JAERI 1179

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Calculation of primary energy transfer and effective inactivation cross section of targets for heavy charged particles based on microdose concept

August 1969

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編集兼発行　日本原子力研究所
印　　刷　三美印刷株式会社

JAERI 1179 ERRATA

Page	Line	Wrong	Corrected
2	8 from the bottom	$\frac{(\bar{j})^j}{j}$	$\frac{(\bar{j})^j}{j!}$
〃	5 from the bottom	$\frac{(lL_l)^j}{j}$	$\frac{(lL_l)^j}{j!}$
5	1	$\frac{12E_0^2+4)}{3E_0p_0}$	$\frac{(12E_0^2+4)}{3E_0p_0}$
〃	2	$[\ln)E_0+p_0)^2]$	$[\ln(E_0+p_0)]^2$
〃	5	$[(E/\mu)(E/\mu+2]^{1/2}$	$[(E/\mu)(E/\mu+2)]^{1/2}$

Table	Line	Wrong	Corrected
2—1	1	Z_{eff}	Z_{eff}^2
2—2	1	$L^*(E, \eta)$	$L_l(E, \eta)$
〃	4	〃	〃
2—3	1	〃	〃
3—3	6	a fsunction	as a function
4—1	6	9. 48622E 01	9. 48622E - 01
4—2		**Table 4 - 2a**	**Table 4 - 2**
5	4	out-off energy	cut-off energy
〃	7	9. 39614E 01	9. 39614E - 01
6	13	7. 90270E 02	7. 90270E - 02

Calculation of primary energy transfer and effective inactivation cross section of biological targets for heavy charged particles based on microdose concept

Abstract

The distribution of primary energy transfer in a small track segment in water (based on the microdose concept) was calculated according to the newly developed method with an IBM-7044 computer for heavy charged particles, which have energies of 4～12 MeV/amu and effective chages of 1～18, and varying the cut-off energy of delta-ray (125, 250, 500 and 1000 eV) and the target size (l/W=1/1000～1/10 in unit of 100 Å/eV). The distributions of primary energy transfer for all of these cases are presented as the function of l/W. With the results obtained above, the ratio of the effective inactivation cross section to the geometrical cross section for the biological targets (S_{eff}/S_0) were calculated for heavy charged particles on the basis of T-distribution and one-target model.

Feb. 1969

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微視的線量概念にもとづく重荷電粒子に対する標的有効断面積および一次的エネルギー付与分布の計算

要　旨

微視的線量概念にもとづいて，重荷電粒子の水中微小飛跡中の一次的エネルギー付与分布を，新たに開発した方法によって IBM-7044 で計算した．入射荷電粒子の有効電荷（1～18），エネルギー（4～12 MeV/amu），デルタ線の cut-off エネルギー（125～1000 eV）および標的の大きさ（l/W=1/1000～1/10, 100 Å/eV）のすべての組み合せの場合について求めたエネルギー付与分布の情報を，一次的エネルギー付与の確率と，標的の大きさとの関数として表にまとめた．これらのデータから生物系に one-target model を適用し，T-分布にもとづいた重荷電粒子に対する標的有効断面と幾何学的断面積との比（S_{eff}/S_0）を求め表にした．

1969 年 2 月

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Contents

目　次

I. Introduction

Ionizing radiations transfer their energy to the medium by many types of interactions with matter. The specific characteristics of the energy transfer are principally due to the following two aspects of the primary energy transfer, that is, the quantum theoretical discontinuity of the interactions of ionizing radiations with matter, and the high degrees of the concentration of activation events around the track of ionizing radiations and also of the intercorrelation of the activation events on the same tracks as well as on the neighbouring tracks. Therefore, the primary energy transfer are not produced completely at random in space and time but along tracks of ionizing radiations. Consequently, it is expected that degrees and types of the physical, chemical and biological effects of ionizing radiations are different depending upon the types of interactions and the amount of transfered energies.

Therefore, the input quantity, which has been used to represent the relationship between dose (input) and effect (output), must be sufficiently reflecting the specific characteristics of the primary energy transfer. However, these characteristics can not be fully expressed in the conventional dose concept (the macroscopic dose; the dose in rad unit[1]), in which the transfered energy is averaged over the volume element in the macroscopic scale of medium. Hence, new concept was for a long time wanted for to represent the input quantity relevant to the dose-effect in the radiation biology and protection. Recently, for this purpose, the concept of microdose was introduced and theoretical as well as experimental studies have been developed since 1959[2),3)].

In this paper, the distribution of primary energy transfer in water medium based on the microdose concept was studied for heavy charged particles, which have significantly different quality effects compared with γ-rays. Furthermore, using T, which was introduced by one of authors as one of the input quantities based on the microdose concept, survival rates and effective inactivation cross sections of the biological targets were obtained. The biological system is here represented by water medium as an approximate substitute. Input parameters used for calculations are given in Table 1. These calculations are carried out using an IBM-7044 computer. The

Table 1 Input parameters

Kind of heavy ion, Z: ${}_1$H, ${}_2$He, ${}_3$Li, ${}_5$B, ${}_6$C, ${}_7$N, ${}_8$0, ${}_9$F, ${}_{10}$Ne, ${}_{18}$A.

Incident energy of heavy ion, E_p(MeV/AMU): 4, 6, 8, 10, 12.

Cut-off energy, η(eV): 125, 250, 500, 1000.

Number of primary ionization per track per target, j: 0, 1, 2.

Target size, l/W(100 Å/eV): 1/1000, 1/300, 1/100, 1/30, 1/10.

Average diameter of target: l.

Average energy required to produce one primary ionization: W.

Density correction: $X_0=0.23$, $X_1=2.0$, $C=-3.47$, $a=0.519$, $m=2.69$

Input data for water medium:

$N_e=3.33698 \quad 10^{23}$ els./cm^3

$Z=10$

$A=18.0153$

$\rho=0.9982$ g/cm^3

$I=74.1$ eV

$mc^2=511.009$ keV for electron and 931.478 MeV/AMU for heavy charged particle, $2\pi e^4/mc^2=2.54926\times10^{-22}$ keV.

principal object of this paper is to tabulate the numerical values of the ratio of the effective inactivation cross section to the geometrical cross section for the biological targets for various kinds of radiations, together with the values of $L_l(E)$, $P(E, j)$ and f_j which are defined in the following section.

2. Method of calculation

2.1 Formulation of target theory based on T-distribution

The formulation on the statistical structure of the absorbed dose based on the T-distribution has been described in Ref. 3). First, a fundamental quantity, T, is introduced for the microscopic description of the primary energy transfer into a target volume.

T: The transfered energy per track per target. T is independent of the dose and dose-rate.

If the number of primary ionization*) produced by the track is j, T is given as follows,

$$T=jW, \quad \cdots\cdots (1)$$

where W is the average energy required to produce a primary ionization. When the LET of a track is L_l and the average diameter of the target is l, the average $T, \overline{T}$, is given as follows,

$$\overline{T}=lL_l. \quad \cdots\cdots (2)$$

Now, let us define $P(E, T)\Delta T$ as the probability that a track with energy E gives T between T and $T+\Delta T$. Then

$$P(E, T)\Delta T=P(E, j)\Delta j, \quad \cdots\cdots (3)$$

$$\sum_{T=0}^{\infty} P(E, T)\Delta T=1, \quad \cdots\cdots (4)$$

$$\sum_{j=0}^{\infty} P(E, j)\Delta j=1, \quad \cdots\cdots (5)$$

$$P(E, T)=\frac{1}{W}P(E, j). \quad \cdots\cdots (6)$$

If the mean diameter of the target, l, is sufficiently small that the energy loss of the particle passing through the target is negligibly small compared with the particle energy, each ionization event along the same track may be regarded to be stochastically independent of each other. Then Poisson distribution will be a good approximation to $P(E, j)$,

$$P(E, j)=\frac{(\bar{j})^j}{j}\exp-(\bar{j}), \quad \cdots\cdots (7)$$

where $\bar{j}$ is the mean j given by $\overline{T}/W(=lL_l/W)$. The expression of eq. (7) may be modified to the following form,

$$P(E, j)=\frac{(lL_l/W)^j}{j}\exp-\left(\frac{lL_l}{W}\right). \quad \cdots\cdots (8)$$

Then, frequency distribution function for T, $n(T)$, is given, when the total flux of ionizing particles in the volume V of the target has an energy distribution $\phi_t(E)$, as follows;

$$n(T)=\int\phi_t(E)S_0P(E, T)dE, \quad \cdots\cdots (9)$$

$$=\frac{S_0}{W}\int\phi_t(E)P(E, j)dj, \quad \cdots\cdots (10)$$

*) Here, though the primary ionization is assumed for the primary activation for simplicity, this does not restrict the generality of the following discussion.

where S_0 is the geometrical cross section of the target. The effective inactivation cross section of target, $S_{\rm eff}$, usually varies with the quality of the radiation. On the other hand, if for a decisive event to occur at least a certain number of primary ionizations, j_0, must take place in the target, $S_{\rm eff}$ is described as $S_{\rm eff}\ (E, j_0)$.

When the targets are in the radiation field where the charged particles have the same energy, E, $S_{\rm eff}$ is given by

$$S_{\rm eff}(E, j_0)=S_0\left[1-\sum_{j=0}^{j_0-1}P(E, j)\right], \qquad (11)$$

$$=S_0\left[\sum_{j=j_0}^{\infty}P(E, j)\right], \qquad (12)$$

where $\sum_{j=j_0}^{\infty}P(E, j)$ is the efficiency for decisive event of the particle with energy E.

When the target is traversed by the particle flux $\phi_t(E)$, the number of decisive events per target will be

$$\int S_{\rm eff}(E, j_0)\phi_t(E)dE. \qquad (13)$$

If a single decisive event is sufficient to produce the particular biological action under consideration (one-event model), the survival rate is

$$h_0=\exp-\left[\int S_{\rm eff}(E, j_0)\phi_t(E)dE\right], \qquad (14)$$

$$=\exp-\left[\bar{\phi}_t S_0\left(1-\sum_{j=0}^{j_0-1}f_j\right)\right], \qquad (15)$$

where

$$\bar{\phi}_t=\int\phi_t(E)dE, \qquad (16)$$

and

$$f_j=\frac{\int\phi_t(E)P(E, j)dE}{\int\phi_t(E)dE}. \qquad (17)$$

Equations (14) and (15) are of a so-called exponential type, and if two decisive events are sufficient to (two-events model), one gets a survival rate of exponential type, as long as the number of the targets in a biological system is unity (that is, one-target model).

In this paper, calculations were carried out with the one-target model for three cases; $j=0$, 1 and 2.

2.2 Effective charge of heavy charged particle

When a heavy charged particle passes through matter with a velocity comparable with the orbital velocity of its own electrons, its net charge will fluctuate rapidly as electrons are captured and lost in the rapid succession of collisions with atoms of matter. While the deriviation of the effective charge for heavy charged particles has been studied by many workers experimentally as well as theoretically, the empirical formula introduced by Northcliffe[4] is here made use of

$$\left.\begin{aligned} Z_{\rm eff}^2&=Z^2(1-1.85e^{-2\xi}),\\ \xi&=\frac{137\beta}{Z},\end{aligned}\right\} \qquad (18)$$

where Z is the atomic number of the ion and $\beta=v/c$. The calculation of $Z_{\rm eff}^2$ was carried out for ten kinds of heavy ions and for five kinds of incident energies. The numerical values of Z_{eff}^2 are shown in **Table 2-1**.

2.3 *LET* for heavy charged particle and electron

Let us divide the total energy loss, $L_t(E)$, of charged particle into two parts, that is, the collisional loss, $L_{col}(E)$, and the radiative loss, $L_{rad}(E)$. Furthermore, the collisional loss is divided into two parts, depending upon the actual amount of energy loss, Q, of a charged particle in a single collision with atomic electrons;

$$L_{col}(E)=L_l(E)+L_{cl}(E). \qquad (19)$$

The local LET, $L_l(E)$, is the energy loss due to the "distant" collisions in which Q is less than a "cut-off" energy η, and on the other hand the $L_{cl}(E)$ is the one due to the "close" collisions corresponding to $Q>\eta$. Therefore, exactly speaking, $L_l(E)$ and $L_{cl}(E)$ have to be expressed as function of E as well as η: that is, $L_l(E,\eta)$ and $L_{cl}(E,\eta)$.

In the actual calculation of LET, η was taken as the cut-off energy which means the lowest energy of δ-rays at a moment of their origination.

The energy loss for the distant collisions is given by[5]

$$\left(-\frac{dE}{dx}\right)_{Q<\eta}=L_l(E,\eta)=\frac{2\pi e^4N_e}{m\beta^2c^2}\left[\ln\left(\frac{2m\beta^2c^2\eta}{(1-\beta^2)I^2}\right)-\beta^2-\delta\right], \qquad (20)$$

where N_e is the number of electrons in unit volum of the medium, m is the electron mass, I is the mean excitation potential of the medium, and δ is the finite-energy-density correction. STERNHEIMER[6] derived an approximate analytical expression for δ as follows;

$$\begin{aligned}&\delta=0 && \text{for } X<X_0,\\ &\delta=4.606X+C+a(X_1-X)^m && \text{for } X_0\le X<X_1, \qquad (21)\\ &\delta=4.606X+C && \text{for } X\ge X_1,\end{aligned}$$

where $X=1/2\log[\beta^2/(1-\beta^2)]$ and parameters X_0, X_1, C, a and m is given in **Table 1**.

In order to get $L_l(E,\eta)$ numerically, we have to fix the lowest cut-off energy of δ-rays, η. Four values of η were chosen, 125, 250, 500 and 1000 eV, as shown in **Table 1**. The values of $L_l(E,\eta)$ are tabulated in **Tables 2-2** and **2-3** for heavy charged particles and electrons, respectively.

The energy loss due to the close collision can be derived using Möller cross section, $\Sigma(E,Q)$, which means the probability per unit path for a transfer of energy Q from an electron of kinetic energy E. $\Sigma(E,Q)$ is given by

$$\Sigma(E,Q)=\frac{2\pi e^4N_e}{mc^2\beta^2}\cdot\frac{1}{Q^2}\left[1+\left(\frac{Q}{E-Q}\right)^2+\left(\frac{\gamma-1}{\gamma}\right)^2\left(\frac{Q}{E}\right)^2-\frac{2\gamma-1}{\gamma^2}\left(\frac{Q}{E-Q}\right)\right]. \qquad (22)$$

Then, $L_{cl}(E,\eta)$ is given as follows;

$$\begin{aligned}\left(-\frac{dE}{dx}\right)_{Q>\eta}&=L_{cl}(E,\eta)=\int_\eta^{Q_{max}}Q\Sigma(E,Q)dQ\\ &=\frac{2\pi e^4N_e}{mc^2\beta^2}\left[\ln\left(\frac{E^2}{4\eta(E-\eta)}\right)+1-\frac{\eta}{(E-\eta)}+\left(\frac{\gamma-1}{\gamma}\right)^2\right.\\ &\qquad\left.\times\left(\frac{1}{8}-\frac{\eta^2}{2E^2}\right)+\left(\frac{2\gamma-1}{\gamma^2}\right)\ln\left(\frac{E}{2(E-\eta)}\right)\right], \qquad (23)\end{aligned}$$

where $Q_{max}=E/2$ and $\gamma=E/\mathrm{mc}^2+1$.

The radiative energy loss is given by RACAH[7] as follows;

$$L_{rad}(E)=(E+\mu)\sum_i n_iZ_i(Z_i+1)\phi_{rad}(E), \qquad (24\text{-a})$$

$$\phi_{rad}(E)=\frac{r_0^2}{137}\left\{\frac{(12E_0^2+4)}{3E_0p_0}\ln(E_0+p_0)-\frac{(8E_0+6p_0)}{3E_0p_0^2}\right.$$
$$\left.\times[\ln(E_0+p_0)^2]-\frac{4}{3}+\frac{2}{E_0p_0}F(x_0)\right\}, \quad\text{(24·b)}$$

and

$$F(x_0)=\int_0^{x_0}\frac{\ln(1+y)}{y}dy, \quad\text{(24·c)}$$

where $\mu=mc^2$, $E_0=E/\mu+1$, $p_0=[(E/\mu)(E/\mu+2]^{1/2}$, $x_0=2p_0(E_0+p_0)$, n_i is the number of i-th atoms per unit volume, and Z_i is the nuclear charge of i-th atoms.

The values of $L_t(E)$ calculated as the sum of $L_l(E,\eta)$, $L_{cl}(E,\eta)$ and $L_{rad}(E)$ for electrons are tabulated in **Table 2-4**.

2. 4 Slowing-down spectrum of charged particles

The energy spectrum of the charged particle flux, resulting from the slowing-down process in the medium, is the one of the most fundamental quantities for the analysis of chemical and biological actions of radiations. For heavy charged particles, it may be assumed that the energy loss of heavy charged particle in the test volume of interest is negligibly small compared with the primary energy of the particle. Therefore, the total differential flux of heavy charged particle, $\phi_p(E)$, is simply expressed as a delta-function of primary energy, E_p. For electrons, on the other hand, the total differential flux, $\phi_\delta(E)$, is calculated according to the modified continuous slowing-down model[8] with the use of $L_t(E)$ and integrated δ-ray production cross section, $\tilde{\Sigma}(E', E)$, and given as follows;

$$\phi_\delta(E)=L_t(E)^{-1}\left[I_\delta'(E)+\int_{2E}^{E_i^{max}}\phi_\delta'(E')\tilde{\Sigma}(E',E)dE',\right.$$
$$\left.+\int_{2E}^{E_i^{max}/2}\phi_\delta''(E')\tilde{\Sigma}(E',E)dE'\right], \quad\text{(25)}$$

where $I_\delta'(E)$ is the integrated number of primary electrons per unit volume produced primarily by the heavy charged particles, $\phi_\delta'(E)$ is the primary electron flux, and $\phi_\delta''(E)$ is the flux for secondary electrons produced by primary electrons.

$I_\delta'(E)$ is given as follows,[9] with the use of Ratherford scattering equation.

$$I_\delta'(E)=\int_E^{E_i^{max}}\frac{2\pi e^4N_eZ_{eff}^2}{mc^2\beta^2}\cdot\frac{dW}{W^2},$$
$$=\frac{2\pi e^4N_eZ_{eff}^2}{mc^2\beta^2}\left[\frac{1}{E}-\frac{1}{E_\delta^{max}}\right], \quad\text{(26)}$$

where $E_\delta^{max}=2mc^2\beta^2/(1-\beta^2)$ and shown in **Table 3-2**.

Integrated δ-ray production cross section, $\tilde{\Sigma}(E', E)$, is obtained by integrating Möller cross section, $\Sigma(E, Q)$, which means the probability per unit path for a transfer of energy Q from an electron of kinetic energy E and is given by eq. (22);

$$\tilde{\Sigma}(E',E)=\int_E^{E'/2}\Sigma(E',E'')dE''$$
$$=\frac{2\pi e^4N_e}{\mu}\cdot\frac{(E'+\mu)^2}{E'(E'+2\mu)}\left[\frac{1}{E}-\frac{1}{(E'-E)}\right.$$
$$\left.+\frac{(E'/2-E)}{(E'+\mu)^2}-\frac{\mu(2E'+\mu)}{(E'+\mu)^2E'}\cdot\ln\left(\frac{E'-E}{E}\right)\right], \quad\text{(27)}$$

where $E''=E'-Q$.

Since results for ions with arbitrary Z_{eff} and mass M can be readily derived from the result for ions of $Z_{eff}=1$ and $M=1$ amu, the actual calculations of $\phi_\delta(E)$ were carried out for an incident ion of $Z_{eff}=1$ and $M=1$ amu, for five kinds of primary energies, varying the cut-off energy of δ-ray and are given in **Table 3-3**.

3. Results

In order to get the numerical values of surviving rates, we have to calculate $P(E,j)$ and f_j. $P(E,j)$ for charged particles, for details, are expressed as

$$P(E,j)=\frac{\left[\left(\frac{l}{W}\right)L_l(E,\eta)\right]^j}{j!}\exp-\left[\left(\frac{l}{W}\right)L_l(E,\eta)\right]. \quad\cdots\cdots(28)$$

The parameters in eq. (28) are l/W, E_p, η and j, and numerical values for them are shown in **Table 1**. Therefore, as the first step, $P(E,j)$ was obtained as a function of the two variables Z and l/W for $j=0$, with the fixed E_p and η. Next, $P(E,j)$ was calculated with a varying $j(=1,2)$ and the fixed E_p and η. The same procedure are repeated for five values of E_p and four values of η. The numerical values of $P(E,j)$ are tabulated in **Table 4-1**. The parameters in the formula of $P(E,j)$ for electrons are electron energy, l/W, η and j. Therefore, $P(E,j)$ are obtained as a function of electron energies ranging from 125 eV to 55 MeV and five values of l/W, with the fixed j and η. The same procedure was repeated for three values of j and four values of η. The numerical values of $P(E,j)$ for electrons are tabulated in **Table 4-2**.

The calculation of f_j are carried out as follows. f_j means the probability to produce j primary ionizations in the target when charged particles pass through the target. Since there are two kinds of radiation fields, primary ions and δ-rays, f_j must be obtained as the sum of f_j for heavy ions and for δ-rays, and is expressed as

$$f_j=\frac{\int\phi_p(E_p)P(E_p,j)dE_p}{\int\phi_t(E)dE}+\frac{\int\phi_\delta(E_\delta)P(E_\delta,j)dE_\delta}{\int\phi_t(E)dE}. \quad\cdots\cdots(29)$$

f_j is a function of parameters such as primary energies of heavy ions, E_p, cut-off energies, η, l/W, kind of heavy ions and j. Therefore, actual calculation of f_j was carried out in the similar procedure as that for $P(E,j)$. The numerical values of f_j are tabulated in **Table 5**.

Finally, the calculation of surviving rate of biological targets for heavy ions was carried out. As described above, when charged particles are bombarded into the medium, there are two kinds of particle fluxes, that is, the primary ions, $\bar{\phi}_p$, and δ-rays, $\bar{\phi}_\delta$,

$$\bar{\phi}_t=\bar{\phi}_p+\bar{\phi}_\delta, \quad\cdots\cdots(30)$$

where $\bar{\phi}_p=\int\phi_p(E)dE$, $\bar{\phi}_\delta=\int\phi_\delta(E)dE$.

We have the following relation between $\bar{\phi}_p$ and $\bar{\phi}_\delta$,

$$\bar{\phi}_\delta=\bar{\phi}_p a Z_{eff}^2, \quad\cdots\cdots(31)$$

where "a" is a numerical factor and corresponds to the total flux of δ-rays produced by unit flux density of heavy ions with $Z_{eff}=1$, and given by

$$\int\phi_\delta(E)dE=\bar{\phi}_\delta=a. \quad\cdots\cdots(32)$$

The values of "a" are tabulated in **Table 3-1**. Then $\bar{\phi}_t$ is expressed as follows;

$$\bar{\phi}_t=\bar{\phi}_p(1+aZ_{eff}^2). \quad\cdots\cdots(33)$$

Therefore, if one target model is applied for the biological system, surviving rates of targets for heavy ions are expressed as follows;

$$h_0=\exp-\bar{\phi}_p(1+aZ_{eff}^2)S_0\left(1-\sum_{j=0}^{j_0-1}f_j\right). \qquad (34)$$

If the target is inactivated by single primary ionization, which means that the threshold energy for inactivation of target is equal to W, survivals are expressed as

$$h_0=\exp-\bar{\phi}_pS_0(1+aZ_{eff})(1-f_0). \qquad (35)$$

When two and three primary ionizations are sufficient to produce the inactivation, the surviving rates, denoted by h_{0+1} and h_{0+1+2}, respectively, are expressed as

$$h_{0+1}=\exp-\bar{\phi}_pS_0(1+aZ_{eff}^2)(1-f_0-f_1), \qquad (36)$$

$$h_{0+1+2}=\exp-\bar{\phi}_pS_0(1+aZ_{eff}^2)(1-f_0-f_1-f_2). \qquad (37)$$

If we modify eq. (34) in the following expression,

$$h_0=\exp-\bar{\phi}_pS_{eff}(E,j), \qquad (38)$$

we have an expression for the effective inactivation cross section as follows;

$$S_{eff}(E,j)=S_0(1+aZ_{eff}^2)\left(1-\sum_{j=0}^{j_0-1}f_j\right) \qquad (39)$$

If S_0 and $\bar{\phi}_p$ could be given, numerical values of surviving rates would be readily calculated with the use of values for S_{eff}/S_0 in the case of $\bar{\phi}_p=1$. Therefore, actual calculations were carried out on S_{eff}/S_0. The values of S_{eff}/S_0 are tabulated in **Table 6** in a similar fashion as for f_j, where f_0, f_1 and f_2 are replaced by h_0, h_{0+1} and h_{0+1+2}. Using these values, D_{37} in a unit of particles/cm^2, which means the particle density producing 37% survivals, can be readily calculated as $1/S_{eff}$ if the geometrical cross section of target under consideration is determined.

Calculation of effective inactivation cross sections and survival rates of targets for heavy charged particles using Z-distribution, which is an input quantity based on microdose concept, is published[10]. Investigation and discussion about fine structure of primary energy transfer for heavy charged particles and its application to the target theory will be published.

Acknowledgments

We are grateful to Mr. H. Ryufuku for advice to computer calculation.

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Table 2-1

Calculated effective charge of heavy ions, Z_{eff}, as a function of incident energy, E_p. Because of typographical limitations, E_p and Z^2_{eff} are indicated as EP and ZEFF 2, respectively. Powers of ten are indicated by the symbol E; thus, 2. 47072 E 01 reads 2.47072×10^1.

ZEFF2

	EP (MEV/AMU)				
	4.00	6.00	8.00	10.00	12.00
HYDROGEN	1.00000E 00	1.00000E 00	1.00000E 00	1.00000E 00	1.00000E 00
HELIUM	3.99998E 00	4.00000E 00	4.00000E 00	4.00000E 00	4.00000E 00
LITHIUM	8.99639E 00	8.99945E 00	8.99989E 00	8.99997E 00	8.99999E 00
BORON	2.47072E 01	2.49052E 01	2.49639E 01	2.49839E 01	2.49924E 01
CARBON	3.50196E 01	3.56170E 01	3.58259E 01	3.59128E 01	3.59532E 01
NITROGEN	4.65622E 01	4.79107E 01	4.84459E 01	4.86936E 01	4.88202E 01
OXYGEN	5.89964E 01	6.15274E 01	6.26312E 01	6.31850E 01	6.34889E 01
FLUORINE	7.19996E 01	7.61899E 01	7.81565E 01	7.92065E 01	7.98154E 01
NEON	8.52797E 01	9.16744E 01	9.47814E 01	9.65533E 01	9.76269E 01
ARGON	1.77101E 02	2.16610E 02	2.41431E 02	2.58426E 02	2.70705E 02

Table 2-2

Calculated local *LET*, $L^*(E, \eta)$ in unit of keV/cm, for heavy ions as a function of cut-off energy, η, and kind of heavy ions, Z, and incident energy, E_p. Because of typographical limitations, $L^*(E, \eta)$ and η are indicated as FLLP and ETA, respectively. Powers of ten are indicated by the symbol E; thus 5. 27452 E 04 reads 5.27452×10^4(keV/cm).

FLLP (KEV/CM)

EP = 4.0 (MEV/AMU)

	ETA (KEV)			
	0.125	0.250	0.500	1.000
HYDROGEN	5.27452E 04	5.96550E 04	6.65648E 04	7.34746E 04
HELIUM	2.10980E 05	2.38619E 05	2.66225E 05	2.93897E 05
LITHIUM	4.74516E 05	5.36680E 05	5.98843E 05	6.61007E 05
BORON	1.30318E 06	1.47391E 06	1.64463E 06	1.81535E 06
CARBON	1.84712E 06	2.08910E 06	2.33108E 06	2.57306E 06
NITROGEN	2.45593E 06	2.77767E 06	3.09940E 06	3.42114E 06
OXYGEN	3.11174E 06	3.51943E 06	3.92708E 06	4.33474E 06
FLUORINE	3.79763E 06	4.29514E 06	4.79264E 06	5.29014E 06
NEON	4.49809E 06	5.08734E 06	5.67663E 06	6.26589E 06
ARGON	9.34121E 06	1.05649E 07	1.17887E 07	1.30124E 07

EP = 6.0 (MEV/AMU)

	ETA (KEV)			
	0.125	0.250	0.500	1.000
HYDROGEN	3.79584E 04	4.25798E 04	4.72011E 04	5.18224E 04
HELIUM	1.51834E 05	1.70319E 05	1.88804E 05	2.07289E 05
LITHIUM	3.41605E 05	3.83194E 05	4.24784E 05	4.66373E 05
BORON	9.45363E 05	1.06046E 06	1.17555E 06	1.29065E 06
CARBON	1.35197E 06	1.51656E 06	1.68116E 06	1.84576E 06
NITROGEN	1.81862E 06	2.04003E 06	2.26144E 06	2.48285E 06
OXYGEN	2.33548E 06	2.61982E 06	2.90416E 06	3.18849E 06
FLUORINE	2.89205E 06	3.24415E 06	3.59625E 06	3.94834E 06
NEON	3.47792E 06	3.90134E 06	4.32477E 06	4.74819E 06
ARGON	8.22717E 06	9.22319E 06	1.02242E 07	1.12252E 07

EP = 8.0 (MEV/AMU)

	ETA (KEV)			
	0.125	0.250	0.500	1.000
HYDROGEN	2.99873E 04	3.34464E 04	3.69414E 04	4.04185E 04
HELIUM	1.19949E 05	1.33857E 05	1.47766E 05	1.61674E 05
LITHIUM	2.69882E 05	3.01175E 05	3.32469E 05	3.63762E 05
BORON	7.48579E 05	8.35377E 05	9.22176E 05	1.00897E 06
CARBON	1.07432E 06	1.19889E 06	1.32346E 06	1.44803E 06
NITROGEN	1.45276E 06	1.62121E 06	1.78966E 06	1.95811E 06
OXYGEN	1.87814E 06	2.09591E 06	2.31369E 06	2.53146E 06
FLUORINE	2.34370E 06	2.61546E 06	2.88721E 06	3.15897E 06
NEON	2.84224E 06	3.17180E 06	3.50136E 06	3.83092E 06
ARGON	7.23986E 06	8.07933E 06	8.91880E 06	9.75827E 06

FLLP (KEV/CM)

EP = 10.0 (MEV/AMU)

	ETA (KEV)			
	0.125	0.250	0.500	1.000
HYDROGEN	2.49522E 04	2.77427E 04	3.05333E 04	3.33238E 04
HELIUM	9.98068E 04	1.10971E 05	1.22133E 05	1.33295E 05
LITHIUM	2.24569E 05	2.49684E 05	2.74798E 05	2.99913E 05
BORON	6.23405E 05	6.93123E 05	7.62841E 05	8.32560E 05
CARBON	8.96104E 05	9.96319E 05	1.09653E 06	1.19675E 06
NITROGEN	1.21501E 06	1.35089E 06	1.48677E 06	1.62266E 06
OXYGEN	1.57661E 06	1.75293E 06	1.92924E 06	2.10556E 06
FLUORINE	1.97638E 06	2.19741E 06	2.41843E 06	2.63946E 06
NEON	2.40922E 06	2.67865E 06	2.94809E 06	3.21752E 06
ARGON	6.44829E 06	7.16944E 06	7.89058E 06	8.61172E 06

EP = 12.0 (MEV/AMU)

	ETA (KEV)			
	0.125	0.250	0.500	1.000
HYDROGEN	2.14629E 04	2.37958E 04	2.61286E 04	2.84614E 04
HELIUM	8.58517E 04	9.51830E 04	1.04514E 05	1.13846E 05
LITHIUM	1.93166E 05	2.14162E 05	2.35157E 05	2.56153E 05
BORON	5.36410E 05	5.94713E 05	6.53016E 05	7.11319E 05
CARBON	7.71661E 05	8.55533E 05	9.39406E 05	1.02328E 06
NITROGEN	1.04782E 06	1.16171E 06	1.27560E 06	1.38949E 06
OXYGEN	1.36266E 06	1.51077E 06	1.65888E 06	1.80698E 06
FLUORINE	1.71307E 06	1.89927E 06	2.08546E 06	2.27166E 06
NEON	2.09536E 06	2.32311E 06	2.55085E 06	2.77860E 06
ARGON	5.81013E 06	6.44164E 06	7.07315E 06	7.70467E 06

Table 2-3

Calculated local *LET*, $L^*(E, \eta)$ in unit of keV/cm, for electrons as a function of electron energy, E, and cut-off energy, η. Because of typographical limitations, $L_l(E, \eta)$ and η are indicated as FLLD and ETA, respectively. Powers of ten are indicated by the symbol E; thus 1. 10218 E 05 for electron energy reads 1.10218×10^5 (keV).

FLLO (KEV/CM)

E (KEV)	ETA (KEV)			
	0.125	0.250	0.500	1.000
1.10218E 05	1.06532E 03	1.12429E 03	1.18325E 03	1.24222E 03
9.26819E 04	1.06534E 03	1.12430E 03	1.18327E 03	1.24224E 03
7.79359E 04	1.06536E 03	1.12432E 03	1.18329E 03	1.24226E 03
6.55360E 04	1.06538E 03	1.12435E 03	1.18332E 03	1.24229E 03
5.51090E 04	1.06541E 03	1.12438E 03	1.18335E 03	1.24232E 03
4.63410E 04	1.06545E 03	1.12442E 03	1.18340E 03	1.24237E 03
3.89679E 04	1.06540E 03	1.12437E 03	1.18335E 03	1.24237E 03
3.27680E 04	1.06512E 03	1.12410E 03	1.18308E 03	1.24206E 03
2.75545E 04	1.06454E 03	1.12352E 03	1.18251E 03	1.24149E 03
2.31705E 04	1.06357E 03	1.12256E 03	1.18155E 03	1.24054E 03
1.94840E 04	1.06215E 03	1.12115E 03	1.18015E 03	1.23916E 03
1.63840E 04	1.06024E 03	1.11926E 03	1.17828E 03	1.23730E 03
1.37772E 04	1.05782E 03	1.11686E 03	1.17590E 03	1.23494E 03
1.15852E 04	1.05487E 03	1.11394E 03	1.17301E 03	1.23208E 03
9.74198E 03	1.05140E 03	1.11051E 03	1.16962E 03	1.22874E 03
8.19200E 03	1.04746E 03	1.10663E 03	1.16580E 03	1.22497E 03
6.88862E 03	1.04312E 03	1.10236E 03	1.16161E 03	1.22086E 03
5.79262E 03	1.03848E 03	1.09784E 03	1.15719E 03	1.21655E 03
4.87099E 03	1.03372E 03	1.09322E 03	1.15273E 03	1.21223E 03
4.09600E 03	1.02906E 03	1.08875E 03	1.14845E 03	1.20815E 03
3.44431E 03	1.02477E 03	1.08473E 03	1.14470E 03	1.20466E 03
2.69631E 03	1.02122E 03	1.08155E 03	1.14187E 03	1.20219E 03
2.43550E 03	1.01888E 03	1.07967E 03	1.14046E 03	1.20126E 03
2.04800E 03	1.01828E 03	1.07969E 03	1.14110E 03	1.20252E 03
1.72216E 03	1.02007E 03	1.08230E 03	1.14452E 03	1.20674E 03
1.44815E 03	1.02503E 03	1.08830E 03	1.15157E 03	1.21484E 03
1.21775E 03	1.03401E 03	1.09862E 03	1.16323E 03	1.22784E 03
1.02400E 03	1.04802E 03	1.11433E 03	1.18065E 03	1.24696E 03
8.61078E 02	1.06816E 03	1.13662E 03	1.20508E 03	1.27354E 03
7.24077E 02	1.09566E 03	1.16681E 03	1.23795E 03	1.30909E 03
6.08874E 02	1.13191E 03	1.20638E 03	1.28085E 03	1.35532E 03
5.12000E 02	1.17843E 03	1.25700E 03	1.33557E 03	1.41414E 03
4.30539E 02	1.23274E 03	1.31639E 03	1.39991E 03	1.48350E 03
3.62039E 02	1.30036E 03	1.39005E 03	1.47974E 03	1.56944E 03
3.04437E 02	1.38445E 03	1.48154E 03	1.57863E 03	1.67573E 03
2.56000E 02	1.48745E 03	1.59347E 03	1.69950E 03	1.80553E 03
2.15269E 02	1.61219E 03	1.72896E 03	1.84574E 03	1.96251E 03
1.81019E 02	1.76194E 03	1.89161E 03	2.02128E 03	2.15095E 03
1.52219E 02	1.94052E 03	2.08563E 03	2.23074E 03	2.37585E 03
1.28000E 02	2.15235E 03	2.31591E 03	2.47948E 03	2.64305E 03

E (KEV)	ETA (KEV)			
	0.125	0.250	0.500	1.000
1.07635E 02	2.40256E 03	2.58816E 03	2.77376E 03	2.95936E 03
9.05097E 01	2.69714E 03	2.90902E 03	3.12090E 03	3.33277E 03
7.61093E 01	3.04300E 03	3.28619E 03	3.52939E 03	3.77258E 03
6.40000E 01	3.44816E 03	3.72866E 03	4.00915E 03	4.28965E 03
5.38174E 01	3.92191E 03	4.24681E 03	4.57171E 03	4.89662E 03
4.52548E 01	4.47496E 03	4.85272E 03	5.23048E 03	5.60824E 03
3.80546E 01	5.11969E 03	5.56034E 03	6.00100E 03	6.44165E 03
3.20000E 01	5.87036E 03	6.38584E 03	6.90132E 03	7.41679E 03
2.69087E 01	6.74338E 03	7.34786E 03	7.95235E 03	8.55684E 03
2.26274E 01	7.75759E 03	8.46795E 03	9.17832E 03	9.88868E 03
1.90273E 01	8.93464E 03	9.77094E 03	1.06072E 04	1.14435E 04
1.60000E 01	1.02993E 04	1.12854E 04	1.22715E 04	1.32575E 04
1.34543E 01	1.18800E 04	1.30442E 04	1.42084E 04	1.53726E 04
1.13137E 01	1.37091E 04	1.50851E 04	1.64611E 04	1.78372E 04
9.51366E 00	1.58235E 04	1.74515E 04	1.90794E 04	2.07074E 04
8.00000E 00	1.82653E 04	2.01929E 04	2.21205E 04	2.40480E 04
6.72717E 00	2.10823E 04	2.33662E 04	2.56500E 04	2.79339E 04
5.65685E 00	2.43285E 04	2.70361E 04	2.97437E 04	3.24512E 04
4.75683E 00	2.80651E 04	3.12766E 04	3.44880E 04	3.76995E 04
4.00000E 00	3.23610E 04	3.61717E 04	3.99824E 04	4.37932E 04
3.36359E 00	3.72937E 04	4.18171E 04	4.63404E 04	5.08638E 04
2.82843E 00	4.29500E 04	4.83708E 04	5.36917E 04	5.90625E 04
2.37841E 00	4.94267E 04	5.58053E 04	6.21840E 04	6.85626E 04
2.00000E 00	5.68313E 04	6.44084E 04	7.19856E 04	7.95627E 04
1.68179E 00	6.52827E 04	7.42851E 04	8.32876E 04	9.00394E 04
1.41421E 00	7.49116E 04	8.56089E 04	9.63063E 04	1.01655E 05
1.18921E 00	8.58605E 04	9.85735E 04	1.11286E 05	1.14465E 05
1.00000E 00	9.87838E 04	1.13394E 05	1.28504E 05	1.28504E 05
8.40896E-01	1.17347E 05	1.30308E 05	1.43778E 05	0.
7.07107E-01	1.28226E 05	1.49577E 05	1.60252E 05	0.
5.94604E-01	1.46104E 05	1.71486E 05	1.77831E 05	0.
5.00000E-01	1.66168E 05	1.96343E 05	1.96343E 05	0.
4.20448E-01	1.88604E 05	2.15517E 05	0.	0.
3.53553E-01	2.13594E 05	2.34922E 05	0.	0.
2.97302E-01	2.41297E 05	2.53977E 05	0.	0.
2.50000E-01	2.71848E 05	2.71848E 05	0.	0.
2.10224E-01	2.87403E 05	0.	0.	0.
1.76777E-01	2.99126E 05	0.	0.	0.
1.48651E-01	3.05008E 05	0.	0.	0.
1.25000E-01	3.07419E 05	0.	0.	0.

Table 2-4

Calculated total LET, $L_t(E, \eta)$ in unit of keV/cm, for electrons as a function of electron energy, E(keV), and cut-off energy, η(keV). Because of typographical limitations, $L_t(E, \eta)$ and η are indicated as FLTD and ETA, respectively. Powers of ten are indicated by the symbol E; thus 5.51090 E 04 for electron energy reads 5.51090×10^4(keV).

FLTD (KEV/CM)

E (KEV)	ETA (KEV) 0.125	0.250	0.500	1.000
5.51090E 04	3.81509E 03	3.81509E 03	3.81509E 03	3.81509E 03
4.63410E 04	3.48961E 03	3.48961E 03	3.48961E 03	3.48961E 03
3.89679E 04	3.22093E 03	3.22093E 03	3.22093E 03	3.22093E 03
3.27680E 04	2.99865E 03	2.99865E 03	2.99865E 03	2.99865E 03
2.75545E 04	2.81424E 03	2.81424E 03	2.81424E 03	2.81424E 03
2.31705E 04	2.66070E 03	2.66070E 03	2.66070E 03	2.66070E 03
1.94840E 04	2.53228E 03	2.53228E 03	2.53228E 03	2.53228E 03
1.63840E 04	2.42426E 03	2.42426E 03	2.42426E 03	2.42426E 03
1.37772E 04	2.33279E 03	2.33279E 03	2.33279E 03	2.33279E 03
1.15852E 04	2.25474E 03	2.25474E 03	2.25474E 03	2.25474E 03
9.74198E 03	2.18756E 03	2.18756E 03	2.18756E 03	2.18756E 03
8.19200E 03	2.12922E 03	2.12922E 03	2.12922E 03	2.12922E 03
6.88862E 03	2.07814E 03	2.07814E 03	2.07814E 03	2.07814E 03
5.79262E 03	2.03307E 03	2.03307E 03	2.03308E 03	2.03308E 03
4.87099E 03	1.99315E 03	1.99315E 03	1.99315E 03	1.99316E 03
4.09600E 03	1.95778E 03	1.95778E 03	1.95779E 03	1.95779E 03
3.44431E 03	1.92667E 03	1.92667E 03	1.92667E 03	1.92667E 03
2.89631E 03	1.89976E 03	1.89977E 03	1.89977E 03	1.89977E 03
2.43550E 03	1.87730E 03	1.87730E 03	1.87730E 03	1.87731E 03
2.04800E 03	1.85974E 03	1.85974E 03	1.85975E 03	1.85975E 03
1.72216E 03	1.84780E 03	1.84781E 03	1.84781E 03	1.84782E 03
1.44815E 03	1.84244E 03	1.84245E 03	1.84246E 03	1.84247E 03
1.21775E 03	1.84485E 03	1.84485E 03	1.84486E 03	1.84488E 03
1.02400E 03	1.85643E 03	1.85644E 03	1.85645E 03	1.85648E 03
8.61078E 02	1.87882E 03	1.87882E 03	1.87884E 03	1.87888E 03
7.24077E 02	1.91387E 03	1.91388E 03	1.91390E 03	1.91395E 03
6.08874E 02	1.96366E 03	1.96368E 03	1.96371E 03	1.96377E 03
5.12000E 02	2.03052E 03	2.03054E 03	2.03058E 03	2.03067E 03
4.30539E 02	2.11287E 03	2.11290E 03	2.11295E 03	2.11306E 03
3.62039E 02	2.21722E 03	2.21726E 03	2.21733E 03	2.21748E 03
3.04437E 02	2.34786E 03	2.34791E 03	2.34801E 03	2.34821E 03
2.56000E 02	2.50849E 03	2.50856E 03	2.50869E 03	2.50896E 03
2.15269E 02	2.70337E 03	2.70346E 03	2.70364E 03	2.70399E 03
1.81019E 02	2.93737E 03	2.93749E 03	2.93773E 03	2.93821E 03
1.52219E 02	3.21612E 03	3.21628E 03	3.21661E 03	3.21726E 03
1.28000E 02	3.54610E 03	3.54632E 03	3.54676E 03	3.54765E 03
1.07635E 02	3.93476E 03	3.93506E 03	3.93567E 03	3.93687E 03
9.05097E 01	4.39068E 03	4.39109E 03	4.39192E 03	4.39357E 03
7.61093E 01	4.92370E 03	4.92427E 03	4.92540E 03	4.92767E 03
6.40000E 01	5.54510E 03	5.54588E 03	5.54744E 03	5.55056E 03

E (KEV)	ETA (KEV) 0.125	0.250	0.500	1.000
5.38174E 01	6.26775E 03	6.26883E 03	6.27099E 03	6.27530E 03
4.52548E 01	7.10637E 03	7.10787E 03	7.11086E 03	7.11683E 03
3.80546E 01	8.07767E 03	8.07975E 03	8.08391E 03	8.09222E 03
3.20000E 01	9.20065E 03	9.20355E 03	9.20934E 03	9.22091E 03
2.69087E 01	1.04968E 04	1.05008E 04	1.05089E 04	1.05251E 04
2.26274E 01	1.19904E 04	1.19960E 04	1.20073E 04	1.20299E 04
1.90273E 01	1.37087E 04	1.37166E 04	1.37325E 04	1.37641E 04
1.60000E 01	1.56825E 04	1.56936E 04	1.57158E 04	1.57601E 04
1.34543E 01	1.79459E 04	1.79615E 04	1.79926E 04	1.80548E 04
1.13137E 01	2.05372E 04	2.05591E 04	2.06029E 04	2.06901E 04
9.51366E 00	2.34986E 04	2.35294E 04	2.35910E 04	2.37135E 04
8.00000E 00	2.68770E 04	2.69204E 04	2.70070E 04	2.71788E 04
6.72717E 00	3.07236E 04	3.07847E 04	3.09067E 04	3.11475E 04
5.65685E 00	3.50944E 04	3.51806E 04	3.53523E 04	3.56890E 04
4.75683E 00	4.00502E 04	4.01717E 04	4.04133E 04	4.08820E 04
4.00000E 00	4.56562E 04	4.58276E 04	4.61673E 04	4.68150E 04
3.36359E 00	5.19821E 04	5.22237E 04	5.27006E 04	5.35836E 04
2.82843E 00	5.91011E 04	5.94418E 04	6.01096E 04	6.12818E 04
2.37841E 00	6.70898E 04	6.75697E 04	6.85007E 04	6.99703E 04
2.00000E 00	7.60264E 04	7.67019E 04	7.79899E 04	7.95668E 04
1.68179E 00	8.59898E 04	8.69390E 04	8.86963E 04	9.00434E 04
1.41421E 00	9.70574E 04	9.83877E 04	1.00723E 05	1.01659E 05
1.18921E 00	1.09303E 05	1.11159E 05	1.14088E 05	1.14469E 05
1.00000E 00	1.22795E 05	1.25363E 05	1.28508E 05	1.28508E 05
8.40896E-01	1.37589E 05	1.41095E 05	1.43782E 05	0.
7.07107E-01	1.53727E 05	1.58387E 05	1.60256E 05	0.
5.94604E-01	1.71227E 05	1.77075E 05	1.77835E 05	0.
5.00000E-01	1.90067E 05	1.96347E 05	1.96347E 05	0.
4.20448E-01	2.10147E 05	2.15516E 05	0.	0.
3.53553E-01	2.31192E 05	2.34926E 05	0.	0.
2.97302E-01	2.52462E 05	2.53981E 05	0.	0.
2.50000E-01	2.71852E 05	2.71852E 05	0.	0.
2.10224E-01	2.87407E 05	0.	0.	0.
1.76777E-01	2.99130E 05	0.	0.	0.
1.48651E-01	3.05012E 05	0.	0.	0.
1.25000E-01	3.02423E 05	0.	0.	0.

