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Photon Cross Sections
from 0.001 to 100 MeV
for Elements 1 through 100

UNITED STATES
ATOMIC ENERGY COMMISSION
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University of California
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Photon Cross Sections
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by

Ellery Storm
Harvey I. Israel

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PHOTON CROSS SECTIONS FROM 0.001 TO 100 MeV
FOR ELEMENTS 1 THROUGH 100

By

Ellery Storm
Harvey I. Israel

ABSTRACT

The report contains tables of photon cross sections in the range 0.001 to 100 MeV for $Z = 1$ to 100. Supplementary tables of mass attenuation coefficients for air, water, concrete, and sodium iodide; x-ray atomic energy levels; line energies; average energies; relative intensities; and fluorescence yields are also presented.

DESCRIPTION OF CROSS SECTION TABLES

In 1952 White¹ tabulated in NBS Report 1003 photon cross sections based primarily on theoretical calculations. Her tables, which covered an energy range of 0.01 to 100 MeV and included 19 elements, were published in the Handbook of Radiology² in 1955. Grodstein (formerly White) revised the tables in 1957 and presented them in NBS Circular 503.³ She included the following cross sections in her tables: photoelectric, pair production in the field of the atomic nucleus and of the atomic electrons, incoherent plus coherent scatter of bound electrons, and the total cross section with and without coherent scatter.

In 1958 we⁴ interpolated Grodstein's values to obtain photon cross sections for all elements 1 to 100 and published the tables in LA-2237. We did not include the

incoherent plus coherent sum nor the total minus coherent cross sections, but instead gave the individual coherent and incoherent cross sections, the total pair production cross section, and a sum of the photoelectric, the incoherent absorption, and the total pair production cross sections intended to represent the true absorption or energy transferred to the medium.

McGinnies⁵ in 1959 published a supplement to NBS Circular 583 showing that the recent experimental photoelectric cross sections differed from the calculations, particularly below the K edge, by as much as 100%. Allison⁶ and Berger⁷ in 1961 pointed out that in the photoelectric and pair production interactions, as in the incoherent interaction, not all the initial photon energy was transmitted to the medium by particles (electrons, positrons), but

that a portion of it was carried off by photons (fluorescence and bremsstrahlung radiation) beyond the immediate neighborhood of interest. Allison and Berger calculated the average fraction of the energy transferred to the medium in the photoelectric, incoherent, and pair production interactions for several elements. Davisson⁸ in 1965, using experimental photoelectric cross sections and the calculated values of Hultberg et al.⁹ and Pratt et al.¹⁰ published a revision of the Grodstein tables in Alpha-, Beta-, and Gamma-Ray Spectroscopy (edited by K. Siegbahn). In 1966 Hubbell and Berger,¹¹ in NBS Circular 8681, revised some of the photoelectric values of Davisson on the basis of more recent calculations by Hultberg et al.,¹² Pratt and Schmickley,¹³ and Rakavy and Ron.¹⁴ In addition Hubbell and Berger included double-Compton scattering and radiative corrections to incoherent scatter cross sections, added radiative and screening corrections to nuclear-field pair production, and revised the electron-field pair production cross sections using calculations of Mork.¹⁵ Grodstein had used the Thomas-Fermi model to calculate the coherent and incoherent scatter cross sections, but, recently, coherent form factors¹⁶ and incoherent scattering functions¹⁷ derived from Hartree-Fock wave functions have been published.

In view of the changes in the photoelectric cross sections, the new information on energy transfer cross sections for the photoelectric and pair production interactions, and the availability of the more accurate Hartree-Fock coherent form factors and incoherent scattering functions, we decided that an updated version of the data described in LA-2237 would be worthwhile. The work was begun in June 1966 and completed

in June 1967.

A number of major changes have been made. The energy range, which was 0.01 to 100 MeV, has been broadened to 0.001 to 100 MeV. The component and total cross sections have been increased from 9 to 17. For a given element, the 17 cross sections are given in barns/atom and in cm²/g. In LA-2237 the cross sections were obtained by interpolation of the Grodstein tables, but in the present tables many of the cross sections were calculated directly from theoretical and empirical equations. In addition to the 200 tables of cross sections, there are 8 tables in the Appendix giving: (I) the mass attenuation coefficients in cm²/g for air, water, concrete, and sodium iodide; (II) the values of the constants used to calculate the photoelectric cross sections at the energy levels or absorption edges; (III) the K, L, M, N, and O atomic energy levels; (IV) the K x-ray energies obtained by subtracting the appropriate energy levels; (V) the L x-ray energies; (VI) the weighted average L and K x-ray energies; (VII) the relative intensities of the L and K x rays; and (VIII) the L and K fluorescence yields.

Because notation and terminology have not yet been standardized, we have adopted the following conventions in this report. When the probability of a photon interaction is expressed in units of barns/atom, it is called a cross section and denoted by σ . In units of cm⁻¹, it is called a linear attenuation coefficient and denoted by μ . In units of cm²/g, it is called a mass attenuation coefficient and denoted by μ/ρ . The different kinds of interactions are denoted by subscripts: " τ " for photoelectric, "inc" for incoherent scatter, "coh" for coherent scatter, and " κ " for pair

production.

After a photoelectric, incoherent, or pair production interaction, photons (scattered, fluorescence, bremsstrahlung, or annihilation) may appear together with particles (electrons or positrons). The probability that photons appear after an interaction is called the "scatter" cross section and is denoted by the subscript "s." The probability that particles appear after an interaction is called the "absorption" cross section and is denoted by the subscript "a." The subscript "t" is used to denote total cross sections for particular interactions, and the subscript "tot" denotes a sum of individual cross sections.

Although the total, scatter, and absorption incoherent cross sections for a free electron are of less interest than those for a bound electron, both are included in the tables for purposes of comparison. Superscripts have been used to distinguish the free from the bound electron cross sections. Since the free electron cross sections are calculated from the Klein-Nishina equations, they are denoted by "KN." The bound electron incoherent cross sections are denoted by the superscript "BD."

Listed below are the photon interactions and the notation used in the cross section (barns/atom) tables of this report; the notation in LA-2237 is also given for the convenience of those who have used that report. The same subscripts and superscripts have been used in the mass attenuation coefficient (μ/ρ) tables. The cross sections are given to three significant figures in both the barns/atom and cm^2/g tables.

Photon Interaction	Present Notation	LA-2237 Notation
INCOHERENT FREE ELECTRON		
Total	$\sigma_{\text{inc},t}^{\text{KN}}$	
Absorption	$\sigma_{\text{inc},a}^{\text{KN}}$	σ_a
Scatter	$\sigma_{\text{inc},s}^{\text{KN}}$	σ_I
INCOHERENT BOUND ELECTRON		
Total	$\sigma_{\text{inc},t}^{\text{BD}}$	
Absorption	$\sigma_{\text{inc},a}^{\text{BD}}$	
Scatter	$\sigma_{\text{inc},s}^{\text{BD}}$	
COHERENT SCATTER	σ_{coh}	σ_c
PAIR PRODUCTION		
Nucleus	σ_{xn}	K_n
Electron	σ_{xe}	K_e
Total	$\sigma_{\text{x},t}$	K_T
Absorption	$\sigma_{\text{x},a}$	
PHOTOELECTRIC		
Total	$\sigma_{\text{r},t}$	τ
Absorption	$\sigma_{\text{r},a}$	
TOTALS		
Narrow beam	$\sigma_{\text{tot},t}$	$\tau + \sigma_T + K_T$ ($\sigma_T = \sigma_a + \sigma_I + \sigma_c$)
Narrow beam minus coherent	$\sigma_{\text{tot},t} - \text{coh}$	
Absorption	$\sigma_{\text{tot},a}$	$\tau + \sigma_a + K_T$
Energy Absorption	$\sigma_{\text{tot}, \text{en}}$	

In the following sections, the method of obtaining each cross section is described and an estimate of the accuracy is given.

I. INCOHERENT (COMPTON) SCATTER CROSS SECTIONS

A. Free Electron

The total incoherent cross section for free electrons, $\sigma_{inc,t}^{KN}$, was calculated from the Klein-Nishina equation

$$\sigma_{inc,t}^{KN} = 2\pi r_0^2 \left\{ \frac{1+\alpha}{\alpha^2} \left[\frac{2(1+\alpha)}{1+2\alpha} - \frac{1}{\alpha} \ln(1+2\alpha) \right] + \frac{1}{2\alpha} \ln(1+2\alpha) \right\}, \quad (1)$$

where $\alpha = \frac{h\nu}{mc^2}$ is the initial photon energy in electron rest mass units. The values given in the tables include the Mork¹⁵ combined radiative and double-Compton corrections.

The incoherent absorption cross section for a free electron, $\sigma_{inc,a}^{KN}$, was calculated from the Klein-Nishina equation

$$\sigma_{inc,a}^{KN} = 2\pi r_0^2 \left[\frac{2(1+\alpha)}{\alpha^2(1+2\alpha)} - \frac{1+3\alpha}{(1+2\alpha)^2} - \frac{(1+\alpha)(2\alpha^2-2\alpha-1)}{\alpha^2(1+2\alpha)^2} - \frac{4\alpha^2}{3(1+2\alpha)^3} - \left(\frac{1+\alpha}{\alpha^3} - \frac{1}{2\alpha} + \frac{1}{2\alpha^3} \right) \ln(1+2\alpha) \right]. \quad (2)$$

The incoherent scatter cross section for a free electron, $\sigma_{inc,s}^{KN}$, was calculated from the Klein-Nishina equation

$$\sigma_{inc,s}^{KN} = \pi r_0^2 \left[\frac{\ln(1+2\alpha)}{\alpha^3} + \frac{2(1+\alpha)(2\alpha^2-2\alpha-1)}{\alpha^2(1+2\alpha)^2} + \frac{8\alpha^2}{3(1+2\alpha)^3} \right]. \quad (3)$$

The cross sections are believed to be accurate within 1%.

B. Bound Electron

The total incoherent cross section for bound electrons, $\sigma_{inc,t}^{BD}$, was calculated from the equation

$$\begin{aligned} \frac{d\sigma_{inc,t}^{BD}}{d\Omega} &= \frac{1}{2} r_0^2 Z \frac{1}{[(1+\alpha(1-\cos\theta))^2]} \left[1 + \cos^2\theta + \frac{\alpha^2(1-\cos\theta)^2}{1+\alpha(1-\cos\theta)} \right] S(q,Z) \\ &= \frac{d\sigma_{inc,t}^{KN}}{d\Omega} S(q,Z) \end{aligned} \quad (4)$$

by numerical integration over scattering angle θ . The differential form of the Klein-Nishina equation $\frac{d\sigma_{inc,t}^{KN}}{d\Omega}$, gives the probability that the photon is deflected at a given angle and transfers some

momentum to the electron as though it were free. $S(q,Z)$ is the incoherent scattering function or probability that an atom will be raised to an excited or ionized state when the photon imparts a recoil momentum $\vec{q}$ to any of the atomic electrons.

The incoherent scattering functions used by Grodstein were obtained from the

Thomas-Fermi model. Recently Cromer and Mann¹⁷ calculated incoherent scattering functions for all 39 spherically symmetric free atoms using Hartree-Fock wave functions with exchange terms. Cromer has also calculated the matrix elements for the aspherical atoms B, C, O, F, Al, Si, Fe, and Ge from

which scattering functions were calculated using the equations of Milberg and Brailsford,¹⁸ and Freeman.¹⁹⁻²¹ The incoherent scattering functions for the other aspherical atoms were obtained by interpolation. Since the incoherent scattering functions are not a smooth function of Z because of the irregularities in electron shell structure, the interpolated values may be in error by as much as 5%. The incoherent scattering functions of Cromer and Mann and the values interpolated from their data were used in Eq. 4 to calculate the total incoherent cross section for a bound electron.

The incoherent absorption cross section for a bound electron, $\sigma_{\text{inc},a}^{\text{BD}}$, was calculated from the product $f_c \sigma_{\text{inc},t}^{\text{BD}}$, where f_c is the average fraction of photon energy transferred to the medium as a result of Compton scatter. For energies less than 0.4 MeV, f_c was obtained from the ratio $\sigma_{\text{inc},a}^{\text{KN}} / \sigma_{\text{inc},t}^{\text{KN}}$. Berger gives values of f_c including bremsstrahlung losses in Table VII of her report⁷ for 15 elements over the range 0.4 to 10 MeV. Allison gives values of $\sigma_{\text{inc},a}^{\text{BD}}$ both with and without bremsstrahlung losses, in Table 3 of his report,⁶ from which f_c can be obtained for six elements over the range 10 to 100 MeV. Berger's values of f_c from 0.4 to 10 MeV and Allison's values from 10 to 100 MeV were plotted both as a function of energy for a constant Z and as a function of Z for a constant energy. Smooth curves which gave the same value of f_c for a given element and energy on both plots were drawn through the points. The values of f_c used to calculate the incoherent absorption cross section for a bound electron from 0.4 to 100 MeV were interpolated from these curves. Since data

for only a few elements were available, particularly above 10 MeV, the interpolated values may contain errors as large as 10%.

The incoherent scatter cross section for a bound electron, $\sigma_{\text{inc},s}^{\text{BD}}$, was obtained by subtracting $\sigma_{\text{inc},a}^{\text{BD}}$ from $\sigma_{\text{inc},t}^{\text{BD}}$.

II. COHERENT (RAYLEIGH) SCATTER CROSS SECTIONS

The coherent scatter cross section, σ_{coh} , was calculated from the equation

$$\frac{d\sigma_{\text{coh}}}{d\Omega} = \frac{1}{2} r_0^2 (1 + \cos^2 \theta) [F(q, Z)]^2, \quad (5)$$

by numerical integration over angle. The term $\frac{1}{2} r_0^2 (1 + \cos^2 \theta)$ is the cross section for Thomson scattering from a single electron. F is a form factor which represents the probability that the recoil momentum, $\vec{q}$, is transferred to the Z electrons of an atom without any energy absorption.

Grodstein in her calculations used form factors obtained from the Thomas-Fermi model with modifications for low Z materials based on the values of Nelms and Oppenheim.²² Hanson et al.¹⁶ have computed form factors for all elements 1 to 100 using Hartree-Fock-Slater wave functions. The coherent scattering cross section was calculated using the form factors of Hanson. The coherent cross sections are believed to be accurate within 3%.

III. PAIR PRODUCTION CROSS SECTIONS

Hubbell and Berger in Table 18 of NBS Report 8681¹¹ give the pair production cross sections in the field of an atomic nucleus, σ_{pn} , for 11 elements over a range of 1.5 to 100 MeV. Their cross sections were calculated using the Born approximation with

the Bethe-Heitler high energy approximation, and include radiative and screening corrections. The cross sections for other elements were obtained by plotting Hubbell and Berger's values of $\sigma_{\kappa n}$ both as a function of energy for a constant Z and as a function of Z for a constant energy. Smooth curves which gave the same value of $\sigma_{\kappa n}$ on both log-log plots were drawn through the given points. Values of $\sigma_{\kappa n}$ for each element were then interpolated from the curves. The nuclear-field pair production cross sections are probably accurate within 5%.

Hubbell and Berger in Table 20 of NBS Report 8681 give values which permit one to obtain the pair production cross section in the field of the atomic electrons, $\sigma_{\kappa e}$, for 11 elements over a range of 3 to 100 MeV. Their cross sections were calculated using the combined Votruba-Borsellino-Ghizzetti theory, and include exchange, γ -e interaction, screening, and radiative corrections. The cross sections for other elements were obtained by plotting Hubbell and Berger's values of $\sigma_{\kappa e}$ both as a function of energy for a constant Z and as a function of Z for a constant energy. Smooth curves giving the same value of $\sigma_{\kappa e}$ on both log-log plots were drawn through the points. Cross sections for each element and energy were interpolated from the curves. The electron-field pair production cross sections are probably accurate within 10%.

The total pair production cross section, $\sigma_{\kappa, t}$, is the sum of the nuclear-field, $\sigma_{\kappa n}$, and the electron-field, $\sigma_{\kappa e}$, pair production cross sections.

The pair production absorption cross section, $\sigma_{\kappa, a}$, is obtained from the product $f_{\kappa} \sigma_{\kappa, t}$, where f_{κ} is the average fraction of photon energy transferred to the medium as a result of a pair production event. Values

of f_{κ} which include bremsstrahlung and positron annihilation losses are given by Berger in Tables IX and X of her report⁷ for 15 elements over a range of 1.5 to 10 MeV. Allison in Table 4 of his report⁶ gives values of $\sigma_{\kappa, t}$ and $\sigma_{\kappa, a}$, which do not include positron annihilation corrections, for seven elements over the range 15 to 100 MeV. Berger's and Allison's values were plotted both as a function of energy for constant Z and as a function of Z for constant energy. Smooth curves giving the same value of f_{κ} on both log-log plots were put through the points, and values for other elements were interpolated. Since data for only a few elements were available and positron annihilation losses were not included above 10 MeV, the pair production absorption cross sections may contain errors as large as 20%.

IV. PHOTOELECTRIC CROSS SECTIONS

A. Total

The total photoelectric cross section $\sigma_{\tau, t}$, was calculated by Grodstein³ using theoretical equations. McGinnies⁵ compared the theoretical to experimental values and found large differences, particularly below the K edges. Recent revisions of the Grodstein tables by Davisson⁸ and Hubbell and Berger¹¹ have been based primarily on experimental measurements and the theoretical calculations of Pratt et al.^{10,13} and Hultberg et al.^{9,12}

In the preparation of this report, we made an extensive and critical study of the experimental and calculated photoelectric cross sections. Although very few direct photoelectric cross-section measurements have been made, they can be derived from narrow beam, total cross-section measurements by subtracting the incoherent,

coherent, and pair production cross sections. From the bibliographies of Glocker,²³ Stainer,²⁴ and Toms²⁵ and the references given by Hubbell and Berger,¹¹ many of the narrow beam, total cross-section measurements made prior to 1966, such as those of Laubert,²⁶ Deslattes,²⁷ Hopkins,²⁸ and Wiedenbeck,²⁹ may be found. In addition, there have been recent measurements, calculations, and tabulations by Leroux,³⁰ Henke,³¹ Cooke and Stewardson,³² Petrassi,³³ Bearden,³⁴ Heinrich,³⁵ Barlett and Donahue,³⁶ McCrary et al.,³⁷ McMaster et al.,³⁸ and Carter et al.³⁹

All the measured and calculated photoelectric cross sections were plotted on log-log paper both as a function of energy for a constant Z and as a function of Z for a constant energy. It became apparent that many of the older values and some of the more recent ones should not be included. The selected photoelectric cross sections were replotted before smooth curves were drawn through the points. The curves were extrapolated to the K, L, M, and N absorption edges. A log-log plot of the photoelectric cross sections at the upper and lower K, $L_I - L_{III}$, $M_I - M_V$, and upper N_I edge as a function of Z revealed that a smooth curve could be put through the points for each upper and lower edge. Furthermore, the smooth curves could be described by an expression of the form

$$\sigma_{\tau}(\text{edge}) = k \left[\frac{Z}{\alpha(\text{edge})} \right]^n \text{ barns/atom}, \quad (6)$$

where $\sigma_{\tau}(\text{edge})$ is the total photoelectric cross section at an upper or lower K, L, M, or N edge; $\alpha(\text{edge})$ is the energy of the edge in electron rest mass units; and k and n are constants. The values of k and n used for each upper and lower edge are given

in Table II of the Appendix. The exponent, n , varies from 1.5 to 2.04, and the constant, k , is of the order of $\pi r_0^2/137 = 1.82 \times 10^{-3}$. The total photoelectric cross sections at the absorption edges given in the tables were calculated from Eq. (6) using the constants in Table II.* The energies of the K, L, M, and N edges used in these calculations are given in Table III of the Appendix. They were obtained by smoothing the edge energies given in the literature⁴⁰⁻⁴³ with particular attention given to the recent compilation of Bearden and Burr.⁴⁴

The selected narrow beam total cross sections were also plotted on log-log paper as a function of energy for a constant Z . The data indicated that between K, L, and M edges the selected cross sections could be connected by straight lines. To obtain the narrow beam total cross section at the edges, the photoelectric cross section at each edge calculated from Eq. (6) was added to the calculated coherent and incoherent edge cross sections. The narrow beam total cross sections at the edges were plotted on log-log paper as a function of energy and connected by straight lines. The narrow beam values between the edges were then read from the lines. The photoelectric cross sections between the K, L, and M, edges given in the tables were obtained by subtracting the calculated coherent and incoherent values from the narrow beam totals.

Above the K edge, log-log plots of the narrow beam total cross section as a function of energy for constant Z were not

*Hubbell and Berger on p. 28 of NBS Report 8681 point out that the high energy side of an absorption edge exhibits fine structure, and that the photoelectric cross section for light elements may oscillate by as much as a factor of five.

linear. However, when the photoelectric cross section was plotted as a function of Z for a constant energy, equations of the form

$$\sigma_{\tau}(\text{const } E) = k \left[\frac{Z}{\alpha} \right]^n \text{ barns/atom}, \quad (7)$$

could be used to calculate the photoelectric cross section over a limited range of atomic numbers and energies. Equations of this form were used as a guide in drawing the smooth curves through the selected experimental and calculated points. We required that the smooth curves give the same values of the photoelectric and narrow beam total cross sections when plotted both as a function of Z for constant energy and as a function of energy for constant Z .

As experimental techniques and theoretical calculations are improved, it would not be surprising to learn that the total photoelectric cross sections contain large errors. For example, the calculated and measured cross sections for hydrogen and helium differ by an order of magnitude.

The accuracy of the total photoelectric cross section varies with energy. The values of k and n in Eq. (6) are based on very few calculated and measured points from 0.001 MeV to the L_I edge, so errors as large as 100% in this region might be expected. Between the L_I and K edges, the total photoelectric cross sections are probably accurate within 25%. Between the K edge and 0.2 MeV, the total photoelectric cross sections are probably accurate within 10%. Between 0.2 and 100 MeV, errors may be as large as 20%.

B. Absorption

The photoelectric absorption cross section, $\sigma_{\tau,a}$, is obtained from the product $\sigma_{\tau,t} f_{\tau}$, where f_{τ} is the average

fraction of photon energy transferred to the medium as a result of photoelectric absorption. If bremsstrahlung is neglected, and according to Berger⁷ it reduces f_{τ} by at most 2%, then f_{τ} is given approximately by the equations

$$f_{\tau_K} = 1 - \frac{\sigma_{\tau_K} \omega_K \bar{E}_K}{\sigma_{\tau,t} h\nu}, \quad (8)$$

$h\nu$ above the K edge;

$$f_{\tau_L} = 1 - \frac{\sigma_{\tau_L} \omega_L \bar{E}_L}{\sigma_{\tau,t} h\nu}, \quad (9)$$

$h\nu$ between the K and L_{III} edges;

$$f_{\tau_{M,N}, \text{ etc.}} = 1, \quad (10)$$

$h\nu$ below the L_{III} edge.

The energy of the incident photon is represented by $h\nu$.

The fluorescence K -shell yield, ω_K , and the mean L -shell yield, ω_L are given in Table VIII of the Appendix. They were obtained by smoothing the data in the literature,^{43, 45, 46} with particular attention given to the recent compilation by Fink et al.⁴⁷

The weighted average energies of the K fluorescence photons, $\bar{E}_K$, and L fluorescence photons, $\bar{E}_L$, are given in Table VI of the Appendix. The $\bar{E}_{I,II,III}$ column gives the weighted average fluorescence energy for $h\nu$ between the K and L_I edges; the $\bar{E}_{II,III}$ column, the average energy for $h\nu$ between the L_I and L_{II} edges; and the $\bar{E}_{III}$ column, the average energy for $h\nu$ between the L_{II} and L_{III} edges. Table VI also

gives the weighted average energy of the K_α and K_β lines when considered separately.

The weighted average energies were calculating using the K x-ray energies given in Table IV, the L x-ray energies in Table V, and the K and L relative intensities given in Table VII of the Appendix. The K and L fluorescence x-ray energies were obtained by subtracting the appropriate edge energies given in Table III. With a few exceptions, the K and L x-ray energies given in Tables IV and V are within 10 eV of the energies given for the fluorescence lines in the recent compilation by Bearden.⁴⁸ The relative intensities given in Table VII were obtained from a smoothing of the data in the literature,^{42,43,49} and should be regarded merely as rough approximations. For example, the L line intensities are all assumed to be independent of Z, although measurements have indicated the expected Z-dependence for some of them.

The photoelectric cross section for the K shell, $\sigma_{\tau K}$, has been calculated for a few elements. 9,10,14,50,51 Davisson⁵² gives the ratio for $\sigma_{\tau,t}/\sigma_{\tau K}$ at the K edge for 21 elements. Hubbell and Berger¹¹ represent this ratio by the empirical equation

$$\sigma_{\tau,t} / \sigma_{\tau K} = 1 + 0.01481 \ln^2 Z - 0.000788 \ln^3 Z. \quad (11)$$

In the calculation of f_τ above the K edge from Eq. (8), we assumed that the ratio $\sigma_{\tau K} / \sigma_{\tau,t}$ is independent of energy and is given by the reciprocal of Eq. (11).

The photoelectric cross section for the L shell, $\sigma_{\tau L}$, has been calculated for only a few elements.^{14,50,51} In calculating f_τ between the K and L edges from Eq. (9), we assumed that the ratio $\sigma_{\tau L} / \sigma_{\tau,t}$ is independent of energy and is given by the following empirical equation:

$$\sigma_{\tau L} / \sigma_{\tau,t} = 1 - 2.5 \times 10^{-7} Z^3. \quad (12)$$

Since $\sigma_{\tau,a}$ is the product of f_τ and $\sigma_{\tau,t}$, the photoelectric absorption cross section has the same uncertainties as the total photoelectric cross section plus the additional uncertainty in f_τ , which may be as much as 10%.

V. TOTAL CROSS SECTIONS

There are at least five total cross sections in general use. In the terminology of Hubbell and Berger,¹¹ these totals are the narrow beam total cross section, the narrow beam total cross section without coherent scatter, the total absorption cross section, the total energy-transfer cross section, and the total energy-absorption cross section. All of these are given in the tables except the total energy-transfer cross section which allows for the escape of Compton-scattered, fluorescence, and annihilation photons, but not bremsstrahlung. The total energy-absorption cross section allows for the escape of all secondary photons, including bremsstrahlung. The total absorption cross section allows

only for the escape of the Compton-scattered photons. The totals do not include the cross sections for the photo-nuclear effect.

The narrow beam total cross section, $\sigma_{\text{tot},t}$, was obtained by summing the bound-electron total incoherent scatter, $\sigma_{\text{inc},t}^{\text{BD}}$; the coherent scatter, σ_{coh} ; the total pair production, $\sigma_{\kappa,t}$; and the total photoelectric, $\sigma_{\tau,t}$, cross sections. This total

cross section is the one measured in narrow beam geometry in which both source and detector are highly collimated.

The total cross section without coherent scatter, $\sigma_{\text{tot},t - \text{coh}}$, is often used in shielding calculations and in gamma-ray transport theory. It was obtained by subtracting the coherent scatter from the narrow beam total cross section.

The total absorption cross section, $\sigma_{\text{tot},a}$, is useful in reactor gamma-ray heating calculations. It was obtained by the customary method of adding the free-electron incoherent absorption, $\sigma_{\text{inc},a}^{\text{KN}}$, to the total pair production $\sigma_{\alpha,t}$, and total photoelectric, $\sigma_{\tau,t}$, cross sections. In certain calculations, the bound-electron incoherent cross section without bremsstrahlung is added to the total pair production and photoelectric cross sections. For this purpose, one can use $\sigma_{\text{inc},a}^{\text{BD}}$ below 0.4 MeV where bremsstrahlung is negligible, and $\sigma_{\text{inc},a}^{\text{KN}}$ above 0.4 MeV where the total incoherent scatter for a free and bound electron is the same within 3%.

The total energy-absorption cross section, $\sigma_{\text{tot},en}$, is useful in absorbed-dose and radiation-effect determinations. It was obtained by summing the bound electron incoherent absorption, $\sigma_{\text{inc},a}^{\text{BD}}$; the pair production absorption, $\sigma_{\alpha,a}$; and the photoelectric absorption, $\sigma_{\tau,a}$, cross sections.

The accuracy of the totals varies with energy and depends upon which interaction dominates. In the region where the photoelectric interaction dominates, there may be errors as large as 100% between 0.001 MeV and the L_I edge, 25% between the L_I and K edges, and 10% between the K edge and 0.2 MeV. In the region where the incoherent interaction dominates, 0.2 to 5 MeV, the totals appear to be accurate

within 5%. In the region where pair production dominates and where photonuclear cross sections are omitted, the errors may be as large as 15%. In addition, the total cross sections for hydrogen and helium below 0.01 MeV may contain order of magnitude errors.

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APPENDIX
Supplementary Tables

Table I

Mass Attenuation Coefficients for Air, Water, Concrete, and Sodium Iodide

AIR (cm ² /g)																	
E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _n	($\frac{\mu}{\rho}$) _{es}	($\frac{\mu}{\rho}$) _{xt}	($\frac{\mu}{\rho}$) _{xa}	($\frac{\mu}{\rho}$) _{xt}	($\frac{\mu}{\rho}$) _{xt,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
0.001	.199	.0105	.000388	.0000205	.199	.0105	1.35					3461.	3460.	3470.	3460.	3460.	3460.
0.0015	.199	.0213	.000580	.0000624	.198	.0213	1.25					1096.	1090.	1100.	1090.	1090.	1090.
0.002	.198	.0336	.000769	.000130	.198	.0335	1.12					482.	482.	483.	482.	482.	482.
0.003	.198	.0571	.00115	.000331	.197	.0567	.881					152.	152.	153.	152.	152.	152.
Ar K .003203	.198	.0613	.00115	.000377	.197	.0609	.847					127.	127.	128.	127.	127.	127.
												144.	143.	145.	144.	144.	143.
0.004	.197	.0775	.00152	.000596	.195	.0771	.688					74.9	74.2	75.7	75.0	74.9	74.2
0.005	.196	.0929	.00188	.000891	.194	.0921	.545					38.5	38.2	39.1	38.6	38.5	38.2
0.006	.195	.105	.00224	.00120	.193	.104	.440					22.2	22.0	22.7	22.3	22.2	22.0
0.008	.194	.121	.00293	.00183	.191	.119	.309					9.21	9.16	9.44	9.33	9.22	9.16
0.01	.192	.132	.00361	.00247	.189	.129	.233					4.59	4.56	4.95	4.72	4.59	4.57
0.015	.189	.147	.00524	.00407	.184	.143	.137					1.25	1.25	1.54	1.40	1.26	1.25
0.02	.186	.156	.00670	.00563	.179	.150	.0913					.497	.495	.744	.653	.503	.501
0.03	.180	.163	.00936	.00846	.170	.154	.0483					.131	.131	.342	.293	.140	.139
0.04	.174	.163	.0116	.0109	.162	.152	.0295					.0508	.0507	.243	.214	.0624	.0616
0.05	.169	.161	.0136	.0130	.155	.148	.0199					.0245	.0244	.209	.186	.0381	.0374
0.06	.164	.159	.0154	.0149	.149	.144	.0143					.0135	.0134	.186	.172	.0288	.0283
0.08	.156	.152	.0182	.0178	.137	.134	.00837					.00529	.00528	.166	.158	.0235	.0231
0.1	.148	.146	.0204	.0201	.128	.126	.00549					.00254	.00254	.154	.148	.0230	.0227
0.15	.134	.132	.0242	.0240	.109	.108	.00250					.000694	.000694	.133	.133	.0249	.0247
0.2	.122	.121	.0264	.0263	.0958	.0953	.00143					.000278	.000278	.123	.122	.0267	.0265
0.3	.106	.106	.0286	.0286	.0777	.0773	.000650					.0000762	.0000762	.107	.106	.0287	.0287
0.4	.0953	.0950	.0295	.0294	.0657	.0654	.000376					.0000098	.0000098	.0953	.095	.0295	.0294
0.5	.0868	.0868	.0294	.0298	.0571	.0571	.000247					.0000051	.0000051	.0870	.0868	.0296	.0298
0.6	.0803	.0803	.0295	.0295	.0507	.0507	.000174					.0000031	.0000031	.0805	.0803	.0295	.0295
0.8	.0705	.0705	.0289	.0287	.0417	.0419	.0000975					.0000015	.0000015	.0704	.0705	.0289	.0287
1.	.0636	.0636	.0279	.0278	.0356	.0357	.0000592					.0000009	.0000009	.0636	.0636	.0279	.0278
1.5	.0515	.0515	.0255	.0253	.0261	.0262	.0000014	.0000968	.0000968	.0000309		.0000004	.0000004	.0516	.0516	.0256	.0254
2.	.0438	.0438	.0234	.0232	.0207	.0207	.0000008	.000387	.000387	.000189		.0000003	.0000003	.0442	.0442	.0237	.0234
3.	.0346	.0346	.0200	.0197	.0146	.0148	.0000003	.0000121	.0000121	.0000740				.0357	.0357	.0211	.0205
4.	.0289	.0289	.0176	.0173	.0114	.0116		.0000498	.0000498	.000187				.0304	.0304	.0194	.0187
5.	.0250	.0250	.0157	.0154	.00928	.00959		.0000970	.0000970	.00253				.0275	.0275	.0182	.0174
6.	.0221	.0221	.0142	.0139	.00784	.00817		.00297	.00297	.00312				.0252	.0252	.0173	.0165
8.	.0180	.0180	.0120	.0117	.00607	.00634		.00388	.00388	.00414				.0222	.0222	.0162	.0153
10.	.0154	.0154	.0105	.0102	.00486	.00522		.00461	.00461	.00495				.0203	.0203	.0155	.0146
15.	.0114	.0114	.00808	.00763	.00338	.00377		.00601	.00601	.00656				.0179	.0179	.0146	.0136
20.	.00914	.00914	.00666	.00612	.00259	.00303		.00710	.00710	.00779				.0169	.0169	.0144	.0133
30.	.00666	.00666	.00498	.00440	.00168	.00225		.00860	.00860	.00954				.0162	.0162	.0145	.0129
40.	.00529	.00529	.00402	.00342	.00127	.00186		.00960	.00960	.0107				.0160	.0160	.0147	.0127
50.	.00442	.00442	.00340	.00280	.00102	.00162		.0104	.0104	.0116			.00978	.0160	.0160	.0150	.0126
60.	.00380	.00380	.00295	.00234	.000850	.00146		.0110	.0110	.0123			.0101	.0161	.0161	.0152	.0124
80.	.00300	.00300	.00236	.00176	.000640	.00124		.0119	.0119	.0134			.0104	.0164	.0164	.0157	.0122
100.	.00249	.00249	.00198	.00138	.000512	.00111		.0126	.0126	.0142			.0107	.0167	.0167	.0162	.0121

Composition by weight: 0.755 N, 0.232 O, 0.013 Ar.

Table I (cont'd)

Mass Attenuation Coefficients for Air, Water, Concrete, and Sodium Iodide

WATER
(cm²/g)

E (MeV)	$\left(\frac{\mu}{\rho}\right)_{\text{inc},t}^{\text{KN}}$	$\left(\frac{\mu}{\rho}\right)_{\text{inc},t}^{\text{BD}}$	$\left(\frac{\mu}{\rho}\right)_{\text{inc},a}^{\text{KN}}$	$\left(\frac{\mu}{\rho}\right)_{\text{inc},a}^{\text{BD}}$	$\left(\frac{\mu}{\rho}\right)_{\text{inc},s}^{\text{KN}}$	$\left(\frac{\mu}{\rho}\right)_{\text{inc},s}^{\text{BD}}$	$\left(\frac{\mu}{\rho}\right)_{\text{coh}}$	$\left(\frac{\mu}{\rho}\right)_{\text{en}}$	$\left(\frac{\mu}{\rho}\right)_{\text{e}}$	$\left(\frac{\mu}{\rho}\right)_{\text{t}}$	$\left(\frac{\mu}{\rho}\right)_{\text{a}}$	$\left(\frac{\mu}{\rho}\right)_{\text{r},t}$	$\left(\frac{\mu}{\rho}\right)_{\text{r},a}$	$\left(\frac{\mu}{\rho}\right)_{\text{tot},t}$	$\left(\frac{\mu}{\rho}\right)_{\text{tot},t-\text{coh}}$	$\left(\frac{\mu}{\rho}\right)_{\text{tot},a}$	$\left(\frac{\mu}{\rho}\right)_{\text{tot},\text{en}}$
.001	.222	.0135	.000431	.0000263	.221	.0135	1.37					4020.	4020.	4020.	4020.	4020.	4020.
.0015	.221	.0271	.000644	.0000789	.221	.0270	1.27					1280.	1280.	1280.	1280.	1280.	1280.
.002	.221	.0422	.000857	.000164	.220	.0420	1.16					566.	566.	567.	566.	566.	566.
.003	.220	.0705	.00128	.000408	.219	.0700	.925					179.	179.	180.	179.	179.	179.
.004	.219	.0942	.00169	.000723	.217	.0936	.732					77.0	77.0	77.8	77.1	77.0	77.0
.005	.218	.112	.00209	.00108	.216	.111	.581					39.5	39.5	40.2	39.6	39.5	39.5
.006	.217	.126	.00249	.00144	.215	.125	.468					22.8	22.8	23.4	22.9	22.8	22.8
.008	.216	.144	.00327	.00219	.212	.142	.326					9.54	9.54	10.0	9.68	9.54	9.54
.01	.214	.155	.00402	.00291	.210	.153	.242					4.72	4.72	5.12	4.87	4.72	4.72
.015	.210	.170	.00582	.00470	.205	.165	.140					1.28	1.28	1.59	1.45	1.29	1.29
.02	.207	.178	.00745	.00642	.199	.171	.0924					.499	.499	.769	.676	.506	.505
.03	.200	.183	.0104	.00952	.189	.174	.0489					.131	.131	.363	.314	.141	.140
.04	.194	.183	.0129	.0122	.181	.171	.0300					.0499	.0499	.263	.233	.0628	.0620
.05	.188	.180	.0151	.0146	.173	.166	.0202					.0238	.0238	.224	.204	.0389	.0383
.06	.182	.177	.0171	.0166	.166	.160	.0145					.0131	.0131	.204	.190	.0302	.0296
.08	.173	.170	.0203	.0199	.153	.150	.00847					.00502	.00502	.183	.175	.0253	.0249
.1	.165	.163	.0228	.0224	.142	.140	.00556					.00240	.00240	.171	.165	.0252	.0248
.15	.148	.147	.0269	.0268	.121	.121	.00254					.000649	.000649	.151	.148	.0276	.0274
.2	.136	.135	.0294	.0292	.107	.106	.00145					.000256	.000256	.137	.135	.0297	.0295
.3	.118	.118	.0319	.0318	.0865	.0862	.000659					.0000699	.0000699	.119	.118	.0319	.0319
.4	.106	.106	.0328	.0328	.0732	.0732	.000382							.106	.106	.0328	.0328
.5	.0966	.0966	.0330	.0331	.0636	.0636	.000251							.0969	.0966	.0330	.0331
.6	.0895	.0895	.0329	.0328	.0565	.0565	.000178							.0896	.0895	.0329	.0328
.8	.0786	.0786	.0321	.0319	.0464	.0468	.000101							.0787	.0786	.0321	.0319
1	.0707	.0707	.0311	.0310	.0395	.0397	.0000622							.0707	.0707	.0311	.0310
1.5	.0573	.0573	.0284	.0282	.0298	.0291	.0000966	.0000966	.0000308					.0574	.0574	.0285	.0283
2.	.0489	.0489	.0260	.0259	.0230	.0231	.000384	.000384	.000188					.0493	.0493	.0264	.0260
3.	.0385	.0385	.0222	.0220	.0163	.0165	.00111	.0000135	.000741					.0396	.0396	.0233	.0227
4.	.0322	.0322	.0195	.0193	.0127	.0129	.00183	.0000551	.00141					.0341	.0341	.0214	.0207
5.	.0278	.0278	.0174	.0172	.0103	.0106	.00242	.000108	.00253	.00202				.0303	.0303	.0200	.0192
6.	.0246	.0246	.0158	.0155	.00874	.00905	.00297	.000164	.00313	.00261				.0277	.0277	.0189	.0181
8.	.0201	.0201	.0134	.0130	.00669	.00703	.00387	.000282	.00416	.00364				.0242	.0242	.0176	.0167
10.	.0171	.0171	.0117	.0113	.00543	.00576	.00459	.000391	.00497	.00445				.0221	.0221	.0167	.0158
15.	.0127	.0127	.00899	.00855	.00367	.00412	.00601	.000607	.00660	.00604				.0193	.0193	.0156	.0146
20.	.0102	.0102	.00740	.00689	.00278	.00329	.00711	.000782	.00791	.00718				.0181	.0181	.0153	.0141
30.	.00740	.00740	.00552	.00497	.00187	.00243	.00853	.00104	.00958	.00851				.0170	.0170	.0151	.0135
40.	.00590	.00590	.00448	.00390	.00141	.00199	.00957	.00123	.0108	.00931				.0167	.0167	.0153	.0132
50.	.00490	.00490	.00378	.00318	.00113	.00172	.0104	.00138	.0117	.00983				.0166	.0166	.0155	.0130
60.	.00422	.00422	.00328	.00268	.000946	.00154	.0109	.00150	.0124	.0101				.0166	.0166	.0157	.0128
80.	.00334	.00334	.00262	.00203	.000711	.00131	.0118	.00168	.0135	.0105				.0168	.0168	.0161	.0125
100.	.00277	.00277	.00220	.00161	.000573	.00116	.0125	.00183	.0144	.0107				.0171	.0171	.0166	.0123

Table I (cont'd)

Mass Attenuation Coefficients for Air, Water, Concrete, and Sodium Iodide

CONCRETE
(cm²/g)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{xc}	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _{r,t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.200	.0112	.000369	.0000219	.199	.0112	2.11					3550.	3550.	3550.	3550.	3550.	3550.
Na K .001073	.199	.0125	.000414	.0000259	.199	.0125	2.08					2950.	2950.	2950.	2950.	2950.	2950.
Mg K .001305	.199	.0173	.000565	.0000436	.199	.0172	2.00					3090.	3090.	3090.	3090.	3090.	3090.
.0015	.199	.0211	.000581	.0000614	.199	.0210	1.94					1740.	1740.	1740.	1740.	1740.	1740.
Al K .001560	.199	.0223	.000663	.0000676	.199	.0222	1.92					1760.	1760.	1760.	1760.	1760.	1760.
.001839	.199	.0280	.000769	.000100	.198	.0278	1.81					1190.	1190.	1190.	1190.	1190.	1190.
.002	.199	.0312	.000772	.000121	.198	.0311	1.76					1060.	1060.	1060.	1060.	1060.	1060.
S K .002472	.198	.0404	.000950	.000191	.197	.0403	1.61					1270.	1270.	1270.	1270.	1270.	1270.
.003	.198	.0501	.00115	.000290	.197	.0497	1.45					796.	796.	796.	796.	796.	796.
I K .003607	.198	.0612	.00137	.000415	.196	.0608	1.29					1940.	1940.	1940.	1940.	1940.	1940.
.004	.197	.0663	.00152	.000509	.196	.0659	1.19					1520.	1520.	1520.	1520.	1520.	1520.
Ca K .004037	.197	.0671	.00153	.000521	.196	.0667	1.18					844.	844.	844.	844.	844.	844.
.005	.196	.0799	.00188	.000765	.195	.0792	.995					672.	672.	672.	672.	672.	672.
.006	.196	.0908	.00224	.00104	.194	.0896	.840					491.	491.	491.	491.	491.	491.
Fe K .007112	.195	.0997	.00263	.00137	.192	.0983	.708					289.	289.	289.	289.	289.	289.
.008	.194	.108	.00294	.00163	.191	.106	.624					312.	312.	312.	312.	312.	312.
.01	.193	.119	.00362	.00224	.189	.117	.481					234.	234.	234.	234.	234.	234.
.015	.189	.137	.00523	.00380	.184	.133	.284					225.	225.	225.	225.	225.	225.
.02	.186	.147	.00671	.00531	.180	.142	.187					310.	310.	310.	310.	310.	310.
.03	.180	.156	.00937	.00811	.171	.148	.100					171.	171.	171.	171.	171.	171.
.04	.174	.158	.0116	.0109	.163	.147	.0626					164.	164.	164.	164.	164.	164.
.05	.169	.157	.0136	.0127	.156	.145	.0428					103.	103.	103.	103.	103.	103.
.06	.164	.155	.0154	.0146	.149	.141	.0310					.0418	.0415	.210	.192	.0600	.0591
.08	.156	.150	.0183	.0176	.138	.133	.0184					.0208	.0207	.178	.166	.0413	.0407
.1	.148	.145	.0205	.0200	.128	.125	.0121					.00583	.00581	.143	.138	.0301	.0294
.15	.134	.132	.0243	.0239	.109	.108	.00557					.00240	.00239	.127	.124	.0289	.0286
.2	.122	.121	.0265	.0262	.0960	.0950	.00320					.000690	.000689	.108	.107	.0294	.0293
.3	.107	.106	.0287	.0286	.0778	.0774	.00145					.000275	.000275	.0963	.0954	.0298	.0298
.4	.0953	.0952	.0295	.0295	.0659	.0658	.000832					.000145	.000145	.0876	.0871	.0298	.0298
.5	.0871	.0869	.0297	.0298	.0573	.0572	.000541					.0000891	.0000891	.0810	.0806	.0297	.0296
.6	.0806	.0805	.0296	.0295	.0509	.0509	.000377					.0000426	.0000426	.0710	.0707	.0289	.0287
.8	.0708	.0707	.0289	.0287	.0418	.0421	.000214					.0000245	.0000245	.0637	.0636	.0280	.0278
1.	.0637	.0636	.0280	.0278	.0357	.0358	.000137					.0000079	.0000079	.0518	.0518	.0257	.0254
1.5	.0516	.0516	.0256	.0254	.0261	.0263	.0000458	.000154	.000154	.0000491		.0000048	.0000048	.0447	.0447	.0240	.0236
2.	.0441	.0441	.0234	.0232	.0207	.0209	.0000259	.0000613	.0000613	.0000298		.0000022	.0000022	.0364	.0364	.0218	.0208
3.	.0347	.0347	.0200	.0197	.0147	.0150	.0000041	.0000174	.0000174	.0000116		.0000004	.0000004	.0319	.0319	.0205	.0194
4.	.0290	.0290	.0176	.0172	.0114	.0118	.0000023	.00000287	.00000498	.0000292		.0000003	.0000003	.0289	.0289	.0196	.0183
5.	.0250	.0250	.0157	.0152	.00931	.00976	.0000002	.00000381	.00000974	.0000391		.0000003	.0000003	.0269	.0269	.0191	.0177
6.	.0221	.0221	.0142	.0138	.00787	.00837	.0000002	.00000466	.0000148	.0000481		.0000002	.0000002	.0244	.0244	.0184	.0170
8.	.0181	.0181	.0121	.0115	.00603	.00656	.0000002	.00000604	.0000254	.0000630		.0000001	.0000001	.0230	.0230	.0181	.0166
10.	.0154	.0154	.0105	.00996	.00489	.00544	.0000002	.00000722	.0000252	.0000757		.0000001	.0000001	.0213	.0213	.0180	.0162
15.	.0114	.0114	.00810	.00744	.00331	.00397	.0000002	.00000939	.0000547	.0000993	.000881			.0209	.0209	.0184	.0162
20.	.00915	.00915	.00666	.00592	.00250	.00323	.0000002	.0000111	.0000704	.000118	.0102			.0209	.0209	.0192	.0161
30.	.00667	.00667	.00497	.00420	.00168	.00246	.0000002	.0000133	.0000938	.000142	.0119			.0212	.0212	.0200	.0160
40.	.00530	.00530	.00403	.00325	.00127	.00205	.0000002	.0000148	.000111	.000159	.0128			.0217	.0217	.0207	.0159
50.	.00442	.00442	.00340	.00261	.00102	.00181	.0000002	.0000161	.000124	.000173	.0133			.0221	.0221	.0212	.0157
60.	.00381	.00381	.00295	.00217	.000852	.00164	.0000002	.0000169	.000135	.000183	.0135			.0227	.0227	.0221	.0154
80.	.00301	.00301	.00236	.00160	.000641	.00141	.0000002	.0000182	.000151	.000197	.0138			.0235	.0235	.0230	.0151
100.	.00250	.00250	.00198	.00123	.000515	.00127	.0000002	.0000193	.000163	.000210	.0139						

Composition by weight: 0.0056 H, 0.4983 O, 0.0171 Na, 0.0024 Mg, 0.0456 Al,
0.3158 Si, 0.0012 S, 0.0192 K, 0.0826 Ca, 0.0122 Fe.

Table I (cont'd)

Mass Attenuation Coefficients for Air, Water, Concrete, and Sodium Iodide

SODIUM IODIDE
(cm²/g)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{x,n}	($\frac{\mu}{\rho}$) _{x,e}	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _{r,t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.170	.00578	.000332	.0000113	.170	.00577	7.41					9310.	9310.	9320.	9310.	9310.	9310.
I M _I	.001072	.170	.00643	.000356	.0000135	.170	.00643	7.36				7920.	7920.	7930.	7920.	7920.	7920.
Na K	.001073	.170	.00643	.000356	.0000135	.170	.00643	7.36				9890.	9890.	9900.	9890.	9890.	9890.
	.0015	.170	.0104	.000495	.0000302	.169	.0103	7.02				11100.	11100.	11200.	11100.	11100.	11100.
	.002	.170	.0151	.000660	.0000587	.169	.0151	6.60				4530.	4520.	4540.	4530.	4530.	4520.
	.003	.169	.0242	.000980	.000140	.168	.0241	5.72				2110.	2110.	2120.	2110.	2110.	2110.
I L _{III}	.004557	.168	.0327	.00130	.000251	.167	.0324	5.01				712.	712.	718.	712.	712.	712.
		.168	.0369	.00147	.000323	.166	.0366	4.63				332.	331.	337.	332.	332.	331.
I L _{II}	.004852	.168	.0391	.00157	.000363	.166	.0387	4.46				234.	234.	239.	234.	234.	234.
												766.	681.	770.	766.	766.	681.
	.005	.168	.0401	.00161	.000385	.166	.0398	4.38				625.	561.	630.	626.	625.	561.
I L _I	.005188	.168	.0415	.00166	.000412	.166	.0410	4.29				859.	766.	863.	859.	859.	766.
												793.	712.	797.	793.	793.	712.
	.006	.167	.0468	.00191	.000536	.165	.0463	3.86				727.	654.	731.	727.	727.	654.
	.008	.166	.0582	.00251	.000884	.163	.0572	3.04				831.	747.	836.	831.	831.	747.
	.01	.165	.0676	.00309	.00127	.162	.0665	2.46				561.	512.	565.	561.	561.	512.
	.015	.162	.0843	.00447	.00233	.157	.0821	1.60				259.	242.	262.	259.	259.	242.
	.02	.159	.0950	.00573	.00343	.153	.0914	1.13				140.	132.	142.	140.	140.	132.
I K	.033170	.152	.107	.00864	.00557	.146	.102	.641				45.7	44.1	47.3	45.7	45.7	44.1
			.109	.00864	.00621	.143	.103	.550				20.6	20.0	21.8	20.6	20.6	20.0
	.04	.149	.113	.00994	.00753	.139	.106	.414				6.50	6.38	7.25	6.61	6.51	6.38
	.05	.145	.116	.0116	.00938	.133	.107	.293				4.87	4.79	5.53	4.98	4.88	4.80
	.06	.140	.118	.0132	.0110	.127	.107	.218				30.3	10.7	31.0	30.5	30.4	10.7
	.08	.133	.117	.0156	.0137	.117	.103	.132				18.3	8.47	18.8	18.4	18.3	8.47
	.1	.127	.115	.0175	.0159	.109	.0991	.0872				10.0	5.72	10.4	10.1	10.0	5.73
	.15	.114	.108	.0207	.0196	.0932	.0886	.0409				6.07	3.90	6.41	6.19	6.09	3.92
	.2	.104	.101	.0226	.0217	.0820	.0786	.0237				2.74	2.00	2.98	2.85	2.75	2.01
	.3	.0908	.0891	.0245	.0240	.0665	.0652	.0108				1.46	1.15	1.67	1.58	1.48	1.17
	.4	.0815	.0802	.0252	.0248	.0563	.0554	.00614				.470	.402	.460	.459	.449	.422
	.5	.0743	.0738	.0254	.0251	.0490	.0485	.00397				.209	.187	.233	.232	.222	.208
	.6	.0689	.0685	.0253	.0250	.0435	.0435	.00275				.0671	.0623	.067	.066	.065	.064
	.8	.0602	.0602	.0247	.0242	.0357	.0360	.00156				.0316	.0299	.033	.032	.031	.030
1	.0543	.0539	.0239	.0230	.0304	.0309	.00100					.0177	.0169	.0195	.0195	.0195	.0195
1.5	.0441	.0440	.0218	.0212	.0223	.0228	.000450	.000705	.000705	.000216		.0113	.0109	.0126	.0126	.0126	.0126
2	.0376	.0376	.0200	.0192	.0177	.0184	.000254	.00246	.00246	.00114		.00575	.00558	.00678	.00678	.00678	.00678
3	.0296	.0296	.0171	.0160	.0125	.0136	.000112	.00635	.00635	.00393		.00362	.00354	.00458	.00458	.00458	.00458
4	.0248	.0248	.0150	.0138	.00971	.0109	.0000627	.0100	.0000426	.0101	.000563	.000368	.000366	.00436	.00436	.00436	.00436
5	.0214	.0214	.0134	.0120	.00796	.00931	.0000410	.0131	.0000835	.0132	.000368	.000274	.000273	.0353	.0352	.0352	.0352
6	.0189	.0189	.0122	.0107	.00674	.00818	.0000287	.0156	.000129	.0157	.000217	.000216	.000216	.0348	.0348	.0348	.0348
8	.0154	.0154	.0103	.00873	.00514	.00671	.0000158	.0197	.000219	.0199	.000152	.000151	.000151	.0355	.0355	.0355	.0355
10	.0132	.0132	.00898	.00725	.00416	.00590	.0000098	.0231	.000300	.0234	.000117	.000116	.000116	.0367	.0367	.0367	.0367
15	.00975	.00975	.00690	.00527	.00282	.00446	.0000045	.0299	.000471	.0304	.0000735	.0000735	.0000735	.0402	.0402	.0402	.0402
20	.00781	.00781	.00568	.00407	.00214	.00374		.0349	.000597	.0355	.0000530	.0000530	.0000530	.0434	.0434	.0434	.0434
30	.00568	.00568	.00425	.00268	.00144	.00299		.0418	.000780	.0426	.0000346	.0000346	.0000346	.0483	.0483	.0483	.0483
40	.00452	.00452	.00344	.00194	.00109	.00258		.0463	.000919	.0473	.0000253	.0000253	.0000253	.0518	.0518	.0518	.0518
50	.00377	.00377	.00291	.00149	.000889	.00228		.0501	.00101	.0511	.0000201	.0000201	.0000201	.0549	.0549	.0549	.0549
60	.00325	.00325	.00252	.00119	.000728	.00206		.0526	.00109	.0536	.0000165	.0000165	.0000165	.0569	.0569	.0569	.0569
80	.00256	.00256	.00202	.000828	.000548	.00174		.0568	.00122	.0579	.0000121	.0000121	.0000121	.0604	.0604	.0604	.0604
100	.00213	.00213	.00169	.000613	.000439	.00152		.0598	.00131	.0612	.0000096	.0000096	.0000096	.0634	.0634	.0634	.0634

Table II

Constants Used to Calculate Photoelectric
Cross Sections at Energy Levels

<u>Energy level</u>	<u>n</u>	<u>k</u>
K upper	2.04	0.00865
lower	1.63	0.0220
L _I upper	1.9	0.0175
lower	2.0	0.00650
L _{II} upper	2.0	0.00670
lower	2.0	0.00485
L _{III} upper	2.0	0.00525
lower	1.5	0.115
M _I upper	1.8	0.0290
lower	1.7	0.064
M _{II} upper	1.7	0.069
lower	1.7	0.058
M _{III} upper	1.7	0.065
lower	1.7	0.0565
M _{IV} upper	1.7	0.068
lower	1.7	0.060
M _V upper	1.7	0.061
lower	1.7	0.0195
N _I upper	1.7	0.033

Table III

X-ray Atomic Energy Levels in keV

Z	K	L _I	L _{II}	L _{III}	M _I	M _{II}	M _{III}
1	.014						
2	.025	.001					
3	.055	.003	.001	.001			
4	.111	.006	.002	.002			
5	.188	.009	.004	.004			
6	.284	.013	.005	.005			
7	.400	.018	.007	.007			
8	.533	.024	.009	.009			
9	.687	.032	.012	.012			
10	.867	.045	.018	.018	.001		
11	1.073	.063	.032	.032	.002		
12	1.305	.088	.050	.050	.003		
13	1.560	.118	.073	.073	.005		
14	1.839	.151	.099	.100	.007	.001	.001
15	2.144	.188	.130	.130	.010	.002	.002
16	2.472	.227	.165	.165	.014	.004	.004
17	2.824	.270	.203	.202	.018	.007	.007
18	3.203	.320	.247	.245	.025	.012	.012
19	3.607	.377	.296	.294	.034	.018	.018
20	4.037	.438	.350	.346	.044	.025	.025
21	4.491	.500	.406	.401	.053	.032	.032
22	4.966	.563	.462	.456	.060	.035	.035
23	5.465	.628	.521	.513	.066	.038	.038
24	5.989	.696	.584	.575	.074	.042	.042
25	6.539	.769	.651	.640	.084	.047	.047
26	7.112	.846	.721	.708	.093	.053	.053
27	7.709	.926	.794	.779	.101	.060	.060
28	8.332	1.008	.871	.854	.111	.067	.067
29	8.981	1.096	.953	.933	.122	.074	.074
30	9.659	1.193	1.043	1.020	.138	.088	.087
31	10.367	1.300	1.142	1.115	.158	.106	.103
32	11.104	1.413	1.248	1.217	.180	.126	.121
33	11.867	1.530	1.359	1.323	.204	.146	.140
34	12.658	1.652	1.475	1.434	.230	.168	.161
35	13.474	1.782	1.597	1.551	.257	.191	.184
36	14.323	1.921	1.727	1.675	.288	.219	.210
37	15.200	2.065	1.863	1.805	.322	.248	.239
38	16.105	2.216	2.007	1.940	.358	.280	.269
39	17.038	2.373	2.155	2.079	.394	.312	.299
40	17.998	2.533	2.307	2.223	.430	.344	.330
41	18.986	2.698	2.464	2.370	.467	.377	.361
42	20.000	2.867	2.625	2.521	.505	.410	.392
43	21.044	3.043	2.793	2.677	.545	.445	.426
44	22.117	3.224	2.967	2.838	.585	.483	.461
45	23.220	3.412	3.146	3.004	.627	.521	.496
46	24.350	3.605	3.330	3.174	.670	.559	.532
47	25.514	3.806	3.524	3.351	.718	.602	.571
48	26.711	4.018	3.727	3.537	.770	.651	.616
49	27.940	4.238	3.938	3.730	.826	.702	.664
50	29.200	4.465	4.156	3.929	.884	.756	.714

Table III (cont'd)

X-ray Atomic Energy Levels in keV

Z	K	L _I	L _{II}	L _{III}	M _I	M _{II}	M _{III}
51	30.491	4.698	4.381	4.132	.944	.812	.766
52	31.814	4.939	4.612	4.341	1.006	.870	.819
53	33.170	5.188	4.852	4.557	1.072	.931	.876
54	34.561	5.445	5.102	4.782	1.143	.997	.936
55	35.985	5.713	5.360	5.012	1.217	1.065	.998
56	37.441	5.987	5.623	5.247	1.291	1.135	1.061
57	38.925	6.266	5.891	5.484	1.363	1.204	1.124
58	40.443	6.549	6.164	5.723	1.435	1.273	1.185
59	41.991	6.835	6.440	5.964	1.505	1.337	1.242
60	43.569	7.128	6.722	6.208	1.575	1.403	1.298
61	45.184	7.428	7.013	6.459	1.648	1.471	1.357
62	46.834	7.736	7.312	6.716	1.723	1.541	1.419
63	48.519	8.052	7.618	6.977	1.800	1.614	1.481
64	50.239	8.375	7.930	7.243	1.881	1.688	1.544
65	51.996	8.708	8.252	7.514	1.963	1.766	1.610
66	53.788	9.046	8.580	7.790	2.046	1.842	1.676
67	55.618	9.394	8.918	8.072	2.130	1.923	1.743
68	57.486	9.752	9.264	8.358	2.217	2.006	1.812
69	59.390	10.116	9.617	8.648	2.306	2.090	1.881
70	61.332	10.489	9.978	8.943	2.398	2.175	1.950
71	63.316	10.874	10.349	9.245	2.494	2.264	2.024
72	65.345	11.272	10.739	9.560	2.600	2.364	2.108
73	67.416	11.680	11.136	9.880	2.709	2.469	2.194
74	69.525	12.098	11.541	10.204	2.820	2.575	2.281
75	71.676	12.528	11.957	10.534	2.934	2.682	2.368
76	73.871	12.969	12.385	10.871	3.052	2.792	2.457
77	76.111	13.419	12.824	11.215	3.173	2.908	2.551
78	78.395	13.880	13.273	11.564	3.297	3.027	2.645
79	80.725	14.353	13.734	11.919	3.425	3.150	2.743
80	83.102	14.842	14.209	12.283	3.562	3.280	2.847
81	85.530	15.346	14.697	12.656	3.704	3.416	2.956
82	88.004	15.861	15.200	13.035	3.851	3.554	3.066
83	90.526	16.391	15.714	13.420	4.000	3.696	3.177
84	93.105	16.936	16.244	13.814	4.156	3.849	3.295
85	95.730	17.491	16.785	14.214	4.317	4.006	3.416
86	98.404	18.055	17.337	14.619	4.482	4.164	3.538
87	101.137	18.639	17.904	15.030	4.652	4.325	3.664
88	103.922	19.237	18.484	15.446	4.824	4.490	3.791
89	106.759	19.845	19.083	15.870	5.002	4.658	3.918
90	109.651	20.466	19.693	16.300	5.182	4.830	4.046
91	112.601	21.105	20.314	16.733	5.364	5.003	4.174
92	115.606	21.759	20.948	17.170	5.548	5.181	4.304
93	118.670	22.427	21.600	17.613	5.735	5.366	4.435
94	121.797	23.109	22.270	18.063	5.927	5.555	4.568
95	124.990	23.812	22.958	18.519	6.122	5.748	4.703
96	128.253	24.535	23.663	18.982	6.322	5.945	4.839
97	131.590	25.275	24.385	19.452	6.526	6.147	4.977
98	135.005	26.030	25.125	19.929	6.735	6.353	5.117
99	138.502	26.803	25.883	20.414	6.949	6.564	5.259
100	142.085	27.594	26.659	20.907	7.168	6.780	5.403

Table III (cont'd)

X-ray Atomic Energy Levels in keV

Z	<u>M_{IV}</u>	<u>M_V</u>	<u>N_I</u>	<u>N_{II}</u>	<u>N_{III}</u>	<u>N_{IV}</u>	<u>N_V</u>
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24	.001	.001					
25	.002	.002					
26	.003	.003					
27	.004	.004					
28	.005	.005					
29	.007	.007					
30	.010	.010	.001				
31	.017	.017	.002				
32	.028	.028	.004	.001	.001		
33	.041	.041	.008	.002	.002		
34	.055	.055	.012	.004	.004		
35	.072	.071	.018	.007	.007		
36	.091	.090	.024	.010	.010		
37	.112	.110	.031	.015	.015		
38	.135	.133	.038	.020	.020		
39	.158	.156	.044	.025	.025		
40	.182	.180	.051	.029	.029		
41	.206	.204	.057	.032	.032		
42	.230	.228	.063	.035	.035		
43	.256	.253	.070	.039	.038		
44	.284	.280	.075	.043	.042	.001	.001
45	.312	.307	.081	.048	.046	.002	.002
46	.340	.335	.087	.054	.051	.003	.003
47	.373	.367	.096	.061	.057	.005	.005
48	.410	.404	.108	.068	.064	.009	.009
49	.451	.443	.122	.077	.073	.016	.016
50	.493	.485	.137	.089	.085	.024	.024

Table III (cont'd)

X-ray Atomic Energy Levels in keV

Z	M _{IV}	M _V	N _I	N _{II}	N _{III}	N _{IV}	N _V
51	.537	.528	.152	.104	.097	.031	.031
52	.583	.572	.168	.120	.110	.040	.040
53	.633	.619	.186	.135	.126	.050	.050
54	.686	.672	.208	.152	.143	.063	.063
55	.740	.726	.231	.172	.162	.079	.079
56	.794	.780	.253	.192	.180	.092	.092
57	.848	.832	.271	.206	.192	.099	.099
58	.901	.883	.287	.221	.204	.105	.105
59	.951	.931	.302	.235	.216	.112	.112
60	1.001	.978	.317	.247	.227	.117	.117
61	1.052	1.027	.332	.260	.237	.122	.122
62	1.106	1.078	.347	.271	.247	.127	.127
63	1.161	1.131	.363	.284	.257	.134	.134
64	1.217	1.185	.379	.300	.269	.140	.140
65	1.274	1.240	.397	.316	.281	.148	.147
66	1.332	1.295	.416	.332	.293	.156	.154
67	1.392	1.351	.433	.349	.306	.165	.161
68	1.453	1.409	.451	.365	.320	.176	.169
69	1.515	1.468	.471	.382	.335	.187	.177
70	1.577	1.528	.492	.397	.351	.198	.188
71	1.641	1.591	.515	.420	.367	.210	.199
72	1.716	1.662	.539	.439	.384	.224	.213
73	1.793	1.735	.566	.465	.404	.240	.228
74	1.871	1.809	.595	.492	.424	.256	.242
75	1.950	1.883	.625	.518	.445	.273	.258
76	2.031	1.960	.656	.546	.468	.291	.274
77	2.116	2.040	.688	.577	.493	.311	.293
78	2.202	2.122	.724	.609	.519	.331	.313
79	2.291	2.206	.762	.644	.546	.353	.334
80	2.385	2.295	.801	.682	.574	.380	.360
81	2.485	2.389	.845	.723	.608	.407	.386
82	2.586	2.484	.891	.764	.643	.435	.413
83	2.689	2.581	.939	.805	.679	.464	.440
84	2.798	2.683	.990	.851	.707	.498	.473
85	2.909	2.787	1.042	.898	.740	.533	.506
86	3.022	2.892	1.095	.948	.772	.568	.541
87	3.136	3.000	1.150	.999	.810	.603	.576
88	3.253	3.109	1.208	1.052	.858	.638	.610
89	3.371	3.219	1.269	1.110	.910	.675	.644
90	3.490	3.332	1.330	1.168	.968	.713	.676
91	3.609	3.442	1.385	1.224	1.007	.746	.708
92	3.728	3.552	1.441	1.273	1.045	.780	.740
93	3.850	3.664	1.501	1.328	1.087	.816	.772
94	3.973	3.778	1.562	1.383	1.130	.849	.801
95	4.100	3.894	1.625	1.439	1.170	.881	.828
96	4.230	4.012	1.689	1.496	1.207	.912	.853
97	4.364	4.132	1.755	1.555	1.245	.943	.877
98	4.502	4.254	1.822	1.616	1.285	.973	.902
99	4.644	4.378	1.891	1.680	1.327	1.001	.927
100	4.790	4.504	1.961	1.747	1.370	1.027	.952

Table III (cont'd)

X-ray Atomic Energy Levels in keV

<u>Z</u>	<u>N_{VI}</u>	<u>N_{VII}</u>	<u>O_I</u>	<u>O_{II}</u>	<u>O_{III}</u>	<u>O_{IV}</u>	<u>O_V</u>
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
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33							
34							
35							
36							
37							
38							
39							
40							
41							
42							
43							
44							
45							
46							
47							
48							
49			.001	.001	.001		
50			.004	.002	.002		

Table III (cont'd)

X-ray Atomic Energy Levels in keV

Z	N _{VI}	N _{VII}	O _I	O _{II}	O _{III}	O _{IV}	O _V
51			.007	.003	.003		
52			.012	.005	.005		
53			.016	.007	.007		
54			.018	.009	.009		
55			.020	.011	.011		
56			.021	.014	.013		
57			.022	.015	.014		
58			.024	.016	.015		
59			.025	.018	.016		
60			.027	.019	.017		
61			.029	.020	.017		
62			.031	.021	.018		
63			.033	.022	.019		
64			.036	.024	.020		
65			.039	.025	.021		
66	.001	.001	.042	.026	.022		
67	.002	.002	.045	.028	.023		
68	.003	.003	.049	.029	.025		
69	.005	.005	.053	.031	.026		
70	.008	.008	.057	.033	.028		
71	.011	.011	.061	.036	.029		
72	.017	.017	.066	.039	.031		
73	.025	.025	.071	.043	.033		
74	.036	.034	.076	.047	.036	.001	.001
75	.044	.041	.082	.051	.039	.002	.002
76	.053	.050	.088	.055	.042	.003	.003
77	.063	.060	.095	.060	.046	.004	.004
78	.074	.071	.102	.065	.052	.005	.005
79	.086	.083	.110	.072	.058	.008	.008
80	.102	.098	.121	.080	.066	.012	.011
81	.123	.116	.134	.091	.075	.015	.013
82	.143	.137	.147	.104	.086	.020	.018
83	.162	.157	.161	.117	.098	.026	.024
84	.183	.178	.177	.133	.108	.034	.031
85	.209	.204	.195	.150	.120	.042	.037
86	.240	.234	.213	.165	.131	.053	.044
87	.270	.263	.233	.180	.142	.067	.054
88	.296	.288	.253	.198	.153	.077	.067
89	.320	.312	.271	.214	.164	.087	.079
90	.344	.335	.290	.230	.175	.094	.088
91	.368	.358	.310	.247	.185	.100	.092
92	.392	.381	.324	.265	.195	.105	.096
93	.415	.404	.340	.283	.206	.109	.101
94	.440	.428	.352	.300	.217	.116	.106
95	.466	.454	.369	.315	.228	.123	.112
96	.493	.481	.382	.331	.239	.129	.118
97	.521	.509	.398	.347	.250	.135	.124
98	.551	.538	.413	.363	.260	.142	.130
99	.582	.568	.430	.378	.270	.149	.136
100	.614	.599	.448	.393	.280	.155	.142

Table IV
K X-ray Energies in keV

Z	$K - L_{II} = \alpha_2$	$K - L_{III} = \alpha_1$	$K - M_{II} = \beta_3$	$K - M_{III} = \beta_1$	$K - M_{IV} = \beta_{5/1}$	$K - M_V = \beta_{5/2}$
1						
2						
3	.054	.054				
4	.109	.109				
5	.184	.184				
6	.279	.279				
7	.393	.393				
8	.524	.524				
9	.675	.675				
10	.849	.849				
11	1.041	1.041				
12	1.255	1.255				
13	1.487	1.487				
14	1.740	1.739	1.838	1.838		
15	2.014	2.014	2.142	2.142		
16	2.307	2.307	2.468	2.468		
17	2.621	2.622	2.817	2.817		
18	2.956	2.958	3.191	3.191		
19	3.311	3.313	3.589	3.589		
20	3.687	3.691	4.012	4.012		
21	4.085	4.090	4.459	4.459		
22	4.504	4.510	4.931	4.931		
23	4.944	4.952	5.427	5.427		
24	5.405	5.414	5.947	5.947	5.988	5.988
25	5.888	5.899	6.492	6.492	6.537	6.537
26	6.391	6.404	7.059	7.059	7.109	7.109
27	6.915	6.930	7.649	7.649	7.705	7.705
28	7.461	7.478	8.265	8.265	8.327	8.327
29	8.028	8.048	8.907	8.907	8.974	8.974
30	8.616	8.639	9.571	9.572	9.649	9.649
31	9.225	9.252	10.261	10.264	10.350	10.350
32	9.856	9.887	10.978	10.983	11.076	11.076
33	10.508	10.544	11.721	11.727	11.826	11.826
34	11.183	11.224	12.490	12.497	12.603	12.603
35	11.877	11.923	13.283	13.290	13.402	13.403
36	12.596	12.648	14.104	14.113	14.232	14.233
37	13.337	13.395	14.952	14.961	15.088	15.090
38	14.098	14.165	15.825	15.836	15.970	15.972
39	14.883	14.959	16.726	16.739	16.880	16.882
40	15.691	15.775	17.654	17.668	17.816	17.818
41	16.522	16.616	18.609	18.625	18.780	18.782
42	17.375	17.479	19.590	19.608	19.770	19.772
43	18.251	18.367	20.599	20.618	20.788	20.791
44	19.150	19.279	21.634	21.656	21.833	21.837
45	20.074	20.216	22.699	22.724	22.908	22.913
46	21.020	21.176	23.791	23.818	24.010	24.015
47	21.990	22.163	24.912	24.943	25.141	25.147
48	22.984	23.174	26.060	26.095	26.301	26.307
49	24.002	24.210	27.238	27.276	27.489	27.497
50	25.044	25.271	28.444	28.486	28.707	28.715

Table IV (cont'd)
K X-ray Energies in keV

Z	K - L _{II} = α_2	K - L _{III} = α_1	K - M _{II} = β_3	K - M _{III} = β_1	K - M _{IV} = $\beta_{5/1}$	K - M _V = $\beta_{5/2}$
51	26.110	26.359	29.679	29.725	29.954	29.963
52	27.202	27.473	30.944	30.995	31.231	31.242
53	28.318	28.613	32.239	32.294	32.537	32.551
54	29.459	29.779	33.564	33.625	33.875	33.889
55	30.625	30.973	34.920	34.987	35.245	35.259
56	31.818	32.194	36.306	36.380	36.647	36.661
57	33.034	33.441	37.721	37.801	38.077	38.093
58	34.279	34.720	39.170	39.258	39.542	39.560
59	35.551	36.027	40.654	40.749	41.040	41.060
60	36.847	37.361	42.166	42.271	42.568	42.591
61	38.171	38.725	43.713	43.827	44.132	44.157
62	39.522	40.118	45.293	45.415	45.728	45.756
63	40.901	41.542	46.905	47.038	47.358	47.388
64	42.309	43.996	48.551	48.695	49.022	49.054
65	43.744	44.482	50.231	50.386	50.722	50.756
66	45.208	45.998	51.946	52.112	52.456	52.493
67	46.700	47.546	53.695	53.875	54.226	54.267
68	48.222	49.128	55.480	55.674	56.033	56.077
69	49.773	50.742	57.300	57.509	57.875	57.922
70	51.354	52.389	59.157	59.382	59.755	59.804
71	52.967	54.071	61.052	61.292	61.675	61.725
72	54.606	55.785	62.981	63.237	63.629	63.683
73	56.280	57.536	64.947	65.222	65.623	65.681
74	57.984	59.321	66.950	67.244	67.654	67.716
75	59.719	61.142	68.994	69.308	69.726	69.793
76	61.486	63.000	71.079	71.414	71.840	71.911
77	63.287	64.896	73.203	73.560	73.995	74.071
78	65.122	66.831	75.368	75.750	76.193	76.273
79	66.991	68.806	77.575	77.982	78.434	78.519
80	68.893	70.819	79.822	80.255	80.717	80.807
81	70.833	72.874	82.114	82.574	83.045	83.141
82	72.804	74.969	84.450	84.938	85.418	85.520
83	74.812	77.106	86.830	87.349	87.837	87.945
84	76.861	79.291	89.256	89.810	90.307	90.422
85	78.945	81.516	91.724	92.314	92.821	92.943
86	81.067	83.785	94.240	94.866	95.382	95.512
87	83.233	86.107	96.812	97.473	98.001	98.137
88	85.438	88.476	99.432	100.131	100.669	100.813
89	87.676	90.889	102.101	102.841	103.388	103.540
90	89.958	93.351	104.821	105.605	106.161	106.319
91	92.287	95.868	107.598	108.427	108.992	109.159
92	94.658	98.436	110.425	111.302	111.878	112.054
93	97.070	101.057	113.304	114.235	114.820	115.006
94	99.527	103.734	116.242	117.229	117.824	118.019
95	102.032	106.471	119.242	120.287	120.890	121.096
96	104.590	109.271	122.308	123.414	124.023	124.241
97	107.205	112.138	125.443	126.613	127.226	127.458
98	109.880	115.076	128.652	129.888	130.503	130.751
99	112.619	118.088	131.930	133.243	133.858	134.124
100	115.426	121.178	135.305	136.682	137.295	137.581

Table IV (cont'd)

K X-ray Energies in keV

Z	$K - N_{II} = \beta_{2/1}$	$K - N_{III} = \beta_{2/2}$	$K - N_{IV} = \beta_{4/1}$	$K - N_V = \beta_{4/2}$	$K - O_{II} = \beta_{2/3}$	$K - O_{III} = \beta_{2/4}$
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31						
32	11.103	11.103				
33	11.865	11.865				
34	12.654	12.654				
35	13.467	13.467				
36	14.313	14.313				
37	15.185	15.185				
38	16.085	16.085				
39	17.013	17.013				
40	17.969	17.969				
41	18.954	18.954				
42	19.965	19.965				
43	21.005	21.006				
44	22.074	22.075	22.116	22.116		
45	23.172	23.174	23.218	23.218		
46	24.296	24.299	24.347	24.347		
47	25.453	25.457	25.509	25.509		
48	26.643	26.647	26.702	26.702		
49	27.863	27.867	27.924	27.924	27.939	27.939
50	29.111	29.115	29.176	29.176	29.198	29.198

Table IV (cont'd)
K X-ray Energies in keV

Z	K - N _{II} = $\beta_{2/1}$	K - N _{III} = $\beta_{3/2}$	K - N _{IV} = $\beta_{4/1}$	K - N _V = $\beta_{4/2}$	K - O _{II} = $\beta_{2/3}$	K - O _{III} = $\beta_{3/4}$
51	30.387	30.394	30.460	30.460	30.488	30.488
52	31.694	31.704	31.774	31.774	31.809	31.809
53	33.035	33.044	33.120	33.120	33.163	33.163
54	34.409	34.418	34.498	34.498	34.552	34.552
55	35.813	35.823	35.906	35.906	35.974	35.974
56	37.249	37.261	37.349	37.349	37.427	37.428
57	38.719	38.733	38.826	38.826	38.910	38.911
58	40.222	40.239	40.338	40.338	40.427	40.428
59	41.756	41.775	41.879	41.879	41.973	41.975
60	43.322	43.342	43.452	43.452	43.550	43.553
61	44.924	44.947	45.062	45.062	45.164	45.167
62	46.563	46.587	46.707	46.707	46.813	46.816
63	48.235	48.262	48.385	48.385	48.497	48.500
64	49.939	49.970	50.099	50.099	50.215	50.219
65	51.680	51.715	51.848	51.849	51.971	51.975
66	53.456	53.495	53.632	53.634	53.762	53.766
67	55.269	55.312	55.453	55.457	55.590	55.595
68	57.121	57.166	57.310	57.317	57.457	57.461
69	59.008	59.055	59.203	59.213	59.359	59.364
70	60.935	60.981	61.134	61.144	61.299	61.304
71	62.896	62.949	63.106	63.117	63.280	63.287
72	64.906	64.961	65.121	65.132	65.306	65.314
73	66.951	67.012	67.176	67.188	67.373	67.383
74	69.033	69.101	69.269	69.283	69.478	69.489
75	71.158	71.231	71.403	71.418	71.625	71.637
76	73.325	73.403	73.580	73.597	73.816	73.829
77	75.534	75.618	75.800	75.818	76.051	76.065
78	77.786	77.876	78.064	78.082	78.330	78.343
79	80.081	80.179	80.372	80.391	80.653	80.667
80	82.420	82.528	82.722	82.742	83.022	83.036
81	84.807	84.922	85.123	85.144	85.439	85.455
82	87.240	87.361	87.569	87.591	87.900	87.918
83	89.721	89.847	90.062	90.086	90.409	90.428
84	92.254	92.398	92.607	92.632	92.972	92.997
85	94.832	94.990	95.197	95.224	95.580	95.610
86	97.456	97.632	97.836	97.863	98.239	98.273
87	100.138	100.327	100.534	100.561	100.957	100.995
88	102.870	103.064	103.284	103.312	103.724	103.769
89	105.649	105.849	106.084	106.115	106.545	106.595
90	108.483	108.683	108.938	108.975	109.421	109.476
91	111.377	111.594	111.855	111.893	112.354	112.416
92	114.333	114.561	114.826	114.866	115.341	115.411
93	117.342	117.583	117.854	117.898	118.387	118.464
94	120.414	120.667	120.948	120.996	121.497	121.580
95	123.551	123.820	124.109	124.162	124.675	124.762
96	126.757	127.046	127.341	127.400	127.922	128.014
97	130.035	130.345	130.647	130.713	131.243	131.340
98	133.389	133.720	134.032	134.103	134.642	134.745
99	136.822	137.175	137.501	137.575	138.124	138.232
100	140.338	140.715	141.058	141.133	141.692	141.805

Table V
L X-ray Energies in keV

Z	$L_I-M_I=\beta_{5/1}$	$L_I-M_{II}=\beta_4$	$L_I-M_{III}=\beta_3$	$L_I-M_{IV}=\beta_{10}$	$L_I-M_V=\beta_{9/1}$	$L_I-N_I=\beta_{9/2}$
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10	.044					
11	.061					
12	.085					
13	.113					
14	.144	.150	.150			
15	.178	.186	.186			
16	.213	.223	.223			
17	.252	.263	.263			
18	.295	.308	.308			
19	.343	.359	.359			
20	.394	.413	.413			
21	.447	.468	.468			
22	.503	.528	.528			
23	.562	.590	.590			
24	.622	.654	.654	.695	.695	
25	.685	.722	.722	.767	.767	
26	.753	.793	.793	.843	.843	
27	.825	.866	.866	.922	.922	
28	.897	.941	.941	1.003	1.003	
29	.974	1.022	1.022	1.089	1.089	
30	1.055	1.105	1.106	1.183	1.183	1.192
31	1.142	1.194	1.197	1.283	1.283	1.298
32	1.233	1.287	1.292	1.385	1.385	1.409
33	1.326	1.384	1.390	1.489	1.489	1.522
34	1.422	1.484	1.491	1.597	1.597	1.640
35	1.525	1.591	1.598	1.710	1.711	1.764
36	1.633	1.702	1.711	1.830	1.831	1.897
37	1.743	1.817	1.826	1.953	1.955	2.034
38	1.858	1.936	1.947	2.081	2.083	2.178
39	1.979	2.061	2.074	2.215	2.217	2.329
40	2.103	2.189	2.203	2.351	2.353	2.482
41	2.231	2.321	2.337	2.492	2.494	2.641
42	2.362	2.457	2.475	2.637	2.639	2.804
43	2.498	2.598	2.617	2.787	2.790	2.973
44	2.639	2.741	2.763	2.940	2.944	3.149
45	2.785	2.891	2.916	3.100	3.105	3.331
46	2.935	3.046	3.073	3.265	3.270	3.518
47	3.088	3.204	3.235	3.433	3.439	3.710
48	3.248	3.367	3.402	3.608	3.614	3.910
49	3.412	3.536	3.574	3.787	3.795	4.116
50	3.581	3.709	3.751	3.972	3.980	4.328

Table V (cont'd)
L X-ray Energies in keV

Z	$L_I-M_I=\beta_{5/1}$	$L_I-M_{II}=\beta_4$	$L_I-M_{III}=\beta_3$	$L_I-M_{IV}=\beta_{10}$	$L_I-M_V=\beta_{9/1}$	$L_I-N_I=\beta_{9/2}$
51	3.754	3.886	3.932	4.161	4.170	4.546
52	3.933	4.069	4.120	4.356	4.367	4.771
53	4.116	4.257	4.312	4.555	4.569	5.002
54	4.302	4.448	4.509	4.759	4.773	5.237
55	4.496	4.648	4.715	4.973	4.987	5.482
56	4.696	4.852	4.926	5.193	5.207	5.734
57	4.903	5.062	5.142	5.418	5.434	5.995
58	5.114	5.276	5.364	5.648	5.666	6.262
59	5.330	5.498	5.593	5.884	5.904	6.533
60	5.553	5.725	5.830	6.127	6.150	6.811
61	5.780	5.957	6.071	6.376	6.401	7.096
62	6.013	6.195	6.317	6.630	6.658	7.389
63	6.252	6.438	6.571	6.891	6.921	7.689
64	6.494	6.687	6.831	7.158	7.190	7.996
65	6.745	6.943	7.098	7.434	7.468	8.311
66	7.000	7.204	7.370	7.714	7.751	8.630
67	7.264	7.471	7.651	8.002	8.043	8.961
68	7.535	7.746	7.940	8.299	8.343	9.301
69	7.810	8.026	8.235	8.601	8.648	9.645
70	8.091	8.314	8.539	8.912	8.961	9.997
71	8.380	8.610	8.850	9.233	9.283	10.359
72	8.672	8.908	9.164	9.556	9.610	10.733
73	8.971	9.211	9.486	9.887	9.945	11.114
74	9.278	9.523	9.817	10.227	10.289	11.503
75	9.594	9.846	10.160	10.578	10.645	11.903
76	9.917	10.177	10.512	10.938	11.009	12.313
77	10.246	10.511	10.868	11.303	11.379	12.731
78	10.583	10.853	11.235	11.678	11.758	13.156
79	10.928	11.203	11.610	12.062	12.147	13.591
80	11.280	11.562	11.995	12.457	12.547	14.041
81	11.642	11.930	12.390	12.861	12.957	14.501
82	12.010	12.307	12.795	13.275	13.377	14.970
83	12.391	12.695	13.214	13.702	13.810	15.452
84	12.780	13.087	13.641	14.138	14.253	15.946
85	13.174	13.485	14.075	14.582	14.704	16.449
86	13.573	13.891	14.517	15.033	15.163	16.960
87	13.987	14.314	14.975	15.503	15.639	17.489
88	14.413	14.747	15.446	15.984	16.128	18.029
89	14.843	15.187	15.927	16.474	16.626	18.576
90	15.284	15.636	16.420	16.976	17.134	19.136
91	15.741	16.102	16.931	17.496	17.663	19.720
92	16.211	16.578	17.455	18.031	18.207	20.318
93	16.692	17.061	17.992	18.577	18.763	20.926
94	17.182	17.554	18.541	19.136	19.331	21.547
95	17.690	18.064	19.109	19.712	19.918	22.187
96	18.213	18.590	19.696	20.305	20.523	22.846
97	18.749	19.128	20.298	20.911	21.143	23.520
98	19.295	19.677	20.913	21.528	21.776	24.208
99	19.854	20.239	21.544	22.159	22.425	24.912
100	20.426	20.814	22.191	22.804	23.090	25.633

Table V (cont'd)
L X-ray Energies in keV

Z	$L_I-N_{II}=\gamma_2$	$L_I-N_{III}=\gamma_3$	$L_I-N_{IV}=\beta_9/3$	$L_I-N_V=\gamma_{11/1}$	$L_I-N_{VI}=\gamma_{11/2}$	$L_I-N_{VII}=\gamma_{11/3}$
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28						
29						
30						
31						
32	1.412	1.412				
33	1.528	1.528				
34	1.648	1.648				
35	1.775	1.775				
36	1.911	1.911				
37	2.050	2.050				
38	2.196	2.196				
39	2.348	2.348				
40	2.504	2.504				
41	2.666	2.666				
42	2.832	2.832				
43	3.004	3.005				
44	3.181	3.182	3.223	3.223		
45	3.364	3.366	3.410	3.410		
46	3.551	3.554	3.602	3.602		
47	3.745	3.749	3.801	3.801		
48	3.950	3.954	4.009	4.009		
49	4.161	4.165	4.222	4.222		
50	4.376	4.380	4.441	4.441		

Table V (cont'd)
L X-ray Energies in keV

Z	$L_I-N_{II}=\gamma_2$	$L_I-N_{III}=\gamma_3$	$L_I-N_{IV}=\beta_{9/3}$	$L_I-N_V=\gamma_{11/1}$	$L_I-N_{VI}=\gamma_{11/2}$	$L_I-N_{VII}=\gamma_{11/3}$
51	4.594	4.601	4.667	4.667		
52	4.819	4.829	4.899	4.899		
53	5.053	5.062	5.138	5.138		
54	5.293	5.302	5.382	5.382		
55	5.541	5.551	5.634	5.634		
56	5.795	5.807	5.895	5.895		
57	6.060	6.074	6.167	6.167		
58	6.338	6.345	6.444	6.444		
59	6.600	6.619	6.723	6.723		
60	6.881	6.901	7.011	7.011		
61	7.168	7.191	7.306	7.306		
62	7.465	7.489	7.609	7.609		
63	7.768	7.795	7.918	7.918		
64	8.075	8.106	8.235	8.235		
65	8.392	8.427	8.560	8.561		
66	8.714	8.753	8.890	8.892	9.045	9.045
67	9.045	9.088	9.229	9.233	9.392	9.392
68	9.387	9.432	9.576	9.583	9.749	9.749
69	9.734	9.781	9.929	9.939	10.111	10.111
70	10.092	10.138	10.291	10.301	10.481	10.481
71	10.454	10.507	10.664	10.675	10.863	10.863
72	10.833	10.888	11.048	11.059	11.255	11.255
73	11.215	11.276	11.440	11.452	11.655	11.655
74	11.606	11.674	11.842	11.856	12.062	12.064
75	12.010	12.083	12.255	12.270	12.484	12.487
76	12.423	12.501	12.678	12.695	12.916	12.919
77	12.842	12.926	13.108	13.126	13.356	13.359
78	13.271	13.361	13.549	13.567	13.806	13.809
79	13.709	13.807	14.000	14.019	14.267	14.270
80	14.160	14.268	14.462	14.482	14.740	14.744
81	14.623	14.738	14.939	14.960	15.223	15.230
82	15.097	15.218	15.426	15.448	15.718	15.724
83	15.586	15.712	15.927	15.951	16.229	16.234
84	16.085	16.229	16.438	16.463	16.753	16.758
85	16.593	16.751	16.958	16.985	17.282	17.287
86	17.107	17.283	17.487	17.514	17.815	17.821
87	17.640	17.829	18.036	18.063	18.369	18.376
88	18.185	18.379	18.599	18.627	18.941	18.949
89	18.735	18.935	19.170	19.201	19.525	19.533
90	19.298	19.498	19.753	19.790	20.122	20.131
91	19.881	20.098	20.359	20.397	20.737	20.747
92	20.486	20.714	20.979	21.019	21.367	21.378
93	21.099	21.340	21.611	21.655	22.012	22.023
94	21.726	21.979	22.260	22.308	22.669	22.681
95	22.373	22.642	22.931	22.984	23.346	23.358
96	23.039	23.328	23.623	23.682	24.042	24.054
97	23.720	24.030	24.332	24.398	24.754	24.766
98	24.414	24.745	25.057	25.128	25.479	25.492
99	25.123	25.476	25.802	25.876	26.221	26.235
100	25.847	26.224	26.567	26.642	26.980	26.995

Table V (cont'd)

L X-ray Energies in keV

Z	$L_I-O_I=\gamma_{11/4}$	$L_I-O_{II}=\gamma_{4/1}$	$L_I-O_{III}=\gamma_{4/2}$	$L_I-O_{IV}=\gamma_{11/5}$	$L_I-O_V=\gamma_{11/6}$
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48					
49	4.237	4.237	4.237		
50	4.461	4.463	4.463		

Table V (cont'd)

L X-ray Energies in keV

Z	$L_I-O_I=\gamma_{11/4}$	$L_I-O_{II}=\gamma_{4/1}$	$L_I-O_{III}=\gamma_{4/2}$	$L_I-O_{IV}=\gamma_{11/5}$	$L_I-O_V=\gamma_{11/6}$
51	4.691	4.695	4.695		
52	4.927	4.934	4.934		
53	5.172	5.181	5.181		
54	5.427	5.436	5.436		
55	5.693	5.702	5.702		
56	5.966	5.973	5.974		
57	6.244	6.251	6.252		
58	6.525	6.533	6.534		
59	6.810	6.817	6.819		
60	7.101	7.109	7.111		
61	7.399	7.408	7.411		
62	7.705	7.715	7.718		
63	8.019	8.030	8.033		
64	8.339	8.351	8.355		
65	8.669	8.683	8.687		
66	9.004	9.020	9.024		
67	9.349	9.366	9.371		
68	9.703	9.723	9.727		
69	10.063	10.085	10.090		
70	10.432	10.456	10.461		
71	10.813	10.838	10.845		
72	11.206	11.233	11.241		
73	11.609	11.637	11.647		
74	12.022	12.051	12.062	12.097	12.097
75	12.446	12.477	12.489	12.526	12.526
76	12.881	12.914	12.927	12.966	12.966
77	13.324	13.359	13.373	13.415	13.415
78	13.778	13.815	13.828	13.875	13.875
79	14.243	14.281	14.295	14.345	14.345
80	14.721	14.762	14.776	14.830	14.831
81	15.212	15.255	15.271	15.331	15.333
82	15.714	15.757	15.775	15.841	15.843
83	16.230	16.274	16.293	16.365	16.367
84	16.759	16.803	16.828	16.902	16.905
85	17.296	17.341	17.371	17.449	17.454
86	17.842	17.890	17.924	18.002	18.011
87	18.406	18.459	18.497	18.572	18.585
88	18.984	19.039	19.084	19.160	19.170
89	19.574	19.631	19.681	19.758	19.766
90	20.176	20.236	20.291	20.372	20.378
91	20.795	20.858	20.920	21.005	21.013
92	21.435	21.494	21.564	21.654	21.663
93	22.087	22.144	22.221	22.318	22.326
94	22.757	22.809	22.892	22.993	23.003
95	23.443	23.497	23.584	23.689	23.700
96	24.153	24.204	24.296	24.406	24.417
97	24.877	24.928	25.025	25.140	25.151
98	25.617	25.667	25.770	25.888	25.900
99	26.373	26.425	26.533	26.654	26.667
100	27.146	27.201	27.314	27.439	27.452

Table V (cont'd)

L X-ray Energies in keV

Z	$L_{II}-M_I=\eta$	$L_{II}-M_{II}=\gamma_{1/2}$	$L_{II}-M_{III}=\beta_{1/2}$	$L_{II}-M_{IV}=\beta_1$	$L_{II}-M_V=\beta_{1/2}$	$L_{II}-N_I=\gamma_5$
1						
2						
3						
4						
5						
6						
7						
8						
9						
10	.017					
11	.030					
12	.047					
13	.068					
14	.092	.098	.098			
15	.120	.128	.128			
16	.151	.161	.161			
17	.185	.196	.196			
18	.222	.235	.235			
19	.262	.278	.278			
20	.306	.325	.325			
21	.353	.374	.374			
22	.402	.427	.427			
23	.455	.483	.483			
24	.510	.542	.542	.583	.583	
25	.567	.604	.604	.649	.649	
26	.628	.668	.668	.718	.718	
27	.693	.734	.734	.790	.790	
28	.760	.804	.804	.866	.866	
29	.831	.879	.879	.946	.946	
30	.905	.955	.956	1.033	1.033	1.042
31	.984	1.036	1.039	1.125	1.125	1.140
32	1.068	1.122	1.127	1.220	1.220	1.244
33	1.155	1.213	1.219	1.318	1.318	1.351
34	1.245	1.307	1.314	1.420	1.420	1.463
35	1.340	1.406	1.413	1.525	1.526	1.579
36	1.439	1.508	1.517	1.636	1.637	1.703
37	1.541	1.615	1.624	1.751	1.753	1.832
38	1.649	1.727	1.738	1.872	1.874	1.969
39	1.761	1.843	1.856	1.997	1.999	2.111
40	1.877	1.963	1.977	2.125	2.127	2.256
41	1.997	2.087	2.103	2.258	2.260	2.407
42	2.120	2.215	2.233	2.395	2.397	2.562
43	2.248	2.348	2.367	2.537	2.540	2.723
44	2.382	2.484	2.506	2.683	2.687	2.892
45	2.519	2.625	2.650	2.834	2.839	3.065
46	2.660	2.771	2.798	2.990	2.995	3.243
47	2.806	2.922	2.953	3.151	3.157	3.428
48	2.957	3.076	3.111	3.317	3.323	3.619
49	3.112	3.236	3.274	3.487	3.495	3.816
50	3.272	3.400	3.442	3.663	3.671	4.019

Table V (cont'd)

L X-ray Energies in keV

Z	$L_{II}-M_I=\eta$	$L_{II}-M_{II}=\gamma_{1/2}$	$L_{II}-M_{III}=\beta_{1/1}$	$L_{II}-M_{IV}=\beta_1$	$L_{II}-M_V=\beta_{1/2}$	$L_{II}-N_I=\gamma_5$
51	3.437	3.569	3.615	3.844	3.853	4.229
52	3.606	3.742	3.793	4.029	4.040	4.444
53	3.780	3.921	3.976	4.219	4.233	4.666
54	3.959	4.105	4.166	4.416	4.430	4.894
55	4.143	4.295	4.362	4.620	4.634	5.129
56	4.332	4.488	4.562	4.829	4.843	5.370
57	4.528	4.687	4.767	5.043	5.059	5.620
58	4.729	4.891	4.979	5.263	5.281	5.877
59	4.935	5.103	5.198	5.409	5.509	6.138
60	5.147	5.319	5.424	5.721	5.744	6.405
61	5.365	5.542	5.656	5.961	5.986	6.681
62	5.589	5.771	5.893	6.206	6.234	6.965
63	5.818	6.004	6.137	6.457	6.487	7.255
64	6.049	6.242	6.386	6.713	6.745	7.551
65	6.289	6.487	6.642	6.978	7.012	7.855
66	6.534	6.738	6.904	7.248	7.285	8.164
67	6.788	6.995	7.175	7.526	7.567	8.485
68	7.047	7.258	7.452	7.811	7.855	8.813
69	7.311	7.527	7.736	8.102	8.149	9.146
70	7.580	7.803	8.028	8.401	8.450	9.486
71	7.855	8.085	8.325	8.708	8.758	9.834
72	8.139	8.375	8.631	9.023	9.077	10.200
73	8.427	8.667	8.942	9.343	9.401	10.570
74	8.721	8.966	9.260	9.670	9.732	10.946
75	9.023	9.275	9.589	10.007	10.074	11.332
76	9.333	9.593	9.928	10.354	10.425	11.729
77	9.651	9.916	10.273	10.708	10.784	12.136
78	9.976	10.246	10.628	11.071	11.151	12.549
79	10.309	10.584	10.991	11.443	11.528	12.972
80	10.647	10.929	11.362	11.824	11.914	13.408
81	10.993	11.281	11.741	12.212	12.308	13.852
82	11.349	11.646	12.134	12.614	12.716	14.309
83	11.714	12.018	12.537	13.025	13.133	14.775
84	12.088	12.395	12.949	13.446	13.561	15.254
85	12.468	12.779	13.369	13.876	13.998	15.743
86	12.855	13.173	13.799	14.315	14.445	16.242
87	13.252	13.579	14.240	14.768	14.904	16.754
88	13.660	13.994	14.693	15.231	15.375	17.276
89	14.081	14.425	15.165	15.712	15.864	17.814
90	14.511	14.863	15.647	16.203	16.361	18.363
91	14.950	15.311	16.140	16.705	16.872	18.929
92	15.400	15.767	16.644	17.220	17.396	19.507
93	15.865	16.234	17.165	17.750	17.936	20.099
94	16.343	16.715	17.702	18.297	18.492	20.708
95	16.836	17.210	18.255	18.858	19.064	21.333
96	17.341	17.718	18.824	19.433	19.651	21.974
97	17.859	18.238	19.408	20.021	20.253	22.630
98	18.390	18.772	20.008	20.623	20.871	23.303
99	18.934	19.319	20.624	21.239	21.505	23.992
100	19.491	19.879	21.256	21.869	22.155	24.698

Table V (cont'd)

L X-ray Energies in keV

Z	$L_{II}-N_{II}=\beta_{17/3}$	$L_{II}-N_{III}=\beta_{17/4}$	$L_{II}-N_{IV}=\gamma_1$	$L_{II}-N_V=\beta_{17/5}$	$L_{II}-N_{VI}=\nu_1$	$L_{II}-N_{VII}$
1						
2						
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22						
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24						
25						
26						
27						
28						
29						
30						
31						
32	1.247	1.247				
33	1.357	1.357				
34	1.471	1.471				
35	1.590	1.590				
36	1.717	1.717				
37	1.848	1.848				
38	1.987	1.987				
39	2.130	2.130				
40	2.278	2.278				
41	2.432	2.432				
42	2.590	2.590				
43	2.754	2.755				
44	2.924	2.925	2.966	2.966		
45	3.098	3.100	3.144	3.144		
46	3.276	3.279	3.327	3.327		
47	3.463	3.467	3.519	3.519		
48	3.659	3.663	3.718	3.718		
49	3.861	3.865	3.922	3.922		
50	4.067	4.071	4.132	4.132		

Table V (cont'd)

L X-ray Energies in keV

Z	$L_{II}-N_{II}=\beta_{17/3}$	$L_{II}-N_{III}=\beta_{17/4}$	$L_{II}-N_{IV}=\gamma_1$	$L_{II}-N_V=\beta_{17/5}$	$L_{II}-N_{VI}=\gamma_1$	$L_{II}-N_{VII}$
51	4.277	4.284	4.350	4.350		
52	4.492	4.502	4.572	4.572		
53	4.717	4.726	4.802	4.802		
54	4.950	4.959	5.039	5.039		
55	5.188	5.198	5.281	5.281		
56	5.431	5.443	5.531	5.531		
57	5.685	5.699	5.792	5.792		
58	5.943	5.960	6.059	6.059		
59	6.205	6.224	6.328	6.328		
60	6.475	6.495	6.605	6.605		
61	6.753	6.776	6.891	6.891		
62	7.041	7.065	7.185	7.185		
63	7.334	7.361	7.484	7.484		
64	7.630	7.661	7.790	7.790		
65	7.936	7.971	8.104	8.105		
66	8.248	8.287	8.424	8.426	8.579	8.579
67	8.569	8.612	8.753	8.757	8.916	8.916
68	8.899	8.944	9.088	9.095	9.261	9.261
69	9.235	9.282	9.430	9.440	9.612	9.612
70	9.581	9.627	9.780	9.790	9.970	9.970
71	9.929	9.982	10.139	10.150	10.338	10.338
72	10.300	10.355	10.515	10.526	10.722	10.722
73	10.671	10.732	10.896	10.908	11.111	11.111
74	11.049	11.117	11.285	11.299	11.505	11.507
75	11.439	11.512	11.684	11.699	11.913	11.916
76	11.839	11.917	12.094	12.111	12.332	12.335
77	12.247	12.331	12.513	12.531	12.761	12.764
78	12.664	12.754	12.942	12.960	13.199	13.202
79	13.090	13.188	13.381	13.400	13.648	13.651
80	13.527	13.635	13.829	13.849	14.107	14.111
81	13.974	14.089	14.290	14.311	14.574	14.581
82	14.436	14.557	14.765	14.787	15.057	15.063
83	14.909	15.035	15.250	15.274	15.552	15.557
84	15.393	15.537	15.746	15.771	16.061	16.066
85	15.887	16.045	16.252	16.279	16.576	16.581
86	16.389	16.565	16.769	16.796	17.097	17.103
87	16.905	17.094	17.301	17.328	17.634	17.641
88	17.432	17.626	17.846	17.874	18.188	18.196
89	17.973	18.173	18.408	18.439	18.763	18.771
90	18.525	18.725	18.980	19.017	19.349	19.358
91	19.090	19.307	19.568	19.606	19.946	19.956
92	19.675	19.903	20.168	20.208	20.556	20.567
93	20.272	20.513	20.784	20.828	21.185	21.196
94	20.887	21.140	21.421	21.469	21.830	21.842
95	21.519	21.788	22.077	22.130	22.492	22.504
96	22.167	22.456	22.751	22.810	23.170	23.182
97	22.830	23.140	23.442	23.508	23.864	23.876
98	23.509	23.840	24.152	24.223	24.574	24.587
99	24.203	24.556	24.882	24.956	25.301	25.315
100	24.912	25.289	25.632	25.707	26.045	26.060

Table V (cont'd)

L X-ray Energies in keV

Z	$L_{II}-O_I=\gamma_8$	$L_{II}-O_{II}=\nu_2$	$L_{II}-O_{III}=\nu_3$	$L_{II}-O_{IV}=\gamma_6$	$L_{II}-O_V$
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
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35					
36					
37					
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49	3.937	3.937	3.937		
50	4.152	4.154	4.154		

Table V (cont'd)
L X-ray Energies in keV

Z	$L_{II}-O_I=\gamma_8$	$L_{II}-O_{II}=\gamma_2$	$L_{II}-O_{III}=\gamma_3$	$L_{II}-O_{IV}=\gamma_6$	$L_{II}-O_V$
51	4.374	4.378	4.378		
52	4.600	4.607	4.607		
53	4.836	4.845	4.845		
54	5.084	5.093	5.093		
55	5.340	5.349	5.349		
56	5.602	5.609	5.610		
57	5.869	5.876	5.877		
58	6.140	6.148	6.149		
59	6.415	6.422	6.424		
60	6.695	6.703	6.705		
61	6.984	6.993	6.996		
62	7.281	7.291	7.294		
63	7.585	7.596	7.599		
64	7.894	7.906	7.910		
65	8.213	8.227	8.231		
66	8.538	8.554	8.558		
67	8.873	8.890	8.895		
68	9.215	9.235	9.239		
69	9.564	9.586	9.591		
70	9.921	9.945	9.950		
71	10.288	10.313	10.320		
72	10.673	10.700	10.708		
73	11.065	11.093	11.103		
74	11.465	11.494	11.505	11.540	11.540
75	11.875	11.906	11.918	11.955	11.955
76	12.297	12.330	12.343	12.382	12.382
77	12.729	12.764	12.778	12.820	12.820
78	13.171	13.208	13.221	13.268	13.267
79	13.624	13.662	13.676	13.726	13.726
80	14.088	14.129	14.143	14.197	14.198
81	14.563	14.606	14.622	14.682	14.684
82	15.053	15.096	15.114	15.180	15.182
83	15.553	15.597	15.616	15.688	15.690
84	16.067	16.111	16.136	16.210	16.213
85	16.590	16.635	16.665	16.743	16.748
86	17.124	17.172	17.206	17.284	17.293
87	17.671	17.724	17.762	17.837	17.850
88	18.231	18.286	18.331	18.407	18.417
89	18.812	18.869	18.919	18.996	19.004
90	19.403	19.463	19.518	19.599	19.605
91	20.004	20.067	20.129	20.214	20.222
92	20.624	20.683	20.753	20.843	20.852
93	21.260	21.317	21.394	21.491	21.499
94	21.918	21.970	22.053	22.154	22.164
95	22.589	22.643	22.730	22.835	22.846
96	23.281	23.332	23.424	23.534	23.545
97	23.987	24.038	24.135	24.250	24.261
98	24.712	24.762	24.865	24.983	24.995
99	25.453	25.505	25.613	25.734	25.747
100	26.211	26.266	26.379	26.504	26.517

Table V (cont'd)
L X-ray Energies in keV

Z	$L_{III}-M_I=\ell$	$L_{III}-M_{II}=t$	$L_{III}-M_{III}=s_1$	$L_{III}-M_{IV}=\alpha_2$	$L_{III}-M_V=\alpha_1$	$L_{III}-N_I=\beta_6$
1						
2						
3						
4						
5						
6						
7						
8						
9						
10	.017					
11	.030					
12	.047					
13	.068					
14	.093	.099	.099			
15	.120	.128	.128			
16	.151	.161	.161			
17	.184	.195	.195			
18	.220	.233	.233			
19	.260	.276	.276			
20	.302	.321	.321			
21	.348	.369	.369			
22	.396	.421	.421			
23	.447	.475	.475			
24	.501	.533	.533	.574	.574	
25	.556	.593	.593	.638	.638	
26	.615	.655	.655	.705	.705	
27	.678	.719	.719	.775	.775	
28	.743	.787	.787	.849	.849	
29	.811	.859	.859	.926	.926	
30	.882	.932	.933	1.010	1.010	1.019
31	.957	1.009	1.012	1.098	1.098	1.113
32	1.037	1.091	1.096	1.189	1.189	1.213
33	1.119	1.177	1.183	1.282	1.282	1.315
34	1.204	1.266	1.273	1.379	1.379	1.422
35	1.294	1.360	1.367	1.479	1.480	1.533
36	1.387	1.456	1.465	1.584	1.585	1.651
37	1.483	1.557	1.566	1.693	1.695	1.774
38	1.582	1.660	1.671	1.805	1.807	1.902
39	1.685	1.767	1.780	1.921	1.923	2.035
40	1.793	1.879	1.893	2.041	2.043	2.172
41	1.903	1.993	2.009	2.164	2.166	2.313
42	2.016	2.111	2.129	2.291	2.293	2.458
43	2.132	2.232	2.251	2.421	2.424	2.607
44	2.253	2.355	2.377	2.554	2.558	2.763
45	2.377	2.483	2.508	2.692	2.697	2.923
46	2.504	2.615	2.642	2.834	2.839	3.087
47	2.633	2.749	2.780	2.978	2.984	3.255
48	2.767	2.886	2.921	3.127	3.133	3.429
49	2.904	3.028	3.066	3.279	3.287	3.608
50	3.045	3.173	3.215	3.436	3.444	3.792

Table V (cont'd)
L X-ray Energies in keV

Z	$L_{III}-M_I=\ell$	$L_{III}-M_{II}=t$	$L_{III}-M_{III}=s_1$	$L_{III}-M_{IV}=\alpha_2$	$L_{III}-M_V=\alpha_1$	$L_{III}-N_I=\beta_6$
51	3.188	3.320	3.366	3.595	3.604	3.980
52	3.335	3.471	3.522	3.758	3.769	4.173
53	3.485	3.626	3.681	3.924	3.938	4.371
54	3.639	3.785	3.846	4.096	4.110	4.574
55	3.795	3.947	4.014	4.272	4.286	4.781
56	3.956	4.112	4.186	4.453	4.467	4.994
57	4.121	4.280	4.360	4.636	4.652	5.213
58	4.288	4.450	4.538	4.822	4.840	5.436
59	4.459	4.627	4.733	5.013	5.033	5.662
60	4.633	4.805	4.910	5.207	5.230	5.891
61	4.811	4.988	5.102	5.407	5.432	6.127
62	4.993	5.175	5.297	5.610	5.638	6.369
63	5.177	5.363	5.496	5.816	5.846	6.614
64	5.362	5.555	5.699	6.026	6.058	6.864
65	5.551	5.749	5.904	6.240	6.274	7.117
66	5.744	5.948	6.114	6.458	6.495	7.374
67	5.942	6.149	6.329	6.680	6.721	7.639
68	6.141	6.352	6.546	6.905	6.949	7.907
69	6.342	6.558	6.767	7.133	7.180	8.177
70	6.545	6.768	6.993	7.366	7.415	8.451
71	6.751	6.981	7.221	7.604	7.654	8.730
72	6.960	7.196	7.452	7.844	7.898	9.021
73	7.171	7.411	7.686	8.087	8.145	9.314
74	7.384	7.629	7.923	8.333	8.395	9.609
75	7.600	7.852	8.166	8.584	8.651	9.909
76	7.819	8.079	8.414	8.840	8.911	10.215
77	8.042	8.307	8.664	9.099	9.175	10.527
78	8.267	8.537	8.919	9.362	9.442	10.840
79	8.494	8.769	9.176	9.628	9.713	11.157
80	8.721	9.003	9.436	9.898	9.988	11.482
81	8.952	9.240	9.700	10.171	10.267	11.811
82	9.184	9.481	9.969	10.449	10.551	12.144
83	9.420	9.724	10.243	10.731	10.839	12.481
84	9.658	9.965	10.519	11.016	11.131	12.824
85	9.897	10.208	10.798	11.305	11.427	13.172
86	10.137	10.455	11.081	11.597	11.727	13.524
87	10.378	10.705	11.366	11.894	12.030	13.880
88	10.622	10.956	11.655	12.193	12.337	14.238
89	10.868	11.212	11.952	12.499	12.651	14.601
90	11.118	11.470	12.254	12.810	12.968	14.970
91	11.369	11.730	12.559	13.124	13.291	15.348
92	11.622	11.989	12.866	13.442	13.618	15.729
93	11.878	12.247	13.178	13.763	13.949	16.112
94	12.136	12.508	13.495	14.090	14.285	16.501
95	12.397	12.771	13.816	14.419	14.625	16.894
96	12.660	13.037	14.143	14.752	14.970	17.293
97	12.926	13.305	14.475	15.088	15.320	17.697
98	13.194	13.576	14.812	15.427	15.675	18.107
99	13.465	13.850	15.155	15.770	16.036	18.523
100	13.739	14.127	15.504	16.117	16.403	18.946

Table V (cont'd)

L X-ray Energies in keV

Z	$L_{III}-N_{II}=s_2$	$L_{III}-N_{III}=s_3$	$L_{III}-N_{IV}=\beta_{15}$	$L_{III}-N_V=\beta_2$	$L_{III}-N_{VI}=u_1$	$L_{III}-N_{VII}=u_2$
1						
2						
3						
4						
5						
6						
7						
8						
9						
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17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32	1.216	1.216				
33	1.321	1.321				
34	1.430	1.430				
35	1.544	1.544				
36	1.665	1.665				
37	1.790	1.790				
38	1.920	1.920				
39	2.054	2.054				
40	2.194	2.194				
41	2.338	2.338				
42	2.486	2.486				
43	2.638	2.639				
44	2.795	2.796	2.837	2.837		
45	2.956	2.958	3.002	3.002		
46	3.120	3.123	3.171	3.171		
47	3.290	3.294	3.346	3.346		
48	3.469	3.473	3.528	3.528		
49	3.653	3.657	3.714	3.714		
50	3.840	3.844	3.905	3.905		

Table V (cont'd)

L X-ray Energies in keV

Z	$L_{III}-N_{II}=s_2$	$L_{III}-N_{III}=s_3$	$L_{III}-N_{IV}=\beta_{15}$	$L_{III}-N_{V}=\beta_2$	$L_{III}-N_{VI}=u_1$	$L_{III}-N_{VII}=u_2$
51	4.028	4.035	4.101	4.101		
52	4.221	4.231	4.301	4.301		
53	4.422	4.431	4.507	4.507		
54	4.630	4.639	4.719	4.719		
55	4.840	4.850	4.933	4.933		
56	5.055	5.067	5.155	5.155		
57	5.278	5.292	5.385	5.385		
58	5.502	5.519	5.618	5.618		
59	5.729	5.748	5.852	5.852		
60	5.961	5.981	6.091	6.091		
61	6.199	6.222	6.337	6.337		
62	6.445	6.469	6.589	6.589		
63	6.693	6.720	6.843	6.843		
64	6.943	6.974	7.103	7.103		
65	7.198	7.233	7.366	7.367		
66	7.458	7.497	7.634	7.636	7.789	7.789
67	7.723	7.766	7.907	7.911	8.070	8.070
68	7.993	8.038	8.182	8.189	8.355	8.355
69	8.266	8.313	8.461	8.471	8.643	8.643
70	8.546	8.592	8.745	8.755	8.935	8.935
71	8.825	8.878	9.035	9.046	9.234	9.234
72	9.121	9.176	9.336	9.347	9.543	9.543
73	9.415	9.476	9.640	9.652	9.855	9.855
74	9.712	9.780	9.948	9.962	10.168	10.170
75	10.016	10.089	10.261	10.276	10.490	10.493
76	10.325	10.403	10.580	10.597	10.818	10.821
77	10.638	10.722	10.904	10.922	11.152	11.155
78	10.955	11.045	11.233	11.251	11.490	11.493
79	11.275	11.373	11.566	11.585	11.833	11.836
80	11.601	11.709	11.903	11.923	12.181	12.185
81	11.933	12.048	12.249	12.270	12.533	12.540
82	12.271	12.392	12.600	12.622	12.892	12.898
83	12.615	12.741	12.956	12.980	13.258	13.263
84	12.963	13.107	13.316	13.341	13.631	13.636
85	13.316	13.474	13.681	13.708	14.005	14.010
86	13.671	13.847	14.051	14.078	14.379	14.385
87	14.031	14.220	14.427	14.454	14.760	14.767
88	14.394	14.588	14.808	14.836	15.150	15.158
89	14.760	14.960	15.195	15.226	15.550	15.558
90	15.132	15.332	15.587	15.624	15.956	15.965
91	15.509	15.726	15.987	16.025	16.365	16.375
92	15.897	16.125	16.390	16.430	16.778	16.789
93	16.285	16.526	16.797	16.841	17.198	17.209
94	16.680	16.933	17.214	17.262	17.623	17.635
95	17.080	17.349	17.638	17.691	18.053	18.065
96	17.486	17.775	18.070	18.129	18.489	18.501
97	17.897	18.207	18.509	18.575	18.931	18.943
98	18.313	18.644	18.956	19.027	19.378	19.391
99	18.734	19.087	19.413	19.487	19.832	19.846
100	19.160	19.537	19.880	19.955	20.293	20.308

Table V (cont'd)

L X-ray Energies in keV

Z	$L_{III}-O_I=\beta_7$	$L_{III}-O_{II}=u_3$	$L_{III}-O_{III}=u_4$	$L_{III}-O_{IV}=\beta_{5/2}$	$L_{III}-O_V=\beta_{5/3}$
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
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35					
36					
37					
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49	3.729	3.729	3.729		
50	3.925	3.927	3.927		

Table V (cont'd)

L X-ray Energies in keV

Z	$L_{III}-O_I=\beta_7$	$L_{III}-O_{II}=u_3$	$L_{III}-O_{III}=u_4$	$L_{III}-O_{IV}=\beta_{5/2}$	$L_{III}-O_V=\beta_{5/3}$
51	4.125	4.129	4.129		
52	4.329	4.336	4.336		
53	4.541	4.550	4.550		
54	4.764	4.773	4.773		
55	4.992	5.001	5.001		
56	5.226	5.233	5.234		
57	5.462	5.469	5.470		
58	5.699	5.707	5.708		
59	5.939	5.946	5.948		
60	6.181	6.189	6.191		
61	6.430	6.439	6.442		
62	6.685	6.695	6.698		
63	6.944	6.955	6.958		
64	7.207	7.219	7.223		
65	7.475	7.489	7.493		
66	7.748	7.764	7.768		
67	8.027	8.044	8.049		
68	8.309	8.329	8.333		
69	8.595	8.617	8.622		
70	8.886	8.910	8.915		
71	9.184	9.209	9.216		
72	9.494	9.521	9.529		
73	9.809	9.837	9.847		
74	10.128	10.157	10.168	10.203	10.203
75	10.452	10.483	10.495	10.532	10.532
76	10.783	10.816	10.829	10.868	10.868
77	11.120	11.155	11.169	11.211	11.211
78	11.462	11.499	11.512	11.559	11.559
79	11.809	11.847	11.861	11.911	11.911
80	12.162	12.203	12.217	12.271	12.272
81	12.522	12.565	12.581	12.641	12.643
82	12.888	12.931	12.949	13.015	13.017
83	13.259	13.303	13.322	13.394	13.396
84	13.637	13.681	13.706	13.780	13.783
85	14.019	14.064	14.094	14.172	14.177
86	14.406	14.454	14.488	14.566	14.575
87	14.797	14.850	14.888	14.963	14.976
88	15.193	15.248	15.293	15.369	15.379
89	15.599	15.656	15.706	15.783	15.791
90	16.010	16.070	16.125	16.206	16.212
91	16.423	16.486	16.548	16.633	16.641
92	16.846	16.905	16.975	17.065	17.074
93	17.273	17.330	17.407	17.504	17.512
94	17.711	17.763	17.846	17.947	17.957
95	18.150	18.204	18.291	18.396	18.407
96	18.600	18.651	18.743	18.853	18.864
97	19.054	19.105	19.202	19.317	19.328
98	19.516	19.566	19.669	19.787	19.799
99	19.984	20.036	20.144	20.265	20.278
100	20.459	20.514	20.627	20.752	20.765

Table VI
Weighted Average L,K X-ray Energies in keV

Z	$\bar{K}_\alpha$	$\bar{K}_\beta$	$\bar{K}_{\alpha,\beta}$	$\bar{L}_{I, II, III}$	$\bar{L}_{II, III}$	$\bar{L}_{III}$
1						
2						
3	.054		.054			
4	.109		.109			
5	.184		.184			
6	.279		.279			
7	.393		.393			
8	.524		.524			
9	.675		.675			
10	.849		.849	.018	.017	.017
11	1.041		1.041	.031	.030	.030
12	1.255		1.255	.048	.047	.047
13	1.487		1.487	.069	.068	.068
14	1.739	1.838	1.742	.136	.093	.093
15	2.014	2.142	2.020	.169	.121	.120
16	2.307	2.468	2.317	.205	.152	.152
17	2.622	2.817	2.636	.243	.185	.185
18	2.957	3.191	2.977	.286	.222	.221
19	3.312	3.589	3.337	.334	.262	.261
20	3.690	4.012	3.719	.385	.305	.303
21	4.088	4.459	4.124	.438	.351	.349
22	4.508	4.931	4.550	.495	.400	.397
23	4.949	5.427	4.998	.555	.452	.449
24	5.411	5.947	5.467	.582	.575	.572
25	5.895	6.492	5.959	.646	.639	.636
26	6.400	7.059	6.472	.714	.707	.702
27	6.925	7.649	7.006	.785	.777	.772
28	7.472	8.265	7.563	.859	.852	.846
29	8.041	8.907	8.142	.937	.929	.923
30	8.631	9.572	8.744	1.022	1.014	1.006
31	9.243	10.263	9.367	1.111	1.103	1.094
32	9.876	10.984	10.015	1.207	1.195	1.185
33	10.532	11.729	10.687	1.302	1.290	1.278
34	11.210	12.501	11.380	1.402	1.388	1.375
35	11.907	13.296	12.096	1.504	1.490	1.475
36	12.630	14.120	12.837	1.612	1.597	1.580
37	13.375	14.971	13.602	1.724	1.708	1.690
38	14.142	15.849	14.390	1.840	1.823	1.802
39	14.933	16.754	15.204	1.960	1.942	1.918
40	15.746	17.687	16.040	2.084	2.065	2.038
41	16.584	18.647	16.900	2.212	2.191	2.160
42	17.443	19.633	17.787	2.343	2.321	2.287
43	18.327	20.647	18.696	2.479	2.455	2.418
44	19.235	21.687	19.632	2.654	2.635	2.594
45	20.167	22.759	20.593	2.802	2.782	2.736
46	21.123	23.859	21.581	2.953	2.933	2.882
47	22.104	24.987	22.592	3.109	3.087	3.031
48	23.109	26.143	23.630	3.270	3.247	3.185
49	24.139	27.382	24.750	3.439	3.412	3.346
50	25.193	28.601	25.843	3.609	3.581	3.508

Table VI (cont'd)

Weighted Average L,K X-ray Energies in keV

Z	$\bar{K}_\alpha$	$\bar{K}_\beta$	$\bar{K}_{\alpha,\beta}$	$\bar{L}_{I,II,III}$	$\bar{L}_{II,III}$	$\bar{L}_{III}$
51	26.274	29.851	26.965	3.783	3.753	3.673
52	27.380	31.128	28.116	3.961	3.930	3.843
53	28.512	32.437	29.291	4.145	4.111	4.017
54	29.669	33.777	30.491	4.333	4.298	4.195
55	30.854	35.149	31.726	4.526	4.489	4.377
56	32.065	36.553	32.988	4.724	4.685	4.564
57	33.302	37.986	34.275	4.928	4.886	4.756
58	34.569	39.453	35.593	5.136	5.092	4.950
59	35.864	40.953	36.940	5.348	5.302	5.149
60	37.185	42.484	38.315	5.565	5.517	5.352
61	38.535	44.049	39.721	5.789	5.738	5.561
62	39.914	45.649	41.161	6.018	5.963	5.773
63	41.323	47.283	42.633	6.250	6.192	5.988
64	42.761	48.949	44.132	6.486	6.426	6.207
65	44.229	50.650	45.665	6.729	6.665	6.430
66	45.728	52.384	47.226	6.980	6.911	6.659
67	47.257	54.155	48.819	7.234	7.161	6.892
68	48.818	55.963	50.448	7.492	7.416	7.127
69	50.410	57.806	52.108	7.754	7.674	7.365
70	52.035	59.687	53.802	8.022	7.937	7.607
71	53.693	61.607	55.534	8.296	8.206	7.854
72	55.382	63.562	57.296	8.576	8.482	8.106
73	57.106	65.556	59.099	8.861	8.762	8.361
74	58.864	67.586	60.936	9.169	9.065	8.622
75	60.655	69.659	62.807	9.467	9.357	8.886
76	62.482	71.775	64.718	9.771	9.656	9.155
77	64.346	73.933	66.668	10.081	9.960	9.428
78	66.246	76.131	68.655	10.396	10.268	9.703
79	68.185	78.372	70.685	10.717	10.583	9.983
80	70.160	80.656	72.747	11.044	10.903	10.267
81	72.176	82.985	74.856	11.375	11.226	10.551
82	74.228	85.357	77.002	11.719	11.563	10.849
83	76.321	87.774	79.194	12.067	11.903	11.147
84	78.460	90.243	81.426	12.421	12.249	11.448
85	80.636	92.754	83.701	12.781	12.601	11.754
86	82.855	95.315	86.024	13.147	12.958	12.063
87	85.124	97.930	88.396	13.521	13.322	12.376
88	87.437	100.593	90.814	13.902	13.693	12.693
89	89.790	103.310	93.279	14.292	14.074	13.017
90	92.190	106.077	95.791	14.690	14.461	13.345
91	94.643	108.906	98.347	15.096	14.856	13.679
92	97.143	111.786	100.964	15.509	15.257	14.016
93	99.693	114.720	103.631	15.931	15.667	14.357
94	102.295	117.716	106.354	16.362	16.086	14.704
95	104.952	120.775	109.136	16.803	16.513	15.056
96	107.670	123.903	111.980	17.252	16.949	15.413
97	110.450	127.102	114.891	17.711	17.392	15.775
98	113.298	130.377	117.867	18.178	17.844	16.142
99	116.217	133.730	120.922	18.655	18.305	16.516
100	119.210	137.167	124.054	19.141	18.775	16.895

Table VII
K, L Relative Intensities

X-ray Line	Relative Intensity	X-ray Line	Relative Intensity
$L_I-M_I=L\beta_{5/1}$	.1	$L_{II}-O_I=L\gamma_8$	.1
$L_I-M_{II}=L\beta_4$	6.4	$L_{II}-O_{II}=L\gamma_2$	.1
$L_I-M_{III}=L\beta_3$	8.5	$L_{II}-O_{III}=L\gamma_3$	.1
$L_I-M_{IV}=L\beta_{10}$	.5	$L_{II}-O_{IV}=L\gamma_6$	1.5
$L_I-M_V=L\beta_{9/1}$	.2	$L_{II}-O_V$	.1
$L_I-N_I=L\beta_{9/2}$	.2	$L_{III}-M_I=L\ell$	3.2
$L_I-N_{II}=L\gamma_2$	1.5	$L_{III}-M_{II}=L_t$	.1
$L_I-N_{III}=L\gamma_3$	2.0	$L_{III}-M_{III}=Ls_1$	.1
$L_I-N_{IV}=L\beta_{9/3}$	.2	$L_{III}-M_{IV}=L\alpha_2$	12.0
$L_I-N_V=L\gamma_{11/1}$	.1	$L_{III}-M_V=L\alpha_1$	100.0
$L_I-N_{VI}=L\gamma_{11/2}$	.1	$L_{III}-N_I=L\beta_6$	1.5
$L_I-N_{VII}=L\gamma_{11/3}$	.1	$L_{III}-N_{II}=Ls_2$	.1
$L_I-O_I=L\gamma_{11/4}$	.1	$L_{III}-N_{III}=Ls_3$	.1
$L_I-O_{II}=L\gamma_{4/1}$	.3	$L_{III}-N_{IV}=L\beta_{15}$	.1
$L_I-O_{III}=L\gamma_{4/2}$	.3	$L_{III}-N_V=L\beta_2$	20.0
$L_I-O_{IV}=L\gamma_{11/5}$	.1	$L_{III}-N_{VI}=Lu_1$	.1
$L_I-O_V=L\gamma_{11/6}$	.1	$L_{III}-N_{VII}=Lu_2$	.1
$L_{II}-M_I=L\eta$	1.5	$L_{III}-O_I=L\beta_7$	.5
$L_{II}-M_{II}=L\gamma_{11/7}$	.1	$L_{III}-O_{II}=Lu_3$	.1
$L_{II}-M_{III}=L\beta_{17/1}$	.1	$L_{III}-O_{III}=Lu_4$	.1
$L_{II}-M_{IV}=L\beta_1$	55.0	$L_{III}-O_{IV}=L\beta_{5/2}$	.1
$L_{II}-M_V=L\beta_{17/2}$	.1	$L_{III}-O_V=L\beta_{5/3}$	.1
$L_{II}-N_I=L\gamma_5$	.5		
$L_{II}-N_{II}=L\beta_{17/3}$	.1		
$L_{II}-N_{III}=L\beta_{17/4}$	.1		
$L_{II}-N_{IV}=L\gamma_1$	1.0		
$L_{II}-N_V=L\beta_{17/5}$	.1		
$L_{II}-N_{VI}=L\gamma_1$	.1	$K-L_{II}=K\alpha_2$	52.0
$L_{II}-N_{VII}$	.1	$K-L_{III}=K\alpha_1$	100.0

Table VII (cont'd)

K, L Relative Intensities

Z	$K-M_{II}=K\beta_3$	$K-M_{III}=K\beta_1$	$K-M_{IV}=K\beta_{5/1}$ $K-M_{V}=K\beta_{5/2}$	$K-N_{II}=K\beta_{2/1}$ $K-N_{III}=K\beta_{2/2}$	$K-N_{IV}=K\beta_{4/1}$ $K-N_{V}=K\beta_{4/2}$	$K-O_{II}=K\beta_{2/3}$ $K-O_{III}=K\beta_{2/4}$
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14	1.5	3.1				
15	2.7	5.3				
16	3.4	6.9				
17	4.1	8.1				
18	4.5	9.1				
19	4.9	9.8				
20	5.2	10.3				
21	5.4	10.9				
22	5.6	11.2				
23	5.8	11.5				
24	5.9	11.8				
25	6.0	12.1				
26	6.2	12.5				
27	6.4	12.7				
28	6.6	13.1	.01			
29	6.7	13.4	.015			
30	6.9	13.7	.02			
31	7.0	14.0	.03			
32	7.1	14.2	.035	.2		.2
33	7.3	14.6	.04	.3		.3
34	7.4	14.8	.05	.4		.4
35	7.6	15.2	.055	.5		.5
36	7.7	15.5	.065	.6		.6
37	7.9	15.8	.07	.7		.7
38	8.0	16.1	.08	.8		.8
39	8.2	16.4	.085	.9		.9
40	8.3	16.6	.09	1.0		1.0
41	8.4	16.8	.10	1.07		1.07
42	8.6	17.2	.105	1.15		1.15
43	8.7	17.4	.11	1.25		1.25
44	8.9	17.7	.115	1.27		1.27
45	9.0	17.9	.12	1.35		1.35
46	9.1	18.2	.13	1.42	.075	1.42
47	9.2	18.4	.14	1.47	.075	1.47
48	9.4	18.6	.145	1.52	.075	1.52
49	9.5	19.0	.155	1.57	.075	1.57
50	9.6	19.2	.16	1.62	.075	1.62

Table VII (cont'd)

K, L Relative Intensities

Z	$K-M_{II}=K\beta_3$	$K-M_{III}=K\beta_1$	$K-M_{IV}=K\beta_{5/1}$ $K-M_{V}=K\beta_{5/2}$	$K-N_{II}=K\beta_{2/1}$ $K-N_{III}=K\beta_{2/2}$	$K-N_{IV}=K\beta_{4/1}$ $K-N_{V}=K\beta_{4/2}$	$K-O_{II}=K\beta_{2/3}$ $K-O_{III}=K\beta_{2/4}$
51	9.7	19.4	.17	1.70	.075	1.70
52	9.9	19.8	.175	1.72	.075	1.72
53	10.0	20.0	.18	1.77	.075	1.77
54	10.1	20.2	.185	1.80	.075	1.80
55	10.3	20.5	.195	1.85	.075	1.85
56	10.4	20.8	.205	1.90	.075	1.90
57	10.5	21.0	.21	1.95	.075	1.95
58	10.6	21.2	.215	1.98	.075	1.98
59	10.7	21.4	.225	2.01	.075	2.01
60	10.8	21.6	.23	2.05	.075	2.05
61	10.9	21.8	.235	2.07	.075	2.07
62	11.0	22.1	.245	2.12	.075	2.12
63	11.2	22.3	.25	2.17	.075	2.17
64	11.3	22.5	.26	2.20	.075	2.20
65	11.4	22.8	.27	2.22	.075	2.22
66	11.5	23.0	.275	2.23	.075	2.23
67	11.6	23.2	.285	2.25	.075	2.25
68	11.7	23.4	.29	2.27	.075	2.27
69	11.8	23.6	.295	2.29	.075	2.29
70	11.9	23.8	.30	2.30	.075	2.30
71	12.0	24.0	.305	2.32	.08	2.32
72	12.1	24.2	.31	2.33	.08	2.33
73	12.2	24.5	.315	2.35	.085	2.35
74	12.4	24.7	.32	2.36	.085	2.36
75	12.5	24.9	.33	2.38	.09	2.38
76	12.6	25.1	.34	2.40	.09	2.40
77	12.7	25.3	.345	2.42	.095	2.42
78	12.8	25.5	.355	2.43	.10	2.43
79	12.9	25.8	.36	2.45	.11	2.45
80	13.0	25.9	.37	2.46	.12	2.46
81	13.1	26.1	.375	2.47	.13	2.47
82	13.2	26.3	.38	2.47	.15	2.47
83	13.3	26.6	.385	2.48	.16	2.48
84	13.4	26.7	.395	2.48	.17	2.48
85	13.5	26.9	.40	2.48	.18	2.48
86	13.6	27.1	.405	2.49	.19	2.49
87	13.7	27.3	.41	2.49	.20	2.49
88	13.8	27.5	.42	2.49	.20	2.49
89	13.9	27.7	.43	2.50	.21	2.50
90	14.0	27.9	.435	2.50	.21	2.50
91	14.0	28.0	.44	2.50	.22	2.50
92	14.1	28.2	.45	2.50	.23	2.50
93	14.2	28.4	.455	2.50	.23	2.50
94	14.3	28.6	.46	2.50	.24	2.50
95	14.4	28.8	.47	2.50	.25	2.50
96	14.5	29.0	.475	2.50	.25	2.50
97	14.6	29.2	.48	2.50	.26	2.50
98	14.7	29.3	.49	2.50	.26	2.50
99	14.8	29.5	.495	2.50	.27	2.50
100	14.9	29.7	.50	2.50	.27	2.50

Table VIII
K, L Fluorescence Yields

Z	K	L	Z	K	L
1			51	.852	.123
2			52	.860	.129
3			53	.868	.134
4			54	.875	.140
5			55	.882	.146
6			56	.889	.151
7	.001		57	.894	.158
8	.003		58	.899	.162
9	.007		59	.903	.169
10	.010		60	.909	.173
11	.013		61	.912	.180
12	.020		62	.916	.185
13	.030		63	.920	.191
14	.041		64	.922	.197
15	.051		65	.926	.202
16	.069		66	.929	.209
17	.086		67	.931	.214
18	.105		68	.934	.220
19	.129		69	.937	.225
20	.151		70	.939	.230
21	.174		71	.941	.237
22	.200		72	.942	.242
23	.227		73	.944	.248
24	.253		74	.946	.293
25	.282		75	.948	.316
26	.312		76	.949	.334
27	.341		77	.950	.349
28	.371		78	.951	.361
29	.404		79	.952	.372
30	.435		80	.953	.382
31	.466	.010	81	.954	.391
32	.499	.016	82	.955	.400
33	.531	.021	83	.956	.408
34	.567	.027	84	.957	.414
35	.595	.032	85	.958	.421
36	.624	.039	86	.958	.427
37	.649	.044	87	.959	.431
38	.672	.049	88	.960	.437
39	.693	.055	89	.960	.439
40	.711	.060	90	.960	.444
41	.730	.066	91	.960	.447
42	.747	.072	92	.961	.449
43	.761	.078	93	.962	.452
44	.775	.083	94	.962	.454
45	.789	.089	95	.963	.458
46	.801	.095	96	.963	.460
47	.812	.100	97	.964	.461
48	.822	.106	98	.964	.463
49	.834	.112	99	.964	.465
50	.843	.118	100	.965	.467

1 HYDROGEN
(barns/atom)

E (MeV)	$\sigma_{KN, inc, t}$	$\sigma_{BD, inc, t}$	$\sigma_{KN, inc, a}$	$\sigma_{BD, inc, a}$	$\sigma_{KN, inc, s}$	$\sigma_{BD, inc, s}$	σ_{coh}	$\sigma_{n,n}$	$\sigma_{n,e}$	$\sigma_{n,t}$	$\sigma_{n,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	.663	.0861	.00129	.000168	.661	.0859	.571					15.8	15.8	16.5	15.9	15.8	15.8
.0015	.661	.166	.00193	.000484	.659	.166	.493					5.40	5.40	6.06	5.57	5.40	5.40
.002	.660	.248	.00256	.000962	.657	.247	.411					2.43	2.43	3.09	2.68	2.43	2.43
.003	.657	.378	.00381	.00219	.654	.376	.275					.760	.760	1.41	1.14	.764	.762
.004	.655	.463	.00504	.00356	.650	.459	.188					.299	.299	.950	.762	.304	.303
.005	.652	.515	.00625	.00493	.646	.510	.134					.140	.140	.789	.655	.146	.145
.006	.650	.547	.00744	.00626	.643	.541	.0998					.0727	.0727	.720	.620	.0801	.0790
.008	.645	.582	.00976	.00881	.635	.573	.0612					.0250	.0250	.668	.607	.0348	.0338
.01	.640	.598	.0120	.0112	.628	.587	.0412					.0104	.0104	.650	.608	.0224	.0216
.015	.629	.609	.0174	.0168	.612	.592	.0194					.00200	.00200	.630	.611	.0194	.0188
.02	.618	.606	.0223	.0219	.596	.584	.0112							.617	.606	.0223	.0219
.03	.597	.592	.0311	.0308	.566	.561	.00507							.597	.592	.0311	.0308
.04	.579	.576	.0386	.0384	.540	.538	.00287							.579	.576	.0386	.0384
.05	.561	.559	.0453	.0451	.516	.514	.00185							.561	.559	.0453	.0451
.06	.546	.544	.0512	.0510	.494	.493	.00129							.545	.544	.0512	.0510
.08	.517	.516	.0606	.0604	.457	.456								.516	.516	.0606	.0604
.1	.493	.492	.0680	.0679	.425	.424								.492	.492	.0680	.0679
.15	.444	.443	.0805	.0804	.363	.363								.443	.443	.0805	.0804
.2	.406	.406	.0879	.0878	.319	.318								.406	.406	.0879	.0878
.3	.353	.353	.0953	.0952	.258	.258								.353	.353	.0953	.0952
.4	.317	.317	.0981	.0983	.219	.219								.317	.317	.0981	.0983
.5	.289	.289	.0986	.0991	.190	.190								.289	.289	.0986	.0991
.6	.267	.267	.0983	.0983	.169	.169								.267	.267	.0983	.0983
.8	.235	.235	.0961	.0956	.139	.139								.235	.235	.0961	.0956
1	.211	.211	.0929	.0928	.118	.118								.211	.211	.0929	.0928
1.5	.172	.172	.0849	.0851	.0867	.0869	.000044		.000044	.000014				.172	.172	.0849	.0851
2	.146	.146	.0777	.0774	.0687	.0686	.000181		.000181	.000089				.146	.146	.0777	.0775
3	.115	.115	.0664	.0664	.0486	.0486	.000514	.000040	.000554	.000367				.116	.116	.0670	.0668
4	.0962	.0962	.0584	.0582	.0378	.0380	.000825	.000164	.000989	.000744				.0972	.0972	.0594	.0589
5	.0831	.0831	.0522	.0521	.0309	.0310	.00110	.000324	.00142	.00115				.0845	.0845	.0536	.0533
6	.0734	.0734	.0473	.0471	.0261	.0263	.00135	.000495	.00184	.00155				.0752	.0752	.0491	.0486
8	.0601	.0601	.0401	.0400	.0200	.0201	.00177	.000848	.00262	.00233				.0627	.0627	.0427	.0423
10	.0511	.0511	.0350	.0350	.0162	.0161	.00211	.00117	.00328	.00300				.0544	.0544	.0383	.0380
15	.0379	.0379	.0269	.0268	.0110	.0111	.00280	.00182	.00462	.00430				.0425	.0425	.0315	.0311
20	.0304	.0304	.0221	.0219	.00831	.00854	.00330	.00233	.00563	.00529				.0360	.0360	.0277	.0272
30	.0221	.0221	.0165	.0162	.00559	.00592	.00399	.00311	.00710	.00669				.0292	.0292	.0236	.0229
40	.0176	.0176	.0134	.0130	.00422	.00465	.00447	.00367	.00814	.00766				.0257	.0257	.0215	.0207
50	.0147	.0147	.0113	.0108	.00338	.00390	.00484	.00413	.00897	.00843				.0237	.0237	.0203	.0192
60	.0126	.0126	.00981	.00924	.00283	.00336	.00513	.00448	.00961	.00899				.0222	.0222	.0194	.0182
80	.00997	.00997	.00784	.00726	.00213	.00271	.00560	.00508	.0107	.00990				.0207	.0207	.0185	.0172
100	.00828	.00828	.00657	.00591	.00171	.00237	.00595	.00557	.0115	.0106				.0198	.0198	.0181	.0165

1 HYDROGEN
(cm²/g = 0.5975 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{xe}	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _{t,t}	($\frac{\mu}{\rho}$) _{t,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.396	.0514	.000771	.000100	.395	.0513	.341					9.44	9.44	9.86	9.56	9.44	9.44
.0015	.395	.0992	.00115	.000289	.394	.0992	.295					3.23	3.23	3.62	3.33	3.23	3.23
.002	.394	.148	.00153	.000575	.393	.148	.246					1.45	1.45	1.85	1.60	1.45	1.45
.003	.391	.226	.00228	.00131	.391	.225	.164					.454	.454	.842	.681	.456	.455
.004	.391	.277	.00301	.00213	.388	.274	.112					.179	.179	.568	.455	.182	.181
.005	.390	.308	.00373	.00295	.386	.305	.0801					.0836	.0836	.471	.391	.0872	.0866
.006	.388	.327	.00445	.00374	.384	.323	.0596					.0434	.0434	.430	.370	.0479	.0472
.008	.385	.348	.00583	.00526	.379	.342	.0366					.0149	.0149	.399	.363	.0208	.0202
.01	.382	.357	.00717	.00669	.375	.351	.0246					.00621	.00621	.388	.363	.0134	.0129
.015	.376	.364	.0104	.0100	.366	.354	.0116					.00119	.00119	.376	.365	.0116	.0112
.02	.369	.362	.0133	.0131	.356	.349	.00669							.369	.362	.0133	.0131
.03	.357	.354	.0186	.0184	.338	.335	.00303							.357	.354	.0186	.0184
.04	.346	.344	.0231	.0229	.323	.321	.00171							.346	.344	.0231	.0229
.05	.335	.334	.0271	.0269	.308	.307	.00111							.335	.334	.0271	.0269
.06	.326	.325	.0306	.0305	.295	.295	.000771							.326	.325	.0306	.0305
.08	.309	.308	.0362	.0361	.273	.272								.308	.308	.0362	.0361
.1	.295	.294	.0406	.0406	.254	.253								.294	.294	.0406	.0406
.15	.265	.265	.0481	.0480	.217	.217								.265	.265	.0481	.0480
.2	.243	.243	.0525	.0525	.191	.190								.243	.243	.0525	.0525
.3	.211	.211	.0569	.0569	.154	.154								.211	.211	.0569	.0569
.4	.189	.189	.0586	.0587	.131	.131								.189	.189	.0586	.0587
.5	.173	.173	.0589	.0592	.114	.114								.173	.173	.0589	.0592
.6	.160	.160	.0587	.0587	.101	.101								.160	.160	.0587	.0587
.8	.140	.140	.0574	.0571	.0831	.0831								.140	.140	.0574	.0571
1.	.126	.126	.0555	.0554	.0765	.0765								.126	.126	.0555	.0554
1.5	.103	.103	.0507	.0508	.0518	.0519		.0000263		.0000263	.0000084			.103	.103	.0507	.0508
2.	.0872	.0872	.0464	.0462	.0410	.0410		.000108		.000108	.000053			.0872	.0872	.0465	.0463
3.	.0687	.0687	.0397	.0397	.0290	.0290		.000107	.000024	.000331	.0000219			.0693	.0693	.0400	.0399
4.	.0575	.0575	.0349	.0348	.0226	.0227		.000493	.000098	.000591	.0000445			.0581	.0581	.0355	.0352
5.	.0497	.0497	.0312	.0311	.0185	.0185		.000657	.000194	.000848	.0000687			.0505	.0505	.0320	.0318
6.	.0439	.0439	.0283	.0281	.0156	.0157		.000807	.000296	.00110	.0000926			.0449	.0449	.0293	.0290
8.	.0359	.0359	.0240	.0239	.0119	.0120		.00106	.000507	.00157	.00139			.0375	.0375	.0255	.0253
10.	.0305	.0305	.0209	.0209	.00968	.00962		.00126	.000699	.00196	.00179			.0325	.0325	.0229	.0227
15.	.0226	.0226	.0161	.0160	.00557	.00563		.00157	.00109	.00276	.00257			.0254	.0254	.0186	.0186
20.	.0182	.0182	.0132	.0131	.00497	.00510		.00197	.00139	.00336	.00316			.0215	.0215	.0166	.0163
30.	.0132	.0132	.00986	.00968	.00334	.00354		.00238	.00186	.00424	.00400			.0174	.0174	.0141	.0137
40.	.0105	.0105	.00801	.00777	.00252	.00278		.00267	.00219	.00486	.00458			.0154	.0154	.0128	.0124
50.	.00878	.00878	.00675	.00645	.00202	.00233		.00289	.00247	.00536	.00504			.0142	.0142	.0121	.0115
60.	.00753	.00753	.00586	.00552	.00169	.00201		.00307	.00268	.00574	.00537			.0133	.0133	.0116	.0109
80.	.00596	.00596	.00468	.00434	.00127	.00162		.00335	.00304	.00639	.00592			.0124	.0124	.0111	.0103
100.	.00495	.00495	.00393	.00353	.00102	.00142		.00356	.00333	.00687	.00633			.0118	.0118	.0108	.00986

2 HELIUM
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{Kn}	σ_{Ke}	σ_{Kt}	σ_{Ka}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	1.33	.0728	.00258	.000142	1.32	.0727	2.49					334.	334.	337.	334.	334.	334.
.0015	1.32	.152	.00386	.000443	1.32	.152	2.33					110.	110.	112.	110.	110.	110.
.002	1.32	.248	.00512	.000962	1.31	.247	2.14					49.1	49.1	51.5	49.3	49.1	49.1
.003	1.31	.447	.00762	.00259	1.31	.444	1.72					14.7	14.7	16.9	15.1	14.7	14.7
.004	1.31	.627	.0101	.00482	1.30	.622	1.35					6.03	6.03	8.01	6.66	6.04	6.03
.005	1.30	.767	.0125	.00735	1.29	.760	1.06					3.03	3.03	4.86	3.80	3.04	3.04
.006	1.30	.873	.0149	.0100	1.29	.863	.839					1.61	1.61	3.32	2.48	1.62	1.62
.008	1.29	1.01	.0195	.0153	1.27	.995	.554					.574	.574	2.14	1.58	.593	.589
.01	1.28	1.08	.0240	.0202	1.26	1.06	.389					.246	.246	1.71	1.33	.270	.266
.015	1.26	1.16	.0348	.0321	1.22	1.13	.195					.0520	.0520	1.41	1.21	.0868	.0841
.02	1.24	1.18	.0446	.0426	1.19	1.14	.116					.0171	.0171	1.31	1.20	.0617	.0597
.03	1.19	1.17	.0622	.0609	1.13	1.11	.0541					.0036	.0036	1.23	1.17	.0658	.0645
.04	1.16	1.14	.0772	.0760	1.08	1.06	.0310					.00118	.00118	1.17	1.14	.0784	.0772
.05	1.12	1.11	.0906	.0896	1.03	1.02	.0200							1.13	1.11	.0906	.0896
.06	1.09	1.08	.102	.101	.989	.979	.0140							1.09	1.08	.102	.101
.08	1.03	1.03	.121	.121	.913	.909	.00793							1.04	1.03	.121	.121
.1	.985	.983	.136	.136	.850	.847	.00510							.988	.983	.136	.136
.15	.887	.886	.161	.161	.726	.725	.00229							.888	.886	.161	.161
.2	.813	.812	.176	.176	.637	.636	.00130							.813	.812	.176	.176
.3	.707	.706	.191	.190	.516	.516								.706	.706	.191	.190
.4	.633	.633	.196	.196	.437	.437								.633	.633	.196	.196
.5	.578	.578	.197	.198	.381	.380								.578	.578	.197	.198
.6	.535	.535	.197	.197	.338	.338								.535	.535	.197	.197
.8	.470	.470	.192	.191	.278	.279								.470	.470	.192	.191
1.	.422	.422	.186	.186	.237	.236								.422	.422	.186	.186
1.5	.343	.343	.170	.170	.173	.173		.000177		.000177	.000056			.343	.343	.170	.170
2.	.293	.293	.155	.155	.137	.138		.000715		.000715	.00035			.294	.294	.156	.155
3.	.230	.230	.133	.133	.0973	.0973		.00205	.000080	.00213	.00141			.232	.232	.135	.134
4.	.192	.192	.117	.116	.0756	.0758		.00332	.000328	.00365	.00274			.196	.196	.121	.119
5.	.166	.166	.104	.104	.0618	.0619		.00441	.000646	.00506	.00407			.171	.171	.109	.108
6.	.147	.147	.0946	.0944	.0523	.0526		.00545	.00099	.00644	.00542			.153	.153	.101	.0998
8.	.120	.120	.0801	.0794	.0400	.0406		.00710	.00169	.00879	.00781			.129	.129	.0889	.0872
10.	.102	.102	.0699	.0695	.0324	.0325		.00851	.00233	.0108	.00991			.113	.113	.0807	.0794
15.	.0757	.0757	.0538	.0522	.0220	.0235		.0111	.00363	.0147	.0137			.0904	.0904	.0685	.0659
20.	.0608	.0608	.0442	.0426	.0166	.0182		.0132	.00472	.0179	.0167			.0787	.0787	.0621	.0593
30.	.0442	.0442	.0331	.0313	.0112	.0129		.0160	.00630	.0223	.0207			.0665	.0665	.0554	.0520
40.	.0352	.0352	.0267	.0248	.00844	.0104		.0180	.00750	.0255	.0237			.0607	.0607	.0522	.0485
50.	.0294	.0294	.0226	.0206	.00676	.00882		.0192	.00836	.0276	.0256			.0570	.0570	.0502	.0462
60.	.0253	.0253	.0196	.0175	.00566	.00784		.0204	.00911	.0295	.0274			.0548	.0548	.0491	.0449
80.	.0199	.0199	.0157	.0134	.00426	.00647		.0221	.0102	.0323	.0299			.0522	.0522	.0480	.0433
100.	.0166	.0166	.0131	.0109	.00341	.00573		.0237	.0112	.0349	.0320			.0515	.0515	.0480	.0429

2 HELIUM
;cm²/g = 0.1505 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{inc,a} ^{EN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{x,n}	($\frac{\mu}{\rho}$) _{x,e}	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _t	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.200	.0110	.000388	.0000214	.199	.0109	.378					50.3	50.3	50.7	50.3	50.3	50.3
.0015	.199	.0229	.000581	.0000667	.199	.0229	.351					16.4	16.4	16.9	16.4	16.4	16.4
.002	.199	.0373	.000771	.000145	.197	.0372	.322					7.39	7.39	7.75	7.42	7.39	7.39
.003	.197	.0673	.00115	.000390	.197	.0668	.259					2.21	2.21	2.54	2.27	2.21	2.21
.004	.197	.0944	.00152	.000725	.196	.0936	.203					.908	.908	1.21	1.00	.909	.908
.005	.196	.115	.00188	.00111	.194	.114	.160					.456	.456	.731	.572	.458	.458
.006	.196	.131	.00224	.00150	.194	.130	.126					.242	.242	.500	.373	.244	.244
.008	.194	.152	.00293	.00230	.191	.150	.0834					.0864	.0864	.322	.238	.0892	.0886
.01	.193	.163	.00361	.00304	.190	.160	.0585					.0370	.0370	.257	.200	.0406	.0400
.015	.190	.175	.00524	.00483	.184	.170	.0293					.00783	.00783	.212	.182	.0131	.0127
.02	.187	.178	.00671	.00641	.179	.172	.0175					.00257	.00257	.197	.181	.00929	.00898
.03	.179	.176	.00936	.00917	.170	.167	.00814					.000542	.000542	.185	.176	.00990	.00971
.04	.175	.172	.0116	.0114	.163	.160	.00467					.000178	.000178	.176	.172	.0118	.0116
.05	.169	.167	.0136	.0135	.155	.154	.00301							.170	.167	.0136	.0135
.06	.164	.163	.0154	.0152	.149	.147	.00211							.164	.163	.0154	.0152
.08	.155	.155	.0182	.0182	.137	.137	.00119							.157	.155	.0182	.0182
.1	.148	.148	.0205	.0205	.128	.127	.000768							.149	.148	.0205	.0205
.15	.133	.133	.0242	.0242	.109	.109	.000345							.134	.133	.0242	.0242
.2	.122	.122	.0265	.0265	.0959	.0957	.000196							.122	.122	.0265	.0265
.3	.106	.106	.0287	.0286	.0777	.0777								.106	.106	.0287	.0286
.4	.0953	.0953	.0295	.0295	.0658	.0658								.0953	.0953	.0295	.0295
.5	.0870	.0870	.0296	.0298	.0573	.0572								.0870	.0870	.0296	.0298
.6	.0805	.0805	.0296	.0296	.0509	.0509								.0805	.0805	.0296	.0296
.8	.0707	.0707	.0289	.0287	.0418	.0420								.0707	.0707	.0289	.0287
1.	.0635	.0635	.0280	.0280	.0357	.0355								.0635	.0635	.0280	.0280
1.5	.0516	.0516	.0256	.0256	.0260	.0260		.0000266		.0000266	.0000850			.0516	.0516	.0256	.0256
2.	.0441	.0441	.0233	.0233	.0208	.0208		.000108		.000108	.0000527			.0442	.0442	.0235	.0233
3.	.0346	.0346	.0200	.0200	.0146	.0146		.000309	.0000121	.000321	.000212			.0349	.0349	.0203	.0202
4.	.0289	.0289	.0176	.0175	.0114	.0114		.000500	.0000494	.000549	.000412			.0295	.0295	.0182	.0179
5.	.0250	.0250	.0157	.0157	.00936	.00932		.000664	.0000972	.000762	.000613			.0257	.0257	.0164	.0163
6.	.0221	.0221	.0142	.0142	.00787	.00792		.000820	.000149	.000969	.000816			.0230	.0230	.0152	.0150
8.	.0181	.0181	.0121	.0119	.00602	.00611		.00107	.000254	.00132	.00118			.0194	.0194	.0134	.0131
10.	.0154	.0154	.0105	.0105	.00488	.00489		.00128	.000351	.00163	.00149			.0170	.0170	.0121	.0119
15.	.0114	.0114	.00810	.00786	.00331	.00354		.00167	.000546	.00221	.00206			.0136	.0136	.0103	.00992
20.	.00915	.00915	.00665	.00641	.00250	.00274		.00199	.000710	.00269	.00251			.0118	.0118	.00935	.00892
30.	.00665	.00665	.00498	.00471	.00169	.00194		.00241	.000948	.00336	.00312			.0100	.0100	.00834	.00783
40.	.00530	.00530	.00402	.00373	.00127	.00157		.00271	.00113	.00384	.00357			.00914	.00914	.00786	.00730
50.	.00442	.00442	.00340	.00310	.00102	.00133		.00289	.00126	.00415	.00385			.00858	.00858	.00756	.00695
60.	.00381	.00381	.00295	.00263	.000852	.00118		.00307	.00137	.00444	.00412			.00825	.00825	.00739	.00676
80.	.00299	.00299	.00236	.00202	.000641	.000974		.00333	.00154	.00486	.00450			.00786	.00786	.00722	.00652
100.	.00250	.00250	.00197	.00164	.000513	.000862		.00357	.00169	.00525	.00482			.00775	.00775	.00722	.00646

3 LITHIUM
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{n}	σ_{nc}	$\sigma_{n,t}$	$\sigma_{n,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	1.99	.355	.00387	.000692	1.98	.354	4.73					2100.	2100.	2110.	2100.	2100.	2100.
.0015	1.98	.527	.00579	.00154	1.98	.525	3.99					662.	662.	667.	663.	662.	662.
.002	1.98	.641	.00768	.00249	1.97	.639	3.43					291.	291.	295.	292.	291.	291.
.003	1.97	.808	.0114	.00468	1.96	.803	2.73					86.0	86.0	89.5	86.8	86.0	86.0
.004	1.96	.952	.0151	.00733	1.95	.945	2.28					35.5	35.5	38.7	36.5	35.5	35.5
.005	1.96	1.08	.0187	.0103	1.94	1.07	1.94					18.0	18.0	21.0	19.1	18.0	18.0
.006	1.95	1.20	.0223	.0137	1.93	1.19	1.65					9.85	9.85	12.7	11.0	9.87	9.86
.008	1.94	1.38	.0293	.0209	1.91	1.36	1.21					3.63	3.63	6.22	5.01	3.66	3.65
.01	1.92	1.51	.0360	.0283	1.89	1.48	.903					1.60	1.60	4.01	3.11	1.66	1.63
.015	1.89	1.66	.0522	.0459	1.83	1.61	.487					.361	.361	2.51	2.02	.413	.407
.02	1.85	1.71	.0669	.0617	1.79	1.65	.301					.125	.125	2.14	1.83	.192	.187
.03	1.79	1.72	.0933	.0895	1.70	1.63	.147					.0286	.0286	1.90	1.75	.122	.118
.04	1.74	1.70	.116	.113	1.62	1.59	.0858					.00998	.00998	1.80	1.71	.126	.123
.05	1.68	1.66	.136	.134	1.55	1.53	.0561					.00442	.00442	1.72	1.66	.140	.138
.06	1.64	1.62	.154	.152	1.48	1.47	.0394					.00230	.00230	1.66	1.62	.156	.154
.08	1.55	1.54	.182	.180	1.37	1.36	.0225							1.56	1.54	.182	.180
.1	1.48	1.47	.204	.203	1.27	1.27	.0145							1.48	1.47	.204	.203
.15	1.33	1.33	.241	.241	1.09	1.09	.00652							1.34	1.33	.241	.241
.2	1.22	1.22	.264	.264	.956	.956	.00371							1.22	1.22	.264	.264
.3	1.06	1.06	.286	.286	.775	.774	.00167							1.06	1.06	.286	.286
.4	.950	.949	.294	.294	.656	.655								.949	.949	.294	.294
.5	.867	.867	.296	.297	.571	.570								.867	.867	.296	.297
.6	.802	.802	.295	.295	.508	.507								.802	.802	.295	.295
.8	.705	.705	.288	.287	.417	.418								.705	.705	.288	.287
1.	.634	.633	.279	.277	.355	.356								.633	.633	.279	.277
1.5	.515	.515	.255	.254	.260	.261		.000397		.000397	.000127			.515	.515	.255	.254
2.	.439	.439	.233	.232	.206	.207		.00159		.00159	.000779			.441	.441	.235	.233
3.	.345	.345	.199	.198	.146	.147		.00456	.00012	.00468	.00309			.350	.350	.204	.201
4.	.289	.289	.175	.174	.113	.115		.00742	.000492	.00791	.00593			.297	.297	.183	.180
5.	.249	.249	.157	.156	.0927	.0934		.00986	.00097	.0108	.0087			.260	.260	.168	.165
6.	.220	.220	.142	.141	.0784	.0790		.0122	.00148	.0137	.0115			.234	.234	.156	.152
8.	.180	.180	.120	.119	.0600	.0612		.0159	.00252	.0184	.0163			.198	.198	.138	.135
10.	.153	.153	.105	.104	.0486	.0491		.0190	.00351	.0225	.0205			.175	.175	.127	.124
15.	.114	.114	.0806	.0776	.0329	.0364		.0249	.00545	.0303	.0279			.144	.144	.111	.105
20.	.0912	.0912	.0662	.0629	.0249	.0283		.0292	.00709	.0363	.0334			.127	.127	.102	.0963
30.	.0664	.0664	.0496	.0460	.0168	.0204		.0357	.00945	.0451	.0415			.111	.111	.0947	.0875
40.	.0527	.0527	.0401	.0363	.0127	.0164		.0397	.0112	.0509	.0468			.104	.104	.0910	.0831
50.	.0440	.0440	.0339	.0299	.0101	.0141		.0430	.0125	.0555	.0510			.0995	.0995	.0894	.0809
60.	.0379	.0379	.0294	.0252	.00849	.0127		.0459	.0137	.0596	.0547			.0975	.0975	.0890	.0799
80.	.0299	.0299	.0235	.0193	.00639	.0106		.0490	.0153	.0643	.0588			.0942	.0942	.0878	.0781
100.	.0248	.0248	.0197	.0155	.00512	.00935		.0523	.0168	.0691	.0622			.0939	.0939	.0888	.0777

3 LITHIUM
(cm²/g = 0.08679 x barns/atom)

E (MeV)	$\left(\frac{\mu}{\rho}\right)_{\text{KN}}^{\text{inc,t}}$	$\left(\frac{\mu}{\rho}\right)_{\text{BD}}^{\text{inc,t}}$	$\left(\frac{\mu}{\rho}\right)_{\text{KN}}^{\text{inc,a}}$	$\left(\frac{\mu}{\rho}\right)_{\text{BD}}^{\text{inc,a}}$	$\left(\frac{\mu}{\rho}\right)_{\text{KN}}^{\text{inc,s}}$	$\left(\frac{\mu}{\rho}\right)_{\text{BD}}^{\text{inc,s}}$	$\left(\frac{\mu}{\rho}\right)_{\text{coh}}$	$\left(\frac{\mu}{\rho}\right)_{\text{x,n}}$	$\left(\frac{\mu}{\rho}\right)_{\text{x,e}}$	$\left(\frac{\mu}{\rho}\right)_{\text{x,t}}$	$\left(\frac{\mu}{\rho}\right)_{\text{x,a}}$	$\left(\frac{\mu}{\rho}\right)_{\text{r,t}}$	$\left(\frac{\mu}{\rho}\right)_{\text{r,a}}$	$\left(\frac{\mu}{\rho}\right)_{\text{tot,t}}$	$\left(\frac{\mu}{\rho}\right)_{\text{tot,t-coh}}$	$\left(\frac{\mu}{\rho}\right)_{\text{tot,a}}$	$\left(\frac{\mu}{\rho}\right)_{\text{tot,en}}$
.01	.173	.0308	.000336	.0000601	.172	.0307	.411					182.	182.	183.	182.	182.	182.
.015	.172	.0457	.000503	.000134	.172	.0456	.346					57.5	57.5	57.9	47.5	47.5	57.5
.02	.172	.0556	.000667	.000216	.171	.0555	.298					25.3	25.3	25.6	25.3	25.3	25.3
.03	.171	.0701	.000989	.000406	.170	.0697	.237					7.46	7.46	7.77	7.53	7.46	7.46
.04	.170	.0826	.00131	.000636	.169	.0820	.198					3.08	3.08	3.36	3.17	3.08	3.08
.05	.170	.0937	.00162	.000894	.168	.0929	.168					1.56	1.56	1.82	1.66	1.56	1.56
.06	.169	.104	.00194	.00119	.168	.103	.143					.855	.855	1.10	.955	.857	.856
.08	.168	.120	.00254	.00181	.166	.118	.105					.315	.315	.540	.435	.318	.317
.1	.167	.131	.00312	.00246	.164	.128	.0784					.139	.139	.348	.270	.142	.141
.15	.164	.144	.00453	.00398	.159	.140	.0423					.0313	.0313	.218	.175	.0358	.0353
.2	.161	.148	.00581	.00535	.155	.143	.0261					.0108	.0108	.186	.159	.0167	.0162
.3	.155	.149	.0081	.00777	.148	.141	.0128					.00248	.00248	.165	.152	.0106	.0102
.4	.151	.148	.0101	.00981	.141	.138	.00745					.000866	.000866	.156	.148	.0109	.0107
.5	.146	.144	.0118	.0116	.135	.133	.00487					.000384	.000384	.149	.144	.0122	.0120
.6	.142	.141	.0134	.0132	.128	.128	.00342					.000200	.000200	.144	.141	.0135	.0134
.8	.135	.134	.0158	.0156	.119	.118	.00195							.135	.134	.0158	.0156
.1	.128	.128	.0177	.0175	.110	.110	.00126							.128	.128	.0177	.0176
.15	.115	.115	.0209	.0209	.0946	.0946	.000566							.116	.115	.0209	.0209
.2	.106	.106	.0229	.0229	.0830	.0830	.000322							.106	.106	.0229	.0229
.3	.0920	.0920	.0248	.0248	.0673	.0672	.000145							.0920	.0920	.0248	.0248
.4	.0825	.0824	.0255	.0255	.0569	.0568								.0824	.0824	.0255	.0255
.5	.0752	.0752	.0257	.0258	.0496	.0495								.0752	.0752	.0257	.0258
.6	.0696	.0696	.0256	.0256	.0441	.0440								.0696	.0696	.0256	.0256
.8	.0612	.0612	.0250	.0249	.0362	.0363								.0612	.0612	.0250	.0249
1.	.0550	.0549	.0242	.0240	.0308	.0309								.0549	.0549	.0242	.0240
1.5	.0447	.0447	.0221	.0220	.0226	.0227		.0000345	.0000345	.0000110				.0447	.0447	.0221	.0220
2.	.0381	.0391	.0202	.0201	.0179	.0180		.000138	.000138	.0000678				.0383	.0383	.0204	.0202
3.	.0299	.0299	.0173	.0172	.0127	.0128		.000396	.0000104	.0000406	.000268			.0304	.0304	.0177	.0174
4.	.0251	.0251	.0152	.0151	.00981	.00998		.000644	.0000427	.000687	.000515			.0258	.0258	.0159	.0156
5.	.0216	.0216	.0136	.0135	.00805	.00811		.000856	.0000842	.000937	.000755			.0226	.0226	.0146	.0143
6.	.0191	.0191	.0123	.0122	.00680	.00686		.00106	.000128	.00119	.000998			.0203	.0203	.0135	.0132
8.	.0156	.0156	.0104	.0103	.00521	.00531		.00138	.000219	.00160	.00141			.0172	.0172	.0120	.0117
10.	.0133	.0133	.00911	.00903	.00422	.00426		.00165	.000305	.00195	.00178			.0152	.0152	.0110	.0108
15.	.00989	.00989	.00700	.00673	.00286	.00316		.00216	.000473	.00263	.00242			.0125	.0125	.00963	.00911
20.	.00792	.00792	.00575	.00546	.00216	.00246		.00253	.000615	.00315	.00290			.0110	.0110	.00885	.00836
30.	.00576	.00576	.00430	.00399	.00146	.00177		.00310	.000820	.00391	.00360			.00963	.00963	.00822	.00759
40.	.00457	.00457	.00348	.00315	.00110	.00142		.00345	.000972	.00442	.00406			.00903	.00903	.00790	.00721
50.	.00382	.00382	.00294	.00260	.000877	.00122		.00373	.00108	.00482	.00443			.00864	.00864	.00776	.00702
60.	.00329	.00329	.00255	.00219	.000737	.00110		.00398	.00119	.00517	.00475			.00846	.00846	.00772	.00693
80.	.00260	.00260	.00204	.00168	.000555	.000920		.00425	.00133	.00558	.00510			.00818	.00818	.00762	.00678
100.	.00215	.00215	.00171	.00135	.000444	.000811		.00454	.00146	.00600	.00540			.00815	.00815	.00771	.00674

4 BERYLLIUM
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	2.65	.414	.00516	.000806	2.65	.413	8.75					7490.	7490.	7500.	7490.	7490.	7490.
.0015	2.65	.704	.00772	.00205	2.64	.702	7.41					2290.	2290.	2300.	2290.	2290.	2290.
.002	2.64	.928	.0102	.00360	2.63	.924	6.19					993.	993.	1000.	994.	993.	993.
.003	2.63	1.20	.0152	.00696	2.61	1.19	4.53					298.	298.	304.	299.	298.	298.
.004	2.62	1.36	.0202	.0105	2.60	1.35	3.56					126.	126.	131.	127.	126.	126.
.005	2.61	1.49	.0250	.0143	2.58	1.48	2.95					63.3	63.3	67.7	64.8	63.3	63.3
.006	2.60	1.59	.0298	.0182	2.57	1.57	2.53					35.6	35.6	39.7	37.2	35.6	35.6
.008	2.58	1.78	.0391	.0269	2.54	1.75	1.93					13.3	13.3	17.0	15.1	13.3	13.3
.01	2.56	1.92	.0480	.0360	2.51	1.88	1.50					6.00	6.00	9.42	7.92	6.05	6.04
.015	2.52	2.14	.0696	.0592	2.45	2.08	.866					1.42	1.42	4.43	3.56	1.49	1.48
.02	2.47	2.23	.0892	.0805	2.38	2.15	.551					.915	.515	3.30	2.74	.604	.595
.03	2.39	2.26	.124	.118	2.27	2.14	.276					.123	.123	2.66	2.38	.247	.241
.04	2.31	2.24	.154	.149	2.16	2.09	.165					.0450	.0450	2.45	2.28	.199	.194
.05	2.25	2.20	.181	.177	2.06	2.02	.109					.0266	.0266	2.33	2.22	.202	.198
.06	2.18	2.15	.205	.202	1.98	1.95	.0771					.0108	.0108	2.24	2.16	.216	.213
.08	2.07	2.05	.242	.240	1.83	1.81	.0442					.00395	.00395	2.10	2.05	.244	.244
.1	1.97	1.96	.272	.270	1.70	1.69	.0287					.00184	.00184	1.99	1.96	.274	.272
.15	1.77	1.77	.322	.321	1.45	1.45	.0130							1.78	1.77	.322	.321
.2	1.63	1.62	.351	.350	1.27	1.27	.00737							1.63	1.62	.351	.350
.3	1.41	1.41	.381	.380	1.03	1.03	.00336							1.41	1.41	.381	.380
.4	1.27	1.27	.392	.394	.874	.876	.00190							1.27	1.27	.392	.394
.5	1.16	1.16	.394	.398	.762	.762	.00120							1.16	1.16	.394	.398
.6	1.07	1.07	.393	.394	.677	.676								1.07	1.07	.393	.394
.8	.940	.939	.384	.382	.556	.557								1.07	1.07	.384	.382
1.	.845	.845	.372	.370	.473	.475								.939	.939	.372	.370
1.5	.686	.686	.340	.338	.347	.348		.00071	.00071	.000226				.687	.687	.341	.338
2.	.585	.585	.311	.309	.275	.276		.00281	.00281	.00138				.588	.588	.314	.310
3.	.460	.460	.266	.264	.195	.196		.00810	.000160	.00526	.00546			.468	.468	.274	.269
4.	.385	.385	.234	.231	.151	.154		.0131	.000658	.0138	.0103			.399	.399	.248	.241
5.	.332	.332	.209	.207	.124	.125		.0175	.00129	.0188	.0151			.351	.351	.228	.222
6.	.294	.294	.189	.188	.105	.106		.0215	.00197	.0235	.0197			.317	.317	.212	.208
8.	.240	.240	.160	.158	.0800	.0818		.0282	.00336	.0316	.0279			.272	.272	.192	.186
10.	.205	.205	.140	.138	.0648	.0668		.0340	.00466	.0387	.0352			.244	.244	.179	.173
15.	.151	.151	.108	.103	.0439	.0483		.0440	.00727	.0513	.0472			.202	.202	.159	.150
20.	.122	.122	.0883	.0832	.0332	.0388		.0520	.00941	.0614	.0565			.183	.183	.150	.140
30.	.0885	.0885	.0661	.0604	.0224	.0281		.0629	.0126	.0755	.0693			.164	.164	.142	.130
40.	.0703	.0703	.0534	.0475	.0169	.0228		.0704	.0149	.0853	.0780			.156	.156	.139	.125
50.	.0587	.0587	.0452	.0389	.0135	.0198		.0760	.0167	.0927	.0844			.151	.151	.138	.123
60.	.0506	.0506	.0392	.0329	.0113	.0177		.0804	.0181	.0985	.0886			.149	.149	.138	.121
80.	.0399	.0399	.0314	.0250	.00852	.0149		.0875	.0204	.108	.0950			.148	.148	.139	.120
100.	.0331	.0331	.0263	.0199	.00683	.0132		.0930	.0223	.115	.0992			.148	.148	.141	.119

4 BERYLLIUM
(cm²/g = 0.06683 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{x,r}	($\frac{\mu}{\rho}$) _{x,e}	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.177	.0277	.000345	.0000539	.177	.0276	.585						501.	501.	501.	501.	501.
.0015	.177	.0470	.000516	.000137	.176	.0469	.495						153.	153.	153.	153.	153.
.002	.176	.3620	.000682	.000241	.176	.0618	.414						66.4	66.4	66.4	66.4	66.4
.003	.176	.3802	.00102	.000465	.174	.0795	.303						19.9	19.9	20.3	20.0	19.9
.004	.175	.3909	.00135	.000702	.174	.0902	.238						8.42	8.42	8.75	8.49	8.42
.005	.174	.3996	.00167	.000956	.172	.0989	.197						4.23	4.23	4.52	4.33	4.23
.006	.174	.406	.00199	.00122	.172	.105	.169						2.38	2.38	2.65	2.49	2.38
.008	.172	.419	.00261	.00180	.170	.117	.129						.889	.889	1.14	1.01	.889
.01	.171	.428	.00321	.00241	.168	.126	.100						.411	.401	.630	.529	.404
.015	.168	.443	.00465	.00396	.164	.139	.0579						.0949	.0949	.296	.238	.0996
.02	.165	.449	.00596	.00538	.159	.144	.0368						.0344	.0344	.221	.183	.0404
.03	.160	.451	.00829	.00789	.152	.143	.0184						.01822	.01822	.178	.159	.0165
.04	.154	.450	.0103	.00996	.144	.140	.0110						.01301	.01301	.164	.152	.0133
.05	.150	.447	.0121	.0118	.138	.135	.00728						.01138	.01138	.156	.148	.0135
.06	.146	.444	.0137	.0135	.132	.130	.00515						.010722	.010722	.150	.144	.0144
.08	.138	.437	.0162	.0160	.122	.121	.00295						.010264	.010264	.140	.137	.0164
.1	.132	.431	.0182	.0180	.114	.113	.00192						.010123	.010123	.133	.131	.0183
.15	.118	.418	.0215	.0215	.0969	.0969	.000869								.119	.118	.0215
.2	.109	.408	.0235	.0234	.0849	.0849	.000493								.109	.108	.0235
.3	.0942	.3942	.0255	.0254	.0688	.0688	.000225								.0942	.0942	.0255
.4	.0849	.3849	.0262	.0263	.0584	.0584	.000127								.0849	.0849	.0262
.5	.0775	.3775	.0263	.0266	.0509	.0509	.0000802								.0775	.0775	.0263
.6	.0715	.3715	.0263	.0263	.0452	.0452									.0715	.0715	.0263
.8	.0628	.3628	.0257	.0255	.0372	.0372									.0628	.0628	.0257
1.	.0565	.3565	.0249	.0247	.0316	.0317									.0565	.0565	.0249
1.5	.0458	.3458	.0227	.0226	.0232	.0233									.0459	.0459	.0228
2.	.0391	.3391	.0208	.0207	.0184	.0184									.0393	.0393	.0210
3.	.0307	.3307	.0178	.0176	.0130	.0131									.0313	.0313	.0183
4.	.0257	.3257	.0156	.0154	.0101	.0103									.0267	.0267	.0166
5.	.0222	.3222	.0140	.0138	.00829	.00835									.0235	.0235	.0152
6.	.0196	.3196	.0126	.0126	.00702	.00708									.0212	.0212	.0142
8.	.0160	.3160	.0107	.0106	.00535	.00547									.0182	.0182	.0128
10.	.0137	.3137	.00936	.00922	.00433	.00446									.0163	.0163	.0120
15.	.0101	.3101	.00722	.00688	.00293	.00323									.0135	.0135	.0106
20.	.00815	.30815	.00590	.00556	.00222	.00259									.0122	.0122	.0100
30.	.00591	.30591	.00442	.00404	.00150	.00188									.0110	.0110	.00949
40.	.00470	.30470	.00357	.00317	.00113	.00152									.0104	.0104	.00929
50.	.00392	.30392	.00302	.00260	.000902	.00132									.0101	.0101	.00922
60.	.00338	.30338	.00262	.00220	.000755	.00118									.00996	.00996	.00922
80.	.00267	.30267	.00210	.00167	.000569	.000996									.00989	.00989	.00929
100.	.00221	.30221	.00176	.00133	.000456	.000882									.00989	.00989	.00942

5 BORON
(barns/atom)

E (MeV)	$\sigma_{\text{inc,t}}^{\text{KN}}$	$\sigma_{\text{inc,t}}^{\text{BD}}$	$\sigma_{\text{inc,a}}^{\text{KN}}$	$\sigma_{\text{inc,a}}^{\text{BD}}$	$\sigma_{\text{inc,s}}^{\text{KN}}$	$\sigma_{\text{inc,s}}^{\text{BD}}$	σ_{coh}	σ_{en}	σ_{e}	$\sigma_{\text{x,t}}$	$\sigma_{\text{x,a}}$	$\sigma_{\text{r,t}}$	$\sigma_{\text{r,a}}$	$\sigma_{\text{tot,t}}$	$\sigma_{\text{tot,t-coh}}$	$\sigma_{\text{tot,a}}$	$\sigma_{\text{tot,en}}$
.001	3.31	.354	.00645	.00069	3.31	.353	14.3					19200.	19200.	19200.	19200.	19200.	19200.
.0015	3.31	.663	.00964	.00193	3.30	.661	12.4					5940.	5940.	5950.	5940.	5940.	5940.
.002	3.30	.960	.0128	.00372	3.29	.956	10.6					2590.	2590.	2600.	2590.	2590.	2590.
.003	3.29	1.39	.0191	.00866	3.27	1.38	7.74					791.	791.	800.	792.	791.	791.
.004	3.27	1.66	.0252	.0128	3.25	1.65	5.87					336.	336.	344.	336.	336.	336.
.005	3.26	1.84	.0312	.0176	3.23	1.82	4.68					168.	168.	175.	170.	168.	168.
.006	3.25	1.98	.0372	.0227	3.21	1.96	3.89					94.5	94.5	100.	96.5	94.5	94.5
.008	3.23	2.18	.0488	.0330	3.18	2.15	2.89					36.0	36.0	41.1	38.2	36.0	36.0
.01	3.20	2.34	.0600	.0439	3.14	2.30	2.27					16.5	16.5	21.1	18.8	16.6	16.5
.015	3.14	2.59	.0869	.0716	3.06	2.52	1.36					4.10	4.10	8.05	6.69	4.19	4.17
.02	3.09	2.72	.111	.0982	2.98	2.62	.889					1.55	1.55	5.16	4.27	1.66	1.65
.03	2.99	2.79	.155	.145	2.83	2.64	.455					.385	.385	3.63	3.17	.540	.530
.04	2.89	2.77	.193	.185	2.70	2.59	.275					.144	.144	3.19	2.91	.337	.329
.05	2.81	2.73	.226	.220	2.58	2.51	.183					.0675	.0675	2.98	2.80	.293	.287
.06	2.73	2.67	.256	.251	2.47	2.42	.130					.0362	.0362	2.84	2.71	.292	.287
.08	2.59	2.55	.303	.299	2.28	2.25	.0755					.0136	.0136	2.64	2.56	.317	.313
.1	2.46	2.44	.340	.337	2.12	2.10	.0491					.00630	.00630	2.50	2.45	.346	.343
.15	2.22	2.21	.402	.401	1.82	1.81	.0223					.00162	.00162	2.23	2.21	.404	.403
.2	2.03	2.03	.439	.439	1.59	1.59	.0127							2.04	2.03	.439	.439
.3	1.77	1.76	.476	.474	1.29	1.29	.00579							1.77	1.76	.476	.474
.4	1.58	1.58	.490	.490	1.09	1.09	.00332							1.58	1.58	.490	.490
.5	1.45	1.44	.493	.494	.952	.946	.00214							1.44	1.44	.493	.494
.6	1.34	1.34	.491	.493	.846	.847	.00147							1.34	1.34	.491	.493
.8	1.17	1.17	.480	.476	.694	.694								1.17	1.17	.480	.476
1.	1.06	1.06	.464	.464	.591	.596								1.06	1.06	.464	.464
1.5	.858	.858	.424	.422	.433	.436		.00110		.00110	.000351			.859	.859	.425	.422
2.	.731	.732	.388	.386	.343	.346		.00439		.00439	.00215			.736	.736	.392	.388
3.	.575	.575	.332	.329	.243	.246		.0125	.000201	.0127	.00840			.588	.588	.345	.337
4.	.481	.481	.292	.288	.189	.193		.0205	.000824	.0213	.0160			.502	.502	.313	.304
5.	.415	.415	.261	.257	.155	.158		.0273	.00161	.0289	.0232			.444	.444	.290	.280
6.	.367	.367	.236	.234	.131	.133		.0333	.00245	.0357	.0300			.403	.403	.272	.264
8.	.300	.300	.200	.197	.0999	.103		.0440	.00420	.0482	.0424			.348	.348	.248	.239
10.	.256	.256	.175	.172	.0809	.0845		.0529	.00583	.0587	.0532			.315	.315	.234	.225
15.	.189	.189	.134	.128	.0549	.0610		.0683	.00910	.0774	.0712			.266	.266	.211	.199
20.	.152	.152	.110	.103	.0415	.0489		.0807	.0117	.0924	.0850			.244	.244	.202	.188
30.	.111	.111	.0826	.0751	.0279	.0359		.0980	.0157	.114	.104			.225	.225	.197	.179
40.	.0879	.0879	.0668	.0585	.0211	.0294		.110	.0185	.126	.117			.216	.216	.195	.175
50.	.0734	.0734	.0565	.0479	.0169	.0255		.118	.0207	.139	.123			.212	.212	.196	.171
60.	.0632	.0632	.0491	.0403	.0141	.0229		.126	.0226	.149	.130			.212	.212	.198	.170
80.	.0498	.0498	.0392	.0305	.0106	.0193		.136	.0254	.161	.137			.211	.211	.200	.167
100.	.0414	.0414	.0329	.0242	.00853	.0172		.145	.0277	.173	.142			.214	.214	.206	.166

