	7.8533E-18	4.2699E-25
	238U (H)	1.4072E-08	1.2961E-04	6.9823E-02	1.6601E+00	4.5098E+00	4.9847E+00	4.9900E+00	4.4912E-02	4.9889E+00	4.9900E+00	7.6149E-18	6.9524E-17	3.3272E-24
	239Pu(T)	1.6199E-11	7.2058E-07	9.2472E-04	3.7471E-01	3.3071E+00	4.7736E+00	4.8883E+00	4.4105E-02	4.8878E+00	4.8889E+00	5.2572E-14	2.7874E-13	1.0900E-19
	239Pu(F)	2.8363E-11	1.1608E-06	3.2352E-03	3.1791E-01	3.2053E+00	4.5801E+00	4.6623E+00	4.2048E-02	4.6614E+00	4.6624E+00	2.3295E-14	1.3784E-13	4.2502E-20
	241Pu(T)	1.5452E-09	1.8907E-05	2.0953E-02	6.8435E-01	3.5332E+00	4.0746E+00	4.0883E+00	3.6800E-02	4.0874E+00	4.0884E+00	1.5395E-15	8.1628E-16	9.6736E-23
	233U (T)	1.0311E-11	6.1282E-07	3.1661E-04	1.2241E-01	3.5512E+00	5.9653E+00	6.1906E+00	5.6895E-02	6.1902E+00	6.1916E+00	1.3649E-13	7.2371E-13	3.6063E-19
	232Th(F)	3.8216E-08	1.6984E-04	1.0943E-01	1.4537E+00	5.0395E+00	5.3217E+00	5.3258E+00	4.7933E-02	5.3246E+00	5.3258E+00	3.0538E-18	1.8083E-17	1.1524E-24
Independent yield	235U (T)	3.3231E-10	6.7178E-06	7.0410E-03	8.2831E-01	4.6506E+00	9.7907E-01	7.3654E-02	2.4300E-06	1.0400E-04	6.4100E-09	2.9426E-15	1.6487E-14	3.3184E-21
	235U (F)	1.2856E-09	2.0276E-05	2.4461E-02	9.7300E-01	4.3840E+00	1.0146E+00	2.7139E-02	1.1900E-05	1.1900E-05	1.6700E-09	4.9508E-16	2.9122E-15	3.7603E-22
	235U (H)	4.7271E-11	2.0318E-06	4.2970E-03	4.3231E-01	2.9408E+00	1.6022E+00	6.7081E-02	7.8700E-05	7.8700E-05	1.8100E-08	1.0313E-14	9.3756E-14	2.1419E-20
	238U (F)	6.3447E-08	2.3986E-04	1.4329E-01	1.5259E+00	3.2879E+00	2.3698E-01	3.0330E-03	3.1600E-07	3.1600E-07	1.7300E-11	1.3263E-18	7.8016E-18	4.2699E-25
	238U (H)	1.4072E-08	1.2960E-04	6.9693E-02	1.5902E+00	2.9040E+00	4.7492E-01	5.3730E-03	1.2700E-06	1.2700E-06	6.5400E-11	7.6149E-18	6.9227E-17	3.3272E-24
	239Pu(T)	1.6199E-11	7.2057E-07	9.2400E-04	3.7379E-01	2.9688E+00	1.4666E+00	1.1473E-01	1.1000E-04	4.6800E-04	4.3400E-08	5.2572E-14	2.7669E-13	1.0900E-19
	239Pu(F)	2.8363E-11	1.1608E-06	3.2340E-03	3.1467E-01	2.9056E+00	1.3748E+00	8.2118E-02	8.8200E-05	8.8200E-05	2.8200E-08	2.3295E-14	1.3703E-13	4.2502E-20
	241Pu(T)	1.5452E-09	1.8905E-05	2.0934E-02	6.6340E-01	2.8769E+00	5.4136E-01	1.3774E-02	4.4800E-06	4.4800E-06	5.6300E-10	1.5395E-15	8.1027E-16	9.6736E-23
	233U (T)	1.0311E-11	6.1261E-07	3.1600E-04	1.2210E-01	3.4933E+00	2.4141E+00	2.2634E-01	1.8000E-04	7.6700E-04	1.2600E-07	1.3649E-13	7.1639E-13	3.6063E-19
	232Th(F)	3.8216E-08	1.6980E-04	1.0926E-01	1.3443E+00	3.6624E+00	2.8219E-01	4.1270E-03	5.0800E-07	5.0800E-07	3.4100E-11	3.0538E-18	1.7964E-17	1.1524E-24

Table 2.7.1 Continued

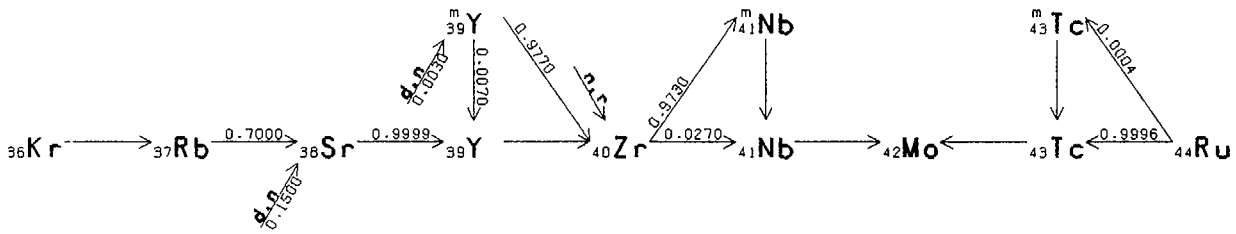
Mass No. 96



		34Se	35Br	36Kr	37Rb	38Sr	m39Y	39Y	40Zr	41Nb	42Mo
	λ(1/sec)	1.0608E+01	4.8642E+00	1.3958E+00	3.4145E+00	6.8290E-01	6.9315E-02	1.1552E-01	0.0	8.2459E-06	0.0
	Q-value(MeV)	1.2350E+01	1.4270E+01	8.2090E+00	1.0300E+01	5.3600E+00	7.0300E+00	7.0200E+00	0.0	3.1870E+00	0.0
	E-beta (MeV)	4.6120E+00	4.4690E+00	3.0730E+00	3.8210E+00	1.9620E+00	1.1235E+00	3.0243E+00	0.0	2.4856E-01	0.0
	E-gamma(MeV)	2.6180E+00	4.8220E+00	1.5660E+00	3.0840E+00	9.5900E-01	4.0310E+00	0.0	0.0	2.4709E+00	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	3.9850E-01	0.0	0.0	0.0
Cumulative yield	236U (T)	3.7600E-12	2.1400E-07	1.6782E-03	2.1442E-01	3.8723E+00	1.8665E+00	4.0797E+00	6.2207E+00	6.1000E-04	6.1043E-04
	235U (F)	1.1400E-11	5.4001E-07	2.4125E-03	2.6319E-01	3.8538E+00	9.8071E-01	4.8363E+00	6.0151E+00	4.2700E-04	4.2711E-04
	235U (H)	3.5871E-13	4.7500E-08	3.2706E-04	1.0184E-01	2.0662E+00	1.3613E+00	3.4182E+00	6.1386E+00	3.4760E-03	3.4770E-03
	238U (F)	1.0500E-09	9.9910E-06	2.3220E-02	5.7116E-01	6.0286E+00	3.1790E-01	5.3495E+00	5.7141E+00	1.6900E-05	1.6902E-05
	238U (H)	1.9800E-10	5.9402E-06	8.9759E-03	6.6836E-01	4.0090E+00	6.8577E-01	4.6838E+00	5.4346E+00	1.0500E-04	1.0501E-04
	239Pu(T)	1.0953E-13	1.2300E-08	1.6901E-04	4.8713E-02	2.0078E+00	1.2166E+00	3.2275E+00	5.0320E+00	3.7530E-03	3.7558E-03
	239Pu(F)	1.9936E-13	2.6000E-08	2.6203E-04	7.0828E-02	2.0402E+00	1.1612E+00	3.1656E+00	4.7591E+00	2.5040E-03	2.5054E-03
	241Pu(T)	1.6800E-11	5.9602E-07	2.6316E-03	2.1749E-01	3.1840E+00	6.2932E-01	3.8150E+00	4.5753E+00	1.2837E-02	1.2837E-02
	233U (T)	5.9210E-14	8.3401E-09	1.4801E-04	4.4993E-02	2.1612E+00	1.3282E+00	3.4900E+00	5.5166E+00	5.7200E-03	5.7262E-03
	232Th(F)	4.3300E-10	4.8404E-06	1.3073E-02	3.7177E-01	3.7767E+00	2.6993E-01	4.0593E+00	4.3728E+00	1.9300E-05	1.9303E-05
Independent yield	236U (T)	3.7600E-12	2.1400E-07	1.6780E-03	2.1274E-01	3.5653E+00	1.8663E+00	2.0737E-01	2.4884E-01	6.1000E-04	4.2600E-07
	236U (F)	1.1400E-11	5.4000E-07	2.4120E-03	2.6078E-01	3.6116E+00	9.8050E-01	9.8249E-01	1.7206E-01	4.2700E-04	1.0700E-07
	235U (H)	3.5871E-13	4.7500E-08	3.2700E-04	1.0151E-01	1.9639E+00	1.3612E+00	1.3620E+00	3.3179E-01	3.4760E-03	1.0300E-06
	238U (F)	1.0500E-09	9.9900E-06	2.3210E-02	5.4793E-01	4.5126E+00	3.1755E-01	3.2085E-01	3.2436E-02	1.6900E-05	2.1600E-09
	238U (H)	1.9800E-10	5.9400E-06	8.9700E-03	6.4938E-01	3.3950E+00	6.8552E-01	6.7477E-01	4.3996E-02	1.0500E-04	6.0000E-09
	239Pu(T)	1.0953E-13	1.2300E-08	1.6900E-04	4.8544E-02	1.9639E+00	1.2166E+00	1.2197E+00	5.6392E-01	3.7530E-03	2.8200E-06
	239Pu(F)	1.9936E-13	2.6000E-08	2.6200E-04	7.0566E-02	1.9761E+00	1.1611E+00	1.1254E+00	4.0788E-01	2.5040E-03	1.4200E-06
	241Pu(T)	1.6800E-11	5.9500E-07	2.6310E-03	2.1466E-01	2.9811E+00	6.2913E-01	6.3096E-01	1.1114E-01	1.2837E-02	5.1400E-06
	233U (T)	5.9210E-14	8.3400E-09	1.4800E-04	4.4846E-02	2.1209E+00	1.3281E+00	1.3287E+00	7.7397E-01	5.7200E-03	6.2400E-06
	232Th(F)	4.3300E-10	4.8400E-06	1.3068E-02	3.5870E-01	3.4185E+00	2.6965E-01	2.8260E-01	3.1660E-02	1.9300E-05	2.8900E-09

Table 2.7.1 Continued

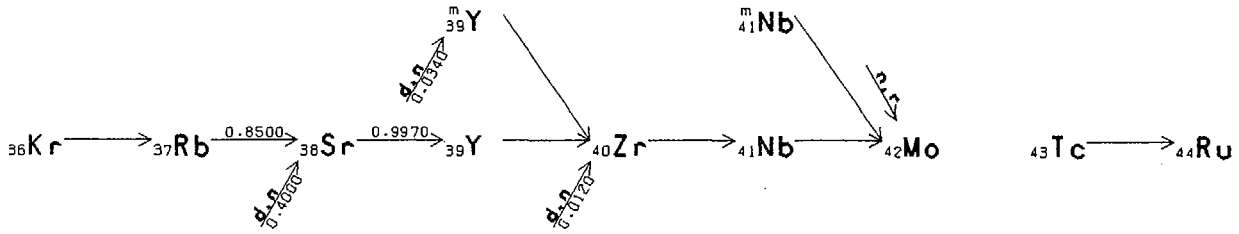
Mass No. 97



		36Kr	37Rb	38Sr	m39Y	39Y	40Zr	m41Nb	41Nb	42Mo	m43Tc	43Tc	44Ru
	λ(1/sec)	2.7793E+00	4.0773E+00	1.5718E+00	6.1340E-01	1.8734E-01	1.1393E-05	1.1652E-02	1.6023E-04	0.0	8.8647E-08	8.4481E-16	2.7856E-06
	Q-value(MeV)	1.1170E+01	1.0000E+01	7.2000E+00	7.1734E+00	6.6700E+00	1.9341E+00	7.4336E-01	1.9329E+00	0.0	9.6500E-02	3.2000E-01	1.1500E+00
	E-beta (MeV)	3.8340E+00	3.0191E+00	2.6030E+00	2.6830E+00	2.4720E+00	6.9805E-01	0.0	4.6582E-01	0.0	0.0	0.0	0.0
	E-gamma(MeV)	2.9930E+00	6.9383E-01	1.5010E+00	1.4720E+00	1.2310E+00	1.8299E-01	7.2849E-01	6.6484E-01	0.0	2.9916E-04	0.0	2.2671E-01
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	1.4867E-02	0.0	0.0	9.6201E-02	0.0	0.0
Cumulative yield	235U (T)	5.7626E-05	7.6706E-02	2.0600E+00	1.6029E+00	3.6613E+00	5.9471E+00	5.7888E+00	5.9600E+00	5.9600E+00	8.1130E-11	4.2700E-10	1.0828E-15
	235U (F)	1.4070E-04	5.5003E-02	2.0243E+00	1.6236E+00	3.6601E+00	5.9628E+00	5.8052E+00	5.9695E+00	5.9695E+00	1.8190E-11	1.0700E-10	1.5971E-16
	235U (H)	1.6847E-05	1.6338E-02	9.3108E-01	1.7012E+00	2.6443E+00	6.4131E+00	5.3104E+00	5.8079E+00	5.8079E+00	1.9690E-10	1.7900E-09	5.0127E-15
	238U (F)	1.9152E-03	8.6451E-02	3.4153E+00	8.9607E-01	4.3511E+00	5.4984E+00	5.3602E+00	5.4989E+00	5.4989E+00	1.2945E-13	7.6148E-13	5.0204E-19
	238U (H)	7.1122E-04	1.6386E-01	2.6268E+00	1.3166E+00	3.8127E+00	6.3615E+00	5.2174E+00	5.3528E+00	5.3528E+00	4.7740E-13	4.3400E-12	2.4938E-18
	239Pu(T)	7.4391E-06	6.8994E-03	7.6478E-01	1.4961E+00	2.2803E+00	5.2957E+00	5.1679E+00	5.3753E+00	5.3754E+00	9.8040E-10	5.1600E-09	2.3363E-14
	239Pu(F)	1.1117E-05	1.1273E-02	8.7916E-01	1.5311E+00	2.4212E+00	5.2601E+00	5.1323E+00	5.2886E+00	5.2886E+00	4.5390E-10	2.6700E-09	1.0424E-14
	241Pu(T)	1.7866E-04	6.4284E-02	1.9104E+00	1.2392E+00	3.1591E+00	4.8949E+00	4.7646E+00	4.8987E+00	4.8987E+00	8.5880E-12	4.5200E-11	6.2475E-17
	233U (T)	4.7415E-06	5.8627E-03	7.2364E-01	1.4666E+00	2.1994E+00	6.4187E+00	5.2834E+00	5.4764E+00	5.4766E+00	1.6321E-09	8.5900E-09	5.4096E-14
	232Th(F)	1.1112E-03	1.3062E-01	2.7642E+00	7.4414E-01	3.4576E+00	4.4335E+00	4.3140E+00	4.4340E+00	4.4340E+00	1.8870E-13	1.1100E-12	9.4872E-19
Independent yield	235U (T)	5.7626E-05	7.6648E-02	1.9958E+00	1.6004E+00	1.6004E+00	7.1976E-01	2.2610E-03	1.0697E-02	1.5600E-05	8.1130E-11	3.4587E-10	1.0828E-15
	235U (F)	1.4070E-04	5.4862E-02	1.9849E+00	1.6213E+00	1.6246E+00	7.1640E-01	3.3830E-03	3.3830E-03	5.0000E-05	1.8190E-11	8.8810E-11	1.5971E-16
	235U (H)	1.6847E-05	1.6321E-02	9.1947E-01	1.7005E+00	1.7014E+00	1.1068E+00	4.3423E-02	3.5133E-01	3.2100E-05	1.9690E-10	1.5931E-09	5.0127E-15
	238U (F)	1.9152E-03	8.4536E-02	3.3495E+00	8.8872E-01	9.2982E-01	2.7189E-01	2.4400E-04	2.4400E-04	1.5000E-07	1.2945E-13	6.3203E-13	5.0204E-19
	238U (H)	7.1122E-04	1.6314E-01	2.4070E+00	1.3128E+00	1.2779E+00	2.6266E-01	6.3000E-04	6.3000E-04	3.5800E-07	4.7740E-13	3.8626E-12	2.4938E-18
	239Pu(T)	7.4391E-06	6.8920E-03	7.5986E-01	1.4954E+00	1.5051E+00	1.5538E+00	1.5123E-02	6.4473E-02	8.4700E-05	9.8040E-10	4.1796E-09	2.3363E-14
	239Pu(F)	1.1117E-05	1.1262E-02	8.7111E-01	1.5303E+00	1.5314E+00	1.3431E+00	1.4252E-02	1.4252E-02	4.9000E-05	4.5390E-10	2.2161E-09	1.0424E-14
	241Pu(T)	1.7866E-04	6.4105E-02	1.8714E+00	1.2366E+00	1.2401E+00	5.2620E-01	1.8940E-03	1.8940E-03	2.7000E-06	8.5880E-12	3.6612E-11	6.2476E-17
	233U (T)	4.7415E-06	5.8580E-03	7.1948E-01	1.4660E+00	1.4656E+00	1.7876E+00	1.0950E-02	4.6684E-02	1.2800E-04	1.6321E-09	6.9579E-09	5.4096E-14
	232Th(F)	1.1112E-03	1.2951E-01	2.6701E+00	7.3984E-01	6.8844E-01	2.4885E-01	2.4700E-04	2.4700E-04	1.8700E-07	1.8870E-13	9.2130E-13	9.4872E-19

Table 2.7.1 Continued

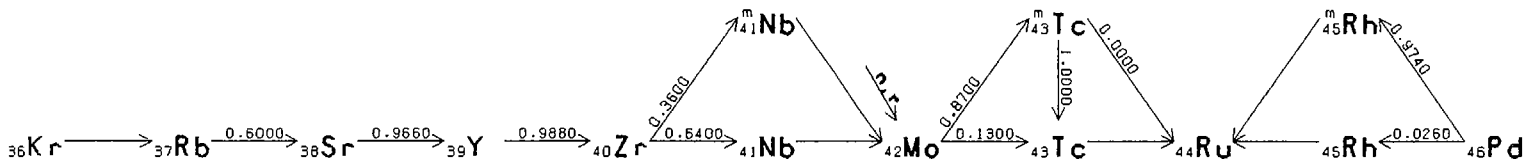
Mass No. 98



		36Kr	37Rb	38Sr	m39Y	39Y	40Zr	m41Nb	41Nb	42Mo	43Tc	44Ru
	λ (1/sec)	2.6918E+00	6.4180E+00	1.0502E+00	3.4667E-01	1.0664E+00	2.2578E-02	2.2619E-04	2.4236E-01	0.0	5.2297E-15	0.0
	Q-value (MeV)	9.3410E+00	1.0850E+01	5.8100E+00	9.0800E+00	8.9800E+00	2.2390E+00	4.6590E+00	4.5850E+00	0.0	1.7920E+00	0.0
	E-beta (MeV)	3.4920E+00	3.7110E+00	2.1390E+00	2.9890E+00	3.2160E+00	9.0753E-01	7.7329E-01	1.9646E+00	0.0	1.1816E-01	0.0
	E-gamma (MeV)	1.8510E+00	2.9230E+00	1.0510E+00	2.5960E+00	2.0410E+00	0.0	2.7872E+00	7.9701E-02	0.0	1.3978E+00	0.0
	E-i.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0438E-02	0.0	0.0	0.0
Cumulative yield	235U (T)	2.2900E-06	3.0993E-03	8.4666E-01	1.1299E+00	1.9621E+00	5.7526E+00	2.6624E-02	5.7792E+00	6.8062E+00	8.9200E-07	8.9200E-07
	235U (F)	5.5900E-06	6.3736E-03	7.6282E-01	1.5134E+00	2.2860E+00	5.8473E+00	2.4105E-02	5.8714E+00	5.8956E+00	8.4200E-09	8.4200E-09
	235U (H)	3.6200E-07	1.1814E-03	2.0768E-01	1.0344E+00	1.2398E+00	4.0815E+00	5.6706E-02	4.1382E+00	4.1964E+00	8.3400E-08	8.3401E-08
	238U (F)	1.4900E-04	3.6287E-02	2.4601E+00	1.1934E+00	3.6058E+00	5.8239E+00	2.6140E-03	5.8265E+00	5.8291E+00	9.6300E-11	9.6300E-11
	238U (H)	3.7000E-06	2.7276E-02	1.2090E+00	1.5932E+00	2.8847E+00	5.4887E+00	7.1130E-03	5.4968E+00	5.5029E+00	5.3900E-10	5.3900E-10
	239Pu (T)	2.1000E-07	6.5921E-04	2.2318E-01	1.0257E+00	1.2470E+00	5.8929E+00	9.4747E-02	5.7876E+00	5.8840E+00	2.8300E-07	2.8301E-07
	239Pu (F)	3.3800E-07	9.8734E-04	2.6038E-01	1.1400E+00	1.3980E+00	5.4511E+00	8.0595E-02	5.5317E+00	5.5132E+00	1.6000E-07	1.6000E-07
	241Pu (T)	8.1100E-06	6.9391E-03	8.5061E-01	1.2551E+00	2.1059E+00	5.1153E+00	1.5549E-02	5.1309E+00	5.1455E+00	4.0300E-09	4.0300E-09
	233U (T)	1.0800E-07	3.5911E-04	1.6323E-01	7.8025E-01	9.4224E-01	4.9783E+00	9.8141E-02	5.0755E+00	5.1755E+00	3.6200E-07	3.6201E-07
	232Th (F)	6.4900E-05	1.8022E-02	1.4349E+00	7.9202E-01	2.2112E+00	3.7685E+00	2.3160E-03	3.7708E+00	3.7731E+00	1.1700E-10	1.1700E-10
Independent yield	235U (T)	2.2900E-06	3.0970E-03	8.4385E-01	1.1181E+00	1.1181E+00	2.6324E+00	2.6624E-02	2.6624E-02	3.5900E-04	8.9200E-07	2.8217E-13
	235U (F)	5.5900E-06	6.3680E-03	7.7720E-01	1.5075E+00	1.5075E+00	2.0189E+00	2.4105E-02	2.4105E-02	1.3300E-04	8.4200E-09	4.8995E-14
	235U (H)	3.6200E-07	1.1810E-03	2.0654E-01	1.0328E+00	1.0328E+00	1.7902E+00	5.6706E-02	5.6706E-02	4.5600E-04	8.3400E-08	7.6700E-13
	238U (F)	1.4900E-04	3.5138E-02	2.4179E+00	1.1640E+00	1.1640E+00	9.7836E-01	2.6140E-03	2.6140E-03	7.5500E-06	9.6300E-11	2.9743E-16
	238U (H)	3.7000E-06	2.7239E-02	1.1846E+00	1.6794E+00	1.6794E+00	8.6816E-01	7.1130E-03	7.1130E-03	1.3400E-05	5.3900E-10	9.9266E-16
	239Pu (T)	2.1000E-07	5.5900E-04	2.2260E-01	1.0245E+00	1.0245E+00	3.4058E+00	9.4747E-02	9.4747E-02	1.6060E-03	2.8300E-07	5.1800E-12
	239Pu (F)	3.3800E-07	9.8700E-04	2.5951E-01	1.1384E+00	1.1384E+00	2.8968E+00	8.0595E-02	8.0595E-02	9.7400E-04	1.6000E-07	2.1500E-12
	241Pu (T)	8.1100E-06	6.9310E-03	8.4440E-01	1.2578E+00	1.2578E+00	1.7123E+00	1.5549E-02	1.5549E-02	8.4900E-05	4.0300E-09	2.2452E-14
	233U (T)	1.0800E-07	3.5900E-04	1.6292E-01	7.7949E-01	7.7949E-01	3.2467E+00	9.8141E-02	9.8141E-02	1.9390E-03	3.6200E-07	8.6900E-12
	232Th (F)	6.4900E-05	1.7957E-02	1.4189E+00	7.8056E-01	7.8056E-01	7.4553E-01	2.3160E-03	2.3160E-03	7.7900E-06	1.1700E-10	4.2182E-16

Table 2.7.1 Continued

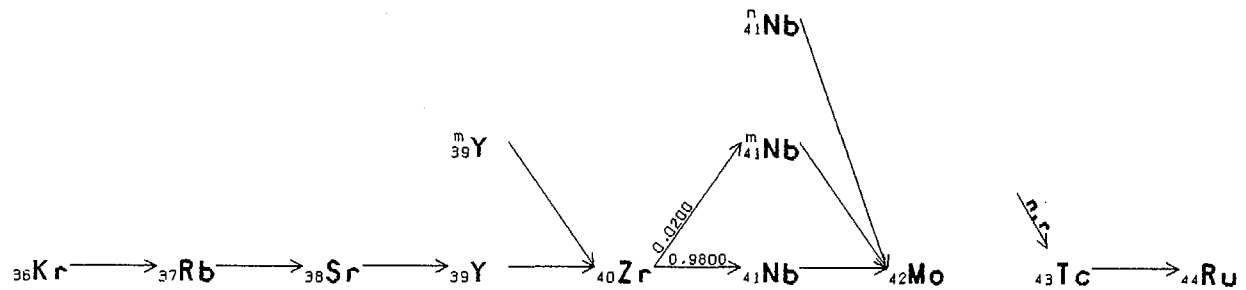
Mass No. 99



		36Kr	37Rb	38Sr	39Y	40Zr	m41Nb	41Nb	42Mo	m43Tc	43Tc	44Ru	m45Rh	45Rh	46Pd
	λ(1/sec)	5.5809E+00	1.0345E+01	1.1552E+00	4.9511E-01	3.3007E-01	4.4439E-03	4.6210E-02	2.9164E-06	3.1984E-05	1.0264E-13	0.0	4.0966E-05	5.3484E-07	5.3983E-04
	Q-value(MeV)	1.2650E+01	1.0000E+01	8.0000E+00	6.3900E+00	4.3285E+00	3.9892E+00	3.6240E+00	1.2326E+00	1.4263E-01	2.9360E-01	0.0	2.1676E+00	2.1030E+00	3.3421E+00
	E-beta (MeV)	4.2990E+00	3.6640E+00	3.0410E+00	2.3750E+00	1.4629E+00	1.1760E+00	1.4602E+00	3.8522E-01	0.0	8.4690E-02	0.0	2.4148E-02	1.0884E-02	4.1714E-01
	E-gamma(MeV)	3.5310E+00	2.6660E+00	2.1060E+00	1.1470E+00	8.2266E-01	1.7155E+00	1.6768E-01	2.7159E-01	1.2509E-01	4.3900E-09	0.0	6.7990E-01	5.3616E-01	1.2972E+00
	E-n,C (MeV)	0.0	0.0	0.0	0.0	0.0	6.8600E-03	6.7320E-02	1.8757E-02	1.8625E-02	9.8450E-09	0.0	0.0	0.0	0.0
Cumulative yield	235U (T)	3.8738E-08	2.0749E-04	3.4794E-01	2.3553E+00	5.6648E+00	2.3958E+00	3.6539E+00	6.1136E+00	5.3187E+00	6.1135E+00	6.1135E+00	2.0383E-17	2.5164E-17	1.3901E-24
	235U (F)	1.2516E-07	5.2256E-04	1.7135E-01	2.2473E+00	6.5218E+00	2.1123E+00	3.5696E+00	6.7739E+00	6.0233E+00	5.7738E+00	5.7739E+00	3.1620E-18	3.8096E-18	1.2586E-25
	235U (H)	7.7884E-09	8.5450E-05	4.7635E-02	1.4277E+00	4.5004E+00	1.8961E+00	3.1536E+00	5.0565E+00	4.3991E+00	5.0566E+00	5.0566E+00	1.4394E-16	1.6173E-16	9.2066E-24
	238U (F)	5.3720E-06	5.4654E-03	8.6403E-01	3.7808E+00	6.2012E+00	2.2588E+00	3.9951E+00	6.2541E+00	5.4411E+00	6.2541E+00	6.2541E+00	7.5610E-21	9.1096E-21	1.2820E-28
	238U (H)	1.3389E-06	3.2061E-03	4.0766E-01	3.8462E+00	5.6665E+00	2.0917E+00	3.6780E+00	5.7700E+00	5.0199E+00	5.7700E+00	5.7700E+00	6.2986E-20	7.0771E-20	8.4869E-28
	239Pu(T)	3.2918E-09	3.8698E-05	3.7962E-02	1.1998E+00	5.3948E+00	2.3282E+00	3.8288E+00	6.1740E+00	5.3713E+00	6.1740E+00	6.1740E+00	6.3657E-16	7.8689E-16	7.9934E-23
	239Pu(F)	5.6288E-09	6.0539E-05	4.7074E-02	1.3685E+00	5.3123E+00	2.2485E+00	3.7378E+00	5.9977E+00	5.2180E+00	5.9977E+00	5.9977E+00	3.0463E-16	3.6690E-16	2.9247E-23
	241Pu(T)	2.3918E-07	7.7952E-04	2.4205E-01	2.5906E+00	6.0826E+00	2.3034E+00	4.0090E+00	6.3140E+00	5.4831E+00	6.3140E+00	6.3140E+00	1.4196E-18	1.7526E-18	5.3925E-26
	233U (T)	1.4063E-09	1.8401E-05	2.2396E-02	7.6555E-01	4.1999E+00	1.7607E+00	3.1149E+00	4.8936E+00	4.2675E+00	4.8936E+00	4.8936E+00	1.1031E-15	1.3618E-16	1.7644E-22
	232Th(F)	1.5581E-06	1.8694E-03	3.3708E-01	1.6449E+00	2.8938E+00	1.0572E+00	1.8675E+00	2.9249E+00	2.5445E+00	2.9249E+00	2.9249E+00	8.3974E-21	1.0117E-20	1.6694E-28
Independent yield	235U (T)	3.8738E-08	2.0745E-04	3.4782E-01	2.0192E+00	3.3377E+00	3.5652E-01	2.8455E-02	6.3729E-02	5.8600E-07	6.8600E-07	3.9900E-11	2.0383E-17	2.5164E-17	1.3901E-24
	235U (F)	1.2516E-07	5.2243E-04	1.7103E-01	2.0818E+00	3.3015E+00	1.2449E-01	1.2564E-01	1.9260E-03	2.3100E-07	2.3100E-07	8.3000E-12	3.1620E-18	3.8096E-18	1.2586E-25
	235U (H)	7.7884E-09	8.5442E-05	4.7584E-02	1.3817E+00	3.0899E+00	2.7696E-01	2.7330E-01	5.7980E-03	2.0100E-06	2.0100E-06	1.1900E-10	1.4394E-16	1.6173E-16	9.2066E-24
	238U (F)	5.3720E-06	5.4601E-03	8.6075E-01	2.9462E+00	2.4657E+00	2.6366E-02	2.6366E-02	1.8600E-04	5.1600E-09	5.1600E-09	8.1958E-14	7.5610E-21	9.1096E-21	1.2820E-28
	238U (H)	1.3389E-06	3.2047E-03	4.0564E-01	3.1525E+00	2.1619E+00	5.2057E-02	5.2057E-02	3.1100E-04	2.0800E-08	2.0800E-08	2.6715E-13	6.2986E-20	7.0771E-20	8.4869E-28
	239Pu(T)	3.2918E-09	3.8594E-05	3.7939E-02	1.1631E+00	4.2094E+00	3.8611E-01	3.7612E-01	1.6906E-02	5.2200E-06	5.2200E-06	5.6100E-10	6.3657E-16	7.8589E-16	7.9934E-23
	239Pu(F)	5.6288E-09	6.0533E-05	4.7038E-02	1.3130E+00	3.9702E+00	3.3604E-01	3.3797E-01	1.1401E-02	3.4000E-06	3.4000E-06	2.8000E-10	3.0463E-16	3.6690E-16	2.9247E-23
	241Pu(T)	2.3918E-07	7.7928E-04	2.4168E-01	2.3667E+00	3.6333E+00	1.0998E-01	1.0958E-01	1.6100E-03	1.3800E-07	1.3800E-07	4.5600E-12	1.4196E-18	1.7526E-18	5.3925E-26
	233U (T)	1.4063E-09	1.8398E-05	2.2385E-02	7.4392E-01	3.4435E+00	2.4873E-01	4.2692E-01	1.8062E-02	6.5900E-06	6.5900E-06	8.8500E-10	1.1031E-15	1.3618E-15	1.7644E-22
	232Th(F)	1.5581E-06	1.8578E-03	3.3696E-01	1.3193E+00	1.2686E+00	1.5465E-02	1.5466E-02	1.2600E-04	4.2200E-09	4.2200E-09	7.7150E-14	8.3974E-21	1.0117E-20	1.6694E-28

Table 2.7.1 Continued

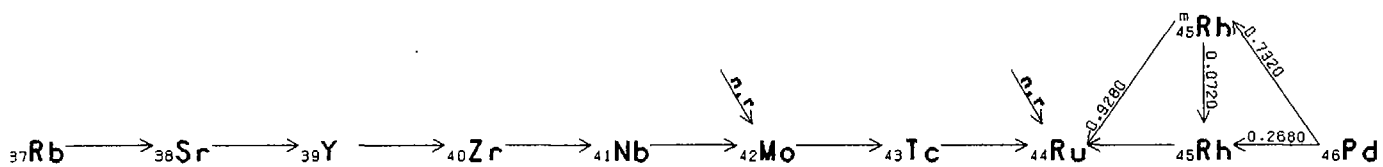
Mass No. 100



		^{36}Kr	^{37}Rb	^{38}Sr	$^{m}_{39}$Y	^{39}Y	^{40}Zr	$^{n}_{41}$Nb	$^{m}_{41}$Nb	^{41}Nb	^{42}Mo	^{43}Tc	^{44}Ru
	λ (1/sec)	5.2195E+00	3.9676E+00	5.7907E-01	1.2603E+00	7.3739E-01	9.7626E-02	4.1259E-03	2.2360E-01	4.6210E-01	0.0	4.3870E-02	0.0
	Q-value (MeV)	1.0640E+01	1.3760E+01	6.8320E+00	9.1000E+00	9.0000E+00	3.3688E+00	6.4300E+00	6.2900E+00	6.2300E+00	0.0	3.2028E+00	0.0
	E-beta (MeV)	3.9700E+00	4.2760E+00	2.5310E+00	4.2321E+00	3.9106E+00	1.2770E+00	1.5640E+00	1.7666E+00	2.2782E+00	0.0	1.3196E+00	0.0
	E-gamma (MeV)	2.1890E+00	4.6740E+00	1.2760E+00	6.0085E-03	6.6689E-01	3.7661E-01	2.8310E+00	2.2065E+00	1.3486E+00	0.0	8.2764E-02	0.0
	E-I.C (MeV)	0.0	0.0	0.0	6.8958E-03	1.7962E-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cumulative yield	^{235}U (T)	6.0700E-10	8.2606E-06	1.6006E-02	2.6875E-01	2.8476E-01	5.7660E+00	1.2691E-01	2.4221E-01	6.7766E+00	6.2002E+00	2.8100E-06	2.8103E-06
	^{235}U (F)	2.8400E-09	3.2203E-05	3.5745E-02	5.1839E-01	5.5414E-01	5.4951E+00	2.5266E-01	3.6266E-01	6.6378E+00	6.2719E+00	1.1800E-05	1.1801E-06
	^{235}U (H)	1.0300E-10	3.3901E-06	5.5504E-03	2.1913E-01	2.2468E-01	2.9028E+00	3.6376E-01	4.1182E-01	3.1986E+00	4.0010E+00	6.5600E-06	6.5606E-06
	^{238}U (F)	1.8400E-07	4.2118E-04	2.4859E-01	8.2421E-01	1.0728E+00	6.3949E+00	6.2334E-02	1.9023E-01	6.3294E+00	6.5845E+00	3.2900E-07	3.2901E-07
	^{238}U (H)	3.1600E-08	2.2903E-04	8.7074E-02	8.7051E-01	9.5758E-01	4.7180E+00	1.1971E-01	2.1407E-01	4.7434E+00	6.0803E+00	1.2700E-06	1.2700E-06
	^{239}Pu (T)	5.2100E-11	1.6601E-06	5.5637E-03	2.0713E-01	2.1269E-01	4.9341E+00	6.8551E-01	6.8419E-01	6.4209E+00	6.8113E+00	2.0600E-04	2.0604E-04
	^{239}Pu (F)	1.0100E-10	3.0001E-06	7.4260E-03	2.6007E-01	2.6749E-01	4.8359E+00	5.3913E-01	6.3565E-01	5.2783E+00	6.5370E+00	1.3300E-04	1.3302E-04
	^{241}Pu (T)	4.9600E-09	4.2205E-05	4.6394E-02	5.1095E-01	5.5734E-01	5.4971E+00	1.9454E-01	3.0448E-01	5.5817E+00	6.0952E+00	6.8100E-06	6.8104E-06
	^{233}U (T)	1.8600E-11	6.2702E-07	2.7096E-03	1.0601E-01	1.0872E-01	3.1316E+00	3.8890E-01	4.5153E-01	3.4679E+00	4.4002E+00	1.8200E-04	1.8204E-04
	^{232}Th (F)	2.2600E-08	6.1123E-05	4.1798E-02	1.6003E-01	2.0183E-01	1.3483E+00	1.5736E-02	4.2702E-02	1.3371E+00	1.3963E+00	1.1300E-07	1.1300E-07
Independent yield	^{235}U (T)	6.0700E-10	8.2600E-06	1.5998E-02	2.6875E-01	2.6875E-01	5.2115E+00	1.2691E-01	1.2691E-01	1.2691E-01	5.4458E-02	2.8100E-05	3.0100E-09
	^{235}U (F)	2.8400E-09	3.2200E-05	3.5713E-02	5.1839E-01	5.1839E-01	4.4226E+00	2.5266E-01	2.5266E-01	2.5266E-01	1.8788E-02	1.1800E-05	7.1500E-10
	^{235}U (H)	1.0300E-10	3.3900E-06	5.5470E-03	2.1913E-01	2.1913E-01	2.4690E+00	3.6376E-01	3.6376E-01	3.6376E-01	3.6868E-02	6.5600E-06	6.9800E-09
	^{238}U (F)	1.8400E-07	4.2100E-04	2.4817E-01	8.2421E-01	8.2421E-01	4.4979E+00	6.2334E-02	6.2334E-02	6.2334E-02	2.5650E-03	3.2900E-07	1.0100E-11
	^{238}U (H)	3.1600E-08	2.2900E-04	8.6845E-02	8.7051E-01	8.7051E-01	2.8899E+00	1.1971E-01	1.1971E-01	1.1971E-01	3.1470E-03	1.2700E-06	2.5700E-11
	^{239}Pu (T)	5.2100E-11	1.6600E-06	5.5620E-03	2.0713E-01	2.0713E-01	4.5142E+00	6.8551E-01	6.8551E-01	6.8551E-01	1.2073E-01	2.0600E-04	3.8300E-08
	^{239}Pu (F)	1.0100E-10	3.0000E-06	7.4230E-03	2.6007E-01	2.6007E-01	4.3084E+00	5.3913E-01	5.3913E-01	5.3913E-01	8.3717E-02	1.3300E-04	1.8300E-08
	^{241}Pu (T)	4.9600E-09	4.2200E-05	4.6362E-02	5.1095E-01	5.1095E-01	4.4288E+00	1.9454E-01	1.9454E-01	1.9454E-01	1.4454E-02	6.8100E-06	4.0700E-10
	^{233}U (T)	1.8500E-11	6.2700E-07	2.7090E-03	1.0601E-01	1.0601E-01	2.9169E+00	3.8890E-01	3.8890E-01	3.8890E-01	1.0186E-01	1.8200E-04	4.4100E-08
	^{232}Th (F)	2.2600E-08	6.1100E-05	4.1737E-02	1.6003E-01	1.6003E-01	9.8644E-01	1.5736E-02	1.5736E-02	1.5736E-02	7.4600E-04	1.1300E-07	4.0500E-12

Table 2.7.1 Continued

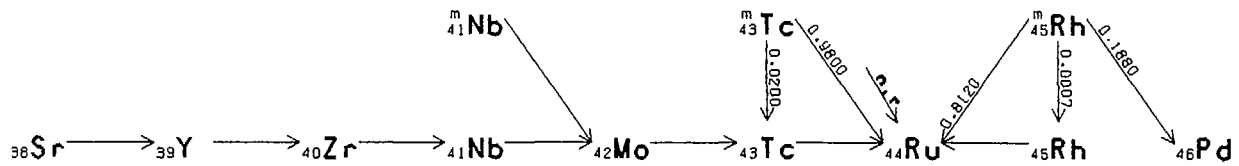
Mass No. 101



		37Rb	38Sr	39Y	40Zr	41Nb	42Mo	43Tc	44Ru	m45Rh	45Rh	46Pd
	λ(1/sec)	3.7087E+00	1.6449E+00	3.1781E-01	2.8881E-01	9.4952E-02	7.9018E-04	8.1355E-04	0.0	1.8485E-06	6.8642E-09	2.3282E-05
	Q-value(MeV)	1.1720E+01	1.0110E+01	7.4050E+00	5.9000E+00	4.5700E+00	2.8110E+00	1.6250E+00	0.0	6.5937E-01	5.4100E-01	1.8668E+00
	E-beta (MeV)	4.0380E+00	3.4660E+00	2.5910E+00	2.1600E+00	1.6860E+00	5.1133E-01	4.5837E-01	0.0	0.0	0.0	2.2397E-02
	E-gamma(MeV)	3.1230E+00	2.5620E+00	1.5230E+00	1.0910E+00	7.1960E-01	1.5526E+00	3.4301E-01	0.0	2.9247E-01	2.5347E-01	3.2608E-01
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cumulative yield	235U (T)	3.4136E-07	3.4223E-03	4.0491E-01	3.0449E+00	4.9286E+00	5.0770E+00	5.0774E+00	5.0774E+00	5.1130E-13	7.9870E-13	4.1565E-19
	235U (F)	1.2102E-06	3.5732E-03	3.3854E-01	3.6982E+00	5.2505E+00	5.3479E+00	5.3481E+00	5.3481E+00	1.3895E-13	1.7741E-13	5.5453E-20
	236U (H)	7.8707E-08	4.2108E-04	1.0199E-01	1.5255E+00	3.3412E+00	3.5041E+00	3.5050E+00	3.5050E+00	2.5899E-12	1.8647E-13	2.0792E-18
	238U (F)	2.6759E-05	3.5033E-02	9.1209E-01	5.4078E+00	6.0598E+00	6.0791E+00	6.0791E+00	6.0791E+00	7.0059E-16	8.9453E-16	1.1900E-22
	238U (H)	1.2650E-05	1.4390E-02	8.5342E-01	4.4028E+00	5.5652E+00	5.5952E+00	5.5953E+00	5.5963E+00	5.8981E-15	7.0518E-15	8.2172E-22
	239Pu (T)	4.6421E-08	3.9805E-04	1.0071E-01	2.5482E+00	5.4961E+00	5.9505E+00	5.9532E+00	5.9532E+00	1.4378E-11	2.9862E-12	1.7237E-17
	239Pu (F)	8.9624E-08	3.9309E-04	9.2413E-02	1.9754E+00	6.0359E+00	6.5362E+00	6.5386E+00	6.5386E+00	9.6114E-12	1.9720E-12	8.0725E-18
	241Pu (T)	2.0627E-06	5.6041E-03	4.2235E-01	4.3292E+00	5.8811E+00	5.9716E+00	5.9717E+00	5.9717E+00	6.8895E-14	9.0016E-14	2.6123E-20
	233U (T)	1.3608E-08	1.5401E-04	4.2466E-02	1.3595E+00	2.9278E+00	3.2327E+00	3.2346E+00	3.2346E+00	1.4378E-11	2.9852E-12	2.3477E-17
	232Th (F)	2.1447E-06	3.3541E-03	9.8025E-02	5.4881E-01	7.4020E-01	7.4331E-01	7.4331E-01	7.4331E-01	1.8236E-16	2.3284E-16	3.6298E-23
Independent yield	235U (T)	3.4136E-07	3.4220E-03	4.0149E-01	2.5400E+00	1.8637E+00	1.4831E-01	4.3400E-04	1.2100E-07	5.1130E-13	7.5469E-13	4.1565E-19
	235U (F)	1.2102E-06	3.5720E-03	3.3496E-01	3.2597E+00	1.5522E+00	9.7395E-02	2.0800E-04	3.5100E-08	1.3895E-13	1.5741E-13	5.5463E-20
	235U (H)	7.8707E-08	4.2100E-04	1.0157E-01	1.5246E+00	1.7145E+00	1.5286E-01	9.0200E-04	2.5100E-07	2.5899E-12	0.0	2.0792E-18
	238U (F)	2.6759E-05	3.5006E-02	8.7606E-01	4.4957E+00	5.5202E-01	1.9271E-02	1.0100E-05	7.4000E-10	7.0059E-16	8.4409E-16	1.1900E-22
	238U (H)	1.2650E-05	1.4377E-02	8.3903E-01	3.5494E+00	1.1623E+00	3.0042E-02	3.7600E-05	2.4000E-09	5.8981E-15	6.5271E-15	8.2172E-22
	239Pu (T)	4.6421E-08	3.9800E-04	1.0031E-01	2.5475E+00	2.8478E+00	4.6445E-01	2.6200E-03	1.3300E-06	1.4377E-11	1.9500E-12	1.7237E-17
	239Pu (F)	8.9524E-08	3.9300E-04	9.2020E-02	1.8830E+00	4.0605E+00	5.0032E-01	2.4140E-03	9.4700E-07	9.6114E-12	1.2800E-12	8.0726E-18
	241Pu (T)	2.0627E-06	5.5020E-03	4.1575E-01	3.9069E+00	1.5519E+00	9.0473E-02	1.6300E-04	2.4300E-08	6.8895E-14	8.5056E-14	2.6123E-20
	233U (T)	1.3608E-08	1.5400E-04	4.2312E-02	1.3170E+00	1.5683E+00	3.0489E-01	1.9150E-03	1.2100E-06	1.4377E-11	1.9500E-12	2.3477E-17
	232Th (F)	2.1447E-06	3.3520E-03	9.4671E-02	5.6079E-01	9.1385E-02	3.1100E-03	1.9200E-06	1.6400E-10	1.8236E-16	2.1971E-16	3.6298E-23

Table 2.7.1 Continued

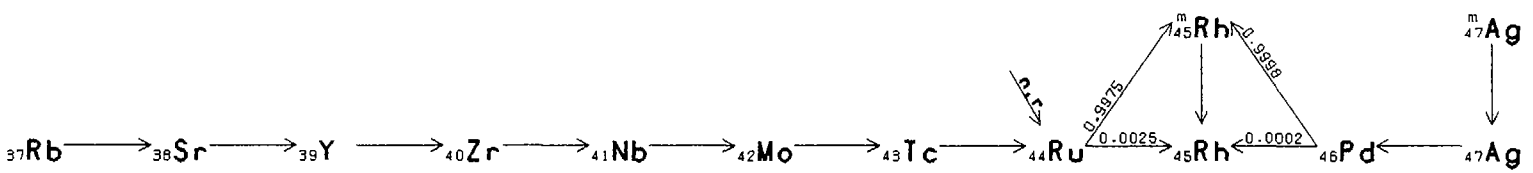
Mass No. 102



		$_{38}$Sr	$_{39}$Y	$_{40}$Zr	$^{m}_{41}$Nb	$_{41}$Nb	$_{42}$Mo	$^{m}_{43}$Tc	$_{43}$Tc	$_{44}$Ru	$^{m}_{45}$Rh	$_{45}$Rh	$_{46}$Pd
	λ(1/sec)	1.3827E+00	7.7016E-01	2.3902E-01	1.6120E-01	5.3319E-01	1.0315E-03	2.6557E-03	1.3128E-01	0.0	3.8756E-08	7.6003E-09	0.0
	Q-value(MeV)	8.1200E+00	9.0000E+00	4.0000E+00	7.2000E+00	7.2000E+00	1.0400E+00	4.7100E+00	4.5000E+00	0.0	2.1721E+00	1.1480E+00	0.0
	E-beta (MeV)	3.0170E+00	3.0960E+00	1.2600E+00	2.8320E+00	2.8320E+00	3.6033E-01	8.5525E-01	1.9523E+00	0.0	1.5442E-01	0.0	0.0
	E-gamma(MeV)	1.5780E+00	3.8230E+00	7.3730E-01	1.4610E+00	1.4610E+00	1.8549E-02	2.4299E+00	5.7930E-01	0.0	5.5402E-01	2.0934E+00	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	9.8456E-04	0.0	0.0	0.0	0.0	0.0	0.0
Cumulative yield	^{235}U (T)	8.8800E-04	2.5898E-01	2.3355E+00	7.8198E-01	3.1176E+00	4.2234E+00	1.8970E-03	4.2253E+00	4.2272E+00	8.7120E-08	1.2106E-07	1.6379E-08
	^{235}U (F)	2.7100E-04	6.7012E-02	2.0247E+00	1.0580E+00	3.0827E+00	4.5299E+00	1.0950E-03	4.5310E+00	4.5321E+00	5.4016E-12	8.4438E-12	1.0165E-12
	^{235}U (H)	2.0800E-05	1.5824E-02	7.1533E-01	1.0198E+00	1.7352E+00	3.2924E+00	4.5180E-03	3.2970E+00	3.3014E+00	7.9200E-11	1.8006E-10	1.4890E-11
	^{238}U (F)	5.0370E-03	2.6992E-01	4.9074E+00	6.3693E-01	5.5444E+00	6.3210E+00	8.3900E-05	6.3211E+00	6.3212E+00	4.4343E-14	1.3860E-13	8.3366E-15
	^{238}U (H)	1.1750E-03	2.0371E-01	2.6222E+00	9.7390E-01	3.4961E+00	4.6133E+00	2.7600E-04	4.6135E+00	4.6138E+00	2.2087E-13	1.0041E-12	4.1525E-14
	^{239}Pu (T)	2.4100E-05	1.6077E-02	1.3176E+00	1.5938E+00	2.9114E+00	5.0071E+00	1.0871E-02	5.0182E+00	5.0289E+00	5.1192E-10	7.1136E-10	9.6246E-11
	^{239}Pu (F)	3.8300E-05	2.4536E-02	1.5558E+00	1.8497E+00	3.4054E+00	6.6196E+00	9.5970E-03	6.6294E+00	6.6388E+00	2.9376E-10	4.5921E-10	5.5229E-11
	^{241}Pu (T)	5.7400E-04	1.0702E-01	3.2461E+00	1.3094E+00	4.5555E+00	6.3516E+00	1.0340E-03	6.3527E+00	6.3537E+00	4.2408E-12	5.8930E-12	7.9728E-13
	^{233}U (T)	6.6600E-05	4.6937E-03	4.9009E-01	5.1307E-01	1.1032E+00	2.4419E+00	5.4940E-03	2.4476E+00	2.4529E+00	3.5424E-10	4.9225E-10	5.6602E-11
	^{232}Th (F)	2.1900E-04	1.3648E-02	2.8139E-01	4.1963E-02	3.2335E-01	3.7585E-01	7.4000E-05	3.7586E-01	3.7587E-01	5.3776E-15	1.6809E-14	1.0110E-15
Independent yield	^{235}U (T)	8.8800E-04	2.5810E-01	2.0765E+00	7.8198E-01	7.8198E-01	3.2392E-01	1.8970E-03	1.8970E-03	3.9300E-05	8.7120E-08	1.2100E-07	1.3693E-16
	^{235}U (F)	2.7100E-04	5.6741E-02	1.9577E+00	1.0580E+00	1.0580E+00	3.8913E-01	1.0950E-03	1.0950E-03	1.2900E-05	5.4016E-12	8.4400E-12	2.0810E-17
	^{235}U (H)	2.0800E-05	1.5803E-02	6.9950E-01	1.0198E+00	1.0198E+00	5.3737E-01	4.5180E-03	4.5180E-03	8.5600E-05	7.9200E-11	1.8000E-10	6.7692E-16
	^{238}U (F)	5.0370E-03	2.6488E-01	4.6375E+00	6.3693E-01	6.3693E-01	1.3970E-01	8.3900E-05	8.3900E-05	6.1000E-08	4.4343E-14	1.3857E-13	8.3349E-20
	^{238}U (H)	1.1750E-03	2.0253E-01	2.3185E+00	9.7390E-01	9.7390E-01	1.4322E-01	2.7600E-04	2.7600E-04	1.1700E-07	2.2087E-13	1.0040E-12	4.1622E-19
	^{239}Pu (T)	2.4100E-05	1.5053E-02	1.3016E+00	1.5938E+00	1.5938E+00	1.5019E+00	1.0871E-02	1.0871E-02	3.8800E-05	5.1192E-10	7.1100E-10	5.0712E-15
	^{239}Pu (F)	3.8300E-05	2.4498E-02	1.5312E+00	1.8497E+00	1.8497E+00	1.3645E+00	9.5970E-03	9.5970E-03	2.6100E-05	2.9376E-10	4.5900E-10	2.5224E-16
	^{241}Pu (T)	5.7400E-04	1.0644E-01	3.1391E+00	1.3094E+00	1.3094E+00	4.8671E-01	1.0340E-03	1.0340E-03	1.2100E-05	4.2408E-12	5.8900E-12	1.3150E-17
	^{233}U (T)	6.6600E-05	4.6870E-03	4.8540E-01	5.1307E-01	5.1307E-01	7.2568E-01	5.4840E-03	5.4940E-03	2.5300E-05	3.5424E-10	4.9200E-10	4.9113E-15
	^{232}Th (F)	2.1900E-04	1.3429E-02	2.6774E-01	4.1963E-02	4.1963E-02	1.0636E-02	7.4000E-05	7.4000E-05	5.2500E-09	5.3776E-15	1.6805E-14	1.1816E-20

Table 2.7.1 Continued

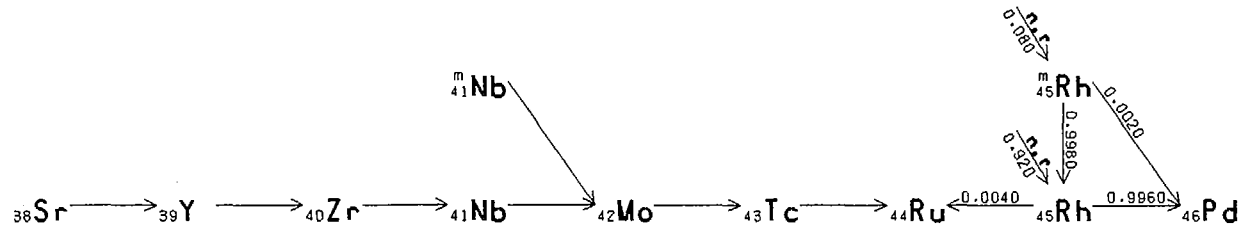
Mass No. 103



		37Rb	38Sr	39Y	40Zr	41Nb	42Mo	43Tc	44Ru	m46Rh	46Rh	46Pd	m47Ag	47Ag
	λ (1/sec)	5.9909E+00	2.4791E+00	6.8970E-01	2.1004E-01	4.6210E-01	1.0269E-02	1.3863E-02	2.0347E-07	2.0267E-04	0.0	4.5843E-07	1.2160E-01	1.7584E-04
	Q-value (MeV)	1.2760E+01	1.0860E+01	8.5580E+00	6.8790E+00	5.2000E+00	4.3000E+00	2.3600E+00	7.2325E-01	3.9750E-02	0.0	5.0626E-01	1.3444E-01	2.6800E+00
	E-beta (MeV)	4.3620E+00	3.6940E+00	3.0340E+00	2.4570E+00	2.1110E+00	1.1440E+00	8.4469E-01	7.2135E-02	0.0	0.0	0.0	0.0	2.4189E-01
	E-gamma (MeV)	3.6020E+00	2.9490E+00	1.9810E+00	1.4670E+00	9.8200E-01	1.1340E+00	2.3710E-01	4.7010E-01	2.7825E-05	0.0	1.1566E-04	2.8232E-02	7.4834E-01
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	4.2054E-03	0.0	3.9722E-02	0.0	0.0	1.0621E-01	8.0188E-03
Cumulative yield	235U (T)	8.1515E-11	3.8077E-06	7.9895E-02	6.2022E-01	2.2479E+00	2.9664E+00	3.0404E+00	3.0404E+00	3.0328E+00	3.0404E+00	1.7446E-14	2.5367E-22	2.2050E-21
	235U (F)	3.7411E-10	1.0662E-05	8.8267E-03	5.3229E-01	2.4920E+00	3.2612E+00	3.2646E+00	3.2647E+00	3.2555E+00	3.2647E+00	3.2508E-15	3.4138E-23	3.1862E-22
	236U (H)	1.5384E-11	8.1984E-07	1.8848E-03	2.3842E-01	2.0331E+00	3.1891E+00	3.2450E+00	3.2461E+00	3.2370E+00	3.2461E+00	1.2891E-13	2.6569E-21	3.5868E-20
	238U (F)	3.4649E-08	4.2653E-04	8.6929E-02	3.0596E+00	5.6705E+00	6.2337E+00	6.2363E+00	6.2363E+00	6.2207E+00	6.2363E+00	2.7653E-17	6.7272E-25	6.2767E-25
	238U (H)	7.3575E-09	8.3993E-06	4.2572E-02	1.3602E+00	4.1344E+00	4.6599E+00	4.6660E+00	4.6660E+00	4.6544E+00	4.6660E+00	1.4374E-16	6.1210E-25	8.2634E-24
	239Pu (T)	1.2269E-11	1.0433E-06	2.2640E-03	4.5001E-01	3.5227E+00	6.8077E+00	6.9601E+00	6.9508E+00	6.9334E+00	6.9508E+00	7.9632E-13	2.5680E-20	2.2322E-19
	239Pu (F)	2.3243E-11	1.6743E-06	3.2286E-03	5.1481E-01	3.9377E+00	6.7328E+00	6.8506E+00	6.8511E+00	6.8339E+00	6.8511E+00	3.9414E-13	1.0887E-20	1.0161E-19
	241Pu (T)	1.2863E-09	3.3743E-05	2.0662E-02	1.4107E+00	4.7602E+00	5.1147E+00	5.1334E+00	5.1334E+00	5.1181E+00	5.1334E+00	2.8491E-15	2.4810E-23	2.1566E-22
	233U (T)	1.3703E-12	1.4857E-07	3.7215E-04	9.1939E-02	7.8921E-01	1.6339E+00	1.6747E+00	1.6749E+00	1.6707E+00	1.6749E+00	4.1793E-13	1.5139E-20	1.3159E-19
	232Th (F)	5.2653E-10	7.5657E-05	1.7955E-03	7.2211E-02	1.4315E-01	1.5067E-01	1.5065E-01	1.5065E-01	1.5025E-01	1.5065E-01	1.5945E-18	4.5780E-27	4.2728E-26
Independent yield	235U (T)	8.1515E-11	3.8076E-06	7.9891E-02	5.4032E-01	1.6276E+00	7.1855E-01	7.3973E-02	5.4700E-05	2.8100E-09	2.4400E-10	1.7445E-14	2.5367E-22	1.9513E-21
	235U (F)	3.7411E-10	1.0661E-05	8.8150E-03	5.2347E-01	1.8597E+00	7.5914E-01	1.3473E-02	2.1000E-05	8.6200E-10	7.6000E-11	3.2508E-15	3.4138E-23	2.8448E-22
	236U (H)	1.5384E-11	8.1982E-07	1.8840E-03	2.3654E-01	1.7947E+00	1.1560E+00	5.5835E-02	1.6000E-04	1.8800E-05	1.7200E-07	1.2891E-13	2.6569E-21	3.3211E-20
	238U (F)	3.4649E-08	4.2650E-04	8.5602E-02	2.9727E+00	2.6109E+00	6.6318E-01	2.5950E-03	1.7900E-06	1.6200E-11	2.2100E-12	2.7653E-17	6.7272E-25	6.6060E-26
	238U (H)	7.3575E-09	8.3985E-05	4.2488E-02	1.3076E+00	2.7842E+00	5.2542E-01	6.1700E-03	3.9800E-06	1.0100E-10	8.8000E-12	1.4374E-16	6.1210E-25	7.6513E-24
	239Pu (T)	1.2269E-11	1.0433E-06	2.2630E-03	4.4776E-01	3.1727E+00	3.1850E+00	1.4239E-01	6.4900E-04	7.5100E-08	5.5200E-09	7.9632E-13	2.5680E-20	1.9754E-19
	239Pu (F)	2.3243E-11	1.6743E-06	3.2270E-03	5.1158E-01	3.4229E+00	2.7951E+00	1.1782E-01	4.2700E-04	4.5600E-08	3.9700E-09	3.9414E-13	1.0887E-20	9.0721E-20
	241Pu (T)	1.2863E-09	3.3742E-05	2.0528E-02	1.3901E+00	3.3494E+00	1.3545E+00	1.8690E-02	2.7500E-05	9.3200E-10	8.1000E-11	2.8491E-15	2.4810E-23	1.9085E-22
	233U (T)	1.3703E-12	1.4857E-07	3.7200E-04	9.1567E-02	5.9727E-01	8.4472E-01	4.0775E-02	2.3000E-04	2.8800E-08	2.5100E-09	4.1793E-13	1.5139E-20	1.1645E-19
	232Th (F)	5.2653E-10	7.5651E-05	1.7880E-03	7.0416E-02	7.0938E-02	1.7419E-02	9.3100E-05	7.4800E-08	0.0	9.7128E-13	1.5945E-18	4.5780E-27	3.8150E-26

Table 2.7.1 Continued

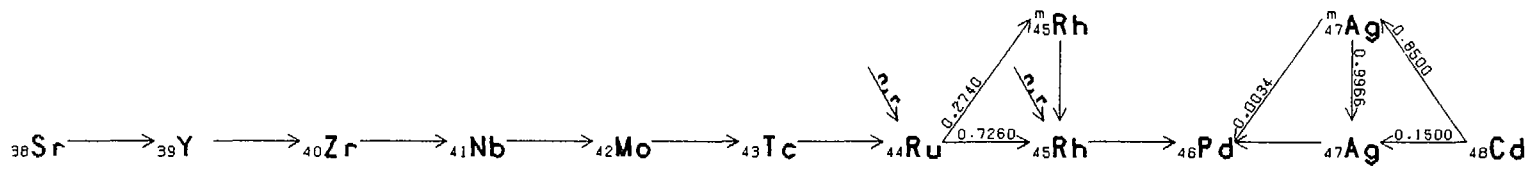
Mass No. 104



		$_{38}$Sr	$_{39}$Y	$_{40}$Zr	$^{m}_{41}$Nb	$_{41}$Nb	$_{42}$Mo	$_{43}$Tc	$_{44}$Ru	$^{m}_{45}$Rh	$_{45}$Rh	$_{46}$Pd
λ (1/sec)		2.6466E+00	1.2270E+00	6.9316E-01	8.6643E-01	1.4441E-01	1.1669E-02	6.3475E-04	0.0	2.6619E-03	1.6386E-02	0.0
Q-value (MeV)		9.2290E+00	1.1260E+01	5.1500E+00	8.8500E+00	8.8000E+00	2.2000E+00	6.6200E+00	0.0	1.3386E-01	2.4428E+00	0.0
E-beta (MeV)		3.4300E+00	3.4940E+00	1.7420E+00	3.1250E+00	2.5100E+00	6.2290E-01	1.2440E+00	0.0	6.7298E-04	9.9119E-01	0.0
E-gamma (MeV)		1.8520E+00	3.7500E+00	8.9440E-01	2.1340E+00	3.3760E+00	5.8470E-01	2.6780E+00	0.0	3.1329E-02	1.1114E-02	0.0
E-i.C (MeV)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.9181E-02	0.0	0.0
Cumulative yield	^{235}U (T)	1.1300E-07	2.9011E-04	1.1269E-01	3.1926E-01	4.3194E-01	1.7795E+00	1.8338E+00	1.8343E+00	5.7900E-08	5.7984E-08	6.7829E-08
	^{235}U (F)	2.5200E-07	5.4525E-04	1.2249E-01	4.0834E-01	5.3083E-01	2.2299E+00	2.2687E+00	2.2690E+00	2.5100E-08	2.9490E-08	2.9422E-08
	^{235}U (H)	1.3100E-08	9.4713E-05	3.5694E-02	3.5750E-01	3.9320E-01	1.9261E+00	2.0739E+00	2.0752E+00	4.3700E-07	5.1333E-07	5.1216E-07
	^{238}U (F)	2.3800E-05	1.0569E-02	1.3154E+00	1.0635E+00	2.3789E+00	4.9695E+00	4.9843E+00	4.9843E+00	7.6500E-10	9.7947E-10	9.7709E-10
	^{238}U (H)	2.8300E-06	4.4348E-03	3.9570E-01	1.0458E+00	1.4416E+00	3.4941E+00	3.5274E+00	3.5276E+00	4.8200E-09	5.6614E-09	5.6484E-09
	^{239}Pu (T)	2.2600E-08	1.3502E-04	8.9004E-02	7.2233E-01	8.1133E-01	5.5596E+00	5.9661E+00	5.9722E+00	1.7300E-06	2.0305E-06	2.0259E-06
	^{239}Pu (F)	4.4600E-08	2.5604E-04	1.2880E-01	1.0193E+00	1.1481E+00	6.0784E+00	6.4961E+00	6.5006E+00	1.2400E-06	1.4565E-06	1.4532E-06
	^{241}Pu (T)	1.5500E-06	2.5145E-03	5.6295E-01	1.4370E+00	1.9999E+00	6.7297E+00	6.8358E+00	6.8364E+00	4.1800E-08	4.9086E-08	4.8974E-08
	^{233}U (T)	2.2900E-09	1.4502E-05	1.2326E-02	1.0439E-01	1.1672E-01	9.5078E-01	1.0269E+00	1.0284E+00	4.3800E-07	5.1442E-07	5.1327E-07
	^{232}Th (F)	2.7400E-07	1.4327E-04	2.0499E-02	1.8994E-02	3.9493E-02	8.9397E-02	8.9743E-02	8.9744E-02	2.4600E-11	3.1491E-11	3.1414E-11
Independent yield	^{235}U (T)	1.1300E-07	2.9000E-04	1.1240E-01	3.1926E-01	3.1925E-01	1.0283E+00	6.4385E-02	4.7100E-04	5.7900E-08	1.0200E-08	1.3600E-12
	^{235}U (F)	2.5200E-07	5.4500E-04	1.2195E-01	4.0834E-01	4.0834E-01	1.2907E+00	3.8855E-02	2.4400E-04	2.6100E-08	4.4400E-09	3.6051E-13
	^{235}U (H)	1.3100E-08	9.4700E-05	3.5599E-02	3.5750E-01	3.5750E-01	1.1764E+00	1.4787E-01	1.2690E-03	4.3700E-07	7.7200E-08	1.0300E-11
	^{238}U (F)	2.3800E-05	1.0545E-02	1.3049E+00	1.0635E+00	1.0635E+00	1.5271E+00	1.4737E-02	4.0200E-05	7.6500E-10	2.1600E-10	5.8573E-15
	^{238}U (H)	2.8300E-06	4.4320E-03	3.9126E-01	1.0458E+00	1.0458E+00	1.0069E+00	3.3311E-02	6.5000E-05	4.8200E-09	8.6100E-10	2.4327E-14
	^{239}Pu (T)	2.2600E-08	1.3500E-04	8.8869E-02	7.2233E-01	7.2233E-01	4.0859E+00	4.0649E-01	6.0700E-03	1.7300E-06	3.0400E-07	7.1400E-11
	^{239}Pu (F)	4.4600E-08	2.5500E-04	1.2854E-01	1.0193E+00	1.0193E+00	3.9110E+00	4.1765E-01	4.5400E-03	1.2400E-06	2.1900E-07	3.8900E-11
	^{241}Pu (T)	1.5500E-06	2.5130E-03	5.6043E-01	1.4370E+00	1.4370E+00	3.2928E+00	1.0616E-01	5.4200E-04	4.1800E-08	7.3700E-09	5.2301E-13
	^{233}U (T)	2.2900E-09	1.4500E-05	1.2312E-02	1.0439E-01	1.0439E-01	7.2966E-01	7.6174E-02	1.4660E-03	4.3800E-07	7.7300E-08	2.3600E-11
	^{232}Th (F)	2.7400E-07	1.4300E-04	2.0356E-02	1.8994E-02	1.8994E-02	3.0911E-02	3.4600E-04	1.1000E-06	2.4600E-11	6.9400E-12	2.1956E-16

Table 2.7.1 Continued

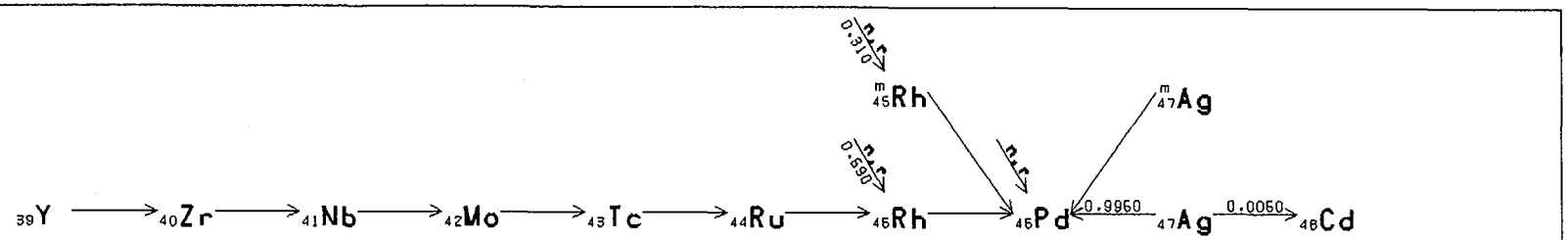
Mass No. 105



		38Sr	39Y	40Zr	41Nb	42Mo	43Tc	44Ru	m45Rh	45Rh	46Pd	m47Ag	47Ag	48Cd
	λ (1/sec)	4.5452E+00	1.2505E+00	3.5896E-01	2.3105E-01	1.8867E-02	1.4811E-03	4.3365E-05	1.5403E-02	5.4450E-06	0.0	1.5978E-03	1.9429E-07	2.0529E-04
	Q-value (MeV)	1.2080E+01	9.5390E+00	7.5930E+00	6.9400E+00	5.4000E+00	3.4000E+00	1.8822E+00	1.2961E-01	5.6690E-01	0.0	3.0053E-02	1.3480E+00	2.7174E+00
	E-beta (MeV)	4.0830E+00	3.3250E+00	2.5620E+00	2.4990E+00	1.2900E+00	1.2327E+00	4.1439E-01	0.0	1.5154E-01	0.0	1.0021E-05	0.0	1.9710E-01
	E-gamma (MeV)	3.3880E+00	2.3720E+00	1.7540E+00	1.4040E+00	2.3550E+00	4.7409E-01	7.5786E-01	2.5922E-02	8.0523E-02	0.0	1.3358E-03	5.5366E-01	1.2402E+00
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	1.1519E-02	0.0	1.0369E-01	0.0	0.0	2.5383E-02	9.7250E-03	4.4320E-04
Cumulative yield	235U (T)	4.9113E-10	5.3460E-06	8.7806E-02	2.5587E-01	9.3432E-01	9.6361E-01	9.6605E-01	2.6470E-01	9.6605E-01	9.6606E-01	1.0991E-15	2.3586E-16	1.4414E-23
	235U (F)	2.1045E-09	1.8246E-05	1.0913E-02	2.6602E-01	1.0949E+00	1.2022E+00	1.2037E+00	3.2983E-01	1.2037E+00	1.2037E+00	2.7238E-17	5.8098E-17	2.1643E-24
	236U (H)	1.0983E-10	2.9785E-05	3.0610E-03	2.0911E-01	1.1891E+00	1.9613E+00	1.9721E+00	5.4034E-01	1.9721E+00	1.9721E+00	4.2314E-15	8.8164E-16	6.5853E-22
	238U (F)	3.7614E-07	7.7119E-04	2.2604E-01	1.5307E+00	3.9050E+00	3.9878E+00	3.9884E+00	1.0928E+00	3.9884E+00	3.9884E+00	2.2478E-19	4.7945E-19	7.4396E-27
	238U (H)	4.5608E-08	2.6123E-04	7.7690E-02	1.3426E+00	3.0642E+00	3.2409E+00	3.2421E+00	8.8834E-01	3.2421E+00	3.2421E+00	3.7120E-18	7.7341E-18	1.1910E-25
	239Pu (T)	2.0152E-10	4.8149E-06	9.0088E-03	5.3788E-01	4.1354E+00	6.3340E+00	6.3828E+00	1.4749E+00	6.3828E+00	6.3828E+00	1.6509E-14	3.6428E-14	3.9826E-21
	239Pu (F)	3.3941E-10	7.6123E-06	1.1978E-02	6.6806E-01	4.2936E+00	6.4117E+00	6.4492E+00	1.4831E+00	6.4493E+00	6.4493E+00	9.3736E-15	1.8994E-14	1.7952E-21
	241Pu (T)	2.1132E-08	1.3912E-04	8.3734E-02	1.6044E+00	5.6424E+00	6.1206E+00	6.1271E+00	1.6788E+00	6.1271E+00	6.1271E+00	5.1965E-17	1.1152E-16	3.7851E-24
	233U (T)	9.2558E-12	2.4797E-07	6.1326E-04	3.9764E-02	3.6364E-01	4.7635E-01	4.8211E-01	1.3210E-01	4.8212E-01	4.8212E-01	3.1827E-15	6.8302E-16	9.8195E-22
	232Th (F)	2.3998E-09	5.4147E-05	1.7964E-03	1.3989E-02	3.3685E-02	3.4430E-02	3.4437E-02	9.4357E-03	3.4437E-02	3.4437E-02	3.1575E-21	6.7349E-21	1.1456E-28
Independent yield	235U (T)	4.9113E-10	5.3455E-06	8.7801E-02	1.5806E-01	6.7845E-01	2.9190E-02	2.5430E-03	1.2600E-07	1.4400E-06	9.0500E-11	1.0991E-15	1.2633E-16	1.4414E-23
	235U (F)	2.1045E-09	1.8244E-05	1.0895E-02	2.5511E-01	8.2888E-01	1.0725E-01	1.5940E-03	2.1200E-08	5.3500E-08	3.3700E-11	2.7238E-17	3.0952E-17	2.1643E-24
	235U (H)	1.0983E-10	2.9784E-05	3.0580E-03	2.0605E-01	9.8000E-01	7.7223E-01	1.0717E-02	3.6100E-07	4.0400E-06	1.6700E-09	4.2314E-15	4.6994E-15	6.5853E-22
	238U (F)	3.7614E-07	7.7081E-04	2.2527E-01	1.4047E+00	2.2743E+00	8.2784E-02	5.7600E-04	8.6500E-09	6.3600E-08	3.3300E-07	2.2478E-19	2.5643E-19	7.4396E-27
	238U (H)	4.5608E-08	2.6119E-04	7.7429E-02	1.2648E+00	1.7217E+00	1.7674E-01	1.1930E-03	6.8600E-08	7.8900E-07	5.6700E-12	3.7120E-18	4.0347E-18	1.1910E-25
	239Pu (T)	2.0152E-10	4.8147E-06	9.0040E-03	5.2888E-01	3.6986E+00	1.1976E+00	4.8799E-02	5.2900E-06	5.0800E-05	7.2300E-09	1.6509E-14	1.8975E-14	3.9826E-21
	239Pu (F)	3.3941E-10	7.6120E-06	1.1970E-02	5.5608E-01	3.6256E+00	1.1181E+00	3.7520E-02	3.6300E-06	4.1700E-05	3.9200E-09	9.3736E-15	1.0662E-14	1.7952E-21
	241Pu (T)	2.1132E-08	1.3910E-04	8.3695E-02	1.5207E+00	4.0380E+00	4.7823E-01	6.5120E-03	1.9900E-07	2.2900E-05	8.8400E-11	5.1965E-17	5.9730E-17	3.7851E-24
	233U (T)	9.2558E-12	2.4796E-07	6.1300E-04	3.9151E-02	3.2387E-01	1.1272E-01	5.7510E-03	6.6500E-07	7.6400E-05	1.1300E-09	3.1827E-15	3.6583E-15	9.8195E-22
	232Th (F)	2.3998E-09	6.4123E-06	1.7910E-03	1.2193E-02	1.9596E-02	8.4500E-04	6.4300E-06	9.7900E-11	7.1800E-10	1.4179E-14	3.1575E-21	3.5881E-21	1.1456E-28

Table 2.7.1 Continued

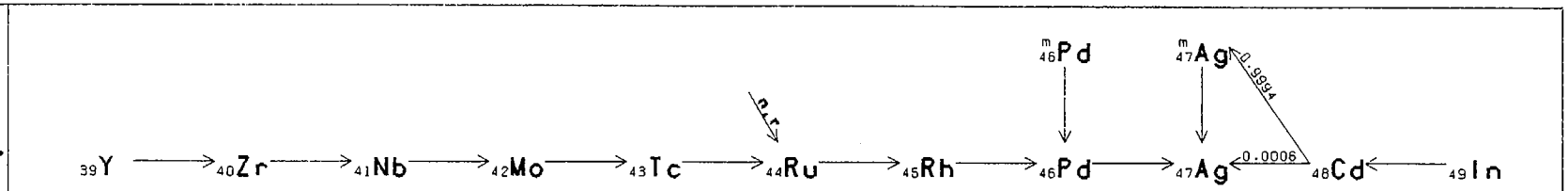
Mass No. 106



		39Y	40Zr	41Nb	42Mo	43Tc	44Ru	45mRh	45Rh	46Pd	47mAg	47Ag	48Cd
	λ(1/sec)	2.1688E+00	2.8536E-01	6.9315E-01	8.2518E-02	1.9264E-02	2.1687E-08	8.7619E-05	2.2801E-02	0.0	9.5393E-07	4.8216E-04	0.0
	Q-value(MeV)	1.2340E+01	5.8590E+00	9.9000E+00	3.3400E+00	6.3000E+00	3.9400E-02	3.6790E+00	3.5410E+00	0.0	3.0709E+00	2.9691E+00	0.0
	E-beta (MeV)	3.8130E+00	2.1380E+00	3.3130E+00	1.2320E+00	1.6970E+00	1.0047E-02	3.1618E-01	1.4211E+00	0.0	0.0	5.0768E-01	0.0
	E-gamma(MeV)	4.1870E+00	1.0910E+00	2.5490E+00	7.4590E-01	2.9330E+00	0.0	2.9171E+00	1.9721E-01	0.0	2.8083E+00	7.0339E-01	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cumulative yield	236U (T)	6.5161E-08	1.9306E-04	1.4633E-02	3.5782E-01	3.9046E-01	3.9964E-01	8.1400E-06	3.9966E-01	3.9966E-01	1.0886E-14	1.5661E-14	7.7762E-17
	235U (F)	2.4435E-07	6.2524E-04	4.1959E-02	4.1505E-01	5.4826E-01	5.5552E-01	5.5300E-06	5.5552E-01	5.5553E-01	3.7616E-15	5.1802E-15	2.5903E-17
	235U (H)	4.4509E-08	2.1904E-04	4.9513E-02	7.5931E-01	1.5033E+00	1.5717E+00	1.7300E-04	1.5719E+00	1.5721E+00	9.5362E-13	1.1629E-12	5.8154E-15
	238U (F)	1.8676E-05	2.5911E-02	3.9526E-01	2.3737E+00	2.5467E+00	2.5520E+00	7.8500E-07	2.5520E+00	2.5520E+00	5.4965E-17	7.5295E-17	3.7649E-19
	238U (H)	7.1097E-06	7.3671E-03	3.9724E-01	1.9442E+00	2.4170E+00	2.4281E+00	6.4100E-06	2.4281E+00	2.4281E+00	1.4843E-15	1.8101E-15	9.0508E-18
	239Pu(T)	7.7405E-08	5.1008E-04	8.5437E-02	2.0474E+00	3.7565E+00	4.3085E+00	2.3900E-04	4.3087E+00	4.3090E+00	2.8000E-12	2.0000E-12	1.0003E-14
	239Pu(F)	1.2880E-07	7.9213E-04	1.2965E-01	2.4130E+00	4.1773E+00	4.3763E+00	3.6800E-04	4.3766E+00	4.3770E+00	1.5184E-12	1.0400E-12	5.2015E-15
	241Pu(T)	4.2719E-06	1.0346E-02	5.1301E-01	4.8310E+00	6.1183E+00	6.1822E+00	3.4500E-05	6.1822E+00	6.1823E+00	1.5310E-14	2.1871E-14	1.0936E-16
	233U (T)	2.2536E-09	2.3602E-05	4.3486E-03	1.3295E-01	2.3885E-01	2.6870E-01	1.2900E-05	2.6871E-01	2.6872E-01	3.3978E-13	4.8640E-13	2.4276E-15
	232Th(F)	3.0600E-07	4.2231E-04	6.6693E-03	4.1508E-02	4.4641E-02	4.4739E-02	1.5400E-08	4.4739E-02	4.4739E-02	1.1062E-18	1.5153E-18	7.5767E-21
Independent yield	235U (T)	6.5161E-08	1.9300E-04	1.4440E-02	3.5319E-01	2.2635E-02	9.1860E-03	8.1400E-06	8.1400E-06	4.1300E-09	1.0886E-14	1.5661E-14	7.7709E-21
	235U (F)	2.4435E-07	6.2500E-04	4.1334E-02	3.7309E-01	1.3322E-01	7.2650E-03	5.5300E-06	5.5300E-06	1.6400E-09	3.7816E-15	5.1802E-15	1.4941E-21
	235U (H)	4.4509E-08	2.1900E-04	4.9294E-02	7.0980E-01	7.4397E-01	6.8453E-02	1.7300E-04	1.7300E-04	9.5300E-08	9.5362E-13	1.1629E-12	6.4237E-19
	238U (F)	1.8675E-05	2.5892E-02	3.6935E-01	1.9784E+00	1.7295E-01	5.3060E-03	7.8500E-07	7.8500E-07	1.1500E-10	5.4965E-17	7.5295E-17	1.0641E-23
	238U (H)	7.1097E-06	7.3600E-03	3.8987E-01	1.5469E+00	4.7278E-01	1.1169E-02	6.4100E-06	6.4100E-06	7.6600E-10	1.4843E-15	1.8101E-15	2.0608E-22
	239Pu(T)	7.7405E-08	5.1000E-04	8.5927E-02	1.9610E+00	1.7090E+00	6.5203E-01	2.3900E-04	2.3900E-04	4.5500E-07	2.8000E-12	2.0000E-12	3.1599E-18
	239Pu(F)	1.2880E-07	7.9200E-04	1.2886E-01	2.2834E+00	1.7643E+00	1.9900E-01	3.6800E-04	3.6800E-04	2.4700E-07	1.5184E-12	1.0400E-12	1.5161E-18
	241Pu(T)	4.2719E-06	1.0342E-02	5.0266E-01	4.4180E+00	1.1873E+00	6.3911E-02	3.4500E-05	3.4500E-05	9.6000E-09	1.5310E-14	2.1871E-14	5.9534E-21
	233U (T)	2.2536E-09	2.3600E-05	4.3260E-03	1.2860E-01	1.0590E-01	1.9844E-02	1.2900E-05	1.2900E-05	4.7500E-08	3.3978E-13	4.8640E-13	6.7669E-19
	232Th(F)	3.0600E-07	4.2200E-04	6.2470E-03	3.4839E-02	3.1330E-03	9.7900E-05	1.5400E-08	1.5400E-08	2.3400E-12	1.1062E-18	1.5153E-18	2.1905E-25

Table 2.7.1 Continued

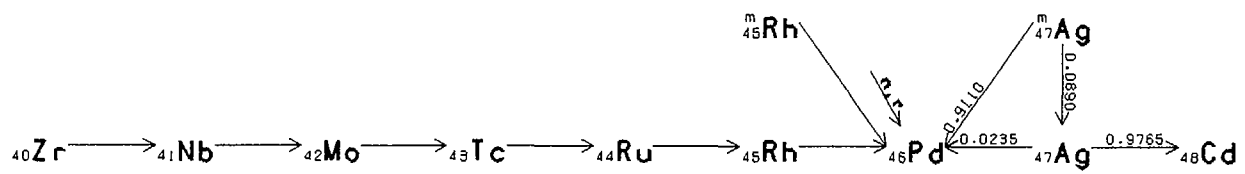
Mass No. 107



		39Y	40Zr	41Nb	42Mo	43Tc	44Ru	45Rh	m46Pd	46Pd	m47Ag	47Ag	48Cd	49In
	λ(1/sec)	2.3190E+00	7.4822E-01	4.7672E-01	1.9804E-01	3.3007E-02	2.7506E-03	5.3237E-04	3.2542E-02	3.3792E-15	1.5647E-02	0.0	2.9667E-05	3.5328E-04
	Q-value(MeV)	1.0660E+01	8.6800E+00	7.9620E+00	6.2000E+00	4.2000E+00	3.1500E+00	1.6100E+00	2.1400E-01	3.3100E-02	9.3100E-02	0.0	1.3240E+00	3.4900E+00
	E-beta (MeV)	3.6670E+00	2.9820E+00	2.8150E+00	2.3170E+00	1.6820E+00	1.2116E+00	4.3375E-01	0.0	8.4130E-03	0.0	0.0	3.1980E-04	3.2204E-01
	E-gamma(MeV)	2.8010E+00	2.2010E+00	1.8160E+00	1.3930E+00	9.8580E-01	2.4077E-01	3.1240E-01	1.4562E-01	0.0	4.2826E-03	0.0	6.0623E-03	1.5139E+00
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.8480E-02	0.0	8.8817E-02	0.0	0.0	7.5832E-03
Cumulative yield	235U (T)	3.1510E-10	4.4072E-06	2.1014E-03	1.0547E-01	1.2336E-01	1.4260E-01	1.4274E-01	6.6400E-08	1.4274E-01	1.1400E-12	1.4274E-01	2.6616E-18	8.7097E-26
	235U (F)	2.3552E-09	2.0607E-05	5.3676E-03	1.3729E-01	2.9023E-01	3.1393E-01	3.1407E-01	6.6200E-08	3.1407E-01	9.7336E-19	3.1407E-01	9.7393E-19	2.5495E-26
	235U (H)	3.1203E-10	5.9696E-06	6.0730E-03	2.5300E-01	1.0619E+00	1.2864E+00	1.2898E+00	3.7600E-06	1.2898E+00	1.6700E-10	1.2898E+00	4.8809E-16	4.4442E-23
	238U (F)	3.0726E-07	1.1482E-03	7.5799E-02	9.8423E-01	1.2873E+00	1.3108E+00	1.3108E+00	4.8300E-09	1.3108E+00	9.6457E-21	1.3108E+00	9.6515E-21	5.7143E-29
	238U (H)	1.0169E-07	3.9519E-04	7.1597E-02	9.2079E-01	1.6806E+00	1.7383E+00	1.7386E+00	4.3600E-08	1.7386E+00	2.1741E-19	1.7386E+00	2.1764E-19	3.8303E-27
	239Pu(T)	6.6851E-10	1.6956E-05	1.1313E-02	7.4686E-01	2.6569E+00	3.3867E+00	3.3968E+00	1.2500E-05	3.3968E+00	4.7800E-10	3.3968E+00	1.7117E-16	1.2450E-22
	239Pu(F)	1.0336E-09	2.1357E-05	1.3596E-02	7.4125E-01	2.5844E+00	3.1708E+00	3.1794E+00	7.9000E-06	3.1794E+00	2.8700E-10	3.1794E+00	8.3551E-16	5.7610E-23
	241Pu(T)	7.1237E-08	6.6014E-04	1.1254E-01	2.6207E+00	4.8624E+00	5.1795E+00	5.1810E+00	4.9000E-07	5.1810E+00	4.9900E-12	5.1810E+00	6.0536E-18	1.1815E-25
	233U (T)	9.3226E-12	3.1902E-07	2.5732E-04	2.2011E-02	8.6621E-02	1.1655E-01	1.1709E-01	8.0300E-07	1.1709E-01	3.6000E-11	1.1709E-01	1.8321E-16	1.5870E-23
	232Th(F)	1.3768E-08	4.9365E-05	3.1054E-03	3.9433E-02	5.1538E-02	5.2435E-02	5.2437E-02	1.7900E-10	5.2437E-02	3.1310E-22	5.2437E-02	3.1329E-22	1.7908E-30
Independent yield	235U (T)	3.1510E-10	4.4069E-06	2.0970E-03	1.0337E-01	1.7886E-02	1.9243E-02	1.4000E-04	6.6400E-08	1.7600E-08	1.1400E-12	0.0	2.6616E-18	8.7097E-26
	235U (F)	2.3552E-09	2.0604E-05	5.3470E-03	1.3193E-01	1.5294E-01	2.3694E-02	1.4200E-04	5.5200E-08	1.4700E-08	0.0	9.7836E-13	9.7393E-19	2.5495E-26
	235U (H)	3.1203E-10	5.9693E-06	5.0670E-03	2.4793E-01	8.0893E-01	2.2344E-01	4.4380E-03	3.7500E-06	8.9600E-07	1.6700E-10	4.4600E-11	4.8809E-16	4.4442E-23
	238U (F)	3.0726E-07	1.1479E-03	7.4651E-02	9.0843E-01	3.0309E-01	2.3484E-02	3.4200E-05	4.8300E-09	2.1700E-09	0.0	2.3443E-14	9.6515E-21	5.7143E-29
	238U (H)	1.0159E-07	3.9509E-04	7.1202E-02	8.4920E-01	7.5983E-01	5.7694E-02	2.4500E-04	4.3500E-08	1.1600E-08	0.0	4.9887E-13	2.1754E-19	3.8303E-27
	239Pu(T)	6.6851E-10	1.6956E-05	1.1296E-02	7.3466E-01	1.9110E+00	7.2884E-01	1.1111E-02	1.2500E-05	3.3200E-06	4.7600E-10	1.2700E-10	1.7117E-16	1.2450E-22
	239Pu(F)	1.0336E-09	2.1356E-05	1.3576E-02	7.2765E-01	1.8432E+00	5.8639E-01	8.5930E-03	7.9000E-06	2.1000E-06	2.8700E-10	7.6300E-11	8.3551E-16	5.7610E-23
	241Pu(T)	7.1237E-08	6.6007E-04	1.1198E-01	2.5081E+00	2.2417E+00	3.1719E-01	1.4180E-03	4.9000E-07	1.3000E-07	4.9900E-12	1.3300E-12	6.0536E-18	1.1815E-25
	233U (T)	9.3226E-12	3.1901E-07	2.5700E-04	2.1754E-02	6.3610E-02	3.0925E-02	5.4100E-04	8.0300E-07	2.1300E-07	3.6000E-11	9.5600E-12	1.8321E-16	1.5870E-23
	232Th(F)	1.3768E-08	4.9361E-05	3.0560E-03	3.6328E-02	1.2106E-02	8.9700E-04	1.2800E-05	1.7900E-10	8.0400E-11	0.0	7.9364E-16	3.1329E-22	1.7908E-30

Table 2.7.1 Continued

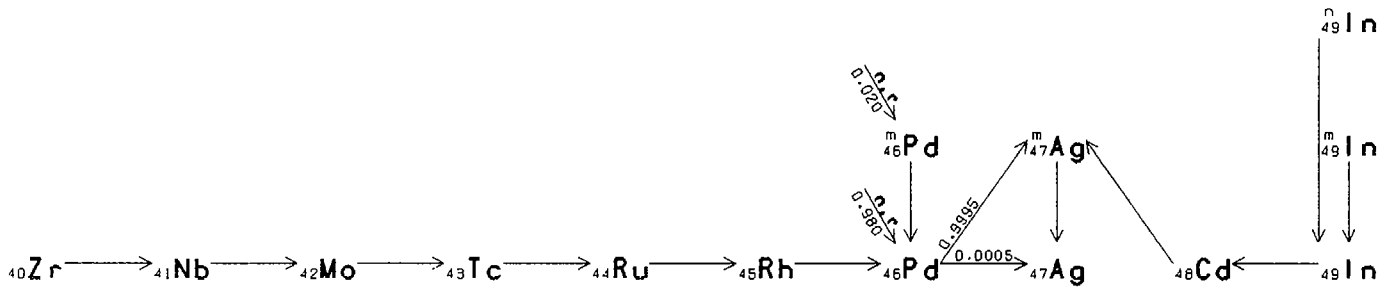
Mass No. 108



		40Zr	41Nb	42Mo	43Tc	44Ru	m45Rh	45Rh	46Pd	m47Ag	47Ag	48Cd
	λ(1/sec)	6.6833E-01	1.0822E+00	4.6210E-01	1.3863E-01	2.5672E-03	1.9580E-03	4.1259E-02	0.0	1.7295E-10	4.8744E-03	0.0
	Q-value(MeV)	6.9800E+00	1.0820E+01	4.9000E+00	8.0000E+00	1.2000E+00	4.5500E+00	4.5000E+00	0.0	1.8596E+00	1.6554E+00	0.0
	E-beta (MeV)	2.5670E+00	3.5870E+00	1.9943E+00	2.2490E+00	4.1399E-01	7.8934E-01	1.8128E+00	0.0	0.0	6.1039E-01	0.0
	E-gamma(MeV)	1.3390E+00	3.1080E+00	3.7694E-01	2.9930E+00	4.9485E-02	2.2721E+00	3.3778E-01	0.0	1.6125E+00	1.7672E-02	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3670E-03	0.0	0.0
Cumulative yield	235U (T)	1.3200E-08	2.1513E-06	6.3855E-03	3.2792E-02	6.7643E-02	5.6100E-04	6.8204E-02	6.8771E-02	2.9300E-10	3.1908E-10	3.1159E-10
	235U (F)	8.5300E-08	1.2009E-04	1.8062E-02	1.0146E-01	1.6793E-01	9.6100E-04	1.6889E-01	1.6985E-01	2.5700E-10	2.7987E-10	2.7330E-10
	235U (H)	1.7200E-08	9.4617E-05	2.7368E-02	4.5648E-01	1.0218E+00	2.8094E-02	1.0499E+00	1.0784E+00	5.7200E-08	6.2291E-08	5.0829E-08
	238U (F)	1.1600E-05	3.0845E-03	2.3929E-01	4.9015E-01	6.0747E-01	3.5000E-04	6.0782E-01	6.0817E-01	8.2400E-12	8.9734E-12	8.7625E-12
	238U (H)	2.8400E-06	3.1018E-03	1.9743E-01	9.6243E-01	1.2376E+00	3.2370E-03	1.2409E+00	1.2441E+00	2.7100E-10	2.9512E-10	2.8619E-10
	239Pu(T)	4.0700E-08	1.5304E-04	6.4830E-02	7.5419E-01	2.1113E+00	4.5988E-02	2.1572E+00	2.2041E+00	9.4100E-08	1.0247E-07	1.0007E-07
	239Pu(F)	5.7100E-08	2.1305E-04	7.1074E-02	8.4079E-01	2.0296E+00	4.1006E-02	2.0705E+00	2.1122E+00	5.5500E-08	7.1438E-08	5.9762E-08
	241Pu(T)	3.9600E-06	3.8420E-03	5.5746E-01	2.4327E+00	3.8797E+00	1.5063E-02	3.8947E+00	3.9099E+00	2.6500E-09	2.8858E-09	2.8181E-09
	233U (T)	5.1200E-10	2.2505E-06	1.3323E-03	1.7573E-02	5.9775E-02	1.6150E-03	6.1390E-02	6.3049E-02	5.3700E-09	5.8479E-09	5.7108E-09
	232Th(F)	1.2600E-06	3.3026E-04	2.4911E-02	5.0862E-02	6.2385E-02	3.4300E-05	6.2420E-02	6.2454E-02	0.0	1.5015E-12	1.4662E-12
Independent yield	235U (T)	1.3200E-08	2.1500E-05	5.3640E-03	2.7406E-02	3.4851E-02	5.6100E-04	5.6100E-04	6.4200E-06	2.9300E-10	2.9300E-10	7.4657E-15
	235U (F)	8.5300E-08	1.2000E-04	1.7942E-02	8.3393E-02	6.6471E-02	9.6100E-04	9.6100E-04	6.5200E-06	2.5700E-10	2.5700E-10	3.9062E-15
	235U (H)	1.7200E-08	9.4600E-05	2.7263E-02	4.2913E-01	5.6533E-01	2.8094E-02	2.8094E-02	3.7100E-04	5.7200E-08	5.7200E-08	1.7300E-12
	238U (F)	1.1600E-05	3.0730E-03	2.3621E-01	2.5085E-01	1.1732E-01	3.5000E-04	3.5000E-04	1.1400E-06	8.2400E-12	8.2400E-12	6.4348E-17
	238U (H)	2.8400E-06	3.0990E-03	1.9433E-01	7.6500E-01	2.7521E-01	3.2370E-03	3.2370E-03	9.0000E-06	2.7100E-10	2.7100E-10	1.5577E-15
	239Pu(T)	4.0700E-08	1.5300E-04	6.4677E-02	6.9936E-01	1.3471E+00	4.5988E-02	4.5988E-02	8.8900E-04	9.4100E-08	9.4100E-08	4.1500E-12
	239Pu(F)	5.7100E-08	2.1300E-04	7.0861E-02	7.5972E-01	1.1887E+00	4.1006E-02	4.1006E-02	6.2600E-04	5.5600E-08	5.5600E-08	2.2700E-12
	241Pu(T)	3.9500E-06	5.9380E-03	5.5352E-01	1.8752E+00	1.4470E+00	1.5063E-02	1.5063E-02	9.5500E-05	2.6500E-09	2.6500E-09	3.8608E-14
	233U (T)	5.1200E-10	2.2500E-06	1.3300E-03	1.5241E-02	4.2202E-02	1.6150E-03	1.6150E-03	4.3700E-05	5.3700E-09	5.3700E-09	3.3890E-13
	232Th(F)	1.2600E-06	3.2900E-04	2.4581E-02	2.5751E-02	1.1723E-02	3.4300E-05	3.4300E-05	1.0800E-07	0.0	1.5015E-12	4.8497E-18

Table 2.7.1 Continued

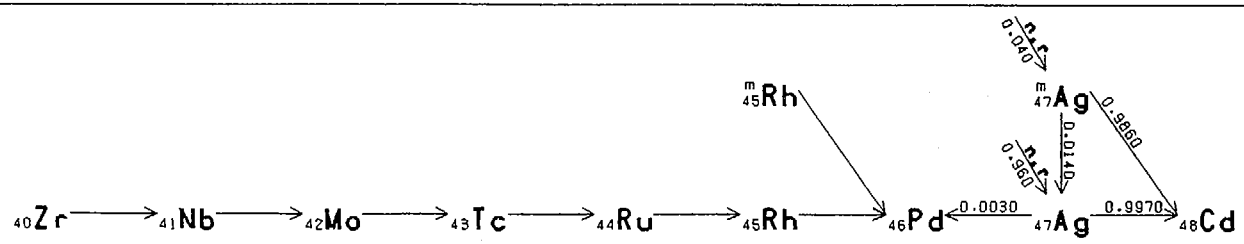
Mass No. 109



		40Zr	41Nb	42Mo	43Tc	44Ru	45Rh	m46Pd	46Pd	m47Ag	47Ag	48Cd	m49In	m49In	49In
	λ (1/sec)	1.6496E+00	9.8623E-01	4.0252E-01	4.9511E-01	1.9804E-02	8.6643E-03	2.4632E-03	1.4305E-05	1.7504E-02	0.0	1.7702E-08	3.3007E+00	8.6212E-03	4.5843E-05
	Q-value (MeV)	1.0000E+01	9.1060E+00	7.7430E+00	6.3000E+00	4.3000E+00	2.6000E+00	1.8890E-01	1.0279E+00	8.8032E-02	0.0	9.3968E-02	2.1100E+00	6.4950E-01	2.0160E+00
	E-beta (MeV)	3.3870E+00	3.1580E+00	2.6760E+00	2.1440E+00	1.5167E+00	8.7872E-01	0.0	3.6069E-01	0.0	0.0	0.0	0.0	0.0	1.9369E-02
	E-gamma (MeV)	2.7030E+00	2.2630E+00	1.8760E+00	1.0990E+00	4.1814E-01	2.9956E-01	1.0678E-01	6.6025E-04	3.4333E-03	0.0	0.0	1.9082E+00	6.0793E-01	6.2241E-01
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	1.3405E-02	8.3116E-02	0.0	8.4599E-02	0.0	0.0	0.0	4.1568E-02	1.0582E-02
Cumulative yield	235U (T)	7.0966E-11	6.1407E-07	3.7951E-04	7.7875E-03	3.0319E-02	3.3031E-02	2.2600E-05	3.3076E-02	3.3059E-02	3.3076E-02	7.4288E-13	2.6090E-19	6.8332E-20	6.2120E-19
	235U (F)	8.7492E-10	5.3309E-06	2.4923E-03	4.3263E-02	1.2632E-01	1.3485E-01	4.5400E-05	1.3494E-01	1.3487E-01	1.3494E-01	7.9310E-13	2.5306E-19	4.8459E-20	5.3843E-19
	235U (H)	1.5661E-10	3.4902E-06	3.8145E-03	2.1434E-01	1.0527E+00	1.3179E+00	3.1660E-03	1.3242E+00	1.3236E+00	1.3242E+00	4.4000E-10	7.7392E-16	4.9138E-17	1.2285E-16
	238U (F)	1.3085E-07	1.6213E-04	3.1879E-02	1.6538E-01	3.0259E-01	3.0621E-01	8.1000E-06	3.0623E-01	3.0608E-01	3.0623E-01	1.0871E-14	7.1699E-22	1.3730E-22	1.5255E-21
	238U (H)	5.2868E-08	2.1405E-04	4.6029E-02	6.0332E-01	1.1763E+00	1.2204E+00	1.0900E-04	1.2207E+00	1.2201E+00	1.2207E+00	5.5877E-13	1.6093E-19	1.0218E-20	2.5544E-19
	239Pu (T)	2.3312E-10	3.9702E-06	5.4370E-03	2.3234E-01	1.3704E+00	1.5457E+00	4.0930E-03	1.5539E+00	1.5531E+00	1.5539E+00	5.5900E-10	4.8601E-16	1.2703E-16	1.1548E-16
	239Pu (F)	2.9780E-10	4.6403E-06	5.3596E-03	2.2551E-01	1.1753E+00	1.4046E+00	2.8890E-03	1.4106E+00	1.4099E+00	1.4106E+00	3.4800E-10	2.8444E-16	5.4468E-17	6.0520E-16
	241Pu (T)	3.1065E-08	1.4003E-04	5.8244E-02	7.8014E-01	2.1415E+00	2.2478E+00	5.0700E-04	2.2488E+00	2.2477E+00	2.2488E+00	5.7300E-12	1.2181E-18	3.1903E-19	2.9003E-18
	233U (T)	2.5958E-12	5.0903E-08	9.5061E-05	4.7850E-03	3.6597E-02	4.4173E-02	1.7100E-04	4.4615E-02	4.4493E-02	4.4615E-02	4.5700E-11	3.7894E-17	9.9245E-18	9.0223E-17
	232Th (F)	3.2996E-08	3.7533E-06	5.7916E-03	3.3316E-02	5.8747E-02	5.9369E-02	1.2700E-06	5.9371E-02	5.9341E-02	5.9371E-02	1.4358E-16	8.6936E-23	1.6647E-23	1.8497E-22
Independent yield	235U (T)	7.0966E-11	5.1400E-07	3.7900E-04	7.4080E-03	2.2531E-02	2.7120E-03	2.2600E-05	2.2600E-05	1.0000E-08	1.0000E-08	7.4288E-13	2.5090E-19	6.8332E-20	2.9197E-19
	235U (F)	8.7492E-10	5.3300E-06	2.4870E-03	4.0771E-02	8.3067E-02	8.5260E-03	4.5400E-05	4.5400E-06	1.4200E-08	1.4200E-08	7.9310E-13	2.5305E-19	4.8459E-20	2.3691E-19
	235U (H)	1.5661E-10	3.4900E-06	3.8110E-03	2.1063E-01	8.3836E-01	2.5517E-01	3.1550E-03	3.1550E-03	3.6500E-06	3.6500E-06	4.4000E-10	7.7392E-16	4.9138E-17	4.0539E-16
	238U (F)	1.3085E-07	1.6200E-04	3.1717E-02	1.3350E-01	1.3721E-01	3.5250E-03	8.1000E-06	8.1000E-06	5.3000E-10	5.3000E-10	1.0871E-14	7.1699E-22	1.3730E-22	6.7122E-22
	238U (H)	5.2868E-08	2.1400E-04	4.5815E-02	5.5729E-01	5.7298E-01	4.4150E-02	1.0900E-04	1.0900E-04	2.4800E-08	2.4800E-08	5.5877E-13	1.6093E-19	1.0218E-20	8.4295E-20
	239Pu (T)	2.3312E-10	3.9700E-06	5.4330E-03	2.2690E-01	1.1380E+00	2.7636E-01	4.0930E-03	4.0930E-03	3.7700E-06	3.7700E-06	5.6900E-10	4.8601E-16	1.2703E-16	5.4276E-16
	239Pu (F)	2.9780E-10	4.6400E-06	5.3560E-03	2.2116E-01	9.4882E-01	2.2947E-01	2.8890E-03	2.8890E-03	2.7600E-06	2.7600E-06	3.4800E-10	2.8444E-16	5.4468E-17	2.6629E-16
	241Pu (T)	3.1065E-08	1.4000E-04	5.8104E-02	7.2190E-01	1.3514E+00	1.0634E-01	5.0700E-04	5.0700E-04	1.3100E-07	1.3100E-07	5.7300E-12	1.2181E-18	3.1903E-19	1.3631E-18
	233U (T)	2.5958E-12	5.0900E-08	9.5000E-05	4.6900E-03	3.0812E-02	8.5760E-03	1.7100E-04	1.7100E-04	2.2100E-07	2.2100E-07	4.5700E-11	3.7894E-17	9.9245E-18	4.2405E-17
	232Th (F)	3.2996E-08	3.7600E-06	5.7540E-03	2.6524E-02	2.5431E-02	6.2200E-04	1.2700E-06	1.2700E-06	8.3200E-11	8.3200E-11	1.4358E-16	8.6936E-23	1.6647E-23	8.1387E-23

Table 2.7.1 Continued

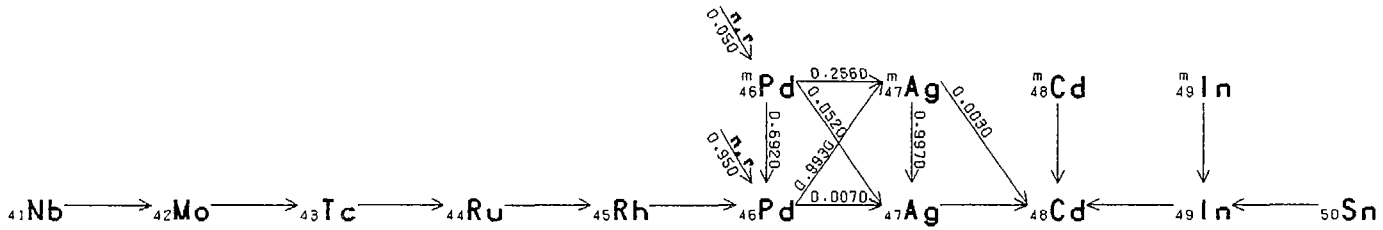
Mass No. 110



		$_{40}$Zr	$_{41}$Nb	$_{42}$Mo	$_{43}$Tc	$_{44}$Ru	$^{m}_{45}$Rh	$_{45}$Rh	$_{46}$Pd	$^{m}_{47}$Ag	$_{47}$Ag	$_{48}$Cd
λ(1/sec)		1.1463E+00	2.1440E+00	3.4348E-01	6.9316E-01	4.3694E-02	2.4321E-02	2.3106E-01	0.0	3.2038E-08	2.8211E-02	0.0
Q-value(MeV)		7.7130E+00	1.2140E+01	6.0560E+00	8.0000E+00	2.5000E+00	5.4500E+00	5.4000E+00	0.0	2.9700E+00	2.8868E+00	0.0
E-beta (MeV)		2.8440E+00	3.9270E+00	2.1990E+00	3.0320E+00	6.5850E-01	2.2370E+00	2.2020E+00	0.0	6.5672E-02	1.1851E+00	0.0
E-gamma(MeV)		1.5090E+00	3.7450E+00	1.1520E+00	2.1700E+00	5.9690E-01	7.7700E-01	4.8600E-01	0.0	2.7880E+00	3.0684E-02	0.0
E-I.C (MeV)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6470E-03	0.0	0.0
Cumulative yield	^{236}U (T)	1.5400E-12	2.7802E-08	5.6528E-06	2.7926E-03	2.5556E-02	2.6310E-03	2.8287E-02	3.1186E-02	1.2300E-07	1.2472E-07	2.4666E-07
	^{236}U (F)	1.5100E-11	2.2602E-07	3.2823E-04	1.2605E-02	7.8268E-02	7.1310E-03	8.5399E-02	9.2981E-02	1.8600E-07	1.8860E-07	3.7146E-07
	^{235}U (H)	1.7800E-12	1.1600E-07	3.7112E-04	5.5718E-02	6.0545E-01	2.0620E-01	8.1176E-01	1.0438E+00	4.4200E-05	4.4819E-05	8.8281E-05
	^{238}U (F)	2.8000E-09	7.0428E-06	4.6360E-03	3.7138E-02	1.3288E-01	2.1760E-03	1.3506E-01	1.3729E-01	4.6300E-09	4.6934E-09	9.0466E-09
	^{238}U (H)	1.4100E-09	1.5701E-05	9.0967E-03	2.7644E-01	9.0361E-01	5.6516E-02	9.6003E-01	1.0180E+00	4.5400E-07	4.6036E-07	9.0666E-07
	^{239}Pu (T)	1.3600E-12	5.9101E-08	2.6806E-04	2.6969E-02	4.0479E-01	9.4963E-02	4.9876E-01	6.1168E-01	1.9300E-05	1.9570E-05	3.8551E-05
	^{239}Pu (F)	2.1000E-12	9.2902E-08	3.4209E-04	3.5178E-02	4.3820E-01	1.0566E-01	5.4300E-01	6.6410E-01	1.8000E-05	1.8252E-05	3.5953E-05
	^{241}Pu (T)	4.3000E-10	4.6404E-05	6.1656E-03	1.7105E-01	1.0222E+00	6.7665E-02	1.0899E+00	1.1616E+00	1.1800E-06	1.1965E-06	2.3666E-06
	^{233}U (T)	2.5637E-14	1.2000E-09	7.4912E-06	8.3949E-04	1.5636E-02	4.2680E-03	2.0793E-02	2.6058E-02	1.3000E-06	1.3182E-06	2.5970E-06
	^{232}Th (F)	1.5900E-09	3.9216E-06	2.4549E-03	1.9787E-02	6.9406E-02	1.1080E-03	7.0514E-02	7.1654E-02	2.2000E-09	2.2308E-09	4.3934E-09
Independent yield	^{236}U (T)	1.5400E-12	2.7800E-08	5.6600E-05	2.7260E-03	2.2863E-02	2.6310E-03	2.6310E-03	2.6800E-04	1.2300E-07	1.2300E-07	3.2600E-11
	^{236}U (F)	1.5100E-11	2.2600E-07	3.2800E-04	1.2277E-02	6.6663E-02	7.1310E-03	7.1310E-03	4.5100E-04	1.8600E-07	1.8600E-07	2.9700E-11
	^{235}U (H)	1.7800E-12	1.1600E-07	3.7100E-04	5.5347E-02	5.4973E-01	2.0620E-01	2.0631E-01	2.6860E-02	4.4200E-05	4.4200E-05	1.5900E-08
	^{238}U (F)	2.8000E-09	7.0400E-06	4.5280E-03	3.2603E-02	9.5739E-02	2.1760E-03	2.1760E-03	6.4300E-05	4.5300E-09	4.5300E-09	3.2129E-13
	^{238}U (H)	1.4100E-09	1.5700E-05	9.0810E-03	2.5734E-01	6.2707E-01	6.6516E-02	6.6516E-02	1.4670E-03	4.5400E-07	4.5400E-07	2.8300E-11
	^{239}Pu (T)	1.3600E-12	5.9100E-08	2.6800E-04	2.6701E-02	3.7783E-01	9.4963E-02	9.4963E-02	1.5954E-02	1.9300E-05	1.9300E-05	9.8500E-09
	^{239}Pu (F)	2.1000E-12	9.2900E-08	3.4200E-04	3.4835E-02	4.0302E-01	1.0566E-01	1.0480E-01	1.5440E-02	1.8000E-05	1.8000E-05	7.4300E-09
	^{241}Pu (T)	4.3000E-10	4.5400E-05	6.1510E-03	1.6490E-01	8.5119E-01	6.7665E-02	6.7665E-02	4.0470E-03	1.1800E-06	1.1800E-06	1.7500E-10
	^{233}U (T)	2.5637E-14	1.2000E-09	7.4900E-06	8.3200E-04	1.5696E-02	4.2680E-03	4.2680E-03	1.0170E-03	1.3000E-06	1.3000E-06	9.0800E-10
	^{232}Th (F)	1.5900E-09	3.9200E-06	2.4510E-03	1.7332E-02	4.9619E-02	1.1080E-03	1.1080E-03	3.1800E-05	2.2000E-09	2.2000E-09	1.3891E-13

Table 2.7.1 Continued

Mass No. 111



		41Nb	42Mo	43Tc	44Ru	45Rh	m46Pd	46Pd	m47Ag	47Ag	m48Cd	48Cd	m49In	49In	50Sn
	λ(1/sec)	1.5800E+00	1.0041E+00	2.4398E-01	2.3105E-01	1.1002E-02	3.5007E-05	5.2611E-04	9.3669E-03	1.0768E-06	2.3722E-04	0.0	1.6003E-03	2.8348E-06	3.2726E-04
	Q-value(MeV)	9.9000E+00	9.1420E+00	6.9880E+00	5.6000E+00	3.5000E+00	6.3428E-01	2.1406E+00	6.2934E-02	1.0280E+00	3.9600E-01	0.0	5.3630E-01	8.4900E-01	2.4650E+00
	E-beta (MeV)	3.3990E+00	3.0980E+00	2.4860E+00	1.8670E+00	1.4690E+00	1.6467E-01	8.3079E-01	6.7400E-04	3.5062E-01	0.0	0.0	0.0	0.0	1.8746E-01
	E-gamma(MeV)	2.5680E+00	2.4130E+00	1.5010E+00	9.6240E-01	7.1970E-01	2.5951E-01	5.1213E-02	1.4071E-03	2.3540E-02	2.7988E-01	0.0	4.6656E-01	3.6663E-01	4.7168E-01
	E-i.C (MeV)	0.0	0.0	0.0	0.0	0.0	6.9323E-02	5.1465E-04	5.9371E-02	0.0	1.1632E-01	0.0	6.9719E-02	2.8129E-02	0.0
Cumulative yield	235U (T)	1.0502E-09	5.4810E-06	6.8648E-04	1.1579E-02	1.8229E-02	6.3200E-04	1.8739E-02	1.8745E-02	1.8848E-02	4.4900E-10	1.8904E-02	6.9695E-16	3.6682E-15	2.1513E-21
	235U (F)	6.8943E-09	2.2907E-05	2.4359E-03	2.8501E-02	4.2604E-02	7.5700E-04	4.3329E-02	4.3221E-02	4.3435E-02	3.4800E-10	4.3564E-02	3.9221E-16	2.3071E-15	8.6305E-22
	235U (H)	4.3990E-09	3.7404E-05	1.5422E-02	3.9153E-01	1.0728E+00	7.9134E-02	1.1486E+00	1.1616E+00	1.1704E+00	3.7100E-07	1.1739E+00	1.1330E-12	1.0300E-11	1.0541E-17
	238U (F)	4.6493E-07	5.4946E-04	1.2832E-02	7.1328E-02	7.9190E-02	1.4700E-04	7.9368E-02	7.8840E-02	7.9167E-02	4.7100E-12	7.9403E-02	1.1643E-18	6.8486E-18	8.7210E-25
	238U (H)	1.0837E-05	1.5511E-03	1.1840E-01	7.4728E-01	1.0305E+00	6.6820E-03	1.0369E+00	1.0314E+00	1.0359E+00	9.6900E-10	1.0390E+00	4.8128E-16	4.3753E-15	7.1846E-22
	239Pu(T)	1.1637E-09	1.1501E-05	3.5645E-03	1.1274E-01	2.8096E-01	2.1934E-02	3.0197E-01	3.0562E-01	3.0800E-01	9.3700E-08	3.0892E-01	3.8760E-13	2.0400E-12	2.6809E-18
	239Pu(F)	1.9727E-09	1.8602E-05	5.5216E-03	1.4540E-01	3.2960E-01	2.2796E-02	3.5143E-01	3.5496E-01	3.5758E-01	7.9100E-08	3.5865E-01	2.6860E-13	1.5800E-12	1.7962E-18
	241Pu(T)	1.4564E-07	4.1116E-04	3.3776E-02	3.8743E-01	5.6131E-01	7.2300E-03	6.6823E-01	5.6612E-01	5.6878E-01	2.3300E-09	5.7048E-01	2.4482E-15	1.2685E-14	4.3958E-21
	233U (T)	3.9793E-11	5.4004E-07	1.8354E-04	7.0886E-03	1.5863E-02	1.7990E-03	1.8585E-02	1.8930E-02	1.9100E-02	1.0800E-08	1.9167E-02	4.6878E-14	2.4672E-13	3.9229E-19
	232Th(F)	4.0615E-07	4.7741E-04	1.1243E-02	6.2500E-02	6.9447E-02	1.3000E-04	6.9596E-02	6.9142E-02	6.9428E-02	4.2000E-12	6.9636E-02	9.9567E-19	5.8569E-18	7.3884E-25
Independent yield	235U (T)	1.0502E-09	5.4800E-06	6.8100E-04	1.0893E-02	6.5500E-03	5.3200E-04	1.4100E-04	1.5200E-06	4.0400E-07	4.4900E-10	1.1900E-10	6.9695E-16	2.9712E-15	2.1513E-21
	235U (F)	6.8943E-09	2.2900E-05	2.4130E-03	2.6065E-02	1.4103E-02	7.5700E-04	2.0100E-04	1.8200E-06	4.8500E-07	3.4800E-10	9.2600E-11	3.9221E-16	1.9149E-15	8.6306E-22
	235U (H)	4.3990E-09	3.7400E-05	1.5385E-02	3.7811E-01	5.8127E-01	7.9134E-02	2.1036E-02	7.3900E-04	1.9700E-04	3.7100E-07	9.8500E-08	1.1330E-12	9.1670E-12	1.0541E-17
	238U (F)	4.5493E-07	5.4900E-04	1.2283E-02	5.8496E-02	7.8620E-03	1.4700E-04	6.6100E-05	7.0800E-08	3.1800E-08	4.7100E-12	2.1200E-12	1.1643E-18	5.6844E-18	8.7210E-25
	238U (H)	1.0837E-05	1.5500E-03	1.1685E-01	6.2888E-01	2.8325E-01	6.6820E-03	1.7760E-03	1.1300E-05	3.0100E-06	9.6900E-10	2.5700E-10	4.8128E-16	3.8940E-15	7.1846E-22
	239Pu(T)	1.1637E-09	1.1500E-05	3.6630E-03	1.0917E-01	1.6822E-01	2.1934E-02	5.8310E-03	1.5500E-04	4.1200E-06	9.3700E-08	2.5900E-08	3.8760E-13	1.6524E-12	2.6809E-18
	239Pu(F)	1.9727E-09	1.8600E-05	6.6030E-03	1.3987E-01	1.8420E-01	2.2796E-02	6.0600E-03	1.6400E-04	4.1000E-05	7.9100E-08	2.1000E-08	2.6850E-13	1.3114E-12	1.7962E-18
	241Pu(T)	1.4554E-07	4.1100E-04	3.3365E-02	3.6365E-01	1.6388E-01	7.2300E-03	1.9220E-03	1.3400E-05	3.5500E-06	2.3300E-09	6.1900E-10	2.4482E-15	1.0437E-14	4.3958E-21
	233U (T)	3.9793E-11	5.4000E-07	1.8300E-04	6.9060E-03	9.7740E-03	1.7990E-03	4.7800E-04	1.3800E-05	3.6700E-06	1.0800E-08	2.8800E-09	4.6878E-14	1.9985E-13	3.9229E-19
	232Th(F)	4.0615E-07	4.7700E-04	1.0766E-02	5.1257E-02	6.9470E-03	1.3000E-04	5.8600E-05	6.3100E-08	2.8300E-08	4.2000E-12	1.8900E-12	9.9667E-19	4.8612E-18	7.3884E-25

Table 2.7.1 Continued

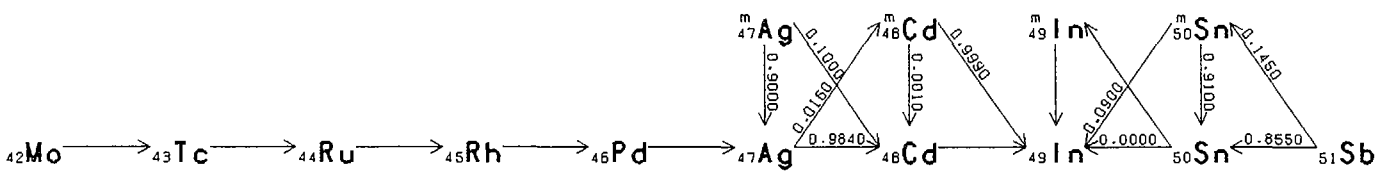
Mass No. 112

$_{41}Nb \rightarrow {}_{42}Mo \rightarrow {}_{43}Tc \rightarrow {}_{44}Ru \rightarrow {}_{45}Rh \rightarrow {}_{46}Pd \rightarrow {}_{47}Ag \rightarrow {}_{48}Cd \xleftarrow{0.6000} {}_{49}In \xrightarrow{0.4000} {}_{50}Sn$, $_{49}^{m}In \rightarrow {}_{49}In$

		$_{41}Nb$	$_{42}Mo$	$_{43}Tc$	$_{44}Ru$	$_{45}Rh$	$_{46}Pd$	$_{47}Ag$	$_{48}Cd$	$_{49}^{m}In$	$_{49}In$	$_{50}Sn$
	λ(1/sec)	3.4026E+00	7.0008E-01	7.0356E-01	1.0046E+00	1.4906E-01	9.1165E-06	6.1712E-05	0.0	5.5275E-04	8.0225E-04	0.0
	Q-value(MeV)	1.3100E+01	6.9760E+00	1.0010E+01	3.6000E+00	7.2000E+00	2.8300E-01	3.9580E+00	0.0	1.5500E-01	1.8100E+00	0.0
	E-beta (MeV)	4.1780E+00	2.6520E+00	3.3400E+00	1.1140E+00	2.4770E+00	7.8166E-02	1.4027E+00	0.0	0.0	1.4938E-01	0.0
	E-gamma(MeV)	4.1860E+00	1.3540E+00	2.7900E+00	7.2500E-01	1.1650E+00	3.7000E-03	6.8210E-01	0.0	1.8500E-02	3.1220E-01	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	1.4800E-02	0.0	0.0	1.3640E-01	0.0	0.0
Cumulative yield	^{235}U (T)	3.0036E-11	4.7303E-07	1.1847E-04	5.2396E-03	1.0668E-02	1.2125E-02	1.2126E-02	1.2125E-02	8.2159E-14	1.8238E-13	7.2950E-14
	^{235}U (F)	2.8632E-10	2.7403E-06	6.2074E-04	1.7333E-02	3.4111E-02	3.6964E-02	3.6976E-02	3.6976E-02	8.0182E-14	1.7679E-13	7.0715E-14
	^{235}U (H)	1.1175E-10	2.5801E-06	2.7326E-03	1.6748E-01	8.2161E-01	1.0310E+00	1.0362E+00	1.0362E+00	3.5992E-10	4.0432E-10	1.6173E-10
	^{238}U (F)	2.4411E-08	9.1324E-05	3.5873E-03	4.9639E-02	5.9282E-02	6.0064E-02	6.0065E-02	6.0065E-02	2.1745E-16	4.7945E-16	1.9178E-16
	^{238}U (H)	6.4871E-08	2.2505E-04	4.1388E-02	5.3824E-01	9.7376E-01	1.0075E+00	1.0077E+00	1.0077E+00	2.7826E-13	5.9091E-13	2.3637E-13
	^{239}Pu (T)	1.1745E-11	4.0101E-07	2.7540E-04	2.3201E-02	8.0783E-02	1.0850E-01	1.0898E-01	1.0898E-01	2.1189E-11	2.4029E-11	9.6116E-12
	^{239}Pu (F)	3.0894E-11	8.5103E-07	6.0386E-04	4.1699E-02	1.4840E-01	1.9089E-01	1.9166E-01	1.9166E-01	3.6470E-11	4.1310E-11	1.6524E-11
	^{241}Pu (T)	2.8164E-09	2.5703E-05	4.3627E-03	1.2289E-01	2.1472E-01	2.3049E-01	2.3056E-01	2.3055E-01	2.3317E-13	5.1753E-13	2.0701E-13
	^{233}U (T)	9.2533E-13	3.7801E-08	2.6538E-05	2.7796E-03	9.7336E-03	1.3850E-02	1.3853E-02	1.3853E-02	3.8130E-12	3.8130E-12	1.5252E-12
	^{232}Th (F)	2.5944E-08	9.9726E-05	4.0647E-03	5.7627E-02	6.9224E-02	7.0191E-02	7.0192E-02	7.0192E-02	2.9938E-16	6.6008E-16	2.6403E-16
Independent yield	^{235}U (T)	3.0036E-11	4.7300E-07	1.1800E-04	5.1210E-03	5.4290E-03	1.4570E-03	7.4900E-07	9.6100E-10	8.2169E-14	1.0021E-13	1.8159E-19
	^{235}U (F)	2.8632E-10	2.7400E-06	6.1800E-04	1.6712E-02	1.5778E-02	2.8530E-03	1.2800E-05	6.8100E-09	8.0182E-14	9.5605E-14	1.0531E-19
	^{235}U (H)	1.1175E-10	2.5800E-06	2.7300E-03	1.6475E-01	6.5413E-01	2.0937E-01	5.1720E-03	1.0900E-07	3.5992E-10	4.4400E-11	1.0885E-16
	^{238}U (F)	2.4411E-08	9.1300E-06	3.4960E-03	4.5052E-02	9.5430E-03	7.8200E-04	7.1700E-07	1.5500E-10	2.1745E-16	2.5199E-16	1.0958E-22
	^{238}U (H)	5.4871E-08	2.2500E-04	4.1163E-02	4.9685E-01	4.3552E-01	3.3755E-02	1.4300E-04	3.0300E-08	2.7826E-13	3.1265E-13	1.4110E-19
	^{239}Pu (T)	1.1745E-11	4.0100E-07	2.7500E-04	2.2926E-02	5.7582E-02	2.7821E-02	3.7100E-04	6.8300E-07	2.1189E-11	2.8400E-12	1.1715E-16
	^{239}Pu (F)	3.0894E-11	8.5100E-07	6.0300E-04	4.0995E-02	1.0580E-01	4.2491E-02	7.6500E-04	1.1400E-06	3.6470E-11	4.8400E-12	1.2454E-16
	^{241}Pu (T)	2.8164E-09	2.5700E-05	4.3570E-03	1.1850E-01	9.1834E-02	1.5769E-02	6.8900E-05	3.6700E-08	2.3317E-13	2.8436E-13	3.0137E-19
	^{233}U (T)	9.2533E-13	3.7800E-08	2.6500E-05	2.7530E-03	6.9540E-03	4.1160E-03	3.7200E-06	1.3400E-07	3.8130E-12	0.0	2.6643E-17
	^{232}Th (F)	2.5944E-08	9.9700E-05	3.9650E-03	5.3562E-02	1.1597E-02	9.6700E-04	8.9700E-07	2.0000E-10	2.9938E-16	3.6070E-16	1.5546E-22

Table 2.7.1 Continued

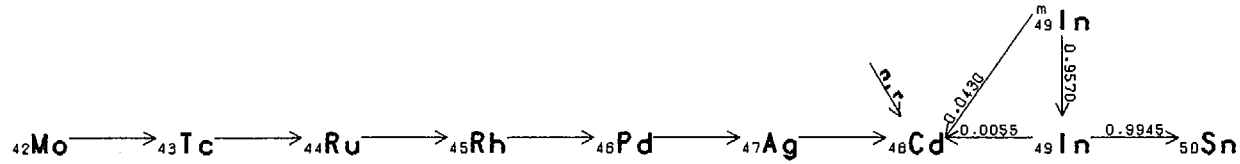
Mass No. 113



		42Mo	43Tc	44Ru	45Rh	46Pd	m47Ag	47Ag	m48Cd	48Cd	m49In	49In	m50Sn	50Sn	51Sb
	λ(1/sec)	1.8708E+00	4.4376E-01	2.3105E-01	7.7016E-01	6.2517E-03	9.6270E-03	3.5855E-05	1.6151E-09	2.3618E-24	1.1613E-04	0.0	5.7762E-04	6.9688E-08	1.7242E-03
	Q-value(MeV)	1.0210E+01	7.8120E+00	6.7000E+00	5.2000E+00	3.4000E+00	2.4420E-01	2.0058E+00	5.8538E-01	3.2200E-01	3.9169E-01	0.0	1.7281E-01	6.4841E-01	3.8775E+00
	E-beta (MeV)	3.4300E+00	2.7320E+00	2.2490E+00	1.7330E+00	1.4456E+00	5.5595E-02	7.6678E-01	1.8513E-01	9.3268E-02	0.0	0.0	0.0	0.0	7.0342E-01
	E-gamma(MeV)	2.8020E+00	1.8220E+00	1.4160E+00	8.1590E-01	0.0	5.7659E-02	6.6113E-02	6.0650E-05	0.0	2.6421E-01	0.0	4.7580E-04	4.7242E-03	1.2194E+00
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	3.9282E-02	0.0	2.0040E-04	0.0	1.3746E-01	0.0	7.1687E-02	0.0	0.0
Cumulative yield	235U (T)	3.6286E-08	2.7536E-05	2.3715E-03	8.8635E-03	1.2045E-02	4.8300E-05	1.2092E-02	1.9367E-04	1.1904E-02	4.1300E-12	1.2097E-02	1.4650E-17	1.5521E-17	1.3747E-24
	235U (F)	2.0892E-07	1.3621E-04	7.8352E-03	2.6613E-02	3.2901E-02	8.1700E-05	3.2982E-02	5.2781E-04	3.2453E-02	3.5100E-12	3.2990E-02	9.1098E-18	9.5322E-18	7.0555E-25
	235U (H)	1.3881E-07	3.7914E-04	5.8684E-02	5.8996E-01	1.0415E+00	2.1837E-02	1.0631E+00	1.7087E-02	1.0483E+00	1.2500E-08	1.0664E+00	1.0021E-13	9.9904E-14	3.5001E-20
	238U (F)	1.1102E-05	1.3621E-03	3.1536E-02	4.9525E-02	5.2072E-02	6.4400E-06	5.2079E-02	8.3326E-04	5.1247E-02	1.4891E-20	5.2079E-02	1.4231E-20	1.4891E-20	1.9449E-28
	238U (H)	1.8942E-06	8.9679E-03	2.6968E-01	8.3601E-01	9.2973E-01	9.6500E-04	9.3068E-01	1.4891E-02	9.1590E-01	1.5500E-11	9.3078E-01	2.0739E-17	2.0675E-17	1.1414E-24
	239Pu(T)	1.3708E-08	2.8914E-06	5.4449E-03	4.1858E-02	7.6669E-02	1.3550E-03	7.7997E-02	1.2538E-03	7.6887E-02	6.9801E-10	7.8139E-02	6.2704E-16	6.6431E-16	1.7010E-21
	239Pu(F)	2.7996E-08	5.9828E-05	9.5448E-03	7.3008E-02	1.2500E-01	2.0100E-03	1.2698E-01	2.0390E-03	1.2515E-01	8.5701E-10	1.2719E-01	6.8446E-16	7.1618E-15	1.8161E-21
	241Pu(T)	1.5096E-06	7.4851E-04	4.2112E-02	1.2574E-01	1.5349E-01	2.9500E-04	1.5378E-01	2.4609E-03	1.5135E-01	9.9900E-12	1.5381E-01	2.1858E-17	2.3157E-17	1.3460E-24
	233U (T)	2.0381E-09	4.2720E-06	9.1127E-04	6.9683E-03	1.3470E-02	2.6200E-04	1.3719E-02	2.2073E-04	1.3525E-02	1.4800E-10	1.3745E-02	1.4952E-16	1.6840E-15	4.0579E-22
	232Th(F)	1.3925E-05	1.7699E-03	4.2057E-02	6.5877E-02	7.0483E-02	9.4800E-06	7.0493E-02	1.1279E-03	6.9367E-02	2.4204E-20	7.0493E-02	2.3131E-20	2.4204E-20	3.2875E-28
Independent yield	235U (T)	3.6286E-08	2.7500E-05	2.3440E-03	6.4920E-03	3.1810E-03	4.8300E-05	4.2000E-06	9.1100E-08	7.9200E-09	4.1300E-12	0.0	1.4650E-17	2.1891E-18	1.3747E-24
	235U (F)	2.0892E-07	1.3600E-04	7.5990E-03	1.8778E-02	6.2880E-03	8.1700E-05	7.1000E-06	1.0000E-07	8.7100E-09	3.5100E-12	0.0	9.1098E-18	1.2422E-18	7.0555E-25
	235U (H)	1.3881E-07	3.7900E-04	5.8305E-02	5.3127E-01	4.6160E-01	2.1837E-02	1.8990E-03	7.7000E-06	6.7000E-06	1.2600E-08	1.1000E-09	1.0021E-13	8.7138E-15	3.5001E-20
	238U (F)	1.1102E-06	1.3510E-03	3.0174E-02	1.7990E-02	2.5460E-03	6.4400E-06	8.7800E-07	2.7200E-09	3.7200E-10	0.0	1.9396E-14	1.4231E-20	1.9406E-21	1.9449E-28
	238U (H)	1.8942E-05	8.9490E-03	2.6051E-01	5.6543E-01	9.4716E-02	9.6500E-04	8.4000E-05	5.8700E-07	5.1000E-08	1.5500E-11	1.3500E-12	2.0739E-17	1.8034E-18	1.1414E-24
	239Pu(T)	1.3708E-08	2.8900E-05	5.4160E-03	3.6413E-02	3.4801E-02	1.3560E-03	1.1800E-04	5.8300E-06	5.0700E-07	6.9800E-10	6.0700E-11	6.2704E-16	9.3595E-16	1.7010E-21
	239Pu(F)	2.7996E-08	5.9800E-05	9.4860E-03	6.3463E-02	5.1988E-02	2.0100E-03	1.7500E-04	7.2900E-06	5.3400E-07	8.5700E-10	7.4500E-11	6.8446E-16	9.3334E-16	1.8161E-21
	241Pu(T)	1.5096E-05	7.4700E-04	4.1363E-02	8.3626E-02	2.7755E-02	2.9500E-04	2.5700E-06	3.5200E-07	3.0600E-08	9.9900E-12	0.0	2.1858E-17	3.2662E-18	1.3460E-24
	233U (T)	2.0381E-09	4.2700E-06	9.0700E-04	6.0570E-03	6.5020E-03	2.5200E-04	2.1900E-05	1.2300E-06	1.0700E-07	1.4800E-10	1.2800E-11	1.4952E-15	2.2341E-16	4.0579E-22
	232Th(F)	1.3925E-05	1.7660E-03	4.0287E-02	2.4820E-02	3.6060E-03	9.4800E-06	1.2900E-06	4.1400E-09	5.6400E-10	0.0	3.0533E-14	2.3131E-20	3.1643E-21	3.2875E-28

Table 2.7.1 Continued

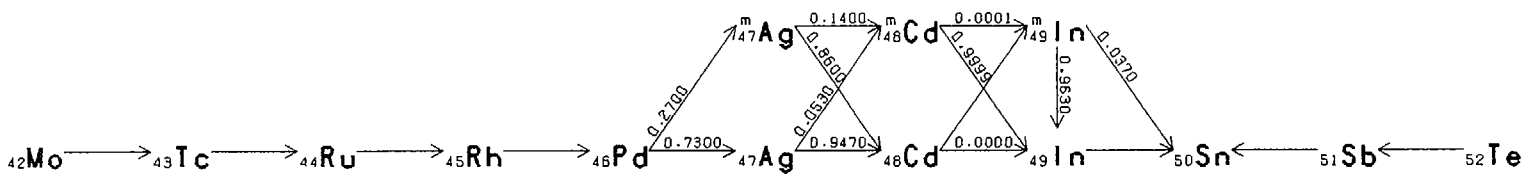
Mass No. 114



		42Mo	43Tc	44Ru	45Rh	46Pd	47Ag	46Cd	m49In	49In	50Sn
	λ(1/sec)	1.3634E+00	1.2007E+00	6.1999E-02	4.1259E-01	4.8135E-03	1.5335E-01	0.0	1.6204E-07	9.6404E-03	0.0
	Q-value(MeV)	7.9590E+00	1.0960E+01	4.2650E+00	8.3000E+00	1.4000E+00	4.8600E+00	0.0	2.5236E-01	1.9816E+00	0.0
	E-beta (MeV)	2.9250E+00	3.5780E+00	1.4730E+00	2.7420E+00	5.1983E-01	2.0432E+00	0.0	0.0	7.7270E-01	0.0
	E-gamma(MeV)	1.5780E+00	3.2570E+00	8.4370E-01	1.7530E+00	0.0	2.1066E-01	0.0	8.4499E-02	2.6963E-03	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5678E-01	0.0	0.0
Cumulative yield	235U (T)	2.4600E-09	3.8724E-06	9.4287E-04	6.6139E-03	1.1409E-02	1.1591E-02	1.1592E-02	4.4600E-11	8.7282E-11	8.6803E-11
	235U (F)	1.4800E-08	2.1615E-05	3.3316E-03	1.9123E-02	3.2024E-02	3.2407E-02	3.2408E-02	5.4400E-11	1.0546E-10	1.0588E-10
	235U (H)	4.9800E-09	3.8305E-06	1.5330E-02	3.3968E-01	9.0001E-01	9.7423E-01	9.7490E-01	1.4600E-07	2.8375E-07	2.8221E-07
	238U (F)	1.1000E-06	2.5310E-04	1.7130E-02	3.3001E-02	3.9527E-02	3.9561E-02	3.9561E-02	0.0	5.6777E-13	5.6465E-13
	238U (H)	1.0600E-06	1.3431E-03	9.8367E-02	5.3211E-01	7.0895E-01	7.1373E-01	7.1374E-01	2.7200E-10	5.3230E-10	5.2938E-10
	239Pu(T)	4.0900E-10	1.9104E-06	9.9491E-04	1.3968E-02	4.3648E-02	4.6083E-02	4.6112E-02	3.7800E-09	7.3975E-09	7.3670E-09
	239Pu(F)	1.0619E-09	1.8149E-09	6.8118E-06	1.6328E-03	4.2514E-02	8.5058E-02	9.2944E-02	1.8800E-06	3.6792E-06	3.6598E-06
	241Pu(T)	5.5200E-08	6.0155E-05	9.2702E-03	4.2973E-02	7.0985E-02	7.1618E-02	7.1620E-02	6.6800E-11	1.3073E-10	1.3001E-10
	233U (T)	9.6800E-11	4.3810E-07	2.6744E-04	3.6194E-03	1.2546E-02	1.3247E-02	1.3257E-02	1.2400E-09	2.4267E-09	2.4134E-09
	232Th(F)	1.9400E-06	4.6494E-04	3.2320E-02	6.3295E-02	7.6354E-02	7.6424E-02	7.6424E-02	0.0	1.2630E-12	1.2561E-12
Independent yield	235U (T)	2.4500E-09	3.8700E-06	9.3900E-04	4.6710E-03	5.7950E-03	1.8200E-04	1.0100E-06	4.4600E-11	4.4600E-11	1.1027E-15
	235U (F)	1.4800E-08	2.1600E-05	3.3100E-03	1.5791E-02	1.2901E-02	3.8300E-04	1.3400E-06	5.4400E-11	5.4400E-11	7.8651E-16
	235U (H)	4.9800E-09	3.8300E-06	1.5292E-02	3.2435E-01	6.6033E-01	7.4218E-02	6.7500E-04	1.4500E-07	1.4500E-07	6.1800E-12
	238U (F)	1.1000E-06	2.5200E-04	1.6877E-02	1.6871E-02	6.6260E-03	3.3700E-05	4.7300E-08	0.0	5.6777E-13	1.6157E-18
	238U (H)	1.0600E-06	1.3420E-03	9.7024E-02	4.3374E-01	1.7684E-01	4.7810E-03	7.7200E-06	2.7200E-10	2.7200E-10	1.8711E-15
	239Pu(T)	4.0900E-10	1.9100E-06	9.9300E-04	1.2973E-02	2.9680E-02	2.4350E-03	2.8900E-05	3.7800E-09	3.7800E-09	2.0918E-13
	239Pu(F)	1.0619E-09	7.6300E-10	6.8100E-06	1.6260E-03	4.0881E-02	4.3644E-02	6.8850E-03	1.8800E-06	1.8800E-06	8.8000E-09
	241Pu(T)	5.5200E-08	6.0100E-06	9.2100E-03	3.3703E-02	2.8012E-02	6.3300E-04	2.2000E-06	6.6800E-11	6.6800E-11	1.0406E-15
	233U (T)	9.6800E-11	4.3800E-07	2.6700E-04	3.3520E-03	8.9270E-03	7.0100E-04	9.7600E-06	1.2400E-09	1.2400E-09	8.0388E-14
	232Th(F)	1.9400E-06	4.6300E-04	3.1855E-02	3.0975E-02	1.3059E-02	7.0100E-05	1.0100E-07	0.0	1.2630E-12	3.7027E-18