Table 3-1

Calculated values of a numerical factor, a, as a function of energy of incident ions, E_p, and cut-off energy, η. Because of typographical limitations, a, η and E_p are indicated as A, ETA and EP, respectively. Powers of ten are indicated by the symbol E; thus 3.08688 E 01 reads 3.08688×10^{-1}.

A	ETA (KEV)	EP (MEV/AMU) 4.00	6.00	8.00	10.00	12.00
	0.125	3.08688E-01	2.84421E-01	2.64471E-01	2.53901E-01	2.44669E-01
	0.250	2.78059E-01	2.62932E-01	2.47811E-01	2.40218E-01	2.33026E-01
	0.500	2.43588E-01	2.38560E-01	2.28837E-01	2.24591E-01	2.19701E-01
	1.000	1.99185E-01	2.06756E-01	2.03916E-01	2.03980E-01	2.02076E-01

Table 3-2

Calculated values of maximum energy of delta-ray, E_δ^{max} in unit of keV, as a function of energy of incident ions, E_p. Because of typographical limitations, E_δ^{max} and E_p are indicated as EMAX and EP, respectively. Powers of ten are indicated by the symbol E; thus 2.65024 E 01 reads 2.6502×10^1(keV).

EMAX						
	EP (MEV/AMU)	4.00	6.00	8.00	10.00	12.00
	EMAX (KEV)	8.79645E 00	1.32088E 01	1.76306E 01	2.20618E 01	2.65024E 01

Table 3-3

Calculated total delta-ray flux, $\phi_\delta(E)$ in unit of electrons/cm^2/keV, in water medium by one heavy ion/cm^2 of $A=1$ and $Z_{eff}=1$ as a function of incident energy, E_p. Calculations are carried out according to the modified continuous slowing-down model. Numerical values of $\phi_\delta(E)$ are shown a fsunction of energy of delta-rays, E, and cut-off energy, η. Because of typographical limitations, $\phi_\delta(E)$, E_p and η are indicated as FLUXT, EP and ETA, respectively. Powers of ten are indicated by the symbol E; thus 1.07635 E 02 reads 1.07635×10^2(electrons/cm^2/keV).

FLUXT (ELS/CM2/KEV) EP = 4.0 (MEV/AMU)

E (KEV)	ETA (KEV) 0.125	0.250	0.500	1.000
1.07635E 02	0.	0.	0.	0.
9.05097E 01	0.	0.	0.	0.
7.61093E 01	0.	0.	0.	0.
6.40000E 01	0.	0.	0.	0.
5.38174E 01	0.	0.	0.	0.
4.52548E 01	0.	0.	0.	0.
3.80546E 01	0.	0.	0.	0.
3.20000E 01	0.	0.	0.	0.
2.69087E 01	0.	0.	0.	0.
2.26274E 01	0.	0.	0.	0.
1.90273E 01	0.	0.	0.	0.
1.60000E 01	0.	0.	0.	0.
1.34543E 01	0.	0.	0.	0.
1.13137E 01	0.	0.	0.	0.
9.51366E 00	0.	0.	0.	0.
8.00000E 00	4.19779E-03	4.19103E-03	4.17758E-03	4.15117E-03
6.72717E 00	1.13461E-02	1.13236E-02	1.12789E-02	1.11917E-02
5.65685E 00	1.79223E-02	1.78784E-02	1.77916E-02	1.76237E-02
4.75683E 00	2.40299E-02	2.39572E-02	2.38140E-02	2.35409E-02
4.00000E 00	2.97641E-02	2.96528E-02	2.94346E-02	2.90274E-02
3.36359E 00	3.52271E-02	3.50641E-02	3.47467E-02	3.41741E-02
2.82843E 00	4.05210E-02	4.02886E-02	3.98408E-02	3.90783E-02
2.37841E 00	4.57420E-02	4.54168E-02	4.47989E-02	4.38567E-02
2.00000E 00	5.09835E-02	5.05337E-02	4.96977E-02	4.87099E-02
1.68179E 00	5.63386E-02	5.57219E-02	5.46149E-02	5.37922E-02
1.41421E 00	6.19031E-02	6.10633E-02	5.96423E-02	5.90827E-02
1.18921E 00	6.77782E-02	6.66418E-02	6.49215E-02	6.46882E-02
1.00000E 00	7.40737E-02	7.25478E-02	7.07570E-02	7.07293E-02
8.40896E-01	8.09115E-02	7.88878E-02	7.73883E-02	0.
7.07107E-01	8.84311E-02	8.58086E-02	8.47690E-02	0.
5.94604E-01	9.67963E-02	9.35678E-02	9.31086E-02	0.
5.00000E-01	1.06209E-01	1.02763E-01	1.02675E-01	0.
4.20448E-01	1.16933E-01	1.13946E-01	0.	0.
3.53553E-01	1.29362E-01	1.27193E-01	0.	0.
2.97302E-01	1.44201E-01	1.43168E-01	0.	0.
2.50000E-01	1.63081E-01	1.62825E-01	0.	0.
2.10224E-01	1.87978E-01	0.	0.	0.
1.76777E-01	2.20300E-01	0.	0.	0.
1.48651E-01	2.63832E-01	0.	0.	0.
1.25000E-01	3.25392E-01	0.	0.	0.

FLUXT (ELS/CM2/KEV) EP = 6.0 (MEV/AMU)

E (KEV)	ETA (KEV) 0.125	0.250	0.500	1.000
1.07635E 02	0.	0.	0.	0.
9.05097E 01	0.	0.	0.	0.
7.61093E 01	0.	0.	0.	0.
6.40000E 01	0.	0.	0.	0.
5.38174E 01	0.	0.	0.	0.
4.52548E 01	0.	0.	0.	0.
3.80546E 01	0.	0.	0.	0.
3.20000E 01	0.	0.	0.	0.
2.69087E 01	0.	0.	0.	0.
2.26274E 01	0.	0.	0.	0.
1.90273E 01	0.	0.	0.	0.
1.60000E 01	0.	0.	0.	0.
1.34543E 01	0.	0.	0.	0.
1.13137E 01	4.11683E-03	4.11244E-03	4.10370E-03	4.08640E-03
9.51366E 00	8.34293E-03	8.33200E-03	8.31025E-03	8.26734E-03
8.00000E 00	1.22277E-02	1.22080E-02	1.21688E-02	1.20919E-02
6.72717E 00	1.58291E-02	1.57977E-02	1.57353E-02	1.56137E-02
5.65685E 00	1.92009E-02	1.91539E-02	1.90609E-02	1.88811E-02
4.75683E 00	2.24102E-02	2.23424E-02	2.22088E-02	2.19541E-02
4.00000E 00	2.55073E-02	2.54119E-02	2.52248E-02	2.48755E-02
3.36359E 00	2.85463E-02	2.84141E-02	2.81566E-02	2.76920E-02
2.82843E 00	3.15787E-02	3.13974E-02	3.10479E-02	3.04527E-02
2.37841E 00	3.46553E-02	3.44085E-02	3.39396E-02	3.32243E-02
2.00000E 00	3.78277E-02	3.74934E-02	3.68719E-02	3.61368E-02
1.68179E 00	4.11491E-02	4.06979E-02	3.98877E-02	3.92837E-02
1.41421E 00	4.46765E-02	4.40693E-02	4.30416E-02	4.26335E-02
1.18921E 00	4.84717E-02	4.76576E-02	4.64244E-02	4.62521E-02
1.00000E 00	5.26039E-02	5.15184E-02	5.02429E-02	5.02163E-02
8.40896E-01	5.71514E-02	5.57196E-02	5.46558E-02	0.
7.07107E-01	6.22059E-02	6.03581E-02	5.96249E-02	0.
5.94604E-01	6.78765E-02	6.56088E-02	6.52795E-02	0.
5.00000E-01	7.42993E-02	7.18840E-02	7.18133E-02	0.
4.20448E-01	8.16550E-02	7.95633E-02	0.	0.
3.53553E-01	9.02141E-02	8.86943E-02	0.	0.
2.97302E-01	1.00464E-01	9.97354E-02	0.	0.
2.50000E-01	1.13537E-01	1.13349E-01	0.	0.
2.10224E-01	1.30806E-01	0.	0.	0.
1.76777E-01	1.53245E-01	0.	0.	0.
1.48651E-01	1.83485E-01	0.	0.	0.
1.25000E-01	2.26265E-01	0.	0.	0.

Table 4-1

Calculated probability that a track of heavy ion of energy E gives j, $P(E, j)$, as a function of kind of heavy ions, of target size, l/W, of energy of incident ion, E_p, and of cut-off energy, η. Because of typographical limitations, $P(E, j)$, E_p, η and l/W are indicated as P(EP, J), EP, ETA and L/W, respectively. Powers of ten are indicated by the symbol E; thus 9. 48622 E 01 reads 9.48622×10^{-1}

FLUXT (ELS/CM2/KEV) EP = 6.0 (MEV/AMU)

E (KEV)	ETA (KEV) 0.125	0.250	0.500	1.000
1.07635E 02	0.	0.	0.	0.
9.05097E 01	0.	0.	0.	0.
7.61093E 01	0.	0.	0.	0.
6.40000E 01	0.	0.	0.	0.
5.38174E 01	0.	0.	0.	0.
4.52548E 01	0.	0.	0.	0.
3.80546E 01	0.	0.	0.	0.
3.20000E 01	0.	0.	0.	0.
2.69087E 01	0.	0.	0.	0.
2.26274E 01	0.	0.	0.	0.
1.90273E 01	0.	0.	0.	0.
1.60000E 01	1.84898E-03	1.84767E-03	1.84506E-03	1.83987E-03
1.34543E 01	4.92129E-03	4.91702E-03	4.90851E-03	4.89161E-03
1.13137E 01	7.73532E-03	7.72707E-03	7.71065E-03	7.67814E-03
9.51366E 00	1.03305E-02	1.03170E-02	1.02901E-02	1.02369E-02
8.00000E 00	1.27439E-02	1.27234E-02	1.26825E-02	1.26024E-02
6.72717E 00	1.50153E-02	1.49855E-02	1.49263E-02	1.48109E-02
5.65685E 00	1.71839E-02	1.71418E-02	1.70585E-02	1.68975E-02
4.75683E 00	1.92863E-02	1.92279E-02	1.91128E-02	1.88935E-02
4.00000E 00	2.13569E-02	2.12770E-02	2.11202E-02	2.08275E-02
3.36359E 00	2.34294E-02	2.33207E-02	2.31092E-02	2.27275E-02
2.82843E 00	2.55367E-02	2.53899E-02	2.51070E-02	2.46250E-02
2.37841E 00	2.77126E-02	2.75150E-02	2.71395E-02	2.65667E-02
2.00000E 00	2.99918E-02	2.97265E-02	2.92331E-02	2.86491E-02
1.68179E 00	3.24116E-02	3.20557E-02	3.14168E-02	3.09395E-02
1.41421E 00	3.50120E-02	3.45356E-02	3.37292E-02	3.34074E-02
1.18921E 00	3.78378E-02	3.72015E-02	3.62377E-02	3.61007E-02
1.00000E 00	4.09395E-02	4.00939E-02	3.90997E-02	3.90758E-02
8.40896E-01	4.43755E-02	4.32627E-02	4.24347E-02	0.
7.07107E-01	4.82142E-02	4.67807E-02	4.62069E-02	0.
5.94604E-01	5.25382E-02	5.07814E-02	5.05235E-02	0.
5.00000E-01	5.74510E-02	5.55818E-02	5.55231E-02	0.
4.20448E-01	6.30906E-02	6.14721E-02	0.	0.
3.53553E-01	6.96648E-02	6.84884E-02	0.	0.
2.97302E-01	7.75483E-02	7.69826E-02	0.	0.
2.50000E-01	8.76144E-02	8.74647E-02	0.	0.
2.10224E-01	1.00920E-01	0.	0.	0.
1.76777E-01	1.18217E-01	0.	0.	0.
1.48651E-01	1.41532E-01	0.	0.	0.
1.25000E-01	1.74521E-01	0.	0.	0.

FLUXT (ELS/CM2/KEV) EP = 10.0 (MEV/AMU)

E (KEV)	ETA (KEV) 0.125	0.250	0.500	1.000
1.07635E 02	0.	0.	0.	0.
9.05097E 01	0.	0.	0.	0.
7.61093E 01	0.	0.	0.	0.
6.40000E 01	0.	0.	0.	0.
5.38174E 01	0.	0.	0.	0.
4.52548E 01	0.	0.	0.	0.
3.80546E 01	0.	0.	0.	0.
3.20000E 01	0.	0.	0.	0.
2.69087E 01	0.	0.	0.	0.
2.26274E 01	0.	0.	0.	0.
1.90273E 01	2.12290E-03	2.12168E-03	2.11923E-03	2.11436E-03
1.60000E 01	4.40846E-03	4.40534E-03	4.39912E-03	4.38675E-03
1.34543E 01	6.50529E-03	6.49965E-03	6.48839E-03	6.46606E-03
1.13137E 01	8.44123E-03	8.43223E-03	8.41431E-03	8.37883E-03
9.51366E 00	1.02426E-02	1.02292E-02	1.02025E-02	1.01498E-02
8.00000E 00	1.19419E-02	1.19226E-02	1.18844E-02	1.18092E-02
6.72717E 00	1.35647E-02	1.35377E-02	1.34843E-02	1.33800E-02
5.65685E 00	1.51376E-02	1.51004E-02	1.50270E-02	1.48851E-02
4.75683E 00	1.66855E-02	1.66350E-02	1.65354E-02	1.63454E-02
4.00000E 00	1.82328E-02	1.81645E-02	1.80305E-02	1.77804E-02
3.36359E 00	1.98034E-02	1.97115E-02	1.95325E-02	1.92095E-02
2.82843E 00	2.14213E-02	2.12980E-02	2.10604E-02	2.06557E-02
2.37841E 00	2.31114E-02	2.29465E-02	2.26331E-02	2.21547E-02
2.00000E 00	2.49001E-02	2.46796E-02	2.42696E-02	2.37840E-02
1.68179E 00	2.68157E-02	2.65210E-02	2.59919E-02	2.55961E-02
1.41421E 00	2.88894E-02	2.84960E-02	2.78300E-02	2.75633E-02
1.18921E 00	3.11563E-02	3.06320E-02	2.98376E-02	2.97233E-02
1.00000E 00	3.36565E-02	3.29608E-02	3.21426E-02	3.21212E-02
8.40896E-01	3.64366E-02	3.55223E-02	3.48413E-02	0.
7.07107E-01	3.95517E-02	3.83751E-02	3.79030E-02	0.
5.94604E-01	4.30686E-02	4.16276E-02	4.14145E-02	0.
5.00000E-01	4.70711E-02	4.55384E-02	4.54887E-02	0.
4.20448E-01	5.16719E-02	5.03452E-02	0.	0.
3.53553E-01	5.70403E-02	5.60756E-02	0.	0.
2.97302E-01	6.34825E-02	6.30177E-02	0.	0.
2.50000E-01	7.17130E-02	7.15883E-02	0.	0.
2.10224E-01	8.25960E-02	0.	0.	0.
1.76777E-01	9.67461E-02	0.	0.	0.
1.48651E-01	1.15822E-01	0.	0.	0.
1.25000E-01	1.42815E-01	0.	0.	0.

FLUXT (ELS/CM2/KEV) EP = 12.0 (MEV/AMU)

E (KEV)	ETA (KEV) 0.125	0.250	0.500	1.000
1.07635E 02	0.	0.	0.	0.
9.05097E 01	0.	0.	0.	0.
7.61093E 01	0.	0.	0.	0.
6.40000E 01	0.	0.	0.	0.
5.38174E 01	0.	0.	0.	0.
4.52948E 01	0.	0.	0.	0.
3.80546E 01	0.	0.	0.	0.
3.20000E 01	0.	0.	0.	0.
2.69087E 01	0.	0.	0.	0.
2.26274E 01	1.81375E-03	1.81290E-03	1.81119E-03	1.80779E-03
1.90273E 01	3.63929E-03	3.63719E-03	3.63300E-03	3.62465E-03
1.60000E 01	5.31531E-03	5.31155E-03	5.30405E-03	5.28914E-03
1.34543E 01	6.86766E-03	6.85670E-03	6.84483E-03	6.82127E-03
1.13137E 01	8.30136E-03	8.29251E-03	8.27488E-03	8.24000E-03
9.51366E 00	9.65719E-03	9.64453E-03	9.61935E-03	9.56967E-03
8.00000E 00	1.09493E-02	1.09316E-02	1.08965E-02	1.08274E-02
6.72717E 00	1.21982E-02	1.21739E-02	1.21258E-02	1.20320E-02
5.65685E 00	1.34234E-02	1.33905E-02	1.33255E-02	1.31994E-02
4.75683E 00	1.46435E-02	1.45991E-02	1.45116E-02	1.43448E-02
4.00000E 00	1.58769E-02	1.58174E-02	1.57006E-02	1.54827E-02
3.36359E 00	1.71420E-02	1.70624E-02	1.69074E-02	1.66276E-02
2.82843E 00	1.84576E-02	1.83513E-02	1.81465E-02	1.77974E-02
2.37841E 00	1.98434E-02	1.97017E-02	1.94324E-02	1.90213E-02
2.00000E 00	2.13204E-02	2.11314E-02	2.07801E-02	2.03639E-02
1.68179E 00	2.29116E-02	2.26597E-02	2.22073E-02	2.18685E-02
1.41421E 00	2.46426E-02	2.43068E-02	2.37383E-02	2.35101E-02
1.18921E 00	2.65423E-02	2.60954E-02	2.54182E-02	2.53200E-02
1.00000E 00	2.86441E-02	2.80517E-02	2.73548E-02	2.73355E-02
8.40896E-01	3.09869E-02	3.02090E-02	2.96292E-02	0.
7.07107E-01	3.36169E-02	3.26165E-02	3.22144E-02	0.
5.94604E-01	3.65905E-02	3.53657E-02	3.51838E-02	0.
5.00000E-01	3.99783E-02	3.86760E-02	3.86326E-02	0.
4.20448E-01	4.38757E-02	4.27484E-02	0.	0.
3.53553E-01	4.84760E-02	4.76062E-02	0.	0.
2.97302E-01	5.38890E-02	5.34935E-02	0.	0.
2.50000E-01	6.08708E-02	6.07637E-02	0.	0.
2.10224E-01	7.01046E-02	0.	0.	0.
1.76777E-01	8.21118E-02	0.	0.	0.
1.48651E-01	9.83003E-02	0.	0.	0.
1.25000E-01	1.21208E-01	0.	0.	0.

P (EP,0) EP = 4.0 (MEV/AMU) ETA = 0.125 (KEV)

	L/W (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.48622E-01	6.38773E-01	5.90107E-01	1.72362E-01	5.12042E-03
HELIUM	8.09791E-01	4.94970E-01	1.21263E-01	6.82651E-04	6.87504E-10
LITHIUM	6.22186E-01	2.05624E-01	8.69363E-03	1.35126E-07	0.
BORON	2.71665E-01	1.29857E-02	2.18947E-06	0.	0.
CARBON	1.57691E-01	2.11660E-03	4.50754E-09	0.	0.
NITROGEN	8.57433E-02	2.78627E-04	2.15789E-11	0.	0.
OXYGEN	4.45218E-02	3.12815E-05	0.	0.	0.
FLUORINE	2.24238E-02	3.17994E-06	0.	0.	0.
NEON	1.11302E-02	3.07898E-07	0.	0.	0.
ARGON	8.77331E-05	0.	0.	0.	0.

P (EP,1) EP = 4.0 (MEV/AMU) ETA = 0.125 (KEV)

	L/W (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	5.00352E-02	1.47469E-01	3.11253E-01	3.03040E-01	2.70077E-02
HELIUM	1.70849E-01	3.48092E-01	2.55840E-01	6.20751E-03	1.45049E-08
LITHIUM	2.95237E-01	3.25237E-01	4.12527E-02	2.13730E-06	0.
BORON	3.54030E-01	5.69087E-02	2.85529E-05	0.	0.
CARBON	2.91374E-01	1.30442E-02	1.75616E-07	0.	0.
NITROGEN	2.10678E-01	2.27930E-03	5.29963E-10	0.	0.
OXYGEN	1.38562E-01	3.24467E-04	0.	0.	0.
FLUORINE	8.51574E-02	4.02538E-05	0.	0.	0.
NEON	5.00647E-02	4.61447E-06	0.	0.	0.
ARGON	6.19535E-04	0.	0.	0.	0.

P (EP,2) EP = 4.0 (MEV/AMU) ETA = 0.125 (KEV)

	L/W (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.31956E-03	1.29637E-02	8.20855E-02	2.66396E-01	7.12264E-02
HELIUM	1.80228E-02	1.22399E-01	2.69885E-01	2.18367E-02	1.53012E-07
LITHIUM	7.00475E-02	2.57214E-01	9.78794E-02	1.69029E-05	0.
BORON	2.30638E-01	1.22517E-01	1.85918E-04	0.	0.
CARBON	2.69007E-01	4.01567E-02	1.62191E-06	0.	0.
NITROGEN	2.58705E-01	9.32960E-03	6.50776E-09	0.	0.
OXYGEN	2.15556E-01	1.68276E-03	0.	0.	0.
FLUORINE	1.61698E-01	2.54779E-04	0.	0.	0.
NEON	1.12598E-01	3.46085E-05	0.	0.	0.
ARGON	3.82772E-03	0.	0.	0.	0.

P (EP,0) EP = 4.0 (MEV/AMU) ETA = 0.250 (KEV)

	L/W (CM/KEV) .000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.42089E-01	8.19674E-01	5.50708E-01	1.36903E-01	2.56576E-03
HELIUM	7.87715E-01	4.51406E-01	9.19798E-02	3.51298E-04	4.33636E-11
LITHIUM	5.84686E-01	1.67141E-01	4.66906E-03	1.70154E-08	0.
BORON	2.29029E-01	7.35059E-03	3.97103E-07	0.	0.
CARBON	1.23799E-01	9.45697E-04	8.45602E-10	0.	0.
NITROGEN	6.21834E-02	9.52700E-05	0.	0.	0.
OXYGEN	2.96163E-02	8.03811E-06	0.	0.	0.
FLUORINE	1.36347E-02	6.05643E-07	0.	0.	0.
NEON	6.17430E-03	4.31882E-08	0.	0.	0.
ARGON	2.38049E-05	0.	0.	0.	0.

P (EP,1) EP = 4.0 (MEV/AMU) ETA = 0.250 (KEV)

	L/W (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	5.62004E-02	1.62991E-01	3.28525E-01	2.72230E-01	1.53060E-02
HELIUM	1.87964E-01	3.59043E-01	2.19481E-01	2.79418E-03	1.03426E-09
LITHIUM	3.13789E-01	2.99002E-01	2.50579E-02	3.04300E-07	0.
BORON	3.37967E-01	3.61133E-02	5.85293E-06	0.	0.
CARBON	2.58628E-01	6.58565E-03	1.76654E-08	0.	0.
NITROGEN	1.72725E-01	8.82086E-04	0.	0.	0.
OXYGEN	1.04233E-01	9.42976E-05	0.	0.	0.
FLUORINE	5.83630E-02	8.67097E-06	0.	0.	0.
NEON	3.14109E-02	7.32373E-07	0.	0.	0.
ARGON	2.72628E-04	0.	0.	0.	0.

P (EP,2) EP = 4.0 (MEV/AMU) ETA = 0.250 (KEV)

	L/W (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.47632E-03	1.62052E-02	9.79908E-02	2.70662E-01	4.56541E-02
HELIUM	2.24258E-02	1.42789E-01	2.61861E-01	1.11125E-02	1.23397E-08
LITHIUM	8.42022E-02	2.67444E-01	6.72403E-02	2.72764E-06	0.
BORON	2.48771E-01	8.71181E-02	4.31334E-05	0.	0.
CARBON	2.70149E-01	2.29292E-02	1.84524E-07	0.	0.
NITROGEN	2.39886E-01	4.08352E-03	0.	0.	0.
OXYGEN	1.83670E-01	5.53118E-04	0.	0.	0.
FLUORINE	1.25768E-01	6.20730E-05	0.	0.	0.
NEON	7.98992E-02	6.20968E-06	0.	0.	0.
ARGON	1.44015E-03	0.	0.	0.	0.

P (EP,0) EP = 4.0 (MEV/AMU) ETA = 0.500 (KEV)

	L/W (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.35602E-01	8.01011E-01	5.13940E-01	1.08739E-01	1.28566E-03
HELIUM	7.66242E-01	4.11677E-01	6.97682E-02	1.59818E-04	0.
LITHIUM	5.49447E-01	1.35861E-01	2.50759E-03	3.14261E-09	0.
BORON	1.93084E-01	4.16083E-03	7.20224E-08	0.	0.
CARBON	9.71931E-02	4.22136E-04	7.52079E-11	0.	0.
NITROGEN	4.50761E-02	3.25987E-05	0.	0.	0.
OXYGEN	1.97010E-02	2.06548E-06	0.	0.	0.
FLUORINE	8.29055E-03	1.15349E-07	0.	0.	0.
NEON	3.42509E-03	6.05791E-09	0.	0.	0.
ARGON	7.59001E-06	0.	0.	0.	0.

P (EP,1) EP = 4.0 (MEV/AMU) ETA = 0.500 (KEV)

	L/W (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	6.27782E-02	1.77729E-01	3.42103E-01	2.41271E-01	8.55798E-03
HELIUM	2.04018E-01	3.65370E-01	1.85763E-01	1.24091E-03	0.
LITHIUM	3.29033E-01	2.71169E-01	1.50163E-02	4.27491E-08	0.
BORON	3.17552E-01	2.28098E-02	1.18450E-06	0.	0.
CARBON	2.26560E-01	3.28008E-03	1.75315E-09	0.	0.
NITROGEN	1.39709E-01	3.36785E-04	0.	0.	0.
OXYGEN	7.73676E-02	2.70574E-05	0.	0.	0.
FLUORINE	3.97336E-02	1.84273E-06	0.	0.	0.
NEON	1.94430E-02	1.14627E-07	0.	0.	0.
ARGON	8.94762E-05	0.	0.	0.	0.

P (EP,2) EP = 4.0 (MEV/AMU) ETA = 0.500 (KEV)

	L/W (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	2.07277E-03	1.97173E-02	1.13860E-01	2.67666E-01	2.84830E-02
HELIUM	2.71606E-02	1.62136E-01	2.47304E-01	5.50644E-03	0.
LITHIUM	9.85195E-02	2.70670E-01	4.49628E-02	4.26863E-07	0.
BORON	2.61127E-01	6.25222E-02	9.76032E-06	0.	0.
CARBON	2.64064E-01	1.27434E-02	2.04337E-08	0.	0.
NITROGEN	2.16507E-01	1.73970E-03	0.	0.	0.
OXYGEN	1.51915E-01	1.76962E-04	0.	0.	0.
FLUORINE	9.52144E-02	1.47191E-05	0.	0.	0.
NEON	5.51852E-02	1.08448E-06	0.	0.	0.
ARGON	5.27603E-04	0.	0.	0.	0.

P (EP,0) EP = 4.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.29160E-01	7.82773E-01	4.79627E-01	8.63687E-02	6.44224E-04
HELIUM	7.45353E-01	3.75444E-01	5.29203E-02	5.56481E-05	0.
LITHIUM	5.16331E-01	1.10434E-01	1.34674E-03	2.69802E-10	0.
BORON	1.62781E-01	2.35525E-03	1.30626E-08	0.	0.
CARBON	7.63020E-02	1.88435E-04	0.	0.	0.
NITROGEN	3.24752E-02	1.11544E-05	0.	0.	0.
OXYGEN	1.31053E-02	5.30746E-07	0.	0.	0.
FLUORINE	5.04104E-03	2.19690E-08	0.	0.	0.
NEON	1.90001E-03	8.49729E-10	0.	0.	0.
ARGON	2.23245E-06	0.	0.	0.	0.

P (EP,1) EP = 4.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	6.82697E-02	1.41711E-01	3.52604E-01	2.11528E-01	4.73341E-03
HELIUM	2.19057E-01	3.67802E-01	1.55531E-01	5.45155E-04	0.
LITHIUM	3.41298E-01	2.43324E-01	8.90206E-03	5.94463E-09	0.
BORON	2.95504E-01	1.42519E-02	2.37133E-07	0.	0.
CARBON	1.96329E-01	1.61615E-03	0.	0.	0.
NITROGEN	1.11786E-01	1.27201E-04	0.	0.	0.
OXYGEN	5.68081E-02	7.66873E-06	0.	0.	0.
FLUORINE	2.66678E-02	3.87393E-07	0.	0.	0.
NEON	1.19053E-02	1.77475E-08	0.	0.	0.
ARGON	2.90496E-05	0.	0.	0.	0.

P (EP,2) EP = 4.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	2.50804E-03	2.34763E-02	1.29464E-01	2.59030E-01	1.73895E-02
HELIUM	3.21901E-02	1.80158E-01	2.28550E-01	2.67029E-05	0.
LITHIUM	1.12800E-01	2.68062E-01	2.94216E-02	6.54900E-08	0.
BORON	2.68222E-01	4.31198E-02	2.15240E-06	0.	0.
CARBON	2.52583E-01	6.93066E-03	0.	0.	0.
NITROGEN	1.91218E-01	7.25278E-04	0.	0.	0.
OXYGEN	1.23124E-01	5.54027E-05	0.	0.	0.
FLUORINE	7.05383E-02	3.41558E-06	0.	0.	0.
NEON	3.72986E-02	1.85358E-07	0.	0.	0.
ARGON	1.89003E-04	0.	0.	0.	0.

P (EP,0) EP = 6.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000F-06	3.333F-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.62753E-01	8.81150E-01	6.84146E-01	2.82163E-01	2.24639E-02
HELIUM	8.59131E-01	6.02838E-01	2.19076E-01	6.33875E-03	2.54651E-07
LITHIUM	7.10629E-01	3.20244E-01	3.28419E-02	1.13451E-05	0.
BORON	3.88539E-01	4.28017E-02	7.84047E-05	0.	0.
CARBON	2.58731E-01	1.10370E-02	1.34428E-06	0.	0.
NITROGEN	1.62250E-01	2.32976E-03	1.26431E-08	0.	0.
OXYGEN	9.67637E-02	4.15983E-04	7.19656E-11	0.	0.
FLUORINE	5.54623E-02	6.50685E-05	0.	0.	0.
NEON	3.08716E-02	9.23098E-06	0.	0.	0.
ARGON	2.68631E-04	0.	0.	0.	0.

P (EP,1) EP = 6.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.65446E-02	1.11489E-01	2.59691E-01	3.57013E-01	8.52696E-02
HELIUM	1.30445E-01	3.05101E-01	3.32631E-01	3.20809E-02	3.86646E-06
LITHIUM	2.42754E-01	3.64653E-01	1.12190E-01	1.29184E-04	0.
BORON	3.67310E-01	1.34876E-01	7.41208E-04	0.	0.
CARBON	3.49796E-01	4.97381E-02	1.81742E-05	0.	0.
NITROGEN	2.95071E-01	1.41230E-02	2.29929E-07	0.	0.
OXYGEN	2.25990E-01	3.23837E-03	1.68074E-09	0.	0.
FLUORINE	1.60400E-01	6.77263E-04	0.	0.	0.
NEON	1.07369E-01	1.07014E-04	0.	0.	0.
ARGON	2.20873E-03	0.	0.	0.	0.

P (EP,2) EP = 6.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	6.93588E-04	7.05319E-03	4.92873E-02	2.25858E-01	1.61835E-01
HELIUM	4.90298E-03	7.72068E-02	2.52523E-01	8.11819E-02	2.93529E-05
LITHIUM	4.14631E-02	2.07610E-01	1.91623E-01	7.35490E-04	0.
BORON	1.73621E-01	2.12509E-01	3.50355E-03	0.	0.
CARBON	2.36456E-01	1.12073E-01	1.22854E-04	0.	0.
NITROGEN	2.68310E-01	4.28066E-02	2.09076E-06	0.	0.
OXYGEN	2.63898E-01	1.26051E-02	1.96268E-08	0.	0.
FLUORINE	2.31942E-01	3.02343E-03	0.	0.	0.
NEON	1.86710E-01	6.20305E-04	0.	0.	0.
ARGON	9.08028E-03	0.	0.	0.	0.

P (EP,0) EP = 6.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000F-05	3.333E-05	1.000E-04
HYDROGEN	9.58314E-01	8.67681E-01	6.53249E-01	2.41881E-01	1.41509E-02
HELIUM	8.43396E-01	5.66814E-01	1.82102E-01	3.42299E-03	4.00997E-08
LITHIUM	6.81680E-01	2.78789E-01	2.16675E-02	2.83628E-06	0.
BORON	3.46297E-01	2.91639E-02	2.48023E-05	0.	0.
CARBON	2.19465E-01	6.37636E-03	2.59211E-07	0.	0.
NITROGEN	1.30025E-01	1.11376E-03	1.38128E-09	0.	0.
OXYGEN	7.28159E-02	1.61235E-04	0.	0.	0.
FLUORINE	3.90018E-02	2.01216E-05	0.	0.	0.
NEON	2.02147E-02	2.25053E-06	0.	0.	0.
ARGON	9.87230E-05	0.	0.	0.	0.

P (EP,1) EP = 6.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	4.08048E-02	1.23151E-01	2.78152E-01	3.43304E-01	6.02543E-02
HELIUM	1.43646E-01	3.21794E-01	3.10154E-01	1.94331E-02	6.82975E-07
LITHIUM	2.61216E-01	3.56097E-01	8.30285E-02	3.62278E-05	0.
BORON	3.67234E-01	1.03089E-01	2.63018E-04	0.	0.
CARBON	3.32832E-01	3.22335E-02	3.93109E-06	0.	0.
NITROGEN	2.65255E-01	7.57355E-03	2.81784E-08	0.	0.
OXYGEN	1.90765E-01	1.40801E-03	0.	0.	0.
FLUORINE	1.26528E-01	2.17589E-04	0.	0.	0.
NEON	7.88647E-02	2.92666E-05	0.	0.	0.
ARGON	9.10541E-04	0.	0.	0.	0.

P (EP,2) EP = 6.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	8.68729E-04	8.73947E-03	5.92181E-02	2.43627E-01	1.28281E-01
HELIUM	1.22328E-02	9.13451E-02	2.64125E-01	5.51633E-02	5.81618E-06
LITHIUM	5.00483E-02	2.27422E-01	1.59080E-01	2.31369E-04	0.
BORON	1.94718E-01	1.82201E-01	1.39460E-03	0.	0.
CARBON	2.52381E-01	8.14727E-02	2.98087E-05	0.	0.
NITROGEN	2.70564E-01	2.57302E-02	2.87423E-07	0.	0.
OXYGEN	2.49885E-01	6.14782E-03	0.	0.	0.
FLUORINE	2.03237E-01	1.17647E-03	0.	0.	0.
NEON	1.53839E-01	1.90297E-04	0.	0.	0.
ARGON	6.19905E-03	0.	0.	0.	0.

P (EP,0) EP = 6.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333F-05	1.000E-04
HYDROGEN	9.53896E-01	8.54418E-01	6.23747E-01	2.07349E-01	8.91423E-03
HELIUM	8.27949E-01	5.32943E-01	1.51368E-01	1.84845E-03	6.31449E-09
LITHIUM	6.53911E-01	2.42700E-01	1.42951E-02	7.09070E-07	0.
BORON	3.08649E-01	1.98715E-02	7.84590E-06	0.	0.
CARBON	1.86159E-01	3.68381E-03	4.99824E-08	0.	0.
NITROGEN	1.04201E-01	5.32438E-04	1.50907E-10	0.	0.
OXYGEN	5.47949E-02	6.24948E-05	0.	0.	0.
FLUORINE	2.74265E-02	6.22234E-06	0.	0.	0.
NEON	1.32366E-02	5.48682E-07	0.	0.	0.
ARGON	3.62811E-05	0.	0.	0.	0.

P (EP,1) EP = 6.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	4.50249E-02	1.34430E-01	2.94415E-01	3.26235E-01	4.20761E-02
HELIUM	1.96320E-01	3.35403E-01	2.85789E-01	1.16330E-02	1.19220E-07
LITHIUM	2.77771E-01	3.43646E-01	6.07234E-02	1.00399E-05	0.
BORON	3.62832E-01	7.78659E-02	9.22326E-05	0.	0.
CARBON	3.12961E-01	2.06433E-02	8.40284E-07	0.	0.
NITROGEN	2.35643E-01	4.01354E-03	3.41266E-09	0.	0.
OXYGEN	1.59133E-01	6.04976E-04	0.	0.	0.
FLUORINE	9.86325E-02	7.45895E-05	0.	0.	0.
NEON	5.72453E-02	7.90966E-06	0.	0.	0.
ARGON	3.70946E-04	0.	0.	0.	0.

P (EP,2) EP = 6.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.06261E-03	1.05753E-02	6.94835E-02	2.56640E-01	9.93019E-02
HELIUM	1.47570E-02	1.05541E-01	2.69791E-01	3.66057E-02	1.12546E-06
LITHIUM	5.89962E-02	2.43289E-01	1.28972E-01	7.10793E-05	0.
BORON	2.13264E-01	1.52558E-01	5.42121E-04	0.	0.
CARBON	2.63069E-01	5.78407E-02	7.06325E-06	0.	0.
NITROGEN	2.66446E-01	1.51271E-02	3.85875E-08	0.	0.
OXYGEN	2.31074E-01	2.92821E-03	0.	0.	0.
FLUORINE	1.77353E-01	4.47066E-04	0.	0.	0.
NEON	1.23786E-01	5.70118E-05	0.	0.	0.
ARGON	1.89631E-03	0.	0.	0.	0.

P (EP,0) EP = 6.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333F-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.49498E-01	8.41357E-01	5.95578E-01	1.77747E-01	5.61549E-03
HELIUM	8.12784E-01	5.01096E-01	1.25821E-01	9.98179E-04	9.94340E-10
LITHIUM	6.27273E-01	2.11282E-01	9.43123E-03	1.77268E-07	0.
BORON	2.75093E-01	1.35399E-02	2.48195E-06	0.	0.
CARBON	1.57906E-01	2.12824E-03	9.63786E-09	0.	0.
NITROGEN	8.35052E-02	2.54535E-04	1.64868E-11	0.	0.
OXYGEN	4.12339E-02	2.42230E-05	0.	0.	0.
FLUORINE	1.92866E-02	1.92418E-06	0.	0.	0.
NEON	8.66735E-03	1.53769E-07	0.	0.	0.
ARGON	1.33335E-05	0.	0.	0.	0.

P (EP,1) EP = 6.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	4.92052E-02	1.45336E-01	3.08642E-01	3.07039E-01	2.91005E-02
HELIUM	1.68482E-01	3.46236E-01	2.60814E-01	6.89699E-03	2.06116E-08
LITHIUM	2.92543E-01	3.28451E-01	4.39847E-02	2.75573E-06	0.
BORON	3.55048E-01	5.82503E-02	3.20332E-05	0.	0.
CARBON	2.91456E-01	1.30939E-02	1.77892E-07	0.	0.
NITROGEN	2.07331E-01	2.10655E-03	4.09342E-10	0.	0.
OXYGEN	1.31474E-01	2.57447E-04	0.	0.	0.
FLUORINE	7.61503E-02	2.53242E-05	0.	0.	0.
NEON	4.11543E-02	2.11719E-06	0.	0.	0.
ARGON	1.49671E-04	0.	0.	0.	0.

P (EP,2) EP = 6.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.27497E-03	1.25526E-02	7.99729E-02	2.65189E-01	7.54028E-02
HELIUM	1.74622E-02	1.19617E-01	2.70320E-01	2.38277E-02	2.13628E-07
LITHIUM	6.82171E-02	2.55298E-01	1.02566E-01	2.14198E-05	0.
BORON	2.29121E-01	1.25300E-01	2.06718E-04	0.	0.
CARBON	2.68978E-01	4.02799E-02	1.64172E-06	0.	0.
NITROGEN	2.57385E-01	8.71699E-03	5.08166E-09	0.	0.
OXYGEN	2.09602E-01	1.36810E-03	0.	0.	0.
FLUORINE	1.50334E-01	1.66646E-04	0.	0.	0.
NEON	9.77041E-02	1.67545E-05	0.	0.	0.
ARGON	8.40047E-04	0.	0.	0.	0.

P (EP,0) EP = 8.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333F-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.70458E-01	9.04877E-01	7.40912E-01	3.68039E-01	4.98504E-02
HELIUM	8.86966E-01	6.70436E-01	3.01347E-01	1.83474E-02	6.17554E-06
LITHIUM	7.63469E-01	4.06733E-01	6.72847E-02	1.23907E-04	0.
BORON	4.73038E-01	8.24769E-02	5.61002E-04	1.45654E-11	0.
CARBON	3.41529E-01	2.78468E-02	2.15913E-05	0.	0.
NITROGEN	2.33924E-01	7.88744E-03	4.90620E-07	0.	0.
OXYGEN	1.52874E-01	1.91047E-03	6.97168E-09	0.	0.
FLUORINE	9.59718E-02	4.04743E-04	6.62884E-11	0.	0.
NEON	5.82951E-02	7.68211E-05	0.	0.	0.
ARGON	7.17412E-04	3.30623E-11	0.	0.	0.