5 BORON
(cm²/g = 0.05571 x barns/atom)

E. (MeV)	($\frac{\sigma}{\sigma_0}$) _{inc,t} ^{KN}	($\frac{\sigma}{\sigma_0}$) _{inc,t} ^{BD}	($\frac{\sigma}{\sigma_0}$) _{inc,a} ^{KN}	($\frac{\sigma}{\sigma_0}$) _{inc,a} ^{BD}	($\frac{\sigma}{\sigma_0}$) _{inc,s} ^{KN}	($\frac{\sigma}{\sigma_0}$) _{inc,s} ^{ED}	($\frac{\sigma}{\sigma_0}$) _{coh}	($\frac{\sigma}{\sigma_0}$) _n	($\frac{\sigma}{\sigma_0}$) _e	($\frac{\sigma}{\sigma_0}$) _t	($\frac{\sigma}{\sigma_0}$) _a	($\frac{\sigma}{\sigma_0}$) _{t,t}	($\frac{\sigma}{\sigma_0}$) _{t,t-coh}	($\frac{\sigma}{\sigma_0}$) _{t,a}	($\frac{\sigma}{\sigma_0}$) _{t,en}
.001	.184	.0197	.000359	.0000384	.184	.0197	.797					1070.	1070.	1070.	1070.
.0015	.184	.0369	.000537	.000108	.184	.0368	.691					331.	331.	331.	331.
.002	.184	.0535	.000713	.000207	.183	.0533	.591					144.	144.	144.	144.
.003	.183	.0774	.00106	.000449	.182	.0769	.431					44.1	44.1	44.1	44.1
.004	.182	.0925	.00140	.000713	.181	.0919	.327					18.7	18.7	18.7	18.7
.005	.182	.103	.00174	.000980	.180	.101	.261					9.36	9.36	9.36	9.36
.006	.181	.110	.00207	.00126	.179	.109	.217					5.26	5.26	5.26	5.26
.008	.180	.121	.00272	.00184	.177	.120	.161					2.01	2.01	2.01	2.01
.01	.178	.130	.00334	.00245	.175	.128	.126					.919	.919	.919	.919
.015	.175	.144	.00484	.00399	.170	.140	.0758					.228	.228	.228	.228
.02	.172	.152	.00618	.00547	.166	.146	.0495					.0864	.0864	.0864	.0864
.03	.167	.155	.00864	.00808	.158	.147	.0253					.0214	.0214	.0214	.0214
.04	.161	.154	.0108	.0103	.150	.144	.0153					.00802	.00802	.00802	.00802
.05	.157	.152	.0126	.0123	.144	.140	.0102					.00376	.00376	.00376	.00376
.06	.152	.149	.0143	.0140	.138	.135	.00724					.00202	.00202	.00202	.00202
.08	.144	.142	.0169	.0167	.127	.125	.00421					.000758	.000758	.000758	.000758
.1	.137	.136	.0189	.0188	.118	.117	.00274					.000351	.000351	.000351	.000351
.15	.124	.123	.0224	.0223	.101	.101	.00124					.0000903	.0000903	.0000903	.0000903
.2	.113	.113	.0245	.0245	.0880	.0880	.000708								
.3	.0986	.0980	.0265	.0264	.0719	.0719	.000323								
.4	.0880	.0880	.0273	.0273	.0607	.0607	.000185								
.5	.0808	.0802	.0275	.0275	.0534	.0527	.000119								
.6	.0747	.0747	.0274	.0275	.0472	.0472	.0000819								
.8	.0652	.0652	.0267	.0265	.0387	.0387									
1.	.0591	.0591	.0258	.0258	.0329	.0332									
1.5	.0478	.0478	.0236	.0235	.0247	.0243		.0000613		.0000613	.0000196				
2.	.0407	.0408	.0216	.0215	.0191	.0193		.000245		.000245	.000120				
3.	.0320	.0320	.0185	.0183	.0135	.0137		.000696	.0000112	.0006708	.000468				
4.	.0268	.0268	.0163	.0160	.0105	.0108		.00114	.0000459	.00119	.000891				
5.	.0231	.0231	.0145	.0143	.00864	.0088		.00152	.0000897	.00161	.00129				
6.	.0204	.0204	.0131	.0130	.00730	.00741		.00186	.000136	.00199	.00167				
8.	.0167	.0167	.0111	.0110	.00557	.00574		.00245	.000234	.00269	.00236				
10.	.0143	.0143	.00975	.00958	.00451	.00471		.00295	.000325	.00327	.00296				
15.	.0105	.0105	.00747	.00713	.00336	.00340		.00380	.000507	.00431	.00397				
20.	.00647	.00647	.00613	.00574	.00231	.00272		.00450	.000652	.00515	.00474				
30.	.00618	.00618	.00460	.00418	.00155	.00200		.00546	.000875	.00635	.00579				
40.	.00490	.00490	.00372	.00326	.00118	.00164		.00613	.00103	.00713	.00652				
50.	.00409	.00409	.00315	.00267	.000941	.00142		.00657	.00115	.00774	.00685				
50.	.00352	.00352	.00274	.00225	.000786	.00128		.00702	.00126	.00830	.00724				
80.	.00277	.00277	.00218	.00170	.000591	.00108		.00758	.00142	.00897	.00763				
100.	.00231	.00231	.00183	.00135	.000475	.000958		.00808	.00154	.00964	.00791				

6 CARBON
(barns/atom)

E (MeV)	$\sigma_{inc,t}^{KN}$	$\sigma_{inc,t}^{BD}$	$\sigma_{inc,a}^{KN}$	$\sigma_{inc,a}^{BD}$	$\sigma_{inc,s}^{KN}$	$\sigma_{inc,s}^{BD}$	J_{coh}	$\sigma_{n,n}$	$\sigma_{n,c}$	$\sigma_{n,t}$	$\sigma_{n,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	3.98	.299	.00775	.000582	3.97	.298	21.3					40100.	40100.	40100.	40100.	40100.	40100.
.0015	3.97	.590	.0116	.00172	3.96	.588	19.1					12600.	12600.	12600.	12600.	12600.	12600.
.002	3.96	.900	.0154	.00349	3.94	.897	16.8					5590.	5590.	5610.	5590.	5590.	5590.
.003	3.94	1.43	.0229	.00829	3.92	1.42	12.6					1750.	1750.	1760.	1750.	1750.	1750.
.004	3.93	1.82	.0302	.0140	3.90	1.81	9.54					743.	743.	754.	745.	743.	743.
.005	3.91	2.09	.0375	.0200	3.88	2.07	7.49					377.	377.	387.	379.	377.	377.
.006	3.90	2.29	.0446	.0262	3.86	2.26	6.09					208.	208.	216.	210.	208.	208.
.008	3.87	2.55	.0586	.0386	3.81	2.51	4.36					80.0	80.0	86.9	82.5	86.1	80.0
.01	3.84	2.74	.0720	.0513	3.77	2.69	3.37					38.0	38.0	44.1	40.7	38.1	38.1
.015	3.77	3.03	.104	.0838	3.67	2.95	2.03					9.75	9.75	14.8	12.8	9.85	9.83
.02	3.71	3.19	.134	.115	3.57	3.07	1.34					3.82	3.82	8.35	7.01	3.95	3.93
.03	3.58	3.30	.187	.172	3.40	3.13	.699					.980	.980	4.98	4.28	1.17	1.15
.04	3.47	3.30	.232	.220	3.24	3.08	.425					.370	.370	4.09	3.67	.602	.590
.05	3.37	3.25	.272	.262	3.10	2.99	.285					.177	.177	3.71	3.43	.449	.439
.06	3.27	3.19	.307	.299	2.97	2.89	.204					.0960	.0960	3.49	3.29	.403	.395
.08	3.10	3.05	.363	.357	2.74	2.69	.119					.0357	.0357	3.20	3.09	.399	.393
.1	2.96	2.92	.408	.403	2.55	2.52	.0775					.0172	.0172	3.01	2.94	.425	.420
.15	2.66	2.65	.483	.481	2.18	2.17	.0353					.00466	.00466	2.69	2.65	.488	.486
.2	2.44	2.43	.527	.525	1.91	1.90	.0201					.00183	.00183	2.45	2.43	.529	.527
.3	2.12	2.12	.572	.572	1.55	1.55	.00917							2.13	2.12	.572	.572
.4	1.90	1.90	.589	.589	1.31	1.31	.00530							1.91	1.90	.589	.589
.5	1.73	1.73	.592	.593	1.14	1.14	.00345							1.73	1.73	.592	.593
.6	1.60	1.60	.590	.587	1.02	1.01	.00240							1.60	1.60	.590	.587
.8	1.41	1.41	.576	.574	.833	.836	.00131							1.41	1.41	.576	.574
1.	1.27	1.27	.557	.556	.710	.714								1.27	1.27	.557	.556
1.5	1.03	1.03	.509	.507	.520	.523		.00158		.00158	.000504			1.03	1.03	.511	.508
2.	.878	.878	.466	.464	.412	.414		.0063		.0063	.00309			.884	.884	.472	.467
3.	.691	.690	.398	.394	.292	.296		.0182	.000241	.0184	.0122			.708	.708	.416	.406
4.	.577	.577	.350	.345	.227	.232		.0296	.000986	.0306	.0228			.608	.608	.381	.368
5.	.498	.498	.313	.308	.185	.190		.0395	.00194	.0414	.0332			.539	.539	.354	.341
6.	.441	.441	.284	.279	.157	.162		.0481	.00295	.0510	.0427			.492	.492	.333	.322
8.	.360	.360	.240	.234	.120	.126		.0633	.00506	.0684	.0600			.428	.428	.308	.294
10.	.307	.307	.210	.204	.0971	.103		.0755	.00762	.0825	.0744			.389	.389	.292	.278
15.	.227	.227	.161	.153	.0659	.074		.0986	.0108	.109	.101			.336	.336	.270	.254
20.	.182	.182	.132	.123	.0499	.0593		.116	.0140	.130	.120			.312	.312	.262	.243
30.	.133	.133	.0992	.0891	.0335	.0439		.140	.0187	.159	.144			.292	.292	.258	.233
40.	.105	.105	.0802	.0692	.0253	.0358		.157	.0222	.179	.160			.284	.284	.259	.229
50.	.0881	.0881	.0678	.0566	.0203	.0315		.170	.0248	.195	.169			.283	.283	.263	.226
60.	.0758	.0758	.0589	.0475	.0178	.0283		.179	.0270	.206	.175			.282	.282	.265	.222
80.	.0598	.0598	.0470	.0359	.0128	.0239		.194	.0303	.224	.184			.284	.284	.271	.220
100.	.0497	.0497	.0394	.0284	.0102	.0213		.207	.0331	.240	.190			.290	.290	.279	.218

6 CARBON
(cm²/g = 0.05014 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc, t}	($\frac{\mu}{\rho}$) _{inc, a}	($\frac{\mu}{\rho}$) _{inc, s}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{ke}	($\frac{\mu}{\rho}$) _{x, t}	($\frac{\mu}{\rho}$) _{x, a}	($\frac{\mu}{\rho}$) _{r, t}	($\frac{\mu}{\rho}$) _{r, a}	($\frac{\mu}{\rho}$) _{tot, t}	($\frac{\mu}{\rho}$) _{tot, t-coh}	($\frac{\mu}{\rho}$) _{tot, a}	($\frac{\mu}{\rho}$) _{tot, en}
.001	.200	.1150	.000389	.0000292	.199	.0149	1.07		2010.	2010.	2010.	2010.	2010.	2010.
.0015	.199	.1296	.000582	.0000862	.199	.0295	.958		632.	622.	632.	632.	632.	632.
.002	.199	.1451	.000772	.000175	.198	.0450	.842		280.	280.	280.	280.	280.	280.
.003	.198	.1717	.00115	.000416	.197	.0712	.632		87.7	87.7	88.2	87.7	87.7	87.7
.004	.197	.1913	.00151	.000702	.196	.0908	.478		37.3	37.3	37.8	37.4	37.3	37.3
.005	.196	.205	.00188	.00100	.195	.104	.376		18.9	18.9	19.4	19.0	18.9	18.9
.006	.196	.215	.00224	.00131	.194	.113	.305		10.4	10.4	10.8	10.5	10.4	10.4
.008	.194	.228	.00294	.00194	.191	.126	.219		4.01	4.01	4.36	4.14	4.02	4.01
.01	.193	.237	.00361	.00257	.189	.135	.169		1.91	1.91	2.21	2.04	1.91	1.91
.015	.189	.252	.00521	.00420	.184	.148	.102		.489	.489	.742	.642	.494	.493
.02	.186	.260	.00672	.00577	.179	.154	.0672		.192	.192	.419	.351	.198	.197
.03	.180	.265	.00938	.00862	.170	.157	.0350		.0491	.0491	.250	.215	.0587	.0577
.04	.174	.265	.0116	.0110	.162	.154	.0213		.0186	.0186	.205	.184	.0302	.0296
.05	.169	.263	.0136	.0131	.155	.150	.0143		.00887	.00887	.186	.172	.0225	.0220
.06	.164	.260	.0154	.0150	.149	.145	.0102		.00481	.00481	.175	.165	.0202	.0198
.08	.155	.253	.0182	.0179	.137	.135	.00597		.00179	.00179	.160	.155	.0200	.0197
.1	.148	.246	.0205	.0202	.128	.126	.00389		.000862	.000862	.151	.147	.0213	.0211
.15	.133	.233	.0242	.0241	.109	.109	.00177		.000234	.000234	.135	.133	.0245	.0244
.2	.122	.222	.0264	.0263	.0958	.0953	.00101		.0000918	.0000918	.123	.122	.0265	.0264
.3	.106	.206	.0287	.0287	.0777	.0777	.00046				.107	.106	.0287	.0287
.4	.0953	.0953	.0295	.0295	.0657	.0657	.000266				.0958	.0953	.0295	.0295
.5	.0867	.0867	.0297	.0297	.0572	.0572	.000173				.0867	.0867	.0297	.0297
.6	.0802	.0802	.0296	.0294	.0511	.0506	.000120				.0802	.0802	.0296	.0294
.8	.0707	.0707	.0289	.0288	.0418	.0419	.0000657				.0707	.0707	.0289	.0288
1.	.0637	.0637	.0279	.0279	.0356	.0358					.0637	.0637	.0279	.0279
1.5	.0516	.0516	.0255	.0254	.0261	.0262	.0000792	.0000792	.0000253		.0516	.0516	.0256	.0255
2.	.0440	.0440	.0234	.0233	.0207	.0208	.000316	.000316	.000155		.0443	.0443	.0237	.0234
3.	.0346	.0346	.0200	.0198	.0146	.0148	.000913	.0000121	.000923	.000612	.0355	.0355	.0209	.0204
4.	.0289	.0289	.0175	.0173	.0114	.0116	.00148	.0000494	.00153	.00114	.0305	.0305	.0191	.0185
5.	.0250	.0250	.0157	.0154	.00926	.00953	.00198	.0000973	.00208	.00166	.0270	.0270	.0177	.0171
6.	.0221	.0221	.0142	.0140	.00787	.00812	.00241	.000148	.00256	.00214	.0247	.0247	.0168	.0161
8.	.0181	.0181	.0120	.0117	.00602	.00632	.00317	.000254	.00343	.00301	.0215	.0215	.0154	.0147
10.	.0154	.0154	.0105	.0102	.00487	.00516	.00379	.000352	.00414	.00373	.0195	.0195	.0146	.0139
15.	.0114	.0114	.00807	.00767	.00330	.00371	.00494	.000542	.00547	.00506	.0168	.0168	.0135	.0127
20.	.00913	.00913	.00662	.00617	.00256	.00297	.00582	.000702	.00652	.00602	.0156	.0156	.0131	.0122
30.	.00667	.00667	.00497	.00447	.00166	.00220	.00702	.000938	.00797	.00722	.0146	.0146	.0129	.0117
40.	.00526	.00526	.00402	.00347	.00127	.00180	.00787	.00111	.00898	.00802	.0142	.0142	.0130	.0115
50.	.00442	.00442	.00340	.00284	.00102	.00158	.00852	.00124	.00978	.00847	.0142	.0142	.0132	.0113
60.	.00380	.00380	.00295	.00238	.000852	.00142	.00898	.00135	.0103	.00877	.0141	.0141	.0133	.0111
80.	.00300	.00300	.00236	.00180	.000642	.00120	.00973	.00152	.0112	.00923	.0142	.0142	.0136	.0110
100.	.00249	.00249	.00198	.00142	.000511	.00107	.0104	.00166	.0120	.00953	.0145	.0145	.0140	.0109

7 NITROGEN
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{ne}	σ_{xt}	σ_{xa}	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	4.64	.259	.00964	.000505	4.63	.258	29.8					73000.	73000.	73000.	73000.	73000.	73000.
.0015	4.63	.523	.0135	.00153	4.62	.521	27.3					23000.	23000.	23000.	23000.	23000.	23000.
.002	4.62	.820	.0179	.00318	4.60	.817	24.5					10100.	10100.	10100.	10100.	10100.	10100.
.003	4.60	1.38	.0267	.00600	4.58	1.37	19.0					3180.	3180.	3200.	3180.	3180.	3180.
.004	4.58	1.86	.0353	.0143	4.55	1.85	14.7					1370.	1370.	1390.	1370.	1370.	1370.
.005	4.57	2.21	.0437	.0212	4.52	2.19	11.6					.695.	.695.	.709.	.697.	.695.	.695.
.006	4.55	2.49	.0521	.0285	4.50	2.46	9.34					.395.	.395.	.407.	.397.	.395.	.395.
.008	4.52	2.85	.0683	.0431	4.45	2.81	6.54					.160.	.160.	.169.	.163.	.160.	.160.
.01	4.48	3.09	.0840	.0579	4.40	3.03	4.94					77.8	77.8	85.8	80.9	77.9	77.9
.015	4.40	3.45	.122	.0954	4.28	3.35	2.93					20.4	20.4	26.8	23.8	20.5	20.5
.02	4.33	3.65	.156	.132	4.17	3.52	1.95					8.02	8.02	13.6	11.7	8.18	8.15
.03	4.18	3.80	.218	.198	3.97	3.60	1.03					2.06	2.06	6.89	5.86	2.28	2.26
.04	4.05	3.81	.270	.254	3.78	3.56	.626					.790	.790	5.23	4.60	1.06	1.04
.05	3.93	3.76	.317	.303	3.61	3.46	.421					.377	.377	4.56	4.14	.694	.680
.06	3.82	3.70	.358	.347	3.46	3.35	.302					.204	.204	4.21	3.90	.562	.551
.08	3.62	3.55	.424	.416	3.20	3.13	.177					.0790	.0790	3.81	3.63	.503	.495
.1	3.45	3.40	.476	.469	2.97	2.93	.116					.0373	.0373	3.55	3.44	.513	.506
.15	3.11	3.08	.563	.559	2.54	2.52	.0528					.0100	.0100	3.14	3.09	.573	.569
.2	2.84	2.83	.615	.612	2.23	2.22	.0301					.00397	.00397	2.86	2.83	.619	.616
.3	2.47	2.47	.667	.666	1.81	1.80	.0137					.00106	.00106	2.48	2.47	.668	.667
.4	2.22	2.21	.687	.685	1.53	1.52	.00794							2.22	2.21	.687	.685
.5	2.02	2.02	.690	.693	1.33	1.33	.00521							2.03	2.02	.690	.693
.6	1.87	1.87	.688	.686	1.18	1.18	.00367							1.87	1.87	.688	.686
.8	1.64	1.64	.672	.667	.972	.973	.00204							1.64	1.64	.672	.667
1.	1.48	1.48	.650	.648	.828	.832	.00123							1.48	1.48	.650	.648
1.5	1.20	1.20	.594	.590	.607	.610		.00214		.00214	.000683			1.20	1.20	.596	.591
2.	1.02	1.02	.544	.539	.481	.481		.00858		.00858	.0042			1.03	1.03	.553	.543
3.	.806	.805	.465	.460	.341	.345		.0245	.000281	.0248	.0164			.830	.830	.490	.476
4.	.673	.673	.409	.402	.265	.271		.0402	.00116	.0414	.0308			.714	.714	.450	.433
5.	.582	.582	.365	.359	.216	.223		.0540	.00226	.0563	.0450			.638	.638	.421	.404
6.	.514	.514	.331	.324	.183	.190		.0658	.00343	.0692	.0577			.583	.583	.400	.382
8.	.420	.420	.280	.273	.140	.147		.0860	.00590	.0919	.0804			.512	.512	.372	.353
10.	.358	.358	.245	.237	.113	.121		.102	.00817	.110	.0992			.468	.468	.355	.336
15.	.265	.265	.188	.178	.0769	.0874		.133	.0127	.146	.134			.411	.411	.334	.312
20.	.213	.213	.155	.143	.0582	.0703		.157	.0163	.173	.160			.386	.386	.328	.303
30.	.155	.155	.116	.103	.0391	.0519		.191	.0218	.213	.192			.368	.368	.329	.295
40.	.123	.123	.0935	.0799	.0295	.0430		.213	.0257	.239	.209			.362	.362	.332	.289
50.	.103	.103	.0791	.0655	.0237	.0375		.230	.0289	.259	.220			.362	.362	.338	.285
60.	.0885	.0885	.0687	.0549	.0198	.0336		.243	.0313	.274	.227			.362	.362	.343	.282
80.	.0698	.0698	.0549	.0412	.0149	.0286		.264	.0352	.299	.236			.369	.369	.354	.277
100.	.0580	.0580	.0460	.0325	.0119	.0255		.280	.0383	.318	.242			.376	.376	.364	.274

7 NITROGEN
(cm²/g = 0.04300 x barns/atom)

E (MeV)	($\frac{\sigma}{\sigma_0}$) _{KN inc, t}	($\frac{\sigma}{\sigma_0}$) _{BD inc, t}	($\frac{\sigma}{\sigma_0}$) _{KN inc, a}	($\frac{\sigma}{\sigma_0}$) _{BD inc, a}	($\frac{\sigma}{\sigma_0}$) _{KN inc, s}	($\frac{\sigma}{\sigma_0}$) _{BD inc, s}	($\frac{\sigma}{\sigma_0}$) _{coh}	($\frac{\sigma}{\sigma_0}$) _n	($\frac{\sigma}{\sigma_0}$) _e	($\frac{\sigma}{\sigma_0}$) _{x, t}	($\frac{\sigma}{\sigma_0}$) _{x, a}	($\frac{\sigma}{\sigma_0}$) _{r, t}	($\frac{\sigma}{\sigma_0}$) _{r, a}	($\frac{\sigma}{\sigma_0}$) _{tot, t}	($\frac{\sigma}{\sigma_0}$) _{tot, t-coh}	($\frac{\sigma}{\sigma_0}$) _{tot, a}	($\frac{\sigma}{\sigma_0}$) _{tot, en}
.001	.200	.0111	.000389	.0000217	.199	.0111	1.28					3140.	3140.	3140.	3140.	3140.	3140.
.0015	.199	.0225	.000580	.0000658	.199	.0224	1.17					989.	989.	989.	989.	989.	989.
.002	.199	.0353	.000770	.000137	.198	.0351	1.05					434.	434.	434.	434.	434.	434.
.003	.196	.0593	.00115	.000344	.197	.0589	.817					137.	137.	137.	137.	137.	137.
.004	.197	.0800	.00152	.000615	.196	.0795	.632					58.9	58.9	58.9	58.9	58.9	58.9
.005	.197	.0950	.00188	.000912	.194	.0942	.499					29.9	29.9	30.5	30.0	29.9	29.9
.006	.196	.107	.00224	.00123	.193	.106	.402					17.0	17.0	17.5	17.1	17.0	17.0
.008	.194	.123	.00294	.00185	.191	.121	.281					6.88	6.88	7.27	7.01	6.88	6.88
.01	.193	.133	.00361	.00249	.189	.130	.212					3.35	3.35	3.69	3.48	3.35	3.35
.015	.189	.148	.00525	.00410	.184	.144	.126					.877	.877	1.15	1.02	.881	.881
.02	.186	.157	.00671	.00568	.179	.151	.0838					.345	.345	.585	.503	.352	.350
.03	.180	.163	.00937	.00851	.171	.155	.0443					.0886	.0886	.296	.252	.0980	.0972
.04	.174	.164	.0116	.0109	.163	.153	.0269					.0340	.0340	.225	.198	.0456	.0447
.05	.169	.162	.0136	.0130	.155	.149	.0181					.0162	.0162	.196	.178	.0298	.0292
.06	.164	.159	.0154	.0149	.149	.144	.0130					.00877	.00877	.181	.168	.0242	.0237
.08	.156	.153	.0182	.0179	.138	.135	.00761					.00340	.00340	.164	.156	.0216	.0213
.1	.146	.146	.0205	.0202	.128	.126	.00499					.00160	.00160	.153	.148	.0221	.0218
.15	.134	.132	.0242	.0240	.109	.108	.00227					.000430	.000430	.135	.133	.0246	.0245
.2	.122	.122	.0264	.0263	.0959	.0955	.00129					.000171	.000171	.123	.122	.0266	.0265
.3	.106	.106	.0287	.0286	.0778	.0774	.000589					.0000456	.0000456	.107	.106	.0287	.0287
.4	.0955	.095	.0295	.0295	.0658	.0654	.000341							.0955	.0950	.0295	.0295
.5	.0869	.0869	.0297	.0298	.0572	.0572	.000224							.0873	.0869	.0297	.0298
.6	.0804	.0804	.0296	.0295	.0507	.0507	.000158							.0804	.0804	.0296	.0295
.8	.0705	.0705	.0289	.0287	.0418	.0418	.0000877							.0705	.0705	.0289	.0287
1.	.0636	.0636	.0279	.0279	.0356	.0358	.0000529							.0636	.0636	.0279	.0279
1.5	.0516	.0516	.0255	.0254	.0261	.0262		.000092		.000092	.0000294			.0516	.0516	.0256	.0254
2.	.0439	.0439	.0234	.0232	.0207	.0207		.000369		.000369	.000181			.0443	.0443	.0238	.0233
3.	.0347	.0346	.0200	.0198	.0147	.0148		.00105	.0000121	.00107	.000705			.0357	.0357	.0211	.0205
4.	.0289	.0289	.0176	.0173	.0114	.0117		.00173	.0000499	.00178	.00132			.0307	.0307	.0193	.0186
5.	.0250	.0250	.0157	.0154	.00929	.00959		.00232	.0000972	.00242	.00193			.0274	.0274	.0181	.0174
6.	.0221	.0221	.0142	.0139	.00787	.00817		.00283	.000147	.00298	.00248			.0251	.0251	.0172	.0164
8.	.0181	.0181	.0120	.0117	.00642	.00632		.00370	.000254	.00395	.00346			.0220	.0220	.0160	.0152
10.	.0154	.0154	.0105	.0102	.00486	.00520		.00439	.000351	.00473	.00427			.0201	.0201	.0153	.0144
15.	.0114	.0114	.00808	.00765	.00331	.00376		.00572	.000546	.00628	.00576			.0177	.0177	.0144	.0134
20.	.00916	.00916	.00666	.00615	.00250	.00302		.00675	.000701	.00744	.00688			.0166	.0166	.0141	.0130
30.	.00666	.00666	.00499	.00443	.00168	.00223		.00821	.000937	.00916	.00826			.0158	.0158	.0141	.0127
40.	.00529	.00529	.00402	.00344	.00127	.00185		.00916	.00111	.0103	.00899			.0156	.0156	.0143	.0124
50.	.00443	.00443	.00340	.00282	.00102	.00161		.00989	.00124	.0111	.00946			.0156	.0156	.0145	.0123
60.	.00381	.00381	.00295	.00236	.000851	.00144		.0104	.00135	.0118	.00976			.0156	.0156	.0147	.0121
80.	.00300	.00300	.00236	.00177	.000641	.00123		.0114	.00151	.0129	.0101			.0159	.0159	.0152	.0119
100.	.00249	.00249	.00198	.00140	.000512	.00110		.0120	.00165	.0137	.0104			.0162	.0162	.0157	.0116

8 OXYGEN
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	5.30	.231	.0103	.000450	5.29	.231	39.7					120000.	120000.	120000.	120000.	120000.	120000.
.0015	5.29	.477	.0154	.00139	5.28	.476	37.0					38100.	38100.	38100.	38100.	38100.	38100.
.002	5.28	.765	.0205	.00297	5.26	.762	33.7					16900.	16900.	16900.	16900.	16900.	16900.
.003	5.26	1.35	.0305	.00782	5.23	1.34	27.1					5350.	5350.	5350.	5350.	5350.	5350.
.004	5.24	1.89	.0403	.0145	5.20	1.88	21.5					2300.	2300.	2300.	2300.	2300.	2300.
.005	5.22	2.33	.0500	.0223	5.17	2.31	17.1					1180.	1180.	1200.	1180.	1180.	1180.
.006	5.20	2.67	.0595	.0306	5.14	2.64	13.8					680.	680.	696.	683.	680.	680.
.008	5.16	3.15	.0781	.0477	5.08	3.10	9.61					285.	285.	298.	288.	285.	285.
.01	5.12	3.45	.0909	.0647	5.03	3.39	7.15					141.	141.	152.	144.	141.	141.
.015	5.03	3.87	.139	.107	4.89	3.76	4.13					38.3	38.3	46.3	42.2	38.4	38.4
.02	4.94	4.10	.178	.148	4.77	3.95	3.74					14.9	14.9	21.7	19.0	15.1	15.0
.03	4.78	4.29	.249	.223	4.53	4.07	1.45					3.90	3.90	9.44	8.19	4.15	4.12
.04	4.63	4.31	.309	.287	4.32	4.02	.891					1.49	1.49	6.69	5.80	1.80	1.78
.05	4.49	4.27	.362	.345	4.13	3.93	.600					.710	.710	5.58	4.98	1.07	1.05
.06	4.36	4.20	.410	.394	3.96	3.81	.431					.390	.390	5.02	4.59	.880	.784
.08	4.14	4.04	.485	.473	3.65	3.57	.253					.150	.150	4.44	4.19	.635	.629
.1	3.94	3.88	.544	.535	3.40	3.34	.168					.0717	.0717	4.12	3.95	.614	.607
.15	3.55	3.52	.644	.639	2.90	2.88	.0760					.0194	.0194	3.62	3.54	.663	.658
.2	3.25	3.23	.703	.698	2.55	2.53	.0433					.00765	.00765	3.28	3.24	.711	.706
.3	2.83	2.82	.762	.760	2.07	2.06	.0197					.00269	.00269	2.84	2.82	.764	.762
.4	2.53	2.53	.785	.784	1.75	1.75	.0114							2.54	2.53	.785	.784
.5	2.31	2.31	.789	.792	1.52	1.52	.00750							2.32	2.31	.789	.792
.6	2.14	2.14	.786	.785	1.35	1.35	.00533							2.15	2.14	.786	.785
.8	1.88	1.88	.768	.763	1.11	1.12	.00303							2.15	2.14	.786	.785
1.	1.69	1.69	.743	.740	.946	.950	.00186							1.69	1.69	.743	.742
1.5	1.37	1.37	.679	.674	.694	.696		.00280		.00280	.000893			1.37	1.37	.682	.675
2.	1.17	1.17	.621	.618	.549	.552		.0111		.0111	.00543			1.18	1.18	.632	.623
3.	.921	.921	.531	.525	.389	.396		.0320	.000322	.0323	.0214			.953	.953	.563	.546
4.	.770	.770	.467	.460	.303	.310		.0530	.00132	.0543	.0405			.824	.824	.521	.500
5.	.665	.665	.417	.409	.247	.256		.0701	.00258	.0727	.0581			.738	.738	.490	.467
6.	.587	.587	.378	.369	.209	.218		.0860	.00392	.0899	.0748			.677	.677	.448	.444
8.	.480	.480	.321	.310	.160	.170		.112	.00672	.119	.104			.599	.599	.440	.414
10.	.409	.409	.280	.269	.130	.140		.133	.00934	.142	.127			.551	.551	.422	.396
15.	.303	.303	.215	.202	.0878	.101		.174	.0145	.188	.172			.491	.491	.403	.374
20.	.243	.243	.177	.162	.0665	.0812		.206	.0187	.225	.204			.468	.468	.402	.366
30.	.177	.177	.132	.116	.0447	.0609		.247	.0249	.272	.241			.449	.449	.404	.357
40.	.141	.141	.107	.0907	.0338	.0503		.277	.0295	.306	.283			.447	.447	.413	.354
50.	.117	.117	.0904	.0735	.0270	.0435		.300	.0329	.333	.277			.450	.450	.423	.350
60.	.101	.101	.0785	.0617	.0226	.0393		.316	.0359	.352	.284			.453	.453	.431	.346
80.	.0798	.0798	.0627	.0462	.0170	.0336		.341	.0402	.381	.293			.461	.461	.444	.339
100.	.0662	.0662	.0526	.0363	.0137	.0299		.362	.0436	.406	.299			.472	.472	.459	.335

8 OXYGEN
(cm²/g = 0.03764 x barns/atom)

E (MeV)	$\left(\frac{\mu}{\rho}\right)_{\text{inc},t}^{\text{KN}}$	$\left(\frac{\mu}{\rho}\right)_{\text{inc},t}^{\text{BC}}$	$\left(\frac{\mu}{\rho}\right)_{\text{inc},a}^{\text{KN}}$	$\left(\frac{\mu}{\rho}\right)_{\text{inc},a}^{\text{BD}}$	$\left(\frac{\mu}{\rho}\right)_{\text{inc},s}^{\text{KN}}$	$\left(\frac{\mu}{\rho}\right)_{\text{inc},s}^{\text{BD}}$	$\left(\frac{\mu}{\rho}\right)_{\text{coh}}$	$\left(\frac{\mu}{\rho}\right)_{\text{N}}$	$\left(\frac{\mu}{\rho}\right)_{\text{e}}$	$\left(\frac{\mu}{\rho}\right)_{\text{t}}$	$\left(\frac{\mu}{\rho}\right)_{\text{a}}$	$\left(\frac{\mu}{\rho}\right)_{\text{r},t}$	$\left(\frac{\mu}{\rho}\right)_{\text{r},a}$	$\left(\frac{\mu}{\rho}\right)_{\text{tot},t}$	$\left(\frac{\mu}{\rho}\right)_{\text{tot},t-\text{coh}}$	$\left(\frac{\mu}{\rho}\right)_{\text{tot},a}$	$\left(\frac{\mu}{\rho}\right)_{\text{tot},en}$
.001	.199	.00859	.000388	.0000169	.199	.00869	1.49					4520.	4520.	4520.	4520.	4520.	4520.
.0015	.199	.0180	.000580	.0000523	.199	.0179	1.39					1430.	1430.	1430.	1430.	1430.	1430.
.002	.199	.0283	.000772	.000112	.198	.0287	1.27					636.	636.	636.	636.	636.	636.
.003	.198	.0508	.00115	.000294	.197	.0504	1.02					201.	201.	203.	201.	201.	201.
.004	.197	.0711	.00152	.000546	.196	.0708	.809					86.6	86.6	87.3	86.6	86.6	86.6
.005	.196	.0877	.00188	.000839	.195	.0869	.644					44.4	44.4	45.2	44.4	44.4	44.4
.006	.196	.100	.00224	.00115	.193	.0994	.519					25.6	25.6	26.2	25.7	25.6	25.6
.008	.194	.119	.00294	.00180	.191	.117	.362					10.7	10.7	11.2	10.8	10.7	10.7
.01	.193	.13	.00361	.00244	.189	.128	.269					5.31	5.31	5.72	5.42	5.31	5.31
.015	.189	.146	.00523	.00403	.184	.142	.155					1.44	1.44	1.74	1.59	1.45	1.45
.02	.186	.154	.00670	.00557	.180	.149	.103					.561	.561	.817	.715	.568	.565
.03	.180	.161	.00937	.00839	.171	.153	.0546					.147	.147	.363	.308	.156	.155
.04	.174	.162	.0116	.0108	.163	.151	.0335					.0561	.0561	.252	.218	.0678	.0670
.05	.169	.161	.0136	.0130	.155	.148	.0226					.0267	.0267	.210	.187	.0403	.0395
.06	.164	.156	.0154	.0148	.149	.143	.0162					.0147	.0147	.189	.173	.0301	.0295
.08	.156	.152	.0183	.0178	.137	.134	.00952					.00565	.00565	.167	.158	.0239	.0234
.1	.148	.144	.0205	.0201	.128	.126	.00625					.00270	.00270	.155	.149	.0232	.0228
.15	.134	.135	.0242	.0241	.109	.108	.00284					.000730	.000730	.136	.133	.0250	.0248
.2	.122	.127	.0265	.0263	.0960	.0952	.00163					.000288	.000288	.123	.122	.0268	.0266
.3	.107	.104	.0287	.0286	.0779	.0775	.000742					.0000787	.0000787	.107	.106	.0288	.0287
.4	.0952	.0952	.0295	.0295	.0659	.0659	.000429							.0956	.0952	.0295	.0295
.5	.0869	.0869	.0297	.0298	.0572	.0572	.000282							.0873	.0869	.0297	.0296
.5	.0805	.0805	.0296	.0295	.0508	.0508	.000201							.0809	.0805	.0296	.0295
.3	.0708	.0748	.0289	.0287	.0419	.0422	.000114							.0708	.0708	.0289	.0287
1.	.0636	.0696	.0280	.0279	.0358	.0358	.0000700							.0636	.0636	.0280	.0279
1.5	.0516	.0516	.0258	.0254	.0261	.0262	.000105			.000105	.0006336			.0516	.0516	.0257	.0254
2.	.0440	.0440	.0234	.0233	.0207	.0208	.000418			.000418	.000204			.0444	.0444	.0238	.0234
3.	.0347	.0347	.0200	.0198	.0146	.0149	.00120	.0000121		.00122	.000805			.0359	.0359	.0212	.0206
4.	.0290	.0290	.0176	.0173	.0114	.0117	.00199	.0000497		.00204	.00152			.0310	.0310	.0196	.0188
5.	.0250	.0250	.0157	.0154	.00930	.00964	.00264	.0000971		.00274	.00219			.0278	.0278	.0184	.0176
6.	.0221	.0221	.0142	.0139	.00787	.00821	.00324	.000148		.00338	.00282			.0255	.0255	.0176	.0167
8.	.0181	.0181	.0121	.0117	.00602	.00640	.00422	.000253		.00448	.00391			.0225	.0225	.0166	.0156
10.	.0154	.0154	.0105	.0101	.00489	.00527	.00501	.000352		.00534	.00476			.0207	.0207	.0159	.0149
15.	.0114	.0114	.00809	.00760	.00330	.00380	.00655	.000546		.00768	.00647			.0185	.0185	.0152	.0141
20.	.00915	.00915	.00666	.00610	.00250	.00306	.00775	.000704		.00847	.00768			.0176	.0176	.0151	.0138
30.	.00666	.00666	.00497	.00437	.00168	.00229	.00930	.000937		.0102	.00987			.0169	.0169	.0152	.0134
40.	.00531	.00531	.00403	.00341	.00127	.00189	.0104	.00111		.0115	.00990			.0168	.0168	.0155	.0133
50.	.00440	.00440	.00340	.00277	.00102	.00164	.0113	.00124		.0125	.0104			.0169	.0169	.0159	.0132
60.	.00380	.00380	.00295	.00232	.000851	.00148	.0119	.00135		.0132	.0107			.0171	.0171	.0162	.0130
80.	.00300	.00300	.00236	.00174	.000640	.00126	.0128	.00151		.0143	.0110			.0174	.0174	.0167	.0128
100.	.00249	.00249	.00198	.00137	.000516	.00113	.0136	.00164		.0153	.0113			.0178	.0178	.0173	.0126

9 FLUORINE
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	$\sigma_{x,n}$	$\sigma_{x,e}$	$\sigma_{x,t}$	$\sigma_{x,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	5.96	.207	.0116	.000403	5.95	.207	50.9					189000.	188000.	189000.	189000.	189000.	188000.
.0015	5.95	.434	.0174	.00127	5.93	.433	48.0					59500.	59300.	59500.	59500.	59500.	59300.
.002	5.94	.707	.0230	.00274	5.92	.704	44.5					26300.	26200.	26300.	26300.	26300.	26200.
.003	5.92	1.30	.0343	.00753	5.88	1.29	36.8					8310.	8300.	8350.	8310.	8310.	8300.
.004	5.89	1.86	.0454	.0143	5.85	1.85	29.8					3640.	3640.	3670.	3640.	3640.	3640.
.005	5.87	2.35	.0562	.0225	5.82	2.33	24.1					1900.	1900.	1930.	1900.	1900.	1900.
.006	5.85	2.76	.0670	.0316	5.78	2.73	19.7					1120.	1120.	1140.	1120.	1120.	1120.
.008	5.81	3.35	.0879	.0507	5.72	3.30	13.7					467.	467.	484.	470.	467.	467.
.01	5.76	3.74	.108	.0701	5.66	3.67	10.1					238.	238.	252.	242.	238.	238.
.015	5.66	4.26	.157	.118	5.50	4.14	5.74					66.2	66.2	76.2	70.5	66.4	66.3
.02	5.56	4.53	.201	.163	5.36	4.37	3.78					25.5	25.5	33.8	30.0	25.7	25.7
.03	5.38	4.76	.280	.248	5.10	4.51	2.01					6.72	6.72	13.5	11.5	7.00	6.97
.04	5.21	4.81	.347	.321	4.86	4.49	1.23					2.57	2.57	8.61	7.38	2.92	2.89
.05	5.05	4.77	.408	.385	4.65	4.39	.831					1.24	1.24	6.84	6.01	1.65	1.63
.06	4.91	4.70	.461	.441	4.45	4.26	.598					.687	.687	5.98	5.39	1.15	1.13
.08	4.65	4.53	.545	.530	4.11	4.00	.351					.265	.265	5.15	4.79	.810	.795
.1	4.43	4.35	.612	.600	3.82	3.75	.230					.128	.128	4.71	4.48	.740	.728
.15	3.99	3.95	.724	.717	3.27	3.23	.106					.0348	.0348	4.09	3.98	.759	.752
.2	3.66	3.64	.791	.787	2.87	2.85	.0604					.0138	.0138	3.71	3.65	.805	.801
.3	3.18	3.17	.858	.855	2.32	2.32	.0274					.00377	.00377	3.20	3.17	.862	.859
.4	2.85	2.84	.883	.880	1.97	1.96	.0158					.00150	.00150	2.86	2.84	.884	.881
.5	2.60	2.60	.888	.892	1.71	1.71	.0104							2.61	2.60	.888	.892
.6	2.41	2.40	.885	.881	1.52	1.52	.00744							2.41	2.40	.885	.881
.8	2.11	2.11	.865	.857	1.25	1.25	.00430							2.11	2.11	.865	.857
1.	1.90	1.90	.836	.830	1.06	1.07	.00270							1.90	1.90	.836	.830
1.5	1.54	1.54	.764	.758	.780	.782	.00122	.00355		.00355	.00113			1.54	1.54	.768	.759
2.	1.32	1.32	.699	.696	.618	.624		.0141		.0141	.00689			1.33	1.33	.713	.703
3.	1.04	1.04	.598	.593	.438	.447		.0405	.000362	.0409	.0270			1.08	1.08	.639	.620
4.	.866	.866	.525	.516	.340	.350		.0670	.00149	.0685	.0510			.934	.934	.593	.567
5.	.748	.748	.470	.458	.278	.290		.0890	.00291	.0919	.0733			.840	.840	.562	.531
6.	.661	.661	.426	.414	.235	.247		.108	.00440	.112	.0934			.773	.773	.538	.507
8.	.541	.541	.361	.347	.180	.194		.142	.00759	.150	.130			.691	.691	.511	.477
10.	.460	.460	.315	.301	.146	.159		.170	.0105	.180	.161			.640	.640	.495	.462
15.	.341	.341	.242	.226	.0988	.115		.220	.0163	.236	.215			.577	.577	.478	.441
20.	.274	.274	.199	.181	.0748	.0932		.260	.0210	.281	.253			.555	.555	.480	.434
30.	.199	.199	.149	.129	.0503	.0697		.311	.0281	.339	.296			.538	.538	.488	.425
40.	.158	.158	.120	.100	.0380	.0578		.350	.0333	.383	.323			.541	.541	.503	.423
50.	.132	.132	.102	.0816	.0304	.0504		.379	.0369	.416	.338			.548	.548	.518	.420
60.	.114	.114	.0883	.0684	.0255	.0456		.400	.0403	.440	.347			.554	.554	.528	.415
80.	.0897	.0897	.0706	.0510	.0192	.0387		.430	.0452	.475	.355			.565	.565	.546	.406
100.	.0745	.0745	.0592	.0400	.0154	.0345		.457	.0489	.506	.362			.580	.580	.565	.402

9 FLUORINE
(cm²/g = 0.03170 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{3D}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _n	($\frac{\mu}{\rho}$) _e	($\frac{\mu}{\rho}$) _{s,t}	($\frac{\mu}{\rho}$) _{s,a}	($\frac{\mu}{\rho}$) _{r,t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.189	.03656	.000368	.0000128	.189	.00656	1.61	5990	5960.	5990.	5990.	5990.	5990.	5990.	5990.	5990.	5990.
.0015	.189	.0138	.000552	.0000403	.188	.0137	1.52	1890	1880.	1890.	1890.	1890.	1890.	1890.	1890.	1890.	1890.
.002	.188	.0224	.000729	.0000869	.188	.0223	1.41	834	831.	834.	834.	834.	834.	834.	834.	834.	831.
.003	.188	.0412	.00109	.000239	.186	.0409	1.17	263	261.	265.	263.	263.	263.	263.	263.	263.	263.
.004	.187	.0590	.00144	.000453	.185	.0586	.945	115	115.	115.	115.	115.	115.	115.	115.	115.	115.
.005	.186	.0745	.00178	.000713	.184	.0739	.764	60.2	60.2	61.2	60.2	60.2	60.2	60.2	60.2	60.2	60.2
.006	.185	.0975	.00212	.00109	.183	.0965	.624	35.5	35.5	36.1	35.5	35.5	35.5	35.5	35.5	35.5	35.5
.008	.184	.156	.00279	.00161	.181	.105	.434	14.8	14.8	15.3	14.9	14.8	14.8	14.8	14.8	14.8	14.8
.01	.183	.189	.00342	.00222	.179	.116	.320	7.54	7.54	7.99	7.67	7.54	7.54	7.54	7.54	7.54	7.54
.015	.179	.195	.00498	.00374	.174	.131	.182	2.10	2.10	2.42	2.23	2.10	2.10	2.10	2.10	2.10	2.10
.02	.176	.184	.00637	.00517	.170	.139	.120	.808	.808	1.07	.951	.815	.815	.815	.815	.815	.815
.03	.171	.151	.00888	.00786	.162	.143	.0637	.213	.213	.428	.365	.222	.222	.222	.222	.222	.221
.04	.165	.152	.0110	.0102	.154	.142	.0390	.0815	.0815	.273	.234	.0926	.0916	.0916	.0916	.0916	.0916
.05	.160	.151	.0129	.0122	.147	.139	.0263	.0393	.0393	.217	.191	.0523	.0517	.0517	.0517	.0517	.0517
.06	.156	.149	.0146	.0140	.141	.135	.0190	.0213	.0213	.190	.171	.0365	.0358	.0358	.0358	.0358	.0358
.08	.147	.144	.0173	.0168	.130	.127	.0111	.00840	.00840	.163	.152	.0257	.0252	.0252	.0252	.0252	.0252
.1	.140	.138	.0194	.0190	.121	.119	.00729	.00406	.00406	.149	.142	.0235	.0231	.0231	.0231	.0231	.0231
.15	.128	.125	.0230	.0227	.104	.102	.00336	.00110	.00110	.130	.126	.0241	.0238	.0238	.0238	.0238	.0238
.2	.116	.115	.0251	.0249	.0910	.0903	.00191	.000437	.000437	.118	.116	.0255	.0254	.0254	.0254	.0254	.0254
.3	.101	.100	.0272	.0271	.0735	.0735	.000869	.000120	.000120	.101	.100	.0273	.0272	.0272	.0272	.0272	.0272
.4	.0903	.0900	.0280	.0279	.0624	.0621	.000501	.0000475	.0000475	.0907	.0900	.0279	.0279	.0279	.0279	.0279	.0279
.5	.0824	.0824	.0281	.0283	.0542	.0542	.000330			.0827	.0824	.0281	.0283	.0283	.0283	.0283	.0283
.6	.0764	.0761	.0281	.0279	.0482	.0482	.000236			.0764	.0761	.0281	.0279	.0279	.0279	.0279	.0279
.8	.0669	.0669	.0274	.0272	.0396	.0396	.000136			.0669	.0669	.0274	.0272	.0272	.0272	.0272	.0272
1.	.0602	.0602	.0265	.0263	.0336	.0339	.0000856			.0602	.0602	.0265	.0263	.0263	.0263	.0263	.0263
1.5	.0488	.0488	.0242	.0240	.0247	.0248	.0000387	.000113	.000113	.0488	.0488	.0243	.0241	.0241	.0241	.0241	.0241
2.	.0418	.0418	.0222	.0221	.0196	.0198	.000447	.000447	.000447	.0422	.0422	.0226	.0223	.0223	.0223	.0223	.0223
3.	.0330	.0330	.0190	.0188	.0139	.0142	.00128	.0000115	.00130	.0342	.0342	.0203	.0197	.0197	.0197	.0197	.0197
4.	.0275	.0275	.0166	.0164	.0108	.0111	.00212	.0000472	.00217	.0296	.0296	.0188	.0180	.0180	.0180	.0180	.0180
5.	.0237	.0237	.0149	.0145	.00881	.00919	.00282	.0000922	.00291	.0266	.0266	.0178	.0168	.0168	.0168	.0168	.0168
6.	.0210	.0210	.0135	.0131	.00745	.00783	.00342	.000139	.00355	.0245	.0245	.0171	.0161	.0161	.0161	.0161	.0161
8.	.0171	.0171	.0114	.0110	.00571	.00615	.00450	.000241	.00476	.0219	.0219	.0162	.0151	.0151	.0151	.0151	.0151
10.	.0146	.0146	.00999	.00954	.00463	.00504	.00539	.000333	.00571	.0203	.0203	.0157	.0146	.0146	.0146	.0146	.0146
15.	.0108	.0108	.00767	.00716	.00313	.00365	.00697	.000517	.00748	.0183	.0183	.0152	.0140	.0140	.0140	.0140	.0140
20.	.00869	.00869	.00631	.00574	.00237	.00295	.00824	.000666	.00891	.0175	.0175	.0152	.0138	.0138	.0138	.0138	.0138
30.	.00631	.00631	.00472	.00409	.00159	.00221	.00986	.000891	.0107	.0171	.0171	.0155	.0135	.0135	.0135	.0135	.0135
40.	.00501	.00501	.00380	.00317	.00120	.00183	.0111	.00106	.0121	.0171	.0171	.0159	.0134	.0134	.0134	.0134	.0134
50.	.00418	.00418	.00323	.00259	.000964	.00160	.0120	.00117	.0132	.0174	.0174	.0164	.0133	.0133	.0133	.0133	.0133
60.	.00361	.00361	.00280	.00217	.000808	.00145	.0127	.00128	.0139	.0175	.0175	.0167	.0132	.0132	.0132	.0132	.0132
80.	.00284	.00284	.00224	.00162	.000609	.00123	.0136	.00143	.0151	.0179	.0179	.0173	.0129	.0129	.0129	.0129	.0129
100.	.00236	.00236	.00188	.00127	.000408	.00109	.0145	.00155	.0160	.0184	.0184	.0179	.0127	.0127	.0127	.0127	.0127

10 NEON
(barns/atom)

E (MeV)	$\sigma_{\text{inc,t}}^{\text{KN}}$	$\sigma_{\text{inc,t}}^{\text{BD}}$	$\sigma_{\text{inc,a}}^{\text{KN}}$	$\sigma_{\text{inc,a}}^{\text{BD}}$	$\sigma_{\text{inc,s}}^{\text{KN}}$	$\sigma_{\text{inc,s}}^{\text{BD}}$	σ_{coh}	σ_{xn}	σ_{xe}	$\sigma_{\text{x,t}}$	$\sigma_{\text{x,a}}$	$\sigma_{\text{r,t}}$	$\sigma_{\text{r,a}}$	$\sigma_{\text{tot,t}}$	$\sigma_{\text{tot,t-coh}}$	$\sigma_{\text{tot,a}}$	$\sigma_{\text{tot,en}}$
.001	6.63	.189	.0129	.000368	6.61	.189	63.4					285000.	283000.	285000.	285000.	285000.	283000.
.0015	6.61	.398	.0193	.00116	6.59	.397	60.4					90400.	89900.	90500.	90400.	90400.	89900.
.002	6.60	.654	.0256	.00254	6.57	.651	56.6					39800.	39600.	39900.	39800.	39800.	39600.
.003	6.57	1.23	.0381	.00713	6.54	1.22	48.1					12500.	12500.	12500.	12500.	12500.	12500.
.004	6.55	1.80	.0504	.0139	6.50	1.79	39.8					5500.	5490.	5540.	5500.	5500.	5490.
.005	6.52	2.32	.0625	.0222	6.46	2.30	32.7					2900.	2900.	2940.	2900.	2900.	2900.
.006	6.50	2.78	.0744	.0318	6.43	2.75	27.0					1710.	1710.	1740.	1710.	1710.	1710.
.008	6.45	3.48	.0976	.0527	6.35	3.43	19.0					743.	742.	765.	766.	743.	742.
.01	6.40	3.96	.120	.0742	6.28	3.89	14.0					375.	375.	393.	379.	375.	375.
.015	6.29	4.61	.174	.128	6.12	4.48	7.84					108.	108.	120.	113.	108.	108.
.02	6.18	4.93	.223	.178	5.96	4.75	5.11					42.2	42.2	52.2	47.1	42.4	42.4
.03	5.97	5.22	.311	.272	5.66	4.95	2.71					11.1	11.1	19.0	16.3	11.4	11.4
.04	5.79	5.29	.386	.353	5.40	4.94	1.67					4.30	4.30	11.3	9.59	4.69	4.65
.05	5.61	5.26	.453	.424	5.16	4.84	1.12					2.06	2.06	8.44	7.32	2.51	2.48
.06	5.46	5.20	.512	.488	4.94	4.71	.809					1.13	1.13	7.14	6.33	1.64	1.62
.08	5.17	5.01	.606	.587	4.57	4.42	.475					.443	.443	5.93	5.45	1.05	1.03
.1	4.93	4.82	.680	.665	4.25	4.15	.312					.211	.211	5.34	5.03	.891	.876
.15	4.44	4.39	.805	.797	3.63	3.59	.143					.0580	.0580	4.59	4.45	.863	.855
.2	4.06	4.04	.879	.873	3.19	3.17	.0819					.0232	.0232	4.15	4.06	.902	.896
.3	3.53	3.52	.953	.949	2.58	2.57	.0372					.00645	.00645	3.56	3.53	.959	.955
.4	3.17	3.16	.981	.980	2.19	2.18	.0214					.00259	.00259	3.18	3.16	.984	.983
.5	2.89	2.89	.986	.991	1.90	1.90	.0141					.00135	.00135	2.91	2.89	.987	.992
.6	2.67	2.67	.983	.980	1.69	1.69	.0101							2.68	2.67	.983	.980
.8	2.35	2.35	.961	.954	1.39	1.40	.0059							2.36	2.35	.961	.954
1.	2.11	2.11	.929	.922	1.18	1.19	.00379							2.11	2.11	.929	.922
1.5	1.72	1.71	.849	.840	.867	.870	.00160	.00440		.00440	.00140			1.72	1.71	.853	.841
2.	1.46	1.46	.777	.769	.687	.691		.0175		.0175	.00856			1.48	1.48	.794	.778
3.	1.15	1.15	.664	.654	.486	.496		.0501	.000403	.0505	.0333			1.20	1.20	.715	.687
4.	.962	.962	.584	.571	.378	.391		.0830	.00165	.0846	.0630			1.05	1.05	.669	.634
5.	.831	.831	.522	.508	.309	.323		.110	.00323	.113	.0901			.944	.944	.635	.598
6.	.734	.734	.473	.458	.261	.276		.134	.00490	.139	.115			.873	.873	.612	.573
8.	.601	.601	.401	.385	.200	.216		.175	.00842	.183	.160			.784	.784	.584	.545
10.	.511	.511	.350	.332	.162	.179		.210	.0117	.222	.197			.733	.733	.572	.529
15.	.379	.379	.269	.250	.110	.129		.272	.0182	.290	.261			.669	.669	.559	.511
20.	.304	.304	.221	.199	.0831	.105		.321	.0233	.344	.306			.648	.648	.565	.505
30.	.221	.221	.165	.141	.0559	.0796		.385	.0312	.416	.358			.637	.637	.581	.499
40.	.176	.176	.134	.110	.0422	.0660		.432	.0370	.469	.389			.645	.645	.603	.499
50.	.147	.147	.113	.0889	.0338	.0581		.469	.0410	.510	.408			.657	.657	.623	.497
60.	.126	.126	.0981	.0743	.0283	.0517		.492	.0447	.537	.415			.663	.663	.635	.489
80.	.0997	.0997	.0784	.0557	.0213	.0440		.530	.0502	.580	.424			.680	.680	.658	.480
100.	.0828	.0828	.0657	.0436	.0171	.0392		.565	.0540	.619	.431			.702	.702	.685	.475

10 NEON
(cm²/g = 0.02984 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{cob}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{xc}	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _{r,t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.198	.00564	.000385	.0000110	.197	.00564	1.89					8500.	8440.	8500.	8500.	8500.	8440.
.0015	.197	.0119	.000576	.0000346	.197	.0118	1.80					2700.	2680.	2700.	2700.	2700.	2680.
.002	.197	.0155	.000764	.0000758	.196	.0194	1.69					1190.	1180.	1190.	1190.	1190.	1180.
.003	.196	.0387	.00114	.000213	.195	.0364	1.44					373.	373.	373.	373.	373.	373.
.004	.195	.0557	.00150	.000415	.194	.0534	1.19					164.	164.	165.	164.	164.	164.
.005	.195	.0652	.00186	.000662	.193	.0686	.976					86.5	86.5	87.7	86.5	86.5	86.5
.006	.194	.085	.00222	.000949	.192	.0821	.806					51.0	51.0	51.9	51.0	51.0	51.0
.008	.192	.104	.00291	.00157	.189	.102	.567					22.2	22.1	22.8	22.3	22.2	22.1
.01	.191	.118	.00358	.00221	.187	.116	.418					11.2	11.2	11.7	11.3	11.2	11.2
.015	.188	.138	.00519	.00382	.183	.134	.234					3.22	3.22	3.58	3.37	3.22	3.22
.02	.184	.147	.00665	.00531	.178	.142	.152					1.26	1.26	1.56	1.41	1.27	1.27
.03	.178	.158	.00928	.00812	.169	.148	.0809					.331	.331	.567	.486	.340	.340
.04	.173	.158	.0115	.0105	.161	.147	.0498					.128	.128	.337	.286	.140	.139
.05	.167	.157	.0135	.0127	.154	.144	.0334					.0615	.0615	.252	.218	.0749	.0740
.06	.163	.155	.0153	.0146	.147	.141	.0241					.0337	.0337	.213	.189	.0489	.0483
.08	.154	.148	.0181	.0175	.136	.132	.0142					.0132	.0132	.177	.163	.0313	.0307
.1	.147	.144	.0203	.0198	.127	.124	.00931					.00430	.00430	.159	.150	.0266	.0261
.15	.132	.131	.0240	.0238	.108	.107	.00427					.00173	.00173	.137	.133	.0258	.0255
.2	.121	.121	.0262	.0261	.0952	.0946	.00244					.000692	.000692	.124	.121	.0269	.0267
.3	.105	.105	.0284	.0283	.0770	.0767	.00111					.000192	.000192	.106	.105	.0286	.0285
.4	.0946	.0943	.0293	.0292	.0653	.0651	.000639					.0000773	.0000773	.0949	.0943	.0294	.0293
.5	.0862	.0862	.0294	.0296	.0567	.0567	.000421					.0000403	.0000403	.0868	.0862	.0295	.0296
.6	.0797	.0797	.0293	.0292	.0504	.0504	.000301							.0800	.0797	.0293	.0292
.8	.0701	.0701	.0287	.0285	.0415	.0418	.000176							.0704	.0701	.0287	.0285
1.	.0630	.0630	.0277	.0275	.0352	.0355	.000113							.0630	.0630	.0277	.0275
1.5	.0513	.0510	.0253	.0251	.0259	.0260	.0000477	.000131		.000131	.0000418			.0513	.0510	.0255	.0251
2.	.0436	.0436	.0232	.0229	.0205	.0206		.000522		.000522	.000255			.0442	.0442	.0237	.0232
3.	.0343	.0343	.0198	.0195	.0145	.0148		.00149	.0000120	.00151	.0000994			.0358	.0358	.0213	.0205
4.	.0287	.0287	.0174	.0170	.0113	.0117		.00248	.0000492	.00252	.00188			.0313	.0313	.0200	.0189
5.	.0248	.0248	.0156	.0152	.00922	.00964		.00328	.0000964	.00337	.00269			.0282	.0282	.0189	.0178
6.	.0219	.0219	.0141	.0137	.00779	.00824		.00400	.000146	.00415	.00343			.0261	.0261	.0183	.0171
8.	.0179	.0179	.0120	.0115	.00597	.00645		.00522	.000251	.00546	.00477			.0234	.0234	.0174	.0163
10.	.0152	.0152	.0104	.00991	.00483	.00534		.00627	.000349	.00662	.00588			.0219	.0219	.0171	.0158
15.	.0113	.0113	.00803	.00746	.00328	.00385		.00812	.000543	.00865	.00779			.0200	.0200	.0167	.0152
20.	.00907	.00907	.00659	.00594	.00248	.00313		.00958	.000695	.0103	.00913			.0193	.0193	.0169	.0151
30.	.00659	.00659	.00492	.00421	.00167	.00238		.0115	.000931	.0124	.0107			.0190	.0190	.0173	.0149
40.	.00525	.00525	.00400	.00328	.00126	.00197		.0129	.00110	.0140	.0116			.0192	.0192	.0180	.0149
50.	.00439	.00439	.00337	.00265	.00101	.00173		.0140	.00122	.0152	.0122			.0196	.0196	.0186	.0148
60.	.00376	.00376	.00293	.00222	.000844	.00154		.0147	.00133	.0160	.0124			.0198	.0198	.0189	.0146
80.	.00298	.00298	.00234	.00166	.000636	.00131		.0158	.00150	.0173	.0127			.0203	.0203	.0196	.0143
100.	.00247	.00247	.00196	.00130	.000510	.00117		.0169	.00161	.0185	.0129			.0209	.0209	.0204	.0142

11 SODIUM
(barns/atom)

E (MeV)	$\sigma_{KN, inc, t}$	$\sigma_{BD, inc, t}$	$\sigma_{KN, inc, a}$	$\sigma_{BD, inc, a}$	$\sigma_{KN, inc, s}$	$\sigma_{BD, inc, s}$	σ_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	$\sigma_{r, t}$	$\sigma_{r, a}$	$\sigma_{tot, t}$	$\sigma_{tot, t-coh}$	$\sigma_{tot, a}$	$\sigma_{tot, en}$
.001	7.29	.478	.0142	.000931	7.27	.477	73.3					26500.	26500.	26600.	26500.	26500.	26500.
K .001073	7.29	.520	.0152	.00109	7.27	.519	72.5					21900.	21900.	22000.	21900.	21900.	21900.
												334000.	330000.	334000.	334000.	334000.	330000.
.0015	7.27	.758	.0212	.00221	7.25	.756	68.2					130000.	129000.	130000.	130000.	130000.	129000.
.002	7.26	1.01	.0282	.00392	7.23	1.01	63.3					57800.	57400.	57900.	57800.	57800.	57400.
.003	7.23	1.51	.0419	.00875	7.19	1.50	54.5					18200.	18100.	18300.	18200.	18200.	18100.
.004	7.20	2.02	.0554	.0155	7.15	2.00	46.4					8030.	8000.	8080.	8030.	8030.	8000.
.005	7.18	2.51	.0687	.0240	7.11	2.49	39.1					4280.	4270.	4320.	4280.	4280.	4270.
.006	7.15	2.95	.0818	.0338	7.07	2.92	32.9					2550.	2540.	2590.	2550.	2550.	2540.
.008	7.10	3.69	.107	.0559	6.99	3.63	23.7					1120.	1120.	1150.	1120.	1120.	1120.
.01	7.04	4.22	.132	.0791	6.91	4.14	17.7					570.	569.	592.	574.	570.	569.
.015	6.92	4.97	.191	.137	6.73	4.83	9.91					164.	164.	179.	169.	164.	164.
.02	6.80	5.34	.245	.193	6.55	5.15	6.46					65.5	65.5	77.3	70.8	65.7	65.7
.03	6.57	5.67	.342	.295	6.23	5.37	3.44					17.4	17.4	26.5	23.1	17.7	17.7
.04	6.36	5.77	.425	.385	5.94	5.39	2.13					6.80	6.80	14.7	12.6	7.22	7.19
.05	6.18	5.75	.498	.464	5.68	5.29	1.44					3.30	3.30	10.5	9.05	3.80	3.76
.06	6.00	5.69	.563	.534	5.44	5.16	1.04					1.81	1.81	8.54	7.50	2.37	2.34
.08	5.69	5.50	.666	.644	5.02	4.86	.609					.716	.716	6.82	6.22	1.38	1.36
.1	5.42	5.29	.748	.730	4.67	4.56	.400					.343	.343	6.03	5.63	1.09	1.07
.15	4.88	4.82	.885	.875	3.99	3.95	.185					.0945	.0945	5.10	4.91	.980	.970
.2	4.47	4.43	.967	.958	3.50	3.47	.106					.0380	.0380	4.57	4.47	1.00	.996
.3	3.89	3.87	1.05	1.04	2.84	2.83	.0478					.0105	.0105	3.93	3.88	1.06	1.05
.4	3.48	3.47	1.08	1.08	2.40	2.39	.0272					.00430	.00430	3.50	3.47	1.08	1.08
.5	3.18	3.17	1.08	1.09	2.10	2.08	.0178					.00220	.00220	3.19	3.17	1.08	1.09
.6	2.94	2.94	1.08	1.08	1.86	1.86	.0126					.00128	.00128	2.95	2.94	1.08	1.08
.8	2.58	2.58	1.06	1.05	1.53	1.53	.00731							2.59	2.58	1.06	1.05
1.	2.32	2.32	1.02	1.01	1.30	1.31	.00470							2.32	2.32	1.02	1.01
1.5	1.89	1.89	.934	.928	.954	.962	.00202	.00537		.00537	.00171			1.90	1.90	.939	.930
2.	1.61	1.61	.854	.848	.755	.762	.00115	.0214		.0214	.0104			1.63	1.63	.875	.858
3.	1.27	1.27	.730	.723	.535	.547		.0610	.000442	.0614	.0406			1.33	1.33	.791	.764
4.	1.06	1.06	.642	.629	.416	.431		.100	.00182	.102	.0758			1.16	1.16	.744	.705
5.	.914	.914	.574	.558	.340	.356		.133	.00357	.137	.109			1.05	1.05	.711	.667
6.	.808	.808	.520	.503	.288	.305		.163	.00539	.168	.140			.976	.976	.688	.643
8.	.661	.661	.441	.422	.220	.239		.212	.00925	.221	.192			.882	.882	.662	.614
10.	.563	.563	.385	.365	.178	.198		.252	.0128	.265	.234			.828	.828	.650	.599
15.	.416	.416	.296	.272	.121	.144		.331	.0200	.351	.315			.767	.767	.647	.587
20.	.334	.334	.243	.217	.0914	.117		.389	.0256	.415	.366			.749	.749	.658	.583
30.	.243	.243	.182	.153	.0615	.0897		.467	.0342	.501	.427			.744	.744	.683	.580
40.	.193	.193	.147	.118	.0464	.0749		.520	.0406	.561	.458			.754	.754	.708	.576
50.	.161	.161	.124	.095	.0372	.0660		.563	.0451	.608	.479			.769	.769	.732	.574
60.	.139	.139	.108	.0795	.0311	.0595		.595	.0490	.644	.489			.783	.783	.752	.569
80.	.110	.110	.0863	.0590	.0234	.0510		.643	.0550	.698	.499			.808	.808	.784	.558
100.	.0911	.0911	.0723	.0455	.0188	.0455		.683	.0595	.742	.504			.833	.833	.814	.549

11 SODIUM
(cm²/g = 0.02620 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _n	($\frac{\mu}{\rho}$) _e	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _{r,t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.191	.0125	.000372	.0000244	.190	.0125	1.92					59.4	64.4	697.	694.	694.	694.
E .001073	.191	.0136	.000398	.0000286	.190	.0136	1.90					57.4	57.4	576.	574.	574.	574.
.0015	.190	.0199	.000555	.0000579	.190	.0198	1.79					875.1	865.0	8750.	8750.	8750.	8650.
.002	.190	.0265	.000739	.000103	.189	.0265	1.66					341.1	338.0	3410.	3410.	3410.	3380.
.003	.189	.0396	.00110	.000229	.188	.0393	1.43					151.1	150.0	1520.	1510.	1510.	1500.
.004	.189	.0529	.00145	.000406	.187	.0524	1.22					47.4	47.4	479.	477.	477.	474.
.005	.188	.0658	.00180	.000629	.186	.0652	1.02					21.1	21.0	212.	210.	210.	210.
.006	.187	.0773	.00214	.000886	.185	.0765	.862					11.2	11.2	113.	112.	112.	112.
.008	.186	.0967	.00280	.00146	.183	.0951	.621					66.8	66.5	67.9	66.8	66.8	66.5
.01	.184	.111	.00346	.00207	.181	.108	.464					29.3	29.3	30.1	29.3	29.3	29.3
.015	.181	.130	.00500	.00359	.176	.127	.260					14.9	14.9	15.5	15.0	14.9	14.9
.02	.178	.140	.00642	.00506	.172	.135	.169					4.30	4.30	4.69	4.43	4.30	4.30
.03	.172	.149	.00896	.00773	.163	.141	.0901					1.72	1.72	2.03	1.85	1.72	1.72
.04	.167	.151	.0111	.0101	.156	.141	.0558					.456	.456	.694	.605	.464	.464
.05	.162	.151	.0130	.0122	.149	.139	.0377					.178	.178	.385	.330	.189	.188
.06	.157	.149	.0148	.0140	.143	.135	.0272					.0865	.0865	.275	.237	.0996	.0985
.08	.149	.144	.0174	.0169	.132	.127	.0160					.0474	.0474	.224	.196	.0621	.0613
.1	.142	.139	.0196	.0191	.122	.119	.0105					.0188	.0188	.179	.163	.0362	.0356
.15	.128	.126	.0232	.0229	.105	.103	.00485					.00899	.00899	.158	.148	.0286	.0280
.2	.117	.116	.0253	.0251	.0911	.0909	.00278					.00248	.00248	.134	.129	.0257	.0254
.3	.102	.101	.0275	.0272	.0744	.0741	.00125					.000996	.000996	.120	.117	.0262	.0261
.4	.0912	.0909	.0283	.0283	.0625	.0626	.000713					.000275	.000275	.103	.102	.0278	.0275
.5	.0833	.0831	.0283	.0286	.0590	.0595	.000466					.000113	.000113	.0917	.0909	.0283	.0283
.6	.0770	.0770	.0283	.0283	.0481	.0481	.000330					.0000576	.0000576	.0826	.0831	.0283	.0286
.8	.0676	.0676	.0278	.0275	.0401	.0401	.000192					.0000335	.0000335	.0773	.0770	.0283	.0283
1.	.0608	.0608	.0267	.0265	.0341	.0343	.000123							.0679	.0676	.0278	.0275
1.5	.0495	.0495	.0245	.0243	.0250	.0252	.0000529	.000141	.000141	.0000448				.0608	.0608	.0267	.0265
2.	.0422	.0422	.0224	.0222	.0198	.0200	.0000301	.0000561	.0000561	.000272				.0498	.0498	.0246	.0244
3.	.0333	.0333	.0191	.0189	.0140	.0143		.000160	.0000116	.000161	.000166			.0427	.0427	.0229	.0225
4.	.0278	.0278	.0168	.0165	.0105	.0113		.000262	.0000477	.000267	.000199			.0348	.0348	.0207	.0200
5.	.0239	.0239	.0150	.0146	.00851	.00933		.000348	.0000935	.000359	.000286			.0304	.0304	.0195	.0185
6.	.0212	.0212	.0136	.0132	.00755	.00799		.000427	.000141	.000440	.000367			.0275	.0275	.0186	.0175
8.	.0173	.0173	.0116	.0111	.00576	.00626		.000555	.000242	.000579	.000503			.0256	.0256	.0180	.0168
10.	.0148	.0148	.0101	.00956	.00466	.00519		.000660	.000335	.000694	.000613			.0231	.0231	.0173	.0161
15.	.0109	.0109	.00776	.00713	.00317	.00377		.000867	.000524	.000920	.000825			.0217	.0217	.0170	.0157
20.	.00875	.00875	.00637	.00569	.00219	.00307		.0102	.000671	.0109	.000959			.0201	.0201	.0170	.0154
30.	.00637	.00637	.00477	.00401	.00141	.00235		.0122	.000896	.0131	.0112			.0196	.0196	.0172	.0153
40.	.00506	.00506	.00385	.00309	.00122	.00196		.0136	.00106	.0147	.0120			.0195	.0195	.0179	.0152
50.	.00422	.00422	.00325	.00249	.000975	.00173		.0148	.00118	.0159	.0125			.0198	.0198	.0185	.0151
60.	.00364	.00364	.00283	.00208	.000815	.00156		.0156	.00128	.0169	.0128			.0201	.0201	.0192	.0150
80.	.00288	.00288	.00226	.00155	.000613	.00134		.0168	.00144	.0183	.0131			.0205	.0205	.0197	.0149
100.	.00239	.00239	.00189	.00119	.000493	.00119		.0179	.00156	.0194	.0132			.0212	.0212	.0205	.0146
														.0218	.0218	.0213	.0144

12 MAGNESIUM
(barns/atom)

E (MeV)	$\sigma_{inc,t}^{KN}$	$\sigma_{inc,t}^{BD}$	$\sigma_{inc,a}^{KN}$	$\sigma_{inc,a}^{BD}$	$\sigma_{inc,s}^{KN}$	$\sigma_{inc,s}^{BD}$	σ_{ech}	$\sigma_{n,n}$	$\sigma_{n,p}$	$\sigma_{n,t}$	$\sigma_{n,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	7.95	.610	.0155	.00119	7.94	.609	86.5					38900.	38900.	39000.	38900.	38900.	38900.
K .001305	7.94	.866	.0202	.00220	7.92	.864	82.2					18500.	18500.	18600.	18500.	18500.	18500.
.0015	7.94	1.01	.0231	.00295	7.91	1.01	79.5					268000.	263000.	268000.	268000.	268000.	263000.
.002	7.92	1.33	.0307	.00516	7.89	1.32	72.7					180000.	177000.	180000.	180000.	180000.	177000.
.003	7.89	1.84	.0457	.0107	7.84	1.83	61.2					80300.	79400.	80400.	80300.	80300.	79400.
.004	7.86	2.32	.0605	.0179	7.80	2.30	52.7					25500.	25300.	25600.	25500.	25500.	25300.
.005	7.83	2.77	.0750	.0265	7.75	2.74	45.2					11300.	11200.	11400.	11300.	11300.	11200.
.006	7.80	3.19	.0893	.0365	7.71	3.15	38.7					6020.	5990.	6070.	6020.	6020.	5990.
.008	7.74	3.92	.117	.0593	7.62	3.86	28.5					3600.	3590.	3640.	3600.	3600.	3590.
.01	7.68	4.49	.144	.0841	7.54	4.41	21.5					1600.	1600.	1630.	1600.	1600.	1600.
.015	7.55	5.32	.209	.147	7.34	5.17	12.2					822.	820.	848.	826.	822.	820.
.02	7.41	5.75	.267	.208	7.15	5.54	7.43					238.	238.	256.	243.	238.	238.
.03	7.17	6.12	.373	.318	6.80	5.80	4.23					96.6	96.5	110.	102.	96.9	96.7
.04	6.94	6.24	.463	.416	6.48	5.82	2.63					25.7	25.7	36.0	31.8	26.1	26.0
.05	6.74	6.23	.544	.503	6.19	5.73	1.79					10.1	10.1	19.0	16.3	10.6	10.5
.06	6.55	6.17	.614	.579	5.93	5.59	1.29					4.90	4.90	12.9	11.1	5.44	5.40
.08	6.21	5.97	.727	.699	5.48	5.27	.59					2.70	2.70	10.2	8.87	3.31	3.28
.1	5.91	5.75	.816	.793	5.10	4.96	.99					1.07	1.07	7.80	7.04	1.80	1.77
.15	5.32	5.25	.966	.953	4.30	4.30	.31					.522	.522	6.77	6.27	1.34	1.31
.2	4.88	4.83	1.05	1.04	3.82	3.79	.32					.140	.140	5.62	5.39	1.11	1.09
.3	4.24	4.22	1.14	1.14	3.10	3.08	.60					.0580	.0580	5.02	4.89	1.11	1.10
.4	3.80	3.79	1.18	1.17	2.62	2.62	.6341					.0165	.0165	4.30	4.24	1.16	1.16
.5	3.47	3.46	1.18	1.19	2.29	2.27	.6221					.00675	.00675	3.83	3.80	1.19	1.18
.6	3.21	3.20	1.18	1.17	2.03	2.03	.6155					.00345	.00345	3.49	3.46	1.18	1.19
.8	2.82	2.82	1.15	1.14	1.67	1.68	.60894					.00205	.00205	3.22	3.20	1.18	1.17
1.	2.53	2.53	1.11	1.11	1.42	1.42	.60575							2.83	2.82	1.15	1.14
1.5	2.06	2.06	1.02	1.01	1.04	1.05	.60252	.0064		.0064	.00204			2.54	2.53	1.11	1.11
2.	1.76	1.76	.932	.928	.824	.832	.60143	.0255		.0255	.0124			2.07	2.07	1.03	1.01
3.	1.38	1.38	.797	.784	.584	.596		.0726		.0731	.0482			1.79	1.79	.957	.940
4.	1.15	1.15	.701	.681	.454	.469		.120	.000482	.122	.0906			1.45	1.45	.870	.832
5.	.997	.997	.626	.607	.371	.390		.158	.00199	.162	.128			1.27	1.27	.823	.772
6.	.881	.881	.567	.546	.314	.335		.194	.00389	.200	.166			1.16	1.16	.788	.735
8.	.721	.721	.481	.459	.240	.262		.251	.00588	.261	.226			1.08	1.08	.767	.712
10.	.614	.614	.420	.398	.194	.216		.300	.0101	.314	.277			.982	.982	.742	.685
15.	.454	.454	.323	.295	.132	.159		.390	.0140	.412	.367			.928	.928	.734	.675
20.	.365	.365	.265	.234	.0997	.131		.460	.0218	.488	.427			.866	.866	.735	.662
30.	.265	.265	.198	.166	.0671	.0994		.552	.0280	.589	.496			.853	.853	.753	.661
40.	.211	.211	.160	.127	.0506	.0842		.619	.0373	.663	.535			.854	.854	.787	.662
50.	.176	.176	.136	.102	.0406	.0741		.670	.0443	.719	.555			.874	.874	.823	.662
60.	.152	.152	.118	.0848	.0339	.0672		.705	.0492	.758	.564			.895	.895	.855	.657
80.	.120	.120	.0941	.0619	.0255	.0581		.761	.0535	.821	.575			.910	.910	.876	.649
100.	.0994	.0994	.0789	.0476	.0205	.0518		.810	.0600	.875	.579			.941	.941	.915	.637
									.0648	.875	.579			.974	.974	.954	.627

12 MAGNESIUM
(cm²/g = 0.02477 x barns/atom)

E (MeV)	($\frac{\sigma}{\sigma_0}$) _{inc,t} ^{KN}	($\frac{\sigma}{\sigma_0}$) _{inc,t} ^{BD}	($\frac{\sigma}{\sigma_0}$) _{inc,a} ^{KN}	($\frac{\sigma}{\sigma_0}$) _{inc,a} ^{BD}	($\frac{\sigma}{\sigma_0}$) _{inc,s} ^{KN}	($\frac{\sigma}{\sigma_0}$) _{inc,s} ^{BD}	($\frac{\sigma}{\sigma_0}$) _{coh}	($\frac{\sigma}{\sigma_0}$) _n	($\frac{\sigma}{\sigma_0}$) _e	($\frac{\sigma}{\sigma_0}$) _t	($\frac{\sigma}{\sigma_0}$) _a	($\frac{\sigma}{\sigma_0}$) _t	($\frac{\sigma}{\sigma_0}$) _{t,a}	($\frac{\sigma}{\sigma_0}$) _{tot,t}	($\frac{\sigma}{\sigma_0}$) _{tot,t-coh}	($\frac{\sigma}{\sigma_0}$) _{tot,a}	($\frac{\sigma}{\sigma_0}$) _{tot,en}
.001	.197	.0151	.000384	.0000295	.197	.0151	2.14					964.	964.	964.	964.	964.	964.
K .001305	.197	.0215	.000500	.0000545	.196	.0214	2.04					458	458.	461.	458.	458.	458.
.0015	.197	.0250	.000572	.0000731	.196	.0250	1.97					6640	651C.	6640.	6640.	6640.	6510.
.002	.196	.0329	.00076	.000128	.195	.0327	1.80					4460	438C.	4460.	4460.	4460.	4380.
.003	.195	.0456	.00113	.000265	.194	.0453	1.53					1990	197C.	1990.	1990.	1990.	1970.
.004	.195	.0575	.0015	.000443	.193	.0570	1.31					632	621.	634.	632.	632.	627.
.005	.194	.0686	.00186	.000656	.192	.0679	1.12					280.	271.	282.	280.	280.	277.
.006	.193	.0790	.00221	.000904	.191	.0780	.959					149.	14E.	150.	149.	149.	148.
.008	.192	.0971	.0029	.00147	.189	.0956	.706					89.2	8E.9	90.2	89.2	89.2	88.9
.01	.190	.111	.00357	.00208	.187	.109	.533					39.6	3E.6	40.4	39.6	39.6	39.6
.015	.187	.132	.00518	.00364	.182	.128	.302					20.4	2E.4	21.0	20.5	20.4	20.3
.02	.184	.142	.00661	.00515	.177	.137	.194					5.90	5.90	6.34	6.02	5.90	5.90
.03	.178	.152	.00924	.00788	.168	.144	.105					2.39	2.39	2.72	2.53	2.40	2.40
.04	.172	.155	.0115	.0103	.161	.144	.0651					.637	.637	.892	.788	.646	.644
.05	.167	.154	.0135	.0125	.153	.142	.0443					.250	.250	.471	.404	.253	.260
.06	.162	.153	.0152	.0143	.147	.138	.0320					.121	.121	.320	.275	.135	.134
.08	.154	.148	.018	.0173	.136	.131	.0188					.0669	.0669	.253	.220	.0820	.0812
.1	.146	.142	.0202	.0196	.126	.123	.0124					.0265	.0265	.193	.174	.0444	.0438
.15	.132	.130	.0239	.0234	.108	.107	.00572					.0123	.0123	.168	.155	.0332	.0324
.2	.121	.120	.026	.0258	.0946	.0939	.00327					.00347	.00347	.139	.134	.0275	.0270
.3	.105	.105	.0282	.0282	.0768	.0763	.00149					.00144	.00144	.124	.121	.0275	.0272
.4	.0941	.0939	.0292	.0290	.0649	.0649	.000845					.000409	.000409	.107	.105	.0287	.0287
.5	.0860	.0857	.0292	.0295	.0567	.0562	.000547					.000167	.000167	.0949	.0941	.0295	.0292
.6	.0795	.0793	.0292	.0290	.0503	.0503	.000384					.0000855	.0000855	.0864	.0857	.0292	.0295
.8	.0699	.0699	.0285	.0282	.0414	.0416	.000221					.0000508	.0000508	.0798	.0793	.0292	.0290
1.	.0627	.0627	.0275	.0275	.0352	.0352	.000142							.0701	.0699	.0285	.0282
1.5	.0510	.0510	.0253	.0250	.0258	.0260	.0000624	.000159		.000159	.0000505			.0622	.0627	.0275	.0275
2.	.0436	.0436	.0231	.0230	.0204	.0206	.0000354	.000632		.000632	.000307			.0513	.0513	.0255	.0250
3.	.0342	.0342	.0197	.0194	.0145	.0148		.000180	.0000119	.000180	.00119			.0443	.0443	.0237	.0233
4.	.0285	.0285	.0174	.0169	.0112	.0116		.00297	.0000493	.00302	.00224			.0359	.0359	.0215	.0206
5.	.0247	.0247	.0155	.0150	.00919	.00966		.00391	.0000964	.00401	.00317			.0315	.0315	.0204	.0191
7.	.0218	.0218	.014	.0135	.00778	.00830		.00481	.000146	.00495	.00411			.0287	.0287	.0195	.0182
8.	.0179	.0179	.0119	.0114	.00594	.00649		.00622	.000250	.00646	.00560			.0263	.0263	.0190	.0176
10.	.0152	.0152	.0104	.00986	.00481	.00535		.00743	.000347	.00778	.00686			.0243	.0243	.0184	.0170
15.	.0112	.0112	.008	.00731	.00327	.00394		.00966	.000540	.0102	.00969			.0230	.0230	.0182	.0167
20.	.00904	.00904	.00656	.00580	.00247	.00324		.0114	.000694	.0121	.0106			.0215	.0215	.0162	.0144
30.	.00656	.00656	.0049	.00411	.00166	.00246		.0137	.000924	.0144	.0123			.0211	.0211	.0167	.0144
40.	.00523	.00523	.00396	.00315	.00125	.00209		.0153	.00110	.0164	.0133			.0212	.0212	.0195	.0164
50.	.00436	.00436	.00337	.00253	.00101	.00184		.0166	.00122	.0178	.0137			.0216	.0216	.0204	.0164
60.	.00377	.00377	.00292	.00210	.00084	.00166		.0175	.00133	.0188	.0140			.0222	.0222	.0212	.0163
80.	.00297	.00297	.00233	.00153	.000632	.00144		.0188	.00149	.0203	.0142			.0225	.0225	.0217	.0161
100.	.00246	.00246	.00195	.00118	.000588	.00128		.0201	.00161	.0217	.0143			.0233	.0233	.0227	.0158
														.0241	.0241	.0236	.0155

13 ALUMINUM
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	8.61	.641	.0168	.00125	8.60	.640	101.					55200.	55200.	55300.	55200.	55200.	55200.
.0015	8.60	1.11	.0251	.00324	8.57	1.11	92.0					17600.	17600.	17700.	17600.	17600.	17600.
K .001560	8.59	1.16	.0261	.00352	8.57	1.16	90.9					15800.	15800.	15900.	15800.	15800.	15800.
.002	8.58	1.51	.0333	.00586	8.55	1.50	83.5					219000.	213000.	219000.	219000.	219000.	213000.
.003	8.55	2.13	.0495	.0123	8.50	2.12	69.7					108000.	106000.	108000.	108000.	108000.	106000.
.004	8.51	2.61	.0655	.0201	8.45	2.59	59.3					34700.	34200.	34800.	34700.	34700.	34200.
.005	8.48	3.05	.0812	.0292	8.40	3.02	51.2					15400.	15200.	15500.	15400.	15400.	15200.
.006	8.45	3.46	.0967	.0396	8.35	3.42	44.3					8200.	8130.	8250.	8200.	8200.	8130.
.008	8.39	4.18	.127	.0633	8.26	4.12	33.5					4920.	4890.	4970.	4920.	4920.	4890.
.01	8.33	4.76	.156	.0892	8.17	4.67	25.6					2200.	2190.	2240.	2200.	2200.	2190.
.015	8.18	5.67	.226	.157	7.95	5.51	14.6					1150.	1150.	1180.	1150.	1150.	1150.
.02	8.03	6.15	.290	.222	7.74	5.93	9.54					337.	336.	357.	343.	337.	336.
.03	7.77	6.57	.404	.342	7.36	6.23	5.10					137.	137.	153.	143.	137.	137.
.04	7.52	6.70	.502	.447	7.02	6.25	3.19					14.5	14.5	15.9	13.8	15.0	14.9
.05	7.30	6.71	.589	.541	6.71	6.17	2.17					7.05	7.04	15.9	13.8	7.64	7.58
.06	7.09	6.65	.665	.624	6.43	6.03	1.57					3.92	3.92	12.1	10.6	4.58	4.54
.08	6.72	6.45	.787	.755	5.94	5.69	.927					1.56	1.56	8.94	8.01	2.35	2.31
.1	6.41	6.22	.884	.858	5.52	5.36	.610					.763	.763	7.59	6.98	1.65	1.62
.15	5.77	5.68	1.05	1.03	4.72	4.65	.282					.210	.210	6.17	5.89	1.26	1.24
.2	5.28	5.23	1.14	1.13	4.14	4.10	.162					.0865	.0865	5.48	5.32	1.23	1.22
.3	4.59	4.57	1.24	1.23	3.36	3.34	.0736					.0247	.0247	4.67	4.59	1.26	1.25
.4	4.12	4.10	1.28	1.27	2.84	2.83	.0419					.0102	.0102	4.15	4.11	1.29	1.28
.5	3.76	3.75	1.28	1.29	2.46	2.46	.0271					.00510	.00510	3.78	3.76	1.29	1.30
.6	3.48	3.47	1.28	1.27	2.20	2.20	.0188					.00301	.00301	3.49	3.47	1.28	1.27
.8	3.05	3.05	1.25	1.24	1.81	1.81	.0107					.00140	.00140	3.06	3.05	1.25	1.24
1.	2.75	2.74	1.21	1.20	1.54	1.54	.00695							2.75	2.74	1.21	1.20
1.5	2.23	2.23	1.10	1.09	1.13	1.14	.00310	.0075		.0075	.00238			2.24	2.24	1.11	1.09
2.	1.90	1.90	1.01	1.00	.893	.899	.00175	.0300		.0300	.0146			1.93	1.93	1.04	1.01
3.	1.50	1.50	.863	.850	.632	.649		.0852	.000523	.0857	.0566			1.59	1.59	.949	.907
4.	1.25	1.25	.759	.739	.492	.511		.140	.00216	.142	.105			1.39	1.39	.901	.844
5.	1.08	1.08	.678	.656	.402	.424		.187	.00423	.191	.151			1.27	1.27	.869	.807
6.	.954	.954	.615	.590	.340	.364		.227	.00635	.233	.193			1.19	1.19	.848	.783
8.	.781	.781	.521	.494	.260	.287		.295	.0109	.306	.264			1.09	1.09	.827	.758
10.	.665	.665	.454	.426	.210	.239		.352	.0152	.367	.322			1.03	1.03	.821	.748
15.	.492	.492	.349	.317	.143	.175		.460	.0236	.484	.429			.976	.976	.833	.746
20.	.395	.395	.287	.251	.108	.144		.540	.0303	.570	.496			.965	.965	.857	.747
30.	.288	.288	.215	.178	.0727	.110		.650	.0404	.690	.574			.978	.978	.905	.752
40.	.229	.229	.174	.136	.0549	.093		.726	.0481	.774	.617			1.00	1.00	.948	.753
50.	.191	.191	.147	.109	.0439	.0821		.784	.0533	.837	.636			1.03	1.03	.984	.745
60.	.164	.164	.128	.0894	.0368	.0746		.829	.0580	.887	.648			1.05	1.05	1.02	.737
80.	.130	.130	.102	.0653	.0277	.0647		.891	.0650	.956	.658			1.09	1.09	1.06	.723
100.	.108	.108	.0854	.0496	.0222	.0584		.950	.0700	1.02	.663			1.13	1.13	1.11	.713

13 ALUMINUM
(cm²/g = 0.02232 x barns/atom)

E (MeV)	KN ($\frac{\mu}{\rho}$) _{inc,t}	BD ($\frac{\mu}{\rho}$) _{inc,t}	KN ($\frac{\mu}{\rho}$) _{inc,a}	BD ($\frac{\mu}{\rho}$) _{inc,a}	KN ($\frac{\mu}{\rho}$) _{inc,s}	BD ($\frac{\mu}{\rho}$) _{inc,s}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{xc}	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _{r,t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.301	.192	.0143	.000375	.0000279	.192	.0143	2.25					1230.	1230.	1230.	1230.	1230.	1230.
.0015	.192	.0248	.000560	.0000723	.191	.0248	2.05					393.	393.	395.	393.	393.	393.
K .001560	.192	.0259	.000583	.0000786	.191	.0259	2.03					353.	353.	355.	353.	353.	353.
												4890.	4750.	4890.	4890.	4890.	4750.
.002	.192	.0337	.000743	.000131	.191	.0335	1.86					2410.	2370.	2410.	2410.	2410.	2370.
.003	.191	.0475	.00110	.000275	.190	.0473	1.56					775.	763.	777.	775.	775.	763.
.004	.190	.0583	.00146	.000449	.189	.0578	1.32					344.	339.	346.	344.	344.	339.
.005	.189	.0681	.00181	.000652	.187	.0674	1.14					183.	181.	184.	183.	183.	181.
.006	.189	.0772	.00216	.000884	.186	.0763	.989					110.	109.	111.	110.	110.	109.
.008	.187	.0933	.00283	.00141	.184	.092	.748					49.1	48.9	50.0	49.1	49.1	48.9
.01	.186	.106	.00348	.00199	.182	.104	.571					25.7	25.7	26.3	25.7	25.7	25.7
.015	.183	.127	.00504	.00350	.177	.123	.326					7.52	7.50	7.97	7.66	7.52	7.50
.02	.179	.137	.00647	.00496	.173	.132	.213					3.36	3.06	3.41	3.19	3.06	3.06
.03	.173	.147	.00902	.00763	.164	.139	.114					.326	.824	1.09	.973	.835	.830
.04	.168	.150	.0112	.00998	.157	.139	.0712					.324	.324	.545	.473	.335	.333
.05	.163	.150	.0131	.0121	.150	.138	.0484					.157	.157	.355	.308	.171	.169
.06	.158	.148	.0148	.0139	.144	.135	.0350					.0875	.0875	.270	.237	.102	.101
.08	.150	.144	.0176	.0169	.133	.127	.0267					.3348	.0348	.200	.179	.0525	.0516
.1	.143	.139	.0197	.0192	.123	.120	.0136					.0170	.0170	.169	.156	.0368	.0362
.15	.129	.127	.0234	.0230	.105	.104	.00629					.00469	.00469	.138	.131	.0281	.0277
.2	.118	.117	.0254	.0252	.0924	.0915	.00362					.00193	.00193	.122	.119	.0275	.0272
.3	.102	.102	.0277	.0275	.0750	.0745	.00164					.006551	.006551	.104	.102	.0281	.0279
.4	.0920	.0915	.0286	.0283	.0634	.0632	.000935					.006228	.006228	.0926	.0917	.0288	.0286
.5	.0839	.0837	.0286	.0288	.0549	.0549	.000605					.006114	.006114	.0844	.0839	.0288	.0290
.6	.0777	.0775	.0286	.0283	.0491	.0491	.000420					.0060672	.0060672	.0779	.0775	.0288	.0283
.8	.0681	.0681	.0279	.0277	.0404	.0404	.000239					.0060312	.0060312	.0683	.0681	.0279	.0277
1.	.0614	.0612	.0270	.0268	.0344	.0344	.000155							.0614	.0612	.0270	.0268
1.5	.0498	.0498	.0246	.0243	.0252	.0254	.0000692	.000167		.000167	.0000531			.0500	.0500	.0248	.0243
2.	.0424	.0424	.0225	.0223	.0199	.0201	.0000391	.0000670		.000067	.0000326			.0431	.0431	.0232	.0225
3.	.0335	.0335	.0193	.0190	.0141	.0145		.0000117		.000191	.000126			.0355	.0355	.0212	.0202
4.	.0279	.0279	.0169	.0165	.0110	.0114		.0000482		.000317	.000234			.0310	.0310	.0201	.0188
5.	.0241	.0241	.0151	.0146	.00897	.00946		.0000944		.000426	.000337			.0283	.0283	.0194	.0180
6.	.0213	.0213	.0137	.0132	.00759	.00812		.000142		.000520	.000431			.0266	.0266	.0189	.0175
8.	.0174	.0174	.0116	.0110	.00580	.00641		.000243		.000683	.000589			.0243	.0243	.0185	.0169
10.	.0148	.0148	.0101	.00951	.00469	.00533		.000339		.000819	.000719			.0230	.0230	.0183	.0167
15.	.0110	.0110	.00779	.00708	.00319	.00391		.000527		.0108	.00958			.0218	.0218	.0186	.0167
20.	.00882	.00882	.00641	.00560	.00241	.00321		.000676		.0127	.0111			.0215	.0215	.0191	.0167
30.	.00643	.00643	.00480	.00397	.00162	.00246		.000902		.0154	.0128			.0218	.0218	.0202	.0168
40.	.00511	.00511	.00388	.00304	.00123	.00208		.00107		.0173	.0138			.0223	.0223	.0212	.0168
50.	.00426	.00426	.00328	.00243	.00098	.00183		.00119		.0187	.0142			.0230	.0230	.0220	.0166
60.	.00366	.00366	.00286	.00200	.000821	.00167		.00129		.0198	.0145			.0234	.0234	.0228	.0164
80.	.00290	.00290	.00228	.00146	.000618	.00144		.00145		.0213	.0147			.0243	.0243	.0237	.0161
100.	.00241	.00241	.00191	.00111	.000498	.00130		.00156		.0228	.0148			.0252	.0252	.0248	.0159

14 SILICON
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xc}	σ_{xt}	σ_{xa}	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	9.28	.613	.0181	.00119	9.26	.612	118.					76900.	76900.	77000.	76900.	76900.	76900.
.0015	9.26	1.11	.0270	.00324	9.23	1.11	107.					24500.	24500.	24600.	24500.	24500.	24500.
K .001839	9.25	1.43	.0330	.00511	9.21	1.42	100.					13700.	13700.	13800.	13700.	13700.	13700.
.002	9.24	1.57	.0359	.00609	9.20	1.56	97.0					182000.	176000.	182000.	182000.	182000.	176000.
.003	9.20	2.30	.0534	.0133	9.15	2.29	79.8					143000.	138000.	143000.	143000.	143000.	138000.
.004	9.17	2.85	.0706	.0219	9.10	2.83	67.2					46200.	45200.	46300.	46200.	46200.	45200.
.005	9.13	3.32	.0875	.0318	9.05	3.29	57.8					20500.	20200.	20600.	20500.	20500.	20200.
.006	9.10	3.73	.104	.0427	9.00	3.69	50.3					10900.	10800.	11000.	10900.	10900.	10800.
.008	9.03	4.45	.137	.0674	8.90	4.38	38.6					6530.	6460.	6580.	6530.	6530.	6460.
.01	8.97	5.04	.168	.0944	8.80	4.95	30.0					2920.	2900.	2960.	2920.	2920.	2900.
.015	8.80	6.01	.243	.166	8.56	5.84	17.4					1550.	1540.	1590.	1560.	1550.	1540.
.02	8.65	6.54	.312	.236	8.34	6.30	11.3					460.	458.	483.	466.	460.	458.
.03	8.36	7.01	.435	.365	7.93	6.65	6.06					188.	187.	206.	195.	188.	187.
.04	8.10	7.16	.540	.478	7.56	6.68	3.81					51.1	51.0	64.2	58.1	51.5	51.4
.05	7.86	7.18	.634	.579	7.23	6.60	2.61					20.4	20.4	31.4	27.6	20.9	20.9
.06	7.64	7.12	.717	.668	6.92	6.45	1.89					9.95	9.94	19.7	17.1	10.6	10.5
.08	7.24	6.92	.848	.810	6.39	6.11	1.12					5.55	5.54	14.6	12.7	6.27	6.21
.1	6.90	6.68	.952	.922	5.95	5.76	.734					2.21	2.21	10.2	9.13	3.06	3.02
.15	6.21	6.10	1.13	1.11	5.08	4.99	.340					1.09	1.09	8.50	7.77	2.04	2.01
.2	5.69	5.63	1.23	1.22	4.46	4.41	.195					.299	.299	6.74	6.40	1.43	1.41
.3	4.95	4.92	1.33	1.33	3.61	3.59	.0889					.123	.123	5.95	5.75	1.35	1.34
.4	4.43	4.42	1.37	1.37	3.06	3.05	.0507					.0356	.0356	5.04	4.96	1.37	1.37
.5	4.05	4.04	1.38	1.38	2.67	2.66	.0328					.0146	.0146	4.49	4.43	1.38	1.38
.6	3.74	3.74	1.38	1.37	2.37	2.37	.0226					.00743	.00743	4.08	4.05	1.39	1.39
.8	3.29	3.28	1.34	1.33	1.94	1.95	.0128					.00450	.00450	3.77	3.74	1.38	1.37
1.	2.96	2.95	1.30	1.29	1.66	1.66	.0083					.00210	.00210	3.29	3.28	1.34	1.33
1.5	2.40	2.40	1.19	1.18	1.21	1.22	.00373	.00875		.00875	.00278	.00122	.00122	2.96	2.95	1.30	1.29
2.	2.05	2.05	1.09	1.08	.961	.972	.00211	.0350		.0350	.0170			2.41	2.41	1.20	1.18
3.	1.81	1.81	.929	.911	.881	.899		.0990	.000563	.0996	.0656			2.09	2.08	1.13	1.10
4.	1.35	1.35	.817	.796	.529	.553		.163	.00232	.165	.123			1.71	1.71	1.03	.977
5.	1.16	1.16	.730	.702	.433	.458		.216	.00453	.221	.174			1.52	1.52	.982	.919
6.	1.03	1.03	.662	.636	.366	.394		.264	.00688	.271	.223			1.38	1.38	.991	.876
8.	.841	.841	.561	.530	.280	.311		.342	.0118	.354	.305			1.30	1.30	.933	.859
10.	.716	.716	.489	.458	.227	.258		.410	.0164	.426	.373			1.20	1.20	.915	.835
15.	.530	.530	.376	.339	.154	.191		.531	.0254	.556	.490			1.14	1.14	.915	.831
20.	.425	.425	.309	.268	.116	.157		.626	.0327	.659	.567			1.09	1.09	.932	.829
30.	.310	.310	.231	.189	.0783	.121		.752	.0436	.796	.654			1.08	1.08	.968	.835
40.	.246	.246	.187	.145	.0591	.101		.838	.0518	.890	.698			1.11	1.11	1.03	.843
50.	.206	.206	.158	.116	.0473	.090		.908	.0573	.965	.723			1.14	1.14	1.08	.843
60.	.177	.177	.137	.0954	.0396	.0816		.955	.0623	1.02	.731			1.17	1.17	1.12	.839
80.	.140	.140	.110	.0697	.0298	.0703		1.03	.0698	1.10	.741			1.20	1.20	1.16	.826
100.	.116	.116	.092	.0525	.0239	.0635		1.09	.0751	1.17	.742			1.24	1.24	1.21	.811
														1.29	1.29	1.26	.794

14 SILICON
(cm²/g = 0.02144 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc, t} ^{KN}	($\frac{\mu}{\rho}$) _{inc, t} ^{BD}	($\frac{\mu}{\rho}$) _{inc, a} ^{KN}	($\frac{\mu}{\rho}$) _{inc, a} ^{BD}	($\frac{\mu}{\rho}$) _{inc, s} ^{KN}	($\frac{\mu}{\rho}$) _{inc, s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{x, n}	($\frac{\mu}{\rho}$) _{x, e}	($\frac{\mu}{\rho}$) _{x, t}	($\frac{\mu}{\rho}$) _{x, a}	($\frac{\mu}{\rho}$) _{r, t}	($\frac{\mu}{\rho}$) _{r, a}	($\frac{\mu}{\rho}$) _{tot, t}	($\frac{\mu}{\rho}$) _{tot, t-coh}	($\frac{\mu}{\rho}$) _{tot, a}	($\frac{\mu}{\rho}$) _{tot, en}
.001	.199	.0131	.000388	.0000255	.199	.0131	2.53					1650.	1650.	1650.	1650.	1650.	1650.
.0015	.199	.0238	.000579	.0000695	.198	.0238	2.29					525.	525.	527.	525.	525.	525.
.001839	.198	.0307	.000768	.000110	.197	.0304	2.14					294.	294.	296.	294.	294.	294.
.002	.198	.0337	.000770	.000131	.197	.0334	2.08					3900.	3770.	3900.	3900.	3900.	3770.
.003	.197	.0493	.00114	.000285	.196	.0491	1.71					3070.	2960.	3070.	3070.	3070.	2960.
.004	.197	.0611	.00151	.000470	.195	.0607	1.44					991.	989.	993.	991.	991.	969.
.005	.196	.0712	.00188	.000682	.194	.0705	1.24					440.	433.	442.	440.	440.	433.
.006	.195	.0800	.00223	.000915	.193	.0791	1.08					234.	232.	236.	234.	234.	232.
.008	.194	.0954	.00294	.00145	.191	.0939	.828					140.	139.	141.	140.	140.	139.
.01	.192	.108	.00360	.00202	.189	.106	.643					62.6	62.2	63.5	62.6	62.6	62.2
.015	.189	.129	.00521	.00356	.184	.125	.373					33.2	33.0	34.1	33.4	33.2	33.0
.02	.185	.140	.00669	.00506	.179	.135	.242					9.86	9.82	10.4	9.99	9.86	9.82
.03	.179	.150	.00933	.00783	.170	.143	.130					4.03	4.01	4.42	4.18	4.03	4.01
.04	.174	.154	.0116	.0102	.162	.143	.0817					1.10	1.09	1.38	1.25	1.10	1.10
.05	.169	.154	.0136	.0124	.155	.142	.0560					.437	.437	.673	.592	.448	.448
.06	.164	.153	.0154	.0143	.148	.138	.0465					.213	.213	.422	.367	.227	.225
.08	.155	.148	.0182	.0174	.137	.131	.0240					.119	.119	.313	.272	.134	.133
.1	.148	.143	.0204	.0198	.128	.123	.0157					.0474	.0474	.219	.196	.0656	.0647
.15	.131	.131	.0242	.0238	.109	.107	.00729					.0234	.0234	.182	.167	.0437	.0431
.2	.122	.121	.0264	.0262	.0956	.0946	.00418					.00641	.00641	.145	.137	.0307	.0302
.3	.106	.105	.0285	.0285	.0774	.0770	.00191					.00264	.00264	.128	.123	.0289	.0287
.4	.0950	.0948	.0294	.0294	.0656	.0654	.00109					.000763	.000763	.108	.106	.0294	.0294
.5	.0868	.0866	.0296	.0296	.0572	.0570	.000703					.000313	.000313	.0963	.0950	.0296	.0296
.6	.0802	.0802	.0296	.0296	.0508	.0508	.000485					.000159	.000159	.0875	.0868	.0298	.0298
.8	.0705	.0703	.0287	.0285	.0416	.0418	.000274					.0000965	.0000965	.0808	.0802	.0296	.0294
1.	.0635	.0632	.0279	.0277	.0356	.0356	.000178					.0000450	.0000450	.0705	.0703	.0287	.0285
1.5	.0515	.0515	.0255	.0253	.0259	.0252	.0000800	.000188		.000188	.0000596	.0000262	.0000262	.0535	.0532	.0279	.0277
2.	.0440	.0440	.0234	.0232	.0206	.0206	.0000452	.0000750		.0000750	.000364			.0517	.0517	.0257	.0253
3.	.0345	.0345	.0199	.0195	.0146	.0150		.0000121	.0000121	.000214	.00141			.0448	.0448	.0242	.0236
4.	.0289	.0289	.0175	.0171	.0113	.0119		.0000497	.0000497	.000354	.00264			.0367	.0367	.0221	.0209
5.	.0249	.0249	.0157	.0151	.00928	.00982		.0000971	.0000971	.000474	.00373			.0326	.0326	.0211	.0197
6.	.0221	.0221	.0142	.0136	.00785	.00845		.000148	.000148	.000581	.00478			.0296	.0296	.0204	.0188
8.	.0180	.0180	.0120	.0114	.00600	.00667		.000253	.000253	.000759	.00654			.0279	.0279	.0200	.0184
10.	.0154	.0154	.0105	.00982	.00487	.00553		.000352	.000352	.000913	.00800			.0257	.0257	.0196	.0179
15.	.0114	.0114	.00806	.00727	.00330	.00410		.000545	.000545	.00119	.0105			.0244	.0244	.0196	.0178
20.	.00911	.00911	.00662	.00575	.00249	.00337		.000701	.000701	.00141	.0122			.0234	.0234	.0200	.0178
30.	.00665	.00665	.00495	.00405	.00168	.00259		.000935	.000935	.00171	.0140			.0232	.0232	.0208	.0179
40.	.00527	.00527	.00401	.00311	.00127	.00217		.00111	.00111	.00191	.0150			.0238	.0238	.0221	.0181
50.	.00442	.00442	.00339	.00249	.00101	.00193		.00123	.00123	.00207	.0155			.0244	.0244	.0232	.0181
60.	.00379	.00379	.00294	.00205	.000849	.00175		.00134	.00134	.00219	.0157			.0251	.0251	.0240	.0180
80.	.00300	.00300	.00236	.00149	.000639	.00151		.00150	.00150	.00236	.0159			.0257	.0257	.0249	.0177
100.	.00249	.00249	.00197	.00113	.000512	.00136		.00161	.00161	.00251	.0159			.0266	.0266	.0259	.0174
														.0277	.0277	.0270	.0170

15 PHOSPHORUS
(barns/atom)

E (MeV)	$\sigma_{\text{inc,t}}^{\text{KN}}$	$\sigma_{\text{inc,t}}^{\text{BD}}$	$\sigma_{\text{inc,a}}^{\text{KN}}$	$\sigma_{\text{inc,a}}^{\text{BD}}$	$\sigma_{\text{inc,s}}^{\text{KN}}$	$\sigma_{\text{inc,s}}^{\text{BD}}$	σ_{coh}	σ_{xn}	σ_{xe}	$\sigma_{\text{x,t}}$	$\sigma_{\text{x,a}}$	$\sigma_{\text{r,t}}$	$\sigma_{\text{r,a}}$	$\sigma_{\text{tot,t}}$	$\sigma_{\text{tot,t-coh}}$	$\sigma_{\text{tot,a}}$	$\sigma_{\text{tot,en}}$
.001	9.94	.572	.0194	.00111	9.92	.571	136.					105000.	105000.	105000.	105000.	105000.	105000.
.0015	9.92	1.07	.0289	.00312	9.89	1.07	125.					33300.	33300.	33300.	33300.	33300.	33300.
.002	9.90	1.55	.0384	.00601	9.86	1.54	113.					14700.	14700.	14700.	14700.	14700.	14700.
K .002144	9.89	1.68	.0411	.00698	9.85	1.67	110.					12000.	12000.	12000.	12000.	12000.	12000.
												153000.	146000.	153000.	153000.	153000.	146000.
.003	9.86	2.37	.0572	.0137	9.81	2.36	92.0					60000.	58100.	60100.	60000.	60000.	58100.
.004	9.82	3.02	.0756	.0232	9.75	3.00	76.5					26600.	26000.	26700.	26600.	26600.	26000.
.005	9.79	3.53	.0937	.0338	9.69	3.50	65.3					14300.	14000.	14400.	14300.	14300.	14000.
.006	9.75	3.97	.112	.0455	9.64	3.92	56.7					8600.	8460.	8660.	8600.	8600.	8460.
.008	9.68	4.71	.146	.0713	9.53	4.64	44.0					3860.	3810.	3910.	3860.	3860.	3810.
.01	9.61	5.32	.180	.0997	9.43	5.22	34.6					2060.	2040.	2100.	2070.	2060.	2040.
.015	9.43	6.35	.261	.176	9.17	6.17	20.3					613.	609.	640.	619.	613.	609.
.02	9.27	6.92	.334	.250	8.94	6.67	13.3					252.	251.	272.	259.	252.	251.
.03	8.96	7.44	.466	.387	8.50	7.05	7.13					69.0	68.8	83.6	76.4	69.5	69.2
.04	8.68	7.62	.579	.508	8.10	7.11	4.49					27.6	27.5	39.7	35.2	28.2	28.0
.05	8.42	7.65	.679	.617	7.74	7.03	3.08					13.6	13.6	24.3	21.2	14.3	14.2
.06	8.18	7.60	.768	.713	7.42	6.89	2.24					7.65	7.64	17.5	15.2	8.42	8.35
.08	7.76	7.39	.909	.865	6.85	6.52	1.32					3.06	3.06	11.8	10.4	3.97	3.92
.1	7.39	7.13	1.02	.984	6.37	6.15	.672					1.50	1.50	9.50	8.63	2.92	2.88
.15	6.65	6.53	1.21	1.19	5.45	5.34	.405					.419	.419	7.35	6.95	1.63	1.61
.2	6.10	6.02	1.32	1.30	4.76	4.72	.232					.176	.176	6.43	6.20	1.50	1.48
.3	5.30	5.27	1.43	1.42	3.87	3.85	.106					.0501	.0501	5.43	5.32	1.48	1.47
.4	4.75	4.73	1.47	1.47	3.26	3.26	.0604					.0207	.0207	4.81	4.75	1.49	1.49
.5	4.34	4.32	1.48	1.48	2.86	2.84	.0392					.0103	.0103	4.37	4.33	1.49	1.49
.6	4.01	4.00	1.47	1.47	2.54	2.53	.0269					.00630	.00630	4.03	4.01	1.48	1.48
.8	3.52	3.52	1.44	1.43	2.08	2.09	.0152					.00300	.00300	3.54	3.52	1.44	1.43
1.	3.17	3.16	1.39	1.38	1.77	1.78	.00982					.00176	.00176	3.17	3.16	1.39	1.38
1.5	2.57	2.57	1.27	1.26	1.30	1.31	.00444	.0102		.0102	.00324			2.58	2.58	1.28	1.28
2.	2.19	2.19	1.16	1.15	1.03	1.04	.00252	.0401		.0401	.0195			2.23	2.23	1.20	1.17
3.	1.73	1.73	.996	.977	.730	.753	.00112	.113	.000603	.114	.0748			1.85	1.84	1.11	1.05
4.	1.44	1.44	.876	.850	.567	.590		.187	.00249	.189	.140			1.63	1.63	1.06	.990
5.	1.25	1.25	.783	.754	.464	.496		.250	.00487	.255	.201			1.50	1.50	1.04	.959
6.	1.10	1.10	.709	.675	.392	.425		.304	.00737	.311	.256			1.41	1.41	1.02	.931
8.	.901	.901	.601	.567	.300	.334		.391	.0127	.404	.347			1.30	1.30	1.00	.914
10.	.767	.767	.524	.489	.243	.278		.470	.0176	.488	.425			1.25	1.25	1.01	.914
15.	.568	.568	.403	.361	.165	.207		.610	.0273	.637	.560			1.20	1.20	1.04	.921
20.	.456	.456	.331	.285	.125	.171		.716	.0350	.751	.642			1.21	1.21	1.08	.927
30.	.332	.332	.248	.200	.0838	.132		.859	.0467	.906	.736			1.24	1.24	1.15	.936
40.	.264	.264	.200	.154	.0633	.110		.958	.0555	1.01	.785			1.27	1.27	1.21	.939
50.	.220	.220	.169	.123	.0507	.0975		1.04	.0613	1.10	.814			1.32	1.32	1.27	.937
60.	.190	.190	.147	.101	.0424	.0889		1.10	.0667	1.17	.825			1.36	1.36	1.32	.926
80.	.150	.150	.118	.0738	.0319	.0762		1.18	.0747	1.25	.831			1.40	1.40	1.37	.905
100.	.124	.124	.0986	.0556	.0256	.0684		1.25	.0801	1.33	.829			1.45	1.45	1.43	.885

15 PHOSPHORUS
(cm²/g = 0.01944 x barns/atom)

E (MeV)	($\frac{\sigma}{p}$) _{inc, i} ^{KN}	($\frac{\sigma}{p}$) _{inc, t} ^{BD}	($\frac{\sigma}{p}$) _{inc, a} ^{KN}	($\frac{\sigma}{p}$) _{inc, a} ^{BD}	($\frac{\sigma}{p}$) _{inc, s} ^{KN}	($\frac{\sigma}{p}$) _{inc, s} ^{BD}	($\frac{\sigma}{p}$) _{coh}	($\frac{\sigma}{p}$) _{xn}	($\frac{\sigma}{p}$) _{xe}	($\frac{\sigma}{p}$) _{xt}	($\frac{\sigma}{p}$) _{xa}	($\frac{\sigma}{p}$) _{xt}	($\frac{\sigma}{p}$) _{xa}	($\frac{\sigma}{p}$) _{tot, t}	($\frac{\sigma}{p}$) _{tot, t-coh}	($\frac{\sigma}{p}$) _{tot, a}	($\frac{\sigma}{p}$) _{tot, en}
.001	.193	.0111	.000377	.0000216	.193	.0111	2.64					2040.	2040.	2040.	2040.	2040.	2040.
.0015	.193	.0208	.000562	.0000607	.192	.0208	2.43					647.	647.	649.	647.	647.	647.
.002	.192	.0301	.000746	.000117	.192	.0299	2.20					286.	286.	288.	286.	286.	286.
K .002144	.192	.0327	.000799	.000136	.191	.0325	2.14					233.	233.	235.	233.	233.	233.
.003	.192	.0461	.00111	.000266	.191	.0459	1.79					2970.	2840.	2970.	2970.	2970.	2840.
.004	.191	.0587	.00147	.000451	.190	.0583	1.49					1170.	1130.	1170.	1170.	1170.	1130.
.005	.190	.0686	.00182	.000657	.188	.0680	1.27					517.	505.	519.	517.	517.	505.
.006	.190	.0772	.00218	.000885	.187	.0762	1.10					278.	272.	280.	278.	278.	272.
.008	.188	.0916	.00284	.00139	.185	.0902	.895					167.	164.	168.	167.	167.	164.
.01	.187	.103	.00350	.00194	.183	.101	.673					75.0	74.1	76.0	75.0	75.0	74.1
.015	.183	.123	.00507	.00342	.178	.120	.395					44.0	39.7	40.8	40.2	40.0	39.7
.02	.180	.135	.00649	.00486	.174	.130	.294					11.9	11.8	12.4	12.0	11.9	11.8
.03	.174	.145	.00906	.00752	.165	.137	.134					4.90	4.88	5.29	5.03	4.90	4.88
.04	.169	.148	.0113	.00988	.157	.138	.0873					1.34	1.34	1.63	1.49	1.35	1.35
.05	.164	.149	.0132	.0120	.150	.137	.0549					.537	.535	.772	.684	.548	.544
.06	.159	.148	.0149	.0139	.144	.134	.0435					.264	.264	.472	.412	.278	.276
.08	.151	.144	.0177	.0168	.133	.127	.0257					.149	.149	.340	.295	.164	.162
.1	.144	.139	.0198	.0191	.124	.120	.0170					.0595	.0595	.229	.202	.0772	.0762
.15	.129	.127	.0235	.0231	.106	.104	.00787					.0292	.0292	.185	.168	.0490	.0482
.2	.119	.117	.0257	.0253	.0929	.0918	.00491					.00815	.00815	.143	.135	.0317	.0313
.3	.103	.102	.0278	.0276	.0748	.0748	.00206					.00342	.00342	.125	.121	.0292	.0288
.4	.0921	.0920	.0286	.0286	.0638	.0634	.00117					.000974	.000974	.106	.103	.0288	.0286
.5	.0844	.0840	.0288	.0288	.0556	.0552	.000762					.000402	.000402	.0935	.0923	.0290	.0290
.6	.0786	.0778	.0286	.0286	.0494	.0492	.000523					.000200	.000200	.0850	.0842	.0290	.0290
.8	.0684	.0684	.0280	.0278	.0404	.0406	.000295					.000122	.000122	.0783	.0780	.0288	.0288
1.	.0616	.0614	.0270	.0268	.0344	.0346	.000191					.0000583	.0000583	.0688	.0684	.0280	.0278
1.5	.0506	.0500	.0247	.0245	.0253	.0255	.0000863	.000199		.000198	.000063	.0000342	.0000342	.0616	.0614	.0270	.0268
2.	.0426	.0426	.0226	.0224	.0200	.0202	.0000490	.0000780		.0000780	.0000379			.0502	.0502	.0249	.0245
3.	.0336	.0336	.0194	.0190	.0142	.0146	.0000218	.000220	.0000117	.000222	.00145			.0434	.0434	.0233	.0227
4.	.0280	.0280	.0170	.0165	.0110	.0115		.00364	.0000484	.00367	.00272			.0360	.0358	.0216	.0204
5.	.0243	.0243	.0152	.0147	.00902	.00964		.00486	.0000947	.00496	.00391			.0317	.0317	.0206	.0192
6.	.0214	.0214	.0138	.0131	.00762	.00826		.00591	.000143	.00605	.00498			.0292	.0292	.0202	.0186
8.	.0175	.0175	.0117	.0110	.00583	.00649		.00760	.000247	.00785	.00675			.0274	.0274	.0198	.0181
10.	.0149	.0149	.0102	.00951	.00472	.00540		.00914	.000342	.00949	.00826			.0253	.0253	.0194	.0178
15.	.0110	.0110	.00783	.00702	.00321	.00402		.0119	.000531	.0124	.0109			.0243	.0243	.0196	.0178
20.	.00886	.00886	.00643	.00554	.00243	.00332		.0139	.000680	.0146	.0125			.0233	.0233	.0202	.0179
30.	.00645	.00645	.00482	.00389	.00169	.00257		.0167	.000908	.0176	.0143			.0235	.0235	.0210	.0180
40.	.00513	.00513	.00389	.00299	.00123	.00214		.0186	.001108	.0196	.0153			.0241	.0241	.0224	.0182
50.	.00428	.00428	.00329	.00239	.000936	.00190		.0202	.00119	.0214	.0158			.0247	.0247	.0235	.0183
60.	.00369	.00369	.00286	.00196	.000824	.00173		.0214	.00130	.0227	.0160			.0257	.0257	.0247	.0182
80.	.00292	.00292	.00229	.00143	.000620	.00148		.0229	.00145	.0243	.0162			.0264	.0264	.0257	.0180
100.	.00241	.00241	.00192	.00108	.000498	.00133		.0243	.00156	.0259	.0161			.0272	.0272	.0266	.0176
														.0282	.0282	.0278	.0172

16 SULFUR
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	10.6	.548	.0207	.00107	10.6	.547	156.					140000.	140000.	140000.	140000.	140000.	140000.
.0015	10.6	1.04	.0309	.00303	10.6	1.04	144.					44100.	44100.	44200.	44100.	44100.	44100.
.002	10.6	1.54	.041	.00598	10.5	1.53	131.					19400.	19400.	19500.	19400.	19400.	19400.
K .002472	10.5	1.98	.0505	.00948	10.5	1.97	119.					10700.	10700.	10800.	10700.	10700.	10700.
.003	10.5	2.42	.0610	.0140	10.5	2.41	106.					131000.	123000.	131000.	131000.	131000.	123000.
.004	10.5	3.14	.0806	.0242	10.4	3.12	87.7					76400.	72700.	76500.	76400.	76400.	72700.
.005	10.4	3.73	.100	.0357	10.3	3.69	74.1					34100.	32900.	34200.	34100.	34100.	32900.
.006	10.4	4.21	.119	.0482	10.3	4.16	64.1					18200.	17700.	18300.	18200.	18200.	17700.
.008	10.3	4.99	.156	.0755	10.2	4.91	49.8					11000.	10700.	11100.	11000.	11000.	10700.
.01	10.2	5.62	.192	.105	10.1	5.51	39.6					4950.	4860.	5000.	4950.	4950.	4860.
.015	10.1	6.69	.278	.185	9.79	6.50	23.6					2660.	2620.	2710.	2670.	2660.	2620.
.02	9.89	7.31	.357	.264	9.53	7.05	15.5					801.	793.	831.	808.	801.	793.
.03	9.56	7.88	.497	.410	9.06	7.47	8.30					330.	328.	353.	337.	330.	328.
.04	9.26	8.08	.618	.539	8.64	7.54	5.24					92.2	91.8	108.	100.	92.7	92.2
.05	8.98	8.11	.725	.654	8.26	7.46	3.61					37.0	36.9	50.3	45.1	37.6	37.4
.06	8.73	8.07	.819	.757	7.91	7.31	2.63					18.2	18.1	29.9	26.3	18.9	18.8
.08	8.28	7.85	.969	.919	7.31	6.93	1.56					10.2	10.2	20.9	18.3	11.0	11.0
.1	7.88	7.59	1.09	1.05	6.80	6.54	1.02					4.13	4.12	13.5	12.0	5.10	5.04
.15	7.10	6.95	1.29	1.26	5.81	5.69	.476					2.02	2.02	10.6	9.61	3.11	3.07
.2	6.50	6.42	1.41	1.39	5.10	5.03	.274					.570	.569	6.00	5.52	1.86	1.83
.3	5.65	5.61	1.52	1.51	4.13	4.10	.125					.236	.236	6.93	6.66	1.65	1.63
.4	5.07	5.04	1.57	1.56	3.50	3.48	.0712					.0690	.0690	5.80	5.68	1.59	1.58
.5	4.63	4.61	1.58	1.58	3.02	3.03	.0463					.0284	.0284	5.14	5.07	1.60	1.59
.6	4.28	4.27	1.57	1.57	2.71	2.70	.0316					.0143	.0143	4.67	4.62	1.59	1.59
.8	3.76	3.75	1.54	1.52	2.22	2.23	.0179					.00880	.00880	4.31	4.28	1.58	1.58
1.	3.38	3.38	1.49	1.48	1.89	1.90	.0115					.00420	.00420	3.77	3.75	1.54	1.52
1.5	2.75	2.74	1.36	1.34	1.39	1.40	.00523	.0115		.0115	.00366	.00110	.00110	2.76	2.75	1.37	1.34
2.	2.34	2.34	1.24	1.23	1.10	1.11	.00296	.0459		.0459	.0223			2.39	2.39	1.29	1.25
3.	1.84	1.84	1.06	1.04	.778	.802	.00131	.129	.000645	.130	.0853			1.97	1.97	1.19	1.13
4.	1.54	1.54	.934	.907	.605	.633		.213	.00266	.216	.159			1.76	1.76	1.15	1.07
5.	1.33	1.33	.835	.801	.495	.529		.283	.00619	.289	.228			1.62	1.62	1.12	1.03
6.	1.17	1.17	.756	.715	.418	.455		.346	.0079	.354	.290			1.52	1.52	1.11	1.00
8.	.961	.961	.641	.603	.320	.358		.445	.0135	.458	.392			1.42	1.42	1.10	.995
10.	.818	.818	.559	.517	.259	.301		.536	.0187	.555	.483			1.37	1.37	1.11	1.00
15.	.606	.606	.430	.382	.176	.224		.690	.0291	.719	.626			1.33	1.33	1.15	1.01
20.	.486	.486	.353	.301	.133	.185		.811	.0372	.848	.720			1.33	1.33	1.20	1.02
30.	.354	.354	.264	.212	.0894	.142		.977	.0498	1.03	.827			1.38	1.38	1.29	1.04
40.	.281	.281	.214	.163	.0675	.118		1.09	.0591	1.15	.880			1.43	1.43	1.36	1.04
50.	.235	.235	.181	.129	.0541	.106		1.18	.0654	1.25	.908			1.48	1.48	1.43	1.04
60.	.202	.202	.157	.106	.0453	.0957		1.25	.0711	1.32	.918			1.52	1.52	1.48	1.02
80.	.160	.160	.125	.0784	.0341	.0816		1.34	.0795	1.42	.924			1.58	1.58	1.55	1.00
100.	.132	.132	.105	.0583	.0273	.0737		1.42	.0855	1.51	.921			1.64	1.64	1.61	.979

16 SULFUR
(cm²/g = 0.01878 x barns/atom)

E (MeV)	($\frac{\sigma}{\sigma_0}$) _{inc,t} ^{KN}	($\frac{\sigma}{\sigma_0}$) _{inc,t} ^{BD}	($\frac{\sigma}{\sigma_0}$) _{inc,a} ^{KN}	($\frac{\sigma}{\sigma_0}$) _{inc,a} ^{BD}	($\frac{\sigma}{\sigma_0}$) _{inc,s} ^{KN}	($\frac{\sigma}{\sigma_0}$) _{inc,s} ^{BD}	($\frac{\sigma}{\sigma_0}$) _{coh}	($\frac{\sigma}{\sigma_0}$) _{x,n}	($\frac{\sigma}{\sigma_0}$) _{x,e}	($\frac{\sigma}{\sigma_0}$) _{x,t}	($\frac{\sigma}{\sigma_0}$) _{x,a}	($\frac{\sigma}{\sigma_0}$) _{r,t}	($\frac{\sigma}{\sigma_0}$) _{r,a}	($\frac{\sigma}{\sigma_0}$) _{tot,t}	($\frac{\sigma}{\sigma_0}$) _{tot,t-coh}	($\frac{\sigma}{\sigma_0}$) _{tot,a}	($\frac{\sigma}{\sigma_0}$) _{tot,en}
.001	.199	.0103	.000389	.0000201	.199	.0103	2.93					2630.	2630.	2630.	2630.	2630.	2630.
.0015	.199	.0195	.000580	.0000569	.199	.0195	2.70					828.	828.	830.	828.	828.	828.
.002	.199	.0289	.000770	.000112	.197	.0287	2.46					364.	354.	366.	364.	364.	364.
K .002472	.197	.0372	.000948	.000178	.197	.0370	2.23					201.	201.	203.	201.	201.	201.
												2460.	2310.	2460.	2460.	2460.	2310.
.003	.197	.0454	.00115	.000263	.197	.0453	1.99					1430.	1370.	1440.	1430.	1430.	1370.
.004	.197	.0590	.00151	.000454	.195	.0586	1.65					640.	618.	642.	640.	640.	618.
.005	.195	.0700	.00188	.000670	.193	.0693	1.35					342.	332.	344.	342.	342.	332.
.006	.195	.0791	.00223	.000905	.193	.0781	1.20					207.	201.	208.	207.	207.	201.
.008	.193	.0937	.00293	.00142	.192	.0922	.935					53.0	51.3	93.9	93.0	93.0	91.3
.01	.192	.106	.00361	.00197	.190	.103	.744					50.0	49.2	50.9	50.1	50.0	49.2
.015	.190	.126	.00522	.00347	.184	.122	.443					15.0	14.9	15.6	15.2	15.0	14.9
.02	.186	.137	.00670	.00496	.179	.132	.291					6.20	6.16	6.63	6.33	6.20	6.16
.03	.180	.148	.00933	.00770	.170	.140	.156					1.73	1.72	2.03	1.88	1.74	1.73
.04	.174	.152	.0116	.0101	.162	.142	.0984					.695	.693	.945	.847	.706	.702
.05	.169	.152	.0136	.0123	.155	.140	.0678					.342	.340	.562	.494	.355	.353
.06	.164	.152	.0154	.0142	.149	.137	.0494					.192	.192	.393	.344	.207	.207
.08	.155	.147	.0182	.0173	.137	.130	.0293					.0776	.0774	.254	.225	.0958	.0947
.1	.148	.143	.0205	.0197	.128	.123	.0192					.0379	.0379	.199	.180	.0584	.0577
.15	.133	.131	.0242	.0237	.109	.107	.06894					.0107	.0107	.150	.141	.0349	.0344
.2	.122	.121	.0265	.0261	.0953	.0945	.00515					.00443	.00443	.130	.125	.0310	.0306
.3	.106	.105	.0285	.0284	.0775	.0770	.00235					.00130	.00130	.109	.107	.0299	.0297
.4	.0952	.0947	.0295	.0293	.0657	.0654	.00134					.000533	.000533	.0965	.0952	.0300	.0299
.5	.0870	.0866	.0297	.0297	.0573	.0569	.000870					.000269	.000269	.0877	.0868	.0299	.0299
.6	.0804	.0802	.0295	.0295	.0509	.0507	.000593					.000165	.000165	.0809	.0804	.0297	.0297
.8	.0706	.0704	.0289	.0285	.0417	.0419	.000336					.0000789	.0000789	.0708	.0704	.0289	.0285
1.	.0635	.0635	.0280	.0278	.0355	.0357	.000216					.0000460	.0000460	.0637	.0635	.0280	.0278
1.5	.0516	.0515	.0255	.0252	.0261	.0263	.0000982	.000216		.0000687		.0000207	.0000207	.0518	.0516	.0257	.0252
2.	.0439	.0439	.0233	.0231	.0207	.0208	.0000556	.000862		.000419				.0449	.0449	.0242	.0235
3.	.0346	.0346	.0199	.0195	.0145	.0151	.0000246	.00242	.0000121	.00244	.00160			.0370	.0370	.0223	.0212
4.	.0269	.0269	.0175	.0170	.0114	.0119		.00400	.0000500	.00406	.00299			.0331	.0331	.0216	.0201
5.	.0250	.0250	.0157	.0150	.00930	.00993		.00531	.000116	.00543	.00428			.0304	.0304	.0210	.0193
6.	.0220	.0220	.0142	.0134	.00735	.00854		.00650	.000148	.00665	.00545			.0285	.0285	.0208	.0188
8.	.0180	.0180	.0120	.0113	.00631	.00672		.00836	.000254	.00860	.00736			.0267	.0267	.0207	.0187
10.	.0154	.0154	.0105	.00971	.00436	.00565		.0101	.000351	.0104	.00907			.0257	.0257	.0208	.0188
15.	.0114	.0114	.00808	.00717	.00331	.00421		.0130	.000546	.0135	.0118			.0250	.0250	.0216	.0196
20.	.00913	.00913	.00663	.00565	.00250	.00347		.0152	.000699	.0159	.0135			.0250	.0250	.0225	.0192
30.	.00665	.00665	.00496	.00398	.00158	.00267		.0183	.000935	.0193	.0155			.0259	.0259	.0242	.0195
40.	.00528	.00528	.00402	.00306	.00127	.00222		.0205	.00111	.0216	.0165			.0269	.0269	.0255	.0195
50.	.00441	.00441	.00340	.00242	.00122	.00199		.0222	.00123	.0235	.0171			.0278	.0278	.0269	.0195
60.	.00379	.00379	.00295	.00199	.000351	.00180		.0235	.00134	.0248	.0172			.0285	.0285	.0278	.0192
80.	.00300	.00300	.00235	.00147	.000340	.00153		.0252	.00149	.0267	.0174			.0297	.0297	.0291	.0188
100.	.00248	.00248	.00197	.00109	.000313	.00138		.0267	.00161	.0284	.0173			.0308	.0308	.0302	.0184

17 CHLORINE
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xc}	σ_{xt}	σ_{xa}	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	11.3	.516	.0219	.00101	11.2	.515	176.					181000.	181000.	181000.	181000.	181000.	181000.
.0015	11.2	1.00	.0326	.00292	11.2	.997	165.					57600.	57600.	57800.	57600.	57600.	57600.
.002	11.2	1.51	.0435	.00586	11.2	1.50	151.					25400.	25400.	25600.	25400.	25400.	25400.
.002824	11.2	2.30	.0611	.0126	11.1	2.29	127.					9530.	9530.	9660.	9530.	9530.	9530.
.003	11.2	2.45	.0648	.0142	11.1	2.44	123.					113000.	105000.	113000.	113000.	113000.	105000.
.004	11.1	3.24	.0857	.0249	11.0	3.22	101.					96000.	89400.	96100.	96000.	96000.	89400.
.005	11.1	3.90	.106	.0374	11.0	3.86	84.4					43000.	40800.	43100.	43000.	43000.	40800.
.006	11.0	4.43	.126	.0507	10.9	4.38	72.4					23100.	22100.	23200.	23100.	23100.	22100.
.008	11.0	5.26	.166	.0796	10.8	5.18	56.0					13900.	13400.	14000.	13900.	13900.	13400.
.01	10.9	5.91	.204	.111	10.7	5.80	44.8					6220.	6060.	6280.	6230.	6220.	6060.
.015	10.7	7.02	.296	.194	10.4	6.83	27.2					3400.	3330.	3450.	3410.	3400.	3330.
.02	10.5	7.69	.379	.278	10.1	7.41	17.9					1030.	1020.	1060.	1040.	1030.	1020.
.03	10.2	8.31	.529	.432	9.63	7.88	9.59					428.	424.	454.	436.	428.	424.
.04	9.84	8.53	.656	.569	9.18	7.96	6.05					120.	119.	138.	128.	121.	119.
.05	9.54	8.57	.770	.691	8.78	7.88	4.18					48.7	48.4	63.3	57.2	49.4	49.0
.06	9.28	8.53	.870	.800	8.41	7.73	3.05					24.1	24.0	36.8	32.7	24.9	24.7
.08	8.79	8.31	1.03	.973	7.76	7.34	1.81					13.5	13.5	25.1	22.0	14.4	14.3
.1	8.38	8.04	1.16	1.11	7.22	6.93	1.19					5.48	5.47	15.6	13.8	6.51	6.44
.15	7.54	7.38	1.37	1.34	6.17	6.04	.554					2.70	2.69	11.9	10.7	3.86	3.80
.2	6.91	6.81	1.49	1.47	5.42	5.34	.318					.770	.769	8.70	8.15	2.14	2.11
.3	6.01	5.96	1.62	1.61	4.39	4.35	.145					.317	.317	7.44	7.13	1.81	1.79
.4	5.38	5.36	1.67	1.66	3.72	3.70	.0830					.0910	.0909	6.20	6.05	1.71	1.70
.5	4.91	4.90	1.68	1.68	3.24	3.22	.0540					.0380	.0380	5.48	5.40	1.71	1.70
.6	4.55	4.53	1.67	1.66	2.88	2.87	.0370					.0196	.0196	4.97	4.92	1.70	1.70
.8	3.99	3.99	1.63	1.62	2.36	2.37	.0210					.0120	.0120	4.58	4.54	1.68	1.67
1.	3.59	3.59	1.58	1.57	2.01	2.02	.0134					.00580	.00580	4.02	4.00	1.64	1.63
1.5	2.92	2.91	1.44	1.43	1.47	1.48	.0061	.0131	.0131	.00417		.00340	.00340	3.61	3.59	1.58	1.57
2.	2.49	2.49	1.32	1.31	1.17	1.18	.00345	.0518	.0518	.0252		.00160	.00160	2.93	2.92	1.45	1.44
3.	1.96	1.96	1.13	1.10	.827	.857	.00152	.146	.000686	.147	.0964	.00100	.00100	2.55	2.54	1.37	1.34
4.	1.64	1.64	.992	.963	.643	.677		.240	.00281	.243	.179			2.11	2.11	1.28	1.20
5.	1.41	1.41	.887	.847	.525	.563		.320	.00550	.325	.256			1.88	1.88	1.23	1.14
6.	1.25	1.25	.804	.762	.444	.488		.390	.00840	.398	.326			1.73	1.73	1.21	1.10
8.	1.02	1.02	.681	.635	.340	.385		.500	.0144	.514	.439			1.65	1.65	1.20	1.09
10.	.870	.870	.594	.547	.275	.323		.604	.0199	.624	.541			1.53	1.53	1.20	1.07
15.	.644	.644	.457	.404	.187	.240		.780	.0310	.811	.705			1.49	1.49	1.22	1.09
20.	.517	.517	.375	.318	.141	.199		.913	.0396	.953	.801			1.45	1.45	1.23	1.11
30.	.376	.376	.261	.223	.0950	.153		1.10	.0529	1.15	.921			1.47	1.47	1.33	1.12
40.	.299	.299	.227	.172	.0717	.127		1.23	.0629	1.29	.980			1.53	1.53	1.43	1.14
50.	.250	.250	.192	.136	.0575	.114		1.33	.0693	1.40	1.01			1.59	1.59	1.52	1.15
60.	.215	.215	.167	.112	.0481	.103		1.40	.0755	1.48	1.01			1.65	1.65	1.59	1.15
80.	.169	.169	.133	.0820	.0362	.0870		1.50	.0843	1.58	1.02			1.69	1.69	1.65	1.12
100.	.141	.141	.112	.0618	.0290	.0792		1.60	.0907	1.69	1.02			1.75	1.75	1.71	1.10
														1.83	1.83	1.80	1.08

17 CHLORINE
(cm²/g = 0.01699 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc, t} ^{KN}	($\frac{\mu}{\rho}$) _{inc, t} ^{BD}	($\frac{\mu}{\rho}$) _{inc, a} ^{KN}	($\frac{\mu}{\rho}$) _{inc, a} ^{BD}	($\frac{\mu}{\rho}$) _{inc, s} ^{KN}	($\frac{\mu}{\rho}$) _{inc, s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{xe}	($\frac{\mu}{\rho}$) _{x, t}	($\frac{\mu}{\rho}$) _{x, a}	($\frac{\mu}{\rho}$) _{r, t}	($\frac{\mu}{\rho}$) _{r, a}	($\frac{\mu}{\rho}$) _{tot, t}	($\frac{\mu}{\rho}$) _{tot, t-coh}	($\frac{\mu}{\rho}$) _{tot, a}	($\frac{\mu}{\rho}$) _{tot, en}
.001	.192	.00877	.000372	.0000172	.190	.00875	3.32					3080.	3080.	3080.	3080.	3080.	3080.
.0015	.190	.0170	.000557	.0000496	.190	.0169	2.80					979.	979.	982.	979.	979.	979.
.002	.190	.0257	.000739	.0000996	.190	.0255	2.57					432.	432.	435.	432.	432.	432.
K .002824	.190	.0351	.00104	.000214	.189	.0389	2.16					162.	162.	164.	162.	162.	162.
												1920.	1780.	1920.	1920.	1920.	1780.
.003	.190	.0416	.00110	.000241	.189	.0415	2.09					1630.	1520.	1630.	1630.	1630.	1520.
.004	.189	.0550	.00146	.000423	.187	.0547	1.72					731.	693.	732.	731.	731.	693.
.005	.189	.0663	.00180	.000635	.187	.0656	1.43					392.	375.	394.	392.	392.	375.
.006	.187	.0753	.00214	.000861	.185	.0744	1.23					236.	228.	238.	236.	236.	228.
.008	.187	.0894	.00282	.00135	.183	.0880	.951					106.	103.	107.	106.	106.	103.
.01	.185	.100	.00347	.00189	.182	.0985	.761					57.8	56.5	58.6	57.9	57.8	56.4
.015	.182	.119	.00503	.00330	.177	.116	.462					17.2	17.3	18.0	17.7	17.5	17.3
.02	.178	.131	.00644	.00472	.172	.126	.304					7.27	7.20	7.71	7.41	7.27	7.20
.03	.173	.141	.00899	.00734	.164	.134	.163					2.64	2.32	2.34	2.17	2.06	2.02
.04	.167	.145	.011	.00967	.156	.135	.103					.627	.322	1.08	.972	.839	.833
.05	.162	.146	.0131	.0117	.149	.134	.0710					.409	.208	.625	.556	.423	.420
.06	.158	.145	.0148	.0136	.143	.131	.0518					.229	.229	.426	.374	.245	.243
.08	.149	.141	.0175	.0165	.132	.125	.0308					.0931	.0929	.265	.234	.111	.109
.1	.142	.137	.0197	.0189	.123	.118	.0202					.0459	.0457	.202	.182	.0656	.0646
.15	.128	.125	.0233	.0228	.105	.103	.00941					.0131	.0131	.148	.138	.0364	.0358
.2	.117	.115	.0253	.0250	.0921	.0907	.00540					.00539	.00539	.126	.121	.0308	.0304
.3	.102	.101	.0275	.0274	.0746	.0739	.00246					.00155	.00154	.105	.103	.0291	.0288
.4	.0914	.0911	.0284	.0282	.0632	.0629	.00141					.000646	.000646	.0931	.0917	.0291	.0289
.5	.0834	.0833	.0285	.0285	.0550	.0547	.000917					.000333	.000333	.0844	.0836	.0289	.0289
.6	.0773	.0770	.0284	.0282	.0489	.0488	.000629					.000204	.000204	.0778	.0771	.0285	.0284
.8	.0678	.0678	.0277	.0275	.0401	.0403	.000357					.0000985	.0000985	.0683	.0680	.0279	.0277
.9	.0610	.0610	.0268	.0267	.0341	.0343	.000228					.0000578	.0000578	.0613	.0610	.0268	.0267
1.	.0496	.0494	.0245	.0243	.0250	.0251	.000104	.000223		.000223	.0000708	.0000272	.0000272	.0498	.0496	.0246	.0245
1.5	.0423	.0423	.0224	.0223	.0199	.0200	.0000586	.0000880		.000088	.0000428	.0000170	.0000170	.0433	.0432	.0233	.0228
2.	.0333	.0333	.0192	.0187	.0141	.0146	.0000258	.000248	.0000117	.000250	.000164			.0358	.0358	.0217	.0204
3.	.0279	.0279	.0169	.0164	.0109	.0115		.00408	.0000477	.000413	.000304			.0319	.0319	.0209	.0194
4.	.0240	.0240	.0151	.0144	.00892	.00957		.00544	.0000934	.000552	.000435			.0294	.0294	.0206	.0187
5.	.0212	.0212	.0137	.0129	.00754	.00829		.00663	.000143	.000676	.000554			.0280	.0280	.0204	.0185
6.	.0173	.0173	.0116	.0108	.00578	.00654		.00849	.000245	.000873	.000746			.0260	.0260	.0204	.0182
8.	.0148	.0148	.0101	.00929	.00467	.00549		.0103	.000338	.0106	.000919			.0253	.0253	.0207	.0185
10.	.0109	.0109	.00776	.00686	.00318	.00408		.0133	.000527	.0138	.0120			.0246	.0246	.0216	.0189
15.	.00878	.00878	.00637	.00540	.00240	.00338		.0155	.000673	.0162	.0136			.0250	.0250	.0226	.0190
20.	.00639	.00639	.00477	.00379	.00161	.0026		.0187	.000899	.0195	.0156			.0260	.0260	.0243	.0194
30.	.00508	.00508	.00386	.00292	.00122	.00216		.0209	.00107	.0219	.0167			.0270	.0270	.0258	.0195
40.	.00425	.00425	.00326	.00231	.000977	.00194		.0226	.00118	.0238	.0172			.0280	.0280	.0270	.0195
50.	.00365	.00365	.00284	.00190	.000817	.00175		.0238	.00128	.0251	.0172			.0287	.0287	.0280	.0190
60.	.00287	.00287	.00226	.00139	.000615	.00148		.0255	.00143	.0268	.0173			.0297	.0297	.0291	.0187
80.	.00240	.00240	.00190	.00105	.000493	.00135		.0272	.00154	.0287	.0173			.0311	.0311	.0306	.0183

18 ARGON
 (barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	11.9	.477	.0232	.000929	11.9	.476	201.					235000.	235000.	235000.	235000.	235000.	235000.
.0015	11.9	.949	.0347	.00277	11.9	.946	188.					73800.	73800.	74000.	73800.	73800.	73800.
.002	11.9	1.47	.0461	.00570	11.8	1.46	172.					32700.	32700.	32900.	32700.	32700.	32700.
.003	11.8	2.46	.0686	.0143	11.8	2.45	141.					10300.	10300.	10400.	10300.	10300.	10300.
K .003203	11.8	2.64	.0731	.0163	11.8	2.62	135.					8560.	8560.	8700.	8560.	8560.	8560.
												98100.	89400.	98200.	98100.	98100.	89400.
.004	11.8	3.33	.0907	.0256	11.7	3.30	116.					52900.	49200.	53000.	52900.	52900.	49200.
.005	11.7	4.04	.112	.0387	11.6	4.00	96.3					28600.	27000.	28700.	28600.	28600.	27000.
.006	11.7	4.62	.134	.0529	11.6	4.57	82.1					17300.	16500.	17400.	17300.	17300.	16500.
.008	11.6	5.51	.176	.0834	11.4	5.43	63.0					7800.	7520.	7870.	7810.	7800.	7520.
.01	11.5	6.18	.216	.116	11.3	6.06	50.4					4230.	4110.	4290.	4240.	4230.	4110.
.015	11.3	7.34	.313	.203	11.0	7.14	31.1					1300.	1280.	1340.	1310.	1300.	1280.
.02	11.1	8.06	.401	.291	10.7	7.77	20.6					542.	534.	571.	550.	542.	534.
.03	10.8	8.73	.560	.454	10.2	8.28	11.0					152.	151.	172.	161.	153.	151.
.04	10.4	8.97	.695	.598	9.72	8.37	6.96					62.0	61.6	77.9	71.0	62.7	62.2
.05	10.1	9.03	.815	.729	9.29	8.30	4.81					30.8	30.6	44.6	39.8	31.6	31.3
.06	9.82	8.99	.921	.844	8.90	8.15	3.52					17.5	17.4	30.0	26.5	18.4	18.2
.08	9.31	8.77	1.09	1.03	8.22	7.74	2.09					7.20	7.17	18.1	16.0	8.29	8.20
.1	8.87	8.49	1.22	1.17	7.65	7.32	1.38					3.61	3.60	13.5	12.1	4.83	4.77
.15	7.98	7.80	1.45	1.42	6.54	6.38	.641					1.02	1.02	9.46	8.82	2.47	2.44
.2	7.32	7.21	1.58	1.56	5.73	5.65	.369					.420	.419	8.00	7.63	2.00	1.98
.3	6.36	6.31	1.72	1.70	4.65	4.61	.168					.120	.120	6.60	6.43	1.84	1.82
.4	5.70	5.67	1.77	1.76	3.93	3.91	.0960					.0502	.0502	5.82	5.72	1.82	1.81
.5	5.20	5.18	1.78	1.77	3.43	3.41	.0626					.0262	.0262	5.27	5.21	1.81	1.80
.6	4.81	4.80	1.77	1.76	3.05	3.04	.0427					.0160	.0160	4.86	4.82	1.79	1.78
.8	4.23	4.22	1.73	1.71	2.50	2.51	.0243					.00780	.00780	4.25	4.23	1.74	1.72
1.	3.80	3.80	1.67	1.66	2.13	2.14	.0156					.00460	.00460	3.82	3.80	1.67	1.66
1.5	3.09	3.09	1.53	1.51	1.56	1.58	.00706	.0147		.0147	.00467	.00225	.00225	3.11	3.11	1.55	1.52
2.	2.63	2.63	1.40	1.38	1.24	1.25	.00400	.0580		.0580	.0282	.00135	.00135	2.69	2.69	1.46	1.41
3.	2.07	2.07	1.20	1.16	.876	.907	.00176	.163	.000727	.164	.107			2.24	2.23	1.36	1.27
4.	1.73	1.73	1.05	1.01	.681	.718		.270	.00298	.273	.201			2.00	2.00	1.32	1.21
5.	1.50	1.50	.939	.900	.556	.600		.357	.00583	.363	.284			1.86	1.86	1.30	1.18
6.	1.32	1.32	.851	.804	.471	.516		.440	.00892	.449	.367			1.77	1.77	1.30	1.17
8.	1.08	1.08	.721	.671	.360	.409		.561	.0153	.576	.491			1.66	1.66	1.30	1.16
10.	.921	.921	.629	.577	.291	.344		.676	.0211	.697	.602			1.62	1.62	1.33	1.18
15.	.681	.681	.484	.425	.198	.256		.870	.0330	.903	.779			1.58	1.58	1.39	1.20
20.	.547	.547	.397	.335	.150	.212		1.02	.0419	1.06	.890			1.61	1.61	1.46	1.23
30.	.398	.398	.298	.235	.101	.163		1.23	.0560	1.29	1.02			1.69	1.69	1.59	1.26
40.	.316	.316	.240	.180	.0760	.136		1.38	.0664	1.45	1.08			1.77	1.77	1.69	1.26
50.	.264	.264	.203	.142	.0608	.122		1.48	.0733	1.55	1.10			1.81	1.81	1.75	1.24
60.	.228	.228	.177	.118	.0509	.110		1.57	.0799	1.65	1.12			1.88	1.88	1.83	1.24
80.	.179	.179	.141	.0841	.0383	.0949		1.69	.0891	1.78	1.12			1.96	1.96	1.92	1.20
100.	.149	.149	.118	.0638	.0307	.0852		1.79	.0959	1.89	1.12			2.04	2.04	2.01	1.18

18 ARGON
(cm²/g = 0.01508 x barns/atom)

E (MeV)	($\frac{\sigma}{\rho}$) _{inc,t} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,t} ^{BD}	($\frac{\sigma}{\rho}$) _{inc,a} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,a} ^{BD}	($\frac{\sigma}{\rho}$) _{inc,s} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,s} ^{BD}	($\frac{\sigma}{\rho}$) _{coh}	($\frac{\sigma}{\rho}$) _n	($\frac{\sigma}{\rho}$) _e	($\frac{\sigma}{\rho}$) _t	($\frac{\sigma}{\rho}$) _a	($\frac{\sigma}{\rho}$) _{tot,t}	($\frac{\sigma}{\rho}$) _{tot,t-coh}	($\frac{\sigma}{\rho}$) _{tot,a}	($\frac{\sigma}{\rho}$) _{tot,en}
.001	.179	.00719	.000350	.0000140	.179	.00718	3.03			3540.	3541.	3540.	3540.	3540.	3540.
.0015	.179	.0143	.000523	.0000418	.179	.0143	2.84			1110.	1111.	1120.	1110.	1110.	1110.
.002	.179	.0222	.000695	.0000860	.178	.0226	2.59			493.	491.	496.	493.	493.	493.
.003	.178	.0371	.00103	.000216	.178	.0369	2.13			155.	154.	157.	155.	155.	155.
K .003203	.178	.0398	.00110	.000246	.178	.0395	2.04			129.	124.	131.	129.	129.	129.
										1480.	1351.	1480.	1480.	1480.	1350.
.004	.178	.0502	.00137	.000386	.176	.0498	1.75			798.	743.	799.	798.	798.	742.
.005	.176	.0609	.00169	.000584	.175	.0603	1.45			431.	407.	433.	431.	431.	407.
.006	.176	.0697	.00202	.000798	.175	.0689	1.24			261.	249.	262.	261.	261.	249.
.008	.175	.0831	.00265	.00126	.172	.0819	.950			118.	111.	119.	118.	118.	113.
.01	.173	.0932	.00326	.00175	.170	.0914	.760			63.8	61.0	64.7	63.9	63.8	62.0
.015	.170	.111	.00472	.00306	.166	.108	.489			19.6	19.3	20.2	19.8	19.6	19.3
.02	.167	.122	.00605	.00439	.161	.117	.311			8.17	8.05	8.61	8.29	8.17	8.05
.03	.163	.132	.00844	.00685	.154	.125	.186			2.29	2.23	2.59	2.43	2.31	2.28
.04	.157	.135	.0105	.00902	.147	.126	.105			.935	.929	1.17	1.07	.946	.938
.05	.152	.136	.0123	.0110	.140	.125	.0725			.464	.461	.673	.600	.477	.472
.06	.148	.136	.0139	.0127	.134	.123	.0531			.264	.262	.452	.400	.277	.274
.08	.140	.132	.0164	.0155	.124	.117	.0315			.109	.108	.273	.241	.125	.124
.1	.134	.128	.0184	.0176	.115	.110	.0208			.0544	.0543	.204	.182	.0728	.0719
.15	.120	.118	.0219	.0214	.0986	.0962	.00967			.0154	.0154	.143	.133	.0372	.0368
.2	.110	.109	.0238	.0235	.0864	.0852	.00556			.00633	.00632	.121	.115	.0302	.0299
.3	.0999	.0992	.0259	.0256	.0701	.0695	.00253			.00181	.00181	.0995	.0970	.0277	.0274
.4	.0860	.0855	.0267	.0265	.0593	.0590	.00145			.000757	.000757	.0878	.0863	.0274	.0273
.5	.0784	.0781	.0268	.0267	.0517	.0514	.000944			.000395	.000395	.0795	.0786	.0273	.0271
.6	.0725	.0724	.0267	.0265	.0460	.0458	.000644			.000241	.000241	.0733	.0727	.0270	.0268
.8	.0638	.0536	.0261	.0258	.0377	.0379	.000366			.000118	.000118	.0641	.0638	.0262	.0259
1.	.0573	.0573	.0252	.0250	.0321	.0323	.000235			.0000694	.0000694	.0576	.0573	.0252	.0250
1.5	.0466	.0466	.0231	.0228	.0235	.0238	.000106	.000222	.0000764	.0000339	.0000339	.0469	.0469	.0234	.0229
2.	.0397	.0397	.0211	.0208	.0187	.0188	.0000603	.0000875	.0000425	.0000204	.0000204	.0406	.0406	.0220	.0213
3.	.0312	.0312	.0181	.0175	.0132	.0137	.0000265	.000246	.0000110			.0338	.0336	.0205	.0192
4.	.0261	.0261	.0158	.0152	.0103	.0108		.00407	.0000449	.00412	.00303	.0302	.0302	.0199	.0182
5.	.0226	.0226	.0142	.0136	.00838	.00905		.00538	.0000879	.00547	.00428	.0280	.0280	.0196	.0178
6.	.0199	.0199	.0128	.0121	.00710	.00778		.00664	.000135	.00677	.00553	.0267	.0267	.0196	.0176
8.	.0163	.0163	.0109	.0101	.00543	.00617		.00846	.000231	.00869	.00740	.0250	.0250	.0196	.0175
10.	.0139	.0139	.00949	.00870	.00435	.00519		.0102	.000318	.0105	.00908	.0244	.0244	.0201	.0178
15.	.0103	.0103	.00730	.00641	.00295	.00386		.0131	.000498	.0136	.0117	.0238	.0238	.0210	.0181
20.	.00825	.00825	.00599	.00505	.00226	.00320		.0154	.000632	.0160	.0134	.0243	.0243	.0220	.0185
30.	.00600	.00600	.00449	.00354	.00152	.00246		.0185	.000844	.0195	.0154	.0255	.0255	.0240	.0190
40.	.00477	.00477	.00362	.00271	.00112	.00205		.0208	.00100	.0219	.0163	.0267	.0267	.0255	.0190
50.	.00398	.00398	.00306	.00214	.000917	.00184		.0223	.00111	.0234	.0166	.0273	.0273	.0264	.0187
60.	.00344	.00344	.00267	.00178	.000768	.00166		.0237	.00120	.0249	.0169	.0284	.0284	.0276	.0187
80.	.00270	.00270	.00213	.00127	.000578	.00143		.0255	.00134	.0268	.0169	.0296	.0296	.0290	.0181
100.	.00225	.00225	.00178	.000962	.000463	.00128		.0270	.00145	.0285	.0169	.0308	.0308	.0303	.0178

19 POTASSIUM
 (barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{nn}	σ_{ne}	$\sigma_{n,t}$	$\sigma_{n,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	12.6	.786	.0245	.00153	12.6	.784	217.					298000.	298000.	298000.	298000.	298000.	298000.
.0015	12.6	1.27	.0367	.00370	12.5	1.27	221.					93500.	93500.	93700.	93500.	93500.	93500.
.002	12.5	1.76	.0487	.00683	12.5	1.75	155.					41500.	41500.	41700.	41500.	41500.	41500.
.003	12.5	2.70	.0724	.0156	12.4	2.68	154.					13000.	13000.	13200.	13000.	13000.	13000.
K .003607	12.5	3.22	.0866	.0224	12.4	3.20	138.					7740.	7740.	7880.	7740.	7740.	7740.
.004	12.4	3.55	.0958	.0273	12.3	3.52	128.					86000.	76700.	86100.	86000.	86000.	76700.
.005	12.4	4.27	.119	.0409	12.3	4.23	137.					64200.	58000.	64300.	64200.	64200.	58000.
.006	12.3	4.87	.141	.0558	12.2	4.81	91.0					34800.	32100.	34900.	34800.	34800.	32100.
.008	12.3	5.81	.186	.088	12.1	5.72	59.5					21100.	19700.	21200.	21100.	21100.	19700.
.01	12.2	6.50	.228	.122	11.9	6.38	55.7					9600.	9130.	9680.	9610.	9600.	9130.
.015	11.9	7.69	.330	.213	11.6	7.48	84.8					5200.	5000.	5260.	5210.	5200.	5000.
.02	11.7	8.44	.424	.305	11.3	8.14	23.3					1610.	1570.	1650.	1620.	1610.	1570.
.03	11.4	9.16	.591	.477	10.8	8.68	12.5					678.	665.	710.	686.	678.	665.
.04	11.0	9.42	.733	.628	10.3	8.79	7.89					195.	192.	217.	204.	196.	192.
.05	10.7	9.49	.861	.766	9.81	8.72	5.46					78.6	77.8	95.9	88.0	79.3	78.4
.06	10.4	9.45	.973	.887	9.40	8.56	4.01					39.4	39.1	54.3	48.9	40.3	39.9
.08	9.83	9.23	1.15	1.08	8.68	8.15	2.39					22.2	22.1	35.7	31.6	23.2	23.0
.1	9.36	8.94	1.29	1.23	8.07	7.71	1.57					9.22	9.18	20.8	18.4	10.4	10.3
.15	8.43	8.22	1.53	1.49	6.90	6.73	.731					4.60	4.58	15.1	13.5	9.89	9.81
.2	7.72	7.60	1.67	1.64	6.05	5.96	.421					1.31	1.31	10.3	9.53	2.84	2.80
.3	6.71	6.66	1.81	1.80	4.91	4.86	.191					.537	.536	8.56	8.14	2.21	2.18
.4	6.02	5.98	1.86	1.85	4.15	4.13	.109					.154	.154	7.00	6.81	1.96	1.95
.5	5.49	5.47	1.87	1.87	3.62	3.60	.0711					.0645	.0644	6.15	6.04	1.92	1.91
.6	5.08	5.07	1.87	1.86	3.21	3.21	.0490					.0344	.0344	5.58	5.50	1.90	1.90
.8	4.46	4.45	1.83	1.80	2.64	2.65	.0278					.0210	.0210	5.14	5.09	1.89	1.88
1.	4.01	4.01	1.77	1.75	2.25	2.26	.0178					.0103	.0103	4.49	4.46	1.84	1.81
1.5	3.26	3.26	1.61	1.59	1.65	1.67	.00810	.0165		.0165	.00525	.00613	.00613	4.03	4.02	1.78	1.76
2.	2.78	2.78	1.48	1.46	1.30	1.32	.00458	.0647		.0647	.0314	.00300	.00300	3.29	3.28	1.63	1.60
3.	2.19	2.19	1.26	1.23	.924	.961	.00204	.181	.000767	.182	.119	.00182	.00182	2.85	2.85	1.55	1.49
4.	1.83	1.83	1.11	1.07	.719	.761	.00115	.300	.00315	.303	.223			2.37	2.37	1.44	1.35
5.	1.58	1.58	.991	.946	.587	.634		.400	.00615	.406	.318			2.13	2.13	1.41	1.29
6.	1.39	1.39	.898	.844	.497	.546		.490	.00942	.499	.407			1.99	1.99	1.40	1.26
8.	1.14	1.14	.761	.707	.380	.433		.625	.0161	.641	.545			1.89	1.89	1.40	1.25
10.	.972	.972	.664	.606	.308	.366		.755	.0223	.777	.670			1.78	1.78	1.40	1.25
15.	.719	.719	.511	.446	.209	.273		.970	.0348	1.00	.863			1.75	1.75	1.44	1.28
20.	.577	.577	.420	.353	.158	.224		1.13	.0442	1.17	.975			1.72	1.72	1.51	1.31
30.	.420	.420	.314	.244	.106	.176		1.37	.0590	1.43	1.12			1.75	1.75	1.59	1.33
40.	.334	.334	.254	.186	.0802	.148		1.53	.0700	1.60	1.19			1.85	1.85	1.74	1.36
50.	.279	.279	.215	.146	.0642	.133		1.65	.0772	1.73	1.21			1.93	1.93	1.85	1.38
60.	.240	.240	.186	.119	.0538	.121		1.74	.0841	1.82	1.22			2.01	2.01	1.94	1.36
80.	.189	.189	.149	.0832	.0405	.106		1.87	.0940	1.96	1.22			2.06	2.06	2.01	1.34
100.	.157	.157	.125	.0612	.0324	.0958		1.99	.101	2.09	1.22			2.15	2.15	2.11	1.30
														2.25	2.25	2.22	1.26

19 POTASSIUM
(cm²/g = 0.01540 x barns/atom)

E (MeV)	($\frac{\sigma}{\sigma_0}$) _{inc, s}	($\frac{\sigma}{\sigma_0}$) _{inc, t}	($\frac{\sigma}{\sigma_0}$) _{inc, a}	($\frac{\sigma}{\sigma_0}$) _{inc, a}	($\frac{\sigma}{\sigma_0}$) _{inc, s}	($\frac{\sigma}{\sigma_0}$) _{inc, s}	($\frac{\sigma}{\sigma_0}$) _{coh}	($\frac{\sigma}{\sigma_0}$) _{en}	($\frac{\sigma}{\sigma_0}$) _{ec}	($\frac{\sigma}{\sigma_0}$) _{xt}	($\frac{\sigma}{\sigma_0}$) _{xt}	($\frac{\sigma}{\sigma_0}$) _{xt}	($\frac{\sigma}{\sigma_0}$) _{xt}	($\frac{\sigma}{\sigma_0}$) _{xt}	($\frac{\sigma}{\sigma_0}$) _{tot, t}	($\frac{\sigma}{\sigma_0}$) _{tot, t-coh}	($\frac{\sigma}{\sigma_0}$) _{tot, a}	($\frac{\sigma}{\sigma_0}$) _{tot, en}
.001	.194	.0121	.000377	.0000236	.194	.0121	3.34						4590.	4590.	4590.	4590.	4590.	4590.
.0015	.194	.0196	.000565	.0000570	.192	.0196	3.10						1440.	1440.	1440.	1440.	1440.	1440.
.002	.192	.0271	.000750	.000105	.192	.0270	2.85						639.	639.	642.	639.	639.	639.
.003	.192	.0416	.00111	.000240	.191	.0413	2.37						200.	200.	203.	200.	200.	200.
K .003607	.192	.0496	.00133	.000345	.191	.0493	2.13						119.	119.	121.	119.	119.	119.
.004	.191	.0547	.00148	.000420	.189	.0542	1.97						1320.	1180.	1330.	1320.	1320.	1180.
.005	.191	.0658	.00183	.000630	.189	.0651	1.65						980.	893.	990.	989.	989.	893.
.006	.189	.0750	.00217	.000859	.188	.0741	1.40						536.	494.	537.	536.	536.	494.
.008	.189	.0895	.00286	.00136	.186	.0881	1.07						325.	303.	326.	325.	325.	303.
.01	.188	.100	.00351	.00188	.183	.0983	.858						141.	141.	149.	148.	148.	141.
.015	.183	.118	.00508	.00328	.179	.115	.536						81.0	77.0	81.0	80.2	80.1	77.0
.02	.180	.130	.00653	.00470	.174	.125	.359						24.8	24.2	25.4	24.9	24.8	24.2
.03	.176	.141	.00910	.00735	.166	.134	.192						10.4	10.2	10.9	10.6	10.4	10.2
.04	.169	.145	.0113	.00967	.159	.135	.122						3.00	2.96	3.34	3.14	3.02	2.96
.05	.165	.146	.0133	.0118	.151	.134	.0841						.21	1.20	1.48	1.36	1.22	1.21
.06	.160	.146	.0150	.0137	.145	.132	.0618						.607	.602	.836	.753	.621	.614
.08	.151	.142	.0177	.0166	.134	.126	.0368						.342	.340	.550	.487	.357	.354
.1	.144	.138	.0199	.0189	.124	.119	.0242						.142	.141	.320	.283	.160	.159
.15	.130	.127	.0236	.0229	.106	.104	.0113						.0708	.0705	.233	.208	.0907	.0895
.2	.119	.117	.0257	.0253	.0932	.0918	.00648						.0202	.0202	.159	.147	.0437	.0431
.3	.103	.103	.0279	.0277	.0756	.0748	.00294						.00827	.00825	.132	.125	.0340	.0336
.4	.0927	.0921	.0286	.0285	.0635	.0636	.00168						.00237	.00237	.108	.105	.0302	.0300
.5	.0845	.0842	.0288	.0288	.0551	.0554	.00109						.000993	.000992	.0947	.0930	.0296	.0294
.6	.0782	.0781	.0288	.0286	.0494	.0494	.000755						.000530	.000530	.0859	.0847	.0293	.0293
.8	.0687	.0685	.0282	.0277	.0401	.0408	.000428						.000323	.000323	.0792	.0784	.0291	.0290
1.	.0618	.0618	.0273	.0270	.0344	.0348	.000274						.000159	.000159	.0691	.0687	.0283	.0279
1.5	.0502	.0502	.0248	.0245	.0254	.0257	.000125	.000254	.0000808				.0000944	.0000944	.0621	.0619	.0274	.0271
2.	.0428	.0428	.0228	.0225	.0200	.0203	.0000705	.0000996	.0000884				.0000462	.0000462	.0507	.0505	.0251	.0246
3.	.0337	.0337	.0194	.0189	.0142	.0148	.0000314	.000279	.0000118	.0000996	.0000884		.0000280	.0000280	.0439	.0439	.0239	.0229
4.	.0282	.0282	.0171	.0165	.0111	.0117	.0000177	.000462	.0000485	.000467	.00343				.0365	.0365	.0222	.0208
5.	.0243	.0243	.0153	.0146	.00944	.00976		.000616	.0000947	.000625	.00490				.0328	.0328	.0217	.0199
6.	.0214	.0214	.0138	.0130	.00765	.00841		.00616	.000145	.00768	.00627				.0306	.0306	.0216	.0194
8.	.0176	.0176	.0117	.0109	.00585	.00667		.00755	.000145	.00768	.00627				.0291	.0291	.0216	.0192
10.	.0150	.0150	.0102	.00933	.00474	.00564		.00962	.000248	.00987	.00839				.0274	.0274	.0216	.0192
15.	.0111	.0111	.00787	.00687	.00322	.00420		.0116	.000343	.0120	.0103				.0270	.0270	.0222	.0197
20.	.00889	.00889	.00647	.00544	.00243	.00345		.0149	.000536	.0154	.0133				.0265	.0265	.0233	.0202
30.	.00647	.00647	.00484	.00376	.00183	.00271		.0174	.000681	.0180	.0150				.0270	.0270	.0245	.0205
40.	.00514	.00514	.00391	.00286	.00124	.00228		.0211	.000909	.0220	.0172				.0285	.0285	.0268	.0209
50.	.00430	.00430	.00331	.00225	.000989	.00205		.0236	.001108	.0246	.0183				.0297	.0297	.0285	.0213
60.	.00370	.00370	.00286	.00183	.000829	.00186		.0254	.00119	.0266	.0186				.0310	.0310	.0299	.0209
80.	.00291	.00291	.00229	.00128	.000524	.00163		.0268	.00130	.0280	.0188				.0317	.0317	.0310	.0206
100.	.00242	.00242	.00193	.000942	.000499	.00148		.0288	.00145	.0302	.0188				.0331	.0331	.0325	.0200
								.0306	.00156	.0322	.0188				.0346	.0346	.0342	.0197

20 CALCIUM
 (barns/atom)

E (MeV)	$\sigma_{\text{KN}}^{\text{inc,t}}$	$\sigma_{\text{BD}}^{\text{inc,t}}$	$\sigma_{\text{KN}}^{\text{inc,a}}$	$\sigma_{\text{BD}}^{\text{inc,a}}$	$\sigma_{\text{KN}}^{\text{inc,s}}$	$\sigma_{\text{BD}}^{\text{inc,s}}$	T_{coh}	σ_{xn}	σ_{xe}	$\sigma_{\text{x,t}}$	$\sigma_{\text{x,a}}$	$\sigma_{\text{r,t}}$	$\sigma_{\text{r,a}}$	$\sigma_{\text{tot,t}}$	$\sigma_{\text{tot,t-coh}}$	$\sigma_{\text{tot,a}}$	$\sigma_{\text{tot,en}}$
.001	13.3	.984	.0258	.00192	13.2	.982	239.					375000.	375000.	375000.	375000.	375000.	375000.
.0015	13.2	1.56	.0386	.00455	13.2	1.56	239.					118000.	118000.	118000.	118000.	118000.	118000.
.002	13.2	2.06	.0512	.00799	13.1	2.05	200.					52100.	52100.	52300.	52100.	52100.	52100.
.003	13.1	2.98	.0762	.0173	13.1	2.96	167.					16400.	16400.	16600.	16400.	16400.	16400.
.004	13.1	3.80	.101	.0292	13.0	3.77	140.					7250.	7250.	7390.	7250.	7250.	7250.
.004037	13.1	3.63	.102	.0297	13.0	3.60	139.					7030.	7030.	7170.	7030.	7030.	7030.
.005	13.0	4.52	.125	.0433	12.9	4.48	138.					75800.	66300.	75900.	75800.	75800.	66300.
.006	13.0	5.14	.149	.0589	12.9	5.08	100.					42200.	37900.	42300.	42200.	42200.	37900.
.008	12.9	6.12	.195	.0927	12.7	6.03	76.3					25500.	23400.	25600.	25500.	25500.	23400.
.01	12.8	6.83	.240	.128	12.6	6.70	61.0					11900.	10800.	11800.	11900.	11900.	10800.
.015	12.6	8.05	.348	.223	12.2	7.83	36.7					6250.	5930.	6320.	6250.	6250.	5930.
.02	12.4	8.82	.446	.318	11.9	8.50	26.1					1950.	1880.	2000.	1960.	1950.	1880.
.03	11.9	9.59	.622	.499	11.3	9.09	14.0					837.	816.	872.	846.	837.	816.
.04	11.6	9.87	.772	.658	10.8	9.21	8.87					244.	240.	268.	254.	245.	240.
.05	11.2	9.94	.906	.802	10.3	9.14	6.15					99.7	98.4	118.	110.	100.	99.1
.06	10.9	9.91	1.02	.930	9.89	8.98	4.52					49.7	49.2	65.8	59.6	50.6	50.0
.08	10.3	9.69	1.21	1.13	9.13	8.56	2.70					28.3	28.1	42.7	38.2	29.3	29.0
.1	9.85	9.39	1.36	1.30	8.50	8.09	1.78					11.5	11.4	23.9	21.2	12.7	12.5
.15	8.87	8.64	1.61	1.57	7.26	7.07	.827					5.82	5.79	17.0	15.2	7.18	7.00
.2	8.13	7.99	1.76	1.73	6.37	6.26	.476					1.66	1.65	11.1	10.3	3.27	3.22
.3	7.07	7.00	1.91	1.89	5.16	5.11	.217					.686	.684	9.15	8.68	2.45	2.41
.4	6.33	6.30	1.96	1.95	4.37	4.35	.123					.196	.196	7.41	7.20	2.11	2.09
.5	5.78	5.76	1.97	1.97	3.81	3.79	.0799					.0840	.0839	6.51	6.38	2.04	2.03
.6	5.35	5.33	1.97	1.96	3.38	3.37	.0558					.0451	.0451	5.88	5.81	2.02	2.02
.8	4.70	4.69	1.92	1.90	2.78	2.79	.0316					.0277	.0277	5.41	5.36	2.00	1.99
1.	4.22	4.22	1.86	1.84	2.37	2.38	.0203					.0135	.0135	4.74	4.70	1.93	1.91
1.5	3.43	3.43	1.70	1.68	1.73	1.75	.00925	.0182		.0182	.00579	.00810	.00810	4.25	4.23	1.87	1.85
2.	2.93	2.93	1.55	1.54	1.37	1.39	.00522	.0720		.0720	.0349	.00402	.00402	3.46	3.45	1.72	1.69
3.	2.30	2.30	1.33	1.29	.973	1.01	.00232	.200	.000806	.201	.132	.00244	.00244	3.01	3.00	1.62	1.58
4.	1.92	1.92	1.17	1.12	.756	.803	.00131	.332	.00331	.335	.246	.00121	.00121	2.50	2.50	1.53	1.42
5.	1.66	1.66	1.04	.993	.618	.667		.441	.00650	.447	.349			2.26	2.25	1.51	1.37
6.	1.47	1.47	.946	.888	.523	.582		.540	.00993	.550	.447			2.11	2.11	1.49	1.34
8.	1.20	1.20	.801	.742	.400	.458		.692	.0170	.709	.601			2.02	2.02	1.50	1.34
10.	1.02	1.02	.699	.632	.324	.388		.835	.0235	.858	.737			1.91	1.91	1.51	1.34
15.	.757	.757	.538	.469	.220	.288		1.08	.0366	1.12	.952			1.88	1.88	1.66	1.42
20.	.608	.608	.442	.370	.166	.238		1.26	.0466	1.31	1.08			1.92	1.92	1.75	1.45
30.	.442	.442	.331	.254	.112	.188		1.51	.0622	1.57	1.22			2.01	2.01	1.90	1.47
40.	.352	.352	.267	.192	.0844	.160		1.69	.0737	1.76	1.30			2.11	2.11	2.03	1.49
50.	.294	.294	.226	.147	.0676	.147		1.83	.0814	1.91	1.32			2.20	2.20	2.14	1.47
60.	.253	.253	.196	.117	.0566	.136		1.93	.0882	2.02	1.33			2.27	2.27	2.22	1.45
80.	.199	.199	.157	.0796	.0426	.119		2.07	.0984	2.17	1.33			2.37	2.37	2.33	1.41
100.	.166	.166	.131	.0563	.0341	.110		2.20	.106	2.31	1.32			2.48	2.48	2.44	1.38

20 CALCIUM
(cm²/g = 0.01503 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{KN} inc,t	($\frac{\mu}{\rho}$) _{BD} inc,t	($\frac{\mu}{\rho}$) _{KN} inc,a	($\frac{\mu}{\rho}$) _{BD} inc,a	($\frac{\mu}{\rho}$) _{KN} inc,s	($\frac{\mu}{\rho}$) _{BD} inc,s	($\frac{\mu}{\rho}$) _{con}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{xc}	($\frac{\mu}{\rho}$) _{xt}	($\frac{\mu}{\rho}$) _{xa}	($\frac{\mu}{\rho}$) _{r,t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.501	.200	.0148	.000388	.0000289	.198	.0148	3.59					5643.	5640.	5640.	5640.	5640.	5640.
.0015	.198	.0284	.000580	.0000684	.198	.0234	3.29					1770.	1770.	1770.	1770.	1770.	1770.
.002	.198	.0310	.000770	.000120	.197	.0308	3.01					783.	783.	786.	783.	783.	783.
.003	.197	.0448	.00115	.000260	.197	.0445	2.51					246.	246.	249.	246.	246.	246.
.004	.197	.0571	.00152	.000439	.195	.0567	2.10					109.	109.	111.	109.	109.	109.
K .004037	.197	.0576	.00153	.000446	.195	.0571	2.09					106.	106.	108.	106.	106.	106.
.005	.195	.0679	.00188	.000651	.194	.0673	1.77					1140.	996.	1140.	1140.	1140.	996.
.006	.195	.0773	.00224	.000885	.194	.0764	1.50					634.	570.	636.	634.	634.	570.
.008	.194	.0920	.00293	.00139	.191	.0906	1.15					383.	352.	385.	383.	383.	352.
.01	.192	.103	.00361	.00192	.189	.101	.917					173.	162.	174.	173.	173.	162.
.015	.189	.121	.00523	.00335	.183	.118	.582					93.9	89.1	95.0	94.1	93.9	89.1
.02	.186	.133	.00670	.00478	.179	.128	.392					29.3	28.3	30.1	29.5	29.3	28.3
.03	.179	.144	.00935	.00750	.170	.137	.210					12.6	12.3	13.1	12.7	12.6	12.3
.04	.174	.148	.0116	.00989	.162	.138	.133					3.67	3.61	4.03	3.82	3.68	3.61
.05	.168	.149	.0136	.0121	.155	.137	.0924					1.50	1.48	1.77	1.65	1.50	1.49
.06	.164	.149	.0153	.0140	.149	.135	.0679					.747	.739	.989	.896	.761	.751
.08	.155	.146	.0182	.0170	.137	.129	.0406					.425	.422	.642	.574	.440	.436
.1	.148	.141	.0204	.0195	.128	.122	.0268					.173	.171	.359	.319	.191	.188
.15	.133	.130	.0242	.0236	.109	.106	.0124					.0875	.0870	.256	.228	.108	.107
.2	.122	.120	.0265	.0260	.0957	.0941	.00715					.0249	.0248	.167	.155	.0491	.0484
.3	.106	.105	.0287	.0284	.0776	.0768	.00326					.0103	.0103	.138	.130	.0368	.0362
.4	.0951	.0947	.0295	.0293	.0657	.0654	.00185					.00295	.00295	.111	.108	.0317	.0314
.5	.0869	.0866	.0296	.0296	.0573	.0570	.00120					.00126	.00126	.0978	.0959	.0307	.0305
.6	.0804	.0801	.0296	.0295	.0508	.0507	.000839					.000678	.000678	.0884	.0873	.0304	.0304
.8	.0706	.0705	.0289	.0286	.0418	.0419	.000475					.000416	.000416	.0813	.0806	.0301	.0299
1.	.0634	.0634	.0280	.0277	.0356	.0358	.000305					.000203	.000203	.0712	.0706	.0290	.0287
1.5	.0516	.0516	.0256	.0253	.0260	.0263	.000139	.000274				.000122	.000122	.0639	.0636	.0281	.0278
2.	.0440	.0440	.0233	.0231	.0206	.0209	.0000785	.000108	.000274	.0000870		.0000604	.0000604	.0520	.0519	.0259	.0254
3.	.0346	.0346	.0200	.0194	.0146	.0152	.0000349	.000101	.000108	.000525		.0000367	.0000367	.0452	.0451	.0243	.0237
4.	.0289	.0289	.0176	.0168	.0114	.0121	.0000197	.0000499	.0000497	.000302	.000198	.0000182	.0000182	.0376	.0376	.0230	.0213
5.	.0249	.0249	.0156	.0149	.00929	.0100		.0000977	.000504	.000370				.0340	.0338	.0227	.0206
6.	.0221	.0221	.0142	.0133	.00786	.00875		.00663	.000149	.00827	.00525			.0317	.0317	.0224	.0201
8.	.0180	.0180	.0120	.0112	.00601	.00688		.00812	.000256	.0107	.00963			.0304	.0304	.0225	.0201
10.	.0153	.0153	.0105	.00950	.00487	.00583		.0104	.000353	.0129	.0111			.0287	.0287	.0227	.0201
15.	.0114	.0114	.00889	.00705	.00331	.00433		.0126	.000590	.0168	.0143			.0283	.0283	.0234	.0206
20.	.00914	.00914	.00664	.00556	.00245	.00358		.0162	.000700	.0197	.0162			.0289	.0289	.0249	.0218
30.	.00664	.00664	.00497	.00382	.00168	.00283		.0189	.000935	.0236	.0183			.0302	.0302	.0266	.0221
40.	.00529	.00529	.00401	.00289	.00127	.00240		.0227	.00111	.0265	.0195			.0317	.0317	.0286	.0224
50.	.00442	.00442	.00340	.00221	.00102	.00221		.0254	.00122	.0287	.0198			.0331	.0331	.0322	.0221
60.	.00380	.00380	.00295	.00176	.000851	.00204		.0275	.00133	.0304	.0200			.0341	.0341	.0334	.0218
80.	.00299	.00299	.00236	.00120	.000640	.00179		.0290	.00148	.0326	.0200			.0356	.0356	.0350	.0212
100.	.00249	.00249	.00197	.000846	.000513	.00165		.0311	.00159	.0347	.0198			.0373	.0373	.0367	.0207