Table 2.7.1 Continued

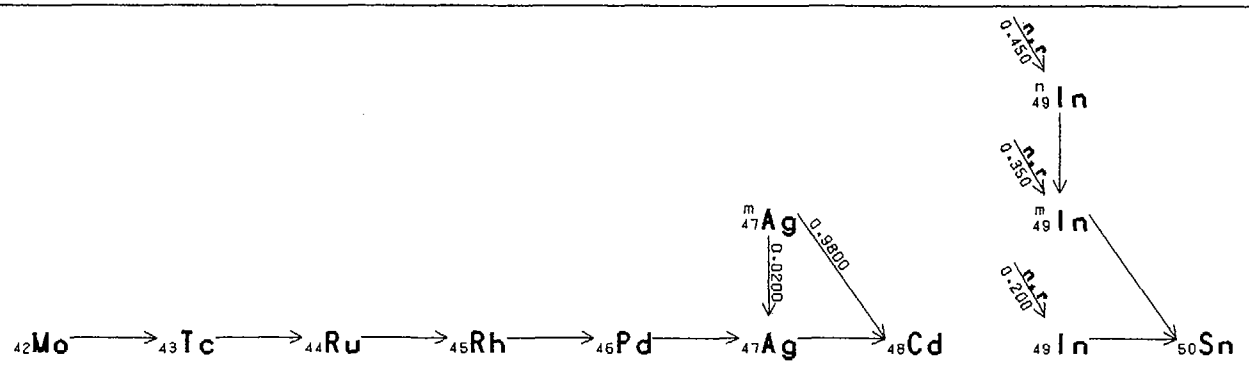
Mass No. 115



		42Mo	43Tc	44Ru	45Rh	46Pd	m47Ag	47Ag	m48Cd	48Cd	m49In	49In	50Sn	51Sb	52Te
	λ(1/sec)	2.5390E+00	7.9453E-01	3.2696E-01	8.0533E-02	1.6533E-02	1.2603E-02	5.7762E-04	1.7988E-07	3.6015E-06	4.4777E-05	4.3069E-23	0.0	3.6328E-04	1.9254E-03
	Q-value(MeV)	1.0740E+01	8.6870E+00	7.4070E+00	5.6060E+00	4.4865E+00	3.2047E+00	3.1704E+00	1.6286E+00	1.1114E+00	3.5454E-01	4.9500E-01	0.0	3.0300E+00	4.6900E+00
	E-beta (MeV)	3.6980E+00	2.9950E+00	2.5380E+00	2.0210E+00	1.4360E+00	1.0773E+00	1.1101E+00	6.0977E-01	3.1867E-01	1.0370E-02	1.5216E-01	0.0	2.2468E-01	6.0242E-01
	E-gamma(MeV)	2.9980E+00	2.1620E+00	1.8060E+00	1.0640E+00	1.0670E+00	5.7246E-01	4.5307E-01	2.1889E-02	1.9168E-01	1.6328E-01	0.0	0.0	8.9640E-01	2.1619E+00
	E-i.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4965E-03	1.6073E-01	0.0	0.0	0.0	0.0
Cumulative yield	235U (T)	6.0765E-11	3.3564E-07	1.8834E-04	3.0583E-03	1.0047E-02	3.0548E-03	7.6765E-03	8.3957E-04	9.8976E-03	9.8977E-03	1.0371E-02	1.0737E-02	5.1211E-20	2.9198E-27
	236U (F)	4.1573E-10	1.9628E-06	7.3396E-04	1.0651E-02	2.7658E-02	8.1946E-03	2.0917E-02	2.2622E-03	2.6862E-02	2.6863E-02	2.8131E-02	2.9126E-02	3.5900E-20	1.3460E-27
	236U (H)	8.8153E-11	2.1448E-06	2.5601E-03	1.5636E-01	8.1667E-01	3.3417E-01	7.0967E-01	8.7321E-02	9.6237E-01	9.6238E-01	1.0141E+00	1.0497E+00	1.4854E-15	1.9047E-22
	238U (F)	6.4497E-08	5.5527E-05	7.3695E-03	2.9391E-02	4.5880E-02	1.2539E-02	3.3644E-02	3.5391E-03	4.2645E-02	4.2646E-02	4.4507E-02	4.6184E-02	2.6018E-23	3.0759E-31
	238U (H)	4.3186E-08	1.6976E-04	3.5087E-02	4.4867E-01	8.6246E-01	2.4843E-01	6.4516E-01	6.9046E-02	8.2469E-01	8.2469E-01	8.6322E-01	8.9374E-01	1.5629E-19	3.1302E-27
	239Pu (T)	6.7575E-12	1.0686E-07	1.3611E-04	6.4521E-03	3.0806E-02	1.1234E-02	2.5405E-02	3.0013E-03	3.3802E-02	3.3802E-02	3.5553E-02	3.6803E-02	1.8426E-17	2.5177E-24
	239Pu (F)	1.8788E-11	2.9636E-07	3.2430E-04	1.3328E-02	6.7735E-02	2.4698E-02	5.5856E-02	6.5750E-03	7.4292E-02	7.4293E-02	7.8119E-02	8.0867E-02	3.0710E-17	3.6178E-24
	241Pu (T)	9.7412E-10	3.6531E-06	1.3267E-03	1.5690E-02	3.9580E-02	1.1506E-02	2.9713E-02	3.1925E-03	3.8041E-02	3.8041E-02	3.9826E-02	4.1233E-02	2.3502E-20	8.3566E-28
	233U (T)	1.8306E-12	2.8740E-08	4.1129E-05	1.6601E-03	1.0346E-02	3.8635E-03	8.6127E-03	1.0298E-03	1.1504E-02	1.1504E-02	1.2108E-02	1.2534E-02	8.1937E-18	1.2781E-24
	232Th (F)	1.0686E-07	9.5515E-05	1.3023E-02	6.3288E-02	8.4184E-02	2.3025E-02	6.1750E-02	6.4971E-03	7.8279E-02	7.8280E-02	8.1880E-02	8.4776E-02	5.7997E-23	7.0803E-31
Independent yield	235U (T)	6.0765E-11	3.3558E-07	1.8800E-04	2.8700E-03	6.9890E-03	3.4200E-04	3.4200E-04	5.0400E-06	8.2000E-07	1.3600E-09	1.3600E-09	8.1225E-14	5.1211E-20	2.9198E-27
	235U (F)	4.1573E-10	1.9624E-06	7.3200E-04	9.9170E-03	1.7007E-02	7.2700E-04	7.2700E-04	6.3200E-06	6.3200E-06	1.7000E-09	1.7000E-09	6.7025E-14	3.5900E-20	1.3460E-27
	236U (H)	8.8153E-11	2.1447E-06	2.5680E-03	1.5380E-01	6.6031E-01	1.1365E-01	1.1360E-01	2.9250E-03	2.9250E-03	3.8600E-06	3.8600E-06	5.1000E-10	1.4854E-15	1.9047E-22
	238U (F)	6.4497E-08	5.5452E-05	7.3140E-03	2.2021E-02	1.6489E-02	1.5200E-04	1.5200E-04	4.6000E-07	4.6000E-07	2.3200E-11	2.3200E-11	2.7845E-16	2.6018E-23	3.0759E-31
	238U (H)	4.3186E-08	1.6971E-04	3.4917E-02	4.1359E-01	4.1378E-01	1.5565E-02	1.5565E-02	7.4500E-05	7.4500E-05	1.6000E-08	1.6000E-08	3.5402E-13	1.5629E-19	3.1302E-27
	239Pu (T)	6.7575E-12	1.0685E-07	1.3500E-04	5.3170E-03	2.5353E-02	2.9170E-03	2.9170E-03	8.2000E-05	8.2000E-05	7.3500E-08	7.3500E-08	1.0400E-11	1.8426E-17	2.5177E-24
	239Pu (F)	1.8788E-11	2.9634E-07	3.2400E-04	1.3004E-02	6.4407E-02	6.4090E-03	6.4090E-03	1.5700E-04	1.5700E-04	1.2400E-07	1.2400E-07	1.5200E-11	3.0710E-17	3.6178E-24
	241Pu (T)	9.7412E-10	3.6521E-06	1.3230E-03	1.4363E-02	2.3890E-02	8.2000E-04	8.2000E-04	5.7600E-06	6.7600E-06	1.4200E-09	1.4200E-09	5.5431E-14	2.3602E-20	8.3566E-28
	233U (T)	1.8305E-12	2.8738E-08	4.1100E-05	1.6190E-03	8.6860E-03	1.0600E-03	1.0600E-03	3.3800E-05	3.3800E-05	3.0200E-08	3.0200E-08	4.6900E-12	8.1937E-18	1.2781E-24
	232Th (F)	1.0686E-07	9.5408E-05	1.2927E-02	4.0265E-02	3.0897E-02	2.9500E-04	2.9500E-04	9.2100E-07	9.2100E-07	4.2900E-11	4.2900E-11	5.9702E-16	5.7997E-23	7.0803E-31

Table 2.7.1 Continued

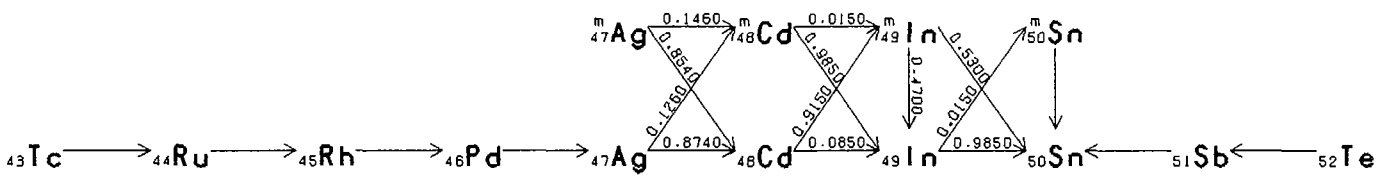
Mass No. 116



		42Mo	43Tc	44Ru	45Rh	46Pd	m47Ag	47Ag	48Cd	n49In	m49In	49In	50Sn
	λ(1/sec)	2.0747E+00	1.5633E+00	1.6679E-01	3.4657E-01	6.0967E-02	6.6649E-02	4.3106E-03	0.0	3.2090E-01	2.1334E-04	4.9169E-02	0.0
	Q-value(MeV)	8.6320E+00	1.1440E+01	6.1700E+00	9.0000E+00	2.5000E+00	6.0590E+00	6.1000E+00	0.0	1.6239E-01	3.4003E+00	3.2730E+00	0.0
	E-beta (MeV)	3.1780E+00	3.5930E+00	1.8430E+00	2.9670E+00	6.6230E-01	2.3130E+00	1.3970E+00	0.0	0.0	3.0357E-01	1.3702E+00	0.0
	E-gamma(MeV)	1.7370E+00	3.4950E+00	9.8600E-01	2.2200E+00	6.0400E-01	1.0430E+00	2.8250E+00	0.0	5.6836E-02	2.4729E+00	1.8215E-02	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0556E-01	0.0	0.0	0.0
Cumulative yield	235U (T)	1.5000E-12	2.1002E-08	3.9621E-06	1.3316E-03	1.0173E-02	8.3300E-04	1.1022E-02	1.1906E-02	1.3230E-08	4.0180E-08	8.8200E-09	4.9005E-08
	236U (F)	1.2300E-11	1.4801E-07	1.7515E-04	5.5371E-03	2.9585E-02	2.1900E-03	3.1819E-02	3.4079E-02	2.0466E-08	6.3672E-08	1.2128E-08	7.5805E-08
	235U (H)	9.7653E-13	7.3501E-08	2.6607E-04	4.4781E-02	5.3611E-01	2.0331E-01	7.4349E-01	9.7113E-01	3.2820E-05	9.8460E-05	1.0940E-05	1.0942E-04
	238U (F)	2.3700E-09	4.3924E-06	2.1084E-03	1.3697E-02	4.0321E-02	4.6400E-04	4.0796E-02	4.1260E-02	2.8728E-10	8.9376E-10	1.7024E-10	1.0640E-08
	238U (H)	7.4700E-10	8.8407E-06	5.4218E-03	1.7386E-01	5.8924E-01	3.9386E-02	6.2941E-01	6.6909E-01	2.1360E-07	6.4080E-07	7.1200E-08	7.1202E-07
	239Pu(T)	1.1386E-13	4.4001E-09	1.8204E-05	1.6812E-03	2.3435E-02	5.0790E-03	2.8616E-02	3.4429E-02	4.7142E-07	1.4317E-06	3.1428E-07	1.7464E-06
	239Pu(F)	2.4342E-13	1.0100E-08	3.4810E-05	3.3828E-03	4.0270E-02	9.1740E-03	4.9627E-02	6.9888E-02	7.6600E-07	2.3520E-06	4.4800E-07	2.8005E-06
	241Pu(T)	1.8300E-11	1.6502E-07	1.9317E-04	4.6852E-03	2.5146E-02	1.4330E-03	2.6608E-02	2.8087E-02	1.0044E-08	3.0604E-08	6.6960E-09	3.7202E-08
	233U (T)	3.6709E-14	1.3800E-09	6.7614E-06	6.0076E-04	9.6768E-03	2.0230E-03	1.1740E-02	1.4113E-02	2.1222E-07	6.4462E-07	1.4148E-07	7.8621E-07
	232Th(F)	3.7900E-09	1.3038E-06	3.6063E-03	2.4162E-02	7.2586E-02	8.7500E-04	7.3479E-02	7.4356E-02	5.7780E-10	1.7976E-09	3.4240E-10	2.1401E-08
Independent yield	235U (T)	1.6000E-12	2.1000E-08	3.9600E-06	1.2920E-03	8.8410E-03	8.3300E-04	8.3300E-04	6.7800E-05	1.3230E-08	2.6950E-08	8.8200E-09	5.0800E-12
	236U (F)	1.2300E-11	1.4800E-07	1.7600E-04	5.3620E-03	2.4048E-02	2.1900E-03	2.1900E-03	1.1400E-04	2.0466E-08	4.3206E-08	1.2128E-08	4.8900E-12
	235U (H)	9.7653E-13	7.3500E-08	2.6600E-04	4.4615E-02	4.9133E-01	2.0331E-01	2.0331E-01	2.8393E-02	3.2820E-05	6.5640E-05	1.0940E-05	2.2200E-08
	238U (F)	2.3700E-09	4.3900E-06	2.1040E-03	1.1589E-02	2.6624E-02	4.6400E-04	4.6400E-04	1.0200E-05	2.8728E-10	6.0648E-10	1.7024E-10	2.5633E-14
	238U (H)	7.4700E-10	8.8400E-06	5.4130E-03	1.6844E-01	4.1538E-01	3.9386E-02	3.9386E-02	1.0820E-03	2.1360E-07	4.2720E-07	7.1200E-08	2.3600E-11
	239Pu(T)	1.1386E-13	4.4000E-09	1.8200E-05	1.5630E-03	2.1754E-02	5.0790E-03	5.0790E-03	8.3600E-04	4.7142E-07	9.6030E-07	3.1428E-07	4.0500E-10
	239Pu(F)	2.4342E-13	1.0100E-08	3.4800E-05	3.3480E-03	3.6887E-02	9.1740E-03	9.1740E-03	1.2700E-03	7.5600E-07	1.5960E-06	4.4800E-07	5.4100E-10
	241Pu(T)	1.8300E-11	1.6500E-07	1.9300E-04	4.4920E-03	2.0461E-02	1.4330E-03	1.4330E-03	7.4400E-05	1.0044E-08	2.0460E-08	6.6960E-09	2.3700E-12
	233U (T)	3.6709E-14	1.3800E-09	6.7600E-06	5.9400E-04	9.0760E-03	2.0230E-03	2.0230E-03	3.9000E-04	2.1222E-07	4.3230E-07	1.4148E-07	2.1600E-10
	232Th(F)	3.7900E-09	1.3000E-06	3.6060E-03	2.0676E-02	4.8404E-02	8.7500E-04	8.7500E-04	1.9900E-06	5.7780E-10	1.2198E-09	3.4240E-10	5.3166E-14

Table 2.7.1 Continued

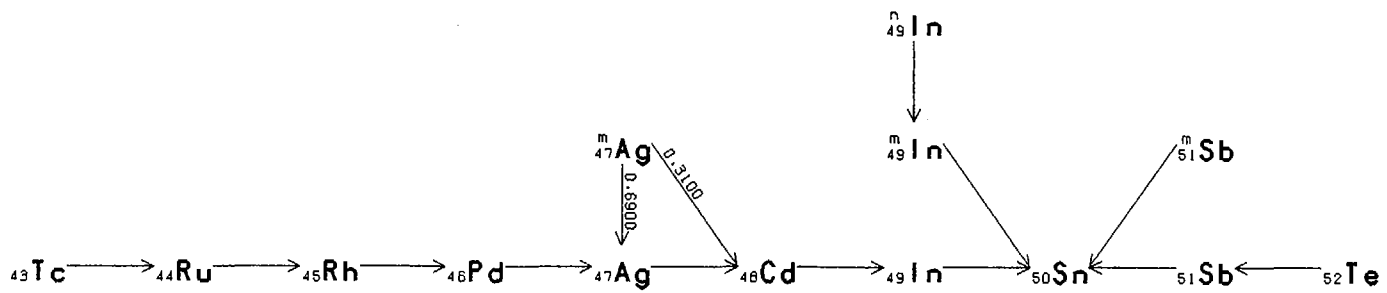
Mass No. 117



		43Tc	44Ru	45Rh	46Pd	m47Ag	47Ag	m48Cd	48Cd	m49In	49In	m50Sn	50Sn	51Sb	52Te
	λ(1/sec)	1.1549E+00	4.8745E-01	4.0773E-01	1.3863E-01	1.2960E-01	9.5475E-03	5.7304E-05	7.7326E-05	9.9762E-05	2.7311E-04	5.7304E-07	0.0	6.6766E-05	1.8633E-04
	Q-value(MeV)	9.2780E+00	7.9520E+00	7.3500E+00	5.7000E+00	4.1851E+00	4.1528E+00	2.6598E+00	2.2395E+00	1.0864E+00	1.4503E+00	3.1458E-01	0.0	1.7450E+00	3.4900E+00
	E-beta (MeV)	3.1730E+00	2.6970E+00	2.2890E+00	1.9150E+00	1.4574E+00	1.2374E+00	2.0619E-01	4.1964E-01	3.5090E-01	2.4700E-01	0.0	0.0	4.4443E-03	1.1836E-01
	E-gamma(MeV)	2.3900E+00	2.0260E+00	1.3690E+00	1.0870E+00	8.4610E-01	1.3374E+00	2.0268E+00	1.1066E+00	6.6676E-02	6.8107E-01	1.3584E-01	0.0	1.6347E-01	1.4273E+00
	E-I.C (MeV)	0.0	0.0	0.0	0.0	1.5273E-02	9.7398E-03	0.0	1.0609E-02	9.8238E-02	2.1094E-02	1.7709E-01	0.0	0.0	0.0
Cumulative yield	235U (T)	9.6881E-10	4.6710E-06	4.9167E-04	7.1467E-03	1.1750E-03	8.3207E-03	1.5090E-03	8.3620E-03	7.6742E-03	6.8043E-03	8.7065E-05	9.8716E-03	8.6755E-16	4.1647E-22
	236U (F)	7.9397E-09	2.3808E-05	2.1938E-03	2.2773E-02	4.9230E-03	2.7696E-02	4.6004E-03	2.8702E-02	2.6331E-02	1.9249E-02	2.8873E-04	3.3204E-02	9.6748E-16	3.1128E-22
	235U (H)	1.9614E-09	2.0402E-05	1.0336E-02	3.1600E-01	3.1822E-01	6.3421E-01	1.8434E-01	8.8403E-01	8.1231E-01	6.3917E-01	9.6882E-03	1.0697E+00	2.2400E-11	2.6671E-17
	238U (F)	3.8179E-07	3.6638E-04	7.0994E-03	3.4035E-02	1.5140E-03	3.5549E-02	4.7340E-03	3.2397E-02	2.9714E-02	2.1382E-02	3.2073E-04	3.7131E-02	1.0846E-18	1.0980E-25
	238U (H)	4.8162E-07	8.3848E-04	7.3777E-02	5.1488E-01	1.0459E-01	6.1937E-01	9.7212E-02	6.3455E-01	5.8208E-01	4.2327E-01	6.3491E-03	7.3178E-01	6.3652E-15	1.2304E-21
	239Pu(T)	1.7004E-10	1.7102E-06	4.8671E-04	1.4231E-02	8.4770E-03	2.2708E-02	6.5998E-03	2.8587E-02	2.6251E-02	2.0293E-02	3.0441E-04	3.4206E-02	1.6925E-13	1.9630E-19
	239Pu(F)	3.8609E-10	3.5104E-05	1.0146E-03	2.5018E-02	1.5806E-02	4.1825E-02	1.0030E-02	5.2505E-02	4.8209E-02	3.7016E-02	5.5525E-04	6.2557E-02	2.5906E-13	2.6356E-19
	241Pu(T)	9.0738E-08	2.5109E-05	1.8371E-03	1.8367E-02	3.2070E-03	2.1594E-02	3.3711E-03	2.1794E-02	1.9892E-02	1.4570E-02	2.1855E-04	2.5166E-02	3.3554E-16	1.0152E-22
	233U (T)	4.1638E-11	4.8204E-07	1.3748E-04	4.5146E-03	2.6710E-03	7.1856E-03	1.8283E-03	9.0941E-03	8.3620E-03	6.6028E-03	9.7546E-05	1.0929E-02	6.9295E-14	9.1987E-20
	232Th(F)	5.6165E-07	5.5356E-04	1.1118E-02	5.4427E-02	2.5190E-03	5.6946E-02	7.6005E-03	5.1979E-02	4.7575E-02	3.4312E-02	5.1468E-04	5.9580E-02	2.0540E-18	2.1573E-25
Independent yield	236U (T)	9.6881E-10	4.5700E-06	4.8700E-04	6.6540E-03	1.1750E-03	1.1750E-03	2.8900E-04	8.6300E-05	3.3800E-07	3.3800E-07	1.2782E-10	3.8180E-11	8.5755E-16	4.1647E-22
	235U (F)	7.9397E-09	2.3800E-05	2.1700E-03	2.0579E-02	4.9230E-03	4.9230E-03	2.9200E-04	2.9200E-04	5.0600E-07	5.0600E-07	1.5721E-10	4.1790E-11	9.5748E-16	3.1128E-22
	236U (H)	1.9614E-09	2.0400E-05	1.0316E-02	3.0566E-01	3.1822E-01	3.1822E-01	5.7970E-02	5.7970E-02	5.6200E-04	5.6200E-04	7.0606E-07	1.1494E-07	2.2400E-11	2.6671E-17
	238U (F)	3.8179E-07	3.6600E-04	6.7330E-03	2.6936E-02	1.5140E-03	1.5140E-03	3.3700E-06	3.3700E-06	1.3100E-08	1.3100E-08	1.1050E-12	2.9400E-13	1.0846E-18	1.0980E-26
	238U (H)	4.8162E-07	8.3600E-04	7.2939E-02	4.4111E-01	1.0459E-01	1.0448E-01	3.9010E-03	3.9010E-03	7.6700E-06	7.6700E-06	1.3158E-09	2.1420E-10	6.3652E-15	1.2304E-21
	239Pu(T)	1.7004E-10	1.7100E-06	4.8500E-04	1.3744E-02	8.4770E-03	8.4770E-03	1.5010E-03	1.5010E-03	9.7200E-06	9.7200E-06	8.5470E-09	2.5530E-09	1.6925E-13	1.9630E-19
	239Pu(F)	3.8609E-10	3.5100E-05	1.0110E-03	2.5004E-02	1.5806E-02	1.5806E-02	2.4520E-03	2.4520E-03	1.6100E-05	1.6100E-05	1.2540E-08	3.3600E-09	2.5906E-13	2.6356E-19
	241Pu(T)	9.0738E-09	2.5100E-05	1.8120E-03	1.6650E-02	3.2070E-03	3.2070E-03	1.8200E-04	1.8200E-04	2.9900E-07	2.9900E-07	7.0840E-11	2.1150E-11	3.3554E-16	1.0152E-22
	233U (T)	4.1638E-11	4.8200E-07	1.3700E-04	4.3770E-03	2.6710E-03	2.6710E-03	5.3300E-04	5.3300E-04	3.4400E-06	3.4400E-06	3.4573E-09	1.0327E-09	6.9295E-14	9.1987E-20
	232Th(F)	5.6165E-07	5.5300E-04	1.0564E-02	4.3309E-02	2.5190E-03	2.5190E-03	5.7600E-05	5.7600E-05	2.3300E-08	2.3300E-08	2.0382E-12	5.4180E-13	2.0540E-18	2.1573E-25

Table 2.7.1 Continued

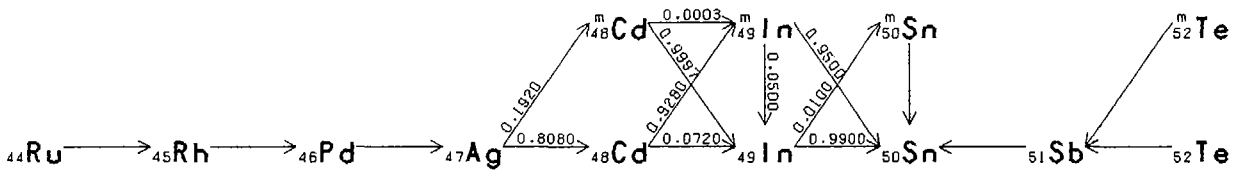
Mass No. 118



		$_{43}$Tc	$_{44}$Ru	$_{45}$Rh	$_{46}$Pd	$^{m}_{47}$Ag	$_{47}$Ag	$_{48}$Cd	$^{n}_{49}$In	$^{m}_{49}$In	$_{49}$In	$_{50}$Sn	$^{m}_{51}$Sb	$_{51}$Sb	$_{52}$Te
λ(1/sec)		2.2756E+00	3.0071E-01	4.5602E-01	2.2360E-01	3.4657E-01	1.8435E-01	2.2967E-04	8.1547E-02	2.5961E-03	1.3863E-01	0.0	3.8508E-05	3.2090E-03	1.3371E-06
Q-value(MeV)		1.2160E+01	5.8170E+00	9.2300E+00	4.0000E+00	2.2977E+00	7.0000E+00	7.6000E-01	1.4000E-01	4.2600E+00	4.2000E+00	0.0	3.8983E+00	3.6863E+00	2.9600E-01
E-beta (MeV)		3.8770E+00	2.0940E+00	3.0940E+00	1.0440E+00	7.8900E-01	2.5150E+00	2.4769E-01	0.0	5.7190E-01	1.7845E+00	0.0	2.0600E-04	8.8787E-01	0.0
E-gamma(MeV)		3.8360E+00	1.1180E+00	2.4940E+00	7.1540E-01	5.5200E-01	1.4340E+00	0.0	3.0404E-02	2.7201E+00	7.7824E-02	0.0	2.5595E+00	8.0317E-01	0.0
E-I.C (MeV)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0780E-01	0.0	0.0	0.0	2.1730E-02	0.0	0.0
Cumulative yield	^{235}U (T)	2.8117E-11	2.9503E-07	7.1895E-05	3.0819E-03	2.9220E-03	8.0201E-03	1.0217E-02	2.3562E-06	4.7124E-06	1.0219E-02	1.0224E-02	4.4036E-14	7.4638E-14	1.3108E-19
	^{236}U (F)	2.3209E-10	2.2002E-05	5.1220E-04	1.4569E-02	7.2830E-03	2.6977E-02	3.1778E-02	4.4550E-06	8.9100E-06	3.1783E-02	3.1792E-02	6.6290E-14	8.9349E-14	9.9176E-20
	^{235}U (H)	2.8940E-11	9.7203E-07	1.4820E-03	1.2726E-01	3.2836E-01	6.8220E-01	1.0917E+00	3.2492E-03	6.4984E-03	1.0949E+00	1.1015E+00	1.1810E-09	7.9801E-10	6.3344E-15
	^{238}U (F)	1.7559E-08	6.4018E-05	2.4440E-03	3.3003E-02	3.1210E-03	3.8278E-02	3.9738E-02	1.1286E-07	2.2572E-07	3.9738E-02	3.9738E-02	9.5408E-17	1.5144E-16	5.1462E-23
	^{238}U (H)	1.5750E-08	8.5115E-05	2.1569E-02	3.5943E-01	2.0251E-01	7.1168E-01	8.1591E-01	7.4580E-05	1.4916E-04	8.1599E-01	8.1614E-01	7.2341E-13	9.7758E-13	6.1249E-19
	^{239}Pu (T)	3.3711E-12	1.1400E-07	8.0714E-05	6.9977E-03	8.9080E-03	2.2052E-02	3.3641E-02	4.4616E-05	8.9232E-05	3.3685E-02	3.3775E-02	5.8882E-12	4.9900E-12	3.9942E-17
	^{239}Pu (F)	7.7594E-12	2.1801E-07	1.6722E-04	1.2516E-02	1.7350E-02	4.1838E-02	6.2102E-02	8.1840E-05	1.6368E-04	6.2184E-02	6.2348E-02	1.0773E-11	8.5501E-12	5.6109E-17
	^{241}Pu (T)	2.7525E-10	2.6103E-06	4.4461E-04	1.2475E-02	4.6610E-03	2.0352E-02	2.3398E-02	2.0592E-06	4.1184E-06	2.3400E-02	2.3404E-02	1.7885E-14	3.0314E-14	3.2513E-20
	^{233}U (T)	8.4421E-13	3.4301E-08	2.3434E-05	2.3794E-03	2.9020E-03	7.2838E-03	1.1533E-02	1.6302E-05	3.2604E-05	1.1550E-02	1.1582E-02	2.4544E-12	2.0800E-12	2.0030E-17
	^{232}Th (F)	2.6095E-08	9.7525E-05	3.8696E-03	5.3527E-02	5.2440E-03	6.2389E-02	6.4866E-02	2.4486E-07	4.8972E-07	6.4866E-02	6.4866E-02	1.8329E-16	2.9094E-16	1.2163E-22
Independent yield	^{235}U (T)	2.8117E-11	2.9500E-07	7.1600E-05	3.0100E-03	2.9220E-03	2.9220E-03	1.2910E-03	2.3562E-06	2.3562E-06	2.3562E-06	6.1600E-09	4.4036E-14	7.4638E-14	1.3108E-19
	^{236}U (F)	2.3209E-10	2.2000E-06	5.1000E-04	1.4167E-02	7.2830E-03	7.2830E-03	2.5430E-03	4.4550E-06	4.4550E-06	4.4550E-06	7.5000E-09	5.6290E-14	8.9349E-14	9.9176E-20
	^{235}U (H)	2.8940E-11	9.7200E-07	1.4810E-03	1.2578E-01	3.2836E-01	3.2836E-01	3.0771E-01	3.2492E-03	3.2492E-03	3.2492E-03	1.8800E-05	1.1810E-09	7.9800E-10	6.3344E-15
	^{238}U (F)	1.7559E-08	6.4000E-05	2.3800E-03	3.0669E-02	3.1210E-03	3.1210E-03	4.9300E-04	1.1286E-07	1.1286E-07	1.1286E-07	7.1900E-11	9.5408E-17	1.5144E-16	5.1462E-23
	^{238}U (H)	1.5750E-08	8.5100E-05	2.1484E-02	3.4786E-01	2.0251E-01	2.0251E-01	4.1458E-02	7.4580E-05	7.4580E-05	7.4580E-05	7.1100E-08	7.2341E-13	9.7758E-13	6.1249E-19
	^{239}Pu (T)	3.3711E-12	1.1400E-07	8.0600E-05	6.9170E-03	8.9080E-03	8.9080E-03	8.8270E-03	4.4616E-05	4.4616E-05	4.4616E-05	2.5600E-07	5.8882E-12	4.9900E-12	3.9942E-17
	^{239}Pu (F)	7.7594E-12	2.1800E-07	1.6700E-04	1.2349E-02	1.7350E-02	1.7350E-02	1.4886E-02	8.1840E-05	8.1840E-05	8.1840E-05	4.0400E-07	1.0773E-11	8.5500E-12	5.6109E-17
	^{241}Pu (T)	2.7525E-10	2.6100E-06	4.4200E-04	1.2030E-02	4.6610E-03	4.6610E-03	1.6010E-03	2.0592E-06	2.0592E-06	2.0592E-06	3.3200E-09	1.7885E-14	3.0314E-14	3.2513E-20
	^{233}U (T)	8.4421E-13	3.4300E-08	2.3400E-05	2.3560E-03	2.9020E-03	2.9020E-03	3.3500E-03	1.6302E-05	1.6302E-05	1.6302E-05	1.1000E-07	2.4544E-12	2.0800E-12	2.0030E-17
	^{232}Th (F)	2.6095E-08	9.7600E-05	3.7720E-03	4.9557E-02	5.2440E-03	5.2440E-03	8.5100E-04	2.4486E-07	2.4486E-07	2.4486E-07	1.6100E-10	1.8329E-16	2.9094E-16	1.2163E-22

Table 2.7.1 Continued

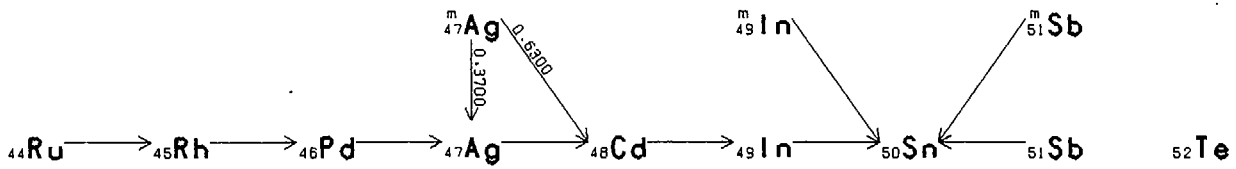
Mass No. 119



		^{44}Ru	^{45}Rh	^{46}Pd	^{47}Ag	$^{m}_{48}$Cd	^{48}Cd	$^{m}_{49}$In	^{49}In	$^{m}_{50}$Sn	^{50}Sn	^{51}Sb	$^{m}_{52}$Te	^{52}Te
	λ(1/sec)	8.0702E-01	2.7214E-01	1.1636E-01	3.3007E-01	6.0802E-03	4.2787E-03	6.4180E-04	5.5012E-03	3.2745E-06	0.0	5.0669E-06	1.7142E-06	1.1996E-05
	Q-value(MeV)	8.6930E+00	7.0780E+00	6.0770E+00	5.3319E+00	3.6463E+00	3.2111E+00	2.5315E+00	2.3361E+00	8.9540E-02	0.0	5.8400E-01	2.5940E+00	2.2940E+00
	E-beta (MeV)	2.9200E+00	2.4760E+00	2.1110E+00	1.7771E+00	7.9996E-01	9.1680E-01	1.0200E+00	5.8244E-01	0.0	0.0	0.0	7.1396E-03	8.0420E-03
	E-gamma(MeV)	2.3110E+00	1.5980E+00	1.3370E+00	1.3187E+00	2.3653E+00	1.1976E+00	2.1679E-02	7.6691E-01	3.8924E-03	0.0	3.8924E-03	1.4889E+00	7.4990E-01
	E-I.C (MeV)	0.0	0.0	0.0	2.1974E-02	0.0	4.0200E-03	1.8415E-02	1.9837E-02	8.5648E-02	0.0	1.9988E-02	9.1194E-03	0.0
Cumulative yield	^{235}U (T)	3.7000E-08	2.6637E-05	2.1676E-03	7.8046E-03	2.8115E-03	7.6191E-03	7.0919E-03	3.7343E-03	3.7380E-06	1.0472E-02	2.8900E-12	8.4200E-18	2.5151E-18
	^{236}U (F)	2.0800E-07	1.3321E-04	7.6562E-03	2.6004E-02	8.0648E-03	2.4083E-02	2.2395E-02	1.0960E-02	1.0965E-04	3.2235E-02	3.7300E-12	7.5383E-18	2.0038E-18
	^{235}U (H)	4.8300E-08	1.9805E-04	4.2098E-02	5.6276E-01	3.6611E-01	7.0661E-01	6.7692E-01	4.7076E-01	4.8053E-03	1.1131E+00	4.4900E-08	4.2737E-13	5.9671E-14
	^{238}U (F)	8.5500E-06	1.0165E-03	2.2358E-02	3.4473E-02	7.4317E-03	2.8667E-02	2.6607E-02	1.0826E-02	1.0826E-04	3.6103E-02	1.0384E-14	6.4324E-21	1.7099E-21
	^{238}U (H)	6.6000E-06	4.3766E-03	1.7230E-01	6.0857E-01	1.6736E-01	6.4225E-01	6.0400E-01	2.3230E-01	2.3236E-03	7.1110E-01	4.4200E-11	6.3141E-17	1.0279E-17
	^{239}Pu(T)	7.4400E-09	1.5007E-05	2.6660E-03	1.9570E-02	1.1448E-02	2.3504E-02	2.2124E-02	1.4562E-02	1.4577E-04	3.5572E-02	2.8200E-10	1.9305E-15	5.7668E-16
	^{239}Pu(F)	1.3800E-08	2.8914E-05	4.6139E-03	3.5291E-02	1.9341E-02	4.1080E-02	3.8665E-02	2.4764E-02	2.4945E-04	6.1481E-02	4.5000E-10	2.8125E-15	7.4765E-16
	^{241}Pu(T)	1.6200E-11	1.6802E-07	1.6117E-04	4.4822E-03	8.9826E-03	1.1744E-02	1.2212E-02	1.1747E-02	1.4547E-04	2.3404E-02	3.2102E-08	1.2936E-12	3.8640E-13
	^{233}U (T)	2.0900E-09	4.2221E-06	8.5122E-04	6.2162E-03	3.9346E-03	7.7637E-03	7.3149E-03	4.9671E-03	6.0174E-06	1.1967E-02	1.1400E-10	9.1514E-15	2.7335E-16
	^{232}Th(F)	1.2900E-06	1.5879E-03	3.5863E-02	5.5951E-02	1.2127E-02	4.5592E-02	4.3245E-02	1.7644E-02	1.7644E-04	5.8727E-02	1.9635E-14	1.2555E-20	3.3373E-21
Independent yield	^{235}U (T)	3.7000E-08	2.6600E-05	2.1410E-03	5.6370E-03	1.3130E-03	1.3130E-03	2.0500E-05	2.0500E-05	3.6400E-06	3.6400E-06	2.8900E-12	8.4200E-18	2.5151E-18
	^{236}U (F)	2.0800E-07	1.3300E-04	7.5230E-03	1.8348E-02	3.0720E-03	3.0720E-03	4.3400E-05	4.3400E-05	5.3200E-06	5.3200E-06	3.7300E-12	7.5383E-18	2.0038E-18
	^{235}U (H)	4.8300E-08	1.9800E-04	4.1900E-02	6.1066E-01	2.5998E-01	2.6998E-01	2.0071E-02	2.0071E-02	9.7900E-05	9.7900E-05	4.4900E-08	4.2737E-13	5.9671E-14
	^{238}U (F)	8.5500E-06	1.0080E-03	2.1341E-02	1.2115E-02	8.1300E-04	8.1300E-04	2.2000E-05	2.2000E-05	8.7700E-10	8.7700E-10	1.0384E-14	6.4324E-21	1.7099E-21
	^{238}U (H)	6.6000E-06	4.3700E-03	1.6792E-01	4.3627E-01	5.0518E-02	5.0518E-02	7.4500E-04	7.4500E-04	6.1300E-07	6.1300E-07	4.4200E-11	6.3141E-17	1.0279E-17
	^{239}Pu(T)	7.4400E-09	1.5000E-05	2.6500E-03	1.6905E-02	7.6910E-03	7.6910E-03	3.0900E-04	3.0900E-04	1.2500E-06	1.2500E-06	2.8200E-10	1.9305E-15	5.7668E-16
	^{239}Pu(F)	1.3800E-08	2.8900E-06	4.5850E-03	3.0677E-02	1.2665E-02	1.2665E-02	5.2800E-04	5.2800E-04	1.9100E-06	1.9100E-06	4.5000E-10	2.8125E-15	7.4765E-16
	^{241}Pu(T)	1.6200E-11	1.6800E-07	1.6100E-04	4.3210E-03	8.1220E-03	8.1220E-03	1.3110E-03	1.3110E-03	2.8000E-05	2.8000E-05	3.2100E-08	1.2936E-12	3.8640E-13
	^{233}U (T)	2.0900E-09	4.2200E-06	8.4700E-04	5.3650E-03	2.7410E-03	2.7410E-03	1.0800E-04	1.0900E-04	5.0300E-07	5.0300E-05	1.1400E-10	9.1514E-15	2.7335E-16
	^{232}Th(F)	1.2900E-06	1.5760E-03	3.4265E-02	2.0098E-02	1.3840E-03	1.3840E-03	3.9000E-06	3.9000E-06	1.6000E-09	1.6000E-09	1.9636E-14	1.2555E-20	3.3373E-21

Table 2.7.1 Continued

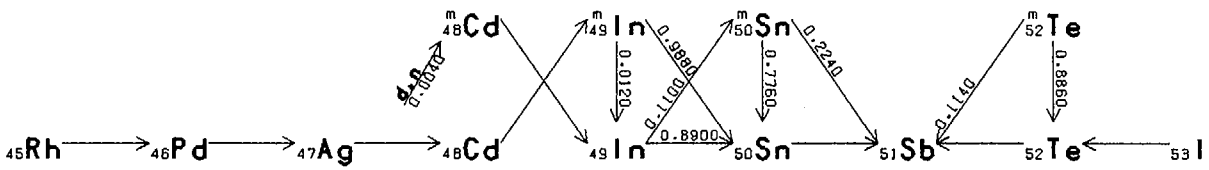
Mass No. 120



		$_{44}$Ru	$_{46}$Rh	$_{46}$Pd	$^{m}_{47}$Ag	$_{47}$Ag	$_{48}$Cd	$^{m}_{49}$In	$_{49}$In	$_{50}$Sn	$^{m}_{51}$Sb	$_{51}$Sb	$_{52}$Te
	λ (1/sec)	5.3278E-01	6.9377E-01	4.5482E-02	2.1661E+00	5.9243E-01	1.3645E-02	1.5611E-02	2.2505E-01	0.0	1.3928E-06	7.2703E-04	0.0
	Q-value (MeV)	6.6120E+00	9.8140E+00	3.9730E+00	3.9830E+00	6.0000E+00	1.7200E+00	5.3400E+00	5.3000E+00	0.0	2.6910E+00	8.8300E-01	0.0
	E-beta (MeV)	2.3610E+00	3.2610E+00	1.3430E+00	1.1197E+00	2.3317E+00	6.6965E-01	9.5274E-01	2.2277E+00	0.0	0.0	3.0503E-01	0.0
	E-gamma (MeV)	1.2660E+00	2.8370E+00	8.1370E-01	1.3729E+00	7.5725E-01	0.0	2.9768E+00	3.3143E-01	0.0	2.4447E+00	4.4063E-01	0.0
	E-I.C (MeV)	0.0	0.0	0.0	2.8420E-02	0.0	0.0	1.3465E-03	0.0	0.0	3.9015E-02	0.0	0.0
Cumulative yield	^{235}U (T)	2.5500E-09	3.9125E-06	9.2491E-04	2.5343E-03	3.7303E-03	1.0795E-02	8.2400E-05	1.0877E-02	1.0961E-02	3.8100E-11	3.8100E-11	9.1344E-16
	^{235}U (F)	1.5100E-08	2.2015E-05	3.3950E-03	1.0135E-02	1.3098E-02	3.2627E-02	1.9500E-04	3.2822E-02	3.3018E-02	5.5400E-11	5.5400E-11	8.7287E-15
	^{235}U (H)	1.5900E-09	1.7802E-05	1.0150E-02	2.2135E-01	1.5984E-01	1.0043E+00	5.2764E-02	1.0671E+00	1.1314E+00	5.0000E-07	5.0000E-07	3.0800E-11
	^{238}U (F)	1.0800E-05	2.4208E-04	1.5937E-02	9.0707E-03	2.4521E-02	3.5105E-02	1.4500E-05	3.5120E-02	3.5134E-02	0.0	4.5137E-13	1.2742E-18
	^{238}U (H)	4.3000E-07	7.5143E-04	7.5093E-02	3.3028E-01	3.1434E-01	7.5120E-01	4.3810E-03	7.5568E-01	7.5998E-01	9.7100E-10	9.7100E-10	9.2087E-15
	^{239}Pu (T)	3.5300E-10	1.5004E-05	8.0850E-04	5.0528E-03	7.2543E-03	3.3969E-02	9.1500E-04	3.4884E-02	3.5820E-02	2.5800E-09	2.5800E-09	1.4332E-13
	^{239}Pu (F)	5.5700E-10	3.2307E-05	1.4052E-03	1.2233E-02	1.3116E-02	5.8371E-02	1.5350E-03	5.0006E-02	5.1674E-02	4.4700E-09	4.4700E-09	2.1197E-13
	^{241}Pu (T)	2.0300E-08	2.1420E-05	3.2074E-03	5.7048E-03	1.0347E-02	2.3785E-02	1.0100E-04	2.3885E-02	2.3988E-02	2.0100E-11	2.0100E-11	2.9441E-15
	^{233}U (T)	1.0700E-10	4.5811E-07	2.7747E-04	1.9954E-03	2.4024E-03	1.2448E-02	3.3500E-04	1.2784E-02	1.3130E-02	1.1200E-09	1.1200E-09	7.2758E-14
	^{232}Th (F)	1.5300E-05	3.5553E-04	2.4023E-02	1.4143E-02	3.7552E-02	5.5598E-02	2.4100E-05	5.5722E-02	5.5746E-02	0.0	8.1908E-13	2.3298E-18
Independent yield	^{235}U (T)	2.5500E-09	3.9100E-06	9.2100E-04	2.5343E-03	1.8306E-03	5.4050E-03	8.2400E-05	8.2400E-05	8.8900E-07	3.8100E-11	3.8100E-11	9.1344E-16
	^{235}U (F)	1.5100E-08	2.2000E-05	3.3730E-03	1.0135E-02	5.9526E-03	1.3144E-02	1.9500E-04	1.9500E-04	1.3600E-06	5.5400E-11	5.5400E-11	8.7287E-15
	^{235}U (H)	1.5900E-09	1.7800E-05	1.0142E-02	2.2136E-01	7.7775E-02	6.9502E-01	5.2764E-02	5.2764E-02	1.5120E-03	5.0000E-07	5.0000E-07	3.0800E-11
	^{238}U (F)	1.0800E-05	2.4100E-04	1.5595E-02	9.0707E-03	5.3273E-03	5.7700E-03	1.4500E-05	1.4500E-05	3.9400E-08	0.0	4.5137E-13	1.2742E-18
	^{238}U (H)	4.3000E-07	7.5100E-04	7.5332E-02	3.3028E-01	1.1604E-01	2.3879E-01	4.3810E-03	4.3810E-03	1.9700E-05	9.7100E-10	9.7100E-10	9.2087E-15
	^{239}Pu (T)	3.5300E-10	1.5000E-05	8.0700E-04	5.0528E-03	4.2062E-03	2.2901E-02	9.1500E-04	9.1500E-04	2.1100E-05	2.5800E-09	2.5800E-09	1.4332E-13
	^{239}Pu (F)	5.5700E-10	3.2300E-05	1.4020E-03	1.2233E-02	7.1843E-03	3.7549E-02	1.5350E-03	1.5350E-03	3.2500E-05	4.4700E-09	4.4700E-09	2.1197E-13
	^{241}Pu (T)	2.0300E-08	2.1400E-05	3.1860E-03	5.7048E-03	4.5592E-03	9.2140E-03	1.0100E-04	1.0100E-04	5.8200E-07	2.0100E-11	2.0100E-11	2.9441E-15
	^{233}U (T)	1.0700E-10	4.5800E-07	2.7700E-04	1.9954E-03	1.3866E-03	8.7890E-03	3.3500E-04	3.3500E-04	9.1000E-06	1.1200E-09	1.1200E-09	7.2758E-14
	^{232}Th (F)	1.5300E-05	3.5400E-04	2.3667E-02	1.4143E-02	8.3065E-03	9.2250E-03	2.4100E-05	2.4100E-05	6.7400E-08	0.0	8.1908E-13	2.3298E-18

Table 2.7.1 Continued

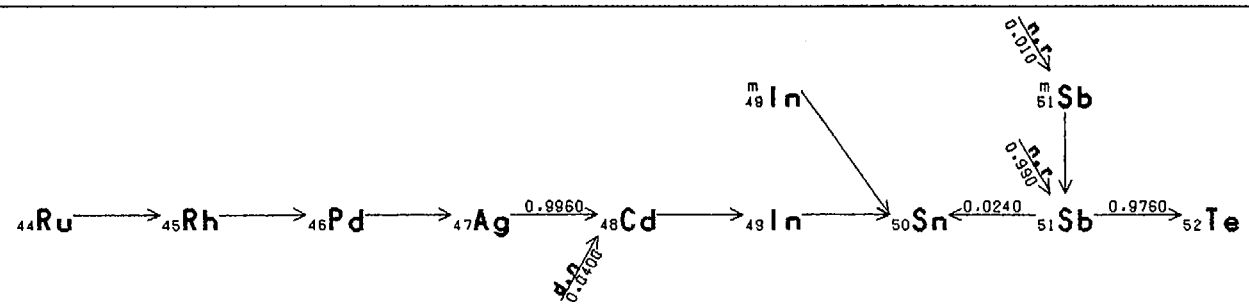
Mass No. 121



		$_{45}$Rh	$_{46}$Pd	$_{47}$Ag	$^{m}_{48}$Cd	$_{48}$Cd	$^{m}_{49}$In	$_{49}$In	$^{m}_{50}$Sn	$_{50}$Sn	$_{51}$Sb	$^{m}_{52}$Te	$_{52}$Te	$_{53}$I
λ(1/sec)		4.4065E-01	2.1935E-01	8.6643E-01	1.4441E-01	5.1944E-02	2.9774E-03	3.0006E-02	3.9937E-10	7.1153E-06	0.0	5.2093E-08	4.7810E-07	9.0821E-05
Q-value(MeV)		7.7310E+00	6.8370E+00	6.2100E+00	4.7700E+00	4.4464E+00	3.6323E+00	3.3683E+00	9.2888E-02	3.8660E-01	0.0	4.1710E-01	1.0800E+00	2.3700E+00
E-beta (MeV)		2.6710E+00	2.3350E+00	2.0812E+00	1.3151E+00	1.2957E+00	1.5033E+00	9.8465E-01	2.3323E-02	1.1443E-01	0.0	3.9936E-06	0.0	6.6820E-02
E-gamma(MeV)		1.8520E+00	1.6380E+00	1.7380E+00	2.3331E+00	1.8837E+00	5.2907E-02	9.2643E-01	6.8740E-04	0.0	0.0	2.0263E-01	5.5673E-01	3.9768E-01
E-I.C (MeV)		0.0	0.0	0.0	0.0	0.0	3.2308E-02	6.1985E-04	1.3906E-02	0.0	0.0	9.1559E-02	8.6953E-04	0.0
Cumulative yield	^{235}U (T)	5.5600E-07	3.0966E-04	4.3257E-03	4.2247E-03	8.5432E-03	8.8871E-03	4.6754E-03	5.1811E-04	1.3347E-02	1.3464E-02	3.7469E-14	4.4390E-14	2.5413E-20
	^{235}U (F)	3.3000E-06	1.0833E-03	1.3876E-02	9.7287E-03	2.3577E-02	2.4304E-02	1.0747E-02	1.1877E-03	3.4506E-02	3.4771E-02	3.6463E-14	4.1999E-14	2.1556E-20
	^{235}U (H)	1.0900E-06	1.6671E-03	1.2747E-01	3.2668E-01	4.5386E-01	5.9339E-01	4.5714E-01	5.6867E-02	1.0498E+00	1.0524E+00	1.1008E-09	1.1646E-09	4.3644E-15
	^{238}U (F)	7.3100E-05	8.3831E-03	2.9851E-02	6.9833E-03	3.5774E-02	3.5882E-02	7.5339E-03	8.2900E-04	4.3788E-02	4.3973E-02	9.0625E-17	1.0438E-16	8.8858E-24
	^{238}U (H)	9.8200E-05	2.4490E-02	3.6368E-01	2.0625E-01	5.5899E-01	5.8633E-01	2.3062E-01	2.5468E-02	8.0441E-01	8.1012E-01	5.9097E-13	5.1980E-13	3.5512E-19
	^{239}Pu (T)	1.7900E-07	1.9318E-04	5.6212E-03	1.3191E-02	1.9801E-02	2.2408E-02	1.5066E-02	1.8292E-03	3.7920E-02	3.8330E-02	4.0656E-12	4.8155E-12	7.9586E-18
	^{239}Pu (F)	3.6900E-07	3.5637E-04	1.2762E-02	2.2812E-02	3.5554E-02	4.0407E-02	2.8160E-02	3.1975E-03	5.7568E-02	5.8274E-02	5.3595E-12	7.3250E-12	1.3666E-17
	^{241}Pu (T)	3.2100E-06	9.6921E-04	9.9032E-03	6.4324E-03	1.6316E-02	1.6692E-02	7.0087E-03	7.7356E-04	2.3332E-02	2.3505E-02	1.1004E-14	1.3037E-14	4.9823E-21
	^{233}U (T)	5.5400E-08	5.7755E-05	2.3178E-03	5.1898E-03	7.5043E-03	8.5202E-03	5.3080E-03	7.2118E-04	1.4619E-02	1.4781E-02	2.0482E-12	2.4265E-12	4.1975E-18
	^{232}Th (F)	8.2000E-06	9.6790E-03	3.5325E-02	8.5362E-03	4.3800E-02	4.3937E-02	9.2005E-03	1.0124E-03	5.2385E-02	5.2611E-02	1.2682E-16	1.4607E-16	1.2925E-23
Independent yield	^{235}U (T)	5.5500E-07	3.0900E-04	4.0160E-03	4.2175E-03	4.2175E-03	3.4400E-04	3.4400E-04	3.8200E-06	3.8200E-06	4.0700E-09	3.7469E-14	1.1182E-14	2.5413E-20
	^{235}U (F)	3.3000E-06	1.0800E-03	1.2793E-02	9.7010E-03	9.7010E-03	7.2700E-04	7.2700E-04	5.4600E-06	5.4600E-06	2.5100E-09	3.6463E-14	9.6927E-15	2.1556E-20
	^{235}U (H)	1.0900E-06	1.6660E-03	1.2580E-01	3.2639E-01	3.2639E-01	1.3954E-01	1.3344E-01	4.4720E-03	4.4720E-03	1.5200E-05	1.1008E-09	1.7920E-10	4.3644E-15
	^{238}U (F)	7.3100E-05	8.3100E-03	2.1468E-02	6.9225E-03	6.9225E-03	1.0800E-04	1.0800E-04	2.7300E-07	2.7300E-07	2.2000E-11	9.0625E-17	2.4090E-17	8.8858E-24
	^{238}U (H)	9.8200E-05	2.4392E-02	3.3909E-01	2.0541E-01	2.0541E-01	1.7341E-02	1.7341E-02	9.8900E-05	9.8900E-05	5.2900E-08	5.9097E-13	9.6204E-14	3.5512E-19
	^{239}Pu (T)	1.7900E-07	1.8300E-04	5.4280E-03	1.3180E-02	1.3180E-02	2.6070E-03	2.6070E-03	6.1900E-06	6.1900E-05	2.8400E-07	4.0656E-12	1.2144E-12	7.9585E-18
	^{239}Pu (F)	3.6900E-07	3.6600E-04	1.2406E-02	2.2891E-02	2.2891E-02	4.7530E-03	4.7530E-03	1.0100E-04	1.0100E-04	1.6300E-07	5.3596E-12	1.6905E-12	1.3666E-17
	^{241}Pu (T)	3.2100E-06	9.5600E-04	8.9340E-03	6.4125E-03	6.4125E-03	3.7600E-04	3.7600E-04	2.6000E-06	2.6000E-06	9.1000E-10	1.1004E-14	3.2870E-15	4.9823E-21
	^{233}U (T)	5.5400E-08	6.7700E-05	2.2500E-03	5.1865E-03	5.1865E-03	1.0160E-03	1.0160E-03	2.7300E-05	2.7300E-05	3.9600E-08	2.0482E-12	6.1180E-13	4.1975E-18
	^{232}Th (F)	8.2000E-06	9.6970E-03	2.5646E-02	8.4755E-03	8.4755E-03	1.3700E-04	1.3700E-04	3.5700E-07	3.5700E-07	3.0000E-11	1.2682E-16	3.3711E-17	1.2925E-23

Table 2.7.1 Continued

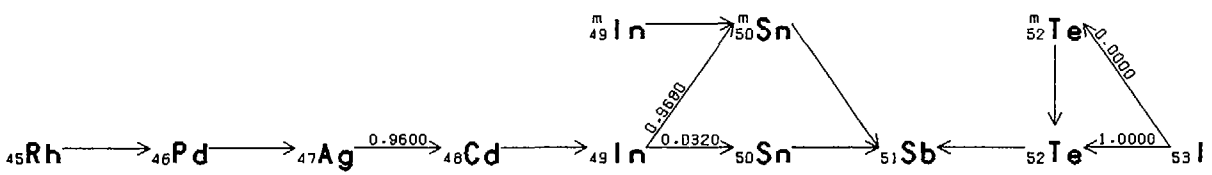
Mass No. 122



		$_{44}$Ru	$_{45}$Rh	$_{46}$Pd	$_{47}$Ag	$_{48}$Cd	$^{m}_{49}$In	$_{49}$In	$_{50}$Sn	$^{m}_{51}$Sb	$_{51}$Sb	$_{52}$Te
	λ(1/sec)	9.8110E-01	9.1408E-01	1.0990E-01	1.4441E+00	1.2603E-01	6.9315E-02	4.6210E-01	0.0	2.7606E-03	2.9713E-06	0.0
	Q-value(MeV)	7.3460E+00	1.0370E+01	4.7180E+00	9.1700E+00	3.5000E+00	6.5900E+00	6.5100E+00	0.0	1.6324E-01	1.9723E+00	0.0
	E-beta (MeV)	2.6800E+00	3.3700E+00	1.6600E+00	3.0480E+00	1.4486E+00	2.4230E+00	2.3630E+00	0.0	0.0	6.6106E-01	0.0
	E-gamma(MeV)	1.4600E+00	3.0700E+00	9.2090E-01	2.6110E+00	8.6460E-02	1.4990E+00	1.2420E+00	0.0	4.6788E-02	4.5668E-01	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1646E-01	0.0	0.0
Cumulative yield	^{235}U (T)	5.2400E-12	5.0705E-08	7.0461E-05	1.8065E-03	1.1065E-02	6.7700E-04	1.1742E-02	1.2461E-02	1.1100E-08	2.2200E-08	2.1669E-08
	^{235}U (F)	3.1100E-11	2.9303E-07	2.7129E-04	6.9343E-03	3.1614E-02	1.8190E-03	3.3333E-02	3.5227E-02	1.9700E-08	3.9400E-08	3.8456E-08
	^{235}U (H)	7.6959E-13	6.2001E-08	2.6306E-04	4.7968E-02	6.3338E-01	2.6723E-01	9.0060E-01	1.2094E+00	8.9900E-05	1.7980E-04	1.7553E-04
	^{238}U (F)	5.9600E-09	8.1260E-06	2.8161E-03	1.5207E-02	3.7607E-02	2.9500E-04	3.7902E-02	3.8202E-02	1.8500E-10	3.7000E-10	3.6113E-10
	^{238}U (H)	7.5600E-10	9.5308E-06	6.1995E-03	2.0982E-01	7.3691E-01	5.2663E-02	7.8957E-01	8.4376E-01	5.3600E-07	1.0720E-06	1.0463E-06
	^{239}Pu (T)	4.3936E-13	1.2400E-08	3.8012E-05	2.6310E-03	2.8798E-02	4.7710E-03	3.3569E-02	3.8938E-02	4.6400E-07	9.2800E-07	9.0589E-07
	^{239}Pu (F)	7.8878E-13	2.4301E-08	6.5924E-05	5.1019E-03	5.0226E-02	9.2040E-03	5.9430E-02	6.9658E-02	8.8900E-07	1.7780E-06	1.7356E-06
	^{241}Pu (T)	4.6400E-11	3.0805E-07	2.6731E-04	4.9773E-03	2.1777E-02	9.0800E-04	2.2685E-02	2.3628E-02	6.5500E-09	1.3100E-08	1.2786E-08
	^{233}U (T)	1.2025E-13	3.4301E-09	1.2403E-05	8.2540E-04	1.0405E-02	1.6680E-03	1.2073E-02	1.3966E-02	1.8300E-07	3.6600E-07	3.5729E-07
	^{232}Th (F)	5.8600E-09	8.0668E-06	2.8911E-03	1.5187E-02	3.7490E-02	2.9700E-04	3.7787E-02	3.8089E-02	1.8900E-10	3.7800E-10	3.6893E-10
Independent yield	^{235}U (T)	5.2400E-12	5.0700E-08	7.0400E-05	1.7360E-03	9.2380E-03	5.7700E-04	5.7700E-04	4.1600E-05	1.1100E-08	1.1100E-08	1.5900E-12
	^{235}U (F)	3.1100E-11	2.9300E-07	2.7100E-04	6.5630E-03	2.4468E-02	1.8190E-03	1.8190E-03	7.5300E-05	1.9700E-08	1.9700E-08	1.9800E-12
	^{235}U (H)	7.6959E-13	6.2000E-08	2.5300E-04	4.7705E-02	6.8525E-01	2.6723E-01	2.6722E-01	4.1536E-02	8.9900E-05	8.9900E-05	4.1200E-08
	^{238}U (F)	5.9600E-09	8.1200E-06	2.9080E-03	1.2291E-02	2.2089E-02	2.9600E-04	2.9500E-04	4.8400E-06	1.8500E-10	1.8500E-10	6.5572E-15
	^{238}U (H)	7.5600E-10	9.5300E-06	6.1900E-03	2.0362E-01	5.2477E-01	5.2663E-02	5.2663E-02	1.5320E-03	5.3600E-07	5.3600E-07	3.7800E-11
	^{239}Pu (T)	4.3936E-13	1.2400E-08	3.8000E-05	2.5930E-03	2.6143E-02	4.7710E-03	4.7710E-03	5.9800E-04	4.6400E-07	4.6400E-07	1.5800E-10
	^{239}Pu (F)	7.8878E-13	2.4300E-08	6.5900E-05	5.0360E-03	4.5077E-02	9.2040E-03	9.2040E-03	1.0240E-03	8.8900E-07	8.8900E-07	2.6900E-10
	^{241}Pu (T)	4.6400E-11	3.0800E-07	2.6700E-04	4.7100E-03	1.6729E-02	9.0800E-04	9.0800E-04	3.6400E-05	6.5600E-09	6.5600E-09	6.1396E-13
	^{233}U (T)	1.2025E-13	3.4300E-09	1.2400E-05	8.1300E-04	9.5700E-03	1.6680E-03	1.6680E-03	2.4600E-04	1.8300E-07	1.8300E-07	7.3800E-11
	^{232}Th (F)	5.8500E-09	8.0600E-06	2.8830E-03	1.2296E-02	2.2079E-02	2.9700E-04	2.9700E-04	4.8800E-06	1.8900E-10	1.8900E-10	7.0956E-15

Table 2.7.1 Continued

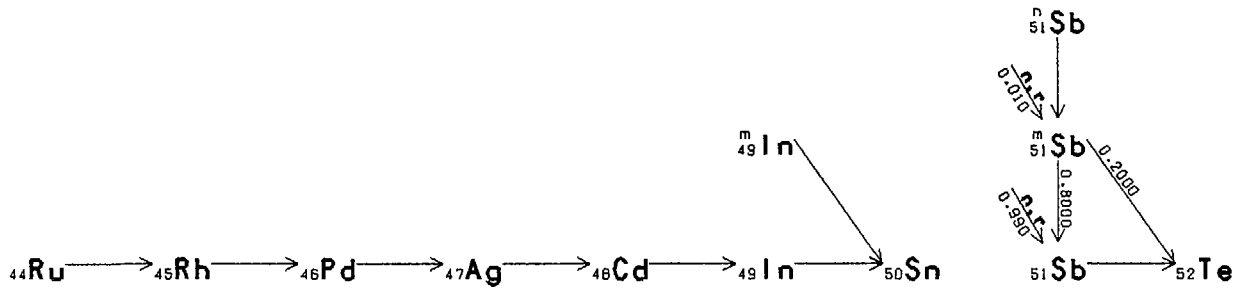
Mass No. 123



		45Rh	46Pd	47Ag	48Cd	m49In	49In	m50Sn	50Sn	51Sb	m52Te	52Te	53I
	λ (1/sec)	7.4556E-01	3.373DE-01	1.7773E+00	1.3863E-01	1.4501E-02	1.1611E-01	2.8823E-04	6.2093E-06	0.0	6.7023E-08	1.7714E-21	1.4586E-05
	Q-value (MeV)	8.4980E+00	7.3650E+00	7.0000E+00	5.6000E+00	4.6763E+00	4.3671E+00	1.4217E+00	1.3970E+00	0.0	2.4746E-01	5.2000E-02	1.2000E+00
	E-beta (MeV)	2.9030E+00	2.4960E+00	2.6400E+00	1.8660E+00	2.0036E+00	1.3537E+00	4.5527E-01	5.1219E-01	0.0	0.0	0.0	0.0
	E-gamma (MeV)	2.1470E+00	1.8590E+00	1.8690E+00	1.0990E+00	6.6423E-02	1.1027E+00	1.6060E-01	6.8920E-03	0.0	1.3364E-01	0.0	1.4669E-01
	E-I.C (MeV)	0.0	0.0	0.0	0.0	1.2690E-02	0.0	0.0	0.0	0.0	1.1366E-01	0.0	0.0
Cumulative yield	235U (T)	2.3100E-09	8.1723E-06	7.0417E-04	8.5900E-03	1.7550E-03	1.0345E-02	1.4147E-02	1.7710E-03	1.5919E-02	6.2400E-11	1.2480E-10	6.3625E-16
	235U (F)	1.7400E-08	4.3617E-06	3.4856E-03	3.2014E-02	6.0510E-03	3.8075E-02	4.3231E-02	1.5314E-03	4.4763E-02	7.8800E-11	1.5760E-10	6.2025E-16
	235U (H)	1.1200E-09	1.5001E-05	9.0720E-03	3.2561E-01	3.8293E-01	7.0853E-01	1.1501E+00	1.0401E-01	1.2663E+00	8.2000E-07	1.6401E-06	5.3900E-11
	238U (F)	7.1500E-07	5.7471E-04	9.2907E-03	3.8231E-02	1.3770E-03	3.9608E-02	3.9743E-02	1.2925E-03	4.1035E-02	1.5978E-23	5.6535E-13	4.2445E-19
	238U (H)	3.7300E-07	7.7837E-04	7.8891E-02	6.1336E-01	1.4420E-01	7.5751E-01	8.8363E-01	3.0409E-02	9.1407E-01	1.6400E-09	3.2800E-09	1.6000E-14
	239Pu (T)	4.5200E-10	3.7305E-06	8.6473E-04	2.0990E-02	1.0466E-02	3.1466E-02	4.2460E-02	2.5505E-03	4.5026E-02	3.7800E-09	7.5601E-09	9.2150E-14
	239Pu (F)	8.9100E-10	6.7908E-06	1.6908E-03	3.7992E-02	2.0329E-02	5.8321E-02	7.8561E-02	4.5333E-03	8.4216E-02	6.7200E-09	1.3440E-08	1.7787E-13
	241Pu (T)	1.6900E-08	3.7717E-05	2.2567E-03	1.9181E-02	2.7700E-03	2.1951E-02	2.4149E-02	8.3243E-04	2.4981E-02	2.1400E-11	4.2800E-11	1.2170E-16
	233U (T)	1.3600E-10	1.3201E-06	3.1432E-04	8.8057E-03	4.4760E-03	1.3282E-02	1.8097E-02	1.1890E-03	1.9294E-02	2.2600E-09	4.5201E-09	5.9139E-14
	232Th (F)	5.4300E-07	4.3654E-04	7.1125E-03	2.9272E-02	1.0530E-03	3.0335E-02	3.0447E-02	9.9002E-04	3.1437E-02	1.3267E-23	5.1705E-13	3.3168E-19
Independent yield	235U (T)	2.3100E-09	8.1700E-06	6.9600E-04	7.8140E-03	1.7550E-03	1.7550E-03	2.3780E-03	1.4400E-03	6.3000E-07	6.2400E-11	6.2400E-11	5.3525E-16
	235U (F)	1.7400E-08	4.3600E-05	3.4420E-03	2.8668E-02	6.0610E-03	6.0610E-03	3.1300E-04	3.1300E-04	1.1200E-06	7.8800E-11	7.8800E-11	6.2025E-16
	235U (H)	1.1200E-09	1.6000E-05	9.0670E-03	3.1690E-01	3.8293E-01	3.8293E-01	8.1336E-02	8.1336E-02	2.2060E-03	8.2000E-07	8.2000E-07	5.3900E-11
	238U (F)	7.1500E-07	5.7400E-04	8.7160E-03	2.9312E-02	1.3770E-03	1.3770E-03	2.5000E-05	2.5000E-05	1.5700E-08	0.0	5.5535E-13	4.2445E-19
	238U (H)	3.7300E-07	7.7800E-04	7.8113E-02	5.3763E-01	1.4420E-01	1.4414E-01	6.1690E-03	6.1690E-03	2.8200E-05	1.6400E-09	1.6400E-09	1.6000E-14
	239Pu (T)	4.5200E-10	3.7300E-06	8.6100E-04	2.0160E-02	1.0466E-02	1.0466E-02	1.5440E-03	1.5440E-03	1.6300E-05	3.7800E-09	3.7800E-09	9.2150E-14
	239Pu (F)	8.9100E-10	6.7900E-06	1.6840E-03	3.5369E-02	2.0329E-02	2.0329E-02	2.7670E-03	2.7670E-03	3.1500E-05	6.7200E-09	6.7200E-09	1.7787E-13
	241Pu (T)	1.6900E-08	3.7700E-05	2.2290E-03	1.7006E-02	2.7700E-03	2.7700E-03	1.3000E-04	1.3000E-04	3.4500E-07	2.1400E-11	2.1400E-11	1.2170E-16
	233U (T)	1.3600E-10	1.3200E-06	3.1300E-04	8.5040E-03	4.4760E-03	4.4760E-03	7.6400E-04	7.6400E-04	8.3000E-06	2.2600E-09	2.2600E-09	5.9139E-14
	232Th (F)	5.4300E-07	4.3600E-04	6.6760E-03	2.2444E-02	1.0630E-03	1.0630E-03	1.9300E-05	1.9300E-05	1.2300E-08	0.0	5.1705E-13	3.3168E-19

Table 2.7.1 Continued

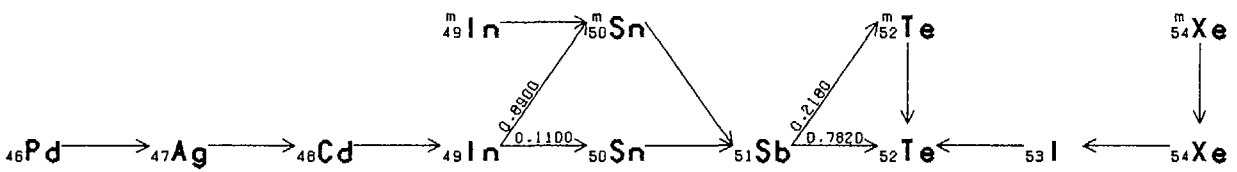
Mass No. 124



		44Ru	45Rh	46Pd	47Ag	48Cd	m49In	49In	50Sn	n51Sb	m51Sb	51Sb	52Te
	λ(1/sec)	1.9027E+00	1.2338E+00	2.4969E-01	5.0632E-01	7.7015E-01	2.8861E-01	2.1593E-01	0.0	5.7190E-04	7.4532E-03	1.3326E-07	0.0
	Q-value(MeV)	8.3700E+00	1.0880E+01	5.5510E+00	9.3660E+00	4.7000E+00	7.3300E+00	7.1400E+00	0.0	2.4270E-02	5.9173E-01	2.9050E+00	0.0
	E-beta (MeV)	3.0570E+00	3.4960E+00	1.9810E+00	3.0900E+00	1.9819E+00	2.5580E+00	2.5100E+00	0.0	0.0	8.3809E-02	3.8303E-01	0.0
	E-gamma(MeV)	1.6840E+00	3.3260E+00	1.0720E+00	2.5220E+00	1.4034E-01	1.5610E+00	1.5700E+00	0.0	2.5000E-07	3.5161E-01	1.8558E+00	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	2.9765E-02	0.0	0.0	0.0	2.5000E-02	1.0730E-02	0.0	0.0
Cumulative yield	235U (T)	1.4523E-14	7.1601E-10	4.9807E-06	5.5598E-04	1.2271E-02	3.1940E-03	1.5465E-02	1.9502E-02	3.8610E-06	7.7220E-06	1.0039E-05	1.1584E-05
	235U (F)	9.0212E-14	4.5101E-09	2.0804E-05	2.3328E-03	3.5261E-02	9.1650E-03	4.4416E-02	5.5230E-02	1.3926E-06	2.7852E-06	3.5208E-06	4.1789E-06
	235U (H)	2.9278E-15	1.5200E-10	3.5802E-06	3.5886E-03	2.1985E-01	4.0533E-01	5.2519E-01	1.3052E+00	1.0296E-03	2.0592E-03	2.5770E-03	3.0967E-03
	236U (F)	2.5000E-11	1.7402E-07	2.9917E-04	5.5212E-03	4.0969E-02	1.8840E-03	4.2873E-02	4.4901E-02	1.8216E-08	3.5432E-08	4.7362E-08	5.4653E-08
	238U (H)	1.3300E-12	9.2401E-08	3.1809E-04	5.0455E-02	5.8067E-01	2.0810E-01	7.8876E-01	1.0247E+00	3.3330E-05	5.5550E-05	8.5558E-05	1.0001E-04
	239Pu(T)	6.7847E-16	9.9601E-11	1.5401E-05	5.0164E-04	2.1240E-02	1.3944E-02	3.5183E-02	5.5269E-02	1.7226E-05	3.4452E-05	4.4788E-05	5.1723E-05
	239Pu(F)	1.2197E-15	2.1000E-10	2.8902E-05	1.0478E-03	3.9561E-02	2.8983E-02	5.8544E-02	1.1070E-01	3.5574E-05	7.1148E-05	9.2492E-05	1.0680E-04
	241Pu(T)	1.2525E-13	4.1501E-09	1.7804E-05	1.4288E-03	2.0676E-02	3.9385E-03	2.4616E-02	2.9230E-02	4.0458E-07	8.0916E-07	1.0519E-06	1.2140E-06
	233U (T)	1.5806E-16	2.4900E-11	4.8302E-07	1.6048E-04	8.4045E-03	5.5530E-03	1.3967E-02	2.3029E-02	8.6460E-06	1.7292E-05	2.2480E-05	2.5966E-05
	232Th(F)	1.7000E-11	1.1602E-07	1.9312E-04	3.5741E-03	2.5472E-02	1.1470E-03	2.5519E-02	2.7851E-02	1.0560E-08	2.1120E-08	2.7455E-08	3.1683E-08
Independent yield	235U (T)	1.4523E-14	7.1600E-10	4.9800E-06	5.5100E-04	1.1705E-02	3.1940E-03	3.1940E-03	8.4300E-04	3.8610E-06	3.8610E-06	3.8610E-06	8.5300E-10
	235U (F)	9.0212E-14	4.5100E-09	2.0800E-05	2.3120E-03	3.2918E-02	9.1550E-03	9.1550E-03	1.5490E-03	1.3926E-06	1.3926E-06	1.3926E-06	1.0900E-09
	235U (H)	2.9278E-16	1.5200E-10	3.5800E-06	3.5850E-03	2.1517E-01	4.0533E-01	4.0533E-01	2.7455E-01	1.0296E-03	1.0296E-03	1.0296E-03	7.9300E-06
	238U (F)	2.5000E-11	1.7400E-07	2.9900E-04	5.3220E-03	3.5368E-02	1.8840E-03	1.8840E-03	1.4400E-04	1.8216E-08	1.8216E-08	1.8216E-08	5.1900E-12
	238U (H)	1.3300E-12	9.2400E-08	3.1800E-04	5.0137E-02	5.3021E-01	2.0810E-01	2.0810E-01	2.7863E-02	3.3330E-05	3.3330E-05	3.3330E-05	1.9500E-08
	239Pu(T)	6.7847E-16	9.9600E-11	1.5400E-05	5.0000E-04	2.0738E-02	1.3944E-02	1.3944E-02	7.1420E-03	1.7226E-05	1.7226E-05	1.7226E-05	4.5200E-08
	239Pu(F)	1.2197E-15	2.1000E-10	2.8900E-05	1.0450E-03	3.8513E-02	2.8983E-02	2.8983E-02	1.3174E-02	3.5574E-05	3.5574E-05	3.5574E-05	8.2700E-08
	241Pu(T)	1.2525E-13	4.1500E-09	1.7800E-05	1.4110E-03	1.9249E-02	3.9385E-03	3.9385E-03	5.7500E-04	4.0458E-07	4.0458E-07	4.0458E-07	2.9239E-10
	233U (T)	1.5806E-16	2.4900E-11	4.8300E-07	1.5000E-04	8.2440E-03	5.5530E-03	5.5530E-03	3.4980E-03	8.6460E-06	8.6460E-06	8.6460E-06	2.8300E-08
	232Th(F)	1.7000E-11	1.1600E-07	1.9300E-04	3.3810E-03	2.1898E-02	1.1470E-03	1.1470E-03	8.5000E-06	1.0560E-08	1.0560E-08	1.0560E-08	2.9200E-12

Table 2.7.1 Continued

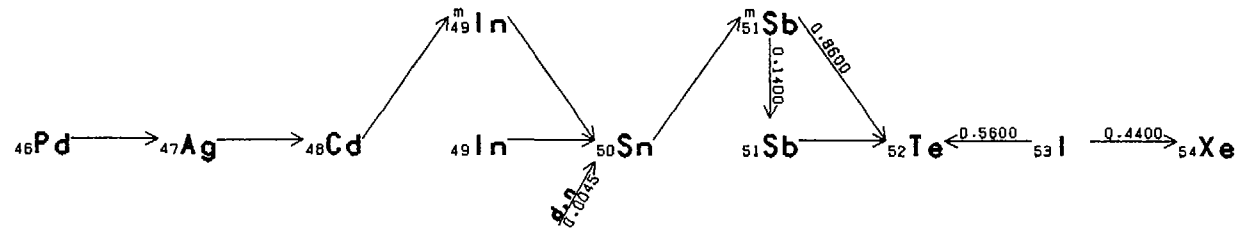
Mass No. 125



		$_{46}Pd$	$_{47}Ag$	$_{48}Cd$	$^{m}_{49}In$	$_{49}In$	$^{m}_{50}Sn$	$_{50}Sn$	$_{51}Sb$	$^{m}_{52}Te$	$_{52}Te$	$_{53}I$	$^{m}_{54}Xe$	$_{54}Xe$
λ(1/sec)		5.2352E-01	3.9227E-01	1.1101E-01	5.6815E-02	2.9877E-01	1.2135E-03	8.3221E-07	7.8296E-09	1.3832E-07	0.0	1.3340E-07	1.2150E-02	1.1326E-05
Q-value(MeV)		7.9800E+00	7.5450E+00	5.9970E+00	6.6325E+00	5.4566E+00	2.3775E+00	2.3500E+00	7.3625E-01	1.4473E-01	0.0	1.7720E-01	2.5200E-01	1.7360E+00
E-beta (MeV)		2.6710E+00	2.5910E+00	2.0610E+00	1.6600E+00	1.9370E+00	7.9541E-01	8.1240E-01	8.3913E-02	0.0	0.0	0.0	0.0	1.5860E-03
E-gamma(MeV)		2.0920E+00	1.8150E+00	1.3480E+00	1.8360E+00	1.0800E+00	3.4687E-01	3.1328E-01	4.1903E-01	2.6744E-03	0.0	2.3662E-03	9.8389E-02	2.4781E-01
E-I.C (MeV)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3047E-02	1.4206E-01	0.0	3.3084E-02	1.5345E-01	3.0228E-02
Cumulative yield	^{235}U (T)	7.6000E-07	2.3676E-04	8.9408E-03	5.6940E-03	1.4635E-02	2.0021E-02	9.3998E-03	2.9438E-02	6.4175E-03	2.9438E-02	3.0303E-13	3.8116E-19	4.7057E-19
	^{236}U (F)	3.6800E-06	1.0867E-03	3.0866E-02	1.9037E-02	4.9902E-02	6.6724E-02	8.7642E-03	7.5533E-02	1.6466E-02	7.5533E-02	3.6984E-13	3.4223E-19	4.1233E-19
	^{236}U (H)	2.3900E-07	5.3624E-04	9.0319E-02	3.7767E-01	4.6799E-01	1.0668E+00	3.2414E-01	1.4199E+00	3.0958E-01	1.4200E+00	1.3900E-08	8.5313E-14	9.5858E-14
	^{238}U (F)	7.2000E-05	3.6300E-03	3.8047E-02	4.5660E-03	4.2713E-02	4.2958E-02	4.9754E-03	4.7934E-02	1.0450E-02	4.7934E-02	2.4941E-16	6.4507E-23	7.7719E-23
	^{238}U (H)	4.8800E-05	1.8367E-02	4.3490E-01	3.3676E-01	7.7065E-01	1.0706E+00	1.3279E-01	1.2042E+00	2.5251E-01	1.2042E+00	7.3000E-12	6.4887E-18	7.2907E-18
	^{239}Pu (T)	2.9500E-07	2.5430E-04	2.0349E-02	3.1193E-02	5.1542E-02	9.1247E-02	1.9851E-02	1.1152E-01	2.4334E-02	1.1152E-01	4.3900E-11	1.3182E-16	1.5274E-16
	^{239}Pu (F)	3.9300E-07	3.7439E-04	2.8516E-02	4.8231E-02	7.6746E-02	1.3728E-01	2.9187E-02	1.5732E-01	3.5476E-02	1.5732E-01	8.5100E-11	2.0801E-16	2.5062E-16
	^{241}Pu (T)	6.0200E-10	2.5306E-06	1.0986E-03	5.8070E-03	7.9056E-03	2.5644E-02	1.3671E-02	4.2320E-02	9.2352E-03	4.2339E-02	4.5900E-09	5.8337E-20	7.2021E-20
	^{233}U (T)	1.9400E-07	1.8219E-04	1.8007E-02	2.9592E-02	4.7599E-02	8.8254E-02	2.1535E-02	1.1044E-01	2.4078E-02	1.1045E-01	7.4800E-11	2.9102E-16	3.5929E-16
	^{232}Th (F)	4.5100E-05	2.3581E-03	2.5310E-02	3.2160E-03	2.8526E-02	2.8801E-02	3.3349E-03	3.2137E-02	7.0058E-03	3.2137E-02	1.7954E-16	4.7022E-23	5.6652E-23
Independent yield	^{235}U (T)	7.6000E-07	2.3600E-04	8.7040E-03	5.6940E-03	5.6940E-03	1.3020E-03	7.7800E-03	1.7400E-05	6.6200E-09	6.6200E-09	3.0303E-13	3.8116E-19	8.9408E-20
	^{235}U (F)	3.6800E-06	1.0830E-03	2.9778E-02	1.9037E-02	1.9037E-02	3.2750E-03	3.2750E-03	4.4000E-05	1.5000E-08	1.5000E-08	3.6984E-13	3.4223E-19	7.0096E-20
	^{235}U (H)	2.3900E-07	5.3600E-04	8.9683E-02	3.7767E-01	3.7767E-01	2.7266E-01	2.7266E-01	2.8906E-02	4.5700E-06	4.5700E-06	1.3900E-08	8.5313E-14	1.0644E-14
	^{238}U (F)	7.2000E-05	3.5580E-03	3.4417E-02	4.5660E-03	4.5660E-03	2.7700E-04	2.7700E-04	6.1800E-07	5.4400E-11	5.4400E-11	2.4941E-16	6.4507E-23	1.3212E-23
	^{238}U (H)	4.8800E-05	1.8308E-02	4.1655E-01	3.3676E-01	3.3565E-01	4.8026E-02	4.8026E-02	8.2200E-04	1.8300E-07	1.8300E-07	7.3000E-12	6.4887E-18	8.0198E-19
	^{239}Pu (T)	2.9500E-07	2.5400E-04	2.0096E-02	3.1193E-02	3.1193E-02	1.4181E-02	1.4181E-02	5.2600E-04	4.6200E-07	4.6200E-07	4.3900E-11	1.3182E-16	3.0920E-17
	^{239}Pu (F)	3.9300E-07	3.7400E-04	2.8141E-02	4.8231E-02	4.8231E-02	2.0746E-02	2.0746E-02	8.5200E-04	8.0700E-07	8.0700E-07	8.5100E-11	2.0801E-16	4.2605E-17
	^{241}Pu (T)	6.0200E-10	2.5300E-06	1.0960E-03	5.8070E-03	5.8070E-03	1.2801E-02	1.2801E-02	2.0060E-03	9.5600E-06	9.5600E-06	4.5900E-09	5.8337E-20	1.3684E-20
	^{233}U (T)	1.9400E-07	1.8200E-04	1.7625E-02	2.9592E-02	2.9592E-02	1.6299E-02	1.6299E-02	6.5500E-04	7.1500E-07	7.1500E-07	7.4800E-11	2.9102E-16	5.8264E-17
	^{232}Th (F)	4.5100E-05	2.3130E-03	2.2952E-02	3.2160E-03	3.2160E-03	1.9700E-04	1.9700E-04	4.5600E-07	3.7200E-11	3.7200E-11	1.7954E-16	4.7022E-23	9.6309E-24

Table 2.7.1 Continued

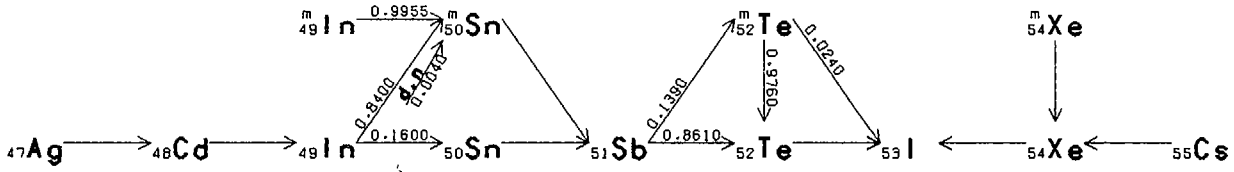
Mass No. 126



		46Pd	47Ag	48Cd	m49In	49In	50Sn	m51Sb	51Sb	52Te	53I	54Xe
	λ(1/sec)	5.6308E-01	6.7231E-01	1.3699E+00	3.3007E-01	4.5304E-01	2.1965E-13	6.0802E-04	6.4695E-07	0.0	6.1619E-07	0.0
	Q-value(MeV)	6.5290E+00	9.9940E+00	4.4500E+00	8.2100E+00	8.0600E+00	3.5030E-01	3.1696E+00	3.6650E+00	0.0	1.7578E+00	0.0
	E-beta (MeV)	2.3590E+00	2.9960E+00	1.9862E+00	2.7740E+00	2.7350E+00	7.0193E-02	6.2822E-01	3.1276E-01	0.0	1.4280E-01	0.0
	E-gamma(MeV)	1.2760E+00	3.4380E+00	6.3890E-02	2.0970E+00	2.0260E+00	1.3055E-01	1.7996E+00	2.8453E+00	0.0	3.9838E-01	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	6.2277E-02	2.4780E-03	0.0	0.0	0.0	0.0
Cumulative yield	235U (T)	1.8400E-07	1.1718E-04	1.2087E-02	2.6850E-02	1.3763E-02	5.5970E-02	5.6077E-02	7.9578E-03	5.5185E-02	2.3800E-10	1.0969E-10
	235U (F)	6.8400E-07	4.3968E-04	3.1659E-02	6.9039E-02	3.7380E-02	1.3790E-01	1.3812E-01	1.9556E-02	1.3834E-01	2.4000E-11	1.0560E-11
	235U (H)	1.3200E-08	9.2613E-05	3.3881E-02	3.6408E-01	3.3020E-01	1.7625E+00	1.8274E+00	3.2074E-01	1.8934E+00	4.3400E-07	1.9097E-07
	238U (F)	1.7700E-05	1.5437E-03	4.3324E-02	5.2041E-02	8.7170E-03	6.3902E-02	6.3905E-02	8.9496E-03	6.3908E-02	1.3789E-14	5.0673E-15
	238U (H)	4.9900E-05	4.6830E-03	2.5936E-01	7.0111E-01	4.4175E-01	1.4251E+00	1.4271E+00	2.0351E-01	1.4308E+00	2.7100E-10	1.1924E-10
	239Pu(T)	3.7300E-08	5.8637E-05	1.5030E-02	5.8925E-02	4.3895E-02	1.8929E-01	2.0107E-01	2.8927E-02	2.0286E-01	1.8300E-09	8.0522E-10
	239Pu(F)	4.7300E-08	1.0205E-04	2.0084E-02	8.7413E-02	5.7329E-02	2.8676E-01	2.8961E-01	4.3396E-02	2.9249E-01	3.0900E-09	1.3596E-09
	241Pu(T)	7.4600E-07	3.3675E-04	2.2355E-02	4.1185E-02	1.8830E-02	7.5051E-02	7.5124E-02	1.0589E-02	7.5196E-02	4.8900E-12	2.1516E-12
	233U (T)	2.5100E-08	5.1125E-05	1.4557E-02	5.9861E-02	4.5304E-02	2.3220E-01	2.3472E-01	3.5376E-02	2.3727E-01	3.7500E-09	1.6501E-09
	232Th(F)	1.2800E-05	1.1618E-03	3.3448E-02	4.0411E-02	6.9635E-03	4.9950E-02	4.9952E-02	6.9958E-03	4.9955E-02	1.2993E-14	5.7169E-15
Independent yield	235U (T)	1.8400E-07	1.1700E-04	1.1970E-02	1.3763E-02	1.3763E-02	1.5240E-02	1.0700E-04	1.0700E-04	4.8700E-07	2.3800E-10	4.9700E-12
	235U (F)	6.8400E-07	4.3900E-04	3.1219E-02	3.7380E-02	3.7380E-02	3.1184E-02	2.1900E-04	2.1900E-04	5.8200E-07	2.4000E-11	7.7797E-17
	235U (H)	1.3200E-08	9.2600E-05	3.3788E-02	3.3020E-01	3.3020E-01	1.0673E+00	6.4904E-02	6.4904E-02	1.1030E-03	4.3400E-07	8.3900E-12
	238U (F)	1.7700E-05	1.5260E-03	4.1780E-02	8.7170E-03	8.7170E-03	3.0230E-03	3.0000E-06	3.0000E-05	3.0700E-09	1.3789E-14	1.4068E-20
	238U (H)	4.9900E-05	4.6780E-03	2.5468E-01	4.4175E-01	4.4175E-01	2.8037E-01	2.0070E-03	3.7270E-03	5.2500E-06	2.7100E-10	8.6423E-16
	239Pu(T)	3.7300E-08	5.9600E-05	1.4950E-02	4.3895E-02	4.3895E-02	9.6129E-02	1.7770E-03	1.7770E-03	1.7500E-05	1.8300E-09	1.9805E-14
	239Pu(F)	4.7300E-08	1.0200E-04	1.9982E-02	5.7329E-02	5.7329E-02	1.3162E-01	2.8500E-03	2.8500E-03	2.5600E-05	3.0900E-09	3.0004E-14
	241Pu(T)	7.4600E-07	3.3600E-04	2.2018E-02	1.8830E-02	1.8830E-02	1.4774E-02	7.2200E-05	7.2200E-05	2.0400E-07	4.8900E-12	1.3986E-17
	233U (T)	2.5100E-08	5.1100E-05	1.4506E-02	4.5304E-02	4.5304E-02	1.2673E-01	2.5160E-03	2.5160E-03	3.2800E-05	3.7500E-09	5.5667E-14
	232Th(F)	1.2800E-05	1.1490E-03	3.2286E-02	6.9635E-03	6.9635E-03	2.4790E-03	2.5500E-06	2.5500E-06	2.7000E-09	1.2993E-14	1.3761E-20

Table 2.7.1 Continued

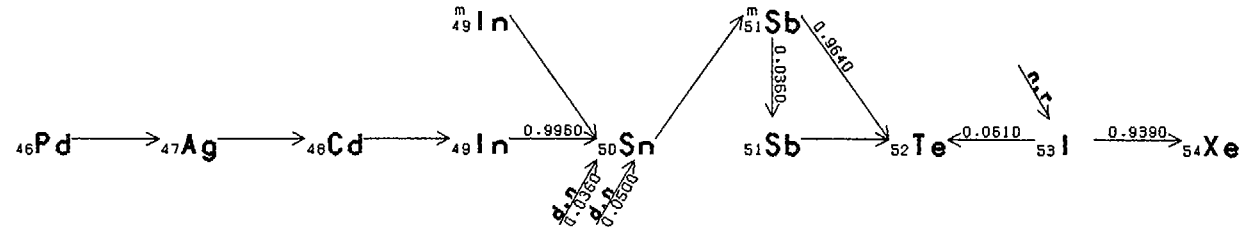
Mass No. 127



		^{47}Ag	^{48}Cd	$^{m}_{49}$In	^{49}In	$^{m}_{50}$Sn	^{50}Sn	^{51}Sb	$^{m}_{52}$Te	^{52}Te	^{53}I	$^{m}_{54}$Xe	^{54}Xe	^{55}Cs
λ (1/sec)		7.6794E-01	1.6902E-01	1.8435E-01	5.3319E-01	2.6256E-03	9.1686E-05	2.0947E-06	7.3601E-08	2.0593E-05	0.0	9.9021E-03	2.2034E-07	3.0807E-05
Q-value (MeV)		8.5170E+00	6.6770E+00	6.6161E+00	6.4858E+00	3.1050E+00	3.1000E+00	1.5687E+00	1.0492E-01	6.9400E-01	0.0	2.9720E-01	6.6400E-01	2.1100E+00
E-beta (MeV)		2.8870E+00	2.0730E+00	2.1910E+00	2.2520E+00	1.0286E+00	4.6016E-01	3.0887E-01	5.6740E-03	2.2287E-01	0.0	0.0	0.0	1.4040E-02
E-gamma (MeV)		2.1810E+00	2.0010E+00	1.7270E+00	1.4430E+00	6.3166E-01	1.9168E+00	6.8724E-01	4.8172E-04	4.8476E-03	0.0	1.4810E-01	2.5412E-01	4.1840E-01
E-I.C (MeV)		0.0	0.0	0.0	0.0	0.0	0.0	2.7495E-03	8.7149E-02	0.0	0.0	1.4900E-01	2.4526E-02	1.3713E-02
Cumulative yield	^{235}U (T)	4.1000E-05	8.5540E-03	2.6187E-02	3.4741E-02	8.3099E-02	3.3213E-02	1.2113E-01	1.6842E-02	1.2073E-01	1.2114E-01	9.8135E-15	1.2115E-14	2.6245E-21
	^{236}U (F)	1.4700E-04	2.2632E-02	6.6996E-02	8.9628E-02	1.9610E-01	6.7987E-02	2.5809E-01	3.7275E-02	2.6721E-01	2.6810E-01	9.2038E-15	1.1089E-14	2.2494E-21
	^{236}U (H)	9.0700E-05	8.5251E-03	2.0426E-01	2.1279E-01	1.0976E+00	7.5107E-01	2.1775E+00	3.0957E-01	2.1785E+00	2.1869E+00	4.0495E-10	4.5500E-10	7.8612E-16
	^{238}U (F)	9.9900E-04	4.7388E-02	2.5879E-02	7.4257E-02	9.7567E-02	1.9591E-02	1.1735E-01	1.5312E-02	1.1696E-01	1.1735E-01	2.1837E-18	2.5309E-18	7.4095E-26
	^{238}U (H)	8.4200E-04	1.0767E-01	4.0443E-01	5.1210E-01	1.0945E+00	3.2690E-01	1.4468E+00	2.0117E-01	1.4421E+00	1.4469E+00	5.4032E-14	6.0710E-14	1.5753E-20
	^{239}Pu (T)	2.1300E-05	9.9583E-03	7.6441E-02	8.5399E-02	3.0443E-01	1.5481E-01	4.9942E-01	6.9647E-02	4.9807E-01	4.9974E-01	1.9925E-12	2.4500E-12	1.5209E-18
	^{239}Pu (F)	2.3900E-05	1.0620E-02	9.0143E-02	1.0076E-01	3.4760E-01	1.8963E-01	6.7442E-01	8.0123E-02	6.7287E-01	6.7480E-01	2.6149E-12	3.0300E-12	2.0997E-18
	^{241}Pu (T)	2.0800E-04	2.7197E-02	5.8371E-02	8.5568E-02	1.7132E-01	5.4737E-02	2.2825E-01	3.1730E-02	2.2749E-01	2.2825E-01	2.3547E-15	2.9071E-15	4.0596E-22
	^{233}U (T)	1.2800E-05	7.8678E-03	6.8920E-02	7.6788E-02	3.1168E-01	1.9155E-01	5.4229E-01	7.6735E-02	5.4097E-01	5.4279E-01	4.8357E-12	5.9700E-12	4.8561E-18
	^{232}Th (F)	7.0700E-04	3.6381E-02	2.1286E-02	5.6667E-02	7.5520E-02	1.5492E-02	9.1098E-02	1.2553E-02	9.0794E-02	9.1098E-02	2.5917E-18	3.1225E-18	9.6239E-26
Independent yield	^{235}U (T)	4.1000E-05	8.5130E-03	2.6187E-02	2.6187E-02	2.7654E-02	2.7654E-02	4.8180E-03	5.3321E-06	2.1779E-05	8.2400E-10	9.8135E-15	2.3019E-15	2.6245E-21
	^{235}U (F)	1.4700E-04	2.2465E-02	6.6996E-02	6.6996E-02	5.3647E-02	5.3647E-02	4.0030E-03	1.0350E-05	3.6400E-06	1.5500E-09	9.2038E-15	1.8651E-15	2.2494E-21
	^{236}U (H)	9.0700E-05	8.6160E-03	2.0426E-01	2.0426E-01	7.1518E-01	7.1702E-01	3.2887E-01	6.8913E-03	1.5127E-03	8.8200E-06	4.0495E-10	5.0050E-11	7.8612E-16
	^{238}U (F)	9.9900E-04	4.6389E-02	2.6879E-02	2.6879E-02	7.7080E-03	7.7080E-03	9.7000E-05	6.5120E-08	2.2880E-08	1.3100E-12	2.1837E-18	4.4725E-19	7.4095E-26
	^{238}U (H)	8.4200E-04	1.0683E-01	4.0443E-01	4.0443E-01	2.6030E-01	2.4496E-01	2.5364E-02	5.6826E-05	1.2474E-05	1.3900E-08	5.4032E-14	6.6781E-15	1.5753E-20
	^{239}Pu (T)	2.1300E-05	9.9370E-03	7.6441E-02	7.6441E-02	1.5560E-01	1.5099E-01	3.0183E-02	2.2781E-04	9.3090E-06	9.9500E-08	1.9926E-12	4.6740E-13	1.5209E-18
	^{239}Pu (F)	2.3900E-05	1.0596E-02	9.0143E-02	9.0143E-02	1.7296E-01	1.7350E-01	3.7193E-02	2.7824E-04	9.7750E-05	1.2900E-07	2.5149E-12	5.1510E-13	2.0997E-18
	^{241}Pu (T)	2.0800E-04	2.5989E-02	5.8371E-02	5.8371E-02	4.1046E-02	4.1046E-02	2.1940E-03	3.9547E-06	1.5153E-06	4.0000E-10	2.3547E-15	5.5234E-15	4.0596E-22
	^{233}U (T)	1.2800E-05	7.8550E-03	6.8920E-02	6.8920E-02	1.7841E-01	1.7926E-01	3.9067E-02	3.5713E-04	1.4587E-04	1.8200E-07	4.8357E-12	1.1343E-12	4.8561E-18
	^{232}Th (F)	7.0700E-04	3.4674E-02	2.1286E-02	2.1286E-02	6.4250E-03	5.4250E-03	8.6400E-05	7.0078E-08	2.4622E-08	1.5200E-12	2.5917E-18	5.3082E-19	9.6239E-26

Table 2.7.1 Continued

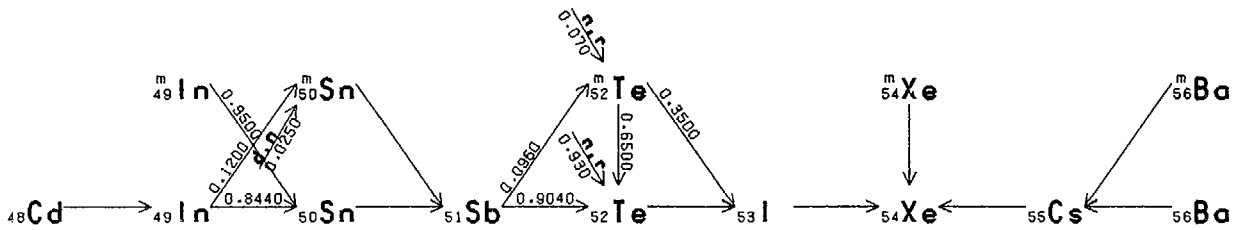
Mass No. 128



		46Pd	47Ag	48Cd	49mIn	49In	50Sn	51mSb	51Sb	52Te	53I	54Xe
	λ(1/sec)	1.1978E+00	1.0264E+00	7.3739E-01	1.2378E-01	8.2618E-01	1.9264E-04	1.1108E-03	2.1370E-06	0.0	4.6228E-04	0.0
	Q-value(MeV)	7.5810E+00	1.0670E+01	5.2800E+00	9.3900E+00	9.3100E+00	1.2700E+00	4.1266E+00	4.2500E+00	0.0	2.0740E+00	0.0
	E-beta (MeV)	2.7610E+00	3.1990E+00	1.8310E+00	2.5340E+00	3.0490E+00	1.9897E-01	9.3295E-01	4.2557E-01	0.0	7.4844E-01	0.0
	E-gamma(MeV)	1.5060E+00	3.5990E+00	1.0030E+00	3.5570E+00	2.6330E+00	5.6180E-01	1.9146E+00	3.0923E+00	0.0	8.3846E-02	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	1.0764E-01	7.2000E-04	0.0	0.0	0.0	0.0
Cumulative yield	235U (T)	2.1000E-09	9.7021E-06	5.5907E-03	4.1756E-02	4.8345E-02	3.4245E-01	3.4903E-01	2.3591E-02	3.6024E-01	1.0700E-05	1.0048E-06
	235U (F)	7.2000E-09	3.3407E-05	1.5540E-02	1.0189E-01	1.1753E-01	5.4313E-01	6.5053E-01	4.1172E-02	6.7829E-01	9.6700E-08	9.0804E-08
	235U (H)	8.8700E-12	4.8001E-07	1.2805E-03	8.0155E-02	8.1436E-02	1.5265E+00	1.9669E+00	5.1115E-01	2.4542E+00	1.3500E-04	1.2679E-04
	238U (F)	1.2500E-06	5.8425E-04	1.0376E-01	1.0031E-01	2.0407E-01	5.0903E-01	5.1004E-01	1.9358E-02	5.1105E-01	2.0600E-10	1.9344E-10
	238U (H)	1.7200E-08	1.1002E-04	3.7264E-02	3.3407E-01	3.7133E-01	1.7390E+00	1.8097E+00	1.3577E-01	1.8814E+00	3.9200E-07	3.5809E-07
	239Pu (T)	1.0100E-10	1.3901E-06	2.0564E-03	3.5399E-02	3.7455E-02	6.3194E-01	6.9145E-01	8.9291E-02	7.5962E-01	9.5500E-05	8.9677E-05
	239Pu (F)	1.5300E-10	2.4302E-06	3.2854E-03	6.5059E-02	6.8345E-02	7.8498E-01	8.5966E-01	1.0662E-01	9.3851E-01	3.8200E-06	3.5873E-06
	241Pu (T)	1.1100E-08	3.3311E-05	1.3340E-02	5.7930E-02	7.1271E-02	3.5793E-01	3.6391E-01	1.9076E-02	3.6999E-01	1.8400E-08	1.7278E-08
	233U (T)	6.2000E-11	9.6706E-07	1.9560E-03	3.7337E-02	3.9293E-02	6.2183E-01	6.8329E-01	8.3987E-02	7.5873E-01	6.0200E-05	5.6555E-05
	232Th (F)	3.4400E-07	2.1534E-04	3.6546E-02	3.9493E-02	7.6039E-02	2.0242E-01	2.0291E-01	7.7967E-03	2.0341E-01	1.3000E-10	1.2207E-10
Independent yield	236U (T)	2.1000E-09	9.7000E-06	5.5810E-03	4.1755E-02	4.1755E-02	2.4479E-01	5.5800E-03	1.1026E-02	1.7800E-04	1.0700E-06	8.6400E-11
	235U (F)	7.2000E-09	3.3400E-05	1.5507E-02	1.0189E-01	1.0189E-01	4.2394E-01	1.7393E-02	1.7393E-02	3.7200E-04	9.6700E-08	2.3800E-12
	235U (H)	8.8700E-12	4.8000E-07	1.2800E-03	8.0155E-02	8.0155E-02	1.3606E+00	4.4034E-01	4.4034E-01	4.6951E-02	1.3500E-04	2.0100E-08
	238U (F)	1.2500E-06	5.8300E-04	1.0308E-01	1.0031E-01	1.0031E-01	1.5899E-01	1.0070E-03	1.0070E-03	5.7700E-06	2.0600E-10	1.5251E-15
	238U (H)	1.7200E-08	1.1000E-04	3.7164E-02	3.3407E-01	3.3407E-01	1.0048E+00	7.0620E-02	7.0620E-02	1.0930E-03	3.9200E-07	5.9700E-12
	239Pu (T)	1.0100E-10	1.3900E-06	2.0560E-03	3.5399E-02	3.5399E-02	5.5285E-01	5.9620E-02	5.4398E-02	3.7480E-03	9.5500E-05	2.0500E-09
	239Pu (F)	1.5300E-10	2.4300E-06	3.2830E-03	6.5059E-02	6.5059E-02	6.4503E-01	7.4573E-02	7.4573E-02	4.3840E-03	3.8200E-06	2.8400E-10
	241Pu (T)	1.1100E-08	3.3300E-05	1.3307E-02	5.7930E-02	5.7930E-02	2.1647E-01	5.9750E-03	5.9750E-03	1.1000E-04	1.8400E-08	3.8710E-13
	233U (T)	6.2000E-11	9.6700E-07	1.9550E-03	3.7337E-02	3.7337E-02	5.4026E-01	6.1459E-02	6.9389E-02	6.0530E-03	6.0200E-05	2.7500E-08
	232Th (F)	3.4400E-07	2.1500E-04	3.5331E-02	3.9493E-02	3.9493E-02	7.4642E-02	4.9400E-04	4.9400E-04	3.7400E-06	1.3000E-10	1.0921E-15

Table 2.7.1 Continued

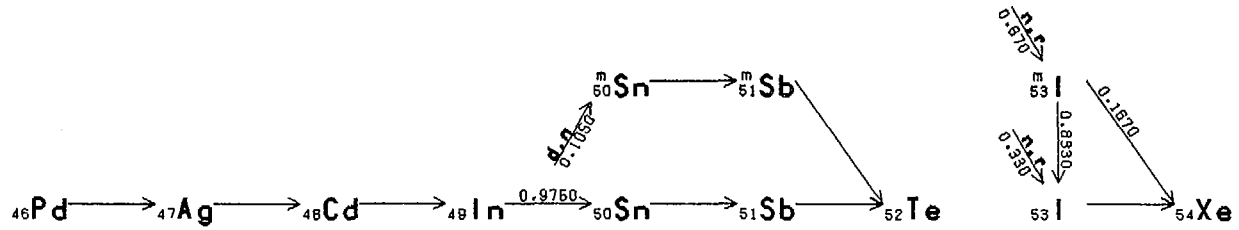
Mass No. 129



		$_{48}$Cd	$^{m}_{49}$In	$_{49}$In	$^{m}_{50}$Sn	$_{50}$Sn	$_{51}$Sb	$^{m}_{52}$Te	$_{52}$Te	$_{53}$I	$^{m}_{54}$Xe	$_{54}$Xe	$_{55}$Cs	$^{m}_{56}$Ba	$_{56}$Ba
λ(1/sec)		3.0697E-01	2.7726E-01	7.0015E-01	1.5403E-03	4.5843E-03	4.4570E-05	2.3877E-07	1.5598E-04	1.3991E-15	1.0028E-05	0.0	6.0054E-05	9.0396E-05	8.7519E-05
Q-value(MeV)		7.3770E+00	7.4100E+00	7.3222E+00	4.0250E+00	3.9900E+00	2.3669E+00	6.2980E-01	1.4980E+00	1.9200E-01	2.3614E-01	0.0	1.1340E+00	2.7241E+00	2.4470E+00
E-beta (MeV)		2.3040E+00	2.1550E+00	2.5880E+00	1.1835E+00	1.4125E+00	3.4592E-01	1.9899E-01	5.2228E-01	4.0936E-02	0.0	0.0	9.9838E-07	0.0	0.0
E-gamma(MeV)		2.2280E+00	2.9470E+00	1.8610E+00	1.1620E+00	6.4200E-01	1.4554E+00	2.9379E-02	5.5142E-02	2.9690E-03	1.2207E-02	0.0	2.5054E-01	0.0	0.0
E-I.C (MeV)		0.0	0.0	0.0	0.0	0.0	0.0	6.8364E-02	2.4195E-02	3.5512E-02	2.2413E-01	0.0	1.8334E-02	0.0	0.0
Cumulative yield	^{235}U (T)	2.1240E-03	4.4197E-02	4.6321E-02	3.5437E-01	2.5437E-01	7.0641E-01	7.0047E-02	6.8555E-01	7.1008E-01	3.1185E-10	7.1008E-01	7.1480E-16	9.7526E-23	2.9161E-23
	^{236}U (F)	3.8900E-06	1.4490E-03	1.4529E-03	9.5674E-02	9.5746E-02	7.1198E-01	1.5724E-01	8.5123E-01	9.1298E-01	3.5182E-05	9.1298E-01	1.8800E-10	4.2857E-23	1.1392E-23
	^{235}U (H)	1.4200E-04	2.5691E-02	2.5833E-02	6.0458E-01	6.4915E-01	3.2088E+00	4.4560E-01	3.3280E+00	3.4863E+00	9.2880E-07	3.4863E+00	2.1600E-11	1.6773E-17	2.7305E-18
	^{238}U (F)	5.8597E-02	1.8759E-01	2.4619E-01	3.2445E-01	5.7317E-01	1.0209E+00	9.8091E-02	9.8673E-01	1.0211E+00	2.4769E-13	1.0211E+00	7.3397E-20	1.7240E-27	4.5827E-28
	^{238}U (H)	5.8550E-03	1.7365E-01	1.8050E-01	5.7373E-01	9.5470E-01	2.0117E+00	1.9581E-01	1.9502E+00	2.0191E+00	3.9216E-10	2.0191E+00	1.1394E-15	1.0324E-22	1.5806E-23
	^{239}Pu(T)	5.6500E-04	3.5867E-02	3.7533E-02	4.5248E-01	5.1404E-01	1.4664E+00	1.5973E-01	1.4484E+00	1.5044E+00	1.5939E-08	1.5044E+00	1.1945E-13	3.9236E-20	1.1720E-20
	^{239}Pu(F)	5.4100E-04	3.9348E-02	3.9989E-02	4.5378E-01	5.1944E-01	1.5525E+00	1.7069E-01	1.5364E+00	1.5963E+00	1.9908E-08	1.5963E+00	1.5179E-13	4.8869E-20	1.2991E-20
	^{241}Pu(T)	5.2790E-03	7.0731E-02	7.5010E-02	2.7763E-01	3.9724E-01	7.6069E-01	7.3842E-02	7.3664E-01	7.6262E-01	4.2273E-11	7.6262E-01	6.7013E-17	5.1809E-24	1.5475E-24
	^{233}U (T)	4.6000E-04	2.9476E-02	2.9936E-02	4.5005E-01	5.0936E-01	1.5424E+00	1.7514E-01	1.5369E+00	1.5987E+00	3.5344E-08	1.5987E+00	3.1629E-13	1.3861E-19	4.1402E-20
	^{232}Th(F)	1.7764E-02	5.5501E-02	8.3265E-02	1.2539E-01	2.4582E-01	3.8279E-01	3.5792E-02	3.7000E-01	3.8288E-01	1.8781E-13	3.8288E-01	5.6403E-20	1.8495E-27	4.9155E-28
Independent yield	^{235}U (T)	2.1240E-03	4.4197E-02	4.4197E-02	3.5539E-01	1.7329E-01	8.5667E-02	2.3280E-03	2.3280E-03	1.5100E-05	3.1185E-10	9.3150E-11	7.1480E-16	9.7526E-23	2.9161E-23
	^{236}U (F)	3.8900E-06	1.4490E-03	1.4490E-03	9.4143E-02	9.4143E-02	5.1855E-01	9.8892E-02	9.8892E-02	3.2150E-03	3.5182E-05	8.5180E-07	1.8800E-10	4.2857E-23	1.1392E-23
	^{235}U (H)	1.4200E-04	2.5691E-02	2.5691E-02	5.0114E-01	5.0114E-01	1.9551E+00	1.3755E-01	1.3755E-01	2.3570E-03	9.2880E-07	1.5120E-07	2.1600E-11	1.6773E-17	2.7305E-18
	^{238}U (F)	5.8597E-02	1.8759E-01	1.8759E-01	2.8717E-01	2.8717E-01	2.3275E-02	5.5200E-05	5.5200E-05	2.0200E-08	2.4769E-13	5.5843E-14	7.3397E-20	1.7240E-27	4.5827E-28
	^{238}U (H)	5.8550E-03	1.7365E-01	1.7365E-01	5.4739E-01	5.4739E-01	3.7325E-01	3.5910E-03	3.5910E-03	5.2200E-06	3.9216E-10	5.3840E-11	1.1394E-15	1.0324E-22	1.5806E-23
	^{239}Pu(T)	5.6500E-04	3.5867E-02	3.5867E-02	4.4734E-01	4.4734E-01	4.9986E-01	1.8961E-02	1.8961E-02	9.5300E-05	1.5939E-08	4.7510E-09	1.1945E-13	3.9236E-20	1.1720E-20
	^{239}Pu(F)	5.4100E-04	3.9348E-02	3.9348E-02	4.4831E-01	4.4831E-01	5.7929E-01	2.1861E-02	2.1861E-02	1.2300E-04	1.9908E-08	5.2920E-09	1.5179E-13	4.8869E-20	1.2991E-20
	^{241}Pu(T)	5.2790E-03	7.0731E-02	7.0731E-02	2.5589E-01	2.5589E-01	5.5927E-02	9.1500E-04	9.1500E-04	1.0500E-06	4.2273E-11	1.2627E-11	6.7013E-17	5.1809E-24	1.5475E-24
	^{233}U (T)	4.6000E-04	2.9476E-02	2.9476E-02	4.5608E-01	4.5608E-01	5.7298E-01	2.8075E-02	2.8075E-02	1.6500E-04	3.5344E-08	1.0855E-08	3.1629E-13	1.3861E-19	4.1402E-20
	^{232}Th(F)	1.7764E-02	5.5501E-02	5.5501E-02	1.1332E-01	1.1332E-01	1.0587E-02	4.4000E-05	4.4000E-05	1.2200E-08	1.8781E-13	4.9924E-14	5.6403E-20	1.8495E-27	4.9155E-28

Table 2.7.1 Continued

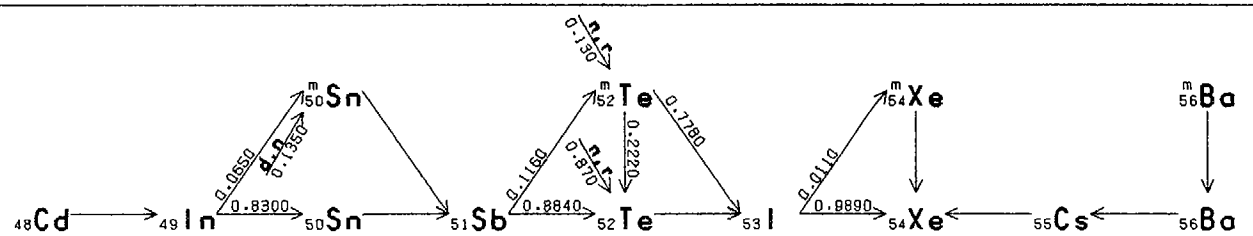
Mass No. 130



		46Pd	47Ag	48Cd	49In	m50Sn	50Sn	m51Sb	51Sb	52Te	m53I	53I	54Xe
	λ(1/sec)	6.4419E+00	6.3128E+00	4.7902E-01	1.2034E+00	6.7966E-03	3.1223E-03	2.8881E-04	1.8337E-03	0.0	1.2836E-03	1.6578E-06	0.0
	Q-value(MeV)	1.0600E+01	1.4240E+01	6.2840E+00	9.4000E+00	3.7200E+00	2.0000E+00	6.0600E+00	4.9700E+00	0.0	6.4663E-01	2.9840E+00	0.0
	E-beta (MeV)	3.8930E+00	4.3000E+00	2.2580E+00	3.0630E+00	1.4261E+00	3.6117E-01	6.9861E-01	9.6842E-01	0.0	1.6948E-01	2.8563E-01	0.0
	E-gamma(MeV)	2.2110E+00	5.0220E+00	1.2250E+00	2.6930E+00	8.6833E-01	9.8005E-01	3.2691E+00	2.7057E+00	0.0	1.0953E-01	2.1381E+00	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	4.8083E-02	5.8766E-02	2.6684E-02	1.4949E-02	0.0	4.0151E-02	0.0	0.0
Cumulative yield	236U (T)	3.6000E-12	1.6600E-07	9.5616E-04	9.5769E-02	7.1778E-01	4.0066E-01	1.0668E+00	6.4656E-01	1.7709E+00	6.6200E-06	2.1014E-04	2.2122E-04
	236U (F)	4.8900E-12	2.1800E-07	9.1522E-04	9.4256E-02	9.1132E-01	4.1096E-01	1.2268E+00	7.2859E-01	2.0101E+00	6.1600E-06	1.1291E-04	1.2323E-04
	235U (H)	5.4972E-16	2.9500E-10	7.6703E-06	8.6407E-03	4.5209E-01	1.0764E-01	1.5673E+00	1.2226E+00	3.6047E+00	9.8720E-03	1.8095E-02	1.9772E-02
	238U (F)	3.6700E-09	1.7704E-06	2.1906E-02	3.0926E-01	1.0831E+00	6.7411E-01	1.1416E+00	7.3264E-01	1.8773E+00	4.4900E-07	8.2302E-07	8.9806E-07
	238U (H)	6.4900E-12	4.1101E-07	1.2874E-03	1.8748E-01	1.4966E+00	6.1006E-01	2.1696E+00	1.1744E+00	3.4160E+00	1.3600E-04	2.4929E-04	2.7206E-04
	239Pu(T)	4.7950E-14	6.5000E-09	8.9006E-05	2.5678E-02	6.6649E-01	3.1041E-01	1.1695E+00	8.9391E-01	2.3543E+00	1.5750E-03	6.0520E-03	6.3174E-03
	239Pu(F)	4.1670E-14	6.5200E-09	8.1707E-05	2.7119E-02	6.7820E-01	2.6488E-01	1.3199E+00	9.0559E-01	2.4951E+00	1.8430E-03	3.3782E-03	3.6686E-03
	241Pu(T)	1.8200E-11	4.8702E-07	1.6366E-03	1.0456E-01	8.0230E-01	4.4364E-01	9.9374E-01	6.3521E-01	1.6664E+00	1.8900E-06	3.4644E-05	3.7807E-05
	233U (T)	1.6424E-14	2.4600E-09	4.6202E-06	1.4911E-02	5.2033E-01	2.3737E-01	9.9910E-01	6.3821E-01	2.0606E+00	8.1200E-04	2.5704E-03	2.7096E-03
	232Th(F)	9.0600E-10	5.2809E-06	7.5973E-03	1.2313E-01	4.9422E-01	2.9027E-01	5.2470E-01	3.2074E-01	8.4740E-01	3.1700E-07	5.8106E-07	6.3405E-07
Independent yield	235U (T)	3.6000E-12	1.6600E-07	9.6600E-04	9.6804E-02	7.1471E-01	3.0631E-01	3.4900E-01	2.4692E-01	6.7695E-02	6.6200E-06	1.6600E-04	1.9600E-08
	235U (F)	4.8900E-12	2.1800E-07	9.1600E-04	9.3341E-02	9.0809E-01	3.1906E-01	3.1746E-01	3.1763E-01	6.2707E-02	6.1600E-06	6.1600E-06	2.9100E-08
	235U (H)	6.4972E-16	2.9600E-10	7.6700E-06	8.6330E-03	4.5200E-01	9.9219E-02	1.1162E+00	1.1162E+00	8.1460E-01	9.8720E-03	9.8720E-03	2.8000E-05
	238U (F)	3.5700E-09	1.7700E-05	2.1888E-02	2.8734E-01	1.0605E+00	3.7259E-01	5.8427E-02	5.8427E-02	3.2570E-03	4.4900E-07	4.4900E-07	6.0000E-11
	238U (H)	6.4900E-12	4.1100E-07	1.2870E-03	1.8620E-01	1.4909E+00	3.2726E-01	6.6419E-01	6.6435E-01	8.1929E-02	1.3600E-04	1.3600E-04	4.7800E-08
	239Pu(T)	4.7960E-14	6.6000E-09	8.9000E-05	2.5688E-02	6.6686E-01	2.8537E-01	6.0302E-01	6.8361E-01	2.9089E-01	1.5760E-03	4.7400E-03	2.4100E-06
	239Pu(F)	4.1670E-14	6.6200E-09	8.1700E-05	2.7037E-02	6.7866E-01	2.3844E-01	6.4066E-01	6.4070E-01	2.6966E-01	1.8430E-03	1.8430E-03	2.6800E-06
	241Pu(T)	1.8200E-11	4.8700E-07	1.6350E-03	1.0293E-01	7.9728E-01	3.4169E-01	1.9143E-01	1.9156E-01	2.6410E-02	1.8900E-05	1.8900E-05	7.0900E-09
	233U (T)	1.6424E-14	2.4600E-09	4.6200E-06	1.4866E-02	6.1895E-01	2.2283E-01	4.7877E-01	4.0083E-01	4.1322E-01	8.1200E-04	1.8840E-03	3.6500E-06
	232Th(F)	9.0600E-10	5.2800E-06	7.5920E-03	1.1554E-01	4.8446E-01	1.7022E-01	3.0471E-02	3.0471E-02	1.9590E-03	3.1700E-07	3.1700E-07	4.9600E-11

Table 2.7.1 Continued

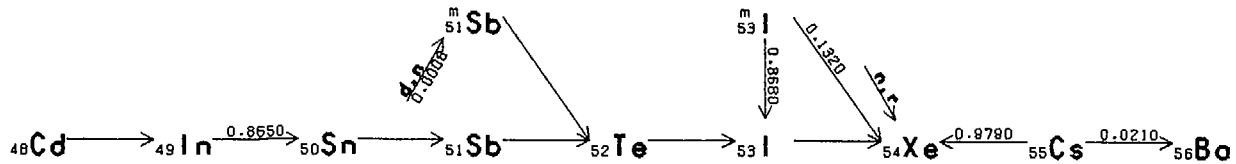
Mass No. 131



		48Cd	49In	m50Sn	50Sn	51Sb	m52Te	52Te	53I	m54Xe	54Xe	55Cs	m56Ba	56Ba
	λ(1/sec)	3.0150E+00	2.6672E+00	1.1363E-02	1.7773E-02	5.0228E-04	6.4180E-06	4.6210E-04	9.9782E-07	6.7414E-07	0.0	8.2792E-07	7.9126E-04	5.7989E-07
	Q-value(MeV)	1.0900E+01	7.1320E+00	6.0500E+00	4.6200E+00	3.1689E+00	1.9320E+00	2.2490E+00	9.6900E-01	1.6393E-01	0.0	3.5600E-01	1.8750E-01	1.3410E+00
	E-beta (MeV)	3.5180E+00	2.7070E+00	1.0980E+00	1.5379E+00	5.7959E-01	1.5323E-01	6.9861E-01	1.8153E-01	0.0	0.0	0.0	0.0	0.0
	E-gamma(MeV)	3.2670E+00	2.0170E+00	2.3910E+00	7.9820E-01	1.8634E+00	1.4028E+00	4.1195E-01	3.7704E-01	3.1149E-03	0.0	0.0	5.6311E-02	4.4770E-01
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	5.3585E-02	2.4403E-02	8.5464E-03	1.6082E-01	0.0	0.0	1.3109E-01	3.0973E-02
Cumulative yield	236U (T)	7.1700E-05	2.9217E-02	4.3028E-01	4.5172E-01	2.5845E+00	5.0369E-01	2.4905E+00	2.8865E+00	3.1754E-02	2.8865E+00	8.8400E-11	1.4782E-16	1.8249E-16
	235U (F)	7.9800E-05	3.0800E-02	5.4317E-01	5.6809E-01	2.8095E+00	5.1387E-01	2.7792E+00	3.1822E+00	3.5006E-02	3.1822E+00	4.8300E-11	6.2125E-17	7.4849E-17
	235U (H)	2.1500E-07	8.2821E-04	8.2853E-02	8.3481E-02	2.0800E+00	1.1689E+00	3.0031E+00	4.0383E+00	4.4672E-02	4.0386E+00	1.0800E-07	9.8790E-13	1.1100E-12
	238U (F)	3.8220E-03	2.1558E-01	1.1562E+00	1.3118E+00	3.1487E+00	4.0127E-01	2.8961E+00	3.2073E+00	3.5281E-02	3.2073E+00	2.7366E-14	7.8975E-21	9.6161E-21
	238U (H)	9.1600E-05	4.3691E-02	6.2102E-01	6.5368E-01	3.6363E+00	5.3999E-01	3.5686E+00	3.9833E+00	4.3817E-02	3.9833E+00	5.6800E-11	7.4662E-17	8.3889E-17
	239Pu (T)	5.3200E-06	6.0123E-03	3.0792E-01	3.1235E-01	2.4811E+00	1.2017E+00	2.9064E+00	3.8707E+00	4.2612E-02	3.8708E+00	4.3200E-09	1.5818E-14	2.0763E-14
	239Pu (F)	4.2400E-06	5.3062E-03	2.5796E-01	2.6196E-01	2.7408E+00	8.5897E-01	3.1597E+00	3.8651E+00	4.2544E-02	3.8652E+00	3.9300E-09	1.8821E-14	2.2676E-14
	241Pu (T)	1.9900E-04	4.7864E-02	6.4883E-01	6.8428E-01	2.5607E+00	4.1584E-01	2.4723E+00	2.7971E+00	3.0769E-02	2.7971E+00	7.7100E-12	7.9136E-18	9.7699E-18
	233U (T)	2.7300E-06	3.5917E-03	2.4047E-01	2.4319E-01	2.1225E+00	1.2802E+00	2.6349E+00	3.5801E+00	4.0534E-02	3.5802E+00	7.8601E-09	4.4370E-14	5.4778E-14
	232Th (F)	1.4180E-03	9.2972E-02	5.6867E-01	6.3558E-01	1.5857E+00	2.0542E-01	1.4549E+00	1.5148E+00	1.7762E-02	1.5148E+00	2.9688E-14	1.0158E-20	1.2239E-20
Independent yield	235U (T)	7.1700E-05	2.9145E-02	4.2747E-01	4.2747E-01	1.7026E+00	2.0388E-01	9.3932E-02	4.1520E-03	2.0100E-05	2.0100E-05	8.8400E-11	1.4782E-16	3.4673E-17
	235U (F)	7.9800E-05	3.0720E-02	5.4062E-01	5.4062E-01	1.7002E+00	1.8797E-01	1.8156E-01	3.2620E-03	1.1700E-05	1.1700E-05	4.8300E-11	6.2126E-17	1.2724E-17
	236U (H)	2.1600E-07	8.2800E-04	8.2793E-02	8.2793E-02	1.9136E+00	9.2769E-01	9.0490E-01	1.2681E-01	2.5100E-04	2.5100E-04	1.0800E-07	9.8790E-13	1.2210E-13
	238U (F)	3.8220E-03	2.1176E-01	1.1329E+00	1.1329E+00	6.8069E-01	3.6025E-02	2.2555E-02	5.6700E-05	3.0400E-09	1.0700E-09	2.7356E-14	7.8975E-21	1.6176E-21
	238U (H)	9.1600E-05	4.3699E-02	6.1742E-01	6.1742E-01	2.3616E+00	1.1818E-01	2.2418E-01	4.5960E-03	1.0700E-06	2.3600E-07	5.6800E-11	7.4662E-17	8.2278E-18
	239Pu (T)	5.3200E-06	6.0070E-03	3.0736E-01	3.0736E-01	1.8709E+00	9.1269E-01	4.3745E-01	2.9414E-02	3.4400E-05	3.4400E-05	4.3200E-09	1.5818E-14	3.9450E-15
	239Pu (F)	4.2400E-06	5.3020E-03	2.5766E-01	2.5766E-01	2.2209E+00	5.5103E-01	5.4395E-01	2.9313E-02	2.8200E-05	2.8200E-05	3.9300E-09	1.8821E-14	3.8549E-16
	241Pu (T)	1.9900E-04	4.7655E-02	6.4456E-01	6.4456E-01	1.2276E+00	1.1880E-01	1.1636E-01	1.2760E-03	3.0400E-07	3.0400E-07	7.7100E-12	7.9136E-18	1.8563E-18
	233U (T)	2.7300E-06	3.5890E-03	2.4021E-01	2.4021E-01	1.6389E+00	1.0340E+00	4.7431E-01	4.8223E-02	5.3400E-05	5.3400E-05	7.8600E-09	4.4370E-14	1.0408E-14
	232Th (F)	1.4180E-03	9.1554E-02	5.5841E-01	5.5841E-01	3.8143E-01	2.1485E-02	7.5490E-03	6.1300E-05	8.0800E-09	8.0800E-09	2.9688E-14	1.0158E-20	2.0805E-21

Table 2.7.1 Continued

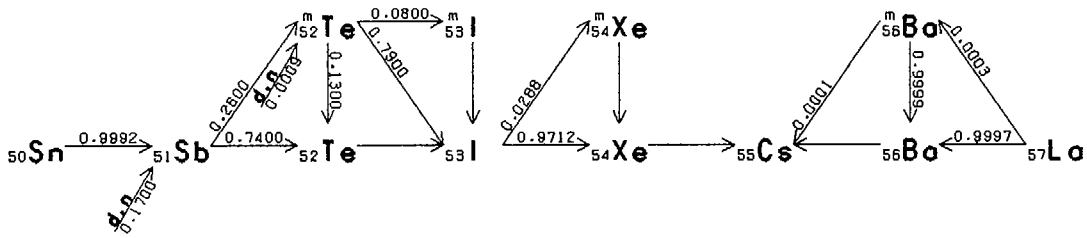
Mass No. 132



		48Cd	49In	50Sn	m51Sb	51Sb	52Te	m53I	53I	54Xe	55Cs	56Ba
	λ(1/sec)	3.4112E+00	5.3319E+00	1.7329E-02	2.7506E-03	4.1259E-03	2.5038E-06	1.3819E-04	6.4448E-05	0.0	1.2390E-06	0.0
	Q-value(MeV)	9.3060E+00	9.8000E+00	3.2200E+00	5.6500E+00	5.6000E+00	4.9300E-01	5.9266E-01	3.5800E+00	0.0	2.0935E+00	0.0
	E-beta (MeV)	3.4060E+00	3.1580E+00	7.3644E-01	1.2454E+00	1.1970E+00	5.9414E-02	6.3660E-02	4.9368E-01	0.0	7.7112E-03	0.0
	E-gamma(MeV)	1.8970E+00	2.8980E+00	1.2775E+00	2.5726E+00	2.7280E+00	2.0507E-01	3.1250E-01	2.2768E+00	0.0	7.0485E-01	0.0
	E-I.C (MeV)	0.0	0.0	4.0185E-02	6.2894E-02	0.0	5.5496E-02	1.0044E-01	0.0	0.0	0.0	0.0
Cumulative yield	235U (T)	5.8000E-06	6.7538E-03	5.7718E-01	8.7481E-01	1.9155E+00	4.2852E+00	7.0451E-03	4.3011E+00	4.3022E+00	7.4200E-08	1.5583E-09
	235U (F)	4.0700E-06	4.7801E-03	6.0402E-01	1.1944E+00	1.7983E+00	4.5552E+00	1.7584E-02	4.5902E+00	4.5927E+00	6.9600E-09	1.4520E-10
	235U (H)	3.3500E-09	4.5003E-05	3.0746E-02	5.3485E-01	5.5559E-01	3.9857E+00	4.3382E-01	4.5396E+00	4.7062E+00	6.9300E-05	1.4579E-07
	238U (F)	4.9300E-04	6.8651E-02	2.9255E+00	8.8684E-01	3.8113E+00	5.1610E+00	7.0171E-04	5.1624E+00	5.1624E+00	8.9200E-12	1.8734E-13
	238U (H)	3.5200E-05	5.7005E-03	5.2252E-01	1.4195E+00	1.9419E+00	4.8147E+00	3.0176E-02	4.8602E+00	4.8643E+00	9.2500E-09	1.9428E-10
	239Pu(T)	3.5900E-07	1.2724E-03	4.9176E-01	5.7717E-01	2.3992E+00	5.2164E+00	8.0275E-02	5.3969E+00	5.4094E+00	3.5000E-07	7.5572E-09
	239Pu(F)	1.1600E-07	4.5812E-04	1.6199E-01	9.2607E-01	1.0860E+00	5.0297E+00	1.0096E-01	5.2312E+00	5.2462E+00	3.5900E-07	7.7568E-08
	241Pu(T)	1.2400E-05	8.5854E-03	8.5330E-01	1.0578E+00	1.9309E+00	4.1285E+00	7.1510E-03	4.1447E+00	4.1457E+00	1.4400E-09	3.0247E-11
	233U (T)	6.2000E-08	2.4106E-04	1.2578E-01	4.0203E-01	9.4838E-01	4.5885E+00	1.3557E-01	4.9936E+00	5.0142E+00	5.9900E-07	1.2595E-08
	232Th(F)	1.9200E-04	3.1222E-02	1.5211E+00	5.2726E-01	2.0478E+00	2.8926E+00	5.4473E-04	2.8937E+00	2.8937E+00	9.5900E-12	2.0351E-13
Independent yield	235U (T)	5.8000E-06	5.7460E-03	5.7134E-01	8.7470E-01	1.3384E+00	1.4949E+00	7.0451E-03	9.7289E-03	1.7900E-04	7.4200E-08	1.0729E-13
	235U (F)	4.0700E-06	4.7760E-03	5.9988E-01	1.1943E+00	1.1943E+00	1.5524E+00	1.7584E-02	1.9829E-02	1.0500E-04	6.9600E-09	4.4843E-14
	235U (H)	3.3500E-09	4.5000E-05	3.0707E-02	5.3484E-01	5.3484E-01	2.8852E+00	4.3382E-01	2.7736E-01	9.3110E-03	6.9300E-06	2.5700E-10
	238U (F)	4.9300E-04	6.8158E-02	2.8561E+00	8.8579E-01	8.8579E-01	4.5284E-01	7.0171E-04	7.9129E-04	1.2300E-06	8.9200E-12	1.5085E-17
	238U (H)	3.5200E-06	5.5970E-03	5.1759E-01	1.4194E+00	1.4194E+00	1.4534E+00	3.0176E-02	1.9293E-02	1.0300E-04	9.2500E-09	3.7518E-14
	239Pu(T)	3.5900E-07	1.2720E-03	4.9066E-01	5.7714E-01	1.9075E+00	2.2399E+00	8.0276E-02	1.1086E-01	1.8640E-03	3.5000E-07	7.2300E-12
	239Pu(F)	1.1600E-07	4.5800E-04	1.6160E-01	9.2605E-01	9.2605E-01	3.0156E+00	1.0096E-01	1.1384E-01	1.6570E-03	3.5900E-07	5.7900E-12
	241Pu(T)	1.2400E-05	8.5730E-03	8.5587E-01	1.0575E+00	1.0575E+00	1.1300E+00	7.1510E-03	9.8890E-03	3.7700E-05	1.4400E-09	7.5118E-15
	233U (T)	6.2000E-08	2.4100E-04	1.2557E-01	4.0202E-01	6.2160E-01	3.3381E+00	1.3557E-01	1.8735E-01	2.7540E-03	5.9900E-07	1.6600E-11
	232Th(F)	1.9200E-04	3.1030E-02	1.4940E+00	5.2575E-01	5.2575E-01	3.1761E-01	5.4473E-04	5.1427E-04	1.1300E-05	9.5900E-12	2.0277E-17

Table 2.7.1 Continued

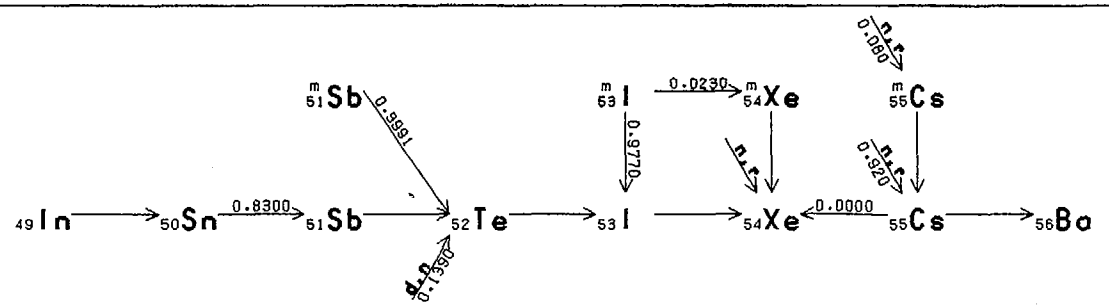
Mass No. 133



		$_{50}$Sn	$_{51}$Sb	$^{m}_{52}$Te	$_{52}$Te	$^{m}_{53}$I	$_{53}$I	$^{m}_{54}$Xe	$_{54}$Xe	$_{55}$Cs	$^{m}_{56}$Ba	$_{56}$Ba	$_{57}$La
	λ(1/sec)	4.7163E-01	4.9369E-03	2.0853E-04	9.2791E-04	7.7016E-02	9.2668E-06	3.6632E-06	1.6166E-06	0.0	4.9496E-06	2.0919E-09	4.9219E-06
	Q-value(MeV)	7.2400E+00	3.8631E+00	2.7873E+00	2.9700E+00	1.6342E+00	1.7633E+00	2.3322E-01	4.2730E-01	0.0	2.8844E-01	6.2040E-01	1.9999E+00
	E-beta (MeV)	2.4100E+00	7.4827E-01	5.9746E-01	8.0522E-01	0.0	4.0641E-01	0.0	1.0011E-01	0.0	0.0	0.0	2.6606E-02
	E-gamma(MeV)	1.8610E+00	1.9542E+00	2.3316E+00	9.6173E-01	1.6605E+00	6.1129E-01	2.3320E-02	3.0149E-02	0.0	4.9684E-02	3.4631E-01	1.1879E-01
	E-I.C (MeV)	0.0	0.0	4.4483E-02	0.0	7.0766E-02	0.0	2.0988E-01	5.1441E-02	0.0	2.3828E-01	6.2896E-02	1.1960E-02
Cumulative yield	^{236}U (T)	1.4897E-01	2.3776E+00	3.4580E+00	3.6097E+00	3.4662E-01	6.7003E+00	1.9606E-01	6.7031E+00	6.7031E+00	3.6343E-11	4.6896E-11	2.7404E-17
	^{235}U (F)	1.5246E-01	2.3361E+00	2.5726E+00	4.0280E+00	3.8282E-01	6.6202E+00	1.9535E-01	6.6264E+00	6.6264E+00	1.5089E-11	1.9098E-11	1.0927E-17
	^{235}U (H)	4.1210E-03	4.8312E-01	1.9830E+00	2.5604E+00	7.7620E-01	5.3487E+00	3.0166E-01	5.6384E+00	5.6386E+00	2.9240E-08	3.3997E-08	1.8383E-13
	^{238}U (F)	1.3180E+00	4.5976E+00	2.1885E+00	4.6503E+00	1.8970E-01	5.6836E+00	1.9092E-01	5.6863E+00	5.6863E+00	1.0335E-14	1.3081E-14	9.5553E-22
	^{238}U (H)	1.4136E-01	2.5162E+00	2.2916E+00	3.7966E+00	3.5658E-01	6.1353E+00	1.9206E-01	6.1537E+00	6.1537E+00	1.1266E-11	1.3099E-11	8.4323E-18
	^{239}Pu (T)	3.1635E-02	1.2457E+00	3.0384E+00	3.0006E+00	6.7452E-01	6.9777E+00	2.3995E-01	7.0278E+00	7.0278E+00	1.4014E-09	1.8198E-09	3.1172E-15
	^{239}Pu (F)	2.4795E-02	1.0782E+00	2.5975E+00	3.4625E+00	7.8179E-01	6.8603E+00	2.4361E-01	6.9208E+00	6.9209E+00	1.4299E-09	1.8098E-09	3.5395E-15
	^{241}Pu (T)	2.6905E-01	2.7614E+00	2.5042E+00	4.1647E+00	3.0496E-01	5.6426E+00	1.8906E-01	5.6438E+00	5.6438E+00	2.7566E-12	3.5797E-12	1.4848E-18
	^{233}U (T)	1.7888E-02	8.1083E-01	3.0647E+00	2.3600E+00	6.0700E-01	5.8612E+00	2.1664E-01	6.0214E+00	6.0214E+00	2.6487E-09	3.3097E-09	7.0675E-16
	^{232}Th (F)	6.3909E-01	2.4590E+00	1.2629E+00	2.6068E+00	1.4126E-01	3.7991E+00	1.0945E-01	3.7992E+00	3.7992E+00	1.2985E-14	1.6436E-14	1.4330E-21
Independent yield	^{236}U (T)	1.4897E-01	2.2270E+00	2.8395E+00	1.3008E+00	6.8980E-02	1.1311E-01	2.0830E-03	7.0800E-04	8.3700E-07	3.6343E-11	1.0567E-11	2.7404E-17
	^{235}U (F)	1.5246E-01	2.1809E+00	1.9649E+00	1.9649E+00	1.7701E-01	1.7701E-01	4.6840E-03	1.6300E-03	9.0000E-07	1.5089E-11	4.0110E-12	1.0927E-17
	^{235}U (H)	4.1210E-03	4.7897E-01	1.8574E+00	1.8451E+00	6.1656E-01	4.4647E-01	1.4760E-01	4.2050E-02	2.5300E-04	2.9240E-08	4.7600E-09	1.8383E-13
	^{238}U (F)	1.3180E+00	3.2251E+00	9.9208E-01	9.6355E-01	1.4617E-02	1.4617E-02	1.3100E-03	4.5200E-04	2.5000E-09	1.0335E-14	2.7474E-15	9.5553E-22
	^{238}U (H)	1.4136E-01	2.3711E+00	1.6372E+00	1.6363E+00	1.7326E-01	1.7296E-01	1.6366E-02	3.0710E-03	8.1600E-07	1.1266E-11	1.8340E-12	8.4323E-18
	^{239}Pu (T)	3.1635E-02	1.2138E+00	2.7144E+00	1.6838E+00	4.3146E-01	9.0222E-01	3.8996E-02	1.1100E-02	2.6600E-05	1.4014E-09	4.1860E-10	3.1172E-16
	^{239}Pu (F)	2.4795E-02	1.0531E+00	2.3170E+00	2.3170E+00	5.7400E-01	5.7399E-01	4.6035E-02	1.4479E-02	2.7600E-05	1.4299E-09	3.8010E-10	3.5395E-15
	^{241}Pu (T)	2.6906E-01	2.4867E+00	1.7867E+00	1.7867E+00	1.0461E-01	1.0461E-01	6.3800E-04	6.3800E-04	2.3100E-07	2.7566E-12	8.2340E-13	1.4848E-18
	^{233}U (T)	1.7988E-02	7.9268E-01	2.8438E+00	1.3629E+00	3.6262E-01	5.8089E-01	4.3869E-02	1.6382E-02	3.6200E-05	2.6487E-09	7.6130E-10	7.0676E-15
	^{232}Th (F)	6.3909E-01	1.7903E+00	6.2289E-01	6.2302E-01	4.0224E-02	5.3321E-02	3.0500E-05	3.0600E-05	2.6900E-09	1.2985E-14	3.4618E-15	1.4330E-21