P (EP,1) EP = 8.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	2.91014E-02	9.04484E-02	2.22180E-01	3.67879E-01	1.49488E-01
HELIUM	1.06391E-01	2.68058E-01	3.61464E-01	7.33580E-02	7.40751E-05
LITHIUM	2.06047E-01	3.65896E-01	1.81590E-01	1.11466E-03	0.
BORON	3.54106E-01	2.05799E-01	4.19954E-03	3.63442E-10	0.
CARBON	3.66912E-01	9.97204E-02	2.31960E-04	0.	0.
NITROGEN	3.39835E-01	3.81948E-02	7.12752E-06	0.	0.
OXYGEN	2.87119E-01	1.19603E-02	1.30938E-07	0.	0.
FLUORINE	2.24929E-01	3.16196E-03	1.55360E-09	0.	0.
NEON	1.65688E-01	7.27806E-04	0.	0.	0.
ARGON	5.19396E-03	7.97881E-10	0.	0.	0.

P (EP,2) EP = 8.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	4.36336E-04	4.52046E-03	3.33128E-02	1.83860E-01	2.24137E-01
HELIUM	6.38074E-03	5.35884E-02	2.16786E-01	1.46652E-01	4.44262E-04
LITHIUM	2.78042E-02	1.64580E-01	2.45039E-01	5.01374E-03	0.
BORON	1.32538E-01	2.56759E-01	1.57184E-02	4.53437E-09	0.
CARBON	1.97091E-01	1.78551E-01	1.24600E-03	0.	0.
NITROGEN	2.46849E-01	9.24788E-02	5.17729E-05	0.	0.
OXYGEN	2.69625E-01	3.74382E-02	1.22960E-06	0.	0.
FLUORINE	2.63583E-01	1.23510E-02	1.82059E-08	0.	0.
NEON	2.35463E-01	3.44763E-03	0.	0.	0.
ARGON	1.88018E-02	9.62788E-09	0.	0.	0.

P (EP,0) EP = 8.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.67089E-01	8.94450E-01	7.15593E-01	3.27762E-01	3.52096E-02
HELIUM	8.74715E-01	6.40064E-01	2.62219E-01	1.15408E-02	1.53690E-06
LITHIUM	7.39468E-01	3.66445E-01	4.92053E-02	4.36600E-05	0.
BORON	4.33711E-01	6.17561E-02	2.35506E-04	0.	0.
CARBON	3.01528E-01	1.83863E-02	6.21274E-06	0.	0.
NITROGEN	1.97640E-01	4.49866E-03	9.10287E-08	0.	0.
OXYGEN	1.22958E-01	9.24452E-04	7.89881E-10	0.	0.
FLUORINE	7.31344E-02	1.63594E-04	0.	0.	0.
NEON	4.19281E-02	2.56092E-05	0.	0.	0.
ARGON	3.09878E-04	0.	0.	0.	0.

P (EP,1) EP = 8.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.23630E-02	9.97729E-02	2.39469E-01	3.65608E-01	1.17827E-01
HELIUM	1.17087E-01	2.85588E-01	3.51000E-01	5.14934E-02	2.05726E-05
LITHIUM	2.22854E-01	3.67877E-01	1.48194E-01	4.38306E-04	0.
BORON	3.62912E-01	1.71964E-01	1.96737E-03	0.	0.
CARBON	3.61800E-01	7.34682E-02	7.44840E-05	0.	0.
NITROGEN	3.20447E-01	2.43106E-02	1.47577E-06	0.	0.
OXYGEN	2.57709E-01	6.45851E-03	1.65552E-08	0.	0.
FLUORINE	1.91280E-01	1.42626E-03	0.	0.	0.
NEON	1.32988E-01	2.70755E-04	0.	0.	0.
ARGON	2.50361E-03	0.	0.	0.	0.

P (EP,2) EP = 8.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	5.41504E-04	5.56467E-03	4.00683E-02	2.03912E-01	1.97130E-01
HELIUM	7.83668E-03	6.37129E-02	2.34920E-01	1.16878E-01	1.37690E-04
LITHIUM	3.35591E-02	1.84657E-01	2.23162E-01	2.20009E-03	0.
BORON	1.51136E-01	2.39622E-01	8.21747E-03	0.	0.
CARBON	2.16699E-01	1.46799E-01	4.46491E-04	0.	0.
NITROGEN	2.58734E-01	6.56871E-02	1.19626E-05	0.	0.
OXYGEN	2.70068E-01	2.25606E-02	1.73492E-07	0.	0.
FLUORINE	2.50162E-01	6.21715E-03	0.	0.	0.
NEON	2.10905E-01	1.43129E-03	0.	0.	0.
ARGON	1.01137E-02	0.	0.	0.	0.

P (EP,0) EP = 8.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333F-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.63733E-01	8.84143E-01	6.91139E-01	2.91893E-01	2.48688E-02
HELIUM	8.62633E-01	6.11068E-01	2.28172E-01	7.25929E-03	3.82489E-07
LITHIUM	7.17151E-01	3.30147E-01	3.59838E-02	1.53841E-05	0.
BORON	3.97653E-01	4.62410E-02	9.88646E-05	0.	0.
CARBON	2.66213E-01	1.21371E-02	1.78767E-06	0.	0.
NITROGEN	1.67017E-01	2.56584E-03	1.68893E-08	0.	0.
OXYGEN	9.88960E-02	4.47331E-04	8.94923E-11	0.	0.
FLUORINE	5.57314E-02	6.61265E-05	0.	0.	0.
NEON	3.01563E-02	8.53715E-06	0.	0.	0.
ARGON	1.33848E-04	0.	0.	0.	0.

P (EP,1) EP = 8.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.56016E-02	1.08871E-01	2.55317E-01	3.59428E-01	9.16688E-02
HELIUM	1.27468E-01	3.00980E-01	3.37160E-01	3.57554E-02	5.65187E-06
LITHIUM	2.38430E-01	3.65875E-01	1.19635E-01	1.70490E-04	0.
BORON	3.66706E-01	1.42140E-01	9.11706E-04	0.	0.
CARBON	3.52322E-01	5.35427E-02	2.36591E-05	0.	0.
NITROGEN	2.98904E-01	1.53064E-02	3.02261E-07	0.	0.
OXYGEN	2.28814E-01	3.44991E-03	2.07057E-09	0.	0.
FLUORINE	1.60908E-01	6.36398E-04	0.	0.	0.
NEON	1.05588E-01	9.96378E-05	0.	0.	0.
ARGON	1.19377E-03	0.	0.	0.	0.

P (EP,2) EP = 8.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000F-05	3.333E-05	1.000E-04
HYDROGEN	6.57588E-04	6.70299E-03	4.71588E-02	2.21294E-01	1.69688E-01
HELIUM	9.41767E-03	7.41234E-02	2.49103E-01	8.80562E-02	4.17576E-05
LITHIUM	3.96353E-02	2.02734E-01	1.98874E-01	9.44697E-04	0.
BORON	1.69084E-01	2.18461E-01	4.20376E-03	0.	0.
CARBON	2.33142E-01	1.18101E-01	1.56559E-04	0.	0.
NITROGEN	2.67468E-01	4.56551E-02	2.70472E-06	0.	0.
OXYGEN	2.64702E-01	1.33032E-02	2.39533E-08	0.	0.
FLUORINE	2.32288E-01	3.06233E-03	0.	0.	0.
NEON	1.84851E-01	5.81440E-04	0.	0.	0.
ARGON	5.32349E-03	0.	0.	0.	0.

P (EP,0) EP = 8.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000F-06	3.333F-06	1.000F-05	3.333F-05	1.000F-04
HYDROGEN	9.60387E-01	6.73955E-01	6.67521E-01	2.59949E-01	1.75650E-02
HELIUM	8.50719E-01	5.83385E-01	1.98545E-01	4.56619E-03	9.51898E-08
LITHIUM	6.95057E-01	2.97445E-01	2.63150E-02	5.42078E-06	0.
BORON	3.64593E-01	3.46238E-02	4.15029E-05	0.	0.
CARBON	2.35033E-01	8.01280E-03	5.14387E-07	0.	0.
NITROGEN	1.41125E-01	1.46345E-03	3.13361E-09	0.	0.
OXYGEN	7.95428E-02	2.16458E-04	0.	0.	0.
FLUORINE	4.24696E-02	2.67285E-05	0.	0.	0.
NEON	2.16696E-02	2.84596E-06	0.	0.	0.
ARGON	5.78143E-05	0.	0.	0.	0.

P (EP,1) EP = 8.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333F-05	1.000E-04
HYDROGEN	3.88174E-02	1.17745E-01	2.69802E-01	3.50221E-01	7.09950E-02
HELIUM	1.37539E-01	3.14391E-01	3.20996E-01	2.46075E-02	1.53897E-06
LITHIUM	2.52835E-01	3.60660E-01	9.57238E-02	6.57284E-05	0.
BORON	3.67865E-01	1.16447E-01	4.18754E-04	0.	0.
CARBON	3.40335E-01	3.86755E-02	7.44848E-06	0.	0.
NITROGEN	2.76338E-01	9.55186E-03	6.13595E-08	0.	0.
OXYGEN	2.01359E-01	1.82650E-03	0.	0.	0.
FLUORINE	1.34160E-01	2.81445E-04	0.	0.	0.
NEON	8.30912E-02	3.63418E-05	0.	0.	0.
ARGON	5.64168E-04	0.	0.	0.	0.

P (EP,2) EP = 8.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000F-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	7.84470E-04	7.93173E-03	5.45249E-02	2.35971E-01	1.43475E-01
HELIUM	1.11182E-02	8.47138E-02	2.59483E-01	6.63059E-02	1.24406E-05
LITHIUM	4.59859E-02	2.18655E-01	1.74103E-01	3.98488E-04	0.
BORON	1.85583E-01	1.95818E-01	2.11256E-03	0.	0.
CARBON	2.46407E-01	9.33378E-02	5.39280E-05	0.	0.
NITROGEN	2.70550E-01	3.11729E-02	6.00743E-07	0.	0.
OXYGEN	2.54867E-01	7.70609E-03	0.	0.	0.
FLUORINE	2.11904E-01	1.48178E-03	0.	0.	0.
NEON	1.59158E-01	2.32035E-04	0.	0.	0.
ARGON	2.75265E-03	0.	0.	0.	0.

P (EP,0) EP = 10.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.75357E-01	9.20192E-01	7.79173E-01	4.35295E-01	8.24783E-02
HELIUM	9.05010E-01	7.16990E-01	3.68583E-01	3.59032E-02	4.62762E-05
LITHIUM	7.98660E-01	4.73049E-01	1.05854E-01	5.61127E-04	1.76639E-10
BORON	5.36116E-01	1.75181E-01	1.96150E-03	9.44897E-10	0.
CARBON	4.08157E-01	5.04394E-02	1.28313E-04	0.	0.
NITROGEN	2.96706E-01	1.74223E-02	5.28768E-06	0.	0.
OXYGEN	2.06675E-01	5.21978E-03	1.42196E-07	0.	0.
FLUORINE	1.38570E-01	1.37698E-03	2.61035E-09	0.	0.
NEON	8.98855E-02	3.25338E-04	3.44269E-11	0.	0.
ARGON	1.58322E-03	4.62629E-10	0.	0.	0.

P (EP,1) EP = 10.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	2.43373E-02	7.65353E-02	1.94421E-01	3.62049E-01	2.05801E-01
HELIUM	9.03280E-02	2.38538E-01	3.67879E-01	1.19447E-01	4.61877E-04
LITHIUM	1.79399E-01	3.54104E-01	2.37716E-01	4.20035E-03	3.96676E-09
BORON	3.34217E-01	2.60125E-01	1.22281E-02	1.96349E-08	0.
CARBON	3.65751E-01	1.50662E-01	1.14982E-03	0.	0.
NITROGEN	3.60502E-01	7.05604E-02	6.42460E-05	0.	0.
OXYGEN	3.25846E-01	2.74315E-02	2.24187E-06	0.	0.
FLUORINE	2.73867E-01	9.07137E-03	5.15904E-08	0.	0.
NEON	2.16554E-01	2.61267E-03	8.29419E-10	0.	0.
ARGON	1.02091E-02	9.94379E-09	0.	0.	0.

P (EP,2) EP = 10.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.03635E-04	3.18284E-03	2.42561E-02	1.50564E-01	2.56760E-01
HELIUM	4.50777E-03	3.96799E-02	1.83588E-01	1.98697E-01	2.30497E-03
LITHIUM	2.01438E-02	1.32535E-01	2.66919E-01	1.57210E-02	4.45406E-08
BORON	1.04176E-01	2.70270E-01	3.81152E-02	2.04006E-07	0.
CARBON	1.63875E-01	2.25012E-01	5.15179E-03	0.	0.
NITROGEN	2.19007E-01	1.42885E-01	3.90299E-04	0.	0.
OXYGEN	2.56865E-01	7.20804E-02	1.76727E-05	0.	0.
FLUORINE	2.70633E-01	2.98804E-02	5.09811E-07	0.	0.
NEON	2.60863E-01	1.04907E-02	9.99126E-09	0.	0.
ARGON	3.29156E-02	1.06866E-07	0.	0.	0.

P (EP,0) EP = 10.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000F-06	3.333F-06	1.000F-05	3.333F-05	1.000E-04
HYDROGEN	9.72639E-01	9.11672E-01	7.57731E-01	3.96631E-01	6.23948E-02
HELIUM	8.94965E-01	6.90804E-01	3.29655E-01	2.47484E-02	1.51563E-05
LITHIUM	7.79047E-01	4.35060E-01	8.23450E-02	2.42937E-04	1.43341E-11
BORON	5.00012E-01	9.92229E-02	9.76799E-04	9.24950E-11	0.
CARBON	3.69236E-01	3.61156E-02	4.71022E-05	0.	0.
NITROGEN	2.59009E-01	1.10764E-02	1.35876E-06	0.	0.
OXYGEN	1.73266E-01	2.90005E-03	2.43860E-08	0.	0.
FLUORINE	1.11091E-01	6.59114E-04	2.86277E-10	0.	0.
NEON	6.86556E-02	1.32523E-04	0.	0.	0.
ARGON	7.69756E-04	4.18101E-11	0.	0.	0.

P (EP,1) EP = 10.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333F-05	1.000E-04
HYDROGEN	2.69837E-02	8.43067E-02	2.10215E-01	3.66784E-01	1.73100E-01
HELIUM	9.93151E-02	2.55528E-01	3.65821E-01	3.15442E-02	1.68191E-04
LITHIUM	1.94515E-01	3.62088E-01	2.05602E-01	2.02189E-03	3.57899E-10
BORON	3.44670E-01	2.29243E-01	6.77042E-03	2.13699E-09	0.
CARBON	3.67877E-01	1.19941E-01	4.69288E-04	0.	0.
NITROGEN	3.49893E-01	4.98765E-02	1.83554E-05	0.	0.
OXYGEN	3.03723E-01	1.69451E-02	4.27469E-07	0.	0.
FLUORINE	2.44112E-01	4.82776E-03	6.29068E-09	0.	0.
NEON	1.83904E-01	1.18327E-03	0.	0.	0.
ARGON	5.51872E-03	9.99172E-10	0.	0.	0.

P (EP,2) EP = 10.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.74300E-04	3.89813E-03	2.91597E-02	1.69592E-01	2.40114E-01
HELIUM	5.51054E-03	4.72598E-02	2.02977E-01	1.69311E-01	9.33216E-04
LITHIUM	2.42837E-02	1.50678E-01	2.56677E-01	8.41381E-03	4.48086E-09
BORON	1.20108E-01	2.64820E-01	2.34637E-02	2.46864E-08	0.
CARBON	1.83261E-01	1.99164E-01	2.33780E-03	0.	0.
NITROGEN	2.36334E-01	1.12295E-01	1.23981E-04	0.	0.
OXYGEN	2.66200E-01	4.85055E-02	3.74661E-06	0.	0.
FLUORINE	2.68207E-01	1.76807E-02	6.91158E-08	0.	0.
NEON	2.46308E-01	5.28255E-03	0.	0.	0.
ARGON	1.97830E-02	1.19390E-08	0.	0.	0.

P (EP,0) EP = 10.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.69928E-01	9.03231E-01	7.36878E-01	3.61402E-01	4.72017E-02
HELIUM	8.85031E-01	6.65574E-01	2.94838E-01	1.70593E-02	4.96398E-06
LITHIUM	7.59725E-01	4.00122E-01	6.40568E-02	1.05178E-04	0.
BORON	4.66340E-01	7.84476E-02	4.86432E-04	0.	0.
CARBON	3.34027E-01	2.58595E-02	1.72906E-05	0.	0.
NITROGEN	2.26101E-01	7.04198E-03	3.49156E-07	0.	0.
OXYGEN	1.45258E-01	1.61174E-03	4.18211E-09	0.	0.
FLUORINE	8.90610E-02	3.15496E-04	3.13960E-11	0.	0.
NEON	5.24399E-02	5.39820E-05	0.	0.	0.
ARGON	3.74252E-04	0.	0.	0.	0.

P (EP,1) EP = 10.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333F-05	1.000E-04
HYDROGEN	2.96151E-02	9.19277E-02	2.24993E-01	3.67872E-01	1.44122E-01
HELIUM	1.08091E-01	2.70959E-01	3.60094E-01	6.94494E-02	6.06266E-05
LITHIUM	2.08771E-01	3.66506E-01	1.76027E-01	9.63415E-04	0.
BORON	3.55743E-01	1.99983E-01	3.71071E-03	0.	0.
CARBON	3.66272E-01	9.45183E-02	1.89598E-04	0.	0.
NITROGEN	3.36161E-01	3.48991E-02	5.19116E-06	0.	0.
OXYGEN	2.80238E-01	1.03615E-02	8.06832E-08	0.	0.
FLUORINE	2.15388E-01	2.54335E-03	7.59293E-10	0.	0.
NEON	1.54597E-01	5.30474E-04	0.	0.	0.
ARGON	2.95307E-03	0.	0.	0.	0.

P (EP,2) EP = 10.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	4.52122E-04	4.67804E-03	3.43488E-02	1.87178E-01	2.20026E-01
HELIUM	6.60077E-03	5.51545E-02	2.19897E-01	1.41366E-01	3.70225E-04
LITHIUM	2.86850E-02	1.67857E-01	2.41860E-01	4.41237E-03	0.
BORON	1.35688E-01	2.54257E-01	1.41534E-02	0.	0.
CARBON	2.00815E-01	1.72736E-01	1.03950E-03	0.	0.
NITROGEN	2.49898E-01	8.64776E-02	3.85905E-05	0.	0.
OXYGEN	2.70324E-01	3.33160E-02	7.78288E-07	0.	0.
FLUORINE	2.60451E-01	1.02513E-02	9.18149E-09	0.	0.
NEON	2.27891E-01	2.60645E-03	0.	0.	0.
ARGON	1.16507E-02	0.	0.	0.	0.

P (EP,0) EP = 12.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.67225E-01	8.94869E-01	7.16600E-01	3.29301E-01	3.57081E-02
HELIUM	8.75207E-01	6.41265E-01	2.63698E-01	1.17591E-02	1.62580E-06
LITHIUM	7.46883E-01	3.67990E-01	4.98304E-02	4.55362E-05	0.
BORON	4.34935E-01	6.23388E-02	2.42237E-04	0.	0.
CARBON	3.02175E-01	1.85159E-02	6.34716E-06	0.	0.
NITROGEN	1.97374E-01	4.47702E-03	6.97216E-08	0.	0.
OXYGEN	1.21777E-01	8.95187E-04	7.17216E-10	0.	0.
FLUORINE	7.13497E-02	1.51017E-04	0.	0.	0.
NEON	4.00542E-02	2.19891E-05	0.	0.	0.
ARGON	1.81960E-04	0.	0.	0.	0.

P (EP,1) EP = 12.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.22816E-02	9.94008E-02	2.38798E-01	3.65782E-01	1.14993E-01
HELIUM	1.16661E-01	2.84922E-01	3.51498E-01	5.22472E-02	2.16711E-05
LITHIUM	2.22206E-01	3.67874E-01	1.49448E-01	4.45226E-04	0.
BORON	3.62109E-01	1.73001E-01	2.01674E-03	0.	0.
CARBON	3.61628E-01	7.38621E-02	7.59597E-05	0.	0.
NITROGEN	3.20270E-01	2.42153E-02	1.45587E-06	0.	0.
OXYGEN	2.56409E-01	6.28255E-03	1.51015E-08	0.	0.
FLUORINE	1.86457E-01	1.32867E-03	0.	0.	0.
NEON	1.28675E-01	2.35832E-04	0.	0.	0.
ARGON	1.56699E-03	0.	0.	0.	0.

P (EP,2) EP = 12.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	5.37040E-04	5.52061E-03	3.97883E-02	2.03152E-01	1.98265E-01
HELIUM	7.71516E-03	6.32972E-02	2.34264E-01	1.16071E-01	1.44432E-04
LITHIUM	3.33204E-02	1.83885E-01	2.24107E-01	2.27545E-03	0.
BORON	1.50739E-01	2.40054E-01	8.39538E-03	0.	0.
CARBON	2.16379E-01	1.47329E-01	4.54524E-04	0.	0.
NITROGEN	2.59844E-01	6.54878E-02	1.10119E-05	0.	0.
OXYGEN	2.69943E-01	2.20480E-02	1.58985E-07	0.	0.
FLUORINE	2.48712E-01	5.84488E-03	0.	0.	0.
NEON	2.07329E-01	1.26464E-03	0.	0.	0.
ARGON	6.74724E-03	0.	0.	0.	0.

P (EP,0) EP = 12.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.78766E-01	9.30957E-01	8.06841E-01	4.88985E-01	1.16917E-01
HELIUM	9.17730E-01	7.51135E-01	4.23790E-01	5.71718E-02	1.86856E-04
LITHIUM	8.24345E-01	5.25250E-01	1.44907E-01	1.59831E-03	4.08226E-09
BORON	5.84844E-01	1.67292E-01	4.68168E-03	1.71692E-08	0.
CARBON	4.62245E-01	7.63692E-02	4.45370E-04	0.	0.
NITROGEN	3.50700E-01	3.04182E-02	2.81419E-05	0.	0.
OXYGEN	2.55980E-01	1.06505E-02	1.20797E-06	0.	0.
FLUORINE	1.80311E-01	3.31208E-03	3.63268E-08	0.	0.
NEON	1.23026E-01	9.26162E-04	7.94273E-10	0.	0.
ARGON	2.99704E-03	3.88203E-09	0.	0.	0.

P (EP,1) EP = 12.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	2.10072E-02	6.66029E-02	1.73172E-01	3.49831E-01	2.30938E-01
HELIUM	7.87887E-02	2.14952E-01	3.63831E-01	1.63608E-01	1.60419E-03
LITHIUM	1.59236E-01	3.38198E-01	2.79912E-01	1.02912E-02	7.88555E-08
BORON	3.13716E-01	2.99120E-01	2.51130E-02	3.06988E-07	0.
CARBON	3.56696E-01	1.96435E-01	3.43678E-03	0.	0.
NITROGEN	3.67472E-01	1.06242E-01	2.94878E-04	0.	0.
OXYGEN	3.48815E-01	4.83763E-02	1.64605E-05	0.	0.
FLUORINE	3.08886E-01	1.89126E-02	6.22305E-07	0.	0.
NEON	2.57784E-01	6.46874E-03	1.66429E-08	0.	0.
ARGON	1.74132E-02	7.51829E-08	0.	0.	0.

P (EP,2) EP = 12.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	2.25438E-04	2.38246E-03	1.85838E-02	1.25139E-01	2.69293E-01
HELIUM	3.38207E-03	3.07563E-02	1.56178E-01	2.34098E-01	6.88614E-03
LITHIUM	1.53795E-02	1.08880E-01	2.70347E-01	3.31316E-02	7.61611E-07
BORON	8.41402E-02	2.67416E-01	6.73543E-02	2.74450E-06	0.
CARBON	1.37624E-01	2.52633E-01	1.32600E-02	0.	0.
NITROGEN	1.92523E-01	1.85537E-01	1.54490E-03	0.	0.
OXYGEN	2.37656E-01	1.09866E-01	1.12150E-04	0.	0.
FLUORINE	2.64572E-01	5.39971E-02	5.33026E-06	0.	0.
NEON	2.70075E-01	2.25903E-02	1.74364E-07	0.	0.
ARGON	5.05864E-02	7.28030E-07	0.	0.	0.

P (EP,0) EP = 12.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.76485E-01	9.23746E-01	7.88256E-01	4.52402E-01	9.25898E-02
HELIUM	9.09206E-01	7.28131E-01	3.86034E-01	4.18888E-02	7.34941E-05
LITHIUM	8.07218E-01	4.89748E-01	1.17465E-01	7.93823E-04	5.00124E-10
BORON	5.51721E-01	1.37744E-01	2.61333E-03	2.45886E-09	0.
CARBON	4.25056E-01	5.77432E-02	1.92515E-04	0.	0.
NITROGEN	3.12949E-01	2.08095E-02	9.01026E-06	0.	0.
OXYGEN	2.20741E-01	6.50076E-03	2.74679E-07	0.	0.
FLUORINE	1.49678E-01	1.78056E-03	5.64401E-09	0.	0.
NEON	9.79687E-02	4.33502E-04	8.14468E-11	0.	0.
ARGON	1.59379E-03	4.73000E-10	0.	0.	0.

P (EP,1) EP = 12.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	2.32362E-02	7.32700E-02	1.87567E-01	3.58838E-01	2.20325E-01
HELIUM	8.65410E-02	2.31017E-01	3.67439E-01	1.32902E-01	6.99540E-04
LITHIUM	1.72875E-01	3.49614E-01	2.51565E-01	5.66682E-03	1.07107E-08
BORON	3.28116E-01	2.73058E-01	1.55418E-02	4.87434E-08	0.
CARBON	3.63650E-01	1.64669E-01	1.68703E-03	0.	0.
NITROGEN	3.63558E-01	8.05817E-02	1.04674E-04	0.	0.
OXYGEN	3.33488E-01	3.27367E-02	4.14976E-06	0.	0.
FLUORINE	2.84279E-01	1.12724E-02	1.07195E-07	0.	0.
NEON	2.27592E-01	3.35688E-03	1.89210E-09	0.	0.
ARGON	1.02666E-02	1.01562E-08	0.	0.	0.

P (EP,2) EP = 12.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	2.76462E-04	2.90583E-03	2.23165E-02	1.42312E-01	2.62139E-01
HELIUM	4.11862E-03	3.64478E-02	1.74870E-01	2.10832E-01	3.32922E-03
LITHIUM	1.85116E-02	1.24789E-01	2.49377E-01	2.02767E-02	1.14691E-07
BORON	9.75673E-02	2.70649E-01	6.62146E-02	4.83134E-07	0.
CARBON	1.55557E-01	2.34798E-01	7.04546E-03	0.	0.
NITROGEN	2.11175E-01	1.56020E-01	6.08004E-04	0.	0.
OXYGEN	2.51911E-01	8.24284E-02	3.13466E-05	0.	0.
FLUORINE	2.69961E-01	3.56819E-02	1.01796E-06	0.	0.
NEON	2.64360E-01	1.29972E-02	2.19777E-08	0.	0.
ARGON	3.30649E-02	1.09037E-07	0.	0.	0.

P (EP,0) EP = 12.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.74210E-01	9.16591E-01	7.70061E-01	4.18556E-01	7.33245E-02
HELIUM	9.00762E-01	7.05832E-01	3.51641E-01	3.06912E-02	2.89066E-05
LITHIUM	7.90447E-01	4.56645E-01	9.52194E-02	3.90262E-04	6.12708E-11
BORON	5.20476E-01	1.13415E-01	1.45877E-03	3.52142E-10	0.
CARBON	3.90860E-01	4.56600E-02	8.52144E-05	0.	0.
NITROGEN	2.79262E-01	1.42361E-02	[illegible]	0.	0.
OXYGEN	1.90353E-01	3.96786E-03	6.24591E-08	0.	0.
FLUORINE	1.24250E-01	9.57222E-04	8.76895E-10	0.	0.
NEON	7.80149E-02	2.02907E-04	0.	0.	0.
ARGON	8.47556E-04	5.76319E-11	0.	0.	0.

P (EP,1) EP = 12.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	2.54547E-02	7.98300E-02	2.01706E-01	3.64539E-01	1.91587E-01
HELIUM	9.41426E-02	2.45896E-01	3.67516E-01	1.06921E-01	3.02116E-04
LITHIUM	1.85879E-01	3.57941E-01	2.23915E-01	3.09042E-03	1.44083E-09
BORON	3.39878E-01	2.46871E-01	9.52601E-03	7.66507E-09	0.
CARBON	3.67176E-01	1.36714E-01	[illegible]	0.	0.
NITROGEN	3.56228E-01	6.05316E-02	3.67991E-05	0.	0.
OXYGEN	3.15772E-01	2.19404E-02	1.03612E-06	0.	0.
FLUORINE	2.59118E-01	6.65411E-03	1.82873E-08	0.	0.
NEON	1.99005E-01	1.72527E-03	0.	0.	0.
ARGON	5.99489E-03	1.35878E-09	0.	0.	0.

P (EP,2) EP = 12.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.32548E-04	3.47637E-03	2.62862E-02	1.58747E-01	2.30295E-01
HELIUM	4.91963E-03	4.28324E-02	1.92053E-01	1.86245E-01	1.57877E-03
LITHIUM	2.16554E-02	1.40266E-01	2.63276E-01	1.21121E-02	1.69410E-08
BORON	1.10973E-01	2.68682E-01	3.11032E-02	8.34227E-08	0.
CARBON	1.72464E-01	2.14047E-01	3.67187E-03	0.	0.
NITROGEN	2.27203E-01	1.28689E-01	2.34705E-04	0.	0.
OXYGEN	2.61913E-01	6.06600E-02	8.59396E-06	0.	0.
FLUORINE	2.70190E-01	2.31279E-02	1.90688E-07	0.	0.
NEON	2.53816E-01	7.33477E-03	0.	0.	0.
ARGON	2.12014E-02	1.60180E-08	0.	0.	0.

P (EP,0) EP = 12.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.71940E-01	9.09491E-01	7.52304E-01	3.87242E-01	5.80678E-02
HELIUM	8.92396E-01	6.84216E-01	3.20313E-01	2.24869E-02	1.13695E-05
LITHIUM	7.74024E-01	4.25779E-01	7.71868E-02	1.95816E-04	0.
BORON	4.90996E-01	9.33835E-02	8.14291E-04	5.04314E-11	0.
CARBON	3.59414E-01	3.30116E-02	3.59712E-05	0.	0.
NITROGEN	2.49201E-01	9.73916E-03	9.23644E-07	0.	0.
OXYGEN	1.64148E-01	2.42185E-03	1.42025E-08	0.	0.
FLUORINE	1.03141E-01	5.14599E-04	1.36241E-10	0.	0.
NEON	6.21253E-02	9.49732E-05	0.	0.	0.
ARGON	4.50719E-04	0.	0.	0.	0.

P (EP,1) EP = 12.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	2.76628E-02	8.62838E-02	2.14117E-01	3.67379E-01	1.65269E-01
HELIUM	1.01595E-01	2.59648E-01	3.64662E-01	8.53339E-02	1.29437E-04
LITHIUM	1.98268E-01	3.63545E-01	1.97716E-01	1.67194E-03	0.
BORON	3.49255E-01	2.21416E-01	5.79221E-03	1.19575E-09	0.
CARBON	3.67781E-01	1.12599E-01	3.68085E-04	0.	0.
NITROGEN	3.46264E-01	4.51079E-02	1.28340E-05	0.	0.
OXYGEN	2.96614E-01	1.45874E-02	2.56637E-07	0.	0.
FLUORINE	2.34301E-01	3.89661E-03	3.09493E-09	0.	0.
NEON	1.72621E-01	8.79634E-04	0.	0.	0.
ARGON	3.47264E-03	0.	0.	0.	0.

P (EP,2) EP = 12.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.93662E-04	4.09290E-03	3.04703E-02	1.74267E-01	2.35190E-01
HELIUM	5.78310E-03	4.92658E-02	2.07576E-01	1.61913E-01	7.36793E-04
LITHIUM	2.53935E-02	1.45203E-01	2.53227E-01	7.13779E-03	0.
BORON	1.24216E-01	2.62493E-01	2.06005E-02	1.41759E-08	0.
CARBON	1.88171E-01	1.92032E-01	1.88327E-03	0.	0.
NITROGEN	2.40566E-01	1.04461E-01	8.91636E-05	0.	0.
OXYGEN	2.67988E-01	4.39315E-02	2.31870E-06	0.	0.
FLUORINE	2.66126E-01	1.47528E-02	3.51532E-08	0.	0.
NEON	2.39823E-01	4.07355E-03	0.	0.	0.
ARGON	1.33778E-02	0.	0.	0.	0.

Table 4-2

Calculated probability that a track of electron of energy E gives j, $P(E, j)$, as a function of electron energy and target size, l/W. Because of typographical limitations, η and l/W are indicated as ETA and WL, respectively. Powers of ten are indicated by the symbol E; thus 9.98935 E 01 reads 9.98935×10^{-1}.

P (E,0) ETA = 0.125 (KEV)

WL (CM/KEV)

E (KEV)	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.51090E 04	9.98935E-01	9.96455E-01	9.89402E-01	9.65110E-01	8.98938E-01
4.63410E 04	9.98935E-01	9.96455E-01	9.89402E-01	9.65109E-01	8.98934E-01
3.89679E 04	9.98935E-01	9.96455E-01	9.89403E-01	9.65110E-01	8.98939E-01
3.27680E 04	9.98935E-01	9.96456E-01	9.89405E-01	9.65119E-01	8.98964E-01
2.75545E 04	9.98936E-01	9.96458E-01	9.89411E-01	9.65138E-01	8.99017E-01
2.31705E 04	9.98937E-01	9.96461E-01	9.89421E-01	9.65169E-01	8.99104E-01
1.94840E 04	9.98938E-01	9.96466E-01	9.89435E-01	9.65215E-01	8.99231E-01
1.63840E 04	9.98940E-01	9.96472E-01	9.89454E-01	9.65276E-01	8.99403E-01
1.37772E 04	9.98943E-01	9.96480E-01	9.89478E-01	9.65354E-01	8.99621E-01
1.15852E 04	9.98946E-01	9.96490E-01	9.89507E-01	9.65449E-01	8.99887E-01
9.74198E 03	9.98949E-01	9.96502E-01	9.89541E-01	9.65561E-01	9.00198E-01
8.19200E 03	9.98953E-01	9.96515E-01	9.89580E-01	9.65688E-01	9.00553E-01
6.88462E 03	9.98957E-01	9.96529E-01	9.89623E-01	9.65827E-01	9.00945E-01
5.79262E 03	9.98962E-01	9.96544E-01	9.89669E-01	9.65977E-01	9.01362E-01
4.87099E 03	9.98967E-01	9.96560E-01	9.89716E-01	9.66130E-01	9.01791E-01
4.09600E 03	9.98971E-01	9.96576E-01	9.89762E-01	9.66280E-01	9.02212E-01
3.44431E 03	9.98976E-01	9.96590E-01	9.89805E-01	9.66418E-01	9.02599E-01
2.89631E 03	9.98979E-01	9.96602E-01	9.89840E-01	9.66532E-01	9.02919E-01
2.43550E 03	9.98982E-01	9.96610E-01	9.89863E-01	9.66608E-01	9.03131E-01
2.04800E 03	9.98982E-01	9.96612E-01	9.89869E-01	9.66627E-01	9.03185E-01
1.72216E 03	9.98980E-01	9.96606E-01	9.89851E-01	9.66569E-01	9.03023E-01
1.44815E 03	9.98976E-01	9.96589E-01	9.89802E-01	9.66410E-01	9.02576E-01
1.21775E 03	9.98967E-01	9.96559E-01	9.89713E-01	9.66120E-01	9.01765E-01
1.02400E 03	9.98953E-01	9.96513E-01	9.89575E-01	9.65670E-01	9.00503E-01
8.61078E 02	9.98932E-01	9.96446E-01	9.89375E-01	9.65022E-01	8.98691E-01
7.24077E 02	9.98905E-01	9.96354E-01	9.89103E-01	9.64137E-01	8.96223E-01
6.08874E 02	9.98869E-01	9.96234E-01	9.88745E-01	9.62973E-01	8.92980E-01
5.12000E 02	9.98822E-01	9.96080E-01	9.88285E-01	9.61481E-01	8.88836E-01
4.30539E 02	9.98768E-01	9.95899E-01	9.87748E-01	9.59742E-01	8.84021E-01
3.62039E 02	9.98700E-01	9.95675E-01	9.87081E-01	9.57581E-01	8.78064E-01
3.04437E 02	9.98617E-01	9.95396E-01	9.86251E-01	9.54901E-01	8.70711E-01
2.56000E 02	9.98514E-01	9.95054E-01	9.85236E-01	9.51628E-01	8.61749E-01
2.15269E 02	9.98389E-01	9.94641E-01	9.84007E-01	9.47679E-01	8.51106E-01
1.81019E 02	9.98240E-01	9.94144E-01	9.82535E-01	9.42961E-01	8.38455E-01
1.52219E 02	9.98061E-01	9.93553E-01	9.80782E-01	9.37364E-01	8.23615E-01
1.28000E 02	9.97850E-01	9.92851E-01	9.78706E-01	9.30769E-01	8.06352E-01
1.07635E 02	9.97600E-01	9.92024E-01	9.76261E-01	9.23038E-01	7.86426E-01
9.05097E 01	9.97306E-01	9.91050E-01	9.73389E-01	9.14019E-01	7.63598E-01
7.61093E 01	9.96962E-01	9.89908E-01	9.70028E-01	9.03542E-01	7.37640E-01
6.40000E 01	9.96558E-01	9.88572E-01	9.66106E-01	8.91422E-01	7.08351E-01

P (E,0) ETA = 0.250 (KEV)

WL (CM/KEV)

E (KEV)	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.51090E 04	9.98876E-01	9.96259E-01	9.88819E-01	9.63215E-01	8.93652E-01
4.63410E 04	9.98876E-01	9.96259E-01	9.88819E-01	9.63213E-01	8.93649E-01
3.89679E 04	9.98876E-01	9.96259E-01	9.88819E-01	9.63215E-01	8.93653E-01
3.27680E 04	9.98877E-01	9.96260E-01	9.88822E-01	9.63224E-01	8.93678E-01
2.75545E 04	9.98877E-01	9.96262E-01	9.88824E-01	9.63242E-01	8.93724E-01
2.31705E 04	9.98878E-01	9.96265E-01	9.88837E-01	9.63273E-01	8.93816E-01
1.94840E 04	9.98874E-01	9.96270E-01	9.88851E-01	9.63318E-01	8.93941E-01
1.63840E 04	9.98884E-01	9.96276E-01	9.88870E-01	9.63379E-01	8.94110E-01
1.37772E 04	9.98886E-01	9.96284E-01	9.88894E-01	9.63454E-01	8.94325E-01
1.15852E 04	9.98887E-01	9.96294E-01	9.88922E-01	9.63550E-01	8.94587E-01
9.74198E 03	9.98890E-01	9.96305E-01	9.88956E-01	9.63660E-01	8.94893E-01
8.19200E 03	9.98894E-01	9.96318E-01	9.88995E-01	9.63785E-01	8.95241E-01
6.88462E 03	9.98898E-01	9.96332E-01	9.89037E-01	9.63922E-01	8.95622E-01
5.79262E 03	9.98903E-01	9.96347E-01	9.89082E-01	9.64067E-01	8.96028E-01
4.87099E 03	9.98907E-01	9.96363E-01	9.89127E-01	9.64216E-01	8.96441E-01
4.09600E 03	9.98912E-01	9.96377E-01	9.89172E-01	9.64359E-01	8.96842E-01
3.44431E 03	9.98916E-01	9.96391E-01	9.89211E-01	9.64488E-01	8.97203E-01
2.89631E 03	9.98919E-01	9.96401E-01	9.89243E-01	9.64591E-01	8.97489E-01
2.43550E 03	9.98921E-01	9.96408E-01	9.89261E-01	9.64651E-01	8.97657E-01
2.04800E 03	9.98923E-01	9.96408E-01	9.89261E-01	9.64651E-01	8.97655E-01
1.72216E 03	9.98918E-01	9.96398E-01	9.89235E-01	9.64567E-01	8.97422E-01
1.44815E 03	9.98912E-01	9.96379E-01	9.89176E-01	9.64374E-01	8.96883E-01
1.21775E 03	9.98902E-01	9.96345E-01	9.89074E-01	9.64042E-01	8.95957E-01
1.02400E 03	9.98886E-01	9.96292E-01	9.88919E-01	9.63537E-01	8.94551E-01
8.61078E 02	9.98864E-01	9.96218E-01	9.88698E-01	9.62822E-01	8.92560E-01
7.24077E 02	9.98834E-01	9.96118E-01	9.88400E-01	9.61853E-01	8.89869E-01
6.08874E 02	9.98794E-01	9.95987E-01	9.88009E-01	9.60585E-01	8.86355E-01
5.12000E 02	9.98744E-01	9.95819E-01	9.87509E-01	9.58966E-01	8.81879E-01
4.30539E 02	9.98685E-01	9.95622E-01	9.86923E-01	9.57072E-01	8.76663E-01
3.62039E 02	9.98611E-01	9.95377E-01	9.86196E-01	9.54722E-01	8.70224E-01
3.04437E 02	9.98520E-01	9.95074E-01	9.85294E-01	9.51815E-01	8.62298E-01
2.56000E 02	9.98408E-01	9.94703E-01	9.84192E-01	9.48271E-01	8.52700E-01
2.15269E 02	9.98273E-01	9.94253E-01	9.82859E-01	9.43998E-01	8.41225E-01
1.81019E 02	9.98110E-01	9.93715E-01	9.81262E-01	9.38894E-01	8.27653E-01
1.52219E 02	9.97917E-01	9.93072E-01	9.79360E-01	9.32841E-01	8.11750E-01
1.28000E 02	9.97687E-01	9.92310E-01	9.77107E-01	9.25708E-01	7.93270E-01
1.07635E 02	9.97415E-01	9.91410E-01	9.74450E-01	9.17345E-01	7.71965E-01
9.05097E 01	9.97095E-01	9.90350E-01	9.71329E-01	9.07587E-01	7.47589E-01
7.61093E 01	9.96717E-01	9.89106E-01	9.67672E-01	8.96248E-01	7.19917E-01
6.40000E 01	9.96271E-01	9.87644E-01	9.63400E-01	8.83126E-01	6.88758E-01

P (E,0) ETA = 0.500 (KEV)

WL (CM/KEV)

E (KEV)	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.51090E 04	9.98817E-01	9.96063E-01	9.88236E-01	9.61323E-01	8.88398E-01
4.63410E 04	9.98817E-01	9.96063E-01	9.88236E-01	9.61322E-01	8.88394E-01
3.89679E 04	9.98817E-01	9.96063E-01	9.88236E-01	9.61323E-01	8.88399E-01
3.27680E 04	9.98818E-01	9.96064E-01	9.88239E-01	9.61332E-01	8.88422E-01
2.75545E 04	9.98818E-01	9.96066E-01	9.88245E-01	9.61350E-01	8.88473E-01
2.31705E 04	9.98819E-01	9.96069E-01	9.88254E-01	9.61381E-01	8.88558E-01
1.94840E 04	9.98821E-01	9.96074E-01	9.88268E-01	9.61426E-01	8.88682E-01
1.63840E 04	9.98822E-01	9.96080E-01	9.88286E-01	9.61486E-01	8.88849E-01
1.37772E 04	9.98825E-01	9.96088E-01	9.88310E-01	9.61562E-01	8.89061E-01
1.15852E 04	9.98828E-01	9.96098E-01	9.88338E-01	9.61655E-01	8.89318E-01
9.74198E 03	9.98831E-01	9.96109E-01	9.88372E-01	9.61763E-01	8.89619E-01
8.19200E 03	9.98835E-01	9.96122E-01	9.88410E-01	9.61886E-01	8.89959E-01
6.88462E 03	9.98839E-01	9.96135E-01	9.88451E-01	9.62020E-01	8.90332E-01
5.79262E 03	9.98843E-01	9.96150E-01	9.88495E-01	9.62162E-01	8.90729E-01
4.87099E 03	9.98848E-01	9.96165E-01	9.88539E-01	9.62305E-01	8.91125E-01
4.09600E 03	9.98852E-01	9.96179E-01	9.88581E-01	9.62442E-01	8.91504E-01
3.44431E 03	9.98856E-01	9.96192E-01	9.88618E-01	9.62563E-01	8.91834E-01
2.89631E 03	9.98859E-01	9.96203E-01	9.88646E-01	9.62653E-01	8.92081E-01
2.43550E 03	9.98863E-01	9.96206E-01	9.88660E-01	9.62698E-01	8.92217E-01
2.04800E 03	9.98860E-01	9.96204E-01	9.88654E-01	9.62678E-01	8.92159E-01
1.72216E 03	9.98856E-01	9.96192E-01	9.88620E-01	9.62568E-01	8.91855E-01
1.44815E 03	9.98848E-01	9.96169E-01	9.88550E-01	9.62342E-01	8.91227E-01
1.21775E 03	9.98837E-01	9.96130E-01	9.88435E-01	9.61968E-01	8.90187E-01
1.02400E 03	9.98820E-01	9.96072E-01	9.88263E-01	9.61410E-01	8.88639E-01
8.61078E 02	9.98796E-01	9.95991E-01	9.88022E-01	9.60627E-01	8.86470E-01
7.24077E 02	9.98763E-01	9.95882E-01	9.87697E-01	9.59575E-01	8.83561E-01
6.08874E 02	9.98729E-01	9.95740E-01	9.87273E-01	9.58204E-01	8.79778E-01
5.12000E 02	9.98665E-01	9.95558E-01	9.86735E-01	9.56458E-01	8.74978E-01
4.30539E 02	9.98601E-01	9.95345E-01	9.86094E-01	9.54409E-01	8.69366E-01
3.62039E 02	9.98521E-01	9.95080E-01	9.85312E-01	9.51872E-01	8.62453E-01
3.04437E 02	9.98423E-01	9.94752E-01	9.84334E-01	9.48740E-01	8.53966E-01
2.56000E 02	9.98302E-01	9.94351E-01	9.83149E-01	9.44925E-01	8.43707E-01
2.15269E 02	9.98156E-01	9.93867E-01	9.81712E-01	9.40330E-01	8.31459E-01
1.81019E 02	9.97981E-01	9.93285E-01	9.79990E-01	9.34844E-01	8.16990E-01
1.52219E 02	9.97772E-01	9.92592E-01	9.77940E-01	9.28340E-01	8.00056E-01
1.28000E 02	9.97524E-01	9.91769E-01	9.75510E-01	9.20675E-01	7.80400E-01
1.07635E 02	9.97233E-01	9.90797E-01	9.72644E-01	9.11688E-01	7.57769E-01
9.05097E 01	9.96889E-01	9.89651E-01	9.69273E-01	9.01199E-01	7.31916E-01
7.61093E 01	9.96477E-01	9.88304E-01	9.65322E-01	8.89023E-01	7.02620E-01
6.40000E 01	9.95999E-01	9.86725E-01	9.60702E-01	8.74908E-01	6.69707E-01

