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Abstract

Mass energy-transfer μ_{tr}/ρ and mass energy-absorption coefficients μ_{en}/ρ are tabulated in units of cm^2/g for photon energies between 1 keV and 100 MeV for 29 elements (Z=1-92), and 14 mixtures and compounds of general dosimetric interest. Cross sections for photo-effect, incoherent scattering, pair and triplet production are those compiled or generated by the National Institute of Standards and Technology (NIST), (formerly the National Bureau of Standards). Corrections are included for in-flight positron annihilation, previously not applied in NIST calculations for energies above 10 MeV. Agreement with recently published data is good for energies above 1 MeV, but we find differences in mass energy-absorption coefficients in the low energy region of as much as 4% compared with the last NIST compilation, and as much as 9% when compared with other recent compilations.

I. INTRODUCTION

Two useful quantities for describing the interaction and absorption of high-energy photons in a medium, for example in cancer radiotherapy by means of x-ray beams, are kerma (K) and absorbed dose (D), (ICRU[1]). Kerma is proportional to the mass energy-transfer coefficient, μ_{tr}/ρ, which is a function of the photon energy and the atomic number of the medium. Absorbed dose is proportional (only under charged particle equilibrium conditions) to the mass energy-absorption coefficient, μ_{en}/ρ. These two coefficients are obtained by weighting the collision probabilities for the different types of interaction (atomic photo effect[2], Compton or incoherent scattering[3,4], pair and triplet production[5]) by the fraction (G) of the secondary electron (or positron) kinetic energy that is spent in x-ray bremsstrahlung production and in-flight positron annihilation. The coefficients are related as

$$\mu_{en}/\rho = (1-G)\,\mu_{tr}/\rho \qquad (1)$$

The value of G increases with atomic number and photon energy from approximately zero at 1 MeV in carbon to 0.66 at 100 MeV in uranium.

A number of prior tabulations of μ_{tr}/ρ and μ_{en}/ρ exist in the literature, including those by Hubbell [6,7,8], Allison [9], Johns and Cunningham [10,11] and R.T. Berger.[12] All suffer from one or more of the following limitations: Exclusion of in-flight positron annihilation in computing G, upper photon energy limit of only 10 or 20 MeV, few materials tabulated, old data base of interaction cross sections, incomplete data display (e.g., μ_{en}/ρ but not μ_{tr}/ρ, or vice versa).

It is the purpose of the present report to provide a comprehensive tabulation of gamma-ray attenuation, energy transfer and energy absorption coefficients for an extensive group of elements and other radiologically relevant media, over the energy range from 1 keV to 100 MeV, based on the latest NIST data base, and including the effect of positron in-flight annihilation. All data are fully displayed, from interaction cross sections through μ/ρ, μ_{tr}/ρ, and μ_{en}/ρ, to facilitate their use for tutorial as well as research applications. Values are given just below and just above each K, L, and M subshell absorption edge with binding energy above 1 keV.

A recent extensive graphical and numerical comparison by Saloman and Hubbell[13,14] of the Scofield theoretical photo effect values, both renormalized (Z=2-54) and unrenormalized, with an

updated experimental database[15] suggests that the unrenormalized Scofield values are in somewhat better overall agreement with existing measurements. Hence, the Berger-Hubbell XCOM computerized compilation[16], representing the present NIST values, uses the unrenormalized Scofield photo effect values. The effect of the unmodified Scofield photoelectric cross sections on local absorption coefficients and the inclusion of electron binding effects[7] in incoherent scattering cross sections have not been published for a large range of energies and materials.

There are several complications that arise in the dosimetry of photon beams above 1 MeV, i.e., the energy range used in radiotherapy:

a. Radiative losses, both through bremsstrahlung and positron in-flight annihilation, become progressively more significant with increasing energy, as already mentioned. It is useful to define a quantity collision kerma as $K_c = (1-G)K$. Thus since kerma is the energy transferred by photons to secondary electrons per unit mass of medium, collision kerma is the fraction of K that is imparted to matter by those electrons, rather than being spent in radiative losses. K_c is proportional to μ_{en}/ρ. Under charged-particle equilibrium conditions (i.e., every electron leaving a volume element is replaced by another electron of the same energy entering) the value of the collision kerma equals that of absorbed dose ($K_c = D$).

b. Secondary electron ranges become longer and more strongly biased along the original photon direction as photon energy increases above 1 MeV. At greater depths in an irradiated medium than the maximum range of the secondary electrons, D exceeds K_c, because of the down-stream flow of kinetic energy carried by those electrons. Charged particle equilibrium thus gradually fails as the photon energy is increased, and is replaced by transient charged particle equilibrium, characterized by the following relation:

$$D = K_c(1+\mu' x) \qquad (2)$$

where μ' is the observed attenuation coefficient of the beam in the medium, and x is the mean distance the electrons carry their kinetic energy in the photon beam direction as they deposit it in collision interactions.

c. Inelastic processes such as photonuclear interactions can contribute significantly to the absorbed dose for photon energies above about 10 MeV. This remains an area for future investigation. It has not been treated as a contributor to the present tables, nor was it included in comparable past references.

II. Methods

The mass energy-transfer coefficient is:

$$\mu_{tr}/\rho = (\tau/\rho) f_\tau + (\sigma/\rho) f_\sigma + (\kappa/\rho) f_\kappa \qquad (3)$$

where, τ, σ, and κ are the respective total macroscopic cross sections for photoelectric effect, incoherent scattering (including binding effects) and pair plus triplet production. The fractions f_τ, f_σ, and f_κ represent the average fraction of photon energy transferred to electrons and positrons in each of these energy transfer processes.

The corresponding mass energy-absorption coefficient is:

$$\mu_{en}/\rho = (\tau/\rho) f_\tau (1-G_\tau) + (\sigma/\rho) f_\sigma (1-G_\sigma) + (\kappa/\rho) f_\kappa (1-G_\kappa) \qquad (4)$$

G_τ, G_σ and G_κ represent the average radiative yields for electrons set in motion by photons of energy $h\nu$ in photo-electron, Compton and pair production processes, respectively. Values for G for electrons and positrons are taken from ICRU 37[17] (and Seltzer[18]). In the following tabulations, we have assumed the radiative loss component to be negligible in photoelectric processes.

1. Photoelectric Effect

Virtually all of the energy transferred in photoelectric interactions is restricted to K shell transitions, with a much smaller L-shell component and vanishing contribution from higher order transitions. Assuming constant values for the probability of shell vacancies as the ratio of the cross sections just above and just below the edges, we find, for photon energies $h\nu$ greater than the K-shell binding energy $(E_b)_K$,

$$f_\tau = \left[1 - \frac{P_K Y_K h\nu_K}{h\nu} - \frac{(1-P_K) P_L Y_L h\nu_L}{h\nu}\right] \qquad (5)$$

and for $(E_b)_L < h\nu < (E_b)_K$:

$$f_\tau = \left[1 - \frac{P_L Y_L h\nu_L}{h\nu}\right] \qquad (6)$$

$P_{K,L}$= fraction of photoelectric interactions in the K or L shells[19,20] (jump ratios in some nomenclature)

$Y_{K,L}$= average fluorescence yield[21]

$h\nu_{K,L}$= average x-ray energy[22] resulting from transitions to the K and L shells, respectively.

2. Compton

The incoherent scattering cross section, including electron binding effects has been calculated by Hubbell.[3,7] It may be written as

$$\frac{\sigma}{\rho} = (1+\Delta_{kn}) \int_o^{\pi} (d\sigma_{kn}/d\Omega)\, S(q, z)\, d\theta \qquad (7)$$

where Δ_{kn} is the combined double Compton and radiative correction of Mork[23], $d\sigma_{kn}/d\Omega$ the differential Klein-Nishina free electron scattering cross section, $S(q,Z)$ the incoherent scattering function[3] vs. momentum transfer q and atomic number Z. The fraction of photon energy that is transferred to kinetic energy of bound electrons in Compton interactions is f_o. If each Compton recoil electron initially has kinetic energy T, then we may write the product

$$(\frac{\sigma}{\rho})\, f_o = (1+\Delta_{kn}) \int_o^{\pi} (d\sigma_{kn}/d\Omega)\, S(q, Z)\, \frac{T}{h\nu}\, d\theta \qquad (8)$$

The mass energy-absorption coefficient for incoherent scattering is similarly constructed including a radiative loss correction (eqn. 4).
We have approximated the average radiative loss correction , used in eqn. (4), as:[12]

$$(1-G_o) \approx \int_o^{Tmax} P_o(h\nu, T)\, T(1-G(T))\, dT / \int_o^{Tmax} P_o(h\nu, T)\, T dT \qquad (9)$$

with $P_o(h\nu, T) = d\sigma_e/\sigma_t dT$. $d\sigma_e/dT$ is the differential Klein-Nishina scattering probability as a function of starting electron kinetic energy T.

3. Pair Production

The fraction of photon energy transferred to electron pairs (or triplets) in the pair production process is f_κ .

$$f_\kappa = 1 - \frac{2m_o c^2}{h\nu} \qquad (10)$$

The mass energy-transfer coefficient is then

$$\frac{\mu_{tr}}{\rho}(h\nu) = \frac{K}{\rho} f_\kappa \qquad (11)$$

The mass energy-absorption coefficient for pair production has two radiative loss components, a bremsstrahlung component for electrons and positrons and an in-flight positron annihilation component. These can be folded into a single correction factor G_κ and the contribution to mass energy absorption can be written as $(\kappa/\rho) f_\kappa (1-G_\kappa)$. Following Berger's analytical approach[12], we have calculated the product of the energy transfer fraction and radiative loss correction as

$$f_\kappa (1-G_\kappa) = (1-\frac{2m_o c^2}{h\nu}) - 1/h\nu \int_o^{h\nu-2m_o c^2} P_\kappa (h\nu, T^+, T^-) \, [T^- G(T^-) + B(T^+)] \, dT^+ \quad (12)$$

$P_\kappa (h\nu, T^+, T^-)$ is the cross section for production of a positron with an initial kinetic energy between T^+ and $T^+ + dT^+$[24], including the effect of screening for three primary photon energy ranges (0-5, 5-25, and greater than 25 MV). T^- is the initial electron kinetic energy and $G(T^-)$ is the corresponding radiation yield[17] which is the fraction of T^- that is spent in bremsstrahlung production. $B(T^+)$ represents the mean fraction of a positron's initial kinetic energy that is spent in radiative energy losses, including in-flight annihilation as well as bremsstrahlung production. $W(T^+, T)$ is the probability that a positron born with kinetic energy T^+ will be annihilated when it slows to an instantaneous energy between T and $T+dT$:

$$W(T^+, T) = \exp [-\int_T^{T+} w(T') \, dT'] \, w(T) \, dt \quad (13)$$

where, $w(T)$ is Bethe's differential annihilation probability.[25]

Combined, the total charged particle energy spent in bremsstrahlung and in-flight annihilation is:

$$\int_o^{T^+} W(T^+, T) \, [G(T^+, T) \, (T^+ - T) + T] \, dT \quad (14)$$

Assuming a continuous slowing down approximation, $G(T^+, T) = G(T^+) - G(T)$ and,

$$\left[f_\kappa (1-G_\kappa) = 1 - \frac{2m_o c^2}{h\nu} - \frac{1}{h\nu} \int_o^{h\nu-2m_o c^2} P_\kappa (h\nu, T^+, T) \, [T^- G(T^-) + T^+ G(T^+) + \int_o^{T^+} W(T^+, T) \, [G(T^+, T) \, (T^+ - T) + T - T^+ G(T^+)] \, dT] \, dT^+ \right] \quad (15)$$

4. Compounds

Cross sections for compounds are averaged by fractional weights. For pair production an effective value of Z is obtained from an electron density weighted average and is used in the calculation of the probability distribution of the electron and positron kinetic energies, including the effect of screening. Radiation energy loss factors were taken from ICRU 37[17] or from Seltzer.[18]

III. Results

The following elements have been considered:

Z	Element	Z	Element
1	Hydrogen	22	Titanium
2	Helium	26	Iron
3	Lithium	29	Copper
4	Beryllium	32	Germanium
6	Carbon	36	Krypton
7	Nitrogen	42	Molybdenum
8	Oxygen	47	Silver
9	Fluorine	50	Tin
10	Neon	53	Iodine
13	Aluminum	56	Barium
14	Silicon	64	Gadolinium
16	Sulfur	74	Tungsten
18	Argon	78	Platinum
20	Calcium	82	Lead
		92	Uranium

The evaluated compounds and their fractional compositions by elements (listed by atomic number)[17] are:

A150 TE plastic	1: .101327	6: .775501	7: .035057
	8: .053216	9: .017422	20: .018378
Adipose(ICRP)	1: .119477	6: .63724	7: .00797
	8: .232333	11:.00050	12: 2.0E-5
	15: .00016	16: .00073	17: .00119
	19: .00032	20: 2.0E-5	26: 2.0E-5
Air (dry)	6: .000124	7: .75267	8: .231781
	18: .012827		
Bone(ICRP)	1: .047234	6: .144330	7: .04199
	8: .446096	12: .0022	15: .10497
	16: .00315	20: .20993	30: .0001
Calcium Fluoride	9: .486659	20: .513341	
Ferrous Sulphate	1: .108372	8: .878964	11: .000022
	16: .012552	17: 3.5E-5	26: 5.5E-5
Lithium Fluoride	3: .267585	9: .732415	
Polymethylmethacrylate	1: .080538	6: .599848	8: .319614
Muscle(ICRP)	1: .100637	6: .10783	7: .02768
	8: .754773	11: .00075	12: .00019
	15: .00180	16: .00241	17: .00079
	19: .00302	20: 3.0E-5	26: 4.0E-5
	30: 5.5E-5		
Polyethylene	1: .143711	6: .856289	
Polystyrene	1: .077418	6: .922582	
Polytetrafluoroethylene	6: .240182	9: .759817	
T.E. Gas	1: .101869	6: .456179	7: .035172
	8: .40678		
Water	1: .111894	8: .888106	

In Table 1 (where all units are in cm^2/g) we list, as a function of photon energy, cross sections for the photoelectric effect τ/ρ , coherent (Rayleigh) scattering σ_r/ρ , incoherent (Compton) scattering (with atomic binding correction) σ/ρ , and for pair production in the field of a nucleus κ_n/ρ or electron κ_e/ρ . Also tabulated are the energy-transfer coefficients for photoelectric effect τ_{tr}/ρ , Compton effect σ_{tr}/ρ and pair production (including triplet) κ_{tr}/ρ . The total attenuation coefficient μ/ρ appears in column 10 (the sum of columns 2 through 6), and is followed by the total mass energy-transfer coefficient μ_{tr}/ρ (the sum of columns 7 through 9), and finally, the mass energy-absorption coefficient μ_{en}/ρ . At characteristic energies, both upper and lower edges are tabulated. We suggest that in interpolating between photon energies a log-log quadratic approach be used.

In Table 2, for hydrogen, aluminum, copper, tin, tungsten, lead and uranium we have separated the radiative loss components into G_σ , the energy that is converted into bremsstrahlung by Compton recoil electrons, G_κ , that corresponding to pair and triplet processes (including kinetic energy transferred to photons by in-flight positron annihilation), and $(1-G)$ is the total mean fraction of secondary charged particle kinetic energy that is imparted to matter in collision interactions, thus depositing absorbed dose.

Table 3 provides a comparison of some of the low and high energy differences in this versus previous compilations.[6,11] For specific elements (Z= 1,6,20,50 and 92) we observe up to 4% differences in mass energy-absorption coefficients when compared against 1982 NIST data[6] and -1.5 to +10% differences in comparison with other data.[11] Above 10 MeV, as in-flight positron annihilation becomes significant, we find increasing differences between this and the previous compilations[11] of the order of -1 to 6%. These differences are due, presumably, to the method whereby in-flight positron annihilation is included and by basic differences in the current NIST radiation yield probabilities.

Conclusions

We have generated tables of cross sections and dosimetrically related coefficients for a variety of elements and compounds. The methodology utilizes Berger's approach[12] toward accommodating kinetic energy lost by electron-positron pairs through bremsstrahlung production and by positron annihilation in-flight. Cross sections for various interactive processes have been extensively reviewed and published by the NIST and exhibit basic differences in the photoelectric region over the full range of Z-values, and for high energies and high Z values compared with the most recently published data.[6,11]

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Table 1

Cross sections, mass energy transfer and mass energy absorption coefficients for the energy range 0.001 to 100 MeV. All units are in cm^2/g . To obtain units in m^2/kg, divide by 10.

Z = 1 HYDROGEN [All Units: cm²/g]

E (MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.682E+01	0.347E+00	0.503E-01	0.0	0.0	6.817	0.0	0.0	7.217	6.817	6.817
0.0015	0.175E+01	0.298E+00	0.986E-01	0.0	0.0	1.752	0.0	0.0	2.147	1.752	1.752
0.0020	0.664E+00	0.247E+00	0.148E+00	0.0	0.0	0.6638	0.0008	0.0	1.0590	0.6646	0.6646
0.0030	0.168E+00	0.165E+00	0.228E+00	0.0	0.0	0.1676	0.0017	0.0	0.5610	0.1693	0.1693
0.0040	0.629E-01	0.112E+00	0.279E+00	0.0	0.0	0.0629	0.0026	0.0	0.4539	0.0655	0.0655
0.0050	0.293E-01	0.801E-01	0.310E+00	0.0	0.0	0.0293	0.0035	0.0	0.4194	0.0328	0.0328
0.0060	0.157E-01	0.597E-01	0.329E+00	0.0	0.0	0.0157	0.0043	0.0	0.4044	0.0200	0.0200
0.0080	0.586E-02	0.366E-01	0.349E+00	0.0	0.0	0.0059	0.0057	0.0	0.3915	0.0116	0.0116
0.0100	0.272E-02	0.246E-01	0.358E+00	0.0	0.0	0.0028	0.0071	0.0	0.3853	0.0099	0.0099
0.0150	0.674E-03	0.116E-01	0.364E+00	0.0	0.0	0.0007	0.0103	0.0	0.3763	0.0110	0.0110
0.0200	0.250E-03	0.669E-02	0.363E+00	0.0	0.0	0.0003	0.0133	0.0	0.3699	0.0136	0.0136
0.0300	0.617E-04	0.302E-02	0.354E+00	0.0	0.0	0.0	0.0186	0.0	0.3571	0.0186	0.0186
0.0400	0.228E-04	0.171E-02	0.344E+00	0.0	0.0	0.0	0.0231	0.0	0.3457	0.0232	0.0232
0.0500	0.106E-04	0.110E-02	0.334E+00	0.0	0.0	0.0	0.0271	0.0	0.3351	0.0271	0.0271
0.0600	0.565E-05	0.765E-03	0.325E+00	0.0	0.0	0.0	0.0305	0.0	0.3258	0.0305	0.0305
0.0800	0.210E-05	0.431E-03	0.309E+00	0.0	0.0	0.0	0.0362	0.0	0.3094	0.0362	0.0362
0.1000	0.982E-06	0.276E-03	0.294E+00	0.0	0.0	0.0	0.0406	0.0	0.2943	0.0406	0.0406
0.1500	0.250E-06	0.123E-03	0.265E+00	0.0	0.0	0.0	0.0481	0.0	0.2651	0.0481	0.0481
0.2000	0.963E-07	0.691E-04	0.243E+00	0.0	0.0	0.0	0.0526	0.0	0.2431	0.0525	0.0525
0.3000	0.264E-07	0.307E-04	0.211E+00	0.0	0.0	0.0	0.0569	0.0	0.2110	0.0570	0.0569
0.4000	0.111E-07	0.173E-04	0.189E+00	0.0	0.0	0.0	0.0585	0.0	0.1890	0.0586	0.0586
0.5000	0.593E-08	0.111E-04	0.173E+00	0.0	0.0	0.0	0.0590	0.0	0.1730	0.0590	0.0590
0.6000	0.368E-08	0.768E-05	0.160E+00	0.0	0.0	0.0	0.0588	0.0	0.1600	0.0588	0.0587
0.8000	0.186E-08	0.432E-05	0.140E+00	0.0	0.0	0.0	0.0572	0.0	0.1400	0.0574	0.0574
1.0000	0.117E-08	0.276E-05	0.126E+00	0.0	0.0	0.0	0.0554	0.0	0.1260	0.0556	0.0556
1.2500	0.779E-09	0.177E-05	0.113E+00	0.466E-05	0.0	0.0	0.0532	0.0	0.1130	0.0532	0.0531
1.5000	0.581E-09	0.123E-05	0.103E+00	0.262E-04	0.0	0.0	0.0509	0.0	0.1030	0.0508	0.0507
2.0000	0.371E-09	0.691E-06	0.876E-01	0.105E-03	0.0	0.0	0.0465	0.0001	0.0877	0.0465	0.0465
3.0000	0.211E-09	0.307E-06	0.689E-01	0.302E-03	0.241E-04	0.0	0.0398	0.0002	0.0692	0.0400	0.0399
4.0000	0.146E-09	0.173E-06	0.575E-01	0.490E-03	0.984E-04	0.0	0.0349	0.0004	0.0581	0.0353	0.0352
5.0000	0.111E-09	0.111E-06	0.496E-01	0.658E-03	0.196E-03	0.0	0.0311	0.0007	0.0505	0.0318	0.0317
6.0000	0.901E-10	0.768E-07	0.439E-01	0.810E-03	0.301E-03	0.0	0.0283	0.0009	0.0450	0.0292	0.0290
8.0000	0.650E-10	0.432E-07	0.359E-01	0.107E-02	0.508E-03	0.0	0.0239	0.0014	0.0375	0.0253	0.0251
10.0000	0.508E-10	0.276E-07	0.306E-01	0.128E-02	0.699E-03	0.0	0.0209	0.0018	0.0326	0.0227	0.0225
15.0000	0.328E-10	0.123E-07	0.226E-01	0.167E-02	0.110E-02	0.0	0.0160	0.0026	0.0254	0.0186	0.0184
20.0000	0.242E-10	0.691E-08	0.182E-01	0.197E-02	0.141E-02	0.0	0.0132	0.0032	0.0216	0.0164	0.0160
30.0000	0.159E-10	0.307E-08	0.132E-01	0.239E-02	0.188E-02	0.0	0.0099	0.0041	0.0175	0.0140	0.0135
40.0000	0.118E-10	0.173E-08	0.105E-01	0.269E-02	0.222E-02	0.0	0.0080	0.0048	0.0154	0.0128	0.0122
50.0000	0.942E-11	0.111E-08	0.877E-02	0.293E-02	0.249E-02	0.0	0.0068	0.0053	0.0142	0.0121	0.0114
60.0000	0.783E-11	0.767E-09	0.755E-02	0.312E-02	0.272E-02	0.0	0.0059	0.0057	0.0134	0.0116	0.0109
80.0000	0.585E-11	0.432E-09	0.596E-02	0.342E-02	0.307E-02	0.0	0.0047	0.0064	0.0125	0.0111	0.0102
100.0000	0.467E-11	0.276E-09	0.494E-02	0.365E-02	0.334E-02	0.0	0.0039	0.0069	0.0119	0.0109	0.0098

Z = 2 HELIUM [All Units: cm²/g]

E (MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.604E+02	0.379E+00	0.102E-01	0.0	0.0	60.44	0.0	0.0	60.79	60.44	60.44
0.0015	0.164E+02	0.355E+00	0.213E-01	0.0	0.0	16.38	0.0	0.0	16.78	16.38	16.38
0.0020	0.650E+01	0.325E+00	0.349E-01	0.0	0.0	6.504	0.0	0.0	6.860	6.504	6.504
0.0030	0.168E+01	0.263E+00	0.636E-01	0.0	0.0	1.681	0.0	0.0	2.007	1.681	1.681
0.0040	0.637E+00	0.206E+00	0.895E-01	0.0	0.0	0.6370	0.0009	0.0	0.9325	0.6379	0.6379
0.0050	0.305E+00	0.162E+00	0.110E+00	0.0	0.0	0.3049	0.0013	0.0	0.5770	0.3062	0.3062
0.0060	0.165E+00	0.128E+00	0.126E+00	0.0	0.0	0.1653	0.0018	0.0	0.4190	0.1671	0.1671
0.0080	0.618E-01	0.843E-01	0.147E+00	0.0	0.0	0.0618	0.0026	0.0	0.2931	0.0645	0.0645
0.0100	0.292E-01	0.591E-01	0.159E+00	0.0	0.0	0.0292	0.0034	0.0	0.2473	0.0326	0.0326
0.0150	0.733E-02	0.295E-01	0.172E+00	0.0	0.0	0.0074	0.0051	0.0	0.2088	0.0125	0.0125
0.0200	0.275E-02	0.176E-01	0.176E+00	0.0	0.0	0.0027	0.0067	0.0	0.1963	0.0094	0.0094
0.0300	0.687E-03	0.818E-02	0.175E+00	0.0	0.0	0.0007	0.0093	0.0	0.1839	0.0100	0.0100
0.0400	0.257E-03	0.469E-02	0.171E+00	0.0	0.0	0.0003	0.0116	0.0	0.1759	0.0119	0.0119
0.0500	0.120E-03	0.303E-02	0.167E+00	0.0	0.0	0.0001	0.0136	0.0	0.1701	0.0137	0.0137
0.0600	0.641E-04	0.211E-02	0.163E+00	0.0	0.0	0.0	0.0154	0.0	0.1652	0.0154	0.0154
0.0800	0.240E-04	0.119E-02	0.155E+00	0.0	0.0	0.0	0.0183	0.0	0.1562	0.0183	0.0183
0.1000	0.113E-04	0.766E-03	0.148E+00	0.0	0.0	0.0	0.0205	0.0	0.1488	0.0205	0.0205
0.1500	0.288E-05	0.341E-03	0.133E+00	0.0	0.0	0.0	0.0242	0.0	0.1333	0.0242	0.0242
0.2000	0.112E-05	0.192E-03	0.122E+00	0.0	0.0	0.0	0.0265	0.0	0.1222	0.0265	0.0265
0.3000	0.308E-06	0.854E-04	0.106E+00	0.0	0.0	0.0	0.0287	0.0	0.1061	0.0287	0.0287
0.4000	0.130E-06	0.481E-04	0.953E-01	0.0	0.0	0.0	0.0295	0.0	0.0953	0.0295	0.0295
0.5000	0.697E-07	0.308E-04	0.870E-01	0.0	0.0	0.0	0.0297	0.0	0.0870	0.0297	0.0297
0.6000	0.433E-07	0.214E-04	0.805E-01	0.0	0.0	0.0	0.0296	0.0	0.0805	0.0296	0.0296
0.8000	0.218E-07	0.120E-04	0.707E-01	0.0	0.0	0.0	0.0289	0.0	0.0707	0.0289	0.0289
1.0000	0.136E-07	0.769E-05	0.636E-01	0.0	0.0	0.0	0.0280	0.0	0.0636	0.0280	0.0280
1.2500	0.852E-08	0.492E-05	0.569E-01	0.470E-05	0.0	0.0	0.0268	0.0	0.0569	0.0268	0.0268
1.5000	0.623E-08	0.342E-05	0.517E-01	0.264E-04	0.0	0.0	0.0256	0.0	0.0517	0.0256	0.0255
2.0000	0.396E-08	0.192E-05	0.441E-01	0.106E-03	0.0	0.0	0.0234	0.0001	0.0442	0.0235	0.0234
3.0000	0.224E-08	0.855E-06	0.347E-01	0.304E-03	0.121E-04	0.0	0.0200	0.0002	0.0350	0.0202	0.0202
4.0000	0.155E-08	0.481E-06	0.289E-01	0.494E-03	0.496E-04	0.0	0.0175	0.0004	0.0294	0.0180	0.0179
5.0000	0.119E-08	0.308E-06	0.250E-01	0.663E-03	0.988E-04	0.0	0.0157	0.0006	0.0258	0.0163	0.0162
6.0000	0.957E-09	0.214E-06	0.221E-01	0.815E-03	0.152E-03	0.0	0.0142	0.0008	0.0231	0.0150	0.0149
8.0000	0.690E-09	0.120E-06	0.181E-01	0.107E-02	0.256E-03	0.0	0.0121	0.0012	0.0194	0.0132	0.0131
10.0000	0.539E-09	0.769E-07	0.154E-01	0.129E-02	0.352E-03	0.0	0.0105	0.0015	0.0170	0.0120	0.0118
15.0000	0.348E-09	0.342E-07	0.114E-01	0.169E-02	0.552E-03	0.0	0.0081	0.0021	0.0136	0.0102	0.0099
20.0000	0.257E-09	0.192E-07	0.914E-02	0.198E-02	0.710E-03	0.0	0.00664	0.00255	0.01183	0.00920	0.00891
30.0000	0.168E-09	0.855E-08	0.666E-02	0.240E-02	0.946E-03	0.0	0.00498	0.00324	0.01001	0.00821	0.00781
40.0000	0.125E-09	0.481E-08	0.529E-02	0.271E-02	0.112E-02	0.0	0.00403	0.00372	0.00912	0.00775	0.00726
50.0000	0.997E-10	0.308E-08	0.442E-02	0.294E-02	0.126E-02	0.0	0.00341	0.00410	0.00862	0.00751	0.00693
60.0000	0.828E-10	0.214E-08	0.380E-02	0.312E-02	0.137E-02	0.0	0.00296	0.00441	0.00829	0.00738	0.00671
80.0000	0.619E-10	0.120E-08	0.300E-02	0.341E-02	0.154E-02	0.0	0.00237	0.00489	0.00795	0.00726	0.00644
100.0000	0.494E-10	0.769E-09	0.249E-02	0.362E-02	0.168E-02	0.0	0.00199	0.00524	0.00779	0.00723	0.00626

Z = 3 LITHIUM [All Units: cm²/g]

E(MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.233E+03	0.411E+00	0.308E-01	0.0	0.0	233.4	0.0	0.0	233.4	233.4	233.4
0.0015	0.663E+02	0.342E+00	0.457E-01	0.0	0.0	66.29	0.0	0.0	66.69	66.29	66.29
0.0020	0.267E+02	0.292E+00	0.553E-01	0.0	0.0	26.72	0.0	0.0	27.05	26.72	26.72
0.0030	0.725E+01	0.232E+00	0.691E-01	0.0	0.0	7.248	0.0	0.0	7.551	7.248	7.248
0.0040	0.284E+01	0.194E+00	0.812E-01	0.0	0.0	2.839	0.001	0.0	3.115	2.840	2.840
0.0050	0.136E+01	0.164E+00	0.922E-01	0.0	0.0	1.363	0.001	0.0	1.616	1.364	1.364
0.0060	0.746E+00	0.139E+00	0.102E+00	0.0	0.0	0.7464	0.0014	0.0	0.9870	0.7478	0.7478
0.0080	0.287E+00	0.101E+00	0.118E+00	0.0	0.0	0.2867	0.0021	0.0	0.5060	0.2888	0.2888
0.0100	0.136E+00	0.748E-01	0.129E+00	0.0	0.0	0.1361	0.0027	0.0	0.3398	0.1388	0.1388
0.0150	0.348E-01	0.401E-01	0.143E+00	0.0	0.0	0.0348	0.0043	0.0	0.2179	0.0391	0.0391
0.0200	0.132E-01	0.247E-01	0.148E+00	0.0	0.0	0.0131	0.0057	0.0	0.1859	0.0188	0.0188
0.0300	0.333E-02	0.120E-01	0.149E+00	0.0	0.0	0.0034	0.0080	0.0	0.1643	0.0114	0.0114
0.0400	0.125E-02	0.701E-02	0.147E+00	0.0	0.0	0.0012	0.0101	0.0	0.1553	0.0113	0.0113
0.0500	0.587E-03	0.457E-02	0.144E+00	0.0	0.0	0.0006	0.0118	0.0	0.1492	0.0124	0.0124
0.0600	0.316E-03	0.321E-02	0.140E+00	0.0	0.0	0.0003	0.0133	0.0	0.1435	0.0136	0.0136
0.0800	0.119E-03	0.183E-02	0.134E+00	0.0	0.0	0.0001	0.0158	0.0	0.1359	0.0159	0.0159
0.1000	0.561E-04	0.118E-02	0.128E+00	0.0	0.0	0.0	0.0178	0.0	0.1292	0.0178	0.0178
0.1500	0.145E-04	0.526E-03	0.115E+00	0.0	0.0	0.0	0.0210	0.0	0.1155	0.0210	0.0210
0.2000	0.562E-05	0.296E-03	0.106E+00	0.0	0.0	0.0	0.0229	0.0	0.1063	0.0229	0.0229
0.3000	0.156E-05	0.132E-03	0.920E-01	0.0	0.0	0.0	0.0248	0.0	0.0921	0.0248	0.0248
0.4000	0.661E-06	0.742E-04	0.824E-01	0.0	0.0	0.0	0.0255	0.0	0.0825	0.0255	0.0255
0.5000	0.354E-06	0.475E-04	0.753E-01	0.0	0.0	0.0	0.0257	0.0	0.0753	0.0257	0.0257
0.6000	0.220E-06	0.330E-04	0.696E-01	0.0	0.0	0.0	0.0256	0.0	0.0696	0.0256	0.0256
0.8000	0.111E-06	0.186E-04	0.612E-01	0.0	0.0	0.0	0.0250	0.0	0.0612	0.0250	0.0250
1.0000	0.689E-07	0.119E-04	0.550E-01	0.0	0.0	0.0	0.0242	0.0	0.0550	0.0242	0.0242
1.2500	0.415E-07	0.760E-05	0.492E-01	0.612E-05	0.0	0.0	0.0232	0.0	0.0492	0.0232	0.0231
1.5000	0.302E-07	0.528E-05	0.447E-01	0.343E-04	0.0	0.0	0.0221	0.0	0.0447	0.0221	0.0221
2.0000	0.192E-07	0.297E-05	0.382E-01	0.137E-03	0.0	0.0	0.0203	0.0001	0.0383	0.0203	0.0203
3.0000	0.108E-07	0.132E-05	0.300E-01	0.394E-03	0.105E-04	0.0	0.0173	0.0003	0.0304	0.0176	0.0175
4.0000	0.750E-08	0.743E-06	0.250E-01	0.641E-03	0.429E-04	0.0	0.0152	0.0005	0.0257	0.0157	0.0156
5.0000	0.571E-08	0.475E-06	0.216E-01	0.860E-03	0.854E-04	0.0	0.0136	0.0008	0.0225	0.0143	0.0142
6.0000	0.461E-08	0.330E-06	0.191E-01	0.106E-02	0.131E-03	0.0	0.0123	0.0010	0.0203	0.0133	0.0132
8.0000	0.332E-08	0.186E-06	0.156E-01	0.139E-02	0.221E-03	0.0	0.0104	0.0014	0.0172	0.0118	0.0117
10.0000	0.259E-08	0.119E-06	0.133E-01	0.167E-02	0.304E-03	0.0	0.0091	0.0018	0.0153	0.0109	0.0107
15.0000	0.167E-08	0.528E-07	0.986E-02	0.219E-02	0.478E-03	0.0	0.00700	0.00249	0.01253	0.00948	0.00918
20.0000	0.123E-08	0.297E-07	0.791E-02	0.257E-02	0.614E-03	0.0	0.00575	0.00302	0.01109	0.00877	0.00838
30.0000	0.809E-09	0.132E-07	0.576E-02	0.311E-02	0.818E-03	0.0	0.00431	0.00380	0.00969	0.00810	0.00756
40.0000	0.601E-09	0.742E-08	0.458E-02	0.349E-02	0.967E-03	0.0	0.00349	0.00435	0.00904	0.00783	0.00715
50.0000	0.479E-09	0.475E-08	0.382E-02	0.378E-02	0.108E-02	0.0	0.00295	0.00476	0.00868	0.00771	0.00690
60.0000	0.398E-09	0.330E-08	0.329E-02	0.401E-02	0.118E-02	0.0	0.00257	0.00510	0.00848	0.00767	0.00672
80.0000	0.297E-09	0.186E-08	0.260E-02	0.436E-02	0.133E-02	0.0	0.00206	0.00562	0.00829	0.00768	0.00649
100.0000	0.237E-09	0.119E-08	0.215E-02	0.462E-02	0.144E-02	0.0	0.00172	0.00600	0.00821	0.00773	0.00632

Z = 4 BERYLLIUM [All Units: cm²/g]