Table 2.7.1 Continued

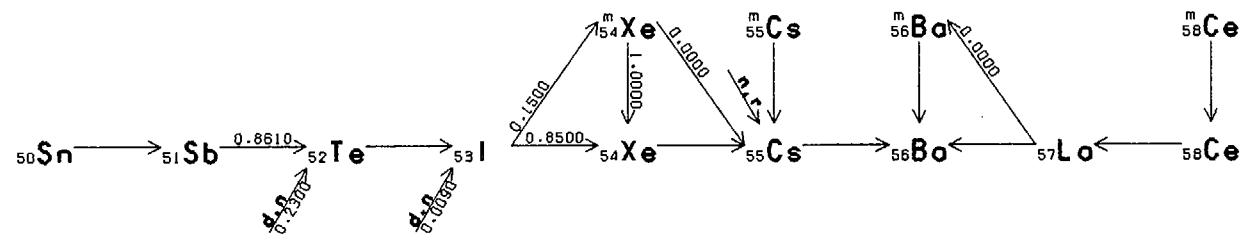
Mass No. 134



		49In	50Sn	m51Sb	51Sb	52Te	m53I	53I	m54Xe	54Xe	m55Cs	55Cs	56Ba
	λ(1/sec)	4.2865E+00	6.6649E-01	6.6649E-02	8.1547E-01	2.7637E-04	3.0401E-03	2.1963E-04	2.3902E+00	0.0	6.6393E-05	1.0662E-08	0.0
	Q-value(MeV)	1.3310E+01	6.0700E+00	6.8924E+00	6.4000E+00	1.5600E+00	3.6654E-01	4.1500E+00	1.9656E+00	0.0	1.3868E-01	2.0584E+00	0.0
	E-beta (MeV)	3.9920E+00	2.2960E+00	2.2840E+00	2.7810E+00	2.0619E-01	2.3206E-02	6.1090E-01	0.0	0.0	0.0	1.6326E-01	0.0
	E-gamma(MeV)	4.6990E+00	1.2480E+00	3.2720E+00	2.2660E+00	8.9352E-01	2.2047E-01	2.6768E+00	1.8920E+00	0.0	1.6943E-02	1.6647E+00	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	4.2888E-02	8.9784E-02	0.0	7.3804E-02	0.0	1.2282E-01	0.0	0.0
Cumulative yield	235U (T)	3.9600E-06	1.0692E-02	2.4556E-01	4.1489E-01	6.8935E+00	3.5169E-01	7.7226E+00	4.7803E-02	7.8101E+00	5.6700E-06	1.3500E-05	1.3507E-05
	235U (F)	9.4000E-06	1.6885E-02	3.8468E-01	3.8869E-01	6.2846E+00	6.3571E-01	7.5514E+00	3.9076E-02	7.6149E+00	2.3369E-05	4.9700E-05	4.9705E-05
	235U (H)	1.7400E-08	1.6802E-04	3.6220E-02	3.6369E-02	1.9571E+00	1.7208E+00	5.3290E+00	3.1862E-01	6.9266E+00	3.3276E-03	6.4650E-03	6.4679E-03
	238U (F)	5.8800E-04	3.2690E-01	1.0271E+00	1.2985E+00	7.6565E+00	1.0629E-01	7.8571E+00	3.8006E-03	7.8722E+00	1.5416E-07	3.2800E-07	3.2801E-07
	238U (H)	1.4000E-05	1.6655E-02	4.7976E-01	4.9358E-01	5.1123E+00	8.2878E-01	6.4519E+00	3.6025E-02	6.5049E+00	2.6474E-05	4.3400E-05	4.3403E-05
	239Pu(T)	3.1300E-07	1.8733E-03	1.2121E-01	1.2276E-01	4.6012E+00	1.1457E+00	7.3028E+00	1.9243E-01	7.6613E+00	4.1496E-04	9.8800E-04	9.8833E-04
	239Pu(F)	2.9600E-07	1.6213E-03	1.2080E-01	1.2215E-01	4.2006E+00	1.4210E+00	7.0070E+00	1.7992E-01	7.3342E+00	4.7423E-04	1.0090E-03	1.0093E-03
	241Pu(T)	2.4100E-05	3.4753E-02	4.9243E-01	5.2127E-01	6.3726E+00	4.4694E-01	7.2563E+00	2.4421E-02	7.2949E+00	7.3500E-06	1.7500E-05	1.7501E-05
	233U (T)	1.2300E-07	1.0091E-03	7.2940E-02	7.3778E-02	3.6471E+00	9.5066E-01	5.9920E+00	2.1773E-01	6.4056E+00	5.4642E-04	1.3010E-03	1.3016E-03
	232Th(F)	2.7500E-04	1.7717E-01	6.4265E-01	7.8970E-01	5.2115E+00	8.6488E-02	5.3825E+00	3.2662E-03	5.3870E+00	1.7108E-07	3.6400E-07	3.6401E-07
Independent yield	235U (T)	3.9600E-06	1.0688E-02	2.4566E-01	4.0602E-01	6.2126E+00	3.6169E-01	4.8648E-01	3.9714E-02	3.9714E-02	5.6700E-06	7.8300E-06	6.7700E-09
	235U (F)	9.4000E-06	1.6876E-02	3.8468E-01	3.8468E-01	5.4866E+00	6.3571E-01	6.3571E-01	2.4455E-02	2.4455E-02	2.3369E-05	2.6341E-05	4.9400E-09
	235U (H)	1.7400E-08	1.6800E-04	3.6220E-02	3.6220E-02	1.8933E+00	1.7208E+00	1.6807E+00	2.7894E-01	2.7894E-01	3.3276E-03	2.1274E-03	2.9400E-06
	238U (F)	5.8800E-04	3.2631E-01	1.0271E+00	1.0271E+00	5.2042E+00	1.0629E-01	1.0568E-01	1.3560E-03	1.3560E-03	1.5416E-07	1.7384E-07	9.4700E-12
	238U (H)	1.4000E-05	1.6641E-02	4.7976E-01	4.7976E-01	4.1080E+00	8.2878E-01	5.2988E-01	1.6963E-02	1.6963E-02	2.6474E-05	1.6926E-05	2.8400E-09
	239Pu(T)	3.1300E-07	1.8730E-03	1.2121E-01	1.2121E-01	4.3503E+00	1.1457E+00	1.5822E+00	1.6607E-01	1.6607E-01	4.1496E-04	5.7904E-04	3.3200E-07
	239Pu(F)	2.9600E-07	1.6210E-03	1.2080E-01	1.2080E-01	3.9524E+00	1.4210E+00	1.4181E+00	1.4724E-01	1.4724E-01	4.7423E-04	5.3477E-04	3.1000E-07
	241Pu(T)	2.4100E-05	3.4729E-02	4.9243E-01	4.9243E-01	5.3185E+00	4.4694E-01	4.4702E-01	1.4141E-02	1.4141E-02	7.3500E-06	1.0150E-06	1.3800E-09
	233U (T)	1.2300E-07	1.0090E-03	7.2940E-02	7.2940E-02	3.4976E+00	9.6066E-01	1.4161E+00	1.9586E-01	1.9586E-01	5.4642E-04	7.5468E-04	5.0000E-07
	232Th(F)	2.7500E-04	1.7690E-01	6.4265E-01	6.4265E-01	3.6813E+00	8.6488E-02	8.6488E-02	1.2770E-03	1.2770E-03	1.7108E-07	1.9292E-07	1.2300E-11

Table 2.7.1 Continued

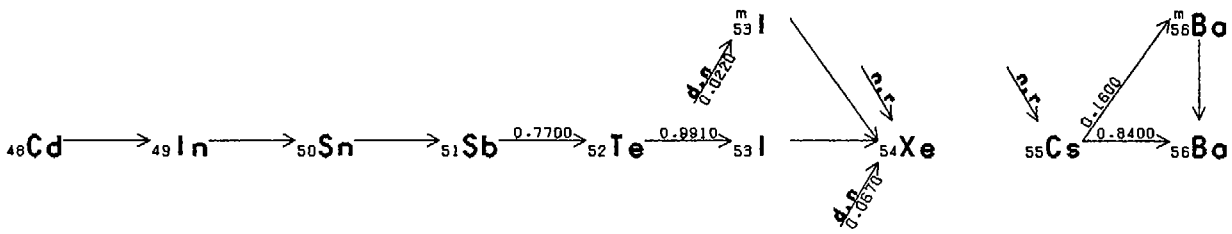
Mass No. 135



		$_{50}$Sn	$_{51}$Sb	$_{52}$Te	$_{53}$I	$^{m}_{54}$Xe	$_{54}$Xe	$^{m}_{55}$Cs	$_{55}$Cs	$^{m}_{56}$Ba	$_{56}$Ba	$_{57}$La	$^{m}_{58}$Ce	$_{58}$Ce
	λ(1/sec)	5.7965E-01	4.0535E-01	3.6101E-02	2.9129E-05	7.3682E-04	2.1205E-06	2.1797E-04	9.5500E-15	6.7087E-06	0.0	9.8738E-06	3.4657E-02	1.0841E-05
	Q-value(MeV)	8.1620E+00	7.5200E+00	5.2000E+00	5.6320E+00	5.2655E-01	1.1590E+00	1.5210E+00	2.0500E-01	2.6824E-01	0.0	1.2000E+00	4.4540E-01	2.1200E+00
	E-beta (MeV)	2.5550E+00	2.4800E+00	1.5320E+00	3.6657E-01	1.2994E-05	3.0257E-01	0.0	5.6272E-02	0.0	0.0	1.3169E-05	0.0	1.7920E-03
	E-gamma(MeV)	2.4820E+00	1.7900E+00	2.6200E+00	1.6451E+00	4.3965E-01	2.4658E-01	1.5842E+00	0.0	4.2918E-02	0.0	1.0484E-02	2.5938E-01	8.0014E-01
	E-I.C (MeV)	0.0	0.0	0.0	0.0	8.9505E-02	1.4988E-02	3.6783E-02	0.0	2.2532E-01	0.0	0.0	1.9112E-01	2.4208E-02
Cumulative yield	^{235}U (T)	9.6900E-04	1.4801E-01	3.2580E+00	5.3056E+00	1.1176E+00	6.5483E+00	7.5544E-04	6.5503E+00	6.8018E-07	6.5503E+00	1.0000E-11	7.6675E-18	9.9577E-18
	^{235}U (F)	9.7400E-04	1.7965E-01	3.3483E+00	6.0270E+00	1.1108E+00	6.3499E+00	5.5169E-04	6.3512E+00	3.1672E-07	6.3512E+00	4.0700E-12	2.2939E-18	2.9036E-18
	^{235}U (H)	6.0300E-06	8.7590E-03	7.0117E-01	4.1782E+00	1.6465E+00	6.8267E+00	2.7671E-02	6.8746E+00	6.9618E-05	6.8746E+00	6.8600E-09	2.1059E-14	2.4487E-14
	^{238}U (F)	3.1672E-02	9.1835E-01	5.9116E+00	6.7898E+00	1.0341E+00	6.8164E+00	7.5250E-06	6.8165E+00	1.0212E-09	6.8165E+00	1.8769E-15	2.4195E-22	3.0626E-22
	^{238}U (H)	1.1790E-03	2.2665E-01	2.9502E+00	5.6098E+00	1.0257E+00	5.8471E+00	5.1678E-04	5.8480E+00	1.7220E-07	5.8480E+00	2.0500E-12	7.0261E-19	8.1599E-19
	^{239}Pu (T)	9.2400E-05	5.0678E-02	2.3459E+00	6.2911E+00	1.6636E+00	7.4037E+00	5.7996E-03	7.4180E+00	1.2141E-05	7.4180E+00	5.1000E-10	9.6253E-16	1.2500E-15
	^{239}Pu (F)	5.5800E-05	3.8784E-02	1.8894E+00	6.1437E+00	1.6862E+00	7.4796E+00	6.7660E-03	7.4963E+00	1.1470E-05	7.4963E+00	4.9900E-10	9.3447E-16	1.1829E-15
	^{241}Pu (T)	2.3920E-03	2.9384E-01	4.5195E+00	7.0588E+00	1.2231E+00	7.2901E+00	2.4852E-04	7.2908E+00	1.1786E-07	7.2908E+00	1.0200E-12	4.1813E-19	5.4302E-19
	^{233}U (T)	3.2200E-05	2.0503E-02	1.3866E+00	4.9206E+00	1.5761E+00	6.2042E+00	6.9481E-03	6.2226E+00	1.9170E-05	6.2226E+00	9.4500E-10	2.3181E-15	3.0105E-15
	^{232}Th (F)	2.1119E-02	7.0790E-01	4.4673E+00	5.2749E+00	8.0580E-01	5.3040E+00	8.7720E-06	5.3041E+00	1.5022E-09	5.3041E+00	3.2650E-15	4.9903E-22	6.3168E-22
Independent yield	^{235}U (T)	9.6900E-04	1.4705E-01	3.1259E+00	3.0337E+00	1.7174E-01	7.0975E-02	7.5544E-04	1.2326E-03	6.8018E-07	2.7782E-07	1.0000E-11	7.6675E-18	2.2903E-18
	^{235}U (F)	9.7400E-04	1.7867E-01	3.1879E+00	2.6648E+00	2.0670E-01	1.1620E-01	5.5169E-04	7.3131E-04	3.1672E-07	1.1128E-07	4.0700E-12	2.2939E-18	5.0975E-19
	^{235}U (H)	6.0300E-06	8.7530E-03	6.9347E-01	3.4756E+00	1.0197E+00	6.2887E-01	2.7671E-02	2.0038E-02	6.9618E-05	1.5282E-05	6.8500E-09	2.1059E-14	3.4282E-15
	^{238}U (F)	3.1672E-02	8.8668E-01	5.0718E+00	6.3474E-01	1.5579E-02	1.1060E-02	7.5250E-06	9.9750E-06	1.0212E-09	3.5880E-10	1.8769E-15	2.4195E-22	6.4316E-23
	^{238}U (H)	1.1790E-03	2.2447E-01	2.7447E+00	2.5360E+00	1.9925E-01	1.3807E-01	5.1678E-04	3.7422E-04	1.7220E-07	3.7800E-08	2.0500E-12	7.0261E-19	1.1438E-19
	^{239}Pu (T)	9.2400E-05	5.0585E-02	2.3016E+00	3.9403E+00	7.0993E-01	4.0271E-01	5.7996E-03	9.4624E-03	1.2141E-05	4.9590E-06	5.1000E-10	9.6253E-16	2.8751E-16
	^{239}Pu (F)	5.5800E-05	3.8718E-02	1.8553E+00	4.2494E+00	7.7466E-01	5.6115E-01	6.7660E-03	8.9689E-03	1.1470E-05	4.0300E-06	4.9900E-10	9.3447E-16	2.4840E-16
	^{241}Pu (T)	2.3920E-03	2.9145E-01	4.2573E+00	2.5197E+00	1.6429E-01	6.7107E-02	2.4852E-04	4.0548E-04	1.1786E-07	4.8140E-08	1.0200E-12	4.1813E-19	1.2489E-19
	^{233}U (T)	3.2200E-05	2.0471E-02	1.3686E+00	3.5300E+00	8.3804E-01	4.4564E-01	6.9491E-03	1.1338E-02	1.9170E-05	7.8300E-06	9.4500E-10	2.3181E-15	6.9243E-16
	^{232}Th (F)	2.1119E-02	6.8678E-01	3.8264E+00	7.7466E-01	1.4569E-02	1.4569E-02	8.7720E-06	1.1628E-05	1.5022E-09	5.2780E-10	3.2650E-15	4.9903E-22	1.3266E-22

Table 2.7.1 Continued

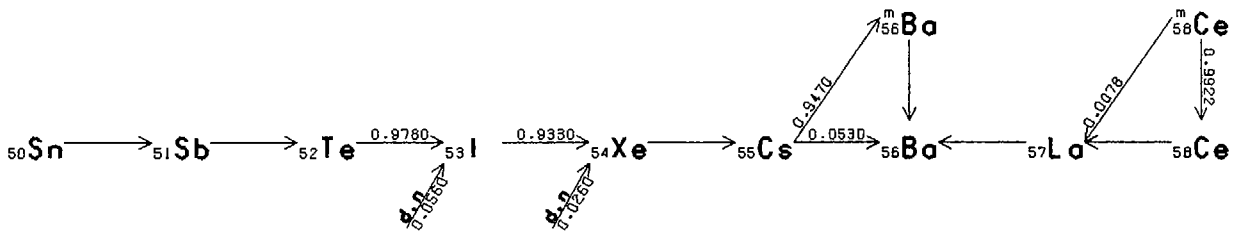
Mass No. 136



		48Cd	49In	50Sn	51Sb	52Te	m53I	53I	54Xe	55Cs	m56Ba	56Ba
	λ(1/sec)	8.8786E+00	7.7188E+00	1.0084E+00	8.4630E-01	3.9608E-02	1.6472E-02	8.1461E-03	0.0	6.1806E-07	2.1661E+00	0.0
	Q-value(MeV)	1.1170E+01	1.4670E+01	7.2330E+00	9.6400E+00	4.6000E+00	7.0100E+00	7.0000E+00	0.0	2.2232E+00	2.0306E+00	0.0
	E-beta (MeV)	4.0980E+00	4.3830E+00	2.6140E+00	2.9530E+00	1.0362E+00	1.7600E+00	1.7600E+00	0.0	9.9755E-02	0.0	0.0
	E-gamma(MeV)	2.3610E+00	6.1570E+00	1.4270E+00	2.6050E+00	2.2872E+00	2.9420E+00	2.9420E+00	0.0	1.8522E+00	1.9120E+00	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	1.3096E-02	0.0	0.0	0.0	1.1206E-02	1.1849E-01	0.0
Cumulative yield	235U (T)	2.4919E-15	7.3700E-10	2.7901E-06	1.6192E-02	1.6356E+00	1.6207E+00	3.2088E+00	6.3072E+00	6.3030E-03	8.6646E-04	6.3144E-03
	235U (F)	6.6959E-15	1.8500E-09	4.4902E-05	2.4791E-02	1.5490E+00	1.6206E+00	3.1508E+00	6.1834E+00	1.0586E-02	1.7081E-03	1.0605E-02
	235U (H)	6.3219E-19	1.4600E-12	1.5300E-07	6.7715E-04	1.6929E-01	1.0360E+00	1.1936E+00	4.6017E+00	2.0830E-01	3.4144E-02	2.0929E-01
	238U (F)	1.3200E-11	4.0701E-07	2.9974E-03	2.1372E-01	4.8276E+00	8.7006E-01	6.6910E+00	7.0662E+00	9.4600E-04	1.5153E-04	9.4623E-04
	238U (H)	2.0719E-14	6.3200E-09	8.4006E-06	4.8814E-02	2.6274E+00	1.9766E+00	2.6346E+00	6.6658E+00	2.6727E-02	4.2891E-03	2.6743E-02
	239Pu(T)	2.2462E-17	1.9000E-11	1.6200E-06	2.7636E-03	5.4603E-01	1.4769E+00	2.0165E+00	6.6576E+00	8.5008E-02	1.3924E-02	8.5469E-02
	239Pu(F)	2.4823E-17	2.1600E-11	1.6300E-06	3.1066E-03	6.4478E-01	1.6469E+00	2.1667E+00	6.8320E+00	1.3736E-01	2.2378E-02	1.3790E-01
	241Pu(T)	3.5036E-14	6.4600E-09	1.1201E-04	4.0023E-02	2.1809E+00	1.6624E+00	3.7066E+00	6.6484E+00	1.2444E-02	2.0010E-03	1.2468E-02
	233U (T)	8.6043E-18	7.3400E-12	8.6201E-07	1.6639E-03	4.4383E-01	1.3120E+00	2.1690E+00	7.0920E+00	1.0494E-01	1.7167E-02	1.0545E-01
	232Th(F)	5.4200E-12	1.8801E-07	1.6972E-03	1.4108E-01	3.6710E+00	7.5149E-01	4.3236E+00	5.6747E+00	3.0440E-03	4.8720E-04	3.0442E-03
Independent yield	235U (T)	2.4919E-15	7.3700E-10	2.7900E-06	1.6164E-02	1.6231E+00	1.6111E+00	1.6871E+00	1.3611E+00	6.3030E-03	7.9800E-06	3.4200E-06
	235U (F)	6.6959E-15	1.8600E-09	4.4900E-05	2.4746E-02	1.6299E+00	1.6111E+00	1.6157E+00	1.1881E+00	1.0586E-02	1.4356E-05	6.0440E-06
	235U (H)	6.3219E-19	1.4500E-12	1.5300E-07	6.7700E-04	1.5877E-01	1.0352E+00	1.0356E+00	2.2974E+00	2.0830E-01	8.1590E-04	1.7910E-04
	238U (F)	1.3200E-11	4.0700E-07	2.9970E-03	2.1072E-01	4.6629E+00	8.1868E-01	8.0699E-01	2.4211E-01	9.4600E-04	1.7242E-07	6.0580E-08
	238U (H)	2.0719E-14	6.3200E-09	8.4000E-05	4.8730E-02	2.6899E+00	1.9636E+00	3.0776E-02	8.3394E-01	2.6727E-02	1.2792E-05	2.8080E-06
	239Pu(T)	2.2462E-17	1.9000E-11	1.6200E-06	2.7620E-03	6.4391E-01	1.4740E+00	1.4754E+00	3.0012E+00	8.5008E-02	3.2270E-04	1.3830E-04
	239Pu(F)	2.4823E-17	2.1600E-11	1.6300E-06	3.1040E-03	5.4238E-01	1.6448E+00	1.6459E+00	2.9727E+00	1.3736E-01	3.9960E-04	1.4040E-04
	241Pu(T)	3.5036E-14	6.4600E-09	1.1200E-04	3.9911E-02	2.1501E+00	1.6371E+00	1.6443E+00	1.0139E+00	1.2444E-02	9.9400E-06	4.2600E-06
	233U (T)	8.6043E-18	7.3400E-12	8.6200E-07	1.6630E-03	4.4266E-01	1.3104E+00	1.7192E+00	3.6104E+00	1.0494E-01	3.6750E-04	1.6750E-04
	232Th(F)	5.4200E-12	1.9800E-07	1.6970E-03	1.3939E-01	3.6623E+00	7.0266E-01	6.8656E-01	2.3812E-01	3.0440E-03	1.5068E-07	6.6420E-08

Table 2.7.1 Continued

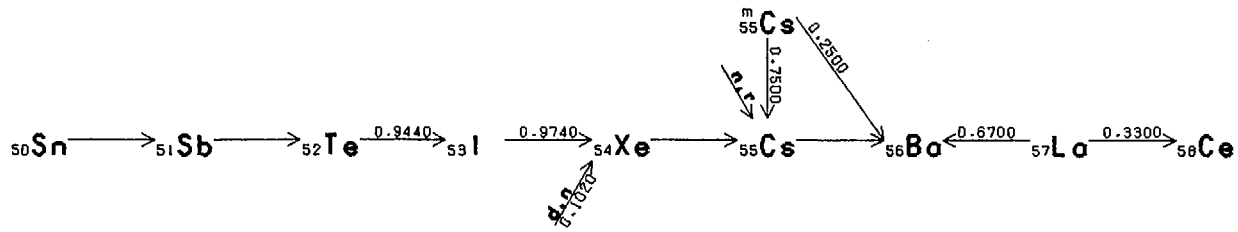
Mass No. 137



		50Sn	51Sb	52Te	53I	54Xe	55Cs	m56Ba	56Ba	57La	m58Ce	58Ce
	λ(1/sec)	1.3203E+00	6.7143E-01	2.4766E-01	2.8292E-02	3.0163E-03	7.2804E-10	4.6268E-03	0.0	3.6609E-13	6.5971E-06	2.1393E-05
	Q-value(MeV)	9.3630E+00	8.1140E+00	6.4800E+00	5.5000E+00	4.3440E+00	6.4663E-01	6.5164E-01	0.0	6.0000E-01	2.5381E-01	1.2200E+00
	E-beta (MeV)	2.9700E+00	2.5730E+00	2.1730E+00	1.2720E+00	1.7868E+00	1.7046E-01	0.0	0.0	0.0	0.0	1.4000E-05
	E-gamma(MeV)	2.8310E+00	2.3890E+00	1.6090E+00	2.4600E+00	1.8762E-01	0.0	6.9084E-01	0.0	0.0	3.4832E-02	1.3686E-02
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	7.0795E-02	0.0	0.0	2.2464E-01	1.0398E-02
Cumulative yield	235U (T)	2.1600E-06	6.2399E-02	4.3625E-01	3.2328E+00	6.0586E+00	6.2109E+00	6.8821E+00	6.2118E+00	1.2100E-07	1.1076E-12	1.6614E-12
	235U (F)	1.1300E-06	2.4271E-03	4.3190E-01	3.3423E+00	5.8173E+00	6.1624E+00	5.8361E+00	6.1629E+00	5.8300E-08	3.6616E-13	4.9196E-13
	235U (H)	4.0100E-09	6.1204E-05	3.2613E-02	1.1180E+00	3.8647E+00	4.8312E+00	4.6795E+00	4.8398E+00	6.1002E-06	1.7220E-10	2.0866E-10
	238U (F)	1.4100E-04	4.4322E-02	2.3347E+00	5.2641E+00	5.9612E+00	5.9680E+00	5.6617E+00	5.9680E+00	1.3000E-10	1.9769E-16	2.6661E-16
	238U (H)	3.7000E-06	6.0517E-03	6.4897E-01	3.3101E+00	4.8646E+00	4.9111E+00	4.6608E+00	4.9112E+00	9.9200E-09	3.8916E-14	4.7156E-14
	239Pu(T)	3.3200E-08	2.2803E-04	1.3107E-01	2.4336E+00	5.0171E+00	5.6209E+00	6.2733E+00	5.6275E+00	2.5101E-06	5.4812E-11	7.6772E-11
	239Pu(F)	2.5100E-08	1.8003E-04	9.2398E-02	1.8910E+00	5.7038E+00	6.4895E+00	6.1486E+00	6.4955E+00	2.3901E-06	4.8544E-11	6.5221E-11
	241Pu(T)	3.2700E-06	4.7623E-03	6.9624E-01	4.1268E+00	5.7481E+00	5.8336E+00	6.4716E+00	5.8339E+00	2.2200E-08	1.0747E-13	1.5062E-13
	233U (T)	1.2400E-08	9.9912E-05	7.5669E-02	1.5602E+00	6.0374E+00	6.7822E+00	6.4279E+00	6.7826E+00	4.6302E-06	1.3419E-10	1.8796E-10
	232Th(F)	1.0000E-04	3.6836E-02	2.2245E+00	5.3955E+00	6.6585E+00	6.6692E+00	6.3157E+00	6.6692E+00	2.6600E-10	5.0660E-16	6.8064E-16
Independent yield	235U (T)	2.1600E-06	6.2377E-02	3.8385E-01	2.8011E+00	3.0005E+00	1.6231E-01	4.4400E-04	4.4400E-04	1.2100E-07	1.1076E-12	4.5240E-13
	235U (F)	1.1300E-06	2.4260E-03	4.2947E-01	2.9145E+00	2.6541E+00	3.4515E-01	2.4200E-04	2.4200E-04	5.8300E-08	3.6616E-13	1.2866E-13
	235U (H)	4.0100E-09	5.1200E-05	3.2562E-02	1.0858E+00	2.8004E+00	9.7652E-01	4.3040E-03	4.3040E-03	6.1000E-06	1.7220E-10	3.7800E-11
	238U (F)	1.4100E-04	4.4181E-02	2.2904E+00	2.9226E+00	9.7914E-01	6.8340E-03	3.8300E-06	3.8300E-06	1.3000E-10	1.9769E-16	5.9459E-17
	238U (H)	3.7000E-06	6.0480E-03	6.4292E-01	2.7664E+00	1.7188E+00	6.6590E-02	5.4400E-06	5.4400E-06	9.9200E-09	3.8916E-14	8.6425E-15
	239Pu(T)	3.3200E-08	2.2800E-04	1.3086E-01	2.3048E+00	3.7161E+00	6.0385E-01	3.2810E-03	3.2810E-03	2.6100E-06	5.4812E-11	2.2388E-11
	239Pu(F)	2.5100E-08	1.8000E-04	9.2218E-02	1.7975E+00	3.9121E+00	7.8566E-01	2.9910E-03	2.9910E-03	2.3900E-06	4.8544E-11	1.7056E-11
	241Pu(T)	3.2700E-06	4.7490E-03	6.9049E-01	3.4396E+00	2.8376E+00	8.5531E-02	1.3700E-04	1.3700E-04	2.2200E-08	1.0747E-13	4.3894E-14
	233U (T)	1.2400E-08	9.9900E-05	7.5669E-02	1.5754E+00	4.4823E+00	7.4483E-01	5.1810E-03	5.1810E-03	4.6300E-06	1.3419E-10	5.4810E-11
	232Th(F)	1.0000E-04	3.6736E-02	2.1877E+00	3.1704E+00	1.5334E+00	1.0631E-02	6.6700E-06	6.6700E-06	2.6600E-10	5.0660E-16	1.7799E-16

Table 2.7.1 Continued

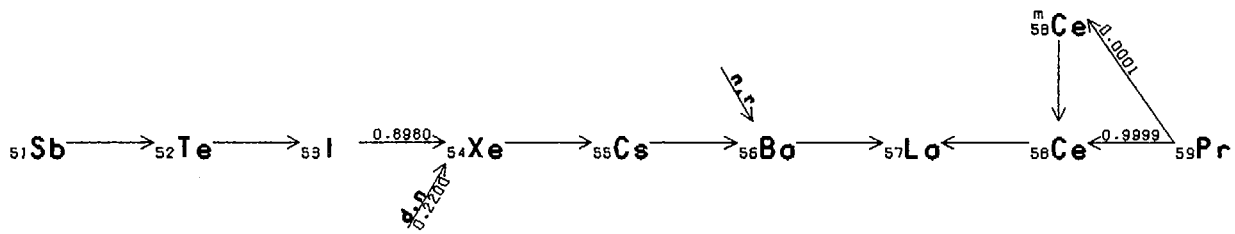
Mass No. 138



		50Sn	51Sb	52Te	53I	54Xe	55mCs	55Cs	56Ba	57La	58Ce
	λ(1/sec)	2.0116E+00	8.5247E-01	4.9511E-01	1.0830E-01	8.1758E-04	3.9836E-03	3.5877E-04	0.0	1.6270E-19	0.0
	Q-value(MeV)	8.2790E+00	1.0240E+01	5.3400E+00	8.3000E+00	2.8300E+00	1.4149E+00	5.3400E+00	0.0	1.5154E+00	0.0
	E-beta (MeV)	3.0110E+00	3.0300E+00	1.9460E+00	3.2925E+00	6.4516E-01	2.8000E-01	1.0890E+00	0.0	2.3340E-02	0.0
	E-gamma(MeV)	1.6610E+00	3.6780E+00	1.0680E+00	1.0234E+00	1.2166E+00	7.3400E-01	2.6800E+00	0.0	1.2222E+00	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	1.3783E-02	0.0	0.0	0.0	0.0	0.0
Cumulative yield	235U (T)	1.3200E-08	9.0913E-06	9.0940E-02	1.6101E+00	6.4371E+00	1.5968E-01	6.7165E+00	6.7588E+00	3.4400E-05	1.1364E-05
	235U (F)	2.4000E-08	1.5202E-04	9.5444E-02	1.7243E+00	6.0422E+00	2.3804E-01	6.5048E+00	6.5711E+00	1.0900E-05	3.5974E-06
	235U (H)	6.9900E-11	2.6101E-06	4.8206E-03	4.3160E-01	3.1108E+00	6.6243E-01	4.2700E+00	4.4863E+00	9.9500E-05	3.2845E-05
	238U (F)	5.1100E-06	4.0311E-03	8.5997E-01	3.0764E+00	5.6800E+00	3.0995E-02	5.7342E+00	5.7422E+00	9.2900E-09	3.0658E-09
	238U (H)	1.1700E-07	5.5112E-04	1.3902E-01	1.8229E+00	4.2542E+00	1.3590E-01	4.4920E+00	4.5271E+00	3.1000E-07	1.0230E-07
	239Pu(T)	2.3400E-10	4.8202E-06	1.0551E-02	1.1741E+00	5.1109E+00	4.4687E-01	5.8929E+00	6.0601E+00	6.2000E-05	2.0456E-05
	239Pu(F)	1.4000E-09	3.0401E-06	5.6606E-02	1.0542E+00	4.6762E+00	6.7744E-01	6.8607E+00	6.0780E+00	5.7600E-06	1.9014E-06
	241Pu(T)	5.7100E-09	2.3905E-04	1.3248E-01	2.3160E+00	5.2939E+00	1.7291E-01	6.8025E+00	6.8502E+00	1.0300E-06	3.3993E-07
	233U (T)	1.9000E-10	4.4302E-06	1.3286E-02	5.8462E-01	4.5685E+00	5.8140E-01	5.6860E+00	5.9038E+00	9.0700E-05	2.9946E-05
	232Th(F)	3.8700E-06	3.5889E-03	8.8360E-01	3.5070E+00	7.0762E+00	3.2982E-02	7.1339E+00	7.1425E+00	1.9100E-08	6.3032E-09
Independent yield	236U (T)	1.3200E-08	9.0900E-06	9.0849E-02	1.5243E+00	4.7681E+00	1.5968E-01	1.5968E-01	1.2312E-02	3.4400E-05	1.8600E-09
	235U (F)	2.4000E-08	1.5200E-04	9.5292E-02	1.6342E+00	4.2965E+00	2.3804E-01	2.8407E-01	5.7930E-03	1.0900E-05	3.6600E-10
	235U (H)	6.9900E-11	2.6100E-06	4.8160E-03	4.2695E-01	2.6088E+00	6.6243E-01	6.6243E-01	4.9611E-02	9.9500E-05	1.0300E-08
	238U (F)	5.1100E-06	4.0260E-03	8.5594E-01	2.2646E+00	2.4966E+00	3.0995E-02	3.0995E-02	2.1100E-04	9.2900E-09	9.0350E-14
	238U (H)	1.1700E-07	5.5100E-04	1.3847E-01	1.6916E+00	2.3849E+00	1.3590E-01	1.3590E-01	1.1730E-03	3.1000E-07	4.0400E-12
	239Pu(T)	2.3400E-10	4.8200E-06	1.0545E-02	1.1641E+00	3.9352E+00	4.4687E-01	4.4687E-01	5.6428E-02	6.2000E-06	7.5300E-09
	239Pu(F)	1.4000E-09	3.0400E-05	5.5576E-02	1.0017E+00	3.6297E+00	6.7744E-01	6.7744E-01	4.8903E-02	5.7600E-05	5.8400E-09
	241Pu(T)	5.7100E-09	2.3900E-04	1.3224E-01	2.1910E+00	3.9601E+00	1.7291E-01	3.7894E-01	4.3830E-03	1.0300E-06	3.0000E-11
	233U (T)	1.9000E-10	4.4300E-06	1.3281E-02	5.8206E-01	4.0682E+00	5.8140E-01	5.8140E-01	7.2404E-02	9.0700E-05	1.5200E-08
	232Th(F)	3.8700E-06	3.5850E-03	8.8001E-01	2.5729E+00	3.4520E+00	3.2982E-02	3.2982E-02	3.6900E-04	1.9100E-08	2.3719E-13

Table 2.7.1 Continued

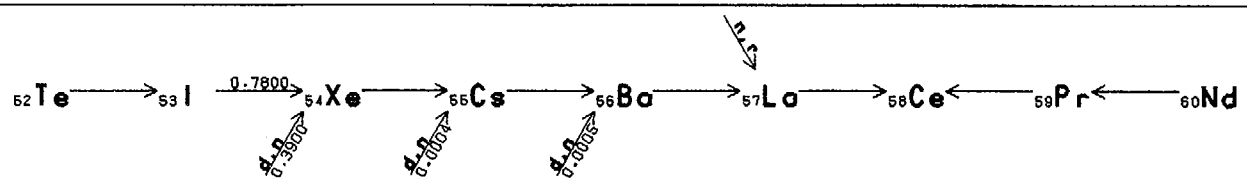
Mass No. 139



		51Sb	52Te	53I	54Xe	55Cs	56Ba	57La	m58Ce	58Ce	59Pr
	λ(1/sec)	1.1316E+00	4.1731E-01	2.9124E-01	1.7648E-02	1.1837E-03	1.3967E-04	0.0	1.2334E-02	6.8346E-08	4.3660E-06
	Q-value(MeV)	9.0950E+00	7.6780E+00	6.0000E+00	6.0200E+00	4.2900E+00	2.3060E+00	0.0	7.6440E-01	2.6500E-01	2.1119E+00
	E-beta (MeV)	2.9080E+00	2.3760E+00	2.0590E+00	1.0020E+00	1.6987E+00	8.9231E-01	0.0	0.0	0.0	2.9837E-02
	E-gamma(MeV)	2.6840E+00	2.3610E+00	1.3240E+00	2.2390E+00	3.2947E-01	4.3778E-02	0.0	6.9782E-01	1.3268E-01	7.9126E-02
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	9.1218E-03	0.0	5.6680E-02	3.3171E-02	0.0
Cumulative yield	235U (T)	3.5200E-06	9.7795E-03	9.8740E-01	5.1527E+00	5.2995E+00	5.3696E+00	5.3698E+00	1.0700E-08	2.1400E-08	7.1463E-14
	235U (F)	6.1700E-06	1.1113E-02	6.5011E-01	4.6024E+00	5.2811E+00	5.3330E+00	5.3331E+00	3.4100E-09	6.8200E-09	1.9892E-14
	235U (H)	6.0400E-07	3.2115E-03	8.0063E-01	2.2520E+00	4.5326E+00	4.7664E+00	4.7676E+00	1.8300E-07	3.6600E-07	4.7300E-12
	238U (F)	3.2100E-04	1.5554E-01	1.8334E+00	5.5415E+00	5.8918E+00	5.8948E+00	5.8948E+00	7.9100E-12	1.5820E-11	6.1254E-18
	238U (H)	3.1400E-05	2.3453E-02	9.1970E-01	3.4643E+00	4.8550E+00	5.1393E+00	5.1393E+00	1.9600E-10	3.9200E-10	7.0926E-16
	239Pu(T)	1.1300E-07	7.2911E-04	3.1464E-01	3.0614E+00	5.3986E+00	5.5758E+00	5.5770E+00	2.1900E-07	4.3800E-07	4.1400E-12
	239Pu(F)	1.7600E-07	9.8718E-04	1.8335E-01	3.1792E+00	5.2823E+00	5.5022E+00	5.5028E+00	9.9100E-08	1.9820E-07	1.8900E-12
	241Pu(T)	1.0000E-05	1.5546E-02	8.5353E-01	4.5842E+00	5.8241E+00	5.8513E+00	5.8514E+00	1.4800E-09	2.9500E-09	5.1367E-16
	233U (T)	5.8400E-08	5.0106E-04	2.0847E-01	3.0334E+00	5.7812E+00	5.3068E+00	5.3089E+00	6.0500E-07	1.0100E-06	1.1200E-11
	232Th(F)	2.7100E-04	1.5170E-01	2.0426E+00	6.6977E+00	7.0537E+00	7.0586E+00	7.0586E+00	1.7500E-11	3.5000E-11	1.7279E-17
Independent yield	235U (T)	3.5200E-06	9.7760E-03	9.7762E-01	4.2180E+00	1.1467E+00	7.0144E-02	1.3800E-04	1.0700E-08	1.0700E-08	7.1463E-14
	236U (F)	6.1700E-06	1.1107E-02	6.3899E-01	3.9865E+00	1.5786E+00	5.1950E-02	6.8300E-05	3.4100E-09	3.4100E-09	1.9892E-14
	235U (H)	6.0400E-07	3.2110E-03	7.9742E-01	1.5281E+00	2.2806E+00	2.3383E-01	1.2250E-03	1.8300E-07	1.8300E-07	4.7300E-12
	236U (F)	3.2100E-04	1.5532E-01	1.5678E+00	3.7660E+00	3.5014E-01	3.0040E-03	5.8600E-07	7.9100E-12	7.9100E-12	6.1254E-18
	238U (H)	3.1400E-05	2.3422E-02	8.9624E-01	2.5604E+00	1.4007E+00	2.7426E-01	9.6600E-06	1.9600E-10	1.9600E-10	7.0926E-16
	239Pu(T)	1.1300E-07	7.2900E-04	3.1391E-01	2.7558E+00	2.3372E+00	2.7716E-01	1.2080E-03	2.1900E-07	2.1900E-07	4.1400E-12
	239Pu(F)	1.7600E-07	9.8700E-04	1.8236E-01	3.0086E+00	2.1031E+00	2.1987E-01	6.3000E-04	9.9100E-08	9.9100E-08	1.8900E-12
	241Pu(T)	1.0000E-05	1.5536E-02	8.4789E-01	3.8318E+00	1.1399E+00	3.7191E-02	3.4600E-06	1.4800E-09	1.4800E-09	5.1367E-16
	233U (T)	5.8400E-08	5.0100E-04	2.0797E-01	2.8424E+00	2.7478E+00	5.2560E-01	2.1000E-03	6.0500E-07	6.0500E-07	1.1200E-11
	232Th(F)	2.7100E-04	1.5142E-01	1.8809E+00	4.7128E+00	3.5593E-01	4.9250E-03	1.1100E-05	1.7500E-11	1.7500E-11	1.7279E-17

Table 2.7.1 Continued

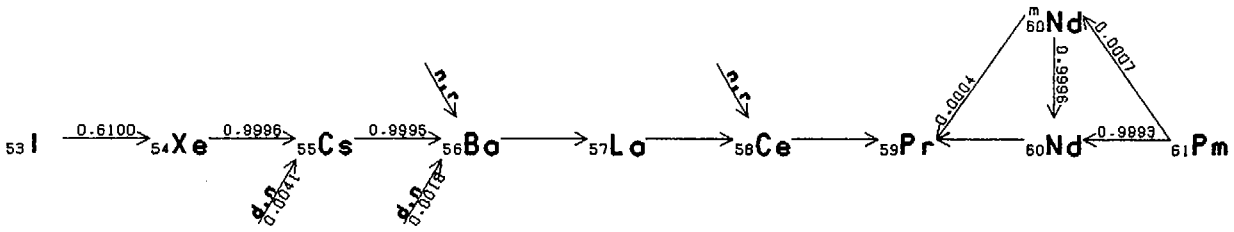
Mass No. 140



		52Te	53I	54Xe	55Cs	56Ba	57La	58Ce	59Pr	60Nd
λ (1/sec)		6.2558E-01	1.1552E+00	5.0967E-02	1.0881E-02	6.2945E-07	4.7810E-06	0.0	3.4078E-03	2.3806E-06
Q-value (MeV)		6.5220E+00	8.9300E+00	4.0600E+00	6.1700E+00	1.0350E+00	3.7605E+00	0.0	3.3680E+00	4.7000E-01
E-beta (MeV)		2.3360E+00	2.7620E+00	1.2037E+00	1.4290E+00	2.8499E-01	5.4489E-01	0.0	5.1780E-01	0.0
E-gamma (MeV)		1.2750E+00	2.3280E+00	1.1494E+00	2.7910E+00	1.4649E-01	2.3122E+00	0.0	5.0563E-01	0.0
E-I.C (MeV)		0.0	0.0	2.7132E-02	0.0	3.5221E-02	3.5509E-03	0.0	0.0	0.0
Cumulative yield	235U (T)	1.2030E-03	2.1860E-01	3.7555E+00	5.7410E+00	6.2963E+00	6.3017E+00	6.3017E+00	1.3100E-11	1.6843E-17
	235U (F)	8.9100E-04	1.4609E-01	3.0369E+00	6.6431E+00	6.1281E+00	6.1293E+00	6.1293E+00	4.0200E-12	2.9584E-18
	235U (H)	3.0400E-05	2.2453E-02	9.2946E-01	3.7658E+00	4.5255E+00	4.5582E+00	4.5583E+00	4.5000E-10	8.2879E-16
	238U (F)	2.4617E-02	5.8721E-01	5.1749E+00	5.9443E+00	6.9790E+00	5.9790E+00	5.9790E+00	2.0255E-15	4.8205E-22
	238U (H)	3.2490E-03	3.5483E-01	2.8880E+00	4.6270E+00	4.7040E+00	4.7042E+00	4.7042E+00	1.1889E-13	2.9596E-20
	239Pu (T)	1.1400E-04	5.8716E-02	1.5573E+00	4.4584E+00	5.5568E+00	5.5695E+00	5.5695E+00	5.1300E-10	1.5864E-15
	239Pu (F)	4.9900E-05	2.6710E-02	1.4302E+00	4.3584E+00	5.2930E+00	5.3041E+00	5.3041E+00	3.5700E-10	8.8661E-16
	241Pu (T)	1.5930E-03	3.4987E-01	3.5097E+00	5.5475E+00	6.2924E+00	6.2931E+00	6.2931E+00	1.3600E-12	8.8376E-19
	233U (T)	3.0500E-05	1.7396E-02	1.4916E+00	4.6619E+00	5.4509E+00	5.4751E+00	5.4752E+00	1.2000E-09	4.9460E-15
	232Th (F)	2.4741E-02	5.8487E-01	5.8325E+00	7.7898E+00	7.8474E+00	7.8475E+00	7.8475E+00	5.9317E-15	1.6709E-21
Independent yield	235U (T)	1.2030E-03	2.1739E-01	3.5770E+00	1.9849E+00	5.5290E-01	5.4760E-03	1.3800E-06	1.3100E-11	1.5843E-17
	235U (F)	8.9100E-04	1.4520E-01	2.9153E+00	2.6068E+00	4.8277E-01	1.2330E-03	4.7600E-07	4.0200E-12	2.9584E-18
	235U (H)	3.0400E-05	2.2423E-02	9.1105E-01	2.8362E+00	7.5829E-01	3.2788E-02	1.1100E-05	4.5000E-10	8.2879E-16
	238U (F)	2.4617E-02	5.6270E-01	4.6484E+00	7.6810E-01	3.1948E-02	1.5700E-05	1.9800E-09	2.0255E-15	4.8205E-22
	238U (H)	3.2490E-03	3.6158E-01	2.5923E+00	1.7384E+00	7.4889E-02	1.8700E-04	5.3500E-07	1.1889E-13	2.9596E-20
	239Pu (T)	1.1400E-04	5.9601E-02	1.5080E+00	2.9009E+00	1.0956E+00	1.2797E-02	1.7900E-05	5.1300E-10	1.5864E-15
	239Pu (F)	4.9900E-05	2.6660E-02	1.4082E+00	2.9280E+00	9.3302E-01	1.1075E-02	5.4700E-06	3.5700E-10	8.8661E-16
	241Pu (T)	1.5930E-03	3.4828E-01	3.2247E+00	2.0373E+00	7.4265E-01	6.8000E-04	2.3600E-07	1.3600E-12	8.8376E-19
	233U (T)	3.0500E-05	1.7365E-02	1.4775E+00	3.1701E+00	1.7873E+00	2.4246E-02	3.8300E-05	1.2000E-09	4.9460E-15
	232Th (F)	2.4741E-02	6.6013E-01	6.2118E+00	9.5538E-01	5.3881E-02	3.2100E-05	4.6500E-09	5.9317E-15	1.6709E-21

Table 2.7.1 Continued

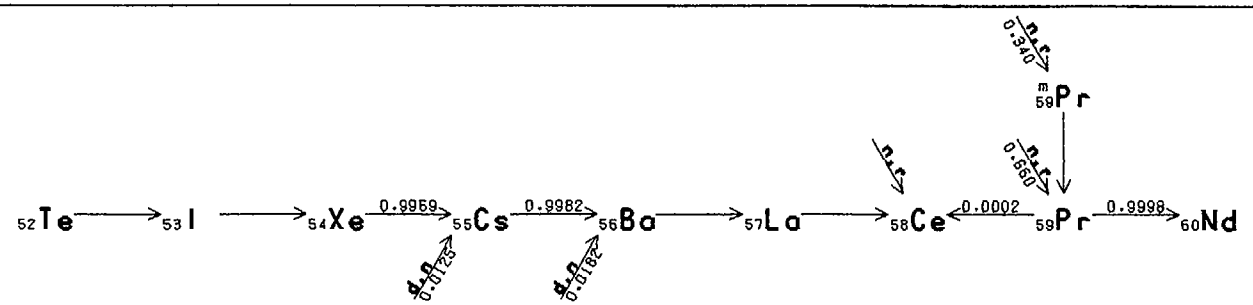
Mass No. 141



		53I	54Xe	55Cs	56Ba	57La	58Ce	59Pr	m60Nd	60Nd	61Pm
	λ(1/sec)	1.4748E+00	4.0066E-01	2.7837E-02	6.3232E-04	4.8993E-05	2.4776E-07	0.0	1.1162E-02	7.6710E-05	6.5275E-04
	Q-value(MeV)	7.4200E+00	6.1500E+00	5.1900E+00	3.0150E+00	2.4300E+00	5.8000E-01	0.0	7.5715E-01	1.8150E+00	3.7295E+00
	E-beta (MeV)	2.4250E+00	2.0480E+00	1.2750E+00	9.2461E-01	9.5133E-01	1.4453E-01	0.0	0.0	9.2000E-03	6.4012E-01
	E-gamma(MeV)	1.7790E+00	1.4890E+00	2.1360E+00	8.1684E-01	4.2467E-02	7.1270E-02	0.0	6.9250E-01	4.4696E-02	7.2068E-01
	E-I.C (MeV)	0.0	0.0	0.0	1.5797E-02	0.0	3.0544E-02	0.0	6.4314E-02	0.0	0.0
Cumulative yield	236U (T)	2.0421E-02	1.3298E+00	4.4652E+00	5.8197E+00	5.8392E+00	5.8392E+00	5.8392E+00	4.3324E-15	1.0433E-14	4.6774E-22
	235U (F)	1.7171E-02	9.2720E-01	4.2569E+00	5.9922E+00	6.0062E+00	6.0062E+00	6.0062E+00	9.3896E-16	2.2075E-15	7.9454E-23
	235U (H)	2.3010E-03	2.4158E-01	2.6336E+00	4.2704E+00	4.3446E+00	4.3447E+00	4.3447E+00	1.2957E-13	2.8764E-13	3.9886E-20
	238U (F)	1.7552E-01	3.1956E+00	5.0580E+00	5.3829E+00	5.3833E+00	5.3833E+00	5.3833E+00	2.8764E-19	5.7625E-19	3.5275E-27
	238U (H)	4.8505E-02	1.3635E+00	4.0768E+00	4.4236E+00	4.4259E+00	4.4259E+00	4.4259E+00	1.0331E-17	2.2926E-17	4.1140E-25
	239Pu(T)	6.9940E-03	4.6893E-01	3.3122E+00	5.1669E+00	5.2896E+00	5.2899E+00	5.2899E+00	2.7291E-13	5.5720E-13	8.5749E-20
	239Pu(F)	2.8400E-03	4.2667E-01	3.1247E+00	5.2288E+00	5.3101E+00	5.3104E+00	5.3104E+00	1.7200E-13	4.0437E-13	5.0191E-20
	241Pu(T)	3.0896E-02	1.4607E+00	4.1294E+00	5.0215E+00	5.0289E+00	5.0289E+00	5.0289E+00	2.5631E-16	6.1722E-16	1.6260E-23
	233U (T)	1.5340E-03	3.4611E-01	3.1893E+00	5.3853E+00	5.5365E+00	5.5372E+00	5.5372E+00	8.0527E-13	1.9392E-12	2.8961E-19
	232Th(F)	2.2170E-01	4.5876E+00	6.9979E+00	7.3081E+00	7.3089E+00	7.3089E+00	7.3089E+00	9.7281E-19	2.2871E-18	1.4257E-26
Independent yield	236U (T)	2.0421E-02	1.3174E+00	3.1341E+00	1.3521E+00	1.9465E-02	4.0200E-05	1.6200E-09	4.3324E-15	6.1020E-15	4.6774E-22
	236U (F)	1.7171E-02	9.1673E-01	3.3282E+00	1.7321E+00	1.5985E-02	3.0500E-05	6.1800E-10	9.3896E-16	1.2689E-15	7.9454E-23
	235U (H)	2.3010E-03	2.4018E-01	2.3918E+00	1.6352E+00	7.4067E-02	2.0500E-04	2.5700E-08	1.2957E-13	1.5801E-13	3.9886E-20
	238U (F)	1.7552E-01	3.0685E+00	1.8558E+00	3.2047E-01	4.1700E-04	1.3400E-07	6.1708E-13	2.8764E-19	3.8871E-19	3.5275E-27
	238U (H)	4.8505E-02	1.3240E+00	2.7218E+00	3.4328E-01	2.4370E-03	9.1000E-07	1.5600E-11	1.0331E-17	1.2599E-17	4.1140E-25
	239Pu(T)	6.9940E-03	4.5465E-01	2.8429E+00	1.8757E+00	1.0070E-01	3.5600E-04	4.0200E-08	2.7291E-13	3.8439E-13	8.5749E-20
	239Pu(F)	2.8400E-03	4.2484E-01	2.6980E+00	2.1032E+00	8.1277E-02	2.7800E-04	2.9000E-08	1.7200E-13	2.3243E-13	5.0191E-20
	241Pu(T)	3.0896E-02	1.4418E+00	2.6670E+00	8.8911E-01	7.4060E-03	7.5600E-06	1.7300E-10	2.5631E-16	3.6100E-16	1.6260E-23
	233U (T)	1.5340E-03	3.4418E-01	2.8640E+00	3.1861E+00	1.6016E-01	7.2600E-04	9.1900E-08	8.0527E-13	1.1342E-12	2.8961E-19
	232Th(F)	2.2170E-01	4.4524E+00	2.4027E+00	3.0519E-01	7.9600E-04	2.9800E-07	1.6700E-12	9.7281E-19	1.3146E-18	1.4257E-25

Table 2.7.1 Continued

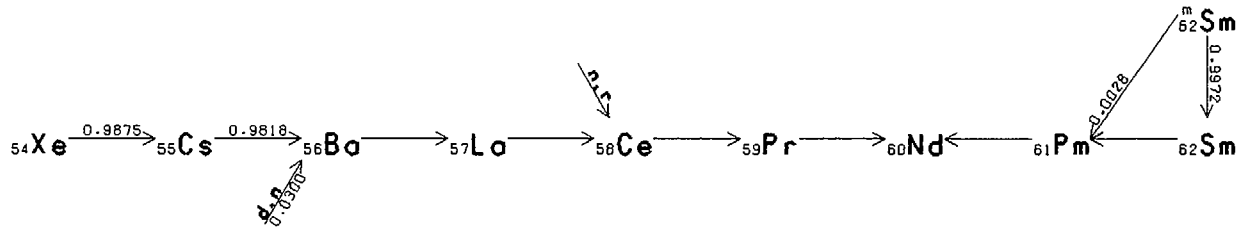
Mass No. 142



		52Te	53I	54Xe	55Cs	56Ba	57La	58Ce	m59Pr	59Pr	60Nd
	λ(1/sec)	8.9636E-01	4.4404E-01	6.6899E-01	4.0535E-01	1.0797E-03	1.2462E-04	0.0	7.9126E-04	1.0066E-05	0.0
	Q-value(MeV)	6.9860E+00	9.1860E+00	5.0400E+00	7.2800E+00	2.2000E+00	4.5170E+00	0.0	3.6830E-03	2.1586E+00	0.0
	E-beta (MeV)	2.6130E+00	2.6920E+00	1.7680E+00	2.4490E+00	4.1611E-01	9.1464E-01	0.0	0.0	8.1850E-01	0.0
	E-gamma(MeV)	1.3760E+00	3.2030E+00	9.7700E-01	1.7870E+00	1.0076E+00	2.6229E+00	0.0	0.0	5.8112E-02	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	2.1238E-02	0.0	0.0	3.6830E-03	0.0	0.0
Cumulative yield	235U (T)	3.0400E-06	6.1160E-03	4.4632E-01	2.6709E+00	6.7929E+00	5.8916E+00	5.8826E+00	4.9600E-08	9.9200E-08	9.9185E-08
	236U (F)	1.4400E-06	2.5064E-03	4.6016E-01	3.0101E+00	6.5872E+00	5.5717E+00	6.6721E+00	1.7900E-08	3.5800E-08	3.5784E-08
	236U (H)	3.1000E-08	2.2503E-04	8.4771E-02	1.6557E+00	4.0988E+00	4.4088E+00	4.4116E+00	5.6600E-07	1.1320E-06	1.1318E-06
	238U (F)	1.2000E-04	2.8406E-02	1.9698E+00	3.9214E+00	4.6907E+00	4.6948E+00	4.6949E+00	3.8600E-11	7.7600E-11	7.7586E-11
	238U (H)	1.2100E-05	1.2053E-02	4.9928E-01	3.0630E+00	4.0992E+00	4.1181E+00	4.1181E+00	6.5100E-10	1.3020E-09	1.3016E-09
	239Pu(T)	1.5400E-07	9.2416E-04	1.3673E-01	1.4888E+00	4.6430E+00	4.9933E+00	4.9991E+00	9.6700E-07	1.9340E-06	1.9338E-06
	239Pu(F)	2.5100E-08	1.5303E-04	8.1814E-02	1.4493E+00	4.4288E+00	4.7476E+00	4.7513E+00	6.5000E-07	1.3000E-06	1.2998E-06
	241Pu(T)	4.0500E-06	4.9860E-03	5.6338E-01	2.6867E+00	5.0552E+00	5.1094E+00	5.1096E+00	7.2700E-09	1.4540E-08	1.4538E-06
	233U (T)	1.1500E-08	7.5011E-05	6.7428E-02	1.4114E+00	6.1230E+00	6.6290E+00	6.6390E+00	1.8200E-06	3.6400E-06	3.6396E-06
	232Th(F)	1.0500E-04	2.8284E-02	2.3349E+00	4.8717E+00	6.1034E+00	6.1110E+00	6.1110E+00	8.6900E-11	1.7380E-10	1.7377E-10
Independent yield	235U (T)	3.0400E-06	6.1160E-03	4.4020E-01	2.2258E+00	3.0998E+00	9.8650E-02	8.7800E-04	4.9600E-08	4.9600E-08	1.5500E-12
	235U (F)	1.4400E-06	2.5050E-03	4.5765E-01	2.5510E+00	2.5549E+00	8.4556E-02	3.6700E-04	1.7900E-08	1.7900E-08	3.4098E-13
	235U (H)	3.1000E-08	2.2500E-04	8.4646E-02	1.6712E+00	2.4348E+00	3.0993E-01	2.7960E-03	5.6600E-07	5.6600E-07	2.2600E-11
	238U (F)	1.2000E-04	2.8286E-02	1.9414E+00	1.9546E+00	7.3385E-01	4.2090E-03	6.0800E-06	3.8600E-11	3.8600E-11	2.2426E-16
	238U (H)	1.2100E-06	1.2061E-02	4.8721E-01	2.6632E+00	1.0010E+00	1.8913E-02	2.3700E-05	5.5100E-10	5.5100E-10	3.4067E-16
	239Pu(T)	1.5400E-07	9.2400E-04	1.3580E-01	1.3525E+00	3.1470E+00	3.5027E-01	5.7830E-03	9.6700E-07	9.6700E-07	6.8000E-11
	239Pu(F)	2.5100E-08	1.5300E-04	8.1561E-02	1.3677E+00	2.9723E+00	3.1868E-01	3.8110E-03	6.5000E-07	6.5000E-07	3.7000E-11
	241Pu(T)	4.0500E-06	4.9820E-03	5.5839E-01	2.3263E+00	2.1436E+00	5.4171E-02	2.1200E-04	7.2700E-09	7.2700E-09	1.2378E-13
	233U (T)	1.1500E-08	7.5000E-05	8.7363E-02	1.3243E+00	4.7068E+00	5.0600E-01	9.9990E-03	1.8200E-06	1.8200E-06	1.7200E-10
	232Th(F)	1.0500E-04	2.9178E-02	2.3056E+00	2.5367E+00	1.1713E+00	7.5280E-03	1.1600E-05	8.6900E-11	8.6900E-11	6.7421E-16

Table 2.7.1 Continued

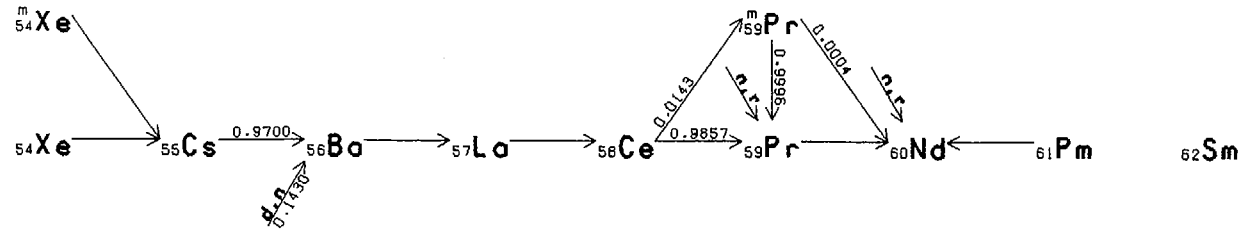
Mass No. 143



		54Xe	55Cs	56Ba	57La	58Ce	59Pr	60Nd	61Pm	m62Sm	62Sm
	λ(1/sec)	2.3106E+00	3.8941E-01	4.7803E-02	8.1356E-04	6.8346E-06	5.9077E-07	0.0	3.0274E-08	1.0502E-02	1.3083E-03
	Q-value(MeV)	6.6500E+00	5.6500E+00	4.3000E+00	3.3000E+00	1.4650E+00	9.3530E-01	0.0	1.0410E+00	7.6405E-01	3.4470E+00
	E-beta (MeV)	2.2250E+00	1.9350E+00	1.6972E+00	1.3408E+00	4.1044E-01	3.1558E-01	0.0	0.0	1.1010E-03	4.9419E-01
	E-gamma(MeV)	1.7270E+00	1.2170E+00	3.3289E-01	3.1134E-02	2.4143E-01	8.9040E-09	0.0	2.8666E-01	6.8278E-01	6.1236E-01
	E-I.C (MeV)	0.0	0.0	4.7978E-03	3.0600E-02	4.4746E-02	0.0	0.0	0.0	7.3177E-02	0.0
Cumulative yield	235U (T)	6.3213E-02	1.4846E+00	6.2888E+00	6.9162E+00	6.9477E+00	6.9477E+00	6.9477E+00	1.7602E-16	1.0403E-23	2.6027E-23
	235U (F)	6.3631E-02	1.5163E+00	5.2956E+00	5.7069E+00	5.7114E+00	5.7114E+00	5.7114E+00	3.4686E-17	1.3304E-24	3.1246E-24
	235U (H)	1.0711E-02	6.1922E-01	3.0972E+00	3.9040E+00	3.9238E+00	3.9238E+00	3.9238E+00	3.9991E-16	3.9112E-22	8.6701E-22
	238U (F)	4.0402E-01	2.3327E+00	4.4871E+00	4.5269E+00	4.5270E+00	4.5270E+00	4.5270E+00	6.0456E-21	6.2044E-29	1.4671E-28
	238U (H)	2.1163E-01	2.2363E+00	3.8647E+00	3.9669E+00	3.9663E+00	3.9663E+00	3.9663E+00	2.0477E-19	2.6630E-27	6.8809E-27
	239Pu(T)	9.2710E-03	5.4386E-01	3.4673E+00	4.3919E+00	4.4282E+00	4.4283E+00	4.4283E+00	1.2812E-14	1.8265E-21	4.3940E-21
	239Pu(F)	9.9340E-03	6.3906E-01	3.3831E+00	4.2706E+00	4.2986E+00	4.2986E+00	4.2986E+00	7.4074E-15	8.9816E-22	2.1094E-21
	241Pu(T)	1.0722E-01	1.6507E+00	4.6220E+00	4.7726E+00	4.7751E+00	4.7751E+00	4.7751E+00	9.3187E-18	3.0131E-25	7.2485E-25
	233U (T)	4.3130E-03	4.0246E-01	4.3820E+00	6.7984E+00	6.8666E+00	6.8667E+00	6.8667E+00	3.9175E-14	7.2631E-21	1.7448E-20
	232Th(F)	7.7419E-01	3.8048E+00	6.5567E+00	6.6279E+00	6.6282E+00	6.6282E+00	6.6282E+00	2.2503E-20	2.7415E-28	6.4386E-28
Independent yield	235U (T)	6.3213E-02	1.4320E+00	3.8206E+00	6.2732E-01	3.1510E-02	4.3300E-06	1.8900E-10	1.7602E-16	1.0403E-23	1.4663E-23
	235U (F)	6.3631E-02	1.4536E+00	3.7904E+00	4.1126E-01	4.6130E-03	1.7000E-06	4.6300E-11	3.4686E-17	1.3304E-24	1.7979E-24
	236U (H)	1.0711E-02	6.0864E-01	2.4848E+00	8.0680E-01	1.9794E-02	2.4400E-05	1.5200E-09	3.9991E-15	3.9112E-22	4.7698E-22
	238U (F)	4.0402E-01	1.9338E+00	2.1626E+00	3.9822E-02	1.4000E-04	7.7100E-09	5.5191E-14	6.0456E-21	6.2044E-29	8.3844E-29
	238U (H)	2.1163E-01	2.0276E+00	1.6368E+00	1.0120E-01	3.8300E-04	6.0500E-08	6.8738E-13	2.0477E-19	2.6630E-27	3.2363E-27
	239Pu(T)	9.2710E-03	6.3469E-01	2.9293E+00	9.2462E-01	3.5338E-02	3.6300E-06	3.6100E-09	1.2812E-14	1.8266E-21	2.5726E-21
	239Pu(F)	9.9340E-03	5.2924E-01	2.8503E+00	8.8745E-01	2.7989E-02	3.3600E-05	2.8100E-09	7.4074E-15	8.9816E-22	1.2137E-21
	241Pu(T)	1.0722E-01	1.4448E+00	2.9842E+00	2.5062E-01	2.5790E-03	6.9500E-07	1.6900E-11	9.3187E-18	3.0131E-25	4.2438E-25
	233U (T)	4.3130E-03	3.9818E-01	3.9841E+00	1.4164E+00	6.8227E-02	9.5100E-06	1.2700E-08	3.9175E-14	7.2631E-21	1.0216E-20
	232Th(F)	7.7419E-01	3.0403E+00	2.7639E+00	7.1229E-02	2.8500E-04	1.9800E-08	1.7198E-13	2.2503E-20	2.7415E-28	3.7048E-28

Table 2.7.1 Continued

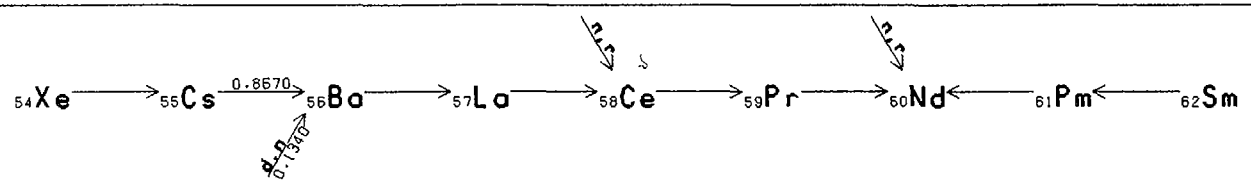
Mass No. 144



		$^{m}_{54}$Xe	^{54}Xe	^{55}Cs	^{56}Ba	^{57}La	^{58}Ce	$^{m}_{59}$Pr	^{59}Pr	^{60}Nd	^{61}Pm	^{62}Sm
	λ(1/sec)	7.8767E-02	6.0274E-01	6.9176E-01	6.8493E-02	1.6464E-02	2.8228E-08	1.6045E-03	6.6864E-04	0.0	2.2101E-08	0.0
	Q-value(MeV)	4.6700E+00	4.6700E+00	8.1000E+00	2.9000E+00	5.5000E+00	3.1736E-01	6.0228E-02	2.9960E+00	0.0	5.4800E-01	0.0
	E-beta (MeV)	1.3450E+00	1.6060E+00	2.6490E+00	9.4630E-01	1.3380E+00	8.2308E-02	2.2800E-04	1.2137E+00	0.0	0.0	0.0
	E-gamma(MeV)	1.4700E+00	9.2320E-01	2.1930E+00	7.0600E-01	2.0910E+00	1.6997E-02	6.5089E-04	3.0130E-02	0.0	1.6323E+00	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	1.2596E-02	5.8959E-02	0.0	0.0	0.0	0.0
Cumulative yield	^{235}U (T)	3.1270E-03	3.1270E-03	3.6834E-01	4.4620E+00	5.4170E+00	5.4824E+00	7.8447E-02	5.4826E+00	5.4826E+00	4.6562E-14	1.6460E-20
	^{235}U (F)	5.6090E-03	5.6090E-03	5.5259E-01	4.1861E+00	5.2365E+00	5.2768E+00	7.5460E-02	5.2768E+00	5.2768E+00	1.0595E-14	2.1686E-21
	^{235}U (H)	4.3900E-04	4.3900E-04	1.4800E-01	1.7698E+00	3.1073E+00	3.2012E+00	4.5954E-02	3.2016E+00	3.2016E+00	6.3295E-13	2.5440E-19
	^{238}U (F)	6.3060E-02	6.3060E-02	1.1388E+00	4.3608E+00	4.4994E+00	4.5017E+00	6.4374E-02	4.5016E+00	4.5017E+00	3.1948E-18	2.0846E-25
	^{238}U (H)	1.9173E-02	1.9173E-02	1.0776E+00	3.3365E+00	3.7100E+00	3.7146E+00	6.3119E-02	3.7146E+00	3.7146E+00	8.1914E-17	4.4152E-24
	^{239}Pu (T)	3.1400E-04	3.1400E-04	1.3388E-01	2.1015E+00	3.5452E+00	3.7376E+00	5.3647E-02	3.7380E+00	3.7380E+00	1.2900E-12	1.8605E-18
	^{239}Pu (F)	3.8700E-04	3.8700E-04	1.1969E-01	2.1138E+00	3.5880E+00	3.7439E+00	5.3816E-02	3.7445E+00	3.7445E+00	1.3800E-12	8.9408E-19
	^{241}Pu (T)	7.2165E-03	7.2165E-03	6.1305E-01	3.7284E+00	4.3658E+00	4.3916E+00	6.2809E-02	4.3916E+00	4.3916E+00	3.0387E-15	6.7734E-22
	^{233}U (T)	3.1400E-04	3.1400E-04	9.2803E-02	2.6199E+00	4.3169E+00	4.5319E+00	6.6790E-02	4.6330E+00	4.6330E+00	6.2100E-12	6.6368E-18
	^{232}Th (F)	9.9955E-02	9.9955E-02	1.9084E+00	7.5805E+00	7.8898E+00	7.8953E+00	1.1290E-01	7.8953E+00	7.8953E+00	1.3275E-17	1.0257E-24
Independent yield	^{235}U (T)	3.1270E-03	3.1270E-03	3.6208E-01	4.1061E+00	9.5500E-01	6.5383E-02	4.9200E-05	4.9200E-05	9.8900E-09	4.6562E-14	1.6460E-20
	^{235}U (F)	5.6090E-03	5.6090E-03	5.4137E-01	3.5338E+00	1.0605E+00	4.0246E-02	2.2200E-05	2.2200E-05	1.3100E-08	1.0595E-14	2.1686E-21
	^{235}U (H)	4.3900E-04	4.3900E-04	1.4713E-01	1.6229E+00	1.3376E+00	9.3848E-02	1.7700E-04	1.7700E-04	7.1900E-08	6.3295E-13	2.5440E-19
	^{238}U (F)	6.3060E-02	6.3060E-02	1.0127E+00	3.1762E+00	1.4861E-01	2.2590E-03	1.6400E-07	1.6400E-07	1.1400E-11	3.1948E-18	2.0846E-25
	^{238}U (H)	1.9173E-02	1.9173E-02	1.0392E+00	2.2441E+00	3.7346E-01	4.4980E-03	1.2600E-06	1.2600E-06	7.1300E-11	8.1914E-17	4.4152E-24
	^{239}Pu (T)	3.1400E-04	3.1400E-04	1.3326E-01	1.9686E+00	1.4436E+00	1.9248E-01	1.9900E-04	1.9900E-04	1.6100E-07	1.2900E-12	1.8605E-18
	^{239}Pu (F)	3.8700E-04	3.8700E-04	1.1882E-01	1.9954E+00	1.4742E+00	1.5596E-01	2.7700E-04	2.7700E-04	5.9300E-08	1.3800E-12	8.9408E-19
	^{241}Pu (T)	7.2165E-03	7.2165E-03	4.9862E-01	3.2131E+00	6.3834E-01	2.4798E-02	9.4300E-06	9.4300E-06	1.8600E-09	3.0387E-15	6.7734E-22
	^{233}U (T)	3.1400E-04	3.1400E-04	9.2175E-02	2.5283E+00	1.5960E+00	3.1603E-01	5.5300E-04	5.5300E-04	5.9400E-07	6.2100E-12	6.6368E-18
	^{232}Th (F)	9.9955E-02	9.9955E-02	1.7085E+00	5.6441E+00	3.0938E-01	5.4810E-03	4.5800E-07	4.5800E-07	3.7300E-11	1.3275E-17	1.0257E-24

Table 2.7.1 Continued

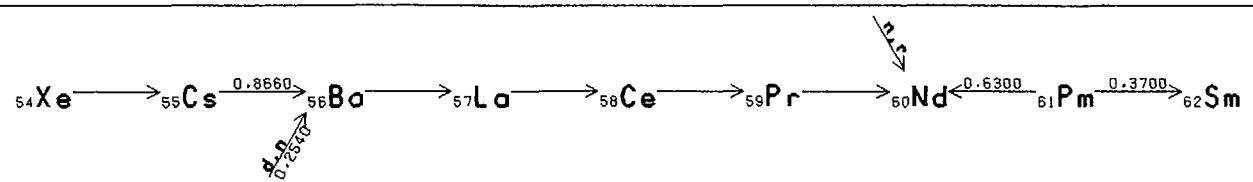
Mass No. 145



		54Xe	55Cs	56Ba	57La	58Ce	59Pr	60Nd	61Pm	62Sm
	λ(1/sec)	7.7016E-01	1.1849E+00	1.8289E-01	2.7397E-02	3.8508E-03	3.2197E-05	0.0	1.2410E-09	2.3596E-08
	Q-value(MeV)	6.3000E+00	6.1000E+00	5.1000E+00	4.2000E+00	2.5000E+00	1.8050E+00	0.0	1.5970E-01	6.1500E-01
	E-beta (MeV)	2.2910E+00	2.0700E+00	1.7570E+00	1.4620E+00	6.1499E-01	6.7793E-01	0.0	0.0	0.0
	E-gamma(MeV)	1.8270E+00	1.3870E+00	1.1590E+00	8.0210E-01	8.2463E-01	1.4388E-02	0.0	1.8490E-03	7.8095E-03
	E-I.C (MeV)	0.0	0.0	0.0	0.0	3.7800E-02	5.9450E-04	0.0	8.6470E-03	4.6550E-02
Cumulative yield	235U (T)	7.9300E-05	5.8477E-02	1.6519E+00	3.6149E+00	3.9159E+00	3.9173E+00	3.9173E+00	7.8500E-12	8.1951E-18
	235U (F)	6.5500E-04	1.1394E-01	2.0161E+00	3.5908E+00	3.7696E+00	3.7603E+00	3.7603E+00	1.9300E-12	1.2110E-18
	236U (H)	4.3300E-06	2.3333E-02	7.4968E-01	2.3455E+00	2.6616E+00	2.6563E+00	2.6563E+00	7.0800E-11	9.6533E-17
	238U (F)	1.5979E-02	4.8924E-01	3.2282E+00	3.7136E+00	3.7310E+00	3.7311E+00	3.7311E+00	1.3646E-16	2.3627E-22
	238U (H)	3.9780E-03	3.3076E-01	2.1660E+00	3.0073E+00	3.0372E+00	3.0373E+00	3.0373E+00	2.0594E-14	3.7522E-21
	239Pu(T)	3.5900E-06	2.1500E-02	7.5223E-01	2.4331E+00	2.9810E+00	2.9880E+00	2.9880E+00	2.5600E-10	5.8223E-16
	239Pu(F)	3.0400E-06	1.5907E-02	7.7965E-01	2.4572E+00	2.9509E+00	2.9567E+00	2.9567E+00	1.7100E-10	3.3957E-16
	241Pu(T)	9.5000E-04	1.2358E-01	1.9976E+00	3.2816E+00	3.3996E+00	3.4000E+00	3.4000E+00	5.8565E-13	3.8874E-19
	233U (T)	1.6600E-05	1.0860E-02	7.6513E-01	2.6170E+00	3.3723E+00	3.3831E+00	3.3831E+00	5.9600E-10	1.9860E-15
	232Th(F)	1.6818E-02	5.9558E-01	4.5363E+00	5.3302E+00	5.3631E+00	5.3631E+00	5.3631E+00	4.3772E-15	8.9929E-22
Independent yield	235U (T)	7.9300E-05	5.8398E-02	1.7995E+00	1.7530E+00	3.0095E-01	1.3780E-03	7.0600E-07	7.8500E-12	8.1951E-18
	235U (F)	6.5500E-04	1.1328E-01	1.9168E+00	1.5748E+00	1.6864E-01	6.7100E-04	2.1600E-07	1.9300E-12	1.2110E-18
	235U (H)	4.3300E-05	2.3290E-02	7.2930E-01	1.5959E+00	3.0606E-01	3.7020E-03	2.4400E-06	7.0800E-11	9.6533E-17
	238U (F)	1.5979E-02	4.7326E-01	2.7940E+00	4.8541E-01	1.7476E-02	1.1400E-05	9.2300E-10	1.3646E-16	2.3627E-22
	238U (H)	3.9780E-03	3.2678E-01	1.8760E+00	8.4131E-01	2.9899E-02	5.6400E-05	6.1000E-09	2.0594E-14	3.7522E-21
	239Pu(T)	3.5900E-05	2.1463E-02	7.4361E-01	1.5708E+00	5.4791E-01	7.0510E-03	8.3700E-06	2.5600E-10	5.8223E-16
	239Pu(F)	3.0400E-05	1.5877E-02	7.5489E-01	1.5876E+00	4.9373E-01	5.8220E-03	5.6500E-06	1.7100E-10	3.3957E-16
	241Pu(T)	9.5000E-04	1.2254E-01	1.8894E+00	1.2840E+00	1.1800E-01	3.4700E-04	1.0400E-07	5.8565E-13	3.8874E-19
	233U (T)	1.6600E-06	1.0863E-02	7.5573E-01	1.8618E+00	7.5529E-01	1.0849E-02	1.6500E-06	5.9500E-10	1.9860E-16
	232Th(F)	1.6818E-02	5.7876E-01	4.0110E+00	2.9386E-01	3.2921E-02	2.5100E-05	2.6600E-09	4.3772E-15	8.9929E-22

Table 2.7.1 Continued

Mass No. 146



		54Xe	55Cs	56Ba	57La	58Ce	59Pr	60Nd	61Pm	62Sm
	λ(1/sec)	3.0958E-01	2.0691E+00	3.1796E-01	8.1547E-02	8.1355E-04	4.7995E-04	0.0	3.9720E-09	0.0
	Q-value(MeV)	5.5920E+00	8.5400E+00	3.9000E+00	6.3000E+00	1.0800E+00	4.0800E+00	0.0	1.5042E+00	0.0
	E-beta (MeV)	1.9710E+00	2.6320E+00	1.1590E+00	2.1820E+00	2.3634E-01	1.2073E+00	0.0	9.1156E-02	0.0
	E-gamma(MeV)	1.0860E+00	2.1900E+00	7.7380E-01	1.3460E+00	3.0585E-01	1.1493E+00	0.0	7.4747E-01	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	3.9457E-02	0.0	0.0	0.0	0.0
Cumulative yield	235U (T)	1.7000E-05	1.7070E-02	9.9368E-01	2.4348E+00	2.9607E+00	2.9715E+00	2.9715E+00	8.0400E-10	2.9748E-10
	235U (F)	2.2600E-05	1.2109E-02	7.3724E-01	2.2346E+00	2.8969E+00	2.9032E+00	2.9032E+00	2.6200E-10	9.6941E-11
	235U (H)	1.1800E-06	2.1532E-03	2.1897E-01	1.6416E+00	2.2605E+00	2.2876E+00	2.2877E+00	5.3400E-09	2.3458E-09
	238U (F)	1.4720E-03	1.1117E-01	2.4939E+00	3.2439E+00	3.3766E+00	3.3769E+00	3.3769E+00	3.5955E-13	1.3304E-13
	238U (H)	2.1000E-04	5.6536E-02	1.0129E+00	2.1876E+00	2.3151E+00	2.3159E+00	2.3159E+00	3.6400E-12	1.3468E-12
	239Pu(T)	8.0100E-07	1.4508E-03	1.8959E-01	1.2674E+00	2.4191E+00	2.4605E+00	2.4607E+00	2.0100E-08	7.4372E-09
	239Pu(F)	6.9400E-07	1.2447E-03	2.0624E-01	1.3881E+00	2.4049E+00	2.4416E+00	2.4417E+00	1.3900E-08	5.1431E-09
	241Pu(T)	4.4200E-05	1.6808E-02	9.6950E-01	2.4106E+00	2.9073E+00	2.9116E+00	2.9116E+00	1.0500E-10	3.8850E-11
	233U (T)	2.9500E-07	5.8330E-04	1.6110E-01	1.1381E+00	2.4785E+00	2.5301E+00	2.5304E+00	3.6200E-08	1.3395E-08
	232Th(F)	1.2630E-03	1.1127E-01	3.1097E+00	4.3767E+00	4.5963E+00	4.5967E+00	4.5967E+00	1.0100E-12	3.7370E-13
Independent yield	235U (T)	1.7000E-05	1.7063E-02	9.7882E-01	1.4412E+00	5.2589E-01	1.0732E-02	2.3600E-05	8.0400E-10	3.9502E-15
	235U (F)	2.2600E-05	1.2086E-02	7.2558E-01	1.4974E+00	6.6227E-01	6.3580E-03	8.9400E-06	2.6200E-10	6.5616E-16
	235U (H)	1.1800E-06	2.1520E-03	2.1709E-01	1.3226E+00	7.1894E-01	2.7142E-02	6.2100E-05	5.3400E-09	3.1325E-14
	238U (F)	1.4720E-03	1.0970E-01	2.3943E+00	7.4994E-01	1.3279E-01	2.3000E-04	1.0100E-07	3.5955E-13	3.1067E-19
	238U (H)	2.1000E-04	5.6326E-02	9.5245E-01	1.1748E+00	1.2749E-01	7.7500E-04	2.5900E-07	3.6400E-12	2.4949E-18
	239Pu(T)	8.0100E-07	1.4500E-03	1.8933E-01	1.0778E+00	1.1516E+00	4.1434E-02	1.9800E-04	2.0100E-08	2.1812E-13
	239Pu(F)	6.9400E-07	1.2440E-03	2.0516E-01	1.1818E+00	1.0168E+00	3.5681E-02	1.3800E-04	1.3900E-08	1.1252E-13
	241Pu(T)	4.4200E-05	1.6764E-02	9.5466E-01	1.4411E+00	4.9671E-01	4.2230E-03	5.1200E-06	1.0500E-10	2.7035E-16
	233U (T)	2.9500E-07	5.8300E-04	1.6059E-01	9.7599E-01	1.3405E+00	5.1549E-02	3.2600E-04	3.6200E-08	6.2696E-13
	232Th(F)	1.2630E-03	1.1001E-01	3.0102E+00	1.2670E+00	2.1959E-01	4.4000E-04	2.2500E-07	1.0100E-12	1.0581E-18

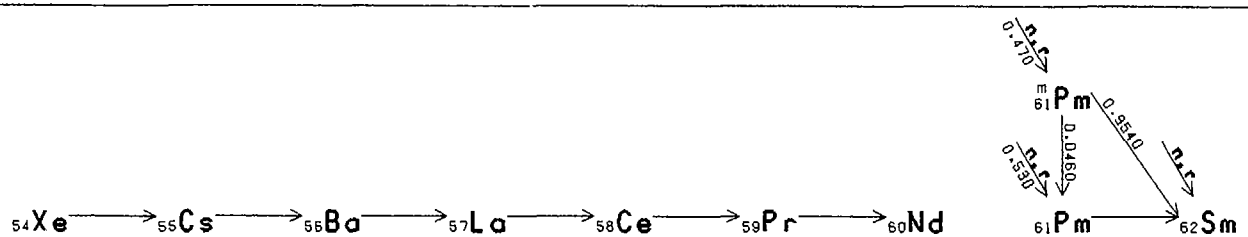
Table 2.7.1 Continued

Mass No. 147: $_{55}Cs \xrightarrow{0.7460} {}_{56}Ba \rightarrow {}_{57}La \rightarrow {}_{58}Ce \rightarrow {}_{59}Pr \rightarrow {}_{60}Nd \rightarrow {}_{61}Pm \rightarrow {}_{62}Sm \leftarrow {}_{63}Eu \leftarrow {}_{64}Gd$

		$_{55}Cs$	$_{56}Ba$	$_{57}La$	$_{58}Ce$	$_{59}Pr$	$_{60}Nd$	$_{61}Pm$	$_{62}Sm$	$_{63}Eu$	$_{64}Gd$
	λ(1/sec)	3.1796E+00	9.9021E-01	1.6647E-01	1.2225E-02	9.6270E-04	7.2537E-07	8.3740E-09	0.0	3.3016E-07	5.0011E-06
	Q-value(MeV)	7.2000E+00	5.5200E+00	4.7500E+00	3.3100E+00	2.7000E+00	8.9580E-01	2.2470E-01	0.0	1.7300E+00	2.3280E+00
	E-beta (MeV)	2.2190E+00	1.8580E+00	1.6320E+00	1.2222E+00	7.3961E-01	2.2963E-01	6.1963E-02	0.0	1.4990E-03	1.3180E-03
	E-gamma(MeV)	1.5810E+00	1.3010E+00	9.3630E-01	2.9273E-01	7.1713E-01	1.3538E-01	4.8480E-06	0.0	3.7020E-01	1.3280E+00
	E-I.C (MeV)	0.0	0.0	0.0	3.4390E-02	4.8408E-02	5.2635E-02	0.0	0.0	3.2360E-02	4.3668E-02
Cumulative yield	^{235}U (T)	2.9976E-04	9.3150E-02	9.2091E-01	2.1581E+00	2.2291E+00	2.2296E+00	2.2296E+00	2.2296E+00	4.6507E-19	1.4105E-26
	^{235}U (F)	5.6411E-04	1.3373E-01	1.1385E+00	2.0528E+00	2.1006E+00	2.1008E+00	2.1008E+00	2.1008E+00	7.3091E-20	1.3565E-27
	^{235}U (H)	7.4719E-05	2.8305E-02	6.0255E-01	1.5383E+00	1.6572E+00	1.6582E+00	1.6582E+00	1.6582E+00	7.2552E-18	2.7446E-25
	^{238}U (F)	1.3017E-02	8.3308E-01	2.0834E+00	2.5197E+00	2.5238E+00	2.5238E+00	2.5238E+00	2.5238E+00	1.2235E-23	6.1442E-32
	^{238}U (H)	5.6802E-03	3.3540E-01	1.6218E+00	2.0738E+00	2.0841E+00	2.0841E+00	2.0841E+00	2.0841E+00	2.4187E-22	1.2288E-30
	^{239}Pu(T)	2.9369E-05	2.0829E-02	4.9071E-01	1.8580E+00	2.0473E+00	2.0503E+00	2.0503E+00	2.0503E+00	5.5088E-17	4.0358E-24
	^{239}Pu(F)	4.2466E-05	2.4279E-02	5.5203E-01	1.8059E+00	1.9749E+00	1.9771E+00	1.9771E+00	1.9771E+00	2.8060E-17	1.6489E-24
	^{241}Pu(T)	1.0931E-03	2.0179E-01	1.3580E+00	2.3544E+00	2.3929E+00	2.3931E+00	2.3931E+00	2.3931E+00	2.7881E-20	4.6339E-28
	^{233}U (T)	1.4365E-05	1.3493E-02	3.6225E-01	1.5291E+00	1.7062E+00	1.7100E+00	1.7100E+00	1.7100E+00	1.1056E-16	1.0491E-23
	^{232}Th(F)	1.2133E-02	8.9644E-01	2.4405E+00	3.0918E+00	3.0985E+00	3.0985E+00	3.0985E+00	3.0985E+00	4.0931E-23	2.4471E-31
Independent yield	^{235}U (T)	2.9976E-04	9.2926E-02	8.2776E-01	1.2372E+00	7.0963E-02	5.0900E-04	8.2200E-08	1.3700E-12	4.6507E-19	1.4105E-26
	^{235}U (F)	5.6411E-04	1.3323E-01	1.0048E+00	9.1432E-01	4.7804E-02	2.1800E-04	2.7900E-08	2.7481E-13	7.3091E-20	1.3565E-27
	^{235}U (H)	7.4719E-05	2.8249E-02	5.7425E-01	9.3674E-01	1.1887E-01	1.0070E-03	4.1800E-07	8.2500E-12	7.2552E-18	2.7446E-25
	^{238}U (F)	1.3017E-02	8.2337E-01	1.2503E+00	4.3627E-01	4.1070E-03	5.5300E-06	1.0900E-10	3.0624E-16	1.2235E-23	6.1442E-32
	^{238}U (H)	5.6802E-03	3.3116E-01	1.2864E+00	4.5201E-01	1.0326E-02	1.3800E-05	6.0400E-08	2.1477E-15	2.4187E-22	1.2288E-30
	^{239}Pu(T)	2.9369E-05	2.0807E-02	4.6988E-01	1.3673E+00	1.8936E-01	3.0000E-03	1.4400E-06	5.4700E-11	5.5088E-17	4.0358E-24
	^{239}Pu(F)	4.2465E-05	2.4247E-02	5.2775E-01	1.2539E+00	1.6893E-01	2.2490E-03	9.9900E-07	3.1000E-11	2.8060E-17	1.6489E-24
	^{241}Pu(T)	1.0931E-03	2.0097E-01	1.1562E+00	9.9647E-01	3.8511E-02	1.5700E-04	1.5000E-08	1.4021E-13	2.7881E-20	4.6339E-28
	^{233}U (T)	1.4365E-05	1.3482E-02	3.3876E-01	1.1769E+00	1.7712E-01	3.7440E-03	1.9000E-06	9.3200E-11	1.1056E-16	1.0491E-23
	^{232}Th(F)	1.2133E-02	8.8739E-01	1.5440E+00	6.6134E-01	6.6730E-03	1.0500E-05	2.5600E-10	8.5735E-16	4.0931E-23	2.4471E-31

Table 2.7.1 Continued

Mass No. 148



		54Xe	55Cs	56Ba	57La	58Ce	59Pr	60Nd	m 61Pm	61Pm	62Sm
	λ(1/sec)	1.0376E+00	2.8085E-01	1.4748E+00	5.3732E-01	1.4441E-02	5.0228E-03	0.0	1.9425E-07	1.4939E-06	0.0
	Q-value(MeV)	7.1120E+00	8.4770E+00	4.0400E+00	7.0500E+00	2.1300E+00	4.8000E+00	0.0	2.4879E+00	2.4640E+00	0.0
	E-beta (MeV)	2.5530E+00	2.4540E+00	1.3430E+00	2.1760E+00	6.3562E-01	1.6530E+00	0.0	1.4598E-01	7.2665E-01	0.0
	E-gamma(MeV)	1.4020E+00	2.9690E+00	8.3530E-01	1.3610E+00	3.8681E-01	1.1646E+00	0.0	1.9930E+00	5.7446E-01	0.0
	E-i.C (MeV)	0.0	0.0	0.0	0.0	3.8688E-02	0.0	0.0	1.4768E-02	0.0	0.0
Cumulative yield	235U (T)	9.0100E-10	8.2009E-06	1.0744E-02	2.6094E-01	1.6274E+00	1.6663E+00	1.6713E+00	4.8800E-08	2.1746E-08	6.8480E-08
	235U (F)	2.8700E-09	2.2503E-05	1.7456E-02	3.8000E-01	1.5268E+00	1.6731E+00	1.6756E+00	9.1300E-07	2.4200E-07	1.1130E-06
	235U (H)	7.3300E-11	1.9501E-06	2.5760E-03	1.6926E-01	9.5143E-01	1.2379E+00	1.2461E+00	9.6000E-06	2.5516E-06	1.1711E-05
	238U (F)	7.8400E-07	8.1378E-04	2.2480E-01	9.7292E-01	2.0496E+00	2.0721E+00	2.0723E+00	6.0000E-09	2.4960E-09	8.2201E-09
	238U (H)	1.0100E-07	3.7210E-04	7.4311E-02	8.9486E-01	1.6876E+00	1.7433E+00	1.7436E+00	4.3100E-08	1.1453E-08	5.2571E-08
	239Pu(T)	2.2900E-11	6.2602E-07	1.7986E-03	1.1772E-01	1.2276E+00	1.6132E+00	1.6360E+00	2.7400E-05	1.2664E-06	2.7411E-05
	239Pu(F)	3.6300E-11	9.7904E-07	2.2120E-03	1.4436E-01	1.2343E+00	1.6178E+00	1.6359E+00	2.1500E-05	5.7190E-06	2.6233E-05
	241Pu(T)	7.6900E-09	4.2508E-05	3.0745E-02	4.9046E-01	1.8870E+00	2.0279E+00	2.0300E+00	5.4300E-07	1.4398E-07	6.6203E-07
	233U (T)	8.7100E-12	2.6001E-07	9.9626E-04	7.0446E-02	9.3131E-01	1.2465E+00	1.2709E+00	9.5100E-07	2.7176E-07	1.1873E-06
	232Th(F)	4.6100E-07	5.6246E-04	1.7960E-01	8.6705E-01	1.9860E+00	2.0130E+00	2.0132E+00	9.8400E-09	4.0926E-09	1.3480E-08
Independent yield	235U (T)	9.0100E-10	8.2000E-06	1.0736E-02	2.6019E-01	1.2664E+00	1.3897E-01	5.0040E-03	4.8800E-08	1.9500E-08	1.8000E-10
	235U (F)	2.8700E-09	2.2500E-05	1.7435E-02	3.6264E-01	1.1468E+00	1.4624E-01	2.5500E-03	9.1300E-07	2.0000E-07	4.6500E-11
	235U (H)	7.3300E-11	1.9600E-06	2.5760E-03	1.6668E-01	7.8217E-01	2.8652E-01	8.1140E-03	9.6000E-06	2.1100E-06	8.6000E-10
	238U (F)	7.8400E-07	8.1300E-04	2.2398E-01	7.4813E-01	1.0767E+00	2.2540E-02	1.4200E-04	6.0000E-09	2.2200E-09	1.0979E-13
	238U (H)	1.0100E-07	3.7200E-04	7.3939E-02	8.2055E-01	7.9269E-01	5.5746E-02	2.5500E-04	4.3100E-08	9.4700E-09	5.4082E-13
	239Pu(T)	2.2900E-11	6.2600E-07	1.7980E-03	1.1693E-01	1.1099E+00	3.8555E-01	2.2880E-02	2.7400E-05	6.0200E-09	5.3700E-09
	239Pu(F)	3.6300E-11	9.7900E-07	2.2110E-03	1.4216E-01	1.0900E+00	3.6348E-01	2.1804E-02	2.1500E-05	4.7300E-06	3.3100E-09
	241Pu(T)	7.6900E-09	4.2500E-05	3.0702E-02	4.5972E-01	1.4055E+00	1.3084E-01	2.1490E-03	5.4300E-07	1.1900E-07	2.5600E-11
	233U (T)	8.7100E-12	2.5000E-07	9.9600E-04	6.9449E-02	8.6086E-01	3.1618E-01	2.4432E-02	9.5100E-07	2.2800E-07	8.3200E-09
	232Th(F)	4.6100E-07	5.6200E-04	1.7903E-01	6.8746E-01	1.1189E+00	2.7051E-02	1.9700E-04	9.8400E-09	3.6400E-09	2.2123E-13

Table 2.7.1 Continued

Mass No. 149: $_{56}Ba \rightarrow {}_{57}La \rightarrow {}_{58}Ce \rightarrow {}_{59}Pr \rightarrow {}_{60}Nd \xrightarrow{\beta^-,\gamma} {}_{61}Pm \xrightarrow{\beta^-,\gamma} {}_{62}Sm \xleftarrow{\beta^-,\gamma} {}_{63}Eu \leftarrow {}_{64}Gd$

		$_{56}Ba$	$_{57}La$	$_{58}Ce$	$_{59}Pr$	$_{60}Nd$	$_{61}Pm$	$_{62}Sm$	$_{63}Eu$	$_{64}Gd$
	λ (1/sec)	1.4348E-01	6.4359E-02	1.2160E-01	4.6210E-03	1.1130E-04	3.6273E-06	0.0	8.6172E-08	8.5346E-07
	Q-value (MeV)	6.1290E+00	5.2170E+00	3.9000E+00	3.0000E+00	1.6890E+00	1.0713E+00	0.0	6.9500E-01	1.3080E+00
	E-beta (MeV)	2.0160E+00	1.7830E+00	1.6428E+00	1.1372E+00	4.6476E-01	3.6632E-01	0.0	0.0	0.0
	E-gamma (MeV)	1.5200E+00	1.0870E+00	3.7116E-02	1.7984E-01	3.6992E-01	1.0590E-02	0.0	2.7828E-02	3.6876E-01
	E-I.C (MeV)	0.0	0.0	2.9992E-02	0.0	4.4315E-02	3.5990E-05	0.0	2.9249E-03	5.2145E-02
Cumulative yield	^{235}U (T)	6.5100E-04	5.9433E-02	7.6331E-01	1.0506E+00	1.0748E+00	1.0748E+00	1.0748E+00	4.7401E-14	1.9670E-20
	^{236}U (F)	1.1180E-03	8.4333E-02	7.4669E-01	1.0160E+00	1.0279E+00	1.0279E+00	1.0279E+00	9.9798E-15	2.5317E-21
	^{235}U (H)	1.0200E-04	2.1991E-02	3.1721E-01	6.1815E-01	6.4387E-01	6.4399E-01	6.4399E-01	3.5329E-13	1.7812E-19
	^{238}U (F)	3.0028E-02	4.2755E-01	1.5021E+00	1.5997E+00	1.6012E+00	1.6012E+00	1.6012E+00	7.6372E-18	5.2983E-25
	^{238}U (H)	9.6700E-03	3.4065E-01	1.2409E+00	1.4315E+00	1.4342E+00	1.4342E+00	1.4342E+00	1.0922E-16	7.5049E-24
	^{239}Pu (T)	8.2800E-05	2.0353E-02	5.2136E-01	1.1561E+00	1.2431E+00	1.2436E+00	1.2436E+00	3.3900E-12	3.3767E-18
	^{239}Pu (F)	1.1800E-04	2.7729E-02	5.9273E-01	1.1655E+00	1.2431E+00	1.2435E+00	1.2435E+00	1.9800E-12	1.5638E-18
	^{241}Pu (T)	2.6470E-03	1.5046E-01	1.2215E+00	1.5363E+00	1.5510E+00	1.5510E+00	1.5510E+00	5.8686E-15	1.3376E-21
	^{233}U (T)	3.6500E-05	1.0102E-02	3.2342E-01	6.8379E-01	7.5632E-01	7.5678E-01	7.5678E-01	4.1300E-12	5.5652E-18
	^{232}Th (F)	1.2335E-02	2.0125E-01	8.3288E-01	8.9305E-01	8.9414E-01	8.9415E-01	8.9415E-01	9.9306E-18	8.1766E-25
Independent yield	^{235}U (T)	6.5100E-04	5.8782E-02	7.0388E-01	2.8725E-01	2.4201E-02	4.9600E-05	1.0300E-08	4.7401E-14	1.9670E-20
	^{236}U (F)	1.1180E-03	8.3215E-02	6.6136E-01	2.6926E-01	1.2970E-02	2.2200E-05	2.9200E-09	9.9798E-15	2.5317E-21
	^{235}U (H)	1.0200E-04	2.1889E-02	2.9522E-01	3.0096E-01	2.5706E-02	1.2700E-04	3.2400E-08	3.5329E-13	1.7812E-19
	^{238}U (F)	3.0028E-02	3.9752E-01	1.0746E+00	9.7549E-02	1.5370E-03	4.1500E-07	1.3600E-11	7.6372E-18	5.2983E-25
	^{238}U (H)	9.6700E-03	3.3098E-01	9.0022E-01	1.8068E-01	2.6630E-03	2.1900E-06	7.2600E-11	1.0922E-16	7.5049E-24
	^{239}Pu (T)	8.2800E-05	2.0270E-02	5.0101E-01	6.3675E-01	8.4952E-02	5.3300E-04	2.6300E-07	3.3900E-12	3.3767E-18
	^{239}Pu (F)	1.1800E-04	2.7611E-02	5.6500E-01	5.7272E-01	7.7659E-02	4.0200E-04	1.6200E-07	1.9800E-12	1.5638E-18
	^{241}Pu (T)	2.6470E-03	1.4781E-01	1.0711E+00	3.1477E-01	1.4705E-02	1.8100E-05	2.1200E-09	5.8686E-15	1.3376E-21
	^{233}U (T)	3.6500E-05	1.0066E-02	3.1331E-01	3.6037E-01	7.2533E-02	4.5500E-04	2.8200E-07	4.1300E-12	5.5652E-18
	^{232}Th (F)	1.2335E-02	1.8891E-01	6.3163E-01	6.0173E-02	1.0950E-03	3.4700E-07	1.4800E-11	9.9306E-18	8.1766E-25

Table 2.7.1 Continued

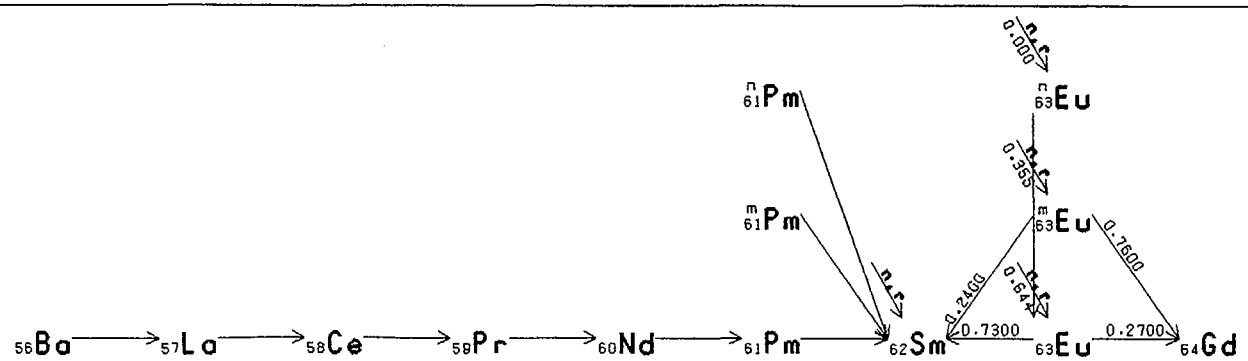
Mass No. 150	$_{54}Xe \rightarrow {}_{55}Cs \rightarrow {}_{56}Ba \rightarrow {}_{57}La \rightarrow {}_{58}Ce \rightarrow {}_{59}Pr \rightarrow {}_{60}Nd$ $\xrightarrow{\beta^-}$ $_{61}Pm \xrightarrow{\beta^-} {}_{62}Sm$								
	$_{54}Xe$	$_{55}Cs$	$_{56}Ba$	$_{57}La$	$_{58}Ce$	$_{59}Pr$	$_{60}Nd$	$_{61}Pm$	$_{62}Sm$
λ(1/sec)	2.6406E+00	5.6862E-01	3.3779E-01	1.0260E-01	1.6906E-01	1.1180E-01	0.0	7.1364E-05	0.0
Q-value(MeV)	8.5420E+00	9.4520E+00	5.6450E+00	7.2060E+00	2.7000E+00	5.7000E+00	0.0	3.5000E+00	0.0
E-beta (MeV)	3.0920E+00	2.7510E+00	1.9850E+00	2.0370E+00	1.0376E+00	2.0170E+00	0.0	7.3899E-01	0.0
E-gamma(MeV)	1.7220E+00	3.3310E+00	1.0960E+00	2.5470E+00	1.0669E-01	1.0760E+00	0.0	1.5804E+00	0.0
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cumulative yield ^{235}U (T)	1.3885E-14	1.5900E-09	2.5302E-05	6.3553E-03	2.8034E-01	5.7072E-01	6.4865E-01	3.0000E-05	3.0394E-05
Cumulative yield ^{235}U (F)	5.3866E-14	5.8701E-09	5.4706E-05	1.2028E-02	3.2710E-01	5.3576E-01	6.8688E-01	2.5600E-04	2.5613E-04
Cumulative yield ^{235}U (H)	7.6050E-15	2.4600E-10	4.0102E-06	2.8740E-03	1.2300E-01	4.5621E-01	5.3963E-01	1.3260E-03	1.3272E-03
Cumulative yield ^{238}U (F)	7.0100E-11	9.0707E-07	2.8509E-03	9.2215E-02	1.0747E+00	1.2476E+00	1.2592E+00	8.1200E-06	8.1214E-06
Cumulative yield ^{238}U (H)	6.3400E-12	3.0301E-07	7.2230E-04	8.1137E-02	7.0228E-01	1.0664E+00	1.0829E+00	4.4600E-05	4.4606E-05
Cumulative yield ^{239}Pu(T)	2.3737E-15	8.4200E-11	3.0101E-05	2.1930E-03	1.9545E-01	7.0601E-01	9.6537E-01	1.1510E-03	1.1590E-03
Cumulative yield ^{239}Pu(F)	4.4925E-15	1.4600E-10	4.0901E-05	2.9521E-03	2.0917E-01	7.5977E-01	9.8453E-01	3.5380E-03	3.5434E-03
Cumulative yield ^{241}Pu(T)	2.8705E-13	2.0100E-08	1.7402E-04	2.7282E-02	7.0735E-01	1.1961E+00	1.2738E+00	2.7700E-04	2.7713E-04
Cumulative yield ^{233}U (T)	5.1726E-17	2.0100E-11	9.6002E-07	7.6296E-04	8.9164E-02	3.3636E-01	4.9801E-01	2.7360E-03	2.7431E-03
Cumulative yield ^{232}Th(F)	1.0300E-11	1.5701E-07	5.7616E-04	2.1608E-02	2.8462E-01	3.3749E-01	3.4154E-01	3.3400E-06	3.3407E-06
Independent yield ^{235}U (T)	1.3885E-14	1.5900E-09	2.5300E-05	6.3400E-03	2.7398E-01	2.9037E-01	7.7935E-02	3.0000E-05	3.9400E-07
Independent yield ^{235}U (F)	5.3866E-14	5.8700E-09	5.4700E-05	1.1973E-02	3.1507E-01	3.0866E-01	5.1121E-02	2.5600E-04	1.3400E-07
Independent yield ^{235}U (H)	7.6050E-15	2.4600E-10	4.0100E-06	2.8700E-03	1.2013E-01	3.3320E-01	8.3425E-02	1.3260E-03	1.2000E-05
Independent yield ^{238}U (F)	7.0100E-11	9.0700E-07	2.8500E-03	8.9365E-02	9.8253E-01	1.7289E-01	1.1573E-02	8.1200E-06	1.4200E-09
Independent yield ^{238}U (H)	6.3400E-12	3.0300E-07	7.2200E-04	8.0415E-02	6.2114E-01	3.6310E-01	1.7568E-02	4.4600E-05	5.9500E-09
Independent yield ^{239}Pu(T)	2.3737E-15	8.4200E-11	3.0100E-05	2.1900E-03	1.9326E-01	5.1066E-01	2.5936E-01	1.1510E-03	7.9800E-05
Independent yield ^{239}Pu(F)	4.4925E-15	1.4600E-10	4.0900E-05	2.9480E-03	2.0622E-01	5.5060E-01	2.2476E-01	3.5380E-03	5.4400E-05
Independent yield ^{241}Pu(T)	2.8705E-13	2.0100E-08	1.7400E-04	2.7108E-02	5.8007E-01	4.8877E-01	7.7572E-02	2.7700E-04	1.3500E-07
Independent yield ^{233}U (T)	5.1726E-17	2.0100E-11	9.6000E-07	7.5200E-04	8.8401E-02	2.4720E-01	1.6165E-01	2.7360E-03	7.0900E-05
Independent yield ^{232}Th(F)	1.0300E-11	1.5700E-07	5.7600E-04	2.1032E-02	2.5301E-01	5.2865E-02	4.0570E-03	3.3400E-06	5.8000E-10

Table 2.7.1 Continued

Mass No. 151		$_{57}$La → $_{58}$Ce → $_{59}$Pr → $_{60}$Nd → $_{61}$Pm → $_{62}$Sm → $_{63}$Eu ← $_{64}$Gd ← $_{65}$Tb								
		$_{57}$La	$_{58}$Ce	$_{59}$Pr	$_{60}$Nd	$_{61}$Pm	$_{62}$Sm	$_{63}$Eu	$_{64}$Gd	$_{65}$Tb
λ (1/sec)		2.2734E-01	6.7956E-01	1.7329E-01	9.2865E-04	6.7796E-06	2.4406E-10	0.0	6.6854E-08	1.0940E-06
Q-value (MeV)		6.6020E+00	4.7500E+00	3.6000E+00	2.4410E+00	1.1880E+00	7.6100E-02	0.0	4.8200E-01	2.5610E+00
E-beta (MeV)		2.2020E+00	1.4400E+00	1.2340E+00	5.9187E-01	2.8105E-01	1.9658E-02	0.0	0.0	1.0128E-02
E-gamma (MeV)		1.6010E+00	8.7740E-01	7.0110E-01	9.2663E-01	3.3232E-01	6.4620E-06	0.0	3.3033E-02	8.4553E-01
E-I.C (MeV)		0.0	0.0	0.0	3.5465E-02	2.6202E-02	1.8960E-04	0.0	3.5986E-02	8.0444E-02
Cumulative yield	^{235}U (T)	6.5400E-04	5.9756E-02	2.7374E-01	4.1400E-01	4.1648E-01	4.1648E-01	4.1648E-01	1.8053E-15	1.8961E-22
	^{235}U (F)	1.1720E-03	8.1784E-02	3.1321E-01	4.0686E-01	4.0847E-01	4.0848E-01	4.0848E-01	3.1544E-16	2.6116E-23
	^{235}U (H)	2.0600E-04	2.6048E-02	2.2213E-01	3.5042E-01	3.5652E-01	3.5654E-01	3.5654E-01	1.4146E-14	3.6433E-21
	^{238}U (F)	2.0048E-02	4.8002E-01	7.5674E-01	7.9768E-01	7.9770E-01	7.9770E-01	7.9770E-01	2.9399E-19	3.6548E-27
	^{238}U (H)	1.4272E-02	3.1361E-01	7.6363E-01	8.2290E-01	8.2337E-01	8.2337E-01	8.2337E-01	3.0676E-18	1.0684E-25
	^{239}Pu (T)	1.5900E-04	3.7733E-02	3.4961E-01	7.5538E-01	7.7444E-01	7.7455E-01	7.7455E-01	2.1088E-13	6.4452E-20
	^{239}Pu (F)	2.2300E-04	4.3537E-02	3.9173E-01	7.6090E-01	7.7810E-01	7.7816E-01	7.7816E-01	1.1139E-13	3.1795E-20
	^{241}Pu (T)	3.6490E-03	2.2970E-01	7.5953E-01	9.5334E-01	9.5674E-01	9.5675E-01	9.5675E-01	3.1075E-16	1.9279E-23
	^{233}U (T)	4.3700E-05	1.3267E-02	1.3441E-01	3.0819E-01	3.1833E-01	3.1840E-01	3.1840E-01	1.9735E-13	5.8507E-20
	^{232}Th (F)	3.5880E-03	9.7686E-02	1.6323E-01	1.7410E-01	1.7414E-01	1.7414E-01	1.7414E-01	1.5742E-19	2.3391E-27
Independent yield	^{235}U (T)	5.5400E-04	5.9202E-02	2.1389E-01	1.4025E-01	2.4810E-03	5.7400E-06	2.4900E-10	1.8053E-15	1.8961E-22
	^{235}U (F)	1.1720E-03	8.0612E-02	2.3143E-01	9.3649E-02	1.6110E-03	2.4100E-06	9.4300E-10	3.1544E-16	2.6116E-23
	^{235}U (H)	2.0600E-04	2.5843E-02	1.9608E-01	1.2830E-01	5.1000E-03	1.7500E-05	2.3100E-09	1.4146E-14	3.6433E-21
	^{238}U (F)	2.0048E-02	4.5997E-01	2.7672E-01	4.0840E-02	1.2100E-04	5.2200E-08	3.4117E-13	2.9399E-19	3.6548E-27
	^{238}U (H)	1.4272E-02	2.8924E-01	4.5012E-01	5.9275E-02	4.5500E-04	1.9500E-07	3.6600E-12	3.0676E-18	1.0684E-25
	^{239}Pu (T)	1.5900E-04	3.7574E-02	3.1187E-01	4.0578E-01	1.9058E-02	1.1100E-04	1.7000E-08	2.1088E-13	6.4452E-20
	^{239}Pu (F)	2.2300E-04	4.3314E-02	3.4819E-01	3.6917E-01	1.7204E-02	8.1000E-05	1.1900E-08	1.1139E-13	3.1795E-20
	^{241}Pu (T)	3.6490E-03	2.2605E-01	5.2982E-01	1.9382E-01	2.4010E-03	3.3900E-06	1.0900E-10	3.1075E-16	1.9279E-23
	^{233}U (T)	4.3700E-05	1.3213E-02	1.2116E-01	1.7377E-01	1.0143E-02	7.0200E-05	1.2200E-08	1.9735E-13	5.8507E-20
	^{232}Th (F)	3.5880E-03	9.4098E-02	5.5541E-02	1.0871E-02	3.7500E-05	1.9100E-08	1.5403E-13	1.5742E-19	2.3391E-27

Table 2.7.1 Continued

Mass No. 152



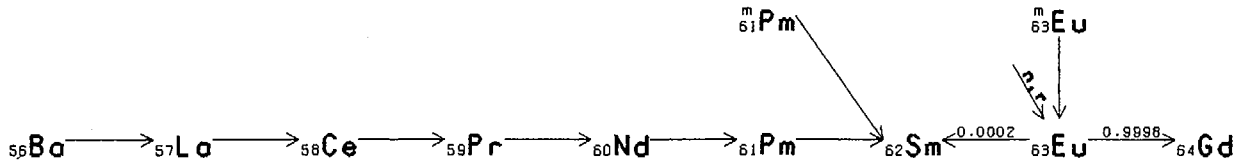
		56Ba	57La	58Ce	59Pr	60Nd	n 61Pm	m 61Pm	61Pm	62Sm	n 63Eu	m 63Eu	63Eu	64Gd
	λ(1/sec)	1.0415E+00	2.3560E-01	3.7206E-02	2.5577E-02	1.0134E-03	6.4180E-04	1.5362E-03	2.7606E-03	0.0	1.2034E-04	2.0669E-05	1.6151E-09	0.0
	Q-value(MeV)	7.0570E+00	8.2030E+00	3.6170E+00	6.7700E+00	1.1500E+00	3.7200E+00	3.7200E+00	3.4700E+00	0.0	1.4783E-01	1.8815E+00	1.8613E+00	0.0
	E-beta (MeV)	2.5240E+00	2.3550E+00	1.1660E+00	1.5490E+00	3.3575E-01	1.0540E+00	8.6403E-01	1.3854E+00	0.0	0.0	5.2734E-01	8.2955E-02	0.0
	E-gamma(MeV)	1.3900E+00	2.8850E+00	7.7840E-01	2.1190E+00	1.5635E-01	9.6480E-01	1.4663E+00	1.1447E-01	0.0	6.4914E-02	2.5373E-01	1.1584E+00	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	1.6347E-02	0.0	8.1683E-02	1.8270E-02	0.0	8.2915E-02	8.5246E-03	5.0315E-02	0.0
Cumulative yield	235U (T)	9.4500E-09	2.6809E-05	1.0636E-02	9.5667E-02	2.5982E-01	2.7482E-03	2.7482E-03	2.6256E-01	2.6814E-01	5.3054E-09	7.2360E-10	1.1336E-08	3.6110E-09
	235U (F)	2.7800E-08	6.5728E-05	1.6124E-02	1.3252E-01	2.7356E-01	2.1325E-03	2.1325E-03	2.7571E-01	2.8001E-01	2.4100E-09	2.4100E-10	4.5790E-09	1.4195E-09
	235U (H)	1.2700E-09	1.0101E-05	4.1431E-03	9.4221E-02	2.5361E-01	7.1551E-03	7.1551E-03	2.6077E-01	2.7528E-01	5.8630E-08	1.8040E-09	8.8396E-08	2.5240E-08
	238U (F)	3.2400E-10	2.1803E-06	3.6472E-03	6.6828E-02	4.7479E-01	1.4035E-02	1.4035E-02	4.8882E-01	5.1847E-01	2.9400E-07	2.9400E-08	5.5860E-07	1.7322E-07
	238U (H)	1.2200E-06	1.3712E-03	8.9735E-02	4.4625E-01	5.7780E-01	1.0507E-03	1.0507E-03	5.7885E-01	5.8095E-01	1.8460E-10	5.6800E-12	2.7832E-10	7.9464E-11
	239Pu (T)	7.5000E-10	6.1107E-06	5.4211E-03	1.2140E-01	5.3548E-01	1.7840E-02	1.7840E-02	5.5332E-01	5.9009E-01	2.1472E-07	2.9280E-08	4.5872E-07	1.4513E-07
	239Pu (F)	1.1400E-09	9.2011E-06	6.4262E-03	1.4404E-01	5.3724E-01	1.7184E-02	1.7184E-02	5.5442E-01	5.8861E-01	1.8400E-07	1.8400E-08	3.4960E-07	1.0839E-07
	241Pu (T)	1.5700E-07	2.6116E-04	6.0248E-02	3.7502E-01	7.4597E-01	4.0537E-03	4.0537E-03	7.5002E-01	7.5819E-01	2.6576E-09	3.5240E-10	5.6776E-09	1.8084E-09
	233U (T)	1.3600E-10	1.2201E-06	1.4332E-03	3.4371E-02	1.8670E-01	5.9049E-03	5.9049E-03	1.9250E-01	2.0696E-01	1.1880E-07	1.6200E-08	2.5380E-07	8.0855E-08
	232Th (F)	5.8800E-07	2.2059E-04	2.3184E-02	5.5649E-02	7.5692E-02	5.4384E-05	5.4384E-05	7.5746E-02	7.5855E-02	3.8400E-12	3.8400E-13	7.2960E-12	2.2618E-12
Independent yield	235U (T)	9.4500E-09	2.5800E-05	1.0610E-02	8.5031E-02	1.6415E-01	2.7482E-03	2.7482E-03	2.7482E-03	7.8500E-05	5.3054E-09	7.2360E-10	6.0300E-09	2.6124E-13
	235U (F)	2.7800E-08	6.6700E-05	1.6058E-02	1.1639E-01	1.4106E-01	2.1325E-03	2.1325E-03	2.1325E-03	3.6300E-05	2.4100E-09	2.4100E-10	2.1690E-09	5.6913E-14
	235U (H)	1.2700E-09	1.0100E-05	4.1330E-03	9.0078E-02	1.5939E-01	7.1551E-03	7.1551E-03	7.1551E-03	2.0300E-04	5.8630E-08	1.8040E-09	2.9766E-08	1.9800E-12
	238U (F)	3.2400E-10	2.1800E-06	3.6450E-03	6.3181E-02	4.0796E-01	1.4035E-02	1.4035E-02	1.4035E-02	1.5760E-03	2.9400E-07	2.9400E-08	2.6460E-07	5.3600E-11
	238U (H)	1.2200E-06	1.3700E-03	8.8364E-02	3.5552E-01	1.3154E-01	1.0507E-03	1.0507E-03	1.0507E-03	4.5600E-06	1.8460E-10	5.6800E-12	9.3720E-11	8.6403E-16
	239Pu (T)	7.5000E-10	6.1100E-05	5.4150E-03	1.1597E-01	4.1409E-01	1.7840E-02	1.7840E-02	1.7840E-02	1.0859E-03	2.1472E-07	2.9280E-08	2.4400E-07	2.3400E-11
	239Pu (F)	1.1400E-09	9.2000E-05	6.4170E-03	1.3761E-01	3.9320E-01	1.7184E-02	1.7184E-02	1.7184E-02	8.2000E-04	1.8400E-07	1.8400E-08	1.6560E-07	1.3800E-11
	241Pu (T)	1.5700E-07	2.5100E-04	5.9987E-02	3.1577E-01	3.6996E-01	4.0537E-03	4.0537E-03	4.0537E-03	6.4600E-05	2.6576E-09	3.5240E-10	3.0200E-09	7.1616E-14
	233U (T)	1.3600E-10	1.2200E-06	1.4320E-03	3.2938E-02	1.6133E-01	5.9049E-03	5.9049E-03	5.9049E-03	5.4700E-04	1.1880E-07	1.6200E-08	1.3600E-07	1.7300E-11
	232Th (F)	5.8800E-07	2.2000E-04	2.2953E-02	3.2465E-02	2.0043E-02	5.4384E-05	5.4384E-05	5.4384E-05	3.7500E-07	3.8400E-12	3.8400E-13	3.4660E-12	3.7377E-17

Table 2.7.1 Continued

Mass No. 153		$_{57}$La → $_{58}$Ce → $_{59}$Pr → $_{60}$Nd → $_{61}$Pm → $_{62}$Sm → $_{63}$Eu ← $_{64}$Gd ← $_{65}$Tb								
		$_{57}$La	$_{58}$Ce	$_{59}$Pr	$_{60}$Nd	$_{61}$Pm	$_{62}$Sm	$_{63}$Eu	$_{64}$Gd	$_{65}$Tb
λ(1/sec)		6.2616E-01	6.1921E-02	6.2791E-02	4.1016E-03	2.1393E-03	4.1229E-06	0.0	3.3206E-08	3.4284E-06
Q-value(MeV)		7.9060E+00	6.0460E+00	4.9940E+00	3.0450E+00	1.8000E+00	8.0520E-01	0.0	2.4390E-01	1.7890E+00
E-beta (MeV)		2.5950E+00	1.6800E+00	1.7000E+00	9.6850E-01	6.4467E-01	2.2184E-01	0.0	0.0	1.0660E-03
E-gamma(MeV)		2.0880E+00	1.1250E+00	1.0270E+00	6.2320E-01	5.2142E-02	3.5175E-02	0.0	5.2589E-02	2.9452E-01
E-I.C (MeV)		0.0	0.0	0.0	0.0	1.9121E-02	6.7412E-02	0.0	6.6783E-02	5.6463E-02
Cumulative yield	^{235}U (T)	8.7800E-07	9.5588E-04	2.7747E-02	1.4190E-01	1.6079E-01	1.6126E-01	1.6126E-01	1.6600E-11	2.1086E-17
	^{235}U (F)	2.6200E-06	1.8046E-03	4.3991E-02	1.5891E-01	1.7593E-01	1.7620E-01	1.7620E-01	4.6900E-12	4.4634E-18
	^{235}U (H)	3.2700E-07	4.2833E-04	2.8441E-02	1.5805E-01	2.0620E-01	2.0755E-01	2.0755E-01	1.4200E-10	4.3136E-16
	^{238}U (F)	1.9400E-04	4.0477E-02	2.1908E-01	3.9070E-01	3.9609E-01	3.9611E-01	3.9611E-01	1.8685E-14	2.8024E-21
	^{238}U (H)	8.6600E-06	1.7096E-02	2.0814E-01	3.8014E-01	3.9312E-01	3.9318E-01	3.9318E-01	1.2111E-13	6.0319E-20
	^{239}Pu(T)	1.5400E-07	3.8615E-04	2.8874E-02	2.6693E-01	3.6168E-01	3.6659E-01	3.6660E-01	1.1500E-09	4.3132E-15
	^{239}Pu(F)	2.8800E-07	5.9029E-04	4.2403E-02	3.0892E-01	4.2180E-01	4.2663E-01	4.2663E-01	7.8700E-10	2.7721E-15
	^{241}Pu(T)	1.3100E-05	8.0061E-03	1.4948E-01	5.1481E-01	5.5508E-01	5.5564E-01	5.5564E-01	6.5200E-12	5.1071E-18
	^{233}U (T)	2.4100E-08	7.7524E-05	6.4935E-03	7.3476E-02	1.0259E-01	1.0449E-01	1.0450E-01	7.2700E-10	2.7543E-15
	^{232}Th(F)	1.0900E-05	2.6309E-03	1.5980E-02	3.2355E-02	3.2880E-02	3.2883E-02	3.2883E-02	3.2374E-15	5.8000E-22
Independent yield	^{235}U (T)	8.7800E-07	9.5500E-04	2.6791E-02	1.1415E-01	1.8892E-02	4.5500E-04	2.3500E-07	1.6600E-11	2.1086E-17
	^{235}U (F)	2.6200E-06	1.8020E-03	4.2186E-02	1.1492E-01	1.7018E-02	2.6400E-04	1.2600E-07	4.6900E-12	4.4634E-18
	^{235}U (H)	3.2700E-07	4.2800E-04	2.8013E-02	1.2961E-01	4.8150E-02	1.3470E-03	1.9500E-06	1.4200E-10	4.3136E-16
	^{238}U (F)	1.9400E-04	4.0283E-02	1.7860E-01	1.7163E-01	5.3810E-03	2.5500E-05	1.7800E-09	1.8685E-14	2.8024E-21
	^{238}U (H)	8.6600E-06	1.7009E-02	1.9105E-01	1.7200E-01	1.2979E-02	5.8600E-06	1.1500E-08	1.2111E-13	6.0319E-20
	^{239}Pu(T)	1.5400E-07	3.8600E-04	2.8488E-02	2.3805E-01	9.4755E-02	4.9080E-03	8.2200E-06	1.1500E-09	4.3132E-15
	^{239}Pu(F)	2.8800E-07	5.9000E-04	4.1813E-02	2.5552E-01	1.1288E-01	4.8310E-03	5.9000E-06	7.8700E-10	2.7721E-15
	^{241}Pu(T)	1.3100E-05	7.9930E-03	1.4147E-01	3.6533E-01	4.0273E-02	5.6000E-04	1.9800E-07	6.5200E-12	5.1071E-18
	^{233}U (T)	2.4100E-08	7.7500E-05	6.4160E-03	6.6981E-02	2.9116E-02	1.9010E-03	4.0300E-06	7.2700E-10	2.7543E-15
	^{232}Th(F)	1.0900E-06	2.6200E-03	1.3349E-02	1.6376E-02	5.2600E-04	2.8900E-06	2.6200E-10	3.2374E-16	5.8000E-22

Table 2.7.1 Continued

Mass No. 154



		$_{56}$Ba	$_{57}$La	$_{58}$Ce	$_{59}$Pr	$_{60}$Nd	$^{m}_{61}$Pm	$_{61}$Pm	$_{62}$Sm	$^{m}_{63}$Eu	$_{63}$Eu	$_{64}$Gd
λ (1/sec)		2.2519E+00	4.4922E-01	1.7778E-01	6.9747E-02	1.7929E-02	4.2787E-03	6.4180E-03	0.0	2.5114E-04	2.5541E-09	0.0
Q-value (MeV)		8.2030E+00	9.0570E+00	4.9140E+00	6.7460E+00	2.0000E+00	4.2100E+00	4.0000E+00	0.0	1.7600E-01	1.9778E+00	0.0
E-beta (MeV)		2.9560E+00	2.6150E+00	1.6940E+00	1.8730E+00	5.1700E-01	9.2772E-01	8.3882E-01	0.0	0.0	2.3470E-01	0.0
E-gamma (MeV)		1.6460E+00	3.1990E+00	9.5870E-01	2.4140E+00	5.8460E-01	1.7002E+00	1.8519E+00	0.0	5.7829E-02	1.2142E+00	0.0
E-i.C (MeV)		0.0	0.0	0.0	0.0	0.0	8.9562E-02	4.5037E-02	0.0	1.1536E-01	4.7409E-02	0.0
Cumulative yield	^{235}U (T)	4.0291E-13	1.2100E-08	5.1612E-05	3.7006E-03	5.3638E-02	9.1960E-03	6.2834E-02	7.3608E-02	1.1985E-06	2.5500E-06	2.5501E-06
	^{236}U (F)	1.4900E-12	3.9101E-08	9.8139E-05	6.2221E-03	5.8028E-02	8.8110E-03	6.6839E-02	7.6569E-02	6.7600E-07	1.3000E-06	1.2999E-06
	^{235}U (H)	4.1297E-14	3.6000E-09	1.5203E-05	3.0542E-03	4.2383E-02	1.8867E-02	6.1240E-02	8.3188E-02	9.3720E-06	1.4200E-06	1.4201E-05
	^{238}U (F)	1.5000E-09	5.1315E-06	4.4451E-03	4.6374E-02	2.0317E-01	4.6490E-03	2.0782E-01	2.1265E-01	1.8252E-08	3.5100E-08	3.5095E-08
	^{238}U (H)	2.6600E-10	3.1203E-06	1.9721E-03	6.4976E-02	2.2393E-01	1.6494E-02	2.3943E-01	2.6636E-01	1.9602E-07	2.9700E-07	2.9696E-07
	^{239}Pu (T)	2.7595E-14	2.5500E-09	2.4103E-05	4.8751E-03	1.3601E-01	5.8969E-02	1.9398E-01	2.7288E-01	4.3193E-05	9.1900E-05	9.1931E-05
	^{239}Pu (F)	4.9231E-14	4.2000E-09	3.1204E-05	6.2752E-03	1.3977E-01	6.1337E-02	2.0111E-01	2.7902E-01	3.9572E-06	7.6100E-06	7.6117E-06
	^{241}Pu (T)	1.8700E-11	3.4502E-07	8.0434E-04	3.6682E-02	3.2786E-01	3.6443E-02	3.6431E-01	4.0436E-01	1.6967E-06	3.6100E-06	3.6098E-06
	^{233}U (T)	2.1108E-15	2.1400E-10	2.7002E-06	5.9370E-04	2.1261E-02	9.8650E-03	3.1126E-02	4.6314E-02	1.0152E-05	2.1600E-05	2.1611E-05
	^{232}Th (F)	3.0800E-11	1.2403E-07	1.2512E-04	1.4881E-03	7.2761E-03	1.9600E-04	7.4721E-03	7.6771E-03	1.0452E-09	2.0100E-09	2.0097E-09
Independent yield	^{235}U (T)	4.0291E-13	1.2100E-08	5.1600E-05	3.6490E-03	4.9937E-02	9.1960E-03	9.1960E-03	1.5780E-03	1.1985E-06	1.3515E-06	6.0900E-10
	^{235}U (F)	1.4900E-12	3.9100E-08	9.8100E-05	6.1240E-03	5.1806E-02	8.8110E-03	8.8110E-03	9.1900E-04	6.7600E-07	6.2400E-07	1.8100E-10
	^{235}U (H)	4.1287E-14	3.6000E-09	1.5200E-05	3.0390E-03	3.9329E-02	1.8867E-02	1.8867E-02	3.0910E-03	9.3720E-06	4.8280E-06	3.4600E-09
	^{238}U (F)	1.5000E-09	6.1300E-06	4.4400E-03	4.1929E-02	1.5679E-01	4.6490E-03	4.6490E-03	1.8300E-04	1.8252E-08	1.6848E-08	1.6200E-12
	^{238}U (H)	2.5600E-10	3.1200E-06	1.9690E-03	6.3003E-02	1.5896E-01	1.5494E-02	1.5494E-02	4.3800E-04	1.9602E-07	1.0098E-07	1.0200E-11
	^{239}Pu (T)	2.7595E-14	2.5500E-09	2.4100E-05	4.8510E-03	1.3014E-01	5.8969E-02	5.8969E-02	1.9934E-02	4.3193E-05	4.8707E-05	4.8800E-08
	^{239}Pu (F)	4.9231E-14	4.2000E-09	3.1200E-05	6.2440E-03	1.3360E-01	6.1337E-02	6.1337E-02	1.6670E-02	3.9572E-06	3.6528E-05	3.1700E-08
	^{241}Pu (T)	1.8700E-11	3.4500E-07	8.0400E-04	3.5878E-02	2.9118E-01	3.6443E-02	3.6443E-02	3.6080E-03	1.6967E-06	1.9133E-06	4.6800E-10
	^{233}U (T)	2.1108E-15	2.1400E-10	2.7000E-06	5.9100E-04	2.0667E-02	9.8650E-03	9.8650E-03	4.3230E-03	1.0152E-05	1.1448E-05	1.5300E-08
	^{232}Th (F)	3.0800E-11	1.2400E-07	1.2500E-04	1.3630E-03	5.7880E-03	1.9600E-04	1.9600E-04	8.9600E-06	1.0452E-09	9.6480E-10	1.1094E-13

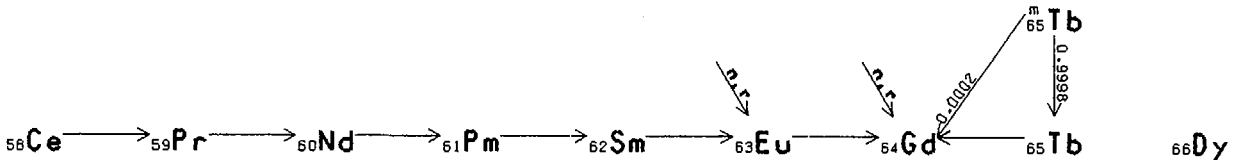
Table 2.7.1 Continued

Mass No. 155: $_{58}Ce \rightarrow {}_{59}Pr \rightarrow {}_{60}Nd \rightarrow {}_{61}Pm \rightarrow {}_{62}Sm \rightarrow {}_{63}Eu \rightarrow {}_{64}Gd \leftarrow {}_{65}Tb \leftarrow {}_{66}Dy$ (β^-, β^-)

		$_{58}Ce$	$_{59}Pr$	$_{60}Nd$	$_{61}Pm$	$_{62}Sm$	$_{63}Eu$	$_{64}Gd$	$_{65}Tb$	$_{66}Dy$
	λ(1/sec)	1.5920E-01	1.7098E-01	1.7953E-02	5.5944E-03	5.2274E-04	4.4285E-09	0.0	1.5080E-06	1.9254E-05
	Q-value(MeV)	5.1910E+00	5.2240E+00	4.1040E+00	3.1710E+00	1.5294E+00	2.4600E-01	0.0	8.1600E-01	2.0990E+00
	E-beta (MeV)	2.0150E+00	2.0710E+00	1.3660E+00	1.0200E+00	5.5326E-01	4.5773E-02	0.0	0.0	5.7900E-03
	E-gamma(MeV)	1.5710E+00	1.4800E+00	8.3390E-01	6.3300E-01	9.4232E-02	5.0021E-02	0.0	1.1674E-01	5.5985E-01
	E-I.C (MeV)	0.0	0.0	0.0	0.0	2.5566E-02	2.8800E-02	0.0	2.5559E-02	1.7505E-02
Cumulative yield	^{236}U (T)	1.9100E-06	4.7091E-04	1.4365E-02	2.9291E-02	3.2064E-02	3.2079E-02	3.2079E-02	1.2216E-13	1.4758E-19
	^{236}U (F)	6.8200E-06	1.3738E-03	2.7829E-02	5.2399E-02	5.5406E-02	5.5420E-02	5.5420E-02	5.1562E-14	3.8107E-20
	^{235}U (H)	8.5400E-07	5.0285E-04	1.7592E-02	5.7876E-02	6.6217E-02	6.6327E-02	6.6327E-02	2.5300E-12	3.6570E-18
	^{238}U (F)	4.1600E-04	1.4623E-02	1.1327E-01	1.3263E-01	1.3343E-01	1.3343E-01	1.3343E-01	9.9095E-17	2.0081E-23
	^{238}U (H)	1.7000E-04	1.5412E-02	1.0999E-01	1.5597E-01	1.5773E-01	1.5773E-01	1.5773E-01	1.5148E-15	3.2387E-22
	^{239}Pu(T)	8.7200E-07	5.8987E-04	3.7826E-02	1.3229E-01	1.6742E-01	1.6794E-01	1.6795E-01	2.5700E-11	7.9885E-17
	^{239}Pu(F)	1.5300E-06	9.8953E-04	5.2475E-02	1.7848E-01	2.1793E-01	2.1849E-01	2.1849E-01	2.2400E-11	5.0440E-17
	^{241}Pu(T)	5.0000E-05	7.5180E-03	1.3897E-01	2.3317E-01	2.4367E-01	2.4370E-01	2.4370E-01	9.5187E-14	5.3229E-20
	^{233}U (T)	6.7800E-08	5.1768E-05	4.1948E-03	1.5713E-02	2.1039E-02	2.1127E-02	2.1127E-02	5.5600E-12	2.5399E-17
	^{232}Th(F)	9.4500E-06	3.8445E-04	3.3384E-03	4.0004E-03	4.0319E-03	4.0320E-03	4.0320E-03	6.6490E-18	1.5988E-24
Independent yield	^{235}U (T)	1.9100E-05	4.5900E-04	1.3895E-02	1.4925E-02	2.7730E-03	1.5000E-05	8.0100E-09	1.2216E-13	1.4758E-19
	^{236}U (F)	6.8200E-06	1.3670E-03	2.6465E-02	2.4570E-02	3.0070E-03	1.3800E-05	5.1900E-09	5.1562E-14	3.8107E-20
	^{235}U (H)	8.5400E-07	5.0200E-04	1.7089E-02	4.0284E-02	8.3410E-03	1.1000E-04	7.9300E-08	2.5300E-12	3.6570E-18
	^{238}U (F)	4.1600E-04	1.4207E-02	9.8652E-02	1.9352E-02	8.0200E-04	6.0500E-07	6.4100E-11	9.9095E-17	2.0081E-23
	^{238}U (H)	1.7000E-04	1.5242E-02	9.4680E-02	4.5976E-02	1.7620E-03	3.5700E-06	3.6800E-10	1.5148E-15	3.2387E-22
	^{239}Pu(T)	8.7200E-07	5.8900E-04	3.7236E-02	9.4456E-02	3.5132E-02	6.2100E-04	7.1900E-07	2.5700E-11	7.9886E-17
	^{239}Pu(F)	1.5300E-06	9.8800E-04	5.1485E-02	1.2500E-01	3.9462E-02	6.5200E-04	6.3400E-07	2.2400E-11	5.0440E-17
	^{241}Pu(T)	5.0000E-05	7.4680E-03	1.3145E-01	9.4196E-02	1.0502E-02	3.5100E-05	1.2000E-08	9.5186E-14	5.3229E-20
	^{233}U (T)	6.7800E-08	5.1700E-06	4.1430E-03	1.1518E-02	5.3250E-03	8.8000E-05	1.5600E-07	5.5600E-12	2.5399E-17
	^{232}Th(F)	9.4500E-06	3.7500E-04	2.9540E-03	6.5200E-04	3.1500E-06	2.7900E-08	3.4500E-12	6.6490E-18	1.5988E-24

Table 2.7.1 Continued

Mass No. 156



		58Ce	59Pr	60Nd	61Pm	62Sm	63Eu	64Gd	m66Tb	65Tb	66Dy
	λ(1/sec)	4.9020E-01	1.4960E-01	3.3994E-02	1.1201E-02	2.0483E-05	5.2615E-07	0.0	3.8508E-05	1.5023E-06	0.0
	Q-value(MeV)	6.0100E+00	7.5950E+00	3.5200E+00	5.0560E+00	7.1400E-01	2.4530E+00	0.0	8.8887E-02	4.2800E-01	0.0
	E-beta (MeV)	2.1180E+00	2.1490E+00	1.1220E+00	1.3140E+00	1.7509E-01	3.8908E-01	0.0	0.0	0.0	0.0
	E-gamma(MeV)	1.1710E+00	2.5880E+00	7.5570E-01	1.8940E+00	1.1761E-01	1.3927E+00	0.0	1.4269E-03	1.7559E+00	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	3.3977E-02	2.7486E-02	0.0	8.7428E-02	7.7648E-02	0.0
Cumulative yield	235U (T)	6.6100E-08	3.6166E-06	3.2602E-03	9.7652E-03	1.3166E-02	1.3196E-02	1.3196E-02	2.1200E-13	2.3320E-12	9.8352E-18
	235U (F)	2.5900E-07	1.1926E-04	6.3663E-03	1.7724E-02	2.1310E-02	2.1347E-02	2.1347E-02	9.9913E-14	1.2100E-12	2.5041E-18
	235U (H)	4.4000E-08	5.9244E-05	6.1112E-03	3.8475E-02	5.4020E-02	5.4531E-02	5.4531E-02	5.2086E-12	8.5808E-11	3.5366E-16
	238U (F)	3.3600E-05	2.2596E-03	5.0308E-02	6.6382E-02	6.8571E-02	6.8574E-02	6.8574E-02	3.8000E-16	4.6021E-15	3.2165E-21
	238U (H)	1.4300E-05	3.3163E-03	5.2636E-02	1.0501E-01	1.1105E-01	1.1108E-01	1.1108E-01	5.5909E-15	8.8771E-14	5.3501E-20
	239Pu (T)	3.5100E-08	5.5336E-05	1.0519E-02	5.4397E-02	1.1665E-01	1.1823E-01	1.1824E-01	9.9510E-11	1.0566E-09	5.1478E-15
	239Pu (F)	5.3700E-08	1.0105E-04	1.4943E-02	9.2004E-02	1.5203E-01	1.5380E-01	1.5381E-01	4.8735E-11	5.5772E-10	4.0450E-15
	241Pu (T)	3.7100E-06	1.2497E-03	5.4769E-02	1.5159E-01	1.7868E-01	1.7889E-01	1.7889E-01	3.8500E-13	4.2349E-12	9.0902E-18
	233U (T)	1.9500E-08	3.4120E-06	8.3941E-04	5.4144E-03	1.1104E-02	1.1300E-02	1.1302E-02	1.0850E-11	1.1285E-10	1.3897E-15
	232Th (F)	9.1500E-07	7.1816E-05	1.8178E-03	2.4838E-03	2.5878E-03	2.5880E-03	2.5880E-03	3.0543E-17	3.5991E-16	3.0501E-22
Independent yield	235U (T)	6.6100E-08	3.5100E-05	3.2140E-03	5.5150E-03	3.3910E-03	3.8400E-05	7.5000E-08	2.1200E-13	2.1200E-12	9.8362E-18
	235U (F)	2.5900E-07	1.1900E-04	6.2470E-03	1.1358E-02	3.5860E-03	3.5900E-05	4.1200E-08	9.9913E-14	1.1101E-12	2.5041E-18
	235U (H)	4.4000E-08	5.9200E-05	6.0420E-03	3.2365E-02	1.5644E-02	5.1100E-04	9.2000E-08	5.2086E-12	8.1500E-11	3.5366E-16
	238U (F)	3.3600E-05	2.2260E-03	4.8048E-02	1.5074E-02	2.1890E-03	3.3300E-05	1.3400E-09	3.8000E-16	4.2222E-15	3.2165E-21
	238U (H)	1.4300E-05	3.3010E-03	4.9321E-02	5.3369E-02	5.0450E-03	2.5800E-05	7.7500E-09	5.5909E-15	9.3181E-14	5.3501E-20
	239Pu (T)	3.5100E-08	5.5300E-05	1.0463E-02	5.3878E-02	5.2166E-02	1.5680E-03	7.0800E-05	9.9510E-11	9.5700E-10	5.1478E-15
	239Pu (F)	5.3700E-08	1.0100E-04	1.4842E-02	7.7061E-02	6.0028E-02	1.7720E-03	1.2100E-06	4.8735E-11	5.0900E-10	4.0450E-15
	241Pu (T)	3.7100E-06	1.2460E-03	5.3519E-02	8.5826E-02	2.7081E-02	2.1000E-04	2.2500E-07	3.8500E-13	3.8500E-12	9.0902E-18
	233U (T)	1.9500E-08	3.4100E-06	8.3600E-04	4.5750E-03	5.5900E-03	1.9600E-04	1.1000E-06	1.0850E-11	1.0200E-10	1.3897E-15
	232Th (F)	9.1500E-07	7.0900E-05	1.7460E-03	6.6600E-04	1.0400E-04	1.8500E-07	8.5500E-11	3.0543E-17	3.3937E-16	3.0501E-22