P (E,0) ETA = 1.000 (KEV)

WL (CM/KEV)

E (KEV)	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.51090E 04	9.98758E-01	9.95868E-01	9.87654E-01	9.59435E-01	8.83175E-01
4.63410E 04	9.98758E-01	9.95867E-01	9.87653E-01	9.59434E-01	8.83171E-01
3.89679E 04	9.98758E-01	9.95868E-01	9.87654E-01	9.59435E-01	8.83175E-01
3.27680E 04	9.98759E-01	9.95868E-01	9.87656E-01	9.59444E-01	8.83198E-01
2.75545E 04	9.98759E-01	9.95870E-01	9.87662E-01	9.59462E-01	8.83248E-01
2.31705E 04	9.98760E-01	9.95873E-01	9.87671E-01	9.59492E-01	8.83332E-01
1.94840E 04	9.98762E-01	9.95878E-01	9.87685E-01	9.59537E-01	8.83454E-01
1.63840E 04	9.98763E-01	9.95884E-01	9.87703E-01	9.59596E-01	8.83619E-01
1.37772E 04	9.98766E-01	9.95892E-01	9.87727E-01	9.59672E-01	8.83827E-01
1.15852E 04	9.98769E-01	9.95902E-01	9.87755E-01	9.59763E-01	8.84080E-01
9.74198E 03	9.98772E-01	9.95913E-01	9.87788E-01	9.59870E-01	8.84376E-01
8.19200E 03	9.98776E-01	9.95925E-01	9.87825E-01	9.59991E-01	8.84709E-01
6.88462E 03	9.98780E-01	9.95939E-01	9.87866E-01	9.60122E-01	8.85072E-01
5.79262E 03	9.98784E-01	9.95953E-01	9.87908E-01	9.60260E-01	8.85454E-01
4.87099E 03	9.98789E-01	9.95967E-01	9.87951E-01	9.60398E-01	8.85837E-01
4.09600E 03	9.98793E-01	9.95981E-01	9.87991E-01	9.60529E-01	8.86198E-01
3.44431E 03	9.98796E-01	9.95993E-01	9.88026E-01	9.60640E-01	8.86507E-01
2.89631E 03	9.98799E-01	9.96001E-01	9.88050E-01	9.60720E-01	8.86726E-01
2.43550E 03	9.98799E-01	9.96004E-01	9.88059E-01	9.60750E-01	8.86809E-01
2.04800E 03	9.98798E-01	9.96000E-01	9.88047E-01	9.60709E-01	8.86697E-01
1.72216E 03	9.98794E-01	9.95986E-01	9.88005E-01	9.60574E-01	8.86323E-01
1.44815E 03	9.98786E-01	9.95959E-01	9.87925E-01	9.60315E-01	8.85606E-01
1.21775E 03	9.98773E-01	9.95916E-01	9.87797E-01	9.59899E-01	8.84454E-01
1.02400E 03	9.98754E-01	9.95852E-01	9.87608E-01	9.59287E-01	8.82765E-01
8.61078E 02	9.98727E-01	9.95764E-01	9.87345E-01	9.58438E-01	8.80422E-01
7.24077E 02	9.98692E-01	9.95646E-01	9.86994E-01	9.57302E-01	8.77297E-01
6.08874E 02	9.98646E-01	9.95492E-01	9.86538E-01	9.55828E-01	8.73251E-01
5.12000E 02	9.98587E-01	9.95297E-01	9.85958E-01	9.53956E-01	8.68130E-01
4.30539E 02	9.98518E-01	9.95067E-01	9.85275E-01	9.51753E-01	8.62130E-01
3.62039E 02	9.98432E-01	9.94782E-01	9.84428E-01	9.49031E-01	8.54752E-01
3.04437E 02	9.98326E-01	9.94430E-01	9.83382E-01	9.45674E-01	8.45715E-01
2.56000E 02	9.98196E-01	9.94000E-01	9.82107E-01	9.41592E-01	8.34809E-01
2.15269E 02	9.98039E-01	9.93480E-01	9.80566E-01	9.36677E-01	8.21806E-01
1.81019E 02	9.97851E-01	9.92856E-01	9.78720E-01	9.30812E-01	8.06465E-01
1.52219E 02	9.97627E-01	9.92112E-01	9.76522E-01	9.23860E-01	7.88530E-01
1.28000E 02	9.97360E-01	9.91229E-01	9.73916E-01	9.15669E-01	7.67740E-01
1.07635E 02	9.97045E-01	9.90184E-01	9.70840E-01	9.06065E-01	7.43835E-01
9.05097E 01	9.96673E-01	9.88952E-01	9.67222E-01	8.94857E-01	7.16571E-01
7.61093E 01	9.96235E-01	9.87504E-01	9.62977E-01	8.81834E-01	6.85739E-01
6.40000E 01	9.95720E-01	9.85803E-01	9.58011E-01	8.66766E-01	6.51183E-01

P (E,1) ETA = 0.125 (KEV)

WL (CM/KEV)

E (KEV)	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.51090E 04	1.06428E-03	3.53876E-03	1.05412E-02	3.42744E-02	9.57741E-02
4.63410E 04	1.06432E-03	3.53884E-03	1.05416E-02	3.42756E-02	9.57772E-02
3.89679E 04	1.06426E-03	3.53870E-03	1.05411E-02	3.42739E-02	9.57728E-02
3.27680E 04	1.06399E-03	3.53779E-03	1.05384E-02	3.42654E-02	9.57508E-02
2.75545E 04	1.06340E-03	3.53585E-03	1.05326E-02	3.42472E-02	9.57037E-02
2.31705E 04	1.06243E-03	3.53264E-03	1.05231E-02	3.42170E-02	9.56256E-02
1.94840E 04	1.06102E-03	3.52794E-03	1.05093E-02	3.41730E-02	9.55117E-02
1.63840E 04	1.05912E-03	3.52164E-03	1.04906E-02	3.41139E-02	9.53584E-02
1.37772E 04	1.05670E-03	3.51361E-03	1.04669E-02	3.40386E-02	9.51635E-02
1.15852E 04	1.05375E-03	3.50384E-03	1.04380E-02	3.39470E-02	9.49260E-02
9.74198E 03	1.05030E-03	3.49237E-03	1.04040E-02	3.38394E-02	9.46469E-02
8.19200E 03	1.04636E-03	3.47933E-03	1.03654E-02	3.37169E-02	9.43293E-02
6.88462E 03	1.04203E-03	3.46495E-03	1.03229E-02	3.35820E-02	9.39789E-02
5.79262E 03	1.03740E-03	3.44961E-03	1.02775E-02	3.34380E-02	9.36049E-02
4.87099E 03	1.03265E-03	3.43386E-03	1.02309E-02	3.32900E-02	9.32202E-02
4.09600E 03	1.02800E-03	3.41840E-03	1.01852E-02	3.31449E-02	9.28426E-02
3.44431E 03	1.02372E-03	3.40421E-03	1.01432E-02	3.30115E-02	9.24954E-02
2.89631E 03	1.02018E-03	3.39248E-03	1.01085E-02	3.29012E-02	9.22082E-02
2.43550E 03	1.01784E-03	3.38471E-03	1.00855E-02	3.28282E-02	9.20180E-02
2.04800E 03	1.01724E-03	3.38272E-03	1.00796E-02	3.28095E-02	9.19692E-02
1.72216E 03	1.01903E-03	3.38867E-03	1.00972E-02	3.28654E-02	9.21150E-02
1.44815E 03	1.02394E-03	3.40507E-03	1.01457E-02	3.30196E-02	9.25165E-02
1.21775E 03	1.03294E-03	3.43482E-03	1.02338E-02	3.32990E-02	9.32437E-02
1.02400E 03	1.04692E-03	3.48118E-03	1.03709E-02	3.37345E-02	9.43744E-02
8.61078E 02	1.06702E-03	3.54783E-03	1.05681E-02	3.43595E-02	9.59943E-02
7.24077E 02	1.09446E-03	3.63886E-03	1.08372E-02	3.52119E-02	9.81958E-02
6.08874E 02	1.13063E-03	3.75879E-03	1.11917E-02	3.63330E-02	1.01077E-01
5.12000E 02	1.17704E-03	3.91266E-03	1.16462E-02	3.77675E-02	1.04743E-01
4.30539E 02	1.23122E-03	4.09224E-03	1.21764E-02	3.94367E-02	1.08977E-01
3.62039E 02	1.29867E-03	4.31573E-03	1.28356E-02	4.15062E-02	1.14180E-01
3.04437E 02	1.38253E-03	4.59353E-03	1.36541E-02	4.40665E-02	1.20545E-01
2.56000E 02	1.48524E-03	4.93359E-03	1.46549E-02	4.71828E-02	1.28187E-01
2.15269E 02	1.60959E-03	5.34510E-03	1.58640E-02	5.09274E-02	1.37214E-01
1.81019E 02	1.75884E-03	5.83869E-03	1.73117E-02	5.53809E-02	1.47731E-01
1.52219E 02	1.93676E-03	6.42664E-03	1.90323E-02	6.06314E-02	1.59826E-01
1.28000E 02	2.14772E-03	7.12314E-03	2.10632E-02	6.67773E-02	1.73555E-01
1.07635E 02	2.39680E-03	7.94459E-03	2.34559E-02	7.39212E-02	1.88944E-01
9.05097E 01	2.68987E-03	8.90991E-03	2.62537E-02	8.21738E-02	2.05953E-01
7.61093E 01	3.03375E-03	1.00409E-02	2.95179E-02	9.16485E-02	2.24464E-01
6.40000E 01	3.43629E-03	1.13624E-02	3.33129E-02	1.02458E-01	2.44251E-01

P (E,1) ETA = 0.250 (KEV)

WL (CM/KEV)

E (KEV)	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.51090E 04	1.12312E-03	3.73389E-03	1.11181E-02	3.61004E-02	1.00481E-01
4.63410E 04	1.12316E-03	3.73402E-03	1.11185E-02	3.61017E-02	1.00484E-01
3.89679E 04	1.12311E-03	3.73385E-03	1.11180E-02	3.61001E-02	1.00480E-01
3.27680E 04	1.12284E-03	3.73296E-03	1.11154E-02	3.60917E-02	1.00458E-01
2.75545E 04	1.12226E-03	3.73104E-03	1.11097E-02	3.60738E-02	1.00412E-01
2.31705E 04	1.12130E-03	3.72785E-03	1.11003E-02	3.60440E-02	1.00336E-01
1.94840E 04	1.11989E-03	3.72319E-03	1.10865E-02	3.60005E-02	1.00224E-01
1.63840E 04	1.11801E-03	3.71694E-03	1.10680E-02	3.59420E-02	1.00074E-01
1.37772E 04	1.11561E-03	3.70899E-03	1.10445E-02	3.58678E-02	9.98834E-02
1.15852E 04	1.11270E-03	3.69932E-03	1.10160E-02	3.57774E-02	9.96513E-02
9.74198E 03	1.10926E-03	3.68799E-03	1.09825E-02	3.56715E-02	9.93789E-02
8.19200E 03	1.10540E-03	3.67514E-03	1.09445E-02	3.55513E-02	9.90698E-02
6.88462E 03	1.10115E-03	3.66103E-03	1.09028E-02	3.54194E-02	9.87301E-02
5.79262E 03	1.09663E-03	3.64606E-03	1.08585E-02	3.52793E-02	9.83693E-02
4.87099E 03	1.09203E-03	3.63079E-03	1.08134E-02	3.51364E-02	9.80011E-02
4.09600E 03	1.08757E-03	3.61600E-03	1.07696E-02	3.49980E-02	9.76441E-02
3.44431E 03	1.08356E-03	3.60269E-03	1.07303E-02	3.48734E-02	9.73225E-02
2.89631E 03	1.08038E-03	3.59214E-03	1.06991E-02	3.47746E-02	9.70675E-02
2.43550E 03	1.07851E-03	3.58594E-03	1.06808E-02	3.47165E-02	9.69174E-02
2.04800E 03	1.07853E-03	3.58600E-03	1.06810E-02	3.47171E-02	9.69190E-02
1.72216E 03	1.08113E-03	3.59463E-03	1.07065E-02	3.47979E-02	9.71276E-02
1.44815E 03	1.08711E-03	3.61448E-03	1.07652E-02	3.49838E-02	9.76075E-02
1.21775E 03	1.09742E-03	3.64866E-03	1.08662E-02	3.53036E-02	9.84320E-02
1.02400E 03	1.11309E-03	3.70064E-03	1.10198E-02	3.57897E-02	9.96828E-02
8.61078E 02	1.13533E-03	3.77436E-03	1.12377E-02	3.64783E-02	1.01450E-01
7.24077E 02	1.16545E-03	3.87422E-03	1.15327E-02	3.74095E-02	1.03830E-01
6.08874E 02	1.20493E-03	4.00509E-03	1.19192E-02	3.86274E-02	1.06928E-01
5.12000E 02	1.25542E-03	4.17244E-03	1.24130E-02	4.01802E-02	1.10852E-01
4.30539E 02	1.31459E-03	4.36850E-03	1.29911E-02	4.19935E-02	1.15397E-01
3.62039E 02	1.38812E-03	4.61204E-03	1.37086E-02	4.42367E-02	1.20966E-01
3.04437E 02	1.47935E-03	4.91409E-03	1.45975E-02	4.70046E-02	1.27753E-01
2.56000E 02	1.59094E-03	5.28339E-03	1.56828E-02	5.03677E-02	1.35876E-01
2.15269E 02	1.72597E-03	5.73003E-03	1.69933E-02	5.44040E-02	1.45445E-01
1.81019E 02	1.88800E-03	6.26568E-03	1.85617E-02	5.92002E-02	1.56560E-01
1.52219E 02	2.08129E-03	6.90387E-03	2.04258E-02	6.48514E-02	1.69301E-01
1.28000E 02	2.31056E-03	7.66027E-03	2.26290E-02	7.14613E-02	1.83715E-01
1.07635E 02	2.58147E-03	8.55302E-03	2.52204E-02	7.91406E-02	1.99797E-01
9.05097E 01	2.90057E-03	9.60306E-03	2.82561E-02	8.80023E-02	2.17475E-01
7.61093E 01	3.27541E-03	1.08345E-02	3.17996E-02	9.81737E-02	2.36579E-01
6.40000E 01	3.71473E-03	1.22752E-02	3.59217E-02	1.09761E-01	2.56814E-01

P (E,1) ETA = 0.500 (KEV)

E (KEV)	WL (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.51090E 04	1.18195E-03	3.92895E-03	1.16943E-02	3.79191E-02	1.05129E-01
4.63410E 04	1.18200E-03	3.92909E-03	1.16947E-02	3.79204E-02	1.05132E-01
3.89679E 04	1.18195E-03	3.92892E-03	1.16943E-02	3.79189E-02	1.05128E-01
3.27680E 04	1.18168E-03	3.92804E-03	1.16917E-02	3.79107E-02	1.05108E-01
2.75545E 04	1.18111E-03	3.92614E-03	1.16860E-02	3.78930E-02	1.05062E-01
2.31705E 04	1.18015E-03	3.92298E-03	1.16767E-02	3.78636E-02	1.04988E-01
1.94840E 04	1.17876E-03	3.91836E-03	1.16631E-02	3.78206E-02	1.04878E-01
1.63840E 04	1.17689E-03	3.91216E-03	1.16448E-02	3.77629E-02	1.04731E-01
1.37772E 04	1.17452E-03	3.90429E-03	1.16215E-02	3.76896E-02	1.04544E-01
1.15852E 04	1.17163E-03	3.89473E-03	1.15933E-02	3.76005E-02	1.04318E-01
9.74198E 03	1.16826E-03	3.88354E-03	1.15602E-02	3.74963E-02	1.04052E-01
8.19200E 03	1.16444E-03	3.87088E-03	1.15228E-02	3.73784E-02	1.03751E-01
6.88862E 03	1.16026E-03	3.85703E-03	1.14819E-02	3.72494E-02	1.03422E-01
5.79262E 03	1.15585E-03	3.84242E-03	1.14388E-02	3.71132E-02	1.03074E-01
4.87099E 03	1.15140E-03	3.82764E-03	1.13951E-02	3.69754E-02	1.02722E-01
4.09600E 03	1.14714E-03	3.81351E-03	1.13534E-02	3.68436E-02	1.02385E-01
3.44431E 03	1.14339E-03	3.80109E-03	1.13167E-02	3.67278E-02	1.02089E-01
2.89631E 03	1.14056E-03	3.79172E-03	1.12890E-02	3.66404E-02	1.01865E-01
2.43550E 03	1.13916E-03	3.78708E-03	1.12753E-02	3.65971E-02	1.01754E-01
2.04800E 03	1.13980E-03	3.78920E-03	1.12816E-02	3.66168E-02	1.01805E-01
1.72216E 03	1.14321E-03	3.80050E-03	1.13149E-02	3.67222E-02	1.02074E-01
1.44815E 03	1.15024E-03	3.82381E-03	1.13838E-02	3.69397E-02	1.02631E-01
1.21775E 03	1.16188E-03	3.86240E-03	1.14978E-02	3.72994E-02	1.03550E-01
1.02400E 03	1.17925E-03	3.91999E-03	1.16679E-02	3.78358E-02	1.04917E-01
8.61078E 02	1.20363E-03	4.00078E-03	1.19064E-02	3.85873E-02	1.06827E-01
7.24077E 02	1.23642E-03	4.10946E-03	1.22272E-02	3.95965E-02	1.09380E-01
6.08874E 02	1.27921E-03	4.25128E-03	1.26455E-02	4.09102E-02	1.12687E-01
5.12000E 02	1.33379E-03	4.43207E-03	1.31785E-02	4.25801E-02	1.16859E-01
4.30539E 02	1.39795E-03	4.64460E-03	1.38045E-02	4.45358E-02	1.21704E-01
3.62039E 02	1.47756E-03	4.90816E-03	1.45801E-02	4.69505E-02	1.27621E-01
3.04437E 02	1.57614E-03	5.23445E-03	1.55391E-02	4.99233E-02	1.34810E-01
2.56000E 02	1.69662E-03	5.63295E-03	1.67086E-02	5.35295E-02	1.43388E-01
2.15269E 02	1.84233E-03	6.11466E-03	1.81198E-02	5.78528E-02	1.53465E-01
1.81019E 02	2.01720E-03	6.69230E-03	1.98084E-02	6.29855E-02	1.65137E-01
1.52219E 02	2.22577E-03	7.38064E-03	2.18153E-02	6.90288E-02	1.78472E-01
1.28000E 02	2.47334E-03	8.19683E-03	2.41876E-02	7.60924E-02	1.93499E-01
1.07635E 02	2.76608E-03	9.16070E-03	2.69788E-02	8.42927E-02	2.10187E-01
9.05097E 01	3.11117E-03	1.02952E-02	3.02500E-02	9.37507E-02	2.28423E-01
7.61093E 01	3.51695E-03	1.16269E-02	3.40699E-02	1.04588E-01	2.47982E-01
6.40000E 01	3.99311E-03	1.31863E-02	3.85160E-02	1.16920E-01	2.68496E-01

P (E,1) ETA = 1.000 (KEV)

E (KEV)	WL (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.51090E 04	1.24078E-03	4.12393E-03	1.22699E-02	3.97306E-02	1.09719E-01
4.63410E 04	1.24083E-03	4.12407E-03	1.22703E-02	3.97319E-02	1.09722E-01
3.89679E 04	1.24078E-03	4.12392E-03	1.22698E-02	3.97305E-02	1.09719E-01
3.27680E 04	1.24052E-03	4.12305E-03	1.22673E-02	3.97225E-02	1.09698E-01
2.75545E 04	1.23995E-03	4.12117E-03	1.22617E-02	3.97050E-02	1.09654E-01
2.31705E 04	1.23900E-03	4.11803E-03	1.22525E-02	3.96760E-02	1.09581E-01
1.94840E 04	1.23762E-03	4.11346E-03	1.22390E-02	3.96335E-02	1.09474E-01
1.63840E 04	1.23577E-03	4.10731E-03	1.22208E-02	3.95765E-02	1.09330E-01
1.37772E 04	1.23341E-03	4.09951E-03	1.21978E-02	3.95041E-02	1.09147E-01
1.15852E 04	1.23056E-03	4.09005E-03	1.21699E-02	3.94163E-02	1.08925E-01
9.74198E 03	1.22723E-03	4.07900E-03	1.21373E-02	3.93138E-02	1.08666E-01
8.19200E 03	1.22347E-03	4.06654E-03	1.21005E-02	3.91981E-02	1.08374E-01
6.88862E 03	1.21937E-03	4.05296E-03	1.20604E-02	3.90720E-02	1.08055E-01
5.79262E 03	1.21507E-03	4.03871E-03	1.20184E-02	3.89397E-02	1.07720E-01
4.87099E 03	1.21076E-03	4.02442E-03	1.19762E-02	3.88070E-02	1.07383E-01
4.09600E 03	1.20669E-03	4.01095E-03	1.19364E-02	3.86818E-02	1.07066E-01
3.44431E 03	1.20321E-03	3.99942E-03	1.19024E-02	3.85746E-02	1.06794E-01
2.89631E 03	1.20074E-03	3.99123E-03	1.18782E-02	3.84985E-02	1.06601E-01
2.43550E 03	1.19982E-03	3.98815E-03	1.18691E-02	3.84699E-02	1.06529E-01
2.04800E 03	1.20107E-03	3.99232E-03	1.18814E-02	3.85086E-02	1.06627E-01
1.72216E 03	1.20529E-03	4.00629E-03	1.19227E-02	3.86384E-02	1.06956E-01
1.44815E 03	1.21336E-03	4.03305E-03	1.20017E-02	3.88871E-02	1.07587E-01
1.21775E 03	1.22634E-03	4.07605E-03	1.21286E-02	3.92865E-02	1.08597E-01
1.02400E 03	1.24541E-03	4.13926E-03	1.23151E-02	3.98727E-02	1.10077E-01
8.61078E 02	1.27192E-03	4.22710E-03	1.25742E-02	4.06865E-02	1.12125E-01
7.24077E 02	1.30738E-03	4.34460E-03	1.29207E-02	4.17728E-02	1.14846E-01
6.08874E 02	1.35349E-03	4.49734E-03	1.33708E-02	4.31815E-02	1.18354E-01
5.12000E 02	1.41214E-03	4.69158E-03	1.39428E-02	4.49670E-02	1.22765E-01
4.30539E 02	1.48130E-03	4.92055E-03	1.46165E-02	4.70637E-02	1.27897E-01
3.62039E 02	1.56698E-03	5.20412E-03	1.54500E-02	4.96477E-02	1.34148E-01
3.04437E 02	1.67292E-03	5.55459E-03	1.64788E-02	5.28226E-02	1.41719E-01
2.56000E 02	1.80227E-03	5.98226E-03	1.77322E-02	5.66685E-02	1.50727E-01
2.15269E 02	1.95866E-03	6.49898E-03	1.92437E-02	6.12740E-02	1.61280E-01
1.81019E 02	2.14633E-03	7.11854E-03	2.10518E-02	6.67371E-02	1.73467E-01
1.52219E 02	2.37021E-03	7.85695E-03	2.32007E-02	7.31644E-02	1.87343E-01
1.28000E 02	2.63607E-03	8.73279E-03	2.57410E-02	8.06710E-02	2.02917E-01
1.07635E 02	2.95062E-03	9.76762E-03	2.87307E-02	8.93783E-02	2.20128E-01
9.05097E 01	3.32168E-03	1.09864E-02	3.22353E-02	9.94104E-02	2.38817E-01
7.61093E 01	3.75838E-03	1.24180E-02	3.63291E-02	1.10892E-01	2.58701E-01
6.40000E 01	4.27128E-03	1.40957E-02	4.10953E-02	1.23936E-01	2.79334E-01

P (E,2) ETA = 0.125 (KEV)

E (KEV)	WL (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.51090E 04	5.66950E-07	6.28367E-06	5.61539E-05	6.08601E-04	5.10196E-03
4.63410E 04	5.66990E-07	6.28413E-06	5.61580E-05	6.08644E-04	5.10231E-03
3.89679E 04	5.66952E-07	6.28348E-06	5.61522E-05	6.08582E-04	5.10181E-03
3.27680E 04	5.66640E-07	6.28025E-06	5.61234E-05	6.08274E-04	5.09932E-03
2.75545E 04	5.66017E-07	6.27335E-06	5.60620E-05	6.07617E-04	5.09400E-03
2.31705E 04	5.64984E-07	6.26192E-06	5.59602E-05	6.06527E-04	5.08520E-03
1.94840E 04	5.63480E-07	6.24527E-06	5.58119E-05	6.04941E-04	5.07238E-03
1.63840E 04	5.61460E-07	6.22291E-06	5.56128E-05	6.02809E-04	5.05515E-03
1.37772E 04	5.58897E-07	6.19454E-06	5.53602E-05	6.00105E-04	5.03328E-03
1.15852E 04	5.55785E-07	6.16008E-06	5.50533E-05	5.96819E-04	5.00671E-03
9.74198E 03	5.52140E-07	6.11974E-06	5.46940E-05	5.92972E-04	4.97559E-03
8.19200E 03	5.48011E-07	6.07402E-06	5.42869E-05	5.88612E-04	4.94030E-03
6.88862E 03	5.43478E-07	6.02384E-06	5.38399E-05	5.83826E-04	4.90154E-03
5.79262E 03	5.38664E-07	5.97055E-06	5.33653E-05	5.78741E-04	4.86035E-03
4.87099E 03	5.33739E-07	5.91603E-06	5.28797E-05	5.73538E-04	4.81819E-03
4.09600E 03	5.28933E-07	5.86282E-06	5.24057E-05	5.68459E-04	4.77701E-03
3.44431E 03	5.24536E-07	5.81414E-06	5.19720E-05	5.63812E-04	4.73931E-03
2.89631E 03	5.20916E-07	5.77407E-06	5.16151E-05	5.59986E-04	4.70826E-03
2.43550E 03	5.18527E-07	5.74761E-06	5.13794E-05	5.57459E-04	4.68775E-03
2.04800E 03	5.17916E-07	5.74085E-06	5.13191E-05	5.56813E-04	4.68251E-03
1.72216E 03	5.19744E-07	5.76109E-06	5.14995E-05	5.58746E-04	4.69820E-03
1.44815E 03	5.24803E-07	5.81710E-06	5.19984E-05	5.64094E-04	4.74160E-03
1.21775E 03	5.34039E-07	5.91935E-06	5.29092E-05	5.73855E-04	4.82076E-03
1.02400E 03	5.48597E-07	6.08051E-06	5.43447E-05	5.89231E-04	4.94531E-03
8.61078E 02	5.69870E-07	6.31600E-06	5.64418E-05	6.11682E-04	5.12685E-03
7.24077E 02	5.99581E-07	6.64487E-06	5.93697E-05	6.43000E-04	5.37947E-03
6.08874E 02	6.39887E-07	7.09096E-06	6.33401E-05	6.85421E-04	5.72053E-03
5.12000E 02	6.93531E-07	7.68458E-06	6.86214E-05	7.41766E-04	6.17162E-03
4.30539E 02	7.58884E-07	8.40770E-06	7.50515E-05	8.10245E-04	6.71701E-03
3.62039E 02	8.44366E-07	9.35324E-06	8.34342E-05	8.99539E-04	7.42372E-03
3.04437E 02	9.57019E-07	1.05990E-05	9.45169E-05	1.01678E-03	8.34442E-03
2.56000E 02	1.10461E-06	1.22306E-05	1.08992E-04	1.16969E-03	9.53354E-03
2.15269E 02	1.29748E-06	1.43620E-05	1.27879E-04	1.36839E-03	1.10608E-02
1.81019E 02	1.54949E-06	1.71456E-05	1.52511E-04	1.62628E-03	1.30147E-02
1.52219E 02	1.87916E-06	2.07848E-05	1.84663E-04	1.96094E-03	1.55071E-02
1.28000E 02	2.31132E-06	2.55522E-05	2.26698E-04	2.39544E-03	1.86776E-02
1.07635E 02	2.87923E-06	3.18120E-05	2.81764E-04	2.95998E-03	2.26975E-02
9.05097E 01	3.62748E-06	4.00517E-05	3.54049E-04	3.69386E-03	2.77742E-02
7.61093E 01	4.61585E-06	5.09233E-05	4.49115E-04	4.64805E-03	3.41521E-02
6.40000E 01	5.92444E-06	6.52983E-05	5.74341E-04	5.88612E-03	4.21108E-02

P (E,2) ETA = 0.250 (KEV)

E (KEV)	WL (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.51090E 04	6.31410E-07	6.99714E-06	6.25052E-05	6.76506E-04	5.64896E-03
4.63410E 04	6.31455E-07	6.99764E-06	6.25097E-05	6.76553E-04	5.64934E-03
3.89679E 04	6.31397E-07	6.99700E-06	6.25039E-05	6.76492E-04	5.64884E-03
3.27680E 04	6.31093E-07	6.99364E-06	6.24740E-05	6.76172E-04	5.64628E-03
2.75545E 04	6.30442E-07	6.98643E-06	6.24099E-05	6.75487E-04	5.64078E-03
2.31705E 04	6.29361E-07	6.97446E-06	6.23034E-05	6.74350E-04	5.63164E-03
1.94840E 04	6.27786E-07	6.95703E-06	6.21483E-05	6.72693E-04	5.61833E-03
1.63840E 04	6.25671E-07	6.93363E-06	6.19400E-05	6.70468E-04	5.60046E-03
1.37772E 04	6.22989E-07	6.90395E-06	6.16759E-05	6.67646E-04	5.57778E-03
1.15852E 04	6.19736E-07	6.86795E-06	6.13554E-05	6.64223E-04	5.55026E-03
9.74198E 03	6.15934E-07	6.82586E-06	6.09809E-05	6.60221E-04	5.51807E-03
8.19200E 03	6.11635E-07	6.77829E-06	6.05574E-05	6.55695E-04	5.48167E-03
6.88862E 03	6.06933E-07	6.72624E-06	6.00941E-05	6.50743E-04	5.44182E-03
5.79262E 03	6.01963E-07	6.67123E-06	5.96044E-05	6.45509E-04	5.39968E-03
4.87099E 03	5.96917E-07	6.61538E-06	5.91072E-05	6.40194E-04	5.35686E-03
4.09600E 03	5.92044E-07	6.56149E-06	5.86275E-05	6.35064E-04	5.31552E-03
3.44431E 03	5.87685E-07	6.51319E-06	5.81975E-05	6.30465E-04	5.27845E-03
2.89631E 03	5.84238E-07	6.47504E-06	5.78578E-05	6.26832E-04	5.24914E-03
2.43550E 03	5.82213E-07	6.45265E-06	5.76585E-05	6.24700E-04	5.23194E-03
2.04800E 03	5.82237E-07	6.45289E-06	5.76606E-05	6.24723E-04	5.23213E-03
1.72216E 03	5.85049E-07	6.48402E-06	5.79378E-05	6.27687E-04	5.25604E-03
1.44815E 03	5.91551E-07	6.55599E-06	5.85785E-05	6.34540E-04	5.31130E-03
1.21775E 03	6.02824E-07	6.68076E-06	5.96893E-05	6.46416E-04	5.40698E-03
1.02400E 03	6.20175E-07	6.87284E-06	6.13989E-05	6.64688E-04	5.55399E-03
8.61078E 02	6.45216E-07	7.14993E-06	6.38649E-05	6.91024E-04	5.76549E-03
7.24077E 02	6.79924E-07	7.53402E-06	6.72821E-05	7.27486E-04	6.05750E-03
6.08874E 02	7.26801E-07	8.05271E-06	7.18955E-05	7.76648E-04	6.44981E-03
5.12000E 02	7.89031E-07	8.74116E-06	7.80155E-05	8.41767E-04	6.96705E-03
4.30539E 02	8.65217E-07	9.58385E-06	8.55028E-05	9.21277E-04	7.59503E-03
3.62039E 02	9.64779E-07	1.06848E-05	9.52784E-05	1.02484E-03	8.40741E-03
3.04437E 02	1.09586E-06	1.21339E-05	1.08134E-04	1.16064E-03	9.46356E-03
2.56000E 02	1.26756E-06	1.40314E-05	1.24951E-04	1.33765E-03	1.08257E-02
2.15269E 02	1.49207E-06	1.65115E-05	1.46903E-04	1.56769E-03	1.25734E-02
1.81019E 02	1.78572E-06	1.97535E-05	1.75557E-04	1.86638E-03	1.48075E-02
1.52219E 02	2.17040E-06	2.39980E-05	2.13004E-04	2.25425E-03	1.76550E-02
1.28000E 02	2.67553E-06	2.95673E-05	2.62034E-04	2.75828E-03	2.12734E-02
1.07635E 02	3.34064E-06	3.68940E-05	3.26372E-04	3.41378E-03	2.58554E-02
9.05097E 01	4.21890E-06	4.65586E-05	4.10988E-04	4.26677E-03	3.16319E-02
7.61093E 01	5.38182E-06	5.93400E-05	5.22498E-04	5.37691E-03	3.88721E-02
6.40000E 01	6.92555E-06	7.62826E-05	6.69701E-04	6.82097E-03	4.78786E-02

P (E,2) ETA = 0.500 (KEV)

E (KEV)	WL (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.51090E 04	6.99335E-07	7.74881E-06	6.91927E-05	7.47855E-04	6.22024E-03
4.63410E 04	6.99386E-07	7.74937E-06	6.91976E-05	7.47908E-04	6.22066E-03
3.89679E 04	6.99327E-07	7.74872E-06	6.91919E-05	7.47847E-04	6.22017E-03
3.27680E 04	6.99013E-07	7.74524E-06	6.91609E-05	7.47517E-04	6.21754E-03
2.75545E 04	6.98334E-07	7.73773E-06	6.90941E-05	7.46805E-04	6.21185E-03
2.31705E 04	6.97205E-07	7.72525E-06	6.89831E-05	7.45621E-04	6.20240E-03
1.94840E 04	6.95561E-07	7.70705E-06	6.88212E-05	7.43896E-04	6.18863E-03
1.63840E 04	6.93353E-07	7.68262E-06	6.86040E-05	7.41580E-04	6.17013E-03
1.37772E 04	6.90556E-07	7.65166E-06	6.83286E-05	7.38645E-04	6.14668E-03
1.15852E 04	6.87160E-07	7.61416E-06	6.79950E-05	7.35087E-04	6.11826E-03
9.74198E 03	6.83210E-07	7.57038E-06	6.76056E-05	7.30936E-04	6.08508E-03
8.19200E 03	6.78749E-07	7.52102E-06	6.71665E-05	7.26253E-04	6.04764E-03
6.88862E 03	6.73886E-07	7.46721E-06	6.66878E-05	7.21147E-04	6.00679E-03
5.79262E 03	6.68773E-07	7.41063E-06	6.61844E-05	7.15778E-04	5.96383E-03
4.87099E 03	6.63622E-07	7.35363E-06	6.56773E-05	7.10368E-04	5.92051E-03
4.09600E 03	6.58716E-07	7.29934E-06	6.51943E-05	7.05213E-04	5.87923E-03
3.44431E 03	6.54418E-07	7.25177E-06	6.47710E-05	7.00697E-04	5.84304E-03
2.89631E 03	6.51186E-07	7.21600E-06	6.44528E-05	6.97300E-04	5.81581E-03
2.43550E 03	6.49588E-07	7.19832E-06	6.42954E-05	6.95620E-04	5.80234E-03
2.04800E 03	6.50317E-07	7.20639E-06	6.43672E-05	6.96387E-04	5.80849E-03
1.72216E 03	6.54213E-07	7.24950E-06	6.47509E-05	7.00481E-04	5.84131E-03
1.44815E 03	6.62269E-07	7.33888E-06	6.55461E-05	7.08967E-04	5.90930E-03
1.21775E 03	6.75770E-07	7.48805E-06	6.68732E-05	7.23125E-04	6.02262E-03
1.02400E 03	6.96142E-07	7.71348E-06	6.88784E-05	7.44505E-04	6.19349E-03
8.61078E 02	7.25232E-07	8.03535E-06	7.17409E-05	7.75004E-04	6.43672E-03
7.24077E 02	7.65311E-07	8.47876E-06	7.56832E-05	8.16965E-04	6.77037E-03
6.08874E 02	8.19242E-07	9.07534E-06	8.09852E-05	8.73323E-04	7.21675E-03
5.12000E 02	8.90680E-07	9.86546E-06	8.80039E-05	9.47800E-04	7.80367E-03
4.30539E 02	9.78506E-07	1.08366E-05	9.66255E-05	1.03909E-03	8.51871E-03
3.62039E 02	1.09320E-06	1.21046E-05	1.07874E-04	1.15790E-03	9.44232E-03
3.04437E 02	1.24408E-06	1.37720E-05	1.22653E-04	1.31350E-03	1.06408E-02
2.56000E 02	1.44170E-06	1.59552E-05	1.41982E-04	1.51621E-03	1.21844E-02
2.15269E 02	1.70023E-06	1.88099E-05	1.67222E-04	1.77967E-03	1.41628E-02
1.81019E 02	2.03867E-06	2.25448E-05	2.00191E-04	2.12184E-03	1.66894E-02
1.52219E 02	2.48256E-06	2.74402E-05	2.43321E-04	2.56640E-03	1.99062E-02
1.28000E 02	3.06630E-06	3.38728E-05	2.99863E-04	3.14446E-03	2.39888E-02
1.07635E 02	3.83623E-06	4.23489E-05	3.74165E-04	3.89676E-03	2.91505E-02
9.05097E 01	4.85482E-06	5.35500E-05	4.72035E-04	4.87639E-03	3.56443E-02
7.61093E 01	6.20634E-06	6.83925E-05	6.01230E-04	6.15212E-03	4.37612E-02
6.40000E 01	8.00449E-06	8.81089E-05	7.72082E-04	7.81242E-03	5.38220E-02

P (E,2) ETA = 1.000 (KEV)

E (KEV)	WL (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.51090E 04	7.70726E-07	8.53867E-06	7.62157E-05	8.22629E-04	6.81532E-03
4.63410E 04	7.70782E-07	8.53928E-06	7.62211E-05	8.22687E-04	6.81578E-03
3.89679E 04	7.70724E-07	8.53864E-06	7.62155E-05	8.22627E-04	6.81530E-03
3.27680E 04	7.70399E-07	8.53504E-06	7.61835E-05	8.22287E-04	6.81260E-03
2.75545E 04	7.69693E-07	8.52723E-06	7.61141E-05	8.21549E-04	6.80674E-03
2.31705E 04	7.68518E-07	8.51424E-06	7.59986E-05	8.20320E-04	6.79699E-03
1.94840E 04	7.66805E-07	8.49529E-06	7.58301E-05	8.18528E-04	6.78277E-03
1.63840E 04	7.64507E-07	8.46986E-06	7.56041E-05	8.16124E-04	6.76369E-03
1.37772E 04	7.61595E-07	8.43765E-06	7.53178E-05	8.13078E-04	6.73950E-03
1.15852E 04	7.58072E-07	8.39868E-06	7.49713E-05	8.09391E-04	6.71023E-03
9.74198E 03	7.53968E-07	8.35327E-06	7.45676E-05	8.05096E-04	6.67611E-03
8.19200E 03	7.49352E-07	8.30220E-06	7.41136E-05	8.00764E-04	6.63771E-03
6.88862E 03	7.44337E-07	8.24673E-06	7.36204E-05	7.95015E-04	6.59597E-03
5.79262E 03	7.39094E-07	8.18872E-06	7.31046E-05	7.89525E-04	6.55231E-03
4.87099E 03	7.33857E-07	8.13077E-06	7.25894E-05	7.84039E-04	6.50866E-03
4.09600E 03	7.28936E-07	8.07633E-06	7.21053E-05	7.78885E-04	6.46762E-03
3.44431E 03	7.24734E-07	8.02984E-06	7.16919E-05	7.74483E-04	6.43256E-03
2.89631E 03	7.21760E-07	7.99693E-06	7.13993E-05	7.71366E-04	6.40774E-03
2.43550E 03	7.20643E-07	7.98458E-06	7.12894E-05	7.70196E-04	6.39841E-03
2.04800E 03	7.22156E-07	8.00131E-06	7.14382E-05	7.71781E-04	6.41104E-03
1.72216E 03	7.27235E-07	8.05751E-06	7.19380E-05	7.77103E-04	6.45343E-03
1.44815E 03	7.37017E-07	8.16573E-06	7.29002E-05	7.87349E-04	6.53499E-03
1.21775E 03	7.52875E-07	8.34118E-06	7.44601E-05	8.03952E-04	6.66702E-03
1.02400E 03	7.76488E-07	8.60240E-06	7.67822E-05	8.28654E-04	6.86311E-03
8.61078E 02	8.09919E-07	8.97221E-06	8.00688E-05	8.63589E-04	7.13979E-03
7.24077E 02	8.55741E-07	9.47905E-06	8.45718E-05	9.11400E-04	7.51723E-03
6.08874E 02	9.17207E-07	1.01588E-05	9.06087E-05	9.75404E-04	8.02038E-03
5.12000E 02	9.98474E-07	1.10574E-05	9.85851E-05	1.05982E-03	8.68036E-03
4.30539E 02	1.09875E-06	1.21659E-05	1.08418E-04	1.16364E-03	9.48672E-03
3.62039E 02	1.22964E-06	1.36124E-05	1.21239E-04	1.29864E-03	1.05268E-02
3.04437E 02	1.40168E-06	1.55132E-05	1.38070E-04	1.47526E-03	1.18741E-02
2.56000E 02	1.62703E-06	1.80017E-05	1.60080E-04	1.70526E-03	1.36071E-02
2.15269E 02	1.92195E-06	2.12570E-05	1.88830E-04	2.00416E-03	1.58257E-02
1.81019E 02	2.30832E-06	2.55191E-05	2.26407E-04	2.39244E-03	1.86559E-02
1.52219E 02	2.81563E-06	3.11113E-05	2.75607E-04	2.89710E-03	2.22549E-02
1.28000E 02	3.48363E-06	3.84682E-05	3.40174E-04	3.55358E-03	2.68160E-02
1.07635E 02	4.36598E-06	4.81761E-05	4.25123E-04	4.40834E-03	3.25719E-02
9.05097E 01	5.53521E-06	6.10247E-05	5.37165E-04	5.52184E-03	3.97961E-02
7.61093E 01	7.08939E-06	7.80791E-05	6.85272E-04	6.97241E-03	4.87985E-02
6.40000E 01	9.16115E-06	1.00775E-04	8.81420E-04	8.86060E-03	5.99123E-02