21 SCANDIUM
 (barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	13.9	.922	.0271	.00180	13.9	.920	265.					463000.	463000.	463000.	463000.	463000.	463000.
.0015	13.9	1.52	.0405	.00443	13.8	1.52	244.					145000.	145000.	145000.	145000.	145000.	145000.
.002	13.9	2.05	.0538	.00795	13.8	2.04	224.					64400.	64400.	64400.	64400.	64400.	64400.
.003	13.8	2.99	.0800	.0173	13.7	2.97	187.					20300.	20300.	20500.	20300.	20300.	20300.
.004	13.8	3.84	.106	.0295	13.6	3.81	157.					8960.	8960.	9120.	8960.	8960.	8960.
K .004491	13.7	4.21	.118	.0363	13.6	4.17	144.					6430.	6430.	6580.	6430.	6430.	6430.
												67400.	57700.	67500.	67400.	67400.	57700.
.005	13.7	4.58	.131	.0439	13.6	4.54	132.					50400.	43900.	50500.	50400.	50400.	43900.
.006	13.6	5.23	.156	.0599	13.5	5.17	112.					30600.	27300.	30700.	30600.	30600.	27300.
.008	13.5	6.27	.205	.0949	13.3	6.18	85.0					13700.	12600.	13800.	13700.	13700.	12600.
.01	13.4	7.05	.252	.132	13.2	6.92	57.7					7400.	6920.	7470.	7410.	7400.	6920.
.015	13.2	8.35	.365	.231	12.8	8.12	43.0					2370.	2270.	2420.	2380.	2370.	2270.
.02	13.0	9.17	.468	.331	12.5	8.84	29.2					1010.	977.	1050.	1020.	1010.	977.
.03	12.5	10.0	.653	.520	11.9	9.48	15.8					302.	296.	328.	312.	303.	297.
.04	12.2	10.3	.811	.687	11.3	9.61	9.95					123.	121.	143.	133.	124.	122.
.05	11.8	10.4	.951	.839	10.8	9.56	6.91					61.5	60.7	78.8	71.9	62.5	61.5
.06	11.5	10.4	1.07	.976	10.4	9.42	5.08					35.0	34.6	50.5	45.4	36.1	35.6
.08	10.9	10.1	1.27	1.18	9.59	8.92	3.04					14.5	14.4	27.6	24.6	15.8	15.6
.1	10.3	9.84	1.43	1.36	8.92	8.48	2.00					7.30	7.25	19.1	17.1	8.73	8.61
.15	9.32	9.06	1.69	1.64	7.63	7.42	.932					2.09	2.08	12.1	11.1	3.78	3.72
.2	8.53	8.38	1.85	1.81	6.59	6.37	.537					.860	.857	9.78	9.24	2.71	2.67
.3	7.42	7.35	2.00	1.98	5.42	5.37	.244					.247	.246	7.84	7.60	2.25	2.23
.4	6.65	6.61	2.06	2.05	4.39	4.56	.139					.107	.107	6.86	6.72	2.17	2.16
.5	6.07	6.04	2.07	2.07	4.00	3.97	.0901					.0578	.0577	6.19	6.10	2.13	2.13
.6	5.62	5.60	2.06	2.06	3.55	3.54	.0633					.0357	.0357	5.70	5.64	2.10	2.10
.8	4.93	4.92	2.02	1.99	2.92	2.93	.0359					.0175	.0175	4.97	4.94	2.04	2.01
1.	4.44	4.43	1.95	1.93	2.48	2.50	.0230					.0105	.0105	4.46	4.44	1.96	1.94
1.5	3.60	3.60	1.78	1.76	1.82	1.84	.0104	.0202		.0202	.00636		.00510	3.64	3.63	1.81	1.77
2.	3.07	3.07	1.63	1.61	1.44	1.46	.00590	.0791		.0791	.0380		.00319	3.16	3.15	1.71	1.65
3.	2.42	2.42	1.39	1.36	1.02	1.06	.00261	.221	.000849	.222	.144		.00162	2.65	2.64	1.61	1.51
4.	2.02	2.02	1.23	1.18	.794	.844	.00148	.369	.00347	.372	.271		.00105	2.39	2.39	1.60	1.45
5.	1.74	1.74	1.10	1.04	.649	.701		.489	.00681	.496	.383			2.24	2.24	1.60	1.42
6.	1.54	1.54	.993	.927	.549	.613		.596	.0105	.606	.488			2.15	2.15	1.60	1.41
8.	1.26	1.26	.841	.775	.420	.485		.760	.0178	.778	.650			2.04	2.04	1.62	1.42
10.	1.07	1.07	.734	.659	.340	.411		.920	.0246	.945	.800			2.02	2.02	1.68	1.46
15.	.795	.795	.564	.490	.231	.305		1.19	.0385	1.23	1.03			2.02	2.02	1.79	1.52
20.	.638	.638	.464	.386	.175	.252		1.38	.0489	1.43	1.16			2.07	2.07	1.89	1.55
30.	.465	.465	.347	.263	.117	.202		1.67	.0651	1.74	1.32			2.20	2.20	2.09	1.58
40.	.369	.369	.281	.196	.0866	.173		1.85	.0773	1.93	1.39			2.30	2.30	2.21	1.59
50.	.308	.308	.237	.148	.0710	.160		2.00	.0852	2.09	1.41			2.40	2.40	2.33	1.56
60.	.265	.265	.206	.117	.0594	.148		2.12	.0928	2.21	1.42			2.47	2.47	2.42	1.54
80.	.209	.209	.165	.0784	.0447	.131		2.29	.103	2.39	1.44			2.60	2.60	2.55	1.52
100.	.174	.174	.138	.0560	.0358	.118		2.42	.111	2.53	1.42			2.70	2.70	2.67	1.48

21 SCANDIUM
(cm²/g = 0.01340 x barns/atom)

E (MeV)	($\frac{\sigma}{\rho}$) _{inc,t} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,t} ^{BD}	($\frac{\sigma}{\rho}$) _{inc,a} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,a} ^{BD}	($\frac{\sigma}{\rho}$) _{inc,s} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,s} ^{BD}	($\frac{\sigma}{\rho}$) _{coh}	($\frac{\sigma}{\rho}$) _{x,n}	($\frac{\sigma}{\rho}$) _{x,e}	($\frac{\sigma}{\rho}$) _{x,t}	($\frac{\sigma}{\rho}$) _{x,a}	($\frac{\sigma}{\rho}$) _{t,t}	($\frac{\sigma}{\rho}$) _{t,t-coh}	($\frac{\sigma}{\rho}$) _{t,a}	($\frac{\sigma}{\rho}$) _{t,en}
.001	.186	.124	.000363	.0000241	.186	.0123	3.55					6200.	6200.	6200.	6200.
.0015	.186	.124	.000543	.0000594	.185	.0204	3.27					1940.	1940.	1940.	1940.
.002	.186	.124	.000721	.000107	.185	.0273	3.00					863.	863.	863.	863.
.003	.185	.124	.00107	.000232	.184	.0398	2.51					272.	272.	272.	272.
.004	.185	.124	.00142	.000395	.182	.0511	2.10					120.	120.	120.	120.
K .004491	.184	.124	.00158	.000486	.182	.0559	1.93					86.2	86.2	86.2	86.2
.005	.184	.124	.00176	.000588	.182	.0608	1.77					903.	903.	903.	903.
.006	.182	.124	.00209	.000803	.181	.0693	1.56					675.	675.	675.	675.
.008	.181	.124	.00275	.00127	.178	.0828	1.14					416.	416.	416.	416.
.01	.180	.124	.00338	.00177	.177	.0927	.907					184.	184.	184.	184.
.015	.177	.124	.00489	.00310	.172	.109	.576					95.2	95.2	95.2	95.2
.02	.174	.124	.00627	.00444	.167	.118	.391					31.8	31.8	31.8	31.8
.03	.167	.124	.00875	.00697	.159	.127	.212					13.5	13.5	13.5	13.5
.04	.163	.124	.0109	.00921	.151	.129	.133					4.05	4.05	4.05	4.05
.05	.158	.124	.0127	.0112	.145	.128	.0926					1.65	1.65	1.65	1.65
.06	.154	.124	.0139	.0131	.139	.126	.0681					.824	.824	.824	.824
.08	.146	.124	.0170	.0158	.129	.120	.0467					.469	.469	.469	.469
.1	.138	.124	.0192	.0182	.120	.114	.0268					.194	.194	.194	.194
.15	.125	.124	.0226	.0220	.102	.0994	.0125					.0978	.0978	.0978	.0978
.2	.114	.124	.0248	.0243	.0896	.0880	.00720					.0280	.0280	.0280	.0280
.3	.0994	.124	.0268	.0265	.0726	.0720	.00327					.0115	.0115	.0115	.0115
.4	.0894	.124	.0276	.0275	.0615	.0611	.00186					.00331	.00331	.00331	.00331
.5	.0813	.124	.0277	.0277	.0536	.0532	.00121					.00143	.00143	.00143	.00143
.6	.0753	.124	.0276	.0276	.0474	.0474	.000848					.000775	.000775	.000775	.000775
.8	.0661	.124	.0271	.0267	.0391	.0393	.000481					.000478	.000478	.000478	.000478
1.	.0595	.124	.0261	.0259	.0332	.0335	.000308					.000234	.000234	.000234	.000234
1.5	.0482	.124	.0239	.0236	.0244	.0247	.000139	.000271	.000271	.000052		.000141	.000141	.000141	.000141
2.	.0411	.124	.0218	.0216	.0193	.0196	.0000791	.000106	.000106	.000509		.0000683	.0000683	.0000683	.0000683
3.	.0326	.124	.0186	.0182	.0137	.0142	.0000350	.000296	.0000114	.000297	.000193	.0000427	.0000427	.0000427	.0000427
4.	.0271	.124	.0165	.0158	.0106	.0113	.0000198	.000494	.0000465	.000498	.000363	.0000217	.0000217	.0000217	.0000217
5.	.0233	.124	.0147	.0139	.00870	.00939		.00695	.0000913	.00665	.00513	.0000141	.0000141	.0000141	.0000141
6.	.0206	.124	.0133	.0124	.00736	.00821		.00799	.000141	.00812	.00654				
8.	.0169	.124	.0113	.0104	.00563	.00650		.0102	.000239	.0104	.00871				
10.	.0143	.124	.00984	.00883	.00456	.00551		.0123	.000330	.0127	.0107				
15.	.0107	.124	.00756	.00657	.00310	.00409		.0159	.000516	.0165	.0138				
20.	.00855	.124	.00622	.00517	.00234	.00338		.0185	.000655	.0192	.0155				
30.	.00623	.124	.00465	.00352	.00157	.00271		.0224	.000872	.0233	.0177				
40.	.00494	.124	.00377	.00263	.00119	.00232		.0248	.00104	.0259	.0186				
50.	.00413	.124	.00318	.00198	.000951	.00214		.0268	.00114	.0280	.0189				
60.	.00355	.124	.00276	.00157	.000796	.00198		.0284	.00124	.0296	.0190				
80.	.00286	.124	.00221	.00105	.000599	.00176		.0307	.00138	.0320	.0193				
100.	.00233	.124	.00185	.000750	.000480	.00158		.0324	.00149	.0339	.0190				

22 TITANIUM
 (barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xc}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	14.6	.852	.0284	.00166	14.5	.850	293.					562000.	562000.	562000.	562000.	562000.	562000.
.0015	14.5	1.42	.0424	.00414	14.5	1.42	272.					177000.	177000.	177000.	177000.	177000.	177000.
.002	14.5	1.95	.0563	.00757	14.5	1.94	249.					78700.	78700.	79000.	78700.	78700.	78700.
.003	14.5	2.93	.0838	.0170	14.4	2.91	209.					24800.	24800.	25000.	24800.	24800.	24800.
.004	14.4	3.81	.111	.0293	14.3	3.78	176.					10800.	10800.	11000.	10800.	10800.	10800.
K .004966	14.4	4.57	.137	.0435	14.2	4.53	149.					5910.	5910.	6060.	5910.	5910.	5910.
												60400.	50500.	60600.	60400.	60400.	50500.
.005	14.4	4.60	.137	.0441	14.2	4.56	148.					59000.	49400.	59200.	59000.	59000.	49400.
.006	14.3	5.28	.164	.0605	14.1	5.22	126.					35800.	30900.	35900.	35800.	35800.	30900.
.008	14.2	6.40	.215	.0969	14.0	6.30	94.9					16200.	14600.	16300.	16200.	16200.	14600.
.01	14.1	7.25	.264	.136	13.8	7.11	75.1					8750.	8040.	8830.	8760.	8750.	8040.
.015	13.8	8.64	.383	.239	13.5	8.40	47.6					2820.	2670.	2880.	2830.	2820.	2670.
.02	13.6	9.52	.490	.344	13.1	9.18	32.6					1210.	1160.	1250.	1220.	1210.	1160.
.03	13.1	10.4	.684	.541	12.5	9.86	17.6					367.	357.	395.	377.	368.	358.
.04	12.7	10.7	.849	.714	11.9	9.99	11.1					151.	148.	173.	162.	152.	149.
.05	12.4	10.8	.997	.871	11.4	9.93	7.72					75.7	74.5	94.2	86.5	76.7	75.4
.06	12.0	10.8	1.13	1.01	10.9	9.79	5.69					43.2	42.6	59.7	54.0	44.3	43.6
.08	11.4	10.6	1.33	1.24	10.0	9.36	3.41					17.8	17.6	31.8	28.4	19.1	18.8
.1	10.8	10.3	1.50	1.42	9.35	8.88	2.24					9.00	8.93	21.5	19.3	10.5	10.3
.15	9.76	9.48	1.77	1.72	7.99	7.76	1.05					2.58	2.57	13.1	12.1	4.35	4.29
.2	8.94	8.77	1.93	1.90	7.01	6.87	.602					1.06	1.06	10.4	9.83	2.99	2.96
.3	7.77	7.70	2.10	2.08	5.68	5.62	.274					.308	.307	8.28	8.01	2.41	2.39
.4	6.97	6.92	2.16	2.15	4.81	4.77	.156					.133	.133	7.21	7.05	2.29	2.28
.5	6.36	6.33	2.17	2.16	4.19	4.17	.101					.0725	.0724	6.50	6.40	2.24	2.23
.6	5.88	5.86	2.16	2.15	3.72	3.71	.0710					.0452	.0451	5.98	5.91	2.21	2.20
.8	5.17	5.16	2.11	2.09	3.06	3.07	.0403					.0223	.0223	5.22	5.18	2.13	2.11
1.	4.65	4.64	2.04	2.02	2.60	2.62	.0259					.0135	.0135	4.68	4.65	2.05	2.03
1.5	3.78	3.77	1.87	1.84	1.91	1.93	.0117	.0223		.0223	.00702	.00645	.00645	3.81	3.80	1.90	1.88
2.	3.22	3.22	1.71	1.68	1.51	1.54	.00662	.0870		.0870	.0418	.00405	.00405	3.32	3.31	1.80	1.78
3.	2.53	2.53	1.46	1.42	1.07	1.11	.00295	.243	.000890	.244	.198	.00208	.00208	2.78	2.78	1.71	1.69
4.	2.12	2.12	1.28	1.23	.832	.888	.00166	.404	.00364	.408	.296	.00135	.00135	2.53	2.53	1.69	1.67
5.	1.83	1.83	1.15	1.09	.680	.743	.00107	.535	.00713	.542	.418	.00100	.00100	2.37	2.37	1.69	1.67
6.	1.62	1.62	1.04	.974	.575	.646		.652	.0110	.663	.532			2.28	2.28	1.70	1.69
8.	1.32	1.32	.882	.808	.440	.512		.835	.0187	.854	.712			2.17	2.17	1.74	1.72
10.	1.13	1.11	.769	.692	.356	.438		1.01	.0258	1.04	.874			2.17	2.17	1.81	1.79
15.	.833	.833	.591	.511	.242	.322		1.30	.0404	1.34	1.13			2.17	2.17	1.93	1.91
20.	.669	.669	.486	.403	.183	.266		1.52	.0512	1.57	1.27			2.24	2.24	2.08	2.06
30.	.487	.487	.364	.273	.123	.214		1.82	.0683	1.89	1.43			2.38	2.38	2.25	2.23
40.	.387	.387	.294	.201	.0928	.186		2.04	.0810	2.12	1.51			2.51	2.51	2.41	2.39
50.	.323	.323	.249	.150	.0744	.173		2.20	.0892	2.29	1.54			2.61	2.61	2.54	2.52
60.	.278	.278	.216	.118	.0622	.160		2.32	.0970	2.42	1.54			2.70	2.70	2.64	2.62
80.	.219	.219	.173	.0788	.0468	.140		2.50	.108	2.61	1.55			2.83	2.83	2.78	2.76
100.	.182	.182	.145	.0586	.0376	.125		2.64	.116	2.76	1.52			2.94	2.94	2.91	2.89

22 TITANIUM
(cm²/g = 0.01257 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _n	($\frac{\mu}{\rho}$) _e	($\frac{\mu}{\rho}$) _t	($\frac{\mu}{\rho}$) _a	($\frac{\mu}{\rho}$) _{r,t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.184	.0107	.000357	.0000209	.182	.0107	3.68					706.	706.	706.	706.	706.	706.
.0015	.182	.0178	.000533	.0000520	.182	.0178	3.42					222.	222.	222.	222.	222.	222.
.002	.182	.0245	.000708	.0000952	.182	.0244	3.13					98.	98.	993.	989.	989.	989.
.003	.182	.0368	.00105	.000214	.181	.0366	2.63					312.	312.	314.	312.	312.	312.
.004	.181	.0479	.00140	.000368	.180	.0475	2.21					13.	156.	138.	136.	136.	136.
.004966	.181	.0574	.00172	.000547	.178	.0569	1.87					7.	14.	76.2	74.3	74.3	74.3
.005	.181	.0578	.00172	.000554	.178	.0573	1.86					75.	635.	762.	759.	759.	635.
.006	.180	.0664	.00206	.000760	.177	.0656	1.58					74.	621.	744.	742.	742.	621.
.008	.178	.0804	.00270	.00122	.176	.0792	1.19					45.	368.	491.	450.	450.	388.
.01	.177	.0911	.00332	.00171	.173	.0894	.944					20.	164.	205.	204.	204.	184.
.015	.173	.109	.00481	.00300	.170	.106	.598					11.	101.	111.	110.	110.	101.
.02	.171	.120	.00616	.00432	.165	.115	.410					35.4	33.6	36.2	35.6	35.4	33.6
.03	.165	.131	.00860	.00680	.157	.124	.221					15.2	14.6	15.7	15.3	15.2	14.6
.04	.160	.134	.0107	.00897	.150	.126	.140					.61	4.49	4.97	4.74	4.63	4.50
.05	.156	.136	.0125	.0109	.143	.125	.0970					.90	1.86	2.17	2.04	1.91	1.87
.06	.151	.136	.0142	.0127	.137	.123	.0715					.952	.936	1.18	1.09	.964	.948
.08	.143	.133	.0167	.0156	.126	.118	.0429					.543	.535	.750	.679	.557	.548
.1	.136	.129	.0189	.0178	.118	.112	.0262					.224	.221	.400	.357	.240	.236
.15	.123	.119	.0222	.0216	.100	.0975	.0132					.113	.112	.270	.243	.132	.129
.2	.112	.110	.0243	.0239	.0881	.0864	.00757					.0324	.0323	.165	.152	.0547	.0539
.3	.0977	.0968	.0264	.0261	.0714	.0706	.00344					.0133	.0133	.131	.124	.0376	.0372
.4	.0876	.0870	.0272	.0270	.0605	.0600	.00196					.00387	.00386	.104	.101	.0303	.0300
.5	.0799	.0796	.0273	.0272	.0527	.0524	.00127					.00167	.00167	.0906	.0886	.0288	.0287
.6	.0739	.0737	.0272	.0270	.0468	.0466	.000892					.000911	.000910	.0817	.0804	.0282	.0280
.8	.0650	.0649	.0265	.0263	.0385	.0386	.000507					.000568	.000567	.0752	.0743	.0278	.0277
1.	.0585	.0583	.0256	.0254	.0327	.0329	.000326					.000280	.000280	.0656	.0651	.0268	.0265
1.5	.0475	.0474	.0235	.0231	.0240	.0243	.000147	.000280	.000280	.0000882		.000170	.000170	.0588	.0585	.0258	.0255
2.	.0405	.0405	.0215	.0211	.0190	.0194	.0000832	.000109	.000109	.0000525		.0000811	.0000811	.0479	.0478	.0239	.0233
3.	.0318	.0318	.0184	.0178	.0134	.0140	.0000371	.000305	.000307	.000199		.0000509	.0000509	.0417	.0416	.0226	.0217
4.	.0266	.0266	.0161	.0155	.0105	.0112	.0000209	.000508	.0000458	.000513		.0000261	.0000261	.0349	.0349	.0215	.0199
5.	.0230	.0230	.0145	.0137	.00855	.00934	.0000134	.000672	.0000896	.000681		.0000170	.0000170	.0318	.0318	.0212	.0192
6.	.0204	.0204	.0131	.0122	.00723	.00812		.00820	.000138	.00833		.0000126	.0000126	.0298	.0298	.0212	.0190
8.	.0166	.0166	.0111	.0102	.00553	.00644		.0105	.000235	.0107				.0237	.0237	.0214	.0190
10.	.0142	.0142	.00967	.00870	.00447	.00551		.0127	.000324	.0131				.0273	.0273	.0219	.0191
15.	.0105	.0105	.00743	.00642	.00304	.00405		.0163	.000508	.0168				.0273	.0273	.0243	.0206
20.	.00841	.00841	.00511	.00507	.00230	.00334		.0191	.000644	.0197				.0282	.0282	.0259	.0210
30.	.00612	.00612	.00458	.00343	.00155	.00269		.0229	.000859	.0238				.0299	.0299	.0283	.0214
40.	.00485	.00486	.00370	.00253	.00117	.00234		.0256	.00102	.0266				.0316	.0316	.0303	.0215
50.	.00406	.00406	.00313	.00189	.000935	.00217		.0277	.00112	.0288				.0328	.0328	.0319	.0212
60.	.00349	.00349	.00272	.00148	.000782	.00201		.0292	.00122	.0304				.0339	.0339	.0332	.0209
80.	.00275	.00275	.00217	.000991	.000588	.00176		.0314	.00136	.0328				.0356	.0356	.0349	.0205
100.	.00229	.00229	.00182	.000711	.000473	.00157		.0332	.00146	.0347				.0370	.0370	.0366	.0199

23 VANADIUM
(barns/atom)

E (MeV)	$\sigma_{KN, inc, t}$	$\sigma_{BD, inc, t}$	$\sigma_{KN, inc, a}$	$\sigma_{BD, inc, a}$	$\sigma_{KN, inc, s}$	$\sigma_{BD, inc, s}$	σ_{coh}	σ_{xn}	σ_{xe}	$\sigma_{x, t}$	$\sigma_{x, a}$	$\sigma_{r, t}$	$\sigma_{r, a}$	$\sigma_{tot, t}$	$\sigma_{tot, t-coh}$	$\sigma_{tot, a}$	$\sigma_{tot, en}$
.001	15.2	.761	.0297	.00148	15.2	.760	323.					675000.	675000.	675000.	675000.	675000.	675000.
.0015	15.2	1.30	.0444	.00379	15.2	1.30	300.					212000.	212000.	212000.	212000.	212000.	212000.
.002	15.2	1.83	.0589	.00710	15.1	1.82	277.					94100.	94100.	94400.	94100.	94100.	94100.
.003	15.1	2.84	.0877	.0165	15.0	2.82	233.					29900.	29900.	30100.	29900.	29900.	29900.
.004	15.1	3.76	.116	.0289	14.9	3.73	197.					13200.	13200.	13400.	13200.	13200.	13200.
.005	15.0	4.59	.144	.0440	14.9	4.55	166.					6990.	6990.	7160.	6990.	6990.	6990.
K .005465	15.0	4.94	.157	.0516	14.8	4.89	154.					5450.	5450.	5610.	5450.	5450.	5450.
												54400.	44300.	54600.	54400.	54400.	44300.
.006	14.9	5.31	.171	.0608	14.8	5.25	141.					42000.	34900.	42100.	42000.	42000.	34900.
.008	14.8	6.52	.225	.0987	14.6	6.42	106.					18800.	16400.	18900.	18800.	18800.	16400.
.01	14.7	7.43	.276	.139	14.5	7.29	83.5					10100.	9080.	10200.	10100.	10100.	9080.
.015	14.5	8.93	.400	.247	14.1	8.68	52.7					3300.	3080.	3360.	3310.	3300.	3080.
.02	14.2	9.85	.513	.355	13.7	9.49	36.2					1430.	1360.	1480.	1440.	1430.	1360.
.03	13.7	10.8	.715	.562	13.0	10.2	19.7					442.	427.	472.	453.	443.	428.
.04	13.3	11.2	.888	.747	12.4	10.5	12.4					184.	179.	208.	195.	185.	180.
.05	12.9	11.3	1.04	.912	11.9	10.4	8.61					92.3	90.4	112.	104.	93.3	91.3
.06	12.5	11.3	1.18	1.06	11.4	10.2	6.35					52.5	51.6	70.1	63.8	53.7	52.7
.08	11.9	11.0	1.39	1.29	10.5	9.71	3.81					21.7	21.4	36.5	32.7	23.1	22.7
.1	11.3	10.7	1.56	1.48	9.77	9.22	2.51					11.0	10.9	24.2	21.7	12.6	12.4
.15	10.2	9.90	1.85	1.8	8.35	8.10	1.17					3.15	3.13	14.2	13.0	5.00	4.93
.2	9.35	9.16	2.02	1.98	7.33	7.18	.673					1.30	1.29	11.1	10.5	3.32	3.27
.3	8.13	8.04	2.19	2.17	5.94	5.87	.306					.379	.378	8.72	8.42	2.57	2.55
.4	7.28	7.23	2.26	2.24	5.03	4.99	.174					.166	.166	7.57	7.40	2.43	2.41
.5	6.65	6.62	2.27	2.26	4.38	4.36	.113					.0915	.0913	6.82	6.71	2.36	2.35
.6	6.15	6.13	2.26	2.25	3.89	3.88	.0795					.0570	.0569	6.27	6.19	2.32	2.31
.8	5.40	5.39	2.21	2.18	3.19	3.21	.0452					.0282	.0282	5.46	5.42	2.24	2.21
1.	4.86	4.85	2.14	2.11	2.72	2.74	.0290					.0170	.0170	4.90	4.87	2.16	2.13
1.5	3.95	3.94	1.95	1.92	1.99	2.02	.0132	.0245		.0245	.00772	.00810	.00809	3.99	3.97	1.98	1.94
2.	3.36	3.36	1.79	1.75	1.58	1.61	.00745	.0955		.0955	.0458	.00513	.00513	3.47	3.46	1.89	1.80
3.	2.65	2.65	1.53	1.48	1.12	1.17	.00330	.267	.000930	.268	.173	.00261	.00261	2.92	2.92	1.80	1.66
4.	2.21	2.21	1.34	1.28	.870	.928	.00185	.440	.00380	.444	.322	.00173	.00173	2.66	2.66	1.79	1.60
5.	1.91	1.91	1.20	1.13	.711	.779	.00120	.584	.00744	.591	.455	.00128	.00128	2.50	2.50	1.79	1.59
6.	1.69	1.69	1.09	1.01	.601	.676		.712	.0115	.723	.580	.00102	.00102	2.41	2.41	1.81	1.59
8.	1.38	1.38	.922	.842	.460	.538		.910	.0195	.929	.773			2.31	2.31	1.85	1.61
10.	1.18	1.18	.804	.719	.372	.461		1.10	.0270	1.13	.949			2.31	2.31	1.93	1.67
15.	.871	.871	.618	.531	.253	.340		1.42	.0423	1.46	1.22			2.33	2.33	2.08	1.75
20.	.699	.699	.508	.419	.191	.280		1.65	.0535	1.70	1.37			2.40	2.40	2.21	1.79
30.	.509	.509	.380	.281	.129	.228		2.00	.0713	2.07	1.56			2.58	2.58	2.45	1.84
40.	.404	.404	.307	.205	.0971	.199		2.22	.0845	2.30	1.63			2.70	2.70	2.61	1.84
50.	.338	.338	.260	.153	.0777	.185		2.40	.0933	2.49	1.65			2.83	2.83	2.75	1.80
60.	.291	.291	.226	.120	.0651	.171		2.52	.101	2.62	1.65			2.91	2.91	2.85	1.77
80.	.229	.229	.180	.0797	.0490	.149		2.71	.113	2.82	1.65			3.05	3.05	3.00	1.73
100.	.190	.190	.151	.0576	.0393	.132		2.90	.121	3.02	1.64			3.21	3.21	3.17	1.70

23 VANADIUM
(cm²/g = 0.01182 x barns/atom)

E (MeV)	($\frac{\sigma}{\rho}$) _{inc, t} ^{KN}	($\frac{\sigma}{\rho}$) _{inc, t} ^{BD}	($\frac{\sigma}{\rho}$) _{inc, a} ^{KN}	($\frac{\sigma}{\rho}$) _{inc, a} ^{BD}	($\frac{\sigma}{\rho}$) _{inc, s} ^{KN}	($\frac{\sigma}{\rho}$) _{inc, s} ^{BD}	($\frac{\sigma}{\rho}$) _{coh}	($\frac{\sigma}{\rho}$) _{xn}	($\frac{\sigma}{\rho}$) _{xe}	($\frac{\sigma}{\rho}$) _{xt}	($\frac{\sigma}{\rho}$) _{xa}	($\frac{\sigma}{\rho}$) _{rt}	($\frac{\sigma}{\rho}$) _{ra}	($\frac{\sigma}{\rho}$) _{tot, t}	($\frac{\sigma}{\rho}$) _{tot, t-coh}	($\frac{\sigma}{\rho}$) _{tot, a}	($\frac{\sigma}{\rho}$) _{tot, en}
.001	.180	.00900	.000351	.0000175	.180	.00898	3.82					7980.	7980.	7980.	7980.	7980.	7980.
.0015	.180	.0194	.000525	.0000448	.190	.0154	3.55					2510.	2510.	2510.	2510.	2510.	2510.
.002	.180	.0216	.000696	.0000839	.178	.0215	3.27					1110.	1110.	1120.	1110.	1110.	1110.
.003	.178	.0336	.00104	.000195	.177	.0333	2.75					353.	353.	356.	353.	353.	353.
.004	.178	.0444	.00137	.000342	.176	.0441	2.33					156.	156.	158.	156.	156.	156.
.005	.177	.0543	.00170	.000520	.176	.0538	1.96					82.6	82.6	84.6	82.6	82.6	82.6
K .005465	.177	.0584	.00186	.000610	.175	.0578	1.82					64.4	64.4	66.3	64.4	64.4	64.4
.006	.176	.0628	.00202	.000719	.175	.0621	1.67					64.4	524.	645.	643.	643.	524.
.008	.175	.0771	.00266	.00117	.173	.0759	1.25					498.	413.	498.	496.	496.	413.
.01	.174	.0878	.00326	.00164	.171	.0862	.987					222.	194.	223.	222.	222.	194.
.015	.171	.106	.00473	.00292	.157	.103	.623					115.	107.	121.	119.	119.	107.
.02	.168	.116	.00606	.00420	.152	.112	.428					35.0	36.4	39.7	39.1	39.0	36.4
.03	.162	.128	.00845	.00664	.154	.121	.233					16.9	16.1	17.5	17.0	16.9	16.1
.04	.157	.132	.0105	.00883	.147	.124	.147					5.22	5.05	5.58	5.35	5.24	5.06
.05	.152	.134	.0123	.0108	.141	.123	.102					2.17	2.12	2.46	2.30	2.19	2.13
.06	.148	.134	.0139	.0125	.135	.121	.0751					1.09	1.07	1.32	1.23	1.10	1.08
.08	.141	.130	.0164	.0152	.124	.115	.0450					.621	.610	.829	.794	.635	.623
.1	.134	.126	.0184	.0175	.115	.109	.0297					.256	.253	.431	.387	.273	.268
.15	.121	.117	.0219	.0213	.0987	.0957	.0138					.130	.129	.286	.256	.149	.147
.2	.111	.108	.0239	.0234	.0866	.0849	.00795					.0372	.0370	.166	.154	.0591	.0583
.3	.0981	.0950	.0259	.0256	.0702	.0694	.00362					.0194	.0192	.131	.124	.0392	.0387
.4	.0856	.0855	.0267	.0265	.0595	.0590	.00206					.00448	.00447	.103	.0995	.0304	.0301
.5	.0786	.0782	.0268	.0267	.0518	.0515	.00134					.00196	.00196	.0895	.0875	.0287	.0285
.6	.0727	.0725	.0267	.0266	.0460	.0459	.000940					.00108	.00108	.0806	.0793	.0279	.0278
.8	.0638	.0637	.0261	.0258	.0377	.0379	.000534					.009674	.000673	.0741	.0732	.0274	.0273
1.	.0574	.0573	.0253	.0249	.0322	.0324	.000343					.008333	.000333	.0645	.0641	.0265	.0261
1.5	.0487	.0486	.0230	.0227	.0235	.0239	.000156	.000290		.000290	.0000913	.0000957	.0000956	.0472	.0469	.0234	.0229
2.	.0397	.0397	.0212	.0207	.0187	.0190	.0000881	.00113		.00113	.000541	.0000606	.0000606	.0410	.0409	.0223	.0213
3.	.0313	.0313	.0181	.0175	.0132	.0138	.0000390	.00316	.0000110		.00317	.0000309	.0000309	.0345	.0345	.0213	.0196
4.	.0261	.0261	.0158	.0151	.0103	.0110	.0000219	.00520	.0000449		.00525	.0000204	.0000204	.0314	.0314	.0212	.0189
5.	.0225	.0226	.0142	.0134	.00840	.00921	.0000142	.00690	.0000879		.00699	.0000191	.0000191	.0295	.0295	.0212	.0188
6.	.0200	.0200	.0129	.0119	.00710	.00799		.00842	.000136	.00855	.00686	.0000121	.0000121	.0285	.0285	.0214	.0188
8.	.0163	.0163	.0109	.00995	.00544	.00636		.0108	.000230	.0110	.00914			.0273	.0273	.0219	.0190
10.	.0139	.0139	.00950	.00850	.00440	.00545		.0130	.000319	.0134	.0112			.0273	.0273	.0228	.0197
15.	.0103	.0103	.00730	.00628	.00299	.00402		.0168	.000500	.0173	.0144			.0275	.0275	.0246	.0207
20.	.00826	.00826	.00600	.00495	.00226	.00331		.0195	.000632	.0201	.0162			.0284	.0284	.0261	.0212
30.	.00692	.00692	.00449	.00332	.00152	.00269		.0236	.000843	.0245	.0184			.0309	.0309	.0290	.0217
40.	.00478	.00478	.00363	.00242	.00115	.00235		.0262	.000999	.0272	.0193			.0319	.0319	.0309	.0217
50.	.00400	.00400	.00307	.00181	.000918	.00219		.0284	.00110	.0294	.0195			.0335	.0335	.0325	.0213
60.	.00344	.00344	.00267	.00142	.000769	.00202		.0298	.00119	.0310	.0195			.0344	.0344	.0337	.0209
80.	.00271	.00271	.00213	.000942	.000579	.00176		.0320	.00134	.0333	.0195			.0361	.0361	.0355	.0204
100.	.00225	.00225	.00178	.000681	.000465	.00156		.0343	.00143	.0357	.0194			.0379	.0379	.0375	.0201

24 CHROMIUM
 (barns/atom)

E (MeV)	$\sigma_{KN, inc, t}$	$\sigma_{BD, inc, t}$	$\sigma_{KN, inc, a}$	$\sigma_{BD, inc, a}$	$\sigma_{KN, inc, s}$	$\sigma_{BD, inc, s}$	σ_{coh}	$\sigma_{\pi n}$	$\sigma_{\pi e}$	$\sigma_{\pi, t}$	$\sigma_{\pi, a}$	$\sigma_{\pi, t}$	$\sigma_{\pi, a}$	$\sigma_{tot, t}$	$\sigma_{tot, t-coh}$	$\sigma_{tot, a}$	$\sigma_{tot, en}$
.001	15.9	.732	.0310	.00143	15.9	.731	354.					808000.	808000.	808000.	808000.	808000.	808000.
.0015	15.9	1.28	.0463	.00373	15.8	1.28	330.					254000.	254000.	254000.	254000.	254000.	254000.
.002	15.8	1.62	.0615	.00706	15.8	1.61	306.					113000.	113000.	113000.	113000.	113000.	113000.
.003	15.8	2.63	.0915	.0164	15.7	2.81	259.					35800.	35800.	36100.	35800.	35800.	35800.
.004	15.7	3.77	.121	.0290	15.6	3.74	219.					15900.	15900.	16100.	15900.	15900.	15900.
.005	15.7	4.61	.150	.0442	15.5	4.57	186.					8440.	8440.	8630.	8440.	8440.	8440.
K .005989	15.6	5.35	.178	.0612	15.4	5.29	158.					5050.	5050.	5210.	5060.	5050.	5050.
												49200.	39100.	49400.	49200.	49200.	39100.
.006	15.6	5.36	.179	.0614	15.4	5.30	158.					49000.	39000.	49200.	49000.	49000.	39000.
.008	15.5	6.63	.234	.100	15.2	6.53	118.					22000.	18600.	22100.	22000.	22000.	18600.
.01	15.4	7.62	.288	.143	15.1	7.48	92.7					11800.	10300.	11900.	11800.	11800.	10300.
.015	15.1	9.20	.417	.254	14.7	8.95	58.1					3800.	3490.	3870.	3810.	3800.	3490.
.02	14.8	10.2	.535	.368	14.3	9.83	40.1					1670.	1570.	1720.	1680.	1670.	1570.
.03	14.3	11.2	.746	.583	13.6	10.6	21.9					523.	502.	558.	534.	524.	503.
.04	13.9	11.6	.926	.774	13.0	10.8	13.8					221.	214.	246.	233.	222.	215.
.05	13.5	11.7	1.09	.944	12.4	10.8	9.55					111.	108.	132.	123.	112.	109.
.06	13.1	11.7	1.23	1.10	11.9	10.6	7.04					63.2	61.9	81.9	74.9	64.4	63.0
.08	12.4	11.5	1.45	1.35	11.0	10.2	4.23					26.0	25.6	41.7	37.5	27.4	26.9
.1	11.8	11.2	1.63	1.55	10.2	9.65	2.78					13.2	13.0	27.2	24.4	14.8	14.5
.15	10.6	10.3	1.93	1.87	8.71	8.43	1.30					3.80	3.77	15.4	14.1	5.73	5.64
.2	9.75	9.55	2.11	2.06	7.65	7.49	.747					1.58	1.57	11.9	11.1	3.69	3.63
.3	8.48	8.39	2.29	2.26	6.20	6.13	.340					.462	.460	9.19	8.85	2.75	2.72
.4	7.60	7.54	2.35	2.34	5.25	5.20	.193					.204	.203	7.94	7.74	2.55	2.54
.5	6.94	6.90	2.37	2.36	4.57	4.54	.125					.113	.113	7.14	7.01	2.48	2.47
.6	6.42	6.39	2.36	2.35	4.06	4.04	.0886					.0712	.0711	6.55	6.46	2.43	2.42
.8	5.64	5.62	2.31	2.28	3.33	3.34	.0503					.0354	.0353	5.71	5.66	2.35	2.32
1.	5.07	5.06	2.23	2.20	2.84	2.86	.0322					.0218	.0218	5.11	5.08	2.25	2.22
1.5	4.12	4.11	2.04	2.01	2.08	2.10	.0146	.0270		.0270	.00850	.0100	.00999	4.16	4.15	2.08	2.03
2.	3.51	3.51	1.86	1.83	1.65	1.68	.00830	.104		.104	.0499	.00622	.00622	3.63	3.62	1.97	1.89
3.	2.76	2.76	1.59	1.54	1.17	1.22	.00369	.290	.000970	.291	.188	.00329	.00329	3.06	3.05	1.88	1.73
4.	2.31	2.31	1.40	1.34	.908	.970	.00206	.480	.00397	.484	.350	.00218	.00218	2.80	2.80	1.89	1.69
5.	1.99	1.99	1.25	1.18	.742	.814	.00134	.637	.00778	.645	.496	.00162	.00162	2.64	2.64	1.90	1.66
6.	1.76	1.76	1.13	1.05	.627	.706		.776	.0120	.788	.630	.00130	.00130	2.55	2.55	1.92	1.68
8.	1.44	1.44	.962	.876	.480	.564		.995	.0204	1.02	.843			2.46	2.46	1.98	1.72
10.	1.23	1.23	.839	.747	.389	.483		1.20	.0282	1.23	1.03			2.46	2.46	2.07	1.78
15.	.909	.909	.645	.551	.264	.358		1.55	.0441	1.59	1.33			2.50	2.50	2.23	1.88
20.	.729	.729	.530	.435	.199	.294		1.80	.0559	1.86	1.48			2.59	2.59	2.39	1.91
30.	.531	.531	.397	.291	.134	.240		2.16	.0744	2.23	1.67			2.76	2.76	2.63	1.96
40.	.422	.422	.321	.210	.101	.212		2.40	.0880	2.49	1.75			2.91	2.91	2.81	1.96
50.	.352	.352	.271	.157	.0811	.195		2.60	.0973	2.70	1.77			3.05	3.05	2.97	1.93
60.	.303	.303	.235	.122	.0679	.181		2.74	.105	2.84	1.78			3.14	3.14	3.08	1.90
80.	.239	.239	.188	.0813	.0511	.158		2.93	.117	3.05	1.76			3.29	3.29	3.24	1.84
100.	.199	.199	.158	.0591	.0410	.140		3.13	.126	3.26	1.75			3.46	3.46	3.42	1.81

24 CHROMIUM
(cm²/g = 0.01158 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{x,n}	($\frac{\mu}{\rho}$) _{x,e}	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _{r,t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.184	.00848	.000359	.0000166	.184	.00846	4.10					9360.	9364.	9360.	9360.	9360.	9360.
.0015	.184	.0148	.000536	.0000432	.183	.0148	3.82					2940.	2944.	2940.	2940.	2940.	2940.
.002	.183	.0211	.000712	.0000816	.183	.0210	3.54					1310.	1314.	1310.	1310.	1310.	1310.
.003	.183	.0328	.00106	.000190	.182	.0325	3.00					415.	415.	418.	415.	415.	415.
.004	.182	.0437	.00140	.000336	.181	.0433	2.54					184.	184.	186.	184.	184.	184.
.005	.182	.0534	.00174	.000512	.179	.0529	2.15					97.7	97.7	99.9	97.7	97.7	97.7
K .005989	.181	.0620	.00206	.000709	.178	.0613	1.83					58.5	58.5	60.3	58.6	58.5	58.5
												570.	455.	572.	570.	570.	455.
.006	.181	.0621	.00207	.000711	.178	.0614	1.83					567.	455.	570.	567.	567.	452.
.008	.179	.0768	.00271	.00116	.176	.0756	1.37					255.	215.	256.	255.	255.	215.
.01	.178	.0882	.00334	.00166	.175	.0866	1.07					137.	115.	138.	137.	137.	119.
.015	.175	.107	.00483	.00294	.170	.104	.673					44.0	41.4	44.8	44.1	44.0	40.4
.02	.171	.118	.00620	.00426	.166	.114	.464					19.3	18.2	19.9	19.5	19.3	18.2
.03	.166	.130	.00864	.00675	.157	.123	.254					6.06	5.81	6.44	6.18	6.07	5.82
.04	.161	.134	.0107	.00896	.151	.125	.160					2.56	2.48	2.85	2.70	2.57	2.49
.05	.156	.135	.0126	.0109	.144	.125	.111					1.29	.25	1.93	1.42	1.30	1.26
.06	.152	.135	.0142	.0127	.138	.123	.0815					.732	.717	.948	.867	.746	.730
.08	.144	.133	.0168	.0156	.127	.118	.0490					.301	.296	.483	.434	.317	.312
.1	.137	.130	.0189	.0179	.118	.112	.0322					.153	.151	.315	.283	.171	.168
.15	.123	.119	.0223	.0217	.101	.0976	.0151					.0440	.0437	.178	.163	.0664	.0653
.2	.113	.111	.0244	.0239	.0886	.0867	.00865					.0183	.0182	.138	.129	.0427	.0420
.3	.0982	.0972	.0265	.0262	.0718	.0710	.00394					.00535	.00533	.106	.102	.0316	.0315
.4	.0880	.0873	.0272	.0271	.0608	.0602	.00223					.00236	.00235	.0919	.0896	.0295	.0294
.5	.0804	.0799	.0274	.0273	.0529	.0526	.00145					.00131	.00131	.0827	.0812	.0287	.0286
.6	.0743	.0740	.0273	.0272	.0470	.0468	.00103					.000824	.000823	.0758	.0748	.0281	.0280
.8	.0653	.0651	.0267	.0264	.0386	.0387	.000582					.000410	.000409	.0661	.0655	.0272	.0269
1.	.0587	.0586	.0258	.0255	.0329	.0331	.000373					.000252	.000252	.0592	.0588	.0261	.0257
1.5	.0477	.0476	.0236	.0233	.0241	.0243	.000169	.000313		.000313	.0000984	.000116	.000116	.0482	.0481	.0241	.0235
2.	.0406	.0406	.0215	.0212	.0191	.0195	.0000961	.00120		.00120	.000578	.0000720	.0000720	.0420	.0419	.0228	.0219
3.	.0320	.0320	.0184	.0178	.0135	.0141	.0000427	.00336	.0000112	.00337	.00218	.0000381	.0000381	.0354	.0353	.0218	.0200
4.	.0267	.0267	.0162	.0155	.0105	.0112	.0000239	.00556	.0000460	.00560	.00405	.0000252	.0000252	.0324	.0324	.0219	.0196
5.	.0230	.0230	.0145	.0137	.00859	.00943	.0000155	.00738	.0000901	.00747	.00574	.0000188	.0000188	.0306	.0306	.0220	.0195
6.	.0204	.0204	.0131	.0122	.00726	.00818		.00899	.000139	.00913	.00730			.0295	.0295	.0222	.0195
8.	.0167	.0167	.0111	.0101	.00556	.00653		.0115	.000236	.0118	.00976			.0285	.0285	.0229	.0199
10.	.0142	.0142	.00972	.00865	.00450	.00559		.0139	.000327	.0142	.0119			.0285	.0285	.0240	.0206
15.	.0105	.0105	.00747	.00638	.00306	.00415		.0179	.000511	.0184	.0154			.0289	.0289	.0258	.0216
20.	.00844	.00844	.00614	.00504	.00230	.00340		.0208	.000647	.0215	.0171			.0300	.0300	.0277	.0221
30.	.00615	.00615	.00460	.00337	.00155	.00278		.0250	.000862	.0258	.0193			.0320	.0320	.0305	.0227
40.	.00489	.00489	.00372	.00243	.00117	.00245		.0278	.00102	.0288	.0203			.0337	.0337	.0325	.0227
50.	.00408	.00408	.00314	.00182	.000939	.00226		.0301	.00113	.0313	.0205			.0353	.0353	.0344	.0223
60.	.00351	.00351	.00272	.00141	.000786	.00210		.0317	.00122	.0329	.0206			.0364	.0364	.0357	.0220
80.	.00277	.00277	.00218	.000941	.000592	.00163		.0339	.00135	.0353	.0204			.0381	.0381	.0375	.0213
100.	.00230	.00230	.00183	.000684	.000475	.00162		.0362	.00146	.0378	.0203			.0401	.0401	.0396	.0210

25 MANGANESE
(barns/atom)

E (MeV)	$\sigma_{inc,t}^{KN}$	$\sigma_{inc,t}^{BD}$	$\sigma_{inc,a}^{KN}$	$\sigma_{inc,a}^{BD}$	$\sigma_{inc,s}^{KN}$	$\sigma_{inc,s}^{BD}$	σ_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	16.6	.836	.0323	.00163	16.5	.834	386.					950000.	950000.	950000.	950000.	950000.	950000.
.0015	16.5	1.44	.0482	.00420	16.5	1.44	362.					301000.	301000.	301000.	301000.	301000.	301000.
.002	16.5	1.99	.0640	.00772	16.4	1.98	336.					135000.	135000.	135000.	135000.	135000.	135000.
.003	16.4	2.99	.0953	.0173	16.3	2.97	287.					43000.	43000.	43000.	43000.	43000.	43000.
.004	16.4	3.91	.126	.0301	16.2	3.88	244.					19100.	19100.	19100.	19100.	19100.	19100.
.005	16.3	4.75	.156	.0455	16.2	4.70	207.					10100.	10100.	10100.	10100.	10100.	10100.
.006	16.2	5.50	.186	.0630	16.1	5.44	177.					6020.	6020.	6020.	6020.	6020.	6020.
K .006539	16.2	5.88	.202	.0732	16.0	5.81	163.					4690.	4690.	4690.	4690.	4690.	4690.
.008	16.1	6.79	.244	.103	15.9	6.69	132.					44700.	34500.	44900.	44700.	44700.	34500.
.01	16.0	7.81	.300	.146	15.7	7.66	103.					25300.	20600.	25400.	25300.	25300.	20600.
.015	15.7	9.48	.435	.262	15.3	9.22	64.3					13600.	11600.	13700.	13600.	13600.	11600.
.02	15.4	10.5	.557	.379	14.9	10.1	44.4					4410.	3970.	4480.	4420.	4410.	3970.
.03	14.9	11.6	.777	.604	14.2	11.0	24.3					1960.	1810.	2010.	1970.	1960.	1810.
.04	14.5	12.0	.965	.800	13.5	11.2	15.3					620.	589.	656.	632.	621.	590.
.05	14.0	12.2	1.13	.984	12.9	11.2	10.6					262.	252.	289.	274.	263.	253.
.06	13.6	12.2	1.28	1.14	12.4	11.1	7.82					132.	128.	155.	144.	133.	129.
.08	12.9	11.9	1.51	1.39	11.4	10.5	4.70					75.0	73.1	95.0	87.2	76.3	74.2
.1	12.3	11.6	1.70	1.60	10.6	10.0	3.09					31.6	31.0	48.2	43.5	33.1	32.4
.15	11.1	10.7	2.01	1.94	9.08	8.76	1.44					15.9	15.7	30.6	27.5	17.6	17.3
.2	10.2	9.94	2.20	2.15	7.96	7.79	.831					4.60	4.55	16.7	15.3	6.61	6.49
.3	8.83	8.73	2.38	2.35	6.45	6.38	.378					1.91	1.90	12.7	11.8	4.11	4.05
.4	7.91	7.86	2.45	2.43	5.46	5.43	.215					.560	.557	9.67	9.29	2.94	2.91
.5	7.23	7.19	2.47	2.46	4.76	4.73	.139					.250	.249	8.32	8.11	2.70	2.68
.6	6.69	6.66	2.46	2.44	4.23	4.22	.0985					.139	.139	7.47	7.33	2.61	2.60
.8	5.87	5.86	2.40	2.37	3.47	3.49	.0560					.0870	.0868	6.85	6.75	2.55	2.53
1.	5.28	5.27	2.32	2.29	2.96	2.98	.0359					.0440	.0439	5.96	5.90	2.44	2.41
1.5	4.29	4.28	2.12	2.09	2.17	2.19	.0163	.0294		.0294	.00926	.0270	.0270	5.33	5.30	2.35	2.32
2.	3.66	3.66	1.94	1.90	1.72	1.76	.00925	.113	.0541			.0124	.0124	4.34	4.32	2.16	2.11
3.	2.88	2.88	1.66	1.61	1.22	1.27	.00410	.316	.00101	.317	.204	.00770	.00769	3.79	3.78	2.06	1.96
4.	2.40	2.40	1.46	1.39	.945	1.01	.00229	.520	.00413	.524	.379	.00406	.00406	3.21	3.20	1.98	1.82
5.	2.08	2.08	1.30	1.23	.773	.853	.00150	.690	.0081	.698	.535	.00267	.00267	2.93	2.93	1.99	1.77
6.	1.84	1.84	1.18	1.10	.653	.742	.00102	.842	.0125	.854	.681	.00202	.00202	2.78	2.78	2.00	1.77
8.	1.50	1.50	1.00	.907	.500	.592		1.08	.0213	1.10	.911	.00163	.00163	2.70	2.70	2.04	1.78
10.	1.28	1.28	.874	.771	.405	.509		1.30	.0293	1.33	1.12	.00118	.00118	2.60	2.60	2.10	1.82
15.	.946	.946	.672	.569	.274	.377		1.68	.0460	1.73	1.43			2.68	2.68	2.40	2.00
20.	.760	.760	.552	.449	.208	.311		1.95	.0582	2.01	1.59			2.77	2.77	2.56	2.04
30.	.553	.553	.413	.299	.146	.254		2.34	.0776	2.42	1.79			2.97	2.97	2.83	2.09
40.	.439	.439	.334	.213	.105	.226		2.61	.0918	2.70	1.88			3.14	3.14	3.03	2.09
50.	.367	.367	.282	.161	.0845	.206		2.82	.102	2.92	1.90			3.29	3.29	3.20	2.06
60.	.316	.316	.245	.126	.0707	.190		2.97	.109	3.08	1.90			3.40	3.40	3.32	2.03
80.	.249	.249	.196	.0832	.0532	.166		3.19	.122	3.31	1.90			3.56	3.56	3.51	1.98
100.	.207	.207	.164	.0604	.0427	.147		3.40	.131	3.53	1.88			3.74	3.74	3.69	1.94

25 MANGANESE
(cm²/g = 0.01096 x barns/atom)

E (MeV)	($\frac{\sigma}{\sigma_0}$) _{KN inc, t}	($\frac{\sigma}{\sigma_0}$) _{BD inc, t}	($\frac{\sigma}{\sigma_0}$) _{KN inc, a}	($\frac{\sigma}{\sigma_0}$) _{BD inc, a}	($\frac{\sigma}{\sigma_0}$) _{KN inc, s}	($\frac{\sigma}{\sigma_0}$) _{BD inc, s}	($\frac{\sigma}{\sigma_0}$) _{coh}	($\frac{\sigma}{\sigma_0}$) _{xn}	($\frac{\sigma}{\sigma_0}$) _{xe}	($\frac{\sigma}{\sigma_0}$) _{x, t}	($\frac{\sigma}{\sigma_0}$) _{x, a}	($\frac{\sigma}{\sigma_0}$) _{r, t}	($\frac{\sigma}{\sigma_0}$) _{r, a}	($\frac{\sigma}{\sigma_0}$) _{tot, t}	($\frac{\sigma}{\sigma_0}$) _{tot, t-coh}	($\frac{\sigma}{\sigma_0}$) _{tot, a}	($\frac{\sigma}{\sigma_0}$) _{tot, en}
.001	.182	.00916	.000354	.0000179	.181	.00914	4.23					10400.	10400.	10400.	10400.	10400.	10400.
.0015	.181	.0158	.000528	.0000460	.181	.0158	3.97					3300.	3300.	3300.	3300.	3300.	3300.
.002	.181	.0218	.000701	.0000846	.180	.0217	3.68					1480.	1480.	1480.	1480.	1480.	1480.
.003	.180	.0328	.00104	.000190	.179	.0326	3.15					471.	471.	475.	471.	471.	471.
.004	.180	.0429	.00138	.000330	.178	.0425	2.67					209.	209.	212.	209.	209.	209.
.005	.179	.0521	.00171	.000499	.178	.0515	2.27					111.	111.	113.	111.	111.	111.
.006	.178	.0603	.00204	.000690	.176	.0596	1.94					66.0	66.0	68.0	66.1	66.0	66.0
K .006539	.178	.0644	.00221	.000802	.175	.0637	1.79					51.4	51.4	53.3	51.5	51.4	51.4
.008	.176	.0744	.00267	.00113	.174	.0733	1.45					490.	378.	492.	490.	490.	378.
.01	.175	.0856	.00329	.00160	.172	.0840	1.13					277.	226.	278.	277.	277.	226.
.015	.172	.104	.00477	.00287	.168	.101	.705					149.	127.	150.	149.	149.	127.
.02	.169	.115	.00610	.00415	.163	.111	.487					48.3	43.5	49.1	48.4	48.3	43.5
.03	.163	.127	.00852	.00662	.156	.121	.266					21.5	19.8	22.0	21.6	21.5	19.8
.04	.159	.132	.0106	.00877	.148	.123	.168					6.80	6.46	7.19	6.93	6.81	6.47
.05	.153	.134	.0124	.0108	.141	.123	.116					2.87	2.76	3.17	3.00	2.88	2.77
.06	.149	.134	.0140	.0125	.136	.122	.0857					1.45	1.40	1.70	1.58	1.46	1.41
.08	.141	.130	.0165	.0152	.125	.115	.0515					.822	.801	1.04	.956	.836	.813
.1	.135	.127	.0186	.0175	.116	.110	.0339					.346	.340	.528	.477	.363	.355
.15	.122	.117	.0220	.0213	.0995	.0960	.0158					.174	.172	.335	.301	.193	.190
.2	.112	.109	.0241	.0236	.0872	.0854	.00911					.0504	.0499	.183	.168	.0724	.0711
.3	.0968	.0957	.0261	.0258	.0707	.0699	.00414					.0209	.0208	.139	.129	.0450	.0444
.4	.0867	.0861	.0269	.0266	.0598	.0595	.00236					.00614	.00610	.106	.102	.0322	.0319
.5	.0792	.0788	.0271	.0270	.0522	.0518	.00152					.00274	.00273	.0912	.0889	.0296	.0294
.6	.0733	.0730	.0270	.0267	.0464	.0463	.00108					.00192	.00192	.0819	.0803	.0286	.0285
.8	.0643	.0642	.0263	.0260	.0380	.0383	.000614					.000954	.000951	.0751	.0740	.0279	.0277
1.	.0579	.0578	.0254	.0251	.0324	.0327	.000393					.000482	.000481	.0653	.0647	.0267	.0266
1.5	.0470	.0469	.0232	.0229	.0238	.0240	.000179	.000322		.000322	.000101	.000136	.000136	.0476	.0473	.0237	.0231
2.	.0401	.0401	.0213	.0208	.0189	.0193	.000101	.00124		.00124	.000593	.0000844	.0000843	.0415	.0414	.0226	.0215
3.	.0316	.0316	.0182	.0176	.0134	.0139	.0000449	.00346	.0000111	.00347	.00224	.0000445	.0000445	.0352	.0351	.0217	.0199
4.	.0263	.0263	.0160	.0152	.0104	.0111	.0000251	.00570	.0000453	.00574	.00415	.0000293	.0000293	.0321	.0321	.0218	.0194
5.	.0228	.0228	.0142	.0135	.00947	.00935	.0000164	.00756	.0000888	.00765	.00586	.0000221	.0000221	.0305	.0305	.0219	.0194
6.	.0202	.0202	.0129	.0121	.00716	.00813	.0000112	.00923	.000137	.00936	.00746	.0000179	.0000179	.0296	.0296	.0224	.0195
8.	.0164	.0164	.0110	.00994	.00548	.00649		.0118	.000233	.0121	.00998	.0000129	.0000129	.0285	.0285	.0230	.0199
10.	.0140	.0140	.00958	.00845	.00444	.00558		.0142	.000321	.0146	.0121			.0284	.0284	.0241	.0207
15.	.0104	.0104	.00737	.00624	.00300	.00413		.0184	.000504	.0190	.0157			.0294	.0294	.0263	.0219
20.	.00833	.00833	.00605	.00492	.00228	.00341		.0214	.000638	.0220	.0174			.0304	.0304	.0281	.0224
30.	.00606	.00606	.00453	.00328	.00153	.00278		.0256	.000850	.0265	.0196			.0326	.0326	.0310	.0229
40.	.00481	.00481	.00366	.00233	.00115	.00248		.0286	.00101	.0296	.0206			.0344	.0344	.0332	.0229
50.	.00402	.00402	.00309	.00176	.000924	.00226		.0309	.00112	.0320	.0208			.0361	.0361	.0351	.0226
60.	.00346	.00346	.00269	.00138	.000775	.00208		.0326	.00119	.0338	.0208			.0373	.0373	.0364	.0222
80.	.00273	.00273	.00215	.000912	.000583	.00182		.0350	.00134	.0363	.0208			.0390	.0390	.0385	.0217
100.	.00227	.00227	.00180	.000662	.000463	.00161		.0373	.00144	.0387	.0206			.0410	.0410	.0404	.0213

26 IRON
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xe}	$\sigma_{x,t}$	$\sigma_{x,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	17.2	.809	.0336	.00158	17.2	.807	420.					1120000.	1120000.	1120000.	1120000.	1120000.	1120000.
.0015	17.2	1.41	.0502	.00411	17.1	1.41	396.					355000.	355000.	355000.	355000.	355000.	355000.
.002	17.2	1.97	.0666	.00764	17.1	1.96	368.					159000.	159000.	159000.	159000.	159000.	159000.
.003	17.1	2.98	.0991	.0173	17.0	2.96	316.					50700.	50700.	51000.	50700.	50700.	50700.
.004	17.0	3.93	.131	.0302	16.9	3.90	270.					22400.	22400.	22700.	22400.	22400.	22400.
.005	17.0	4.79	.162	.0459	16.8	4.74	230.					12000.	12000.	12200.	12000.	12000.	12000.
.006	16.9	5.56	.193	.0637	16.7	5.50	197.					7100.	7100.	7300.	7100.	7100.	7100.
.007112	16.8	6.34	.227	.0856	16.6	6.25	167.					4380.	4380.	4550.	4390.	4380.	4380.
.008	16.8	6.90	.254	.104	16.5	6.80	147.					40800.	30500.	41000.	40800.	40800.	30500.
.01	16.7	7.98	.312	.150	16.3	7.83	115.					29200.	22700.	29400.	29200.	29200.	22700.
.015	16.4	9.72	.452	.269	15.9	9.45	70.8					15700.	12200.	15800.	15700.	15700.	12200.
.02	16.1	10.8	.580	.390	15.5	10.4	49.0					5050.	4450.	5130.	5060.	5050.	4450.
.03	15.5	12.0	.808	.624	14.7	11.4	26.9					2250.	2050.	2310.	2260.	2250.	2050.
.04	15.0	12.4	1.00	.827	14.0	11.6	17.0					717.	674.	756.	729.	718.	675.
.05	14.6	12.6	1.18	1.02	13.4	11.6	11.7					308.	294.	337.	320.	309.	293.
.06	14.2	12.6	1.33	1.18	12.9	11.4	8.64					156.	150.	180.	169.	157.	151.
.08	13.4	12.4	1.57	1.45	11.9	10.9	5.20					89.1	86.4	110.	102.	90.4	87.6
.1	12.8	12.0	1.77	1.66	11.0	10.3	3.42					37.5	36.7	55.1	49.9	39.1	38.1
.15	11.5	11.1	2.09	2.01	9.44	9.09	1.59					18.9	18.6	34.3	30.9	26.7	20.3
.2	10.6	10.3	2.28	2.23	8.28	8.07	.919					5.48	5.41	18.2	16.6	7.57	7.42
.3	9.19	9.08	2.48	2.45	6.71	6.63	.418					2.27	2.25	13.5	12.6	4.55	4.48
.4	8.23	8.17	2.55	2.52	5.68	5.65	.237					.670	.666	10.2	9.75	3.15	3.12
.5	7.52	7.47	2.56	2.55	4.95	4.92	.154					.303	.302	8.71	8.47	2.85	2.82
.6	6.95	6.92	2.56	2.54	4.40	4.38	.108					.168	.167	7.79	7.64	2.73	2.72
.8	6.11	6.09	2.50	2.47	3.61	3.62	.0619					.107	.107	7.13	7.03	2.67	2.65
1.	5.49	5.48	2.42	2.38	3.08	3.10	.0395					.0540	.0539	6.21	6.14	2.55	2.52
1.5	4.46	4.46	2.21	2.18	2.25	2.28	.0179	.0320		.0320	.00992	.0328	.0327	5.55	5.51	2.45	2.41
2.	3.80	3.80	2.02	1.98	1.79	1.82	.0102	.123		.123	.0581	.00930	.00929	3.94	3.93	2.15	2.05
3.	2.99	2.99	1.73	1.67	1.26	1.32	.0045	.343	.00105	.344	.218	.00500	.00500	3.34	3.34	2.08	1.89
4.	2.50	2.50	1.52	1.44	.983	1.05	.00254	.561	.00430	.565	.402	.00333	.00333	3.07	3.07	2.09	1.85
5.	2.16	2.16	1.36	1.27	.804	.888	.00166	.748	.00840	.756	.570	.00250	.00250	2.92	2.92	2.12	1.84
6.	1.91	1.91	1.23	1.14	.680	.770	.00114	.910	.0130	.923	.722	.00200	.00200	2.84	2.83	2.15	1.86
8.	1.56	1.56	1.04	.944	.520	.616		1.17	.0221	1.19	.967	.00145	.00145	2.75	2.75	2.23	1.91
10.	1.33	1.33	.909	.798	.421	.532		1.40	.0304	1.43	1.18	.00113	.00113	2.76	2.76	2.34	1.98
15.	.984	.984	.699	.590	.285	.394		1.81	.0478	1.86	1.50			2.84	2.84	2.56	2.09
20.	.790	.790	.574	.465	.216	.325		2.10	.0606	2.16	1.68			2.95	2.95	2.73	2.14
30.	.575	.575	.430	.308	.145	.267		2.52	.0807	2.60	1.88			3.17	3.17	3.03	2.19
40.	.457	.457	.347	.218	.110	.239		2.82	.095	2.91	1.98			3.37	3.37	3.26	2.20
50.	.382	.382	.294	.165	.0879	.217		3.04	.105	3.14	2.00			3.52	3.52	3.43	2.16
60.	.329	.329	.255	.129	.0736	.200		3.20	.113	3.31	1.99			3.64	3.64	3.56	2.12
80.	.259	.259	.204	.0852	.0554	.174		3.43	.127	3.56	1.98			3.82	3.82	3.76	2.07
100.	.215	.215	.171	.0619	.0444	.153		3.65	.136	3.79	1.96			4.00	4.00	3.96	2.02

26 IRON
(cm²/g = 0.01078 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc, t}	($\frac{\mu}{\rho}$) _{inc, t}	($\frac{\mu}{\rho}$) _{inc, a}	($\frac{\mu}{\rho}$) _{inc, a}	($\frac{\mu}{\rho}$) _{inc, s}	($\frac{\mu}{\rho}$) _{inc, s}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _n	($\frac{\mu}{\rho}$) _e	($\frac{\mu}{\rho}$) _t	($\frac{\mu}{\rho}$) _a	($\frac{\mu}{\rho}$) _t	($\frac{\mu}{\rho}$) _{-a}	($\frac{\mu}{\rho}$) _{tot, t}	($\frac{\mu}{\rho}$) _{tot, t-coh}	($\frac{\mu}{\rho}$) _{tot, a}	($\frac{\mu}{\rho}$) _{tot, er}
.001	.185	.00872	.000362	.0000170	.185	.00870	4.53					12100.	12100.	12100.	12100.	12100.	12100.
.0015	.185	.0152	.000541	.0000443	.184	.0152	4.27					3830.	3830.	3830.	3830.	3830.	3830.
.002	.185	.0212	.000718	.0000824	.184	.0211	3.97					1710.	1710.	1710.	1710.	1710.	1710.
.003	.184	.0321	.00107	.000186	.183	.0319	3.41					547.	547.	547.	547.	547.	547.
.004	.183	.0424	.00141	.000326	.182	.0420	2.91					241.	241.	241.	241.	241.	241.
.005	.183	.0516	.00175	.000495	.181	.0511	2.48					129.	129.	129.	129.	129.	129.
.006	.182	.0599	.00208	.000687	.180	.0593	2.12					76.5	76.5	76.7	76.6	76.5	76.5
x .007112	.181	.0683	.00245	.000923	.179	.0674	1.80					47.2	47.2	49.0	47.3	47.2	47.2
.008	.181	.0744	.00274	.00112	.178	.0733	1.58					440.	327.	442.	440.	440.	329.
.01	.180	.0860	.00336	.00162	.176	.0844	1.24					315.	245.	317.	315.	315.	245.
.015	.177	.105	.00487	.00290	.171	.102	.763					169.	133.	170.	162.	162.	139.
.02	.174	.116	.00625	.00420	.167	.112	.528					54.4	43.0	55.3	54.5	54.4	48.0
.03	.167	.129	.00871	.00673	.158	.123	.290					24.3	22.1	24.9	24.4	24.3	22.1
.04	.162	.134	.0108	.00892	.151	.125	.183					7.73	7.27	8.19	7.86	7.74	7.28
.05	.157	.136	.0127	.0110	.144	.125	.126					3.32	1.17	3.63	3.45	3.33	3.18
.06	.153	.136	.0143	.0127	.139	.123	.0931					1.68	.62	1.94	1.82	1.69	1.63
.08	.144	.134	.0169	.0156	.128	.118	.0561					.960	.931	1.19	1.10	.975	.944
.1	.138	.129	.0191	.0172	.119	.111	.0369					.404	.396	.594	.538	.421	.411
.15	.124	.120	.0225	.0217	.102	.0980	.0171					.204	.201	.370	.333	.223	.219
.2	.114	.111	.0246	.0240	.0893	.0870	.00991					.0591	.0583	.196	.179	.0816	.0800
.3	.0991	.0979	.0267	.0264	.0723	.0715	.00451					.0245	.0243	.146	.136	.0490	.0483
.4	.0887	.0881	.0275	.0272	.0612	.0609	.00255					.00722	.00718	.110	.105	.0340	.0336
.5	.0811	.0805	.0276	.0274	.0534	.0530	.00166					.00327	.00326	.0939	.0913	.0307	.0304
.6	.0749	.0746	.0276	.0274	.0474	.0472	.00116					.00181	.00180	.0840	.0824	.0294	.0293
.8	.0659	.0657	.0270	.0266	.0389	.0390	.000667					.00115	.00115	.0769	.0758	.0288	.0286
1.	.0592	.0591	.0261	.0257	.0332	.0334	.000426					.000582	.000581	.0669	.0662	.0275	.0272
1.5	.0481	.0481	.0238	.0233	.0243	.0244	.000193	.000345				.000354	.000353	.0598	.0594	.0264	.0260
2.	.0410	.0410	.0218	.0213	.0193	.0196	.000110	.000133	.000345	.000107		.000162	.000162	.0487	.0486	.0244	.0237
3.	.0322	.0322	.0186	.0180	.0136	.0142	.0000485	.0000113	.0000113	.0000113	.000626	.000100	.000100	.0425	.0424	.0232	.0221
4.	.0270	.0270	.0164	.0155	.0106	.0113	.0000274	.0000055	.0000055	.0000055	.000433	.0000539	.0000539	.0360	.0360	.0224	.0204
5.	.0233	.0233	.0147	.0137	.00867	.00957	.0000179	.00000806	.00000806	.00000806	.000614	.0000359	.0000359	.0331	.0331	.0225	.0199
6.	.0206	.0206	.0133	.0123	.00733	.00830	.0000123	.0000081	.0000081	.0000081	.000778	.0000269	.0000269	.0315	.0315	.0229	.0198
8.	.0168	.0168	.0112	.0102	.00561	.00664		.0000126	.0000126	.0000126	.0104	.0000216	.0000216	.0306	.0306	.0232	.0201
10.	.0143	.0143	.00980	.00860	.00454	.00573		.0126	.0000238	.0000238	.0127	.0000156	.0000156	.0296	.0296	.0240	.0206
15.	.0106	.0106	.00754	.00636	.00307	.00425		.0151	.0000328	.0000328	.0154	.0000122	.0000122	.0296	.0296	.0252	.0213
20.	.00852	.00852	.00619	.00501	.00233	.00350		.0199	.0000519	.0000519	.0201	.0162		.0306	.0306	.0276	.0229
30.	.00620	.00620	.00444	.00332	.00156	.00288		.0226	.0000653	.0000653	.0233	.0181		.0316	.0316	.0294	.0231
40.	.00493	.00493	.00374	.00235	.00119	.00258		.0272	.0000870	.0000870	.0280	.0203		.0342	.0342	.0327	.0236
50.	.00412	.00412	.00317	.00178	.000948	.00234		.0304	.000102	.000102	.0314	.0213		.0361	.0361	.0351	.0237
60.	.00355	.00355	.00275	.00139	.000793	.00216		.0328	.000113	.000113	.0338	.0216		.0374	.0374	.0370	.0233
80.	.00275	.00275	.00220	.000918	.000597	.00188		.0345	.000122	.000122	.0357	.0215		.0392	.0392	.0386	.0229
100.	.00232	.00232	.00184	.000667	.000474	.00165		.0370	.000137	.000137	.0384	.0213		.0412	.0412	.0405	.0223
								.0393	.000147	.000147	.0409	.0211		.0431	.0431	.0427	.0218

27 COBALT
 (barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	$\sigma_{n,n}$	$\sigma_{n,e}$	$\sigma_{n,t}$	$\sigma_{n,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	17.9	.713	.0349	.00139	17.9	.712	455.					1300000.	1300000.	1300000.	1300000.	1300000.	1300000.
.0015	17.9	1.27	.0521	.00370	17.8	1.27	430.					413000.	413000.	413000.	413000.	413000.	413000.
.002	17.8	1.81	.0691	.00702	17.7	1.80	402.					185000.	185000.	185000.	185000.	185000.	185000.
.003	17.8	2.85	.103	.0165	17.6	2.83	347.					59200.	59200.	59500.	59200.	59200.	59200.
.004	17.7	3.84	.136	.0295	17.5	3.81	298.					26300.	26300.	26000.	26300.	26300.	26300.
.005	17.6	4.73	.169	.0453	17.4	4.68	255.					13900.	13900.	14200.	13900.	13900.	13900.
.006	17.5	5.53	.201	.0633	17.4	5.47	218.					8360.	8360.	8580.	8370.	8360.	8360.
K .007709	17.4	6.74	.255	.0984	17.2	6.64	170.					4090.	4090.	4270.	4100.	4090.	4090.
.008	17.4	6.92	.264	.105	17.2	6.82	164.					37400.	27200.	37600.	37400.	37400.	27200.
.01	17.3	8.06	.324	.151	17.0	7.91	127.					33800.	24900.	34000.	33800.	33800.	24900.
.015	17.0	9.93	.470	.275	16.5	9.66	78.1					18000.	14200.	18100.	18000.	18000.	14200.
.02	16.7	11.1	.602	.401	16.1	10.7	53.9					5860.	5040.	5950.	5870.	5860.	5040.
.03	16.1	12.3	.839	.640	15.3	11.7	29.8					2620.	2340.	2680.	2630.	2620.	2340.
.04	15.6	12.8	1.04	.854	14.6	11.9	18.7					843.	784.	885.	855.	844.	785.
.05	15.2	13.0	1.22	1.05	13.9	12.0	12.9					360.	341.	391.	373.	361.	342.
.06	14.7	13.0	1.38	1.22	13.4	11.8	9.53					183.	175.	209.	196.	184.	176.
.08	14.0	12.8	1.64	1.50	12.3	11.3	5.73					104.	100.	127.	117.	105.	101.
.1	13.3	12.5	1.84	1.72	11.5	10.8	3.77					44.2	43.0	62.7	57.0	45.8	44.5
.15	12.0	11.6	2.17	2.11	9.80	9.49	1.76					22.1	21.6	38.4	34.6	23.9	23.3
.2	11.0	10.7	2.37	2.31	8.60	8.39	1.01					6.50	6.41	19.9	18.1	8.67	8.52
.3	9.54	9.42	2.57	2.54	6.97	6.88	.461					2.73	2.70	14.4	13.4	5.10	5.01
.4	8.55	8.48	2.65	2.62	5.90	5.86	.261					.800	.794	10.7	10.2	3.37	3.33
.5	7.81	7.76	2.66	2.65	5.14	5.11	.170					.363	.361	9.10	8.84	3.01	2.98
.6	7.22	7.19	2.65	2.64	4.57	4.55	.120					.202	.201	8.13	7.96	2.86	2.85
.8	6.34	6.32	2.59	2.56	3.75	3.76	.0680					.127	.127	7.44	7.32	2.78	2.77
1.	5.70	5.69	2.51	2.47	3.19	3.22	.0436					.0644	.0642	6.45	6.38	2.65	2.62
1.5	4.63	4.63	2.29	2.26	2.34	2.37	.0199	.0347		.0347	.0108	.0397	.0396	5.77	5.73	2.55	2.51
2.	3.95	3.95	2.10	2.05	1.85	1.90	.0112	.133		.133	.0628	.0182	.0182	4.70	4.68	2.34	2.29
3.	3.11	3.11	1.79	1.73	1.31	1.38	.00497	.370		.371	.236	.0113	.0113	4.11	4.09	2.24	2.12
4.	2.60	2.60	1.59	1.50	1.02	1.10	.00280	.610	.00108	.614	.436	.00608	.00608	3.49	3.49	2.17	1.97
5.	2.24	2.24	1.41	1.31	.835	.925	.00184	.805	.00446	.814	.612	.00407	.00407	3.22	3.22	2.20	1.94
6.	1.98	1.98	1.28	1.18	.706	.804	.00126	.977	.00873	.990	.774	.00369	.00369	3.06	3.06	2.23	1.93
8.	1.62	1.62	1.08	.974	.540	.646		1.25	.0230	1.27	1.03	.00248	.00248	2.97	2.97	2.27	1.96
10.	1.38	1.38	.944	.824	.437	.556		1.25	.0230	1.27	1.03	.00176	.00176	2.89	2.89	2.35	2.01
15.	1.02	1.02	.725	.608	.296	.412		1.50	.0317	1.53	1.26	.00138	.00138	2.91	2.91	2.48	2.09
20.	.821	.821	.596	.479	.224	.342		1.95	.0497	2.00	1.62			3.02	3.02	2.73	2.23
30.	.597	.597	.446	.316	.151	.281		2.27	.0630	2.33	1.80			3.15	3.15	2.93	2.28
40.	.475	.475	.361	.224	.114	.251		2.71	.0837	2.79	2.01			3.39	3.39	3.24	2.33
50.	.396	.396	.305	.169	.0913	.227		3.03	.0988	3.13	2.11			3.60	3.60	3.49	2.33
60.	.341	.341	.265	.132	.0764	.209		3.29	.109	3.40	2.14			3.80	3.80	3.70	2.31
80.	.269	.269	.212	.0880	.0575	.181		3.44	.118	3.56	2.12			3.90	3.90	3.83	2.25
100.	.224	.224	.177	.0638	.0461	.160		3.70	.132	3.83	2.11			4.10	4.10	4.04	2.20
								3.94	.141	4.08	2.09			4.30	4.30	4.26	2.15

27 COBALT
(cm²/g = 0.01022 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{KN} ($\frac{\mu}{\rho}$) _{inc,t}	($\frac{\mu}{\rho}$) _{3D} ($\frac{\mu}{\rho}$) _{inc,t}	($\frac{\mu}{\rho}$) _{KN} ($\frac{\mu}{\rho}$) _{inc,a}	($\frac{\mu}{\rho}$) _{BD} ($\frac{\mu}{\rho}$) _{inc,a}	($\frac{\mu}{\rho}$) _{KN} ($\frac{\mu}{\rho}$) _{inc,s}	($\frac{\mu}{\rho}$) _{BD} ($\frac{\mu}{\rho}$) _{inc,s}	($\frac{\mu}{\rho}$) _{cch}	($\frac{\mu}{\rho}$) _n	($\frac{\mu}{\rho}$) _e	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _{-t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.183	.00729	.000357	.0000142	.183	.00723	4.65					13300	13300	13300	13300	13300	13300
.0015	.183	.0130	.000532	.0000378	.182	.0130	4.39					4220	4220	4220	4220	4220	4220
.002	.182	.0185	.000706	.0000717	.181	.0184	4.11					1890	1890	1890	1890	1890	1890
.003	.182	.0291	.00105	.000169	.180	.0289	3.55					605	605	605	605	605	605
.004	.181	.0392	.00139	.000301	.179	.0389	3.05					269	269	269	269	269	269
.005	.180	.0483	.00173	.000463	.178	.0478	2.61					142	142	142	142	142	142
.006	.179	.0565	.00205	.000647	.178	.0559	2.23					85.4	85.4	85.4	85.4	85.4	85.4
K .007709	.178	.0649	.00261	.00101	.176	.0679	1.74					41.8	41.8	41.8	41.8	41.8	41.8
.008	.178	.0707	.00270	.00107	.176	.0697	1.68					382	382	382	382	382	382
.01	.177	.0724	.00331	.00154	.175	.0808	1.30					345	254	347	345	345	254
.015	.174	.101	.00480	.00281	.169	.0987	.798					184	145	185	184	184	145
.02	.171	.113	.00615	.00410	.165	.109	.551					59.9	51.5	60.8	60.0	59.9	51.5
.03	.165	.126	.00857	.00654	.156	.120	.305					26.8	21.9	27.4	26.9	26.8	21.9
.04	.159	.131	.0106	.00873	.149	.122	.191					8.62	8.01	9.04	8.74	8.63	8.02
.05	.155	.133	.0125	.0107	.142	.123	.132					3.68	3.49	4.00	3.81	3.69	3.50
.06	.150	.133	.0141	.0125	.137	.121	.0974					1.87	1.79	2.14	2.00	1.88	1.80
.08	.143	.131	.0168	.0153	.126	.115	.0586					1.06	1.02	1.30	1.20	1.07	1.03
.1	.136	.128	.0188	.0176	.118	.110	.0385					.452	.439	.641	.583	.468	.455
.15	.123	.119	.0222	.0216	.100	.0970	.0180					.226	.221	.392	.354	.244	.238
.2	.112	.109	.0242	.0236	.0879	.0857	.0103					.0664	.0655	.203	.189	.0886	.0871
.3	.0975	.0963	.0263	.0260	.0712	.0703	.00471					.0279	.0276	.147	.137	.0521	.0512
.4	.0874	.0867	.0271	.0268	.0603	.0599	.00267					.00818	.00811	.109	.104	.0344	.0340
.5	.0798	.0793	.0272	.0271	.0525	.0522	.00174					.00371	.00369	.0930	.0903	.0308	.0305
.6	.0738	.0735	.0271	.0270	.0467	.0465	.00123					.00206	.00205	.0831	.0814	.0292	.0291
.8	.0648	.0646	.0265	.0262	.0383	.0384	.000695					.00130	.00130	.0760	.0748	.0284	.0283
1	.0583	.0582	.0257	.0252	.0326	.0329	.000446					.000658	.000656	.0659	.0652	.0271	.0268
1.5	.0473	.0473	.0234	.0231	.0239	.0242	.000203	.000355		.000355	.000110	.000186	.000186	.0480	.0478	.0239	.0234
2	.0404	.0404	.0215	.0210	.0189	.0194	.000114	.00136		.00136	.000642	.000115	.000115	.0420	.0418	.0229	.0217
3	.0318	.0318	.0183	.0177	.0134	.0141	.0000508	.00378	.0000110	.00379	.00241	.0000621	.0000621	.0357	.0357	.0222	.0201
4	.0266	.0266	.0161	.0153	.0104	.0112	.0000286	.00623	.0000456	.00628	.00446	.0000416	.0000416	.0329	.0329	.0225	.0198
5	.0229	.0229	.0144	.0134	.00853	.00945	.0000188	.00823	.0000892	.00832	.00625	.0000316	.0000316	.0313	.0313	.0228	.0197
6	.0202	.0202	.0131	.0121	.00722	.00822	.0000129	.00998	.000138	.0101	.00791	.0000253	.0000253	.0304	.0304	.0232	.0200
8	.0166	.0166	.0110	.00995	.00552	.00660		.0128	.000235	.0130	.0105	.0000180	.0000180	.0295	.0295	.0240	.0205
10	.0141	.0141	.00965	.00842	.00447	.00568		.0153	.000324	.0156	.0129	.0000141	.0000141	.0297	.0297	.0253	.0214
15	.0104	.0104	.00742	.00621	.00363	.00421		.0199	.000508	.0204	.0166			.0309	.0309	.0279	.0226
20	.00839	.00839	.00609	.00490	.00229	.00350		.0232	.000644	.0238	.0184			.0322	.0322	.0294	.0233
30	.00610	.00610	.00456	.00323	.00154	.00287		.0277	.000855	.0285	.0205			.0346	.0346	.0331	.0238
40	.00485	.00485	.00369	.00229	.00117	.00257		.0310	.00101	.0320	.0216			.0368	.0368	.0357	.0238
50	.00405	.00405	.00312	.00173	.000933	.00232		.0336	.00111	.0347	.0219			.0388	.0388	.0378	.0236
60	.00349	.00349	.00271	.00135	.00078	.00214		.0352	.00121	.0364	.0217			.0394	.0394	.0391	.0230
80	.00275	.00275	.00217	.000899	.000588	.00185		.0378	.00135	.0391	.0216			.0414	.0414	.0413	.0225
100	.00229	.00229	.00181	.000652	.00047	.00164		.0403	.00144	.0417	.0214			.0434	.0434	.0435	.0220

28 NICKEL
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	$\sigma_{rt,t}$	$\sigma_{rt,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	18.6	.640	.0361	.00125	18.5	.639	492.					1320000.	1320000.	1320000.	1320000.	1320000.	1320000.
L ₁ .001008	18.6	.648	.0365	.00127	18.5	.647	491.					1310000.	1310000.	1310000.	1310000.	1310000.	1310000.
												1470000.	1470000.	1470000.	1470000.	1470000.	1470000.
.0015	18.5	1.17	.0540	.00341	18.5	1.17	466.					481000.	481000.	481000.	481000.	481000.	481000.
.002	18.5	1.70	.0717	.0066	18.4	1.69	437.					215000.	215000.	215000.	215000.	215000.	215000.
.003	18.4	2.76	.107	.0160	18.3	2.74	380.					69200.	69200.	69600.	69200.	69200.	69200.
.004	18.3	3.77	.141	.0290	18.2	3.74	327.					30900.	30900.	31200.	30900.	30900.	30900.
.005	18.3	4.68	.175	.0448	18.1	4.64	281.					16400.	16400.	16700.	16400.	16400.	16400.
.006	18.2	5.50	.208	.063	18.0	5.44	242.					9850.	9850.	10100.	9860.	9850.	9850.
.008	18.1	6.95	.273	.105	17.8	6.84	182.					4330.	4330.	4520.	4340.	4330.	4330.
K .008332	18.0	7.16	.284	.113	17.8	7.05	174.					3840.	3840.	4020.	3850.	3840.	3840.
												34400.	34400.	34900.	34400.	34400.	34200.
.01	17.9	8.13	.336	.152	17.6	7.98	141.					20800.	15500.	20700.	20800.	20800.	15500.
.015	17.6	10.1	.487	.279	17.1	9.82	85.9					6700.	5600.	6800.	6710.	6700.	5600.
.02	17.3	11.4	.624	.411	16.7	11.0	59.2					3000.	2630.	3070.	3010.	3000.	2630.
.03	16.7	12.7	.871	.661	15.9	12.0	32.8					958.	879.	1000.	971.	959.	880.
.04	16.2	13.2	1.08	.880	15.1	12.3	20.6					418.	392.	452.	431.	419.	393.
.05	15.7	13.4	1.27	1.08	14.5	12.3	14.3					213.	202.	241.	226.	214.	203.
.06	15.3	13.5	1.43	1.27	13.8	12.2	10.5					122.	117.	146.	136.	123.	118.
.08	14.5	13.2	1.70	1.55	12.8	11.7	6.31					51.4	49.8	70.9	64.6	53.1	51.3
.1	13.8	12.9	1.90	1.78	11.9	11.1	4.15					26.2	25.6	43.3	39.1	28.1	27.4
.15	12.4	12.0	2.25	2.18	10.2	9.82	1.94					7.67	7.54	21.6	19.7	9.92	9.72
.2	11.4	11.1	2.46	2.40	8.92	8.70	1.11					3.21	3.17	15.4	14.3	5.67	5.57
.3	9.90	9.76	2.67	2.63	7.23	7.13	.507					.940	.932	11.2	10.7	3.61	3.56
.4	8.86	8.79	2.75	2.72	6.12	6.07	.288					.430	.427	9.51	9.22	3.18	3.15
.5	8.09	8.05	2.76	2.75	5.33	5.30	.187					.240	.239	8.48	8.29	3.00	2.99
.6	7.49	7.45	2.75	2.73	4.74	4.72	.131					.151	.150	7.73	7.60	2.90	2.88
.8	6.58	6.56	2.69	2.66	3.89	3.90	.0747					.0773	.0771	6.71	6.64	2.77	2.74
1.	5.91	5.90	2.60	2.56	3.31	3.34	.0479					.0475	.0474	6.00	5.95	2.65	2.61
1.5	4.80	4.80	2.38	2.34	2.43	2.46	.0217	.0375		.0375	.0116	.0221	.0221	4.88	4.86	2.44	2.37
2.	4.10	4.09	2.17	2.12	1.92	1.97	.0123	.144		.144	.0680	.0135	.0135	4.26	4.25	2.33	2.20
3.	3.22	3.22	1.86	1.78	1.36	1.44	.00547	.399	.00113	.400	.254	.00730	.00729	3.63	3.63	2.27	2.04
4.	2.69	2.69	1.63	1.55	1.06	1.14	.00308	.655	.00461	.660	.468	.00492	.00492	3.36	3.35	2.29	2.02
5.	2.33	2.33	1.46	1.37	.865	.965	.00202	.866	.00905	.875	.657	.00374	.00374	3.21	3.21	2.34	2.03
6.	2.06	2.06	1.32	1.22	.732	.840	.00140	1.05	.0141	1.06	.830	.00300	.00300	3.12	3.12	2.38	2.05
8.	1.68	1.68	1.12	1.01	.560	.674		1.35	.0239	1.37	1.11	.00214	.00214	3.05	3.05	2.49	2.12
10.	1.43	1.43	.979	.848	.453	.582		1.61	.0329	1.64	1.35	.00167	.00167	3.07	3.07	2.62	2.20
15.	1.06	1.06	.753	.625	.307	.435		2.10	.0516	2.15	1.73	.00111	.00111	3.21	3.21	2.90	2.36
20.	.851	.851	.618	.492	.233	.359		2.44	.0654	2.51	1.92			3.36	3.36	3.13	2.41
30.	.619	.619	.463	.323	.157	.296		2.91	.0869	3.00	2.14			3.62	3.62	3.46	2.46
40.	.492	.492	.374	.230	.116	.262		3.26	.102	3.36	2.25			3.85	3.85	3.73	2.48
50.	.411	.411	.316	.173	.0946	.238		3.52	.113	3.63	2.27			4.04	4.04	3.95	2.44
60.	.354	.354	.275	.135	.0762	.219		3.70	.122	3.82	2.25			4.17	4.17	4.09	2.38
80.	.279	.279	.220	.0904	.0596	.189		3.99	.136	4.13	2.25			4.41	4.41	4.35	2.34
100.	.232	.232	.184	.0654	.0478	.167		4.24	.146	4.39	2.22			4.62	4.62	4.57	2.29

28 NICKEL
(cm²/g = 0.01026 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{ED}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{cch}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{xc}	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _{r,-}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}	
.001	.191	.00657	.000370	.0000128	.190	.00656	5.05						13500.	13500.	13500.	13500.	13500.	13500.
L .001008	.191	.00665	.000374	.0000130	.190	.00664	5.04						13400.	13400.	13400.	13400.	13400.	13400.
.0015	.190	.0120	.000554	.0000350	.190	.0120	4.78						15100.	15100.	15100.	15100.	15100.	15100.
.002	.190	.0174	.000736	.0000677	.189	.0173	4.48						4940.	4940.	4940.	4940.	4940.	4940.
.003	.189	.0283	.00110	.000164	.188	.0281	3.90						2210.	2210.	2210.	2210.	2210.	2210.
.004	.188	.0387	.00145	.000298	.187	.0384	3.36						710.	710.	710.	710.	710.	710.
.005	.188	.0480	.00180	.000460	.186	.0476	2.88						317.	317.	320.	317.	317.	317.
.006	.187	.0564	.00213	.000646	.185	.0558	2.48						168.	168.	171.	168.	168.	168.
.008	.186	.0713	.00280	.00108	.183	.0702	1.87						101.	101.	104.	101.	101.	101.
K .008332	.185	.0735	.00291	.00116	.183	.0723	1.79						44.-	44.4	46.4	44.5	44.4	44.4
													39.-	39.4	41.2	39.5	39.4	39.4
.01	.184	.0834	.00345	.00156	.181	.0819	1.45						353.	248.	355.	353.	353.	248.
.015	.181	.104	.00500	.00286	.175	.101	.881						211.	159.	212.	211.	211.	159.
.02	.177	.117	.00640	.00422	.171	.113	.607						68.-	57.5	69.8	68.8	68.7	57.5
.03	.171	.130	.00894	.00678	.163	.123	.337						30.8	27.0	31.5	30.9	30.8	27.0
.04	.166	.135	.0111	.00903	.155	.126	.211						9.83	9.02	10.3	9.96	9.84	9.03
.05	.161	.137	.0130	.0111	.149	.126	.147						4.29	4.02	4.64	4.42	4.30	4.03
.06	.157	.139	.0147	.0130	.142	.125	.108						2.9	2.07	2.47	2.32	2.20	2.08
.08	.149	.135	.0174	.0159	.131	.120	.0647						1.25	1.20	1.50	1.40	1.26	1.21
.1	.142	.132	.0195	.0183	.122	.114	.0426						.527	.511	.727	.663	.545	.526
.15	.127	.123	.0231	.0224	.105	.101	.0199						.269	.263	.444	.401	.288	.281
.2	.117	.114	.0252	.0246	.0915	.0893	.0114						.0787	.0774	.222	.202	.102	.0997
.3	.102	.100	.0274	.0270	.0742	.0732	.00520						.0329	.0325	.158	.147	.0582	.0571
.4	.0909	.0902	.0282	.0279	.0628	.0623	.00295						.00964	.00956	.115	.110	.0370	.0365
.5	.0830	.0826	.0283	.0282	.0547	.0544	.00192						.00441	.00438	.0976	.0946	.0326	.0323
.6	.0768	.0754	.0282	.0260	.0486	.0484	.00134						.00246	.00245	.0870	.0851	.0308	.0307
.8	.0675	.0673	.0276	.0273	.0399	.0400	.000766						.00155	.00154	.0793	.0780	.0298	.0295
1.	.0606	.0605	.0267	.0263	.0340	.0343	.000491						.000793	.000791	.0688	.0681	.0284	.0281
1.5	.0492	.0492	.0244	.0240	.0249	.0252	.000223	.000385		.000385	.000119		.000487	.000486	.0616	.0610	.0272	.0268
2.	.0421	.0420	.0223	.0216	.0197	.0202	.000126	.00148	.000698				.000227	.000227	.0501	.0499	.0250	.0243
3.	.0330	.0330	.0191	.0183	.0140	.0148	.0000561	.00409	.0000116	.00410	.00261		.000139	.000139	.0437	.0436	.0239	.0226
4.	.0276	.0276	.0167	.0159	.0109	.0117	.0000316	.00672	.0000473	.00677	.00480		.0000749	.0000748	.0372	.0372	.0233	.0209
5.	.0239	.0239	.0150	.0141	.00887	.00990	.0000207	.00889	.0000929	.00898	.00674		.0000505	.0000505	.0345	.0344	.0235	.0207
6.	.0211	.0211	.0135	.0125	.00751	.00862	.0000144	.0108	.000145	.0109	.00852		.0000384	.0000384	.0329	.0329	.0240	.0208
8.	.0172	.0172	.0115	.0104	.00575	.00692		.0139	.000245	.0141	.0114		.0000308	.0000308	.0320	.0320	.0244	.0210
10.	.0147	.0147	.0100	.00870	.00465	.00597		.0165	.000338	.0168	.0139		.0000220	.0000220	.0313	.0313	.0255	.0218
15.	.0109	.0109	.00773	.00641	.00315	.00446		.0215	.000529	.0221	.0177		.0000171	.0000171	.0315	.0315	.0269	.0226
20.	.00873	.00873	.00634	.00505	.00239	.00366		.0250	.000671	.0258	.0197		.0000114	.0000114	.0329	.0329	.0298	.0242
30.	.00635	.00635	.00475	.00331	.00161	.00304		.0299	.000892	.0308	.0220				.0345	.0345	.0321	.0247
40.	.00505	.00505	.00384	.00236	.00121	.00269		.0334	.00105	.0345	.0231				.0371	.0371	.0355	.0292
50.	.00422	.00422	.00324	.00177	.000971	.00244		.0361	.00116	.0372	.0233				.0395	.0395	.0383	.0294
60.	.00363	.00363	.00282	.00139	.000813	.00225		.0380	.00125	.0392	.0231				.0415	.0415	.0405	.0290
80.	.00286	.00286	.00226	.000928	.000611	.00194		.0409	.00140	.0424	.0231				.0428	.0428	.0420	.0244
100.	.00238	.00238	.00189	.000671	.000490	.00171		.0435	.00150	.0450	.0228				.0452	.0452	.0446	.0240
															.0474	.0474	.0469	.0235

29 COPPER
(barns/atom)

E (MeV)	$\sigma_{\text{inc,t}}$	$\sigma_{\text{inc,t}}$	$\sigma_{\text{inc,a}}$	$\sigma_{\text{inc,a}}$	$\sigma_{\text{inc,s}}$	$\sigma_{\text{inc,s}}$	σ_{coh}	$\sigma_{\text{x,n}}$	$\sigma_{\text{x,e}}$	$\sigma_{\text{x,t}}$	$\sigma_{\text{x,a}}$	$\sigma_{\text{r,t}}$	$\sigma_{\text{r,a}}$	$\sigma_{\text{tot,t}}$	$\sigma_{\text{tot,t-coh}}$	$\sigma_{\text{tot,a}}$	$\sigma_{\text{tot,en}}$
.001	19.2	.629	.0374	.00123	19.2	.628	532.					1460000.	1460000.	1460000.	1460000.	1460000.	1460000.
L_I .001096	19.2	.726	.0410	.00155	19.2	.724	528.					1190000.	1190000.	1190000.	1190000.	1190000.	1190000.
.0015	19.2	1.15	.0559	.00335	19.1	1.15	508.					1340000.	1340000.	1340000.	1340000.	1340000.	1340000.
.002	19.1	1.69	.0743	.00656	19.1	1.68	481.					553000.	553000.	554000.	553000.	553000.	553000.
.003	19.1	2.73	.111	.0158	19.0	2.71	422.					248000.	248000.	248000.	248000.	248000.	248000.
.004	19.0	3.73	.146	.0287	18.8	3.70	365.					80100.	80100.	80500.	80100.	80100.	80100.
.005	18.9	4.65	.181	.0445	18.7	4.61	315.					35800.	35800.	36200.	35800.	35800.	35800.
.006	18.8	5.49	.216	.0629	18.6	5.43	271.					19000.	19000.	19300.	19000.	19000.	19000.
.008	18.7	6.97	.283	.106	18.4	6.86	203.					11400.	11400.	11700.	11400.	11400.	11400.
K .008981	18.6	7.60	.315	.129	18.3	7.47	179.					5050.	5050.	5260.	5060.	5050.	5050.
.01	18.6	8.20	.348	.154	18.2	8.05	158.					3610.	3610.	3800.	3620.	3610.	3610.
.015	18.2	10.3	.504	.285	17.7	10.0	95.3					31700.	21500.	31900.	31700.	31700.	21500.
.02	17.9	11.6	.646	.419	17.3	11.2	65.4					23400.	16600.	23400.	23400.	23400.	16600.
.03	17.3	13.0	.902	.677	16.4	12.3	36.2					7600.	6140.	7710.	7610.	7600.	6140.
.04	16.8	13.6	1.12	.907	15.7	12.7	22.8					3410.	2920.	3490.	3420.	3410.	2920.
.05	16.3	13.9	1.31	1.12	15.0	12.8	15.7					1100.	994.	1150.	1110.	1100.	995.
.06	15.8	13.9	1.48	1.30	14.3	12.6	11.6					479.	444.	515.	493.	480.	445.
.08	15.0	13.7	1.76	1.60	13.2	12.1	6.95					244.	230.	274.	258.	245.	231.
.1	14.3	13.3	1.97	1.84	12.3	11.5	4.58					141.	134.	166.	155.	142.	135.
.15	12.9	12.4	2.33	2.25	10.5	10.1	2.13					59.7	57.5	80.3	73.4	61.5	59.1
.2	11.8	11.5	2.55	2.49	9.24	9.01	1.23					30.5	29.6	48.4	43.8	32.5	31.4
.3	10.2	10.1	2.76	2.72	7.49	7.38	.558					8.91	8.74	23.4	21.3	11.2	11.0
.4	9.18	9.1	2.84	2.81	6.34	6.29	.317					3.77	3.72	16.5	15.3	6.32	6.21
.5	8.38	8.33	2.86	2.85	5.52	5.48	.206					1.10	1.09	11.8	11.2	3.86	3.81
.6	7.76	7.72	2.85	2.83	4.91	4.89	.144					.506	.502	9.92	9.61	3.35	3.31
.8	6.81	6.79	2.79	2.75	4.03	4.04	.0814					.282	.280	8.82	8.61	3.14	3.13
1.	6.12	6.11	2.69	2.65	3.43	3.46	.0523					.180	.179	8.04	7.90	3.03	3.01
1.5	4.98	4.97	2.46	2.42	2.51	2.55	.0237	.0406		.0406	.0126	.0920	.0917	6.96	6.88	2.88	2.84
2.	4.24	4.24	2.25	2.20	1.99	2.04	.0134	.155		.155	.0732	.0570	.0568	6.22	6.17	2.75	2.71
3.	3.34	3.34	1.93	1.85	1.41	1.49	.00599	.430	.00117	.431	.273	.0267	.0266	5.06	5.04	2.53	2.46
4.	2.79	2.79	1.69	1.60	1.19	1.19	.00340	.703	.00480	.708	.501	.0161	.0161	4.42	4.41	2.42	2.29
5.	2.41	2.41	1.51	1.41	.894	1.00	.00224	.930	.00938	.939	.705	.00870	.00869	3.79	3.78	2.37	2.13
6.	2.13	2.13	1.37	1.26	.758	.873	.00155	1.13	.0146	1.14	.893	.00590	.00590	3.51	3.50	2.40	2.11
8.	1.74	1.74	1.16	1.04	.580	.699		1.45	.0247	1.47	1.19	.00450	.00450	3.36	3.35	2.45	2.12
10.	1.48	1.48	1.01	.873	.470	.607		1.72	.0340	1.75	1.43	.00362	.00362	3.28	3.27	2.51	2.16
15.	1.10	1.10	.780	.645	.318	.455		2.25	.0534	2.30	1.84	.00260	.00260	3.21	3.21	2.63	2.23
20.	.881	.881	.640	.503	.241	.378		2.60	.0677	2.67	2.03	.00200	.00200	3.23	3.23	2.76	2.30
30.	.641	.641	.479	.332	.162	.309		3.12	.0899	3.21	2.29	.00129	.00129	3.40	3.40	3.08	2.49
40.	.510	.510	.387	.236	.122	.274		3.50	.106	3.61	2.39	.00100	.00100	3.55	3.55	3.31	2.53
50.	.426	.426	.328	.178	.0980	.248		3.77	.117	3.89	2.40			3.69	3.69	3.69	2.62
60.	.367	.367	.285	.139	.0820	.228		3.96	.126	4.09	2.39			4.12	4.12	4.00	2.63
80.	.289	.289	.227	.0928	.0617	.196		4.28	.140	4.42	2.38			4.32	4.32	4.22	2.58
100.	.240	.240	.191	.0670	.0495	.173		4.53	.151	4.68	2.34			4.46	4.46	4.38	2.53
														4.71	4.71	4.65	2.47
														4.92	4.92	4.87	2.41

29 COPPER
(cm²/g = 0.009478 x barns/atom)

E (MeV)	($\frac{\sigma}{\rho}$) _{inc,t} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,t} ^{BD}	($\frac{\sigma}{\rho}$) _{inc,a} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,a} ^{BD}	($\frac{\sigma}{\rho}$) _{inc,s} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,s} ^{BD}	($\frac{\sigma}{\rho}$) _{coh}	($\frac{\sigma}{\rho}$) _n	($\frac{\sigma}{\rho}$) _e	($\frac{\sigma}{\rho}$) _{x,t}	($\frac{\sigma}{\rho}$) _{x,a}	($\frac{\sigma}{\rho}$) _{r,t}	($\frac{\sigma}{\rho}$) _{r,a}	($\frac{\sigma}{\rho}$) _{tot,t}	($\frac{\sigma}{\rho}$) _{tot,t-coh}	($\frac{\sigma}{\rho}$) _{tot,a}	($\frac{\sigma}{\rho}$) _{tot,en}
.001	.182	.00596	.000354	.0000117	.182	.00595	5.04					13800.	13800.	13800.	13800.	13800.	13800.
.001096	.182	.00588	.000389	.0000147	.182	.00686	5.00					11300.	11300.	11300.	11300.	11300.	11300.
.0015	.182	.0119	.000530	.0000318	.181	.0109	4.81					12700.	12700.	12700.	12700.	12700.	12700.
.002	.181	.0150	.000704	.0000622	.181	.0159	4.56					5240.	5240.	5250.	5240.	5240.	5240.
.003	.181	.0239	.00105	.000150	.180	.0257	4.00					2350.	2350.	2390.	2350.	2350.	2350.
.004	.180	.0334	.00138	.000272	.178	.0351	3.48					759.	759.	763.	759.	759.	759.
.005	.179	.0441	.00172	.000422	.177	.0437	2.99					339.	339.	343.	339.	339.	339.
.006	.178	.0520	.00205	.000596	.176	.0515	2.57					180.	180.	183.	180.	180.	180.
.008	.177	.0631	.00268	.00100	.174	.0650	1.92					108.	108.	111.	108.	108.	108.
.008981	.176	.0720	.00299	.00122	.173	.0708	1.70					47.9	47.9	49.9	48.0	47.9	47.9
.01	.176	.0777	.00330	.00146	.172	.0763	1.50					34.2	34.2	36.0	34.3	34.2	34.2
.015	.172	.0976	.00478	.00270	.168	.0948	.903					300.	204.	302.	300.	300.	204.
.02	.170	.111	.00612	.00397	.164	.106	.620					222.	157.	224.	222.	222.	157.
.03	.164	.123	.00855	.00642	.155	.117	.343					72.0	58.2	73.1	72.1	72.0	58.2
.04	.159	.129	.0106	.0086	.149	.120	.216					32.3	27.7	33.1	32.4	32.3	27.7
.05	.154	.132	.0124	.0106	.142	.121	.149					10.4	9.42	10.9	10.5	10.4	9.43
.06	.150	.132	.0140	.0123	.136	.119	.110					4.54	4.21	4.88	4.67	4.55	4.22
.08	.142	.130	.0167	.0152	.125	.115	.0659					2.31	2.18	2.60	2.45	2.32	2.19
.1	.136	.126	.0187	.0174	.117	.109	.0436					1.34	1.27	1.57	1.47	1.35	1.28
.15	.122	.118	.0221	.0213	.0995	.0957	.0202					.566	.543	.761	.696	.583	.560
.2	.112	.109	.0242	.0236	.0876	.0854	.0117					.289	.281	.459	.415	.308	.298
.3	.0967	.0957	.0262	.0258	.0710	.0699	.00529					.0844	.0828	.222	.202	.106	.104
.4	.0870	.0862	.0269	.0266	.0601	.0596	.00300					.0357	.0353	.156	.145	.0599	.0589
.5	.0794	.0790	.0271	.0270	.0523	.0519	.00195					.0104	.0103	.112	.106	.0366	.0361
.6	.0735	.0732	.0270	.0268	.0465	.0463	.00136					.00480	.00476	.0940	.0911	.0310	.0314
.8	.0645	.0644	.0264	.0261	.0382	.0383	.000772					.00267	.00265	.0836	.0816	.0298	.0297
1.	.0580	.0579	.0255	.0251	.0325	.0328	.000496					.00171	.00170	.0762	.0749	.0287	.0285
1.5	.0472	.0471	.0233	.0229	.0238	.0242	.000225	.000385	.0000111	.0000385	.000119	.000872	.000869	.0660	.0652	.0273	.0269
2.	.0402	.0402	.0213	.0209	.0189	.0193	.000127	.00147	.0000455	.0000671	.000475	.000540	.000538	.0590	.0585	.0261	.0257
3.	.0317	.0317	.0183	.0175	.0134	.0141	.0000568	.00408	.0000111	.0000409	.000259	.000293	.000292	.0480	.0478	.0240	.0233
4.	.0264	.0264	.0160	.0152	.0104	.0113	.0000322	.00666	.0000455	.0000671	.000475	.000153	.000153	.0419	.0418	.0229	.0217
5.	.0228	.0228	.0143	.0134	.00849	.00948	.0000212	.00881	.0000889	.000090	.000668	.0000825	.0000824	.0359	.0358	.0225	.0202
6.	.0202	.0202	.0130	.0119	.00718	.00827	.0000147	.0107	.000138	.0108	.00846	.0000559	.0000559	.0331	.0332	.0227	.0200
8.	.0165	.0165	.0110	.00986	.00550	.00663		.0137	.000234	.0139	.0113	.0000427	.0000427	.0318	.0318	.0232	.0201
10.	.0140	.0140	.00957	.00827	.00445	.00575		.0163	.000322	.0166	.0136	.0000343	.0000343	.0311	.0310	.0238	.0205
15.	.0104	.0104	.00739	.00611	.00301	.00431		.0213	.000506	.0218	.0174	.0000246	.0000246	.0304	.0304	.0249	.0211
20.	.00835	.00835	.00607	.00477	.00228	.00358		.0246	.000642	.0253	.0192	.0000190	.0000190	.0306	.0306	.0262	.0218
30.	.00608	.00608	.00454	.00315	.00154	.00293		.0296	.000852	.0304	.0217	.0000122	.0000122	.0322	.0322	.0292	.0236
40.	.00483	.00483	.00367	.00224	.00116	.00260		.0332	.00100	.0342	.0227	.00000950	.00000950	.0336	.0336	.0314	.0240
50.	.00404	.00404	.00311	.00189	.000929	.00235		.0357	.00111	.0369	.0227			.0365	.0365	.0350	.0246
60.	.00348	.00348	.00270	.00132	.000777	.00216		.0375	.00119	.0388	.0227			.0390	.0390	.0379	.0249
80.	.00274	.00274	.00215	.000880	.000585	.00186		.0406	.00133	.0419	.0226			.0409	.0409	.0400	.0245
100.	.00227	.00227	.00181	.000635	.000469	.00164		.0429	.00143	.0444	.0222			.0423	.0423	.0415	.0240
														.0446	.0446	.0441	.0234
														.0466	.0466	.0462	.0228

30 ZINC
(barns/atom)

E (MeV)	$\sigma_{inc,t}^{KN}$	$\sigma_{inc,t}^{BD}$	$\sigma_{inc,a}^{KN}$	$\sigma_{inc,a}^{BD}$	$\sigma_{inc,s}^{KN}$	$\sigma_{inc,s}^{BD}$	σ_{coh}	σ_{xn}	σ_{xc}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	19.9	.714	.0387	.00139	19.8	.713	569.					222000.	222000.	223000.	222000.	222000.	222000.
L _{III} .001020	19.9	.736	.0395	.00146	19.8	.735	568.					212000.	212000.	213000.	212000.	212000.	212000.
L _{II} .001043	19.9	.763	.0404	.00155	19.8	.761	566.					1190000.	1190000.	1190000.	1190000.	1190000.	1190000.
L _I .001193	19.9	.937	.0461	.00218	19.8	.935	559.					1050000.	1050000.	1050000.	1050000.	1050000.	1050000.
												1450000.	1450000.	1450000.	1450000.	1450000.	1450000.
.0015	19.8	1.29	.0579	.00376	19.8	1.29	542.					1070000.	1070000.	1070000.	1070000.	1070000.	1070000.
.002	19.8	1.84	.0768	.00714	19.7	1.83	512.					1210000.	1210000.	1210000.	1210000.	1210000.	1210000.
.003	19.7	2.87	.114	.0166	19.6	2.85	449.					639000.	639000.	640000.	639000.	639000.	639000.
.004	19.6	3.84	.151	.0295	19.5	3.81	391.					284000.	284000.	285000.	284000.	284000.	284000.
.005	19.6	4.75	.187	.0455	19.4	4.70	338.					92500.	92500.	93000.	92500.	92500.	92500.
.006	19.5	5.59	.223	.0640	19.3	5.53	293.					41600.	41600.	42000.	41600.	41600.	41600.
.008	19.4	7.07	.293	.107	19.1	6.96	222.					22100.	22100.	22400.	22100.	22100.	22100.
K.009659	19.2	8.12	.349	.147	18.9	7.97	179.					13200.	13200.	13500.	13200.	13200.	13200.
												5840.	5840.	6070.	5850.	5840.	5840.
.01	19.2	8.32	.360	.156	18.9	8.16	172.					3390.	3390.	3580.	3400.	3390.	3390.
.015	18.9	10.5	.522	.290	18.3	10.2	104.					29300.	29300.	29500.	29300.	29300.	29300.
.02	18.5	11.9	.669	.429	17.9	11.5	71.2					26400.	26400.	26600.	26400.	26400.	26400.
.03	17.9	13.4	.933	.697	17.0	12.7	39.6					8600.	8600.	8710.	8610.	8600.	8600.
.04	17.4	14.0	1.16	.934	16.2	13.1	24.9					3230.	3230.	3960.	3890.	3880.	3230.
.05	16.8	14.3	1.36	1.15	15.5	13.1	17.2					1100.	1100.	1290.	1250.	1240.	1100.
.06	16.4	14.3	1.54	1.34	14.8	13.0	12.6					543.	498.	582.	557.	544.	499.
.08	15.5	14.1	1.82	1.65	13.7	12.4	7.59					282.	263.	313.	296.	283.	264.
.1	14.8	13.8	2.04	1.90	12.7	11.9	5.00					163.	154.	190.	177.	165.	155.
.15	13.3	12.8	2.41	2.32	10.9	10.5	2.33					69.0	66.1	90.7	83.1	70.8	67.7
.2	12.2	11.9	2.64	2.57	9.56	9.33	1.34					35.2	34.0	54.0	49.0	37.2	35.9
.3	10.6	10.5	2.86	2.83	7.75	7.67	.609					10.4	10.2	25.5	23.2	12.8	12.5
.4	9.5	9.41	2.94	2.91	6.56	6.50	.345					4.37	4.30	17.6	16.3	7.01	6.87
.5	8.67	8.62	2.96	2.95	5.71	5.67	.225					1.30	1.29	12.4	11.8	4.16	4.12
.6	8.02	7.98	2.95	2.92	5.08	5.06	.157					.597	.592	10.4	10.0	3.54	3.50
.8	7.05	7.03	2.88	2.85	4.17	4.18	.0890					.335	.333	9.18	8.95	3.29	3.26
1.	6.34	6.32	2.79	2.74	3.55	3.58	.0570					.212	.211	8.35	8.19	3.16	3.13
1.5	5.15	5.14	2.55	2.50	2.60	2.64	.0259	.0438		.0438	.0136	.107	.107	7.23	7.14	2.99	2.96
2.	4.39	4.39	2.33	2.27	2.06	2.12	.0147	.167		.167	.0788	.0678	.0676	6.44	6.39	2.86	2.81
3.	3.45	3.45	1.99	1.90	1.46	1.55	.00651	.460		.461	.292	.0312	.0311	5.24	5.21	2.62	2.54
4.	2.89	2.89	1.75	1.66	1.13	1.23	.00370	.753	.00121	.758	.537	.0188	.0188	4.59	4.58	2.52	2.37
5.	2.49	2.49	1.57	1.45	.927	1.04	.00244	1.00	.00496	1.01	.756	.0103	.0103	3.93	3.92	2.46	2.20
6.	2.20	2.20	1.42	1.30	.764	.904	.00170	1.21	.00972	1.23	.956	.00703	.00702	3.66	3.66	2.32	2.20
8.	1.80	1.80	1.20	1.07	.600	.727		1.54	.00530	1.57	1.26	.00530	.00530	3.51	3.51	2.59	2.21
10.	1.53	1.53	1.05	.900	.486	.630		1.85	.00420	1.89	1.53	.00420	.00420	3.44	3.43	2.65	2.26
15.	1.14	1.14	.806	.662	.329	.478		2.40	.00301	2.46	1.96	.00301	.00301	3.37	3.37	2.77	2.33
20.	.912	.912	.662	.518	.249	.394		2.80	.00232	2.87	2.18	.00232	.00232	3.42	3.42	2.94	2.43
30.	.664	.664	.496	.340	.168	.324		3.34	.00150	3.43	2.43	.00150	.00150	3.60	3.60	3.27	2.62
40.	.527	.527	.401	.242	.127	.285		3.73	.00115	3.84	2.53			3.78	3.78	3.53	2.70
50.	.440	.440	.339	.182	.101	.258		4.02		4.14	2.54			4.09	4.09	3.93	2.77
60.	.379	.379	.294	.143	.0849	.236		4.24		4.37	2.53			4.37	4.37	4.24	2.77
80.	.299	.299	.235	.0954	.0639	.204		4.58		4.72	2.53			4.58	4.58	4.48	2.72
100.	.248	.248	.197	.0687	.0512	.179		4.85		5.01	2.48			4.75	4.75	4.66	2.67
														5.02	5.02	4.95	2.63
														5.26	5.26	5.21	2.55

30 ZINC
(cm²/g = 0.009213 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{xc}	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _{r,t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.183	.00058	.030357	.0000128	.182	.00657	5.24						2050.	2050.	2050.	2050.	2050.
L _{III} .001020	.183	.00078	.030364	.0000135	.182	.00677	5.23						1950.	1950.	1950.	1950.	1950.
L _{II} .001043	.183	.00003	.030372	.0000143	.182	.00701	5.21						11000.	11000.	11000.	11000.	11000.
L _I .001193	.183	.000863	.030425	.0000201	.182	.00861	5.15						9670.	9670.	9670.	9670.	9670.
													13400.	13400.	13400.	13400.	13400.
.0015	.182	.0109	.030533	.0000346	.182	.0119	4.99						9860.	9860.	9860.	9860.	9860.
.002	.182	.0100	.030708	.0000658	.181	.0169	4.72						11100.	11100.	11100.	11100.	11100.
.003	.181	.0204	.03105	.000153	.181	.0263	4.14						5890.	5890.	5890.	5890.	5890.
.004	.181	.0354	.03139	.000272	.180	.0351	3.60						2620.	2620.	2630.	2620.	2620.
.005	.181	.0438	.03172	.000419	.179	.0433	3.11						852.	852.	857.	852.	852.
.006	.180	.0505	.03205	.000590	.178	.0509	2.70						383.	383.	387.	383.	383.
.008	.179	.0651	.03270	.000986	.176	.0641	2.05						204.	204.	206.	204.	204.
X.0009659	.177	.0708	.03322	.00135	.174	.0734	1.65						122.	122.	124.	122.	122.
													53.8	53.8	53.9	53.8	53.8
.01	.177	.0707	.03332	.00144	.174	.0752	1.58						31.2	31.2	33.0	31.2	31.2
.015	.174	.0907	.03481	.00267	.169	.0940	.958						270.	177.	272.	270.	177.
.02	.170	.110	.03616	.00395	.165	.106	.656						243.	162.	245.	243.	162.
.03	.165	.123	.03860	.00642	.157	.117	.365						79.2	61.5	80.2	79.2	61.6
.04	.160	.120	.04107	.0086	.149	.121	.229						35.7	29.8	36.5	35.7	29.8
.05	.155	.132	.0425	.0106	.143	.121	.158						11.4	10.1	11.9	11.4	10.1
.06	.151	.132	.0442	.0123	.136	.120	.116						5.00	4.59	5.36	5.01	4.60
.08	.143	.130	.0468	.0152	.126	.114	.0699						2.60	2.02	2.88	2.73	2.43
.1	.136	.120	.0488	.0175	.117	.110	.0461						1.50	1.02	1.75	1.52	1.43
.15	.123	.110	.0522	.0214	.100	.0967	.0215						.636	.509	.836	.766	.652
.2	.112	.110	.0543	.0237	.0881	.0860	.0123						.324	.213	.498	.451	.343
.3	.0977	.0907	.0563	.0261	.0714	.0707	.00561						.0958	.0940	.235	.214	.118
.4	.0875	.0807	.0571	.0268	.0604	.0599	.00318						.0403	.0395	.162	.150	.0646
.5	.0799	.0744	.0573	.0272	.0525	.0522	.00207						.0120	.0119	.114	.109	.0383
.6	.0739	.0735	.0572	.0269	.0468	.0466	.00145						.0055	.00545	.0958	.0921	.0326
.8	.0650	.0608	.0565	.0263	.0384	.0385	.000820						.00309	.00307	.0846	.0825	.0303
1.	.0584	.0582	.057	.0252	.0327	.0330	.000525						.00195	.00194	.0769	.0755	.0291
1.3	.0474	.0444	.0535	.0230	.0240	.0243	.000239	.000404					.000986	.000986	.0666	.0658	.0273
2.	.0404	.0444	.0515	.0209	.0190	.0195	.000135	.00154	.000404	.000125			.000625	.000523	.0593	.0589	.0263
3.	.0318	.0308	.0483	.0175	.0135	.0143	.0000600	.00424	.0000111	.000726			.000287	.000287	.0483	.0480	.0241
4.	.0266	.0206	.0461	.0153	.0104	.0113	.0000341	.00694	.0000896	.000931	.000495		.0000949	.0000949	.0362	.0361	.0227
5.	.0229	.0229	.0445	.0134	.00854	.00958	.0000225	.00921	.0000896	.00931	.00697		.0000648	.0000648	.0337	.0337	.0232
6.	.0203	.0203	.0431	.0120	.00722	.00833	.0000157	.0111	.000139	.0113	.00881		.0000488	.0000488	.0323	.0323	.0239
8.	.0166	.0106	.0411	.00986	.00553	.00670		.0142	.006236	.0145	.0116		.0000387	.0000387	.0317	.0316	.0244
10.	.0141	.0101	.03967	.00829	.00448	.00580		.0170	.000325	.0174	.0141		.0000277	.0000277	.0310	.0310	.0255
15.	.0105	.0105	.03743	.00610	.00303	.00440		.0221	.000509	.0227	.0181		.0000214	.0000214	.0315	.0315	.0271
20.	.00840	.00840	.03610	.00477	.00229	.00363		.0258	.000647	.0264	.0201		.0000138	.0000138	.0332	.0332	.0301
30.	.00612	.00612	.03457	.00313	.00155	.00299		.0308	.000857	.0316	.0224		.0000106	.0000106	.0348	.0348	.0301
40.	.00486	.00486	.03369	.00223	.00117	.00243		.0344	.00100	.0354	.0233				.0377	.0377	.0325
50.	.00405	.00405	.03312	.00168	.000931	.00238		.0370	.00111	.0381	.0234				.0403	.0403	.0391
60.	.00349	.00349	.03271	.00132	.000782	.00217		.0391	.00120	.0403	.0233				.0422	.0422	.0413
80.	.00275	.00275	.03217	.000879	.000589	.00188		.0422	.00134	.0435	.0233				.0438	.0438	.0429
100.	.00228	.00228	.03181	.000633	.000472	.00165		.0447	.00144	.0462	.0228				.0462	.0462	.0456
															.0485	.0485	.0480
																	.0235

31 GALLIUM
(barns/atom)

E (MeV)	KN inc, t	BD inc, t	KN inc, a	BD inc, a	KN inc, s	BD inc, s	σ_{coh}	σ_{xn}	σ_{xe}	$\sigma_{x,t}$	$\sigma_{x,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	20.5	.761	.0400	.00148	20.5	.760	603.					257000.	257000.	258000.	257000.	257000.	257000.
L _{III} .001115	20.5	.900	.0446	.00195	20.5	.898	597.					195000.	195000.	195000.	195000.	195000.	195000.
L _{II} .001142	20.5	.933	.0457	.00207	20.5	.931	595.					1060000.	1050000.	1060000.	1060000.	1060000.	1050000.
L _I .001390	20.5	1.13	.0519	.00286	20.5	1.13	586.					933000.	924000.	934000.	933000.	933000.	924000.
												1290000.	1280000.	1290000.	1290000.	1290000.	1280000.
.0015	20.5	1.37	.0598	.00400	20.4	1.37	573.					965000.	957000.	966000.	965000.	965000.	957000.
.002	20.5	1.96	.0794	.0076	20.4	1.95	540.					1090000.	1080000.	1090000.	1090000.	1090000.	1080000.
.003	20.4	3.04	.118	.0176	20.3	3.02	474.					729000.	724000.	730000.	729000.	729000.	724000.
.004	20.3	4.01	.156	.0309	20.1	3.98	414.					326000.	324000.	327000.	326000.	326000.	324000.
.005	20.2	4.91	.194	.0470	20.0	4.86	361.					106000.	106000.	106000.	106000.	106000.	106000.
.006	20.1	5.75	.231	.0658	19.9	5.68	314.					47600.	47500.	48000.	47600.	47600.	47500.
.008	20.0	7.22	.303	.109	19.7	7.11	240.					25300.	25200.	25700.	25300.	25300.	25200.
.01	19.9	8.48	.372	.159	19.5	8.32	187.					15200.	15200.	15500.	15200.	15200.	15200.
K.010367	19.8	8.69	.385	.169	19.4	8.52	179.					6750.	6740.	7000.	6760.	6750.	6740.
												3550.	3550.	3750.	3560.	3550.	3550.
.015	19.5	10.7	.539	.296	19.0	10.4	113.					3200.	3200.	3390.	3210.	3200.	3200.
.02	19.2	12.2	.691	.440	18.5	11.8	77.1					27100.	17100.	27300.	27100.	27100.	17100.
.03	18.5	13.7	.964	.713	17.6	13.0	43.0					9720.	7240.	9840.	9730.	9720.	7240.
.04	17.9	14.4	1.20	.96	16.7	13.4	27.1					4370.	3540.	4460.	4380.	4370.	3540.
.05	17.4	14.7	1.40	1.19	16.0	13.5	18.7					1400.	1220.	1460.	1410.	1400.	1220.
.06	16.9	14.7	1.59	1.38	15.3	13.3	13.7					620.	561.	661.	634.	621.	562.
.08	16.0	14.5	1.88	1.70	14.2	12.8	8.26					322.	297.	355.	337.	323.	298.
.1	15.3	14.2	2.11	1.96	13.2	12.2	5.44					187.	175.	215.	202.	189.	176.
.15	13.8	13.2	2.50	2.40	11.3	10.8	2.53					79.4	75.6	102.	93.9	81.3	77.3
.2	12.6	12.3	2.72	2.66	9.88	9.64	1.46					40.7	39.1	60.3	54.9	42.8	41.1
.3	11.0	10.8	2.95	2.91	8.00	7.89	.663					12.0	11.7	27.7	25.2	14.5	14.1
.4	9.81	9.72	3.04	3.00	6.78	6.72	.376					5.09	4.99	18.8	17.4	7.81	7.65
.5	8.96	8.90	3.06	3.04	5.91	5.86	.244					1.51	1.49	13.0	12.3	4.46	4.40
.6	8.29	8.25	3.05	3.02	5.25	5.23	.171					.693	.686	10.8	10.4	3.73	3.69
.8	7.28	7.26	2.98	2.94	4.31	4.32	.0967					.390	.387	9.53	9.29	3.45	3.43
1.	6.55	6.53	2.88	2.82	3.67	3.71	.0620					.248	.246	8.67	8.50	3.30	3.27
1.5	5.32	5.31	2.63	2.59	2.69	2.72	.0280	.0470		.0470	.0146	.125	.124	7.48	7.38	3.11	3.06
2.	4.54	4.53	2.41	2.35	2.13	2.18	.0160	.180		.180	.0850	.0791	.0788	6.67	6.61	2.96	2.90
3.	3.57	3.57	2.06	1.97	1.51	1.60	.00710	.491	.00125	.492	.312	.0368	.0367	5.42	5.39	2.71	2.64
4.	2.98	2.98	1.81	1.70	1.17	1.28	.00400	.804	.00512	.809	.572	.0221	.0221	4.75	4.73	2.61	2.46
5.	2.58	2.58	1.62	1.50	.958	1.08	.00264	1.07	.0100	1.08	.808	.0120	.0120	4.08	4.07	2.56	2.29
6.	2.28	2.28	1.47	1.34	.810	.939	.00185	1.29	.0156	1.31	1.02	.00820	.00819	3.80	3.80	2.63	2.28
8.	1.86	1.86	1.24	1.10	.620	.757	.00101	1.65	.0265	1.68	1.34	.00620	.00620	3.67	3.67	2.71	2.31
10.	1.59	1.59	1.08	.929	.502	.661		1.96	.0364	2.00	1.62	.00495	.00495	3.60	3.59	2.78	2.36
15.	1.17	1.17	.833	.676	.340	.494		2.57	.0570	2.63	2.09	.00353	.00353	3.54	3.54	2.92	2.44
20.	.942	.942	.684	.528	.258	.414		2.99	.0724	3.06	2.32	.00270	.00270	3.59	3.59	3.08	2.55
30.	.686	.686	.512	.349	.173	.337		3.58	.0960	3.68	2.58	.00172	.00172	3.80	3.80	3.46	2.77
40.	.545	.545	.414	.246	.131	.299		4.00	.113	4.11	2.69	.00131	.00131	4.00	4.00	3.75	2.85
50.	.455	.455	.350	.187	.105	.268		4.30	.125	4.43	2.69			4.37	4.37	4.19	2.93
60.	.392	.392	.304	.146	.0877	.246		4.52	.135	4.66	2.67			4.66	4.66	4.52	2.94
80.	.309	.309	.243	.0980	.0660	.211		4.89	.150	5.04	2.66			4.88	4.88	4.78	2.88
100.	.257	.257	.204	.0709	.0529	.186		5.20	.160	5.36	2.62			5.05	5.05	4.96	2.82
														5.35	5.35	5.28	2.76
														5.62	5.62	5.56	2.69

31 GALLIUM
(cm²/g = 0.008638 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{KN} inc, t	($\frac{\mu}{\rho}$) _{BD} inc, t	($\frac{\mu}{\rho}$) _{KN} inc, a	($\frac{\mu}{\rho}$) _{BD} inc, z	($\frac{\mu}{\rho}$) _{KN} inc, s	($\frac{\mu}{\rho}$) _{BD} inc, s	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{xe}	($\frac{\mu}{\rho}$) _{x, t}	($\frac{\mu}{\rho}$) _{x, a}	($\frac{\mu}{\rho}$) _{r, t}	($\frac{\mu}{\rho}$) _{r, a}	($\frac{\mu}{\rho}$) _{tot, t}	($\frac{\mu}{\rho}$) _{tot, t-coh}	($\frac{\mu}{\rho}$) _{tot, a}	($\frac{\mu}{\rho}$) _{tot, en}
.001	.177	.00657	.000346	.0000128	.177	.00656	5.21					2220.	2220.	2220.	2220.	2220.	2220.
L _{III} .001115	.177	.00777	.000385	.0000168	.177	.00776	5.16					1680.	1680.	1680.	1680.	1680.	1680.
L _{II} .001142	.177	.00806	.000395	.0000179	.177	.00804	5.14					9160.	9070.	9160.	9160.	9160.	9070.
L _I .001300	.177	.00976	.000448	.0000247	.177	.00976	5.06					8060.	7980.	8070.	8060.	8050.	7980.
.0015	.177	.0118	.000517	.0000346	.176	.0118	4.95					11100.	11100.	11100.	11100.	11100.	11100.
.002	.177	.0149	.000686	.0000656	.176	.0168	4.66					8340.	8270.	8340.	8340.	8340.	8270.
.003	.176	.0263	.00102	.000152	.175	.0261	4.69					9420.	9330.	9420.	9420.	9420.	9330.
.004	.175	.0346	.00135	.000267	.174	.0344	3.58					6300.	6250.	6310.	6300.	6300.	6250.
.005	.174	.0424	.00168	.000406	.173	.0420	3.12					2820.	2800.	2820.	2820.	2820.	2800.
.006	.174	.0457	.00200	.000568	.172	.0491	2.71					916.	916.	916.	916.	916.	916.
.008	.173	.0624	.00262	.000942	.170	.0614	2.07					411.	410.	415.	411.	411.	410.
.01	.172	.0753	.00321	.00137	.168	.0719	1.62					219.	218.	222.	219.	219.	218.
K.010367	.171	.0751	.00333	.00146	.168	.0736	1.55					131.	131.	134.	131.	131.	131.
.015	.168	.0924	.00466	.00255	.164	.0898	.976					58.3.	58.2	60.5	58.4	58.3	58.2
.02	.166	.105	.00597	.00380	.160	.102	.666					30.7	30.7	32.4	30.8	30.7	30.7
.03	.160	.111	.00833	.00616	.152	.112	.371					27.6	27.6	29.3	27.7	27.6	27.6
.04	.155	.124	.0104	.00829	.144	.116	.234					234.	148.	236.	234.	234.	148.
.05	.150	.127	.0121	.0103	.138	.117	.162					84.0	62.5	85.0	84.0	84.0	62.5
.06	.146	.127	.0137	.0119	.132	.115	.118					37.7	30.4	38.5	37.8	37.7	30.6
.08	.138	.125	.0162	.0147	.123	.111	.0713					12.1	10.5	12.6	12.2	12.1	10.5
.1	.132	.123	.0182	.0169	.114	.105	.0470					5.36	4.45	5.71	5.48	5.36	4.85
.15	.119	.114	.0216	.0207	.0976	.0933	.0219					2.79	2.37	3.07	2.91	2.79	2.57
.2	.109	.106	.0235	.0230	.0853	.0833	.0126					1.62	1.51	1.86	1.74	1.63	1.52
.3	.0950	.0933	.0255	.0251	.0691	.0682	.00573					.686	.653	.881	.811	.702	.668
.4	.0847	.0840	.0263	.0259	.0586	.0580	.00325					.352	.338	.521	.474	.370	.355
.5	.0774	.0759	.0264	.0263	.0511	.0506	.00211					.164	.161	.239	.218	.125	.122
.5	.0716	.0713	.0263	.0261	.0453	.0452	.00148					.0440	.0431	.162	.150	.0675	.0661
.6	.0629	.0627	.0257	.0254	.0372	.0373	.000635					.0130	.0129	.112	.106	.0385	.0380
.7	.0566	.0554	.0249	.0244	.0317	.0320	.000536					.00599	.00593	.0933	.0898	.0322	.0319
1.5	.0460	.0459	.0227	.0224	.0232	.0235	.000242	.000406	.000406	.000126		.00337	.00334	.0823	.0802	.0298	.0296
2.	.0392	.0391	.0208	.0203	.0184	.0188	.000138	.00155	.000734			.00214	.00212	.0749	.0734	.0285	.0282
3.	.0308	.0308	.0178	.0170	.0130	.0138	.0000613	.00424	.0000108			.00108	.00104	.0306	.0306	.0252	.0251
4.	.0257	.0257	.0156	.0147	.0101	.0111	.0000346	.00694	.0000442			.000683	.000681	.0576	.0571	.0256	.0251
5.	.0223	.0223	.0140	.0130	.00828	.00933	.0000228	.00924	.0000864	.00933		.000318	.000317	.0468	.0466	.0234	.0228
6.	.0197	.0197	.0127	.0116	.00700	.00811	.0000160	.0111	.000135	.0113		.000191	.000191	.0410	.0409	.0225	.0212
8.	.0161	.0151	.0107	.00950	.00536	.00654	.0000087	.0143	.000229	.0145		.000104	.000104	.0352	.0352	.0221	.0198
10.	.0137	.0137	.00933	.00802	.00434	.00571		.0169	.000314	.0173		.0000708	.0000707	.0328	.0328	.0227	.0197
15.	.0101	.0101	.00720	.00584	.00294	.00427	.0222	.000492	.0227	.0181		.0000536	.0000536	.0317	.0317	.0234	.0206
20.	.00814	.00814	.00591	.00456	.00223	.00356	.0258	.000625	.0264	.0200		.0000428	.0000428	.0311	.0310	.0240	.0204
30.	.00593	.00593	.00442	.00301	.00149	.00291	.0309	.000829	.0318	.0223		.0000305	.0000305	.0306	.0306	.0252	.0211
40.	.00471	.00471	.00358	.00212	.00113	.00256	.0346	.000976	.0355	.0232		.0000233	.0000233	.0310	.0310	.0266	.0220
50.	.00393	.00393	.00302	.00162	.000907	.00231	.0371	.00108	.0383	.0232		.0000149	.0000149	.0328	.0328	.0299	.0236
60.	.00339	.00339	.00263	.00126	.000758	.00212	.0390	.00117	.0403	.0231		.0000113	.0000113	.0346	.0346	.0324	.0246
80.	.00267	.00267	.00210	.000847	.000570	.00182	.0422	.00130	.0435	.0230				.0377	.0377	.0362	.0253
100.	.00222	.00222	.00176	.000612	.000457	.00161	.0449	.00138	.0463	.0226				.0403	.0403	.0390	.0254
														.0422	.0422	.0413	.0249
														.0436	.0436	.0428	.0244
														.0462	.0462	.0456	.0238
														.0485	.0485	.0480	.0232

32 GERMANIUM
 (barns/atom)

E (MeV)	$\sigma_{\text{inc,t}}^{\text{KN}}$	$\sigma_{\text{inc,t}}^{\text{BD}}$	$\sigma_{\text{inc,a}}^{\text{KN}}$	$\sigma_{\text{inc,a}}^{\text{BD}}$	$\sigma_{\text{inc,s}}^{\text{KN}}$	$\sigma_{\text{inc,s}}^{\text{BD}}$	σ_{cph}	$\sigma_{\text{x,n}}$	$\sigma_{\text{x,e}}$	$\sigma_{\text{x,t}}$	$\sigma_{\text{x,a}}$	$\sigma_{\text{r,t}}$	$\sigma_{\text{r,a}}$	$\sigma_{\text{tot,t}}$	$\sigma_{\text{tot,t-coh}}$	$\sigma_{\text{tot,a}}$	$\sigma_{\text{tot,en}}$
.001	21.2	.758	.0413	.00148	21.2	.757	642.					296000.	296000.	297000.	296000.	296000.	296000.
L_{III} .001217	21.2	1.03	.0502	.00244	21.1	1.03	628.					179000.	179000.	180000.	179000.	179000.	179000.
L_{II} .001248	21.2	1.07	.0515	.00260	21.1	1.07	626.					948000.	933000.	949000.	948000.	948000.	933000.
L_{I} .001413	21.2	1.28	.0582	.00352	21.1	1.28	615.					833000.	820000.	834000.	833000.	833000.	820000.
.0015	21.2	1.39	.0617	.00405	21.1	1.39	609.					1150000.	1130000.	1150000.	1150000.	1150000.	1130000.
.002	21.1	2.01	.0820	.00780	21.0	2.00	572.					871000.	859000.	872000.	871000.	871000.	859000.
.003	21.0	3.14	.122	.0182	20.9	3.12	501.					983000.	970000.	984000.	983000.	983000.	970000.
.004	21.0	4.13	.161	.0318	20.8	4.10	438.					829000.	818000.	830000.	829000.	829000.	818000.
.005	20.9	5.04	.200	.0483	20.7	4.99	383.					370000.	366000.	371000.	370000.	370000.	366000.
.006	20.8	5.88	.238	.0673	20.6	5.81	335.					119000.	118000.	120000.	119000.	119000.	118000.
.008	20.6	7.37	.312	.112	20.3	7.26	258.					54000.	53700.	54400.	54000.	54000.	53700.
.01	20.5	8.64	.384	.162	20.1	8.48	202.					28900.	28800.	29300.	28900.	28900.	28800.
κ .011104	20.4	9.36	.423	.194	20.0	9.17	178.					17400.	17300.	17700.	17400.	17400.	17300.
.015	20.1	11.0	.556	.304	19.6	10.7	122.					7750.	7730.	8020.	7760.	7750.	7730.
.02	19.8	12.5	.713	.451	19.1	12.0	83.2					4090.	4080.	4300.	4100.	4090.	4080.
.03	19.1	14.1	.995	.734	18.1	13.4	46.5					3020.	3010.	3210.	3030.	3020.	3010.
.04	18.5	14.8	1.24	.987	17.3	13.8	29.4					25100.	15200.	25300.	25100.	25100.	15200.
.05	18.0	15.1	1.45	1.22	16.5	13.9	20.3					10900.	7730.	11000.	10900.	10900.	7730.
.06	17.5	15.2	1.64	1.43	15.8	13.8	14.3					4900.	3830.	5000.	4910.	4900.	3830.
.08	16.6	15.0	1.94	1.76	14.6	13.2	8.36					1580.	1350.	1640.	1590.	1580.	1350.
.1	15.8	14.6	2.18	2.01	13.6	12.6	5.90					700.	624.	744.	715.	701.	625.
.15	14.2	13.6	2.58	2.47	11.6	11.1	2.75					370.	338.	405.	385.	371.	339.
.2	13.0	12.7	2.81	2.75	10.2	9.95	1.58					214.	198.	244.	229.	216.	199.
.3	11.3	11.1	3.05	2.99	8.26	8.11	.920					91.0	86.0	115.	106.	92.9	87.8
.4	10.1	10.0	3.14	3.09	7.00	6.91	.408					47.0	44.9	67.5	61.6	49.2	46.9
.5	9.25	9.19	3.16	3.14	6.10	6.05	.265					14.0	13.6	30.4	27.6	16.6	16.1
.6	8.56	8.51	3.15	3.11	5.41	5.40	.185					5.92	5.79	20.2	18.6	8.73	8.54
.8	7.52	7.49	3.07	3.03	4.44	4.46	.104					1.75	1.72	13.6	12.8	4.80	4.71
1.	6.76	6.74	2.97	2.91	3.79	3.83	.0670					.802	.793	11.2	10.8	3.94	3.88
1.5	5.49	5.48	2.72	2.66	2.77	2.82	.0302	.0502	.0156			.453	.449	9.91	9.64	3.61	3.59
2.	4.68	4.68	2.49	2.42	2.20	2.26	.0173	.192	.0904			.287	.285	8.98	8.80	3.44	3.39
3.	3.68	3.68	2.12	2.03	1.56	1.65	.00770	.528	.00129			.145	.144	7.74	7.63	3.21	3.17
4.	3.08	3.08	1.87	1.76	1.21	1.32	.00432	.859	.00529			.0921	.0917	6.90	6.83	3.06	3.00
5.	2.66	2.66	1.67	1.54	.989	1.12	.00285	1.14	.0103	1.15	.859	.0431	.0430	5.60	5.57	2.81	2.72
6.	2.35	2.35	1.51	1.38	.836	.971	.00201	1.37	.0161	1.39	1.08	.0261	.0260	4.92	4.90	2.71	2.54
8.	1.92	1.92	1.28	1.13	.640	.787	.00112	1.75	.0273	1.78	1.42	.0141	.0141	4.23	4.22	2.66	2.38
10.	1.64	1.64	1.12	.951	.518	.689						.00946	.00945	3.96	3.95	2.74	2.38
15.	1.21	1.21	.860	.693	.351	.517						.00717	.00716	3.82	3.82	2.83	2.41
20.	.972	.972	.707	.542	.266	.430						.00570	.00570	3.75	3.75	2.91	2.47
30.	.708	.708	.529	.355	.179	.353						.00407	.00407	3.71	3.71	3.06	2.55
40.	.563	.563	.428	.253	.135	.310						.00312	.00312	3.78	3.78	3.26	2.68
50.	.470	.470	.362	.191	.108	.279						.00199	.00199	4.00	4.00	3.65	2.90
60.	.404	.404	.314	.149	.0905	.255						.00151	.00151	4.22	4.22	3.96	2.99
80.	.319	.319	.251	.0998	.0681	.219						.00101	.00101	4.61	4.61	4.43	3.09
100.	.265	.265	.210	.0726	.0546	.192								4.93	4.93	4.80	3.09
														5.17	5.17	5.06	3.03
														5.34	5.34	5.25	2.96
														5.66	5.66	5.59	2.91
														5.92	5.92	5.87	2.83

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(cm²/g = 0.008297 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{KN inc, t}	($\frac{\mu}{\rho}$) _{3D inc, t}	($\frac{\mu}{\rho}$) _{KN inc, a}	($\frac{\mu}{\rho}$) _{BD inc, a}	($\frac{\mu}{\rho}$) _{KN inc, s}	($\frac{\mu}{\rho}$) _{BD inc, s}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{xc}	($\frac{\mu}{\rho}$) _{x, t}	($\frac{\mu}{\rho}$) _{x, a}	($\frac{\mu}{\rho}$) _{r, t}	($\frac{\mu}{\rho}$) _{r, a}	($\frac{\mu}{\rho}$) _{tot, t}	($\frac{\mu}{\rho}$) _{tot, t-coh}	($\frac{\mu}{\rho}$) _{tot, a}	($\frac{\mu}{\rho}$) _{tot, en}
.001	.176	.00629	.000343	.0000123	.176	.00628	5.33						2460.	2460.	2460.	2460.	2460.
L _{III} .001217	.176	.00855	.000417	.0000202	.175	.00855	5.21						1490.	1490.	1490.	1490.	1490.
L _{II} .001248	.176	.00888	.000427	.0000216	.175	.00888	5.19						7870.	7870.	7870.	7870.	7870.
L _I .001413	.176	.0106	.000483	.0000292	.175	.0106	5.10						6910.	6910.	6910.	6910.	6910.
	.176	.0115	.000512	.0000336	.175	.0115	5.05						9540.	9540.	9540.	9540.	9540.
.0015	.176	.0115	.000512	.0000336	.175	.0115	5.05						7230.	7230.	7230.	7230.	7230.
.002	.175	.0167	.000680	.0000647	.174	.0166	4.75						8160.	8160.	8160.	8160.	8160.
.003	.174	.0261	.00101	.000151	.173	.0259	4.16						8054.	8054.	8054.	8054.	8054.
.004	.174	.0343	.00134	.000264	.173	.0340	3.63						6890.	6890.	6890.	6890.	6890.
.005	.173	.0418	.00166	.000401	.172	.0414	3.18						448.	448.	448.	448.	448.
.006	.173	.0488	.00197	.000558	.171	.0482	2.78						240.	240.	240.	240.	240.
.008	.171	.0611	.00259	.000929	.168	.0602	2.14						144.	144.	144.	144.	144.
.01	.170	.0717	.00319	.00134	.167	.0704	1.68						64.3	64.1	64.5	64.4	64.1
K.011104	.169	.0777	.00351	.00161	.166	.0761	1.48						33.9	33.9	35.7	34.0	33.9
	.169	.0777	.00351	.00161	.166	.0761	1.48						25.1	25.0	26.6	25.1	25.0
.015	.167	.0913	.00461	.00252	.163	.0888	1.01						208.	126.	210.	208.	126.
.02	.164	.104	.00592	.00374	.158	.0996	.690						90.4	64.1	91.3	90.4	64.1
.03	.158	.117	.00826	.00609	.150	.111	.386						40.7	31.8	41.5	40.7	31.8
.04	.153	.123	.0103	.00819	.144	.114	.244						13.1	11.2	13.6	13.2	11.2
.05	.149	.125	.0120	.0101	.137	.115	.168						5.81	5.18	6.17	5.93	5.82
.06	.145	.126	.0136	.0119	.131	.114	.124						3.07	2.80	3.36	3.19	2.81
.08	.138	.124	.0161	.0146	.121	.110	.0743						1.78	1.64	2.02	1.90	1.79
.1	.131	.121	.0181	.0167	.113	.105	.0490						.755	.714	.954	.879	.771
.15	.118	.113	.0214	.0205	.0962	.0921	.0228						.390	.373	.560	.511	.468
.2	.108	.105	.0233	.0228	.0846	.0826	.0131						.116	.113	.252	.229	.138
.3	.0938	.0921	.0253	.0248	.0685	.0673	.00597						.0491	.0480	.168	.154	.0724
.4	.0838	.0830	.0261	.0256	.0581	.0573	.00339						.0145	.0143	.113	.106	.0398
.5	.0767	.0762	.0261	.0261	.0506	.0502	.00220						.00665	.00658	.0929	.0896	.0327
.6	.0710	.0706	.0261	.0258	.0449	.0448	.00153						.00374	.00373	.0822	.0800	.0300
.8	.0624	.0621	.0255	.0251	.0368	.0370	.000863						.00238	.00236	.0748	.0730	.0285
1.	.0561	.0559	.0246	.0241	.0314	.0318	.000556						.00120	.00119	.0642	.0633	.0266
1.5	.0455	.0455	.0226	.0221	.0230	.0234	.000251	.000417		.000417	.000129	.000358	.000357	.000357	.0465	.0462	.0233
2.	.0388	.0388	.0207	.0201	.0183	.0188	.000144	.00159		.00159	.00075	.000217	.000216	.000216	.0408	.0407	.0225
3.	.0305	.0305	.0176	.0168	.0129	.0137	.0000639	.00438		.00438	.00278	.000117	.000117	.000117	.0351	.0350	.0221
4.	.0256	.0256	.0155	.0146	.0100	.0110	.0000358	.00713	.00000439	.000713	.00506	.0000785	.0000784	.0000784	.0329	.0328	.0227
5.	.0221	.0221	.0139	.0128	.00821	.00929	.0000236	.00946	.00000855	.00954	.00713	.0000595	.0000594	.0000594	.0317	.0317	.0235
6.	.0195	.0195	.0125	.0114	.00694	.00806	.0000167	.0114	.0000134	.0115	.00896	.0000473	.0000473	.0000473	.0311	.0311	.0241
8.	.0159	.0159	.0106	.00938	.00531	.00653	.0000093	.0145	.0000227	.0148	.0118	.0000338	.0000338	.0000338	.0308	.0307	.0254
10.	.0136	.0136	.00929	.00789	.00430	.00572		.0174	.0000312	.0178	.0144	.0000259	.0000259	.0000259	.0314	.0314	.0270
15.	.0100	.0100	.00714	.00575	.00291	.00429		.0227	.0000490	.0231	.0183	.0000165	.0000165	.0000165	.0332	.0332	.0303
20.	.00806	.00806	.00587	.00450	.00221	.00357		.0264	.0000621	.0270	.0203	.0000125	.0000125	.0000125	.0350	.0350	.0329
30.	.00587	.00587	.00439	.00295	.00149	.00293		.0315	.0000821	.0324	.0227	.00000840	.00000840	.00000840	.0382	.0382	.0368
40.	.00467	.00467	.00355	.00210	.00112	.00257		.0353	.0000971	.0363	.0236				.0409	.0409	.0398
50.	.00390	.00390	.00300	.00158	.000896	.00231		.0379	.00106	.0390	.0236				.0429	.0429	.0420
60.	.00335	.00335	.00261	.00124	.000751	.00212		.0398	.00115	.0410	.0233				.0443	.0443	.0436
80.	.00265	.00265	.00208	.000828	.000565	.00182		.0431	.00129	.0443	.0233				.0470	.0470	.0464
100.	.00226	.00226	.00174	.000602	.000453	.00159		.0456	.00137	.0470	.0229				.0491	.0491	.0487

33 ARSENIC
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xe}	$\sigma_{x,t}$	$\sigma_{x,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	21.9	.722	.0426	.00141	21.8	.721	664.					338000.	338000.	339000.	338000.	338000.	338000.
L _{III} .001323	21.8	1.13	.0562	.00291	21.8	1.13	662.					165000.	165000.	166000.	165000.	165000.	165000.
L _{II} .001359	21.8	1.17	.0577	.00309	21.8	1.17	659.					853000.	836000.	854000.	853000.	853000.	836000.
												747000.	732000.	748000.	747000.	747000.	732000.
.0015	21.8	1.36	.0637	.00397	21.8	1.36	648.					1030000.	1010000.	1030000.	1030000.	1030000.	1010000.
L _I .001530	21.8	1.39	.0649	.00414	21.8	1.39	646.					825000.	810000.	826000.	825000.	825000.	810000.
												790000.	776000.	791000.	790000.	790000.	776000.
.002	21.8	2.00	.0845	.00776	21.7	1.99	608.					892000.	876000.	893000.	892000.	892000.	876000.
.003	21.7	3.18	.126	.0184	21.6	3.16	530.					421000.	415000.	422000.	421000.	421000.	415000.
.004	21.6	4.24	.166	.0326	21.4	4.21	463.					136000.	135000.	137000.	136000.	136000.	135000.
.005	21.5	5.17	.206	.0495	21.3	5.12	405.					61800.	61400.	62300.	61800.	61800.	61400.
.006	21.4	6.03	.246	.0690	21.2	5.96	356.					33100.	32900.	33500.	33100.	33100.	32900.
.008	21.3	7.53	.322	.114	21.0	7.42	276.					19900.	19800.	20300.	19900.	19900.	19800.
.01	21.1	8.81	.396	.165	20.7	8.64	217.					8910.	8880.	9190.	8920.	8910.	8880.
K .011867	21.0	9.83	.464	.217	20.5	9.61	177.					4710.	4700.	4940.	4720.	4710.	4700.
												2860.	2850.	3050.	2870.	2860.	2850.
.015	20.8	11.2	.574	.310	20.2	10.9	131.					23400.	13600.	23600.	23400.	23400.	13600.
.02	20.4	12.7	.736	.458	19.7	12.2	89.5					12200.	8180.	12300.	12200.	12200.	8180.
.03	19.7	14.4	1.03	.749	18.7	13.7	50.2					5480.	4120.	5580.	5490.	5480.	4120.
.04	19.1	15.2	1.27	1.01	17.8	14.2	31.8					1770.	1480.	1830.	1780.	1770.	1480.
.05	18.5	15.5	1.49	1.25	17.0	14.2	21.9					790.	692.	837.	805.	791.	693.
.06	18.0	15.6	1.69	1.46	16.3	14.1	16.1					419.	378.	456.	434.	420.	379.
.08	17.1	15.4	2.00	1.80	15.1	13.6	9.69					244.	224.	276.	260.	246.	225.
.1	16.3	15.0	2.24	2.07	14.0	12.9	6.39					103.	96.6	118.	105.	105.	96.4
.15	14.6	14.0	2.66	2.54	12.0	11.5	2.98					54.0	51.3	75.4	69.0	56.2	53.4
.2	13.4	13.0	2.90	2.81	10.5	10.2	1.71					16.0	15.5	33.0	30.0	18.7	18.0
.3	11.7	11.5	3.14	3.10	8.52	8.40	.779					6.73	6.56	21.4	19.7	9.63	9.37
.4	10.4	10.3	3.24	3.18	7.21	7.12	.442					2.02	1.99	14.3	13.5	5.18	5.09
.5	9.54	9.47	3.25	3.23	6.29	6.24	.287					.920	.909	11.7	11.2	4.18	4.09
.6	8.83	8.78	3.24	3.21	5.58	5.57	.200					.520	.515	10.3	9.99	3.77	3.75
.8	7.75	7.73	3.17	3.13	4.60	4.60	.113					.330	.327	9.31	9.11	3.57	3.54
1.	6.97	6.95	3.07	3.00	3.90	3.95	.0727					.168	.167	8.01	7.90	3.34	3.30
1.5	5.66	5.65	2.80	2.75	2.86	2.90	.0328	.0540		.0540	.0167	.105	.104	7.13	7.05	3.17	3.10
2.	4.83	4.82	2.56	2.49	2.27	2.33	.0186	.205		.205	.0966	.0494	.0492	5.79	5.75	2.90	2.82
3.	3.80	3.80	2.19	2.09	1.61	1.71	.0083	.560	.00133	.561	.355	.0301	.0300	5.07	5.06	2.80	2.62
4.	3.17	3.17	1.93	1.81	1.25	1.36	.00465	.912	.00545	.917	.647	.0165	.0165	4.39	4.38	2.77	2.46
5.	2.74	2.74	1.72	1.59	1.02	1.15	.00306	1.22	.0107	1.23	.917	.0110	.0110	4.10	4.10	2.86	2.47
6.	2.42	2.42	1.56	1.42	.863	1.00	.00216	1.45	.0166	1.47	1.14	.00828	.00827	3.98	3.98	2.96	2.52
8.	1.98	1.98	1.32	1.16	.660	.816	.00122	1.85	.0282	1.88	1.50	.00660	.00659	3.90	3.90	3.04	2.57
10.	1.69	1.69	1.15	.977	.534	.713		2.22	.0387	2.26	1.82	.00470	.00470	3.87	3.86	3.20	2.66
15.	1.25	1.25	.887	.712	.362	.537		2.90	.0609	2.96	2.34	.00358	.00358	3.95	3.95	3.41	2.80
20.	1.00	1.00	.729	.553	.274	.447		3.37	.0770	3.45	2.59	.00228	.00228	4.21	4.21	3.85	3.05
30.	.730	.730	.545	.365	.184	.365		4.01	.102	4.11	2.85	.00172	.00172	4.45	4.45	4.18	3.14
40.	.580	.580	.441	.259	.139	.321		4.50	.120	4.62	2.98	.00115	.00115	4.84	4.84	4.66	3.22
50.	.484	.484	.373	.195	.112	.289		4.85	.132	4.98	2.98			5.20	5.20	5.06	3.24
60.	.417	.417	.324	.153	.0934	.264		5.10	.143	5.24	2.96			5.46	5.46	5.35	3.17
80.	.329	.329	.259	.102	.0703	.227		5.50	.159	5.66	2.95			5.66	5.66	5.56	3.11
100.	.273	.273	.217	.0743	.0563	.199		5.83	.170	6.00	2.89			5.99	5.99	5.92	3.05
														6.27	6.27	6.22	2.96

33 ARSENIC
(cm²/g = 0.008038 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc, e} ^{KN}	($\frac{\mu}{\rho}$) _{inc, t} ^{BD}	($\frac{\mu}{\rho}$) _{inc, a} ^{KN}	($\frac{\mu}{\rho}$) _{inc, a} ^{BD}	($\frac{\mu}{\rho}$) _{inc, s} ^{KN}	($\frac{\mu}{\rho}$) _{inc, s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{x_n}	($\frac{\mu}{\rho}$) _{x_e}	($\frac{\mu}{\rho}$) _{x_t}	($\frac{\mu}{\rho}$) _{x_a}	($\frac{\mu}{\rho}$) _{r, t}	($\frac{\mu}{\rho}$) _{r, a}	($\frac{\mu}{\rho}$) _{tot, t}	($\frac{\mu}{\rho}$) _{tot, t-coh}	($\frac{\mu}{\rho}$) _{tot, a}	($\frac{\mu}{\rho}$) _{tot, en}
.001	.176	.00580	.000342	.0000113	.175	.00580	5.50					2720.	2720.	2720.	2720.	2720.	2720.
L _{III} .001323	.175	.00908	.000452	.0000234	.175	.00908	5.32					1330.	1330.	1330.	1330.	1330.	1330.
L _{II} .001359	.175	.00940	.000464	.0000248	.175	.00940	5.30					6860.	6860.	6860.	6860.	6860.	6860.
.0015	.175	.0109	.000512	.0000319	.175	.0109	5.21					8280.	8120.	8280.	8280.	8280.	8280.
L _I .001530	.175	.0112	.000522	.0000333	.175	.0112	5.19					6630.	6510.	6640.	6630.	6630.	6510.
.002	.175	.0161	.000679	.0000424	.174	.0160	4.89					6350.	6240.	6360.	6350.	6350.	6240.
.003	.174	.0256	.00101	.000148	.174	.0254	4.26					7170.	7040.	7180.	7170.	7170.	7040.
.004	.174	.0341	.00133	.000262	.172	.0338	3.72					3380.	3340.	3390.	3380.	3380.	3340.
.005	.173	.0416	.00166	.000398	.171	.0412	3.26					1090.	1090.	1100.	1090.	1090.	1090.
.006	.172	.0485	.00198	.000555	.170	.0479	2.86					497.	494.	501.	497.	497.	494.
.008	.171	.0605	.00259	.000916	.169	.0596	2.22					266.	264.	269.	266.	266.	264.
.01	.170	.0708	.00318	.00133	.166	.0694	1.74					160.	159.	163.	160.	160.	159.
K.011867	.169	.0790	.00373	.00174	.165	.0772	1.42					71.6	71.4	73.9	71.7	71.6	71.4
.015	.167	.0900	.00461	.00249	.162	.0876	1.05					37.9	37.8	39.7	37.9	37.9	37.8
.02	.164	.102	.00592	.00368	.158	.0981	.719					21.0	22.9	24.5	23.1	23.0	22.9
.03	.158	.116	.00828	.00602	.150	.110	.404					180.	189.	190.	188.	188.	189.
.04	.154	.122	.0102	.00812	.143	.114	.256					98.1	109.	109.	98.1	98.1	98.1
.05	.149	.125	.0120	.0100	.137	.114	.176					44.0	65.8	65.8	44.9	44.0	65.8
.06	.145	.125	.0136	.0117	.131	.113	.129					14.2	33.1	33.1	14.7	14.2	33.1
.08	.137	.124	.0161	.0145	.121	.109	.0779					6.35	11.9	14.7	6.47	6.36	11.9
.1	.131	.121	.0180	.0166	.113	.104	.0514					3.37	5.56	6.73	3.49	3.38	5.57
.15	.117	.113	.0214	.0204	.0965	.0924	.0240					1.96	3.04	3.67	2.09	1.98	3.05
.2	.108	.104	.0233	.0226	.0844	.0820	.0137					.828	1.80	2.22	.948	.844	1.81
.3	.0940	.0924	.0252	.0249	.0685	.0675	.00626					.434	.776	1.03	.555	.452	.791
.4	.0836	.0828	.0260	.0256	.0580	.0572	.00355					.129	.125	.265	.241	.150	.145
.5	.0767	.0761	.0261	.0250	.0506	.0502	.00231					.0541	.0527	.172	.158	.0774	.0753
.6	.0710	.0706	.0260	.0258	.0449	.0448	.00161					.0162	.0160	.115	.109	.0415	.0409
.8	.0623	.0621	.0255	.0252	.0368	.0370	.000908					.00739	.00731	.0940	.0900	.0334	.0329
1.	.0560	.0559	.0247	.0241	.0313	.0318	.000584					.00418	.00414	.0828	.0803	.0303	.0301
1.5	.0455	.0454	.0225	.0221	.0230	.0233	.000264	.000434	.000434	.000134		.00265	.00263	.0748	.0732	.0287	.0285
2.	.0388	.0387	.0206	.0200	.0182	.0187	.000150	.00165	.00165	.000776		.00135	.00134	.0644	.0635	.0268	.0265
3.	.0305	.0305	.0176	.0168	.0129	.0137	.0000667	.00450	.0000107	.00451	.00285	.000844	.000836	.0573	.0567	.0255	.0249
4.	.0255	.0255	.0155	.0145	.0100	.0109	.0000374	.00733	.0000438	.00737	.00520	.000531	.000530	.0465	.0462	.0233	.0227
5.	.0220	.0220	.0138	.0128	.00820	.00924	.0000246	.00981	.0000860	.00989	.00737	.0000666	.0000665	.0408	.0407	.0225	.0211
6.	.0195	.0195	.0125	.0114	.00694	.00804	.0000174	.0117	.000133	.0118	.00916	.0000531	.0000530	.0353	.0352	.0223	.0198
8.	.0159	.0159	.0106	.00932	.00531	.00656	.0000098	.0149	.000227	.0151	.0121	.0000378	.0000378	.0330	.0330	.0230	.0199
10.	.0136	.0136	.00924	.00785	.00425	.00573	.0178	.000311	.0182	.0146		.0000288	.0000288	.0320	.0320	.0238	.0203
15.	.0106	.0100	.00713	.00572	.00291	.00432	.0233	.000490	.0238	.0188		.0000183	.0000183	.0313	.0313	.0244	.0207
20.	.00804	.00804	.00586	.00445	.00220	.00359	.0271	.000619	.0277	.0208		.0000138	.0000138	.0311	.0310	.0257	.0214
30.	.00587	.00587	.00438	.00293	.00146	.00293	.0322	.000820	.0330	.0229		.00000920	.00000920	.0318	.0318	.0274	.0225
40.	.00466	.00466	.00354	.00208	.00112	.00258	.0362	.000965	.0371	.0240				.0338	.0338	.0289	.0245
50.	.00389	.00389	.00300	.00157	.000900	.00232	.0390	.00106	.0400	.0240				.0358	.0358	.0306	.0259
60.	.00335	.00335	.00260	.00123	.000751	.00212	.0410	.00115	.0421	.0238				.0389	.0389	.0336	.0289
80.	.00264	.00264	.00208	.000820	.000565	.00182	.0442	.00128	.0455	.0237				.0418	.0418	.0407	.0260
100.	.00219	.00219	.00174	.000597	.000453	.00160	.0469	.00137	.0482	.0232				.0439	.0439	.0430	.0255
														.0455	.0455	.0447	.0250
														.0481	.0481	.0476	.0245
														.0504	.0504	.0500	.0238

34 SELENIUM
 (barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	$\sigma_{x,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	22.5	.700	.0439	.00136	22.5	.699	727.					389000.	389000.	390000.	389000.	389000.	389000.
L _{III} .001434	22.5	1.24	.0627	.00346	22.4	1.24	695.					153000.	153000.	154000.	153000.	153000.	153000.
L _{II} .001475	22.5	1.30	.0645	.00373	22.4	1.30	691.					771000.	751000.	772000.	771000.	771000.	751000.
.0015	22.5	1.33	.0656	.00388	22.4	1.33	689.					673000.	656000.	674000.	673000.	673000.	656000.
L _I .001652	22.5	1.53	.0721	.00491	22.4	1.53	677.					930000.	907000.	931000.	930000.	930000.	907000.
.002	22.4	1.99	.0871	.00772	22.4	1.98	647.					894000.	872000.	895000.	894000.	894000.	872000.
.003	22.4	3.23	.130	.0187	22.2	3.21	562.					719000.	703000.	720000.	719000.	719000.	703000.
.004	22.3	4.34	.171	.0334	22.1	4.31	489.					813000.	795000.	814000.	813000.	813000.	795000.
.005	22.2	5.32	.212	.0510	22.0	5.27	428.					476000.	467000.	477000.	476000.	476000.	467000.
.006	22.1	6.20	.253	.0710	21.8	6.13	377.					154000.	152000.	155000.	154000.	154000.	152000.
.008	21.9	7.72	.332	.117	21.6	7.60	295.					69500.	68800.	70000.	69500.	69500.	68800.
.01	21.8	9.01	.408	.169	21.4	8.84	233.					37300.	37000.	37700.	37300.	37300.	37000.
K.012658	21.6	10.4	.507	.244	21.1	10.2	176.					22400.	22300.	22800.	22400.	22400.	22300.
.015	21.4	11.4	.591	.315	20.8	11.1	141.					10000.	9950.	10300.	10000.	10000.	9950.
.02	21.0	13.0	.758	.469	20.3	12.5	96.2					5310.	5290.	5550.	5320.	5310.	5290.
.03	20.3	14.7	1.06	.765	19.3	13.9	54.1					2710.	2700.	2900.	2720.	2710.	2700.
.04	19.7	15.5	1.31	1.03	18.4	14.5	34.4					21800.	12200.	22000.	21800.	21800.	12200.
.05	19.1	15.9	1.54	1.28	17.6	14.6	23.7					13500.	8460.	13700.	13500.	13500.	8460.
.06	18.6	16.0	1.74	1.50	16.8	14.5	17.4					6100.	4390.	6210.	6110.	6100.	4390.
.08	17.6	15.8	2.06	1.85	15.5	13.9	10.5					1990.	1620.	2060.	2000.	1990.	1620.
.1	16.8	15.5	2.31	2.14	14.4	13.4	6.90					890.	765.	940.	905.	891.	766.
.15	15.1	14.4	2.74	2.61	12.3	11.8	3.22					470.	417.	510.	486.	472.	418.
.2	13.8	13.4	2.99	2.90	10.8	10.5	1.85					276.	250.	309.	292.	278.	252.
.3	12.0	11.8	3.24	3.18	8.78	8.62	.842					118.	110.	144.	134.	120.	112.
.4	10.8	10.7	3.34	3.31	7.43	7.39	.478					61.3	57.2	81.7	76.8	61.6	60.0
.5	9.83	9.76	3.35	3.33	6.48	6.43	.310					18.3	17.6	35.9	32.7	21.0	20.2
.6	9.09	9.04	3.34	3.31	5.75	5.73	.217					7.75	7.53	23.0	21.1	10.7	10.4
.8	7.99	7.96	3.27	3.22	4.72	4.74	.122					2.32	2.28	15.0	14.1	5.56	5.46
1.	7.18	7.16	3.16	3.09	4.02	4.07	.0787					1.06	1.05	12.2	11.8	4.40	4.36
1.5	5.83	5.82	2.89	2.83	2.95	2.99	.0352	.0578		.0578	.0179	.600	.593	10.7	10.4	3.95	3.92
2.	4.97	4.97	2.64	2.56	2.33	2.41	.0201	.220		.220	.104	.380	.376	9.64	9.42	3.72	3.69
3.	3.91	3.91	2.26	2.15	1.65	1.76	.00896	.600	.00137	.601	.380	.195	.194	8.28	8.15	3.46	3.41
4.	3.27	3.27	1.98	1.86	1.29	1.41	.00500	.970	.00561	.976	.687	.121	.120	7.38	7.28	3.28	3.21
5.	2.82	2.82	1.77	1.63	1.05	1.19	.00328	1.29	.0110	1.30	.968	.0572	.0570	5.97	5.93	3.00	2.90
6.	2.50	2.50	1.61	1.46	.889	1.04	.00231	1.55	.0172	1.57	1.21	.0349	.0348	5.24	5.22	2.89	2.70
8.	2.04	2.04	1.36	1.20	.680	.843	.00133	1.97	.0291	2.00	1.59	.0190	.0190	4.54	4.53	2.88	2.55
10.	1.74	1.74	1.19	1.00	.550	.739		2.35	.0400	2.39	1.92	.0126	.0126	4.26	4.26	2.97	2.56
15.	1.29	1.29	.914	.731	.373	.559		3.09	.0626	3.15	2.48	.00950	.00949	4.13	4.13	3.08	2.61
20.	1.03	1.03	.751	.566	.283	.463		3.57	.0794	3.65	2.72	.00755	.00754	4.08	4.08	3.19	2.68
30.	.752	.752	.562	.373	.190	.379		4.27	.105	4.38	3.02	.00532	.00532	4.05	4.05	3.37	2.80
40.	.598	.598	.454	.264	.143	.334		4.78	.123	4.90	3.15	.00409	.00409	4.13	4.13	3.58	2.92
50.	.499	.499	.384	.200	.115	.299		5.15	.136	5.29	3.15	.00260	.00260	4.44	4.44	4.07	3.21
60.	.430	.430	.334	.156	.0962	.274		5.40	.147	5.55	3.11	.00195	.00195	4.68	4.68	4.40	3.29
80.	.339	.339	.267	.105	.0724	.234		5.81	.163	5.97	3.08	.00130	.00130	5.13	5.13	4.94	3.39
100.	.282	.282	.223	.0761	.0580	.206		6.20	.175	6.37	3.04			5.50	5.50	5.35	3.41
														5.79	5.79	5.67	3.35
														5.98	5.98	5.88	3.27
														6.31	6.31	6.24	3.18
														6.65	6.65	6.59	3.12

34 SELENIUM
(cm²/g = 0.007627 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{KN} inc, t	($\frac{\mu}{\rho}$) _{BD} inc, t	($\frac{\mu}{\rho}$) _{KN} inc, a	($\frac{\mu}{\rho}$) _{BD} inc, a	($\frac{\mu}{\rho}$) _{KN} inc, s	($\frac{\mu}{\rho}$) _{BD} inc, s	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{xe}	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _{t,t}	($\frac{\mu}{\rho}$) _{t,e}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.172	.00534	.000335	.0000104	.172	.00533	5.54					2970.	2970.	2970.	2970.	2970.	2970.
L _{III}	.172	.00946	.000478	.0000264	.171	.00946	5.30					1170.	1170.	1170.	1170.	1170.	1170.
L _{II}	.172	.00992	.000492	.0000284	.171	.00992	5.27					5880.	5880.	5880.	5880.	5880.	5880.
												5130.	5130.	5130.	5130.	5130.	5130.
.0015	.172	.0101	.000500	.0000296	.171	.0101	5.26					7090.	7100.	7090.	7090.	7090.	7090.
L _I	.172	.0117	.000550	.0000374	.171	.0117	5.16					6820.	6830.	6820.	6820.	6820.	6820.
												5480.	5490.	5480.	5480.	5480.	5480.
.002	.171	.0152	.000664	.0000589	.171	.0151	4.93					6200.	6210.	6200.	6200.	6200.	6200.
.003	.171	.0246	.000992	.000143	.169	.0245	4.29					3630.	3640.	3630.	3630.	3630.	3630.
.004	.170	.0331	.00130	.000255	.169	.0329	3.73					1170.	1180.	1170.	1170.	1170.	1170.
.005	.169	.0406	.00162	.000389	.168	.0402	3.26					530.	535.	534.	530.	530.	530.
.006	.169	.0473	.00193	.000542	.166	.0468	2.83					284.	282.	284.	284.	284.	282.
.008	.167	.0589	.00253	.000892	.165	.0580	2.25					171.	170.	174.	171.	171.	170.
.01	.166	.0687	.00311	.00129	.163	.0674	1.78					75.3	75.9	78.6	76.3	76.3	75.9
.012658	.165	.0793	.00387	.00186	.161	.0778	1.34					42.5	42.2	42.2	42.6	40.5	40.2
												23.7	20.6	22.1	20.7	20.7	20.6
.015	.163	.0869	.00451	.00240	.159	.0847	1.08					165.	163.	168.	166.	166.	166.
.02	.160	.0992	.00578	.00358	.155	.0953	.734					103.	103.	104.	103.	103.	103.
.03	.155	.112	.00808	.00583	.147	.106	.413					44.5	33.5	47.4	46.6	46.5	46.5
.04	.150	.118	.00999	.00786	.140	.111	.262					15.2	2.4	15.7	15.3	15.2	12.4
.05	.146	.121	.0117	.00976	.134	.111	.181					5.79	5.83	7.17	6.90	6.80	5.84
.06	.142	.122	.0133	.0114	.128	.111	.133					5.58	3.18	3.89	3.71	3.60	3.19
.08	.134	.121	.0157	.0141	.118	.106	.0801					2.11	1.91	2.36	2.23	2.12	1.92
.1	.128	.118	.0176	.0163	.110	.102	.0526					.900	.839	1.10	1.02	.915	.854
.15	.115	.110	.0209	.0199	.0938	.0900	.0246					.468	.442	.638	.586	.485	.458
.2	.105	.102	.0228	.0221	.0824	.0801	.0141					.140	.134	.274	.249	.160	.154
.3	.0915	.0900	.0247	.0243	.0678	.0657	.00642					.0591	.0574	.175	.161	.0816	.0793
.4	.0824	.0816	.0255	.0252	.0567	.0564	.00365					.0177	.0174	.114	.108	.0424	.0416
.5	.0750	.0744	.0256	.0254	.0494	.0490	.00236					.00808	.00801	.0930	.0900	.0336	.0333
.6	.0693	.0689	.0255	.0252	.0439	.0437	.00166					.00458	.00452	.0816	.0793	.0301	.0299
.8	.0609	.0607	.0249	.0246	.0360	.0362	.000930					.00290	.00287	.0735	.0718	.0284	.0281
1.	.0548	.0546	.0241	.0236	.0307	.0310	.000600					.00149	.00148	.0632	.0622	.0264	.0260
1.5	.0445	.0444	.0220	.0216	.0225	.0228	.000268	.000441		.000441	.000137	.000923	.000915	.0561	.0555	.0250	.0245
2.	.0379	.0379	.0201	.0195	.0178	.0184	.000153	.00168		.00168	.000793	.000436	.000435	.0455	.0452	.0229	.0221
3.	.0298	.0298	.0172	.0164	.0126	.0134	.0000683	.00458	.0000104	.00458	.00290	.000266	.000265	.0400	.0398	.0220	.0206
4.	.0249	.0249	.0151	.0142	.00984	.0108	.0000381	.00740	.0000428	.00744	.00524	.000145	.000145	.0346	.0346	.0220	.0194
5.	.0215	.0215	.0135	.0124	.00801	.00908	.0000250	.00984	.0000839	.00992	.00738	.0000961	.0000961	.0325	.0325	.0227	.0195
6.	.0191	.0191	.0123	.0111	.00678	.00793	.0000176	.0118	.000131	.0120	.00923	.0000725	.0000724	.0315	.0315	.0235	.0199
8.	.0156	.0156	.0104	.00915	.00519	.00643	.0000101	.0150	.000222	.0153	.0121	.0000576	.0000575	.0311	.0311	.0243	.0204
10.	.0133	.0133	.00908	.00763	.00412	.00564						.0000466	.0000466	.0309	.0309	.0257	.0214
15.	.00984	.00984	.00697	.00558	.00284	.00426						.0000312	.0000312	.0315	.0315	.0273	.0223
20.	.00786	.00786	.00573	.00432	.00215	.00353	.0236	.000477	.0240	.0189		.0000198	.0000198	.0330	.0339	.0310	.0245
30.	.00574	.00574	.00429	.00284	.00145	.00289	.0272	.000606	.0278	.0207		.0000149	.0000149	.0357	.0357	.0336	.0251
40.	.00456	.00456	.00346	.00201	.00109	.00255	.0326	.000801	.0334	.0230		.00000990	.00000990	.0391	.0391	.0377	.0259
50.	.00381	.00381	.00293	.00153	.000877	.00228	.0365	.000938	.0374	.0240				.0419	.0419	.0408	.0260
60.	.00328	.00328	.00255	.00119	.000734	.00209	.0393	.00104	.0403	.0240				.0442	.0442	.0432	.0256
80.	.00259	.00259	.00204	.000801	.000552	.00178	.0412	.00112	.0423	.0237				.0456	.0456	.0448	.0249
100.	.00215	.00215	.00170	.000580	.000442	.00157	.0443	.00124	.0455	.0235				.0481	.0481	.0476	.0243
							.0473	.00133	.0484	.0232				.0507	.0507	.0503	.0238

35 BROMINE
(barns/atom)

E (MeV)	$\sigma_{inc,t}^{KN}$	$\sigma_{inc,t}^{BD}$	$\sigma_{inc,a}^{KN}$	$\sigma_{inc,a}^{BD}$	$\sigma_{inc,s}^{KN}$	$\sigma_{inc,s}^{BD}$	σ_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	23.2	.679	.0452	.00132	23.1	.678	772.						445000.	445000.	446000.	445000.	445000.
.0015	23.1	1.31	.0675	.00382	23.1	1.31	733.						155000.	155000.	156000.	155000.	155000.
.001551	23.1	1.38	.0698	.00416	23.1	1.38	728.						142000.	142000.	143000.	142000.	142000.
.001597	23.1	1.44	.0718	.00447	23.1	1.44	724.						698000.	677000.	699000.	698000.	677000.
.001782	23.1	1.69	.0800	.00585	23.0	1.68	707.						608000.	590000.	609000.	608000.	590000.
.002	23.1	1.98	.0896	.00768	23.0	1.97	687.						840000.	815000.	841000.	840000.	815000.
.003	23.0	3.28	.133	.0190	22.6	3.26	596.						655000.	638000.	656000.	655000.	638000.
.004	22.9	4.44	.176	.0342	22.7	4.41	518.						741000.	721000.	742000.	741000.	721000.
.005	22.8	5.46	.219	.0523	22.6	5.41	453.						537000.	524000.	538000.	537000.	524000.
.006	22.7	6.37	.260	.0729	22.5	6.30	399.						174000.	171000.	175000.	174000.	171000.
.008	22.6	7.92	.342	.120	22.2	7.80	314.						78600.	77700.	79100.	78600.	77700.
.01	22.4	9.22	.420	.173	22.0	9.05	250.						42200.	41800.	42700.	42200.	41800.
.013474	22.1	11.0	.552	.274	21.6	10.7	174.						25400.	25200.	25800.	25400.	25200.
.015	22.0	11.6	.609	.321	21.4	11.3	152.						11400.	11300.	11700.	11400.	11300.
.02	21.6	13.2	.780	.476	20.8	12.7	103.						6040.	6010.	6200.	6040.	6010.
.03	20.9	15.1	.909	.786	19.8	14.3	59.0						2570.	2560.	2760.	2570.	2560.
.04	20.3	15.9	1.35	1.06	18.9	14.8	37.0						20300.	10900.	20500.	20300.	10900.
.05	19.6	16.3	1.59	1.32	18.1	15.0	25.5						15100.	8810.	15300.	15100.	8810.
.06	19.1	16.4	1.79	1.54	17.3	14.9	18.7						6800.	4680.	6920.	6800.	4680.
.08	18.1	16.2	2.12	1.90	16.0	14.3	11.3						2210.	1750.	2280.	2210.	1750.
.1	17.2	15.9	2.38	2.19	14.9	13.7	7.43						990.	835.	1040.	991.	836.
.15	15.5	14.8	2.82	2.69	12.7	12.1	3.47						527.	461.	569.	543.	462.
.2	14.2	13.8	3.08	2.98	11.2	10.8	2.00						310.	278.	345.	326.	260.
.3	12.4	12.2	3.33	3.29	9.04	8.91	.907						133.	123.	160.	149.	125.
.4	11.1	11.0	3.43	3.40	7.65	7.60	.515						69.5	65.2	92.8	85.4	71.9
.5	10.1	10.0	3.45	3.41	6.67	6.59	.334						2570.	2560.	2760.	2570.	2560.
.6	9.36	9.31	3.44	3.41	5.92	5.90	.233						20300.	10900.	20500.	20300.	10900.
.8	8.22	8.19	3.36	3.32	4.86	4.87	.132						15100.	8810.	15300.	15100.	8810.
1.	7.39	7.37	3.25	3.18	4.14	4.19	.0847						6800.	4680.	6920.	6800.	4680.
1.5	6.01	6.00	2.97	2.91	3.03	3.09	.0380	.0617		.0617	.0191		2210.	1750.	2280.	2210.	1750.
2.	5.12	5.12	2.72	2.64	2.40	2.48	.0216	.233		.233	.110		990.	835.	1040.	991.	836.
3.	4.03	4.03	2.32	2.21	1.70	1.82	.00965	.636	.00141	.637	.402		527.	461.	569.	543.	462.
4.	3.37	3.37	2.04	1.92	1.32	1.45	.00538	1.03	.00579	1.04	.728		310.	278.	345.	326.	260.
5.	2.91	2.91	1.83	1.68	1.08	1.23	.00351	1.37	.0113	1.38	1.03		133.	123.	160.	149.	125.
6.	2.57	2.57	1.65	1.49	.915	1.08	.00247	1.64	.0177	1.66	1.28		69.5	65.2	92.8	85.4	71.9
8.	2.10	2.10	1.40	1.23	.700	.874	.00143	2.10	.0300	2.13	1.69		2570.	2560.	2760.	2570.	2560.
10.	1.79	1.79	1.22	1.02	.567	.766		2.50	.0411	2.54	2.04		20300.	10900.	20500.	20300.	10900.
15.	1.33	1.33	.941	.749	.384	.581		3.26	.0643	3.32	2.60		15100.	8810.	15300.	15100.	8810.
20.	1.06	1.06	.773	.579	.291	.481		3.77	.0819	3.85	2.86		6800.	4680.	6920.	6800.	4680.
30.	.774	.774	.579	.380	.196	.394		4.51	.108	4.62	3.17		2210.	1750.	2280.	2210.	1750.
40.	.615	.615	.468	.270	.148	.345		5.04	.127	5.17	3.28		990.	835.	1040.	991.	836.
50.	.514	.514	.395	.205	.118	.309		5.43	.140	5.57	3.29		527.	461.	569.	543.	462.
60.	.442	.442	.343	.160	.0990	.282		5.70	.151	5.85	3.25		310.	278.	345.	326.	260.
80.	.349	.349	.274	.107	.0745	.242		6.18	.168	6.35	3.24		133.	123.	160.	149.	125.
100.	.290	.290	.230	.0777	.0597	.212		6.52	.180	6.70	3.16		69.5	65.2	92.8	85.4	71.9