Table 2.7.1 Continued

Mass No. 157	$_{58}$Ce → $_{59}$Pr → $_{60}$Nd → $_{61}$Pm → $_{62}$Sm → $_{63}$Eu → $_{64}$Gd ← $_{65}$Tb ← $_{66}$Dy (n, γ)								
	$_{58}$Ce	$_{59}$Pr	$_{60}$Nd	$_{61}$Pm	$_{62}$Sm	$_{63}$Eu	$_{64}$Gd	$_{65}$Tb	$_{66}$Dy
λ (1/sec)	5.0264E-01	4.1210E-01	5.3732E-02	2.5032E-02	1.4441E-03	1.2709E-05	0.0	1.4543E-10	2.3770E-05
Q-value (MeV)	7.5750E+00	7.2830E+00	5.0470E+00	4.2960E+00	2.6000E+00	1.3600E+00	0.0	5.7600E-02	1.3420E+00
E-beta (MeV)	2.4310E+00	2.3870E+00	1.5580E+00	1.4510E+00	8.8451E-01	3.7019E-01	0.0	0.0	0.0
E-gamma (MeV)	2.0890E+00	1.8810E+00	1.1400E+00	8.4080E-01	3.0721E-01	2.3525E-01	0.0	2.1840E-05	3.1670E-01
E-I.C (MeV)	0.0	0.0	0.0	0.0	2.0376E-02	3.2652E-02	0.0	1.6380E-04	8.6929E-03
Cumulative yield ^{235}U (T)	1.2000E-09	2.2812E-06	4.6128E-04	3.2133E-03	6.0483E-03	5.1653E-03	6.1558E-03	5.8801E-11	5.3942E-16
Cumulative yield ^{235}U (F)	8.2900E-09	1.2408E-05	1.5614E-03	9.2584E-03	1.4444E-02	1.4604E-02	1.4605E-02	3.7800E-11	2.5082E-15
Cumulative yield ^{235}U (H)	1.1400E-09	5.2911E-06	1.2683E-03	1.8389E-02	3.7620E-02	3.9271E-02	3.9280E-02	2.3500E-09	2.8572E-14
Cumulative yield ^{238}U (F)	1.6200E-06	4.0062E-04	1.6991E-02	3.4406E-02	3.8910E-02	3.8935E-02	3.8935E-02	2.7849E-13	4.7887E-19
Cumulative yield ^{238}U (H)	7.7500E-07	5.1377E-04	2.0208E-02	7.1385E-02	8.3234E-02	8.3409E-02	8.3409E-02	5.1500E-12	8.8780E-18
Cumulative yield ^{239}Pu (T)	6.3200E-10	3.3906E-06	1.5364E-03	2.4482E-02	7.0302E-02	7.4608E-02	7.4653E-02	1.3400E-08	3.3194E-13
Cumulative yield ^{239}Pu (F)	1.3800E-09	7.0414E-06	2.6160E-03	4.0340E-02	1.0334E-01	1.0908E-01	1.0913E-01	1.3900E-08	2.6505E-13
Cumulative yield ^{241}Pu (T)	1.4100E-07	1.6114E-04	1.8743E-02	9.1270E-02	1.3746E-01	1.3865E-01	1.3867E-01	1.8300E-10	1.0488E-15
Cumulative yield ^{233}U (T)	2.8600E-11	1.7403E-07	1.0117E-04	1.7742E-03	5.9162E-03	6.3452E-03	6.3508E-03	1.9201E-09	6.1392E-14
Cumulative yield ^{232}Th (F)	2.7700E-08	8.0177E-06	3.9002E-04	8.4702E-04	9.8102E-04	9.8190E-04	9.8190E-04	1.3927E-14	2.8396E-20
Independent yield ^{235}U (T)	1.2000E-09	2.2800E-06	4.5900E-04	2.7520E-03	2.8350E-03	1.0700E-04	5.5200E-07	5.8800E-11	5.3942E-16
Independent yield ^{235}U (F)	8.2900E-09	1.2400E-05	1.5490E-03	7.6970E-03	5.1860E-03	1.6000E-04	4.5400E-07	3.7800E-11	2.6082E-15
Independent yield ^{235}U (H)	1.1400E-09	5.2900E-06	1.2630E-03	1.7121E-02	1.9231E-02	1.6610E-03	9.0500E-06	2.3500E-09	2.8572E-14
Independent yield ^{238}U (F)	1.6200E-06	3.9900E-04	1.6590E-02	1.7415E-02	4.5040E-03	2.5300E-05	2.1600E-08	2.7849E-13	4.7887E-19
Independent yield ^{238}U (H)	7.7500E-07	6.1300E-04	1.9694E-02	5.1177E-02	1.1849E-02	1.7500E-04	1.4300E-07	5.1500E-12	8.8780E-18
Independent yield ^{239}Pu (T)	6.3200E-10	3.3900E-06	1.5330E-03	2.2946E-02	4.6820E-02	4.3060E-03	4.4500E-05	1.3400E-08	3.3194E-13
Independent yield ^{239}Pu (F)	1.3800E-09	7.0400E-05	2.5090E-03	3.7724E-02	6.2998E-02	5.7400E-03	4.8500E-05	1.3900E-08	2.6505E-13
Independent yield ^{241}Pu (T)	1.4100E-07	1.6100E-04	1.8582E-02	7.2527E-02	4.6187E-02	1.1060E-03	2.8800E-06	1.8300E-10	1.0488E-15
Independent yield ^{233}U (T)	2.8600E-11	1.7400E-07	1.0100E-04	1.5730E-03	4.1420E-03	4.2900E-04	6.5400E-06	1.9200E-09	6.1392E-14
Independent yield ^{232}Th (F)	2.7700E-08	7.9900E-06	3.8200E-04	4.5700E-04	1.3400E-04	8.7800E-07	8.7400E-10	1.3927E-14	2.8396E-20

Table 2.7.1 Continued

Mass No. 158

$$\begin{array}{ccccccccccc} & & & & & & & & {}^{m}_{65}Tb & & \\ & & & & & & & & \downarrow & & \\ {}_{58}Ce \rightarrow & {}_{59}Pr \rightarrow & {}_{60}Nd \rightarrow & {}_{61}Pm \rightarrow & {}_{62}Sm \rightarrow & {}_{63}Eu \rightarrow & {}_{64}Gd & \xleftarrow{0.8210} & {}_{65}Tb & \xrightarrow{0.1790} & {}_{66}Dy \end{array}$$

		$_{58}Ce$	$_{59}Pr$	$_{60}Nd$	$_{61}Pm$	$_{62}Sm$	$_{63}Eu$	$_{64}Gd$	$^{m}_{65}Tb$	$_{65}Tb$	$_{66}Dy$
	λ(1/sec)	1.3153E+00	4.1756E-01	1.4387E-01	2.9787E-02	9.0160E-04	2.5169E-04	0.0	6.6014E-02	1.4643E-10	0.0
	Q-value(MeV)	7.3010E+00	8.9000E+00	4.6690E+00	5.8690E+00	1.7160E+00	3.4600E+00	0.0	1.1000E-01	1.1658E+00	0.0
	E-beta (MeV)	2.6080E+00	2.5620E+00	1.5890E+00	1.5690E+00	4.0770E-01	9.1644E-01	0.0	0.0	4.8170E-02	0.0
	E-gamma(MeV)	1.4450E+00	3.1550E+00	9.2390E-01	2.1640E+00	5.5470E-01	1.1181E+00	0.0	9.6712E-04	7.4936E-01	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	5.2693E-02	0.0	1.0693E-01	8.9070E-02	0.0
Cumulative yield	^{235}U (T)	1.2600E-11	6.3713E-08	4.7264E-05	6.9826E-04	2.7523E-03	2.9283E-03	2.9312E-03	5.0300E-11	8.3830E-10	1.5009E-10
	^{235}U (F)	1.1700E-10	4.9512E-07	2.1150E-04	2.7565E-03	7.6715E-03	8.0445E-03	8.0481E-03	5.2000E-11	8.6700E-10	1.5621E-10
	^{236}U (H)	1.2600E-11	1.8601E-07	1.3919E-04	5.3992E-03	2.0588E-02	2.4161E-02	2.4219E-02	2.8200E-09	4.6920E-08	8.4006E-09
	^{238}U (F)	3.7100E-08	2.1637E-05	3.4706E-03	1.0534E-02	1.6889E-02	1.6967E-02	1.6966E-02	0.0	8.2600E-12	1.4786E-12
	^{238}U (H)	1.5200E-08	3.1415E-05	3.6234E-03	2.7845E-02	4.2521E-02	4.3138E-02	4.3140E-02	1.1100E-11	1.8510E-10	3.3134E-11
	^{239}Pu(T)	5.5500E-12	8.4006E-08	1.3608E-04	5.2261E-03	3.5222E-02	4.1718E-02	4.1946E-02	1.1300E-08	1.8830E-07	3.3722E-08
	^{239}Pu(F)	1.4600E-11	2.1901E-07	2.7822E-04	1.0684E-02	5.8903E-02	7.0588E-02	7.0988E-02	1.4800E-08	2.4560E-07	4.4015E-08
	^{241}Pu(T)	2.4300E-09	7.4624E-06	3.0835E-03	3.0591E-02	8.3357E-02	8.6343E-02	8.6372E-02	2.9300E-10	4.8830E-09	8.7416E-10
	^{233}U (T)	1.4623E-13	2.4401E-09	5.2424E-06	2.1724E-04	1.8272E-03	2.1962E-03	2.2122E-03	9.1500E-10	1.5215E-08	2.7253E-09
	^{232}Th(F)	7.3900E-10	5.0574E-07	9.3605E-05	3.1161E-04	5.3351E-04	5.3681E-04	5.3682E-04	0.0	5.1384E-13	9.1982E-14
Independent yield	^{235}U (T)	1.2600E-11	6.3700E-08	4.7200E-05	6.5100E-04	2.0540E-03	1.7600E-04	2.9700E-06	5.0300E-11	7.8600E-10	3.3791E-14
	^{235}U (F)	1.1700E-10	4.9500E-07	2.1100E-04	2.5450E-03	4.9150E-03	3.7300E-04	3.6500E-06	5.2000E-11	8.1500E-10	2.1024E-14
	^{235}U (H)	1.2600E-11	1.8600E-07	1.3900E-04	5.2600E-03	1.5289E-02	3.4730E-03	5.7700E-05	2.8200E-09	4.4100E-08	1.9100E-12
	^{238}U (F)	3.7100E-08	2.1600E-05	3.4490E-03	7.0530E-03	5.3560E-03	7.8800E-05	2.8100E-07	0.0	8.2600E-12	5.6911E-17
	^{238}U (H)	1.5200E-08	3.1400E-05	3.5920E-03	2.4222E-02	1.4576E-02	6.1700E-04	1.6100E-06	1.1100E-11	1.7400E-10	1.0536E-15
	^{239}Pu(T)	5.5500E-12	8.4000E-08	1.3600E-04	5.0900E-03	2.9996E-02	6.4960E-03	2.2800E-04	1.1300E-08	1.7700E-07	1.6800E-11
	^{239}Pu(F)	1.4600E-11	2.1900E-07	2.7800E-04	1.0405E-02	4.9219E-02	1.0785E-02	3.0000E-04	1.4800E-08	2.3100E-07	1.7200E-11
	^{241}Pu(T)	2.4300E-09	7.4600E-06	3.0750E-03	2.7508E-02	5.2766E-02	2.9860E-03	2.8300E-05	2.9300E-10	4.5900E-09	1.9786E-13
	^{233}U (T)	1.4623E-13	2.4400E-09	5.2400E-06	2.1200E-04	1.6100E-03	3.6800E-04	1.6900E-05	9.1500E-10	1.4300E-08	1.8200E-12
	^{232}Th(F)	7.3900E-10	5.0500E-07	9.3100E-05	2.1800E-04	2.2200E-04	3.2000E-06	1.3300E-08	0.0	5.1384E-13	4.5729E-18

Table 2.7.1 Continued

Mass No. 159

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

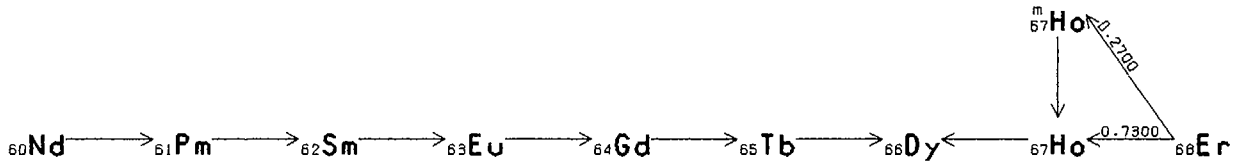
		$_{59}Pr$	$_{60}Nd$	$_{61}Pm$	$_{62}Sm$	$_{63}Eu$	$_{64}Gd$	$_{65}Tb$	$_{66}Dy$	$^{m}_{67}Ho$	$_{67}Ho$
	λ(1/sec)	1.0284E+00	1.9935E-01	7.6111E-02	7.8659E-03	6.1778E-04	1.0374E-05	0.0	5.5558E-08	8.3512E-02	3.5007E-04
	Q-value(MeV)	8.6420E+00	6.4010E+00	5.3120E+00	3.4610E+00	2.6300E+00	9.7470E-01	0.0	3.6570E-01	2.0590E-01	1.6530E+00
	E-beta (MeV)	2.7730E+00	2.0630E+00	1.7820E+00	1.1270E+00	9.0253E-01	3.0447E-01	0.0	0.0	0.0	1.0310E-03
	E-gamma(MeV)	2.3380E+00	1.6660E+00	1.1600E+00	6.8920E-01	2.6428E-01	4.0806E-02	0.0	1.3381E-03	8.4229E-02	2.7191E-01
	E-I.C (MeV)	0.0	0.0	0.0	0.0	7.3365E-02	1.0440E-02	0.0	1.3340E-02	1.2172E-01	5.3963E-02
Cumulative yield	^{235}U (T)	1.0200E-09	2.0310E-06	1.0203E-04	8.0003E-04	9.9403E-04	1.0015E-03	1.0016E-03	1.0089E-12	3.0837E-19	2.6804E-18
	^{235}U (F)	9.2000E-09	1.1209E-06	4.6621E-04	2.4662E-03	2.9322E-03	2.9446E-03	2.9446E-03	7.7698E-13	1.7299E-19	1.6146E-18
	^{235}U (H)	3.1600E-09	7.5932E-06	8.9069E-04	7.7356E-03	1.1901E-02	1.2103E-02	1.2103E-02	7.1400E-11	3.2614E-17	4.4029E-16
	^{238}U (F)	9.2400E-07	3.4492E-04	2.9259E-03	7.5039E-03	7.7219E-03	7.7238E-03	7.7238E-03	4.9704E-15	1.6778E-22	1.5659E-21
	^{238}U (H)	1.3800E-06	4.8838E-04	9.8634E-03	2.4473E-02	2.6236E-02	2.6261E-02	2.6261E-02	1.0395E-13	6.4769E-21	8.7438E-20
	^{239}Pu(T)	1.3600E-09	6.2714E-06	8.3327E-04	1.2491E-02	2.0083E-02	2.0760E-02	2.0762E-02	5.3100E-10	4.8177E-16	4.1877E-16
	^{239}Pu(F)	4.0700E-09	1.6304E-05	1.9633E-03	2.4623E-02	3.9031E-02	4.0095E-02	4.0098E-02	6.5100E-10	4.8499E-16	4.5266E-16
	^{241}Pu(T)	2.3600E-07	2.6224E-04	8.3452E-03	4.2779E-02	4.9087E-02	4.9242E-02	4.9242E-02	6.3100E-12	1.1749E-18	1.0213E-17
	^{233}U (T)	3.0600E-11	1.8103E-07	2.7081E-05	5.0208E-04	8.3908E-04	8.7688E-04	8.7701E-04	4.2900E-11	4.4163E-17	3.8388E-16
	^{232}Th(F)	9.3900E-09	4.0594E-06	3.9059E-05	1.0925E-04	1.1311E-04	1.1315E-04	1.1315E-04	1.4667E-16	5.9129E-24	5.5187E-23
Independent yield	^{235}U (T)	1.0200E-09	2.0300E-06	1.0000E-04	6.9800E-04	1.9400E-04	7.4500E-06	8.2300E-09	1.0089E-12	3.0837E-19	2.3721E-18
	^{235}U (F)	9.2000E-09	1.1200E-05	4.4500E-04	2.0090E-03	4.6700E-04	1.2400E-05	1.0200E-08	7.7598E-13	1.7299E-19	1.4415E-18
	^{235}U (H)	3.1600E-09	7.5900E-06	8.8300E-04	6.8450E-03	4.1650E-03	2.0200E-04	5.3100E-07	7.1400E-11	3.2614E-17	4.0767E-16
	^{238}U (F)	9.2400E-07	3.4400E-04	2.5810E-03	4.5780E-03	2.1800E-04	1.8500E-05	2.6700E-10	4.9704E-15	1.6778E-22	1.3982E-21
	^{238}U (H)	1.3800E-06	4.8700E-04	9.3650E-03	1.4620E-02	1.7630E-03	1.4300E-05	5.4500E-09	1.0395E-13	6.4769E-21	8.0961E-20
	^{239}Pu(T)	1.3600E-09	6.2700E-06	8.2700E-04	1.1668E-02	7.5920E-03	6.7700E-04	2.0500E-06	5.3100E-10	4.8177E-16	3.7059E-16
	^{239}Pu(F)	4.0700E-09	1.6300E-05	1.9380E-03	2.2670E-02	1.4408E-02	1.0640E-03	3.0800E-06	6.5100E-10	4.8499E-16	4.0416E-16
	^{241}Pu(T)	2.3600E-07	2.6200E-04	8.0830E-03	3.4434E-02	6.3080E-03	1.5500E-04	1.0400E-07	6.3100E-12	1.1749E-18	9.0379E-18
	^{233}U (T)	3.0500E-11	1.8100E-07	2.6900E-05	4.7500E-04	3.3700E-04	3.7800E-05	1.2900E-07	4.2900E-11	4.4163E-17	3.3972E-16
	^{232}Th(F)	9.3900E-09	4.0500E-06	3.5000E-05	7.0200E-05	3.8500E-06	3.8100E-08	6.3700E-12	1.4667E-16	5.9129E-24	4.9274E-23

Table 2.7.1 Continued

Mass No. 160	$_{58}$Ce → $_{59}$Pr → $_{60}$Nd → $_{61}$Pm → $_{62}$Sm → $_{63}$Eu → $_{64}$Gd, $_{65}$Tb → $_{66}$Dy								
	$_{58}$Ce	$_{59}$Pr	$_{60}$Nd	$_{61}$Pm	$_{62}$Sm	$_{63}$Eu	$_{64}$Gd	$_{65}$Tb	$_{66}$Dy
λ(1/sec)	2.2245E+00	6.0696E-01	4.6898E-01	1.1629E-01	1.0961E-02	1.3863E-02	0.0	1.1127E-07	0.0
Q-value(MeV)	8.2260E+00	9.1590E+00	6.0220E+00	7.0460E+00	2.8530E+00	4.4000E+00	0.0	1.8334E+00	0.0
E-beta (MeV)	2.9310E+00	2.6390E+00	2.1000E+00	1.9690E+00	8.4670E-01	1.4042E+00	0.0	2.0333E-01	0.0
E-gamma(MeV)	1.7000E+00	3.2330E+00	1.2060E+00	2.5000E+00	6.8880E-01	7.6048E-01	0.0	9.5218E-01	0.0
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	6.2314E-02	0.0	7.6738E-02	0.0
Cumulative yield ^{236}U (T)	1.4256E-16	7.9601E-12	6.2408E-08	7.9824E-06	1.9198E-04	3.0298E-04	3.1918E-04	2.2900E-08	2.2921E-08
Cumulative yield ^{235}U (F)	2.3954E-16	1.1900E-10	5.3112E-07	5.7931E-05	8.5393E-04	1.2859E-03	1.3238E-03	9.3900E-08	9.3924E-08
Cumulative yield ^{235}U (H)	2.5880E-16	4.0800E-11	3.2704E-07	1.1833E-04	2.7343E-03	6.8343E-03	7.4033E-03	2.0200E-05	2.0202E-05
Cumulative yield ^{238}U (F)	2.3200E-12	1.4702E-08	2.3115E-05	4.0211E-04	2.7401E-03	2.9711E-03	2.9792E-03	2.8400E-09	2.8402E-09
Cumulative yield ^{238}U (H)	1.6700E-12	3.7902E-08	4.3638E-05	2.4866E-03	1.2581E-02	1.5959E-02	1.5050E-02	2.1300E-05	2.1300E-05
Cumulative yield ^{239}Pu (T)	6.7671E-17	1.1700E-11	2.0401E-07	7.4804E-05	3.5306E-03	8.6628E-03	1.0119E-02	1.2000E-05	1.2012E-05
Cumulative yield ^{239}Pu (F)	3.0953E-16	4.8200E-11	6.7605E-07	2.4568E-04	9.2607E-03	2.2825E-02	2.5909E-02	2.5300E-05	2.5319E-05
Cumulative yield ^{241}Pu (T)	7.9529E-14	2.7201E-09	1.1703E-05	9.3870E-04	1.3579E-02	1.8752E-02	1.9195E-02	8.0400E-07	8.0419E-07
Cumulative yield ^{233}U (T)	8.1337E-19	1.5315E-13	3.6002E-09	1.4336E-06	8.8334E-05	2.2433E-04	2.7423E-04	4.4200E-07	4.4257E-07
Cumulative yield ^{232}Th (F)	3.5006E-14	2.6103E-10	4.7626E-07	9.5263E-06	7.2726E-05	7.9865E-05	8.0154E-05	1.1900E-10	1.1901E-10
Independent yield ^{235}U (T)	1.4255E-16	7.9500E-12	6.2400E-08	7.9200E-06	1.8400E-04	1.1100E-04	1.6200E-05	2.2900E-08	2.0900E-11
Independent yield ^{235}U (F)	2.3954E-16	1.1900E-10	5.3100E-07	5.7400E-05	7.9600E-04	4.3200E-04	3.7800E-05	9.3900E-08	2.3600E-11
Independent yield ^{235}U (H)	2.5880E-16	4.0800E-11	3.2700E-07	1.1800E-04	2.6160E-03	4.1000E-03	5.5900E-04	2.0200E-05	2.1000E-09
Independent yield ^{238}U (F)	2.3200E-12	1.4700E-08	2.3100E-05	3.7900E-04	2.3380E-03	2.3100E-04	8.0800E-06	2.8400E-09	2.3806E-13
Independent yield ^{238}U (H)	1.6700E-12	3.7900E-08	4.3600E-05	2.4420E-03	1.0196E-02	3.2880E-03	8.1800E-06	2.1300E-05	6.4600E-12
Independent yield ^{239}Pu (T)	6.7671E-17	1.1700E-11	2.0400E-07	7.4600E-05	3.4560E-03	5.1320E-03	1.4560E-03	1.2000E-05	1.1700E-08
Independent yield ^{239}Pu (F)	3.0953E-16	4.9200E-11	6.7600E-07	2.4500E-04	9.0150E-03	1.3564E-02	3.0840E-03	2.5300E-05	1.9400E-08
Independent yield ^{241}Pu (T)	7.9529E-14	2.7200E-09	1.1700E-05	9.2700E-04	1.2640E-02	5.1730E-03	4.4300E-04	8.0400E-07	1.9300E-10
Independent yield ^{233}U (T)	8.1337E-19	1.5315E-13	3.6000E-09	1.4300E-06	8.6900E-05	1.3600E-04	4.9900E-05	4.4200E-07	5.7400E-10
Independent yield ^{232}Th (F)	3.5006E-14	2.6100E-10	4.7600E-07	9.0500E-06	6.3200E-05	7.1400E-06	2.8800E-07	1.1900E-10	1.2162E-14

Table 2.7.1 Continued

Mass No. 161



		60Nd	61Pm	62Sm	63Eu	64Gd	65Tb	66Dy	m67Ho	67Ho	68Er
	λ(1/sec)	3.0202E-01	2.4253E-01	3.9383E-02	9.0821E-03	3.1223E-03	1.1610E-06	0.0	1.0299E-01	7.7637E-05	5.9426E-05
	Q-value(MeV)	6.8170E+00	6.6340E+00	4.7170E+00	3.6180E+00	1.9591E+00	5.9050E-01	0.0	2.1115E-01	8.6310E-01	1.9490E+00
	E-beta (MeV)	2.1600E+00	2.1080E+00	1.5070E+00	1.1320E+00	5.6200E-01	1.5390E-01	0.0	0.0	0.0	4.0890E-04
	E-gamma(MeV)	1.8790E+00	1.5960E+00	1.1380E+00	7.3150E-01	3.6927E-01	2.2884E-02	0.0	9.5018E-02	2.1718E-02	8.2098E-01
	E-I.C (MeV)	0.0	0.0	0.0	0.0	3.0347E-02	5.8363E-02	0.0	1.1613E-01	3.3596E-02	7.5958E-03
Cumulative yield	235U (T)	8.8100E-10	4.2988E-07	2.4330E-06	6.9830E-05	8.5130E-06	8.5295E-06	8.5295E-06	6.9319E-16	6.0254E-15	1.3253E-20
	235U (F)	8.3400E-09	3.2183E-06	1.1622E-04	2.9622E-04	3.3542E-04	3.3576E-04	3.3676E-04	6.6763E-16	5.2312E-15	8.4647E-21
	235U (H)	1.0100E-08	1.1910E-05	7.8391E-04	4.0269E-03	5.2269E-03	5.2572E-03	5.2572E-03	2.0720E-13	2.7972E-12	8.4677E-18
	238U (F)	1.0900E-06	7.2790E-05	9.7079E-04	1.2828E-03	1.3072E-03	1.3072E-03	1.3072E-03	3.0035E-18	2.8032E-17	1.0464E-23
	238U (H)	2.1500E-06	3.7615E-04	4.6111E-03	8.2381E-03	8.4981E-03	8.4992E-03	8.4992E-03	1.5630E-16	2.1100E-16	8.0787E-22
	239Pu(T)	3.4300E-09	4.5534E-06	5.6965E-04	3.1427E-03	4.8417E-03	4.8896E-03	4.8896E-03	1.1882E-12	1.0328E-11	6.0901E-17
	239Pu(F)	9.5100E-09	1.2310E-05	1.2393E-03	6.5653E-03	9.6693E-03	9.7406E-03	9.7407E-03	1.9176E-12	1.6618E-11	6.1202E-17
	241Pu(T)	3.5200E-07	1.0435E-04	3.5034E-03	7.7903E-03	8.6643E-03	8.6702E-03	8.6702E-03	8.2866E-15	7.2029E-14	8.7193E-20
	233U (T)	4.9700E-11	7.6150E-08	1.1876E-05	7.0876E-06	1.1918E-04	1.2069E-04	1.2069E-04	6.0871E-14	5.2910E-13	3.5054E-18
	232Th(F)	1.2200E-08	9.4920E-07	1.4349E-05	1.9639E-05	2.0113E-05	2.0114E-05	2.0114E-05	9.9260E-20	9.2642E-19	4.1023E-25
Independent yield	235U (T)	8.8100E-10	4.2900E-07	2.3900E-05	4.5500E-05	1.5300E-05	1.6500E-07	1.8700E-10	6.9319E-16	5.3322E-15	1.3253E-20
	235U (F)	8.3400E-09	3.2100E-06	1.1300E-04	1.8000E-04	3.9200E-05	3.4100E-07	2.8000E-10	6.6763E-16	5.5535E-15	8.4647E-21
	235U (H)	1.0100E-08	1.1900E-05	7.7200E-04	3.2430E-03	1.2000E-03	3.0300E-05	4.3300E-08	2.0720E-13	2.5800E-12	8.4677E-18
	238U (F)	1.0900E-06	7.1700E-05	8.9800E-04	3.1200E-04	2.4400E-06	3.6600E-08	7.4300E-12	3.0034E-18	2.5029E-17	1.0464E-23
	238U (H)	2.1500E-06	3.7400E-04	4.2350E-03	3.6270E-03	2.5000E-04	1.0400E-06	2.1500E-10	1.5630E-16	1.9537E-15	8.0787E-22
	239Pu(T)	3.4300E-09	4.6500E-06	5.6500E-04	2.5730E-03	1.6990E-03	4.7600E-05	1.3100E-07	1.1882E-12	9.1400E-12	6.0901E-17
	239Pu(F)	9.5100E-09	1.2300E-05	1.2270E-03	5.4250E-03	2.9940E-03	8.1200E-05	2.2200E-07	1.9176E-12	1.4700E-11	6.1202E-17
	241Pu(T)	3.5200E-07	1.0400E-04	3.3990E-03	4.2870E-03	8.7400E-04	6.8700E-05	3.8700E-09	8.2866E-15	6.3743E-14	8.7193E-20
	233U (T)	4.9700E-11	7.6100E-08	1.1800E-05	5.8000E-05	4.8300E-05	1.5100E-06	5.3100E-09	6.0870E-14	4.6823E-13	3.5054E-18
	232Th(F)	1.2200E-08	9.3700E-07	1.3400E-05	6.2900E-06	4.7400E-07	8.3300E-10	2.1385E-13	9.9260E-20	8.2716E-19	4.1023E-25

Table 2.7.1 Continued

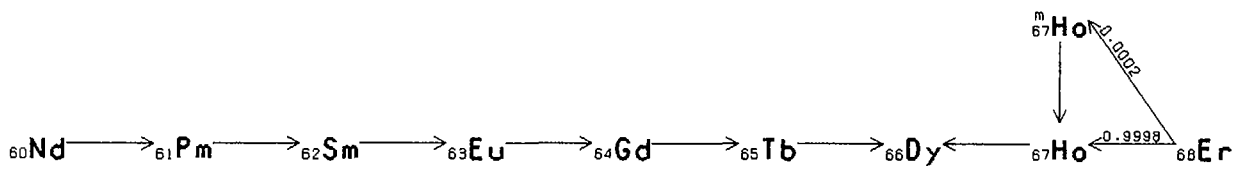
Mass No. 162

$_{60}Nd \rightarrow {}_{61}Pm \rightarrow {}_{62}Sm \rightarrow {}_{63}Eu \rightarrow {}_{64}Gd \rightarrow {}_{65}Tb \rightarrow {}_{66}Dy \rightarrow {}_{67}Ho$ ($^{m}_{67}Ho \xrightarrow{0.3900} {}_{66}Dy$, $^{m}_{67}Ho \xrightarrow{0.6100} {}_{67}Ho$) $_{68}Er$

		$_{60}Nd$	$_{61}Pm$	$_{62}Sm$	$_{63}Eu$	$_{64}Gd$	$_{65}Tb$	$_{66}Dy$	$^{m}_{67}Ho$	$_{67}Ho$	$_{68}Er$
	λ (1/sec)	1.0513E+00	1.5942E-01	7.8713E-02	2.1374E-02	1.2836E-03	1.4887E-03	0.0	1.6989E-04	7.7016E-04	0.0
	Q-value (MeV)	7.0490E+00	7.3960E+00	4.1980E+00	5.3840E+00	1.4000E+00	2.4200E+00	0.0	9.4226E-01	2.8800E-01	0.0
	E-beta (MeV)	2.4850E+00	2.0790E+00	1.3830E+00	1.4030E+00	3.2216E-01	4.4878E-01	0.0	0.0	2.0834E-02	0.0
	E-gamma (MeV)	1.4310E+00	2.5200E+00	8.7780E-01	2.0180E+00	4.2697E-01	1.1130E+00	0.0	5.3802E-01	1.2424E-01	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	1.5520E-02	4.3793E-02	0.0	1.3146E-01	3.7104E-02	0.0
Cumulative yield	^{235}U (T)	7.2500E-12	8.5272E-09	1.9495E-06	1.0210E-05	1.9050E-05	1.9286E-05	1.9287E-05	5.6947E-14	1.1609E-13	8.2602E-19
	^{235}U (F)	2.8700E-10	3.1729E-07	3.7917E-05	1.7992E-04	2.7282E-04	2.7498E-04	2.7498E-04	2.7582E-13	5.4609E-13	2.1973E-18
	^{235}U (H)	1.5500E-10	5.8815E-07	1.1959E-04	1.4786E-03	2.8126E-03	2.9090E-03	2.9094E-03	7.8555E-11	9.5819E-11	9.7757E-16
	^{238}U (F)	3.5700E-08	5.5857E-06	2.6559E-04	4.4259E-04	4.9469E-04	4.9487E-04	4.9487E-04	1.0272E-15	2.0337E-15	2.6664E-21
	^{238}U (H)	9.0800E-08	4.9691E-05	1.6817E-03	5.2907E-03	6.0167E-03	6.0256E-03	6.0256E-03	1.5129E-13	2.7578E-13	2.6325E-19
	^{239}Pu (T)	4.1600E-11	1.5204E-07	7.0362E-05	8.5036E-04	2.3904E-03	2.4984E-03	2.4994E-03	1.6380E-10	2.1592E-10	5.5368E-15
	^{239}Pu (F)	1.8100E-10	6.9718E-07	2.3970E-04	2.9027E-03	7.1337E-03	7.4317E-03	7.4340E-03	3.5938E-10	4.7832E-10	8.8132E-15
	^{241}Pu (T)	4.7200E-09	3.8047E-06	4.4080E-04	1.6788E-03	2.4818E-03	2.4956E-03	2.4956E-03	1.1345E-12	2.3127E-12	8.8857E-18
	^{233}U (T)	1.3402E-13	5.7513E-10	3.3058E-07	4.2506E-06	1.4201E-05	1.4943E-06	1.4952E-05	1.6240E-12	2.1506E-12	7.3297E-17
	^{232}Th (F)	4.5900E-10	8.4059E-08	4.5741E-06	8.0641E-06	9.2341E-06	9.2389E-05	9.2389E-05	3.8754E-17	7.6728E-17	1.1903E-22
Independent yield	^{235}U (T)	7.2500E-12	8.5200E-09	1.9400E-06	8.2600E-06	8.8400E-06	2.3600E-07	1.0900E-09	5.6947E-14	8.1353E-14	8.2502E-19
	^{235}U (F)	2.8700E-10	3.1700E-07	3.7600E-05	1.4200E-04	9.2900E-05	2.1600E-06	5.7500E-09	2.7582E-13	3.7784E-13	2.1973E-18
	^{235}U (H)	1.5500E-10	5.8800E-07	1.1900E-04	1.3690E-03	1.3340E-03	9.5400E-05	4.4900E-07	7.8556E-11	4.7900E-11	9.7757E-16
	^{238}U (F)	3.5700E-08	5.5500E-06	2.6000E-04	1.7700E-04	5.2100E-05	1.8520E-07	1.7500E-10	1.0272E-15	1.4071E-15	2.6664E-21
	^{238}U (H)	9.0800E-08	4.9600E-05	1.5320E-03	3.5090E-03	7.2600E-04	8.9200E-06	6.1900E-09	1.5129E-13	1.8450E-13	2.6325E-19
	^{239}Pu (T)	4.1600E-11	1.5200E-07	7.0200E-05	7.8000E-04	1.5400E-03	1.0800E-04	1.0700E-06	1.6380E-10	1.1700E-10	5.5368E-15
	^{239}Pu (F)	1.8100E-10	6.9700E-07	2.3900E-04	2.6630E-03	4.2310E-03	2.9800E-04	2.3500E-06	3.5938E-10	2.5300E-10	8.8132E-16
	^{241}Pu (T)	4.7200E-09	3.8000E-06	4.3700E-04	1.2380E-03	8.0300E-04	1.3760E-05	3.5400E-08	1.1346E-12	1.6207E-12	8.8857E-18
	^{233}U (T)	1.3402E-13	5.7500E-10	3.3000E-07	3.9200E-06	9.9500E-06	7.4200E-07	9.7500E-09	1.6240E-12	1.1600E-12	7.3297E-17
	^{232}Th (F)	4.5900E-10	8.3600E-08	4.4900E-06	3.4900E-06	1.1700E-06	4.8400E-09	5.3200E-12	3.8754E-17	5.3088E-17	1.1903E-22

Table 2.7.1 Continued

Mass No. 163



		60Nd	61Pm	62Sm	63Eu	64Gd	65Tb	66Dy	67mHo	67Ho	68Er
	λ(1/sec)	6.7690E-01	5.1497E-01	7.2225E-02	4.2866E-02	4.9055E-03	5.9243E-04	0.0	6.4180E-01	6.6559E-10	1.5403E-04
	Q-value(MeV)	7.8300E+00	7.4610E+00	5.2540E+00	4.7300E+00	3.1570E+00	1.7000E+00	0.0	2.8780E-01	2.6000E-03	1.2120E+00
	E-beta (MeV)	2.4820E+00	2.3930E+00	1.6690E+00	1.5410E+00	9.8520E-01	2.9474E-01	0.0	0.0	0.0	4.1587E-06
	E-gamma(MeV)	2.2190E+00	2.0190E+00	1.3340E+00	1.0720E+00	6.8460E-01	7.8414E-01	0.0	2.3050E-01	0.0	1.0574E-03
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	2.4082E-02	0.0	6.7303E-02	0.0	6.7313E-06
Cumulative yield	235U (T)	6.3993E-14	2.7905E-10	1.4828E-07	2.2883E-06	7.2583E-06	7.7083E-06	7.7137E-06	7.3082E-21	1.4700E-12	4.5676E-17
	235U (F)	1.3800E-12	6.6514E-09	1.8557E-06	2.3766E-06	5.6956E-06	5.9446E-06	5.9464E-06	1.2666E-20	3.9601E-12	7.9166E-17
	235U (H)	1.6000E-12	1.9101E-08	1.2119E-06	4.1712E-04	1.4431E-03	1.5511E-03	1.5541E-03	1.6800E-10	2.0981E-09	7.1132E-14
	236U (F)	3.6100E-10	2.4036E-07	2.5240E-06	6.5140E-06	1.2104E-04	1.2155E-04	1.2155E-04	3.3086E-23	4.2748E-14	2.0679E-19
	238U (H)	1.9100E-09	3.4219E-06	3.3842E-04	2.3444E-03	3.4064E-03	3.4468E-03	3.4469E-03	6.7146E-21	8.0300E-12	4.1966E-17
	239Pu(T)	2.2776E-13	3.4002E-09	4.1234E-06	1.5812E-04	8.5612E-04	1.0081E-03	1.0122E-03	2.6500E-10	3.3152E-09	2.2799E-13
	239Pu(F)	1.1900E-12	1.6801E-08	1.6617E-06	6.1362E-04	2.8716E-03	3.3626E-03	3.3631E-03	6.5600E-10	8.1964E-09	4.3469E-13
	241Pu(T)	3.9400E-11	1.2304E-07	3.7123E-05	3.7912E-04	6.7112E-04	8.9992E-04	9.0012E-04	2.7900E-12	3.4891E-11	5.5877E-16
	233U (T)	7.8933E-16	1.3401E-11	2.0813E-08	8.8781E-07	5.7778E-06	6.9478E-06	6.9872E-06	2.9100E-12	3.6313E-11	3.2240E-16
	232Th(F)	1.0200E-11	7.9302E-09	9.6193E-07	3.5719E-06	5.3419E-06	5.3713E-06	5.3714E-06	3.2040E-24	3.4928E-15	2.0025E-20
Independent yield	235U (T)	5.3993E-14	2.7900E-10	1.4800E-07	2.1400E-06	4.9700E-06	4.5000E-07	5.4500E-09	0.0	1.4700E-12	4.5676E-17
	235U (F)	1.3800E-12	5.6500E-09	1.8500E-06	2.1900E-05	3.3200E-05	2.4900E-06	1.8700E-06	0.0	3.9500E-12	7.9165E-17
	235U (H)	1.6000E-12	1.9100E-08	1.2100E-06	4.0600E-04	1.0260E-03	2.0800E-04	2.9500E-06	1.6800E-10	1.9300E-09	7.1132E-14
	236U (F)	3.6100E-10	2.4000E-07	2.5000E-06	6.9900E-06	3.5900E-06	5.1300E-07	1.1900E-09	0.0	4.2747E-14	2.0679E-19
	238U (H)	1.9100E-09	3.4200E-06	3.3500E-04	2.0060E-03	1.0620E-03	3.9400E-05	8.7300E-06	0.0	8.0300E-12	4.1966E-17
	239Pu(T)	2.2776E-13	3.4000E-09	4.1200E-06	1.5400E-04	6.9700E-04	1.5300E-04	4.0500E-06	2.6500E-10	3.0500E-09	2.2799E-13
	239Pu(F)	1.1900E-12	1.6800E-08	1.6600E-06	6.9700E-04	2.2680E-03	4.8100E-04	1.0500E-06	6.5600E-10	7.5400E-09	4.3469E-13
	241Pu(T)	3.9400E-11	1.2300E-07	3.7000E-05	3.4200E-04	4.9200E-04	2.8800E-05	1.9900E-07	2.7900E-12	3.2100E-11	5.5877E-16
	233U (T)	7.8933E-16	1.3400E-11	2.0800E-08	8.6700E-07	4.8900E-06	1.1700E-06	3.9400E-08	2.9100E-12	3.3400E-11	3.2240E-15
	232Th(F)	1.0200E-11	7.9200E-09	9.5400E-07	2.6100E-06	1.7700E-06	2.9400E-08	7.9100E-11	0.0	3.4928E-15	2.0026E-20

Table 2.7.1 Continued

Mass No. 164

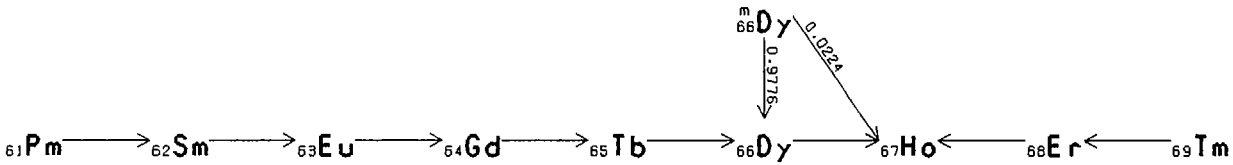
$^{m}_{67}Ho$ ↓

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

		$_{60}Nd$	$_{61}Pm$	$_{62}Sm$	$_{63}Eu$	$_{64}Gd$	$_{65}Tb$	$_{66}Dy$	$^{m}_{67}Ho$	$_{67}Ho$	$_{68}Er$
λ(1/sec)		1.7123E+00	3.2897E-01	2.5060E-01	3.6909E-02	6.3243E-03	3.8508E-03	0.0	3.0807E-04	3.9836E-04	0.0
Q-value(MeV)		7.7380E+00	8.2640E+00	5.2580E+00	6.8510E+00	2.5310E+00	3.8600E+00	0.0	1.4000E-01	1.0183E+00	0.0
E-beta (MeV)		2.7410E+00	2.3480E+00	1.8030E+00	1.5630E+00	7.1810E-01	6.8724E-01	0.0	0.0	1.3081E-01	0.0
E-gamma(MeV)		1.5880E+00	2.9260E+00	1.0490E+00	2.1470E+00	6.4690E-01	2.4260E+00	0.0	8.0228E-03	3.7473E-03	0.0
E-I.C (MeV)		0.0	0.0	0.0	0.0	0.0	7.5510E-02	0.0	1.3162E-01	2.0335E-02	0.0
Cumulative yield	^{235}U (T)	2.3097E-16	3.3002E-12	6.7933E-09	2.4879E-07	2.0288E-06	2.3908E-06	2.4068E-06	6.3400E-12	1.2680E-11	6.0735E-12
	^{235}U (F)	8.4129E-16	1.0601E-10	1.2611E-07	3.9661E-06	2.1155E-05	2.4285E-05	2.4366E-05	2.7100E-11	5.4200E-11	2.1684E-11
	^{235}U (H)	1.0435E-14	4.2101E-10	8.7942E-07	8.8279E-05	5.9028E-04	1.0103E-03	1.0240E-03	1.5500E-08	3.1000E-08	1.2404E-08
	^{238}U (F)	3.4100E-12	5.5834E-09	2.3856E-06	1.4186E-05	3.8786E-05	3.9556E-05	3.9563E-05	0.0	5.8099E-13	2.7241E-13
	^{238}U (H)	2.6000E-11	1.5203E-07	4.7062E-05	8.2405E-04	1.9101E-03	2.0241E-03	2.0249E-03	1.3100E-10	2.6200E-10	1.0480E-10
	^{239}Pu (T)	8.4634E-16	3.6901E-11	1.5804E-07	1.5868E-05	2.5287E-04	3.7187E-04	3.8248E-04	1.2100E-08	2.4200E-08	9.6861E-09
	^{239}Pu (F)	7.2369E-15	3.2401E-10	1.1603E-06	1.1616E-04	1.4112E-03	1.8712E-03	1.9182E-03	5.3200E-08	1.0640E-07	4.2581E-08
	^{241}Pu (T)	2.1005E-13	1.8402E-09	2.0918E-06	4.9392E-05	2.5839E-04	2.8809E-04	2.8882E-04	1.7600E-10	3.5200E-10	1.4082E-10
	^{233}U (T)	2.4369E-18	1.1615E-13	7.0612E-10	7.6806E-08	1.4768E-05	2.2168E-06	2.3029E-06	1.0700E-10	2.1400E-10	8.6674E-11
	^{232}Th (F)	1.2008E-13	2.3212E-10	1.1423E-07	7.6623E-07	2.2952E-05	2.3517E-06	2.3524E-06	0.0	5.9147E-14	2.7661E-14
Independent yield	^{235}U (T)	2.3097E-16	3.3000E-12	6.7900E-09	2.4200E-07	1.7800E-06	3.6200E-07	1.6000E-08	6.3400E-12	6.3400E-12	1.4592E-15
	^{235}U (F)	8.4129E-15	1.0600E-10	1.2500E-07	3.8300E-06	1.7200E-05	3.1300E-06	8.1200E-08	2.7100E-11	2.7100E-11	3.7510E-15
	^{236}U (H)	1.0436E-14	4.2100E-10	8.7900E-07	8.7400E-06	6.0200E-04	3.2000E-04	1.3700E-06	1.5500E-08	1.5500E-08	3.6100E-12
	^{238}U (F)	3.4100E-12	5.5800E-09	2.3800E-06	1.1800E-05	2.4500E-05	7.7000E-07	7.5500E-09	0.0	5.8099E-13	1.4822E-17
	^{238}U (H)	2.6000E-11	1.5200E-07	4.5900E-05	7.7700E-04	1.0860E-03	1.1400E-04	8.0400E-07	1.3100E-10	1.3100E-10	4.3106E-15
	^{239}Pu (T)	8.4634E-16	3.6900E-11	1.6800E-07	1.6700E-05	2.3600E-04	1.1900E-04	1.0600E-05	1.2100E-08	1.2100E-08	6.1500E-12
	^{239}Pu (F)	7.2369E-15	3.2400E-10	1.1600E-06	1.1500E-04	1.2960E-03	4.6000E-04	4.7000E-06	5.3200E-08	5.3200E-08	2.1500E-11
	^{241}Pu (T)	2.1006E-13	1.8400E-09	2.0900E-06	4.7300E-05	2.1000E-04	2.8700E-05	7.2400E-07	1.7600E-10	1.7600E-10	2.2274E-14
	^{233}U (T)	2.4369E-18	1.1615E-13	7.0600E-10	7.6100E-08	1.4000E-06	7.4000E-07	8.6000E-08	1.0700E-10	1.0700E-10	7.4387E-14
	^{232}Th (F)	1.2008E-13	2.3200E-10	1.1400E-07	6.5200E-07	1.5300E-05	5.5500E-08	5.3000E-10	0.0	5.9147E-14	1.7787E-18

Table 2.7.1 Continued

Mass No. 165



		61Pm	62Sm	63Eu	64Gd	65Tb	m66Dy	66Dy	67Ho	68Er	69Tm
	λ(1/sec)	8.0627E-01	1.9001E-01	1.1653E-01	1.4321E-02	2.3315E-03	9.1832E-03	8.2494E-05	0.0	1.8585E-05	6.4050E-06
	Q-value(MeV)	8.0410E+00	6.2310E+00	5.6760E+00	3.8810E+00	2.6490E+00	1.3695E-01	1.2851E+00	0.0	3.7710E-01	1.5945E+00
	E-beta (MeV)	2.5790E+00	1.9630E+00	1.8300E+00	1.2300E+00	7.9170E-01	6.9000E-03	4.4144E-01	0.0	0.0	1.3001E-05
	E-gamma(MeV)	2.2210E+00	1.6910E+00	1.4070E+00	8.8110E-01	5.9660E-01	1.3442E-02	2.1990E-02	0.0	0.0	5.6091E-01
	E-i.C (MeV)	0.0	0.0	0.0	0.0	0.0	1.0331E-01	1.0451E-02	0.0	0.0	5.2314E-02
Cumulative yield	235U (T)	5.3540E-14	2.9705E-10	3.9497E-08	6.9960E-07	1.1225E-06	3.6200E-09	1.1676E-06	1.1679E-06	4.3466E-14	2.9563E-19
	236U (F)	1.4200E-12	4.8414E-09	5.1484E-07	6.0248E-06	9.0048E-06	1.6200E-08	9.2067E-06	9.2075E-06	9.9112E-14	5.3308E-19
	235U (H)	6.2300E-12	3.6505E-08	1.1236E-06	2.2624E-04	5.2624E-04	2.8900E-06	5.6136E-04	5.6169E-04	9.9202E-11	1.6178E-16
	238U (F)	1.3900E-10	1.4214E-07	2.8321E-06	1.3832E-05	1.5102E-05	3.4900E-09	1.5131E-05	1.5131E-05	6.2938E-16	5.1480E-22
	238U (H)	4.0400E-09	3.9540E-06	1.9896E-04	9.0696E-04	1.1110E-03	3.4800E-09	1.1160E-03	1.1160E-03	2.6612E-13	6.7704E-19
	239Pu(T)	2.9925E-13	3.9403E-09	1.4239E-06	6.1624E-06	1.2672E-04	1.3100E-06	1.4310E-04	1.4327E-04	9.7702E-11	1.9572E-15
	239Pu(F)	3.7700E-12	4.0304E-08	1.3840E-06	4.1684E-04	1.0078E-03	8.5800E-06	1.1148E-03	1.1169E-03	6.0101E-10	8.9604E-15
	241Pu(T)	2.2700E-11	7.0623E-08	5.8006E-06	6.3801E-05	8.8601E-05	1.2600E-07	9.0164E-05	9.0170E-05	5.1762E-13	2.0899E-18
	233U (T)	7.6801E-16	1.3101E-11	6.3131E-09	2.4131E-07	6.2831E-07	8.4200E-09	7.3344E-07	7.3460E-07	9.2292E-13	2.0496E-17
	232Th(F)	2.4000E-12	2.8424E-09	5.5142E-08	3.5414E-07	3.9234E-07	1.2100E-10	3.9335E-07	3.9335E-07	3.1327E-17	3.0590E-23
Independent yield	235U (T)	5.3540E-14	2.9700E-10	3.9200E-08	6.6000E-07	4.2300E-07	3.6200E-09	4.1600E-08	1.3700E-10	4.3465E-14	2.9553E-19
	235U (F)	1.4200E-12	4.8400E-09	5.1000E-07	5.5100E-06	2.9800E-06	1.6200E-08	1.6600E-07	4.8800E-10	9.9112E-14	5.3308E-19
	236U (H)	6.2300E-12	3.5600E-08	1.1200E-06	2.1400E-04	3.0000E-04	2.8900E-06	3.3300E-06	2.6000E-07	9.9200E-11	1.6178E-16
	238U (F)	1.3900E-10	1.4200E-07	2.6900E-06	1.1000E-05	1.2700E-06	3.4900E-09	2.5600E-08	1.1700E-11	6.2938E-16	5.1480E-22
	238U (H)	4.0400E-09	3.9500E-06	1.9500E-04	7.0800E-04	2.0400E-04	3.4800E-09	4.0100E-06	4.7000E-09	2.6512E-13	5.7704E-19
	239Pu(T)	2.9925E-13	3.9400E-09	1.4200E-06	6.0100E-05	7.5200E-05	1.3100E-06	1.5100E-05	1.3400E-07	9.7700E-11	1.9572E-16
	239Pu(F)	3.7700E-12	4.0300E-08	1.3800E-06	4.0300E-04	5.9100E-04	8.5800E-06	9.8600E-06	8.3800E-07	6.0100E-10	8.9604E-15
	241Pu(T)	2.2700E-11	7.0600E-08	5.7300E-06	5.8000E-05	2.4800E-05	1.2600E-07	1.4400E-06	2.9000E-09	5.1762E-13	2.0899E-18
	233U (T)	7.6801E-16	1.3100E-11	5.3000E-09	2.3600E-07	3.8700E-07	8.4200E-09	9.6900E-08	9.6100E-10	9.2290E-13	2.0496E-17
	232Th(F)	2.4000E-12	2.8400E-09	5.2300E-08	2.8900E-07	3.8200E-08	1.2100E-10	8.8700E-10	4.8107E-13	3.1327E-17	3.0590E-23

Table 2.7.1 Continued

Mass No. 166

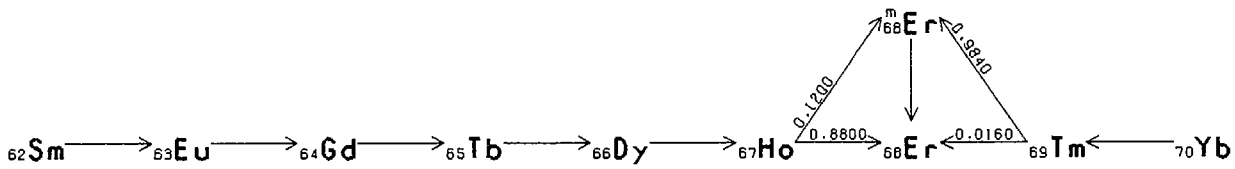
$^{m}_{67}Ho \rightarrow {}_{68}Er$

$_{62}Sm \rightarrow {}_{63}Eu \rightarrow {}_{64}Gd \rightarrow {}_{65}Tb \rightarrow {}_{66}Dy \rightarrow {}_{67}Ho \rightarrow {}_{68}Er \leftarrow {}_{69}Tm \leftarrow {}_{70}Yb$

		$_{62}Sm$	$_{63}Eu$	$_{64}Gd$	$_{66}Tb$	$_{66}Dy$	$^{m}_{67}Ho$	$_{67}Ho$	$_{68}Er$	$_{69}Tm$	$_{70}Yb$
	λ(1/sec)	4.9369E-01	8.7079E-02	4.3133E-02	3.1208E-03	2.3596E-06	1.8304E-11	7.1844E-06	0.0	2.5005E-05	3.3958E-06
	Q-value(MeV)	6.0040E+00	6.6800E+00	3.6900E+00	3.9980E+00	4.8400E-01	1.8593E+00	1.8543E+00	0.0	3.0470E+00	2.9200E-01
	E-beta (MeV)	2.0840E+00	1.8380E+00	1.1740E+00	9.4710E-01	1.0823E-01	1.6630E-02	6.7160E-01	0.0	1.4150E-02	0.0
	E-gamma(MeV)	1.2050E+00	2.3950E+00	8.0610E-01	1.6110E+00	1.5003E-02	1.7257E+00	2.3546E-02	0.0	1.7491E+00	1.2508E-02
	E-I.C (MeV)	0.0	0.0	0.0	0.0	6.5999E-02	1.0496E-01	3.0618E-02	0.0	8.1274E-02	6.9782E-02
Cumulative yield	^{235}U (T)	9.3500E-12	3.2593E-09	1.9326E-07	3.9826E-07	4.9256E-07	9.0700E-10	4.9276E-07	4.9367E-07	1.5578E-17	3.9861E-23
	^{235}U (F)	2.1700E-10	6.3917E-08	2.2639E-06	5.0239E-06	5.6169E-06	3.2600E-09	5.6176E-06	5.6209E-06	4.7729E-17	6.9941E-23
	^{235}U (H)	7.9800E-10	7.9680E-07	4.6197E-05	2.1220E-04	2.6710E-04	9.6200E-07	2.6731E-04	2.6827E-04	8.0917E-14	2.1212E-19
	^{238}U (F)	6.5400E-09	2.8754E-07	4.3875E-06	5.3365E-06	5.4224E-06	6.1100E-11	5.4225E-06	5.4225E-06	4.1860E-20	1.9891E-26
	^{238}U (H)	2.2400E-07	3.3524E-05	3.5752E-04	6.1752E-04	6.3342E-04	4.4200E-08	6.3343E-04	6.3348E-04	7.4607E-17	2.6695E-23
	^{239}Pu(T)	8.2400E-11	8.3782E-08	1.0184E-05	4.5484E-05	6.9084E-05	4.1400E-07	6.9175E-05	6.9590E-05	7.9734E-14	4.6544E-19
	^{239}Pu(F)	1.2400E-09	1.2612E-06	1.2025E-04	5.4125E-04	7.5725E-04	3.8700E-06	7.6812E-04	7.7210E-04	5.5398E-13	2.5376E-18
	^{241}Pu(T)	3.8300E-09	8.2683E-07	2.8627E-05	5.4827E-05	6.0377E-05	2.2400E-08	6.0382E-05	6.0404E-05	2.1801E-16	3.0098E-22
	^{233}U (T)	3.1304E-13	3.4931E-10	5.5849E-08	2.6185E-07	4.3885E-07	3.3300E-09	4.3958E-07	4.4292E-07	9.3183E-16	7.2723E-21
	^{232}Th(F)	1.4200E-10	7.2820E-09	1.2628E-07	1.5758E-07	1.6083E-07	2.7100E-12	1.6083E-07	1.6084E-07	2.7026E-21	1.6202E-27
Independent yield	^{235}U (T)	9.3500E-12	3.2500E-09	1.9000E-07	2.0500E-07	9.4300E-08	9.0700E-10	1.9800E-10	1.3700E-12	1.5578E-17	3.9861E-23
	^{235}U (F)	2.1700E-10	6.3700E-08	2.2000E-06	2.7600E-06	5.9300E-07	3.2500E-09	7.1400E-10	2.8100E-12	4.7729E-17	6.9941E-23
	^{235}U (H)	7.9800E-10	7.9600E-07	4.5400E-05	1.6600E-04	5.4900E-05	9.6200E-07	2.1100E-07	1.4800E-09	8.0917E-14	2.1212E-19
	^{238}U (F)	6.5400E-09	2.8100E-07	4.1000E-05	9.4900E-07	8.5900E-08	5.1100E-11	2.2600E-11	2.0081E-14	4.1860E-20	1.9891E-26
	^{238}U (H)	2.2400E-07	3.3300E-05	3.3400E-04	2.5000E-04	1.5900E-05	4.4200E-08	9.7000E-09	9.7800E-12	7.4507E-17	2.6695E-23
	^{239}Pu(T)	8.2400E-11	8.3700E-08	1.0100E-05	3.5300E-05	2.3600E-06	4.1400E-07	9.0900E-08	1.3700E-09	7.9733E-14	4.6544E-19
	^{239}Pu(F)	1.2400E-09	1.2500E-06	1.1900E-04	4.2100E-04	2.2500E-04	3.9700E-06	8.7200E-07	1.0400E-08	5.5398E-13	2.5376E-18
	^{241}Pu(T)	3.8300E-09	8.2300E-07	2.7800E-05	2.5200E-05	5.5500E-06	2.2400E-08	4.9100E-09	1.8600E-11	2.1801E-16	3.0098E-22
	^{233}U (T)	3.1304E-13	3.4900E-10	5.5500E-08	2.0600E-07	1.7700E-07	3.3300E-09	7.3000E-10	1.4600E-11	9.3183E-16	7.2723E-21
	^{232}Th(F)	1.4200E-10	7.1400E-09	1.1900E-07	3.1300E-08	3.2500E-09	2.7100E-12	1.0000E-12	1.0842E-15	2.7025E-21	1.6202E-27

Table 2.7.1 Continued

Mass No. 167



		62Sm	63Eu	64Gd	65Tb	66Dy	67Ho	m68Er	68Er	69Tm	70Yb
	λ(1/sec)	5.2511E-01	2.1426E-01	5.0706E-02	1.0138E-02	1.6633E-03	6.2110E-05	3.0401E-01	0.0	8.6824E-07	6.6014E-04
	Q-value(MeV)	7.4280E+00	6.3200E+00	4.8860E+00	3.6630E+00	2.3500E+00	9.4506E-01	2.0780E-01	0.0	6.4443E-01	1.9641E+00
	E-beta (MeV)	2.3380E+00	2.0240E+00	1.5450E+00	1.1400E+00	6.4982E-01	1.7620E-01	0.0	0.0	0.0	1.6400E-03
	E-gamma(MeV)	2.1010E+00	1.6430E+00	1.2170E+00	7.5130E-01	5.1729E-01	3.4212E-01	8.6653E-02	0.0	1.0636E-02	1.6150E-01
	E-I.C (MeV)	0.0	0.0	0.0	0.0	7.2662E-02	2.5324E-02	1.2115E-01	0.0	1.1420E-02	1.4146E-01
Cumulative yield	235U (T)	1.6750E-13	2.2517E-10	3.3226E-08	1.8223E-07	2.9923E-07	3.0250E-07	3.6299E-08	3.0251E-07	8.3586E-16	6.0211E-21
	235U (F)	4.0500E-12	4.3340E-09	3.9933E-07	1.8793E-06	2.6393E-06	2.6656E-06	3.1880E-07	2.6667E-06	2.2380E-15	9.8784E-21
	235U (H)	1.6500E-11	5.4817E-08	9.5248E-06	1.0642E-04	1.8762E-04	1.9288E-04	2.3148E-06	1.9291E-04	3.8700E-12	3.3400E-17
	238U (F)	1.4700E-10	2.6347E-08	8.3435E-07	1.4803E-06	1.6063E-06	1.6069E-06	1.9282E-07	1.6069E-06	2.8683E-18	3.4920E-24
	238U (H)	8.2600E-09	3.9382E-06	1.1494E-04	3.3494E-04	3.7344E-04	3.7386E-04	4.4862E-06	3.7386E-04	6.3092E-15	7.5893E-21
	239Pu(T)	5.2222E-13	2.0906E-09	6.8409E-07	8.2741E-06	1.9874E-05	1.9888E-05	2.3871E-06	1.9894E-05	1.3100E-12	2.2297E-17
	239Pu(F)	1.2900E-11	4.7013E-08	1.2647E-05	1.4865E-04	3.2165E-04	3.3346E-04	4.0019E-05	3.3352E-04	1.4800E-11	2.0040E-16
	241Pu(T)	7.3200E-11	5.9873E-08	5.1099E-06	2.0010E-05	2.7220E-05	2.7347E-05	3.2816E-06	2.7347E-05	1.1042E-14	4.3843E-20
	233U (T)	8.8580E-16	3.8609E-12	1.6139E-09	2.1614E-08	6.9014E-08	6.1924E-08	7.4331E-09	6.1962E-08	6.9450E-15	1.6437E-19
	232Th(F)	7.1700E-12	1.4972E-09	5.4297E-08	1.0250E-07	1.1320E-07	1.1325E-07	1.3590E-08	1.1325E-07	4.0968E-19	5.9146E-25
Independent yield	235U (T)	1.6750E-13	2.2500E-10	3.3000E-08	1.4900E-07	1.1700E-07	3.2700E-09	0.0	1.0000E-11	8.3585E-16	6.0211E-21
	235U (F)	4.0500E-12	4.3300E-09	3.9500E-07	1.4800E-06	7.6000E-07	1.7300E-08	2.8200E-12	3.2500E-11	2.2360E-15	9.8784E-21
	235U (H)	1.6600E-11	5.4800E-08	9.4700E-06	9.5900E-05	8.2200E-05	5.2600E-05	1.6700E-09	1.9200E-08	3.8700E-12	3.3400E-17
	238U (F)	1.4700E-10	2.6200E-08	8.0800E-07	5.4600E-07	1.2600E-07	5.1200E-10	0.0	3.0649E-13	2.8683E-18	3.4920E-24
	238U (H)	8.2600E-09	3.9300E-06	1.1100E-04	2.2000E-04	3.8500E-05	4.1400E-07	1.9500E-11	2.2500E-10	6.3092E-15	7.5893E-21
	239Pu(T)	5.2222E-13	2.0900E-09	6.8200E-07	7.5900E-06	1.1600E-05	1.4000E-08	4.8900E-10	5.6200E-09	1.3100E-12	2.2297E-17
	239Pu(F)	1.2900E-11	4.7000E-08	1.2600E-05	1.3600E-04	1.7300E-04	1.1800E-05	5.8000E-09	5.6800E-08	1.4800E-11	2.0040E-16
	241Pu(T)	7.3200E-11	5.9800E-08	5.0500E-06	1.4900E-05	7.2100E-05	1.2700E-07	1.9100E-11	2.1900E-10	1.1042E-14	4.3843E-20
	233U (T)	8.8580E-16	3.8600E-12	1.6100E-09	1.9900E-08	3.7500E-08	2.8100E-09	2.2300E-12	2.5700E-11	5.9448E-15	1.5437E-19
	232Th(F)	7.1700E-12	1.4900E-09	5.2800E-08	4.8200E-08	1.0700E-08	5.0700E-11	0.0	3.5718E-14	4.0968E-19	5.9146E-25

Table 2.7.1 Continued

Mass No. 168	$_{62}$Sm → $_{63}$Eu → $_{64}$Gd → $_{65}$Tb → $_{66}$Dy → $_{67}$Ho → $_{68}$Er ←0.9800 $_{69}$Tm 0.0200→ $_{70}$Yb								
	$_{62}$Sm	$_{63}$Eu	$_{64}$Gd	$_{65}$Tb	$_{66}$Dy	$_{67}$Ho	$_{68}$Er	$_{69}$Tm	$_{70}$Yb
λ(1/sec)	1.0568E+00	2.2432E-01	1.2843E-01	9.7297E-03	4.0702E-04	3.8508E-03	0.0	8.6172E-08	0.0
Q-value(MeV)	6.9630E+00	7.7280E+00	4.5590E+00	4.7280E+00	1.4880E+00	2.7200E+00	0.0	1.6511E+00	0.0
E-beta (MeV)	2.4430E+00	2.1680E+00	1.5210E+00	1.1700E+00	3.1750E-01	6.8241E-01	0.0	2.3001E-04	0.0
E-gamma(MeV)	1.4160E+00	2.7490E+00	9.3250E-01	1.8530E+00	5.4270E-01	8.4861E-01	0.0	1.1015E+00	0.0
E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	4.7722E-02	0.0	6.6871E-02	0.0
Cumulative yield									
^{235}U (T)	8.7265E-16	3.2109E-12	1.7732E-09	2.0373E-08	6.6173E-08	6.9203E-08	6.9241E-08	8.0376E-15	1.6099E-16
^{235}U (F)	2.6782E-14	8.6827E-11	2.7687E-08	2.8169E-07	6.6569E-07	6.8809E-07	6.8825E-07	3.0295E-14	6.0641E-16
^{235}U (H)	1.8168E-13	1.8902E-09	1.0419E-06	3.1042E-05	9.8942E-05	1.1094E-04	1.1109E-04	8.9800E-11	1.7986E-12
^{238}U (F)	3.5700E-12	1.5436E-09	1.8654E-07	4.8054E-07	6.8654E-07	6.8847E-07	6.8848E-07	1.1839E-16	2.3685E-18
^{238}U (H)	1.7800E-10	2.7018E-07	2.3470E-05	1.4447E-04	2.0167E-04	2.0350E-04	2.0360E-04	3.0116E-13	5.0244E-16
^{239}Pu(T)	2.3875E-16	2.6702E-11	3.1927E-08	9.3393E-07	5.0539E-05	5.7599E-05	5.7783E-05	1.1300E-11	2.2676E-13
^{239}Pu(F)	6.4118E-14	6.5905E-10	5.2967E-07	1.8430E-05	8.4030E-05	9.5230E-05	9.5464E-05	1.4200E-10	2.8471E-12
^{241}Pu(T)	9.6299E-13	2.1910E-09	6.7319E-07	5.2732E-06	1.2173E-05	1.2472E-05	1.2474E-05	2.7446E-13	5.4935E-15
^{233}U (T)	3.3501E-18	4.0728E-14	6.5241E-11	2.0452E-09	1.3745E-08	1.5835E-08	1.5908E-08	4.9364E-14	9.9164E-16
^{232}Th(F)	2.0462E-13	1.0320E-10	1.4403E-08	4.0403E-08	6.1103E-08	6.1328E-08	6.1329E-08	1.9718E-17	3.9448E-19
Independent yield									
^{235}U (T)	8.7265E-16	3.2100E-12	1.7700E-09	1.8600E-08	4.5800E-08	3.0300E-09	3.8200E-11	8.0376E-15	2.3525E-19
^{235}U (F)	2.6782E-14	8.6800E-11	2.7600E-08	2.5400E-07	3.8400E-07	2.2400E-08	1.6400E-10	3.0295E-14	5.0916E-19
^{235}U (H)	1.8168E-13	1.8900E-09	1.0400E-06	3.0000E-05	6.7900E-06	1.2000E-05	1.4900E-07	8.9800E-11	2.6429E-15
^{238}U (F)	3.5700E-12	1.5400E-09	1.8500E-07	2.9400E-07	2.0500E-07	1.9300E-09	5.1100E-12	1.1839E-16	6.5151E-22
^{238}U (H)	1.7800E-10	2.7000E-07	2.3200E-05	1.2100E-04	5.7200E-05	1.8300E-06	3.5300E-09	3.0116E-13	1.2462E-18
^{239}Pu(T)	2.3875E-15	2.6700E-11	3.1900E-08	9.0200E-07	4.1300E-05	5.9600E-07	1.8400E-08	1.1300E-11	7.6178E-16
^{239}Pu(F)	6.4118E-14	6.6900E-10	5.2900E-07	1.7800E-05	6.5600E-05	1.1200E-06	2.3400E-07	1.4200E-10	7.1098E-15
^{241}Pu(T)	9.6299E-13	2.1900E-09	6.7100E-07	4.6000E-06	5.9000E-05	2.9900E-07	2.1100E-09	2.7446E-13	4.3519E-18
^{233}U (T)	3.3501E-18	4.0724E-14	6.5200E-11	1.9800E-09	1.1700E-08	2.0900E-09	7.2400E-11	4.9364E-14	4.3613E-18
^{232}Th(F)	2.0462E-13	1.0300E-10	1.4300E-08	2.6000E-08	2.0700E-08	2.2500E-10	7.0020E-13	1.9718E-17	1.2833E-22

Table 2.7.1 Continued

Mass No. 169

$_{63}Eu \rightarrow {}_{64}Gd \rightarrow {}_{65}Tb \rightarrow {}_{66}Dy \rightarrow {}_{67}Ho \rightarrow {}_{68}Er \rightarrow {}_{69}Tm \leftarrow {}_{70}Yb$, $^{m}_{70}Yb \rightarrow {}_{70}Yb$

		$_{63}Eu$	$_{64}Gd$	$_{65}Tb$	$_{66}Dy$	$_{67}Ho$	$_{68}Er$	$_{69}Tm$	$^{m}_{70}Yb$	$_{70}Yb$
	λ(1/sec)	4.3268E-01	1.7934E-01	2.4051E-02	3.0793E-03	2.5114E-03	8.6264E-07	0.0	1.5068E-02	2.5094E-07
	Q-value(MeV)	7.1430E+00	6.1150E+00	4.2010E+00	2.8500E+00	2.1240E+00	3.5200E-01	0.0	2.4200E-02	9.0840E-01
	E-beta (MeV)	2.2770E+00	1.9130E+00	1.3550E+00	8.6530E-01	4.9327E-01	9.9953E-02	0.0	0.0	0.0
	E-gamma(MeV)	1.9360E+00	1.6640E+00	9.2740E-01	6.3190E-01	8.5964E-01	1.8394E-05	0.0	9.1960E-08	2.1101E-01
	E-i.C (MeV)	0.0	0.0	0.0	0.0	0.0	3.7673E-03	0.0	2.4200E-02	1.6876E-01
Cumulative yield	^{235}U (T)	5.8262E-14	9.9668E-11	3.7997E-09	2.3800E-08	2.8120E-08	2.8268E-08	2.8268E-08	1.2050E-18	2.4112E-18
	^{235}U (F)	1.1600E-12	1.0412E-09	3.2341E-08	1.4234E-07	1.6224E-07	1.6264E-07	1.6264E-07	1.6231E-18	3.2828E-18
	^{236}U (H)	4.9800E-11	8.8250E-08	7.7682E-06	5.3768E-05	7.5668E-05	7.5475E-05	7.5477E-05	1.2372E-14	2.4744E-14
	^{238}U (F)	5.4100E-11	1.5054E-08	1.0155E-07	2.2155E-07	2.2592E-07	2.2595E-07	2.2595E-07	4.8020E-21	2.0505E-17
	^{238}U (H)	1.4000E-08	3.7040E-06	6.7804E-06	1.2380E-04	1.2993E-04	1.2997E-04	1.2997E-04	1.1663E-17	1.6283E-15
	^{239}Pu(T)	3.2813E-13	1.1203E-09	1.1212E-07	1.3121E-06	1.9221E-06	1.9636E-06	1.9637E-06	2.3875E-15	4.7750E-15
	^{239}Pu(F)	8.3100E-12	2.3108E-08	2.2031E-06	2.1803E-05	3.1563E-05	3.2112E-05	3.2113E-05	2.1531E-14	4.3062E-14
	^{241}Pu(T)	5.6700E-11	4.5757E-08	1.1368E-06	4.7568E-06	5.2708E-06	5.2803E-06	5.2803E-06	2.8059E-17	5.8921E-17
	^{233}U (T)	4.8746E-16	2.1406E-12	2.3914E-10	3.4591E-09	5.2491E-09	5.4021E-09	5.4025E-09	1.2751E-17	2.5502E-17
	^{232}Th(F)	5.2400E-12	1.6852E-09	1.2885E-08	3.0385E-08	3.1121E-08	3.1127E-08	3.1127E-08	1.3555E-21	1.9772E-18
Independent yield	^{235}U (T)	6.8262E-14	9.9600E-11	3.7000E-09	2.0000E-08	4.3200E-09	1.3800E-10	1.1373E-13	1.2050E-18	1.2062E-18
	^{235}U (F)	1.1600E-12	1.0400E-09	3.1300E-08	1.1000E-07	1.9900E-08	3.9800E-10	2.6988E-13	1.6231E-18	1.6597E-18
	^{236}U (H)	4.9800E-11	8.8200E-08	7.6800E-06	4.6000E-05	2.1900E-05	8.0700E-07	1.5800E-09	1.2372E-14	1.2372E-14
	^{238}U (F)	5.4100E-11	1.5000E-08	8.6500E-08	1.2000E-07	4.3700E-09	2.7900E-11	2.8587E-15	4.8020E-21	2.0601E-17
	^{238}U (H)	1.4000E-08	3.6900E-06	5.4100E-05	6.6000E-05	6.1300E-06	3.7000E-08	1.0400E-11	1.1663E-17	1.6166E-15
	^{239}Pu(T)	3.2813E-13	1.1200E-09	1.1100E-07	1.2000E-06	6.1000E-07	4.1500E-08	9.3700E-11	2.3875E-15	2.3875E-15
	^{239}Pu(F)	8.3100E-12	2.3100E-08	2.1800E-06	1.9600E-05	9.7500E-06	5.4900E-07	1.1800E-09	2.1531E-14	2.1531E-14
	^{241}Pu(T)	5.6700E-11	4.6700E-08	1.0900E-06	3.6200E-06	5.1400E-07	9.5100E-09	4.5900E-12	2.8059E-17	3.0861E-17
	^{233}U (T)	4.8745E-16	2.1400E-12	2.3700E-10	3.2200E-09	1.7900E-09	1.5300E-10	3.9546E-13	1.2751E-17	1.2751E-17
	^{232}Th(F)	5.2400E-12	1.6800E-09	1.1200E-08	1.7500E-08	7.3600E-10	5.4300E-12	6.8126E-16	1.3555E-21	1.9758E-18

Table 2.7.1 Continued

Mass No. 170

$^{m}_{67}Ho \rightarrow {}_{68}Er$

$_{62}Sm \rightarrow {}_{63}Eu \rightarrow {}_{64}Gd \rightarrow {}_{65}Tb \rightarrow {}_{66}Dy \rightarrow {}_{67}Ho \rightarrow {}_{68}Er \xleftarrow{0.0014} {}_{69}Tm \xrightarrow{0.9986} {}_{70}Yb$

		$_{62}Sm$	$_{63}Eu$	$_{64}Gd$	$_{65}Tb$	$_{66}Dy$	$^{m}_{67}Ho$	$_{67}Ho$	$_{68}Er$	$_{69}Tm$	$_{70}Yb$
	λ(1/sec)	1.7106E+00	2.2696E-01	3.5914E-01	3.2239E-02	4.7089E-03	4.1259E-03	1.6120E-02	0.0	6.2384E-08	0.0
	Q-value(MeV)	7.6350E+00	7.7230E+00	5.5740E+00	5.6770E+00	2.3560E+00	4.0100E+00	4.0000E+00	0.0	9.6696E-01	0.0
	E-beta (MeV)	2.6920E+00	2.1660E+00	1.9140E+00	1.4940E+00	6.4630E-01	9.5764E-01	1.5870E+00	0.0	3.1508E-01	0.0
	E-gamma(MeV)	1.5680E+00	2.7630E+00	1.1160E+00	2.1070E+00	6.2850E-01	1.3172E+00	1.6094E-01	0.0	2.6992E-03	0.0
	E-I.C (MeV)	0.0	0.0	0.0	0.0	0.0	6.2960E-02	3.3369E-02	0.0	1.7545E-02	0.0
Cumulative yield	^{235}U (T)	9.4321E-21	3.8990E-16	2.2404E-12	2.1424E-10	3.9742E-09	8.8600E-10	4.8602E-09	6.9462E-09	4.3489E-13	4.3441E-13
	^{236}U (F)	3.0512E-19	1.0674E-14	3.6511E-11	2.9866E-09	3.4487E-08	6.6900E-09	4.1177E-08	4.8761E-08	1.6600E-12	1.6479E-12
	^{236}U (H)	4.6284E-18	6.4345E-13	3.1006E-09	8.3310E-07	1.4833E-05	8.6000E-06	2.3433E-05	3.3873E-05	1.1300E-08	1.1287E-08
	^{238}U (F)	1.7080E-16	7.8251E-13	8.8576E-10	1.1886E-08	6.4786E-08	2.0200E-09	6.6806E-08	6.8932E-08	2.7085E-14	2.7048E-14
	^{238}U (H)	2.0062E-14	3.2902E-10	2.8033E-07	1.2080E-05	6.0480E-05	4.8200E-06	5.5300E-05	6.0120E-05	1.6600E-10	1.6677E-10
	^{239}Pu (T)	1.5294E-19	1.9172E-14	2.4802E-10	6.7448E-08	2.4374E-06	1.3700E-06	3.8074E-06	5.7795E-06	3.7100E-09	3.7073E-09
	^{239}Pu (F)	4.4776E-19	6.4646E-14	6.2705E-10	1.4263E-07	4.1125E-06	2.3300E-06	5.4425E-06	8.5905E-06	5.0200E-09	5.0156E-09
	^{241}Pu (T)	2.1555E-17	5.4067E-13	1.7105E-09	1.0371E-07	1.1737E-06	1.7100E-07	1.3447E-06	1.5380E-06	3.0000E-11	2.9962E-11
	^{233}U (T)	1.9076E-23	2.6270E-18	4.5066E-14	1.3445E-11	6.2845E-10	3.7600E-10	1.0044E-09	1.5934E-09	1.4200E-12	1.4193E-12
	^{232}Th (F)	1.6464E-17	8.9932E-14	1.2209E-10	1.8721E-09	1.1402E-08	4.1800E-10	1.1820E-08	1.2263E-08	7.8441E-15	7.8334E-15
Independent yield	^{235}U (T)	9.4321E-21	3.8990E-16	2.2400E-12	2.1200E-10	3.7600E-09	8.8600E-10	8.8600E-10	1.9900E-10	4.3489E-13	1.4191E-16
	^{235}U (F)	3.0512E-19	1.0674E-14	3.6500E-11	2.9500E-09	3.1500E-08	6.6900E-09	6.6900E-09	8.9400E-10	1.6500E-12	3.2381E-16
	^{235}U (H)	4.6284E-18	6.4345E-13	3.1000E-09	8.3000E-07	1.4000E-05	8.6000E-06	8.6000E-06	1.8400E-06	1.1300E-08	3.7400E-12
	^{238}U (F)	1.7080E-16	7.8234E-13	8.8600E-10	1.1000E-08	5.2900E-08	2.0200E-09	2.0200E-09	1.0600E-10	2.7086E-14	1.6980E-18
	^{238}U (H)	2.0062E-14	3.2900E-10	2.8000E-07	1.1800E-05	3.6400E-05	4.8200E-06	4.8200E-06	1.8100E-10	1.6600E-10	7.7852E-15
	^{239}Pu (T)	1.5294E-19	1.9172E-14	2.4800E-10	6.7200E-08	2.3700E-06	1.3700E-06	1.3700E-06	5.0200E-07	3.7100E-09	2.6700E-12
	^{239}Pu (F)	4.4776E-19	6.4646E-14	6.2700E-10	1.4200E-07	3.9700E-06	2.3300E-06	2.3300E-06	8.1800E-07	5.0200E-09	2.8400E-12
	^{241}Pu (T)	2.1555E-17	5.4065E-13	1.7100E-09	1.0200E-07	1.0700E-06	1.7100E-07	1.7100E-07	2.2300E-08	3.0000E-11	5.4397E-16
	^{233}U (T)	1.9076E-23	2.6270E-18	4.5063E-14	1.3400E-11	6.1500E-10	3.7600E-10	3.7600E-10	2.1300E-10	1.4200E-12	1.3923E-15
	^{232}Th (F)	1.6464E-17	8.9916E-14	1.2200E-10	1.7500E-09	9.5300E-09	4.1800E-10	4.1800E-10	2.5400E-11	7.8441E-16	6.8070E-19

Table 2.7.1 Continued

Mass No. 171	$_{64}$Gd → $_{65}$Tb → $_{66}$Dy → $_{67}$Ho → $_{68}$Er → $_{69}$Tm → $_{70}$Yb						
	$_{64}$Gd	$_{65}$Tb	$_{66}$Dy	$_{67}$Ho	$_{68}$Er	$_{69}$Tm	$_{70}$Yb
λ(1/sec)	2.2929E-01	5.8841E-02	1.7277E-02	1.7178E-03	2.5604E-05	1.1440E-08	0.0
Q-value(MeV)	6.3690E+00	4.9600E+00	3.9810E+00	2.4640E+00	1.4904E+00	9.6700E-02	0.0
E-beta (MeV)	1.9880E+00	1.6940E+00	1.2600E+00	7.1300E-01	3.6232E-01	2.4868E-02	0.0
E-gamma(MeV)	1.7600E+00	1.1680E+00	9.2900E-01	5.8130E-01	3.5543E-01	1.0010E-04	0.0
E-I.C (MeV)	0.0	0.0	0.0	0.0	7.5247E-02	1.3010E-03	0.0
Cumulative yield							
^{235}U (T)	1.4156E-13	2.3242E-11	1.0002E-09	2.4502E-09	6.2102E-09	6.2133E-09	6.2133E-09
^{235}U (F)	8.2594E-13	2.4383E-10	6.7538E-09	1.4884E-08	1.6244E-08	1.6253E-08	1.6253E-08
^{235}U (H)	8.2700E-11	7.1883E-08	3.5919E-06	1.6092E-05	1.8392E-05	1.8392E-05	1.8392E-05
^{238}U (F)	2.9000E-11	1.4590E-09	1.5259E-08	1.9019E-08	1.9242E-08	1.9242E-08	1.9242E-08
^{238}U (H)	1.6200E-08	2.1262E-06	2.0625E-05	3.2826E-05	3.3600E-05	3.3602E-05	3.3502E-05
^{239}Pu(T)	3.3609E-13	3.3834E-10	3.1238E-08	1.4024E-07	1.9624E-07	1.9744E-07	1.9744E-07
^{239}Pu(F)	7.6400E-12	7.1976E-09	5.4820E-07	2.3982E-06	3.1952E-06	3.2116E-06	3.2116E-06
^{241}Pu(T)	2.4100E-11	5.3141E-09	1.3731E-07	2.6731E-07	2.8771E-07	2.8782E-07	2.8782E-07
^{233}U (T)	5.4160E-16	6.1249E-13	7.2212E-11	3.4921E-10	6.2621E-10	5.3042E-10	5.3042E-10
^{232}Th(F)	5.9700E-12	3.4897E-10	4.1290E-09	5.2990E-09	5.3787E-09	5.3788E-09	5.3788E-09
Independent yield							
^{235}U (T)	1.4156E-13	2.3100E-11	9.7700E-10	1.4600E-09	3.7600E-09	3.0600E-12	9.0277E-16
^{235}U (F)	8.2594E-13	2.4300E-10	6.5100E-09	8.1300E-09	1.3600E-09	8.8800E-12	1.8857E-15
^{235}U (H)	8.2700E-11	7.1800E-08	3.5200E-06	1.1500E-05	3.3000E-06	6.7200E-11	5.4769E-12
^{238}U (F)	2.9000E-11	1.4300E-09	1.3800E-08	3.7600E-09	2.2300E-10	2.4407E-13	1.7280E-13
^{238}U (H)	1.6200E-08	2.1100E-06	1.8400E-05	1.2300E-05	6.7400E-07	2.0100E-09	5.6265E-11
^{239}Pu(T)	3.3609E-13	3.3800E-10	3.0900E-08	1.0900E-07	5.6000E-08	1.2000E-09	3.1755E-13
^{239}Pu(F)	7.6400E-12	7.1900E-09	6.4100E-07	1.8600E-06	7.9700E-07	1.6400E-08	3.2840E-12
^{241}Pu(T)	2.4100E-11	5.2900E-09	1.3200E-07	1.3000E-07	2.0400E-08	1.0300E-10	6.2413E-14
^{233}U (T)	5.4160E-16	6.1195E-13	7.1600E-11	2.7700E-10	1.7700E-10	4.2100E-12	1.4547E-15
^{232}Th(F)	5.9700E-12	3.4300E-10	3.7800E-09	1.1700E-09	7.9700E-11	1.0544E-13	3.3375E-14

Table 2.7.1 Continued

Mass No. 172	$_{64}Gd \rightarrow {}_{65}Tb \rightarrow {}_{66}Dy \rightarrow {}_{67}Ho \rightarrow {}_{68}Er \rightarrow {}_{69}Tm \rightarrow {}_{70}Yb$						
	$_{64}Gd$	$_{66}Tb$	$_{66}Dy$	$_{67}Ho$	$_{68}Er$	$_{69}Tm$	$_{70}Yb$
λ (1/sec)	6.9245E-01	3.4779E-02	2.6355E-02	3.5114E-03	3.9055E-06	3.0274E-06	0.0
Q-value (MeV)	6.3360E+00	6.7320E+00	3.3000E+00	4.0340E+00	8.8900E-01	1.8700E+00	0.0
E-beta (MeV)	2.1990E+00	1.5110E+00	1.0140E+00	9.4420E-01	9.2159E-02	4.9194E-01	0.0
E-gamma (MeV)	1.2790E+00	2.1250E+00	7.5300E-01	1.6450E+00	4.9289E-01	4.7818E-01	0.0
E-I.C (MeV)	0.0	0.0	0.0	0.0	4.1671E-02	3.9865E-02	0.0
Cumulative yield ^{235}U (T)	9.3242E-16	8.0051E-13	1.3790E-10	5.8890E-10	9.6590E-10	9.7354E-10	9.7355E-10
Cumulative yield ^{235}U (F)	1.0644E-14	8.0106E-12	8.1201E-10	3.1620E-09	4.3620E-09	4.3831E-09	4.3831E-09
Cumulative yield ^{235}U (H)	2.2900E-12	6.4123E-09	9.7641E-07	9.4764E-06	1.6006E-05	1.6347E-05	1.6348E-05
Cumulative yield ^{238}U (F)	1.4400E-12	1.6844E-10	6.1384E-09	9.3184E-09	1.0038E-08	1.0040E-08	1.0040E-08
Cumulative yield ^{238}U (H)	7.0300E-10	2.8570E-07	7.4067E-06	1.9706E-05	2.1616E-05	2.1633E-05	2.1633E-05
Cumulative yield ^{239}Pu (T)	2.6669E-15	7.6927E-12	2.4977E-09	2.3598E-08	6.6198E-08	6.7958E-08	6.7962E-08
Cumulative yield ^{239}Pu (F)	6.6335E-14	1.8007E-10	4.6180E-08	4.3918E-07	9.2718E-07	9.5358E-07	9.5363E-07
Cumulative yield ^{241}Pu (T)	4.2834E-13	2.5543E-10	2.2355E-08	7.1055E-08	9.5655E-08	9.5974E-08	9.5974E-08
Cumulative yield ^{233}U (T)	4.4983E-18	1.4098E-14	6.0941E-12	6.1294E-11	1.7029E-10	1.7666E-10	1.7669E-10
Cumulative yield ^{232}Th (F)	2.7810E-13	3.7978E-11	1.5780E-09	2.6170E-09	2.7690E-09	2.7697E-09	2.7697E-09
Independent yield ^{235}U (T)	9.3242E-16	8.9968E-13	1.3700E-10	4.5100E-10	3.7700E-10	7.6400E-12	9.6292E-16
Independent yield ^{235}U (F)	1.0644E-14	9.0000E-12	8.0300E-10	2.3500E-09	1.2000E-09	2.1100E-11	1.4855E-14
Independent yield ^{236}U (H)	2.2900E-12	6.4100E-09	9.7000E-07	8.5000E-06	6.6300E-06	3.4100E-07	2.5960E-10
Independent yield ^{238}U (F)	1.4400E-12	1.6700E-10	5.9700E-09	3.1800E-09	7.2000E-10	1.9100E-12	4.4316E-16
Independent yield ^{238}U (H)	7.0300E-10	2.8500E-07	7.1200E-06	1.2300E-05	1.9100E-06	1.7700E-08	1.9998E-12
Independent yield ^{239}Pu (T)	2.6669E-15	7.6900E-12	2.4900E-09	2.1100E-08	3.2600E-08	1.7600E-09	4.7160E-12
Independent yield ^{239}Pu (F)	6.6335E-14	1.8000E-10	4.6000E-08	3.9300E-07	4.8800E-07	2.6400E-08	5.2700E-11
Independent yield ^{241}Pu (T)	4.2834E-13	2.5600E-10	2.2100E-08	4.8700E-08	2.4600E-08	3.1900E-10	2.2206E-13
Independent yield ^{233}U (T)	4.4983E-18	1.4095E-14	6.0800E-12	5.5200E-11	1.0900E-10	6.2700E-12	2.2458E-14
Independent yield ^{232}Th (F)	2.7810E-13	3.7700E-11	1.5400E-09	9.3900E-10	2.4200E-10	7.5621E-13	2.1006E-16

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

CAPTURE CROSS SECTION OF FISSION PRODUCT NUCLIDES (BARNS)

GROUP	SE 79	KR 84	KR 85	RB 85	KR 87	RB 87	Y 89	SR 90
1	0.0	1.8400E-03	1.8268E-03	2.2909E-03	0.0	2.4271E-04	2.6536E-04	3.2395E-04
2	0.0	7.6831E-03	3.1183E-03	7.3176E-03	0.0	7.6494E-04	1.2209E-03	1.0816E-03
3	0.0	1.4251E-02	4.0429E-03	1.4529E-02	0.0	3.2623E-03	4.5165E-03	3.3612E-03
4	0.0	1.8775E-02	4.3517E-03	2.5881E-02	0.0	4.3513E-03	6.1223E-03	5.5981E-03
5	0.0	2.0052E-02	4.9745E-03	3.7884E-02	0.0	4.3569E-03	8.4391E-03	5.2848E-03
6	0.0	2.7425E-02	6.6906E-03	5.6434E-02	0.0	5.0696E-03	9.9302E-03	8.9755E-03
7	0.0	2.4601E-02	9.9142E-03	7.3594E-02	0.0	7.7637E-03	1.0257E-02	8.8544E-03
8	0.0	2.5536E-02	1.4635E-02	1.1180E-01	0.0	8.9991E-03	1.0785E-02	8.9707E-03
9	0.0	3.2971E-02	2.3501E-02	1.8046E-01	0.0	1.2369E-02	1.3320E-02	1.0016E-02
10	0.0	5.2527E-02	4.2425E-02	3.0227E-01	0.0	2.0866E-02	1.8047E-02	1.4806E-02
11	0.0	9.0374E-02	7.8946E-02	4.7062E-01	0.0	3.9083E-02	2.4559E-02	2.6491E-02
12	0.0	1.4890E-01	1.4079E-01	6.4045E-01	0.0	2.3258E-02	3.1982E-02	3.0058E-02
13	0.0	2.2616E-01	2.4159E-01	8.8382E-01	0.0	2.0481E-02	1.7966E-01	2.5615E-03
14	0.0	5.9774E-02	3.9971E-01	1.3050E+00	0.0	3.5942E-04	1.2776E-03	3.7611E-03
15	0.0	3.5569E+00	2.6805E-01	2.6331E+00	0.0	1.8391E-03	2.2014E-03	5.5153E-03
16	0.0	6.3695E-03	1.4941E-02	5.8954E-01	0.0	2.5054E+00	4.5748E-03	8.1002E-03
17	0.0	2.4425E-03	2.1939E-02	8.3066E-02	0.0	3.4073E-03	9.5981E-03	1.1894E-02
18	0.0	2.8798E-03	3.2171E-02	9.7861E-03	0.0	3.0190E-03	1.8255E-02	1.7441E-02
19	0.0	3.9243E-03	4.7248E-02	1.3636E-02	0.0	3.8122E-03	3.1267E-02	2.5615E-02
20	0.0	5.5870E-03	6.9376E-02	1.9618E-02	0.0	5.2746E-03	4.9805E-02	3.7612E-02
21	0.0	8.0890E-03	1.0173E-01	2.8516E-02	0.0	7.5405E-03	7.5991E-02	5.5154E-02
22	0.0	1.1808E-02	1.4941E-01	4.1703E-02	0.0	1.0945E-02	1.1384E-01	8.1004E-02
23	0.0	1.7280E-02	2.1939E-01	6.1120E-02	0.0	1.5984E-02	1.6847E-01	1.1894E-01
24	0.0	2.5321E-02	3.2170E-01	8.9551E-02	0.0	2.3403E-02	2.4816E-01	1.7441E-01
25	0.0	3.7184E-02	4.7248E-01	1.3144E-01	0.0	3.4327E-02	3.6507E-01	2.5616E-01
RI	5.5480E+01	3.3400E+00	1.8000E+00	5.8500E+00	0.0	2.1000E+00	7.7000E-01	9.0000E-01
THERM	4.0000E+01	1.3000E-01	1.6600E+00	4.6000E-01	0.0	1.2000E-01	1.2800E+00	8.0000E-01

GROUP	ZR 91	ZR 92	ZR 93	ZR 94	MO 95	ZR 96	MO 97	MO 98
1	7.8218E-04	8.5862E-04	1.2586E-03	4.2931E-04	3.1693E-03	9.1149E-04	1.5348E-03	1.7701E-03
2	2.2810E-03	2.8393E-03	6.6570E-03	1.8456E-03	1.0128E-02	5.2242E-03	6.2838E-03	8.9280E-03
3	6.3859E-03	6.3505E-03	4.3385E-02	3.9177E-03	2.1249E-02	2.5096E-02	1.4137E-02	1.6511E-02
4	2.4153E-02	1.0333E-02	5.6197E-02	5.7930E-03	3.5209E-02	4.2040E-02	2.7246E-02	2.4536E-02
5	2.1159E-02	1.6303E-02	4.6480E-02	9.9619E-03	5.8777E-02	3.4176E-02	5.6030E-02	3.1564E-02
6	1.9186E-02	1.9825E-02	4.1364E-02	1.2139E-02	8.2807E-02	2.5251E-02	8.4727E-02	5.4107E-02
7	2.0472E-02	1.8183E-02	4.5209E-02	1.1572E-02	9.1779E-02	2.1733E-02	9.4170E-02	4.3751E-02
8	2.5166E-02	1.7580E-02	6.0647E-02	1.1224E-02	1.3420E-01	2.0322E-02	1.2523E-01	4.2398E-02
9	3.8386E-02	2.1257E-02	9.5648E-02	1.2660E-02	2.1619E-01	2.4384E-02	2.0072E-01	5.6710E-02
10	7.1351E-02	3.4856E-02	1.7179E-01	2.3235E-02	3.7278E-01	4.0507E-02	3.4899E-01	9.9710E-02
11	1.2920E-01	4.8161E-02	3.0207E-01	5.0001E-02	6.0533E-01	7.2389E-02	6.2202E-01	1.7338E-01
12	2.3093E-01	2.2771E-01	4.9200E-01	1.7254E-01	8.9587E-01	1.5221E-01	1.0724E+00	2.4850E-01
13	5.3711E-01	3.3042E-01	7.4362E-01	1.6096E-01	1.2543E+00	3.0949E-01	1.6437E+00	4.8004E-01
14	4.5702E-01	2.2483E-01	1.1054E+00	7.1266E-04	1.9856E+00	3.6450E-04	2.1430E+00	2.7244E-01
15	1.0296E+00	1.9797E-03	1.7315E+00	6.5626E-04	2.8545E+00	9.4966E-04	3.6140E+00	3.1055E+00
16	3.5358E+00	2.5496E-03	2.0461E+00	8.8318E-04	2.7064E+00	6.4792E+00	3.5984E+00	2.0596E+00
17	1.0843E+00	3.6281E-03	3.1762E+01	1.2987E-03	1.6904E+00	8.4946E-03	3.7200E-01	3.2693E-03
18	2.2119E-02	5.2084E-03	3.7424E-01	1.8860E-03	4.0111E+00	4.7688E-03	7.1081E+00	3.5107E-03
19	3.0162E-02	7.5896E-03	7.6871E-02	2.7714E-03	1.2997E+02	5.3290E-03	6.9839E-02	5.3870E-03
20	4.3601E-02	1.1240E-02	7.4551E-02	4.0724E-03	8.8874E-01	7.0502E-03	1.3496E-01	1.8736E+00
21	6.1304E-02	1.5929E-02	9.3069E-02	5.7642E-03	1.0127E+00	9.6184E-03	1.3541E-01	4.4745E-02
22	9.2348E-02	2.4093E-02	1.2748E-01	8.7361E-03	1.3735E+00	1.4253E-02	1.9752E-01	2.3903E-02
23	1.3485E-01	3.5266E-02	1.8133E-01	1.2779E-02	1.9543E+00	2.0592E-02	2.8925E-01	3.0123E-02
24	1.9662E-01	5.1474E-02	2.6213E-01	1.8627E-02	2.8273E+00	2.9981E-02	4.2368E-01	4.1835E-02
25	2.8595E-01	7.4886E-02	3.8242E-01	2.7140E-02	4.1269E+00	4.3473E-02	6.2192E-01	5.9558E-02
RI	5.6800E+00	7.8000E-01	3.3000E+01	3.7000E-01	1.0500E+02	5.4000E+00	1.3000E+01	6.8700E+00
THERM	1.0300E+00	2.6000E-01	1.3400E+00	7.5000E-02	1.4500E+01	3.3000E-02	2.2000E+00	1.3000E-01

GROUP	TC 99	MO100	RU100	RU101	RU102	RH103	RU104	RH104
1	5.0033E-03	5.0575E-04	2.5422E-03	5.2798E-03	4.3667E-03	2.8324E-03	2.3618E-03	0.0
2	2.0202E-02	3.5786E-03	1.5623E-02	2.3721E-02	2.2552E-02	1.3751E-02	1.4127E-02	0.0
3	4.1631E-02	1.0383E-02	2.8202E-02	5.1332E-02	5.5634E-02	3.1828E-02	3.3099E-02	0.0
4	9.5314E-02	1.2000E-02	4.5754E-02	6.7067E-02	7.1223E-02	6.6272E-02	3.6256E-02	0.0
5	1.5463E-01	1.3121E-02	4.4266E-02	8.2749E-02	7.3920E-02	8.9600E-02	3.4528E-02	0.0
6	1.4544E-01	2.7130E-02	4.6206E-02	1.3811E-01	8.9181E-02	1.2763E-01	3.9485E-02	0.0
7	1.7023E-01	3.3634E-02	5.8998E-02	2.7317E-01	1.0984E-01	2.7229E-01	6.4278E-02	0.0
8	2.7259E-01	3.2593E-02	6.5332E-02	4.4113E-01	1.2338E-01	4.1655E-01	7.3024E-02	0.0
9	4.5920E-01	4.5424E-02	9.7507E-02	7.1114E-01	1.8138E-01	6.4196E-01	1.0083E-01	0.0
10	7.3997E-01	7.8868E-02	1.6661E-01	1.0688E+00	3.0555E-01	9.5902E-01	1.7244E-01	0.0
11	1.0904E+00	1.3880E-01	2.8007E-01	1.4466E+00	4.9247E-01	1.2898E+00	2.9436E-01	0.0
12	1.4558E+00	2.4076E-01	4.2024E-01	1.7954E+00	7.1706E-01	1.5854E+00	4.6261E-01	0.0
13	1.9177E+00	3.5341E-01	5.8780E-01	2.2317E+00	9.5508E-01	2.0862E+00	6.5863E-01	0.0
14	2.8338E+00	8.4561E-01	8.1838E-01	2.9828E+00	1.0259E+00	2.9089E+00	1.2338E+00	0.0
15	4.2449E+00	1.7719E-01	4.5973E+00	3.8431E+00	8.3868E-03	4.1013E+00	1.8400E+00	0.0
16	6.6650E+00	3.1718E+00	2.4196E+00	9.7352E+00	3.9856E-01	1.0212E+01	4.8295E+00	0.0
17	1.3932E+01	5.9934E-03	8.1994E-02	9.0476E+00	1.4720E-01	9.6867E+00	2.0876E-02	0.0
18	2.4845E+00	2.8837E-01	1.1289E-01	2.3145E+01	2.5499E-02	2.0778E+00	9.1617E-03	0.0
19	3.0342E+00	6.4428E-03	1.6533E-01	2.1572E+01	3.7367E-02	2.1950E-01	1.2325E-02	0.0
20	3.5080E+01	9.0449E-03	2.4254E-01	5.8427E+01	5.4846E-02	7.9418E-02	1.7578E-02	0.0
21	1.7655E+02	1.2592E-02	3.5554E-01	5.5204E-01	8.0408E-02	5.7454E-01	2.5467E-02	0.0
22	1.0682E+01	1.8848E-02	5.2209E-01	4.3225E-01	1.1807E-01	8.4523E+00	3.7213E-02	0.0
23	4.1631E+00	2.7494E-02	7.6656E-01	5.2007E-01	1.7336E-01	1.1449E+03	5.4510E-02	0.0
24	4.3468E+00	3.9997E-02	1.1240E+00	7.0359E-01	2.5423E-01	1.6777E+02	7.9850E-02	0.0
25	5.5805E+00	5.8179E-02	1.6508E+00	9.9712E-01	3.7338E-01	7.2360E+01	1.1721E-01	0.0
RI	3.4000E+02	3.8400E+00	1.1200E+01	8.5000E+01	4.1000E+00	1.1000E+03	4.6000E+00	0.0
THERM	1.7700E+01	1.9900E-01	5.8000E+00	3.3400E+00	1.3000E+00	1.4600E+02	4.7000E-01	4.0000E+01

GROUP	RH105	PD105	RU106	PD107	PD108	AG109	PD110	CD113
1	2.8588E-03	4.4802E-03	9.3594E-04	2.7889E-03	3.8370E-03	3.8177E-03	1.5701E-03	6.8033E-03
2	2.8783E-02	2.3882E-02	7.7394E-03	1.8366E-02	1.4826E-02	2.4381E-02	1.2927E-02	1.0725E-02
3	6.5695E-02	5.4718E-02	2.2352E-02	5.0113E-02	2.8901E-02	6.6190E-02	2.6723E-02	1.8582E-02
4	9.6988E-02	8.2777E-02	2.4933E-02	7.9620E-02	4.2784E-02	1.1261E-01	2.2874E-02	3.4757E-02
5	1.1851E-01	9.8807E-02	1.7012E-02	8.7538E-02	5.5359E-02	1.4214E-01	2.3642E-02	6.6537E-02
6	1.5905E-01	1.5912E-01	2.0086E-02	1.2637E-01	5.5659E-02	2.3129E-01	2.9830E-02	1.0851E-01
7	2.3584E-01	3.4623E-01	3.0832E-02	3.2771E-01	7.0499E-02	4.1151E-01	5.1510E-02	1.2951E-01
8	3.8156E-01	5.1785E-01	4.6697E-02	5.0941E-01	7.4018E-02	5.8983E-01	5.0298E-02	1.5898E-01
9	6.0436E-01	7.7989E-01	5.9968E-02	7.7542E-01	1.0764E-01	8.5547E-01	6.5076E-02	2.2914E-01
10	8.6234E-01	1.1483E+00	1.0131E-01	1.1362E+00	1.8059E-01	1.1881E+00	1.0985E-01	3.9242E-01
11	1.1313E+00	1.5229E+00	1.7893E-01	1.5052E+00	2.9696E-01	1.4992E+00	1.8635E-01	7.7215E-01
12	1.3779E+00	1.8638E+00	2.9765E-01	1.8496E+00	4.4326E-01	1.7898E+00	3.0747E-01	1.2702E+00
13	1.6579E+00	2.3050E+00	4.5069E-01	2.3070E+00	5.9598E-01	2.2215E+00	4.5966E-01	1.6965E+00
14	2.1667E+00	3.0760E+00	6.3208E-01	3.1062E+00	8.0110E-01	3.0169E+00	6.3914E-01	2.2894E+00
15	3.0377E+00	4.4175E+00	7.8896E-01	4.4894E+00	1.1755E+00	6.0947E+00	9.0300E-01	4.7127E+00
16	4.4790E+00	6.6064E+00	1.3147E-03	6.7397E+00	2.6540E+00	7.0066E+00	8.3048E-01	1.0223E+01
17	6.6025E+00	6.2439E+00	1.9303E-03	1.0221E+01	2.2741E-01	1.8206E+01	2.8059E-03	1.0368E+01
18	9.7199E+00	2.2849E+01	2.8305E-03	1.5457E+01	4.3514E+01	3.3880E+01	4.1278E-03	1.8742E+01
19	1.4332E+01	1.8461E+01	4.1571E-03	2.3285E+01	2.3127E+02	4.2752E+01	6.1251E-03	5.4923E-02
20	2.1126E+01	4.5447E+01	6.1039E-03	3.4887E+01	1.1788E+00	1.7731E+00	9.1057E-03	2.7342E+00
21	3.0050E+01	1.3534E+00	8.9505E-03	4.6108E+01	9.9443E-01	1.6616E+03	1.2856E-02	8.9096E-01
22	4.1511E+01	1.3874E+00	1.3145E-02	9.0003E-01	4.2214E+00	9.6814E+01	1.9497E-02	6.3580E+00
23	1.0341E+04	1.9176E+00	1.9301E-02	1.3215E+00	1.7665E+00	2.3397E+01	2.8531E-02	5.1043E+01
24	1.0143E+04	2.7545E+00	2.8302E-02	1.9379E+00	2.4371E+00	2.3015E+01	4.1615E-02	5.4835E+02
25	6.7090E+02	4.0120E+00	4.1567E-02	2.8462E+00	3.5161E+00	2.8905E+01	6.0556E-02	1.1134E+04
RI	1.5820E+04	9.0000E+01	2.6000E+00	1.2000E+02	2.5000E+02	1.4500E+03	2.8600E+00	3.6560E+02
THERM	1.6000E+04	1.4000E+01	1.4600E-01	1.0000E+01	1.2200E+01	9.1000E+01	2.2000E-01	1.9910E+04

Table 2.7.2 Continued

CAPTURE CROSS SECTION OF FISSION PRODUCT NUCLIDES (BARNS)

GROUP	IN115	SB121	SB123	I 127	TE128	I 129	TE130	XE131
1	2.7036E-03	5.8627E-03	2.1961E-03	1.7994E-03	4.0575E-04	1.2795E-03	2.5287E-04	8.8125E-04
2	1.9139E-02	2.4420E-02	9.3525E-03	1.4337E-02	2.4684E-03	8.0643E-03	1.0228E-03	5.5287E-03
3	6.3449E-02	6.7907E-02	2.6640E-02	4.3619E-02	5.5478E-03	2.5332E-02	1.9301E-03	1.6052E-02
4	1.2859E-01	1.1422E-01	4.8946E-02	7.2387E-02	8.5763E-03	6.0468E-02	3.5630E-03	2.9840E-02
5	1.7974E-01	1.5570E-01	7.7568E-02	9.0243E-02	1.0200E-02	8.0828E-02	5.6209E-03	4.2473E-02
6	1.8684E-01	1.5777E-01	7.9315E-02	1.2670E-01	1.5413E-02	1.1840E-01	7.6166E-03	7.1808E-02
7	1.9515E-01	1.7620E-01	9.2139E-02	1.6654E-01	1.3736E-02	1.3959E-01	6.7013E-03	1.2969E-01
8	2.5551E-01	2.4213E-01	1.2962E-01	2.4878E-01	1.5041E-02	1.8489E-01	7.4119E-03	1.8032E-01
9	3.8719E-01	4.1565E-01	2.0147E-01	4.2923E-01	1.9542E-02	2.7799E-01	9.6129E-03	2.6878E-01
10	5.8647E-01	6.9428E-01	3.2773E-01	7.0567E-01	3.3855E-02	4.7402E-01	1.2249E-02	4.1418E-01
11	8.2402E-01	9.6745E-01	5.1503E-01	1.0150E+00	6.0669E-02	7.5453E-01	1.6549E-02	6.3126E-01
12	1.0697E+00	1.2827E+00	7.6672E-01	1.5093E+00	3.7368E-02	1.1462E+00	3.5044E-02	9.6760E-01
13	1.3717E+00	1.6822E+00	1.1433E+00	2.3974E+00	3.8168E-02	1.8465E+00	4.8604E-02	1.5775E+00
14	1.8832E+00	1.7997E+00	1.4562E+00	2.8176E+00	3.7867E-01	3.1687E+00	9.3724E-02	2.7502E+00
15	2.6680E+00	3.2735E+00	1.9493E+00	5.8548E+00	1.1014E-01	5.6048E+00	1.7593E-03	3.5672E+00
16	6.2995E+00	3.1148E+00	2.8549E+00	9.6871E+00	1.7681E+00	9.9518E+00	2.5742E-03	5.3531E+00
17	6.2733E+00	1.1285E+01	9.0716E+00	2.2766E+01	2.9517E-03	1.2719E+01	3.7281E-03	2.9754E+01
18	5.4013E+00	9.4422E+00	5.7467E+00	2.7462E+01	4.2031E-03	6.8245E+00	5.4890E-03	7.0103E+00
19	1.8318E+01	1.5057E+01	2.4666E+01	1.5290E+02	6.1251E-03	7.7870E-01	8.0472E-03	1.7816E+01
20	2.9504E+00	7.2642E+01	1.1621E+02	1.0725E+01	9.0057E-03	1.1374E+00	1.1961E-02	1.0496E+03
21	5.6546E+01	1.4220E+02	4.9368E-01	4.9369E-01	1.2775E-02	1.6658E+00	1.6993E-02	1.8368E+01
22	7.8613E+01	2.0852E+00	4.9924E-01	6.1563E-01	1.9370E-02	2.4454E+00	2.5702E-02	1.1873E+01
23	3.9508E+03	1.2759E+00	6.3486E-01	8.4462E-01	2.8305E-02	3.5901E+00	3.7619E-02	1.3738E+01
24	1.5094E+02	1.4514E+00	8.7791E-01	1.1992E+00	4.1358E-02	5.2643E+00	5.4877E-02	1.8350E+01
25	9.2639E+01	1.9211E+00	1.2564E+00	1.7234E+00	6.0149E-02	7.7313E+00	7.9876E-02	2.5874E+01
RI	3.3000E+03	2.0000E+02	1.4000E+02	1.6100E+02	1.7500E+00	3.6000E+01	3.2000E-01	8.7000E+02
THERM	2.0200E+02	6.2550E+00	4.3300E+00	6.2000E+00	2.1000E-01	2.7000E+01	2.9000E-01	9.0000E+01

GROUP	XE133	CS133	CS134	XE135	CS135	CS137	BA138	LA139
1	1.9468E-03	8.0663E-04	2.1675E-03	1.6393E-03	6.1322E-04	2.0590E-04	1.3902E-04	1.7644E-04
2	2.4320E-03	5.1803E-03	3.0695E-03	1.3322E-03	2.7222E-03	7.2525E-04	4.6712E-04	7.5824E-04
3	3.4109E-03	1.5146E-02	5.3996E-03	4.7449E-04	7.0801E-03	2.7651E-03	7.7849E-04	2.2328E-03
4	5.6202E-03	3.2375E-02	1.1149E-02	3.9547E-04	2.2716E-02	8.9857E-03	2.7906E-03	8.0589E-03
5	8.6678E-03	5.7444E-02	2.1406E-02	5.1377E-04	5.0556E-02	7.3401E-03	3.3797E-03	1.2120E-02
6	1.3031E-02	1.1218E-01	4.8185E-02	9.0647E-04	6.7298E-02	6.0874E-03	2.3119E-03	1.0593E-02
7	2.2205E-02	1.4574E-01	1.1032E-01	1.3865E-03	8.6619E-02	6.5630E-03	1.8431E-03	1.1266E-02
8	3.4111E-02	2.0620E-01	2.0520E-01	1.8335E-03	1.2049E-01	8.7810E-03	1.9315E-03	1.7020E-02
9	4.9293E-02	3.2885E-01	3.4293E-01	2.8618E-03	1.7115E-01	1.3442E-02	5.6734E-03	2.5831E-02
10	7.9980E-02	5.0677E-01	5.6922E-01	4.8285E-03	2.6887E-01	2.1724E-02	7.2864E-03	4.1593E-02
11	1.3614E-01	7.7378E-01	9.5228E-01	8.2592E-03	4.2743E-01	3.6648E-02	4.2558E-03	6.7990E-02
12	2.2624E-01	1.2101E+00	1.5932E+00	1.4592E-02	6.7757E-01	6.4561E-02	1.4933E-02	1.0630E-01
13	3.6724E-01	2.0302E+00	2.6178E+00	2.7587E-02	1.1296E+00	1.1184E-01	9.8736E-04	1.8315E-01
14	6.1174E-01	3.4528E+00	4.4994E+00	5.0708E-02	2.0199E+00	1.8811E-01	1.4458E-03	2.4203E-01
15	1.5670E+00	5.0555E+00	7.2207E+00	7.9659E-02	3.7724E+00	2.3456E-01	2.1194E-03	3.1518E-01
16	5.5519E+00	1.2077E+01	1.0888E+01	1.1862E-01	7.1461E+00	9.9013E-04	3.1143E-03	1.5842E-02
17	1.9629E+01	1.6474E+01	1.6415E+01	1.8306E-01	1.3429E+01	1.4538E-03	4.5713E-03	6.9845E-03
18	6.9145E+01	2.7555E+01	2.6450E+01	3.3133E-01	2.4760E+01	2.1319E-03	6.6975E-03	9.5378E+00
19	1.8454E+02	3.2734E+01	4.5269E+01	9.1883E-01	2.2321E+01	3.1311E-03	9.8435E-03	8.7535E-02
20	8.3035E+01	1.7302E+00	7.7444E+01	4.3163E+00	3.6353E-01	4.5974E-03	1.4448E-02	2.1025E-01
21	2.3955E+01	3.9401E+02	2.5453E+01	2.6828E+01	5.3307E-01	6.7415E-03	2.1183E-02	3.9935E-01
22	1.7083E+01	9.6920E+00	1.2601E+01	1.8498E+02	7.8293E-01	9.9012E-03	3.1124E-02	7.3039E-01
23	2.5089E+01	5.4597E+00	1.8502E+01	1.3446E+03	1.1496E+00	1.4538E-02	4.5665E-02	1.1661E+00
24	3.6796E+01	6.4472E+00	2.7132E+01	1.0640E+04	1.6858E+00	2.1319E-02	6.6990E-02	2.1247E+00
25	5.4049E+01	8.7431E+00	3.9848E+01	1.0183E+05	2.4759E+00	3.1310E-02	9.8453E-02	2.6385E+00
RI	5.2250E+01	4.1500E+02	8.7970E+01	7.6340E+03	6.2000E+01	5.9000E-01	1.9000E-01	1.2200E+01
THERM	1.9000E+02	2.9000E+01	1.4000E+02	2.6500E+06	8.7000E+00	1.1000E-01	3.4000E-01	9.7300E+00

GROUP	BA140	CE140	CE141	PR141	CE142	PR143	ND143	CE144
1	1.1558E-03	4.0575E-04	2.8847E-03	1.7644E-04	4.0575E-04	2.1004E-03	2.0238E-04	7.3144E-04
2	1.1942E-03	3.3077E-03	1.3676E-02	1.1810E-03	3.6368E-03	7.2518E-03	2.3834E-03	3.9609E-03
3	1.9327E-03	1.3791E-02	3.3178E-02	4.3230E-03	1.2721E-02	2.3960E-02	3.5404E-02	1.0175E-02
4	1.8659E-03	3.9525E-02	5.3551E-02	1.6528E-02	2.4462E-02	5.0702E-02	1.2138E-01	1.5316E-02
5	1.5278E-03	2.9975E-02	5.2484E-02	2.5799E-02	2.5758E-02	7.1386E-02	1.1388E-01	1.5834E-02
6	1.3846E-03	1.8085E-02	4.5786E-02	2.0405E-02	3.6301E-02	7.8463E-02	8.9795E-02	2.0499E-02
7	1.6063E-03	1.4573E-02	4.9532E-02	2.4056E-02	3.3430E-02	9.7372E-02	9.3888E-02	3.5778E-02
8	2.2517E-03	1.6511E-02	6.5295E-02	4.4335E-02	3.0524E-02	1.3154E-01	1.1778E-01	4.1649E-02
9	3.4775E-03	2.1663E-02	9.5183E-02	6.7865E-02	3.5330E-02	2.0609E-01	1.5965E-01	5.1649E-02
10	5.6183E-03	2.8870E-02	1.5129E-01	1.0488E-01	5.6332E-02	3.2973E-01	2.3869E-01	6.4635E-02
11	9.1421E-03	4.0163E-02	2.4518E-01	1.6590E-01	9.8422E-02	5.1568E-01	3.7502E-01	8.9717E-02
12	1.4880E-02	6.2673E-02	4.0116E-01	2.6258E-01	1.7604E-01	8.5448E-01	6.0925E-01	1.3161E-01
13	2.4272E-02	9.7225E-02	6.3859E-01	3.7492E-01	1.9015E-01	1.4781E+00	9.6992E-01	1.9538E-01
14	3.9579E-02	1.4571E-01	7.5728E-01	8.1842E-01	3.3876E-01	2.7421E+00	2.2396E+00	3.1051E-01
15	7.7254E-01	1.9551E-01	1.1394E+00	2.4741E+00	1.3695E-02	5.2015E+00	3.0972E+00	4.8320E-01
16	1.4035E+01	5.0237E-03	2.2330E+00	8.9733E+00	1.0290E-02	9.9892E+00	9.7385E+00	9.0002E-03
17	7.7813E-01	7.3105E-03	4.3731E+00	5.6776E-01	1.3293E-02	1.9172E+01	3.3231E+01	1.3215E-02
18	3.0487E-02	1.0797E-02	5.8719E+00	3.2917E+00	1.8792E-02	4.0474E+01	2.5103E+01	1.9379E-02
19	4.4849E-02	1.5837E-02	8.2541E-01	3.2705E-01	2.7155E-02	9.2544E+01	9.7106E-01	2.8462E-02
20	6.5962E-02	2.3501E-02	1.2120E+00	4.7831E-01	3.9934E-02	3.2027E+01	2.1223E+00	4.1791E-02
21	9.6886E-02	3.3366E-02	1.7772E+00	6.7601E-01	5.6467E-02	5.4543E+00	5.6657E+00	6.1282E-02
22	1.4253E-01	5.0522E-02	2.6102E+00	1.0211E+00	8.5376E-02	8.0106E+00	1.4037E+01	9.0004E-02
23	2.0963E-01	7.3896E-02	3.8326E+00	1.4926E+00	1.2485E-01	1.1762E+01	2.9202E+01	1.3216E-01
24	3.0790E-01	1.0786E-01	5.6201E+00	2.1775E+00	1.8214E-01	1.7248E+01	5.2177E+01	1.9379E-01
25	4.5296E-01	1.5691E-01	8.2541E+00	3.1674E+00	2.6498E-01	2.5332E+01	8.4910E+01	2.8462E-01
RI	1.3600E+01	4.7000E-01	4.8000E-01	1.8900E+01	1.2200E+00	1.9000E+02	1.4000E+02	2.6000E+00
THERM	1.6000E+00	5.7000E-01	2.9000E+01	1.1500E+01	9.6000E-01	8.9000E+01	3.2500E+02	1.0000E+00

GROUP	ND144	ND145	ND146	PM147	SM147	ND148	PM148	SM148
1	2.0208E-04	1.0833E-04	1.0644E-03	1.1162E-03	5.0416E-04	3.9988E-03	4.5407E-03	3.9136E-03
2	2.3105E-03	1.1544E-03	7.6217E-03	8.8692E-03	5.5110E-03	2.3678E-02	6.4029E-02	5.5253E-02
3	1.6428E-02	5.7144E-03	1.8976E-02	3.1839E-02	2.7074E-02	5.3930E-02	2.2376E-01	1.8738E-01
4	3.6583E-02	3.5755E-02	2.5996E-02	8.1932E-02	1.0607E-01	5.6228E-02	4.9276E-01	2.4699E-01
5	4.2804E-02	9.0394E-02	3.3261E-02	2.0105E-01	2.9019E-01	5.6684E-02	7.6141E-01	2.1082E-01
6	4.9956E-02	8.3230E-02	3.5647E-02	3.2738E-01	3.7117E-01	5.9480E-02	9.9436E-01	1.8693E-01
7	4.4673E-02	9.2461E-02	5.0969E-02	3.7271E-01	4.0030E-01	1.0262E-01	1.2312E+00	2.1353E-01
8	5.0920E-02	1.2413E-01	5.8600E-02	4.4834E-01	4.9682E-01	1.1839E-01	1.6328E+00	2.1608E-01
9	6.1446E-02	1.9132E-01	7.0113E-02	6.2261E-01	6.6215E-01	1.3190E-01	2.3691E+00	2.3759E-01
10	7.6344E-02	2.9420E-01	8.6773E-02	9.2283E-01	9.8946E-01	1.6347E-01	3.7213E+00	2.9658E-01
11	1.0599E-01	4.6019E-01	1.1687E-01	1.5139E+00	1.6595E+00	2.2114E-01	6.0625E+00	4.0778E-01
12	1.5658E-01	7.5910E-01	1.6977E-01	2.6846E+00	2.9957E+00	3.2287E-01	1.0085E+01	6.3968E-01
13	1.6439E-01	1.3947E+00	2.2873E-01	4.9662E+00	5.5967E+00	4.8520E-01	1.6811E+01	1.0559E+00
14	6.7202E-01	3.0915E+00	4.9453E-01	9.2439E+00	1.0472E+01	1.0856E+00	2.7481E+01	1.6319E+00
15	1.0445E+00	6.5112E+00	7.6071E-01	1.6995E+01	1.8901E+01	1.3990E+00	3.7027E+01	2.8659E+00
16	2.9966E+00	1.0757E+01	1.0698E+00	2.6790E+01	2.8509E+01	6.0578E+00	4.2121E+01	5.6782E+00
17	9.8259E-02	2.9773E+01	1.8550E-02	4.0801E+01	5.5246E+01	1.4727E+01	4.7915E+01	1.1243E+01
18	8.9184E-02	7.2029E+00	2.6803E-02	6.5677E+01	7.4666E+01	5.5491E-01	5.4480E+01	9.5304E+00
19	1.1277E-01	6.6867E+01	3.9138E-02	8.3211E+01	1.8371E+02	1.0214E-01	6.1975E+01	7.6849E-02
20	1.5608E-01	1.8180E+00	5.7846E-02	4.4115E+01	3.3532E+02	1.2082E-01	7.0501E+01	1.1284E-01
21	2.2301E-01	3.9828E+00	8.2078E-02	2.4571E+03	2.7585E+00	1.5780E-01	8.0160E+01	1.6547E-01
22	3.2375E-01	1.9838E+02	1.2418E-01	6.9799E+01	2.5812E+02	2.2872E-01	9.1189E+01	2.4302E-01
23	4.7284E-01	6.3997E+00	1.8161E-01	2.5295E+01	5.9050E+00	3.2885E-01	2.5946E+04	3.5683E-01
24	6.9184E-01	8.4790E+00	2.6496E-01	3.1681E+01	7.2711E+00	4.7600E-01	2.7713E+04	5.2325E-01
25	1.0149E+00	1.2120E+01	3.8555E-01	4.7728E+01	1.2855E+01	6.8998E-01	3.2208E+03	7.6849E-01
RI	5.0000E+00	2.4000E+02	2.9200E+00	2.3000E+03	7.1400E+02	2.0400E+01	4.3980E+04	2.7000E+01
THERM	3.6000E+00	4.2000E+01	1.4000E+00	1.8200E+02	6.8200E+01	2.5000E+00	2.0000E+03	2.7000E+00

Table 2.7.2 Continued

CAPTURE CROSS SECTION OF FISSION PRODUCT NUCLIDES (BARNS)

GROUP	PM149	SM149	ND150	SM150	SM151	EU151	SM152	EU153
1	3.5510E-03	4.5808E-03	4.7632E-03	3.0888E-03	4.6709E-03	1.3367E-02	1.9893E-02	2.7665E-03
2	5.2894E-02	3.7525E-02	3.3978E-02	2.9108E-02	3.5756E-02	1.0204E-01	1.2324E-01	2.5720E-02
3	2.5304E-01	1.2195E-01	7.2210E-02	1.1624E-01	1.3131E-01	2.9008E-01	2.1449E-01	1.2280E-01
4	5.6494E-01	2.5258E-01	6.2402E-02	1.4030E-01	2.5206E-01	4.5515E-01	1.7558E-01	3.1784E-01
5	7.7309E-01	4.0196E-01	5.3022E-02	1.6150E-01	2.9188E-01	5.5246E-01	1.6409E-01	4.4910E-01
6	8.7641E-01	5.3764E-01	5.6366E-02	1.8581E-01	3.1462E-01	6.9010E-01	1.7816E-01	4.7637E-01
7	1.0526E+00	6.3518E-01	6.3053E-02	2.1241E-01	3.9637E-01	9.6065E-01	1.8456E-01	5.3513E-01
8	1.4034E+00	7.7352E-01	1.1592E-01	2.5665E-01	5.8891E-01	1.2581E+00	2.6420E-01	8.6413E-01
9	1.9545E+00	1.0179E+00	1.6388E-01	2.7429E-01	1.0589E+00	1.7346E+00	3.3472E-01	1.5613E+00
10	3.0006E+00	1.6357E+00	2.0466E-01	3.3819E-01	1.7925E+00	2.9877E+00	4.0848E-01	2.5166E+00
11	4.8927E+00	2.9772E+00	2.7757E-01	4.6910E-01	3.1139E+00	5.4406E+00	5.8650E-01	4.3257E+00
12	8.2468E+00	5.3104E+00	3.8203E-01	7.5384E-01	5.8355E+00	9.6085E+00	9.6923E-01	7.6175E+00
13	1.4012E+01	9.5828E+00	4.4595E-01	1.3107E+00	1.1137E+01	1.6741E+01	1.7835E+00	1.1967E+01
14	2.3677E+01	1.7109E+01	1.0938E+00	2.4852E+00	1.9633E+01	2.7929E+01	2.6030E+00	1.9234E+01
15	3.8912E+01	2.9905E+01	1.9872E+00	5.0446E+00	3.3602E+01	4.5568E+01	4.8995E+00	3.1237E+01
16	6.2725E+01	5.1217E+01	3.2608E+00	1.1736E+01	5.6342E+01	7.4216E+01	1.1827E+01	4.3276E+01
17	1.0108E+02	7.5025E+01	2.0843E-02	6.3066E+00	9.2325E+01	1.1676E+02	1.2295E+01	4.9283E+01
18	1.1889E+02	2.5023E+02	1.5505E+01	3.3316E+01	1.4774E+02	1.5830E+02	4.0109E+01	1.2967E+02
19	1.0397E+02	2.6691E+02	3.8703E-02	6.0896E+00	2.3230E+02	2.2793E+02	1.0578E+00	1.0513E+02
20	9.0934E+01	1.2247E+02	5.1669E-02	3.2711E+02	6.5233E+02	2.0864E+02	2.8842E+01	2.4001E+02
21	4.4230E+01	5.7518E+02	7.1698E-02	1.5794E+00	5.3764E+02	2.6894E+02	3.6748E+03	1.9515E+02
22	7.4598E+01	2.1121E+01	1.0736E-01	3.1475E+00	4.6206E+02	6.7254E+02	5.2864E+01	9.6218E+02
23	1.3562E+02	1.6277E+02	1.5640E-01	7.0487E+00	2.2399E+03	3.8214E+02	4.0475E+01	1.1763E+02
24	2.4604E+02	2.9734E+03	2.2790E-01	1.4043E+01	8.4933E+02	2.9778E+03	4.7314E+01	9.0896E+01
25	3.9847E+02	2.1905E+03	3.3129E-01	2.4645E+01	1.1058E+03	9.0977E+03	6.3267E+01	1.3504E+02
RI	9.2700E+02	3.4540E+03	1.6200E+01	3.1000E+02	3.3000E+03	3.2900E+03	3.0000E+03	1.6350E+03
THERM	1.4000E+03	4.1500E+04	1.2000E+00	1.0200E+02	1.5000E+04	9.3700E+03	2.0700E+02	3.9000E+02

GROUP	SM154	EU154	EU155	GD155	EU156	GD158	TB159	PM148M
1	3.0167E-03	1.0540E-02	1.5980E-03	6.3626E-03	1.8810E-03	2.4679E-03	3.9209E-03	4.5076E-03
2	2.6948E-02	4.7902E-03	1.3522E-02	6.8739E-02	1.1957E-03	5.4326E-03	3.7990E-02	4.6117E-02
3	5.8747E-02	2.0605E-02	6.6137E-02	2.3168E-01	1.7678E-04	2.0201E-02	7.3040E-02	2.0616E-01
4	6.1616E-02	5.8010E-02	3.4820E-01	3.4552E-01	2.6146E-04	4.7576E-02	9.0302E-02	4.9459E-01
5	7.1722E-02	1.3538E-01	5.0768E-01	3.7011E-01	6.5533E-04	7.1443E-02	1.1917E-01	7.5916E-01
6	6.5689E-02	3.8037E-01	4.5574E-01	4.5318E-01	2.2987E-03	8.4452E-02	2.1151E-01	9.8229E-01
7	7.3588E-02	9.3862E-01	5.2080E-01	7.1092E-01	6.7579E-03	1.0066E-01	3.3037E-01	1.2313E+00
8	1.0182E-01	1.3715E+00	7.3057E-01	1.0154E+00	1.2034E-02	1.3168E-01	4.5673E-01	1.6328E+00
9	1.5535E-01	1.9419E+00	1.1562E+00	1.6862E+00	2.5941E-02	2.0402E-01	7.0326E-01	2.3692E+00
10	2.4508E-01	2.8880E+00	1.8516E+00	2.9532E+00	6.5662E-02	2.8680E-01	1.1672E+00	3.7214E+00
11	3.5491E-01	4.6253E+00	3.1782E+00	4.7486E+00	1.2081E-01	3.9528E-01	2.0013E+00	6.0626E+00
12	5.1657E-01	8.0853E+00	5.6905E+00	7.7636E+00	1.8426E-01	5.5354E-01	3.7140E+00	1.0086E+01
13	8.1127E-01	1.2783E+01	1.0281E+01	1.2580E+01	3.1257E-01	9.3810E-01	7.0414E+00	1.6812E+01
14	1.4933E+00	2.0919E+01	1.8350E+01	1.9712E+01	5.3003E-01	2.2061E+00	1.3241E+01	2.7481E+01
15	2.3577E+00	3.3531E+01	3.2046E+01	3.0401E+01	8.9715E-01	4.3912E+00	2.4022E+01	4.3981E+01
16	5.0274E+00	5.2845E+01	5.4823E+01	4.7089E+01	1.5219E+00	9.4671E+00	4.2544E+01	6.9563E+01
17	1.4090E-01	8.1885E+01	9.1571E+01	8.6994E+01	2.5807E+00	5.4679E-01	7.5311E+01	1.0999E+02
18	3.8485E+01	1.3246E+02	1.4912E+02	1.1653E+02	4.3682E+00	4.4247E-02	3.8143E+01	1.7272E+02
19	1.7441E-01	2.0003E+02	2.3818E+02	2.0148E+02	7.4100E+00	6.0628E+01	5.8194E+01	2.7048E+02
20	2.3596E-01	2.4852E+02	3.7427E+02	3.1907E+02	4.3630E+02	1.4813E+00	2.0793E+02	4.2343E+02
21	3.2755E-01	2.9766E+02	5.7606E+02	3.4462E+02	4.8000E+02	2.2658E-01	1.1033E+01	6.6697E+02
22	4.9091E-01	9.9051E+01	8.7967E+02	9.2443E+02	4.8000E+02	2.6095E-01	1.0119E+02	1.0595E+03
23	7.1554E-01	1.8264E+03	1.0605E+03	5.8827E+02	4.4766E+02	3.5119E-01	4.7367E+00	1.6827E+03
24	1.0425E+00	3.2182E+02	7.8299E+02	5.6916E+02	9.3771E+01	4.9756E-01	5.5007E+00	2.2232E+02
25	1.5156E+00	1.0322E+02	1.1500E+03	1.2553E+03	1.3759E-01	7.1988E-01	7.5573E+00	5.1721E+03
RI	3.0000E+01	1.2400E+03	3.2180E+03	2.5900E+03	1.2580E+03	6.1000E+01	4.3000E+02	3.6774E+03
THERM	5.5000E+00	1.5000E+03	4.0400E+03	6.1100E+04	4.8100E+02	2.5000E+00	2.5500E+01	1.0616E+04

3. Comparison of Calculated and Measured Decay Powers

Decay powers of fission products were calculated by the DCHAIN[15] code using the JNDC nuclear data library of fission products described in Section 2, the library evaluated by Tasaka[20] and the ENDF/B-IV library for the thermal neutron fission of ^{233}U, ^{235}U, ^{239}Pu and ^{241}Pu, and for the fast neutron fission of ^{235}U. The results are compared with the latest decay power experiments at ORNL[3-6], LANL[7,8] and University of Tokyo [12-14].

3.1 Comparison with ORNL Experiment

Dickens et al.[3-6] at ORNL measured the decay power of fission products for thermal neutron fission of ^{235}U, ^{239}Pu and ^{241}Pu. Samples of mass 1 to 10 μg were irradiated for 1 to 100 s using the fast pneumatic-tube facility at the Oak Ridge Research Reactor. The resulting beta- and gamma-rays emitted by the samples were counted for times-after-fission of 2 to 14000 s. The data were obtained for beta- and gamma-rays separately as spectral distributions, $N(E_\gamma)$ versus E_γ and $N(E_\beta)$ versus E_β. For gamma ray, the spectra were obtained using an NaI detector; and for beta ray, the spectra were obtained using an NE-110 detector with an anticoincidence mantle. The raw data were unfolded to provide spectral distributions with modest resolution. These distributions were integrated over E_γ and E_β to provide total yield and energy integrals as a function of time after fission.

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

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

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

The difference between the estimate and an "exact" value is very small for most measurements since t_{wait} is greater than $(t_{irrad} + t_{count})$. It becomes large for short waiting times compared with the irradiation and counting times and reaches a maximum at t = 2.7 s which are approximately 4% and 2% for ^{239}Pu and ^{241}Pu, respectively, for both beta- and gamma-ray energy-release data. For most of integrals, the uncertainties (1σ) are less than 4%, 4% and 5% for the fissions of ^{235}U, ^{239}Pu and ^{241}Pu, respectively.

Figures 3.1.1 (a) through **3.1.9 (a)** show the comparisons of calculated and measured decay heat powers of beta, gamma, and beta + gamma rays by thermal neutron fissions of ^{235}U, ^{239}Pu and ^{241}Pu. The abscissa is the time t after burst fission and the ordinate is the decay power multipled by the time t . The ratios of the calculated decay powers to the measured ones are also shown in the figures (b) for evaluating easily the percent discrepancies between calculated and measured decay powers.

As seen from these figures the beta decay powers calculated by the present JNDC library agree with the measured results within the accuracy of ± 7% for the fissions of the all three nuclides ^{235}U, ^{239}Pu and ^{241}Pu. The accuracy has been much improved compared to the accuracies of ± 20% and ± 28% attained by the Tasaka library and the ENDF/B-IV library,

respectively. There are systematic deviations of calculations by the latter two libraries from the measured results; the calculated beta decay powers are smaller than the experimental results for the cooling times of 20 to 10^3 s. The improvement of accuracy by the present JNDC library is small for the cooling times greater than 10^3 s.

As for the gamma decay power, the calculated results by the JNDC library agree better with the measurements for the cooling times up to 100 s than the results by the ENDF/B-IV library. Discrepancies between the results by the JNDC library and the Tasaka library are rather small for the cooling times less than 100 s. Between 100 and 10^3 s after irradiation the present results are close to the results by the other two libraries. The discrepancies between the measured decay powers and the calculated results by the JNDC library and the Tasaka library are less than 15% for the cooling times less than 10^3 s, whereas the discrepancies increase rapidly at short cooling times for the ENDF/B-IV library. The maximum discrepancy is greater than |−30%| for the ENDF/B-IV library. The present results are larger than the results by the other two libraries by 13% for the cooling times greater than 10^3 s. The differences between the calculated gamma decay powers by the Tasaka library and the ENDF/B-IV library are small for the cooling times greater than 100 s. The discrepancies between the present calculation by the JNDC library and the measured results become prominent for the thermal neutron fission of ^{235}U of 10^3 to 10^4 s. The maximum discrepancy is +28% at 3000 s after burst fission.

The total decay power or the beta plus gamma decay power calculated by the JNDC library agrees very well with the measured decay power within in accuracy of ± 7% except for the thermal neutron fission of ^{235}U for the cooling times of 10^3 to 10^4 s where the maximum discrepancy is +13% due to the discrepancy of gamma decay power. The improvement of accuracy by the present JNDC library is notable for the cooling times of less than 10^3 s where the maximum discrepancies are 11% and 28% for the Tasaka library and the ENDF/B-IV library, respectively.

It is clear from the above discussion that the accuracy of the decay power calculation has been improved considerably by the present JNDC library for the cooling times less than 10^3 s. The discrepancy between the calculated and measured gamma decay powers by the thermal neutron fission of ^{235}U for cooling times of 10^3 to 10^4 s should be improved in future work.

3.2 Comparison with LANL Experiment

Yarnell et al.[7,8] at LANL measured the decay power of fission products for thermal neutron fission of ^{235}U, ^{233}U, and ^{239}Pu by a fast-response cryogenic boil-off calorimeter. The measurement were done for cooling times of 20 to 10^5 s after a 2×10^4 s irradiation at a constant thermal neutron flux. Foil samples of 60 to 87 mg were irradiated in a thermal-neutron flux of 3×10^{13} n/cm^2·s in the 125-mm-diameter port of the 8 MW OWR (Los Alamos Omega Water Reactor). During irradiation, the samples is encased in the darts. At the end of the irradiation, each dart was blown into the release chamber, where the outer sleeve of the dart was stripped away, and the sample was freed to fall into the calorimeter. The copper block of the calorimeter absorbs the radiation energy emitted by the sample and evaporated liquid helium from the reservoir in the top of the block. The boil-off helium gas was measured by a flowmeter of the hot-film anemometer type and the decay power of fission products was obtained from the helium flow rate. The time constant of the calorimeter was 0.9 s. The experimental uncertainty (1σ) is ~2% for ^{235}U, ~5% for ^{233}U, and 3 ~ 4% for ^{239}Pu.

The calculated decay powers of fission products by the JNDC library, the Tasaka library

and the ENDF/B-IV library are compared with the measurement in **Figs. 3.2.1** through **3.2.3** for the thermal neutron fission of ^{235}U, ^{233}U and ^{239}Pu. The ratios of the calculated values to the measured results are also shown in the figures.

It is seen in these figures that the improvement of accuracy by the present library is small at the short cooling times less than 100 s after the finite irradiation of 2×10^4 s (~5.6 h).

At cooling times greater than 100 s, the calculations by the present library are greater than those by the other two libraries. This is because of the over prediction of gamma decay power for 10^3 to 10^4 s after burst fission as discussed in Section 3.1. The calculated decay powers by JNDC library agree with experimental results within the discrepancies of +10, −6% for ^{235}U, +6, −4% for ^{233}U, and +0, −10% for ^{239}Pu. The discrepancies between calculations and measurements are larger for ^{235}U and smaller for ^{239}Pu in the JNDC library than in the other two libraries. Accuracies of both calculations and measurements should be examined. For calculations the over-estimation of decay power at cooling time of 10^3 to 10^5 s should be checked out, and for measurements the accuracies at short cooling times less than 100 s and the normalization factor for fission rate should be checked out.