E (KEV)	WL (CM/KEV)				
	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.38174E 01	9.95115E-01	9.83811E-01	9.52213E-01	8.49405E-01	6.12834E-01
4.52548E 01	9.94407E-01	9.81480E-01	9.45461E-01	8.29494E-01	5.70739E-01
3.80546E 01	9.93570E-01	9.78757E-01	9.37614E-01	8.06760E-01	5.25101E-01
3.20000E 01	9.92611E-01	9.75581E-01	9.28516E-01	7.80966E-01	4.76313E-01
2.69087E 01	9.91480E-01	9.71880E-01	9.17990E-01	7.51845E-01	4.24992E-01
2.26274E 01	9.90160E-01	9.67575E-01	9.05845E-01	7.19197E-01	3.71998E-01
1.90273E 01	9.88622E-01	9.62574E-01	8.91870E-01	6.82873E-01	3.18430E-01
1.60000E 01	9.86830E-01	9.56771E-01	8.75837E-01	6.42806E-01	2.65603E-01
1.34543E 01	9.84745E-01	9.50049E-01	8.57507E-01	5.99048E-01	2.14970E-01
1.13137E 01	9.82321E-01	9.42276E-01	8.36631E-01	5.51802E-01	1.68012E-01
9.51366E 00	9.79506E-01	9.33304E-01	8.12960E-01	5.01456E-01	1.26093E-01
8.00000E 00	9.76239E-01	9.22969E-01	7.86250E-01	4.48614E-01	9.02833E-02
6.72717E 00	9.72453E-01	9.11091E-01	7.56284E-01	3.94112E-01	6.12135E-02
5.65685E 00	9.68070E-01	8.97475E-01	7.22880E-01	3.39020E-01	3.89637E-02
4.75683E 00	9.63002E-01	8.81911E-01	6.85919E-01	2.84609E-01	2.30532E-02
4.00000E 00	9.57152E-01	8.64179E-01	6.45370E-01	2.32293E-01	1.25339E-02
3.36359E 00	9.50408E-01	8.44049E-01	6.01314E-01	1.83518E-01	6.18036E-03
2.82843E 00	9.42648E-01	8.21295E-01	5.53981E-01	1.39634E-01	2.72238E-03
2.37841E 00	9.33735E-01	7.95695E-01	5.03775E-01	1.01734E-01	1.05284E-03
2.00000E 00	9.23520E-01	7.67046E-01	4.51298E-01	7.05055E-02	3.50457E-04
1.68179E 00	9.13895E-01	7.40723E-01	4.06410E-01	4.97233E-02	1.22925E-04
1.41421E 00	9.03341E-01	7.12592E-01	3.61841E-01	3.37604E-02	3.84751E-05
1.18921E 00	8.91843E-01	6.82805E-01	3.18336E-01	2.20277E-02	1.06871E-05
1.00000E 00	8.79410E-01	6.51589E-01	2.76640E-01	1.37954E-02	2.62511E-06

E (KEV)	WL (CM/KEV)				
	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.38174E 01	9.95430E-01	9.84877E-01	9.55312E-01	8.58634E-01	6.33072E-01
4.52548E 01	9.94793E-01	9.82716E-01	9.49040E-01	8.40005E-01	5.92711E-01
3.80546E 01	9.94017E-01	9.80196E-01	9.41755E-01	8.18705E-01	5.48757E-01
3.20000E 01	9.93122E-01	9.77258E-01	9.33314E-01	7.94501E-01	5.01510E-01
2.69087E 01	9.92074E-01	9.73841E-01	9.23556E-01	7.67148E-01	4.51475E-01
2.26274E 01	9.90864E-01	9.69869E-01	9.12303E-01	7.36430E-01	3.99384E-01
1.90273E 01	9.89449E-01	9.65261E-01	8.99360E-01	7.02176E-01	3.46206E-01
1.60000E 01	9.87804E-01	9.59921E-01	8.84516E-01	6.64285E-01	2.93128E-01
1.34543E 01	9.85892E-01	9.53743E-01	8.67549E-01	6.22751E-01	2.41511E-01
1.13137E 01	9.83674E-01	9.46608E-01	8.48223E-01	5.77701E-01	1.92798E-01
9.51366E 00	9.81101E-01	9.38383E-01	8.26302E-01	5.29419E-01	1.48385E-01
8.00000E 00	9.78122E-01	9.28919E-01	8.01553E-01	4.78384E-01	1.09476E-01
6.72717E 00	9.74676E-01	9.18054E-01	7.73755E-01	4.25287E-01	7.69190E-02
5.65685E 00	9.70694E-01	9.05612E-01	7.42720E-01	3.71040E-01	5.10798E-02
4.75683E 00	9.66100E-01	8.91403E-01	7.08305E-01	3.16767E-01	3.17836E-02
4.00000E 00	9.60806E-01	8.75226E-01	6.70438E-01	2.63755E-01	1.83478E-02
3.36359E 00	9.54717E-01	8.56872E-01	6.29138E-01	2.13383E-01	9.71540E-03
2.82843E 00	9.47724E-01	8.36131E-01	5.84548E-01	1.67010E-01	4.65801E-03
2.37841E 00	9.39710E-01	8.12794E-01	5.36956E-01	1.25836E-01	1.99244E-03
2.00000E 00	9.30544E-01	7.86668E-01	4.86822E-01	9.07637E-02	7.47662E-04
1.68179E 00	9.20087E-01	7.57583E-01	4.34797E-01	6.22732E-02	2.41472E-04
1.41421E 00	9.08186E-01	7.25410E-01	3.81722E-01	4.03494E-02	6.56856E-05
1.18921E 00	8.94682E-01	6.90078E-01	3.28616E-01	2.44895E-02	1.46855E-05
1.00000E 00	8.79410E-01	6.51589E-01	2.76640E-01	1.37954E-02	2.62511E-06
8.40896E-01	8.66080E-01	6.19244E-01	2.37454E-01	8.29120E-03	5.69888E-07
7.07107E-01	8.51929E-01	5.86157E-01	2.01389E-01	4.78783E-03	1.09736E-07
5.94604E-01	8.37084E-01	5.52797E-01	1.68923E-01	2.66476E-03	1.89189E-08
5.00000E-01	8.21730E-01	5.19717E-01	1.40375E-01	1.43769E-03	2.97107E-09

E (KEV)	WL (CM/KEV)				
	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.38174E 01	9.95762E-01	9.85944E-01	9.58421E-01	8.68004E-01	6.53978E-01
4.52548E 01	9.95150E-01	9.83955E-01	9.52631E-01	8.50649E-01	6.15530E-01
3.80546E 01	9.94455E-01	9.81636E-01	9.45914E-01	8.30819E-01	5.73479E-01
3.20000E 01	9.93635E-01	9.78939E-01	9.38138E-01	8.08270E-01	5.28040E-01
2.69087E 01	9.92674E-01	9.75805E-01	9.29156E-01	7.82762E-01	4.79608E-01
2.26274E 01	9.91568E-01	9.72168E-01	9.18807E-01	7.54076E-01	4.28787E-01
1.90273E 01	9.90277E-01	9.67955E-01	9.06912E-01	7.22026E-01	3.76404E-01
1.60000E 01	9.88778E-01	9.63081E-01	8.93281E-01	6.86482E-01	3.23506E-01
1.34543E 01	9.87041E-01	9.57451E-01	8.77707E-01	6.47393E-01	2.71330E-01
1.13137E 01	9.85028E-01	9.50960E-01	8.59976E-01	6.04815E-01	2.21239E-01
9.51366E 00	9.82700E-01	9.43489E-01	8.39864E-01	5.58942E-01	1.74619E-01
8.00000E 00	9.80010E-01	9.34906E-01	8.17153E-01	5.10130E-01	1.32750E-01
6.72717E 00	9.76905E-01	9.25070E-01	7.91630E-01	4.58927E-01	9.66542E-02
5.65685E 00	9.73326E-01	9.13822E-01	7.63104E-01	4.06085E-01	6.69635E-02
4.75683E 00	9.69208E-01	9.00996E-01	7.31421E-01	3.52558E-01	4.38204E-02
4.00000E 00	9.64475E-01	8.86414E-01	6.96479E-01	2.99479E-01	2.68585E-02
3.36359E 00	9.59045E-01	8.69890E-01	6.58250E-01	2.48109E-01	1.52724E-02
2.82843E 00	9.52828E-01	8.51234E-01	6.16801E-01	1.99752E-01	7.96990E-03
2.37841E 00	9.45720E-01	8.30260E-01	5.72322E-01	1.55648E-01	3.77055E-03
2.00000E 00	9.37622E-01	8.06789E-01	5.25143E-01	1.16843E-01	1.59506E-03
1.68179E 00	9.28407E-01	7.80664E-01	4.75755E-01	8.40666E-02	5.94070E-04
1.41421E 00	9.17953E-01	7.51743E-01	4.24820E-01	5.76363E-02	1.91448E-04
1.18921E 00	9.06129E-01	7.19949E-01	3.73165E-01	3.74125E-02	5.23610E-05
1.00000E 00	8.92799E-01	6.85247E-01	3.21763E-01	2.28282E-02	1.18951E-05
8.40896E-01	8.77825E-01	6.47682E-01	2.71694E-01	1.29903E-02	2.19181E-06
7.07107E-01	8.61072E-01	6.07390E-01	2.24077E-01	6.83404E-03	3.19130E-07
5.94604E-01	8.42412E-01	5.64614E-01	1.79990E-01	3.29243E-03	3.56841E-08
5.00000E-01	8.21730E-01	5.19717E-01	1.40375E-01	1.43769E-03	2.97107E-09
4.20448E-01	8.06128E-01	4.87548E-01	1.15889E-01	7.58881E-04	4.36945E-10
3.53553E-01	7.90633E-01	4.57003E-01	9.54436E-02	3.97365E-04	6.27289E-11
2.97302E-01	7.75709E-01	4.28878E-01	7.88844E-02	2.10543E-04	0.
2.50000E-01	7.61970E-01	4.04077E-01	6.59750E-02	1.16048E-04	0.

E (KEV)	WL (CM/KEV)				
	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.38174E 01	9.96086E-01	9.87012E-01	9.61540E-01	8.77456E-01	6.75575E-01
4.52548E 01	9.95535E-01	9.85194E-01	9.56237E-01	8.61428E-01	6.39227E-01
3.80546E 01	9.94893E-01	9.83079E-01	9.50092E-01	8.43113E-01	5.99314E-01
3.20000E 01	9.94147E-01	9.80623E-01	9.42986E-01	8.22278E-01	5.55973E-01
2.69087E 01	9.93279E-01	9.77773E-01	9.34790E-01	7.98694E-01	5.09494E-01
2.26274E 01	9.92272E-01	9.74473E-01	9.25357E-01	7.72144E-01	4.60354E-01
1.90273E 01	9.91105E-01	9.70657E-01	9.14529E-01	7.42436E-01	4.09236E-01
1.60000E 01	9.89754E-01	9.66252E-01	9.02133E-01	7.09420E-01	3.57031E-01
1.34543E 01	9.88190E-01	9.61174E-01	8.87985E-01	6.73009E-01	3.04830E-01
1.13137E 01	9.86384E-01	9.55332E-01	8.71891E-01	6.33202E-01	2.53876E-01
9.51366E 00	9.84301E-01	9.48622E-01	8.53649E-01	5.90110E-01	2.05491E-01
8.00000E 00	9.81900E-01	9.40933E-01	8.33057E-01	5.43982E-01	1.60970E-01
6.72717E 00	9.79138E-01	9.32139E-01	8.09917E-01	4.95228E-01	1.21453E-01
5.65685E 00	9.75965E-01	9.22107E-01	7.84048E-01	4.44439E-01	8.77864E-02
4.75683E 00	9.72325E-01	9.10693E-01	7.55292E-01	3.92392E-01	6.04156E-02
4.00000E 00	9.68157E-01	8.97745E-01	7.23532E-01	3.40041E-01	3.93170E-02
3.36359E 00	9.63393E-01	8.83105E-01	6.88709E-01	2.88485E-01	2.40079E-02
2.82843E 00	9.57959E-01	8.66611E-01	6.50834E-01	2.38914E-01	1.36366E-02
2.37841E 00	9.51774E-01	8.48102E-01	6.10018E-01	1.92525E-01	7.13552E-03
2.00000E 00	9.44753E-01	8.27426E-01	5.66480E-01	1.50415E-01	3.40289E-03
1.68179E 00	9.36803E-01	8.04442E-01	5.20572E-01	1.13487E-01	1.46153E-03
1.41421E 00	9.27826E-01	7.79032E-01	4.72784E-01	8.23294E-02	5.57997E-04
1.18921E 00	9.17722E-01	7.51113E-01	4.23755E-01	5.71551E-02	1.86692E-04
1.00000E 00	9.06392E-01	7.20644E-01	3.74247E-01	3.77755E-02	5.38998E-05
8.40896E-01	8.93734E-01	6.87642E-01	3.25149E-01	2.36387E-02	1.32075E-05
7.07107E-01	8.79654E-01	6.52192E-01	2.77409E-01	1.39237E-02	2.69902E-06
5.94604E-01	8.64068E-01	6.14462E-01	2.31995E-01	7.67276E-03	4.51639E-07
5.00000E-01	8.46904E-01	5.74712E-01	1.89821E-01	3.93098E-03	6.07339E-08
4.20448E-01	8.28114E-01	5.33298E-01	1.51671E-01	1.86079E-03	6.44188E-09
3.53553E-01	8.07677E-01	4.90676E-01	1.18134E-01	8.08996E-04	5.29354E-10
2.97302E-01	7.85608E-01	4.47394E-01	8.95486E-02	3.21290E-04	3.31579E-11
2.50000E-01	7.61970E-01	4.04077E-01	6.59750E-02	1.16048E-04	0.
2.10224E-01	7.50209E-01	3.83659E-01	5.64708E-02	6.90965E-05	0.
1.76777E-01	7.41466E-01	3.68957E-01	5.02243E-02	4.67471E-05	0.
1.48651E-01	7.37117E-01	3.61793E-01	4.73551E-02	3.84239E-05	0.
1.25000E-01	7.39028E-01	3.64928E-01	4.85970E-02	4.18867E-05	0.

E (KEV)	WL (CM/KEV)				
	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.38174E 01	3.90656E-03	1.29031E-02	3.77107E-02	1.14709E-01	2.64954E-01
4.52548E 01	4.45491E-03	1.46955E-02	4.27912E-02	1.28494E-01	2.86051E-01
3.80546E 01	5.09355E-03	1.67767E-02	4.86418E-02	1.43881E-01	3.06830E-01
3.20000E 01	5.83600E-03	1.91885E-02	5.53567E-02	1.60901E-01	3.26376E-01
2.69087E 01	6.69806E-03	2.19781E-02	6.30364E-02	1.79528E-01	3.43571E-01
2.26274E 01	7.69764E-03	2.51983E-02	7.17854E-02	1.99664E-01	3.57124E-01
1.90273E 01	8.85517E-03	2.89080E-02	8.17099E-02	2.21111E-01	3.65637E-01
1.60000E 01	1.01938E-02	3.31722E-02	9.29136E-02	2.43549E-01	3.67718E-01
1.34543E 01	1.17397E-02	3.80622E-02	1.05493E-01	2.66509E-01	3.62138E-01
1.13137E 01	1.35224E-02	4.36553E-02	1.19528E-01	2.89351E-01	3.48041E-01
9.51366E 00	1.55751E-02	5.00347E-02	1.35077E-01	3.11251E-01	3.25159E-01
8.00000E 00	1.79347E-02	5.72876E-02	1.52161E-01	3.31197E-01	2.94018E-01
6.72717E 00	2.06423E-02	6.55048E-02	1.70749E-01	3.48015E-01	2.56050E-01
5.65685E 00	2.37438E-02	7.47775E-02	1.90747E-01	3.60414E-01	2.13571E-01
4.75683E 00	2.72884E-02	8.51947E-02	2.11973E-01	3.67080E-01	1.69557E-01
4.00000E 00	3.13306E-02	9.68388E-02	2.34142E-01	3.66799E-01	1.27234E-01
3.36359E 00	3.59285E-02	1.09780E-01	2.56845E-01	3.58619E-01	8.95545E-02
2.82843E 00	4.11444E-02	1.24069E-01	2.79533E-01	3.42042E-01	5.85690E-02
2.37841E 00	4.70431E-02	1.39728E-01	3.01512E-01	3.17189E-01	3.52685E-02
2.00000E 00	5.36916E-02	1.56744E-01	3.21938E-01	2.84940E-01	1.93391E-02
1.68179E 00	6.11570E-02	1.75052E-01	3.39844E-01	2.46955E-01	9.54126E-03
1.41421E 00	6.95049E-02	1.94527E-01	3.54170E-01	2.05579E-01	4.18004E-03
1.18921E 00	7.87961E-02	2.14968E-01	3.63836E-01	1.63577E-01	1.60295E-03
1.00000E 00	8.90836E-02	2.36090E-01	3.67825E-01	1.23756E-01	5.29748E-04
8.40896E-01	1.00409E-01	2.57513E-01	3.65294E-01	8.85238E-02	1.48383E-04
7.07107E-01	1.12795E-01	2.78758E-01	3.55711E-01	5.95121E-02	3.46085E-05
5.94604E-01	1.26244E-01	2.99248E-01	3.38954E-01	3.73669E-02	6.59861E-06
5.00000E-01	1.40723E-01	3.18325E-01	3.15420E-01	2.17732E-02	1.00920E-06
4.20448E-01	1.56186E-01	3.35271E-01	2.86057E-01	1.16983E-02	1.21497E-07
3.53553E-01	1.72515E-01	3.49347E-01	2.52327E-01	5.75982E-03	1.13067E-08
2.97302E-01	1.89565E-01	3.59846E-01	2.16078E-01	2.58419E-03	8.00092E-10
2.50000E-01	2.07140E-01	3.66154E-01	1.79352E-01	1.05157E-03	0.
2.10224E-01	2.15612E-01	3.47546E-01	1.62299E-01	6.61944E-04	0.
1.76777E-01	2.21792E-01	3.67878E-01	1.50234E-01	4.66104E-04	0.
1.48651E-01	2.24827E-01	3.67829E-01	1.44437E-01	3.90649E-04	0.
1.25000E-01	2.23496E-01	3.67868E-01	1.46967E-01	4.22241E-04	0.

E (KEV)	WL (CM/KEV)				
	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.38174E 01	4.22981E-03	1.39569E-02	4.07023E-02	1.22874E-01	2.77732E-01
4.52548E 01	4.82923E-03	1.59160E-02	4.62285E-02	1.37597E-01	2.98699E-01
3.80546E 01	5.52951E-03	1.81939E-02	5.25961E-02	1.53987E-01	3.18874E-01
3.20000E 01	6.34519E-03	2.08376E-02	5.99080E-02	1.72048E-01	3.37198E-01
2.69087E 01	7.29407E-03	2.39000E-02	6.82731E-02	1.91719E-01	3.52409E-01
2.26274E 01	8.39655E-03	2.74407E-02	7.78041E-02	2.12847E-01	3.63095E-01
1.90273E 01	9.67593E-03	3.15258E-02	8.86138E-02	2.35160E-01	3.67781E-01
1.60000E 01	1.11587E-02	3.62288E-02	1.00810E-01	2.58238E-01	3.65089E-01
1.34543E 01	1.28752E-02	4.16302E-02	1.14490E-01	2.81488E-01	3.53928E-01
1.13137E 01	1.48593E-02	4.78173E-02	1.29728E-01	3.04121E-01	3.33742E-01
9.51366E 00	1.71496E-02	5.48837E-02	1.46569E-01	3.25142E-01	3.04736E-01
8.00000E 00	1.97892E-02	6.29276E-02	1.65007E-01	3.43363E-01	2.68060E-01
6.72717E 00	2.28265E-02	7.20503E-02	1.84973E-01	3.57442E-01	2.25844E-01
5.65685E 00	2.63149E-02	8.23530E-02	2.06313E-01	3.65961E-01	1.81043E-01
4.75683E 00	3.03135E-02	9.39326E-02	2.28763E-01	3.67556E-01	1.37055E-01
4.00000E 00	3.48867E-02	1.06876E-01	2.51929E-01	3.61085E-01	9.71519E-02
3.36359E 00	4.01045E-02	1.21253E-01	2.75261E-01	3.45836E-01	6.38648E-02
2.82843E 00	4.60414E-02	1.37106E-01	2.98044E-01	3.21736E-01	3.85112E-02
2.37841E 00	5.27764E-02	1.54442E-01	3.19386E-01	2.89530E-01	2.10417E-02
2.00000E 00	6.03903E-02	1.73212E-01	3.38237E-01	2.50853E-01	1.02735E-02
1.68179E 00	6.89668E-02	1.93303E-01	3.53416E-01	2.08161E-01	4.41306E-03
1.41421E 00	7.85853E-02	2.14518E-01	3.63684E-01	1.64471E-01	1.63897E-03
1.18921E 00	8.93203E-02	2.36557E-01	3.67842E-01	1.22928E-01	5.16141E-04
1.00000E 00	1.01233E-01	2.59007E-01	3.64860E-01	8.62851E-02	1.34883E-04
8.40896E-01	1.14387E-01	2.81324E-01	3.54039E-01	5.64241E-02	2.85610E-05
7.07107E-01	1.28796E-01	3.02835E-01	3.35167E-01	3.40734E-02	4.77344E-06
5.94604E-01	1.44462E-01	3.22741E-01	3.08656E-01	1.88200E-02	6.11932E-07
5.00000E-01	1.61341E-01	3.40140E-01	2.75618E-01	9.40929E-03	5.83350E-08
4.20448E-01	1.73730E-01	3.50238E-01	2.49755E-01	5.45154E-03	9.41669E-09
3.53553E-01	1.85737E-01	3.57863E-01	2.24218E-01	3.11163E-03	1.47364E-09
2.97302E-01	1.97013E-01	3.63081E-01	2.00348E-01	1.78242E-03	0.
2.50000E-01	2.07140E-01	3.66154E-01	1.79352E-01	1.05157E-03	0.

E (KEV)	WL (CM/KEV)				
	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.38174E 01	4.55086E-03	1.50084E-02	4.36741E-02	1.30849E-01	2.89422E-01
4.52548E 01	5.20319E-03	1.71334E-02	4.96393E-02	1.46453E-01	3.10016E-01
3.80546E 01	5.96509E-03	1.96070E-02	5.65147E-02	1.63767E-01	3.29309E-01
3.20000E 01	6.85385E-03	2.24810E-02	6.44110E-02	1.82768E-01	3.46108E-01
2.69087E 01	7.88936E-03	2.58142E-02	7.34444E-02	2.03352E-01	3.59029E-01
2.26274E 01	9.09446E-03	2.96723E-02	8.37341E-02	2.25304E-01	3.66567E-01
1.90273E 01	1.04953E-02	3.41288E-02	9.53971E-02	2.48269E-01	3.67228E-01
1.60000E 01	1.21218E-02	3.92650E-02	1.08543E-01	2.71722E-01	3.59711E-01
1.34543E 01	1.40079E-02	4.51701E-02	1.23265E-01	2.94940E-01	3.43149E-01
1.13137E 01	1.61924E-02	5.19403E-02	1.39627E-01	3.16984E-01	3.17367E-01
9.51366E 00	1.87189E-02	5.96788E-02	1.57654E-01	3.36697E-01	2.83111E-01
8.00000E 00	2.16365E-02	6.84930E-02	1.77307E-01	3.52732E-01	2.42167E-01
6.72717E 00	2.50005E-02	7.84929E-02	1.98468E-01	3.63617E-01	1.97297E-01
5.65685E 00	2.88720E-02	8.97865E-02	2.20912E-01	3.67866E-01	1.51930E-01
4.75683E 00	3.33189E-02	1.02475E-01	2.44281E-01	3.64152E-01	1.09616E-01
4.00000E 00	3.84154E-02	1.16644E-01	2.68057E-01	3.51515E-01	7.33591E-02
3.36359E 00	4.42420E-02	1.32358E-01	2.91545E-01	3.29606E-01	4.50216E-02
2.82843E 00	5.08849E-02	1.49643E-01	3.13853E-01	2.98898E-01	2.50097E-02
2.37841E 00	5.84349E-02	1.68474E-01	3.33900E-01	2.60829E-01	1.23898E-02
2.00000E 00	6.69858E-02	1.88761E-01	3.50442E-01	2.17787E-01	5.38209E-03
1.68179E 00	7.66318E-02	2.10322E-01	3.62132E-01	1.72884E-01	2.01116E-03
1.41421E 00	8.74640E-02	2.32870E-01	3.67622E-01	1.29529E-01	6.32594E-04
1.18921E 00	9.95661E-02	2.55985E-01	3.65705E-01	9.08439E-02	1.63430E-04
1.00000E 00	1.13008E-01	2.79103E-01	3.55493E-01	5.90915E-02	3.37336E-05
8.40896E-01	1.24523E-01	2.96776E-01	3.41407E-01	3.97361E-02	8.19375E-06
7.07107E-01	1.36523E-01	3.13106E-01	3.22729E-01	2.55751E-02	1.75853E-06
5.94604E-01	1.48853E-01	3.27678E-01	3.00398E-01	1.57957E-02	3.36437E-07
5.00000E-01	1.61341E-01	3.40140E-01	2.75618E-01	9.40929E-03	5.83350E-08

E (KEV)	WL (CM/KEV)				
	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.38174E 01	4.87270E-03	1.60577E-02	4.66262E-02	1.38639E-01	3.00081E-01
4.52548E 01	5.57687E-03	1.83477E-02	5.30237E-02	1.55065E-01	3.20084E-01
3.80546E 01	6.40029E-03	2.10158E-02	6.03978E-02	1.73229E-01	3.38252E-01
3.20000E 01	7.36199E-03	2.41187E-02	6.88661E-02	1.93073E-01	3.53272E-01
2.69087E 01	8.48393E-03	2.77205E-02	7.85510E-02	2.14445E-01	3.63659E-01
2.26274E 01	9.79138E-03	3.18932E-02	8.95761E-02	2.37061E-01	3.67856E-01
1.90273E 01	1.13133E-02	3.67171E-02	1.02061E-01	2.60480E-01	3.64596E-01
1.60000E 01	1.30829E-02	4.22809E-02	1.16114E-01	2.84064E-01	3.52124E-01
1.34543E 01	1.51381E-02	4.86818E-02	1.31821E-01	3.06960E-01	3.30464E-01
1.13137E 01	1.75218E-02	5.60246E-02	1.49231E-01	3.28083E-01	2.99687E-01
9.51366E 00	2.02830E-02	6.44203E-02	1.68343E-01	3.46125E-01	2.61105E-01
8.00000E 00	2.34766E-02	7.39846E-02	1.89078E-01	3.59606E-01	2.17114E-01
6.72717E 00	2.71644E-02	8.48335E-02	2.11259E-01	3.66966E-01	1.70993E-01
5.65685E 00	3.14151E-02	9.70796E-02	2.34583E-01	3.66717E-01	1.26442E-01
4.75683E 00	3.63047E-02	1.10824E-01	2.58588E-01	3.57651E-01	8.69093E-02
4.00000E 00	4.19167E-02	1.26149E-01	2.82628E-01	3.39091E-01	5.48900E-02
3.36359E 00	4.83414E-02	1.43104E-01	3.05851E-01	3.11144E-01	3.14357E-02
2.82843E 00	5.56751E-02	1.61691E-01	3.27195E-01	2.74902E-01	1.60791E-02
2.37841E 00	6.40193E-02	1.81848E-01	3.45401E-01	2.32502E-01	7.21856E-03
2.00000E 00	7.34778E-02	2.03426E-01	3.59065E-01	1.86985E-01	2.78833E-03
1.68179E 00	8.22865E-02	2.22312E-01	3.65929E-01	1.49234E-01	1.10681E-03
1.41421E 00	9.18241E-02	2.41459E-01	3.67830E-01	1.14396E-01	3.81119E-04
1.18921E 00	1.02085E-01	2.60521E-01	3.64383E-01	8.40458E-02	1.22329E-04
1.00000E 00	1.13008E-01	2.79103E-01	3.55493E-01	5.90915E-02	3.37336E-05

Table 5

Calculated probability of occurrence of j primary ionizations, f_j, by heavy ions as a function of kind of ions, of target size, l/W, of energy of incident ions, E_p, and of out-off energy, η. Because of typographical limitations, f_j, E_p, and l/W are indicated as FJ, EP, ETA and L/W, respectively. Powers of ten are indicated by the symbol of E; thus 9.39614 E 01 reads 9.39614×10^{-1}.

F (KEV)	WL (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.38174E 01	1.04026E-05	1.14356E-04	9.98328E-04	9.97000E-03	6.61578E-02
4.52548E 01	1.36076E-05	1.49358E-04	1.29819E-03	1.27668E-02	8.10767E-02
3.80546E 01	1.78982E-05	1.96100E-04	1.69572E-03	1.63792E-02	9.88091E-02
3.20000E 01	2.36503E-05	2.58578E-04	2.22260E-03	2.10221E-02	1.19430E-01
2.69087E 01	3.13695E-05	3.42135E-04	2.92028E-03	2.69519E-02	1.42756E-01
2.26274E 01	4.17359E-05	4.53898E-04	3.84269E-03	3.44649E-02	1.68224E-01
1.90273E 01	5.56630E-05	6.03347E-04	5.05949E-03	4.38903E-02	1.94764E-01
1.60000E 01	7.43760E-05	8.03057E-04	6.65990E-03	5.55732E-02	2.20709E-01
1.34543E 01	9.95151E-05	1.06965E-03	8.75696E-03	6.98430E-02	2.43779E-01
1.13137E 01	1.33273E-04	1.42498E-03	1.14921E-02	8.69645E-02	2.61211E-01
9.51366E 00	1.78573E-04	1.89771E-03	1.50397E-02	1.07065E-01	2.70080E-01
8.00000E 00	2.39305E-04	2.52514E-03	1.96106E-02	1.30042E-01	2.67842E-01
6.72717E 00	3.20631E-04	3.35554E-03	2.54536E-02	1.55445E-01	2.53034E-01
5.65685E 00	4.29379E-04	4.45092E-03	3.28536E-02	1.82359E-01	2.25948E-01
4.75683E 00	5.74552E-04	5.89020E-03	4.21238E-02	2.09313E-01	1.89021E-01
4.00000E 00	7.67971E-04	7.77280E-03	5.35880E-02	2.34238E-01	1.46654E-01
3.36359E 00	1.02510E-03	1.02224E-02	6.75517E-02	2.54965E-01	1.04316E-01
2.82843E 00	1.36605E-03	1.33908E-02	8.42566E-02	2.67469E-01	6.71405E-02
2.37841E 00	1.81686E-03	1.74605E-02	1.03816E-01	2.70321E-01	3.85222E-02
2.00000E 00	2.41101E-03	2.26465E-02	1.26134E-01	2.61290E-01	1.93716E-02
1.68179E 00	3.19124E-03	2.91950E-02	1.50805E-01	2.39985E-01	8.37525E-03
1.41421E 00	4.21167E-03	3.73776E-02	1.77022E-01	2.07905E-01	3.04614E-03
1.18921E 00	5.54018E-03	4.74790E-02	2.03490E-01	1.68493E-01	9.09377E-04
1.00000E 00	7.26096E-03	5.97757E-02	2.28411E-01	1.26557E-01	2.16745E-04
8.40896E-01	8.95188E-03	7.11160E-02	2.45434E-01	9.52188E-02	5.89041E-05
7.07107E-01	1.09391E-02	8.36256E-02	2.58590E-01	6.83069E-02	1.40904E-05
5.94604E-01	1.32359E-02	9.71180E-02	2.67101E-01	4.68157E-02	2.99145E-06
5.00000E-01	1.58392E-02	1.11306E-01	2.70579E-01	3.07906E-02	5.72685E-07

F (KEV)	WL (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.38174E 01	1.19299E-05	1.31046E-04	1.14155E-03	1.13143E-02	7.34692E-02
4.52548E 01	1.56382E-05	1.71495E-04	1.48685E-03	1.44939E-02	8.97553E-02
3.80546E 01	2.06142E-05	2.25625E-04	1.94531E-03	1.85978E-02	1.08945E-01
3.20000E 01	2.73012E-05	2.98136E-04	2.55383E-03	2.38662E-02	1.31007E-01
2.69087E 01	3.62978E-05	3.95529E-04	3.36074E-03	3.05826E-02	1.55589E-01
2.26274E 01	4.84119E-05	5.25630E-04	4.42895E-03	3.90700E-02	1.81881E-01
1.90273E 01	6.47320E-05	7.00280E-04	5.83970E-03	4.96795E-02	2.08499E-01
1.60000E 01	8.67235E-05	9.34224E-04	7.69693E-03	6.27658E-02	2.33414E-01
1.34543E 01	1.16355E-04	1.24726E-03	1.01321E-02	7.86454E-02	2.54004E-01
1.13137E 01	1.56270E-04	1.66552E-03	1.33093E-02	9.75335E-02	2.67278E-01
9.51366E 00	2.10004E-04	2.22327E-03	1.74297E-02	1.19454E-01	2.70340E-01
8.00000E 00	2.82283E-04	2.96527E-03	2.27347E-02	1.44129E-01	2.61058E-01
6.72717E 00	3.79403E-04	3.94951E-03	2.95065E-02	1.70845E-01	2.38825E-01
5.65685E 00	5.09729E-04	5.25054E-03	3.80626E-02	1.98338E-01	2.05160E-01
4.75683E 00	6.84335E-04	6.96330E-03	4.87433E-02	2.24719E-01	1.63822E-01
4.00000E 00	9.17833E-04	9.20736E-03	6.18859E-02	2.47495E-01	1.20190E-01
3.36359E 00	1.22941E-03	1.21312E-02	7.77837E-02	2.63764E-01	7.99468E-02
2.82843E 00	1.64416E-03	1.59163E-02	9.66247E-02	2.70604E-01	4.74835E-02
2.37841E 00	2.19467E-03	2.07797E-02	1.18408E-01	2.65679E-01	2.47462E-02
2.00000E 00	2.92305E-03	2.69749E-02	1.42841E-01	2.47948E-01	1.10924E-02
1.68179E 00	3.70451E-03	3.33610E-02	1.64740E-01	2.23946E-01	4.98282E-03
1.41421E 00	4.66744E-03	4.09088E-02	1.86959E-01	1.93814E-01	1.98796E-03
1.18921E 00	5.84255E-03	4.97003E-02	2.08545E-01	1.60336E-01	7.00121E-04
1.00000E 00	7.26096E-03	5.97757E-02	2.28411E-01	1.26557E-01	2.16745E-04

E (KEV)	WL (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.38174E 01	7.66057E-06	8.43404E-05	7.39489E-04	7.49788E-03	5.19563E-02
4.52548E 01	9.96793E-06	1.09602E-04	9.57445E-04	9.58332E-03	6.40034E-02
3.80546E 01	1.30387E-05	1.43151E-04	1.24515E-03	1.22770E-02	7.85439E-02
3.20000E 01	1.71297E-05	1.87737E-04	1.62482E-03	1.57423E-02	9.57973E-02
2.69087E 01	2.25833E-05	2.47008E-04	2.12539E-03	2.01769E-02	1.15841E-01
2.26274E 01	2.98576E-05	3.25794E-04	2.78441E-03	2.58149E-02	1.38521E-01
1.90273E 01	3.95589E-05	4.30466E-04	3.65024E-03	3.29255E-02	1.63342E-01
1.60000E 01	5.24946E-05	5.69412E-04	4.78474E-03	4.18061E-02	1.89362E-01
1.34543E 01	6.97340E-05	7.53624E-04	6.26626E-03	5.27684E-02	2.15110E-01
1.13137E 01	9.26907E-05	9.97449E-04	8.19513E-03	6.61118E-02	2.38566E-01
9.51366E 00	1.23227E-04	1.31953E-03	1.06870E-02	8.20840E-02	2.57258E-01
8.00000E 00	1.63792E-04	1.74395E-03	1.38963E-02	1.00923E-01	2.68517E-01
6.72717E 00	2.17595E-04	2.30163E-03	1.79989E-02	1.22281E-01	2.69906E-01
5.65685E 00	2.88925E-04	3.03201E-03	2.32029E-02	1.46137E-01	2.59793E-01
4.75683E 00	3.82925E-04	3.98495E-03	2.97452E-02	1.71701E-01	2.37931E-01
4.00000E 00	5.06943E-04	5.22295E-03	3.78854E-02	1.97831E-01	2.05870E-01
3.36359E 00	6.69954E-04	6.82343E-03	4.78935E-02	2.22902E-01	1.66954E-01
2.82843E 00	8.83575E-04	8.88116E-03	6.00298E-02	2.44842E-01	1.25777E-01
2.37841E 00	1.16259E-03	1.15104E-02	7.45136E-02	2.61291E-01	8.71604E-02
2.00000E 00	1.52568E-03	1.48465E-02	9.14808E-02	2.69889E-01	5.49532E-02
1.68179E 00	1.99625E-03	1.90463E-02	1.10930E-01	2.68696E-01	3.11440E-02
1.41421E 00	2.60336E-03	2.42869E-02	1.32657E-01	2.56668E-01	1.56567E-02
1.18921E 00	3.38273E-03	3.07617E-02	1.56196E-01	2.34078E-01	6.88150E-03
1.00000E 00	4.37774E-03	3.86727E-02	1.80756E-01	2.02718E-01	2.60328E-03
8.40896E-01	5.64031E-03	4.82177E-02	2.05200E-01	1.65755E-01	8.33519E-04
7.07107E-01	7.25162E-03	5.95728E-02	2.28057E-01	1.27182E-01	2.21886E-04
5.94604E-01	9.22234E-03	7.28681E-02	2.47612E-01	9.09900E-02	4.82041E-05
5.00000E-01	1.16922E-02	8.61580E-02	2.62063E-01	6.02994E-02	8.38483E-06
4.20448E-01	1.47287E-02	1.05388E-01	2.69759E-01	3.67723E-02	1.14574E-06
3.53553E-01	1.84240E-02	1.24363E-01	2.69477E-01	2.05042E-02	1.20752E-07
2.97302E-01	2.28708E-02	1.44715E-01	2.60696E-01	1.05925E-02	9.65301E-09
2.50000E-01	2.81553E-02	1.65896E-01	2.43782E-01	4.76440E-03	0.
2.10224E-01	3.09838E-02	1.76055E-01	2.33226E-01	3.17079E-03	0.
1.76777E-01	3.31718E-02	1.83401E-01	2.24694E-01	2.32371E-03	0.
1.48651E-01	3.42870E-02	1.86983E-01	2.20272E-01	1.98583E-03	0.
1.25000E-01	3.37948E-02	1.85415E-01	2.22228E-01	2.12821E-03	0.

E (KEV)	WL (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
5.38174E 01	8.97944E-06	9.37863E-05	8.64275E-04	8.69694E-03	5.89738E-02
4.52548E 01	1.17174E-05	1.28725E-04	1.12167E-03	1.11286E-02	7.24752E-02
3.80546E 01	1.53733E-05	1.68606E-04	1.46226E-03	1.42702E-02	8.86524E-02
3.20000E 01	2.02597E-05	2.21774E-04	1.91281E-03	1.83110E-02	1.07665E-01
2.69087E 01	2.67973E-05	2.92687E-04	2.50831E-03	2.34785E-02	1.29473E-01
2.26274E 01	3.55508E-05	3.87273E-04	3.29421E-03	3.00394E-02	1.53733E-01
1.90273E 01	4.72714E-05	5.13389E-04	4.32920E-03	3.82951E-02	1.79678E-01
1.60000E 01	6.29654E-05	6.81420E-04	5.68842E-03	4.85714E-02	2.06008E-01
1.34543E 01	8.39730E-05	9.05045E-04	7.46715E-03	6.11958E-02	2.30835E-01
1.13137E 01	1.12077E-04	1.20221E-03	9.78484E-03	7.64608E-02	2.51727E-01
9.51366E 00	1.49643E-04	1.59632E-03	1.27592E-02	9.45692E-02	2.65905E-01
8.00000E 00	1.99801E-04	2.11780E-03	1.65598E-02	1.15557E-01	2.70646E-01
6.72717E 00	2.66684E-04	2.80587E-03	2.16106E-02	1.39199E-01	2.63855E-01
5.65685E 00	3.55726E-04	3.71080E-03	2.78895E-02	1.64901E-01	2.44735E-01
4.75683E 00	4.74053E-04	4.89443E-03	3.57747E-02	1.91596E-01	2.14331E-01
4.00000E 00	6.30956E-04	6.44308E-03	4.55634E-02	2.17682E-01	1.75708E-01
3.36359E 00	8.38526E-04	8.45065E-03	5.75530E-02	2.41028E-01	1.33532E-01
2.82843E 00	1.11238E-03	1.10417E-02	7.20086E-02	2.59107E-01	9.30447E-02
2.37841E 00	1.47260E-03	1.43643E-02	8.91173E-02	2.69286E-01	5.87120E-02
2.00000E 00	1.94484E-03	1.85936E-02	1.08926E-01	2.69281E-01	3.30851E-02
1.68179E 00	2.56161E-03	2.39323E-02	1.31268E-01	2.57719E-01	1.63912E-02
1.41421E 00	3.36379E-03	3.06074E-02	1.55673E-01	2.34668E-01	7.01551E-03
1.18921E 00	4.40231E-03	3.88634E-02	1.81297E-01	2.01956E-01	2.54389E-03
1.00000E 00	5.73988E-03	4.89491E-02	2.06864E-01	1.65068E-01	7.64744E-04
8.40896E-01	7.45278E-03	6.10973E-02	2.30670E-01	1.22540E-01	1.86086E-04
7.07107E-01	9.63244E-03	7.54943E-02	2.50665E-01	8.49423E-02	3.56998E-05
5.94604E-01	1.23865E-02	9.22414E-02	2.66651E-01	5.37887E-02	5.24687E-06
5.00000E-01	1.58392E-02	1.11306E-01	2.70579E-01	3.07906E-02	5.72685E-07
4.20448E-01	1.87205E-02	1.25800E-01	2.69126E-01	1.95810E-02	1.01471E-07
3.53553E-01	2.18168E-02	1.40115E-01	2.63369E-01	1.21831E-02	1.73095E-08
2.97302E-01	2.50183E-02	1.53689E-01	2.54420E-01	7.54481E-03	0.
2.50000E-01	2.81553E-02	1.65896E-01	2.43782E-01	4.76440E-03	0.