35 BROMINE
(cm²/g = 0.007537 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc, t} ^{KN}	($\frac{\mu}{\rho}$) _{inc, t} ^{BD}	($\frac{\mu}{\rho}$) _{inc, a} ^{KN}	($\frac{\mu}{\rho}$) _{inc, a} ^{BD}	($\frac{\mu}{\rho}$) _{inc, s} ^{KN}	($\frac{\mu}{\rho}$) _{inc, s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{en}	($\frac{\mu}{\rho}$) _{ec}	($\frac{\mu}{\rho}$) _{at}	($\frac{\mu}{\rho}$) _{at}	($\frac{\mu}{\rho}$) _{at}	($\frac{\mu}{\rho}$) _{at}	($\frac{\mu}{\rho}$) _{tot, t}	($\frac{\mu}{\rho}$) _{tot, t-coh}	($\frac{\mu}{\rho}$) _{tot, a}	($\frac{\mu}{\rho}$) _{tot, en}
.001	.175	.00512	.000341	.000100	.174	.00511	5.82							3350.	3350.	3350.	3350.
.0015	.174	.00937	.000509	.0000288	.174	.00987	5.52							1170.	1170.	1170.	1170.
L _{III} .001551	.174	.0104	.000526	.0000314	.174	.0104	5.49							1070.	1070.	1070.	1070.
L _{II} .001597	.174	.0109	.000541	.0000337	.174	.0109	5.46							5260.	5100.	5270.	5260.
L _I .001782	.174	.0127	.000603	.0000441	.173	.0127	5.33							4580.	4450.	4590.	4580.
.002	.174	.0149	.000675	.0000579	.173	.0148	5.18							6330.	6140.	6340.	6330.
.003	.173	.0247	.00100	.000143	.173	.0246	4.49							4940.	4810.	4940.	4940.
.004	.173	.0335	.00133	.000258	.171	.0332	3.90							5580.	5430.	5590.	5580.
.005	.172	.0412	.00165	.000394	.170	.0408	3.41							4050.	3950.	4050.	4050.
.006	.171	.0480	.00196	.000549	.170	.0475	3.01							1310.	1290.	1320.	1310.
.008	.170	.0597	.00258	.000904	.167	.0588	2.37							592.	586.	592.	586.
.01	.169	.0695	.00317	.00130	.166	.0682	1.88							318.	315.	322.	318.
K .013474	.167	.0829	.00416	.00207	.163	.0806	1.31							191.	194.	194.	191.
.015	.166	.0874	.00459	.00242	.161	.0852	1.15							85.9	85.2	88.2	85.9
.02	.163	.0955	.00588	.00359	.157	.0957	.776							45.5	45.3	47.5	45.5
.03	.158	.114	.00822	.00592	.149	.108	.437							19.4	19.3	20.8	19.4
.04	.153	.120	.0102	.00799	.142	.112	.279							153.	153.	153.	153.
.05	.148	.123	.0120	.00995	.136	.113	.192							114.	115.	115.	114.
.06	.144	.124	.0135	.0116	.130	.112	.141							51.3	52.2	51.3	51.3
.08	.136	.122	.0160	.0143	.121	.108	.0852							16.7	13.2	17.2	16.7
.1	.130	.120	.0179	.0155	.112	.103	.0560							7.45	6.29	7.84	7.45
.15	.117	.112	.0213	.0203	.0957	.0912	.0262							3.97	3.47	4.29	3.99
.2	.107	.104	.0232	.0225	.0844	.0814	.0151							2.34	2.10	2.60	2.46
.3	.0935	.0920	.0251	.0248	.0681	.0672	.00684							1.00	.927	1.21	1.02
.4	.0837	.0829	.0259	.0256	.0577	.0573	.00388							.524	.491	.699	.644
.5	.0761	.0754	.0260	.0257	.0503	.0497	.00252							.158	.151	.295	.269
.6	.0705	.0702	.0259	.0257	.0446	.0445	.00176							.0567	.0646	.185	.170
.8	.0620	.0617	.0253	.0250	.0366	.0367	.000995							.0200	.0196	.119	.112
1.	.0557	.0555	.0245	.0240	.0312	.0316	.000638							.00904	.00889	.0957	.0920
1.5	.0453	.0452	.0224	.0219	.0228	.0233	.000286	.000465	.000465	.000144				.00514	.00507	.0829	.0806
2.	.0386	.0386	.0205	.0199	.0181	.0187	.000163	.00176	.000829					.00331	.00327	.0752	.0735
3.	.0304	.0304	.0175	.0167	.0128	.0137	.0000727	.00479	.0000106	.00480	.00303			.00167	.00166	.0644	.0634
4.	.0254	.0254	.0154	.0145	.00995	.0109	.0000495	.00776	.0000436	.00784	.00549			.00105	.00104	.0572	.0566
5.	.0219	.0219	.0138	.0127	.00814	.00927	.0000265	.0103	.0000852	.0104	.00776			.000496	.000494	.0465	.0462
6.	.0194	.0194	.0124	.0112	.00690	.00814	.0000186	.0124	.000133	.0125	.00965			.000301	.000301	.0408	.0406
8.	.0158	.0158	.0106	.00927	.00528	.00659	.0000138	.0158	.000226	.0161	.0127			.000164	.000164	.0354	.0353
10.	.0135	.0135	.00920	.00769	.00427	.00577		.0188	.000310	.0191	.0154			.000109	.000109	.0334	.0333
15.	.0106	.0106	.00709	.00565	.00289	.00438		.0246	.000485	.0250	.0196			.0000822	.0000822	.0324	.0324
20.	.00799	.00799	.00583	.00436	.00219	.00363		.0284	.000617	.0290	.0216			.0000652	.0000651	.0320	.0320
30.	.00583	.00583	.00436	.00286	.00148	.00297		.0340	.000814	.0348	.0239			.0000461	.0000461	.0320	.0320
40.	.00464	.00464	.00353	.00203	.00112	.00260		.0380	.000957	.0390	.0247			.0000353	.0000353	.0326	.0326
50.	.00387	.00387	.00298	.00155	.000889	.00233		.0409	.00106	.0420	.0248			.0000226	.0000226	.0350	.0350
60.	.00333	.00333	.00259	.00121	.000746	.00213		.0430	.00114	.0441	.0245			.0000167	.0000167	.0370	.0370
80.	.00263	.00263	.00207	.000806	.000562	.00182		.0466	.00127	.0479	.0244			.0000109	.0000109	.0407	.0407
100.	.00219	.00219	.00173	.000586	.000450	.00160		.0491	.00136	.0505	.0238			.00000810	.00000810	.0436	.0436
																.0458	.0458
																.0474	.0474
																.0505	.0505
																.0527	.0527

36 KRYPTON
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	J_{coh}	$\sigma_{n,n}$	$\sigma_{n,c}$	$\sigma_{n,t}$	$\sigma_{n,a}$	$\sigma_{\tau,t}$	$\sigma_{\tau,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	23.9	.670	.0465	.00131	23.8	.669	818.					506000.	506000.	507000.	506000.	506000.	506000.
.0015	23.8	1.31	.0694	.00382	23.7	1.31	718.					176000.	176000.	177000.	176000.	176000.	176000.
L _{III} .001675	23.8	1.55	.0774	.00505	23.7	1.54	742.					132000.	132000.	133000.	132000.	132000.	132000.
L _{II} .001727	23.8	1.62	.0798	.00544	23.7	1.61	747.					633000.	610000.	634000.	633000.	633000.	610000.
L _I .001921	23.8	1.89	.0886	.00705	23.7	1.88	718.					550000.	531000.	551000.	550000.	550000.	531000.
												760000.	733000.	761000.	760000.	760000.	733000.
												596000.	577000.	597000.	596000.	596000.	577000.
.002	23.8	2.00	.0922	.00776	23.7	1.99	710.					676000.	654000.	677000.	676000.	676000.	654000.
.003	23.7	3.34	.137	.0194	23.5	3.32	613.					599000.	580000.	600000.	599000.	599000.	580000.
.004	23.6	4.55	.181	.0350	23.4	4.51	548.					194000.	190000.	195000.	194000.	194000.	190000.
.005	23.5	5.62	.225	.0538	23.3	5.57	418.					88300.	86900.	88900.	88300.	88300.	86900.
.006	23.4	6.55	.268	.075	23.1	6.48	421.					47500.	46900.	48000.	47500.	47500.	46900.
.008	23.2	8.11	.352	.123	22.9	7.99	313.					28700.	28400.	29100.	28700.	28700.	28400.
.01	23.1	9.42	.432	.177	22.6	9.24	266.					12900.	12800.	13200.	12900.	12900.	12800.
K.014323	22.7	11.6	.599	.306	22.1	11.3	113.					6830.	6790.	7110.	6840.	6830.	6790.
												2440.	2430.	2620.	2450.	2440.	2430.
.015	22.6	11.9	.626	.329	22.0	11.6	143.					19000.	19000.	19200.	19000.	19000.	19000.
.02	22.2	13.5	.802	.487	21.4	13.0	110.					16700.	16700.	16900.	16700.	16700.	16700.
.03	21.5	15.4	1.12	.801	20.4	14.6	62.2					7520.	4910.	7640.	7530.	7520.	4910.
.04	20.8	16.3	1.39	1.09	19.4	15.2	29.7					2460.	1890.	2540.	2480.	2460.	1890.
.05	20.2	16.7	1.63	1.35	18.6	15.4	27.5					1100.	909.	1160.	1120.	1100.	910.
.06	19.6	16.8	1.84	1.58	17.8	15.2	20.1					587.	506.	631.	604.	589.	507.
.08	18.6	16.7	2.18	1.96	16.4	14.7	12.1					349.	309.	386.	366.	351.	311.
.1	17.7	16.3	2.45	2.25	15.3	14.1	8.00					150.	137.	179.	167.	152.	139.
.15	16.0	15.2	2.90	2.76	13.1	12.4	3.73					78.2	72.8	102.	94.5	80.6	75.1
.2	14.6	14.2	3.16	3.07	11.5	11.1	2.15					23.4	22.3	42.3	38.6	26.3	25.1
.3	12.7	12.5	3.43	3.37	9.30	9.13	.976					9.95	9.60	26.3	24.1	13.1	12.7
.4	11.4	11.3	3.53	3.49	7.87	7.81	.555					3.01	2.94	16.5	15.5	6.44	6.31
.5	10.4	10.3	3.55	3.51	6.86	6.79	.360					1.37	1.35	13.2	12.7	4.90	4.84
.6	9.63	9.57	3.54	3.50	6.09	6.07	.250					.776	.765	11.4	11.1	4.33	4.28
.8	8.46	8.43	3.46	3.41	5.00	5.02	.141					.499	.493	10.3	10.1	4.04	3.99
1.	7.60	7.58	3.34	3.27	4.26	4.31	.0910					.252	.250	8.82	8.68	3.71	3.66
1.5	6.18	6.17	3.06	2.99	3.12	3.18	.0409	.0658	.0658	.0204		.158	.157	7.83	7.74	3.50	3.43
2.	5.27	5.26	2.80	2.71	2.47	2.55	.0232	.249	.249	.117		.0742	.0739	6.35	6.31	3.20	3.08
3.	4.14	4.14	2.39	2.27	1.75	1.87	.0103	.672	.673	.424		.0454	.0452	5.58	5.55	3.09	2.87
4.	3.46	3.46	2.10	1.97	1.36	1.49	.00579	1.10	.00595	1.11	.776	.0250	.0249	4.85	4.84	3.09	2.72
5.	2.99	2.99	1.88	1.72	1.11	1.27	.00375	1.45	.0117	1.46	1.08	.0165	.0165	4.59	4.59	3.23	2.76
6.	2.64	2.64	1.70	1.53	.941	1.11	.00263	1.74	.0182	1.76	1.35	.0123	.0123	4.47	4.46	3.35	2.81
8.	2.16	2.16	1.44	1.26	.720	.903	.00153	2.20	.0308	2.23	1.76	.00977	.00976	4.41	4.41	3.47	2.89
10.	1.84	1.84	1.26	1.05	.583	.791		2.62	.0423	2.66	2.13	.00693	.00692	4.40	4.40	3.68	3.03
15.	1.36	1.36	.968	.762	.395	.598		3.44	.0661	3.51	2.73	.00530	.00530	4.51	4.51	3.93	3.19
20.	1.09	1.09	.795	.590	.299	.500		3.99	.0841	4.07	3.01	.00339	.00339	4.87	4.87	4.48	3.50
30.	.796	.796	.595	.389	.201	.407		4.78	.111	4.89	3.34	.00250	.00250	5.16	5.16	4.87	3.60
40.	.633	.633	.481	.275	.152	.358		5.31	.130	5.44	3.44	.00165	.00165	5.69	5.69	5.49	3.73
50.	.528	.528	.407	.208	.122	.320		5.74	.143	5.88	3.44	.00122	.00122	6.07	6.07	5.92	3.72
60.	.455	.455	.353	.163	.102	.292		6.01	.155	6.16	3.40			6.41	6.41	6.29	3.65
80.	.359	.359	.282	.109	.0766	.250		6.50	.172	6.67	3.38			6.61	6.61	6.51	3.56
100.	.298	.298	.237	.0796	.0615	.218		6.90	.185	7.08	3.32			7.03	7.03	6.95	3.49
														7.38	7.38	7.32	3.40

36 KRYPTON
(cm²/g = 0.007187 x barns/atom)

E (MeV)	($\frac{\sigma}{\rho}$) _{KN} inc,t	($\frac{\sigma}{\rho}$) _{BD} inc,t	($\frac{\sigma}{\rho}$) _{KN} inc,a	($\frac{\sigma}{\rho}$) _{BD} inc,a	($\frac{\sigma}{\rho}$) _{KN} inc,s	($\frac{\sigma}{\rho}$) _{BD} inc,s	($\frac{\sigma}{\rho}$) _{coh}	($\frac{\sigma}{\rho}$) _n	($\frac{\sigma}{\rho}$) _e	($\frac{\sigma}{\rho}$) _{x,t}	($\frac{\sigma}{\rho}$) _{x,a}	($\frac{\sigma}{\rho}$) _{r,t}	($\frac{\sigma}{\rho}$) _{r,a}	($\frac{\sigma}{\rho}$) _{tot,t}	($\frac{\sigma}{\rho}$) _{tot,t-coh}	($\frac{\sigma}{\rho}$) _{tot,a}	($\frac{\sigma}{\rho}$) _{tot,en}
.031	.172	.00482	.000334	.00000940	.171	.00481	5.88					3640.	3640.	3640.	3640.	3640.	3640.
.0315	.171	.00941	.000499	.0000275	.170	.00941	5.59					1260.	1260.	1270.	1260.	1260.	1260.
L _{III} .031675	.171	.0111	.000556	.0000363	.170	.0111	5.48					949.	949.	956.	949.	949.	949.
L _{II} .031727	.171	.0116	.000574	.0000391	.170	.0116	5.44					4550.	4380.	4560.	4550.	4550.	4380.
L _I .031921	.171	.0136	.000637	.0000507	.170	.0135	5.30					3950.	3820.	3960.	3950.	3950.	3820.
												5460.	5270.	5470.	5460.	5460.	5270.
												4280.	4150.	4290.	4280.	4280.	4150.
												4860.	4700.	4870.	4860.	4860.	4700.
.032	.171	.0144	.000663	.0000558	.170	.0143	5.25					4310.	4170.	4310.	4310.	4310.	4170.
.033	.170	.0240	.000985	.000139	.169	.0239	4.55					1390.	1370.	1400.	1390.	1390.	1370.
.034	.170	.0327	.00130	.000252	.168	.0324	3.94					635.	625.	639.	635.	635.	625.
.035	.169	.0404	.00162	.000387	.167	.0400	3.44					341.	337.	345.	341.	341.	337.
.036	.168	.0471	.00193	.000539	.166	.0466	3.03					206.	204.	209.	206.	206.	204.
.038	.167	.0583	.00253	.000884	.165	.0574	2.39					92.7	92.0	94.9	92.7	92.7	92.0
.04	.166	.0677	.00310	.00127	.162	.0664	1.91					49.1	48.8	51.1	49.2	49.1	48.8
K.044323	.163	.0834	.00431	.00220	.159	.0812	1.24					17.5	17.5	18.8	17.6	17.5	17.5
												137.	137.	138.	137.	137.	137.
.045	.162	.0855	.00450	.00236	.158	.0834	1.17					120.	120.	121.	120.	120.	120.
.02	.160	.0970	.00576	.00350	.154	.0934	.791					54.0	54.0	54.9	54.1	54.0	54.0
.03	.155	.111	.00805	.00576	.147	.105	.447					17.7	13.6	18.3	17.8	17.7	13.6
.04	.149	.117	.00999	.00783	.139	.109	.285					7.91	6.53	8.34	8.05	7.91	6.54
.05	.145	.120	.0117	.00970	.134	.111	.198					4.22	3.64	4.53	4.34	4.23	3.64
.05	.141	.121	.0132	.0114	.128	.109	.144					2.51	2.22	2.77	2.63	2.52	2.24
.03	.134	.120	.0157	.0141	.118	.106	.0870					1.08	.985	1.29	1.20	1.09	.999
.1	.127	.117	.0176	.0162	.110	.101	.0575					.562	.523	.733	.679	.579	.540
.15	.115	.109	.0208	.0198	.0941	.0891	.0268					.168	.160	.304	.277	.189	.180
.2	.105	.102	.0227	.0221	.0827	.0798	.0155					.0715	.0690	.189	.173	.0941	.0913
.3	.0913	.0893	.0247	.0242	.0668	.0656	.00701					.0218	.0211	.119	.111	.0463	.0453
.4	.0819	.0812	.0254	.0251	.0566	.0561	.00399					.00985	.00970	.0949	.0913	.0352	.0348
.5	.0747	.0743	.0255	.0252	.0493	.0488	.00259					.00558	.00550	.0819	.0798	.0311	.0308
.6	.0692	.0689	.0254	.0252	.0438	.0436	.00180					.00359	.00354	.0740	.0726	.0290	.0287
.8	.0608	.0605	.0249	.0245	.0359	.0361	.00101					.00181	.00180	.0634	.0624	.0267	.0263
1.	.0546	.0545	.0240	.0235	.0306	.0310	.000654					.00114	.00113	.0563	.0556	.0252	.0247
1.5	.0444	.0443	.0220	.0215	.0224	.0229	.000294	.000473		.000473	.000147	.000533	.000531	.0456	.0453	.0230	.0221
2.	.0379	.0378	.0231	.0195	.0178	.0183	.000167	.00179		.000179	.000841	.000326	.000325	.0401	.0399	.0222	.0206
3.	.0296	.0296	.0172	.0163	.0126	.0134	.0000740	.00483	.0000104	.00484	.00305	.000180	.000179	.0349	.0348	.0222	.0195
4.	.0249	.0249	.0151	.0142	.00977	.0107	.0000416	.00791	.0000428	.00798	.00558	.000119	.000119	.0330	.0330	.0232	.0198
5.	.0215	.0215	.0135	.0124	.00798	.00913	.0000270	.0104	.0000841	.0105	.00776	.0000884	.0000884	.0321	.0321	.0241	.0202
6.	.0190	.0190	.0122	.0110	.00676	.00798	.0000189	.0125	.000131	.0126	.00970	.0000702	.0000701	.0317	.0317	.0249	.0208
8.	.0155	.0155	.0133	.00906	.00517	.00649	.0000110	.0158	.000221	.0160	.0126	.0000498	.0000497	.0316	.0316	.0264	.0218
10.	.0132	.0132	.00706	.00755	.00419	.00568		.0188	.000304	.0191	.0153	.0000381	.0000381	.0324	.0324	.0262	.0229
15.	.00977	.00977	.00596	.00548	.00284	.00430		.0247	.000475	.0252	.0196	.0000244	.0000244	.0350	.0350	.0322	.0252
20.	.00783	.00783	.00371	.00424	.00215	.00359		.0267	.000604	.0293	.0216	.0000180	.0000180	.0371	.0371	.0350	.0259
30.	.00572	.00572	.00428	.00280	.00144	.00293		.0344	.000798	.0351	.0240	.0000119	.0000119	.0409	.0409	.0395	.0268
40.	.00455	.00455	.00346	.00198	.00109	.00257		.0382	.000934	.0391	.0247	.00000880	.00000880	.0436	.0436	.0425	.0267
50.	.00379	.00379	.00293	.00149	.000877	.00230		.0413	.00103	.0423	.0247			.0461	.0461	.0452	.0262
60.	.00327	.00327	.00254	.00117	.000733	.00210		.0432	.00111	.0443	.0244			.0475	.0475	.0468	.0256
80.	.00258	.00258	.00203	.000783	.000551	.00180		.0467	.00124	.0479	.0243			.0505	.0505	.0499	.0251
100.	.00214	.00214	.00170	.000572	.000442	.00157		.0496	.00133	.0509	.0239			.0530	.0530	.0526	.0244

37 RUBIDIUM
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	$\sigma_{x,n}$	$\sigma_{x,e}$	$\sigma_{x,t}$	$\sigma_{x,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	24.5	.990	.0478	.00193	24.5	.988	850.					574000.	574000.	575000.	574000.	574000.	574000.
.0015	24.5	1.64	.0714	.00478	24.4	1.64	805.					199000.	199000.	200000.	199000.	199000.	199000.
.001805	24.4	2.04	.0857	.00715	24.4	2.03	776.					123000.	123000.	124000.	123000.	123000.	123000.
L _{III} .001863	24.4	2.12	.0884	.00767	24.3	2.11	170.					576000.	553000.	577000.	576000.	576000.	553000.
L _{II} .002	24.4	2.30	.0948	.00892	24.3	2.29	757.					500000.	480000.	501000.	500000.	500000.	480000.
L _I .002065	24.4	2.39	.0978	.00957	24.3	2.38	750.					690000.	663000.	691000.	690000.	690000.	663000.
.003	24.3	3.59	.141	.0208	24.2	3.57	660.					587000.	565000.	588000.	587000.	587000.	565000.
.004	24.2	4.78	.186	.0368	24.0	4.74	574.					545000.	525000.	546000.	545000.	545000.	525000.
.005	24.1	5.84	.231	.0559	23.9	5.78	501.					618000.	596000.	619000.	618000.	618000.	596000.
.006	24.0	6.79	.275	.0777	23.8	6.71	442.					219000.	214000.	220000.	219000.	219000.	214000.
.008	23.9	8.37	.361	.127	23.5	8.24	350.					98800.	96900.	99400.	98800.	98800.	96900.
.01	23.7	9.67	.444	.181	23.3	9.49	282.					53300.	52500.	53800.	53300.	53300.	52500.
.015	23.3	12.1	.643	.335	22.6	11.8	173.					32200.	31800.	32600.	32200.	32200.	31800.
K.015200	23.3	12.2	.649	.341	22.6	11.9	170.					14400.	14300.	14800.	14400.	14400.	14300.
.02	22.9	13.8	.825	.498	22.0	13.3	118.					7710.	7650.	8000.	7720.	7710.	7650.
.03	22.1	15.7	1.15	.817	21.0	14.9	66.3					2400.	2390.	2500.	2410.	2400.	2390.
.04	21.4	16.7	1.43	1.11	20.0	15.6	42.5					2320.	2310.	2500.	2330.	2320.	2310.
.05	20.8	17.1	1.68	1.38	19.1	15.7	29.4					17800.	8860.	18000.	17800.	17800.	8860.
.06	20.2	17.2	1.89	1.61	18.3	15.6	21.6					8350.	5160.	8460.	8360.	8350.	5160.
.08	19.1	17.1	2.24	2.00	16.9	15.1	13.0					2710.	2020.	2790.	2730.	2710.	2020.
.1	18.2	16.7	2.52	2.30	15.7	14.4	8.57					1220.	987.	1260.	1240.	1220.	988.
.15	16.4	15.7	2.98	2.85	13.4	12.9	4.00					653.	553.	699.	670.	655.	554.
.2	15.0	14.6	3.25	3.16	11.8	11.4	2.30					388.	339.	427.	405.	390.	361.
.3	13.1	12.9	3.53	3.48	9.59	9.42	1.05					167.	151.	197.	184.	169.	153.
.4	11.7	11.6	3.63	3.58	8.09	8.02	.594					87.5	80.8	113.	104.	90.0	83.1
.5	10.7	10.6	3.65	3.61	7.01	6.99	.386					26.2	24.9	45.9	41.9	29.2	27.7
.6	9.90	9.84	3.64	3.60	6.25	6.24	.269					11.2	10.8	28.1	25.8	14.4	14.0
.8	8.69	8.66	3.55	3.50	5.14	5.16	.151					3.40	3.31	17.3	16.3	6.93	6.79
1.	7.81	7.79	3.44	3.36	4.35	4.43	.0975					1.55	1.52	13.7	13.1	5.18	5.10
1.5	6.35	6.34	3.14	3.07	3.21	3.27	.0439	.0700		.0700	.0217	.882	.869	11.9	11.5	4.53	4.48
2.	5.41	5.41	2.87	2.79	2.54	2.62	.0250	.263		.263	.124	.567	.560	10.7	10.4	4.21	4.16
3.	4.26	4.26	2.46	2.33	1.80	1.93	.0112	.712	.00149	.713	.449	.289	.286	9.10	8.95	3.84	3.79
4.	3.56	3.56	2.16	2.02	1.49	1.54	.00623	1.16	.00611	1.17	.817	.180	.179	8.07	7.97	3.62	3.54
5.	3.07	3.07	1.93	1.77	1.14	1.30	.00402	1.54	.0120	1.55	1.15	.0843	.0839	6.54	6.49	3.29	3.18
6.	2.72	2.72	1.75	1.57	.967	1.15	.00281	1.83	.0187	1.85	1.42	.0517	.0515	5.75	5.72	3.18	2.97
8.	2.22	2.22	1.48	1.29	.740	.932	.00163	2.32	.0317	2.35	1.86	.0282	.0281	5.01	5.00	3.20	2.81
10.	1.89	1.89	1.29	1.07	.549	.816	.00105	2.79	.0434	2.83	2.24	.0185	.0185	4.75	4.75	3.35	2.86
15.	1.40	1.40	.995	.780	.486	.620						.0138	.0138	4.64	4.63	3.49	2.93
20.	1.12	1.12	.817	.604	.387	.516						.0110	.0110	4.58	4.58	3.61	3.00
30.	.818	.818	.612	.396	.267	.422						.00782	.00781	4.58	4.58	3.84	3.16
40.	.650	.650	.494	.280	.156	.370						.02597	.02597	4.73	4.73	4.13	3.34
50.	.543	.543	.418	.212	.125	.331						.00381	.00381	5.09	5.09	4.69	3.65
60.	.468	.468	.363	.167	.105	.301						.00282	.00282	5.41	5.41	5.11	3.76
80.	.369	.369	.290	.111	.0788	.258						.00185	.00185	5.94	5.94	5.73	3.88
100.	.306	.306	.243	.0808	.0632	.225						.00137	.00137	6.39	6.39	6.24	3.88
												.00109	.00109	6.74	6.74	6.62	3.82
														6.98	6.98	6.87	3.72
														7.40	7.40	7.32	3.63
														7.78	7.78	7.71	3.53

37 RUBIDIUM
(cm²/g = 0.007046 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{ED}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{xe}	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _r	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}	
.001	.173	.00698	.000337	.0000136	.173	.00696	5.99					4040.	4040.	4050.	4040.	4040.	4040.	
.0015	.173	.0116	.000503	.0000337	.172	.0116	5.67					1400.	1400.	1410.	1400.	1400.	1400.	
L _{III} .001805	.172	.0144	.000604	.0000504	.172	.0143	5.47					867.	867.	874.	867.	867.	867.	
L _{II} .001863	.172	.0149	.000623	.0000540	.171	.0149	5.43					4060.	3900.	4070.	4060.	4060.	3900.	
.002	.172	.0162	.000668	.0000629	.171	.0161	5.33					3520.	3380.	3530.	3520.	3520.	3380.	
L _I .002065	.172	.0168	.000689	.0000674	.171	.0168	5.28					4860.	4670.	4870.	4860.	4860.	4670.	
.003	.171	.0253	.000993	.000147	.171	.0252	4.65					4140.	3980.	4140.	4140.	4140.	3980.	
.004	.171	.0337	.00131	.000259	.169	.0334	4.04					3840.	3700.	3850.	3840.	3840.	3700.	
.005	.170	.0411	.00163	.000394	.168	.0407	3.53					4350.	4200.	4360.	4350.	4350.	4200.	
.006	.169	.0478	.00194	.000547	.168	.0473	3.11					1540.	1510.	1550.	1540.	1540.	1510.	
.008	.168	.0590	.00254	.000895	.166	.0581	2.47					696.	683.	700.	696.	696.	683.	
.01	.167	.0681	.00313	.00128	.164	.0669	1.99					376.	370.	379.	376.	376.	370.	
.015	.164	.0853	.00453	.00236	.159	.0831	1.22					227.	224.	230.	227.	227.	224.	
K.015200	.164	.0860	.00457	.00240	.159	.0838	1.20					101.	101.	104.	101.	101.	101.	
										54.3	53.9	56.4	54.4	54.3	54.3	53.9	53.9	
.02	.161	.0972	.00581	.00351	.155	.0937	.831					16.9	16.8	18.2	17.0	16.9	16.8	
.03	.156	.111	.00810	.00576	.148	.105	.467					16.3	16.3	17.6	16.4	16.3	16.3	
.04	.151	.118	.0101	.00782	.141	.110	.299					125.	125.	127.	125.	125.	125.	
.05	.147	.120	.0118	.00972	.135	.111	.207					58.8	59.8	62.4	58.9	58.8	58.8	
.06	.142	.121	.0133	.0113	.129	.110	.152					19.1	19.7	20.7	19.2	19.1	19.2	
.08	.135	.120	.0158	.0141	.119	.106	.0916					8.60	9.02	9.74	8.74	8.60	8.60	
.1	.128	.118	.0178	.0162	.111	.101	.0664					4.60	4.93	5.42	4.72	4.62	4.62	
.15	.116	.111	.0210	.0201	.0944	.0909	.0262					2.73	3.01	3.31	2.85	2.75	2.75	
.2	.109	.103	.0229	.0223	.0831	.0803	.0162					1.18	1.39	1.50	1.30	1.19	1.08	
.3	.0923	.0909	.0249	.0245	.0673	.0664	.00740					.617	.796	.833	.733	.634	.586	
.4	.0824	.0817	.0256	.0252	.0570	.0565	.00419					.185	.175	.233	.295	.206	.195	
.5	.0754	.0747	.0257	.0254	.0497	.0493	.00272					.0789	.0761	.198	.182	.101	.0986	
.6	.0698	.0693	.0256	.0254	.0441	.0440	.00190					.0240	.0233	.122	.115	.0488	.0478	
.8	.0612	.0610	.0250	.0247	.0362	.0364	.00106					.0109	.0107	.0965	.0923	.0365	.0359	
1.	.0550	.0549	.0242	.0237	.0309	.0312	.000687					.00621	.00612	.0838	.0810	.0319	.0316	
1.5	.0447	.0447	.0221	.0216	.0226	.0230	.000309	.000493		.000493	.000153		.00400	.00395	.0754	.0733	.0297	.0293
2.	.0381	.0381	.0202	.0197	.0179	.0185	.000176	.00185	.000874				.00204	.00202	.0641	.0631	.0271	.0267
3.	.0300	.0300	.0173	.0164	.0127	.0136	.0000789	.00502	.0000105	.00502	.00316		.00127	.00126	.0569	.0562	.0255	.0249
4.	.0251	.0251	.0152	.0142	.00986	.0109	.0000439	.00817	.0000431	.00824	.00576		.000594	.000591	.0461	.0457	.0232	.0224
5.	.0216	.0216	.0136	.0125	.00803	.00916	.0000283	.0109	.0000846	.0109	.00810		.000364	.000363	.0405	.0403	.0209	.0209
6.	.0192	.0192	.0123	.0111	.00681	.00810	.0000198	.0129	.000132	.0130	.0100		.000199	.000198	.0353	.0352	.0198	.0198
8.	.0156	.0156	.0104	.00909	.00521	.00657	.0000115	.0163	.000223	.0166	.0131		.000130	.000130	.0339	.0335	.0186	.0186
10.	.0133	.0133	.00909	.00754	.00422	.00575	.0000074	.0197	.000306	.0199	.0159		.0000972	.0000972	.0327	.0326	.0186	.0186
15.	.00986	.00986	.00701	.00550	.00286	.00437	.0255	.000479	.0260	.0202			.0000775	.0000775	.0323	.0323	.0186	.0186
20.	.00789	.00789	.00576	.00426	.00216	.00364	.0296	.000609	.0302	.0222			.0000551	.0000550	.0323	.0323	.0186	.0186
30.	.00576	.00576	.00431	.00279	.00146	.00297	.0353	.000796	.0361	.0245			.0000421	.0000421	.0333	.0333	.0186	.0186
40.	.00458	.00458	.00348	.00197	.00110	.00261	.0395	.000937	.0404	.0254			.0000268	.0000268	.0359	.0359	.0186	.0186
50.	.00383	.00383	.00295	.00149	.000881	.00233	.0426	.00104	.0437	.0254			.0000199	.0000199	.0381	.0381	.0186	.0186
60.	.00330	.00330	.00256	.00118	.000743	.00212	.0447	.00113	.0459	.0250			.0000130	.0000130	.0419	.0419	.0186	.0186
80.	.00260	.00260	.00204	.000782	.000555	.00182	.0483	.00125	.0495	.0248			.00000970	.00000970	.0450	.0450	.0186	.0186
100.	.00216	.00216	.00171	.000569	.000445	.00159	.0513	.00134	.0526	.0243			.00000770	.00000770	.0475	.0475	.0186	.0186

38 STRONTIUM
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	25.2	1.21	.0491	.00236	25.1	1.21	8°0.					651000.	651000.	652000.	651000.	651000.	651000.
.0015	25.1	1.94	.0733	.00566	25.1	1.93	8°8.					226000.	226000.	227000.	226000.	226000.	226000.
L _{III} .001940	25.1	2.53	.0945	.00953	25.0	2.52	7°1.					115000.	115000.	116000.	115000.	115000.	115000.
.002	25.1	2.61	.0973	.0101	25.0	2.60	7°5.					526000.	502000.	527000.	526000.	526000.	502000.
L _{II} .002007	25.1	2.62	.0977	.0102	25.0	2.61	7°4.					459000.	439000.	460000.	459000.	459000.	439000.
L _I .002216	25.1	2.89	.108	.0124	25.0	2.88	7°3.					454000.	434000.	455000.	454000.	454000.	434000.
.003	25.0	3.87	.145	.0224	24.8	3.85	6°7.					627000.	599000.	628000.	627000.	627000.	599000.
.004	24.9	5.03	.192	.0387	24.7	4.99	5°9.					499000.	479000.	500000.	499000.	499000.	479000.
.005	24.8	6.10	.237	.0584	24.6	6.04	5°4.					567000.	544000.	568000.	567000.	567000.	544000.
.006	24.7	7.04	.283	.0806	24.4	6.96	4°3.					245000.	238000.	246000.	245000.	245000.	238000.
.008	24.5	8.64	.371	.131	24.1	8.51	3°8.					110000.	108000.	111000.	110000.	110000.	108000.
.01	24.3	9.94	.456	.186	23.9	9.75	2°7.					59500.	58400.	60000.	59500.	59500.	58400.
.015	23.9	12.4	.661	.343	23.2	12.1	1°4.					35900.	35400.	36400.	35900.	35900.	35400.
K.016105	23.8	12.8	.702	.377	23.1	12.4	1°8.					16100.	15900.	16500.	16100.	16100.	15900.
.02	23.5	14.1	.847	.509	22.6	13.6	1°5.					8680.	8600.	8990.	8680.	8680.	8600.
.03	22.7	16.1	1.18	.838	21.5	15.3	°0.5					2720.	2700.	2920.	2730.	2720.	2700.
.04	22.0	17.0	1.47	1.13	20.5	15.9	°5.4					2210.	2200.	2390.	2220.	2210.	2200.
.05	21.3	17.5	1.72	1.41	19.6	16.1	°1.4					16700.	8040.	16900.	16700.	16700.	8040.
.06	20.7	17.6	1.95	1.65	18.8	15.9	°3.1					9150.	5330.	9290.	9160.	9150.	5330.
.08	19.7	17.5	2.30	2.05	17.4	15.5	°3.9					3000.	2160.	3090.	3020.	3000.	2160.
.1	18.7	17.2	2.58	2.37	16.1	14.8	°9.17					1350.	1070.	1410.	1370.	1350.	1070.
.15	16.9	16.1	3.06	2.92	13.8	13.2	4°28					725.	604.	774.	742.	727.	605.
.2	15.4	15.0	3.34	3.24	12.1	11.8	2°47					430.	370.	471.	448.	432.	372.
.3	13.4	13.2	3.62	3.56	9.81	9.64	1°12					186.	167.	217.	203.	188.	169.
.4	12.0	11.9	3.73	3.68	8.31	8.22	°635					98.0	89.8	124.	115.	101.	92.2
.5	11.0	10.9	3.75	3.72	7.24	7.18	°412					29.4	27.8	49.8	45.5	32.5	30.7
.6	10.2	10.1	3.74	3.69	6.43	6.41	°287					12.6	12.1	30.1	27.6	15.9	15.3
.8	8.93	8.89	3.65	3.59	5.28	5.30	°162					3.85	3.74	18.2	17.0	7.47	7.30
1.	8.03	8.00	3.53	3.44	4.50	4.56	°104					1.75	1.71	14.3	13.6	5.48	5.39
1.5	6.52	6.51	3.23	3.15	3.29	3.36	°0470	.0745		.0745	.0231	1.00	.983	12.3	11.9	4.75	4.70
2.	5.56	5.55	2.95	2.85	2.61	2.7	°0267	.280		.280	.132	.640	.631	11.0	10.7	4.38	4.32
3.	4.37	4.37	2.52	2.39	1.85	1.98	°0119	.754	.00153	.756	.475	.327	.324	9.38	9.22	3.98	3.91
4.	3.66	3.66	2.22	2.07	1.44	1.59	°00668	1.22	.00629	1.23	.858	.201	.199	8.30	8.20	3.73	3.64
5.	3.16	3.16	1.98	1.81	1.17	1.35	°00431	1.62	.0123	1.63	1.21	.0940	.0935	6.73	6.68	3.40	3.27
6.	2.79	2.79	1.80	1.61	.993	1.18	°00300	1.93	.0192	1.95	1.50	.0590	.0588	5.92	5.89	3.29	3.04
8.	2.28	2.28	1.52	1.32	.760	.962	°00173	2.46	.0325	2.49	1.96	.0322	.0321	5.17	5.16	3.31	2.90
10.	1.94	1.94	1.33	1.09	.615	.846	°00113	2.92	.0446	2.96	2.36	.0210	.0210	4.92	4.91	3.47	2.95
15.	1.44	1.44	1.02	.798	.417	.642		3.81	.0699	3.88	3.01	.0155	.0155	4.81	4.81	3.63	3.04
20.	1.15	1.15	.839	.614	.316	.536		4.40	.0887	4.49	3.28	.0123	.0123	4.76	4.75	3.76	3.12
30.	.841	.841	.628	.404	.212	.437		5.30	.117	5.42	3.66	.00880	.00879	4.78	4.78	4.02	3.29
40.	.668	.668	.508	.287	.160	.381		5.90	.137	6.04	3.77	.00670	.00669	4.91	4.91	4.30	3.46
50.	.558	.558	.429	.217	.128	.341		6.36	.152	6.51	3.76	.00426	.00426	5.32	5.32	4.90	3.81
60.	.480	.480	.373	.169	.108	.311		6.70	.163	6.86	3.73	.00316	.00316	5.64	5.64	5.33	3.90
80.	.379	.379	.298	.114	.0809	.265		7.20	.182	7.38	3.67	.00207	.00207	6.26	6.26	6.05	4.07
100.	.315	.315	.250	.0828	.0649	.232		7.63	.195	7.82	3.58	.00153	.00153	6.71	6.71	6.55	4.06
												.00122	.00122	7.07	7.07	6.94	3.98
												.00101	.00101	7.34	7.34	7.23	3.90
														7.76	7.76	7.68	3.78
														8.13	8.13	8.07	3.66

38 STRONTIUM
(cm²/g = 0.006873 x barns/atom)

E (MeV)	($\frac{\sigma}{\sigma_0}$) _{KN inc, t}	($\frac{\sigma}{\sigma_0}$) _{BD inc, t}	($\frac{\sigma}{\sigma_0}$) _{KN inc, a}	($\frac{\sigma}{\sigma_0}$) _{BD inc, a}	($\frac{\sigma}{\sigma_0}$) _{KN inc, s}	($\frac{\sigma}{\sigma_0}$) _{BD inc, s}	($\frac{\sigma}{\sigma_0}$) _{coh}	($\frac{\sigma}{\sigma_0}$) _{xn}	($\frac{\sigma}{\sigma_0}$) _{xe}	($\frac{\sigma}{\sigma_0}$) _{xt}	($\frac{\sigma}{\sigma_0}$) _{xa}	($\frac{\sigma}{\sigma_0}$) _{rt}	($\frac{\sigma}{\sigma_0}$) _{ra}	($\frac{\sigma}{\sigma_0}$) _{tot, t}	($\frac{\sigma}{\sigma_0}$) _{tot, t-coh}	($\frac{\sigma}{\sigma_0}$) _{tot, a}	($\frac{\sigma}{\sigma_0}$) _{tot, en}
.001	.173	.00832	.000337	.0000162	.173	.00832	6.12						4470.	4470.	4480.	4470.	4470.
.0015	.173	.0133	.000504	.0000389	.173	.0133	5.76						1550.	1550.	1560.	1550.	1550.
L _{III} .001940	.173	.0174	.000649	.0000655	.172	.0173	5.44						790.	790.	797.	790.	790.
.002	.173	.0179	.000669	.0000694	.172	.0179	5.40						3620.	3450.	3620.	3620.	3450.
L _{II} .002007	.173	.0180	.000671	.0000701	.172	.0179	5.39						3150.	3020.	3160.	3150.	3020.
L _I .002216	.173	.0199	.000742	.0000852	.172	.0198	5.24						3120.	2980.	3130.	3120.	2980.
													4310.	4120.	4320.	4310.	4120.
.003	.172	.0256	.000997	.000154	.170	.0265	4.72						3430.	3290.	3440.	3430.	3290.
.004	.171	.0346	.00132	.000266	.170	.0343	4.12						3900.	3740.	3900.	3900.	3740.
.005	.170	.0419	.00163	.000401	.169	.0415	3.60						1680.	1640.	1690.	1680.	1640.
.006	.170	.0464	.00195	.000554	.168	.0478	3.18						756.	742.	763.	756.	742.
.008	.168	.0594	.00255	.000900	.166	.0585	2.53						409.	401.	412.	409.	401.
.01	.167	.0683	.00313	.00128	.164	.0670	2.04						247.	243.	250.	247.	243.
.015	.164	.0852	.00454	.00236	.159	.0832	1.26						111.	109.	113.	111.	109.
K.016105	.164	.0880	.00482	.00259	.159	.0852	1.15						59.1	59.1	61.8	59.7	59.1
.02	.162	.0969	.00582	.00350	.155	.0935	.859						18.1	18.1	20.1	18.7	18.6
.03	.156	.111	.00811	.00576	.148	.105	.485						15.5	15.1	16.4	15.3	15.1
.04	.151	.117	.0101	.00777	.141	.109	.312						115.	59.3	116.	115.	115.
.05	.146	.128	.0118	.00969	.135	.111	.216						62.9	36.6	63.9	63.0	62.9
.06	.142	.121	.0134	.0113	.129	.109	.159						20.6	14.8	21.2	20.8	20.6
.08	.135	.128	.0158	.0141	.120	.107	.0955						9.28	7.35	9.69	9.42	9.28
.1	.129	.118	.0177	.0163	.111	.102	.0630						4.58	4.15	5.32	5.10	5.00
.15	.116	.112	.0210	.0201	.0948	.0907	.0294						2.56	2.54	3.24	3.08	2.97
.2	.106	.103	.0230	.0223	.0832	.0811	.0170						1.28	1.15	1.49	1.40	1.29
.3	.0921	.0907	.0249	.0245	.0674	.0663	.00770						.674	.617	.852	.790	.694
.4	.0825	.0818	.0256	.0253	.0571	.0565	.00436						.202	.191	.342	.313	.223
.5	.0756	.0749	.0258	.0256	.0498	.0493	.00283						.0866	.0832	.207	.190	.109
.6	.0701	.0694	.0257	.0254	.0442	.0441	.00197						.0265	.0257	.125	.117	.0513
.8	.0614	.0611	.0241	.0247	.0363	.0364	.00111						.0120	.0118	.0983	.0935	.0377
1.	.0552	.0550	.0243	.0236	.0309	.0313	.000715						.00687	.00676	.0845	.0818	.0326
1.5	.0448	.0447	.0222	.0216	.0226	.0231	.000323	.000512		.000512	.000159		.00440	.00434	.0756	.0735	.0301
2.	.0382	.0381	.0203	.0196	.0179	.0186	.000184	.00192		.00192	.000907		.00225	.00223	.0645	.0634	.0274
3.	.0300	.0300	.0173	.0164	.0127	.0136	.0000818	.00518	.0000105		.00520	.000326	.00138	.00137	.0570	.0564	.0256
4.	.0252	.0252	.0153	.0142	.00990	.0109	.0000459	.00839	.0000432	.00845	.00590		.00144	.00144	.0538	.0537	.0238
5.	.0217	.0217	.0136	.0124	.00804	.00928	.0000296	.0111	.0000845	.0112	.00832		.00107	.00107	.0531	.0531	.0249
6.	.0192	.0192	.0124	.0111	.00662	.00811	.0000206	.0133	.000132	.0134	.0103		.0000845	.0000845	.0527	.0526	.0258
8.	.0157	.0157	.0104	.00907	.00522	.00661	.0000119	.0169	.000223	.0171	.0135		.0000605	.0000604	.0529	.0529	.0276
10.	.0133	.0133	.00914	.00749	.00423	.00581	.0000078	.0201	.000307	.0203	.0162		.0000460	.0000460	.0527	.0527	.0296
15.	.00990	.00990	.00701	.00548	.00287	.00441		.0262	.000480	.0267	.0207		.0000293	.0000293	.0526	.0526	.0337
20.	.00790	.00790	.00577	.00422	.00217	.00368		.0302	.000610	.0309	.0225		.0000217	.0000217	.0526	.0526	.0366
30.	.00578	.00578	.00432	.00278	.00146	.00300		.0364	.000804	.0373	.0252		.0000142	.0000142	.0526	.0526	.0416
40.	.00459	.00459	.00349	.00197	.00110	.00262		.0406	.000942	.0415	.0259		.0000105	.0000105	.0526	.0526	.0461
50.	.00384	.00384	.00295	.00149	.000880	.00234		.0437	.00104	.0447	.0258		.00000840	.00000840	.0526	.0526	.0486
60.	.00330	.00330	.00256	.00116	.000742	.00214		.0460	.00112	.0471	.0256		.00000690	.00000690	.0526	.0526	.0504
80.	.00260	.00260	.00205	.000784	.000556	.00182		.0495	.00125	.0507	.0252				.0533	.0533	.0528
100.	.00216	.00216	.00172	.000569	.000446	.00159		.0524	.00134	.0537	.0246				.0559	.0559	.0555

39 YTTRIUM
(barns/atom)

E (MeV)	$\sigma_{\text{inc},t}$	$\sigma_{\text{inc},t}$	$\sigma_{\text{inc},a}$	$\sigma_{\text{inc},a}$	$\sigma_{\text{inc},s}$	$\sigma_{\text{inc},s}$	σ_{coh}	σ_{np}	σ_{xe}	$\sigma_{\text{x,t}}$	$\sigma_{\text{x,a}}$	$\sigma_{\text{r,t}}$	$\sigma_{\text{r,a}}$	$\sigma_{\text{tot,t}}$	$\sigma_{\text{tot,t-coh}}$	$\sigma_{\text{tot,a}}$	$\sigma_{\text{tot,en}}$
.001	25.8	1.24	.0501	.00242	25.8	1.24	939.					739000.	739000.	740000.	739000.	739000.	739000.
.0015	25.8	1.99	.0752	.00580	25.7	1.98	884.					252000.	252000.	253000.	252000.	252000.	252000.
.002	25.7	2.69	.0995	.0104	25.6	2.68	827.					119000.	119000.	120000.	119000.	119000.	119000.
L _{III} .002079	25.7	2.80	.104	.0113	25.6	2.79	818.					108000.	108000.	109000.	108000.	108000.	108000.
L _{II} .002155	25.7	2.90	.107	.0121	25.6	2.89	810.					482000.	458000.	483000.	482000.	482000.	458000.
L _I .002373	25.7	3.20	.118	.0147	25.6	3.19	786.					415000.	395000.	416000.	415000.	415000.	395000.
												573000.	545000.	574000.	573000.	573000.	545000.
												458000.	438000.	459000.	458000.	458000.	438000.
.003	25.6	3.99	.149	.0231	25.5	3.97	721.					521000.	498000.	522000.	521000.	521000.	498000.
.004	25.5	5.17	.197	.0398	25.3	5.13	628.					271000.	261000.	272000.	271000.	271000.	261000.
.005	25.4	6.23	.244	.0597	25.2	6.17	550.					122000.	119000.	123000.	122000.	122000.	119000.
.006	25.3	7.19	.290	.0823	25.1	7.11	485.					66300.	64900.	66900.	66300.	66300.	64900.
.008	25.2	8.83	.381	.134	24.8	8.70	386.					40000.	39300.	40500.	40000.	40000.	39300.
.01	25.0	10.2	.468	.191	24.5	10.0	313.					18000.	17800.	18400.	18000.	18000.	17800.
.015	24.5	12.7	.678	.351	23.9	12.3	196.					9630.	9530.	9950.	9640.	9630.	9530.
K .017038	24.3	13.4	.757	.416	23.6	13.0	166.					3060.	3040.	3270.	3070.	3060.	3040.
												2110.	2100.	2290.	2120.	2110.	2100.
.02	24.1	14.4	.869	.520	23.2	13.9	133.					15700.	7330.	15900.	15700.	15700.	7330.
.03	23.3	16.4	1.21	.853	22.1	15.5	75.0					10100.	5510.	10200.	10100.	10100.	5510.
.04	22.6	17.4	1.51	1.16	21.1	16.2	48.3					3320.	2310.	3410.	3340.	3320.	2310.
.05	21.9	17.9	1.77	1.44	20.1	16.5	33.5					1500.	1160.	1570.	1520.	1500.	1160.
.06	21.3	18.1	2.00	1.70	19.3	16.4	24.6					800.	655.	851.	818.	802.	656.
.08	20.2	17.9	2.36	2.10	17.8	15.8	14.8					477.	405.	520.	495.	479.	407.
.1	19.2	17.6	2.65	2.43	16.6	15.2	9.79					208.	184.	241.	226.	210.	186.
.15	17.3	16.5	3.14	2.99	14.2	13.5	4.57					109.	99.1	136.	127.	112.	102.
.2	15.8	15.3	3.43	3.31	12.4	12.0	2.63					33.0	31.0	54.1	49.5	36.1	34.0
.3	13.8	13.5	3.72	3.64	10.1	9.86	1.20					14.1	13.5	32.0	29.4	17.5	16.8
.4	12.3	12.2	3.83	3.77	8.53	8.43	.679					4.32	4.19	19.0	17.8	8.04	7.83
.5	11.3	11.2	3.85	3.81	7.43	7.39	.440					1.99	1.94	14.9	14.2	5.82	5.71
.6	10.4	10.4	3.83	3.80	6.60	6.60	.307					1.13	1.11	12.8	12.3	4.98	4.92
.8	9.15	9.12	3.75	3.68	5.42	5.44	.173					.720	.709	11.4	11.1	4.55	4.51
1.	8.24	8.21	3.62	3.53	4.61	4.68	.112					.367	.363	9.66	9.49	4.12	4.04
1.5	6.65	6.68	3.31	3.23	3.38	3.45	.0502	.0791		.0791	.0244	.228	.226	8.55	8.44	3.85	3.76
2.	5.71	5.70	3.03	2.92	2.68	2.78	.0286	.296		.296	.139	.105	.104	6.91	6.86	3.49	3.36
3.	4.49	4.49	2.59	2.45	1.90	2.04	.0127	.799		.801	.504	.0660	.0657	6.09	6.06	3.39	3.12
4.	3.75	3.75	2.28	2.12	1.47	1.63	.00713	1.29	.00645	1.30	.906	.0358	.0357	5.34	5.33	3.43	2.99
5.	3.24	3.24	2.03	1.86	1.21	1.38	.00461	1.70	.0127	1.71	1.27	.0237	.0236	5.08	5.07	3.60	3.05
6.	2.85	2.86	1.84	1.64	1.02	1.22	.00319	2.04	.0197	2.06	1.58	.0175	.0175	4.97	4.97	3.76	3.15
8.	2.34	2.34	1.56	1.35	.780	.992	.00184	2.60	.0333	2.63	2.06	.0138	.0138	4.94	4.93	3.91	3.23
10.	1.99	1.99	1.36	1.12	.631	.874	.00121	3.09	.0458	3.14	2.42	.00990	.00989	4.98	4.98	4.20	3.42
15.	1.43	1.48	1.05	.815	.428	.665		4.00	.0718	4.07	3.14	.00750	.00749	5.14	5.14	4.51	3.62
20.	1.19	1.19	.861	.632	.324	.558		4.65	.0910	4.74	3.46	.00478	.00478	5.55	5.55	5.12	3.96
30.	.853	.863	.645	.413	.218	.450		5.59	.120	5.71	3.84	.00352	.00352	5.93	5.93	5.60	4.10
40.	.636	.686	.521	.292	.165	.394		6.20	.140	6.34	3.92	.00232	.00232	6.58	6.58	6.36	4.26
50.	.573	.573	.441	.221	.132	.352		6.70	.155	6.85	3.92	.00171	.00171	7.03	7.03	6.86	4.21
60.	.493	.493	.383	.173	.110	.320		7.02	.168	7.19	3.87	.00136	.00136	7.42	7.42	7.29	4.14
80.	.339	.389	.306	.116	.0830	.273		7.60	.187	7.79	3.84	.00113	.00113	7.68	7.68	7.57	4.04
100.	.323	.323	.256	.0846	.0666	.238		8.01	.200	8.21	3.73			8.18	8.18	8.10	3.96
														8.53	8.53	8.47	3.81

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(cm²/g = 0.006774 x barns/atom)

E (MeV)	($\frac{\sigma}{\sigma_0}$) _{KN,inc,t}	($\frac{\sigma}{\sigma_0}$) _{BD,inc,t}	($\frac{\sigma}{\sigma_0}$) _{KN,inc,a}	($\frac{\sigma}{\sigma_0}$) _{BD,inc,a}	($\frac{\sigma}{\sigma_0}$) _{KN,inc,s}	($\frac{\sigma}{\sigma_0}$) _{BD,inc,s}	($\frac{\sigma}{\sigma_0}$) _{coh}	($\frac{\sigma}{\sigma_0}$) _{x_r}	($\frac{\sigma}{\sigma_0}$) _{x_e}	($\frac{\sigma}{\sigma_0}$) _{x_t}	($\frac{\sigma}{\sigma_0}$) _{x_a}	($\frac{\sigma}{\sigma_0}$) _{r,t}	($\frac{\sigma}{\sigma_0}$) _{r,a}	($\frac{\sigma}{\sigma_0}$) _{tot,t}	($\frac{\sigma}{\sigma_0}$) _{tot,t-coh}	($\frac{\sigma}{\sigma_0}$) _{tot,a}	($\frac{\sigma}{\sigma_0}$) _{tot,en}
.001	.175	.0084	.000341	.0000164	.175	.0084	6.36					5010.	5010.	5010.	5010.	5010.	5010.
.0015	.175	.0135	.000509	.0000393	.174	.0134	5.99					1710.	1710.	1710.	1710.	1710.	1710.
.002	.174	.0182	.000677	.0000764	.173	.0182	5.60					806.	806.	813.	806.	806.	806.
L _{III} .002079	.174	.0190	.000704	.0000765	.173	.0189	5.54					732.	732.	738.	732.	732.	732.
L _{II} .002155	.174	.0196	.000725	.0000820	.173	.0196	5.49					3270.	3100.	3270.	3270.	3270.	3100.
L _I .002373	.174	.0217	.000799	.0000996	.173	.0216	5.32					2610.	2680.	2620.	2610.	2610.	2680.
.003	.173	.0270	.00101	.000156	.173	.0269	4.86					3880.	3690.	3890.	3880.	3880.	3690.
.004	.173	.0350	.00133	.000270	.171	.0348	4.25					3100.	2970.	3110.	3100.	3100.	2970.
.005	.172	.0422	.00165	.000404	.171	.0418	3.73					3530.	3370.	3540.	3530.	3530.	3370.
.006	.171	.0487	.00196	.000558	.170	.0482	3.29					1840.	1770.	1840.	1840.	1840.	1770.
.008	.171	.0589	.00258	.000908	.168	.0589	2.61					828.	806.	833.	826.	826.	806.
.01	.169	.0691	.00317	.00129	.166	.0677	2.12					449.	440.	453.	449.	449.	440.
.015	.166	.0860	.00459	.00238	.162	.0833	1.33					271.	266.	274.	271.	271.	266.
K .017038	.165	.0908	.00513	.00282	.160	.0881	1.12					122.	121.	125.	122.	122.	121.
.02	.163	.0975	.00589	.00352	.157	.0942	.901					64.6	64.6	67.4	65.1	65.2	64.6
.03	.158	.111	.00820	.00578	.150	.105	.506					20.6	20.6	22.2	20.6	20.7	20.6
.04	.153	.118	.0102	.00786	.143	.110	.327					14.3	14.2	15.5	14.4	14.3	14.2
.05	.148	.121	.0120	.00975	.136	.112	.227					10.6	10.6	10.6	10.3	10.2	10.6
.06	.144	.123	.0135	.0115	.131	.111	.167					5.42	4.44	5.76	5.54	5.43	4.44
.08	.137	.121	.0160	.0142	.121	.107	.100					3.23	2.74	3.52	3.35	3.24	2.76
.1	.130	.119	.0180	.0165	.112	.103	.0663					1.41	1.25	1.63	1.53	1.42	1.26
.15	.117	.112	.0213	.0203	.0962	.0914	.0310					.738	.671	.921	.860	.758	.691
.2	.107	.104	.0232	.0224	.0840	.0813	.0178					.224	.210	.366	.338	.285	.230
.3	.0935	.0914	.0252	.0247	.0684	.0668	.00813					.0955	.0914	.217	.199	.119	.114
.4	.0833	.0826	.0259	.0255	.0578	.0571	.00460					.0293	.0284	.129	.121	.0545	.0530
.5	.0765	.0759	.0261	.0258	.0503	.0501	.00298					.0135	.0131	.101	.0962	.0394	.0387
.6	.0704	.0704	.0259	.0257	.0447	.0447	.00208					.00765	.00752	.0867	.0833	.0337	.0333
.8	.0620	.0618	.0254	.0249	.0367	.0369	.00117					.00488	.00480	.0772	.0752	.0308	.0306
1	.0556	.0556	.0245	.0239	.0312	.0317	.000759					.00249	.00246	.0654	.0643	.0279	.0274
1.5	.0453	.0453	.0224	.0219	.0229	.0234	.000340	.000536	.000536	.000165		.000194	.000194	.000704	.000704	.000704	.000704
2.	.0387	.0386	.0205	.0198	.0182	.0188	.000194	.000201	.000201	.000042		.000447	.000447	.000445	.000445	.000445	.000445
3.	.0304	.0304	.0175	.0166	.0129	.0138	.0000860	.000541	.000541	.000341		.000243	.000243	.000242	.000242	.000242	.000242
4.	.0254	.0254	.0154	.0144	.00996	.0110	.0000483	.000874	.000874	.000614		.000161	.000161	.000160	.000160	.000160	.000160
5.	.0219	.0219	.0138	.0126	.00820	.00935	.0000312	.0115	.0000860	.0116		.000119	.000119	.000119	.000119	.000119	.000119
6.	.0194	.0194	.0125	.0111	.00691	.00826	.0000216	.0138	.000133	.0140		.0000935	.0000935	.0000935	.0000935	.0000935	.0000935
8.	.0159	.0159	.0106	.00914	.00528	.00672	.0000125	.0176	.000226	.0178		.0000671	.0000670	.0000670	.0000670	.0000670	.0000670
10.	.0135	.0135	.00921	.00759	.00427	.00592	.0000082	.0209	.000310	.0211		.0000508	.0000507	.0000507	.0000507	.0000507	.0000507
15.	.0100	.0100	.00711	.00552	.00290	.00450		.0271	.000486	.0276		.0000324	.0000324	.0000324	.0000324	.0000324	.0000324
20.	.00806	.00806	.00583	.00428	.00219	.00378		.0315	.000616	.0321		.0000238	.0000238	.0000238	.0000238	.0000238	.0000238
30.	.00585	.00585	.00437	.00280	.00148	.00305		.0379	.000813	.0387		.0000157	.0000157	.0000157	.0000157	.0000157	.0000157
40.	.00465	.00465	.00353	.00198	.00112	.00267		.0420	.000948	.0429		.0000116	.0000116	.0000116	.0000116	.0000116	.0000116
50.	.00389	.00388	.00299	.00150	.000894	.00238		.0454	.00105	.0464		.00000920	.00000920	.00000920	.00000920	.00000920	.00000920
60.	.00334	.00334	.00259	.00117	.000745	.00217		.0476	.00114	.0487		.00000760	.00000760	.00000760	.00000760	.00000760	.00000760
80.	.00264	.00264	.00207	.000786	.000562	.00185		.0515	.00127	.0528				.0520	.0520	.0513	.0513
100.	.00219	.00219	.00173	.000573	.000451	.00161		.0543	.00135	.0556				.0554	.0554	.0549	.0549

40 ZIRCONIUM
 (barns/atom)

E (MeV)	$\sigma_{inc,t}^{KN}$	$\sigma_{inc,t}^{BD}$	$\sigma_{inc,a}^{KN}$	$\sigma_{inc,a}^{BD}$	$\sigma_{inc,s}^{KN}$	$\sigma_{inc,s}^{BD}$	σ_{coh}	σ_{xn}	σ_{xe}	$\sigma_{x,t}$	$\sigma_{x,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	26.5	1.08	.0516	.00210	26.5	1.08	991.					829000.	829000.	830000.	829000.	829000.	829000.
.0015	26.5	1.81	.0772	.00528	26.4	1.80	933.					285000.	285000.	286000.	285000.	285000.	285000.
.002	26.4	2.54	.102	.00986	26.3	2.53	872.					133000.	133000.	134000.	133000.	133000.	133000.
L _{III} .002223	26.4	2.85	.114	.0123	26.3	2.84	845.					101000.	101000.	102000.	101000.	101000.	101000.
L _{II} .002307	26.4	2.97	.118	.0133	26.3	2.96	835.					444000.	420000.	445000.	444000.	444000.	420000.
L _I .002533	26.3	3.29	.129	.0161	26.2	3.27	810.					381000.	361000.	382000.	381000.	381000.	361000.
.003	26.3	3.90	.152	.0226	26.1	3.88	758.					526000.	498000.	527000.	526000.	526000.	498000.
.004	26.2	5.12	.202	.0394	26.0	5.08	660.					423000.	403000.	424000.	423000.	423000.	403000.
.005	26.1	6.22	.250	.0596	25.8	6.16	577.					481000.	458000.	482000.	481000.	481000.	458000.
.006	26.0	7.23	.298	.0828	25.7	7.15	509.					302000.	290000.	303000.	302000.	302000.	290000.
.008	25.8	8.96	.391	.136	25.4	8.82	405.					136000.	132000.	137000.	136000.	136000.	132000.
.01	25.6	10.4	.480	.195	25.1	10.2	330.					73600.	71800.	74200.	73600.	73600.	71800.
.015	25.2	12.9	.696	.357	24.5	12.5	208.					44300.	43400.	44800.	44300.	44300.	43400.
K.017998	24.9	14.0	.814	.458	24.1	13.5	163.					20000.	19700.	20400.	20000.	20000.	19700.
.02	24.7	14.7	.892	.531	23.8	14.2	141.					10700.	10600.	11000.	10700.	10700.	10600.
.03	23.9	16.7	1.24	.869	22.7	15.8	79.6					3390.	3360.	3610.	3400.	3390.	3360.
.04	23.1	17.8	1.54	1.19	21.6	16.6	51.4					2010.	2000.	2190.	2020.	2010.	2000.
.05	22.5	18.3	1.81	1.48	20.6	16.8	35.7					14800.	6730.	15000.	14800.	14800.	6730.
.06	21.8	18.5	2.05	1.74	19.8	16.8	26.2					11000.	5600.	11200.	11000.	11000.	5600.
.08	20.7	18.3	2.42	2.14	18.3	16.2	15.8					3620.	2440.	3720.	3640.	3620.	2440.
.1	19.7	18.0	2.72	2.48	17.0	15.5	10.4					1630.	1230.	1700.	1650.	1630.	1230.
.15	17.7	16.9	3.22	3.07	14.5	13.8	4.88					880.	707.	934.	898.	882.	708.
.2	16.3	15.7	3.51	3.39	12.7	12.3	2.81					525.	439.	570.	543.	527.	441.
.3	14.1	13.9	3.81	3.75	10.3	10.2	1.28					230.	202.	264.	248.	232.	204.
.4	12.7	12.5	3.92	3.86	8.74	8.64	.724					120.	108.	148.	138.	123.	110.
.5	11.6	11.5	3.94	3.91	7.62	7.59	.469					36.6	34.2	58.4	53.5	39.8	37.3
.6	10.7	10.6	3.93	3.87	6.77	6.73	.328					15.8	15.0	34.3	31.5	19.3	18.4
.8	9.4	9.36	3.84	3.77	5.56	5.59	.185					4.85	4.69	20.0	18.7	8.66	8.44
1.	8.48	8.42	3.72	3.62	4.73	4.80	.119					2.23	2.18	15.5	14.7	6.15	6.04
1.5	6.86	6.85	3.40	3.32	3.47	3.53	.0537	.0840				1.27	1.25	13.2	12.8	5.21	5.16
2.	5.85	5.85	3.11	3.00	2.75	2.85	.0304	.313				.810	.797	11.7	11.4	4.74	4.67
3.	4.80	4.80	2.66	2.51	1.95	2.09	.0135	.842				.410	.405	9.95	9.77	4.25	4.17
4.	3.85	3.85	2.34	2.17	1.51	1.68	.00761	1.36	.00661			.253	.251	8.79	8.67	3.97	3.87
5.	3.32	3.32	2.09	1.90	1.24	1.42	.00491	1.80	.0130	1.81	.134	.118	.117	7.11	7.05	3.60	3.46
6.	2.94	2.94	1.89	1.68	1.05	1.26	.00339	2.15	.0202	2.17	1.66	.0745	.0741	6.27	6.24	3.50	3.22
8.	2.40	2.40	1.60	1.38	.800	1.02	.00194	2.72	.0341	2.75	2.15	.0402	.0401	5.50	5.48	3.54	3.08
10.	2.05	2.05	1.40	1.15	.648	.904	.00128	3.22	.0470	3.27	2.59	.0263	.0262	5.25	5.25	3.74	3.15
15.	1.51	1.51	1.08	.829	.439	.681		4.20	.0735	4.27	3.29	.0195	.0195	5.15	5.15	3.92	3.26
20.	1.22	1.22	.883	.644	.332	.576		4.90	.0933	4.99	3.63	.0155	.0155	5.13	5.13	4.08	3.36
30.	.885	.885	.661	.419	.224	.466		5.86	.122	5.98	4.00	.0110	.0110	5.16	5.16	4.36	3.54
40.	.703	.703	.534	.296	.169	.407		6.50	.143	6.64	4.09	.00842	.00841	5.33	5.33	4.68	3.75
50.	.587	.587	.452	.225	.135	.362		7.01	.159	7.17	4.07	.00534	.00534	5.79	5.79	5.36	4.12
60.	.506	.506	.392	.176	.113	.330		7.40	.172	7.57	4.05	.00392	.00392	6.21	6.21	5.88	4.28
80.	.399	.399	.314	.119	.0852	.280		7.94	.191	8.13	3.98	.00258	.00258	6.87	6.87	6.64	4.42
100.	.331	.331	.263	.0861	.0683	.245		8.42	.205	8.63	3.88	.00191	.00191	7.34	7.34	7.18	4.39
												.00152	.00152	7.76	7.76	7.62	4.30
												.00126	.00126	8.08	8.08	7.96	4.23
														8.53	8.53	8.44	4.10
														8.96	8.96	8.89	3.97

40 ZIRCONIUM
(cm²/g = 0.006602 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{nc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _n	($\frac{\mu}{\rho}$) _{pe}	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _{r,t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.175		.000341	.0000139	.175	.00713	6.54					5470.	5470.	5480.	5470.	5470.	5470.
.0015	.175	.0119	.000510	.0000349	.174	.0119	6.16					1880.	1880.	1890.	1880.	1880.	1880.
.002	.174	.0168	.000673	.0000651	.174	.0167	5.76					878.	878.	885.	878.	878.	878.
L _{III} .002223	.174	.0188	.000753	.0000812	.174	.0187	5.59					667.	667.	673.	667.	667.	667.
L _{II} .002307	.174	.0196	.000779	.0000878	.174	.0195	5.52					2930.	2770.	2940.	2930.	2930.	2770.
												2520.	2380.	2520.	2520.	2520.	2380.
L _I .002533	.174	.0217	.000852	.000106	.173	.0216	5.35					3470.	3290.	3480.	3470.	3470.	3290.
												2790.	2660.	2800.	2790.	2790.	2660.
.003	.174	.0257	.00100	.000149	.172	.0256	5.00					3180.	3020.	3180.	3180.	3180.	3020.
.004	.173	.0338	.00133	.000260	.172	.0335	4.36					1990.	1910.	2000.	1990.	1990.	1910.
.005	.172	.0411	.00165	.000393	.170	.0407	3.81					898.	871.	904.	898.	898.	871.
.006	.172	.0477	.00197	.000547	.170	.0472	3.36					486.	474.	490.	486.	486.	474.
.008	.170	.0592	.00258	.000898	.168	.0582	2.67					292.	287.	296.	292.	292.	287.
.01	.169	.0687	.00317	.00129	.166	.0673	2.18					132.	130.	135.	132.	132.	130.
.015	.166	.0852	.00459	.00236	.162	.0825	1.37					70.6	70.0	72.6	70.6	70.6	70.0
K.017998	.164	.0924	.00537	.00302	.159	.0891	1.08					22.4	22.2	23.8	22.4	22.4	22.2
												13.3	13.2	14.5	13.3	13.3	13.2
.02	.163	.0970	.00589	.00351	.157	.0937	.931					97.7	44.4	99.0	97.7	97.7	44.4
.03	.158	.110	.00819	.00574	.150	.104	.526					72.6	37.0	73.9	72.6	72.6	37.0
.04	.153	.118	.0102	.00786	.143	.110	.339					23.9	16.1	24.6	24.0	23.9	16.1
.05	.149	.121	.0119	.00977	.136	.111	.236					10.8	8.12	11.2	10.9	10.8	8.12
.06	.144	.122	.0135	.0115	.131	.111	.173					5.81	4.67	6.17	5.93	5.82	4.67
.08	.137	.121	.0160	.0141	.121	.107	.104					3.47	2.90	3.76	3.58	3.48	2.91
.1	.130	.119	.0180	.0164	.112	.102	.0687					1.52	1.33	1.74	1.64	1.53	1.35
.15	.117	.112	.0213	.0203	.0957	.0911	.0322					.792	.713	.977	.911	.812	.726
.2	.108	.104	.0232	.0224	.0838	.0812	.0186					.242	.226	.386	.353	.263	.246
.3	.0931	.0918	.0252	.0248	.0680	.0673	.00845					.104	.0990	.226	.208	.127	.121
.4	.0838	.0825	.0259	.0255	.0577	.0570	.00478					.0320	.0310	.132	.123	.0572	.0557
.5	.0766	.0759	.0260	.0258	.0503	.0501	.00310					.0147	.0144	.102	.0970	.0408	.0399
.6	.0706	.0700	.0259	.0255	.0447	.0444	.00217					.00838	.00825	.0871	.0845	.0344	.0341
.8	.0621	.0618	.0254	.0249	.0367	.0369	.00122					.00535	.00526	.0772	.0753	.0313	.0308
1	.0558	.0556	.0246	.0239	.0312	.0317	.000786					.00271	.00267	.0657	.0645	.0281	.0275
1.5	.0453	.0452	.0224	.0219	.0229	.0233	.000355	.000555	.000555	.000172		.00167	.00166	.0580	.0572	.0262	.0255
2	.0366	.0366	.0205	.0198	.0182	.0188	.000201	.00207	.00207	.000970		.000779	.000772	.0469	.0465	.0238	.0228
3	.0304	.0304	.0176	.0166	.0129	.0138	.0000891	.00556	.0000106	.00557	.00350		.000492	.000489	.0414	.0412	.0231
4	.0254	.0254	.0154	.0143	.00997	.0111	.0000502	.00898	.0000436	.00904	.00630		.000265	.000265	.0363	.0362	.0234
5	.0219	.0219	.0138	.0125	.00819	.00937	.0000324	.0119	.0000858	.0119	.00885		.000174	.000173	.0347	.0347	.0247
6	.0194	.0194	.0125	.0111	.00693	.00832	.0000224	.0142	.000133	.0143	.0110		.000129	.000129	.0340	.0340	.0259
8	.0158	.0158	.0106	.00911	.00528	.00673	.0000128	.0180	.000225	.0182	.0142		.000102	.000102	.0339	.0339	.0269
10	.0135	.0135	.00924	.00759	.00428	.00597	.0000085	.0213	.000310	.0216	.0171		.0000726	.0000726	.0341	.0341	.0288
15	.00997	.00997	.00713	.00547	.00290	.00450	.0277	.000485	.0282	.0217		.0000556	.0000555	.0352	.0352	.0309	.0248
20	.00805	.00805	.00583	.00425	.00219	.00380	.0323	.000616	.0329	.0240		.0000353	.0000353	.0382	.0382	.0354	.0272
30	.00584	.00584	.00436	.00277	.00148	.00308	.0387	.000805	.0395	.0264		.0000259	.0000259	.0410	.0410	.0388	.0283
40	.00464	.00464	.00353	.00195	.00112	.00269	.0429	.000944	.0438	.0270		.0000170	.0000170	.0434	.0434	.0408	.0292
50	.00388	.00388	.00298	.00149	.000891	.00239	.0463	.00105	.0473	.0269		.0000126	.0000126	.0458	.0458	.0474	.0290
60	.00334	.00334	.00259	.00116	.000746	.00218	.0489	.00114	.0500	.0267		.0000100	.0000100	.0512	.0512	.0503	.0284
80	.00263	.00263	.00207	.000786	.000562	.00185	.0524	.00126	.0537	.0263		.00000830	.00000830	.0533	.0533	.0526	.0279
100	.00219	.00219	.00174	.000568	.000451	.00162	.0556	.00135	.0570	.0256				.0563	.0563	.0557	.0271
															.0592	.0592	.0587

41 NIOBIUM
 (barns/atom)

E (MeV)	KN inc,t	BD inc,t	KN inc,a	BD inc,a	KN inc,s	BD inc,s	C _{coh}	$\sigma_{x,n}$	$\sigma_{x,e}$	$\sigma_{x,t}$	$\sigma_{x,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	27.2	.966	.0529	.00188	27.1	.964	1050.					929000.	929000.	930000.	929000.	929000.	929000.
.0015	27.1	1.70	.0791	.00496	27.0	1.70	992.					318000.	318000.	319000.	318000.	318000.	318000.
.002	27.1	2.43	.105	.00943	27.0	2.42	930.					149000.	149000.	150000.	149000.	149000.	149000.
L _{II} .002370	27.0	2.95	.124	.0135	26.9	2.94	883.					95600.	95600.	96500.	95600.	95600.	95600.
L _{II} .002464	27.0	3.09	.129	.0147	26.9	3.08	872.					410000.	386000.	411000.	410000.	410000.	386000.
L _I .002698	27.0	3.41	.141	.0178	26.8	3.39	843.					351000.	331000.	352000.	351000.	351000.	331000.
												484000.	456000.	485000.	484000.	484000.	456000.
.003	27.0	3.82	.156	.0221	26.8	3.80	807.					392000.	371000.	393000.	392000.	392000.	371000.
.004	26.9	5.10	.207	.0392	26.6	5.06	699.					446000.	422000.	447000.	446000.	446000.	422000.
.005	26.8	6.27	.256	.0601	26.5	6.21	610.					332000.	316000.	333000.	332000.	332000.	316000.
.006	26.6	7.32	.305	.0838	26.3	7.24	536.					149000.	144000.	150000.	150000.	149000.	144000.
.008	26.4	9.12	.400	.138	26.1	8.98	427.					81400.	79100.	82000.	81400.	81400.	79100.
.01	26.3	10.6	.492	.199	25.8	10.4	348.					49000.	47800.	49500.	49000.	49000.	47800.
.015	25.8	13.2	.713	.365	25.1	12.8	221.					22100.	21700.	22500.	22100.	22100.	21700.
K .018986	25.4	14.6	.874	.502	24.6	14.1	161.					11800.	11600.	12200.	11800.	11800.	11600.
												3770.	3730.	4000.	3780.	3770.	3730.
.02	25.3	15.0	.914	.541	24.4	14.5	150.					1930.	1920.	2110.	1940.	1930.	1920.
.03	24.5	17.1	1.27	.890	23.2	16.2	84.4					13900.	6140.	14100.	13900.	13900.	6140.
.04	23.7	18.1	1.58	1.21	22.1	16.9	54.6					12100.	5690.	12300.	12100.	12100.	5690.
.05	23.0	18.7	1.86	1.51	21.2	17.2	38.0					3950.	2550.	4050.	3970.	3950.	2550.
.06	22.4	18.9	2.10	1.77	20.3	17.1	27.9					1800.	1320.	1870.	1820.	1800.	1320.
.08	21.2	18.6	2.48	2.20	18.7	16.6	16.8					970.	764.	1030.	989.	972.	766.
.1	20.2	18.4	2.79	2.54	17.4	15.9	11.1					577.	475.	624.	596.	579.	477.
.15	18.2	17.3	3.30	3.14	14.9	14.2	5.20					252.	219.	288.	271.	254.	221.
.2	16.7	16.1	3.60	3.48	13.1	12.6	3.00					132.	118.	161.	150.	135.	121.
.3	14.5	14.2	3.91	3.83	10.6	10.4	1.36					40.4	37.5	62.9	57.7	43.7	40.6
.4	13.0	12.8	4.02	3.96	8.96	8.84	.773					17.5	16.6	36.6	33.6	21.1	20.1
.5	11.9	11.8	4.04	4.01	7.81	7.79	.501					5.40	5.21	21.0	19.6	9.31	9.04
.6	11.0	10.9	4.03	3.98	6.94	6.92	.350					2.48	2.41	16.1	15.3	6.50	6.37
.8	9.63	9.59	3.94	3.86	5.69	5.73	.196					1.42	1.39	13.7	13.2	5.46	5.40
1.	8.66	8.63	3.81	3.71	4.85	4.92	.127					.900	.884	12.1	11.8	4.93	4.86
1.5	7.04	7.02	3.48	3.39	3.55	3.63	.0570	.0900	.0900	.0275		.459	.453	10.2	10.0	4.40	4.31
2.	6.00	5.99	3.18	3.07	2.82	2.92	.0324	.330	.330	.153		.282	.279	9.04	8.91	4.09	3.99
3.	4.72	4.71	2.72	2.56	1.99	2.15	.0145	.885	.887	.550		.132	.131	7.30	7.24	3.70	3.55
4.	3.94	3.94	2.39	2.21	1.55	1.73	.00812	1.43	.00677	1.44	.993	.0830	.0826	6.44	6.40	3.59	3.31
5.	3.41	3.41	2.14	1.94	1.27	1.47	.00523	1.88	.0133	1.89	1.38	.0450	.0448	5.66	5.64	3.65	3.15
6.	3.01	3.01	1.94	1.72	1.07	1.29	.00360	2.26	.0207	2.28	1.72	.0293	.0292	5.42	5.41	3.86	3.23
8.	2.46	2.46	1.64	1.41	.820	1.05	.00205	2.66	.0350	2.89	2.23	.0218	.0218	5.33	5.32	4.05	3.34
10.	2.10	2.10	1.43	1.17	.664	.920	.00136	3.40	.0481	3.44	2.70	.0171	.0171	5.31	5.31	4.24	3.46
15.	1.55	1.55	1.10	.846	.450	.704			.0751	4.48	3.40	.0121	.0121	5.36	5.36	4.54	3.65
20.	1.25	1.25	.905	.656	.341	.594			.0955	5.21	3.72	.00527	.00526	5.58	5.56	4.89	3.88
30.	.907	.907	.676	.427	.229	.480			.125	6.26	4.12	.00592	.00592	6.04	6.04	5.59	4.25
40.	.721	.721	.548	.303	.173	.418			.147	6.95	4.22	.00437	.00437	6.46	6.46	6.12	4.38
50.	.602	.602	.463	.229	.139	.373			.163	7.51	4.21	.00289	.00289	7.17	7.17	6.94	4.55
60.	.518	.518	.402	.179	.116	.339			.176	7.95	4.17	.00214	.00214	7.67	7.67	7.50	4.53
80.	.409	.409	.321	.121	.0873	.288			.195	8.50	4.09	.00169	.00169	8.11	8.11	7.97	4.44
100.	.339	.339	.269	.0875	.0760	.252			.209	9.01	3.99	.00139	.00139	8.47	8.47	8.35	4.35
												.00104	.00104	8.91	8.91	8.82	4.21
														9.35	9.35	9.28	4.08

41 NIOBIUM
(cm²/g = 0.006482 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{KN} inc, t	($\frac{\mu}{\rho}$) _{BD} inc, t	($\frac{\mu}{\rho}$) _{KN} inc, a	($\frac{\mu}{\rho}$) _{BD} inc, a	($\frac{\mu}{\rho}$) _{KN} inc, s	($\frac{\mu}{\rho}$) _{BD} inc, s	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _n	($\frac{\mu}{\rho}$) _e	($\frac{\mu}{\rho}$) _{x, t}	($\frac{\mu}{\rho}$) _{x, a}	($\frac{\mu}{\rho}$) _{r, t}	($\frac{\mu}{\rho}$) _{r, a}	($\frac{\mu}{\rho}$) _{tot, t}	($\frac{\mu}{\rho}$) _{tot, t-coh}	($\frac{\mu}{\rho}$) _{tot, a}	($\frac{\mu}{\rho}$) _{tot, en}
.001	.176	.00626	.000343	.0000122	.176	.00625	6.81					6020.	6020.	6030.	6020.	6020.	6020.
.0015	.176	.0111	.000513	.0000322	.175	.0110	6.43					2060.	2060.	2070.	2060.	2060.	2060.
.002	.176	.0159	.000681	.0000611	.175	.0157	6.03					966.	966.	972.	966.	966.	966.
.002370	.175	.0191	.000804	.0000875	.174	.0191	5.72					620.	620.	626.	620.	620.	620.
L _{III}												2660.	2500.	2660.	2660.	2660.	2500.
L _{II}	.002464	.175	.0200	.000836	.0000953	.174	.0200	5.65				2280.	2150.	2280.	2280.	2280.	2150.
L _I	.002698	.175	.0221	.000914	.000115	.174	.0220	5.46				3140.	2960.	3140.	3140.	3140.	2960.
												2540.	2400.	2550.	2540.	2540.	2400.
												2890.	2740.	2900.	2890.	2890.	2740.
.003	.175	.0249	.00101	.000143	.174	.0246	5.23					2150.	2050.	2160.	2150.	2150.	2050.
.004	.174	.0330	.00134	.000254	.172	.0328	4.53					966.	933.	972.	966.	966.	933.
.005	.174	.0406	.00166	.000390	.172	.0403	3.95					528.	513.	532.	528.	528.	513.
.006	.172	.0474	.00198	.000543	.170	.0469	3.47					318.	310.	321.	318.	318.	310.
.008	.171	.0591	.00259	.000895	.169	.0582	2.77					143.	141.	146.	143.	143.	141.
.01	.170	.0687	.00319	.00129	.167	.0674	2.26					76.5	75.2	79.1	76.5	76.5	75.2
.015	.167	.0856	.00462	.00237	.163	.0830	1.43					24.4	24.2	25.9	24.5	24.4	24.2
K	.018986	.165	.0946	.00567	.00325	.159	.0914	1.04				12.5	12.4	13.7	12.6	12.5	12.4
												90.1	39.8	91.4	90.1	90.1	39.8
.02	.164	.0972	.00592	.00351	.158	.0940	.972					78.4	36.9	79.7	78.4	78.4	36.9
.03	.159	.111	.00823	.00571	.150	.105	.547					25.6	16.5	26.3	25.7	25.6	16.5
.04	.154	.117	.0102	.00784	.143	.110	.354					11.7	8.56	12.1	11.8	11.7	8.56
.05	.149	.121	.0121	.00979	.137	.111	.246					6.29	4.95	6.68	6.41	6.30	4.97
.06	.145	.122	.0136	.0115	.132	.111	.181					3.7	3.08	4.04	3.86	3.75	3.09
.08	.137	.122	.0161	.0143	.121	.108	.109					1.63	1.42	1.87	1.76	1.65	1.43
.1	.131	.119	.0181	.0165	.113	.103	.0720					.856	.765	1.04	.972	.879	.784
.15	.118	.112	.0214	.0204	.0966	.0920	.0337					.262	.243	.408	.374	.283	.263
.2	.108	.104	.0233	.0226	.0849	.0817	.0194					.113	.108	.237	.218	.137	.130
.3	.0940	.0920	.0253	.0248	.0687	.0674	.00882					.0850	.0338	.136	.127	.0603	.0586
.4	.0843	.0830	.0261	.0257	.0581	.0573	.00501					.0161	.0156	.104	.0992	.0421	.0413
.5	.0771	.0765	.0262	.0260	.0506	.0505	.00325					.03920	.00901	.0888	.0856	.0354	.0350
.6	.0713	.0713	.0261	.0258	.0450	.0449	.00227					.03583	.00573	.0784	.0765	.0320	.0315
.8	.0624	.0622	.0255	.0250	.0369	.0371	.00127					.03298	.00294	.0661	.0648	.0285	.0279
1.	.0561	.0559	.0247	.0240	.0314	.0319	.000823					.02183	.00181	.0586	.0578	.0265	.0259
1.5	.0456	.0455	.0226	.0220	.0230	.0235	.000369	.000583		.000583	.000178	.030856	.000849	.0473	.0469	.0240	.0230
2.	.0389	.0388	.0206	.0199	.0183	.0189	.000210	.00214		.00214	.000992	.030538	.000535	.0417	.0415	.0233	.0215
3.	.0306	.0305	.0176	.0166	.0129	.0139	.0000940	.00574	.0000107	.00575	.00357	.030292	.000290	.0367	.0366	.0237	.0204
4.	.0255	.0255	.0155	.0143	.0100	.0112	.0000526	.00927	.0000439	.00933	.00644	.030190	.000189	.0351	.0351	.0250	.0209
5.	.0221	.0221	.0139	.0126	.00823	.00953	.0000339	.0122	.0000862	.0123	.00895	.030141	.000141	.0345	.0345	.0263	.0216
6.	.0195	.0195	.0126	.0111	.00694	.00836	.0000233	.0146	.000134	.0148	.0111	.030111	.000111	.0344	.0344	.0275	.0224
8.	.0159	.0159	.0106	.00914	.00532	.00681	.0000133	.0185	.000227	.0187	.0145	.0300784	.0000784	.0347	.0347	.0294	.0237
10.	.0136	.0136	.00927	.00758	.00430	.00603	.0000088	.0220	.000312	.0224	.0175	.0300601	.0000600	.0360	.0360	.0317	.0252
15.	.0100	.0100	.00713	.00548	.00292	.00456		.0285	.000487	.0290	.0220	.0300384	.0000384	.0392	.0392	.0362	.0275
20.	.00810	.00810	.00587	.00425	.00221	.00385		.0331	.000619	.0338	.0241	.0300283	.0000283	.0419	.0419	.0397	.0284
30.	.00588	.00588	.00439	.00277	.00148	.00311		.0398	.000810	.0406	.0267	.0300187	.0000187	.0465	.0465	.0450	.0295
40.	.00467	.00467	.00355	.00196	.00112	.00271		.0441	.000953	.0450	.0274	.0300139	.0000139	.0497	.0497	.0486	.0294
50.	.00390	.00390	.00300	.00148	.000901	.00242		.0476	.00106	.0487	.0273	.0300110	.0000110	.0526	.0526	.0517	.0288
60.	.00336	.00336	.00261	.00116	.000752	.00220		.0504	.00114	.0515	.0270	.03000900	.00000900	.0549	.0549	.0541	.0282
80.	.00265	.00265	.00208	.000784	.000566	.00187		.0538	.00126	.0551	.0265	.03000670	.00000670	.0578	.0578	.0572	.0273
100.	.00220	.00220	.00174	.000567	.000454	.00163		.0570	.00135	.0584	.0259			.0606	.0606	.0602	.0264

42 MOLYBDENUM
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{con}	σ_{xr}	σ_{xe}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	27.8	1.02	.0542	.00199	27.8	1.02	1100.					1030000.	1030000.	1030000.	1030000.	1030000.	1030000.
.0015	27.8	1.78	.0810	.00519	27.7	1.77	1050.					352000.	352000.	353000.	352000.	352000.	352000.
.002	27.7	2.52	.108	.00978	27.6	2.51	981.					165000.	165000.	166000.	165000.	165000.	165000.
.002521	27.7	3.26	.135	.0159	27.5	3.24	912.					90300.	90300.	91200.	90300.	90300.	90300.
.002625	27.7	3.41	.140	.0173	27.5	3.39	899.					380000.	356000.	381000.	380000.	380000.	356000.
.002867	27.6	3.73	.153	.0207	27.5	3.71	868.					324000.	304000.	325000.	324000.	324000.	304000.
.003	27.6	3.91	.160	.0227	27.5	3.89	852.					448000.	420000.	449000.	448000.	448000.	420000.
.004	27.5	5.19	.212	.0399	27.3	5.15	737.					364000.	343000.	365000.	364000.	364000.	343000.
.005	27.4	6.36	.262	.0609	27.1	6.30	642.					415000.	391000.	416000.	415000.	415000.	391000.
.006	27.3	7.44	.312	.0852	27.0	7.35	564.					367000.	347000.	368000.	367000.	367000.	347000.
.008	27.1	9.29	.410	.141	26.7	9.15	448.					164000.	157000.	165000.	164000.	164000.	157000.
.01	26.9	10.8	.504	.202	26.4	10.6	366.					89700.	86700.	90300.	89700.	89700.	86700.
.015	26.4	13.4	.730	.371	25.7	13.0	233.					53800.	52300.	54400.	53800.	53800.	52300.
.02	26.0	15.2	.936	.549	25.0	14.7	159.					24400.	23900.	24900.	24400.	24400.	23900.
.02	26.0	15.2	.936	.548	25.0	14.7	159.					13100.	12900.	13500.	13100.	13100.	12900.
.03	25.1	17.4	1.31	.905	23.8	16.5	89.4					4180.	4130.	4430.	4190.	4180.	4130.
.04	24.3	18.5	1.62	1.23	22.7	17.3	57.9					1840.	1820.	2010.	1840.	1840.	1820.
.05	23.6	19.0	1.90	1.53	21.7	17.5	40.4					1840.	1820.	2010.	1840.	1840.	1820.
.06	22.9	19.3	2.15	1.81	20.8	17.5	29.7					13200.	5680.	13400.	13200.	13200.	5680.
.08	21.7	19.2	2.54	2.25	19.2	17.0	17.9					4310.	2670.	4420.	4330.	4310.	2670.
.1	20.7	18.8	2.86	2.59	17.8	16.2	11.8					1950.	1390.	2030.	1970.	1950.	1390.
.15	18.6	17.7	3.38	3.21	15.3	14.5	5.5					1050.	821.	1110.	1070.	1050.	821.
.2	17.1	16.5	3.69	3.57	13.4	12.9	3.1					630.	510.	679.	649.	632.	512.
.3	14.8	14.6	4.00	3.94	10.8	10.7	1.45					278.	238.	315.	297.	281.	240.
.4	13.3	13.1	4.12	4.05	9.18	9.05	.823					146.	129.	177.	165.	149.	132.
.5	12.1	12.0	4.14	4.08	8.00	7.92	.54					44.6	41.2	47.8	42.3	44.0	44.4
.6	11.2	11.2	4.13	4.09	7.11	7.11	.370					19.4	18.3	19.1	35.9	23.1	21.9
.8	9.87	9.82	4.03	3.96	5.83	5.86	.248					6.00	5.77	22.0	20.6	10.0	9.71
1.	8.87	8.84	3.90	3.79	4.97	5.05	.125					2.80	2.72	16.7	15.9	6.92	6.77
1.5	7.21	7.19	3.56	3.47	3.64	3.72	.0405	.0925	.0955	.0292		1.57	1.53	14.1	13.6	5.71	5.61
2.	6.14	6.14	3.26	3.14	2.88	3.00	.0244	.350	.162			1.00	.981	12.6	12.2	5.13	5.07
3.	4.83	4.83	2.79	2.62	2.04	2.21	.0153	.930	.578			.510	.503	10.5	10.3	4.54	4.46
4.	4.04	4.04	2.45	2.27	1.59	1.77	.04864	1.50	.00695	1.51	1.04	.310	.304	9.28	9.15	4.21	4.10
5.	3.49	3.49	2.19	1.98	1.30	1.51	.04557	1.97	.0136	1.98	1.45	.149	.148	7.49	7.43	3.80	3.65
6.	3.08	3.08	1.99	1.76	1.10	1.32	.04382	2.35	.0212	2.37	1.79	.093	.0925	6.62	6.58	3.70	3.39
8.	2.52	2.52	1.68	1.44	.840	1.08	.04216	3.00	.0359	3.04	2.34	.0500	.0498	5.83	5.81	3.77	3.25
10.	2.15	2.15	1.47	1.19	.680	.957	.04143	3.53	.0491	3.58	2.79	.0327	.0326	5.59	5.58	3.99	3.34
15.	1.59	1.59	1.13	.863	.461	.727		4.60	.0770	4.68	3.54	.0241	.0240	5.50	5.49	4.19	3.45
20.	1.28	1.28	.927	.668	.349	.612		5.38	.0978	5.48	3.91	.0190	.0190	5.47	5.47	4.38	3.57
30.	.929	.929	.694	.436	.235	.493		6.45	.128	6.58	4.31	.0135	.0135	5.58	5.57	4.73	3.70
40.	.738	.738	.561	.308	.177	.430		7.15	.150	7.30	4.39	.0104	.0104	5.74	5.74	5.06	3.90
50.	.617	.617	.475	.233	.142	.384		7.70	.166	7.87	4.39	.00661	.00660	6.28	6.28	5.82	4.41
60.	.531	.531	.412	.182	.119	.349		8.10	.180	8.28	4.31	.00486	.00486	6.76	6.76	6.41	4.58
80.	.419	.419	.329	.123	.0894	.296		8.75	.200	8.95	4.27	.00318	.00318	7.51	7.51	7.28	4.75
100.	.348	.348	.276	.0894	.0717	.259		9.25	.214	9.46	4.15	.00235	.00235	8.04	8.04	7.86	4.70
												.00185	.00185	8.49	8.49	8.35	4.62
												.00153	.00153	8.81	8.81	8.69	4.49
												.00113	.00113	9.37	9.37	9.28	4.39
														9.81	9.81	9.74	4.24

42 MOLYBDENUM
(cm²/g = 0.006277 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{KN} inc,t	($\frac{\mu}{\rho}$) _{BD} inc,t	($\frac{\mu}{\rho}$) _{KN} inc,a	($\frac{\mu}{\rho}$) _{BD} inc,a	($\frac{\mu}{\rho}$) _{KN} inc,s	($\frac{\mu}{\rho}$) _{BD} inc,s	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{x_n}	($\frac{\mu}{\rho}$) _{x_e}	($\frac{\mu}{\rho}$) _{x_t}	($\frac{\mu}{\rho}$) _{x_a}	($\frac{\mu}{\rho}$) _{r,t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.01	.175	.00640	.000340	.0000125	.175	.0064	6.90					6470.	6470.	6470.	6470.	6470.	6470.
.015	.175	.0112	.000508	.0000326	.174	.0111	6.59					2210.	2210.	2220.	2210.	2210.	2210.
.02	.174	.0158	.000678	.0000514	.173	.0158	6.16					1040.	1040.	1040.	1040.	1040.	1040.
L _{III} .002521	.174	.0215	.000847	.0000998	.173	.0203	5.72					567.	567.	572.	567.	567.	567.
L _{II} .002625	.174	.0214	.000879	.000109	.173	.0213	5.64					2390.	2230.	2390.	2390.	2390.	2230.
L _I .002867	.173	.0234	.000960	.000130	.173	.0233	5.45					2030.	1910.	2040.	2030.	2030.	1910.
												2810.	2640.	2820.	2810.	2810.	2640.
.003	.173	.0215	.00100	.000142	.173	.0244	5.35					2280.	2150.	2290.	2280.	2280.	2150.
.004	.173	.0326	.00133	.000250	.171	.0323	4.63					2600.	2450.	2610.	2600.	2600.	2450.
.005	.172	.0399	.00164	.000382	.170	.0395	4.03					2300.	2180.	2310.	2300.	2300.	2180.
.006	.171	.0467	.00196	.000535	.169	.0461	3.54					1030.	985.	1040.	1030.	1030.	985.
.008	.170	.0513	.00257	.000885	.168	.0574	2.81					563.	544.	567.	563.	563.	544.
.01	.169	.0678	.00316	.00127	.166	.0665	2.30					338.	328.	341.	338.	338.	328.
.015	.166	.0811	.00458	.00233	.161	.0816	1.46					153.	150.	156.	153.	153.	150.
.02	.163	.0954	.00588	.00345	.157	.0923	.998					82.2	81.0	84.7	82.2	82.2	81.0
K.020000	.163	.0954	.00588	.00344	.157	.0923	.998					26.2	25.9	27.6	26.3	26.2	25.9
												11.5	11.4	12.6	11.7	11.5	11.4
.03	.158	.109	.00822	.00568	.149	.104	.561					11.5	11.4	12.6	11.7	11.5	11.4
.04	.153	.115	.0102	.00772	.142	.109	.363					82.9	35.7	44.1	82.9	82.9	35.7
.05	.148	.119	.0119	.00960	.136	.110	.254					27.1	16.8	27.7	27.2	27.1	16.8
.06	.144	.121	.0135	.0114	.131	.110	.186					12.2	8.73	12.7	12.4	12.2	8.73
.08	.136	.121	.0159	.0141	.121	.107	.112					6.99	5.15	6.97	6.72	6.99	5.17
.1	.130	.118	.0180	.0163	.112	.102	.0741					3.95	3.20	4.26	4.07	3.97	3.21
.15	.117	.111	.0212	.0201	.0960	.0910	.0347					1.75	1.49	1.98	1.86	1.76	1.51
.2	.107	.104	.0232	.0224	.0841	.0810	.0200					.516	.810	1.11	1.04	.935	.859
.3	.0929	.0916	.0251	.0247	.0678	.0672	.00910					.680	.259	.426	.391	.301	.279
.4	.0835	.0822	.0259	.0254	.0576	.0568	.00517					.122	.115	.245	.225	.145	.137
.5	.0760	.0753	.0260	.0256	.0502	.0497	.00335					.4377	.0362	.138	.129	.0628	.0609
.6	.0703	.0703	.0259	.0257	.0446	.0446	.00232					.4176	.0171	.105	.0998	.0434	.0425
.8	.0620	.0616	.0253	.0249	.0366	.0368	.00131					.40985	.00960	.05885	.0584	.0358	.0352
1.	.0557	.0555	.0245	.0238	.0312	.0317	.000847					.40628	.00618	.0791	.0766	.0322	.0318
1.5	.0453	.0451	.0223	.0218	.0228	.0234	.000380	.000599		.000599	.000183	.40320	.00316	.0659	.0647	.0285	.0280
2.	.0385	.0385	.0205	.0197	.0181	.0188	.000216	.000220		.000220	.00102	.40195	.00192	.0583	.0574	.0264	.0257
3.	.0303	.0303	.0175	.0164	.0128	.0139	.0000960	.00584	.0000106	.00585	.00363	.400935	.000929	.0470	.0466	.0239	.0229
4.	.0254	.0254	.0154	.0142	.00998	.0111	.0000542	.00942	.0000436	.00948	.00653	.400584	.000581	.0416	.0413	.0232	.0213
5.	.0219	.0219	.0137	.0124	.00816	.00948	.0000350	.0124	.0000854	.0124	.0091	.400314	.000313	.0366	.0365	.0237	.0204
6.	.0193	.0193	.0125	.0110	.00690	.00829	.0000240	.0148	.000133	.0149	.0112	.400205	.000205	.0351	.0350	.0250	.0210
8.	.0158	.0158	.0105	.00904	.00527	.00678	.0000136	.0188	.000225	.0191	.0147	.400151	.000151	.0345	.0345	.0263	.0217
10.	.0135	.0135	.00923	.00747	.00427	.00601	.0000090	.0222	.000308	.0225	.0175	.400119	.000119	.0343	.0343	.0275	.0224
15.	.00998	.00998	.00709	.00542	.00289	.00456	.0000000	.0289	.000483	.0294	.0222	.4000847	.0000847	.0350	.0350	.0297	.0238
20.	.00803	.00803	.00582	.00419	.00219	.00384	.0000000	.0289	.000483	.0294	.0222	.4000653	.0000653	.0360	.0360	.0316	.0250
30.	.00583	.00583	.00436	.00274	.00148	.00309	.0000000	.0289	.000483	.0294	.0222	.4000415	.0000415	.0394	.0394	.0385	.0277
40.	.00463	.00463	.00352	.00193	.00111	.00270	.0000000	.0289	.000483	.0294	.0222	.4000305	.0000305	.0424	.0424	.0402	.0287
50.	.00387	.00387	.00298	.00146	.000891	.00241	.0000000	.0289	.000483	.0294	.0222	.4000200	.0000200	.0471	.0471	.0457	.0298
60.	.00333	.00333	.00259	.00114	.000747	.00219	.0000000	.0289	.000483	.0294	.0222	.4000148	.0000148	.0505	.0505	.0493	.0295
80.	.00263	.00263	.00207	.000772	.000561	.00186	.0000000	.0289	.000483	.0294	.0222	.4000116	.0000116	.0533	.0533	.0524	.0290
100.	.00218	.00218	.00173	.000561	.000453	.00163	.0000000	.0289	.000483	.0294	.0222	.40000960	.00000960	.0553	.0553	.0545	.0282
												.40000710	.00000710	.0588	.0588	.0583	.0276
														.0616	.0616	.0611	.0266

43 TECHNETIUM
(barns/atom)

E (MeV)	$\sigma_{\text{inc,t}}^{\text{KN}}$	$\sigma_{\text{inc,t}}^{\text{BD}}$	$\sigma_{\text{inc,a}}^{\text{KN}}$	$\sigma_{\text{inc,a}}^{\text{BD}}$	$\sigma_{\text{inc,s}}^{\text{KN}}$	$\sigma_{\text{inc,s}}^{\text{BD}}$	σ_{coh}	σ_{nd}	σ_{ne}	σ_{nt}	σ_{na}	σ_{rt}	σ_{ra}	$\sigma_{\text{tot,t}}$	$\sigma_{\text{tot,t-coh}}$	$\sigma_{\text{tot,a}}$	$\sigma_{\text{tot,en}}$
.001	28.5	1.14	.0555	.00222	28.4	1.14	116t.					1150000.	1150000.	1150000.	1150000.	1150000.	1150000.
.0015	28.4	1.96	.0829	.00572	28.4	1.95	109t.					394000.	394000.	395000.	394000.	394000.	394000.
.002	28.4	2.72	.110	.0106	28.3	2.71	102t.					184000.	184000.	185000.	184000.	184000.	184000.
L _{III} .002677	28.3	3.67	.147	.0190	28.2	3.65	93t.					85500.	85500.	86400.	85500.	85500.	85500.
L _{II} .002793	28.3	3.83	.153	.0207	28.1	3.81	91t.					354000.	330000.	355000.	354000.	354000.	330000.
.003	28.3	4.10	.164	.0238	28.1	4.08	88t.					300000.	280000.	301000.	300000.	300000.	280000.
L _I .003043	28.3	4.16	.166	.0245	28.1	4.14	88t.					415000.	387000.	416000.	415000.	415000.	387000.
.004	28.2	5.37	.217	.0413	27.9	5.33	77t.					351000.	329000.	352000.	351000.	351000.	329000.
.005	28.1	6.53	.269	.0626	27.8	6.47	67t.					339000.	318000.	340000.	339000.	339000.	318000.
.006	27.9	7.61	.320	.0871	27.6	7.52	59t.					386000.	362000.	387000.	386000.	386000.	362000.
.008	27.7	9.48	.420	.144	27.3	9.34	46t.					181000.	172000.	182000.	181000.	181000.	172000.
.01	27.5	11.0	.516	.206	27.0	10.8	38t.					98400.	94700.	99100.	98400.	98400.	94700.
.015	27.0	13.7	.748	.379	26.3	13.3	24t.					59400.	57500.	60000.	59400.	59400.	57500.
.02	26.6	15.5	.958	.559	25.6	14.9	16t.					26800.	26200.	27300.	26800.	26800.	26200.
K.021044	26.5	15.8	1.00	.597	25.5	15.2	15t.					14400.	14100.	14800.	14400.	14400.	14100.
.03	25.7	17.7	1.34	.921	24.4	16.8	94t.					4610.	4550.	4870.	4620.	4610.	4550.
.04	24.9	18.9	1.66	1.26	23.2	17.6	61t.					2030.	2010.	2210.	2050.	2030.	2010.
.05	24.1	19.4	1.95	1.57	22.2	17.8	42t.					1770.	1750.	1940.	1790.	1770.	1750.
.06	23.5	19.7	2.20	1.85	21.3	17.9	31t.					12500.	5260.	12700.	12500.	12500.	5260.
.08	22.2	19.6	2.60	2.30	19.6	17.3	19t.					4680.	2780.	4790.	4700.	4680.	2780.
.1	21.2	19.2	2.92	2.65	18.3	16.6	12t.					2130.	1480.	2210.	2150.	2130.	1480.
.15	19.1	18.1	3.46	3.29	15.6	14.8	5t.					1160.	877.	1220.	1180.	1160.	877.
.2	17.5	16.9	3.78	3.65	13.7	13.2	3t.					692.	551.	743.	712.	694.	553.
.3	15.2	14.9	4.10	4.02	11.1	10.9	1t.					304.	258.	343.	324.	307.	260.
.4	13.6	13.4	4.22	4.14	9.4t.	9.26						180.	141.	192.	179.	183.	144.
.5	12.4	12.3	4.24	4.18	8.1t.	8.12						49.6	45.6	73.6	67.7	53.1	48.9
.6	11.5	11.4	4.23	4.16	7.2t.	7.24						21.5	20.2	41.8	38.4	25.3	23.9
.8	10.1	10.1	4.13	4.07	5.9t.	6.03						6.66	6.39	23.1	21.6	10.8	10.4
1.	9.08	9.05	3.99	3.88	5.0t.	5.17						3.10	3.01	17.4	16.5	7.32	7.15
1.5	7.38	7.36	3.65	3.55	3.7t.	3.81						1.75	1.71	14.6	14.0	5.99	5.89
2.	6.29	6.28	3.34	3.21	2.9t.	3.07						1.10	1.08	12.9	12.5	5.33	5.24
3.	4.95	4.94	2.85	2.68	2.0t.	2.26						.568	.559	10.9	10.7	4.70	4.63
4.	4.14	4.14	2.51	2.32	1.6t.	1.82						.349	.345	9.54	9.40	4.34	4.22
5.	3.57	3.57	2.24	2.02	1.3t.	1.55						.163	.162	7.69	7.62	3.91	3.74
6.	3.16	3.16	2.03	1.79	1.1t.	1.37						.102	.101	6.79	6.75	3.81	3.68
8.	2.58	2.58	1.72	1.46	.86t.	1.12						.0556	.0554	5.99	5.98	3.89	3.74
10.	2.20	2.20	1.50	1.21	.69t.	.986						.0365	.0364	5.77	5.76	4.13	3.95
15.	1.63	1.63	1.16	.880	.47t.	.750						.0269	.0268	5.68	5.68	4.35	3.57
20.	1.31	1.31	.949	.680	.35t.	.630						.0214	.0214	5.69	5.68	4.55	3.69
30.	.951	.951	.711	.443	.24t.	.508						.0150	.0150	5.77	5.76	4.90	3.91
40.	.756	.756	.574	.313	.18t.	.443						.0115	.0115	5.96	5.96	5.26	4.13
50.	.631	.631	.486	.237	.14t.	.394						.00734	.00733	6.53	6.53	6.06	4.58
60.	.544	.544	.422	.186	.12t.	.358						.00536	.00536	7.02	7.02	6.65	4.74
80.	.429	.429	.337	.125	.091t.	.304						.00352	.00352	7.78	7.78	7.54	4.90
100.	.356	.356	.283	.091t.	.073t.	.265						.00260	.00260	8.36	8.36	8.18	4.87
												.00206	.00206	8.85	8.85	8.71	4.78
												.00170	.00170	9.20	9.20	9.07	4.68
												.00126	.00126	9.73	9.73	9.64	4.53
														10.2	10.2	10.2	4.37

43 TECHNETIUM
(cm²/g = 0.006083 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{KN} inc, t	BD ($\frac{\mu}{\rho}$) _{inc, t}	($\frac{\mu}{\rho}$) _{KN} inc, a	BD ($\frac{\mu}{\rho}$) _{inc, a}	($\frac{\mu}{\rho}$) _{KN} inc, s	BD ($\frac{\mu}{\rho}$) _{inc, s}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{xe}	($\frac{\mu}{\rho}$) _{xt}	($\frac{\mu}{\rho}$) _{xa}	($\frac{\mu}{\rho}$) _{ra}	($\frac{\mu}{\rho}$) _{ra}	($\frac{\mu}{\rho}$) _{tot, t}	($\frac{\mu}{\rho}$) _{tot, t-coh}	($\frac{\mu}{\rho}$) _{tot, a}	($\frac{\mu}{\rho}$) _{tot, en}
.001	.173	.00393	.000338	.0000135	.173	.00693	7.06					7000.	7000.	7000.	7000.	7000.	7000.
.0015	.173	.0119	.000504	.0000348	.173	.0119	6.63					2400.	2400.	2400.	2400.	2400.	2400.
.002	.173	.0155	.000669	.0000645	.172	.0165	6.20					1120.	1120.	1120.	1120.	1120.	1120.
L _{III} .002677	.172	.0223	.000894	.000116	.172	.0222	5.66					520.	520.	520.	520.	520.	520.
L _{II} .002793	.172	.0233	.000931	.000126	.171	.0232	5.57					2150.	2010.	2160.	2150.	2150.	2010.
.003	.172	.0249	.000998	.000145	.171	.0248	5.41					1820.	1700.	1830.	1820.	1820.	1700.
L _I .003043	.172	.0253	.00101	.000149	.171	.0252	5.38					2520.	2350.	2530.	2520.	2520.	2350.
.004	.172	.0327	.00132	.000251	.170	.0324	4.69					2140.	2000.	2140.	2140.	2140.	2000.
.005	.171	.0397	.00164	.000381	.169	.0394	4.09					2060.	1930.	2070.	2060.	2060.	1930.
.006	.170	.0463	.00195	.000530	.168	.0457	3.59					2350.	2200.	2350.	2350.	2350.	2200.
.008	.168	.0577	.00255	.000876	.166	.0568	2.85					1100.	1050.	1110.	1110.	1100.	1050.
.01	.167	.0689	.00314	.00125	.164	.0657	2.33					599.	576.	603.	599.	599.	576.
.015	.164	.0833	.00455	.00231	.160	.0809	1.50					361.	350.	365.	361.	361.	350.
.02	.162	.0943	.00583	.00340	.156	.0906	1.02					163.	159.	166.	163.	163.	159.
K.021044	.161	.0961	.00608	.00363	.155	.0925	.955					87.4	85.8	90.0	87.4	87.4	85.8
.03	.156	.108	.00815	.00560	.148	.102	.574					28.4	27.7	29.6	28.1	28.0	27.7
.04	.151	.115	.0101	.00766	.141	.107	.373					12.1	12.2	13.4	12.5	12.3	12.2
.05	.147	.118	.0119	.00955	.135	.108	.260					10.3	10.6	11.8	10.9	10.8	10.6
.06	.143	.120	.0134	.0113	.130	.109	.192					76.0	77.3	76.0	76.0	76.0	77.3
.08	.135	.119	.0158	.0140	.119	.105	.116					28.5	16.9	29.1	28.6	28.5	16.9
.1	.129	.117	.0178	.0151	.111	.101	.0760					13.0	9.00	13.4	13.1	13.0	9.00
.15	.116	.10	.0210	.0200	.0949	.0900	.0357					7.06	5.33	7.42	7.18	7.06	5.33
.2	.106	.103	.0230	.0222	.0833	.0803	.0206					4.21	3.35	4.52	4.33	4.22	3.36
.3	.0925	.0906	.0249	.0245	.0675	.0663	.00937					1.95	1.57	2.09	1.97	1.87	1.58
.4	.0827	.0815	.0257	.0252	.0572	.0563	.00531					.273	.858	1.17	1.09	.992	.874
.5	.0754	.0748	.0258	.0254	.0498	.0494	.00344					.302	.277	.448	.412	.323	.297
.6	.0700	.0693	.0257	.0253	.0443	.0440	.00239					.131	.123	.254	.234	.154	.145
.8	.0614	.0614	.0251	.0248	.0353	.0367	.00134					.3405	.0389	.141	.131	.0657	.0633
1.	.0552	.0551	.0243	.0236	.0310	.0314	.000876					.0189	.0183	.106	.100	.0445	.0435
1.5	.0449	.0448	.0222	.0216	.0227	.0232	.000389	.000614	.000614	.000188		.0106	.0104	.0888	.0852	.0364	.0358
2.	.0383	.0382	.0203	.0195	.0179	.0187	.000223	.000223	.000223	.000103		.00669	.00457	.0785	.0760	.0324	.0319
3.	.0301	.0301	.0173	.0163	.0127	.0137	.0000992	.000596	.0000432	.0000376		.00346	.00340	.0663	.0651	.0286	.0282
4.	.0252	.0252	.0153	.0141	.00992	.0111	.0000558	.00055	.0000432	.000663		.00212	.00210	.0580	.0572	.0264	.0257
5.	.0217	.0217	.0136	.0123	.00809	.00943	.0000361	.0126	.0000852	.0127	.00925	.000992	.000985	.0468	.0464	.0238	.0236
6.	.0192	.0192	.0123	.0109	.00681	.00833	.0000248	.0151	.000132	.0152	.0114	.000620	.000614	.0411	.0411	.0232	.0212
8.	.0157	.0157	.0105	.00888	.00523	.00681	.0000139	.0190	.000223	.0193	.0148	.000338	.000337	.0364	.0364	.0237	.0203
10.	.0134	.0134	.00912	.00736	.00423	.00600	.0000092	.0225	.000308	.0228	.0177	.000222	.000221	.0351	.0350	.0251	.0210
15.	.00992	.00992	.00706	.00535	.00287	.00456	.00000444	.0293	.000481	.0297	.0224	.000164	.000163	.0346	.0346	.0265	.0217
20.	.00797	.00797	.00577	.00414	.00217	.00383	.00000326	.0293	.000481	.0297	.0224	.000130	.000130	.0346	.0346	.0277	.0224
30.	.00578	.00578	.00433	.00269	.00146	.00309	.00000214	.0341	.000608	.0347	.0246	.0000912	.0000912	.0351	.0350	.0298	.0238
40.	.00460	.00460	.00349	.00190	.00110	.00269	.00000158	.0408	.000797	.0415	.0271	.0000700	.0000700	.0363	.0363	.0320	.0251
50.	.00384	.00384	.00296	.00144	.000882	.00240	.00000125	.0453	.000931	.0462	.0277	.0000444	.0000444	.0397	.0397	.0369	.0276
60.	.00331	.00331	.00257	.00113	.000742	.00218	.00000103	.0490	.00103	.0500	.0276	.0000326	.0000326	.0427	.0427	.0405	.0288
80.	.00261	.00261	.00205	.00076	.000557	.00185	.000000770	.0515	.00111	.0526	.0273	.0000214	.0000214	.0473	.0473	.0459	.0298
100.	.00217	.00217	.00172	.000554	.000446	.00161		.0554	.00124	.0566	.0268	.0000158	.0000158	.0509	.0509	.0498	.0296
								.0587	.00133	.0600	.0260	.0000125	.0000125	.0538	.0538	.0530	.0291
												.0000103	.0000103	.0560	.0560	.0552	.0285
														.0592	.0592	.0586	.0276
														.0620	.0620	.0620	.0266

44 RUTHENIUM
 (barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	29.2	1.19	.0568	.00232	29.1	1.19	1220.					1270000.	1270000.	1270000.	1270000.	1270000.	1270000.
.0015	29.1	2.03	.0849	.00592	29.0	2.02	1160.					435000.	435000.	435000.	435000.	435000.	435000.
.002	29.0	2.81	.113	.0109	28.9	2.80	1090.					205000.	205000.	205000.	205000.	205000.	205000.
L _{III} .002838	28.9	4.01	.159	.0220	28.6	3.99	970.					81100.	81100.	82100.	81100.	81100.	81100.
L _{II} .002967	28.9	4.18	.166	.0240	28.6	4.16	953.					330000.	306000.	331000.	330000.	330000.	306000.
												279000.	259000.	280000.	279000.	279000.	259000.
.003	28.9	4.22	.168	.0245	28.6	4.20	943.					385000.	357000.	384000.	385000.	385000.	357000.
L _I .003224	28.9	4.51	.180	.0281	28.7	4.48	913.					377000.	350000.	378000.	377000.	377000.	350000.
												316000.	295000.	317000.	316000.	316000.	295000.
.004	28.8	5.47	.222	.0421	28.6	5.43	823.					361000.	337000.	362000.	361000.	361000.	337000.
.005	28.7	6.62	.275	.0634	28.4	6.56	712.					198000.	187000.	199000.	198000.	198000.	187000.
.006	28.6	7.68	.327	.0879	28.3	7.59	623.					107000.	102000.	108000.	107000.	107000.	102000.
.008	28.4	9.59	.430	.145	28.0	9.44	498.					65100.	62800.	65700.	65100.	65100.	62800.
.01	28.2	11.1	.528	.208	27.7	10.9	408.					29400.	28800.	30100.	29600.	29600.	28800.
.015	27.7	13.9	.765	.384	26.9	13.5	261.					15800.	15500.	16200.	15800.	15800.	15500.
.02	27.2	15.8	.981	.570	26.2	15.2	174.					5110.	5040.	5380.	5120.	5110.	5040.
K.022117	27.0	16.4	1.07	.648	25.9	15.8	155.					2250.	2230.	2440.	2270.	2250.	2230.
												1690.	1670.	1860.	1710.	1690.	1670.
.03	26.3	18.1	1.37	.942	24.9	17.2	94.9					11800.	4860.	12000.	11800.	11800.	4860.
.04	25.5	19.2	1.70	1.28	23.8	17.9	64.9					5160.	2920.	5280.	5180.	5160.	2920.
.05	24.7	19.8	1.99	1.60	22.7	18.2	45.4					2340.	1580.	2420.	2360.	2340.	1580.
.06	24.0	20.1	2.25	1.89	21.8	18.2	32.4					1260.	932.	1330.	1280.	1260.	932.
.08	22.8	20.0	2.67	2.34	20.1	17.7	20.1					756.	592.	809.	776.	758.	592.
.1	21.7	19.6	2.99	2.70	18.7	16.9	12.3					333.	279.	373.	353.	336.	281.
.15	19.5	18.5	3.54	3.36	16.0	15.1	6.24					175.	152.	208.	195.	178.	155.
.2	17.9	17.2	3.87	3.72	14.0	13.5	3.60					54.6	49.9	79.3	73.1	58.1	53.3
.3	15.5	15.2	4.19	4.10	11.4	11.1	1.63					23.9	22.3	44.7	41.1	27.8	26.0
.4	13.9	13.8	4.32	4.26	9.62	9.54	.928					7.40	7.08	24.2	22.6	11.6	11.2
.5	12.7	12.6	4.34	4.28	8.38	8.32	.602					3.43	3.32	18.2	17.2	7.75	7.58
.6	11.8	11.7	4.32	4.27	7.44	7.43	.417					1.95	1.90	15.2	14.5	6.29	6.18
.8	10.3	10.3	4.23	4.14	6.11	6.16	.235					1.23	1.20	13.3	12.9	5.55	5.47
1.	9.29	9.26	4.09	3.97	5.21	5.29	.152					.630	.620	11.2	10.9	4.86	4.76
1.5	7.55	7.53	3.73	3.63	3.81	3.90	.0680	.107				.389	.384	9.80	9.65	4.48	4.35
2.	6.44	6.43	3.42	3.28	3.02	3.15	.0388	.387				.182	.180	7.89	7.82	4.02	3.84
3.	5.06	5.06	2.92	2.74	2.14	2.32	.0173	1.03	.00177	1.03	.0327	.114	.113	6.97	6.93	3.92	3.57
4.	4.23	4.23	2.57	2.37	1.66	1.86	.00977	1.65	.00729	1.66	1.14	.0614	.0611	6.17	6.15	4.01	3.44
5.	3.66	3.66	2.30	2.07	1.36	1.59	.00630	2.17	.0143	2.18	1.59	.0405	.0404	5.94	5.93	4.27	3.55
6.	3.23	3.23	2.08	1.83	1.15	1.40	.00431	2.60	.0222	2.62	1.97	.0300	.0299	5.88	5.87	4.51	3.69
8.	2.64	2.64	1.76	1.49	.880	1.15	.00240	3.26	.0376	3.30	2.53	.0238	.0237	5.88	5.87	4.72	3.82
10.	2.25	2.25	1.54	1.24	.712	1.01	.00158	3.86	.0516	3.91	1.03	.0166	.0166	5.96	5.96	5.08	4.04
15.	1.67	1.67	1.18	.898	.463	.772		5.05	.0808	5.13	3.86	.0128	.0128	6.17	6.17	5.46	4.28
20.	1.34	1.34	.972	.693	.366	.647		5.88	.102	5.98	4.22	.00815	.00814	6.81	6.81	6.32	4.77
30.	.973	.973	.727	.450	.246	.523		7.01	.134	7.14	4.63	.00594	.00594	7.33	7.33	6.96	4.92
40.	.774	.774	.588	.318	.186	.456		7.80	.157	7.96	4.73	.00388	.00388	8.12	8.12	7.87	5.08
50.	.646	.646	.497	.240	.149	.406		8.40	.174	8.57	4.71	.00287	.00287	8.74	8.74	8.55	5.05
60.	.556	.556	.432	.189	.124	.367		8.89	.188	9.08	4.66	.00228	.00228	9.22	9.22	9.07	4.95
80.	.439	.439	.345	.127	.0937	.312		9.54	.208	9.75	4.58	.00187	.00187	9.64	9.64	9.51	4.85
100.	.364	.364	.289	.0925	.0751	.272		10.1	.223	10.3	4.45	.00138	.00138	10.2	10.2	10.1	4.71
												.00109	.00109	10.7	10.7	10.6	4.54

44 RUTHENIUM
(cm²/g = 0.005959 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{x,n}	($\frac{\mu}{\rho}$) _{x,e}	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _{r,t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.174	.00109	.000338	.0000138	.173	.00709	7.27					7570.	7570.	7570.	7570.	7570.	7570.
.0015	.173	.0121	.000506	.0000353	.173	.0120	6.91					2590.	2590.	2590.	2590.	2590.	2590.
.002	.173	.0167	.000673	.0000650	.172	.0167	6.50					1220.	1220.	1220.	1220.	1220.	1220.
L _{III} .002838	.172	.0239	.000947	.000131	.172	.0238	5.78					483.	483.	483.	483.	483.	483.
L _{II} .002967	.172	.0249	.000989	.000143	.172	.0248	5.68					1970.	1820.	1970.	1970.	1970.	1820.
.003	.172	.0251	.00100	.000146	.172	.0250	5.65					1660.	1540.	1660.	1660.	1660.	1540.
L _I .003224	.172	.0269	.00107	.000167	.171	.0267	5.47					2290.	2130.	2300.	2290.	2290.	2130.
.004	.172	.0326	.00132	.000251	.170	.0324	4.89					2250.	2090.	2250.	2250.	2250.	2090.
.005	.171	.0354	.00164	.000378	.169	.0391	4.24					1880.	1760.	1890.	1880.	1880.	1760.
.006	.170	.0458	.00195	.000524	.169	.0452	3.71					2150.	2010.	2160.	2150.	2150.	2010.
.008	.169	.0571	.00256	.000864	.167	.0563	2.94					1180.	1110.	1190.	1180.	1180.	1110.
.01	.168	.0661	.00315	.00124	.165	.0650	2.40					638.	608.	644.	638.	638.	608.
.015	.165	.0828	.00456	.00229	.160	.0804	1.55					388.	374.	392.	388.	388.	374.
.02	.162	.0942	.00585	.00340	.156	.0906	1.06					176.	172.	179.	176.	176.	172.
K.022117	.161	.0977	.00638	.00386	.154	.0942	.924					94.2	92.2	96.5	94.2	94.2	92.4
.03	.157	.108	.00816	.00561	.148	.102	.595					30.5	30.4	32.1	30.5	30.5	30.0
.04	.152	.114	.0101	.00763	.142	.107	.387					13.4	13.1	14.5	13.4	13.4	13.3
.05	.147	.118	.0119	.00953	.135	.108	.271					10.1	9.95	11.1	10.2	10.1	9.95
.06	.143	.120	.0134	.0113	.130	.108	.199					70.3	29.8	71.5	70.3	70.3	29.0
.08	.136	.119	.0159	.0139	.120	.105	.120					30.7	17.4	31.5	30.9	30.7	17.4
.1	.129	.117	.0178	.0161	.111	.101	.0793					13.9	9.42	14.4	14.1	13.9	9.42
.15	.116	.110	.0211	.0200	.0953	.0900	.0372					7.50	5.55	7.93	7.63	7.51	5.57
.2	.107	.102	.0231	.0222	.0834	.0804	.0215					4.51	3.53	4.82	4.62	4.52	3.54
.3	.0924	.0916	.0250	.0244	.0679	.0661	.00971					1.98	1.66	2.22	2.10	2.00	1.67
.4	.0828	.0822	.0257	.0254	.0573	.0568	.00553					1.04	.906	1.24	1.16	1.06	.924
.5	.0757	.0751	.0259	.0255	.0499	.0496	.00359					.325	.297	.473	.436	.346	.318
.6	.0703	.0697	.0257	.0254	.0443	.0443	.00248					.142	.133	.266	.245	.166	.155
.8	.0614	.0614	.0252	.0247	.0364	.0367	.00140					.0441	.0422	.144	.135	.0691	.0667
1.	.0554	.0552	.0244	.0237	.0310	.0315	.000904					.0204	.0198	.108	.102	.0462	.0452
1.5	.0450	.0449	.0222	.0216	.0227	.0232	.000405	.000638		.000638	.000195	.0016	.0113	.0906	.0864	.0375	.0368
2.	.0384	.0383	.0204	.0195	.0180	.0188	.000231	.000231		.000231	.00107	.000679	.000673	.0415	.0413	.0234	.0229
3.	.0302	.0302	.0174	.0163	.0125	.0138	.000103	.000105		.000105	.000381	.000366	.000364	.0368	.0366	.0239	.0205
4.	.0252	.0252	.0153	.0141	.00989	.0111	.0000582	.0000582		.0000582	.000679	.000241	.000241	.0354	.0353	.0254	.0212
5.	.0218	.0218	.0137	.0123	.00810	.00947	.0000375	.0000375		.0000375	.000947	.000179	.000178	.0350	.0350	.0269	.0220
6.	.0192	.0192	.0124	.0109	.00685	.00834	.0000257	.0000257		.0000257	.00117	.000142	.000141	.0350	.0350	.0281	.0228
8.	.0157	.0157	.0105	.00888	.00524	.00685	.0000143	.0000143		.0000143	.0197	.0000989	.0000989	.0355	.0355	.0303	.0241
10.	.0134	.0134	.00918	.00739	.00424	.00602	.0000094	.0000094		.0000094	.0231	.0000763	.0000763	.0368	.0368	.0325	.0255
15.	.00995	.00995	.00703	.00535	.00288	.00460	.00000301	.00000301		.00000301	.0308	.0000486	.0000486	.0406	.0406	.0377	.0284
20.	.00793	.00793	.00579	.00413	.00218	.00386	.00000231	.00000231		.00000231	.0356	.0000354	.0000354	.0437	.0437	.0415	.0293
30.	.00580	.00580	.00433	.00268	.00147	.00312	.00000180	.00000180		.00000180	.0425	.0000231	.0000231	.0484	.0484	.0469	.0303
40.	.00461	.00461	.00350	.00189	.00111	.00272	.00000146	.00000146		.00000146	.0474	.0000171	.0000171	.0521	.0521	.0509	.0301
50.	.00385	.00385	.00296	.00143	.000888	.00242	.00000104	.00000104		.00000104	.0511	.0000136	.0000136	.0549	.0549	.0540	.0295
60.	.00331	.00331	.00257	.00113	.000739	.00219	.00000082	.00000082		.00000082	.0541	.0000111	.0000111	.0574	.0574	.0567	.0289
80.	.00262	.00262	.00206	.000757	.000558	.00186	.00000058	.00000058		.00000058	.0581	.0000082	.0000082	.0608	.0608	.0602	.0281
100.	.00217	.00217	.00172	.000551	.000448	.00162	.00000042	.00000042		.00000042	.0614	.0000065	.0000065	.0638	.0638	.0632	.0271

45 RHODIUM
(barns/atom)

E (MeV)	$\sigma_{\text{inc,t}}^{\text{KN}}$	$\sigma_{\text{inc,t}}^{\text{BD}}$	$\sigma_{\text{inc,a}}^{\text{KN}}$	$\sigma_{\text{inc,a}}^{\text{BD}}$	$\sigma_{\text{inc,s}}^{\text{KN}}$	$\sigma_{\text{inc,s}}^{\text{BD}}$	σ_{coh}	σ_{xn}	σ_{xe}	$\sigma_{\text{x,t}}$	$\sigma_{\text{x,a}}$	$\sigma_{\text{r,t}}$	$\sigma_{\text{r,a}}$	$\sigma_{\text{tot,t}}$	$\sigma_{\text{tot,t-coh}}$	$\sigma_{\text{tot,a}}$	$\sigma_{\text{tot,en}}$
.001	29.8	1.22	.0581	.00238	29.8	1.22	1280.					1400000.	1400000.	1400000.	1400000.	1400000.	1400000.
.0015	29.8	2.06	.0868	.00601	29.7	2.05	1220.					478000.	478000.	478000.	478000.	478000.	478000.
.002	29.7	2.85	.115	.0111	29.6	2.84	1150.					226000.	226000.	227000.	226000.	226000.	226000.
.003	29.6	4.27	.171	.0247	29.4	4.25	999.					77100.	77100.	78100.	77100.	77100.	77100.
L _{III} .003004	29.6	4.28	.172	.0248	29.4	4.26	999.					77000.	77000.	78000.	77000.	77000.	77000.
L _{II} .003146	29.6	4.46	.180	.0271	29.4	4.43	978.					308000.	284000.	309000.	308000.	308000.	284000.
L _I .003412	29.5	4.80	.194	.0316	29.3	4.77	942.					259000.	239000.	260000.	259000.	259000.	239000.
.004	29.5	5.52	.227	.0425	29.2	5.48	865.					358000.	330000.	359000.	358000.	358000.	330000.
.005	29.4	6.69	.281	.0641	29.1	6.63	750.					295000.	274000.	296000.	295000.	295000.	274000.
.006	29.2	7.77	.335	.0890	28.9	7.68	656.					337000.	313000.	338000.	337000.	337000.	313000.
.008	29.0	9.71	.439	.147	28.6	9.56	517.					216000.	203000.	217000.	216000.	216000.	203000.
.01	28.8	11.3	.540	.212	28.3	11.1	422.					117000.	111000.	118000.	117000.	117000.	111000.
.015	28.3	14.2	.783	.393	27.5	13.8	274.					71300.	68400.	72000.	71300.	71300.	68400.
.02	27.8	16.1	1.00	.581	26.8	15.5	188.					32400.	31400.	32900.	32400.	32400.	31400.
K.023220	27.5	17.0	1.14	.703	26.4	16.3	153.					17400.	17000.	17800.	17400.	17400.	17000.
.03	26.9	18.4	1.40	.958	25.5	17.4	106.					5600.	5510.	5890.	5600.	5600.	5510.
.04	26.0	19.6	1.74	1.31	24.3	18.3	68.6					2480.	2450.	2680.	2500.	2480.	2450.
.05	25.3	20.2	2.04	1.63	23.2	18.6	48.1					1630.	1610.	1800.	1650.	1630.	1610.
.06	24.6	20.5	2.30	1.92	22.3	18.6	35.4					11200.	4510.	11400.	11200.	11200.	4510.
.08	23.3	20.4	2.73	2.39	20.6	18.0	21.3					5580.	3000.	5700.	5600.	5580.	3000.
.1	22.2	20.0	3.06	2.76	19.1	17.2	14.1					2530.	1650.	2620.	2550.	2530.	1650.
.15	20.0	18.9	3.62	3.43	16.3	15.5	6.61					1370.	990.	1440.	1390.	1370.	992.
.2	18.3	17.6	3.95	3.81	14.3	13.8	3.81					823.	633.	879.	843.	825.	635.
.3	15.9	15.6	4.29	4.21	11.6	11.4	1.73					364.	301.	406.	384.	367.	303.
.4	14.2	14.1	4.41	4.34	9.84	9.76	.984					192.	165.	226.	212.	195.	168.
.5	13.0	12.9	4.44	4.39	8.57	8.51	.638					60.0	54.5	85.5	78.9	63.6	57.9
.6	12.0	11.9	4.42	4.34	7.61	7.56	.441					26.2	24.4	47.6	43.8	30.1	28.2
.8	10.6	10.5	4.32	4.22	6.25	6.28	.249					8.15	7.77	25.5	23.7	12.4	12.0
1.	9.50	9.47	4.18	4.06	5.32	5.41	.161					3.80	3.67	18.9	17.9	8.21	8.01
1.5	7.72	7.71	3.82	3.72	3.90	3.99	.0723	.113		.113	.0346	2.14	2.08	15.7	15.0	6.58	6.47
2.	6.58	6.58	3.49	3.36	3.09	3.22	.0411	.406		.406	.188	1.36	1.33	13.7	13.3	5.78	5.67
3.	5.18	5.17	2.99	2.79	2.19	2.38	.0183	1.08	.00181	1.08	.670	.698	.686	11.4	11.2	5.02	4.91
4.	4.33	4.33	2.63	2.42	1.70	1.91	.0104	1.72	.00744	1.73	1.19	.430	.424	10.1	9.90	4.61	4.48
5.	3.74	3.74	2.35	2.11	1.39	1.63	.00669	2.27	.0146	2.28	1.66	.200	.198	8.10	8.02	4.13	3.95
6.	3.30	3.30	2.13	1.86	1.18	1.44	.00458	2.71	.0227	2.73	2.05	.125	.124	7.15	7.11	4.02	3.67
8.	2.70	2.70	1.80	1.52	.900	1.18	.00253	3.41	.0384	3.45	2.63	.0682	.0679	6.34	6.32	4.14	3.53
10.	2.30	2.30	1.57	1.26	.729	1.04	.00166	4.05	.0527	4.10	3.17	.0448	.0446	6.12	6.10	4.40	3.65
15.	1.70	1.70	1.21	.909	.494	.790	5.25	.0826	5.33	4.00		.0331	.0330	6.06	6.05	4.66	3.80
20.	1.37	1.37	.994	.703	.374	.667	6.11	.104	6.21	4.37		.0261	.0260	6.06	6.06	4.89	3.94
30.	.995	.995	.744	.458	.252	.537	7.31	.137	7.45	4.82		.0184	.0184	6.17	6.17	5.27	4.17
40.	.791	.791	.601	.324	.190	.467	8.11	.161	8.27	4.89		.0143	.0143	6.42	6.41	5.68	4.44
50.	.661	.661	.508	.245	.152	.416	8.78	.178	8.96	4.88		.00909	.00908	7.04	7.04	6.55	4.92
60.	.569	.569	.441	.192	.127	.377	9.26	.192	9.45	4.83		.00668	.00668	7.59	7.59	7.21	5.08
80.	.449	.449	.353	.130	.0958	.319	9.95	.213	10.2	4.74		.00430	.00430	8.45	8.45	8.20	5.28
100.	.373	.373	.296	.0944	.0768	.279	10.5	.228	10.7	4.58		.00317	.00317	9.06	9.06	8.87	5.22
												.00250	.00250	9.62	9.62	9.47	5.13
												.00206	.00206	10.0	10.0	9.89	5.02
												.00152	.00152	10.7	10.7	10.6	4.87
												.00119	.00119	11.1	11.1	11.0	4.68

45 RHODIUM
(cm²/g = 0.005853 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{KN} inc,t	($\frac{\mu}{\rho}$) _{BD} inc,t	($\frac{\mu}{\rho}$) _{KN} inc,a	($\frac{\mu}{\rho}$) _{BD} inc,a	($\frac{\mu}{\rho}$) _{KN} inc,s	($\frac{\mu}{\rho}$) _{BD} inc,s	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{ke}	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _{r,t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.174	.00714	.000340	.0000139	.174	.00714	7.49					8190.	8190.	8190.	8190.	8190.	8190.
.0015	.174	.0121	.000508	.0000352	.174	.0120	7.14					2800.	2800.	2800.	2800.	2800.	2800.
.002	.174	.0167	.000673	.0000650	.173	.0166	6.73					1320.	1320.	1330.	1320.	1320.	1320.
.003	.173	.0250	.00100	.000145	.172	.0249	5.85					451.	451.	457.	451.	451.	451.
L _{III} .003004	.173	.0250	.00101	.000145	.172	.0249	5.85					451.	451.	457.	451.	451.	451.
L _{II} .003146	.173	.0260	.00105	.000159	.172	.0259	5.72					1800.	1660.	1810.	1800.	1800.	1800.
L _I .003412	.173	.0280	.00114	.000185	.171	.0279	5.51					1520.	1400.	1520.	1520.	1520.	1400.
.004	.173	.0323	.00133	.000249	.171	.0321	5.06					2100.	1930.	2100.	2100.	2100.	1930.
.005	.172	.0352	.00164	.000375	.170	.0388	4.39					1730.	1600.	1730.	1730.	1730.	1600.
.006	.171	.0425	.00196	.000521	.169	.0450	3.84					1970.	1830.	1980.	1970.	1970.	1830.
.008	.170	.0508	.00257	.000860	.167	.0560	3.03					1260.	1190.	1270.	1260.	1260.	1190.
.01	.169	.0601	.00316	.00124	.166	.0650	2.47					685.	650.	691.	685.	685.	650.
.015	.166	.0811	.00458	.00230	.161	.0808	1.60					417.	400.	421.	417.	417.	400.
.02	.163	.0942	.00585	.00340	.157	.0907	1.10					190.	184.	193.	190.	190.	184.
K .023220	.161	.0995	.00667	.00411	.155	.0954	.896					102.	99.5	104.	102.	102.	99.5
.03	.157	.108	.00819	.00561	.149	.102	.620					32.8	32.3	34.5	32.8	32.8	32.3
.04	.152	.115	.0102	.00767	.142	.107	.402					14.5	14.3	15.7	14.6	14.5	14.3
.05	.148	.118	.0119	.00954	.136	.109	.282					9.54	9.42	10.5	9.46	9.34	9.42
.06	.144	.124	.0135	.0112	.131	.109	.207					65.6	26.4	66.7	65.6	65.6	26.4
.08	.136	.114	.0160	.0140	.121	.105	.125					32.7	17.6	33.4	32.8	32.7	17.6
.1	.130	.117	.0179	.0162	.112	.101	.0825					14.8	9.66	15.3	14.9	14.8	9.66
.15	.117	.11	.0212	.0201	.0954	.0907	.0387					8.02	5.79	8.43	8.14	8.02	5.81
.2	.107	.103	.0231	.0223	.0837	.0808	.0223					4.82	3.70	5.14	4.93	4.83	3.72
.3	.0931	.0913	.0251	.0246	.0679	.0667	.0101					2.13	1.76	2.38	2.25	2.15	1.77
.4	.0831	.0825	.0258	.0254	.0576	.0571	.00576					1.12	.966	1.32	1.24	1.14	.983
.5	.0761	.0755	.0260	.0257	.0502	.0498	.00313					.51	.319	.560	.442	.372	.339
.6	.0702	.0697	.0259	.0254	.0445	.0442	.00258					.151	.143	.279	.256	.176	.165
.8	.0620	.0615	.0253	.0247	.0366	.0368	.00146					.0477	.0459	.149	.139	.0726	.0702
1.	.0556	.0554	.0245	.0238	.0311	.0317	.000942					.0222	.0215	.111	.105	.0481	.0469
1.5	.0452	.0451	.0224	.0218	.0228	.0234	.000423					.0125	.0122	.0919	.0878	.0385	.0379
2.	.0385	.0385	.0204	.0197	.0181	.0188	.000241	.000661	.000203			.00796	.00778	.0802	.0778	.0338	.0332
3.	.0303	.0303	.0175	.0163	.0128	.0139	.000107	.000238	.00110			.00409	.00402	.0667	.0656	.0294	.0287
4.	.0253	.0253	.0154	.0142	.00995	.0112	.0000609	.000332	.000392			.00252	.00248	.0591	.0579	.0270	.0262
5.	.0219	.0219	.0138	.0123	.00814	.00954	.0000106	.0000435	.0101	.000697		.00117	.00116	.0474	.0469	.0242	.0231
6.	.0191	.0191	.0125	.0109	.00691	.00843	.0000392	.0000855	.0133	.00972		.000732	.000726	.0418	.0416	.0235	.0215
8.	.0158	.0158	.0105	.00890	.00527	.00691	.0000268	.000133	.0160	.0120		.000399	.000397	.0371	.0370	.0242	.0207
10.	.0135	.0135	.00919	.00737	.00427	.00609	.0000148	.000225	.0202	.0154		.000262	.000261	.0354	.0357	.0256	.0214
15.	.00995	.00995	.00708	.00532	.00289	.00462	.0000097	.000368	.0240	.0186		.000194	.000193	.0355	.0354	.0273	.0222
20.	.00802	.00802	.00582	.00411	.00219	.00390		.000083	.0312	.0234		.000153	.000152	.0355	.0355	.0266	.0231
30.	.00582	.00582	.00435	.00268	.00147	.00314		.0000609	.0363	.0256		.000108	.000108	.0361	.0361	.0308	.0244
40.	.00443	.00443	.00352	.00190	.00111	.00273		.0000435	.0428	.0282		.0000837	.0000837	.0374	.0375	.0332	.0288
50.	.00387	.00387	.00297	.00143	.000890	.00243		.0000392	.0475	.0286		.0000532	.0000531	.0412	.0412	.0381	.0328
60.	.00333	.00333	.00258	.00112	.000743	.00221		.0000368	.0514	.0286		.0000391	.0000391	.0444	.0444	.0422	.0397
80.	.00263	.00263	.00207	.000761	.000561	.00187		.0000252	.0542	.0283		.0000252	.0000252	.0495	.0495	.0460	.0409
100.	.00218	.00218	.00173	.000553	.000450	.00163		.0000186	.0582	.0277		.0000186	.0000186	.0530	.0530	.0519	.0509
								.0000146	.0582	.0277		.0000146	.0000146	.0563	.0563	.0554	.0540
								.0000121	.0582	.0277		.0000121	.0000121	.0585	.0585	.0579	.0564
								.00000890	.0582	.0277		.00000890	.00000890	.0626	.0626	.0620	.0605
								.00000700	.0582	.0277		.00000700	.00000700	.0650	.0650	.0644	.0624

46 PALLADIUM
 (barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{cot}	$\sigma_{n,n}$	$\sigma_{n,e}$	$\sigma_{n,t}$	$\sigma_{n,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	30.5	.757	.0594	.00147	30.4	.756	1350.					1550000.	1550000.	1550000.	1550000.	1550000.	1550000.
.0015	30.4	1.50	.0887	.00438	30.3	1.50	1290.					528000.	528000.	528000.	528000.	528000.	528000.
.002	30.4	2.30	.118	.00892	30.2	2.29	1220.					249000.	249000.	250000.	249000.	249000.	249000.
.003	30.2	3.81	.175	.0221	30.1	3.79	1060.					84400.	84600.	84700.	84600.	84600.	84600.
.003174	30.2	4.05	.185	.0248	30.0	4.03	1040.					73300.	73300.	74300.	73300.	73300.	73300.
L _{III}												288000.	264000.	289000.	288000.	288000.	264000.
L _{II}	.003330	30.2	4.27	.194	.0274	30.0	4.24	1010.				242000.	223000.	243000.	242000.	242000.	223000.
L _I	.003605	30.2	4.64	.210	.0322	30.0	4.61	974.				334000.	307000.	335000.	334000.	334000.	307000.
												276000.	255000.	277000.	276000.	276000.	255000.
												316000.	292000.	317000.	316000.	316000.	292000.
.004	30.1	5.16	.232	.0397	29.9	5.12	919.					236000.	220000.	237000.	236000.	236000.	220000.
.005	30.0	6.42	.287	.0615	29.7	6.36	795.					128000.	121000.	129000.	128000.	128000.	121000.
.006	29.9	7.58	.342	.0868	29.6	7.49	693.					78000.	74400.	78700.	78000.	78000.	74400.
.008	29.7	9.66	.449	.146	29.2	9.51	545.					35400.	34200.	36000.	35400.	35400.	34200.
.01	29.5	11.4	.552	.214	28.9	11.2	444.					18900.	18400.	19400.	18900.	18900.	18400.
.015	28.9	14.3	.800	.396	28.1	13.9	289.					6160.	6050.	6460.	6170.	6160.	6050.
.02	28.4	16.3	1.03	.588	27.4	15.7	199.					2730.	2690.	2950.	2750.	2730.	2690.
K	.024350	28.0	17.6	1.21	.760	26.8	16.8	151.				1560.	1540.	1730.	1580.	1560.	1540.
												10600.	4180.	10800.	10600.	10600.	4180.
.03	27.5	18.7	1.43	.973	26.1	17.7	111.					6000.	3050.	4130.	6020.	6000.	3050.
.04	26.6	19.9	1.78	1.33	24.8	18.6	72.4					2750.	1740.	2840.	2770.	2750.	1740.
.05	25.8	20.6	2.08	1.66	23.7	18.9	50.8					1490.	1050.	1560.	1510.	1490.	1050.
.06	25.1	20.8	2.35	1.95	22.7	18.8	37.5					896.	676.	954.	917.	898.	678.
.08	23.8	20.8	2.79	2.44	21.0	18.4	22.6					397.	324.	440.	418.	400.	326.
.1	22.7	20.4	3.13	2.82	19.5	17.6	14.9					210.	179.	245.	230.	213.	182.
.15	20.4	19.3	3.70	3.50	16.7	15.8	7.00					66.0	59.5	92.3	85.3	69.7	63.0
.2	18.7	18.0	4.04	3.89	14.7	14.1	4.04					28.7	26.6	50.7	46.7	32.7	30.5
.3	16.3	15.9	4.36	4.29	11.9	11.6	1.84					9.00	8.56	26.7	24.9	13.4	12.8
.4	14.6	14.4	4.51	4.44	10.1	9.96	1.04					4.20	4.05	19.6	18.6	8.71	8.49
.5	13.3	13.2	4.54	4.49	8.76	8.71	.677					2.37	2.30	16.2	15.6	6.91	6.79
.6	12.3	12.2	4.52	4.45	7.78	7.75	.457					1.50	1.46	14.2	13.7	6.02	5.91
.8	10.8	10.8	4.42	4.34	6.39	6.46	.293					.770	.756	11.8	11.6	5.19	5.10
1.	9.72	9.68	4.27	4.15	5.44	5.53	.170					.476	.469	10.3	10.2	4.75	4.62
1.5	7.89	7.88	3.90	3.79	3.99	4.09	.0765	.120		.120	.0367	.221	.219	8.30	8.22	4.24	4.05
2.	6.73	6.72	3.57	3.43	3.16	3.29	.0734	.427		.427	.198	.139	.138	7.33	7.29	4.14	3.77
3.	5.29	5.29	3.05	2.86	2.24	2.43	.0793	1.13	.00185	1.13	.701	.0750	.0746	6.51	6.49	4.25	3.64
4.	4.43	4.43	2.69	2.47	1.74	1.96	.0710	1.80	.00760	1.81	1.24	.0493	.0491	6.30	6.29	4.55	3.76
5.	3.82	3.82	2.40	2.15	1.42	1.67	.0710	2.38	.0150	2.39	1.74	.0368	.0367	6.25	6.25	4.83	3.93
6.	3.38	3.38	2.17	1.90	1.20	1.48	.0485	2.83	.0232	2.85	2.14	.0290	.0289	6.26	6.26	5.05	4.07
8.	2.76	2.76	1.84	1.55	.920	1.21	.0426	3.56	.0393	3.60	2.75	.0201	.0201	6.38	6.38	5.46	4.32
10.	2.35	2.35	1.61	1.28	.745	1.07	.04173	4.20	.0539	4.25	3.28	.0157	.0157	6.62	6.62	5.88	4.58
15.	1.74	1.74	1.24	.927	.505	.813		5.50	.0844	5.58	4.15	.00997	.00996	7.33	7.33	6.83	5.10
20.	1.40	1.40	1.02	.715	.382	.685		6.40	.107	6.51	4.57	.00729	.00728	7.92	7.92	7.54	5.29
30.	1.02	1.02	.760	.467	.257	.553		7.61	.140	7.75	4.98	.00474	.00474	8.77	8.77	8.51	5.45
40.	.809	.809	.615	.329	.194	.480		8.50	.164	8.66	5.09	.00349	.00349	9.47	9.47	9.28	5.42
50.	.675	.675	.520	.250	.155	.425		9.15	.182	9.33	5.05	.00275	.00275	10.0	10.0	9.85	5.30
60.	.581	.581	.451	.195	.130	.386		9.65	.196	9.85	5.00	.00226	.00226	10.4	10.4	10.3	5.20
80.	.459	.459	.361	.132	.0979	.327		10.3	.217	10.5	4.87	.00167	.00167	11.0	11.0	10.9	5.00
100.	.381	.381	.302	.0960	.0785	.285		11.0	.233	11.2	4.77	.00130	.00130	11.6	11.6	11.5	4.87

46 PALLADIUM
(cm²/g = 0.005660 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _n	($\frac{\mu}{\rho}$) _e	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _{r,t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.173	.00428	.000336	.0000083	.172	.00428	7.64					8770.	8770.	8770.	8770.	8770.	8770.
.0015	.172	.00849	.000502	.0000248	.171	.00849	7.30					2990.	2990.	2990.	2990.	2990.	2990.
.002	.172	.0130	.000668	.0000505	.171	.0130	6.91					1410.	1410.	1410.	1410.	1410.	1410.
.003	.171	.0216	.000990	.000125	.170	.0215	6.00					479.	479.	485.	479.	479.	479.
L _{III} .003174	.171	.0229	.00105	.000140	.170	.0228	5.89					415.	415.	421.	415.	415.	415.
L _{II} .003330	.171	.0242	.00110	.000155	.170	.0240	5.72					1630.	1490.	1640.	1630.	1630.	1490.
L _I .003605	.171	.0263	.00119	.000182	.170	.0261	5.51					1370.	1260.	1380.	1370.	1370.	1260.
												1890.	1740.	1900.	1890.	1890.	1740.
.004	.170	.0292	.00131	.000225	.169	.0290	5.20					1560.	1440.	1570.	1560.	1560.	1440.
.005	.170	.0363	.00162	.000348	.168	.0360	4.50					1790.	1650.	1790.	1790.	1790.	1650.
.006	.169	.0429	.00194	.000491	.168	.0424	3.92					1340.	1250.	1340.	1340.	1340.	1250.
.008	.168	.0547	.00254	.000826	.165	.0538	3.08					724.	685.	730.	724.	724.	685.
.01	.167	.0645	.00312	.00121	.164	.0634	2.51					441.	421.	445.	441.	441.	421.
.015	.164	.0809	.00453	.00224	.159	.0787	1.64					204.	194.	204.	200.	200.	194.
.02	.161	.0923	.00583	.00333	.155	.0889	1.13					107.	104.	110.	107.	107.	104.
K.024350	.158	.0996	.00685	.00430	.152	.0951	.855					34.9	34.2	36.6	34.9	34.9	34.2
												15.5	15.2	16.7	15.6	15.5	15.2
.03	.156	.106	.00809	.00551	.148	.100	.628					8.83	8.72	9.79	8.94	8.83	8.72
.04	.151	.113	.0101	.00753	.140	.105	.410					60.0	23.7	61.1	60.0	60.0	23.7
.05	.146	.117	.0118	.00940	.134	.107	.288					34.7	17.3	34.7	34.1	34.0	17.3
.06	.142	.118	.0133	.0110	.128	.106	.212					15.6	9.85	16.1	15.7	15.6	9.85
.08	.135	.118	.0158	.0138	.119	.104	.128					8.43	5.94	8.83	8.55	8.43	5.94
.1	.128	.115	.0177	.0160	.110	.0996	.0843					5.07	3.83	5.40	5.19	5.08	3.84
.15	.115	.109	.0209	.0198	.0945	.0894	.0396					2.25	1.83	2.49	2.37	2.26	1.85
.2	.106	.102	.0229	.0220	.0832	.0798	.0229					1.19	1.01	1.39	1.30	1.21	1.03
.3	.0923	.0900	.0248	.0243	.0674	.0657	.0104					.374	.337	.522	.483	.395	.357
.4	.0826	.0815	.0255	.0251	.0572	.0564	.00589					.162	.151	.287	.264	.185	.173
.5	.0753	.0747	.0257	.0254	.0496	.0493	.00383					.0509	.0484	.151	.141	.0758	.0724
.6	.0696	.0691	.0256	.0252	.0440	.0439	.00264					.0238	.0229	.111	.105	.0493	.0481
.8	.0611	.0611	.0250	.0246	.0362	.0366	.00149					.0134	.0130	.0917	.0883	.0391	.0384
1.	.0550	.0548	.0242	.0235	.0308	.0313	.000962					.00849	.00826	.0804	.0775	.0341	.0335
1.5	.0447	.0446	.0221	.0215	.0226	.0231	.000433	.000679	.000679	.000208		.00436	.00428	.0668	.0657	.0294	.0280
2.	.0381	.0380	.0202	.0194	.0179	.0186	.000246	.000242	.000242	.000112		.00269	.00265	.0583	.0577	.0269	.0261
3.	.0299	.0299	.0173	.0162	.0127	.0138	.000109	.000640	.000640	.000397		.00125	.00124	.0470	.0465	.0240	.0229
4.	.0251	.0251	.0152	.0140	.00985	.0111	.0000623	.0102	.0000430	.0102		.000787	.000781	.0415	.0413	.0234	.0213
5.	.0216	.0216	.0136	.0122	.00804	.00945	.0000402	.0135	.0000849	.0135	.0000105	.000424	.000422	.0368	.0367	.0241	.0206
6.	.0191	.0191	.0123	.0108	.00675	.00838	.0000275	.0160	.000131	.0161	.0000430	.000279	.000278	.0357	.0356	.0250	.0213
6.	.0156	.0156	.0104	.00877	.00521	.00685	.0000151	.0201	.000222	.0204	.000105	.000208	.000208	.0354	.0354	.0273	.0222
10.	.0133	.0133	.00911	.00724	.00422	.00606	.0000098	.0238	.000305	.0241	.000105	.000164	.000164	.0354	.0354	.0286	.0230
15.	.00985	.00985	.00702	.00525	.00286	.00460	.00000311	.000478	.000478	.000235	.000105	.000114	.000114	.0361	.0361	.0309	.0245
20.	.00792	.00792	.00577	.00405	.00216	.00388	.000000311	.000478	.000478	.000235	.000105	.0000889	.0000889	.0375	.0375	.0333	.0259
30.	.00577	.00577	.00430	.00264	.00145	.00313	.000000311	.000478	.000478	.000235	.000105	.0000564	.0000564	.0415	.0415	.0387	.0289
40.	.00458	.00458	.00348	.00186	.00110	.00272	.000000311	.000478	.000478	.000235	.000105	.0000413	.0000412	.0448	.0448	.0427	.0308
50.	.00382	.00382	.00294	.00141	.000877	.00241	.000000311	.000478	.000478	.000235	.000105	.0000268	.0000268	.0496	.0496	.0482	.0308
60.	.00329	.00329	.00255	.00110	.000736	.00218	.000000311	.000478	.000478	.000235	.000105	.0000198	.0000198	.0536	.0536	.0525	.0307
80.	.00260	.00260	.00204	.000747	.000554	.00185	.000000311	.000478	.000478	.000235	.000105	.0000156	.0000156	.0566	.0566	.0558	.0300
100.	.00216	.00216	.00171	.000543	.000444	.00161	.000000311	.000478	.000478	.000235	.000105	.0000128	.0000128	.0589	.0589	.0583	.0294
												.0000095	.0000095	.0623	.0623	.0617	.0283
												.0000074	.0000074	.0657	.0657	.0651	.0276

47 SILVER
 (barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{ne}	$\sigma_{x,t}$	$\sigma_{x,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	31.1	.893	.0607	.00174	31.1	.891	1400.					1700000.	1700000.	1700000.	1700000.	1700000.	1700000.
.0015	31.1	1.64	.0907	.00478	31.0	1.64	1340.					585000.	585000.	584000.	585000.	585000.	585000.
.002	31.0	2.42	.120	.00939	30.9	2.41	1260.					275000.	275000.	276000.	275000.	275000.	275000.
.003	30.9	3.89	.179	.0225	30.7	3.87	1110.					93900.	93900.	95000.	93900.	93900.	93900.
L _{III} .003351	30.9	4.38	.199	.0283	30.7	4.35	1050.					69800.	69800.	70900.	69800.	69800.	69800.
L _{II} .003524	30.8	4.62	.209	.0314	30.6	4.59	1030.					270000.	246000.	271000.	270000.	270000.	246000.
L _I .003806	30.8	5.00	.226	.0366	30.6	4.96	988.					225000.	206000.	224000.	225000.	225000.	206000.
												311000.	284000.	312000.	311000.	311000.	284000.
.004	30.8	5.26	.237	.0405	30.5	5.22	961.					259000.	239000.	260000.	259000.	259000.	239000.
.005	30.7	6.51	.294	.0624	30.4	6.45	833.					296000.	272000.	297000.	296000.	296000.	272000.
.006	30.5	7.67	.350	.0878	30.2	7.58	727.					256000.	237000.	257000.	256000.	256000.	237000.
.008	30.3	9.77	.459	.148	29.9	9.62	570.					139000.	131000.	140000.	139000.	139000.	131000.
.01	30.1	11.5	.564	.216	29.5	11.3	464.					85300.	81000.	86000.	85300.	85300.	81000.
.015	29.6	14.6	.817	.404	28.7	14.2	303.					38700.	37200.	39300.	38700.	38700.	37200.
.02	29.0	16.6	1.05	.599	28.0	16.0	210.					20700.	20100.	21200.	20700.	20700.	20100.
K .025514	28.5	18.1	1.28	.815	27.2	17.3	149.					6730.	6590.	7050.	6740.	6730.	6590.
												2980.	2930.	3210.	3000.	2980.	2930.
.03	28.1	19.0	1.46	.989	26.6	18.0	117.					1500.	1480.	1670.	1520.	1500.	1480.
.04	27.2	20.3	1.81	1.35	25.4	18.9	76.3					10100.	9920.	10300.	10100.	10100.	9920.
.05	26.4	20.9	2.13	1.69	24.3	19.2	53.6					6500.	6320.	6640.	6520.	6500.	6320.
.06	25.6	21.2	2.41	1.99	23.2	19.2	39.6					2960.	2800.	3060.	2980.	2960.	2800.
.08	24.3	21.2	2.85	2.48	21.5	18.7	23.8					1600.	1100.	1670.	1620.	1600.	1100.
.1	23.2	20.9	3.20	2.88	20.0	18.0	15.8					970.	718.	1030.	991.	972.	720.
.15	20.8	19.7	3.78	3.58	17.1	16.1	7.40					431.	347.	476.	452.	434.	349.
.2	19.1	18.4	4.13	3.98	15.0	14.4	4.27					229.	193.	264.	250.	232.	196.
.3	16.6	16.3	4.48	4.39	12.1	11.9	1.94					72.1	64.6	99.2	91.8	75.9	68.2
.4	14.9	14.7	4.61	4.53	10.3	10.2	1.10					31.5	29.0	54.2	49.9	35.6	33.0
.5	13.6	13.5	4.64	4.59	8.9	8.91	.715					9.90	9.38	28.1	26.2	14.4	13.8
.6	12.6	12.5	4.62	4.56	7.9	7.94	.493					4.61	4.43	20.4	19.3	9.22	8.96
.8	11.0	11.0	4.51	4.42	6.53	6.58	.278					2.60	2.52	16.8	16.1	7.24	7.11
1.	9.93	9.89	4.37	4.23	5.56	5.66	.180					1.65	1.61	14.6	14.1	6.27	6.17
1.5	8.07	8.05	3.99	3.87	4.07	4.18	.0806	.126		.126	.0386	.850	.833	12.1	11.8	5.36	5.26
2.	6.88	6.87	3.65	3.50	3.23	3.37	.0459	.449		.449	.208	.525	.517	10.6	10.4	4.89	4.75
3.	5.41	5.40	3.12	2.91	2.25	2.49	.0204	1.13	.00189	1.18	.730	.245	.242	8.50	8.42	4.36	4.15
4.	4.52	4.52	2.74	2.52	1.78	2.00	.0116	1.89	.00778	1.89	1.30	.153	.152	7.52	7.47	4.25	3.86
5.	3.90	3.90	2.45	2.19	1.48	1.71	.00754	2.48	.0153	2.50	1.81	.0828	.0824	6.68	6.66	4.38	3.72
6.	3.45	3.45	2.22	1.94	1.23	1.51	.00516	2.94	.0237	2.98	2.21	.0545	.0543	6.48	6.46	4.68	3.87
8.	2.82	2.82	1.88	1.58	.940	1.24	.00281	3.71	.0401	3.75	2.86	.0400	.0399	6.45	6.44	4.99	4.04
10.	2.40	2.40	1.64	1.31	.761	1.09	.00181	4.40	.0550	4.45	3.43	.0321	.0320	6.45	6.44	5.21	4.18
15.	1.78	1.78	1.26	.945	.518	.835		5.70	.0861	5.79	4.30	.0223	.0223	6.60	6.59	5.65	4.46
20.	1.43	1.43	1.04	.728	.391	.702		6.62	.109	6.73	4.69	.0173	.0173	6.87	6.87	6.11	4.76
30.	1.04	1.04	.777	.472	.263	.568		7.95	.143	8.09	5.17	.0109	.0109	7.58	7.58	7.06	5.26
40.	.826	.826	.628	.334	.198	.492		8.82	.168	8.99	5.24	.00798	.00797	8.17	8.17	7.78	5.43
50.	.690	.690	.531	.254	.159	.436		9.55	.185	9.73	5.24	.00519	.00519	9.14	9.14	8.87	5.65
60.	.594	.594	.461	.198	.133	.396		10.1	.200	10.3	5.19	.00382	.00382	9.82	9.82	9.62	5.88
80.	.469	.469	.369	.135	.100	.334		10.8	.222	11.0	5.06	.00300	.00300	10.4	10.4	10.3	5.50
100.	.389	.389	.309	.0976	.0802	.291		11.4	.238	11.6	4.91	.00248	.00248	10.9	10.9	10.8	5.39
												.00183	.00183	11.5	11.5	11.4	5.20
												.00144	.00144	12.0	12.0	11.9	5.01

47 SILVER
(cm²/g = 0.005583 x barns/atom)

E (MeV)	($\frac{\sigma}{\rho}$) _{inc,t} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,t} ^{BE}	($\frac{\sigma}{\rho}$) _{inc,a} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,a} ^{3D}	($\frac{\sigma}{\rho}$) _{inc,s} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,s} ^{BD}	($\frac{\sigma}{\rho}$) _{coh}	($\frac{\sigma}{\rho}$) _{xn}	($\frac{\sigma}{\rho}$) _{xe}	($\frac{\sigma}{\rho}$) _{x,t}	($\frac{\sigma}{\rho}$) _{x,a}	($\frac{\sigma}{\rho}$) _{r,t}	($\frac{\sigma}{\rho}$) _{r,a}	($\frac{\sigma}{\rho}$) _{tot,t}	($\frac{\sigma}{\rho}$) _{tot,t-coh}	($\frac{\sigma}{\rho}$) _{tot,a}	($\frac{\sigma}{\rho}$) _{tot,en}
.001	.174	.00499	.000339	.0000097	.174	.00497	7.82					9490.	9490.	9490.	9490.	9490.	9490.
.0015	.174	.00916	.000506	.0000267	.173	.00916	7.48					3270.	3270.	3270.	3270.	3270.	3270.
.002	.173	.0135	.000670	.0000524	.173	.0135	7.03					1540.	1540.	1540.	1540.	1540.	1540.
.003	.173	.0217	.000999	.000126	.171	.0216	6.20					524.	524.	524.	524.	524.	524.
L _{III} .003351	.173	.0245	.00111	.000158	.171	.0243	5.86					390.	390.	390.	390.	390.	390.
L _{II} .003524	.172	.0258	.00117	.000175	.171	.0256	5.75					1510.	1370.	1510.	1510.	1510.	1370.
L _I .003806	.172	.0279	.00126	.000204	.171	.0277	5.52					1260.	1150.	1260.	1260.	1260.	1150.
												1740.	1590.	1740.	1740.	1740.	1590.
												1450.	1330.	1450.	1450.	1450.	1330.
.004	.172	.0294	.00132	.000226	.170	.0291	5.37					1650.	1520.	1650.	1650.	1650.	1520.
.005	.171	.0263	.00164	.000348	.170	.0360	4.65					1430.	1320.	1430.	1430.	1430.	1320.
.006	.170	.0428	.00195	.000490	.169	.0423	4.06					776.	731.	782.	776.	776.	731.
.008	.169	.0545	.00256	.000826	.167	.0537	3.18					476.	452.	480.	476.	476.	452.
.01	.168	.0642	.00319	.00121	.165	.0631	2.59					216.	208.	219.	216.	216.	208.
.015	.165	.0815	.00456	.00226	.160	.0793	1.69					116.	112.	118.	116.	116.	112.
.02	.162	.0927	.00586	.00334	.156	.0893	1.17					37.5	36.8	39.4	37.6	37.6	36.8
K .025514	.159	.101	.00715	.00455	.152	.0966	.832					16.5	16.4	17.9	16.7	16.6	16.4
												8.37	8.26	9.32	8.49	8.37	8.26
.03	.157	.106	.00815	.00552	.149	.100	.653					56.4	21.9	57.5	56.4	56.4	21.9
.04	.152	.103	.0101	.00754	.142	.106	.426					36.3	17.4	37.1	36.4	36.3	17.4
.05	.147	.107	.0119	.00944	.136	.107	.290					16.5	10.0	17.1	16.6	16.5	10.0
.06	.143	.108	.0135	.0111	.130	.107	.221					8.93	6.14	9.32	9.04	8.93	6.14
.08	.136	.108	.0159	.0138	.120	.104	.133					5.42	4.01	5.75	5.53	5.43	4.02
.1	.130	.117	.0179	.0161	.112	.100	.0862					2.41	1.94	2.66	2.52	2.42	1.95
.15	.116	.110	.0211	.0200	.0955	.0899	.0413					1.28	1.08	1.49	1.40	1.30	1.09
.2	.107	.103	.0231	.0222	.0837	.0804	.0238					.403	.361	.554	.513	.424	.381
.3	.0927	.0910	.0250	.0245	.0676	.0664	.0168					.176	.162	.303	.279	.199	.184
.4	.0832	.0821	.0257	.0253	.0575	.0569	.00614					.0553	.0524	.157	.146	.0804	.0770
.5	.0759	.0754	.0259	.0256	.0500	.0497	.00399					.0257	.0247	.114	.108	.0515	.0500
.6	.0703	.0698	.0258	.0255	.0444	.0443	.00275					.0145	.0141	.0938	.0899	.0404	.0397
.8	.0614	.0614	.0252	.0247	.0365	.0367	.00155					.00921	.00899	.0815	.0787	.0350	.0344
1.	.0554	.0552	.0244	.0236	.0310	.0316	.00100					.00475	.00465	.0676	.0659	.0299	.0293
1.5	.0451	.0449	.0223	.0216	.0227	.0233	.000450	.000703	.000703	.000216		.00293	.00289	.0592	.0581	.0273	.0265
2.	.0384	.0384	.0204	.0195	.0180	.0188	.00256	.00251	.00116	.000854		.00137	.00135	.0475	.0470	.0243	.0232
3.	.0302	.0301	.0174	.0162	.0128	.0139	.006114	.00659	.00659	.00408		.000854	.000849	.0420	.0417	.0237	.0216
4.	.0252	.0252	.0153	.0141	.00994	.0112	.0060648	.0105	.0000106	.0000434		.000462	.000460	.0373	.0372	.0245	.0208
5.	.0218	.0218	.0137	.0122	.00810	.00955	.0060421	.0138	.0000854	.0140		.000304	.000303	.0362	.0361	.0261	.0216
6.	.0193	.0193	.0124	.0108	.00687	.00843	.0060288	.0164	.000132	.0165		.000223	.000223	.0360	.0360	.0279	.0226
8.	.0157	.0157	.0105	.00882	.00525	.00692	.0060157	.0207	.000224	.0209		.000179	.000179	.0360	.0360	.0291	.0233
10.	.0134	.0134	.00916	.00721	.00425	.00609	.0060101	.0246	.000307	.0248		.000125	.000125	.0368	.0368	.0315	.0249
15.	.00994	.00994	.00703	.00528	.00286	.00466	.0318	.000481	.0323	.0240		.0000966	.0000966	.0384	.0384	.0341	.0269
20.	.00798	.00798	.00581	.00406	.00216	.00392	.0370	.000609	.0376	.0262		.0000609	.0000609	.0423	.0423	.0384	.0294
30.	.00581	.00581	.00434	.00264	.00141	.00317	.0444	.000798	.0452	.0289		.0000446	.0000446	.0456	.0456	.0434	.0303
40.	.00461	.00461	.00351	.00186	.00111	.00275	.0492	.000938	.0502	.0293		.0000290	.0000290	.0510	.0510	.0495	.0315
50.	.00385	.00385	.00296	.00142	.000868	.00243	.0533	.00103	.0543	.0293		.0000213	.0000213	.0548	.0548	.0537	.0312
60.	.00332	.00332	.00257	.00111	.000743	.00221	.0564	.00112	.0575	.0290		.0000167	.0000167	.0581	.0581	.0575	.0307
80.	.00262	.00262	.00206	.000754	.000558	.00186	.0603	.00124	.0614	.0282		.0000136	.0000136	.0609	.0609	.0603	.0301
100.	.00217	.00217	.00173	.000545	.000448	.00162	.0636	.00133	.0648	.0274		.0000102	.0000102	.0642	.0642	.0636	.0290
												.0000080	.0000080	.0670	.0670	.0664	.0280

48 CADMIUM
 (barns/atom)

E (MeV)	$\sigma_{inc,t}^{KN}$	$\sigma_{inc,t}^{BD}$	$\sigma_{inc,a}^{KN}$	$\sigma_{inc,a}^{BD}$	$\sigma_{inc,s}^{KN}$	$\sigma_{inc,s}^{BD}$	σ_{cch}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	$\sigma_{\tau,t}$	$\sigma_{\tau,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	31.8	1.00	.0620	.00195	31.7	.998	.460					1870000.	1870000.	1870000.	1870000.	1870000.	1870000.
.0015	31.7	1.80	.0926	.00525	31.7	1.79	.390					642000.	642000.	642000.	642000.	642000.	642000.
.002	31.7	2.59	.123	.0100	31.6	2.58	.310					302000.	302000.	302000.	302000.	302000.	302000.
.003	31.6	4.05	.183	.0235	31.4	4.03	.150					103000.	103000.	103000.	103000.	103000.	103000.
L _{III} .003537	31.5	4.79	.215	.0327	31.3	4.76	.070					66400.	66400.	67500.	66400.	66400.	66400.
L _{II} .003727	31.5	5.04	.226	.0362	31.2	5.00	.040					252000.	229000.	253000.	252000.	252000.	229000.
.004	31.4	5.41	.242	.0416	31.2	5.37	.000					210000.	192000.	211000.	210000.	210000.	192000.
L _I .004018	31.4	5.43	.243	.0420	31.2	5.39	.999					290000.	264000.	291000.	290000.	290000.	264000.
.005	31.3	6.66	.300	.0638	31.0	6.60	.870					244000.	224000.	245000.	244000.	244000.	224000.
.006	31.2	7.82	.357	.0895	30.8	7.73	.760					242000.	222000.	243000.	242000.	242000.	222000.
.008	31.0	9.91	.469	.150	30.5	9.76	.596					277000.	254000.	278000.	277000.	277000.	254000.
.01	30.7	11.7	.576	.219	30.2	11.5	.485					151000.	141000.	152000.	151000.	151000.	141000.
.015	30.2	14.8	.835	.409	29.4	14.4	.317					92600.	87400.	93400.	92600.	92600.	87400.
.02	29.7	16.9	1.07	.610	28.6	16.3	.220					42100.	40300.	42700.	42100.	42100.	40300.
K.026711	29.0	18.7	1.36	.877	27.6	17.8	.146					22600.	21800.	23100.	22600.	22600.	21800.
.03	28.7	19.3	1.49	1.00	27.2	18.3	.123					7370.	7200.	7700.	7380.	7370.	7200.
.04	27.8	20.6	1.85	1.37	25.9	19.2	.80.2					3270.	3210.	3510.	3290.	3270.	3210.
.05	26.9	21.3	2.17	1.72	24.8	19.6	.56.4					1450.	1430.	1610.	1470.	1450.	1430.
.06	26.2	21.6	2.46	2.03	23.7	19.6	.41.7					9580.	3660.	9740.	9600.	9580.	3660.
.08	24.8	21.6	2.91	2.53	21.9	19.1	.25.1					7000.	3150.	7140.	7020.	7000.	3150.
.1	23.6	21.3	3.26	2.94	20.4	18.4	.16.6					3200.	1880.	3300.	3220.	3200.	1880.
.15	21.3	20.1	3.86	3.65	17.4	16.5	.7.81					1740.	1170.	1820.	1760.	1740.	1170.
.2	19.5	18.8	4.22	4.06	15.3	14.7	.4.51					1050.	761.	1110.	1070.	1050.	763.
.3	17.0	16.6	4.57	4.48	12.4	12.1	.2.05					.467.	371.	514.	489.	470.	374.
.4	15.2	15.0	4.71	4.62	10.5	10.4	.1.16					248.	207.	286.	269.	251.	210.
.5	13.9	13.7	4.73	4.66	9.14	9.04	.784					78.5	69.9	106.	98.6	82.4	73.5
.6	12.8	12.7	4.72	4.64	8.12	8.06	.550					34.3	31.5	57.6	53.1	38.5	35.6
.8	11.3	11.2	4.61	4.50	6.67	6.70	.253					10.8	10.2	29.4	27.4	19.4	14.7
1.	10.1	10.1	4.46	4.32	5.68	5.78	.150					5.10	4.89	21.3	20.1	9.81	9.51
1.5	8.24	8.22	4.07	3.95	4.16	4.27	.0851	.133				2.84	2.75	17.3	16.5	7.57	7.41
2.	7.02	7.01	3.73	3.57	3.30	3.44	.0483	.470				1.80	1.75	15.0	14.5	6.52	6.39
3.	5.52	5.52	3.19	2.97	2.34	2.55	.0216	1.23				.930	.911	12.4	12.1	5.54	5.41
4.	4.62	4.62	2.80	2.57	1.82	2.05	.0123	1.96				.578	.568	10.9	10.7	5.04	4.89
5.	3.99	3.99	2.50	2.23	1.48	1.76	.00797	2.58				.269	.266	8.71	8.62	4.47	4.26
6.	3.52	3.52	2.27	1.97	1.25	1.55	.00548	3.07				.168	.167	7.70	7.65	4.37	3.95
8.	2.88	2.88	1.92	1.61	.960	1.27	.00297	3.87				.0903	.0898	6.86	6.84	4.51	3.82
10.	2.46	2.46	1.68	1.33	.777	1.13	.00190	4.59				.0594	.0592	6.66	6.65	4.83	3.98
15.	1.82	1.82	1.29	.963	.527	.857						.0441	.0440	6.64	6.63	5.14	4.15
20.	1.46	1.46	1.06	.737	.399	.723						.0350	.0349	6.65	6.64	5.39	4.31
30.	1.06	1.06	.793	.479	.268	.581						.0243	.0242	6.82	6.81	5.85	4.61
40.	.844	.844	.641	.338	.203	.506						.0189	.0189	7.13	7.13	6.35	4.91
50.	.705	.705	.542	.257	.162	.448						.0119	.0119	7.87	7.87	7.34	5.45
60.	.607	.607	.471	.201	.136	.406						.00870	.00869	8.48	8.48	8.08	5.62
80.	.479	.479	.376	.137	.102	.342						.00568	.00568	9.51	9.51	9.24	5.86
100.	.397	.397	.316	.0992	.0819	.298						.00418	.00418	10.2	10.2	10.0	5.77
												.00330	.00330	10.8	10.8	10.6	5.65
												.00270	.00270	11.2	11.2	11.1	5.51
												.00200	.00200	11.9	11.9	11.8	5.34
												.00157	.00157	12.4	12.4	12.3	5.13

48 CADMIUM
(cm²/g = 0.005358 x barns/atom)

E (MeV)	$\left(\frac{\sigma}{\rho}\right)_{\text{inc},t}^{\text{KN}}$	$\left(\frac{\sigma}{\rho}\right)_{\text{inc},t}^{\text{BD}}$	$\left(\frac{\sigma}{\rho}\right)_{\text{inc},a}^{\text{KN}}$	$\left(\frac{\sigma}{\rho}\right)_{\text{inc},a}^{\text{BD}}$	$\left(\frac{\sigma}{\rho}\right)_{\text{inc},s}^{\text{KN}}$	$\left(\frac{\sigma}{\rho}\right)_{\text{inc},s}^{\text{BD}}$	$\left(\frac{\sigma}{\rho}\right)_{\text{coh}}$	$\left(\frac{\sigma}{\rho}\right)_{x,n}$	$\left(\frac{\sigma}{\rho}\right)_{x,e}$	$\left(\frac{\sigma}{\rho}\right)_{x,t}$	$\left(\frac{\sigma}{\rho}\right)_{x,a}$	$\left(\frac{\sigma}{\rho}\right)_{r,t}$	$\left(\frac{\sigma}{\rho}\right)_{r,a}$	$\left(\frac{\sigma}{\rho}\right)_{\text{tot},t}$	$\left(\frac{\sigma}{\rho}\right)_{\text{tot},t-\text{coh}}$	$\left(\frac{\sigma}{\rho}\right)_{\text{tot},a}$	$\left(\frac{\sigma}{\rho}\right)_{\text{tot},en}$
.001	.170	.00535	.000332	.0000104	.170	.00535	7.82					10000.	10000.	10000.	10000.	10000.	10000.
.0015	.170	.00964	.000496	.0000281	.170	.00959	7.45					3440.	3440.	3450.	3440.	3440.	3440.
.002	.170	.0139	.000659	.0000536	.169	.0138	7.02					1620.	1620.	1620.	1620.	1620.	1620.
.003	.169	.0217	.000981	.000126	.168	.0216	6.16					552.	552.	557.	552.	552.	552.
L _{III}	.003937	.169	.0257	.00115	.000175	.168	.0255	5.73				356.	356.	362.	356.	356.	356.
L _{II}	.003727	.169	.0270	.00121	.000194	.167	.0268	5.57				1350.	1230.	1360.	1350.	1350.	1230.
												1130.	1030.	1130.	1130.	1130.	1030.
.004	.168	.0290	.00130	.000223	.167	.0288	5.36					1550.	1410.	1560.	1550.	1550.	1410.
L _I	.004018	.168	.0291	.00130	.000225	.167	.0289	5.35				1310.	1200.	1310.	1310.	1310.	1200.
												1300.	1190.	1300.	1300.	1300.	1190.
.005	.168	.0351	.00161	.000342	.166	.0354	4.66					1480.	1360.	1490.	1480.	1480.	1360.
.006	.167	.0419	.00191	.000480	.165	.0414	4.07					809.	755.	814.	809.	809.	755.
.008	.166	.0531	.00251	.000804	.163	.0523	3.19					496.	468.	500.	496.	496.	468.
.01	.164	.0627	.00309	.00117	.162	.0616	2.60					226.	216.	229.	226.	226.	216.
.015	.162	.0793	.00447	.00219	.158	.0772	1.70					121.	117.	124.	121.	121.	117.
.02	.159	.0904	.00573	.00327	.153	.0873	1.18					39.5	38.6	41.3	39.5	39.5	38.6
K	.026711	.155	.100	.00729	.00470	.148	.0954	.782				17.5	17.2	18.8	17.6	17.5	17.2
												7.71	7.66	8.63	7.88	7.77	7.66
.03	.154	.103	.00798	.00536	.146	.0981	.659					51.3	19.6	52.2	51.4	51.3	19.6
.04	.149	.110	.00991	.00734	.139	.103	.430					37.5	16.9	38.3	37.6	37.5	16.9
.05	.144	.114	.0116	.00922	.133	.105	.302					17.1	10.1	17.7	17.3	17.1	10.1
.06	.140	.116	.0132	.0109	.127	.105	.223					9.32	6.27	9.75	9.43	9.32	6.27
.08	.133	.116	.0156	.0136	.117	.102	.134					5.62	4.08	5.95	5.73	5.63	4.09
.1	.126	.114	.0175	.0158	.109	.0986	.0882					2.92	1.99	2.75	2.62	2.52	2.00
.15	.114	.108	.0207	.0196	.0932	.0884	.0818					1.32	1.11	1.53	1.44	1.34	1.13
.2	.104	.101	.0226	.0218	.0820	.0788	.0742					.421	.375	.568	.528	.441	.304
.3	.0911	.0889	.0245	.0240	.0664	.0648	.0610					.184	.169	.309	.285	.206	.191
.4	.0814	.0804	.0252	.0248	.0563	.0557	.0522					.0579	.0547	.158	.147	.0825	.0788
.5	.0749	.0734	.0253	.0250	.0490	.0484	.0460					.0273	.0262	.114	.108	.0526	.0510
.6	.0686	.0680	.0253	.0249	.0435	.0432	.0407					0.52	.0147	.0927	.0884	.0406	.0397
.8	.0605	.0600	.0247	.0241	.0357	.0359	.0315					.01964	.00938	.0804	.0777	.0349	.0342
1.	.0541	.0541	.0239	.0231	.0304	.0310	.0202					.01498	.00488	.0664	.0648	.0297	.0290
1.5	.0441	.0440	.0212	.0203	.0223	.0229	.000456	.000713				.01310	.00304	.0584	.0573	.0270	.0262
2.	.0376	.0376	.0200	.0191	.0177	.0184	.000259	.00252	.000713	.000218		.00144	.00143	.0467	.0462	.0240	.0228
3.	.0296	.0296	.0171	.0159	.0125	.0137	.000116	.00659	.0000103	.000498		.030900	.000895	.0413	.0410	.0234	.0212
4.	.0248	.0248	.0150	.0138	.00975	.0110	.0000659	.0105	.0000425	.0106	.000723	.030484	.000481	.0368	.0366	.0242	.0205
5.	.0214	.0214	.0134	.0119	.00793	.00943	.0000427	.0138	.0000836	.0139	.0101	.030318	.000317	.0357	.0356	.0259	.0213
6.	.0189	.0189	.0122	.0106	.00670	.00830	.0000294	.0164	.000130	.0166	.0124	.030236	.000236	.0356	.0355	.0275	.0222
8.	.0154	.0154	.0103	.00863	.00514	.00680	.0000159	.0207	.000220	.0209	.0160	.030188	.000187	.0356	.0356	.0289	.0231
10.	.0132	.0132	.00900	.00713	.00416	.00605	.0000102	.0246	.000301	.0249	.0191	.030130	.000130	.0365	.0365	.0313	.0247
15.	.00975	.00975	.00691	.00516	.00282	.00459	.0319	.000472	.0324	.0240		.000101	.000101	.0382	.0382	.0340	.0263
20.	.00782	.00782	.00568	.00395	.00214	.00387	.0319	.000472	.0324	.0240		.0000638	.0000638	.0422	.0422	.0393	.0292
30.	.00568	.00568	.00425	.00257	.00144	.00311	.0370	.000595	.0376	.0261		.0000466	.0000466	.0454	.0454	.0433	.0301
40.	.00452	.00452	.00343	.00181	.00109	.00271	.0445	.000777	.0452	.0288		.0000304	.0000304	.0510	.0510	.0495	.0314
50.	.00378	.00378	.00290	.00138	.000868	.00240	.0493	.000916	.0502	.0291		.0000224	.0000224	.0547	.0547	.0536	.0309
60.	.00325	.00325	.00252	.00108	.000729	.00218	.0530	.00101	.0541	.0289		.0000177	.0000177	.0579	.0579	.0568	.0303
80.	.00257	.00257	.00201	.000734	.000547	.00183	.0557	.00109	.0568	.0285		.0000145	.0000145	.0600	.0600	.0595	.0295
100.	.00213	.00213	.00169	.000532	.000439	.00160	.0600	.00121	.0611	.0279		.0000107	.0000107	.0638	.0638	.0632	.0286
							.0632	.00130	.0643	.0270		.0000084	.0000084	.0664	.0664	.0659	.0275