3.3 Comparison with UTT Experiment

Akiyama et al.[12-14] measured the decay power of fission products for fast neutron fission of ^{235}U. Samples of 1.6 mg were irradiated for 10 to 300 s in the core of the fast neutron source reactor YAYOI of the University of Tokyo. The beta- and gamma-rays emitted from the sample were measured for times-after-fission of 11 to 26000 s. The data were obtained for beta- and gamma-rays separately as the spectral distributions. For beta ray, the spectra were obtained by using a plastic scintillation detector combined with a transmission type proportional counter to eliminate gamma-ray effects; and for the gamma-ray data, the spectra were obtained by using a NaI(Tl) scintillation detector. These spectra were integrated over beta and gamma energy to provide total yield and energy integrals as a function of time after fission pulse in the range of 19 to 24000 s. The uncertainties (1σ) are estimated to be 5% for both beta and gamma decay powers.

The measured decay powers are compared with the computational results using the nuclear data libraries of JNDC, Tasaka and ENDF/B-IV in **Figs. 3.3.1** through **3.3.3**. The ratios of the calculated decay powers to the measured ones are also given in the figures.

It is seen in the figures that the calculated decay powers, especially beta decay powers by the present JNDC library are in much better agreement with the measured ones than the calculation by the other two libraries of Tasaka and ENDF/B-IV at cooling times less than 10^3 s.

At cooling times greater than 4000 s calculation by the JNDC library underestimates the beta decay powers by about 9%, whereas the other two libraries do so by 5%. For cooling times greater than 10^3 s the JNDC library overestimates the gamma decay powers and the total decay powers by about 19% and 6%, respectively. This trend is the same as that of the discrepancies between the calculated decay powers and the experimental data of ^{235}U at ORNL described in Sec. 3.1. Thus, the present JNDC library overstimates the gamma decay power and underestimates the beta decay power compared with the measured data for cooling times greater than 10^3 s. These discrepancies should be resolved in future work.

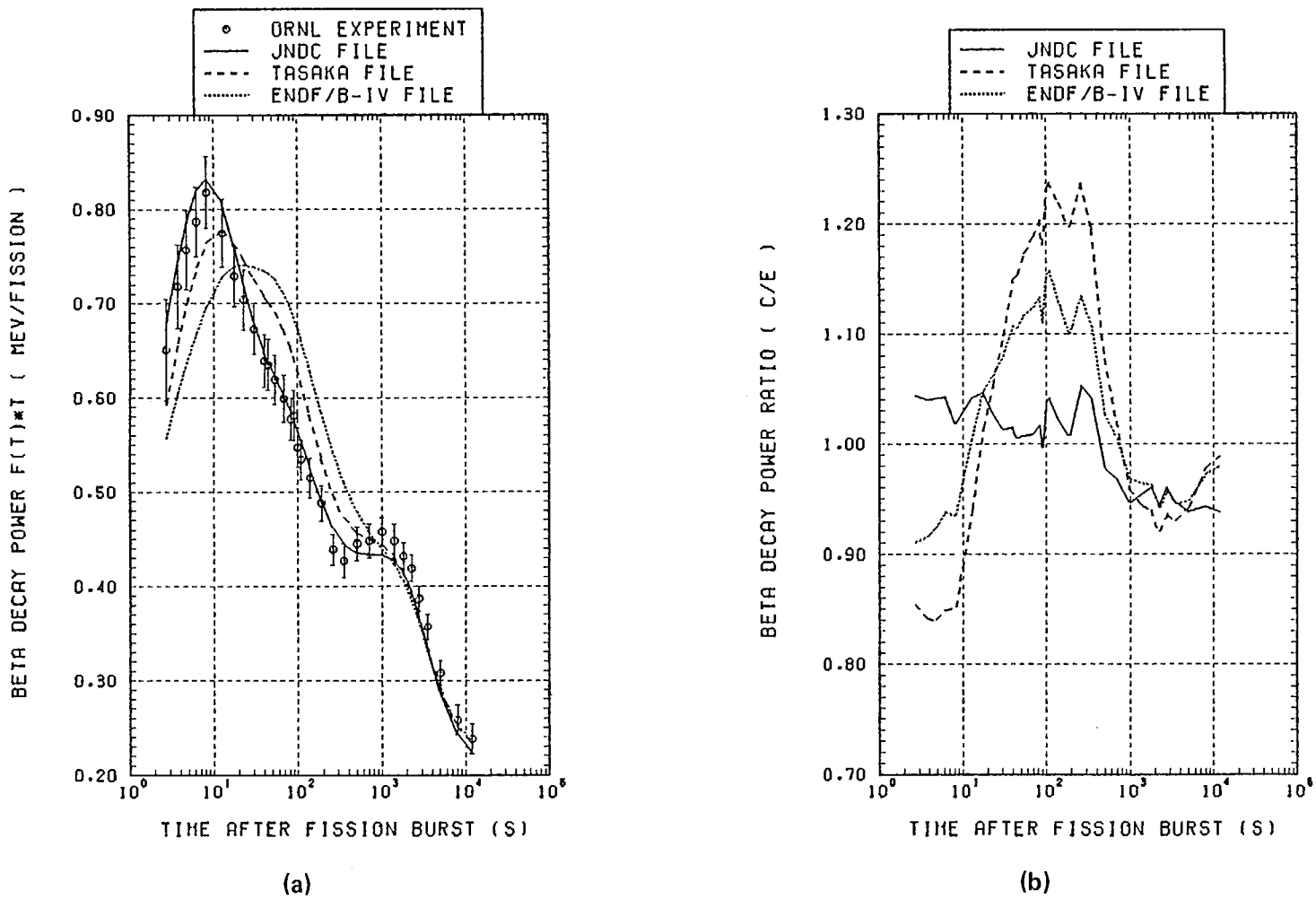


Fig. 3.1.1 Comparison of calculated beta decay power with measured results at ORNL for the thermal neutron fission of ^{235}U.
(a) Beta decay power X time
(b) Ratio of calculated to measured beta decay powers

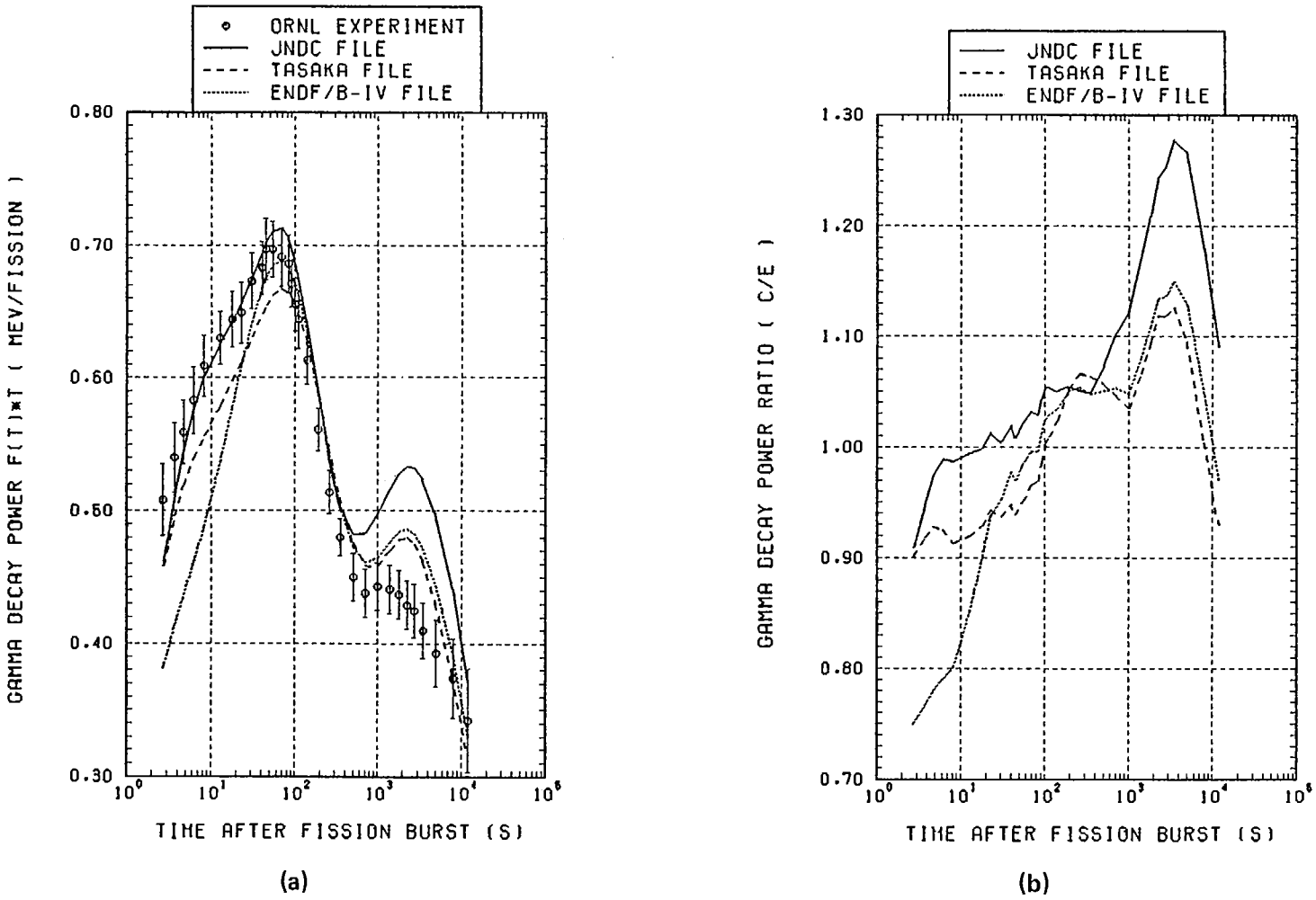


Fig. 3.1.2 Comparison of calculated gamma decay power with measured results at ORNL for the thermal neutron fission of ^{235}U.
(a) Gamma decay power X time
(b) Ratio of calculated to measured gamma decay powers

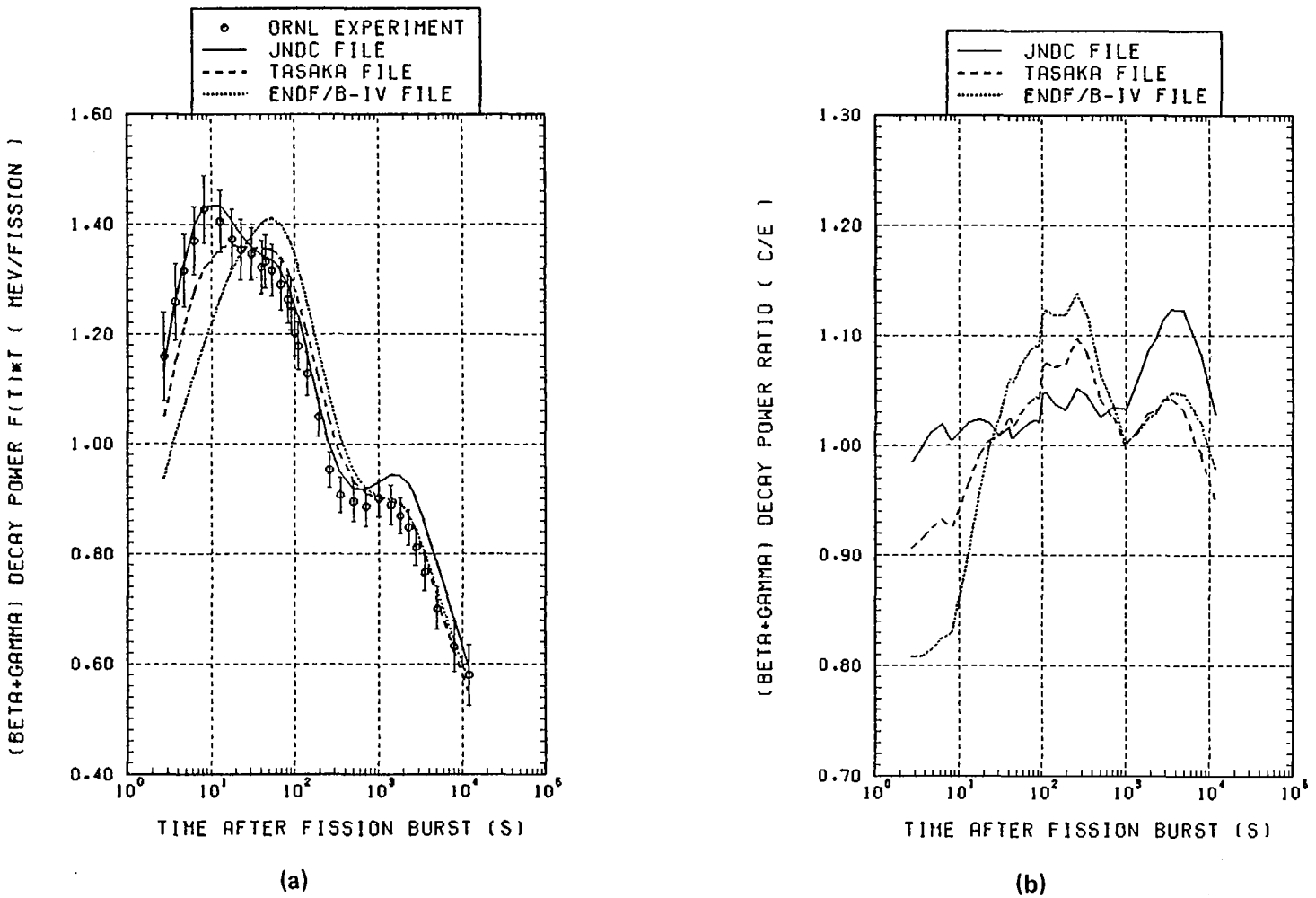


Fig. 3.1.3 Comparison of calculated total sensible decay power with measured results at ORNL for the thermal neutron fission of ^{235}U.
(a) Total sensible decay power X time
(b) Ratio of calculated to measured total sensible decay powers

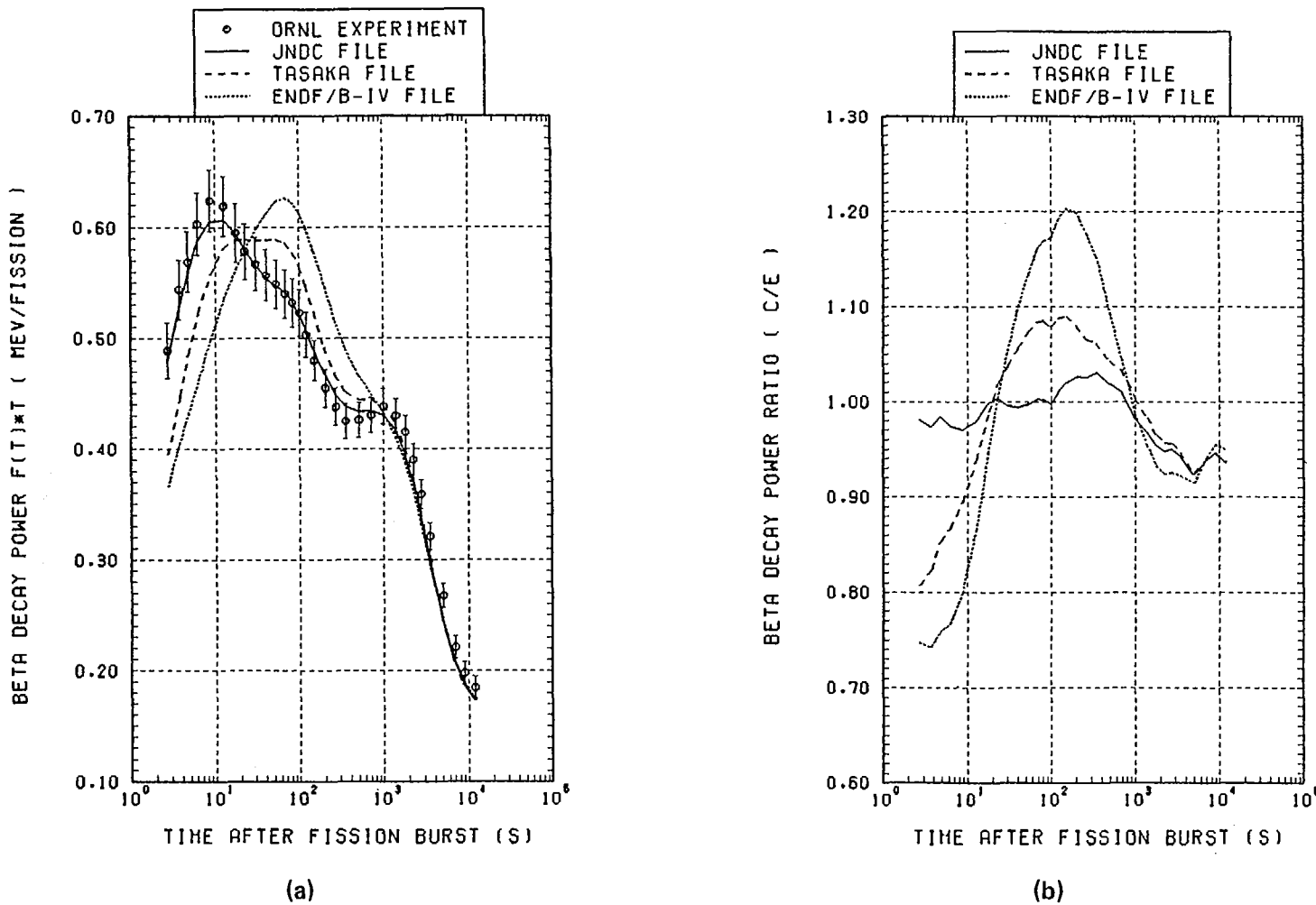


Fig. 3.1.4 Comparison of calculated beta decay power with measured results at ORNL for the thermal neutron fission of ^{239}Pu.
(a) Beta decay power × time
(b) Ratio of calculated to measured beta decay powers

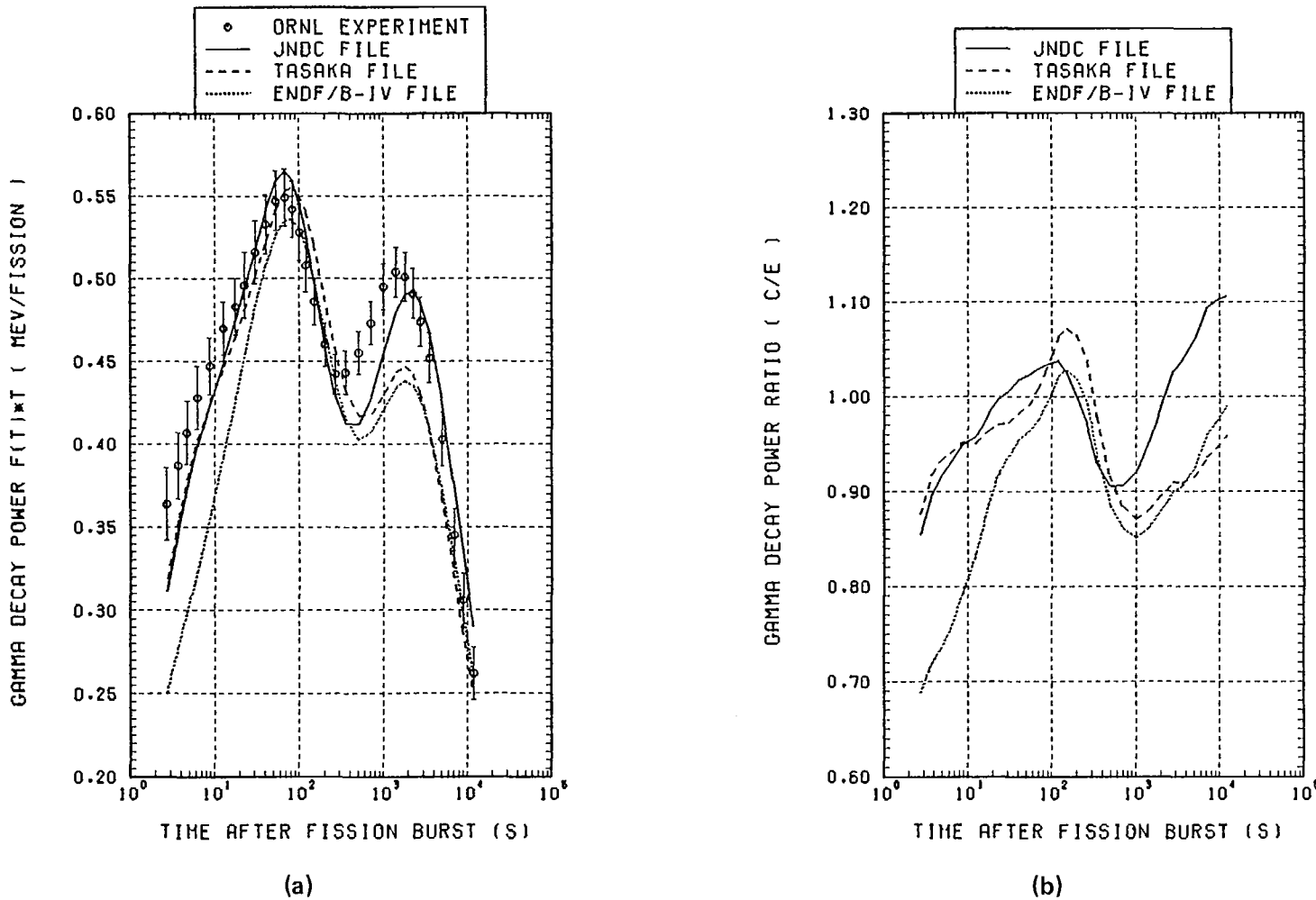


Fig. 3.1.5 Comparison of calculated gamma decay power with measured results at ORNL for the thermal neutron fission of ^{239}Pu.
(a) Gamma decay power X time
(b) Ratio of calculated to measured gamma decay powers

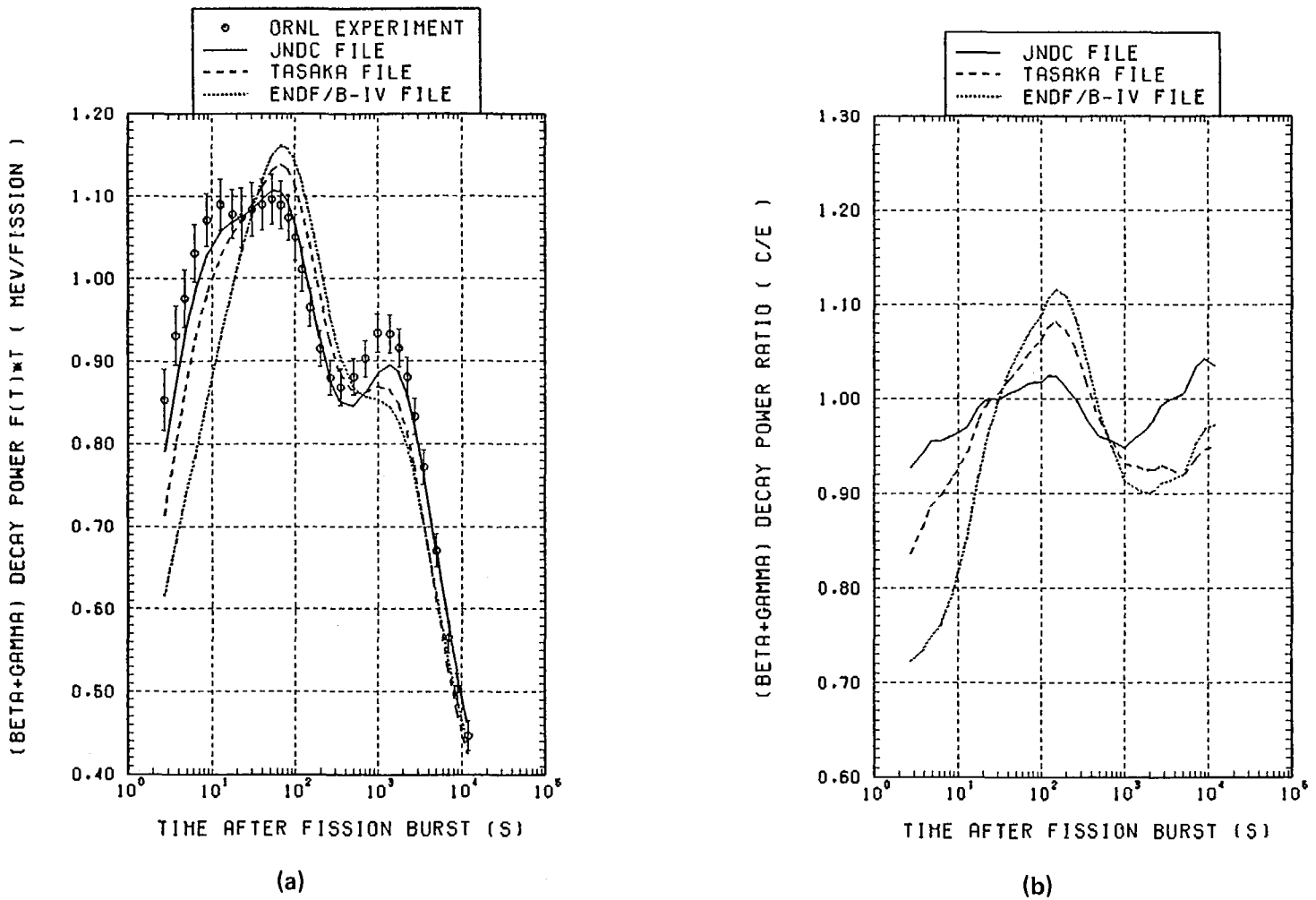


Fig. 3.1.6 Comparison of calculated total sensible decay power with measured results at ORNL for the thermal neutron fission of ^{239}Pu.
(a) Total sensible decay power X time
(b) Ratio of calculated to measured total sensible decay powers

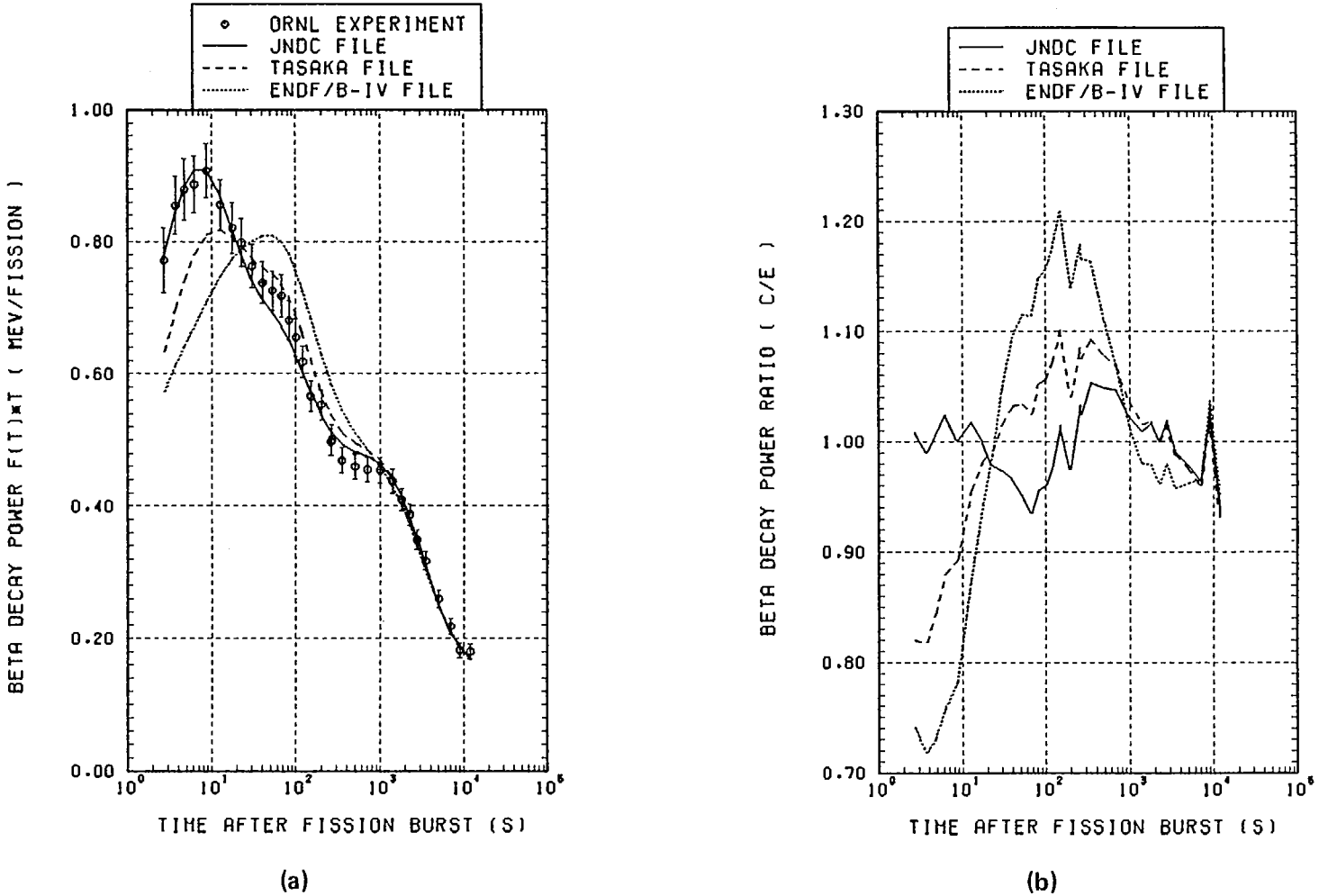


Fig. 3.1.7 Comparison of calculated beta decay power with measured results at ORNL for the thermal neutron fission of ^{241}Pu.
(a) Beta decay power X time
(b) Ratio of calculated to measured beta decay powers

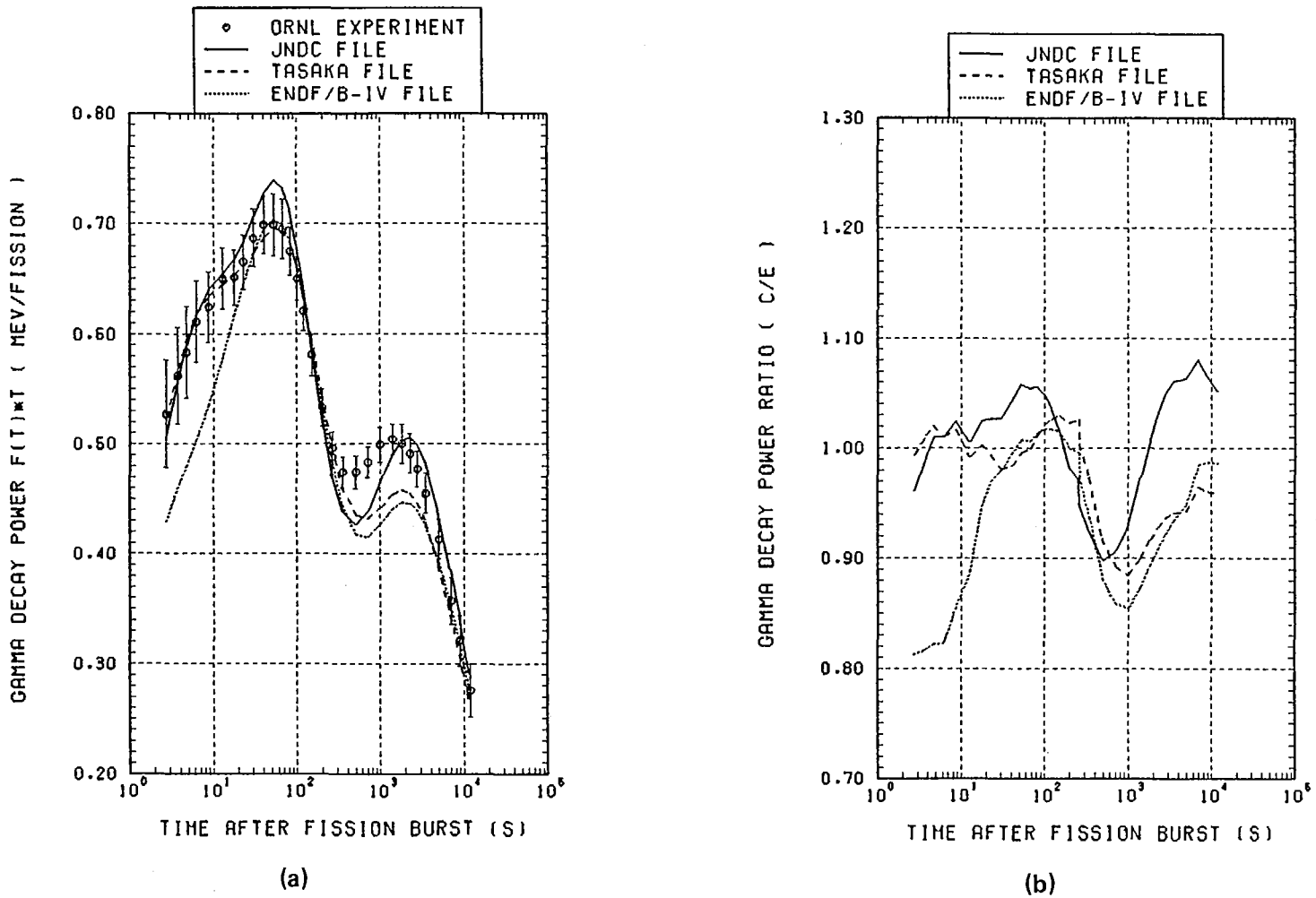


Fig. 3.1.8 Comparison of calculated gamma decay power with measured results at ORNL for the thermal neutron fission of ^{241}Pu.
(a) Gamma decay power X time
(b) Ratio of calculated to measured gamma decay powers

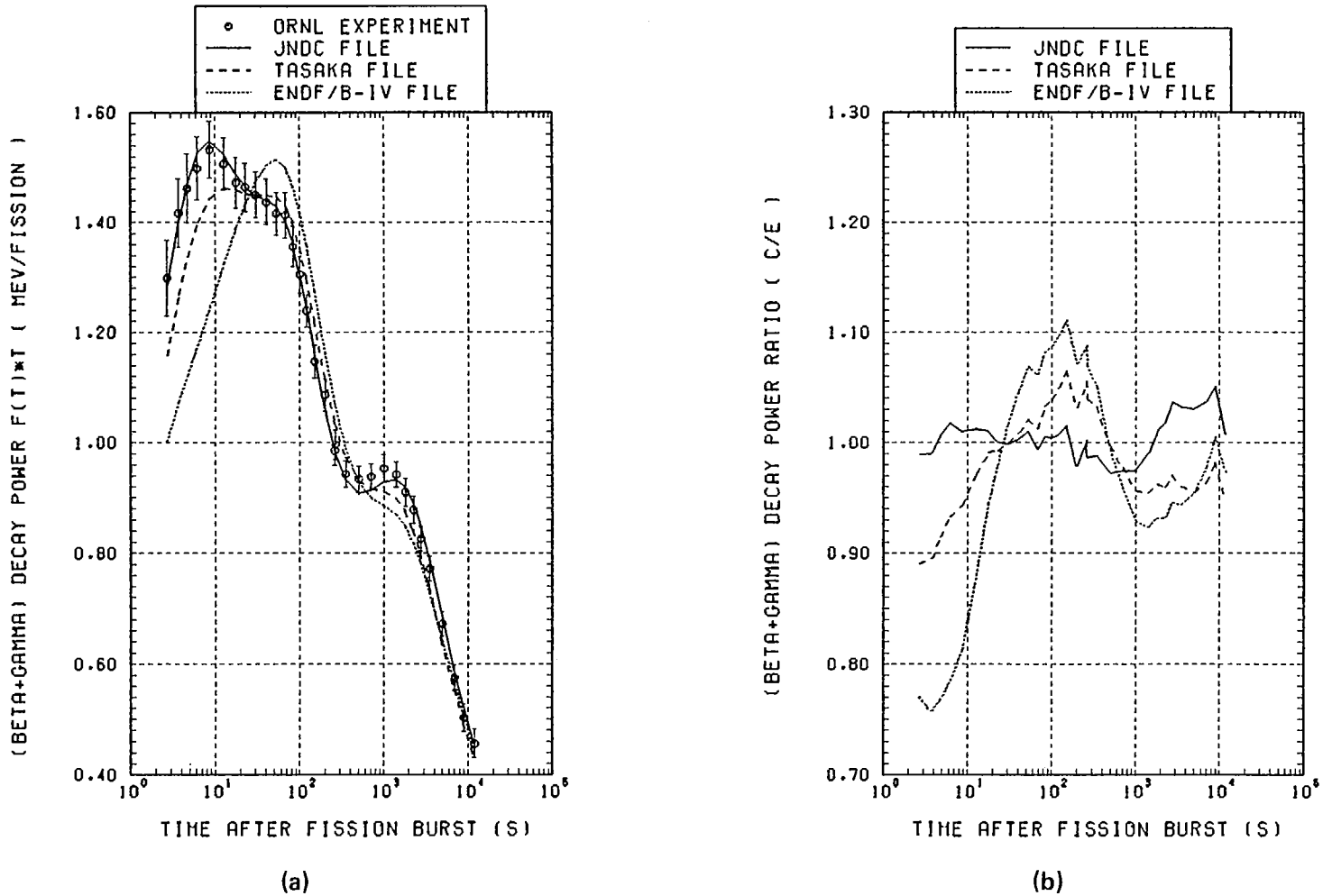


Fig. 3.1.9 Comparison of calculated total sensible decay power with measured results at ORNL for the thermal neutron fission of ^{241}Pu.
(a) Total sensible decay power X time
(b) Ratio of calculated to measured total sensible decay powers

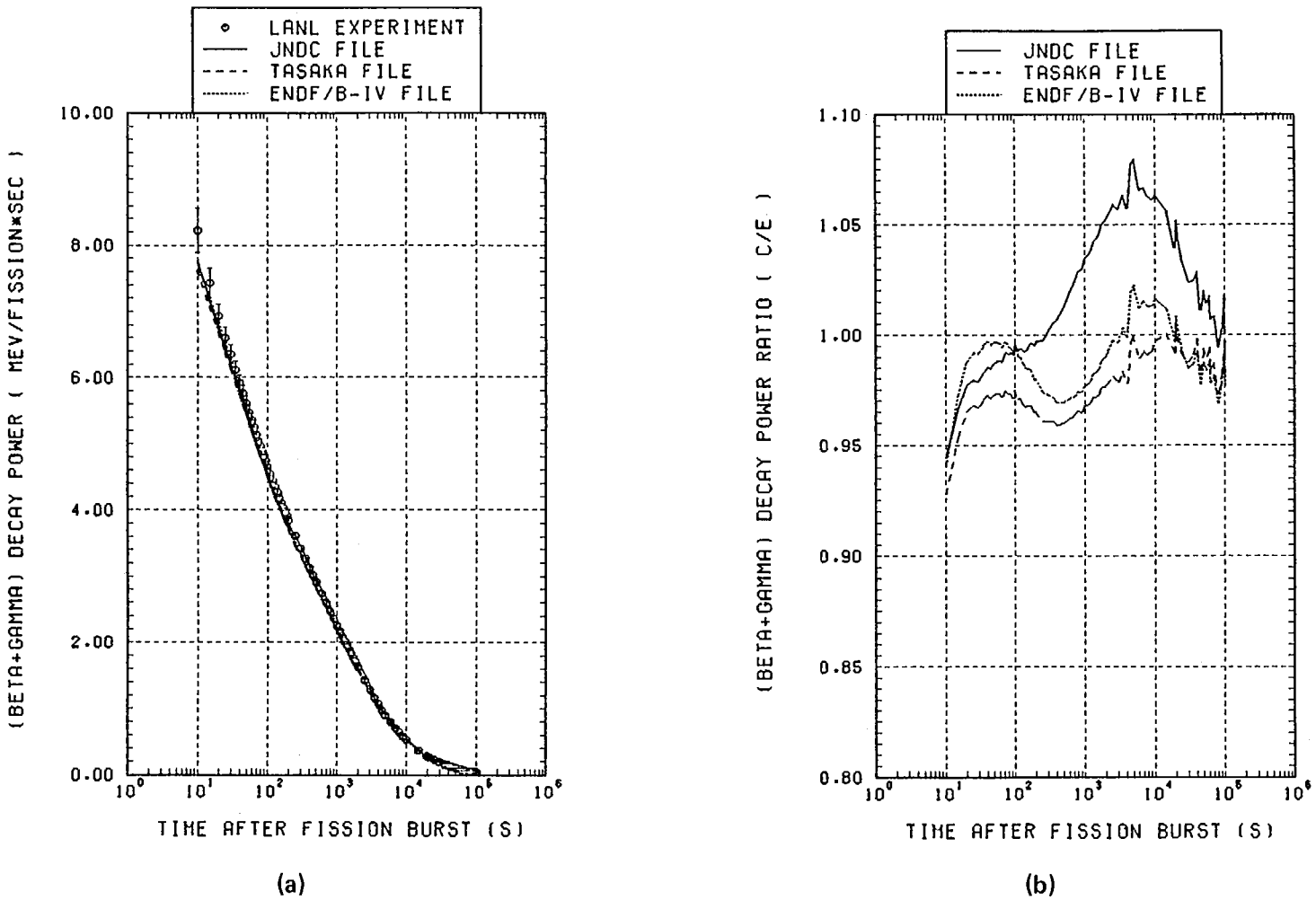


Fig. 3.2.1 Comparison of calculated decay power of fission products with measured results at LANL for the thermal neutron fission of ^{235}U irradiated for 2×10^4 s.
(a) Absolute value comparison
(b) Ratio of calculated to measured decay powers

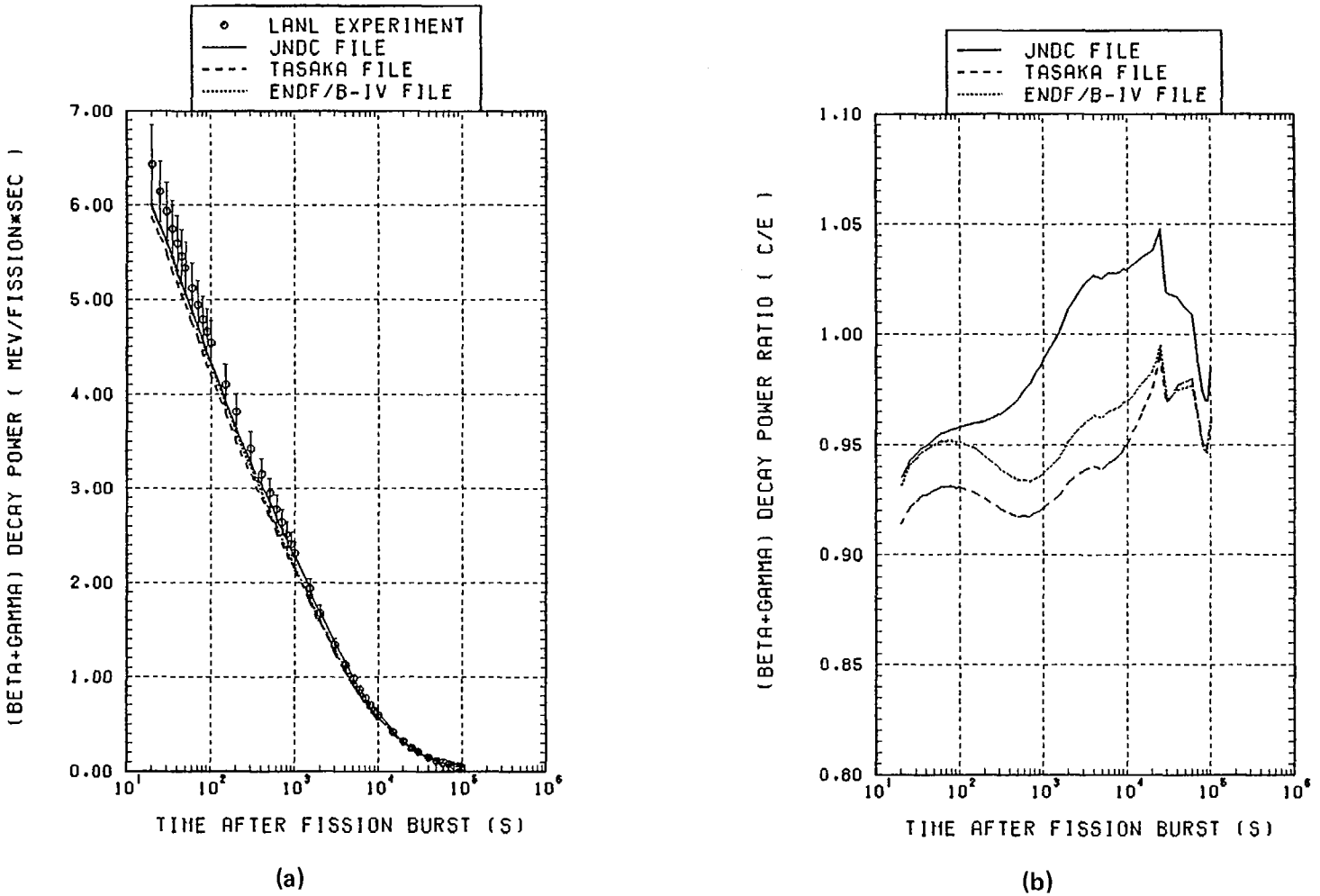


Fig. 3.2.2 Comparison of calculated decay power of fission products with measured results at LANL for the thermal neutron fission of ^{233}U irradiated for 2×10^4 s.
(a) Absolute value comparison
(b) Ratio of calculated to measured decay powers

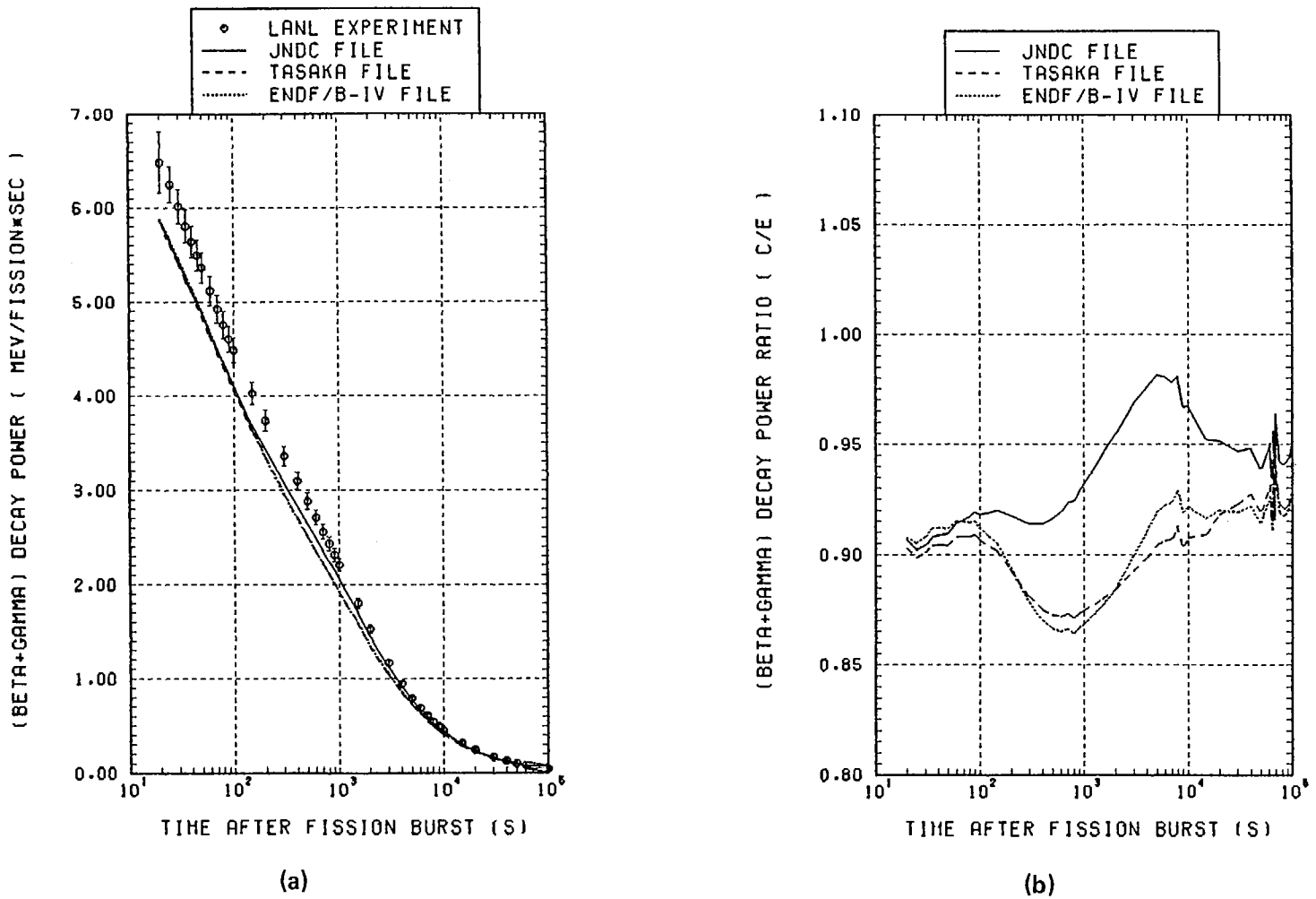


Fig. 3.2.3 Comparison of calculated decay power of fission products with measured results at LANL for the thermal neutron fission of ^{239}Pu irradiated for 2×10^4 s.
(a) Absolute value comparison
(b) Ratio of calculated to measured decay powers

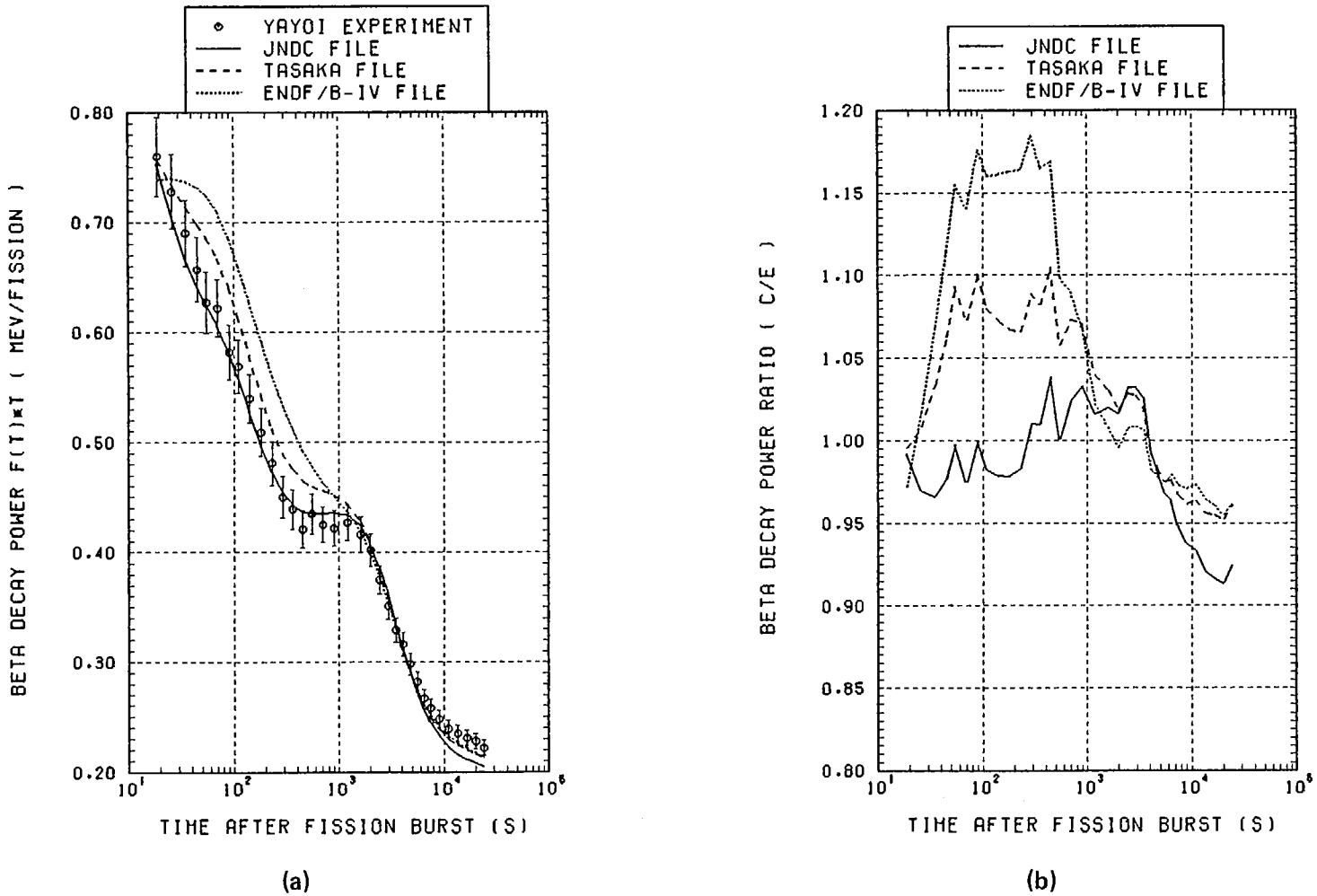


Fig. 3.3.1 Comparison of calculated beta decay power to measured results at University of Tokyo for the burst fission of ^{235}U by fast neutrons.
(a) Beta decay power X time
(b) Ratio of calculated to measured beta decay powers

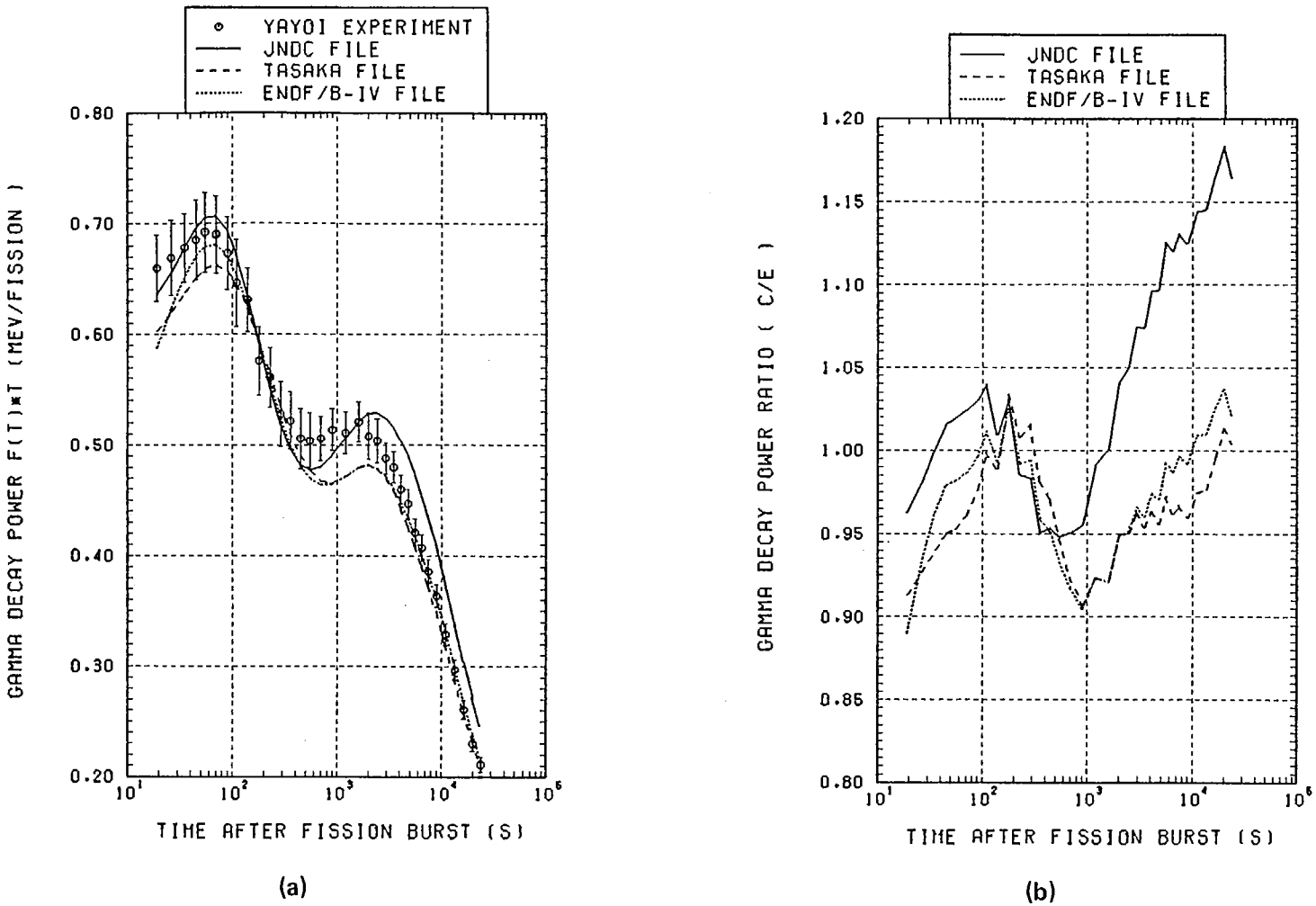
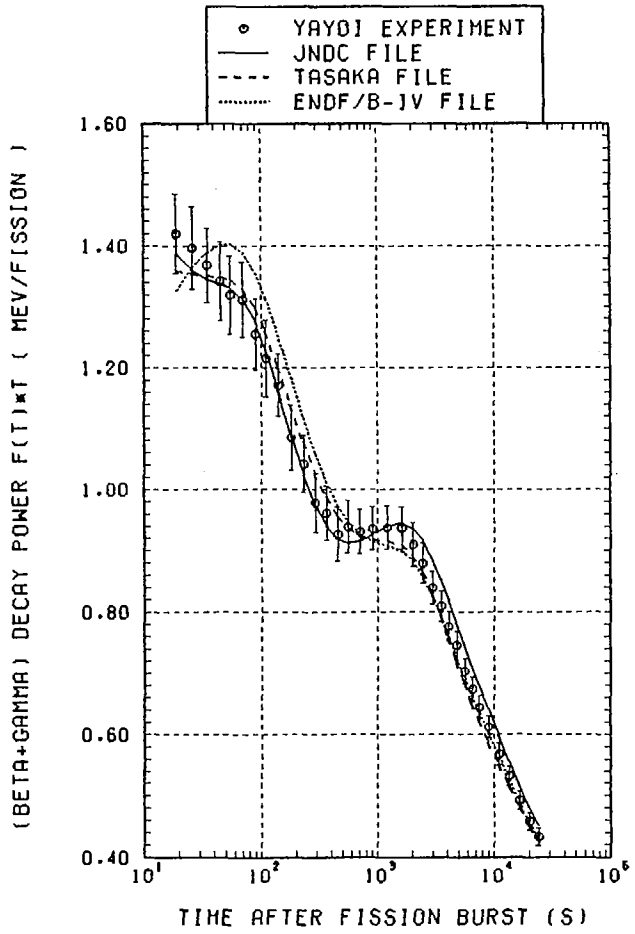
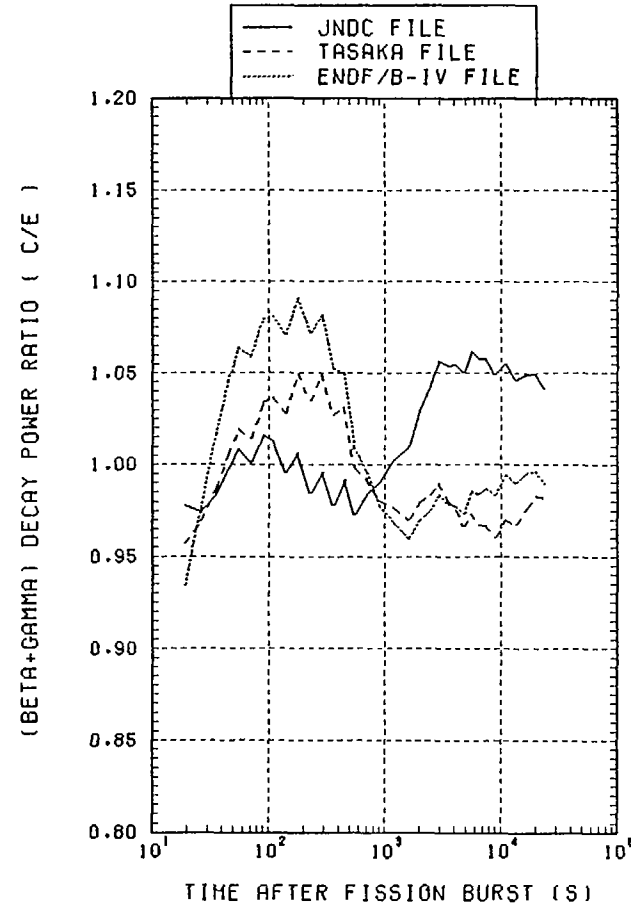


Fig. 3.3.2 Comparison of calculated gamma decay power to measured results at University of Tokyo for the burst fission of ^{235}U by fast neutrons.
(a) Gamma decay power X time
(b) Ratio of calculated to measured gamma decay powers



(a)



(b)

Fig. 3.3.3 Comparison of calculated total sensible decay power to measured results at University of Tokyo for the burst fission of ^{235}U by fast neutrons.
(a) Total sensible decay power X time
(b) Ratio of calculated to measured total sensible decay powers

4. Calculation of Decay Power of Fission Products

The decay power of fission products has been calculated by the DCHAIN code using the JNDC nuclear data library described in Sec. 2 for the instantaneous fission pulse, a year's irradiation and the infinite irradiation. A year's irradiation is considered to be a typical irradiation time in a light water reactor operation. Thermal neutron fission of ^{235}U, ^{239}Pu, ^{241}Pu, ^{233}U, fast neutron fission of ^{235}U, ^{238}U, ^{239}Pu, ^{232}Th, and 14 MeV neutron fission of ^{235}U, ^{238}U were considered in the analysis. Neutron capture transformations of fission products during operation were neglected in the calculation. The cooling time after irradiation ranged from 0 to 10^{13} s.

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

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

4.1 Tables of Calculated Results

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

Methods are given subsequently for obtaining the decay power $P(t, T)$ for an arbitrary reactor power history without neutron capture by fission products. Neutron capture in fission products has only a small effect upon the decay power for the cooling time less than 10^3 s[59]. However, the direct summation calculation is necessary for the accurate evaluation of the decay power, especially for long cooling times after long-term and high-neutron flux irradiation.

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

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

where

t = cooling time after irradiation (s)

T = total irradiation time (s)

P_0 = reactor power (MeV/s)

Q = fission energy (MeV/fission)

$f(t)$ = decay power after one fission [(MeV/s)/fission].

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

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

where

P_0^m = reactor power for time interval m

t_m = t (for m=1)

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

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

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

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

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

4.2 Fitting of Calculated Results

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

$$f(t)=\sum_{i=1}^{31} \alpha_i e^{-\lambda_i t}, \tag{4.2.1}$$

where α_i and λ_i are fitting parameters. The exponential representation of decay power is very convenient because the decay power can be integrated analytically. The integrated decay power $P(t, T)$ following an irradiation of T at a constant fission rate of one fission per second, is given by

$$P(t, T)=\sum_{i=1}^{31} \frac{\alpha_i}{\lambda_i} e^{-\lambda_i t}(1-e^{-\lambda_i T}). \tag{4.2.2}$$

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

$$P(t, \infty)=\sum_{i=1}^{31} \frac{\alpha_i}{\lambda_i} e^{-\lambda_i t}. \tag{4.2.3}$$

The parameters obtained for the ten fission types are summarized in **Tables 4.2.1** and **4.2.2**. **Table 4.2.1** gives the parameters for the beta, gamma, and beta+gamma decay powers and **Table 4.2.2** the parameters of beta+gamma decay power for the ten types of fissions.

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

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

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

powers.

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

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

The fitting errors are shown in **Tables 4.2.3** through **4.2.11** and **Figs. 4.2.1** through **4.2.27**. The fitting errors for the burst fission are given in **Table 4.2.3** for beta+gamma decay power, in **Table 4.2.4** for beta decay power and in **Table 4.2.5** for gamma decay power. The results for a year's irradiation are given in **Tables 4.2.6** through **4.2.8** and those for the infinite irradiation are given in **Tables 4.2.9** through **4.2.11**. The fitting errors for the burst fission of ^{235}U by thermal neutrons are shown in **Fig. 4.2.1** for beta+gamma decay power, in **Fig. 4.2.2** for beta-decay power, and in **Fig. 4.2.3** for gamma decay power. The results for fast fission of ^{238}U and thermal fission of ^{239}Pu are shown in **Figs. 4.2.4** through **4.2.6** and **Figs. 4.2.7** through **4.2.9**, respectively. The results for a year's irradiation are shown in **Figs. 4.2.10** through **4.2.18**, and those for the infinite irradiation in **Figs. 4.2.19** through **4.2.27**.

It is seen from these tables and figures that the fitting errors are very small. The fitting errors are especially small (± 0.03%) for the cooling times less than 10^6 s after a year's irradiation for the beta+gamma decay power for thermal fission of ^{235}U. The error increases to ± 0.3% as the wider cooling time ranges up to 10^{10} s. The fitting errors are of the same order of magnitude for fast fission of ^{238}U and thermal fission of ^{239}Pu. The fitting error decreases with irradiation time; ± 0.5% for burst fission, ± 0.3% for a year's irradiation, and ± 0.1% for infinite (10^{13} s) irradiation for the above three types of fission. The maximum fitting error for beta+gamma decay power is −0.6% at 2×10^7 s after burst fission of ^{233}U by thermal neutron among the ten fission types.

Table 4.1.1 Calculated decay powers of fission products after one fission

(a) Beta decay power (MeV/s·fission)

TC(SEC)	U235(T)	U235(F)	U235(H)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU241(T)	U233(T)	TH232(F)
0.0	7.7914E-01	8.3092E-01	5.4158E-01	1.5058E+00	1.3113E+00	4.8594E-01	5.2374E-01	8.7745E-01	3.6052E-01	1.3135E+00
1.00E+00	4.3317E-01	4.5674E-01	3.2611E-01	7.7026E-01	6.6216E-01	3.0212E-01	3.2141E-01	5.0493E-01	2.2837E-01	6.5936E-01
1.50E+00	3.5807E-01	3.7474E-01	2.7249E-01	6.2299E-01	5.3139E-01	2.5378E-01	2.6859E-01	4.1710E-01	1.9408E-01	5.3120E-01
2.00E+00	3.0565E-01	3.1777E-01	2.3374E-01	5.2144E-01	4.4262E-01	2.1849E-01	2.3018E-01	3.5455E-01	1.6895E-01	4.4407E-01
3.00E+00	2.3636E-01	2.4317E-01	1.8110E-01	3.8923E-01	3.2931E-01	1.7032E-01	1.7817E-01	2.7110E-01	1.3432E-01	3.3165E-01
4.00E+00	1.9199E-01	1.9605E-01	1.4678E-01	3.0671E-01	2.5978E-01	1.3887E-01	1.4458E-01	2.1781E-01	1.1137E-01	2.6191E-01
5.00E+00	1.6078E-01	1.6329E-01	1.2255E-01	2.5026E-01	2.1260E-01	1.1669E-01	1.2108E-01	1.8068E-01	9.4919E-02	2.1455E-01
6.00E+00	1.3747E-01	1.3908E-01	1.0454E-01	2.0916E-01	1.7838E-01	1.0019E-01	1.0368E-01	1.5325E-01	8.2496E-02	1.8048E-01
8.00E+00	1.0488E-01	1.0563E-01	7.9593E-02	1.5348E-01	1.3204E-01	7.7298E-02	7.9631E-02	1.1548E-01	6.4918E-02	1.3515E-01
1.00E+01	8.3322E-02	8.3745E-02	6.3272E-02	1.1797E-01	1.0237E-01	6.2246E-02	6.3850E-02	9.0938E-02	5.3069E-02	1.0671E-01
1.50E+01	5.2696E-02	5.2913E-02	4.0254E-02	7.0107E-02	6.1821E-02	4.0746E-02	4.1377E-02	5.6913E-02	3.5603E-02	6.8041E-02
2.00E+01	3.7266E-02	3.7431E-02	2.8691E-02	4.7631E-02	4.2364E-02	2.9663E-02	2.9883E-02	4.0235E-02	2.6295E-02	4.8846E-02
3.00E+01	2.2725E-02	2.2844E-02	1.7860E-02	2.7815E-02	2.4956E-02	1.8884E-02	1.8851E-02	2.4770E-02	1.7023E-02	3.0475E-02
4.00E+01	1.6174E-02	1.6274E-02	1.3002E-02	1.9387E-02	1.7518E-02	1.3849E-02	1.3776E-02	1.7788E-02	1.2599E-02	2.1926E-02
5.00E+01	1.2534E-02	1.2619E-02	1.0276E-02	1.4855E-02	1.3506E-02	1.0965E-02	1.0896E-02	1.3858E-02	1.0024E-02	1.7016E-02
6.00E+01	1.0204E-02	1.0275E-02	8.5002E-03	1.2016E-02	1.0978E-02	9.0704E-03	9.0131E-03	1.1312E-02	8.3122E-03	1.3795E-02
8.00E+01	7.3468E-03	7.3928E-03	6.2678E-03	8.5947E-03	7.9009E-03	6.6780E-03	6.6394E-03	8.1554E-03	6.1313E-03	9.7817E-03
1.00E+02	5.6454E-03	5.6739E-03	4.9000E-03	6.5807E-03	6.0703E-03	5.2117E-03	5.1833E-03	6.2645E-03	4.7889E-03	7.3879E-03
1.50E+02	3.4380E-03	3.4466E-03	3.0620E-03	3.9775E-03	3.6848E-03	3.2590E-03	3.2382E-03	3.8142E-03	2.9960E-03	4.3104E-03
2.00E+02	2.4147E-03	2.4169E-03	2.1729E-03	2.7666E-03	2.5691E-03	2.3299E-03	2.3114E-03	2.6830E-03	2.1417E-03	2.9037E-03
3.00E+02	1.4977E-03	1.4969E-03	1.3503E-03	1.6692E-03	1.5626E-03	1.4753E-03	1.4631E-03	1.6681E-03	1.3594E-03	1.6809E-03
4.00E+02	1.0912E-03	1.0906E-03	9.7959E-04	1.1872E-03	1.1179E-03	1.0861E-03	1.0802E-03	1.2146E-03	1.0036E-03	1.1694E-03
5.00E+02	8.6406E-04	8.6417E-04	7.7186E-04	9.2470E-04	8.7284E-04	8.6519E-04	8.6392E-04	9.5920E-04	8.0005E-04	8.9762E-04
6.00E+02	7.1795E-04	7.1883E-04	6.3833E-04	7.6053E-04	7.1765E-04	7.2133E-04	7.2310E-04	7.9361E-04	6.6673E-04	7.2942E-04
8.00E+02	5.3822E-04	5.3995E-04	4.7439E-04	5.6387E-04	5.2999E-04	5.4084E-04	5.4557E-04	5.8735E-04	5.0044E-04	5.3167E-04
1.00E+03	4.2999E-04	4.3188E-04	3.7626E-04	4.4727E-04	4.1874E-04	4.2932E-04	4.3481E-04	4.6139E-04	3.9989E-04	4.1937E-04
1.50E+03	2.8104E-04	2.8232E-04	2.4336E-04	2.8754E-04	2.6840E-04	2.7344E-04	2.7799E-04	2.8884E-04	2.6247E-04	2.7550E-04
2.00E+03	2.0169E-04	2.0231E-04	1.7426E-04	2.0311E-04	1.9039E-04	1.9156E-04	1.9467E-04	2.0053E-04	1.8993E-04	2.0264E-04
3.00E+03	1.1886E-04	1.1874E-04	1.0325E-04	1.1645E-04	1.1076E-04	1.0876E-04	1.1000E-04	1.1286E-04	1.1416E-04	1.2613E-04
4.00E+03	7.8910E-05	7.8496E-05	6.9080E-05	7.5540E-05	7.2782E-05	6.9998E-05	7.0355E-05	7.2166E-05	7.7271E-05	8.7640E-05
5.00E+03	5.7138E-05	5.6622E-05	5.0356E-05	5.3630E-05	5.2122E-05	4.9297E-05	4.9255E-05	5.0465E-05	5.6960E-05	6.5640E-05
6.00E+03	4.4134E-05	4.3600E-05	3.9116E-05	4.0746E-05	3.9792E-05	3.7165E-05	3.6950E-05	3.7752E-05	4.4709E-05	5.1912E-05
8.00E+03	3.0018E-05	2.9537E-05	2.6888E-05	2.7051E-05	2.6481E-05	2.4358E-05	2.4064E-05	2.4348E-05	3.1232E-05	3.6267E-05
1.00E+04	2.2750E-05	2.2348E-05	2.0617E-05	2.0197E-05	1.9739E-05	1.8030E-05	1.7767E-05	1.7754E-05	2.4154E-05	2.7830E-05
2.00E+04	1.0424E-05	1.0246E-05	9.9613E-06	9.0601E-06	8.8278E-06	7.9789E-06	7.8925E-06	7.4989E-06	1.1502E-05	1.2724E-05
5.00E+04	3.6029E-06	3.5357E-06	3.4753E-06	3.2114E-06	3.1479E-06	2.8790E-06	2.8508E-06	2.6900E-06	3.7883E-06	3.8804E-06
1.00E+05	1.2564E-06	1.2361E-06	1.2107E-06	1.1734E-06	1.1845E-06	1.1198E-06	1.1034E-06	1.0747E-06	1.2441E-06	1.1724E-06
2.00E+05	4.0929E-07	4.0628E-07	4.0938E-07	4.0370E-07	4.2142E-07	4.0681E-07	4.0008E-07	3.9504E-07	3.9840E-07	3.4507E-07
5.00E+05	1.1926E-07	1.1867E-07	1.1624E-07	1.2009E-07	1.2039E-07	1.2032E-07	1.1783E-07	1.1794E-07	1.1966E-07	1.0842E-07
1.00E+06	5.9632E-08	5.8900E-08	5.4319E-08	5.6804E-08	5.4094E-08	5.5006E-08	5.3771E-08	5.5318E-08	6.1243E-08	6.2831E-08
2.00E+06	2.9909E-08	2.9248E-08	2.5334E-08	2.6903E-08	2.4322E-08	2.4992E-08	2.4459E-08	2.5934E-08	3.1149E-08	3.5368E-08
5.00E+06	1.0507E-08	1.0219E-08	8.7976E-09	9.0937E-09	8.1758E-09	8.1162E-09	8.0390E-09	8.4107E-09	1.1048E-08	1.3067E-08
1.00E+07	4.6646E-09	4.5331E-09	3.9549E-09	4.1551E-09	3.7919E-09	3.8248E-09	3.8254E-09	4.1686E-09	4.7723E-09	5.9122E-09
2.00E+07	1.9644E-09	1.9207E-09	1.6448E-09	1.9835E-09	1.7871E-09	2.0362E-09	2.0457E-09	2.4738E-09	1.8453E-09	2.5536E-09
5.00E+07	6.1384E-10	6.0723E-10	5.3039E-10	7.2652E-10	6.4978E-10	8.3202E-10	8.3905E-10	1.0831E-09	5.3203E-10	8.1508E-10
1.00E+08	1.9738E-10	1.9447E-10	1.8442E-10	2.3100E-10	2.1313E-10	2.6911E-10	2.7102E-10	3.4696E-10	1.8217E-10	2.5567E-10
2.00E+08	6.4152E-11	6.0876E-11	5.8832E-11	5.1343E-11	5.1018E-11	5.0758E-11	5.0362E-11	5.5981E-11	7.0631E-11	8.1230E-11
5.00E+08	4.2172E-11	3.9275E-11	3.4557E-11	2.5787E-11	2.5141E-11	2.0622E-11	1.9999E-11	1.7826E-11	4.8745E-11	5.3320E-11
1.00E+09	2.8517E-11	2.6540E-11	2.3096E-11	1.7389E-11	1.6762E-11	1.3906E-11	1.3462E-11	1.1996E-11	3.2907E-11	3.5740E-11
1.00E+10	3.2363E-14	3.0515E-14	2.9694E-14	2.3139E-14	2.4794E-14	2.0163E-14	1.9844E-14	1.8936E-14	3.6545E-14	3.7911E-14
1.00E+11	7.0590E-16	8.2425E-16	3.5871E-15	7.2309E-16	3.0554E-15	9.5015E-16	1.0880E-15	7.3688E-16	9.2435E-16	4.2626E-16
1.00E+12	6.3974E-16	7.3314E-16	2.9932E-15	6.5389E-16	2.5614E-15	8.3904E-16	9.5057E-16	6.6448E-16	8.0881E-16	3.8471E-16
1.00E+13	2.7024E-16	2.7396E-16	5.6855E-16	2.7004E-16	5.1815E-16	2.9226E-16	3.0365E-16	2.6688E-16	2.7038E-16	1.6922E-16

(b) Gamma decay power (MeV/s·fission)

TC(SEC)	U235(T)	U235(F)	U235(H)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU241(T)	U233(T)	TH232(F)
0.0	5.0694E-01	5.2638E-01	3.5796E-01	9.6304E-01	8.3482E-01	3.0691E-01	3.2665E-01	5.4400E-01	2.4467E-01	9.2989E-01
1.00E+00	2.8842E-01	2.9838E-01	2.1318E-01	5.0275E-01	4.3008E-01	1.9052E-01	2.0135E-01	3.1928E-01	1.5397E-01	4.9241E-01
1.50E+00	2.3997E-01	2.4759E-01	1.7927E-01	4.0989E-01	3.4858E-01	1.6104E-01	1.6952E-01	2.6606E-01	1.3154E-01	4.0223E-01
2.00E+00	2.0590E-01	2.1175E-01	1.5489E-01	3.4516E-01	2.9264E-01	1.3957E-01	1.4637E-01	2.2788E-01	1.1518E-01	3.3983E-01
3.00E+00	1.6056E-01	1.6398E-01	1.2159E-01	2.5999E-01	2.2011E-01	1.1019E-01	1.1485E-01	1.7648E-01	9.2608E-02	2.5806E-01
4.00E+00	1.3152E-01	1.3339E-01	9.9651E-02	2.0649E-01	1.7496E-01	9.0950E-02	9.4384E-02	1.4347E-01	7.7624E-02	2.0669E-01
5.00E+00	1.1119E-01	1.1208E-01	8.4067E-02	1.6993E-01	1.4413E-01	7.7363E-02	8.0030E-02	1.2044E-01	6.6910E-02	1.7165E-01
6.00E+00	9.6132E-02	9.6380E-02	7.2443E-02	1.4344E-01	1.2178E-01	6.7267E-02	6.9404E-02	1.0345E-01	5.8859E-02	1.4639E-01
8.00E+00	7.5299E-02	7.4886E-02	5.6352E-02	1.0785E-01	9.1668E-02	5.3308E-02	5.4745E-02	8.0138E-02	4.7566E-02	1.1279E-01
1.00E+01	6.1663E-02	6.1007E-02	4.5855E-02	8.5399E-02	7.2578E-02	4.4175E-02	4.5161E-02	6.5053E-02	4.0038E-02	9.1742E-02
1.50E+01	4.2386E-02	4.1708E-02	3.1093E-02	5.5357E-02	4.6798E-02	3.1173E-02	3.1538E-02	4.4164E-02	2.9015E-02	6.3023E-02
2.00E+01	3.2484E-02	3.1952E-02	2.3590E-02	4.1064E-02	3.4418E-02	2.4363E-02	2.4465E-02	3.3757E-02	2.3040E-02	4.8444E-02
3.00E+01	2.2474E-02	2.2176E-02	1.6193E-02	2.7604E-02	2.2834E-02	1.7297E-02	1.7245E-02	2.3462E-02	1.6671E-02	3.3571E-02
4.00E+01	1.7330E-02	1.7153E-02	1.2520E-02	2.1012E-02	1.7298E-02	1.3544E-02	1.3479E-02	1.8142E-02	1.3232E-02	2.5801E-02
5.00E+01	1.4100E-02	1.3980E-02	1.0256E-02	1.6934E-02	1.3940E-02	1.1121E-02	1.1067E-02	1.4720E-02	1.0996E-02	2.0841E-02
6.00E+01	1.1832E-02	1.1738E-02	8.6733E-03	1.4086E-02	1.1617E-02	9.3808E-03	9.3380E-03	1.2264E-02	9.3835E-03	1.7317E-02
8.00E+01	8.8003E-03	8.7254E-03	6.5519E-03	1.0305E-02	8.5442E-03	7.0017E-03	6.9713E-03	8.9280E-03	7.1638E-03	1.2589E-02
1.00E+02	6.8607E-03	6.7946E-03	5.1796E-03	7.9161E-03	6.5977E-03	5.4534E-03	5.4256E-03	6.7887E-03	5.6981E-03	9.5890E-03
1.50E+02	4.1905E-03	4.1423E-03	3.2511E-03	4.6993E-03	3.9609E-03	3.3147E-03	3.2826E-03	3.9179E-03	3.6039E-03	5.5432E-03
2.00E+02	2.8933E-03	2.8585E-03	2.2900E-03	3.1768E-03	2.7086E-03	2.2930E-03	2.2602E-03	2.6036E-03	2.5455E-03	3.6354E-03
3.00E+02	1.7208E-03	1.7011E-03	1.4039E-03	1.8263E-03	1.5993E-03	1.3954E-03	1.3723E-03	1.5027E-03	1.5606E-03	1.9824E-03
4.00E+02	1.2205E-03	1.2083E-03	1.0173E-03	1.2614E-03	1.1327E-03	1.0199E-03	1.0080E-03	1.0670E-03	1.1292E-03	1.3247E-03
5.00E+02	9.5555E-04	9.4766E-04	8.0761E-04	9.6972E-04	8.8691E-04	8.2041E-04	8.1638E-04	8.4504E-04	8.9553E-04	9.9836E-04
6.00E+02	7.9286E-04	7.8765E-04	6.7558E-04	7.9578E-04	7.3634E-04	6.9598E-04	6.9700E-04	7.1117E-04	7.4896E-04	8.0817E-04
8.00E+02	6.0192E-04	5.9944E-04	5.1588E-04	5.9852E-04	5.5959E-04	5.4508E-04	5.5080E-04	5.5394E-04	5.7262E-04	5.9659E-04
1.00E+03	4.9153E-04	4.9009E-04	4.2089E-04	4.8754E-04	4.5687E-04	4.5324E-04	4.6006E-04	4.6050E-04	4.6833E-04	4.8106E-04
1.50E+03	3.4283E-04	3.4162E-04	2.9073E-04	3.3893E-04	3.1706E-04	3.2097E-04	3.2631E-04	3.2718E-04	3.2599E-04	3.3450E-04
2.00E+03	2.6280E-04	2.6115E-04	2.2067E-04	2.5804E-04	2.4116E-04	2.4542E-04	2.4868E-04	2.5087E-04	2.4938E-04	2.5885E-04
3.00E+03	1.7482E-04	1.7249E-04	1.4455E-04	1.6841E-04	1.5763E-04	1.5977E-04	1.6037E-04	1.6374E-04	1.6586E-04	1.7591E-04
4.00E+03	1.2759E-04	1.2504E-04	1.0435E-04	1.2060E-04	1.1306E-04	1.1337E-04	1.1272E-04	1.1617E-04	1.2144E-04	1.3057E-04
5.00E+03	9.8471E-05	9.5969E-05	7.9998E-05	9.1631E-05	8.5927E-05	8.5123E-05	8.3954E-05	8.7084E-05	9.4229E-05	1.0205E-04
6.00E+03	7.8889E-05	7.6567E-05	6.3925E-05	7.2533E-05	6.7981E-05	6.6565E-05	6.5242E-05	6.7938E-05	7.6020E-05	8.2593E-05
8.00E+03	5.4451E-05	5.2600E-05	4.4397E-05	4.9291E-05	4.6131E-05	4.4300E-05	4.3094E-05	4.4936E-05	5.3401E-05	5.8073E-05
1.00E+04	4.0003E-05	3.8591E-05	3.3206E-05	3.5882E-05	3.3595E-05	3.1803E-05	3.0850E-05	3.2009E-05	4.0051E-05	4.3526E-05
2.00E+04	1.3691E-05	1.3331E-05	1.2983E-05	1.2077E-05	1.1640E-05	1.0721E-05	1.0488E-05	1.0264E-05	1.5017E-05	1.6196E-05
5.00E+04	3.5446E-06	3.4946E-06	3.5382E-06	3.3623E-06	3.2652E-06	3.1904E-06	3.1384E-06	2.9640E-06	3.7205E-06	3.5661E-06
1.00E+05	1.3913E-06	1.3851E-06	1.3449E-06	1.3791E-06	1.3375E-06	1.3747E-06	1.3400E-06	1.2537E-06	1.3862E-06	1.1382E-06
2.00E+05	5.5197E-07	5.5847E-07	5.4505E-07	5.7157E-07	5.6241E-07	5.9366E-07	5.7384E-07	5.2409E-07	5.6831E-07	4.2303E-07
5.00E+05	2.0180E-07	2.0535E-07	1.9209E-07	2.1674E-07	2.0417E-07	2.2153E-07	2.1399E-07	2.0181E-07	2.1312E-07	1.7516E-07
1.00E+06	1.0119E-07	1.0161E-07	8.9427E-08	1.0484E-07	9.3585E-08	1.0420E-07	1.0089E-07	1.0162E-07	1.0529E-07	1.0120E-07
2.00E+06	4.5311E-08	4.4816E-08	3.7234E-08	4.5107E-08	3.8248E-08	4.4156E-08	4.2731E-08	4.5349E-08	4.5950E-08	4.8940E-08
5.00E+06	1.2568E-08	1.2431E-08	1.0131E-08	1.2225E-08	1.0613E-08	1.2069E-08	1.1674E-08	1.1609E-08	1.2030E-08	1.1714E-08
1.00E+07	5.0162E-09	4.9672E-09	4.0733E-09	4.5727E-09	4.2528E-09	4.5503E-09	4.3885E-09	4.0136E-09	4.6592E-09	3.9798E-09
2.00E+07	1.6039E-09	1.5840E-09	1.3242E-09	1.3988E-09	1.3600E-09	1.4031E-09	1.3535E-09	1.2639E-09	1.5087E-09	1.3049E-09
5.00E+07	8.5818E-11	8.7609E-11	1.1351E-10	1.0573E-10	1.2242E-10	1.3151E-10	1.3203E-10	1.5537E-10	8.3464E-11	8.3355E-11
1.00E+08	3.0306E-11	3.1458E-11	5.0417E-11	3.9609E-11	5.1862E-11	5.1192E-11	5.1943E-11	6.0709E-11	3.2404E-11	3.2174E-11
2.00E+08	2.2591E-11	2.2836E-11	2.7937E-11	2.3127E-11	2.7216E-11	2.6875E-11	2.6878E-11	2.8292E-11	2.5059E-11	2.4125E-11
5.00E+08	1.7612E-11	1.7511E-11	1.4611E-11	1.6961E-11	1.4713E-11	1.8861E-11	1.8537E-11	1.9437E-11	1.9283E-11	1.8914E-11
1.00E+09	1.2220E-11	1.2126E-11	9.5328E-12	1.1744E-11	9.6869E-12	1.3031E-11	1.2775E-11	1.3449E-11	1.3346E-11	1.3124E-11
1.00E+10	1.7716E-14	1.7998E-14	2.2556E-14	1.7075E-14	2.1056E-14	1.9599E-14	1.9677E-14	1.9561E-14	2.0218E-14	1.8971E-14
1.00E+11	2.8008E-16	6.9000E-16	8.8183E-15	3.1975E-16	7.1298E-15	9.9731E-16	1.4351E-15	3.7553E-16	1.1621E-15	2.4992E-16
1.00E+12	2.2984E-16	5.6624E-16	7.2365E-15	2.6241E-16	5.8510E-15	8.1836E-16	1.1775E-15	3.0817E-16	9.5354E-16	2.0510E-16
1.00E+13	3.1858E-17	7.8459E-17	1.0024E-15	3.6381E-17	8.1046E-16	1.1339E-16	1.6314E-16	4.2711E-17	1.3211E-16	2.8420E-17

Table 4.1.1 Continued

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

TC(SEC)	U235(T)	U235(F)	U235(H)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU241(T)	U233(T)	TH232(F)
0.0	1.2861E+00	1.3573E+00	8.9954E-01	2.4688E+00	2.1461E+00	7.9286E-01	8.5040E-01	1.4214E+00	6.0519E-01	2.2434E+00
1.00E+00	7.2159E-01	7.5511E-01	5.3930E-01	1.2730E+00	1.0922E+00	4.9264E-01	5.2276E-01	8.2421E-01	3.8234E-01	1.1518E+00
1.50E+00	5.9805E-01	6.2233E-01	4.5176E-01	1.0329E+00	8.7997E-01	4.1482E-01	4.3811E-01	6.8316E-01	3.2562E-01	9.3343E-01
2.00E+00	5.1155E-01	5.2952E-01	3.8863E-01	8.6660E-01	7.3526E-01	3.5806E-01	3.7655E-01	5.8243E-01	2.8413E-01	7.8390E-01
3.00E+00	3.9692E-01	4.0715E-01	3.0268E-01	6.4922E-01	5.4941E-01	2.8051E-01	2.9302E-01	4.4759E-01	2.2693E-01	5.8971E-01
4.00E+00	3.2351E-01	3.2944E-01	2.4643E-01	5.1320E-01	4.3474E-01	2.2982E-01	2.3897E-01	3.6128E-01	1.8899E-01	4.6860E-01
5.00E+00	2.7197E-01	2.7537E-01	2.0662E-01	4.2019E-01	3.5674E-01	1.9405E-01	2.0111E-01	3.0112E-01	1.6183E-01	3.8619E-01
6.00E+00	2.3360E-01	2.3546E-01	1.7698E-01	3.5260E-01	3.0016E-01	1.6745E-01	1.7308E-01	2.5671E-01	1.4135E-01	3.2687E-01
8.00E+00	1.8018E-01	1.8052E-01	1.3595E-01	2.6133E-01	2.2370E-01	1.3061E-01	1.3438E-01	1.9562E-01	1.1248E-01	2.4794E-01
1.00E+01	1.4498E-01	1.4475E-01	1.0913E-01	2.0337E-01	1.7494E-01	1.0642E-01	1.0901E-01	1.5599E-01	9.3107E-02	1.9846E-01
1.50E+01	9.5082E-02	9.4621E-02	7.1347E-02	1.2546E-01	1.0862E-01	7.1919E-02	7.2915E-02	1.0108E-01	6.4618E-02	1.3106E-01
2.00E+01	6.9751E-02	6.9383E-02	5.2281E-02	8.8696E-02	7.6783E-02	5.4027E-02	5.4348E-02	7.3992E-02	4.9335E-02	9.7291E-02
3.00E+01	4.5200E-02	4.5020E-02	3.4053E-02	5.5420E-02	4.7790E-02	3.6181E-02	3.6096E-02	4.8232E-02	3.3694E-02	6.4046E-02
4.00E+01	3.3504E-02	3.3427E-02	2.5522E-02	4.0399E-02	3.4816E-02	2.7393E-02	2.7255E-02	3.5930E-02	2.5831E-02	4.7727E-02
5.00E+01	2.6634E-02	2.6599E-02	2.0532E-02	3.1789E-02	2.7447E-02	2.2086E-02	2.1964E-02	2.8578E-02	2.1021E-02	3.7857E-02
6.00E+01	2.2036E-02	2.2013E-02	1.7173E-02	2.6101E-02	2.2596E-02	1.8451E-02	1.8351E-02	2.3576E-02	1.7696E-02	3.1111E-02
8.00E+01	1.6147E-02	1.6118E-02	1.2820E-02	1.8900E-02	1.6445E-02	1.3680E-02	1.3611E-02	1.7083E-02	1.3295E-02	2.2371E-02
1.00E+02	1.2506E-02	1.2469E-02	1.0080E-02	1.4497E-02	1.2668E-02	1.0665E-02	1.0609E-02	1.3053E-02	1.0487E-02	1.6977E-02
1.50E+02	7.6285E-03	7.5889E-03	6.3131E-03	8.6768E-03	7.6457E-03	6.5738E-03	6.5208E-03	7.7322E-03	6.5999E-03	9.8536E-03
2.00E+02	5.3079E-03	5.2754E-03	4.4629E-03	5.9414E-03	5.2777E-03	4.6229E-03	4.5716E-03	5.2866E-03	4.6872E-03	6.5392E-03
3.00E+02	3.2185E-03	3.1980E-03	2.7542E-03	3.4955E-03	3.1619E-03	2.8707E-03	2.8354E-03	3.1708E-03	2.9199E-03	3.6633E-03
4.00E+02	2.3117E-03	2.2989E-03	1.9969E-03	2.4486E-03	2.2506E-03	2.1061E-03	2.0882E-03	2.2816E-03	2.1328E-03	2.4941E-03
5.00E+02	1.8196E-03	1.8118E-03	1.5795E-03	1.8944E-03	1.7597E-03	1.6856E-03	1.6803E-03	1.8042E-03	1.6956E-03	1.8960E-03
6.00E+02	1.5108E-03	1.5065E-03	1.3139E-03	1.5563E-03	1.4540E-03	1.4173E-03	1.4201E-03	1.5048E-03	1.4157E-03	1.5376E-03
8.00E+02	1.1401E-03	1.1394E-03	9.9027E-04	1.1624E-03	1.0896E-03	1.0859E-03	1.0964E-03	1.1413E-03	1.0731E-03	1.1283E-03
1.00E+03	9.2152E-04	9.2196E-04	7.9715E-04	9.3481E-04	8.7561E-04	8.8255E-04	8.9488E-04	9.2189E-04	8.6821E-04	9.0043E-04
1.50E+03	6.2387E-04	6.2394E-04	5.3410E-04	6.2646E-04	5.8546E-04	5.9441E-04	6.0430E-04	6.1601E-04	5.8847E-04	6.1000E-04
2.00E+03	4.6449E-04	4.6345E-04	3.9492E-04	4.6115E-04	4.3155E-04	4.3698E-04	4.4335E-04	4.5140E-04	4.3932E-04	4.6149E-04
3.00E+03	2.9368E-04	2.9123E-04	2.4779E-04	2.8486E-04	2.6839E-04	2.6853E-04	2.7037E-04	2.7660E-04	2.8001E-04	3.0204E-04
4.00E+03	2.0650E-04	2.0353E-04	1.7343E-04	1.9614E-04	1.8584E-04	1.8337E-04	1.8308E-04	1.8833E-04	1.9871E-04	2.1821E-04
5.00E+03	1.5561E-04	1.5259E-04	1.3035E-04	1.4526E-04	1.3805E-04	1.3442E-04	1.3321E-04	1.3755E-04	1.5119E-04	1.6769E-04
6.00E+03	1.2302E-04	1.2017E-04	1.0304E-04	1.1328E-04	1.0777E-04	1.0373E-04	1.0219E-04	1.0569E-04	1.2073E-04	1.3450E-04
8.00E+03	8.4469E-05	8.2137E-05	7.1285E-05	7.6341E-05	7.2612E-05	6.8658E-05	6.7159E-05	6.9284E-05	8.4633E-05	9.4340E-05
1.00E+04	6.2754E-05	6.0939E-05	5.3823E-05	5.6079E-05	5.3334E-05	4.9832E-05	4.8617E-05	4.9763E-05	6.4205E-05	7.1357E-05
2.00E+04	2.4115E-05	2.3577E-05	2.2944E-05	2.1137E-05	2.0468E-05	1.8700E-05	1.8380E-05	1.7763E-05	2.6519E-05	2.8920E-05
5.00E+04	7.1475E-06	7.0303E-06	7.0135E-06	6.5737E-06	6.4131E-06	6.0694E-06	5.9892E-06	5.6539E-06	7.5088E-06	7.4465E-06
1.00E+05	2.6477E-06	2.6212E-06	2.5556E-06	2.5525E-06	2.5221E-06	2.4945E-06	2.4433E-06	2.3284E-06	2.6303E-06	2.3106E-06
2.00E+05	9.6126E-07	9.6474E-07	9.5442E-07	9.7527E-07	9.8383E-07	1.0005E-06	9.7392E-07	9.1913E-07	9.6671E-07	7.6811E-07
5.00E+05	3.2106E-07	3.2403E-07	3.0832E-07	3.3683E-07	3.2456E-07	3.4185E-07	3.3182E-07	3.1976E-07	3.3277E-07	2.8358E-07
1.00E+06	1.6083E-07	1.6051E-07	1.4375E-07	1.6164E-07	1.4768E-07	1.5921E-07	1.5466E-07	1.5694E-07	1.6654E-07	1.6403E-07
2.00E+06	7.5221E-08	7.4064E-08	6.2569E-08	7.2009E-08	6.2570E-08	6.9148E-08	6.7189E-08	7.1283E-08	7.7099E-08	8.4308E-08
5.00E+06	2.3075E-08	2.2650E-08	1.8928E-08	2.1318E-08	1.8789E-08	2.0185E-08	1.9713E-08	2.0020E-08	2.3077E-08	2.4780E-08
1.00E+07	9.6808E-09	9.5003E-09	8.0282E-09	8.7277E-09	8.0447E-09	8.3751E-09	8.2139E-09	8.1823E-09	9.4315E-09	9.8920E-09
2.00E+07	3.5683E-09	3.5048E-09	2.9690E-09	3.3823E-09	3.1472E-09	3.4393E-09	3.3992E-09	3.7377E-09	3.3540E-09	3.8585E-09
5.00E+07	6.9966E-10	6.9484E-10	6.4389E-10	8.3225E-10	7.7219E-10	9.6353E-10	9.7108E-10	1.2385E-09	6.1549E-10	8.9843E-10
1.00E+08	2.2769E-10	2.2592E-10	2.3483E-10	2.7061E-10	2.6499E-10	3.2030E-10	3.2297E-10	4.0767E-10	2.1457E-10	2.8785E-10
2.00E+08	8.6743E-11	8.3712E-11	8.6769E-11	7.4470E-11	7.8234E-11	7.7634E-11	7.7240E-11	8.4273E-11	9.5690E-11	1.0535E-10
5.00E+08	5.9784E-11	5.6786E-11	4.9168E-11	4.2748E-11	3.9855E-11	3.9483E-11	3.8536E-11	3.7262E-11	6.8028E-11	7.2234E-11
1.00E+09	4.0736E-11	3.8665E-11	3.2629E-11	2.9133E-11	2.6449E-11	2.6937E-11	2.6237E-11	2.5445E-11	4.6253E-11	4.8864E-11
1.00E+10	5.0079E-14	4.8513E-14	5.2250E-14	4.0214E-14	4.5850E-14	3.9762E-14	3.9522E-14	3.8498E-14	5.6763E-14	5.6881E-14
1.00E+11	9.8598E-16	1.5143E-15	1.2405E-14	1.0428E-15	1.0185E-14	1.9475E-15	2.5231E-15	1.1124E-15	2.0865E-15	6.7618E-16
1.00E+12	8.6958E-16	1.2994E-15	1.0230E-14	9.1630E-16	8.4124E-15	1.6574E-15	2.1280E-15	9.7265E-16	1.7623E-15	5.8980E-16
1.00E+13	3.0209E-16	3.5242E-16	1.5710E-15	3.0643E-16	1.3286E-15	4.0565E-16	4.6679E-16	3.0959E-16	4.0249E-16	1.9764E-16

(d) Total decay power (MeV/s·fission)

TC(SEC)	U235(T)	U235(F)	U235(H)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU241(T)	U233(T)	TH232(F)
0.0	2.2164E+00	2.3456E+00	1.5481E+00	4.2539E+00	3.7061E+00	1.3699E+00	1.4700E+00	2.4731E+00	1.0374E+00	3.8103E+00
1.00E+00	1.2464E+00	1.3072E+00	9.3481E-01	2.2079E+00	1.8944E+00	8.5519E-01	9.0715E-01	1.4362E+00	6.5966E-01	1.9537E+00
1.50E+00	1.0338E+00	1.0770E+00	7.8332E-01	1.7916E+00	1.5265E+00	7.2043E-01	7.6049E-01	1.1899E+00	5.6206E-01	1.5828E+00
2.00E+00	8.8467E-01	9.1615E-01	6.7376E-01	1.5029E+00	1.2754E+00	6.2198E-01	6.5372E-01	1.0139E+00	4.9051E-01	1.3288E+00
3.00E+00	6.8675E-01	7.0421E-01	5.2448E-01	1.1251E+00	9.5290E-01	4.8730E-01	5.0870E-01	7.7829E-01	3.9170E-01	9.9876E-01
4.00E+00	5.5966E-01	5.6963E-01	4.2677E-01	8.8864E-01	7.5391E-01	3.9919E-01	4.1481E-01	6.2743E-01	3.2609E-01	7.9279E-01
5.00E+00	4.7025E-01	4.7596E-01	3.5762E-01	7.2682E-01	6.1850E-01	3.3694E-01	3.4897E-01	5.2228E-01	2.7906E-01	6.5253E-01
6.00E+00	4.0356E-01	4.0676E-01	3.0612E-01	6.0921E-01	5.2022E-01	2.9060E-01	3.0017E-01	4.4465E-01	2.4355E-01	5.5148E-01
8.00E+00	3.1058E-01	3.1137E-01	2.3478E-01	4.5035E-01	3.8729E-01	2.2630E-01	2.3268E-01	3.3787E-01	1.9342E-01	4.1697E-01
1.00E+01	2.4922E-01	2.4916E-01	1.8811E-01	3.4945E-01	3.0238E-01	1.8402E-01	1.8838E-01	2.6861E-01	1.5971E-01	3.3261E-01
1.50E+01	1.6214E-01	1.6172E-01	1.2229E-01	2.1378E-01	1.8666E-01	1.2356E-01	1.2521E-01	1.7263E-01	1.1003E-01	2.1778E-01
2.00E+01	1.1794E-01	1.1761E-01	8.9065E-02	1.4974E-01	1.3100E-01	9.2186E-02	9.2680E-02	1.2530E-01	8.3368E-02	1.6036E-01
3.00E+01	7.5302E-02	7.5181E-02	5.7409E-02	9.2030E-02	8.0425E-02	6.1021E-02	6.0825E-02	8.0496E-02	5.6195E-02	1.0419E-01
4.00E+01	5.5239E-02	5.5231E-02	4.2728E-02	6.6343E-02	5.8039E-02	4.5865E-02	4.5583E-02	5.9422E-02	4.2683E-02	7.6961E-02
5.00E+01	4.3615E-02	4.3651E-02	3.4225E-02	5.1872E-02	4.5504E-02	3.6843E-02	3.6590E-02	4.7051E-02	3.4514E-02	6.0708E-02
6.00E+01	3.5924E-02	3.5966E-02	2.8551E-02	4.2451E-02	3.7351E-02	3.0733E-02	3.0524E-02	3.8757E-02	2.8923E-02	4.9717E-02
8.00E+01	2.6188E-02	2.6205E-02	2.1252E-02	3.0678E-02	2.7131E-02	2.2793E-02	2.2649E-02	2.8131E-02	2.1603E-02	3.5623E-02
1.00E+02	2.0229E-02	2.0222E-02	1.6690E-02	2.3546E-02	2.0906E-02	1.7811E-02	1.7699E-02	2.1592E-02	1.6982E-02	2.7004E-02
1.50E+02	1.2318E-02	1.2290E-02	1.0454E-02	1.4151E-02	1.2659E-02	1.1057E-02	1.0967E-02	1.2966E-02	1.0658E-02	1.5706E-02
2.00E+02	8.5855E-03	8.5584E-03	7.3998E-03	9.7328E-03	8.7695E-03	7.8185E-03	7.7365E-03	8.9660E-03	7.5806E-03	1.0480E-02
3.00E+02	5.2366E-03	5.2176E-03	4.5758E-03	5.7646E-03	5.2772E-03	4.8745E-03	4.8199E-03	5.4438E-03	4.7502E-03	5.9485E-03
4.00E+02	3.7782E-03	3.7666E-03	3.3179E-03	4.0542E-03	3.7613E-03	3.5718E-03	3.5445E-03	3.9295E-03	3.4832E-03	4.0891E-03
5.00E+02	2.9807E-03	2.9750E-03	2.6214E-03	3.1427E-03	2.9396E-03	2.8504E-03	2.8425E-03	3.1038E-03	2.7731E-03	3.1242E-03
6.00E+02	2.4766E-03	2.4752E-03	2.1771E-03	2.5830E-03	2.4254E-03	2.3883E-03	2.3929E-03	2.5804E-03	2.3148E-03	2.5381E-03
8.00E+02	1.8662E-03	1.8694E-03	1.6342E-03	1.9252E-03	1.8094E-03	1.8155E-03	1.8322E-03	1.9394E-03	1.7498E-03	1.8600E-03
1.00E+03	1.5032E-03	1.5077E-03	1.3097E-03	1.5417E-03	1.4462E-03	1.4634E-03	1.4833E-03	1.5509E-03	1.4101E-03	1.4789E-03
1.50E+03	1.0062E-03	1.0094E-03	8.6785E-04	1.0196E-03	9.5391E-04	9.6703E-04	9.8355E-04	1.0128E-03	9.4561E-04	9.9142E-04
2.00E+03	7.4016E-04	7.4132E-04	6.3526E-04	7.4094E-04	6.9462E-04	6.9975E-04	7.1091E-04	7.2888E-04	6.9858E-04	7.4282E-04
3.00E+03	4.5743E-04	4.5595E-04	3.9155E-04	4.4737E-04	4.2307E-04	4.1934E-04	4.2343E-04	4.3461E-04	4.3672E-04	4.7809E-04
4.00E+03	3.1584E-04	3.1321E-04	2.7030E-04	3.0257E-04	2.8826E-04	2.8111E-04	2.8178E-04	2.9013E-04	3.0529E-04	3.4119E-04
5.00E+03	2.3515E-04	2.3214E-04	2.0137E-04	2.2134E-04	2.1179E-04	2.0358E-04	2.0269E-04	2.0908E-04	2.3010E-04	2.6026E-04
6.00E+03	1.8471E-04	1.8169E-04	1.5847E-04	1.7139E-04	1.6432E-04	1.5607E-04	1.5453E-04	1.5940E-04	1.8294E-04	2.0804E-04
8.00E+03	1.2677E-04	1.2414E-04	1.0972E-04	1.1525E-04	1.1054E-04	1.0324E-04	1.0152E-04	1.0418E-04	1.2847E-04	1.4609E-04
1.00E+04	9.5078E-05	9.2939E-05	8.3528E-05	8.5349E-05	8.1830E-05	7.5677E-05	7.4217E-05	7.5418E-05	9.8390E-05	1.1129E-04
2.00E+04	3.9374E-05	3.8617E-05	3.7676E-05	3.4606E-05	3.3596E-05	3.0625E-05	3.0205E-05	2.9025E-05	4.3271E-05	4.7453E-05
5.00E+04	1.2609E-05	1.2395E-05	1.2290E-05	1.1517E-05	1.1251E-05	1.0567E-05	1.0447E-05	9.8874E-06	1.3208E-05	1.3245E-05
1.00E+05	4.6330E-06	4.5768E-06	4.4580E-06	4.4341E-06	4.4065E-06	4.3080E-06	4.2318E-06	4.0800E-06	4.5828E-06	4.1395E-06
2.00E+05	1.6242E-06	1.6240E-06	1.6135E-06	1.6368E-06	1.6680E-06	1.6705E-06	1.6334E-06	1.5723E-06	1.6114E-06	1.3270E-06
5.00E+05	5.1780E-07	5.2028E-07	5.0112E-07	5.3527E-07	5.2404E-07	5.4147E-07	5.2745E-07	5.1537E-07	5.3168E-07	4.6521E-07
1.00E+06	2.6204E-07	2.6062E-07	2.3637E-07	2.5757E-07	2.3962E-07	2.5242E-07	2.4579E-07	2.5030E-07	2.7109E-07	2.7125E-07
2.00E+06	1.2685E-07	1.2458E-07	1.0619E-07	1.1818E-07	1.0447E-07	1.1215E-07	1.0924E-07	1.1558E-07	1.3093E-07	1.4495E-07
5.00E+06	4.0940E-08	4.0023E-08	3.3731E-08	3.6596E-08	3.2526E-08	3.3748E-08	3.3118E-08	3.3855E-08	4.1857E-08	4.6738E-08
1.00E+07	1.7444E-08	1.7040E-08	1.4537E-08	1.5485E-08	1.4224E-08	1.4494E-08	1.4317E-08	1.4677E-08	1.7394E-08	1.9579E-08
2.00E+07	6.7114E-09	6.5718E-09	5.5623E-09	6.4497E-09	5.9162E-09	6.5155E-09	6.4828E-09	7.3976E-09	6.3260E-09	7.8966E-09
5.00E+07	1.6299E-09	1.6121E-09	1.4297E-09	1.8996E-09	1.7248E-09	2.1617E-09	2.1784E-09	2.7868E-09	1.4243E-09	2.1399E-09
1.00E+08	5.3138E-10	5.2393E-10	5.1159E-10	6.1353E-10	5.8064E-10	7.1025E-10	7.1523E-10	9.0584E-10	4.9582E-10	6.8471E-10
2.00E+08	1.8916E-10	1.8076E-10	1.7940E-10	1.5534E-10	1.5819E-10	1.5568E-10	1.5454E-10	1.6923E-10	2.0816E-10	2.3628E-10
5.00E+08	1.2629E-10	1.1875E-10	1.0374E-10	8.3586E-11	7.9655E-11	7.2195E-11	7.0270E-11	6.5619E-11	1.4492E-10	1.5669E-10
1.00E+09	8.5525E-11	8.0362E-11	6.8949E-11	5.6506E-11	5.2845E-11	4.8865E-11	4.7471E-11	4.4390E-11	9.7964E-11	1.0510E-10
1.00E+10	1.0352E-13	9.8946E-14	1.0005E-13	8.1288E-14	8.8661E-14	7.5977E-14	7.5182E-14	7.3871E-14	1.1601E-13	1.1746E-13
1.00E+11	2.5461E-15	3.1786E-15	1.7099E-14	2.6399E-15	1.4364E-14	3.7992E-15	4.5124E-15	2.7351E-15	3.7696E-15	1.5505E-15
1.00E+12	2.2902E-15	2.7965E-15	1.4195E-14	2.3695E-15	1.1968E-14	3.3184E-15	3.8981E-15	2.4482E-15	3.2572E-15	1.3827E-15
1.00E+13	9.0813E-16	9.4760E-16	2.4653E-15	9.2139E-16	2.1962E-15	1.0485E-15	1.1156E-15	9.2962E-16	9.5585E-16	5.4696E-16

Table 4.1.2 Calculated decay powers of fission products after a year's irradiation at constant rate of 1 fission/s

(a) Beta decay power (MeV/s)

TC(SEC)	U235(T)	U235(F)	U235(H)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU241(T)	U233(T)	TH232(F)
0.0	6.3952E+00	6.4657E+00	5.2691E+00	8.2765E+00	7.4157E+00	5.2813E+00	5.3568E+00	6.7923E+00	4.9296E+00	8.1316E+00
1.00E+00	5.8258E+00	5.8608E+00	4.8540E+00	7.2262E+00	6.5040E+00	4.9018E+00	4.9504E+00	6.1367E+00	4.6461E+00	7.2232E+00
1.50E+00	5.6292E+00	5.6543E+00	4.7052E+00	6.8804E+00	6.2080E+00	4.7635E+00	4.8036E+00	5.9076E+00	4.5410E+00	6.9279E+00
2.00E+00	5.4640E+00	5.4820E+00	4.5791E+00	6.5957E+00	5.9657E+00	4.6460E+00	4.6794E+00	5.7154E+00	4.4506E+00	6.6853E+00
3.00E+00	5.1959E+00	5.2047E+00	4.3738E+00	6.1461E+00	5.5849E+00	4.4535E+00	4.4775E+00	5.4061E+00	4.3003E+00	6.3024E+00
4.00E+00	4.9833E+00	4.9868E+00	4.2110E+00	5.8010E+00	5.2929E+00	4.2999E+00	4.3172E+00	5.1634E+00	4.1781E+00	6.0081E+00
5.00E+00	4.8078E+00	4.8081E+00	4.0771E+00	5.5242E+00	5.0581E+00	4.1727E+00	4.1850E+00	4.9653E+00	4.0754E+00	5.7713E+00
6.00E+00	4.6592E+00	4.6575E+00	3.9639E+00	5.2955E+00	4.8635E+00	4.0647E+00	4.0731E+00	4.7990E+00	3.9870E+00	5.5746E+00
8.00E+00	4.4193E+00	4.4154E+00	3.7818E+00	4.9375E+00	4.5569E+00	3.8890E+00	3.8916E+00	4.5332E+00	3.8408E+00	5.2631E+00
1.00E+01	4.2324E+00	4.2274E+00	3.6399E+00	4.6685E+00	4.3245E+00	3.7504E+00	3.7492E+00	4.3284E+00	3.7236E+00	5.0233E+00
1.50E+01	3.9021E+00	3.8956E+00	3.3885E+00	4.2150E+00	3.9278E+00	3.4995E+00	3.4931E+00	3.9700E+00	3.5070E+00	4.5993E+00
2.00E+01	3.6811E+00	3.6736E+00	3.2190E+00	3.9269E+00	3.6725E+00	3.3262E+00	3.3178E+00	3.7315E+00	3.3544E+00	4.3118E+00
3.00E+01	3.3921E+00	3.3833E+00	2.9945E+00	3.5658E+00	3.3500E+00	3.0912E+00	3.0823E+00	3.4183E+00	3.1443E+00	3.9287E+00
4.00E+01	3.2012E+00	3.1914E+00	2.8429E+00	3.3347E+00	3.1420E+00	2.9303E+00	2.9218E+00	3.2093E+00	2.9985E+00	3.6712E+00
5.00E+01	3.0592E+00	3.0484E+00	2.7277E+00	3.1655E+00	2.9886E+00	2.8074E+00	2.7997E+00	3.0527E+00	2.8864E+00	3.4784E+00
6.00E+01	2.9463E+00	2.9347E+00	2.6344E+00	3.0321E+00	2.8671E+00	2.7078E+00	2.7008E+00	2.9276E+00	2.7953E+00	3.3253E+00
8.00E+01	2.7736E+00	2.7609E+00	2.4888E+00	2.8295E+00	2.6814E+00	2.5525E+00	2.5464E+00	2.7361E+00	2.6528E+00	3.0934E+00
1.00E+02	2.6450E+00	2.6316E+00	2.3781E+00	2.6793E+00	2.5431E+00	2.4347E+00	2.4292E+00	2.5933E+00	2.5446E+00	2.9236E+00
1.50E+02	2.4259E+00	2.4116E+00	2.1853E+00	2.4248E+00	2.3077E+00	2.2297E+00	2.2254E+00	2.3502E+00	2.3561E+00	2.6424E+00
2.00E+02	2.2823E+00	2.2678E+00	2.0567E+00	2.2595E+00	2.1544E+00	2.0924E+00	2.0891E+00	2.1909E+00	2.2300E+00	2.4660E+00
3.00E+02	2.0939E+00	2.0794E+00	1.8868E+00	2.0464E+00	1.9557E+00	1.9087E+00	1.9069E+00	1.9813E+00	2.0609E+00	2.2469E+00
4.00E+02	1.9667E+00	1.9523E+00	1.7724E+00	1.9063E+00	1.8241E+00	1.7827E+00	1.7818E+00	1.8396E+00	1.9446E+00	2.1075E+00
5.00E+02	1.8699E+00	1.8555E+00	1.6857E+00	1.8018E+00	1.7256E+00	1.6860E+00	1.6855E+00	1.7319E+00	1.8553E+00	2.0053E+00
6.00E+02	1.7913E+00	1.7768E+00	1.6156E+00	1.7181E+00	1.6466E+00	1.6071E+00	1.6066E+00	1.6448E+00	1.7823E+00	1.9246E+00
8.00E+02	1.6674E+00	1.6526E+00	1.5059E+00	1.5877E+00	1.5237E+00	1.4826E+00	1.4813E+00	1.5087E+00	1.6672E+00	1.8006E+00
1.00E+03	1.5713E+00	1.5562E+00	1.4216E+00	1.4874E+00	1.4297E+00	1.3863E+00	1.3840E+00	1.4047E+00	1.5779E+00	1.7064E+00
1.50E+03	1.3982E+00	1.3823E+00	1.2709E+00	1.3087E+00	1.2628E+00	1.2155E+00	1.2106E+00	1.2227E+00	1.4167E+00	1.5376E+00
2.00E+03	1.2793E+00	1.2629E+00	1.1681E+00	1.1879E+00	1.1498E+00	1.1011E+00	1.0943E+00	1.1024E+00	1.3051E+00	1.4197E+00
3.00E+03	1.1245E+00	1.1079E+00	1.0341E+00	1.0340E+00	1.0046E+00	9.5663E-01	9.4781E-01	9.5190E-01	1.1581E+00	1.2602E+00
4.00E+03	1.0277E+00	1.0115E+00	9.4976E-01	9.4032E-01	9.1494E-01	8.6943E-01	8.5987E-01	8.6168E-01	1.0643E+00	1.1552E+00
5.00E+03	9.6072E-01	9.4491E-01	8.9090E-01	8.7677E-01	8.5344E-01	8.1077E-01	8.0108E-01	8.0140E-01	9.9812E-01	1.0795E+00
6.00E+03	9.1060E-01	8.9531E-01	8.4660E-01	8.3011E-01	8.0797E-01	7.6804E-01	7.5848E-01	7.5781E-01	9.4776E-01	1.0212E+00
8.00E+03	8.3821E-01	8.2395E-01	7.8213E-01	7.6409E-01	7.4339E-01	7.0820E-01	6.9919E-01	6.9749E-01	8.7346E-01	9.3488E-01
1.00E+04	7.8613E-01	7.7275E-01	7.3522E-01	7.1752E-01	6.9783E-01	6.6645E-01	6.5801E-01	6.5606E-01	8.1872E-01	8.7153E-01
2.00E+04	6.3618E-01	6.2547E-01	5.9580E-01	5.8619E-01	5.6981E-01	5.5017E-01	5.4332E-01	5.4423E-01	6.5574E-01	6.8725E-01
5.00E+04	4.5463E-01	4.4711E-01	4.2013E-01	4.2718E-01	4.1450E-01	4.0968E-01	4.0409E-01	4.1353E-01	4.5849E-01	4.7659E-01
1.00E+05	3.4829E-01	3.4269E-01	3.1795E-01	3.3040E-01	3.1856E-01	3.2051E-01	3.1600E-01	3.2914E-01	3.4992E-01	3.6934E-01
2.00E+05	2.7753E-01	2.7280E-01	2.4863E-01	2.6266E-01	2.4890E-01	2.5401E-01	2.5056E-01	2.6493E-01	2.8069E-01	3.0683E-01
5.00E+05	2.1636E-01	2.1192E-01	1.8748E-01	2.0113E-01	1.8535E-01	1.9172E-01	1.8942E-01	2.0433E-01	2.2040E-01	2.5465E-01
1.00E+06	1.7575E-01	1.7163E-01	1.4909E-01	1.6131E-01	1.4638E-01	1.5255E-01	1.5112E-01	1.6571E-01	1.7907E-01	2.1510E-01
2.00E+06	1.3527E-01	1.3186E-01	1.1357E-01	1.2413E-01	1.1187E-01	1.1744E-01	1.1684E-01	1.3013E-01	1.3702E-01	1.6980E-01
5.00E+06	8.5918E-02	8.3795E-02	7.2397E-02	8.1448E-02	7.3651E-02	7.9366E-02	7.9488E-02	9.1482E-02	8.4821E-02	1.0996E-01
1.00E+07	5.5942E-02	5.4726E-02	4.7094E-02	5.6519E-02	5.0948E-02	5.8038E-02	5.8312E-02	7.0302E-02	5.2853E-02	7.2634E-02
2.00E+07	3.2695E-02	3.2188E-02	2.7611E-02	3.6266E-02	3.2438E-02	3.9806E-02	4.0089E-02	5.0657E-02	2.9116E-02	4.3154E-02
5.00E+07	1.3431E-02	1.3288E-02	1.1880E-02	1.6042E-02	1.4446E-02	1.8553E-02	1.8709E-02	2.4169E-02	1.1770E-02	1.7731E-02
1.00E+08	4.7751E-03	4.6847E-03	4.5190E-03	5.4053E-03	5.0463E-03	6.2487E-03	6.2862E-03	7.9714E-03	4.5368E-03	6.1431E-03
2.00E+08	1.9034E-03	1.7988E-03	1.7195E-03	1.4429E-03	1.4403E-03	1.3761E-03	1.3610E-03	1.4654E-03	2.1222E-03	2.4111E-03
5.00E+08	1.3131E-03	1.2228E-03	1.0748E-03	8.0247E-04	7.8159E-04	6.4157E-04	6.2210E-04	5.5429E-04	1.5178E-03	1.6596E-03
1.00E+09	8.8846E-04	8.2686E-04	7.1950E-04	5.4181E-04	5.2222E-04	4.3330E-04	4.1947E-04	3.7380E-04	1.0252E-03	1.1133E-03
1.00E+10	1.0092E-06	9.5165E-07	9.2713E-07	7.2223E-07	7.7472E-07	6.2959E-07	6.1971E-07	5.9147E-07	1.1395E-06	1.1817E-06
1.00E+11	2.2261E-08	2.5994E-08	1.1312E-07	2.2803E-08	9.6354E-08	2.9964E-08	3.4312E-08	2.3238E-08	2.9150E-08	1.3442E-08
1.00E+12	2.0175E-08	2.3120E-08	9.4395E-08	2.0621E-08	8.0776E-08	2.6460E-08	2.9977E-08	2.0955E-08	2.5507E-08	1.2132E-08
1.00E+13	8.5222E-09	8.6396E-09	1.7930E-08	8.5161E-09	1.6340E-08	9.2167E-09	9.5759E-09	8.4164E-09	8.5267E-09	5.3365E-09

(b) Gamma decay power (MeV/s)

TC(SEC)	U235(T)	U235(F)	U235(H)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU241(T)	U233(T)	TH232(F)
0.0	6.4182E+00	6.3870E+00	5.1181E+00	7.7065E+00	6.7460E+00	5.1633E+00	5.1767E+00	6.2617E+00	5.2528E+00	8.3112E+00
1.00E+00	6.0431E+00	5.9982E+00	4.8465E+00	7.0289E+00	6.1608E+00	4.9245E+00	4.9233E+00	5.8518E+00	5.0617E+00	7.6497E+00
1.50E+00	5.9118E+00	5.8626E+00	4.7489E+00	6.8023E+00	5.9676E+00	4.8370E+00	4.8310E+00	5.7063E+00	4.9907E+00	7.4276E+00
2.00E+00	5.8008E+00	5.7482E+00	4.6657E+00	6.6144E+00	5.8081E+00	4.7621E+00	4.7523E+00	5.5833E+00	4.9292E+00	7.2429E+00
3.00E+00	5.6197E+00	5.5625E+00	4.5287E+00	6.3154E+00	5.5550E+00	4.6384E+00	4.6230E+00	5.3832E+00	4.8262E+00	6.9475E+00
4.00E+00	5.4746E+00	5.4148E+00	4.4188E+00	6.0842E+00	5.3591E+00	4.5384E+00	4.5191E+00	5.2243E+00	4.7415E+00	6.7169E+00
5.00E+00	5.3538E+00	5.2927E+00	4.3274E+00	5.8971E+00	5.2005E+00	4.4546E+00	4.4322E+00	5.0930E+00	4.6695E+00	6.5287E+00
6.00E+00	5.2505E+00	5.1888E+00	4.2494E+00	5.7410E+00	5.0680E+00	4.3826E+00	4.3578E+00	4.9815E+00	4.6068E+00	6.3704E+00
8.00E+00	5.0807E+00	5.0193E+00	4.1218E+00	5.4927E+00	4.8571E+00	4.2631E+00	4.2347E+00	4.7997E+00	4.5013E+00	6.1141E+00
1.00E+01	4.9446E+00	4.8843E+00	4.0203E+00	5.3011E+00	4.6942E+00	4.1662E+00	4.1355E+00	4.6556E+00	4.4141E+00	5.9111E+00
1.50E+01	4.6905E+00	4.6338E+00	3.8327E+00	4.9597E+00	4.4046E+00	3.9818E+00	3.9480E+00	4.3894E+00	4.2447E+00	5.5338E+00
2.00E+01	4.5057E+00	4.4520E+00	3.6977E+00	4.7224E+00	4.2048E+00	3.8446E+00	3.8096E+00	4.1971E+00	4.1159E+00	5.2585E+00
3.00E+01	4.2375E+00	4.1878E+00	3.5039E+00	4.3887E+00	3.9270E+00	3.6407E+00	3.6057E+00	3.9179E+00	3.9212E+00	4.8581E+00
4.00E+01	4.0408E+00	3.9934E+00	3.3621E+00	4.1487E+00	3.7291E+00	3.4881E+00	3.4537E+00	3.7122E+00	3.7731E+00	4.5646E+00
5.00E+01	3.8847E+00	3.8388E+00	3.2490E+00	3.9603E+00	3.5741E+00	3.3655E+00	3.3317E+00	3.5489E+00	3.6527E+00	4.3329E+00
6.00E+01	3.7556E+00	3.7108E+00	3.1548E+00	3.8060E+00	3.4469E+00	3.2634E+00	3.2302E+00	3.4146E+00	3.5511E+00	4.1431E+00
8.00E+01	3.5518E+00	3.5086E+00	3.0042E+00	3.5653E+00	3.2479E+00	3.1015E+00	3.0689E+00	3.2054E+00	3.3874E+00	3.8479E+00
1.00E+02	3.3965E+00	3.3547E+00	2.8878E+00	3.3847E+00	3.0978E+00	2.9779E+00	2.9459E+00	3.0497E+00	3.2597E+00	3.6282E+00
1.50E+02	3.1291E+00	3.0902E+00	2.6833E+00	3.0805E+00	2.8429E+00	2.7660E+00	2.7355E+00	2.7923E+00	3.0337E+00	3.2639E+00
2.00E+02	2.9555E+00	2.9185E+00	2.5472E+00	2.8877E+00	2.6796E+00	2.6286E+00	2.5997E+00	2.6330E+00	2.8826E+00	3.0397E+00
3.00E+02	2.7342E+00	2.6999E+00	2.3695E+00	2.6486E+00	2.4733E+00	2.4516E+00	2.4256E+00	2.4374E+00	2.6850E+00	2.7730E+00
4.00E+02	2.5901E+00	2.5574E+00	2.2507E+00	2.4977E+00	2.3395E+00	2.3331E+00	2.3088E+00	2.3117E+00	2.5530E+00	2.6119E+00
5.00E+02	2.4825E+00	2.4508E+00	2.1603E+00	2.3876E+00	2.2397E+00	2.2420E+00	2.2185E+00	2.2171E+00	2.4528E+00	2.4974E+00
6.00E+02	2.3957E+00	2.3646E+00	2.0866E+00	2.2999E+00	2.1590E+00	2.1666E+00	2.1432E+00	2.1398E+00	2.3711E+00	2.4078E+00
8.00E+02	2.2582E+00	2.2278E+00	1.9690E+00	2.1627E+00	2.0313E+00	2.0439E+00	2.0198E+00	2.0149E+00	2.2407E+00	2.2698E+00
1.00E+03	2.1497E+00	2.1197E+00	1.8761E+00	2.0550E+00	1.9304E+00	1.9447E+00	1.9193E+00	1.9141E+00	2.1374E+00	2.1630E+00
1.50E+03	1.9458E+00	1.9164E+00	1.7022E+00	1.8530E+00	1.7413E+00	1.7549E+00	1.7263E+00	1.7209E+00	1.9432E+00	1.9641E+00
2.00E+03	1.7960E+00	1.7673E+00	1.5758E+00	1.7054E+00	1.6033E+00	1.6147E+00	1.5840E+00	1.5779E+00	1.8010E+00	1.8174E+00
3.00E+03	1.5824E+00	1.5557E+00	1.3978E+00	1.4974E+00	1.4088E+00	1.4170E+00	1.3845E+00	1.3755E+00	1.5983E+00	1.6048E+00
4.00E+03	1.4333E+00	1.4091E+00	1.2752E+00	1.3551E+00	1.2755E+00	1.2825E+00	1.2502E+00	1.2376E+00	1.4567E+00	1.4535E+00
5.00E+03	1.3213E+00	1.2997E+00	1.1839E+00	1.2501E+00	1.1770E+00	1.1843E+00	1.1529E+00	1.1371E+00	1.3498E+00	1.3382E+00
6.00E+03	1.2332E+00	1.2140E+00	1.1125E+00	1.1686E+00	1.1006E+00	1.1091E+00	1.0789E+00	1.0602E+00	1.2653E+00	1.2464E+00
8.00E+03	1.1022E+00	1.0872E+00	1.0061E+00	1.0492E+00	9.8872E-01	1.0006E+00	9.7301E-01	9.4974E-01	1.1381E+00	1.1081E+00
1.00E+04	1.0089E+00	9.9712E-01	9.2946E-01	9.6506E-01	9.1002E-01	9.2556E-01	9.0014E-01	8.7389E-01	1.0456E+00	1.0076E+00
2.00E+04	7.7555E-01	7.7134E-01	7.2459E-01	7.5779E-01	7.1402E-01	7.4294E-01	7.2261E-01	6.9376E-01	8.0187E-01	7.4315E-01
5.00E+04	5.7607E-01	5.7571E-01	5.2590E-01	5.7729E-01	5.3793E-01	5.7769E-01	5.6006E-01	5.3909E-01	5.8279E-01	5.1596E-01
1.00E+05	4.6724E-01	4.6799E-01	4.1944E-01	4.7144E-01	4.3556E-01	4.7477E-01	4.5925E-01	4.4401E-01	4.7238E-01	4.1771E-01
2.00E+05	3.8138E-01	3.8185E-01	3.3568E-01	3.8475E-01	3.5073E-01	3.8647E-01	3.7356E-01	3.6490E-01	3.8572E-01	3.5031E-01
5.00E+05	2.8748E-01	2.8633E-01	2.4374E-01	2.8488E-01	2.5407E-01	2.8285E-01	2.7355E-01	2.7276E-01	2.8724E-01	2.7501E-01
1.00E+06	2.1703E-01	2.1504E-01	1.7903E-01	2.1032E-01	1.8565E-01	2.0779E-01	2.0094E-01	2.0212E-01	2.1329E-01	2.0921E-01
2.00E+06	1.5049E-01	1.4877E-01	1.2243E-01	1.4284E-01	1.2709E-01	1.4132E-01	1.3660E-01	1.3532E-01	1.4482E-01	1.3928E-01
5.00E+06	8.0100E-02	7.9270E-02	6.5671E-02	7.3418E-02	6.8371E-02	7.3377E-02	7.0872E-02	6.6715E-02	7.5110E-02	6.6297E-02
1.00E+07	4.2847E-02	4.2387E-02	3.5730E-02	3.8251E-02	3.6963E-02	3.8614E-02	3.7312E-02	3.5016E-02	4.0158E-02	3.4692E-02
2.00E+07	1.4163E-02	1.4054E-02	1.2809E-02	1.3098E-02	1.3298E-02	1.3838E-02	1.3488E-02	1.3552E-02	1.3418E-02	1.1994E-02
5.00E+07	1.5706E-03	1.6273E-03	2.4594E-03	2.1436E-03	2.6393E-03	2.7878E-03	2.8219E-03	3.3988E-03	1.5774E-03	1.6170E-03
1.00E+08	8.8162E-04	9.1050E-04	1.4091E-03	1.0908E-03	1.4270E-03	1.3829E-03	1.4007E-03	1.6016E-03	9.5532E-04	9.3533E-04
2.00E+08	6.9911E-04	7.0504E-04	8.2973E-04	7.0556E-04	8.0815E-04	8.1295E-04	8.1139E-04	8.4949E-04	7.7522E-04	7.4744E-04
5.00E+08	5.4902E-04	5.4574E-04	4.5251E-04	5.2861E-04	4.5614E-04	5.8769E-04	5.7745E-04	6.0573E-04	6.0094E-04	5.8960E-04
1.00E+09	3.8096E-04	3.7804E-04	2.9714E-04	3.6613E-04	3.0195E-04	4.0624E-04	3.9826E-04	4.1929E-04	4.1608E-04	4.0915E-04
1.00E+10	5.5242E-07	5.6137E-07	7.0644E-07	5.3246E-07	6.5908E-07	6.1139E-07	6.1400E-07	6.1000E-07	6.3077E-07	5.9153E-07
1.00E+11	8.8326E-09	2.1760E-08	2.7809E-07	1.0084E-08	2.2485E-07	3.1451E-08	4.5257E-08	1.1843E-08	3.6648E-08	7.8815E-09
1.00E+12	7.2481E-09	1.7857E-08	2.2821E-07	8.2752E-09	1.8452E-07	2.5808E-08	3.7133E-08	9.7186E-09	3.0071E-08	6.4679E-09
1.00E+13	1.0047E-09	2.4743E-09	3.1612E-08	1.1473E-09	2.5559E-08	3.5760E-09	5.1448E-09	1.3469E-09	4.1662E-09	8.9628E-10

Table 4.1.2 Continued

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

TC(SEC)	U235(T)	U235(F)	U235(H)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU241(T)	U233(T)	TH232(F)
0.0	1.2813E+01	1.2853E+01	1.0387E+01	1.5983E+01	1.4162E+01	1.0445E+01	1.0533E+01	1.3054E+01	1.0182E+01	1.6443E+01
1.00E+00	1.1869E+01	1.1859E+01	9.7005E+00	1.4255E+01	1.2665E+01	9.8263E+00	9.8737E+00	1.1989E+01	9.7078E+00	1.4873E+01
1.50E+00	1.1541E+01	1.1517E+01	9.4541E+00	1.3683E+01	1.2176E+01	9.6005E+00	9.6347E+00	1.1614E+01	9.5317E+00	1.4355E+01
2.00E+00	1.1265E+01	1.1230E+01	9.2448E+00	1.3210E+01	1.1774E+01	9.4081E+00	9.4318E+00	1.1299E+01	9.3798E+00	1.3928E+01
3.00E+00	1.0816E+01	1.0767E+01	8.9026E+00	1.2462E+01	1.1140E+01	9.0919E+00	9.1005E+00	1.0789E+01	9.1264E+00	1.3250E+01
4.00E+00	1.0458E+01	1.0402E+01	8.6299E+00	1.1885E+01	1.0652E+01	8.8384E+00	8.8363E+00	1.0388E+01	8.9197E+00	1.2725E+01
5.00E+00	1.0162E+01	1.0101E+01	8.4044E+00	1.1421E+01	1.0259E+01	8.6274E+00	8.6173E+00	1.0058E+01	8.7450E+00	1.2300E+01
6.00E+00	9.9096E+00	9.8463E+00	8.2133E+00	1.1037E+01	9.9315E+00	8.4472E+00	8.430BE+00	9.7805E+00	8.5938E+00	1.1945E+01
8.00E+00	9.4999E+00	9.4347E+00	7.9036E+00	1.0430E+01	9.4140E+00	8.1520E+00	8.1264E+00	9.3330E+00	8.3421E+00	1.1377E+01
1.00E+01	9.1770E+00	9.1117E+00	7.6603E+00	9.9696E+00	9.0187E+00	7.9165E+00	7.8846E+00	8.9840E+00	8.1377E+00	1.0934E+01
1.50E+01	8.5926E+00	8.5294E+00	7.2211E+00	9.1747E+00	8.3324E+00	7.4814E+00	7.4411E+00	8.3594E+00	7.7517E+00	1.0133E+01
2.00E+01	8.1867E+00	8.1256E+00	6.9168E+00	8.6492E+00	7.8774E+00	7.1707E+00	7.1273E+00	7.9286E+00	7.4702E+00	9.5703E+00
3.00E+01	7.6296E+00	7.5711E+00	6.4985E+00	7.9545E+00	7.2770E+00	6.7319E+00	6.6880E+00	7.3362E+00	7.0655E+00	8.7867E+00
4.00E+01	7.2420E+00	7.1847E+00	6.2050E+00	7.4834E+00	6.8711E+00	6.4183E+00	6.3756E+00	6.9215E+00	6.7716E+00	8.2357E+00
5.00E+01	6.9439E+00	6.8872E+00	5.9767E+00	7.1258E+00	6.5627E+00	6.1729E+00	6.1315E+00	6.6016E+00	6.5390E+00	7.8113E+00
6.00E+01	6.7019E+00	6.6455E+00	5.7892E+00	6.8381E+00	6.3140E+00	5.9712E+00	5.9309E+00	6.3423E+00	6.3464E+00	7.4684E+00
8.00E+01	6.3254E+00	6.2695E+00	5.4930E+00	6.3948E+00	5.9293E+00	5.6540E+00	5.6153E+00	5.9414E+00	6.0402E+00	6.9413E+00
1.00E+02	6.0415E+00	5.9862E+00	5.2659E+00	6.0640E+00	5.6408E+00	5.4126E+00	5.3752E+00	5.6430E+00	5.8042E+00	6.5518E+00
1.50E+02	5.5550E+00	5.5017E+00	4.8686E+00	5.5052E+00	5.1506E+00	4.9957E+00	4.9609E+00	5.1425E+00	5.3898E+00	5.9063E+00
2.00E+02	5.2378E+00	5.1864E+00	4.6040E+00	5.1472E+00	4.8340E+00	4.7210E+00	4.6889E+00	4.8239E+00	5.1126E+00	5.5057E+00
3.00E+02	4.8281E+00	4.7793E+00	4.2563E+00	4.6950E+00	4.4290E+00	4.3603E+00	4.3325E+00	4.4186E+00	4.7459E+00	5.0199E+00
4.00E+02	4.5568E+00	4.5097E+00	4.0230E+00	4.4040E+00	4.1636E+00	4.1158E+00	4.0907E+00	4.1513E+00	4.4977E+00	4.7193E+00
5.00E+02	4.3524E+00	4.3062E+00	3.8460E+00	4.1894E+00	3.9653E+00	3.9280E+00	3.9040E+00	3.9490E+00	4.3081E+00	4.5027E+00
6.00E+02	4.1869E+00	4.1414E+00	3.7022E+00	4.0181E+00	3.8057E+00	3.7737E+00	3.7498E+00	3.7846E+00	4.1534E+00	4.3323E+00
8.00E+02	3.9256E+00	3.8805E+00	3.4749E+00	3.7504E+00	3.5550E+00	3.5265E+00	3.5011E+00	3.5235E+00	3.9079E+00	4.0703E+00
1.00E+03	3.7210E+00	3.6759E+00	3.2976E+00	3.5424E+00	3.3601E+00	3.3310E+00	3.3033E+00	3.3188E+00	3.7153E+00	3.8693E+00
1.50E+03	3.3440E+00	3.2987E+00	2.9731E+00	3.1617E+00	3.0040E+00	2.9704E+00	2.9369E+00	2.9436E+00	3.3599E+00	3.5017E+00
2.00E+03	3.0753E+00	3.0302E+00	2.7439E+00	2.8933E+00	2.7531E+00	2.7158E+00	2.6783E+00	2.6803E+00	3.1061E+00	3.2371E+00
3.00E+03	2.7068E+00	2.6636E+00	2.4319E+00	2.5315E+00	2.4134E+00	2.3736E+00	2.3323E+00	2.3274E+00	2.7564E+00	2.8650E+00
4.00E+03	2.4610E+00	2.4206E+00	2.2249E+00	2.2954E+00	2.1904E+00	2.1520E+00	2.1100E+00	2.0993E+00	2.5210E+00	2.6087E+00
5.00E+03	2.2820E+00	2.2446E+00	2.0748E+00	2.1269E+00	2.0304E+00	1.9951E+00	1.9540E+00	1.9385E+00	2.3480E+00	2.4177E+00
6.00E+03	2.1438E+00	2.1093E+00	1.9591E+00	1.9987E+00	1.9086E+00	1.8771E+00	1.8374E+00	1.8180E+00	2.2130E+00	2.2677E+00
8.00E+03	1.9405E+00	1.9112E+00	1.7883E+00	1.8132E+00	1.7321E+00	1.7088E+00	1.6722E+00	1.6472E+00	2.0115E+00	2.0430E+00
1.00E+04	1.7950E+00	1.7699E+00	1.6647E+00	1.6826E+00	1.6079E+00	1.5920E+00	1.5581E+00	1.5300E+00	1.8644E+00	1.8792E+00
2.00E+04	1.4117E+00	1.3968E+00	1.3204E+00	1.3440E+00	1.2838E+00	1.2931E+00	1.2659E+00	1.2380E+00	1.4576E+00	1.4304E+00
5.00E+04	1.0307E+00	1.0228E+00	9.4603E-01	1.0045E+00	9.5243E-01	9.8737E-01	9.6415E-01	9.5263E-01	1.0413E+00	9.9255E-01
1.00E+05	8.1553E-01	8.1068E-01	7.3739E-01	8.0184E-01	7.5411E-01	7.9527E-01	7.7525E-01	7.7315E-01	8.2230E-01	7.8705E-01
2.00E+05	6.5891E-01	6.5465E-01	5.8431E-01	6.4741E-01	5.9964E-01	6.4048E-01	6.2412E-01	6.2983E-01	6.6641E-01	6.5714E-01
5.00E+05	5.0384E-01	4.9825E-01	4.3123E-01	4.8601E-01	4.3943E-01	4.7457E-01	4.6297E-01	4.7709E-01	5.0764E-01	5.2966E-01
1.00E+06	3.9277E-01	3.8667E-01	3.2812E-01	3.7163E-01	3.3202E-01	3.6034E-01	3.5206E-01	3.6784E-01	3.9236E-01	4.2430E-01
2.00E+06	2.8576E-01	2.8064E-01	2.3601E-01	2.6697E-01	2.3896E-01	2.5876E-01	2.5343E-01	2.6545E-01	2.8184E-01	3.0908E-01
5.00E+06	1.6602E-01	1.6306E-01	1.3807E-01	1.5487E-01	1.4202E-01	1.5274E-01	1.5036E-01	1.5820E-01	1.5993E-01	1.7625E-01
1.00E+07	9.8789E-02	9.7112E-02	8.2824E-02	9.4769E-02	8.7911E-02	9.6652E-02	9.5624E-02	1.0532E-01	9.3010E-02	1.0733E-01
2.00E+07	4.6859E-02	4.6242E-02	4.0420E-02	4.9364E-02	4.5736E-02	5.3643E-02	5.3577E-02	6.4209E-02	4.2535E-02	5.5148E-02
5.00E+07	1.5002E-02	1.4916E-02	1.4339E-02	1.8185E-02	1.7085E-02	2.1341E-02	2.1530E-02	2.7568E-02	1.3348E-02	1.9348E-02
1.00E+08	5.6567E-03	5.5952E-03	5.9281E-03	6.4961E-03	6.4733E-03	7.6316E-03	7.6869E-03	9.5730E-03	5.4922E-03	7.0785E-03
2.00E+08	2.6025E-03	2.5038E-03	2.5493E-03	2.1484E-03	2.2484E-03	2.1890E-03	2.1724E-03	2.3149E-03	2.8974E-03	3.1586E-03
5.00E+08	1.8621E-03	1.7685E-03	1.5274E-03	1.3311E-03	1.2377E-03	1.2293E-03	1.1995E-03	1.1600E-03	2.1187E-03	2.2492E-03
1.00E+09	1.2694E-03	1.2049E-03	1.0166E-03	9.0794E-04	8.2417E-04	8.3955E-04	8.1772E-04	7.9309E-04	1.4413E-03	1.5224E-03
1.00E+10	1.5616E-06	1.5130E-06	1.6336E-06	1.2547E-06	1.4338E-06	1.2410E-06	1.2337E-06	1.2015E-06	1.7702E-06	1.7732E-06
1.00E+11	3.1094E-08	4.7753E-08	3.9121E-07	3.2887E-08	3.2120E-07	6.1415E-08	7.9569E-08	3.5081E-08	6.5798E-08	2.1324E-08
1.00E+12	2.7423E-08	4.0977E-08	3.2260E-07	2.8896E-08	2.6529E-07	5.2268E-08	6.7110E-08	3.0673E-08	5.5577E-08	1.8600E-08
1.00E+13	9.5268E-09	1.1114E-08	4.9542E-08	9.6634E-09	4.1899E-08	1.2793E-08	1.4721E-08	9.7634E-09	1.2693E-08	6.2328E-09