F 0 EP = 4.0 (MEV/AMU) ETA = 0.125 (KEV)

	L/W (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.39614E-01	8.17587E-01	5.65315E-01	1.73226E-01	9.36919E-03
HELIUM	8.65397E-01	6.35290E-01	3.22235E-01	9.76516E-02	1.27816E-02
LITHIUM	8.34117E-01	6.05090E-01	3.58896E-01	1.29420E-01	1.70085E-02
BORON	8.36387E-01	6.63624E-01	4.28780E-01	1.55619E-01	2.04516E-02
CARBON	8.46695E-01	6.85699E-01	4.43934E-01	1.61119E-01	2.11744E-02
NITROGEN	8.56789E-01	7.00235E-01	4.53452E-01	1.64573E-01	2.16284E-02
OXYGEN	8.65359E-01	7.09952E-01	4.59755E-01	1.66861E-01	2.19290E-02
FLUORINE	8.72197E-01	7.16688E-01	4.64118E-01	1.68444E-01	2.21371E-02
NEON	8.77520E-01	7.21525E-01	4.67251E-01	1.69581E-01	2.22866E-02
ARGON	8.94079E-01	7.35480E-01	4.76288E-01	1.72861E-01	2.27176E-02

F 1 EP = 4.0 (MEV/AMU) ETA = 0.125 (KEV)

	L/W (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	5.76704E-02	1.58308E-01	3.01804E-01	2.82256E-01	3.52893E-02
HELIUM	1.21982E-01	2.62632E-01	2.64324E-01	1.21528E-01	3.43213E-02
LITHIUM	1.38753E-01	2.28319E-01	2.10317E-01	1.58022E-01	4.56716E-02
BORON	1.13891E-01	1.77538E-01	2.39762E-01	1.90010E-01	5.49170E-02
CARBON	1.00090E-01	1.78147E-01	2.48232E-01	1.96725E-01	5.68578E-02
NITROGEN	9.07487E-02	1.80987E-01	2.53555E-01	2.00943E-01	5.80768E-02
OXYGEN	8.53268E-02	1.83369E-01	2.57079E-01	2.03736E-01	5.88841E-02
FLUORINE	8.25233E-02	1.85094E-01	2.59519E-01	2.05670E-01	5.94429E-02
NEON	8.12212E-02	1.86347E-01	2.61270E-01	2.07058E-01	5.98442E-02
ARGON	8.09392E-02	1.89946E-01	2.66324E-01	2.11063E-01	6.10016E-02

F 2 EP = 4.0 (MEV/AMU) ETA = 0.125 (KEV)

	L/W (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	2.57529E-03	2.05270E-02	9.23693E-02	2.42470E-01	7.59256E-02
HELIUM	1.17354E-02	7.96501E-02	1.90211E-01	1.00913E-01	5.03618E-02
LITHIUM	2.34298E-02	1.01206E-01	1.18321E-01	1.21293E-01	6.70168E-02
BORON	3.26135E-02	5.40106E-02	1.11136E-01	1.45841E-01	8.05831E-02
CARBON	2.88585E-02	4.46158E-02	1.15042E-01	1.50995E-01	8.34310E-02
NITROGEN	2.30395E-02	4.27062E-02	1.17508E-01	1.54233E-01	8.52198E-02
OXYGEN	1.75176E-02	4.27721E-02	1.19142E-01	1.56376E-01	8.64044E-02
FLUORINE	1.33193E-02	4.31005E-02	1.20272E-01	1.57860E-01	8.72244E-02
NEON	1.05208E-02	4.33817E-02	1.21084E-01	1.58926E-01	8.78131E-02
ARGON	6.59267E-03	4.42194E-02	1.23426E-01	1.62000E-01	8.95115E-02

F 0 EP = 4.0 (MEV/AMU) ETA = 0.250 (KEV)

	L/W (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.36858E-01	8.07484E-01	5.38189E-01	1.43615E-01	6.12703E-03
HELIUM	8.56341E-01	6.15820E-01	3.03230E-01	8.84995E-02	9.97035E-03
LITHIUM	8.22839E-01	5.93289E-01	3.53654E-01	1.19845E-01	1.35271E-02
BORON	8.30493E-01	6.67546E-01	4.30500E-01	1.46438E-01	1.65207E-02
CARBON	8.44073E-01	6.92612E-01	4.47234E-01	1.52130E-01	1.71712E-02
NITROGEN	8.56677E-01	7.08897E-01	4.57803E-01	1.55725E-01	1.75770E-02
OXYGEN	8.66996E-01	7.19768E-01	4.64628E-01	1.58114E-01	1.78467E-02
FLUORINE	8.75016E-01	7.27314E-01	4.69702E-01	1.59772E-01	1.80339E-02
NEON	8.81143E-01	7.32743E-01	4.73207E-01	1.60965E-01	1.81684E-02
ARGON	8.99771E-01	7.48445E-01	4.83348E-01	1.64414E-01	1.85578E-02

F 1 EP = 4.0 (MEV/AMU) ETA = 0.250 (KEV)

	L/W (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	6.06313E-02	1.68917E-01	3.19467E-01	2.60741E-01	2.39003E-02
HELIUM	1.29306E-01	2.70151E-01	2.54977E-01	1.16865E-01	2.88601E-02
LITHIUM	1.44315E-01	2.21293E-01	2.12115E-01	1.56759E-01	3.91555E-02
BORON	1.09730E-01	1.70646E-01	2.50439E-01	1.91544E-01	4.78440E-02
CARBON	9.35222E-02	1.73126E-01	2.60179E-01	1.98989E-01	4.97058E-02
NITROGEN	8.34612E-02	1.76653E-01	2.66321E-01	2.03692E-01	5.08784E-02
OXYGEN	7.81562E-02	1.79304E-01	2.70408E-01	2.06817E-01	5.16590E-02
FLUORINE	7.57102E-02	1.81179E-01	2.73243E-01	2.08986E-01	5.22007E-02
NEON	7.47394E-02	1.82531E-01	2.75282E-01	2.10546E-01	5.25903E-02
ARGON	7.50482E-02	1.86443E-01	2.81182E-01	2.15057E-01	5.37173E-02

F 2 EP = 4.0 (MEV/AMU) ETA = 0.250 (KEV)

	L/W (CM/KEV) 1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	2.41621E-03	2.09189E-02	1.04392E-01	2.50372E-01	5.44305E-02
HELIUM	1.32906E-02	8.75429E-02	1.91066E-01	9.86748E-02	4.52812E-02
LITHIUM	2.76744E-02	1.03435E-01	1.10230E-01	1.26738E-01	6.14346E-02
BORON	3.60418E-02	4.43313E-02	1.11251E-01	1.54860E-01	7.50667E-02
CARBON	2.97636E-02	3.64797E-02	1.15549E-01	1.60880E-01	7.79847E-02
NITROGEN	2.19129E-02	3.54487E-02	1.18279E-01	1.64682E-01	7.98276E-02
OXYGEN	1.53240E-02	3.57271E-02	1.20094E-01	1.67209E-01	8.10525E-02
FLUORINE	1.08188E-02	3.60726E-02	1.21354E-01	1.68962E-01	8.19024E-02
NEON	8.10478E-03	3.63391E-02	1.22259E-01	1.70223E-01	8.25136E-02
ARGON	5.00473E-03	3.71176E-02	1.24879E-01	1.73871E-01	8.42819E-02

F 0 EP = 4.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.34100E-01	7.97471E-01	5.13907E-01	1.19818E-01	4.18218E-03
HELIUM	8.46037E-01	5.96155E-01	2.88886E-01	8.36461E-02	7.93219E-03
LITHIUM	8.04538E-01	5.81935E-01	3.53573E-01	1.13304E-01	1.10368E-02
BORON	8.23230E-01	6.74164E-01	4.40569E-01	1.41746E-01	1.37831E-02
CARBON	8.40766E-01	7.03115E-01	4.59864E-01	1.47954E-01	1.43867E-02
NITROGEN	8.56401E-01	7.21850E-01	4.72145E-01	1.51905E-01	1.47709E-02
OXYGEN	8.68843E-01	7.34388E-01	4.80348E-01	1.54544E-01	1.50275E-02
FLUORINE	8.78326E-01	7.43119E-01	4.86059E-01	1.56382E-01	1.52062E-02
NEON	8.85472E-01	7.49415E-01	4.90176E-01	1.57707E-01	1.53350E-02
ARGON	9.06011E-01	7.67695E-01	5.02133E-01	1.61553E-01	1.57091E-02

F 1 EP = 4.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	6.34837E-02	1.78397E-01	3.34261E-01	2.39159E-01	1.66409E-02
HELIUM	1.37106E-01	2.74493E-01	2.43160E-01	1.14377E-01	2.45882E-02
LITHIUM	1.13089E-01	2.09559E-01	2.12123E-01	1.58270E-01	3.42120E-02
BORON	1.03928E-01	1.58582E-01	2.59028E-01	1.97651E-01	4.27248E-02
CARBON	8.50244E-02	1.62479E-01	2.70372E-01	2.06307E-01	4.45959E-02
NITROGEN	7.42076E-02	1.66492E-01	2.77593E-01	2.11817E-01	4.57869E-02
OXYGEN	6.90138E-02	1.69559E-01	2.82416E-01	2.15497E-01	4.65824E-02
FLUORINE	6.68844E-02	1.71370E-01	2.85773E-01	2.18059E-01	4.71362E-02
NEON	6.61825E-02	1.72822E-01	2.88194E-01	2.19906E-01	4.75355E-02
ARGON	6.68841E-02	1.77038E-01	2.95224E-01	2.25270E-01	4.86951E-02

F 2 EP = 4.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	2.34869E-03	2.15955E-02	1.15447E-01	2.53599E-01	3.91879E-02
HELIUM	1.54749E-02	9.64075E-02	1.85448E-01	9.94421E-02	4.10271E-02
LITHIUM	3.32607E-02	1.04690E-01	9.78361E-02	1.34483E-01	5.70851E-02
BORON	4.01916E-02	3.37322E-02	1.04587E-01	1.67945E-01	7.12892E-02
CARBON	3.08238E-02	2.72482E-02	1.09166E-01	1.75301E-01	7.44114E-02
NITROGEN	2.07417E-02	2.67440E-02	1.12082E-01	1.79982E-01	7.63986E-02
OXYGEN	1.31382E-02	2.70767E-02	1.14029E-01	1.83109E-01	7.77259E-02
FLUORINE	8.42974E-03	2.73878E-02	1.15385E-01	1.85286E-01	7.86500E-02
NEON	5.85609E-03	2.76190E-02	1.16362E-01	1.86856E-01	7.93163E-02
ARGON	3.41451E-03	2.82927E-02	1.19200E-01	1.91414E-01	8.12510E-02

F 0 EP = 4.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.30825E-01	7.87930E-01	4.91778E-01	1.01119E-01	2.97706E-03
HELIUM	8.31305E-01	5.69836E-01	2.74575E-01	7.77074E-02	6.51359E-03
LITHIUM	7.87731E-01	5.61887E-01	3.55270E-01	1.12479E-01	9.42776E-03
BORON	8.08065E-01	6.76780E-01	4.59424E-01	1.45587E-01	1.22082E-02
CARBON	8.30993E-01	7.11804E-01	4.83468E-01	1.53206E-01	1.28472E-02
NITROGEN	8.50957E-01	7.34615E-01	4.98977E-01	1.58121E-01	1.32593E-02
OXYGEN	8.66559E-01	7.49999E-01	5.09427E-01	1.61432E-01	1.35370E-02
FLUORINE	8.78295E-01	7.60774E-01	5.16746E-01	1.63752E-01	1.37315E-02
NEON	8.87075E-01	7.68576E-01	5.22045E-01	1.65431E-01	1.38723E-02
ARGON	9.13296E-01	7.91388E-01	5.37540E-01	1.70341E-01	1.42840E-02

F 1 EP = 4.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	6.66542E-02	1.87121E-01	3.44982E-01	2.19159E-01	1.20050E-02
HELIUM	1.47880E-01	2.77464E-01	2.23017E-01	1.14475E-01	2.15118E-02
LITHIUM	1.59819E-01	1.92462E-01	2.00691E-01	1.65252E-01	3.11361E-02
BORON	9.85621E-02	1.38776E-01	2.55751E-01	2.13989E-01	4.03189E-02
CARBON	7.58201E-02	1.43708E-01	2.69135E-01	2.25188E-01	4.24290E-02
NITROGEN	6.37257E-02	1.48122E-01	2.77769E-01	2.32412E-01	4.37901E-02
OXYGEN	5.84076E-02	1.51212E-01	2.83586E-01	2.37280E-01	4.47072E-02
FLUORINE	5.64659E-02	1.53384E-01	2.87661E-01	2.40689E-01	4.53495E-02
NEON	5.59507E-02	1.54956E-01	2.90611E-01	2.43157E-01	4.58146E-02
ARGON	5.69307E-02	1.59556E-01	2.99236E-01	2.50374E-01	4.71744E-02

F 2 EP = 4.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	2.45769E-03	2.29063E-02	1.25258E-01	2.53057E-01	2.87481E-02
HELIUM	1.88936E-02	1.09158E-01	1.73383E-01	1.00402E-01	3.80355E-02
LITHIUM	4.18172E-02	1.08878E-01	7.73791E-02	1.43171E-01	5.50525E-02
BORON	4.71304E-02	2.39418E-02	8.65546E-02	1.85396E-01	7.12890E-02
CARBON	3.35988E-02	1.84005E-02	9.10840E-02	1.95098E-01	7.50198E-02
NITROGEN	2.06013E-02	1.81645E-02	9.40059E-02	2.01357E-01	7.74264E-02
OXYGEN	1.16879E-02	1.84772E-02	9.59747E-02	2.05574E-01	7.90480E-02
FLUORINE	6.65913E-03	1.87385E-02	9.73535E-02	2.08528E-01	8.01836E-02
NEON	4.15603E-03	1.89304E-02	9.83519E-02	2.10666E-01	8.10059E-02
ARGON	2.14933E-03	1.94923E-02	1.01271E-01	2.16919E-01	8.34103E-02

F 0 EP = 6.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.54783E-01	8.61498E-01	6.57095E-01	2.75914E-01	2.91799E-02
HELIUM	8.95125E-01	7.03724E-01	4.01574E-01	1.38114E-01	2.80966E-02
LITHIUM	8.66045E-01	6.59758E-01	4.13334E-01	1.82606E-01	3.79618E-02
BORON	8.60180E-01	6.99669E-01	4.92473E-01	2.22527E-01	4.62618E-02
CARBON	8.66743E-01	7.22198E-01	5.11494E-01	2.31126E-01	4.80495E-02
NITROGEN	8.74495E-01	7.38385E-01	5.23564E-01	2.36580E-01	4.91834E-02
OXYGEN	8.81897E-01	7.49590E-01	5.31607E-01	2.40215E-01	4.99390E-02
FLUORINE	8.88329E-01	7.57449E-01	5.37196E-01	2.42740E-01	5.04639E-02
NEON	8.93655E-01	7.63117E-01	5.41217E-01	2.44557E-01	5.08417E-02
ARGON	9.11965E-01	7.79744E-01	5.53009E-01	2.49886E-01	5.19495E-02

F 1 EP = 6.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	4.34524E-02	1.22932E-01	2.56930E-01	3.31558E-01	9.04979E-02
HELIUM	9.70729E-02	2.29562E-01	2.87176E-01	1.43833E-01	5.79482E-02
LITHIUM	1.16906E-01	2.19768E-01	2.09288E-01	1.74095E-01	7.82926E-02
BORON	1.04799E-01	1.59665E-01	2.16731E-01	2.12116E-01	9.54108E-02
CARBON	9.30809E-02	1.52974E-01	2.25013E-01	2.20312E-01	9.90977E-02
NITROGEN	8.32816E-02	1.52975E-01	2.30321E-01	2.25511E-01	1.01436E-01
OXYGEN	7.62937E-02	1.54520E-01	2.33859E-01	2.28976E-01	1.02995E-01
FLUORINE	7.18268E-02	1.55995E-01	2.36318E-01	2.31383E-01	1.04077E-01
NEON	6.92040E-02	1.57139E-01	2.38087E-01	2.33115E-01	1.04856E-01
ARGON	6.66928E-02	1.60559E-01	2.43274E-01	2.38194E-01	1.07141E-01

F 2 EP = 6.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.67001E-03	1.32104E-02	6.06687E-02	2.10101E-01	1.54081E-01
HELIUM	7.34842E-03	5.46688E-02	1.71714E-01	1.20308E-01	6.75076E-02
LITHIUM	1.53176E-02	8.33892E-02	1.26232E-01	1.11447E-01	9.11923E-02
BORON	2.59499E-02	5.68352E-02	8.86627E-02	1.35562E-01	1.11131E-01
CARBON	2.58890E-02	4.17958E-02	9.16497E-02	1.40800E-01	1.15425E-01
NITROGEN	2.30978E-02	3.54018E-02	9.38013E-02	1.44123E-01	1.18149E-01
OXYGEN	1.90922E-02	3.36555E-02	9.52422E-02	1.46337E-01	1.19964E-01
FLUORINE	1.51091E-02	3.34542E-02	9.62434E-02	1.47875E-01	1.21225E-01
NEON	1.18143E-02	3.35932E-02	9.69639E-02	1.48982E-01	1.22133E-01
ARGON	5.16654E-03	3.43017E-02	9.90765E-02	1.52228E-01	1.24794E-01

F 0 EP = 6.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.53041E-01	8.54550E-01	6.35731E-01	2.42557E-01	2.07164E-02
HELIUM	8.89320E-01	6.88708E-01	3.80482E-01	1.27523E-01	2.34193E-02
LITHIUM	8.58331E-01	6.48406E-01	4.06479E-01	1.72310E-01	3.21147E-02
BORON	8.53281E-01	7.01878E-01	4.93714E-01	2.12651E-01	3.96342E-02
CARBON	8.64145E-01	7.27594E-01	5.14198E-01	2.21478E-01	4.12789E-02
NITROGEN	8.73932E-01	7.45515E-01	5.27251E-01	2.27101E-01	4.23267E-02
OXYGEN	8.82910E-01	7.57776E-01	5.35974E-01	2.30858E-01	4.30271E-02
FLUORINE	8.90481E-01	7.66354E-01	5.42047E-01	2.33474E-01	4.35146E-02
NEON	8.96607E-01	7.72540E-01	5.46423E-01	2.35359E-01	4.38659E-02
ARGON	9.16888E-01	7.90724E-01	5.59285E-01	2.40899E-01	4.48984E-02

F 1 EP = 6.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	4.54108E-02	1.30873E-01	2.74445E-01	3.23712E-01	6.87415E-02
HELIUM	1.02270E-01	2.38982E-01	2.84622E-01	1.37912E-01	5.17840E-02
LITHIUM	1.21833E-01	2.18475E-01	2.07671E-01	1.75180E-01	7.10108E-02
BORON	1.03243E-01	1.52671E-01	2.25891E-01	2.16184E-01	8.76374E-02
CARBON	8.89689E-02	1.47893E-01	2.35279E-01	2.25155E-01	9.12740E-02
NITROGEN	7.78085E-02	1.49015E-01	2.41200E-01	2.30870E-01	9.35910E-02
OXYGEN	7.03706E-02	1.50996E-01	2.45191E-01	2.34690E-01	9.51395E-02
FLUORINE	6.59524E-02	1.52634E-01	2.47969E-01	2.37349E-01	9.62175E-02
NEON	6.35637E-02	1.53858E-01	2.49971E-01	2.39265E-01	9.69943E-02
ARGON	6.18584E-02	1.57478E-01	2.55855E-01	2.44897E-01	9.92773E-02

F 2 EP = 6.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.48989E-03	1.29576E-02	6.79469E-02	2.27595E-01	1.27579E-01
HELIUM	7.93694E-03	5.93867E-02	1.80580E-01	1.12296E-01	6.40237E-02
LITHIUM	1.75756E-02	8.79447E-02	1.18355E-01	1.17190E-01	8.77914E-02
BORON	2.91380E-02	4.92960E-02	8.79297E-02	1.44545E-01	1.08347E-01
CARBON	2.74303E-02	3.40627E-02	9.13889E-02	1.50543E-01	1.12843E-01
NITROGEN	2.34674E-02	2.87611E-02	9.37059E-02	1.54365E-01	1.15708E-01
OXYGEN	1.81753E-02	2.76697E-02	9.52563E-02	1.56919E-01	1.17622E-01
FLUORINE	1.34271E-02	2.76772E-02	9.63355E-02	1.58697E-01	1.18955E-01
NEON	9.83005E-03	2.78519E-02	9.71133E-02	1.59978E-01	1.19915E-01
ARGON	3.85831E-03	2.84997E-02	9.93992E-02	1.63744E-01	1.22738E-01

F 0 EP = 6.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.51370E-01	8.48174E-01	6.16478E-01	2.14031E-01	1.50076E-02
HELIUM	8.83045E-01	6.74089E-01	3.63600E-01	1.19134E-01	1.98003E-02
LITHIUM	8.49623E-01	6.37917E-01	4.04334E-01	1.65129E-01	2.76644E-02
BORON	8.49716E-01	7.06446E-01	5.01588E-01	2.07174E-01	3.47083E-02
CARBON	8.61322E-01	7.35836E-01	5.24303E-01	2.16557E-01	3.62803E-02
NITROGEN	8.73477E-01	7.55914E-01	5.38863E-01	2.22570E-01	3.72877E-02
OXYGEN	8.84271E-01	7.69578E-01	5.48631E-01	2.26605E-01	3.79637E-02
FLUORINE	8.93153E-01	7.79138E-01	5.55449E-01	2.29421E-01	3.84355E-02
NEON	9.00204E-01	7.86043E-01	5.60372E-01	2.31455E-01	3.87761E-02
ARGON	9.22924E-01	8.06399E-01	5.74884E-01	2.37449E-01	3.97803E-02

F 1 EP = 6.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	4.72320E-02	1.37959E-01	2.90116E-01	3.13695E-01	5.23791E-02
HELIUM	1.07571E-01	2.46215E-01	2.79103E-01	1.33465E-01	4.66649E-02
LITHIUM	1.26803E-01	2.13412E-01	2.04928E-01	1.78160E-01	6.51987E-02
BORON	1.00617E-01	1.41963E-01	2.32911E-01	2.23519E-01	8.17997E-02
CARBON	8.34905E-02	1.38840E-01	2.43445E-01	2.33642E-01	8.55043E-02
NITROGEN	7.08977E-02	1.40784E-01	2.50205E-01	2.40130E-01	8.78787E-02
OXYGEN	6.30311E-02	1.43046E-01	2.54741E-01	2.44483E-01	8.94718E-02
FLUORINE	5.86817E-02	1.44789E-01	2.57907E-01	2.47521E-01	9.05837E-02
NEON	5.65170E-02	1.46069E-01	2.60193E-01	2.49715E-01	9.13865E-02
ARGON	5.54184E-02	1.49851E-01	2.66931E-01	2.56182E-01	9.37531E-02

F 2 EP = 6.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.36291E-03	1.27780E-02	7.45871E-02	2.42928E-01	1.04219E-01
HELIUM	8.83141E-03	6.47544E-02	1.84920E-01	1.07765E-01	6.09547E-02
LITHIUM	2.05360E-02	9.23275E-02	1.06464E-01	1.24418E-01	8.51634E-02
BORON	3.29676E-02	4.08184E-02	8.22309E-02	1.56069E-01	1.06848E-01
CARBON	3.00465E-02	2.57842E-02	8.58742E-02	1.63198E-01	1.11687E-01
NITROGEN	2.38473E-02	2.14576E-02	8.82582E-02	1.67668E-01	1.14788E-01
OXYGEN	1.71933E-02	2.07943E-02	8.98581E-02	1.70707E-01	1.16869E-01
FLUORINE	1.17338E-02	2.08869E-02	9.09748E-02	1.72829E-01	1.18322E-01
NEON	7.92249E-03	2.10510E-02	9.17811E-02	1.74361E-01	1.19370E-01
ARGON	2.60794E-03	2.15936E-02	9.41579E-02	1.78876E-01	1.22462E-01

F 0 EP = 6.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.49505E-01	8.41851E-01	5.99331E-01	1.90249E-01	1.11331E-02
HELIUM	8.74688E-01	6.56425E-01	3.48878E-01	1.14037E-01	1.71198E-02
LITHIUM	8.36885E-01	6.22981E-01	4.04929E-01	1.63076E-01	2.45995E-02
BORON	8.39860E-01	7.09153E-01	5.17068E-01	2.09946E-01	3.16699E-02
CARBON	8.54891E-01	7.43560E-01	5.43657E-01	2.20742E-01	3.32984E-02
NITROGEN	8.70128E-01	7.66854E-01	5.60864E-01	2.27729E-01	3.43523E-02
OXYGEN	8.83341E-01	7.82716E-01	5.72481E-01	2.32446E-01	3.50639E-02
FLUORINE	8.94010E-01	7.93848E-01	5.80625E-01	2.35752E-01	3.55626E-02
NEON	9.02362E-01	8.01912E-01	5.86522E-01	2.38147E-01	3.59239E-02
ARGON	9.28800E-01	8.25803E-01	6.03997E-01	2.45242E-01	3.69942E-02

F 1 EP = 6.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	4.91285E-02	1.44262E-01	3.02927E-01	3.03207E-01	4.03129E-02
HELIUM	1.14287E-01	2.52460E-01	2.67364E-01	1.32636E-01	4.27960E-02
LITHIUM	1.33977E-01	2.05271E-01	1.94430E-01	1.85162E-01	6.14940E-02
BORON	9.85665E-02	1.25927E-01	2.30523E-01	2.38380E-01	7.91685E-02
CARBON	7.77745E-02	1.24008E-01	2.42572E-01	2.50638E-01	8.32395E-02
NITROGEN	6.32978E-02	1.26511E-01	2.50043E-01	2.58570E-01	8.58740E-02
OXYGEN	5.47859E-02	1.28955E-01	2.55222E-01	2.63926E-01	8.76528E-02
FLUORINE	5.03927E-02	1.30770E-01	2.58853E-01	2.67681E-01	8.88996E-02
NEON	4.83763E-02	1.32097E-01	2.61482E-01	2.70399E-01	8.98026E-02
ARGON	4.76959E-02	1.36033E-01	2.69272E-01	2.78456E-01	9.24782E-02

F 2 EP = 6.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.34045E-03	1.30077E-02	8.02363E-02	2.54482E-01	8.47606E-02
HELIUM	1.03079E-02	7.23555E-02	1.84853E-01	1.04796E-01	5.88555E-02
LITHIUM	2.49243E-02	9.91359E-02	8.88708E-02	1.31849E-01	8.45699E-02
BORON	3.86473E-02	3.31116E-02	6.82887E-02	1.69736E-01	1.08877E-01
CARBON	3.36180E-02	1.82061E-02	7.17652E-02	1.78464E-01	1.14476E-01
NITROGEN	2.51059E-02	1.46134E-02	7.40363E-02	1.84112E-01	1.18099E-01
OXYGEN	1.68122E-02	1.41999E-02	7.55698E-02	1.87926E-01	1.20545E-01
FLUORINE	1.05319E-02	1.43107E-02	7.66448E-02	1.90599E-01	1.22260E-01
NEON	6.47307E-03	1.44469E-02	7.74233E-02	1.92535E-01	1.23501E-01
ARGON	1.63931E-03	1.48764E-02	7.97301E-02	1.98271E-01	1.27181E-01

F 0 EP = 8.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.63294E-01	8.86696E-01	7.13391E-01	3.55646E-01	5.63598E-02
HELIUM	9.12278E-01	7.46264E-01	4.59670E-01	1.67652E-01	4.14281E-02
LITHIUM	8.85103E-01	6.96291E-01	4.48971E-01	2.17472E-01	5.70177E-02
BORON	8.75279E-01	7.21197E-01	5.29250E-01	2.68168E-01	7.03212E-02
CARBON	8.79434E-01	7.42515E-01	5.51161E-01	2.79308E-01	7.32425E-02
NITROGEN	8.85362E-01	7.59296E-01	5.65215E-01	2.86431E-01	7.51104E-02
OXYGEN	8.91607E-01	7.71483E-01	5.74638E-01	2.91206E-01	7.63625E-02
FLUORINE	8.97432E-01	7.80216E-01	5.81211E-01	2.94537E-01	7.72360E-02
NEON	9.02526E-01	7.86567E-01	5.85954E-01	2.96941E-01	7.78663E-02
ARGON	9.21780E-01	8.05330E-01	5.99934E-01	3.04025E-01	7.97241E-02

F 1 EP = 8.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.53956E-02	1.01815E-01	2.23681E-01	3.43580E-01	1.47868E-01
HELIUM	8.21291E-02	2.04692E-01	2.93552E-01	1.65036E-01	7.29011E-02
LITHIUM	1.02640E-01	2.10204E-01	2.15225E-01	1.77566E-01	9.98100E-02
BORON	9.79887E-02	1.52817E-01	1.99738E-01	2.18589E-01	1.23098E-01
CARBON	8.85716E-02	1.40490E-01	2.07483E-01	2.27670E-01	1.28212E-01
NITROGEN	7.95127E-02	1.37075E-01	2.12752E-01	2.33476E-01	1.31481E-01
OXYGEN	7.21716E-02	1.37330E-01	2.16298E-01	2.37368E-01	1.33673E-01
FLUORINE	6.68430E-02	1.38257E-01	2.18772E-01	2.40083E-01	1.35202E-01
NEON	6.32803E-02	1.39266E-01	2.20558E-01	2.42043E-01	1.36306E-01
ARGON	5.83622E-02	1.42560E-01	2.25820E-01	2.47817E-01	1.39558E-01

F 2 EP = 8.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.23850E-03	9.70337E-03	4.43741E-02	1.75497E-01	2.07336E-01
HELIUM	5.29651E-03	4.11029E-02	1.49636E-01	1.45225E-01	7.41424E-02
LITHIUM	1.12335E-02	6.93216E-02	1.33190E-01	1.02795E-01	1.01264E-01
BORON	2.11443E-02	5.92214E-02	7.69270E-02	1.24950E-01	1.24891E-01
CARBON	2.26793E-02	4.35490E-02	7.80881E-02	1.30141E-01	1.30079E-01
NITROGEN	2.18538E-02	3.38746E-02	7.99613E-02	1.33460E-01	1.33397E-01
OXYGEN	1.93793E-02	2.97640E-02	8.12906E-02	1.35685E-01	1.35620E-01
FLUORINE	1.62379E-02	2.85189E-02	8.22204E-02	1.37237E-01	1.37172E-01
NEON	1.31408E-02	2.83089E-02	8.28914E-02	1.38357E-01	1.38291E-01
ARGON	4.49566E-03	2.88488E-02	8.48690E-02	1.41658E-01	1.41590E-01

F 0 EP = 8.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.42022E-01	8.81359E-01	6.95726E-01	3.22195E-01	4.24923E-02
HELIUM	9.07497E-01	7.33486E-01	4.38110E-01	1.55003E-01	3.57828E-02
LITHIUM	8.79156E-01	6.83486E-01	4.40228E-01	2.06957E-01	4.96281E-02
BORON	8.70901E-01	7.21833E-01	5.29928E-01	2.58022E-01	6.18775E-02
CARBON	8.76779E-01	7.46521E-01	5.53239E-01	2.69389E-01	6.46034E-02
NITROGEN	8.84373E-01	7.65175E-01	5.68223E-01	2.76685E-01	6.63532E-02
OXYGEN	8.92022E-01	7.78440E-01	5.78294E-01	2.81589E-01	6.75292E-02
FLUORINE	8.98936E-01	7.87866E-01	5.85332E-01	2.85016E-01	6.83510E-02
NEON	9.04835E-01	7.94702E-01	5.90417E-01	2.87492E-01	6.89448E-02
ARGON	9.26099E-01	8.14915E-01	6.05434E-01	2.94805E-01	7.06984E-02

F 1 EP = 8.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.68648E-02	1.08193E-01	2.39767E-01	3.44440E-01	1.21132E-01
HELIUM	8.61955E-02	2.14195E-01	2.96726E-01	1.55302E-01	6.69504E-02
LITHIUM	1.06984E-01	2.12043E-01	2.12748E-01	1.79666E-01	9.28429E-02
BORON	9.77412E-02	1.46316E-01	2.07710E-01	2.23843E-01	1.15739E-01
CARBON	8.60563E-02	1.35215E-01	2.16582E-01	2.33704E-01	1.20858E-01
NITROGEN	7.54392E-02	1.33108E-01	2.22441E-01	2.40034E-01	1.24132E-01
OXYGEN	6.72992E-02	1.33956E-01	2.26383E-01	2.44288E-01	1.26332E-01
FLUORINE	6.17204E-02	1.35260E-01	2.29138E-01	2.47261E-01	1.27869E-01
NEON	5.82145E-02	1.36376E-01	2.31129E-01	2.49409E-01	1.28980E-01
ARGON	5.41675E-02	1.39833E-01	2.37007E-01	2.55753E-01	1.32261E-01

F 2 EP = 8.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.07011E-03	9.27198E-03	4.92217E-02	1.94191E-01	1.86643E-01
HELIUM	5.53005E-03	4.40594E-02	1.60866E-01	1.34833E-01	7.18734E-02
LITHIUM	1.26005E-02	7.38952E-02	1.28571E-01	1.07673E-01	9.95894E-02
BORON	2.38166E-02	5.41773E-02	7.53126E-02	1.33400E-01	1.24171E-01
CARBON	2.48164E-02	3.66402E-02	7.74816E-02	1.39276E-01	1.29641E-01
NITROGEN	2.29299E-02	2.74197E-02	7.95347E-02	1.43049E-01	1.33152E-01
OXYGEN	1.93566E-02	2.41310E-02	8.09434E-02	1.45584E-01	1.35512E-01
FLUORINE	1.53271E-02	2.33477E-02	8.19285E-02	1.47356E-01	1.37161E-01
NEON	1.16851E-02	2.33011E-02	8.26402E-02	1.48636E-01	1.38353E-01
ARGON	3.31684E-03	2.38339E-02	8.47422E-02	1.52417E-01	1.41872E-01

F 0 EP = 8.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.60836E-01	8.76543E-01	6.79766E-01	2.92688E-01	3.23627E-02
HELIUM	9.03515E-01	7.22067E-01	4.20239E-01	1.45327E-01	3.11167E-02
LITHIUM	8.72666E-01	6.75597E-01	4.35892E-01	1.99367E-01	4.38293E-02
BORON	8.66162E-01	7.24584E-01	5.36218E-01	2.52042E-01	5.54108E-02
CARBON	8.74036E-01	7.52967E-01	5.61570E-01	2.63966E-01	5.80321E-02
NITROGEN	8.83544E-01	7.73767E-01	5.77937E-01	2.71659E-01	5.97235E-02
OXYGEN	8.92785E-01	7.88357E-01	5.88974E-01	2.76847E-01	6.08641E-02
FLUORINE	9.00920E-01	7.98678E-01	5.96705E-01	2.80481E-01	6.16630E-02
NEON	9.07717E-01	8.06163E-01	6.02299E-01	2.83110E-01	6.22410E-02
ARGON	9.31322E-01	8.28338E-01	6.18866E-01	2.90898E-01	6.39531E-02

F 1 EP = 8.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.82013E-02	1.13868E-01	2.54505E-01	3.43168E-01	9.88671E-02
HELIUM	9.02360E-02	2.21997E-01	2.95963E-01	1.48712E-01	6.18669E-02
LITHIUM	1.11293E-01	2.10939E-01	2.08034E-01	1.83230E-01	8.71386E-02
BORON	9.68081E-02	1.36667E-01	2.13706E-01	2.31577E-01	1.10164E-01
CARBON	8.24761E-02	1.26776E-01	2.23676E-01	2.42532E-01	1.15376E-01
NITROGEN	7.01916E-02	1.25747E-01	2.30192E-01	2.49601E-01	1.18738E-01
OXYGEN	6.12525E-02	1.27083E-01	2.34588E-01	2.54367E-01	1.21006E-01
FLUORINE	5.54574E-02	1.28557E-01	2.37668E-01	2.57706E-01	1.22594E-01
NEON	5.20306E-02	1.29732E-01	2.39896E-01	2.60122E-01	1.23744E-01
ARGON	4.87014E-02	1.33296E-01	2.46495E-01	2.67277E-01	1.27148E-01

F 2 EP = 8.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.39474E-04	8.86717E-03	5.35333E-02	2.11517E-01	1.65310E-01
HELIUM	5.95461E-03	4.74570E-02	1.68952E-01	1.26641E-01	6.98801E-02
LITHIUM	1.44164E-02	7.85988E-02	1.19789E-01	1.13933E-01	9.83492E-02
BORON	2.70372E-02	4.81399E-02	6.98904E-02	1.43648E-01	1.24400E-01
CARBON	2.72814E-02	2.91718E-02	7.25579E-02	1.50444E-01	1.30285E-01
NITROGEN	2.41216E-02	2.05858E-02	7.46553E-02	1.54829E-01	1.34083E-01
OXYGEN	1.92940E-02	1.79970E-02	7.60808E-02	1.57786E-01	1.36643E-01
FLUORINE	1.43564E-02	1.75163E-02	7.70794E-02	1.59857E-01	1.38437E-01
NEON	1.02226E-02	1.75425E-02	7.78021E-02	1.61355E-01	1.39735E-01
ARGON	2.22733E-03	1.79987E-02	7.99422E-02	1.65794E-01	1.43578E-01

F 0 EP = 8.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.59567E-01	8.71950E-01	6.65739E-01	2.67359E-01	2.49764E-02
HELIUM	8.97809E-01	7.08603E-01	4.04502E-01	1.38946E-01	2.75482E-02
LITHIUM	8.63668E-01	6.62956E-01	4.34556E-01	1.96581E-01	3.96933E-02
BORON	8.58513E-01	7.26251E-01	5.49135E-01	2.53830E-01	5.12533E-02
CARBON	8.68792E-01	7.59284E-01	5.77899E-01	2.67129E-01	5.39386E-02
NITROGEN	8.80680E-01	7.83008E-01	5.96611E-01	2.75778E-01	5.56851E-02
OXYGEN	8.91933E-01	7.99534E-01	6.09296E-01	2.81642E-01	5.68691E-02
FLUORINE	9.01634E-01	8.11221E-01	6.18213E-01	2.85764E-01	5.77014E-02
NEON	9.09602E-01	8.19709E-01	6.24682E-01	2.88754E-01	5.83052E-02
ARGON	9.36521E-01	8.44957E-01	6.43924E-01	2.97648E-01	6.01011E-02

F 1 EP = 8.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.95340E-02	1.18810E-01	2.66983E-01	3.40388E-01	8.08113E-02
HELIUM	9.50901E-02	2.28875E-01	2.90522E-01	1.45334E-01	5.79302E-02
LITHIUM	1.17041E-01	2.07493E-01	1.97633E-01	1.89902E-01	8.34688E-02
BORON	9.63806E-02	1.22788E-01	2.11663E-01	2.45178E-01	1.07778E-01
CARBON	7.88421E-02	1.13756E-01	2.22682E-01	2.58024E-01	1.13424E-01
NITROGEN	6.44924E-02	1.13510E-01	2.29891E-01	2.66379E-01	1.17097E-01
OXYGEN	5.45437E-02	1.15160E-01	2.34779E-01	2.72042E-01	1.19587E-01
FLUORINE	4.84274E-02	1.16727E-01	2.38215E-01	2.76024E-01	1.21337E-01
NEON	4.50180E-02	1.17933E-01	2.40708E-01	2.78912E-01	1.22607E-01
ARGON	4.22023E-02	1.21564E-01	2.48122E-01	2.87503E-01	1.26383E-01

F 2 EP = 8.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	8.83912E-04	8.73119E-03	5.69677E-02	2.27375E-01	1.45049E-01
HELIUM	6.73966E-03	5.23408E-02	1.73887E-01	1.19837E-01	6.86349E-02
LITHIUM	1.71073E-02	8.53102E-02	1.06036E-01	1.20191E-01	9.88843E-02
BORON	3.16177E-02	4.27264E-02	5.79736E-02	1.55013E-01	1.27683E-01
CARBON	3.08744E-02	2.23665E-02	6.06524E-02	1.63135E-01	1.34372E-01
NITROGEN	2.61147E-02	1.43542E-02	6.26097E-02	1.68417E-01	1.38723E-01
OXYGEN	1.97787E-02	1.22926E-02	6.39409E-02	1.71998E-01	1.41673E-01
FLUORINE	1.38016E-02	1.19923E-02	6.48766E-02	1.74515E-01	1.43746E-01
NEON	9.13379E-03	1.20408E-02	6.55555E-02	1.76341E-01	1.45250E-01
ARGON	1.39907E-03	1.23999E-02	6.75748E-02	1.81773E-01	1.49724E-01

F 0 EP = 10.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.68813E-01	9.03553E-01	7.52582E-01	4.19643E-01	8.84370E-02
HELIUM	9.24422E-01	7.77076E-01	5.09299E-01	1.98196E-01	5.64091E-02
LITHIUM	8.99495E-01	7.26922E-01	4.82865E-01	2.49191E-01	7.78419E-02
BORON	8.88058E-01	7.40498E-01	5.59897E-01	3.09245E-01	9.66669E-02
CARBON	8.90623E-01	7.60184E-01	5.83837E-01	3.22615E-01	1.00846E-01
NITROGEN	8.95132E-01	7.76614E-01	5.99372E-01	3.31206E-01	1.03532E-01
OXYGEN	9.00299E-01	7.89155E-01	6.09838E-01	3.36990E-01	1.05340E-01
FLUORINE	9.05404E-01	7.98389E-01	6.17163E-01	3.41038E-01	1.06605E-01
NEON	9.10078E-01	8.05189E-01	6.22461E-01	3.43965E-01	1.07520E-01
ARGON	9.29395E-01	8.25441E-01	6.38126E-01	3.52672E-01	1.10226E-01

F 1 EP = 10.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.00446E-02	8.73596E-02	1.98166E-01	3.40246E-01	1.98474E-01
HELIUM	7.12791E-02	1.83844E-01	2.89798E-01	1.87430E-01	8.36941E-02
LITHIUM	9.11446E-02	1.98712E-01	2.20466E-01	1.78216E-01	1.17985E-01
BORON	9.08828E-02	1.47713E-01	1.85588E-01	2.19729E-01	1.46519E-01
CARBON	8.34794E-02	1.32034E-01	1.91988E-01	2.29529E-01	1.52853E-01
NITROGEN	7.35694E-02	1.25544E-01	1.96989E-01	2.35335E-01	1.56924E-01
OXYGEN	6.85603E-02	1.23974E-01	2.00424E-01	2.39443E-01	1.59664E-01
FLUORINE	6.30078E-02	1.24264E-01	2.02851E-01	2.42319E-01	1.61582E-01
NEON	5.89517E-02	1.24999E-01	2.04572E-01	2.44399E-01	1.62969E-01
ARGON	5.18677E-02	1.28040E-01	2.09721E-01	2.50550E-01	1.67070E-01

F 2 EP = 10.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.83709E-04	7.63902E-03	3.45362E-02	1.46922E-01	2.35722E-01
HELIUM	4.08171E-03	3.23788E-02	1.28886E-01	1.65383E-01	7.81678E-02
LITHIUM	8.67927E-03	5.78657E-02	1.33438E-01	9.70081E-02	1.06332E-01
BORON	1.73498E-02	5.85637E-02	6.99983E-02	1.14526E-01	1.32049E-01
CARBON	1.94962E-02	4.49384E-02	6.81189E-02	1.19478E-01	1.37757E-01
NITROGEN	1.97768E-02	3.39971E-02	6.94394E-02	1.22660E-01	1.41426E-01
OXYGEN	1.85191E-02	2.79412E-02	7.06233E-02	1.24801E-01	1.43896E-01
FLUORINE	1.63084E-02	2.54120E-02	7.14706E-02	1.26300E-01	1.45624E-01
NEON	1.37426E-02	2.46138E-02	7.20840E-02	1.27385E-01	1.46874E-01
ARGON	4.10135E-03	2.48117E-02	7.38982E-02	1.30590E-01	1.50570E-01

F 0 EP = 10.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.67415E-01	8.99218E-01	7.37522E-01	3.87405E-01	6.99144E-02
HELIUM	9.21076E-01	7.67526E-01	4.88296E-01	1.83638E-01	4.96068E-02
LITHIUM	8.94738E-01	7.16974E-01	4.72796E-01	2.38701E-01	6.92067E-02
BORON	8.84231E-01	7.40517E-01	5.60215E-01	2.99152E-01	8.67614E-02
CARBON	8.88105E-01	7.63102E-01	5.85530E-01	3.12746E-01	9.07037E-02
NITROGEN	8.93967E-01	7.81506E-01	6.01936E-01	3.21511E-01	9.32460E-02
OXYGEN	9.00347E-01	7.95173E-01	6.13009E-01	3.27426E-01	9.49613E-02
FLUORINE	9.06448E-01	8.05092E-01	6.20771E-01	3.31571E-01	9.61637E-02
NEON	9.11894E-01	8.12353E-01	6.26390E-01	3.34573E-01	9.70342E-02
ARGON	9.33230E-01	8.33438E-01	6.43038E-01	3.43465E-01	9.96131E-02

F 1 EP = 10.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.12200E-02	9.26945E-02	2.12748E-01	3.46767E-01	1.71252E-01
HELIUM	7.45888E-02	1.92846E-01	2.95979E-01	1.75775E-01	8.02342E-02
LITHIUM	9.49219E-02	2.01767E-01	2.17698E-01	1.80761E-01	1.11835E-01
BORON	9.13765E-02	1.42127E-01	1.92368E-01	2.25811E-01	1.40200E-01
CARBON	8.19941E-02	1.26815E-01	2.00146E-01	2.36071E-01	1.46571E-01
NITROGEN	7.25647E-02	1.21489E-01	2.05708E-01	2.42688E-01	1.50679E-01
OXYGEN	6.46093E-02	1.20771E-01	2.09490E-01	2.47153E-01	1.53451E-01
FLUORINE	5.86053E-02	1.21481E-01	2.12143E-01	2.50282E-01	1.55393E-01
NEON	5.44375E-02	1.22386E-01	2.14063E-01	2.52547E-01	1.56800E-01
ARGON	4.81685E-02	1.25389E-01	2.19752E-01	2.59260E-01	1.60967E-01

F 2 EP = 10.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	8.30851E-04	7.15843E-03	3.79735E-02	1.64386E-01	2.23687E-01
HELIUM	4.14871E-03	3.42599E-02	1.40106E-01	1.56278E-01	7.65782E-02
LITHIUM	9.54753E-03	6.18277E-02	1.32235E-01	1.00241E-01	1.06187E-01
BORON	1.94956E-02	5.55927E-02	6.73605E-02	1.22332E-01	1.33122E-01
CARBON	2.14841E-02	3.92655E-02	6.71606E-02	1.27890E-01	1.39171E-01
NITROGEN	2.11796E-02	2.79422E-02	6.88032E-02	1.31475E-01	1.43072E-01
OXYGEN	1.90169E-02	2.25093E-02	7.00591E-02	1.33893E-01	1.45704E-01
FLUORINE	1.59874E-02	2.05784E-02	7.09459E-02	1.35589E-01	1.47549E-01
NEON	1.27991E-02	2.00922E-02	7.15881E-02	1.36816E-01	1.48884E-01
ARGON	3.00174E-03	2.04020E-02	7.34908E-02	1.40452E-01	1.52847E-01