49 INDIUM
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	32.5	1.05	.0633	.00205	32.4	1.05	1510.					2040000.	2040000.	2040000.	2040000.	2040000.	2040000.
.0015	32.4	1.92	.0945	.00560	32.3	1.91	1440.					699000.	699000.	700000.	699000.	699000.	699000.
.002	32.3	2.75	.125	.0107	32.2	2.74	1360.					328000.	328000.	329000.	328000.	328000.	328000.
.003	32.2	4.22	.187	.0245	32.0	4.20	1150.					112000.	112000.	113000.	112000.	112000.	112000.
L _{III} .003730	32.1	5.22	.231	.0375	31.9	5.18	1180.					63200.	63200.	64300.	63200.	63200.	63200.
L _{II} .003938	32.1	5.50	.243	.0417	31.9	5.46	1150.					237000.	214000.	238000.	237000.	237000.	214000.
.004	32.1	5.58	.247	.0429	31.8	5.54	1440.					196000.	178000.	197000.	196000.	196000.	178000.
L _I .004238	32.1	5.88	.251	.0479	31.8	5.83	1410.					271000.	245000.	272000.	271000.	271000.	245000.
.005	32.0	6.82	.306	.0653	31.7	6.75	906.					261000.	237000.	261000.	260000.	260000.	237000.
.006	31.8	7.96	.365	.0911	31.5	7.87	793.					164000.	152000.	165000.	164000.	164000.	152000.
.008	31.6	10.1	.478	.153	31.1	9.95	622.					100000.	93800.	101000.	100000.	100000.	93800.
.01	31.4	11.8	.588	.221	30.8	11.6	505.					45800.	43700.	46400.	45800.	45800.	43700.
.015	30.8	15.0	.852	.415	30.0	14.6	331.					24600.	23700.	25100.	24600.	24600.	23700.
.02	30.3	17.2	1.09	.621	29.2	16.6	231.					8030.	7830.	8380.	8050.	8030.	7830.
K.027940	29.5	19.3	1.44	.943	28.0	18.4	144.					3600.	3530.	3850.	3620.	3600.	3530.
.03	29.3	19.7	1.52	1.03	27.8	18.7	133.					1390.	1370.	1550.	1410.	1390.	1370.
.04	28.4	21.0	1.89	1.40	26.5	19.6	84.2					9120.	9280.	9280.	9140.	9120.	9400.
.05	27.5	21.7	2.22	1.75	25.3	19.9	59.3					7500.	3120.	7650.	7520.	7500.	3120.
.06	26.7	22.0	2.51	2.06	24.2	19.9	43.9					3420.	1920.	3530.	3440.	3420.	1920.
.08	25.3	22.0	2.97	2.58	22.4	19.4	26.5					1870.	1210.	1950.	1890.	1870.	1210.
.1	24.1	21.7	3.33	2.99	20.8	18.7	17.5					1130.	800.	1200.	1150.	1130.	802.
.15	21.7	20.5	3.94	3.72	17.8	16.8	8.23					506.	395.	555.	528.	509.	398.
.2	19.9	19.1	4.31	4.13	15.6	15.0	4.75					268.	221.	307.	290.	271.	224.
.3	17.3	16.9	4.67	4.56	12.7	12.3	2.15					85.0	75.1	114.	106.	88.9	78.8
.4	15.5	15.3	4.81	4.71	10.7	10.6	1.28					37.3	34.0	61.1	56.4	41.6	38.1
.5	14.2	14.0	4.83	4.75	9.33	9.25	.794					11.8	11.1	30.9	28.7	16.5	15.7
.6	13.1	13.0	4.82	4.73	8.29	8.27	.549					5.55	5.31	22.1	20.8	10.4	10.0
.8	11.5	11.5	4.71	4.61	6.81	6.89	.30					3.12	3.01	17.9	17.1	7.95	7.76
1.	10.3	10.3	4.55	4.40	5.80	5.90	.240					1.99	1.93	15.5	15.0	6.81	6.66
1.5	8.41	8.39	4.16	4.03	4.25	4.36	.0895	.140				1.01	.988	12.8	12.5	5.72	5.60
2.	7.17	7.16	3.81	3.64	3.36	3.52	.0510	.495				.632	.621	11.1	10.9	5.18	5.02
3.	5.64	5.63	3.25	3.03	2.38	2.60	.0228	1.29	.00197	1.29	.0428	.296	.293	8.92	8.83	4.60	4.37
4.	4.71	4.71	2.86	2.61	1.85	2.10	.0129	2.05	.00810	2.06	.0495	.184	.182	7.89	7.84	4.49	4.05
5.	4.07	4.07	2.56	2.28	1.51	1.79	.00842	2.69	.0159	2.71	.0798	.0990	.0984	7.04	7.02	4.64	3.93
6.	3.60	3.60	2.32	2.01	1.28	1.59	.04580	3.20	.0247	3.22	1.41	.0650	.0647	6.85	6.84	4.98	4.08
8.	2.94	2.94	1.96	1.64	.980	1.30	.04314	4.01	.0419	4.05	3.08	.0482	.0480	6.84	6.83	5.32	4.28
10.	2.51	2.51	1.71	1.36	.793	1.15	.06199	4.77	.0572	4.83	3.68	.0385	.0384	6.86	6.86	5.58	4.45
15.	1.86	1.86	1.32	.978	.538	.882		6.18	.0898	6.27	4.63	.0268	.0267	7.02	7.02	6.04	4.75
20.	1.49	1.49	1.08	.749	.407	.741		7.20	.113	7.31	5.03	.0207	.0207	7.36	7.36	6.56	5.06
30.	1.08	1.08	.810	.486	.274	.594		8.60	.148	8.75	5.55	.0131	.0131	8.14	8.14	7.60	5.62
40.	.861	.861	.655	.344	.207	.517		9.50	.174	9.67	5.58	.00956	.00955	8.81	8.81	8.40	5.84
50.	.719	.719	.554	.261	.166	.458		10.3	.193	10.5	5.57	.00621	.00621	9.84	9.84	9.57	6.04
60.	.619	.619	.481	.204	.139	.415		10.8	.208	11.0	5.48	.00457	.00457	10.5	10.5	10.3	5.93
80.	.489	.489	.384	.138	.104	.351		11.6	.230	11.8	5.36	.00360	.00360	11.2	11.2	11.1	5.83
100.	.406	.406	.322	.101	.0836	.305		12.3	.247	12.5	5.21	.00295	.00295	11.6	11.6	11.5	5.69
												.00218	.00218	12.3	12.3	12.2	5.50
												.00172	.00172	12.9	12.9	12.8	5.31

49 INDIUM
(cm²/g = 0.005245 x barns/atom)

E (MeV)	($\frac{\sigma}{\sigma_0}$) _{inc,t} ^{KN}	($\frac{\sigma}{\sigma_0}$) _{inc,t} ^{BD}	($\frac{\sigma}{\sigma_0}$) _{inc,a} ^{KN}	($\frac{\sigma}{\sigma_0}$) _{inc,a} ^{BD}	($\frac{\sigma}{\sigma_0}$) _{inc,s} ^{KN}	($\frac{\sigma}{\sigma_0}$) _{inc,s} ^{BD}	($\frac{\sigma}{\sigma_0}$) _{coh}	($\frac{\sigma}{\sigma_0}$) _n	($\frac{\sigma}{\sigma_0}$) _e	($\frac{\sigma}{\sigma_0}$) _t	($\frac{\sigma}{\sigma_0}$) _a	($\frac{\sigma}{\sigma_0}$) _t	($\frac{\sigma}{\sigma_0}$) _a	($\frac{\sigma}{\sigma_0}$) _{tot,t}	($\frac{\sigma}{\sigma_0}$) _{tot,t-coh}	($\frac{\sigma}{\sigma_0}$) _{tot,a}	($\frac{\sigma}{\sigma_0}$) _{tot,en}
.001	.170	.00551	.000332	.0000108	.170	.00551	7.92					10700.	10700.	10700.	10700.	10700.	10700.
.0015	.170	.0101	.000496	.0000294	.169	.0100	7.55					3670.	3670.	3670.	3670.	3670.	3670.
.002	.169	.0144	.000656	.0000561	.169	.0144	7.13					1720.	1720.	1730.	1720.	1720.	1720.
.003	.169	.0221	.000981	.000129	.168	.0220	6.24					587.	587.	593.	587.	587.	587.
L _{III} .003730	.168	.0274	.00121	.000197	.167	.0272	5.66					331.	331.	337.	331.	331.	331.
L _{II} .003938	.168	.0268	.00127	.000219	.167	.0286	5.51					1240.	1120.	1250.	1240.	1240.	1120.
.004	.168	.0293	.00130	.000225	.167	.0291	5.45					1030.	934.	1030.	1030.	1030.	934.
L _I .004238	.168	.0308	.00137	.000251	.167	.0306	5.30					1420.	1290.	1430.	1420.	1420.	1290.
.005	.168	.0308	.00160	.000342	.166	.0354	4.75					1370.	1240.	1370.	1370.	1370.	1240.
.006	.167	.0418	.00191	.000478	.165	.0413	4.16					1190.	1090.	1200.	1190.	1190.	1090.
.008	.166	.0530	.00251	.000802	.163	.0522	3.26					1360.	1240.	1370.	1360.	1360.	1240.
.01	.165	.0619	.00308	.00116	.162	.0608	2.65					860.	797.	865.	860.	860.	797.
.015	.162	.0787	.00447	.00218	.157	.0766	1.74					524.	492.	530.	524.	524.	492.
.02	.159	.0982	.00572	.00326	.153	.0971	1.21					240.	229.	243.	240.	240.	229.
K.027940	.155	.101	.00755	.00495	.147	.0965	.755					129.	124.	132.	129.	129.	124.
.03	.154	.103	.00797	.00540	.146	.0981	.682					42.1	41.1	44.0	42.2	42.1	41.1
.04	.149	.110	.00991	.00734	.139	.103	.442					18.9	18.5	20.2	19.0	18.9	18.5
.05	.144	.110	.0116	.00918	.133	.104	.311					7.29	7.19	8.13	7.40	7.29	7.19
.06	.140	.115	.0132	.0108	.127	.104	.230					47.8	17.8	48.7	47.9	47.8	17.8
.08	.133	.115	.0156	.0135	.117	.102	.139					39.3	16.4	40.1	39.4	39.3	16.4
.1	.126	.110	.0175	.0157	.109	.0981	.0918					17.9	10.1	18.5	18.0	17.9	10.1
.15	.114	.108	.0207	.0195	.0934	.0881	.0432					9.81	6.35	10.2	9.91	9.81	6.35
.2	.104	.100	.0226	.0217	.0818	.0787	.0249					5.63	4.20	6.29	6.03	5.93	4.21
.3	.0907	.0896	.0245	.0239	.0666	.0645	.0113					2.65	2.07	2.91	2.77	2.67	2.09
.4	.0813	.0802	.0252	.0247	.0561	.0556	.00445					1.41	1.16	1.61	1.52	1.42	1.17
.5	.0745	.0734	.0253	.0249	.0489	.0485	.00416					.446	.394	.598	.556	.466	.413
.6	.0687	.0682	.0253	.0248	.0435	.0434	.00288					.196	.178	.320	.296	.218	.208
.8	.0603	.0603	.0247	.0242	.0357	.0361	.00163					.0291	.0582	.162	.151	.0865	.0821
1.	.0540	.0540	.0239	.0231	.0304	.0309	.00105					.0291	.0279	.116	.109	.0545	.0524
1.5	.0441	.0440	.0218	.0211	.0223	.0229	.000734					.1164	.0158	.0939	.0897	.0417	.0407
2.	.0376	.0376	.0200	.0191	.0176	.0185	.000267					.1104	.0101	.0813	.0787	.0357	.0349
3.	.0296	.0295	.0170	.0159	.0125	.0136	.000120					.0530	.00518	.0671	.0656	.0300	.0294
4.	.0247	.0247	.0150	.0137	.00970	.0110	.0000677					.00331	.00326	.0582	.0572	.0272	.0263
5.	.0213	.0213	.0134	.0120	.00792	.00939	.0000442					.00155	.00154	.0468	.0463	.0241	.0236
6.	.0189	.0189	.0122	.0105	.00671	.00834	.0000304					.000965	.000955	.0414	.0411	.0236	.0232
8.	.0154	.0154	.0103	.00860	.00514	.00682	.0000165					.000519	.000516	.0369	.0368	.0243	.0240
10.	.0132	.0132	.00897	.00713	.00416	.00603	.0000104					.000341	.000339	.0359	.0359	.0261	.0254
15.	.00976	.00976	.00692	.00513	.00282	.00463	.00000734					.000253	.000252	.0359	.0358	.0279	.0274
20.	.00782	.00782	.00566	.00393	.00213	.00389	.00000425					.000202	.000201	.0360	.0360	.0293	.0283
30.	.00566	.00566	.00425	.00255	.00144	.00312	.0000025					.000141	.000140	.0368	.0368	.0317	.0309
40.	.00452	.00452	.00344	.00190	.00109	.00271	.00000103					.000109	.000109	.0386	.0386	.0344	.0336
50.	.00377	.00377	.00291	.00137	.00087	.00240	.000000734					.000087	.000087	.0427	.0427	.0399	.0395
60.	.00325	.00325	.00252	.00107	.000729	.00218	.000000425					.0000776	.0000776	.0459	.0459	.0441	.0436
80.	.00256	.00256	.00201	.000724	.000545	.00184	.00000025					.0000693	.0000693	.0507	.0507	.0502	.0497
100.	.00213	.00213	.00169	.000530	.000438	.00160	.000000104					.0000593	.0000593	.0551	.0551	.0540	.0531
												.0000451	.0000451	.0551	.0551	.0540	.0531
												.0000377	.0000377	.0587	.0587	.0582	.0578
												.0000325	.0000325	.0608	.0608	.0603	.0598
												.0000281	.0000281	.0645	.0645	.0640	.0635
												.0000240	.0000240	.0677	.0677	.0671	.0666
												.0000200	.0000200	.0677	.0677	.0671	.0666
												.0000169	.0000169	.0677	.0677	.0671	.0666
												.0000141	.0000141	.0677	.0677	.0671	.0666
												.0000114	.0000114	.0677	.0677	.0671	.0666
												.0000090	.0000090	.0677	.0677	.0671	.0666

50 TIN
(barns/atom)

E (MeV)	$\sigma_{inc,t}^{KN}$	$\sigma_{inc,t}^{BD}$	$\sigma_{inc,a}^{KN}$	$\sigma_{inc,a}^{BD}$	$\sigma_{inc,s}^{KN}$	$\sigma_{inc,s}^{BD}$	σ_{coh}	σ_{xn}	σ_{xc}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	33.1	1.05	.0645	.00205	33.1	1.05	1570.					2250000.	2250000.	2250000.	2250000.	2250000.	2250000.
.0015	33.1	1.91	.0964	.00557	33.0	1.90	1490.					771000.	771000.	772000.	771000.	771000.	771000.
.002	33.0	2.77	.128	.0107	32.9	2.76	1410.					360000.	360000.	361000.	360000.	360000.	360000.
.003	32.9	4.35	.191	.0252	32.7	4.32	1230.					123000.	123000.	124000.	123000.	123000.	123000.
LIII .003929	32.8	5.64	.248	.0426	32.5	5.60	1090.					60300.	60300.	61400.	60300.	60300.	60300.
.004	32.7	5.74	.252	.0442	32.5	5.70	1080.					222000.	199000.	223000.	222000.	222000.	199000.
LII .004156	32.7	5.94	.262	.0475	32.5	5.89	1060.					209000.	188000.	210000.	209000.	209000.	188000.
.004465	32.7	6.34	.280	.0544	32.4	6.29	1010.					183000.	165000.	184000.	183000.	183000.	165000.
.005	32.6	7.00	.312	.0671	32.3	6.93	942.					253000.	228000.	254000.	253000.	253000.	228000.
.006	32.5	8.16	.372	.0934	32.1	8.07	826.					213000.	193000.	214000.	213000.	213000.	193000.
.008	32.3	10.2	.488	.154	31.8	10.0	649.					244000.	221000.	245000.	244000.	244000.	221000.
.01	32.0	12.0	.600	.225	31.4	11.8	526.					178000.	163000.	179000.	178000.	178000.	163000.
.015	31.4	15.3	.869	.423	30.6	14.9	345.					109000.	102000.	110000.	109000.	109000.	102000.
.02	30.9	17.4	1.11	.628	29.8	16.8	242.					49600.	47000.	50300.	49600.	49600.	47000.
K .029200	29.9	19.9	1.52	1.01	28.4	18.9	141.					26900.	25800.	27400.	26900.	26900.	25800.
.03	29.9	20.0	1.55	1.04	28.3	19.0	136.					8760.	8520.	9120.	8780.	8760.	8520.
.04	28.9	21.4	1.93	1.43	27.0	20.0	88.3					3950.	3870.	4210.	3970.	3950.	3870.
.05	28.1	22.1	2.26	1.78	25.8	20.3	62.3					1340.	1320.	1500.	1340.	1340.	1320.
.06	27.3	22.4	2.56	2.10	24.7	20.3	46.1					6680.	3190.	8840.	8700.	8680.	3190.
.08	25.9	22.4	3.03	2.62	22.8	19.8	27.8					8090.	3110.	8250.	8110.	8090.	3110.
.1	24.6	22.1	3.40	3.05	21.2	19.1	18.4					3680.	1980.	3790.	3700.	3680.	1980.
.15	22.2	20.9	4.02	3.79	18.2	17.1	8.64					2000.	1260.	2080.	2020.	2000.	1260.
.2	20.3	19.5	4.39	4.22	15.9	15.3	5.00					1220.	844.	1290.	1240.	1220.	844.
.3	17.7	17.3	4.76	4.66	12.9	12.6	2.27					545.	419.	595.	567.	548.	422.
.4	15.8	15.6	4.90	4.80	10.9	10.8	1.25					290.	236.	330.	312.	293.	239.
.5	14.5	14.3	4.93	4.85	9.52	9.45	.856					92.0	80.7	122.	113.	96.0	84.5
.6	13.4	13.3	4.91	4.84	8.46	8.46	.581					40.8	37.0	65.3	60.3	45.2	41.2
.8	11.7	11.7	4.80	4.69	6.94	7.01	.358					12.9	12.1	32.5	30.2	17.7	16.8
1.	10.6	10.5	4.64	4.48	5.91	6.02	.212					6.68	5.80	23.0	21.7	11.0	10.6
1.5	8.58	8.56	4.24	4.11	4.33	4.45	.0943	.147		.147	.045	3.40	3.27	14.5	17.7	8.33	8.12
2.	7.31	7.31	3.88	3.71	3.43	3.60	.0537	.516		.516	.238	2.18	2.11	16.1	15.5	7.09	6.95
3.	5.75	5.75	3.32	3.09	2.43	2.66	.0248	1.35	.00201	1.35	.834	1.10	1.07	13.1	12.8	5.90	5.76
4.	4.81	4.81	2.92	2.66	1.89	2.15	.0136	2.13	.00828	2.14	1.46	.680	.6712	10.7	10.7	4.78	4.60
5.	4.15	4.15	2.61	2.32	1.55	1.83	.00887	2.80	.0162	2.82	2.03	3.40	.6530	7.03	7.02	5.13	4.93
6.	3.67	3.67	2.36	2.05	1.31	1.62	.00514	3.33	.0252	3.36	2.49	2.18	.6421	7.03	7.02	5.48	4.40
8.	3.00	3.00	2.00	1.66	.999	1.34	.00332	4.20	.0427	4.24	3.21	1.10	.6293	7.08	7.07	5.76	4.58
10.	2.56	2.56	1.75	1.37	.809	1.19	.00208	4.95	.0583	5.01	3.82	.690	.6277	7.27	7.27	6.27	4.90
15.	1.89	1.89	1.34	.990	.549	.900		6.42	.0916	6.51	4.79	.490	.6142	7.59	7.59	6.78	5.21
20.	1.52	1.52	1.10	.762	.415	.758		7.50	.116	7.62	5.25		.6104	8.41	8.41	7.86	5.79
30.	1.11	1.11	.826	.497	.279	.613		8.95	.152	9.10	5.73		.00670	9.15	9.15	8.73	6.02
40.	.879	.879	.668	.350	.211	.529		9.92	.177	10.1	5.79		.00492	10.2	10.2	9.93	6.23
50.	.734	.734	.565	.265	.167	.469		10.6	.196	10.8	5.71		.00388	11.0	11.0	10.8	6.14
60.	.632	.632	.491	.208	.141	.424		11.3	.212	11.5	5.69		.00320	11.5	11.5	11.4	5.98
80.	.498	.498	.392	.140	.106	.358		12.1	.234	12.3	5.54		.00235	12.1	12.1	12.0	5.90
100.	.414	.414	.329	.102	.0853	.312		12.8	.252	13.1	5.38		.00185	12.8	12.8	12.7	5.88
														13.5	13.5	13.4	5.48

50 TIN
(cm²/g = 0.005074 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{ED}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{xc}	($\frac{\mu}{\rho}$) _{xt}	($\frac{\mu}{\rho}$) _{xa}	($\frac{\mu}{\rho}$) _{rt}	($\frac{\mu}{\rho}$) _{ra}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.168	.30533	.060327	.0000104	.168	.00533	7.97					11400.	11400.	11400.	11400.	11400.	11400.
.0015	.168	.00969	.000489	.0000283	.167	.00964	7.56					3910.	3910.	3920.	3910.	3910.	3910.
.002	.167	.0141	.000649	.0000543	.167	.0140	7.15					1830.	1830.	1830.	1830.	1830.	1830.
.003	.167	.0221	.000969	.000128	.166	.0219	6.24					624.	624.	629.	624.	624.	624.
L _{III} .003929	.166	.0286	.00126	.000216	.165	.0284	5.53					306.	306.	312.	306.	306.	306.
.004	.166	.0291	.00128	.000224	.165	.0289	5.48					1130.	1010.	1130.	1130.	1130.	1010.
L _{II} .004156	.166	.0301	.00133	.000241	.165	.0299	5.38					1060.	954.	1070.	1060.	1060.	954.
L _I .004465	.166	.0322	.00142	.000276	.164	.0319	5.12					929.	837.	934.	929.	929.	837.
.005	.165	.0355	.00158	.000340	.164	.0352	4.78					1280.	1160.	1290.	1280.	1280.	1160.
.006	.165	.0414	.00189	.000474	.163	.0409	4.19					1080.	979.	1090.	1080.	1080.	979.
.008	.164	.0518	.00248	.000781	.161	.0507	3.29					1240.	1120.	1240.	1240.	1240.	1120.
.01	.162	.0609	.00304	.00114	.159	.0599	2.67					903.	827.	908.	903.	903.	827.
.015	.159	.0776	.00441	.00215	.155	.0756	1.75					553.	518.	558.	553.	553.	518.
.02	.157	.0883	.00563	.00319	.151	.0852	1.23					252.	238.	255.	252.	252.	238.
K.0029200	.152	.101	.00771	.00512	.144	.0959	.715					136.	131.	139.	136.	136.	131.
.03	.152	.101	.00786	.00528	.144	.0964	.690					44.4	43.2	46.3	44.5	44.4	43.2
.04	.147	.109	.00979	.00726	.137	.101	.448					20.6	19.6	21.4	20.1	20.0	19.6
.05	.143	.112	.0115	.00963	.131	.103	.316					6.80	6.70	7.61	6.90	6.80	6.70
.06	.139	.114	.0130	.0107	.125	.103	.234					44.0	16.2	44.9	44.1	44.0	16.2
.08	.131	.114	.0154	.0133	.116	.100	.141					41.0	15.8	41.9	41.2	41.0	15.8
.1	.125	.112	.0173	.0155	.108	.0969	.0934					18.7	10.0	19.2	18.8	18.7	10.0
.15	.113	.106	.0204	.0192	.0923	.0868	.0439					10.7	6.39	10.6	10.2	10.1	6.39
.2	.103	.0989	.0223	.0214	.0807	.0776	.0254					6.29	4.28	6.85	6.29	6.19	4.29
.3	.0898	.0878	.0242	.0236	.0655	.0639	.0115					2.7	2.13	3.02	2.88	2.78	2.14
.4	.0802	.0792	.0249	.0244	.0553	.0548	.00655					1.47	1.20	1.67	1.58	1.49	1.21
.5	.0736	.0726	.0250	.0246	.0479	.0479	.00424					.467	.405	.469	.457	.447	.429
.6	.0680	.0675	.0249	.0246	.0429	.0429	.00295					.307	.267	.331	.306	.299	.269
.8	.0594	.0594	.0244	.0238	.0352	.0356	.00166					.0655	.0643	.0665	.0649	.0649	.0622
1	.0538	.0533	.0235	.0227	.0300	.0305	.00108					.00308	.00244	.00378	.00358	.00360	.00262
1.5	.0435	.0434	.0215	.0209	.0220	.0226	.000478	.000746		.000746	.000228	.00165	.00163	.00463	.00458	.00239	.00227
2	.0371	.0371	.0197	.0188	.0174	.0183	.000272	.00262		.00262	.00121	.00102	.00101	.00410	.00407	.00233	.00211
3	.0292	.0292	.0168	.0157	.0123	.0135	.000122	.00685		.00685	.000423	.000548	.000543	.00367	.00366	.00243	.00204
4	.0244	.0244	.0148	.0135	.00959	.0109	.0000690	.0108	.0000102	.0000420	.0109	.000361	.000360	.00357	.00356	.00260	.00213
5	.0211	.0211	.0132	.0118	.00786	.00929	.0000450	.0142	.0000822	.0143	.0103	.000269	.000268	.00357	.00356	.00278	.00223
6	.0186	.0186	.0120	.0104	.00665	.00822	.0000312	.0169	.000128	.0170	.0126	.000214	.000213	.00359	.00359	.00292	.00232
8	.0152	.0152	.0101	.00842	.00507	.00680	.0000168	.0213	.000217	.0215	.0163	.000149	.000149	.00369	.00369	.00318	.00249
10	.0130	.0130	.00888	.00695	.00410	.00604	.0000106	.0251	.000276	.0254	.0194	.000115	.000115	.00385	.00385	.00344	.00264
15	.00959	.00959	.00680	.00502	.00279	.00457	.0000465	.0326	.000465	.0330	.0243	.0000721	.0000721	.00427	.00427	.00399	.00294
20	.00771	.00771	.00558	.00387	.00211	.00385	.0000381	.000589	.000589	.0387	.0266	.0000528	.0000528	.00464	.00464	.00443	.00305
30	.00563	.00563	.00419	.00252	.00142	.00311	.0000454	.000771	.000771	.0462	.0291	.0000340	.0000340	.00518	.00518	.00504	.00316
40	.00446	.00446	.00339	.00178	.00107	.00268	.0000503	.000898	.000898	.0512	.0294	.0000250	.0000250	.00558	.00558	.00548	.00312
50	.00372	.00372	.00287	.00134	.000858	.00238	.0000538	.000995	.000995	.0548	.0290	.0000197	.0000197	.00584	.00584	.00578	.00303
60	.00321	.00321	.00249	.00106	.000715	.00215	.0000573	.00108	.00108	.0584	.0289	.0000162	.0000162	.00614	.00614	.00609	.00299
80	.00253	.00253	.00199	.000710	.000538	.00182	.0000614	.00119	.00119	.0624	.0281	.0000119	.0000119	.00649	.00649	.00644	.00288
100	.00210	.00210	.00167	.000518	.000433	.00158	.0000649	.00128	.00128	.0665	.0273	.0000094	.0000094	.00685	.00685	.00680	.00278

51 ANTIMONY
(barns/atom)

E (MeV)	$\sigma_{\text{inc,t}}^{\text{KN}}$	$\sigma_{\text{inc,t}}^{\text{BD}}$	$\sigma_{\text{inc,a}}^{\text{KN}}$	$\sigma_{\text{inc,a}}^{\text{BD}}$	$\sigma_{\text{inc,s}}^{\text{KN}}$	$\sigma_{\text{inc,s}}^{\text{BD}}$	σ_{con}	$\sigma_{\text{x,n}}$	$\sigma_{\text{x,e}}$	$\sigma_{\text{x,t}}$	$\sigma_{\text{x,a}}$	$\sigma_{\text{r,t}}$	$\sigma_{\text{r,a}}$	$\sigma_{\text{tot,t}}$	$\sigma_{\text{tot,t-coh}}$	$\sigma_{\text{tot,a}}$	$\sigma_{\text{tot,en}}$
.001	33.8	1.02	.0658	.00199	33.7	1.02	1640.					2460000.	2460000.	2460000.	2460000.	2460000.	2460000.
.0015	33.7	1.89	.0984	.00551	33.6	1.88	1550.					843000.	843000.	843000.	843000.	843000.	843000.
.002	33.7	2.77	.131	.0107	33.5	2.76	1460.					394000.	394000.	395000.	394000.	394000.	394000.
.003	33.5	4.41	.194	.0256	33.3	4.38	1280.					134000.	134000.	135000.	134000.	134000.	134000.
.004	33.4	5.86	.257	.0451	33.1	5.81	1120.					62900.	62900.	64000.	62900.	62900.	62900.
L_{III} .004132	33.4	6.04	.265	.0480	33.1	5.99	1100.					57600.	57600.	58700.	57600.	57600.	57600.
L_{II} .004381	33.4	6.37	.281	.0536	33.1	6.32	1060.					209000.	187000.	210000.	209000.	209000.	187000.
L_{I} .004698	33.3	6.77	.300	.0610	33.0	6.71	1020.					172000.	155000.	173000.	172000.	172000.	155000.
.005	33.3	7.15	.319	.0685	33.0	7.08	978.					237000.	213000.	238000.	237000.	237000.	213000.
.006	33.1	8.32	.379	.0953	32.8	8.22	860.					200000.	181000.	201000.	200000.	200000.	181000.
.008	32.9	10.4	.498	.157	32.4	10.2	676.					229000.	207000.	230000.	229000.	229000.	207000.
.01	32.7	12.2	.612	.229	32.1	12.0	548.					194000.	177000.	195000.	194000.	194000.	177000.
.015	32.1	15.5	.887	.429	31.2	15.1	360.					118000.	109000.	119000.	118000.	118000.	109000.
.02	31.5	17.7	1.14	.639	30.4	17.1	253.					53900.	50900.	54600.	53900.	53900.	50900.
.03	30.5	20.3	1.59	1.06	28.9	19.2	143.					29100.	27800.	29700.	29100.	29100.	27800.
K .030491	30.4	20.4	1.61	1.08	28.8	19.3	139.					9520.	9230.	9900.	9540.	9520.	9230.
.04	29.5	21.7	1.97	1.45	27.5	20.3	92.4					4260.	4180.	4590.	4300.	4260.	4180.
.05	28.6	22.4	2.31	1.81	26.3	20.6	65.4					1350.	1330.	1510.	1370.	1350.	1330.
.06	27.8	22.8	2.61	2.14	25.2	20.7	48.4					1290.	1270.	1450.	1310.	1290.	1270.
.08	26.4	22.8	3.09	2.67	23.3	20.1	29.4					8280.	3000.	8440.	8300.	8280.	3000.
.1	25.1	22.5	3.47	3.10	21.7	19.4	19.4					3940.	2020.	4050.	3960.	3940.	2020.
.15	22.6	21.3	4.11	3.87	18.5	17.4	9.11					2160.	1320.	2250.	2180.	2160.	1320.
.2	20.7	19.9	4.48	4.3	16.2	15.6	5.26					1310.	885.	1380.	1330.	1310.	887.
.3	18.0	17.6	4.86	4.74	13.2	12.9	2.39					590.	447.	642.	613.	593.	450.
.4	16.1	15.9	5.00	4.90	11.1	11.0	1.36					312.	251.	354.	334.	315.	254.
.5	14.7	14.6	5.03	4.96	9.72	9.64	.879					99.9	86.9	130.	121.	104.	90.8
.6	13.6	13.5	5.01	4.91	8.63	8.59	.607					44.2	39.9	69.4	64.1	48.7	44.2
.8	12.0	11.9	4.98	4.77	7.08	7.13	.343					14.1	13.2	34.1	31.7	19.0	17.9
1.	10.8	10.7	4.74	4.56	6.03	6.14	.222					6.62	6.30	23.9	22.5	11.6	11.2
1.5	8.75	8.73	4.33	4.19	4.42	4.54	.0993	.155		.155	.0474	3.70	3.56	19.2	18.3	8.73	8.52
2.	7.46	7.45	3.96	3.78	3.50	3.67	.0562	.540		.540	.249	2.37	2.29	16.5	15.9	7.38	7.20
3.	5.87	5.86	3.39	3.15	2.48	2.71	.0251	1.40	.00205	1.40	.865	1.20	1.17	13.4	13.1	6.10	5.94
4.	4.91	4.91	2.98	2.72	1.93	2.19	.0442	2.22	.00843	2.23	1.52	.755	.740	11.7	11.5	5.50	5.30
5.	4.24	4.24	2.66	2.37	1.58	1.87	.03932	2.90	.0165	2.92	2.10	.352	.347	9.34	9.24	4.84	4.58
6.	3.74	3.74	2.41	2.09	1.33	1.65	.03647	3.46	.0257	3.49	2.59	.220	.218	8.27	8.21	4.72	4.25
8.	3.06	3.06	2.04	1.69	1.02	1.37	.03352	4.35	.0435	4.39	3.32	.117	.116	7.40	7.38	4.91	4.13
10.	2.61	2.61	1.78	1.40	.826	1.21	.02219	5.12	.0594	5.18	3.94	.0773	.0769	7.23	7.22	5.29	4.32
15.	1.93	1.93	1.37	1.01	.560	.923	.01103	6.64	.0934	6.73	4.94	.0574	.0572	7.23	7.22	5.64	4.53
20.	1.55	1.55	1.13	.773	.424	.777		7.75	.118	7.87	5.40	.0456	.0455	7.28	7.28	5.95	4.73
30.	1.13	1.13	.843	.503	.285	.627		9.28	.154	9.43	5.92	.0320	.0319	7.49	7.48	6.46	5.04
40.	.897	.897	.681	.356	.215	.541		10.3	.181	10.5	5.97	.0249	.0249	7.82	7.81	6.98	5.36
50.	.749	.749	.576	.27	.172	.479		11.1	.200	11.3	5.93	.0155	.0155	8.68	8.68	8.12	5.97
60.	.645	.645	.500	.211	.144	.434		11.7	.216	11.9	5.85	.0113	.0113	9.43	9.43	9.01	6.18
80.	.508	.508	.400	.143	.109	.365		12.5	.240	12.7	5.68	.00735	.00735	10.6	10.6	10.3	6.43
100.	.422	.422	.335	.104	.0871	.318		13.2	.256	13.5	5.49	.00538	.00538	11.4	11.4	11.2	6.33
												.00426	.00426	12.1	12.1	11.9	6.20
												.00350	.00350	12.5	12.5	12.4	6.06
												.00257	.00257	13.2	13.2	13.1	5.83
												.00201	.00201	13.9	13.9	13.8	5.60

51 ANTIMONY
(cm²/g = 0.004947 x barns/atom)

E (MeV)	($\frac{\sigma}{\sigma_0}$) _{KN, t}	($\frac{\sigma}{\sigma_0}$) _{BD, t}	($\frac{\sigma}{\sigma_0}$) _{KN, a}	($\frac{\sigma}{\sigma_0}$) _{BD, a}	($\frac{\sigma}{\sigma_0}$) _{KN, s}	($\frac{\sigma}{\sigma_0}$) _{BD, s}	($\frac{\sigma}{\sigma_0}$) _{coh}	($\frac{\sigma}{\sigma_0}$) _n	($\frac{\sigma}{\sigma_0}$) _e	($\frac{\sigma}{\sigma_0}$) _t	($\frac{\sigma}{\sigma_0}$) _a	($\frac{\sigma}{\sigma_0}$) _{t, t}	($\frac{\sigma}{\sigma_0}$) _{t, a}	($\frac{\sigma}{\sigma_0}$) _{tot, t}	($\frac{\sigma}{\sigma_0}$) _{tot, t-coh}	($\frac{\sigma}{\sigma_0}$) _{tot, a}	($\frac{\sigma}{\sigma_0}$) _{tot, en}
.001	.167	.00505	.000326	.00000980	.167	.00505	8.11					12200.	12200.	12200.	12200.	12200.	12200.
.0015	.167	.00935	.000487	.0000273	.166	.00930	7.67					4170.	4170.	4170.	4170.	4170.	4170.
.002	.167	.0137	.000648	.0000529	.166	.0137	7.22					1950.	1950.	1950.	1950.	1950.	1950.
.003	.166	.0218	.000960	.000127	.165	.0217	6.33					663.	663.	663.	663.	663.	663.
.004	.165	.0290	.00127	.000223	.164	.0287	5.54					311.	311.	311.	311.	311.	311.
L _{III} .004132	.165	.0299	.00131	.000237	.164	.0296	5.44					285.	285.	285.	285.	285.	285.
L _{II} .004381	.165	.0315	.00139	.000265	.164	.0313	5.24					1030.	925.	1040.	1030.	1030.	925.
L _I .004698	.165	.0335	.00148	.000302	.163	.0332	5.05					851.	767.	856.	851.	851.	767.
.005	.165	.0354	.00158	.000339	.163	.0350	4.84					1174.	1050.	1180.	1170.	1170.	1050.
.006	.164	.0412	.00187	.000471	.162	.0407	4.25					989.	895.	994.	989.	989.	895.
.008	.163	.0514	.00246	.000777	.160	.0505	3.34					1130.	1020.	1140.	1130.	1130.	1020.
.01	.162	.0604	.00303	.00113	.159	.0594	2.71					960.	876.	965.	960.	960.	876.
.015	.159	.0787	.00439	.00212	.154	.0747	1.78					580.	539.	589.	584.	584.	539.
.02	.156	.0876	.00564	.00316	.150	.0846	1.25					260.	252.	270.	267.	267.	252.
.03	.151	.0800	.00787	.00524	.143	.0950	.707					140.	138.	147.	144.	144.	138.
K .030491	.150	.101	.00796	.00534	.142	.0955	.688					40.1	45.7	40.0	47.2	47.1	45.7
.04	.146	.107	.00975	.00717	.136	.100	.458					20.7	20.7	22.5	21.3	21.2	20.7
.05	.141	.111	.0114	.00895	.130	.102	.323					6.68	6.58	7.47	6.78	6.68	6.58
.06	.138	.113	.0129	.0106	.125	.102	.240					5.38	6.28	7.17	6.48	6.38	6.28
.08	.131	.113	.0153	.0132	.115	.0994	.144					41.0	14.8	41.8	41.1	41.0	14.8
.1	.124	.111	.0172	.0153	.107	.0960	.096					19.5	9.99	20.0	19.6	19.5	9.99
.15	.112	.105	.0203	.0191	.0915	.0861	.0451					10.7	6.53	11.1	10.8	10.7	6.53
.2	.102	.0984	.0222	.0213	.0801	.0772	.0260					5.48	4.38	6.83	6.58	6.48	4.39
.3	.0890	.0871	.0240	.0234	.0653	.0638	.0118					2.92	2.21	3.18	3.03	2.93	2.23
.4	.0796	.0787	.0247	.0242	.0549	.0544	.00673					1.54	1.24	1.75	1.65	1.54	1.24
.5	.0727	.0722	.0249	.0245	.0481	.0477	.00435					.494	.430	.643	.599	.514	.449
.6	.0673	.0668	.0248	.0243	.0427	.0425	.00300					.219	.197	.343	.317	.241	.219
.8	.0594	.0589	.0242	.0236	.0350	.0353	.00170					.0698	.0653	.169	.157	.0940	.0886
1.	.0534	.0529	.0234	.0226	.0298	.0304	.00110					.0327	.0312	.118	.111	.0574	.0554
1.5	.0433	.0432	.0214	.0207	.0219	.0225	.000491	.000767				.0183	.0176	.0950	.0905	.0432	.0421
2.	.0369	.0369	.0196	.0187	.0173	.0182	.000278	.00267				.0117	.0113	.0816	.0787	.0365	.0356
3.	.0290	.0290	.0168	.0156	.0123	.0134	.000124	.00693				.00594	.00579	.0663	.0648	.0302	.0294
4.	.0243	.0243	.0147	.0135	.00955	.0108	.0000702	.0110	.0000101			.00373	.00366	.0570	.0569	.0272	.0262
5.	.0210	.0210	.0132	.0117	.00732	.00925	.0000461	.0143	.0000816	.000767	.000234	.00174	.00172	.0462	.0457	.0239	.0227
6.	.0185	.0185	.0119	.0103	.00658	.00816	.0000320	.0171	.000127	.00267	.00123	.00109	.00108	.0409	.0406	.0233	.0210
8.	.0151	.0151	.0101	.00836	.00535	.00678	.0000174	.0215	.000215	.00693	.00428	.000579	.000574	.0366	.0365	.0243	.0204
10.	.0129	.0129	.00881	.00691	.00439	.00599	.0000108	.0253	.000294	.00752	.00752	.000382	.000380	.0358	.0357	.0262	.0214
15.	.00955	.00955	.00678	.00500	.00277	.00457	.0000051	.0328	.000462	.0144	.0104	.000284	.000283	.0358	.0357	.0279	.0224
20.	.00767	.00767	.00559	.00382	.00210	.00384		.0383	.000584	.0173	.0128	.000226	.000225	.0360	.0360	.0294	.0234
30.	.00559	.00559	.00417	.00249	.00141	.00310		.0459	.000762	.0217	.0164	.000158	.000158	.0371	.0370	.0320	.0249
40.	.00444	.00444	.00337	.00176	.00106	.00268		.0510	.000895	.0256	.0198	.000123	.000123	.0387	.0386	.0345	.0265
50.	.00371	.00371	.00285	.00134	.00085	.00237		.0549	.000989	.0244	.0244	.0000767	.0000767	.0429	.0429	.0402	.0309
60.	.00319	.00319	.00247	.00104	.000712	.00215		.0579	.00107	.0267	.0267	.0000559	.0000559	.0467	.0467	.0446	.0366
80.	.00251	.00251	.00198	.000787	.000539	.00181		.0618	.00119	.0293	.0293	.0000364	.0000364	.0524	.0524	.0510	.0318
100.	.00209	.00209	.00166	.000514	.000431	.00157		.0653	.00127	.0272	.0272	.0000266	.0000266	.0564	.0564	.0554	.0313

52 TELLURIUM
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{cch}	σ_{xn}	σ_{ne}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	34.5	.983	.0671	.00191	34.4	.981	1700.					2130000.	2130000.	2130000.	2130000.	2130000.	2130000.
M_I .001006	34.5	.993	.0676	.00195	34.4	.991	1700.					2110000.	2110000.	2110000.	2110000.	2110000.	2110000.
												2640000.	2640000.	2640000.	2640000.	2640000.	2640000.
.0015	34.4	1.84	.100	.00537	34.3	1.83	1630.					920000.	920000.	922000.	920000.	920000.	920000.
.002	34.3	2.74	.133	.0106	34.2	2.73	1520.					430000.	430000.	432000.	430000.	430000.	430000.
.003	34.2	4.45	.198	.0258	34.0	4.42	1320.					147000.	147000.	148000.	147000.	147000.	147000.
.004	34.1	5.97	.262	.0459	33.8	5.92	1160.					68600.	68600.	69800.	68600.	68600.	68600.
L_{III} .004341	34.0	6.45	.284	.0538	33.7	6.40	1110.					55100.	55100.	56200.	55100.	55100.	55100.
												197000.	175000.	198000.	197000.	197000.	175000.
L_{II} .004612	34.0	6.81	.301	.0603	33.7	6.75	1070.					161000.	144000.	162000.	161000.	161000.	144000.
												222000.	198000.	223000.	222000.	222000.	198000.
L_I .004939	33.9	7.23	.321	.0684	33.6	7.16	1020.					188000.	169000.	189000.	188000.	188000.	169000.
												216000.	194000.	217000.	216000.	216000.	194000.
.005	33.9	7.31	.325	.0700	33.6	7.24	1010.					210000.	189000.	211000.	210000.	210000.	189000.
.006	33.8	8.50	.387	.0973	33.4	8.40	893.					128000.	117000.	129000.	128000.	128000.	117000.
.008	33.5	10.6	.508	.160	33.0	10.4	701.					58600.	55000.	59300.	58600.	58600.	55000.
.01	33.3	12.4	.624	.232	32.7	12.2	571.					31700.	30100.	32300.	31700.	31700.	30100.
.015	32.7	15.8	.904	.437	31.8	15.4	371.					10300.	9960.	10700.	10300.	10300.	9960.
.02	32.1	18.0	1.16	.650	31.0	17.4	265.					4650.	4540.	4930.	4670.	4650.	4540.
.03	31.1	20.6	1.62	1.07	29.5	19.5	149.					1470.	1450.	1640.	1490.	1470.	1450.
K .031814	30.9	21.0	1.69	1.15	29.2	19.8	137.					1250.	1230.	1410.	1270.	1250.	1230.
												7900.	2820.	8060.	7920.	7900.	2820.
.04	30.1	22.1	2.01	1.47	28.1	20.6	94.9					4220.	2060.	4340.	4240.	4220.	2060.
.05	29.2	22.8	2.36	1.84	26.8	21.0	64.4					2310.	1370.	2400.	2330.	2310.	1370.
.06	28.4	23.2	2.66	2.18	25.7	21.0	54.8					1410.	930.	1480.	1430.	1410.	932.
.08	26.9	23.2	3.15	2.72	23.7	20.5	34.7					630.	469.	684.	653.	633.	472.
.1	25.6	22.9	3.54	3.16	22.1	19.7	28.3					338.	269.	381.	361.	342.	272.
.15	22.1	21.7	4.19	3.94	18.9	17.8	8.56					107.	92.4	138.	129.	111.	96.3
.2	21.1	20.3	4.57	4.39	16.6	15.9	5.52					47.9	43.0	73.7	68.2	52.5	47.4
.3	18.4	18.0	4.95	4.85	13.4	13.1	2.51					15.3	14.3	35.8	33.3	20.3	19.1
.4	16.5	16.2	5.10	4.99	11.4	11.2	1.43					7.18	6.81	24.8	23.4	12.3	11.8
.5	15.0	14.9	5.13	5.05	9.91	9.85	.524					4.04	3.87	19.9	18.9	9.17	8.92
.6	13.9	13.8	5.11	5.02	8.80	8.78	.641					2.60	2.51	17.0	16.4	7.71	7.53
.8	12.2	12.2	5.00	4.89	7.22	7.31	.561					1.31	1.28	13.9	13.5	6.31	6.17
1.	11.0	10.9	4.83	4.64	6.15	6.26	.533					.825	.808	12.0	11.7	5.66	5.45
1.5	8.92	8.90	4.41	4.27	4.51	4.63	.105	.163		.163	.0499	.387	.382	9.55	9.45	4.96	4.70
2.	7.61	7.60	4.04	3.85	3.57	3.75	.0591	.566		.566	.261	.239	.237	8.46	8.40	4.84	4.35
3.	5.99	5.98	3.45	3.21	2.53	2.77	.0266	1.46	.00209	1.46	.902	.128	.127	7.59	7.57	5.04	4.24
4.	5.00	5.00	3.04	2.75	1.97	2.24	.0149	2.30	.00860	2.31	1.58	.0845	.0841	7.41	7.39	5.43	4.41
5.	4.32	4.32	2.71	2.40	1.61	1.92	.00977	3.01	.0169	3.03	2.18	.0631	.0628	7.42	7.41	5.80	4.64
6.	3.82	3.82	2.46	2.12	1.36	1.70	.00681	3.59	.0262	3.62	2.68	.0500	.0498	7.50	7.49	6.13	4.85
8.	3.12	3.12	2.08	1.72	1.04	1.40	.00372	4.51	.0444	4.55	3.43	.0347	.0346	7.71	7.70	6.66	5.18
10.	2.66	2.66	1.82	1.42	.842	1.24	.00231	5.31	.0606	5.37	4.08	.0268	.0267	8.06	8.06	7.22	5.53
15.	1.97	1.97	1.40	1.02	.571	.946	.00108	6.90	.0953	7.00	5.12	.0169	.0169	8.99	8.99	8.42	6.16
20.	1.58	1.58	1.15	.785	.432	.795		8.03	.120	8.15	5.58	.0123	.0123	9.74	9.74	9.31	6.38
30.	1.15	1.15	.860	.508	.291	.642		9.63	.157	9.79	6.13	.00800	.00799	10.9	10.9	10.7	6.65
40.	.914	.914	.695	.359	.219	.555		10.7	.184	10.9	6.18	.00589	.00589	11.8	11.8	11.6	6.54
50.	.763	.763	.588	.273	.176	.490		11.5	.203	11.7	6.10	.00462	.00462	12.5	12.5	12.3	6.38
60.	.657	.657	.510	.214	.147	.443		12.1	.220	12.3	6.01	.00380	.00380	13.0	13.0	12.8	6.23
80.	.518	.518	.408	.145	.111	.373		13.0	.243	13.2	5.87	.00280	.00280	13.7	13.7	13.6	6.02
100.	.431	.431	.342	.106	.0888	.325		13.7	.261	14.0	5.65	.00220	.00220	14.4	14.4	14.3	5.76

52 TELLURIUM
(cm²/g = 0.004720 x barns/atom)

E (MeV)	($\frac{\sigma}{\sigma_0}$) _{KN inc,t}	($\frac{\sigma}{\sigma_0}$) _{BD inc,t}	($\frac{\sigma}{\sigma_0}$) _{KN nc,a}	($\frac{\sigma}{\sigma_0}$) _{BD inc,a}	($\frac{\sigma}{\sigma_0}$) _{KN inc,s}	($\frac{\sigma}{\sigma_0}$) _{BD inc,s}	($\frac{\sigma}{\sigma_0}$) _{coh}	($\frac{\sigma}{\sigma_0}$) _n	($\frac{\sigma}{\sigma_0}$) _e	($\frac{\sigma}{\sigma_0}$) _t	($\frac{\sigma}{\sigma_0}$) _a	($\frac{\sigma}{\sigma_0}$) _{r,t}	($\frac{\sigma}{\sigma_0}$) _{r,a}	($\frac{\sigma}{\sigma_0}$) _{tot,t}	($\frac{\sigma}{\sigma_0}$) _{tot,t-coh}	($\frac{\sigma}{\sigma_0}$) _{tot,a}	($\frac{\sigma}{\sigma_0}$) _{tot,en}
.001	.163	.00464	.000317	.0000090	.162	.00463	8.02					10100.	10100.	10100.	10100.	10100.	10100.
H _I .001006	.163	.00469	.000319	.0000092	.162	.00468	8.02					9960.	9960.	9960.	9960.	9960.	9960.
.0015	.162	.00468	.000472	.0000253	.162	.00864	7.60					12500.	12500.	12500.	12500.	12500.	12500.
.002	.162	.0129	.000628	.0000500	.161	.0129	7.17					4340.	4340.	4350.	4340.	4340.	4340.
.003	.161	.0210	.000935	.000122	.160	.0209	6.23					2030.	2030.	2040.	2030.	2030.	2030.
.004	.161	.0282	.00124	.000217	.160	.0279	5.48					694.	694.	699.	694.	694.	694.
L _{III} .004341	.160	.0344	.00134	.000254	.159	.0302	5.24					324.	324.	329.	324.	324.	324.
L _{II} .004612	.160	.0321	.00142	.000285	.159	.0319	5.05					260.	260.	265.	260.	260.	260.
L _I .004939	.160	.0341	.00152	.000323	.159	.0338	4.81					930.	930.	935.	930.	930.	930.
.005	.160	.0345	.00153	.000330	.159	.0342	4.77					760.	760.	765.	760.	760.	760.
.006	.160	.0431	.00183	.000459	.158	.0396	4.21					1050.	1050.	1050.	1050.	1050.	1050.
.008	.158	.0500	.00240	.000755	.156	.0491	3.32					887.	887.	892.	887.	887.	887.
.01	.157	.0595	.00295	.00110	.154	.0576	2.70					1020.	1020.	1020.	1020.	1020.	1020.
.015	.154	.0746	.00427	.00206	.150	.0727	1.77					991.	991.	996.	991.	991.	991.
.02	.152	.0850	.00548	.00307	.146	.0821	1.25					604.	604.	609.	604.	604.	604.
.03	.147	.0972	.00765	.00505	.139	.0920	.703					277.	277.	280.	277.	277.	277.
K.031814	.146	.0991	.00798	.00543	.138	.0935	.647					190.	190.	192.	190.	190.	190.
.04	.142	.104	.00949	.00694	.133	.0972	.457					48.6	47.0	50.5	48.6	48.6	47.0
.05	.138	.108	.0111	.00868	.126	.0991	.323					21.4	21.4	23.3	22.0	21.9	21.4
.06	.134	.110	.0126	.0103	.121	.0991	.240					6.84	6.84	7.74	7.03	6.94	6.84
.08	.127	.110	.0149	.0128	.112	.0968	.145					5.81	5.81	6.66	5.99	5.90	5.81
.1	.121	.108	.0167	.0149	.104	.0930	.0958					37.3	13.3	38.0	37.4	37.3	13.3
.15	.109	.102	.0186	.0166	.0892	.0840	.0451					19.5	9.72	20.5	20.0	19.9	9.72
.2	.0996	.0958	.0216	.0207	.0784	.0750	.0261					10.5	6.47	11.3	11.0	10.9	6.47
.3	.0868	.0850	.0234	.0229	.0632	.0618	.0118					6.66	4.39	6.99	6.75	6.66	4.40
.4	.0779	.0765	.0241	.0236	.0538	.0529	.00675					2.57	2.21	3.23	3.08	2.99	2.23
.5	.0708	.0703	.0242	.0238	.0468	.0465	.00436					1.60	1.27	1.80	1.70	1.61	1.28
.6	.0656	.0651	.0241	.0237	.0415	.0414	.00303					.105	.436	.651	.609	.524	.455
.8	.0576	.0576	.0236	.0231	.0341	.0345	.00170					.726	.203	.348	.322	.248	.224
1.	.0519	.0514	.0228	.0219	.0290	.0295	.00110					.1722	.0675	.169	.157	.0958	.0902
1.5	.0421	.0420	.0208	.0202	.0213	.0219	.000496	.000769				.0339	.0321	.117	.110	.0581	.0557
2.	.0359	.0359	.0191	.0182	.0169	.0177	.000279	.00267	.000769	.000236		.191	.0183	.0939	.0892	.0433	.0421
3.	.0283	.0282	.0163	.0152	.0119	.0131	.000126	.00689	.0000986	.000426		.123	.0118	.0802	.0774	.0364	.0359
4.	.0236	.0236	.0143	.0130	.00930	.0106	.0000703	.0109	.0000406	.0109		.10618	.00604	.0656	.0637	.0298	.0291
5.	.0204	.0204	.0128	.0113	.00760	.00906	.0000461	.0142	.0000798	.0143		.10389	.00381	.0566	.0552	.0267	.0257
6.	.0180	.0180	.0116	.0100	.00642	.00802	.0000321	.0169	.000124	.0171		.00183	.00180	.0451	.0446	.0234	.0222
8.	.0147	.0147	.00982	.00812	.00491	.00661	.0000176	.0213	.000210	.0215		.00113	.00112	.0399	.0396	.0228	.0205
10.	.0126	.0126	.00859	.00670	.00397	.00585	.0000109	.0251	.000286	.0253		.000604	.000599	.0358	.0357	.0238	.0200
15.	.00930	.00930	.00661	.00481	.00270	.00447	.0000051	.0326	.000450	.0330		.000399	.000397	.0350	.0349	.0256	.0208
20.	.00746	.00746	.00543	.00371	.00204	.00375		.0379	.000566	.0385		.000298	.000296	.0350	.0350	.0274	.0219
30.	.00543	.00543	.00406	.00240	.00137	.00303		.0455	.000741	.0462		.000236	.000235	.0354	.0354	.0289	.0229
40.	.00431	.00431	.00328	.00169	.00103	.00262		.0505	.000868	.0514		.000183	.000180	.0424	.0424	.0397	.0301
50.	.00360	.00360	.00278	.00129	.000831	.00231		.0543	.000958	.0552		.000164	.000163	.0424	.0424	.0397	.0301
60.	.00310	.00310	.00241	.00101	.000694	.00209		.0571	.00104	.0581		.000132	.000132	.0424	.0424	.0397	.0301
80.	.00244	.00244	.00193	.000884	.000524	.00176		.0614	.00115	.0623		.000104	.000104	.0424	.0424	.0397	.0301
100.	.00203	.00203	.00161	.000850	.000499	.00153		.0647	.00123	.0661		.000104	.000104	.0424	.0424	.0397	.0301

53 IODINE
 (barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	J_{coh}	σ_{n}	σ_{e}	$\sigma_{x,t}$	$\sigma_{x,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	35.1	.960	.0684	.00187	35.0	.958	1770.					2290000.	2290000.	2290000.	2290000.	2290000.	2290000.
M_1 .001072	35.1	1.08	.0733	.00226	35.0	1.08	1760.					1950000.	1950000.	1950000.	1950000.	1950000.	1950000.
.0015	35.0	1.82	.102	.00531	34.9	1.81	1680.					2440000.	2440000.	2440000.	2440000.	2440000.	2440000.
.002	35.0	2.75	.136	.0107	34.8	2.74	1580.					997000.	997000.	999000.	997000.	997000.	997000.
.003	34.8	4.52	.202	.0262	34.6	4.49	1370.					468000.	468000.	470000.	468000.	468000.	468000.
.004	34.7	6.11	.267	.0470	34.4	6.06	1200.					159000.	159000.	160000.	159000.	159000.	159000.
L_{III} .004557	34.6	6.89	.303	.0603	34.3	6.83	1110.					74500.	74500.	75700.	74500.	74500.	74500.
L_{II} .004852	34.6	7.29	.322	.0678	34.3	7.22	1070.					52700.	52700.	53800.	52700.	52700.	52700.
.005	34.6	7.48	.331	.0717	34.2	7.41	1050.					185000.	164000.	186000.	185000.	185000.	164000.
L_I .005188	34.6	7.72	.343	.0767	34.2	7.64	1030.					151000.	135000.	152000.	151000.	151000.	135000.
.006	34.4	8.69	.394	.0995	34.1	8.59	927.					209000.	186000.	210000.	209000.	209000.	186000.
.008	34.2	10.8	.517	.164	33.7	10.6	733.					193000.	173000.	194000.	193000.	193000.	173000.
.01	33.9	12.6	.636	.236	33.3	12.4	594.					177000.	159000.	178000.	177000.	177000.	159000.
.015	33.3	16.0	.922	.443	32.4	15.6	389.					203000.	204000.	204000.	203000.	203000.	182000.
.02	32.7	18.3	1.18	.650	31.6	17.6	276.					137000.	125000.	138000.	137000.	137000.	125000.
.03	31.7	21.0	1.65	1.09	30.0	19.9	156.					63400.	59200.	64100.	63400.	63400.	59200.
K .033170	31.3	21.5	1.78	1.22	29.6	20.3	134.					34200.	32400.	34800.	34200.	34200.	32400.
.04	30.7	22.4	2.05	1.49	28.6	20.9	101.					11200.	10800.	11600.	11200.	11200.	10800.
.05	29.8	23.2	2.40	1.87	27.4	21.3	71.6					9050.	4910.	9340.	9070.	9050.	4910.
.06	28.9	23.6	2.71	2.21	26.2	21.4	53.3					1600.	1570.	1780.	1620.	1600.	1570.
.08	27.4	23.6	3.21	2.76	24.2	20.8	32.2					1200.	1180.	1360.	1220.	1200.	1180.
.1	26.1	23.3	3.60	3.22	22.5	20.1	21.3					7540.	2660.	7700.	7540.	7540.	2660.
.15	23.5	22.1	4.27	4.01	19.2	18.1	10.0					4540.	2100.	4660.	4560.	4540.	2100.
.2	21.5	20.6	4.66	4.45	16.9	16.1	5.80					2490.	970.	2580.	2510.	2490.	972.
.3	18.7	18.3	5.05	4.93	13.7	13.4	2.64					680.	497.	736.	704.	683.	500.
.4	16.6	16.5	5.20	5.08	11.6	11.4	1.50					364.	286.	409.	387.	368.	289.
.5	15.3	15.2	5.23	5.15	10.1	10.0	.970					117.	100.	149.	139.	121.	104.
.6	14.2	14.1	5.21	5.13	8.97	8.97	.673					52.0	46.4	78.4	72.6	56.7	50.8
.8	12.4	12.4	5.09	4.97	7.36	7.43	.380					16.7	15.5	37.6	35.0	21.8	20.4
1.	11.2	11.1	4.92	4.72	6.27	6.38	.245					7.86	7.44	25.9	24.4	13.1	12.5
1.5	9.09	9.07	4.50	4.35	4.60	4.72	.110	.170	.170	.0520		4.40	4.21	20.6	19.6	9.63	9.36
2.	7.75	7.74	4.12	3.92	3.64	3.82	.0620	.590	.590	.273		2.82	2.72	17.6	16.9	8.03	7.85
3.	6.10	6.09	3.52	3.26	2.58	2.83	.0279	1.52	.00213	1.52	.938	1.43	1.39	14.2	13.8	6.52	6.36
4.	5.10	5.10	3.09	2.80	2.00	2.29	.0156	2.40	.00877	2.41	1.64	.0916	.0911	12.2	12.0	5.82	5.60
5.	4.40	4.40	2.77	2.44	1.64	1.96	.0102	3.12	.0172	3.14	2.25	.0682	.0679	9.77	9.66	5.09	4.82
6.	3.89	3.89	2.51	2.16	1.39	1.73	.00714	3.72	.0267	3.75	2.77	.0540	.0538	8.65	8.59	4.97	4.65
8.	3.18	3.18	2.12	1.75	1.06	1.43	.00394	4.69	.0452	4.74	3.56	.0378	.0377	7.78	7.75	5.18	4.34
10.	2.71	2.71	1.85	1.44	.858	1.27	.00243	5.50	.0619	5.56	4.21	.0290	.0289	7.62	7.60	5.59	4.53
15.	2.01	2.01	1.42	1.04	.582	.967	.00112	7.12	.0972	7.22	5.27	.0183	.0183	7.61	7.61	5.98	4.74
20.	1.61	1.61	1.17	.797	.440	.813		8.30	.123	8.42	5.74	.0132	.0132	7.70	7.69	6.31	4.98
30.	1.17	1.17	.876	.515	.296	.655		9.93	.160	10.1	6.27	.00860	.00859	7.96	7.96	6.90	5.35
40.	.932	.932	.708	.364	.224	.568		11.0	.188	11.2	6.31	.00630	.00630	8.30	8.30	7.44	5.68
50.	.778	.778	.599	.277	.179	.501		11.9	.207	12.1	6.28	.00500	.00500	9.25	9.25	8.66	6.33
60.	.670	.670	.520	.216	.150	.454		12.5	.223	12.7	6.16	.00410	.00410	10.0	10.0	9.60	6.55
80.	.528	.528	.416	.147	.113	.381		13.5	.248	13.7	6.04	.00302	.00302	11.3	11.3	11.0	6.70
100.	.439	.439	.348	.107	.0905	.332		14.2	.266	14.5	5.83	.00238	.00238	12.1	12.1	11.9	6.68
														12.9	12.9	12.7	6.56
														13.4	13.4	13.2	6.38
														14.2	14.2	14.1	6.19
														14.9	14.9	14.9	5.94

53 IODINE
(cm²/g = 0.004746 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{x,n}	($\frac{\mu}{\rho}$) _{x,e}	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _{r,t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.167	.00456	.000325	.0000089	.166	.00455	8.40					10901.	10910.	10900.	10900.	10900.	10900.
M ₁ .001072	.167	.00513	.000348	.0000107	.166	.00513	8.35					9251.	9250.	9250.	9250.	9250.	9250.
.0015	.166	.00864	.000484	.0000252	.166	.00859	7.97					11601.	11600.	11600.	11600.	11600.	11600.
.002	.166	.0131	.000645	.0000508	.165	.0130	7.50					4731.	4730.	4730.	4730.	4730.	4730.
.003	.165	.0215	.000959	.000124	.164	.0213	6.50					2221.	2220.	2220.	2220.	2220.	2220.
.004	.165	.0290	.00127	.000223	.163	.0288	5.70					755.	755.	755.	755.	755.	755.
L _{III} .004557	.164	.0327	.00144	.000286	.163	.0324	5.27					354.	354.	354.	354.	354.	354.
L _I .004852	.164	.0346	.00153	.000322	.163	.0343	5.08					255.	255.	255.	255.	255.	255.
.005	.164	.0355	.00157	.000340	.162	.0352	4.98					876.	876.	876.	876.	876.	876.
L _{II} .005188	.164	.0366	.00163	.000364	.162	.0363	4.89					717.	721.	717.	717.	717.	717.
.006	.163	.0412	.00187	.000472	.162	.0408	4.40					992.	997.	992.	992.	992.	992.
.008	.162	.0513	.00245	.000778	.160	.0503	3.46					914.	921.	921.	916.	916.	921.
.01	.161	.0598	.00302	.00112	.158	.0589	2.82					844.	845.	845.	840.	840.	845.
.015	.158	.0759	.00438	.00210	.154	.0740	1.85					864.	864.	864.	863.	863.	864.
.02	.155	.0869	.00560	.00313	.150	.0835	1.31					654.	654.	655.	650.	650.	653.
.03	.150	.0997	.00783	.00517	.142	.0944	.740					301.	304.	304.	301.	301.	281.
K.03317	.149	.102	.00845	.00579	.140	.0963	.636					161.	154.	165.	162.	162.	154.
.04	.146	.106	.00973	.00707	.136	.0992	.479					51.2	50.3	55.1	53.2	53.2	51.3
.05	.141	.110	.0114	.00888	.130	.101	.340					24.0	23.3	25.3	24.1	24.0	23.3
.06	.137	.112	.0129	.0105	.124	.102	.253					1.59	1.45	1.45	1.69	1.59	1.45
.08	.130	.112	.0152	.0131	.115	.0987	.153					5.70	5.60	6.45	5.79	5.70	5.60
.1	.124	.111	.0171	.0153	.107	.0954	.101					35.8	12.6	36.5	35.9	35.8	12.6
.15	.112	.105	.0203	.0190	.0911	.0859	.0475					21.5	9.7	22.1	21.6	21.5	9.7
.2	.102	.0978	.0221	.0211	.0802	.0764	.0275					11.8	5.74	12.2	11.9	11.9	6.74
.3	.0888	.0869	.0240	.0234	.0650	.0636	.0125					1.17	1.60	1.55	1.26	1.17	4.61
.4	.0797	.0783	.0247	.0241	.0551	.0541	.00712					3.23	2.38	3.49	3.34	3.24	2.37
.5	.0726	.0721	.0248	.0244	.0479	.0475	.00460					1.73	1.38	1.94	1.84	1.78	1.37
.6	.0674	.0669	.0247	.0243	.0426	.0426	.00319					.555	.475	.707	.680	.574	.494
.8	.0589	.0589	.0242	.0236	.0349	.0353	.00180					.247	.220	.372	.345	.269	.241
1.	.0532	.0527	.0234	.0224	.0298	.0303	.00116					.0793	.0736	.178	.166	.103	.0988
1.5	.0431	.0430	.0214	.0206	.0218	.0224	.000522	.000807				.0373	.0353	.123	.116	.0622	.0593
2.	.0368	.0367	.0196	.0186	.0173	.0181	.000294	.00280				.0209	.0200	.0978	.0930	.0457	.0444
3.	.0290	.0289	.0167	.0155	.0122	.0134	.000132	.00721	.0000101			.0134	.0129	.0835	.0802	.0381	.0373
4.	.0242	.0242	.0147	.0133	.00945	.0109	.0000740	.0114	.0000416			.00679	.00660	.0674	.0655	.0309	.0302
5.	.0209	.0209	.0131	.0116	.00778	.00930	.0000484	.0148	.0000816	.000807	.000247	.00200	.00197	.0464	.0458	.0242	.0229
6.	.0185	.0185	.0119	.0103	.00664	.00821	.0000339	.0177	.000127	.00280	.00130	.00123	.00122	.0411	.0408	.0236	.0211
8.	.0151	.0151	.0101	.00831	.00503	.00679	.0000187	.0223	.000215	.00445	.00045	.000664	.000660	.0369	.0368	.0246	.0206
10.	.0129	.0129	.00878	.00683	.00407	.00603	.0000115	.0261	.000294	.00778	.00078	.000635	.000432	.0362	.0361	.0265	.0215
15.	.00954	.00954	.00674	.00494	.00276	.00459	.0000053	.0338	.000461	.000484	.000484	.000324	.000322	.0362	.0361	.0264	.0226
20.	.00764	.00764	.00555	.00378	.00209	.00386		.0394	.000584	.000584	.000584	.000256	.000255	.0365	.0365	.0299	.0236
30.	.00555	.00555	.00416	.00244	.00140	.00311		.0471	.000759	.000759	.000759	.000179	.000179	.0378	.0378	.0327	.0254
40.	.00442	.00442	.00336	.00173	.00104	.00270		.0522	.000892	.000892	.000892	.000138	.000138	.0394	.0394	.0333	.0270
50.	.00369	.00369	.00284	.00131	.000850	.00238		.0565	.000982	.000982	.000982	.0000869	.0000869	.0439	.0439	.0411	.0300
60.	.00318	.00318	.00247	.00103	.000712	.00215		.0593	.00106	.00106	.00106	.0000626	.0000626	.0475	.0475	.0456	.0311
80.	.00251	.00251	.00197	.000698	.000536	.00181		.0641	.00118	.00118	.00118	.0000408	.0000408	.0536	.0536	.0522	.0322
100.	.00208	.00208	.00165	.000508	.000430	.00158		.0674	.00126	.00126	.00126	.0000299	.0000299	.0574	.0574	.0565	.0317
												.0000237	.0000237	.0612	.0612	.0603	.0311
												.0000195	.0000195	.0636	.0636	.0626	.0303
												.0000143	.0000143	.0674	.0674	.0669	.0294
												.0000113	.0000113	.0707	.0707	.0707	.0282

54 XENON
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xc}	$\sigma_{x,t}$	$\sigma_{x,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	35.8	.980	.0697	.00191	35.7	.978	1840					2090000.	2090000.	2090000.	2090000.	2090000.	2090000.
N _I .001143	35.8	1.23	.0796	.00274	35.7	1.23	1810.					1810000.	1810000.	1810000.	1810000.	1810000.	1810000.
												2250000.	2250000.	2250000.	2250000.	2250000.	2250000.
.0015	35.7	1.87	.104	.00545	35.6	1.86	1740.					1090000.	1090000.	1090000.	1090000.	1090000.	1090000.
.002	35.6	2.81	.138	.0109	35.5	2.80	1640.					510000.	510000.	512000.	510000.	510000.	510000.
.003	35.5	4.63	.206	.0268	35.3	4.60	1420.					174000.	174000.	175000.	174000.	174000.	174000.
.004	35.4	6.26	.272	.0482	35.1	6.21	1240.					80900.	80900.	82100.	80900.	80900.	80900.
L _{III} .004782	35.3	7.38	.323	.0677	34.9	7.31	1120.					50400.	50400.	51500.	50400.	50400.	50400.
												175000.	154000.	174000.	175000.	175000.	154000.
.005	35.2	7.67	.337	.0735	34.9	7.60	1090.					151000.	134000.	152000.	151000.	151000.	134000.
L _{II} .005102	35.2	7.80	.344	.0762	34.9	7.72	1070.					142000.	126000.	143000.	142000.	142000.	126000.
												196000.	174000.	197000.	196000.	196000.	174000.
L _I .005445	35.2	8.23	.366	.0857	34.8	8.14	1030.					167000.	149000.	168000.	167000.	167000.	149000.
												192000.	171000.	193000.	192000.	192000.	171000.
.006	35.1	8.90	.402	.102	34.7	8.80	961.					147000.	133000.	148000.	147000.	147000.	133000.
.008	34.8	11.0	.527	.167	34.3	10.8	762.					69200.	63200.	69000.	68200.	68200.	63200.
.01	34.6	12.8	.648	.240	33.9	12.6	618.					36800.	34700.	37400.	36800.	36800.	34700.
.015	34.0	16.3	.939	.451	33.0	15.8	404.					12000.	11500.	12000.	12000.	12000.	11500.
.02	33.4	18.6	1.20	.671	32.2	17.9	288.					5420.	5260.	5730.	5440.	5420.	5260.
.03	32.3	21.3	1.68	1.11	30.6	20.2	163.					1730.	1700.	1910.	1750.	1730.	1700.
K.034561	31.8	22.1	1.87	1.30	29.9	20.8	132.					1160.	1140.	1310.	1180.	1160.	1140.
												7200.	7350.	7350.	7220.	7200.	7350.
.04	31.2	22.8	2.08	1.52	29.2	21.3	106.					4850.	2120.	4980.	4870.	4850.	2120.
.05	30.3	23.6	2.45	1.90	27.9	21.7	74.9					2660.	1460.	2760.	2680.	2660.	1460.
.06	29.5	23.9	2.76	2.24	26.7	21.7	55.7					1620.	1010.	1700.	1640.	1620.	1010.
.08	27.9	24.0	3.27	2.81	24.7	21.2	33.7					730.	525.	788.	754.	733.	528.
.1	26.6	23.7	3.67	3.27	22.9	20.4	22.3					390.	302.	436.	414.	394.	305.
.15	24.0	22.5	4.35	4.08	19.6	18.4	10.5					126.	107.	159.	149.	130.	111.
.2	21.9	21.0	4.74	4.54	17.2	16.5	6.08					56.1	49.8	83.2	77.1	60.8	54.3
.3	19.1	18.6	5.15	5.01	13.9	13.6	2.77					18.1	16.7	39.5	36.7	23.3	21.7
.4	17.1	16.8	5.30	5.17	11.8	11.6	.57					8.50	8.02	26.9	25.3	13.8	13.2
.5	15.6	15.4	5.33	5.22	10.3	10.2	.02					4.78	4.56	21.2	20.2	10.1	9.78
.6	14.4	14.3	5.31	5.21	9.14	9.09	.706					3.07	2.95	18.1	17.4	8.38	8.16
.8	12.7	12.6	5.19	5.04	7.50	7.56	.400					1.56	1.52	14.6	14.2	6.75	6.56
1.	11.4	11.4	5.02	4.84	6.39	6.55	.257					.980	.958	12.6	12.4	6.00	5.80
1.5	9.27	9.24	4.58	4.43	4.68	4.81	.115	.179		.179	.0548	.460	.453	9.99	9.88	5.22	4.94
2.	7.90	7.89	4.19	3.98	3.71	3.91	.0651	.620		.620	.286	.280	.277	8.86	8.79	5.09	4.54
3.	6.22	6.21	3.59	3.31	2.63	2.90	.0291	1.58	.00217	1.58	.975	.151	.150	7.97	7.94	5.32	4.44
4.	5.19	5.19	3.15	2.85	2.04	2.34	.0164	2.50	.00893	2.51	1.71	.0993	.0987	7.82	7.80	5.76	4.66
5.	4.49	4.49	2.82	2.49	1.67	2.00	.0107	3.23	.0175	3.25	2.33	.0741	.0738	7.82	7.81	6.14	4.89
6.	3.96	3.96	2.55	2.19	1.41	1.77	.00747	3.85	.0272	3.88	2.85	.0587	.0585	7.91	7.90	6.49	5.10
8.	3.24	3.24	2.16	1.78	1.08	1.46	.00415	4.84	.0460	4.89	3.67	.0410	.0409	8.18	8.17	7.09	5.49
10.	2.76	2.76	1.89	1.46	.874	1.30	.00256	5.70	.0630	5.76	4.35	.0317	.0316	8.55	8.55	7.68	5.84
15.	2.04	2.04	1.45	1.05	.593	.985	.00116	7.40	.0990	7.50	5.44	.0199	.0199	9.56	9.56	8.97	6.51
20.	1.64	1.64	1.19	.807	.449	.833		8.60	.125	8.73	5.91	.0145	.0145	10.4	10.4	9.93	6.73
30.	1.19	1.19	.893	.521	.302	.669			.162	10.5	6.47	.00939	.00938	11.7	11.7	11.4	7.00
40.	.949	.949	.721	.370	.228	.579			.191	11.6	6.50	.00690	.00690	12.6	12.6	12.3	6.88
50.	.793	.793	.610	.281	.183	.512			.211	12.5	6.44	.00541	.00541	13.3	13.3	13.1	6.73
60.	.683	.683	.530	.220	.153	.463			.227	13.2	6.38	.00445	.00445	13.9	13.9	13.7	6.60
80.	.538	.538	.423	.149	.115	.389			.252	14.3	6.21	.00328	.00328	14.8	14.8	14.7	6.36
100.	.447	.447	.355	.109	.0922	.338			.270	15.1	6.03	.00257	.00257	15.5	15.5	15.5	6.14

54 XENON
(cm²/g = 0.004587 x barns/atom)

E (MeV)	($\frac{\sigma}{\sigma_0}$) _{inc,t} ^{KN}	($\frac{\sigma}{\sigma_0}$) _{inc,t} ^{BD}	($\frac{\sigma}{\sigma_0}$) _{inc,a} ^{KN}	($\frac{\sigma}{\sigma_0}$) _{inc,a} ^{BD}	($\frac{\sigma}{\sigma_0}$) _{inc,s} ^{KN}	($\frac{\sigma}{\sigma_0}$) _{inc,s} ^{BD}	($\frac{\sigma}{\sigma_0}$) _{coh}	($\frac{\sigma}{\sigma_0}$) _{xn}	($\frac{\sigma}{\sigma_0}$) _{xe}	($\frac{\sigma}{\sigma_0}$) _{x,t}	($\frac{\sigma}{\sigma_0}$) _{x,a}	($\frac{\sigma}{\sigma_0}$) _{r,t}	($\frac{\sigma}{\sigma_0}$) _{r,a}	($\frac{\sigma}{\sigma_0}$) _{tot,t}	($\frac{\sigma}{\sigma_0}$) _{tot,t-coh}	($\frac{\sigma}{\sigma_0}$) _{tot,a}	($\frac{\sigma}{\sigma_0}$) _{tot,er}
.001	.164	.00450	.000320	.00000880	.164	.00449	8.44					9590.	9590.	9590.	9590.	9590.	9590.
E _I .001143	.164	.00564	.000365	.0000126	.164	.00564	8.30					8300.	8300.	8300.	8300.	8300.	8300.
.0015	.164	.00858	.000477	.0000250	.163	.00853	7.98					10300.	10300.	10300.	10300.	10300.	10300.
.002	.163	.0129	.000633	.0000500	.163	.0128	7.52					5000.	5000.	5000.	5000.	5000.	5000.
.003	.163	.0212	.000945	.000123	.162	.0211	6.51					2340.	2340.	2350.	2340.	2340.	2340.
.004	.162	.0287	.00125	.000221	.161	.0285	5.69					798.	798.	803.	798.	798.	798.
L _{III} .004782	.162	.0339	.00148	.000311	.160	.0335	5.14					371.	371.	377.	371.	371.	371.
.005	.161	.0352	.00155	.000337	.160	.0349	5.00					231.	231.	236.	231.	231.	231.
L _{II} .005102	.161	.0358	.00158	.000350	.160	.0354	4.91					803.	706.	807.	803.	803.	706.
L _I .005445	.161	.0378	.00168	.000393	.160	.0373	4.72					693.	615.	697.	693.	615.	615.
.006	.161	.0408	.00184	.000468	.159	.0404	4.41					693.	578.	696.	651.	578.	578.
.008	.160	.0505	.00242	.000766	.157	.0495	3.50					899.	748.	904.	899.	798.	798.
.01	.159	.0587	.00297	.00110	.155	.0578	2.83					766.	683.	771.	766.	683.	683.
.015	.158	.0748	.00431	.00207	.151	.0725	1.85					881.	784.	885.	881.	784.	784.
.02	.153	.0853	.00550	.00308	.148	.0821	1.32					674.	610.	679.	674.	610.	610.
.03	.148	.0977	.00771	.00509	.140	.0927	.748					313.	290.	317.	313.	290.	290.
K.034561	.148	.101	.00858	.00596	.137	.0954	.605					169.	159.	172.	169.	159.	159.
.04	.143	.105	.00954	.00697	.134	.0977	.486					95.0	52.9	96.9	55.0	55.0	52.8
.05	.139	.108	.0112	.00872	.128	.0995	.344					24.9	24.1	26.3	25.0	24.9	24.1
.06	.135	.110	.0127	.0103	.122	.0995	.259					7.94	7.30	8.76	8.03	7.94	7.80
.08	.128	.110	.0150	.0129	.113	.0972	.155					4.32	5.23	6.01	5.41	5.32	5.23
.1	.122	.109	.0168	.0150	.105	.0936	.102					33.0	11.5	33.7	33.1	33.0	11.5
.15	.110	.103	.0200	.0187	.0899	.0844	.0482					22.2	9.72	22.8	22.3	22.2	9.72
.2	.100	.0963	.0217	.0208	.0789	.0757	.0279					12.2	6.70	12.7	12.3	12.2	6.70
.3	.0876	.0853	.0236	.0230	.0638	.0624	.0127					7.43	4.53	7.80	7.52	7.43	4.63
.4	.0784	.0771	.0243	.0237	.0541	.0532	.00720					3.35	2.41	3.61	3.46	3.36	2.42
.5	.0716	.0706	.0244	.0239	.0472	.0468	.00468					1.79	1.39	2.00	1.90	1.81	1.40
.6	.0661	.0656	.0244	.0239	.0419	.0417	.00324					.578	.491	.729	.683	.596	.509
.8	.0583	.0578	.0238	.0231	.0344	.0347	.00183					.257	.228	.382	.354	.279	.249
1.	.0523	.0523	.0230	.0222	.0293	.0300	.00118					.0830	.0766	.181	.168	.107	.0993
1.5	.0425	.0424	.0210	.0203	.0215	.0221	.000528	.000821	.000821	.000251		.0390	.0368	.123	.116	.0633	.0505
2.	.0362	.0362	.0192	.0183	.0170	.0179	.000299	.00284	.00284	.00131		.0219	.0209	.0972	.0927	.0463	.0449
3.	.0285	.0285	.0165	.0152	.0121	.0133	.000133	.00725	.0000995	.00447		.0141	.0135	.0830	.0798	.0384	.0374
4.	.0238	.0238	.0144	.0131	.00936	.0107	.0000752	.0115	.0000410	.0115		.00716	.06697	.0670	.0651	.0310	.0301
5.	.0206	.0206	.0129	.0114	.00766	.00917	.0000491	.0148	.0000803	.0149		.00450	.00439	.0578	.0569	.0275	.0266
6.	.0182	.0182	.0117	.0100	.00647	.00812	.0000343	.0177	.000125	.0178		.00211	.00208	.0458	.0453	.0239	.0227
8.	.0149	.0149	.00991	.00816	.00495	.00670	.0000190	.0222	.000211	.0224		.00128	.00127	.0406	.0403	.0233	.0204
10.	.0127	.0127	.00867	.00670	.00411	.00596	.0000117	.0261	.000289	.0264		.000693	.000688	.0366	.0364	.0244	.0204
15.	.00936	.00936	.00665	.00482	.00272	.00452	.0000053	.0339	.000454	.0344		.000455	.000453	.0359	.0358	.0264	.0214
20.	.00752	.00752	.00546	.00370	.00246	.00382		.0394	.000573	.0400		.000340	.000339	.0359	.0358	.0282	.0224
30.	.00546	.00546	.00410	.00239	.00139	.00307		.0472	.000743	.0482		.000269	.000268	.0363	.0362	.0298	.0234
40.	.00435	.00435	.00331	.00170	.00105	.00266		.0523	.000876	.0532		.000188	.000188	.0375	.0375	.0325	.0252
50.	.00364	.00364	.00280	.00129	.000839	.00235		.0564	.000968	.0573		.000145	.000145	.0392	.0392	.0352	.0266
60.	.00313	.00313	.00243	.00101	.000702	.00212		.0596	.00104	.0605		.0000913	.0000913	.0439	.0439	.0411	.0299
80.	.00247	.00247	.00194	.000683	.000528	.00178		.0642	.00116	.0654		.0000665	.0000665	.0477	.0477	.0455	.0309
100.	.00205	.00205	.00163	.000500	.000423	.00155		.0679	.00124	.0693		.0000431	.0000430	.0537	.0537	.0523	.0321
												.0000317	.0000317	.0578	.0578	.0564	.0316
												.0000248	.0000248	.0610	.0610	.0601	.0309
												.0000204	.0000204	.0638	.0638	.0628	.0303
												.0000150	.0000150	.0679	.0679	.0674	.0292
												.0000118	.0000118	.0711	.0711	.0711	.0282

55 CESIUM
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	36.4	1.31	.0710	.00255	36.4	1.31	1830.					2070000.	2070000.	2070000.	2070000.	2070000.	2070000.
M _{II} .001065	36.4	1.43	.0756	.00297	36.4	1.43	1870.					1900000.	1900000.	1900000.	1900000.	1900000.	1900000.
M _I .001217	36.4	1.69	.0863	.00400	36.3	1.69	1890.					2270000.	2270000.	2270000.	2270000.	2270000.	2270000.
.0015	36.4	2.19	.106	.00639	36.3	2.18	1790.					1680000.	1680000.	1680000.	1680000.	1680000.	1680000.
.002	36.3	3.10	.141	.0120	36.2	3.09	1630.					2070000.	2070000.	2070000.	2070000.	2070000.	2070000.
.003	36.2	4.87	.210	.0282	36.0	4.84	1470.					1190000.	1190000.	1190000.	1190000.	1190000.	1190000.
.004	36.0	6.49	.277	.0499	35.7	6.44	1230.					554000.	554000.	554000.	554000.	554000.	554000.
.005	35.9	7.91	.344	.0758	35.5	7.83	1120.					189000.	189000.	189000.	189000.	189000.	189000.
L _{III} .005012	35.9	7.93	.345	.0761	35.5	7.85	1120.					88200.	88200.	88200.	88200.	88200.	88200.
L _{II} .005360	35.8	8.38	.367	.0859	35.5	8.29	1070.					48400.	48400.	48400.	48400.	48400.	48400.
L _I .005713	35.8	8.81	.391	.0961	35.4	8.71	1030.					48300.	48300.	48300.	48300.	48300.	48300.
.006	35.7	9.15	.409	.105	35.3	9.05	992.					165000.	165000.	165000.	165000.	165000.	165000.
.008	35.5	11.3	.537	.171	34.9	11.1	749.					133000.	133000.	133000.	133000.	133000.	133000.
.01	35.2	13.1	.660	.245	34.6	12.9	621.					184000.	184000.	184000.	184000.	184000.	184000.
.015	34.6	18.5	.956	.456	33.6	16.0	479.					157000.	157000.	157000.	157000.	157000.	157000.
.02	34.0	18.9	1.23	.682	32.8	18.2	299.					181000.	181000.	181000.	181000.	181000.	181000.
.03	32.9	21.6	1.71	1.12	31.2	20.5	170.					158000.	158000.	158000.	158000.	158000.	158000.
K.035985	32.2	22.6	1.97	1.38	30.3	21.2	110.					72900.	72900.	72900.	72900.	72900.	72900.
.04	31.8	23.1	2.12	1.54	29.7	21.6	1.0.					39400.	39400.	39400.	39400.	39400.	39400.
.05	30.9	23.9	2.49	1.93	28.4	22.0	78.2					13000.	12500.	13000.	13000.	13000.	12500.
.06	30.0	24.3	2.82	2.28	27.2	22.0	58.2					5850.	5660.	6170.	5870.	5840.	5660.
.08	28.4	24.4	3.33	2.86	25.1	21.5	35.3					1880.	1840.	2070.	1900.	1840.	1840.
.1	27.1	24.1	3.74	3.33	23.4	20.8	23.4					1120.	1100.	1270.	1140.	1120.	1100.
.15	24.4	22.9	4.43	4.16	20.0	18.7	1.0					6890.	2380.	7040.	6910.	6890.	2380.
.2	22.4	21.4	4.83	4.63	17.5	16.8	6.36					5190.	2130.	5320.	5210.	5190.	2130.
.3	19.4	19.0	5.24	5.12	14.2	13.9	2.89					2850.	1510.	2950.	2870.	2850.	1510.
.4	17.4	17.1	5.40	5.27	12.0	11.8	1.64					1730.	1050.	1810.	1750.	1730.	1050.
.5	15.9	15.7	5.42	5.32	10.5	10.4	1.06					780.	550.	840.	804.	783.	553.
.6	14.7	14.6	5.41	5.31	9.31	9.29	.740					419.	320.	466.	443.	423.	323.
.8	12.9	12.8	5.28	5.12	7.64	7.68	.419					135.	114.	169.	158.	139.	118.
1.	11.6	11.6	5.11	4.93	6.51	6.67	.270					60.0	52.9	87.8	81.4	64.8	57.5
1.5	9.44	9.41	4.67	4.51	4.77	4.90	.121	.187	.187	.0572		19.5	18.0	41.4	38.5	24.7	23.1
2.	8.85	8.84	4.27	4.05	3.78	3.99	.0682	.645	.645	.297		9.5	8.66	27.9	26.3	14.6	13.9
3.	8.33	8.32	3.65	3.37	2.68	2.95	.0306	1.64	.00222	1.64	1.01	9.20	8.66	27.9	26.3	14.6	13.9
4.	5.29	5.29	2.21	2.00	2.08	2.39	.0171	2.59	.00910	2.60	1.76	5.17	4.93	21.9	20.9	10.6	10.3
5.	4.57	4.57	2.87	2.53	1.70	2.04	.0111	3.36	.0178	3.38	2.42	3.33	3.20	18.7	17.9	8.74	8.51
6.	4.04	4.04	2.60	2.23	1.44	1.81	.00779	4.00	.0277	4.03	2.96	3.33	3.20	18.7	17.9	8.74	8.51
8.	3.30	3.30	2.20	1.81	1.10	1.49	.00436	5.01	.0470	5.06	3.79	1.70	1.65	14.9	14.5	6.98	6.77
10.	2.81	2.81	1.92	1.49	.890	1.32	.00270	5.90	.0641	5.96	4.49	1.06	1.04	12.9	12.7	6.17	5.97
15.	2.08	2.08	1.48	1.07	.504	1.01	.00120	7.65	.100	7.75	5.61	.0214	.0214	9.85	9.85	4.25	4.01
20.	1.67	1.67	1.21	.818	.457	.852		8.90	.127	9.03	6.09	.0155	.0155	10.7	10.7	10.3	6.92
30.	1.22	1.22	.909	.532	.307	.688		10.7	.165	10.9	6.68	.0101	.0101	12.1	12.1	11.8	7.22
40.	.967	.967	.735	.376	.232	.591		11.8	.194	12.0	6.70	.00741	.00741	13.0	13.0	12.7	7.08
50.	.807	.807	.621	.285	.186	.522		12.8	.215	13.0	6.66	.00587	.00587	13.8	13.8	13.6	6.95
60.	.695	.695	.540	.223	.156	.472		13.4	.231	13.6	6.53	.00482	.00482	14.3	14.3	14.1	6.74
80.	.548	.548	.431	.151	.117	.397		14.5	.257	14.8	6.40	.00354	.00354	15.4	15.4	15.2	6.55
100.	.455	.455	.362	.111	.0939	.344		15.3	.275	15.6	6.18	.00278	.00278	16.1	16.1	16.0	6.29

55 CESIUM
(cm²/g = 0.004531 x barns/atom)

E (MeV)	($\frac{\sigma}{\sigma_0}$) _{KN inc, t}	($\frac{\sigma}{\sigma_0}$) _{BD inc, t}	($\frac{\sigma}{\sigma_0}$) _{KN inc, a}	($\frac{\sigma}{\sigma_0}$) _{BD inc, a}	($\frac{\sigma}{\sigma_0}$) _{KN inc, s}	($\frac{\sigma}{\sigma_0}$) _{BD inc, s}	($\frac{\sigma}{\sigma_0}$) _{coh}	($\frac{\sigma}{\sigma_0}$) _{xn}	($\frac{\sigma}{\sigma_0}$) _{xe}	($\frac{\sigma}{\sigma_0}$) _{x, t}	($\frac{\sigma}{\sigma_0}$) _{x, a}	($\frac{\sigma}{\sigma_0}$) _{r, t}	($\frac{\sigma}{\sigma_0}$) _{r, a}	($\frac{\sigma}{\sigma_0}$) _{tot, t}	($\frac{\sigma}{\sigma_0}$) _{tot, t-coh}	($\frac{\sigma}{\sigma_0}$) _{tot, a}	($\frac{\sigma}{\sigma_0}$) _{tot, en}
.001	.165	.00594	.000322	.0000116	.165	.00594	8.52					9380.	9380.	9380.	9380.	9380.	9380.
.001065	.165	.00648	.000343	.0000135	.165	.00648	8.47					8610.	8610.	8610.	8610.	8610.	8610.
.001217	.165	.00766	.000391	.0000181	.164	.00766	8.34					10300.	10300.	10300.	10300.	10300.	10300.
.0015	.165	.00992	.000480	.0000290	.164	.00988	8.11					7610.	7610.	7610.	7610.	7610.	7610.
.002	.164	.0140	.000639	.0000544	.164	.0140	7.61					9380.	9380.	9380.	9380.	9380.	9380.
.003	.164	.0221	.000952	.000128	.163	.0219	6.66					5390.	5390.	5390.	5390.	5390.	5390.
.004	.163	.0294	.00126	.000226	.162	.0292	5.80					2510.	2510.	2520.	2510.	2510.	2510.
.005	.163	.0358	.00156	.000343	.161	.0355	5.07					856.	856.	861.	856.	856.	856.
.005012	.163	.0359	.00156	.000345	.161	.0356	5.07					403.	400.	406.	400.	400.	400.
.005360	.162	.0380	.00166	.000389	.161	.0376	4.85					220.	220.	225.	220.	220.	220.
.005713	.162	.0399	.00177	.000435	.160	.0395	4.67					219.	219.	224.	219.	219.	219.
.006	.162	.0415	.00185	.000476	.160	.0410	4.49					748.	657.	752.	748.	748.	748.
.008	.161	.0512	.00243	.000775	.158	.0503	3.57					603.	535.	607.	603.	603.	603.
.01	.159	.0594	.00299	.00111	.157	.0584	2.90					834.	734.	838.	834.	834.	834.
.015	.157	.0748	.00433	.00207	.152	.0725	1.90					711.	634.	716.	711.	711.	711.
.02	.154	.0856	.00557	.00309	.149	.0825	1.35					820.	729.	825.	820.	820.	820.
.03	.149	.0979	.00775	.00507	.141	.0929	.770					716.	639.	720.	716.	716.	716.
.035985	.146	.102	.00893	.00625	.137	.0961	.589					330.	304.	334.	330.	330.	304.
.04	.144	.105	.00961	.00698	.135	.0979	.498					179.	167.	182.	179.	179.	167.
.05	.140	.108	.0113	.00874	.129	.0997	.354					58.9	56.6	60.7	58.9	58.9	56.6
.06	.136	.110	.0128	.0103	.123	.0997	.264					26.5	25.6	28.0	26.6	26.5	25.6
.08	.129	.111	.0151	.0130	.114	.0974	.160					8.52	8.34	9.38	8.61	8.52	8.34
.1	.123	.109	.0169	.0151	.106	.0942	.104					5.37	4.98	5.75	5.17	5.07	4.98
.15	.111	.104	.0201	.0188	.0906	.0847	.0498					31.2	10.8	31.9	31.3	31.2	10.8
.2	.101	.0970	.0219	.0210	.0793	.0761	.0288					23.5	9.65	24.1	23.6	23.5	9.65
.3	.0879	.0861	.0237	.0232	.0643	.0630	.0131					12.9	6.84	13.4	13.0	12.9	6.84
.4	.0786	.0775	.0245	.0239	.0544	.0535	.00743					7.84	4.76	8.20	7.93	7.84	4.76
.5	.0720	.0711	.0246	.0241	.0476	.0471	.00480					3.53	2.49	3.81	3.64	3.55	2.51
.6	.0666	.0662	.0245	.0241	.0422	.0421	.00335					1.90	1.45	2.11	2.01	1.92	1.46
.8	.0584	.0580	.0239	.0232	.0346	.0348	.00190					.812	.517	.766	.716	.638	.535
1.	.0526	.0526	.0232	.0223	.0295	.0302	.00122					.272	.240	.398	.369	.294	.261
1.5	.0428	.0426	.0212	.0204	.0216	.0222	.000548	.000847	.000847	.000259		.0884	.0816	.188	.174	.112	.105
2.	.0365	.0364	.0193	.0184	.0171	.0181	.000309	.00292	.00292	.00135		.0417	.0392	.126	.119	.0662	.0630
3.	.0287	.0286	.0165	.0153	.0121	.0134	.000139	.00743	.00743	.00458		.0234	.0223	.0992	.0947	.0480	.0467
4.	.0240	.0240	.0145	.0131	.00942	.0108	.0000775	.0117	.0000412	.0116		.0151	.0145	.0847	.0811	.0396	.0386
5.	.0207	.0207	.0130	.0115	.00776	.00924	.0000563	.0152	.0000807	.0153		.00770	.00748	.0675	.0657	.0316	.0307
6.	.0183	.0183	.0118	.0101	.00652	.00820	.0000353	.0181	.000126	.0183		.00480	.00471	.0584	.0575	.0288	.0271
8.	.0150	.0150	.00997	.00820	.00498	.00675	.0000198	.0227	.000213	.0229		.00227	.00223	.0462	.0458	.0243	.0239
10.	.0127	.0127	.00870	.00675	.00473	.00598	.0000122	.0267	.000290	.0270		.00139	.00137	.0411	.0407	.0237	.0231
15.	.00942	.00942	.00671	.00485	.00274	.00458	.0000054	.0347	.000453	.0351		.000748	.000743	.0370	.0368	.0247	.0246
20.	.00757	.00757	.00548	.00371	.00207	.00386		.0403	.000575	.0409		.000489	.000485	.0363	.0362	.0268	.0264
30.	.00553	.00553	.00412	.00241	.00139	.00312		.0485	.000748	.0494		.000367	.000365	.0364	.0364	.0287	.0288
40.	.00438	.00438	.00333	.00170	.00105	.00268		.0535	.000879	.0544		.000289	.000288	.0369	.0368	.0303	.0303
50.	.00366	.00366	.00281	.00129	.000843	.00237		.0580	.000974	.0589		.000201	.000201	.0381	.0381	.0331	.0331
60.	.00315	.00315	.00245	.00101	.000747	.00214		.0607	.00105	.0616		.000155	.000155	.0399	.0399	.0358	.0358
80.	.00248	.00248	.00195	.000584	.000530	.00180		.0657	.00116	.0671		.0000970	.0000970	.0446	.0446	.0419	.0419
100.	.00206	.00206	.00164	.000503	.000425	.00156		.0693	.00125	.0707		.0000702	.0000702	.0485	.0485	.0467	.0467
												.0000458	.0000458	.0548	.0548	.0535	.0535
												.0000336	.0000336	.0589	.0589	.0575	.0575
												.0000266	.0000266	.0625	.0625	.0616	.0616
												.0000218	.0000218	.0648	.0648	.0639	.0639
												.0000180	.0000180	.0698	.0698	.0689	.0689
												.0000126	.0000126	.0729	.0729	.0725	.0725

56 BARIUM
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	$\sigma_{xe,t}$	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	37.1	1.56	.0723	.00304	37.0	1.56	1945.					2220000.	2220000.	2220000.	2220000.	2220000.	2220000.
M _{III} .001061	37.1	1.67	.0767	.00345	37.0	1.67	1930.					1930000.	1930000.	1930000.	1930000.	1930000.	1930000.
M _{II} .001135	37.1	1.81	.0820	.00400	37.0	1.81	1915.					2220000.	2220000.	2220000.	2220000.	2220000.	2220000.
M _I .001291	37.1	2.11	.0931	.00530	37.0	2.10	1885.					1760000.	1760000.	1760000.	1760000.	1760000.	1760000.
.0015	37.0	2.50	.108	.00729	36.9	2.49	1835.					2100000.	2100000.	2100000.	2100000.	2100000.	2100000.
.002	37.0	3.40	.143	.0132	36.8	3.39	1725.					1560000.	1560000.	1560000.	1560000.	1560000.	1560000.
.003	36.8	5.14	.213	.0298	36.6	5.11	1515.					1930000.	1930000.	1930000.	1930000.	1930000.	1930000.
.004	36.7	6.75	.282	.0519	36.4	6.70	1325.					1290000.	1290000.	1290000.	1290000.	1290000.	1290000.
.005	36.5	8.17	.350	.0783	36.2	8.09	1165.					603000.	603000.	605000.	603000.	603000.	603000.
L _{III} .005247	36.5	8.50	.367	.0853	36.1	8.41	1125.					203000.	203000.	205000.	203000.	203000.	203000.
L _{II} .005623	36.5	8.97	.392	.0963	36.1	8.87	1075.					95200.	95200.	96500.	95200.	95200.	95200.
L _I .005987	36.4	9.41	.416	.107	36.0	9.30	1025.					52400.	52400.	53600.	52400.	52400.	52400.
.006	36.4	9.42	.417	.108	36.0	9.31	1025.					46300.	46300.	47400.	46300.	46300.	46300.
.008	36.1	11.5	.547	.174	35.6	11.3	815.					156000.	136000.	157000.	156000.	156000.	136000.
.01	35.9	13.3	.672	.249	35.2	13.1	665.					126000.	111000.	127000.	126000.	126000.	111000.
.015	35.2	16.8	.974	.465	34.2	16.3	435.					174000.	153000.	175000.	174000.	174000.	153000.
.02	34.6	19.2	1.25	.693	33.4	18.5	31.					148000.	131000.	149000.	148000.	148000.	131000.
.03	33.5	22.0	1.74	1.14	31.7	20.9	174.					171000.	152000.	172000.	171000.	171000.	152000.
K.037441	32.7	23.2	2.06	1.47	30.6	21.7	127.					169000.	150000.	170000.	169000.	169000.	150000.
.04	32.4	23.5	2.16	1.57	30.2	21.9	115.					78100.	71400.	78900.	78100.	78100.	71400.
.05	31.4	24.3	2.54	1.96	28.9	22.3	8.5					42400.	39500.	43100.	42400.	42400.	39500.
.06	30.6	24.7	2.87	2.32	27.7	22.4	68.8					13900.	13300.	14400.	13900.	13900.	13300.
.08	29.0	24.8	3.39	2.90	25.6	21.9	38.8					6330.	6110.	6660.	6330.	6330.	6110.
.1	27.6	24.5	3.81	3.38	23.8	21.1	28.4					2040.	1990.	2240.	2060.	2040.	1990.
.15	24.8	23.2	4.51	4.21	20.3	19.0	17.5					1090.	1070.	1240.	1110.	1090.	1070.
.2	22.8	21.8	4.92	4.71	17.8	17.1	16.5					6590.	6250.	6740.	6610.	6590.	6250.
.3	19.8	19.3	5.34	5.20	14.5	14.1	16.2					5500.	5110.	5640.	5520.	5500.	5110.
.4	17.7	17.4	5.49	5.36	12.2	12.0	17.1					3020.	1530.	3130.	3040.	3020.	1530.
.5	16.2	16.0	5.52	5.42	10.7	10.6	17.1					1850.	1090.	1940.	1870.	1850.	1090.
.6	15.0	14.8	5.50	5.39	9.48	9.41	17.4					839.	580.	901.	864.	842.	583.
.8	13.2	13.1	5.38	5.24	7.78	7.86	17.4					450.	339.	499.	474.	454.	342.
1.	11.8	11.8	5.20	5.00	6.62	6.80	17.4					145.	121.	180.	168.	150.	125.
1.5	9.61	9.58	4.75	4.59	4.86	4.99	17.4					65.0	57.0	93.4	86.8	69.9	61.7
2.	8.19	8.18	4.35	4.12	3.85	4.06	17.4					21.1	19.4	43.4	40.4	26.4	24.6
3.	6.45	6.44	3.72	3.43	2.72	3.01	17.4					9.93	9.32	29.0	27.3	15.4	14.7
4.	5.35	5.39	3.27	2.95	2.12	2.44	17.4					5.58	5.30	22.7	21.6	11.1	10.7
5.	4.65	4.65	2.92	2.57	1.73	2.08	17.4					3.41	3.46	19.2	18.4	9.11	8.85
6.	4.11	4.11	2.65	2.26	1.46	1.85	17.4					1.83	1.77	15.4	14.9	7.21	7.01
8.	3.36	3.36	2.24	1.83	1.12	1.53	17.4					1.15	1.12	13.2	12.9	6.35	6.12
10.	2.86	2.86	1.96	1.51	.907	1.35	17.4					.540	.531	10.4	10.3	5.49	5.18
15.	2.12	2.12	1.51	1.09	.615	1.03	17.4					.330	.326	9.25	9.18	5.35	4.76
20.	1.70	1.70	1.24	.831	.465	.869	17.4					.180	.179	8.36	8.33	5.61	4.66
30.	1.24	1.24	.926	.538	.313	.702	17.4					.118	.117	8.22	8.20	6.08	4.89
40.	.984	.984	.748	.381	.236	.603	17.4					.0877	.0873	8.26	8.25	6.52	5.16
50.	.822	.822	.633	.289	.189	.533	17.4					.0690	.0687	8.35	8.34	6.88	5.38
60.	.708	.708	.549	.226	.158	.482	17.4					.0483	.0482	8.66	8.66	7.54	5.80
80.	.558	.558	.439	.153	.119	.405	17.4					.0372	.0371	9.07	9.07	8.17	6.18
100.	.464	.464	.368	.112	.0956	.352	17.4					.0233	.0233	10.1	10.1	9.53	6.80
												.0169	.0169	11.1	11.1	10.6	7.18
												.0109	.0109	12.5	12.5	12.1	7.41
												.00800	.00800	13.4	13.4	13.2	7.27
												.00632	.00632	14.2	14.2	14.0	7.14
												.00520	.00520	14.8	14.8	14.7	6.96
												.00383	.00383	15.9	15.9	15.7	6.74
												.00300	.00300	16.6	16.6	16.5	6.46

56 BARIUM
(cm²/g = 0.004385 x barns/atom)

E (MeV)	($\frac{\sigma}{\rho}$) _{inc, z}	($\frac{\sigma}{\rho}$) _{inc, t}	($\frac{\sigma}{\rho}$) _{inc, a}	($\frac{\sigma}{\rho}$) _{inc, a}	($\frac{\sigma}{\rho}$) _{inc, s}	($\frac{\sigma}{\rho}$) _{inc, s}	($\frac{\sigma}{\rho}$) _{coh}	($\frac{\sigma}{\rho}$) _{xn}	($\frac{\sigma}{\rho}$) _{xe}	($\frac{\sigma}{\rho}$) _{x, t}	($\frac{\sigma}{\rho}$) _{x, a}	($\frac{\sigma}{\rho}$) _{r, t}	($\frac{\sigma}{\rho}$) _{r, a}	($\frac{\sigma}{\rho}$) _{tot, t}	($\frac{\sigma}{\rho}$) _{tot, t-coh}	($\frac{\sigma}{\rho}$) _{tot, a}	($\frac{\sigma}{\rho}$) _{tot, en}
.001	.163	.00684	.000317	.0000133	.162	.00684	8.51					9730.	9730.	9730.	9730.	9730.	9730.
M _{III} .001061	.163	.00732	.000336	.0000151	.162	.00732	8.46					8460.	8460.	8460.	8460.	8460.	8460.
M _{II} .001135	.163	.00794	.000360	.0000175	.162	.00794	8.38					9730.	9730.	9730.	9730.	9730.	9730.
M _I .001291	.163	.00925	.000408	.0000232	.162	.00921	8.24					7720.	7720.	7720.	7720.	7720.	7720.
.0015	.162	.0110	.000474	.0000320	.162	.0109	8.02					9210.	9210.	9210.	9210.	9210.	9210.
.002	.162	.0149	.000627	.0000579	.161	.0149	7.54					8460.	8460.	8460.	8460.	8460.	8460.
.003	.161	.0225	.000934	.000131	.160	.0224	6.62					5660.	5660.	5660.	5660.	5660.	5660.
.004	.161	.0296	.00124	.000228	.160	.0294	5.79					2640.	2640.	2640.	2640.	2640.	2640.
.005	.160	.0358	.00153	.000343	.159	.0355	5.09					890.	890.	890.	890.	890.	890.
L _{III} .005247	.160	.0373	.00161	.000374	.158	.0369	4.91					417.	417.	423.	417.	417.	417.
L _{II} .005623	.160	.0393	.00172	.000422	.158	.0389	4.69					230.	230.	235.	230.	230.	230.
L _I .005987	.160	.0413	.00182	.000469	.158	.0408	4.47					203.	203.	208.	203.	203.	203.
.006	.160	.0413	.00183	.000474	.158	.0408	4.47					684.	596.	688.	684.	684.	596.
.008	.158	.0504	.00240	.000763	.156	.0496	3.58					553.	487.	557.	553.	553.	487.
.01	.157	.0583	.00295	.00109	.154	.0574	2.91					763.	671.	767.	763.	763.	671.
.015	.154	.0737	.00427	.00204	.150	.0715	1.90					649.	574.	693.	649.	649.	574.
.02	.152	.0842	.00548	.00304	.146	.0811	1.36					750.	667.	754.	750.	750.	667.
.03	.147	.0965	.00763	.00500	.139	.0916	.781					741.	658.	745.	741.	741.	658.
K.037441	.143	.102	.00903	.00645	.134	.0952	.557					342.	313.	346.	342.	342.	313.
.04	.142	.103	.00947	.00688	.132	.0960	.504					184.	173.	189.	184.	184.	173.
.05	.138	.107	.0111	.00859	.127	.0978	.357					61.0	58.3	63.1	61.0	61.0	58.3
.06	.134	.108	.0126	.0102	.121	.0982	.267					27.8	26.8	29.2	27.8	27.8	26.8
.08	.127	.109	.0149	.0127	.112	.0960	.161					8.95	8.73	9.82	9.03	8.95	8.73
.1	.121	.107	.0167	.0148	.104	.0925	.107					4.69	4.69	5.44	4.87	4.78	4.69
.15	.109	.102	.0198	.0165	.0890	.0833	.0504					28.9	9.87	29.6	29.0	28.9	9.87
.2	.100	.0956	.0216	.0207	.0761	.0750	.0292					24.1	9.25	24.7	24.2	24.1	9.25
.3	.0868	.0846	.0234	.0228	.0636	.0618	.0132					13.2	6.71	13.7	13.3	13.2	6.71
.4	.0776	.0763	.0241	.0235	.0535	.0526	.00750					8.11	4.78	8.51	8.20	8.11	4.78
.5	.0710	.0702	.0242	.0238	.0469	.0465	.00487					3.58	2.54	3.95	3.79	3.69	2.56
.6	.0658	.0649	.0241	.0236	.0416	.0413	.00339					1.97	1.49	2.19	2.08	1.99	1.50
.8	.0579	.0574	.0236	.0230	.0341	.0345	.00193					.636	.531	.789	.737	.658	.548
1.	.0517	.0517	.0228	.0219	.0290	.0298	.00123					.285	.250	.410	.381	.307	.271
1.5	.0421	.0420	.0208	.0201	.0213	.0219	.000557	.000864	.000864	.000264		.0925	.0851	.190	.177	.116	.108
2.	.0359	.0359	.0191	.0181	.0169	.0178	.000313	.00295	.00295	.00136		.0435	.0409	.127	.120	.0675	.0645
3.	.0283	.0282	.0163	.0150	.0119	.0132	.000140	.00750	.0000991	.00750	.00460	.000789	.000785	.0367	.0365	.0246	.0204
4.	.0236	.0236	.0143	.0129	.00930	.0107	.0000785	.0118	.0000406	.0118	.00798	.000517	.000513	.0360	.0360	.0267	.0214
5.	.0204	.0204	.0128	.0113	.00755	.00912	.0000509	.0153	.0000798	.0154	.0110	.000385	.000383	.0362	.0362	.0286	.0226
6.	.0180	.0180	.0116	.00991	.00640	.00811	.0000356	.0181	.000124	.0182	.0134	.000303	.000301	.0366	.0366	.0302	.0236
6.	.0147	.0147	.00982	.00802	.00491	.00671	.0000201	.0228	.000210	.0230	.0172	.000212	.000211	.0380	.0380	.0331	.0254
10.	.0125	.0125	.00859	.00662	.00396	.00592	.0000125	.0267	.000286	.0271	.0203	.000163	.000163	.0398	.0398	.0358	.0271
15.	.00930	.00930	.00662	.00478	.00270	.00452	.0000055	.0346	.000447	.0351	.0253	.000102	.000102	.0443	.0443	.0418	.0302
20.	.00745	.00745	.00544	.00364	.00204	.00381		.0406	.000566	.0411	.0278	.0000741	.0000741	.0487	.0487	.0465	.0315
30.	.00544	.00544	.00406	.00236	.00137	.00308		.0482	.000737	.0491	.0301	.0000478	.0000478	.0548	.0548	.0531	.0325
40.	.00431	.00431	.00328	.00167	.00103	.00264		.0535	.000864	.0544	.0302	.0000351	.0000351	.0588	.0588	.0579	.0319
50.	.00360	.00360	.00278	.00127	.000829	.00234		.0579	.000956	.0588	.0300	.0000277	.0000277	.0623	.0623	.0614	.0313
60.	.00310	.00310	.00241	.000991	.000653	.00211		.0610	.00103	.0618	.0295	.0000228	.0000228	.0649	.0649	.0645	.0305
80.	.00245	.00245	.00193	.000671	.000452	.00178		.0658	.00115	.0671	.0289	.0000168	.0000168	.0697	.0697	.0688	.0296
100.	.00203	.00203	.00161	.000491	.000419	.00154		.0693	.00123	.0706	.0278	.0000132	.0000132	.0728	.0728	.0724	.0283

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 (barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{ne}	$\sigma_{x,t}$	$\sigma_{x,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	37.8	1.60	.0736	.00312	37.7	1.60	2013.					2330000.	2330000.	2330000.	2330000.	2330000.	2330000.
M _{III}	.001124	37.7	1.84	.0826	.00403	37.7	1.84	1983.				1800000.	1800000.	1800000.	1800000.	1800000.	1800000.
M _{II}	.001204	37.7	2.00	.0885	.00469	37.6	2.00	1973.				2070000.	2070000.	2070000.	2070000.	2070000.	2070000.
M _I	.001363	37.7	2.31	.100	.00613	37.6	2.30	1933.				1640000.	1640000.	1640000.	1640000.	1640000.	1640000.
	.0015	37.7	2.57	.110	.0075	37.6	2.56	1901.				1950000.	1950000.	1950000.	1950000.	1950000.	1950000.
	.002	37.6	3.50	.146	.0136	37.5	3.49	1781.				1470000.	1470000.	1470000.	1470000.	1470000.	1470000.
	.003	37.5	5.24	.217	.0304	37.3	5.21	1551.				1800000.	1800000.	1800000.	1800000.	1800000.	1800000.
	.004	37.3	6.87	.287	.0529	37.0	6.82	1361.				1390000.	1390000.	1390000.	1390000.	1390000.	1390000.
	.005	37.2	8.31	.356	.0796	36.8	8.23	1191.				650000.	650000.	650000.	650000.	650000.	650000.
L _{III}	.005484	37.1	8.94	.389	.0937	36.7	8.85	1124.				2190000.	2190000.	2190000.	2190000.	2190000.	2190000.
L _{II}	.005891	37.1	9.43	.417	.106	36.6	9.32	1074.				1020000.	1020000.	1020000.	1020000.	1020000.	1020000.
	.006	37.0	9.55	.424	.109	36.6	9.44	1061.				580000.	580000.	580000.	580000.	580000.	580000.
L _I	.006266	37.0	9.86	.442	.118	36.6	9.74	1021.				445000.	445000.	445000.	445000.	445000.	445000.
	.008	36.8	11.7	.557	.177	36.2	11.5	844.				1480000.	1480000.	1480000.	1480000.	1480000.	1480000.
	.01	36.5	13.5	.684	.253	35.8	13.2	688.				1190000.	1190000.	1190000.	1190000.	1190000.	1190000.
	.015	35.8	17.0	.991	.470	34.9	16.5	455.				1050000.	1050000.	1050000.	1050000.	1050000.	1050000.
	.02	35.2	19.4	1.27	.700	34.0	18.7	322.				1640000.	1640000.	1640000.	1640000.	1640000.	1640000.
	.03	34.1	22.3	1.77	1.16	32.3	21.1	185.				1370000.	1370000.	1370000.	1370000.	1370000.	1370000.
K	.038925	33.1	23.7	2.16	1.55	30.9	22.2	125.				1400000.	1400000.	1400000.	1400000.	1400000.	1400000.
	.04	33.0	23.8	2.20	1.59	30.8	22.2	120.				1620000.	1620000.	1620000.	1620000.	1620000.	1620000.
	.05	32.0	24.7	2.58	1.99	29.4	22.7	84.9				836000.	836000.	836000.	836000.	836000.	836000.
	.06	31.1	25.1	2.92	2.36	28.2	22.7	63.4				456000.	456000.	456000.	456000.	456000.	456000.
	.08	29.5	25.2	3.45	2.95	26.0	22.2	38.5				150000.	143000.	155000.	150000.	150000.	150000.
	.1	28.1	24.9	3.88	3.44	24.2	21.5	25.5				678000.	653000.	712000.	680000.	678000.	653000.
	.15	25.3	23.6	4.59	4.28	20.7	19.3	12.0				220000.	215000.	241000.	222000.	220000.	215000.
	.2	23.2	22.1	5.01	4.78	18.2	17.3	6.95				1050000.	1030000.	1200000.	1070000.	1050000.	1030000.
	.3	20.1	19.6	5.43	5.28	14.7	14.3	3.16				631000.	610000.	646000.	633000.	631000.	610000.
	.4	18.0	17.8	5.59	5.48	12.5	12.3	1.79				588000.	588000.	602000.	590000.	588000.	588000.
	.5	16.5	16.3	5.62	5.51	10.9	10.8	1.16				321000.	321000.	332000.	323000.	321000.	321000.
	.6	15.2	15.1	5.60	5.48	9.64	9.62	.810				196000.	156000.	205000.	199000.	196000.	1120000.
	.8	13.4	13.3	5.48	5.32	7.92	7.98	.459				894000.	606000.	958000.	919000.	897000.	609000.
	1.	12.0	12.0	5.30	5.09	6.74	6.91	.296				480000.	356000.	530000.	505000.	484000.	359000.
	1.5	9.78	9.76	4.84	4.68	4.94	5.08	.133	.205		.0625	155000.	128000.	181000.	178000.	160000.	132000.
	2.	8.34	8.33	4.43	4.19	3.91	4.14	.0750	.702		.324	70000.	61000.	99000.	921000.	75000.	65.8
	3.	6.56	6.55	3.78	3.48	2.77	3.07	.0334	1.78	.00230	1.78	220000.	208000.	455000.	423000.	281000.	26.1
	4.	5.48	5.48	3.33	3.00	2.16	2.48	.0187	2.78	.00943	2.79	107000.	103000.	303000.	285000.	16.3000.	15.5
	5.	4.74	4.74	2.97	2.61	1.76	2.13	.0121	3.60	.0185	3.62	603000.	572000.	235000.	223000.	11.6000.	11.2
	6.	4.18	4.18	2.69	2.29	1.49	1.89	.00847	4.28	.0287	4.31	300000.	.0752	190000.	190000.	9.5000.	9.21
	8.	3.42	3.42	2.28	1.86	1.14	1.56	.00480	5.37	.0486	5.42	100000.	.0523	157000.	153000.	7.4700.	7.25
	10.	2.92	2.92	1.99	1.53	.923	1.39	.00299	6.30	.0666	6.37	100000.	.0402	135000.	132000.	6.5500.	6.31
	15.	2.16	2.16	1.53	1.10	.626	1.06	.00129	8.17	.104	8.27	100000.	.0250	105000.	105000.	5.8200.	5.32
	20.	1.73	1.73	1.26	.843	.474	.887		9.52	.131	9.65	100000.	.0182	114000.	114000.	10.9000.	7.36
	30.	1.26	1.26	.942	.543	.319	.717		11.3	.172	11.5	100000.	.0118	12.8000.	12.8000.	12.5000.	7.55
	40.	1.00	1.00	.762	.385	.241	.615		12.6	.200	12.8	100000.	.00868	13.8000.	13.8000.	13.6000.	7.46
	50.	.837	.837	.644	.293	.193	.544		13.7	.222	13.9	100000.	.00681	14.7000.	14.7000.	14.6000.	7.36
	60.	.720	.720	.559	.228	.161	.492		14.3	.239	14.5	100000.	.00557	15.2000.	15.2000.	15.1000.	7.11
	80.	.568	.568	.447	.155	.121	.413		15.5	.265	15.8	100000.	.00410	16.4000.	16.4000.	16.3000.	6.91
	100.	.472	.472	.375	.114	.0973	.358		16.3	.285	16.6	100000.	.00323	17.1000.	17.1000.	17.0000.	6.62

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(cm²/g = 0.004336 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc, t} ^{KN}	($\frac{\mu}{\rho}$) _{inc, t} ^{BD}	($\frac{\mu}{\rho}$) _{inc, a} ^{KN}	($\frac{\mu}{\rho}$) _{inc, a} ^{BD}	($\frac{\mu}{\rho}$) _{inc, s} ^{KN}	($\frac{\mu}{\rho}$) _{inc, s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{xe}	($\frac{\mu}{\rho}$) _{x, t}	($\frac{\mu}{\rho}$) _{x, a}	($\frac{\mu}{\rho}$) _{x, t}	($\frac{\mu}{\rho}$) _{x, a}	($\frac{\mu}{\rho}$) _{tot, t}	($\frac{\mu}{\rho}$) _{tot, t-coh}	($\frac{\mu}{\rho}$) _{tot, a}	($\frac{\mu}{\rho}$) _{tot, en}
.001	.164	.00694	.000319	.0000135	.163	.00694	8.72							10100.	10100.	10100.	10100.
M _{III} .001124	.163	.00798	.000358	.0000175	.163	.00798	8.59							7800.	7800.	7800.	7800.
M _{II} .001204	.163	.00867	.000384	.0000203	.163	.00867	8.54							8980.	8980.	8980.	8980.
M _I .001363	.163	.0100	.000434	.0000266	.163	.00997	8.37							7110.	7110.	7110.	7110.
.0015	.163	.0111	.000477	.0000325	.163	.0111	8.24							8460.	8460.	8460.	8460.
.002	.163	.0152	.000633	.0000590	.163	.0151	7.72							6370.	6370.	6370.	6370.
.003	.163	.0227	.000941	.000132	.162	.0226	6.72							7800.	7800.	7800.	7800.
.004	.162	.0298	.00124	.000229	.160	.0296	5.90							6030.	6030.	6030.	6030.
.005	.161	.0360	.00154	.000345	.160	.0357	5.16							2820.	2820.	2820.	2820.
L _{III} .005484	.161	.0388	.00169	.000406	.159	.0384	4.86							950.	950.	950.	950.
L _{II} .005891	.161	.0409	.00181	.000460	.159	.0404	4.64							442.	442.	442.	442.
.006	.160	.0414	.00184	.000473	.159	.0409	4.60							246.	246.	246.	246.
L _I .006266	.160	.0428	.00192	.000512	.159	.0422	4.42							193.	193.	193.	193.
.008	.160	.0507	.00242	.000767	.157	.0499	3.66							642.	642.	642.	642.
.01	.158	.0585	.00297	.00110	.155	.0572	2.98							516.	516.	516.	516.
.015	.155	.0737	.00430	.00204	.151	.0715	1.95							62.0	62.0	62.0	62.0
.02	.153	.0841	.00551	.00304	.147	.0811	1.40							28.3	28.3	28.3	28.3
.03	.148	.0967	.00767	.00503	.140	.0915	.802							9.54	9.54	9.54	9.54
K.038925	.144	.103	.00937	.00672	.134	.0963	.542							4.47	4.47	4.47	4.47
.04	.143	.103	.00954	.00689	.134	.0963	.520							27.4	27.4	27.4	27.4
.05	.139	.107	.0112	.00863	.127	.0984	.368							25.5	25.5	25.5	25.5
.06	.135	.109	.0127	.0102	.122	.0984	.275							11.9	11.9	11.9	11.9
.08	.128	.109	.0150	.0128	.113	.0963	.167							8.50	8.50	8.50	8.50
.1	.122	.108	.0168	.0149	.105	.0932	.111							2.88	2.88	2.88	2.88
.15	.110	.102	.0199	.0186	.0898	.0837	.0520							2.08	2.08	2.08	2.08
.2	.101	.0958	.0217	.0207	.0789	.0750	.0301							.672	.555	.628	.776
.3	.0872	.0850	.0235	.0229	.0637	.0620	.0137							.304	.264	.429	.399
.4	.0780	.0772	.0242	.0238	.0542	.0533	.00776							.0984	.0902	.197	.183
.5	.0715	.0707	.0244	.0239	.0473	.0468	.00503							.0464	.0434	.131	.124
.6	.0659	.0655	.0243	.0238	.0418	.0417	.00351							.0261	.0248	.102	.0967
.8	.0581	.0577	.0238	.0231	.0343	.0346	.00199							.0169	.0162	.0859	.0824
1.	.0520	.0520	.0230	.0221	.0292	.0300	.00128							.00863	.00837	.0681	.0663
1.5	.0424	.0423	.0210	.0203	.0214	.0220	.000577	.000889	.000889	.000271				.00542	.00520	.0585	.0572
2.	.0362	.0361	.0192	.0182	.0170	.0180	.000325	.00304	.00304	.00140				.00255	.00250	.0464	.0460
3.	.0284	.0284	.0164	.0151	.0120	.0133	.000145	.00772	.00000997	.00772	.00473			.00156	.00153	.0411	.0407
4.	.0238	.0238	.0144	.0130	.00937	.0108	.0000811	.0121	.0000409	.0121	.00820			.000841	.000833	.0371	.0369
5.	.0206	.0206	.0129	.0113	.00763	.00924	.0000525	.0156	.0000802	.0157	.0112			.000555	.000551	.0365	.0364
6.	.0181	.0181	.0117	.00993	.00646	.00820	.0000367	.0186	.000124	.0187	.0137			.000412	.000410	.0367	.0366
8.	.0148	.0148	.00989	.00806	.00454	.00676	.0000208	.0233	.000211	.0235	.0175			.000326	.000325	.0372	.0372
10.	.0127	.0127	.00863	.00663	.00400	.00603	.0000130	.0273	.000289	.0274	.0207			.000227	.000226	.0386	.0385
15.	.00937	.00937	.00663	.00477	.00271	.00460	.0000056	.0354	.000451	.0359	.0258			.000174	.000174	.0405	.0405
20.	.00750	.00750	.00546	.00366	.00206	.00385		.0413	.000568	.0418	.0282			.000108	.000108	.0455	.0455
30.	.00546	.00546	.00408	.00235	.00138	.00311		.0490	.000746	.0499	.0304			.0000789	.0000789	.0494	.0494
40.	.00434	.00434	.00330	.00167	.00104	.00267		.0546	.000867	.0555	.0307			.0000512	.0000512	.0555	.0555
50.	.00363	.00363	.00279	.00127	.000637	.00236		.0594	.000963	.0603	.0306			.0000376	.0000376	.0594	.0594
60.	.00312	.00312	.00242	.000989	.000698	.00213		.0620	.00104	.0629	.0298			.0000295	.0000295	.0637	.0637
80.	.00246	.00246	.00194	.000672	.000525	.00179		.0672	.00115	.0685	.0293			.0000242	.0000242	.0659	.0659
100.	.00205	.00205	.00163	.000494	.000422	.00155		.0707	.00124	.0720	.0282			.0000178	.0000178	.0711	.0711
														.0000140	.0000140	.0741	.0741

58 GERIUM
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	38.4	1.60	.0749	.00312	38.4	1.60	2090.					2540000.	2540000.	2540000.	2540000.	2540000.	2540000.
M _{III} .001185	38.4	1.97	.0886	.00454	38.3	1.97	2050.					1690000.	1690000.	1690000.	1690000.	1690000.	1690000.
M _{II} .001273	38.4	2.14	.0951	.00530	38.3	2.13	2030.					1950000.	1950000.	1950000.	1950000.	1950000.	1950000.
M _I .001435	38.4	2.46	.107	.00687	38.3	2.45	1990.					1540000.	1540000.	1540000.	1540000.	1540000.	1540000.
												1830000.	1830000.	1830000.	1830000.	1830000.	1830000.
.0015	38.4	2.58	.112	.00753	38.2	2.57	1980.					1390000.	1390000.	1390000.	1390000.	1390000.	1390000.
.002	38.3	3.53	.149	.0137	38.1	3.52	1860.					1700000.	1700000.	1700000.	1700000.	1700000.	1700000.
.003	38.1	5.29	.221	.0307	37.9	5.26	1640.					1510000.	1510000.	1510000.	1510000.	1510000.	1510000.
.004	38.0	6.93	.292	.0533	37.7	6.88	1430.					702000.	702000.	704000.	702000.	702000.	702000.
.005	37.8	8.37	.362	.0802	37.5	8.29	1260.					238000.	238000.	240000.	238000.	238000.	238000.
L _{III} .005723	37.7	9.29	.413	.102	37.3	9.19	1150.					111000.	111000.	112000.	111000.	111000.	111000.
												61400.	61400.	62700.	61400.	61400.	61400.
.006	37.7	9.61	.432	.110	37.3	9.50	1120.					42900.	42900.	44100.	42900.	42900.	42900.
L _{II} .006164	37.7	9.80	.443	.115	37.2	9.68	1090.					141000.	122000.	120000.	141000.	141000.	122000.
												122000.	106000.	123000.	122000.	122000.	106000.
L _I .006549	37.6	10.2	.469	.127	37.2	10.1	1050.					112000.	98100.	113000.	112000.	112000.	98100.
												155000.	135000.	156000.	155000.	155000.	135000.
.008	37.4	11.7	.566	.177	36.9	11.5	889.					133000.	117000.	134000.	133000.	133000.	117000.
.01	37.1	13.6	.696	.255	36.5	13.3	723.					153000.	135000.	154000.	153000.	153000.	135000.
.015	36.5	17.1	1.01	.473	35.5	16.6	471.					89100.	80300.	90000.	89100.	89100.	80300.
.02	35.8	19.6	1.29	.707	34.6	18.9	337.					48600.	44800.	49300.	48600.	48600.	44800.
.03	34.6	22.6	1.80	1.18	32.9	21.4	194.					16000.	15200.	16500.	16000.	16000.	15200.
.04	33.6	24.2	2.24	1.61	31.3	22.6	125.					7270.	6980.	7630.	7290.	7270.	6980.
K.040443	33.5	24.2	2.26	1.63	31.3	22.6	123.					2360.	2300.	2580.	2360.	2360.	2300.
												1050.	1030.	1200.	1070.	1050.	1030.
.05	32.6	25.0	2.63	2.02	29.9	23.0	88.8					1020.	1000.	1170.	1040.	1020.	1000.
.06	31.6	25.5	2.97	2.39	28.7	23.1	66.1					6050.	2030.	6200.	6070.	6050.	2030.
.08	30.0	25.6	3.51	3.00	26.5	22.6	40.2					3400.	1570.	3510.	3420.	3400.	1570.
.1	28.6	25.3	3.94	3.49	24.6	21.8	26.1					2080.	1150.	2170.	2110.	2080.	1150.
.15	25.7	24.0	4.67	4.36	21.1	19.6	12.6					953.	633.	1020.	979.	957.	636.
.2	23.6	22.5	5.10	4.86	18.5	17.6	7.27					512.	374.	564.	537.	516.	377.
.3	20.5	20.0	5.53	5.39	15.0	14.6	3.21					166.	136.	203.	190.	171.	140.
.4	18.4	18.1	5.69	5.57	12.7	12.5	1.87					75.0	64.9	105.	97.5	80.1	69.8
.5	16.8	16.6	5.72	5.61	11.0	11.0	1.22					24.3	22.1	47.6	44.3	29.8	27.5
.6	15.5	15.4	5.70	5.59	9.81	9.81	.850					11.4	10.6	31.4	29.5	17.1	16.2
.8	13.6	13.5	5.57	5.40	8.06	8.10	.480					6.50	6.15	24.3	23.1	12.2	11.8
1.	12.2	12.2	5.39	5.17	6.86	7.03	.209					4.18	3.99	20.4	19.6	9.88	9.58
1.5	9.95	9.93	4.92	4.75	5.03	5.18	.139	.215		.215	.0656	2.14	2.07	16.1	15.6	7.71	7.47
2.	8.49	8.47	4.50	4.26	3.98	4.21	.0780	.730		.730	.337	1.35	1.31	13.9	13.5	6.74	6.48
3.	6.68	6.67	3.85	3.54	2.82	3.13	.0351	1.84	.00234	1.84	1.13	.635	.624	10.9	10.8	5.77	5.44
4.	5.58	5.58	3.39	3.04	2.19	2.54	.0096	2.88	.00960	2.89	1.95	.388	.383	9.67	9.59	5.62	4.98
5.	4.82	4.82	3.03	2.65	1.79	2.17	.0027	3.73	.0188	3.75	2.67	.209	.207	8.75	8.72	5.90	4.88
6.	4.26	4.26	2.74	2.33	1.52	1.93	.00888	4.42	.0292	4.45	3.25	.137	.136	8.63	8.61	6.42	5.13
8.	3.48	3.48	2.32	1.88	1.16	1.60	.00502	5.55	.0494	5.60	4.16	.102	.101	8.68	8.67	6.88	5.42
10.	2.97	2.97	2.03	1.55	.939	1.42	.00312	6.50	.0678	6.57	4.89	.0808	.0804	8.80	8.79	7.27	5.66
15.	2.20	2.20	1.56	1.12	.637	1.08	.00134	8.43	.106	8.54	6.10	.0563	.0561	9.14	9.14	7.98	6.10
20.	1.76	1.76	1.28	.852	.482	.908		9.85	.133	9.98	6.67	.0433	.0432	9.59	9.58	8.64	6.48
30.	1.28	1.28	.959	.549	.324	.731		11.7	.174	11.9	7.21	.0273	.0273	10.8	10.8	10.1	7.25
40.	1.02	1.02	.775	.391	.245	.629		13.0	.203	13.2	7.25	.0197	.0197	11.8	11.8	11.3	7.54
50.	.851	.851	.655	.296	.196	.555		14.1	.225	14.3	7.21	.0127	.0127	13.2	13.2	12.9	7.77
60.	.733	.733	.569	.232	.164	.501		14.8	.243	15.0	7.09	.00930	.00929	14.2	14.2	14.0	7.65
80.	.578	.578	.455	.157	.123	.421		16.0	.270	16.3	6.61	.00733	.00733	15.2	15.2	15.0	7.51
100.	.480	.480	.381	.115	.099	.365		16.8	.289	17.1	6.65	.00602	.00602	15.7	15.7	15.6	7.33
												.00442	.00442	16.9	16.9	16.8	7.07
												.00348	.00348	17.6	17.6	17.5	6.77

58 CERIUM
(cm²/g = 0.004298 x barns/atom)

E (MeV)	KN ($\frac{\sigma}{\rho}$) _{inc,t}	BD ($\frac{\sigma}{\rho}$) _{inc,t}	KN ($\frac{\sigma}{\rho}$) _{inc,a}	BD ($\frac{\sigma}{\rho}$) _{inc,a}	KN ($\frac{\sigma}{\rho}$) _{inc,s}	BD ($\frac{\sigma}{\rho}$) _{inc,s}	($\frac{\sigma}{\rho}$) _{coh}	($\frac{\sigma}{\rho}$) _n	($\frac{\sigma}{\rho}$) _e	($\frac{\sigma}{\rho}$) _{x,t}	($\frac{\sigma}{\rho}$) _{x,a}	($\frac{\sigma}{\rho}$) _{r,t}	($\frac{\sigma}{\rho}$) _{r,a}	($\frac{\sigma}{\rho}$) _{tot,t}	($\frac{\sigma}{\rho}$) _{tot,t-coh}	($\frac{\sigma}{\rho}$) _{tot,a}	($\frac{\sigma}{\rho}$) _{tot,en}
.001	.165	.00688	.000322	.0000134	.165	.00688	8.98						10901.	10900.	10900.	10900.	10900.
M _{III} .001185	.165	.00847	.000381	.0000195	.165	.00847	8.81						7261.	7260.	7260.	7260.	7260.
M _{II} .001273	.165	.00920	.000409	.0000228	.165	.00915	8.72						8381.	8380.	8380.	8380.	8380.
M _I .001435	.165	.0106	.000460	.0000295	.165	.0105	8.55						6621.	6620.	6620.	6620.	6620.
.0015	.165	.0111	.000481	.0000324	.164	.0110	8.51						7871.	7870.	7870.	7870.	7870.
.002	.165	.0152	.000640	.0000589	.164	.0151	7.99						5971.	5970.	5970.	5970.	5970.
.003	.164	.0227	.000950	.000132	.163	.0226	7.05						7311.	7310.	7310.	7310.	7310.
.004	.163	.0298	.00126	.000229	.162	.0296	6.15						6491.	6490.	6490.	6490.	6490.
.005	.162	.0360	.00156	.000345	.161	.0356	5.42						3021.	3020.	3020.	3020.	3020.
L _{III} .005723	.162	.0399	.00178	.000438	.160	.0395	4.94						1021.	1020.	1020.	1020.	1020.
.006	.162	.0413	.00186	.000473	.160	.0408	4.81						477.	477.	477.	477.	477.
L _{II} .006164	.162	.0421	.00190	.000494	.160	.0416	4.68						261.	260.	260.	260.	260.
L _I .006549	.162	.0438	.00202	.000546	.160	.0434	4.51						181.	180.	180.	180.	180.
.008	.161	.0503	.00243	.000761	.159	.0494	3.82						605.	606.	606.	606.	606.
.01	.159	.0585	.00299	.00110	.157	.0572	3.11						524.	524.	524.	524.	524.
.015	.157	.0735	.00434	.00203	.153	.0713	2.62						481.	486.	481.	481.	422.
.02	.154	.0842	.00554	.00304	.149	.0812	1.45						665.	670.	666.	666.	580.
.03	.149	.0971	.00774	.00507	.141	.0920	.834						572.	576.	572.	572.	503.
.04	.144	.104	.00963	.00692	.135	.0971	.537						654.	662.	658.	658.	580.
K.040443	.144	.104	.00971	.00701	.135	.0971	.529						383.	387.	383.	383.	345.
.05	.140	.107	.0113	.00868	.129	.0989	.382						203.	212.	209.	209.	193.
.06	.136	.110	.0128	.0103	.123	.0993	.285						64.8	70.9	68.8	68.8	65.3
.08	.129	.110	.0151	.0129	.114	.0971	.173						36.2	32.8	31.3	31.2	30.0
.1	.123	.109	.0169	.0150	.106	.0937	.115						15.1	11.1	10.2	10.1	9.89
.15	.110	.103	.0201	.0187	.0907	.0842	.0542						4.51	5.16	4.60	4.51	4.43
.2	.101	.0967	.0219	.0209	.0755	.0756	.0312						4.38	5.03	4.47	4.38	4.30
.3	.0881	.0860	.0238	.0232	.0645	.0628	.0142						25.0	26.6	26.1	26.0	8.72
.4	.0791	.0778	.0245	.0239	.0546	.0537	.00804						14.6	15.1	14.7	14.6	6.75
.5	.0722	.0713	.0246	.0241	.0473	.0473	.00524						9.94	9.33	9.07	8.94	4.94
.6	.0666	.0662	.0245	.0240	.0422	.0422	.00365						4.10	4.38	4.21	4.11	2.73
.8	.0585	.0580	.0239	.0232	.0346	.0348	.00206						2.20	2.42	2.31	2.22	1.62
1.	.0524	.0524	.0232	.0222	.0295	.0302	.00133						.713	.585	.472	.417	.735
1.5	.0428	.0427	.0211	.0204	.0216	.0223	.000597	.000924	.000924	.000282			.322	.279	.251	.249	.344
2.	.0365	.0364	.0193	.0183	.0171	.0181	.000335	.00314	.00314	.00145			.104	.0950	.205	.190	.128
3.	.0287	.0287	.0165	.0152	.0121	.0135	.000151	.00751	.00751	.00486			.0490	.0456	.135	.127	.0735
4.	.0240	.0240	.0146	.0131	.00941	.0109	.0000842	.0124	.0000413	.0124	.00038		.0279	.0264	.104	.0993	.0524
5.	.0207	.0207	.0130	.0114	.00769	.00933	.0000546	.0160	.0000808	.0161	.0115		.0180	.0171	.0877	.0842	.0425
6.	.0183	.0183	.0118	.0100	.00653	.00830	.0000382	.0190	.000126	.0191	.0140		.00920	.00890	.0692	.0670	.0331
8.	.0150	.0150	.00997	.00808	.00499	.00688	.0000216	.0239	.000212	.0241	.0179		.00580	.00563	.0597	.0580	.0290
10.	.0128	.0128	.00872	.00666	.00404	.00610	.0000134	.0279	.000291	.0282	.0210		.00273	.00268	.0468	.0464	.0248
15.	.00946	.00946	.00670	.00481	.00274	.00484	.0000058	.0362	.000456	.0367	.0262		.00167	.00165	.0416	.0412	.0242
20.	.00756	.00756	.00550	.00366	.00207	.00390		.0423	.000572	.0429	.0287		.000847	.000847	.0507	.0507	.0486
30.	.00550	.00550	.00412	.00236	.00139	.00314		.0503	.000748	.0511	.0310		.0000546	.0000546	.0567	.0567	.0554
40.	.00438	.00438	.00333	.00168	.00105	.00270		.0559	.000872	.0567	.0312		.0000400	.0000399	.0610	.0610	.0602
50.	.00366	.00366	.00282	.00127	.000842	.00239		.0606	.000967	.0615	.0310		.0000315	.0000315	.0653	.0653	.0645
60.	.00315	.00315	.00245	.000997	.000705	.00215		.0636	.00104	.0645	.0305		.0000259	.0000259	.0675	.0675	.0670
80.	.00248	.00248	.00196	.000675	.000529	.00181		.0688	.00116	.0701	.0297		.0000190	.0000190	.0724	.0724	.0722
100.	.00206	.00206	.00164	.000494	.000426	.00157		.0722	.00124	.0735	.0286		.0000150	.0000150	.0756	.0756	.0752

59 PRASEODYMIUM
 (barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	$\sigma_{rt,t}$	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	39.1	1.59	.0762	.00310	39.0	1.59	2170.					2700000.	2700000.	2700000.	2700000.	2700000.	2700000.
M _{III} .001242	39.1	2.06	.0944	.00498	39.0	2.06	2110.					1610000.	1610000.	1610000.	1610000.	1610000.	1610000.
M _{II} .001337	39.0	2.25	.102	.00585	38.9	2.24	2090.					1850000.	1850000.	1850000.	1850000.	1850000.	1850000.
.0015	39.0	2.56	.114	.00747	38.9	2.55	2060.					1460000.	1460000.	1460000.	1460000.	1460000.	1460000.
M _I .001505	39.0	2.57	.114	.00752	38.9	2.56	2050.					1730000.	1730000.	1730000.	1730000.	1730000.	1730000.
.002	38.9	3.51	.151	.0136	38.8	3.50	1940.					1330000.	1330000.	1330000.	1330000.	1330000.	1330000.
.003	38.8	5.27	.225	.0305	38.6	5.24	1710.					1320000.	1320000.	1320000.	1320000.	1320000.	1320000.
.004	38.6	6.91	.297	.0532	38.3	6.86	1500.					1610000.	1610000.	1610000.	1610000.	1610000.	1610000.
.005	38.5	8.36	.369	.0801	38.1	8.28	1320.					753000.	753000.	753000.	753000.	753000.	753000.
L _{III} .005964	38.4	9.58	.436	.109	37.9	9.47	1170.					257000.	257000.	257000.	257000.	257000.	257000.
.006	38.3	9.62	.439	.110	37.9	9.51	1160.					118000.	118000.	118000.	118000.	118000.	118000.
L _{II} .006440	38.3	10.1	.470	.124	37.8	9.98	1110.					65700.	65700.	65700.	65700.	65700.	65700.
L _I .006835	38.2	10.6	.497	.138	37.7	10.5	1060.					41300.	41300.	41300.	41300.	41300.	41300.
.008	38.1	11.8	.576	.179	37.5	11.6	928.					134000.	134000.	134000.	134000.	134000.	134000.
.01	37.8	13.6	.708	.255	37.1	13.3	754.					131000.	131000.	131000.	131000.	131000.	131000.
.015	37.1	17.3	1.03	.479	36.1	16.8	490.					106000.	106000.	106000.	106000.	106000.	106000.
.02	36.5	19.8	1.32	.715	35.1	19.1	350.					147000.	147000.	147000.	147000.	147000.	147000.
.03	35.2	22.9	1.83	1.19	33.4	21.7	202.					126000.	126000.	126000.	126000.	126000.	126000.
.04	34.1	24.5	2.28	1.63	31.9	22.9	131.					146000.	146000.	146000.	146000.	146000.	146000.
K.041991	33.9	24.7	2.37	1.72	31.6	23.0	121.					95100.	95100.	95100.	95100.	95100.	95100.
.05	33.1	25.4	2.67	2.05	30.5	23.4	92.5					51900.	51900.	51900.	51900.	51900.	51900.
.06	32.2	25.8	3.02	2.42	29.2	23.4	69.1					17200.	17200.	17200.	17200.	17200.	17200.
.08	30.5	26.0	3.57	3.04	26.9	23.0	42.0					7830.	7830.	7830.	7830.	7830.	7830.
.1	29.1	25.6	4.01	3.53	25.1	22.1	27.8					2550.	2550.	2550.	2550.	2550.	2550.
.15	26.2	24.4	4.75	4.43	21.4	20.0	13.1					1130.	1130.	1130.	1130.	1130.	1130.
.2	24.0	22.9	5.18	4.95	18.8	17.9	7.59					985.	985.	985.	985.	985.	985.
.3	20.9	20.3	5.62	5.47	15.2	14.8	3.45					5800.	5800.	5800.	5800.	5800.	5800.
.4	18.7	18.4	5.79	5.67	12.9	12.7	1.96					1940.	1940.	1940.	1940.	1940.	1940.
.5	17.1	16.9	5.82	5.71	11.2	11.2	1.27					3630.	3630.	3630.	3630.	3630.	3630.
.6	15.8	15.6	5.80	5.66	9.98	9.94	.890					2210.	2210.	2210.	2210.	2210.	2210.
.8	13.9	13.8	5.67	5.52	8.20	8.28	.500					1010.	1010.	1010.	1010.	1010.	1010.
1.	12.5	12.4	5.48	5.25	6.98	7.15	.322					547.	547.	547.	547.	547.	547.
1.5	10.1	10.1	5.01	4.83	5.12	5.27	.145	.225	.225	.0686	.689	178.	145.	215.	202.	183.	149.
2.	8.63	8.62	4.58	4.33	4.05	4.29	.0815	.760	.760	.350	.417	80.0	68.8	110.	103.	85.2	73.8
3.	6.79	6.78	3.92	3.59	2.87	3.19	.0368	1.91	.00237	1.91	1.17	26.2	23.8	49.9	46.5	31.8	29.3
4.	5.68	5.68	3.44	3.09	2.23	2.59	.0205	2.98	.00975	2.99	2.02	12.3	11.4	32.7	30.7	18.1	17.1
5.	4.90	4.90	3.08	2.69	1.82	2.21	.0133	3.85	.0192	3.87	2.75	7.00	6.61	25.2	23.9	12.8	12.3
6.	4.33	4.33	2.79	2.36	1.54	1.97	.00927	4.58	.0297	4.61	3.37	4.50	4.29	21.0	20.1	10.3	9.95
8.	3.54	3.54	2.36	1.91	1.18	1.63	.00524	5.71	.0503	5.76	4.28	2.30	2.22	16.6	16.1	7.97	7.74
10.	3.02	3.02	2.06	1.57	.955	1.45	.00327	6.70	.0689	6.77	5.03	1.45	1.41	14.2	13.8	6.93	6.66
15.	2.23	2.23	1.59	1.13	.648	1.10	.00139	8.70	.108	8.81	6.29	.0294	.0293	11.1	11.0	5.92	5.57
20.	1.79	1.79	1.30	.863	.490	.927						.0213	.0213	12.1	12.1	5.76	5.09
30.	1.31	1.31	.975	.561	.330	.749						.0137	.0137	13.6	13.6	5.06	4.94
40.	1.04	1.04	.788	.396	.249	.644						.0100	.00999	14.7	14.7	4.58	4.26
50.	.866	.866	.667	.301	.199	.565						.00787	.00787	15.6	15.6	4.06	3.70
60.	.746	.746	.579	.235	.167	.511						.00645	.00645	16.3	16.3	3.63	3.25
80.	.588	.588	.463	.159	.126	.429						.00473	.00473	17.4	17.4	3.17	2.77
100.	.489	.489	.388	.117	.101	.372						.00373	.00373	18.1	18.1	2.80	2.41

59 PRASEODYMIUM
(cm²/g = 0.004274 x barns/atom)

E (MeV)	($\frac{\sigma}{E}$) _{inc,t} ^{KN}	($\frac{\sigma}{E}$) _{inc,t} ^{BD}	($\frac{\sigma}{E}$) _{inc,a} ^{KN}	($\frac{\sigma}{E}$) _{inc,a} ^{BD}	($\frac{\sigma}{E}$) _{inc,s} ^{KN}	($\frac{\sigma}{E}$) _{inc,s} ^{BD}	($\frac{\sigma}{E}$) _{coh}	($\frac{\sigma}{E}$) _n	($\frac{\sigma}{E}$) _e	($\frac{\sigma}{E}$) _t	($\frac{\sigma}{E}$) _a	($\frac{\sigma}{E}$) _{tot,t}	($\frac{\sigma}{E}$) _{tot,t-coh}	($\frac{\sigma}{E}$) _{tot,a}	($\frac{\sigma}{E}$) _{tot,ex}
.001	.167	.00680	.000326	.0000132	.167	.00680	9.27			11500.	11500.	11500.	11500.	11500.	11500.
M _{III} .001242	.167	.00680	.000403	.0000213	.167	.00680	9.02			6880.	6880.	6880.	6880.	6880.	6880.
M _{II} .001337	.167	.00962	.000436	.0000250	.166	.00957	8.93			7910.	7910.	7910.	7910.	7910.	7910.
.0015	.167	.0109	.000487	.0000319	.166	.0109	8.80			6240.	6240.	6240.	6240.	6240.	6240.
M _I .001505	.167	.0110	.000487	.0000321	.166	.0109	8.76			7390.	7390.	7390.	7390.	7390.	7390.
.002	.166	.0150	.000645	.0000581	.166	.0150	8.29			5680.	5680.	5680.	5680.	5680.	5680.
.003	.166	.0225	.000962	.000130	.165	.0224	7.31			5640.	5640.	5640.	5640.	5640.	5640.
.004	.165	.0295	.00127	.000227	.164	.0293	6.41			6880.	6880.	6880.	6880.	6880.	6880.
.005	.165	.0357	.00158	.000342	.163	.0354	5.64			3220.	3220.	3220.	3220.	3220.	3220.
L _{III} .005964	.164	.0409	.00186	.000466	.162	.0405	5.00			1100.	1100.	1110.	1100.	1100.	1100.
.006	.164	.0411	.00188	.000470	.162	.0406	4.96			504.	504.	513.	504.	504.	504.
L _{II} .006440	.164	.0432	.00201	.000530	.162	.0427	4.74			281.	281.	286.	281.	281.	281.
L _I .006835	.163	.0453	.00212	.000590	.161	.0449	4.53			177.	177.	182.	177.	177.	177.
.008	.163	.0504	.00246	.000765	.160	.0496	3.97			577.	492.	577.	573.	573.	492.
.01	.162	.0581	.00303	.00109	.159	.0568	3.22			561.	483.	564.	460.	460.	483.
.015	.159	.0739	.00440	.00205	.154	.0718	2.09			453.	395.	457.	453.	453.	395.
.02	.156	.0846	.00564	.00306	.150	.0816	1.50			628.	547.	633.	628.	628.	547.
.03	.150	.0979	.00782	.00509	.143	.0927	.863			539.	470.	543.	539.	539.	470.
.04	.146	.105	.00974	.00697	.136	.0979	.560			624.	547.	628.	624.	624.	547.
K.041991	.145	.106	.0101	.00735	.135	.0983	.517			406.	363.	410.	406.	406.	363.
.05	.141	.109	.0114	.00876	.130	.100	.395			222.	203.	225.	222.	222.	203.
.06	.138	.110	.0129	.0103	.125	.100	.295			73.5	69.2	75.6	73.5	73.5	69.2
.08	.130	.111	.0153	.0130	.115	.0983	.180			33.5	32.0	35.0	33.6	33.5	32.0
.1	.124	.109	.0171	.0151	.107	.0945	.119			10.9	10.6	11.8	11.0	10.9	10.6
.15	.112	.104	.0203	.0169	.0915	.0855	.0560			4.83	4.74	5.51	4.92	4.83	4.74
.2	.103	.0979	.0221	.0212	.0804	.0765	.0324			4.21	4.12	4.83	4.32	4.22	4.13
.3	.0893	.0868	.0240	.0234	.0650	.0633	.0147			24.8	8.29	25.4	24.9	24.8	8.29
.4	.0799	.0786	.0247	.0242	.0551	.0543	.00838			15.5	6.84	16.0	15.6	15.5	6.84
.5	.0731	.0722	.0249	.0244	.0479	.0479	.00543			9.45	5.04	9.83	9.37	9.45	5.04
.6	.0675	.0667	.0248	.0242	.0427	.0425	.00380			4.32	2.81	4.62	4.44	4.32	2.82
.8	.0594	.0590	.0242	.0236	.0350	.0354	.00214			2.34	1.68	2.56	2.45	2.35	1.70
1.	.0534	.0530	.0234	.0224	.0298	.0306	.00138			.761	.620	.919	.863	.782	.637
1.5	.0432	.0432	.0214	.0206	.0219	.0225	.000620	.000962	.000962	.000293	.00294	.00289	.0470	.0470	.0238
2.	.0369	.0368	.0196	.0185	.0173	.0183	.000348	.00325	.00325	.00150	.00178	.00174	.0422	.0419	.0246
3.	.0290	.0290	.0168	.0153	.0123	.0136	.000157	.00816	.00816	.00500	.000970	.000962	.0383	.0381	.0259
4.	.0243	.0243	.0147	.0132	.00953	.0111	.0000876	.0127	.0000417	.0128	.000641	.000637	.0378	.0377	.0281
5.	.0209	.0209	.0132	.0115	.00778	.00945	.0000568	.0165	.0000821	.0165	.000470	.000466	.0380	.0380	.0302
6.	.0185	.0185	.0119	.0101	.00658	.00842	.0000396	.0196	.000127	.0197	.000373	.000371	.0386	.0386	.0320
8.	.0151	.0151	.0101	.00816	.00504	.00697	.0000224	.0244	.000215	.0246	.000259	.000259	.0400	.0400	.0350
10.	.0129	.0129	.00880	.00671	.00406	.00620	.0000140	.0286	.000294	.0289	.000200	.000200	.0421	.0421	.0380
15.	.00953	.00953	.00680	.00483	.00271	.00470	.0000059	.0372	.000462	.0377	.000126	.000125	.0474	.0474	.0444
20.	.00765	.00765	.00556	.00369	.00205	.00396	.0000000	.0436	.000581	.0440	.0000910	.0000910	.0517	.0517	.0496
30.	.00560	.00560	.00417	.00240	.00141	.00320	.0000000	.0517	.000756	.0526	.0000586	.0000586	.0581	.0581	.0568
40.	.00444	.00444	.00337	.00169	.00106	.00275	.0000000	.0577	.000880	.0586	.0000427	.0000427	.0628	.0628	.0620
50.	.00370	.00370	.00285	.00129	.000881	.00241	.0000000	.0620	.000979	.0628	.0000336	.0000336	.0667	.0667	.0658
60.	.00319	.00319	.00247	.00100	.000714	.00218	.0000000	.0654	.00106	.0662	.0000276	.0000276	.0697	.0697	.0688
80.	.00251	.00251	.00198	.000680	.000539	.00183	.0000000	.0705	.00117	.0718	.0000202	.0000202	.0744	.0744	.0739
100.	.00209	.00209	.00166	.000500	.000432	.00159	.0000000	.0739	.00126	.0752	.0000159	.0000159	.0774	.0774	.0769

60 NEODYMIUM
(barns/atom)

E (MeV)	$\sigma_{inc,t}^{KN}$	$\sigma_{inc,t}^{BD}$	$\sigma_{inc,a}^{KN}$	$\sigma_{inc,a}^{BD}$	$\sigma_{inc,s}^{KN}$	$\sigma_{inc,s}^{BD}$	C_{cch}	σ_{xn}	σ_{xe}	$\sigma_{x,t}$	$\sigma_{x,a}$	$\sigma_{x,t}$	$\sigma_{x,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	39.8	1.56	.0775	.00304	39.7	1.56	2253.					2540000.	2540000.	2540000.	2540000.	2540000.	2540000.
M _{IV} .001001	39.8	1.57	.0776	.00306	39.7	1.57	2253.					2540000.	2540000.	2540000.	2540000.	2540000.	2540000.
M _{III} .001298	39.7	2.14	.100	.00541	39.6	2.13	2180.					2880000.	2880000.	2880000.	2880000.	2880000.	2880000.
M _{II} .001403	39.7	2.34	.108	.00639	39.6	2.33	2161.					1540000.	1540000.	1540000.	1540000.	1540000.	1540000.
.0015	39.7	2.53	.116	.00738	39.6	2.52	2131.					1770000.	1770000.	1770000.	1770000.	1770000.	1770000.
M _I .001575	39.7	2.67	.121	.00818	39.5	2.66	2121.					1380000.	1380000.	1380000.	1380000.	1380000.	1380000.
.002	39.6	3.47	.154	.0135	39.4	3.46	2011.					1640000.	1640000.	1640000.	1640000.	1640000.	1640000.
.003	39.4	5.23	.229	.0303	39.2	5.20	1781.					1400000.	1400000.	1400000.	1400000.	1400000.	1400000.
.004	39.3	6.88	.302	.0529	39.0	6.83	1561.					1250000.	1250000.	1250000.	1250000.	1250000.	1250000.
.005	39.1	8.34	.375	.0799	38.8	8.26	1371.					1520000.	1520000.	1520000.	1520000.	1520000.	1520000.
.006	39.0	9.63	.446	.110	38.6	9.52	1221.					802000.	802000.	804000.	802000.	802000.	802000.
L _{III} .006208	39.0	9.88	.461	.117	38.5	9.76	1191.					276000.	276000.	278000.	274000.	276000.	276000.
L _{II} .006722	38.9	10.5	.497	.134	38.4	10.4	1121.					128000.	110000.	129000.	128000.	128000.	110000.
L _I .007128	38.8	10.9	.526	.147	38.3	10.8	1071.					101000.	87800.	102000.	101000.	101000.	87800.
.008	38.7	11.8	.586	.179	38.1	11.6	961.					139000.	120000.	140000.	139000.	139000.	120000.
.01	38.4	13.7	.720	.257	37.7	13.4	781.					120000.	105000.	121000.	120000.	120000.	105000.
.015	37.7	17.4	1.04	.481	36.7	16.9	511.					139000.	120000.	140000.	139000.	139000.	120000.
.02	37.1	20.0	1.34	.722	35.7	19.3	365.					120000.	105000.	121000.	120000.	120000.	105000.
.03	35.8	23.1	1.87	1.20	34.0	21.9	211.					139000.	121000.	140000.	139000.	139000.	121000.
.04	34.7	24.8	2.32	1.65	32.4	23.1	131.					101000.	89500.	102000.	101000.	101000.	89500.
K.043569	34.3	25.2	2.47	1.81	31.9	23.4	121.					55400.	50400.	56200.	55400.	55400.	50400.
.05	33.7	25.7	2.72	2.07	31.0	23.6	91.5					18300.	17200.	18800.	18300.	18300.	17200.
.06	32.7	26.2	3.07	2.46	29.7	23.7	72.1					8390.	8010.	8780.	8410.	8390.	8010.
.08	31.0	26.3	3.63	3.08	27.4	23.2	43.8					2740.	2660.	2970.	2760.	2740.	2660.
.1	29.6	26.0	4.08	3.59	25.5	22.4	25.1					1220.	1190.	1380.	1240.	1220.	1190.
.15	26.6	24.8	4.83	4.50	21.8	20.3	13.7					954.	934.	1100.	979.	956.	936.
.2	24.4	23.3	5.27	5.04	19.1	18.3	7.92					5570.	1840.	5720.	5600.	5570.	1840.
.3	21.2	20.7	5.72	5.58	15.5	15.1	3.61					3840.	1600.	3940.	3870.	3840.	1600.
.4	19.0	18.7	5.89	5.74	13.1	13.0	2.04					2330.	1200.	2430.	2360.	2330.	1200.
.5	17.3	17.1	5.92	5.78	11.4	11.3	1.33					1070.	680.	1140.	1100.	1070.	683.
.6	16.0	15.9	5.90	5.77	10.2	10.1	.925					580.	411.	635.	606.	584.	415.
.8	14.1	14.0	5.76	5.60	8.33	8.40	.522					190.	153.	228.	215.	195.	158.
1.	12.7	12.6	5.57	5.33	7.10	7.27	.337					86.0	73.5	117.	109.	91.3	78.5
1.5	10.3	10.3	5.09	4.92	5.20	5.38	.151	.235		.235	.0717	28.2	25.5	52.5	48.9	33.9	31.1
2.	8.78	8.77	4.66	4.40	4.12	4.37	.0850	.793		.793	.365	13.3	12.3	34.0	32.0	19.2	18.0
3.	6.91	6.90	3.98	3.65	2.92	3.25	.0382	1.98	.00242	1.98	1.21	7.57	7.13	26.0	24.7	13.5	12.9
4.	5.77	5.77	3.50	3.13	2.27	2.64	.0214	3.08	.00995	3.09	2.09	4.87	4.63	21.7	20.8	10.8	10.4
5.	4.98	4.98	3.13	2.72	1.85	2.26	.0139	3.98	.0195	4.00	2.85	2.49	2.40	17.0	16.5	8.25	8.00
6.	4.41	4.41	2.84	2.40	1.57	2.01	.00968	4.72	.0302	4.75	3.47	1.56	1.51	14.5	14.2	7.13	6.84
8.	3.60	3.60	2.40	1.94	1.20	1.66	.00548	5.90	.0511	5.95	4.42	.740	.726	11.4	11.3	6.06	5.72
10.	3.07	3.07	2.10	1.59	.971	1.48	.00342	6.92	.0700	6.99	5.19	.448	.441	10.1	10.0	5.90	5.21
15.	2.27	2.27	1.61	1.15	.659	1.12	.00144	8.98	.109	9.09	6.47	.242	.240	9.16	9.12	6.20	5.10
20.	1.82	1.82	1.32	.874	.499	.946			.138	10.6	7.07	.160	.159	9.04	9.02	6.75	5.38
30.	1.33	1.33	.992	.568	.335	.762			.180	12.7	7.63	.118	.117	9.11	9.10	7.25	5.69
40.	1.05	1.05	.802	.398	.253	.652			.210	14.1	7.85	.0940	.0935	9.26	9.25	7.68	5.96
50.	.881	.881	.678	.304	.203	.577			.232	15.2	7.59	.0653	.0651	9.62	9.62	8.42	6.43
60.	.758	.758	.589	.238	.170	.520			.251	16.1	7.46	.0500	.0499	10.1	10.1	9.14	6.83
80.	.598	.598	.470	.161	.128	.437			.278	17.3	7.26	.0313	.0312	11.4	11.4	10.7	7.65
100.	.497	.497	.394	.118	.102	.379			.299	18.2	6.97	.0228	.0228	12.4	12.4	11.9	7.97
												.0147	.0147	14.0	14.0	13.7	8.21
												.0107	.0107	15.2	15.2	14.9	8.06
												.00844	.00844	16.1	16.1	15.9	7.90
												.00692	.00692	16.9	16.9	16.7	7.70
												.00510	.00510	17.9	17.9	17.8	7.43
												.00400	.00400	18.7	18.7	18.6	7.09

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(cm²/g = 0.004175 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{KN} ($\frac{\mu}{\rho}$) _{inc,t}	($\frac{\mu}{\rho}$) _{BD} ($\frac{\mu}{\rho}$) _{inc,t}	($\frac{\mu}{\rho}$) _{KN} ($\frac{\mu}{\rho}$) _{inc,a}	($\frac{\mu}{\rho}$) _{BD} ($\frac{\mu}{\rho}$) _{inc,a}	($\frac{\mu}{\rho}$) _{KN} ($\frac{\mu}{\rho}$) _{inc,s}	($\frac{\mu}{\rho}$) _{BD} ($\frac{\mu}{\rho}$) _{inc,s}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{x_n}	($\frac{\mu}{\rho}$) _{x_c}	($\frac{\mu}{\rho}$) _{x_t}	($\frac{\mu}{\rho}$) _{x_n}	($\frac{\mu}{\rho}$) _{x_a}	($\frac{\mu}{\rho}$) _{x_t}	($\frac{\mu}{\rho}$) _{x_a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,ex}
.001	.166	.00651	.000324	.0000127	.166	.00651	9.39								10600.	10600.	10600.	10600.
M _{IV} .001001	.166	.00655	.000324	.0000128	.166	.00655	9.39								10600.	10600.	10600.	10600.
M _{III} .001298	.166	.00893	.000418	.0000226	.165	.00889	9.10								12000.	12000.	12000.	12000.
M _{II} .001403	.166	.00977	.000451	.0000267	.165	.00973	9.02								6430.	6430.	6430.	6430.
.0015	.166	.0106	.000484	.0000308	.165	.0105	8.89								7390.	7390.	7390.	7390.
M _I .001575	.166	.0111	.000505	.0000342	.165	.0111	8.85								5760.	5760.	5760.	5760.
.002	.165	.0145	.000643	.0000564	.164	.0144	8.39								6850.	6850.	6850.	6850.
.003	.164	.0218	.000956	.000127	.164	.0217	7.43								5850.	5850.	5850.	5850.
.004	.164	.0287	.00126	.000221	.163	.0285	6.51								5220.	5220.	5220.	5220.
.005	.163	.0348	.00157	.000334	.162	.0345	5.72								6350.	6350.	6350.	6350.
.006	.163	.0402	.00186	.000459	.161	.0397	5.09								3350.	3350.	3350.	3350.
L _{III} .006208	.163	.0412	.00192	.000488	.161	.0407	4.97								1150.	1150.	1150.	1150.
L _{II} .006722	.162	.0438	.00207	.000559	.160	.0434	4.68								534.	534.	534.	534.
L _I .007128	.162	.0455	.00220	.000614	.160	.0451	4.47								298.	298.	298.	298.
.008	.162	.0493	.00245	.000747	.159	.0484	4.05								182.	182.	182.	182.
.01	.160	.0572	.00301	.00107	.157	.0559	3.29								167.	167.	167.	167.
.015	.157	.0726	.00434	.00201	.153	.0708	2.13								534.	534.	534.	534.
.02	.155	.0835	.00559	.00301	.149	.0808	1.52								459.	459.	459.	459.
.03	.149	.0964	.00781	.00501	.142	.0914	.881								422.	422.	422.	422.
.04	.145	.104	.00969	.00689	.135	.0964	.588								501.	501.	501.	501.
K.043569	.143	.105	.0103	.00756	.133	.0977	.501								505.	505.	505.	505.
.05	.141	.107	.0114	.00864	.129	.0985	.403								438.	438.	438.	438.
.06	.137	.109	.0128	.0103	.124	.0989	.301								505.	505.	505.	505.
.08	.129	.110	.0152	.0129	.114	.0969	.183								422.	422.	422.	422.
.1	.124	.109	.0170	.0150	.106	.0935	.121								374.	374.	374.	374.
.15	.111	.104	.0202	.0188	.0910	.0848	.0572								219.	219.	219.	219.
.2	.102	.0973	.0220	.0210	.0797	.0764	.0331								78.5	78.5	78.5	78.5
.3	.0885	.0864	.0239	.0233	.0647	.0630	.0151								35.0	35.0	35.0	35.0
.4	.0793	.0781	.0246	.0240	.0547	.0543	.00852								11.4	11.4	11.4	11.4
.5	.0722	.0714	.0247	.0241	.0476	.0472	.00555								5.09	5.09	5.09	5.09
.6	.0668	.0664	.0246	.0241	.0426	.0422	.00386								4.97	4.97	4.97	4.97
.8	.0589	.0585	.0240	.0234	.0346	.0351	.00218								3.99	3.99	3.99	3.99
1.	.0530	.0526	.0233	.0223	.0296	.0304	.00141								2.84	2.84	2.84	2.84
1.5	.0430	.0430	.0213	.0205	.0217	.0225	.000630	.000981							2.42	2.42	2.42	2.42
2.	.0367	.0366	.0195	.0184	.0172	.0182	.000355	.00331							.743	.743	.743	.743
3.	.0288	.0288	.0166	.0152	.0122	.0136	.000159	.00827	.0000101						.359	.359	.359	.359
4.	.0241	.0241	.0146	.0131	.00948	.0110	.0000893	.0129	.0000415	.0129	.00873				.118	.118	.118	.118
5.	.0208	.0208	.0131	.0114	.00772	.00944	.0000580	.0166	.0000814	.0167	.0119	.000493			.0555	.0514	.042	.042
6.	.0164	.0164	.0119	.0100	.00655	.00839	.0000404	.0197	.000126	.0198	.0145	.000392			.0316	.0298	.019	.019
8.	.0150	.0150	.0100	.00810	.00541	.00693	.0000229	.0246	.000213	.0248	.0185	.000273			.0263	.0193	.0109	.0109
10.	.0128	.0128	.00877	.00664	.00445	.00618	.0000143	.0289	.000292	.0292	.0217	.000209			.0104	.0100	.00710	.00689
15.	.00948	.00948	.00672	.00480	.00275	.00468	.0000060	.0375	.000455	.0380	.0270	.000131			.00651	.00630	.00405	.00393
20.	.00760	.00760	.00551	.00365	.00238	.00395		.0438	.000576	.0443	.0295	.0000952			.00630	.00603	.00476	.00472
30.	.00555	.00555	.00414	.00237	.00140	.00318		.0522	.000751	.0530	.0319	.0000614			.00614	.00585	.00455	.00455
40.	.00438	.00438	.00335	.00166	.00136	.00272		.0580	.000877	.0589	.0319	.0000447			.00585	.00558	.00422	.00422
50.	.00368	.00368	.00283	.00127	.000348	.00241		.0626	.000969	.0635	.0317	.0000352			.00568	.00540	.00405	.00405
60.	.00316	.00316	.00246	.000994	.000710	.00217		.0660	.00105	.0672	.0311	.0000289			.00547	.00518	.00386	.00386
80.	.00250	.00250	.00196	.000672	.000534	.00182		.0710	.00116	.0722	.0303	.0000213			.00529	.00500	.00368	.00368
100.	.00207	.00207	.00164	.000493	.000426	.00158		.0747	.00125	.0760	.0291	.0000167			.00510	.00481	.00352	.00352

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(barns/atom)

E (MeV)	$\sigma_{KN}^{inc,t}$	$\sigma_{BD}^{inc,t}$	$\sigma_{KN}^{inc,a}$	$\sigma_{BD}^{inc,a}$	$\sigma_{KN}^{inc,s}$	$\sigma_{BD}^{inc,s}$	σ_{cch}	$\sigma_{\pi n}$	$\sigma_{\pi e}$	$\sigma_{\pi,t}$	$\sigma_{\pi,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	40.4	1.53	.0788	.00298	40.3	1.53	2330.					867000.	867000.	869000.	867000.	867000.	867000.
M_V .001027	40.4	1.58	.0809	.00316	40.3	1.58	2320.					812000.	812000.	814000.	812000.	812000.	812000.
M_{IV} .001052	40.4	1.63	.0828	.00334	40.3	1.63	2320.					2540000.	2540000.	2540000.	2540000.	2540000.	2540000.
M_{III} .001357	40.4	2.22	.107	.00586	40.3	2.21	2250.					2400000.	2400000.	2400000.	2400000.	2400000.	2400000.
M_{II} .001471	40.3	2.43	.115	.00695	40.2	2.42	2220.					2720000.	2720000.	2720000.	2720000.	2720000.	2720000.
.0015	40.3	2.49	.118	.00726	40.2	2.48	2210.					1470000.	1470000.	1470000.	1470000.	1470000.	1470000.
M_I .001648	40.3	2.77	.129	.00887	40.2	2.76	2180.					1690000.	1690000.	1690000.	1690000.	1690000.	1690000.
.002	40.3	3.42	.156	.0133	40.1	3.41	2090.					1310000.	1310000.	1310000.	1310000.	1310000.	1310000.
.003	40.1	5.19	.232	.0301	39.9	5.16	1850.					1560000.	1560000.	1560000.	1560000.	1560000.	1560000.
.004	40.0	6.84	.307	.0526	39.6	6.79	1630.					1480000.	1480000.	1480000.	1480000.	1480000.	1480000.
.005	39.8	8.32	.381	.0797	39.4	8.24	1430.					1190000.	1190000.	1190000.	1190000.	1190000.	1190000.
.006	39.6	9.63	.454	.110	39.2	9.52	1270.					1450000.	1450000.	1450000.	1450000.	1450000.	1450000.
L_{III} .006459	39.6	10.2	.487	.125	39.1	10.1	1200.					868000.	868000.	870000.	868000.	868000.	868000.
L_{II} .007013	39.5	10.8	.526	.144	39.0	10.7	1130.					296000.	296000.	298000.	296000.	296000.	296000.
L_I .007428	39.4	11.3	.556	.159	38.9	11.1	1080.					137000.	137000.	137000.	137000.	137000.	137000.
.008	39.4	11.9	.596	.180	38.8	11.7	1010.					76500.	76500.	77900.	76500.	76500.	76500.
.01	39.1	13.8	.732	.259	38.3	13.5	821.					46700.	46700.	48000.	46700.	46700.	46700.
.015	38.4	17.5	1.06	.484	37.3	17.0	532.					38600.	38600.	39800.	38600.	38600.	38600.
.02	37.7	20.2	1.36	.729	36.3	19.5	379.					122000.	122000.	123000.	122000.	122000.	122000.
.03	36.4	23.4	1.90	1.22	34.6	22.2	220.					95800.	82900.	96900.	95800.	95800.	82900.
.04	35.3	25.1	2.35	1.67	32.9	23.4	142.					132000.	114000.	133000.	132000.	132000.	114000.
K .045184	34.7	25.7	2.58	1.91	32.2	23.8	118.					114000.	99000.	115000.	114000.	114000.	99000.
.05	34.2	26.1	2.76	2.11	31.5	24.0	101.					132000.	115000.	133000.	132000.	132000.	115000.
.06	33.3	26.6	3.12	2.50	30.2	24.1	75.1					107000.	93900.	108000.	107000.	107000.	93900.
.08	31.5	26.7	3.69	3.13	27.9	23.6	45.7					59000.	53200.	59800.	59000.	59000.	53200.
.1	30.1	26.4	4.15	3.64	25.9	22.8	30.3					14600.	18300.	20100.	14600.	14600.	18300.
.15	27.1	25.2	4.91	4.57	22.1	20.6	14.3					8950.	8510.	9350.	8950.	8950.	8510.
.2	24.8	23.6	5.36	5.10	19.4	18.5	8.27					2950.	2850.	3190.	2950.	2950.	2850.
.3	21.6	21.0	5.81	5.66	15.8	15.3	3.75					1300.	1270.	1470.	1300.	1300.	1270.
.4	19.3	19.0	5.98	5.83	13.3	13.2	2.18					925.	905.	1070.	951.	928.	907.
.5	17.6	17.4	6.02	5.88	11.6	11.5	1.38					5350.	1760.	5490.	5380.	5350.	1760.
.6	16.3	16.2	6.00	5.88	10.3	10.3	.9+5					4100.	1620.	4230.	4130.	4100.	1620.
.8	14.3	14.2	5.86	5.68	8.47	8.52	.5-7					2480.	1230.	2580.	2510.	2480.	1230.
1.	12.9	12.8	5.67	5.40	7.22	7.40	.350					1140.	708.	1210.	1170.	1140.	711.
1.5	10.5	10.4	5.18	4.96	5.29	5.44	.158	.245				620.	432.	677.	646.	624.	436.
2.	8.92	8.91	4.74	4.47	4.19	4.44	.0889	.825				203.	162.	242.	228.	208.	167.
3.	7.02	7.01	4.05	3.71	2.97	3.30	.0400	2.05				92.0	78.1	124.	116.	97.4	83.2
4.	5.87	5.87	3.56	3.18	2.31	2.69	.0224	3.19	.0101	3.20	2.16	30.1	27.1	54.9	51.1	35.9	32.8
5.	5.07	5.07	3.18	2.76	1.89	2.31	.0145	4.11	.0198	4.13	2.94	14.3	13.2	35.4	33.3	20.3	19.0
6.	4.48	4.48	2.88	2.43	1.59	2.05	.0101	4.87	.0307	4.90	3.58	8.12	7.63	26.9	25.5	14.1	13.5
8.	3.66	3.66	2.44	1.96	1.22	1.70	.01572	6.07	.0520	6.12	4.54	5.22	4.96	22.4	21.4	11.2	10.8
10.	3.12	3.12	2.13	1.61	.988	1.51	.01358	7.17	.0711	7.24	5.37	2.68	2.58	17.4	16.9	8.54	8.26
15.	2.31	2.31	1.64	1.16	.670	1.15	.00149	9.25	.111	9.36	6.63	1.68	1.63	14.8	14.5	7.35	7.03
20.	1.85	1.85	1.35	.886	.507	.964						.800	.784	11.6	11.4	6.22	5.87
30.	1.35	1.35	1.01	.572	.341	.778						.485	.478	10.3	10.2	6.05	5.33
40.	1.07	1.07	.815	.404	.257	.666						.259	.254	9.36	9.32	6.36	5.22
50.	.895	.895	.689	.307	.206	.588						.172	.171	9.26	9.24	6.93	5.51
60.	.771	.771	.598	.241	.173	.530						.127	.126	9.34	9.33	7.44	5.83
80.	.603	.608	.478	.163	.130	.445						.101	.100	9.49	9.48	7.88	6.11
100.	.505	.505	.401	.120	.104	.385						.0702	.0699	9.86	9.85	8.63	6.57
												.0538	.0536	10.4	10.4	9.42	7.03
												.0338	.0337	11.7	11.7	11.0	7.82
												.0246	.0246	12.8	12.8	12.3	8.13
												.0158	.0158	14.5	14.5	14.1	8.41
												.0115	.0115	15.6	15.6	15.3	8.24
												.00906	.00905	16.6	16.6	16.4	8.11
												.00742	.00742	17.4	17.4	17.2	7.90
												.00545	.00545	18.4	18.4	18.3	7.59
												.00430	.00430	19.3	19.3	19.2	7.27

of PROMETHIUM
(cm²/g = 0.004153 x barns/atom)

E (MeV)	($\frac{\sigma}{\rho}$) _{inc,t} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,t} ^{BD}	($\frac{\sigma}{\rho}$) _{inc,a} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,a} ^{BD}	($\frac{\sigma}{\rho}$) _{inc,s} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,s} ^{BD}	($\frac{\sigma}{\rho}$) _{coh}	($\frac{\sigma}{\rho}$) _n	($\frac{\sigma}{\rho}$) _p	($\frac{\sigma}{\rho}$) _{x,t}	($\frac{\sigma}{\rho}$) _{x,a}	($\frac{\sigma}{\rho}$) _t	($\frac{\sigma}{\rho}$) _{r,a}	($\frac{\sigma}{\rho}$) _{tot,t}	($\frac{\sigma}{\rho}$) _{tot,t-coh}	($\frac{\sigma}{\rho}$) _{tot,a}	($\frac{\sigma}{\rho}$) _{tot,en}
.001	.166	.00635	.000327	.0000124	.167	.00635	9.68					3600.	3600.	3610.	3600.	3600.	3600.
M _v .001027	.168	.00656	.000336	.0000131	.167	.00656	9.63					3370.	3370.	3380.	3370.	3370.	3370.
M _{IV} .001052	.168	.00677	.000344	.0000139	.167	.00677	9.63					10500.	10500.	10500.	10500.	10500.	10500.
M _{III} .001357	.168	.00922	.000444	.0000243	.167	.00918	9.34					9970.	9970.	9970.	9970.	9970.	9970.
M _{II} .001471	.167	.0101	.000478	.0000289	.167	.0101	9.22					11300.	11300.	11300.	11300.	11300.	11300.
.0015	.167	.0103	.000490	.0000302	.167	.0103	9.18					6100.	6100.	6100.	6100.	6100.	6100.
M _I .001648	.167	.0115	.000536	.0000368	.167	.0115	9.05					7020.	7020.	7020.	7020.	7020.	7020.
.002	.167	.0142	.000648	.0000552	.167	.0142	8.68					5440.	5440.	5440.	5440.	5440.	5440.
.003	.167	.0216	.000963	.000125	.166	.0214	7.68					6480.	6480.	6480.	6480.	6480.	6480.
.004	.166	.0284	.00127	.000218	.164	.0282	6.77					6150.	6150.	6150.	6150.	6150.	6150.
.005	.165	.0346	.00158	.000331	.164	.0342	5.94					4940.	4940.	4940.	4940.	4940.	4940.
.006	.164	.0400	.00189	.000457	.163	.0395	5.27					6020.	6020.	6020.	6020.	6020.	6020.
L _{III} .006459	.164	.0424	.00202	.000519	.162	.0419	4.98					3600.	3600.	3610.	3600.	3600.	3600.
L _{II} .007013	.164	.0449	.00218	.000598	.162	.0444	4.69					1230.	1230.	1240.	1230.	1230.	1230.
L _I .007428	.164	.0469	.00231	.000660	.162	.0461	4.49					569.	569.	577.	569.	569.	569.
.008	.164	.0494	.00248	.000746	.161	.0486	4.19					318.	318.	324.	318.	318.	318.
.01	.162	.0573	.00304	.00108	.159	.0561	3.41					194.	194.	199.	194.	194.	194.
.015	.159	.0727	.00440	.00201	.155	.0706	2.21					161.	160.	165.	160.	160.	160.
.02	.157	.0839	.00565	.00303	.151	.0810	1.57					50.	432.	511.	507.	507.	507.
.03	.151	.0972	.00789	.00507	.144	.0922	.914					396.	344.	402.	398.	398.	344.
.04	.147	.104	.00976	.00694	.137	.0972	.590					548.	473.	552.	548.	548.	473.
K.045184	.144	.107	.0107	.00793	.134	.0988	.490					471.	411.	478.	473.	473.	411.
.05	.142	.108	.0115	.00876	.131	.0997	.419					548.	478.	552.	548.	548.	478.
.06	.138	.110	.0130	.0104	.125	.100	.312					44.	390.	449.	444.	444.	390.
.08	.131	.111	.0153	.0130	.116	.0980	.190					245.	221.	248.	245.	245.	221.
.1	.125	.110	.0172	.0151	.108	.0947	.126					8.	76.0	83.8	81.4	81.4	76.0
.15	.113	.105	.0204	.0190	.0918	.0856	.0594					37.2	35.3	38.8	37.3	37.2	35.3
.2	.103	.0980	.0223	.0212	.0808	.0768	.0343					11.3	11.8	13.2	12.3	12.3	11.8
.3	.0897	.0872	.0241	.0235	.0656	.0635	.0156					5.40	5.27	6.10	5.52	5.40	5.27
.4	.0802	.0789	.0248	.0242	.0552	.0548	.03885					8.84	3.76	4.44	3.95	3.85	3.77
.5	.0731	.0723	.0250	.0244	.0482	.0478	.03573					22.2	7.31	22.8	22.3	22.2	7.31
.6	.0677	.0673	.0249	.0244	.0428	.0428	.03401					19.0	6.73	17.6	17.2	17.0	6.73
.8	.0594	.0590	.0243	.0236	.0352	.0354	.02227					15.3	5.11	10.7	10.4	10.3	5.11
1.	.0536	.0532	.0235	.0224	.0300	.0307	.0145					4.73	2.94	5.03	4.86	4.73	2.95
1.5	.0436	.0432	.0215	.0206	.0224	.0226	.00656	.00102				2.57	1.79	2.81	2.68	2.59	1.81
2.	.0370	.0370	.0197	.0186	.0174	.0184	.00369	.00343				.843	.673	1.01	.947	.864	.694
3.	.0292	.0291	.0168	.0154	.0123	.0137	.000166	.00851				.387	.324	.515	.482	.405	.366
4.	.0244	.0244	.0148	.0132	.00959	.0112	.0000930	.0132	.0000419	.00102		.125	.113	.228	.212	.149	.136
5.	.0211	.0211	.0132	.0115	.00785	.00959	.0000602	.0171	.0000822	.00851		.0594	.0548	.147	.138	.0843	.0789
6.	.0186	.0186	.0120	.0101	.00660	.00851	.0000419	.0202	.000127	.00519		.0337	.0317	.112	.106	.0586	.0561
8.	.0152	.0152	.0101	.00814	.00537	.00706	.0000238	.0252	.000216	.00419		.0217	.0204	.0930	.0889	.0465	.0440
10.	.0130	.0130	.00885	.00669	.00410	.00627	.0000149	.0298	.000295	.00189		.0111	.0107	.0723	.0702	.0355	.0343
15.	.00959	.00959	.00681	.00482	.00278	.00478	.0000062	.0384	.000461	.00309		.00698	.00677	.0615	.0602	.0305	.0292
20.	.00768	.00768	.00561	.00368	.00211	.00400						.00332	.00326	.0482	.0473	.0258	.0242
30.	.00561	.00561	.00419	.00238	.00142	.00323						.00201	.00199	.0428	.0424	.0251	.0221
40.	.00444	.00444	.00338	.00168	.00107	.00277						.00108	.00104	.0389	.0387	.0264	.0217
50.	.00372	.00372	.00286	.00127	.000856	.00244						.000714	.000710	.0385	.0384	.0288	.0229
60.	.00320	.00320	.00248	.00100	.000718	.00220						.000527	.000523	.0388	.0387	.0309	.0242
80.	.00253	.00253	.00199	.000677	.000540	.00185						.000419	.000415	.0394	.0394	.0327	.0254
100.	.00210	.00210	.00167	.000498	.000432	.00160						.000292	.000290	.0409	.0409	.0358	.0273
												.000223	.000223	.0432	.0432	.0391	.0292
												.000140	.000140	.0486	.0486	.0457	.0325
												.000102	.000102	.0532	.0532	.0511	.0338
												.0000656	.0000656	.0602	.0602	.0586	.0350
												.0000478	.0000478	.0644	.0644	.0635	.0342
												.0000376	.0000376	.0689	.0689	.0681	.0337
												.0000308	.0000308	.0723	.0723	.0714	.0328
												.0000226	.0000226	.0764	.0764	.0760	.0315
												.0000179	.0000179	.0802	.0802	.0797	.0302