E (MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.604E+03	0.592E+00	0.209E-01	0.0	0.0	603.5	0.0	0.0	604.6	603.5	603.5
0.0015	0.179E+03	0.495E+00	0.379E-01	0.0	0.0	179.1	0.0	0.0	179.5	179.1	179.1
0.0020	0.742E+02	0.410E+00	0.528E-01	0.0	0.0	74.24	0.0	0.0	74.66	74.24	74.24
0.0030	0.209E+02	0.296E+00	0.735E-01	0.0	0.0	20.90	0.0	0.0	21.27	20.90	20.90
0.0040	0.837E+01	0.232E+00	0.863E-01	0.0	0.0	8.366	0.001	0.0	8.688	8.367	8.367
0.0050	0.408E+01	0.193E+00	0.956E-01	0.0	0.0	4.081	0.001	0.0	4.369	4.082	4.082
0.0060	0.226E+01	0.165E+00	0.103E+00	0.0	0.0	2.260	0.001	0.0	2.528	2.261	2.261
0.0080	0.882E+00	0.125E+00	0.116E+00	0.0	0.0	0.8820	0.0020	0.0	1.1230	0.8840	0.8840
0.0100	0.423E+00	0.975E-01	0.126E+00	0.0	0.0	0.4230	0.0026	0.0	0.6465	0.4256	0.4256
0.0150	0.110E+00	0.558E-01	0.141E+00	0.0	0.0	0.1100	0.0043	0.0	0.3068	0.1143	0.1143
0.0200	0.421E-01	0.354E-01	0.148E+00	0.0	0.0	0.0421	0.0057	0.0	0.2255	0.0478	0.0478
0.0300	0.108E-01	0.177E-01	0.151E+00	0.0	0.0	0.0108	0.0082	0.0	0.1795	0.0190	0.0190
0.0400	0.408E-02	0.105E-01	0.149E+00	0.0	0.0	0.0041	0.0103	0.0	0.1636	0.0144	0.0144
0.0500	0.192E-02	0.696E-02	0.147E+00	0.0	0.0	0.0019	0.0121	0.0	0.1559	0.0140	0.0140
0.0600	0.104E-02	0.492E-02	0.143E+00	0.0	0.0	0.0010	0.0136	0.0	0.1490	0.0147	0.0147
0.0800	0.394E-03	0.282E-02	0.137E+00	0.0	0.0	0.0004	0.0162	0.0	0.1402	0.0166	0.0166
0.1000	0.186E-03	0.182E-02	0.131E+00	0.0	0.0	0.0002	0.0182	0.0	0.1330	0.0184	0.0183
0.1500	0.482E-04	0.819E-03	0.118E+00	0.0	0.0	0.0	0.0216	0.0	0.1189	0.0216	0.0216
0.2000	0.188E-04	0.462E-03	0.108E+00	0.0	0.0	0.0	0.0235	0.0	0.1085	0.0235	0.0235
0.3000	0.523E-05	0.206E-03	0.944E-01	0.0	0.0	0.0	0.0255	0.0	0.0946	0.0255	0.0255
0.4000	0.222E-05	0.116E-03	0.846E-01	0.0	0.0	0.0	0.0262	0.0	0.0847	0.0262	0.0262
0.5000	0.119E-05	0.742E-04	0.773E-01	0.0	0.0	0.0	0.0264	0.0	0.0774	0.0264	0.0264
0.6000	0.741E-06	0.516E-04	0.715E-01	0.0	0.0	0.0	0.0263	0.0	0.0716	0.0263	0.0263
0.8000	0.374E-06	0.290E-04	0.628E-01	0.0	0.0	0.0	0.0257	0.0	0.0628	0.0257	0.0257
1.0000	0.232E-06	0.186E-04	0.565E-01	0.0	0.0	0.0	0.0249	0.0	0.0565	0.0248	0.0248
1.2500	0.143E-06	0.119E-04	0.505E-01	0.842E-05	0.0	0.0	0.0238	0.0	0.0505	0.0238	0.0237
1.5000	0.104E-06	0.825E-05	0.459E-01	0.471E-04	0.0	0.0	0.0227	0.0	0.0460	0.0227	0.0227
2.0000	0.658E-07	0.464E-05	0.392E-01	0.188E-03	0.0	0.0	0.0208	0.0001	0.0394	0.0209	0.0208
3.0000	0.371E-07	0.206E-05	0.308E-01	0.540E-03	0.108E-04	0.0	0.0178	0.0004	0.0314	0.0181	0.0180
4.0000	0.256E-07	0.116E-05	0.257E-01	0.877E-03	0.440E-04	0.0	0.0156	0.0007	0.0266	0.0162	0.0161
5.0000	0.195E-07	0.743E-06	0.222E-01	0.118E-02	0.877E-04	0.0	0.0139	0.0010	0.0235	0.0149	0.0148
6.0000	0.157E-07	0.516E-06	0.196E-01	0.145E-02	0.135E-03	0.0	0.0126	0.0013	0.0212	0.0139	0.0137
8.0000	0.113E-07	0.290E-06	0.161E-01	0.191E-02	0.227E-03	0.0	0.0107	0.0019	0.0182	0.0126	0.0123
10.0000	0.881E-08	0.186E-06	0.137E-01	0.229E-02	0.313E-03	0.0	0.0094	0.0023	0.0163	0.0117	0.0114
15.0000	0.568E-08	0.825E-07	0.101E-01	0.299E-02	0.491E-03	0.0	0.0072	0.0032	0.0136	0.0104	0.0100
20.0000	0.419E-08	0.464E-07	0.813E-02	0.351E-02	0.631E-03	0.0	0.00591	0.00393	0.01227	0.00983	0.00929
30.0000	0.275E-08	0.206E-07	0.591E-02	0.424E-02	0.839E-03	0.0	0.00442	0.00491	0.01099	0.00934	0.00857
40.0000	0.204E-08	0.116E-07	0.470E-02	0.476E-02	0.992E-03	0.0	0.00358	0.00560	0.01045	0.00919	0.00821
50.0000	0.163E-08	0.742E-08	0.392E-02	0.514E-02	0.111E-02	0.0	0.00303	0.00613	0.01017	0.00916	0.00799
60.0000	0.135E-08	0.516E-08	0.338E-02	0.545E-02	0.121E-02	0.0	0.00264	0.00655	0.01004	0.00919	0.00783
80.0000	0.101E-08	0.290E-08	0.267E-02	0.592E-02	0.136E-02	0.0	0.00212	0.00719	0.00995	0.00930	0.00759
100.0000	0.804E-09	0.186E-08	0.221E-02	0.625E-02	0.148E-02	0.0	0.00178	0.00765	0.00994	0.00943	0.00740

Z = 6 CARBON, GRAPHITE [All Units: cm²/g]

E (MeV)	τ/ρ	σ_γ/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.221E+04	0.108E+01	0.126E-01	0.0	0.0	2208.0	0.0	0.0	2211.1	2208.0	2208.0
0.0015	0.699E+03	0.959E+00	0.251E-01	0.0	0.0	699.1	0.0	0.0	700.0	699.1	699.1
0.0020	0.302E+03	0.832E+00	0.386E-01	0.0	0.0	301.6	0.0	0.0	302.9	301.6	301.6
0.0030	0.896E+02	0.613E+00	0.641E-01	0.0	0.0	89.63	0.0	0.0	90.28	89.63	89.63
0.0040	0.372E+02	0.460E+00	0.845E-01	0.0	0.0	37.23	0.0	0.0	37.74	37.23	37.23
0.0050	0.187E+02	0.359E+00	0.995E-01	0.0	0.0	18.65	0.0	0.0	19.16	18.65	18.65
0.0060	0.105E+02	0.292E+00	0.110E+00	0.0	0.0	10.54	0.0	0.0	10.90	10.54	10.54
0.0080	0.424E+01	0.210E+00	0.125E+00	0.0	0.0	4.241	0.002	0.0	4.575	4.243	4.243
0.0100	0.208E+01	0.162E+00	0.135E+00	0.0	0.0	2.075	0.003	0.0	2.377	2.078	2.078
0.0150	0.559E+00	0.979E-01	0.151E+00	0.0	0.0	0.5585	0.0046	0.0	0.8079	0.5631	0.5631
0.0200	0.218E+00	0.648E-01	0.160E+00	0.0	0.0	0.2177	0.0062	0.0	0.4428	0.2239	0.2239
0.0300	0.571E-01	0.336E-01	0.165E+00	0.0	0.0	0.0571	0.0091	0.0	0.2557	0.0662	0.0662
0.0400	0.219E-01	0.205E-01	0.165E+00	0.0	0.0	0.0219	0.0115	0.0	0.2074	0.0334	0.0334
0.0500	0.104E-01	0.137E-01	0.163E+00	0.0	0.0	0.0104	0.0136	0.0	0.1871	0.0240	0.0240
0.0600	0.567E-02	0.981E-02	0.160E+00	0.0	0.0	0.0057	0.0153	0.0	0.1755	0.0210	0.0210
0.0800	0.217E-02	0.571E-02	0.153E+00	0.0	0.0	0.0022	0.0182	0.0	0.1609	0.0204	0.0204
0.1000	0.103E-02	0.372E-02	0.147E+00	0.0	0.0	0.0010	0.0205	0.0	0.1517	0.0215	0.0215
0.1500	0.271E-03	0.168E-02	0.133E+00	0.0	0.0	0.0002	0.0243	0.0	0.1350	0.0245	0.0245
0.2000	0.106E-03	0.954E-03	0.122E+00	0.0	0.0	0.0001	0.0265	0.0	0.1231	0.0266	0.0266
0.3000	0.298E-04	0.426E-03	0.106E+00	0.0	0.0	0.0	0.0287	0.0	0.1065	0.0287	0.0287
0.4000	0.127E-04	0.240E-03	0.952E-01	0.0	0.0	0.0	0.0295	0.0	0.0955	0.0295	0.0295
0.5000	0.684E-05	0.154E-03	0.870E-01	0.0	0.0	0.0	0.0297	0.0	0.0872	0.0297	0.0297
0.6000	0.425E-05	0.107E-03	0.805E-01	0.0	0.0	0.0	0.0296	0.0	0.0806	0.0296	0.0295
0.8000	0.214E-05	0.602E-04	0.707E-01	0.0	0.0	0.0	0.0289	0.0	0.0708	0.0289	0.0289
1.0000	0.133E-05	0.385E-04	0.636E-01	0.0	0.0	0.0	0.0280	0.0	0.0636	0.0280	0.0279
1.2500	0.835E-06	0.247E-04	0.569E-01	0.144E-04	0.0	0.0	0.0268	0.0	0.0569	0.0268	0.0267
1.5000	0.606E-06	0.171E-04	0.517E-01	0.799E-04	0.0	0.0	0.0255	0.0	0.0518	0.0256	0.0255
2.0000	0.383E-06	0.963E-05	0.441E-01	0.319E-03	0.0	0.0	0.0234	0.0002	0.0444	0.0235	0.0234
3.0000	0.215E-06	0.428E-05	0.347E-01	0.913E-03	0.121E-04	0.0	0.0200	0.0006	0.0356	0.0206	0.0205
4.0000	0.148E-06	0.241E-05	0.289E-01	0.148E-02	0.496E-04	0.0	0.0175	0.0011	0.0304	0.0187	0.0185
5.0000	0.112E-06	0.154E-05	0.250E-01	0.199E-02	0.988E-04	0.0	0.0157	0.0017	0.0271	0.0173	0.0171
6.0000	0.903E-07	0.107E-05	0.221E-01	0.244E-02	0.152E-03	0.0	0.0142	0.0022	0.0247	0.0164	0.0160
8.0000	0.649E-07	0.602E-06	0.181E-01	0.322E-02	0.256E-03	0.0	0.0121	0.0030	0.0216	0.0151	0.0147
10.0000	0.506E-07	0.385E-06	0.154E-01	0.385E-02	0.352E-03	0.0	0.0105	0.0038	0.0196	0.0143	0.0138
15.0000	0.325E-07	0.171E-06	0.114E-01	0.504E-02	0.553E-03	0.0	0.0081	0.0052	0.0170	0.0133	0.0126
20.0000	0.240E-07	0.963E-07	0.914E-02	0.590E-02	0.709E-03	0.0	0.0067	0.0063	0.0157	0.0129	0.0120
30.0000	0.157E-07	0.428E-07	0.665E-02	0.712E-02	0.944E-03	0.0	0.0050	0.0078	0.0147	0.0128	0.0114
40.0000	0.117E-07	0.241E-07	0.529E-02	0.796E-02	0.112E-02	0.0	0.0040	0.0088	0.0144	0.0129	0.0112
50.0000	0.928E-08	0.154E-07	0.441E-02	0.859E-02	0.125E-02	0.0	0.0034	0.0096	0.0143	0.0131	0.0110
60.0000	0.771E-08	0.107E-07	0.380E-02	0.910E-02	0.136E-02	0.0	0.0030	0.0103	0.0143	0.0133	0.0108
80.0000	0.576E-08	0.602E-08	0.300E-02	0.986E-02	0.152E-02	0.0	0.0024	0.0113	0.0144	0.0136	0.0106
100.0000	0.459E-08	0.385E-08	0.249E-02	0.104E-01	0.165E-02	0.0	0.0020	0.0120	0.0145	0.0140	0.0103

Z = 7 NITROGEN [All Units: cm²/g]

E (MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.331E+04	0.129E+01	0.110E-01	0.0	0.0	3305.0	0.0	0.0	3311.3	3305.0	3305.0
0.0015	0.108E+04	0.118E+01	0.223E-01	0.0	0.0	1080.0	0.0	0.0	1081.2	1080.0	1080.0
0.0020	0.476E+03	0.105E+01	0.351E-01	0.0	0.0	475.6	0.0	0.0	477.1	475.6	475.6
0.0030	0.145E+03	0.800E+00	0.598E-01	0.0	0.0	144.7	0.0	0.0	145.9	144.7	144.7
0.0040	0.610E+02	0.611E+00	0.802E-01	0.0	0.0	60.94	0.0	0.0	61.69	60.94	60.94
0.0050	0.309E+02	0.477E+00	0.957E-01	0.0	0.0	30.86	0.0	0.0	31.47	30.86	30.86
0.0060	0.176E+02	0.384E+00	0.107E+00	0.0	0.0	17.59	0.0	0.0	18.09	17.59	17.59
0.0080	0.717E+01	0.269E+00	0.123E+00	0.0	0.0	7.166	0.002	0.0	7.562	7.168	7.168
0.0100	0.354E+01	0.203E+00	0.133E+00	0.0	0.0	3.542	0.003	0.0	3.876	3.545	3.545
0.0150	0.967E+00	0.121E+00	0.148E+00	0.0	0.0	0.9672	0.0045	0.0	1.2360	0.9717	0.9717
0.0200	0.381E+00	0.804E-01	0.157E+00	0.0	0.0	0.3807	0.0061	0.0	0.6184	0.3868	0.3868
0.0300	0.101E+00	0.423E-01	0.163E+00	0.0	0.0	0.1010	0.0090	0.0	0.3063	0.1100	0.1100
0.0400	0.391E-01	0.258E-01	0.164E+00	0.0	0.0	0.0390	0.0115	0.0	0.2289	0.0505	0.0505
0.0500	0.187E-01	0.174E-01	0.162E+00	0.0	0.0	0.0187	0.0135	0.0	0.1981	0.0322	0.0322
0.0600	0.102E-01	0.125E-01	0.159E+00	0.0	0.0	0.0102	0.0153	0.0	0.1817	0.0255	0.0255
0.0800	0.392E-02	0.730E-02	0.153E+00	0.0	0.0	0.0039	0.0182	0.0	0.1642	0.0221	0.0221
0.1000	0.187E-02	0.477E-02	0.146E+00	0.0	0.0	0.0019	0.0204	0.0	0.1526	0.0223	0.0223
0.1500	0.492E-03	0.217E-02	0.133E+00	0.0	0.0	0.0004	0.0243	0.0	0.1357	0.0247	0.0247
0.2000	0.194E-03	0.123E-02	0.122E+00	0.0	0.0	0.0002	0.0265	0.0	0.1234	0.0267	0.0267
0.3000	0.546E-04	0.551E-03	0.106E+00	0.0	0.0	0.0001	0.0286	0.0	0.1066	0.0287	0.0287
0.4000	0.233E-04	0.310E-03	0.952E-01	0.0	0.0	0.0	0.0295	0.0	0.0955	0.0295	0.0295
0.5000	0.126E-04	0.199E-03	0.870E-01	0.0	0.0	0.0	0.0297	0.0	0.0872	0.0297	0.0297
0.6000	0.782E-05	0.138E-03	0.805E-01	0.0	0.0	0.0	0.0296	0.0	0.0806	0.0296	0.0296
0.8000	0.395E-05	0.778E-04	0.707E-01	0.0	0.0	0.0	0.0289	0.0	0.0708	0.0289	0.0289
1.0000	0.245E-05	0.498E-04	0.636E-01	0.0	0.0	0.0	0.0280	0.0	0.0637	0.0280	0.0279
1.2500	0.154E-05	0.319E-04	0.569E-01	0.169E-04	0.0	0.0	0.0268	0.0	0.0570	0.0268	0.0267
1.5000	0.112E-05	0.221E-04	0.517E-01	0.936E-04	0.0	0.0	0.0256	0.0	0.0518	0.0256	0.0255
2.0000	0.706E-06	0.125E-04	0.441E-01	0.373E-03	0.0	0.0	0.0234	0.0002	0.0445	0.0236	0.0235
3.0000	0.396E-06	0.553E-05	0.347E-01	0.107E-02	0.121E-04	0.0	0.0200	0.0007	0.0358	0.0207	0.0205
4.0000	0.272E-06	0.311E-05	0.290E-01	0.173E-02	0.496E-04	0.0	0.0176	0.0013	0.0308	0.0189	0.0186
5.0000	0.206E-06	0.199E-05	0.250E-01	0.232E-02	0.988E-04	0.0	0.0157	0.0019	0.0274	0.0176	0.0173
6.0000	0.166E-06	0.138E-05	0.221E-01	0.285E-02	0.152E-03	0.0	0.0142	0.0025	0.0251	0.0167	0.0164
8.0000	0.119E-06	0.779E-06	0.181E-01	0.375E-02	0.256E-03	0.0	0.0121	0.0035	0.0221	0.0155	0.0151
10.0000	0.927E-07	0.498E-06	0.154E-01	0.449E-02	0.352E-03	0.0	0.0105	0.0043	0.0202	0.0149	0.0143
15.0000	0.596E-07	0.221E-06	0.114E-01	0.588E-02	0.552E-03	0.0	0.0081	0.0060	0.0178	0.0141	0.0133
20.0000	0.439E-07	0.125E-06	0.914E-02	0.687E-02	0.709E-03	0.0	0.0066	0.0072	0.0167	0.0138	0.0128
30.0000	0.287E-07	0.554E-07	0.666E-02	0.828E-02	0.944E-03	0.0	0.0050	0.0089	0.0159	0.0139	0.0125
40.0000	0.214E-07	0.311E-07	0.529E-02	0.926E-02	0.111E-02	0.0	0.0040	0.0101	0.0157	0.0141	0.0123
50.0000	0.170E-07	0.199E-07	0.442E-02	0.100E-01	0.125E-02	0.0	0.0034	0.0110	0.0157	0.0144	0.0122
60.0000	0.141E-07	0.138E-07	0.381E-02	0.106E-01	0.135E-02	0.0	0.0030	0.0117	0.0158	0.0147	0.0121
80.0000	0.105E-07	0.778E-08	0.300E-02	0.115E-01	0.152E-02	0.0	0.0024	0.0128	0.0160	0.0152	0.0119
100.0000	0.840E-08	0.498E-08	0.249E-02	0.121E-01	0.165E-02	0.0	0.0020	0.0137	0.0162	0.0156	0.0117

Z = 8 OXYGEN [All Units: cm²/g]

E (MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.459E+04	0.150E+01	0.851E-02	0.0	0.0	4573.0	0.0	0.0	4591.5	4573.0	4573.0
0.0015	0.155E+04	0.139E+01	0.177E-01	0.0	0.0	1544.0	0.0	0.0	1551.4	1544.0	1544.0
0.0020	0.694E+03	0.126E+01	0.285E-01	0.0	0.0	692.5	0.0	0.0	695.3	692.5	692.5
0.0030	0.216E+03	0.100E+01	0.509E-01	0.0	0.0	215.8	0.0	0.0	217.1	215.8	215.8
0.0040	0.923E+02	0.783E+00	0.710E-01	0.0	0.0	92.21	0.0	0.0	93.15	92.21	92.21
0.0050	0.472E+02	0.618E+00	0.874E-01	0.0	0.0	47.17	0.0	0.0	47.91	47.17	47.17
0.0060	0.271E+02	0.498E+00	0.100E+00	0.0	0.0	27.08	0.0	0.0	27.70	27.08	27.08
0.0080	0.112E+02	0.345E+00	0.118E+00	0.0	0.0	11.16	0.0	0.0	11.66	11.16	11.16
0.0100	0.557E+01	0.256E+00	0.129E+00	0.0	0.0	5.565	0.003	0.0	5.955	5.568	5.568
0.0150	0.154E+01	0.149E+00	0.145E+00	0.0	0.0	1.542	0.004	0.0	1.834	1.546	1.546
0.0200	0.612E+00	0.989E-01	0.154E+00	0.0	0.0	0.6123	0.0060	0.0	0.8649	0.6183	0.6183
0.0300	0.164E+00	0.525E-01	0.161E+00	0.0	0.0	0.1641	0.0089	0.0	0.3775	0.1730	0.1730
0.0400	0.639E-01	0.321E-01	0.162E+00	0.0	0.0	0.0639	0.0114	0.0	0.2580	0.0753	0.0753
0.0500	0.307E-01	0.217E-01	0.161E+00	0.0	0.0	0.0307	0.0135	0.0	0.2134	0.0442	0.0442
0.0600	0.168E-01	0.156E-01	0.158E+00	0.0	0.0	0.0169	0.0152	0.0	0.1904	0.0321	0.0321
0.0800	0.650E-02	0.914E-02	0.152E+00	0.0	0.0	0.0065	0.0182	0.0	0.1676	0.0247	0.0247
0.1000	0.311E-02	0.599E-02	0.146E+00	0.0	0.0	0.0032	0.0204	0.0	0.1551	0.0236	0.0236
0.1500	0.823E-03	0.273E-02	0.133E+00	0.0	0.0	0.0008	0.0243	0.0	0.1366	0.0251	0.0251
0.2000	0.325E-03	0.155E-02	0.122E+00	0.0	0.0	0.0003	0.0265	0.0	0.1239	0.0268	0.0268
0.3000	0.919E-04	0.696E-03	0.106E+00	0.0	0.0	0.0001	0.0287	0.0	0.1068	0.0288	0.0288
0.4000	0.393E-04	0.393E-03	0.952E-01	0.0	0.0	0.0	0.0296	0.0	0.0956	0.0296	0.0295
0.5000	0.212E-04	0.252E-03	0.870E-01	0.0	0.0	0.0	0.0298	0.0	0.0873	0.0298	0.0297
0.6000	0.132E-04	0.175E-03	0.805E-01	0.0	0.0	0.0	0.0296	0.0	0.0807	0.0296	0.0296
0.8000	0.667E-05	0.984E-04	0.708E-01	0.0	0.0	0.0	0.0289	0.0	0.0709	0.0289	0.0289
1.0000	0.414E-05	0.630E-04	0.636E-01	0.0	0.0	0.0	0.0280	0.0	0.0637	0.0280	0.0279
1.2500	0.262E-05	0.403E-04	0.569E-01	0.194E-04	0.0	0.0	0.0268	0.0	0.0570	0.0268	0.0267
1.5000	0.190E-05	0.280E-04	0.517E-01	0.107E-03	0.0	0.0	0.0255	0.0	0.0518	0.0256	0.0255
2.0000	0.120E-05	0.158E-04	0.442E-01	0.427E-03	0.0	0.0	0.0234	0.0002	0.0446	0.0236	0.0235
3.0000	0.668E-06	0.700E-05	0.347E-01	0.122E-02	0.121E-04	0.0	0.0200	0.0008	0.0359	0.0208	0.0206
4.0000	0.459E-06	0.394E-05	0.290E-01	0.198E-02	0.496E-04	0.0	0.0176	0.0015	0.0310	0.0191	0.0188
5.0000	0.348E-06	0.252E-05	0.250E-01	0.265E-02	0.988E-04	0.0	0.0157	0.0022	0.0278	0.0179	0.0176
6.0000	0.280E-06	0.175E-05	0.221E-01	0.326E-02	0.152E-03	0.0	0.0142	0.0028	0.0255	0.0170	0.0167
8.0000	0.200E-06	0.985E-06	0.181E-01	0.429E-02	0.256E-03	0.0	0.0121	0.0040	0.0226	0.0160	0.0155
10.0000	0.156E-06	0.630E-06	0.154E-01	0.513E-02	0.352E-03	0.0	0.0105	0.0049	0.0209	0.0154	0.0148
15.0000	0.100E-06	0.280E-06	0.114E-01	0.670E-02	0.553E-03	0.0	0.0081	0.0068	0.0187	0.0149	0.0139
20.0000	0.738E-07	0.158E-06	0.915E-02	0.784E-02	0.709E-03	0.0	0.0067	0.0081	0.0177	0.0148	0.0136
30.0000	0.483E-07	0.700E-07	0.666E-02	0.945E-02	0.943E-03	0.0	0.0050	0.0100	0.0171	0.0150	0.0133
40.0000	0.359E-07	0.394E-07	0.529E-02	0.106E-01	0.111E-02	0.0	0.0040	0.0114	0.0170	0.0154	0.0132
50.0000	0.285E-07	0.252E-07	0.442E-02	0.114E-01	0.125E-02	0.0	0.0034	0.0123	0.0171	0.0158	0.0132
60.0000	0.237E-07	0.175E-07	0.381E-02	0.121E-01	0.135E-02	0.0	0.0030	0.0132	0.0173	0.0162	0.0131
80.0000	0.177E-07	0.985E-08	0.300E-02	0.131E-01	0.152E-02	0.0	0.0024	0.0144	0.0176	0.0168	0.0129
100.0000	0.141E-07	0.630E-08	0.249E-02	0.138E-01	0.164E-02	0.0	0.0020	0.0153	0.0179	0.0173	0.0127

Z = 9 FLUORINE [All Units: cm²/g]

E (MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.565E+04	0.162E+01	0.643E-02	0.0	0.0	5611.0	0.0	0.0	5651.6	5611.0	5611.0
0.0015	0.198E+04	0.152E+01	0.135E-01	0.0	0.0	1968.0	0.0	0.0	1981.5	1968.0	1968.0
0.0020	0.903E+03	0.140E+01	0.221E-01	0.0	0.0	900.4	0.0	0.0	904.4	900.4	900.4
0.0030	0.288E+03	0.115E+01	0.410E-01	0.0	0.0	287.0	0.0	0.0	289.2	287.0	287.0
0.0040	0.125E+03	0.920E+00	0.590E-01	0.0	0.0	124.4	0.0	0.0	126.0	124.4	124.4
0.0050	0.643E+02	0.737E+00	0.746E-01	0.0	0.0	64.23	0.0	0.0	65.11	64.23	64.23
0.0060	0.372E+02	0.598E+00	0.875E-01	0.0	0.0	37.17	0.0	0.0	37.89	37.17	37.17
0.0080	0.155E+02	0.414E+00	0.106E+00	0.0	0.0	15.48	0.0	0.0	16.02	15.48	15.48
0.0100	0.778E+01	0.306E+00	0.118E+00	0.0	0.0	7.776	0.003	0.0	8.204	7.779	7.779
0.0150	0.218E+01	0.173E+00	0.135E+00	0.0	0.0	2.183	0.004	0.0	2.488	2.187	2.187
0.0200	0.875E+00	0.114E+00	0.143E+00	0.0	0.0	0.8746	0.0056	0.0	1.1320	0.8802	0.8802
0.0300	0.237E+00	0.609E-01	0.151E+00	0.0	0.0	0.2369	0.0084	0.0	0.4489	0.2453	0.2453
0.0400	0.930E-01	0.374E-01	0.152E+00	0.0	0.0	0.0930	0.0107	0.0	0.2824	0.1037	0.1037
0.0500	0.448E-01	0.253E-01	0.151E+00	0.0	0.0	0.0448	0.0127	0.0	0.2211	0.0575	0.0575
0.0600	0.246E-01	0.182E-01	0.149E+00	0.0	0.0	0.0247	0.0144	0.0	0.1918	0.0391	0.0391
0.0800	0.956E-02	0.107E-01	0.144E+00	0.0	0.0	0.0095	0.0173	0.0	0.1643	0.0268	0.0268
0.1000	0.459E-02	0.701E-02	0.138E+00	0.0	0.0	0.0045	0.0194	0.0	0.1496	0.0239	0.0239
0.1500	0.122E-02	0.321E-02	0.125E+00	0.0	0.0	0.0013	0.0229	0.0	0.1294	0.0242	0.0242
0.2000	0.484E-03	0.183E-02	0.115E+00	0.0	0.0	0.0006	0.0250	0.0	0.1173	0.0256	0.0256
0.3000	0.137E-03	0.819E-03	0.101E+00	0.0	0.0	0.0	0.0273	0.0	0.1020	0.0273	0.0273
0.4000	0.589E-04	0.462E-03	0.902E-01	0.0	0.0	0.0	0.0280	0.0	0.0907	0.0280	0.0280
0.5000	0.318E-04	0.296E-03	0.824E-01	0.0	0.0	0.0	0.0282	0.0	0.0827	0.0282	0.0281
0.6000	0.198E-04	0.206E-03	0.763E-01	0.0	0.0	0.0	0.0281	0.0	0.0765	0.0281	0.0280
0.8000	0.999E-05	0.116E-03	0.670E-01	0.0	0.0	0.0	0.0274	0.0	0.0671	0.0274	0.0273
1.0000	0.621E-05	0.742E-04	0.603E-01	0.0	0.0	0.0	0.0265	0.0	0.0604	0.0265	0.0264
1.2500	0.394E-05	0.475E-04	0.539E-01	0.206E-04	0.0	0.0	0.0253	0.0	0.0540	0.0254	0.0253
1.5000	0.286E-05	0.330E-04	0.490E-01	0.114E-03	0.0	0.0	0.0242	0.0	0.0491	0.0242	0.0241
2.0000	0.180E-05	0.186E-04	0.418E-01	0.455E-03	0.0	0.0	0.0221	0.0002	0.0423	0.0224	0.0222
3.0000	0.100E-05	0.825E-05	0.329E-01	0.130E-02	0.115E-04	0.0	0.0189	0.0009	0.0342	0.0198	0.0196
4.0000	0.687E-06	0.464E-05	0.274E-01	0.211E-02	0.470E-04	0.0	0.0166	0.0016	0.0296	0.0182	0.0179
5.0000	0.520E-06	0.297E-05	0.237E-01	0.283E-02	0.936E-04	0.0	0.0149	0.0023	0.0266	0.0172	0.0168
6.0000	0.418E-06	0.206E-05	0.209E-01	0.347E-02	0.144E-03	0.0	0.0134	0.0030	0.0245	0.0165	0.0160
8.0000	0.299E-06	0.116E-05	0.171E-01	0.457E-02	0.243E-03	0.0	0.0114	0.0042	0.0219	0.0156	0.0151
10.0000	0.233E-06	0.743E-06	0.146E-01	0.546E-02	0.334E-03	0.0	0.0100	0.0052	0.0204	0.0152	0.0145
15.0000	0.150E-06	0.330E-06	0.108E-01	0.714E-02	0.524E-03	0.0	0.0077	0.0071	0.0185	0.0148	0.0138
20.0000	0.110E-06	0.186E-06	0.867E-02	0.835E-02	0.672E-03	0.0	0.0063	0.0086	0.0177	0.0149	0.0136
30.0000	0.720E-07	0.825E-07	0.631E-02	0.100E-01	0.893E-03	0.0	0.0047	0.0105	0.0172	0.0153	0.0134
40.0000	0.534E-07	0.464E-07	0.501E-02	0.112E-01	0.105E-02	0.0	0.0038	0.0120	0.0173	0.0158	0.0134
50.0000	0.425E-07	0.297E-07	0.419E-02	0.121E-01	0.118E-02	0.0	0.0033	0.0130	0.0175	0.0163	0.0133
60.0000	0.353E-07	0.206E-07	0.361E-02	0.128E-01	0.128E-02	0.0	0.0028	0.0139	0.0177	0.0167	0.0133
80.0000	0.263E-07	0.116E-07	0.284E-02	0.139E-01	0.144E-02	0.0	0.0023	0.0151	0.0182	0.0174	0.0131
100.0000	0.210E-07	0.743E-08	0.236E-02	0.147E-01	0.155E-02	0.0	0.0019	0.0160	0.0186	0.0180	0.0129

Z = 10 NEON [All Units: cm²/g]

E (MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.741E+04	0.190E+01	0.548E-02	0.0	0.0	7319.0	0.0	0.0	7411.9	7319.0	7319.0
0.0015	0.266E+04	0.180E+01	0.116E-01	0.0	0.0	2643.0	0.0	0.0	2661.8	2643.0	2643.0
0.0020	0.124E+04	0.168E+01	0.193E-01	0.0	0.0	1234.0	0.0	0.0	1241.7	1234.0	1234.0
0.0030	0.404E+03	0.142E+01	0.364E-01	0.0	0.0	402.2	0.0	0.0	405.5	402.2	402.2
0.0040	0.177E+03	0.116E+01	0.536E-01	0.0	0.0	176.7	0.0	0.0	178.2	176.7	176.7
0.0050	0.924E+02	0.945E+00	0.692E-01	0.0	0.0	92.14	0.0	0.0	93.41	92.14	92.14
0.0060	0.538E+02	0.774E+00	0.828E-01	0.0	0.0	53.73	0.0	0.0	54.66	53.73	53.73
0.0080	0.226E+02	0.540E+00	0.104E+00	0.0	0.0	22.61	0.0	0.0	23.24	22.61	22.61
0.0100	0.115E+02	0.398E+00	0.118E+00	0.0	0.0	11.44	0.0	0.0	12.02	11.44	11.44
0.0150	0.325E+01	0.223E+00	0.137E+00	0.0	0.0	3.251	0.004	0.0	3.610	3.255	3.255
0.0200	0.131E+01	0.146E+00	0.147E+00	0.0	0.0	1.312	0.006	0.0	1.603	1.318	1.318
0.0300	0.359E+00	0.773E-01	0.156E+00	0.0	0.0	0.3592	0.0087	0.0	0.5923	0.3679	0.3679
0.0400	0.142E+00	0.476E-01	0.158E+00	0.0	0.0	0.1418	0.0112	0.0	0.3476	0.1530	0.1530
0.0500	0.687E-01	0.322E-01	0.157E+00	0.0	0.0	0.0686	0.0133	0.0	0.2579	0.0819	0.0819
0.0600	0.379E-01	0.231E-01	0.155E+00	0.0	0.0	0.0378	0.0151	0.0	0.2160	0.0529	0.0529
0.0800	0.148E-01	0.136E-01	0.150E+00	0.0	0.0	0.0148	0.0180	0.0	0.1784	0.0328	0.0328
0.1000	0.712E-02	0.895E-02	0.144E+00	0.0	0.0	0.0072	0.0202	0.0	0.1601	0.0274	0.0273
0.1500	0.190E-02	0.411E-02	0.131E+00	0.0	0.0	0.0019	0.0240	0.0	0.1370	0.0259	0.0259
0.2000	0.757E-03	0.234E-02	0.121E+00	0.0	0.0	0.0007	0.0263	0.0	0.1241	0.0270	0.0270
0.3000	0.215E-03	0.105E-02	0.105E+00	0.0	0.0	0.0003	0.0284	0.0	0.1063	0.0287	0.0286
0.4000	0.925E-04	0.593E-03	0.943E-01	0.0	0.0	0.0	0.0293	0.0	0.0950	0.0293	0.0293
0.5000	0.500E-04	0.380E-03	0.862E-01	0.0	0.0	0.0	0.0295	0.0	0.0866	0.0295	0.0295
0.6000	0.311E-04	0.264E-03	0.798E-01	0.0	0.0	0.0	0.0294	0.0	0.0801	0.0294	0.0293
0.8000	0.157E-04	0.149E-03	0.701E-01	0.0	0.0	0.0	0.0287	0.0	0.0703	0.0287	0.0286
1.0000	0.978E-05	0.952E-04	0.631E-01	0.0	0.0	0.0	0.0277	0.0	0.0632	0.0277	0.0276
1.2500	0.623E-05	0.610E-04	0.564E-01	0.241E-04	0.0	0.0	0.0265	0.0	0.0565	0.0265	0.0264
1.5000	0.451E-05	0.423E-04	0.513E-01	0.133E-03	0.0	0.0	0.0253	0.0	0.0515	0.0254	0.0252
2.0000	0.283E-05	0.238E-04	0.438E-01	0.530E-03	0.0	0.0	0.0232	0.0003	0.0444	0.0234	0.0233
3.0000	0.157E-05	0.106E-04	0.344E-01	0.151E-02	0.120E-04	0.0	0.0198	0.0010	0.0359	0.0208	0.0206
4.0000	0.108E-05	0.596E-05	0.287E-01	0.245E-02	0.492E-04	0.0	0.0174	0.0019	0.0312	0.0192	0.0189
5.0000	0.816E-06	0.381E-05	0.248E-01	0.329E-02	0.980E-04	0.0	0.0155	0.0027	0.0282	0.0182	0.0178
6.0000	0.655E-06	0.265E-05	0.219E-01	0.404E-02	0.150E-03	0.0	0.0141	0.0035	0.0261	0.0176	0.0171
8.0000	0.469E-06	0.149E-05	0.179E-01	0.531E-02	0.254E-03	0.0	0.0119	0.0048	0.0235	0.0168	0.0161
10.0000	0.364E-06	0.953E-06	0.153E-01	0.635E-02	0.349E-03	0.0	0.0104	0.0060	0.0220	0.0164	0.0156
15.0000	0.234E-06	0.423E-06	0.113E-01	0.828E-02	0.548E-03	0.0	0.0080	0.0082	0.0201	0.0162	0.0151
20.0000	0.172E-06	0.238E-06	0.907E-02	0.968E-02	0.703E-03	0.0	0.0066	0.0099	0.0195	0.0165	0.0149
30.0000	0.112E-06	0.106E-06	0.660E-02	0.117E-01	0.933E-03	0.0	0.0049	0.0122	0.0192	0.0171	0.0148
40.0000	0.835E-07	0.596E-07	0.525E-02	0.130E-01	0.110E-02	0.0	0.0040	0.0137	0.0194	0.0178	0.0148
50.0000	0.664E-07	0.381E-07	0.438E-02	0.140E-01	0.123E-02	0.0	0.0034	0.0150	0.0196	0.0183	0.0148
60.0000	0.551E-07	0.265E-07	0.377E-02	0.149E-01	0.134E-02	0.0	0.0030	0.0159	0.0200	0.0189	0.0147
80.0000	0.411E-07	0.149E-07	0.298E-02	0.161E-01	0.150E-02	0.0	0.0024	0.0174	0.0206	0.0197	0.0146
100.0000	0.328E-07	0.953E-08	0.247E-02	0.170E-01	0.162E-02	0.0	0.0020	0.0184	0.0211	0.0204	0.0143