F 0 EP = 10.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.67002E-01	8.95347E-01	7.23904E-01	3.58434E-01	5.56182E-02
HELIUM	9.17657E-01	7.57696E-01	4.70547E-01	1.72354E-01	4.40570E-02
LITHIUM	8.89681E-01	7.07950E-01	4.66858E-01	2.30992E-01	6.22808E-02
BORON	8.80215E-01	7.42018E-01	5.65449E-01	2.93001E-01	7.90116E-02
CARBON	8.85590E-01	7.68204E-01	5.92658E-01	3.07139E-01	8.28241E-02
NITROGEN	8.92993E-01	7.88761E-01	6.10327E-01	3.16297E-01	8.52935E-02
OXYGEN	9.00737E-01	8.03718E-01	6.22283E-01	3.22493E-01	8.69645E-02
FLUORINE	9.07941E-01	8.14474E-01	6.30681E-01	3.26845E-01	8.81382E-02
NEON	9.14232E-01	8.22323E-01	6.36770E-01	3.30001E-01	8.89891E-02
ARGON	9.37822E-01	8.45671E-01	6.54852E-01	3.39372E-01	9.15160E-02

F 1 EP = 10.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.22727E-02	9.74292E-02	2.26269E-01	3.50889E-01	1.46948E-01
HELIUM	7.78115E-02	2.00431E-01	2.99452E-01	1.66956E-01	7.55259E-02
LITHIUM	9.86071E-02	2.02877E-01	2.13440E-01	1.84630E-01	1.06728E-01
BORON	9.12438E-02	1.33732E-01	1.97426E-01	2.33823E-01	1.35599E-01
CARBON	7.96426E-02	1.18901E-01	2.06385E-01	2.45106E-01	1.41932E-01
NITROGEN	6.85739E-02	1.14634E-01	2.12517E-01	2.52414E-01	1.46164E-01
OXYGEN	5.96502E-02	1.14580E-01	2.16680E-01	2.57359E-01	1.49027E-01
FLUORINE	5.32219E-02	1.15571E-01	2.19604E-01	2.60832E-01	1.51038E-01
NEON	4.89765E-02	1.16575E-01	2.21724E-01	2.63350E-01	1.52496E-01
ARGON	4.34088E-02	1.19859E-01	2.28020E-01	2.70828E-01	1.56827E-01

F 2 EP = 10.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	7.07454E-04	6.68478E-03	4.09346E-02	1.81257E-01	2.08826E-01
HELIUM	4.34987E-03	3.64455E-02	1.49083E-01	1.47768E-01	7.54185E-02
LITHIUM	1.07781E-02	6.60076E-02	1.27055E-01	1.05087E-01	1.06345E-01
BORON	2.20893E-02	5.17158E-02	6.17717E-02	1.31465E-01	1.34913E-01
CARBON	2.37919E-02	3.29507E-02	6.26228E-02	1.37808E-01	1.41423E-01
NITROGEN	2.26260E-02	2.15563E-02	6.43751E-02	1.41917E-01	1.45639E-01
OXYGEN	1.95181E-02	1.67848E-02	6.56331E-02	1.44698E-01	1.48493E-01
FLUORINE	1.56080E-02	1.53341E-02	6.65188E-02	1.46650E-01	1.50497E-01
NEON	1.18086E-02	1.50462E-02	6.71610E-02	1.48066E-01	1.51950E-01
ARGON	2.01042E-03	1.53553E-02	6.90681E-02	1.52271E-01	1.56264E-01

F 0 EP = 10.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.66057E-01	8.91759E-01	7.12044E-01	3.33133E-01	4.46345E-02
HELIUM	9.13454E-01	7.46965E-01	4.55112E-01	1.64597E-01	3.97184E-02
LITHIUM	8.82946E-01	6.97191E-01	4.64069E-01	2.27835E-01	5.72245E-02
BORON	8.74146E-01	7.42959E-01	5.76614E-01	2.94189E-01	7.38956E-02
CARBON	8.81277E-01	7.73456E-01	6.06869E-01	3.09646E-01	7.77782E-02
NITROGEN	8.90542E-01	7.96747E-01	6.26623E-01	3.19726E-01	8.03101E-02
OXYGEN	8.99952E-01	8.13466E-01	6.40051E-01	3.26577E-01	8.20310E-02
FLUORINE	9.08517E-01	8.25432E-01	6.49510E-01	3.31404E-01	8.32433E-02
NEON	9.15861E-01	8.34159E-01	6.56384E-01	3.34911E-01	8.41243E-02
ARGON	9.42455E-01	8.60194E-01	6.76871E-01	3.45364E-01	8.67499E-02

F 1 EP = 10.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.32895E-02	1.01489E-01	2.37899E-01	3.53772E-01	1.25925E-01
HELIUM	8.15312E-02	2.07104E-01	2.98475E-01	1.61772E-01	7.18614E-02
LITHIUM	1.03263E-01	2.02057E-01	2.03855E-01	1.91065E-01	1.03520E-01
BORON	9.15635E-02	1.21781E-01	1.95522E-01	2.46520E-01	1.33678E-01
CARBON	7.72907E-02	1.07182E-01	2.05456E-01	2.59473E-01	1.40702E-01
NITROGEN	6.42518E-02	1.03725E-01	2.12134E-01	2.67919E-01	1.45282E-01
OXYGEN	5.41677E-02	1.04138E-01	2.16680E-01	2.73660E-01	1.48395E-01
FLUORINE	4.72179E-02	1.05295E-01	2.19882E-01	2.77705E-01	1.50588E-01
NEON	4.28442E-02	1.06343E-01	2.22209E-01	2.80644E-01	1.52182E-01
ARGON	3.77889E-02	1.09650E-01	2.29145E-01	2.89403E-01	1.56932E-01

F 2 EP = 10.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	6.43024E-04	6.40864E-03	4.31007E-02	1.97330E-01	1.92910E-01
HELIUM	4.80404E-03	3.96924E-02	1.55668E-01	1.39757E-01	7.49610E-02
LITHIUM	1.25075E-02	7.18107E-02	1.17442E-01	1.10070E-01	1.07888E-01
BORON	2.56985E-02	4.83742E-02	5.09829E-02	1.41101E-01	1.39319E-01
CARBON	2.70141E-02	2.71649E-02	5.22667E-02	1.48515E-01	1.46639E-01
NITROGEN	2.48742E-02	1.57679E-02	5.39129E-02	1.53349E-01	1.51415E-01
OXYGEN	2.05154E-02	1.15748E-02	5.50670E-02	1.56635E-01	1.54657E-01
FLUORINE	1.55915E-02	1.04755E-02	5.58809E-02	1.58950E-01	1.56945E-01
NEON	1.11248E-02	1.03032E-02	5.64722E-02	1.60632E-01	1.58604E-01
ARGON	1.26658E-03	1.05618E-02	5.82349E-02	1.65646E-01	1.63554E-01

F 0 EP = 12.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.72881E-01	9.15561E-01	7.81218E-01	4.70878E-01	1.21409E-01
HELIUM	9.33112E-01	8.01339E-01	5.48780E-01	2.25192E-01	6.92247E-02
LITHIUM	9.09952E-01	7.50392E-01	5.10477E-01	2.73427E-01	9.61171E-02
BORON	8.97671E-01	7.56310E-01	5.82069E-01	3.41092E-01	1.20122E-01
CARBON	8.99161E-01	7.73397E-01	6.07485E-01	3.56362E-01	1.25500E-01
NITROGEN	9.02623E-01	7.89118E-01	6.24235E-01	3.66214E-01	1.28970E-01
OXYGEN	9.06924E-01	8.01710E-01	6.35577E-01	3.72869E-01	1.31313E-01
FLUORINE	9.11392E-01	8.11762E-01	6.43539E-01	3.77540E-01	1.32958E-01
NEON	9.15646E-01	8.18411E-01	6.49309E-01	3.80925E-01	1.34150E-01
ARGON	9.34761E-01	8.39954E-01	6.66431E-01	3.90970E-01	1.37688E-01

F 1 EP = 12.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	2.62516E-02	7.69140E-02	1.78411E-01	3.30896E-01	2.38913E-01
HELIUM	6.34050E-02	1.67521E-01	2.82711E-01	2.08073E-01	9.46711E-02
LITHIUM	8.25233E-02	1.87495E-01	2.24836E-01	1.77549E-01	1.30501E-01
BORON	8.50768E-02	1.44365E-01	1.75269E-01	2.17875E-01	1.63094E-01
CARBON	7.92286E-02	1.26955E-01	1.79778E-01	2.27629E-01	1.70395E-01
NITROGEN	7.23899E-02	1.18067E-01	1.84411E-01	2.33922E-01	1.75106E-01
OXYGEN	6.58990E-02	1.14782E-01	1.87740E-01	2.38173E-01	1.78288E-01
FLUORINE	6.04100E-02	1.14179E-01	1.90091E-01	2.41157E-01	1.80522E-01
NEON	5.61285E-02	1.14535E-01	1.91795E-01	2.43319E-01	1.82140E-01
ARGON	4.72359E-02	1.17286E-01	1.96853E-01	2.49735E-01	1.86943E-01

F 2 EP = 12.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	8.17649E-04	6.30072E-03	2.81078E-02	1.24762E-01	2.47125E-01
HELIUM	3.31086E-03	2.65813E-02	1.12086E-01	1.79257E-01	8.08982E-02
LITHIUM	7.02988E-03	4.93495E-02	1.30529E-01	9.50851E-02	1.07640E-01
BORON	1.46089E-02	5.67643E-02	6.70785E-02	1.05902E-01	1.34523E-01
CARBON	1.69557E-02	4.58250E-02	6.15445E-02	1.10642E-01	1.40545E-01
NITROGEN	1.78606E-02	3.49742E-02	6.19744E-02	1.13701E-01	1.44431E-01
OXYGEN	1.74167E-02	2.76105E-02	6.29859E-02	1.15767E-01	1.47056E-01
FLUORINE	1.59685E-02	2.38585E-02	6.37683E-02	1.17218E-01	1.48898E-01
NEON	1.39603E-02	2.23263E-02	6.43398E-02	1.18269E-01	1.50233E-01
ARGON	3.94234E-03	2.19833E-02	6.60364E-02	1.21387E-01	1.54195E-01

F 0 EP = 12.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.72059E-01	9.11898E-01	7.68059E-01	4.40221E-01	9.92708E-02
HELIUM	9.30364E-01	7.92256E-01	5.28562E-01	2.08839E-01	6.17607E-02
LITHIUM	9.05974E-01	7.41170E-01	4.99372E-01	2.62949E-01	8.66330E-02
BORON	8.94249E-01	7.55056E-01	5.81990E-01	3.31098E-01	1.09192E-01
CARBON	8.96760E-01	7.75394E-01	6.08827E-01	3.46582E-01	1.14299E-01
NITROGEN	9.01342E-01	7.93162E-01	6.26412E-01	3.56604E-01	1.17604E-01
OXYGEN	9.06697E-01	8.06948E-01	6.38327E-01	3.63388E-01	1.19841E-01
FLUORINE	9.12072E-01	8.17210E-01	6.46703E-01	3.68156E-01	1.21413E-01
NEON	9.17058E-01	8.24815E-01	6.52779E-01	3.71615E-01	1.22554E-01
ARGON	9.38215E-01	8.47616E-01	6.70839E-01	3.81896E-01	1.25945E-01

F 1 EP = 12.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	2.72337E-02	8.15133E-02	1.91677E-01	3.40717E-01	2.13628E-01
HELIUM	6.62053E-02	1.75958E-01	2.91154E-01	1.95641E-01	8.95591E-02
LITHIUM	8.58727E-02	1.92028E-01	2.22955E-01	1.79882E-01	1.25196E-01
BORON	8.59670E-02	1.39774E-01	1.80917E-01	2.24417E-01	1.57797E-01
CARBON	7.84319E-02	1.21983E-01	1.87169E-01	2.34912E-01	1.65176E-01
NITROGEN	7.01764E-02	1.13955E-01	1.92409E-01	2.41705E-01	1.69952E-01
OXYGEN	6.26921E-02	1.11560E-01	1.96061E-01	2.46303E-01	1.73185E-01
FLUORINE	5.66282E-02	1.11499E-01	1.98633E-01	2.49534E-01	1.75458E-01
NEON	5.21023E-02	1.12108E-01	2.00500E-01	2.51879E-01	1.77106E-01
ARGON	4.38558E-02	1.15064E-01	2.06047E-01	2.58847E-01	1.82006E-01

F 2 EP = 12.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	6.78910E-04	5.81550E-03	3.06710E-02	1.40470E-01	2.42891E-01
HELIUM	3.29239E-03	2.77472E-02	1.22600E-01	1.73072E-01	7.90506E-02
LITHIUM	7.60598E-03	5.26832E-02	1.32019E-01	9.62928E-02	1.08536E-01
BORON	1.63513E-02	5.52821E-02	6.35473E-02	1.13136E-01	1.36799E-01
CARBON	1.87369E-02	4.13874E-02	6.01812E-02	1.18427E-01	1.43196E-01
NITROGEN	1.92743E-02	2.94295E-02	6.11976E-02	1.21852E-01	1.47337E-01
OXYGEN	1.82029E-02	2.23620E-02	6.23137E-02	1.24170E-01	1.50139E-01
FLUORINE	1.60574E-02	1.91888E-02	6.31293E-02	1.25799E-01	1.52109E-01
NEON	1.34358E-02	1.80786E-02	6.37225E-02	1.26981E-01	1.53539E-01
ARGON	2.88444E-03	1.80164E-02	6.54854E-02	1.30494E-01	1.57786E-01

F 0 EP = 12.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.71318E-01	9.08654E-01	7.56156E-01	4.12330E-01	8.15191E-02
HELIUM	9.27608E-01	7.83804E-01	5.11249E-01	1.95947E-01	5.55921E-02
LITHIUM	9.01827E-01	7.32845E-01	4.92134E-01	2.55152E-01	7.89101E-02
BORON	8.90726E-01	7.55578E-01	5.86348E-01	3.24833E-01	1.00519E-01
CARBON	8.94408E-01	7.79387E-01	6.15019E-01	3.40842E-01	1.05466E-01
NITROGEN	9.00260E-01	7.99333E-01	6.33780E-01	3.51245E-01	1.08685E-01
OXYGEN	9.06794E-01	8.14426E-01	6.46519E-01	3.58305E-01	1.10870E-01
FLUORINE	9.13167E-01	8.25508E-01	6.55488E-01	3.63276E-01	1.12408E-01
NEON	9.18950E-01	8.33671E-01	6.62004E-01	3.66887E-01	1.13525E-01
ARGON	9.42327E-01	8.58102E-01	6.81412E-01	3.77643E-01	1.16853E-01

F 1 EP = 12.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	2.81029E-02	8.55859E-02	2.04064E-01	3.48384E-01	1.89828E-01
HELIUM	6.88909E-02	1.83166E-01	2.97147E-01	1.85471E-01	8.52087E-02
LITHIUM	8.91011E-02	1.94462E-01	2.19371E-01	1.83575E-01	1.20755E-01
BORON	8.63326E-02	1.32597E-01	1.85097E-01	2.32508E-01	1.53812E-01
CARBON	7.69048E-02	1.14586E-01	1.92767E-01	2.43967E-01	1.61393E-01
NITROGEN	6.71117E-02	1.07414E-01	1.98563E-01	2.51413E-01	1.66319E-01
OXYGEN	5.85942E-02	1.05775E-01	2.02551E-01	2.56467E-01	1.69661E-01
FLUORINE	5.19697E-02	1.06113E-01	2.05362E-01	2.60025E-01	1.72015E-01
NEON	4.72327E-02	1.06882E-01	2.07403E-01	2.62610E-01	1.73725E-01
ARGON	3.95917E-02	1.09936E-01	2.13483E-01	2.70308E-01	1.78818E-01

F 2 EP = 12.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	5.64490E-04	5.32787E-03	3.27940E-02	1.56003E-01	2.34940E-01
HELIUM	3.37634E-03	2.92317E-02	1.31416E-01	1.66258E-01	7.80434E-02
LITHIUM	8.41669E-03	5.62436E-02	1.29880E-01	9.93802E-02	1.09616E-01
BORON	1.84674E-02	5.30300E-02	5.75916E-02	1.21405E-01	1.39625E-01
CARBON	2.08184E-02	3.62626E-02	5.58144E-02	1.27388E-01	1.46506E-01
NITROGEN	2.08583E-02	2.35570E-02	5.71127E-02	1.31776E-01	1.50977E-01
OXYGEN	1.90328E-02	1.68930E-02	5.82609E-02	1.33914E-01	1.54012E-01
FLUORINE	1.61097E-02	1.42609E-02	5.90483E-02	1.35772E-01	1.56149E-01
NEON	1.28545E-02	1.34692E-02	5.96353E-02	1.37122E-01	1.57701E-01
ARGON	1.94400E-03	1.35278E-02	6.13835E-02	1.41142E-01	1.62324E-01

F 0 EP = 12.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.70571E-01	9.05710E-01	7.45861E-01	3.87698E-01	6.73707E-02
HELIUM	9.24312E-01	7.74860E-01	4.96278E-01	1.86742E-01	5.06987E-02
LITHIUM	8.96471E-01	7.23371E-01	4.88058E-01	2.51675E-01	7.31729E-02
BORON	8.85653E-01	7.55833E-01	5.96104E-01	3.25500E-01	9.46632E-02
CARBON	8.90675E-01	7.83679E-01	6.27597E-01	3.42772E-01	9.96861E-02
NITROGEN	8.98030E-01	8.08263E-01	6.48264E-01	3.54062E-01	1.02970E-01
OXYGEN	9.05976E-01	8.23039E-01	6.62349E-01	3.61754E-01	1.05207E-01
FLUORINE	9.13551E-01	8.35248E-01	6.72292E-01	3.67185E-01	1.06786E-01
NEON	9.20298E-01	8.44214E-01	6.79530E-01	3.71138E-01	1.07936E-01
ARGON	9.46503E-01	8.71078E-01	7.01158E-01	3.82951E-01	1.11371E-01

F 1 EP = 12.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	2.89223E-02	8.90386E-02	2.14812E-01	3.54852E-01	1.68242E-01
HELIUM	7.18969E-02	1.89480E-01	2.99219E-01	1.78098E-01	8.18516E-02
LITHIUM	9.30237E-02	1.95223E-01	2.10968E-01	1.89555E-01	1.18047E-01
BORON	8.70693E-02	1.22297E-01	1.83139E-01	2.44458E-01	1.52716E-01
CARBON	7.53989E-02	1.03872E-01	1.91892E-01	2.57430E-01	1.60819E-01
NITROGEN	6.37880E-02	9.73731E-02	1.98168E-01	2.65909E-01	1.66117E-01
OXYGEN	5.40608E-02	9.63018E-02	2.02472E-01	2.71686E-01	1.69726E-01
FLUORINE	4.67814E-02	9.69044E-02	2.05512E-01	2.75765E-01	1.72274E-01
NEON	4.17869E-02	9.77602E-02	2.07725E-01	2.78734E-01	1.74128E-01
ARGON	3.45863E-02	1.00828E-01	2.14336E-01	2.87605E-01	1.79670E-01

F 2 EP = 12.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	4.98939E-04	4.99590E-03	3.41923E-02	1.71117E-01	2.24794E-01
HELIUM	3.65598E-03	3.14748E-02	1.38307E-01	1.59059E-01	7.78941E-02
LITHIUM	9.66707E-03	6.11692E-02	1.23785E-01	1.02882E-01	1.11850E-01
BORON	2.13817E-02	5.12850E-02	4.73202E-02	1.29822E-01	1.44699E-01
CARBON	2.36630E-02	3.15530E-02	4.64755E-02	1.36710E-01	1.52377E-01
NITROGEN	2.30666E-02	1.82075E-02	4.77770E-02	1.41213E-01	1.57396E-01
OXYGEN	2.03241E-02	1.19568E-02	4.88068E-02	1.44281E-01	1.60815E-01
FLUORINE	1.64972E-02	9.77376E-03	4.95394E-02	1.46447E-01	1.63230E-01
NEON	1.25407E-02	9.20444E-03	5.00727E-02	1.48024E-01	1.64987E-01
ARGON	1.24177E-03	9.29461E-03	5.16664E-02	1.52735E-01	1.70238E-01

Table 6

Calculated ratio of effective inactivation cross section to geometrical cross section of the biological targets, S_{eff}/S_0, for heavy ions as a function of target size, l/W, and kind of heavy ions. For the biological system, one target model was applied. Threshold energy for inactivation is expressed by the number of primary ionization, j. If the target is inactivated by single primary ionization, S_{eff}/S_0 is indicated as $S_{eff}/S_0(h_0)$. Numerical values of S_{eff}/S_0 are tabulated for various energy of incident ion, E_p, and cut-off energy, η. Because of typographical limitations. $S_{eff}/S_0(h_j)$, E_p, η and l/W are indicated as SEFF/SO H(J), EP, ETA and L/W. Powers of ten are indicated by the symbol E; thus 7.90270 E 02 reads 7.090270×10^{-2}.

SEFF/SO H(0) EP = 4.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	7.90270E-02	2.38728E-01	5.68467E-01	1.08199E 00	1.29643E 00
HELIUM	3.00804E-01	8.15032E-01	1.51463E 00	2.01652E 00	2.20618E 00
LITHIUM	6.26553E-01	1.49161E 00	2.42150E 00	3.28825E 00	3.71283E 00
BORON	1.41146E 00	2.90185E 00	4.92780E 00	7.28431E 00	8.45037E 00
CARBON	1.81356E 00	3.71194E 00	6.56772E 00	9.90730E 00	1.15601E 01
NITROGEN	2.20160E 00	4.60634E 00	8.40218E 00	1.28437E 01	1.50407E 01
OXYGEN	2.58665E 00	5.57225E 00	1.03784E 01	1.60058E 01	1.87902E 01
FLUORINE	2.96827E 00	6.58004E 00	1.24461E 01	1.93137E 01	2.27112E 01
NEON	3.34675E 00	7.60927E 00	1.45573E 01	2.26910E 01	2.67158E 01
ARGON	5.89652E 00	1.47255E 01	2.91544E 01	4.60458E 01	5.44042E 01

SEFF/SO H(0+1) EP = 4.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.55437E-03	3.12525E-02	1.73900E-01	7.12605E-01	1.25024E 00
HELIUM	2.82055E-02	2.28116E-01	9.23034E-01	1.74493E 00	2.12948E 00
LITHIUM	1.02471E-01	6.09226E-01	1.62712E 00	2.69138E 00	3.54033E 00
BORON	4.26942E-01	1.37026E 00	2.85942E 00	5.64513E 00	7.97661E 00
CARBON	6.28477E-01	1.60600E 00	3.63596E 00	7.58395E 00	1.08886E 01
NITROGEN	8.06596E-01	1.82600E 00	4.50425E 00	9.75403E 00	1.41478E 01
OXYGEN	9.47400E-01	2.04946E 00	5.46004E 00	1.20917E 01	1.76389E 01
FLUORINE	1.05164E 00	2.28116E 00	6.41865E 00	1.45344E 01	2.13307E 01
NEON	1.12739E 00	2.51751E 00	7.41811E 00	1.70332E 01	2.50806E 01
ARGON	1.39073E 00	4.15143E 00	1.43785E 01	3.42962E 01	5.10083E 01

SEFF/SO H(0+1+2) EP = 4.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.86119E-04	4.69912E-03	5.30173E-02	5.95287E-01	1.15088E 00
HELIUM	5.97495E-03	5.01185E-02	4.98642E-01	1.51942E 00	2.01694E 00
LITHIUM	1.94750E-02	2.46465E-01	1.18073E 00	2.23474E 00	3.28720E 00
BORON	1.47342E-01	9.04320E-01	1.90067E 00	4.38699E 00	7.20144E 00
CARBON	2.87564E-01	1.08100E 00	2.27690E 00	5.80047E 00	9.90323E 00
NITROGEN	4.52377E-01	1.16947E 00	2.69777E 00	7.30294E 00	1.28378E 01
OXYGEN	6.10861E-01	1.22775E 00	3.15115E 00	9.08745E 00	1.59990E 01
FLUORINE	7.42291E-01	1.28013E 00	3.64528E 00	1.06702E 01	1.93048E 01
NEON	8.39432E-01	1.33512E 00	4.10950E 00	1.26906E 01	2.26811E 01
ARGON	1.02373E 00	1.68479E 00	7.45752E 00	2.52774E 01	4.60255E 01

SEFF/SO H(0) EP = 4.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	8.04498E-02	2.46047E-01	5.90222E-01	1.09451E 00	1.27023E 00
HELIUM	3.03442E-01	8.11477E-01	1.47174E 00	1.92530E 00	2.09137E 00
LITHIUM	6.20335E-01	1.42411E 00	2.26320E 00	3.08189E 00	3.45416E 00
BORON	1.32403E 00	2.61643E 00	4.48200E 00	6.71759E 00	7.73998E 00
CARBON	1.67427E 00	3.30059E 00	5.93534E 00	9.10403E 00	1.05532E 01
NITROGEN	1.99494E 00	4.06002E 00	7.56204E 00	1.17751E 01	1.37019E 01
OXYGEN	2.31457E 00	4.87730E 00	9.31440E 00	1.46526E 01	1.70939E 01
FLUORINE	2.62219E 00	5.74189E 00	1.11470E 01	1.76617E 01	2.06411E 01
NEON	2.93729E 00	6.60466E 00	1.30145E 01	2.07349E 01	2.42638E 01
ARGON	5.03598E 00	1.26393E 01	2.59589E 01	4.19836E 01	4.93121E 01

SEFF/SO H(0+1) EP = 4.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.20937E-03	3.01611E-02	1.81975E-01	7.62768E-01	1.23968E 00
HELIUM	3.03142E-02	2.40856E-01	9.33169E-01	1.67845E 00	2.03021E 00
LITHIUM	1.15012E-01	6.49247E-01	1.52047E 00	2.53299E 00	3.31706E 00
BORON	4.70446E-01	1.27344E 00	2.51103E 00	5.21013E 00	7.36344E 00
CARBON	6.70076E-01	1.44144E 00	3.14173E 00	6.96735E 00	1.00195E 01
NITROGEN	8.34900E-01	1.59674E 00	3.84744E 00	8.93474E 00	1.29923E 01
OXYGEN	9.46601E-01	1.75660E 00	4.60810E 00	1.10530E 01	1.61948E 01
FLUORINE	1.03575E 00	1.92348E 00	5.40334E 00	1.32688E 01	1.95438E 01
NEON	1.09027E 00	2.09982E 00	6.21553E 00	1.55317E 01	2.29642E 01
ARGON	1.26522E 00	3.27154E 00	1.18311E 01	3.11781E 01	4.66131E 01

SEFF/SO H(0+1+2) EP = 4.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.21313E-04	3.42545E-03	4.45048E-02	4.42778E-01	1.17012E 00
HELIUM	2.24353E-03	5.54449E-02	5.29593E-01	1.47003E 00	1.93457E 00
LITHIUM	1.61094E-02	2.47466E-01	1.13630E 00	2.08021E 00	3.10195E 00
BORON	1.86795E-01	9.24547E-01	1.63564E 00	3.99137E 00	6.77266E 00
CARBON	3.50488E-01	1.04994E 00	1.90102E 00	5.23992E 00	9.18210E 00
NITROGEN	5.29280E-01	1.10184E 00	2.19400E 00	6.63741E 00	1.18789E 01
OXYGEN	6.87494E-01	1.13479E 00	2.51792E 00	8.14284E 00	1.47841E 01
FLUORINE	8.03356E-01	1.16523E 00	2.85947E 00	9.71719E 00	1.78222E 01
NEON	8.99779E-01	1.19574E 00	3.19416E 00	1.13250E 01	2.09250E 01
ARGON	1.01376E 00	1.40659E 00	5.55662E 00	2.24421E 01	4.23784E 01

SEFF/SO H(0) EP = 4.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	8.19523E-02	2.51341E-01	6.14493E-01	1.09455E 00	1.23839E 00
HELIUM	3.32476E-01	7.97339E-01	1.40379E 00	1.81315E 00	1.95869E 00
LITHIUM	6.04481E-01	1.33422E 00	2.36302E 00	2.42915E 00	3.15614E 00
BORON	1.24064E 00	2.25664E 00	3.92630E 00	5.02355E 00	6.92164E 00
CARBON	1.51756E 00	2.92342E 00	5.14775E 00	5.12032E 00	9.39324E 00
NITROGEN	1.77230E 00	3.43293E 00	6.51479E 00	1.04672E 01	1.21597E 01
OXYGEN	2.01596E 00	4.09247E 00	7.98747E 00	1.29954E 01	1.51398E 01
FLUORINE	2.25563E 00	4.76212E 00	9.32757E 00	1.56392E 01	1.82564E 01
NEON	2.49342E 00	5.45603E 00	1.11005E 01	1.43394E 01	2.14392E 01
ARGON	4.10892E 00	1.32539E 01	2.19757E 01	3.70087E 01	4.34461E 01

SEFF/SO H(0+1) EP = 4.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.00473E-03	2.93382E-02	1.58815E-01	7.97164E-01	1.21769E 00
HELIUM	3.34615E-02	2.55665E-01	9.23904E-01	1.58793E 00	1.91404E 00
LITHIUM	1.29486E-01	6.56067E-01	1.38605E 00	2.32407E 00	2.76567E 00
BORON	5.11235E-01	1.17385E 00	2.10834E 00	4.65806E 00	6.62174E 00
CARBON	7.24392E-01	1.28096E 00	2.57095E 00	6.15413E 00	8.96825E 00
NITROGEN	8.56433E-01	1.37409E 00	3.04874E 00	7.85294E 00	1.15946E 01
OXYGEN	9.35156E-01	1.47949E 00	3.68652E 00	9.68299E 00	1.44238E 01
FLUORINE	1.01571E 00	1.58521E 00	4.22994E 00	1.15968E 01	1.73825E 01
NEON	1.05262E 00	1.69115E 00	4.82557E 00	1.35513E 01	2.04042E 01
ARGON	1.15668E 00	2.43947E 00	8.94458E 00	2.70634E 01	4.12969E 01

SEFF/SO H(0+1+2) EP = 4.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	8.39709E-05	2.61936E-03	4.52463E-02	4.91795E-01	1.16896E 00
HELIUM	2.72875E-03	6.51230E-02	5.57765E-01	1.39103E 00	1.82914E 00
LITHIUM	2.33357E-02	3.31959E-01	1.07381E 00	1.89483E 00	2.86483E 00
BORON	2.29155E-01	9.37103E-01	1.37431E 00	3.45766E 00	6.12145E 00
CARBON	4.13497E-01	1.02125E 00	1.53056E 00	4.48345E 00	8.25908E 00
NITROGEN	6.03439E-01	1.04801E 00	1.70543E 00	5.63160E 00	1.06517E 01
OXYGEN	7.53211E-01	1.06330E 00	1.89381E 00	6.86645E 00	1.32291E 01
FLUORINE	8.59439E-01	1.07749E 00	2.09081E 00	8.16190E 00	1.59245E 01
NEON	9.25118E-01	1.09180E 00	2.29201E 00	9.48289E 00	1.86773E 01
ARGON	1.00596E 00	1.19064E 00	3.68311E 00	1.86165E 01	3.77105E 01

SEFF/SO H(0) EP = 4.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	8.29536E-02	2.54311E-01	6.09453E-01	1.07792E 00	1.19561E 00
HELIUM	3.03099E-01	7.72891E-01	1.30940E 00	1.65711E 00	1.78503E 00
LITHIUM	5.92644E-01	1.22319E 00	1.80005E 00	2.47605E 00	2.76562E 00
BORON	1.13650E 00	1.91388E 00	3.20091E 00	5.05923E 00	5.84901E 00
CARBON	1.34790E 00	2.29847E 00	4.11954E 00	6.75350E 00	7.87292E 00
NITROGEN	1.53134E 00	2.72669E 00	5.14774E 00	8.64987E 00	1.01382E 01
OXYGEN	1.70153E 00	3.18781E 00	6.25538E 00	1.06927E 01	1.25786E 01
FLUORINE	1.86711E 00	3.67002E 00	7.41370E 00	1.28291E 01	1.51306E 01
NEON	2.03111E 00	4.16250E 00	8.59669E 00	1.50109E 01	1.77369E 01
ARGON	3.14526E 00	7.56757E 00	1.67761E 01	3.00965E 01	3.57576E 01

SEFF/SO H(0+1) EP = 4.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.02287E-03	2.99180E-02	1.95755E-01	8.15112E-01	1.18122E 00
HELIUM	3.73985E-02	2.74361E-01	9.02655E-01	1.45143E 00	1.74638E 00
LITHIUM	1.46439E-01	6.85842E-01	1.23973E 00	2.01667E 00	2.67869E 00
BORON	5.52888E-01	1.09215E 00	1.66653E 00	3.79214E 00	5.61027E 00
CARBON	7.43205E-01	1.15235E 00	1.97308E 00	4.95754E 00	7.53453E 00
NITROGEN	8.76594E-01	1.20482E 00	2.29381E 00	6.26195E 00	9.68832E 00
OXYGEN	9.56765E-01	1.25968E 00	2.63932E 00	7.66713E 00	1.20085E 01
FLUORINE	1.00085E 00	1.31693E 00	3.00063E 00	9.13661E 00	1.44348E 01
NEON	1.02476E 00	1.37539E 00	3.36965E 00	1.06374E 01	1.69129E 01
ARGON	1.08006E 00	1.77957E 00	5.92105E 00	2.10140E 01	3.40463E 01

SEFF/SO H(0+1+2) EP = 4.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	7.56393E-05	2.44908E-03	4.55480E-02	5.11651E-01	1.14674E 00
HELIUM	3.45167E-03	7.82327E-02	5.91171E-01	1.27104E 00	1.67804E 00
LITHIUM	2.96873E-02	3.81861E-01	1.02369E 00	1.61695E 00	2.52499E 00
BORON	2.73615E-01	9.50383E-01	1.17402E 00	2.69435E 00	5.18814E 00
CARBON	4.75247E-01	1.00559E 00	1.24665E 00	3.40156E 00	6.93622E 00
NITROGEN	6.64926E-01	1.01819E 00	1.32795E 00	4.19311E 00	8.89281E 00
OXYGEN	8.07731E-01	1.02408E 00	1.41553E 00	5.04582E 00	1.10005E 01
FLUORINE	8.96691E-01	1.02946E 00	1.50711E 00	5.93754E 00	1.32047E 01
NEON	9.50008E-01	1.03490E 00	1.60065E 00	6.84826E 00	1.54559E 01
ARGON	1.00209E 00	1.07247E 00	2.24737E 00	1.31451E 01	3.10205E 01

SEFF/SO H(0) EP = 6.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	5.80773E-02	1.77895E-01	4.40435E-01	9.50031E-01	1.24694E 00
HELIUM	2.24190E-01	6.33345E-01	1.27925E 00	1.84244E 00	2.07762E 00
LITHIUM	4.76831E-01	1.21114E 00	2.08832E 00	2.90962E 00	3.42450E 00
BORON	1.13025E 00	2.42774E 00	4.10263E 00	6.28475E 00	7.70961E 00
CARBON	1.48314E 00	3.09200E 00	5.43738E 00	8.55774E 00	1.05954E 01
NITROGEN	1.83574E 00	3.82659E 00	6.96874E 00	1.11664E 01	1.39074E 01
OXYGEN	2.18484E 00	4.63251E 00	8.66512E 00	1.40558E 01	1.75758E 01
FLUORINE	2.53159E 00	5.49863E 00	1.04918E 01	1.71671E 01	2.15260E 01
NEON	2.87764E 00	6.41002E 00	1.24146E 01	2.04422E 01	2.56841E 01
ARGON	5.51173E 00	1.37899E 01	2.79854E 01	4.69635E 01	5.93459E 01

SEFF/SO H(0+1) EP 6.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	2.26611E-03	1.99985E-02	1.10478E-01	5.04172E-01	1.13070E 00
HELIUM	1.65784E-02	1.42615E-01	6.65354E-01	1.53497E 00	1.95375E 00
LITHIUM	6.06889E-02	4.78840E-01	1.34333E 00	2.28991E 00	3.14581E 00
BORON	2.93094E-01	1.13708E 00	2.35067E 00	4.57010E 00	6.93835E 00
CARBON	4.47165E-01	1.38936E 00	2.93274E 00	6.10561E 00	9.49244E 00
NITROGEN	6.17594E-01	1.58905E 00	3.59988E 00	7.86789E 00	1.24237E 01
OXYGEN	7.73453E-01	1.77394E 00	4.33879E 00	9.81981E 00	1.56705E 01
FLUORINE	9.03272E-01	1.96221E 00	5.13446E 00	1.19216E 01	1.91666E 01
NEON	1.00503E 00	2.15785E 00	5.97201E 00	1.41341E 01	2.28467E 01
ARGON	1.33622E 00	3.73756E 00	1.27544E 01	3.20505E 01	5.26480E 01

SEFF/SO H(0+1+2) EP = 6.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.71113E-04	3.03087E-03	3.25043E-02	2.34316E-01	9.32799E-01
HELIUM	9.69792E-04	2.57500E-02	2.98253E-01	1.27779E 00	1.80944E 00
LITHIUM	6.16387E-03	1.32005E-01	8.93937E-01	1.99320E 00	2.82120E 00
BORON	7.33263E-02	6.77649E-01	1.63396E 00	3.47428E 00	6.04001E 00
CARBON	1.59015E-01	9.24164E-01	1.91256E 00	4.53848E 00	8.20773E 00
NITROGEN	2.79747E-01	1.07124E 00	2.22747E 00	5.75983E 00	1.06956E 01
OXYGEN	4.20256E-01	1.15133E 00	2.57644E 00	7.11262E 00	1.34512E 01
FLUORINE	5.60747E-01	1.20381E 00	2.95262E 00	8.56931E 00	1.64184E 01
NEON	6.85333E-01	1.24882E 00	3.34818E 00	1.01027E 01	1.95418E 01
ARGON	1.01276E 00	1.58999E 00	6.55134E 00	2.25197E 01	4.48349E 01

SEFF/SO H(0) EP = 6.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	5.95082E-02	1.83694E-01	4.60047E-01	9.56599E-01	1.23677E 00
HELIUM	2.27065E-01	6.38685E-01	1.27108E 00	1.79050E 00	2.00368E 00
LITHIUM	4.76893E-01	1.18356E 00	1.99793E 00	2.78621E 00	3.25813E 00
BORON	1.09284E 00	2.25034E 00	3.82163E 00	5.94318E 00	7.24919E 00
CARBON	1.40612E 00	2.82344E 00	5.03526E 00	8.06925E 00	9.93699E 00
NITROGEN	1.71418E 00	3.46029E 00	6.42809E 00	1.05093E 01	1.30217E 01
OXYGEN	2.01132E 00	4.16080E 00	7.97090E 00	1.32119E 01	1.64384E 01
FLUORINE	2.30345E 00	4.91423E 00	9.63201E 00	1.61222E 01	2.01175E 01
NEON	2.59424E 00	5.70719E 00	1.13807E 01	1.91656E 01	2.39903E 01
ARGON	4.81664E 00	1.21283E 01	2.55410E 01	4.39926E 01	5.53516E 01

SEFF/SO H(0+1) EP = 6.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.95551E-03	1.84099E-02	1.13442E-01	5.47773E-01	1.14995E 00
HELIUM	1.72555E-02	1.48360E-01	6.87114E-01	1.50697E 00	1.89743E 00
LITHIUM	6.67726E-02	4.48287E-01	1.29886E 00	2.19651E 00	3.01910E 00
BORON	3.13228E-01	1.09792E 00	2.11652E 00	4.31134E 00	6.58767E 00
CARBON	4.85970E-01	1.29058E 00	2.59715E 00	5.73456E 00	8.99095E 00
NITROGEN	6.56195E-01	1.43410E 00	3.14844E 00	7.37010E 00	1.17491E 01
OXYGEN	8.02525E-01	1.56706E 00	3.75904E 00	9.18054E 00	1.48041E 01
FLUORINE	9.16330E-01	1.70390E 00	4.41655E 00	1.11300E 01	1.80938E 01
NEON	9.99364E-01	1.84675E 00	5.10867E 00	1.31822E 01	2.15566E 01
ARGON	1.23172E 00	3.00189E 00	1.07133E 01	2.98000E 01	4.95981E 01

SEFF/SO H(0+1+2) EP = 6.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	7.38845E-05	2.04536E-03	2.76300E-02	2.60337E-01	9.88834E-01
HELIUM	9.71104E-04	2.65144E-02	3.16613E-01	1.27857E 00	1.76607E 00
LITHIUM	7.60881E-03	1.52244E-01	9.00449E-01	1.90207E 00	2.72357E 00
BORON	9.32833E-02	7.25814E-01	1.45280E 00	3.22026E 00	5.76983E 00
CARBON	1.97513E-01	9.37505E-01	1.64992E 00	4.17520E 00	7.82134E 00
NITROGEN	3.37103E-01	1.04303E 00	1.87479E 00	5.27117E 00	1.01758E 01
OXYGEN	4.90320E-01	1.09176E 00	2.12278E 00	6.48507E 00	1.27837E 01
FLUORINE	6.33921E-01	1.12177E 00	2.39035E 00	7.79222E 00	1.55918E 01
NEON	7.52718E-01	1.14792E 00	2.67200E 00	9.16818E 00	1.85478E 01
ARGON	1.00812E 00	1.35023E 00	4.95279E 00	2.03104E 01	4.24850E 01

SEFF/SO H(0) EP = 6.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	6.02312E-02	1.98045E-01	4.75015E-01	9.73469E-01	1.21997E 00
HELIUM	2.28558E-01	6.36908E-01	1.24368E 00	1.72142E 00	1.91554E 00
LITHIUM	4.73222E-01	1.13944E 00	1.87450E 00	2.62726E 00	3.05985E 00
BORON	1.04318E 00	2.03767E 00	3.45967E 00	5.50330E 00	6.70045E 00
CARBON	1.31699E 00	2.50871E 00	4.51759E 00	7.44019E 00	9.15223E 00
NITROGEN	1.57262E 00	3.03988E 00	5.73173E 00	9.66311E 00	1.19661E 01
OXYGEN	1.81439E 00	3.61255E 00	7.07654E 00	1.21252E 01	1.50828E 01
FLUORINE	2.04889E 00	4.23522E 00	8.52463E 00	1.47765E 01	1.84388E 01
NEON	2.28112E 00	4.89061E 00	1.00490E 01	1.75673E 01	2.19715E 01
ARGON	4.05996E 00	1.01978E 01	2.23927E 01	4.01669E 01	5.05790E 01

SEFF/SO H(0+1) EP = 6.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.73156E-03	1.71749E-02	1.15698E-01	5.84939E-01	1.15510E 00
HELIUM	1.83393E-02	1.55744E-01	6.98244E-01	1.46060E 00	1.82435E 00
LITHIUM	7.41857E-02	4.67853E-01	1.22962E 00	2.06661E 00	2.85467E 00
BORON	3.44757E-01	1.05229E 00	1.84295E 00	3.95178E 00	6.13265E 00
CARBON	5.24104E-01	1.19017E 00	2.20564E 00	5.72134E 00	8.34022E 00
NITROGEN	6.91334E-01	1.28399E 00	2.62179E 00	6.67840E 00	1.08738E 01
OXYGEN	8.26188E-01	1.36988E 00	3.08272E 00	8.29225E 00	1.36800E 01
FLUORINE	9.23618E-01	1.45877E 00	3.57905E 00	1.00301E 01	1.67018E 01
NEON	9.89259E-01	1.55179E 00	4.10151E 00	1.18594E 01	1.98826E 01
ARGON	1.14083E 00	2.30452E 00	6.33230E 00	2.66727E 01	4.56406E 01

SEFF/SO H(0+1+2) EP = 6.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	4.35127E-05	1.34854E-03	2.33077E-02	2.84801E-01	1.02602E 00
HELIUM	1.04060E-03	2.91985E-02	3.36865E-01	1.25000E 00	1.70523E 00
LITHIUM	9.56090E-03	1.77307E-01	8.94583E-01	1.67558E 00	2.58667E 00
BORON	1.15917E-01	7.68917E-01	1.27215E 00	2.86844E 00	5.39098E 00
CARBON	2.38759E-01	9.45307E-01	1.39012E 00	3.67206E 00	7.27955E 00
NITROGEN	3.94983E-01	1.01729E 00	1.52478E 00	4.59436E 00	9.44703E 00
OXYGEN	5.56633E-01	1.04387E 00	1.67593E 00	5.61591E 00	1.18478E 01
FLUORINE	6.98613E-01	1.05824E 00	1.83453E 00	6.71593E 00	1.44329E 01
NEON	8.08167E-01	1.07061E 00	2.00359E 00	7.87385E 00	1.71541E 01
ARGON	1.00345E 00	1.16709E 00	3.37259E 00	1.72505E 01	3.91900E 01