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(barns/atom)

E (MeV)	$\sigma_{inc,t}^{KN}$	$\sigma_{inc,t}^{BD}$	$\sigma_{inc,a}^{KN}$	$\sigma_{inc,a}^{BD}$	$\sigma_{inc,s}^{KN}$	$\sigma_{inc,s}^{BD}$	σ_{coh}	σ_{xn}	σ_{xe}	$\sigma_{x,t}$	$\sigma_{x,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	41.1	1.50	.0800	.00292	41.0	1.50	2410.					914000.	914000.	914000.	914000.	914000.	914000.
M _v .001078	41.1	1.65	.0863	.00346	41.0	1.65	2390.					769000.	769000.	771000.	769000.	769000.	769000.
M _{IV} .001106	41.1	1.70	.0885	.00366	41.0	1.70	2380.					2410000.	2410000.	2410000.	2410000.	2410000.	2410000.
M _{III} .001419	41.0	2.29	.113	.00632	40.9	2.28	2310.					2270000.	2270000.	2270000.	2270000.	2270000.	2270000.
												2570000.	2570000.	2570000.	2570000.	2570000.	2570000.
												1400000.	1400000.	1400000.	1400000.	1400000.	1400000.
.0015	41.0	2.45	.120	.00715	40.9	2.44	2290.					1610000.	1610000.	1610000.	1610000.	1610000.	1610000.
M _{II} .001541	41.0	2.52	.123	.00755	40.9	2.51	2280.					1350000.	1350000.	1350000.	1350000.	1350000.	1350000.
												1250000.	1250000.	1250000.	1250000.	1250000.	1250000.
M _I .001723	41.0	2.86	.137	.00957	40.8	2.85	2240.					1480000.	1480000.	1480000.	1480000.	1480000.	1480000.
												1140000.	1140000.	1140000.	1140000.	1140000.	1140000.
.002	40.9	3.37	.159	.0131	40.8	3.36	2170.					1380000.	1380000.	1380000.	1380000.	1380000.	1380000.
.003	40.8	5.14	.236	.0298	40.5	5.11	1920.					923000.	923000.	923000.	923000.	923000.	923000.
.004	40.6	6.79	.312	.0522	40.3	6.74	1700.					317000.	317000.	317000.	317000.	317000.	317000.
.005	40.5	8.29	.387	.0794	40.1	8.21	1490.					1480000.	1480000.	1500000.	1480000.	1480000.	1480000.
.006	40.3	9.62	.461	.110	39.8	9.51	1320.					82000.	82000.	83500.	82000.	82000.	82000.
L _{III} .006716	40.2	10.5	.513	.134	39.7	10.4	1220.					50300.	50300.	51600.	50300.	50300.	50300.
												37300.	37300.	38500.	37300.	37300.	37300.
L _{II} .007312	40.1	11.2	.556	.155	39.5	11.0	1140.					117000.	99500.	117000.	117000.	99500.	99500.
												91100.	78600.	92300.	91100.	91100.	78600.
L _I .007736	40.0	11.6	.587	.170	39.5	11.4	1090.					126000.	108000.	127000.	126000.	126000.	108000.
												109000.	94400.	110000.	109000.	109000.	94400.
.008	40.0	11.9	.505	.180	39.4	11.7	1060.					126000.	109000.	127000.	126000.	126000.	109000.
.01	39.7	13.8	.744	.259	39.0	13.5	857.					114000.	99100.	119000.	114000.	114000.	99100.
.015	39.0	17.6	1.38	.487	37.9	17.1	554.					62800.	56200.	63700.	62800.	62800.	56200.
.02	38.3	20.4	1.38	.736	36.9	19.7	395.					20900.	19400.	21500.	20900.	20900.	19400.
.03	37.0	23.7	1.33	1.23	35.1	22.5	229.					9590.	9090.	10000.	9610.	9590.	9090.
.04	35.9	25.4	2.39	1.69	33.5	23.7	148.					3150.	3040.	3400.	3170.	3140.	3040.
K.046834	35.1	26.2	2.69	2.00	32.5	24.2	116.					1410.	1370.	1580.	1440.	1410.	1370.
												897.	877.	1040.	923.	900.	879.
.05	34.8	26.4	2.81	2.13	32.0	24.3	105.					5140.	1680.	5280.	5170.	5140.	1680.
.06	33.8	26.9	3.7	2.52	30.7	24.4	78.3					4300.	1590.	4430.	4330.	4300.	1590.
.08	32.1	27.1	3.76	3.17	28.3	23.9	47.7					2620.	1240.	2730.	2650.	2620.	1240.
.1	30.5	26.8	4.22	3.70	26.3	23.1	31.5					1200.	727.	1270.	1230.	1200.	730.
.15	27.5	25.6	4.99	4.65	22.5	21.0	14.3					655.	449.	713.	682.	659.	452.
.2	25.2	24.0	5.45	5.19	19.8	18.8	8.52					217.	171.	257.	243.	222.	176.
.3	21.9	21.3	5.91	5.74	16.0	15.6	3.32					98.5	83.0	131.	122.	104.	88.2
.4	19.6	19.3	6.68	5.93	13.6	13.4	2.22					32.6	29.2	57.8	53.9	38.5	34.9
.5	17.9	17.7	6.11	5.98	11.8	11.7	1.44					15.3	14.1	36.8	34.6	21.4	20.0
.6	16.6	16.4	6.69	5.95	10.5	10.4	1.30					8.75	8.20	27.9	26.4	14.9	14.2
.8	14.6	14.5	5.66	5.80	8.61	8.70	.571					5.59	5.30	23.0	22.0	11.7	11.3
1.	13.1	13.0	5.16	5.49	7.33	7.51	.867					2.87	2.76	17.9	17.4	8.83	8.56
1.5	10.6	10.6	5.26	5.06	5.38	5.54	.65	.256	.256	.0778		1.80	1.74	15.2	14.8	7.56	7.23
2.	9.07	9.06	4.81	4.54	4.26	4.52	.825	.855				.860	.842	11.9	11.7	6.38	5.98
3.	7.14	7.13	4.12	3.76	3.02	3.37	.9417	2.13	.00250	2.13	1.30	.520	.512	10.5	10.4	6.19	5.44
4.	5.96	5.96	3.62	3.22	2.34	2.74	.9234	3.30	.0102	3.31	2.23	.279	.276	9.58	9.54	6.53	5.34
5.	5.15	5.15	3.23	2.80	1.92	2.35	.9152	4.25	.0201	4.27	3.03	.185	.184	9.48	9.45	7.11	5.63
6.	4.55	4.55	2.93	2.46	1.62	2.09	.9105	5.00	.0312	5.01	3.66	.137	.136	9.57	9.56	7.64	5.97
8.	3.72	3.72	2.48	1.99	1.24	1.73	.90597	6.27	.0528	6.32	4.67	.108	.107	9.70	9.69	8.07	6.21
10.	3.17	3.17	2.17	1.64	1.00	1.53	.90375	7.40	.0723	7.47	5.52	.0759	.0756	10.1	10.1	8.88	6.74
15.	2.35	2.35	1.67	1.18	.681	1.17	.90155	9.53	.113	9.64	6.80	.0579	.0577	10.7	10.7	9.70	7.22
20.	1.88	1.88	1.37	.899	.515	.981			.142	11.2	7.39	.0364	.0363	12.0	12.0	11.3	8.07
30.	1.37	1.37	1.02	.578	.347	.792			.185	13.5	8.05	.0262	.0262	13.1	13.1	12.6	8.32
40.	1.09	1.09	.828	.411	.262	.679			.217	15.0	8.08	.0169	.0169	14.9	14.9	14.5	8.64
50.	.910	.910	.701	.311	.210	.599			.240	16.1	7.94	.0124	.0124	16.1	16.1	15.8	8.50
60.	.784	.784	.608	.244	.175	.540			.259	17.1	7.95	.00971	.00970	17.0	17.0	16.8	8.26
80.	.618	.618	.436	.165	.132	.453			.287	18.3	7.59	.00799	.00799	17.9	17.9	17.7	8.10
100.	.513	.513	.408	.122	.106	.391			.307	19.3	7.28	.00587	.00587	18.9	18.9	18.8	7.76
												.00460	.00460	19.9	19.8	19.7	7.41

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(cm²/g = 0.004006 x barns/atom)

E (MeV)	($\frac{\sigma}{E}$) _{KN} inc, t	($\frac{\sigma}{E}$) _{BD} inc, t	($\frac{\sigma}{E}$) _{KN} inc, a	($\frac{\sigma}{E}$) _{BD} inc, a	($\frac{\sigma}{E}$) _{KN} inc, s	($\frac{\sigma}{E}$) _{BD} inc, s	($\frac{\sigma}{E}$) _{coh}	($\frac{\sigma}{E}$) _n	($\frac{\sigma}{E}$) _e	($\frac{\sigma}{E}$) _t	($\frac{\sigma}{E}$) _a	($\frac{\sigma}{E}$) _t	($\frac{\sigma}{E}$) _a	($\frac{\sigma}{E}$) _{tot, t}	($\frac{\sigma}{E}$) _{tot, t-coh}	($\frac{\sigma}{E}$) _{tot, a}	($\frac{\sigma}{E}$) _{tot, er}
.001	.165	.00601	.000320	.0000117	.164	.00601	9.65					3660.	3660.	3670.	3660.	3660.	3660.
M _V .001078	.165	.00661	.000346	.0000139	.164	.00661	9.57					3080.	3080.	3090.	3080.	3080.	3080.
M _{IV} .001106	.165	.00681	.000355	.0000147	.164	.00681	9.53					9650.	9650.	9650.	9650.	9650.	9650.
M _{III} .001419	.164	.00917	.000453	.0000253	.164	.00913	9.25					10300.	10300.	10300.	10300.	10300.	10300.
.0015	.164	.00981	.000481	.0000286	.164	.00977	9.17					5610.	5610.	5610.	5610.	5610.	5610.
M _{II} .001541	.164	.0101	.000493	.0000302	.164	.0101	9.13					6450.	6450.	6450.	6450.	6450.	6450.
M _I .001723	.164	.0115	.000549	.0000383	.163	.0114	8.97					5010.	5010.	5010.	5010.	5010.	5010.
.002	.164	.0135	.000637	.0000525	.163	.0135	8.69					4570.	4570.	4570.	4570.	4570.	4570.
.003	.163	.0206	.000945	.000119	.162	.0205	7.69					5530.	5530.	5530.	5530.	5530.	5530.
.004	.163	.0272	.00125	.000209	.161	.0270	6.81					3700.	3700.	3710.	3700.	3700.	3700.
.005	.162	.0332	.00155	.000318	.161	.0329	5.97					1270.	1270.	1280.	1270.	1270.	1270.
.006	.161	.0385	.00185	.000441	.159	.0381	5.29					593.	593.	601.	593.	593.	593.
L _{III} .006716	.161	.0421	.00206	.000537	.159	.0417	4.89					328.	328.	335.	328.	328.	328.
L _{II} .007312	.161	.0449	.00223	.000621	.158	.0441	4.57					202.	202.	207.	202.	202.	202.
L _I .007736	.160	.0455	.00235	.000681	.158	.0457	4.37					149.	149.	154.	149.	149.	149.
.008	.160	.0477	.00242	.000721	.158	.0469	4.25					469.	399.	473.	469.	469.	399.
.01	.159	.0553	.00298	.00104	.156	.0541	3.43					365.	315.	370.	365.	365.	315.
.015	.156	.0705	.00433	.00195	.152	.0685	2.22					505.	437.	509.	505.	505.	437.
.02	.153	.0817	.00553	.00295	.148	.0789	1.58					457.	437.	509.	505.	505.	437.
.03	.148	.0949	.00773	.00493	.141	.0901	.917					252.	397.	461.	457.	457.	397.
.04	.144	.102	.00957	.00677	.134	.0949	.593					252.	252.	255.	252.	252.	252.
K.046834	.141	.105	.0108	.00801	.130	.0969	.465					83.7	77.7	86.1	83.7	83.7	77.7
.05	.139	.106	.0113	.00853	.128	.0973	.421					38.4	36.4	40.1	38.5	38.4	36.4
.06	.135	.108	.0127	.0101	.123	.0977	.314					12.6	12.2	13.6	12.7	12.6	12.2
.08	.129	.109	.0151	.0127	.113	.0957	.191					5.49	5.49	6.33	5.77	5.65	5.49
.1	.122	.107	.0169	.0148	.105	.0925	.127					3.59	3.51	4.17	3.70	3.41	3.52
.15	.110	.103	.0200	.0186	.0901	.0841	.0597					20.5	6.73	21.2	20.7	20.6	6.73
.2	.101	.0961	.0218	.0208	.0793	.0753	.0345					17.2	6.37	17.7	17.3	17.2	6.37
.3	.0877	.0853	.0237	.0230	.0641	.0625	.0157					10.5	4.97	10.9	10.6	10.5	4.97
.4	.0785	.0773	.0244	.0238	.0545	.0537	.00889					4.31	2.91	5.09	4.93	4.81	2.92
.5	.0717	.0709	.0245	.0240	.0473	.0469	.00577					2.52	1.80	2.86	2.73	2.64	1.81
.6	.0665	.0657	.0244	.0238	.0421	.0417	.00401					.869	.685	1.03	.973	.889	.705
.8	.0585	.0581	.0239	.0232	.0345	.0349	.00229					.395	.332	.525	.489	.417	.353
1.	.0525	.0521	.0231	.0220	.0294	.0301	.00147					.131	.117	.232	.216	.154	.140
1.5	.0425	.0425	.0211	.0203	.0216	.0222	.000661	.00103				.0613	.0555	.147	.139	.0857	.0801
2.	.0363	.0363	.0193	.0182	.0171	.0181	.000371	.00343				.0351	.0328	.112	.106	.0597	.0569
3.	.0286	.0286	.0165	.0151	.0121	.0135	.000167	.00853	.0000100			.0224	.0212	.0921	.0881	.0469	.0453
4.	.0239	.0239	.0145	.0129	.00937	.0110	.0000937	.0132	.0000409	.0133	.00893	.0115	.0111	.0717	.0697	.0354	.0343
5.	.0206	.0206	.0129	.0112	.00769	.00941	.0000409	.0170	.0000805	.0171	.0121	.000741	.000737	.0609	.0591	.0303	.0290
6.	.0182	.0182	.0117	.00985	.00649	.00837	.0000421	.0200	.000125	.0202	.0147	.000549	.000545	.0380	.0379	.0265	.0266
8.	.0149	.0149	.00993	.00797	.00497	.00693	.0000239	.0251	.000212	.0253	.0187	.000433	.000429	.0383	.0383	.0306	.0239
10.	.0127	.0127	.00849	.00657	.00401	.00613	.0000150	.0286	.000280	.0288	.0221	.000304	.000303	.0409	.0405	.0356	.0270
15.	.00941	.00941	.00669	.00473	.00273	.00469	.0000062	.0382	.000453	.0386	.0272	.000232	.000231	.0429	.0429	.0389	.0289
20.	.00753	.00753	.00549	.00360	.00206	.00393		.0445	.000569	.0449	.0296	.000146	.000145	.0481	.0481	.0453	.0321
30.	.00549	.00549	.00409	.00232	.00139	.00317		.0533	.000741	.0541	.0322	.000105	.000105	.0525	.0525	.0505	.0333
40.	.00437	.00437	.00332	.00165	.00105	.00272		.0593	.000869	.0601	.0324	.0000677	.0000677	.0597	.0597	.0581	.0346
50.	.00365	.00365	.00281	.00125	.000841	.00240		.0637	.000961	.0645	.0318	.0000497	.0000497	.0645	.0645	.0633	.0341
60.	.00314	.00314	.00244	.000977	.000701	.00216		.0673	.00104	.0685	.0314	.0000389	.0000389	.0681	.0681	.0673	.0331
80.	.00248	.00248	.00195	.000661	.000529	.00181		.0721	.00115	.0733	.0304	.0000320	.0000320	.0717	.0717	.0709	.0324
100.	.00206	.00206	.00163	.000489	.000425	.00157		.0761	.00123	.0773	.0292	.0000235	.0000235	.0757	.0757	.0753	.0311
												.0000184	.0000184	.0793	.0793	.0789	.0297

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(barns/atom)

E (MeV)	$\sigma_{\text{inc,t}}^{\text{KN}}$	$\sigma_{\text{inc,t}}^{\text{BD}}$	$\sigma_{\text{inc,a}}^{\text{KN}}$	$\sigma_{\text{inc,a}}^{\text{BD}}$	$\sigma_{\text{inc,s}}^{\text{KN}}$	$\sigma_{\text{inc,s}}^{\text{BD}}$	σ_{coh}	σ_{xn}	σ_{xe}	$\sigma_{\text{x,t}}$	$\sigma_{\text{x,a}}$	$\sigma_{\text{t,t}}$	$\sigma_{\text{t,a}}$	$\sigma_{\text{tot,t}}$	$\sigma_{\text{tot,t-coh}}$	$\sigma_{\text{tot,a}}$	$\sigma_{\text{tot,en}}$
.001	41.7	1.46	.0813	.00284	41.7	1.46	2490.					955000.	955000.	957000.	955000.	955000.	955000.
M _y .001131	41.7	1.71	.0919	.00377	41.6	1.71	2460.					728000.	728000.	730000.	728000.	728000.	728000.
M _{IV} .001161	41.7	1.76	.0943	.00398	41.6	1.76	2450.					2280000.	2280000.	2280000.	2280000.	2280000.	2280000.
M _{III} .001481	41.7	2.36	.120	.00680	41.5	2.35	2380.					2140000.	2140000.	2140000.	2140000.	2140000.	2140000.
.0015	41.7	2.40	.122	.00700	41.5	2.39	2370.					2430000.	2430000.	2430000.	2430000.	2430000.	2430000.
M _{II} .001614	41.6	2.61	.131	.00819	41.5	2.60	2350.					1330000.	1330000.	1330000.	1330000.	1330000.	1330000.
M _I .001800	41.6	2.95	.145	.0103	41.5	2.94	2300.					1540000.	1540000.	1540000.	1540000.	1540000.	1540000.
.002	41.6	3.32	.161	.0129	41.4	3.31	2250.					1480000.	1480000.	1480000.	1480000.	1480000.	1480000.
.003	41.4	5.09	.240	.0295	41.2	5.06	2000.					1180000.	1180000.	1180000.	1180000.	1180000.	1180000.
.004	41.3	6.74	.318	.0519	40.9	6.69	1770.					1410000.	1410000.	1410000.	1410000.	1410000.	1410000.
.005	41.1	8.25	.394	.0790	40.7	8.17	1560.					1080000.	1080000.	1080000.	1080000.	1080000.	1080000.
.006	40.9	9.61	.469	.110	40.5	9.50	1380.					1310000.	1310000.	1310000.	1310000.	1310000.	1310000.
L _{III} .006977	40.8	10.8	.541	.143	40.3	10.7	1230.					997000.	997000.	997000.	997000.	997000.	997000.
L _{II} .007618	40.7	11.5	.588	.166	40.1	11.3	1150.					340000.	340000.	342000.	340000.	340000.	340000.
.008	40.6	11.9	.615	.180	40.0	11.7	1100.					158000.	158000.	160000.	158000.	158000.	158000.
L _I .008052	40.6	12.0	.619	.183	40.0	11.8	1090.					87500.	87500.	89100.	87500.	87500.	87500.
.01	40.3	13.9	.756	.260	39.6	13.6	894.					53900.	53900.	55300.	53900.	53900.	53900.
.015	39.6	17.7	1.10	.490	38.5	17.2	577.					36000.	36000.	37200.	36000.	36000.	36000.
.02	38.9	20.6	1.40	.743	37.5	19.9	410.					112000.	94800.	112000.	112000.	112000.	94800.
.03	37.6	24.0	1.96	1.25	35.7	22.8	239.					86600.	74400.	87800.	86600.	86600.	74400.
.04	36.5	25.8	2.43	1.72	34.0	24.1	155.					120000.	103000.	121000.	120000.	120000.	103000.
K.048519	35.5	26.6	2.80	2.09	32.7	24.5	114.					106000.	91300.	107000.	106000.	106000.	91300.
.05	35.4	26.8	2.85	2.16	32.5	24.6	109.					104000.	89700.	105000.	104000.	104000.	89700.
.06	34.4	27.3	3.22	2.56	31.2	24.7	81.5					120000.	103000.	121000.	120000.	120000.	103000.
.08	32.6	27.5	3.82	3.22	28.8	24.3	49.7					66800.	59300.	67700.	66800.	66800.	59300.
.1	31.0	27.2	4.28	3.75	26.8	23.4	32.9					22100.	20500.	22700.	22100.	22100.	20500.
.15	27.9	26.0	5.07	4.72	22.9	21.3	15.5					10200.	9630.	10600.	10200.	10200.	9630.
.2	25.6	24.4	5.54	5.28	20.1	19.1	8.98					3370.	3240.	3630.	3390.	3370.	3240.
.3	22.3	21.7	6.00	5.85	16.3	15.8	4.09					1510.	1470.	1690.	1540.	1510.	1470.
.4	19.9	19.6	6.18	6.02	13.8	13.6	2.31					.871.	.851.	1010.	.898.	.874.	.853.
.5	18.2	18.0	6.21	6.08	12.0	11.9	1.50					4940.	1610.	5080.	4970.	4940.	1610.
.6	16.9	16.7	6.19	6.06	10.7	10.6	1.05					4530.	1560.	4670.	4540.	4530.	1560.
.8	14.8	14.7	6.05	5.88	8.75	8.82	.593					2780.	1260.	2890.	2810.	2780.	1260.
1.	13.3	13.2	5.85	5.66	7.45	7.64	.381					1280.	756.	1360.	1310.	1280.	759.
1.5	10.8	10.8	5.35	5.14	5.46	5.66	.172	.267		.267	.0812	.699.	.470.	759.	726.	703.	474.
2.	9.22	9.20	4.89	4.61	4.33	4.59	.0963	.890		.890	.409	230.	180.	272.	256.	235.	.185.
3.	7.25	7.24	4.18	3.82	3.06	3.42	.0244	2.20	.00253	2.20	1.34	104.	87.0	137.	128.	110.	97.3
4.	6.06	6.06	3.68	3.27	2.38	2.79	.0104	3.40	.0104	3.41	2.30	34.5	30.7	60.3	56.2	40.5	36.5
5.	5.23	5.23	3.29	2.84	1.95	2.39	.0158	4.40	.0205	4.42	3.13	16.3	15.0	38.2	35.9	22.5	21.0
6.	4.63	4.63	2.78	2.50	1.65	2.13	.0110	5.19	.0317	5.22	3.79	9.30	8.69	28.8	27.3	15.5	14.8
8.	3.78	3.78	2.32	2.01	1.26	1.77	.00623	6.46	.0537	6.51	4.79	5.97	5.64	23.7	22.7	12.2	11.7
10.	3.22	3.22	2.20	1.65	1.02	1.57	.00392	7.60	.0738	7.67	5.64	3.08	2.95	18.4	17.8	9.13	8.83
15.	2.39	2.39	1.69	1.20	.692	1.19	.00160	9.80	.115	9.91	6.98	1.94	1.88	15.5	15.1	7.79	7.44
20.	1.91	1.91	1.39	.909	.524	1.00			.145	11.5	7.57	.923	.903	12.2	12.0	6.54	6.12
30.	1.39	1.39	1.04	.584	.352	.806			.188	13.9	8.24	.558	.549	10.7	10.6	6.34	5.57
40.	1.11	1.11	.842	.416	.266	.694			.220	15.4	8.23	.300	.297	9.78	9.74	6.68	5.46
50.	.925	.925	.712	.315	.213	.610			.243	16.6	8.14	.199	.197	9.69	9.67	7.29	5.77
60.	.796	.796	.618	.247	.178	.549			.263	17.6	8.01	.148	.147	9.81	9.80	7.86	6.12
80.	.628	.628	.494	.167	.134	.461			.291	18.9	7.78	.117	.116	9.98	9.97	8.32	6.41
100.	.522	.522	.414	.123	.108	.399			.312	19.9	7.47	.0820	.0817	10.4	10.4	9.11	6.88
												.0622	.0620	11.0	11.0	9.93	7.35
												.0388	.0387	12.3	12.3	11.6	8.22
												.0279	.0279	13.4	13.4	12.9	8.51
												.0180	.0180	15.3	15.3	15.0	8.84
												.0132	.0132	16.5	16.5	16.3	8.66
												.0104	.0104	17.5	17.5	17.3	8.47
												.00851	.00851	18.4	18.4	18.2	8.27
												.00628	.00628	19.5	19.5	19.4	7.95
												.00492	.00492	20.4	20.4	20.3	7.60

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(cm²/g = 0.003963 x barns/atom)

E (MeV)	($\frac{\sigma}{\sigma_0}$) _{inc, t}	($\frac{\sigma}{\sigma_0}$) _{inc, t}	($\frac{\sigma}{\sigma_0}$) _{inc, a}	($\frac{\sigma}{\sigma_0}$) _{inc, a}	($\frac{\sigma}{\sigma_0}$) _{inc, s}	($\frac{\sigma}{\sigma_0}$) _{inc, s}	($\frac{\sigma}{\sigma_0}$) _{coh}	($\frac{\sigma}{\sigma_0}$) _{x, n}	($\frac{\sigma}{\sigma_0}$) _{x, e}	($\frac{\sigma}{\sigma_0}$) _{x, t}	($\frac{\sigma}{\sigma_0}$) _{x, a}	($\frac{\sigma}{\sigma_0}$) _{r, t}	($\frac{\sigma}{\sigma_0}$) _{r, a}	($\frac{\sigma}{\sigma_0}$) _{tot, t}	($\frac{\sigma}{\sigma_0}$) _{tot, t-coh}	($\frac{\sigma}{\sigma_0}$) _{tot, a}	($\frac{\sigma}{\sigma_0}$) _{tot, en}
.001	.165	.00579	.000322	.0000113	.155	.00579	9.87					3780.	3780.	3790.	3780.	3780.	3780.
M _K .001131	.165	.00678	.000364	.0000149	.155	.00678	9.75					2890.	2890.	2890.	2890.	2890.	2890.
M _{IV} .001161	.165	.00697	.000374	.0000158	.165	.00697	9.71					9040.	9040.	9040.	9040.	9040.	9040.
M _{III} .001481	.165	.00935	.000476	.0000269	.164	.00931	9.43					8480.	8480.	8480.	8480.	8480.	8480.
.0015	.165	.00951	.000483	.0000277	.164	.00947	9.39					9630.	9630.	9630.	9630.	9630.	9630.
M _{II} .001614	.165	.0103	.000519	.0000325	.164	.0103	9.31					5270.	5270.	5270.	5270.	5270.	5270.
M _I .001800	.165	.0117	.000575	.0000408	.164	.0117	9.11					6100.	6100.	6100.	6100.	6100.	6100.
.002	.165	.0132	.000638	.0000511	.164	.0131	8.92					5870.	5870.	5870.	5870.	5870.	5870.
.003	.164	.0202	.000951	.000117	.163	.0201	7.93					4680.	4680.	4680.	4680.	4680.	4680.
.004	.164	.0267	.00126	.000206	.162	.0265	7.01					5590.	5590.	5590.	5590.	5590.	5590.
.005	.163	.0327	.00156	.000313	.161	.0324	6.18					4280.	4280.	4280.	4280.	4280.	4280.
.006	.162	.0381	.00186	.000436	.161	.0376	5.47					5190.	5190.	5190.	5190.	5190.	5190.
L _{III} .006977	.162	.0428	.00214	.000567	.160	.0424	4.87					3950.	3950.	3950.	3950.	3950.	3950.
L _{II} .007618	.161	.0456	.00233	.000658	.159	.0448	4.56					1350.	1350.	1350.	1350.	1350.	1350.
.008	.161	.0472	.00244	.000713	.159	.0464	4.35					625.	625.	625.	625.	625.	625.
L _I .008052	.161	.0476	.00245	.000725	.159	.0468	4.32					347.	347.	347.	347.	347.	347.
.01	.160	.0551	.00300	.00103	.157	.0539	3.54					143.	143.	143.	143.	143.	143.
.015	.157	.0701	.00436	.00194	.153	.0682	2.29					441.	441.	441.	441.	441.	441.
.02	.154	.0816	.00555	.00294	.149	.0789	1.62					343.	343.	343.	343.	343.	343.
.03	.149	.0951	.00777	.00495	.141	.0904	.947					295.	295.	295.	295.	295.	295.
.04	.145	.102	.00963	.00682	.135	.0955	.614					475.	475.	475.	475.	475.	475.
K.048519	.141	.105	.0111	.00828	.130	.0971	.452					408.	408.	408.	408.	408.	408.
.05	.140	.106	.0113	.00856	.129	.0975	.432					362.	362.	362.	362.	362.	362.
.06	.136	.108	.0128	.0101	.124	.0979	.323					355.	355.	355.	355.	355.	355.
.08	.129	.109	.0151	.0128	.114	.0963	.197					408.	408.	408.	408.	408.	408.
.1	.123	.108	.0170	.0149	.106	.0927	.130					245.	245.	245.	245.	245.	245.
.15	.111	.103	.0201	.0187	.0908	.0844	.0614					87.6	87.6	87.6	87.6	87.6	87.6
.2	.101	.0967	.0220	.0209	.0797	.0757	.0356					81.2	81.2	81.2	81.2	81.2	81.2
.3	.0884	.0860	.0238	.0232	.0646	.0626	.0162					40.4	40.4	40.4	40.4	40.4	40.4
.4	.0789	.0777	.0245	.0239	.0547	.0539	.00915					13.4	13.4	13.4	13.4	13.4	13.4
.5	.0721	.0713	.0246	.0241	.0476	.0472	.00594					5.98	5.98	5.98	5.98	5.98	5.98
.6	.0670	.0662	.0245	.0240	.0424	.0420	.00416					3.45	3.45	3.45	3.45	3.45	3.45
.8	.0587	.0583	.0240	.0233	.0347	.0350	.00235					19.6	19.6	19.6	19.6	19.6	19.6
1.	.0527	.0523	.0232	.0220	.0295	.0303	.00151					18.0	18.0	18.0	18.0	18.0	18.0
1.5	.0428	.0428	.0212	.0204	.0216	.0224	.000682	.00106				11.0	11.0	11.0	11.0	11.0	11.0
2.	.0365	.0365	.0194	.0183	.0172	.0182	.000382	.00353	.00106	.000322		5.07	5.07	5.07	5.07	5.07	5.07
3.	.0287	.0287	.0166	.0151	.0121	.0136	.000172	.00872	.00353	.00162		2.77	2.77	2.77	2.77	2.77	2.77
4.	.0240	.0240	.0146	.0130	.00943	.0111	.0000967	.0135	.00872	.00531		.911	.911	.911	.911	.911	.911
5.	.0207	.0207	.0130	.0113	.00773	.00947	.0000626	.0174	.00872	.00911		.713	.713	.713	.713	.713	.713
6.	.0183	.0183	.0118	.00991	.00654	.00844	.0000436	.0206	.00872	.0124		.345	.345	.345	.345	.345	.345
8.	.0156	.0156	.00999	.00797	.00499	.00701	.0000247	.0256	.00872	.0150		.122	.122	.122	.122	.122	.122
10.	.0128	.0128	.00872	.00654	.00404	.00622	.0000155	.0301	.00872	.0190		.0646	.0646	.0646	.0646	.0646	.0646
15.	.00947	.00947	.00670	.00476	.00274	.00472	.0000063	.0388	.00872	.0277		.0237	.0237	.0237	.0237	.0237	.0237
20.	.00757	.00757	.00551	.00360	.00208	.00396		.0452	.00872	.0300		.0119	.0119	.0119	.0119	.0119	.0119
30.	.00551	.00551	.00412	.00231	.00139	.00319		.0543	.00872	.0327		.00789	.00789	.00789	.00789	.00789	.00789
40.	.00440	.00440	.00334	.00165	.00105	.00275		.0602	.00872	.0326		.00646	.00646	.00646	.00646	.00646	.00646
50.	.00367	.00367	.00282	.00125	.000844	.00242		.0650	.00872	.0323		.00587	.00587	.00587	.00587	.00587	.00587
60.	.00315	.00315	.00245	.000979	.000705	.00218		.0686	.00872	.0317		.00546	.00546	.00546	.00546	.00546	.00546
80.	.00249	.00249	.00196	.000662	.000531	.00183		.0737	.00872	.0308		.00502	.00502	.00502	.00502	.00502	.00502
100.	.00207	.00207	.00164	.000487	.000428	.00158		.0777	.00872	.0296		.00469	.00469	.00469	.00469	.00469	.00469

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(barns/atom)

E (MeV)	KN inc,t	BD inc,t	KN inc,a	BD inc,a	KN inc,s	BD inc,s	σ_{tot}	σ_{en}	σ_{sc}	σ_{st}	σ_{sa}	σ_{rt}	σ_{ra}	$\sigma_{\text{tot,t}}$	$\sigma_{\text{tot,t-coh}}$	$\sigma_{\text{tot,a}}$	$\sigma_{\text{tot,en}}$
.001	42.4	1.45	.0826	.00282	42.3	1.45	2570.					1000000.	1000000.	1000000.	1000000.	1000000.	1000000.
M _V .001185	42.4	1.80	.0978	.00415	42.3	1.80	2530.					691000.	691000.	694000.	691000.	691000.	691000.
M _{IV} .001217	42.4	1.86	.100	.00441	42.3	1.86	2520.					2160000.	2160000.	2160000.	2160000.	2160000.	2160000.
.0015	42.3	2.39	.123	.00697	42.2	2.38	2450.					2030000.	2030000.	2030000.	2030000.	2030000.	2030000.
M _{III} .001544	42.3	2.47	.127	.00741	42.2	2.46	2440.					2300000.	2300000.	2300000.	2300000.	2300000.	2300000.
M _{II} .001688	42.3	2.73	.139	.00895	42.2	2.72	2400.					1360000.	1360000.	1360000.	1360000.	1360000.	1360000.
M _I .001881	42.3	3.08	.154	.0112	42.1	3.07	2350.					1280000.	1280000.	1280000.	1280000.	1280000.	1280000.
.002	42.2	3.30	.164	.0128	42.1	3.29	2320.					1470000.	1470000.	1470000.	1470000.	1470000.	1470000.
.003	42.1	5.08	.244	.0294	41.8	5.05	2060.					1130000.	1130000.	1130000.	1130000.	1130000.	1130000.
.004	41.9	6.74	.323	.0519	41.6	6.69	1820.					1340000.	1340000.	1340000.	1340000.	1340000.	1340000.
.005	41.8	8.25	.400	.0790	41.4	8.17	1610.					1030000.	1030000.	1030000.	1030000.	1030000.	1030000.
.006	41.6	9.62	.476	.110	41.1	9.51	1430.					1240000.	1240000.	1240000.	1240000.	1240000.	1240000.
L _{III} .007243	41.4	11.1	.569	.153	40.8	10.9	1240.					1060000.	1060000.	1060000.	1060000.	1060000.	1060000.
L _{II} .007930	41.3	11.9	.620	.179	40.7	11.7	1150.					360000.	360000.	362000.	360000.	360000.	360000.
.008	41.3	12.0	.625	.182	40.7	11.8	1140.					1680000.	1680000.	170000.	1680000.	1680000.	1680000.
L _I .008375	41.2	12.4	.652	.196	40.6	12.2	1100.					93700.	93700.	95300.	93700.	93700.	93700.
.01	41.0	14.0	.768	.262	40.2	13.7	927.					57900.	57900.	59300.	57900.	57900.	57900.
.015	40.2	17.9	1.11	.495	39.1	17.4	598.					34900.	34900.	36200.	34900.	34900.	34900.
.02	39.5	20.7	1.43	.747	38.1	20.0	425.					107000.	107000.	108000.	107000.	107000.	107000.
.03	38.2	24.2	1.99	1.26	36.3	22.9	268.					82500.	70600.	83700.	82500.	82500.	70600.
.04	37.0	26.1	2.47	1.74	34.6	24.4	161.					114000.	97000.	115000.	114000.	114000.	97000.
.05	35.9	27.1	2.90	2.19	33.0	24.9	113.					111000.	94600.	112000.	111000.	111000.	94600.
K.050239	35.9	27.1	2.91	2.20	33.0	24.9	112.					99100.	85100.	100000.	99100.	99100.	85100.
.06	34.9	27.6	3.28	2.59	31.6	25.0	84.7					114000.	97700.	115000.	114000.	114000.	97700.
.08	33.1	27.9	3.88	3.27	29.2	24.6	51.7					70800.	62300.	71700.	70800.	70800.	62300.
.1	31.5	27.6	4.35	3.81	27.2	23.8	34.2					23400.	21500.	24000.	23400.	23400.	21500.
.15	28.4	26.4	5.15	4.79	23.2	21.6	16.1					10800.	10200.	11200.	10800.	10800.	10200.
.2	26.0	24.8	5.62	5.36	20.4	19.4	9.34					3580.	3440.	3850.	3600.	3580.	3440.
.3	22.6	22.0	6.10	5.93	16.5	16.1	4.25					1610.	1560.	1800.	1640.	1610.	1560.
.4	20.3	19.9	6.28	6.11	14.0	13.8	2.41					859.	838.	999.	886.	842.	840.
.5	18.5	18.3	6.31	6.19	12.2	12.1	1.56					845.	825.	984.	872.	848.	827.
.6	17.1	17.0	6.29	6.15	10.8	10.8	1.09					4750.	1540.	4890.	4780.	4750.	1540.
.8	15.0	14.9	6.15	5.96	8.89	8.94	.620					2920.	1270.	3030.	2950.	2920.	1270.
1.	13.5	13.5	5.95	5.68	7.57	7.82	.396					1360.	783.	1440.	1390.	1360.	786.
1.5	11.0	11.0	5.43	5.24	5.55	5.76	.179	.279	.279	.0848		740.	489.	802.	768.	744.	493.
2.	9.36	9.35	4.97	4.68	4.39	4.67	.100	.925	.925	.425		246.	189.	286.	270.	249.	194.
3.	7.37	7.36	4.25	3.88	3.11	3.48	.0451	2.28	.00257	2.28	1.39	110.	91.3	144.	135.	114.	96.7
4.	6.16	6.16	3.74	3.32	2.42	2.84	.0253	3.50	.0106	3.51	2.37	37.0	32.8	63.3	59.0	43.1	38.7
5.	5.32	5.32	3.34	2.88	1.98	2.44	.0165	4.51	.0208	4.53	3.21	17.4	15.9	39.7	37.3	23.7	22.0
6.	4.70	4.70	3.03	2.53	1.67	2.17	.0114	5.32	.0322	5.35	3.88	9.90	9.23	29.8	28.2	16.2	15.4
8.	3.84	3.84	2.56	2.04	1.28	1.80	.00848	6.67	.0544	6.72	4.94	6.41	6.05	24.5	23.4	12.7	12.2
10.	3.27	3.27	2.24	1.67	1.04	1.60	.00869	7.81	.0749	7.88	5.79	3.30	3.16	18.8	18.2	9.45	9.12
15.	2.42	2.42	1.72	1.21	.703	1.21	.00866	10.1	.117	10.2	7.17	2.08	2.01	16.0	15.6	8.03	7.69
20.	1.94	1.94	1.41	.918	.532	1.02	.0417	10.1	.117	10.2	7.17	.890	.968	12.4	12.3	6.70	6.29
30.	1.42	1.42	1.06	.595	.358	.825	.800	11.8	.147	11.9	7.81	.400	.590	11.0	10.9	6.49	5.69
40.	1.13	1.13	.855	.421	.270	.709	.323	14.1	.191	14.3	8.45	.319	.519	10.0	9.96	6.85	5.59
50.	.940	.940	.723	.320	.216	.620	.214	15.7	.223	15.9	8.46	.214	.319	9.91	9.88	7.46	5.90
60.	.809	.809	.628	.249	.181	.560	.158	16.8	.247	17.0	8.28	.157	.212	10.0	10.0	8.03	6.25
80.	.638	.638	.502	.169	.136	.469	.124	17.8	.266	18.1	8.20	.124	.123	10.2	10.2	8.50	6.53
100.	.530	.530	.421	.125	.109	.405	.0869	19.1	.295	19.4	7.95	.0869	.0865	10.7	10.6	9.37	7.07
							.0666	20.1	.316	20.4	7.59	.0666	.0664	11.2	11.2	10.2	7.53
							.0416					.0417	.0416	12.7	12.7	12.0	8.47
							.0300					.0299	.0299	13.9	13.9	13.3	8.76
							.0193					.0193	.0193	15.7	15.7	15.4	9.06
							.0141					.0141	.0141	17.0	17.0	16.8	9.90
							.0111					.0111	.0111	18.0	18.0	17.7	8.61
							.00914					.00914	.00913	18.9	18.9	18.7	8.46
							.00670					.00670	.00670	20.0	20.0	19.9	8.13
							.00527					.00527	.00527	20.9	20.9	20.8	7.72

64 GADOLINIUM
(cm²/g = 0.003830 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{xe}	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _{r,t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}	
.001	.162	.00555	.000316	.0000108	.162	.00555	9.84					3830.	3830.	3830.	3830.	3830.	3830.	
M _V .001185	.162	.00689	.000375	.0000159	.162	.00689	9.69					2650.	2650.	2650.	2650.	2650.	2650.	
M _{IV} .001217	.162	.00712	.000383	.0000169	.162	.00712	9.65					8270.	8270.	8270.	8270.	8270.	8270.	
.0015	.162	.00915	.000471	.0000267	.162	.00912	9.38					7770.	7770.	7770.	7770.	7770.	7770.	
M _{III} .001544	.162	.00946	.000486	.0000284	.162	.00942	9.35					8810.	8810.	8810.	8810.	8810.	8810.	
M _{II} .001688	.162	.0105	.000532	.0000343	.162	.0104	9.19					5210.	5210.	5210.	5210.	5210.	5210.	
M _I .001881	.162	.0118	.000590	.0000429	.161	.0118	9.00					4900.	4900.	4900.	4900.	4900.	4900.	
.002	.162	.0126	.000628	.0000490	.161	.0126	8.89					5630.	5630.	5630.	5630.	5630.	5630.	
.003	.161	.0195	.000935	.000113	.160	.0193	7.89					4330.	4330.	4330.	4330.	4330.	4330.	
.004	.160	.0258	.00124	.000199	.159	.0256	6.97					5130.	5130.	5130.	5130.	5130.	5130.	
.005	.160	.0316	.00153	.000303	.159	.0313	6.17					3940.	3940.	3940.	3940.	3940.	3940.	
.006	.159	.0368	.00182	.000421	.157	.0364	5.48					4750.	4750.	4750.	4750.	4750.	4750.	
L _{III} .007243	.159	.0425	.00218	.000586	.156	.0417	4.75					4060.	4060.	4060.	4060.	4060.	4060.	
L _{II} .007930	.158	.0456	.00237	.000686	.156	.0448	4.40					1380.	1380.	1380.	1380.	1380.	1380.	
.008	.158	.0460	.00239	.000697	.156	.0452	4.37					643.	643.	643.	643.	643.	643.	
L _I .008375	.158	.0475	.00250	.000751	.155	.0467	4.21					359.	359.	359.	359.	359.	359.	
.01	.157	.0536	.00294	.00100	.154	.0525	3.55					222.	222.	222.	222.	222.	222.	
.015	.154	.0686	.00425	.00190	.150	.0666	2.29					134.	134.	134.	134.	134.	134.	
.02	.151	.0793	.00548	.00286	.146	.0766	1.63					410.	410.	410.	410.	410.	410.	
.03	.146	.0927	.00762	.00483	.139	.0877	.950					316.	316.	316.	316.	316.	316.	
.04	.142	.100	.00946	.00666	.133	.0935	.617					270.	270.	270.	270.	270.	270.	
.05	.137	.104	.0111	.00839	.126	.0954	.433					437.	437.	437.	437.	437.	437.	
K.050239	.137	.104	.0111	.00843	.126	.0954	.429					374.	374.	374.	374.	374.	374.	
.06	.134	.106	.0126	.00992	.121	.0957	.324					271.	271.	271.	271.	271.	271.	
.08	.127	.107	.0149	.0125	.112	.0942	.198					89.6	89.6	89.6	89.6	89.6	89.6	
.1	.121	.106	.0167	.0146	.104	.0912	.131					41.4	41.4	41.4	41.4	41.4	41.4	
.15	.109	.101	.0197	.0183	.0885	.0827	.0617					13.7	13.7	13.7	13.7	13.7	13.7	
.2	.0996	.0950	.0215	.0205	.0781	.0743	.0358					5.97	5.97	5.97	5.97	5.97	5.97	
.3	.0866	.0843	.0234	.0227	.0632	.0617	.0163					3.21	3.21	3.83	3.39	3.30	3.22	
.4	.0777	.0762	.0241	.0234	.0536	.0529	.00923					3.16	3.16	3.77	3.34	3.25	3.17	
.5	.0709	.0701	.0242	.0237	.0461	.0463	.00597					5.90	5.90	18.7	18.3	18.2	5.90	
.6	.0655	.0651	.0241	.0236	.0414	.0414	.00417					4.86	4.86	11.6	11.3	11.2	4.86	
.8	.0575	.0571	.0236	.0228	.0340	.0342	.00237					3.00	3.00	5.52	5.32	5.21	3.01	
1.	.0517	.0517	.0228	.0218	.0290	.0300	.00152					1.87	1.87	3.07	2.94	2.85	1.85	
1.5	.0421	.0421	.0208	.0201	.0213	.0221	.000686	.00107	.00107	.000325		.935	.724	1.10	1.03	.954	.743	
2.	.0358	.0358	.0190	.0179	.0168	.0179	.000383	.000354	.000354	.00163		.421	.350	.552	.517	.444	.370	
3.	.0282	.0282	.0163	.0149	.0119	.0133	.000173	.000873	.00000984	.000873	.00532	.00124	.126	.242	.226	.165	.148	
4.	.0236	.0236	.0143	.0127	.00927	.0109	.0000969	.0134	.0000406	.0134	.00908	.000820	.0666	.152	.143	.0908	.0643	
5.	.0204	.0204	.0128	.0110	.00758	.00935	.0000632	.0173	.0000797	.0173	.0123	.000605	.0379	.0354	.114	.108	.0620	.0590
6.	.0180	.0180	.0116	.00969	.00640	.00831	.0000437	.0204	.000123	.0205	.0149	.000475	.0246	.0232	.0938	.0896	.0486	.0467
8.	.0147	.0147	.00980	.00781	.00490	.00689	.0000248	.0255	.000208	.0257	.0189	.000333	.0126	.0121	.0720	.0697	.0362	.0349
10.	.0125	.0125	.00858	.00640	.00398	.00613	.0000157	.0299	.000287	.0302	.0222	.000255	.00797	.00770	.0613	.0597	.0308	.0295
15.	.00927	.00927	.00659	.00463	.00259	.00463	.0000064	.0387	.000448	.0391	.0275	.000160	.00935	.00877	.0475	.0471	.0257	.0241
20.	.00743	.00743	.00540	.00352	.00234	.00391		.0452	.000563	.0456	.0299	.000115	.00724	.00661	.0421	.0417	.0249	.0218
30.	.00544	.00544	.00406	.00228	.00137	.00316		.0540	.000732	.0548	.0324	.0000739	.00605	.00540	.0383	.0381	.0262	.0214
40.	.00433	.00433	.00327	.00161	.00133	.00272		.0601	.000854	.0609	.0324	.0000540	.00475	.00441	.0380	.0378	.0286	.0226
50.	.00360	.00360	.00277	.00123	.000327	.00237		.0643	.000946	.0651	.0317	.0000425	.00360	.00331	.0383	.0383	.0308	.0239
60.	.00310	.00310	.00241	.000954	.000593	.00214		.0682	.00102	.0693	.0314	.0000350	.00241	.00241	.0391	.0391	.0326	.0250
80.	.00244	.00244	.00192	.000647	.000321	.00180		.0732	.00113	.0743	.0304	.0000257	.00147	.00147	.0410	.0406	.0359	.0271
100.	.00203	.00203	.00161	.000479	.000117	.00155		.0770	.00121	.0781	.0291	.0000202	.00125	.00125	.0429	.0429	.0391	.0288

65 TERBIUM
(barns/atom)

E (MeV)	$\sigma_{\text{inc,t}}$	$\sigma_{\text{inc,t}}$	$\sigma_{\text{inc,a}}$	$\sigma_{\text{inc,a}}$	$\sigma_{\text{inc,s}}$	$\sigma_{\text{inc,s}}$	J_{coh}	σ_{xn}	σ_{xe}	$\sigma_{\text{x,t}}$	$\sigma_{\text{x,a}}$	$\sigma_{\text{r,t}}$	$\sigma_{\text{r,a}}$	$\sigma_{\text{tot,t}}$	$\sigma_{\text{tot,t-coh}}$	$\sigma_{\text{tot,a}}$	$\sigma_{\text{tot,en}}$
.001	43.1	1.44	.0839	.00281	43.0	1.44	2660.					1050000.	1050000.	1050000.	1050000.	1050000.	1050000.
M_V .001240	43.0	1.89	.104	.00456	42.9	1.89	2603.					657000.	657000.	666000.	657000.	657000.	657000.
M_{IV} .001274	43.0	1.95	.107	.00484	42.9	1.95	2601.					2050000.	2050000.	2050000.	2050000.	2050000.	2050000.
.0015	43.0	2.37	.125	.00691	42.9	2.36	2544.					1930000.	1930000.	1930000.	1930000.	1930000.	1930000.
M_{III} .001610	43.0	2.57	.134	.00804	42.8	2.56	2514.					2190000.	2190000.	2190000.	2190000.	2190000.	2190000.
M_{II} .001765	42.9	2.86	.147	.00980	42.8	2.85	2471.					1450000.	1450000.	1450000.	1450000.	1450000.	1450000.
M_I .001963	42.9	3.22	.163	.0123	42.7	3.21	2420.					1220000.	1220000.	1220000.	1220000.	1220000.	1220000.
.002	42.9	3.28	.166	.0127	42.7	3.27	2410.					1400000.	1400000.	1400000.	1400000.	1400000.	1400000.
.003	42.7	5.06	.248	.0293	42.5	5.03	2160.					1070000.	1070000.	1070000.	1070000.	1070000.	1070000.
.004	42.6	6.73	.328	.0518	42.2	6.68	1910.					1280000.	1280000.	1280000.	1280000.	1280000.	1280000.
.005	42.4	8.25	.406	.0790	42.0	8.17	1690.					987000.	987000.	989000.	987000.	987000.	987000.
.006	42.2	9.63	.484	.110	41.8	9.52	1500.					1180000.	1180000.	1180000.	1180000.	1180000.	1180000.
L_{III} .007514	42.0	11.5	.598	.164	41.4	11.3	1260.					1130000.	1130000.	1130000.	1130000.	1130000.	1130000.
.008	41.9	12.0	.635	.182	41.3	11.8	1200.					388000.	388000.	390000.	388000.	388000.	388000.
L_{II} .008252	41.9	12.3	.653	.192	41.2	12.1	1170.					179000.	179000.	181000.	179000.	179000.	179000.
L_I .008708	41.8	12.8	.687	.210	41.1	12.6	1110.					99000.	99000.	101000.	99000.	99000.	99000.
.01	41.6	14.0	.780	.262	40.9	13.7	973.					61500.	61500.	63000.	61500.	61500.	61500.
.015	40.9	18.0	1.13	.498	39.8	17.5	626.					33800.	33800.	35100.	33800.	33800.	33800.
.02	40.2	20.9	1.45	.754	38.7	20.1	444.					103000.	103000.	104000.	103000.	103000.	103000.
.03	38.8	24.4	2.02	1.27	36.8	23.1	259.					85900.	85900.	87100.	85900.	85900.	85900.
.04	37.6	26.4	2.51	1.76	35.1	24.6	168.					78600.	78600.	79800.	78600.	78600.	78600.
.05	36.5	27.4	2.94	2.21	33.6	25.2	118.					109000.	109000.	110000.	109000.	109000.	109000.
K .051996	36.3	27.6	3.02	2.30	33.3	25.3	111.					94600.	94600.	95700.	94600.	94600.	94600.
.06	35.5	28.0	3.33	2.63	32.1	25.4	88.3					109000.	109000.	110000.	109000.	109000.	109000.
.08	33.6	28.2	3.34	3.30	29.7	24.9	53.8					75000.	75000.	76000.	75000.	75000.	75000.
.1	32.0	28.0	4.42	3.86	27.6	24.1	35.7					25000.	25000.	25600.	25000.	25000.	25000.
.15	28.8	26.8	5.23	4.86	23.6	21.9	16.8					11400.	11400.	11900.	11400.	11400.	11400.
.2	26.4	25.1	5.71	5.43	20.7	19.7	9.74					3820.	3660.	4100.	3840.	3820.	3660.
.3	23.0	22.3	6.19	6.01	16.8	16.3	4.43					1720.	1670.	1910.	1750.	1720.	1670.
.4	20.6	20.2	6.38	6.20	14.2	14.0	2.51					913.	890.	1060.	940.	916.	892.
.5	18.9	18.5	6.41	6.23	12.4	12.3	1.63					821.	801.	960.	849.	824.	803.
.6	17.4	17.2	6.39	6.23	11.0	11.0	1.13					4570.	1470.	4710.	4600.	4570.	1470.
.8	15.3	15.2	6.24	6.06	9.03	9.14	.545					3080.	1270.	3200.	3110.	3080.	1270.
1.	13.7	13.7	6.04	5.77	7.69	7.93	.412					1430.	801.	1510.	1440.	1430.	804.
1.5	11.2	11.1	5.52	5.27	5.84	5.83	.186	.290		.290	.0882	785.	509.	849.	813.	749.	513.
2.	9.51	9.50	5.05	4.75	4.46	4.75	.104	.963		.963	.443	260.	199.	304.	287.	245.	204.
3.	7.48	7.47	4.32	3.93	3.16	3.54	.0470	2.35	.00262	2.35	1.43	118.	97.2	153.	143.	124.	103.
4.	6.25	6.25	3.79	3.36	2.46	2.89	.0264	3.61	.0107	3.62	2.44	39.2	34.6	65.9	61.5	45.4	40.6
5.	5.40	5.40	3.29	2.92	2.01	2.48	.0172	4.65	.0211	4.67	3.30	18.5	16.9	41.2	38.7	24.9	23.1
6.	4.77	4.77	3.07	2.57	1.70	2.20	.0119	5.49	.0327	5.52	4.00	10.5	9.76	30.6	29.0	16.9	16.0
8.	3.90	3.90	2.60	2.06	1.30	1.84	.00677	6.86	.0552	6.92	5.07	6.42	6.42	25.1	24.0	13.2	12.6
10.	3.32	3.32	2.27	1.70	1.05	1.62	.00427	8.05	.0760	8.13	5.96	3.52	3.37	19.4	18.7	9.76	9.43
15.	2.46	2.46	1.75	1.23	.714	1.23	.00173	10.3	.118	10.4	7.28	2.22	2.14	16.3	15.9	8.26	7.91
20.	1.98	1.98	1.44	.935	.540	1.05						1.06	1.04	12.6	12.4	6.87	6.40
30.	1.44	1.44	1.07	.600	.363	.840						.638	.627	11.2	11.1	6.65	5.82
40.	1.14	1.14	.868	.423	.274	.717						.345	.341	10.2	10.2	7.01	5.70
50.	.954	.954	.734	.322	.220	.632						.228	.226	10.1	10.1	7.64	6.03
60.	.822	.822	.638	.252	.184	.570						.170	.169	10.3	10.2	8.23	6.39
80.	.648	.648	.510	.171	.138	.477						.133	.132	10.4	10.4	8.72	6.70
100.	.538	.538	.427	.126	.111	.412						.0931	.0927	10.9	10.9	9.61	7.22
												.0712	.0709	11.5	11.5	10.5	7.71
												.0443	.0442	12.9	12.9	12.2	8.55
												.0317	.0316	14.2	14.2	13.7	8.94
												.0205	.0205	16.2	16.2	15.8	9.27
												.0150	.0150	17.5	17.5	17.2	9.08
												.0118	.0118	18.6	18.6	18.3	8.81
												.00975	.00974	19.4	19.4	19.2	8.65
												.00718	.00718	20.7	20.7	20.5	8.32
												.00563	.00563	21.4	21.4	21.3	7.87

66 DYSPROSIUM
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	C _{coh}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	43.7	1.42	.0852	.00277	43.6	1.42	2750.					1100000.	1100000.	1100000.	1100000.	1100000.	1100000.
M _V .001295	43.7	1.98	.110	.00499	43.6	1.98	2680.					626000.	626000.	626000.	626000.	626000.	626000.
M _{IV} .001332	43.7	2.04	.113	.00529	43.6	2.03	2670.					1960000.	1960000.	1960000.	1960000.	1960000.	1960000.
.0015	43.6	2.35	.127	.00685	43.5	2.34	2630.					1840000.	1840000.	1840000.	1840000.	1840000.	1840000.
M _{III} .001676	43.6	2.68	.142	.00873	43.5	2.67	2580.					2080000.	2080000.	2080000.	2080000.	2080000.	2080000.
M _{II} .001842	43.6	2.98	.156	.0107	43.4	2.97	2540.					1540000.	1540000.	1540000.	1540000.	1540000.	1540000.
.002	43.6	3.27	.169	.0127	43.4	3.26	2500.					1170000.	1170000.	1170000.	1170000.	1170000.	1170000.
M _I .002046	43.6	3.35	.173	.0133	43.4	3.34	2490.					1350000.	1350000.	1350000.	1350000.	1350000.	1350000.
.003	43.4	5.05	.252	.0293	43.1	5.02	2240.					1020000.	1020000.	1020000.	1020000.	1020000.	1020000.
.004	43.2	6.72	.333	.0517	42.9	6.67	1990.					1220000.	1220000.	1220000.	1220000.	1220000.	1220000.
.005	43.1	8.25	.412	.0790	42.6	8.17	1760.					1000000.	1000000.	1000000.	1000000.	1000000.	1000000.
.006	42.9	9.64	.491	.110	42.4	9.53	1550.					944000.	944000.	944000.	944000.	944000.	944000.
L _{III} .007790	42.6	11.8	.529	.174	42.0	11.6	1230.					1130000.	1130000.	1130000.	1130000.	1130000.	1130000.
.008	42.6	12.0	.644	.182	41.9	11.8	1230.					942000.	942000.	942000.	942000.	942000.	942000.
L _{II} .008580	42.5	12.7	.688	.206	41.8	12.5	1170.					1000000.	1000000.	1000000.	1000000.	1000000.	1000000.
L _I .009046	42.4	13.1	.723	.223	41.7	12.9	1120.					944000.	944000.	944000.	944000.	944000.	944000.
.01	42.3	14.1	.792	.264	41.5	13.8	1010.					1130000.	1130000.	1130000.	1130000.	1130000.	1130000.
.015	41.5	18.1	1.15	.501	40.4	17.6	651.					106000.	106000.	106000.	106000.	106000.	106000.
.02	40.8	21.0	1.47	.758	39.3	20.2	461.					65600.	65600.	65600.	65600.	65600.	65600.
.03	39.4	24.7	2.05	1.29	37.4	23.4	269.					32800.	32800.	32800.	32800.	32800.	32800.
.04	38.2	26.7	2.55	1.78	35.6	24.9	175.					98400.	98400.	98400.	98400.	98400.	98400.
.05	37.1	27.8	2.99	2.24	34.1	25.6	123.					76200.	76200.	76200.	76200.	76200.	76200.
K.053788	36.6	28.0	3.14	2.40	33.5	25.6	109.					74900.	74900.	74900.	74900.	74900.	74900.
.06	36.0	28.3	3.38	2.66	32.6	25.6	91.1					104000.	104000.	104000.	104000.	104000.	104000.
.08	34.1	28.6	4.00	3.35	30.1	25.3	56.0					90400.	90400.	90400.	90400.	90400.	90400.
.1	32.5	28.3	4.49	3.91	28.0	24.4	37.7					104000.	104000.	104000.	104000.	104000.	104000.
.15	29.3	27.1	5.31	4.92	24.0	22.2	17.5					88400.	88400.	88400.	88400.	88400.	88400.
.2	26.8	25.5	5.80	5.51	21.0	20.0	10.1					79300.	79300.	79300.	79300.	79300.	79300.
.3	23.3	22.7	6.29	6.12	17.0	16.6	4.61					26400.	26400.	26400.	26400.	26400.	26400.
.4	20.9	20.5	6.47	6.29	14.4	14.2	2.61					11400.	11400.	11400.	11400.	11400.	11400.
.5	19.1	18.8	6.51	6.34	12.6	12.5	1.69					4090.	4090.	4090.	4090.	4090.	4090.
.6	17.7	17.5	6.49	6.33	11.2	11.2	1.08					3910.	3910.	3910.	3910.	3910.	3910.
.8	15.5	15.4	6.34	6.14	9.17	9.26	.670					1840.	1840.	1840.	1840.	1840.	1840.
1.	13.9	13.9	6.13	5.84	7.61	8.06	.430					978.	978.	978.	978.	978.	978.
1.5	11.3	11.3	5.60	5.37	5.72	5.93	.193	.301		.301	.0915	4400.	1410.	4540.	4430.	4400.	1410.
2.	9.66	9.64	5.13	4.82	4.53	4.82	.108	1.00		1.00	.460	3260.	1280.	3380.	3290.	3260.	1280.
3.	7.60	7.59	4.38	3.99	3.21	3.60	.049	2.44	.00265	2.44	1.49	1510.	821.	1590.	1540.	1510.	824.
4.	6.35	6.35	3.85	3.41	2.50	2.94	.0275	3.72	.0109	3.73	2.51	830.	527.	895.	858.	834.	531.
5.	5.48	5.48	3.44	2.96	2.04	2.52	.0179	4.80	.0214	4.82	3.40	275.	208.	320.	302.	280.	213.
6.	4.85	4.85	3.12	2.60	1.73	2.25	.0124	5.65	.0332	5.68	4.11	125.	102.	161.	150.	131.	108.
8.	3.96	3.96	2.64	2.09	1.32	1.87	.00705	7.01	.0560	7.07	5.18	41.7	36.6	69.0	64.4	48.0	42.7
10.	3.38	3.38	2.31	1.72	1.07	1.66	.00446	8.30	.0771	8.38	6.12	19.6	17.8	42.7	40.1	26.1	24.1
15.	2.50	2.50	1.77	1.24	.725	1.26	.00180	10.6	.120	10.7	7.46	11.3	10.5	31.8	30.1	17.8	16.8
20.	2.01	2.01	1.46	.945	.548	1.07						7.32	6.87	26.0	24.8	13.8	13.2
30.	1.46	1.46	1.09	.607	.359	.853						3.78	3.61	19.8	19.2	10.1	9.75
40.	1.16	1.16	.882	.429	.279	.731						2.38	2.29	16.7	16.3	8.51	8.13
50.	.969	.969	.746	.327	.223	.642						1.14	1.11	12.9	12.7	7.04	6.57
60.	.834	.834	.646	.255	.187	.579						.685	.672	11.4	11.3	4.81	5.95
80.	.658	.658	.518	.173	.141	.485						.369	.365	10.4	10.4	7.19	5.84
100.	.546	.546	.434	.127	.113	.419						.743	.741	10.4	10.3	7.82	6.16
												.181	.180	10.5	10.5	8.44	6.54
												.143	.142	10.7	10.7	8.94	6.85
												.0995	.0990	11.1	11.1	9.81	7.37
												.0760	.0757	11.8	11.8	10.8	7.92
												.0475	.0474	13.2	13.2	12.5	8.75
												.0343	.0342	14.6	14.6	14.1	9.11
												.0219	.0219	16.6	16.6	16.2	9.48
												.0160	.0160	17.9	17.9	17.6	9.22
												.0126	.0126	19.1	19.1	18.9	9.04
												.0103	.0103	19.9	19.9	19.8	8.85
												.00762	.00762	21.2	21.2	21.0	8.66
												.00600	.00600	22.2	22.2	22.0	8.09

66 DYSPROSIUM
(cm²/g = 0.003706 x barns/atom)

E (MeV)	($\frac{\sigma}{\rho}$) _{inc, t} ^{KN}	($\frac{\sigma}{\rho}$) _{inc, t} ^{BD}	($\frac{\sigma}{\rho}$) _{inc, a} ^{KN}	($\frac{\sigma}{\rho}$) _{inc, a} ^{BD}	($\frac{\sigma}{\rho}$) _{inc, s} ^{KN}	($\frac{\sigma}{\rho}$) _{inc, s} ^{BD}	($\frac{\sigma}{\rho}$) _{coh}	($\frac{\sigma}{\rho}$) _{x, n}	($\frac{\sigma}{\rho}$) _{x, c}	($\frac{\sigma}{\rho}$) _{x, t}	($\frac{\sigma}{\rho}$) _{x, n}	($\frac{\sigma}{\rho}$) _{t, t}	($\frac{\sigma}{\rho}$) _{t, a}	($\frac{\sigma}{\rho}$) _{tot, t}	($\frac{\sigma}{\rho}$) _{tot, t-coh}	($\frac{\sigma}{\rho}$) _{tot, a}	($\frac{\sigma}{\rho}$) _{tot, en}
.001	.162	.00526	.000316	.0000103	.162	.00526	10.2					4080.	4080.	4080.	4080.	4080.	4080.
M _V .001295	.162	.00734	.000408	.0000185	.162	.00734	9.93					2320.	2320.	2320.	2320.	2320.	2320.
M _{IV} .001332	.162	.00756	.000419	.0000196	.162	.00752	9.90					7260.	7260.	7260.	7260.	7260.	7260.
.0015	.162	.00871	.000471	.0000254	.161	.00867	9.75					6820.	6820.	6820.	6820.	6820.	6820.
M _{III} .001676	.162	.00993	.000526	.0000324	.161	.00990	9.56					5710.	5710.	5710.	5710.	5710.	5710.
M _{II} .001842	.162	.0110	.000578	.0000397	.161	.0110	9.41					4340.	4340.	4340.	4340.	4340.	4340.
.002	.162	.0121	.000626	.0000471	.161	.0121	9.26					5000.	5000.	5000.	5000.	5000.	5000.
M _I .002046	.162	.0124	.000641	.0000493	.161	.0124	9.23					3780.	3780.	3780.	3780.	3780.	3780.
.003	.161	.0187	.000934	.000109	.160	.0186	8.30					4520.	4520.	4520.	4520.	4520.	4520.
.004	.160	.0249	.00123	.000192	.159	.0247	7.37					3710.	3710.	3710.	3710.	3710.	3710.
.005	.160	.0306	.00153	.000293	.158	.0303	6.52					3500.	3500.	3500.	3500.	3500.	3500.
.006	.159	.0357	.00182	.000408	.157	.0353	5.78					4190.	4190.	4190.	4190.	4190.	4190.
L _{III} .007790	.158	.0437	.00233	.000645	.156	.0430	4.74					1530.	1530.	1530.	1530.	1530.	1530.
.008	.158	.0445	.00239	.000674	.155	.0437	4.63					712.	712.	712.	712.	712.	712.
L _{II} .008580	.158	.0471	.00255	.000763	.155	.0463	4.34					393.	393.	393.	393.	393.	393.
L _I .009046	.157	.0485	.00268	.000826	.155	.0478	4.15					243.	243.	243.	243.	243.	243.
.01	.157	.0523	.00294	.000978	.154	.0511	3.74					122.	122.	122.	122.	122.	122.
.015	.154	.0671	.00426	.00186	.150	.0652	2.41					365.	365.	365.	365.	365.	365.
.02	.151	.0778	.00545	.00281	.146	.0749	1.71					307.	307.	307.	307.	307.	307.
.03	.146	.0915	.00760	.00478	.139	.0867	.997					278.	278.	278.	278.	278.	278.
.04	.142	.0990	.00945	.00660	.132	.0923	.649					385.	385.	385.	385.	385.	385.
.05	.137	.103	.0111	.00830	.126	.0949	.456					328.	328.	328.	328.	328.	328.
K.053788	.136	.104	.0116	.00889	.124	.0949	.404					294.	294.	294.	294.	294.	294.
.06	.133	.105	.0125	.00986	.121	.0949	.340					97.8	88.9	100.	97.8	97.8	88.9
.08	.126	.106	.0148	.0124	.112	.0938	.208					45.2	42.2	47.1	45.2	45.2	42.2
.1	.120	.105	.0166	.0145	.104	.0904	.137					15.2	14.5	16.2	15.2	15.2	14.5
.15	.109	.100	.0197	.0182	.0889	.0823	.0649					6.82	6.60	7.56	6.93	6.82	6.60
.2	.0993	.0945	.0215	.0204	.0778	.0741	.0374					3.62	3.53	4.19	3.74	3.64	3.54
.3	.0863	.0841	.0233	.0227	.0630	.0615	.0171					2.95	2.88	3.46	3.06	2.96	2.89
.4	.0775	.0760	.0240	.0233	.0534	.0526	.00967					14.3	5.23	16.8	16.4	16.1	5.23
.5	.0708	.0697	.0241	.0235	.0467	.0463	.00626					12.1	4.74	12.5	12.2	12.1	4.74
.6	.0656	.0649	.0241	.0235	.0415	.0415	.00437					5.60	3.04	5.89	5.71	5.60	3.05
.8	.0574	.0571	.0235	.0228	.0340	.0343	.00248					3.08	1.95	3.32	3.18	3.09	1.97
1.	.0515	.0515	.0227	.0216	.0289	.0299	.00159					1.02	.771	1.19	1.12	1.04	.789
1.5	.0419	.0419	.0208	.0199	.0212	.0220	.000715	.00112		.00112	.000339	.00422	.00411	.0478	.0471	.0261	.0243
2.	.0358	.0357	.0190	.0179	.0168	.0179	.000400	.00371		.00371	.000170	.00254	.00249	.0422	.0419	.0252	.0221
3.	.0282	.0281	.0162	.0148	.0119	.0133	.000182	.00904	.00000982	.00904	.00552	.00137	.00135	.0385	.0385	.0266	.0216
4.	.0235	.0235	.0143	.0126	.00926	.0109	.000102	.0138	.0000404	.0138	.00930	.000901	.000893	.0385	.0382	.0290	.0228
5.	.0203	.0203	.0127	.0110	.00756	.00934	.0000663	.0178	.0000793	.0179	.0126	.000671	.000667	.0389	.0389	.0313	.0242
6.	.0180	.0180	.0116	.00964	.00641	.00834	.0000460	.0209	.000123	.0211	.0152	.000530	.000526	.0397	.0397	.0331	.0254
8.	.0147	.0147	.00978	.00775	.00489	.00693	.0000261	.0260	.000208	.0262	.0192	.000369	.000367	.0411	.0411	.0364	.0273
10.	.0125	.0125	.00856	.00637	.00397	.00615	.0000165	.0308	.000286	.0311	.0227	.000282	.000281	.0437	.0437	.0400	.0294
15.	.00926	.00926	.00656	.00460	.00269	.00467	.0000067	.0393	.000445	.0397	.0276	.000176	.000176	.0489	.0489	.0463	.0324
20.	.00745	.00745	.00541	.00350	.00203	.00397		.0460	.000560	.0467	.0301	.000127	.000127	.0541	.0541	.0523	.0338
30.	.00541	.00541	.00404	.00225	.00137	.00316		.0552	.000730	.0560	.0328	.0000812	.0000812	.0615	.0615	.0600	.0351
40.	.00430	.00430	.00327	.00159	.00103	.00271		.0611	.000852	.0619	.0325	.0000593	.0000593	.0663	.0663	.0652	.0342
50.	.00359	.00359	.00276	.00121	.000826	.00238		.0660	.000941	.0671	.0322	.0000447	.0000447	.0708	.0708	.0700	.0335
60.	.00309	.00309	.00240	.000945	.000693	.00215		.0697	.00102	.0708	.0318	.0000382	.0000382	.0737	.0737	.0734	.0328
80.	.00244	.00244	.00192	.000641	.000523	.00180		.0749	.00113	.0760	.0307	.0000282	.0000282	.0784	.0784	.0778	.0314
100.	.00202	.00202	.00161	.000471	.000419	.00155		.0789	.00121	.0800	.0295	.0000222	.0000222	.0823	.0823	.0815	.0300

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(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{en}	σ_{ex}	$\sigma_{x,t}$	$\sigma_{x,a}$	$\sigma_{x,t}$	$\sigma_{x,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	44.4	1.41	.0865	.00275	44.3	1.41	2830.					1150000.	1150000.	1150000.	1150000.	1150000.	1150000.
M _V .001351	44.3	2.06	.117	.00542	44.2	2.05	2750.					598000.	598000.	601000.	598000.	598000.	598000.
M _{IV} .001392	44.3	2.14	.120	.00580	44.2	2.13	2740.					1870000.	1870000.	1870000.	1870000.	1870000.	1870000.
.0015	44.3	2.34	.129	.00683	44.2	2.33	2710.					1750000.	1750000.	1750000.	1750000.	1750000.	1750000.
M _{III} .001743	44.3	2.78	.150	.00941	44.1	2.77	2650.					1980000.	1980000.	1980000.	1980000.	1980000.	1980000.
M _{II} .001923	44.2	3.11	.165	.0116	44.1	3.10	2610.					1620000.	1620000.	1620000.	1620000.	1620000.	1620000.
.002	44.2	3.25	.172	.0126	44.0	3.24	2580.					1120000.	1120000.	1120000.	1120000.	1120000.	1120000.
M _I .002130	44.2	3.48	.183	.0144	44.0	3.47	2550.					1290000.	1290000.	1290000.	1290000.	1290000.	1290000.
.003	44.1	5.03	.255	.0292	43.8	5.00	2320.					976000.	976000.	976000.	976000.	976000.	976000.
.004	43.9	6.70	.338	.0516	43.5	6.65	2060.					1160000.	1160000.	1160000.	1160000.	1160000.	1160000.
.005	43.7	8.24	.419	.0789	43.3	8.16	1830.					1050000.	1050000.	1050000.	1050000.	1050000.	1050000.
.006	43.5	9.64	.498	.110	43.1	9.53	1630.					905000.	905000.	908000.	905000.	905000.	905000.
.008	43.2	12.1	.654	.183	42.6	11.9	1300.					1080000.	1080000.	1080000.	1080000.	1080000.	1080000.
L _{III} .008072	43.2	12.1	.660	.185	42.6	11.9	1290.					438000.	438000.	440000.	438000.	438000.	438000.
L _{II} .008918	43.1	13.0	.724	.219	42.4	12.8	1180.					203000.	203000.	205000.	203000.	203000.	203000.
L _I .009394	43.0	13.5	.760	.239	42.2	13.3	1120.					113000.	113000.	115000.	113000.	113000.	113000.
.01	42.9	14.1	.804	.264	42.1	13.8	1060.					70100.	70100.	71700.	70100.	70100.	70100.
.015	42.1	18.2	1.17	.503	41.0	17.7	678.					32200.	32200.	33500.	32200.	32200.	32200.
.02	41.4	21.2	1.49	.765	39.9	20.4	479.					31800.	31800.	33100.	31800.	31800.	31800.
.03	40.0	24.9	2.08	1.30	38.0	23.6	280.					94400.	94400.	95700.	94400.	94400.	94400.
.04	38.8	27.0	2.59	1.80	36.2	25.2	162.					71500.	71500.	71500.	71500.	71500.	71500.
.05	37.6	28.1	3.04	2.27	34.5	25.8	128.					60600.	60600.	60600.	60600.	60600.	60600.
K.055618	37.0	28.5	3.26	2.51	33.7	26.0	108.					98700.	98700.	99900.	98700.	98700.	98700.
.06	36.6	28.7	3.43	2.69	33.1	26.0	95.4					86300.	86300.	87400.	86300.	86300.	86300.
.08	34.7	29.0	4.06	3.40	30.6	25.6	58.3					99800.	99800.	101000.	99800.	99800.	99800.
.1	33.0	28.7	4.56	3.96	28.5	24.7	38.6					84200.	84200.	85300.	84200.	84200.	84200.
.15	29.7	27.5	5.39	4.99	24.3	22.5	18.2					28100.	25400.	28800.	28100.	28100.	25400.
.2	27.2	25.9	5.89	5.60	21.3	20.3	10.5					13000.	12100.	13500.	13000.	13000.	12100.
.3	23.7	23.0	6.38	6.20	17.3	16.8	4.80					4320.	4110.	4620.	4340.	4320.	4110.
.4	21.2	20.8	6.57	6.39	14.6	14.4	2.71					1960.	1890.	1990.	1960.	1960.	1890.
.5	19.4	19.1	6.61	6.44	12.8	12.7	1.76					1040.	1010.	1200.	1070.	1040.	1010.
.6	17.9	17.7	6.59	6.41	11.3	11.3	1.22					775.	755.	912.	804.	778.	758.
.8	15.7	15.6	6.44	6.22	9.31	9.38	.697					4240.	1360.	4380.	4270.	4240.	1360.
1.	14.2	14.1	6.22	5.92	7.93	8.18	.445					3450.	1280.	3570.	3480.	3450.	1280.
1.5	11.5	11.5	5.69	5.45	5.81	6.05	.201	.313	.313	.0952	1.22	1.22	1.19	13.2	13.0	7.22	6.74
2.	9.80	9.79	5.20	4.90	4.60	4.90	.113	1.03	1.03	.474	.735	.735	.721	11.7	11.6	6.96	6.09
3.	7.71	7.70	4.45	4.04	3.26	3.66	.0509	2.51	.00270	2.51	.193	.193	.188	10.7	10.6	7.35	5.94
4.	6.45	6.45	3.91	3.46	2.53	2.99	.0286	3.83	.0111	3.84	.259	.261	.259	10.6	10.6	8.01	6.31
5.	5.57	5.57	3.50	3.00	2.07	2.57	.0186	4.94	.0218	4.94	.350	.350	.349	10.7	10.7	8.65	6.69
6.	4.92	4.92	3.17	2.63	1.75	2.29	.0129	5.80	.0337	5.83	4.21	.152	.151	10.9	10.9	9.15	6.99
8.	4.02	4.02	2.68	2.11	1.34	1.91	.00734	7.23	.0570	7.29	5.33	.106	.105	11.4	11.4	10.1	7.54
10.	3.43	3.43	2.34	1.74	1.08	1.69	.00465	8.51	.0782	8.59	6.27	.0810	.0807	12.1	12.1	11.0	8.09
15.	2.54	2.54	1.80	1.26	.736	1.28	.00187	10.9	.122	11.0	7.66	.0505	.0504	13.6	13.6	12.9	8.97
20.	2.04	2.04	1.48	.957	.557	1.08		12.8	.153	13.0	8.38	.0364	.0363	15.1	15.1	14.5	9.37
30.	1.48	1.48	1.11	.613	.375	.867		15.3	.200	15.5	9.04	.0234	.0234	17.0	17.0	16.6	9.68
40.	1.18	1.18	.895	.435	.283	.745		17.0	.233	17.2	9.01	.0171	.0171	18.4	18.4	18.1	9.44
50.	.984	.984	.757	.331	.226	.653		18.3	.258	18.6	8.91	.0135	.0135	19.6	19.6	19.4	9.25
60.	.847	.847	.657	.258	.190	.589		19.3	.278	19.6	8.73	.0111	.0111	20.5	20.5	20.3	9.00
80.	.668	.668	.525	.175	.143	.493		20.8	.308	21.1	8.49	.00815	.00815	21.8	21.8	21.6	8.67
100.	.555	.555	.440	.129	.114	.426		21.9	.330	22.2	8.14	.00639	.00639	22.8	22.8	22.6	8.28

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(cm²/g = 0.003652 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _n	($\frac{\mu}{\rho}$) _e	($\frac{\mu}{\rho}$) _t	($\frac{\mu}{\rho}$) _a	($\frac{\mu}{\rho}$) _{r,t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.162	.00515	.000316	.0000100	.162	.00515	10.3					4200.	4200.	4200.	4200.	4200.	4200.
M _γ .001351	.162	.00752	.000427	.0000198	.161	.00749	10.0					2180.	2180.	2180.	2180.	2180.	2180.
M _{IV} .001392	.162	.00782	.000438	.0000212	.161	.00778	10.0					6830.	6830.	6830.	6830.	6830.	6830.
.0015	.162	.00855	.000471	.0000249	.161	.00851	9.90					6390.	6390.	6390.	6390.	6390.	6390.
M _{III} .001743	.162	.0102	.000548	.0000344	.161	.0101	9.68					7230.	7230.	7230.	7230.	7230.	7230.
M _{II} .001923	.161	.0114	.000603	.0000424	.161	.0113	9.53					5920.	5920.	5920.	5920.	5920.	5920.
.002	.161	.0119	.000628	.0000460	.161	.0118	9.42					4090.	4090.	4090.	4090.	4090.	4090.
M _I .002130	.161	.0127	.000668	.0000526	.161	.0127	9.31					4710.	4710.	4710.	4710.	4710.	4710.
.003	.161	.0184	.000931	.000107	.160	.0183	8.47					3560.	3560.	3560.	3560.	3560.	3560.
.004	.160	.0245	.00123	.000188	.159	.0243	7.52					4240.	4240.	4240.	4240.	4240.	4240.
.005	.160	.0301	.00153	.000288	.158	.0298	6.68					3830.	3830.	3830.	3830.	3830.	3830.
.006	.159	.0352	.00182	.000402	.157	.0348	5.95					3310.	3310.	3320.	3310.	3310.	3310.
.008	.158	.0442	.00239	.000668	.156	.0435	4.75					3940.	3940.	3940.	3940.	3940.	3940.
L _{III} .008072	.158	.0442	.00241	.000676	.156	.0435	4.71					1600.	1600.	1610.	1600.	1600.	1600.
L _{II} .008918	.157	.0475	.00264	.000800	.155	.0467	4.31					741.	741.	749.	741.	741.	741.
L _I .009394	.157	.0493	.00278	.000873	.154	.0486	4.09					413.	413.	420.	413.	413.	413.
.01	.157	.0515	.00294	.000944	.154	.0504	3.87					256.	256.	262.	256.	256.	256.
.015	.154	.0665	.00427	.00184	.150	.0646	2.48					118.	118.	122.	118.	118.	118.
.02	.151	.0774	.00544	.00279	.146	.0745	1.75					116.	116.	121.	116.	116.	116.
.03	.146	.0909	.00760	.00475	.139	.0862	1.02					345.	345.	349.	345.	345.	345.
.04	.142	.0986	.00946	.00657	.132	.0920	.665					261.	261.	266.	261.	261.	261.
.05	.137	.103	.0111	.00829	.126	.0942	.467					360.	303.	365.	360.	360.	303.
K.055618	.135	.104	.0119	.00917	.123	.0950	.394					315.	268.	319.	315.	315.	268.
.06	.134	.105	.0125	.00982	.121	.0950	.348					364.	309.	369.	364.	364.	309.
.08	.127	.106	.0148	.0124	.112	.0935	.213					307.	263.	312.	307.	307.	263.
.1	.121	.105	.0167	.0145	.104	.0902	.141					103.	92.8	105.	103.	103.	92.8
.15	.108	.100	.0197	.0182	.0887	.0822	.0665					47.5	44.2	49.3	47.5	47.5	44.2
.2	.0993	.0946	.0215	.0205	.0778	.0741	.0383					15.8	15.0	16.9	15.8	15.8	15.0
.3	.0866	.0840	.0233	.0226	.0632	.0614	.0175					7.16	6.90	7.92	7.27	7.16	6.90
.4	.0774	.0760	.0240	.0233	.0533	.0526	.00990					3.80	3.69	4.38	3.91	3.80	3.69
.5	.0708	.0698	.0241	.0235	.0467	.0464	.00643					2.83	2.76	3.33	2.94	2.84	2.77
.6	.0654	.0646	.0241	.0234	.0413	.0413	.00446					15.5	4.97	16.0	15.6	15.5	4.97
.8	.0573	.0570	.0235	.0227	.0340	.0343	.00255					12.6	4.67	13.0	12.7	12.6	4.67
1.	.0519	.0515	.0227	.0216	.0290	.0299	.00163					5.81	3.06	6.14	5.92	5.81	3.07
1.5	.0420	.0420	.0208	.0199	.0212	.0221	.000734	.00114				3.21	1.99	3.45	3.31	3.22	2.01
2.	.0358	.0358	.0190	.0179	.0168	.0179	.000413	.00376				1.06	.796	1.23	1.16	1.08	.814
3.	.0282	.0281	.0163	.0148	.0119	.0134	.000186	.00917	.0000986			.486	.394	.617	.581	.508	.416
4.	.0236	.0236	.0143	.0126	.00924	.0109	.000104	.0140	.0000405	.00917		.161	.141	.263	.245	.185	.164
5.	.0203	.0203	.0128	.0110	.00755	.00939	.0000679	.0180	.0000796	.0181		.0767	.0694	.163	.153	.101	.0928
5.	.0180	.0180	.0116	.00960	.00633	.00836	.0000471	.0212	.000123	.0213		.0438	.0405	.120	.114	.0679	.0630
8.	.0147	.0147	.00979	.00771	.00489	.00698	.0000268	.0264	.000208	.0266		.0285	.0267	.0975	.0931	.0526	.0500
10.	.0125	.0125	.00855	.00635	.00394	.00617	.0000170	.0311	.000284	.0314		.0147	.0140	.0741	.0716	.0383	.0365
15.	.00928	.00928	.00657	.00460	.00263	.00467	.0000068	.0398	.000446	.0402		.00924	.00887	.0624	.0606	.0320	.0305
20.	.00745	.00745	.00540	.00349	.00203	.00394		.0467	.000559	.0475		.00446	.00435	.0482	.0475	.0264	.0246
30.	.00540	.00540	.00405	.00224	.00137	.00317		.0559	.000730	.0566		.00268	.00261	.0427	.0424	.0254	.0222
40.	.00431	.00431	.00327	.00159	.00103	.00272		.0621	.000851	.0628		.00268	.00261	.0427	.0424	.0254	.0222
50.	.00359	.00359	.00276	.00121	.000825	.00238		.0668	.000942	.0679		.00144	.00142	.0391	.0387	.0268	.0218
60.	.00309	.00309	.00240	.000942	.000634	.00215		.0705	.00102	.0716		.000953	.000946	.0387	.0387	.0293	.0230
80.	.00244	.00244	.00192	.000639	.000522	.00180		.0760	.00112	.0771		.000708	.000705	.0391	.0391	.0316	.0244
100.	.00203	.00203	.00161	.000471	.000416	.00156		.0800	.00121	.0811		.000555	.000551	.0398	.0398	.0314	.0255
												.000387	.000383	.0416	.0416	.0369	.0275
												.000296	.000295	.0442	.0442	.0402	.0295
												.000184	.000184	.0497	.0497	.0471	.0328
												.000133	.000133	.0551	.0551	.0530	.0342
												.0000855	.0000855	.0621	.0621	.0606	.0354
												.0000624	.0000624	.0672	.0672	.0661	.0345
												.0000493	.0000493	.0716	.0716	.0708	.0338
												.0000405	.0000405	.0749	.0749	.0741	.0329
												.0000298	.0000298	.0794	.0794	.0789	.0317
												.0000233	.0000233	.0833	.0833	.0825	.0302

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(barns/atom)

E (MeV)	$\sigma_{KN}^{inc,t}$	$\sigma_{BD}^{inc,t}$	$\sigma_{KN}^{inc,a}$	$\sigma_{BD}^{inc,a}$	$\sigma_{KN}^{inc,s}$	$\sigma_{BD}^{inc,s}$	σ_{coh}	$\sigma_{\pi n}$	$\sigma_{\pi e}$	$\sigma_{\pi,t}$	$\sigma_{\pi,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	45.1	1.39	.0878	.00271	45.0	1.39	2320.					1200000.	1200000.	1200000.	1200000.	1200000.	1200000.
M_V .001409	45.0	2.15	.123	.00589	44.9	2.14	2330.					571000.	571000.	571000.	571000.	571000.	571000.
M_{IV} .001453	45.0	2.23	.127	.0063	44.8	2.22	2320.					1790000.	1790000.	1790000.	1790000.	1790000.	1790000.
.0015	45.0	2.32	.131	.00677	44.8	2.31	2300.					1670000.	1670000.	1670000.	1670000.	1670000.	1670000.
M_{III} .001812	44.9	2.88	.158	.0101	44.8	2.87	2720.					1890000.	1890000.	1890000.	1890000.	1890000.	1890000.
.002	44.9	3.22	.174	.0125	44.7	3.21	2670.					1730000.	1730000.	1730000.	1730000.	1730000.	1730000.
M_{II} .002006	44.9	3.24	.175	.0126	44.7	3.23	2670.					1080000.	1080000.	1080000.	1080000.	1080000.	1080000.
M_I .002217	44.8	3.62	.193	.0156	44.7	3.60	2610.					1240000.	1240000.	1240000.	1240000.	1240000.	1240000.
.003	44.7	5.00	.259	.0290	44.5	4.97	2400.					935000.	935000.	935000.	935000.	935000.	935000.
.004	44.5	6.68	.343	.0514	44.2	6.63	2140.					931000.	931000.	931000.	931000.	931000.	931000.
.005	44.4	8.23	.425	.0788	43.9	8.15	1900.					1110000.	1110000.	1110000.	1110000.	1110000.	1110000.
.006	44.2	9.64	.506	.110	43.7	9.53	1690.					867000.	867000.	867000.	867000.	867000.	867000.
.008	43.9	12.1	.664	.183	43.2	11.9	1350.					1030000.	1030000.	1030000.	1030000.	1030000.	1030000.
L_{III} .008358	43.8	12.5	.692	.197	43.1	12.3	1300.					468000.	468000.	468000.	468000.	468000.	468000.
L_{II} .009264	43.7	13.4	.761	.234	42.9	13.2	1190.					218000.	218000.	218000.	218000.	218000.	218000.
L_I .009752	43.6	13.9	.798	.255	42.8	13.6	1130.					120000.	120000.	120000.	120000.	120000.	120000.
.01	43.5	14.2	.816	.266	42.7	13.9	1100.					75000.	75000.	75000.	75000.	75000.	75000.
.015	42.8	18.3	1.18	.506	41.6	17.8	706.					34400.	34400.	34400.	34400.	34400.	34400.
.02	42.0	21.3	1.52	.769	40.5	20.5	498.					30800.	30800.	30800.	30800.	30800.	30800.
.03	40.6	25.2	2.11	1.31	38.5	23.9	291.					90700.	90700.	90700.	90700.	90700.	90700.
.04	39.3	27.3	2.62	1.82	36.7	25.5	189.					68200.	68200.	68200.	68200.	68200.	68200.
.05	38.2	28.4	3.08	2.29	35.1	26.1	133.					94300.	94300.	94300.	94300.	94300.	94300.
K .057486	37.4	28.9	3.38	2.61	34.0	26.3	106.					82500.	69400.	83600.	82500.	82500.	69800.
.06	37.1	29.0	3.48	2.72	33.6	26.3	99.2					95400.	80500.	95400.	95400.	95400.	80500.
.08	35.2	29.3	4.12	3.43	31.1	25.9	60.6					88700.	75200.	88700.	88700.	88700.	75200.
.1	33.5	29.1	4.62	4.02	28.9	25.1	40.1					29600.	26600.	30300.	29600.	29600.	26600.
.15	30.2	27.9	5.47	5.06	24.7	22.8	18.9					13800.	12800.	14300.	13800.	13800.	12800.
.2	27.6	26.2	5.98	5.66	21.7	20.5	11.0					4590.	4360.	4910.	4620.	4590.	4360.
.3	24.0	23.3	6.48	6.28	17.6	17.0	4.99					2100.	2020.	2320.	2130.	2100.	2020.
.4	21.5	21.1	6.67	6.46	14.9	14.6	1.83					1120.	1090.	1280.	1150.	1120.	1090.
.5	19.7	19.4	6.71	6.54	13.0	12.9	1.27					753.	733.	888.	782.	756.	736.
.6	18.2	18.0	6.68	6.52	11.5	11.5	724					4080.	1700.	4210.	4110.	4080.	1700.
.8	16.0	15.9	6.53	6.34	9.45	9.56	463					3620.	1260.	3750.	3650.	3620.	1260.
1.	14.4	14.3	6.32	6.01	8.04	8.29	209					1480.	858.	1770.	1710.	1680.	861.
1.5	11.7	11.6	5.77	5.50	5.90	6.10	117					924.	563.	993.	953.	929.	567.
2.	9.95	9.93	5.28	4.97	4.67	4.97	117					308.	228.	355.	336.	313.	233.
3.	7.83	7.82	4.51	4.10	3.31	3.72	117					141.	113.	178.	167.	147.	119.
4.	6.54	6.54	3.97	3.50	2.57	3.04	117					47.0	40.9	75.3	70.3	53.5	47.2
5.	5.65	5.65	3.55	3.03	2.10	2.62	117					22.3	20.1	46.2	43.4	29.0	26.6
6.	4.99	4.99	3.22	2.65	1.78	2.34	117					12.8	11.8	34.0	32.2	19.5	18.3
8.	4.08	4.08	2.72	2.14	1.36	1.94	117					8.32	7.78	27.6	26.3	15.0	14.3
10.	3.48	3.48	2.38	1.76	1.10	1.72	117					4.30	4.09	20.9	20.2	10.8	10.4
15.	2.57	2.57	1.83	1.27	.747	1.30	117					2.70	2.59	17.5	17.0	9.02	8.60
20.	2.07	2.07	1.50	.969	.565	1.10	117					1.30	1.27	13.4	13.2	7.40	6.87
30.	1.50	1.50	1.12	.618	.380	.882	117					.785	.770	11.9	11.6	7.13	6.23
40.	1.20	1.20	.908	.442	.287	.758	117					.421	.416	10.9	10.8	7.53	6.10
50.	.998	.998	.768	.334	.230	.664	117					.279	.276	10.8	10.8	8.23	6.46
60.	.860	.860	.667	.261	.192	.599	117					.207	.205	11.0	11.0	8.87	6.83
80.	.678	.678	.533	.177	.145	.501	117					.163	.162	11.2	11.2	9.40	7.15
100.	.563	.563	.447	.130	.115	.433	117					.113	.112	11.7	11.7	10.3	7.71
												.0868	.0865	12.4	12.4	11.3	8.29
												.0540	.0539	13.9	13.9	13.2	9.18
												.0390	.0389	15.5	15.5	14.9	9.62
												.0250	.0250	17.4	17.4	17.0	9.88
												.0182	.0182	18.9	18.9	18.6	9.68
												.0144	.0144	20.1	20.1	19.9	9.44
												.0118	.0118	21.0	21.0	20.8	9.19
												.00866	.00866	22.4	22.4	22.2	8.85
												.00680	.00680	23.4	23.4	23.3	8.45

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($\text{cm}^2/\text{g} = 0.003601 \times \text{barns/atom}$)

E (MeV)	($\frac{\sigma}{\rho}$) _{inc, t} ^{KN}	($\frac{\sigma}{\rho}$) _{inc, t} ^{BD}	($\frac{\sigma}{\rho}$) _{inc, a} ^{KN}	($\frac{\sigma}{\rho}$) _{inc, a} ^{BD}	($\frac{\sigma}{\rho}$) _{inc, s} ^{KN}	($\frac{\sigma}{\rho}$) _{inc, s} ^{BD}	($\frac{\sigma}{\rho}$) _{coh}	($\frac{\sigma}{\rho}$) _{n, n}	($\frac{\sigma}{\rho}$) _{n, e}	($\frac{\sigma}{\rho}$) _{n, t}	($\frac{\sigma}{\rho}$) _{n, u}	($\frac{\sigma}{\rho}$) _{r, t}	($\frac{\sigma}{\rho}$) _{r, a}	($\frac{\sigma}{\rho}$) _{tot, t}	($\frac{\sigma}{\rho}$) _{tot, t-corr}	($\frac{\sigma}{\rho}$) _{tot, a}	($\frac{\sigma}{\rho}$) _{tot, cr}
.001	.162	.00501	.000316	.00000980	.162	.00501	10.5					4320.	4320.	4320.	4320.	4320.	4320.
M _V .001409	.162	.00774	.000443	.0000212	.162	.00771	10.2					2050.	2060.	2070.	2060.	2060.	2060.
M _{IV} .001453	.162	.00803	.000457	.0000227	.161	.00799	10.2					6450.	6450.	6450.	6450.	6450.	6450.
.0015	.162	.00835	.000472	.0000244	.161	.00832	10.1					6010.	6010.	6010.	6010.	6010.	6010.
M _{III} .001812	.162	.0104	.000569	.0000364	.161	.0103	9.79					6810.	6810.	6810.	6810.	6810.	6810.
.002	.162	.0116	.000627	.0000450	.161	.0116	9.61					6230.	6230.	6230.	6230.	6230.	6230.
M _{II} .002006	.162	.0117	.000630	.0000454	.161	.0116	9.61					3890.	3890.	3890.	3890.	3890.	3890.
M _I .002217	.161	.0130	.000695	.0000562	.161	.0130	9.40					4470.	4470.	4470.	4470.	4470.	4470.
.003	.161	.0180	.000933	.000104	.160	.0179	8.64					3370.	3370.	3370.	3370.	3370.	3370.
.004	.160	.0241	.00124	.000185	.159	.0239	7.71					3350.	3350.	3350.	3350.	3350.	3350.
.005	.160	.0296	.00153	.000284	.158	.0293	6.84					4000.	4000.	4000.	4000.	4000.	4000.
.006	.159	.0347	.00182	.000396	.157	.0343	6.09					3120.	3120.	3120.	3120.	3120.	3120.
.008	.158	.0436	.00239	.000659	.156	.0429	4.86					3710.	3710.	3710.	3710.	3710.	3710.
L _{III} .008358	.158	.0450	.00249	.000709	.155	.0443	4.68					1690.	1690.	1690.	1690.	1690.	1690.
L _{II} .009264	.157	.0483	.00274	.000843	.154	.0475	4.29					745.	785.	792.	785.	785.	785.
L _I .009752	.157	.0501	.00287	.000918	.154	.0490	4.07					432.	432.	432.	432.	432.	432.
.01	.157	.0511	.00294	.000958	.154	.0501	3.96					270.	270.	270.	270.	270.	270.
.015	.154	.0659	.00425	.00182	.150	.0641	2.54					124.	124.	124.	124.	124.	124.
.02	.151	.0767	.00547	.00277	.146	.0738	1.79					111.	111.	111.	111.	111.	111.
.03	.146	.0907	.00760	.00472	.139	.0861	1.05					327.	327.	327.	327.	327.	327.
.04	.142	.0983	.00943	.00655	.132	.0918	.681					207.	207.	207.	207.	207.	207.
.05	.138	.102	.0111	.00825	.126	.0940	.479					284.	284.	284.	284.	284.	284.
K.057486	.135	.104	.0122	.00940	.122	.0947	.382					251.	251.	251.	251.	251.	251.
.06	.134	.104	.0125	.00979	.121	.0947	.357					290.	290.	290.	290.	290.	290.
.08	.127	.106	.0148	.0124	.112	.0933	.218					371.	371.	371.	371.	371.	371.
.1	.121	.105	.0166	.0145	.104	.0904	.144					167.	167.	167.	167.	167.	167.
.15	.109	.100	.0197	.0182	.0889	.0821	.0681					95.8	95.8	109.	107.	107.	95.8
.2	.0994	.0943	.0215	.0204	.0781	.0738	.0396					49.7	46.1	51.5	49.7	49.7	46.1
.3	.0864	.0839	.0233	.0226	.0634	.0612	.0180					15.7	15.7	17.7	16.6	16.5	15.7
.4	.0774	.0760	.0240	.0233	.0537	.0526	.0102					7.56	7.27	8.35	7.67	7.56	7.27
.5	.0709	.0699	.0242	.0236	.0468	.0465	.00659					4.03	3.93	4.61	4.14	4.03	3.93
.6	.0655	.0648	.0241	.0235	.0414	.0414	.00457					2.71	2.64	3.20	2.82	2.72	2.65
.8	.0576	.0573	.0235	.0228	.0340	.0344	.00261					14.7	4.68	15.2	14.8	14.7	4.68
1.	.0519	.0515	.0228	.0216	.0290	.0299	.00167					13.0	4.54	13.5	13.1	13.0	4.54
1.5	.0421	.0418	.0208	.0198	.0212	.0220	.000753	.00117		.00117	.000357	6.05	3.09	6.37	6.16	6.05	3.10
2.	.0358	.0358	.0190	.0179	.0168	.0179	.000421	.00385		.00385	.00177	3.33	2.03	3.58	3.43	3.35	2.04
3.	.0282	.0282	.0162	.0148	.0119	.0134	.000191	.00936		.00936	.00569	1.11	.821	1.28	1.21	1.13	.839
4.	.0236	.0236	.0143	.0126	.00925	.0109	.000107	.0143	.00000987	.0143	.00965	.504	.407	.641	.601	.529	.429
5.	.0203	.0203	.0128	.0109	.00756	.00943	.0000699	.0183	.0000792	.0184	.0130	.169	.147	.271	.253	.193	.170
6.	.0180	.0180	.0116	.00954	.00641	.00843	.0000486	.0216	.000123	.0217	.0156	.0803	.0724	.166	.156	.104	.0959
8.	.0147	.0147	.00979	.00771	.00490	.00699	.0000275	.0267	.000208	.0269	.0197	.0461	.0425	.122	.116	.0702	.0659
10.	.0125	.0125	.00857	.00634	.00396	.00619	.0000175	.0315	.000287	.0318	.0232	.0300	.0280	.0994	.0947	.0540	.0514
15.	.00925	.00925	.00659	.00457	.00269	.00468	.0000070	.0403	.000443	.0407	.0283	.0155	.0147	.0753	.0727	.0389	.0375
20.	.00745	.00745	.00540	.00349	.00203	.00396	.0000037	.0475	.000558	.0483	.0310	.00972	.00933	.0630	.0612	.0325	.0310
30.	.00540	.00540	.00403	.00223	.00137	.00318	.0000037	.0565	.000727	.0573	.0333	.00468	.00457	.0483	.0475	.0266	.0247
40.	.00432	.00432	.00327	.00159	.00103	.00273	.0000037	.0630	.000850	.0637	.0332	.00283	.00277	.0429	.0425	.0257	.0224
50.	.00359	.00359	.00277	.00120	.000828	.00239	.0000037	.0677	.000943	.0688	.0327	.00150	.00150	.0393	.0389	.0271	.0220
60.	.00310	.00310	.00240	.00094	.000691	.00216	.0000037	.0713	.00102	.0724	.0321	.000994	.000994	.0389	.0389	.0266	.0233
80.	.00244	.00244	.00192	.000637	.000522	.00180	.0000037	.0771	.00112	.0781	.0312	.000745	.000745	.0394	.0394	.0319	.0246
100.	.00203	.00203	.00161	.000468	.000418	.00156	.0000037	.0810	.00121	.0821	.0299	.000587	.000587	.0403	.0403	.0338	.0257
												.000312	.000312	.0421	.0421	.0371	.0278
												.0000245	.0000245	.0447	.0447	.0407	.0299
														.0501	.0501	.0475	.0331
														.0558	.0558	.0537	.0346
														.0627	.0627	.0612	.0356
														.0681	.0681	.0670	.0349
														.0724	.0724	.0717	.0340
														.0756	.0756	.0749	.0331
														.0807	.0807	.0799	.0319
														.0847	.0847	.0839	.0304

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(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	$\sigma_{\tau,t}$	$\sigma_{\tau,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	45.7	1.38	.0891	.00269	45.6	1.38	301.0					1250000.	1250000.	1250000.	1250000.	1250000.	1250000.
M _V .001468	45.6	2.24	.130	.00640	45.5	2.23	293.0					546000.	546000.	549000.	546000.	546000.	546000.
.0015	45.6	2.30	.133	.00671	45.5	2.29	289.0					1710000.	1710000.	1710000.	1710000.	1710000.	1710000.
M _{IV} .001515	45.6	2.32	.134	.00683	45.5	2.31	287.0					1620000.	1620000.	1620000.	1620000.	1620000.	1620000.
M _{III} .001881	45.6	2.99	.166	.0109	45.4	2.98	279.0					1590000.	1590000.	1590000.	1590000.	1590000.	1590000.
.002	45.5	3.20	.177	.0124	45.4	3.19	275.0					1800000.	1800000.	1800000.	1800000.	1800000.	1800000.
M _{II} .002090	45.5	3.36	.185	.0136	45.3	3.35	270.0					1040000.	1040000.	1040000.	1040000.	1040000.	1040000.
M _I .002306	45.5	3.75	.203	.0168	45.3	3.73	263.0					1190000.	1190000.	1190000.	1190000.	1190000.	1190000.
.003	45.4	4.98	.263	.0289	45.1	4.95	249.0					1010000.	1010000.	1010000.	1010000.	1010000.	1010000.
.004	45.2	6.66	.348	.0512	44.8	6.61	223.0					890000.	890000.	893000.	890000.	890000.	890000.
.005	45.0	8.22	.431	.0787	44.6	8.14	193.0					1060000.	1060000.	1060000.	1060000.	1060000.	1060000.
.006	44.8	9.64	.513	.110	44.3	9.53	173.0					831000.	831000.	834000.	831000.	831000.	831000.
.008	44.5	12.1	.674	.183	43.8	11.9	141.0					987000.	987000.	990000.	987000.	987000.	987000.
L _{III} .008648	44.4	12.8	.725	.209	43.7	12.6	132.0					496000.	496000.	498000.	496000.	496000.	496000.
L _{II} .009617	44.2	13.8	.800	.249	43.4	13.6	119.0					231000.	231000.	233000.	231000.	231000.	231000.
.01	44.2	14.2	.828	.266	43.4	13.9	115.0					128000.	128000.	130000.	128000.	128000.	128000.
L _I .010116	44.2	14.3	.838	.271	43.3	14.0	110.0					79400.	79400.	81200.	79400.	79400.	79400.
.015	43.4	18.3	1.20	.506	42.2	17.8	79.6					36600.	36600.	38000.	36600.	36600.	36600.
.02	42.6	21.5	1.54	.776	41.1	20.7	51.8					29900.	29900.	31200.	29900.	29900.	29900.
.03	41.2	25.4	2.15	1.32	39.1	24.1	30.3					87300.	87300.	88600.	87300.	87300.	87300.
.04	39.9	27.5	2.66	1.83	37.3	25.7	19.7					65200.	65200.	66400.	65200.	65200.	65200.
.05	38.7	28.7	3.13	2.32	35.6	26.4	18.8					90100.	90100.	91300.	90100.	90100.	90100.
K.059390	37.7	29.3	3.50	2.72	34.2	26.6	115.					81300.	81300.	82500.	81300.	81300.	81300.
.06	37.6	29.4	3.53	2.76	34.1	26.6	113.					79000.	79000.	80200.	79000.	79000.	79000.
.08	35.7	29.7	4.18	3.48	31.5	26.2	63.0					91300.	91300.	92500.	91300.	91300.	91300.
.1	34.0	29.5	4.69	4.07	29.3	25.4	31.7					76800.	76800.	78000.	76800.	76800.	76800.
.15	30.6	28.3	5.55	5.14	25.1	23.2	9.7					31300.	31300.	32100.	31300.	31300.	31300.
.2	28.0	26.6	6.06	5.75	22.0	20.8	1.4					14600.	14600.	15100.	14600.	14600.	14600.
.3	24.4	23.7	6.57	6.39	17.8	17.3	5.18					4870.	4870.	5200.	4870.	4870.	4870.
.4	21.8	21.4	6.77	6.55	15.1	14.9	2.93					2220.	2220.	2440.	2220.	2220.	2220.
.5	19.9	19.7	6.80	6.64	13.1	13.1	1.90					1190.	1190.	1360.	1190.	1190.	1190.
.6	18.5	18.3	6.78	6.62	11.7	11.7	1.32					732.	732.	866.	732.	732.	732.
.8	16.2	16.1	6.63	6.42	9.58	9.68	.750					3940.	1250.	1400.	3970.	3940.	1250.
1.	14.6	14.5	6.41	6.08	8.16	8.42	.481					3820.	1240.	1390.	3850.	3820.	1240.
1.5	11.8	11.8	5.86	5.58	5.98	6.22	.217					1770.	874.	1860.	1770.	1770.	877.
2.	10.1	10.1	5.36	5.05	4.74	5.05	.122					975.	580.	1050.	980.	980.	586.
3.	7.94	7.93	4.58	4.15	3.36	3.78	.0548					327.	239.	375.	355.	333.	244.
4.	6.64	6.64	4.03	3.55	2.61	3.09	.0310					150.	120.	188.	177.	156.	126.
5.	5.73	5.73	3.60	3.07	2.13	2.66	.0202					50.0	43.3	78.9	73.7	46.6	49.7
6.	5.07	5.07	3.26	2.69	1.80	2.38	.0140					23.4	21.4	48.1	45.2	30.6	27.9
8.	4.14	4.14	2.76	2.16	1.38	1.98	.00795					13.7	12.6	35.3	33.4	20.5	19.2
10.	3.53	3.53	2.41	1.78	1.12	1.75	.00506					8.86	8.26	28.5	27.2	15.6	14.9
15.	2.61	2.61	1.85	1.29	.758	1.32	.00202					4.60	4.37	21.4	20.7	11.2	10.8
20.	2.10	2.10	1.52	.979	.573	1.12	.00105					2.90	2.78	17.9	17.4	9.31	8.86
30.	1.53	1.53	1.14	.627	.386	.903						1.39	1.35	13.7	13.5	7.59	7.03
40.	1.21	1.21	.922	.444	.291	.766						.840	.823	12.2	12.0	7.31	6.38
50.	1.01	1.01	.780	.337	.233	.673						.449	.443	11.1	11.1	7.71	6.22
60.	.872	.872	.677	.264	.195	.608						.298	.295	11.1	11.0	8.42	6.59
80.	.688	.688	.541	.179	.147	.505						.220	.218	11.2	11.2	9.07	6.99
100.	.571	.571	.454	.131	.118	.440						.174	.173	11.4	11.4	9.61	7.31
												.121	.120	11.9	11.9	10.6	7.88
												.0928	.0924	12.7	12.7	11.6	8.45
												.0575	.0573	14.3	14.3	13.5	9.36
												.0414	.0413	15.8	15.8	15.3	9.79
												.0264	.0264	17.9	17.9	17.5	10.1
												.0194	.0194	19.4	19.4	19.1	9.89
												.0153	.0153	20.6	20.6	20.4	9.62
												.0125	.0125	21.6	21.6	21.4	9.42
												.00920	.00920	23.0	23.0	22.9	9.05
												.00726	.00726	24.0	24.0	23.9	8.60

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(cm²/g = 0.003565 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc, z} ^{KN}	($\frac{\mu}{\rho}$) _{inc, t} ^{BD}	($\frac{\mu}{\rho}$) _{inc, a} ^{KN}	($\frac{\mu}{\rho}$) _{inc, a} ^{BD}	($\frac{\mu}{\rho}$) _{inc, s} ^{KN}	($\frac{\mu}{\rho}$) _{inc, s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{x, n}	($\frac{\mu}{\rho}$) _{x, c}	($\frac{\mu}{\rho}$) _{x, t}	($\frac{\mu}{\rho}$) _{x, a}	($\frac{\mu}{\rho}$) _{r, t}	($\frac{\mu}{\rho}$) _{r, a}	($\frac{\mu}{\rho}$) _{tot, t}	($\frac{\mu}{\rho}$) _{tot, t-coh}	($\frac{\mu}{\rho}$) _{tot, a}	($\frac{\mu}{\rho}$) _{tot, cr}
.001	.163	.00492	.000318	.0000096	.163	.00492	10.7					4465.	4465.	4460.	4460.	4460.	4460.
M _γ .001468	.163	.00799	.000463	.0000228	.162	.00795	10.3					1950.	1950.	1950.	1950.	1950.	1950.
												6100.	6100.	6100.	6100.	6100.	6100.
.0015	.163	.00820	.000474	.0000239	.162	.00816	10.3					5780.	5780.	5780.	5780.	5780.	5780.
M _{TV} .001515	.163	.00827	.000478	.0000243	.162	.00824	10.3					5670.	5670.	5670.	5670.	5670.	5670.
												6420.	6420.	6420.	6420.	6420.	6420.
M _{III} .001881	.163	.0107	.000592	.0000389	.162	.0106	9.95					3710.	3710.	3710.	3710.	3710.	3710.
												4240.	4240.	4240.	4240.	4240.	4240.
.002	.162	.0114	.000631	.0000442	.162	.0114	9.84					3600.	3600.	3600.	3600.	3600.	3600.
M _{II} .002090	.162	.0120	.000660	.0000485	.161	.0119	9.77					3170.	3170.	3170.	3170.	3170.	3170.
												3780.	3780.	3780.	3780.	3780.	3780.
M _I .002306	.162	.0134	.000724	.0000599	.161	.0133	9.55					2960.	2960.	2960.	2960.	2960.	2960.
												3520.	3520.	3520.	3520.	3520.	3520.
.003	.162	.0178	.000938	.000103	.161	.0176	8.88					1770.	1770.	1770.	1770.	1770.	1770.
.004	.161	.0237	.00124	.000183	.160	.0236	7.91					824.	824.	831.	824.	824.	824.
.005	.160	.0293	.00154	.000281	.159	.0290	7.06					456.	456.	463.	456.	456.	456.
.006	.160	.0344	.00183	.000392	.158	.0340	6.27					283.	283.	289.	283.	283.	283.
.008	.159	.0431	.00240	.000652	.156	.0424	5.03					130.	130.	135.	130.	130.	130.
L _{III} .008646	.158	.0456	.00258	.000745	.156	.0449	4.71					107.	107.	111.	107.	107.	107.
												311.	256.	316.	311.	256.	256.
L _{II} .009617	.158	.0492	.00285	.000888	.155	.0485	4.24					232.	196.	237.	232.	196.	196.
												321.	268.	325.	321.	268.	268.
.01	.158	.0506	.00295	.000948	.155	.0496	4.10					290.	244.	294.	290.	290.	244.
L _I .010116	.158	.0510	.00299	.000966	.154	.0499	4.06					242.	237.	286.	282.	282.	237.
												325.	274.	330.	325.	325.	274.
.015	.155	.0652	.00428	.00180	.150	.0635	2.62					172.	99.8	114.	112.	112.	99.8
.02	.152	.0766	.00549	.00277	.147	.0738	1.85					52.0	47.8	53.8	52.0	52.0	47.8
.03	.147	.0906	.00766	.00471	.139	.0859	1.08					17.4	16.4	18.5	17.5	17.4	16.4
.04	.142	.0980	.00948	.00652	.133	.0916	.702					7.91	7.59	8.70	8.02	7.91	7.59
.05	.138	.102	.0112	.00827	.127	.0941	.492					4.24	4.10	4.85	4.35	4.24	4.10
K.059390	.134	.104	.0125	.00970	.122	.0948	.374					2.61	2.54	3.09	2.71	2.62	2.55
												4.0	4.48	14.5	14.2	14.0	4.46
.06	.134	.105	.0126	.00984	.122	.0948	.367					3.6	4.42	14.1	13.7	13.6	4.42
.08	.127	.106	.0149	.0124	.112	.0934	.225					6.31	3.12	6.63	6.42	6.31	3.13
.1	.121	.105	.0167	.0145	.104	.0906	.149					3.48	2.07	3.74	3.56	3.49	2.08
.15	.109	.101	.0198	.0183	.0895	.0827	.0702					1.17	.852	1.34	1.27	1.19	.870
.2	.0998	.0948	.0216	.0205	.0784	.0742	.0406					.535	.428	.670	.631	.556	.449
.3	.0870	.0845	.0234	.0228	.0635	.0617	.0185					.178	.154	.281	.263	.202	.177
.4	.0777	.0763	.0241	.0234	.0538	.0531	.0104					.0848	.0763	.171	.161	.109	.0995
.5	.0709	.0702	.0242	.0237	.0467	.0467	.00677					.0488	.0449	.126	.119	.0731	.0684
.6	.0660	.0652	.0242	.0236	.0417	.0417	.00471					.0316	.0294	.102	.0970	.0556	.0531
.8	.0578	.0574	.0236	.0229	.0342	.0345	.00267					.0164	.0156	.0763	.0738	.0399	.0385
1.	.0520	.0517	.0229	.0217	.0291	.0300	.00174					.0103	.00991	.0639	.0620	.0332	.0316
1.5	.0421	.0421	.0209	.0199	.0213	.0222	.000774	.00121		.00121	.000367	.00496	.00481	.0488	.0481	.0271	.0251
2.	.0360	.0360	.0191	.0180	.0169	.0180	.000435	.00396		.00396	.00181	.00299	.00293	.0435	.0428	.0261	.0227
3.	.0283	.0283	.0163	.0148	.0120	.0135	.000195	.00955	.00000991	.00955	.00581	.00160	.00158	.0396	.0396	.0275	.0222
4.	.0237	.0237	.0144	.0127	.00930	.0110	.000111	.0145	.0000406	.0146	.00980	.00106	.00105	.0396	.0392	.0300	.0235
5.	.0204	.0204	.0128	.0109	.00759	.00948	.0000720	.0186	.0000795	.0187	.0132	.000784	.000777	.0399	.0399	.0323	.0240
6.	.0181	.0181	.0116	.00959	.00642	.00848	.0000499	.0219	.000124	.0220	.0159	.000620	.000617	.0404	.0404	.0343	.0261
8.	.0148	.0148	.00984	.00770	.00492	.00706	.0000283	.0272	.000209	.0274	.0200	.000431	.000428	.0424	.0424	.0378	.0281
10.	.0126	.0126	.00859	.00635	.00399	.00624	.0000180	.0321	.000288	.0324	.0235	.000331	.000329	.0453	.0453	.0414	.0301
15.	.00930	.00930	.00660	.00460	.00270	.00471	.0000072	.0410	.000446	.0414	.0286	.000205	.000204	.0510	.0510	.0481	.0334
20.	.00749	.00749	.00542	.00349	.00204	.00399	.0000037	.0481	.000563	.0488	.0313	.000148	.000147	.0563	.0563	.0545	.0349
30.	.00545	.00545	.00406	.00224	.00138	.00322		.0574	.000731	.0581	.0337	.0000941	.0000941	.0638	.0638	.0624	.0360
40.	.00431	.00431	.00329	.00158	.00104	.00273		.0642	.000856	.0649	.0336	.0000692	.0000692	.0692	.0692	.0681	.0353
50.	.00360	.00360	.00278	.00120	.000831	.00240		.0688	.000948	.0699	.0330	.0000545	.0000545	.0734	.0734	.0727	.0341
60.	.00311	.00311	.00241	.000941	.000695	.00217		.0727	.00102	.0738	.0326	.0000446	.0000446	.0770	.0770	.0763	.0336
80.	.00245	.00245	.00193	.000638	.000524	.00181		.0784	.00113	.0795	.0316	.0000328	.0000328	.0820	.0820	.0816	.0323
100.	.00204	.00204	.00162	.000467	.000421	.00157		.0824	.00121	.0834	.0302	.0000259	.0000259	.0856	.0856	.0852	.0307

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 (barns/atom)

E (MeV)	$\sigma_{inc,t}^{KN}$	$\sigma_{inc,t}^{BD}$	$\sigma_{inc,a}^{KN}$	$\sigma_{inc,a}^{BD}$	$\sigma_{inc,s}^{KN}$	$\sigma_{inc,s}^{BD}$	σ_{coh}	C_{KN}	σ_{xe}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	46.4	1.36	.0904	.00265	46.3	1.36	311.					1310000.	1310000.	1310000.	1310000.	1310000.	1310000.
.0015	46.3	2.27	.135	.00662	46.2	2.26	298.					543000.	543000.	544000.	543000.	543000.	543000.
M_V .001528	46.3	2.32	.137	.00689	46.1	2.31	298.					522000.	522000.	525000.	522000.	522000.	522000.
M_{IV} .001577	46.3	2.41	.142	.00739	46.1	2.40	296.					1630000.	1630000.	1630000.	1630000.	1630000.	1630000.
M_{III} .001950	46.2	3.08	.175	.0117	46.0	3.07	286.					1520000.	1520000.	1520000.	1520000.	1520000.	1520000.
.002	46.2	3.17	.179	.0123	46.0	3.16	285.					1730000.	1730000.	1730000.	1730000.	1730000.	1730000.
M_{II} .002175	46.2	3.49	.195	.0147	46.0	3.48	280.					1000000.	1000000.	1000000.	1000000.	1000000.	1000000.
M_I .002398	46.1	3.89	.214	.0181	45.9	3.87	274.					1150000.	1150000.	1150000.	1150000.	1150000.	1150000.
.003	46.0	4.95	.267	.0287	45.8	4.92	257.					1070000.	1070000.	1070000.	1070000.	1070000.	1070000.
.004	45.8	6.64	.353	.0511	45.5	6.59	230.					853000.	853000.	856000.	853000.	853000.	853000.
.005	45.7	8.20	.437	.0785	45.2	8.12	205.					1010000.	1010000.	1010000.	1010000.	1010000.	1010000.
.006	45.5	9.63	.521	.110	45.0	9.52	183.					797000.	797000.	800000.	797000.	797000.	797000.
.008	45.2	12.1	.683	.183	44.5	11.9	147.					944000.	944000.	947000.	944000.	944000.	944000.
L_{III} .008943	45.0	13.2	.758	.222	44.2	13.0	133.					527000.	527000.	530000.	527000.	527000.	527000.
L_{II} .009978	44.8	14.2	.839	.266	44.0	13.9	120.					246000.	246000.	248000.	246000.	246000.	246000.
.01	44.8	14.2	.840	.266	44.0	13.9	120.					136000.	136000.	138000.	136000.	136000.	136000.
L_I .010489	44.7	14.7	.879	.289	43.9	14.4	114.					84900.	84900.	86700.	84900.	84900.	84900.
.015	44.0	18.4	1.22	.509	42.8	17.9	76.					38800.	38800.	40300.	38800.	38800.	38800.
.02	43.3	21.6	1.56	.780	41.7	20.8	53.					29100.	29100.	30400.	29100.	29100.	29100.
.03	41.8	25.6	2.18	1.33	39.7	24.3	31.					84000.	84000.	85300.	84000.	84000.	84000.
.04	40.5	27.8	2.70	1.85	37.8	25.9	20.					69000.	69000.	69000.	69000.	69000.	69000.
.05	39.3	29.1	3.17	2.35	36.1	26.8	14.					62300.	62300.	63500.	62300.	62300.	62300.
.06	38.2	29.7	3.58	2.79	34.6	26.9	10.					86100.	87300.	87300.	86100.	86100.	86100.
K .061332	38.0	29.8	3.63	2.84	34.4	27.0	10.					71700.	71700.	71700.	71700.	71700.	71700.
.08	36.2	30.1	4.24	3.52	32.0	26.6	6.					85800.	87000.	87000.	85800.	85800.	85800.
.1	34.5	29.9	4.76	4.13	29.7	25.8	4.					75600.	75600.	75600.	75600.	75600.	75600.
.15	31.1	28.7	5.63	5.21	25.4	23.5	2.					73400.	73400.	73400.	73400.	73400.	73400.
.2	28.4	27.0	6.15	5.84	22.3	21.2	1.					33300.	29600.	34100.	33300.	33300.	29600.
.3	26.7	24.0	6.67	6.47	18.1	17.5	5.					15400.	14100.	16000.	15400.	15400.	14100.
.4	22.2	21.7	6.87	6.64	15.3	15.1	3.					5180.	4890.	5520.	5210.	5180.	4890.
.5	20.2	20.0	6.90	6.74	13.3	13.3	1.					2360.	2260.	2590.	2390.	2360.	2260.
.6	18.7	18.5	6.88	6.68	11.8	11.8	1.					1260.	1220.	1430.	1290.	1260.	1220.
.8	16.4	16.3	6.72	6.50	9.72	9.80	7.					755.	734.	892.	785.	759.	737.
1.	14.8	14.7	6.50	6.16	8.28	8.54	5.					712.	692.	845.	742.	714.	695.
1.5	12.0	12.0	5.94	5.68	6.07	6.32	2.					3800.	1210.	3930.	3830.	3800.	1210.
2.	10.2	10.2	5.44	5.09	4.81	5.11	1.					1870.	892.	1970.	1900.	1870.	896.
3.	8.06	8.05	4.65	4.20	3.41	3.85	.5					1020.	593.	1090.	1050.	1020.	597.
4.	6.73	6.73	4.09	3.59	2.65	3.14	.2					348.	251.	397.	377.	354.	256.
5.	5.82	5.82	3.55	3.11	2.16	2.71	.1					160.	127.	199.	187.	166.	133.
6.	5.14	5.14	3.31	2.72	1.83	2.42	.1					53.2	45.8	82.6	77.2	59.9	52.3
8.	4.20	4.20	2.80	2.19	1.40	2.01	.0					25.3	22.7	50.0	47.0	32.2	29.3
10.	3.58	3.58	2.55	1.80	1.13	1.78	.0					14.6	13.4	36.6	34.6	21.5	20.1
15.	2.65	2.65	1.38	1.30	.769	1.35	.0					9.50	8.84	29.4	28.0	16.4	15.5
20.	2.13	2.13	1.55	.986	.582	1.14	.0					4.90	4.64	22.0	21.2	11.6	11.1
30.	1.55	1.55	1.16	.634	.391	.916	.0					3.10	2.97	18.3	17.8	9.60	9.13
40.	1.23	1.23	.935	.449	.295	.781	.0					1.49	1.45	14.1	13.8	7.78	7.24
50.	1.03	1.03	.791	.342	.237	.688	.0					.895	.876	12.4	12.3	7.49	6.50
60.	.885	.885	.587	.267	.198	.618	.0					.478	.471	11.4	11.3	7.90	6.36
80.	.698	.698	.459	.181	.149	.517	.0					.318	.315	11.3	11.3	8.62	6.73
100.	.580	.580	.460	.133	.119	.447	.0					.236	.234	11.5	11.5	9.30	7.15
												.186	.185	11.7	11.7	9.86	7.47
												.129	.128	12.2	12.2	10.8	8.08
												.0990	.0986	13.0	13.0	11.9	8.66
												.0610	.0608	14.7	14.7	13.9	9.62
												.0442	.0441	16.2	16.2	15.6	9.95
												.0284	.0284	18.3	18.3	17.9	10.3
												.0208	.0208	19.9	19.9	19.6	10.0
												.0163	.0163	21.1	21.1	20.9	9.83
												.0134	.0134	22.1	22.1	21.9	9.58
												.00980	.00979	23.5	23.5	23.4	9.20
												.00770	.00770	24.5	24.5	24.4	8.71

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(cm²/g = 0.003480 x barns/atom)

E (MeV)	($\frac{\sigma}{p}$) _{inc,t} ^{KN}	($\frac{\sigma}{p}$) _{inc,t} ^{BD}	($\frac{\sigma}{p}$) _{inc,a} ^{KN}	($\frac{\sigma}{p}$) _{inc,a} ^{BD}	($\frac{\sigma}{p}$) _{inc,s} ^{KN}	($\frac{\sigma}{p}$) _{inc,s} ^{BD}	($\frac{\sigma}{p}$) _{coh}	($\frac{\sigma}{p}$) _{x,1}	($\frac{\sigma}{p}$) _{x,2}	($\frac{\sigma}{p}$) _{x,t}	($\frac{\sigma}{p}$) _{x,a}	($\frac{\sigma}{p}$) _t	($\frac{\sigma}{p}$) _{t,a}	($\frac{\sigma}{p}$) _{tot,t}	($\frac{\sigma}{p}$) _{tot,t-coh}	($\frac{\sigma}{p}$) _{tot,a}	($\frac{\sigma}{p}$) _{tot,en}
.001	.161	.00473	.000315	.00000920	.161	.00473	10.8					4560.	4560.	4560.	4560.	4560.	4560.
.0015	.161	.00790	.000470	.0000230	.161	.00786	10.4					1890.	1890.	1890.	1890.	1890.	1890.
M _V .001528	.161	.00807	.000477	.0000240	.160	.00804	10.4					1820.	1820.	1830.	1820.	1820.	1820.
M _{IV} .001577	.161	.00839	.000494	.0000257	.160	.00835	10.3					5670.	5670.	5670.	5670.	5670.	5670.
M _{III} .001950	.161	.0107	.000609	.0000407	.160	.0107	9.95					5290.	5290.	5290.	5290.	5290.	5290.
.002	.161	.0110	.000623	.0000428	.160	.0110	9.92					6020.	6020.	6020.	6020.	6020.	6020.
M _{II} .002175	.161	.0121	.000679	.0000512	.160	.0121	9.74					3480.	3480.	3480.	3480.	3480.	3480.
M _I .002398	.160	.0135	.000745	.0000630	.160	.0135	9.54					4000.	4000.	4000.	4000.	4000.	4000.
.003	.160	.0172	.000929	.0000999	.159	.0171	8.94					3720.	3720.	3720.	3720.	3720.	3720.
.004	.159	.0231	.00123	.000178	.158	.0229	8.00					2970.	2970.	2980.	2970.	2970.	2970.
.005	.159	.0285	.00152	.000273	.157	.0283	7.13					3510.	3510.	3510.	3510.	3510.	3510.
.006	.158	.0335	.00181	.000383	.157	.0331	6.37					2770.	2770.	2780.	2770.	2770.	2770.
.008	.157	.0421	.00238	.000637	.155	.0414	5.12					3290.	3290.	3300.	3290.	3290.	3290.
L _{III} .008943	.157	.0459	.00264	.000773	.154	.0452	4.63					1830.	1830.	1840.	1830.	1830.	1830.
L _{II} .009978	.156	.0494	.00292	.000926	.153	.0484	4.18					856.	856.	863.	856.	856.	856.
.01	.156	.0494	.00292	.000926	.153	.0484	4.18					473.	473.	480.	473.	473.	473.
L _I .010489	.156	.0512	.00306	.00101	.153	.0501	3.97					295.	295.	302.	295.	295.	295.
.015	.153	.0640	.00425	.00177	.149	.0623	2.66					135.	135.	140.	135.	135.	135.
.02	.151	.0752	.00543	.00271	.145	.0724	1.87					101.	101.	106.	101.	101.	101.
.03	.145	.0891	.00759	.00463	.138	.0846	1.09					240.	240.	297.	292.	240.	240.
.04	.141	.0967	.00940	.00644	.132	.0901	.710					217.	217.	221.	217.	217.	217.
.05	.137	.101	.0110	.00818	.126	.0933	.501					300.	300.	304.	300.	300.	300.
.06	.133	.103	.0125	.00971	.120	.0936	.372					249.	249.	303.	299.	249.	249.
K.061332	.132	.104	.0126	.00988	.120	.0940	.358					263.	263.	267.	263.	263.	263.
.08	.126	.105	.0148	.0122	.111	.0926	.228					304.	304.	309.	304.	304.	304.
.1	.120	.104	.0166	.0144	.103	.0898	.151					116.	116.	119.	116.	116.	116.
.15	.108	.0999	.0196	.0181	.0884	.0818	.0710					53.6	49.1	55.7	53.6	53.6	49.1
.2	.0988	.0940	.0214	.0203	.0776	.0738	.0411					17.0	17.0	19.2	18.1	18.0	17.0
.3	.0860	.0835	.0232	.0225	.0630	.0609	.0187					7.86	7.86	9.01	8.32	8.21	7.86
.4	.0773	.0755	.0239	.0231	.0532	.0525	.0106					4.38	4.25	4.98	4.49	4.38	4.25
.5	.0703	.0696	.0240	.0235	.0463	.0463	.00689					2.63	2.55	3.10	2.73	2.64	2.56
.6	.0651	.0644	.0239	.0232	.0411	.0411	.00477					2.48	2.41	2.94	2.58	2.49	2.42
.8	.0571	.0567	.0234	.0226	.0338	.0341	.00271					13.2	4.21	13.7	13.3	13.2	4.21
1.	.0515	.0512	.0226	.0214	.0288	.0297	.00174					6.51	3.10	6.86	6.61	6.51	3.12
1.5	.0418	.0418	.0207	.0198	.0211	.0220	.000783	.00123				3.55	2.06	3.79	3.65	3.55	2.08
2.	.0355	.0355	.0189	.0177	.0167	.0178	.000442	.00404				1.21	.873	1.38	1.31	1.23	.891
3.	.0280	.0280	.0162	.0146	.0119	.0134	.000198	.00964				.557	.442	.693	.651	.578	.463
4.	.0234	.0234	.0142	.0125	.00922	.0109	.000112	.0146	.0000404			.185	.159	.287	.269	.208	.182
5.	.0203	.0203	.0127	.0108	.00752	.00943	.0000731	.0188	.0000790	.0188	.0133	.0880	.0790	.174	.164	.112	.102
6.	.0179	.0179	.0115	.00947	.00637	.00842	.0000505	.0220	.000122	.0221	.0159	.0508	.0466	.127	.120	.0748	.0699
8.	.0146	.0146	.00974	.00762	.00487	.00699	.0000287	.0273	.000207	.0275	.0200	.0331	.0308	.102	.0974	.0571	.0539
10.	.0125	.0125	.00853	.00626	.00393	.00619	.0000183	.0322	.000285	.0325	.0235	.0171	.0161	.0766	.0738	.0404	.0386
15.	.00922	.00922	.00654	.00452	.00263	.00470	.0000073	.0414	.000442	.0418	.0287	.0108	.0103	.0637	.0619	.0336	.0318
20.	.00741	.00741	.00539	.00343	.00203	.00397	.0000038	.0480	.000557	.0487	.0310	.00519	.00505	.0491	.0480	.0271	.0252
30.	.00539	.00539	.00404	.00221	.00136	.00319		.0574	.000720	.0581	.0334	.00311	.00305	.0432	.0428	.0261	.0226
40.	.00428	.00428	.00325	.00156	.00103	.00272		.0640	.000846	.0647	.0333	.00166	.00164	.0397	.0393	.0275	.0221
50.	.00358	.00358	.00275	.00119	.000825	.00239		.0689	.000936	.0699	.0330	.00111	.00110	.0393	.0393	.0300	.0234
60.	.00308	.00308	.00239	.000929	.000639	.00215		.0727	.00101	.0734	.0324	.000821	.000814	.0400	.0400	.0324	.0249
80.	.00243	.00243	.00191	.000630	.000519	.00180		.0783	.00111	.0793	.0314	.000647	.000644	.0407	.0407	.0343	.0260
100.	.00202	.00202	.00160	.000463	.000414	.00156		.0821	.00120	.0832	.0298	.000449	.000445	.0425	.0425	.0376	.0281
												.000345	.000343	.0452	.0452	.0414	.0301
												.000212	.000212	.0512	.0512	.0484	.0335
												.000154	.000153	.0564	.0564	.0543	.0344
												.0000988	.0000988	.0637	.0637	.0623	.0358
												.0000724	.0000724	.0693	.0693	.0682	.0344
												.0000567	.0000567	.0734	.0734	.0727	.0342
												.0000466	.0000466	.0769	.0769	.0762	.0333
												.0000341	.0000341	.0818	.0818	.0814	.0320
												.0000268	.0000268	.0853	.0853	.0849	.0303

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 (barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	$\sigma_{\tau,t}$	$\sigma_{\tau,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	47.0	1.35	.0917	.00263	47.0	1.35	3240.					1360000.	1360000.	1360000.	1360000.	1360000.	1360000.
.0015	47.0	2.27	.137	.00662	46.8	2.26	3070.					567000.	567000.	570000.	547000.	547000.	567000.
M _V .001591	46.9	2.44	.145	.00754	46.8	2.43	3040.					500000.	500000.	503000.	500000.	500000.	500000.
M _{IV} .001641	46.9	2.53	.150	.00807	46.8	2.52	3020.					1560000.	1560000.	1560000.	1560000.	1560000.	1560000.
.002	46.9	3.18	.182	.0123	46.7	3.17	2920.					1460000.	1460000.	1460000.	1460000.	1460000.	1460000.
M _{III} .002024	46.9	3.22	.184	.0126	46.7	3.21	2920.					1650000.	1650000.	1650000.	1650000.	1650000.	1650000.
M _{II} .002264	46.8	3.66	.205	.0161	46.6	3.64	2820.					987000.	987000.	990000.	987000.	987000.	987000.
M _I .002494	46.8	4.07	.226	.0197	46.5	4.05	2750.					961000.	961000.	964000.	961000.	961000.	961000.
.003	46.7	4.96	.271	.0287	46.4	4.93	2640.					1110000.	1110000.	1110000.	1110000.	1110000.	1110000.
.004	46.5	6.65	.358	.0512	46.1	6.60	2370.					816000.	816000.	819000.	816000.	816000.	816000.
.005	46.3	8.23	.444	.0788	45.9	8.15	2130.					971000.	971000.	974000.	971000.	971000.	971000.
.006	46.1	9.67	.526	.111	45.6	9.56	1880.					764000.	764000.	767000.	764000.	764000.	764000.
.008	45.8	12.2	.693	.185	45.1	12.0	1520.					902000.	902000.	905000.	902000.	902000.	902000.
L _{III} .009245	45.6	13.6	.793	.237	44.8	13.4	1330.					557000.	557000.	560000.	557000.	557000.	557000.
.01	45.5	14.4	.852	.270	44.6	14.1	1240.					261000.	261000.	263000.	261000.	261000.	261000.
L _{II} .010349	45.4	14.7	.881	.285	44.5	14.4	1200.					144000.	144000.	146000.	144000.	144000.	144000.
L _I .010874	45.3	15.2	.921	.309	44.4	14.9	1140.					90100.	90100.	92000.	90100.	90100.	90100.
.015	44.7	18.6	1.23	.514	43.4	18.1	793.					41500.	41500.	43000.	41500.	41500.	41500.
.02	43.9	21.8	1.58	.787	42.3	21.0	554.					28300.	28300.	29600.	28300.	28300.	28300.
.03	42.4	25.9	2.21	1.35	40.2	24.6	325.					80900.	80900.	82200.	80900.	80900.	80900.
.04	41.1	28.1	2.74	1.87	38.3	26.2	212.					65200.	65200.	66500.	65200.	65200.	65200.
.05	39.9	29.4	3.22	2.37	36.7	27.0	149.					59600.	59600.	61000.	59600.	59600.	59600.
.06	38.7	30.1	3.63	2.82	35.1	27.3	111.					41500.	41500.	43000.	41500.	41500.	41500.
K.063316	38.4	30.2	3.75	2.95	34.6	27.2	102.					28300.	28300.	29600.	28300.	28300.	28300.
.08	36.7	30.4	4.30	3.56	32.4	26.8	67.8					80900.	80900.	82200.	80900.	80900.	80900.
.1	35.0	30.2	4.83	4.17	30.2	26.0	44.9					65200.	65200.	66500.	65200.	65200.	65200.
.15	31.5	29.1	5.72	5.28	25.8	23.8	2.2					59600.	59600.	61000.	59600.	59600.	59600.
.2	28.9	27.3	6.24	5.90	22.6	21.4	12.3					41500.	41500.	43000.	41500.	41500.	41500.
.3	25.1	24.3	6.76	6.55	18.3	17.7	5.58					28300.	28300.	29600.	28300.	28300.	28300.
.4	22.5	22.0	6.97	6.73	15.5	15.3	3.16					16400.	16400.	17000.	16400.	16400.	16400.
.5	20.5	20.2	7.00	6.81	13.5	13.4	2.05					11000.	11000.	11500.	11000.	11000.	11000.
.6	19.0	18.8	6.98	6.79	12.0	12.0	1.42					8090.	8090.	8390.	8090.	8090.	8090.
.8	16.7	16.6	6.82	6.62	9.85	9.98	.810					693.	673.	723.	693.	693.	693.
1.	15.0	14.9	6.60	6.24	8.40	8.66	.519					3660.	3790.	3990.	3660.	3660.	3660.
1.5	12.2	12.1	6.03	5.72	6.16	6.38	.233	.366	.366	.111		1960.	2060.	2190.	1960.	1960.	1960.
2.	10.4	10.4	5.51	5.19	4.88	5.21	.131	1.20	1.20	.551		1070.	1100.	1150.	1070.	1070.	1070.
3.	8.17	8.16	4.71	4.26	3.45	3.90	.0589	2.86	2.86	1.74		809.	785.	839.	809.	809.	809.
4.	6.83	6.83	4.14	3.63	2.69	3.20	.0333	4.31	.00286	4.32	2.90	693.	673.	723.	693.	693.	693.
5.	5.90	5.90	3.70	3.14	2.19	2.76	.0217	5.53	.0230	5.55	3.90	596.	596.	610.	596.	596.	596.
6.	5.21	5.21	3.36	2.76	1.86	2.45	.0151	6.50	.0357	6.54	6.69	415.	415.	430.	415.	415.	415.
8.	4.26	4.26	2.84	2.21	1.42	2.05	.00857	8.05	.0601	8.11	5.89	283.	283.	296.	283.	283.	283.
10.	3.63	3.63	2.48	1.82	1.15	1.81	.00549	9.50	.0830	9.58	4.23	164.	164.	170.	164.	164.	164.
15.	2.69	2.69	1.91	1.32	.780	1.37	.00219	12.2	.128	12.3	8.43	110.	110.	115.	110.	110.	110.
20.	2.16	2.16	1.57	.998	.590	1.16	.00111	14.2	.162	14.4	9.15	809.	809.	839.	809.	809.	809.
30.	1.57	1.57	1.17	.641	.397	.929		17.0	.210	17.2	9.86	693.	693.	723.	693.	693.	693.
40.	1.25	1.25	.949	.454	.300	.796		18.9	.246	19.1	9.78	596.	596.	610.	596.	596.	596.
50.	1.04	1.04	.802	.344	.240	.696		20.3	.272	20.6	9.67	415.	415.	430.	415.	415.	415.
60.	.897	.897	.697	.270	.201	.627		21.4	.293	21.7	9.48	283.	283.	296.	283.	283.	283.
80.	.708	.708	.557	.183	.151	.525		23.1	.325	23.4	9.21	164.	164.	170.	164.	164.	164.
100.	.588	.588	.467	.135	.121	.453		24.3	.349	24.6	8.78	110.	110.	115.	110.	110.	110.

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(cm²/g = 0.003442 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _n	($\frac{\mu}{\rho}$) _e	($\frac{\mu}{\rho}$) _{s,t}	($\frac{\mu}{\rho}$) _{s,a}	($\frac{\mu}{\rho}$) _t	($\frac{\mu}{\rho}$) _{t,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.162	.00465	.000316	.0000091	.162	.00465	11.0					468.	468.	468.	468.	468.	468.
.0015	.162	.00781	.000472	.0000228	.161	.00778	10.6					195.	195.	195.	195.	195.	195.
M _γ .001591	.161	.00840	.000499	.0000260	.161	.00836	10.5					172.	172.	172.	172.	172.	172.
M _{Tγ} .001641	.161	.00871	.000516	.0000278	.161	.00867	10.4					537.	537.	537.	537.	537.	537.
.002	.161	.0109	.000626	.0000423	.161	.0109	10.1					503.	503.	503.	503.	503.	503.
M _{III} .002024	.161	.0111	.000633	.0000434	.161	.0110	10.1					568.	568.	568.	568.	568.	568.
M _{II} .002264	.161	.0126	.000706	.0000554	.160	.0125	9.81					340.	340.	340.	340.	340.	340.
M _I .002494	.161	.0140	.000778	.0000678	.160	.0139	9.60					331.	331.	331.	331.	331.	331.
.003	.161	.0171	.000933	.0000988	.160	.0170	9.09					382.	382.	382.	382.	382.	382.
.004	.160	.0229	.00123	.000176	.159	.0227	8.16					281.	281.	281.	281.	281.	281.
.005	.159	.0283	.00153	.000271	.158	.0281	7.26					334.	334.	334.	334.	334.	334.
.006	.159	.0333	.00182	.000382	.157	.0329	6.47					263.	263.	263.	263.	263.	263.
.008	.158	.0420	.00239	.000637	.155	.0413	5.23					310.	310.	310.	310.	310.	310.
L _{III} .009245	.157	.0468	.00273	.000816	.154	.0461	4.58					192.	192.	192.	192.	192.	192.
.01	.157	.0496	.00293	.000929	.154	.0485	4.27					99.	97.4	102.	97.4	97.4	97.4
L _{II} .010349	.156	.0506	.00303	.000981	.153	.0496	4.13					278.	278.	278.	278.	278.	278.
L _I .010874	.156	.0523	.00317	.00106	.153	.0513	3.92					22.	16.	22.	22.	22.	18.
.015	.154	.0640	.00423	.00177	.149	.0623	2.73					205.	205.	205.	205.	205.	205.
.02	.151	.0750	.00544	.00271	.146	.0723	1.92					289.	289.	289.	289.	289.	289.
.03	.146	.0891	.00761	.00465	.138	.0847	1.12					249.	249.	249.	249.	249.	249.
.04	.141	.0967	.00943	.00644	.132	.0902	.730					284.	284.	284.	284.	284.	284.
.05	.137	.101	.0111	.00816	.126	.0929	.513					12.	12.	12.	12.	12.	12.
.06	.133	.104	.0125	.00971	.121	.0940	.382					12.6	13.0	13.0	12.7	12.6	12.6
K.063316	.132	.104	.0129	.0102	.119	.0936	.351					5.75	3.10	7.09	6.85	6.75	3.11
.08	.124	.105	.0148	.0123	.112	.0922	.233					3.68	2.09	3.96	3.79	3.68	2.10
.1	.120	.104	.0166	.0144	.104	.0895	.155					1.26	.898	1.44	1.36	1.28	.916
.15	.108	.100	.0197	.0182	.0888	.0819	.0730					.582	.454	.719	.675	.602	.475
.2	.0995	.0940	.0215	.0203	.0778	.0737	.0423					.195	.167	.298	.279	.219	.189
.3	.0864	.0836	.0233	.0225	.0638	.0609	.0192					.0926	.0826	.179	.168	.117	.106
.4	.0774	.0757	.0240	.0232	.0534	.0527	.0109					.0534	.0489	.130	.123	.0774	.0723
.5	.0766	.0695	.0241	.0234	.0465	.0461	.00706					.0344	.0319	.104	.0991	.0585	.0554
.6	.0654	.0647	.0240	.0234	.0413	.0413	.00489					.0179	.0169	.0778	.0750	.0413	.0396
.8	.0575	.0571	.0235	.0228	.0339	.0344	.00279					.0113	.0108	.0644	.0626	.0340	.0323
1.	.0516	.0513	.0227	.0215	.0288	.0298	.00179										
1.5	.0420	.0416	.0208	.0197	.0212	.0220	.000802	.00126		.00126	.000382	.00540	.00523	.0492	.0482	.0274	.0253
2.	.0358	.0358	.0190	.0179	.0168	.0179	.000451	.00413		.00413	.00190	.00326	.00319	.0437	.0430	.0264	.0230
3.	.0281	.0281	.0162	.0147	.0119	.0134	.000203	.00984	.00000984	.00984	.00599	.00175	.00172	.0399	.0396	.0278	.0224
4.	.0235	.0235	.0142	.0125	.00926	.0110	.000115	.0148	.0000403	.0149	.00998	.00116	.00115	.0396	.0396	.0303	.0236
5.	.0203	.0203	.0127	.0108	.00754	.00950	.0000747	.0190	.0000792	.0191	.0134	.000864	.000857	.0403	.0403	.0327	.0251
6.	.0179	.0179	.0116	.00950	.00640	.00843	.0000520	.0224	.000123	.0225	.0161	.000678	.000675	.0413	.0410	.0388	.0283
8.	.0147	.0147	.00978	.00761	.00489	.00706	.0000295	.0277	.000207	.0279	.0203	.000472	.000468	.0430	.0430	.0382	.0284
10.	.0125	.0125	.00854	.00626	.00396	.00623	.0000189	.0327	.000286	.0330	.0239	.000361	.000361	.0458	.0458	.0420	.0305
15.	.00926	.00926	.00657	.00454	.00268	.00472	.0000075	.0420	.000441	.0423	.0290	.000224	.000223	.0520	.0520	.0492	.0338
20.	.00743	.00743	.00540	.00344	.00233	.00399	.0000038	.0489	.000558	.0496	.0315	.000161	.000161	.0571	.0571	.0551	.0351
30.	.00540	.00540	.00403	.00221	.00137	.00320		.0585	.000723	.0592	.0339	.000103	.000103	.0647	.0647	.0633	.0381
40.	.00430	.00430	.00327	.00156	.00103	.00274		.0651	.000847	.0657	.0337	.0000757	.0000757	.0702	.0702	.0692	.0355
50.	.00358	.00358	.00276	.00118	.000326	.00240		.0699	.000936	.0709	.0333	.0000595	.0000595	.0747	.0747	.0737	.0344
60.	.00309	.00309	.00240	.000929	.000592	.00216		.0737	.00101	.0747	.0326	.0000449	.0000449	.0778	.0778	.0771	.0336
80.	.00244	.00244	.00192	.000630	.000520	.00181		.0795	.00112	.0805	.0317	.0000358	.0000358	.0830	.0830	.0826	.0324
100.	.00202	.00202	.00161	.000465	.000416	.00156		.0836	.00120	.0847	.0302	.0000282	.0000282	.0867	.0867	.0864	.0307

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(barns/atom)

E (MeV)	$\sigma_{inc,t}^{KN}$	$\sigma_{inc,t}^{BD}$	$\sigma_{inc,a}^{KN}$	$\sigma_{inc,a}^{BD}$	$\sigma_{inc,s}^{KN}$	$\sigma_{inc,s}^{BD}$	C_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	47.7	1.34	.0930	.00261	47.6	1.34	3250.					1420000.	1420000.	1420000.	1420000.	1420000.	1420000.
.0015	47.6	2.27	.139	.00662	47.5	2.26	3160.					593000.	593000.	593000.	593000.	593000.	593000.
M_{IV} .001662	47.6	2.57	.154	.00830	47.4	2.56	3110.					475000.	475000.	478000.	475000.	475000.	475000.
M_{IV} .001716	47.6	2.67	.159	.00890	47.4	2.66	3100.					1490000.	1490000.	1490000.	1490000.	1490000.	1490000.
.002	47.5	3.19	.184	.0124	47.3	3.18	3010.					1380000.	1380000.	1380000.	1380000.	1380000.	1380000.
M_{III} .002108	47.5	3.38	.194	.0138	47.3	3.37	2980.					1570000.	1570000.	1570000.	1570000.	1570000.	1570000.
M_{II} .002364	47.5	3.84	.217	.0176	47.2	3.82	2900.					1050000.	1050000.	1050000.	1050000.	1050000.	1050000.
M_I .002600	47.4	4.27	.239	.0215	47.2	4.25	2830.					919000.	919000.	922000.	919000.	919000.	919000.
.003	47.3	4.97	.274	.0288	47.1	4.94	2710.					1060000.	1060000.	1060000.	1060000.	1060000.	1060000.
.004	47.2	6.66	.363	.0512	46.8	6.61	2430.					776000.	776000.	776000.	776000.	776000.	776000.
.005	47.0	8.25	.450	.0790	46.5	8.17	2170.					923000.	923000.	926000.	923000.	923000.	923000.
.006	46.8	9.71	.536	.111	46.3	9.60	1940.					729000.	729000.	732000.	729000.	729000.	729000.
.008	46.4	12.3	.703	.186	45.7	12.1	1560.					859000.	859000.	862000.	859000.	859000.	859000.
L_{III} .009560	46.2	14.0	.830	.252	45.4	13.7	1340.					588000.	588000.	591000.	588000.	588000.	588000.
.01	46.1	14.5	.864	.272	45.3	14.2	1280.					277000.	277000.	279000.	277000.	277000.	277000.
L_{II} .010739	46.0	15.2	.924	.305	45.1	14.9	1190.					154000.	154000.	156000.	154000.	154000.	154000.
L_I .011272	45.9	15.7	.966	.330	44.9	15.4	1130.					95400.	95400.	97300.	95400.	95400.	95400.
.015	45.3	18.7	1.25	.517	44.0	18.2	822.					44000.	44000.	44000.	44000.	44000.	44000.
.02	44.5	22.0	1.60	.794	42.9	21.2	577.					27500.	27500.	28900.	27500.	27500.	27500.
.03	43.0	26.1	2.24	1.36	40.8	24.7	331.					77800.	77800.	79200.	77800.	77800.	77800.
.04	41.7	28.4	2.78	1.89	38.9	26.5	221.					77800.	77800.	79200.	77800.	77800.	77800.
.05	40.4	29.7	3.26	2.40	37.2	27.3	154.					68600.	68600.	69900.	68600.	68600.	68600.
.06	39.3	30.4	3.69	2.85	35.6	27.5	115.					56900.	56900.	58200.	56900.	56900.	56900.
K .065345	38.7	30.6	3.88	3.07	34.8	27.5	101.					47500.	47500.	48800.	47500.	47500.	47500.
.08	37.2	30.8	4.36	3.61	32.9	27.2	74.3					3530.	3530.	3660.	3530.	3530.	3530.
.1	35.5	30.6	4.90	4.22	30.6	26.4	44.6					2050.	2050.	2180.	2050.	2050.	2050.
.15	31.9	29.4	5.80	5.34	28.1	24.1	22.0					1130.	1130.	1260.	1130.	1130.	1130.
.2	25.3	27.7	6.33	5.99	22.9	21.7	12.7					385.	385.	436.	385.	385.	385.
.3	25.4	24.7	6.86	6.66	18.6	18.0	5.79					177.	177.	217.	177.	177.	177.
.4	22.8	22.3	7.06	6.82	15.7	15.5	1.27					60.1	60.1	70.6	60.1	60.1	60.1
.5	20.8	20.5	7.10	6.89	13.7	13.6	1.12					28.4	28.4	34.0	28.4	28.4	28.4
.6	19.3	19.1	7.08	6.90	12.2	12.2	1.47					16.5	16.5	19.1	16.5	16.5	16.5
.8	16.9	16.8	6.92	6.70	10.0	10.1	.840					10.6	10.6	12.2	10.6	10.6	10.6
1.	15.2	15.1	6.69	6.31	8.92	8.79	.536					5.50	5.50	6.19	5.50	5.50	5.50
1.5	12.4	12.3	6.11	5.81	6.24	6.49	.242	.380				3.49	3.49	3.33	3.49	3.49	3.49
2.	10.5	10.5	5.59	5.24	4.94	5.26	.136	1.24	.380	.115		1.66	1.66	1.61	1.66	1.66	1.66
3.	8.29	8.28	4.78	4.31	3.50	3.97	.0610	2.95	.00290	2.95	1.79	1.00	1.00	.978	1.00	1.00	1.00
4.	6.93	6.93	4.20	3.68	2.72	3.25	.0345	4.44	.0119	4.45	2.98	.360	.360	.356	11.8	11.8	11.8
5.	5.98	5.98	3.76	3.18	2.23	2.80	.0225	5.67	.0233	5.69	4.00	.269	.269	.267	12.0	11.9	11.9
6.	5.29	5.29	3.40	2.79	1.88	2.50	.0156	6.66	.0362	6.70	4.79	.212	.212	.210	12.2	12.2	12.2
8.	4.32	4.32	2.89	2.24	1.44	2.08	.00889	8.26	.0610	8.32	6.03	.146	.146	.145	12.8	12.8	12.8
10.	3.68	3.68	2.52	1.84	1.17	1.84	.00571	9.75	.0841	9.83	7.10	.112	.112	.112	13.6	13.6	13.6
15.	2.73	2.73	1.94	1.34	.791	1.39	.00229	12.5	.130	12.6	8.63	.0695	.0693	15.4	15.4	15.4	15.4
20.	2.19	2.19	1.59	1.01	.598	1.18	.00114	14.5	.165	14.7	9.33	.0500	.0499	16.9	16.9	16.9	16.9
30.	1.59	1.59	1.19	.644	.402	.946		17.4	.213	17.6	10.0	.0320	.0320	19.2	19.2	19.2	19.2
40.	1.27	1.27	.962	.460	.304	.810		19.4	.249	19.6	10.0	.0235	.0235	20.9	20.9	20.9	20.9
50.	1.06	1.06	.814	.350	.243	.710		20.8	.276	21.1	9.82	.0184	.0184	22.2	22.2	22.2	22.2
60.	.910	.910	.706	.273	.204	.637		22.0	.296	22.3	9.68	.0151	.0151	23.2	23.2	23.2	23.2
80.	.718	.718	.565	.185	.153	.533		23.6	.329	23.9	9.33	.0110	.0110	24.6	24.6	24.6	24.6
100.	.596	.596	.473	.136	.123	.460		24.9	.352	25.3	8.94	.00870	.00870	25.9	25.9	25.9	25.9

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(cm²/g = 0.003374 x barns/atom)

E (MeV)	($\frac{\sigma}{\rho}$) _{inc,t} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,t} ^{BD}	($\frac{\sigma}{\rho}$) _{inc,a} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,a} ^{BD}	($\frac{\sigma}{\rho}$) _{inc,s} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,s} ^{BD}	($\frac{\sigma}{\rho}$) _{coh}	($\frac{\sigma}{\rho}$) _n	($\frac{\sigma}{\rho}$) _e	($\frac{\sigma}{\rho}$) _{x,t}	($\frac{\sigma}{\rho}$) _{x,a}	($\frac{\sigma}{\rho}$) _{r,t}	($\frac{\sigma}{\rho}$) _{r,a}	($\frac{\sigma}{\rho}$) _{tot,t}	($\frac{\sigma}{\rho}$) _{tot,t-coh}	($\frac{\sigma}{\rho}$) _{tot,a}	($\frac{\sigma}{\rho}$) _{tot,en}
.001	.161	.00452	.000314	.0000088	.161	.00452	11.1					4790.	4790.	4790.	4790.	4790.	4790.
.0015	.161	.00766	.000469	.0000223	.160	.00763	10.7					2000.	2000.	2010.	2000.	2000.	2000.
M _V .001662	.161	.00867	.000520	.0000280	.160	.00864	10.5					1600.	1600.	1610.	1600.	1600.	1600.
												5030.	5030.	5030.	5030.	5030.	5030.
M _{IV} .001716	.161	.00901	.000536	.0000300	.160	.00897	10.5					4660.	4660.	4660.	4660.	4660.	4660.
												5300.	5300.	5300.	5300.	5300.	5300.
.002	.160	.0108	.000621	.0000418	.160	.0107	10.2					3540.	3540.	3540.	3540.	3540.	3540.
M _{III} .002108	.160	.0114	.000655	.0000466	.160	.0114	10.1					3100.	3100.	3110.	3100.	3100.	3100.
												3580.	3580.	3580.	3580.	3580.	3580.
M _{II} .002364	.160	.0130	.000732	.0000594	.159	.0129	9.78					2620.	2620.	2630.	2620.	2620.	2620.
												3110.	3110.	3120.	3110.	3110.	3110.
M _I .002600	.160	.0144	.000806	.0000725	.159	.0143	9.55					2460.	2460.	2470.	2460.	2460.	2460.
												2900.	2900.	2910.	2900.	2900.	2900.
.003	.160	.0168	.000924	.0000972	.159	.0167	9.14					1980.	1980.	1990.	1980.	1980.	1980.
.004	.159	.0225	.00122	.000173	.158	.0223	8.20					935.	935.	941.	935.	935.	935.
.005	.159	.0278	.00152	.000267	.157	.0276	7.32					520.	520.	526.	520.	520.	520.
.006	.158	.0328	.00181	.000375	.156	.0324	6.55					322.	322.	328.	322.	322.	322.
.008	.157	.0415	.00237	.000628	.154	.0408	5.26					148.	148.	154.	148.	148.	148.
L _{III} .009560	.156	.0472	.00280	.000850	.153	.0462	4.52					92.8	92.8	97.5	92.8	92.8	92.8
												262.	214.	267.	262.	262.	214.
.01	.156	.0489	.00292	.000918	.153	.0479	4.32					231.	190.	236.	231.	231.	190.
L _{II} .010739	.155	.0513	.00312	.00103	.152	.0503	4.02					192.	160.	196.	192.	192.	160.
												265.	219.	269.	265.	265.	219.
L _I .011272	.155	.0530	.00326	.00111	.151	.0520	3.81					233.	195.	237.	233.	233.	195.
												271.	225.	274.	271.	271.	225.
.015	.153	.0631	.00422	.00174	.148	.0614	2.77					126.	110.	128.	126.	126.	110.
.02	.150	.0742	.00540	.00268	.145	.0715	1.95					58.4	53.0	60.4	58.4	58.4	53.0
.03	.145	.0881	.00756	.00459	.138	.0833	1.14					19.7	18.5	20.9	19.8	19.7	18.5
.04	.141	.0958	.00938	.00638	.131	.0894	.742					8.97	8.54	9.82	9.08	8.97	8.54
.05	.136	.100	.0110	.00810	.126	.0921	.520					4.86	4.69	5.47	4.96	4.86	4.69
.06	.133	.103	.0125	.00962	.120	.0928	.388					2.88	2.79	3.37	2.99	2.90	2.80
K.065345	.131	.103	.0131	.0104	.117	.0928	.337					2.27	2.21	2.72	2.38	2.29	2.22
												11.9	3.78	12.3	12.0	11.9	3.78
.08	.126	.104	.0147	.0122	.111	.0918	.237					4.92	3.06	7.25	7.02	6.92	3.07
.1	.120	.103	.0165	.0142	.103	.0891	.157					3.81	2.11	4.08	3.91	3.81	2.13
.15	.108	.0992	.0196	.0180	.0881	.0813	.0742					1.30	.911	1.47	1.40	1.32	.928
.2	.0989	.0935	.0214	.0202	.0773	.0732	.0428					.597	.462	.732	.692	.617	.482
.3	.0857	.0833	.0231	.0225	.0628	.0607	.0195					.203	.173	.306	.286	.226	.195
.4	.0769	.0752	.0238	.0230	.0530	.0523	.0110					.0958	.0850	.182	.171	.120	.108
.5	.0702	.0692	.0240	.0232	.0462	.0459	.00715					.0557	.0506	.132	.125	.0796	.0739
.6	.0651	.0644	.0239	.0233	.0412	.0412	.00496					.0358	.0331	.105	.100	.0597	.0561
.8	.0570	.0567	.0233	.0226	.0337	.0341	.00283					.0186	.0175	.0779	.0752	.0418	.0402
1.	.0513	.0509	.0226	.0213	.0287	.0297	.00181					.0118	.0112	.0644	.0628	.0344	.0325
1.5	.0418	.0415	.0206	.0196	.0211	.0219	.000817	.00128		.00128	.000388	.00560	.00543	.0491	.0482	.0275	.0254
2.	.0354	.0354	.0189	.0177	.0167	.0177	.000459	.00418		.00418	.00192	.00337	.00330	.0435	.0428	.0264	.0229
3.	.0280	.0279	.0161	.0145	.0118	.0134	.000206	.00995	.00000978	.00995	.00604	.00182	.00179	.0398	.0398	.0279	.0224
4.	.0234	.0234	.0142	.0124	.00918	.0110	.000116	.0150	.0000402	.0150	.0101	.00121	.00120	.0398	.0398	.0304	.0237
5.	.0202	.0202	.0127	.0107	.00752	.00945	.0000759	.0191	.0000786	.0192	.0135	.0000908	.000901	.0405	.0402	.0328	.0251
6.	.0178	.0178	.0115	.00941	.00634	.00843	.0000526	.0225	.000122	.0226	.0162	.000715	.000709	.0412	.0412	.0348	.0263
8.	.0146	.0146	.00975	.00756	.00486	.00702	.0000300	.0279	.000206	.0281	.0203	.000493	.000489	.0432	.0432	.0385	.0284
10.	.0124	.0124	.00850	.00621	.00395	.00621	.0000193	.0329	.000284	.0332	.0240	.000378	.000378	.0459	.0459	.0422	.0305
15.	.00921	.00921	.00655	.00452	.00267	.00469	.0000077	.0422	.000439	.0425	.0291	.000234	.000234	.0520	.0520	.0493	.0337
20.	.00739	.00739	.00536	.00341	.00202	.00398	.0000039	.0489	.000557	.0494	.0315	.000169	.000168	.0570	.0570	.0550	.0351
30.	.00536	.00536	.00402	.00217	.00136	.00319	.0587	.000719	.0594	.0337		.000108	.000108	.0648	.0648	.0634	.0361
40.	.00428	.00428	.00325	.00155	.00103	.00273	.0655	.000840	.0661	.0337		.0000793	.0000793	.0705	.0705	.0695	.0354
50.	.00358	.00358	.00275	.00118	.00082	.00240	.0702	.000931	.0712	.0331		.0000621	.0000621	.0749	.0749	.0739	.0344
60.	.00307	.00307	.00238	.000921	.000688	.00215	.0742	.000999	.0752	.0327		.0000509	.0000509	.0783	.0783	.0776	.0334
80.	.00242	.00242	.00191	.000624	.000516	.00180	.0796	.00111	.0806	.0315		.0000371	.0000371	.0830	.0830	.0827	.0322
100.	.00201	.00201	.00160	.000459	.000415	.00155	.0840	.00119	.0854	.0302		.0000294	.0000294	.0874	.0874	.0870	.0306

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(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,z}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{np}	σ_{ne}	$\sigma_{n,t}$	$\sigma_{n,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	48.4	1.33	.0942	.00259	48.3	1.33	339f.					1490000.	1490000.	1490000.	1490000.	1490000.	1490000.
.0015	48.3	2.27	.141	.00662	48.1	2.26	329f.					618000.	618000.	621000.	618000.	618000.	618000.
MV	.001735	48.2	2.71	.163	.00913	48.1	2.70	318f.				452000.	452000.	455000.	452000.	452000.	452000.
MIV	.001793	48.2	2.81	.168	.00978	48.1	2.80	316f.				1410000.	1410000.	1410000.	1410000.	1410000.	1410000.
												1320000.	1320000.	1320000.	1320000.	1320000.	1320000.
												1490000.	1490000.	1490000.	1490000.	1490000.	1490000.
.002	48.2	3.19	.187	.0124	48.0	3.18	310f.					1110000.	1110000.	1110000.	1110000.	1110000.	1110000.
MIII	.002194	48.1	3.54	.205	.0151	47.9	3.52	304f.				879000.	879000.	882000.	879000.	879000.	879000.
												1010000.	1010000.	1010000.	1010000.	1010000.	1010000.
MII	.002469	48.1	4.04	.230	.0193	47.9	4.02	295f.				738000.	738000.	741000.	738000.	738000.	738000.
												878000.	878000.	881000.	878000.	878000.	878000.
MI	.002709	48.0	4.46	.252	.0234	47.8	4.44	288f.				696000.	696000.	699000.	696000.	696000.	696000.
												817000.	817000.	820000.	817000.	817000.	817000.
.003	48.0	4.97	.278	.0288	47.7	4.94	279f.					623000.	623000.	626000.	623000.	623000.	623000.
.004	47.8	6.67	.368	.0513	47.4	6.62	250f.					292000.	292000.	295000.	292000.	292000.	292000.
.005	47.6	8.27	.456	.0792	47.2	8.19	223f.					163000.	163000.	165000.	163000.	163000.	163000.
.006	47.4	9.75	.543	.112	46.9	9.64	200f.					100000.	100000.	102000.	100000.	100000.	100000.
.008	47.1	12.4	.713	.188	46.4	12.2	161f.					46600.	46600.	48200.	46600.	46600.	46600.
LIII	.009880	46.8	14.5	.867	.269	45.9	14.2	134f.				26700.	26700.	28100.	26700.	26700.	26700.
												74800.	74800.	76200.	74800.	74800.	74800.
.01	46.7	14.6	.876	.274	45.9	14.3	132f.					72400.	58800.	73700.	72400.	72400.	58800.
LII	.011136	46.6	15.7	.968	.327	45.6	15.4	119f.				54400.	45300.	55600.	54400.	54400.	45300.
												75200.	62000.	74400.	75200.	75200.	62000.
LI	.011680	46.5	16.2	1.01	.353	45.5	15.8	113f.				66300.	55200.	67400.	66300.	66300.	55200.
												76800.	63800.	77900.	76800.	76800.	63800.
.015	45.9	18.9	1.27	.523	44.6	18.4	85f.					39100.	33900.	40000.	39100.	39100.	33900.
.02	45.1	22.1	1.63	.798	43.5	21.3	59f.					18300.	16500.	18900.	18300.	18300.	16500.
.03	43.6	26.3	2.27	1.37	41.4	24.9	34f.					6140.	5730.	6520.	6170.	6140.	5730.
.04	42.2	28.7	2.82	1.91	39.4	26.8	22f.					2830.	2690.	3090.	2840.	2830.	2690.
.05	41.0	30.0	3.31	2.42	37.7	27.6	16f.					1530.	1470.	1720.	1560.	1530.	1470.
.06	39.8	30.7	3.74	2.88	36.1	27.8	11f.					919.	889.	1070.	950.	923.	892.
K	.067416	39.0	31.0	4.01	3.18	27.8	9f.5					656.	637.	786.	687.	660.	640.
.08	37.8	31.2	4.42	3.65	33.3	27.5	72f.					3410.	3080.	3540.	3440.	3410.	3080.
.1	36.0	31.0	4.96	4.28	31.0	26.7	48f.3					2160.	916.	2260.	2190.	2160.	920.
.15	32.4	29.8	5.88	5.41	26.5	24.4	22f.					1190.	642.	1270.	1220.	1190.	646.
.2	29.7	28.1	6.41	6.08	23.3	22.0	13f.2					404.	280.	457.	434.	410.	285.
.3	25.8	25.0	6.96	6.74	18.8	18.3	6f.00					187.	144.	228.	215.	193.	150.
.4	23.1	22.7	7.16	6.95	16.0	15.8	3f.39					63.9	54.1	94.9	88.9	70.9	60.8
.5	21.1	20.8	7.20	6.99	13.9	13.8	2f.20					30.1	26.6	56.2	52.8	37.3	33.5
.6	19.5	19.3	7.18	6.97	12.4	12.3	1f.52					17.5	15.9	40.5	38.3	24.7	22.9
.8	17.1	17.0	7.01	6.77	10.1	10.2	.855					11.2	10.3	32.0	30.5	18.4	17.3
1.	15.4	15.3	6.78	6.40	8.64	8.90	.537					5.85	5.51	23.7	22.8	12.9	12.3
1.5	12.5	12.5	6.20	5.90	6.33	6.60	.250	.393				3.70	3.53	19.6	19.0	10.5	9.93
2.	10.7	10.7	5.67	5.34	5.01	5.36	.141	1.28				1.76	1.71	14.9	14.7	8.35	7.73
3.	8.40	8.39	4.85	4.36	3.55	4.03	.0530	3.03	.00294			1.06	1.04	13.2	13.0	8.01	6.97
4.	7.02	7.02	4.26	3.72	2.76	3.30	.0357	4.56				.572	.563	12.1	12.0	8.45	6.76
5.	6.06	6.06	3.81	3.21	2.26	2.85	.0233	5.82	.0237			.380	.376	12.0	12.0	9.21	7.16
6.	5.36	5.36	3.45	2.82	1.91	2.54	.0162	6.82	.0367			.283	.280	12.2	12.2	9.93	7.50
8.	4.38	4.38	2.93	2.26	1.46	2.12	.00920	8.46	.0620	8.52		.223	.221	12.5	12.4	10.5	7.94
10.	3.73	3.73	2.55	1.87	1.18	1.87	.00593	9.99	.0852	10.1	7.25	.155	.154	13.1	13.1	11.6	8.58
15.	2.76	2.76	1.96	1.35	.802	1.41	.00239	12.8	.132	12.9	8.75	.118	.117	14.0	13.9	12.8	9.24
20.	2.22	2.22	1.61	1.02	.607	1.20	.00118	14.9	.167	15.1	9.54	.0739	.0737	15.7	15.7	14.9	10.2
30.	1.61	1.61	1.21	.649	.408	.961		17.8	.216	18.0	10.2	.0531	.0530	17.4	17.4	16.8	10.6
40.	1.28	1.28	.975	.462	.308	.818		19.9	.252	20.2	10.2	.0341	.0340	19.6	19.6	19.2	10.9
50.	1.07	1.07	.825	.352	.247	.718		21.4	.280	21.7	10.0	.0249	.0249	21.5	21.5	21.2	10.7
60.	.923	.923	.716	.275	.207	.648		22.6	.300	22.9	9.89	.0195	.0195	22.8	22.8	22.5	10.4
80.	.728	.728	.572	.187	.155	.541		24.3	.333	24.6	9.56	.0160	.0160	23.8	23.8	23.6	10.2
100.	.604	.604	.480	.137	.125	.467		25.5	.357	25.9	9.10	.0117	.0117	25.3	25.3	25.2	9.76
												.00920	.00920	26.5	26.5	26.4	9.25

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(cm²/g = 0.003328 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc, l}	($\frac{\mu}{\rho}$) _{inc, l}	($\frac{\mu}{\rho}$) _{inc, a}	($\frac{\mu}{\rho}$) _{inc, a}	($\frac{\mu}{\rho}$) _{inc, s}	($\frac{\mu}{\rho}$) _{inc, s}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{cl}	($\frac{\mu}{\rho}$) _{cl}	($\frac{\mu}{\rho}$) _{cl}	($\frac{\mu}{\rho}$) _{cl}	($\frac{\mu}{\rho}$) _{cl}	($\frac{\mu}{\rho}$) _{cl}	($\frac{\mu}{\rho}$) _{cl}	($\frac{\mu}{\rho}$) _{cl}	($\frac{\mu}{\rho}$) _{cl}
.001	.161	.00443	.000313	.0000086	.161	.00443	11.3	496.	496.	496.	496.	496.	496.	496.	496.	496.
.0015	.161	.00755	.000469	.0000220	.160	.00752	10.8	206.	206.	207.	206.	206.	206.	206.	206.	206.
.001735	.160	.00902	.000542	.0000304	.160	.00899	10.6	150.	150.	151.	150.	150.	150.	150.	150.	150.
.001793	.160	.00935	.000559	.0000325	.160	.00932	10.5	469.	469.	469.	469.	469.	469.	469.	469.	469.
.002	.160	.0106	.000622	.0000413	.160	.0106	10.3	439.	439.	439.	439.	439.	439.	439.	439.	439.
.002194	.160	.0118	.000682	.0000503	.159	.0117	10.1	496.	496.	496.	496.	496.	496.	496.	496.	496.
.002469	.160	.0134	.000765	.0000642	.159	.0134	9.82	369.	369.	369.	369.	369.	369.	369.	369.	369.
.002709	.160	.0148	.000839	.0000779	.159	.0148	9.58	293.	293.	293.	293.	293.	293.	293.	293.	293.
.003	.160	.0165	.000925	.0000958	.159	.0164	9.29	336.	336.	336.	336.	336.	336.	336.	336.	336.
.004	.159	.0222	.00122	.000171	.158	.0220	8.32	246.	246.	247.	246.	246.	246.	246.	246.	246.
.005	.158	.0275	.00152	.000264	.157	.0273	7.42	292.	292.	293.	292.	292.	292.	292.	292.	292.
.006	.158	.0324	.00181	.000373	.156	.0321	6.66	232.	232.	232.	232.	232.	232.	232.	232.	232.
.008	.157	.0413	.00237	.000626	.154	.0406	5.36	272.	272.	273.	272.	272.	272.	272.	272.	272.
.00988	.156	.0483	.00289	.000895	.153	.0473	4.46	207.	207.	208.	207.	207.	207.	207.	207.	207.
.01	.155	.0486	.00292	.000912	.153	.0476	4.39	97.	97.	98.	97.	97.	97.	97.	97.	97.
.011136	.155	.0522	.00322	.00109	.152	.0513	3.96	54.	54.	54.	54.	54.	54.	54.	54.	54.
.01168	.155	.0539	.00336	.00117	.151	.0526	3.76	33.	33.	33.	33.	33.	33.	33.	33.	33.
.015	.153	.0629	.00423	.00174	.148	.0612	2.83	15.	15.	15.	15.	15.	15.	15.	15.	15.
.02	.150	.0735	.00542	.00266	.145	.0709	1.98	8.	8.	8.	8.	8.	8.	8.	8.	8.
.03	.145	.0875	.00755	.00456	.138	.0829	1.16	5.	5.	5.	5.	5.	5.	5.	5.	5.
.04	.140	.0955	.00938	.00636	.131	.0892	.759	3.	3.	3.	3.	3.	3.	3.	3.	3.
.05	.136	.0998	.0110	.00805	.125	.0919	.532	2.	2.	2.	2.	2.	2.	2.	2.	2.
.06	.132	.102	.0124	.00958	.120	.0925	.396	1.	1.	1.	1.	1.	1.	1.	1.	1.
.067416	.130	.103	.0133	.0106	.116	.0925	.328	1.	1.	1.	1.	1.	1.	1.	1.	1.
.08	.126	.104	.0147	.0121	.111	.0915	.242	1.	1.	1.	1.	1.	1.	1.	1.	1.
.1	.120	.103	.0165	.0142	.103	.0889	.161	1.	1.	1.	1.	1.	1.	1.	1.	1.
.15	.108	.0992	.0196	.0180	.0882	.0812	.0759	1.	1.	1.	1.	1.	1.	1.	1.	1.
.2	.0988	.0935	.0213	.0202	.0775	.0732	.0439	1.	1.	1.	1.	1.	1.	1.	1.	1.
.3	.0859	.0832	.0232	.0224	.0626	.0609	.0200	1.	1.	1.	1.	1.	1.	1.	1.	1.
.4	.0769	.0755	.0238	.0231	.0532	.0526	.0113	1.	1.	1.	1.	1.	1.	1.	1.	1.
.5	.0702	.0692	.0240	.0233	.0463	.0459	.00732	1.	1.	1.	1.	1.	1.	1.	1.	1.
.6	.0649	.0642	.0239	.0232	.0413	.0409	.00506	1.	1.	1.	1.	1.	1.	1.	1.	1.
.8	.0569	.0566	.0233	.0225	.0336	.0339	.00288	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	.0513	.0509	.0226	.0213	.0288	.0296	.00185	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.5	.0416	.0416	.0206	.0196	.0211	.0220	.000832	.00131	.00131	.000396	.00586	.00569	.00496	.00489	.00278	.0257
2.	.0356	.0356	.0189	.0178	.0167	.0178	.000469	.00426	.00426	.00196	.00353	.00346	.0039	.00433	.00267	.0232
3.	.0280	.0279	.0161	.0145	.0118	.0134	.000210	.0101	.00000978	.0101	.00612	.00190	.00187	.00403	.00399	.0225
4.	.0234	.0234	.0142	.0124	.00919	.0110	.000119	.0152	.00000403	.0152	.0102	.00126	.00125	.00399	.00399	.0238
5.	.0202	.0202	.0127	.0107	.00752	.00948	.0000775	.0194	.0000789	.0194	.0136	.000942	.000932	.00406	.00406	.0253
6.	.0178	.0178	.0115	.00938	.00636	.00845	.0000539	.0227	.000122	.0228	.0163	.000742	.000735	.00416	.00413	.0264
8.	.0146	.0146	.00975	.00752	.00489	.00706	.0000306	.0282	.000206	.0284	.0205	.000516	.000513	.00436	.00436	.0286
10.	.0124	.0124	.00849	.00622	.00393	.00622	.0000197	.0332	.000284	.0336	.0241	.000393	.000389	.00466	.00463	.0308
15.	.00919	.00919	.00652	.00449	.0026	.00469	.0000080	.0426	.000439	.0429	.0291	.000246	.000245	.00522	.00522	.0339
20.	.00719	.00719	.00536	.00339	.00202	.00399	.0000039	.0496	.000556	.0503	.0317	.000177	.000176	.00579	.00579	.0353
30.	.00516	.00516	.00403	.00216	.0013	.00320		.0592	.000719	.0599	.0339	.000113	.000113	.00652	.00652	.0363
40.	.00426	.00426	.00324	.00154	.00103	.00272		.0662	.000839	.0672	.0339	.0000829	.0000829	.00716	.00716	.0356
50.	.00356	.00356	.00275	.00117	.000822	.00239		.0712	.000932	.0722	.0333	.0000649	.0000649	.00759	.00759	.0346
60.	.00307	.00307	.00238	.000915	.000689	.00216		.0752	.000998	.0767	.0329	.0000532	.0000532	.00792	.00792	.0339
80.	.00242	.00242	.00190	.000622	.000516	.00180		.0809	.00111	.0819	.0318	.0000389	.0000389	.00842	.00842	.0325
100.	.00201	.00201	.00160	.000456	.000416	.00155		.0849	.00119	.0862	.0303	.0000306	.0000306	.00882	.00882	.0308