(d) Total decay power (MeV/s)

TC(SEC)	U235(T)	U235(F)	U235(H)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU241(T)	U233(T)	TH232(F)
0.0	2.1310E+01	2.1426E+01	1.7420E+01	2.6801E+01	2.3877E+01	1.7505E+01	1.7674E+01	2.2013E+01	1.6836E+01	2.7189E+01
1.00E+00	1.9680E+01	1.9707E+01	1.6233E+01	2.3811E+01	2.1285E+01	1.6434E+01	1.6531E+01	2.0156E+01	1.6019E+01	2.4524E+01
1.50E+00	1.9114E+01	1.9114E+01	1.5806E+01	2.2818E+01	2.0436E+01	1.6042E+01	1.6116E+01	1.9504E+01	1.5715E+01	2.3647E+01
2.00E+00	1.8636E+01	1.8618E+01	1.5443E+01	2.1999E+01	1.9739E+01	1.5707E+01	1.5763E+01	1.8955E+01	1.5452E+01	2.2922E+01
3.00E+00	1.7858E+01	1.7817E+01	1.4850E+01	2.0701E+01	1.8640E+01	1.5158E+01	1.5188E+01	1.8069E+01	1.5015E+01	2.1773E+01
4.00E+00	1.7239E+01	1.7184E+01	1.4377E+01	1.9702E+01	1.7793E+01	1.4717E+01	1.4729E+01	1.7371E+01	1.4658E+01	2.0884E+01
5.00E+00	1.6727E+01	1.6664E+01	1.3987E+01	1.8899E+01	1.7111E+01	1.4351E+01	1.4349E+01	1.6799E+01	1.4357E+01	2.0166E+01
6.00E+00	1.6291E+01	1.6224E+01	1.3656E+01	1.8234E+01	1.6544E+01	1.4038E+01	1.4026E+01	1.6317E+01	1.4096E+01	1.9566E+01
8.00E+00	1.5584E+01	1.5514E+01	1.3120E+01	1.7187E+01	1.5647E+01	1.3526E+01	1.3498E+01	1.5543E+01	1.3663E+01	1.8609E+01
1.00E+01	1.5028E+01	1.4957E+01	1.2700E+01	1.6395E+01	1.4963E+01	1.3119E+01	1.3080E+01	1.4941E+01	1.3312E+01	1.7865E+01
1.50E+01	1.4027E+01	1.3958E+01	1.1945E+01	1.5034E+01	1.3780E+01	1.2368E+01	1.2315E+01	1.3869E+01	1.2652E+01	1.6527E+01
2.00E+01	1.3338E+01	1.3270E+01	1.1425E+01	1.4142E+01	1.3000E+01	1.1836E+01	1.1778E+01	1.3136E+01	1.2174E+01	1.5596E+01
3.00E+01	1.2403E+01	1.2337E+01	1.0716E+01	1.2979E+01	1.1983E+01	1.1092E+01	1.1034E+01	1.2140E+01	1.1495E+01	1.4313E+01
4.00E+01	1.1760E+01	1.1696E+01	1.0223E+01	1.2201E+01	1.1303E+01	1.0565E+01	1.0509E+01	1.1452E+01	1.1007E+01	1.3421E+01
5.00E+01	1.1271E+01	1.1206E+01	9.8418E+00	1.1616E+01	1.0790E+01	1.0155E+01	1.0102E+01	1.0924E+01	1.0624E+01	1.2738E+01
6.00E+01	1.0875E+01	1.0810E+01	9.5296E+00	1.1147E+01	1.0379E+01	9.8186E+00	9.7678E+00	1.0497E+01	1.0308E+01	1.2189E+01
8.00E+01	1.0263E+01	1.0197E+01	9.0380E+00	1.0427E+01	9.7434E+00	9.2902E+00	9.2429E+00	9.8380E+00	9.8090E+00	1.1349E+01
1.00E+02	9.8031E+00	9.7371E+00	8.6617E+00	9.8896E+00	9.2676E+00	8.8876E+00	8.8428E+00	9.3454E+00	9.4263E+00	1.0729E+01
1.50E+02	9.0172E+00	8.9522E+00	8.0039E+00	8.9804E+00	8.4574E+00	8.1889E+00	8.1490E+00	8.5122E+00	8.7565E+00	9.7013E+00
2.00E+02	8.5047E+00	8.4411E+00	7.5654E+00	8.3952E+00	7.9321E+00	7.7256E+00	7.6900E+00	7.9750E+00	8.3086E+00	9.0612E+00
3.00E+02	7.8402E+00	7.7789E+00	6.9884E+00	7.6519E+00	7.2576E+00	7.1140E+00	7.0853E+00	7.2831E+00	7.7139E+00	8.2779E+00
4.00E+02	7.3978E+00	7.3380E+00	6.6008E+00	7.1710E+00	6.8144E+00	6.6990E+00	6.6743E+00	6.8232E+00	7.3092E+00	7.7875E+00
5.00E+02	7.0633E+00	7.0044E+00	6.3068E+00	6.8153E+00	6.4830E+00	6.3810E+00	6.3580E+00	6.4751E+00	6.9993E+00	7.4313E+00
6.00E+02	6.7921E+00	6.7335E+00	6.0683E+00	6.5311E+00	6.2165E+00	6.1205E+00	6.0977E+00	6.1926E+00	6.7464E+00	7.1503E+00
8.00E+02	6.3640E+00	6.3052E+00	5.6925E+00	6.0872E+00	5.7993E+00	5.7055E+00	5.6804E+00	5.7468E+00	6.3454E+00	6.7179E+00
1.00E+03	6.0297E+00	5.9701E+00	5.4005E+00	5.7434E+00	5.4765E+00	5.3801E+00	5.3511E+00	5.4005E+00	6.0320E+00	6.3872E+00
1.50E+03	5.4179E+00	5.3562E+00	4.8702E+00	5.1194E+00	4.8921E+00	4.7874E+00	4.7491E+00	4.7764E+00	5.4576E+00	5.7865E+00
2.00E+03	4.9869E+00	4.9242E+00	4.4995E+00	4.6852E+00	4.4857E+00	4.3765E+00	4.3313E+00	4.3473E+00	5.0519E+00	5.3584E+00
3.00E+03	4.4061E+00	4.3437E+00	4.0019E+00	4.1101E+00	3.9444E+00	3.8352E+00	3.7828E+00	3.7849E+00	4.5009E+00	4.7643E+00
4.00E+03	4.0267E+00	3.9664E+00	3.6772E+00	3.7427E+00	3.5957E+00	3.4922E+00	3.4376E+00	3.4301E+00	4.1365E+00	4.3612E+00
5.00E+03	3.7546E+00	3.6972E+00	3.4443E+00	3.4843E+00	3.3489E+00	3.2533E+00	3.1989E+00	3.1840E+00	3.8720E+00	4.0636E+00
6.00E+03	3.5465E+00	3.4921E+00	3.2659E+00	3.2898E+00	3.1626E+00	3.0752E+00	3.0221E+00	3.0016E+00	3.6672E+00	3.8312E+00
8.00E+03	3.2416E+00	3.1929E+00	3.0034E+00	3.0098E+00	2.8940E+00	2.8223E+00	2.7726E+00	2.7448E+00	3.3619E+00	3.4838E+00
1.00E+04	3.0225E+00	2.9786E+00	2.8125E+00	2.8119E+00	2.7043E+00	2.6460E+00	2.5995E+00	2.5679E+00	3.1376E+00	3.2293E+00
2.00E+04	2.4230E+00	2.3921E+00	2.2646E+00	2.2805E+00	2.1927E+00	2.1771E+00	2.1389E+00	2.1115E+00	2.4968E+00	2.5141E+00
5.00E+04	1.7718E+00	1.7523E+00	1.6272E+00	1.7008E+00	1.6266E+00	1.6565E+00	1.6240E+00	1.6250E+00	1.7888E+00	1.7662E+00
1.00E+05	1.3923E+00	1.3786E+00	1.2610E+00	1.3464E+00	1.2784E+00	1.3226E+00	1.2949E+00	1.3104E+00	1.4034E+00	1.3975E+00
2.00E+05	1.1223E+00	1.1105E+00	9.9763E-01	1.0819E+00	1.0119E+00	1.0590E+00	1.0366E+00	1.0614E+00	1.1371E+00	1.1682E+00
5.00E+05	8.6738E-01	8.5438E-01	7.4474E-01	8.1921E-01	7.4752E-01	7.9013E-01	7.7424E-01	8.0827E-01	8.7951E-01	9.5467E-01
1.00E+06	6.8832E-01	6.7523E-01	5.7698E-01	6.3832E-01	5.7466E-01	6.1018E-01	5.9904E-01	6.3432E-01	6.9455E-01	7.8229E-01
2.00E+06	5.1168E-01	5.0071E-01	4.2367E-01	4.6995E-01	4.2216E-01	4.4819E-01	4.4141E-01	4.7093E-01	5.1146E-01	5.8921E-01
5.00E+06	3.0664E-01	3.0003E-01	2.5503E-01	2.8441E-01	2.5934E-01	2.7641E-01	2.7390E-01	2.9736E-01	2.9947E-01	3.5393E-01
1.00E+07	1.8829E-01	1.8449E-01	1.5705E-01	1.8220E-01	1.6685E-01	1.8436E-01	1.8356E-01	2.0939E-01	1.7813E-01	2.2231E-01
2.00E+07	9.7485E-02	9.5946E-02	8.2362E-02	1.0366E-01	9.4286E-02	1.1194E-01	1.1221E-01	1.3747E-01	8.7876E-02	1.2178E-01
5.00E+07	3.5388E-02	3.5015E-02	3.1951E-02	4.1764E-02	3.8270E-02	4.8051E-02	4.8441E-02	6.2107E-02	3.1269E-02	4.6438E-02
1.00E+08	1.3058E-02	1.2827E-02	1.2762E-02	1.4577E-02	1.3999E-02	1.6735E-02	1.6833E-02	2.1067E-02	1.2545E-02	1.6690E-02
2.00E+08	5.6436E-03	5.3750E-03	5.2658E-03	4.4350E-03	4.5188E-03	4.3250E-03	4.2815E-03	4.5634E-03	6.2784E-03	7.0462E-03
5.00E+08	3.9321E-03	3.6971E-03	3.2243E-03	2.6011E-03	2.4744E-03	2.2463E-03	2.1861E-03	2.0411E-03	4.5123E-03	4.8767E-03
1.00E+09	2.6648E-03	2.5039E-03	2.1481E-03	1.7608E-03	1.6465E-03	1.5228E-03	1.4794E-03	1.3835E-03	3.0522E-03	3.2742E-03
1.00E+10	3.2289E-06	3.0864E-06	3.1262E-06	2.5377E-06	2.7721E-06	2.3727E-06	2.3482E-06	2.3074E-06	3.6181E-06	3.6618E-06
1.00E+11	8.0295E-08	1.0024E-07	5.3922E-07	8.3252E-08	4.5297E-07	1.1981E-07	1.4230E-07	8.6255E-08	1.1888E-07	4.8896E-08
1.00E+12	7.2223E-08	8.8189E-08	4.4766E-07	7.4725E-08	3.7743E-07	1.0465E-07	1.2293E-07	7.7206E-08	1.0272E-07	4.3603E-08
1.00E+13	2.8639E-08	2.9884E-08	7.7746E-08	2.9057E-08	6.9259E-08	3.3064E-08	3.5183E-08	2.9317E-08	3.0144E-08	1.7249E-08

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

(a) Beta decay power (MeV/s)

TC(SEC)	U235(T)	U235(F)	U235(H)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU241(T)	U233(T)	TH232(F)
0.0	6.5126E+00	6.5780E+00	5.3807E+00	8.3736E+00	7.5166E+00	5.3782E+00	5.4535E+00	6.9001E+00	5.0541E+00	8.2782E+00
1.00E+00	5.9431E+00	5.9731E+00	4.9657E+00	7.3234E+00	6.6049E+00	4.9986E+00	5.0471E+00	6.2446E+00	4.7704E+00	7.3698E+00
1.50E+00	5.7465E+00	5.7666E+00	4.8168E+00	6.9776E+00	6.3089E+00	4.8603E+00	4.9004E+00	6.0154E+00	4.6655E+00	7.0745E+00
2.00E+00	5.5813E+00	5.5943E+00	4.6907E+00	6.6928E+00	6.0666E+00	4.7427E+00	4.7762E+00	5.8233E+00	4.5750E+00	6.8319E+00
3.00E+00	5.3132E+00	5.3170E+00	4.4855E+00	6.2433E+00	5.6858E+00	4.5504E+00	4.5743E+00	5.5139E+00	4.4247E+00	6.4490E+00
4.00E+00	5.1004E+00	5.0990E+00	4.3227E+00	5.8982E+00	5.3938E+00	4.3968E+00	4.4140E+00	5.2712E+00	4.3026E+00	6.1546E+00
5.00E+00	4.9251E+00	4.9204E+00	4.1887E+00	5.6213E+00	5.1590E+00	4.2696E+00	4.2818E+00	5.0732E+00	4.1999E+00	5.9178E+00
6.00E+00	4.7765E+00	4.7698E+00	4.0756E+00	5.3926E+00	4.9643E+00	4.1615E+00	4.1698E+00	4.9069E+00	4.1115E+00	5.7212E+00
8.00E+00	4.5366E+00	4.5277E+00	3.8934E+00	5.0347E+00	4.6578E+00	3.9858E+00	3.9884E+00	4.6411E+00	3.9653E+00	5.4095E+00
1.00E+01	4.3498E+00	4.3397E+00	3.7516E+00	4.7657E+00	4.4254E+00	3.8472E+00	3.8459E+00	4.4363E+00	3.8480E+00	5.1698E+00
1.50E+01	4.0194E+00	4.0080E+00	3.5001E+00	4.3122E+00	4.0287E+00	3.5964E+00	3.5899E+00	4.0779E+00	3.6315E+00	4.7458E+00
2.00E+01	3.7984E+00	3.7860E+00	3.3307E+00	4.0240E+00	3.7734E+00	3.4231E+00	3.4145E+00	3.8394E+00	3.4789E+00	4.4584E+00
3.00E+01	3.5094E+00	3.4956E+00	3.1062E+00	3.6630E+00	3.4509E+00	3.1881E+00	3.1790E+00	3.5261E+00	3.2688E+00	4.0752E+00
4.00E+01	3.3185E+00	3.3037E+00	2.9546E+00	3.4319E+00	3.2429E+00	3.0271E+00	3.0186E+00	3.3172E+00	3.1230E+00	3.8177E+00
5.00E+01	3.1765E+00	3.1607E+00	2.8393E+00	3.2627E+00	3.0895E+00	2.9042E+00	2.8964E+00	3.1605E+00	3.0108E+00	3.6249E+00
6.00E+01	3.0636E+00	3.0470E+00	2.7460E+00	3.1293E+00	2.9680E+00	2.8047E+00	2.7975E+00	3.0355E+00	2.9197E+00	3.4719E+00
8.00E+01	2.8909E+00	2.8732E+00	2.6004E+00	2.9266E+00	2.7823E+00	2.6494E+00	2.6432E+00	2.8439E+00	2.7773E+00	3.2400E+00
1.00E+02	2.7623E+00	2.7439E+00	2.4897E+00	2.7765E+00	2.6440E+00	2.5315E+00	2.5260E+00	2.7012E+00	2.6690E+00	3.0701E+00
1.50E+02	2.5432E+00	2.5239E+00	2.2969E+00	2.5219E+00	2.4086E+00	2.3266E+00	2.3222E+00	2.4581E+00	2.4806E+00	2.7890E+00
2.00E+02	2.3997E+00	2.3801E+00	2.1684E+00	2.3567E+00	2.2553E+00	2.1893E+00	2.1859E+00	2.2988E+00	2.3544E+00	2.6126E+00
3.00E+02	2.2113E+00	2.1917E+00	1.9985E+00	2.1435E+00	2.0566E+00	2.0055E+00	2.0037E+00	2.0891E+00	2.1854E+00	2.3935E+00
4.00E+02	2.0841E+00	2.0646E+00	1.8840E+00	2.0035E+00	1.9250E+00	1.8795E+00	1.8786E+00	1.9475E+00	2.0691E+00	2.2540E+00
5.00E+02	1.9872E+00	1.9678E+00	1.7973E+00	1.8990E+00	1.8265E+00	1.7829E+00	1.7823E+00	1.8398E+00	1.9797E+00	2.1519E+00
6.00E+02	1.9086E+00	1.8891E+00	1.7272E+00	1.8153E+00	1.7475E+00	1.7040E+00	1.7033E+00	1.7527E+00	1.9068E+00	2.0711E+00
8.00E+02	1.7847E+00	1.7650E+00	1.6175E+00	1.6849E+00	1.6246E+00	1.5794E+00	1.5781E+00	1.6165E+00	1.7917E+00	1.9471E+00
1.00E+03	1.6887E+00	1.6686E+00	1.5332E+00	1.5846E+00	1.5306E+00	1.4832E+00	1.4808E+00	1.5126E+00	1.7024E+00	1.8529E+00
1.50E+03	1.5156E+00	1.4946E+00	1.3826E+00	1.4059E+00	1.3637E+00	1.3123E+00	1.3074E+00	1.3306E+00	1.5411E+00	1.6842E+00
2.00E+03	1.3966E+00	1.3752E+00	1.2797E+00	1.2851E+00	1.2507E+00	1.1979E+00	1.1910E+00	1.2103E+00	1.4296E+00	1.5663E+00
3.00E+03	1.2418E+00	1.2202E+00	1.1457E+00	1.1312E+00	1.1055E+00	1.0535E+00	1.0446E+00	1.0598E+00	1.2825E+00	1.4068E+00
4.00E+03	1.1451E+00	1.1238E+00	1.0614E+00	1.0375E+00	1.0159E+00	9.6630E-01	9.5662E-01	9.6955E-01	1.1888E+00	1.3018E+00
5.00E+03	1.0780E+00	1.0572E+00	1.0025E+00	9.7395E-01	9.5435E-01	9.0763E-01	8.9783E-01	9.0927E-01	1.1226E+00	1.2261E+00
6.00E+03	1.0279E+00	1.0076E+00	9.5824E-01	9.2728E-01	9.0888E-01	8.6490E-01	8.5523E-01	8.6568E-01	1.0722E+00	1.1678E+00
8.00E+03	9.5553E-01	9.3625E-01	8.9376E-01	8.6126E-01	8.4430E-01	8.0506E-01	7.9594E-01	8.0535E-01	9.9794E-01	1.0814E+00
1.00E+04	9.0345E-01	8.8506E-01	8.4685E-01	8.1469E-01	7.9873E-01	7.6331E-01	7.5475E-01	7.6392E-01	9.4319E-01	1.0181E+00
2.00E+04	7.5350E-01	7.3776E-01	7.0742E-01	6.8334E-01	6.7070E-01	6.4702E-01	6.4005E-01	6.5208E-01	7.8020E-01	8.3380E-01
5.00E+04	5.7191E-01	5.5937E-01	5.3173E-01	5.2429E-01	5.1536E-01	5.0649E-01	5.0078E-01	5.2133E-01	5.8292E-01	6.2309E-01
1.00E+05	4.6551E-01	4.5489E-01	4.2950E-01	4.2746E-01	4.1936E-01	4.1724E-01	4.1263E-01	4.3684E-01	4.7430E-01	5.1577E-01
2.00E+05	3.9464E-01	3.8490E-01	3.6009E-01	3.5959E-01	3.4960E-01	3.5061E-01	3.4705E-01	3.7246E-01	4.0498E-01	4.5312E-01
5.00E+05	3.3315E-01	3.2370E-01	2.9867E-01	2.9770E-01	2.8573E-01	2.8792E-01	2.8551E-01	3.1135E-01	3.4440E-01	4.0051E-01
1.00E+06	2.9201E-01	2.8288E-01	2.5983E-01	2.5729E-01	2.4622E-01	2.4809E-01	2.4654E-01	2.7189E-01	3.0260E-01	3.6026E-01
2.00E+06	2.5050E-01	2.4210E-01	2.2344E-01	2.1894E-01	2.1068E-01	2.1170E-01	2.1096E-01	2.3465E-01	2.5964E-01	3.1359E-01
5.00E+06	1.9826E-01	1.9119E-01	1.7983E-01	1.7298E-01	1.6953E-01	1.6996E-01	1.6992E-01	1.9130E-01	2.0493E-01	2.4992E-01
1.00E+07	1.6407E-01	1.5796E-01	1.5095E-01	1.4319E-01	1.4249E-01	1.4316E-01	1.4323E-01	1.6304E-01	1.6929E-01	2.0700E-01
2.00E+07	1.3405E-01	1.2872E-01	1.2565E-01	1.1497E-01	1.1686E-01	1.1584E-01	1.1584E-01	1.3159E-01	1.3969E-01	1.6852E-01
5.00E+07	1.0228E-01	9.7450E-02	9.8838E-02	7.9795E-02	8.5399E-02	7.7291E-02	7.7021E-02	8.2565E-02	1.1137E-01	1.2659E-01
1.00E+08	8.4434E-02	7.9802E-02	8.2886E-02	5.8518E-02	6.6159E-02	5.2633E-02	5.2162E-02	5.0490E-02	9.5594E-02	1.0311E-01
2.00E+08	7.3959E-02	6.9631E-02	7.2983E-02	4.7718E-02	5.5882E-02	4.0551E-02	4.0043E-02	3.5527E-02	8.5112E-02	8.9734E-02
5.00E+08	5.9189E-02	5.5817E-02	6.0432E-02	3.8095E-02	4.6342E-02	3.2404E-02	3.2082E-02	2.7924E-02	6.8192E-02	7.1011E-02
1.00E+09	4.1765E-02	3.9598E-02	4.6265E-02	2.7470E-02	3.6061E-02	2.3913E-02	2.3856E-02	2.0599E-02	4.8064E-02	4.9081E-02
1.00E+10	4.5100E-03	4.9100E-03	1.6138E-02	4.5650E-03	1.4042E-02	5.4682E-03	5.9989E-03	4.5893E-03	5.1869E-03	2.7518E-03
1.00E+11	4.4238E-03	4.8160E-03	1.5824E-02	4.4848E-03	1.3772E-02	5.3736E-03	5.8933E-03	4.5111E-03	5.0768E-03	2.6771E-03
1.00E+12	4.0513E-03	4.3508E-03	1.3340E-02	4.0977E-03	1.1680E-02	4.8191E-03	5.2358E-03	4.1100E-03	4.5291E-03	2.4590E-03
1.00E+13	1.8824E-03	1.8624E-03	2.9851E-03	1.8600E-03	2.7976E-03	1.9347E-03	1.9663E-03	1.8146E-03	1.8138E-03	1.2488E-03

(b) Gamma decay power (MeV/s)

TC(SEC)	U235(T)	U235(F)	U235(H)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU241(T)	U233(T)	TH232(F)
0.0	6.4578E+00	6.4283E+00	5.1902E+00	7.7464E+00	6.8118E+00	5.2114E+00	5.2260E+00	6.3098E+00	5.2991E+00	8.3528E+00
1.00E+00	6.0828E+00	6.0396E+00	4.9186E+00	7.0688E+00	6.2266E+00	4.9726E+00	4.9726E+00	5.8999E+00	5.1080E+00	7.6913E+00
1.50E+00	5.9515E+00	5.9039E+00	4.8210E+00	6.8422E+00	6.0334E+00	4.8851E+00	4.8804E+00	5.7544E+00	5.0370E+00	7.4692E+00
2.00E+00	5.8405E+00	5.7895E+00	4.7378E+00	6.6543E+00	5.8739E+00	4.8102E+00	4.8017E+00	5.6314E+00	4.9755E+00	7.2845E+00
3.00E+00	5.6594E+00	5.6038E+00	4.6009E+00	6.3554E+00	5.6208E+00	4.6865E+00	4.6723E+00	5.4313E+00	4.8725E+00	6.9891E+00
4.00E+00	5.5143E+00	5.4562E+00	4.4910E+00	6.1242E+00	5.4249E+00	4.5865E+00	4.5684E+00	5.2724E+00	4.7878E+00	6.7585E+00
5.00E+00	5.3935E+00	5.3340E+00	4.3995E+00	5.9370E+00	5.2663E+00	4.5027E+00	4.4816E+00	5.1411E+00	4.7158E+00	6.5704E+00
6.00E+00	5.2901E+00	5.2302E+00	4.3215E+00	5.7810E+00	5.1338E+00	4.4307E+00	4.4071E+00	5.0296E+00	4.6531E+00	6.4120E+00
8.00E+00	5.1203E+00	5.0606E+00	4.1940E+00	5.5327E+00	4.9229E+00	4.3112E+00	4.2841E+00	4.8478E+00	4.5475E+00	6.1557E+00
1.00E+01	4.9843E+00	4.9256E+00	4.0925E+00	5.3410E+00	4.7600E+00	4.2143E+00	4.1848E+00	4.7036E+00	4.4604E+00	5.9527E+00
1.50E+01	4.7302E+00	4.6751E+00	3.9048E+00	4.9996E+00	4.4704E+00	4.0299E+00	3.9973E+00	4.4375E+00	4.2910E+00	5.5754E+00
2.00E+01	4.5454E+00	4.4933E+00	3.7699E+00	4.7623E+00	4.2706E+00	3.8926E+00	3.8589E+00	4.2452E+00	4.1621E+00	5.3002E+00
3.00E+01	4.2772E+00	4.2291E+00	3.5761E+00	4.4287E+00	3.9928E+00	3.6888E+00	3.6551E+00	3.9660E+00	3.9675E+00	4.8997E+00
4.00E+01	4.0805E+00	4.0347E+00	3.4343E+00	4.1887E+00	3.7949E+00	3.5362E+00	3.5031E+00	3.7603E+00	3.8194E+00	4.6062E+00
5.00E+01	3.9244E+00	3.8801E+00	3.3211E+00	4.0003E+00	3.6399E+00	3.4136E+00	3.3811E+00	3.5970E+00	3.6989E+00	4.3746E+00
6.00E+01	3.7953E+00	3.7521E+00	3.2269E+00	3.8459E+00	3.5127E+00	3.3115E+00	3.2795E+00	3.4627E+00	3.5974E+00	4.1847E+00
8.00E+01	3.5915E+00	3.5499E+00	3.0764E+00	3.6052E+00	3.3137E+00	3.1496E+00	3.1183E+00	3.2535E+00	3.4337E+00	3.8895E+00
1.00E+02	3.4362E+00	3.3960E+00	2.9600E+00	3.4247E+00	3.1636E+00	3.0260E+00	2.9953E+00	3.0978E+00	3.3059E+00	3.6698E+00
1.50E+02	3.1688E+00	3.1315E+00	2.7555E+00	3.1205E+00	2.9087E+00	2.8141E+00	2.7849E+00	2.8403E+00	3.0800E+00	3.3055E+00
2.00E+02	2.9951E+00	2.9599E+00	2.6194E+00	2.9277E+00	2.7455E+00	2.6767E+00	2.6491E+00	2.6811E+00	2.9289E+00	3.0813E+00
3.00E+02	2.7739E+00	2.7412E+00	2.4416E+00	2.6886E+00	2.5391E+00	2.4997E+00	2.4750E+00	2.4855E+00	2.7313E+00	2.8146E+00
4.00E+02	2.6298E+00	2.5987E+00	2.3228E+00	2.5377E+00	2.4053E+00	2.3812E+00	2.3582E+00	2.3597E+00	2.5993E+00	2.6535E+00
5.00E+02	2.5222E+00	2.4921E+00	2.2325E+00	2.4275E+00	2.3055E+00	2.2901E+00	2.2678E+00	2.2652E+00	2.4991E+00	2.5390E+00
6.00E+02	2.4353E+00	2.4059E+00	2.1587E+00	2.3399E+00	2.2248E+00	2.2147E+00	2.1925E+00	2.1879E+00	2.4173E+00	2.4494E+00
8.00E+02	2.2979E+00	2.2692E+00	2.0412E+00	2.2027E+00	2.0971E+00	2.0920E+00	2.0691E+00	2.0630E+00	2.2870E+00	2.3114E+00
1.00E+03	2.1894E+00	2.1610E+00	1.9482E+00	2.0950E+00	1.9962E+00	1.9928E+00	1.9687E+00	1.9622E+00	2.1836E+00	2.2046E+00
1.50E+03	1.9855E+00	1.9577E+00	1.7744E+00	1.8930E+00	1.8071E+00	1.8030E+00	1.7757E+00	1.7690E+00	1.9895E+00	2.0057E+00
2.00E+03	1.8357E+00	1.8087E+00	1.6480E+00	1.7454E+00	1.6691E+00	1.6628E+00	1.6334E+00	1.6260E+00	1.8472E+00	1.8590E+00
3.00E+03	1.6221E+00	1.5971E+00	1.4699E+00	1.5374E+00	1.4746E+00	1.4651E+00	1.4339E+00	1.4236E+00	1.6446E+00	1.6464E+00
4.00E+03	1.4730E+00	1.4504E+00	1.3473E+00	1.3951E+00	1.3413E+00	1.3306E+00	1.2995E+00	1.2857E+00	1.5030E+00	1.4951E+00
5.00E+03	1.3610E+00	1.3410E+00	1.2561E+00	1.2901E+00	1.2428E+00	1.2324E+00	1.2023E+00	1.1852E+00	1.3961E+00	1.3798E+00
6.00E+03	1.2729E+00	1.2553E+00	1.1846E+00	1.2086E+00	1.1664E+00	1.1572E+00	1.1283E+00	1.1083E+00	1.3116E+00	1.2880E+00
8.00E+03	1.1419E+00	1.1285E+00	1.0783E+00	1.0891E+00	1.0545E+00	1.0487E+00	1.0224E+00	9.9783E-01	1.1843E+00	1.1497E+00
1.00E+04	1.0486E+00	1.0385E+00	1.0016E+00	1.0050E+00	9.7583E-01	9.7364E-01	9.4949E-01	9.2199E-01	1.0919E+00	1.0492E+00
2.00E+04	8.1523E-01	8.1267E-01	7.9673E-01	7.9776E-01	7.9983E-01	7.9102E-01	7.7195E-01	7.4185E-01	8.4815E-01	7.8477E-01
5.00E+04	6.1573E-01	6.1703E-01	5.9803E-01	6.1725E-01	6.0372E-01	6.2576E-01	6.0940E-01	5.8717E-01	6.2905E-01	5.5756E-01
1.00E+05	5.0688E-01	5.0929E-01	4.9155E-01	5.1138E-01	5.0133E-01	5.2281E-01	5.0856E-01	4.9206E-01	5.1862E-01	4.5930E-01
2.00E+05	4.2097E-01	4.2310E-01	4.0775E-01	4.2465E-01	4.1647E-01	4.3448E-01	4.2283E-01	4.1292E-01	4.3192E-01	3.9186E-01
5.00E+05	3.2696E-01	3.2746E-01	3.1570E-01	3.2467E-01	3.1969E-01	3.3073E-01	3.2270E-01	3.2065E-01	3.3332E-01	3.1645E-01
1.00E+06	2.5629E-01	2.5597E-01	2.5080E-01	2.4992E-01	2.5107E-01	2.5547E-01	2.4989E-01	2.4981E-01	2.5918E-01	2.5047E-01
2.00E+06	1.8938E-01	1.8933E-01	1.9386E-01	1.8208E-01	1.9214E-01	1.8862E-01	1.8517E-01	1.8263E-01	1.9036E-01	1.8022E-01
5.00E+06	1.1808E-01	1.1892E-01	1.3622E-01	1.1178E-01	1.3251E-01	1.1972E-01	1.1851E-01	1.1303E-01	1.1978E-01	1.0644E-01
1.00E+07	7.9798E-02	8.1000E-02	1.0521E-01	7.5557E-02	9.9972E-02	8.3757E-02	8.3766E-02	8.0047E-02	8.3839E-02	7.3916E-02
2.00E+07	4.9991E-02	5.1529E-02	8.0925E-02	4.9108E-02	7.4848E-02	5.7417E-02	5.8381E-02	5.6788E-02	5.6016E-02	5.0160E-02
5.00E+07	3.5954E-02	3.7603E-02	6.8285E-02	3.6167E-02	6.1732E-02	4.3776E-02	4.5090E-02	4.3468E-02	4.2720E-02	3.8289E-02
1.00E+08	3.3783E-02	3.5352E-02	6.4811E-02	3.3212E-02	5.8037E-02	3.9928E-02	4.1192E-02	3.8794E-02	4.0508E-02	3.6035E-02
2.00E+08	3.1256E-02	3.2766E-02	6.1139E-02	3.0336E-02	5.4384E-02	3.6405E-02	3.7639E-02	3.4866E-02	3.7735E-02	3.3348E-02
5.00E+08	2.5313E-02	2.6825E-02	5.5373E-02	2.4539E-02	4.8687E-02	2.9886E-02	3.1192E-02	2.8140E-02	3.1188E-02	2.6973E-02
1.00E+09	1.7939E-02	1.9504E-02	4.9521E-02	1.7447E-02	4.2754E-02	2.2013E-02	2.3468E-02	2.0017E-02	2.3130E-02	1.9054E-02
1.00E+10	1.1799E-03	2.8715E-03	3.6411E-02	1.3428E-03	2.9443E-02	4.1412E-03	5.9468E-03	1.5763E-03	4.8215E-03	1.0572E-03
1.00E+11	1.1333E-03	2.7920E-03	3.5680E-02	1.2940E-03	2.8849E-02	4.0351E-03	5.8058E-03	1.5196E-03	4.7015E-03	1.0113E-03
1.00E+12	9.3009E-04	2.2913E-03	2.9280E-02	1.0620E-03	2.3674E-02	3.3114E-03	4.7645E-03	1.2471E-03	3.8581E-03	8.2993E-04
1.00E+13	1.2907E-04	3.1767E-04	4.0567E-03	1.4745E-04	3.2797E-03	4.5916E-04	6.6046E-04	1.7300E-04	5.3492E-04	1.1508E-04

Table 4.1.3 Continued

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

TC(SEC)	U235(T)	U235(F)	U235(H)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU241(T)	U233(T)	TH232(F)
0.0	1.2970E+01	1.3006E+01	1.0571E+01	1.6120E+01	1.4328E+01	1.0590E+01	1.0680E+01	1.3210E+01	1.0353E+01	1.6631E+01
1.00E+00	1.2026E+01	1.2013E+01	9.8843E+00	1.4392E+01	1.2832E+01	9.9712E+00	1.0020E+01	1.2144E+01	9.8784E+00	1.5061E+01
1.50E+00	1.1698E+01	1.1671E+01	9.6379E+00	1.3820E+01	1.2342E+01	9.7454E+00	9.7807E+00	1.1770E+01	9.7024E+00	1.4544E+01
2.00E+00	1.1422E+01	1.1384E+01	9.4286E+00	1.3347E+01	1.1941E+01	9.5529E+00	9.5778E+00	1.1455E+01	9.5505E+00	1.4116E+01
3.00E+00	1.0973E+01	1.0921E+01	9.0863E+00	1.2599E+01	1.1307E+01	9.2369E+00	9.2466E+00	1.0945E+01	9.2972E+00	1.3438E+01
4.00E+00	1.0615E+01	1.0555E+01	8.8136E+00	1.2022E+01	1.0819E+01	8.9833E+00	8.9824E+00	1.0544E+01	9.0904E+00	1.2913E+01
5.00E+00	1.0319E+01	1.0254E+01	8.5882E+00	1.1558E+01	1.0425E+01	8.7723E+00	8.7634E+00	1.0214E+01	8.9157E+00	1.2488E+01
6.00E+00	1.0067E+01	9.9999E+00	8.3971E+00	1.1174E+01	1.0098E+01	8.5922E+00	8.5770E+00	9.9364E+00	8.7646E+00	1.2133E+01
8.00E+00	9.6569E+00	9.5883E+00	8.0874E+00	1.0567E+01	9.5807E+00	8.2970E+00	8.2725E+00	9.4889E+00	8.5128E+00	1.1565E+01
1.00E+01	9.3340E+00	9.2653E+00	7.8441E+00	1.0107E+01	9.1854E+00	8.0615E+00	8.0307E+00	9.1400E+00	8.3084E+00	1.1123E+01
1.50E+01	8.7497E+00	8.6831E+00	7.4049E+00	9.3118E+00	8.4991E+00	7.6263E+00	7.5872E+00	8.5154E+00	7.9224E+00	1.0321E+01
2.00E+01	8.3438E+00	8.2793E+00	7.1006E+00	8.7864E+00	8.0441E+00	7.3157E+00	7.2734E+00	8.0846E+00	7.6410E+00	9.7585E+00
3.00E+01	7.7866E+00	7.7247E+00	6.6823E+00	8.0916E+00	7.4438E+00	6.8769E+00	6.8341E+00	7.4922E+00	7.2363E+00	8.9749E+00
4.00E+01	7.3990E+00	7.3384E+00	6.3888E+00	7.6205E+00	7.0378E+00	6.5633E+00	6.5217E+00	7.0775E+00	6.9424E+00	8.4239E+00
5.00E+01	7.1009E+00	7.0408E+00	6.1604E+00	7.2630E+00	6.7294E+00	6.3178E+00	6.2775E+00	6.7576E+00	6.7098E+00	7.9995E+00
6.00E+01	6.8589E+00	6.7991E+00	5.9730E+00	6.9753E+00	6.4807E+00	6.1162E+00	6.0770E+00	6.4982E+00	6.5171E+00	7.6566E+00
8.00E+01	6.4824E+00	6.4231E+00	5.6768E+00	6.5319E+00	6.0960E+00	5.7990E+00	5.7614E+00	6.0974E+00	6.2109E+00	7.1295E+00
1.00E+02	6.1985E+00	6.1399E+00	5.4497E+00	6.2012E+00	5.8076E+00	5.5576E+00	5.5213E+00	5.7990E+00	5.9750E+00	6.7399E+00
1.50E+02	5.7120E+00	5.6554E+00	5.0524E+00	5.6424E+00	5.3173E+00	5.1407E+00	5.1071E+00	5.2984E+00	5.5606E+00	6.0945E+00
2.00E+02	5.3948E+00	5.3400E+00	4.7878E+00	5.2843E+00	5.0007E+00	4.8660E+00	4.8350E+00	4.9799E+00	5.2833E+00	5.6939E+00
3.00E+02	4.9851E+00	4.9330E+00	4.4401E+00	4.8322E+00	4.5957E+00	4.5052E+00	4.4787E+00	4.5746E+00	4.9167E+00	5.2081E+00
4.00E+02	4.7138E+00	4.6633E+00	4.2068E+00	4.5412E+00	4.3304E+00	4.2607E+00	4.2368E+00	4.3072E+00	4.6684E+00	4.9075E+00
5.00E+02	4.5094E+00	4.4599E+00	4.0298E+00	4.3265E+00	4.1320E+00	4.0729E+00	4.0501E+00	4.1050E+00	4.4788E+00	4.6909E+00
6.00E+02	4.3439E+00	4.2950E+00	3.8860E+00	4.1552E+00	3.9724E+00	3.9186E+00	3.8959E+00	3.9406E+00	4.3242E+00	4.5205E+00
8.00E+02	4.0826E+00	4.0341E+00	3.6587E+00	3.8876E+00	3.7218E+00	3.6715E+00	3.6472E+00	3.6795E+00	4.0786E+00	4.2585E+00
1.00E+03	3.8781E+00	3.8296E+00	3.4814E+00	3.6796E+00	3.5268E+00	3.4760E+00	3.4494E+00	3.4748E+00	3.8860E+00	4.0575E+00
1.50E+03	3.5010E+00	3.4523E+00	3.1569E+00	3.2989E+00	3.1707E+00	3.1153E+00	3.0830E+00	3.0996E+00	3.5306E+00	3.6899E+00
2.00E+03	3.2323E+00	3.1839E+00	2.9277E+00	3.0305E+00	2.9198E+00	2.8608E+00	2.8244E+00	2.8363E+00	3.2769E+00	3.4253E+00
3.00E+03	2.8639E+00	2.8173E+00	2.6157E+00	2.6686E+00	2.5802E+00	2.5186E+00	2.4784E+00	2.4833E+00	2.9271E+00	3.0532E+00
4.00E+03	2.6180E+00	2.5742E+00	2.4087E+00	2.4326E+00	2.3571E+00	2.2969E+00	2.2561E+00	2.2553E+00	2.6918E+00	2.7969E+00
5.00E+03	2.4390E+00	2.3982E+00	2.2586E+00	2.2640E+00	2.1971E+00	2.1401E+00	2.1001E+00	2.0944E+00	2.5187E+00	2.6059E+00
6.00E+03	2.3008E+00	2.2629E+00	2.1428E+00	2.1359E+00	2.0753E+00	2.0221E+00	1.9835E+00	1.9739E+00	2.3838E+00	2.4558E+00
8.00E+03	2.0975E+00	2.0648E+00	1.9721E+00	1.9504E+00	1.8988E+00	1.8537E+00	1.8183E+00	1.8032E+00	2.1823E+00	2.2312E+00
1.00E+04	1.9520E+00	1.9235E+00	1.8485E+00	1.8197E+00	1.7746E+00	1.7370E+00	1.7042E+00	1.6859E+00	2.0351E+00	2.0673E+00
2.00E+04	1.5687E+00	1.5504E+00	1.5042E+00	1.4811E+00	1.4505E+00	1.4380E+00	1.4120E+00	1.3939E+00	1.6283E+00	1.6186E+00
5.00E+04	1.1876E+00	1.1764E+00	1.1298E+00	1.1415E+00	1.1191E+00	1.1322E+00	1.1102E+00	1.1085E+00	1.2120E+00	1.1807E+00
1.00E+05	9.7239E-01	9.6418E-01	9.2105E-01	9.3884E-01	9.2069E-01	9.4006E-01	9.2118E-01	9.2890E-01	9.9292E-01	9.7507E-01
2.00E+05	8.1562E-01	8.0800E-01	7.6784E-01	7.8424E-01	7.6607E-01	7.8509E-01	7.6988E-01	7.8538E-01	8.3689E-01	8.4498E-01
5.00E+05	6.6011E-01	6.5116E-01	6.1437E-01	6.2236E-01	6.0541E-01	6.1866E-01	6.0821E-01	6.3200E-01	6.7772E-01	7.1696E-01
1.00E+06	5.4830E-01	5.3885E-01	5.1062E-01	5.0720E-01	4.9728E-01	5.0356E-01	4.9643E-01	5.2170E-01	5.6179E-01	6.1073E-01
2.00E+06	4.3988E-01	4.3143E-01	4.1730E-01	4.0103E-01	4.0282E-01	4.0032E-01	3.9614E-01	4.1728E-01	4.5000E-01	4.9381E-01
5.00E+06	3.1635E-01	3.1011E-01	3.1605E-01	2.8476E-01	3.0204E-01	2.8968E-01	2.8843E-01	3.0433E-01	3.2470E-01	3.5637E-01
1.00E+07	2.4387E-01	2.3896E-01	2.5616E-01	2.1874E-01	2.4246E-01	2.2691E-01	2.2699E-01	2.4308E-01	2.5313E-01	2.8092E-01
2.00E+07	1.8404E-01	1.8025E-01	2.0657E-01	1.6407E-01	1.9171E-01	1.7326E-01	1.7423E-01	1.8838E-01	1.9570E-01	2.1868E-01
5.00E+07	1.3823E-01	1.3505E-01	1.6712E-01	1.1596E-01	1.4713E-01	1.2107E-01	1.2211E-01	1.2603E-01	1.5409E-01	1.6488E-01
1.00E+08	1.1822E-01	1.1515E-01	1.4770E-01	9.1730E-02	1.2420E-01	9.2561E-02	9.3353E-02	8.9283E-02	1.3610E-01	1.3915E-01
2.00E+08	1.0522E-01	1.0240E-01	1.3412E-01	7.8054E-02	1.1027E-01	7.6956E-02	7.7682E-02	7.0393E-02	1.2285E-01	1.2308E-01
5.00E+08	8.4501E-02	8.2642E-02	1.1581E-01	6.2634E-02	9.5029E-02	6.2290E-02	6.3274E-02	5.6064E-02	9.9381E-02	9.7984E-02
1.00E+09	5.9704E-02	5.9101E-02	9.5786E-02	4.4917E-02	7.8815E-02	4.5926E-02	4.7325E-02	4.0616E-02	7.1194E-02	6.8135E-02
1.00E+10	5.6899E-03	7.7815E-03	5.2549E-02	5.9078E-03	4.3485E-02	9.6094E-03	1.1946E-02	6.1656E-03	1.0008E-02	3.8090E-03
1.00E+11	5.5571E-03	7.6080E-03	5.1504E-02	5.7787E-03	4.2620E-02	9.4087E-03	1.1699E-02	6.0307E-03	9.7783E-03	3.6884E-03
1.00E+12	4.9813E-03	6.6421E-03	4.2620E-02	5.1596E-03	3.5354E-02	8.1305E-03	1.0000E-02	5.3571E-03	8.3873E-03	3.2889E-03
1.00E+13	2.0114E-03	2.1801E-03	7.0418E-03	2.0074E-03	6.0773E-03	2.3938E-03	2.6268E-03	1.9876E-03	2.3487E-03	1.3639E-03

(d) Total decay power (MeV/s)

TC(SEC)	U235(T)	U235(F)	U235(H)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU241(T)	U233(T)	TH232(F)
0.0	2.1653E+01	2.1757E+01	1.7774E+01	2.7090E+01	2.4197E+01	1.7799E+01	1.7968E+01	2.2332E+01	1.7203E+01	2.7607E+01
1.00E+00	2.0023E+01	2.0038E+01	1.6587E+01	2.4100E+01	2.1605E+01	1.6727E+01	1.6824E+01	2.0476E+01	1.6386E+01	2.4943E+01
1.50E+00	1.9457E+01	1.9445E+01	1.6159E+01	2.3107E+01	2.0756E+01	1.6335E+01	1.6410E+01	1.9823E+01	1.6082E+01	2.4065E+01
2.00E+00	1.8979E+01	1.8949E+01	1.5797E+01	2.2288E+01	2.0059E+01	1.6001E+01	1.6057E+01	1.9274E+01	1.5819E+01	2.3341E+01
3.00E+00	1.8201E+01	1.8148E+01	1.5203E+01	2.0990E+01	1.8960E+01	1.5451E+01	1.5482E+01	1.8388E+01	1.5382E+01	2.2192E+01
4.00E+00	1.7582E+01	1.7516E+01	1.4731E+01	1.9991E+01	1.8113E+01	1.5011E+01	1.5023E+01	1.7690E+01	1.5025E+01	2.1303E+01
5.00E+00	1.7070E+01	1.6995E+01	1.4340E+01	1.9188E+01	1.7431E+01	1.4644E+01	1.4643E+01	1.7118E+01	1.4724E+01	2.0585E+01
6.00E+00	1.6634E+01	1.6556E+01	1.4010E+01	1.8523E+01	1.6864E+01	1.4332E+01	1.4320E+01	1.6636E+01	1.4463E+01	1.9985E+01
8.00E+00	1.5927E+01	1.5845E+01	1.3474E+01	1.7476E+01	1.5967E+01	1.3820E+01	1.3792E+01	1.5862E+01	1.4030E+01	1.9028E+01
1.00E+01	1.5371E+01	1.5288E+01	1.3054E+01	1.6684E+01	1.5283E+01	1.3412E+01	1.3374E+01	1.5260E+01	1.3679E+01	1.8284E+01
1.50E+01	1.4370E+01	1.4289E+01	1.2299E+01	1.5323E+01	1.4100E+01	1.2662E+01	1.2609E+01	1.4189E+01	1.3019E+01	1.6946E+01
2.00E+01	1.3681E+01	1.3602E+01	1.1779E+01	1.4431E+01	1.3320E+01	1.2130E+01	1.2072E+01	1.3456E+01	1.2541E+01	1.6015E+01
3.00E+01	1.2746E+01	1.2668E+01	1.1070E+01	1.3268E+01	1.2303E+01	1.1385E+01	1.1327E+01	1.2460E+01	1.1862E+01	1.4732E+01
4.00E+01	1.2103E+01	1.2027E+01	1.0577E+01	1.2490E+01	1.1623E+01	1.0858E+01	1.0803E+01	1.1771E+01	1.1374E+01	1.3839E+01
5.00E+01	1.1614E+01	1.1537E+01	1.0196E+01	1.1905E+01	1.1111E+01	1.0448E+01	1.0396E+01	1.1243E+01	1.0991E+01	1.3157E+01
6.00E+01	1.1218E+01	1.1141E+01	9.8833E+00	1.1436E+01	1.0699E+01	1.0112E+01	1.0062E+01	1.0817E+01	1.0675E+01	1.2608E+01
8.00E+01	1.0606E+01	1.0528E+01	9.3917E+00	1.0716E+01	1.0064E+01	9.5836E+00	9.5368E+00	1.0157E+01	1.0176E+01	1.1767E+01
1.00E+02	1.0146E+01	1.0068E+01	9.0154E+00	1.0179E+01	9.5877E+00	9.1810E+00	9.1367E+00	9.6648E+00	9.7935E+00	1.1147E+01
1.50E+02	9.3602E+00	9.2833E+00	8.3576E+00	9.2694E+00	8.7774E+00	8.4823E+00	8.4429E+00	8.8316E+00	9.1237E+00	1.0120E+01
2.00E+02	8.8476E+00	8.7722E+00	7.9191E+00	8.6842E+00	8.2522E+00	8.0190E+00	7.9839E+00	8.2943E+00	8.6757E+00	9.4800E+00
3.00E+02	8.1832E+00	8.1100E+00	7.3421E+00	7.9409E+00	7.5777E+00	7.4074E+00	7.3792E+00	7.6024E+00	8.0811E+00	8.6967E+00
4.00E+02	7.7408E+00	7.6691E+00	6.9545E+00	7.4601E+00	7.1345E+00	6.9924E+00	6.9682E+00	7.1425E+00	7.6764E+00	8.2063E+00
5.00E+02	7.4062E+00	7.3355E+00	6.6604E+00	7.1043E+00	6.8031E+00	6.6744E+00	6.6519E+00	6.7944E+00	7.3665E+00	7.8501E+00
6.00E+02	7.1351E+00	7.0647E+00	6.4220E+00	6.8201E+00	6.5366E+00	6.4140E+00	6.3916E+00	6.5120E+00	7.1135E+00	7.5691E+00
8.00E+02	6.7069E+00	6.6362E+00	6.0462E+00	6.3762E+00	6.1194E+00	5.9990E+00	5.9743E+00	6.0662E+00	6.7125E+00	7.1367E+00
1.00E+03	6.3727E+00	6.3012E+00	5.7542E+00	6.0324E+00	5.7966E+00	5.6735E+00	5.6450E+00	5.7199E+00	6.3990E+00	6.8060E+00
1.50E+03	5.7608E+00	5.6873E+00	5.2239E+00	5.4084E+00	5.2122E+00	5.0809E+00	5.0430E+00	5.0958E+00	5.8248E+00	6.2052E+00
2.00E+03	5.3299E+00	5.2553E+00	4.8532E+00	4.9742E+00	4.8057E+00	4.6699E+00	4.6252E+00	4.6666E+00	5.4190E+00	5.7772E+00
3.00E+03	4.7491E+00	4.6748E+00	4.3556E+00	4.3991E+00	4.2645E+00	4.1287E+00	4.0767E+00	4.1042E+00	4.8681E+00	5.1831E+00
4.00E+03	4.3697E+00	4.2975E+00	4.0309E+00	4.0317E+00	3.9157E+00	3.7856E+00	3.7315E+00	3.7494E+00	4.5037E+00	4.7800E+00
5.00E+03	4.0976E+00	4.0283E+00	3.7980E+00	3.7733E+00	3.6690E+00	3.5467E+00	3.4927E+00	3.5033E+00	4.2392E+00	4.4824E+00
6.00E+03	3.8895E+00	3.8233E+00	3.6196E+00	3.5788E+00	3.4826E+00	3.3686E+00	3.3160E+00	3.3209E+00	4.0343E+00	4.2500E+00
8.00E+03	3.5846E+00	3.5240E+00	3.3571E+00	3.2987E+00	3.2141E+00	3.1157E+00	3.0665E+00	3.0641E+00	3.7290E+00	3.9026E+00
1.00E+04	3.3655E+00	3.3097E+00	3.1662E+00	3.1009E+00	3.0243E+00	2.9394E+00	2.8934E+00	2.8872E+00	3.5047E+00	3.6481E+00
2.00E+04	2.7659E+00	2.7232E+00	2.6183E+00	2.5695E+00	2.5128E+00	2.4704E+00	2.4328E+00	2.4307E+00	2.8639E+00	2.9329E+00
5.00E+04	2.1146E+00	2.0833E+00	1.9808E+00	1.9897E+00	1.9466E+00	1.9498E+00	1.9177E+00	1.9442E+00	2.1559E+00	2.1849E+00
1.00E+05	1.7350E+00	1.7094E+00	1.6145E+00	1.6350E+00	1.5982E+00	1.6157E+00	1.5884E+00	1.6293E+00	1.7703E+00	1.8159E+00
2.00E+05	1.4647E+00	1.4410E+00	1.3508E+00	1.3702E+00	1.3313E+00	1.3517E+00	1.3297E+00	1.3799E+00	1.5037E+00	1.5863E+00
5.00E+05	1.2088E+00	1.1840E+00	1.0971E+00	1.1065E+00	1.0661E+00	1.0817E+00	1.0663E+00	1.1253E+00	1.2453E+00	1.3715E+00
1.00E+06	1.0282E+00	1.0033E+00	9.2806E-01	9.2397E-01	8.9167E-01	8.9993E-01	8.8926E-01	9.4911E-01	1.0589E+00	1.1972E+00
2.00E+06	8.4852E-01	8.2581E-01	7.7222E-01	7.5235E-01	7.3623E-01	7.3440E-01	7.2807E-01	7.8130E-01	8.7317E-01	1.0003E+00
5.00E+06	6.3528E-01	6.1703E-01	5.9661E-01	5.5778E-01	5.6523E-01	5.5268E-01	5.5058E-01	5.9527E-01	6.5391E-01	7.5454E-01
1.00E+07	5.0526E-01	4.8997E-01	4.8864E-01	4.4246E-01	4.6086E-01	4.4602E-01	4.4554E-01	4.8876E-01	5.2231E-01	6.0784E-01
2.00E+07	3.9627E-01	3.8345E-01	3.9814E-01	3.4293E-01	3.6927E-01	3.4986E-01	3.5028E-01	3.8635E-01	4.1616E-01	4.8353E-01
5.00E+07	3.0124E-01	2.8993E-01	3.1793E-01	2.4213E-01	2.7759E-01	2.4118E-01	2.4135E-01	2.5309E-01	3.3042E-01	3.6498E-01
1.00E+08	2.5407E-01	2.4328E-01	2.7480E-01	1.8658E-01	2.2640E-01	1.7715E-01	1.7681E-01	1.7047E-01	2.8836E-01	3.0327E-01
2.00E+08	2.2465E-01	2.1464E-01	2.4605E-01	1.5653E-01	1.9692E-01	1.4371E-01	1.4328E-01	1.2977E-01	2.5865E-01	2.6603E-01
5.00E+08	1.8048E-01	1.7294E-01	2.0785E-01	1.2577E-01	1.6653E-01	1.1614E-01	1.1627E-01	1.0342E-01	2.0835E-01	2.1100E-01
1.00E+09	1.2828E-01	1.2388E-01	1.6552E-01	9.1298E-02	1.3410E-01	8.6364E-02	8.7324E-02	7.6384E-02	1.4849E-01	1.4656E-01
1.00E+10	1.5759E-02	1.8073E-02	7.4934E-02	1.6175E-02	6.4046E-02	2.0900E-02	2.3717E-02	1.6560E-02	1.9984E-02	9.4914E-03
1.00E+11	1.5457E-02	1.7724E-02	7.3473E-02	1.5877E-02	6.2801E-02	2.0518E-02	2.3278E-02	1.6257E-02	1.9564E-02	9.2388E-03
1.00E+12	1.4062E-02	1.5847E-02	6.1448E-02	1.4415E-02	5.2790E-02	1.8211E-02	2.0444E-02	1.4722E-02	1.7219E-02	8.3914E-03
1.00E+13	6.1670E-03	6.2140E-03	1.2132E-02	6.2063E-03	1.1143E-02	6.7150E-03	6.9429E-03	6.2107E-03	6.0866E-03	3.8790E-03

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

(1) 0 second after fission

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	SR 97	1.9958E-02	8.4781E-13	8.1654E-02	0.1048	4.7085E-02	0.0929	1.2874E-01	0.1001
2	RB 95	8.2830E-03	4.0409E-13	4.6379E-02	0.0595	2.8213E-02	0.0557	7.4593E-02	0.0580
3	SR 96	3.6653E-02	6.7650E-13	4.9110E-02	0.0630	2.4004E-02	0.0474	7.3114E-02	0.0569
4	Y 98	1.1180E-02	3.2223E-13	3.8343E-02	0.0492	2.4334E-02	0.0480	6.2677E-02	0.0487
5	RB 96	2.1274E-03	1.9632E-13	2.7756E-02	0.0356	2.2402E-02	0.0442	5.0158E-02	0.0390
6	Y 97M	1.6003E-02	2.6531E-13	2.6338E-02	0.0338	1.4450E-02	0.0285	4.0788E-02	0.0317
7	CS142	2.2258E-02	2.4384E-13	2.2095E-02	0.0284	1.6123E-02	0.0318	3.8218E-02	0.0297
8	Y 99	2.0192E-02	2.7019E-13	2.3743E-02	0.0305	1.1467E-02	0.0226	3.5210E-02	0.0274
9	KR 94	2.3325E-03	2.1008E-13	2.2907E-02	0.0294	1.1504E-02	0.0227	3.4411E-02	0.0268
10	SR 98	8.4384E-03	2.3952E-13	1.8956E-02	0.0243	9.3142E-03	0.0184	2.8270E-02	0.0220
11	RB 94	1.5788E-02	1.0716E-13	1.1871E-02	0.0152	1.4492E-02	0.0286	2.6364E-02	0.0205
12	ZR 99	3.3377E-02	2.9775E-13	1.6117E-02	0.0207	9.0631E-03	0.0179	2.5180E-02	0.0196
13	ZR101	2.6400E-02	2.0607E-13	1.6469E-02	0.0211	8.3185E-03	0.0164	2.4788E-02	0.0193
14	NB103	1.6276E-02	2.0328E-13	1.5877E-02	0.0204	7.3859E-03	0.0146	2.3263E-02	0.0181
15	Y 98M	1.1180E-02	1.0473E-13	1.1582E-02	0.0149	1.0059E-02	0.0198	2.1641E-02	0.0168
16	KR 92	1.7208E-02	1.7425E-13	1.4584E-02	0.0187	6.9501E-03	0.0137	2.1534E-02	0.0167
17	RB 92	3.1406E-02	1.3074E-13	1.3816E-02	0.0177	7.5755E-03	0.0149	2.1391E-02	0.0166
18	SR 99	3.4782E-03	1.0860E-13	1.2219E-02	0.0157	8.4622E-03	0.0167	2.0681E-02	0.0161
19	XE141	1.3174E-02	1.4266E-13	1.0810E-02	0.0139	7.8594E-03	0.0155	1.8669E-02	0.0145
20	NB102	7.8198E-03	1.1269E-13	1.1808E-02	0.0152	6.0916E-03	0.0120	1.7899E-02	0.0139
21	RB 93	3.0960E-02	9.9656E-14	7.9165E-03	0.0102	9.8634E-03	0.0195	1.7780E-02	0.0138
22	CS143	1.4320E-02	1.5071E-13	1.0790E-02	0.0138	6.7863E-03	0.0134	1.7576E-02	0.0137
23	BR 91	2.4543E-03	8.4830E-14	1.0725E-02	0.0138	6.7137E-03	0.0132	1.7439E-02	0.0136
24	SB134	4.0602E-03	8.9485E-14	9.2078E-03	0.0118	7.4695E-03	0.0147	1.6677E-02	0.0130
25	KR 93	5.2644E-03	7.6510E-14	7.7198E-03	0.0099	7.8047E-03	0.0154	1.5524E-02	0.0121
26	BR 90	6.2513E-03	6.0995E-14	6.9713E-03	0.0089	8.2645E-03	0.0163	1.5236E-02	0.0118
27	NB104M	3.1925E-03	7.4760E-14	8.6441E-03	0.0111	5.9029E-03	0.0116	1.4547E-02	0.0113
28	Y 100M	2.6875E-03	9.1540E-14	1.4357E-02	0.0184	2.0351E-05	0.0000	1.4378E-02	0.0112
29	Y 102	2.5810E-03	5.3723E-14	6.1541E-03	0.0079	7.5992E-03	0.0150	1.3753E-02	0.0107
	TOTAL	3.9530E-01	6.0460E-12	5.7492E-01	0.7379	3.5558E-01	0.7014	9.3050E-01	0.7235

(2) 1 second after fission

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	SR 96	1.9734E-02	3.6423E-13	2.6441E-02	0.0610	1.2924E-02	0.0448	3.9365E-02	0.0546
2	Y 98	6.9249E-03	1.9958E-13	2.3749E-02	0.0548	1.5072E-02	0.0523	3.8821E-02	0.0538
3	CS142	1.6364E-02	1.7927E-13	1.6245E-02	0.0375	1.1853E-02	0.0411	2.8098E-02	0.0389
4	SR 97	4.3128E-03	1.8321E-13	1.7645E-02	0.0407	1.0175E-02	0.0353	2.7820E-02	0.0386
5	Y 99	1.4039E-02	1.8787E-13	1.6509E-02	0.0381	7.9728E-03	0.0276	2.4481E-02	0.0339
6	RB 94	1.4115E-02	9.5805E-14	1.0613E-02	0.0245	1.2956E-02	0.0449	2.3569E-02	0.0327
7	ZR 99	3.1038E-02	2.7688E-13	1.4987E-02	0.0346	8.4279E-03	0.0292	2.3415E-02	0.0324
8	Y 97M	8.6776E-03	1.4386E-13	1.4281E-02	0.0330	7.8353E-03	0.0272	2.2117E-02	0.0306
9	RB 92	3.1971E-02	1.3310E-13	1.4065E-02	0.0325	7.7118E-03	0.0267	2.1776E-02	0.0302
10	ZR101	2.0724E-02	1.6177E-13	1.2929E-02	0.0298	6.5301E-03	0.0226	1.9459E-02	0.0270
11	Y 97	2.7729E-02	1.4040E-13	1.2841E-02	0.0296	6.3947E-03	0.0222	1.9236E-02	0.0267
12	NB102	8.1169E-03	1.1697E-13	1.2256E-02	0.0283	6.3230E-03	0.0219	1.8579E-02	0.0257
13	RB 93	2.9551E-02	9.5120E-14	7.5563E-03	0.0174	9.4145E-03	0.0326	1.6971E-02	0.0235
14	NB103	1.1103E-02	1.3867E-13	1.0831E-02	0.0250	5.0385E-03	0.0175	1.5870E-02	0.0220
15	Y 98M	7.9721E-03	7.4673E-14	8.2583E-03	0.0191	7.1725E-03	0.0249	1.5431E-02	0.0214
16	KR 92	1.2020E-02	1.2172E-13	1.0187E-02	0.0235	4.8548E-03	0.0168	1.5042E-02	0.0208
17	XE141	8.9003E-03	9.6379E-14	7.3032E-03	0.0169	5.3098E-03	0.0184	1.2613E-02	0.0175
18	RB 95	1.3791E-03	6.7281E-14	7.7221E-03	0.0178	4.6975E-03	0.0163	1.2420E-02	0.0172
19	CS143	1.0066E-02	1.0594E-13	7.5851E-03	0.0175	4.7706E-03	0.0165	1.2356E-02	0.0171
20	BR 90	4.4765E-03	4.3678E-14	4.9921E-03	0.0115	5.9181E-03	0.0205	1.0910E-02	0.0151
21	SR 98	2.9636E-03	8.4119E-14	6.6574E-03	0.0154	3.2711E-03	0.0113	9.9285E-03	0.0138
22	KR 91	3.1168E-02	6.8131E-14	5.1804E-03	0.0120	4.0762E-03	0.0141	9.2566E-03	0.0128
23	KR 93	3.1038E-03	4.5110E-14	4.5515E-03	0.0105	4.6016E-03	0.0160	9.1531E-03	0.0127
24	BR 89	1.1137E-02	4.7632E-14	4.1822E-03	0.0097	4.8783E-03	0.0169	9.0604E-03	0.0126
25	ZR102	1.7567E-02	1.1348E-13	5.2485E-03	0.0121	3.0958E-03	0.0107	8.3443E-03	0.0116
26	BA145	1.5317E-02	7.5710E-14	4.9219E-03	0.0114	3.2467E-03	0.0113	8.1685E-03	0.0113
27	ZR100	5.0433E-02	1.3307E-13	6.2874E-03	0.0145	1.8543E-03	0.0064	8.1417E-03	0.0113
28	NB100	4.7429E-03	5.9234E-14	4.9931E-03	0.0115	2.9557E-03	0.0102	7.9488E-03	0.0110
29	Y 96	1.9608E-02	6.1222E-14	7.7534E-03	0.0179	0.0	0.0	7.7534E-03	0.0107
30	SB134	1.8246E-03	4.0213E-14	4.1378E-03	0.0096	3.3567E-03	0.0116	7.4945E-03	0.0104
31	I 139	7.3348E-03	5.7734E-14	4.3984E-03	0.0102	2.8283E-03	0.0098	7.2267E-03	0.0100
	TOTAL	4.5441E-01	3.7121E-12	3.1531E-01	0.7279	1.9552E-01	0.6779	5.1082E-01	0.7079

Table 4.1.4 Continued

(3) 10 seconds after fission

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	NB100	5.6154E-03	7.0132E-14	5.9117E-03	0.0709	3.4995E-03	0.0568	9.4111E-03	0.0649
2	RB 92	1.2432E-02	5.1754E-14	5.4690E-03	0.0656	2.9988E-03	0.0486	8.4677E-03	0.0584
3	RB 93	1.1425E-02	3.6776E-14	2.9215E-03	0.0351	3.6399E-03	0.0590	6.5614E-03	0.0453
4	Y 96	1.5310E-02	4.7802E-14	6.0538E-03	0.0727	0.0	0.0	6.0538E-03	0.0418
5	NB101	2.2360E-02	5.7382E-14	3.5796E-03	0.0430	1.5278E-03	0.0248	5.1074E-03	0.0352
6	SR 95	4.1058E-02	3.1523E-14	1.8580E-03	0.0223	2.8482E-03	0.0462	4.7062E-03	0.0325
7	KR 91	1.5374E-02	3.3607E-14	2.5553E-03	0.0307	2.0107E-03	0.0326	4.5660E-03	0.0315
8	Y 97	6.0618E-03	3.0692E-14	2.8072E-03	0.0337	1.3979E-03	0.0227	4.2051E-03	0.0290
9	NB102	1.7503E-03	2.5222E-14	2.6429E-03	0.0317	1.3634E-03	0.0221	4.0063E-03	0.0276
10	ZR100	2.1976E-02	5.7985E-14	2.7398E-03	0.0329	8.0800E-04	0.0131	3.5478E-03	0.0245
11	TE135	2.2771E-02	2.2218E-14	1.2594E-03	0.0151	2.1538E-03	0.0349	3.4133E-03	0.0235
12	LA146	1.1735E-02	2.5864E-14	2.0881E-03	0.0251	1.2871E-03	0.0209	3.3752E-03	0.0233
13	Y 96M	9.3327E-03	1.7484E-14	7.2685E-04	0.0087	2.6076E-03	0.0423	3.3345E-03	0.0230
14	BA143	3.3727E-02	4.3575E-14	2.7441E-03	0.0329	5.3670E-04	0.0087	3.2808E-03	0.0226
15	CS141	3.4295E-02	2.5802E-14	1.2182E-03	0.0146	2.0382E-03	0.0331	3.2564E-03	0.0225
16	BR 88	1.3002E-02	1.4943E-14	1.3568E-03	0.0163	1.7748E-03	0.0288	3.1317E-03	0.0216
17	XE140	2.2608E-02	3.1143E-14	1.4182E-03	0.0170	1.3244E-03	0.0215	2.7427E-03	0.0189
18	I 138	5.5249E-03	1.6172E-14	1.9702E-03	0.0236	6.1237E-04	0.0099	2.5826E-03	0.0178
19	I 137	2.4361E-02	1.8627E-14	8.7666E-04	0.0105	1.6954E-03	0.0275	2.5721E-03	0.0177
20	ZR 99	3.4033E-03	3.0360E-14	1.6433E-03	0.0197	9.2412E-04	0.0150	2.5674E-03	0.0177
21	RB 94	1.4817E-03	1.0057E-14	1.1141E-03	0.0134	1.3601E-03	0.0221	2.4743E-03	0.0171
22	XE139	4.3200E-02	2.0488E-14	7.5958E-04	0.0091	1.6973E-03	0.0275	2.4569E-03	0.0169
23	BA144	2.5032E-02	3.9573E-14	1.3856E-03	0.0166	1.0322E-03	0.0167	2.4178E-03	0.0167
24	KR 90	4.0781E-02	2.3638E-14	1.1757E-03	0.0141	1.0811E-03	0.0175	2.2568E-03	0.0156
25	BR 89	2.7379E-03	1.1710E-14	1.0282E-03	0.0123	1.1993E-03	0.0195	2.2275E-03	0.0154
26	NB 98	4.0888E-03	2.6783E-14	1.9869E-03	0.0238	7.8980E-05	0.0013	2.0658E-03	0.0142
27	NB 99	2.5248E-02	3.1533E-14	1.7705E-03	0.0212	1.9552E-04	0.0032	1.9660E-03	0.0136
28	ZR101	2.0927E-03	1.6335E-14	1.3055E-03	0.0157	6.5939E-04	0.0107	1.9649E-03	0.0136
29	RB 91	3.7692E-02	1.2132E-14	6.6257E-04	0.0080	1.0307E-03	0.0167	1.6932E-03	0.0117
30	LA145	2.6462E-02	1.9594E-14	1.0527E-03	0.0126	5.8152E-04	0.0094	1.6342E-03	0.0113
31	BA145	2.9891E-03	1.4775E-14	9.6049E-04	0.0115	6.3358E-04	0.0103	1.5941E-03	0.0110
32	LA144	2.6015E-02	1.1576E-14	5.7308E-04	0.0069	8.9560E-04	0.0145	1.4687E-03	0.0101
33	CS140	3.1908E-02	9.3839E-15	4.9615E-04	0.0060	9.6904E-04	0.0157	1.4652E-03	0.0101
	TOTAL	6.0385E-01	9.3664E-13	6.6111E-02	0.7934	4.6463E-02	0.7535	1.1257E-01	0.7765

(4) 10^2 seconds after fission

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	CS140	2.2487E-02	6.6131E-15	3.4966E-04	0.0619	6.8292E-04	0.0995	1.0326E-03	0.0826
2	RB 91	1.9064E-02	6.1365E-15	3.3513E-04	0.0594	5.2131E-04	0.0760	8.5644E-04	0.0685
3	LA144	1.3654E-02	6.0759E-15	3.0079E-04	0.0533	4.7007E-04	0.0685	7.7087E-04	0.0616
4	I 136	1.5591E-02	3.4321E-15	2.2350E-04	0.0396	3.7360E-04	0.0545	5.9710E-04	0.0477
5	RB 90	2.9988E-02	3.6718E-15	2.1343E-04	0.0378	3.7483E-04	0.0546	5.8826E-04	0.0470
6	XE139	9.0115E-03	4.2739E-15	1.5845E-04	0.0281	3.5406E-04	0.0516	5.1251E-04	0.0410
7	SR 94	2.4239E-02	6.0305E-15	1.7805E-04	0.0315	3.1749E-04	0.0463	4.9553E-04	0.0396
8	BR 86	6.5369E-03	2.1986E-15	1.5838E-04	0.0281	2.3884E-04	0.0348	3.9722E-04	0.0318
9	KR 89	3.1580E-02	3.2118E-15	1.5782E-04	0.0280	2.1918E-04	0.0319	3.7700E-04	0.0301
10	SR 95	3.1845E-03	2.4450E-15	1.4411E-04	0.0255	2.2091E-04	0.0322	3.6502E-04	0.0292
11	KR 90	5.9398E-03	3.4429E-15	1.7125E-04	0.0303	1.5746E-04	0.0230	3.2871E-04	0.0263
12	NB 98	6.3326E-04	4.1480E-15	3.0772E-04	0.0545	1.2232E-05	0.0018	3.1995E-04	0.0256
13	BR 87	6.0125E-03	2.0258E-15	1.3590E-04	0.0241	1.8064E-04	0.0263	3.1654E-04	0.0253
14	XE137	4.5494E-02	3.7087E-15	2.4519E-04	0.0434	2.5746E-05	0.0038	2.7094E-04	0.0217
15	CS141	2.8214E-03	2.1227E-15	1.0022E-04	0.0178	1.6768E-04	0.0244	2.6790E-04	0.0214
16	MO103	1.0928E-02	3.0328E-15	1.2837E-04	0.0227	1.2725E-04	0.0185	2.5562E-04	0.0204
17	I 136M	3.2380E-03	1.3540E-15	8.8175E-05	0.0156	1.4739E-04	0.0215	2.3557E-04	0.0188
18	SR 93	5.3907E-02	2.2653E-15	5.7627E-05	0.0102	1.6580E-04	0.0242	2.2343E-04	0.0179
19	I 137	1.9438E-03	1.4863E-15	6.9953E-05	0.0124	1.3529E-04	0.0197	2.0524E-04	0.0164
20	SB132	1.2534E-02	1.3977E-15	6.1903E-05	0.0110	1.4108E-04	0.0206	2.0298E-04	0.0162
21	NB 99M	1.5594E-02	1.8727E-15	8.1962E-05	0.0145	1.1887E-04	0.0173	2.0083E-04	0.0161
22	SB133	1.4522E-02	1.9377E-15	5.3646E-05	0.0095	1.4010E-04	0.0204	1.9375E-04	0.0155
23	Y 95	5.6087E-02	1.7002E-15	8.6189E-05	0.0153	8.0942E-05	0.011B	1.6713E-04	0.0134
24	CE145	2.8020E-02	2.9162E-15	7.0435E-05	0.0125	8.8976E-05	0.0130	1.5941E-04	0.0127
25	LA145	2.5465E-03	1.8856E-15	1.0130E-04	0.0179	5.5960E-05	0.0082	1.5726E-04	0.0126
26	TC103	9.3860E-03	3.5167E-15	1.1046E-04	0.0196	3.0851E-05	0.0045	1.4131E-04	0.0113
27	PR148	9.4838E-03	1.2874E-15	7.8741E-05	0.0139	5.5485E-05	0.0081	1.3423E-04	0.0107
28	TE135	8.8466E-04	8.6318E-16	4.8928E-05	0.0087	8.3677E-05	0.0122	1.3261E-04	0.0106
29	ZR 98	6.1643E-03	3.7616E-15	1.2631E-04	0.0224	0.0	0.0	1.2631E-04	0.0101
	TOTAL	4.6148E-01	8.8814E-14	4.3436E-03	0.7694	5.6886E-03	0.8292	1.0032E-02	0.8022

Table 4.1.4 Continued

(5) 10^3 seconds after fission

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	Y 95	2.1648E-02	6.5621E-16	3.3266E-05	0.0774	3.1241E-05	0.0636	6.4507E-05	0.0700
2	RB 89	2.6819E-02	5.4375E-16	2.0354E-05	0.0473	4.1668E-05	0.0848	6.2022E-05	0.0673
3	Y 94	3.6889E-02	6.1593E-16	4.1319E-05	0.0961	1.7604E-05	0.0358	5.8924E-05	0.0639
4	SR 93	1.3302E-02	5.5898E-16	1.4220E-05	0.0331	4.0914E-05	0.0832	5.5133E-05	0.0598
5	CS139	2.0440E-02	6.5387E-16	4.1097E-05	0.0956	7.9710E-06	0.0162	4.9068E-05	0.0532
6	XE138	2.8474E-02	6.2919E-16	1.5340E-05	0.0357	2.8322E-05	0.0576	4.3662E-05	0.0474
7	CS138	3.1464E-02	3.0509E-16	1.2293E-05	0.0286	3.0253E-05	0.0615	4.2546E-05	0.0462
8	TC102	1.1984E-04	4.2520E-16	3.0714E-05	0.0714	9.1138E-06	0.0185	3.9828E-05	0.0432
9	MO101	2.3268E-02	4.9691E-16	9.4012E-06	0.0219	2.8546E-05	0.0581	3.7947E-05	0.0412
10	BA141	3.1486E-02	5.3809E-16	1.8723E-05	0.0435	1.6263E-05	0.0331	3.4985E-05	0.0380
11	BA142	1.9706E-02	5.7504E-16	9.3052E-06	0.0216	2.1438E-05	0.0436	3.0743E-05	0.0334
12	LA143	2.6645E-02	5.8587E-16	2.9728E-05	0.0691	6.7489E-07	0.0014	3.0403E-05	0.0330
13	TC104	1.0276E-02	1.7628E-16	8.1139E-06	0.0189	1.7467E-05	0.0355	2.5581E-05	0.0278
14	TE133	1.4085E-02	3.5323E-16	1.0524E-05	0.0245	1.2439E-05	0.0253	2.2962E-05	0.0249
15	SB131	1.5840E-02	2.1504E-16	4.6114E-06	0.0107	1.4826E-05	0.0302	1.9437E-05	0.0211
16	XE137	3.1473E-03	2.5658E-16	1.6963E-05	0.0394	1.7811E-06	0.0036	1.8744E-05	0.0203
17	TE133M	2.8247E-02	1.5920E-16	3.7812E-06	0.0088	1.3734E-05	0.0279	1.7515E-05	0.0190
18	TE134	5.2298E-02	3.9064E-16	3.5857E-06	0.0083	1.2915E-05	0.0263	1.6500E-05	0.0179
19	LA142	3.6417E-02	1.2266E-16	4.1510E-06	0.0097	1.1450E-05	0.0233	1.5601E-05	0.0169
20	I 134	2.1556E-02	1.2795E-16	2.8922E-06	0.0067	1.2199E-05	0.0248	1.5091E-05	0.0164
21	PR146	1.2688E-02	1.6458E-16	7.3518E-06	0.0171	6.9986E-06	0.0142	1.4350E-05	0.0156
22	PR147	9.2404E-03	2.4043E-16	7.0100E-06	0.0163	6.3794E-06	0.0130	1.3389E-05	0.0145
23	RB 90	6.6801E-04	8.1793E-17	4.7544E-06	0.0111	8.3497E-06	0.0170	1.3104E-05	0.0142
24	KR 89	1.0680E-03	1.0862E-16	5.3373E-06	0.0124	7.4127E-06	0.0151	1.2750E-05	0.0138
25	TC101	1.7947E-02	3.9462E-16	6.8387E-06	0.0159	5.0083E-06	0.0102	1.1847E-05	0.0129
26	RB 90M	9.3914E-04	6.8192E-17	3.8957E-06	0.0091	6.7266E-06	0.0137	1.0622E-05	0.0115
27	SB130	1.5171E-03	7.5189E-17	2.7357E-06	0.0064	7.5272E-06	0.0153	1.0263E-05	0.0111
28	SB130M	8.2221E-03	6.4179E-17	1.7197E-06	0.0040	7.7629E-06	0.0158	9.4826E-06	0.0103
	TOTAL	5.1442E-01	9.5833E-15	3.7002E-04	0.8605	4.2698E-04	0.8687	7.9701E-04	0.8649

(6) 10^4 seconds after fission

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	I 134	1.7122E-02	1.0164E-16	2.2973E-06	0.1010	9.6903E-06	0.2422	1.1988E-05	0.1910
2	LA142	1.9119E-02	6.4396E-17	2.1793E-06	0.0958	6.0112E-06	0.1503	8.1905E-06	0.1305
3	RB 88	2.1205E-03	3.7196E-17	1.6419E-06	0.0722	3.4323E-06	0.0858	5.0742E-06	0.0809
4	CS138	3.2238E-03	3.1260E-17	1.2596E-06	0.0554	3.0997E-06	0.0775	4.3593E-06	0.0695
5	SR 92	2.9077E-02	5.5834E-17	3.9914E-07	0.0175	2.7664E-06	0.0692	3.1655E-06	0.0504
6	KR 88	1.8366E-02	3.3418E-17	4.5452E-07	0.0200	2.4356E-06	0.0609	2.8901E-06	0.0461
7	I 135	4.7141E-02	3.7113E-17	5.0336E-07	0.0221	2.2590E-06	0.0565	2.7624E-06	0.0440
8	TE133M	4.3313E-03	2.4411E-17	5.7980E-07	0.0255	2.1059E-06	0.0526	2.6857E-06	0.0428
9	BA139	1.7960E-02	6.7800E-17	2.2613E-06	0.0994	1.0982E-07	0.0027	2.3711E-06	0.0378
10	Y 92	2.2776E-02	3.3481E-17	1.8024E-06	0.0792	3.0772E-07	0.0077	2.1102E-06	0.0336
11	LA141	3.8708E-02	5.1254E-17	1.8041E-06	0.0793	8.0534E-08	0.0020	1.8846E-06	0.0300
12	KR 87	5.6422E-03	2.3086E-17	1.1227E-06	0.0493	6.6235E-07	0.0166	1.7851E-06	0.0284
13	TE134	4.3474E-03	3.2473E-17	2.9807E-07	0.0131	1.0736E-06	0.0268	1.3716E-06	0.0219
14	SR 91	4.8583E-02	2.6669E-17	6.4364E-07	0.0283	6.9361E-07	0.0173	1.3372E-06	0.0213
15	Y 93	5.3504E-02	2.7567E-17	1.1964E-06	0.0526	9.0689E-08	0.0023	1.2871E-06	0.0205
16	SB130M	6.1173E-04	4.7750E-18	1.2795E-07	0.0056	5.7757E-07	0.0144	7.0552E-07	0.0112
17	PR146	5.7724E-04	7.4877E-18	3.3448E-07	0.0147	3.1841E-07	0.0080	6.5288E-07	0.0104
18	PR145	2.8662E-02	2.4941E-17	6.2616E-07	0.0275	1.3278E-08	0.0003	6.3944E-07	0.0102
	TOTAL	3.6187E-01	6.8480E-16	1.9532E-05	0.8585	3.5728E-05	0.8931	5.5260E-05	0.8806

Table 4.1.4 Continued

(7) 10^5 seconds after fission

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	NB 97	1.4584E-03	6.3157E-18	1.0885E-07	0.0866	1.5536E-07	0.1117	2.6421E-07	0.0998
2	I 133	2.7347E-02	6.8416E-18	1.0288E-07	0.0819	1.5474E-07	0.1112	2.5762E-07	0.0973
3	I 132	1.0196E-03	2.3271E-18	4.2498E-08	0.0338	1.9604E-07	0.1409	2.3853E-07	0.0901
4	Y 93	9.6220E-03	4.9575E-18	2.1516E-07	0.1713	1.6309E-08	0.0117	2.3147E-07	0.0874
5	SR 91	7.8097E-03	4.2869E-18	1.0346E-07	0.0823	1.1150E-07	0.0801	2.1496E-07	0.0812
6	I 135	3.4266E-03	2.6976E-18	3.6588E-08	0.0291	1.6420E-07	0.1180	2.0079E-07	0.0758
7	ZR 97	1.9034E-02	5.8610E-18	1.5138E-07	0.1205	3.9682E-08	0.0285	1.9106E-07	0.0722
8	XE135	1.5565E-02	8.9202E-18	1.0481E-07	0.0834	8.1383E-08	0.0585	1.8619E-07	0.0703
9	NB 97M	1.8283E-05	5.7083E-18	3.1400E-09	0.0025	1.5386E-07	0.1106	1.5700E-07	0.0593
10	CE143	3.3428E-02	5.2713E-18	8.8780E-08	0.0707	4.7088E-08	0.0338	1.3587E-07	0.0513
11	MO 99	4.5684E-02	3.6009E-18	5.3824E-08	0.0428	3.6185E-08	0.0260	9.0008E-08	0.0340
12	Y 92	8.9122E-04	1.3101E-18	7.0529E-08	0.0561	1.2041E-08	0.0087	8.2570E-08	0.0312
13	Y 91M	4.2704E-04	2.6822E-18	2.8120E-09	0.0022	5.2325E-08	0.0376	5.5137E-08	0.0208
14	LA140	3.0774E-03	3.9764E-19	8.0691E-09	0.0064	3.4019E-08	0.0245	4.2088E-08	0.0159
15	PR145	1.5806E-03	1.3754E-18	3.4530E-08	0.0275	7.3221E-10	0.0005	3.5262E-08	0.0133
16	TE131M	2.6718E-03	4.6345E-19	3.7180E-09	0.0030	2.4055E-08	0.0173	2.7773E-08	0.0105
17	TE132	3.3377E-02	2.2586E-18	9.6028E-09	0.0076	1.7137E-08	0.0123	2.6740E-08	0.0101
	TOTAL	2.0644E-01	6.5276E-17	1.1406E-06	0.9079	1.2967E-06	0.9320	2.4373E-06	0.9205

(8) 10^6 seconds after fission

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	LA140	5.0077E-03	6.4708E-19	1.3131E-08	0.2202	5.5358E-08	0.5471	6.8489E-08	0.4259
2	I 132	1.0712E-04	2.4449E-19	4.4651E-09	0.0749	2.0597E-08	0.2035	2.5062E-08	0.1558
3	BA140	3.3554E-02	5.7082E-19	6.7629E-09	0.1134	3.0939E-09	0.0306	9.8569E-09	0.0613
4	PR143	3.6488E-02	5.8259E-19	6.8026E-09	0.1141	1.9193E-16	0.0000	6.8026E-09	0.0423
5	MO 99	3.3100E-03	2.6091E-19	3.8998E-09	0.0654	2.6218E-09	0.0259	6.5216E-09	0.0406
6	I 131	1.1014E-02	2.9702E-19	2.0901E-09	0.0350	4.1436E-09	0.0409	6.2337E-09	0.0388
7	ZR 95	5.7307E-02	1.9400E-19	8.3853E-10	0.0141	5.2647E-09	0.0520	6.1032E-09	0.0379
8	XE133	1.7889E-02	7.3322E-19	4.1114E-09	0.0689	8.1792E-10	0.0081	4.9293E-09	0.0307
9	Y 91	5.2184E-02	1.9338E-19	4.2141E-09	0.0707	1.9015E-11	0.0002	4.2331E-09	0.0263
10	SR 89	4.1385E-02	1.7769E-19	3.7366E-09	0.0627	0.0	0.0	3.7366E-09	0.0232
11	ND147	1.0803E-02	2.1180E-19	2.2112E-09	0.0371	1.0609E-09	0.0105	3.2721E-09	0.0203
12	TE132	3.5059E-03	2.3724E-19	1.0087E-09	0.0169	1.8001E-09	0.0178	2.8088E-09	0.0175
13	CE141	4.5827E-02	3.0688E-19	1.9878E-09	0.0333	8.0923E-10	0.0080	2.7970E-09	0.0174
14	RU103	2.4808E-02	1.3642E-19	3.6410E-10	0.0061	2.3728E-09	0.0234	2.7369E-09	0.0170
15	PR144	2.2505E-06	4.0664E-20	1.8261E-09	0.0306	4.5333E-11	0.0004	1.8714E-09	0.0116
	TOTAL	3.4319E-01	4.8342E-18	5.7450E-08	0.9634	9.8004E-08	0.9685	1.5545E-07	0.9666

(9) 10^7 seconds after fission

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	NB 95	1.4444E-02	8.9560E-20	1.4422E-10	0.0309	2.5335E-09	0.5051	2.6777E-09	0.2766
2	ZR 95	1.8562E-02	6.2838E-20	2.7161E-10	0.0582	1.7053E-09	0.3400	1.9769E-09	0.2042
3	PR144	1.7456E-06	3.1541E-20	1.4164E-09	0.3037	3.5162E-11	0.0070	1.4516E-09	0.1499
4	Y 91	1.5192E-02	5.6297E-20	1.2268E-09	0.2630	5.5357E-12	0.0011	1.2324E-09	0.1273
5	SR 89	9.9061E-03	4.2532E-20	8.9441E-10	0.1917	0.0	0.0	8.9441E-10	0.0924
6	RU103	3.9747E-03	2.1857E-20	5.8337E-11	0.0125	3.8018E-10	0.0758	4.3852E-10	0.0453
7	CE141	4.9283E-03	3.3002E-20	2.1377E-10	0.0458	8.7025E-11	0.0173	3.0080E-10	0.0311
8	LA140	1.7628E-05	2.2778E-21	4.6222E-11	0.0099	1.9487E-10	0.0388	2.4109E-10	0.0249
9	CE144	4.1340E-02	3.1540E-20	1.1075E-10	0.0237	1.8668E-11	0.0037	1.2942E-10	0.0134
10	RH106	3.0490E-09	1.8789E-21	9.8796E-11	0.0212	1.3710E-11	0.0027	1.1251E-10	0.0116
	TOTAL	1.0837E-01	3.7332E-19	4.4813E-09	0.9607	4.9739E-09	0.9916	9.4552E-09	0.9767

Table 4.1.4 Continued

(10) 10^8 seconds after fission

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	PR144	1.3759E-07	2.4862E-21	1.1165E-10	0.5656	2.7716E-12	0.0915	1.1442E-10	0.5025
2	Y 90	1.3965E-05	1.1337E-21	3.9014E-11	0.1977	0.0	0.0	3.9014E-11	0.1713
3	BA137M	8.7952E-09	1.0761E-21	2.8187E-12	0.0143	2.3524E-11	0.7762	2.6343E-11	0.1157
4	RH106	4.3691E-10	2.6924E-22	1.4157E-11	0.0717	1.9646E-12	0.0648	1.6121E-11	0.0708
5	CE144	3.2586E-03	2.4861E-21	8.7297E-12	0.0442	1.4715E-12	0.0486	1.0201E-11	0.0448
6	SR 90	5.4414E-02	1.1334E-21	7.2920E-12	0.0369	0.0	0.0	7.2920E-12	0.0320
7	CS137	5.7748E-02	1.1363E-21	7.1666E-12	0.0363	0.0	0.0	7.1666E-12	0.0315
8	PM147	9.7634E-03	2.2097E-21	5.0660E-12	0.0257	3.9636E-16	0.0000	5.0664E-12	0.0223
	TOTAL	1.2520E-01	1.1931E-20	1.9589E-10	0.9924	2.9732E-11	0.9811	2.2562E-10	0.9909

(11) 10^9 seconds after fission

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	Y 90	6.9792E-06	5.6659E-22	1.9497E-11	0.6837	0.0	0.0	1.9497E-11	0.4786
2	BA137M	4.5675E-09	5.5882E-22	1.4638E-12	0.0513	1.2216E-11	0.9997	1.3680E-11	0.3358
3	CS137	2.9989E-02	5.9010E-22	3.7217E-12	0.1305	0.0	0.0	3.7217E-12	0.0914
4	SR 90	2.7194E-02	5.6644E-22	3.6442E-12	0.1278	0.0	0.0	3.6442E-12	0.0895
	TOTAL	5.7190E-02	2.2819E-21	2.8327E-11	0.9933	1.2216E-11	0.9997	4.0543E-11	0.9953

(12) 10^{10} seconds after fission

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	BA137M	6.5166E-12	7.9728E-25	2.0884E-15	0.0645	1.7429E-14	0.9838	1.9518E-14	0.3897
2	Y 90	6.7826E-09	5.5063E-25	1.8948E-14	0.5855	0.0	0.0	1.8948E-14	0.3784
3	CS137	4.2786E-05	8.4190E-25	5.3099E-15	0.1641	0.0	0.0	5.3099E-15	0.1060
4	SR 90	2.6428E-05	5.5049E-25	3.5416E-15	0.1094	0.0	0.0	3.5416E-15	0.0707
5	SM151	3.6282E-04	2.3932E-24	1.7575E-15	0.0543	5.7220E-19	0.0000	1.7581E-15	0.0351
6	TC 99	6.1072E-02	1.6942E-25	5.3025E-16	0.0164	2.7518E-23	0.0000	5.3025E-16	0.0106
	TOTAL	6.1504E-02	5.3029E-24	3.2176E-14	0.9942	1.7430E-14	0.9839	4.9606E-14	0.9906

(13) 10^{11} seconds after fission

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	TC 99	6.0510E-02	1.6786E-25	5.2537E-16	0.7443	2.7265E-23	0.0000	5.2537E-16	0.5328
2	SB126M	1.9780E-13	3.2504E-27	7.5972E-17	0.1076	2.1642E-16	0.7727	2.9239E-16	0.2965
3	SB126	2.6026E-11	4.5506E-28	5.2660E-18	0.0075	4.7907E-17	0.1710	5.3173E-17	0.0539
4	CS135	6.5440E-02	1.6891E-26	3.5167E-17	0.0498	0.0	0.0	3.5167E-17	0.0357
5	SN126	5.4754E-04	3.2504E-27	1.5932E-17	0.0226	1.5701E-17	0.0561	3.1632E-17	0.0321
6	NB 93M	5.3936E-07	2.3543E-26	2.6482E-17	0.0375	0.0	0.0	2.6482E-17	0.0269
7	ZR 93	6.3871E-02	2.4782E-26	1.5029E-17	0.0213	0.0	0.0	1.5029E-17	0.0152
	TOTAL	1.9037E-01	2.4003E-25	6.9922E-16	0.9905	2.8003E-16	0.9998	9.7925E-16	0.9932

Table 4.1.4 Continued

(14) 10^{12} seconds after fission

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	TC 99	5.5171E-02	1.5305E-25	4.7901E-16	0.7488	2.4860E-23	0.0000	4.7901E-16	0.5509
2	SB126M	1.6232E-13	2.6674E-27	6.2345E-17	0.0975	1.7760E-16	0.7727	2.3994E-16	0.2759
3	SB126	2.1357E-11	3.7344E-28	4.3215E-18	0.0068	3.9314E-17	0.1711	4.3635E-17	0.0502
4	CS135	6.4880E-02	1.6746E-26	3.4866E-17	0.0545	0.0	0.0	3.4866E-17	0.0401
5	NB 93M	5.3243E-07	2.3241E-26	2.6142E-17	0.0409	0.0	0.0	2.6142E-17	0.0301
6	SN126	4.4933E-04	2.6674E-27	1.3074E-17	0.0204	1.2885E-17	0.0561	2.5959E-17	0.0299
7	ZR 93	6.3051E-02	2.4464E-26	1.4836E-17	0.0232	0.0	0.0	1.4836E-17	0.0171
	TOTAL	1.8355E-01	2.2321E-25	6.3460E-16	0.9920	2.2980E-16	0.9998	8.6440E-16	0.9940

(15) 10^{13} seconds after fission

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	TC 99	2.1904E-02	6.0764E-26	1.9018E-16	0.7038	9.8698E-24	0.0000	1.9018E-16	0.6295
2	SB126M	2.2482E-14	3.6945E-28	8.6352E-18	0.0320	2.4599E-17	0.7721	3.3234E-17	0.1100
3	CS135	5.9537E-02	1.5367E-26	3.1995E-17	0.1184	0.0	0.0	3.1995E-17	0.1059
4	NB 93M	4.6790E-07	2.0424E-26	2.2973E-17	0.0850	0.0	0.0	2.2973E-17	0.0760
5	ZR 93	5.5409E-02	2.1499E-26	1.3038E-17	0.0482	0.0	0.0	1.3038E-17	0.0432
6	SB126	2.9581E-12	5.1723E-29	5.9855E-19	0.0022	5.4452E-18	0.1709	6.0438E-18	0.0200
7	SN126	6.2234E-05	3.6945E-28	1.8108E-18	0.0067	1.7846E-18	0.0560	3.5954E-18	0.0119
	TOTAL	1.3691E-01	1.1884E-25	2.6923E-16	0.9963	3.1828E-17	0.9991	3.0106E-16	0.9966

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

(1) 0 second after the end of irradiation

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	CS138	1.8721E+02	1.8153E-12	7.3143E-02	0.0114	1.8000E-01	0.0280	2.5315E-01	0.0198
2	I 134	3.5162E+02	2.0872E-12	4.7177E-02	0.0074	1.9899E-01	0.0310	2.4617E-01	0.0192
3	CS140	5.2759E+00	1.5516E-12	8.2039E-02	0.0128	1.6023E-01	0.0250	2.4227E-01	0.0189
4	SR 95	1.9157E+00	1.4708E-12	8.6691E-02	0.0136	1.3289E-01	0.0207	2.1959E-01	0.0171
5	RB 92	3.1812E-01	1.3243E-12	1.3995E-01	0.0219	7.6735E-02	0.0120	2.1668E-01	0.0169
6	RB 91	4.7699E+00	1.5354E-12	8.3850E-02	0.0131	1.3043E-01	0.0203	2.1428E-01	0.0167
7	NB100	1.2501E-01	1.5612E-12	1.3160E-01	0.0206	7.7903E-02	0.0121	2.0951E-01	0.0164
8	LA142	4.7276E+02	1.5923E-12	5.3887E-02	0.0084	1.4864E-01	0.0232	2.0252E-01	0.0158
9	RB 90	1.0169E+01	1.2452E-12	7.2378E-02	0.0113	1.2711E-01	0.0198	1.9949E-01	0.0156
10	LA144	3.2901E+00	1.4640E-12	7.2479E-02	0.0113	1.1327E-01	0.0176	1.8575E-01	0.0145
11	LA140	1.3181E+04	1.7032E-12	3.4561E-02	0.0054	1.4571E-01	0.0227	1.8027E-01	0.0141
12	RB 93	3.0404E-01	9.7865E-13	7.7743E-02	0.0122	9.6862E-02	0.0151	1.7461E-01	0.0136
13	Y 95	5.7249E+01	1.7354E-12	8.7975E-02	0.0138	8.2620E-02	0.0129	1.7060E-01	0.0133
14	XE139	2.9363E+00	1.3926E-12	5.1630E-02	0.0081	1.1537E-01	0.0180	1.6700E-01	0.0130
15	SR 93	4.0181E+01	1.6885E-12	4.2955E-02	0.0067	1.2359E-01	0.0193	1.6654E-01	0.0130
16	Y 94	1.0369E+02	1.7313E-12	1.1614E-01	0.0182	4.9484E-02	0.0077	1.6563E-01	0.0129
17	CS141	1.6040E+00	1.2068E-12	5.6975E-02	0.0089	9.5331E-02	0.0149	1.5231E-01	0.0119
18	I 136	3.9396E+00	8.6725E-13	5.6475E-02	0.0088	9.4404E-02	0.0147	1.5088E-01	0.0118
19	RB 89	6.4194E+01	1.3015E-12	4.8719E-02	0.0076	9.9735E-02	0.0155	1.4845E-01	0.0116
20	KR 89	1.2150E+01	1.2357E-12	6.0716E-02	0.0095	8.4325E-02	0.0131	1.4504E-01	0.0113
21	Y 96	3.5314E-01	1.1026E-12	1.3964E-01	0.0218	0.0	0.0	1.3964E-01	0.0109
22	RB 88	5.6723E+01	9.9497E-13	4.3919E-02	0.0069	9.1814E-02	0.0143	1.3573E-01	0.0106
23	Y 97	1.9544E-01	9.8954E-13	9.0508E-02	0.0142	4.5071E-02	0.0070	1.3558E-01	0.0106
24	TE135	9.0247E-01	8.8055E-13	4.9913E-02	0.0078	8.5361E-02	0.0133	1.3527E-01	0.0106
25	NB102	5.8469E-02	8.4257E-13	8.8287E-02	0.0138	4.5547E-02	0.0071	1.3383E-01	0.0104
26	SR 94	6.5431E+00	1.6278E-12	4.8061E-02	0.0075	8.5702E-02	0.0134	1.3376E-01	0.0104
27	KR 90	2.3496E+00	1.3619E-12	6.7739E-02	0.0106	6.2287E-02	0.0097	1.3003E-01	0.0101
28	ZR 99	1.7162E-01	1.5310E-12	8.2870E-02	0.0130	4.6602E-02	0.0073	1.2947E-01	0.0101
	TOTAL	1.4572E+04	3.8819E-11	2.0880E+00	0.3265	2.7960E+00	0.4356	4.8840E+00	0.3812

(2) 1 second after the end of irradiation

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	CS138	1.8721E+02	1.8153E-12	7.3142E-02	0.0126	1.8000E-01	0.0298	2.5314E-01	0.0213
2	I 134	3.5161E+02	2.0871E-12	4.7176E-02	0.0081	1.9899E-01	0.0329	2.4617E-01	0.0207
3	CS140	5.2553E+00	1.5455E-12	8.1717E-02	0.0140	1.5960E-01	0.0264	2.4132E-01	0.0203
4	SR 95	1.8656E+00	1.4324E-12	8.4425E-02	0.0145	1.2942E-01	0.0214	2.1384E-01	0.0180
5	RB 91	4.7463E+00	1.5278E-12	8.3435E-02	0.0143	1.2979E-01	0.0215	2.1322E-01	0.0180
6	NB100	1.2186E-01	1.5219E-12	1.2828E-01	0.0220	7.5938E-02	0.0126	2.0422E-01	0.0172
7	LA142	4.7275E+02	1.5923E-12	5.3887E-02	0.0092	1.4864E-01	0.0246	2.0252E-01	0.0171
8	RB 90	1.0168E+01	1.2450E-12	7.2365E-02	0.0124	1.2709E-01	0.0210	1.9945E-01	0.0168
9	RB 92	2.8626E-01	1.1917E-12	1.2593E-01	0.0216	6.9050E-02	0.0114	1.9498E-01	0.0164
10	LA144	3.2795E+00	1.4593E-12	7.2244E-02	0.0124	1.1290E-01	0.0187	1.8515E-01	0.0156
11	LA140	1.3181E+04	1.7032E-12	3.4561E-02	0.0059	1.4571E-01	0.0241	1.8027E-01	0.0152
12	Y 95	5.7239E+01	1.7351E-12	8.7959E-02	0.0151	8.2605E-02	0.0137	1.7056E-01	0.0144
13	SR 93	4.0155E+01	1.6874E-12	4.2926E-02	0.0074	1.2351E-01	0.0204	1.6643E-01	0.0140
14	Y 94	1.0369E+02	1.7312E-12	1.1614E-01	0.0199	4.9482E-02	0.0082	1.6562E-01	0.0140
15	XE139	2.8932E+00	1.3722E-12	5.0871E-02	0.0087	1.1367E-01	0.0188	1.6454E-01	0.0139
16	RB 93	2.7369E-01	8.8097E-13	6.9983E-02	0.0120	8.7194E-02	0.0144	1.5718E-01	0.0132
17	I 136	3.9225E+00	8.6349E-13	5.6230E-02	0.0097	9.3994E-02	0.0156	1.5022E-01	0.0127
18	CS141	1.5708E+00	1.1818E-12	5.5796E-02	0.0096	9.3357E-02	0.0154	1.4915E-01	0.0126
19	RB 89	6.4191E+01	1.3014E-12	4.8717E-02	0.0084	9.9731E-02	0.0165	1.4845E-01	0.0125
20	KR 89	1.2116E+01	1.2322E-12	6.0545E-02	0.0104	8.4088E-02	0.0139	1.4463E-01	0.0122
21	RB 88	5.6722E+01	9.9495E-13	4.3918E-02	0.0075	9.1812E-02	0.0152	1.3573E-01	0.0114
22	Y 96	3.4116E-01	1.0652E-12	1.3490E-01	0.0232	0.0	0.0	1.3490E-01	0.0114
23	SR 94	6.4978E+00	1.6166E-12	4.7729E-02	0.0082	8.5109E-02	0.0141	1.3284E-01	0.0112
24	TE135	8.7152E-01	8.5036E-13	4.8202E-02	0.0083	8.2434E-02	0.0136	1.3064E-01	0.0110
25	CS139	5.3209E+01	1.7022E-12	1.0698E-01	0.0184	2.0750E-02	0.0034	1.2774E-01	0.0108
26	KR 90	2.3041E+00	1.3355E-12	6.6428E-02	0.0114	6.1082E-02	0.0101	1.2751E-01	0.0107
27	I 135	2.1647E+03	1.7042E-12	2.3114E-02	0.0040	1.0373E-01	0.0172	1.2685E-01	0.0107
28	XE138	7.8684E+01	1.7387E-12	4.2390E-02	0.0073	7.8265E-02	0.0130	1.2066E-01	0.0102
29	NB 98	2.3789E-01	1.5583E-12	1.1560E-01	0.0198	4.5952E-03	0.0008	1.2020E-01	0.0101
30	XE137	2.0056E+01	1.6350E-12	1.0809E-01	0.0186	1.1350E-02	0.0019	1.1944E-01	0.0101
31	I 132	5.0932E+02	1.1625E-12	2.1229E-02	0.0036	9.7927E-02	0.0162	1.1916E-01	0.0100
32	Y 97	1.7141E-01	8.6788E-13	7.9380E-02	0.0136	3.9529E-02	0.0065	1.1891E-01	0.0100
	TOTAL	1.7397E+04	4.5338E-11	2.2843E+00	0.3921	2.9813E+00	0.4933	5.2656E+00	0.4436

Table 4.1.5 Continued

(3) 10 seconds after the end of irradiation

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	CS138	1.8719E+02	1.8151E-12	7.3136E-02	0.0173	1.7998E-01	0.0364	2.5312E-01	0.0276
2	I 134	3.5157E+02	2.0869E-12	4.7170E-02	0.0111	1.9897E-01	0.0402	2.4614E-01	0.0268
3	CS140	5.0100E+00	1.4734E-12	7.7904E-02	0.0184	1.5216E-01	0.0308	2.3006E-01	0.0251
4	LA142	4.7274E+02	1.5923E-12	5.3885E-02	0.0127	1.4863E-01	0.0301	2.0252E-01	0.0221
5	RB 91	4.4557E+00	1.4342E-12	7.8325E-02	0.0185	1.2184E-01	0.0246	2.0016E-01	0.0218
6	RB 90	1.0115E+01	1.2385E-12	7.1991E-02	0.0170	1.2643E-01	0.0256	1.9842E-01	0.0216
7	LA140	1.3181E+04	1.7032E-12	3.4561E-02	0.0082	1.4571E-01	0.0295	1.8027E-01	0.0196
8	LA144	3.1016E+00	1.3801E-12	6.8325E-02	0.0161	1.0678E-01	0.0216	1.7510E-01	0.0191
9	Y 95	5.7083E+01	1.7304E-12	8.7719E-02	0.0207	8.2380E-02	0.0167	1.7010E-01	0.0185
10	SR 95	1.4453E+00	1.1097E-12	6.5405E-02	0.0155	1.0026E-01	0.0203	1.6567E-01	0.0181
11	Y 94	1.0363E+02	1.7303E-12	1.1607E-01	0.0274	4.9454E-02	0.0100	1.6553E-01	0.0180
12	SR 93	3.9781E+01	1.6717E-12	4.2527E-02	0.0100	1.2236E-01	0.0247	1.6488E-01	0.0180
13	RB 89	6.4162E+01	1.3009E-12	4.8695E-02	0.0115	9.9686E-02	0.0202	1.4838E-01	0.0162
14	I 136	3.7518E+00	8.2592E-13	5.3784E-02	0.0127	8.9904E-02	0.0182	1.4369E-01	0.0157
15	XE139	2.4897E+00	1.1808E-12	4.3777E-02	0.0103	9.7820E-02	0.0198	1.4160E-01	0.0154
16	KR 89	1.1760E+01	1.1960E-12	5.8768E-02	0.0139	8.1620E-02	0.0165	1.4039E-01	0.0153
17	RB 88	5.6714E+01	9.9482E-13	4.3912E-02	0.0104	9.1800E-02	0.0186	1.3571E-01	0.0148
18	CS139	5.3067E+01	1.6977E-12	1.0670E-01	0.0252	2.0695E-02	0.0042	1.2740E-01	0.0139
19	I 135	2.1644E+03	1.7039E-12	2.3111E-02	0.0055	1.0372E-01	0.0210	1.2683E-01	0.0138
20	SR 94	6.0241E+00	1.4987E-12	4.4249E-02	0.0105	7.8904E-02	0.0160	1.2315E-01	0.0134
21	XE138	7.8191E+01	1.7278E-12	4.2125E-02	0.0100	7.7775E-02	0.0157	1.1990E-01	0.0131
22	I 132	5.0932E+02	1.1624E-12	2.1229E-02	0.0050	9.7927E-02	0.0198	1.1916E-01	0.0130
23	CS141	1.2407E+00	9.3346E-13	4.4070E-02	0.0104	7.3738E-02	0.0149	1.1781E-01	0.0128
24	XE137	1.9753E+01	1.6103E-12	1.0646E-01	0.0252	1.1179E-02	0.0023	1.1764E-01	0.0128
25	TC102	3.2107E-01	1.1392E-12	8.2288E-02	0.0194	2.4417E-02	0.0049	1.0670E-01	0.0116
26	NB 98	2.1082E-01	1.3809E-12	1.0244E-01	0.0242	4.0723E-03	0.0008	1.0652E-01	0.0116
27	KR 90	1.9080E+00	1.1060E-12	5.5009E-02	0.0130	5.0582E-02	0.0102	1.0559E-01	0.0115
28	MO101	6.4113E+01	1.3692E-12	2.5904E-02	0.0061	7.8656E-02	0.0159	1.0456E-01	0.0114
29	TE133M	1.6555E+02	9.3300E-13	2.2160E-02	0.0052	8.0489E-02	0.0163	1.0265E-01	0.0112
30	BA141	9.1852E+01	1.5697E-12	5.4619E-02	0.0129	4.7442E-02	0.0096	1.0206E-01	0.0111
31	Y 92	1.0973E+03	1.6130E-12	8.6837E-02	0.0205	1.4825E-02	0.0030	1.0166E-01	0.0111
32	NB100	5.8766E-02	7.3394E-13	6.1866E-02	0.0146	3.6622E-02	0.0074	9.8488E-02	0.0107
33	TE135	6.3138E-01	6.1605E-13	3.4920E-02	0.0083	5.9720E-02	0.0121	9.4640E-02	0.0103
34	I 137	8.7487E-01	6.6896E-13	3.1484E-02	0.0074	6.0889E-02	0.0123	9.2372E-02	0.0101
	TOTAL	1.8810E+04	4.5928E-11	2.0114E+00	0.4752	2.9174E+00	0.5900	4.9288E+00	0.5371

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	CS138	1.8679E+02	1.8112E-12	7.2979E-02	0.0276	1.7960E-01	0.0529	2.5258E-01	0.0418
2	I 134	3.5100E+02	2.0835E-12	4.7094E-02	0.0178	1.9864E-01	0.0585	2.4574E-01	0.0407
3	LA142	4.7236E+02	1.5910E-12	5.3842E-02	0.0204	1.4852E-01	0.0437	2.0236E-01	0.0335
4	LA140	1.3181E+04	1.7032E-12	3.4561E-02	0.0131	1.4571E-01	0.0429	1.8027E-01	0.0298
5	Y 94	1.0132E+02	1.6916E-12	1.1348E-01	0.0429	4.8350E-02	0.0142	1.6183E-01	0.0268
6	Y 95	5.2845E+01	1.6019E-12	8.1208E-02	0.0307	7.6264E-02	0.0225	1.5747E-01	0.0261
7	RB 90	7.8695E+00	9.6356E-13	5.6009E-02	0.0212	9.8363E-02	0.0290	1.5437E-01	0.0256
8	RB 89	6.3238E+01	1.2821E-12	4.7993E-02	0.0181	9.8250E-02	0.0289	1.4624E-01	0.0242
9	SR 93	3.4670E+01	1.4569E-12	3.7063E-02	0.0140	1.0664E-01	0.0314	1.4370E-01	0.0238
10	RB 88	5.6632E+01	9.9338E-13	4.3849E-02	0.0166	9.1667E-02	0.0270	1.3552E-01	0.0224
11	I 135	2.1593E+03	1.6999E-12	2.3057E-02	0.0087	1.0347E-01	0.0305	1.2653E-01	0.0209
12	I 132	5.0931E+02	1.1624E-12	2.1229E-02	0.0080	9.7925E-02	0.0288	1.1915E-01	0.0197
13	CS139	4.9556E+01	1.5853E-12	9.9640E-02	0.0377	1.9326E-02	0.0057	1.1897E-01	0.0197
14	XE138	7.2691E+01	1.6062E-12	3.9162E-02	0.0148	7.2304E-02	0.0213	1.1147E-01	0.0185
15	Y 92	1.0972E+03	1.6129E-12	8.6832E-02	0.0328	1.4824E-02	0.0044	1.0166E-01	0.0168
16	TE133M	1.6289E+02	9.1804E-13	2.1805E-02	0.0082	7.9198E-02	0.0233	1.0100E-01	0.0167
17	KR 89	8.3923E+00	8.5352E-13	4.1939E-02	0.0159	5.8247E-02	0.0171	1.0019E-01	0.0166
18	MO101	5.9963E+01	1.2806E-12	2.4228E-02	0.0092	7.3565E-02	0.0217	9.7792E-02	0.0162
19	TC102	2.9398E-01	1.0430E-12	7.5345E-02	0.0285	2.2357E-02	0.0066	9.7702E-02	0.0162
20	BA141	8.7866E+01	1.5016E-12	5.2249E-02	0.0198	4.5383E-02	0.0134	9.7632E-02	0.0162
21	CS140	2.0877E+00	6.1397E-13	3.2462E-02	0.0123	6.3402E-02	0.0187	9.5865E-02	0.0159
22	XE137	1.5684E+01	1.2786E-12	8.4529E-02	0.0320	8.8758E-03	0.0026	9.3405E-02	0.0155
23	SR 92	8.2692E+02	1.5879E-12	1.1351E-02	0.0043	7.8674E-02	0.0232	9.0025E-02	0.0149
24	KR 88	5.3127E+02	9.6664E-13	1.3148E-02	0.0050	7.0451E-02	0.0207	8.3599E-02	0.0138
25	Y 93	3.3545E+03	1.7283E-12	7.5011E-02	0.0284	5.6858E-03	0.0017	8.0697E-02	0.0134
26	SR 91	2.9232E+03	1.6046E-12	3.8727E-02	0.0146	4.1734E-02	0.0123	8.0461E-02	0.0133
27	LA143	6.8101E+01	1.4974E-12	7.5981E-02	0.0287	1.7249E-03	0.0005	7.7706E-02	0.0129
28	TE134	2.4267E+02	1.8126E-12	1.6638E-02	0.0063	5.9926E-02	0.0176	7.6563E-02	0.0127
29	BA142	4.8230E+01	1.4074E-12	2.2774E-02	0.0086	5.2469E-02	0.0154	7.5243E-02	0.0125
30	I 136	1.9497E+00	4.2921E-13	2.7950E-02	0.0106	4.6721E-02	0.0138	7.4671E-02	0.0124
31	RB 91	1.6016E+00	5.1554E-13	2.8155E-02	0.0106	4.3796E-02	0.0129	7.1951E-02	0.0119
32	TC104	2.8148E+01	4.8289E-13	2.2226E-02	0.0084	4.7847E-02	0.0141	7.0074E-02	0.0116
33	PR146	6.1808E+01	8.0175E-13	3.5814E-02	0.0135	3.4094E-02	0.0100	6.9908E-02	0.0116
34	I 133	7.2380E+03	1.8108E-12	2.7230E-02	0.0103	4.0957E-02	0.0121	6.8187E-02	0.0113
35	NB 97	3.7195E+02	1.6107E-12	2.7762E-02	0.0105	3.9623E-02	0.0117	6.7384E-02	0.0112
36	SB131	4.9390E+01	6.7048E-13	1.4378E-02	0.0054	4.6227E-02	0.0136	6.0605E-02	0.0100
	TOTAL	3.4480E+04	4.7261E-11	1.6277E+00	0.6154	2.4608E+00	0.7245	4.0885E+00	0.6767

Table 4.1.5 Continued

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	I 134	3.3701E+02	2.0005E-12	4.5218E-02	0.0288	1.9073E-01	0.0887	2.3595E-01	0.0634
2	CS138	1.6713E+02	1.6205E-12	6.5297E-02	0.0416	1.6069E-01	0.0748	2.2599E-01	0.0607
3	LA142	4.5035E+02	1.5169E-12	5.1333E-02	0.0327	1.4159E-01	0.0659	1.9293E-01	0.0518
4	LA140	1.3181E+04	1.7032E-12	3.4561E-02	0.0220	1.4571E-01	0.0678	1.8027E-01	0.0484
5	RB 88	5.5165E+01	9.6764E-13	4.2713E-02	0.0272	8.9292E-02	0.0415	1.3200E-01	0.0355
6	I 135	2.1035E+03	1.6560E-12	2.2460E-02	0.0143	1.0080E-01	0.0469	1.2326E-01	0.0331
7	I 132	5.0918E+02	1.1621E-12	2.1224E-02	0.0135	9.7901E-02	0.0455	1.1912E-01	0.0320
8	Y 92	1.0948E+03	1.6093E-12	8.6639E-02	0.0551	1.4791E-02	0.0069	1.0143E-01	0.0273
9	Y 94	5.9723E+01	9.9717E-13	6.6895E-02	0.0426	2.8501E-02	0.0133	9.5396E-02	0.0256
10	RB 89	3.7175E+01	7.5371E-13	2.8213E-02	0.0180	5.7757E-02	0.0269	8.5971E-02	0.0231
11	SR 92	7.7570E+02	1.4895E-12	1.0648E-02	0.0068	7.3801E-02	0.0343	8.4449E-02	0.0227
12	TE133M	1.3567E+02	7.6462E-13	1.8161E-02	0.0116	6.5964E-02	0.0307	8.4125E-02	0.0226
13	Y 93	3.3233E+03	1.7123E-12	7.4314E-02	0.0473	5.6329E-03	0.0026	7.9946E-02	0.0215
14	SR 91	2.8718E+03	1.5764E-12	3.8046E-02	0.0242	4.1000E-02	0.0191	7.9047E-02	0.0212
15	KR 88	5.0004E+02	9.0982E-13	1.2375E-02	0.0079	6.6310E-02	0.0308	7.8685E-02	0.0211
16	I 133	7.224BE+03	1.8075E-12	2.7180E-02	0.0173	4.0882E-02	0.0190	6.8062E-02	0.0183
17	NB 97	3.7158E+02	1.6091E-12	2.7734E-02	0.0176	3.9583E-02	0.0184	6.7317E-02	0.0181
18	PR146	5.4031E+01	7.0087E-13	3.1308E-02	0.0199	2.9804E-02	0.0139	6.1112E-02	0.0164
19	TE134	1.8923E+02	1.4135E-12	1.2974E-02	0.0083	4.6729E-02	0.0217	5.9703E-02	0.0160
20	Y 95	1.9301E+01	5.8507E-13	2.9659E-02	0.0189	2.7854E-02	0.0130	5.7513E-02	0.0155
21	LA141	1.1776E+03	1.5593E-12	5.4884E-02	0.0349	2.4500E-03	0.0011	5.7334E-02	0.0154
22	BA139	4.3243E+02	1.6324E-12	5.4446E-02	0.0346	2.6442E-03	0.0012	5.7090E-02	0.0153
23	BA141	4.9795E+01	8.5097E-13	2.9610E-02	0.0188	2.5719E-02	0.0120	5.5329E-02	0.0149
24	ZR 95	5.0851E+05	1.7214E-12	7.4406E-03	0.0047	4.6715E-02	0.0217	5.4156E-02	0.0146
25	XE138	3.4827E+01	7.6957E-13	1.8763E-02	0.0119	3.4642E-02	0.0161	5.3404E-02	0.0144
26	ZR 97	5.1611E+03	1.5892E-12	4.1045E-02	0.0261	1.0760E-02	0.0050	5.1805E-02	0.0139
27	NB 95	2.7128E+05	1.6820E-12	2.7086E-03	0.0017	4.7581E-02	0.0221	5.0289E-02	0.0135
28	MO101	2.9446E+01	6.2886E-13	1.1898E-02	0.0076	3.6126E-02	0.0168	4.8023E-02	0.0129
29	KR 87	1.4557E+02	5.9562E-13	2.8967E-02	0.0184	1.7089E-02	0.0079	4.6056E-02	0.0124
30	NB 97M	4.9573E+00	1.5478E-12	8.5141E-04	0.0005	4.1720E-02	0.0194	4.2571E-02	0.0114
31	CS139	1.7268E+01	5.5242E-13	3.4721E-02	0.0221	6.7342E-03	0.0031	4.1455E-02	0.0111
32	CE143	1.0176E+04	1.6046E-12	2.7024E-02	0.0172	1.4334E-02	0.0067	4.1358E-02	0.0111
33	MO 99	2.0907E+04	1.6480E-12	2.4633E-02	0.0157	1.6560E-02	0.0077	4.1193E-02	0.0111
34	TC104	1.6189E+01	2.7772E-13	1.2783E-02	0.0081	2.7519E-02	0.0128	4.0302E-02	0.0108
35	PR144	4.8335E+01	8.7336E-13	3.9220E-02	0.0250	9.7363E-04	0.0005	4.0194E-02	0.0108
36	SB131	3.1537E+01	4.2812E-13	9.1810E-03	0.0058	2.9517E-02	0.0137	3.8698E-02	0.0104
37	TC102	1.1618E-01	4.1223E-13	2.9777E-02	0.0190	8.8357E-03	0.0041	3.8613E-02	0.0104
38	LA143	3.2751E+01	7.2013E-13	3.6541E-02	0.0233	8.2956E-04	0.0004	3.7370E-02	0.0100
	TOTAL	8.5151E+05	4.5649E-11	1.2114E+00	0.7710	1.8361E+00	0.8541	3.0475E+00	0.8190

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	LA140	1.3178E+04	1.7028E-12	3.4555E-02	0.0440	1.4568E-01	0.1444	1.8024E-01	0.1004
2	I 132	5.0449E+02	1.1514E-12	2.1028E-02	0.0267	9.6999E-02	0.0961	1.1803E-01	0.0658
3	I 135	1.6184E+03	1.2741E-12	1.7281E-02	0.0220	7.7552E-02	0.0769	9.4833E-02	0.0528
4	Y 92	9.5335E+02	1.4014E-12	7.5446E-02	0.0960	1.2880E-02	0.0128	8.8326E-02	0.0492
5	RB 88	3.1566E+01	5.5370E-13	2.4441E-02	0.0311	5.1094E-02	0.0506	7.5535E-02	0.0421
6	I 134	9.7755E+01	5.8027E-13	1.3116E-02	0.0167	5.5324E-02	0.0548	6.8439E-02	0.0381
7	Y 93	2.8066E+03	1.4461E-12	6.2761E-02	0.0798	4.7572E-03	0.0047	6.7518E-02	0.0376
8	SR 91	2.3921E+03	1.3131E-12	3.1690E-02	0.0403	3.4151E-02	0.0338	6.5841E-02	0.0367
9	LA142	1.5343E+02	5.1677E-13	1.7488E-02	0.0222	4.8239E-02	0.0478	6.5727E-02	0.0366
10	I 133	6.7735E+03	1.6946E-12	2.5482E-02	0.0324	3.8328E-02	0.0380	6.3811E-02	0.0355
11	NB 97	3.5127E+02	1.5212E-12	2.6218E-02	0.0334	3.7419E-02	0.0371	6.3636E-02	0.0355
12	ZR 95	5.0795E+05	1.7195E-12	7.4325E-03	0.0095	4.6665E-02	0.0463	5.4097E-02	0.0301
13	NB 95	2.7129E+05	1.6821E-12	2.7087E-03	0.0034	4.7583E-02	0.0472	5.0291E-02	0.0280
14	ZR 97	4.6581E+03	1.4343E-12	3.7045E-02	0.0471	9.7112E-03	0.0096	4.6756E-02	0.0260
15	SR 92	4.0925E+02	7.8586E-13	5.6179E-03	0.0071	3.8937E-02	0.0386	4.4555E-02	0.0248
16	KR 88	2.7281E+02	4.9639E-13	6.7514E-03	0.0086	3.6178E-02	0.0359	4.2929E-02	0.0239
17	PR144	4.8324E+01	8.7316E-13	3.9211E-02	0.0499	9.7340E-04	0.0010	4.0184E-02	0.0224
18	MO 99	2.0366E+04	1.6053E-12	2.3995E-02	0.0305	1.6131E-02	0.0160	4.0126E-02	0.0224
19	CE143	9.6862E+03	1.5274E-12	2.5725E-02	0.0327	1.3644E-02	0.0135	3.9370E-02	0.0219
20	LA141	7.9224E+02	1.0490E-12	3.6925E-02	0.0470	1.6483E-03	0.0016	3.8573E-02	0.0215
21	NB 97M	4.4742E+00	1.3970E-12	7.6844E-04	0.0010	3.7654E-02	0.0373	3.8422E-02	0.0214
22	XE135	2.9931E+03	1.7154E-12	2.0155E-02	0.0256	1.5650E-02	0.0155	3.5806E-02	0.0199
23	Y 91	4.2761E+05	1.5846E-12	3.4532E-02	0.0439	1.5582E-04	0.0002	3.4687E-02	0.0193
24	BA140	9.9407E+04	1.6911E-12	2.0036E-02	0.0255	9.1661E-03	0.0091	2.9202E-02	0.0163
25	SR 89	3.0284E+05	1.3003E-12	2.7343E-02	0.0348	0.0	0.0	2.7343E-02	0.0152
26	PR145	8.9019E+02	7.7464E-13	1.9448E-02	0.0247	4.1238E-04	0.0004	1.9860E-02	0.0111
27	PR143	1.0066E+05	1.6073E-12	1.8767E-02	0.0239	5.2951E-10	0.0000	1.8767E-02	0.0105
	TOTAL	1.7787E+06	3.4399E-11	6.7596E-01	0.8599	8.7693E-01	0.8692	1.5529E+00	0.8651

Table 4.1.5 Continued

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	LA140	1.3010E+04	1.6811E-12	3.4114E-02	0.0979	1.4382E-01	0.3078	1.7794E-01	0.2182
2	I 132	4.0731E+02	9.2963E-13	1.6977E-02	0.0487	7.8313E-02	0.1676	9.5291E-02	0.1168
3	ZR 95	5.0226E+05	1.7003E-12	7.3492E-03	0.0211	4.6141E-02	0.0988	5.3491E-02	0.0656
4	NB 95	2.7138E+05	1.6826E-12	2.7096E-03	0.0078	4.7599E-02	0.1019	5.0308E-02	0.0617
5	PR144	4.8202E+01	8.7094E-13	3.9111E-02	0.1123	9.7093E-04	0.0021	4.0082E-02	0.0491
6	Y 91	4.2446E+05	1.5730E-12	3.4278E-02	0.0984	1.5467E-04	0.0003	3.4432E-02	0.0422
7	MO 99	1.5664E+04	1.2347E-12	1.8455E-02	0.0530	1.2407E-02	0.0266	3.0863E-02	0.0378
8	I 133	2.9542E+03	7.3910E-13	1.1114E-02	0.0319	1.6717E-02	0.0358	2.7831E-02	0.0341
9	BA140	9.3932E+04	1.5980E-12	1.8932E-02	0.0544	8.6612E-03	0.0185	2.7594E-02	0.0338
10	SR 89	2.9854E+05	1.2818E-12	2.6955E-02	0.0774	0.0	0.0	2.6955E-02	0.0331
11	CE143	5.7293E+03	9.0346E-13	1.5216E-02	0.0437	8.0706E-03	0.0173	2.3287E-02	0.0286
12	NB 97	1.2801E+02	5.5435E-13	9.5544E-03	0.0274	1.3636E-02	0.0292	2.3191E-02	0.0284
13	PR143	9.9296E+04	1.5854E-12	1.8512E-02	0.0532	5.2232E-10	0.0000	1.8512E-02	0.0227
14	ZR 97	1.6707E+03	5.1444E-13	1.3287E-02	0.0381	3.4831E-03	0.0075	1.6770E-02	0.0206
15	RU103	1.4619E+05	8.0390E-13	2.1456E-03	0.0062	1.3983E-02	0.0299	1.6128E-02	0.0198
16	I 131	2.6625E+04	7.1804E-13	5.0526E-03	0.0145	1.0017E-02	0.0214	1.5070E-02	0.0185
17	CE141	2.3106E+05	1.5473E-12	1.0023E-02	0.0288	4.0802E-03	0.0087	1.4103E-02	0.0173
18	NB 97M	1.6047E+00	5.0104E-13	2.7561E-04	0.0008	1.3505E-02	0.0289	1.3781E-02	0.0169
19	Y 93	5.0474E+02	2.6005E-13	1.1287E-02	0.0324	8.5552E-04	0.0018	1.2142E-02	0.0149
20	XE133	4.2156E+04	1.7279E-12	9.6888E-03	0.0278	1.9275E-03	0.0041	1.1616E-02	0.0142
21	XE135	8.9661E+02	5.1385E-13	6.0376E-03	0.0173	4.6881E-03	0.0100	1.0726E-02	0.0132
22	TE132	1.3330E+04	9.0207E-13	3.8353E-03	0.0110	6.8445E-03	0.0146	1.0680E-02	0.0131
23	SR 91	3.8452E+02	2.1107E-13	5.0942E-03	0.0146	5.4897E-03	0.0117	1.0584E-02	0.0130
24	ND147	2.8610E+04	5.6089E-13	5.8559E-03	0.0168	2.8095E-03	0.0060	8.6654E-03	0.0106
	TOTAL	2.2192E+06	2.4595E-11	3.2586E-01	0.9356	4.4418E-01	0.9506	7.7004E-01	0.9442

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	LA140	8.0656E+03	1.0422E-12	2.1149E-02	0.1203	8.9162E-02	0.4108	1.1031E-01	0.2809
2	NB 95	2.6904E+05	1.6682E-12	2.6863E-03	0.0153	4.7189E-02	0.2174	4.9875E-02	0.1270
3	ZR 95	4.4871E+05	1.5190E-12	6.5657E-03	0.0374	4.1222E-02	0.1899	4.7788E-02	0.1217
4	PR144	4.6992E+01	8.4909E-13	3.8130E-02	0.2170	9.4658E-04	0.0044	3.9077E-02	0.0995
5	Y 91	3.7555E+05	1.3917E-12	3.0327E-02	0.1726	1.3685E-04	0.0006	3.0464E-02	0.0776
6	SR 89	2.5877E+05	1.1110E-12	2.3364E-02	0.1329	0.0	0.0	2.3364E-02	0.0595
7	BA140	5.3307E+04	9.0686E-13	1.0744E-02	0.0611	4.9153E-03	0.0226	1.5660E-02	0.0399
8	RU103	1.2173E+05	6.6938E-13	1.7866E-03	0.0102	1.1643E-02	0.0536	1.3430E-02	0.0342
9	PR143	6.2060E+04	9.9089E-13	1.1570E-02	0.0658	3.2645E-10	0.0000	1.1570E-02	0.0295
10	CE141	1.8489E+05	1.2381E-12	8.0197E-03	0.0456	3.2648E-03	0.0150	1.1285E-02	0.0287
11	I 132	4.2784E+01	9.7650E-14	1.7833E-03	0.0101	8.2262E-03	0.0379	1.0009E-02	0.0255
12	I 131	1.1046E+04	2.9790E-13	2.0962E-03	0.0119	4.1558E-03	0.0191	6.2520E-03	0.0159
13	ND147	1.4894E+04	2.9198E-13	3.0484E-03	0.0173	1.4626E-03	0.0067	4.5110E-03	0.0115
	TOTAL	1.8081E+06	1.2074E-11	1.6127E-01	0.9176	2.1232E-01	0.9783	3.7359E-01	0.9512

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	PR144	3.6450E+01	6.5860E-13	2.9576E-02	0.5287	7.3421E-04	0.0171	3.0310E-02	0.3068
2	NB 95	1.4049E+05	8.7109E-13	1.4027E-03	0.0251	2.4641E-02	0.5751	2.6044E-02	0.2636
3	ZR 95	1.4534E+05	4.9202E-13	2.1267E-03	0.0380	1.3352E-02	0.3116	1.5479E-02	0.1567
4	Y 91	1.0933E+05	4.0515E-13	8.8290E-03	0.1578	3.9839E-05	0.0009	8.8688E-03	0.0898
5	SR 89	6.1940E+04	2.6595E-13	5.5926E-03	0.1000	0.0	0.0	5.5926E-03	0.0566
6	CE144	8.6322E+05	6.5858E-13	2.3126E-03	0.0413	3.8980E-04	0.0091	2.7024E-03	0.0274
7	RH106	6.9742E-02	4.2978E-14	2.2598E-03	0.0404	3.1360E-04	0.0073	2.5734E-03	0.0260
8	RU103	1.9503E+04	1.0725E-13	2.8625E-04	0.0051	1.8655E-03	0.0435	2.1517E-03	0.0218
9	Y 90	4.6635E+02	3.7859E-14	1.3028E-03	0.0233	0.0	0.0	1.3028E-03	0.0132
10	CE141	1.9883E+04	1.3314E-13	8.6245E-04	0.0154	3.5110E-04	0.0082	1.2135E-03	0.0123
	TOTAL	1.3602E+06	3.6726E-12	5.4550E-02	0.9751	4.1688E-02	0.9730	9.6238E-02	0.9742

Table 4.1.5 Continued

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA+GAMMA) (MEV)	(BETA+GAMMA) RATIO
1	PR144	2.8731E+00	5.1913E-14	2.3312E-03	0.4882	5.7873E-05	0.0656	2.3891E-03	0.4223
2	Y 90	4.3510E+02	3.5322E-14	1.2155E-03	0.2545	0.0	0.0	1.2155E-03	0.2149
3	BA137M	2.7421E-01	3.3548E-14	8.7877E-05	0.0184	7.3340E-04	0.8319	8.2128E-04	0.1452
4	RH106	9.9936E-03	6.1585E-15	3.2382E-04	0.0678	4.4937E-05	0.0510	3.6875E-04	0.0652
5	SR 90	1.6953E+06	3.5313E-14	2.2719E-04	0.0476	0.0	0.0	2.2719E-04	0.0402
6	CS137	1.8004E+06	3.5426E-14	2.2343E-04	0.0468	0.0	0.0	2.2343E-04	0.0395
7	CE144	6.8042E+04	5.1911E-14	1.8228E-04	0.0382	3.0725E-05	0.0349	2.1301E-04	0.0377
8	PM147	2.7060E+05	6.1242E-14	1.4041E-04	0.0294	1.0985E-08	0.0000	1.4042E-04	0.0248
	TOTAL	3.8348E+06	3.1083E-13	4.7317E-03	0.9909	8.6694E-04	0.9834	5.5987E-03	0.9897

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA+GAMMA) (MEV)	(BETA+GAMMA) RATIO
1	Y 90	2.1744E+02	1.7653E-14	6.0746E-04	0.6837	0.0	0.0	6.0746E-04	0.4785
2	BA137M	1.4240E-01	1.7422E-14	4.5636E-05	0.0514	3.8087E-04	0.9998	4.2650E-04	0.3360
3	CS137	9.3497E+05	1.8397E-14	1.1603E-04	0.1306	0.0	0.0	1.1603E-04	0.0914
4	SR 90	8.4725E+05	1.7648E-14	1.1354E-04	0.1278	0.0	0.0	1.1354E-04	0.0894
	TOTAL	1.7824E+06	7.1120E-14	8.8266E-04	0.9935	3.8087E-04	0.9998	1.2635E-03	0.9954

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA+GAMMA) (MEV)	(BETA+GAMMA) RATIO
1	BA137M	2.0317E-04	2.4857E-17	6.5110E-08	0.0645	5.4339E-07	0.9837	6.0850E-07	0.3897
2	Y 90	2.1132E-01	1.7155E-17	5.9035E-07	0.5850	0.0	0.0	5.9035E-07	0.3780
3	CS137	1.3339E+03	2.6248E-17	1.6554E-07	0.1640	0.0	0.0	1.6554E-07	0.1060
4	SR 90	8.2338E+02	1.7151E-17	1.1034E-07	0.1093	0.0	0.0	1.1034E-07	0.0707
5	SM151	1.1398E+04	7.5182E-17	5.5212E-08	0.0547	1.7976E-11	0.0000	5.5230E-08	0.0354
6	TC 99	1.9260E+06	5.3427E-18	1.6722E-08	0.0166	8.6782E-16	0.0000	1.6722E-08	0.0107
	TOTAL	1.9395E+06	1.6593E-16	1.0033E-06	0.9941	5.4341E-07	0.9837	1.5467E-06	0.9904

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA+GAMMA) (MEV)	(BETA+GAMMA) RATIO
1	TC 99	1.9083E+06	5.2936E-18	1.6568E-08	0.7443	8.5984E-16	0.0000	1.6568E-08	0.5328
2	SB126M	6.2378E-06	1.0251E-19	2.3959E-09	0.1076	6.8250E-09	0.7727	9.2208E-09	0.2965
3	SB126	8.2074E-04	1.4351E-20	1.6607E-10	0.0075	1.5108E-09	0.1710	1.6769E-09	0.0539
4	CS135	2.0637E+06	5.3266E-19	1.1090E-09	0.0498	0.0	0.0	1.1090E-09	0.0357
5	SN126	1.7267E+04	1.0251E-19	5.0242E-10	0.0226	4.9514E-10	0.0561	9.9756E-10	0.0321
6	NB 93M	1.7009E+01	7.4247E-19	8.3513E-10	0.0375	0.0	0.0	8.3513E-10	0.0269
7	ZR 93	2.0142E+06	7.8154E-19	4.7395E-10	0.0213	0.0	0.0	4.7395E-10	0.0152
	TOTAL	6.0035E+06	7.5696E-18	2.2050E-08	0.9905	8.8309E-09	0.9998	3.0881E-08	0.9932

Table 4.1.5 Continued

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	TC 99	1.7399E+06	4.8265E-18	1.5106E-08	0.7488	7.8397E-16	0.0000	1.5106E-08	0.5509
2	SB126M	5.1189E-06	8.4119E-20	1.9661E-09	0.0975	5.6008E-09	0.7727	7.5669E-09	0.2759
3	SB126	6.7352E-04	1.1777E-20	1.3628E-10	0.0068	1.2398E-09	0.1711	1.3761E-09	0.0502
4	CS135	2.0461E+06	5.2810E-19	1.0995E-09	0.0545	0.0	0.0	1.0995E-09	0.0401
5	NB 93M	1.6791E+01	7.3294E-19	8.2441E-10	0.0409	0.0	0.0	8.2441E-10	0.0301
6	SN126	1.4170E+04	8.4119E-20	4.1230E-10	0.0204	4.0632E-10	0.0561	8.1862E-10	0.0299
7	ZR 93	1.9884E+06	7.7151E-19	4.6786E-10	0.0232	0.0	0.0	4.6786E-10	0.0171
	TOTAL	5.7885E+06	7.0391E-18	2.0013E-08	0.9920	7.2469E-09	0.9998	2.7260E-08	0.9940

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	TC 99	6.9077E+05	1.9162E-18	5.9975E-09	0.7038	3.1125E-16	0.0000	5.9975E-09	0.6295
2	SB126M	7.0900E-07	1.1651E-20	2.7232E-10	0.0320	7.7574E-10	0.7721	1.0481E-09	0.1100
3	CS135	1.8776E+06	4.8461E-19	1.0090E-09	0.1184	0.0	0.0	1.0090E-09	0.1059
4	NB 93M	1.4756E+01	6.4410E-19	7.2448E-10	0.0850	0.0	0.0	7.2448E-10	0.0760
5	ZR 93	1.7474E+06	6.7799E-19	4.1116E-10	0.0482	0.0	0.0	4.1116E-10	0.0432
6	SB126	9.3286E-05	1.6311E-21	1.8876E-11	0.0022	1.7172E-10	0.1709	1.9060E-10	0.0200
7	SN126	1.9626E+03	1.1651E-20	5.7106E-11	0.0067	5.6278E-11	0.0560	1.1338E-10	0.0119
	TOTAL	4.3177E+06	3.7479E-18	8.4904E-09	0.9963	1.0037E-09	0.9991	9.4941E-09	0.9966