Z = 13 ALUMINUM [All Units: cm²/g]

E(MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.118E+04	0.226E+01	0.143E-01	0.0	0.0	1183.0	0.0	0.0	1183.0	1183.0	1183.0
0.0015	0.400E+03	0.204E+01	0.248E-01	0.0	0.0	400.2	0.0	0.0	402.1	400.2	400.2
.001560	0.360E+03	0.201E+01	0.259E-01	0.0	0.0	360.0	0.0	0.0	362.0	360.0	360.0
K.001560	0.395E+04	0.201E+01	0.259E-01	0.0	0.0	3820.8	0.0	0.0	3952.0	3820.8	3820.8
0.0020	0.226E+04	0.184E+01	0.337E-01	0.0	0.0	2261.0	0.0	0.0	2261.9	2261.0	2261.0
0.0030	0.787E+03	0.152E+01	0.473E-01	0.0	0.0	786.5	0.0	0.0	788.6	786.5	786.5
0.0040	0.359E+03	0.130E+01	0.581E-01	0.0	0.0	359.1	0.0	0.0	360.4	359.1	359.1
0.0050	0.192E+03	0.112E+01	0.679E-01	0.0	0.0	192.2	0.0	0.0	193.2	192.2	192.2
0.0060	0.114E+03	0.964E+00	0.770E-01	0.0	0.0	114.3	0.0	0.0	115.0	114.3	114.3
0.0080	0.495E+02	0.723E+00	0.929E-01	0.0	0.0	49.51	0.0	0.0	50.32	49.51	49.51
0.0100	0.256E+02	0.551E+00	0.106E+00	0.0	0.0	25.42	0.0	0.0	26.26	25.42	25.42
0.0150	0.751E+01	0.314E+00	0.127E+00	0.0	0.0	7.488	0.004	0.0	7.951	7.492	7.492
0.0200	0.310E+01	0.205E+00	0.137E+00	0.0	0.0	3.091	0.006	0.0	3.442	3.097	3.097
0.0300	0.872E+00	0.110E+00	0.146E+00	0.0	0.0	0.8707	0.0082	0.0	1.1280	0.8789	0.8789
0.0400	0.350E+00	0.686E-01	0.149E+00	0.0	0.0	0.3500	0.0106	0.0	0.5676	0.3606	0.3606
0.0500	0.172E+00	0.468E-01	0.150E+00	0.0	0.0	0.1715	0.0128	0.0	0.3688	0.1843	0.1843
0.0600	0.956E-01	0.339E-01	0.148E+00	0.0	0.0	0.0956	0.0145	0.0	0.2775	0.1101	0.1101
0.0800	0.378E-01	0.200E-01	0.144E+00	0.0	0.0	0.0378	0.0174	0.0	0.2018	0.0552	0.0552
0.1000	0.184E-01	0.132E-01	0.139E+00	0.0	0.0	0.0183	0.0197	0.0	0.1706	0.0380	0.0380
0.1500	0.499E-02	0.612E-02	0.127E+00	0.0	0.0	0.0050	0.0233	0.0	0.1381	0.0283	0.0283
0.2000	0.200E-02	0.350E-02	0.117E+00	0.0	0.0	0.0020	0.0255	0.0	0.1225	0.0275	0.0275
0.3000	0.574E-03	0.158E-02	0.102E+00	0.0	0.0	0.0006	0.0276	0.0	0.1042	0.0282	0.0282
0.4000	0.248E-03	0.893E-03	0.916E-01	0.0	0.0	0.0003	0.0284	0.0	0.0927	0.0287	0.0286
0.5000	0.134E-03	0.573E-03	0.837E-01	0.0	0.0	0.0002	0.0286	0.0	0.0844	0.0288	0.0287
0.6000	0.840E-04	0.399E-03	0.775E-01	0.0	0.0	0.0001	0.0285	0.0	0.0780	0.0286	0.0285
0.8000	0.425E-04	0.225E-03	0.681E-01	0.0	0.0	0.0	0.0279	0.0	0.0684	0.0279	0.0278
1.0000	0.264E-04	0.144E-03	0.613E-01	0.0	0.0	0.0	0.0270	0.0	0.0615	0.0270	0.0268
1.2500	0.169E-04	0.921E-04	0.548E-01	0.313E-04	0.0	0.0	0.0258	0.0	0.0549	0.0258	0.0256
1.5000	0.122E-04	0.639E-04	0.498E-01	0.171E-03	0.0	0.0	0.0246	0.0001	0.0500	0.0247	0.0245
2.0000	0.763E-05	0.360E-04	0.425E-01	0.675E-03	0.0	0.0	0.0225	0.0003	0.0432	0.0228	0.0226
3.0000	0.422E-05	0.160E-04	0.335E-01	0.192E-02	0.117E-04	0.0	0.0193	0.0013	0.0355	0.0205	0.0202
4.0000	0.288E-05	0.900E-05	0.279E-01	0.310E-02	0.478E-04	0.0	0.0169	0.0023	0.0311	0.0192	0.0188
5.0000	0.218E-05	0.576E-05	0.241E-01	0.415E-02	0.952E-04	0.0	0.0151	0.0034	0.0284	0.0185	0.0179
6.0000	0.174E-05	0.400E-05	0.213E-01	0.510E-02	0.146E-03	0.0	0.0137	0.0043	0.0266	0.0180	0.0174
8.0000	0.124E-05	0.225E-05	0.174E-01	0.669E-02	0.247E-03	0.0	0.0116	0.0061	0.0243	0.0177	0.0168
10.0000	0.966E-06	0.144E-05	0.148E-01	0.800E-02	0.339E-03	0.0	0.0101	0.0075	0.0231	0.0176	0.0165
15.0000	0.619E-06	0.640E-06	0.110E-01	0.104E-01	0.532E-03	0.0	0.0078	0.0103	0.0219	0.0180	0.0163
20.0000	0.455E-06	0.360E-06	0.882E-02	0.122E-01	0.682E-03	0.0	0.0064	0.0122	0.0217	0.0186	0.0163
30.0000	0.297E-06	0.160E-06	0.642E-02	0.146E-01	0.905E-03	0.0	0.0048	0.0150	0.0219	0.0198	0.0165
40.0000	0.220E-06	0.900E-07	0.510E-02	0.163E-01	0.107E-02	0.0	0.0039	0.0170	0.0225	0.0209	0.0165
50.0000	0.175E-06	0.576E-07	0.426E-02	0.176E-01	0.119E-02	0.0	0.0033	0.0184	0.0231	0.0217	0.0164
60.0000	0.145E-06	0.400E-07	0.367E-02	0.186E-01	0.129E-02	0.0	0.0029	0.0196	0.0236	0.0225	0.0163
80.0000	0.108E-06	0.225E-07	0.289E-02	0.201E-01	0.145E-02	0.0	0.0023	0.0213	0.0244	0.0236	0.0159
100.0000	0.864E-07	0.144E-07	0.240E-02	0.212E-01	0.156E-02	0.0	0.0019	0.0226	0.0252	0.0245	0.0154

Z = 14 SILICON [All Units: cm²/g]

E(MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.157E+04	0.253E+01	0.132E-01	0.0	0.0	1567.0	0.0	0.0	1572.5	1567.0	1567.0
0.0015	0.533E+03	0.229E+01	0.239E-01	0.0	0.0	533.3	0.0	0.0	535.3	533.3	533.3
.001839	0.307E+03	0.212E+01	0.308E-01	0.0	0.0	307.0	0.0	0.0	307.0	307.0	307.0
K .001839	0.319E+04	0.212E+01	0.308E-01	0.0	0.0	3053.0	0.0	0.0	3192.2	3053.0	3053.0
0.0020	0.277E+04	0.205E+01	0.339E-01	0.0	0.0	2770.0	0.0	0.0	2772.1	2770.0	2770.0
0.0030	0.977E+03	0.167E+01	0.496E-01	0.0	0.0	976.7	0.0	0.0	978.7	976.7	976.7
0.0040	0.451E+03	0.140E+01	0.613E-01	0.0	0.0	451.4	0.0	0.0	452.5	451.4	451.4
0.0050	0.244E+03	0.121E+01	0.711E-01	0.0	0.0	243.8	0.0	0.0	245.3	243.8	243.8
0.0060	0.146E+03	0.105E+01	0.798E-01	0.0	0.0	145.8	0.0	0.0	147.1	145.8	145.8
0.0080	0.638E+02	0.804E+00	0.951E-01	0.0	0.0	63.79	0.0	0.0	64.70	63.79	63.79
0.0100	0.331E+02	0.622E+00	0.108E+00	0.0	0.0	32.89	0.0	0.0	33.83	32.89	32.89
0.0150	0.985E+01	0.359E+00	0.129E+00	0.0	0.0	9.796	0.004	0.0	10.338	9.800	9.800
0.0200	0.409E+01	0.234E+00	0.140E+00	0.0	0.0	4.072	0.006	0.0	4.464	4.078	4.078
0.0300	0.116E+01	0.125E+00	0.150E+00	0.0	0.0	1.158	0.008	0.0	1.435	1.166	1.166
0.0400	0.469E+00	0.789E-01	0.153E+00	0.0	0.0	0.4678	0.0109	0.0	0.7009	0.4787	0.4787
0.0500	0.231E+00	0.540E-01	0.154E+00	0.0	0.0	0.2303	0.0131	0.0	0.4390	0.2434	0.2434
0.0600	0.129E+00	0.392E-01	0.153E+00	0.0	0.0	0.1286	0.0150	0.0	0.3212	0.1436	0.1436
0.0800	0.512E-01	0.232E-01	0.148E+00	0.0	0.0	0.0512	0.0179	0.0	0.2224	0.0691	0.0691
0.1000	0.250E-01	0.154E-01	0.143E+00	0.0	0.0	0.0250	0.0202	0.0	0.1834	0.0452	0.0452
0.1500	0.681E-02	0.713E-02	0.131E+00	0.0	0.0	0.0067	0.0242	0.0	0.1449	0.0309	0.0309
0.2000	0.274E-02	0.408E-02	0.121E+00	0.0	0.0	0.0027	0.0264	0.0	0.1278	0.0291	0.0291
0.3000	0.788E-03	0.184E-02	0.106E+00	0.0	0.0	0.0006	0.0287	0.0	0.1086	0.0294	0.0293
0.4000	0.341E-03	0.104E-02	0.948E-01	0.0	0.0	0.0003	0.0295	0.0	0.0962	0.0298	0.0297
0.5000	0.185E-03	0.670E-03	0.866E-01	0.0	0.0	0.0002	0.0296	0.0	0.0875	0.0298	0.0297
0.6000	0.116E-03	0.466E-03	0.802E-01	0.0	0.0	0.0001	0.0295	0.0	0.0808	0.0296	0.0295
0.8000	0.585E-04	0.262E-03	0.705E-01	0.0	0.0	0.0001	0.0288	0.0	0.0708	0.0289	0.0288
1.0000	0.364E-04	0.168E-03	0.634E-01	0.0	0.0	0.0	0.0279	0.0	0.0636	0.0279	0.0278
1.2500	0.233E-04	0.108E-03	0.567E-01	0.352E-04	0.0	0.0	0.0267	0.0	0.0569	0.0267	0.0265
1.5000	0.168E-04	0.747E-04	0.515E-01	0.191E-03	0.0	0.0	0.0254	0.0001	0.0518	0.0255	0.0253
2.0000	0.105E-04	0.420E-04	0.440E-01	0.753E-03	0.0	0.0	0.0233	0.0004	0.0448	0.0237	0.0234
3.0000	0.580E-05	0.187E-04	0.346E-01	0.214E-02	0.121E-04	0.0	0.0199	0.0014	0.0368	0.0213	0.0210
4.0000	0.395E-05	0.105E-04	0.289E-01	0.346E-02	0.494E-04	0.0	0.0175	0.0026	0.0324	0.0201	0.0196
5.0000	0.298E-05	0.673E-05	0.249E-01	0.463E-02	0.985E-04	0.0	0.0156	0.0038	0.0296	0.0194	0.0188
6.0000	0.239E-05	0.467E-05	0.220E-01	0.568E-02	0.151E-03	0.0	0.0141	0.0048	0.0278	0.0190	0.0182
8.0000	0.170E-05	0.263E-05	0.180E-01	0.745E-02	0.255E-03	0.0	0.0120	0.0067	0.0257	0.0187	0.0177
10.0000	0.132E-05	0.168E-05	0.154E-01	0.890E-02	0.351E-03	0.0	0.0105	0.0083	0.0247	0.0188	0.0175
15.0000	0.846E-06	0.748E-06	0.114E-01	0.116E-01	0.550E-03	0.0	0.0081	0.0114	0.0236	0.0194	0.0175
20.0000	0.622E-06	0.421E-06	0.912E-02	0.135E-01	0.705E-03	0.0	0.0066	0.0136	0.0233	0.0202	0.0176
30.0000	0.406E-06	0.187E-06	0.664E-02	0.163E-01	0.936E-03	0.0	0.0050	0.0166	0.0239	0.0216	0.0178
40.0000	0.301E-06	0.105E-06	0.528E-02	0.182E-01	0.110E-02	0.0	0.0040	0.0188	0.0246	0.0228	0.0179
50.0000	0.239E-06	0.673E-07	0.441E-02	0.196E-01	0.123E-02	0.0	0.0034	0.0204	0.0252	0.0238	0.0178
60.0000	0.199E-06	0.467E-07	0.380E-02	0.207E-01	0.133E-02	0.0	0.0030	0.0216	0.0258	0.0246	0.0176
80.0000	0.148E-06	0.263E-07	0.299E-02	0.224E-01	0.149E-02	0.0	0.0024	0.0236	0.0269	0.0259	0.0172
100.0000	0.118E-06	0.168E-07	0.249E-02	0.235E-01	0.161E-02	0.0	0.0020	0.0249	0.0276	0.0269	0.0167

Z = 16 SULFUR [All Units: cm²/g]

	E(MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
	0.0010	0.243E+04	0.295E+01	0.101E-01	0.0	0.0	2426.0	0.0	0.0	2433.0	2426.0	2426.0
	0.0015	0.832E+03	0.270E+01	0.195E-01	0.0	0.0	831.4	0.0	0.0	834.7	831.4	831.4
	0.0020	0.383E+03	0.243E+01	0.292E-01	0.0	0.0	382.8	0.0	0.0	385.5	382.8	382.8
	.002472	0.215E+03	0.218E+01	0.377E-01	0.0	0.0	214.7	0.0	0.0	217.2	214.7	214.7
K	.002472	0.207E+04	0.218E+01	0.377E-01	0.0	0.0	1927.5	0.0	0.0	2072.2	1927.5	1927.5
	0.0030	0.134E+04	0.195E+01	0.464E-01	0.0	0.0	1337.0	0.0	0.0	1342.0	1337.0	1337.0
	0.0040	0.632E+03	0.160E+01	0.600E-01	0.0	0.0	632.2	0.0	0.0	633.7	632.2	632.2
	0.0050	0.347E+03	0.135E+01	0.707E-01	0.0	0.0	347.3	0.0	0.0	348.4	347.3	347.3
	0.0060	0.210E+03	0.117E+01	0.795E-01	0.0	0.0	210.4	0.0	0.0	211.2	210.4	210.4
	0.0080	0.937E+02	0.911E+00	0.936E-01	0.0	0.0	93.65	0.0	0.0	94.70	93.65	93.65
	0.0100	0.493E+02	0.723E+00	0.105E+00	0.0	0.0	48.48	0.0	0.0	50.13	48.48	48.48
	0.0150	0.149E+02	0.430E+00	0.125E+00	0.0	0.0	14.78	0.0	0.0	15.45	14.78	14.78
	0.0200	0.629E+01	0.282E+00	0.137E+00	0.0	0.0	6.237	0.006	0.0	6.709	6.243	6.243
	0.0300	0.181E+01	0.151E+00	0.148E+00	0.0	0.0	1.804	0.008	0.0	2.109	1.812	1.812
	0.0400	0.740E+00	0.955E-01	0.151E+00	0.0	0.0	0.7374	0.0108	0.0	0.9865	0.7482	0.7482
	0.0500	0.367E+00	0.658E-01	0.152E+00	0.0	0.0	0.3658	0.0130	0.0	0.5848	0.3788	0.3788
	0.0600	0.206E+00	0.480E-01	0.151E+00	0.0	0.0	0.2055	0.0148	0.0	0.4050	0.2203	0.2203
	0.0800	0.826E-01	0.286E-01	0.147E+00	0.0	0.0	0.0824	0.0179	0.0	0.2582	0.1003	0.1003
	0.1000	0.405E-01	0.190E-01	0.143E+00	0.0	0.0	0.0404	0.0203	0.0	0.2025	0.0607	0.0607
	0.1500	0.111E-01	0.882E-02	0.131E+00	0.0	0.0	0.0111	0.0242	0.0	0.1509	0.0353	0.0353
	0.2000	0.451E-02	0.507E-02	0.121E+00	0.0	0.0	0.0044	0.0265	0.0	0.1306	0.0309	0.0309
	0.3000	0.131E-02	0.230E-02	0.106E+00	0.0	0.0	0.0012	0.0287	0.0	0.1096	0.0299	0.0299
	0.4000	0.567E-03	0.130E-02	0.948E-01	0.0	0.0	0.0005	0.0295	0.0	0.0967	0.0300	0.0299
	0.5000	0.308E-03	0.835E-03	0.867E-01	0.0	0.0	0.0003	0.0297	0.0	0.0878	0.0300	0.0299
	0.6000	0.193E-03	0.581E-03	0.803E-01	0.0	0.0	0.0002	0.0295	0.0	0.0811	0.0297	0.0296
	0.8000	0.978E-04	0.328E-03	0.706E-01	0.0	0.0	0.0001	0.0288	0.0	0.0710	0.0289	0.0288
	1.0000	0.608E-04	0.210E-03	0.635E-01	0.0	0.0	0.0001	0.0279	0.0	0.0638	0.0280	0.0278
	1.2500	0.389E-04	0.134E-03	0.568E-01	0.411E-04	0.0	0.0	0.0267	0.0	0.0570	0.0267	0.0265
	1.5000	0.282E-04	0.933E-04	0.516E-01	0.221E-03	0.0	0.0	0.0254	0.0001	0.0519	0.0255	0.0253
	2.0000	0.175E-04	0.525E-04	0.440E-01	0.867E-03	0.0	0.0	0.0233	0.0004	0.0449	0.0237	0.0234
	3.0000	0.964E-05	0.233E-04	0.347E-01	0.246E-02	0.121E-04	0.0	0.0199	0.0016	0.0372	0.0216	0.0211
	4.0000	0.656E-05	0.131E-04	0.289E-01	0.396E-02	0.495E-04	0.0	0.0175	0.0030	0.0329	0.0205	0.0199
	5.0000	0.494E-05	0.841E-05	0.250E-01	0.530E-02	0.987E-04	0.0	0.0156	0.0043	0.0304	0.0199	0.0192
	6.0000	0.395E-05	0.584E-05	0.221E-01	0.649E-02	0.152E-03	0.0	0.0142	0.0055	0.0288	0.0197	0.0188
	8.0000	0.282E-05	0.328E-05	0.181E-01	0.851E-02	0.255E-03	0.0	0.0121	0.0076	0.0269	0.0197	0.0185
	10.0000	0.218E-05	0.210E-05	0.154E-01	0.102E-01	0.351E-03	0.0	0.0105	0.0094	0.0260	0.0200	0.0185
	15.0000	0.139E-05	0.934E-06	0.114E-01	0.132E-01	0.550E-03	0.0	0.0081	0.0129	0.0252	0.0210	0.0187
	20.0000	0.102E-05	0.525E-06	0.913E-02	0.155E-01	0.706E-03	0.0	0.0067	0.0154	0.0253	0.0220	0.0190
	30.0000	0.668E-06	0.233E-06	0.665E-02	0.185E-01	0.935E-03	0.0	0.0050	0.0188	0.0261	0.0238	0.0193
	40.0000	0.495E-06	0.131E-06	0.528E-02	0.207E-01	0.110E-02	0.0	0.0041	0.0212	0.0271	0.0253	0.0194
	50.0000	0.394E-06	0.841E-07	0.441E-02	0.223E-01	0.123E-02	0.0	0.0035	0.0230	0.0279	0.0265	0.0193
	60.0000	0.326E-06	0.584E-07	0.380E-02	0.236E-01	0.133E-02	0.0	0.0030	0.0245	0.0287	0.0275	0.0192
	80.0000	0.243E-06	0.328E-07	0.300E-02	0.254E-01	0.149E-02	0.0	0.0025	0.0266	0.0299	0.0290	0.0187
	100.0000	0.194E-06	0.210E-07	0.249E-02	0.267E-01	0.160E-02	0.0	0.0021	0.0281	0.0308	0.0301	0.0181

Z = 18 ARGON [All Units: cm²/g]

	E(MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
	0.0010	0.318E+04	0.304E+01	0.708E-02	0.0	0.0	3179.0	0.0	0.0	3183.0	3179.0	3179.0
	0.0015	0.110E+04	0.282E+01	0.142E-01	0.0	0.0	1101.0	0.0	0.0	1102.8	1101.0	1101.0
	0.0020	0.509E+03	0.257E+01	0.220E-01	0.0	0.0	509.3	0.0	0.0	511.6	509.3	509.3
	0.0030	0.168E+03	0.208E+01	0.372E-01	0.0	0.0	168.2	0.0	0.0	170.1	168.2	168.2
	.003203	0.140E+03	0.199E+01	0.400E-01	0.0	0.0	140.4	0.0	0.0	142.0	140.4	140.4
K	.003203	0.127E+04	0.199E+01	0.400E-01	0.0	0.0	1145.4	0.0	0.0	1272.0	1145.4	1145.4
	0.0040	0.755E+03	0.169E+01	0.502E-01	0.0	0.0	755.3	0.0	0.0	756.7	755.3	755.3
	0.0050	0.421E+03	0.141E+01	0.610E-01	0.0	0.0	421.0	0.0	0.0	422.5	421.0	421.0
	0.0060	0.258E+03	0.120E+01	0.697E-01	0.0	0.0	258.1	0.0	0.0	259.3	258.1	258.1
	0.0080	0.117E+03	0.925E+00	0.829E-01	0.0	0.0	117.0	0.0	0.0	118.0	117.0	117.0
	0.0100	0.623E+02	0.741E+00	0.929E-01	0.0	0.0	60.32	0.0	0.0	63.13	60.32	60.32
	0.0150	0.193E+02	0.456E+00	0.110E+00	0.0	0.0	18.86	0.0	0.0	19.87	18.86	18.86
	0.0200	0.821E+01	0.302E+00	0.121E+00	0.0	0.0	8.075	0.005	0.0	8.633	8.080	8.080
	0.0300	0.240E+01	0.162E+00	0.132E+00	0.0	0.0	2.378	0.007	0.0	2.694	2.385	2.385
	0.0400	0.991E+00	0.102E+00	0.135E+00	0.0	0.0	0.9829	0.0097	0.0	1.2280	0.9926	0.9926
	0.0500	0.495E+00	0.707E-01	0.136E+00	0.0	0.0	0.4915	0.0116	0.0	0.7017	0.5031	0.5031
	0.0600	0.279E+00	0.518E-01	0.135E+00	0.0	0.0	0.2779	0.0133	0.0	0.4658	0.2912	0.2912
	0.0800	0.113E+00	0.311E-01	0.132E+00	0.0	0.0	0.1123	0.0161	0.0	0.2761	0.1284	0.1284
	0.1000	0.556E-01	0.206E-01	0.128E+00	0.0	0.0	0.0555	0.0182	0.0	0.2042	0.0737	0.0737
	0.1500	0.154E-01	0.963E-02	0.118E+00	0.0	0.0	0.0154	0.0218	0.0	0.1430	0.0372	0.0371
	0.2000	0.628E-02	0.555E-02	0.109E+00	0.0	0.0	0.0062	0.0239	0.0	0.1208	0.0301	0.0301
	0.3000	0.183E-02	0.252E-02	0.952E-01	0.0	0.0	0.0018	0.0259	0.0	0.0996	0.0277	0.0276
	0.4000	0.798E-03	0.143E-02	0.855E-01	0.0	0.0	0.0008	0.0266	0.0	0.0877	0.0274	0.0273
	0.5000	0.434E-03	0.918E-03	0.782E-01	0.0	0.0	0.0004	0.0268	0.0	0.0796	0.0272	0.0271
	0.6000	0.272E-03	0.639E-03	0.724E-01	0.0	0.0	0.0003	0.0266	0.0	0.0733	0.0269	0.0268
	0.8000	0.138E-03	0.360E-03	0.637E-01	0.0	0.0	0.0001	0.0260	0.0	0.0642	0.0261	0.0260
	1.0000	0.859E-04	0.231E-03	0.573E-01	0.0	0.0	0.0001	0.0252	0.0	0.0576	0.0253	0.0251
	1.2500	0.550E-04	0.148E-03	0.513E-01	0.426E-04	0.0	0.0	0.0241	0.0	0.0515	0.0241	0.0239
	1.5000	0.398E-04	0.103E-03	0.466E-01	0.227E-03	0.0	0.0	0.0230	0.0001	0.0470	0.0231	0.0228
	2.0000	0.247E-04	0.578E-04	0.398E-01	0.886E-03	0.0	0.0	0.0210	0.0004	0.0408	0.0215	0.0212
	3.0000	0.136E-04	0.257E-04	0.313E-01	0.250E-02	0.109E-04	0.0	0.0180	0.0017	0.0339	0.0196	0.0192
	4.0000	0.920E-05	0.144E-04	0.261E-01	0.402E-02	0.447E-04	0.0	0.0157	0.0030	0.0302	0.0188	0.0182
	5.0000	0.692E-05	0.925E-05	0.225E-01	0.538E-02	0.891E-04	0.0	0.0141	0.0044	0.0280	0.0184	0.0177
	6.0000	0.553E-05	0.642E-05	0.199E-01	0.659E-02	0.137E-03	0.0	0.0127	0.0056	0.0266	0.0183	0.0175
	8.0000	0.393E-05	0.361E-05	0.163E-01	0.864E-02	0.231E-03	0.0	0.0108	0.0077	0.0252	0.0186	0.0174
	10.0000	0.305E-05	0.231E-05	0.139E-01	0.103E-01	0.317E-03	0.0	0.0095	0.0095	0.0245	0.0190	0.0175
	15.0000	0.194E-05	0.103E-05	0.103E-01	0.134E-01	0.497E-03	0.0	0.0073	0.0130	0.0242	0.0202	0.0180
	20.0000	0.143E-05	0.578E-06	0.825E-02	0.156E-01	0.636E-03	0.0	0.0060	0.0155	0.0245	0.0214	0.0184
	30.0000	0.930E-06	0.257E-06	0.600E-02	0.188E-01	0.843E-03	0.0	0.0045	0.0189	0.0256	0.0234	0.0190
	40.0000	0.689E-06	0.145E-06	0.477E-02	0.209E-01	0.991E-03	0.0	0.0036	0.0213	0.0267	0.0250	0.0192
	50.0000	0.548E-06	0.925E-07	0.398E-02	0.225E-01	0.111E-02	0.0	0.0031	0.0231	0.0276	0.0262	0.0192
	60.0000	0.454E-06	0.642E-07	0.343E-02	0.238E-01	0.120E-02	0.0	0.0027	0.0246	0.0284	0.0272	0.0191
	80.0000	0.339E-06	0.361E-07	0.271E-02	0.257E-01	0.134E-02	0.0	0.0022	0.0267	0.0298	0.0288	0.0187
	100.0000	0.270E-06	0.231E-07	0.225E-02	0.270E-01	0.144E-02	0.0	0.0018	0.0281	0.0307	0.0300	0.0182

Z = 20 CALCIUM [All Units: cm²/g]

	E(MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
	0.0010	0.486E+04	0.358E+01	0.149E-01	0.0	0.0	4858.0	0.0	0.0	4863.6	4858.0	4858.0
	0.0015	0.171E+04	0.326E+01	0.236E-01	0.0	0.0	1709.0	0.0	0.0	1713.3	1709.0	1709.0
	0.0020	0.797E+03	0.296E+01	0.310E-01	0.0	0.0	796.4	0.0	0.0	800.0	796.4	796.4
	0.0030	0.265E+03	0.246E+01	0.448E-01	0.0	0.0	265.0	0.0	0.0	267.5	265.0	265.0
	0.0040	0.120E+03	0.205E+01	0.572E-01	0.0	0.0	119.7	0.0	0.0	122.1	119.7	119.7
	.004038	0.117E+03	0.204E+01	0.576E-01	0.0	0.0	116.6	0.0	0.0	119.1	116.6	116.6
K	.004038	0.102E+04	0.204E+01	0.576E-01	0.0	0.0	880.0	0.0	0.0	1022.1	880.0	880.0
	0.0050	0.601E+03	0.172E+01	0.679E-01	0.0	0.0	600.6	0.0	0.0	602.8	600.6	600.6
	0.0060	0.372E+03	0.146E+01	0.772E-01	0.0	0.0	371.5	0.0	0.0	373.5	371.5	371.5
	0.0080	0.171E+03	0.112E+01	0.917E-01	0.0	0.0	171.4	0.0	0.0	172.2	171.4	171.4
	0.0100	0.924E+02	0.895E+00	0.102E+00	0.0	0.0	87.24	0.0	0.0	93.40	87.24	87.24
	0.0150	0.291E+02	0.567E+00	0.121E+00	0.0	0.0	28.01	0.0	0.0	29.79	28.02	28.02
	0.0200	0.125E+02	0.382E+00	0.132E+00	0.0	0.0	12.19	0.01	0.0	13.01	12.20	12.20
	0.0300	0.373E+01	0.206E+00	0.144E+00	0.0	0.0	3.660	0.008	0.0	4.080	3.668	3.668
	0.0400	0.155E+01	0.130E+00	0.148E+00	0.0	0.0	1.530	0.011	0.0	1.828	1.541	1.541
	0.0500	0.780E+00	0.904E-01	0.149E+00	0.0	0.0	0.7712	0.0128	0.0	1.0194	0.7840	0.7840
	0.0600	0.443E+00	0.665E-01	0.149E+00	0.0	0.0	0.4386	0.0147	0.0	0.6585	0.4533	0.4533
	0.0800	0.180E+00	0.401E-01	0.145E+00	0.0	0.0	0.1788	0.0177	0.0	0.3651	0.1965	0.1965
	0.1000	0.893E-01	0.267E-01	0.141E+00	0.0	0.0	0.0888	0.0201	0.0	0.2570	0.1089	0.1089
	0.1500	0.250E-01	0.125E-01	0.130E+00	0.0	0.0	0.0249	0.0241	0.0	0.1675	0.0490	0.0490
	0.2000	0.102E-01	0.723E-02	0.120E+00	0.0	0.0	0.0103	0.0263	0.0	0.1374	0.0366	0.0365
	0.3000	0.300E-02	0.329E-02	0.105E+00	0.0	0.0	0.0031	0.0285	0.0	0.1113	0.0316	0.0315
	0.4000	0.131E-02	0.187E-02	0.946E-01	0.0	0.0	0.0014	0.0294	0.0	0.0978	0.0308	0.0306
	0.5000	0.716E-03	0.120E-02	0.866E-01	0.0	0.0	0.0007	0.0296	0.0	0.0885	0.0303	0.0302
	0.6000	0.449E-03	0.836E-03	0.802E-01	0.0	0.0	0.0005	0.0295	0.0	0.0815	0.0300	0.0298
	0.8000	0.228E-03	0.471E-03	0.705E-01	0.0	0.0	0.0002	0.0288	0.0	0.0712	0.0290	0.0289
	1.0000	0.142E-03	0.302E-03	0.634E-01	0.0	0.0	0.0002	0.0278	0.0	0.0638	0.0280	0.0278
	1.2500	0.909E-04	0.194E-03	0.567E-01	0.536E-04	0.0	0.0001	0.0266	0.0	0.0570	0.0267	0.0265
	1.5000	0.656E-04	0.134E-03	0.516E-01	0.282E-03	0.0	0.0001	0.0254	0.0001	0.0521	0.0256	0.0253
	2.0000	0.407E-04	0.757E-04	0.440E-01	0.110E-02	0.0	0.0	0.0232	0.0005	0.0452	0.0238	0.0235
	3.0000	0.223E-04	0.336E-04	0.346E-01	0.308E-02	0.121E-04	0.0	0.0199	0.0020	0.0377	0.0219	0.0214
	4.0000	0.151E-04	0.189E-04	0.289E-01	0.496E-02	0.495E-04	0.0	0.0174	0.0037	0.0339	0.0212	0.0205
	5.0000	0.113E-04	0.121E-04	0.250E-01	0.662E-02	0.986E-04	0.0	0.0156	0.0053	0.0317	0.0209	0.0201
	6.0000	0.905E-05	0.841E-05	0.221E-01	0.810E-02	0.151E-03	0.0	0.0142	0.0068	0.0304	0.0210	0.0199
	8.0000	0.643E-05	0.473E-05	0.180E-01	0.106E-01	0.255E-03	0.0	0.0120	0.0095	0.0289	0.0215	0.0200
	10.0000	0.497E-05	0.303E-05	0.154E-01	0.127E-01	0.351E-03	0.0	0.0105	0.0117	0.0285	0.0222	0.0203
	15.0000	0.317E-05	0.135E-05	0.114E-01	0.165E-01	0.549E-03	0.0	0.0081	0.0158	0.0285	0.0240	0.0210
	20.0000	0.232E-05	0.757E-06	0.913E-02	0.192E-01	0.704E-03	0.0	0.0067	0.0189	0.0290	0.0256	0.0215
	30.0000	0.151E-05	0.337E-06	0.665E-02	0.230E-01	0.932E-03	0.0	0.0051	0.0231	0.0306	0.0282	0.0221
	40.0000	0.112E-05	0.189E-06	0.528E-02	0.256E-01	0.110E-02	0.0	0.0041	0.0260	0.0320	0.0302	0.0223
	50.0000	0.891E-06	0.121E-06	0.441E-02	0.276E-01	0.122E-02	0.0	0.0035	0.0282	0.0332	0.0318	0.0222
	60.0000	0.739E-06	0.841E-07	0.380E-02	0.291E-01	0.132E-02	0.0	0.0031	0.0299	0.0342	0.0330	0.0220
	80.0000	0.551E-06	0.473E-07	0.300E-02	0.314E-01	0.148E-02	0.0	0.0025	0.0325	0.0359	0.0350	0.0213
	100.0000	0.439E-06	0.303E-07	0.249E-02	0.330E-01	0.159E-02	0.0	0.0021	0.0342	0.0371	0.0364	0.0206

Z = 22 TITANIUM [All Units: cm²/g]