SEFF/SO H(0) EP = 6.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	6.19357E-02	1.90847E-01	4.83510E-01	9.77172E-01	1.19332E 00
HELIUM	2.18949E-01	6.27719E-01	1.19653E 00	1.61868E 00	1.79574E 00
LITHIUM	4.66620E-01	1.07853E 00	1.70251E 00	2.39418E 00	2.79032E 00
BORON	9.14749E-01	1.78850E 00	2.96969E 00	4.85827E 00	5.95455E 00
CARBON	1.21359E 00	2.14487E 00	3.81686E 00	6.51773E 00	8.08551E 00
NITROGEN	1.41636E 00	2.54965E 00	4.78914E 00	8.42275E 00	1.05312E 01
OXYGEN	1.60070E 00	2.98159E 00	5.86605E 00	1.05317E 01	1.32400E 01
FLUORINE	1.77562E 00	3.45360E 00	7.02568E 00	1.28032E 01	1.61569E 01
NEON	1.94727E 00	3.95065E 00	8.24635E 00	1.51943E 01	1.92274E 01
ARGON	3.25993E 00	7.97565E 00	1.81911E 01	3.45569E 01	4.40916E 01

SEFF/SO H(0+1) EP = 6.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.64958E-03	1.67579E-02	1.17951E-01	6.11275E-01	1.14467E 00
HELIUM	2.01435E-02	1.66469E-01	7.02048E-01	1.37635E 00	1.71756E 00
LITHIUM	8.33542E-02	4.91317E-01	1.14611E 00	1.86449E 00	2.61440E 00
BORON	3.78635E-01	1.01414E 00	1.55213E 00	3.39241E 00	5.46772E 00
CARBON	5.63138E-01	1.10766E 00	1.78966E 00	4.42139E 00	7.38929E 00
NITROGEN	7.26045E-01	1.16294E 00	2.06222E 00	5.60233E 00	9.59465E 00
OXYGEN	8.48970E-01	1.21200E 00	2.36411E 00	6.91036E 00	1.20373E 01
FLUORINE	9.31497E-01	1.26285E 00	2.68919E 00	8.31885E 00	1.46676E 01
NEON	9.82460E-01	1.31617E 00	3.03139E 00	9.80149E 00	1.74364E 01
ARGON	1.07616E 00	1.74735E 00	5.80242E 00	2.18077E 01	3.98574E 01

SEFF/SO H(0+1+2) EP = 6.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.19832E-05	1.06085E-03	2.11253E-02	3.04177E-01	1.04239E 00
HELIUM	1.31062E-03	3.42738E-02	3.64318E-01	1.18488E 00	1.61003E 00
LITHIUM	1.20536E-02	2.07720E-01	8.91878E-01	1.48731E 00	2.37247E 00
BORON	1.40981E-01	8.10525E-01	1.13221E 00	2.34865E 00	4.79820E 00
CARBON	2.82006E-01	9.55389E-01	1.18941E 00	2.92871E 00	6.43182E 00
NITROGEN	4.52244E-01	1.00357E 00	1.25479E 00	3.59444E 00	8.30669E 00
OXYGEN	6.18287E-01	1.01716E 00	1.32721E 00	4.33180E 00	1.03833E 01
FLUORINE	7.54969E-01	1.02310E 00	1.40519E 00	5.12580E 00	1.26195E 01
NEON	8.53363E-01	1.02800E 00	1.48727E 00	5.96160E 00	1.49733E 01
ARGON	1.00110E 00	1.06623E 00	2.15195E 00	1.27297E 01	3.40344E 01

SEFF/SO H(0) EP = 8.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	4.64139E-02	1.43272E-01	3.62408E-01	8.14767E-01	1.19321E 00
HELIUM	1.80522E-01	5.22159E-01	1.11194E 00	1.71288E 00	1.97222E 00
LITHIUM	3.88375E-01	1.02660E 00	1.86259E 00	2.64511E 00	3.18740E 00
BORON	9.48135E-01	2.11947E 00	3.57866E 00	5.56342E 00	7.06745E 00
CARBON	1.26292E 00	2.69713E 00	4.70154E 00	7.54918E 00	9.70770E 00
NITROGEN	1.58344E 00	3.32472E 00	6.00547E 00	9.85618E 00	1.27751E 01
OXYGEN	1.90383E 00	4.01371E 00	7.47112E 00	1.24494E 01	1.62229E 01
FLUORINE	2.22267E 00	4.76275E 00	9.07520E 00	1.52875E 01	1.99984E 01
NEON	2.54084E 00	5.56353E 00	1.07929E 01	1.83766E 01	2.40372E 01
ARGON	5.07266E 00	1.26246E 01	2.59449E 01	4.51350E 01	5.96812E 01

SEFF/SO H(0+1) EP = 8.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.65716E-03	1.45303E-02	1.95709E-02	3.80320E-01	1.00623E 00
HELIUM	1.15095E-02	1.00927E-01	5.07840E-01	1.37925E 00	1.82220E 00
LITHIUM	4.14318E-02	3.16068E-01	1.13509E 00	2.04490E 00	2.85010E 00
BORON	2.03722E-01	9.57746E-01	2.06024E 00	3.90169E 00	6.13166E 00
CARBON	3.35139E-01	1.22351E 00	2.52818E 00	5.16436E 00	8.36469E 00
NITROGEN	4.85174E-01	1.43137E 00	3.06683E 00	6.63129E 00	1.09590E 01
OXYGEN	6.36196E-01	1.60559E 00	3.67203E 00	8.28019E 00	1.38750E 01
FLUORINE	7.74173E-01	1.76670E 00	4.33438E 00	1.00848E 01	1.70665E 01
NEON	8.91316E-01	1.93550E 00	5.04365E 00	1.20175E 01	2.04841E 01
ARGON	1.28779E 00	3.37940E 00	1.13001E 01	2.90637E 01	5.06307E 01

SEFF/SO H(0+1+2) EP = 8.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.31095E-05	2.26065E-03	2.34612E-02	1.58409E-01	7.44061E-01
HELIUM	6.19888E-04	1.63419E-02	1.99866E-01	1.07439E 00	1.66962E 00
LITHIUM	3.46027E-03	8.17467E-02	6.84878E-01	1.69743E 00	2.50780E 00
BORON	4.14823E-02	5.07443E-01	1.47544E 00	2.95182E 00	5.18223E 00
CARBON	9.75750E-02	7.69339E-01	1.71022E 00	3.80115E 00	7.00213E 00
NITROGEN	1.13594E-01	9.63478E-01	1.96236E 00	4.78788E 00	9.11442E 00
OXYGEN	2.75815E-01	1.08061E 00	2.24423E 00	5.89700E 00	1.14930E 01
FLUORINE	4.22295E-01	1.14870E 00	2.55265E 00	7.11089E 00	1.40940E 01
NEON	5.48775E-01	1.19538E 00	2.88292E 00	8.41076E 00	1.68793E 01
ARGON	9.46231E-01	1.50851E 00	5.79626E 00	1.98770E 01	4.14484E 01

SEFF/SO H(0) EP = 8.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	4.73893E-02	1.48041E-01	3.79677E-01	8.45772E-01	1.19479E 00
HELIUM	1.83200E-01	5.29898E-01	1.11896E 00	1.68259E 00	1.91999E 00
LITHIUM	3.40359E-01	1.01597E 00	1.80821E 00	2.56174E 00	3.06996E 00
BORON	9.17725E-01	1.99895E 00	3.37801E 00	5.33196E 00	6.74149E 00
CARBON	1.21719E 00	2.50988E 00	4.41313E 00	7.21701E 00	9.23989E 00
NITROGEN	1.50379E 00	3.05600E 00	5.61543E 00	9.40700E 00	1.21425E 01
OXYGEN	1.78386E 00	3.66032E 00	6.96487E 00	1.18686E 01	1.54051E 01
FLUORINE	2.05847E 00	4.32076E 00	8.44596E 00	1.45628E 01	1.89758E 01
NEON	2.33039E 00	5.02730E 00	1.00298E 01	1.74478E 01	2.27995E 01
ARGON	4.49531E 00	1.12586E 01	2.40011E 01	4.28965E 01	5.65287E 01

SEFF/SO H(0+1) EP = 8.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.28903E-03	1.30367E-02	8.04935E-02	4.15772E-01	1.04364E 00
HELIUM	1.15641E-02	1.03385E-01	5.29002E-01	1.37335E 00	1.78668E 00
LITHIUM	4.47710E-02	3.31011E-01	1.12259E 00	1.98137E 00	2.77005E 00
BORON	2.24983E-01	9.47495E-01	1.88537E 00	3.72339E 00	5.90963E 00
CARBON	3.87138E-01	1.16822E 00	2.27372E 00	4.70847E 00	8.04605E 00
NITROGEN	5.22699E-01	1.32787E 00	2.72250E 00	6.28526E 00	1.05281E 01
OXYGEN	6.72096E-01	1.44728E 00	3.22687E 00	7.83284E 00	1.33180E 01
FLUORINE	8.01352E-01	1.56977E 00	3.77887E 00	9.52658E 00	1.63714E 01
NEON	9.04640E-01	1.68775E 00	4.36998E 00	1.13403E 01	1.96411E 01
ARGON	1.10034E 00	2.75262E 00	9.58414E 00	2.73392E 01	4.84833E 01

SEFF/SO H(0+1+2) EP = 8.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	5.27312E-05	1.46705E-03	1.90741E-02	1.73413E-01	8.10743E-01
HELIUM	5.52417E-04	1.56519E-02	2.08678E-01	1.10487E 00	1.64356E 00
LITHIUM	4.66789E-03	9.23100E-02	7.07274E-01	1.63356E 00	2.44835E 00
BORON	5.38337E-02	5.58169E-01	1.34416E 00	2.76476E 00	5.01732E 00
CARBON	1.21981E-01	8.06284E-01	1.50855E 00	3.53270E 00	6.76545E 00
NITROGEN	2.24447E-01	9.66268E-01	1.68812E 00	4.42486E 00	8.79637E 00
OXYGEN	3.52257E-01	1.04861E 00	1.88963E 00	5.42769E 00	1.10792E 01
FLUORINE	4.89170E-01	1.09022E 00	2.11015E 00	6.52523E 00	1.35777E 01
NEON	6.18698E-01	1.11716E 00	2.34630E 00	7.70053E 00	1.62531E 01
ARGON	9.98583E-01	1.30282E 00	4.42934E 00	1.80678E 01	3.98534E 01

SEFF/SO H(0) EP = 8.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	4.81265E-02	1.51709E-01	3.93515E-01	8.69171E-01	1.18907E 00
HELIUM	1.84403E-01	5.32339E-01	1.11045E 00	1.63700E 00	1.83575E 00
LITHIUM	3.89579E-01	9.92515E-01	1.72589E 00	2.44954E 00	2.92541E 00
BORON	8.98388E-01	1.84873E 00	3.11514E 00	5.02067E 00	6.34057E 00
CARBON	1.15865E 00	2.27228E 00	4.03281E 00	6.77027E 00	8.66451E 00
NITROGEN	1.40751E 00	2.73430E 00	5.10115E 00	8.80289E 00	1.13644E 01
OXYGEN	1.64385E 00	3.24499E 00	6.30200E 00	1.10876E 01	1.43992E 01
FLUORINE	1.87113E 00	3.80188E 00	7.61628E 00	1.35882E 01	1.77206E 01
NEON	2.09387E 00	4.39807E 00	9.02365E 00	1.62659E 01	2.12773E 01
ARGON	3.86302E 00	9.65573E 00	2.14382E 01	3.98859E 01	5.26512E 01

SEFF/SO H(0+1) EP = 8.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.18335E-03	1.17832E-02	8.07706E-02	4.47473E-01	1.06758E 00
HELIUM	1.19697E-02	1.07138E-01	5.43573E-01	1.35216E 00	1.73725E 00
LITHIUM	4.90772E-02	3.47146E-01	1.08941E 00	1.88895E 00	2.65881E 00
BORON	2.48563E-01	9.31355E-01	1.67864E 00	3.46621E 00	5.60109E 00
CARBON	4.00010E-01	1.10616E 00	1.97557E 00	4.53938E 00	7.60325E 00
NITROGEN	5.39156E-01	1.21450E 00	2.31899E 00	5.78616E 00	9.92929E 00
OXYGEN	7.24710E-01	1.29451E 00	2.70520E 00	7.18759E 00	1.25439E 01
FLUORINE	8.23616E-01	1.37417E 00	3.12790E 00	8.72139E 00	1.54054E 01
NEON	9.13317E-01	1.45451E 00	3.58055E 00	1.03638E 01	1.84696E 01
ARGON	1.12365E 00	2.15802E 00	7.57322E 00	2.48519E 01	4.54993E 01

SEFF/SO H(0+1+2) EP = 8.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	2.49919E-05	8.86900E-04	1.49867E-02	1.87553E-01	8.64430E-01
HELIUM	5.54565E-04	1.62416E-02	2.19971E-01	1.10960E 00	1.60341E 00
LITHIUM	4.77010E-03	1.06672E-01	7.22917E-01	1.54037E 00	2.35776E 00
BORON	6.70758E-02	6.08215E-01	1.20950E 00	2.50197E 00	4.76605E 00
CARBON	1.49067E-01	8.37827E-01	1.30796E 00	3.15555E 00	6.40484E 00
NITROGEN	2.57617E-01	9.63693E-01	1.41669E 00	3.91496E 00	8.30874E 00
OXYGEN	4.36888E-01	1.02058E 00	1.53871E 00	4.76856E 00	1.04488E 01
FLUORINE	5.32694E-01	1.04338E 00	1.67224E 00	5.70248E 00	1.27910E 01
NEON	6.81372E-01	1.05648E 00	1.81524E 00	6.70276E 00	1.52991E 01
ARGON	9.38361E-01	1.14562E 00	3.07660E 00	1.55263E 01	3.74235E 01

SEFF/SO H(0) EP = 8.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	4.36781E-02	1.54161E-01	4.02622E-01	8.82039E-01	1.17385E 00
HELIUM	1.35546E-01	4.29079E-01	1.08123E 00	1.36339E 00	1.76265E 00
LITHIUM	3.96533E-01	9.55946E-01	1.40316E 00	2.27787E 00	2.72769E 00
BORON	8.51714E-01	1.66724E 00	2.74595E 00	4.34448E 00	5.77825E 00
CARBON	1.38975E 00	1.99927E 00	3.50576E 00	6.08686E 00	7.85751E 00
NITROGEN	1.29807E 00	2.36064E 00	4.38643E 00	7.87874E 00	1.02731E 01
OXYGEN	1.48825E 00	2.76072E 00	5.38060E 00	9.89290E 00	1.29884E 01
FLUORINE	1.56607E 00	3.14782E 00	6.46687E 00	1.20973E 01	1.59601E 01
NEON	1.43756E 00	3.66487E 00	7.62927E 00	1.44578E 01	1.91423E 01
ARGON	3.18867E 00	7.78807E 00	1.78863E 01	3.52804E 01	4.72128E 01

SEFF/SO H(0+1) EP = 8.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.36250E-03	1.11237E-02	8.09962E-02	4.72000E-01	1.07436E 00
HELIUM	1.18920E-02	1.13518E-01	5.53734E-01	1.29951E 00	1.66047E 00
LITHIUM	5.16947E-02	3.67307E-01	1.04283E 00	1.73946E 00	2.48403E 00
BORON	2.47176E-01	9.19414E-01	1.45685E 00	3.05125E 00	5.12184E 00
CARBON	4.16927E-01	1.05447E 00	1.65621E 00	3.94384E 00	6.91566E 00
NITROGEN	5.16460E-01	1.12577E 00	1.88747E 00	4.98084E 00	8.99923E 00
OXYGEN	7.17098E-01	1.17480E 00	2.14733E 00	6.14656E 00	1.13435E 01
FLUORINE	8.45832E-01	1.22037E 00	2.43172E 00	7.42218E 00	1.39050E 01
NEON	9.12660E-01	1.26754E 00	2.73628E 00	8.78827E 00	1.66500E 01
ARGON	1.16877E 00	1.68169E 00	5.42272E 00	2.08586E 01	4.08645E 01

SEFF/SO H(0+1+2) EP = 8.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.83395E-05	6.12102E-04	1.24118E-02	1.98359E-01	9.01930E-01
HELIUM	6.55056E-04	1.84849E-02	2.38015E-01	1.08193E 00	1.53585E 00
LITHIUM	6.19166E-03	1.25431E-01	7.42391E-01	1.34696E 00	2.20567E 00
BORON	8.21529E-02	6.59193E-01	1.10375E 00	2.10715E 00	4.34621E 00
CARBON	1.76502E-01	8.68705E-01	1.15255E 00	2.58493E 00	5.79943E 00
NITROGEN	3.12360E-01	9.69416E-01	1.20634E 00	3.14644E 00	7.49007E 00
OXYGEN	4.64713E-01	1.00551E 00	1.26678E 00	3.77778E 00	9.39042E 00
FLUORINE	6.12070E-01	1.01725E 00	1.33289E 00	4.46635E 00	1.14705E 01
NEON	7.36793E-01	1.02282E 00	1.40570E 00	5.20369E 00	1.36974E 01
ARGON	9.98490E-01	1.05882E 00	2.02832E 00	1.17078E 01	3.33434E 01

SEFF/SO H(0) EP = 10.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.89400E-02	1.20435E-01	3.10238E-01	7.27711E-01	1.14301E 00
HELIUM	1.32336E-01	4.47516E-01	9.89060E-01	1.61612E 00	1.90197E 00
LITHIUM	3.30168E-01	8.97091E-01	1.69886E 00	2.46649E 00	3.02939E 00
BORON	8.22067E-01	1.90233E 00	3.23188E 00	4.72101E 00	6.63239E 00
CARBON	1.10671E 00	2.42654E 00	4.21087E 00	6.85399E 00	9.09792E 00
NITROGEN	1.40139E 00	2.98519E 00	5.35374E 00	8.93734E 00	1.19798E 01
OXYGEN	1.69918E 00	3.59437E 00	6.64944E 00	1.12995E 01	1.52475E 01
FLUORINE	1.89698E 00	4.29638E 00	8.08193E 00	1.38602E 01	1.88602E 01
NEON	2.29435E 00	4.97060E 00	9.63295E 00	1.67387E 01	2.27714E 01
ARGON	4.70335E 00	1.16282E 01	2.41061E 01	4.31249E 01	5.92720E 01

SEFF/SO H(0+1) EP = 10.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.30703E-03	1.13446E-02	6.17571E-02	3.01078E-01	8.94143E-01
HELIUM	8.66517E-03	7.69990E-02	4.04942E-01	1.23835E 00	1.72918E 00
LITHIUM	3.07485E-02	2.45945E-01	9.74589E-01	1.88103E 00	2.64180E 00
BORON	1.54673E-01	8.17607E-01	1.86902E 00	3.45895E 00	5.55763E 00
CARBON	2.62037E-01	1.09057E 00	2.26828E 00	4.53459E 00	7.55130E 00
NITROGEN	3.91530E-01	1.30749E 00	2.72130E 00	5.79249E 00	9.88201E 00
OXYGEN	5.10721E-01	1.48052E 00	3.23666E 00	7.21876E 00	1.25244E 01
FLUORINE	6.66461E-01	1.63285E 00	3.80004E 00	8.79562E 00	1.54490E 01
NEON	7.90201E-01	1.78124E 00	4.41577E 00	1.05029E 01	1.86135E 01
ARGON	1.24687E 00	3.09487E 00	1.01356E 01	2.64346E 01	4.81427E 01

SEFF/SO H(0+1+2) EP = 10.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	7.35559E-05	1.81605E-03	1.46521E-02	1.16852E-01	5.98570E-01
HELIUM	4.38047E-04	1.16963E-02	1.63139E-01	9.04088E-01	1.57163E 00
LITHIUM	2.23614E-03	5.58479E-02	5.36231E-01	1.56235E 00	2.29248E 00
BORON	2.72659E-02	3.87546E-01	1.35499E 00	2.61795E 00	4.58794E 00
CARBON	6.07888E-02	6.35872E-01	1.57903E 00	3.32567E 00	6.15765E 00
NITROGEN	1.27263E-01	8.53177E-01	1.79536E 00	4.13335E 00	7.98288E 00
OXYGEN	2.15104E-01	1.00435E 00	2.03004E 00	5.09180E 00	1.00760E 01
FLUORINE	3.22599E-01	1.09638E 00	2.29125E 00	6.12933E 00	1.22748E 01
NEON	4.39560E-01	1.15322E 00	2.57404E 00	7.23296E 00	1.46660E 01
ARGON	9.73657E-01	1.44604E 00	5.21294E 00	1.77354E 01	3.81125E 01

SEFF/SO H(0) EP = 10.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.97926E-02	1.24992E-01	3.25530E-01	7.59751E-01	1.15351E 00
HELIUM	1.34760E-01	4.52853E-01	1.00239E 00	1.60078E 00	1.86360E 00
LITHIUM	3.30394E-01	8.94917E-01	1.66700E 00	2.40720E 00	2.94413E 00
BORON	8.10570E-01	1.81679E 00	3.07970E 00	4.90705E 00	6.39413E 00
CARBON	1.07720E 00	2.28060E 00	3.99007E 00	6.61614E 00	8.75371E 00
NITROGEN	1.34631E 00	2.77424E 00	5.05425E 00	8.61403E 00	1.15131E 01
OXYGEN	1.61220E 00	3.31373E 00	6.26081E 00	1.08810E 01	1.46619E 01
FLUORINE	1.87355E 00	3.90338E 00	7.59477E 00	1.33865E 01	1.81010E 01
NEON	2.13142E 00	4.53992E 00	9.03907E 00	1.60993E 01	2.18462E 01
ARGON	4.71179E 00	1.04750E 01	2.25166E 01	4.14133E 01	5.67951E 01

SEFF/SO H(0+1) EP = 10.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.07297E-03	1.00305E-02	6.16757E-02	3.29635E-01	9.41119E-01
HELIUM	8.50112E-03	7.77063E-02	4.23010E-01	1.25611E 00	1.70627E 00
LITHIUM	3.26947E-02	2.56437E-01	9.78646E-01	1.83564E 00	2.58952E 00
BORON	1.70788E-01	8.21675E-01	1.73232E 00	3.32602E 00	5.41251E 00
CARBON	2.87855E-01	1.05976E 00	2.06328E 00	4.34350E 00	7.34269E 00
NITROGEN	4.24953E-01	1.23167E 00	2.44236E 00	5.53340E 00	9.59996E 00
OXYGEN	5.66940E-01	1.35987E 00	2.87164E 00	6.88255E 00	1.21593E 01
FLUORINE	6.99866E-01	1.47051E 00	3.34627E 00	8.37416E 00	1.49890E 01
NEON	8.14569E-01	1.57892E 00	3.86006E 00	9.98916E 00	1.80526E 01
ARGON	1.17338E 00	2.55302E 00	8.65498E 00	2.50596E 01	4.66415E 01

SEFF/SO H(0+1+2) EP = 10.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	4.25363E-05	1.15252E-03	1.45777E-02	1.25811E-01	6.63698E-01
HELIUM	3.66037E-04	1.05269E-02	1.48280E-01	9.49668E-01	1.55611E 00
LITHIUM	2.50586E-03	6.14410E-02	5.60925E-01	1.51868E 00	2.25376E 00
BORON	3.42676E-02	4.32438E-01	1.26069E 00	2.46950E 00	4.48044E 00
CARBON	8.10304E-02	6.81756E-01	1.41673E 00	3.11231E 00	6.00290E 00
NITROGEN	1.54669E-01	8.76888E-01	1.56876E 00	3.86405E 00	7.78336E 00
OXYGEN	2.59781E-01	9.95707E-01	1.73821E 00	4.71640E 00	9.80211E 00
FLUORINE	3.79689E-01	1.05839E 00	1.92540E 00	5.65875E 00	1.20340E 01
NEON	5.04909E-01	1.09782E 00	2.12807E 00	6.67905E 00	1.44505E 01
ARGON	9.84038E-01	1.26608E 00	4.01928E 00	1.62000E 01	3.70005E 01

SEFF/SO H(0) EP = 10.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	4.04089E-02	1.28157E-01	3.38105E-01	7.85656E-01	1.15648E 00
HELIUM	1.56318E-01	4.59981E-01	1.00510E 00	1.57117E 00	1.81473E 00
LITHIUM	3.33308E-01	8.82374E-01	1.61079E 00	2.32341E 00	2.83314E 00
BORON	7.91922E-01	1.70556E 00	2.87289E 00	4.67409E 00	6.08882E 00
CARBON	1.03721E 00	2.10139E 00	3.69284E 00	6.28127E 00	8.31484E 00
NITROGEN	1.27725E 00	2.52138E 00	4.65120E 00	8.16079E 00	1.09181E 01
OXYGEN	1.50789E 00	2.96168E 00	5.73782E 00	1.02919E 01	1.38697E 01
FLUORINE	1.72971E 00	3.46586E 00	6.93916E 00	1.26480E 01	1.71531E 01
NEON	1.94564E 00	4.03062E 00	8.23988E 00	1.51990E 01	2.06663E 01
ARGON	3.67100E 00	9.11161E 00	2.03776E 01	3.90036E 01	5.36370E 01

SEFF/SO H(0+1) EP = 10.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	8.88040E-04	8.88621E-03	6.10182E-02	3.55961E-01	9.76531E-01
HELIUM	8.60318E-03	7.94889E-02	4.36626E-01	1.25423E 00	1.67135E 00
LITHIUM	3.53854E-02	2.69420E-01	9.65921E-01	1.76559E 00	2.51069E 00
BORON	1.88694E-01	8.21440E-01	1.56767E 00	3.12874E 00	5.19367E 00
CARBON	3.15191E-01	1.02347E 00	1.82182E 00	4.05921E 00	7.02813E 00
NITROGEN	4.58741E-01	1.15310E 00	2.11457E 00	5.14794E 00	9.17345E 00
OXYGEN	6.01757E-01	1.24111E 00	2.44627E 00	6.38239E 00	1.16059E 01
FLUORINE	7.29715E-01	1.31439E 00	2.81300E 00	7.74717E 00	1.42952E 01
NEON	8.34608E-01	1.38615E 00	3.21006E 00	9.22485E 00	1.72069E 01
ARGON	1.10814E 00	2.03510E 00	6.91523E 00	2.30139E 01	4.43780E 01

SEFF/SO H(0+1+2) EP = 10.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	2.36985E-05	6.60084E-04	1.08900E-02	1.33994E-01	7.20805E-01
HELIUM	3.45532E-04	1.03020E-02	1.53612E-01	9.73711E-01	1.52818E 00
LITHIUM	2.97246E-03	6.99905E-02	5.82047E-01	1.44809E 00	2.18939E 00
BORON	4.26570E-02	4.79537E-01	1.15929E 00	2.25911E 00	4.30174E 00
CARBON	9.95008E-02	7.24746E-01	1.25410E 00	2.80988E 00	5.74603E 00
NITROGEN	1.88674E-01	8.95797E-01	1.34617E 00	3.45399E 00	7.43507E 00
OXYGEN	3.05261E-01	9.86133E-01	1.44925E 00	4.18431E 00	9.35010E 00
FLUORINE	4.36455E-01	1.02628E 00	1.56317E 00	4.99174E 00	1.14675E 01
NEON	5.66731E-01	1.04485E 00	1.68651E 00	5.86596E 00	1.37599E 01
ARGON	9.89442E-01	1.12852E 00	2.83744E 00	1.40238E 01	3.51521E 01

SEFF/SO H(0) EP = 10.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	4.06665E-02	1.30320E-01	3.46693E-01	8.02895E-01	1.15024E 00
HELIUM	1.571616E-01	4.59692E-01	9.89675E-01	1.51703E 00	1.74379E 00
LITHIUM	3.31944E-01	8.58711E-01	1.51980E 00	2.18972E 00	2.67354E 00
BORON	7.67233E-01	1.56698E 00	2.58106E 00	4.30278E 00	5.64574E 00
CARBON	9.68429E-01	1.88609E 00	3.27301E 00	5.74754E 00	7.67795E 00
NITROGEN	1.19665E 00	2.22707E 00	4.08195E 00	7.43711E 00	1.00545E 01
OXYGEN	1.38951E 00	2.59067E 00	4.99915E 00	9.35282E 00	1.27492E 01
FLUORINE	1.56953E 00	2.99498E 00	6.01319E 00	1.14708E 01	1.57284E 01
NEON	1.74125E 00	3.43206E 00	7.11111E 00	1.37640E 01	1.89540E 01
ARGON	3.09098E 00	7.50949E 00	1.73565E 01	3.51629E 01	4.90540E 01

SEFF/SO H(0+1) EP = 10.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	7.86598E-04	8.12909E-03	6.02671E-02	3.76960E-01	9.98630E-01
HELIUM	9.10676E-03	8.34063E-02	4.47466E-01	1.22417E 00	1.61330E 00
LITHIUM	3.91092E-02	2.85716E-01	9.41706E-01	1.64789E 00	2.37997E 00
BORON	2.09042E-01	8.24580E-01	1.38911E 00	2.79994E 00	4.83081E 00
CARBON	3.44945E-01	9.93752E-01	1.56249E 00	3.58730E 00	6.50654E 00
NITROGEN	4.94217E-01	1.08809E 00	1.76278E 00	4.50808E 00	8.46623E 00
OXYGEN	6.37204E-01	1.14636E 00	1.98979E 00	5.55209E 00	1.06882E 01
FLUORINE	7.59436E-01	1.18848E 00	2.24077E 00	6.70634E 00	1.31448E 01
NEON	8.54588E-01	1.23131E 00	2.51251E 00	7.95607E 00	1.58046E 01
ARGON	1.06120E 00	1.61979E 00	5.04873E 00	1.96180E 01	4.06246E 01

SEFF/SO H(0+1+2) EP = 10.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.24106E-05	4.13227E-04	8.37469E-03	1.39379E-01	7.66371E-01
HELIUM	3.83006E-04	1.13280E-02	1.64786E-01	9.70381E-01	1.47718E 00
LITHIUM	3.65445E-03	8.20737E-02	6.08665E-01	1.33575E 00	2.07402E 00
BORON	5.23783E-02	5.29680E-01	1.07851E 00	1.93976E 00	3.98149E 00
CARBON	1.20040E-01	7.67592E-01	1.12734E 00	2.35084E 00	5.28569E 00
NITROGEN	2.22826E-01	9.15707E-01	1.17338E 00	2.83158E 00	6.81091E 00
OXYGEN	3.52277E-01	9.83604E-01	1.22500E 00	3.37667E 00	8.54026E 00
FLUORINE	4.91940E-01	1.00876E 00	1.28205E 00	3.97931E 00	1.04522E 01
NEON	6.24362E-01	1.01808E 00	1.34382E 00	4.63180E 00	1.25223E 01
ARGON	9.93165E-01	1.05247E 00	1.92023E 00	1.07205E 01	3.18395E 01

SEFF/SO H(0) EP = 12.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.37542E-02	1.05099E-01	2.72512E-01	6.58582E-01	1.09356E 00
HELIUM	1.32349E-01	3.93087E-01	8.92819E-01	1.53310E 00	1.84170E 00
LITHIUM	2.86335E-01	7.99250E-01	1.56746E 00	2.32650E 00	2.89425E 00
BORON	7.28060E-01	1.73382E 00	2.97552E 00	4.68805E 00	6.26022E 00
CARBON	9.87688E-01	2.21994E 00	3.84533E 00	6.30550E 00	8.56717E 00
NITROGEN	1.26053E 00	2.72982E 00	4.86421E 00	8.20425E 00	1.12755E 01
OXYGEN	1.53890E 00	3.27848E 00	6.02529E 00	1.03689E 01	1.43627E 01
FLUORINE	1.81897E 00	3.87448E 00	7.31757E 00	1.27781E 01	1.77990E 01
NEON	2.09926E 00	4.51907E 00	8.72740E 00	1.54065E 01	2.15478E 01
ARGON	4.38622E 00	1.07604E 01	2.24270E 01	4.09671E 01	5.79761E 01

SEFF/SO H(0+1) EP = 12.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.07967E-03	9.36624E-03	5.02492E-02	2.46725E-01	7.96188E-01
HELIUM	6.89147E-03	6.16166E-02	3.33424E-01	1.12139E 00	1.65438E 00
LITHIUM	2.40930E-02	1.98885E-01	8.47535E-01	1.75798E 00	2.47638E 00
BORON	1.22749E-01	7.06684E-01	1.72651E 00	3.13789E 00	5.09982E 00
CARBON	2.11713E-01	9.76207E-01	2.08411E 00	4.07550E 00	6.89787E 00
NITROGEN	3.23453E-01	1.20147E 00	2.47704E 00	5.17616E 00	9.00861E 00
OXYGEN	4.45339E-01	1.38070E 00	2.92124E 00	6.43095E 00	1.14149E 01
FLUORINE	5.76855E-01	1.53058E 00	3.41532E 00	7.82754E 00	1.40931E 01
NEON	7.02428E-01	1.66877E 00	3.95432E 00	9.35117E 00	1.70150E 01
ARGON	1.21040E 00	2.87490E 00	9.19191E 00	2.41566E 01	4.54073E 01

SEFF/SO H(0+1+2) EP = 12.0 (MEV/AMU) ETA = 0.125 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	6.15700E-05	1.52393E-03	1.52644E-02	9.14384E-02	4.88599E-01
HELIUM	3.40285E-04	9.02091E-03	1.11643E-01	7.66696E-01	1.49431E 00
LITHIUM	1.58316E-03	4.08670E-02	4.29577E-01	1.45952E 00	2.13172E 00
BORON	1.86079E-02	3.02814E-01	1.24925E 00	2.36441E 00	4.14271E 00
CARBON	4.56049E-02	5.27276E-01	1.48118E 00	2.99157E 00	5.52099E 00
NITROGEN	9.22517E-02	7.49380E-01	1.67480E 00	3.70432E 00	7.13898E 00
OXYGEN	1.61385E-01	9.24190E-01	1.87985E 00	4.51687E 00	8.98351E 00
FLUORINE	2.51046E-01	1.04080E 00	2.10626E 00	5.42175E 00	1.10365E 01
NEON	3.55007E-01	1.11915E 00	2.35314E 00	6.40790E 00	1.32763E 01
ARGON	9.45341E-01	1.39689E 00	4.75207E 00	1.54953E 01	3.50403E 01

SEFF/SO H(0) EP = 12.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.44524E-02	1.08635E-01	2.85989E-01	6.90221E-01	1.11062E 00
HELIUM	1.34544E-01	4.01382E-01	9.10866E-01	1.52860E 00	1.81277E 00
LITHIUM	2.91220E-01	8.01657E-01	1.55056E 00	2.28281E 00	2.82891E 00
BORON	7.21634E-01	1.67147E 00	2.85244E 00	4.56450E 00	6.07875E 00
CARBON	9.68182E-01	2.10636E 00	3.66843E 00	6.12776E 00	8.30612E 00
NITROGEN	1.22102E 00	2.55991E 00	4.62367E 00	7.96290E 00	1.09209E 01
OXYGEN	1.47367E 00	3.04916E 00	5.71245E 00	1.00550E 01	1.39017E 01
FLUORINE	1.72330E 00	3.58251E 00	6.92428E 00	1.23835E 01	1.72194E 01
NEON	1.96983E 00	4.16056E 00	8.24635E 00	1.49239E 01	2.08390E 01
ARGON	3.95925E 00	9.76499E 00	2.10951E 01	3.96089E 01	5.60106E 01

SEFF/SO H(0+1) EP = 12.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	8.72566E-04	8.12455E-03	4.96466E-02	2.70109E-01	8.47213E-01
HELIUM	6.62810E-03	6.14132E-02	3.48326E-01	1.15061E 00	1.63974E 00
LITHIUM	2.52522E-02	2.06902E-01	8.60016E-01	1.72568E 00	2.44115E 00
BORON	1.35007E-01	7.17668E-01	1.61789E 00	3.03311E 00	5.00197E 00
CARBON	2.32646E-01	9.62401E-01	1.91315E 00	3.92476E 00	6.75710E 00
NITROGEN	3.52488E-01	1.14956E 00	2.24234E 00	4.97148E 00	8.81747E 00
OXYGEN	4.83478E-01	1.28712E 00	2.61576E 00	6.16476E 00	1.11663E 01
FLUORINE	6.13446E-01	1.39723E 00	3.03126E 00	7.49290E 00	1.37806E 01
NEON	7.32620E-01	1.49805E 00	3.48496E 00	8.94186E 00	1.66328E 01
ARGON	1.14891E 00	2.39153E 00	7.88933E 00	2.30216E 01	4.43474E 01

SEFF/SO H(0+1+2) EP = 12.0 (MEV/AMU) ETA = 0.250 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.54522E-05	9.53886E-04	1.18285E-02	4.69062E-02	5.47723E-01
HELIUM	2.66869E-04	7.70607E-03	1.11449E-01	8.16212E-01	1.48700E 00
LITHIUM	1.69468E-03	4.37302E-02	4.51124E-01	1.42744E 00	2.10499E 00
BORON	2.34275E-02	3.40431E-01	1.18425E 00	2.20108E 00	4.06848E 00
CARBON	5.69317E-02	5.74369E-01	1.34877E 00	2.81435E 00	5.41420E 00
NITROGEN	1.33942E-01	7.85534E-01	1.48494E 00	3.46190E 00	6.99398E 00
OXYGEN	1.95972E-01	9.33922E-01	1.63154E 00	4.20356E 00	8.79494E 00
FLUORINE	2.98736E-01	1.02115E 00	1.79399E 00	5.02737E 00	1.07994E 01
NEON	4.13326E-01	1.06469E 00	1.97118E 00	5.92612E 00	1.29865E 01
ARGON	9.64075E-01	1.23702E 00	3.69294E 00	1.46594E 01	3.42363E 01

SEFF/SO H(0) EP = 12.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.49032E-02	1.11615E-01	2.97416E-01	7.16755E-01	1.12027E 00
HELIUM	1.36070E-01	4.06189E-01	9.18267E-01	1.54100E 00	1.77436E 00
LITHIUM	2.94290E-01	8.03403E-01	1.52207E 00	2.21744E 00	2.74237E 00
BORON	7.09281E-01	1.58650E 00	2.68495E 00	4.38240E 00	5.83644E 00
CARBON	9.34657E-01	1.96322E 00	3.42595E 00	5.86581E 00	7.96041E 00
NITROGEN	1.16958E 00	2.35295E 00	4.29624E 00	7.60770E 00	1.04514E 01
OXYGEN	1.39330E 00	2.77408E 00	5.26407E 00	9.59142E 00	1.32912E 01
FLUORINE	1.60949E 00	3.23430E 00	6.38570E 00	1.16020E 01	1.64520E 01
NEON	1.81947E 00	3.73987E 00	7.56757E 00	1.42126E 01	1.99002E 01
ARGON	3.68714E 00	8.56126E 00	1.92664E 01	3.76366E 01	5.34074E 01

SEFF/SO H(0+1) EP = 12.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	7.05947E-04	7.07562E-03	4.85102E-02	2.01857E-01	8.86738E-01
HELIUM	6.57773E-03	6.20560E-02	3.39987E-01	1.16218E 00	1.61427E 00
LITHIUM	2.70080E-02	2.16626E-01	8.58434E-01	1.67108E 00	2.38784E 00
BORON	1.48909E-01	7.25840E-01	1.48351E 00	2.87323E 00	4.84006E 00
CARBON	2.52281E-01	9.43525E-01	1.71050E 00	3.69474E 00	6.52618E 00
NITROGEN	3.82608E-01	1.09347E 00	1.96591E 00	4.55917E 00	8.50119E 00
OXYGEN	5.17401E-01	1.19288E 00	2.25616E 00	5.75861E 00	1.07550E 01
FLUORINE	6.46207E-01	1.26744E 00	2.57922E 00	6.98231E 00	1.32636E 01
NEON	7.79195E-01	1.32450E 00	2.93166E 00	8.31732E 00	1.60003E 01
ARGON	1.09347E 00	1.93288E 00	6.35615E 00	2.32849E 01	4.25937E 01

SEFF/SO H(0+1+2) EP = 12.0 (MEV/AMU) ETA = 0.500 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	1.74478E-05	5.27213E-04	8.52021E-03	1.01580E-01	6.02181E-01
HELIUM	2.34258E-04	7.13581E-03	1.13082E-01	8.49828E-01	1.46764E 00
LITHIUM	1.94996E-03	4.89452E-02	4.72241E-01	1.37520E 00	2.03648E 00
BORON	2.94403E-02	2.81630E-01	1.10691E 00	2.06521E 00	3.93378E 00
CARBON	7.00243E-02	6.20826E-01	1.21383E 00	2.56114E 00	5.22043E 00
NITROGEN	1.36019E-01	8.17247E-01	1.29622E 00	3.14985E 00	6.73086E 00
OXYGEN	2.32888E-01	9.40955E-01	1.38557E 00	3.75678E 00	8.45276E 00
FLUORINE	3.47606E-01	1.00411E 00	1.48673E 00	4.46570E 00	1.03693E 01
NEON	4.70587E-01	1.03214E 00	1.59290E 00	5.23911E 00	1.24601E 01
ARGON	9.75903E-01	1.11480E 00	2.64402E 00	1.27544E 01	3.77773E 01

SEFF/SO H(0) EP = 12.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	3.53759E-02	1.13943E-01	3.05494E-01	7.36024E-01	1.12109E 00
HELIUM	1.36867E-01	4.07121E-01	9.10887E-01	1.47062E 00	1.71663E 00
LITHIUM	2.91817E-01	7.79728E-01	1.44300E 00	2.10979E 00	2.64243E 00
BORON	6.91839E-01	1.47730E 00	2.44373E 00	4.08097E 00	5.47761E 00
CARBON	9.03605E-01	1.76795E 00	3.07803E 00	5.43217E 00	7.44134E 00
NITROGEN	1.10795E 00	2.10503E 00	3.82375E 00	7.01837E 00	9.74659E 00
OXYGEN	1.30031E 00	2.44730E 00	4.66958E 00	8.82617E 00	1.23744E 01
FLUORINE	1.48076E 00	2.82201E 00	5.61324E 00	1.08393E 01	1.52996E 01
NEON	1.65207E 00	3.22914E 00	6.64277E 00	1.30351E 01	1.84908E 01
ARGON	2.97492E 00	7.18135E 00	1.66466E 01	3.63735E 01	4.94993E 01

SEFF/SO H(0+1) EP = 12.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	6.09069E-04	6.31230E-03	4.72736E-02	3.09475E-01	9.18851E-01
HELIUM	6.65542E-03	6.44842E-02	3.69804E-01	1.14656E 00	1.56861E 00
LITHIUM	2.96125E-02	2.29458E-01	8.48550E-01	1.57499E 00	2.27969E 00
BORON	1.65038E-01	7.37357E-01	1.33566E 00	2.60191E 00	4.55363E 00
CARBON	2.80413E-01	9.29419E-01	1.49397E 00	3.30445E 00	6.11212E 00
NITROGEN	4.14866E-01	1.04703E 00	1.66857E 00	4.12917E 00	7.94167E 00
OXYGEN	5.52673E-01	1.11548E 00	1.86947E 00	5.06937E 00	1.00274E 01
FLUORINE	6.79448E-01	1.16215E 00	2.09306E 00	6.11582E 00	1.23488E 01
NEON	7.85933E-01	1.20276E 00	2.33698E 00	7.25747E 00	1.48814E 01
ARGON	1.05336E 00	1.56493E 00	4.70726E 00	1.83571E 01	3.94912E 01

SEFF/SO H(0+1+2) EP = 12.0 (MEV/AMU) ETA = 1.000 (KEV)

L/W (CM/KEV)

	1.000E-06	3.333E-06	1.000E-05	3.333E-05	1.000E-04
HYDROGEN	9.20732E-06	3.06854E-04	6.17214E-03	1.03780E-01	6.48631E-01
HELIUM	2.47917E-04	7.56824E-03	1.19702E-01	8.60936E-01	1.42776E 00
LITHIUM	2.36412E-03	5.70412E-02	4.94440E-01	1.28500E 00	1.96449E 00
BORON	3.56713E-02	4.27064E-01	1.04938E 00	1.81644E 00	3.67815E 00
CARBON	8.48312E-02	6.68625E-01	1.10785E 00	2.17450E 00	4.85269E 00
NITROGEN	1.64238E-01	8.49202E-01	1.14945E 00	2.59403E 00	6.23150E 00
OXYGEN	2.71600E-01	9.50127E-01	1.19449E 00	3.07402E 00	7.80337E 00
FLUORINE	3.96873E-01	9.94750E-01	1.24451E 00	3.60737E 00	9.55289E 00
NEON	5.25969E-01	1.01197E 00	1.29907E 00	4.18922E 00	1.14616E 01
ARGON	9.84193E-01	1.04719E 00	1.82929E 00	4.84326E 00	3.00084E 01