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(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{cch}	σ_{xn}	σ_{xc}	σ_{xt}	σ_{xa}	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	49.0	1.31	.0955	.00255	48.9	1.31	3480.					1560000.	1560000.	1560000.	1560000.	1560000.	1560000.
.0015	48.9	2.27	.143	.00662	48.8	2.26	3350.					646000.	646000.	646000.	646000.	646000.	646000.
M_V .001809	48.9	2.84	.172	.00998	48.7	2.83	3250.					431000.	431000.	431000.	431000.	431000.	431000.
M_{IV} .001871	48.9	2.96	.177	.0108	48.7	2.95	3230.					1350000.	1350000.	1350000.	1350000.	1350000.	1350000.
.002	48.8	3.19	.190	.0124	48.6	3.18	3190.					1250000.	1250000.	1250000.	1250000.	1250000.	1250000.
M_{III} .002281	48.8	3.70	.216	.0164	48.6	3.68	3100.					1420000.	1420000.	1420000.	1420000.	1420000.	1420000.
M_{II} .002575	48.7	4.23	.243	.0211	48.5	4.21	3000.					1180000.	1180000.	1180000.	1180000.	1180000.	1180000.
M_I .002820	48.7	4.66	.265	.0254	48.4	4.63	2930.					842000.	842000.	845000.	842000.	842000.	842000.
.003	48.7	4.97	.282	.0288	48.4	4.94	2870.					969000.	969000.	972000.	969000.	969000.	969000.
.004	48.5	6.67	.373	.0513	48.1	6.62	2570.					703000.	703000.	706000.	703000.	703000.	703000.
.005	48.3	8.28	.462	.0793	47.8	8.20	2290.					837000.	837000.	840000.	837000.	837000.	837000.
.006	48.1	9.79	.551	.112	47.6	9.68	2050.					665000.	665000.	668000.	665000.	665000.	665000.
.008	47.7	12.5	.723	.189	47.0	12.3	1660.					779000.	779000.	782000.	779000.	779000.	779000.
.01	47.4	14.7	.888	.275	46.5	14.4	1360.					660000.	660000.	663000.	660000.	660000.	660000.
L_{III} .010204	47.4	14.9	.906	.285	46.4	14.6	1340.					310000.	310000.	313000.	310000.	310000.	310000.
L_{II} .011541	47.1	16.2	1.01	.349	46.1	15.9	1180.					173000.	173000.	175000.	173000.	173000.	173000.
L_I .012098	47.0	16.7	1.06	.376	46.0	16.3	1120.					106000.	106000.	108000.	106000.	106000.	106000.
.015	46.5	19.1	1.29	.528	45.3	18.6	880.					49300.	49300.	51000.	49300.	49300.	49300.
.02	45.7	22.3	1.65	.805	44.1	21.5	617.					27100.	27100.	28500.	27100.	27100.	27100.
.03	44.2	26.6	2.30	1.38	41.9	25.2	361.					25900.	25900.	27400.	25900.	25900.	25900.
.04	42.8	29.0	2.86	1.93	40.0	27.1	236.					72100.	72100.	73500.	72100.	72100.	72100.
.05	41.5	30.3	3.35	2.44	38.2	27.9	186.					53300.	53300.	54900.	53300.	53300.	53300.
.06	40.4	31.1	3.79	2.92	36.6	28.2	123.					41900.	41900.	43700.	41900.	41900.	41900.
K .069525	39.3	31.4	4.14	3.30	35.2	28.1	96.9					37000.	37000.	38900.	37000.	37000.	37000.
.08	38.3	31.5	4.48	3.69	33.8	27.8	75.4					34700.	34700.	36700.	34700.	34700.	34700.
.1	36.5	31.3	5.03	4.32	31.4	27.0	50.5					19300.	19300.	19900.	19300.	19300.	19300.
.15	32.8	30.2	5.96	5.48	26.9	24.7	23.5					6510.	6510.	6900.	6510.	6510.	6510.
.2	30.1	28.4	6.50	6.14	23.6	22.3	13.5					2980.	2980.	3250.	2980.	2980.	2980.
.3	26.2	25.3	7.05	6.82	19.1	18.5	6.21					1610.	1610.	1810.	1610.	1610.	1610.
.4	23.4	23.0	7.26	7.04	16.2	16.0	3.51					965.	965.	1120.	965.	965.	965.
.5	21.4	21.1	7.30	7.09	14.1	14.0	2.28					639.	639.	767.	639.	639.	639.
.6	19.8	19.6	7.27	7.08	12.5	12.5	1.58					3290.	3290.	3420.	3290.	3290.	3290.
.8	17.4	17.3	7.11	6.89	10.3	10.4	.997					2270.	2270.	2380.	2270.	2270.	2270.
1.	15.6	15.5	6.87	6.48	8.75	9.02	.576					1250.	1250.	1330.	1250.	1250.	1250.
1.5	12.7	12.7	6.28	5.98	6.42	6.72	.260	.410				427.	427.	481.	457.	433.	297.
2.	10.8	10.8	5.75	5.38	5.08	5.42	.147	1.33				197.	150.	239.	225.	204.	156.
3.	8.52	8.51	4.91	4.43	3.60	4.08	.3653	3.14	.00297			67.1	58.5	98.6	92.4	74.1	63.3
4.	7.12	7.12	4.32	3.77	2.80	3.35	.5370	4.70	.0122	.410	.124	31.9	28.1	58.4	54.9	49.2	35.1
5.	6.15	6.15	3.86	3.25	2.29	2.90	.5241	6.00	.0240	1.91	.610	18.5	16.7	41.9	39.6	25.8	21.8
6.	5.43	5.43	3.50	2.85	1.93	2.58	.5167	7.01	.0372	3.15	.406	11.9	11.0	33.1	31.5	19.2	18.1
8.	4.44	4.44	2.97	2.28	1.48	2.16	.50951	8.70	.0627	5.04	.237	6.22	5.85	24.4	23.5	13.3	12.7
10.	3.79	3.79	2.59	1.89	1.20	1.90	.50615	10.2	.0864	6.34	.165	3.92	3.73	20.0	19.4	10.8	10.2
15.	2.80	2.80	1.99	1.36	.813	1.44	.50250	13.1	.134	8.95	.187	1.87	1.81	15.2	15.0	8.56	7.91
20.	2.25	2.25	1.63	1.03	.615	1.22	.50121	15.3	.169	9.73	1.13	1.13	1.10	13.4	13.3	8.21	7.09
30.	1.64	1.64	1.22	.659	.414	.981		18.2	.219	10.4	.610	.610	.600	12.3	12.3	8.66	6.94
40.	1.30	1.30	.989	.468	.312	.832		20.4	.256	10.4	.406	.406	.401	12.3	12.2	9.44	7.32
50.	1.09	1.09	.836	.356	.250	.734		22.0	.283	10.3	.300	.297	.297	12.5	12.5	10.2	7.77
60.	.935	.935	.726	.278	.209	.657		23.1	.304	10.0	.237	.235	.235	12.7	12.7	10.8	8.12
80.	.738	.738	.580	.189	.158	.549		24.9	.337	9.74	.164	.164	.164	13.4	13.4	11.9	8.78
100.	.613	.613	.486	.139	.126	.474		26.2	.362	9.27	.124	.124	.124	14.2	14.2	13.0	9.39

74 TUNGSTEN
(cm²/g = 0.003276 x barns/atom)

E (MeV)	($\frac{\sigma}{\rho}$) _{inc,t} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,t} ^{BD}	($\frac{\sigma}{\rho}$) _{inc,a} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,a} ^{BD}	($\frac{\sigma}{\rho}$) _{inc,s} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,s} ^{BD}	($\frac{\sigma}{\rho}$) _{coh}	($\frac{\sigma}{\rho}$) _n	($\frac{\sigma}{\rho}$) _e	($\frac{\sigma}{\rho}$) _{x,t}	($\frac{\sigma}{\rho}$) _{x,u}	($\frac{\sigma}{\rho}$) _{r,t}	($\frac{\sigma}{\rho}$) _{r,u}	($\frac{\sigma}{\rho}$) _{tot,t}	($\frac{\sigma}{\rho}$) _{tot,t-coh}	($\frac{\sigma}{\rho}$) _{tot,a}	($\frac{\sigma}{\rho}$) _{tot,en}
.001	.161	.00429	.000313	.0000084	.160	.00429	11.4					5110.	5110.	5110.	5110.	5110.	5110.
.0015	.160	.00744	.000468	.0000217	.160	.00740	11.0					2120.	2120.	2130.	2120.	2120.	2120.
M _V .001809	.160	.00930	.000563	.0000327	.160	.00927	10.6					1410.	1410.	1420.	1410.	1410.	1410.
M _{IV} .001871	.160	.00970	.000580	.0000354	.160	.00966	10.6					4420.	4420.	4420.	4420.	4420.	4420.
.002	.160	.0105	.000622	.0000406	.159	.0104	10.5					4100.	4100.	4100.	4100.	4100.	4100.
M _{III} .002281	.160	.0121	.000708	.0000537	.159	.0121	10.2					4650.	4650.	4650.	4650.	4650.	4650.
M _{II} .002575	.160	.0139	.000796	.0000691	.159	.0138	9.83					3870.	3870.	3870.	3870.	3870.	3870.
M _I .002820	.160	.0153	.000868	.0000832	.159	.0152	9.60					2760.	2760.	2770.	2760.	2760.	2760.
.003	.160	.0163	.000924	.0000943	.159	.0162	9.40					3170.	3170.	3180.	3170.	3170.	3170.
.004	.159	.0219	.00122	.000168	.158	.0217	8.42					2300.	2300.	2310.	2300.	2300.	2300.
.005	.158	.0271	.00151	.000260	.157	.0269	7.50					2740.	2740.	2750.	2740.	2740.	2740.
.006	.158	.0321	.00181	.000367	.156	.0317	6.72					2180.	2180.	2190.	2180.	2180.	2180.
.008	.156	.0409	.00237	.000619	.154	.0403	5.44					2550.	2550.	2560.	2550.	2550.	2550.
.01	.155	.0482	.00291	.000901	.152	.0472	4.46					2160.	2160.	2170.	2160.	2160.	2160.
L _{III} .010204	.155	.0488	.00297	.000934	.152	.0478	4.39					1020.	1020.	1030.	1020.	1020.	1020.
L _{II} .011541	.154	.0531	.00331	.00114	.151	.0521	3.87					567.	567.	573.	567.	567.	567.
L _I .012098	.154	.0547	.00347	.00123	.151	.0534	3.67					347.	347.	354.	347.	347.	347.
.015	.152	.0626	.00423	.00173	.148	.0609	2.88					162.	162.	167.	162.	162.	162.
.02	.150	.0731	.00541	.00264	.144	.0704	2.02					88.8	88.8	93.4	88.8	88.8	88.8
.03	.145	.0871	.00753	.00452	.137	.0826	1.18					84.8	84.8	89.4	84.8	84.8	84.8
.04	.140	.0950	.00937	.00632	.131	.0888	.773					236.	184.	241.	236.	236.	184.
.05	.136	.0993	.0110	.00799	.125	.0914	.544					171.	137.	175.	171.	171.	137.
.06	.132	.102	.0124	.00957	.120	.0924	.403					236.	187.	239.	236.	236.	187.
K.069525	.129	.103	.0136	.0108	.115	.0921	.317					208.	167.	212.	208.	208.	167.
.08	.125	.103	.0147	.0121	.111	.0911	.247					241.	193.	245.	241.	241.	193.
.1	.120	.103	.0165	.0142	.103	.0885	.164					135.	114.	138.	135.	135.	114.
.15	.107	.0989	.0195	.0180	.0881	.0809	.0773					63.2	55.7	65.2	63.2	63.2	55.7
.2	.0986	.0930	.0213	.0201	.0773	.0731	.0446					21.3	19.6	22.6	21.4	21.3	19.6
.3	.0856	.0829	.0231	.0223	.0626	.0606	.0203					9.76	9.17	10.6	9.86	9.76	9.17
.4	.0767	.0753	.0238	.0231	.0531	.0524	.0115					5.27	5.01	5.93	5.37	5.27	5.01
.5	.0701	.0691	.0239	.0232	.0462	.0459	.00747					3.16	3.03	3.67	3.26	3.17	3.04
.6	.0649	.0642	.0238	.0232	.0409	.0409	.00518					2.09	2.02	2.51	2.19	2.11	2.03
.8	.0570	.0567	.0233	.0226	.0341	.0341	.00294					10.8	3.41	11.2	10.9	10.8	3.41
1.	.0511	.0508	.0225	.0212	.0287	.0295	.00189					7.44	3.01	7.80	7.53	7.44	3.03
1.5	.0416	.0416	.0206	.0196	.0210	.0220	.000852	.00134				4.09	2.15	4.36	4.13	4.13	2.16
2.	.0354	.0354	.0188	.0176	.0166	.0178	.000482	.00436	.00134	.000406		0.40	.957	1.58	1.50	1.42	.973
3.	.0279	.0279	.0161	.0145	.0118	.0134	.000214	.0103	.0000973	.00626		.645	.491	.783	.737	.668	.511
4.	.0233	.0233	.0142	.0124	.00917	.0110	.000121	.0154	.0000400	.0103		.220	.185	.323	.303	.243	.207
5.	.0201	.0201	.0126	.0106	.00750	.00950	.0000790	.0197	.0000786	.0138		.105	.0921	.191	.180	.128	.115
6.	.0178	.0178	.0115	.00934	.00632	.00845	.0000547	.0230	.000122	.0231		.0606	.0547	.137	.130	.0845	.0780
8.	.0145	.0145	.00973	.00747	.00485	.00708	.0000312	.0285	.000205	.0287		.0390	.0360	.108	.103	.0629	.0593
10.	.0124	.0124	.00848	.00619	.00393	.00622	.0000201	.0334	.000283	.0337		.0204	.0192	.0799	.0770	.0436	.0416
15.	.00917	.00917	.00652	.00446	.00266	.00472	.0000082	.0429	.000439	.0432		.0128	.0122	.0655	.0636	.0354	.0334
20.	.00737	.00737	.00534	.00337	.00201	.00400	.0000040	.0501	.000554	.0508		.00613	.00593	.0498	.0491	.0280	.0259
30.	.00537	.00537	.00400	.00216	.00136	.00321		.0596	.000717	.0603		.00370	.00360	.0439	.0436	.0269	.0232
40.	.00426	.00426	.00324	.00153	.00102	.00273		.0668	.000839	.0678		.00260	.00197	.0403	.0403	.0284	.0227
50.	.00357	.00357	.00274	.00117	.000819	.00240		.0721	.000927	.0731		.00133	.00131	.0403	.0400	.0309	.0240
60.	.00306	.00306	.00238	.000911	.000685	.00215		.0757	.000996	.0767		.000983	.000973	.0409	.0409	.0334	.0255
80.	.00242	.00242	.00190	.000619	.000518	.00180		.0816	.00110	.0826		.000776	.000770	.0416	.0416	.0354	.0266
100.	.00201	.00201	.00159	.000455	.000413	.00155		.0858	.00119	.0871		.000541	.000537	.0439	.0439	.0390	.0288
												.000410	.000406	.0465	.0465	.0426	.0308
												.000254	.000253	.0527	.0527	.0501	.0341
												.000183	.000183	.0583	.0583	.0563	.0354
												.000118	.000118	.0658	.0658	.0645	.0364
												.0000862	.0000862	.0721	.0721	.0711	.0357
												.0000678	.0000678	.0767	.0767	.0760	.0351
												.0000554	.0000554	.0799	.0799	.0790	.0337
												.0000406	.0000406	.0852	.0852	.0845	.0326
												.0000320	.0000320	.0891	.0891	.0888	.0309

75 RHENIUM
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	T_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	$\sigma_{\tau,t}$	$\sigma_{\tau,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	49.7	1.30	.0968	.00253	49.6	1.30	3580.					1630000.	1630000.	1630000.	1630000.	1630000.	1630000.
.0015	49.6	2.27	.145	.00662	49.5	2.26	3440.					677000.	677000.	680000.	677000.	677000.	677000.
M_V .001883	49.5	2.98	.181	.0109	49.3	2.97	3320.					412000.	412000.	415000.	412000.	412000.	412000.
M_{IV} .001950	49.5	3.11	.187	.0118	49.3	3.10	3300.					1290000.	1290000.	1290000.	1290000.	1290000.	1290000.
.002	49.5	3.20	.192	.0124	49.3	3.19	3280.					1190000.	1190000.	1190000.	1190000.	1190000.	1190000.
M_{III} .002368	49.4	3.86	.227	.0177	49.2	3.84	3160.					1350000.	1350000.	1350000.	1350000.	1350000.	1350000.
M_{II} .002682	49.4	4.42	.256	.0229	49.1	4.40	3050.					1260000.	1260000.	1260000.	1260000.	1260000.	1260000.
M_I .002934	49.3	4.86	.280	.0276	49.0	4.83	2970.					808000.	808000.	811000.	808000.	808000.	808000.
.003	49.3	4.97	.286	.0288	49.0	4.94	2950.					930000.	930000.	930000.	930000.	930000.	930000.
.004	49.1	6.68	.378	.0514	48.7	6.63	2640.					671000.	671000.	674000.	671000.	671000.	671000.
.005	48.9	8.30	.469	.0795	48.5	8.22	2360.					799000.	799000.	802000.	799000.	799000.	799000.
.006	48.7	9.82	.558	.112	48.2	9.71	2110.					636000.	636000.	639000.	636000.	636000.	636000.
.008	48.4	12.6	.732	.191	47.7	12.4	1710.					743000.	743000.	746000.	743000.	743000.	743000.
.01	48.0	14.8	.900	.277	47.1	14.5	1610.					697000.	697000.	700000.	697000.	697000.	697000.
L_{III} .010534	47.9	15.4	.945	.304	47.0	15.1	1340.					329000.	329000.	332000.	329000.	329000.	329000.
L_{II} .011957	47.7	16.7	1.06	.372	46.6	16.3	1180.					183000.	183000.	185000.	183000.	183000.	183000.
L_I .012528	47.6	17.2	1.11	.400	46.5	16.8	1120.					113000.	113000.	115000.	113000.	113000.	113000.
.015	47.2	19.2	1.30	.531	45.9	18.7	910.					524000.	524000.	541000.	524000.	524000.	524000.
.02	46.3	22.5	1.67	.812	44.7	21.7	630.					288000.	288000.	302000.	288000.	288000.	288000.
.03	44.8	26.8	2.33	1.39	42.5	25.4	370.					25200.	25200.	26600.	25200.	25200.	25200.
.04	43.4	29.3	2.89	1.95	40.5	27.3	240.					69500.	69500.	70900.	69500.	69500.	69500.
.05	42.1	30.6	3.40	2.47	38.7	28.1	170.					49800.	49800.	51000.	49800.	49800.	49800.
.06	40.9	31.4	3.84	2.95	37.1	28.5	128.					68800.	68800.	70000.	68800.	68800.	68800.
K .071676	39.6	31.8	4.27	3.42	35.4	28.4	95.0					60800.	60800.	61900.	60800.	60800.	60800.
.08	38.8	31.9	4.54	3.74	34.3	28.2	78.0					70500.	70500.	71600.	70500.	70500.	70500.
.1	37.0	31.7	5.10	4.37	31.9	27.3	51.0					43500.	43500.	44400.	43500.	43500.	43500.
.15	33.3	30.6	6.04	5.55	27.2	25.0	24.0					20300.	20300.	21000.	20300.	20300.	20300.
.2	30.5	28.8	6.59	6.23	23.9	22.6	14.0					6870.	6870.	7270.	6870.	6870.	6870.
.3	26.5	25.7	7.15	6.93	19.4	18.8	6.43					3140.	2930.	3410.	3170.	3140.	2930.
.4	23.7	23.3	7.36	7.13	16.4	16.2	3.64					1710.	1620.	1910.	1740.	1710.	1620.
.5	21.7	21.4	7.40	7.19	14.3	14.2	2.56					1030.	984.	1190.	1060.	1030.	987.
.6	20.1	19.8	7.37	7.15	12.7	12.7	1.63					622.	599.	749.	654.	626.	602.
.8	17.6	17.5	7.20	6.96	10.4	10.5	.630					3180.	1000.	3310.	3210.	3180.	1000.
1.	15.8	15.8	6.97	6.59	8.87	9.21	.495					2380.	919.	2490.	2410.	2380.	923.
1.5	12.9	12.8	6.37	6.03	6.50	6.77	.269					1320.	672.	1400.	1350.	1330.	676.
2.	11.0	11.0	5.82	5.48	5.15	5.52	.152					449.	302.	504.	480.	455.	308.
3.	8.63	8.62	4.98	4.47	3.65	4.15	.0676					207.	156.	250.	236.	214.	162.
4.	7.21	7.21	4.38	3.81	2.84	3.40	.0383					71.0	59.4	103.	96.7	78.1	66.3
5.	6.23	6.23	3.91	3.29	2.32	2.94	.0243					33.9	29.7	60.8	57.2	41.3	36.8
6.	5.51	5.51	3.55	2.89	1.96	2.62	.0173					19.5	17.6	43.3	40.9	26.9	24.8
8.	4.50	4.50	3.01	2.31	1.50	2.19	.00983					12.7	11.7	34.1	32.5	20.1	18.8
10.	3.84	3.84	2.62	1.91	1.21	1.93	.00638					6.60	6.19	25.0	24.1	13.8	13.1
15.	2.84	2.84	2.02	1.38	.823	1.46	.00261					4.18	3.97	20.6	20.0	11.1	10.6
20.	2.28	2.28	1.66	1.04	.623	1.24	.00126					1.97	1.91	15.5	15.2	8.76	8.07
30.	1.66	1.66	1.24	.666	.419	.994						1.20	1.17	13.7	13.6	8.39	7.28
40.	1.32	1.32	1.00	.474	.316	.846						.649	.638	12.6	12.5	8.86	7.07
50.	1.10	1.10	.847	.359	.253	.741						.430	.425	12.5	12.5	9.65	7.47
60.	.948	.948	.736	.281	.212	.667						.320	.317	12.7	12.7	10.4	7.93
80.	.748	.748	.588	.191	.160	.557						.253	.251	13.0	13.0	11.0	8.31
100.	.621	.621	.493	.140	.128	.481						.175	.174	13.6	13.6	12.1	8.95
												.134	.133	14.6	14.6	13.4	9.62
												.0828	.0825	16.4	16.4	15.6	10.6
												.0604	.0603	18.2	18.2	17.6	11.1
												.0385	.0384	20.6	20.6	20.2	11.4
												.0280	.0280	22.5	22.5	22.2	11.1
												.0219	.0219	23.9	23.9	23.7	10.8
												.0179	.0179	24.9	24.9	24.7	10.5
												.0130	.0130	26.6	26.6	26.4	10.1
												.0103	.0103	27.8	27.8	27.7	9.58

75 RHENIUM
(cm²/g = 0.003234 x barns/atom)

E (MeV)	($\frac{\sigma}{\rho}$) _{inc,t} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,t} ^{BD}	($\frac{\sigma}{\rho}$) _{inc,a} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,a} ^{BD}	($\frac{\sigma}{\rho}$) _{inc,s} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,s} ^{BD}	($\frac{\sigma}{\rho}$) _{coh}	($\frac{\sigma}{\rho}$) _n	($\frac{\sigma}{\rho}$) _{nc}	($\frac{\sigma}{\rho}$) _{n,l}	($\frac{\sigma}{\rho}$) _{n,h}	($\frac{\sigma}{\rho}$) _{r,t}	($\frac{\sigma}{\rho}$) _{r,a}	($\frac{\sigma}{\rho}$) _{tot,t}	($\frac{\sigma}{\rho}$) _{tot,t-coh}	($\frac{\sigma}{\rho}$) _{tot,a}	($\frac{\sigma}{\rho}$) _{tot,en}
.001	.161	.00420	.000313	.0000062	.160	.00420	11.6					5270.	5270.	5270.	5270.	5270.	5270.
.0015	.160	.00734	.000469	.0000214	.160	.00731	11.1					2190.	2190.	2200.	2190.	2190.	2190.
M _γ .001883	.160	.00964	.000585	.0000353	.159	.00960	10.7					1330.	1330.	1340.	1330.	1330.	1330.
M _{IV} .001950	.160	.0101	.000605	.0000382	.159	.0100	10.7					4170.	4170.	4170.	4170.	4170.	4170.
.002	.160	.0103	.000621	.0000401	.159	.0103	10.6					3850.	3850.	3850.	3850.	3850.	3850.
M _{III} .002366	.160	.0125	.000734	.0000572	.159	.0124	10.2					4370.	4370.	4370.	4370.	4370.	4370.
M _{II} .002682	.160	.0143	.000828	.0000741	.159	.0142	9.86					4070.	4070.	4070.	4070.	4070.	4070.
M _I .002934	.159	.0157	.000906	.0000893	.158	.0156	9.60					2610.	2610.	2620.	2610.	2610.	2610.
.003	.159	.0161	.000925	.0000931	.158	.0160	9.54					3010.	3010.	3020.	3010.	3010.	3010.
.004	.159	.0216	.00122	.000166	.157	.0214	8.54					2170.	2170.	2180.	2170.	2170.	2170.
.005	.158	.0268	.00152	.000257	.157	.0266	7.63					2580.	2580.	2590.	2580.	2580.	2580.
.006	.157	.0318	.00180	.000362	.156	.0314	6.82					2060.	2060.	2070.	2060.	2060.	2060.
.008	.157	.0407	.00237	.000618	.154	.0401	5.53					2400.	2400.	2410.	2400.	2400.	2400.
.01	.155	.0479	.00291	.000896	.152	.0469	4.56					2250.	2250.	2260.	2250.	2250.	2250.
L _{III} .010534	.155	.0498	.00306	.000983	.152	.0488	4.33					1060.	1060.	1070.	1060.	1060.	1060.
L _{II} .011957	.154	.0540	.00343	.00120	.151	.0527	3.82					592.	592.	598.	592.	592.	592.
L _I .012528	.154	.0556	.00359	.00129	.150	.0543	3.62					365.	365.	372.	365.	365.	365.
.015	.153	.0621	.00420	.00172	.148	.0605	2.94					169.	169.	175.	169.	169.	169.
.02	.150	.0728	.00540	.00263	.145	.0702	2.06					93.1	93.1	97.7	93.1	93.1	93.1
.03	.145	.0867	.00754	.00450	.137	.0821	1.21					81.5	81.5	86.0	81.5	81.5	81.5
.04	.140	.0948	.00935	.00631	.131	.0883	.789					225.	225.	229.	225.	225.	225.
.05	.136	.0990	.0110	.00799	.125	.0909	.553					171.	171.	175.	161.	161.	127.
.06	.132	.102	.0124	.00954	.120	.0922	.414					127.	127.	135.	161.	161.	173.
K.071676	.128	.103	.0138	.0111	.114	.0918	.308					222.	222.	226.	222.	222.	222.
.08	.125	.103	.0147	.0121	.111	.0912	.252					157.	155.	200.	197.	197.	155.
.1	.120	.103	.0165	.0141	.103	.0883	.167					218.	179.	232.	228.	228.	179.
.15	.108	.0890	.0195	.0179	.0880	.0808	.0789					141.	115.	144.	141.	141.	115.
.2	.0986	.0831	.0213	.0201	.0773	.0731	.0456					65.7	56.9	67.9	65.7	65.7	56.9
.3	.0857	.0631	.0231	.0224	.0627	.0608	.0208					22.2	20.2	23.5	22.3	22.2	20.2
.4	.0766	.0754	.0238	.0231	.0530	.0524	.0118					9.48	9.48	11.0	10.3	10.2	9.48
.5	.0702	.0692	.0239	.0233	.0462	.0459	.00763					5.53	5.24	6.18	5.63	5.53	5.24
.6	.0650	.0640	.0238	.0231	.0411	.0411	.00527					3.33	3.18	3.85	3.43	3.33	3.19
.8	.0565	.0566	.0233	.0225	.0336	.0340	.00301					2.01	1.94	2.42	2.12	2.02	1.95
1.	.0417	.0411	.0225	.0213	.0287	.0298	.00192					1.03	1.23	10.7	10.4	10.3	3.23
1.5	.0356	.0356	.0188	.0177	.0167	.0179	.000870					7.70	2.97	8.05	7.79	7.70	2.98
2.	.0279	.0279	.0161	.0145	.0118	.0134	.000219					4.27	2.17	4.53	4.37	4.30	2.19
3.	.0233	.0233	.0142	.0123	.00918	.0110	.000124					1.45	.977	1.63	1.55	1.47	.996
4.	.0201	.0201	.0126	.0106	.00750	.00951	.0000805					.669	.505	.808	.763	.692	.524
5.	.0178	.0178	.0115	.00935	.00634	.00847	.0000559					.230	.192	.333	.313	.253	.214
6.	.0146	.0146	.00973	.00747	.00485	.00708	.0000318					.110	.0960	.197	.185	.134	.119
8.	.0124	.0124	.00847	.00618	.00391	.00624	.0000206					.0631	.0569	.140	.132	.0870	.0602
10.	.00918	.00918	.00653	.00446	.00266	.00472	.0000084					.0411	.0378	.110	.105	.0650	.0408
15.	.00737	.00737	.00537	.00336	.00201	.00401	.0000041					.0213	.0200	.0808	.0779	.0446	.0424
20.	.00537	.00537	.00401	.00215	.00136	.00321						.0135	.0128	.0666	.0647	.0359	.0343
30.	.00427	.00427	.00323	.00153	.00102	.00274						.00637	.00618	.0501	.0492	.0283	.0261
40.	.00356	.00356	.00274	.00116	.000818	.00240						.00388	.00378	.0443	.0440	.0271	.0235
50.	.00307	.00307	.00238	.000909	.000686	.00216						.00210	.00206	.0407	.0404	.0287	.0229
60.	.00242	.00242	.00190	.000618	.000517	.00180						.00139	.00137	.0404	.0404	.0312	.0242
80.	.00201	.00201	.00159	.000453	.000414	.00156						.00103	.00103	.0411	.0411	.0336	.0256
100.												.000818	.000812	.0420	.0420	.0356	.0269
												.000566	.000563	.0440	.0440	.0391	.0289
												.000433	.000430	.0472	.0472	.0433	.0311
												.000268	.000267	.0530	.0530	.0505	.0343
												.000195	.000195	.0589	.0589	.0569	.0359
												.000125	.000124	.0666	.0666	.0653	.0369
												.0000906	.0000906	.0728	.0728	.0718	.0359
												.0000708	.0000708	.0773	.0773	.0766	.0349
												.0000579	.0000579	.0805	.0805	.0799	.0340
												.0000420	.0000420	.0860	.0860	.0854	.0327
												.0000333	.0000333	.0899	.0899	.0896	.0310

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(barns/atom)

E (MeV)	$\sigma_{inc,t}^{KN}$	$\sigma_{inc,t}^{BD}$	$\sigma_{inc,a}^{KN}$	$\sigma_{inc,a}^{BD}$	$\sigma_{inc,s}^{KN}$	$\sigma_{inc,s}^{BD}$	σ_{coh}	σ_{xn}	σ_{xe}	$\sigma_{x,t}$	$\sigma_{x,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$	
.001	50.4	1.19	.0981	.00232	50.3	1.19	3680.					1710000.	1710000.	1710000.	1710000.	1710000.	1710000.	
.0015	50.3	2.13	.147	.00621	50.1	2.12	3540.					704000.	704000.	704000.	704000.	704000.	704000.	
M_V .001960	50.2	2.98	.191	.0113	50.0	2.97	3390.					393000.	393000.	396000.	393000.	393000.	393000.	
.002	50.2	3.06	.195	.0119	50.0	3.05	3370.					1230000.	1230000.	1230000.	1230000.	1230000.	1230000.	
M_{IV} .002031	50.2	3.12	.198	.0123	50.0	3.11	3360.					1180000.	1180000.	1180000.	1180000.	1180000.	1180000.	
M_{III} .002457	50.1	3.9	.238	.0186	49.8	3.88	3220.					1140000.	1140000.	1140000.	1140000.	1140000.	1140000.	
M_{II} .002792	50.0	4.51	.270	.0243	49.7	4.49	3100.					1290000.	1290000.	1290000.	1290000.	1290000.	1290000.	
.003	50.0	4.88	.290	.0283	49.7	4.85	3030.					776000.	776000.	779000.	776000.	776000.	776000.	
M_I .003052	50.0	4.97	.295	.0293	49.7	4.94	3020.					893000.	893000.	896000.	893000.	893000.	893000.	
.004	49.8	6.59	.383	.0507	49.4	6.54	2710.					641000.	641000.	644000.	641000.	641000.	641000.	
.005	49.6	8.24	.475	.0789	49.1	8.16	2420.					763000.	763000.	766000.	763000.	763000.	763000.	
.006	49.4	9.80	.565	.112	48.8	9.69	2170.					633000.	633000.	636000.	633000.	633000.	633000.	
.008	49.0	12.6	.742	.191	48.3	12.4	1760.					608000.	608000.	611000.	608000.	608000.	608000.	
.01	48.7	14.9	.912	.279	47.8	14.6	1450.					709000.	709000.	712000.	709000.	709000.	709000.	
L_{III} .010871	48.5	15.8	.986	.321	47.5	15.5	1340.					348000.	348000.	351000.	348000.	348000.	348000.	
L_{II} .012385	48.2	17.3	1.11	.398	47.1	16.9	1170.					194000.	194000.	196000.	194000.	194000.	194000.	
L_I .012969	48.1	17.8	1.16	.428	47.0	17.4	1110.					120000.	120000.	122000.	120000.	120000.	120000.	
.015	47.8	19.4	1.32	.537	46.5	18.9	940.					55500.	55500.	55800.	55500.	55500.	55500.	
.02	47.0	22.7	1.69	.819	45.3	21.9	658.					30500.	30500.	32000.	30500.	30500.	30500.	
.03	45.4	27.1	2.36	1.41	43.1	25.7	385.					24600.	24600.	26000.	24600.	24600.	24600.	
.04	44.0	29.6	2.93	1.97	41.0	27.6	252.					67000.	67000.	68400.	67000.	67000.	67000.	
.05	42.7	31.0	3.44	2.50	39.2	28.5	177.					50600.	50600.	51900.	50600.	50600.	50600.	
.06	41.5	31.8	3.69	2.98	37.6	28.8	132.					58300.	58300.	59600.	58300.	58300.	58300.	
K .073871	39.9	32.2	4.40	3.55	35.5	28.7	93.4					67600.	67600.	68700.	67600.	67600.	67600.	
.08	39.3	32.2	4.60	3.77	34.7	28.4	80.7					45800.	45800.	46800.	45800.	45800.	45800.	
.1	37.4	32.1	5.17	4.43	32.3	27.7	53.5					21400.	21400.	22100.	21400.	21400.	21400.	
.15	33.7	31.0	6.12	5.63	27.6	25.4	25.3					1810.	1700.	2020.	1840.	1810.	1700.	
.2	30.9	29.2	6.68	6.31	24.2	22.9	14.5					1090.	1040.	1250.	1120.	1090.	1040.	
.3	26.9	26.0	7.24	7.01	19.6	19.0	6.55					606.	582.	732.	638.	610.	586.	
.4	24.1	23.6	7.46	7.22	16.6	16.4	3.7					3070.	967.	3200.	3100.	3070.	971.	
.5	22.0	21.6	7.50	7.28	14.5	14.3	2.64					2490.	915.	2600.	2520.	2490.	919.	
.6	20.3	20.1	7.47	7.26	12.9	12.8	1.59					1380.	682.	1470.	1410.	1390.	686.	
.8	17.9	17.7	7.30	7.04	10.6	10.7	.660					472.	313.	528.	503.	478.	319.	
1.	16.1	16.0	7.06	6.67	8.99	9.33	.15					219.	164.	263.	248.	226.	170.	
1.5	13.0	13.0	6.45	6.12	6.59	6.88	.278	.440	.440	.133		75.0	62.3	108.	101.	82.2	69.3	
2.	11.1	11.1	5.90	5.53	5.22	5.57	.57	1.42	1.42	.652		35.7	31.2	63.1	59.3	43.2	38.4	
3.	8.75	8.74	5.05	4.54	3.70	4.20	.700	3.33	.00306	3.33	2.02		17.0	18.6	44.7	42.3	28.2	25.9
4.	7.31	7.31	4.44	3.85	2.37	3.46	.8396	4.97	.0126	4.98	3.32		13.4	12.3	35.2	33.5	20.9	19.6
5.	6.31	6.31	3.96	3.33	2.35	2.98	.8258	6.30	.0247	6.32	4.42		6.96	6.52	25.6	24.7	14.3	13.6
6.	5.58	5.58	3.59	2.91	1.99	2.67	.8178	7.39	.0382	7.43	5.30		4.41	4.19	21.0	20.4	11.5	10.9
8.	4.56	4.56	3.05	2.33	1.52	2.23	.8101	9.12	.0643	9.18	6.62		2.08	2.01	15.8	15.5	8.97	8.26
10.	3.89	3.89	2.66	1.93	1.23	1.96	.80660	10.7	.0820	10.8	7.70		1.28	1.25	14.0	13.8	8.60	7.43
15.	2.88	2.88	2.04	1.40	.834	1.48	.60273	13.7	.138	13.8	9.34		.692	.680	12.8	12.8	9.07	7.24
20.	2.31	2.31	1.63	1.06	.632	1.25	.60130	16.1	.173	16.3	10.2		.462	.456	12.8	12.8	9.88	7.63
30.	1.68	1.68	1.26	.672	.425	1.01		19.2	.225	19.4	10.9		.340	.337	13.0	13.0	10.6	8.09
40.	1.34	1.34	1.02	.480	.321	.860		21.4	.262	21.7	10.8		.268	.266	13.3	13.3	11.3	8.48
50.	1.12	1.12	.859	.365	.257	.755		23.0	.290	23.3	10.6		.185	.184	13.9	13.9	12.4	9.13
60.	.961	.961	.746	.283	.215	.678		24.2	.312	24.5	10.4		.141	.140	14.8	14.8	11.6	9.77
80.	.758	.758	.596	.193	.162	.565		26.1	.345	26.4	10.1		.0872	.0849	16.8	16.8	15.9	10.8
100.	.629	.629	.500	.142	.130	.487		27.5	.370	27.9	9.62		.0642	.0640	18.7	18.7	18.0	11.3
													.0408	.0407	21.1	21.1	20.7	11.6
													.0297	.0297	23.1	23.1	22.7	11.3
													.0232	.0232	24.4	24.4	24.2	11.0
													.0189	.0189	25.5	25.5	25.3	10.7
													.0138	.0138	27.2	27.2	27.0	10.3
													.0109	.0109	28.5	28.5	28.4	9.77

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(cm²/g = 0.003166 x barns/atom)

E (MeV)	($\frac{\sigma}{\sigma_0}$) _{inc,t}	($\frac{\sigma}{\sigma_0}$) _{inc,t}	($\frac{\sigma}{\sigma_0}$) _{inc,a}	($\frac{\sigma}{\sigma_0}$) _{inc,a}	($\frac{\sigma}{\sigma_0}$) _{inc,s}	($\frac{\sigma}{\sigma_0}$) _{inc,s}	($\frac{\sigma}{\sigma_0}$) _{coh}	($\frac{\sigma}{\sigma_0}$) _n	($\frac{\sigma}{\sigma_0}$) _e	($\frac{\sigma}{\sigma_0}$) _t	($\frac{\sigma}{\sigma_0}$) _a	($\frac{\sigma}{\sigma_0}$) _{t,t}	($\frac{\sigma}{\sigma_0}$) _{t,t-coh}	($\frac{\sigma}{\sigma_0}$) _{t,a}	($\frac{\sigma}{\sigma_0}$) _{t,en}
.001	.160	.00377	.000311	.0000074	.159	.00377	11.7					5410.	5410.	5410.	5410.
.0015	.159	.00674	.000465	.0000197	.159	.00671	11.2					2230.	2230.	2230.	2230.
M _V .001960	.159	.00943	.000605	.0000358	.158	.00940	10.7					1240.	1240.	1240.	1240.
.002	.159	.00969	.000617	.0000377	.158	.00966	10.7					3890.	3890.	3890.	3890.
M _{IV} .002031	.159	.00988	.000627	.0000389	.158	.00985	10.6					3740.	3740.	3740.	3740.
M _{III} .002457	.159	.0123	.000754	.0000589	.158	.0123	10.2					3610.	3610.	3610.	3610.
M _{II} .002792	.158	.0143	.000855	.0000769	.157	.0142	9.81					4080.	4080.	4080.	4080.
.003	.158	.0155	.000918	.0000896	.157	.0154	9.59					2460.	2460.	2460.	2460.
M _I .003052	.158	.0157	.000934	.0000928	.157	.0156	9.56					2830.	2830.	2830.	2830.
.004	.158	.0209	.00121	.000161	.156	.0207	8.58					2030.	2030.	2030.	2030.
.005	.157	.0261	.00150	.000250	.155	.0258	7.66					2420.	2420.	2420.	2420.
.006	.156	.0310	.00179	.000355	.155	.0307	6.87					2000.	2000.	2000.	2000.
.008	.155	.0399	.00235	.000605	.153	.0393	5.57					1920.	1920.	1920.	1920.
.01	.154	.0472	.00289	.000883	.151	.0462	4.59					2240.	2240.	2240.	2240.
L _{III} .010871	.154	.0500	.00312	.00102	.150	.0491	4.24					1100.	1100.	1100.	1100.
L _{II} .012385	.153	.0548	.00351	.00126	.149	.0535	3.70					614.	614.	614.	614.
L _I .012969	.152	.0564	.00367	.00136	.149	.0551	3.51					380.	380.	380.	380.
.015	.151	.0614	.00418	.00170	.147	.0598	2.98					176.	176.	176.	176.
.02	.149	.0719	.00535	.00259	.143	.0693	2.08					96.6	96.6	96.6	96.6
.03	.144	.0858	.00747	.00446	.136	.0814	1.22					77.9	77.9	77.9	77.9
.04	.139	.0937	.00928	.00624	.130	.0874	.798					212.	212.	212.	212.
.05	.135	.0981	.0109	.00792	.124	.0902	.560					151.	151.	151.	151.
.06	.131	.101	.0123	.00943	.119	.0912	.418					109.	109.	109.	109.
K.073871	.126	.102	.0139	.0112	.112	.0909	.297					209.	209.	209.	209.
.08	.124	.102	.0146	.0119	.110	.0899	.255					185.	185.	185.	185.
.1	.118	.102	.0164	.0140	.102	.0877	.189					144.	144.	144.	144.
.15	.107	.0981	.0194	.0178	.0874	.0804	.0798					117.	117.	117.	117.
.2	.0978	.0924	.0211	.0200	.0766	.0725	.0462					145.	145.	145.	145.
.3	.0852	.0823	.0229	.0222	.0621	.0602	.0211					67.8	67.8	67.8	67.8
.4	.0763	.0747	.0236	.0229	.0526	.0519	.0119					22.9	22.9	22.9	22.9
.5	.0697	.0684	.0237	.0230	.0459	.0453	.00773					10.5	10.5	10.5	10.5
.6	.0643	.0636	.0237	.0230	.0408	.0405	.00535					5.73	5.73	5.73	5.73
.8	.0567	.0560	.0231	.0223	.0336	.0339	.00304					3.45	3.45	3.45	3.45
1	.0510	.0507	.0224	.0211	.0285	.0295	.00195					1.92	1.92	1.92	1.92
1.5	.0412	.0412	.0204	.0194	.0209	.0218	.000880	.00139				0.72	0.72	0.72	0.72
2	.0351	.0351	.0187	.0175	.0165	.0176	.000897	.00450				0.88	0.88	0.88	0.88
3	.0277	.0277	.0160	.0144	.0117	.0133	.000222	.0105	.00000969			0.693	0.693	0.693	0.693
4	.0231	.0231	.0141	.0122	.00909	.0110	.000125	.0157	.0000399	.00139	.000421	.519	.519	.519	.519
5	.0200	.0200	.0125	.0105	.00744	.00943	.0000817	.0199	.0000782	.00206	.00215	.197	.197	.197	.197
6	.0177	.0177	.0114	.00921	.00630	.00845	.0000564	.0234	.000121	.00405	.00396	.0988	.0988	.0988	.0988
8	.0144	.0144	.00966	.00738	.00481	.00706	.0000320	.0269	.000204	.00219	.00215	.0589	.0589	.0589	.0589
10	.0123	.0123	.00842	.00611	.00389	.00621	.0000209	.0339	.000282	.00424	.00405	.0389	.0389	.0389	.0389
15	.00912	.00912	.00646	.00443	.00264	.00469	.0000086	.0434	.000437	.0220	.0206	.0206	.0206	.0206	.0206
20	.00731	.00731	.00532	.00336	.00200	.00396	.0000041	.0510	.000548	.0140	.0133	.0133	.0133	.0133	.0133
30	.00532	.00532	.00399	.00213	.00135	.00320		.0608	.000712	.00659	.00636	.0665	.0665	.0665	.0665
40	.00424	.00424	.00323	.00152	.00102	.00272		.0678	.000829	.00405	.00396	.0665	.0665	.0665	.0665
50	.00355	.00355	.00272	.00114	.000814	.00239		.0728	.000918	.00405	.00396	.0665	.0665	.0665	.0665
60	.00304	.00304	.00236	.000896	.000681	.00215		.0766	.000988	.00405	.00396	.0665	.0665	.0665	.0665
80	.00240	.00240	.00189	.000611	.000513	.00179		.0826	.00109	.00405	.00396	.0665	.0665	.0665	.0665
100	.00199	.00199	.00158	.000450	.000412	.00154		.0871	.00117	.00405	.00396	.0665	.0665	.0665	.0665

77 IRIDIUM
 (barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{ne}	$\sigma_{n,t}$	$\sigma_{n,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	51.0	1.07	.0994	.00208	50.9	1.07	1780.					1790000.	1790000.	1790000.	1790000.	1790000.	1790000.
.0015	50.9	1.98	.149	.00578	50.8	1.97	1640.					739000.	739000.	743000.	739000.	739000.	739000.
.002	50.8	2.92	.197	.0113	50.5	2.91	1470.					395000.	395000.	398000.	395000.	395000.	395000.
M _V .002040	50.8	2.99	.201	.0118	50.5	2.98	1460.					376000.	376000.	379000.	376000.	376000.	376000.
M _{IV} .002116	50.8	3.13	.208	.0128	50.5	3.12	1430.					1180000.	1180000.	1180000.	1180000.	1180000.	1180000.
M _{III} .002551	50.7	3.94	.250	.0195	50.5	3.92	1280.					1090000.	1090000.	1090000.	1090000.	1090000.	1090000.
M _{II} .002908	50.6	4.58	.285	.0257	50.4	4.55	1150.					745000.	745000.	748000.	745000.	745000.	745000.
.003	50.6	4.74	.293	.0275	50.3	4.71	1120.					857000.	857000.	860000.	857000.	857000.	857000.
M _I .003173	50.6	5.05	.310	.0309	50.3	5.02	1060.					612000.	612000.	615000.	612000.	612000.	612000.
.004	50.4	6.48	.388	.0499	50.0	6.43	2790.					728000.	728000.	731000.	728000.	728000.	728000.
.005	50.2	8.16	.481	.0782	49.3	8.08	2490.					670000.	670000.	673000.	670000.	670000.	670000.
.006	50.0	9.76	.573	.112	49.5	9.65	2230.					582000.	582000.	585000.	582000.	582000.	582000.
.008	49.7	12.6	.752	.191	48.9	12.4	1810.					677000.	677000.	680000.	677000.	677000.	677000.
.01	49.3	15.0	.924	.281	48.4	14.7	1490.					368000.	368000.	371000.	368000.	368000.	368000.
L _{III} .011215	49.1	16.3	1.03	.341	48.1	16.0	1340.					206000.	206000.	208000.	206000.	206000.	206000.
L _{II} .012824	48.8	17.8	1.16	.423	47.5	17.4	1160.					126000.	126000.	126000.	126000.	126000.	126000.
L _I .013419	48.7	18.3	1.21	.454	47.5	17.8	1100.					58600.	58600.	60400.	58600.	58600.	58600.
.015	48.4	19.5	1.34	.539	47.1	19.0	971.					32300.	32300.	32300.	32300.	32300.	32300.
.02	47.6	22.9	1.72	.826	45.9	22.1	680.					23900.	23900.	25300.	23900.	23900.	23900.
.03	46.0	27.3	2.39	1.42	43.6	25.9	397.					64600.	64600.	66000.	64600.	64600.	64600.
.04	44.6	29.8	2.97	1.99	41.6	27.8	261.					45700.	45700.	46900.	45700.	45700.	45700.
.05	43.2	31.3	3.49	2.53	39.7	28.8	183.					63100.	63100.	64300.	63100.	63100.	63100.
.06	42.0	32.1	3.94	3.01	38.1	29.1	136.					55900.	55900.	57000.	55900.	55900.	55900.
K .076111	40.2	32.6	4.54	3.68	35.7	28.9	91.6					64900.	64900.	66000.	64900.	64900.	64900.
.08	39.8	32.6	4.36	3.82	35.2	28.8	83.4					48100.	48100.	49100.	48100.	48100.	48100.
.1	37.9	32.5	5.24	4.48	32.7	28.0	55.3					38100.	38100.	39100.	38100.	38100.	38100.
.15	34.2	31.3	6.20	5.68	28.0	25.6	26.1					22500.	19000.	22500.	22500.	22500.	19000.
.2	31.3	29.5	6.77	6.38	24.5	23.1	15.1					7630.	6840.	8050.	7660.	7630.	6840.
.3	27.2	26.3	7.34	7.09	19.9	19.2	6.88					3510.	3240.	3800.	3540.	3510.	3240.
.4	24.4	23.9	7.55	7.31	16.8	16.6	3.89					1910.	1790.	2120.	1940.	1910.	1790.
.5	22.3	21.9	7.59	7.38	14.7	14.5	2.52					1150.	1090.	1320.	1180.	1150.	1090.
.6	20.6	20.4	7.57	7.36	13.0	13.0	1.74					590.	566.	714.	623.	595.	570.
.8	18.1	18.0	7.40	7.16	10.7	10.8	.995					2970.	936.	3090.	3000.	2970.	940.
1.	16.3	16.2	7.15	6.76	9.11	9.44	.638					2600.	906.	2720.	2630.	2600.	910.
1.5	13.2	13.2	6.54	6.20	6.88	7.00	.287	.455		.455	.138	1450.	694.	1540.	1480.	1460.	698.
2.	11.3	11.2	5.98	5.58	5.29	5.62	.162	1.47				493.	322.	550.	524.	499.	328.
3.	8.86	8.85	5.11	4.59	3.75	4.26	.0723	3.43	.00310	3.43	2.08	229.	169.	274.	258.	236.	175.
4.	7.41	7.41	4.50	3.91	2.91	3.50	.0409	5.10		5.11	3.41	78.9	65.2	112.	105.	88.2	72.3
5.	6.40	6.40	4.02	3.37	2.38	3.03	.0266	6.45		6.47	4.52	37.7	32.8	65.5	61.6	45.3	40.1
6.	5.65	5.65	3.64	2.94	2.01	2.71	.0184	7.58		7.62	5.44	21.8	19.5	48.2	43.7	29.4	26.9
8.	4.62	4.62	3.09	2.36	1.54	2.26	.0105	9.34		9.41	6.76	14.1	12.9	36.2	34.5	21.7	20.3
10.	3.94	3.94	2.69	1.95	1.25	1.99	.00582	11.0		11.1	7.90	7.38	6.90	26.4	25.4	14.8	14.1
15.	2.92	2.92	2.07	1.41	.845	1.51	.00285	14.0		14.1	9.49	4.69	4.45	21.5	20.9	11.8	11.2
20.	2.34	2.34	1.70	1.06	.640	1.28	.00134	16.5		16.7	10.4	2.21	2.13	16.2	15.9	9.20	8.47
30.	1.70	1.70	1.27	.678	.430	1.02		19.6		19.8	11.1	1.35	1.31	14.2	14.0	8.80	7.56
40.	1.35	1.35	1.03	.481	.325	.869		21.9		22.2	11.0	.730	.717	13.1	13.0	9.27	7.39
50.	1.13	1.13	.870	.367	.260	.763		23.6		23.9	10.8			13.0	13.0	10.1	7.80
60.	.973	.973	.755	.286	.218	.687		24.9		25.2	10.7	.487	.481	13.0	13.0	10.8	8.25
80.	.768	.768	.604	.194	.164	.574		26.7		27.0	10.3	.360	.356	13.6	13.6	11.5	8.66
100.	.638	.638	.506	.144	.131	.494		28.1		28.5	9.80	.285	.283	14.2	14.2	12.7	9.31
												.195	.194	15.2	15.2	13.9	10.0
												.149	.148	15.2	15.2	13.9	10.0
												.0931	.0928	17.1	17.1	16.3	11.0
												.0675	.0673	19.1	19.1	18.5	11.5
												.0431	.0430	21.5	21.5	21.1	11.8
												.0314	.0314	23.6	23.6	23.3	11.5
												.0246	.0246	25.1	25.1	24.8	11.2
												.0200	.0200	26.2	26.2	26.0	11.0
												.0145	.0145	27.8	27.8	27.6	10.5
												.0115	.0115	29.1	29.1	29.0	9.94

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(cm²/g = 0.003133 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{KN} inc, t	($\frac{\mu}{\rho}$) _{BD} inc, t	($\frac{\mu}{\rho}$) _{KN} inc, a	($\frac{\mu}{\rho}$) _{BD} inc, a	($\frac{\mu}{\rho}$) _{KN} inc, s	($\frac{\mu}{\rho}$) _{BD} inc, s	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _n	($\frac{\mu}{\rho}$) _e	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,i}	($\frac{\mu}{\rho}$) _{r,t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,gr}
.001	.160	.00335	.000311	.0000065	.159	.00335	11.8					5610.	5610.	5610.	5610.	5610.	5610.
.0015	.159	.00620	.000467	.0000181	.159	.00617	11.4					2320.	2320.	2330.	2320.	2320.	2320.
.002	.159	.00915	.000617	.0000354	.159	.00912	10.9					1240.	1240.	1250.	1240.	1240.	1240.
M ₀ .002040	.159	.00937	.000630	.0000370	.159	.00934	10.8					1180.	1180.	1190.	1180.	1180.	1180.
M _{IV} .002116	.159	.00981	.000652	.0000401	.159	.00977	10.7					3700.	3700.	3700.	3700.	3700.	3700.
M _{III} .002551	.159	.0123	.000783	.0000611	.158	.0123	10.3					3410.	3410.	3410.	3410.	3410.	3410.
M _{II} .002908	.159	.0143	.000893	.0000805	.158	.0143	9.87					3850.	3850.	3850.	3850.	3850.	3850.
.003	.159	.0149	.000918	.0000862	.158	.0148	9.77					2330.	2330.	2340.	2330.	2330.	2330.
M _I .003173	.159	.0158	.000971	.0000968	.158	.0157	9.59					2680.	2680.	2690.	2680.	2680.	2680.
.004	.158	.0203	.00122	.000156	.157	.0201	8.74					1920.	1920.	1930.	1920.	1920.	1920.
.005	.157	.0256	.00151	.000245	.156	.0253	7.80					2280.	2280.	2290.	2280.	2280.	2280.
.006	.157	.0306	.00180	.000351	.155	.0302	6.99					2100.	2100.	2110.	2100.	2100.	2100.
.008	.156	.0395	.00236	.000598	.153	.0388	5.67					1820.	1820.	1830.	1820.	1820.	1820.
.01	.154	.0470	.00289	.000880	.152	.0461	4.67					2120.	2120.	2130.	2120.	2120.	2120.
L _{III} .011215	.154	.0511	.00323	.00107	.151	.0501	4.20					1150.	1150.	1160.	1150.	1150.	1150.
L _{II} .012024	.153	.0558	.00363	.00133	.149	.0545	3.63					645.	645.	652.	645.	645.	645.
L _I .013419	.153	.0573	.00379	.00142	.149	.0558	3.45					395.	395.	401.	395.	395.	395.
.015	.152	.0611	.00420	.00169	.148	.0595	3.04					184.	184.	189.	184.	184.	184.
.02	.149	.0717	.00539	.00259	.144	.0692	2.13					101.	101.	106.	101.	101.	101.
.03	.144	.0855	.00749	.00445	.137	.0811	1.24					74.9	74.9	79.3	74.9	74.9	74.9
.04	.140	.0934	.00931	.00623	.130	.0871	.818					202.	150.	202.	202.	202.	150.
.05	.135	.0981	.0109	.00793	.124	.0902	.573					143.	111.	147.	143.	143.	111.
.06	.132	.101	.0123	.00943	.119	.0912	.426					198.	150.	201.	198.	198.	150.
K.076111	.126	.102	.0142	.0115	.112	.0905	.287					175.	135.	179.	175.	175.	135.
.08	.125	.102	.0146	.0120	.110	.0902	.261					203.	156.	207.	203.	203.	156.
.1	.119	.102	.0164	.0140	.102	.0877	.173					151.	119.	184.	151.	151.	119.
.15	.107	.0981	.0194	.0178	.0877	.0802	.0816					70.5	59.5	72.7	70.5	70.5	59.5
.2	.0981	.0924	.0212	.0200	.0768	.0724	.0473					23.9	21.4	25.2	24.0	23.9	21.4
.3	.0852	.0824	.0230	.0222	.0623	.0602	.0216					11.0	10.2	11.9	11.1	11.0	10.2
.4	.0764	.0749	.0237	.0229	.0526	.0520	.0122					5.98	5.61	6.64	6.08	5.98	5.61
.5	.0699	.0686	.0238	.0231	.0461	.0454	.00790					3.60	3.41	4.14	3.70	3.60	3.41
.6	.0645	.0639	.0237	.0231	.0407	.0407	.00545					1.85	1.77	2.24	1.95	1.86	1.79
.8	.0567	.0564	.0232	.0224	.0335	.0338	.00312					9.31	2.93	9.68	9.40	9.31	2.95
1.	.0511	.0508	.0224	.0212	.0285	.0296	.00200					8.15	2.84	8.52	8.24	8.15	2.85
1.5	.0414	.0414	.0205	.0194	.0209	.0219	.000899	.00143				4.54	2.17	4.82	4.64	4.57	2.19
2.	.0354	.0351	.0187	.0175	.0166	.0176	.000508	.00461				1.54	1.01	1.72	1.64	1.56	1.03
3.	.0278	.0277	.0160	.0144	.0117	.0133	.000227	.0107	.0000971	.0107	.00652	.717	.529	.858	.808	.739	.548
4.	.0232	.0232	.0141	.0123	.00912	.0110	.000128	.0160	.0000398	.0160	.00621	.247	.204	.351	.329	.270	.227
5.	.0201	.0201	.0126	.0106	.00746	.00949	.0000333	.0202	.0000783	.0203	.0142	.118	.103	.205	.193	.142	.126
6.	.0177	.0177	.0114	.00921	.00630	.00849	.0000576	.0237	.000121	.0239	.0170	.0683	.0613	.145	.137	.0921	.0843
8.	.0145	.0145	.00968	.00739	.00482	.00708	.0000329	.0293	.000204	.0295	.0212	.0442	.0404	.113	.108	.0680	.0636
10.	.0123	.0123	.00843	.00611	.00392	.00623	.0000214	.0345	.000282	.0348	.0248	.0231	.0216	.0827	.0796	.0464	.0442
15.	.00915	.00915	.00649	.00442	.00265	.00473	.0000089	.0439	.000435	.0442	.0297	.0147	.0139	.0674	.0655	.0370	.0351
20.	.00733	.00733	.00533	.00332	.00201	.00401	.0000042	.0517	.000548	.0523	.0326	.00692	.00667	.0508	.0498	.0288	.0265
30.	.00533	.00533	.00398	.00212	.00135	.00320						.00423	.00410	.0445	.0439	.0276	.0237
40.	.00423	.00423	.00323	.00151	.00102	.00272						.00229	.00225	.0410	.0407	.0290	.0232
50.	.00354	.00354	.00273	.00115	.000815	.00239						.00153	.00151	.0407	.0407	.0316	.0244
60.	.00305	.00305	.00237	.000896	.000685	.00215						.00113	.00112	.0417	.0414	.0338	.0258
80.	.00241	.00241	.00189	.000608	.000514	.00180						.000893	.000887	.0426	.0426	.0360	.0271
100.	.00200	.00200	.00159	.000451	.000418	.00155						.000611	.000608	.0445	.0445	.0398	.0292
												.000467	.000464	.0476	.0476	.0435	.0313
												.000292	.000291	.0536	.0536	.0511	.0345
												.000211	.000211	.0598	.0598	.0580	.0360
												.000135	.000135	.0674	.0674	.0661	.0370
												.0000984	.0000984	.0739	.0739	.0730	.0360
												.0000771	.0000771	.0786	.0786	.0777	.0351
												.0000627	.0000627	.0821	.0821	.0815	.0345
												.0000454	.0000454	.0871	.0871	.0865	.0329
												.0000360	.0000360	.0912	.0912	.0909	.0312

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(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coi}	σ_{nd}	σ_{se}	σ_{xt}	$\sigma_{x,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	51.7	1.04	.101	.00203	51.6	1.04	3890.					1870000.	1870000.	1870000.	1870000.	1870000.	1870000.
.0015	51.6	1.95	.150	.00569	51.4	1.94	3760.					769000.	769000.	773000.	769000.	769000.	769000.
.002	51.5	2.90	.200	.0113	51.3	2.89	3590.					409000.	409000.	413000.	409000.	409000.	409000.
M_V .002122	51.5	3.13	.212	.0129	51.2	3.12	3550.					359000.	359000.	363000.	359000.	359000.	359000.
M_{IV} .002202	51.4	3.28	.220	.0140	51.2	3.27	3520.					1120000.	1120000.	1120000.	1120000.	1120000.	1120000.
M_{III} .002645	51.4	4.10	.263	.0210	51.1	4.08	3360.					1040000.	1040000.	1040000.	1040000.	1040000.	1040000.
.003	51.3	4.74	.297	.0275	51.0	4.71	3230.					1180000.	1180000.	1180000.	1180000.	1180000.	1180000.
M_{II} .003027	51.3	4.78	.300	.0280	51.0	4.75	3220.					716000.	716000.	719000.	716000.	716000.	716000.
M_I .003297	51.2	5.26	.326	.0335	50.9	5.23	3120.					824000.	824000.	827000.	824000.	824000.	824000.
.004	51.1	6.46	.393	.0497	50.7	6.41	2880.					598000.	598000.	601000.	598000.	598000.	598000.
.005	50.9	8.16	.487	.0782	50.4	8.08	2570.					584000.	584000.	587000.	584000.	584000.	584000.
.006	50.7	9.77	.580	.112	50.1	9.66	2300.					695000.	695000.	698000.	695000.	695000.	695000.
.008	50.3	12.7	.762	.192	49.6	12.5	1860.					558000.	558000.	561000.	558000.	558000.	558000.
.01	50.0	15.1	.936	.283	49.0	14.8	1540.					647000.	647000.	650000.	647000.	647000.	647000.
L_{III} .011564	49.7	16.8	1.07	.362	48.6	16.4	1340.					389000.	389000.	392000.	389000.	389000.	389000.
L_{II} .013273	49.4	18.3	1.21	.450	48.1	17.9	1150.					216000.	216000.	219000.	216000.	216000.	216000.
L_I .013880	49.3	18.8	1.26	.482	48.0	18.3	1100.					134000.	134000.	136000.	134000.	134000.	134000.
.015	49.1	19.7	1.36	.545	47.7	19.2	1000.					62300.	62300.	62600.	62300.	62300.	62300.
.02	48.2	23.1	1.74	.834	46.5	22.3	703.					34300.	34300.	35000.	34300.	34300.	34300.
.03	46.6	27.5	2.43	1.43	44.2	26.1	410.					23300.	23300.	24700.	23300.	23300.	23300.
.04	45.1	30.1	3.01	2.01	42.1	28.1	270.					62400.	62400.	63800.	62400.	62400.	62400.
.05	43.8	31.6	3.53	2.55	40.3	29.1	190.					43700.	43700.	44900.	43700.	43700.	43700.
.06	42.6	32.4	3.99	3.04	38.6	29.4	141.					60400.	60400.	61600.	60400.	60400.	60400.
K .078395	40.5	32.9	4.67	3.79	35.8	29.1	89.6					53600.	53600.	54700.	53600.	53600.	53600.
.08	40.3	32.9	4.72	3.85	35.6	29.0	86.3					47400.	47400.	48600.	47400.	47400.	47400.
.1	38.4	32.8	5.30	4.53	33.1	28.3	57.2					39600.	39600.	40800.	39600.	39600.	39600.
.15	34.6	31.7	6.28	5.75	28.3	25.9	27.0					50800.	50800.	51800.	50800.	50800.	50800.
.2	31.7	29.9	6.85	6.46	24.9	23.4	15.6					23700.	23700.	24400.	23700.	23700.	23700.
.3	27.6	26.7	7.43	7.20	20.1	19.5	7.12					8050.	8050.	8490.	8050.	8050.	8050.
.4	24.7	24.2	7.65	7.41	17.1	16.8	4.03					3700.	3700.	4000.	3700.	3700.	3700.
.5	22.5	22.2	7.69	7.48	14.9	14.7	2.68					2630.	2630.	2250.	2630.	2630.	2630.
.6	20.9	20.6	7.67	7.44	13.2	13.2	1.80					1230.	1230.	1400.	1230.	1230.	1230.
.8	18.3	18.2	7.49	7.24	10.8	11.0	1.02					575.	551.	697.	608.	580.	555.
1.	16.5	16.4	7.25	6.84	9.23	9.56	.650					2870.	904.	2990.	2900.	2870.	908.
1.5	13.4	13.3	6.62	6.25	6.76	7.05	.296					2730.	898.	2850.	2760.	2730.	902.
2.	11.4	11.4	6.06	5.68	5.36	5.72	.158					1510.	699.	1600.	1540.	1520.	704.
3.	8.98	8.97	5.18	4.65	3.79	4.32	.0749					519.	333.	578.	551.	525.	339.
4.	7.50	7.50	4.55	3.94	2.95	3.55	.0424					241.	176.	286.	271.	248.	182.
5.	6.48	6.48	4.07	3.40	2.41	3.08	.0275					83.2	68.3	117.	110.	90.6	75.5
6.	5.73	5.73	3.69	2.98	2.04	2.75	.0190					39.8	34.5	68.0	64.0	47.4	41.9
8.	4.68	4.68	3.13	2.38	1.56	2.30	.0108					22.9	20.4	47.7	45.1	30.6	27.9
10.	3.99	3.99	2.73	1.97	1.26	2.02	.00705					14.9	13.6	37.3	35.5	22.6	21.0
15.	2.95	2.95	2.10	1.42	.856	1.53	.00298					7.80	7.28	37.3	35.5	22.6	21.0
20.	2.37	2.37	1.72	1.07	.648	1.30	.00139					4.96	4.69	22.0	21.4	12.2	11.5
30.	1.73	1.73	1.29	.689	.436	1.04						2.37	2.29	16.4	16.1	9.46	8.68
40.	1.37	1.37	1.04	.486	.329	.884						1.44	1.40	14.5	14.4	9.02	7.78
50.	1.15	1.15	.881	.373	.264	.777						.773	.759	13.3	13.3	9.47	7.54
60.	.986	.986	.765	.289	.221	.697						.514	.507	13.3	13.2	10.3	7.94
80.	.778	.778	.612	.197	.166	.581						.380	.376	13.5	13.5	11.1	8.41
100.	.646	.646	.513	.145	.133	.501						.300	.297	13.8	13.8	11.8	8.82
												.208	.207	14.5	14.5	12.9	9.46
												.158	.157	15.5	15.4	14.2	10.2
												.0977	.0974	17.6	17.5	16.7	11.2
												.0712	.0710	19.4	19.4	18.8	11.6
												.0453	.0452	22.0	22.0	21.5	11.9
												.0330	.0330	24.0	24.0	23.7	11.6
												.0258	.0258	25.6	25.6	25.3	11.4
												.0210	.0210	26.7	26.7	26.5	11.2
												.0154	.0154	28.5	28.5	28.3	10.6
												.0121	.0121	29.8	29.8	29.6	10.1

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(cm²/g = 0.003087 x barns/atom)

E (MeV)	($\frac{\sigma}{\sigma_0}$) _{KN inc, t}	($\frac{\sigma}{\sigma_0}$) _{BD inc, t}	($\frac{\sigma}{\sigma_0}$) _{KN inc, a}	($\frac{\sigma}{\sigma_0}$) _{BD inc, a}	($\frac{\sigma}{\sigma_0}$) _{KN inc, s}	($\frac{\sigma}{\sigma_0}$) _{BD inc, s}	($\frac{\sigma}{\sigma_0}$) _{coh}	($\frac{\sigma}{\sigma_0}$) _n	($\frac{\sigma}{\sigma_0}$) _e	($\frac{\sigma}{\sigma_0}$) _t	($\frac{\sigma}{\sigma_0}$) _a	($\frac{\sigma}{\sigma_0}$) _{r, d}	($\frac{\sigma}{\sigma_0}$) _{-a}	($\frac{\sigma}{\sigma_0}$) _{tot, t}	($\frac{\sigma}{\sigma_0}$) _{tot, t-coh}	($\frac{\sigma}{\sigma_0}$) _{tot, a}	($\frac{\sigma}{\sigma_0}$) _{tot, en}
.001	.163	.30321	.000312	.0000063	.159	.00321	12.0					577r.	577r.	5770.	5770.	5770.	5770.
.0015	.159	.30602	.000463	.0000176	.159	.00599	11.6					237r.	237r.	2390.	2370.	2370.	2370.
.002	.159	.30895	.000617	.0000349	.158	.00892	11.1					126r.	126r.	1270.	1260.	1260.	1260.
M _γ .002122	.159	.30966	.000654	.0000398	.158	.00963	11.0					111r.	111r.	1120.	1110.	1110.	1110.
												346r.	346r.	3460.	3460.	3460.	3460.
M _{IV} .002202	.159	.3101	.000679	.0000432	.158	.0101	10.9					321r.	321r.	3210.	3210.	3210.	3210.
												364r.	364r.	3640.	3640.	3640.	3640.
M _{III} .002645	.159	.3127	.000812	.0000648	.158	.0126	10.4					221r.	221r.	2220.	2210.	2210.	2210.
												254r.	254r.	2550.	2540.	2540.	2540.
.003	.158	.3146	.000917	.0000849	.157	.0145	9.97					185r.	185r.	1860.	1850.	1850.	1850.
M _{II} .003027	.158	.3148	.000926	.0000864	.157	.0147	9.94					180r.	180r.	1800.	1800.	1800.	1800.
												215r.	215r.	2150.	2150.	2150.	2150.
M _I .003297	.158	.3162	.00101	.000103	.157	.0161	9.63					172r.	172r.	1730.	1720.	1720.	1720.
												200r.	200r.	2010.	2000.	2000.	2000.
.004	.158	.3199	.00121	.000153	.157	.0198	8.89					120r.	120r.	1210.	1200.	1200.	1200.
.005	.157	.3252	.00150	.000241	.156	.0249	7.93					66r.	66r.	676.	667.	667.	667.
.006	.157	.3302	.00179	.000346	.155	.0298	7.10					41r.	41r.	420.	414.	414.	414.
.008	.155	.3392	.00235	.000593	.153	.0386	5.74					19r.	19r.	198.	192.	192.	192.
.01	.154	.3466	.00289	.000874	.151	.0457	4.75					10r.	10r.	106.	106.	106.	106.
L _{III} .011564	.153	.3519	.00330	.00112	.150	.0506	4.14					7.9	11.5	78.2	71.9	71.9	71.9
												191.	141.	197.	193.	193.	141.
L _{II} .013273	.152	.3565	.00374	.00139	.148	.0553	3.55					13r.	103.	139.	135.	135.	103.
												18r.	140.	190.	186.	186.	140.
L _I .013880	.152	.3580	.00389	.00149	.148	.0565	3.40					16r.	127.	169.	165.	165.	127.
												19r.	146.	195.	192.	192.	146.
.015	.152	.3608	.00420	.00168	.147	.0593	3.09					15r.	122.	160.	157.	157.	122.
.02	.149	.3713	.00537	.00257	.144	.0688	2.17					71.2	61.1	75.3	73.2	73.2	61.1
.03	.144	.3849	.00750	.00441	.136	.0806	1.27					2.9	22.1	26.2	24.9	24.9	22.1
.04	.139	.3929	.00929	.00620	.130	.0867	.833					1.4	10.5	12.3	11.5	11.4	10.5
.05	.135	.3975	.0109	.00787	.124	.0898	.587					.27	5.87	6.95	6.36	6.27	5.87
.06	.132	.400	.0123	.00938	.119	.0908	.435					8.80	3.58	4.32	3.89	3.80	3.58
K.078395	.125	.402	.0144	.0117	.111	.0898	.277					.78	1.70	2.15	1.88	1.79	1.71
												8.86	2.79	9.23	8.95	8.86	2.80
.08	.124	.402	.0146	.0119	.110	.0895	.256					5.43	2.77	8.80	8.52	8.43	2.78
.1	.119	.401	.0164	.0140	.102	.0874	.177					.66	2.16	4.94	4.75	4.69	2.17
.15	.107	.3979	.0194	.0178	.0874	.0800	.0833					1.60	1.03	1.78	1.70	1.62	1.05
.2	.0979	.3923	.0211	.0199	.0769	.0722	.0482					.744	.543	.883	.837	.766	.562
.3	.0892	.3824	.0229	.0222	.0620	.0602	.0220					.257	.211	.361	.340	.280	.233
.4	.0762	.3747	.0236	.0229	.0528	.0519	.0124					.123	.107	.210	.198	.146	.129
.5	.0695	.3685	.0237	.0231	.0460	.0454	.00806					.0707	.0630	.147	.139	.0945	.0861
.6	.0645	.3636	.0237	.0230	.0407	.0407	.00556					.0460	.0420	.115	.110	.0698	.0648
.8	.0565	.3562	.0231	.0223	.0333	.0340	.00315					.0241	.0225	.0833	.0803	.0472	.0448
1.	.0509	.3506	.0224	.0211	.0285	.0295	.00204					.0153	.0145	.0679	.0661	.0377	.0355
1.5	.0414	.3411	.0204	.0193	.0209	.0218	.000914	.00145				.00732	.00707	.0506	.0497	.0292	.0268
2.	.0352	.3352	.0187	.0175	.0165	.0177	.000519	.00469				.00445	.00432	.0448	.0445	.0278	.0240
3.	.0277	.3277	.0160	.0144	.0117	.0133	.000231	.0109	.00000969			.00239	.00234	.0411	.0411	.0292	.0233
4.	.0232	.3232	.0140	.0122	.00911	.0110	.000131	.0161	.0000398	.0161	.0108	.00159	.00157	.0411	.0407	.0318	.0245
5.	.0200	.3200	.0126	.0105	.00744	.00951	.0000849	.0204	.0000781	.0205	.0143	.00117	.00116	.0417	.0417	.0343	.0260
6.	.0177	.3177	.0114	.0092	.00630	.00849	.0000587	.0239	.000121	.0240	.0171	.000926	.000917	.0426	.0426	.0364	.0272
8.	.0144	.3144	.00966	.00735	.00482	.00710	.0000333	.0293	.000204	.0295	.0212	.000642	.000639	.0448	.0448	.0398	.0292
10.	.0123	.3123	.00843	.00608	.00389	.00624	.0000218	.0346	.000282	.0349	.0248	.000488	.000485	.0478	.0475	.0438	.0315
15.	.00911	.30911	.00648	.00438	.00264	.00472	.0000092	.0445	.000435	.0448	.0299	.000302	.000301	.0506	.0497	.0516	.0346
20.	.00732	.30732	.00531	.00330	.00200	.00401	.0000043	.0519	.000546	.0525	.0324	.000220	.000219	.0599	.0599	.0580	.0358
30.	.00534	.30534	.00398	.00213	.00135	.00321		.0617	.000710	.0624	.0346	.000140	.000140	.0679	.0679	.0664	.0367
40.	.00423	.30423	.00321	.00150	.00102	.00273		.0688	.000827	.0698	.0343	.000102	.000102	.0741	.0741	.0732	.0358
50.	.00355	.30355	.00272	.00115	.000815	.00240		.0744	.000917	.0753	.0340	.0000796	.0000796	.0790	.0790	.0781	.0352
60.	.00304	.30304	.00236	.000892	.000682	.00215		.0784	.000985	.0793	.0336	.0000648	.0000648	.0824	.0824	.0818	.0346
80.	.00240	.30240	.00189	.000608	.000512	.00179		.0843	.00109	.0855	.0321	.0000475	.0000475	.0880	.0880	.0874	.0327
100.	.00199	.30199	.00158	.000448	.000411	.00155		.0886	.00117	.0898	.0307	.0000374	.0000374	.0920	.0920	.0914	.0312

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(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	J_{cor}	$\sigma_{K,n}$	$\sigma_{K,e}$	$\sigma_{K,t}$	$\sigma_{K,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	52.3	1.07	.102	.00208	52.2	1.07	4000.					1970000.	1970000.	1970000.	1970000.	1970000.	1970000.
.0015	52.2	1.99	.152	.00580	52.1	1.98	3860.					804000.	804000.	804000.	804000.	804000.	804000.
.002	52.1	2.94	.202	.0114	51.9	2.93	3690.					427000.	427000.	427000.	427000.	427000.	427000.
M ₀ .002206	52.1	3.32	.223	.0142	51.9	3.31	3620.					344000.	344000.	344000.	344000.	344000.	344000.
M _{IV} .002291	52.1	3.48	.231	.0155	51.9	3.46	3590.					1080000.	1080000.	1080000.	1080000.	1080000.	1080000.
M _{III} .002743	52.0	4.32	.276	.0229	51.7	4.30	3420.					992000.	992000.	992000.	992000.	992000.	992000.
.003	51.9	4.78	.301	.0277	51.6	4.75	3320.					1120000.	1120000.	1120000.	1120000.	1120000.	1120000.
M _{II} .003150	51.9	5.05	.316	.0307	51.6	5.02	3270.					688000.	688000.	688000.	688000.	688000.	688000.
M _I .003425	51.9	5.54	.343	.0366	51.5	5.50	3170.					791000.	791000.	791000.	791000.	791000.	791000.
.004	51.7	6.54	.398	.0503	51.3	6.49	2950.					630000.	630000.	630000.	630000.	630000.	630000.
.005	51.5	8.22	.494	.0787	51.0	8.14	2640.					558000.	558000.	558000.	558000.	558000.	558000.
.006	51.3	9.82	.588	.112	50.8	9.71	2350.					664000.	664000.	664000.	664000.	664000.	664000.
.008	51.0	12.8	.771	.194	50.2	12.6	1910.					534000.	534000.	534000.	534000.	534000.	534000.
.01	50.5	15.3	.948	.287	49.7	15.0	1530.					618000.	618000.	621000.	618000.	618000.	618000.
L _{III} .011919	50.2	17.3	1.11	.384	49.1	16.9	1330.					410000.	410000.	410000.	410000.	410000.	410000.
L _{II} .013734	49.9	18.9	1.27	.480	48.6	18.4	1150.					229000.	229000.	232000.	229000.	229000.	229000.
L _I .014353	49.8	19.4	1.32	.513	48.5	18.9	1090.					141000.	141000.	143000.	141000.	141000.	141000.
.015	49.7	19.9	1.37	.550	48.3	19.3	1040.					65900.	65900.	67800.	65900.	65900.	65900.
.02	48.8	23.3	1.76	.841	47.1	22.5	725.					36300.	36300.	37900.	36300.	36300.	36300.
.03	47.2	27.8	2.46	1.45	44.8	26.4	423.					22700.	22700.	24000.	22700.	22700.	22700.
.04	45.7	30.4	3.05	2.03	42.7	28.4	278.					60200.	60200.	61500.	60200.	60200.	60200.
.05	44.4	31.9	3.58	2.57	40.8	29.3	196.					41900.	41900.	43100.	41900.	41900.	41900.
.06	43.1	32.8	4.04	3.08	39.1	29.7	146.					57900.	57900.	59100.	57900.	57900.	57900.
.08	40.9	33.3	4.79	3.40	36.1	29.4	89.1					51400.	51400.	52500.	51400.	51400.	51400.
K.080725	40.8	33.3	4.81	3.93	36.0	29.4	87.5					59700.	59700.	60800.	59700.	59700.	59700.
.1	38.9	33.2	5.37	4.58	33.6	28.6	59.1					53300.	53300.	54400.	53300.	53300.	53300.
.15	35.0	32.1	6.36	5.83	28.7	26.3	27.3					24900.	24900.	25600.	24900.	24900.	24900.
.2	32.1	30.3	6.94	6.55	25.2	23.7	16.2					8490.	8490.	8940.	8490.	8490.	8490.
.3	27.9	27.0	7.53	7.28	20.4	19.7	7.86					3910.	3910.	4220.	3910.	3910.	3910.
.4	25.0	24.5	7.75	7.50	17.3	17.0	4.6					2140.	1990.	2370.	2170.	2140.	1990.
.5	22.8	22.5	7.79	7.58	15.0	14.9	2.9					1290.	1210.	1470.	1320.	1290.	1210.
.6	21.1	20.9	7.76	7.52	13.4	13.4	1.87					576.	551.	698.	609.	581.	555.
.8	18.6	18.4	7.59	7.32	11.0	11.1	1.16					560.	536.	681.	593.	565.	540.
1.	16.7	16.6	7.34	6.91	9.35	9.69	.983					2770.	2770.	2890.	2800.	2770.	2770.
1.5	13.6	13.5	6.71	6.34	6.85	7.15	.306					1580.	1580.	1670.	1610.	1590.	1590.
2.	11.6	11.5	6.14	5.73	5.42	5.77	.73					540.	540.	600.	572.	546.	547.
3.	9.09	9.08	5.24	4.70	4.38	4.38	.773					252.	182.	298.	282.	259.	189.
4.	7.60	7.60	4.61	3.99	2.99	3.61	.438					87.0	71.0	121.	114.	94.5	78.3
5.	6.56	6.56	4.12	3.44	2.44	3.12	.285		.00318			41.9	36.1	70.6	66.4	49.7	43.6
6.	5.80	5.80	3.74	3.01	2.07	2.79	.196		.0131			24.2	21.5	49.4	46.7	32.0	29.1
8.	4.74	4.74	3.17	2.40	1.58	2.34	.111		.0257			15.8	14.3	38.6	36.7	23.6	21.8
10.	4.04	4.04	2.76	1.99	1.28	2.05	.0726		.0397			8.30	7.73	27.8	26.7	15.9	15.0
15.	2.99	2.99	2.12	1.44	.867	1.55	.0311		.0669			5.27	4.98	22.6	21.9	12.6	11.9
20.	2.40	2.40	1.74	1.08	.656	1.32	.0145		.983			2.50	2.41	16.8	16.5	9.70	8.90
30.	1.75	1.75	1.31	.693	.442	1.06			.490			1.52	1.48	14.8	14.6	9.23	7.93
40.	1.39	1.39	1.05	.491	.333	.899			.721			.820	.805	13.6	13.5	9.68	7.69
50.	1.16	1.16	.893	.375	.267	.785			2.19			.548	.540	13.6	13.5	10.5	8.12
60.	.999	.999	.775	.292	.223	.707			3.59			.402	.398	13.8	13.8	11.4	8.59
80.	.788	.788	.619	.199	.168	.589			4.75			.318	.315	14.1	14.1	12.0	9.00
100.	.654	.654	.519	.146	.135	.508			5.68			.220	.218	14.8	14.8	13.2	9.67
									7.05			.168	.167	15.8	15.8	14.5	10.4
									9.89			.104	.104	17.9	17.9	17.0	11.4
									10.8			.0756	.0754	20.0	20.0	19.3	12.0
									11.5			.0481	.0480	22.5	22.5	22.1	12.2
									11.4			.0350	.0350	24.6	24.6	24.3	11.9
									11.2			.0273	.0273	26.2	26.2	25.9	11.6
									11.0			.0223	.0223	27.3	27.3	27.1	11.3
									10.6			.0163	.0163	29.2	29.2	29.0	10.8
									10.1			.0128	.0128	30.5	30.5	30.3	10.3

80 MERCURY
(cm²/g = 0.003002 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{*,n}	($\frac{\mu}{\rho}$) _{*,n}	($\frac{\mu}{\rho}$) _{*,l}	($\frac{\mu}{\rho}$) _{*,a}	($\frac{\mu}{\rho}$) _{*,l}	($\frac{\mu}{\rho}$) _{*,a}	($\frac{\mu}{\rho}$) _{tot,l}	($\frac{\mu}{\rho}$) _{tot,l-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.159	.00357	.000309	.0000070	.159	.00357	12.3					6150.	6150.	6150.	6150.	6150.	6150.
.0015	.159	.00645	.000462	.0000188	.159	.00642	11.9					2520.	2520.	2520.	2520.	2520.	2520.
.002	.159	.00934	.000615	.0000363	.158	.00931	11.3					1340.	1340.	1340.	1340.	1340.	1340.
M _K .002295	.158	.0110	.000705	.0000489	.158	.0109	11.0					985.	985.	985.	985.	985.	985.
M _{IV} .002385	.158	.0115	.000732	.0000531	.158	.0114	10.9					3090.	3090.	3090.	3090.	3090.	3090.
M _{III} .002847	.158	.0140	.000871	.0000772	.157	.0139	10.4					2840.	2840.	2840.	2840.	2840.	2840.
.003	.158	.0148	.000916	.0000859	.157	.0147	10.2					3210.	3210.	3210.	3210.	3210.	3210.
M _{II} .00328	.158	.0163	.00100	.000103	.157	.0162	9.88					1980.	1980.	1980.	1980.	1980.	1980.
M _I .003562	.158	.0178	.00108	.000122	.156	.0177	9.58					2280.	2280.	2280.	2280.	2280.	2280.
.004	.157	.0201	.00121	.000155	.156	.0199	9.10					2000.	2000.	2000.	2000.	2000.	2000.
.005	.157	.0251	.00150	.000240	.155	.0249	8.11					1600.	1600.	1600.	1600.	1600.	1600.
.006	.156	.0299	.00179	.000342	.154	.0295	7.26					1900.	1900.	1900.	1900.	1900.	1900.
.008	.155	.0387	.00234	.000585	.153	.0381	5.88					1530.	1530.	1530.	1530.	1530.	1530.
.01	.154	.0462	.00288	.000868	.151	.0453	4.89					1770.	1770.	1770.	1770.	1770.	1770.
L _{III} .012283	.153	.0534	.00348	.00122	.149	.0522	3.99					1310.	1310.	1310.	1310.	1310.	1310.
L _{II} .014209	.152	.0585	.00396	.00153	.147	.0570	3.42					725.	725.	725.	725.	725.	725.
L _I .014842	.151	.0600	.00411	.00164	.147	.0585	3.24					447.	447.	447.	447.	447.	447.
.015	.151	.0603	.00417	.00167	.147	.0585	3.21					209.	209.	209.	209.	209.	209.
.02	.148	.0705	.00534	.00255	.143	.0681	2.25					115.	115.	115.	115.	115.	115.
.03	.143	.0841	.00747	.00438	.136	.0796	1.31					66.3	66.3	66.3	66.3	66.3	66.3
.04	.139	.0922	.00928	.00615	.130	.0862	.862					175.	175.	175.	175.	175.	175.
.05	.135	.0967	.0109	.00781	.124	.0889	.606					120.	120.	120.	120.	120.	120.
.06	.131	.0994	.0123	.00934	.119	.0901	.453					126.	126.	126.	126.	126.	126.
.08	.124	.101	.0146	.0119	.110	.0895	.276					78.4	78.4	78.4	78.4	78.4	78.4
X.083102	.123	.101	.0149	.0122	.108	.0889	.257					23.5	23.5	23.5	23.5	23.5	23.5
.1	.118	.101	.0163	.0139	.102	.0871	.183					12.3	12.3	12.3	12.3	12.3	12.3
.15	.107	.0976	.0193	.0177	.0871	.0799	.0845					5.78	5.78	5.78	5.78	5.78	5.78
.2	.0976	.0919	.0211	.0199	.0766	.0720	.0501					4.08	4.08	4.08	4.08	4.08	4.08
.3	.0850	.0820	.0229	.0221	.0621	.0597	.0228					1.83	1.83	1.83	1.83	1.83	1.83
.4	.0760	.0744	.0236	.0228	.0525	.0516	.0129					1.64	1.64	1.64	1.64	1.64	1.64
.5	.0693	.0684	.0237	.0231	.0456	.0453	.00838					2.05	2.05	2.05	2.05	2.05	2.05
.6	.0642	.0633	.0236	.0228	.0405	.0405	.00579					1.95	1.95	1.95	1.95	1.95	1.95
.8	.0564	.0561	.0231	.0223	.0333	.0339	.00327					1.06	1.06	1.06	1.06	1.06	1.06
1.	.0507	.0504	.0223	.0210	.0284	.0294	.00211					.796	.796	.796	.796	.796	.796
1.5	.0411	.0411	.0204	.0193	.0208	.0218	.000952	.00153		.00153	.000465	.00799	.00799	.00799	.00799	.00799	.00799
2.	.0351	.0351	.0186	.0175	.0165	.0176	.000537	.00489		.00489	.00224	.00483	.00483	.00483	.00483	.00483	.00483
3.	.0276	.0276	.0159	.0143	.0117	.0133	.000240	.0112		.0112	.00675	.00261	.00261	.00261	.00261	.00261	.00261
4.	.0231	.0231	.0140	.0121	.00910	.0110	.000136	.0165	.00000967	.0165	.00675	.00174	.00174	.00174	.00174	.00174	.00174
5.	.0200	.0200	.0125	.0104	.00741	.00952	.0000883	.0209	.00000396	.0185	.0110	.00128	.00128	.00128	.00128	.00128	.00128
6.	.0176	.0176	.0113	.00913	.00627	.00850	.0000609	.0244	.00000781	.0210	.0146	.00101	.00101	.00101	.00101	.00101	.00101
8.	.0144	.0144	.00964	.00726	.00480	.00714	.0000342	.0300	.0000120	.0245	.0174	.000696	.000696	.000696	.000696	.000696	.000696
10.	.0123	.0123	.00841	.00603	.00390	.00624	.0000225	.0354	.0000203	.0303	.0216	.000531	.000531	.000531	.000531	.000531	.000531
15.	.00910	.00910	.00645	.00435	.00264	.00474	.0000097	.0453	.0000291	.0357	.0252	.000330	.000330	.000330	.000330	.000330	.000330
20.	.00729	.00729	.00531	.00327	.00200	.00402	.0000045	.0531	.0000435	.0456	.0303	.000240	.000240	.000240	.000240	.000240	.000240
30.	.00531	.00531	.00396	.00210	.00134	.00321		.0630	.0000546	.0537	.0330	.000153	.000153	.000153	.000153	.000153	.000153
40.	.00423	.00423	.00321	.00149	.00101	.00274		.0702	.0000708	.0636	.0391	.000111	.000111	.000111	.000111	.000111	.000111
50.	.00351	.00351	.00271	.00113	.000811	.00238		.0757	.0000826	.0711	.0345	.0000871	.0000871	.0000871	.0000871	.0000871	.0000871
60.	.00303	.00303	.00236	.000883	.000678	.00215		.0799	.0000913	.0766	.0342	.0000711	.0000711	.0000711	.0000711	.0000711	.0000711
80.	.00240	.00240	.00188	.000603	.000510	.00179		.0859	.0000979	.0808	.0336	.0000519	.0000519	.0000519	.0000519	.0000519	.0000519
100.	.00199	.00199	.00158	.000444	.000411	.00154		.0901	.000109	.0871	.0324	.0000405	.0000405	.0000405	.0000405	.0000405	.0000405

81 THALLIUM
(barns/atom)

E (MeV)	KN inc, t	BD inc, t	KN inc, a	BD inc, a	KN inc, s	BD inc, s	τ_{coh}	σ_n	σ_{xe}	$\sigma_{x,t}$	$\sigma_{x,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	53.7	1.20	.105	.00234	53.6	1.20	41E0.					2150000.	2150000.	2150000.	2150000.	2150000.	2150000.
.0015	53.6	2.20	.156	.00642	53.4	2.19	40E0.					878000.	878000.	878000.	878000.	878000.	878000.
.002	53.5	3.20	.207	.0124	53.2	3.19	38E0.					464000.	464000.	464000.	464000.	464000.	464000.
M _V .002389	53.4	3.94	.247	.0182	53.1	3.92	37C0.					313000.	313000.	313000.	313000.	313000.	313000.
M _{IV} .002485	53.4	4.11	.257	.0198	53.1	4.09	36E0.					980000.	980000.	980000.	980000.	980000.	980000.
M _{III} .002956	53.3	4.98	.304	.0284	53.0	4.95	34E0.					1020000.	1020000.	1020000.	1020000.	1020000.	1020000.
.003	53.3	5.06	.309	.0293	52.9	5.03	34E0.					727000.	727000.	727000.	727000.	727000.	727000.
M _{II} .003416	53.2	5.81	.350	.0383	52.8	5.77	33E0.					700000.	700000.	700000.	700000.	700000.	700000.
M _I .003704	53.1	6.32	.379	.0451	52.7	6.27	32C0.					507000.	507000.	507000.	507000.	507000.	507000.
.004	53.1	6.84	.408	.0526	52.6	6.79	31C0.					603000.	603000.	603000.	603000.	603000.	603000.
.005	52.9	8.51	.506	.0815	52.3	8.43	27E0.					488000.	488000.	488000.	488000.	488000.	488000.
.006	52.6	10.1	.603	.116	52.1	9.98	24E0.					561000.	561000.	561000.	561000.	561000.	561000.
.008	52.3	13.0	.791	.197	51.5	12.8	20E0.					255000.	255000.	255000.	255000.	255000.	255000.
.01	51.9	15.6	.972	.292	50.9	15.3	16E0.					158000.	158000.	158000.	158000.	158000.	158000.
L _{III} .012656	51.4	18.3	1.21	.430	50.2	17.9	13E0.					73300.	73300.	73300.	73300.	73300.	73300.
L _{II} .014697	51.0	20.1	1.38	.544	49.6	19.6	11E0.					40500.	40500.	40500.	40500.	40500.	40500.
.015	50.9	20.3	1.41	.561	49.5	19.7	11E0.					21500.	21500.	21500.	21500.	21500.	21500.
L _I .015346	50.9	20.6	1.43	.581	49.4	20.0	10E0.					56200.	56200.	56200.	56200.	56200.	56200.
.02	50.0	23.7	1.81	.855	48.3	22.8	7E0.					38500.	38500.	38500.	38500.	38500.	38500.
.03	48.4	28.3	2.52	1.47	45.9	26.8	4E0.					53100.	53100.	53100.	53100.	53100.	53100.
.04	46.9	31.0	3.13	2.07	43.7	28.9	2E0.					49900.	49900.	49900.	49900.	49900.	49900.
.05	45.5	32.6	3.67	2.63	41.8	30.0	2E0.					47300.	47300.	47300.	47300.	47300.	47300.
.06	44.2	33.4	4.15	3.13	40.1	30.3	1E0.					55000.	55000.	55000.	55000.	55000.	55000.
.08	41.9	34.0	4.91	3.98	37.0	30.0	9E-1					27400.	27400.	27400.	27400.	27400.	27400.
K.085530	41.3	34.0	5.09	4.19	36.2	29.8	8E-1					643.	612.	612.	612.	612.	612.
.1	39.9	33.9	5.51	4.68	34.4	29.2	6E-1					532.	508.	508.	508.	508.	508.
.15	35.9	32.9	6.52	5.97	29.4	26.9	2E-1					2590.	2590.	2590.	2590.	2590.	2590.
.2	32.9	31.0	7.12	6.70	25.8	24.3	1E-1					172.	172.	172.	172.	172.	172.
.3	28.6	27.7	7.72	7.47	20.9	20.2	7E-2					95.8	95.8	95.8	95.8	95.8	95.8
.4	25.6	25.1	7.95	7.66	17.7	17.4	4E-2					46.3	46.3	46.3	46.3	46.3	46.3
.5	23.4	23.1	7.99	7.76	15.4	15.3	2E-2					26.9	26.9	26.9	26.9	26.9	26.9
.6	21.7	21.4	7.96	7.70	13.7	13.7	1E-2					17.5	17.5	17.5	17.5	17.5	17.5
.8	19.0	18.9	7.78	7.50	11.3	11.4	1E-2					9.30	9.30	9.30	9.30	9.30	9.30
1.	17.1	17.0	7.52	7.07	9.58	9.93	7E-3					5.90	5.90	5.90	5.90	5.90	5.90
1.5	13.9	13.9	6.88	6.53	7.02	7.37	.327	.527		.527	.160	2.80	2.69	17.6	17.2	10.2	9.38
2.	11.9	11.8	6.29	5.86	5.56	5.94	.185	1.67		1.67	.765	1.70	1.65	15.4	15.2	9.66	8.27
3.	9.32	9.31	5.38	4.81	3.94	4.50	.0820	3.84	.00326	3.84	2.32	.914	.896	14.1	14.1	10.1	8.03
4.	7.79	7.79	4.73	4.07	3.06	3.72	.0467	5.63	.0134	5.64	3.75	.610	.601	14.1	14.1	11.0	8.42
5.	6.73	6.73	4.23	3.51	2.50	3.22	.0304	7.15	.0262	7.18	4.99	.450	.445	14.4	14.4	11.9	8.94
6.	5.95	5.95	3.83	3.08	2.12	2.87	.0209	8.31	.0406	8.35	5.92	.354	.351	14.7	14.7	12.5	9.35
8.	4.86	4.86	3.25	2.44	1.62	2.42	.0118	10.2	.0683	10.3	7.34	.244	.242	15.4	15.4	13.8	10.0
10.	4.14	4.14	2.83	2.02	1.31	2.12	.0077	12.0	.0950	12.1	8.53	.186	.185	16.4	16.4	15.1	10.7
15.	3.07	3.07	2.18	1.47	.889	1.60	.00337	15.4	.146	15.5	10.3	.116	.116	18.7	18.7	17.8	11.9
20.	2.46	2.46	1.79	1.10	.673	1.36	.00157	18.0	.184	18.2	11.2	.0838	.0836	20.7	20.7	20.1	12.4
30.	1.79	1.79	1.34	.705	.453	1.08		21.4	.239	21.6	11.9	.0537	.0536	23.4	23.4	23.0	12.7
40.	1.42	1.42	1.08	.498	.342	.922		24.0	.278	24.3	11.7	.0390	.0389	25.8	25.8	25.4	12.2
50.	1.19	1.19	.915	.382	.274	.808		25.8	.307	26.1	11.6	.0305	.0305	27.3	27.3	27.0	12.0
60.	1.02	1.02	.795	.297	.225	.723		27.2	.330	27.5	11.4	.0250	.0250	28.5	28.5	28.3	11.7
80.	.808	.808	.635	.203	.172	.605		29.3	.366	29.7	11.0	.0182	.0182	30.5	30.5	30.4	11.2
100.	.671	.671	.532	.150	.138	.521		30.8	.393	31.2	10.4	.0142	.0142	31.9	31.9	31.7	10.6

81 THALLIUM
(cm²/g = 0.002947 x barns/atom)

E (MeV)	$\left(\frac{\mu}{\rho}\right)_{\text{inc},t}^{\text{KN}}$	$\left(\frac{\mu}{\rho}\right)_{\text{inc},t}^{\text{BD}}$	$\left(\frac{\mu}{\rho}\right)_{\text{inc},a}^{\text{KN}}$	$\left(\frac{\mu}{\rho}\right)_{\text{inc},a}^{\text{BD}}$	$\left(\frac{\mu}{\rho}\right)_{\text{inc},s}^{\text{KN}}$	$\left(\frac{\mu}{\rho}\right)_{\text{inc},s}^{\text{BD}}$	$\left(\frac{\mu}{\rho}\right)_{\text{coh}}$	$\left(\frac{\mu}{\rho}\right)_{\text{H}}$	$\left(\frac{\mu}{\rho}\right)_{\text{C}}$	$\left(\frac{\mu}{\rho}\right)_{\text{K},t}$	$\left(\frac{\mu}{\rho}\right)_{\text{K},a}$	$\left(\frac{\mu}{\rho}\right)_{\text{K},s}$	$\left(\frac{\mu}{\rho}\right)_{\text{K},a}$	$\left(\frac{\mu}{\rho}\right)_{\text{tot},t}$	$\left(\frac{\mu}{\rho}\right)_{\text{tot},t-\text{coh}}$	$\left(\frac{\mu}{\rho}\right)_{\text{tot},a}$	$\left(\frac{\mu}{\rho}\right)_{\text{tot},en}$
.001	.158	.00354	.000309	.0000069	.158	.00354	12.3							6340.	6340.	6340.	6340.
.0015	.158	.00648	.000460	.0000189	.157	.00645	11.9							2590.	2590.	2590.	2590.
.002	.158	.00943	.000610	.0000365	.157	.00940	11.3							1370.	1370.	1370.	1370.
M _V .002389	.157	.0116	.000728	.0000536	.156	.0116	10.9							922.	922.	922.	922.
M _{IV} .002485	.157	.0121	.000757	.0000584	.156	.0121	10.8							2890.	2890.	2890.	2890.
M _{III} .002956	.157	.0147	.000896	.0000837	.156	.0146	10.3							2660.	2660.	2660.	2660.
.003	.157	.0149	.000911	.0000863	.156	.0148	10.2							3010.	3010.	3010.	3010.
M _{II} .003416	.157	.0171	.00103	.000113	.156	.0170	9.75							1860.	1860.	1860.	1860.
M _I .003704	.156	.0186	.00112	.000133	.155	.0185	9.43							2140.	2140.	2140.	2140.
.004	.156	.0202	.00120	.000155	.155	.0200	9.14							2060.	2060.	2060.	2060.
.005	.156	.0251	.00149	.000240	.154	.0248	8.16							1490.	1490.	1490.	1490.
.006	.155	.0298	.00178	.000342	.154	.0294	7.31							1780.	1780.	1780.	1780.
.008	.154	.0383	.00233	.000581	.152	.0377	5.92							1440.	1440.	1440.	1440.
.01	.153	.0460	.00286	.000861	.150	.0451	4.92							1650.	1650.	1650.	1650.
L _{III} .012656	.151	.0539	.00357	.00127	.148	.0528	3.92							1360.	1360.	1360.	1360.
L _{II} .014697	.150	.0592	.00407	.00160	.146	.0578	3.30							751.	751.	751.	751.
.015	.150	.0598	.00416	.00165	.146	.0581	3.24							466.	466.	466.	466.
L _I .015346	.150	.0607	.00421	.00171	.146	.0589	3.15							216.	216.	216.	216.
.02	.147	.0698	.00533	.00252	.142	.0672	2.27							119.	119.	119.	119.
.03	.143	.0834	.00743	.00433	.135	.0790	1.32							63.4	63.4	63.4	63.4
.04	.138	.0914	.00922	.00610	.129	.0852	.872							166.	166.	166.	166.
.05	.134	.0961	.0108	.00775	.123	.0884	.616							113.	113.	113.	113.
.06	.130	.0984	.0122	.00922	.118	.0893	.457							116.	116.	116.	116.
.08	.123	.100	.0145	.0117	.109	.0884	.280							150.	150.	150.	150.
K.085530	.122	.100	.0150	.0123	.107	.0878	.247							147.	147.	147.	147.
.1	.118	.0999	.0162	.0138	.101	.0861	.188							139.	139.	139.	139.
.15	.106	.0970	.0192	.0176	.0866	.0793	.0875							182.	182.	182.	182.
.2	.0970	.0914	.0210	.0197	.0760	.0716	.0507							80.7	80.7	80.7	80.7
.3	.0843	.0816	.0228	.0220	.0616	.0595	.0231							27.6	27.6	27.6	27.6
.4	.0754	.0740	.0234	.0226	.0522	.0513	.0131							12.7	12.7	12.7	12.7
.5	.0690	.0681	.0235	.0229	.0454	.0451	.00846							6.95	6.95	6.95	6.95
.6	.0639	.0631	.0235	.0227	.0404	.0404	.00586							4.21	4.21	4.21	4.21
.8	.0560	.0557	.0229	.0221	.0333	.0336	.00330							1.89	1.89	1.89	1.89
.1	.0504	.0501	.0222	.0208	.0282	.0293	.00215							1.57	1.57	1.57	1.57
1.5	.0410	.0410	.0203	.0192	.0207	.0217	.000964	.00155						7.63	7.63	7.63	7.63
2.	.0351	.0349	.0185	.0173	.0164	.0175	.000545	.00492						5.07	5.07	5.07	5.07
3.	.0275	.0274	.0159	.0142	.0116	.0133	.000242	.0113	.00000961	.0113	.00684			1.75	1.75	1.75	1.75
4.	.0230	.0230	.0139	.0120	.00902	.0110	.000138	.0166	.0000395	.0166	.0011			.819	.581	.961	.911
5.	.0198	.0198	.0125	.0103	.00737	.00949	.0000896	.0211	.0000772	.0212	.0147			.282	.227	.386	.362
6.	.0175	.0175	.0113	.00908	.00625	.00846	.0000616	.0245	.000120	.0246	.0174			.136	.116	.223	.210
8.	.0143	.0143	.00958	.00719	.00477	.00713	.0000348	.0301	.000201	.0304	.0216			.0793	.0698	.156	.147
10.	.0122	.0122	.00834	.00595	.00386	.00625	.0000227	.0354	.000280	.0357	.0251			.0516	.0466	.121	.115
15.	.00905	.00905	.00642	.00433	.00262	.00472	.0000099	.0454	.000430	.0457	.0304			.0274	.0254	.0863	.0831
20.	.00725	.00725	.00528	.00324	.00198	.00401	.0000046	.0530	.000542	.0536	.0330			.0174	.0164	.0695	.0675
30.	.00528	.00528	.00395	.00208	.00133	.00318		.0631	.000704	.0637	.0351			.00825	.00793	.0519	.0507
40.	.00418	.00418	.00318	.00147	.00101	.00272		.0707	.000819	.0716	.0345			.00501	.00486	.0454	.0448
50.	.00351	.00351	.00270	.00113	.000807	.00238		.0760	.000905	.0769	.0342			.00269	.00264	.0416	.0416
60.	.00301	.00301	.00234	.000875	.000675	.00213		.0802	.000973	.0810	.0336			.00180	.00177	.0416	.0413
80.	.00238	.00238	.00187	.000598	.000507	.00178		.0863	.00108	.0875	.0324			.00133	.00131	.0424	.0424
100.	.00198	.00198	.00157	.000442	.000407	.00154		.0908	.00116	.0919	.0306			.00104	.00103	.0433	.0433
														.000719	.000713	.0454	.0454
														.000548	.000545	.0483	.0483
														.000342	.000342	.0551	.0551
														.000247	.000246	.0610	.0610
														.000158	.000158	.0690	.0690
														.000115	.000115	.0760	.0760
														.0000899	.0000899	.0805	.0805
														.0000737	.0000737	.0840	.0840
														.0000536	.0000536	.0899	.0899
														.0000418	.0000418	.0940	.0940

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(cm²/g = 0.002907 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc, t} ^{KN}	($\frac{\mu}{\rho}$) _{inc, t} ^{BD}	($\frac{\mu}{\rho}$) _{inc, a} ^{KN}	($\frac{\mu}{\rho}$) _{inc, a} ^{BD}	($\frac{\mu}{\rho}$) _{inc, s} ^{KN}	($\frac{\mu}{\rho}$) _{inc, s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _n	($\frac{\mu}{\rho}$) _e	($\frac{\mu}{\rho}$) _t	($\frac{\mu}{\rho}$) _a	($\frac{\mu}{\rho}$) _{t, t}	($\frac{\mu}{\rho}$) _{t, t-coh}	($\frac{\mu}{\rho}$) _{t, a}	($\frac{\mu}{\rho}$) _{t, en}
.001	.158	.00355	.000308	.0000069	.158	.00355	12.4					6510.	6510.	6510.	6510.
.0015	.158	.00651	.000459	.0000190	.157	.00648	12.0					2680.	2680.	2680.	2680.
.002	.157	.00951	.000610	.0000369	.157	.00948	11.4					1400.	1400.	1400.	1400.
M _V .002484	.157	.0124	.000756	.0000593	.156	.0123	10.9					869.	869.	869.	869.
M _{IV} .002586	.157	.0129	.000785	.0000645	.156	.0128	10.8					2720.	2720.	2720.	2720.
.003	.157	.0152	.000910	.0000881	.156	.0151	10.3					2500.	2510.	2500.	2500.
M _{III} .003066	.157	.0156	.000927	.0000922	.156	.0155	10.2					2830.	2830.	2830.	2830.
M _{II} .003554	.156	.0181	.00107	.000124	.155	.0180	9.65					1880.	1880.	1880.	1880.
M _I .003851	.156	.0197	.00116	.000146	.155	.0195	9.36					1760.	1760.	1760.	1760.
.004	.156	.0204	.00120	.000157	.155	.0203	9.19					2030.	2030.	2030.	2030.
.005	.156	.0253	.00149	.000242	.154	.0250	8.23					1410.	1410.	1410.	1410.
.006	.155	.0299	.00177	.000343	.153	.0297	7.38					1670.	1670.	1670.	1670.
.008	.154	.0384	.00233	.000581	.151	.0378	5.99					1350.	1350.	1350.	1350.
.01	.153	.0456	.00286	.000855	.150	.0448	4.97					1560.	1560.	1560.	1560.
L _{III} .013035	.151	.0549	.00363	.00133	.147	.0535	3.84					1400.	1400.	1410.	1400.
.015	.150	.0596	.00416	.00165	.146	.0578	3.28					779.	779.	779.	779.
L _{II} .015200	.150	.0602	.00419	.00168	.146	.0584	3.23					483.	483.	483.	483.
L _I .015861	.149	.0616	.00433	.00179	.145	.0599	3.08					225.	231.	225.	225.
.02	.147	.0695	.00532	.00251	.142	.0669	2.31					124.	124.	124.	124.
.03	.142	.0828	.00741	.00430	.135	.0785	1.34					61.0	61.0	64.8	61.0
.04	.138	.0910	.00922	.00608	.129	.0849	.887					158.	113.	162.	158.
.05	.134	.0956	.0108	.00770	.123	.0878	.625					110.	82.8	114.	110.
.06	.130	.0983	.0122	.00922	.118	.0890	.465					107.	80.8	110.	107.
.08	.123	.100	.0144	.0117	.109	.0884	.286					148.	109.	151.	148.
K.088004	.121	.100	.0152	.0126	.106	.0875	.238					132.	98.8	135.	132.
.1	.117	.0997	.0162	.0138	.101	.0860	.189					153.	114.	157.	153.
.15	.106	.0965	.0192	.0175	.0866	.0791	.0892					83.1	66.3	85.5	83.1
.2	.0968	.0913	.0210	.0197	.0759	.0715	.0517					28.5	24.7	29.9	28.6
.3	.0843	.0814	.0227	.0219	.0616	.0596	.0235					13.2	11.9	14.2	13.3
.4	.0756	.0738	.0234	.0225	.0520	.0515	.0133					7.21	6.63	7.94	7.30
.5	.0689	.0677	.0235	.0228	.0453	.0451	.00860					4.39	4.10	4.94	4.48
.6	.0637	.0631	.0234	.0227	.0404	.0404	.00596					1.97	1.87	2.35	2.07
.8	.0561	.0555	.0229	.0220	.0331	.0334	.00340					1.51	1.44	1.85	1.61
1.	.0503	.0500	.0222	.0208	.0282	.0294	.00218					7.30	2.30	7.65	7.38
1.5	.0410	.0407	.0202	.0191	.0207	.0216	.000983	.00159		.00159	.000480	5.23	2.08	5.52	5.32
2.	.0349	.0349	.0185	.0173	.0164	.0176	.000555	.00500		.00500	.00229	1.80	1.08	1.99	1.82
3.	.0274	.0274	.0158	.0141	.0116	.0133	.000247	.0115	.00000959	.0115	.00692	1.80	.590	.985	.933
4.	.0229	.0229	.0139	.0119	.00901	.0110	.000140	.0168	.0000395	.0168	.0112	.843	.231	.395	.369
5.	.0198	.0198	.0124	.0103	.00735	.00948	.0000913	.0212	.0000773	.0213	.0148	.289	.231	.369	.311
6.	.0175	.0175	.0113	.00901	.00622	.00849	.0000628	.0247	.000119	.0248	.0176	.141	.119	.228	.215
8.	.0143	.0143	.00956	.00718	.00477	.00712	.0000355	.0302	.000201	.0305	.0217	.0823	.0724	.159	.150
10.	.0122	.0122	.00834	.00593	.00387	.00625	.0000230	.0358	.000279	.0360	.0254	.0538	.0483	.123	.117
15.	.00901	.00901	.00640	.00430	.00262	.00471	.000102	.0456	.000430	.0459	.0302	.0285	.0263	.0675	.0840
20.	.00724	.00724	.00526	.00326	.00198	.00398	.0000647	.0538	.000541	.0544	.0331	.0180	.0169	.0701	.0680
30.	.00526	.00526	.00395	.00206	.00133	.00320		.0637	.000703	.0642	.0352	.00823	.00724	.0517	.0509
40.	.00419	.00419	.00320	.00147	.00101	.00272		.0712	.000817	.0721	.0344	.00523	.00459	.0456	.0451
50.	.00349	.00349	.00269	.00112	.000805	.00237		.0767	.000904	.0776	.0343	.00282	.00276	.0419	.0416
60.	.00302	.00302	.00234	.000878	.000674	.00215		.0808	.000971	.0817	.0337	.00188	.00185	.0419	.0416
80.	.00238	.00238	.00187	.000596	.000509	.00178		.0869	.00108	.0881	.0326	.00139	.00137	.0424	.0424
100.	.00197	.00197	.00157	.000439	.000407	.00153		.0919	.00116	.0930	.0308	.00108	.00107	.0436	.0433
												.000750	.000744	.0456	.0456
												.000570	.000567	.0488	.0488
												.000352	.000352	.0552	.0552
												.000255	.000254	.0619	.0619
												.000163	.000163	.0698	.0698
												.000119	.000119	.0765	.0765
												.0000933	.0000933	.0811	.0811
												.0000765	.0000765	.0849	.0849
												.0000558	.0000558	.0904	.0904
												.0000436	.0000436	.0951	.0951

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(barns/atom)

E (MeV)	$\sigma_{KN, inc, t}$	$\sigma_{BD, inc, t}$	$\sigma_{KN, inc, a}$	$\sigma_{BD, inc, a}$	$\sigma_{KN, inc, s}$	$\sigma_{BD, inc, s}$	σ_{coh}	$\sigma_{\pi, n}$	$\sigma_{\pi, e}$	$\sigma_{\pi, t}$	$\sigma_{\pi, a}$	$\sigma_{\pi, s}$	$\sigma_{\pi, t}$	$\sigma_{\pi, a}$	$\sigma_{tot, t}$	$\sigma_{tot, t-coh}$	$\sigma_{tot, a}$	$\sigma_{tot, en}$
.001	55.0	1.22	.107	.00238	54.9	1.22	4380.						2340000.	2340000.	2340000.	2340000.	2340000.	2340000.
.0015	54.9	2.76	.160	.00659	54.7	2.25	4210.						961000.	961000.	965000.	961000.	961000.	961000.
.002	54.8	3.32	.213	.0129	54.6	3.31	4010.						504000.	504000.	508000.	504000.	504000.	504000.
M_V .002581	54.7	4.52	.273	.0226	54.4	4.50	3770.						286000.	286000.	290000.	286000.	286000.	286000.
M_{IV} .002689	54.6	4.74	.284	.0247	54.4	4.72	3730.						895000.	895000.	899000.	895000.	895000.	895000.
.003	54.6	5.34	.316	.0310	54.3	5.31	3610.						821000.	821000.	825000.	821000.	821000.	821000.
M_{III} .003177	54.5	5.67	.334	.0348	54.2	5.64	3540.						931000.	931000.	935000.	931000.	931000.	931000.
M_{II} .003696	54.4	6.62	.387	.0471	54.0	6.57	3340.						686000.	686000.	690000.	686000.	686000.	686000.
.004	54.4	7.17	.418	.0552	53.9	7.11	3230.						583000.	583000.	587000.	583000.	583000.	583000.
M_I .004000	54.4	7.17	.418	.0552	53.9	7.11	3230.						670000.	670000.	674000.	670000.	670000.	670000.
.005	54.2	8.85	.519	.0848	53.6	8.77	2890.						462000.	462000.	465000.	462000.	462000.	462000.
.006	53.9	10.4	.618	.119	53.3	10.3	2590.						550000.	550000.	553000.	550000.	550000.	550000.
.008	53.5	13.3	.810	.201	52.7	13.1	2110.						511000.	511000.	514000.	511000.	511000.	511000.
.01	53.2	15.9	.996	.298	52.2	15.6	1750.						446000.	446000.	449000.	446000.	446000.	446000.
L_{TII} .013420	52.5	19.4	1.30	.482	51.2	18.9	1310.						511000.	511000.	514000.	511000.	511000.	511000.
.015	52.2	20.7	1.44	.573	50.8	20.1	1160.						283000.	283000.	286000.	283000.	283000.	283000.
L_{II} .015714	52.1	21.3	1.50	.614	50.6	20.7	1100.						175000.	175000.	178000.	175000.	175000.	175000.
L_I .016391	51.9	21.8	1.56	.653	50.4	21.1	1050.						81900.	81900.	84000.	81900.	81900.	81900.
.02	51.3	24.2	1.85	.873	49.4	23.3	817.						45200.	45200.	47000.	45200.	45200.	45200.
.03	49.6	28.8	2.58	1.50	47.0	27.3	475.						20400.	20400.	21700.	20400.	20400.	20400.
.04	48.0	31.6	3.20	2.11	44.8	29.5	314.						52400.	52400.	53700.	52400.	52400.	52400.
.05	46.6	33.2	3.76	2.68	42.8	30.5	222.						39600.	39600.	40800.	39600.	39600.	39600.
.06	45.3	34.1	4.25	3.20	41.0	30.9	165.						35300.	35300.	36500.	35300.	35300.	35300.
.08	42.9	34.7	5.03	4.06	37.9	30.6	101.						48800.	48800.	49900.	48800.	48800.	48800.
K .090526	41.8	34.7	5.37	4.46	36.5	30.2	80.3						43500.	43500.	44600.	43500.	43500.	43500.
.1	40.9	34.7	5.64	4.79	35.3	29.9	67.0						50600.	50600.	51700.	50600.	50600.	50600.
.15	36.8	33.6	6.68	6.10	30.1	27.5	31.6						29900.	29900.	30700.	29900.	29900.	29900.
.2	33.7	31.7	7.29	6.85	26.4	24.8	18.3						10300.	10300.	10800.	10300.	10300.	10300.
.3	29.3	28.3	7.91	7.63	21.4	20.7	8.34						4770.	4770.	5120.	4770.	4770.	4770.
.4	26.3	25.7	8.14	7.84	18.1	17.9	4.72						2600.	2600.	2860.	2600.	2600.	2600.
.5	24.0	23.6	8.19	7.93	15.8	15.7	3.06						1590.	1590.	1790.	1590.	1590.	1590.
.6	22.2	21.9	8.16	7.88	14.0	14.0	2.11						716.	716.	852.	716.	716.	716.
.8	19.5	19.3	7.97	7.66	11.5	11.6	1.20						506.	506.	621.	541.	511.	486.
1.	17.5	17.4	7.71	7.22	9.82	10.2	.776						2430.	2430.	2540.	2460.	2440.	240.
1.5	14.2	14.2	7.05	6.46	7.20	7.54	.348	.565	.565	.171	3.15	3.02	1870.	1870.	1970.	1900.	1880.	1716.
2.	12.1	12.1	6.45	6.00	5.70	6.10	.197	1.79	.820	.171	3.15	3.02	648.	648.	713.	682.	655.	386.
3.	9.55	9.54	5.51	4.92	4.04	4.62	.0877	4.07	2.46	.00334	4.07	2.46	303.	303.	353.	335.	310.	216.
4.	7.98	7.98	4.85	4.15	3.14	3.83	.0495	5.93	.0137	5.94	3.95	.681	105.	105.	142.	133.	113.	90.9
5.	6.90	6.90	4.33	3.59	2.57	3.31	.0324	7.48	.0269	7.51	5.21	.506	51.3	51.3	81.7	77.0	59.4	51.1
6.	6.09	6.09	3.92	3.13	2.17	2.96	.0223	8.70	.0416	8.74	6.19	.398	30.0	30.0	56.7	53.6	38.2	34.2
8.	4.98	4.98	3.33	2.49	1.66	2.49	.0125	10.6	.0700	10.7	7.61	.274	19.6	19.6	43.6	41.5	27.8	25.5
10.	4.25	4.25	2.90	2.07	1.34	2.18	.00815	12.6	.0972	12.7	8.93	.208	10.4	10.4	30.9	29.7	18.4	17.2
15.	3.14	3.14	2.23	1.50	.911	1.64	.00364	16.2	.150	16.3	10.7	.127	6.56	6.56	24.7	24.0	14.3	13.4
20.	2.52	2.52	1.83	1.13	.690	1.39	.00170	18.8	.188	19.0	11.6	.0922	3.15	3.15	18.3	17.9	10.8	9.85
30.	1.84	1.84	1.37	.714	.464	1.12	.22.4	.244	22.6	12.3	.0592	.0591	1.90	1.84	16.0	15.8	10.1	8.66
40.	1.46	1.46	1.11	.510	.350	.950	.25.0	.284	25.3	12.2	.0430	.0429	1.02	.999	14.7	14.6	10.6	8.38
50.	1.22	1.22	.938	.388	.281	.832	.27.0	.314	27.3	12.0	.0338	.0338	.681	.670	14.7	14.6	11.5	8.77
60.	1.05	1.05	.814	.303	.235	.747	.28.4	.338	28.7	11.8	.0276	.0276	.506	.500	14.9	14.9	12.3	9.30
80.	.828	.828	.651	.206	.177	.622	.30.6	.374	31.0	11.3	.0202	.0202	.398	.394	15.3	15.2	13.1	9.71
100.	.687	.687	.546	.153	.142	.534	.32.2	.402	32.6	10.8	.0157	.0157	.274	.272	16.0	16.0	14.3	10.4
													.208	.207	17.2	17.2	15.8	11.2
													.127	.126	19.6	19.6	18.7	12.3
													.0922	.0919	21.6	21.6	20.9	12.8
													.0592	.0591	24.5	24.5	24.0	13.1
													.0430	.0429	26.8	26.8	26.5	12.8
													.0338	.0338	28.6	28.6	28.3	12.4
													.0276	.0276	29.8	29.8	29.5	12.1
													.0202	.0202	31.8	31.8	31.7	11.5
													.0157	.0157	33.3	33.3	33.2	11.0

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(cm²/g = 0.002882 x barns/atom)

E (MeV)	($\frac{\sigma}{\rho}$) _{inc,t} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,t} ^{BD}	($\frac{\sigma}{\rho}$) _{inc,a} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,a} ^{BD}	($\frac{\sigma}{\rho}$) _{inc,s} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,s} ^{BD}	($\frac{\sigma}{\rho}$) _{coh}	($\frac{\sigma}{\rho}$) _n	($\frac{\sigma}{\rho}$) _e	($\frac{\sigma}{\rho}$) _t	($\frac{\sigma}{\rho}$) _{n,a}	($\frac{\sigma}{\rho}$) _{t,t}	($\frac{\sigma}{\rho}$) _{t,a}	($\frac{\sigma}{\rho}$) _{tot,t}	($\frac{\sigma}{\rho}$) _{tot,t-coh}	($\frac{\sigma}{\rho}$) _{tot,a}	($\frac{\sigma}{\rho}$) _{tot,en}
.001	.159	.00352	.000308	.0000069	.158	.00352	12.6					6740.	6740.	6740.	6740.	6740.	6740.
.0015	.158	.00651	.000461	.0000190	.158	.00648	12.1					2770.	2770.	2770.	2770.	2770.	2770.
.002	.158	.00957	.000614	.0000372	.157	.00954	11.6					1450.	1450.	1460.	1450.	1450.	1450.
M _V .002581	.158	.0130	.000787	.0000651	.157	.0130	10.9					824.	824.	836.	824.	824.	824.
M _{IV} .002689	.157	.0137	.000818	.0000712	.157	.0136	10.7					2580.	2580.	2590.	2580.	2580.	2580.
												2370.	2370.	2380.	2370.	2370.	2370.
.003	.157	.0154	.000911	.0000893	.156	.0153	10.4					2680.	2680.	2690.	2680.	2680.	2680.
M _{III} .003177	.157	.0163	.000963	.000100	.156	.0163	10.2					1980.	1980.	1990.	1980.	1980.	1980.
												1680.	1680.	1690.	1680.	1680.	1680.
M _{II} .003696	.157	.0191	.00112	.000136	.156	.0189	9.63					1930.	1930.	1940.	1930.	1930.	1930.
												1330.	1330.	1340.	1330.	1330.	1330.
.004	.157	.0207	.00120	.000159	.155	.0205	9.31					1590.	1590.	1590.	1590.	1590.	1590.
M _I .004000	.157	.0207	.00120	.000159	.155	.0205	9.31					1470.	1470.	1480.	1470.	1470.	1470.
												1290.	1290.	1290.	1290.	1290.	1290.
.005	.156	.0255	.00150	.000244	.154	.0253	8.33					1470.	1470.	1480.	1470.	1470.	1470.
.006	.155	.0300	.00178	.000343	.154	.0297	7.46					816.	816.	824.	816.	816.	816.
.008	.154	.0383	.00233	.000579	.152	.0378	6.08					504.	504.	513.	504.	504.	504.
.01	.153	.0458	.00287	.000859	.150	.0450	5.04					236.	236.	242.	236.	236.	236.
L _{III} .013420	.151	.0559	.00375	.00139	.148	.0545	3.78					130.	130.	135.	130.	130.	130.
												58.8	58.8	62.5	58.8	58.8	58.8
.015	.150	.0597	.00415	.00165	.146	.0579	3.34					151.	107.	155.	151.	151.	107.
L _{II} .015714	.150	.0614	.00432	.00177	.146	.0597	3.17					114.	84.4	118.	114.	114.	84.4
												102.	76.4	105.	102.	102.	76.4
L _I .016391	.150	.0628	.00450	.00188	.145	.0608	3.03					141.	103.	144.	141.	141.	103.
												125.	93.7	129.	125.	125.	93.7
.02	.148	.0697	.00533	.00252	.142	.0672	2.35					146.	108.	149.	146.	146.	108.
.03	.143	.0830	.00744	.00432	.135	.0787	1.37					86.2	68.0	88.5	86.2	86.2	68.0
.04	.138	.0911	.00922	.00608	.129	.0850	.905					29.7	25.5	31.1	29.7	29.7	25.5
.05	.134	.0957	.0108	.00772	.123	.0879	.640					13.7	12.3	14.8	13.8	13.7	12.3
.06	.131	.0983	.0122	.00922	.118	.0891	.476					7.49	6.86	8.24	7.58	7.49	6.86
.08	.124	.100	.0145	.0117	.109	.0882	.291					4.58	4.27	5.16	4.67	4.58	4.27
K.090526	.120	.100	.0155	.0129	.105	.0870	.231					2.06	1.95	2.46	2.16	2.08	1.97
												1.46	1.39	1.79	1.56	1.47	1.40
												7.00	2.21	7.32	7.09	7.03	2.22
.1	.118	.100	.0163	.0138	.102	.0862	.193					5.39	2.05	5.48	5.48	5.42	2.06
.15	.106	.0968	.0193	.0176	.0867	.0793	.0911					1.87	1.10	2.05	1.97	1.89	1.11
.2	.0971	.0914	.0210	.0197	.0761	.0715	.0527					.873	.602	1.02	.965	.893	.623
.3	.0844	.0816	.0228	.0220	.0617	.0597	.0240					.303	.240	.409	.383	.326	.262
.4	.0758	.0741	.0235	.0226	.0522	.0516	.0136					.148	.125	.235	.222	.171	.147
.5	.0692	.0680	.0236	.0229	.0455	.0452	.00882					.0865	.0758	.163	.154	.110	.0984
.6	.0640	.0631	.0235	.0227	.0403	.0403	.00608					.0565	.0507	.126	.120	.0801	.0735
.8	.0562	.0556	.0230	.0221	.0331	.0334	.00346					.0300	.0276	.0891	.0856	.0530	.0496
1.	.0504	.0501	.0222	.0208	.0283	.0294	.00224					.0189	.0177	.0712	.0692	.0412	.0386
1.5	.0409	.0409	.0203	.0192	.0208	.0217	.00100	.00163		.00163	.000493	.00908	.00870	.0527	.0516	.0311	.0284
2.	.0349	.0349	.0186	.0173	.0164	.0176	.000568	.00516		.00516	.00236	.00548	.00530	.0461	.0455	.0291	.0250
3.	.0275	.0275	.0159	.0142	.0116	.0133	.000253	.0117	.00000963	.0117	.00709	.00294	.00288	.0424	.0421	.0305	.0242
4.	.0230	.0230	.0140	.0120	.00905	.0110	.000143	.0171	.0000395	.0171	.0114	.00196	.00193	.0424	.0421	.0331	.0253
5.	.0199	.0199	.0125	.0103	.00741	.00954	.0000934	.0216	.0000775	.0216	.0150	.00146	.00144	.0429	.0429	.0354	.0268
6.	.0176	.0176	.0113	.00902	.00625	.00853	.0000643	.0251	.000120	.0252	.0178	.00115	.00114	.0441	.0438	.0378	.0280
8.	.0144	.0144	.00960	.00718	.00478	.00718	.0000360	.0305	.000202	.0308	.0219	.000790	.000784	.0461	.0461	.0412	.0300
10.	.0122	.0122	.00836	.00597	.00386	.00628	.0000235	.0363	.000280	.0366	.0257	.000599	.000597	.0496	.0496	.0455	.0323
15.	.00905	.00905	.00643	.00432	.00263	.00473	.0000105	.0467	.000432	.0470	.0308	.000366	.000363	.0565	.0565	.0539	.0354
20.	.00726	.00726	.00527	.00326	.00199	.00401	.0000049	.0542	.000542	.0548	.0334	.000266	.000265	.0623	.0623	.0602	.0369
30.	.00530	.00530	.00395	.00207	.00134	.00323		.0646	.000703	.0651	.0354	.000171	.000170	.0706	.0706	.0692	.0378
40.	.00421	.00421	.00320	.00147	.00101	.00274		.0720	.000818	.0729	.0352	.000124	.000124	.0772	.0772	.0764	.0369
50.	.00352	.00352	.00270	.00112	.000818	.00240		.0778	.000905	.0787	.0346	.0000974	.0000974	.0824	.0824	.0816	.0357
60.	.00303	.00303	.00235	.000873	.000677	.00215		.0818	.000974	.0827	.0340	.0000795	.0000795	.0859	.0859	.0850	.0349
80.	.00239	.00239	.00188	.000594	.000510	.00179		.0882	.00108	.0893	.0326	.0000582	.0000582	.0914	.0914	.0914	.0331
100.	.00198	.00198	.00157	.000441	.000409	.00154		.0928	.00116	.0940	.0311	.0000452	.0000452	.0960	.0960	.0957	.0317

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(barns/atom)

E (MeV)	KN C _{inc,t}	BD C _{inc,t}	KN C _{inc,a}	BD C _{inc,a}	KN C _{inc,s}	BD C _{inc,s}	σ _{coh}	σ _{xn}	σ _{ae}	σ _{x,t}	σ _{x,a}	σ _{r,t}	σ _{r,a}	σ _{tot,t}	σ _{tot,t-coh}	σ _{tot,a}	σ _{tot,en}
.001	55.7	1.20	.103	.00234	55.5	1.20	4490.					2450000.	2450000.	2450000.	2450000.	2450000.	2450000.
.0015	55.5	2.25	.162	.00656	55.4	2.24	4310.					1010000.	1010000.	1010000.	1010000.	1010000.	1010000.
.002	55.4	3.34	.215	.0130	55.2	3.33	4100.					526000.	526000.	530000.	526000.	526000.	526000.
M _{IV} .002683	55.3	4.79	.287	.0249	55.0	4.77	3810.					274000.	274000.	274000.	274000.	274000.	274000.
												856000.	856000.	860000.	856000.	856000.	856000.
												784000.	784000.	788000.	784000.	784000.	784000.
												888000.	888000.	892000.	888000.	888000.	888000.
M _{III} .002798	55.3	5.02	.299	.0272	55.0	4.99	3760.					729000.	729000.	733000.	729000.	729000.	729000.
												559000.	559000.	563000.	559000.	559000.	559000.
												643000.	643000.	647000.	643000.	643000.	643000.
												440000.	440000.	443000.	440000.	440000.	440000.
												524000.	524000.	527000.	524000.	524000.	524000.
												472000.	472000.	475000.	472000.	472000.	472000.
												427000.	427000.	430000.	427000.	427000.	427000.
												487000.	487000.	490000.	487000.	487000.	487000.
M _{II} .003849	55.0	7.04	.408	.0522	54.6	6.99	3350.					298000.	298000.	301000.	298000.	298000.	298000.
												184000.	184000.	187000.	184000.	184000.	184000.
												86700.	86700.	86900.	86700.	86700.	86700.
												47600.	47600.	47900.	47600.	47600.	47600.
												19900.	19900.	21200.	19900.	19900.	19900.
												50700.	50700.	52000.	50700.	50700.	50700.
												41000.	41000.	42200.	41000.	41000.	41000.
												33900.	33900.	35000.	33900.	33900.	33900.
												46800.	46800.	47900.	46800.	46800.	46800.
												41800.	41800.	42900.	41800.	41800.	41800.
												48600.	48600.	49700.	48600.	48600.	48600.
												31200.	31200.	32100.	31200.	31200.	31200.
												10800.	10800.	11300.	10800.	10800.	10800.
												5010.	5010.	5370.	5010.	5010.	5010.
												2750.	2750.	3010.	2750.	2750.	2750.
												1670.	1670.	1870.	1670.	1670.	1670.
												756.	715.	895.	791.	761.	719.
												493.	470.	607.	528.	499.	475.
												2350.	741.	2460.	2390.	2360.	746.
												1950.	707.	2050.	1990.	1960.	712.
												472.	386.	739.	766.	739.	392.
												318.	217.	369.	350.	325.	224.
												110.	86.6.	147.	139.	118.	94.3
												53.8	45.2	84.7	79.8	62.0	53.1
												31.5	27.5	58.5	55.4	39.8	35.5
												20.8	18.6	45.2	43.0	29.1	26.6
												10.9	10.0	31.7	30.5	19.0	17.8
												6.93	6.49	25.3	24.5	14.7	13.8
												3.30	3.16	18.6	18.3	11.0	10.1
												2.00	1.94	16.4	16.1	10.4	8.89
												1.08	1.06	15.0	14.9	10.8	8.55
												.720	.709	14.9	14.9	11.7	8.94
												.535	.528	15.2	15.2	12.6	9.46
												.421	.417	15.6	15.5	13.3	9.91
												.290	.288	16.4	16.3	14.7	10.6
												.220	.219	17.4	17.4	16.1	11.4
												.00377	.00377	16.5	16.5	10.9	10.9
												.00177	.00177	19.3	19.3	11.8	11.8
												.00338	.00338	4.19	2.52	10.8	10.8
												.0138	.0138	6.07	4.04	10.8	10.8
												.0272	.0272	7.66	5.31	10.8	10.8
												.0421	.0421	8.94	6.32	10.8	10.8
												.0129	.0129	10.9	8.01	10.8	10.8
												.00839	.00839	12.8	9.05	10.8	10.8
												.152	.152	16.7	10.9	10.9	10.9
												.190	.190	19.5	11.8	11.8	11.8
												.247	.247	23.0	12.5	12.5	12.5
												.287	.287	25.9	12.4	12.4	12.4
												.318	.318	27.8	12.2	12.2	12.2
												.0291	.0291	30.4	11.9	11.9	11.9
												.0213	.0213	32.5	11.5	11.5	11.5
												.0166	.0166	34.0	10.9	10.9	10.9

84 POLONIUM
(cm²/g = 0.002868 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc, t} ^{KN}	($\frac{\mu}{\rho}$) _{inc, t} ^{BD}	($\frac{\mu}{\rho}$) _{inc, a} ^{KN}	($\frac{\mu}{\rho}$) _{inc, a} ^{BD}	($\frac{\mu}{\rho}$) _{inc, s} ^{KN}	($\frac{\mu}{\rho}$) _{inc, s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{II}	($\frac{\mu}{\rho}$) _U	($\frac{\mu}{\rho}$) _{s, t}	($\frac{\mu}{\rho}$) _{s, a}	($\frac{\mu}{\rho}$) _{r, t}	($\frac{\mu}{\rho}$) _{r, a}	($\frac{\mu}{\rho}$) _{tot, t}	($\frac{\mu}{\rho}$) _{tot, t-coh}	($\frac{\mu}{\rho}$) _{tot, a}	($\frac{\mu}{\rho}$) _{tot, cr.}
.001	.160	.00344	.000310	.0000067	.159	.00344	12.9					7030.	7030.	7030.	7030.	7030.	7030.
.0015	.159	.00645	.000465	.0000188	.159	.00642	12.4					2900.	2900.	2900.	2900.	2900.	2900.
.002	.159	.00958	.000617	.0000373	.158	.00955	11.8					1510.	1510.	1520.	1510.	1510.	1510.
M _γ .002683	.159	.0137	.000823	.0000714	.158	.0137	10.9					786.	786.	797.	786.	786.	786.
M _{IV} .002798	.159	.0144	.000858	.0000780	.158	.0143	10.8					2460.	2460.	2470.	2460.	2460.	2460.
.003	.158	.0155	.000918	.0000901	.157	.0155	10.6					2250.	2250.	2260.	2250.	2250.	2250.
M _{III} .003295	.158	.0172	.00101	.000109	.157	.0171	10.2					2550.	2550.	2560.	2550.	2550.	2550.
M _{II} .003849	.158	.0202	.00117	.000150	.157	.0200	9.61					2090.	2090.	2100.	2090.	2090.	2090.
.004	.158	.0210	.00121	.000161	.157	.0208	9.44					1840.	1840.	1860.	1840.	1840.	1840.
M _I .004156	.158	.0218	.00126	.000174	.156	.0216	9.29					1260.	1260.	1270.	1260.	1260.	1260.
.005	.157	.0259	.00151	.000248	.156	.0256	8.46					1500.	1500.	1510.	1500.	1500.	1500.
.006	.157	.0304	.00179	.000347	.155	.0301	7.60					1350.	1350.	1360.	1350.	1350.	1350.
.008	.155	.0387	.00235	.000585	.153	.0381	6.19					1220.	1220.	1230.	1220.	1220.	1220.
.01	.154	.0462	.00290	.000866	.151	.0453	5.13					1400.	1400.	1410.	1400.	1400.	1400.
L _{III} .013814	.152	.0574	.00387	.00146	.148	.0559	3.76					855.	855.	863.	855.	855.	855.
.015	.151	.0599	.00419	.00166	.147	.0582	3.41					528.	528.	536.	528.	528.	528.
L _{II} .016244	.151	.0628	.00447	.00187	.146	.0608	3.13					249.	249.	255.	249.	249.	249.
L _I .016936	.151	.0642	.00465	.00198	.146	.0622	2.95					137.	137.	142.	137.	137.	137.
.02	.149	.0700	.00536	.00253	.143	.0674	2.41					57.1	57.1	60.8	57.1	57.1	57.1
.03	.144	.0835	.00749	.00433	.137	.0792	1.40					145.	103.	149.	145.	145.	103.
.04	.139	.0915	.00929	.00611	.130	.0855	.929					118.	86.0	121.	118.	118.	86.0
.05	.135	.0961	.0109	.00774	.124	.0883	.657					99.2	73.1	100.	97.2	97.2	73.1
.06	.131	.0989	.0123	.00929	.119	.0898	.488					134.	98.7	137.	134.	134.	98.7
.08	.124	.101	.0146	.0118	.110	.0889	.298					127.	89.2	123.	120.	120.	89.2
K.093105	.121	.101	.0158	.0132	.105	.0875	.225					139.	103.	143.	139.	139.	103.
.1	.119	.100	.0164	.0139	.102	.0866	.198					89.5	70.0	92.1	89.5	89.5	70.0
.15	.107	.0975	.0194	.0177	.0875	.0797	.0935					31.0	26.4	32.4	31.0	31.0	26.4
.2	.0978	.0921	.0212	.0199	.0769	.0723	.0542					11.4	12.8	15.4	14.4	14.4	12.8
.3	.0852	.0823	.0229	.0222	.0622	.0602	.0247					7.89	7.20	8.63	7.97	7.89	7.20
.4	.0763	.0746	.0236	.0227	.0528	.0519	.0140					1.79	4.45	5.36	4.88	4.79	4.45
.5	.0697	.0685	.0237	.0230	.0459	.0456	.00903					2.17	2.05	2.57	2.27	2.18	2.06
.6	.0645	.0637	.0237	.0229	.0407	.0407	.00628					1.41	1.35	1.74	1.51	1.43	1.36
.8	.0565	.0562	.0231	.0223	.0336	.0338	.00353					5.74	2.13	7.06	6.85	6.77	2.14
1.	.0508	.0505	.0224	.0209	.0285	.0295	.00229					5.59	2.03	5.88	5.71	5.62	2.04
1.5	.0413	.0413	.0204	.0194	.0209	.0219	.00103	.00168		.00168	.000508	.00946	.00906	.0533	.0525	.0315	.0290
2.	.0353	.0353	.0187	.0175	.0165	.0178	.000579	.00531		.00531	.00243	.00574	.00556	.0470	.0462	.0298	.0255
3.	.0277	.0277	.0160	.0143	.0117	.0134	.000260	.0120	.00000969	.0120	.00723	.00310	.00304	.0430	.0427	.0310	.0245
4.	.0232	.0232	.0141	.0120	.00912	.0112	.000146	.0174	.0000396	.0174	.0116	.00206	.00203	.0427	.0427	.0336	.0256
5.	.0200	.0200	.0126	.0104	.00746	.00964	.0000955	.0219	.0000780	.0220	.0152	.00153	.00151	.0436	.0436	.0361	.0271
6.	.0177	.0177	.0114	.00909	.00631	.00860	.0000663	.0255	.000121	.0256	.0181	.00121	.00120	.0447	.0445	.0381	.0284
8.	.0145	.0145	.00967	.00723	.00482	.00726	.0000370	.0313	.000204	.0315	.0224	.000832	.000826	.0470	.0467	.0422	.0304
10.	.0123	.0123	.00843	.00599	.00390	.00634	.0000241	.0367	.000282	.0370	.0260	.000631	.000628	.0499	.0499	.0462	.0327
15.	.00912	.00912	.00648	.00433	.00264	.00479	.0000108	.0473	.000436	.0479	.0313	.000384	.000381	.0574	.0574	.0548	.0358
20.	.00731	.00731	.00531	.00327	.00200	.00404	.0000051	.0554	.000545	.0559	.0338	.000276	.000275	.0634	.0634	.0614	.0373
30.	.00533	.00533	.00399	.00208	.00135	.00324		.0654	.000708	.0660	.0358	.000178	.000176	.0714	.0714	.0703	.0381
40.	.00424	.00424	.00321	.00148	.00102	.00277		.0734	.000823	.0743	.0356	.000130	.000129	.0786	.0786	.0777	.0373
50.	.00353	.00353	.00272	.00112	.000815	.00241		.0789	.000912	.0797	.0350	.000102	.000102	.0835	.0835	.0826	.0361
60.	.00304	.00304	.00236	.000875	.000683	.00217		.0832	.000978	.0840	.0341	.0000835	.0000835	.0872	.0872	.0866	.0350
80.	.00240	.00240	.00189	.000597	.000513	.00180		.0895	.00108	.0906	.0330	.0000611	.0000611	.0932	.0932	.0926	.0336
100.	.00200	.00200	.00158	.000445	.000410	.00155		.0944	.00116	.0955	.0313	.0000476	.0000476	.0975	.0975	.0972	.0318

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 (barns/atom)

E (MeV)	$\sigma_{\text{inc,t}}$	$\sigma_{\text{inc,t}}$	$\sigma_{\text{inc,a}}$	$\sigma_{\text{inc,a}}$	$\sigma_{\text{inc,s}}$	$\sigma_{\text{inc,s}}$	σ_{coh}	σ_{an}	σ_{se}	σ_{st}	σ_{sa}	σ_{rt}	σ_{ra}	$\sigma_{\text{tot,t}}$	$\sigma_{\text{tot,t-coh}}$	$\sigma_{\text{tot,a}}$	$\sigma_{\text{tot,en}}$
.001	56.3	1.17	.110	.00228	55.2	1.17	4600.										
M_I .001042	56.3	1.25	.114	.00254	55.2	1.25	4580.										
.0015	56.2	2.23	.164	.0065	55.0	2.22	4410.										
.002	56.1	3.36	.218	.0130	55.9	3.35	4200.										
M_V .002787	55.9	5.07	.301	.0273	55.6	5.04	3850.										
M_{IV} .002909	55.9	5.32	.314	.0299	55.6	5.29	3800.										
.003	55.9	5.51	.324	.0319	55.6	5.48	3760.										
M_{III} .003416	55.8	6.34	.368	.0418	55.4	6.30	3590.										
.004	55.7	7.46	.428	.0574	55.2	7.40	3360.										
M_{II} .004006	55.7	7.47	.429	.0576	55.2	7.41	3360.										
M_I .004317	55.6	8.03	.461	.0666	55.1	7.96	3250.										
.005	55.5	9.2	.531	.0881	54.9	9.11	3010.										
.006	55.2	10.8	.632	.124	54.6	10.7	2710.										
.008	54.8	13.7	.830	.207	54.0	13.5	2210.										
.01	54.4	16.3	1.02	.305	53.4	16.0	1860.										
L_{III} .014214	53.6	20.5	1.41	.538	52.2	20.0	1300.										
.015	53.5	21.2	1.48	.586	52.0	20.6	1220.										
L_{II} .016785	53.1	22.5	1.63	.689	51.5	21.8	1070.										
L_I .017491	53.0	23.0	1.69	.732	51.3	22.3	1020.										
.02	52.5	24.7	1.89	.891	50.6	23.8	864.										
.03	50.8	29.3	2.64	1.52	48.2	27.8	502.										
.04	49.2	32.2	3.28	2.15	45.9	30.1	333.										
.05	47.7	33.9	3.85	2.74	43.9	31.2	235.										
.06	46.4	34.8	4.35	3.27	42.0	31.5	175.										
.08	44.0	35.5	5.15	4.16	38.8	31.3	107.										
K .095730	42.3	35.4	5.66	4.73	36.6	30.7	77.0										
.1	41.9	35.4	5.78	4.89	36.1	30.5	71.1										
.15	37.7	34.4	6.84	6.24	30.9	28.2	33.6										
.2	34.5	32.5	7.47	7.03	27.1	25.5	19.5										
.3	30.0	29.0	8.10	7.82	21.9	21.2	3.88										
.4	26.9	26.3	8.34	8.02	18.6	18.3	5.02										
.5	24.6	24.2	8.38	8.13	16.2	16.1	3.25										
.6	22.7	22.5	8.35	8.10	14.4	14.4	2.24										
.8	20.0	19.8	8.17	7.86	11.8	11.9	1.27										
1.	18.0	17.8	7.90	7.39	10.1	10.4	.822										
1.5	14.6	14.5	7.21	6.79	7.37	7.71	.370	.603									
2.	12.4	12.4	6.60	6.14	5.84	6.26	.207	1.91	.603	.182							
3.	9.73	9.77	5.64	5.03	4.14	4.74	.0935	4.30	.875								
4.	8.18	8.18	4.96	4.24	3.21	3.94	.0525	6.20	.0140	6.21	4.13						
5.	7.05	7.06	4.43	3.66	2.63	3.40	.0343	7.80	.0275	7.83	5.42	.760	.744				
6.	6.24	6.24	4.02	3.19	2.22	3.05	.0238	9.10	.0426	9.14	6.45	.562	.555				
8.	5.11	5.11	3.41	2.54	1.70	2.57	.0133	11.2	.0718	11.3	8.01	.443	.434				
10.	4.35	4.35	2.97	2.11	1.38	2.24	.00863	13.2	.0996	13.3	9.30	.306	.303				
15.	3.22	3.22	2.28	1.53	.933	1.69	.00390	16.8	.153	17.0	11.0	.230	.224				
20.	2.53	2.53	1.88	1.15	.706	1.43	.00184	19.7	.193	19.9	12.0	.141	.140				
30.	1.83	1.88	1.41	.731	.475	1.15		23.4	.250	23.6	12.7	.101	.101				
40.	1.49	1.49	1.14	.517	.359	.973		26.1	.290	26.4	12.5	.0649	.0648				
50.	1.25	1.25	.960	.395	.287	.855		28.1	.321	28.4	12.4	.0474	.0473				
60.	1.07	1.07	.834	.307	.240	.763		29.7	.345	30.0	12.2	.0371	.0371				
80.	.847	.847	.666	.209	.181	.638		31.9	.382	32.3	11.7	.0305	.0305				
100.	.794	.794	.559	.156	.145	.548		33.5	.411	33.9	11.1	.0223	.0223				
												.0175	.0175				

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(cm²/g = 0.002868 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{x,n}	($\frac{\mu}{\rho}$) _{x,u}	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _{r,t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,cr}
.001	.161	.00336	.000315	.0000065	.161	.00336	13.2	---	---	---	---	---	---	---	---	---	---
N _I .001042	.161	.00358	.000327	.0000073	.161	.00358	13.1	---	---	---	---	---	---	---	---	---	---
.0015	.161	.00640	.000470	.0000186	.161	.00637	12.6	6770.	6770.	6770.	6770.	6770.	6770.	6770.	6770.	6770.	6770.
.002	.161	.00964	.000625	.0000373	.160	.00961	12.0	3010.	3010.	3010.	3010.	3010.	3010.	3010.	3010.	3010.	3010.
M _V .002787	.160	.0145	.000863	.0000783	.159	.0145	11.0	1570.	1570.	1570.	1570.	1570.	1570.	1570.	1570.	1570.	1570.
M _{IV} .002909	.160	.0153	.000901	.0000858	.159	.0152	10.9	751.	751.	751.	751.	751.	751.	751.	751.	751.	751.
.003	.160	.0158	.000929	.0000915	.159	.0157	10.8	2350.	2350.	2350.	2350.	2350.	2350.	2350.	2350.	2350.	2350.
M _{III} .003416	.160	.0182	.00106	.000120	.159	.0181	10.3	2150.	2150.	2150.	2150.	2150.	2150.	2150.	2150.	2150.	2150.
.004	.160	.0214	.00123	.000165	.158	.0212	9.64	2430.	2430.	2430.	2430.	2430.	2430.	2430.	2430.	2430.	2430.
M _{II} .004006	.160	.0214	.00123	.000165	.158	.0213	9.64	2220.	2220.	2220.	2220.	2220.	2220.	2220.	2220.	2220.	2220.
M _I .004317	.159	.0230	.00132	.000191	.158	.0228	9.32	1540.	1540.	1540.	1540.	1540.	1540.	1540.	1540.	1540.	1540.
.005	.159	.0264	.00152	.000253	.157	.0261	8.63	1770.	1770.	1770.	1770.	1770.	1770.	1770.	1770.	1770.	1770.
.006	.158	.0310	.00181	.000356	.157	.0307	7.77	1210.	1210.	1210.	1210.	1210.	1210.	1210.	1210.	1210.	1210.
.008	.157	.0393	.00238	.000594	.155	.0387	6.34	1200.	1200.	1200.	1200.	1200.	1200.	1200.	1200.	1200.	1200.
.01	.156	.0467	.00293	.000875	.153	.0459	5.28	1430.	1430.	1430.	1430.	1430.	1430.	1430.	1430.	1430.	1430.
L _{III} .014214	.154	.0588	.00404	.00154	.150	.0574	3.73	1170.	1170.	1170.	1170.	1170.	1170.	1170.	1170.	1170.	1170.
.015	.153	.0608	.00424	.00168	.149	.0591	3.50	1330.	1330.	1330.	1330.	1330.	1330.	1330.	1330.	1330.	1330.
L _{II} .016785	.152	.0645	.00467	.00198	.148	.0625	3.07	903.	903.	903.	903.	903.	903.	903.	903.	903.	903.
L _I .017491	.152	.0660	.00485	.00210	.147	.0640	2.93	556.	556.	556.	556.	556.	556.	556.	556.	556.	556.
.02	.151	.0708	.00542	.00256	.145	.0683	2.48	261.	261.	261.	261.	261.	261.	261.	261.	261.	261.
.03	.146	.0840	.00757	.00436	.138	.0797	1.44	144.	144.	144.	144.	144.	144.	144.	144.	144.	144.
.04	.141	.0923	.00941	.00617	.132	.0863	.955	141.	141.	141.	141.	141.	141.	141.	141.	141.	141.
.05	.137	.0972	.0110	.00786	.126	.0895	.677	123.	123.	123.	123.	123.	123.	123.	123.	123.	123.
.06	.133	.0998	.0125	.00938	.120	.0903	.502	93.2	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9
.08	.126	.102	.0148	.0119	.111	.0898	.307	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
K.095730	.121	.102	.0162	.0136	.105	.0880	.221	129.	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4
.1	.120	.102	.0166	.0140	.104	.0875	.204	115.	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5
.15	.108	.0987	.0196	.0179	.0886	.0809	.0964	134.	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9
.2	.0989	.0932	.0214	.0202	.0777	.0731	.0559	93.8	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6
.3	.0860	.0832	.0232	.0224	.0628	.0608	.0254	32.4	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5
.4	.0771	.0754	.0239	.0230	.0533	.0525	.0144	15.1	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3
.5	.0706	.0694	.0240	.0233	.0465	.0462	.00932	8.29	7.54	7.54	7.54	7.54	7.54	7.54	7.54	7.54	7.54
.6	.0651	.0645	.0239	.0232	.0413	.0413	.00642	5.05	4.67	4.67	4.67	4.67	4.67	4.67	4.67	4.67	4.67
.8	.0574	.0568	.0234	.0225	.0338	.0341	.00354	2.29	2.16	2.16	2.16	2.16	2.16	2.16	2.16	2.16	2.16
1.	.0516	.0511	.0227	.0212	.0290	.0298	.00236	1.38	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31
1.5	.0419	.0416	.0207	.0195	.0211	.0221	.00106	6.51	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05
2.	.0356	.0356	.0189	.0176	.0167	.0180	.000594	5.76	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98
3.	.0280	.0280	.0162	.0144	.0119	.0136	.000268	2.01	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13
4.	.0235	.0235	.0142	.0122	.00921	.0113	.000151	.955	.642	.642	.642	.642	.642	.642	.642	.642	.642
5.	.0202	.0202	.0127	.0105	.00754	.00975	.0000984	.330	.258	.258	.258	.258	.258	.258	.258	.258	.258
6.	.0179	.0179	.0115	.00915	.00637	.00875	.0000683	.161	.135	.135	.135	.135	.135	.135	.135	.135	.135
8.	.0147	.0147	.00978	.00728	.00488	.00737	.0000381	.0949	.0826	.0826	.0826	.0826	.0826	.0826	.0826	.0826	.0826
10.	.0125	.0125	.00852	.00605	.00396	.00642	.0000248	.0625	.0556	.0556	.0556	.0556	.0556	.0556	.0556	.0556	.0556
15.	.00923	.00923	.00654	.00439	.00268	.00485	.0000112	.0330	.0304	.0304	.0304	.0304	.0304	.0304	.0304	.0304	.0304
20.	.00740	.00740	.00539	.00330	.00202	.00410	.0000053	.0210	.0196	.0196	.0196	.0196	.0196	.0196	.0196	.0196	.0196
30.	.00539	.00539	.00404	.00210	.00136	.00330		.0161	.0151	.0151	.0151	.0151	.0151	.0151	.0151	.0151	.0151
40.	.00427	.00427	.00327	.00148	.00103	.00279		.0127	.0118	.0118	.0118	.0118	.0118	.0118	.0118	.0118	.0118
50.	.00358	.00358	.00275	.00113	.000823	.00245		.0101	.00921	.00921	.00921	.00921	.00921	.00921	.00921	.00921	.00921
60.	.00307	.00307	.00239	.000880	.000686	.00219		.00852	.000875	.000875	.000875	.000875	.000875	.000875	.000875	.000875	.000875
80.	.00243	.00243	.00191	.000599	.000515	.00183		.00715	.000640	.000640	.000640	.000640	.000640	.000640	.000640	.000640	.000640
100.	.00202	.00202	.00160	.000447	.000416	.00157		.00611	.000502	.000502	.000502	.000502	.000502	.000502	.000502	.000502	.000502

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(barns/atom)

E (MeV)	$\sigma_{\text{inc,t}}^{\text{KN}}$	$\sigma_{\text{inc,t}}^{\text{BD}}$	$\sigma_{\text{inc,a}}^{\text{KN}}$	$\sigma_{\text{inc,a}}^{\text{BD}}$	$\sigma_{\text{inc,s}}^{\text{KN}}$	$\sigma_{\text{inc,s}}^{\text{BD}}$	σ_{cch}	$\sigma_{\text{x,n}}$	$\sigma_{\text{x,e}}$	$\sigma_{\text{x,l}}$	$\sigma_{\text{x,a}}$	$\sigma_{\text{r,t}}$	$\sigma_{\text{r,a}}$	$\sigma_{\text{tot,t}}$	$\sigma_{\text{tot,t-coh}}$	$\sigma_{\text{tot,a}}$	$\sigma_{\text{tot,en}}$
.001	57.0	1.17	.111	.00228	56.9	1.17	4710.					---	---	---	---	---	---
N _I .001095	57.0	1.36	.122	.00290	56.8	1.36	4570.					---	---	---	---	---	---
.0015	56.9	2.25	.166	.00656	56.7	2.24	4520.					2210000.	2210000.	2210000.	2210000.	2210000.	2210000.
.002	56.8	3.40	.220	.0132	56.5	3.39	4290.					1100000.	1100000.	1100000.	1100000.	1100000.	1100000.
M _V .002892	56.6	5.38	.316	.0301	56.2	5.35	3390.					575000.	575000.	579000.	575000.	575000.	575000.
.003	56.5	5.60	.328	.0325	56.2	5.57	3340.					251000.	251000.	255000.	251000.	251000.	251000.
M _{IV} .003022	56.5	5.65	.330	.0330	56.2	5.62	3330.					784000.	784000.	788000.	784000.	784000.	784000.
.003538	56.4	6.71	.385	.0458	56.0	6.66	3510.					728000.	728000.	732000.	728000.	728000.	728000.
.004	56.3	7.61	.433	.0586	55.9	7.55	3430.					716000.	716000.	720000.	716000.	716000.	716000.
M _{II} .004164	56.3	7.92	.451	.0634	55.8	7.86	3370.					811000.	811000.	815000.	811000.	811000.	811000.
.004482	56.2	8.49	.484	.0731	55.7	8.42	3250.					515000.	515000.	519000.	515000.	515000.	515000.
.005	56.1	9.38	.537	.0899	55.6	9.29	3080.					593000.	593000.	597000.	593000.	593000.	593000.
.006	55.9	11.0	.640	.126	55.3	10.9	2770.					441000.	441000.	444000.	441000.	441000.	441000.
.008	55.5	13.9	.840	.210	54.6	13.7	2260.					401000.	401000.	404000.	401000.	401000.	401000.
.01	55.1	16.5	1.03	.309	54.1	16.2	1380.					477000.	477000.	480000.	477000.	477000.	477000.
L _{III} .014619	54.2	21.1	1.46	.568	52.7	20.5	1290.					391000.	391000.	394000.	391000.	391000.	391000.
.015	54.1	21.4	1.50	.592	52.6	20.8	1260.					444000.	444000.	447000.	444000.	444000.	444000.
L _{II} .017337	53.6	23.1	1.69	.729	51.9	22.4	1060.					330000.	330000.	333000.	330000.	330000.	330000.
.018055	53.5	23.6	1.75	.774	51.7	22.8	1010.					205000.	205000.	208000.	205000.	205000.	205000.
.02	53.1	24.9	1.92	.899	51.2	24.0	388.					96000.	96000.	98300.	96000.	96000.	96000.
.03	51.4	29.6	2.67	1.54	48.7	28.1	516.					53000.	53000.	54900.	53000.	53000.	53000.
.04	49.8	32.5	3.32	2.17	46.4	30.3	342.					19000.	19000.	20300.	19000.	19000.	19000.
.05	48.3	34.2	3.90	2.76	44.4	31.4	342.					47400.	47400.	48700.	47400.	47400.	47400.
.06	46.9	35.1	4.40	3.29	42.5	31.8	181.					31600.	31600.	32300.	31600.	31600.	31600.
.08	44.5	35.8	5.21	4.19	39.3	31.6	110.					43000.	43000.	44100.	43000.	43000.	43000.
K.098404	42.5	35.7	5.80	4.87	36.7	30.8	75.4					38500.	38500.	39500.	38500.	38500.	38500.
.1	42.4	35.8	5.85	4.94	36.5	30.9	73.2					44900.	44900.	45900.	44900.	44900.	44900.
.15	38.1	34.7	6.92	6.30	31.2	28.4	34.6					34200.	34200.	35100.	34200.	34200.	34200.
.2	35.0	32.8	7.56	7.09	27.4	25.7	20.1					11900.	11900.	12400.	11900.	11900.	11900.
.3	30.4	29.3	8.19	7.90	22.2	21.4	6.13					5520.	5520.	5890.	5520.	5520.	5520.
.4	27.2	26.6	8.44	8.11	18.8	18.5	5.17					3020.	3020.	3300.	3020.	3020.	3020.
.5	24.9	24.5	8.48	8.23	16.4	16.3	3.35					1850.	1700.	2070.	1890.	1850.	1700.
.6	23.0	22.7	8.45	8.17	14.6	14.5	2.32					843.	793.	989.	879.	848.	797.
.8	20.2	20.0	8.26	7.94	11.9	12.1	1.31					470.	447.	581.	506.	476.	452.
1.	18.2	18.1	7.99	7.49	10.2	10.6	.850					2200.	695.	2310.	2240.	2210.	700.
1.5	14.8	14.7	7.30	6.88	7.46	7.82	.381	.625	.625	.188		2110.	690.	2220.	2150.	2120.	695.
2.	12.6	12.6	6.68	6.24	5.91	6.36	.215	1.97	.896			730.	402.	799.	765.	717.	408.
3.	9.90	9.88	5.71	5.08	4.18	4.80	.0963	4.40	.00346	4.40	2.63	347.	230.	400.	380.	355.	237.
4.	8.27	8.27	5.02	4.26	3.25	3.99	.0540	6.37	.0142	6.38	4.21	120.	93.1	158.	149.	128.	101.
5.	7.14	7.14	4.49	3.69	2.66	3.45	.0353	8.00	.0279	8.03	5.52	59.1	49.2	90.9	85.7	67.5	57.3
6.	6.31	6.31	4.07	3.22	2.25	3.09	.0245	9.30	.0431	9.34	6.56	34.8	30.1	62.6	59.3	43.3	38.3
8.	5.17	5.17	3.45	2.56	1.72	2.61	.0138	11.4	.0724	11.5	8.10	22.9	20.3	47.9	45.6	31.3	28.5
10.	4.40	4.40	3.01	2.13	1.39	2.27	.00888	13.4	.100	13.5	9.36	12.1	11.1	33.4	32.1	20.4	19.0
15.	3.26	3.26	2.31	1.54	.944	1.72	.00403	17.2	.155	17.4	11.2	7.70	7.18	26.6	25.8	15.7	14.7
20.	2.61	2.61	1.90	1.16	.715	1.45	.00192	20.1	.195	20.3	12.2	3.68	3.51	19.4	19.0	11.6	10.6
30.	1.90	1.90	1.42	.737	.481	1.16		23.9	.252	24.2	12.9	2.23	2.15	17.0	16.8	10.9	9.29
40.	1.51	1.51	1.15	.522	.363	.988		26.6	.293	26.9	12.6	1.20	1.17	15.6	15.5	11.3	8.88
50.	1.26	1.26	.972	.397	.291	.863		28.7	.325	29.0	12.5	.800	.787	15.5	15.4	12.2	9.28
60.	1.09	1.09	.844	.313	.243	.777		30.3	.349	30.6	12.3	.596	.584	15.8	15.8	13.1	9.80
80.	.857	.857	.674	.212	.183	.645		32.6	.386	33.0	11.8	.469	.464	16.1	16.1	13.9	10.2
100.	.712	.712	.565	.157	.147	.555		34.3	.415	34.7	11.2	.322	.319	17.0	17.0	15.3	11.0
												.242	.240	18.2	18.1	16.8	11.7
												.149	.148	20.8	20.8	19.9	12.9
												.107	.107	23.0	23.0	22.3	13.5
												.0682	.0680	26.2	26.2	25.7	13.7
												.0498	.0497	28.5	28.5	28.1	13.2
												.0390	.0389	30.3	30.3	30.0	12.9
												.0320	.0320	31.7	31.7	31.5	12.6
												.0234	.0234	33.9	33.9	33.7	12.0
												.0183	.0183	35.4	35.4	35.3	11.4

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 (barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	$\sigma_{n,n}$	$\sigma_{n,p}$	$\sigma_{n,t}$	$\sigma_{n,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	57.6	1.54	.112	.00300	57.5	1.54	4780.										
N _I .001150	57.6	1.85	.129	.00414	57.5	1.85	4720.										
.0015	57.5	2.60	.163	.00758	57.4	2.59	4580.										
.002	57.4	3.70	.223	.0144	57.2	3.69	4360.										
.003	57.2	5.86	.332	.0340	56.9	5.83	3910.										
M _V .003	57.2	5.86	.332	.0340	56.9	5.83	3910.										
M _{IV} .003136	57.2	6.14	.346	.0372	56.8	6.10	3850.										
M _{III} .003664	57.1	7.21	.403	.0509	56.7	7.16	3620.										
.004	57.0	7.86	.438	.0605	56.5	7.80	3490.										
M _{II} .004325	56.9	8.46	.473	.0703	56.4	8.39	3370.										
M _I .004652	56.8	9.04	.507	.0807	56.3	8.96	3250.										
.005	56.8	9.64	.544	.0923	56.2	9.55	3130.										
.006	55.5	11.2	.647	.128	55.9	11.1	2820.										
.008	56.1	14.1	.849	.213	55.3	13.9	2310.										
.01	55.7	16.7	1.04	.313	54.7	16.4	1920.										
.015	54.7	21.6	1.51	.597	53.2	21.0	1290.										
L _{III} .015030	54.7	21.7	1.51	.600	53.2	21.1	1280.										
L _{II} .017904	54.2	23.8	1.76	.774	52.4	23.0	1050.										
L _I .018639	54.0	24.3	1.82	.821	52.2	23.5	997.										
.02	53.8	25.2	1.94	.909	51.8	24.3	913.										
.03	52.0	29.9	2.70	1.56	49.3	28.3	530.										
.04	50.3	32.8	3.36	2.19	47.0	30.6	352.										
.05	48.8	34.5	3.94	2.78	44.9	31.7	250.										
.06	47.5	35.5	4.45	3.33	43.0	32.2	186.										
.08	45.0	36.2	5.27	4.24	39.7	32.0	113.										
.1	42.9	36.1	5.92	4.98	37.0	31.1	75.4										
K.101137	42.8	36.1	5.95	5.02	36.8	31.1	73.9										
.15	38.6	35.1	7.00	6.37	31.6	28.7	35.6										
.2	35.4	33.2	7.64	7.18	27.7	26.0	20.6										
.3	30.7	29.7	8.29	8.01	22.5	21.7	9.40										
.4	27.5	26.9	8.53	8.20	19.0	18.7	5.32										
.5	25.2	24.7	8.58	8.30	16.6	16.4	3.45										
.6	23.3	23.0	8.55	8.28	14.7	14.7	2.40										
.8	20.4	20.3	8.36	8.04	12.1	12.3	1.35										
1.	18.4	18.3	8.08	7.58	10.3	10.7	.872										
1.5	14.9	14.9	7.38	6.97	7.54	7.93	.392	.645		.645	.194	3.86	3.68	19.8	19.4	11.9	10.8
2.	12.7	12.7	6.76	6.29	5.97	6.41	.222	2.03		.924		2.34	2.26	17.3	17.1	11.1	9.47
3.	10.0	10.0	5.78	5.14	4.23	4.86	.0992	4.52	.00350	4.52	2.71	1.27	1.24	15.9	15.8	11.6	9.09
4.	8.37	8.37	5.08	4.32	3.29	4.05	.0555	6.50	.0143	6.51	4.29	.847	.832	15.8	15.7	12.4	9.44
5.	7.23	7.23	4.54	3.73	2.69	3.50	.0363	8.18	.0282	8.21	5.64	.629	.620	16.1	16.1	13.4	9.90
6.	6.39	6.39	4.11	3.25	2.27	3.14	.0252	9.50	.0436	9.54	6.69	.493	.487	16.4	16.4	14.1	10.4
8.	5.23	5.23	3.49	2.59	1.74	2.64	.0142	11.6	.0732	11.7	8.23	.340	.337	17.3	17.3	15.5	11.2
10.	4.45	4.45	3.04	2.15	1.51	2.30	.00914	13.7	.102	13.8	9.54	.257	.255	18.5	18.5	17.1	11.9
15.	3.29	3.29	2.34	1.55	.955	1.74	.00416	17.5	.157	17.7	11.4	.157	.156	21.2	21.1	20.2	13.1
20.	2.64	2.64	1.92	1.17	.723	1.47	.00200	20.5	.197	20.7	12.3	.112	.112	23.5	23.5	22.7	13.6
30.	1.92	1.92	1.44	.743	.486	1.18		24.5	.255	24.8	13.1	.0719	.0717	26.8	26.8	26.3	13.9
40.	1.53	1.53	1.16	.528	.367	1.00		27.3	.296	27.6	12.9	.0524	.0523	29.2	29.2	28.8	13.5
50.	1.28	1.28	.983	.402	.294	.878		29.3	.329	29.6	12.7	.0410	.0409	30.9	30.9	30.6	13.1
60.	1.10	1.10	.854	.315	.246	.785		30.9	.352	31.3	12.4	.0336	.0336	32.4	32.4	32.2	12.7
80.	.867	.867	.682	.214	.185	.653		33.3	.390	33.7	12.0	.0245	.0245	34.6	34.6	34.4	12.2
100.	.720	.720	.572	.158	.149	.562		34.9	.420	35.3	11.3	.0192	.0192	36.0	36.0	35.9	11.5

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(cm²/g = 0.002701 x barns/atom)

E (MeV)	($\frac{\sigma}{E}$) _{inc,t} ^{KN}	($\frac{\sigma}{E}$) _{inc,t} ^{BD}	($\frac{\sigma}{E}$) _{inc,a} ^{KN}	($\frac{\sigma}{E}$) _{inc,a} ^{BD}	($\frac{\sigma}{E}$) _{inc,s} ^{KN}	($\frac{\sigma}{E}$) _{inc,s} ^{BD}	($\frac{\sigma}{E}$) _{coh}	($\frac{\sigma}{E}$) _{ex,n}	($\frac{\sigma}{E}$) _{ex,e}	($\frac{\sigma}{E}$) _{ex,l}	($\frac{\sigma}{E}$) _{ex,u}	($\frac{\sigma}{E}$) _{r,l}	($\frac{\sigma}{E}$) _{r,a}	($\frac{\sigma}{E}$) _{tot,l}	($\frac{\sigma}{E}$) _{tot,l-coh}	($\frac{\sigma}{E}$) _{tot,a}	($\frac{\sigma}{E}$) _{tot,en}
.001	.156	.00416	.000303	.0000081	.155	.00416	12.9	---	---	---	---	---	---	---	---	---	---
M _I .001150	.156	.00500	.000348	.0000112	.155	.00500	12.7	---	---	---	---	---	---	---	---	---	---
.0015	.155	.00702	.000454	.0000205	.155	.00700	12.4	5590.	3110.	3110.	3110.	5590.	5590.	5590.	5590.	5590.	5590.
.002	.155	.00999	.000602	.0000389	.154	.00997	11.8	1620.	1620.	1620.	1620.	1620.	1620.	1620.	1620.	1620.	1620.
.003	.154	.0158	.000897	.0000918	.154	.0157	10.6	648.	648.	648.	648.	648.	648.	648.	648.	648.	648.
M _V .003	.154	.0158	.000897	.0000918	.154	.0157	10.6	648.	648.	648.	648.	648.	648.	648.	648.	648.	648.
M _{IV} .003136	.154	.0166	.000935	.000100	.153	.0165	10.4	2030.	2030.	2030.	2030.	2030.	2030.	2030.	2030.	2030.	2030.
M _{III} .003664	.154	.0195	.00109	.000137	.153	.0193	9.78	1850.	1850.	1850.	1850.	1850.	1850.	1850.	1850.	1850.	1850.
.004	.154	.0212	.00118	.000163	.153	.0211	9.43	2100.	2100.	2100.	2100.	2100.	2100.	2100.	2100.	2100.	2100.
M _{II} .004325	.154	.0229	.00128	.000190	.152	.0227	9.10	1540.	1540.	1540.	1540.	1540.	1540.	1540.	1540.	1540.	1540.
M _I .004652	.153	.0244	.00137	.000218	.152	.0242	8.78	1240.	1240.	1240.	1240.	1240.	1240.	1240.	1240.	1240.	1240.
.005	.153	.0260	.00147	.000249	.152	.0258	8.45	1030.	1030.	1030.	1030.	1030.	1030.	1030.	1030.	1030.	1030.
.006	.153	.0303	.00175	.000346	.151	.0300	7.62	1230.	1230.	1230.	1230.	1230.	1230.	1230.	1230.	1230.	1230.
.008	.152	.0381	.00229	.000575	.149	.0375	6.24	1010.	1010.	1010.	1010.	1010.	1010.	1010.	1010.	1010.	1010.
.01	.150	.0451	.00281	.000845	.148	.0443	5.19	1150.	1150.	1150.	1150.	1150.	1150.	1150.	1150.	1150.	1150.
.015	.148	.0583	.00408	.00161	.144	.0567	3.48	945.	945.	945.	945.	945.	945.	945.	945.	945.	945.
L _{III} .015030	.148	.0586	.00408	.00162	.144	.0570	3.46	583.	583.	583.	583.	583.	583.	583.	583.	583.	583.
L _{II} .017904	.146	.0643	.00475	.00209	.142	.0621	2.84	270.	270.	270.	270.	270.	270.	270.	270.	270.	270.
L _I .018639	.146	.0656	.00492	.00222	.141	.0635	2.69	151.	151.	151.	151.	151.	151.	151.	151.	151.	151.
.02	.145	.0681	.00524	.00246	.140	.0656	2.47	50.2	50.2	50.2	50.2	50.2	50.2	50.2	50.2	50.2	50.2
.03	.140	.0808	.00729	.00421	.133	.0764	1.43	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
.04	.136	.0886	.00908	.00592	.127	.0827	.951	124.	124.	124.	124.	124.	124.	124.	124.	124.	124.
.05	.132	.0932	.0106	.00751	.121	.0856	.675	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8
.06	.128	.0959	.0120	.00899	.116	.0870	.502	112.	112.	112.	112.	112.	112.	112.	112.	112.	112.
.08	.122	.0978	.0142	.0115	.107	.0864	.305	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
.1	.116	.0975	.0160	.0135	.0999	.0840	.204	116.	116.	116.	116.	116.	116.	116.	116.	116.	116.
K.101137	.116	.0975	.0161	.0136	.0994	.0840	.200	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2
.15	.104	.0948	.0189	.0172	.0854	.0775	.0962	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2
.2	.0956	.0897	.0206	.0194	.0748	.0702	.0556	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6
.3	.0829	.0802	.0224	.0216	.0608	.0586	.0254	8.59	8.59	8.59	8.59	8.59	8.59	8.59	8.59	8.59	8.59
.4	.0743	.0727	.0230	.0221	.0513	.0505	.0144	5.27	5.27	5.27	5.27	5.27	5.27	5.27	5.27	5.27	5.27
.5	.0681	.0667	.0232	.0224	.0448	.0443	.00932	2.37	2.37	2.37	2.37	2.37	2.37	2.37	2.37	2.37	2.37
.6	.0629	.0621	.0231	.0224	.0397	.0397	.00548	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27
.8	.0551	.0548	.0226	.0217	.0327	.0332	.00365	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
.1	.0497	.0494	.0218	.0205	.0278	.0289	.00236	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18
.15	.0402	.0402	.0199	.0188	.0204	.0214	.00106	.975	.975	.975	.975	.975	.975	.975	.975	.975	.975
.2	.0343	.0343	.0183	.0170	.0161	.0173	.000600	.340	.340	.340	.340	.340	.340	.340	.340	.340	.340
.3	.0270	.0270	.0156	.0139	.0114	.0131	.000268	.167	.167	.167	.167	.167	.167	.167	.167	.167	.167
.4	.0226	.0226	.0137	.0117	.00889	.0109	.000150	.0986	.0986	.0986	.0986	.0986	.0986	.0986	.0986	.0986	.0986
.5	.0195	.0195	.0123	.0101	.00727	.00945	.0000980	.0666	.0666	.0666	.0666	.0666	.0666	.0666	.0666	.0666	.0666
.6	.0173	.0173	.0111	.00878	.00613	.00848	.0000681	.0343	.0343	.0343	.0343	.0343	.0343	.0343	.0343	.0343	.0343
.8	.0141	.0141	.00943	.00700	.00470	.00713	.0000384	.0219	.0219	.0219	.0219	.0219	.0219	.0219	.0219	.0219	.0219
.1	.0120	.0120	.00821	.00581	.00381	.00621	.0000247	.0104	.0104	.0104	.0104	.0104	.0104	.0104	.0104	.0104	.0104
.15	.00889	.00889	.00632	.00419	.00253	.00470	.0000112	.00994	.00994	.00994	.00994	.00994	.00994	.00994	.00994	.00994	.00994
.2	.00713	.00713	.00519	.00316	.00195	.00397	.0000054	.00632	.00632	.00632	.00632	.00632	.00632	.00632	.00632	.00632	.00632
.3	.00519	.00519	.00389	.00201	.00131	.00319	.0000054	.00343	.00343	.00343	.00343	.00343	.00343	.00343	.00343	.00343	.00343
.4	.00413	.00413	.00313	.00143	.000991	.00270	.0000054	.00229	.00229	.00229	.00229	.00229	.00229	.00229	.00229	.00229	.00229
.5	.00346	.00346	.00266	.00109	.000734	.00237	.0000054	.00170	.00170	.00170	.00170	.00170	.00170	.00170	.00170	.00170	.00170
.6	.00297	.00297	.00231	.000851	.000654	.00212	.0000054	.00133	.00133	.00133	.00133	.00133	.00133	.00133	.00133	.00133	.00133
.8	.00234	.00234	.00184	.000578	.000500	.00176	.0000054	.000918	.000918	.000918	.000918	.000918	.000918	.000918	.000918	.000918	.000918
100.	.00194	.00194	.00154	.000427	.000402	.00152	.0000054	.000694	.000694	.000694	.000694	.000694	.000694	.000694	.000694	.000694	.000694

88 RADIUM
(barns/atom)

E (MeV)	$\sigma_{KN,inc,t}$	$\sigma_{BD,inc,t}$	$\sigma_{KN,inc,a}$	$\sigma_{BD,inc,a}$	$\sigma_{KN,inc,s}$	$\sigma_{BD,inc,s}$	T_{coh}	σ_{xn}	σ_{xc}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	58.3	1.80	.114	.00351	58.2	1.80	4770.										
N _I .001208	58.3	2.26	.137	.00532	58.1	2.25	4780.										
.0015	58.2	2.90	.170	.00846	58.0	2.89	4850.										
.002	58.1	4.00	.225	.0155	57.9	3.94	4420.										
.003	57.9	6.13	.335	.0355	57.5	6.09	3570.										
M _V .003109	57.8	6.35	.347	.0381	57.5	6.31	3520.										
M _{IV} .003253	57.8	6.65	.363	.0417	57.4	6.61	3560.										
M _{III} .003791	57.7	7.73	.421	.0564	57.3	7.67	3640.										
.004	57.6	8.13	.444	.0626	57.2	8.07	3550.										
M _{II} .004490	57.5	9.02	.496	.0778	57.0	8.94	3370.										
M _I .004824	57.5	9.61	.531	.0889	56.9	9.52	3250.										
.005	57.4	9.91	.550	.0949	56.9	9.82	3130.										
.006	57.2	11.5	.655	.132	56.5	11.4	2880.										
.008	56.8	14.4	.859	.218	55.9	14.2	2350.										
.01	56.4	16.9	1.06	.317	55.3	16.6	1970.										
L _{III} .015446	55.3	22.3	1.57	.632	53.7	21.7	1270.										
L _{II} .018484	54.7	24.5	1.83	.821	52.8	23.7	1030.										
L _I .019237	54.5	25.0	1.90	.869	52.6	24.1	931.										
.02	54.4	25.4	1.96	.917	52.4	24.5	934.										
.03	52.6	30.1	2.74	1.57	49.9	28.5	533.										
.04	50.9	33.1	3.40	2.21	47.5	30.9	340.										
.05	49.4	34.8	3.99	2.81	45.4	32.0	256.										
.06	48.0	35.8	4.50	3.36	43.5	32.4	191.										
.08	45.5	36.5	5.33	4.27	40.2	32.2	16.										
.1	43.4	36.5	5.98	5.04	37.4	31.5	744.										
K.103922	43.0	36.6	6.09	5.19	36.9	31.4	721.										
.15	39.0	35.5	7.08	6.44	32.0	29.1	36.5										
.2	35.8	33.6	7.73	7.26	28.0	26.3	11.2										
.3	31.1	30.0	8.38	8.09	22.7	21.9	9.67										
.4	27.9	27.2	8.63	8.30	19.2	18.9	5.47										
.5	25.4	25.0	8.68	8.40	16.3	16.6	3.51										
.6	23.5	23.2	8.65	8.35	14.9	14.8	2.47										
.8	20.7	20.5	8.45	8.12	12.2	12.4	1.39										
1.	18.6	18.5	8.18	7.66	10.4	10.8	.900										
1.5	15.1	15.0	7.47	7.02	7.63	7.98	.405	.670									
2.	12.9	12.8	5.83	6.34	6.04	6.46	.228	2.10									
3.	10.1	10.1	5.84	5.18	4.28	4.92	.102	4.65	.00354								
4.	8.47	8.47	5.14	4.36	3.33	4.11	.0571	6.66	.0145	6.67	4.40						
5.	7.31	7.31	4.59	3.76	2.72	3.55	.0373	8.36	.0285	8.39	5.75						
6.	6.46	6.46	4.16	3.28	2.30	3.18	.0259	9.70	.0440	9.74	6.82						
8.	5.29	5.29	3.53	2.61	1.76	2.68	.0146	11.8	.0740	11.9	8.36						
10.	4.50	4.50	3.08	2.17	1.42	2.33	.00941	14.0	.103	14.1	9.73						
15.	3.33	3.33	2.37	1.57	.966	1.76	.00429	17.9	.158	18.1	11.6						
20.	2.67	2.67	1.94	1.18	.731	1.49	.00208	21.0	.199	21.2	12.6						
30.	1.95	1.95	1.45	.753	.492	1.20		.258	.258	25.3	13.3						
40.	1.55	1.55	1.18	.533	.371	1.02		.300	.300	28.1	13.1						
50.	1.29	1.29	.944	.405	.297	.885		.332	.332	30.1	12.4						
60.	1.11	1.11	.863	.316	.249	.794		.316	.316	32.0	12.7						
80.	.877	.877	.690	.216	.187	.661		.340	.340	34.4	12.2						
100.	.729	.729	.578	.160	.150	.569		.358	.358	36.2	11.6						