E (MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.586E+04	0.369E+01	0.118E-01	0.0	0.0	5855.0	0.0	0.0	5863.7	5855.0	5855.0
0.0015	0.209E+04	0.339E+01	0.195E-01	0.0	0.0	2091.0	0.0	0.0	2093.4	2091.0	2091.0
0.0020	0.983E+03	0.309E+01	0.262E-01	0.0	0.0	982.1	0.0	0.0	986.1	982.1	982.1
0.0030	0.330E+03	0.258E+01	0.384E-01	0.0	0.0	329.5	0.0	0.0	332.6	329.5	329.5
0.0040	0.150E+03	0.216E+01	0.494E-01	0.0	0.0	149.5	0.0	0.0	152.2	149.5	149.5
.004966	0.819E+02	0.182E+01	0.588E-01	0.0	0.0	81.9	0.0	0.0	83.8	81.9	81.9
K .004966	0.686E+03	0.182E+01	0.588E-01	0.0	0.0	560.5	0.0	0.0	687.9	560.5	560.5
0.0050	0.682E+03	0.181E+01	0.591E-01	0.0	0.0	681.7	0.0	0.0	683.9	681.7	681.7
0.0060	0.431E+03	0.154E+01	0.677E-01	0.0	0.0	430.7	0.0	0.0	432.6	430.7	430.7
0.0080	0.201E+03	0.116E+01	0.816E-01	0.0	0.0	201.1	0.0	0.0	202.2	201.1	201.1
0.0100	0.110E+03	0.920E+00	0.919E-01	0.0	0.0	99.72	0.0	0.0	111.01	99.72	99.72
0.0150	0.352E+02	0.585E+00	0.109E+00	0.0	0.0	33.06	0.0	0.0	35.89	33.06	33.06
0.0200	0.153E+02	0.401E+00	0.120E+00	0.0	0.0	14.64	0.0	0.0	15.82	14.64	14.64
0.0300	0.462E+01	0.217E+00	0.131E+00	0.0	0.0	4.484	0.007	0.0	4.968	4.491	4.491
0.0400	0.194E+01	0.137E+00	0.135E+00	0.0	0.0	1.896	0.010	0.0	2.212	1.906	1.906
0.0500	0.982E+00	0.953E-01	0.136E+00	0.0	0.0	0.9642	0.0117	0.0	1.2133	0.9759	0.9759
0.0600	0.560E+00	0.702E-01	0.136E+00	0.0	0.0	0.5516	0.0134	0.0	0.7662	0.5650	0.5650
0.0800	0.230E+00	0.426E-01	0.133E+00	0.0	0.0	0.2269	0.0163	0.0	0.4056	0.2432	0.2432
0.1000	0.114E+00	0.285E-01	0.129E+00	0.0	0.0	0.1134	0.0184	0.0	0.2715	0.1318	0.1318
0.1500	0.323E-01	0.134E-01	0.119E+00	0.0	0.0	0.0321	0.0221	0.0	0.1647	0.0542	0.0542
0.2000	0.133E-01	0.775E-02	0.110E+00	0.0	0.0	0.0133	0.0242	0.0	0.1311	0.0375	0.0374
0.3000	0.392E-02	0.353E-02	0.968E-01	0.0	0.0	0.0039	0.0263	0.0	0.1042	0.0302	0.0302
0.4000	0.172E-02	0.201E-02	0.871E-01	0.0	0.0	0.0017	0.0271	0.0	0.0908	0.0288	0.0287
0.5000	0.940E-03	0.129E-02	0.797E-01	0.0	0.0	0.0009	0.0273	0.0	0.0819	0.0282	0.0281
0.6000	0.590E-03	0.901E-03	0.738E-01	0.0	0.0	0.0006	0.0272	0.0	0.0753	0.0278	0.0276
0.8000	0.300E-03	0.508E-03	0.649E-01	0.0	0.0	0.0003	0.0265	0.0	0.0657	0.0268	0.0266
1.0000	0.187E-03	0.326E-03	0.584E-01	0.0	0.0	0.0002	0.0256	0.0	0.0589	0.0258	0.0256
1.2500	0.120E-03	0.209E-03	0.522E-01	0.557E-04	0.0	0.0002	0.0245	0.0	0.0526	0.0247	0.0244
1.5000	0.864E-04	0.145E-03	0.475E-01	0.290E-03	0.0	0.0001	0.0234	0.0001	0.0480	0.0236	0.0233
2.0000	0.535E-04	0.816E-04	0.405E-01	0.112E-02	0.0	0.0001	0.0214	0.0005	0.0418	0.0220	0.0216
3.0000	0.292E-04	0.363E-04	0.319E-01	0.313E-02	0.112E-04	0.0	0.0183	0.0021	0.0351	0.0204	0.0198
4.0000	0.197E-04	0.204E-04	0.266E-01	0.503E-02	0.456E-04	0.0	0.0160	0.0038	0.0317	0.0198	0.0191
5.0000	0.148E-04	0.131E-04	0.230E-01	0.670E-02	0.908E-04	0.0	0.0144	0.0054	0.0298	0.0198	0.0188
6.0000	0.118E-04	0.907E-05	0.203E-01	0.820E-02	0.139E-03	0.0	0.0130	0.0069	0.0287	0.0200	0.0188
8.0000	0.838E-05	0.510E-05	0.166E-01	0.107E-01	0.235E-03	0.0	0.0110	0.0096	0.0275	0.0206	0.0190
10.0000	0.648E-05	0.327E-05	0.141E-01	0.128E-01	0.323E-03	0.0	0.0096	0.0118	0.0272	0.0214	0.0194
15.0000	0.412E-05	0.145E-05	0.105E-01	0.166E-01	0.506E-03	0.0	0.0075	0.0159	0.0276	0.0234	0.0203
20.0000	0.302E-05	0.817E-06	0.841E-02	0.194E-01	0.647E-03	0.0	0.0062	0.0190	0.0285	0.0252	0.0209
30.0000	0.197E-05	0.363E-06	0.612E-02	0.232E-01	0.857E-03	0.0	0.0047	0.0233	0.0302	0.0279	0.0214
40.0000	0.146E-05	0.204E-06	0.486E-02	0.259E-01	0.101E-02	0.0	0.0038	0.0262	0.0318	0.0300	0.0216
50.0000	0.116E-05	0.131E-06	0.406E-02	0.278E-01	0.112E-02	0.0	0.0033	0.0283	0.0330	0.0316	0.0214
60.0000	0.959E-06	0.907E-07	0.350E-02	0.294E-01	0.121E-02	0.0	0.0029	0.0301	0.0341	0.0329	0.0212
80.0000	0.715E-06	0.510E-07	0.276E-02	0.317E-01	0.136E-02	0.0	0.0023	0.0326	0.0358	0.0349	0.0205
100.0000	0.570E-06	0.327E-07	0.229E-02	0.333E-01	0.146E-02	0.0	0.0020	0.0344	0.0371	0.0364	0.0197

Z = 26 IRON [All Units: cm²/g]

	E(MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
	0.0010	0.908E+04	0.454E+01	0.878E-02	0.0	0.0	9039.0	0.0	0.0	9084.5	9039.0	9039.0
	0.0015	0.340E+04	0.424E+01	0.153E-01	0.0	0.0	3385.0	0.0	0.0	3404.3	3385.0	3385.0
	0.0020	0.162E+04	0.393E+01	0.212E-01	0.0	0.0	1619.0	0.0	0.0	1624.0	1619.0	1619.0
	0.0030	0.554E+03	0.335E+01	0.321E-01	0.0	0.0	553.4	0.0	0.0	557.4	553.4	553.4
	0.0040	0.254E+03	0.285E+01	0.421E-01	0.0	0.0	253.5	0.0	0.0	256.9	253.5	253.5
	0.0050	0.137E+03	0.242E+01	0.513E-01	0.0	0.0	137.3	0.0	0.0	139.5	137.3	137.3
	0.0060	0.827E+02	0.206E+01	0.597E-01	0.0	0.0	82.66	0.0	0.0	84.82	82.66	82.66
	.007112	0.514E+02	0.174E+01	0.680E-01	0.0	0.0	51.35	0.0	0.0	53.21	51.35	51.35
K	.007112	0.406E+03	0.174E+01	0.680E-01	0.0	0.0	290.8	0.0	0.0	407.8	290.8	290.8
	0.0080	0.304E+03	0.154E+01	0.740E-01	0.0	0.0	303.8	0.0	0.0	305.6	303.8	303.8
	0.0100	0.169E+03	0.120E+01	0.854E-01	0.0	0.0	135.3	0.0	0.0	170.3	135.3	135.3
	0.0150	0.562E+02	0.746E+00	0.105E+00	0.0	0.0	48.68	0.0	0.0	57.05	48.68	48.68
	0.0200	0.250E+02	0.517E+00	0.116E+00	0.0	0.0	22.53	0.0	0.0	25.63	22.53	22.53
	0.0300	0.776E+01	0.285E+00	0.129E+00	0.0	0.0	7.242	0.007	0.0	8.174	7.249	7.249
	0.0400	0.332E+01	0.180E+00	0.134E+00	0.0	0.0	3.148	0.010	0.0	3.634	3.158	3.158
	0.0500	0.170E+01	0.124E+00	0.136E+00	0.0	0.0	1.629	0.012	0.0	1.960	1.641	1.641
	0.0600	0.978E+00	0.918E-01	0.136E+00	0.0	0.0	0.9447	0.0135	0.0	1.2058	0.9582	0.9582
	0.0800	0.406E+00	0.560E-01	0.133E+00	0.0	0.0	0.3958	0.0163	0.0	0.5950	0.4121	0.4121
	0.1000	0.204E+00	0.377E-01	0.130E+00	0.0	0.0	0.2002	0.0187	0.0	0.3717	0.2189	0.2189
	0.1500	0.586E-01	0.178E-01	0.120E+00	0.0	0.0	0.0579	0.0223	0.0	0.1964	0.0802	0.0801
	0.2000	0.243E-01	0.103E-01	0.111E+00	0.0	0.0	0.0241	0.0245	0.0	0.1456	0.0486	0.0486
	0.3000	0.727E-02	0.473E-02	0.979E-01	0.0	0.0	0.0072	0.0267	0.0	0.1099	0.0339	0.0338
	0.4000	0.321E-02	0.269E-02	0.881E-01	0.0	0.0	0.0031	0.0275	0.0	0.0940	0.0306	0.0305
	0.5000	0.176E-02	0.174E-02	0.806E-01	0.0	0.0	0.0018	0.0276	0.0	0.0841	0.0294	0.0292
	0.6000	0.111E-02	0.121E-02	0.747E-01	0.0	0.0	0.0011	0.0275	0.0	0.0770	0.0286	0.0284
	0.8000	0.565E-03	0.683E-03	0.657E-01	0.0	0.0	0.0006	0.0268	0.0	0.0669	0.0274	0.0272
	1.0000	0.351E-03	0.438E-03	0.592E-01	0.0	0.0	0.0003	0.0260	0.0	0.0600	0.0263	0.0260
	1.2500	0.226E-03	0.281E-03	0.529E-01	0.703E-04	0.0	0.0003	0.0248	0.0	0.0535	0.0251	0.0247
	1.5000	0.163E-03	0.195E-03	0.481E-01	0.358E-03	0.0	0.0002	0.0237	0.0001	0.0488	0.0240	0.0236
	2.0000	0.100E-03	0.110E-03	0.411E-01	0.136E-02	0.0	0.0001	0.0216	0.0007	0.0427	0.0224	0.0220
	3.0000	0.545E-04	0.488E-04	0.323E-01	0.378E-02	0.113E-04	0.0001	0.0185	0.0025	0.0362	0.0211	0.0204
	4.0000	0.367E-04	0.275E-04	0.270E-01	0.604E-02	0.462E-04	0.0	0.0162	0.0045	0.0332	0.0208	0.0199
	5.0000	0.275E-04	0.176E-04	0.233E-01	0.803E-02	0.920E-04	0.0	0.0145	0.0065	0.0315	0.0210	0.0198
	6.0000	0.219E-04	0.122E-04	0.206E-01	0.981E-02	0.141E-03	0.0	0.0132	0.0083	0.0306	0.0214	0.0200
	8.0000	0.155E-04	0.687E-05	0.168E-01	0.128E-01	0.238E-03	0.0	0.0111	0.0113	0.0299	0.0226	0.0205
	10.0000	0.120E-04	0.440E-05	0.143E-01	0.153E-01	0.327E-03	0.0	0.0097	0.0140	0.0299	0.0238	0.0212
	15.0000	0.759E-05	0.195E-05	0.106E-01	0.198E-01	0.511E-03	0.0	0.0075	0.0189	0.0309	0.0264	0.0224
	20.0000	0.555E-05	0.110E-05	0.852E-02	0.231E-01	0.655E-03	0.0	0.0062	0.0225	0.0323	0.0287	0.0232
	30.0000	0.361E-05	0.489E-06	0.620E-02	0.276E-01	0.865E-03	0.0	0.0047	0.0275	0.0347	0.0322	0.0239
	40.0000	0.267E-05	0.275E-06	0.493E-02	0.307E-01	0.102E-02	0.0	0.0038	0.0309	0.0367	0.0347	0.0240
	50.0000	0.212E-05	0.176E-06	0.411E-02	0.330E-01	0.113E-02	0.0	0.0032	0.0335	0.0382	0.0367	0.0238
	60.0000	0.176E-05	0.122E-06	0.354E-02	0.348E-01	0.122E-02	0.0	0.0028	0.0355	0.0396	0.0383	0.0234
	80.0000	0.131E-05	0.687E-07	0.280E-02	0.376E-01	0.137E-02	0.0	0.0023	0.0384	0.0418	0.0407	0.0226
	100.0000	0.104E-05	0.440E-07	0.232E-02	0.395E-01	0.147E-02	0.0	0.0019	0.0406	0.0433	0.0424	0.0217

Z = 29 COPPER [All Units: cm²/g]

E(MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.106E+05	0.505E+01	0.591E-02	0.0	0.0	10570.0	0.0	0.0	10605.1	10570.0	10570.0
.001096	0.824E+04	0.501E+01	0.684E-02	0.0	0.0	8240.0	0.0	0.0	8245.0	8240.0	8240.0
L1.001096	0.934E+04	0.501E+01	0.684E-02	0.0	0.0	9271.0	0.0	0.0	9345.0	9271.0	9271.0
0.0015	0.441E+04	0.481E+01	0.109E-01	0.0	0.0	4413.0	0.0	0.0	4414.8	4413.0	4413.0
0.0020	0.215E+04	0.453E+01	0.159E-01	0.0	0.0	2149.0	0.0	0.0	2154.5	2149.0	2149.0
0.0030	0.745E+03	0.395E+01	0.259E-01	0.0	0.0	744.9	0.0	0.0	749.0	744.9	744.9
0.0040	0.344E+03	0.340E+01	0.353E-01	0.0	0.0	343.9	0.0	0.0	347.4	343.9	343.9
0.0050	0.187E+03	0.291E+01	0.439E-01	0.0	0.0	187.0	0.0	0.0	190.0	187.0	187.0
0.0060	0.113E+03	0.250E+01	0.518E-01	0.0	0.0	113.1	0.0	0.0	115.6	113.1	113.1
0.0080	0.506E+02	0.187E+01	0.657E-01	0.0	0.0	50.6	0.0	0.0	52.5	50.6	50.6
.008979	0.366E+02	0.165E+01	0.716E-01	0.0	0.0	36.5	0.0	0.0	38.3	36.5	36.5
K .008979	0.277E+03	0.165E+01	0.716E-01	0.0	0.0	177.2	0.0	0.0	278.4	177.2	177.2
0.0100	0.214E+03	0.145E+01	0.773E-01	0.0	0.0	145.2	0.0	0.0	215.5	145.2	145.2
0.0150	0.731E+02	0.880E+00	0.976E-01	0.0	0.0	57.35	0.0	0.0	74.08	57.35	57.35
0.0200	0.331E+02	0.606E+00	0.110E+00	0.0	0.0	27.75	0.0	0.0	33.82	27.75	27.75
0.0300	0.105E+02	0.337E+00	0.123E+00	0.0	0.0	9.328	0.007	0.0	10.960	9.335	9.335
0.0400	0.452E+01	0.212E+00	0.129E+00	0.0	0.0	4.157	0.009	0.0	4.861	4.165	4.165
0.0500	0.234E+01	0.147E+00	0.131E+00	0.0	0.0	2.185	0.011	0.0	2.618	2.196	2.196
0.0600	0.135E+01	0.108E+00	0.131E+00	0.0	0.0	1.281	0.013	0.0	1.589	1.294	1.294
0.0800	0.568E+00	0.659E-01	0.129E+00	0.0	0.0	0.5447	0.0159	0.0	0.7629	0.5606	0.5606
0.1000	0.288E+00	0.445E-01	0.126E+00	0.0	0.0	0.2786	0.0181	0.0	0.4585	0.2967	0.2967
0.1500	0.835E-01	0.211E-01	0.117E+00	0.0	0.0	0.0817	0.0218	0.0	0.2216	0.1035	0.1035
0.2000	0.349E-01	0.123E-01	0.109E+00	0.0	0.0	0.0342	0.0241	0.0	0.1562	0.0583	0.0583
0.3000	0.105E-01	0.562E-02	0.958E-01	0.0	0.0	0.0104	0.0261	0.0	0.1119	0.0365	0.0364
0.4000	0.466E-02	0.321E-02	0.863E-01	0.0	0.0	0.0046	0.0269	0.0	0.0942	0.0315	0.0314
0.5000	0.257E-02	0.207E-02	0.790E-01	0.0	0.0	0.0025	0.0271	0.0	0.0836	0.0296	0.0295
0.6000	0.162E-02	0.144E-02	0.732E-01	0.0	0.0	0.0016	0.0270	0.0	0.0763	0.0286	0.0284
0.8000	0.826E-03	0.815E-03	0.644E-01	0.0	0.0	0.0008	0.0263	0.0	0.0660	0.0271	0.0269
1.0000	0.514E-03	0.523E-03	0.580E-01	0.0	0.0	0.0005	0.0255	0.0	0.0590	0.0260	0.0256
1.2500	0.330E-03	0.335E-03	0.519E-01	0.802E-04	0.0	0.0004	0.0243	0.0	0.0526	0.0247	0.0243
1.5000	0.238E-03	0.233E-03	0.472E-01	0.402E-03	0.0	0.0003	0.0232	0.0001	0.0481	0.0236	0.0231
2.0000	0.146E-03	0.131E-03	0.403E-01	0.151E-02	0.0	0.0002	0.0212	0.0007	0.0421	0.0221	0.0216
3.0000	0.792E-04	0.583E-04	0.317E-01	0.416E-02	0.111E-04	0.0002	0.0181	0.0027	0.0360	0.0210	0.0202
4.0000	0.532E-04	0.328E-04	0.264E-01	0.662E-02	0.453E-04	0.0	0.0159	0.0050	0.0332	0.0209	0.0199
5.0000	0.398E-04	0.210E-04	0.228E-01	0.879E-02	0.901E-04	0.0	0.0142	0.0071	0.0317	0.0213	0.0200
6.0000	0.317E-04	0.146E-04	0.202E-01	0.107E-01	0.138E-03	0.0	0.0129	0.0090	0.0311	0.0219	0.0203
8.0000	0.224E-04	0.820E-05	0.165E-01	0.140E-01	0.233E-03	0.0	0.0109	0.0124	0.0308	0.0233	0.0211
10.0000	0.172E-04	0.525E-05	0.141E-01	0.166E-01	0.320E-03	0.0	0.0096	0.0153	0.0310	0.0248	0.0218
15.0000	0.109E-04	0.233E-05	0.104E-01	0.215E-01	0.501E-03	0.0	0.0074	0.0206	0.0324	0.0279	0.0233
20.0000	0.799E-05	0.131E-05	0.835E-02	0.251E-01	0.641E-03	0.0	0.0061	0.0244	0.0341	0.0305	0.0242
30.0000	0.519E-05	0.583E-06	0.608E-02	0.300E-01	0.846E-03	0.0	0.0046	0.0297	0.0369	0.0344	0.0250
40.0000	0.384E-05	0.328E-06	0.483E-02	0.334E-01	0.993E-03	0.0	0.0037	0.0335	0.0392	0.0372	0.0250
50.0000	0.305E-05	0.210E-06	0.403E-02	0.359E-01	0.111E-02	0.0	0.0032	0.0362	0.0410	0.0394	0.0248
60.0000	0.253E-05	0.146E-06	0.348E-02	0.379E-01	0.120E-02	0.0	0.0028	0.0384	0.0426	0.0411	0.0244
80.0000	0.188E-05	0.820E-07	0.274E-02	0.408E-01	0.133E-02	0.0	0.0022	0.0416	0.0449	0.0438	0.0235
100.0000	0.150E-05	0.525E-07	0.227E-02	0.429E-01	0.143E-02	0.0	0.0019	0.0438	0.0466	0.0457	0.0225

Z = 32 GERMANIUM [All Units: cm²/g]

E(MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.189E+04	0.534E+01	0.619E-02	0.0	0.0	1887.0	0.0	0.0	1895.3	1887.0	1887.0
.001217	0.119E+04	0.521E+01	0.843E-02	0.0	0.0	1185.0	0.0	0.0	1195.2	1185.0	1185.0
L3.001217	0.436E+04	0.521E+01	0.843E-02	0.0	0.0	4303.0	0.0	0.0	4365.2	4303.0	4303.0
.001248	0.497E+04	0.519E+01	0.876E-02	0.0	0.0	4908.0	0.0	0.0	4975.2	4908.0	4908.0
L2.001248	0.665E+04	0.519E+01	0.876E-02	0.0	0.0	6572.0	0.0	0.0	6655.2	6572.0	6572.0
.001414	0.555E+04	0.509E+01	0.105E-01	0.0	0.0	5491.2	0.0	0.0	5555.1	5491.0	5491.0
L1.001414	0.628E+04	0.509E+01	0.105E-01	0.0	0.0	6217.0	0.0	0.0	6285.1	6217.0	6217.0
0.0015	0.547E+04	0.504E+01	0.115E-01	0.0	0.0	5471.0	0.0	0.0	5475.1	5471.0	5471.0
0.0020	0.271E+04	0.471E+01	0.167E-01	0.0	0.0	2707.0	0.0	0.0	2714.7	2707.0	2707.0
0.0030	0.957E+03	0.410E+01	0.260E-01	0.0	0.0	957.4	0.0	0.0	961.1	957.4	957.4
0.0040	0.446E+03	0.358E+01	0.342E-01	0.0	0.0	446.2	0.0	0.0	449.6	446.2	446.2
0.0050	0.244E+03	0.312E+01	0.417E-01	0.0	0.0	244.2	0.0	0.0	247.2	244.2	244.2
0.0060	0.148E+03	0.273E+01	0.486E-01	0.0	0.0	148.2	0.0	0.0	150.8	148.2	148.2
0.0080	0.668E+02	0.209E+01	0.608E-01	0.0	0.0	66.77	0.0	0.0	68.95	66.77	66.77
0.0100	0.357E+02	0.164E+01	0.712E-01	0.0	0.0	35.67	0.0	0.0	37.41	35.67	35.67
0.01110	0.266E+02	0.145E+01	0.762E-01	0.0	0.0	26.56	0.0	0.0	28.13	26.56	26.56
K 0.01110	0.197E+03	0.145E+01	0.762E-01	0.0	0.0	113.2	0.0	0.0	198.5	113.2	113.2
0.0150	0.904E+02	0.988E+00	0.905E-01	0.0	0.0	62.02	0.0	0.0	91.48	62.02	62.02
0.0200	0.414E+02	0.677E+00	0.103E+00	0.0	0.0	31.69	0.0	0.0	42.18	31.69	31.69
0.0300	0.134E+02	0.380E+00	0.116E+00	0.0	0.0	11.26	0.01	0.0	13.90	11.27	11.27
0.0400	0.584E+01	0.241E+00	0.122E+00	0.0	0.0	5.156	0.009	0.0	6.203	5.165	5.165
0.0500	0.304E+01	0.166E+00	0.125E+00	0.0	0.0	2.758	0.011	0.0	3.331	2.769	2.769
0.0600	0.178E+01	0.122E+00	0.125E+00	0.0	0.0	1.635	0.013	0.0	2.027	1.648	1.648
0.0800	0.752E+00	0.747E-01	0.124E+00	0.0	0.0	0.7074	0.0153	0.0	0.9507	0.7227	0.7227
0.1000	0.384E+00	0.505E-01	0.121E+00	0.0	0.0	0.3656	0.0174	0.0	0.5555	0.3830	0.3830
0.1500	0.112E+00	0.241E-01	0.113E+00	0.0	0.0	0.1089	0.0211	0.0	0.2491	0.1300	0.1300
0.2000	0.473E-01	0.140E-01	0.105E+00	0.0	0.0	0.0462	0.0232	0.0	0.1663	0.0694	0.0693
0.3000	0.144E-01	0.643E-02	0.923E-01	0.0	0.0	0.0142	0.0252	0.0	0.1131	0.0394	0.0393
0.4000	0.641E-02	0.368E-02	0.832E-01	0.0	0.0	0.0063	0.0260	0.0	0.0933	0.0323	0.0322
0.5000	0.354E-02	0.237E-02	0.762E-01	0.0	0.0	0.0036	0.0261	0.0	0.0821	0.0297	0.0295
0.6000	0.224E-02	0.166E-02	0.706E-01	0.0	0.0	0.0023	0.0260	0.0	0.0745	0.0283	0.0280
0.8000	0.114E-02	0.937E-03	0.622E-01	0.0	0.0	0.0011	0.0254	0.0	0.0643	0.0265	0.0262
1.0000	0.712E-03	0.601E-03	0.560E-01	0.0	0.0	0.0007	0.0246	0.0	0.0573	0.0253	0.0249
1.2500	0.457E-03	0.385E-03	0.501E-01	0.890E-04	0.0	0.0004	0.0235	0.0	0.0510	0.0239	0.0235
1.5000	0.329E-03	0.268E-03	0.455E-01	0.441E-03	0.0	0.0003	0.0224	0.0002	0.0465	0.0229	0.0224
2.0000	0.202E-03	0.151E-03	0.389E-01	0.164E-02	0.0	0.0002	0.0205	0.0008	0.0409	0.0215	0.0209
3.0000	0.109E-03	0.670E-04	0.306E-01	0.446E-02	0.107E-04	0.0001	0.0175	0.0029	0.0352	0.0205	0.0197
4.0000	0.731E-04	0.377E-04	0.255E-01	0.707E-02	0.437E-04	0.0001	0.0153	0.0053	0.0327	0.0207	0.0196
5.0000	0.546E-04	0.241E-04	0.221E-01	0.937E-02	0.870E-04	0.0001	0.0137	0.0075	0.0316	0.0213	0.0199
6.0000	0.433E-04	0.168E-04	0.195E-01	0.114E-01	0.134E-03	0.0	0.0124	0.0095	0.0311	0.0220	0.0203
8.0000	0.306E-04	0.943E-05	0.159E-01	0.148E-01	0.225E-03	0.0	0.0105	0.0132	0.0310	0.0237	0.0213
10.0000	0.236E-04	0.604E-05	0.136E-01	0.176E-01	0.309E-03	0.0	0.0092	0.0162	0.0315	0.0254	0.0222
15.0000	0.149E-04	0.268E-05	0.101E-01	0.229E-01	0.483E-03	0.0	0.0071	0.0217	0.0335	0.0289	0.0239
20.0000	0.109E-04	0.151E-05	0.807E-02	0.266E-01	0.618E-03	0.0	0.0059	0.0258	0.0353	0.0317	0.0249
30.0000	0.706E-05	0.671E-06	0.587E-02	0.318E-01	0.816E-03	0.0	0.0044	0.0315	0.0385	0.0359	0.0258
40.0000	0.523E-05	0.377E-06	0.467E-02	0.354E-01	0.957E-03	0.0	0.0036	0.0354	0.0410	0.0390	0.0258
50.0000	0.415E-05	0.241E-06	0.390E-02	0.380E-01	0.106E-02	0.0	0.0030	0.0383	0.0430	0.0413	0.0256
60.0000	0.344E-05	0.168E-06	0.336E-02	0.401E-01	0.115E-02	0.0	0.0027	0.0405	0.0446	0.0432	0.0252
80.0000	0.256E-05	0.943E-07	0.265E-02	0.431E-01	0.128E-02	0.0	0.0021	0.0438	0.0470	0.0460	0.0242
100.0000	0.204E-05	0.604E-07	0.220E-02	0.453E-01	0.137E-02	0.0	0.0018	0.0462	0.0489	0.0480	0.0231

Z = 36 KRYPTON [All Units: cm²/g]

	E(MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
	0.0010	0.285E+04	0.590E+01	0.476E-02	0.0	0.0	2848.0	0.0	0.0	2855.9	2848.0	2848.0
	0.0015	0.109E+04	0.558E+01	0.937E-02	0.0	0.0	1087.0	0.0	0.0	1095.6	1087.0	1087.0
	.001675	0.831E+03	0.545E+01	0.111E-01	0.0	0.0	830.7	0.0	0.0	836.5	830.7	830.7
L3	.001675	0.391E+04	0.545E+01	0.111E-01	0.0	0.0	3840.0	0.0	0.0	3915.5	3840.0	3840.0
	.001727	0.316E+04	0.541E+01	0.116E-01	0.0	0.0	3104.0	0.0	0.0	3165.4	3104.0	3104.0
L2	.001727	0.456E+04	0.541E+01	0.116E-01	0.0	0.0	4479.0	0.0	0.0	4565.4	4479.0	4479.0
	.001921	0.348E+04	0.528E+01	0.135E-01	0.0	0.0	3423.0	0.0	0.0	3485.3	3423.0	3423.0
L1	.001921	0.394E+04	0.528E+01	0.135E-01	0.0	0.0	3880.0	0.0	0.0	3945.3	3880.0	3880.0
	0.0020	0.359E+04	0.522E+01	0.143E-01	0.0	0.0	3595.0	0.0	0.0	3595.2	3595.0	3595.0
	0.0030	0.130E+04	0.449E+01	0.240E-01	0.0	0.0	1301.0	0.0	0.0	1304.5	1301.0	1301.0
	0.0040	0.615E+03	0.388E+01	0.327E-01	0.0	0.0	614.8	0.0	0.0	618.9	614.8	614.8
	0.0050	0.339E+03	0.339E+01	0.403E-01	0.0	0.0	339.1	0.0	0.0	342.4	339.1	339.1
	0.0060	0.207E+03	0.298E+01	0.469E-01	0.0	0.0	207.1	0.0	0.0	210.0	207.1	207.1
	0.0080	0.941E+02	0.235E+01	0.581E-01	0.0	0.0	94.07	0.0	0.0	96.51	94.07	94.07
	0.0100	0.506E+02	0.188E+01	0.673E-01	0.0	0.0	50.47	0.0	0.0	52.55	50.47	50.47
	.01433	0.184E+02	0.122E+01	0.829E-01	0.0	0.0	18.37	0.0	0.0	19.70	18.37	18.37
K	.01433	0.130E+03	0.122E+01	0.829E-01	0.0	0.0	64.86	0.0	0.0	131.30	64.86	64.86
	0.0150	0.116E+03	0.115E+01	0.849E-01	0.0	0.0	60.26	0.0	0.0	117.23	60.26	60.26
	0.0200	0.546E+02	0.781E+00	0.967E-01	0.0	0.0	35.01	0.0	0.0	55.48	35.01	35.01
	0.0300	0.180E+02	0.442E+00	0.110E+00	0.0	0.0	13.67	0.01	0.0	18.55	13.68	13.68
	0.0400	0.799E+01	0.284E+00	0.117E+00	0.0	0.0	6.557	0.009	0.0	8.391	6.566	6.566
	0.0500	0.421E+01	0.196E+00	0.120E+00	0.0	0.0	3.602	0.011	0.0	4.526	3.613	3.613
	0.0600	0.247E+01	0.144E+00	0.121E+00	0.0	0.0	2.178	0.012	0.0	2.735	2.190	2.190
	0.0800	0.106E+01	0.880E-01	0.120E+00	0.0	0.0	0.9648	0.0149	0.0	1.2680	0.9797	0.9797
	0.1000	0.546E+00	0.595E-01	0.117E+00	0.0	0.0	0.5065	0.0169	0.0	0.7225	0.5234	0.5234
	0.1500	0.162E+00	0.286E-01	0.109E+00	0.0	0.0	0.1545	0.0204	0.0	0.2996	0.1749	0.1749
	0.2000	0.689E-01	0.167E-01	0.102E+00	0.0	0.0	0.0663	0.0226	0.0	0.1876	0.0889	0.0889
	0.3000	0.212E-01	0.767E-02	0.898E-01	0.0	0.0	0.0206	0.0246	0.0	0.1187	0.0452	0.0451
	0.4000	0.949E-02	0.439E-02	0.809E-01	0.0	0.0	0.0093	0.0253	0.0	0.0948	0.0346	0.0344
	0.5000	0.527E-02	0.284E-02	0.742E-01	0.0	0.0	0.0051	0.0255	0.0	0.0823	0.0306	0.0304
	0.6000	0.334E-02	0.198E-02	0.688E-01	0.0	0.0	0.0032	0.0254	0.0	0.0741	0.0286	0.0284
	0.8000	0.171E-02	0.112E-02	0.606E-01	0.0	0.0	0.0017	0.0247	0.0	0.0634	0.0264	0.0261
	1.0000	0.106E-02	0.720E-03	0.545E-01	0.0	0.0	0.0011	0.0239	0.0	0.0563	0.0250	0.0246
	1.2500	0.683E-03	0.462E-03	0.488E-01	0.103E-03	0.0	0.0007	0.0228	0.0	0.0500	0.0235	0.0231
	1.5000	0.491E-03	0.321E-03	0.444E-01	0.504E-03	0.0	0.0004	0.0218	0.0002	0.0457	0.0224	0.0219
	2.0000	0.301E-03	0.181E-03	0.379E-01	0.183E-02	0.0	0.0003	0.0199	0.0009	0.0402	0.0211	0.0205
	3.0000	0.162E-03	0.804E-04	0.298E-01	0.494E-02	0.104E-04	0.0001	0.0170	0.0033	0.0350	0.0204	0.0195
	4.0000	0.108E-03	0.452E-04	0.249E-01	0.778E-02	0.426E-04	0.0001	0.0149	0.0058	0.0329	0.0208	0.0196
	5.0000	0.806E-04	0.290E-04	0.215E-01	0.103E-01	0.848E-04	0.0	0.0133	0.0083	0.0320	0.0216	0.0201
	6.0000	0.639E-04	0.201E-04	0.190E-01	0.125E-01	0.130E-03	0.0	0.0121	0.0105	0.0317	0.0226	0.0207
	8.0000	0.450E-04	0.113E-04	0.155E-01	0.162E-01	0.219E-03	0.0	0.0102	0.0143	0.0320	0.0246	0.0219
	10.0000	0.346E-04	0.724E-05	0.132E-01	0.192E-01	0.301E-03	0.0	0.0089	0.0175	0.0327	0.0265	0.0231
	15.0000	0.219E-04	0.322E-05	0.979E-02	0.249E-01	0.470E-03	0.0	0.0069	0.0237	0.0352	0.0305	0.0251
	20.0000	0.159E-04	0.181E-05	0.786E-02	0.289E-01	0.601E-03	0.0	0.0057	0.0280	0.0374	0.0337	0.0264
	30.0000	0.103E-04	0.805E-06	0.572E-02	0.346E-01	0.793E-03	0.0	0.0043	0.0342	0.0411	0.0384	0.0276
	40.0000	0.764E-05	0.453E-06	0.455E-02	0.384E-01	0.928E-03	0.0	0.0035	0.0384	0.0439	0.0418	0.0278
	50.0000	0.606E-05	0.290E-06	0.380E-02	0.413E-01	0.103E-02	0.0	0.0029	0.0414	0.0461	0.0444	0.0277
	60.0000	0.502E-05	0.201E-06	0.327E-02	0.435E-01	0.111E-02	0.0	0.0026	0.0438	0.0479	0.0464	0.0273
	80.0000	0.374E-05	0.113E-06	0.258E-02	0.468E-01	0.124E-02	0.0	0.0021	0.0474	0.0506	0.0495	0.0263
	100.0000	0.298E-05	0.724E-07	0.214E-02	0.491E-01	0.133E-02	0.0	0.0017	0.0500	0.0526	0.0517	0.0253

Z = 42 MOLYBDENUM [All Units: cm²/g]