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

(1) 0 second after the end of irradiation

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	CS138	1.8721E+02	1.8153E-12	7.3143E-02	0.0112	1.8000E-01	0.0279	2.5315E-01	0.0195
2	I 134	3.5162E+02	2.0872E-12	4.7177E-02	0.0072	1.9899E-01	0.0308	2.4617E-01	0.0190
3	CS140	5.2759E+00	1.5516E-12	8.2039E-02	0.0126	1.6023E-01	0.0248	2.4227E-01	0.0187
4	SR 95	1.9157E+00	1.4708E-12	8.6691E-02	0.0133	1.3289E-01	0.0206	2.1959E-01	0.0169
5	RB 92	3.1812E-01	1.3243E-12	1.3995E-01	0.0215	7.6735E-02	0.0119	2.1668E-01	0.0167
6	RB 91	4.7699E+00	1.5354E-12	8.3850E-02	0.0129	1.3043E-01	0.0202	2.1428E-01	0.0165
7	NB100	1.2501E-01	1.5612E-12	1.3160E-01	0.0202	7.7903E-02	0.0121	2.0951E-01	0.0162
8	LA142	4.7276E+02	1.5923E-12	5.3887E-02	0.0083	1.4864E-01	0.0230	2.0252E-01	0.0156
9	RB 90	1.0169E+01	1.2452E-12	7.2378E-02	0.0111	1.2711E-01	0.0197	1.9949E-01	0.0154
10	LA144	3.2901E+00	1.4640E-12	7.2479E-02	0.0111	1.1327E-01	0.0175	1.8575E-01	0.0143
11	LA140	1.3181E+04	1.7032E-12	3.4561E-02	0.0053	1.4571E-01	0.0226	1.8027E-01	0.0139
12	RB 93	3.0404E-01	9.7865E-13	7.7743E-02	0.0119	9.6862E-02	0.0150	1.7461E-01	0.0135
13	Y 95	5.7249E+01	1.7354E-12	8.7975E-02	0.0135	8.2620E-02	0.0128	1.7060E-01	0.0132
14	XE139	2.9363E+00	1.3926E-12	5.1630E-02	0.0079	1.1537E-01	0.0179	1.6700E-01	0.0129
15	SR 93	4.0181E+01	1.6885E-12	4.2955E-02	0.0066	1.2359E-01	0.0191	1.6654E-01	0.0128
16	Y 94	1.0369E+02	1.7313E-12	1.1614E-01	0.0178	4.9484E-02	0.0077	1.6563E-01	0.0128
17	CS141	1.6040E+00	1.2068E-12	5.6975E-02	0.0087	9.5331E-02	0.0148	1.5231E-01	0.0117
18	I 136	3.9396E+00	8.6725E-13	5.6475E-02	0.0087	9.4404E-02	0.0146	1.5088E-01	0.0116
19	RB 89	6.4194E+01	1.3015E-12	4.8719E-02	0.0075	9.9735E-02	0.0154	1.4845E-01	0.0114
20	KR 89	1.2150E+01	1.2357E-12	6.0716E-02	0.0093	8.4325E-02	0.0131	1.4504E-01	0.0112
21	Y 96	3.5314E-01	1.1026E-12	1.3964E-01	0.0214	0.0	0.0	1.3964E-01	0.0108
22	RB 88	5.6723E+01	9.9497E-13	4.3919E-02	0.0067	9.1814E-02	0.0142	1.3573E-01	0.0105
23	Y 97	1.9544E-01	9.8954E-13	9.0508E-02	0.0139	4.5071E-02	0.0070	1.3558E-01	0.0105
24	TE135	9.0247E-01	8.8055E-13	4.9913E-02	0.0077	8.5361E-02	0.0132	1.3527E-01	0.0104
25	NB102	5.8469E-02	8.4257E-13	8.8287E-02	0.0136	4.5547E-02	0.0071	1.3383E-01	0.0103
26	SR 94	6.5431E+00	1.6278E-12	4.8061E-02	0.0074	8.5702E-02	0.0133	1.3376E-01	0.0103
27	KR 90	2.3496E+00	1.3619E-12	6.7739E-02	0.0104	6.2287E-02	0.0096	1.3003E-01	0.0100
	TOTAL	1.4572E+04	3.7288E-11	2.0051E+00	0.3079	2.7494E+00	0.4257	4.7546E+00	0.3666

(2) 1 second after the end of irradiation

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	CS138	1.8721E+02	1.8153E-12	7.3142E-02	0.0123	1.8000E-01	0.0296	2.5314E-01	0.0210
2	I 134	3.5161E+02	2.0871E-12	4.7176E-02	0.0079	1.9899E-01	0.0327	2.4617E-01	0.0205
3	CS140	5.2553E+00	1.5455E-12	8.1717E-02	0.0137	1.5960E-01	0.0262	2.4132E-01	0.0201
4	SR 95	1.8656E+00	1.4324E-12	8.4425E-02	0.0142	1.2942E-01	0.0213	2.1384E-01	0.0178
5	RB 91	4.7463E+00	1.5278E-12	8.3435E-02	0.0140	1.2979E-01	0.0213	2.1322E-01	0.0177
6	NB100	1.2186E-01	1.5219E-12	1.2828E-01	0.0216	7.5938E-02	0.0125	2.0422E-01	0.0170
7	LA142	4.7275E+02	1.5923E-12	5.3887E-02	0.0091	1.4864E-01	0.0244	2.0252E-01	0.0168
8	RB 90	1.0168E+01	1.2450E-12	7.2365E-02	0.0122	1.2709E-01	0.0209	1.9945E-01	0.0166
9	RB 92	2.8626E-01	1.1917E-12	1.2593E-01	0.0212	6.9050E-02	0.0114	1.9498E-01	0.0162
10	LA144	3.2795E+00	1.4593E-12	7.2244E-02	0.0122	1.1290E-01	0.0186	1.8515E-01	0.0154
11	LA140	1.3181E+04	1.7032E-12	3.4561E-02	0.0058	1.4571E-01	0.0240	1.8027E-01	0.0150
12	Y 95	5.7239E+01	1.7351E-12	8.7959E-02	0.0148	8.2605E-02	0.0136	1.7056E-01	0.0142
13	SR 93	4.0155E+01	1.6874E-12	4.2926E-02	0.0072	1.2351E-01	0.0203	1.6643E-01	0.0138
14	Y 94	1.0369E+02	1.7312E-12	1.1614E-01	0.0195	4.9482E-02	0.0081	1.6562E-01	0.0138
15	XE139	2.8932E+00	1.3722E-12	5.0871E-02	0.0086	1.1367E-01	0.0187	1.6454E-01	0.0137
16	RB 93	2.7369E-01	8.8097E-13	6.9983E-02	0.0118	8.7194E-02	0.0143	1.5718E-01	0.0131
17	I 136	3.9225E+00	8.6349E-13	5.6230E-02	0.0095	9.3994E-02	0.0155	1.5022E-01	0.0125
18	CS141	1.5708E+00	1.1818E-12	5.5796E-02	0.0094	9.3357E-02	0.0153	1.4915E-01	0.0124
19	RB 89	6.4191E+01	1.3014E-12	4.8717E-02	0.0082	9.9731E-02	0.0164	1.4845E-01	0.0123
20	KR 89	1.2116E+01	1.2322E-12	6.0545E-02	0.0102	8.4088E-02	0.0138	1.4463E-01	0.0120
21	RB 88	5.6722E+01	9.9495E-13	4.3918E-02	0.0074	9.1812E-02	0.0151	1.3573E-01	0.0113
22	Y 96	3.4116E-01	1.0652E-12	1.3490E-01	0.0227	0.0	0.0	1.3490E-01	0.0112
23	SR 94	6.4978E+00	1.6166E-12	4.7729E-02	0.0080	8.5109E-02	0.0140	1.3284E-01	0.0110
24	TE135	8.7152E-01	8.5036E-13	4.8202E-02	0.0081	8.2434E-02	0.0136	1.3064E-01	0.0109
25	CS139	5.3209E+01	1.7022E-12	1.0698E-01	0.0180	2.0750E-02	0.0034	1.2774E-01	0.0106
26	KR 90	2.3041E+00	1.3355E-12	6.6428E-02	0.0112	6.1082E-02	0.0100	1.2751E-01	0.0106
27	I 135	2.1647E+03	1.7042E-12	2.3114E-02	0.0039	1.0373E-01	0.0171	1.2685E-01	0.0105
28	XE138	7.8684E+01	1.7387E-12	4.2390E-02	0.0071	7.8265E-02	0.0129	1.2066E-01	0.0100
	TOTAL	1.6867E+04	4.0115E-11	1.9600E+00	0.3298	2.8279E+00	0.4649	4.7879E+00	0.3981

Table 4.1.6 Continued

(3) 10 seconds after the end of irradiation

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	CS138	1.8719E+02	1.8151E-12	7.3136E-02	0.0168	1.7998E-01	0.0361	2.5312E-01	0.0271
2	I 134	3.5157E+02	2.0869E-12	4.7170E-02	0.0108	1.9897E-01	0.0399	2.4614E-01	0.0264
3	CS140	5.0100E+00	1.4734E-12	7.7904E-02	0.0179	1.5216E-01	0.0305	2.3006E-01	0.0246
4	LA142	4.7274E+02	1.5923E-12	5.3885E-02	0.0124	1.4863E-01	0.0298	2.0252E-01	0.0217
5	RB 91	4.4557E+00	1.4342E-12	7.8325E-02	0.0180	1.2184E-01	0.0244	2.0016E-01	0.0214
6	RB 90	1.0115E+01	1.2385E-12	7.1991E-02	0.0166	1.2643E-01	0.0254	1.9842E-01	0.0213
7	LA140	1.3181E+04	1.7032E-12	3.4561E-02	0.0079	1.4571E-01	0.0292	1.8027E-01	0.0193
8	LA144	3.1016E+00	1.3801E-12	6.8325E-02	0.0157	1.0678E-01	0.0214	1.7510E-01	0.0188
9	Y 95	5.7083E+01	1.7304E-12	8.7719E-02	0.0202	8.2380E-02	0.0165	1.7010E-01	0.0182
10	SR 95	1.4453E+00	1.1097E-12	6.5405E-02	0.0150	1.0026E-01	0.0201	1.6567E-01	0.0177
11	Y 94	1.0363E+02	1.7303E-12	1.1607E-01	0.0267	4.9454E-02	0.0099	1.6553E-01	0.0177
12	SR 93	3.9781E+01	1.6717E-12	4.2527E-02	0.0098	1.2236E-01	0.0245	1.6488E-01	0.0177
13	RB 89	6.4162E+01	1.3009E-12	4.8695E-02	0.0112	9.9686E-02	0.0200	1.4838E-01	0.0159
14	I 136	3.7518E+00	8.2592E-13	5.3784E-02	0.0124	8.9904E-02	0.0180	1.4369E-01	0.0154
15	XE139	2.4897E+00	1.1808E-12	4.3777E-02	0.0101	9.7820E-02	0.0196	1.4160E-01	0.0152
16	KR 89	1.1760E+01	1.1960E-12	5.8768E-02	0.0135	8.1620E-02	0.0164	1.4039E-01	0.0150
17	RB 88	5.6714E+01	9.9482E-13	4.3912E-02	0.0101	9.1800E-02	0.0184	1.3571E-01	0.0145
18	CS139	5.3067E+01	1.6977E-12	1.0670E-01	0.0245	2.0695E-02	0.0042	1.2740E-01	0.0136
19	I 135	2.1644E+03	1.7039E-12	2.3111E-02	0.0053	1.0372E-01	0.0208	1.2683E-01	0.0136
20	SR 94	6.0241E+00	1.4987E-12	4.4249E-02	0.0102	7.8904E-02	0.0158	1.2315E-01	0.0132
21	XE138	7.8191E+01	1.7278E-12	4.2125E-02	0.0097	7.7775E-02	0.0156	1.1990E-01	0.0128
22	I 132	5.0932E+02	1.1624E-12	2.1229E-02	0.0049	9.7927E-02	0.0196	1.1916E-01	0.0128
23	CS141	1.2407E+00	9.3346E-13	4.4070E-02	0.0101	7.3738E-02	0.0148	1.1781E-01	0.0126
24	XE137	1.9753E+01	1.6103E-12	1.0646E-01	0.0245	1.1179E-02	0.0022	1.1764E-01	0.0126
25	TC102	3.2107E-01	1.1392E-12	8.2288E-02	0.0189	2.4417E-02	0.0049	1.0670E-01	0.0114
26	NB 98	2.1082E-01	1.3809E-12	1.0244E-01	0.0236	4.0723E-03	0.0008	1.0652E-01	0.0114
27	KR 90	1.9080E+00	1.1060E-12	5.5009E-02	0.0126	5.0582E-02	0.0101	1.0559E-01	0.0113
28	MO101	6.4113E+01	1.3692E-12	2.5904E-02	0.0060	7.8656E-02	0.0158	1.0456E-01	0.0112
29	TE133M	1.6555E+02	9.3300E-13	2.2160E-02	0.0051	8.0489E-02	0.0161	1.0265E-01	0.0110
30	BA141	9.1852E+01	1.5697E-12	5.4619E-02	0.0126	4.7442E-02	0.0095	1.0206E-01	0.0109
31	Y 92	1.0973E+03	1.6130E-12	8.6837E-02	0.0200	1.4825E-02	0.0030	1.0166E-01	0.0109
32	NB100	5.8766E-02	7.3394E-13	6.1866E-02	0.0142	3.6622E-02	0.0073	9.8488E-02	0.0106
33	TE135	6.3138E-01	6.1605E-13	3.4920E-02	0.0080	5.9720E-02	0.0120	9.4640E-02	0.0101
	TOTAL	1.8810E+04	4.5259E-11	1.9799E+00	0.4552	2.8565E+00	0.5731	4.8365E+00	0.5182

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	CS138	1.8679E+02	1.8112E-12	7.2979E-02	0.0264	1.7960E-01	0.0523	2.5258E-01	0.0407
2	I 134	3.5100E+02	2.0835E-12	4.7094E-02	0.0170	1.9864E-01	0.0578	2.4574E-01	0.0396
3	LA142	4.7236E+02	1.5910E-12	5.3842E-02	0.0195	1.4852E-01	0.0432	2.0236E-01	0.0326
4	LA140	1.3181E+04	1.7032E-12	3.4561E-02	0.0125	1.4571E-01	0.0424	1.8027E-01	0.0291
5	Y 94	1.0132E+02	1.6916E-12	1.1348E-01	0.0411	4.8350E-02	0.0141	1.6183E-01	0.0261
6	Y 95	5.2845E+01	1.6019E-12	8.1208E-02	0.0294	7.6264E-02	0.0222	1.5747E-01	0.0254
7	RB 90	7.8695E+00	9.6356E-13	5.6009E-02	0.0203	9.8363E-02	0.0286	1.5437E-01	0.0249
8	RB 89	6.3238E+01	1.2821E-12	4.7993E-02	0.0174	9.8250E-02	0.0286	1.4624E-01	0.0236
9	SR 93	3.4670E+01	1.4569E-12	3.7063E-02	0.0134	1.0664E-01	0.0310	1.4370E-01	0.0232
10	RB 88	5.6632E+01	9.9338E-13	4.3849E-02	0.0159	9.1667E-02	0.0267	1.3552E-01	0.0219
11	I 135	2.1593E+03	1.6999E-12	2.3057E-02	0.0083	1.0347E-01	0.0301	1.2653E-01	0.0204
12	I 132	5.0931E+02	1.1624E-12	2.1229E-02	0.0077	9.7925E-02	0.0285	1.1915E-01	0.0192
13	CS139	4.9556E+01	1.5853E-12	9.9640E-02	0.0361	1.9326E-02	0.0056	1.1897E-01	0.0192
14	XE138	7.2691E+01	1.6062E-12	3.9162E-02	0.0142	7.2304E-02	0.0210	1.1147E-01	0.0180
15	Y 92	1.0972E+03	1.6129E-12	8.6832E-02	0.0314	1.4824E-02	0.0043	1.0166E-01	0.0164
16	TE133M	1.6289E+02	9.1804E-13	2.1805E-02	0.0079	7.9198E-02	0.0230	1.0100E-01	0.0163
17	KR 89	8.3923E+00	8.5352E-13	4.1939E-02	0.0152	5.8247E-02	0.0170	1.0019E-01	0.0162
18	MO101	5.9963E+01	1.2806E-12	2.4228E-02	0.0088	7.3565E-02	0.0214	9.7792E-02	0.0158
19	TC102	2.9398E-01	1.0430E-12	7.5345E-02	0.0273	2.2357E-02	0.0065	9.7702E-02	0.0158
20	BA141	8.7866E+01	1.5016E-12	5.2249E-02	0.0189	4.5383E-02	0.0132	9.7632E-02	0.0158
21	CS140	2.0877E+00	6.1397E-13	3.2462E-02	0.0118	6.3402E-02	0.0185	9.5865E-02	0.0155
22	XE137	1.5684E+01	1.2786E-12	8.4529E-02	0.0306	8.8758E-03	0.0026	9.3405E-02	0.0151
23	SR 92	8.2692E+02	1.5879E-12	1.1351E-02	0.0041	7.8674E-02	0.0229	9.0025E-02	0.0145
24	KR 88	5.3127E+02	9.6664E-13	1.3148E-02	0.0048	7.0451E-02	0.0205	8.3599E-02	0.0135
25	Y 93	3.3545E+03	1.7283E-12	7.5011E-02	0.0272	5.6858E-03	0.0017	8.0697E-02	0.0130
26	SR 91	2.9232E+03	1.6046E-12	3.8727E-02	0.0140	4.1734E-02	0.0121	8.0461E-02	0.0130
27	LA143	6.8101E+01	1.4974E-12	7.5981E-02	0.0275	1.7249E-03	0.0005	7.7706E-02	0.0125
28	TE134	2.4267E+02	1.8126E-12	1.6638E-02	0.0060	5.9926E-02	0.0174	7.6563E-02	0.0124
29	BA142	4.8230E+01	1.4074E-12	2.2774E-02	0.0082	5.2469E-02	0.0153	7.5243E-02	0.0121
30	I 136	1.9497E+00	4.2921E-13	2.7950E-02	0.0101	4.6721E-02	0.0136	7.4671E-02	0.0120
31	RB 91	1.6016E+00	5.1554E-13	2.8155E-02	0.0102	4.3796E-02	0.0127	7.1951E-02	0.0116
32	TC104	2.8148E+01	4.8289E-13	2.2226E-02	0.0080	4.7847E-02	0.0139	7.0074E-02	0.0113
33	PR146	6.1808E+01	8.0175E-13	3.5814E-02	0.0130	3.4094E-02	0.0099	6.9908E-02	0.0113
34	PR144	8.2005E+01	1.4817E-12	6.6540E-02	0.0241	1.6519E-03	0.0005	6.8192E-02	0.0110
35	I 133	7.2380E+03	1.8108E-12	2.7230E-02	0.0099	4.0957E-02	0.0119	6.8187E-02	0.0110
36	NB 97	3.7195E+02	1.6107E-12	2.7762E-02	0.0101	3.9623E-02	0.0115	6.7384E-02	0.0109
	TOTAL	3.4513E+04	4.8072E-11	1.6799E+00	0.6081	2.4162E+00	0.7032	4.0961E+00	0.6608

Table 4.1.6 Continued

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	I 134	3.3701E+02	2.0005E-12	4.5218E-02	0.0268	1.9073E-01	0.0871	2.3595E-01	0.0608
2	CS138	1.6713E+02	1.6205E-12	6.5297E-02	0.0387	1.6069E-01	0.0734	2.2599E-01	0.0583
3	LA142	4.5035E+02	1.5169E-12	5.1333E-02	0.0304	1.4159E-01	0.0647	1.9293E-01	0.0497
4	LA140	1.3181E+04	1.7032E-12	3.4561E-02	0.0205	1.4571E-01	0.0666	1.8027E-01	0.0465
5	RB 88	5.5165E+01	9.6764E-13	4.2713E-02	0.0253	8.9292E-02	0.0408	1.3200E-01	0.0340
6	I 135	2.1035E+03	1.6560E-12	2.2460E-02	0.0133	1.0080E-01	0.0460	1.2326E-01	0.0318
7	I 132	5.0918E+02	1.1621E-12	2.1224E-02	0.0126	9.7901E-02	0.0447	1.1912E-01	0.0307
8	Y 92	1.0948E+03	1.6093E-12	8.6639E-02	0.0513	1.4791E-02	0.0068	1.0143E-01	0.0262
9	Y 94	5.9723E+01	9.9717E-13	6.6895E-02	0.0396	2.8501E-02	0.0130	9.5396E-02	0.0246
10	RB 89	3.7175E+01	7.5371E-13	2.8213E-02	0.0167	5.7757E-02	0.0264	8.5971E-02	0.0222
11	SR 92	7.7570E+02	1.4895E-12	1.0648E-02	0.0063	7.3801E-02	0.0337	8.4449E-02	0.0218
12	TE133M	1.3567E+02	7.6462E-13	1.8161E-02	0.0108	6.5964E-02	0.0301	8.4125E-02	0.0217
13	Y 93	3.3233E+03	1.7123E-12	7.4314E-02	0.0440	5.6329E-03	0.0026	7.9946E-02	0.0206
14	SR 91	2.8718E+03	1.5764E-12	3.8046E-02	0.0225	4.1000E-02	0.0187	7.9047E-02	0.0204
15	KR 88	5.0004E+02	9.0982E-13	1.2375E-02	0.0073	6.6310E-02	0.0303	7.8685E-02	0.0203
16	PR144	8.2004E+01	1.4817E-12	6.6539E-02	0.0394	1.6518E-03	0.0008	6.8191E-02	0.0176
17	I 133	7.2248E+03	1.8075E-12	2.7180E-02	0.0161	4.0882E-02	0.0187	6.8062E-02	0.0176
18	NB 97	3.7158E+02	1.6091E-12	2.7734E-02	0.0164	3.9583E-02	0.0181	6.7317E-02	0.0174
19	PR146	5.4031E+01	7.0087E-13	3.1308E-02	0.0185	2.9804E-02	0.0136	6.1112E-02	0.0158
20	TE134	1.8923E+02	1.4135E-12	1.2974E-02	0.0077	4.6729E-02	0.0213	5.9703E-02	0.0154
21	Y 95	1.9301E+01	5.8507E-13	2.9659E-02	0.0176	2.7854E-02	0.0127	5.7513E-02	0.0148
22	LA141	1.1776E+03	1.5593E-12	5.4884E-02	0.0325	2.4500E-03	0.0011	5.7334E-02	0.0148
23	BA139	4.3243E+02	1.6324E-12	5.4446E-02	0.0322	2.6442E-03	0.0012	5.7090E-02	0.0147
24	BA141	4.9795E+01	8.5097E-13	2.9610E-02	0.0175	2.5719E-02	0.0117	5.5329E-02	0.0143
25	ZR 95	5.1849E+05	1.7552E-12	7.5867E-03	0.0045	4.7633E-02	0.0218	5.5219E-02	0.0142
26	Y 90	1.9567E+04	1.5885E-12	5.4663E-02	0.0324	0.0	0.0	5.4663E-02	0.0141
27	XE138	3.4827E+01	7.6957E-13	1.8763E-02	0.0111	3.4642E-02	0.0158	5.3404E-02	0.0138
28	NB 95	2.8304E+05	1.7549E-12	2.8260E-03	0.0017	4.9644E-02	0.0227	5.2470E-02	0.0135
29	ZR 97	5.1611E+03	1.5892E-12	4.1045E-02	0.0243	1.0760E-02	0.0049	5.1805E-02	0.0134
30	MO101	2.9446E+01	6.2886E-13	1.1898E-02	0.0070	3.6126E-02	0.0165	4.8023E-02	0.0124
31	KR 87	1.4557E+02	5.9562E-13	2.8967E-02	0.0172	1.7089E-02	0.0078	4.6056E-02	0.0119
32	NB 97M	4.9573E+00	1.5478E-12	8.5141E-04	0.0005	4.1720E-02	0.0191	4.2571E-02	0.0110
33	CS139	1.7268E+01	5.5242E-13	3.4721E-02	0.0206	6.7342E-03	0.0031	4.1455E-02	0.0107
34	CE143	1.0176E+04	1.6046E-12	2.7024E-02	0.0160	1.4334E-02	0.0065	4.1358E-02	0.0107
35	MO 99	2.0907E+04	1.6480E-12	2.4633E-02	0.0146	1.6560E-02	0.0076	4.1193E-02	0.0106
36	TC104	1.6189E+01	2.7772E-13	1.2783E-02	0.0076	2.7519E-02	0.0126	4.0302E-02	0.0104
37	BA137M	1.2993E+01	1.5896E-12	4.1639E-03	0.0025	3.4751E-02	0.0159	3.8915E-02	0.0100
	TOTAL	8.9280E+05	4.7982E-11	1.2223E+00	0.7239	1.8353E+00	0.8383	3.0576E+00	0.7884

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	LA140	1.3178E+04	1.7028E-12	3.4555E-02	0.0382	1.4568E-01	0.1389	1.8024E-01	0.0923
2	I 132	5.0449E+02	1.1514E-12	2.1028E-02	0.0233	9.6999E-02	0.0925	1.1803E-01	0.0605
3	I 135	1.6184E+03	1.2741E-12	1.7281E-02	0.0191	7.7552E-02	0.0740	9.4833E-02	0.0486
4	Y 92	9.5335E+02	1.4014E-12	7.5446E-02	0.0835	1.2880E-02	0.0123	8.8326E-02	0.0452
5	RB 88	3.1566E+01	5.5370E-13	2.4441E-02	0.0271	5.1094E-02	0.0487	7.5535E-02	0.0387
6	I 134	9.7755E+01	5.8027E-13	1.3116E-02	0.0145	5.5324E-02	0.0528	6.8439E-02	0.0351
7	PR144	8.1985E+01	1.4814E-12	6.6523E-02	0.0736	1.6514E-03	0.0016	6.8175E-02	0.0349
8	Y 93	2.8066E+03	1.4461E-12	6.2761E-02	0.0695	4.7572E-03	0.0045	6.7518E-02	0.0346
9	SR 91	2.3921E+03	1.3131E-12	3.1690E-02	0.0351	3.4151E-02	0.0326	6.5841E-02	0.0337
10	LA142	1.5343E+02	5.1677E-13	1.7488E-02	0.0194	4.8239E-02	0.0460	6.5727E-02	0.0337
11	I 133	6.7735E+03	1.6946E-12	2.5482E-02	0.0282	3.8328E-02	0.0366	6.3811E-02	0.0327
12	NB 97	3.5127E+02	1.5212E-12	2.6218E-02	0.0290	3.7419E-02	0.0357	6.3636E-02	0.0326
13	ZR 95	5.1792E+05	1.7533E-12	7.5784E-03	0.0084	4.7581E-02	0.0454	5.5159E-02	0.0283
14	Y 90	1.9567E+04	1.5885E-12	5.4663E-02	0.0605	0.0	0.0	5.4663E-02	0.0280
15	NB 95	2.8304E+05	1.7549E-12	2.8260E-03	0.0031	4.9644E-02	0.0473	5.2470E-02	0.0269
16	ZR 97	4.6581E+03	1.4343E-12	3.7045E-02	0.0410	9.7112E-03	0.0093	4.6756E-02	0.0240
17	SR 92	4.0925E+02	7.8586E-13	5.6179E-03	0.0062	3.8937E-02	0.0371	4.4555E-02	0.0228
18	KR 88	2.7281E+02	4.9639E-13	6.7514E-03	0.0075	3.6178E-02	0.0345	4.2929E-02	0.0220
19	MO 99	2.0366E+04	1.6053E-12	2.3995E-02	0.0266	1.6131E-02	0.0154	4.0126E-02	0.0206
20	CE143	9.6862E+03	1.5274E-12	2.5725E-02	0.0285	1.3644E-02	0.0130	3.9370E-02	0.0202
21	BA137M	1.2993E+01	1.5896E-12	4.1639E-03	0.0046	3.4751E-02	0.0331	3.8915E-02	0.0199
22	LA141	7.9224E+02	1.0490E-12	3.6925E-02	0.0409	1.6483E-03	0.0016	3.8573E-02	0.0198
23	NB 97M	4.4742E+00	1.3970E-12	7.6844E-04	0.0009	3.7654E-02	0.0359	3.8422E-02	0.0197
24	XE135	2.9931E+03	1.7154E-12	2.0155E-02	0.0223	1.5650E-02	0.0149	3.5806E-02	0.0183
25	Y 91	4.3338E+05	1.6060E-12	3.4998E-02	0.0387	1.5792E-04	0.0002	3.5156E-02	0.0180
26	BA140	9.9407E+04	1.6911E-12	2.0036E-02	0.0222	9.1661E-03	0.0087	2.9202E-02	0.0150
27	SR 89	3.0487E+05	1.3090E-12	2.7527E-02	0.0305	0.0	0.0	2.7527E-02	0.0141
28	PR145	8.9019E+02	7.7464E-13	1.9448E-02	0.0215	4.1238E-04	0.0004	1.9860E-02	0.0102
	TOTAL	1.7272E+06	3.6714E-11	7.4425E-01	0.8238	9.1534E-01	0.8729	1.6596E+00	0.8502

Table 4.1.6 Continued

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA+GAMMA) (MEV)	(BETA+GAMMA) RATIO
1	LA140	1.3010E+04	1.6811E-12	3.4114E-02	0.0733	1.4382E-01	0.2837	1.7794E-01	0.1830
2	I 132	4.0731E+02	9.2963E-13	1.6977E-02	0.0365	7.8313E-02	0.1545	9.5291E-02	0.0980
3	PR144	8.1777E+01	1.4776E-12	6.6355E-02	0.1425	1.6472E-03	0.0032	6.8002E-02	0.0699
4	Y 90	1.9567E+04	1.5885E-12	5.4662E-02	0.1174	0.0	0.0	5.4662E-02	0.0562
5	ZR 95	5.1212E+05	1.7337E-12	7.4934E-03	0.0161	4.7047E-02	0.0928	5.4541E-02	0.0561
6	NB 95	2.8300E+05	1.7547E-12	2.8256E-03	0.0061	4.9637E-02	0.0979	5.2463E-02	0.0540
7	BA137M	1.2992E+01	1.5895E-12	4.1636E-03	0.0089	3.4749E-02	0.0686	3.8912E-02	0.0400
8	Y 91	4.3017E+05	1.5941E-12	3.4738E-02	0.0746	1.5675E-04	0.0003	3.4895E-02	0.0359
9	MO 99	1.5664E+04	1.2347E-12	1.8455E-02	0.0396	1.2407E-02	0.0245	3.0863E-02	0.0317
10	I 133	2.9542E+03	7.3910E-13	1.1114E-02	0.0239	1.6717E-02	0.0330	2.7831E-02	0.0286
11	BA140	9.3932E+04	1.5980E-12	1.8932E-02	0.0407	8.6612E-03	0.0171	2.7594E-02	0.0284
12	SR 89	3.0055E+05	1.2904E-12	2.7136E-02	0.0583	0.0	0.0	2.7136E-02	0.0279
13	CE143	5.7293E+03	9.0346E-13	1.5216E-02	0.0327	8.0706E-03	0.0159	2.3287E-02	0.0239
14	NB 97	1.2801E+02	5.5435E-13	9.5544E-03	0.0205	1.3636E-02	0.0269	2.3191E-02	0.0238
15	PR143	9.9296E+04	1.5854E-12	1.8512E-02	0.0398	5.2232E-10	0.0000	1.8512E-02	0.0190
16	ZR 97	1.6707E+03	5.1444E-13	1.3287E-02	0.0285	3.4831E-03	0.0069	1.6770E-02	0.0172
17	RU103	1.4643E+05	8.0521E-13	2.1491E-03	0.0046	1.4006E-02	0.0276	1.6155E-02	0.0166
18	I 131	2.6625E+04	7.1804E-13	5.0526E-03	0.0109	1.0017E-02	0.0198	1.5070E-02	0.0155
19	CE141	2.3116E+05	1.5479E-12	1.0027E-02	0.0215	4.0818E-03	0.0081	1.4109E-02	0.0145
20	NB 97M	1.6047E+00	5.0104E-13	2.7561E-04	0.0006	1.3505E-02	0.0266	1.3781E-02	0.0142
21	Y 93	5.0474E+02	2.6005E-13	1.1287E-02	0.0242	8.5552E-04	0.0017	1.2142E-02	0.0125
22	XE133	4.2156E+04	1.7279E-12	9.6888E-03	0.0208	1.9275E-03	0.0038	1.1616E-02	0.0119
23	XE135	8.9661E+02	5.1385E-13	6.0376E-03	0.0130	4.6881E-03	0.0092	1.0726E-02	0.0110
24	TE132	1.3330E+04	9.0207E-13	3.8353E-03	0.0082	6.8445E-03	0.0135	1.0680E-02	0.0110
25	CS137	8.5303E+07	1.6785E-12	1.0586E-02	0.0227	0.0	0.0	1.0586E-02	0.0109
26	SR 91	3.8452E+02	2.1107E-13	5.0942E-03	0.0109	5.4897E-03	0.0108	1.0584E-02	0.0109
27	SR 90	7.6254E+07	1.5884E-12	1.0219E-02	0.0220	0.0	0.0	1.0219E-02	0.0105
	TOTAL	1.6380E+08	3.1223E-11	4.2779E-01	0.9190	4.7976E-01	0.9465	9.0755E-01	0.9333

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA+GAMMA) (MEV)	(BETA+GAMMA) RATIO
1	LA140	8.0656E+03	1.0422E-12	2.1149E-02	0.0724	8.9162E-02	0.3479	1.1031E-01	0.2012
2	PR144	7.9725E+01	1.4405E-12	6.4690E-02	0.2215	1.6059E-03	0.0063	6.6296E-02	0.1209
3	Y 90	1.9556E+04	1.5876E-12	5.4633E-02	0.1871	0.0	0.0	5.4633E-02	0.0996
4	NB 95	2.7944E+05	1.7327E-12	2.7901E-03	0.0096	4.9013E-02	0.1912	5.1803E-02	0.0945
5	ZR 95	4.5752E+05	1.5488E-12	6.6946E-03	0.0229	4.2032E-02	0.1640	4.8726E-02	0.0889
6	BA137M	1.2984E+01	1.5885E-12	4.1609E-03	0.0142	3.4726E-02	0.1355	3.8887E-02	0.0709
7	Y 91	3.8059E+05	1.4104E-12	3.0735E-02	0.1053	1.3868E-04	0.0005	3.0873E-02	0.0563
8	SR 89	2.6051E+05	1.1185E-12	2.3521E-02	0.0805	0.0	0.0	2.3521E-02	0.0429
9	BA140	5.3307E+04	9.0686E-13	1.0744E-02	0.0368	4.9153E-03	0.0192	1.5660E-02	0.0286
10	RU103	1.2193E+05	6.7048E-13	1.7895E-03	0.0061	1.1662E-02	0.0455	1.3452E-02	0.0245
11	PR143	6.2060E+04	9.9089E-13	1.1570E-02	0.0396	3.2645E-10	0.0000	1.1570E-02	0.0211
12	CE141	1.8496E+05	1.2386E-12	8.0230E-03	0.0275	3.2661E-03	0.0127	1.1289E-02	0.0206
13	CS137	8.5247E+07	1.6774E-12	1.0579E-02	0.0362	0.0	0.0	1.0579E-02	0.0193
14	SR 90	7.6201E+07	1.5872E-12	1.0212E-02	0.0350	0.0	0.0	1.0212E-02	0.0186
15	I 132	4.2784E+01	9.7650E-14	1.7833E-03	0.0061	8.2262E-03	0.0321	1.0009E-02	0.0183
16	RH106	1.7153E-01	1.0570E-13	5.5580E-03	0.0190	7.7130E-04	0.0030	6.3293E-03	0.0115
17	I 131	1.1046E+04	2.9790E-13	2.0962E-03	0.0072	4.1558E-03	0.0162	6.2520E-03	0.0114
18	CE144	1.8881E+06	1.4405E-12	5.0582E-03	0.0173	8.5261E-04	0.0033	5.9108E-03	0.0108
	TOTAL	1.6518E+08	2.0482E-11	2.7579E-01	0.9445	2.5053E-01	0.9775	5.2631E-01	0.9599

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	BETA EMISSION RATIO	GAMMA EMISSION (MEV)	GAMMA EMISSION RATIO	(BETA+GAMMA) (MEV)	(BETA+GAMMA) RATIO
1	Y 90	1.9421E+04	1.5767E-12	5.4257E-02	0.3307	0.0	0.0	5.4257E-02	0.2225
2	PR144	6.1839E+01	1.1173E-12	5.0177E-02	0.3058	1.2456E-03	0.0156	5.1422E-02	0.2109
3	BA137M	1.2899E+01	1.5781E-12	4.1337E-03	0.0252	3.4499E-02	0.4323	3.8633E-02	0.1584
4	NB 95	1.4390E+05	8.9222E-13	1.4368E-03	0.0088	2.5239E-02	0.3163	2.6676E-02	0.1094
5	ZR 95	1.4820E+05	5.0168E-13	2.1684E-03	0.0132	1.3614E-02	0.1706	1.5783E-02	0.0647
6	CS137	8.4690E+07	1.6664E-12	1.0510E-02	0.0641	0.0	0.0	1.0510E-02	0.0431
7	SR 90	7.5674E+07	1.5763E-12	1.0141E-02	0.0618	0.0	0.0	1.0141E-02	0.0416
8	Y 91	1.1080E+05	4.1059E-13	8.9475E-03	0.0545	4.0374E-05	0.0005	8.9879E-03	0.0369
9	SR 89	6.2356E+04	2.6773E-13	5.6301E-03	0.0343	0.0	0.0	5.6301E-03	0.0231
10	RH106	1.4124E-01	8.7039E-14	4.5766E-03	0.0279	6.3511E-04	0.0080	5.2117E-03	0.0214
11	CE144	1.4645E+06	1.1173E-12	3.9234E-03	0.0239	6.6132E-04	0.0083	4.5847E-03	0.0188
12	TC 99	3.8214E+11	1.0601E-12	3.3178E-03	0.0202	1.7219E-10	0.0000	3.3178E-03	0.0136
	TOTAL	3.8230E+11	1.1851E-11	1.5922E-01	0.9704	7.5935E-02	0.9516	2.3515E-01	0.9642

Table 4.1.6 Continued

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	Y 90	1.8120E+04	1.4710E-12	5.0621E-02	0.5995	0.0	0.0	5.0621E-02	0.4282
2	BA137M	1.2081E+01	1.4780E-12	3.8716E-03	0.0459	3.2311E-02	0.9564	3.6183E-02	0.3061
3	CS137	7.9319E+07	1.5607E-12	9.8436E-03	0.1166	0.0	0.0	9.8436E-03	0.0833
4	SR 90	7.0603E+07	1.4706E-12	9.4615E-03	0.1121	0.0	0.0	9.4615E-03	0.0800
5	PR144	4.8743E+00	8.8073E-14	3.9551E-03	0.0468	9.8184E-05	0.0029	4.0533E-03	0.0343
6	TC 99	3.8213E+11	1.0601E-12	3.3178E-03	0.0393	1.7218E-10	0.0000	3.3178E-03	0.0281
7	SB126M	8.1807E-01	1.3443E-14	3.1421E-04	0.0037	8.9508E-04	0.0265	1.2093E-03	0.0102
	TOTAL	3.8228E+11	7.1420E-12	8.1384E-02	0.9639	3.3304E-02	0.9858	1.1469E-01	0.9702

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	Y 90	9.0556E+03	7.3516E-13	2.5298E-02	0.6057	0.0	0.0	2.5298E-02	0.4237
2	BA137M	6.2737E+00	7.6757E-13	2.0106E-03	0.0481	1.6780E-02	0.9354	1.8790E-02	0.3147
3	CS137	4.1192E+07	8.1052E-13	5.1120E-03	0.1224	0.0	0.0	5.1120E-03	0.0856
4	SR 90	3.5284E+07	7.3497E-13	4.7285E-03	0.1132	0.0	0.0	4.7285E-03	0.0792
5	TC 99	3.8210E+11	1.0600E-12	3.3175E-03	0.0794	1.7217E-10	0.0000	3.3175E-03	0.0556
6	SB126M	8.1791E-01	1.3441E-14	3.1415E-04	0.0075	8.9490E-04	0.0499	1.2091E-03	0.0203
	TOTAL	3.8217E+11	4.1216E-12	4.0781E-02	0.9764	1.7675E-02	0.9853	5.8455E-02	0.9791

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	TC 99	3.8175E+11	1.0590E-12	3.3144E-03	0.7349	1.7201E-10	0.0000	3.3144E-03	0.5825
2	SB126M	8.1629E-01	1.3414E-14	3.1353E-04	0.0695	8.9314E-04	0.7570	1.2067E-03	0.2121
3	CS135	6.2445E+11	1.6118E-13	3.3558E-04	0.0744	0.0	0.0	3.3558E-04	0.0590
4	NB 93M	5.0291E+06	2.1953E-13	2.4692E-04	0.0548	0.0	0.0	2.4692E-04	0.0434
5	SB126	1.0740E+02	1.8780E-15	2.1732E-05	0.0048	1.9771E-04	0.1676	2.1944E-04	0.0386
6	ZR 93	5.9556E+11	2.3108E-13	1.4013E-04	0.0311	0.0	0.0	1.4013E-04	0.0246
7	SN126	2.2596E+09	1.3414E-14	6.5748E-05	0.0146	6.4795E-05	0.0549	1.3054E-04	0.0229
	TOTAL	1.6040E+12	1.6995E-12	4.4381E-03	0.9841	1.1556E-03	0.9794	5.5937E-03	0.9831

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	TC 99	3.7824E+11	1.0492E-12	3.2840E-03	0.7423	1.7043E-10	0.0000	3.2840E-03	0.5909
2	SB126M	8.0031E-01	1.3152E-14	3.0739E-04	0.0695	8.7565E-04	0.7726	1.1830E-03	0.2129
3	CS135	6.2392E+11	1.6104E-13	3.3529E-04	0.0758	0.0	0.0	3.3529E-04	0.0603
4	NB 93M	5.0227E+06	2.1924E-13	2.4661E-04	0.0557	0.0	0.0	2.4661E-04	0.0444
5	SB126	1.0530E+02	1.8412E-15	2.1307E-05	0.0048	1.9384E-04	0.1710	2.1514E-04	0.0387
6	ZR 93	5.9479E+11	2.3078E-13	1.3995E-04	0.0316	0.0	0.0	1.3995E-04	0.0252
7	SN126	2.2154E+09	1.3152E-14	6.4461E-05	0.0146	6.3527E-05	0.0561	1.2799E-04	0.0230
	TOTAL	1.5992E+12	1.6884E-12	4.3989E-03	0.9944	1.1330E-03	0.9997	5.5320E-03	0.9955

Table 4.1.6 Continued

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	TC 99	3.4486E+11	9.5666E-13	2.9942E-03	0.7391	1.5539E-10	0.0000	2.9942E-03	0.6011
2	SB126M	6.5676E-01	1.0793E-14	2.5225E-04	0.0623	7.1859E-04	0.7726	9.7084E-04	0.1949
3	CS135	6.1858E+11	1.5966E-13	3.3242E-04	0.0821	0.0	0.0	3.3242E-04	0.0667
4	NB 93M	4.9582E+06	2.1643E-13	2.4344E-04	0.0601	0.0	0.0	2.4344E-04	0.0489
5	SB126	8.6414E+01	1.5110E-15	1.7485E-05	0.0043	1.5907E-04	0.1710	1.7655E-04	0.0354
6	ZR 93	5.8715E+11	2.2782E-13	1.3816E-04	0.0341	0.0	0.0	1.3816E-04	0.0277
7	SN126	1.8180E+09	1.0793E-14	5.2899E-05	0.0131	5.2132E-05	0.0561	1.0503E-04	0.0211
	TOTAL	1.5524E+12	1.5837E-12	4.0308E-03	0.9950	9.2979E-04	0.9997	4.9606E-03	0.9958

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

NO.	ELEMENT	ATOMS	CURIE	BETA EMISSION (MEV)	RATIO	GAMMA EMISSION (MEV)	RATIO	(BETA+GAMMA) (MEV)	RATIO
1	TC 99	1.3692E+11	3.7982E-13	1.1888E-03	0.6315	6.1694E-11	0.0000	1.1888E-03	0.5910
2	CS135	5.6763E+11	1.4651E-13	3.0504E-04	0.1621	0.0	0.0	3.0504E-04	0.1517
3	NB 93M	4.3572E+06	1.9020E-13	2.1393E-04	0.1137	0.0	0.0	2.1393E-04	0.1064
4	SB126M	9.0965E-02	1.4948E-15	3.4939E-05	0.0186	9.9528E-05	0.7711	1.3447E-04	0.0669
5	ZR 93	5.1598E+11	2.0021E-13	1.2141E-04	0.0645	0.0	0.0	1.2141E-04	0.0604
6	SB126	1.1969E+01	2.0928E-16	2.4218E-06	0.0013	2.2032E-05	0.1707	2.4454E-05	0.0122
	TOTAL	1.2205E+12	9.1843E-13	1.8665E-03	0.9916	1.2156E-04	0.9418	1.9881E-03	0.9884

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

FITTING PARAMETER(U235(T))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	5.255E-02	3.121E-02	8.376E-02
2	2.210E+00	7.112E-02	4.500E-02	1.161E-01
3	1.001E+00	2.145E-01	1.288E-01	3.433E-01
4	5.157E-01	9.898E-02	7.654E-02	1.755E-01
5	2.951E-01	1.183E-01	7.821E-02	1.965E-01
6	1.959E-01	8.540E-02	5.550E-02	1.409E-01
7	1.037E-01	1.008E-01	5.269E-02	1.535E-01
8	3.488E-02	2.441E-02	2.173E-02	4.614E-02
9	1.330E-02	9.589E-03	1.328E-02	2.287E-02
10	5.004E-03	1.796E-03	2.160E-03	3.956E-03
11	3.591E-03	5.027E-04	6.555E-04	1.158E-03
12	1.357E-03	6.026E-04	4.945E-04	1.097E-03
13	5.645E-04	3.274E-04	3.220E-04	6.495E-04
14	1.850E-04	5.409E-05	1.490E-04	2.031E-04
15	5.435E-05	-5.784E-06	3.753E-05	3.174E-05
16	4.918E-05	1.982E-05	-1.812E-05	1.696E-06
17	1.922E-05	3.969E-06	4.361E-06	8.329E-06
18	8.422E-06	8.295E-07	8.308E-07	1.660E-06
19	2.443E-06	1.643E-07	2.972E-07	4.615E-07
20	6.925E-07	8.885E-09	1.151E-07	1.240E-07
21	6.202E-07	5.200E-08	8.412E-09	6.041E-08
22	1.503E-07	1.076E-08	-1.336E-08	-2.597E-09
23	1.277E-07	1.645E-09	2.799E-08	2.964E-08
24	2.714E-08	2.387E-09	-7.006E-12	2.381E-09
25	2.251E-08	-2.527E-10	7.682E-11	-1.759E-10
26	8.985E-09	1.983E-11	-3.418E-12	1.642E-11
27	4.366E-09	1.648E-12	9.831E-13	2.631E-12
28	7.707E-10	5.217E-11	5.572E-15	5.217E-11
29	7.280E-10	8.944E-12	2.527E-11	3.422E-11
30	2.430E-10	2.599E-14	1.970E-15	2.796E-14
31	9.550E-15	4.677E-16	1.211E-16	5.888E-16

FITTING PARAMETER(U235(F))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	4.396E-02	3.321E-02	7.717E-02
2	2.210E+00	9.057E-02	4.663E-02	1.372E-01
3	1.001E+00	2.251E-01	1.283E-01	3.534E-01
4	5.157E-01	1.342E-01	9.027E-02	2.244E-01
5	2.951E-01	1.062E-01	7.874E-02	1.849E-01
6	1.959E-01	9.382E-02	6.193E-02	1.558E-01
7	1.037E-01	9.899E-02	4.843E-02	1.474E-01
8	3.488E-02	2.474E-02	2.169E-02	4.643E-02
9	1.330E-02	9.695E-03	1.323E-02	2.293E-02
10	5.004E-03	1.811E-03	2.089E-03	3.900E-03
11	3.591E-03	4.645E-04	6.472E-04	1.112E-03
12	1.357E-03	6.094E-04	4.867E-04	1.096E-03
13	5.645E-04	3.319E-04	3.360E-04	6.679E-04
14	1.850E-04	5.248E-05	1.415E-04	1.940E-04
15	5.435E-05	-4.717E-06	3.704E-05	3.233E-05
16	4.918E-05	1.868E-05	-1.797E-05	7.090E-07
17	1.922E-05	3.871E-06	4.249E-06	8.120E-06
18	8.422E-06	8.236E-07	8.302E-07	1.654E-06
19	2.443E-06	1.666E-07	3.149E-07	4.815E-07
20	6.925E-07	1.024E-08	1.138E-07	1.241E-07
21	6.202E-07	4.965E-08	7.586E-09	5.724E-08
22	1.503E-07	1.069E-08	-1.269E-08	-1.996E-09
23	1.277E-07	1.324E-09	2.726E-08	2.859E-08
24	2.714E-08	2.290E-09	-3.518E-12	2.287E-09
25	2.251E-08	-1.817E-10	7.804E-11	-1.036E-10
26	8.985E-09	1.966E-11	-1.001E-12	1.866E-11
27	4.366E-09	1.788E-12	9.225E-13	2.711E-12
28	7.707E-10	4.805E-11	3.150E-13	4.836E-11
29	7.280E-10	8.786E-12	2.479E-11	3.357E-11
30	2.430E-10	2.686E-14	5.336E-15	3.220E-14
31	9.550E-15	5.097E-16	2.983E-16	8.081E-16

FITTING PARAMETER(U235(H))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	9.236E-03	1.105E-02	2.028E-02
2	2.210E+00	5.039E-02	4.013E-02	9.052E-02
3	1.001E+00	1.216E-01	7.050E-02	1.921E-01
4	5.157E-01	1.128E-01	6.546E-02	1.783E-01
5	2.951E-01	7.062E-02	5.900E-02	1.296E-01
6	1.959E-01	7.483E-02	4.241E-02	1.172E-01
7	1.037E-01	7.346E-02	4.283E-02	1.163E-01
8	3.488E-02	1.699E-02	1.365E-02	3.063E-02
9	1.330E-02	8.555E-03	1.001E-02	1.856E-02
10	5.004E-03	1.392E-03	1.241E-03	2.633E-03
11	3.591E-03	7.166E-04	8.599E-04	1.577E-03
12	1.357E-03	4.982E-04	3.912E-04	8.894E-04
13	5.645E-04	2.893E-04	3.128E-04	6.021E-04
14	1.850E-04	4.314E-05	1.004E-04	1.436E-04
15	5.435E-05	-6.280E-06	3.757E-05	3.129E-05
16	4.918E-05	2.054E-05	-1.589E-05	4.643E-06
17	1.922E-05	3.463E-06	3.754E-06	7.217E-06
18	8.422E-06	8.834E-07	8.919E-07	1.775E-06
19	2.443E-06	1.798E-07	3.264E-07	5.062E-07
20	6.925E-07	3.142E-08	1.007E-07	1.321E-07
21	6.202E-07	2.134E-08	-4.878E-10	2.085E-08
22	1.503E-07	1.033E-08	-9.166E-09	1.167E-09
23	1.277E-07	7.574E-10	2.111E-08	2.187E-08
24	2.714E-08	1.420E-09	5.235E-11	1.472E-09
25	2.251E-08	2.625E-10	3.724E-11	2.997E-10
26	8.985E-09	3.728E-11	5.901E-11	9.629E-11
27	4.366E-09	2.205E-12	4.648E-13	2.670E-12
28	7.707E-10	4.479E-11	5.375E-12	5.016E-11
29	7.280E-10	4.763E-12	1.461E-11	1.937E-11
30	2.430E-10	5.214E-14	6.945E-14	1.216E-13
31	9.550E-15	1.686E-15	3.812E-15	5.498E-15

FITTING PARAMETER(U238(F))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	2.278E-01	1.436E-01	3.714E-01
2	2.210E+00	3.848E-02	3.203E-02	7.051E-02
3	1.001E+00	4.858E-01	2.589E-01	7.447E-01
4	5.157E-01	1.655E-01	1.698E-01	3.353E-01
5	2.951E-01	2.656E-01	1.194E-01	3.849E-01
6	1.959E-01	1.379E-01	1.277E-01	2.657E-01
7	1.037E-01	1.402E-01	6.154E-02	2.018E-01
8	3.488E-02	2.874E-02	2.947E-02	5.821E-02
9	1.330E-02	1.125E-02	1.540E-02	2.665E-02
10	5.004E-03	2.639E-03	3.025E-03	5.664E-03
11	3.591E-03	1.955E-04	2.385E-04	4.340E-04
12	1.357E-03	6.907E-04	5.162E-04	1.207E-03
13	5.645E-04	3.320E-04	3.391E-04	6.711E-04
14	1.850E-04	5.054E-05	1.385E-04	1.890E-04
15	5.435E-05	-7.489E-06	2.093E-05	1.344E-05
16	4.918E-05	1.889E-05	-6.124E-06	1.277E-05
17	1.922E-05	3.422E-06	4.002E-06	7.424E-06
18	8.422E-06	8.285E-07	7.838E-07	1.612E-06
19	2.443E-06	1.863E-07	3.634E-07	5.497E-07
20	6.925E-07	6.507E-09	7.620E-08	8.271E-08
21	6.202E-07	4.998E-08	4.144E-08	9.143E-08
22	1.503E-07	8.811E-09	-5.920E-09	2.891E-09
23	1.277E-07	5.529E-10	2.005E-08	2.060E-08
24	2.714E-08	1.768E-09	1.002E-11	1.778E-09
25	2.251E-08	6.596E-10	1.478E-10	8.074E-10
26	8.985E-09	2.383E-11	1.100E-12	2.493E-11
27	4.366E-09	8.320E-13	5.263E-13	1.358E-12
28	7.707E-10	2.795E-11	1.557E-13	2.811E-11
29	7.280E-10	9.108E-12	2.415E-11	3.326E-11
30	2.430E-10	4.349E-14	2.396E-15	4.589E-14
31	9.550E-15	4.741E-16	1.382E-16	6.124E-16

FITTING PARAMETER(U238(H))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	1.368E-01	8.864E-02	2.255E-01
2	2.210E+00	1.154E-01	7.908E-02	1.945E-01
3	1.001E+00	4.108E-01	2.198E-01	6.307E-01
4	5.157E-01	1.833E-01	1.496E-01	3.329E-01
5	2.951E-01	1.681E-01	8.899E-02	2.571E-01
6	1.959E-01	1.352E-01	1.106E-01	2.459E-01
7	1.037E-01	1.210E-01	5.780E-02	1.788E-01
8	3.488E-02	2.527E-02	2.304E-02	4.831E-02
9	1.330E-02	1.066E-02	1.308E-02	2.374E-02
10	5.004E-03	1.858E-03	1.762E-03	3.620E-03
11	3.591E-03	6.703E-04	7.456E-04	1.416E-03
12	1.357E-03	5.872E-04	4.294E-04	1.017E-03
13	5.645E-04	3.154E-04	3.343E-04	6.497E-04
14	1.850E-04	5.020E-05	1.246E-04	1.748E-04
15	5.435E-05	-6.148E-06	2.054E-05	1.439E-05
16	4.918E-05	1.723E-05	-5.298E-06	1.193E-05
17	1.922E-05	3.203E-06	3.535E-06	6.738E-06
18	8.422E-06	9.362E-07	8.694E-07	1.806E-06
19	2.443E-06	1.977E-07	3.683E-07	5.660E-07
20	6.925E-07	2.425E-08	8.880E-08	1.131E-07
21	6.202E-07	2.767E-08	1.006E-08	3.772E-08
22	1.503E-07	8.391E-09	-7.376E-09	1.014E-09
23	1.277E-07	5.168E-10	2.018E-08	2.069E-08
24	2.714E-08	1.513E-09	5.741E-11	1.570E-09
25	2.251E-08	6.023E-10	7.884E-11	6.811E-10
26	8.985E-09	3.804E-11	5.020E-11	8.824E-11
27	4.366E-09	1.179E-12	5.454E-13	1.725E-12
28	7.707E-10	3.012E-11	4.431E-12	3.455E-11
29	7.280E-10	5.720E-12	1.583E-11	2.155E-11
30	2.430E-10	6.627E-14	5.647E-14	1.227E-13
31	9.550E-15	1.467E-15	3.082E-15	4.549E-15

FITTING PARAMETER(PU239(T))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	1.603E-03	5.259E-04	2.129E-03
2	2.210E+00	3.868E-02	3.467E-02	7.335E-02
3	1.001E+00	1.093E-01	5.217E-02	1.615E-01
4	5.157E-01	1.071E-01	8.151E-02	1.887E-01
5	2.951E-01	6.652E-02	2.204E-02	8.856E-02
6	1.959E-01	5.950E-02	5.547E-02	1.150E-01
7	1.037E-01	7.194E-02	2.981E-02	1.018E-01
8	3.488E-02	1.907E-02	1.679E-02	3.586E-02
9	1.330E-02	8.878E-03	1.112E-02	2.000E-02
10	5.004E-03	1.492E-03	1.104E-03	2.596E-03
11	3.591E-03	6.189E-04	7.177E-04	1.337E-03
12	1.357E-03	6.595E-04	3.732E-04	1.033E-03
13	5.645E-04	3.175E-04	3.699E-04	6.873E-04
14	1.850E-04	4.589E-05	1.237E-04	1.696E-04
15	5.435E-05	-2.793E-06	9.851E-06	7.058E-06
16	4.918E-05	1.259E-05	2.019E-06	1.461E-05
17	1.922E-05	3.058E-06	3.366E-06	6.424E-06
18	8.422E-06	8.798E-07	9.349E-07	1.815E-06
19	2.443E-06	1.938E-07	3.831E-07	5.769E-07
20	6.925E-07	1.300E-08	7.003E-08	8.304E-08
21	6.202E-07	4.240E-08	4.280E-08	8.520E-08
22	1.503E-07	7.477E-09	-4.420E-09	3.057E-09
23	1.277E-07	-2.934E-10	1.855E-08	1.826E-08
24	2.714E-08	1.294E-09	-4.360E-12	1.290E-09
25	2.251E-08	1.391E-09	2.280E-10	1.619E-09
26	8.985E-09	2.373E-11	5.261E-12	2.899E-11
27	4.366E-09	3.966E-13	3.050E-13	7.015E-13
28	7.707E-10	1.929E-11	7.101E-13	2.000E-11
29	7.280E-10	1.022E-11	2.630E-11	3.652E-11
30	2.430E-10	4.410E-14	8.124E-15	5.223E-14
31	9.550E-15	5.692E-16	4.311E-16	1.000E-15

FITTING PARAMETER(PU239(F))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	5.914E-03	3.495E-03	9.409E-03
2	2.210E+00	3.562E-02	3.113E-02	6.675E-02
3	1.001E+00	1.281E-01	6.129E-02	1.894E-01
4	5.157E-01	1.182E-01	9.067E-02	2.089E-01
5	2.951E-01	6.166E-02	1.448E-02	7.614E-02
6	1.959E-01	6.966E-02	6.464E-02	1.343E-01
7	1.037E-01	7.370E-02	3.063E-02	1.043E-01
8	3.488E-02	1.867E-02	1.626E-02	3.494E-02
9	1.330E-02	8.968E-03	1.143E-02	2.040E-02
10	5.004E-03	1.496E-03	9.713E-04	2.467E-03
11	3.591E-03	5.288E-04	6.703E-04	1.199E-03
12	1.357E-03	6.729E-04	3.797E-04	1.053E-03
13	5.645E-04	3.279E-04	3.917E-04	7.196E-04
14	1.850E-04	4.442E-05	1.178E-04	1.622E-04
15	5.435E-05	-3.376E-06	9.729E-06	6.353E-06
16	4.918E-05	1.314E-05	2.059E-06	1.520E-05
17	1.922E-05	2.991E-06	3.363E-06	6.354E-06
18	8.422E-06	8.711E-07	8.882E-07	1.759E-06
19	2.443E-06	1.903E-07	3.703E-07	5.606E-07
20	6.925E-07	1.238E-08	6.738E-08	7.976E-08
21	6.202E-07	4.127E-08	4.184E-08	8.311E-08
22	1.503E-07	7.514E-09	-3.827E-09	3.688E-09
23	1.277E-07	-3.764E-10	1.750E-08	1.712E-08
24	2.714E-08	1.290E-09	3.015E-12	1.293E-09
25	2.251E-08	1.418E-09	2.244E-10	1.643E-09
26	8.985E-09	2.401E-11	7.991E-12	3.200E-11
27	4.366E-09	6.071E-13	3.075E-13	9.145E-13
28	7.707E-10	1.867E-11	1.014E-12	1.968E-11
29	7.280E-10	9.885E-12	2.548E-11	3.537E-11
30	2.430E-10	4.561E-14	1.171E-14	5.732E-14
31	9.550E-15	6.247E-16	6.204E-16	1.245E-15

FITTING PARAMETER(PU241(T))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	5.244E-02	2.403E-02	7.646E-02
2	2.210E+00	4.475E-02	4.763E-02	9.237E-02
3	1.001E+00	2.573E-01	1.122E-01	3.695E-01
4	5.157E-01	1.305E-01	1.435E-01	2.739E-01
5	2.951E-01	1.441E-01	1.296E-02	1.570E-01
6	1.959E-01	1.060E-01	1.269E-01	2.329E-01
7	1.037E-01	1.008E-01	3.269E-02	1.335E-01
8	3.488E-02	2.692E-02	2.637E-02	5.330E-02
9	1.330E-02	1.091E-02	1.459E-02	2.550E-02
10	5.004E-03	1.437E-03	1.296E-03	2.733E-03
11	3.591E-03	9.700E-04	6.958E-04	1.666E-03
12	1.357E-03	7.114E-04	3.692E-04	1.081E-03
13	5.645E-04	3.305E-04	3.753E-04	7.059E-04
14	1.850E-04	4.929E-05	1.314E-04	1.807E-04
15	5.435E-05	-1.789E-06	7.230E-06	5.441E-06
16	4.918E-05	1.050E-05	3.101E-06	1.360E-05
17	1.922E-05	2.898E-06	3.420E-06	6.318E-06
18	8.422E-06	8.759E-07	7.696E-07	1.645E-06
19	2.443E-06	1.777E-07	3.056E-07	4.833E-07
20	6.925E-07	6.087E-09	5.767E-08	6.376E-08
21	6.202E-07	5.304E-08	6.512E-08	1.182E-07
22	1.503E-07	5.639E-09	-3.310E-09	2.329E-09
23	1.277E-07	8.800E-11	1.537E-08	1.546E-08
24	2.714E-08	1.350E-09	-1.583E-11	1.334E-09
25	2.251E-08	2.129E-09	3.273E-10	2.457E-09
26	8.985E-09	2.543E-11	2.754E-12	2.819E-11
27	4.366E-09	4.558E-13	4.255E-13	8.813E-13
28	7.707E-10	1.447E-11	3.024E-13	1.477E-11
29	7.280E-10	1.087E-11	2.755E-11	3.843E-11
30	2.430E-10	5.080E-14	3.048E-15	5.385E-14
31	9.550E-15	4.771E-16	1.623E-16	6.394E-16

FITTING PARAMETER(U233(T))

NO.	LAMBDA	ALPHA BETA	ALPHA GAMMA	ALPHA (B+G)
1	3.290E+00	1.741E-03	5.103E-03	6.844E-03
2	2.210E+00	3.216E-02	2.233E-02	5.449E-02
3	1.001E+00	6.903E-02	4.563E-02	1.147E-01
4	5.157E-01	8.478E-02	4.715E-02	1.319E-01
5	2.951E-01	2.896E-02	3.699E-02	6.595E-02
6	1.959E-01	5.644E-02	2.663E-02	8.307E-02
7	1.037E-01	5.867E-02	3.295E-02	9.163E-02
8	3.488E-02	1.765E-02	1.363E-02	3.129E-02
9	1.330E-02	8.073E-03	1.088E-02	1.896E-02
10	5.004E-03	1.291E-03	1.699E-03	2.990E-03
11	3.591E-03	7.150E-04	7.220E-04	1.437E-03
12	1.357E-03	5.265E-04	4.742E-04	1.001E-03
13	5.645E-04	3.040E-04	3.135E-04	6.176E-04
14	1.850E-04	5.036E-05	1.268E-04	1.772E-04
15	5.435E-05	-8.699E-07	5.734E-05	5.647E-05
16	4.918E-05	1.862E-05	-3.083E-05	-1.221E-05
17	1.922E-05	3.984E-06	4.188E-06	8.171E-06
18	8.422E-06	7.651E-07	8.297E-07	1.595E-06
19	2.443E-06	1.615E-07	3.253E-07	4.868E-07
20	6.925E-07	1.050E-08	1.224E-07	1.329E-07
21	6.202E-07	5.176E-08	7.231E-09	5.899E-08
22	1.503E-07	1.280E-08	-1.411E-08	-1.312E-09
23	1.277E-07	1.332E-09	2.733E-08	2.866E-08
24	2.714E-08	2.044E-09	-2.735E-11	2.017E-09
25	2.251E-08	-2.568E-10	7.775E-11	-1.790E-10
26	8.985E-09	1.448E-11	-6.838E-13	1.380E-11
27	4.366E-09	3.797E-12	1.074E-12	4.871E-12
28	7.707E-10	6.151E-11	5.620E-13	6.207E-11
29	7.280E-10	8.984E-12	2.707E-11	3.606E-11
30	2.430E-10	2.471E-14	9.022E-15	3.373E-14
31	9.550E-15	5.380E-16	5.024E-16	1.040E-15

Table 4.2.1 Continued

NO.	FITTING PARAMETER(TH232(F)) LAMBDA	ALPHA BETA	GAMMA	(B+G)
1	3.290E+00	1.330E-01	7.464E-02	2.077E-01
2	2.210E+00	1.691E-01	1.163E-01	2.854E-01
3	1.001E+00	3.106E-01	1.961E-01	5.067E-01
4	5.157E-01	2.570E-01	2.081E-01	4.650E-01
5	2.951E-01	1.792E-01	1.174E-01	2.966E-01
6	1.959E-01	9.087E-02	8.505E-02	1.759E-01
7	1.037E-01	1.212E-01	7.142E-02	1.926E-01
8	3.488E-02	3.430E-02	3.501E-02	6.931E-02
9	1.330E-02	1.410E-02	2.086E-02	3.495E-02
10	5.004E-03	1.723E-03	2.378E-03	4.100E-03
11	3.591E-03	1.102E-03	1.060E-03	2.163E-03
12	1.357E-03	4.521E-04	3.827E-04	8.348E-04
13	5.645E-04	3.218E-04	3.309E-04	6.527E-04
14	1.850E-04	6.436E-05	1.362E-04	2.006E-04
15	5.435E-05	5.191E-07	6.852E-05	6.904E-05
16	4.918E-05	1.996E-05	-3.745E-05	-1.749E-05
17	1.922E-05	4.063E-06	4.299E-06	8.362E-06
18	8.422E-06	6.148E-07	4.502E-07	1.065E-06
19	2.443E-06	1.029E-07	1.738E-07	2.767E-07
20	6.925E-07	-2.532E-09	1.128E-07	1.103E-07
21	6.202E-07	7.272E-08	3.704E-08	1.097E-07
22	1.503E-07	1.336E-08	-1.359E-08	-2.250E-10
23	1.277E-07	1.800E-09	2.422E-08	2.602E-08
24	2.714E-08	3.372E-09	1.472E-11	3.387E-09
25	2.251E-08	-4.709E-10	6.802E-11	-4.028E-10
26	8.985E-09	1.295E-11	-4.759E-12	8.191E-12
27	4.366E-09	9.152E-12	1.325E-12	1.048E-11
28	7.707E-10	6.881E-11	-1.250E-13	6.869E-11
29	7.280E-10	7.612E-12	2.725E-11	3.486E-11
30	2.430E-10	1.678E-14	1.485E-15	1.826E-14
31	9.550E-15	2.828E-16	1.080E-16	3.908E-16

Table 4.2.2 Exponential fit parameters for the calculated total sensible decay powers

NO.	FITTING PARAMETER (B+G) LAMBDA	U235(T)	U235(F)	U235(H)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU241(T)	U233(T)	TH232(F)
1	3.2903E+00	8.3762E-02	7.7168E-02	2.0281E-02	3.7138E-01	2.2549E-01	2.1291E-03	9.4086E-03	7.6464E-02	6.8440E-03	2.0765E-01
2	2.2097E+00	1.1612E-01	1.3720E-01	9.0525E-02	7.0511E-02	1.9448E-01	7.3347E-02	6.6749E-02	9.2373E-02	5.4493E-02	2.8542E-01
3	1.0006E+00	3.4333E-01	3.5343E-01	1.9212E-01	7.4469E-01	6.3066E-01	1.6151E-01	1.8942E-01	3.6946E-01	1.1466E-01	5.0669E-01
4	5.1571E-01	1.7552E-01	2.2442E-01	1.7826E-01	3.3530E-01	3.3288E-01	1.8865E-01	2.0886E-01	2.7395E-01	1.3193E-01	4.6505E-01
5	2.9506E-01	1.9648E-01	1.8495E-01	1.2961E-01	3.8494E-01	2.5711E-01	8.8564E-02	7.6139E-02	1.5702E-01	6.5955E-02	2.9658E-01
6	1.9587E-01	1.4090E-01	1.5576E-01	1.1724E-01	2.6566E-01	2.4587E-01	1.1497E-01	1.3430E-01	2.3287E-01	8.3067E-02	1.7592E-01
7	1.0371E-01	1.5346E-01	1.4742E-01	1.1628E-01	2.0177E-01	1.7881E-01	1.0175E-01	1.0432E-01	1.3353E-01	9.1627E-02	1.9259E-01
8	3.4884E-02	4.6141E-02	4.6429E-02	3.0634E-02	5.8205E-02	4.8313E-02	3.5863E-02	3.4939E-02	5.3295E-02	3.1286E-02	6.9310E-02
9	1.3299E-02	2.2873E-02	2.2928E-02	1.8564E-02	2.6650E-02	2.3740E-02	2.0003E-02	2.0397E-02	2.5502E-02	1.8956E-02	3.4954E-02
10	5.0036E-03	3.9558E-03	3.9004E-03	2.6329E-03	5.6640E-03	3.6201E-03	2.5961E-03	2.4669E-03	2.7330E-03	2.9903E-03	4.1003E-03
11	3.5913E-03	1.1582E-03	1.1117E-03	1.5766E-03	4.3396E-04	1.4159E-03	1.3366E-03	1.1992E-03	1.6658E-03	1.4370E-03	2.1627E-03
12	1.3572E-03	1.0971E-03	1.0961E-03	8.8936E-04	1.2069E-03	1.0166E-03	1.0326E-03	1.0526E-03	1.0806E-03	1.0006E-03	8.3479E-04
13	5.6448E-04	6.4945E-04	6.6792E-04	6.0209E-04	6.7108E-04	6.4969E-04	6.8733E-04	7.1964E-04	7.0587E-04	6.1756E-04	6.5267E-04
14	1.8504E-04	2.0313E-04	1.9395E-04	1.4355E-04	1.8902E-04	1.7483E-04	1.6963E-04	1.6224E-04	1.8068E-04	1.7720E-04	2.0060E-04
15	5.4352E-05	3.1742E-05	3.2326E-05	3.1295E-05	1.3444E-05	1.4392E-05	7.0577E-06	6.3533E-06	5.4409E-06	5.6468E-05	6.9041E-05
16	4.9179E-05	1.6960E-06	7.0900E-07	4.6430E-06	1.2767E-05	1.1930E-05	1.4608E-05	1.5200E-05	1.3599E-05	-1.2213E-05	-1.7495E-05
17	1.9215E-05	8.3295E-06	8.1198E-06	7.2169E-06	7.4237E-06	6.7376E-06	6.4241E-06	6.3537E-06	6.3175E-06	8.1713E-06	8.3619E-06
18	8.4219E-06	1.6602E-06	1.6538E-06	1.7753E-06	1.6123E-06	1.8056E-06	1.8147E-06	1.7594E-06	1.6455E-06	1.5948E-06	1.0650E-06
19	2.4429E-06	4.6155E-07	4.8149E-07	5.0616E-07	5.4971E-07	5.6600E-07	5.7689E-07	5.6060E-07	4.8333E-07	4.8679E-07	2.7675E-07
20	6.9247E-07	1.2401E-07	1.2406E-07	1.3213E-07	8.2710E-08	1.1305E-07	8.3036E-08	7.9760E-08	6.3758E-08	1.3294E-07	1.1025E-07
21	6.2021E-07	6.0409E-08	5.7238E-08	2.0850E-08	9.1427E-08	3.7722E-08	8.5201E-08	8.3113E-08	1.1816E-07	5.8989E-08	1.0975E-07
22	1.5028E-07	-2.5970E-09	-1.9960E-09	1.1667E-09	2.8908E-09	1.0144E-09	3.0574E-09	3.6877E-09	2.3289E-09	-1.3120E-09	-2.2500E-10
23	1.2770E-07	2.9637E-08	2.8589E-08	2.1869E-08	2.0601E-08	2.0694E-08	1.8259E-08	1.7122E-08	1.5458E-08	2.8658E-08	2.6020E-08
24	2.7137E-08	2.3805E-09	2.2869E-09	1.4724E-09	1.7783E-09	1.5705E-09	1.2896E-09	1.2928E-09	1.3338E-09	2.0171E-09	3.3871E-09
25	2.2509E-08	-1.7589E-10	-1.0363E-10	2.9972E-10	8.0739E-10	6.8114E-10	1.6193E-09	1.6428E-09	2.4567E-09	-1.7905E-10	-4.0284E-10
26	8.9848E-09	1.6417E-11	1.8659E-11	9.6287E-11	2.4928E-11	8.8242E-11	2.8993E-11	3.1997E-11	2.8187E-11	1.3798E-11	8.1908E-12
27	4.3659E-09	2.6311E-12	2.7110E-12	2.6700E-12	1.3583E-12	1.7247E-12	7.0155E-13	9.1452E-13	8.8127E-13	4.8709E-12	1.0478E-11
28	7.7070E-10	5.2172E-11	4.8361E-11	5.0162E-11	2.8111E-11	3.4550E-11	2.0001E-11	1.9684E-11	1.4771E-11	6.2070E-11	6.8685E-11
29	7.2804E-10	3.4216E-11	3.3572E-11	1.9373E-11	3.3263E-11	2.1547E-11	3.6519E-11	3.5366E-11	3.8427E-11	3.6055E-11	3.4863E-11
30	2.4301E-10	2.7960E-14	3.2198E-14	1.2158E-13	4.5886E-14	1.2274E-13	5.2228E-14	5.7319E-14	5.3846E-14	3.3733E-14	1.8261E-14
31	9.5500E-15	5.8884E-16	8.0806E-16	5.4976E-15	6.1238E-16	4.5488E-15	1.0003E-15	1.2451E-15	6.3941E-16	1.0404E-15	3.9084E-16

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

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

(UNIT : %)

TC(SEC)	U235(T)	U235(F)	U235(H)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU241(T)	U233(T)	TH232(F)
0.0	-0.030	-0.043	-0.015	-0.060	-0.087	-0.028	-0.027	-0.040	-0.015	-0.054
1.00E-01	0.012	0.018	0.008	0.047	0.024	0.010	0.008	0.016	0.009	0.038
1.50E-01	0.018	0.028	0.011	0.054	0.040	0.016	0.014	0.024	0.014	0.050
2.00E-01	0.018	0.028	0.011	0.045	0.042	0.018	0.016	0.024	0.013	0.048
3.00E-01	0.010	0.017	0.004	0.011	0.024	0.014	0.011	0.013	0.009	0.025
4.00E-01	-0.001	-0.001	-0.004	-0.022	-0.003	0.003	0.001	-0.002	0.001	-0.006
5.00E-01	-0.011	-0.017	-0.012	-0.042	-0.025	-0.008	-0.009	-0.015	-0.005	-0.032
6.00E-01	-0.017	-0.027	-0.016	-0.048	-0.038	-0.017	-0.017	-0.022	-0.009	-0.048
8.00E-01	-0.016	-0.032	-0.018	-0.027	-0.037	-0.026	-0.024	-0.023	-0.011	-0.050
1.00E+00	-0.004	-0.020	-0.011	0.009	-0.015	-0.022	-0.021	-0.011	-0.003	-0.026
1.50E+00	0.028	0.024	0.014	0.057	0.042	0.011	0.009	0.027	0.023	0.049
2.00E+00	0.030	0.037	0.022	0.025	0.047	0.035	0.033	0.039	0.034	0.068
3.00E+00	0.004	0.005	0.001	-0.048	-0.013	0.020	0.020	0.015	0.012	0.002
4.00E+00	-0.003	-0.022	-0.009	-0.025	-0.032	-0.010	-0.011	-0.012	-0.013	-0.044
5.00E+00	0.004	-0.020	-0.003	0.016	-0.015	-0.022	-0.026	-0.019	-0.018	-0.038
6.00E+00	0.011	-0.006	0.006	0.036	0.007	-0.013	-0.020	-0.012	-0.007	-0.010
8.00E+00	0.012	0.021	0.008	0.020	0.026	0.030	0.023	0.031	0.023	0.033
1.00E+01	0.016	0.035	-0.001	0.004	0.029	0.059	0.058	0.068	0.038	0.031
1.50E+01	0.008	-0.008	-0.018	0.003	-0.010	-0.011	-0.009	-0.010	-0.010	-0.049
2.00E+01	-0.015	-0.053	-0.002	-0.005	-0.040	-0.087	-0.096	-0.118	-0.049	-0.035
3.00E+01	-0.017	-0.002	0.011	-0.006	0.017	0.008	0.010	0.012	-0.004	0.057
4.00E+01	0.014	0.056	-0.015	0.015	0.056	0.100	0.124	0.158	0.041	0.021
5.00E+01	0.041	0.064	-0.003	0.036	0.052	0.070	0.099	0.124	0.042	-0.010
6.00E+01	0.025	0.027	0.027	0.026	0.017	-0.026	-0.003	-0.014	0.012	-0.008
8.00E+01	-0.090	-0.095	0.027	-0.065	-0.081	-0.194	-0.192	-0.276	-0.085	-0.018
1.00E+02	-0.157	-0.143	-0.007	-0.116	-0.117	-0.187	-0.203	-0.305	-0.117	-0.047
1.50E+02	0.077	0.104	0.040	0.086	0.115	0.210	0.195	0.223	0.099	0.062
2.00E+02	0.191	0.191	0.009	0.142	0.162	0.241	0.247	0.381	0.160	0.097
3.00E+02	-0.118	-0.148	-0.187	-0.181	-0.209	-0.261	-0.254	-0.240	-0.123	-0.200
4.00E+02	-0.094	-0.110	-0.006	-0.076	-0.092	-0.159	-0.164	-0.227	-0.083	-0.088
5.00E+02	0.057	0.061	0.172	0.112	0.148	0.108	0.102	0.091	0.052	0.150
6.00E+02	0.087	0.098	0.145	0.104	0.181	0.174	0.173	0.219	0.075	0.191
8.00E+02	-0.025	-0.022	-0.126	-0.107	-0.074	-0.023	-0.013	0.024	-0.026	-0.073
1.00E+03	-0.037	-0.042	-0.228	-0.100	-0.194	-0.133	-0.116	-0.140	-0.040	-0.223
1.50E+03	0.078	0.071	0.046	0.161	0.039	0.019	0.022	-0.018	0.070	0.016
2.00E+03	-0.026	-0.024	0.204	0.009	0.138	0.066	0.053	0.046	0.002	0.201
3.00E+03	-0.119	-0.113	0.136	-0.215	0.067	0.023	0.011	-0.009	-0.085	0.136
4.00E+03	0.024	0.020	-0.008	-0.011	0.034	0.056	0.062	0.045	0.005	-0.059
5.00E+03	0.078	0.060	-0.169	0.140	-0.052	0.006	0.013	0.039	0.033	-0.206
6.00E+03	0.019	-0.008	-0.278	0.121	-0.170	-0.114	-0.121	-0.050	-0.009	-0.231
8.00E+03	-0.081	-0.097	-0.142	-0.050	-0.194	-0.193	-0.227	-0.142	-0.029	0.041
1.00E+04	0.004	0.023	0.261	-0.069	0.079	0.033	0.013	0.015	0.090	0.380
1.50E+04	0.128	0.188	0.498	0.048	0.431	0.356	0.399	0.249	0.073	0.223
2.00E+04	-0.104	-0.079	-0.127	-0.058	-0.007	-0.057	-0.028	-0.096	-0.248	-0.395
3.00E+04	-0.116	-0.131	-0.444	-0.044	-0.364	-0.276	-0.294	-0.198	-0.085	-0.276
4.00E+04	0.096	0.090	-0.031	0.089	-0.054	0.059	0.047	0.116	0.235	0.248
5.00E+04	0.078	0.083	0.156	0.055	0.122	0.143	0.151	0.146	0.148	0.272
6.00E+04	-0.043	-0.032	0.117	-0.053	0.113	0.040	0.060	0.007	-0.096	0.011
8.00E+04	-0.122	-0.102	-0.026	-0.119	0.005	-0.119	-0.099	-0.152	-0.271	-0.331
1.00E+05	0.025	0.047	0.004	0.010	0.005	-0.054	-0.053	-0.043	-0.021	-0.145
1.50E+05	0.151	0.142	0.057	0.140	0.012	0.115	0.077	0.166	0.321	0.360
2.00E+05	-0.087	-0.107	-0.118	-0.051	-0.098	0.007	-0.030	0.001	-0.015	0.005
3.00E+05	-0.055	-0.042	-0.013	-0.055	0.042	-0.021	-0.001	-0.060	-0.200	-0.256
4.00E+05	0.078	0.106	0.115	0.039	0.116	-0.002	0.043	0.004	-0.050	0.003
5.00E+05	-0.034	-0.014	-0.005	-0.045	-0.034	-0.085	-0.056	-0.060	-0.050	0.037
6.00E+05	-0.141	-0.139	-0.127	-0.116	-0.155	-0.116	-0.116	-0.098	-0.069	-0.022
8.00E+05	-0.043	-0.069	-0.083	-0.008	-0.070	0.047	0.008	0.035	0.058	-0.008
1.00E+06	0.182	0.145	0.074	0.168	0.126	0.203	0.160	0.175	0.218	0.109
1.50E+06	0.254	0.239	0.111	0.125	0.137	0.058	0.055	0.041	0.205	0.200
2.00E+06	0.016	0.034	0.026	-0.087	-0.029	-0.137	-0.105	-0.139	0.007	0.076
3.00E+06	-0.235	-0.199	-0.007	-0.121	-0.052	-0.052	-0.005	-0.048	-0.191	-0.171
4.00E+06	-0.218	-0.209	-0.103	-0.051	-0.063	0.023	0.044	0.043	-0.203	-0.229
5.00E+06	-0.061	-0.085	-0.147	-0.022	-0.080	-0.013	-0.023	0.008	-0.086	-0.119
6.00E+06	0.149	0.106	-0.060	0.016	-0.021	-0.035	-0.065	-0.038	0.105	0.068
8.00E+06	0.397	0.364	0.225	0.116	0.182	0.046	0.017	-0.006	0.373	0.321
1.00E+07	0.291	0.291	0.296	0.141	0.233	0.126	0.124	0.080	0.298	0.259
1.50E+07	-0.356	-0.315	-0.137	-0.038	-0.104	0.030	0.068	0.091	-0.351	-0.256
2.00E+07	-0.535	-0.517	-0.403	-0.173	-0.308	-0.147	-0.121	-0.042	-0.569	-0.400
3.00E+07	-0.160	-0.204	-0.260	-0.207	-0.220	-0.283	-0.295	-0.230	-0.190	-0.143
4.00E+07	0.052	0.012	-0.025	-0.117	-0.052	-0.174	-0.186	-0.186	0.060	-0.023
5.00E+07	0.080	0.071	0.103	0.013	0.065	0.004	0.003	-0.038	0.098	0.007
6.00E+07	0.097	0.107	0.150	0.122	0.129	0.142	0.146	0.103	0.110	0.061
8.00E+07	0.133	0.147	0.094	0.203	0.128	0.236	0.241	0.252	0.130	0.172
1.00E+08	0.090	0.095	-0.038	0.142	0.036	0.170	0.174	0.245	0.072	0.164
1.50E+08	-0.138	-0.141	-0.163	-0.154	-0.141	-0.156	-0.160	-0.076	-0.141	-0.150
2.00E+08	-0.099	-0.094	-0.035	-0.143	-0.083	-0.185	-0.198	-0.231	-0.087	-0.164
3.00E+08	0.098	0.106	-0.089	0.129	-0.111	0.125	0.099	0.113	0.097	0.162
4.00E+08	0.051	0.050	-0.224	0.042	-0.242	0.038	0.010	0.082	0.053	0.143
5.00E+08	-0.023	-0.028	-0.179	-0.063	-0.188	-0.073	-0.093	-0.042	-0.028	0.0
6.00E+08	-0.064	-0.068	-0.057	-0.101	-0.048	-0.099	-0.108	-0.087	-0.080	-0.125
8.00E+08	-0.073	-0.074	0.148	-0.078	0.182	-0.044	-0.037	-0.050	-0.106	-0.234
1.00E+09	-0.043	-0.042	0.250	-0.029	0.282	0.021	0.036	0.008	-0.073	-0.208
1.50E+09	0.050	0.052	0.309	0.060	0.298	0.100	0.115	0.081	0.056	0.016
2.00E+09	0.101	0.099	0.255	0.093	0.210	0.110	0.117	0.092	0.130	0.175
3.00E+09	0.098	0.085	0.016	0.073	-0.047	0.053	0.043	0.053	0.126	0.230
4.00E+09	0.044	0.022	-0.213	0.017	-0.261	-0.023	-0.045	-0.004	0.049	0.140
5.00E+09	-0.013	-0.039	-0.309	-0.035	-0.333	-0.077	-0.103	-0.051	-0.030	0.019
6.00E+09	-0.056	-0.077	-0.201	-0.068	-0.201	-0.091	-0.109	-0.074	-0.080	-0.088
8.00E+09	-0.064	-0.043	0.593	-0.050	0.600	0.015	0.054	-0.030	-0.048	-0.181
1.00E+10	0.006	0.008	-0.282	-0.018	-0.255	-0.030	-0.040	-0.009	-0.006	0.035

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

---------- BETA FITTING ERROR TABLE FOR BURST ----------

(UNIT : %)

TC(SEC)	U235(T)	U235(F)	U235(H)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU241(T)	U233(T)	TH232(F)
0.0	-0.032	-0.048	-0.024	-0.036	-0.088	-0.024	-0.029	-0.025	-0.028	-0.041
1.00E-01	0.012	0.019	0.008	0.045	0.020	0.008	0.003	0.013	0.008	0.043
1.50E-01	0.019	0.030	0.013	0.046	0.036	0.014	0.010	0.016	0.015	0.052
2.00E-01	0.019	0.031	0.013	0.035	0.038	0.016	0.011	0.015	0.017	0.048
3.00E-01	0.011	0.019	0.006	0.002	0.022	0.013	0.008	0.005	0.012	0.021
4.00E-01	-0.001	0.0	-0.004	-0.027	-0.003	0.004	0.001	-0.004	0.003	-0.011
5.00E-01	-0.012	-0.018	-0.014	-0.042	-0.023	-0.004	-0.007	-0.011	-0.006	-0.038
6.00E-01	-0.018	-0.031	-0.022	-0.043	-0.035	-0.010	-0.013	-0.013	-0.012	-0.054
8.00E-01	-0.017	-0.039	-0.027	-0.017	-0.032	-0.015	-0.017	-0.007	-0.014	-0.053
1.00E+00	-0.004	-0.027	-0.020	0.019	-0.010	-0.011	-0.013	0.004	-0.003	-0.026
1.50E+00	0.031	0.023	0.010	0.054	0.044	0.015	0.014	0.020	0.032	0.057
2.00E+00	0.035	0.043	0.025	0.008	0.042	0.030	0.031	0.009	0.052	0.076
3.00E+00	0.006	0.009	0.003	-0.068	-0.022	0.010	0.019	-0.013	0.024	0.002
4.00E+00	-0.003	-0.028	-0.012	-0.020	-0.031	-0.005	0.004	-0.002	-0.017	-0.048
5.00E+00	0.009	-0.030	-0.006	0.044	-0.005	-0.005	0.0	0.020	-0.028	-0.039
6.00E+00	0.019	-0.015	0.005	0.068	0.020	0.002	0.002	0.026	-0.015	-0.010
8.00E+00	0.021	0.019	0.012	0.019	0.023	0.024	0.015	0.015	0.033	0.026
1.00E+01	0.018	0.036	0.003	-0.033	0.006	0.035	0.028	0.005	0.056	0.017
1.50E+01	0.011	-0.006	-0.027	-0.004	-0.013	-0.003	0.0	-0.002	-0.023	-0.050
2.00E+01	-0.004	-0.065	-0.012	0.062	-0.002	-0.047	-0.043	-0.017	-0.092	-0.016
3.00E+01	-0.014	-0.028	0.024	0.0	0.014	-0.017	-0.003	-0.021	-0.006	0.055
4.00E+01	0.010	0.052	-0.003	-0.062	0.006	0.030	0.061	0.016	0.081	-0.006
5.00E+01	0.047	0.092	0.0	0.0	0.031	0.038	0.073	0.055	0.073	-0.014
6.00E+01	0.039	0.066	0.026	0.074	0.049	0.005	0.036	0.050	0.008	0.025
8.00E+01	-0.107	-0.100	0.015	0.053	-0.006	-0.106	-0.097	-0.068	-0.170	0.012
1.00E+02	-0.225	-0.215	-0.037	-0.057	-0.090	-0.133	-0.147	-0.146	-0.235	-0.089
1.50E+02	0.054	0.070	0.030	-0.005	0.037	0.132	0.103	0.083	0.124	-0.022
2.00E+02	0.292	0.294	0.053	0.081	0.119	0.158	0.151	0.169	0.321	0.153
3.00E+02	-0.047	-0.052	-0.150	-0.118	-0.153	-0.205	-0.188	-0.188	-0.077	-0.078
4.00E+02	-0.156	-0.144	-0.029	-0.017	-0.047	-0.088	-0.083	-0.082	-0.193	-0.113
5.00E+02	-0.049	-0.027	0.122	0.105	0.138	0.099	0.092	0.134	-0.068	0.035
6.00E+02	0.017	0.036	0.105	0.053	0.135	0.099	0.090	0.150	0.031	0.094
8.00E+02	0.048	0.051	-0.090	-0.139	-0.101	-0.084	-0.077	-0.090	0.098	-0.009
1.00E+03	0.120	0.116	-0.124	-0.060	-0.154	-0.079	-0.055	-0.154	0.141	-0.067
1.50E+03	0.110	0.108	0.091	0.240	0.103	0.167	0.181	0.137	0.056	0.014
2.00E+03	-0.211	-0.218	0.063	-0.033	0.066	-0.003	-0.016	0.064	-0.228	-0.003
3.00E+03	-0.290	-0.311	-0.029	-0.335	-0.072	-0.266	-0.289	-0.238	-0.244	0.003
4.00E+03	0.144	0.123	0.076	0.036	0.081	0.030	0.029	-0.013	0.154	0.062
5.00E+03	0.319	0.303	0.036	0.274	0.099	0.234	0.248	0.189	0.296	-0.010
6.00E+03	0.167	0.157	-0.135	0.192	-0.064	0.156	0.165	0.143	0.150	-0.128
8.00E+03	-0.254	-0.249	-0.264	-0.185	-0.280	-0.181	-0.196	-0.135	-0.221	-0.120
1.00E+04	-0.257	-0.227	0.041	-0.203	-0.043	-0.164	-0.176	-0.108	-0.230	0.131
1.50E+04	0.157	0.215	0.515	0.162	0.462	0.179	0.209	0.158	0.074	0.216
2.00E+04	0.103	0.142	0.111	0.072	0.092	0.0	0.021	-0.062	0.047	-0.155
3.00E+04	-0.054	-0.041	-0.361	-0.068	-0.328	-0.095	-0.103	-0.065	0.039	-0.138
4.00E+04	-0.084	-0.077	-0.246	-0.048	-0.172	0.015	0.016	0.101	0.009	0.062
5.00E+04	-0.087	-0.086	-0.050	-0.037	0.010	0.011	0.027	0.063	-0.080	0.053
6.00E+04	-0.030	-0.031	0.123	-0.007	0.132	-0.019	0.004	-0.028	-0.102	-0.011
8.00E+04	0.139	0.150	0.301	0.071	0.209	0.004	0.016	-0.080	0.045	-0.034
1.00E+05	0.150	0.177	0.208	0.046	0.101	0.034	0.024	-0.033	0.143	-0.005
1.50E+05	-0.182	-0.168	-0.298	-0.147	-0.235	-0.042	-0.071	0.025	-0.074	-0.033
2.00E+05	-0.161	-0.183	-0.302	-0.030	-0.149	0.001	-0.014	0.091	-0.137	0.005
3.00E+05	0.220	0.209	0.251	0.217	0.255	0.152	0.169	0.110	0.125	0.080
4.00E+05	0.135	0.159	0.294	0.009	0.150	-0.033	-0.008	-0.151	0.104	-0.014
5.00E+05	-0.105	-0.080	0.018	-0.211	-0.120	-0.219	-0.206	-0.307	-0.053	-0.099
6.00E+05	-0.183	-0.175	-0.168	-0.206	-0.213	-0.189	-0.192	-0.200	-0.104	-0.068
8.00E+05	0.033	0.007	-0.130	0.160	0.029	0.189	0.166	0.300	0.039	0.119
1.00E+06	0.184	0.151	-0.029	0.351	0.212	0.353	0.329	0.487	0.107	0.152
1.50E+06	-0.093	-0.092	-0.168	-0.108	-0.133	-0.166	-0.169	-0.157	-0.143	-0.136
2.00E+06	-0.192	-0.157	-0.062	-0.335	-0.243	-0.357	-0.333	-0.450	-0.134	-0.163
3.00E+06	0.161	0.199	0.404	0.111	0.260	0.179	0.226	0.090	0.244	0.144
4.00E+06	0.195	0.194	0.228	0.245	0.257	0.271	0.300	0.290	0.212	0.182
5.00E+06	-0.015	-0.049	-0.174	0.028	-0.073	-0.019	-0.014	0.066	-0.045	0.022
6.00E+06	-0.193	-0.236	-0.402	-0.194	-0.309	-0.267	-0.278	-0.182	-0.241	-0.133
8.00E+06	-0.193	-0.207	-0.239	-0.235	-0.226	-0.231	-0.251	-0.232	-0.227	-0.181
1.00E+07	0.042	0.067	0.182	0.031	0.132	0.118	0.106	0.046	0.044	-0.003
1.50E+07	0.319	0.360	0.487	0.359	0.399	0.391	0.398	0.334	0.370	0.284
2.00E+07	0.070	0.059	0.026	0.065	0.009	-0.018	-0.007	0.038	0.083	0.102
3.00E+07	-0.327	-0.389	-0.537	-0.380	-0.433	-0.469	-0.466	-0.356	-0.408	-0.289
4.00E+07	-0.177	-0.213	-0.248	-0.227	-0.210	-0.264	-0.266	-0.245	-0.217	-0.210
5.00E+07	0.055	0.051	0.119	0.021	0.075	0.017	0.015	-0.031	0.075	-0.009
6.00E+07	0.185	0.198	0.297	0.177	0.229	0.193	0.194	0.136	0.227	0.139
8.00E+07	0.185	0.203	0.226	0.243	0.232	0.281	0.287	0.289	0.194	0.219
1.00E+08	0.031	0.042	-0.044	0.138	0.059	0.187	0.195	0.273	-0.003	0.118
1.50E+08	-0.241	-0.251	-0.374	-0.227	-0.304	-0.223	-0.222	-0.101	-0.253	-0.240
2.00E+08	-0.022	-0.024	-0.036	-0.160	-0.125	-0.260	-0.276	-0.322	0.007	-0.104
3.00E+08	0.242	0.264	0.257	0.262	0.229	0.273	0.257	0.214	0.257	0.308
4.00E+08	0.054	0.062	-0.016	0.070	-0.032	0.093	0.079	0.152	0.067	0.168
5.00E+08	-0.099	-0.106	-0.186	-0.127	-0.203	-0.147	-0.164	-0.101	-0.106	-0.067
6.00E+08	-0.157	-0.172	-0.217	-0.193	-0.215	-0.224	-0.240	-0.199	-0.190	-0.230
8.00E+08	-0.134	-0.152	-0.121	-0.144	-0.083	-0.145	-0.156	-0.134	-0.199	-0.335
1.00E+09	-0.059	-0.075	0.006	-0.049	0.051	-0.022	-0.026	-0.016	-0.122	-0.267
1.50E+09	0.102	0.095	0.231	0.116	0.234	0.160	0.164	0.147	0.096	0.065
2.00E+09	0.179	0.176	0.311	0.180	0.274	0.213	0.219	0.189	0.216	0.284
3.00E+09	0.173	0.168	0.227	0.157	0.156	0.162	0.160	0.136	0.228	0.354
4.00E+09	0.090	0.077	0.042	0.065	-0.026	0.050	0.037	0.033	0.125	0.219
5.00E+09	-0.004	-0.023	-0.118	-0.030	-0.162	-0.054	-0.074	-0.061	0.002	0.037
6.00E+09	-0.084	-0.103	-0.192	-0.101	-0.197	-0.120	-0.139	-0.122	-0.102	-0.132
8.00E+09	-0.130	-0.130	0.035	-0.111	0.108	-0.081	-0.075	-0.088	-0.163	-0.296
1.00E+10	0.036	0.055	0.005	0.036	-0.039	0.010	0.001	0.045	0.044	0.091

Table 4.2.5 Discrepancies between exponential fitting and calculated results of the gamma decay power after instantaneous burst fission

---------- GAMMA FITTING ERROR TABLE FOR BURST ----------

(UNIT : %)

TC(SEC)	U235(T)	U235(F)	U235(H)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU241(T)	U233(T)	TH232(F)
0.0	-0.026	-0.036	0.0	-0.097	-0.087	-0.034	-0.024	-0.066	0.004	-0.073
1.00E-01	0.012	0.017	0.008	0.050	0.031	0.012	0.015	0.022	0.011	0.032
1.50E-01	0.017	0.024	0.008	0.066	0.047	0.020	0.022	0.036	0.012	0.047
2.00E-01	0.018	0.024	0.006	0.061	0.048	0.022	0.023	0.039	0.008	0.048
3.00E-01	0.010	0.013	0.001	0.026	0.027	0.015	0.015	0.025	0.003	0.029
4.00E-01	-0.001	-0.003	-0.004	-0.014	-0.003	0.0	0.002	0.001	-0.002	0.001
5.00E-01	-0.009	-0.015	-0.007	-0.042	-0.027	-0.014	-0.012	-0.021	-0.004	-0.024
6.00E-01	-0.015	-0.022	-0.007	-0.055	-0.042	-0.027	-0.024	-0.037	-0.006	-0.040
8.00E-01	-0.014	-0.022	-0.004	-0.042	-0.044	-0.043	-0.035	-0.048	-0.007	-0.046
1.00E+00	-0.004	-0.010	0.004	-0.007	-0.023	-0.039	-0.036	-0.034	-0.003	-0.027
1.50E+00	0.023	0.026	0.021	0.061	0.039	0.005	0.002	0.039	0.008	0.039
2.00E+00	0.023	0.028	0.018	0.053	0.055	0.044	0.036	0.085	0.009	0.058
3.00E+00	0.002	-0.002	0.0	-0.020	0.002	0.036	0.022	0.058	-0.004	0.001
4.00E+00	-0.005	-0.013	-0.004	-0.034	-0.033	-0.018	-0.034	-0.027	-0.007	-0.039
5.00E+00	-0.003	-0.006	0.002	-0.024	-0.030	-0.046	-0.063	-0.077	-0.002	-0.037
6.00E+00	-0.002	0.006	0.007	-0.010	-0.013	-0.037	-0.053	-0.068	0.003	-0.009
8.00E+00	0.002	0.025	0.002	0.022	0.031	0.039	0.035	0.054	0.010	0.041
1.00E+01	0.012	0.032	-0.007	0.056	0.061	0.092	0.099	0.156	0.013	0.046
1.50E+01	0.005	-0.010	-0.008	0.013	-0.004	-0.021	-0.021	-0.019	0.006	-0.048
2.00E+01	-0.028	-0.039	0.010	-0.083	-0.088	-0.136	-0.160	-0.240	-0.001	-0.054
3.00E+01	-0.020	0.025	-0.002	-0.011	0.020	0.037	0.024	0.048	-0.003	0.059
4.00E+01	0.019	0.059	-0.026	0.085	0.106	0.171	0.188	0.298	0.004	0.044
5.00E+01	0.035	0.040	-0.006	0.067	0.071	0.102	0.124	0.189	0.014	-0.007
6.00E+01	0.013	-0.006	0.028	-0.015	-0.013	-0.055	-0.040	-0.072	0.016	-0.034
8.00E+01	-0.075	-0.091	0.040	-0.164	-0.151	-0.278	-0.283	-0.466	-0.012	-0.041
1.00E+02	-0.100	-0.085	0.021	-0.166	-0.141	-0.239	-0.256	-0.451	-0.017	-0.014
1.50E+02	0.096	0.132	0.049	0.162	0.188	0.287	0.285	0.360	0.078	0.127
2.00E+02	0.107	0.103	-0.033	0.196	0.202	0.325	0.344	0.599	0.024	0.053
3.00E+02	-0.179	-0.233	-0.223	-0.238	-0.264	-0.320	-0.323	-0.297	-0.162	-0.304
4.00E+02	-0.040	-0.079	0.016	-0.131	-0.136	-0.235	-0.251	-0.393	0.014	-0.066
5.00E+02	0.153	0.141	0.220	0.119	0.159	0.117	0.112	0.042	0.158	0.253
6.00E+02	0.151	0.154	0.183	0.154	0.227	0.253	0.259	0.297	0.115	0.278
8.00E+02	-0.090	-0.087	-0.159	-0.077	-0.048	0.037	0.051	0.146	-0.134	-0.130
1.00E+03	-0.175	-0.182	-0.320	-0.137	-0.231	-0.185	-0.174	-0.126	-0.195	-0.358
1.50E+03	0.052	0.041	0.009	0.094	-0.015	-0.108	-0.113	-0.155	0.081	0.018
2.00E+03	0.117	0.126	0.316	0.042	0.195	0.119	0.106	0.032	0.177	0.361
3.00E+03	-0.002	0.023	0.253	-0.132	0.165	0.220	0.217	0.149	0.023	0.231
4.00E+03	-0.049	-0.043	-0.064	-0.041	0.002	0.072	0.083	0.081	-0.090	-0.141
5.00E+03	-0.062	-0.083	-0.298	0.061	-0.145	-0.127	-0.124	-0.049	-0.126	-0.331
6.00E+03	-0.064	-0.102	-0.366	0.081	-0.233	-0.264	-0.283	-0.157	-0.103	-0.296
8.00E+03	0.015	-0.012	-0.069	0.024	-0.145	-0.199	-0.244	-0.146	0.084	0.141
1.00E+04	0.153	0.167	0.398	0.006	0.151	0.145	0.122	0.084	0.283	0.538
1.50E+04	0.109	0.170	0.486	-0.026	0.410	0.472	0.524	0.307	0.072	0.228
2.00E+04	-0.262	-0.250	-0.309	-0.157	-0.082	-0.099	-0.066	-0.120	-0.474	-0.583
3.00E+04	-0.172	-0.214	-0.516	-0.023	-0.396	-0.432	-0.459	-0.311	-0.196	-0.404
4.00E+04	0.275	0.256	0.174	0.219	0.059	0.098	0.075	0.129	0.459	0.440
5.00E+04	0.246	0.254	0.358	0.142	0.230	0.263	0.263	0.221	0.379	0.510
6.00E+04	-0.057	-0.034	0.112	-0.097	0.095	0.092	0.111	0.037	-0.090	0.036
8.00E+04	-0.373	-0.341	-0.335	-0.288	-0.183	-0.224	-0.197	-0.215	-0.576	-0.654
1.00E+05	-0.087	-0.069	-0.180	-0.021	-0.079	-0.126	-0.117	-0.051	-0.167	-0.289
1.50E+05	0.419	0.389	0.345	0.361	0.212	0.232	0.188	0.280	0.628	0.717
2.00E+05	-0.033	-0.052	0.020	-0.067	-0.059	0.011	-0.041	-0.067	0.070	0.005
3.00E+05	-0.234	-0.202	-0.189	-0.224	-0.099	-0.126	-0.105	-0.173	-0.400	-0.491
4.00E+05	0.043	0.073	0.003	0.057	0.095	0.015	0.072	0.100	-0.138	0.014
5.00E+05	0.008	0.023	-0.020	0.047	0.016	-0.012	0.026	0.084	-0.048	0.121
6.00E+05	-0.118	-0.118	-0.102	-0.068	-0.121	-0.077	-0.075	-0.041	-0.049	0.007
8.00E+05	-0.087	-0.112	-0.055	-0.098	-0.127	-0.027	-0.076	-0.111	0.068	-0.085
1.00E+06	0.181	0.141	0.136	0.069	0.076	0.124	0.070	0.006	0.282	0.083
1.50E+06	0.471	0.443	0.291	0.257	0.300	0.180	0.180	0.152	0.425	0.425
2.00E+06	0.153	0.159	0.086	0.061	0.107	-0.013	0.026	0.039	0.102	0.249
3.00E+06	-0.521	-0.482	-0.313	-0.271	-0.265	-0.190	-0.145	-0.132	-0.522	-0.434
4.00E+06	-0.543	-0.520	-0.371	-0.256	-0.296	-0.134	-0.122	-0.121	-0.553	-0.630
5.00E+06	-0.100	-0.115	-0.124	-0.059	-0.086	-0.007	-0.029	-0.035	-0.123	-0.278
6.00E+06	0.448	0.399	0.252	0.181	0.211	0.130	0.091	0.075	0.442	0.318
8.00E+06	0.937	0.876	0.668	0.416	0.532	0.261	0.232	0.201	0.984	1.029
1.00E+07	0.522	0.495	0.406	0.242	0.323	0.134	0.139	0.115	0.558	0.649
1.50E+07	-1.037	-0.986	-0.789	-0.470	-0.624	-0.355	-0.300	-0.250	-1.115	-1.136
2.00E+07	-1.276	-1.217	-0.936	-0.510	-0.724	-0.336	-0.294	-0.197	-1.367	-1.380
3.00E+07	0.215	0.209	0.326	0.264	0.291	0.245	0.209	0.236	0.268	0.367
4.00E+07	1.054	0.985	0.761	0.420	0.586	0.259	0.204	0.151	1.164	1.186
5.00E+07	0.257	0.215	0.024	-0.041	0.010	-0.072	-0.079	-0.087	0.241	0.161
6.00E+07	-0.693	-0.660	-0.587	-0.310	-0.442	-0.207	-0.182	-0.138	-0.802	-0.831
8.00E+07	-0.296	-0.291	-0.488	-0.082	-0.393	-0.050	-0.046	0.008	-0.330	-0.307
1.00E+08	0.473	0.419	-0.016	0.165	-0.057	0.084	0.059	0.090	0.493	0.534
1.50E+08	0.248	0.248	0.363	0.090	0.274	0.049	0.030	0.010	0.251	0.256
2.00E+08	-0.317	-0.279	-0.032	-0.103	-0.005	-0.045	-0.052	-0.049	-0.352	-0.367
3.00E+08	-0.257	-0.257	-0.819	-0.089	-0.662	-0.056	-0.091	0.003	-0.316	-0.267
4.00E+08	0.044	0.024	-0.697	-0.001	-0.590	-0.023	-0.066	0.015	0.019	0.074
5.00E+08	0.157	0.147	-0.163	0.033	-0.162	0.009	-0.016	0.012	0.170	0.187
6.00E+08	0.157	0.162	0.328	0.037	0.242	0.036	0.033	0.015	0.194	0.170
8.00E+08	0.068	0.098	0.803	0.021	0.644	0.064	0.090	0.026	0.124	0.047
1.00E+09	-0.005	0.033	0.841	0.002	0.683	0.067	0.101	0.030	0.048	-0.045
1.50E+09	-0.069	-0.040	0.496	-0.022	0.407	0.038	0.064	0.023	-0.042	-0.114
2.00E+09	-0.075	-0.063	0.124	-0.032	0.103	0.003	0.013	0.008	-0.075	-0.109
3.00E+09	-0.066	-0.083	-0.458	-0.043	-0.374	-0.057	-0.074	-0.018	-0.108	-0.080
4.00E+09	-0.051	-0.087	-0.763	-0.047	-0.630	-0.094	-0.126	-0.036	-0.118	-0.052
5.00E+09	-0.031	-0.070	-0.707	-0.042	-0.593	-0.098	-0.132	-0.042	-0.096	-0.022
6.00E+09	-0.003	-0.028	-0.220	-0.026	-0.208	-0.064	-0.079	-0.034	-0.035	0.010
8.00E+09	0.060	0.110	1.569	0.028	1.274	0.108	0.176	0.019	0.173	0.063
1.00E+10	-0.047	-0.071	-0.660	-0.089	-0.510	-0.072	-0.081	-0.060	-0.097	-0.078

Table 4.2.6 Discrepancies between exponential fitting and calculated results of the total sensible decay power after a year's irradiation

---------- (B+G) FITTING ERROR TABLE FOR ONE YEAR IRRADIATION ----------

(UNIT : %)

TC(SEC)	U235(T)	U235(F)	U235(H)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU241(T)	U233(T)	TH232(F)
0.0	0.003	0.004	0.007	0.002	0.007	0.001	0.002	0.003	0.004	0.006
1.00E-01	0.004	0.003	0.007	0.002	0.007	0.002	0.003	0.003	0.004	0.006
1.50E-01	0.003	0.004	0.007	0.001	0.008	0.002	0.003	0.003	0.004	0.005
2.00E-01	0.003	0.003	0.006	0.001	0.007	0.002	0.003	0.003	0.004	0.005
3.00E-01	0.003	0.003	0.007	0.0	0.007	0.001	0.002	0.003	0.003	0.005
4.00E-01	0.003	0.003	0.006	0.0	0.007	0.002	0.002	0.003	0.003	0.005
5.00E-01	0.003	0.003	0.007	0.001	0.007	0.002	0.003	0.003	0.002	0.005
6.00E-01	0.003	0.003	0.006	0.002	0.007	0.002	0.003	0.003	0.002	0.005
8.00E-01	0.003	0.004	0.007	0.002	0.009	0.002	0.003	0.003	0.001	0.006
1.00E+00	0.004	0.004	0.007	0.002	0.009	0.003	0.003	0.002	0.001	0.007
1.50E+00	0.004	0.004	0.006	0.001	0.009	0.003	0.004	0.002	0.0	0.007
2.00E+00	0.003	0.004	0.006	0.0	0.007	0.001	0.003	0.002	-0.001	0.005
3.00E+00	0.001	0.001	0.005	0.0	0.006	-0.001	0.0	0.0	-0.002	0.003
4.00E+00	-0.002	-0.001	0.004	0.002	0.006	-0.001	0.0	0.0	-0.002	0.005
5.00E+00	-0.002	0.0	0.004	0.002	0.008	-0.001	0.0	-0.001	-0.002	0.007
6.00E+00	-0.002	0.0	0.004	-0.001	0.007	0.0	0.0	-0.001	-0.002	0.007
8.00E+00	-0.003	-0.001	0.003	-0.003	0.005	-0.001	0.0	-0.001	-0.002	0.004
1.00E+01	-0.004	-0.001	0.003	-0.004	0.004	-0.002	-0.001	-0.004	-0.003	0.003
1.50E+01	-0.006	-0.004	0.004	-0.005	0.003	-0.005	-0.004	-0.008	-0.004	0.001
2.00E+01	-0.006	-0.002	0.004	-0.006	0.004	-0.003	-0.001	-0.004	-0.003	0.004
3.00E+01	-0.005	0.001	0.004	-0.006	0.007	0.001	0.002	0.002	-0.001	0.002
4.00E+01	-0.005	-0.001	0.003	-0.006	0.004	-0.003	-0.002	-0.004	-0.003	0.0
5.00E+01	-0.007	-0.004	0.002	-0.008	0.001	-0.008	-0.007	-0.012	-0.005	0.0
6.00E+01	-0.008	-0.007	0.002	-0.010	0.0	-0.009	-0.010	-0.015	-0.007	0.0
8.00E+01	-0.008	-0.006	0.0	-0.011	0.0	-0.003	-0.005	-0.007	-0.005	0.0
1.00E+02	-0.003	-0.001	-0.001	-0.007	0.006	0.005	0.004	0.008	-0.001	0.002
1.50E+02	0.003	0.003	-0.002	-0.003	0.008	0.005	0.005	0.016	0.001	0.002
2.00E+02	-0.006	-0.007	-0.005	-0.014	-0.004	-0.010	-0.009	-0.006	-0.007	-0.005
3.00E+02	-0.012	-0.011	0.004	-0.015	-0.002	-0.010	-0.010	-0.016	-0.011	-0.002
4.00E+02	-0.004	-0.002	0.011	-0.004	0.010	0.005	0.005	0.002	-0.004	0.010
5.00E+02	-0.004	-0.001	0.007	-0.006	0.009	0.006	0.007	0.006	-0.004	0.009
6.00E+02	-0.007	-0.005	0.001	-0.011	0.002	0.0	0.0	-0.001	-0.006	0.002
8.00E+02	-0.010	-0.008	0.0	-0.012	-0.003	-0.006	-0.006	-0.012	-0.009	-0.003
1.00E+03	-0.008	-0.006	0.010	-0.005	0.006	-0.001	-0.002	-0.009	-0.007	0.005
1.50E+03	-0.013	-0.010	0.025	-0.012	0.018	0.008	0.006	0.004	-0.010	0.021
2.00E+03	-0.017	-0.014	0.015	-0.023	0.011	0.003	0.001	0.002	-0.015	0.012
3.00E+03	-0.005	-0.002	-0.007	-0.006	-0.003	-0.002	-0.001	0.0	-0.008	-0.012
4.00E+03	0.0	0.003	-0.014	0.007	-0.008	-0.006	-0.005	-0.001	-0.005	-0.017
5.00E+03	-0.005	-0.001	-0.009	0.002	-0.008	-0.010	-0.009	-0.005	-0.007	-0.007
6.00E+03	-0.009	-0.002	0.004	-0.007	-0.002	-0.007	-0.007	-0.006	-0.008	0.007
8.00E+03	-0.005	0.004	0.029	-0.011	0.020	0.011	0.012	0.005	-0.006	0.022
1.00E+04	-0.002	0.009	0.027	-0.007	0.027	0.018	0.023	0.013	-0.008	0.006
1.50E+04	-0.018	-0.013	-0.040	-0.008	-0.016	-0.014	-0.010	-0.011	-0.031	-0.065
2.00E+04	-0.022	-0.021	-0.066	-0.009	-0.041	-0.031	-0.031	-0.021	-0.024	-0.062
3.00E+04	0.0	0.001	-0.013	0.002	-0.009	-0.002	-0.002	0.005	0.012	0.010
4.00E+04	0.0	0.003	0.013	-0.001	0.012	0.008	0.010	0.008	0.003	0.011
5.00E+04	-0.008	-0.005	0.007	-0.007	0.009	-0.001	0.001	-0.002	-0.016	-0.014
6.00E+04	-0.010	-0.008	-0.003	-0.009	0.002	-0.007	-0.006	-0.007	-0.019	-0.026
8.00E+04	-0.001	0.0	-0.008	0.001	-0.004	-0.003	-0.004	0.001	0.001	-0.010
1.00E+05	0.003	0.003	-0.007	0.006	-0.005	0.004	0.003	0.009	0.014	0.009
1.50E+05	-0.015	-0.017	-0.017	-0.009	-0.009	-0.003	-0.002	-0.003	-0.013	-0.009
2.00E+05	-0.020	-0.020	-0.016	-0.015	-0.006	-0.010	-0.005	-0.012	-0.030	-0.026
3.00E+05	-0.007	-0.006	-0.002	-0.004	0.002	-0.006	0.001	-0.005	-0.012	-0.008
4.00E+05	-0.010	-0.012	-0.010	-0.006	-0.008	-0.007	-0.004	-0.004	-0.003	0.0
5.00E+05	-0.014	-0.017	-0.016	-0.006	-0.013	-0.005	-0.004	-0.002	0.0	-0.003
6.00E+05	-0.008	-0.013	-0.013	-0.001	-0.007	0.003	0.002	0.003	0.004	-0.003
8.00E+05	0.004	0.001	0.001	0.009	0.009	0.009	0.011	0.009	0.007	0.0
1.00E+06	-0.002	-0.003	0.001	0.001	0.007	-0.004	0.003	-0.002	-0.006	-0.004
1.50E+06	-0.056	-0.052	-0.025	-0.040	-0.029	-0.043	-0.029	-0.034	-0.059	-0.040
2.00E+06	-0.087	-0.082	-0.039	-0.049	-0.042	-0.042	-0.028	-0.030	-0.086	-0.071
3.00E+06	-0.075	-0.077	-0.053	-0.028	-0.038	-0.022	-0.017	-0.008	-0.081	-0.076
4.00E+06	-0.042	-0.050	-0.053	-0.017	-0.037	-0.028	-0.029	-0.014	-0.054	-0.047
5.00E+06	-0.024	-0.032	-0.041	-0.015	-0.031	-0.036	-0.037	-0.023	-0.036	-0.023
6.00E+06	-0.032	-0.037	-0.032	-0.018	-0.028	-0.039	-0.038	-0.026	-0.042	-0.023
8.00E+06	-0.114	-0.110	-0.060	-0.041	-0.055	-0.050	-0.042	-0.029	-0.118	-0.080
1.00E+07	-0.218	-0.211	-0.134	-0.080	-0.112	-0.081	-0.068	-0.046	-0.226	-0.161
1.50E+07	-0.313	-0.317	-0.263	-0.154	-0.209	-0.170	-0.162	-0.116	-0.339	-0.241
2.00E+07	-0.201	-0.225	-0.222	-0.160	-0.181	-0.200	-0.203	-0.160	-0.228	-0.170
3.00E+07	0.025	-0.003	-0.017	-0.072	-0.032	-0.110	-0.117	-0.119	0.028	-0.026
4.00E+07	0.086	0.080	0.100	0.042	0.073	0.040	0.039	0.007	0.100	0.032
5.00E+07	0.105	0.115	0.133	0.132	0.124	0.154	0.158	0.128	0.116	0.085
6.00E+07	0.121	0.135	0.113	0.180	0.131	0.210	0.216	0.209	0.122	0.137
8.00E+07	0.103	0.111	0.001	0.161	0.064	0.191	0.195	0.249	0.089	0.168
1.00E+08	0.017	0.017	-0.112	0.052	-0.036	0.076	0.077	0.172	-0.003	0.081
1.50E+08	-0.151	-0.152	-0.128	-0.184	-0.136	-0.201	-0.207	-0.156	-0.146	-0.192
2.00E+08	-0.053	-0.046	-0.012	-0.085	-0.061	-0.128	-0.143	-0.194	-0.044	-0.106
3.00E+08	0.100	0.106	-0.119	0.129	-0.139	0.128	0.101	0.132	0.098	0.177
4.00E+08	0.038	0.036	-0.226	0.022	-0.244	0.016	-0.012	0.059	0.040	0.122
5.00E+08	-0.032	-0.036	-0.162	-0.073	-0.168	-0.081	-0.100	-0.054	-0.038	-0.022
6.00E+08	-0.067	-0.071	-0.037	-0.102	-0.025	-0.098	-0.106	-0.088	-0.086	-0.140
8.00E+08	-0.072	-0.072	0.160	-0.074	0.194	-0.038	-0.030	-0.045	-0.105	-0.235
1.00E+09	-0.040	-0.039	0.255	-0.025	0.286	0.025	0.040	0.012	-0.069	-0.202
1.50E+09	0.052	0.054	0.309	0.062	0.296	0.102	0.116	0.082	0.059	0.022
2.00E+09	0.101	0.099	0.252	0.093	0.206	0.109	0.117	0.092	0.131	0.177
3.00E+09	0.097	0.084	0.011	0.073	-0.051	0.052	0.042	0.052	0.125	0.229
4.00E+09	0.043	0.021	-0.215	0.016	-0.263	-0.023	-0.047	-0.005	0.047	0.138
5.00E+09	-0.014	-0.040	-0.310	-0.036	-0.333	-0.077	-0.104	-0.051	-0.031	0.018
6.00E+09	-0.057	-0.077	-0.198	-0.069	-0.198	-0.091	-0.108	-0.074	-0.081	-0.090
8.00E+09	-0.064	-0.041	0.600	-0.049	0.606	0.017	0.055	-0.029	-0.047	-0.180
1.00E+10	0.006	0.007	-0.315	-0.019	-0.287	-0.035	-0.046	-0.010	-0.009	0.038

Table 4.2.7 Discrepancies between exponential fitting and calculated results of the beta decay power after a year's irradiation

---------- BETA FITTING ERROR TABLE FOR ONE YEAR IRRADIATION ----------

(UNIT : %)

TC(SEC)	U235(T)	U235(F)	U235(H)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU241(T)	U233(T)	TH232(F)
0.0	0.004	0.004	0.007	0.004	0.006	0.001	0.004	0.002	0.004	0.004
1.00E-01	0.005	0.004	0.007	0.004	0.007	0.002	0.005	0.002	0.004	0.004
1.50E-01	0.005	0.004	0.007	0.004	0.007	0.001	0.005	0.002	0.004	0.004
2.00E-01	0.004	0.003	0.007	0.004	0.007	0.001	0.005	0.002	0.003	0.003
3.00E-01	0.005	0.003	0.007	0.003	0.006	0.001	0.005	0.002	0.003	0.003
4.00E-01	0.004	0.003	0.007	0.003	0.006	0.001	0.005	0.002	0.004	0.003
5.00E-01	0.004	0.003	0.007	0.004	0.006	0.001	0.005	0.002	0.004	0.003
6.00E-01	0.004	0.004	0.006	0.005	0.007	0.001	0.005	0.002	0.003	0.004
8.00E-01	0.005	0.004	0.007	0.005	0.008	0.001	0.005	0.002	0.001	0.005
1.00E+00	0.006	0.005	0.007	0.006	0.008	0.002	0.005	0.003	0.0	0.006
1.50E+00	0.005	0.005	0.007	0.004	0.008	0.002	0.005	0.002	-0.001	0.005
2.00E+00	0.004	0.004	0.007	0.003	0.006	-0.002	0.004	0.002	-0.002	0.003
3.00E+00	0.004	0.003	0.005	0.006	0.006	-0.004	0.0	0.002	-0.004	0.001
4.00E+00	0.0	0.0	0.004	0.009	0.008	-0.004	0.0	0.003	-0.004	0.003
5.00E+00	-0.001	0.0	0.004	0.009	0.009	-0.004	0.0	-0.001	-0.004	0.004
6.00E+00	-0.001	0.002	0.004	0.005	0.008	-0.004	-0.001	-0.002	-0.004	0.005
8.00E+00	-0.003	0.001	0.003	0.0	0.004	-0.006	-0.002	-0.004	-0.004	0.0
1.00E+01	-0.004	0.0	0.002	0.0	0.003	-0.007	-0.003	-0.005	-0.006	-0.002
1.50E+01	-0.006	-0.003	0.003	0.003	0.004	-0.009	-0.005	-0.005	-0.008	-0.001
2.00E+01	-0.007	-0.001	0.004	0.001	0.005	-0.009	-0.004	-0.005	-0.006	0.002
3.00E+01	-0.006	0.004	0.004	-0.004	0.004	-0.006	-0.002	-0.004	-0.002	-0.001
4.00E+01	-0.006	0.003	0.002	-0.002	0.003	-0.008	-0.004	-0.003	-0.004	-0.003
5.00E+01	-0.008	0.0	0.0	-0.001	0.003	-0.013	-0.011	-0.006	-0.008	-0.003
6.00E+01	-0.011	-0.004	-0.001	-0.003	0.0	-0.014	-0.013	-0.009	-0.012	-0.003
8.00E+01	-0.012	-0.007	-0.003	-0.010	-0.005	-0.012	-0.013	-0.013	-0.009	-0.006
1.00E+02	-0.004	0.001	-0.002	-0.012	-0.003	-0.006	-0.007	-0.007	0.0	-0.005
1.50E+02	0.008	0.013	0.0	-0.006	0.003	-0.005	-0.003	0.0	0.008	0.004
2.00E+02	-0.004	0.0	-0.003	-0.010	-0.003	-0.016	-0.013	-0.012	-0.005	-0.002
3.00E+02	-0.018	-0.013	0.001	-0.010	-0.003	-0.015	-0.012	-0.013	-0.019	-0.008
4.00E+02	-0.011	-0.006	0.009	-0.004	0.007	-0.003	-0.001	0.0	-0.009	-0.001
5.00E+02	-0.006	-0.002	0.007	-0.007	0.004	-0.004	-0.002	-0.002	-0.003	0.001
6.00E+02	-0.006	-0.002	0.002	-0.011	-0.002	-0.010	-0.007	-0.011	-0.002	-0.002
8.00E+02	-0.008	-0.005	0.001	-0.008	-0.004	-0.011	-0.008	-0.015	-0.007	-0.006
1.00E+03	-0.014	-0.010	0.009	0.0	0.005	-0.004	-0.003	-0.005	-0.015	-0.003
1.50E+03	-0.035	-0.031	0.012	-0.018	0.010	-0.013	-0.014	-0.003	-0.032	0.0
2.00E+03	-0.035	-0.030	0.005	-0.034	0.0	-0.026	-0.028	-0.019	-0.027	-0.001
3.00E+03	0.007	0.014	0.006	-0.001	0.005	-0.003	0.0	-0.003	0.009	0.001
4.00E+03	0.016	0.026	0.005	0.017	0.006	0.012	0.016	0.013	0.014	-0.002
5.00E+03	-0.002	0.011	0.0	0.006	-0.001	0.002	0.006	0.007	-0.002	-0.005
6.00E+03	-0.016	-0.002	0.002	-0.009	-0.003	-0.010	-0.007	-0.003	-0.015	-0.001
8.00E+03	-0.013	0.002	0.023	-0.009	0.014	-0.009	-0.006	-0.004	-0.012	0.013
1.00E+04	0.005	0.020	0.033	0.005	0.028	0.003	0.008	0.005	0.004	0.014
1.50E+04	0.011	0.021	-0.009	0.006	-0.003	-0.001	0.003	-0.001	0.013	-0.021
2.00E+04	-0.003	0.004	-0.043	-0.006	-0.032	-0.011	-0.009	-0.007	0.007	-0.027
3.00E+04	-0.005	0.0	-0.021	-0.004	-0.010	0.0	0.002	0.008	0.004	0.006
4.00E+04	0.003	0.006	0.016	0.002	0.017	0.004	0.007	0.005	0.0	0.010
5.00E+04	0.011	0.015	0.032	0.006	0.026	0.002	0.005	-0.001	0.004	0.004
6.00E+04	0.017	0.020	0.032	0.007	0.022	0.002	0.003	-0.003	0.011	0.003
8.00E+04	0.012	0.015	0.007	0.004	0.003	0.003	0.003	0.003	0.017	0.006
1.00E+05	-0.001	0.001	-0.018	-0.001	-0.012	0.002	0.001	0.008	0.010	0.008
1.50E+05	-0.002	-0.003	-0.015	0.007	-0.002	0.001	0.004	0.009	0.001	0.010
2.00E+05	0.017	0.017	0.018	0.018	0.022	0.005	0.010	0.005	0.012	0.012
3.00E+05	0.016	0.018	0.027	0.005	0.016	-0.007	-0.001	-0.011	0.016	0.009
4.00E+05	0.0	0.001	0.0	-0.008	-0.006	-0.016	-0.011	-0.012	0.006	0.006
5.00E+05	-0.002	-0.002	-0.012	-0.001	-0.008	-0.007	-0.005	0.003	0.004	0.009
6.00E+05	0.006	0.006	-0.008	0.012	0.001	0.005	0.008	0.018	0.009	0.014
8.00E+05	0.015	0.015	0.007	0.016	0.014	0.006	0.010	0.016	0.014	0.012
1.00E+06	0.007	0.009	0.013	-0.005	0.003	-0.019	-0.012	-0.016	0.007	0.003
1.50E+06	-0.007	-0.002	0.028	-0.037	-0.014	-0.049	-0.037	-0.057	0.007	-0.001
2.00E+06	0.013	0.016	0.049	-0.010	0.012	-0.018	-0.007	-0.023	0.029	0.019
3.00E+06	0.020	0.014	0.014	0.015	0.013	-0.002	0.002	0.010	0.020	0.023
4.00E+06	-0.015	-0.026	-0.049	-0.021	-0.038	-0.049	-0.049	-0.025	-0.026	-0.006
5.00E+06	-0.034	-0.044	-0.064	-0.048	-0.060	-0.076	-0.078	-0.054	-0.047	-0.026
6.00E+06	-0.027	-0.034	-0.038	-0.047	-0.047	-0.073	-0.075	-0.058	-0.036	-0.025
8.00E+06	0.012	0.009	0.029	-0.013	-0.001	-0.042	-0.041	-0.036	0.015	0.004
1.00E+07	0.025	0.020	0.034	-0.003	0.002	-0.046	-0.043	-0.035	0.034	0.017
1.50E+07	-0.074	-0.101	-0.150	-0.112	-0.139	-0.185	-0.180	-0.137	-0.087	-0.063
2.00E+07	-0.171	-0.211	-0.286	-0.213	-0.239	-0.281	-0.278	-0.221	-0.210	-0.161
3.00E+07	-0.102	-0.129	-0.138	-0.139	-0.120	-0.166	-0.166	-0.158	-0.126	-0.132
4.00E+07	0.072	0.070	0.133	0.052	0.096	0.054	0.054	0.016	0.090	0.025
5.00E+07	0.174	0.186	0.264	0.180	0.217	0.199	0.201	0.159	0.205	0.145
6.00E+07	0.189	0.206	0.255	0.228	0.237	0.259	0.263	0.245	0.210	0.198
8.00E+07	0.078	0.091	0.037	0.171	0.112	0.217	0.225	0.279	0.056	0.150
1.00E+08	-0.087	-0.083	-0.211	0.023	-0.079	0.070	0.078	0.190	-0.131	-0.004
1.50E+08	-0.205	-0.215	-0.303	-0.253	-0.293	-0.283	-0.286	-0.204	-0.197	-0.243
2.00E+08	0.066	0.070	0.077	-0.065	-0.020	-0.170	-0.190	-0.281	0.095	-0.006
3.00E+08	0.222	0.243	0.223	0.254	0.202	0.278	0.264	0.251	0.236	0.307
4.00E+08	0.024	0.029	-0.053	0.032	-0.071	0.046	0.031	0.107	0.034	0.129
5.00E+08	-0.112	-0.121	-0.196	-0.144	-0.212	-0.169	-0.186	-0.127	-0.123	-0.098
6.00E+08	-0.159	-0.175	-0.213	-0.195	-0.209	-0.225	-0.241	-0.202	-0.196	-0.248
8.00E+08	-0.128	-0.146	-0.110	-0.137	-0.071	-0.135	-0.145	-0.124	-0.194	-0.335
1.00E+09	-0.053	-0.069	0.015	-0.042	0.060	-0.014	-0.017	-0.008	-0.114	-0.258
1.50E+09	0.106	0.099	0.235	0.120	0.237	0.163	0.168	0.150	0.102	0.074
2.00E+09	0.180	0.177	0.311	0.181	0.273	0.214	0.219	0.189	0.218	0.287
3.00E+09	0.172	0.167	0.224	0.155	0.153	0.160	0.158	0.134	0.227	0.352
4.00E+09	0.089	0.076	0.039	0.063	-0.029	0.048	0.035	0.032	0.123	0.216
5.00E+09	-0.006	-0.025	-0.120	-0.031	-0.164	-0.056	-0.075	-0.062	-0.001	0.034
6.00E+09	-0.085	-0.104	-0.192	-0.102	-0.197	-0.121	-0.140	-0.122	-0.104	-0.134
8.00E+09	-0.130	-0.128	0.039	-0.110	0.112	-0.080	-0.074	-0.087	-0.161	-0.296
1.00E+10	0.037	0.057	-0.005	0.036	-0.051	0.009	-0.001	0.045	0.046	0.098

Table 4.2.8 Discrepancies between exponential fitting and calculated results of the gamma decay power after a year's irradiation

---------- GAMMA FITTING ERROR TABLE FOR ONE YEAR IRRADIATION ----------

(UNIT : %)

TC(SEC)	U235(T)	U235(F)	U235(H)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU241(T)	U233(T)	TH232(F)
0.0	0.002	0.003	0.006	-0.001	0.008	0.003	0.001	0.004	0.004	0.007
1.00E-01	0.002	0.003	0.006	-0.001	0.008	0.003	0.001	0.004	0.004	0.007
1.50E-01	0.001	0.003	0.006	-0.002	0.008	0.003	0.001	0.004	0.004	0.006
2.00E-01	0.001	0.003	0.006	-0.002	0.008	0.003	0.001	0.004	0.004	0.007
3.00E-01	0.001	0.003	0.006	-0.003	0.008	0.002	0.0	0.004	0.003	0.006
4.00E-01	0.001	0.003	0.006	-0.003	0.007	0.003	0.0	0.004	0.002	0.006
5.00E-01	0.001	0.003	0.006	-0.002	0.008	0.003	0.001	0.004	0.001	0.006
6.00E-01	0.001	0.003	0.006	-0.002	0.008	0.003	0.0	0.004	0.001	0.007
8.00E-01	0.002	0.003	0.006	-0.001	0.009	0.003	0.001	0.004	0.001	0.007
1.00E+00	0.002	0.003	0.006	-0.001	0.010	0.003	0.001	0.003	0.001	0.008
1.50E+00	0.002	0.003	0.005	-0.002	0.009	0.004	0.002	0.002	0.001	0.008
2.00E+00	0.001	0.003	0.004	-0.004	0.008	0.004	0.002	0.001	0.001	0.007
3.00E+00	-0.003	-0.001	0.004	-0.004	0.005	0.002	0.0	-0.002	0.0	0.006
4.00E+00	-0.003	-0.001	0.004	-0.006	0.005	0.002	0.0	-0.003	0.0	0.007
5.00E+00	-0.003	-0.001	0.004	-0.006	0.006	0.003	0.001	-0.001	0.0	0.009
6.00E+00	-0.003	-0.001	0.004	-0.005	0.007	0.003	0.002	0.0	0.001	0.009
8.00E+00	-0.004	-0.002	0.004	-0.006	0.006	0.003	0.002	0.001	0.0	0.009
1.00E+01	-0.004	-0.002	0.003	-0.008	0.005	0.002	0.001	-0.003	0.0	0.006
1.50E+01	-0.005	-0.004	0.004	-0.012	0.002	-0.001	-0.003	-0.010	0.0	0.003
2.00E+01	-0.005	-0.003	0.004	-0.011	0.004	0.002	0.001	-0.004	-0.001	0.006
3.00E+01	-0.003	-0.002	0.004	-0.007	0.009	0.006	0.007	0.006	-0.001	0.006
4.00E+01	-0.004	-0.004	0.004	-0.010	0.005	0.001	0.001	-0.005	-0.001	0.002
5.00E+01	-0.005	-0.007	0.005	-0.014	0.0	-0.005	-0.005	-0.017	-0.002	0.001
6.00E+01	-0.007	-0.009	0.005	-0.016	0.0	-0.006	-0.007	-0.021	-0.003	0.002
8.00E+01	-0.005	-0.006	0.002	-0.011	0.005	0.004	0.002	-0.003	-0.003	0.005
1.00E+02	-0.002	-0.002	0.001	-0.002	0.013	0.015	0.014	0.021	-0.003	0.007
1.50E+02	0.0	-0.004	-0.004	-0.001	0.011	0.013	0.012	0.030	-0.005	0.001
2.00E+02	-0.008	-0.013	-0.006	-0.016	-0.005	-0.006	-0.006	-0.002	-0.009	-0.007
3.00E+02	-0.007	-0.010	0.006	-0.018	-0.002	-0.006	-0.008	-0.018	-0.005	0.004
4.00E+02	0.0	0.0	0.013	-0.005	0.012	0.011	0.010	0.004	0.0	0.019
5.00E+02	-0.002	-0.001	0.008	-0.005	0.012	0.013	0.013	0.013	-0.004	0.015
6.00E+02	-0.008	-0.007	0.001	-0.011	0.004	0.007	0.006	0.006	-0.009	0.004
8.00E+02	-0.011	-0.010	-0.001	-0.015	-0.002	-0.003	-0.005	-0.010	-0.010	-0.001
1.00E+03	-0.004	-0.003	0.012	-0.009	0.006	0.001	-0.001	-0.011	-0.001	0.012
1.50E+03	0.003	0.006	0.034	-0.008	0.025	0.023	0.020	0.010	0.006	0.037
2.00E+03	-0.004	-0.001	0.023	-0.016	0.018	0.024	0.022	0.016	-0.005	0.023
3.00E+03	-0.014	-0.013	-0.017	-0.009	-0.008	-0.001	-0.002	0.003	-0.020	-0.021
4.00E+03	-0.012	-0.013	-0.029	0.0	-0.018	-0.018	-0.020	-0.011	-0.018	-0.029
5.00E+03	-0.008	-0.009	-0.016	-0.001	-0.014	-0.017	-0.020	-0.014	-0.011	-0.009
6.00E+03	-0.004	-0.003	0.005	-0.006	-0.001	-0.004	-0.007	-0.007	-0.003	0.015
8.00E+03	0.001	0.006	0.033	-0.013	0.024	0.024	0.025	0.013	-0.001	0.030
1.00E+04	-0.007	0.0	0.023	-0.015	0.027	0.030	0.034	0.018	-0.018	-0.002
1.50E+04	-0.041	-0.039	-0.065	-0.018	-0.026	-0.023	-0.021	-0.019	-0.066	-0.105
2.00E+04	-0.038	-0.041	-0.085	-0.011	-0.049	-0.046	-0.047	-0.033	-0.050	-0.095
3.00E+04	0.003	0.002	-0.008	0.006	-0.008	-0.004	-0.006	0.002	0.019	0.014
4.00E+04	-0.002	0.0	0.011	-0.003	0.008	0.010	0.011	0.010	0.004	0.013
5.00E+04	-0.024	-0.021	-0.013	-0.017	-0.003	-0.003	-0.001	-0.003	-0.031	-0.031
6.00E+04	-0.031	-0.029	-0.030	-0.020	-0.014	-0.013	-0.012	-0.010	-0.043	-0.053
8.00E+04	-0.010	-0.011	-0.020	-0.002	-0.010	-0.007	-0.008	-0.001	-0.010	-0.024
1.00E+05	0.007	0.004	0.001	0.010	0.001	0.006	0.003	0.009	0.018	0.010
1.50E+05	-0.025	-0.027	-0.019	-0.020	-0.015	-0.006	-0.006	-0.011	-0.024	-0.026
2.00E+05	-0.047	-0.047	-0.042	-0.037	-0.025	-0.019	-0.015	-0.024	-0.061	-0.061
3.00E+05	-0.023	-0.023	-0.024	-0.010	-0.007	-0.006	0.001	0.0	-0.033	-0.023
4.00E+05	-0.018	-0.021	-0.018	-0.004	-0.010	-0.001	0.002	0.002	-0.009	-0.006
5.00E+05	-0.023	-0.028	-0.020	-0.010	-0.017	-0.003	-0.003	-0.007	-0.003	-0.013
6.00E+05	-0.020	-0.026	-0.016	-0.011	-0.014	0.001	-0.001	-0.009	0.0	-0.018
8.00E+05	-0.005	-0.010	-0.004	0.003	0.006	0.010	0.012	0.003	0.002	-0.012
1.00E+06	-0.010	-0.012	-0.009	0.006	0.010	0.007	0.014	0.011	-0.017	-0.012
1.50E+06	-0.099	-0.094	-0.071	-0.041	-0.042	-0.038	-0.021	-0.013	-0.118	-0.085
2.00E+06	-0.177	-0.169	-0.121	-0.083	-0.090	-0.061	-0.046	-0.037	-0.195	-0.179
3.00E+06	-0.168	-0.165	-0.119	-0.068	-0.087	-0.040	-0.035	-0.029	-0.183	-0.214
4.00E+06	-0.069	-0.074	-0.059	-0.013	-0.036	-0.008	-0.008	0.001	-0.084	-0.109
5.00E+06	-0.013	-0.019	-0.017	0.020	-0.001	0.008	0.008	0.020	-0.024	-0.020
6.00E+06	-0.037	-0.040	-0.024	0.016	-0.007	0.0	0.006	0.021	-0.047	-0.019
8.00E+06	-0.265	-0.252	-0.168	-0.077	-0.122	-0.062	-0.044	-0.017	-0.283	-0.241
1.00E+07	-0.536	-0.508	-0.355	-0.193	-0.270	-0.135	-0.109	-0.066	-0.568	-0.536
1.50E+07	-0.716	-0.680	-0.450	-0.240	-0.337	-0.141	-0.124	-0.057	-0.752	-0.715
2.00E+07	-0.271	-0.256	-0.082	-0.012	-0.041	0.032	0.022	0.066	-0.265	-0.202
3.00E+07	0.584	0.543	0.406	0.250	0.321	0.160	0.123	0.099	0.642	0.660
4.00E+07	0.181	0.147	-0.054	-0.023	-0.044	-0.047	-0.054	-0.054	0.158	0.097
5.00E+07	-0.477	-0.461	-0.500	-0.218	-0.384	-0.149	-0.133	-0.093	-0.556	-0.581
6.00E+07	-0.472	-0.452	-0.540	-0.165	-0.425	-0.104	-0.092	-0.040	-0.526	-0.517
8.00E+07	0.277	0.238	-0.139	0.100	-0.146	0.049	0.031	0.068	0.287	0.319
1.00E+08	0.579	0.529	0.205	0.198	0.117	0.102	0.072	0.084	0.601	0.641
1.50E+08	0.029	0.048	0.279	0.017	0.223	0.014	0.001	-0.018	0.019	0.011
2.00E+08	-0.379	-0.343	-0.196	-0.125	-0.135	-0.056	-0.066	-0.045	-0.423	-0.430
3.00E+08	-0.201	-0.207	-0.850	-0.072	-0.693	-0.050	-0.090	0.008	-0.256	-0.201
4.00E+08	0.073	0.053	-0.623	0.007	-0.532	-0.018	-0.059	0.015	0.054	0.105
5.00E+08	0.162	0.154	-0.077	0.035	-0.092	0.014	-0.008	0.012	0.179	0.190
6.00E+08	0.151	0.160	0.389	0.037	0.294	0.040	0.039	0.016	0.192	0.161
8.00E+08	0.061	0.092	0.816	0.019	0.655	0.065	0.092	0.026	0.117	0.038
1.00E+09	-0.009	0.029	0.834	0.001	0.678	0.066	0.101	0.031	0.043	-0.050
1.50E+09	-0.069	-0.041	0.484	-0.023	0.397	0.037	0.063	0.022	-0.043	-0.114
2.00E+09	-0.075	-0.064	0.114	-0.032	0.094	0.001	0.012	0.008	-0.075	-0.109
3.00E+09	-0.066	-0.083	-0.465	-0.043	-0.381	-0.058	-0.075	-0.018	-0.109	-0.080
4.00E+09	-0.051	-0.087	-0.766	-0.047	-0.632	-0.094	-0.126	-0.036	-0.118	-0.051
5.00E+09	-0.030	-0.070	-0.703	-0.042	-0.590	-0.098	-0.132	-0.042	-0.095	-0.022
6.00E+09	-0.002	-0.028	-0.209	-0.025	-0.199	-0.063	-0.077	-0.034	-0.034	0.011
8.00E+09	0.060	0.111	1.580	0.028	1.283	0.110	0.178	0.019	0.175	0.063
1.00E+10	-0.051	-0.078	-0.721	-0.093	-0.563	-0.080	-0.092	-0.064	-0.107	-0.081

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

---------- (B+G) FITTING ERROR TABLE FOR 1.0E+13 SEC IRRADIATION ----------

(UNIT : %)