89 ACTINIUM
 (barns/atom)

E (MeV)	$\sigma_{\text{inc,t}}^{\text{KN}}$	$\sigma_{\text{inc,t}}^{\text{BD}}$	$\sigma_{\text{inc,a}}^{\text{KN}}$	$\sigma_{\text{inc,a}}^{\text{BD}}$	$\sigma_{\text{inc,s}}^{\text{KN}}$	$\sigma_{\text{inc,s}}^{\text{BD}}$	σ_{coh}	σ_{xn}	σ_{nc}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{\text{tot,t}}$	$\sigma_{\text{tot,t-coh}}$	$\sigma_{\text{tot,a}}$	$\sigma_{\text{tot,en}}$
.001	59.0	1.83	.115	.00356	58.9	1.83	4980.										
M_I .001269	58.9	2.43	.146	.00600	58.8	2.42	4860.										
.0015	58.9	2.95	.172	.00861	58.7	2.94	4750.										
.002	58.7	4.06	.228	.0158	58.5	4.04	4510.										
.003	58.5	6.24	.339	.0362	58.2	6.20	4040.										
M_V .003219	58.5	6.69	.363	.0416	58.1	6.65	3950.										
M_{IV} .003371	58.4	7.01	.380	.0456	58.1	6.96	3880.										
M_{III} .003918	58.3	8.11	.440	.0611	57.9	8.05	3650.										
.004	58.3	8.27	.449	.0636	57.8	8.21	3620.										
M_{II} .004658	58.1	9.47	.520	.0846	57.6	9.39	3370.										
.005	58.1	10.1	.556	.0967	57.5	10.0	3250.										
M_I .005002	58.1	10.1	.556	.0968	57.5	10.0	3250.										
.006	57.8	11.7	.662	.134	57.2	11.6	2930.										
.008	57.4	14.5	.869	.220	56.6	14.3	2410.										
.01	57.0	17.1	1.07	.320	55.9	16.8	2010.										
.015	55.0	22.1	1.55	.611	54.4	21.5	1350.										
L_{III} .015870	55.8	22.8	1.62	.663	54.2	22.1	1270.										
L_{II} .019083	55.2	25.1	1.90	.866	53.3	24.2	1020.										
L_I .019845	55.0	25.6	1.97	.916	53.1	24.7	971.										
.02	55.0	25.7	1.98	.928	53.0	24.8	961.										
.03	53.2	30.4	2.77	1.58	51.4	28.8	559.										
.04	51.5	33.4	3.44	2.23	48.1	31.2	371.										
.05	50.0	35.1	4.03	2.83	45.9	32.3	264.										
.06	48.6	36.1	4.56	3.39	44.0	32.7	197.										
.08	46.0	36.9	5.39	4.32	40.6	32.6	120.										
.1	43.9	36.8	6.05	5.08	37.8	31.7	79.8										
K .106759	43.2	37.0	6.24	5.35	36.9	31.6	70.8										
.15	39.5	35.9	7.16	6.52	32.3	29.4	37.7										
.2	36.2	33.9	7.82	7.33	28.4	26.6	21.9										
.3	31.5	30.3	8.48	8.17	23.0	22.1	9.95										
.4	28.2	27.5	8.73	8.39	19.5	19.1	5.63										
.5	25.7	25.3	8.78	8.50	17.0	16.8	3.65										
.6	23.8	23.5	8.75	8.46	15.1	15.0	2.53										
.8	20.9	20.7	8.55	8.20	12.4	12.5	1.43										
1.	18.8	18.7	8.27	7.72	10.5	11.0	.528										
1.5	15.3	15.2	7.55	7.11	7.72	8.09	.417	.690		.690	.207	4.28	4.07	20.6	20.2	12.5	11.4
2.	13.0	13.0	6.91	6.42	6.11	6.58	.236	2.17		2.17	.987	2.59	2.50	18.0	17.8	11.7	9.91
3.	10.2	10.2	5.91	5.22	4.33	4.98	.105	4.78	.00358	4.78	2.86	1.40	1.37	16.5	16.4	12.1	9.45
4.	8.56	8.56	5.20	4.40	3.37	4.16	.0588	6.80	.0147	6.81	4.48	.931	.914	16.4	16.3	12.9	9.79
5.	7.39	7.39	4.64	3.79	2.75	3.60	.0383	8.53	.0288	8.56	5.86	.692	.682	16.7	16.6	13.9	10.3
6.	6.53	6.53	4.21	3.31	2.33	3.22	.0266	9.90	.0445	9.94	6.96	.545	.538	17.0	17.0	14.7	10.8
8.	5.35	5.35	3.57	2.63	1.78	2.72	.0150	12.1	.0749	12.2	8.56	.375	.372	17.9	17.9	16.1	11.6
10.	4.55	4.55	3.11	2.19	1.44	2.36	.00968	14.2	.105	14.3	9.84	.282	.280	19.1	19.1	17.7	12.3
15.	3.37	3.37	2.39	1.59	.977	1.78	.00442	18.3	.160	18.5	11.8	.173	.172	22.0	22.0	21.1	13.6
20.	2.70	2.70	1.97	1.19	.740	1.51	.00216	21.4	.202	21.6	12.8	.124	.124	24.4	24.4	23.7	14.1
30.	1.97	1.97	1.47	.758	.498	1.21		25.5	.260	25.8	13.5	.0790	.0788	27.8	27.8	27.3	14.3
40.	1.56	1.56	1.19	.535	.376	1.02		28.4	.303	28.7	13.3	.0577	.0576	30.3	30.3	29.9	13.9
50.	1.31	1.31	1.01	.410	.301	.900		30.5	.336	30.8	13.0	.0451	.0450	32.2	32.2	31.9	13.5
60.	1.12	1.12	.873	.318	.252	.802		32.2	.360	32.6	12.8	.0370	.0370	33.8	33.8	33.5	13.2
80.	.887	.887	.698	.218	.189	.669		34.6	.398	35.0	12.3	.0270	.0270	35.9	35.9	35.7	12.5
100.	.737	.737	.585	.161	.152	.576		36.5	.428	36.9	11.7	.0211	.0211	37.7	37.7	37.5	11.9

89. ACTINIUM
(cm²/g = 0.002653 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{x,n}	($\frac{\mu}{\rho}$) _{x,e}	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _{t,t}	($\frac{\mu}{\rho}$) _{t,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.157	.00485	.000305	.0000094	.156	.00485	13.2										
N _I .001269	.156	.00645	.000387	.0000159	.156	.00642	12.9										
.0015	.156	.00783	.000456	.0000228	.156	.0078	12.6					4830.	4830.	4830.	4830.	4830.	4830.
.002	.156	.0108	.000605	.0000419	.155	.0107	12.0					3320.	3320.	3320.	3320.	3320.	3320.
.003	.155	.0166	.000899	.0000960	.154	.0164	10.7					1730.	1730.	1730.	1730.	1730.	1730.
M _Y .003219	.155	.0177	.000963	.000110	.154	.0176	10.5					687.	687.	687.	687.	687.	687.
												586.	586.	586.	586.	586.	586.
M _{IV} .003371	.155	.0186	.00101	.000121	.154	.0185	10.3					1840.	1840.	1840.	1840.	1840.	1840.
												1670.	1670.	1680.	1670.	1670.	1670.
M _{III} .003918	.155	.0215	.00117	.000162	.154	.0214	9.68					1890.	1890.	1900.	1890.	1890.	1890.
												1220.	1220.	1230.	1220.	1220.	1220.
.004	.155	.0219	.00119	.000169	.153	.0218	9.60					1400.	1400.	1410.	1400.	1400.	1400.
M _{II} .004658	.154	.0251	.00138	.000224	.153	.0249	9.94					1340.	1340.	1350.	1340.	1340.	1340.
												931.	931.	939.	931.	931.	931.
.005	.154	.0268	.00148	.000257	.153	.0265	8.62					1110.	1110.	1120.	1110.	1110.	1110.
M _I .005002	.154	.0268	.00148	.000257	.153	.0265	8.62					910.	910.	918.	910.	910.	910.
												1030.	1030.	1030.	1030.	1030.	1030.
.006	.153	.0310	.00176	.000356	.152	.0308	7.77					634.	634.	642.	634.	634.	634.
.008	.152	.0385	.00231	.000584	.150	.0379	6.39					294.	294.	300.	294.	294.	294.
.01	.151	.0454	.00284	.000849	.148	.0446	5.33					164.	164.	170.	164.	164.	164.
L _{III} .015870	.148	.0605	.00430	.00176	.144	.0586	3.37					54.4	54.4	58.1	54.4	54.4	54.4
												46.7	46.7	50.1	46.7	46.7	46.7
L _{II} .019083	.146	.0666	.00504	.00230	.141	.0642	2.71					114.	80.4	118.	114.	114.	80.4
												73.0	54.9	75.6	73.0	73.0	54.9
L _I .019845	.146	.0679	.00523	.00243	.141	.0655	2.58					101.	74.0	104.	101.	101.	74.0
												90.5	67.4	93.1	90.5	90.5	67.4
.02	.146	.0682	.00525	.00246	.141	.0658	2.55					106.	78.0	108.	106.	106.	78.0
.03	.141	.0807	.00735	.00419	.134	.0764	1.48					102.	75.9	105.	102.	102.	75.9
.04	.137	.0886	.00913	.00592	.128	.0828	.984					35.6	29.4	37.1	35.6	35.6	29.4
.05	.133	.0931	.0107	.00751	.122	.0857	.700					16.8	14.6	17.8	16.8	16.8	14.6
.06	.129	.0958	.0121	.00899	.117	.0868	.523					9.29	8.33	10.1	9.39	9.29	8.33
.08	.122	.0979	.0143	.0115	.108	.0865	.318					5.70	5.20	6.31	5.81	5.70	5.20
.1	.116	.0976	.0161	.0135	.100	.0841	.212					2.58	2.41	3.00	2.68	2.59	2.42
K.106759	.115	.0982	.0166	.0142	.0979	.0838	.188					1.39	1.32	1.70	1.49	1.41	1.33
.15	.105	.0952	.0190	.0173	.0857	.0780	.100					1.16	1.10	1.44	1.25	1.17	1.11
.2	.0960	.0899	.0207	.0194	.0753	.0706	.0581					5.31	1.68	5.60	5.41	5.33	1.69
.3	.0836	.0804	.0225	.0217	.0610	.0586	.0264					2.20	1.13	2.40	2.30	2.22	1.15
.4	.0748	.0730	.0232	.0223	.0517	.0507	.0149					1.05	.666	1.20	1.14	1.07	.684
.5	.0682	.0671	.0233	.0226	.0451	.0446	.00968					.366	.276	.472	.446	.387	.297
.6	.0631	.0623	.0232	.0224	.0401	.0398	.00671					.181	.148	.268	.254	.204	.170
.8	.0554	.0549	.0227	.0218	.0329	.0322	.00379					.104	.0907	.183	.174	.130	.113
1.	.0499	.0496	.0219	.0205	.0279	.0292	.00266					.0708	.0623	.140	.133	.0942	.0844
1.5	.0405	.0403	.0200	.0189	.0205	.0215	.00111	.00183				.0374	.0340	.0960	.0923	.0600	.0551
2.	.0345	.0345	.0183	.0170	.0162	.0175	.000626	.00576				.0239	.0221	.0759	.0735	.0459	.0427
3.	.0271	.0271	.0157	.0138	.0115	.0132	.000279	.0127	.0000095			.0114	.0104	.0547	.0536	.0332	.0302
4.	.0227	.0227	.0138	.0117	.00894	.0110	.000156	.0180	.0000390			.00687	.00663	.0478	.0472	.0310	.0263
5.	.0196	.0196	.0123	.0101	.00730	.00955	.000102	.0226	.0000764			.00371	.00363	.0438	.0435	.0321	.0251
6.	.0173	.0173	.0112	.00878	.00618	.00854	.0000706	.0263	.000118	.0264		.00247	.00242	.0435	.0432	.0342	.0250
8.	.0142	.0142	.00947	.00698	.00472	.00722	.0000398	.0321	.000199	.0324		.00184	.00181	.0443	.0440	.0369	.0273
10.	.0121	.0121	.00825	.00581	.00382	.00626	.0000257	.0377	.000276	.0379		.00145	.00143	.0451	.0451	.0390	.0287
15.	.00894	.00894	.00634	.00422	.00259	.00472	.0000117	.0485	.000424	.0491		.000995	.000987	.0475	.0475	.0427	.0308
20.	.00716	.00716	.00523	.00316	.00196	.00401	.0000057	.0568	.000536	.0573		.000748	.000743	.0507	.0507	.0470	.0325
30.	.00523	.00523	.00390	.00201	.00132	.00321		.0677	.000690	.0684		.000459	.000455	.0584	.0584	.0560	.0361
40.	.00414	.00414	.00316	.00142	.000958	.00271		.0753	.000804	.0761		.000329	.000329	.0647	.0647	.0629	.0374
50.	.00348	.00348	.00268	.00109	.000759	.00239		.0809	.000891	.0817		.000210	.000209	.0738	.0738	.0724	.0379
60.	.00297	.00297	.00232	.000844	.000649	.00213		.0854	.000955	.0865		.000153	.000153	.0804	.0804	.0793	.0364
80.	.00235	.00235	.00185	.000578	.000501	.00177		.0918	.00106	.0929		.000120	.000119	.0854	.0854	.0846	.0358
100.	.00196	.00196	.00155	.000427	.000443	.00153		.0968	.00114	.0979		.0000982	.0000982	.0897	.0897	.0889	.0350
												.0000716	.0000716	.0952	.0952	.0947	.0332
												.0000560	.0000560	.100	.100	.0995	.0316

90 THORIUM
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	59.6	1.82	.116	.00355	59.5	1.82	5090.										
N _I .001330	59.6	2.57	.154	.00665	59.4	2.56	4940.										
.0015	59.5	2.95	.174	.00861	59.3	2.94	4850.										
.002	59.4	4.08	.230	.0158	59.2	4.06	4610.										
.003	59.2	6.28	.343	.0364	58.8	6.24	4120.										
M _V .003332	59.1	6.98	.380	.0449	58.7	6.94	3970.										
M _{IV} .003490	59.1	7.31	.397	.0492	58.7	7.26	3900.										
.004	58.9	8.35	.454	.0643	58.5	8.29	3690.										
M _{III} .004046	58.9	8.44	.459	.0657	58.5	8.37	3670.										
M _{II} .004830	58.8	9.87	.544	.0914	58.2	9.78	3370.										
.005	58.7	10.2	.562	.0977	58.2	10.1	3310.										
M _I .005182	58.7	10.5	.582	.104	58.1	10.4	3270.										
.006	58.5	11.8	.670	.135	57.8	11.7	2970.										
.008	58.1	14.6	.879	.221	57.2	14.4	2400.										
.01	57.6	17.2	1.08	.322	56.6	16.9	2050.										
.015	56.6	22.3	1.57	.617	55.0	21.7	1340.										
L _{III} .016300	56.3	23.3	1.68	.695	54.7	22.6	1240.										
L _{II} .019693	55.7	25.7	1.98	.913	53.7	24.8	1010.										
.02	55.6	25.9	2.01	.935	53.5	25.0	986.										
L _I .020466	55.5	26.2	2.04	.965	53.5	25.2	957.										
.03	53.8	30.7	2.80	1.40	51.0	29.1	513.										
.04	52.1	33.6	3.47	2.24	48.6	31.4	381.										
.05	50.5	35.4	4.08	2.86	46.5	32.5	271.										
.06	49.1	36.5	4.61	3.42	44.5	33.1	222.										
.08	46.5	37.2	5.45	4.36	41.1	32.8	123.										
.1	44.3	37.2	5.12	5.13	38.2	32.1	62.0										
K _I .109651	43.4	37.3	5.39	5.49	37.0	31.8	69.3										
.15	39.9	36.3	7.24	6.59	32.7	29.7	38.8										
.2	35.6	34.3	7.91	7.42	28.7	26.9	22.5										
.3	31.8	30.7	8.58	8.28	23.2	22.4	10.2										
.4	28.5	27.8	8.83	8.48	19.7	19.3	5.79										
.5	26.0	25.6	8.88	8.58	17.1	17.0	3.75										
.6	24.1	23.8	8.85	8.57	15.2	15.2	2.60										
.8	21.1	21.0	8.65	8.32	12.5	12.7	1.47										
1.	19.0	18.9	8.36	7.81	10.5	11.1	.952										
1.5	15.4	15.4	7.64	7.19	7.80	8.21	.429	.712		.712	.214	4.50	4.28	21.0	20.6	12.9	11.7
2.	13.2	13.1	6.99	6.47	6.18	6.63	.242	2.24		2.24	1.02	2.72	2.62	18.3	18.1	11.9	10.1
3.	10.4	10.3	5.98	5.27	4.38	5.03	.108	4.90	.00362	4.90	2.93	1.46	1.42	16.8	16.7	12.3	9.62
4.	8.66	8.66	5.25	4.45	3.40	4.21	.0604	6.95	.0148	6.96	4.58	.980	.962	16.7	16.6	13.2	9.90
5.	7.48	7.48	4.70	3.83	2.78	3.65	.0394	8.70	.0292	8.73	5.97	.727	.716	17.0	16.9	14.2	10.5
6.	6.61	6.61	4.26	3.34	2.35	3.27	.0274	10.1	.0450	10.1	7.09	.572	.565	17.3	17.3	14.9	11.0
8.	5.41	5.41	3.61	2.65	1.80	2.76	.0155	12.4	.0757	12.5	8.76	.392	.388	18.3	18.3	16.5	11.8
10.	4.60	4.60	3.15	2.21	1.46	2.34	.00996	14.5	.105	14.6	10.0	.297	.295	19.5	19.5	18.0	12.5
15.	3.41	3.41	2.42	1.60	.988	1.81	.00455	18.7	.162	18.9	12.0	.181	.180	22.5	22.5	21.5	13.8
20.	2.74	2.74	1.99	1.20	.748	1.54	.00225	21.8	.204	22.0	13.0	.130	.130	24.9	24.9	24.1	14.3
30.	1.99	1.99	1.49	.762	.503	1.23		26.0	.263	26.3	13.7	.0832	.0830	28.4	28.4	27.9	14.5
40.	1.58	1.58	1.20	.540	.380	1.04		29.0	.306	29.3	13.5	.0608	.0607	30.9	30.9	30.6	14.1
50.	1.32	1.32	1.02	.412	.304	.908		31.1	.339	31.4	13.2	.0476	.0475	32.8	32.8	32.5	13.7
60.	1.14	1.14	.883	.323	.255	.817		32.9	.363	33.3	13.1	.0390	.0390	34.5	34.5	34.2	13.5
80.	.897	.897	.706	.220	.192	.677		35.3	.402	35.7	12.5	.0285	.0285	36.6	36.6	36.4	12.7
100.	.745	.745	.592	.162	.154	.583		37.0	.432	37.4	11.8	.0222	.0222	38.2	38.2	38.0	12.0

90 THORIUM
(cm²/g = 0.002595 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{x,n}	($\frac{\mu}{\rho}$) _{x,e}	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _{r,t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.155	.00472	.000301	.0000092	.154	.00472	13.2	---	---	---	---	---	---	---	---	---	---
N _I .001330	.155	.00667	.000400	.0000173	.154	.00664	12.8	---	---	---	---	---	---	---	---	---	---
.0015	.154	.00766	.000452	.0000223	.154	.00763	12.6	4460.	4460.	4460.	4460.	4460.	4460.	4460.	4460.	4460.	4460.
.002	.154	.0106	.000597	.0000410	.154	.0105	12.0	3400.	3400.	3400.	3400.	3400.	3400.	3400.	3400.	3400.	3400.
.003	.154	.0163	.000890	.0000945	.153	.0162	10.7	1770.	1770.	1780.	1770.	1770.	1770.	1780.	1770.	1770.	1770.
M _V .003332	.153	.0181	.000986	.000117	.152	.0180	10.3	698.	698.	708.	698.	698.	698.	708.	698.	698.	698.
.003490	.153	.0190	.00103	.000128	.152	.0188	10.1	553.	553.	563.	553.	553.	553.	563.	553.	553.	553.
M _{IV} .003490	.153	.0190	.00103	.000128	.152	.0188	10.1	1730.	1730.	1740.	1730.	1730.	1730.	1740.	1730.	1730.	1730.
.004	.153	.0217	.00118	.000167	.152	.0215	9.58	1570.	1570.	1580.	1570.	1570.	1570.	1580.	1570.	1570.	1570.
M _{III} .004046	.153	.0219	.00119	.000170	.152	.0217	9.52	1780.	1780.	1790.	1780.	1780.	1780.	1790.	1780.	1780.	1780.
.004830	.153	.0256	.00141	.000237	.151	.0254	8.75	1190.	1190.	1200.	1190.	1190.	1190.	1200.	1190.	1190.	1190.
M _{II} .004830	.153	.0256	.00141	.000237	.151	.0254	8.75	1150.	1150.	1160.	1150.	1150.	1150.	1160.	1150.	1150.	1150.
.005	.152	.0265	.00146	.000254	.151	.0262	8.59	1320.	1320.	1330.	1320.	1320.	1320.	1330.	1320.	1320.	1320.
M _I .005182	.152	.0272	.00151	.000270	.151	.0270	8.43	875.	875.	882.	875.	875.	875.	882.	875.	875.	875.
.006	.152	.0306	.00174	.000350	.150	.0304	7.76	1040.	1040.	1050.	1040.	1040.	1040.	1050.	1040.	1040.	1040.
.008	.151	.0379	.00228	.000573	.148	.0374	6.38	942.	942.	950.	942.	942.	942.	950.	942.	942.	942.
.01	.149	.0446	.00280	.000836	.147	.0439	5.32	856.	856.	864.	856.	856.	856.	864.	856.	856.	856.
.015	.147	.0579	.00407	.00160	.143	.0563	3.58	649.	649.	657.	649.	649.	649.	657.	649.	649.	649.
L _{III} .016300	.146	.0605	.00436	.00180	.142	.0586	3.27	304.	304.	309.	304.	304.	304.	309.	304.	304.	304.
.019693	.145	.0667	.00514	.00237	.139	.0644	2.62	168.	168.	174.	168.	168.	168.	174.	168.	168.	168.
L _{II} .019693	.145	.0667	.00514	.00237	.139	.0644	2.62	56.1	56.1	59.7	56.1	56.1	56.1	59.7	56.1	56.1	56.1
.02	.144	.0672	.00522	.00243	.139	.0649	2.56	44.6	44.6	48.0	44.6	44.6	44.6	48.0	44.6	44.6	44.6
L _I .020466	.144	.0680	.00529	.00250	.139	.0654	2.48	108.	108.	112.	108.	108.	108.	112.	108.	108.	108.
.03	.140	.0797	.00727	.00415	.132	.0755	1.49	69.5	69.5	71.4	68.8	68.8	68.8	71.4	68.8	68.8	68.8
.04	.135	.0872	.00900	.00581	.126	.0815	.989	67.0	67.0	69.3	64.7	64.7	64.7	69.3	64.7	64.7	64.7
.05	.131	.0919	.0106	.00742	.121	.0843	.703	85.1	85.1	87.7	85.1	85.1	85.1	87.7	85.1	85.1	85.1
.06	.127	.0947	.0120	.00887	.115	.0859	.524	99.4	99.4	102.	99.4	99.4	99.4	102.	99.4	99.4	99.4
.08	.121	.0965	.0141	.0113	.107	.0851	.319	36.6	36.6	38.1	36.6	36.6	36.6	38.1	36.6	36.6	36.6
.1	.115	.0965	.0159	.0133	.0991	.0833	.213	17.2	17.2	18.2	17.3	17.3	17.3	18.2	17.3	17.3	17.3
K .109651	.113	.0968	.0166	.0142	.0960	.0825	.180	9.50	9.50	10.3	9.60	9.50	9.50	10.3	9.60	9.50	9.50
.15	.104	.0942	.0188	.0171	.0849	.0771	.101	5.84	5.84	6.46	5.94	5.84	5.84	6.46	5.94	5.84	5.84
.2	.0950	.0890	.0205	.0193	.0745	.0698	.0584	2.67	2.67	3.09	2.78	2.70	2.70	3.09	2.78	2.70	2.50
.3	.0825	.0797	.0223	.0215	.0602	.0581	.0265	1.45	1.45	1.75	1.54	1.46	1.46	1.75	1.54	1.46	1.38
.4	.0740	.0721	.0229	.0220	.0511	.0501	.0150	1.11	1.05	1.38	1.20	1.12	1.12	1.38	1.20	1.12	1.06
.5	.0675	.0664	.0230	.0223	.0444	.0441	.00973	5.03	1.60	5.32	5.14	5.06	5.06	5.32	5.14	5.06	1.61
.6	.0625	.0618	.0230	.0222	.0394	.0394	.00675	2.25	1.13	2.44	2.34	2.27	2.27	2.44	2.34	2.27	1.14
.8	.0548	.0545	.0224	.0216	.0324	.0330	.00381	1.07	.670	1.22	1.16	1.09	1.09	1.22	1.16	1.09	.688
1.	.0493	.0490	.0217	.0203	.0275	.0288	.00247	.374	.280	.480	.454	.397	.397	.480	.454	.397	.301
1.5	.0400	.0400	.0198	.0187	.0202	.0213	.00111	.186	.151	.272	.258	.209	.209	.272	.258	.209	.173
2.	.0343	.0340	.0181	.0168	.0160	.0172	.000628	.110	.0932	.186	.176	.133	.133	.186	.176	.133	.115
3.	.0270	.0267	.0155	.0137	.0114	.0131	.000280	.0724	.0633	.141	.134	.0955	.0955	.141	.134	.0955	.0854
4.	.0225	.0225	.0136	.0115	.00882	.0109	.000157	.0384	.0348	.0968	.0929	.0607	.0607	.0968	.0929	.0607	.0563
5.	.0194	.0194	.0122	.00994	.00721	.00947	.000102	.0244	.0226	.0760	.0734	.0462	.0462	.0760	.0734	.0462	.0428
6.	.0172	.0172	.0111	.00867	.00610	.00849	.0000711	.0217	.0211	.0545	.0535	.0335	.0335	.0545	.0535	.0335	.0334
8.	.0140	.0140	.00937	.00688	.00467	.00716	.0000402	.0177	.0168	.0475	.0449	.0387	.0387	.0475	.0449	.0387	.0285
10.	.0117	.0117	.00817	.00573	.00379	.00620	.0000258	.0148	.0140	.0411	.0391	.0368	.0368	.0411	.0391	.0368	.0306
15.	.00885	.00885	.00628	.00415	.00256	.00470	.0000118	.0117	.0111	.0379	.0359	.0340	.0340	.0379	.0359	.0340	.0324
20.	.00711	.00711	.00516	.00311	.00154	.00400	.0000058	.00847	.00800	.0337	.0317	.0300	.0300	.0337	.0317	.0300	.0300
30.	.00516	.00516	.00387	.00198	.00121	.00319	.00000280	.00675	.00652	.0337	.0317	.0300	.0300	.0337	.0317	.0300	.0300
40.	.00410	.00410	.00311	.00140	.000586	.00270	.00000157	.00532	.00529	.0337	.0317	.0300	.0300	.0337	.0317	.0300	.0300
50.	.00343	.00343	.00265	.00107	.000189	.00236	.00000102	.00444	.00444	.0337	.0317	.0300	.0300	.0337	.0317	.0300	.0300
60.	.00296	.00296	.00229	.000833	.000062	.00212	.000000711	.00384	.00384	.0337	.0317	.0300	.0300	.0337	.0317	.0300	.0300
80.	.00233	.00233	.00183	.000571	.0000498	.00176	.000000402	.00319	.00319	.0337	.0317	.0300	.0300	.0337	.0317	.0300	.0300
100.	.00193	.00193	.00154	.000420	.0000400	.00151	.000000258	.00267	.00267	.0337	.0317	.0300	.0300	.0337	.0317	.0300	.0300

91 PROTACTINIUM
(barns/atom)

E (MeV)	$\sigma_{KN}^{inc,t}$	$\sigma_{BD}^{inc,t}$	$\sigma_{KN}^{inc,a}$	$\sigma_{BD}^{inc,a}$	$\sigma_{KN}^{inc,s}$	$\sigma_{BD}^{inc,s}$	C_{coh}	σ_{xn}	σ_{xc}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	60.3	1.80	.117	.00351	60.2	1.80	5220.										
N_I .001385	60.2	2.68	.162	.00722	60.0	2.67	5040.										
.0015	60.2	2.95	.176	.00861	60.0	2.94	4930.					1630000.	1630000.	1640000.	1630000.	1630000.	1630000.
.002	60.1	4.07	.233	.0158	59.8	4.05	4740.					1360000.	1360000.	1360000.	1360000.	1360000.	1360000.
.003	59.8	6.28	.347	.0364	59.5	6.24	4250.					709000.	709000.	714000.	709000.	709000.	709000.
M_V .003442	59.7	7.21	.395	.0479	59.3	7.16	4040.					281000.	281000.	285000.	281000.	281000.	281000.
.003442	59.7	7.21	.395	.0479	59.3	7.16	4040.					205000.	205000.	209000.	205000.	205000.	205000.
M_{IV} .003609	59.7	7.56	.415	.0526	59.3	7.51	3970.					642000.	642000.	646000.	642000.	642000.	642000.
.004	59.6	8.35	.459	.0643	59.1	8.29	3810.					582000.	582000.	586000.	582000.	582000.	582000.
M_{III} .004174	59.6	8.68	.478	.0696	59.1	8.61	3730.					660000.	660000.	664000.	660000.	660000.	660000.
.004	59.6	8.35	.459	.0643	59.1	8.29	3810.					484000.	484000.	488000.	484000.	484000.	484000.
.005	59.4	10.2	.569	.0977	58.8	10.1	3640.					428000.	428000.	432000.	428000.	428000.	428000.
M_{II} .005003	59.4	10.2	.569	.0978	58.8	10.1	3640.					493000.	493000.	497000.	493000.	493000.	493000.
.005	59.4	10.2	.569	.0978	58.8	10.1	3640.					323000.	323000.	326000.	323000.	323000.	323000.
M_I .005364	59.3	10.8	.608	.111	58.7	10.7	3280.					323000.	323000.	326000.	323000.	323000.	323000.
.005	59.3	10.8	.608	.111	58.7	10.7	3280.					384000.	384000.	387000.	384000.	384000.	384000.
.006	59.1	11.8	.677	.135	58.5	11.7	3070.					317000.	317000.	320000.	317000.	317000.	317000.
.008	58.7	14.7	.889	.223	57.8	14.5	2520.					355000.	355000.	358000.	355000.	355000.	355000.
.01	58.3	17.3	1.09	.324	57.2	17.0	2150.					263000.	263000.	266000.	263000.	263000.	263000.
.015	57.2	22.4	1.58	.620	55.7	21.8	1420.					122000.	122000.	125000.	122000.	122000.	122000.
L_{III} .016733	56.9	23.8	1.74	.727	55.1	23.1	1260.					68000.	68000.	70100.	68000.	68000.	68000.
.02	56.2	26.1	2.03	.942	54.2	25.2	1010.					22600.	22600.	24000.	22600.	22600.	22600.
L_{II} .020314	56.2	26.3	2.05	.962	54.1	25.3	954.					16800.	16800.	18100.	16800.	16800.	16800.
.02	56.2	26.1	2.03	.942	54.2	25.2	1010.					40500.	40500.	41800.	40500.	40500.	40500.
L_I .021105	56.	26.8	2.12	1.02	53.9	25.8	946.					26400.	19800.	27400.	26400.	26400.	19800.
.03	54.4	30.9	2.83	1.61	51.6	29.3	589.					25400.	19200.	26400.	25400.	25400.	19200.
.04	52.7	33.9	3.51	2.26	49.1	31.6	391.					35100.	25800.	36100.	35100.	35100.	25800.
.05	51.1	35.7	4.12	2.88	47.0	32.8	279.					31600.	23500.	32600.	31600.	31600.	23500.
.06	49.6	36.8	4.66	3.45	45.0	33.3	203.					31600.	23500.	32600.	31600.	31600.	23500.
.08	47.1	37.6	5.51	4.40	41.6	33.2	127.					36800.	27300.	37800.	36800.	36800.	27300.
.1	44.8	37.6	6.19	5.19	38.7	32.4	88.4					14700.	12000.	15300.	14700.	14700.	12000.
K .112601	43.6	37.7	6.54	5.66	37.0	32.0	63.0					6910.	5960.	7330.	6940.	6910.	5960.
.15	40.4	36.6	7.33	6.64	33.0	30.0	39.9					1090.	1020.	1250.	1130.	1100.	1020.
.2	37.0	34.6	8.00	7.48	29.0	27.1	29.1					587.	555.	709.	625.	593.	560.
.3	32.2	31.0	8.67	8.36	23.5	22.6	15.5					416.	396.	522.	454.	423.	402.
.4	28.8	28.1	9.93	9.57	19.9	19.5	5.96					1480.	597.	1990.	1920.	1890.	603.
.5	26.3	25.9	9.97	9.68	17.3	17.2	8.86					900.	439.	976.	937.	907.	446.
.6	24.3	24.0	9.94	9.64	15.4	15.4	5.68					430.	265.	488.	465.	438.	272.
.8	21.4	21.2	9.74	9.40	12.6	12.8	.51					150.	112.	192.	181.	159.	120.
1.	19.2	19.1	9.45	9.19	10.8	11.2	.981					74.4	60.3	109.	103.	83.5	68.9
1.5	15.6	15.6	7.72	7.29	7.89	8.31	.440	.740	.740	.222		44.0	37.2	73.8	69.9	53.0	45.9
2.	13.3	13.3	7.07	6.56	6.25	6.74	.249	2.30	2.30	1.04		29.1	25.4	55.8	53.1	38.0	34.0
3.	10.5	10.5	6.04	5.37	4.43	5.13	.111	5.01	.00366	5.01	2.99	15.5	14.0	38.2	36.7	24.2	22.4
4.	8.75	8.75	5.31	4.49	3.44	4.26	.0622	7.10	.0150	7.11	4.67	9.45	9.09	29.9	28.9	18.3	17.0
5.	7.56	7.56	4.75	3.86	2.81	3.70	.0405	8.90	.0295	8.93	6.11	7.62	.750	17.3	17.3	14.4	10.7
6.	6.68	6.68	4.30	3.37	2.38	3.31	.0282	10.3	.0455	10.3	7.22	.599	.591	17.6	17.6	15.2	11.2
8.	5.47	5.47	3.65	2.67	1.82	2.80	.0159	12.6	.0764	12.7	8.89	.411	.407	18.6	18.6	16.8	12.0
10.	4.65	4.65	3.18	2.23	1.47	2.42	.0102	14.8	.106	14.9	10.2	.310	.308	19.9	19.9	18.4	12.7
15.	3.45	3.45	2.45	1.62	.999	1.83	.00469	19.0	.163	19.2	12.2	.190	.189	22.8	22.8	21.8	14.0
20.	2.77	2.77	2.01	1.21	.756	1.56	.00233	22.3	.206	22.5	13.2	.137	.136	25.4	25.4	24.6	14.5
30.	2.01	2.01	1.50	.768	.509	1.24		26.5	.265	26.8	13.9	.0875	.0873	28.9	28.9	28.4	14.8
40.	1.60	1.60	1.22	.546	.384	1.05		29.5	.309	29.8	13.7	.0639	.0638	31.5	31.5	31.1	14.3
50.	1.34	1.34	1.03	.417	.308	.923		31.6	.342	31.9	13.4	.0499	.0498	33.3	33.3	33.0	13.9
60.	1.15	1.15	.893	.324	.257	.826		33.5	.367	33.9	13.2	.0410	.0409	35.1	35.1	34.8	13.6
80.	.907	.907	.714	.221	.194	.686		36.0	.406	36.4	12.7	.0299	.0299	37.3	37.3	37.1	13.0
100.	.753	.753	.598	.164	.155	.589		37.8	.436	38.2	12.0	.0232	.0232	39.0	39.0	38.8	12.2

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(cm²/g = 0.002607 x barns/atom)

E (MeV)	($\frac{\sigma}{p}$) _{inc,t} ^{KN}	($\frac{\sigma}{p}$) _{inc,t} ^{BD}	($\frac{\sigma}{p}$) _{inc,a} ^{KN}	($\frac{\sigma}{p}$) _{inc,a} ^{BD}	($\frac{\sigma}{p}$) _{inc,s} ^{KN}	($\frac{\sigma}{p}$) _{inc,s} ^{BD}	($\frac{\sigma}{p}$) _{col}	($\frac{\sigma}{p}$) _n	($\frac{\sigma}{p}$) _c	($\frac{\sigma}{p}$) _{s,t}	($\frac{\sigma}{p}$) _{s,a}	($\frac{\sigma}{p}$) _{r,t}	($\frac{\sigma}{p}$) _{r,a}	($\frac{\sigma}{p}$) _{tot,t}	($\frac{\sigma}{p}$) _{tot,t-con}	($\frac{\sigma}{p}$) _{tot,a}	($\frac{\sigma}{p}$) _{tot,er}
.001	.157	.00469	.000305	.0000092	.157	.00469	13.6										
N _I .001385	.157	.00699	.000422	.0000188	.156	.00696	13.1										
.0015	.157	.00769	.000459	.0000224	.156	.00766	13.0										
.002	.157	.0106	.000607	.0000412	.156	.0106	12.4										
.003	.156	.0164	.000905	.0000949	.155	.0163	11.1										
M _Y .003442	.156	.0188	.00103	.000125	.155	.0187	10.5										
M _{IV} .003609	.156	.0197	.00108	.000137	.155	.0196	10.3										
.004	.155	.0218	.00120	.000168	.154	.0216	9.91										
M _{III} .004174	.155	.0226	.00125	.000181	.154	.0224	9.72										
.005	.155	.0266	.00148	.000255	.153	.0263	8.89										
M _{II} .005003	.155	.0266	.00148	.000255	.153	.0263	8.89										
M _I .005364	.155	.0282	.00159	.000289	.153	.0279	8.55										
.006	.154	.0308	.00176	.000352	.153	.0305	8.00										
.008	.153	.0383	.00232	.000581	.151	.0378	6.57										
.01	.152	.0451	.00284	.000845	.149	.0443	5.47										
.015	.149	.0584	.00412	.00162	.145	.0568	3.70										
L _{III} .016733	.148	.0620	.00454	.00190	.144	.0602	3.28										
.02	.147	.0680	.00529	.00246	.141	.0657	2.63										
L _{II} .020314	.147	.0686	.00534	.00251	.141	.0660	2.59										
L _I .021105	.146	.0699	.00553	.00266	.141	.0673	2.47										
.03	.142	.0806	.00738	.00420	.135	.0764	1.54										
.04	.137	.0884	.00915	.00589	.128	.0824	1.02										
.05	.133	.0931	.0107	.00751	.123	.0855	.727										
.06	.129	.0959	.0121	.00899	.117	.0868	.542										
.08	.123	.0980	.0144	.0115	.108	.0866	.331										
.1	.117	.0980	.0161	.0135	.101	.0845	.220										
K.112601	.114	.0983	.0170	.0148	.0965	.0834	.177										
.15	.105	.0954	.0191	.0173	.0860	.0792	.104										
.2	.0965	.0902	.0209	.0195	.0756	.0706	.0602										
.3	.0839	.0808	.0226	.0218	.0613	.0589	.0274										
.4	.0751	.0733	.0233	.0223	.0519	.0508	.0155										
.5	.0686	.0675	.0234	.0226	.0451	.0448	.0101										
.6	.0634	.0626	.0233	.0225	.0401	.0401	.00699										
.8	.0558	.0553	.0228	.0219	.0328	.0334	.00394										
1.	.0501	.0498	.0220	.0206	.0282	.0292	.00256										
1.5	.0407	.0407	.0201	.0190	.0206	.0217	.00115	.00193		.00193	.000579	.00122	.00116	.00561	.00547	.00342	.00313
2.	.0347	.0347	.0184	.0171	.0163	.0176	.000649	.00600		.00600	.00271	.00740	.00712	.00488	.00480	.00318	.00299
3.	.0274	.0274	.0157	.0140	.0115	.0134	.000289	.0131	.00000954	.0131	.00779	.00401	.00391	.00448	.00443	.00328	.00257
4.	.0228	.0228	.0138	.0117	.00897	.0111	.000162	.0185	.0000391	.0185	.00122	.00269	.00263	.0043	.00441	.00349	.00266
5.	.0197	.0197	.0124	.0101	.00733	.00965	.000106	.0232	.0000769	.0233	.00159	.00199	.00196	.00451	.00451	.00375	.00279
6.	.0174	.0174	.0112	.00879	.00620	.00863	.0000735	.0269	.000119	.0269	.00188	.00156	.00154	.00459	.00459	.00396	.00292
8.	.0143	.0143	.00952	.00696	.00474	.00730	.0000415	.0328	.000199	.0331	.00232	.00107	.00106	.00485	.00485	.00438	.00313
10.	.0121	.0121	.00829	.00581	.00383	.00631	.0000266	.0386	.000276	.0388	.00266	.000808	.000803	.00519	.00519	.00480	.00331
15.	.00899	.00899	.00639	.00422	.00260	.00477	.0000122	.0495	.000425	.0501	.00318	.000495	.000493	.00594	.00594	.00508	.00365
20.	.00722	.00722	.00524	.00315	.00197	.00407	.0000061	.0581	.000537	.0587	.00344	.000357	.000355	.00662	.00662	.00641	.00374
30.	.00524	.00524	.00391	.00200	.00133	.00323		.0691	.000691	.0699	.00362	.000228	.000228	.00753	.00753	.00740	.00386
40.	.00417	.00417	.00318	.00142	.00100	.00274		.0769	.000806	.0777	.00357	.000167	.000166	.00821	.00821	.00811	.00373
50.	.00349	.00349	.00269	.00109	.000803	.00241		.0824	.000892	.0832	.00349	.000130	.000130	.00868	.00868	.00860	.00362
60.	.00300	.00300	.00233	.000845	.000670	.00215		.0873	.000957	.0884	.00344	.000107	.000107	.00915	.00915	.00907	.00355
80.	.00236	.00236	.00186	.000576	.000506	.00179		.0939	.00106	.0949	.00331	.0000779	.0000779	.00972	.00972	.00967	.00339
100.	.00196	.00196	.00156	.000428	.000404	.00154		.0985	.00114	.0994	.00313	.0000605	.0000605	.102	.102	.101	.00318

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(barns/atom)

E (MeV)	$\sigma_{inc,t}^{KN}$	$\sigma_{inc,t}^{BD}$	$\sigma_{inc,a}^{KN}$	$\sigma_{inc,a}^{BD}$	$\sigma_{inc,s}^{KN}$	$\sigma_{inc,s}^{BD}$	τ_{coh}	$\sigma_{n,n}$	$\sigma_{n,p}$	$\sigma_{n,\alpha}$	$\sigma_{n,t}$	$\sigma_{n,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	61.0	1.79	.119	.00349	60.8	1.79	5340.											
N_I .001441	60.9	2.80	.171	.00785	60.7	2.79	5140.											
.0015	60.8	2.94	.177	.00858	60.7	2.93	5110.											
.002	60.7	4.07	.236	.0158	60.5	4.05	4660.											
.003	60.5	6.28	.351	.0364	60.1	6.24	4350.											
M_V .003552	60.4	7.43	.413	.0509	59.9	7.38	4090.											
M_{IV} .003728	60.3	7.80	.433	.0560	59.9	7.74	4010.											
.004	60.3	8.34	.464	.0642	59.8	8.28	3890.											
M_{III} .004304	60.2	8.92	.458	.0738	59.7	8.85	3760.											
.005	60.0	10.2	.575	.0977	59.5	10.1	3490.											
M_{II} .005181	60.0	10.5	.555	.104	59.4	10.4	3420.											
M_I .005548	59.9	11.1	.635	.118	59.3	11.0	3290.											
.006	59.8	11.8	.684	.135	59.1	11.7	3140.											
.008	59.3	14.8	.898	.224	58.5	14.6	2580.											
.01	58.9	17.4	1.10	.326	57.8	17.1	2150.											
L_{III} .015	57.9	22.6	1.60	.625	56.3	22.0	1430.											
.017170	57.4	24.3	1.80	.761	55.6	23.5	1250.											
.02	56.8	26.3	2.05	.949	54.8	25.4	1040.											
L_{II} .020948	56.7	26.9	2.13	1.01	54.5	25.9	931.											
L_I .021759	56.5	27.3	2.20	1.06	54.3	26.2	934.											
.03	55.0	31.2	2.86	1.62	52.1	29.6	625.											
.04	53.2	34.2	3.55	2.28	49.7	31.9	422.											
.05	51.6	36.0	4.17	2.90	47.5	33.1	236.											
.06	50.2	37.1	4.71	3.48	45.5	33.6	214.											
.08	47.6	37.9	5.57	4.44	42.0	33.5	180.											
.1	45.3	37.9	6.26	5.23	39.1	32.7	86.7											
K .115606	43.8	38.0	6.69	5.81	37.1	32.2	46.6											
.15	40.8	37.0	7.41	6.72	33.4	30.3	1.0											
.2	37.4	35.0	8.08	7.57	29.3	27.4	23.8											
.3	32.5	31.3	8.77	8.44	23.8	22.9	0.8											
.4	29.1	28.4	9.03	8.66	20.1	19.7	6.13											
.5	26.6	26.1	9.07	8.74	17.5	17.4	3.97											
.6	24.6	24.3	9.04	8.72	15.6	15.6	2.75											
.8	21.6	21.4	8.84	8.45	12.8	12.9	1.55											
1.	19.4	19.3	8.55	7.95	10.9	11.3	1.00											
1.5	15.8	15.7	7.81	7.33	7.98	8.37	.452	.760		.760	.228		4.91	4.65	21.8	21.4	13.5	12.2
2.	13.5	13.4	7.14	6.61	6.32	6.79	.256	2.37		2.37	1.08		2.99	2.87	19.0	18.8	12.5	10.6
3.	10.6	10.6	6.11	5.42	4.48	5.18	.114	5.13	.00370	5.13	3.06		1.61	1.57	17.5	17.3	12.8	10.0
4.	8.85	8.85	5.37	4.53	3.48	4.32	.0640	7.29	.0151	7.31	4.79		1.08	1.06	17.3	17.2	13.8	10.4
5.	7.64	7.64	4.80	3.90	2.84	3.74	.0417	9.05	.0298	9.08	6.21		.798	.785	17.6	17.5	14.7	10.9
6.	6.75	6.75	4.35	3.39	2.40	3.36	.0289	10.5	.0460	10.5	7.35		.628	.620	17.9	17.9	15.5	11.4
8.	5.53	5.53	3.69	2.70	1.84	2.83	.0163	12.8	.0772	12.9	9.01		.431	.427	18.9	18.9	17.0	12.1
10.	4.71	4.71	3.22	2.25	1.49	2.46	.0105	15.1	.107	15.2	10.4		.327	.324	20.2	20.2	18.7	13.0
15.	3.48	3.48	2.47	1.63	1.31	1.85	.00482	19.4	.165	19.6	12.4		.198	.197	23.3	23.3	22.3	14.2
20.	2.80	2.80	2.03	1.22	.765	1.58	.00242	22.6	.208	22.8	13.4		.143	.142	25.7	25.7	25.0	14.8
30.	2.04	2.04	1.52	.777	.914	1.26		27.0	.268	27.3	14.2		.0914	.0912	29.4	29.4	28.9	15.1
40.	1.62	1.62	1.23	.552	.383	1.07		30.0	.312	30.3	13.8		.0670	.0669	32.0	32.0	31.6	14.4
50.	1.35	1.35	1.04	.418	.311	.931		32.2	.346	32.5	13.6		.0523	.0522	33.9	33.9	33.6	14.1
60.	1.16	1.16	.903	.326	.260	.834		34.1	.370	34.5	13.3		.0428	.0427	35.7	35.7	35.4	13.7
80.	.917	.917	.721	.224	.196	.693		36.6	.410	37.0	12.8		.0313	.0313	37.9	37.9	37.8	13.1
100.	.762	.762	.605	.165	.157	.597		38.5	.440	38.9	12.1		.0244	.0244	39.7	39.7	39.5	12.3

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(cm²/g = 0.002530 x barns/atom)

E (MeV)	($\frac{\sigma}{\sigma_0}$) _{KN} inc, t	($\frac{\sigma}{\sigma_0}$) _{BD} inc, t	($\frac{\sigma}{\sigma_0}$) _{KN} inc, a	($\frac{\sigma}{\sigma_0}$) _{BD} inc, a	($\frac{\sigma}{\sigma_0}$) _{KN} inc, s	($\frac{\sigma}{\sigma_0}$) _{BD} inc, s	($\frac{\sigma}{\sigma_0}$) _{coh}	($\frac{\sigma}{\sigma_0}$) _{x, n}	($\frac{\sigma}{\sigma_0}$) _{x, c}	($\frac{\sigma}{\sigma_0}$) _{x, t}	($\frac{\sigma}{\sigma_0}$) _{x, a}	($\frac{\sigma}{\sigma_0}$) _{-t}	($\frac{\sigma}{\sigma_0}$) _{r, a}	($\frac{\sigma}{\sigma_0}$) _{tot, t}	($\frac{\sigma}{\sigma_0}$) _{tot, t-coh}	($\frac{\sigma}{\sigma_0}$) _{tot, a}	($\frac{\sigma}{\sigma_0}$) _{tot, ex}
.001	.154	.00453	.000301	.0000888	.154	.00453	13.5	---	---	---	---	---	---	---	---	---	---
N _I .001441	.154	.00708	.000433	.0000199	.154	.00706	13.0	---	---	---	---	---	---	---	---	---	---
.0015	.154	.00744	.000448	.0000217	.154	.00741	12.9	3920.	3920.	3950.	3920.	3920.	3920.	3920.	3920.	3920.	3920.
.002	.154	.0103	.000597	.0000400	.153	.0102	12.3	3570.	3570.	3590.	3570.	3570.	3570.	3570.	3570.	3570.	3570.
.003	.153	.0159	.000888	.0000921	.152	.0158	11.0	1860.	1850.	1880.	1840.	1860.	1860.	1860.	1860.	1860.	1860.
N _V .003552	.153	.0188	.00104	.000129	.152	.0187	10.3	736.	736.	746.	736.	736.	736.	736.	736.	736.	736.
.003728	.153	.0197	.00110	.000142	.152	.0196	10.1	501.	501.	511.	501.	501.	501.	501.	501.	501.	501.
M _{IV}	.153	.0211	.00117	.000162	.151	.0209	9.84	1570.	1570.	1580.	1570.	1570.	1570.	1570.	1570.	1570.	1570.
.004	.153	.0226	.00126	.000187	.151	.0224	9.51	1420.	1420.	1430.	1420.	1420.	1420.	1420.	1420.	1420.	1420.
M _{III} .004304	.152	.0258	.00145	.000247	.151	.0256	8.63	1610.	1610.	1620.	1610.	1610.	1610.	1610.	1610.	1610.	1610.
.005	.152	.0266	.00151	.000263	.150	.0263	8.65	1300.	1300.	1310.	1300.	1300.	1300.	1300.	1300.	1300.	1300.
M _{II} .005181	.152	.0281	.00161	.000299	.150	.0278	8.32	1050.	1050.	1060.	1050.	1050.	1050.	1050.	1050.	1050.	1050.
.005548	.152	.0299	.00173	.000342	.150	.0296	7.94	1210.	1210.	1220.	1210.	1210.	1210.	1210.	1210.	1210.	1210.
.006	.151	.0374	.00227	.000567	.148	.0369	6.53	848.	848.	858.	848.	848.	848.	848.	848.	848.	848.
.008	.150	.0440	.00278	.000825	.146	.0433	5.44	764.	764.	772.	764.	764.	764.	764.	764.	764.	764.
.01	.149	.0572	.00405	.00158	.142	.0557	3.67	934.	934.	941.	934.	934.	934.	934.	934.	934.	934.
.015	.146	.0665	.00519	.00240	.139	.0643	2.63	772.	772.	779.	772.	772.	772.	772.	772.	772.	772.
L _{III} .017170	.145	.0681	.00539	.00256	.138	.0655	2.48	863.	863.	870.	863.	863.	863.	863.	863.	863.	863.
.02	.144	.0691	.00557	.00268	.137	.0663	2.36	711.	701.	708.	701.	701.	701.	701.	701.	701.	701.
L _{II} .020948	.143	.0789	.00724	.00410	.132	.0749	1.53	324.	324.	331.	324.	324.	324.	324.	324.	324.	324.
.021759	.143	.0865	.00898	.00577	.126	.0807	1.02	180.	180.	186.	180.	180.	180.	180.	180.	180.	180.
.03	.139	.0911	.0106	.00734	.120	.0837	.724	60.0	60.0	63.8	60.0	60.0	60.0	60.0	60.0	60.0	60.0
.04	.135	.0939	.0119	.00880	.115	.0850	.541	41.7	41.7	45.0	41.7	41.7	41.7	41.7	41.7	41.7	41.7
.05	.131	.0959	.0141	.0112	.106	.0848	.329	70.3	70.3	73.7	70.3	70.3	70.3	70.3	70.3	70.3	70.3
.06	.127	.0991	.0169	.0147	.0939	.0815	.168	68.8	68.8	71.6	68.8	68.8	68.8	68.8	68.8	68.8	68.8
.08	.120	.103	.0204	.0192	.0741	.0693	.0602	64.3	64.3	67.1	64.3	64.3	64.3	64.3	64.3	64.3	64.3
.1	.115	.103	.0204	.0192	.0741	.0693	.0602	85.3	85.3	87.8	85.3	85.3	85.3	85.3	85.3	85.3	85.3
K.115606	.111	.0936	.0187	.0170	.0845	.0767	.104	76.7	76.7	79.2	76.7	76.7	76.7	76.7	76.7	76.7	76.7
.15	.103	.0886	.0204	.0192	.0741	.0693	.0602	66.5	66.5	69.1	66.5	66.5	66.5	66.5	66.5	66.5	66.5
.2	.0946	.0886	.0204	.0192	.0741	.0693	.0602	40.5	40.5	43.1	40.5	40.5	40.5	40.5	40.5	40.5	40.5
.3	.0822	.0792	.0222	.0214	.0602	.0579	.0273	31.6	31.6	34.2	31.6	31.6	31.6	31.6	31.6	31.6	31.6
.4	.0736	.0719	.0228	.0219	.0509	.0498	.0155	15.7	15.7	18.3	15.7	15.7	15.7	15.7	15.7	15.7	15.7
.5	.0673	.0660	.0229	.0221	.0443	.0440	.0100	9.01	9.01	11.6	9.01	9.01	9.01	9.01	9.01	9.01	9.01
.6	.0622	.0615	.0229	.0221	.0395	.0395	.00696	5.64	5.64	8.20	5.64	5.64	5.64	5.64	5.64	5.64	5.64
.8	.0546	.0541	.0224	.0214	.0324	.0326	.00392	2.66	2.66	4.22	2.66	2.66	2.66	2.66	2.66	2.66	2.66
1.	.0491	.0488	.0216	.0201	.0276	.0286	.00253	1.47	1.47	2.03	1.47	1.47	1.47	1.47	1.47	1.47	1.47
1.5	.0400	.0397	.0198	.0185	.0202	.0212	.00114	.977	.977	1.29	.977	.977	.977	.977	.977	.977	.977
2.	.0342	.0339	.0181	.0167	.0160	.0172	.000648	.460	.460	.686	.460	.460	.460	.460	.460	.460	.460
3.	.0268	.0268	.0155	.0137	.0113	.0131	.000288	2.37	2.37	3.29	2.37	2.37	2.37	2.37	2.37	2.37	2.37
4.	.0224	.0224	.0136	.0115	.00880	.0109	.000162	1.13	1.13	1.58	1.13	1.13	1.13	1.13	1.13	1.13	1.13
5.	.0193	.0193	.0121	.00987	.00719	.00946	.000106	.395	.395	.501	.395	.395	.395	.395	.395	.395	.395
6.	.0171	.0171	.0110	.00858	.00607	.00850	.0000731	.198	.198	.268	.198	.198	.198	.198	.198	.198	.198
8.	.0140	.0140	.00934	.00683	.00466	.00716	.0000412	.117	.117	.159	.117	.117	.117	.117	.117	.117	.117
10.	.0119	.0119	.00815	.00569	.00377	.00622	.0000266	.0767	.0767	.103	.0767	.0767	.0767	.0767	.0767	.0767	.0767
15.	.00880	.00880	.00625	.00412	.00256	.00468	.0000122	.0410	.0410	.054	.0410	.0410	.0410	.0410	.0410	.0410	.0410
20.	.00708	.00708	.00514	.00309	.00194	.00400	.0000061	.0261	.0261	.034	.0261	.0261	.0261	.0261	.0261	.0261	.0261
30.	.00516	.00516	.00385	.00197	.00130	.00319	.000000936	.0124	.0124	.018	.0124	.0124	.0124	.0124	.0124	.0124	.0124
40.	.00410	.00410	.00311	.00140	.000982	.00271	.000000382	.00756	.00756	.010	.00756	.00756	.00756	.00756	.00756	.00756	.00756
50.	.00342	.00342	.00263	.00106	.000787	.00236	.000000754	.00407	.00407	.006	.00407	.00407	.00407	.00407	.00407	.00407	.00407
60.	.00293	.00293	.00228	.000825	.000658	.00211	.000000116	.00273	.00273	.004	.00273	.00273	.00273	.00273	.00273	.00273	.00273
80.	.00232	.00232	.00182	.000567	.000496	.00175	.000000195	.00202	.00202	.003	.00202	.00202	.00202	.00202	.00202	.00202	.00202
100.	.00193	.00193	.00153	.000417	.000397	.00151	.000000228	.00159	.00159	.002	.00159	.00159	.00159	.00159	.00159	.00159	.00159
								.00109	.00109	.001	.00109	.00109	.00109	.00109	.00109	.00109	.00109
								.000827	.000827	.000	.000827	.000827	.000827	.000827	.000827	.000827	.000827
								.000501	.000501	.000	.000501	.000501	.000501	.000501	.000501	.000501	.000501
								.000362	.000362	.000	.000362	.000362	.000362	.000362	.000362	.000362	.000362
								.000231	.000231	.000	.000231	.000231	.000231	.000231	.000231	.000231	.000231
								.000170	.000170	.000	.000170	.000170	.000170	.000170	.000170	.000170	.000170
								.000132	.000132	.000	.000132	.000132	.000132	.000132	.000132	.000132	.000132
								.000108	.000108	.000	.000108	.000108	.000108	.000108	.000108	.000108	.000108
								.0000792	.0000792	.000	.0000792	.0000792	.0000792	.0000792	.0000792	.0000792	.0000792
								.0000617	.0000617	.000	.0000617	.0000617	.0000617	.0000617	.0000617	.0000617	.0000617

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(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	61.6	1.78	.120	.00347	61.5	1.78	5460.										
.0015	61.5	2.92	.179	.00852	61.3	2.91	5230.										
N_1 .001501	61.5	2.93	.180	.00855	61.3	2.92	5230.										
.002	61.4	4.06	.238	.0158	61.1	4.04	4970.					1480000.	1480000.	1490000.	1480000.	1490000.	1480000.
.003	61.1	6.27	.354	.0363	60.8	6.23	4450.					770000.	770000.	770000.	770000.	770000.	770000.
N_2 .003664	61.0	7.66	.431	.0541	60.6	7.61	4140.					303000.	303000.	307000.	303000.	303000.	303000.
N_3 .003850	60.9	8.03	.452	.0595	60.5	7.97	4050.					191000.	191000.	195000.	191000.	191000.	191000.
.004	60.9	8.33	.469	.0641	60.4	8.27	3990.					599000.	599000.	603000.	599000.	599000.	599000.
N_4 .004435	60.8	9.15	.518	.0779	60.3	9.07	3830.					542000.	542000.	546000.	542000.	542000.	542000.
.005	60.7	10.2	.581	.0977	60.1	10.1	3570.					614000.	614000.	618000.	614000.	614000.	614000.
N_5 .005366	60.6	10.8	.622	.111	60.0	10.7	3440.					546000.	546000.	550000.	546000.	546000.	546000.
N_6 .005735	60.5	11.4	.663	.125	59.8	11.3	3310.					401000.	401000.	405000.	401000.	401000.	401000.
.006	60.4	11.8	.692	.135	59.8	11.7	3220.					461000.	461000.	465000.	461000.	461000.	461000.
.008	60.0	14.8	.908	.224	59.1	14.6	2640.					349000.	349000.	353000.	349000.	349000.	349000.
.01	59.6	17.5	1.12	.328	58.5	17.2	2260.					298000.	298000.	301000.	298000.	298000.	298000.
N_7 .01	59.6	17.5	1.12	.328	58.5	17.2	2260.					354000.	354000.	357000.	354000.	354000.	354000.
.015	58.5	22.7	1.62	.628	56.9	22.1	1490.					293000.	293000.	296000.	293000.	293000.	293000.
N_8 .017613	57.9	24.8	1.86	.795	56.1	24.0	1240.					328000.	328000.	331000.	328000.	328000.	328000.
.02	57.5	26.5	2.07	.956	55.4	25.5	1010.					292000.	292000.	295000.	292000.	292000.	292000.
N_9 .021600	57.1	27.5	2.21	1.06	54.9	26.4	968.					134000.	134000.	137000.	134000.	134000.	134000.
N_{10} .022427	57.0	27.9	2.28	1.12	54.7	26.8	922.					74800.	74800.	77000.	74800.	74800.	74800.
.03	55.6	31.4	2.89	1.63	52.7	29.8	621.					24800.	24800.	26300.	24800.	24800.	24800.
.04	53.8	34.5	3.59	2.30	50.2	32.2	412.					16100.	16100.	17400.	16100.	16100.	16100.
.05	52.2	36.4	4.21	2.94	48.0	33.5	294.					38200.	38200.	39500.	38200.	38200.	38200.
.06	50.7	37.5	4.76	3.52	46.0	34.0	220.					28100.	28100.	29200.	28100.	28100.	28100.
.08	48.1	38.3	5.63	4.48	42.5	33.8	134.					23500.	23500.	24500.	23500.	23500.	23500.
.1	45.8	38.3	6.32	5.29	39.5	33.0	89.1					32400.	32400.	33400.	32400.	32400.	32400.
N_{11} .118670	43.9	38.4	6.84	5.97	37.1	32.4	65.3					29200.	29200.	30100.	29200.	29200.	29200.
.15	41.3	37.4	7.49	6.79	33.8	30.6	42.2					34100.	34100.	35000.	34100.	34100.	34100.
.2	37.8	35.4	8.17	7.65	29.6	27.7	24.5					15900.	15900.	16600.	15900.	15900.	15900.
.3	32.9	31.7	8.86	8.55	24.0	23.2	11.1					7550.	7550.	8000.	7550.	7550.	7550.
.4	29.4	28.7	9.12	8.75	20.3	19.9	4.30					4200.	4200.	4530.	4200.	4200.	4200.
.5	26.9	26.4	9.17	8.84	17.7	17.6	2.08					2570.	2570.	2830.	2570.	2570.	2570.
.6	24.9	24.5	9.14	8.80	15.7	15.7	2.83					1200.	1110.	1370.	1240.	1210.	1110.
.8	21.8	21.7	8.93	8.57	12.9	13.1	1.60					651.	614.	778.	689.	657.	619.
1.	19.6	19.5	8.64	8.03	11.0	11.5	1.03					396.	377.	500.	434.	403.	383.
1.5	16.0	15.9	7.89	7.41	8.06	8.49	.467	.781	.781	.234		1760.	559.	1860.	1800.	1770.	565.
2.	13.6	13.6	7.22	6.69	6.39	6.91	.263	2.45	1.11			973.	448.	1050.	1010.	980.	455.
3.	10.7	10.7	6.47	5.46	4.52	5.24	.117	5.28	3.15			466.	277.	526.	501.	474.	285.
4.	8.95	8.95	5.43	4.57	3.52	4.38	.0658	7.45	4.89			164.	120.	207.	196.	173.	129.
5.	7.73	7.73	4.85	3.93	2.87	3.80	.0428	9.25	5.34			82.0	65.4	117.	111.	91.1	74.2
6.	6.83	6.83	4.40	3.42	2.43	3.41	.0297	10.7	7.48			48.3	40.5	78.8	74.7	57.5	49.3
8.	5.59	5.59	3.73	2.72	1.86	2.87	.0168	13.1	9.21			32.1	27.8	59.4	56.6	41.2	36.6
10.	4.76	4.76	3.25	2.27	1.51	2.49	.0108	15.4	10.6			17.0	15.3	40.3	38.7	25.9	23.9
15.	3.52	3.52	2.50	1.64	1.02	1.88	.00495	19.7	12.6			10.8	9.93	31.3	30.3	19.4	18.0
20.	2.83	2.83	2.05	1.23	.773	1.60	.00251	23.1	13.6			5.20	4.92	22.3	21.9	13.9	12.6
30.	2.06	2.06	1.54	.783	.520	1.28		27.5	14.4			3.13	3.00	19.4	19.2	12.8	10.8
40.	1.63	1.63	1.24	.554	.392	1.08		30.6	14.0			1.70	1.65	17.8	17.7	13.1	10.3
50.	1.37	1.37	1.05	.423	.314	.947		33.0	13.8			1.14	1.12	17.6	17.6	14.0	10.6
60.	1.18	1.18	.912	.332	.263	.848		34.3	13.6			.847	.833	17.9	17.9	15.0	11.1
80.	.927	.927	.729	.225	.198	.702		37.3	13.0			.663	.654	18.2	18.2	15.8	11.6
100.	.770	.770	.611	.167	.159	.603		39.2	12.3			.454	.449	19.3	19.2	17.4	12.4
												.341	.338	20.6	20.6	19.1	13.2
												.210	.208	23.6	23.6	22.6	14.4
												.152	.151	26.3	26.3	25.5	15.0
												.0970	.0967	30.0	30.0	29.4	15.3
												.0708	.0707	32.6	32.6	32.2	14.6
												.0552	.0551	34.7	34.7	34.4	14.3
												.0451	.0450	36.4	36.4	36.2	14.0
												.0329	.0329	38.7	38.7	38.5	13.3
												.0256	.0256	40.4	40.4	40.2	12.5

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(cm²/g = 0.002541 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{xc}	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _{τ,t}	($\frac{\mu}{\rho}$) _{τ,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.157	.00452	.000305	.0000088	.156	.00452	13.9	---	---	---	---	---	---	---	---	---	---
.0015	.156	.00742	.000455	.0000216	.156	.00739	13.3	---	---	---	---	---	---	---	---	---	---
N _I .001501	.156	.00745	.000457	.0000217	.156	.00742	13.3	---	---	---	---	---	---	---	---	---	---
.002	.156	.0103	.000605	.0000401	.155	.0103	12.6	3760.	3760.	3760.	3760.	3760.	3760.	3760.	3760.	3760.	3760.
.003	.155	.0159	.000900	.0000922	.154	.0158	11.3	1960.	1960.	1960.	1960.	1960.	1960.	1960.	1960.	1960.	1960.
N _V .003664	.155	.0195	.00110	.000137	.154	.0193	10.5	770.	770.	770.	770.	770.	770.	770.	770.	770.	770.
.003664	.155	.0195	.00110	.000137	.154	.0193	10.5	485.	485.	485.	485.	485.	485.	485.	485.	485.	485.
M _{IV} .003850	.155	.0204	.00115	.000151	.154	.0203	10.3	1520.	1520.	1520.	1520.	1520.	1520.	1520.	1520.	1520.	1520.
.004	.155	.0212	.00119	.000163	.153	.0210	10.1	1360.	1360.	1360.	1360.	1360.	1360.	1360.	1360.	1360.	1360.
M _{III} .004435	.154	.0233	.00132	.000198	.153	.0230	9.66	1560.	1560.	1560.	1560.	1560.	1560.	1560.	1560.	1560.	1560.
.005	.154	.0259	.00148	.000248	.153	.0257	9.07	1390.	1390.	1390.	1390.	1390.	1390.	1390.	1390.	1390.	1390.
M _{II} .005366	.154	.0274	.00158	.000282	.152	.0272	8.74	1020.	1020.	1020.	1020.	1020.	1020.	1020.	1020.	1020.	1020.
.005366	.154	.0274	.00158	.000282	.152	.0272	8.74	1170.	1170.	1170.	1170.	1170.	1170.	1170.	1170.	1170.	1170.
M _I .005735	.154	.0290	.00168	.000318	.152	.0287	8.41	887.	887.	887.	887.	887.	887.	887.	887.	887.	887.
.005735	.154	.0290	.00168	.000318	.152	.0287	8.41	757.	757.	757.	757.	757.	757.	757.	757.	757.	757.
.006	.153	.0300	.00176	.000343	.152	.0297	8.18	900.	900.	900.	900.	900.	900.	900.	900.	900.	900.
.008	.152	.0376	.00231	.000569	.150	.0371	6.71	745.	745.	745.	745.	745.	745.	745.	745.	745.	745.
.01	.151	.0445	.00285	.000833	.149	.0437	5.59	833.	833.	833.	833.	833.	833.	833.	833.	833.	833.
.015	.149	.0577	.00412	.00160	.145	.0562	3.79	742.	742.	742.	742.	742.	742.	742.	742.	742.	742.
L _{III} .017613	.147	.0630	.00473	.00202	.143	.0610	3.15	340.	340.	340.	340.	340.	340.	340.	340.	340.	340.
.02	.146	.0673	.00526	.00243	.141	.0648	2.72	190.	190.	190.	190.	190.	190.	190.	190.	190.	190.
L _{II} .021600	.145	.0699	.00562	.00269	.140	.0671	2.46	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0
.021600	.145	.0699	.00562	.00269	.140	.0671	2.46	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9
L _I .022427	.145	.0709	.00579	.00285	.139	.0681	2.34	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1
.03	.141	.0798	.00734	.00414	.134	.0757	1.58	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4
.04	.137	.0877	.00912	.00584	.128	.0818	1.05	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9
.05	.133	.0925	.0107	.00747	.122	.0851	.747	59.7	59.7	59.7	59.7	59.7	59.7	59.7	59.7	59.7	59.7
.06	.129	.0953	.0121	.00894	.117	.0864	.559	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3
.08	.122	.0973	.0143	.0114	.108	.0859	.340	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2
.1	.116	.0973	.0161	.0134	.100	.0839	.226	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6
K.118670	.112	.0976	.0174	.0152	.0943	.0823	.166	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4
.15	.105	.0950	.0190	.0173	.0859	.0778	.107	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2
.2	.0960	.0900	.0208	.0194	.0752	.0704	.0623	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4
.3	.0836	.0805	.0225	.0217	.0610	.0590	.0282	9.45	9.45	9.45	9.45	9.45	9.45	9.45	9.45	9.45	9.45
.4	.0747	.0729	.0232	.0222	.0516	.0506	.0160	6.53	6.53	6.53	6.53	6.53	6.53	6.53	6.53	6.53	6.53
.5	.0684	.0671	.0233	.0225	.0450	.0447	.0104	5.90	5.90	5.90	5.90	5.90	5.90	5.90	5.90	5.90	5.90
.6	.0633	.0623	.0232	.0224	.0399	.0399	.00719	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
.8	.0554	.0551	.0227	.0218	.0328	.0333	.00407	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56
.1	.0498	.0495	.0220	.0204	.0280	.0292	.00262	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
1.5	.0407	.0404	.0200	.0188	.0205	.0216	.00119	0.958	0.958	0.958	0.958	0.958	0.958	0.958	0.958	0.958	0.958
2.	.0346	.0346	.0183	.0170	.0162	.0176	.000668	0.704	0.704	0.704	0.704	0.704	0.704	0.704	0.704	0.704	0.704
3.	.0272	.0272	.0157	.0139	.0115	.0133	.000297	0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.305
4.	.0227	.0227	.0138	.0116	.00894	.0111	.000167	0.166	0.166	0.166	0.166	0.166	0.166	0.166	0.166	0.166	0.166
5.	.0196	.0196	.0123	.00999	.00729	.00966	.000109	0.103	0.103	0.103	0.103	0.103	0.103	0.103	0.103	0.103	0.103
6.	.0174	.0174	.0112	.00869	.00617	.00866	.0000755	0.0706	0.0706	0.0706	0.0706	0.0706	0.0706	0.0706	0.0706	0.0706	0.0706
8.	.0142	.0142	.00948	.00691	.00473	.00729	.0000427	0.0389	0.0389	0.0389	0.0389	0.0389	0.0389	0.0389	0.0389	0.0389	0.0389
10.	.0121	.0121	.00826	.00577	.00384	.00633	.0000274	0.0274	0.0274	0.0274	0.0274	0.0274	0.0274	0.0274	0.0274	0.0274	0.0274
15.	.00894	.00894	.00635	.00417	.00259	.00478	.0000126	0.0132	0.0132	0.0132	0.0132	0.0132	0.0132	0.0132	0.0132	0.0132	0.0132
20.	.00719	.00719	.00521	.00313	.00196	.00407	.0000064	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
30.	.00523	.00523	.00391	.00199	.00132	.00325	---	0.00386	0.00386	0.00386	0.00386	0.00386	0.00386	0.00386	0.00386	0.00386	0.00386
40.	.00414	.00414	.00315	.00141	.000996	.00274	---	0.00290	0.00290	0.00290	0.00290	0.00290	0.00290	0.00290	0.00290	0.00290	0.00290
50.	.00346	.00346	.00267	.00107	.000798	.00241	---	0.00215	0.00215	0.00215	0.00215	0.00215	0.00215	0.00215	0.00215	0.00215	0.00215
60.	.00300	.00300	.00232	.000844	.000668	.00215	---	0.00168	0.00168	0.00168	0.00168	0.00168	0.00168	0.00168	0.00168	0.00168	0.00168
80.	.00236	.00236	.00185	.000572	.000503	.00178	---	0.00115	0.00115	0.00115	0.00115	0.00115	0.00115	0.00115	0.00115	0.00115	0.00115
100.	.00196	.00196	.00155	.000424	.000404	.00153	---	0.000836	0.000836	0.000836	0.000836	0.000836	0.000836	0.000836	0.000836	0.000836	0.000836

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(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{cch}	σ_{xn}	σ_{xe}	σ_{xt}	σ_{xa}	σ_{rt}	σ_{ra}	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	62.3	1.76	.121	.00343	62.2	1.76	559c.										
.0015	62.2	2.91	.181	.00849	62.0	2.90	5360.										
N _I .001562	62.1	3.05	.189	.00926	62.0	3.04	5330.										
.002	62.0	4.06	.241	.0158	61.8	4.04	5110.					1410000.	1410000.	1420000.	1410000.	1410000.	1410000.
.003	61.8	6.26	.358	.0363	61.4	6.22	4600.					802000.	802000.	807000.	802000.	802000.	802000.
M _Y .003778	61.6	7.88	.448	.0573	61.2	7.82	4220.					313000.	313000.	318000.	313000.	313000.	313000.
M _{IV} .003973	61.6	8.26	.471	.0631	61.1	8.20	4130.					185000.	185000.	189000.	185000.	185000.	185000.
.004	61.6	8.31	.474	.0639	61.1	8.25	4110.					579000.	579000.	583000.	579000.	579000.	579000.
M _{III} .004568	61.4	9.39	.539	.0823	60.9	9.31	3960.					523000.	523000.	527000.	523000.	523000.	523000.
.005	61.3	10.2	.587	.0977	60.7	10.1	3580.					592000.	592000.	596000.	592000.	592000.	592000.
M _{II} .005555	61.2	11.1	.650	.118	60.6	11.0	3470.					579000.	579000.	583000.	579000.	579000.	579000.
M _I .005927	61.1	11.7	.691	.132	60.4	11.6	3330.					388000.	388000.	392000.	388000.	388000.	388000.
.006	61.1	11.9	.699	.136	60.4	11.8	3310.					447000.	447000.	451000.	447000.	447000.	447000.
.008	60.6	14.9	.918	.226	59.7	14.7	2710.					362000.	362000.	366000.	362000.	362000.	362000.
.01	60.2	17.5	1.13	.328	59.1	17.2	2260.					286000.	286000.	289000.	286000.	286000.	286000.
.015	59.1	22.8	1.63	.631	57.5	22.2	1530.					340000.	340000.	343000.	340000.	340000.	340000.
L _{III} .018063	58.5	25.3	1.92	.830	56.6	24.5	1240.					282000.	282000.	285000.	282000.	282000.	282000.
.02	58.1	26.7	2.10	.964	56.0	25.7	1100.					315000.	315000.	318000.	315000.	315000.	315000.
L _{II} .022270	57.6	28.1	2.29	1.12	55.3	27.0	956.					305000.	305000.	308000.	305000.	305000.	305000.
L _I .023109	57.5	28.5	2.36	1.17	55.1	27.3	911.					141000.	141000.	144000.	141000.	141000.	141000.
.03	56.2	31.7	2.92	1.65	53.3	30.1	638.					78200.	78200.	80500.	78200.	78200.	78200.
.04	54.4	34.8	3.63	2.32	50.8	32.5	424.					26000.	26000.	27600.	26000.	26000.	26000.
.05	52.8	36.7	4.26	2.96	48.5	33.7	302.					15800.	15800.	17100.	15800.	15800.	15800.
.06	51.3	37.8	4.81	3.55	46.5	34.3	226.					37100.	37100.	38400.	37100.	37100.	37100.
.08	48.6	38.6	5.49	4.52	42.9	34.1	138.					29200.	29200.	30300.	29200.	29200.	29200.
.1	46.3	38.6	6.39	5.33	39.9	33.3	91.6					22600.	22600.	23600.	22600.	22600.	22600.
K.121797	44.1	38.7	6.99	6.13	37.1	32.6	63.9					31200.	31200.	32200.	31200.	31200.	31200.
.15	41.7	37.7	7.57	6.84	34.1	30.9	43.4					28100.	28100.	29000.	28100.	28100.	28100.
.2	38.2	35.7	8.26	7.72	29.9	28.0	25.2					32800.	32800.	33700.	32800.	32800.	32800.
.3	33.2	32.0	8.96	8.63	24.3	23.4	11.5					16500.	16500.	17200.	16500.	16500.	16500.
.4	29.8	29.0	9.22	8.84	20.5	20.2	6.48					7870.	7870.	8330.	7900.	7870.	7870.
.5	27.2	26.7	9.27	8.94	17.9	17.8	4.20					4390.	4390.	4730.	4430.	4390.	4390.
.6	25.1	24.8	9.24	8.90	15.9	15.9	2.91					2700.	2700.	2960.	2740.	2700.	2700.
.8	22.1	21.9	9.03	8.65	13.1	13.2	1.55					1250.	1160.	1430.	1290.	1260.	1160.
1.	19.9	19.7	8.73	8.10	11.1	11.6	1.06					680.	640.	810.	719.	686.	645.
1.5	16.1	16.1	7.98	7.50	8.15	8.60	.480	.810				387.	368.	490.	426.	394.	374.
2.	13.8	13.7	7.30	6.74	6.45	6.96	.270	2.52				1710.	544.	1810.	1750.	1720.	550.
3.	10.8	10.8	6.24	5.51	4.57	5.29	.121	5.40	.00379			1000.	450.	1080.	1040.	1010.	457.
4.	9.04	9.04	5.49	4.61	3.56	4.43	.0678	7.60	.0155			482.	282.	543.	518.	490.	290.
5.	7.81	7.81	4.90	3.97	2.91	3.84	.0441	9.45	.0304	.810	.243	171.	124.	215.	203.	180.	133.
6.	6.90	6.90	4.44	3.45	2.46	3.45	.0306	10.9	.0470			85.3	67.6	121.	114.	94.5	76.4
8.	5.65	5.65	3.77	2.74	1.88	2.91	.0172	13.4	.0789			51.0	42.5	81.9	77.7	60.3	51.4
10.	4.81	4.81	3.29	2.29	1.52	2.52	.0110	15.7	.110			33.7	29.0	61.4	58.5	42.9	37.9
15.	3.56	3.56	2.53	1.66	1.03	1.90	.00509	20.2	.168			17.8	16.0	41.3	39.7	26.8	24.6
20.	2.86	2.86	2.08	1.24	.781	1.62	.00260	23.5	.212			11.6	10.5	32.2	31.1	20.1	18.6
30.	2.08	2.08	1.55	.788	.525	1.29		28.0	.274			5.45	5.15	22.8	22.4	14.2	12.9
40.	1.65	1.65	1.26	.559	.397	1.09		31.3	.318			3.30	3.16	19.8	19.5	13.1	11.0
50.	1.38	1.38	1.06	.425	.318	.955		33.5	.353			1.78	1.73	18.1	18.0	13.4	10.5
60.	1.19	1.19	.922	.333	.266	.857		35.5	.378			1.19	1.17	17.9	17.8	14.3	10.8
80.	.937	.937	.737	.228	.200	.709		38.1	.419			.885	.870	18.2	18.2	15.3	11.3
100.	.778	.778	.618	.168	.160	.610		40.0	.450			.698	.688	18.5	18.5	16.0	11.7
												.479	.474	19.6	19.6	17.7	12.6
												.361	.358	21.0	21.0	19.5	13.4
												.220	.219	24.2	24.2	23.1	14.7
												.160	.159	26.7	26.7	25.9	15.2
												.102	.102	30.5	30.5	30.0	15.5
												.0740	.0738	33.3	33.3	32.9	14.9
												.0579	.0578	35.3	35.3	35.0	14.5
												.0472	.0471	37.1	37.1	36.9	14.2
												.0343	.0343	39.5	39.5	39.3	13.5
												.0269	.0269	41.2	41.2	41.0	12.7

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(cm²/g = 0.002489 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{KN} inc, t	($\frac{\mu}{\rho}$) _{BD} inc, t	($\frac{\mu}{\rho}$) _{KN} inc, a	($\frac{\mu}{\rho}$) _{BD} inc, a	($\frac{\mu}{\rho}$) _{KN} inc, s	($\frac{\mu}{\rho}$) _{BD} inc, s	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{xc}	($\frac{\mu}{\rho}$) _{x, t}	($\frac{\mu}{\rho}$) _{x, a}	($\frac{\mu}{\rho}$) _{t, t}	($\frac{\mu}{\rho}$) _{t, a}	($\frac{\mu}{\rho}$) _{tot, t}	($\frac{\mu}{\rho}$) _{tot, t-coh}	($\frac{\mu}{\rho}$) _{tot, a}	($\frac{\mu}{\rho}$) _{tot, en}
.001	.155	.00438	.000301	.0000085	.155	.00438	13.9										
.0015	.155	.00724	.000451	.0000211	.154	.00722	13.3										
M _I .001562	.155	.00759	.000470	.0000230	.154	.00757	13.3										
.002	.154	.0101	.000600	.0000393	.154	.0101	12.7					351.5	351.0	3530.	3510.	3510.	3510.
.003	.154	.0156	.000891	.0000904	.153	.0155	11.4					2000.	2000.	2010.	2000.	2000.	2000.
M _V .003778	.153	.0196	.00112	.000143	.152	.0195	10.5					779.	779.	792.	779.	779.	779.
M _{IV} .003973	.153	.0206	.00117	.000157	.152	.0204	10.3					463.	460.	470.	460.	460.	460.
.004	.153	.0207	.00118	.000159	.152	.0205	10.2					1440.	1440.	1450.	1440.	1440.	1440.
M _{III} .004568	.153	.0234	.00134	.000205	.152	.0232	9.61					1300.	1300.	1310.	1300.	1300.	1300.
.005	.153	.0254	.00146	.000243	.151	.0251	9.16					1470.	1470.	1480.	1470.	1470.	1470.
M _{II} .005555	.152	.0276	.00162	.000294	.151	.0274	8.64					1440.	1440.	1450.	1440.	1440.	1440.
M _I .005927	.152	.0291	.00172	.000329	.150	.0289	8.29					966.	966.	976.	966.	966.	966.
.006	.152	.0296	.00174	.000339	.150	.0294	8.24					1110.	1110.	1120.	1110.	1110.	1110.
.008	.151	.0371	.00228	.000563	.149	.0366	6.75					901.	901.	911.	901.	901.	901.
.01	.150	.0436	.00281	.000816	.147	.0428	5.63					712.	712.	719.	712.	712.	712.
.015	.147	.0567	.00406	.00157	.143	.0553	3.81					846.	846.	854.	846.	846.	846.
L _{III} .018063	.146	.0630	.00478	.00207	.141	.0610	3.09					702.	702.	709.	702.	702.	702.
.02	.145	.0665	.00523	.00240	.139	.0640	2.74					784.	784.	792.	784.	784.	784.
L _{II} .022270	.143	.0699	.00570	.00279	.138	.0672	2.38					759.	759.	767.	759.	759.	759.
L _I .023109	.143	.0709	.00587	.00291	.137	.0679	2.27					351.	351.	358.	351.	351.	351.
.03	.140	.0789	.00727	.00411	.133	.0749	1.59					194.	194.	200.	194.	194.	194.
.04	.135	.0866	.00904	.00577	.126	.0809	1.06					61.7	61.7	64.7	61.7	61.7	61.7
.05	.131	.0913	.0106	.00737	.121	.0839	.752					39.3	39.3	42.6	39.3	39.3	39.3
.06	.128	.0941	.0120	.00884	.116	.0854	.563					92.3	92.3	95.6	92.3	92.3	92.3
.08	.121	.0961	.0142	.0113	.107	.0849	.343					72.7	72.7	75.4	72.7	72.7	72.7
.1	.115	.0961	.0159	.0133	.0993	.0829	.228					53.3	53.3	56.7	53.3	53.3	53.3
K.121797	.110	.0963	.0174	.0153	.0923	.0811	.150					42.8	42.8	45.7	42.8	42.8	42.8
.15	.104	.0938	.0188	.0170	.0849	.0769	.108					33.1	33.1	35.9	33.1	33.1	33.1
.2	.0951	.0889	.0206	.0192	.0744	.0697	.0627					20.7	20.7	22.2	20.7	20.7	20.7
.3	.0826	.0796	.0223	.0215	.0605	.0582	.0286					16.7	16.7	17.7	16.7	16.7	16.7
.4	.0742	.0722	.0229	.0220	.0510	.0503	.0161					11.8	11.8	12.2	11.8	11.8	11.8
.5	.0677	.0665	.0231	.0223	.0446	.0443	.0105					9.63	9.63	10.0	9.63	9.63	9.63
.6	.0625	.0617	.0230	.0222	.0396	.0396	.00724					6.07	6.07	6.37	6.07	6.07	6.07
.8	.0550	.0545	.0225	.0215	.0326	.0329	.00411					3.21	3.21	3.56	3.21	3.21	3.21
1.	.0495	.0490	.0217	.0202	.0276	.0289	.00264					2.89	2.89	3.21	2.89	2.89	2.89
1.5	.0401	.0401	.0199	.0187	.0203	.0214	.00119	.00202				.963	.916	1.22	1.06	.981	.931
2.	.0343	.0341	.0182	.0168	.0161	.0173	.000672	.00627	.00202	.000605		.26	1.35	4.51	4.36	4.28	1.37
3.	.0269	.0269	.0155	.0137	.0114	.0132	.000301	.0134	.00801	.00801		.49	1.12	2.69	2.59	2.51	1.14
4.	.0225	.0225	.0137	.0115	.00886	.0110	.000169	.0189	.0000386	.0190		.20	.702	1.35	1.29	1.22	.722
5.	.0194	.0194	.0122	.00988	.00724	.00956	.000110	.0235	.0000757	.0236		.426	.309	.535	.505	.448	.331
6.	.0172	.0172	.0111	.00859	.00612	.00859	.0000762	.0271	.000117	.0271		.212	.168	.301	.284	.235	.190
8.	.0141	.0141	.00938	.00682	.00468	.00724	.0000428	.0334	.000196	.0336		.127	.106	.204	.193	.150	.128
10.	.0120	.0120	.00819	.00570	.00378	.00627	.0000274	.0391	.000274	.0393		.0839	.0722	.153	.146	.107	.0943
15.	.00886	.00886	.00630	.00413	.00256	.00473	.0000127	.0503	.000418	.0508		.0443	.0398	.103	.0988	.0667	.0612
20.	.00712	.00712	.00518	.00309	.00194	.00403	.0000065	.0585	.000528	.0590		.0284	.0261	.0801	.0774	.0500	.0463
30.	.00518	.00518	.00386	.00196	.00131	.00321		.0697	.000682	.0704		.0136	.0128	.0567	.0558	.0353	.0321
40.	.00411	.00411	.00314	.00139	.000988	.00271		.0779	.000792	.0787		.00821	.00787	.0493	.0485	.0326	.0274
50.	.00343	.00343	.00264	.00106	.000792	.00238		.0834	.000879	.0844		.00443	.00431	.0451	.0448	.0334	.0261
60.	.00296	.00296	.00229	.000829	.000662	.00213		.0884	.000941	.0894		.00296	.00291	.0446	.0443	.0356	.0269
80.	.00233	.00233	.00183	.000567	.000498	.00176		.0948	.00104	.0958		.00220	.00217	.0453	.0453	.0381	.0281
100.	.00194	.00194	.00154	.000418	.000398	.00152		.0996	.00112	.101		.00174	.00171	.0460	.0460	.0398	.0291
												.00119	.00118	.0488	.0488	.0441	.0314
												.000899	.000891	.0523	.0523	.0485	.0334
												.000548	.000545	.0602	.0602	.0575	.0366
												.000398	.000396	.0665	.0665	.0645	.0378
												.000254	.000254	.0759	.0759	.0747	.0386
												.000184	.000184	.0829	.0829	.0819	.0371
												.000144	.000144	.0879	.0879	.0871	.0361
												.000117	.000117	.0923	.0923	.0918	.0353
												.0000854	.0000854	.0983	.0983	.0978	.0336
														.103	.103	.102	.0316

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(barns/atom)

E (MeV)	$\sigma_{inc,t}^{KN}$	$\sigma_{inc,t}^{BD}$	$\sigma_{inc,a}^{KN}$	$\sigma_{inc,a}^{BD}$	$\sigma_{inc,s}^{KN}$	$\sigma_{inc,s}^{BD}$	C_{coh}	σ_{xn}	σ_{xe}	$\sigma_{x,t}$	$\sigma_{x,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	62.9	1.75	.123	.00341	62.8	1.75	5720.										
.0015	62.8	2.90	.183	.00846	62.6	2.89	5490.										
B I .001625	62.8	3.19	.198	.0101	62.6	3.18	5430.										
.002	62.7	4.05	.243	.0157	62.5	4.03	5240.					1340000.	1340000.	1350000.	1340000.	1340000.	1340000.
.003	62.5	6.25	.362	.0362	62.1	6.21	4710.					835000.	835000.	840000.	835000.	835000.	835000.
M V .003894	62.2	8.09	.467	.0606	61.8	8.03	4270.					326000.	326000.	331000.	326000.	326000.	326000.
.004	62.2	8.30	.479	.0639	61.7	8.24	4220.					179000.	179000.	183000.	179000.	179000.	179000.
M IV .004100	62.2	8.49	.490	.0669	61.7	8.42	4170.					560000.	560000.	564000.	560000.	560000.	560000.
M III .004703	62.1	9.62	.560	.0868	61.5	9.53	3900.					530000.	530000.	534000.	530000.	530000.	530000.
.005	62.0	10.2	.594	.0977	61.4	10.1	3770.					505000.	505000.	509000.	505000.	505000.	505000.
M II .005748	61.8	11.5	.678	.126	61.1	11.4	3480.					572000.	572000.	576000.	572000.	572000.	572000.
.006	61.7	11.9	.707	.136	61.0	11.8	3390.					376000.	376000.	380000.	376000.	376000.	376000.
M I .006122	61.7	12.1	.72	.141	61.0	12.0	3350.					433000.	433000.	437000.	433000.	433000.	433000.
.008	61.3	14.9	.928	.226	60.4	14.7	2780.					377000.	377000.	381000.	377000.	377000.	377000.
.01	60.8	17.6	1.14	.330	59.7	17.3	2310.					275000.	275000.	278000.	275000.	275000.	275000.
.015	59.7	23.0	1.65	.636	58.1	22.4	1560.					327000.	327000.	330000.	327000.	327000.	327000.
L III .018519	59.	25.8	1.98	.866	57.0	24.9	1230.					288000.	288000.	291000.	288000.	288000.	288000.
.02	58.7	26.9	2.12	.971	56.6	25.9	1120.					272000.	272000.	275000.	272000.	272000.	272000.
L II .022958	58.1	28.7	2.38	1.17	55.7	27.5	943.					303000.	303000.	306000.	303000.	303000.	303000.
.023812	57.9	29.1	2.45	1.23	55.5	27.9	898.					149000.	149000.	152000.	149000.	149000.	149000.
.03	56.8	31.9	2.95	1.66	53.8	30.2	654.					82200.	82200.	84500.	82200.	82200.	82200.
.04	55.0	35.0	3.67	2.33	51.3	32.7	434.					27200.	27200.	28800.	27200.	27200.	27200.
.05	53.3	37.0	4.30	2.99	49.0	34.0	310.					15400.	15400.	16700.	15400.	15400.	15400.
.06	51.8	38.1	4.86	3.57	47.0	34.5	232.					36100.	36100.	37400.	36100.	36100.	36100.
.08	49.1	39.0	5.78	4.57	43.4	34.4	142.					22000.	22000.	23300.	22000.	22000.	22000.
.1	46.8	39.0	6.46	5.38	40.4	33.6	94.1					30000.	30000.	31000.	30000.	30000.	30000.
K .124990	44.3	39.0	7.14	6.28	37.2	32.7	62.6					27000.	27000.	27900.	27000.	27000.	27000.
.15	42.1	38.1	7.65	6.92	34.5	31.2	44.6					13600.	13600.	14000.	13600.	13600.	13600.
.2	38.6	36.1	8.35	7.80	30.3	28.3	25.8					17300.	17300.	18000.	17300.	17300.	17300.
.3	33.6	32.3	9.05	8.71	24.5	23.6	11.8					8230.	8230.	8700.	8230.	8230.	8230.
.4	30.1	29.3	9.32	8.94	20.8	20.4	6.66					4570.	4570.	4920.	4570.	4570.	4570.
.5	27.5	27.0	9.37	9.05	18.1	18.0	4.32					2830.	2830.	3100.	2830.	2830.	2830.
.6	25.4	25.1	9.34	9.01	16.1	16.1	3.00					1310.	1310.	1490.	1350.	1320.	1210.
.8	22.3	22.1	9.13	8.73	13.2	13.4	1.69					715.	672.	848.	754.	721.	677.
.1	20.1	19.9	8.83	8.18	11.2	11.7	1.08					378.	360.	480.	417.	385.	366.
1.5	16.3	16.2	8.06	7.55	8.24	8.65	.491	.840		.840	.252	1660.	528.	1760.	1700.	1670.	534.
2.	13.9	13.9	7.38	6.84	6.52	7.06	.279	2.60		2.60	1.18	1050.	453.	1130.	1090.	1060.	480.
3.	10.9	10.9	6.31	5.55	4.62	5.35	.124	5.53	.00383	5.53	3.29	501.	287.	563.	537.	509.	295.
4.	9.14	9.14	5.55	4.65	3.59	4.49	.0697	7.80		.0156	5.11	178.	127.	222.	210.	187.	136.
5.	7.89	7.89	4.96	4.00	2.94	3.89	.0453	9.65		.0307	9.68	89.5	70.4	125.	119.	98.8	79.3
6.	6.97	6.97	4.49	3.48	2.48	3.49	.0314	11.1		.0474	11.1	53.2	44.1	84.5	80.2	62.6	53.1
8.	5.71	5.71	3.81	2.76	1.90	2.95	.0177	13.6		.0797	13.7	35.0	30.0	63.1	60.1	44.3	39.0
10.	4.86	4.86	3.32	2.31	1.56	2.55	.0113	16.0		.111	16.1	18.7	16.7	40.8	40.8	27.8	25.4
15.	3.60	3.60	2.55	1.67	1.04	1.93	.00522	20.5		.170	20.7	11.9	10.9	32.9	31.8	20.7	19.1
20.	2.89	2.89	2.10	1.25	.789	1.64	.00270	24.0		.214	24.2	5.70	5.38	23.2	22.7	14.6	13.2
30.	2.10	2.10	1.57	.796	.531	1.30		28.6		.277	28.9	3.47	3.32	20.2	20.0	13.4	11.3
40.	1.67	1.67	1.27	.564	.401	1.11		31.9		.321	32.2	1.86	1.81	18.4	18.3	13.7	10.6
50.	1.39	1.39	1.07	.427	.321	.963		34.2		.356	34.6	1.25	1.22	18.3	18.2	14.6	11.0
60.	1.20	1.20	.932	.336	.269	.864		36.1		.382	36.5	.930	.914	18.5	18.5	15.6	11.5
80.	.947	.947	.745	.229	.202	.718		38.8		.423	39.2	.730	.720	18.8	18.8	16.3	11.9
100.	.787	.787	.624	.170	.162	.617		40.6		.454	41.1	.400	.495	19.9	19.9	18.0	12.8
												.380	.377	21.4	21.3	19.8	13.6
												.230	.229	24.5	24.5	23.5	14.8
												.167	.166	27.3	27.3	26.5	15.4
												.107	.107	31.1	31.1	30.6	15.7
												.0779	.0777	33.9	33.9	33.5	15.0
												.0608	.0607	36.1	36.1	35.7	14.7
												.0497	.0496	37.7	37.7	37.5	14.3
												.0362	.0362	40.2	40.2	40.0	13.6
												.0281	.0281	41.9	41.9	41.8	12.8

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(cm²/g = 0.002478 x barns/atom)

E (MeV)	($\frac{\sigma}{\sigma_0}$) _{inc,t} ^{KN}	($\frac{\sigma}{\sigma_0}$) _{inc,t} ^{BD}	($\frac{\sigma}{\sigma_0}$) _{inc,a} ^{KN}	($\frac{\sigma}{\sigma_0}$) _{inc,a} ^{BD}	($\frac{\sigma}{\sigma_0}$) _{inc,s} ^{KN}	($\frac{\sigma}{\sigma_0}$) _{inc,s} ^{BD}	($\frac{\sigma}{\sigma_0}$) _{coh}	($\frac{\sigma}{\sigma_0}$) _n	($\frac{\sigma}{\sigma_0}$) _e	($\frac{\sigma}{\sigma_0}$) _t	($\frac{\sigma}{\sigma_0}$) _a	($\frac{\sigma}{\sigma_0}$) _{r,t}	($\frac{\sigma}{\sigma_0}$) _{r,a}	($\frac{\sigma}{\sigma_0}$) _{tot,t}	($\frac{\sigma}{\sigma_0}$) _{tot,t-coh}	($\frac{\sigma}{\sigma_0}$) _{tot,a}	($\frac{\sigma}{\sigma_0}$) _{tot,en}
.001	.156	.00434	.000305	.0000085	.156	.00434	14.2	---	---	---	---	---	---	---	---	---	---
.0015	.156	.00719	.000453	.0000210	.155	.00716	13.6	---	---	---	---	---	---	---	---	---	---
.001625	.156	.00790	.000491	.0000250	.155	.00788	13.5	---	---	---	---	---	---	---	---	---	---
.002	.155	.0100	.000602	.0000389	.155	.00999	13.0	3320.	3320.	3320.	3320.	3320.	3320.	3350.	3320.	3320.	3320.
.003	.155	.0155	.000897	.0000897	.154	.0154	11.7	2070.	2070.	2080.	2070.	2070.	2070.	2080.	2070.	2070.	2070.
.003894	.154	.0200	.00116	.000150	.153	.0199	10.6	808.	808.	820.	808.	808.	808.	820.	808.	808.	808.
.004	.154	.0206	.00119	.000158	.153	.0204	10.5	444.	444.	453.	444.	444.	444.	453.	444.	444.	444.
.004100	.154	.0210	.00121	.000166	.153	.0209	10.3	1390.	1390.	1400.	1390.	1390.	1390.	1400.	1390.	1390.	1390.
.004703	.154	.0238	.00139	.000215	.152	.0236	9.66	1310.	1310.	1320.	1310.	1310.	1310.	1320.	1310.	1310.	1310.
.005	.154	.0253	.00147	.000242	.152	.0250	9.34	1250.	1250.	1260.	1250.	1250.	1250.	1260.	1250.	1250.	1250.
.005748	.153	.0285	.00168	.000312	.151	.0282	8.62	1420.	1420.	1430.	1420.	1420.	1420.	1430.	1420.	1420.	1420.
.006	.153	.0295	.00175	.000337	.151	.0292	8.40	932.	932.	942.	932.	932.	932.	942.	932.	932.	932.
.006122	.153	.0300	.00178	.000349	.151	.0297	8.30	1070.	1070.	1080.	1070.	1070.	1070.	1080.	1070.	1070.	1070.
.008	.152	.0369	.00230	.000560	.150	.0364	6.89	734.	734.	744.	734.	734.	734.	744.	734.	734.	734.
.01	.151	.0436	.00282	.000818	.148	.0429	5.72	681.	681.	689.	681.	681.	681.	689.	681.	681.	681.
.015	.148	.0570	.00409	.00158	.144	.0555	3.67	810.	810.	819.	810.	810.	810.	819.	810.	810.	810.
.018519	.146	.0639	.00491	.00215	.141	.0617	3.05	714.	714.	721.	714.	714.	714.	721.	714.	714.	714.
.02	.145	.0667	.00525	.00241	.140	.0642	2.78	674.	674.	674.	674.	674.	674.	674.	674.	674.	674.
.022958	.144	.0711	.00590	.00290	.138	.0681	2.34	751.	751.	751.	751.	751.	751.	751.	751.	751.	751.
.023812	.143	.0721	.00607	.00305	.138	.0691	2.23	369.	369.	377.	369.	369.	369.	377.	369.	369.	369.
.03	.141	.0790	.00731	.00411	.133	.0748	1.62	224.	224.	229.	224.	224.	224.	229.	224.	224.	224.
.04	.136	.0867	.00909	.00577	.127	.0810	1.08	57.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4
.05	.132	.0917	.0107	.00741	.121	.0843	.768	38.2	38.2	38.2	38.2	38.2	38.2	38.2	38.2	38.2	38.2
.06	.128	.0944	.0120	.00885	.116	.0855	.575	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5
.08	.122	.0966	.0142	.0113	.108	.0852	.352	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.8
.1	.116	.0966	.0160	.0133	.100	.0833	.231	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5
.124990	.110	.0966	.0177	.0156	.0922	.0810	.155	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8
.15	.104	.0944	.0190	.0171	.0855	.0773	.111	74.3	74.3	74.3	74.3	74.3	74.3	74.3	74.3	74.3	74.3
.2	.0957	.0895	.0207	.0193	.0751	.0701	.0639	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9
.3	.0833	.0800	.0224	.0216	.0607	.0585	.0292	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3
.4	.0746	.0726	.0231	.0222	.0515	.0506	.0165	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9
.5	.0681	.0669	.0232	.0224	.0449	.0446	.0107	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4
.6	.0629	.0622	.0231	.0223	.0399	.0399	.00743	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3
.8	.0553	.0548	.0226	.0216	.0327	.0332	.00419	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01
1.	.0498	.0493	.0219	.0203	.0278	.0280	.00268	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25
1.5	.0404	.0401	.0200	.0187	.0204	.0214	.00122	1.77	1.77	1.77	1.77	1.77	1.77	1.77	1.77	1.77	1.77
2.	.0344	.0344	.0183	.0169	.0162	.0175	.000691	.937	.892	.892	.892	.892	.892	.892	.892	.892	.892
3.	.0270	.0270	.0156	.0138	.0114	.0133	.000307	4.11	1.31	1.31	4.36	4.21	4.14	4.14	4.14	4.14	4.14
4.	.0226	.0226	.0138	.0115	.0089	.0111	.000173	2.60	1.12	1.12	2.80	2.70	2.63	2.63	2.63	2.63	2.63
5.	.0196	.0196	.0123	.00991	.00729	.00964	.000112	1.24	.711	.711	1.40	1.33	1.26	1.26	1.26	1.26	1.26
6.	.0173	.0173	.0111	.00862	.00615	.00865	.0000778	.441	.315	.315	.550	.520	.463	.463	.463	.463	.463
8.	.0141	.0141	.00944	.00684	.00471	.00731	.0000439	.222	.174	.174	.310	.295	.245	.245	.245	.245	.245
10.	.0120	.0120	.00822	.00572	.00382	.00632	.0000280	.132	.109	.109	.209	.199	.155	.155	.155	.155	.155
15.	.00892	.00892	.00632	.00414	.00258	.00478	.0000129	.0867	.0743	.0743	.156	.149	.110	.110	.110	.110	.110
20.	.00716	.00716	.00520	.00310	.00196	.00406	.0000067	.0463	.0414	.0414	.105	.101	.0689	.0689	.0689	.0689	.0689
30.	.00520	.00520	.00389	.00197	.00132	.00322		.0295	.0270	.0270	.0815	.0788	.0513	.0513	.0513	.0513	.0513
40.	.00414	.00414	.00315	.00140	.000994	.00275		.0141	.0133	.0133	.0575	.0563	.0362	.0362	.0362	.0362	.0362
50.	.00344	.00344	.00265	.00106	.000795	.00239		.0086	.00825	.00825	.0456	.0456	.0339	.0339	.0339	.0339	.0339
60.	.00297	.00297	.00231	.000833	.000667	.00214		.0079	.00765	.00765	.0453	.0453	.0362	.0362	.0362	.0362	.0362
80.	.00235	.00235	.00185	.000587	.000501	.00178		.0047	.00458	.00458	.0458	.0458	.0387	.0387	.0387	.0387	.0387
100.	.00195	.00195	.00155	.000421	.000401	.00153		.0035	.00352	.00352	.0466	.0466	.0404	.0404	.0404	.0404	.0404

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(barns/atom)

E (MeV)	KN inc,t	BD inc,t	KN inc,a	BD inc,a	KN inc,s	BD inc,s	σ_{coh}	$\sigma_{\pi n}$	$\sigma_{\pi c}$	$\sigma_{\pi,t}$	$\sigma_{\pi,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	63.6	1.73	.124	.00337	63.5	1.73	5843.										
.0015	63.5	2.88	.185	.00840	63.3	2.87	5603.										
N _I .001689	63.4	3.32	.208	.0109	63.2	3.31	5500.										
.002	63.4	4.03	.246	.0156	63.1	4.01	5340.					1280000.	1280000.	1290000.	1280000.	1280000.	1280000.
.003	63.1	6.24	.366	.0362	62.8	6.20	4803.					869000.	869000.	874000.	869000.	869000.	869000.
.004	62.9	8.29	.484	.0638	62.4	8.23	4303.					338000.	338000.	343000.	338000.	338000.	338000.
M _V .004012	62.9	8.32	.485	.0642	62.4	8.26	4293.					173000.	173000.	177000.	173000.	173000.	173000.
M _{IV} .004230	62.8	8.74	.511	.0711	62.3	8.67	4190.					173000.	173000.	177000.	173000.	173000.	173000.
M _{III} .004839	62.7	9.88	.581	.0917	62.1	9.79	3923.					542000.	542000.	546000.	542000.	542000.	542000.
.005	62.6	10.2	.600	.0977	62.0	10.1	3850.					487000.	487000.	491000.	487000.	487000.	487000.
M _{II} .005945	62.4	11.8	.708	.134	61.7	11.7	3489.					552000.	552000.	556000.	552000.	552000.	552000.
.006	62.4	11.9	.714	.136	61.7	11.8	3460.					365000.	365000.	369000.	365000.	365000.	365000.
M _I .006322	62.3	12.4	.751	.149	61.6	12.3	3350.					420000.	420000.	424000.	420000.	420000.	420000.
.008	61.9	14.9	.937	.226	61.0	14.7	2830.					390000.	390000.	394000.	390000.	390000.	390000.
.01	61.5	17.7	1.15	.332	60.3	17.4	2360.					264000.	264000.	267000.	264000.	264000.	264000.
.015	60.4	23.1	1.67	.639	58.7	22.5	1600.					314000.	314000.	317000.	314000.	314000.	314000.
L _{III} .018982	59.5	26.3	2.04	.903	57.5	25.4	1230.					305000.	305000.	308000.	305000.	305000.	305000.
.02	59.3	27.1	2.14	.978	57.2	26.1	1150.					262000.	262000.	265000.	262000.	262000.	262000.
L _{II} .023663	58.6	29.3	2.46	1.23	56.1	28.1	929.					291000.	291000.	294000.	291000.	291000.	291000.
L _I .024535	58.4	29.7	2.54	1.29	55.9	28.4	886.					155000.	155000.	158000.	155000.	155000.	155000.
.03	57.4	32.2	2.98	1.68	54.4	30.5	671.					86000.	86000.	88400.	86000.	86000.	86000.
.04	55.5	35.3	3.71	2.35	51.8	32.9	445.					28400.	28400.	30000.	28400.	28400.	28400.
.05	53.9	37.3	4.35	3.01	49.6	34.3	318.					15100.	15100.	16400.	15100.	15100.	15100.
.06	52.4	38.4	4.91	3.60	47.5	34.8	238.					24900.	24900.	26400.	24900.	24900.	24900.
.08	49.7	39.3	5.81	4.60	43.8	34.7	145.					31000.	31000.	32200.	31000.	31000.	31000.
.1	47.3	39.3	6.53	5.42	40.8	33.9	96.7					20800.	20800.	21400.	20800.	20800.	20800.
K .128253	44.5	39.2	7.29	6.42	37.2	32.8	61.3					26000.	26000.	26900.	26000.	26000.	26000.
.15	42.6	38.5	7.73	6.99	34.9	31.5	45.8					30400.	30400.	31300.	30400.	30400.	30400.
.2	39.0	36.5	8.44	7.89	30.6	28.6	26.5					17900.	17900.	18400.	17900.	17900.	17900.
.3	33.9	32.7	9.15	8.82	24.8	23.9	12.1					8550.	8550.	9030.	8550.	8550.	8550.
.4	30.4	29.6	9.42	9.00	21.0	20.6	6.84					4770.	4770.	5130.	4770.	4770.	4770.
.5	27.8	27.3	9.47	9.15	18.3	18.2	4.43					2950.	2950.	3230.	2950.	2950.	2950.
.6	25.7	25.3	9.44	9.08	16.2	16.2	3.08					1370.	1370.	1460.	1370.	1370.	1370.
.8	22.6	22.4	9.22	8.85	13.3	13.6	1.73					748.	748.	772.	748.	748.	748.
1.	20.3	20.1	8.92	8.24	11.4	11.9	1.11					369.	351.	469.	408.	376.	357.
1.5	15.5	16.4	8.15	7.63	8.32	8.77	.506	.865	.865	.259		1610.	513.	1710.	1650.	1620.	1519.
2.	14.0	14.0	7.46	6.87	6.59	7.13	.286	2.68	2.68			1080.	451.	1160.	1120.	1090.	458.
3.	11.0	11.0	6.37	5.60	4.67	5.40	.127	5.68	.00387			521.	293.	584.	558.	529.	301.
4.	9.24	9.24	5.60	4.70	3.63	4.54	.0716	7.94	.0158	7.96	5.20	186.	132.	231.	219.	195.	141.
5.	7.98	7.98	5.01	4.04	2.97	3.94	.0465	9.83	.0311	9.86	6.73	93.0	72.7	129.	123.	102.	81.7
6.	7.05	7.05	4.54	3.51	2.51	3.54	.0323	11.3	.0479	11.3	7.86	55.4	45.7	87.1	82.7	64.9	54.8
8.	5.77	5.77	3.85	2.78	1.92	2.99	.0182	13.8	.0803	13.9	9.65	36.7	31.4	65.1	62.0	46.1	40.5
10.	4.91	4.91	3.36	2.33	1.55	2.58	.0116	16.3	.112	16.4	11.1	19.6	17.5	43.7	42.0	28.8	26.4
15.	3.63	3.63	2.58	1.68	1.05	1.95	.00534	20.9	.172	21.1	13.1	12.5	11.4	33.7	32.6	21.4	19.6
20.	2.92	2.92	2.12	1.26	.798	1.66	.00279	24.4	.216	24.6	14.2	5.97	5.62	23.7	23.2	15.0	13.5
30.	2.12	2.12	1.59	.801	.537	1.32		29.1	.279	29.4	15.0	3.63	3.47	20.6	20.3	13.8	11.5
40.	1.69	1.69	1.28	.570	.405	1.12		32.4	.324	32.7	14.6	1.95	1.89	18.8	18.6	14.0	10.9
50.	1.41	1.41	1.08	.433	.324	.977		34.8	.360	35.2	14.3	1.31	1.28	18.6	18.5	14.9	11.2
60.	1.21	1.21	.942	.338	.272	.872		36.7	.386	37.1	14.1	.967	.950	18.9	18.8	15.8	11.7
80.	.957	.957	.753	.232	.204	.725		39.5	.427	39.9	13.5	.763	.752	19.1	19.1	16.6	12.1
100.	.795	.795	.631	.172	.164	.623		41.5	.458	42.0	12.8	.525	.519	20.2	20.2	18.3	12.9
												.395	.392	21.7	21.7	20.2	13.8
												.240	.239	25.0	25.0	23.9	15.0
												.175	.174	27.7	27.7	26.9	15.6
												.112	.112	31.6	31.6	31.1	15.9
												.0811	.0809	34.5	34.5	34.1	15.3
												.0634	.0633	36.7	36.7	36.3	14.8
												.0518	.0517	38.4	38.4	38.1	14.5
												.0378	.0378	40.9	40.9	40.7	13.8
												.0295	.0295	42.8	42.8	42.7	13.7

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(cm²/g = 0.002438 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc,t} ^{KN}	($\frac{\mu}{\rho}$) _{inc,t} ^{BD}	($\frac{\mu}{\rho}$) _{inc,a} ^{KN}	($\frac{\mu}{\rho}$) _{inc,a} ^{BD}	($\frac{\mu}{\rho}$) _{inc,s} ^{KN}	($\frac{\mu}{\rho}$) _{inc,s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{xe}	($\frac{\mu}{\rho}$) _{x,t}	($\frac{\mu}{\rho}$) _{x,a}	($\frac{\mu}{\rho}$) _{r,t}	($\frac{\mu}{\rho}$) _{r,a}	($\frac{\mu}{\rho}$) _{tot,t}	($\frac{\mu}{\rho}$) _{tot,t-coh}	($\frac{\mu}{\rho}$) _{tot,a}	($\frac{\mu}{\rho}$) _{tot,en}
.001	.155	.00422	.000302	.0000082	.155	.00422	14.2	---	---	---	---	---	---	---	---	---	---
.0015	.155	.00702	.000451	.0000205	.154	.00700	13.7	---	---	---	---	---	---	---	---	---	---
M _I .001689	.155	.00809	.000507	.0000266	.154	.00807	13.4	---	---	---	---	---	---	---	---	---	---
.002	.155	.00983	.000600	.0000380	.154	.00978	13.0	3124.	3124.	3124.	3124.	3124.	3124.	3124.	3124.	3124.	3124.
.003	.154	.0152	.000892	.0000883	.153	.0151	11.7	2120.	2120.	2120.	2120.	2120.	2120.	2120.	2120.	2120.	2120.
.004	.153	.0202	.00118	.000156	.152	.0201	10.5	824.	824.	824.	824.	824.	824.	824.	824.	824.	824.
M _V .004012	.153	.0203	.00118	.000157	.152	.0201	10.5	422.	422.	422.	422.	422.	422.	422.	422.	422.	422.
M _{IV} .004230	.153	.0213	.00125	.000173	.152	.0211	10.2	422.	422.	422.	422.	422.	422.	422.	422.	422.	422.
M _{III} .004839	.153	.0241	.00142	.000224	.151	.0239	9.56	1320.	1320.	1320.	1320.	1320.	1320.	1320.	1320.	1320.	1320.
.005	.153	.0249	.00146	.000238	.151	.0246	9.39	1190.	1190.	1190.	1190.	1190.	1190.	1190.	1190.	1190.	1190.
M _{II} .005945	.152	.0288	.00173	.000327	.150	.0285	8.48	1350.	1350.	1350.	1350.	1350.	1350.	1350.	1350.	1350.	1350.
.006	.152	.0290	.00174	.000332	.150	.0288	8.44	890.	890.	890.	890.	890.	890.	890.	890.	890.	890.
M _I .006322	.152	.0302	.00183	.000363	.150	.0300	8.17	1020.	1020.	1020.	1020.	1020.	1020.	1020.	1020.	1020.	1020.
.008	.151	.0363	.00228	.000551	.149	.0358	6.90	951.	951.	951.	951.	951.	951.	951.	951.	951.	951.
.01	.150	.0432	.00280	.000809	.147	.0424	5.75	644.	644.	644.	644.	644.	644.	644.	644.	644.	644.
.015	.147	.0563	.00407	.00156	.143	.0549	3.90	766.	766.	766.	766.	766.	766.	766.	766.	766.	766.
L _{III} .018982	.145	.0641	.00497	.00220	.140	.0619	3.00	744.	744.	744.	744.	744.	744.	744.	744.	744.	744.
.02	.145	.0661	.00522	.00238	.139	.0636	2.80	639.	639.	639.	639.	639.	639.	639.	639.	639.	639.
L _{II} .023663	.143	.0714	.00600	.00300	.137	.0685	2.26	709.	709.	709.	709.	709.	709.	709.	709.	709.	709.
L _I .024535	.142	.0724	.00619	.00315	.135	.0692	2.16	378.	378.	378.	378.	378.	378.	378.	378.	378.	378.
.03	.140	.0785	.00727	.00410	.133	.0744	1.64	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.
.04	.135	.0861	.00904	.00573	.125	.0802	1.08	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2
.05	.131	.0909	.0106	.00734	.121	.0836	.775	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8
.06	.128	.0936	.0120	.00878	.115	.0848	.580	85.6	85.6	85.6	85.6	85.6	85.6	85.6	85.6	85.6	85.6
.08	.121	.0958	.0142	.0112	.107	.0846	.354	60.7	60.7	60.7	60.7	60.7	60.7	60.7	60.7	60.7	60.7
.1	.115	.0958	.0159	.0132	.0995	.0826	.236	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6
K _I .128253	.108	.0956	.0178	.0157	.0937	.0800	.149	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8
.15	.104	.0939	.0188	.0170	.0851	.0768	.112	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7
.2	.0951	.0890	.0206	.0192	.0746	.0697	.0646	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0
.3	.0826	.0797	.0223	.0215	.0605	.0583	.0295	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6
.4	.0741	.0722	.0230	.0219	.0512	.0502	.0167	7.19	7.19	7.19	7.19	7.19	7.19	7.19	7.19	7.19	7.19
.5	.0678	.0666	.0231	.0223	.0446	.0444	.0108	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34
.6	.0627	.0617	.0230	.0221	.0395	.0395	.00751	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82
.8	.0591	.0546	.0225	.0216	.0324	.0332	.00422	.900	.856	.856	.856	.856	.856	.856	.856	.856	.856
1.	.0495	.0490	.0217	.0201	.0278	.0290	.00271	3.93	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
1.5	.0402	.0400	.0199	.0186	.0203	.0214	.00123	2.63	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
2.	.0341	.0341	.0182	.0167	.0161	.0174	.000697	1.27	.714	.714	.714	.714	.714	.714	.714	.714	.714
3.	.0268	.0268	.0155	.0137	.0114	.0132	.000310	.453	.322	.322	.322	.322	.322	.322	.322	.322	.322
4.	.0225	.0225	.0137	.0115	.00885	.0111	.000175	.227	.177	.177	.177	.177	.177	.177	.177	.177	.177
5.	.0195	.0195	.0122	.00985	.00724	.00961	.000113	.135	.111	.111	.111	.111	.111	.111	.111	.111	.111
6.	.0172	.0172	.0111	.00856	.00612	.00863	.0000787	.0895	.0766	.0766	.0766	.0766	.0766	.0766	.0766	.0766	.0766
8.	.0141	.0141	.00939	.00678	.00468	.00729	.0000444	.0478	.0427	.0427	.0427	.0427	.0427	.0427	.0427	.0427	.0427
10.	.0120	.0120	.00819	.00568	.00378	.00629	.0000283	.0305	.0278	.0278	.0278	.0278	.0278	.0278	.0278	.0278	.0278
15.	.00885	.00885	.00629	.00410	.00256	.00475	.0000130	.0146	.0137	.0137	.0137	.0137	.0137	.0137	.0137	.0137	.0137
20.	.00712	.00712	.00517	.00307	.00195	.00405	.0000068	.00885	.00846	.00846	.00846	.00846	.00846	.00846	.00846	.00846	.00846
30.	.00511	.00511	.00388	.00195	.00131	.00322		.00475	.00461	.00461	.00461	.00461	.00461	.00461	.00461	.00461	.00461
40.	.00412	.00412	.00312	.00139	.000987	.00273		.00475	.00461	.00461	.00461	.00461	.00461	.00461	.00461	.00461	.00461
50.	.00344	.00344	.00263	.00106	.000790	.00238		.00475	.00461	.00461	.00461	.00461	.00461	.00461	.00461	.00461	.00461
60.	.00295	.00295	.00230	.000824	.000663	.00213		.00475	.00461	.00461	.00461	.00461	.00461	.00461	.00461	.00461	.00461
80.	.00231	.00231	.00184	.000566	.000497	.00177		.00475	.00461	.00461	.00461	.00461	.00461	.00461	.00461	.00461	.00461
100.	.00194	.00194	.00154	.000419	.000408	.00152		.00475	.00461	.00461	.00461	.00461	.00461	.00461	.00461	.00461	.00461

97 BERKELIUM
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{con}	σ_{xn}	σ_{xc}	$\sigma_{x,t}$	$\sigma_{x,a}$	$\sigma_{x,t}$	$\sigma_{x,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	64.3	1.72	.125	.00335	64.1	1.72	5970.										
.0015	64.1	2.86	.187	.00834	64.0	2.85	5730.										
M _I .001755	64.1	3.45	.218	.0118	63.9	3.44	5590.										
.002	64.0	4.01	.248	.0156	63.8	3.99	5460.										
.003	63.8	6.23	.370	.0361	63.4	6.19	4920.										
.004	63.5	8.29	.489	.0638	63.0	8.23	4410.										
M _{II} .004132	63.5	8.55	.504	.0679	63.0	8.48	4340.										
M _{IV} .004364	63.4	8.99	.532	.0754	62.9	8.91	4230.										
M _{III} .004977	63.3	10.1	.604	.0963	62.7	10.0	3950.										
.005	63.3	10.2	.606	.0977	62.7	10.1	3940.										
.006	63.0	11.9	.722	.136	62.3	11.8	3540.										
M _{II} .006147	63.0	12.1	.739	.142	62.3	12.0	3490.										
M _I .006526	62.9	12.8	.782	.159	62.1	12.6	3360.										
.008	62.6	15.0	.947	.227	61.6	14.8	2900.										
.01	62.1	17.7	1.16	.332	61.0	17.4	2420.										
.015	61.0	23.2	1.69	.642	59.3	22.6	1640.										
L _{III} .019452	60.1	26.9	2.11	.945	57.9	26.0	1220.										
.02	59.9	27.2	2.16	.982	57.8	26.2	1180.										
L _{II} .024385	59.0	29.9	2.55	1.29	56.5	28.6	915.										
L _I .025275	58.9	30.3	2.63	1.35	56.2	28.9	872.										
.03	57.9	32.4	3.02	1.69	55.0	30.7	680.										
.04	56.1	35.6	3.74	2.37	52.4	33.2	457.										
.05	54.5	37.6	4.39	3.03	50.1	34.6	327.										
.06	52.9	38.7	4.97	3.63	48.0	35.1	240.										
.08	50.2	39.6	5.88	4.64	44.3	35.0	149.										
.1	47.8	39.7	6.60	5.48	41.2	34.2	99.2										
K _I .131590	44.6	39.5	7.44	6.58	37.2	32.9	61.1										
.15	43.0	38.9	7.81	7.06	35.2	31.8	47.0										
.2	39.4	36.8	8.52	7.96	30.9	28.8	27.3										
.3	34.3	33.0	9.24	8.90	25.0	24.1	15.4										
.4	30.7	29.9	9.52	9.09	21.2	20.8	7.03										
.5	28.0	27.5	9.57	9.21	18.5	18.3	3.55										
.6	25.9	25.6	9.53	9.19	16.4	16.4	3.16										
.8	22.8	22.6	9.32	8.93	13.5	13.7	1.78										
.1	20.5	20.4	9.01	8.36	11.5	12.0	1.14										
1.5	16.6	16.6	8.23	7.72	8.41	8.88	.520	.890									
2.	14.2	14.2	7.53	6.97	6.66	7.23	.294	2.75									
3.	11.2	11.1	6.44	5.64	4.72	5.46	.130	5.80	.00391	5.80	3.45	2.04	1.98	19.1	18.9	14.3	11.1
4.	9.33	9.33	5.66	4.74	3.67	4.59	.0735	8.12	.0160	8.14	5.31	1.37	1.34	18.9	18.8	15.2	11.4
5.	8.06	8.06	5.06	4.07	3.00	3.99	.0478	10.0	.0313	10.0	6.83	1.01	.992	19.1	19.1	16.1	11.9
6.	7.12	7.12	4.59	3.54	2.54	3.58	.0332	11.5	.0483	11.5	7.99	.795	.783	19.4	19.4	16.9	12.3
8.	5.83	5.83	3.89	2.80	1.94	3.03	.0187	14.2	.0811	14.3	9.91	.547	.541	20.7	20.7	18.7	13.3
10.	4.96	4.96	3.39	2.35	1.57	2.61	.0119	16.6	.113	16.7	11.3	.411	.407	22.1	22.1	20.5	14.1
15.	3.67	3.67	2.61	1.70	1.07	1.97	.00547	21.3	.174	21.5	13.4	.250	.249	25.4	25.4	24.4	15.3
20.	2.95	2.95	2.14	1.27	.806	1.68	.00288	24.9	.218	25.1	14.4	.181	.180	28.2	28.2	27.4	15.8
30.	2.15	2.15	1.60	.811	.542	1.34		29.6	.282	29.9	15.2	.116	.116	32.2	32.2	31.6	16.1
40.	1.71	1.71	1.30	.575	.409	1.14		33.0	.327	33.3	14.8	.0845	.0843	35.1	35.1	34.7	15.5
50.	1.42	1.42	1.10	.435	.328	.985		35.5	.364	35.9	14.6	.0661	.0660	37.4	37.4	37.1	15.1
60.	1.23	1.23	.952	.342	.274	.888		37.4	.389	37.8	14.2	.0540	.0539	39.1	39.1	38.8	14.6
80.	.967	.967	.761	.233	.207	.734		40.2	.430	40.6	13.7	.0394	.0394	41.6	41.6	41.4	14.0
100.	.803	.803	.638	.173	.166	.630		42.2	.462	42.7	12.9	.0307	.0307	43.5	43.5	43.4	13.1

97 BERKELIUM
(cm²/g = 0.002419 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc, t} ^{KN}	($\frac{\mu}{\rho}$) _{inc, t} ^{BD}	($\frac{\mu}{\rho}$) _{inc, a} ^{KN}	($\frac{\mu}{\rho}$) _{inc, a} ^{BD}	($\frac{\mu}{\rho}$) _{inc, s} ^{KN}	($\frac{\mu}{\rho}$) _{inc, s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{xe}	($\frac{\mu}{\rho}$) _{xt}	($\frac{\mu}{\rho}$) _{xa}	($\frac{\mu}{\rho}$) _{rt}	($\frac{\mu}{\rho}$) _{ra}	($\frac{\mu}{\rho}$) _{tot, t}	($\frac{\mu}{\rho}$) _{tot, t-coh}	($\frac{\mu}{\rho}$) _{tot, a}	($\frac{\mu}{\rho}$) _{tot, en}
.001	.156	.00416	.000302	.0000081	.155	.00416	14.4	---	---	---	---	---	---	---	---	---	---
.0015	.155	.00692	.000452	.0000202	.155	.00689	13.9	---	---	---	---	---	---	---	---	---	---
H _I .001755	.155	.00835	.000527	.0000285	.155	.00832	13.5	---	---	---	---	---	---	---	---	---	---
.002	.155	.00970	.000600	.0000377	.154	.00965	13.2	255n.	2950.	2980.	2950.	2950.	2950.	2980.	2950.	2950.	2950.
.003	.154	.0151	.000895	.0000873	.153	.0150	11.9	2180.	2180.	2200.	2180.	2180.	2180.	2200.	2180.	2180.	2180.
.004	.154	.0201	.00118	.000154	.152	.0199	10.7	847.	847.	859.	847.	847.	847.	859.	847.	847.	847.
M _Y .004132	.154	.0207	.00122	.000164	.152	.0205	10.5	435.	435.	445.	435.	435.	435.	445.	435.	435.	435.
.004364	.153	.0217	.00129	.000182	.152	.0216	10.2	406.	406.	416.	406.	406.	406.	416.	406.	406.	406.
M _{II} .004977	.153	.0244	.00146	.000233	.152	.0242	9.56	1270.	1270.	1280.	1270.	1270.	1270.	1280.	1270.	1270.	1270.
.005	.153	.0247	.00147	.000236	.152	.0244	9.53	1140.	1140.	1150.	1140.	1140.	1140.	1150.	1140.	1140.	1140.
.006	.152	.0288	.00175	.000329	.151	.0285	8.56	1290.	1290.	1300.	1290.	1290.	1290.	1300.	1290.	1290.	1290.
M _{II} .006147	.152	.0293	.00179	.000343	.151	.0290	8.44	856.	856.	866.	856.	856.	856.	866.	856.	856.	856.
.006526	.152	.0310	.00189	.000385	.150	.0305	8.13	985.	985.	994.	985.	985.	985.	994.	985.	985.	985.
.008	.151	.0363	.00229	.000549	.149	.0358	7.02	975.	975.	985.	975.	975.	975.	985.	975.	975.	975.
.01	.150	.0428	.00281	.000803	.148	.0421	5.85	648.	648.	658.	648.	648.	648.	658.	648.	648.	648.
.015	.148	.0561	.00409	.00155	.143	.0547	3.97	614.	614.	624.	614.	614.	614.	624.	614.	614.	614.
L _{II} .019452	.145	.0651	.00510	.00229	.140	.0629	2.95	731.	731.	740.	731.	731.	731.	740.	731.	731.	731.
.02	.145	.0658	.00523	.00238	.140	.0634	2.85	612.	612.	619.	612.	612.	612.	619.	612.	612.	612.
L _{II} .024385	.143	.0723	.00617	.00312	.137	.0692	2.21	677.	677.	685.	677.	677.	677.	685.	677.	677.	677.
.025275	.142	.0733	.00636	.00327	.136	.0699	2.11	392.	392.	399.	392.	392.	392.	399.	392.	392.	392.
.03	.140	.0784	.00731	.00409	.133	.0743	1.66	217.	217.	223.	217.	217.	217.	223.	217.	217.	217.
.04	.136	.0861	.00905	.00573	.127	.0803	1.11	71.8	71.8	76.0	71.8	71.8	71.8	76.0	71.8	71.8	71.8
.05	.132	.0910	.0106	.00733	.121	.0837	.791	35.8	35.8	38.7	35.8	35.8	35.8	38.7	35.8	35.8	35.8
.06	.128	.0936	.0120	.00878	.116	.0849	.590	82.5	82.5	85.4	82.5	82.5	82.5	85.4	82.5	82.5	82.5
.08	.121	.0958	.0142	.0112	.107	.0847	.360	76.9	76.9	79.8	76.9	76.9	76.9	79.8	76.9	76.9	76.9
.1	.116	.0960	.0160	.0133	.0997	.0827	.240	58.4	58.4	60.6	58.4	58.4	58.4	60.6	58.4	58.4	58.4
K.131530	.108	.0956	.0180	.0159	.0900	.0796	.145	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1
.15	.104	.0941	.0189	.0171	.0851	.0769	.114	50.5	50.5	45.7	50.5	50.5	50.5	45.7	50.5	50.5	50.5
.2	.0953	.0890	.0206	.0193	.0747	.0697	.0660	70.6	70.6	53.0	70.6	70.6	70.6	53.0	70.6	70.6	70.6
.3	.0830	.0798	.0224	.0215	.0605	.0583	.0300	45.0	45.0	35.6	45.0	45.0	45.0	35.6	45.0	45.0	45.0
.4	.0743	.0723	.0230	.0220	.0513	.0503	.0170	21.6	21.6	18.2	21.6	21.6	21.6	18.2	21.6	21.6	21.6
.5	.0677	.0665	.0231	.0223	.0448	.0443	.0110	12.0	12.0	10.5	12.0	12.0	12.0	10.5	12.0	12.0	12.0
.6	.0627	.0619	.0231	.0222	.0397	.0397	.00764	7.45	7.45	6.68	7.45	7.45	7.45	6.68	7.45	7.45	7.45
.8	.0552	.0547	.0225	.0216	.0327	.0331	.00431	3.46	3.46	3.19	3.46	3.46	3.46	3.19	3.46	3.46	3.46
.1	.0496	.0493	.0218	.0202	.0278	.0290	.00276	1.90	1.90	1.78	1.90	1.90	1.90	1.78	1.90	1.90	1.90
1.5	.0402	.0402	.0199	.0187	.0203	.0215	.00126	.871	.871	.830	.871	.871	.871	.830	.871	.871	.871
2.	.0343	.0343	.0182	.0169	.0161	.0175	.000711	3.77	3.77	3.20	3.77	3.77	3.77	3.20	3.77	3.77	3.77
3.	.0271	.0269	.0156	.0136	.0114	.0132	.000314	2.71	2.71	2.09	2.71	2.71	2.71	2.09	2.71	2.71	2.71
4.	.0226	.0226	.0137	.0115	.00888	.0111	.000178	1.31	1.31	.721	1.31	1.31	1.31	.721	1.31	1.31	1.31
5.	.0195	.0195	.0122	.00985	.00726	.00965	.000116	.469	.469	.329	.469	.469	.469	.329	.469	.469	.469
6.	.0172	.0172	.0111	.00856	.00614	.00866	.0000803	.235	.235	.182	.235	.235	.235	.182	.235	.235	.235
8.	.0141	.0141	.00941	.00677	.00469	.00733	.0000452	.140	.140	.115	.140	.140	.140	.115	.140	.140	.140
10.	.0120	.0120	.00820	.00568	.00380	.00631	.0000288	.0926	.0926	.0789	.0926	.0926	.0926	.0789	.0926	.0926	.0926
15.	.00888	.00888	.00631	.00411	.00259	.00477	.0000132	.0496	.0496	.0440	.0496	.0496	.0496	.0440	.0496	.0496	.0496
20.	.00714	.00714	.00518	.00307	.00195	.00406	.0000070	.0317	.0317	.0288	.0317	.0317	.0317	.0288	.0317	.0317	.0317
30.	.00520	.00520	.00387	.00196	.00131	.00324		.00919	.00919	.00878	.00919	.00919	.00919	.00878	.00919	.00919	.00919
40.	.00414	.00414	.00314	.00139	.000989	.00276		.00493	.00493	.00479	.00493	.00493	.00493	.00479	.00493	.00493	.00493
50.	.00343	.00343	.00266	.00105	.000793	.00238		.00331	.00331	.00324	.00331	.00331	.00331	.00324	.00331	.00331	.00331
60.	.00298	.00298	.00230	.000827	.000663	.00215		.00244	.00244	.00240	.00244	.00244	.00244	.00240	.00244	.00244	.00244
80.	.00234	.00234	.00184	.000564	.000501	.00178		.00192	.00192	.00189	.00192	.00192	.00192	.00189	.00192	.00192	.00192
100.	.00194	.00194	.00154	.000418	.000402	.00152		.00132	.00132	.00131	.00132	.00132	.00132	.00131	.00132	.00132	.00132

98 CALIFORNIUM
(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{nr}	σ_{ne}	$\sigma_{n,t}$	$\sigma_{n,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	64.9	1.71	.127	.00333	64.8	1.71	6100.										
.0015	64.8	2.85	.189	.00831	64.6	2.84	5860.										
N _I .001822	64.7	3.58	.229	.0127	64.5	3.57	5690.										
.002	64.7	3.99	.251	.0155	64.4	3.97	5590.						1160000.	1160000.	1170000.	1160000.	1160000.
.003	64.4	6.21	.373	.0360	64.1	6.17	5040.						936000.	936000.	942000.	936000.	936000.
.004	64.2	8.28	.494	.0637	63.7	8.22	4520.						363000.	363000.	368000.	363000.	363000.
M _V .004254	64.1	8.78	.524	.0718	63.6	8.71	4390.						185000.	185000.	190000.	185000.	185000.
.004502	64.1	9.25	.554	.0799	63.5	9.17	4270.						162000.	162000.	166000.	162000.	162000.
.005	63.9	10.2	.612	.0977	63.3	10.1	4040.						508000.	508000.	512000.	508000.	508000.
M _{III} .005117	63.9	10.4	.626	.102	63.3	10.3	3990.						454000.	454000.	458000.	454000.	454000.
.006	63.7	11.9	.729	.136	63.0	11.8	3630.						514000.	514000.	518000.	514000.	514000.
M _{II} .006353	63.6	12.5	.770	.151	62.8	12.3	3500.						369000.	369000.	373000.	369000.	369000.
.006735	63.5	13.1	.814	.168	62.7	12.9	3370.						344000.	344000.	348000.	344000.	344000.
.008	63.2	15.0	.957	.227	62.3	14.8	2970.						395000.	395000.	399000.	395000.	395000.
.01	62.8	17.8	1.18	.334	61.6	17.5	2470.						277000.	277000.	281000.	277000.	277000.
.015	61.6	23.3	1.70	.644	59.9	22.7	1570.						244000.	244000.	248000.	244000.	244000.
L _{III} .019929	60.6	27.4	2.18	.984	58.4	26.4	1210.						291000.	291000.	295000.	291000.	291000.
.02	60.6	27.4	2.18	.989	58.4	26.4	1210.						244000.	244000.	247000.	244000.	244000.
L _{II} .025125	59.5	30.5	2.64	1.35	56.9	29.1	902.						270000.	270000.	273000.	270000.	270000.
.026030	59.3	30.9	2.72	1.42	56.6	29.5	866.						169000.	169000.	172000.	169000.	169000.
.03	58.5	32.7	3.05	1.70	55.5	31.0	706.						93300.	93300.	95800.	93300.	93300.
.04	56.7	35.9	3.78	2.39	52.9	33.5	466.						31100.	31100.	32800.	31100.	31100.
.05	55.0	37.9	4.44	3.06	50.6	34.8	335.						14500.	14500.	15700.	14500.	14500.
.06	53.5	39.1	5.02	3.67	48.5	35.4	251.						33100.	33100.	34300.	33100.	33100.
.08	50.7	40.0	5.94	4.68	44.8	35.3	153.						32700.	32700.	33900.	32700.	32700.
.1	48.3	40.1	6.66	5.53	41.6	34.6	105.						19300.	19300.	20200.	19300.	19300.
K.135005	44.8	39.8	7.59	6.75	37.2	33.0	56.8						26600.	26600.	27500.	26600.	26600.
.15	43.5	39.2	7.89	7.11	35.6	32.1	46.3						19900.	19900.	20100.	19900.	19900.
.2	39.8	37.2	8.61	8.04	31.2	29.2	26.0						24100.	24100.	25000.	24100.	24100.
.3	34.6	33.3	9.34	8.98	25.3	24.3	12.7						28200.	28200.	29100.	28200.	28200.
.4	31.0	30.3	9.61	9.21	21.4	21.1	7.22						19400.	19400.	20100.	19400.	19400.
.5	28.3	27.8	9.66	9.31	18.7	18.5	4.67						15200.	15200.	16300.	15200.	15200.
.6	26.2	25.9	9.63	9.30	16.6	16.6	3.24						9770.	9770.	9770.	9770.	9770.
.8	23.0	22.8	9.41	9.01	13.6	13.8	1.63						7780.	7780.	9310.	7780.	7780.
.1	20.7	20.6	9.10	8.45	11.6	12.2	1.18						5180.	5180.	5550.	5180.	5180.
1.5	16.8	16.7	8.32	7.75	8.50	8.95	.532	.920	.920	.276			3210.	3210.	3500.	3210.	3210.
2.	14.3	14.3	7.61	7.02	6.73	7.28	.301	2.83	2.83	1.28			1500.	1510.	1610.	1510.	1510.
3.	11.3	11.3	6.51	5.74	4.77	5.56	.134	5.95	.00395	5.95	3.54		560.	560.	625.	560.	560.
4.	9.43	9.43	5.72	4.78	3.71	4.65	.0755	6.26	.0161	8.28	5.40		201.	201.	247.	201.	201.
5.	8.14	8.14	5.11	4.10	3.03	4.04	.0491	10.2	.0317	10.2	6.96		101.	101.	139.	101.	101.
6.	7.20	7.20	4.63	3.57	2.55	3.63	.0341	11.7	.0488	11.7	8.12		40.0	40.0	92.5	40.0	40.0
8.	5.89	5.89	3.93	2.82	1.95	3.07	.0192	14.4	.0820	14.5	10.0		40.1	40.1	69.2	40.1	40.1
10.	5.01	5.01	3.43	2.36	1.59	2.65	.0122	16.9	.114	17.0	11.5		21.5	21.5	46.1	21.5	21.5
15.	3.71	3.71	2.63	1.71	1.08	2.00	.0056	21.6	.176	21.8	13.5		13.7	13.7	35.5	13.7	13.7
20.	2.98	2.98	2.16	1.28	.814	1.70	.00297	25.3	.220	25.5	14.6		6.55	6.55	24.7	6.55	6.55
30.	2.17	2.17	1.62	.816	.548	1.35		30.1	.284	30.4	15.4		3.97	3.97	21.4	3.97	3.97
40.	1.72	1.72	1.31	.576	.414	1.14		33.5	.330	33.8	15.0		2.12	2.06	19.5	19.4	19.4
50.	1.44	1.44	1.11	.439	.331	1.00		36.1	.367	36.5	14.7		1.44	1.44	19.2	19.1	19.1
60.	1.24	1.24	.961	.345	.277	.895		38.1	.393	38.5	14.4		1.06	1.06	19.4	19.4	19.4
80.	.977	.977	.768	.234	.209	.743		40.9	.434	41.3	13.8		1.04	1.04	19.8	19.7	19.7
100.	.811	.811	.644	.174	.167	.637		43.0	.467	43.5	13.0		.832	.832	21.0	21.0	21.0
													.570	.563	22.5	22.4	22.4
													.430	.426	22.5	22.4	22.4
													.261	.259	24.7	24.7	24.7
													.190	.189	25.8	25.8	25.8
													.121	.121	28.7	28.7	28.7
													.0880	.0878	35.6	35.6	35.6
													.0689	.0688	38.0	38.0	38.0
													.0561	.0560	39.8	39.8	39.8
													.0409	.0409	42.3	42.3	42.3
													.0320	.0320	44.3	44.3	44.3

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(cm²/g = 0.002399 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{KN} inc, t	($\frac{\mu}{\rho}$) _{BD} inc, t	($\frac{\mu}{\rho}$) _{KN} inc, a	($\frac{\mu}{\rho}$) _{BD} inc, a	($\frac{\mu}{\rho}$) _{KN} inc, s	($\frac{\mu}{\rho}$) _{BD} inc, s	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{xc}	($\frac{\mu}{\rho}$) _{xt}	($\frac{\mu}{\rho}$) _{xa}	($\frac{\mu}{\rho}$) _{rt}	($\frac{\mu}{\rho}$) _{ra}	($\frac{\mu}{\rho}$) _{tot, t}	($\frac{\mu}{\rho}$) _{tot, t-coh}	($\frac{\mu}{\rho}$) _{tot, a}	($\frac{\mu}{\rho}$) _{tot, en}
.001	.156	.00410	.000305	.0000080	.155	.00410	14.6										
.0015	.155	.00684	.000453	.0000199	.155	.00681	14.1										
H _I .001822	.155	.00855	.000549	.0000305	.155	.00856	13.7										
.002	.155	.00957	.000602	.0000372	.154	.00952	13.4					2780.	2780.	2810.	2780.	2780.	2780.
.003	.154	.0149	.000895	.0000864	.154	.0148	12.1					2250.	2250.	2260.	2250.	2250.	2250.
.004	.154	.0199	.00119	.000153	.153	.0197	10.8					471.	471.	483.	471.	471.	471.
M _I .004254	.154	.0211	.00126	.000172	.153	.0209	10.5					444.	444.	456.	444.	444.	444.
.004502	.154	.0222	.00133	.000192	.152	.0220	10.2					389.	389.	398.	389.	389.	389.
.005	.153	.0245	.00147	.000234	.152	.0242	9.69					1220.	1220.	1230.	1220.	1220.	1220.
M _{II} .005117	.153	.0249	.00150	.000245	.152	.0247	9.57					1690.	1090.	1100.	1090.	1090.	1090.
.006	.153	.0285	.00175	.000326	.151	.0283	8.71					1230.	1230.	1240.	1230.	1230.	1230.
M _{II} .006353	.153	.0300	.00185	.000362	.151	.0295	8.40					885.	885.	895.	885.	885.	885.
.006735	.152	.0314	.00195	.000403	.150	.0309	8.08					825.	825.	835.	825.	825.	825.
.008	.152	.0360	.00230	.000545	.149	.0355	7.13					948.	948.	957.	948.	948.	948.
.01	.151	.0427	.00283	.000801	.148	.0420	5.93					665.	665.	674.	665.	665.	665.
.015	.148	.0559	.00408	.00154	.144	.0545	4.31					585.	585.	595.	585.	585.	585.
L _{II} .019929	.145	.0657	.00523	.00236	.140	.0633	2.90					698.	698.	708.	698.	698.	698.
.02	.145	.0657	.00523	.00237	.140	.0633	2.90					585.	585.	593.	585.	585.	585.
L _{II} .025125	.143	.0732	.00633	.00324	.137	.0698	2.16					648.	648.	655.	648.	648.	648.
.026030	.142	.0741	.00653	.00341	.136	.0708	2.06					405.	405.	413.	405.	405.	405.
.03	.140	.0784	.00732	.00408	.133	.0744	1.69					224.	224.	230.	224.	224.	224.
.04	.135	.0861	.00907	.00573	.127	.0804	1.12					74.6	74.6	78.7	74.6	74.6	74.6
.05	.132	.0909	.0107	.00734	.121	.0835	.804					34.8	34.8	37.7	34.8	34.8	34.8
.06	.128	.0938	.0120	.00880	.116	.0849	.602					79.4	56.6	82.3	79.4	79.4	56.6
.08	.122	.0960	.0143	.0112	.107	.0847	.367					78.4	56.1	81.3	78.4	78.4	56.1
.1	.116	.0962	.0160	.0133	.0998	.0830	.245					46.3	35.7	48.5	46.3	46.3	35.7
K.1135005	.107	.0955	.0182	.0162	.0892	.0792	.141					63.8	47.7	66.0	63.8	63.8	47.7
.15	.104	.0940	.0189	.0171	.0854	.0770	.116					57.8	43.9	60.0	57.8	57.8	43.9
.2	.0955	.0892	.0207	.0193	.0748	.0701	.0672					47.7	39.9	50.9	47.7	47.7	39.9
.3	.0830	.0799	.0224	.0215	.0607	.0583	.0305					36.5	36.5	48.2	36.5	36.5	36.5
.4	.0744	.0727	.0231	.0221	.0513	.0506	.0173					22.2	18.7	23.4	22.2	22.2	18.7
.5	.0679	.0667	.0232	.0223	.0449	.0444	.0112					7.70	6.89	8.40	7.80	7.72	6.69
.6	.0629	.0621	.0231	.0223	.0398	.0398	.00777					3.60	3.31	4.05	3.69	3.62	3.31
.8	.0552	.0547	.0226	.0216	.0326	.0331	.00439					1.98	1.86	2.32	2.08	2.00	1.87
.1	.0497	.0494	.0218	.0203	.0278	.0293	.00283					.862	.801	1.08	.938	.861	.818
.15	.0403	.0401	.0200	.0186	.0204	.0215	.00128	.00221				3.62	1.15	3.86	3.72	3.65	1.17
.2	.0343	.0343	.0183	.0168	.0161	.0175	.000722	.00679				2.78	1.08	3.00	2.88	2.81	1.09
.3	.0271	.0271	.0156	.0138	.0114	.0133	.000321	.0143	.00000948			1.34	.724	1.50	1.43	1.37	.744
.4	.0226	.0226	.0137	.0115	.00890	.0112	.000181	.0198	.0000386	.0199		.482	.333	.593	.561	.504	.355
.5	.0195	.0195	.0123	.00984	.00727	.00969	.000118	.0245	.0000760	.0245		.242	.187	.333	.314	.266	.209
.6	.0173	.0173	.0111	.00856	.00614	.00871	.0000818	.0281	.000117	.0281		.144	.118	.222	.211	.167	.140
.8	.0141	.0141	.00943	.00677	.00470	.00736	.0000461	.0345	.000197	.0348		.0962	.0816	.166	.158	.119	.104
.10	.0120	.0120	.00823	.00566	.00381	.00636	.0000293	.0405	.000273	.0408		.0516	.0456	.111	.106	.0741	.0672
.15	.00890	.00890	.00631	.00410	.00259	.00480	.0000134	.0518	.000422	.0523	.000662	.0329	.0297	.0852	.0823	.0547	.0499
.20	.00715	.00715	.00518	.00307	.00195	.00408	.0000071	.0607	.000528	.0612	.000679	.0157	.0148	.0593	.0581	.0379	.0341
.30	.00521	.00521	.00389	.00196	.00131	.00324		.0722	.000681	.0729	.000699	.00952	.00909	.0513	.0506	.0345	.0290
.40	.00413	.00413	.00314	.00138	.000993	.00273		.0804	.000792	.0811	.000849	.00509	.00494	.0468	.0465	.0350	.0271
.50	.00345	.00345	.00266	.00105	.000794	.00240		.0866	.000880	.0876	.000943	.00345	.00338	.0461	.0458	.0369	.0278
.60	.00297	.00297	.00231	.000828	.000665	.00215		.0914	.000943	.0924	.001013	.00254	.00249	.0465	.0465	.0393	.0290
.80	.00234	.00234	.00184	.000561	.000501	.00178		.0981	.00104	.0991	.001135	.00200	.00196	.0475	.0473	.0413	.0300
100.	.00195	.00195	.00154	.000417	.000401	.00153		.103	.00112	.104	.00132	.00137	.00135	.0504	.0504	.0456	.0321
												.00103	.00102	.0540	.0537	.0501	.0343
												.000626	.000621	.0619	.0619	.0593	.0372
												.000456	.000453	.0689	.0689	.0667	.0386
												.000290	.000290	.0784	.0784	.0770	.0391
												.000211	.000211	.0854	.0854	.0844	.0377
												.000165	.000165	.0912	.0912	.0904	.0365
												.000135	.000135	.0955	.0955	.0948	.0355
												.0000981	.0000981	.101	.101	.101	.0338
												.0000768	.0000768	.106	.106	.106	.0317

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(barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	σ_{coh}	σ_{xn}	σ_{xe}	σ_{xt}	$\sigma_{x,a}$	$\sigma_{\tau,t}$	$\sigma_{\tau,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	65.6	1.69	.128	.00329	65.5	1.69	6210.					---	---	---	---	---	---
.0015	65.5	2.83	.191	.00826	65.3	2.82	5990.					---	---	---	---	---	---
π .001891	65.4	3.72	.240	.0137	65.1	3.71	5730.					---	---	---	---	---	---
.002	65.3	3.97	.254	.0154	65.1	3.95	5720.					1110000.	1110000.	1120000.	1110000.	1110000.	1110000.
.003	65.1	6.19	.377	.0359	64.7	6.15	5150.					974000.	974000.	980000.	974000.	974000.	974000.
.004	64.8	8.27	.499	.0636	64.3	8.21	4630.					376000.	376000.	381000.	376000.	376000.	376000.
μ .004378	64.7	9.01	.544	.0758	64.2	8.93	4440.					193000.	193000.	198000.	193000.	193000.	193000.
μ .004644	64.7	9.51	.576	.0847	64.1	9.43	4310.					157000.	157000.	161000.	157000.	157000.	157000.
.005	64.6	10.2	.619	.0977	64.0	10.1	4140.					492000.	492000.	496000.	492000.	492000.	492000.
μ .005259	64.5	10.6	.649	.107	63.9	10.5	4030.					438000.	438000.	442000.	438000.	438000.	438000.
.006	64.3	11.9	.737	.136	63.6	11.8	3820.					496000.	496000.	500000.	496000.	496000.	496000.
μ .006564	64.2	12.9	.802	.161	63.4	12.7	3510.					391000.	391000.	395000.	391000.	391000.	391000.
μ .006949	64.1	13.5	.847	.178	63.3	13.3	3370.					334000.	334000.	338000.	334000.	334000.	334000.
.008	63.9	15.1	.967	.229	62.9	14.9	3040.					384000.	384000.	388000.	384000.	384000.	384000.
.01	63.4	17.8	1.19	.334	62.2	17.5	2530.					285000.	285000.	289000.	285000.	285000.	285000.
.015	62.3	23.4	1.72	.647	60.5	22.8	1710.					235000.	235000.	239000.	235000.	235000.	235000.
.02	61.2	27.6	2.21	.996	59.0	26.6	1240.					280000.	280000.	284000.	280000.	280000.	280000.
μ .020414	61.1	27.9	2.24	1.03	58.8	26.9	1210.					235000.	235000.	239000.	235000.	235000.	235000.
μ .025883	60.0	31.1	2.73	1.42	57.2	29.7	889.					260000.	260000.	263000.	260000.	260000.	260000.
μ .026803	59.8	31.5	2.81	1.48	57.0	30.0	847.					177000.	177000.	180000.	177000.	177000.	177000.
.03	59.1	32.9	3.08	1.71	56.1	31.2	724.					97500.	97500.	100000.	97500.	97500.	97500.
.04	57.3	36.1	3.82	2.41	53.5	33.7	480.					32600.	32600.	34300.	32600.	32600.	32600.
.05	55.6	38.2	4.48	3.08	51.1	35.1	344.					14900.	14900.	16200.	14900.	14900.	14900.
.06	54.0	39.4	5.07	3.70	49.0	35.7	257.					14200.	14200.	15400.	14200.	14200.	14200.
.08	51.2	40.3	6.00	4.72	45.2	35.6	157.					32200.	32200.	33400.	32200.	32200.	32200.
.1	48.8	40.4	6.73	5.58	42.1	34.8	105.					18500.	18500.	19400.	18500.	18500.	18500.
π .138502	44.9	40.0	7.74	6.90	37.2	33.1	57.6					25600.	25600.	26500.	25600.	25600.	25600.
.15	43.9	39.6	7.97	7.19	35.9	32.4	49.6					23200.	23200.	24100.	23200.	23200.	23200.
.2	40.2	37.5	8.70	8.11	31.5	29.4	28.7					17600.	17600.	20500.	17600.	17600.	17600.
.3	35.0	33.6	9.43	9.06	25.6	24.5	13.1					20500.	20500.	28000.	20500.	20500.	20500.
.4	31.3	30.6	9.71	9.30	21.6	21.3	7.41					20100.	20100.	20900.	20100.	20100.	20100.
.5	28.6	28.1	9.76	9.41	18.9	18.7	4.80					15700.	15700.	15700.	15700.	15700.	15700.
.6	26.5	26.1	9.73	9.37	16.8	16.7	3.32					8010.	8010.	10100.	8010.	8010.	8010.
.8	23.3	23.1	9.51	9.12	13.8	14.0	1.88					5400.	5400.	5780.	5400.	5400.	5400.
.1	20.9	20.8	9.20	8.51	11.7	12.3	1.21					4690.	4690.	5440.	4690.	4690.	4690.
1.5	17.0	16.9	8.40	7.84	8.58	9.05	.549	.945	.945	.283		3340.	327.	441.	383.	351.	334.
2.	14.5	14.5	7.69	7.10	6.80	7.39	.310	2.92	2.92	1.32		1460.	466.	1560.	1500.	1470.	473.
3.	11.4	11.4	6.57	5.78	4.82	5.62	.137	6.09	.00399	3.62		1200.	446.	1290.	1240.	1210.	453.
4.	9.52	9.52	5.78	4.82	3.74	4.70	.0776	8.42	.0163	5.50		581.	307.	647.	618.	590.	315.
5.	8.22	8.22	5.16	4.13	3.06	4.09	.0505	10.4	.0321	7.09		210.	144.	257.	244.	219.	153.
6.	7.27	7.27	4.68	3.60	2.59	3.67	.0350	12.0	.0493	8.33		105.	80.2	143.	136.	115.	89.5
8.	5.95	5.95	3.97	2.84	1.98	3.11	.0197	14.7	.0829	10.2		63.0	51.1	95.9	91.1	72.8	60.5
10.	5.06	5.06	3.46	2.38	1.50	2.68	.0125	17.2	.116	11.6		42.0	35.4	71.4	68.1	51.7	44.8
15.	3.75	3.75	2.66	1.73	1.09	2.02	.00573	22.0	.178	22.2		22.4	19.8	47.4	45.5	31.9	28.9
20.	3.01	3.01	2.19	1.29	.823	1.72	.00307	25.8	.222	26.0		14.3	13.0	36.3	35.1	23.5	21.5
30.	2.19	2.19	1.64	.821	.553	1.37		30.7	.287	31.0		6.85	6.42	25.2	24.7	16.2	14.5
40.	1.74	1.74	1.32	.581	.418	1.16		34.2	.333	34.5		4.15	3.95	21.9	21.6	14.8	12.4
50.	1.45	1.45	1.12	.441	.335	1.01		38.8	.370	37.2		2.22	2.15	19.8	19.7	14.9	11.6
60.	1.25	1.25	.971	.346	.280	.904		41.7	.397	39.2		1.49	1.45	19.5	19.4	15.7	11.8
80.	.987	.987	.776	.236	.211	.751		43.9	.438	42.1		1.10	1.08	19.8	19.7	16.7	12.3
100.	.820	.820	.651	.175	.169	.645						.870	.856	20.2	20.1	17.5	12.8
												.597	.590	21.4	21.3	19.4	13.6
												.450	.446	22.8	22.8	21.2	14.4
												.273	.271	26.2	26.2	25.1	15.7
												.198	.197	29.2	29.2	28.4	16.3
												.127	.127	33.3	33.3	32.8	16.5
												.0920	.0918	36.3	36.3	35.9	15.9
												.0720	.0719	38.7	38.7	38.4	15.4
												.6590	.6589	40.5	40.5	40.2	15.0
												.6429	.6427	43.1	43.1	42.9	14.3
												.6335	.6335	45.3	45.3	45.1	13.5

99 EINSTEINIUM
(cm²/g = 0.002371 x barns/atom)

E (MeV)	($\frac{\mu}{\rho}$) _{inc, t} ^{KN}	($\frac{\mu}{\rho}$) _{inc, t} ^{BD}	($\frac{\mu}{\rho}$) _{inc, a} ^{KN}	($\frac{\mu}{\rho}$) _{inc, a} ^{BD}	($\frac{\mu}{\rho}$) _{inc, s} ^{KN}	($\frac{\mu}{\rho}$) _{inc, s} ^{BD}	($\frac{\mu}{\rho}$) _{coh}	($\frac{\mu}{\rho}$) _{xn}	($\frac{\mu}{\rho}$) _{xe}	($\frac{\mu}{\rho}$) _{x, t}	($\frac{\mu}{\rho}$) _{x, a}	($\frac{\mu}{\rho}$) _{r, t}	($\frac{\mu}{\rho}$) _{r, a}	($\frac{\mu}{\rho}$) _{tot, t}	($\frac{\mu}{\rho}$) _{tot, t-coh}	($\frac{\mu}{\rho}$) _{tot, a}	($\frac{\mu}{\rho}$) _{tot, en}
.001	.156	.00401	.000303	.0000078	.155	.00401	14.8	---	---	---	---	---	---	---	---	---	---
.0015	.155	.00671	.000453	.0000196	.155	.00669	14.2	---	---	---	---	---	---	---	---	---	---
M _I .001891	.155	.00882	.000569	.0000325	.154	.00880	13.7	---	---	---	---	---	---	---	---	---	---
.002	.155	.00941	.000602	.0000365	.154	.00937	13.6	2630.	2630.	2660.	2630.	2630.	2630.	2660.	2630.	2630.	2630.
.003	.154	.0147	.000894	.0000851	.153	.0146	12.2	2310.	2310.	2320.	2310.	2310.	2310.	2320.	2310.	2310.	2310.
.004	.154	.0196	.00118	.000151	.152	.0195	11.0	891.	891.	903.	891.	891.	891.	903.	891.	891.	891.
M _V .004378	.153	.0214	.00129	.000180	.152	.0212	10.5	458.	458.	469.	458.	458.	458.	469.	458.	458.	458.
M _{IV} .004644	.153	.0225	.00137	.000201	.152	.0224	10.2	372.	372.	382.	372.	372.	372.	382.	372.	372.	372.
.005	.153	.0242	.00147	.000232	.152	.0239	9.82	1170.	1170.	1180.	1170.	1170.	1170.	1180.	1170.	1170.	1170.
M _{III} .005259	.153	.0251	.00154	.000254	.152	.0249	9.56	1040.	1040.	1050.	1040.	1040.	1040.	1050.	1040.	1040.	1040.
.006	.152	.0282	.00175	.000322	.151	.0280	8.82	1180.	1180.	1190.	1180.	1180.	1180.	1190.	1180.	1180.	1180.
M _{II} .006564	.152	.0306	.00190	.000382	.150	.0301	8.32	927.	927.	937.	927.	927.	927.	937.	927.	927.	927.
M _I .006949	.152	.0320	.00201	.000422	.150	.0315	7.99	792.	792.	801.	792.	792.	792.	801.	792.	792.	792.
.008	.152	.0358	.00229	.000543	.149	.0353	7.21	910.	910.	920.	910.	910.	910.	920.	910.	910.	910.
.01	.150	.0422	.00282	.000792	.147	.0415	6.00	676.	676.	685.	676.	676.	676.	685.	676.	676.	676.
.015	.148	.0558	.00408	.00153	.143	.0541	4.05	557.	557.	567.	557.	557.	557.	567.	557.	557.	557.
.02	.145	.0654	.00524	.00236	.140	.0631	2.94	664.	664.	673.	664.	664.	664.	673.	664.	664.	664.
L _{III} .020414	.145	.0662	.00531	.00244	.139	.0638	2.87	557.	557.	564.	557.	557.	557.	564.	557.	557.	557.
L _{II} .025883	.142	.0737	.00647	.00337	.136	.0704	2.11	616.	616.	624.	616.	616.	616.	624.	616.	616.	616.
L _I .026803	.142	.0747	.00666	.00351	.135	.0711	2.01	420.	420.	427.	420.	420.	420.	427.	420.	420.	420.
.03	.140	.0780	.00730	.00405	.133	.0740	1.72	231.	231.	237.	231.	231.	231.	237.	231.	231.	231.
.04	.136	.0856	.00906	.00571	.127	.0799	1.14	77.3	77.3	78.4	77.3	77.3	77.3	78.4	77.3	77.3	77.3
.05	.132	.0906	.0106	.00730	.121	.0832	.816	35.3	35.3	36.5	35.3	35.3	35.3	36.5	35.3	35.3	35.3
.06	.128	.0934	.0120	.00877	.116	.0846	.609	33.7	33.7	34.9	33.7	33.7	33.7	34.9	33.7	33.7	33.7
.08	.121	.0956	.0142	.0112	.107	.0844	.372	16.3	16.3	16.5	16.3	16.3	16.3	16.5	16.3	16.3	16.3
.1	.116	.0958	.0160	.0132	.0998	.0825	.249	16.3	16.3	16.5	16.3	16.3	16.3	16.5	16.3	16.3	16.3
K.138502	.106	.0948	.0184	.0164	.0882	.0785	.137	46.0	46.0	46.3	46.0	46.0	46.0	46.3	46.0	46.0	46.0
.15	.104	.0939	.0189	.0170	.0851	.0768	.118	47.7	47.7	48.6	47.7	47.7	47.7	48.6	47.7	47.7	47.7
.2	.0953	.0889	.0206	.0192	.0747	.0697	.0680	37.2	37.2	37.2	37.2	37.2	37.2	37.2	37.2	37.2	37.2
.3	.0830	.0797	.0224	.0215	.0607	.0581	.0311	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
.4	.0742	.0726	.0230	.0221	.0512	.0505	.0176	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1
.5	.0678	.0666	.0231	.0223	.0448	.0443	.0114	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04
.6	.0628	.0619	.0231	.0222	.0398	.0396	.00787	3.41	3.41	3.41	3.41	3.41	3.41	3.41	3.41	3.41	3.41
.8	.0552	.0548	.0225	.0216	.0327	.0332	.00446	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91
1.	.0496	.0493	.0218	.0202	.0277	.0292	.00287	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
1.5	.0403	.0401	.0199	.0186	.0203	.0215	.00130	.775	.775	.775	.775	.775	.775	.775	.775	.775	.775
2.	.0344	.0344	.0182	.0168	.0161	.0175	.000735	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
3.	.0270	.0270	.0156	.0137	.0114	.0133	.000325	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
4.	.0226	.0226	.0137	.0114	.00887	.0111	.000184	.728	.728	.728	.728	.728	.728	.728	.728	.728	.728
5.	.0195	.0195	.0122	.00979	.00726	.00970	.000120	.341	.341	.341	.341	.341	.341	.341	.341	.341	.341
6.	.0172	.0172	.0111	.00854	.00614	.00870	.0000830	.190	.190	.190	.190	.190	.190	.190	.190	.190	.190
8.	.0141	.0141	.00941	.00673	.00469	.00737	.0000467	.121	.121	.121	.121	.121	.121	.121	.121	.121	.121
10.	.0120	.0120	.00820	.00564	.00379	.00635	.0000296	.0839	.0839	.0839	.0839	.0839	.0839	.0839	.0839	.0839	.0839
15.	.00889	.00889	.00631	.00410	.00258	.00479	.0000136	.0469	.0469	.0469	.0469	.0469	.0469	.0469	.0469	.0469	.0469
20.	.00714	.00714	.00519	.00306	.00195	.00408	.0000073	.0351	.0351	.0351	.0351	.0351	.0351	.0351	.0351	.0351	.0351
30.	.00519	.00519	.00389	.00195	.00131	.00325	.0000073	.0301	.0301	.0301	.0301	.0301	.0301	.0301	.0301	.0301	.0301
40.	.00413	.00413	.00313	.00138	.000991	.00275	.0000073	.0218	.0218	.0218	.0218	.0218	.0218	.0218	.0218	.0218	.0218
50.	.00344	.00344	.00266	.00105	.000794	.00239	.0000073	.0171	.0171	.0171	.0171	.0171	.0171	.0171	.0171	.0171	.0171
60.	.00296	.00296	.00230	.000820	.000664	.00214	.0000073	.0140	.0140	.0140	.0140	.0140	.0140	.0140	.0140	.0140	.0140
80.	.00234	.00234	.00184	.000560	.000500	.00178	.0000073	.0101	.0101	.0101	.0101	.0101	.0101	.0101	.0101	.0101	.0101
100.	.00194	.00194	.00154	.000415	.000401	.00153	.0000073	.00794	.00794	.00794	.00794	.00794	.00794	.00794	.00794	.00794	.00794

100 FERMIUM
 (barns/atom)

E (MeV)	KN $\sigma_{inc,t}$	BD $\sigma_{inc,t}$	KN $\sigma_{inc,a}$	BD $\sigma_{inc,a}$	KN $\sigma_{inc,s}$	BD $\sigma_{inc,s}$	$\sigma_{co,j}$	$\sigma_{n,n}$	$\sigma_{n,e}$	$\sigma_{n,t}$	$\sigma_{n,a}$	$\sigma_{r,t}$	$\sigma_{r,a}$	$\sigma_{tot,t}$	$\sigma_{tot,t-coh}$	$\sigma_{tot,a}$	$\sigma_{tot,en}$
.001	66.3	1.68	.129	.00327	66.1	1.68	6360.	---	---	---	---	---	---	---	---	---	---
.0015	66.1	2.81	.193	.00820	65.9	2.80	6120.	---	---	---	---	---	---	---	---	---	---
B _I .001961	66.0	3.86	.251	.0147	65.8	3.85	5870.	---	---	---	---	---	---	---	---	---	---
.002	66.0	3.95	.256	.0153	65.7	3.93	5850	1060000.	1060000.	1070000.	1060000.	1060000.	1060000.	1060000.	1060000.	1060000.	1060000.
.003	65.7	6.18	.381	.0358	65.4	6.14	5290.	1020000.	1020000.	1080000.	1020000.	1020000.	1020000.	1020000.	1020000.	1020000.	1020000.
.004	65.5	8.26	.504	.0636	65.0	8.20	4740.	3910000.	3910000.	3960000.	3910000.	3910000.	3910000.	3910000.	3910000.	3910000.	3910000.
M _V .004504	65.4	9.24	.565	.0799	64.8	9.16	4480.	1990000.	1990000.	2040000.	1990000.	1990000.	1990000.	1990000.	1990000.	1990000.	1990000.
M _{IV} .004790	65.3	9.78	.600	.0898	64.7	9.69	4350.	1520000.	1520000.	1560000.	1520000.	1520000.	1520000.	1520000.	1520000.	1520000.	1520000.
.005	65.2	10.2	.625	.0977	64.6	10.1	4250.	4770000.	4770000.	4810000.	4770000.	4770000.	4770000.	4770000.	4770000.	4770000.	4770000.
M _{III} .005403	65.1	10.9	.673	.113	64.5	10.8	4060.	4230000.	4230000.	4270000.	4230000.	4230000.	4230000.	4230000.	4230000.	4230000.	4230000.
.006	65.0	11.9	.744	.136	64.3	11.8	3810.	4790000.	4790000.	4830000.	4790000.	4790000.	4790000.	4790000.	4790000.	4790000.	4790000.
M _{II} .006780	64.8	13.2	.836	.170	64.0	13.0	3520.	4160000.	4160000.	4200000.	4160000.	4160000.	4160000.	4160000.	4160000.	4160000.	4160000.
.007	64.7	13.8	.881	.188	63.8	13.6	3380.	3240000.	3240000.	3280000.	3240000.	3240000.	3240000.	3240000.	3240000.	3240000.	3240000.
.008	64.5	15.1	.976	.229	63.5	14.9	3120.	3730000.	3730000.	3770000.	3730000.	3730000.	3730000.	3730000.	3730000.	3730000.	3730000.
.01	64.0	17.9	1.20	.335	62.8	17.6	2590.	2960000.	2960000.	3000000.	2960000.	2960000.	2960000.	2960000.	2960000.	2960000.	2960000.
.015	62.9	23.5	1.74	.650	61.2	22.8	1750.	2260000.	2260000.	2300000.	2260000.	2260000.	2260000.	2260000.	2260000.	2260000.	2260000.
L _{III} .020907	61.6	28.4	2.31	1.07	59.3	27.3	1200.	2690000.	2690000.	2730000.	2690000.	2690000.	2690000.	2690000.	2690000.	2690000.	2690000.
.02	61.8	27.7	2.23	1.00	59.6	26.7	1270.	2270000.	2270000.	2300000.	2270000.	2270000.	2270000.	2270000.	2270000.	2270000.	2270000.
L _{II} .026659	60.4	31.7	2.83	1.48	57.6	30.2	875.	250000.	250000.	2530000.	250000.	250000.	250000.	250000.	250000.	250000.	250000.
.03	59.7	33.1	3.11	1.72	56.6	31.4	742.	1850000.	1850000.	1890000.	1850000.	1850000.	1850000.	1850000.	1850000.	1850000.	1850000.
.04	57.9	36.4	3.86	2.43	54.0	34.0	492.	170000.	170000.	1730000.	170000.	170000.	170000.	170000.	170000.	170000.	170000.
.05	56.1	38.5	4.53	3.11	51.6	35.4	352.	261000.	261000.	2640000.	261000.	261000.	261000.	261000.	261000.	261000.	261000.
.06	54.6	39.7	5.12	3.73	49.4	36.0	264.	209000.	209000.	2120000.	209000.	209000.	209000.	209000.	209000.	209000.	209000.
.08	51.7	40.7	6.06	4.77	45.7	35.9	167.	162000.	162000.	1650000.	162000.	162000.	162000.	162000.	162000.	162000.	162000.
.1	49.3	40.8	6.80	5.63	42.5	35.2	107.	100000.	100000.	1030000.	100000.	100000.	100000.	100000.	100000.	100000.	100000.
K.142085	45.0	40.3	7.90	7.06	37.1	33.2	54.3	900.	840.	870.	900.	840.	870.	900.	840.	870.	840.
.15	44.4	40.0	8.05	7.26	36.3	32.7	51.9	335.	319.	342.	335.	319.	342.	335.	319.	342.	335.
.2	40.6	37.9	8.79	8.19	31.5	29.7	29.5	1420.	453.	1520.	1420.	453.	1520.	1420.	453.	1520.	1420.
.3	35.3	34.0	9.53	9.17	25.8	24.8	15.4	1240.	440.	1330.	1240.	440.	1330.	1240.	440.	1330.	1240.
.4	31.7	30.9	9.81	9.39	21.5	21.5	15.60	604.	312.	671.	604.	312.	671.	604.	312.	671.	604.
.5	28.9	28.4	9.86	9.49	19.8	18.9	8.93	219.	148.	266.	219.	148.	266.	219.	148.	266.	219.
.6	26.7	26.4	9.83	9.48	16.5	16.9	3.42	110.	83.4	148.	110.	83.4	148.	110.	83.4	148.	110.
.8	23.5	23.3	9.61	9.20	13.4	14.1	1.93	65.8	53.1	99.1	65.8	53.1	99.1	65.8	53.1	99.1	65.8
1.	21.1	21.0	9.29	8.59	11.4	12.4	1.24	43.8	36.7	73.6	43.8	36.7	73.6	43.8	36.7	73.6	43.8
1.5	17.2	17.1	8.49	7.93	8.47	9.17	1.17	23.4	20.6	48.6	23.4	20.6	48.6	23.4	20.6	48.6	23.4
2.	14.6	14.6	7.77	7.15	6.37	7.45	1.320	14.9	13.5	37.1	14.9	13.5	37.1	14.9	13.5	37.1	14.9
3.	11.5	11.5	6.64	5.82	4.86	5.68	1.140	7.14	6.68	25.8	7.14	6.68	25.8	7.14	6.68	25.8	7.14
4.	9.62	9.62	5.84	4.86	3.78	4.76	1.0797	4.38	4.17	22.3	4.38	4.17	22.3	4.38	4.17	22.3	4.38
5.	8.21	8.21	5.22	4.17	3.09	4.14	1.0518	2.32	2.25	20.2	2.32	2.25	20.2	2.32	2.25	20.2	2.32
6.	7.34	7.34	4.73	3.63	2.61	3.71	1.0359	1.55	1.51	19.9	1.55	1.51	19.9	1.55	1.51	19.9	1.55
8.	6.01	6.01	4.01	2.87	2.00	3.14	1.0202	1.14	1.12	20.1	1.14	1.12	20.1	1.14	1.12	20.1	1.14
10.	5.11	5.11	3.50	2.40	1.52	2.71	1.0128	.900	.885	20.5	.900	.885	20.5	.900	.885	20.5	.900
15.	3.79	3.79	2.49	1.75	1.10	2.04	1.00586	.623	.615	21.8	.623	.615	21.8	.623	.615	21.8	.623
20.	3.04	3.04	2.21	1.30	.831	1.74	1.00316	.470	.465	23.2	.470	.465	23.2	.470	.465	23.2	.470
30.	2.21	2.21	1.65	.827	.559	1.38	1.00316	.286	.284	26.8	.286	.284	26.8	.286	.284	26.8	.286
40.	1.76	1.76	1.34	.586	.422	1.17	1.00316	.208	.207	29.8	.208	.207	29.8	.208	.207	29.8	.208
50.	1.47	1.47	1.13	.445	.338	1.02	1.00316	.133	.133	33.9	.133	.133	33.9	.133	.133	33.9	.133
60.	1.26	1.26	.981	.348	.283	.912	1.00316	.0962	.0960	37.2	.0962	.0960	37.2	.0962	.0960	37.2	.0962
80.	.997	.997	.784	.237	.213	.780	1.00316	.0750	.0749	39.3	.0750	.0749	39.3	.0750	.0749	39.3	.0750
100.	.828	.828	.657	.177	.171	.651	1.00316	.0614	.0613	41.2	.0614	.0613	41.2	.0614	.0613	41.2	.0614
								.0447	.0446	43.9	.0447	.0446	43.9	.0447	.0446	43.9	.0447
								.0349	.0349	45.9	.0349	.0349	45.9	.0349	.0349	45.9	.0349

100 FERMIUM
(cm²/g = 0.002380 x barns/atom)

E (MeV)	($\frac{\sigma}{\rho}$) _{inc,t} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,t} ^{BD}	($\frac{\sigma}{\rho}$) _{inc,a} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,a} ^{BD}	($\frac{\sigma}{\rho}$) _{inc,s} ^{KN}	($\frac{\sigma}{\rho}$) _{inc,s} ^{BD}	($\frac{\sigma}{\rho}$) _{coh}	($\frac{\sigma}{\rho}$) _{x,n}	($\frac{\sigma}{\rho}$) _{x,e}	($\frac{\sigma}{\rho}$) _{x,t}	($\frac{\sigma}{\rho}$) _{x,a}	($\frac{\sigma}{\rho}$) _{r,t}	($\frac{\sigma}{\rho}$) _{r,a}	($\frac{\sigma}{\rho}$) _{tot,t}	($\frac{\sigma}{\rho}$) _{tot,t-coh}	($\frac{\sigma}{\rho}$) _{tot,a}	($\frac{\sigma}{\rho}$) _{tot,en}
.001	.158	.00400	.000307	.0000078	.157	.00400	15.1	---	---	---	---	---	---	---	---	---	---
.0015	.157	.00669	.000459	.0000195	.157	.00666	14.6	---	---	---	---	---	---	---	---	---	---
N _I .001961	.157	.00919	.000597	.0000350	.157	.00916	14.0	---	---	---	---	---	---	---	---	---	---
.002	.157	.00940	.000609	.0000364	.156	.00935	13.9	2520.	2520.	2520.	2520.	2520.	2520.	2520.	2520.	2520.	2520.
.003	.156	.0147	.000907	.0000852	.156	.0146	12.6	243.	243.	243.	243.	243.	243.	243.	243.	243.	243.
.004	.156	.0197	.00120	.000151	.155	.0195	11.3	931.	931.	931.	931.	931.	931.	931.	931.	931.	931.
M _Y .004504	.156	.0220	.00134	.000190	.154	.0218	10.7	474.	474.	474.	474.	474.	474.	474.	474.	474.	474.
.00479	.155	.0233	.00143	.000214	.154	.0231	10.4	362.	362.	362.	362.	362.	362.	362.	362.	362.	362.
.005	.155	.0243	.00149	.000233	.154	.0240	10.1	1140.	1140.	1140.	1140.	1140.	1140.	1140.	1140.	1140.	1140.
M _{III} .005403	.155	.0259	.00160	.000269	.154	.0257	9.86	1010.	1010.	1020.	1010.	1010.	1010.	1010.	1010.	1010.	1010.
.006	.155	.0283	.00177	.000324	.153	.0281	9.37	1140.	1140.	1150.	1140.	1140.	1140.	1140.	1140.	1140.	1140.
M _{II} .00678	.154	.0314	.00199	.000405	.152	.0309	8.38	990.	990.	1000.	990.	990.	990.	990.	990.	990.	990.
.007168	.154	.0328	.00210	.000447	.152	.0324	8.04	771.	771.	781.	771.	771.	771.	771.	771.	771.	771.
.008	.154	.0359	.00232	.000545	.151	.0355	7.43	888.	888.	897.	888.	888.	888.	888.	888.	888.	888.
.01	.152	.0426	.00286	.000797	.149	.0419	6.16	704.	704.	714.	704.	704.	704.	704.	704.	704.	704.
.015	.150	.0559	.00414	.00155	.145	.0543	4.16	538.	538.	547.	538.	538.	538.	538.	538.	538.	538.
.02	.147	.0659	.00531	.00238	.142	.0635	3.02	640.	640.	650.	640.	640.	640.	640.	640.	640.	640.
L _{III} .020907	.147	.0676	.00550	.00255	.14	.0650	2.86	540.	540.	547.	540.	540.	540.	540.	540.	540.	540.
.026659	.144	.0754	.00674	.00352	.137	.0719	2.08	595.	595.	602.	595.	595.	595.	595.	595.	595.	595.
L _I .027594	.143	.0764	.00693	.00369	.136	.0726	1.99	440.	440.	447.	440.	440.	440.	440.	440.	440.	440.
.03	.142	.0788	.00740	.00409	.135	.0747	1.77	243.	243.	250.	243.	243.	243.	243.	243.	243.	243.
.04	.138	.0866	.00919	.00578	.129	.0809	1.17	81.2	81.2	85.4	81.2	81.2	81.2	81.2	81.2	81.2	81.2
.05	.134	.0916	.0108	.00740	.123	.0843	.838	37.1	37.1	40.2	37.1	37.1	37.1	37.1	37.1	37.1	37.1
.06	.130	.0945	.0122	.00888	.118	.0857	.628	33.1	33.1	35.9	33.1	33.1	33.1	33.1	33.1	33.1	33.1
.08	.123	.0969	.0144	.0114	.109	.0854	.383	33.1	33.1	35.9	33.1	33.1	33.1	33.1	33.1	33.1	33.1
.1	.117	.0971	.0162	.0134	.101	.0838	.255	74.7	74.7	77.6	74.7	74.7	74.7	74.7	74.7	74.7	74.7
K.142085	.107	.0959	.0188	.0168	.0883	.0790	.134	42.4	42.4	44.5	42.4	42.4	42.4	42.4	42.4	42.4	42.4
.15	.106	.0952	.0192	.0173	.0864	.0778	.121	58.5	58.5	60.7	58.5	58.5	58.5	58.5	58.5	58.5	58.5
.2	.0966	.0902	.0209	.0195	.0754	.0707	.702	53.1	53.1	55.2	53.1	53.1	53.1	53.1	53.1	53.1	53.1
.3	.0840	.0809	.0227	.0218	.0614	.0590	.0319	52.1	52.1	54.3	52.1	52.1	52.1	52.1	52.1	52.1	52.1
.4	.0754	.0735	.0233	.0223	.0521	.0512	.0181	47.1	47.1	49.7	47.1	47.1	47.1	47.1	47.1	47.1	47.1
.5	.0688	.0676	.0235	.0226	.0452	.0450	.0117	38.6	38.6	40.5	38.6	38.6	38.6	38.6	38.6	38.6	38.6
.6	.0635	.0628	.0234	.0226	.0402	.0402	.00814	34.1	34.1	36.3	34.1	34.1	34.1	34.1	34.1	34.1	34.1
.8	.0559	.0555	.0229	.0219	.0331	.0336	.00459	3.90	3.90	4.38	3.90	3.90	3.90	3.90	3.90	3.90	3.90
.1	.0502	.0500	.0221	.0204	.0281	.0295	.00295	2.14	2.14	2.50	2.14	2.14	2.14	2.14	2.14	2.14	2.14
1.5	.0409	.0407	.0202	.0189	.0206	.0218	.00134	.797	.797	.892	.797	.797	.797	.797	.797	.797	.797
2.	.0347	.0347	.0185	.0170	.0164	.0177	.006762	3.38	3.38	3.62	3.38	3.38	3.38	3.38	3.38	3.38	3.38
3.	.0274	.0274	.0158	.0139	.0116	.0135	.000333	2.95	2.95	3.17	2.95	2.95	2.95	2.95	2.95	2.95	2.95
4.	.0229	.0229	.0139	.0116	.00905	.0113	.000190	1.44	1.44	1.60	1.44	1.44	1.44	1.44	1.44	1.44	1.44
5.	.0193	.0198	.0124	.00992	.00735	.00985	.000123	.521	.521	.633	.521	.521	.521	.521	.521	.521	.521
6.	.0175	.0175	.0113	.00864	.00621	.00883	.0000854	.262	.262	.352	.262	.262	.262	.262	.262	.262	.262
8.	.0143	.0143	.00954	.00683	.00476	.00747	.0000481	.157	.157	.236	.157	.157	.157	.157	.157	.157	.157
12.	.0122	.0122	.00833	.00571	.00386	.00645	.0000305	.104	.104	.175	.104	.104	.104	.104	.104	.104	.104
15.	.00962	.00962	.00640	.00416	.00262	.00486	.0000139	.0557	.0557	.075	.0557	.0557	.0557	.0557	.0557	.0557	.0557
20.	.00724	.00724	.00526	.00309	.00196	.00414	.0000075	.0355	.0355	.052	.0355	.0355	.0355	.0355	.0355	.0355	.0355
30.	.00526	.00526	.00393	.00197	.00133	.00328		.0262	.0262	.0376	.0262	.0262	.0262	.0262	.0262	.0262	.0262
40.	.00419	.00419	.00319	.00139	.00106	.00278		.157	.157	.236	.157	.157	.157	.157	.157	.157	.157
50.	.00350	.00350	.00269	.00106	.000804	.00243		.104	.104	.175	.104	.104	.104	.104	.104	.104	.104
60.	.00300	.00300	.00233	.000828	.000674	.00217		.0557	.0557	.075	.0557	.0557	.0557	.0557	.0557	.0557	.0557
80.	.00237	.00237	.00187	.000564	.000507	.00181		.0355	.0355	.052	.0355	.0355	.0355	.0355	.0355	.0355	.0355
100.	.00197	.00197	.00156	.000421	.000407	.00155		.0262	.0262	.0376	.0262	.0262	.0262	.0262	.0262	.0262	.0262