E(MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.494E+04	0.694E+01	0.643E-02	0.0	0.0	4936.0	0.0	0.0	4946.9	4936.0	4936.0
0.0015	0.192E+04	0.654E+01	0.112E-01	0.0	0.0	1918.0	0.0	0.0	1926.6	1918.0	1918.0
0.0020	0.953E+03	0.611E+01	0.158E-01	0.0	0.0	953.5	0.0	0.0	959.1	953.5	953.5
.002520	0.536E+03	0.567E+01	0.205E-01	0.0	0.0	535.9	0.0	0.0	541.7	535.9	535.9
L3.002520	0.197E+04	0.567E+01	0.205E-01	0.0	0.0	1917.0	0.0	0.0	1975.7	1917.0	1917.0
.002865	0.174E+04	0.558E+01	0.214E-01	0.0	0.0	1697.0	0.0	0.0	1745.6	1697.0	1697.0
L2.002865	0.243E+04	0.558E+01	0.214E-01	0.0	0.0	2361.0	0.0	0.0	2435.6	2361.0	2361.0
.002865	0.196E+04	0.538E+01	0.234E-01	0.0	0.0	1907.0	0.0	0.0	1965.4	1907.0	1907.0
L1.002865	0.224E+04	0.538E+01	0.234E-01	0.0	0.0	2181.0	0.0	0.0	2245.4	2181.0	2181.0
0.0030	0.201E+04	0.527E+01	0.245E-01	0.0	0.0	2006.0	0.0	0.0	2015.3	2006.0	2006.0
0.0040	0.966E+03	0.456E+01	0.325E-01	0.0	0.0	966.0	0.0	0.0	970.6	966.0	966.0
0.0050	0.541E+03	0.397E+01	0.398E-01	0.0	0.0	541.0	0.0	0.0	545.0	541.0	541.0
0.0060	0.334E+03	0.349E+01	0.465E-01	0.0	0.0	333.6	0.0	0.0	337.5	333.6	333.6
0.0080	0.154E+03	0.277E+01	0.580E-01	0.0	0.0	153.7	0.0	0.0	156.8	153.7	153.7
0.0100	0.834E+02	0.227E+01	0.672E-01	0.0	0.0	82.82	0.0	0.0	85.74	82.82	82.82
0.0150	0.270E+02	0.145E+01	0.837E-01	0.0	0.0	26.88	0.0	0.0	28.53	26.88	26.88
.02000	0.120E+02	0.989E+00	0.951E-01	0.0	0.0	11.96	0.0	0.0	13.08	11.96	11.96
K .02000	0.785E+02	0.989E+00	0.951E-01	0.0	0.0	32.59	0.0	0.0	79.58	32.59	32.59
0.0300	0.274E+02	0.558E+00	0.109E+00	0.0	0.0	16.73	0.01	0.0	28.07	16.74	16.74
0.0400	0.125E+02	0.364E+00	0.116E+00	0.0	0.0	8.817	0.009	0.0	12.980	8.826	8.826
0.0500	0.667E+01	0.254E+00	0.119E+00	0.0	0.0	5.106	0.011	0.0	7.043	5.117	5.117
0.0600	0.397E+01	0.187E+00	0.120E+00	0.0	0.0	3.193	0.012	0.0	4.277	3.205	3.205
0.0800	0.173E+01	0.114E+00	0.120E+00	0.0	0.0	1.475	0.015	0.0	1.964	1.490	1.490
0.1000	0.901E+00	0.773E-01	0.118E+00	0.0	0.0	0.7954	0.0171	0.0	1.0963	0.8125	0.8125
0.1500	0.273E+00	0.374E-01	0.110E+00	0.0	0.0	0.2520	0.0207	0.0	0.4204	0.2727	0.2726
0.2000	0.118E+00	0.219E-01	0.103E+00	0.0	0.0	0.1106	0.0229	0.0	0.2429	0.1335	0.1334
0.3000	0.367E-01	0.101E-01	0.911E-01	0.0	0.0	0.0352	0.0250	0.0	0.1379	0.0602	0.0600
0.4000	0.166E-01	0.582E-02	0.823E-01	0.0	0.0	0.0162	0.0257	0.0	0.1047	0.0419	0.0417
0.5000	0.926E-02	0.376E-02	0.754E-01	0.0	0.0	0.0091	0.0259	0.0	0.0884	0.0350	0.0347
0.6000	0.589E-02	0.263E-02	0.700E-01	0.0	0.0	0.0058	0.0258	0.0	0.0785	0.0316	0.0313
0.8000	0.303E-02	0.149E-02	0.617E-01	0.0	0.0	0.0030	0.0252	0.0	0.0662	0.0282	0.0278
1.0000	0.189E-02	0.958E-03	0.555E-01	0.0	0.0	0.0019	0.0243	0.0	0.0583	0.0262	0.0257
1.2500	0.121E-02	0.615E-03	0.497E-01	0.134E-03	0.0	0.0012	0.0233	0.0	0.0517	0.0245	0.0239
1.5000	0.870E-03	0.428E-03	0.452E-01	0.637E-03	0.0	0.0009	0.0222	0.0002	0.0471	0.0233	0.0226
2.0000	0.532E-03	0.241E-03	0.386E-01	0.226E-02	0.0	0.0005	0.0203	0.0011	0.0416	0.0219	0.0211
3.0000	0.284E-03	0.107E-03	0.304E-01	0.597E-02	0.106E-04	0.0003	0.0173	0.0039	0.0368	0.0215	0.0204
4.0000	0.189E-03	0.603E-04	0.254E-01	0.931E-02	0.434E-04	0.0002	0.0152	0.0070	0.0350	0.0223	0.0208
5.0000	0.141E-03	0.386E-04	0.219E-01	0.122E-01	0.864E-04	0.0001	0.0136	0.0098	0.0344	0.0235	0.0215
6.0000	0.111E-03	0.268E-04	0.194E-01	0.148E-01	0.133E-03	0.0001	0.0123	0.0124	0.0345	0.0248	0.0224
8.0000	0.781E-04	0.151E-04	0.158E-01	0.191E-01	0.223E-03	0.0001	0.0105	0.0168	0.0352	0.0274	0.0239
10.0000	0.600E-04	0.965E-05	0.135E-01	0.226E-01	0.306E-03	0.0	0.0092	0.0206	0.0365	0.0298	0.0253
15.0000	0.378E-04	0.429E-05	0.998E-02	0.293E-01	0.478E-03	0.0	0.0071	0.0278	0.0398	0.0349	0.0277
20.0000	0.275E-04	0.241E-05	0.801E-02	0.340E-01	0.610E-03	0.0	0.0059	0.0328	0.0426	0.0387	0.0290
30.0000	0.178E-04	0.107E-05	0.583E-02	0.406E-01	0.804E-03	0.0	0.0045	0.0400	0.0473	0.0445	0.0300
40.0000	0.132E-04	0.604E-06	0.463E-02	0.451E-01	0.941E-03	0.0	0.0037	0.0448	0.0507	0.0485	0.0300
50.0000	0.104E-04	0.386E-06	0.387E-02	0.484E-01	0.105E-02	0.0	0.0031	0.0484	0.0533	0.0515	0.0295
60.0000	0.864E-05	0.268E-06	0.333E-02	0.509E-01	0.113E-02	0.0	0.0027	0.0512	0.0554	0.0539	0.0289
80.0000	0.643E-05	0.151E-06	0.263E-02	0.548E-01	0.125E-02	0.0	0.0022	0.0553	0.0587	0.0575	0.0276
100.0000	0.512E-05	0.965E-07	0.218E-02	0.575E-01	0.134E-02	0.0	0.0019	0.0582	0.0610	0.0601	0.0263

Z = 47 SILVER [All Units: cm²/g]

	E (MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
	0.0010	0.703E+04	0.783E+01	0.498E-02	0.0	0.0	7029.0	0.0	0.0	7037.8	7029.0	7029.0
	0.0015	0.278E+04	0.745E+01	0.917E-02	0.0	0.0	2783.0	0.0	0.0	2787.5	2783.0	2783.0
	0.0020	0.139E+04	0.702E+01	0.135E-01	0.0	0.0	1393.0	0.0	0.0	1397.0	1393.0	1393.0
	0.0030	0.507E+03	0.611E+01	0.217E-01	0.0	0.0	507.5	0.0	0.0	513.1	507.5	507.5
	.003351	0.383E+03	0.581E+01	0.245E-01	0.0	0.0	382.9	0.0	0.0	388.8	382.9	382.9
L3	.003351	0.127E+04	0.581E+01	0.245E-01	0.0	0.0	1217.0	0.0	0.0	1275.8	1217.0	1217.0
	.003524	0.112E+04	0.567E+01	0.258E-01	0.0	0.0	1077.0	0.0	0.0	1125.7	1077.0	1077.0
L2	.003524	0.154E+04	0.567E+01	0.258E-01	0.0	0.0	1482.0	0.0	0.0	1545.7	1482.0	1482.0
	.003806	0.128E+04	0.544E+01	0.279E-01	0.0	0.0	1231.0	0.0	0.0	1285.5	1231.0	1231.0
L1	.003806	0.146E+04	0.544E+01	0.279E-01	0.0	0.0	1410.0	0.0	0.0	1465.5	1410.0	1410.0
	0.0040	0.130E+04	0.528E+01	0.293E-01	0.0	0.0	1300.0	0.0	0.0	1305.3	1300.0	1300.0
	0.0050	0.734E+03	0.458E+01	0.362E-01	0.0	0.0	734.1	0.0	0.0	738.6	734.1	734.1
	0.0060	0.457E+03	0.400E+01	0.427E-01	0.0	0.0	457.0	0.0	0.0	461.0	457.0	457.0
	0.0080	0.213E+03	0.314E+01	0.542E-01	0.0	0.0	213.2	0.0	0.0	216.2	213.2	213.2
	0.0100	0.117E+03	0.256E+01	0.639E-01	0.0	0.0	115.0	0.0	0.0	119.6	115.0	115.0
	0.0150	0.382E+02	0.168E+01	0.810E-01	0.0	0.0	37.88	0.0	0.0	39.96	37.88	37.88
	0.0200	0.171E+02	0.116E+01	0.922E-01	0.0	0.0	16.99	0.0	0.0	18.35	16.99	16.99
	.02551	0.860E+01	0.827E+00	0.101E+00	0.0	0.0	8.55	0.01	0.0	9.54	8.56	8.56
K	.02551	0.545E+02	0.827E+00	0.101E+00	0.0	0.0	20.43	0.01	0.0	55.43	20.44	20.44
	0.0300	0.359E+02	0.654E+00	0.106E+00	0.0	0.0	16.83	0.01	0.0	36.66	16.84	16.84
	0.0400	0.167E+02	0.427E+00	0.113E+00	0.0	0.0	10.02	0.01	0.0	17.24	10.03	10.03
	0.0500	0.903E+01	0.302E+00	0.116E+00	0.0	0.0	6.150	0.010	0.0	9.448	6.160	6.160
	0.0600	0.542E+01	0.223E+00	0.118E+00	0.0	0.0	3.984	0.012	0.0	5.761	3.996	3.996
	0.0800	0.240E+01	0.136E+00	0.118E+00	0.0	0.0	1.918	0.015	0.0	2.654	1.933	1.933
	0.1000	0.126E+01	0.923E-01	0.116E+00	0.0	0.0	1.060	0.017	0.0	1.468	1.077	1.077
	0.1500	0.389E+00	0.448E-01	0.109E+00	0.0	0.0	0.3475	0.0206	0.0	0.5428	0.3681	0.3681
	0.2000	0.169E+00	0.264E-01	0.102E+00	0.0	0.0	0.1554	0.0227	0.0	0.2974	0.1781	0.1781
	0.3000	0.534E-01	0.122E-01	0.904E-01	0.0	0.0	0.0506	0.0248	0.0	0.1560	0.0754	0.0752
	0.4000	0.244E-01	0.703E-02	0.817E-01	0.0	0.0	0.0234	0.0256	0.0	0.1131	0.0490	0.0488
	0.5000	0.137E-01	0.456E-02	0.750E-01	0.0	0.0	0.0132	0.0258	0.0	0.0933	0.0390	0.0387
	0.6000	0.872E-02	0.319E-02	0.696E-01	0.0	0.0	0.0085	0.0257	0.0	0.0815	0.0342	0.0338
	0.8000	0.450E-02	0.181E-02	0.614E-01	0.0	0.0	0.0044	0.0251	0.0	0.0677	0.0295	0.0290
	1.0000	0.281E-02	0.116E-02	0.552E-01	0.0	0.0	0.0028	0.0242	0.0	0.0592	0.0270	0.0264
	1.2500	0.180E-02	0.748E-03	0.494E-01	0.160E-03	0.0	0.0018	0.0231	0.0	0.0521	0.0249	0.0243
	1.5000	0.129E-02	0.520E-03	0.450E-01	0.750E-03	0.0	0.0013	0.0221	0.0002	0.0476	0.0236	0.0228
	2.0000	0.788E-03	0.293E-03	0.384E-01	0.260E-02	0.0	0.0007	0.0202	0.0013	0.0421	0.0222	0.0213
	3.0000	0.419E-03	0.130E-03	0.302E-01	0.674E-02	0.106E-04	0.0004	0.0172	0.0045	0.0375	0.0221	0.0208
	4.0000	0.279E-03	0.734E-04	0.252E-01	0.104E-01	0.431E-04	0.0003	0.0151	0.0078	0.0360	0.0232	0.0214
	5.0000	0.207E-03	0.470E-04	0.218E-01	0.136E-01	0.859E-04	0.0002	0.0135	0.0109	0.0357	0.0246	0.0223
	6.0000	0.163E-03	0.326E-04	0.193E-01	0.164E-01	0.132E-03	0.0001	0.0122	0.0138	0.0360	0.0261	0.0233
	8.0000	0.114E-03	0.184E-04	0.158E-01	0.211E-01	0.222E-03	0.0001	0.0104	0.0186	0.0373	0.0291	0.0251
	10.0000	0.876E-04	0.117E-04	0.134E-01	0.250E-01	0.304E-03	0.0001	0.0090	0.0227	0.0388	0.0319	0.0267
	15.0000	0.551E-04	0.522E-05	0.993E-02	0.323E-01	0.475E-03	0.0	0.0070	0.0306	0.0428	0.0376	0.0293
	20.0000	0.401E-04	0.294E-05	0.797E-02	0.375E-01	0.606E-03	0.0	0.0058	0.0362	0.0461	0.0419	0.0307
	30.0000	0.259E-04	0.131E-05	0.581E-02	0.447E-01	0.797E-03	0.0	0.0044	0.0439	0.0513	0.0483	0.0317
	40.0000	0.191E-04	0.734E-06	0.461E-02	0.496E-01	0.932E-03	0.0	0.0035	0.0492	0.0552	0.0528	0.0316
	50.0000	0.152E-04	0.470E-06	0.385E-02	0.532E-01	0.104E-02	0.0	0.0030	0.0531	0.0581	0.0561	0.0311
	60.0000	0.125E-04	0.326E-06	0.332E-02	0.560E-01	0.112E-02	0.0	0.0026	0.0561	0.0605	0.0588	0.0304
	80.0000	0.933E-05	0.184E-06	0.262E-02	0.602E-01	0.124E-02	0.0	0.0021	0.0606	0.0641	0.0627	0.0290
	100.0000	0.743E-05	0.117E-06	0.217E-02	0.631E-01	0.133E-02	0.0	0.0018	0.0638	0.0666	0.0656	0.0276

Z = 50 TIN [All Units: cm²/g]

E(MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.815E+04	0.800E+01	0.527E-02	0.0	0.0	8148.0	0.0	0.0	8158.0	8148.0	8148.0
0.0015	0.329E+04	0.757E+01	0.969E-02	0.0	0.0	3289.0	0.0	0.0	3297.6	3289.0	3289.0
0.0020	0.166E+04	0.710E+01	0.141E-01	0.0	0.0	1658.0	0.0	0.0	1667.1	1658.0	1658.0
0.0030	0.608E+03	0.621E+01	0.220E-01	0.0	0.0	607.8	0.0	0.0	614.2	607.8	607.8
.003929	0.306E+03	0.546E+01	0.286E-01	0.0	0.0	306.0	0.0	0.0	311.5	306.0	306.0
L3.003929	0.920E+03	0.546E+01	0.286E-01	0.0	0.0	874.9	0.0	0.0	925.5	874.9	874.9
0.0040	0.934E+03	0.541E+01	0.291E-01	0.0	0.0	934.1	0.0	0.0	939.4	934.1	934.1
.004156	0.842E+03	0.530E+01	0.301E-01	0.0	0.0	802.4	0.0	0.0	847.3	802.4	802.4
L2.004156	0.114E+04	0.530E+01	0.301E-01	0.0	0.0	1086.0	0.0	0.0	1145.3	1086.0	1086.0
.004465	0.966E+03	0.508E+01	0.321E-01	0.0	0.0	924.1	0.0	0.0	971.1	924.1	924.1
L1.004465	0.111E+04	0.508E+01	0.321E-01	0.0	0.0	1064.0	0.0	0.0	1115.1	1064.0	1064.0
0.0050	0.842E+03	0.472E+01	0.354E-01	0.0	0.0	842.2	0.0	0.0	846.8	842.2	842.2
0.0060	0.525E+03	0.414E+01	0.412E-01	0.0	0.0	525.1	0.0	0.0	529.2	525.1	525.1
0.0080	0.247E+03	0.326E+01	0.517E-01	0.0	0.0	246.8	0.0	0.0	250.3	246.8	246.8
0.0100	0.136E+03	0.265E+01	0.607E-01	0.0	0.0	133.1	0.0	0.0	138.7	133.1	133.1
0.0150	0.448E+02	0.174E+01	0.773E-01	0.0	0.0	44.25	0.0	0.0	46.62	44.25	44.25
0.0200	0.201E+02	0.123E+01	0.881E-01	0.0	0.0	19.96	0.0	0.0	21.42	19.96	19.96
.02920	0.694E+01	0.719E+00	0.100E+00	0.0	0.0	6.89	0.01	0.0	7.76	6.90	6.90
K .02920	0.428E+02	0.719E+00	0.100E+00	0.0	0.0	15.29	0.01	0.0	43.62	15.30	15.30
0.0300	0.404E+02	0.692E+00	0.101E+00	0.0	0.0	15.15	0.01	0.0	41.19	15.16	15.16
0.0400	0.189E+02	0.451E+00	0.108E+00	0.0	0.0	10.02	0.01	0.0	19.46	10.03	10.03
0.0500	0.103E+02	0.320E+00	0.111E+00	0.0	0.0	6.417	0.010	0.0	10.731	6.427	6.427
0.0600	0.622E+01	0.238E+00	0.113E+00	0.0	0.0	4.272	0.012	0.0	6.571	4.284	4.284
0.0800	0.277E+01	0.146E+00	0.113E+00	0.0	0.0	2.121	0.014	0.0	3.029	2.135	2.135
0.1000	0.147E+01	0.986E-01	0.112E+00	0.0	0.0	1.192	0.016	0.0	1.681	1.208	1.208
0.1500	0.456E+00	0.479E-01	0.105E+00	0.0	0.0	0.3994	0.0198	0.0	0.6089	0.4192	0.4191
0.2000	0.200E+00	0.283E-01	0.982E-01	0.0	0.0	0.1807	0.0219	0.0	0.3265	0.2027	0.2026
0.3000	0.635E-01	0.132E-01	0.872E-01	0.0	0.0	0.0596	0.0239	0.0	0.1639	0.0835	0.0833
0.4000	0.292E-01	0.756E-02	0.789E-01	0.0	0.0	0.0278	0.0247	0.0	0.1157	0.0525	0.0523
0.5000	0.164E-01	0.491E-02	0.725E-01	0.0	0.0	0.0158	0.0249	0.0	0.0938	0.0407	0.0404
0.6000	0.105E-01	0.344E-02	0.672E-01	0.0	0.0	0.0102	0.0248	0.0	0.0811	0.0350	0.0346
0.8000	0.542E-02	0.195E-02	0.593E-01	0.0	0.0	0.0053	0.0242	0.0	0.0667	0.0295	0.0290
1.0000	0.338E-02	0.126E-02	0.534E-01	0.0	0.0	0.0033	0.0234	0.0	0.0580	0.0267	0.0261
1.2500	0.217E-02	0.806E-03	0.478E-01	0.172E-03	0.0	0.0022	0.0223	0.0	0.0509	0.0245	0.0238
1.5000	0.155E-02	0.561E-03	0.435E-01	0.800E-03	0.0	0.0015	0.0213	0.0003	0.0464	0.0231	0.0223
2.0000	0.947E-03	0.316E-03	0.371E-01	0.273E-02	0.0	0.0010	0.0194	0.0013	0.0411	0.0217	0.0208
3.0000	0.503E-03	0.141E-03	0.292E-01	0.699E-02	0.102E-04	0.0005	0.0166	0.0046	0.0368	0.0217	0.0204
4.0000	0.334E-03	0.792E-04	0.244E-01	0.108E-01	0.417E-04	0.0004	0.0145	0.0080	0.0357	0.0229	0.0211
5.0000	0.247E-03	0.507E-04	0.211E-01	0.140E-01	0.830E-04	0.0003	0.0130	0.0112	0.0355	0.0245	0.0222
6.0000	0.195E-03	0.352E-04	0.186E-01	0.169E-01	0.127E-03	0.0002	0.0118	0.0141	0.0359	0.0261	0.0232
8.0000	0.136E-03	0.198E-04	0.152E-01	0.216E-01	0.214E-03	0.0002	0.0100	0.0190	0.0372	0.0292	0.0251
10.0000	0.105E-03	0.127E-04	0.130E-01	0.256E-01	0.294E-03	0.0001	0.0087	0.0233	0.0390	0.0321	0.0267
15.0000	0.657E-04	0.564E-05	0.960E-02	0.330E-01	0.458E-03	0.0001	0.0067	0.0312	0.0431	0.0380	0.0294
20.0000	0.477E-04	0.317E-05	0.771E-02	0.383E-01	0.585E-03	0.0	0.0056	0.0369	0.0466	0.0425	0.0308
30.0000	0.308E-04	0.141E-05	0.561E-02	0.456E-01	0.769E-03	0.0	0.0042	0.0448	0.0520	0.0490	0.0319
40.0000	0.227E-04	0.793E-06	0.446E-02	0.506E-01	0.899E-03	0.0	0.0034	0.0502	0.0560	0.0536	0.0318
50.0000	0.180E-04	0.507E-06	0.372E-02	0.542E-01	0.998E-03	0.0	0.0029	0.0541	0.0589	0.0570	0.0312
60.0000	0.149E-04	0.352E-06	0.321E-02	0.571E-01	0.108E-02	0.0	0.0025	0.0572	0.0614	0.0598	0.0305
80.0000	0.111E-04	0.198E-06	0.253E-02	0.613E-01	0.119E-02	0.0	0.0020	0.0617	0.0650	0.0638	0.0290
100.0000	0.883E-05	0.127E-06	0.210E-02	0.644E-01	0.128E-02	0.0	0.0017	0.0650	0.0678	0.0667	0.0277

Z = 53 IODINE [All Units: cm²/g]

E(MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.909E+04	0.842E+01	0.469E-02	0.0	0.0	9087.0	0.0	0.0	9098.4	9087.0	9087.0
.001072	0.786E+04	0.836E+01	0.527E-02	0.0	0.0	7858.0	0.0	0.0	7868.4	7858.0	7858.0
M1.001072	0.820E+04	0.836E+01	0.527E-02	0.0	0.0	8195.0	0.0	0.0	8208.4	8195.0	8195.0
0.0015	0.391E+04	0.796E+01	0.897E-02	0.0	0.0	3911.0	0.0	0.0	3918.0	3911.0	3911.0
0.0020	0.199E+04	0.745E+01	0.134E-01	0.0	0.0	1989.0	0.0	0.0	1997.5	1989.0	1989.0
0.0030	0.736E+03	0.646E+01	0.219E-01	0.0	0.0	735.5	0.0	0.0	742.5	735.5	735.5
0.0040	0.355E+03	0.563E+01	0.293E-01	0.0	0.0	355.1	0.0	0.0	360.7	355.1	355.1
.004557	0.254E+03	0.523E+01	0.330E-01	0.0	0.0	253.9	0.0	0.0	259.3	253.9	253.9
L3.004557	0.750E+03	0.523E+01	0.330E-01	0.0	0.0	705.2	0.0	0.0	755.3	705.2	705.2
.004852	0.659E+03	0.503E+01	0.348E-01	0.0	0.0	621.9	0.0	0.0	664.1	621.9	621.9
L2.004852	0.888E+03	0.503E+01	0.348E-01	0.0	0.0	838.7	0.0	0.0	893.1	838.7	838.7
0.0050	0.838E+03	0.494E+01	0.357E-01	0.0	0.0	838.7	0.0	0.0	843.0	838.7	838.0
.005188	0.762E+03	0.482E+01	0.368E-01	0.0	0.0	721.9	0.0	0.0	766.9	721.9	721.9
L1.005188	0.879E+03	0.482E+01	0.368E-01	0.0	0.0	832.9	0.0	0.0	883.9	832.9	832.9
0.0060	0.613E+03	0.436E+01	0.413E-01	0.0	0.0	613.1	0.0	0.0	617.4	613.1	613.1
0.0080	0.289E+03	0.345E+01	0.511E-01	0.0	0.0	288.6	0.0	0.0	292.5	288.6	288.6
0.0100	0.160E+03	0.280E+01	0.596E-01	0.0	0.0	155.4	0.0	0.0	162.9	155.4	155.4
0.0150	0.532E+02	0.184E+01	0.758E-01	0.0	0.0	52.24	0.0	0.0	55.12	52.24	52.24
0.0200	0.240E+02	0.131E+01	0.865E-01	0.0	0.0	23.71	0.0	0.0	25.40	23.71	23.71
0.0300	0.772E+01	0.745E+00	0.991E-01	0.0	0.0	7.64	0.01	0.0	8.56	7.65	7.65
.03317	0.581E+01	0.643E+00	0.102E+00	0.0	0.0	5.76	0.01	0.0	6.55	5.77	5.77
K .03317	0.351E+02	0.643E+00	0.102E+00	0.0	0.0	12.21	0.01	0.0	35.85	12.22	12.22
0.0400	0.215E+02	0.486E+00	0.106E+00	0.0	0.0	9.881	0.008	0.0	22.092	9.889	9.889
0.0500	0.119E+02	0.345E+00	0.109E+00	0.0	0.0	6.736	0.010	0.0	12.354	6.746	6.746
0.0600	0.721E+01	0.258E+00	0.111E+00	0.0	0.0	4.611	0.011	0.0	7.579	4.622	4.622
0.0800	0.324E+01	0.158E+00	0.112E+00	0.0	0.0	2.364	0.014	0.0	3.510	2.378	2.378
0.1000	0.172E+01	0.107E+00	0.110E+00	0.0	0.0	1.352	0.016	0.0	1.937	1.368	1.368
0.1500	0.542E+00	0.522E-01	0.104E+00	0.0	0.0	0.4637	0.0197	0.0	0.6982	0.4834	0.4833
0.2000	0.238E+00	0.309E-01	0.971E-01	0.0	0.0	0.2125	0.0217	0.0	0.3660	0.2342	0.2341
0.3000	0.765E-01	0.144E-01	0.863E-01	0.0	0.0	0.0710	0.0237	0.0	0.1772	0.0947	0.0945
0.4000	0.353E-01	0.829E-02	0.781E-01	0.0	0.0	0.0333	0.0245	0.0	0.1217	0.0578	0.0576
0.5000	0.199E-01	0.538E-02	0.717E-01	0.0	0.0	0.0190	0.0247	0.0	0.0970	0.0437	0.0434
0.6000	0.127E-01	0.377E-02	0.666E-01	0.0	0.0	0.0123	0.0246	0.0	0.0831	0.0369	0.0364
0.8000	0.660E-02	0.214E-02	0.587E-01	0.0	0.0	0.0065	0.0239	0.0	0.0674	0.0304	0.0299
1.0000	0.412E-02	0.138E-02	0.529E-01	0.0	0.0	0.0040	0.0232	0.0	0.0584	0.0272	0.0266
1.2500	0.264E-02	0.886E-03	0.474E-01	0.188E-03	0.0	0.0027	0.0221	0.0	0.0511	0.0248	0.0241
1.5000	0.189E-02	0.616E-03	0.431E-01	0.871E-03	0.0	0.0018	0.0211	0.0003	0.0465	0.0232	0.0224
2.0000	0.115E-02	0.348E-03	0.368E-01	0.294E-02	0.0	0.0011	0.0193	0.0014	0.0412	0.0218	0.0209
3.0000	0.611E-03	0.155E-03	0.290E-01	0.741E-02	0.101E-04	0.0006	0.0164	0.0049	0.0372	0.0219	0.0205
4.0000	0.405E-03	0.871E-04	0.242E-01	0.114E-01	0.413E-04	0.0004	0.0144	0.0085	0.0361	0.0233	0.0214
5.0000	0.299E-03	0.558E-04	0.209E-01	0.148E-01	0.823E-04	0.0003	0.0129	0.0118	0.0361	0.0250	0.0225
6.0000	0.236E-03	0.387E-04	0.185E-01	0.177E-01	0.126E-03	0.0002	0.0117	0.0148	0.0366	0.0267	0.0236
8.0000	0.165E-03	0.218E-04	0.151E-01	0.226E-01	0.212E-03	0.0002	0.0099	0.0200	0.0381	0.0300	0.0257
10.0000	0.126E-03	0.139E-04	0.129E-01	0.267E-01	0.291E-03	0.0001	0.0087	0.0242	0.0400	0.0331	0.0274
15.0000	0.792E-04	0.620E-05	0.952E-02	0.345E-01	0.454E-03	0.0001	0.0067	0.0325	0.0446	0.0393	0.0302
20.0000	0.575E-04	0.349E-05	0.764E-02	0.400E-01	0.579E-03	0.0001	0.0056	0.0384	0.0483	0.0441	0.0317
30.0000	0.371E-04	0.155E-05	0.556E-02	0.476E-01	0.761E-03	0.0	0.0042	0.0467	0.0540	0.0510	0.0328
40.0000	0.274E-04	0.872E-06	0.442E-02	0.527E-01	0.889E-03	0.0	0.0034	0.0522	0.0580	0.0557	0.0327
50.0000	0.217E-04	0.558E-06	0.369E-02	0.566E-01	0.987E-03	0.0	0.0029	0.0564	0.0613	0.0593	0.0321
60.0000	0.180E-04	0.387E-06	0.318E-02	0.596E-01	0.106E-02	0.0	0.0026	0.0596	0.0639	0.0622	0.0314
80.0000	0.133E-04	0.218E-06	0.251E-02	0.639E-01	0.118E-02	0.0	0.0021	0.0643	0.0676	0.0664	0.0298
100.0000	0.106E-04	0.139E-06	0.208E-02	0.671E-01	0.126E-02	0.0	0.0018	0.0676	0.0705	0.0694	0.0284

Z = 56 BARIUM [All Units: cm²/g]

E (MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.853E+04	0.852E+01	0.686E-02	0.0	0.0	8533.0	0.0	0.0	8538.5	8533.0	8533.0
.001062	0.746E+04	0.846E+01	0.739E-02	0.0	0.0	7459.0	0.0	0.0	7468.5	7459.0	7459.0
M3 .001062	0.854E+04	0.846E+01	0.739E-02	0.0	0.0	8538.0	0.0	0.0	8548.5	8538.0	8538.0
.001137	0.740E+04	0.838E+01	0.802E-02	0.0	0.0	7398.0	0.0	0.0	7408.4	7398.0	7398.0
M2 .001137	0.783E+04	0.838E+01	0.802E-02	0.0	0.0	7827.0	0.0	0.0	7838.4	7827.0	7827.0
.001293	0.598E+04	0.823E+01	0.926E-02	0.0	0.0	5981.0	0.0	0.0	5988.2	5981.0	5981.0
M1 .001293	0.625E+04	0.823E+01	0.926E-02	0.0	0.0	6249.0	0.0	0.0	6258.2	6249.0	6249.0
0.0015	0.449E+04	0.802E+01	0.109E-01	0.0	0.0	4490.0	0.0	0.0	4498.0	4490.0	4490.0
0.0020	0.231E+04	0.751E+01	0.149E-01	0.0	0.0	2311.0	0.0	0.0	2317.5	2311.0	2311.0
0.0030	0.863E+03	0.656E+01	0.225E-01	0.0	0.0	863.0	0.0	0.0	869.6	863.0	863.0
0.0040	0.419E+03	0.573E+01	0.295E-01	0.0	0.0	418.8	0.0	0.0	424.8	418.8	418.8
0.0050	0.236E+03	0.503E+01	0.358E-01	0.0	0.0	236.3	0.0	0.0	241.1	236.3	236.3
.005247	0.209E+03	0.488E+01	0.372E-01	0.0	0.0	208.6	0.0	0.0	213.9	208.6	208.6
L3 .005247	0.605E+03	0.488E+01	0.372E-01	0.0	0.0	561.2	0.0	0.0	609.9	561.2	561.2
.005624	0.512E+03	0.466E+01	0.393E-01	0.0	0.0	477.8	0.0	0.0	516.7	477.8	477.8
L2 .005624	0.697E+03	0.466E+01	0.393E-01	0.0	0.0	650.0	0.0	0.0	701.7	650.0	650.0
.005989	0.597E+03	0.446E+01	0.412E-01	0.0	0.0	559.2	0.0	0.0	601.5	559.2	559.2
L1 .005989	0.689E+03	0.446E+01	0.412E-01	0.0	0.0	645.5	0.0	0.0	693.5	645.5	645.5
0.0060	0.685E+03	0.446E+01	0.412E-01	0.0	0.0	685.4	0.0	0.0	689.5	685.4	685.4
0.0080	0.330E+03	0.355E+01	0.503E-01	0.0	0.0	329.8	0.0	0.0	333.6	329.8	329.8
0.0100	0.183E+03	0.290E+01	0.581E-01	0.0	0.0	176.1	0.0	0.0	186.0	176.1	176.1
0.0150	0.615E+02	0.191E+01	0.734E-01	0.0	0.0	59.93	0.0	0.0	63.48	59.93	59.93
0.0200	0.279E+02	0.137E+01	0.838E-01	0.0	0.0	27.40	0.0	0.0	29.35	27.40	27.40
0.0300	0.902E+01	0.787E+00	0.959E-01	0.0	0.0	8.90	0.01	0.0	9.90	8.91	8.91
.03744	0.483E+01	0.566E+00	0.101E+00	0.0	0.0	4.784	0.007	0.0	5.497	4.791	4.791
K .03744	0.285E+02	0.566E+00	0.101E+00	0.0	0.0	9.816	0.007	0.0	29.167	9.823	9.823
0.0400	0.240E+02	0.512E+00	0.102E+00	0.0	0.0	9.250	0.008	0.0	24.614	9.258	9.258
0.0500	0.133E+02	0.364E+00	0.106E+00	0.0	0.0	6.778	0.009	0.0	13.770	6.787	6.787
0.0600	0.813E+01	0.273E+00	0.108E+00	0.0	0.0	4.803	0.011	0.0	8.511	4.814	4.814
0.0800	0.369E+01	0.169E+00	0.108E+00	0.0	0.0	2.554	0.014	0.0	3.967	2.568	2.568
0.1000	0.197E+01	0.114E+00	0.107E+00	0.0	0.0	1.489	0.016	0.0	2.191	1.505	1.505
0.1500	0.626E+00	0.556E-01	0.101E+00	0.0	0.0	0.5237	0.0191	0.0	0.7826	0.5428	0.5427
0.2000	0.277E+00	0.330E-01	0.945E-01	0.0	0.0	0.2430	0.0211	0.0	0.4045	0.2641	0.2640
0.3000	0.895E-01	0.154E-01	0.841E-01	0.0	0.0	0.0822	0.0231	0.0	0.1890	0.1053	0.1051
0.4000	0.415E-01	0.890E-02	0.762E-01	0.0	0.0	0.0390	0.0238	0.0	0.1266	0.0628	0.0625
0.5000	0.235E-01	0.578E-02	0.700E-01	0.0	0.0	0.0223	0.0241	0.0	0.0993	0.0464	0.0460
0.6000	0.151E-01	0.405E-02	0.650E-01	0.0	0.0	0.0144	0.0240	0.0	0.0842	0.0384	0.0380
0.8000	0.782E-02	0.230E-02	0.573E-01	0.0	0.0	0.0076	0.0234	0.0	0.0674	0.0310	0.0304
1.0000	0.488E-02	0.148E-02	0.517E-01	0.0	0.0	0.0048	0.0226	0.0	0.0581	0.0274	0.0267
1.2500	0.315E-02	0.954E-03	0.463E-01	0.202E-03	0.0	0.0031	0.0216	0.0	0.0506	0.0247	0.0240
1.5000	0.226E-02	0.664E-03	0.421E-01	0.933E-03	0.0	0.0022	0.0206	0.0003	0.0460	0.0231	0.0223
2.0000	0.137E-02	0.374E-03	0.359E-01	0.310E-02	0.0	0.0014	0.0188	0.0015	0.0407	0.0217	0.0206
3.0000	0.726E-03	0.167E-03	0.283E-01	0.772E-02	0.989E-05	0.0007	0.0160	0.0051	0.0369	0.0218	0.0204
4.0000	0.480E-03	0.938E-04	0.236E-01	0.118E-01	0.403E-04	0.0005	0.0140	0.0088	0.0360	0.0233	0.0213
5.0000	0.355E-03	0.601E-04	0.204E-01	0.152E-01	0.803E-04	0.0004	0.0126	0.0122	0.0361	0.0251	0.0225
6.0000	0.280E-03	0.417E-04	0.180E-01	0.182E-01	0.123E-03	0.0003	0.0114	0.0152	0.0366	0.0269	0.0237
8.0000	0.195E-03	0.235E-04	0.147E-01	0.233E-01	0.207E-03	0.0002	0.0097	0.0205	0.0384	0.0304	0.0258
10.0000	0.149E-03	0.150E-04	0.126E-01	0.274E-01	0.284E-03	0.0001	0.0085	0.0249	0.0404	0.0335	0.0276
15.0000	0.934E-04	0.668E-05	0.930E-02	0.353E-01	0.443E-03	0.0001	0.0066	0.0334	0.0451	0.0400	0.0305
20.0000	0.679E-04	0.376E-05	0.746E-02	0.409E-01	0.564E-03	0.0001	0.0055	0.0394	0.0490	0.0449	0.0320
30.0000	0.438E-04	0.167E-05	0.543E-02	0.487E-01	0.742E-03	0.0	0.0042	0.0477	0.0549	0.0520	0.0331
40.0000	0.323E-04	0.939E-06	0.432E-02	0.540E-01	0.866E-03	0.0	0.0034	0.0534	0.0592	0.0569	0.0330
50.0000	0.256E-04	0.601E-06	0.360E-02	0.579E-01	0.961E-03	0.0	0.0029	0.0576	0.0625	0.0606	0.0324
60.0000	0.211E-04	0.417E-06	0.310E-02	0.609E-01	0.104E-02	0.0	0.0026	0.0608	0.0651	0.0635	0.0316
80.0000	0.157E-04	0.235E-06	0.245E-02	0.654E-01	0.115E-02	0.0	0.0021	0.0656	0.0690	0.0678	0.0301
100.0000	0.125E-04	0.150E-06	0.203E-02	0.686E-01	0.123E-02	0.0	0.0018	0.0691	0.0719	0.0709	0.0286