TC(SEC)	U235(T)	U235(F)	U235(H)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU241(T)	U233(T)	TH232(F)
0.0	0.003	0.003	0.007	0.002	0.007	0.002	0.002	0.004	0.004	0.006
1.00E-01	0.004	0.003	0.006	0.002	0.007	0.002	0.003	0.004	0.004	0.006
1.50E-01	0.003	0.003	0.006	0.001	0.008	0.002	0.003	0.003	0.004	0.005
2.00E-01	0.003	0.004	0.006	0.001	0.007	0.002	0.003	0.003	0.004	0.005
3.00E-01	0.003	0.003	0.007	0.0	0.007	0.002	0.002	0.003	0.004	0.005
4.00E-01	0.003	0.004	0.006	0.001	0.007	0.002	0.003	0.003	0.003	0.005
5.00E-01	0.003	0.003	0.007	0.001	0.007	0.002	0.003	0.003	0.002	0.005
6.00E-01	0.003	0.003	0.007	0.002	0.007	0.002	0.003	0.004	0.003	0.006
8.00E-01	0.003	0.004	0.006	0.002	0.009	0.003	0.004	0.004	0.003	0.006
1.00E+00	0.004	0.004	0.007	0.003	0.009	0.003	0.003	0.003	0.003	0.007
1.50E+00	0.004	0.005	0.006	0.001	0.009	0.003	0.004	0.003	0.001	0.007
2.00E+00	0.003	0.004	0.006	0.0	0.007	0.002	0.003	0.002	0.0	0.006
3.00E+00	0.001	0.002	0.005	0.001	0.005	0.0	0.0	0.0	-0.001	0.003
4.00E+00	0.001	0.002	0.004	0.001	0.006	-0.001	0.0	0.0	-0.002	0.005
5.00E+00	-0.002	0.0	0.004	0.002	0.008	0.0	0.0	-0.001	-0.002	0.007
6.00E+00	-0.001	0.001	0.004	0.001	0.008	0.0	0.0	0.0	-0.001	0.007
8.00E+00	-0.003	0.0	0.003	-0.003	0.005	-0.001	0.0	-0.001	-0.002	0.006
1.00E+01	-0.004	-0.001	0.003	-0.004	0.004	-0.002	-0.001	-0.003	-0.002	0.003
1.50E+01	-0.005	-0.003	0.004	-0.005	0.003	-0.005	-0.004	-0.007	-0.003	0.002
2.00E+01	-0.005	-0.002	0.004	-0.006	0.004	-0.003	-0.001	-0.004	-0.003	0.004
3.00E+01	-0.004	0.001	0.004	-0.005	0.007	0.001	0.003	0.002	-0.001	0.003
4.00E+01	-0.004	-0.001	0.003	-0.006	0.004	-0.002	-0.001	-0.004	-0.002	0.0
5.00E+01	-0.006	-0.004	0.003	-0.008	0.001	-0.007	-0.006	-0.011	-0.004	0.0
6.00E+01	-0.008	-0.006	0.002	-0.010	0.0	-0.009	-0.010	-0.014	-0.005	0.0
8.00E+01	-0.006	-0.005	0.0	-0.010	0.0	-0.003	-0.004	-0.006	-0.005	0.0
1.00E+02	-0.002	0.0	0.0	-0.006	0.005	0.005	0.005	0.009	-0.001	0.002
1.50E+02	0.004	0.004	-0.003	-0.003	0.008	0.005	0.005	0.017	0.001	0.003
2.00E+02	-0.005	-0.006	-0.005	-0.013	-0.004	-0.010	-0.009	-0.006	-0.006	-0.004
3.00E+02	-0.011	-0.011	0.003	-0.014	-0.002	-0.010	-0.010	-0.015	-0.010	-0.001
4.00E+02	-0.004	-0.002	0.011	-0.004	0.009	0.005	0.005	0.003	-0.003	0.010
5.00E+02	-0.003	-0.001	0.007	-0.006	0.008	0.006	0.006	0.006	-0.003	0.009
6.00E+02	-0.006	-0.004	0.001	-0.011	0.001	0.0	0.001	-0.001	-0.006	0.002
8.00E+02	-0.009	-0.007	0.0	-0.012	-0.003	-0.006	-0.006	-0.011	-0.008	-0.002
1.00E+03	-0.007	-0.006	0.010	-0.005	0.005	-0.001	-0.002	-0.008	-0.006	0.006
1.50E+03	-0.011	-0.008	0.023	-0.011	0.017	0.008	0.006	0.005	-0.009	0.020
2.00E+03	-0.015	-0.012	0.014	-0.022	0.010	0.003	0.001	0.002	-0.013	0.012
3.00E+03	-0.004	-0.001	-0.007	-0.005	-0.003	-0.001	-0.001	0.001	-0.007	-0.010
4.00E+03	0.001	0.004	-0.014	0.007	-0.008	-0.005	-0.005	0.0	-0.004	-0.015
5.00E+03	-0.003	0.001	-0.009	0.002	-0.008	-0.008	-0.009	-0.004	-0.006	-0.006
6.00E+03	-0.007	-0.001	0.003	-0.006	-0.002	-0.006	-0.006	-0.004	-0.007	0.008
8.00E+03	-0.003	0.005	0.026	-0.010	0.018	0.010	0.011	-0.007	-0.004	0.021
1.00E+04	0.0	0.009	0.024	-0.006	0.024	0.018	0.021	0.013	-0.006	0.006
1.50E+04	-0.014	-0.010	-0.036	-0.007	-0.015	-0.012	-0.010	-0.009	-0.026	-0.057
2.00E+04	-0.018	-0.017	-0.058	-0.008	-0.037	-0.027	-0.028	-0.018	-0.020	-0.054
3.00E+04	0.002	0.003	-0.012	0.002	-0.008	-0.002	-0.002	0.005	0.013	0.010
4.00E+04	0.003	0.004	0.010	0.0	0.010	0.007	0.008	0.008	0.004	0.011
5.00E+04	-0.004	-0.003	0.005	-0.006	0.007	0.0	0.001	0.0	-0.011	-0.010
6.00E+04	-0.006	-0.005	-0.003	-0.006	0.001	-0.005	-0.005	-0.004	-0.014	-0.020
8.00E+04	0.003	0.003	-0.007	0.002	-0.004	-0.001	-0.003	0.003	0.004	-0.006
1.00E+05	0.007	0.005	-0.006	0.006	-0.004	0.004	0.002	0.009	0.015	0.010
1.50E+05	-0.008	-0.011	-0.014	-0.007	-0.008	-0.001	-0.002	0.0	-0.007	-0.005
2.00E+05	-0.012	-0.014	-0.013	-0.011	-0.006	-0.007	-0.004	-0.007	-0.020	-0.018
3.00E+05	-0.001	-0.002	-0.003	-0.002	0.001	-0.004	0.001	-0.001	-0.006	-0.003
4.00E+05	-0.003	-0.006	-0.008	-0.003	-0.007	-0.004	-0.002	0.0	0.002	0.003
5.00E+05	-0.005	-0.009	-0.013	-0.004	-0.011	-0.002	-0.003	0.001	0.004	0.001
6.00E+05	-0.001	-0.006	-0.010	0.001	-0.006	0.003	0.002	0.006	0.007	0.001
8.00E+05	0.009	0.005	-0.001	0.008	0.005	0.008	0.009	0.010	0.010	0.003
1.00E+06	0.005	0.003	-0.001	0.003	0.003	-0.001	0.003	0.003	0.001	0.0
1.50E+06	-0.031	-0.030	-0.016	-0.025	-0.020	-0.026	-0.017	-0.017	-0.033	-0.023
2.00E+06	-0.048	-0.047	-0.023	-0.029	-0.026	-0.023	-0.015	-0.012	-0.047	-0.039
3.00E+06	-0.036	-0.040	-0.028	-0.013	-0.022	-0.008	-0.006	0.004	-0.039	-0.038
4.00E+06	-0.013	-0.020	-0.026	-0.004	-0.019	-0.009	-0.011	0.003	-0.020	-0.019
5.00E+06	-0.001	-0.008	-0.019	-0.002	-0.015	-0.010	-0.013	0.001	-0.009	-0.005
6.00E+06	-0.004	-0.009	-0.014	-0.001	-0.012	-0.009	-0.010	0.002	-0.010	-0.003
8.00E+06	-0.038	-0.039	-0.022	-0.009	-0.021	-0.009	-0.008	0.006	-0.038	-0.025
1.00E+07	-0.074	-0.074	-0.044	-0.022	-0.040	-0.018	-0.014	0.003	-0.073	-0.052
1.50E+07	-0.085	-0.089	-0.066	-0.039	-0.059	-0.038	-0.037	-0.013	-0.084	-0.063
2.00E+07	-0.036	-0.045	-0.046	-0.030	-0.043	-0.036	-0.039	-0.018	-0.039	-0.031
3.00E+07	0.019	0.011	-0.009	0.0	-0.009	-0.002	-0.007	0.006	0.013	0.007
4.00E+07	0.024	0.019	0.0	0.019	0.001	0.026	0.022	0.037	0.017	0.015
5.00E+07	0.021	0.018	-0.002	0.026	0.001	0.037	0.034	0.055	0.014	0.016
6.00E+07	0.018	0.014	-0.007	0.024	-0.004	0.034	0.030	0.057	0.011	0.015
8.00E+07	0.011	0.006	-0.014	0.008	-0.015	0.014	0.009	0.036	0.004	0.008
1.00E+08	0.006	0.0	-0.016	-0.005	-0.020	-0.003	-0.009	0.011	0.001	-0.001
1.50E+08	0.008	0.002	-0.009	-0.006	-0.016	-0.007	-0.014	-0.008	0.003	-0.003
2.00E+08	0.015	0.008	-0.006	0.004	-0.011	0.006	-0.001	0.006	0.009	0.006
3.00E+08	0.015	0.007	-0.004	0.003	-0.008	0.008	0.002	0.014	0.008	0.006
4.00E+08	0.010	0.001	0.004	-0.004	0.001	0.002	-0.003	0.006	0.003	-0.008
5.00E+08	0.009	0.0	0.015	-0.003	0.011	0.003	0.0	0.005	0.002	-0.014
6.00E+08	0.013	0.004	0.020	0.003	0.017	0.010	0.007	0.010	0.006	-0.010
8.00E+08	0.027	0.016	0.019	0.017	0.013	0.021	0.018	0.022	0.021	0.018
1.00E+09	0.039	0.027	0.005	0.027	-0.002	0.025	0.020	0.028	0.038	0.057
1.50E+09	0.054	0.035	-0.040	0.030	-0.050	0.013	0.002	0.020	0.056	0.126
2.00E+09	0.046	0.021	-0.080	0.014	-0.087	-0.014	-0.028	-0.002	0.043	0.137
3.00E+09	0.0	-0.031	-0.115	-0.036	-0.114	-0.064	-0.077	-0.049	-0.017	0.064
4.00E+09	-0.041	-0.069	-0.111	-0.072	-0.105	-0.086	-0.094	-0.078	-0.063	-0.029
5.00E+09	-0.060	-0.083	-0.098	-0.087	-0.090	-0.089	-0.092	-0.087	-0.079	-0.087
6.00E+09	-0.062	-0.082	-0.088	-0.089	-0.079	-0.084	-0.085	-0.087	-0.077	-0.102
8.00E+09	-0.052	-0.074	-0.077	-0.083	-0.068	-0.075	-0.075	-0.080	-0.066	-0.083
1.00E+10	-0.045	-0.066	-0.067	-0.076	-0.058	-0.067	-0.067	-0.074	-0.056	-0.072

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

---------- BETA FITTING ERROR TABLE FOR 1.0E+13 SEC IRRADIATION ----------

(UNIT : %)

TC(SEC)	U235(T)	U235(F)	U235(H)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU241(T)	U233(T)	TH232(F)
0.0	0.005	0.004	0.007	0.004	0.006	0.001	0.004	0.003	0.004	0.004
1.00E-01	0.005	0.004	0.007	0.004	0.007	0.002	0.005	0.003	0.004	0.004
1.50E-01	0.005	0.004	0.007	0.004	0.007	0.001	0.005	0.003	0.004	0.004
2.00E-01	0.005	0.003	0.007	0.004	0.007	0.001	0.005	0.002	0.004	0.003
3.00E-01	0.005	0.003	0.007	0.003	0.006	0.001	0.005	0.002	0.004	0.003
4.00E-01	0.005	0.004	0.007	0.004	0.007	0.001	0.005	0.003	0.004	0.003
5.00E-01	0.005	0.003	0.007	0.004	0.006	0.001	0.005	0.003	0.004	0.003
6.00E-01	0.005	0.004	0.006	0.005	0.007	0.001	0.005	0.003	0.004	0.004
8.00E-01	0.005	0.004	0.007	0.006	0.008	0.002	0.005	0.003	0.004	0.005
1.00E+00	0.006	0.005	0.007	0.006	0.008	0.002	0.005	0.003	0.005	0.006
1.50E+00	0.006	0.006	0.007	0.004	0.008	0.002	0.005	0.003	0.0	0.005
2.00E+00	0.005	0.005	0.007	0.003	0.007	0.0	0.005	0.003	-0.001	0.003
3.00E+00	0.004	0.003	0.005	0.006	0.006	-0.003	0.0	0.003	-0.003	0.001
4.00E+00	0.004	0.004	0.005	0.009	0.008	-0.004	0.0	0.004	-0.004	0.003
5.00E+00	0.0	0.001	0.004	0.009	0.009	-0.004	0.0	0.0	-0.004	0.004
6.00E+00	-0.001	0.002	0.004	0.007	0.008	-0.004	-0.001	-0.001	-0.003	0.005
8.00E+00	-0.002	0.001	0.003	0.0	0.004	-0.006	-0.002	-0.003	-0.004	0.003
1.00E+01	-0.003	0.0	0.002	0.0	0.003	-0.007	-0.003	-0.004	-0.005	-0.001
1.50E+01	-0.005	-0.003	0.003	0.003	0.004	-0.009	-0.005	-0.005	-0.008	0.0
2.00E+01	-0.006	-0.001	0.004	0.001	0.005	-0.009	-0.004	-0.004	-0.005	0.002
3.00E+01	-0.005	0.004	0.004	-0.004	0.004	-0.006	-0.002	-0.003	-0.001	-0.001
4.00E+01	-0.005	0.004	0.003	-0.002	0.003	-0.007	-0.004	-0.003	-0.004	-0.003
5.00E+01	-0.007	0.0	0.003	0.0	0.003	-0.009	-0.007	-0.005	-0.007	-0.002
6.00E+01	-0.009	-0.004	-0.001	-0.002	0.001	-0.013	-0.013	-0.008	-0.009	-0.002
8.00E+01	-0.009	-0.004	-0.002	-0.008	-0.005	-0.011	-0.012	-0.010	-0.008	-0.005
1.00E+02	-0.004	0.001	-0.002	-0.011	-0.002	-0.006	-0.007	-0.006	0.001	-0.004
1.50E+02	0.009	0.013	0.0	-0.006	0.003	-0.004	-0.003	0.0	0.008	0.004
2.00E+02	-0.003	0.0	-0.003	-0.010	-0.003	-0.015	-0.013	-0.011	-0.005	-0.001
3.00E+02	-0.017	-0.013	0.001	-0.010	-0.002	-0.014	-0.012	-0.011	-0.017	-0.008
4.00E+02	-0.009	-0.005	0.009	-0.003	0.007	-0.003	-0.001	0.001	-0.008	-0.001
5.00E+02	-0.005	-0.001	0.006	-0.006	0.004	-0.004	-0.002	-0.001	-0.002	0.002
6.00E+02	-0.004	-0.002	0.002	-0.011	-0.002	-0.009	-0.007	-0.009	-0.002	-0.001
8.00E+02	-0.007	-0.005	0.001	-0.008	-0.004	-0.010	-0.007	-0.013	-0.006	-0.005
1.00E+03	-0.012	-0.010	0.008	0.0	0.005	-0.004	-0.003	-0.004	-0.013	-0.003
1.50E+03	-0.031	-0.028	0.011	-0.017	0.009	-0.012	-0.014	-0.003	-0.029	0.0
2.00E+03	-0.031	-0.027	0.004	-0.030	0.0	-0.024	-0.025	-0.016	-0.024	-0.001
3.00E+03	0.007	0.013	0.005	0.0	0.004	-0.002	-0.001	-0.002	0.008	0.002
4.00E+03	0.015	0.024	0.004	0.015	0.006	0.011	0.014	0.013	0.013	-0.002
5.00E+03	0.0	0.010	0.0	0.005	-0.001	0.002	0.005	0.007	-0.001	-0.004
6.00E+03	-0.012	-0.002	0.002	-0.007	-0.003	-0.009	-0.006	-0.001	-0.012	0.0
8.00E+03	-0.010	0.003	0.020	-0.008	0.012	-0.008	-0.005	-0.002	-0.009	0.012
1.00E+04	0.006	0.018	0.028	0.004	0.024	0.003	0.006	0.006	0.005	0.013
1.50E+04	0.011	0.019	-0.008	0.005	-0.003	-0.001	0.002	0.001	0.012	-0.017
2.00E+04	-0.001	0.004	-0.037	-0.005	-0.028	-0.009	-0.008	-0.004	0.007	-0.021
3.00E+04	-0.002	0.0	-0.017	-0.003	-0.009	0.0	0.002	0.008	0.004	0.006
4.00E+04	0.005	0.006	0.013	0.002	0.014	0.003	0.005	0.006	0.002	0.009
5.00E+04	0.012	0.013	0.025	0.005	0.021	0.002	0.003	0.001	0.004	0.004
6.00E+04	0.016	0.017	0.025	0.007	0.018	0.002	0.003	0.0	0.011	0.003
8.00E+04	0.013	0.014	0.005	0.004	0.002	0.004	0.003	0.006	0.016	0.006
1.00E+05	0.003	0.003	-0.013	0.0	-0.009	0.003	0.001	0.009	0.010	0.008
1.50E+05	0.004	0.0	-0.010	0.006	-0.001	0.002	0.003	0.010	0.004	0.009
2.00E+05	0.016	0.013	0.013	0.014	0.015	0.004	0.007	0.007	0.012	0.011
3.00E+05	0.015	0.014	0.019	0.004	0.011	-0.004	-0.001	-0.003	0.014	0.008
4.00E+05	0.005	0.002	0.001	-0.004	-0.004	-0.010	-0.008	-0.004	0.007	0.007
5.00E+05	0.004	0.001	-0.007	0.001	-0.005	-0.004	-0.003	0.006	0.006	0.009
6.00E+05	0.009	0.005	-0.004	0.010	0.002	0.005	0.005	0.017	0.010	0.011
8.00E+05	0.015	0.012	0.006	0.013	0.010	0.006	0.008	0.016	0.012	0.010
1.00E+06	0.010	0.008	0.009	-0.001	0.003	-0.008	-0.005	-0.004	0.009	0.005
1.50E+06	0.004	0.003	0.018	-0.019	-0.005	-0.024	-0.018	-0.024	0.010	0.004
2.00E+06	0.016	0.014	0.028	-0.001	0.010	-0.004	0.0	-0.003	0.022	0.015
3.00E+06	0.021	0.014	0.012	0.015	0.012	0.008	0.009	0.019	0.018	0.018
4.00E+06	0.006	-0.003	-0.013	-0.001	-0.010	-0.011	-0.013	0.004	-0.001	0.005
5.00E+06	0.0	-0.008	-0.015	-0.010	-0.016	-0.020	-0.022	-0.006	-0.007	-0.001
6.00E+06	0.006	-0.001	-0.002	-0.007	-0.008	-0.014	-0.017	-0.003	0.001	0.002
8.00E+06	0.025	0.020	0.025	0.014	0.015	0.007	0.005	0.013	0.023	0.017
1.00E+07	0.031	0.027	0.029	0.022	0.020	0.012	0.010	0.020	0.031	0.025
1.50E+07	0.007	-0.004	-0.016	-0.009	-0.020	-0.029	-0.031	-0.009	0.003	0.005
2.00E+07	-0.012	-0.026	-0.040	-0.033	-0.042	-0.053	-0.055	-0.032	-0.018	-0.014
3.00E+07	0.007	-0.002	-0.009	-0.006	-0.010	-0.010	-0.013	0.001	0.003	-0.001
4.00E+07	0.033	0.028	0.025	0.035	0.027	0.045	0.042	0.055	0.028	0.026
5.00E+07	0.040	0.036	0.030	0.049	0.035	0.066	0.062	0.085	0.034	0.036
6.00E+07	0.035	0.030	0.021	0.044	0.025	0.061	0.057	0.089	0.028	0.034
8.00E+07	0.020	0.013	-0.001	0.018	-0.001	0.026	0.020	0.057	0.014	0.019
1.00E+08	0.014	0.006	-0.006	0.0	-0.014	-0.002	-0.010	0.017	0.009	0.009
1.50E+08	0.027	0.017	0.015	0.005	0.0	-0.004	-0.015	-0.015	0.022	0.016
2.00E+08	0.036	0.027	0.027	0.022	0.016	0.021	0.009	0.011	0.030	0.028
3.00E+08	0.026	0.015	0.016	0.016	0.009	0.021	0.011	0.024	0.017	0.018
4.00E+08	0.016	0.003	0.008	0.003	0.002	0.007	-0.003	0.009	0.006	-0.002
5.00E+08	0.019	0.005	0.016	0.006	0.010	0.010	0.0	0.008	0.008	-0.006
6.00E+08	0.030	0.016	0.029	0.019	0.023	0.024	0.014	0.019	0.020	0.006
8.00E+08	0.058	0.044	0.053	0.046	0.043	0.053	0.043	0.046	0.054	0.055
1.00E+09	0.081	0.067	0.066	0.066	0.049	0.070	0.059	0.061	0.087	0.113
1.50E+09	0.105	0.089	0.052	0.077	0.026	0.068	0.054	0.057	0.127	0.210
2.00E+09	0.090	0.072	0.004	0.052	-0.019	0.034	0.017	0.025	0.115	0.223
3.00E+09	0.018	-0.006	-0.086	-0.023	-0.088	-0.044	-0.064	-0.046	0.026	0.115
4.00E+09	-0.043	-0.068	-0.124	-0.075	-0.108	-0.086	-0.106	-0.084	-0.057	-0.019
5.00E+09	-0.070	-0.094	-0.127	-0.094	-0.104	-0.097	-0.115	-0.093	-0.095	-0.099
6.00E+09	-0.072	-0.096	-0.120	-0.094	-0.095	-0.094	-0.112	-0.090	-0.100	-0.115
8.00E+09	-0.059	-0.085	-0.107	-0.085	-0.083	-0.084	-0.102	-0.081	-0.085	-0.081
1.00E+10	-0.051	-0.077	-0.096	-0.078	-0.074	-0.077	-0.094	-0.074	-0.076	-0.066

Table 4.2.11 Discrepancies between exponential fitting and calculated results of the gamma decay power after infinite (10^{13} s) irradiation

---------- GAMMA FITTING ERROR TABLE FOR 1.0E+13 SEC IRRADIATION ----------

(UNIT : %)

TC(SEC)	U235(T)	U235(F)	U235(H)	U238(F)	U238(H)	PU239(T)	PU239(F)	PU241(T)	U233(T)	TH232(F)
0.0	0.002	0.003	0.006	-0.001	0.008	0.003	0.001	0.004	0.005	0.007
1.00E-01	0.002	0.003	0.006	-0.001	0.008	0.003	0.001	0.004	0.005	0.007
1.50E-01	0.002	0.003	0.006	-0.001	0.008	0.003	0.001	0.004	0.004	0.007
2.00E-01	0.001	0.003	0.006	-0.002	0.008	0.003	0.001	0.004	0.005	0.007
3.00E-01	0.002	0.003	0.006	-0.002	0.007	0.003	0.001	0.004	0.004	0.007
4.00E-01	0.002	0.003	0.006	-0.003	0.007	0.003	0.001	0.004	0.002	0.006
5.00E-01	0.001	0.003	0.006	-0.002	0.008	0.003	0.001	0.004	0.002	0.007
6.00E-01	0.002	0.003	0.006	-0.002	0.008	0.003	0.001	0.004	0.002	0.007
8.00E-01	0.002	0.003	0.006	-0.001	0.009	0.003	0.001	0.004	0.002	0.008
1.00E+00	0.002	0.004	0.006	0.0	0.009	0.004	0.001	0.003	0.002	0.008
1.50E+00	0.002	0.003	0.005	-0.002	0.009	0.004	0.002	0.003	0.001	0.008
2.00E+00	0.001	0.003	0.004	-0.003	0.008	0.004	0.002	0.001	0.001	0.008
3.00E+00	-0.003	0.0	0.004	-0.004	0.005	0.002	0.0	-0.002	0.001	0.006
4.00E+00	-0.003	0.0	0.004	-0.006	0.005	0.002	0.0	-0.002	0.0	0.007
5.00E+00	-0.003	-0.001	0.004	-0.005	0.006	0.003	0.001	-0.001	0.0	0.009
6.00E+00	-0.003	0.0	0.004	-0.005	0.007	0.004	0.002	0.0	0.001	0.009
8.00E+00	-0.004	-0.002	0.004	-0.006	0.006	0.004	0.002	0.001	0.0	0.009
1.00E+01	-0.004	-0.002	0.003	-0.008	0.005	0.002	0.001	-0.003	0.0	0.007
1.50E+01	-0.005	-0.004	0.004	-0.012	0.002	-0.001	-0.002	-0.010	0.0	0.003
2.00E+01	-0.004	-0.002	0.004	-0.011	0.004	0.002	0.001	-0.004	-0.001	0.006
3.00E+01	-0.003	-0.002	0.004	-0.006	0.008	0.007	0.007	0.006	-0.001	0.006
4.00E+01	-0.003	-0.004	0.004	-0.009	0.005	0.002	0.001	-0.005	-0.001	0.002
5.00E+01	-0.005	-0.007	0.005	-0.014	0.0	-0.004	-0.004	-0.016	-0.002	0.001
6.00E+01	-0.006	-0.008	0.004	-0.016	-0.001	-0.005	-0.007	-0.020	-0.002	0.002
8.00E+01	-0.005	-0.006	0.002	-0.011	0.004	0.004	0.002	-0.003	-0.002	0.005
1.00E+02	-0.001	-0.002	0.001	-0.002	0.012	0.015	0.014	0.022	-0.002	0.008
1.50E+02	0.0	-0.003	-0.005	-0.001	0.012	0.013	0.012	0.031	-0.004	0.002
2.00E+02	-0.007	-0.012	-0.006	-0.015	-0.005	-0.005	-0.006	-0.001	-0.008	-0.007
3.00E+02	-0.006	-0.009	0.005	-0.018	-0.002	-0.006	-0.008	-0.018	-0.004	0.004
4.00E+02	0.001	0.001	0.012	-0.005	0.012	0.011	0.009	0.004	0.0	0.019
5.00E+02	-0.002	-0.001	0.007	-0.005	0.011	0.013	0.013	0.012	-0.003	0.015
6.00E+02	-0.007	-0.006	0.0	-0.011	0.004	0.007	0.006	0.006	-0.008	0.005
8.00E+02	-0.010	-0.009	-0.001	-0.014	-0.002	-0.003	-0.005	-0.010	-0.009	0.0
1.00E+03	-0.003	-0.002	0.011	-0.009	0.006	0.001	-0.001	-0.010	0.0	0.012
1.50E+03	0.004	0.007	0.033	-0.007	0.023	0.022	0.019	0.010	0.007	0.037
2.00E+03	-0.004	-0.001	0.021	-0.015	0.017	0.023	0.022	0.016	-0.004	0.023
3.00E+03	-0.012	-0.012	-0.017	-0.009	-0.008	0.0	-0.002	0.003	-0.018	-0.020
4.00E+03	-0.010	-0.011	-0.028	0.0	-0.018	-0.017	-0.019	-0.010	-0.017	-0.027
5.00E+03	-0.006	-0.007	-0.016	-0.001	-0.013	-0.016	-0.020	-0.013	-0.009	-0.009
6.00E+03	-0.002	-0.001	0.004	-0.006	-0.001	-0.004	-0.006	-0.006	-0.002	0.015
8.00E+03	0.002	0.007	0.030	-0.012	0.022	0.024	0.025	0.013	0.0	0.030
1.00E+04	-0.005	0.002	0.021	-0.014	0.024	0.029	0.032	0.018	-0.015	-0.001
1.50E+04	-0.037	-0.036	-0.061	-0.017	-0.024	-0.021	-0.019	-0.017	-0.061	-0.099
2.00E+04	-0.034	-0.037	-0.078	-0.010	-0.045	-0.042	-0.044	-0.030	-0.045	-0.088
3.00E+04	0.006	0.004	-0.008	0.006	-0.008	-0.003	-0.005	0.003	0.020	0.015
4.00E+04	0.001	0.002	0.008	-0.002	0.006	0.010	0.010	0.010	0.007	0.014
5.00E+04	-0.019	-0.017	-0.013	-0.016	-0.004	-0.002	-0.001	-0.001	-0.026	-0.027
6.00E+04	-0.026	-0.024	-0.028	-0.018	-0.014	-0.011	-0.011	-0.008	-0.037	-0.046
8.00E+04	-0.006	-0.007	-0.019	0.0	-0.010	-0.005	-0.007	0.0	-0.006	-0.019
1.00E+05	0.010	0.007	-0.001	0.011	-0.001	0.006	0.003	0.009	0.020	0.012
1.50E+05	-0.019	-0.021	-0.018	-0.017	-0.014	-0.004	-0.005	-0.009	-0.018	-0.021
2.00E+05	-0.038	-0.038	-0.037	-0.033	-0.023	-0.016	-0.013	-0.019	-0.051	-0.051
3.00E+05	-0.016	-0.016	-0.022	-0.008	-0.008	-0.004	0.002	0.002	-0.025	-0.017
4.00E+05	-0.010	-0.013	-0.017	-0.002	-0.010	0.0	0.002	0.004	-0.004	-0.002
5.00E+05	-0.014	-0.019	-0.019	-0.008	-0.016	-0.001	-0.003	-0.004	0.002	-0.008
6.00E+05	-0.012	-0.017	-0.016	-0.008	-0.014	0.002	-0.001	-0.005	0.005	-0.013
8.00E+05	0.002	-0.003	-0.007	0.004	0.001	0.010	0.010	0.005	0.006	-0.007
1.00E+06	-0.001	-0.004	-0.011	0.006	0.004	0.007	0.011	0.011	-0.009	-0.006
1.50E+06	-0.073	-0.069	-0.053	-0.032	-0.034	-0.028	-0.016	-0.008	-0.087	-0.064
2.00E+06	-0.133	-0.126	-0.083	-0.063	-0.065	-0.045	-0.034	-0.024	-0.142	-0.135
3.00E+06	-0.118	-0.116	-0.078	-0.050	-0.061	-0.028	-0.025	-0.018	-0.124	-0.151
4.00E+06	-0.043	-0.046	-0.043	-0.010	-0.031	-0.005	-0.007	0.002	-0.051	-0.072
5.00E+06	-0.003	-0.008	-0.023	0.011	-0.014	0.004	0.002	0.012	-0.013	-0.014
6.00E+06	-0.021	-0.023	-0.029	0.006	-0.019	-0.002	-0.001	0.012	-0.028	-0.015
8.00E+06	-0.157	-0.146	-0.089	-0.050	-0.072	-0.036	-0.028	-0.009	-0.156	-0.137
1.00E+07	-0.293	-0.271	-0.148	-0.107	-0.124	-0.068	-0.056	-0.030	-0.282	-0.268
1.50E+07	-0.305	-0.281	-0.142	-0.105	-0.120	-0.056	-0.051	-0.021	-0.284	-0.277
2.00E+07	-0.100	-0.092	-0.055	-0.021	-0.045	-0.002	-0.007	0.014	-0.092	-0.087
3.00E+07	0.053	0.047	-0.010	0.017	-0.009	0.013	0.005	0.016	0.040	0.035
4.00E+07	-0.003	-0.004	-0.038	-0.015	-0.035	-0.009	-0.013	-0.001	-0.012	-0.024
5.00E+07	-0.032	-0.029	-0.049	-0.025	-0.045	-0.013	-0.016	-0.002	-0.037	-0.051
6.00E+07	-0.028	-0.025	-0.045	-0.021	-0.042	-0.009	-0.012	0.002	-0.033	-0.045
8.00E+07	-0.012	-0.010	-0.033	-0.013	-0.031	-0.004	-0.008	0.005	-0.017	-0.028
1.00E+08	-0.014	-0.012	-0.029	-0.014	-0.027	-0.005	-0.008	0.004	-0.020	-0.031
1.50E+08	-0.036	-0.032	-0.038	-0.024	-0.034	-0.010	-0.012	0.0	-0.041	-0.056
2.00E+08	-0.035	-0.032	-0.045	-0.025	-0.040	-0.010	-0.012	0.001	-0.039	-0.054
3.00E+08	-0.011	-0.010	-0.027	-0.017	-0.025	-0.007	-0.008	0.003	-0.013	-0.028
4.00E+08	-0.005	-0.003	-0.001	-0.016	-0.001	-0.004	-0.003	0.002	-0.005	-0.025
5.00E+08	-0.013	-0.010	0.012	-0.018	0.012	-0.004	0.0	0.002	-0.012	-0.037
6.00E+08	-0.026	-0.021	0.011	-0.022	0.012	-0.005	0.0	0.001	-0.025	-0.053
8.00E+08	-0.047	-0.042	-0.016	-0.030	-0.013	-0.013	-0.008	-0.002	-0.049	-0.077
1.00E+09	-0.058	-0.057	-0.051	-0.036	-0.046	-0.023	-0.020	-0.006	-0.065	-0.089
1.50E+09	-0.063	-0.072	-0.114	-0.045	-0.108	-0.048	-0.051	-0.019	-0.084	-0.088
2.00E+09	-0.059	-0.078	-0.139	-0.051	-0.134	-0.068	-0.073	-0.033	-0.090	-0.078
3.00E+09	-0.047	-0.078	-0.132	-0.060	-0.129	-0.087	-0.090	-0.053	-0.086	-0.060
4.00E+09	-0.036	-0.071	-0.105	-0.065	-0.103	-0.086	-0.081	-0.067	-0.072	-0.053
5.00E+09	-0.029	-0.063	-0.084	-0.070	-0.082	-0.079	-0.068	-0.074	-0.059	-0.057
6.00E+09	-0.026	-0.058	-0.073	-0.074	-0.071	-0.072	-0.058	-0.078	-0.051	-0.069
8.00E+09	-0.027	-0.054	-0.064	-0.076	-0.061	-0.064	-0.048	-0.079	-0.045	-0.089
1.00E+10	-0.020	-0.045	-0.053	-0.069	-0.051	-0.054	-0.038	-0.071	-0.035	-0.086

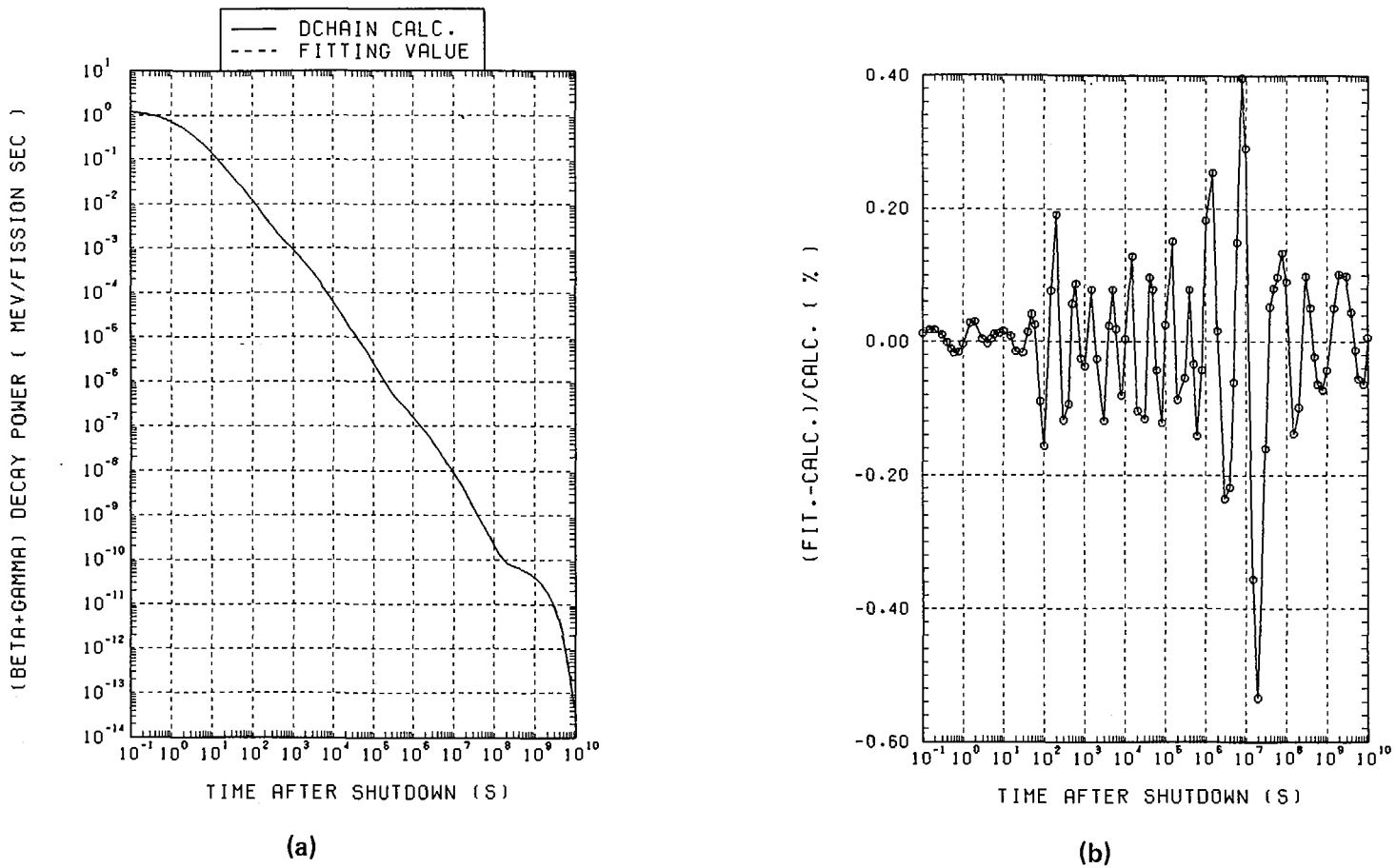


Fig. 4.2.1 Discrepancies between exponential fitting and calculated results of the total sensible decay power after one thermal-neutron fission of ^{235}U.
(a) Absolute value comparison
(b) Relative discrepancies (%)

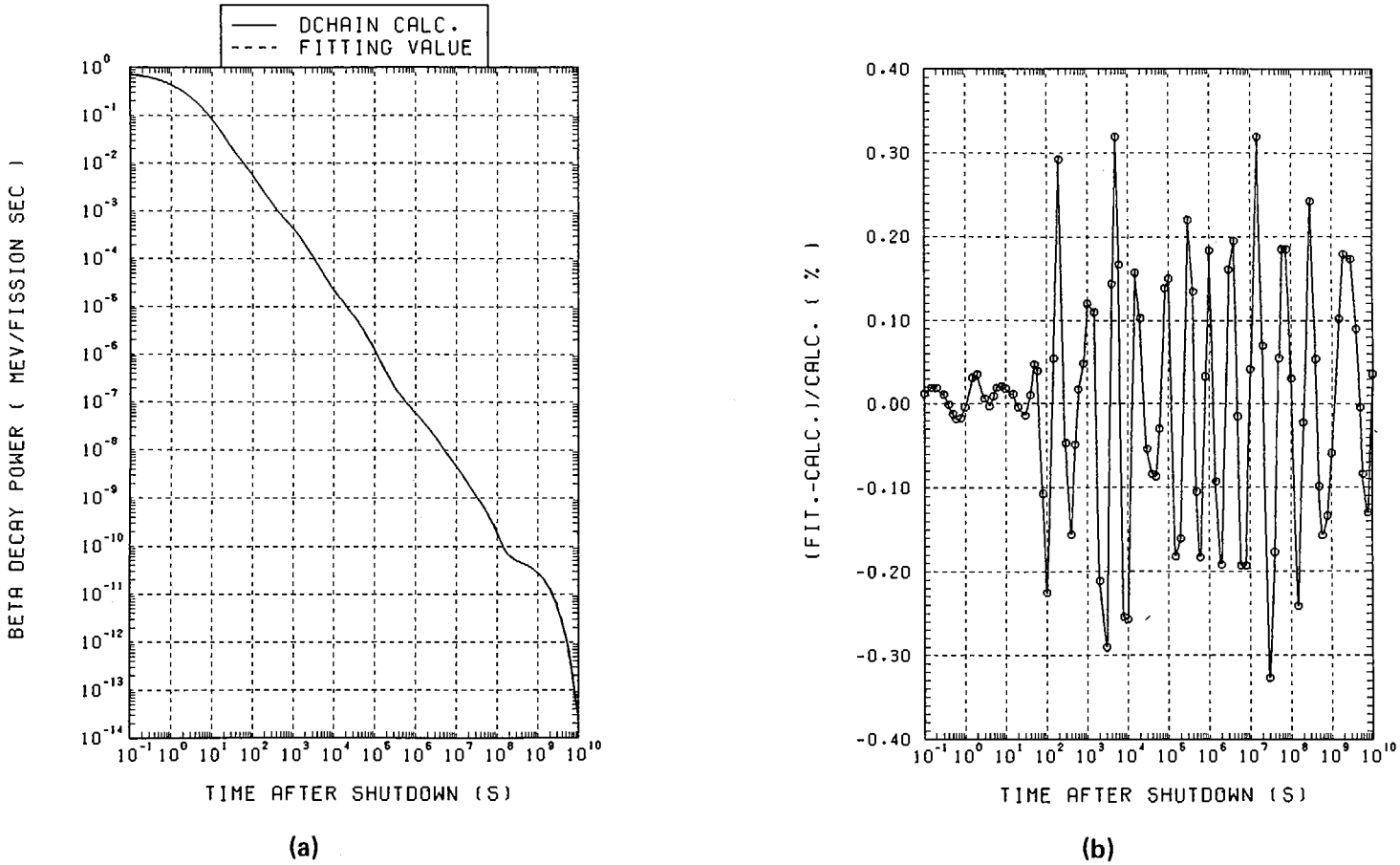


Fig. 4.2.2 Discrepancies between exponential fitting and calculated results of the beta decay power after one thermal-neutron fission of ^{235}U.
(a) Absolute value comparison
(b) Relative discrepancies (%)

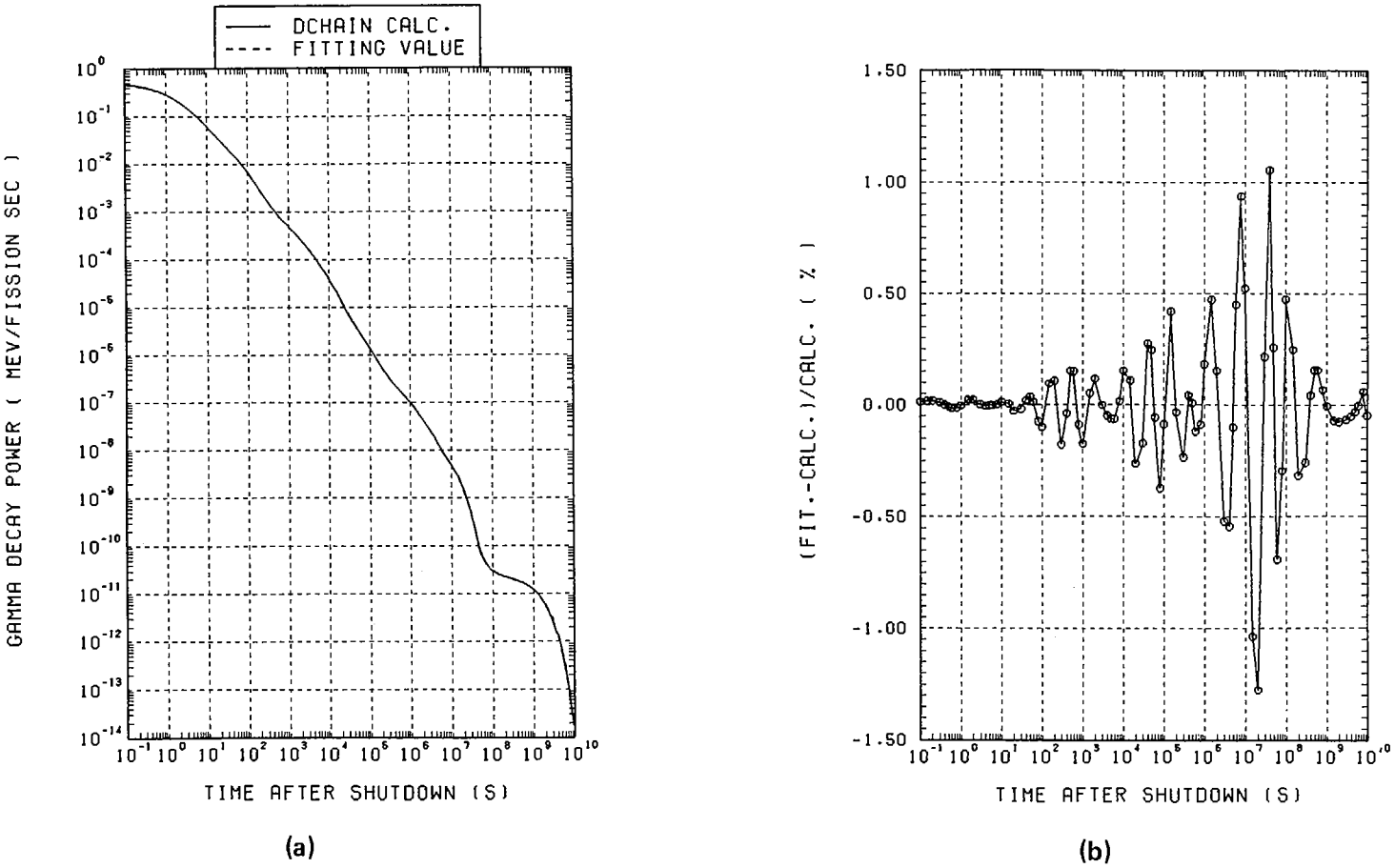
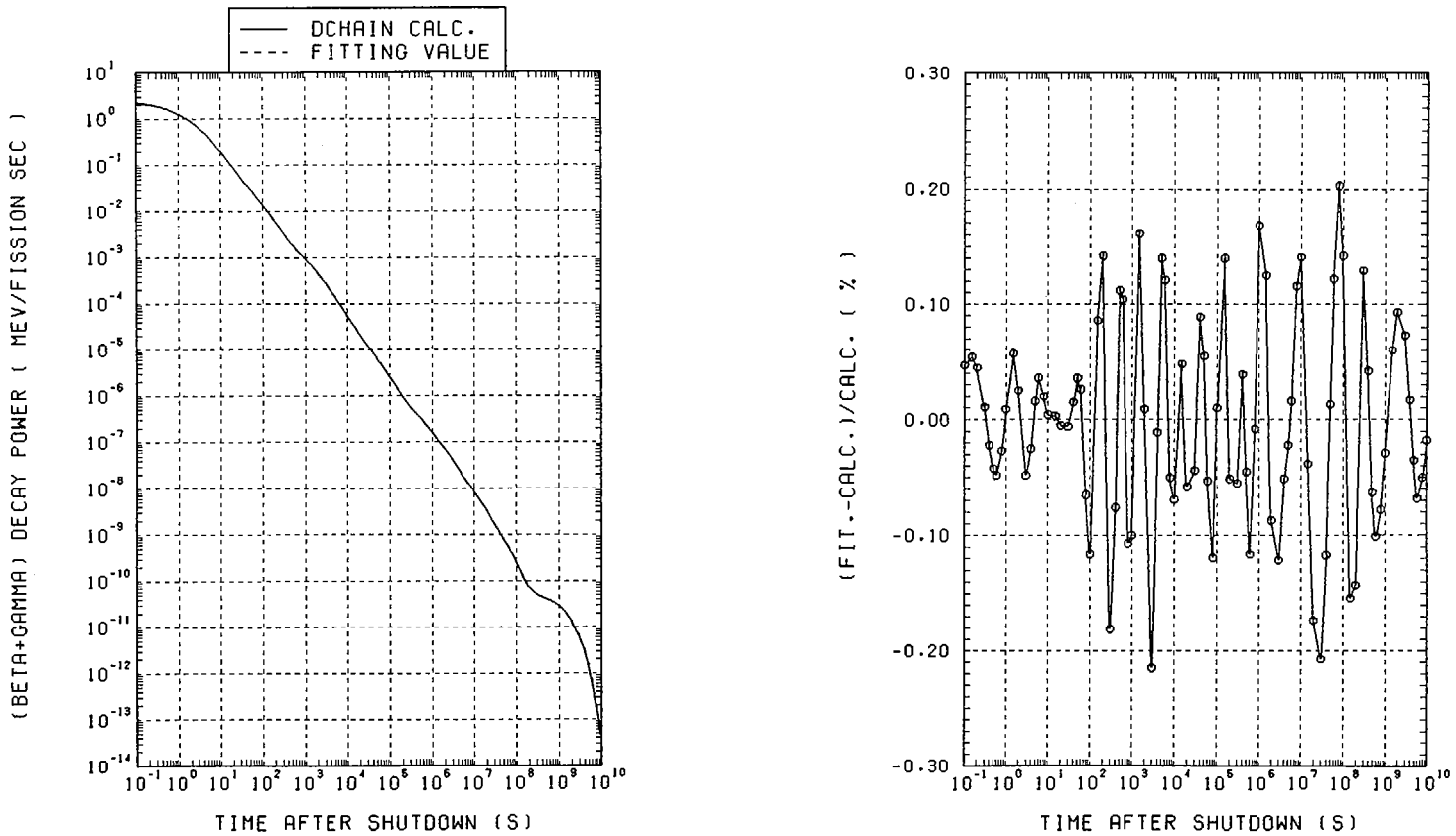


Fig. 4.2.3 Discrepancies between exponential fitting and calculated results of the gamma decay power after one thermal-neutron fission of ^{235}U.
(a) Absolute value comparison
(b) Relative discrepancies (%)



(a) (b)

Fig. 4.2.4 Discrepancies between exponential fitting and calculated results of the total sensible decay power after one fast-neutron fission of ^{238}U.
(a) Absolute value comparison
(b) Relative discrepancies (%)

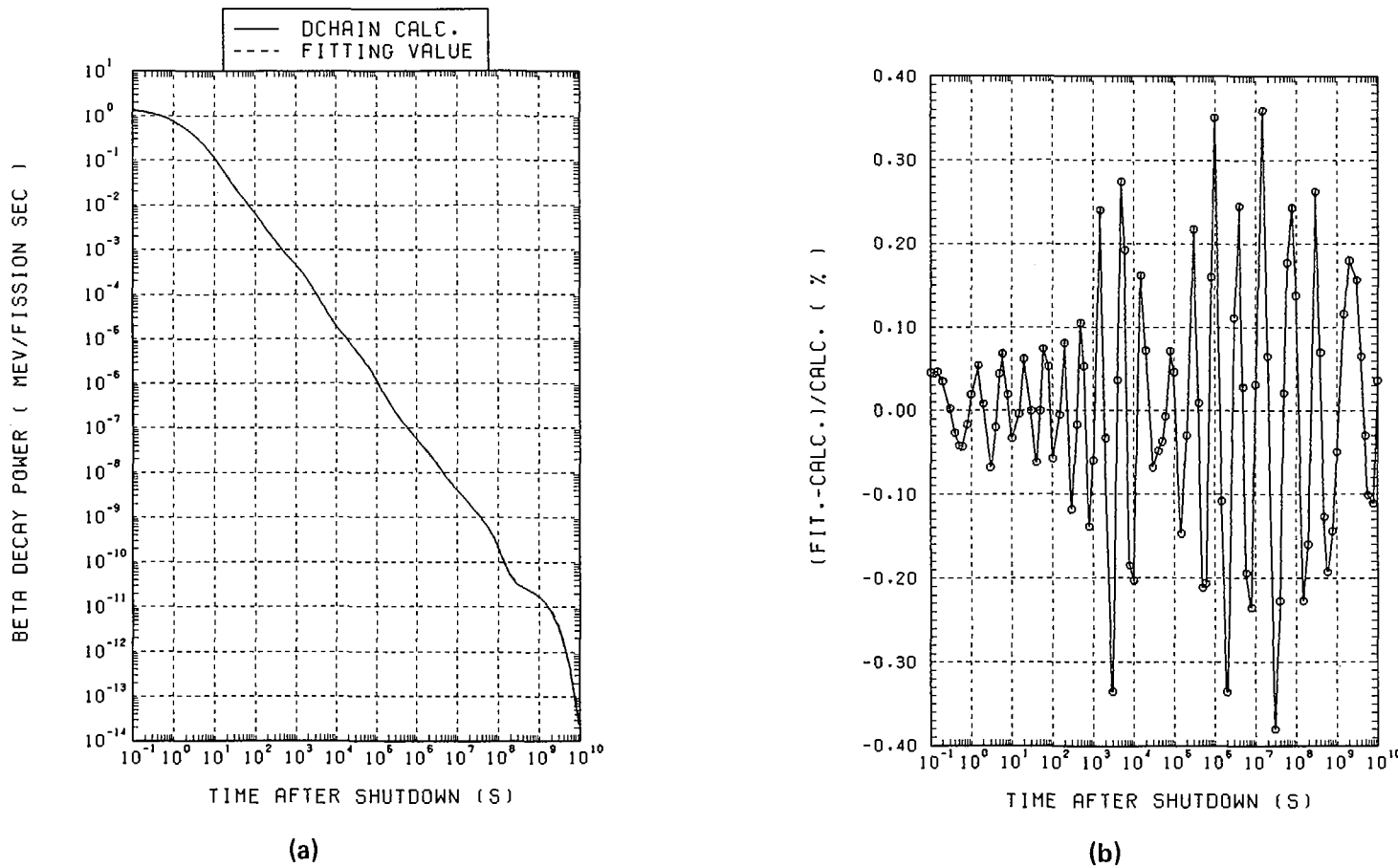


Fig. 4.2.5 Discrepancies between exponential fitting and calculated results of the beta decay power after one fast-neutron fission of ^{238}U.
(a) Absolute value comparison
(b) Relative discrepancies (%)

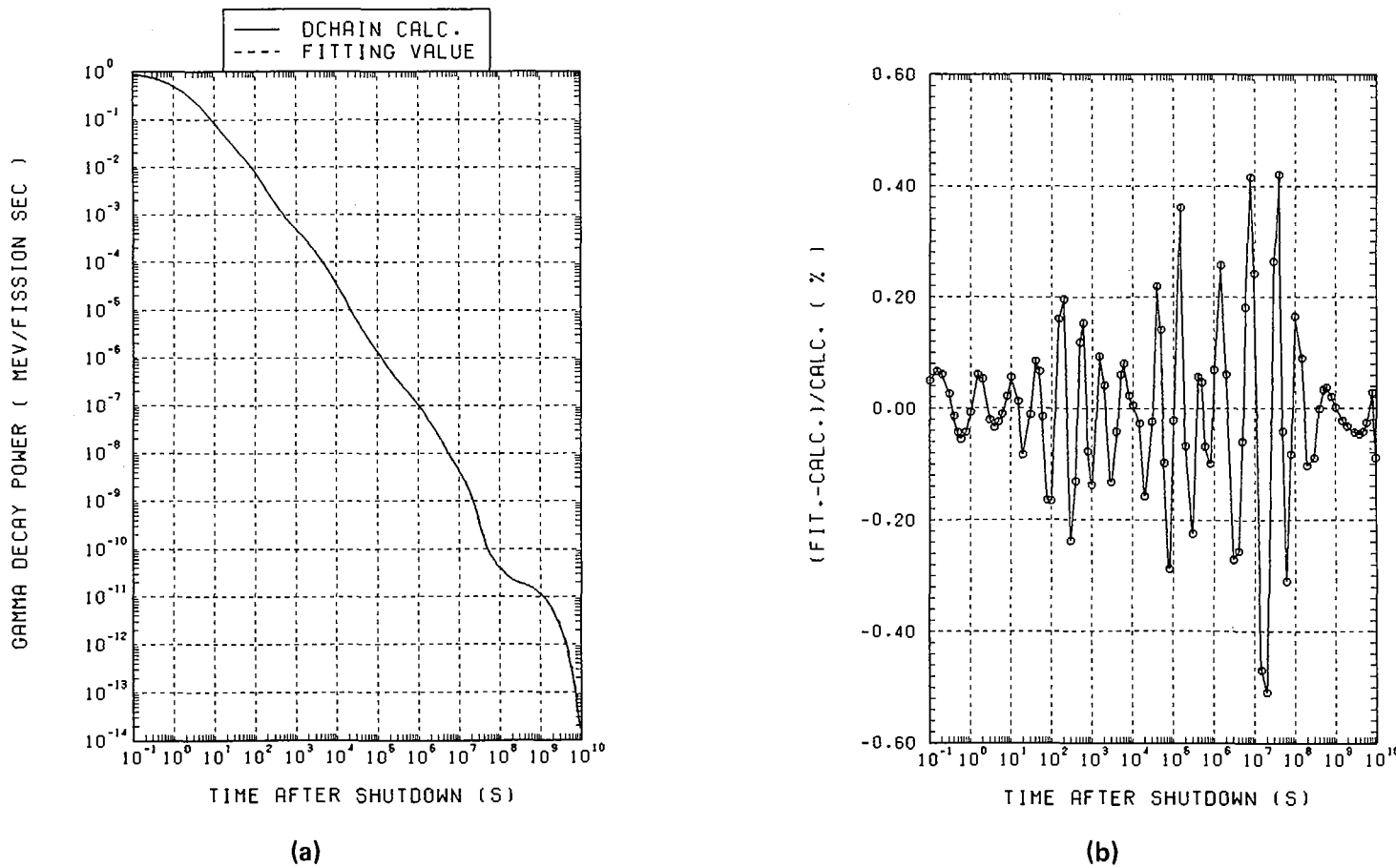


Fig. 4.2.6 Discrepancies between exponential fitting and calculated results of the gamma decay power after one fast-neutron fission of ^{238}U.
(a) Absolute value comparison
(b) Relative discrepancies (%)

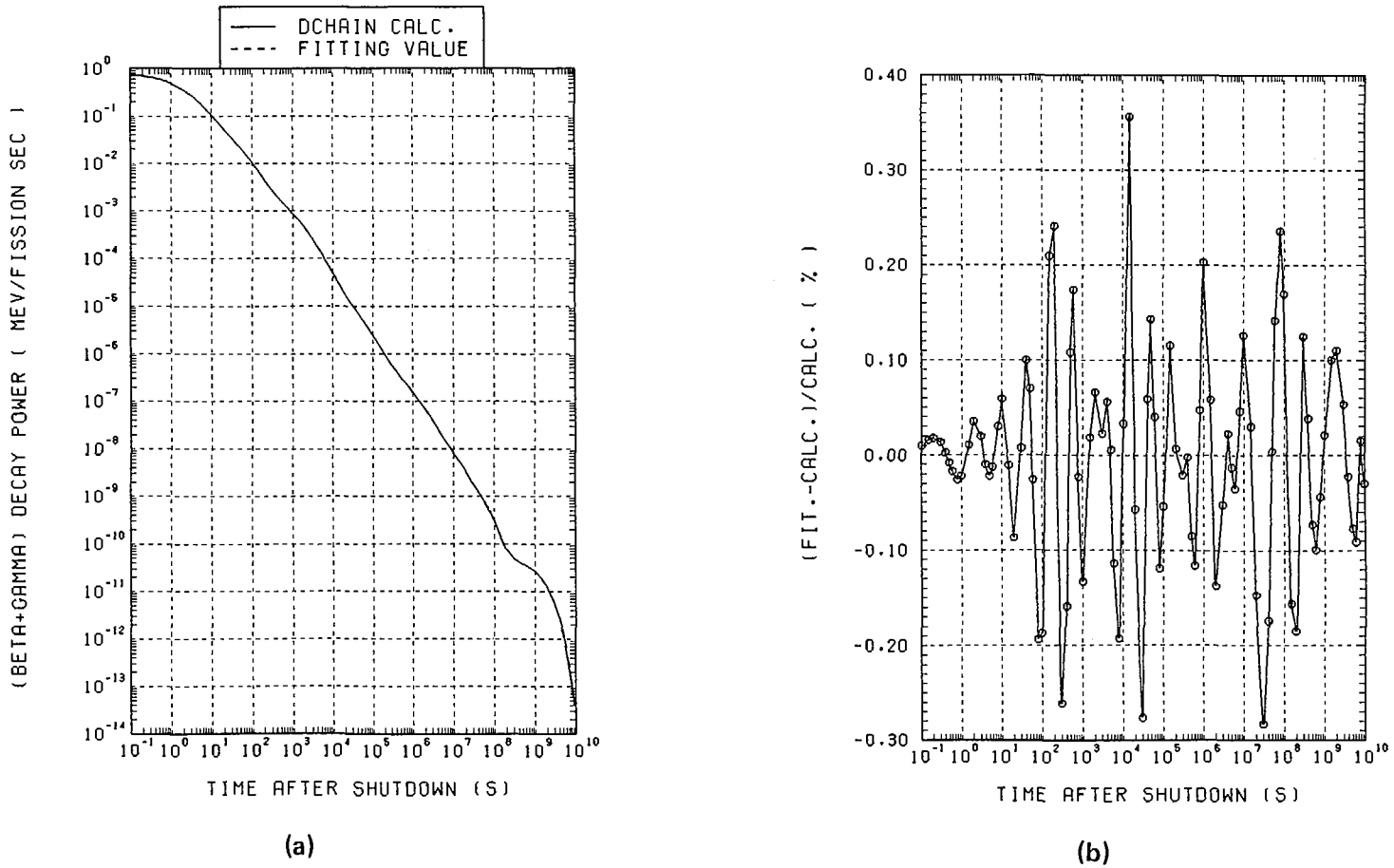


Fig. 4.2.7 Discrepancies between exponential fitting and calculated results of the total sensible decay power after one thermal-neutron fission of ^{239}Pu.
(a) Absolute value comparison
(b) Relative discrepancies (%)

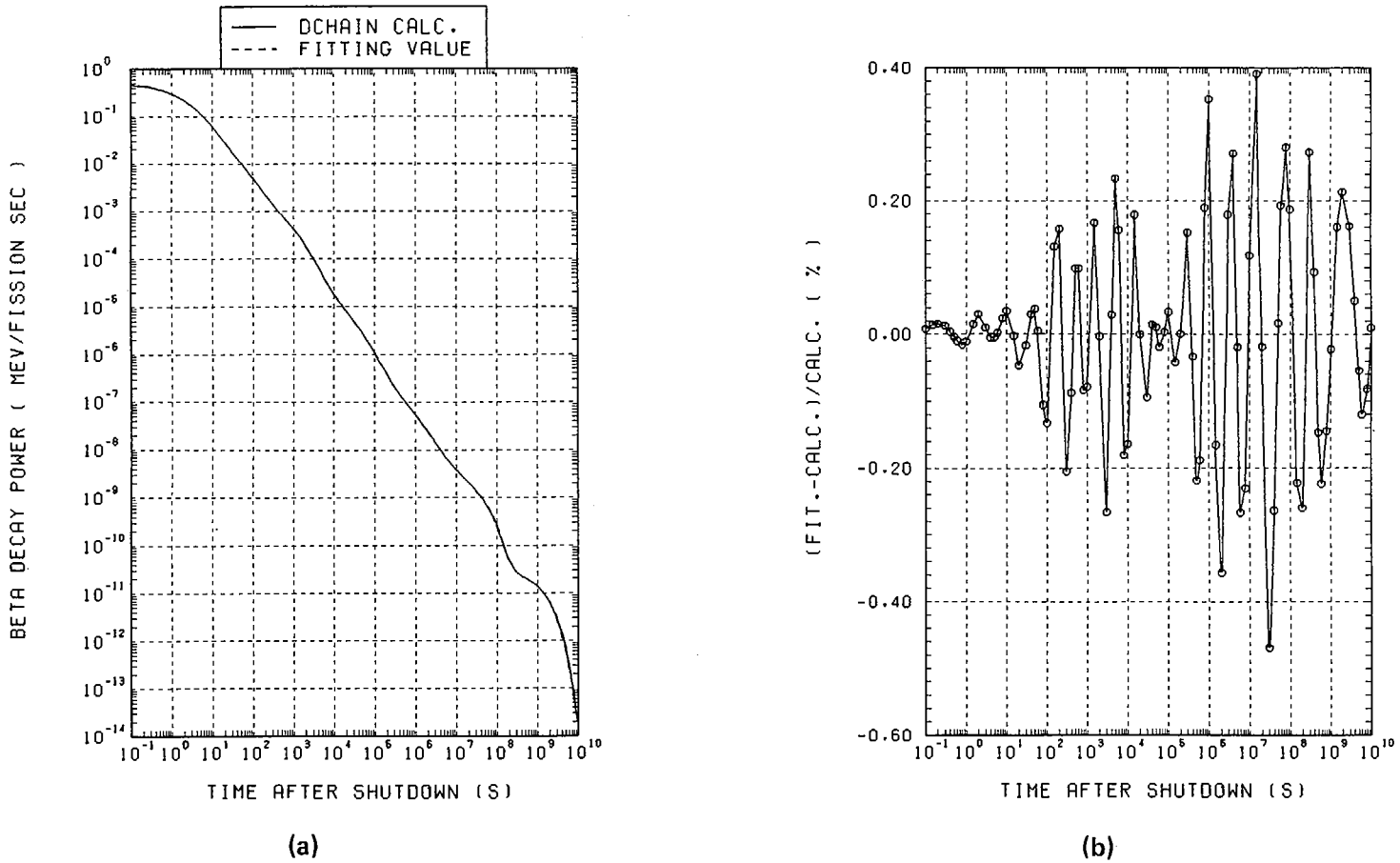


Fig. 4.2.8 Discrepancies between exponential fitting and calculated results of the beta decay power after one thermal-neutron fission of ^{239}Pu.
(a) Absolute value comparison
(b) Relative discrepancies (%)

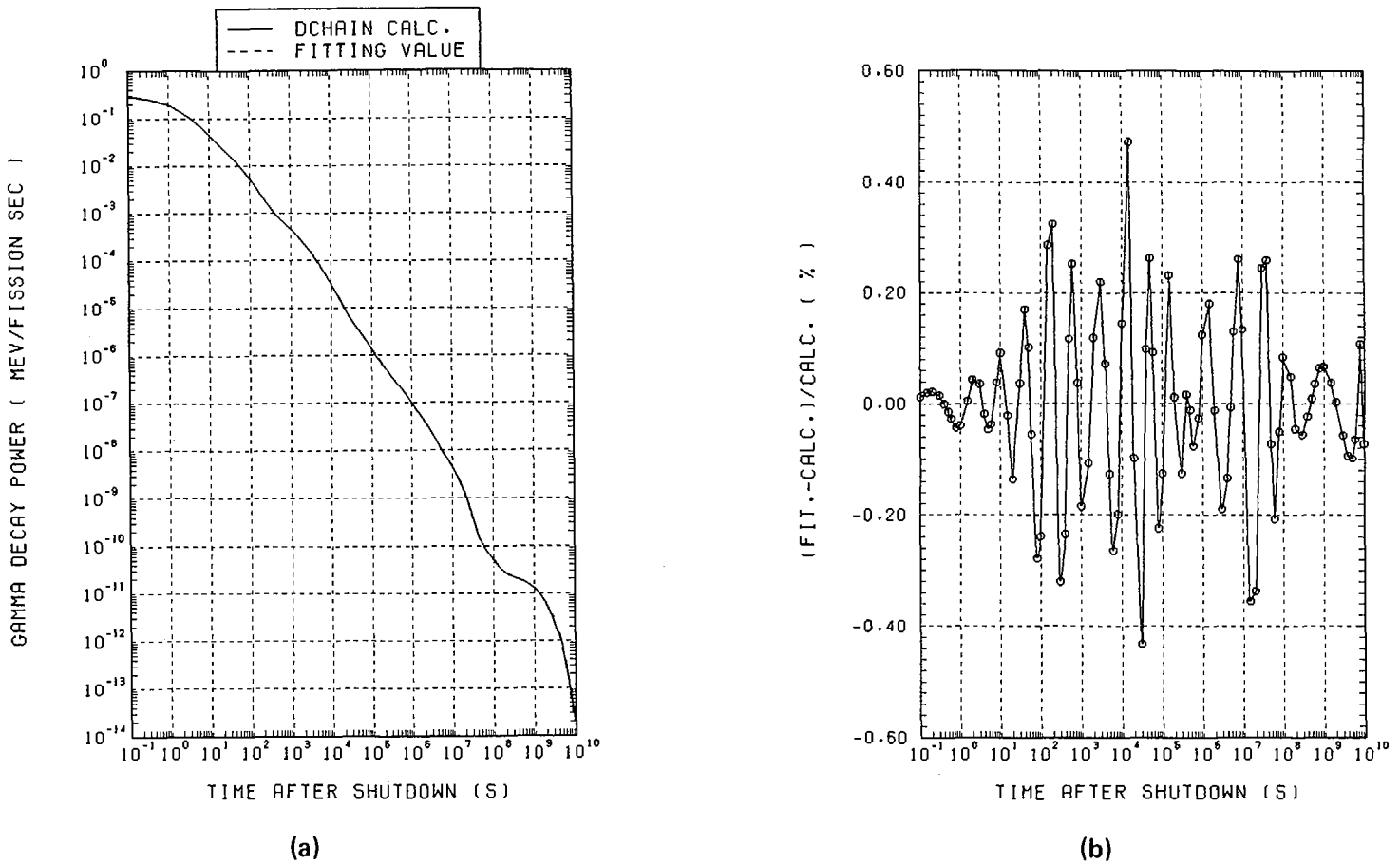


Fig. 4.2.9 Discrepancies between exponential fitting and calculated results of the gamma decay power after one thermal-neutron fission of ^{239}Pu.
(a) Absolute value comparison
(b) Relative discrepancies (%)

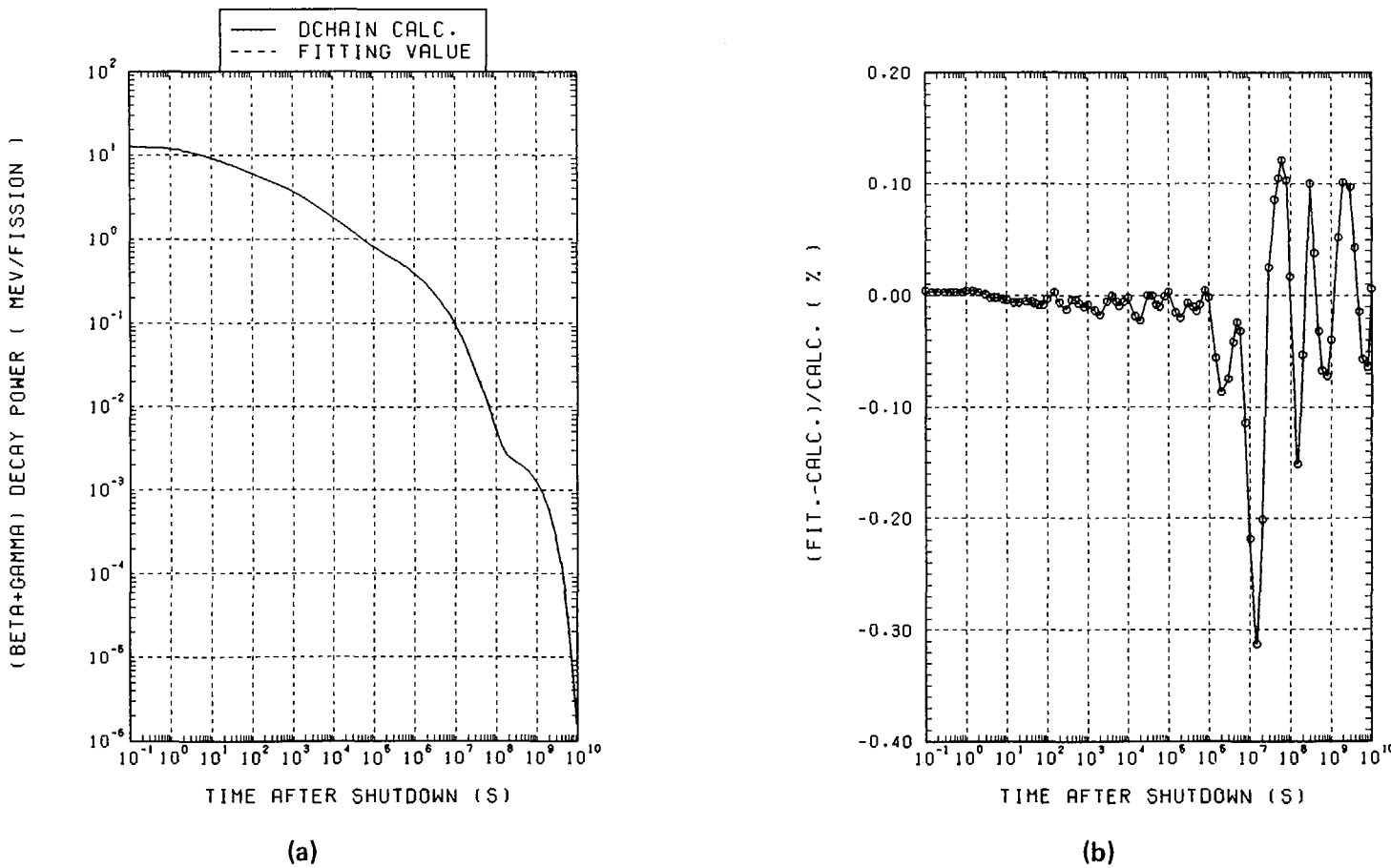


Fig. 4.2.10 Discrepancies between exponential fitting and calculated results of the total sensible decay power after a year's irradiation of ^{235}U by thermal neutrons.
(a) Absolute value comparison
(b) Relative discrepancies (%)

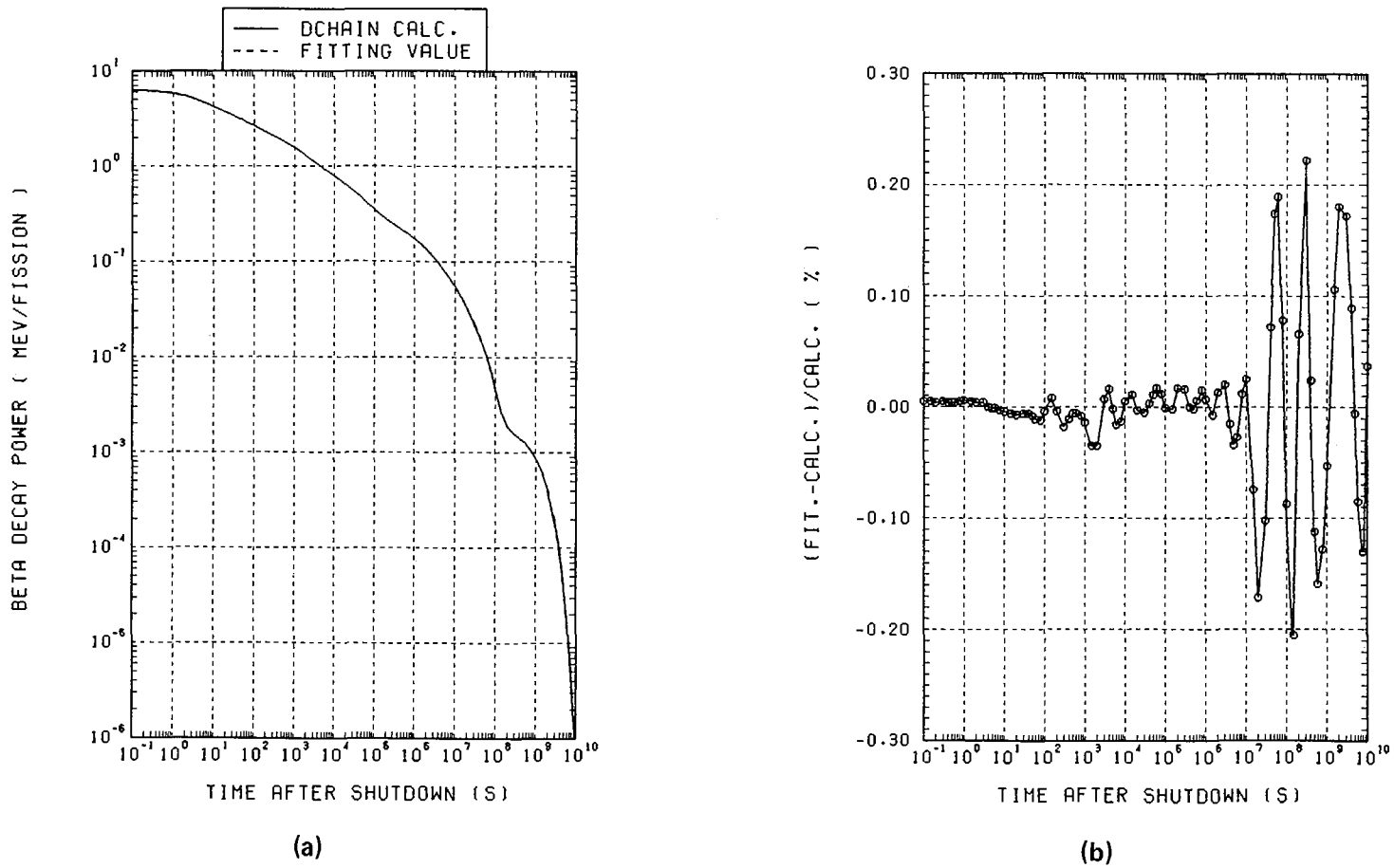


Fig. 4.2.11 Discrepencies between exponential fitting and calculated results of the beta decay power after a year's irradiation of ^{235}U by thermal neutrons.
(a) Absolute value comparison
(b) Relative discrepancies (%)

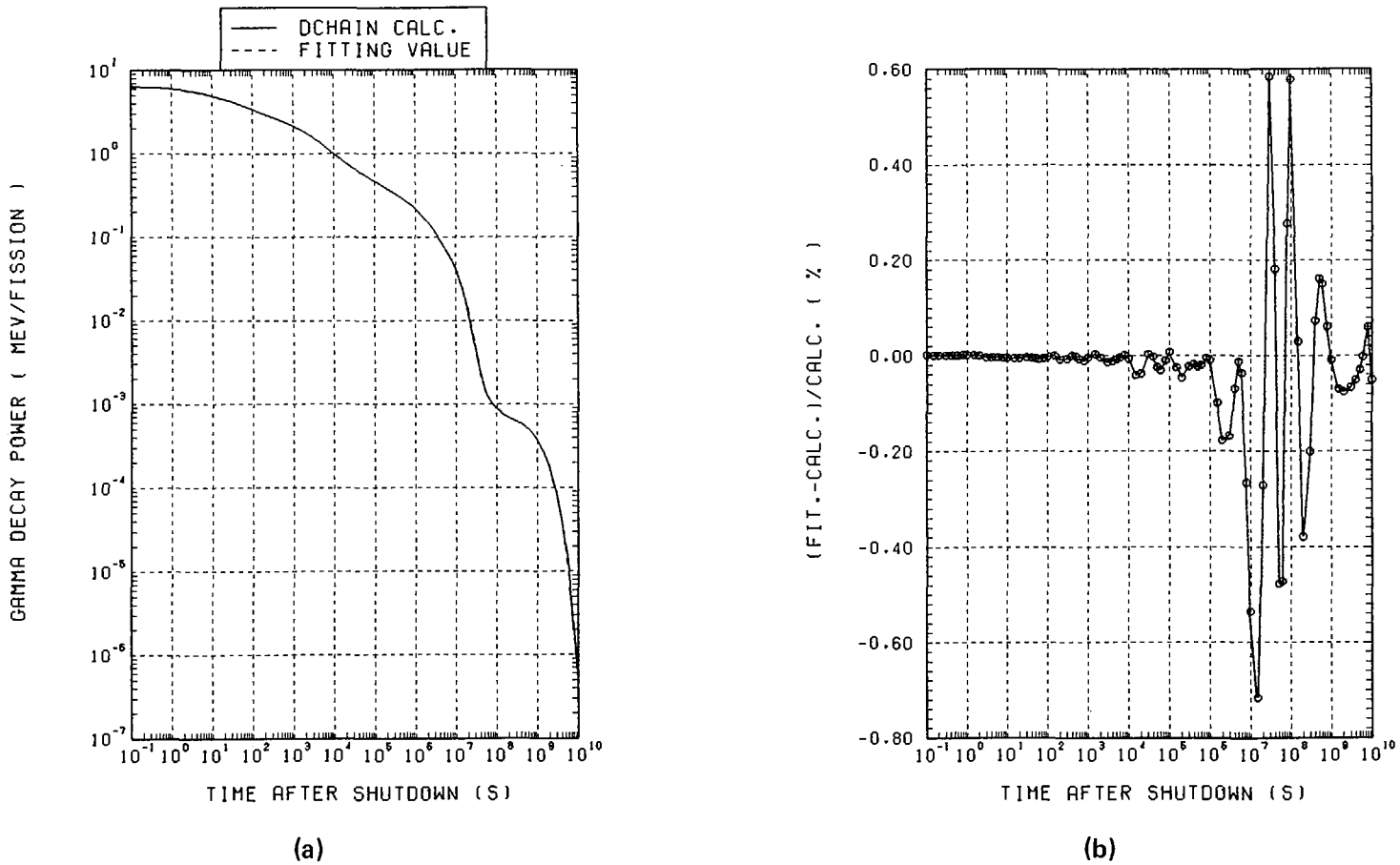


Fig. 4.2.12 Discrepancies between exponential fitting and calculated results of the gamma decay power after a year's irradiation of ^{235}U by thermal neutrons.
(a) Absolute value comparison
(b) Relative discrepancies (%)

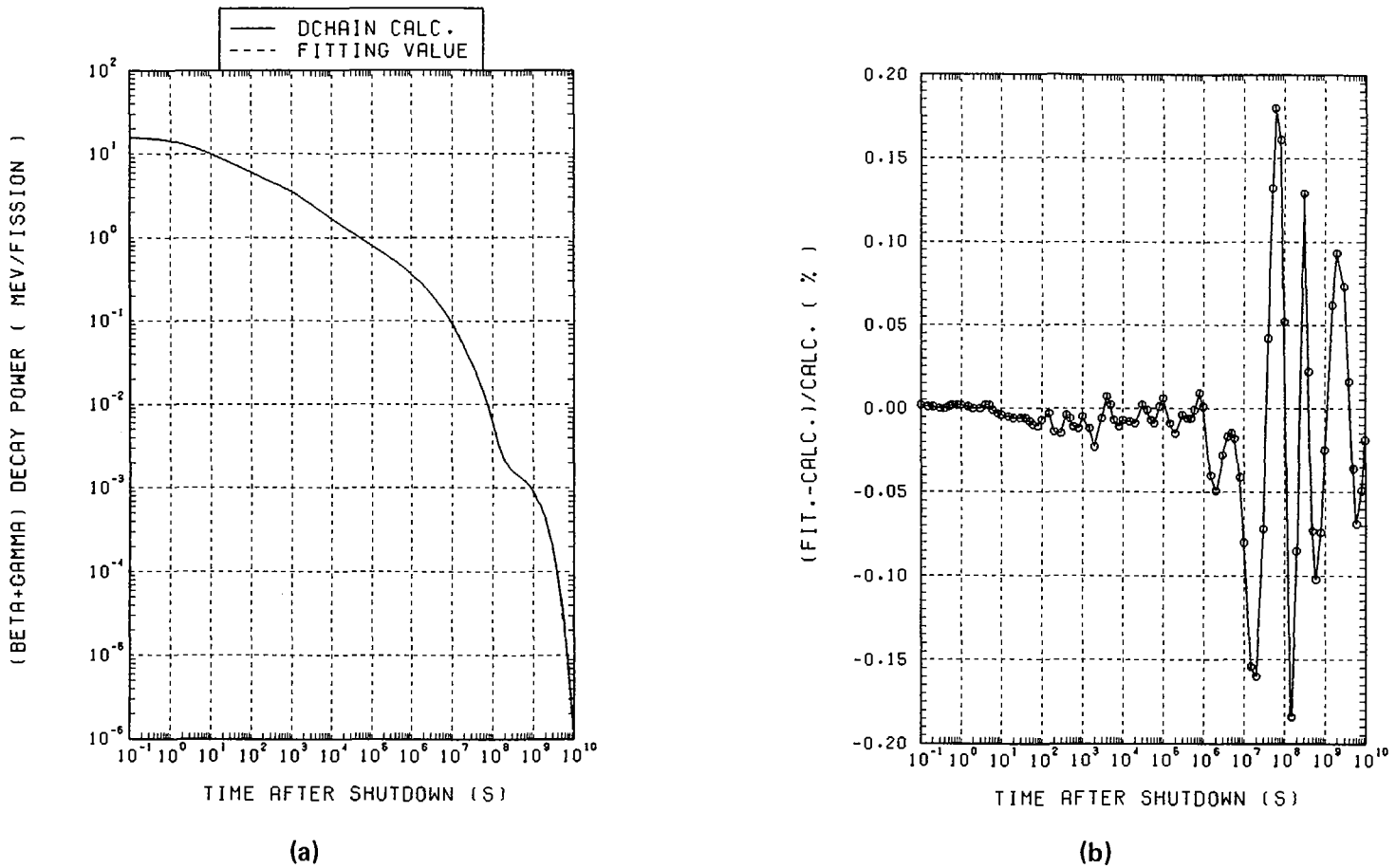


Fig. 4.2.13 Discrepancies between exponential fitting and calculated results of the total sensible decay power after a year's irradiation of ^{238}U by fast neutrons.
(a) Absolute value comparison
(b) Relative discrepancies (%)

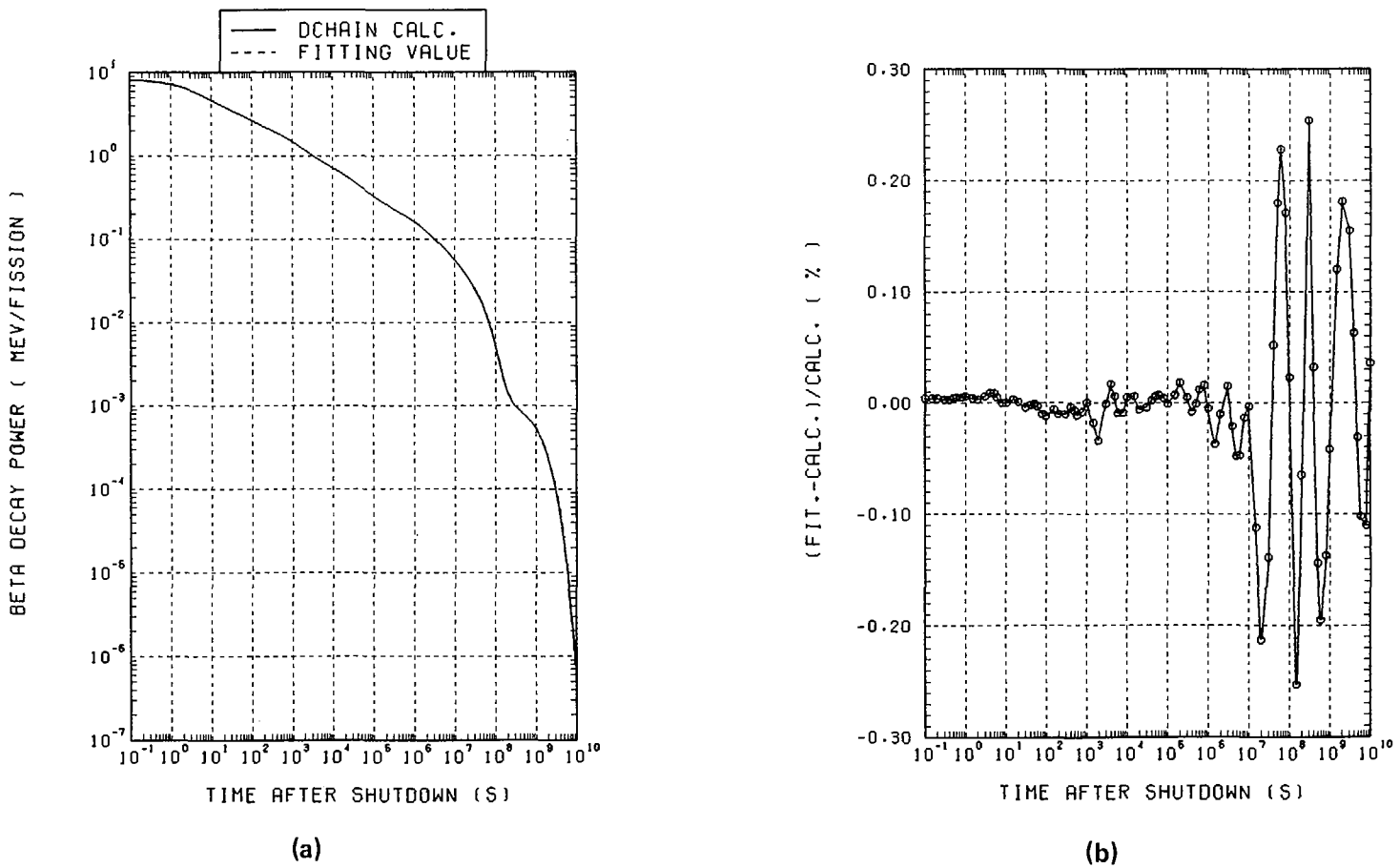


Fig. 4.2.14 Discrepancies between exponential fitting and calculated results of the beta decay power after a year's irradiation of ^{238}U by fast neutrons.
(a) Absolute value comparison
(b) Relative discrepancies (%)

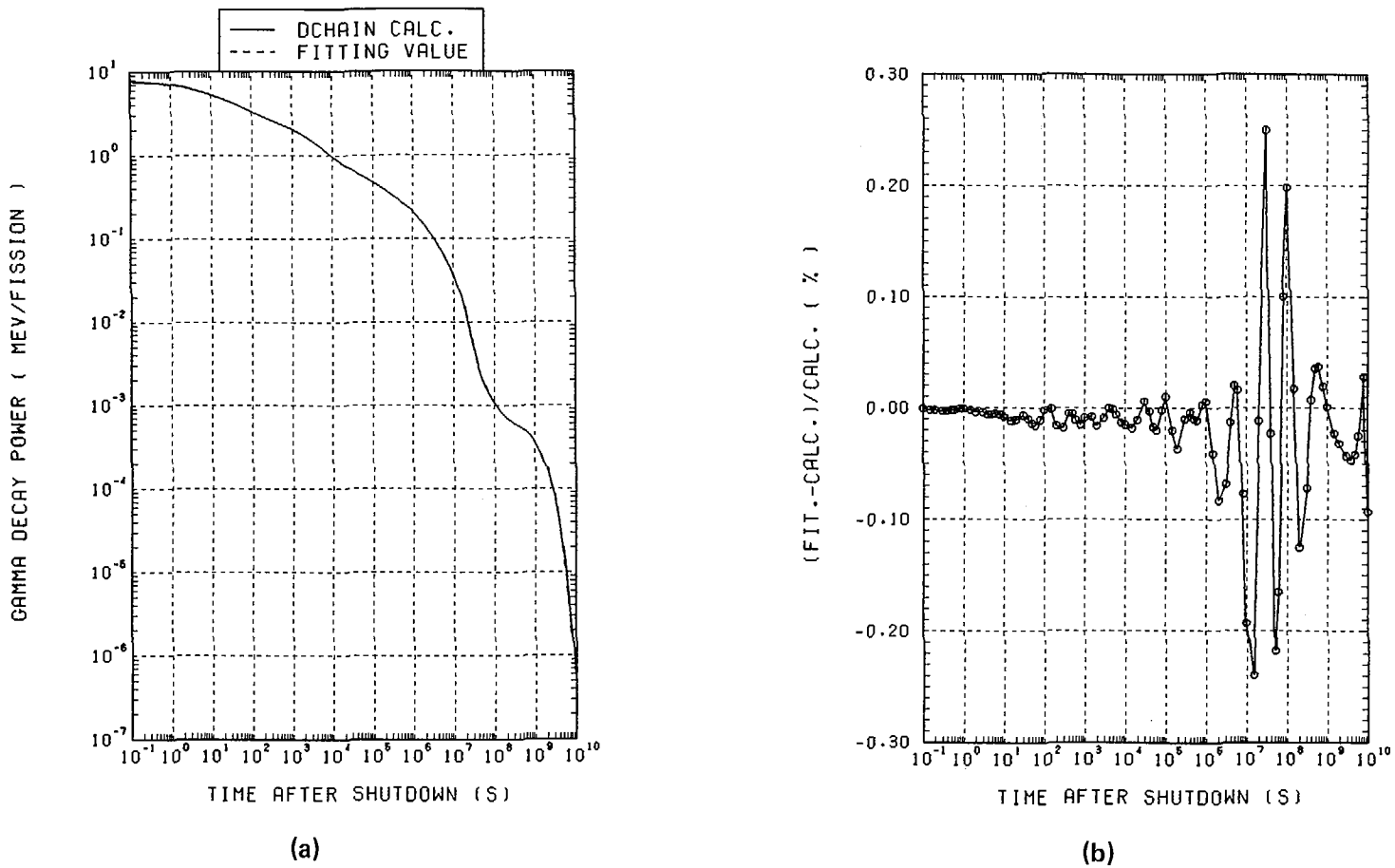


Fig. 4.2.15 Discrepancies between exponential fitting and calculated results of the gamma decay power after a year's irradiation of ^{238}U by fast neutrons.
(a) Absolute value comparison
(b) Relative discrepancies (%)

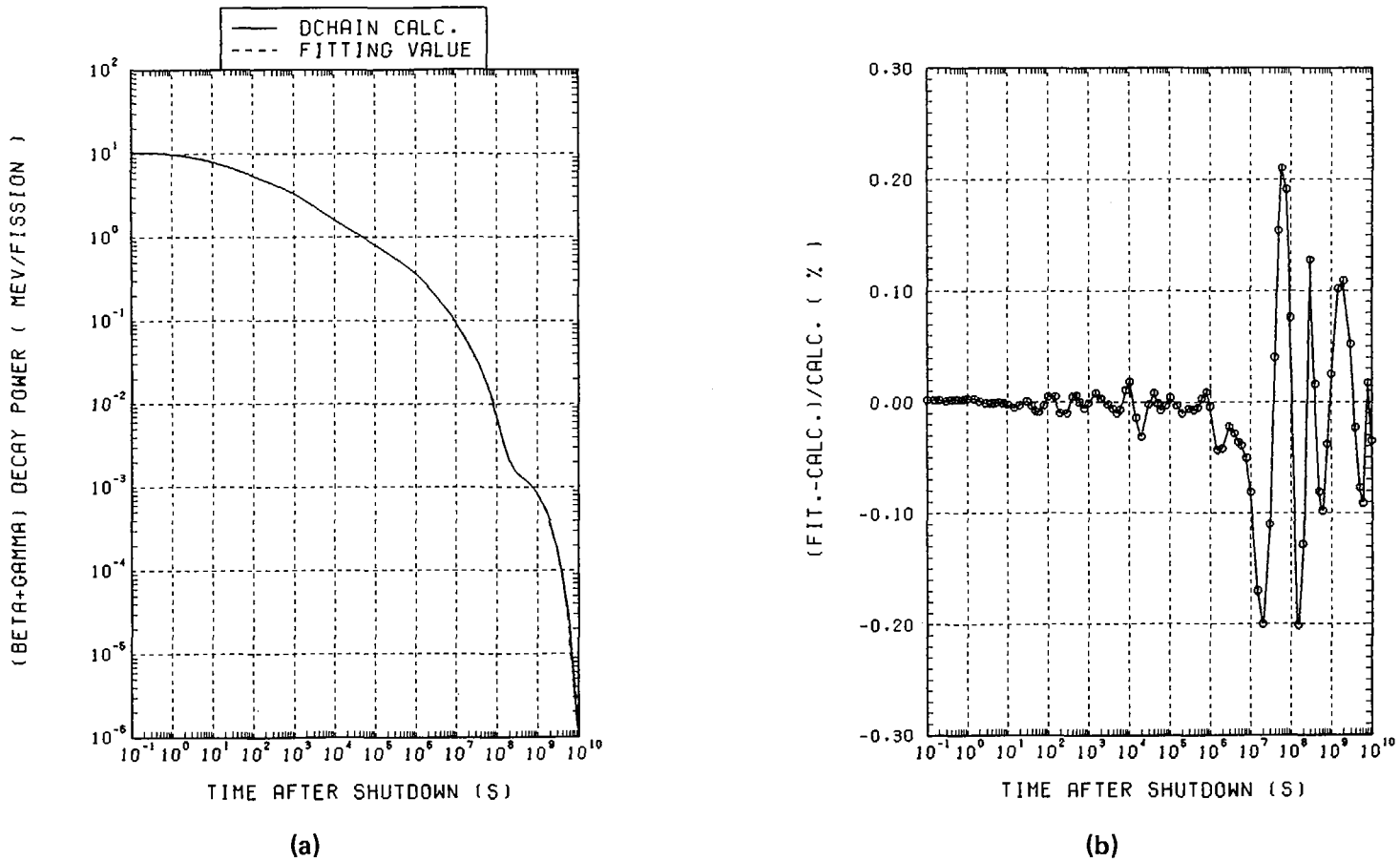


Fig. 4.2.16 Discrepancies between exponential fitting and calculated results of the total sensible decay power after a year's irradiation of ^{239}Pu by thermal neutrons.
(a) Absolute value comparison
(b) Relative discrepancies (%)

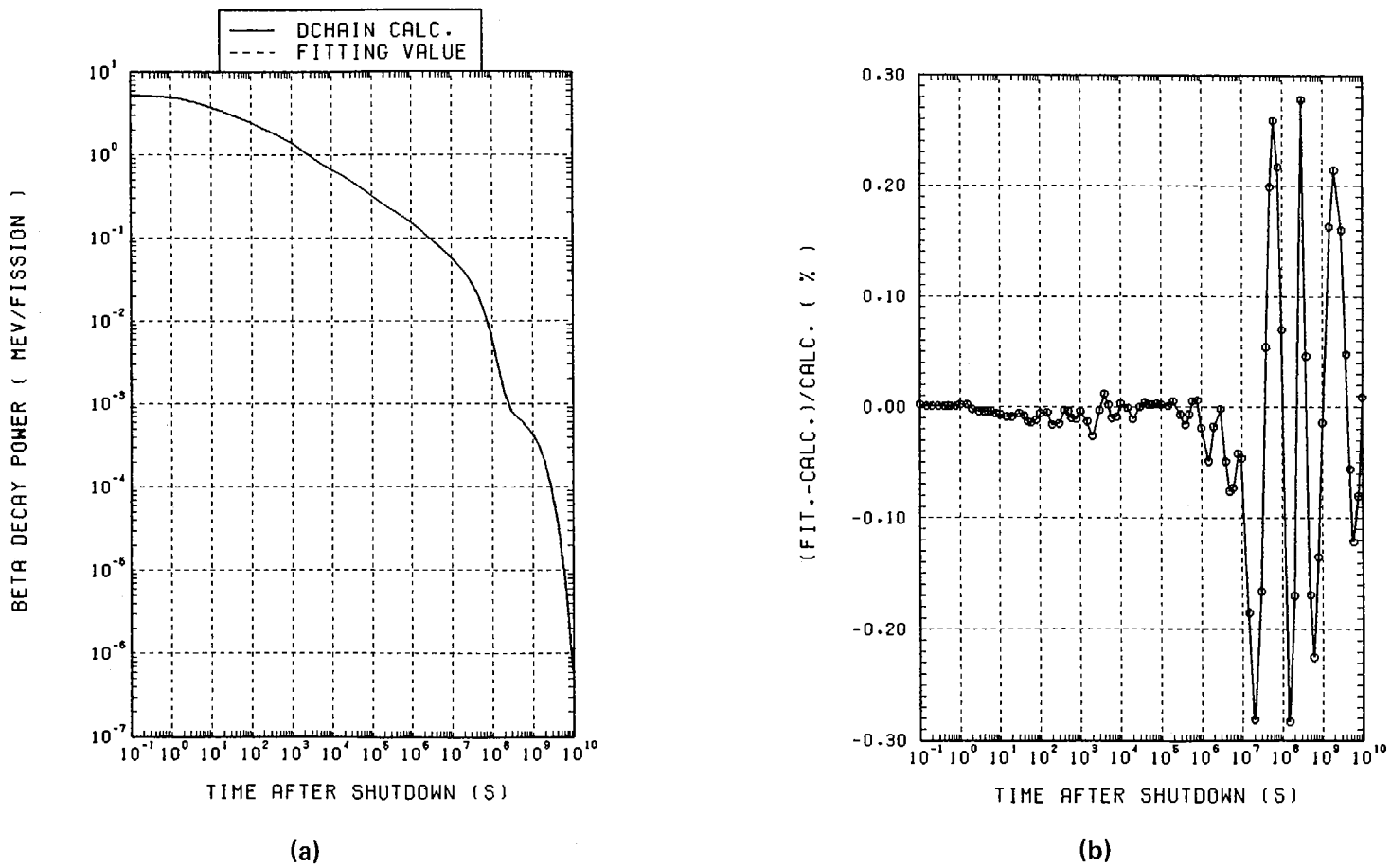


Fig. 4.2.17 Discrepancies between exponential fitting and calculated results of the beta decay power after a year's irradiation of ^{239}Pu by thermal neutrons.
(a) Absolute value comparison
(b) Relative discrepancies (%)

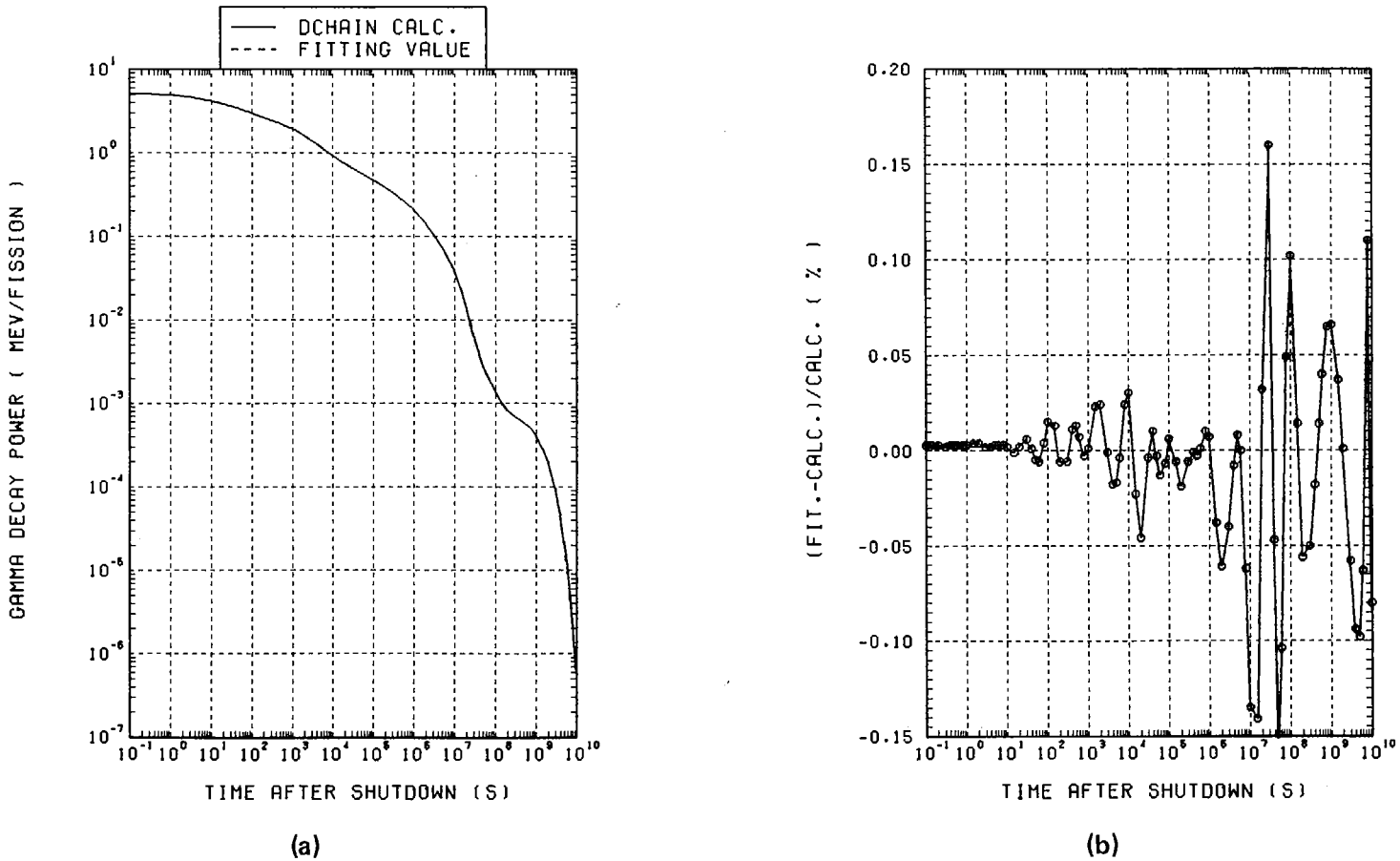


Fig. 4.2.18 Discrepancies between exponential fitting and calculated results of the gamma decay power after a year's irradiation of ^{239}Pu by thermal neutrons.
(a) Absolute value comparison
(b) Relative discrepancies (%)

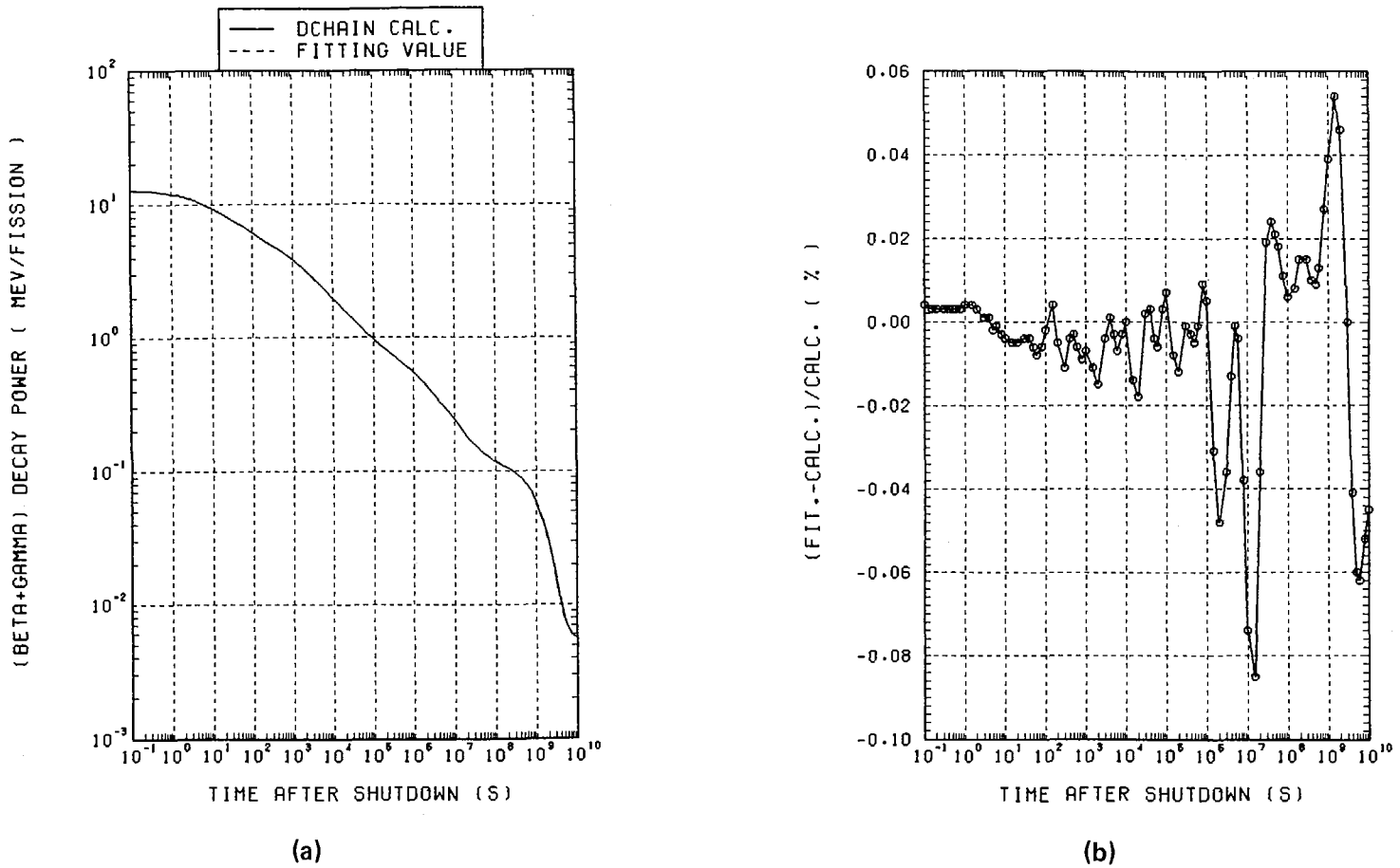


Fig. 4.2.19 Discrepancies between exponential fitting and calculated results of the total sensible decay power after infinite (10^{13} s) irradiation of ^{235}U by thermal neutrons.
(a) Absolute value comparison
(b) Relative discrepancies (%)

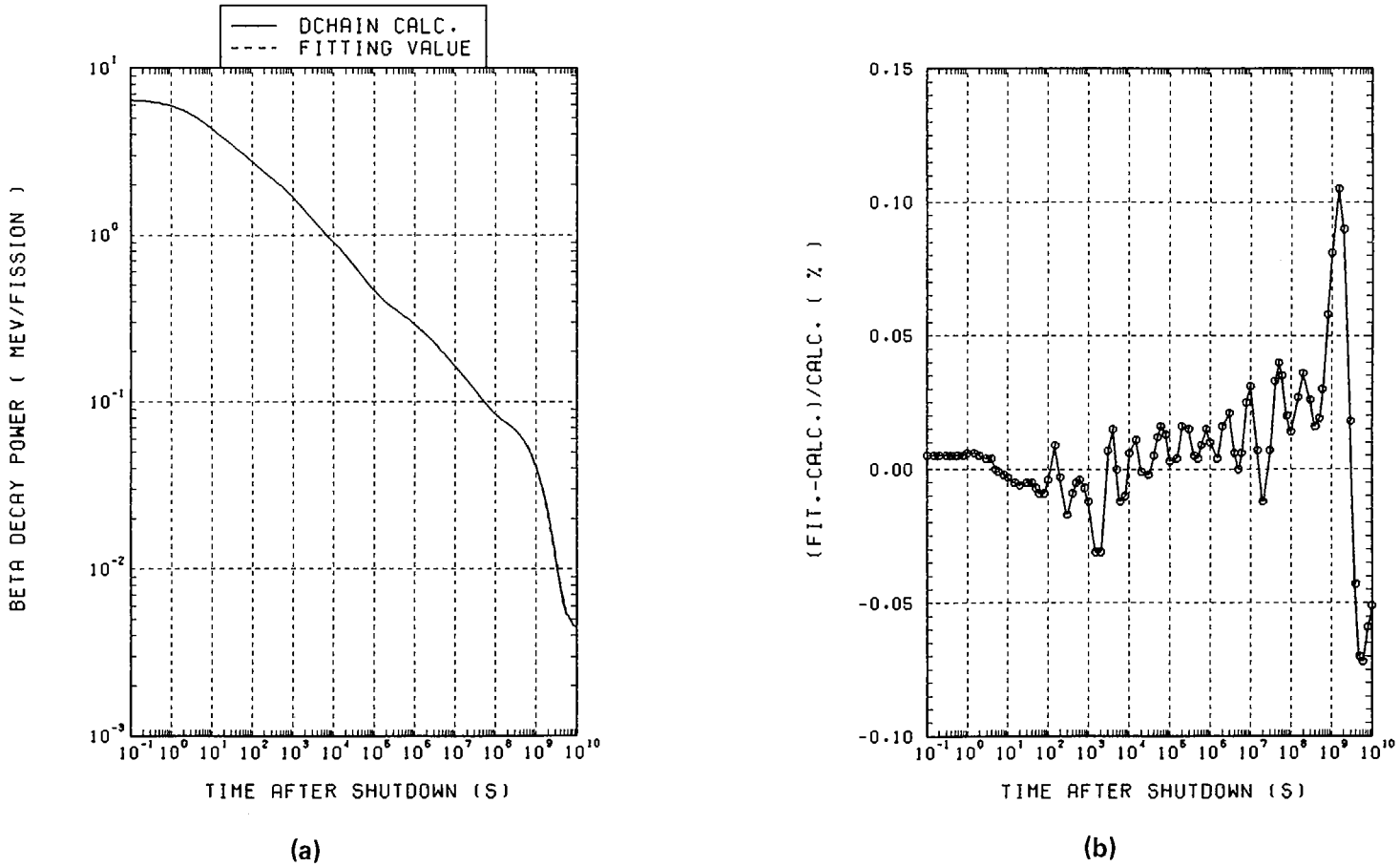


Fig. 4.2.20 Discrepancies between exponential fitting and calculated results of the beta decay power after infinite (10^{13} s) irradiation of ^{235}U by thermal neutrons.
(a) Absolute value comparison
(b) Relative discrepancies (%)

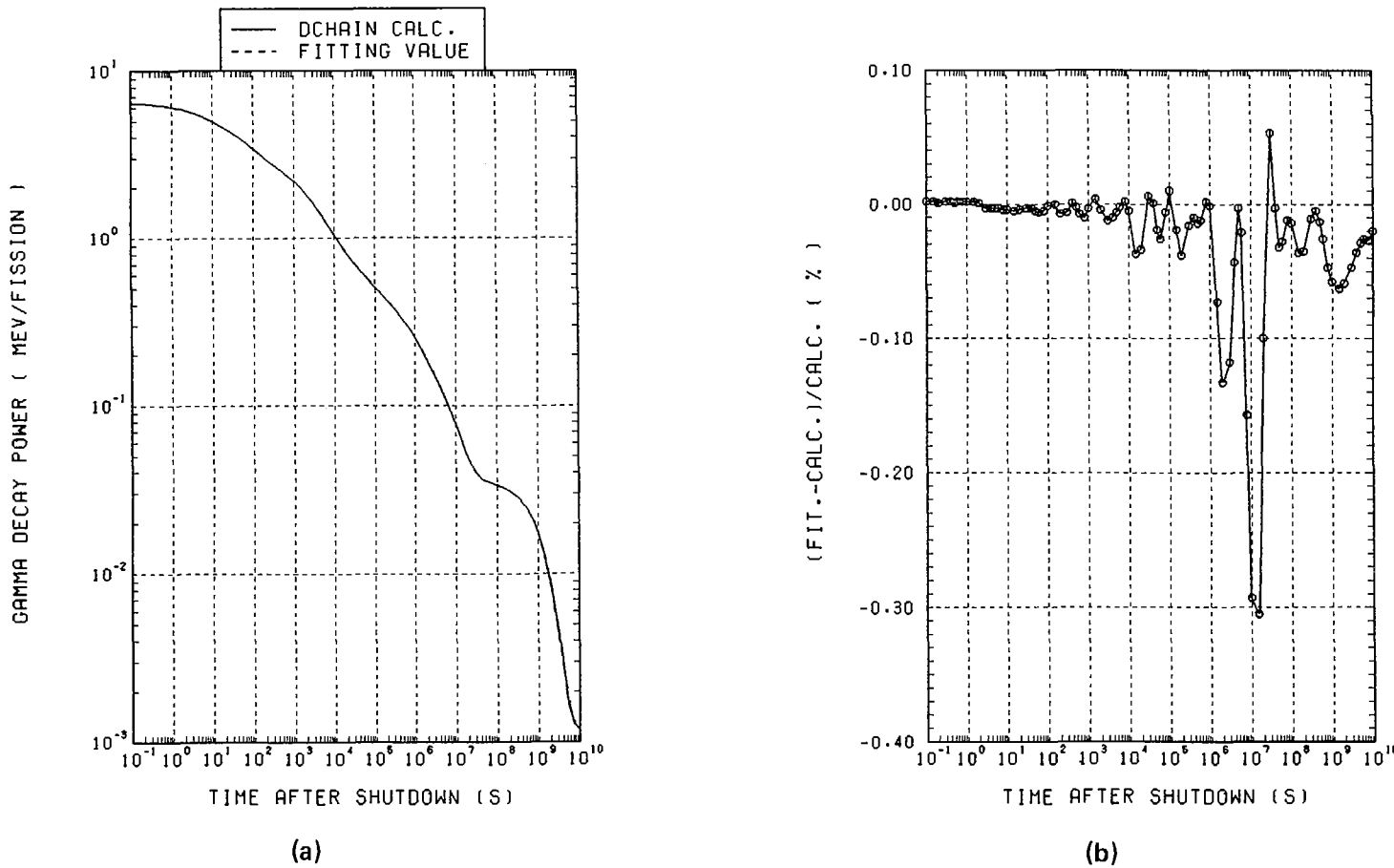


Fig. 4.2.21 Discrepancies between exponential fitting and calculated results of the gamma decay power after infinite (10^{13} s) irradiation of ^{235}U by thermal neutrons.
(a) Absolute value comparison
(b) Relative discrepancies (%)

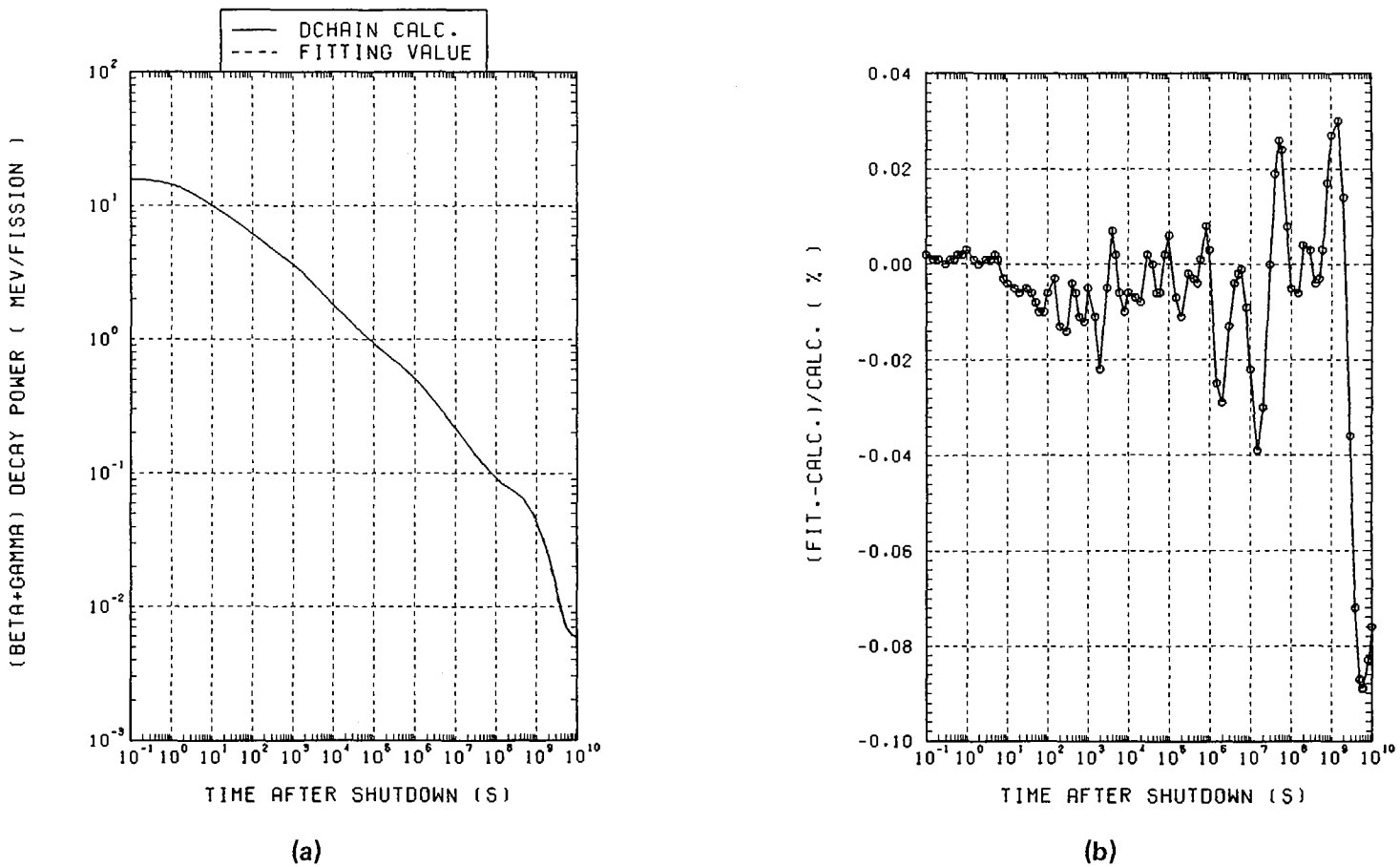


Fig. 4.2.22 Discrepancies between exponential fitting and calculated results of the total sensible decay power after infinite (10^{13} s) irradiation of ^{238}U by fast neutrons.
(a) Absolute value comparison
(b) Relative discrepancies (%)

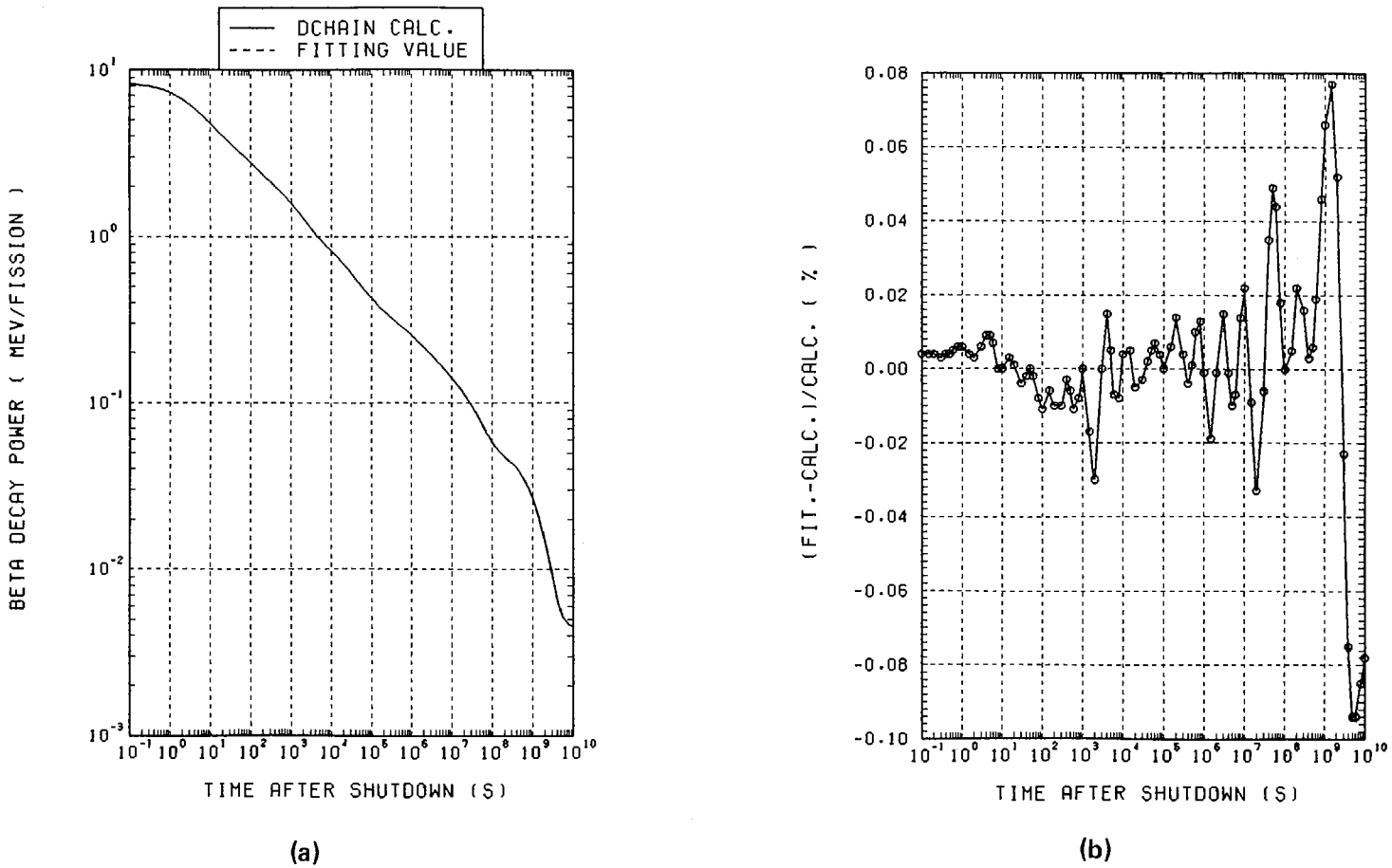


Fig. 4.2.23 Discrepancies between exponential fitting and calculated results of the beta decay power after infinite (10^{13} s) irradiation of ^{238}U by fast neutrons.
(a) Absolute value comparison
(b) Relative discrepancies (%)

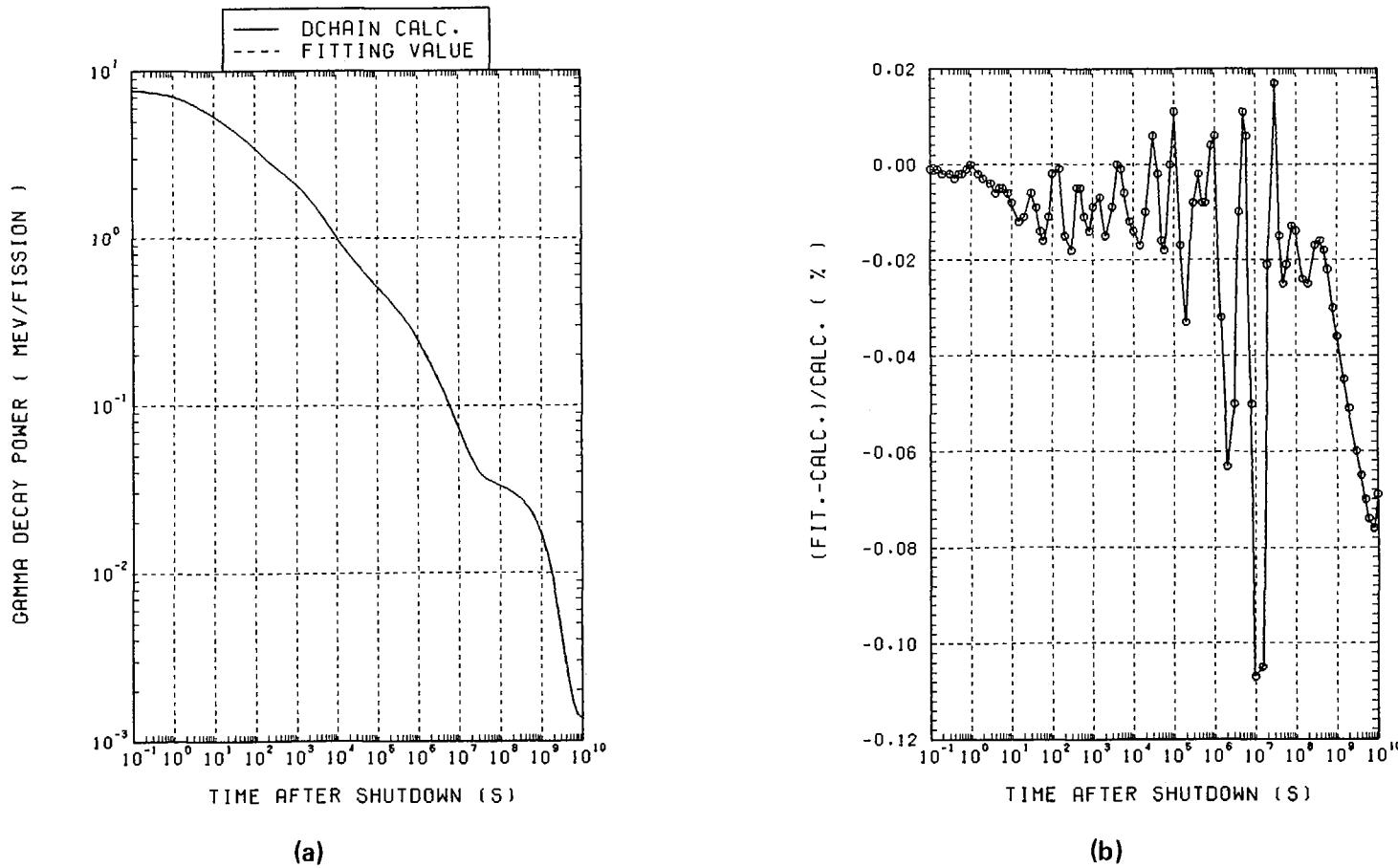


Fig. 4.2.24 Discrepancies between exponential fitting and calculated results of the gamma decay power after infinite (10^{13} s) irradiation of ^{238}U by fast neutrons.
(a) Absolute value comparison
(b) Relative discrepancies (%)

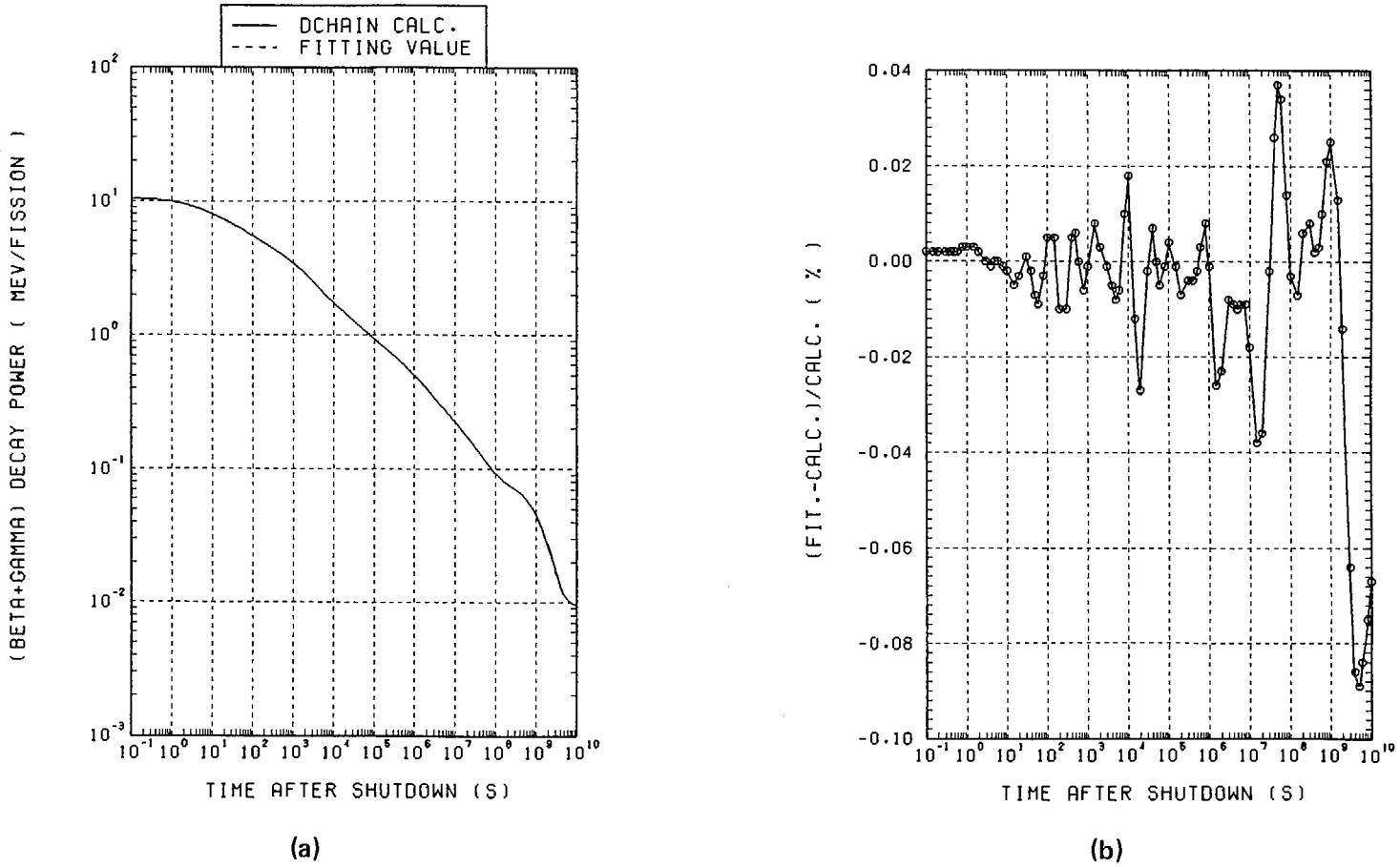


Fig. 4.2.25 Discrepancies between exponential fitting and calculated results of the total sensible decay power after infinite (10^{13} s) irradiation of ^{239}Pu by thermal neutrons.
(a) Absolute value comparison
(b) Relative discrepancies (%)

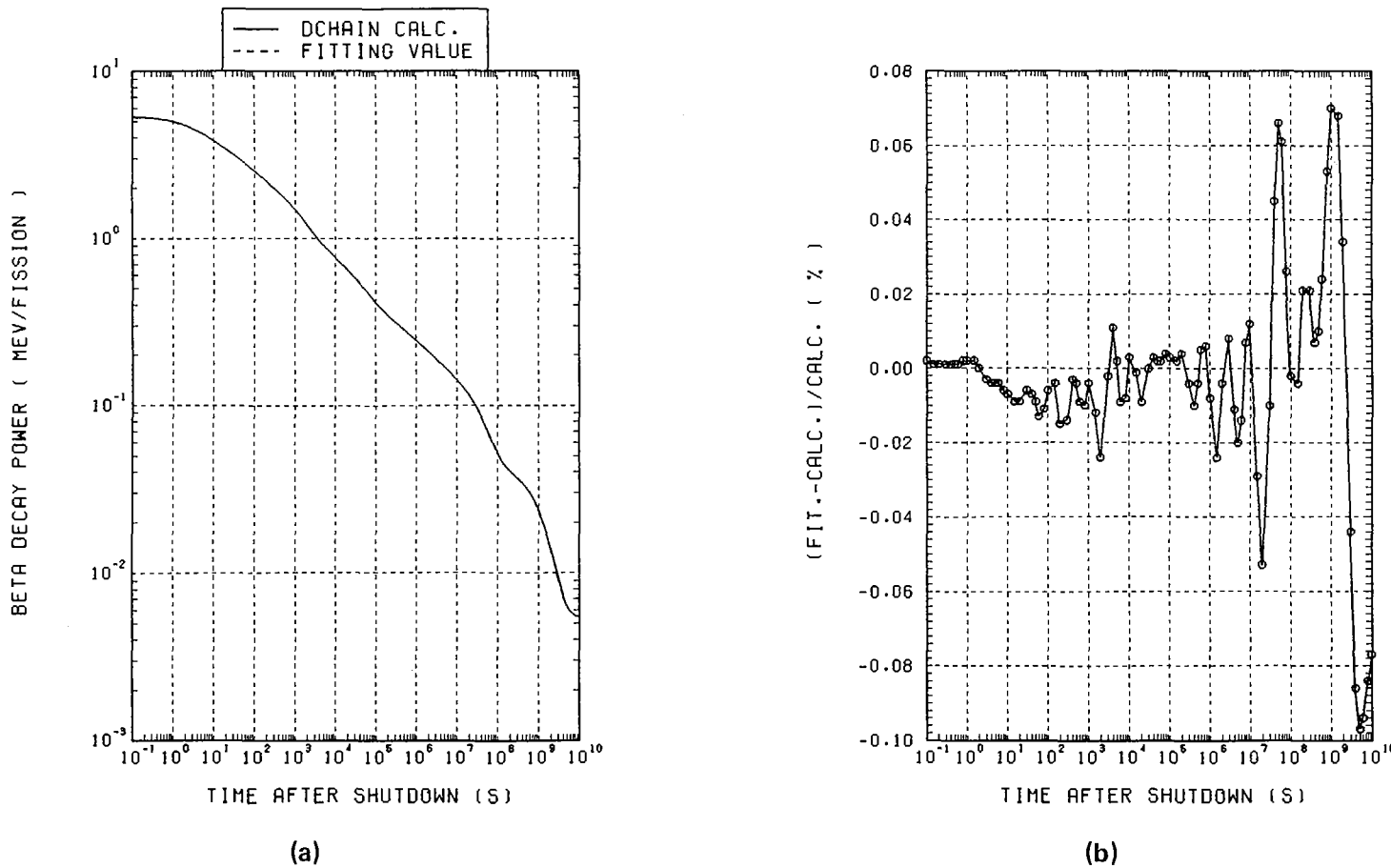


Fig. 4.2.26 Discrepancies between exponential fitting and calculated results of the beta decay power after infinite (10^{13} s) irradiation of ^{239}Pu by thermal neutrons.
(a) Absolute value comparison
(b) Relative discrepancies (%)

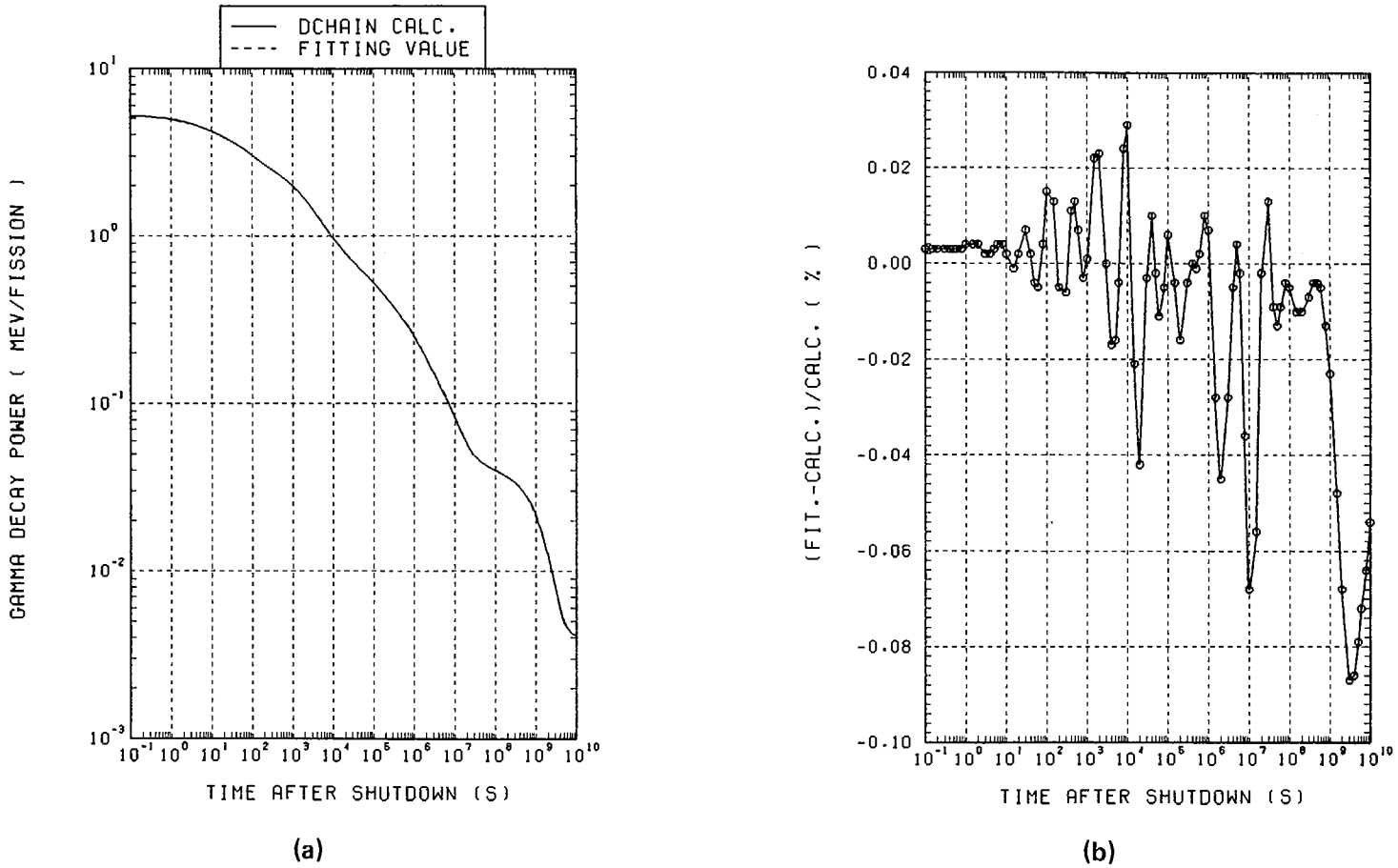


Fig. 4.2.27 Discrepancies between exponential fitting and calculated results of the gamma decay power after infinite (10^{13} s) irradiation of ^{239}Pu by thermal neutrons.
(a) Absolute value comparison
(b) Relative discrepancies (%)

5. Conclusions

The nuclear data of fission products have been evaluated and the JNDC fission product (FP) nuclear data library for 1172 fission products has been prepared for calculating various characteristics of fission products with emphasis on the summation calculation of the decay power of fission products.

The decay powers calculated by the present JNDC FP nuclear data library showed much better agreement with the measured ones at ORNL, LANL and UTT (University of Tokyo in Tokai) for the short cooling times up to 10^3 s than the results by the other existing nuclear data libraries such as ENDF/B-IV. The drastic improvement of accuracy comes primarily from the adoption of the theoretical values of $\bar{E}_\beta$ and $\bar{E}_\gamma$ by the gross theory of beta decay for the nuclides with Q-values greater than 5 MeV with known half-lives and decay energies $\bar{E}_\beta$ and $\bar{E}_\gamma$. There are difficulties in constructing high Q-value decay schemes from experimental information from gamma-ray spectrum measurements by Ge detectors because much gamma rays remain unobserved and also because an appreciable amount of detected gamma-rays fail to be placed in right positions in the decay scheme and are excluded from it. Therefore, $\bar{E}_\gamma$ could be underestimated and $\bar{E}_\beta$ overestimated by the decay scheme constructed from gamma-ray spectroscopy for the high Q-value nuclides. On the other hand, the gross theory can be applied satisfactorily to high Q-value nuclides for which the beta decay can be described by the continuous beta strength function. This will explain the overestimation of the beta decay power and the underestimation of the gamma decay power by the existing libraries as well as the remarkable improvement brought about by the introduction of the theoretical values of $\bar{E}_\beta$ and $\bar{E}_\gamma$ in the present JNDC FP nuclear data library.

At cooling times greater than 10^3 s the gamma decay powers calculated by the JNDC FP nuclear data library were larger than the measured one of ^{235}U at ORNL or UTT by as much as 19% and the beta-decay powers were smaller than the measured values. These discrepancies are still an open question. Evaluation of the contribution of neutron capture transformation of fission product to the decay power[59], the uncertainty of decay-power calculation, and the delayed neutron emission probabilities of high Q-value FP nuclides will be also studied by DHEWG of JNDC.

The beta, gamma, and total decay powers calculate by the present JNDC FP nuclear data library have been expressed by an analytical function of 31 exponential terms for the burst fission of ^{235}U(t), ^{235}U(f), ^{235}U(h), ^{238}U(f), ^{238}(h), ^{239}Pu(t), ^{239}Pu(f), ^{241}Pu(t), ^{233}U(t) and ^{232}Th(f). The present results of decay-power calculations cover the wider data base than the latest ANS 5.1 standard[60] and can be applied easily by the analytical expression to the LOCA analysis, the design of spent-fuel container, and so on.

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