Z = 64 GADOLINIUM [All Units: cm²/g]

	E (MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
	0.0010	0.228E+04	0.988E+01	0.563E-02	0.0	0.0	2281.0	0.0	0.0	2289.9	2281.0	2281.0
	.001185	0.166E+04	0.969E+01	0.702E-02	0.0	0.0	1659.0	0.0	0.0	1669.7	1659.0	1659.0
M5	.001185	0.183E+04	0.969E+01	0.702E-02	0.0	0.0	1834.0	0.0	0.0	1839.7	1834.0	1834.0
	.001217	0.399E+04	0.966E+01	0.726E-02	0.0	0.0	3987.0	0.0	0.0	3999.7	3987.0	3987.0
M4	.001217	0.481E+04	0.966E+01	0.726E-02	0.0	0.0	4806.0	0.0	0.0	4819.7	4806.0	4806.0
	0.0015	0.503E+04	0.937E+01	0.928E-02	0.0	0.0	5032.0	0.0	0.0	5039.4	5032.0	5032.0
	.001544	0.469E+04	0.933E+01	0.960E-02	0.0	0.0	4691.0	0.0	0.0	4699.3	4691.0	4691.0
M3	.001544	0.542E+04	0.933E+01	0.960E-02	0.0	0.0	5423.0	0.0	0.0	5429.3	5423.0	5423.0
	.001688	0.441E+04	0.918E+01	0.106E-01	0.0	0.0	4412.0	0.0	0.0	4419.2	4412.0	4412.0
M2	.001688	0.468E+04	0.918E+01	0.106E-01	0.0	0.0	4684.0	0.0	0.0	4689.2	4684.0	4684.0
	.001881	0.368E+04	0.898E+01	0.120E-01	0.0	0.0	3683.0	0.0	0.0	3689.0	3683.0	3683.0
M1	.001881	0.384E+04	0.898E+01	0.120E-01	0.0	0.0	3845.0	0.0	0.0	3849.0	3845.0	3845.0
	0.0020	0.335E+04	0.885E+01	0.128E-01	0.0	0.0	3351.0	0.0	0.0	3358.9	3351.0	3351.0
	0.0030	0.128E+04	0.785E+01	0.196E-01	0.0	0.0	1284.0	0.0	0.0	1287.9	1284.0	1284.0
	0.0040	0.631E+03	0.692E+01	0.260E-01	0.0	0.0	631.1	0.0	0.0	637.9	631.1	631.1
	0.0050	0.359E+03	0.611E+01	0.318E-01	0.0	0.0	359.2	0.0	0.0	365.1	359.2	359.2
	0.0060	0.225E+03	0.542E+01	0.371E-01	0.0	0.0	225.1	0.0	0.0	230.5	225.1	225.1
	.007243	0.138E+03	0.470E+01	0.428E-01	0.0	0.0	138.1	0.0	0.0	142.7	138.1	138.1
L3	.007243	0.380E+03	0.470E+01	0.428E-01	0.0	0.0	335.7	0.0	0.0	384.7	335.7	335.7
	.007930	0.301E+03	0.436E+01	0.457E-01	0.0	0.0	268.8	0.0	0.0	305.4	268.8	268.8
L2	.007930	0.410E+03	0.436E+01	0.457E-01	0.0	0.0	366.8	0.0	0.0	414.4	366.8	366.8
	0.0080	0.402E+03	0.433E+01	0.460E-01	0.0	0.0	402.5	0.0	0.0	406.4	402.5	402.5
	.008376	0.359E+03	0.416E+01	0.475E-01	0.0	0.0	323.0	0.0	0.0	363.2	323.0	323.0
L1	.008376	0.415E+03	0.416E+01	0.475E-01	0.0	0.0	373.3	0.0	0.0	419.2	373.3	373.3
	0.0100	0.266E+03	0.353E+01	0.535E-01	0.0	0.0	243.4	0.0	0.0	269.6	243.4	243.4
	0.0150	0.910E+02	0.229E+01	0.682E-01	0.0	0.0	85.91	0.0	0.0	93.36	85.91	85.91
	0.0200	0.419E+02	0.164E+01	0.791E-01	0.0	0.0	40.14	0.0	0.0	43.62	40.14	40.14
	0.0300	0.138E+02	0.964E+00	0.923E-01	0.0	0.0	13.39	0.01	0.0	14.86	13.40	13.40
	0.0400	0.619E+01	0.628E+00	0.993E-01	0.0	0.0	6.063	0.007	0.0	6.917	6.070	6.070
	0.0500	0.331E+01	0.445E+00	0.103E+00	0.0	0.0	3.256	0.009	0.0	3.858	3.265	3.265
	.05024	0.327E+01	0.442E+00	0.103E+00	0.0	0.0	3.213	0.009	0.0	3.815	3.222	3.222
K	.05024	0.181E+02	0.442E+00	0.103E+00	0.0	0.0	5.847	0.009	0.0	18.645	5.856	5.856
	0.0600	0.113E+02	0.334E+00	0.105E+00	0.0	0.0	4.901	0.011	0.0	11.739	4.912	4.912
	0.0800	0.526E+01	0.209E+00	0.106E+00	0.0	0.0	3.024	0.013	0.0	5.575	3.037	3.037
	0.1000	0.286E+01	0.142E+00	0.105E+00	0.0	0.0	1.889	0.015	0.0	3.107	1.904	1.904
	0.1500	0.931E+00	0.694E-01	0.996E-01	0.0	0.0	0.7200	0.0189	0.0	1.1000	0.7389	0.7388
	0.2000	0.419E+00	0.413E-01	0.937E-01	0.0	0.0	0.3474	0.0210	0.0	0.5540	0.3684	0.3683
	0.3000	0.138E+00	0.195E-01	0.835E-01	0.0	0.0	0.1224	0.0230	0.0	0.2410	0.1454	0.1452
	0.4000	0.648E-01	0.113E-01	0.757E-01	0.0	0.0	0.0592	0.0238	0.0	0.1518	0.0830	0.0827
	0.5000	0.369E-01	0.732E-02	0.697E-01	0.0	0.0	0.0344	0.0240	0.0	0.1139	0.0584	0.0580
	0.6000	0.238E-01	0.514E-02	0.647E-01	0.0	0.0	0.0225	0.0239	0.0	0.0936	0.0464	0.0459
	0.8000	0.125E-01	0.293E-02	0.571E-01	0.0	0.0	0.0120	0.0233	0.0	0.0725	0.0353	0.0346
	1.0000	0.780E-02	0.189E-02	0.515E-01	0.0	0.0	0.0076	0.0225	0.0	0.0612	0.0301	0.0293
	1.2500	0.503E-02	0.122E-02	0.461E-01	0.254E-03	0.0	0.0049	0.0216	0.0	0.0526	0.0265	0.0256
	1.5000	0.359E-02	0.847E-03	0.420E-01	0.117E-02	0.0	0.0035	0.0206	0.0004	0.0476	0.0244	0.0234
	2.0000	0.218E-02	0.478E-03	0.358E-01	0.377E-02	0.0	0.0021	0.0187	0.0018	0.0422	0.0227	0.0215
	3.0000	0.115E-02	0.213E-03	0.282E-01	0.904E-02	0.987E-05	0.0011	0.0160	0.0060	0.0386	0.0231	0.0214
	4.0000	0.757E-03	0.120E-03	0.236E-01	0.135E-01	0.402E-04	0.0008	0.0141	0.0101	0.0380	0.0249	0.0225
	5.0000	0.558E-03	0.768E-04	0.204E-01	0.174E-01	0.801E-04	0.0006	0.0126	0.0139	0.0385	0.0270	0.0239
	6.0000	0.439E-03	0.533E-04	0.180E-01	0.207E-01	0.123E-03	0.0004	0.0114	0.0173	0.0393	0.0291	0.0252
	8.0000	0.305E-03	0.300E-04	0.147E-01	0.262E-01	0.206E-03	0.0003	0.0097	0.0230	0.0414	0.0330	0.0276
	10.0000	0.233E-03	0.192E-04	0.125E-01	0.308E-01	0.283E-03	0.0002	0.0085	0.0279	0.0438	0.0366	0.0294
	15.0000	0.146E-03	0.854E-05	0.928E-02	0.396E-01	0.440E-03	0.0001	0.0066	0.0373	0.0495	0.0440	0.0326
	20.0000	0.106E-03	0.480E-05	0.745E-02	0.457E-01	0.561E-03	0.0001	0.0055	0.0439	0.0538	0.0495	0.0341
	30.0000	0.679E-04	0.213E-05	0.542E-02	0.543E-01	0.736E-03	0.0001	0.0042	0.0532	0.0605	0.0575	0.0351
	40.0000	0.501E-04	0.120E-05	0.431E-02	0.602E-01	0.860E-03	0.0001	0.0034	0.0595	0.0654	0.0630	0.0348
	50.0000	0.396E-04	0.769E-06	0.360E-02	0.645E-01	0.952E-03	0.0	0.0030	0.0642	0.0691	0.0671	0.0341
	60.0000	0.328E-04	0.534E-06	0.310E-02	0.679E-01	0.103E-02	0.0	0.0026	0.0678	0.0721	0.0704	0.0333
	80.0000	0.243E-04	0.300E-06	0.244E-02	0.729E-01	0.114E-02	0.0	0.0021	0.0732	0.0765	0.0752	0.0316
	100.0000	0.194E-04	0.192E-06	0.203E-02	0.764E-01	0.122E-02	0.0	0.0018	0.0769	0.0797	0.0787	0.0300

Z = 74 TUNGSTEN [All Units: cm²/g]

	E (MeV)	τ/ρ	σ_κ/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
	0.0010	0.367E+04	0.114E+02	0.434E-02	0.0	0.0	3672.0	0.0	0.0	3681.4	3672.0	3672.0
	0.0015	0.163E+04	0.110E+02	0.751E-02	0.0	0.0	1633.0	0.0	0.0	1641.0	1633.0	1633.0
	.001809	0.110E+04	0.106E+02	0.938E-02	0.0	0.0	1097.0	0.0	0.0	1110.6	1097.0	1097.0
M5	.001809	0.130E+04	0.106E+02	0.938E-02	0.0	0.0	1305.0	0.0	0.0	1310.6	1305.0	1305.0
	.001872	0.285E+04	0.106E+02	0.975E-02	0.0	0.0	2854.0	0.0	0.0	2860.6	2854.0	2854.0
M4	.001872	0.311E+04	0.106E+02	0.975E-02	0.0	0.0	3112.0	0.0	0.0	3120.6	3112.0	3112.0
	0.0020	0.391E+04	0.104E+02	0.105E-01	0.0	0.0	3911.0	0.0	0.0	3920.4	3911.0	3911.0
	.002281	0.282E+04	0.101E+02	0.122E-01	0.0	0.0	2818.0	0.0	0.0	2830.1	2818.0	2818.0
M3	.002281	0.327E+04	0.101E+02	0.122E-01	0.0	0.0	3269.0	0.0	0.0	3280.1	3269.0	3269.0
	.002575	0.244E+04	0.982E+01	0.139E-01	0.0	0.0	2436.0	0.0	0.0	2449.8	2436.0	2436.0
M2	.002575	0.259E+04	0.982E+01	0.139E-01	0.0	0.0	2589.0	0.0	0.0	2599.8	2589.0	2589.0
	.002820	0.209E+04	0.955E+01	0.153E-01	0.0	0.0	2094.0	0.0	0.0	2099.6	2094.0	2094.0
M1	.002820	0.218E+04	0.955E+01	0.153E-01	0.0	0.0	2184.0	0.0	0.0	2189.6	2184.0	2184.0
	0.0030	0.189E+04	0.936E+01	0.163E-01	0.0	0.0	1893.0	0.0	0.0	1899.4	1893.0	1893.0
	0.0040	0.948E+03	0.837E+01	0.219E-01	0.0	0.0	947.9	0.0	0.0	956.4	947.9	947.9
	0.0050	0.546E+03	0.748E+01	0.271E-01	0.0	0.0	545.7	0.0	0.0	553.5	545.7	545.7
	0.0060	0.345E+03	0.670E+01	0.320E-01	0.0	0.0	344.6	0.0	0.0	351.7	344.6	344.6
	0.0080	0.165E+03	0.542E+01	0.407E-01	0.0	0.0	165.1	0.0	0.0	170.5	165.1	165.1
	0.0100	0.924E+02	0.445E+01	0.479E-01	0.0	0.0	92.4	0.0	0.0	96.9	92.4	92.4
	.01021	0.876E+02	0.436E+01	0.486E-01	0.0	0.0	87.6	0.0	0.0	92.0	87.6	87.6
L3	.01021	0.229E+03	0.436E+01	0.486E-01	0.0	0.0	185.2	0.0	0.0	233.4	185.2	185.2
	.01154	0.165E+03	0.386E+01	0.528E-01	0.0	0.0	137.1	0.0	0.0	168.9	137.1	137.1
L2	.01154	0.227E+03	0.386E+01	0.528E-01	0.0	0.0	188.9	0.0	0.0	230.9	188.9	188.9
	.01210	0.203E+03	0.368E+01	0.544E-01	0.0	0.0	170.1	0.0	0.0	206.7	170.1	170.1
L1	.01210	0.234E+03	0.368E+01	0.544E-01	0.0	0.0	196.7	0.0	0.0	237.7	196.7	196.7
	0.0150	0.136E+03	0.289E+01	0.620E-01	0.0	0.0	118.3	0.0	0.0	139.0	118.3	118.3
	0.0200	0.636E+02	0.204E+01	0.725E-01	0.0	0.0	57.42	0.0	0.0	65.71	57.42	57.42
	0.0300	0.214E+02	0.120E+01	0.864E-01	0.0	0.0	20.04	0.01	0.0	22.69	20.05	20.05
	0.0400	0.978E+01	0.794E+00	0.943E-01	0.0	0.0	9.304	0.007	0.0	10.668	9.311	9.311
	0.0500	0.529E+01	0.561E+00	0.986E-01	0.0	0.0	5.084	0.009	0.0	5.950	5.093	5.093
	0.0600	0.319E+01	0.421E+00	0.101E+00	0.0	0.0	3.088	0.010	0.0	3.712	3.098	3.098
	.06953	0.212E+01	0.332E+00	0.102E+00	0.0	0.0	2.058	0.012	0.0	2.554	2.070	2.070
K	.06953	0.108E+02	0.332E+00	0.102E+00	0.0	0.0	3.514	0.012	0.0	11.234	3.526	3.526
	0.0800	0.744E+01	0.264E+00	0.103E+00	0.0	0.0	3.079	0.013	0.0	7.807	3.092	3.092
	0.1000	0.415E+01	0.181E+00	0.102E+00	0.0	0.0	2.206	0.015	0.0	4.433	2.221	2.220
	0.1500	0.140E+01	0.888E-01	0.974E-01	0.0	0.0	0.9588	0.0186	0.0	1.5862	0.9774	0.9774
	0.2000	0.640E+00	0.529E-01	0.918E-01	0.0	0.0	0.4897	0.0206	0.0	0.7847	0.5103	0.5102
	0.3000	0.217E+00	0.251E-01	0.821E-01	0.0	0.0	0.1827	0.0227	0.0	0.3242	0.2054	0.2051
	0.4000	0.103E+00	0.146E-01	0.746E-01	0.0	0.0	0.0911	0.0235	0.0	0.1922	0.1146	0.1142
	0.5000	0.596E-01	0.954E-02	0.687E-01	0.0	0.0	0.0540	0.0237	0.0	0.1378	0.0777	0.0772
	0.6000	0.387E-01	0.671E-02	0.638E-01	0.0	0.0	0.0357	0.0236	0.0	0.1092	0.0593	0.0587
	0.8000	0.204E-01	0.384E-02	0.564E-01	0.0	0.0	0.0193	0.0230	0.0	0.0806	0.0423	0.0415
	1.0000	0.128E-01	0.248E-02	0.509E-01	0.0	0.0	0.0122	0.0223	0.0	0.0662	0.0345	0.0336
	1.2500	0.828E-02	0.160E-02	0.456E-01	0.323E-03	0.0	0.0080	0.0213	0.0001	0.0558	0.0293	0.0283
	1.5000	0.591E-02	0.111E-02	0.415E-01	0.151E-02	0.0	0.0057	0.0203	0.0005	0.0500	0.0265	0.0253
	2.0000	0.357E-02	0.629E-03	0.354E-01	0.468E-02	0.0	0.0035	0.0185	0.0023	0.0443	0.0243	0.0228
	3.0000	0.188E-02	0.281E-03	0.279E-01	0.107E-01	0.975E-05	0.0019	0.0158	0.0071	0.0408	0.0247	0.0226
	4.0000	0.123E-02	0.158E-03	0.233E-01	0.157E-01	0.398E-04	0.0012	0.0138	0.0117	0.0404	0.0267	0.0239
	5.0000	0.904E-03	0.101E-03	0.201E-01	0.198E-01	0.791E-04	0.0009	0.0123	0.0158	0.0410	0.0291	0.0254
	6.0000	0.710E-03	0.703E-04	0.178E-01	0.234E-01	0.121E-03	0.0007	0.0112	0.0195	0.0421	0.0314	0.0268
	8.0000	0.492E-03	0.396E-04	0.146E-01	0.294E-01	0.204E-03	0.0005	0.0095	0.0258	0.0447	0.0358	0.0293
	10.0000	0.375E-03	0.253E-04	0.124E-01	0.344E-01	0.279E-03	0.0004	0.0083	0.0312	0.0475	0.0398	0.0313
	15.0000	0.233E-03	0.113E-04	0.917E-02	0.440E-01	0.434E-03	0.0002	0.0064	0.0414	0.0538	0.0480	0.0345
	20.0000	0.169E-03	0.633E-05	0.736E-02	0.508E-01	0.553E-03	0.0002	0.0053	0.0488	0.0589	0.0542	0.0361
	30.0000	0.108E-03	0.281E-05	0.536E-02	0.603E-01	0.724E-03	0.0001	0.0040	0.0590	0.0665	0.0631	0.0369
	40.0000	0.798E-04	0.158E-05	0.426E-02	0.668E-01	0.843E-03	0.0001	0.0032	0.0660	0.0720	0.0693	0.0365
	50.0000	0.631E-04	0.101E-05	0.356E-02	0.716E-01	0.934E-03	0.0001	0.0028	0.0711	0.0762	0.0739	0.0357
	60.0000	0.522E-04	0.704E-06	0.306E-02	0.754E-01	0.100E-02	0.0001	0.0024	0.0751	0.0795	0.0775	0.0347
	80.0000	0.387E-04	0.396E-06	0.242E-02	0.809E-01	0.111E-02	0.0	0.0019	0.0810	0.0845	0.0829	0.0329
	100.0000	0.308E-04	0.253E-06	0.201E-02	0.847E-01	0.119E-02	0.0	0.0016	0.0850	0.0879	0.0867	0.0312

Z = 78 PLATINUM (All Units: cm²/g)

	E(MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
	0.0010	0.442E+04	0.121E+02	0.337E-02	0.0	0.0	4421.0	0.0	0.0	4432.1	4421.0	4421.0
	0.0015	0.197E+04	0.116E+02	0.621E-02	0.0	0.0	1975.0	0.0	0.0	1981.6	1975.0	1975.0
	0.0020	0.107E+04	0.111E+02	0.913E-02	0.0	0.0	1069.0	0.0	0.0	1081.1	1069.0	1069.0
	.002126	0.940E+03	0.109E+02	0.984E-02	0.0	0.0	939.7	0.0	0.0	950.9	939.7	939.7
M5	.002126	0.102E+04	0.109E+02	0.948E-02	0.0	0.0	1019.0	0.0	0.0	1030.9	1019.0	1019.0
	.002202	0.229E+04	0.108E+02	0.103E-01	0.0	0.0	2293.0	0.0	0.0	2300.8	2293.0	2293.0
M4	.002202	0.244E+04	0.108E+02	0.103E-01	0.0	0.0	2441.0	0.0	0.0	2450.8	2441.0	2441.0
	.002645	0.229E+04	0.103E+02	0.128E-01	0.0	0.0	2295.0	0.0	0.0	2300.3	2295.0	2295.0
M3	.002645	0.265E+04	0.103E+02	0.128E-01	0.0	0.0	2650.0	0.0	0.0	2660.3	2650.0	2650.0
	0.0030	0.196E+04	0.992E+01	0.148E-01	0.0	0.0	1955.0	0.0	0.0	1969.9	1955.0	1955.0
	.003026	0.191E+04	0.989E+01	0.150E-01	0.0	0.0	1913.0	0.0	0.0	1919.9	1913.0	1913.0
M2	.003026	0.203E+04	0.989E+01	0.150E-01	0.0	0.0	2031.0	0.0	0.0	2039.9	2031.0	2031.0
	.003296	0.166E+04	0.959E+01	0.164E-01	0.0	0.0	1661.0	0.0	0.0	1669.6	1661.0	1661.0
M1	.003296	0.173E+04	0.959E+01	0.164E-01	0.0	0.0	1732.0	0.0	0.0	1739.6	1732.0	1732.0
	0.0040	0.109E+04	0.884E+01	0.202E-01	0.0	0.0	1091.0	0.0	0.0	1098.9	1091.0	1091.0
	0.0050	0.632E+03	0.789E+01	0.253E-01	0.0	0.0	632.2	0.0	0.0	639.9	632.2	632.2
	0.0060	0.401E+03	0.706E+01	0.302E-01	0.0	0.0	401.0	0.0	0.0	408.1	401.0	401.0
	0.0080	0.193E+03	0.574E+01	0.391E-01	0.0	0.0	192.9	0.0	0.0	198.8	192.9	192.9
	0.0100	0.108E+03	0.474E+01	0.465E-01	0.0	0.0	108.4	0.0	0.0	112.8	108.4	108.4
	.01156	0.743E+02	0.412E+01	0.515E-01	0.0	0.0	74.3	0.0	0.0	78.5	74.3	74.3
L3	.01156	0.190E+03	0.412E+01	0.515E-01	0.0	0.0	147.1	0.0	0.0	194.2	147.1	147.1
	.01327	0.131E+03	0.356E+01	0.561E-01	0.0	0.0	105.3	0.0	0.0	134.6	105.3	105.3
L2	.01327	0.182E+03	0.356E+01	0.561E-01	0.0	0.0	145.7	0.0	0.0	185.6	145.7	145.7
	.01388	0.163E+03	0.339E+01	0.577E-01	0.0	0.0	132.2	0.0	0.0	166.4	132.2	132.2
L1	.01388	0.189E+03	0.339E+01	0.577E-01	0.0	0.0	152.9	0.0	0.0	192.4	152.9	152.9
	0.0150	0.155E+03	0.311E+01	0.604E-01	0.0	0.0	127.5	0.0	0.0	158.2	127.5	127.5
	0.0200	0.735E+02	0.219E+01	0.706E-01	0.0	0.0	63.81	0.0	0.0	75.76	63.81	63.81
	0.0300	0.250E+02	0.129E+01	0.844E-01	0.0	0.0	22.83	0.01	0.0	26.37	22.84	22.84
	0.0400	0.115E+02	0.859E+00	0.923E-01	0.0	0.0	10.74	0.01	0.0	12.45	10.75	10.75
	0.0500	0.625E+01	0.609E+00	0.968E-01	0.0	0.0	5.919	0.009	0.0	6.956	5.928	5.928
	0.0600	0.378E+01	0.456E+00	0.993E-01	0.0	0.0	3.619	0.010	0.0	4.335	3.629	3.629
	.07839	0.181E+01	0.296E+00	0.101E+00	0.0	0.0	1.745	0.013	0.0	2.207	1.758	1.758
K	.07839	0.898E+01	0.296E+00	0.101E+00	0.0	0.0	2.884	0.013	0.0	9.377	2.897	2.897
	0.0800	0.834E+01	0.286E+00	0.101E+00	0.0	0.0	2.793	0.013	0.0	8.727	2.806	2.806
	0.1000	0.470E+01	0.197E+00	0.101E+00	0.0	0.0	2.196	0.015	0.0	4.998	2.211	2.211
	0.1500	0.160E+01	0.969E-01	0.963E-01	0.0	0.0	1.034	0.018	0.0	1.793	1.052	1.052
	0.2000	0.741E+00	0.578E-01	0.909E-01	0.0	0.0	0.5438	0.0204	0.0	0.8897	0.5642	0.5640
	0.3000	0.254E+00	0.275E-01	0.814E-01	0.0	0.0	0.2086	0.0225	0.0	0.3629	0.2311	0.2308
	0.4000	0.122E+00	0.160E-01	0.740E-01	0.0	0.0	0.1055	0.0233	0.0	0.2120	0.1288	0.1284
	0.5000	0.706E-01	0.105E-01	0.681E-01	0.0	0.0	0.0631	0.0235	0.0	0.1492	0.0866	0.0860
	0.6000	0.461E-01	0.738E-02	0.633E-01	0.0	0.0	0.0420	0.0234	0.0	0.1168	0.0654	0.0648
	0.8000	0.244E-01	0.423E-02	0.560E-01	0.0	0.0	0.0228	0.0229	0.0	0.0846	0.0456	0.0448
	1.0000	0.153E-01	0.273E-02	0.505E-01	0.0	0.0	0.0145	0.0221	0.0	0.0685	0.0366	0.0356
	1.2500	0.990E-02	0.176E-02	0.453E-01	0.351E-03	0.0	0.0095	0.0211	0.0001	0.0573	0.0307	0.0295
	1.5000	0.705E-02	0.123E-02	0.412E-01	0.166E-02	0.0	0.0068	0.0201	0.0005	0.0511	0.0274	0.0262
	2.0000	0.427E-02	0.695E-03	0.352E-01	0.507E-02	0.0	0.0042	0.0184	0.0025	0.0452	0.0250	0.0235
	3.0000	0.223E-02	0.310E-03	0.277E-01	0.113E-01	0.969E-05	0.0022	0.0157	0.0075	0.0415	0.0253	0.0231
	4.0000	0.147E-02	0.175E-03	0.231E-01	0.164E-01	0.395E-04	0.0015	0.0137	0.0123	0.0412	0.0274	0.0244
	5.0000	0.107E-02	0.112E-03	0.200E-01	0.207E-01	0.785E-04	0.0011	0.0122	0.0165	0.0420	0.0298	0.0259
	6.0000	0.843E-03	0.778E-04	0.177E-01	0.244E-01	0.120E-03	0.0008	0.0111	0.0203	0.0431	0.0323	0.0274
	8.0000	0.584E-03	0.438E-04	0.145E-01	0.306E-01	0.202E-03	0.0006	0.0094	0.0269	0.0459	0.0368	0.0299
	10.0000	0.444E-03	0.280E-04	0.123E-01	0.357E-01	0.277E-03	0.0004	0.0082	0.0322	0.0487	0.0409	0.0319
	15.0000	0.276E-03	0.125E-04	0.912E-02	0.455E-01	0.431E-03	0.0003	0.0063	0.0429	0.0553	0.0494	0.0352
	20.0000	0.200E-03	0.700E-05	0.732E-02	0.526E-01	0.548E-03	0.0002	0.0052	0.0504	0.0607	0.0558	0.0367
	30.0000	0.128E-03	0.311E-05	0.533E-02	0.624E-01	0.717E-03	0.0001	0.0040	0.0609	0.0686	0.0650	0.0375
	40.0000	0.943E-04	0.175E-05	0.423E-02	0.691E-01	0.835E-03	0.0001	0.0032	0.0681	0.0743	0.0715	0.0371
	50.0000	0.745E-04	0.112E-05	0.353E-02	0.741E-01	0.924E-03	0.0001	0.0027	0.0735	0.0786	0.0763	0.0362
	60.0000	0.616E-04	0.779E-06	0.304E-02	0.779E-01	0.994E-03	0.0001	0.0024	0.0776	0.0820	0.0800	0.0353
	80.0000	0.457E-04	0.438E-06	0.240E-02	0.836E-01	0.110E-02	0.0	0.0019	0.0836	0.0871	0.0856	0.0334
	100.0000	0.364E-04	0.280E-06	0.199E-02	0.876E-01	0.117E-02	0.0	0.0016	0.0879	0.0908	0.0895	0.0317

Z = 82 LEAD [All Units: cm²/g]

E(MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.520E+04	0.125E+02	0.359E-02	0.0	0.0	5197.0	0.0	0.0	5212.5	5197.0	5197.0
0.0015	0.234E+04	0.120E+02	0.660E-02	0.0	0.0	2344.0	0.0	0.0	2352.0	2344.0	2344.0
0.0020	0.127E+04	0.114E+02	0.962E-02	0.0	0.0	1274.0	0.0	0.0	1281.4	1274.0	1274.0
.002484	0.790E+03	0.109E+02	0.124E-01	0.0	0.0	790.0	0.0	0.0	800.9	790.0	790.0
M5.002484	0.138E+04	0.109E+02	0.124E-01	0.0	0.0	1385.0	0.0	0.0	1390.9	1385.0	1385.0
.002586	0.193E+04	0.108E+02	0.130E-01	0.0	0.0	1933.0	0.0	0.0	1940.8	1933.0	1933.0
M4.002586	0.244E+04	0.108E+02	0.130E-01	0.0	0.0	2439.0	0.0	0.0	2450.8	2439.0	2439.0
0.0030	0.195E+04	0.103E+02	0.152E-01	0.0	0.0	1955.0	0.0	0.0	1960.3	1955.0	1955.0
.003066	0.185E+04	0.102E+02	0.156E-01	0.0	0.0	1847.0	0.0	0.0	1860.2	1847.0	1847.0
M3.003066	0.214E+04	0.102E+02	0.156E-01	0.0	0.0	2136.0	0.0	0.0	2150.2	2136.0	2136.0
.003554	0.149E+04	0.965E+01	0.181E-01	0.0	0.0	1486.0	0.0	0.0	1499.7	1486.0	1486.0
M2.003554	0.157E+04	0.965E+01	0.181E-01	0.0	0.0	1575.0	0.0	0.0	1579.7	1575.0	1575.0
.003851	0.130E+04	0.934E+01	0.196E-01	0.0	0.0	1302.0	0.0	0.0	1309.4	1302.0	1302.0
M1.003851	0.136E+04	0.934E+01	0.196E-01	0.0	0.0	1358.0	0.0	0.0	1369.4	1358.0	1358.0
0.0040	0.124E+04	0.918E+01	0.204E-01	0.0	0.0	1242.0	0.0	0.0	1249.2	1242.0	1242.0
0.0050	0.722E+03	0.821E+01	0.252E-01	0.0	0.0	722.2	0.0	0.0	730.2	722.2	722.2
0.0060	0.460E+03	0.736E+01	0.297E-01	0.0	0.0	459.8	0.0	0.0	467.4	459.8	459.8
0.0080	0.223E+03	0.600E+01	0.381E-01	0.0	0.0	222.6	0.0	0.0	229.0	222.6	222.6
0.0100	0.126E+03	0.498E+01	0.454E-01	0.0	0.0	125.6	0.0	0.0	131.0	125.6	125.6
.01304	0.631E+02	0.385E+01	0.543E-01	0.0	0.0	63.1	0.0	0.0	67.0	63.1	63.1
L3 .01304	0.158E+03	0.385E+01	0.543E-01	0.0	0.0	117.1	0.0	0.0	161.9	117.1	117.1
0.0150	0.108E+03	0.331E+01	0.592E-01	0.0	0.0	108.2	0.0	0.0	111.4	108.2	108.2
.01520	0.104E+03	0.326E+01	0.596E-01	0.0	0.0	81.2	0.0	0.0	107.3	81.2	81.2
L2 .01520	0.145E+03	0.326E+01	0.596E-01	0.0	0.0	112.8	0.0	0.0	148.3	112.8	112.8
.01586	0.131E+03	0.310E+01	0.611E-01	0.0	0.0	103.2	0.0	0.0	134.2	103.2	103.2
L1 .01586	0.152E+03	0.310E+01	0.611E-01	0.0	0.0	119.2	0.0	0.0	155.2	119.2	119.2
0.0200	0.840E+02	0.234E+01	0.690E-01	0.0	0.0	69.74	0.0	0.0	86.41	69.74	69.74
0.0300	0.289E+02	0.138E+01	0.823E-01	0.0	0.0	25.60	0.0	0.0	30.36	25.60	25.60
0.0400	0.133E+02	0.920E+00	0.902E-01	0.0	0.0	12.21	0.01	0.0	14.31	12.22	12.22
0.0500	0.729E+01	0.655E+00	0.948E-01	0.0	0.0	6.797	0.009	0.0	8.040	6.806	6.806
0.0600	0.443E+01	0.490E+00	0.973E-01	0.0	0.0	4.182	0.010	0.0	5.017	4.192	4.192
0.0800	0.201E+01	0.308E+00	0.992E-01	0.0	0.0	1.927	0.013	0.0	2.417	1.940	1.940
.08805	0.155E+01	0.263E+00	0.993E-01	0.0	0.0	1.488	0.013	0.0	1.912	1.501	1.501
K .08805	0.732E+01	0.263E+00	0.993E-01	0.0	0.0	2.409	0.013	0.0	7.682	2.422	2.422
0.1000	0.524E+01	0.213E+00	0.989E-01	0.0	0.0	2.145	0.015	0.0	5.552	2.159	2.159
0.1500	0.181E+01	0.105E+00	0.948E-01	0.0	0.0	1.101	0.018	0.0	2.010	1.119	1.118
0.2000	0.846E+00	0.626E-01	0.897E-01	0.0	0.0	0.5964	0.0202	0.0	0.9983	0.6166	0.6165
0.3000	0.293E+00	0.299E-01	0.804E-01	0.0	0.0	0.2353	0.0222	0.0	0.4033	0.2575	0.2572
0.4000	0.142E+00	0.175E-01	0.731E-01	0.0	0.0	0.1208	0.0230	0.0	0.2326	0.1438	0.1434
0.5000	0.826E-01	0.114E-01	0.673E-01	0.0	0.0	0.0728	0.0232	0.0	0.1613	0.0960	0.0955
0.6000	0.541E-01	0.806E-02	0.626E-01	0.0	0.0	0.0488	0.0231	0.0	0.1248	0.0719	0.0712
0.8000	0.287E-01	0.462E-02	0.554E-01	0.0	0.0	0.0266	0.0226	0.0	0.0887	0.0492	0.0483
1.0000	0.181E-01	0.299E-02	0.499E-01	0.0	0.0	0.0171	0.0218	0.0	0.0710	0.0389	0.0379
1.2500	0.117E-01	0.193E-02	0.448E-01	0.378E-03	0.0	0.0111	0.0209	0.0001	0.0588	0.0321	0.0309
1.5000	0.832E-02	0.135E-02	0.407E-01	0.181E-02	0.0	0.0080	0.0199	0.0006	0.0522	0.0284	0.0271
2.0000	0.503E-02	0.763E-03	0.348E-01	0.545E-02	0.0	0.0049	0.0181	0.0027	0.0460	0.0257	0.0241
3.0000	0.263E-02	0.341E-03	0.274E-01	0.119E-01	0.959E-05	0.0026	0.0155	0.0078	0.0423	0.0259	0.0236
4.0000	0.172E-02	0.192E-03	0.229E-01	0.171E-01	0.391E-04	0.0017	0.0135	0.0128	0.0420	0.0280	0.0248
5.0000	0.126E-02	0.123E-03	0.198E-01	0.215E-01	0.777E-04	0.0012	0.0121	0.0172	0.0428	0.0305	0.0264
6.0000	0.989E-03	0.854E-04	0.175E-01	0.252E-01	0.119E-03	0.0010	0.0110	0.0210	0.0439	0.0330	0.0279
8.0000	0.684E-03	0.481E-04	0.143E-01	0.315E-01	0.200E-03	0.0007	0.0093	0.0276	0.0467	0.0376	0.0304
10.0000	0.520E-03	0.308E-04	0.122E-01	0.367E-01	0.274E-03	0.0005	0.0081	0.0332	0.0497	0.0418	0.0325
15.0000	0.323E-03	0.137E-04	0.902E-02	0.468E-01	0.425E-03	0.0003	0.0062	0.0440	0.0566	0.0506	0.0358
20.0000	0.233E-03	0.770E-05	0.724E-02	0.540E-01	0.541E-03	0.0002	0.0052	0.0518	0.0620	0.0572	0.0374
30.0000	0.150E-03	0.342E-05	0.527E-02	0.641E-01	0.708E-03	0.0001	0.0039	0.0626	0.0702	0.0666	0.0383
40.0000	0.110E-03	0.192E-05	0.419E-02	0.710E-01	0.825E-03	0.0001	0.0032	0.0700	0.0761	0.0733	0.0378
50.0000	0.870E-04	0.123E-05	0.350E-02	0.761E-01	0.912E-03	0.0001	0.0027	0.0754	0.0806	0.0782	0.0370
60.0000	0.719E-04	0.855E-06	0.301E-02	0.800E-01	0.981E-03	0.0001	0.0024	0.0796	0.0841	0.0820	0.0360
80.0000	0.534E-04	0.481E-06	0.238E-02	0.858E-01	0.108E-02	0.0001	0.0019	0.0858	0.0893	0.0878	0.0340
100.0000	0.424E-04	0.308E-06	0.197E-02	0.899E-01	0.116E-02	0.0	0.0016	0.0902	0.0931	0.0918	0.0323

Z = 92 URANIUM [All Units: cm²/g]

	E(MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
	0.0010	0.661E+04	0.136E+02	0.453E-02	0.0	0.0	6613.0	0.0	0.0	6623.6	6613.0	6613.0
	.001045	0.611E+04	0.135E+02	0.479E-02	0.0	0.0	6114.0	0.0	0.0	6123.5	6114.0	6114.0
N3	.001045	0.651E+04	0.135E+02	0.479E-02	0.0	0.0	6506.0	0.0	0.0	6523.5	6506.0	6506.0
	.001273	0.451E+04	0.132E+02	0.612E-02	0.0	0.0	4513.0	0.0	0.0	4523.2	4513.0	4513.0
N2	.001273	0.458E+04	0.132E+02	0.612E-02	0.0	0.0	4576.0	0.0	0.0	4593.2	4576.0	4576.0
	.001441	0.358E+04	0.130E+02	0.711E-02	0.0	0.0	3585.0	0.0	0.0	3593.0	3585.0	3585.0
N1	.001441	0.366E+04	0.130E+02	0.711E-02	0.0	0.0	3655.0	0.0	0.0	3673.0	3655.0	3655.0
	0.0015	0.337E+04	0.129E+02	0.745E-02	0.0	0.0	3367.0	0.0	0.0	3382.9	3367.0	3367.0
	0.0020	0.185E+04	0.123E+02	0.103E-01	0.0	0.0	1853.0	0.0	0.0	1862.3	1853.0	1853.0
	0.0030	0.758E+03	0.110E+02	0.159E-01	0.0	0.0	758.2	0.0	0.0	769.0	758.2	758.2
	.003552	0.515E+03	0.104E+02	0.189E-01	0.0	0.0	515.3	0.0	0.0	525.4	515.3	515.3
M5	.003552	0.126E+04	0.104E+02	0.189E-01	0.0	0.0	1255.0	0.0	0.0	1270.4	1255.0	1255.0
	.003728	0.110E+04	0.102E+02	0.198E-01	0.0	0.0	1102.0	0.0	0.0	1110.2	1102.0	1102.0
M4	.003728	0.157E+04	0.102E+02	0.198E-01	0.0	0.0	1571.0	0.0	0.0	1580.2	1571.0	1571.0
	0.0040	0.132E+04	0.985E+01	0.212E-01	0.0	0.0	1319.0	0.0	0.0	1329.9	1319.0	1319.0
	.004303	0.110E+04	0.953E+01	0.226E-01	0.0	0.0	1101.0	0.0	0.0	1109.6	1101.0	1101.0
M3	.004303	0.128E+04	0.953E+01	0.226E-01	0.0	0.0	1282.0	0.0	0.0	1289.6	1282.0	1282.0
	0.0050	0.880E+03	0.884E+01	0.259E-01	0.0	0.0	880.1	0.0	0.0	888.9	880.1	880.1
	.005182	0.803E+03	0.867E+01	0.267E-01	0.0	0.0	802.9	0.0	0.0	811.7	802.9	802.9
M2	.005182	0.852E+03	0.867E+01	0.267E-01	0.0	0.0	852.3	0.0	0.0	860.7	852.3	852.3
	.005548	0.720E+03	0.835E+01	0.282E-01	0.0	0.0	719.7	0.0	0.0	728.4	719.7	719.7
M1	.005548	0.751E+03	0.835E+01	0.282E-01	0.0	0.0	750.6	0.0	0.0	759.4	750.6	750.6
	0.0060	0.620E+03	0.797E+01	0.301E-01	0.0	0.0	620.3	0.0	0.0	628.0	620.3	620.3
	0.0080	0.304E+03	0.657E+01	0.375E-01	0.0	0.0	304.1	0.0	0.0	310.6	304.1	304.1
	0.0100	0.174E+03	0.550E+01	0.440E-01	0.0	0.0	173.5	0.0	0.0	179.5	173.5	173.5
	0.0150	0.615E+02	0.373E+01	0.570E-01	0.0	0.0	61.47	0.0	0.0	65.29	61.47	61.47
	.01717	0.433E+02	0.322E+01	0.614E-01	0.0	0.0	43.34	0.0	0.0	46.58	43.34	43.34
L3	.01717	0.104E+03	0.322E+01	0.614E-01	0.0	0.0	67.48	0.0	0.0	107.28	67.48	67.48
	0.0200	0.683E+02	0.269E+01	0.663E-01	0.0	0.0	68.31	0.0	0.0	71.06	68.31	68.31
	.02095	0.604E+02	0.254E+01	0.677E-01	0.0	0.0	43.11	0.0	0.0	63.01	43.11	43.11
L2	.02095	0.858E+02	0.254E+01	0.677E-01	0.0	0.0	61.23	0.0	0.0	88.41	61.23	61.23
	.02176	0.777E+02	0.242E+01	0.689E-01	0.0	0.0	56.33	0.0	0.0	80.19	56.33	56.33
L1	.02176	0.897E+02	0.242E+01	0.689E-01	0.0	0.0	65.00	0.0	0.0	92.19	65.00	65.00
	0.0300	0.396E+02	0.158E+01	0.783E-01	0.0	0.0	31.71	0.0	0.0	41.26	31.71	31.71
	0.0400	0.187E+02	0.107E+01	0.858E-01	0.0	0.0	15.88	0.01	0.0	19.86	15.89	15.89
	0.0500	0.104E+02	0.768E+00	0.903E-01	0.0	0.0	9.111	0.008	0.0	11.258	9.119	9.119
	0.0600	0.636E+01	0.578E+00	0.930E-01	0.0	0.0	5.727	0.010	0.0	7.031	5.737	5.737
	0.0800	0.294E+01	0.363E+00	0.952E-01	0.0	0.0	2.717	0.012	0.0	3.398	2.729	2.729
	0.1000	0.161E+01	0.252E+00	0.951E-01	0.0	0.0	1.511	0.014	0.0	1.957	1.525	1.525
	.11560	0.109E+01	0.197E+00	0.943E-01	0.0	0.0	1.030	0.015	0.0	1.381	1.045	1.045
K	.11560	0.460E+01	0.197E+00	0.943E-01	0.0	0.0	1.577	0.015	0.0	4.891	1.592	1.592
	0.1500	0.237E+01	0.126E+00	0.916E-01	0.0	0.0	1.170	0.018	0.0	2.588	1.188	1.188
	0.2000	0.114E+01	0.754E-01	0.868E-01	0.0	0.0	0.7040	0.0196	0.0	1.3022	0.7236	0.7235
	0.3000	0.405E+00	0.362E-01	0.780E-01	0.0	0.0	0.3024	0.0216	0.0	0.5192	0.3240	0.3237
	0.4000	0.200E+00	0.213E-01	0.711E-01	0.0	0.0	0.1618	0.0224	0.0	0.2924	0.1842	0.1838
	0.5000	0.118E+00	0.140E-01	0.655E-01	0.0	0.0	0.1001	0.0226	0.0	0.1975	0.1227	0.1221
	0.6000	0.781E-01	0.992E-02	0.610E-01	0.0	0.0	0.0681	0.0226	0.0	0.1490	0.0907	0.0900
	0.8000	0.419E-01	0.571E-02	0.540E-01	0.0	0.0	0.0380	0.0220	0.0	0.1016	0.0600	0.0590
	1.0000	0.265E-01	0.371E-02	0.487E-01	0.0	0.0	0.0245	0.0213	0.0	0.0789	0.0458	0.0447
	1.2500	0.172E-01	0.240E-02	0.437E-01	0.445E-03	0.0	0.0162	0.0204	0.0001	0.0637	0.0366	0.0353
	1.5000	0.122E-01	0.168E-02	0.398E-01	0.220E-02	0.0	0.0116	0.0194	0.0007	0.0559	0.0317	0.0302
	2.0000	0.738E-02	0.952E-03	0.340E-01	0.644E-02	0.0	0.0071	0.0177	0.0031	0.0488	0.0280	0.0261
	3.0000	0.385E-02	0.426E-03	0.268E-01	0.134E-01	0.935E-05	0.0038	0.0151	0.0088	0.0445	0.0277	0.0250
	4.0000	0.251E-02	0.240E-03	0.224E-01	0.188E-01	0.381E-04	0.0025	0.0132	0.0140	0.0440	0.0297	0.0260
	5.0000	0.183E-02	0.154E-03	0.193E-01	0.233E-01	0.758E-04	0.0018	0.0118	0.0185	0.0447	0.0321	0.0275
	6.0000	0.143E-02	0.107E-03	0.171E-01	0.271E-01	0.116E-03	0.0014	0.0107	0.0226	0.0459	0.0347	0.0289
	8.0000	0.989E-03	0.603E-04	0.140E-01	0.336E-01	0.195E-03	0.0010	0.0090	0.0295	0.0488	0.0395	0.0314
	10.0000	0.751E-03	0.386E-04	0.119E-01	0.390E-01	0.267E-03	0.0007	0.0079	0.0353	0.0520	0.0439	0.0334
	15.0000	0.465E-03	0.172E-04	0.881E-02	0.496E-01	0.414E-03	0.0005	0.0061	0.0466	0.0593	0.0531	0.0368
	20.0000	0.335E-03	0.966E-05	0.707E-02	0.572E-01	0.526E-03	0.0003	0.0050	0.0548	0.0651	0.0601	0.0384
	30.0000	0.215E-03	0.429E-05	0.515E-02	0.678E-01	0.688E-03	0.0002	0.0038	0.0662	0.0739	0.0702	0.0391
	40.0000	0.158E-03	0.241E-05	0.409E-02	0.751E-01	0.800E-03	0.0002	0.0031	0.0740	0.0802	0.0772	0.0386
	50.0000	0.125E-03	0.155E-05	0.342E-02	0.805E-01	0.884E-03	0.0001	0.0026	0.0797	0.0849	0.0825	0.0376
	60.0000	0.103E-03	0.107E-05	0.294E-02	0.847E-01	0.950E-03	0.0001	0.0023	0.0841	0.0887	0.0866	0.0366
	80.0000	0.763E-04	0.604E-06	0.232E-02	0.908E-01	0.105E-02	0.0001	0.0018	0.0907	0.0942	0.0926	0.0346
	100.0000	0.607E-04	0.386E-06	0.193E-02	0.952E-01	0.112E-02	0.0001	0.0016	0.0953	0.0983	0.0970	0.0329

A-150 TISSUE-EQUIVALENT PLASTIC [All Units: cm²/g]

E (MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.226E+04	0.109E+01	0.161E-01	0.0	0.0	2258.0	0.0	0.0	2261.1	2258.0	2258.0
0.0015	0.727E+03	0.974E+00	0.318E-01	0.0	0.0	727.3	0.0	0.0	728.0	727.3	727.3
0.0020	0.317E+03	0.852E+00	0.486E-01	0.0	0.0	317.4	0.0	0.0	317.9	317.4	317.4
0.0030	0.958E+02	0.638E+00	0.791E-01	0.0	0.0	95.79	0.0	0.0	96.52	95.79	95.79
0.0040	0.402E+02	0.484E+00	0.102E+00	0.0	0.0	40.22	0.0	0.0	40.79	40.22	40.22
0.0050	0.302E+02	0.380E+00	0.119E+00	0.0	0.0	30.18	0.0	0.0	30.70	30.18	30.18
0.0060	0.177E+02	0.309E+00	0.131E+00	0.0	0.0	17.69	0.0	0.0	18.14	17.69	17.69
0.0080	0.755E+01	0.221E+00	0.146E+00	0.0	0.0	7.545	0.003	0.0	7.917	7.548	7.548
0.0100	0.386E+01	0.170E+00	0.157E+00	0.0	0.0	3.764	0.003	0.0	4.187	3.767	3.767
0.0150	0.112E+01	0.103E+00	0.171E+00	0.0	0.0	1.101	0.005	0.0	1.394	1.106	1.106
0.0200	0.460E+00	0.679E-01	0.179E+00	0.0	0.0	0.4535	0.0069	0.0	0.7069	0.4604	0.4604
0.0300	0.129E+00	0.355E-01	0.184E+00	0.0	0.0	0.1278	0.0100	0.0	0.3485	0.1378	0.1378
0.0400	0.519E-01	0.217E-01	0.183E+00	0.0	0.0	0.0514	0.0127	0.0	0.2566	0.0641	0.0641
0.0500	0.255E-01	0.146E-01	0.180E+00	0.0	0.0	0.0253	0.0149	0.0	0.2201	0.0402	0.0402
0.0600	0.142E-01	0.105E-01	0.176E+00	0.0	0.0	0.0142	0.0168	0.0	0.2007	0.0310	0.0310
0.0800	0.563E-02	0.613E-02	0.169E+00	0.0	0.0	0.0055	0.0201	0.0	0.1808	0.0256	0.0256
0.1000	0.275E-02	0.401E-02	0.161E+00	0.0	0.0	0.0028	0.0224	0.0	0.1678	0.0252	0.0252
0.1500	0.751E-03	0.182E-02	0.146E+00	0.0	0.0	0.0008	0.0266	0.0	0.1486	0.0274	0.0274
0.2000	0.303E-03	0.104E-02	0.134E+00	0.0	0.0	0.0003	0.0291	0.0	0.1353	0.0294	0.0294
0.3000	0.873E-04	0.464E-03	0.117E+00	0.0	0.0	0.0	0.0316	0.0	0.1176	0.0316	0.0316
0.4000	0.379E-04	0.262E-03	0.105E+00	0.0	0.0	0.0	0.0325	0.0	0.1053	0.0325	0.0324
0.5000	0.206E-04	0.168E-03	0.956E-01	0.0	0.0	0.0	0.0326	0.0	0.0958	0.0327	0.0326
0.6000	0.129E-04	0.117E-03	0.884E-01	0.0	0.0	0.0	0.0325	0.0	0.0885	0.0325	0.0325
0.8000	0.651E-05	0.657E-04	0.777E-01	0.0	0.0	0.0	0.0317	0.0	0.0778	0.0318	0.0317
1.0000	0.405E-05	0.420E-04	0.699E-01	0.0	0.0	0.0	0.0307	0.0	0.0699	0.0307	0.0307
1.2500	0.258E-05	0.269E-04	0.625E-01	0.146E-04	0.0	0.0	0.0294	0.0	0.0625	0.0294	0.0293
1.5000	0.187E-05	0.187E-04	0.568E-01	0.807E-04	0.0	0.0	0.0281	0.0	0.0569	0.0281	0.0280
2.0000	0.116E-05	0.105E-04	0.485E-01	0.321E-03	0.0	0.0	0.0257	0.0002	0.0488	0.0258	0.0258
3.0000	0.642E-06	0.467E-05	0.381E-01	0.919E-03	0.133E-04	0.0	0.0220	0.0006	0.0390	0.0226	0.0224
4.0000	0.437E-06	0.263E-05	0.318E-01	0.149E-02	0.545E-04	0.0	0.0193	0.0012	0.0333	0.0204	0.0202
5.0000	0.330E-06	0.168E-05	0.275E-01	0.200E-02	0.109E-03	0.0	0.0172	0.0017	0.0296	0.0189	0.0187
6.0000	0.264E-06	0.117E-05	0.243E-01	0.246E-02	0.167E-03	0.0	0.0156	0.0022	0.0269	0.0178	0.0175
8.0000	0.188E-06	0.657E-06	0.199E-01	0.323E-02	0.281E-03	0.0	0.0133	0.0031	0.0234	0.0163	0.0159
10.0000	0.146E-06	0.421E-06	0.169E-01	0.387E-02	0.387E-03	0.0	0.0115	0.0038	0.0212	0.0154	0.0149
15.0000	0.934E-07	0.187E-06	0.125E-01	0.506E-02	0.607E-03	0.0	0.0089	0.0053	0.0182	0.0142	0.0135
20.0000	0.686E-07	0.105E-06	0.100E-01	0.593E-02	0.780E-03	0.0	0.0073	0.0064	0.0167	0.0137	0.0128
30.0000	0.448E-07	0.467E-07	0.731E-02	0.715E-02	0.104E-02	0.0	0.0055	0.0079	0.0155	0.0134	0.0121
40.0000	0.332E-07	0.263E-07	0.581E-02	0.799E-02	0.123E-02	0.0	0.0045	0.0090	0.0150	0.0135	0.0118
50.0000	0.264E-07	0.168E-07	0.485E-02	0.863E-02	0.137E-02	0.0	0.0038	0.0098	0.0149	0.0136	0.0115
60.0000	0.219E-07	0.117E-07	0.418E-02	0.913E-02	0.149E-02	0.0	0.0033	0.0104	0.0148	0.0137	0.0114
80.0000	0.163E-07	0.657E-08	0.330E-02	0.990E-02	0.168E-02	0.0	0.0027	0.0115	0.0149	0.0141	0.0111
100.0000	0.130E-07	0.421E-08	0.274E-02	0.105E-01	0.182E-02	0.0	0.0023	0.0122	0.0151	0.0144	0.0109

ADIPOSE TISSUE (ICRP) [All Units: cm^2/g]

E (MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.251E+04	0.110E+01	0.162E-01	0.0	0.0	2509.0	0.0	0.0	2511.1	2509.0	2509.0
0.0015	0.818E+03	0.987E+00	0.321E-01	0.0	0.0	818.2	0.0	0.0	819.0	818.2	818.2
0.0020	0.359E+03	0.869E+00	0.493E-01	0.0	0.0	359.2	0.0	0.0	359.9	359.2	359.2
0.0030	0.112E+03	0.655E+00	0.805E-01	0.0	0.0	111.8	0.0	0.0	112.7	111.8	111.8
0.0040	0.475E+02	0.498E+00	0.105E+00	0.0	0.0	47.48	0.0	0.0	48.10	47.48	47.48
0.0050	0.241E+02	0.390E+00	0.122E+00	0.0	0.0	24.11	0.0	0.0	24.61	24.11	24.11
0.0060	0.138E+02	0.315E+00	0.134E+00	0.0	0.0	13.77	0.0	0.0	14.25	13.77	13.77
0.0080	0.564E+01	0.223E+00	0.150E+00	0.0	0.0	5.635	0.003	0.0	6.013	5.638	5.638
0.0100	0.280E+01	0.169E+00	0.160E+00	0.0	0.0	2.791	0.003	0.0	3.129	2.794	2.794
0.0150	0.769E+00	0.100E+00	0.175E+00	0.0	0.0	0.7673	0.0052	0.0	1.0440	0.7725	0.7725
0.0200	0.304E+00	0.665E-01	0.182E+00	0.0	0.0	0.3035	0.0070	0.0	0.5525	0.3105	0.3105
0.0300	0.811E-01	0.348E-01	0.187E+00	0.0	0.0	0.0810	0.0102	0.0	0.3029	0.0912	0.0912
0.0400	0.315E-01	0.212E-01	0.186E+00	0.0	0.0	0.0315	0.0129	0.0	0.2387	0.0444	0.0444
0.0500	0.151E-01	0.142E-01	0.183E+00	0.0	0.0	0.0150	0.0152	0.0	0.2123	0.0302	0.0302
0.0600	0.827E-02	0.102E-01	0.179E+00	0.0	0.0	0.0083	0.0171	0.0	0.1975	0.0254	0.0254
0.0800	0.319E-02	0.596E-02	0.171E+00	0.0	0.0	0.0032	0.0203	0.0	0.1802	0.0235	0.0235
0.1000	0.153E-02	0.389E-02	0.164E+00	0.0	0.0	0.0015	0.0228	0.0	0.1694	0.0244	0.0244
0.1500	0.404E-03	0.177E-02	0.148E+00	0.0	0.0	0.0004	0.0270	0.0	0.1502	0.0275	0.0275
0.2000	0.160E-03	0.100E-02	0.136E+00	0.0	0.0	0.0002	0.0295	0.0	0.1372	0.0297	0.0297
0.3000	0.451E-04	0.448E-03	0.119E+00	0.0	0.0	0.0	0.0321	0.0	0.1195	0.0321	0.0321
0.4000	0.193E-04	0.253E-03	0.106E+00	0.0	0.0	0.0	0.0328	0.0	0.1063	0.0330	0.0330
0.5000	0.104E-04	0.162E-03	0.972E-01	0.0	0.0	0.0	0.0332	0.0	0.0974	0.0332	0.0332
0.6000	0.649E-05	0.112E-03	0.900E-01	0.0	0.0	0.0	0.0331	0.0	0.0901	0.0331	0.0330
0.8000	0.328E-05	0.633E-04	0.790E-01	0.0	0.0	0.0	0.0323	0.0	0.0791	0.0323	0.0323
1.0000	0.204E-05	0.405E-04	0.711E-01	0.0	0.0	0.0	0.0313	0.0	0.0711	0.0313	0.0312
1.2500	0.128E-05	0.259E-04	0.636E-01	0.145E-04	0.0	0.0	0.0299	0.0	0.0636	0.0299	0.0298
1.5000	0.932E-06	0.180E-04	0.578E-01	0.804E-04	0.0	0.0	0.0286	0.0	0.0579	0.0286	0.0285
2.0000	0.586E-06	0.101E-04	0.493E-01	0.320E-03	0.0	0.0	0.0261	0.0002	0.0496	0.0263	0.0262
3.0000	0.328E-06	0.451E-05	0.388E-01	0.917E-03	0.136E-04	0.0	0.0224	0.0006	0.0397	0.0230	0.0228
4.0000	0.225E-06	0.253E-05	0.324E-01	0.149E-02	0.554E-04	0.0	0.0196	0.0011	0.0339	0.0207	0.0205
5.0000	0.171E-06	0.162E-05	0.279E-01	0.200E-02	0.110E-03	0.0	0.0175	0.0017	0.0300	0.0192	0.0190
6.0000	0.137E-06	0.113E-05	0.247E-01	0.245E-02	0.170E-03	0.0	0.0159	0.0022	0.0273	0.0181	0.0178
8.0000	0.983E-07	0.634E-06	0.202E-01	0.323E-02	0.286E-03	0.0	0.0135	0.0031	0.0237	0.0165	0.0161
10.0000	0.765E-07	0.405E-06	0.172E-01	0.387E-02	0.393E-03	0.0	0.0118	0.0038	0.0215	0.0156	0.0151
15.0000	0.491E-07	0.180E-06	0.127E-01	0.505E-02	0.618E-03	0.0	0.0090	0.0053	0.0184	0.0143	0.0136
20.0000	0.362E-07	0.101E-06	0.102E-01	0.592E-02	0.793E-03	0.0	0.0074	0.0064	0.0169	0.0138	0.0129
30.0000	0.237E-07	0.451E-07	0.744E-02	0.714E-02	0.106E-02	0.0	0.0056	0.0079	0.0156	0.0135	0.0122
40.0000	0.176E-07	0.253E-07	0.591E-02	0.798E-02	0.125E-02	0.0	0.0045	0.0090	0.0151	0.0135	0.0119
50.0000	0.140E-07	0.162E-07	0.494E-02	0.862E-02	0.140E-02	0.0	0.0039	0.0098	0.0150	0.0137	0.0116
60.0000	0.116E-07	0.113E-07	0.425E-02	0.913E-02	0.152E-02	0.0	0.0034	0.0104	0.0149	0.0138	0.0115
80.0000	0.867E-08	0.634E-08	0.335E-02	0.989E-02	0.171E-02	0.0	0.0027	0.0115	0.0150	0.0142	0.0112
100.0000	0.691E-08	0.405E-08	0.278E-02	0.105E-01	0.185E-02	0.0	0.0023	0.0122	0.0151	0.0145	0.0110

AIR, DRY (NEAR SEA LEVEL) [All Units: cm^2/g]

E (MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.360E+04	0.136E+01	0.104E-01	0.0	0.0	3605.0	0.0	0.0	3601.4	3605.0	3605.0
0.0015	0.119E+04	0.125E+01	0.212E-01	0.0	0.0	1190.0	0.0	0.0	1191.3	1190.0	1190.0
0.0020	0.527E+03	0.112E+01	0.334E-01	0.0	0.0	526.8	0.0	0.0	528.2	526.8	526.8
0.0030	0.162E+03	0.863E+00	0.575E-01	0.0	0.0	161.6	0.0	0.0	162.9	161.6	161.6
0.0040	0.771E+02	0.665E+00	0.777E-01	0.0	0.0	77.13	0.0	0.0	77.84	77.13	77.13
0.0050	0.397E+02	0.522E+00	0.933E-01	0.0	0.0	39.66	0.0	0.0	40.32	39.66	39.66
0.0060	0.229E+02	0.421E+00	0.105E+00	0.0	0.0	22.88	0.0	0.0	23.43	22.88	22.88
0.0080	0.950E+01	0.295E+00	0.121E+00	0.0	0.0	9.503	0.002	0.0	9.916	9.505	9.505
0.0100	0.477E+01	0.222E+00	0.132E+00	0.0	0.0	4.739	0.003	0.0	5.124	4.742	4.742
0.0150	0.134E+01	0.131E+00	0.147E+00	0.0	0.0	1.330	0.004	0.0	1.618	1.334	1.334
0.0200	0.535E+00	0.875E-01	0.156E+00	0.0	0.0	0.5330	0.0061	0.0	0.7785	0.5391	0.5391
0.0300	0.145E+00	0.462E-01	0.162E+00	0.0	0.0	0.1448	0.0090	0.0	0.3532	0.1538	0.1538
0.0400	0.570E-01	0.283E-01	0.163E+00	0.0	0.0	0.0570	0.0114	0.0	0.2483	0.0684	0.0684
0.0500	0.275E-01	0.191E-01	0.161E+00	0.0	0.0	0.0275	0.0135	0.0	0.2076	0.0410	0.0410
0.0600	0.152E-01	0.137E-01	0.159E+00	0.0	0.0	0.0151	0.0153	0.0	0.1879	0.0304	0.0304
0.0800	0.591E-02	0.803E-02	0.152E+00	0.0	0.0	0.0060	0.0181	0.0	0.1659	0.0241	0.0241
0.1000	0.285E-02	0.525E-02	0.146E+00	0.0	0.0	0.0029	0.0204	0.0	0.1541	0.0233	0.0233
0.1500	0.760E-03	0.240E-02	0.132E+00	0.0	0.0	0.0009	0.0241	0.0	0.1352	0.0250	0.0250
0.2000	0.303E-03	0.136E-02	0.122E+00	0.0	0.0	0.0002	0.0265	0.0	0.1237	0.0267	0.0267
0.3000	0.860E-04	0.610E-03	0.106E+00	0.0	0.0	0.0001	0.0286	0.0	0.1067	0.0287	0.0287
0.4000	0.370E-04	0.344E-03	0.951E-01	0.0	0.0	0.0	0.0295	0.0	0.0955	0.0295	0.0295
0.5000	0.200E-04	0.220E-03	0.869E-01	0.0	0.0	0.0	0.0297	0.0	0.0871	0.0297	0.0297
0.6000	0.125E-04	0.153E-03	0.804E-01	0.0	0.0	0.0	0.0296	0.0	0.0806	0.0296	0.0295
0.8000	0.630E-05	0.862E-04	0.706E-01	0.0	0.0	0.0	0.0288	0.0	0.0707	0.0289	0.0288
1.0000	0.391E-05	0.552E-04	0.635E-01	0.0	0.0	0.0	0.0279	0.0	0.0636	0.0279	0.0279
1.2500	0.248E-05	0.353E-04	0.568E-01	0.178E-04	0.0	0.0	0.0267	0.0	0.0569	0.0267	0.0267
1.5000	0.180E-05	0.245E-04	0.516E-01	0.985E-04	0.0	0.0	0.0255	0.0	0.0517	0.0256	0.0255
2.0000	0.113E-05	0.138E-04	0.441E-01	0.392E-03	0.0	0.0	0.0234	0.0002	0.0445	0.0236	0.0234
3.0000	0.628E-06	0.613E-05	0.347E-01	0.112E-02	0.121E-04	0.0	0.0200	0.0007	0.0358	0.0207	0.0205
4.0000	0.430E-06	0.345E-05	0.289E-01	0.182E-02	0.495E-04	0.0	0.0175	0.0014	0.0308	0.0189	0.0187
5.0000	0.325E-06	0.221E-05	0.250E-01	0.244E-02	0.987E-04	0.0	0.0157	0.0020	0.0275	0.0177	0.0174
6.0000	0.261E-06	0.153E-05	0.221E-01	0.300E-02	0.152E-03	0.0	0.0142	0.0026	0.0253	0.0168	0.0165
8.0000	0.187E-06	0.863E-06	0.181E-01	0.394E-02	0.256E-03	0.0	0.0121	0.0037	0.0223	0.0157	0.0152
10.0000	0.145E-06	0.552E-06	0.154E-01	0.472E-02	0.352E-03	0.0	0.0105	0.0046	0.0205	0.0150	0.0145
15.0000	0.932E-07	0.245E-06	0.114E-01	0.617E-02	0.552E-03	0.0	0.0081	0.0063	0.0181	0.0143	0.0135
20.0000	0.686E-07	0.138E-06	0.913E-02	0.721E-02	0.708E-03	0.0	0.0066	0.0075	0.0170	0.0142	0.0131
30.0000	0.448E-07	0.614E-07	0.665E-02	0.869E-02	0.942E-03	0.0	0.0050	0.0093	0.0163	0.0143	0.0127
40.0000	0.333E-07	0.345E-07	0.529E-02	0.971E-02	0.111E-02	0.0	0.0040	0.0105	0.0161	0.0146	0.0126
50.0000	0.265E-07	0.221E-07	0.441E-02	0.105E-01	0.124E-02	0.0	0.0034	0.0115	0.0162	0.0149	0.0125
60.0000	0.220E-07	0.153E-07	0.380E-02	0.111E-01	0.135E-02	0.0	0.0030	0.0122	0.0163	0.0152	0.0124
80.0000	0.164E-07	0.862E-08	0.300E-02	0.120E-01	0.152E-02	0.0	0.0024	0.0133	0.0165	0.0158	0.0123
100.0000	0.131E-07	0.552E-08	0.249E-02	0.127E-01	0.164E-02	0.0	0.0020	0.0142	0.0168	0.0162	0.0121

BONE, CORTICAL (ICRP) [All Units: cm^2/g]

E(MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.374E+04	0.194E+01	0.128E-01	0.0	0.0	3736.0	0.0	0.0	3742.0	3736.0	3736.0
0.0015	0.128E+04	0.177E+01	0.243E-01	0.0	0.0	1276.0	0.0	0.0	1281.8	1276.0	1276.0
0.0020	0.577E+03	0.160E+01	0.366E-01	0.0	0.0	577.4	0.0	0.0	578.6	577.4	577.4
0.0030	0.294E+03	0.129E+01	0.598E-01	0.0	0.0	293.9	0.0	0.0	295.3	293.9	293.9
0.0040	0.132E+03	0.104E+01	0.789E-01	0.0	0.0	131.8	0.0	0.0	133.1	131.8	131.8
0.0050	0.183E+03	0.849E+00	0.939E-01	0.0	0.0	182.5	0.0	0.0	183.9	182.5	182.5
0.0060	0.111E+03	0.710E+00	0.105E+00	0.0	0.0	111.2	0.0	0.0	111.8	111.2	111.2
0.0080	0.502E+02	0.523E+00	0.122E+00	0.0	0.0	50.22	0.0	0.0	50.85	50.22	50.22
0.0100	0.267E+02	0.408E+00	0.133E+00	0.0	0.0	25.57	0.0	0.0	27.24	25.57	25.57
0.0150	0.823E+01	0.247E+00	0.149E+00	0.0	0.0	7.994	0.005	0.0	8.626	7.999	7.999
0.0200	0.350E+01	0.165E+00	0.158E+00	0.0	0.0	3.427	0.006	0.0	3.823	3.433	3.433
0.0300	0.103E+01	0.882E-01	0.166E+00	0.0	0.0	1.011	0.009	0.0	1.284	1.020	1.020
0.0400	0.423E+00	0.551E-01	0.167E+00	0.0	0.0	0.4184	0.0117	0.0	0.6451	0.4301	0.4301
0.0500	0.211E+00	0.378E-01	0.166E+00	0.0	0.0	0.2094	0.0139	0.0	0.4148	0.2233	0.2233
0.0600	0.119E+00	0.275E-01	0.163E+00	0.0	0.0	0.1185	0.0158	0.0	0.3095	0.1343	0.1343
0.0800	0.482E-01	0.164E-01	0.157E+00	0.0	0.0	0.0480	0.0188	0.0	0.2216	0.0668	0.0668
0.1000	0.238E-01	0.109E-01	0.151E+00	0.0	0.0	0.0238	0.0212	0.0	0.1857	0.0450	0.0450
0.1500	0.662E-02	0.504E-02	0.138E+00	0.0	0.0	0.0065	0.0253	0.0	0.1497	0.0318	0.0318
0.2000	0.270E-02	0.289E-02	0.127E+00	0.0	0.0	0.0026	0.0277	0.0	0.1326	0.0303	0.0303
0.3000	0.788E-03	0.131E-02	0.111E+00	0.0	0.0	0.0007	0.0300	0.0	0.1131	0.0307	0.0307
0.4000	0.344E-03	0.741E-03	0.992E-01	0.0	0.0	0.0003	0.0308	0.0	0.1003	0.0311	0.0311
0.5000	0.187E-03	0.476E-03	0.907E-01	0.0	0.0	0.0002	0.0310	0.0	0.0914	0.0312	0.0311
0.6000	0.117E-03	0.331E-03	0.839E-01	0.0	0.0	0.0001	0.0309	0.0	0.0843	0.0310	0.0309
0.8000	0.596E-04	0.187E-03	0.737E-01	0.0	0.0	0.0001	0.0301	0.0	0.0739	0.0302	0.0301
1.0000	0.370E-04	0.120E-03	0.663E-01	0.0	0.0	0.0	0.0291	0.0	0.0665	0.0292	0.0291
1.2500	0.237E-04	0.765E-04	0.593E-01	0.270E-04	0.0	0.0	0.0279	0.0	0.0594	0.0279	0.0278
1.5000	0.171E-04	0.532E-04	0.539E-01	0.146E-03	0.0	0.0	0.0266	0.0	0.0541	0.0267	0.0265
2.0000	0.106E-04	0.299E-04	0.460E-01	0.575E-03	0.0	0.0	0.0244	0.0003	0.0466	0.0247	0.0245
3.0000	0.584E-05	0.133E-04	0.362E-01	0.163E-02	0.127E-04	0.0	0.0208	0.0011	0.0379	0.0219	0.0217
4.0000	0.396E-05	0.748E-05	0.302E-01	0.263E-02	0.517E-04	0.0	0.0183	0.0020	0.0329	0.0203	0.0199
5.0000	0.298E-05	0.479E-05	0.261E-01	0.352E-02	0.103E-03	0.0	0.0164	0.0029	0.0297	0.0192	0.0188
6.0000	0.238E-05	0.333E-05	0.231E-01	0.432E-02	0.158E-03	0.0	0.0148	0.0037	0.0276	0.0185	0.0180
8.0000	0.169E-05	0.187E-05	0.189E-01	0.567E-02	0.267E-03	0.0	0.0126	0.0052	0.0248	0.0178	0.0170
10.0000	0.131E-05	0.120E-05	0.161E-01	0.677E-02	0.367E-03	0.0	0.0110	0.0064	0.0232	0.0174	0.0165
15.0000	0.836E-06	0.532E-06	0.119E-01	0.883E-02	0.576E-03	0.0	0.0085	0.0088	0.0213	0.0173	0.0159
20.0000	0.613E-06	0.299E-06	0.954E-02	0.103E-01	0.739E-03	0.0	0.0070	0.0105	0.0206	0.0175	0.0157
30.0000	0.399E-06	0.133E-06	0.695E-02	0.124E-01	0.981E-03	0.0	0.0053	0.0129	0.0203	0.0182	0.0156
40.0000	0.296E-06	0.748E-07	0.552E-02	0.138E-01	0.116E-02	0.0	0.0043	0.0146	0.0205	0.0190	0.0155
50.0000	0.235E-06	0.479E-07	0.461E-02	0.149E-01	0.129E-02	0.0	0.0037	0.0159	0.0208	0.0196	0.0154
60.0000	0.195E-06	0.333E-07	0.397E-02	0.158E-01	0.141E-02	0.0	0.0033	0.0169	0.0212	0.0201	0.0153
80.0000	0.145E-06	0.187E-07	0.313E-02	0.170E-01	0.158E-02	0.0	0.0027	0.0184	0.0217	0.0210	0.0150
100.0000	0.116E-06	0.120E-07	0.260E-02	0.180E-01	0.171E-02	0.0	0.0023	0.0195	0.0223	0.0217	0.0146

CALCIUM FLUORIDE [All Units: cm²/g]

E (MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.524E+04	0.263E+01	0.108E-01	0.0	0.0	5237.9	0.0	0.0	5242.6	5237.9	5237.9
0.0015	0.184E+04	0.241E+01	0.187E-01	0.0	0.0	1839.0	0.0	0.0	1842.4	1839.0	1839.0
0.0020	0.849E+03	0.220E+01	0.267E-01	0.0	0.0	848.5	0.0	0.0	851.2	848.5	848.5
0.0030	0.276E+03	0.182E+01	0.429E-01	0.0	0.0	276.0	0.0	0.0	277.9	276.0	276.0
0.0040	0.122E+03	0.150E+01	0.580E-01	0.0	0.0	122.1	0.0	0.0	123.6	122.1	122.1
0.0050	0.340E+03	0.124E+01	0.712E-01	0.0	0.0	339.6	0.0	0.0	341.3	339.6	339.6
0.0060	0.209E+03	0.104E+01	0.822E-01	0.0	0.0	208.8	0.0	0.0	210.1	208.8	208.8
0.0080	0.955E+02	0.775E+00	0.988E-01	0.0	0.0	95.54	0.0	0.0	96.37	95.54	95.54
0.0100	0.512E+02	0.608E+00	0.110E+00	0.0	0.0	48.57	0.0	0.0	51.92	48.57	48.57
0.0150	0.160E+02	0.375E+00	0.128E+00	0.0	0.0	15.45	0.0	0.0	16.50	15.45	15.45
0.0200	0.687E+01	0.252E+00	0.138E+00	0.0	0.0	6.686	0.005	0.0	7.260	6.691	6.691
0.0300	0.203E+01	0.135E+00	0.147E+00	0.0	0.0	1.994	0.008	0.0	2.312	2.002	2.002
0.0400	0.842E+00	0.851E-01	0.150E+00	0.0	0.0	0.8308	0.0107	0.0	1.0771	0.8415	0.8415
0.0500	0.422E+00	0.587E-01	0.150E+00	0.0	0.0	0.4178	0.0127	0.0	0.6307	0.4305	0.4305
0.0600	0.239E+00	0.430E-01	0.149E+00	0.0	0.0	0.2371	0.0146	0.0	0.4310	0.2517	0.2517
0.0800	0.971E-01	0.258E-01	0.145E+00	0.0	0.0	0.0964	0.0175	0.0	0.2679	0.1139	0.1139
0.1000	0.481E-01	0.171E-01	0.140E+00	0.0	0.0	0.0478	0.0198	0.0	0.2052	0.0676	0.0676
0.1500	0.134E-01	0.799E-02	0.128E+00	0.0	0.0	0.0133	0.0236	0.0	0.1494	0.0369	0.0369
0.2000	0.548E-02	0.460E-02	0.118E+00	0.0	0.0	0.0054	0.0258	0.0	0.1281	0.0312	0.0312
0.3000	0.161E-02	0.209E-02	0.103E+00	0.0	0.0	0.0016	0.0279	0.0	0.1067	0.0295	0.0295
0.4000	0.702E-03	0.118E-02	0.925E-01	0.0	0.0	0.0007	0.0287	0.0	0.0944	0.0294	0.0294
0.5000	0.383E-03	0.761E-03	0.846E-01	0.0	0.0	0.0004	0.0289	0.0	0.0857	0.0293	0.0292
0.6000	0.240E-03	0.529E-03	0.783E-01	0.0	0.0	0.0002	0.0288	0.0	0.0791	0.0290	0.0289
0.8000	0.122E-03	0.298E-03	0.688E-01	0.0	0.0	0.0001	0.0281	0.0	0.0692	0.0282	0.0281
1.0000	0.758E-04	0.191E-03	0.619E-01	0.0	0.0	0.0001	0.0272	0.0	0.0622	0.0273	0.0271
1.2500	0.486E-04	0.122E-03	0.554E-01	0.376E-04	0.0	0.0	0.0260	0.0	0.0556	0.0261	0.0259
1.5000	0.351E-04	0.851E-04	0.503E-01	0.200E-03	0.0	0.0	0.0248	0.0001	0.0506	0.0249	0.0247
2.0000	0.218E-04	0.479E-04	0.429E-01	0.786E-03	0.0	0.0	0.0227	0.0004	0.0438	0.0231	0.0229
3.0000	0.119E-04	0.213E-04	0.338E-01	0.222E-02	0.118E-04	0.0	0.0194	0.0015	0.0361	0.0209	0.0205
4.0000	0.807E-05	0.120E-04	0.282E-01	0.357E-02	0.483E-04	0.0	0.0170	0.0027	0.0318	0.0198	0.0192
5.0000	0.607E-05	0.766E-05	0.243E-01	0.477E-02	0.962E-04	0.0	0.0152	0.0039	0.0292	0.0191	0.0185
6.0000	0.485E-05	0.532E-05	0.215E-01	0.585E-02	0.148E-03	0.0	0.0138	0.0050	0.0275	0.0188	0.0180
8.0000	0.345E-05	0.299E-05	0.176E-01	0.767E-02	0.249E-03	0.0	0.0117	0.0069	0.0255	0.0187	0.0176
10.0000	0.267E-05	0.192E-05	0.150E-01	0.916E-02	0.343E-03	0.0	0.0103	0.0085	0.0245	0.0188	0.0175
15.0000	0.170E-05	0.852E-06	0.111E-01	0.119E-01	0.537E-03	0.0	0.0080	0.0116	0.0235	0.0196	0.0175
20.0000	0.125E-05	0.479E-06	0.891E-02	0.139E-01	0.688E-03	0.0	0.0066	0.0139	0.0235	0.0204	0.0177
30.0000	0.812E-06	0.213E-06	0.648E-02	0.167E-01	0.913E-03	0.0	0.0050	0.0170	0.0241	0.0220	0.0180
40.0000	0.602E-06	0.120E-06	0.515E-02	0.186E-01	0.108E-02	0.0	0.0041	0.0192	0.0248	0.0233	0.0180
50.0000	0.478E-06	0.767E-07	0.430E-02	0.201E-01	0.120E-02	0.0	0.0035	0.0209	0.0256	0.0243	0.0180
60.0000	0.396E-06	0.532E-07	0.371E-02	0.212E-01	0.130E-02	0.0	0.0031	0.0221	0.0262	0.0252	0.0178
80.0000	0.296E-06	0.299E-07	0.292E-02	0.229E-01	0.146E-02	0.0	0.0025	0.0240	0.0273	0.0265	0.0173
100.0000	0.236E-06	0.192E-07	0.243E-02	0.241E-01	0.157E-02	0.0	0.0021	0.0254	0.0281	0.0276	0.0168

FERROUS SULFATE [All Units: cm²/g]

E (MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.406E+04	0.139E+01	0.131E-01	0.0	0.0	4060.0	0.0	0.0	4061.4	4060.0	4060.0
0.0015	0.137E+04	0.129E+01	0.265E-01	0.0	0.0	1371.0	0.0	0.0	1371.3	1371.0	1371.0
0.0020	0.615E+03	0.117E+01	0.414E-01	0.0	0.0	614.7	0.0	0.0	616.2	614.7	614.7
0.0030	0.207E+03	0.924E+00	0.701E-01	0.0	0.0	206.8	0.0	0.0	208.0	206.8	206.8
0.0040	0.891E+02	0.721E+00	0.934E-01	0.0	0.0	89.11	0.0	0.0	89.91	89.11	89.11
0.0050	0.459E+02	0.569E+00	0.111E+00	0.0	0.0	45.87	0.0	0.0	46.58	45.87	45.87
0.0060	0.265E+02	0.459E+00	0.125E+00	0.0	0.0	26.48	0.0	0.0	27.08	26.48	26.48
0.0080	0.110E+02	0.318E+00	0.143E+00	0.0	0.0	11.02	0.0	0.0	11.46	11.02	11.02
0.0100	0.552E+01	0.237E+00	0.154E+00	0.0	0.0	5.510	0.003	0.0	5.911	5.513	5.513
0.0150	0.155E+01	0.137E+00	0.169E+00	0.0	0.0	1.544	0.005	0.0	1.856	1.549	1.549
0.0200	0.619E+00	0.912E-01	0.176E+00	0.0	0.0	0.6180	0.0068	0.0	0.8862	0.6248	0.6248
0.0300	0.168E+00	0.484E-01	0.182E+00	0.0	0.0	0.1673	0.0100	0.0	0.3984	0.1773	0.1773
0.0400	0.657E-01	0.297E-01	0.182E+00	0.0	0.0	0.0656	0.0127	0.0	0.2774	0.0783	0.0783
0.0500	0.317E-01	0.200E-01	0.180E+00	0.0	0.0	0.0316	0.0150	0.0	0.2317	0.0466	0.0466
0.0600	0.174E-01	0.144E-01	0.176E+00	0.0	0.0	0.0174	0.0169	0.0	0.2078	0.0343	0.0343
0.0800	0.677E-02	0.844E-02	0.169E+00	0.0	0.0	0.0068	0.0201	0.0	0.1842	0.0269	0.0269
0.1000	0.326E-02	0.553E-02	0.162E+00	0.0	0.0	0.0033	0.0226	0.0	0.1708	0.0259	0.0259
0.1500	0.867E-03	0.253E-02	0.147E+00	0.0	0.0	0.0008	0.0269	0.0	0.1504	0.0277	0.0277
0.2000	0.344E-03	0.144E-02	0.135E+00	0.0	0.0	0.0004	0.0293	0.0	0.1368	0.0297	0.0296
0.3000	0.976E-04	0.644E-03	0.118E+00	0.0	0.0	0.0	0.0319	0.0	0.1187	0.0319	0.0318
0.4000	0.419E-04	0.363E-03	0.105E+00	0.0	0.0	0.0	0.0325	0.0	0.1054	0.0327	0.0327
0.5000	0.226E-04	0.233E-03	0.963E-01	0.0	0.0	0.0	0.0329	0.0	0.0966	0.0329	0.0329
0.6000	0.141E-04	0.162E-03	0.891E-01	0.0	0.0	0.0	0.0328	0.0	0.0893	0.0328	0.0327
0.8000	0.712E-05	0.911E-04	0.783E-01	0.0	0.0	0.0	0.0320	0.0	0.0784	0.0320	0.0320
1.0000	0.443E-05	0.583E-04	0.704E-01	0.0	0.0	0.0	0.0310	0.0	0.0705	0.0310	0.0309
1.2500	0.281E-05	0.374E-04	0.630E-01	0.181E-04	0.0	0.0	0.0296	0.0	0.0631	0.0296	0.0295
1.5000	0.204E-05	0.259E-04	0.572E-01	0.999E-04	0.0	0.0	0.0283	0.0	0.0573	0.0283	0.0282
2.0000	0.128E-05	0.146E-04	0.489E-01	0.398E-03	0.0	0.0	0.0259	0.0002	0.0493	0.0261	0.0260
3.0000	0.712E-06	0.649E-05	0.384E-01	0.114E-02	0.134E-04	0.0	0.0221	0.0008	0.0396	0.0229	0.0227
4.0000	0.488E-06	0.365E-05	0.321E-01	0.184E-02	0.549E-04	0.0	0.0195	0.0014	0.0340	0.0208	0.0206
5.0000	0.370E-06	0.234E-05	0.277E-01	0.247E-02	0.109E-03	0.0	0.0174	0.0021	0.0303	0.0194	0.0191
6.0000	0.297E-06	0.162E-05	0.245E-01	0.304E-02	0.168E-03	0.0	0.0158	0.0027	0.0277	0.0184	0.0180
8.0000	0.213E-06	0.912E-06	0.200E-01	0.399E-02	0.283E-03	0.0	0.0133	0.0037	0.0243	0.0171	0.0166
10.0000	0.165E-06	0.584E-06	0.170E-01	0.478E-02	0.390E-03	0.0	0.0116	0.0046	0.0222	0.0163	0.0157
15.0000	0.106E-06	0.259E-06	0.126E-01	0.624E-02	0.612E-03	0.0	0.0090	0.0064	0.0195	0.0154	0.0145
20.0000	0.781E-07	0.146E-06	0.101E-01	0.730E-02	0.785E-03	0.0	0.0074	0.0077	0.0182	0.0151	0.0139
30.0000	0.511E-07	0.649E-07	0.737E-02	0.880E-02	0.104E-02	0.0	0.0056	0.0095	0.0172	0.0151	0.0134
40.0000	0.379E-07	0.365E-07	0.586E-02	0.983E-02	0.123E-02	0.0	0.0046	0.0108	0.0169	0.0154	0.0132
50.0000	0.302E-07	0.234E-07	0.489E-02	0.106E-01	0.138E-02	0.0	0.0039	0.0118	0.0169	0.0157	0.0130
60.0000	0.250E-07	0.162E-07	0.421E-02	0.112E-01	0.150E-02	0.0	0.0034	0.0125	0.0169	0.0159	0.0129
80.0000	0.187E-07	0.912E-08	0.332E-02	0.122E-01	0.169E-02	0.0	0.0028	0.0137	0.0172	0.0165	0.0126
100.0000	0.149E-07	0.584E-08	0.276E-02	0.129E-01	0.183E-02	0.0	0.0024	0.0146	0.0175	0.0169	0.0123

LITHIUM FLUORIDE [All Units: cm²/g]

E (MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.420E+04	0.130E+01	0.129E-01	0.0	0.0	4172.0	0.0	0.0	4201.3	4172.0	4172.0
0.0015	0.147E+04	0.121E+01	0.222E-01	0.0	0.0	1459.0	0.0	0.0	1471.2	1459.0	1459.0
0.0020	0.669E+03	0.111E+01	0.310E-01	0.0	0.0	666.6	0.0	0.0	670.1	666.6	666.6
0.0030	0.213E+03	0.904E+00	0.485E-01	0.0	0.0	212.1	0.0	0.0	214.0	212.1	212.1
0.0040	0.920E+02	0.726E+00	0.649E-01	0.0	0.0	91.87	0.0	0.0	92.79	91.87	91.87
0.0050	0.475E+02	0.584E+00	0.793E-01	0.0	0.0	47.41	0.0	0.0	48.16	47.41	47.41
0.0060	0.275E+02	0.475E+00	0.914E-01	0.0	0.0	27.43	0.0	0.0	28.07	27.43	27.43
0.0080	0.114E+02	0.330E+00	0.109E+00	0.0	0.0	11.42	0.0	0.0	11.84	11.42	11.42
0.0100	0.574E+01	0.244E+00	0.121E+00	0.0	0.0	5.732	0.003	0.0	6.105	5.735	5.735
0.0150	0.161E+01	0.138E+00	0.137E+00	0.0	0.0	1.608	0.004	0.0	1.885	1.612	1.612
0.0200	0.644E+00	0.905E-01	0.145E+00	0.0	0.0	0.6440	0.0057	0.0	0.8795	0.6497	0.6497
0.0300	0.174E+00	0.478E-01	0.150E+00	0.0	0.0	0.1744	0.0083	0.0	0.3718	0.1827	0.1827
0.0400	0.684E-01	0.293E-01	0.151E+00	0.0	0.0	0.0684	0.0106	0.0	0.2487	0.0790	0.0790
0.0500	0.330E-01	0.197E-01	0.149E+00	0.0	0.0	0.0329	0.0125	0.0	0.2017	0.0454	0.0454
0.0600	0.181E-01	0.142E-01	0.147E+00	0.0	0.0	0.0180	0.0142	0.0	0.1793	0.0322	0.0322
0.0800	0.704E-02	0.831E-02	0.141E+00	0.0	0.0	0.0071	0.0168	0.0	0.1564	0.0239	0.0239
0.1000	0.338E-02	0.545E-02	0.135E+00	0.0	0.0	0.0034	0.0189	0.0	0.1438	0.0223	0.0223
0.1500	0.899E-03	0.249E-02	0.123E+00	0.0	0.0	0.0009	0.0225	0.0	0.1264	0.0233	0.0233
0.2000	0.356E-03	0.142E-02	0.113E+00	0.0	0.0	0.0002	0.0246	0.0	0.1148	0.0248	0.0248
0.3000	0.101E-03	0.635E-03	0.982E-01	0.0	0.0	0.0002	0.0265	0.0	0.0989	0.0267	0.0266
0.4000	0.433E-04	0.359E-03	0.881E-01	0.0	0.0	0.0	0.0273	0.0	0.0885	0.0274	0.0273
0.5000	0.234E-04	0.230E-03	0.805E-01	0.0	0.0	0.0	0.0275	0.0	0.0808	0.0275	0.0275
0.6000	0.146E-04	0.160E-03	0.745E-01	0.0	0.0	0.0	0.0274	0.0	0.0747	0.0274	0.0274
0.8000	0.735E-05	0.899E-04	0.655E-01	0.0	0.0	0.0	0.0268	0.0	0.0656	0.0268	0.0267
1.0000	0.457E-05	0.575E-04	0.589E-01	0.0	0.0	0.0	0.0259	0.0	0.0590	0.0259	0.0258
1.2500	0.290E-05	0.368E-04	0.527E-01	0.167E-04	0.0	0.0	0.0248	0.0	0.0528	0.0248	0.0247
1.5000	0.210E-05	0.256E-04	0.479E-01	0.928E-04	0.0	0.0	0.0237	0.0	0.0480	0.0237	0.0236
2.0000	0.132E-05	0.144E-04	0.408E-01	0.370E-03	0.0	0.0	0.0216	0.0002	0.0412	0.0218	0.0217
3.0000	0.737E-06	0.640E-05	0.321E-01	0.106E-02	0.112E-04	0.0	0.0185	0.0007	0.0332	0.0192	0.0190
4.0000	0.505E-06	0.360E-05	0.268E-01	0.172E-02	0.459E-04	0.0	0.0162	0.0013	0.0286	0.0176	0.0173
5.0000	0.383E-06	0.230E-05	0.231E-01	0.230E-02	0.914E-04	0.0	0.0145	0.0019	0.0255	0.0164	0.0161
6.0000	0.307E-06	0.160E-05	0.205E-01	0.283E-02	0.140E-03	0.0	0.0132	0.0025	0.0235	0.0156	0.0153
8.0000	0.220E-06	0.900E-06	0.167E-01	0.372E-02	0.237E-03	0.0	0.0111	0.0035	0.0207	0.0146	0.0142
10.0000	0.171E-06	0.576E-06	0.143E-01	0.445E-02	0.326E-03	0.0	0.0098	0.0043	0.0191	0.0141	0.0135
15.0000	0.110E-06	0.256E-06	0.105E-01	0.581E-02	0.511E-03	0.0	0.0075	0.0059	0.0168	0.0134	0.0126
20.0000	0.809E-07	0.144E-06	0.847E-02	0.680E-02	0.656E-03	0.0	0.0062	0.0071	0.0159	0.0133	0.0122
30.0000	0.529E-07	0.640E-07	0.616E-02	0.819E-02	0.873E-03	0.0	0.0047	0.0088	0.0152	0.0135	0.0118
40.0000	0.393E-07	0.360E-07	0.490E-02	0.915E-02	0.103E-02	0.0	0.0038	0.0099	0.0151	0.0137	0.0116
50.0000	0.313E-07	0.230E-07	0.409E-02	0.988E-02	0.115E-02	0.0	0.0033	0.0108	0.0151	0.0141	0.0115
60.0000	0.259E-07	0.160E-07	0.352E-02	0.105E-01	0.125E-02	0.0	0.0029	0.0115	0.0153	0.0144	0.0114
80.0000	0.194E-07	0.900E-08	0.278E-02	0.113E-01	0.141E-02	0.0	0.0023	0.0125	0.0155	0.0149	0.0111
100.0000	0.154E-07	0.576E-08	0.231E-02	0.120E-01	0.152E-02	0.0	0.0020	0.0134	0.0158	0.0153	0.0109

MUSCLE, SKELETAL (ICRP) [All Units: cm^2/g]

E(MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.382E+04	0.135E+01	0.133E-01	0.0	0.0	3819.0	0.0	0.0	3821.4	3819.0	3819.0
0.0015	0.129E+04	0.124E+01	0.268E-01	0.0	0.0	1285.0	0.0	0.0	1291.3	1285.0	1285.0
0.0020	0.575E+03	0.112E+01	0.418E-01	0.0	0.0	574.9	0.0	0.0	576.2	574.9	574.9
0.0030	0.184E+03	0.880E+00	0.704E-01	0.0	0.0	184.4	0.0	0.0	185.0	184.4	184.4
0.0040	0.814E+02	0.684E+00	0.935E-01	0.0	0.0	81.43	0.0	0.0	82.18	81.43	81.43
0.0050	0.419E+02	0.539E+00	0.111E+00	0.0	0.0	41.87	0.0	0.0	42.55	41.87	41.87
0.0060	0.241E+02	0.435E+00	0.124E+00	0.0	0.0	24.14	0.0	0.0	24.66	24.14	24.14
0.0080	0.100E+02	0.302E+00	0.142E+00	0.0	0.0	10.02	0.0	0.0	10.44	10.02	10.02
0.0100	0.503E+01	0.226E+00	0.153E+00	0.0	0.0	5.010	0.003	0.0	5.409	5.013	5.013
0.0150	0.141E+01	0.131E+00	0.168E+00	0.0	0.0	1.402	0.005	0.0	1.709	1.407	1.407
0.0200	0.563E+00	0.872E-01	0.175E+00	0.0	0.0	0.5612	0.0068	0.0	0.8252	0.5680	0.5680
0.0300	0.152E+00	0.461E-01	0.181E+00	0.0	0.0	0.1520	0.0099	0.0	0.3791	0.1619	0.1619
0.0400	0.597E-01	0.283E-01	0.181E+00	0.0	0.0	0.0596	0.0126	0.0	0.2690	0.0722	0.0722
0.0500	0.288E-01	0.190E-01	0.179E+00	0.0	0.0	0.0287	0.0149	0.0	0.2268	0.0436	0.0436
0.0600	0.158E-01	0.137E-01	0.175E+00	0.0	0.0	0.0158	0.0168	0.0	0.2045	0.0326	0.0326
0.0800	0.615E-02	0.803E-02	0.168E+00	0.0	0.0	0.0061	0.0200	0.0	0.1822	0.0261	0.0261
0.1000	0.296E-02	0.526E-02	0.161E+00	0.0	0.0	0.0029	0.0225	0.0	0.1692	0.0254	0.0254
0.1500	0.788E-03	0.240E-02	0.146E+00	0.0	0.0	0.0007	0.0267	0.0	0.1492	0.0274	0.0274
0.2000	0.313E-03	0.136E-02	0.134E+00	0.0	0.0	0.0003	0.0291	0.0	0.1357	0.0294	0.0294
0.3000	0.888E-04	0.611E-03	0.117E+00	0.0	0.0	0.0	0.0316	0.0	0.1177	0.0316	0.0316
0.4000	0.381E-04	0.345E-03	0.105E+00	0.0	0.0	0.0	0.0325	0.0	0.1054	0.0325	0.0325
0.5000	0.206E-04	0.221E-03	0.956E-01	0.0	0.0	0.0	0.0326	0.0	0.0958	0.0327	0.0327
0.6000	0.128E-04	0.154E-03	0.885E-01	0.0	0.0	0.0	0.0325	0.0	0.0887	0.0325	0.0325
0.8000	0.649E-05	0.865E-04	0.778E-01	0.0	0.0	0.0	0.0318	0.0	0.0779	0.0318	0.0317
1.0000	0.403E-05	0.554E-04	0.699E-01	0.0	0.0	0.0	0.0307	0.0	0.0700	0.0308	0.0307
1.2500	0.256E-05	0.354E-04	0.625E-01	0.175E-04	0.0	0.0	0.0294	0.0	0.0626	0.0294	0.0293
1.5000	0.185E-05	0.246E-04	0.568E-01	0.968E-04	0.0	0.0	0.0281	0.0	0.0569	0.0281	0.0280
2.0000	0.116E-05	0.138E-04	0.485E-01	0.385E-03	0.0	0.0	0.0257	0.0002	0.0489	0.0259	0.0258
3.0000	0.648E-06	0.615E-05	0.382E-01	0.110E-02	0.133E-04	0.0	0.0220	0.0007	0.0393	0.0227	0.0225
4.0000	0.444E-06	0.346E-05	0.318E-01	0.179E-02	0.545E-04	0.0	0.0193	0.0014	0.0336	0.0207	0.0204
5.0000	0.336E-06	0.222E-05	0.275E-01	0.240E-02	0.109E-03	0.0	0.0172	0.0020	0.0300	0.0192	0.0189
6.0000	0.270E-06	0.154E-05	0.243E-01	0.294E-02	0.167E-03	0.0	0.0156	0.0026	0.0274	0.0182	0.0179
8.0000	0.193E-06	0.865E-06	0.199E-01	0.387E-02	0.281E-03	0.0	0.0133	0.0036	0.0241	0.0169	0.0164
10.0000	0.150E-06	0.554E-06	0.169E-01	0.463E-02	0.387E-03	0.0	0.0116	0.0045	0.0219	0.0161	0.0155
15.0000	0.965E-07	0.246E-06	0.125E-01	0.606E-02	0.607E-03	0.0	0.0089	0.0062	0.0192	0.0151	0.0143
20.0000	0.710E-07	0.138E-06	0.101E-01	0.709E-02	0.780E-03	0.0	0.0074	0.0075	0.0180	0.0148	0.0137
30.0000	0.464E-07	0.615E-07	0.732E-02	0.854E-02	0.104E-02	0.0	0.0056	0.0093	0.0169	0.0148	0.0132
40.0000	0.345E-07	0.346E-07	0.582E-02	0.954E-02	0.122E-02	0.0	0.0045	0.0105	0.0166	0.0150	0.0129
50.0000	0.274E-07	0.222E-07	0.486E-02	0.103E-01	0.137E-02	0.0	0.0039	0.0115	0.0165	0.0153	0.0128
60.0000	0.228E-07	0.154E-07	0.418E-02	0.109E-01	0.149E-02	0.0	0.0034	0.0122	0.0166	0.0156	0.0126
80.0000	0.170E-07	0.865E-08	0.330E-02	0.118E-01	0.168E-02	0.0	0.0027	0.0133	0.0168	0.0161	0.0123
100.0000	0.135E-07	0.554E-08	0.274E-02	0.125E-01	0.182E-02	0.0	0.0023	0.0142	0.0171	0.0165	0.0121

POLYETHYLENE [All Units: cm^2/g]

E (MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.189E+04	0.974E+00	0.180E-01	0.0	0.0	1888.7	0.0	0.0	1891.0	1888.7	1888.7
0.0015	0.599E+03	0.864E+00	0.356E-01	0.0	0.0	598.9	0.0	0.0	599.9	598.9	598.9
0.0020	0.258E+03	0.748E+00	0.543E-01	0.0	0.0	258.3	0.0	0.0	258.8	258.3	258.3
0.0030	0.768E+02	0.548E+00	0.877E-01	0.0	0.0	76.77	0.0	0.0	77.44	76.77	76.77
0.0040	0.319E+02	0.410E+00	0.112E+00	0.0	0.0	31.89	0.0	0.0	32.42	31.89	31.89
0.0050	0.160E+02	0.319E+00	0.130E+00	0.0	0.0	15.98	0.0	0.0	16.45	15.98	15.98
0.0060	0.903E+01	0.258E+00	0.142E+00	0.0	0.0	9.030	0.002	0.0	9.430	9.032	9.032
0.0080	0.363E+01	0.185E+00	0.157E+00	0.0	0.0	3.632	0.003	0.0	3.972	3.635	3.635
0.0100	0.178E+01	0.142E+00	0.167E+00	0.0	0.0	1.778	0.003	0.0	2.089	1.781	1.781
0.0150	0.478E+00	0.855E-01	0.182E+00	0.0	0.0	0.4783	0.0054	0.0	0.7455	0.4837	0.4837
0.0200	0.186E+00	0.564E-01	0.189E+00	0.0	0.0	0.1863	0.0073	0.0	0.4314	0.1936	0.1936
0.0300	0.489E-01	0.292E-01	0.193E+00	0.0	0.0	0.0488	0.0105	0.0	0.2711	0.0593	0.0593
0.0400	0.188E-01	0.178E-01	0.191E+00	0.0	0.0	0.0188	0.0132	0.0	0.2276	0.0320	0.0320
0.0500	0.893E-02	0.119E-01	0.188E+00	0.0	0.0	0.0089	0.0155	0.0	0.2088	0.0244	0.0244
0.0600	0.486E-02	0.851E-02	0.184E+00	0.0	0.0	0.0049	0.0175	0.0	0.1974	0.0224	0.0224
0.0800	0.186E-02	0.495E-02	0.175E+00	0.0	0.0	0.0019	0.0207	0.0	0.1818	0.0226	0.0226
0.1000	0.883E-03	0.322E-02	0.168E+00	0.0	0.0	0.0008	0.0234	0.0	0.1721	0.0242	0.0242
0.1500	0.232E-03	0.146E-02	0.152E+00	0.0	0.0	0.0002	0.0277	0.0	0.1537	0.0279	0.0279
0.2000	0.911E-04	0.827E-03	0.139E+00	0.0	0.0	0.0002	0.0301	0.0	0.1399	0.0303	0.0303
0.3000	0.255E-04	0.370E-03	0.121E+00	0.0	0.0	0.0	0.0327	0.0	0.1214	0.0328	0.0327
0.4000	0.109E-04	0.208E-03	0.109E+00	0.0	0.0	0.0	0.0337	0.0	0.1092	0.0337	0.0337
0.5000	0.586E-05	0.133E-03	0.993E-01	0.0	0.0	0.0	0.0339	0.0	0.0994	0.0339	0.0339
0.6000	0.364E-05	0.927E-04	0.919E-01	0.0	0.0	0.0	0.0338	0.0	0.0920	0.0338	0.0338
0.8000	0.184E-05	0.521E-04	0.807E-01	0.0	0.0	0.0	0.0330	0.0	0.0808	0.0330	0.0329
1.0000	0.114E-05	0.334E-04	0.726E-01	0.0	0.0	0.0	0.0319	0.0	0.0726	0.0319	0.0319
1.2500	0.715E-06	0.214E-04	0.649E-01	0.130E-04	0.0	0.0	0.0305	0.0	0.0649	0.0305	0.0305
1.5000	0.519E-06	0.148E-04	0.590E-01	0.722E-04	0.0	0.0	0.0292	0.0	0.0591	0.0292	0.0291
2.0000	0.328E-06	0.835E-05	0.503E-01	0.288E-03	0.0	0.0	0.0267	0.0001	0.0506	0.0268	0.0267
3.0000	0.184E-06	0.371E-05	0.396E-01	0.825E-03	0.139E-04	0.0	0.0228	0.0006	0.0404	0.0234	0.0233
4.0000	0.127E-06	0.209E-05	0.330E-01	0.134E-02	0.566E-04	0.0	0.0200	0.0010	0.0344	0.0211	0.0209
5.0000	0.961E-07	0.134E-05	0.285E-01	0.180E-02	0.113E-03	0.0	0.0179	0.0015	0.0304	0.0194	0.0192
6.0000	0.774E-07	0.928E-06	0.252E-01	0.221E-02	0.173E-03	0.0	0.0162	0.0020	0.0276	0.0182	0.0179
8.0000	0.556E-07	0.522E-06	0.206E-01	0.291E-02	0.292E-03	0.0	0.0137	0.0028	0.0238	0.0165	0.0162
10.0000	0.433E-07	0.334E-06	0.176E-01	0.348E-02	0.402E-03	0.0	0.0120	0.0035	0.0215	0.0155	0.0150
15.0000	0.279E-07	0.148E-06	0.130E-01	0.456E-02	0.631E-03	0.0	0.0092	0.0048	0.0182	0.0141	0.0134
20.0000	0.205E-07	0.835E-07	0.104E-01	0.534E-02	0.810E-03	0.0	0.0076	0.0058	0.0166	0.0134	0.0126
30.0000	0.134E-07	0.371E-07	0.760E-02	0.644E-02	0.108E-02	0.0	0.0057	0.0073	0.0151	0.0130	0.0118
40.0000	0.999E-08	0.209E-07	0.604E-02	0.720E-02	0.127E-02	0.0	0.0046	0.0083	0.0145	0.0129	0.0114
50.0000	0.795E-08	0.134E-07	0.504E-02	0.778E-02	0.143E-02	0.0	0.0039	0.0090	0.0143	0.0129	0.0111
60.0000	0.660E-08	0.928E-08	0.434E-02	0.824E-02	0.155E-02	0.0	0.0034	0.0096	0.0141	0.0131	0.0110
80.0000	0.493E-08	0.522E-08	0.342E-02	0.894E-02	0.175E-02	0.0	0.0027	0.0106	0.0141	0.0133	0.0107
100.0000	0.393E-08	0.334E-08	0.284E-02	0.945E-02	0.189E-02	0.0	0.0023	0.0112	0.0142	0.0136	0.0104

POLYMETHYL METHACRYLATE [All Units: cm^2/g]

E (MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.279E+04	0.116E+01	0.144E-01	0.0	0.0	2787.0	0.0	0.0	2791.2	2787.0	2787.0
0.0015	0.914E+03	0.104E+01	0.286E-01	0.0	0.0	912.9	0.0	0.0	915.1	912.9	912.9
0.0020	0.403E+03	0.923E+00	0.442E-01	0.0	0.0	402.3	0.0	0.0	404.0	402.3	402.3
0.0030	0.123E+03	0.701E+00	0.731E-01	0.0	0.0	122.7	0.0	0.0	123.8	122.7	122.7
0.0040	0.518E+02	0.535E+00	0.959E-01	0.0	0.0	51.81	0.0	0.0	52.43	51.81	51.81
0.0050	0.263E+02	0.420E+00	0.113E+00	0.0	0.0	26.27	0.0	0.0	26.83	26.27	26.27
0.0060	0.150E+02	0.339E+00	0.125E+00	0.0	0.0	14.98	0.0	0.0	15.46	14.98	14.98
0.0080	0.611E+01	0.239E+00	0.141E+00	0.0	0.0	6.113	0.002	0.0	6.490	6.115	6.115
0.0100	0.302E+01	0.181E+00	0.151E+00	0.0	0.0	3.024	0.003	0.0	3.352	3.027	3.027
0.0150	0.828E+00	0.107E+00	0.166E+00	0.0	0.0	0.8277	0.0050	0.0	1.1010	0.8327	0.8327
0.0200	0.326E+00	0.710E-01	0.174E+00	0.0	0.0	0.3263	0.0067	0.0	0.5710	0.3330	0.3330
0.0300	0.867E-01	0.372E-01	0.179E+00	0.0	0.0	0.0867	0.0098	0.0	0.3029	0.0965	0.0965
0.0400	0.336E-01	0.227E-01	0.179E+00	0.0	0.0	0.0336	0.0124	0.0	0.2353	0.0460	0.0460
0.0500	0.161E-01	0.152E-01	0.176E+00	0.0	0.0	0.0161	0.0146	0.0	0.2073	0.0307	0.0307
0.0600	0.877E-02	0.109E-01	0.173E+00	0.0	0.0	0.0087	0.0166	0.0	0.1927	0.0253	0.0253
0.0800	0.338E-02	0.638E-02	0.165E+00	0.0	0.0	0.0034	0.0196	0.0	0.1748	0.0230	0.0230
0.1000	0.161E-02	0.417E-02	0.158E+00	0.0	0.0	0.0017	0.0220	0.0	0.1638	0.0237	0.0237
0.1500	0.425E-03	0.189E-02	0.143E+00	0.0	0.0	0.0005	0.0261	0.0	0.1453	0.0266	0.0266
0.2000	0.168E-03	0.107E-02	0.132E+00	0.0	0.0	0.0	0.0287	0.0	0.1332	0.0287	0.0287
0.3000	0.472E-04	0.481E-03	0.115E+00	0.0	0.0	0.0	0.0310	0.0	0.1155	0.0310	0.0310
0.4000	0.202E-04	0.271E-03	0.103E+00	0.0	0.0	0.0	0.0319	0.0	0.1033	0.0319	0.0318
0.5000	0.109E-04	0.174E-03	0.939E-01	0.0	0.0	0.0	0.0321	0.0	0.0941	0.0321	0.0320
0.6000	0.677E-05	0.121E-03	0.869E-01	0.0	0.0	0.0	0.0320	0.0	0.0870	0.0320	0.0319
0.8000	0.342E-05	0.679E-04	0.763E-01	0.0	0.0	0.0	0.0312	0.0	0.0764	0.0312	0.0312
1.0000	0.212E-05	0.435E-04	0.687E-01	0.0	0.0	0.0	0.0302	0.0	0.0687	0.0302	0.0301
1.2500	0.134E-05	0.278E-04	0.614E-01	0.152E-04	0.0	0.0	0.0289	0.0	0.0614	0.0289	0.0288
1.5000	0.972E-06	0.193E-04	0.558E-01	0.843E-04	0.0	0.0	0.0276	0.0	0.0559	0.0276	0.0275
2.0000	0.612E-06	0.109E-04	0.476E-01	0.336E-03	0.0	0.0	0.0252	0.0002	0.0479	0.0254	0.0253
3.0000	0.342E-06	0.483E-05	0.375E-01	0.962E-03	0.131E-04	0.0	0.0216	0.0006	0.0385	0.0222	0.0221
4.0000	0.235E-06	0.272E-05	0.312E-01	0.156E-02	0.535E-04	0.0	0.0189	0.0012	0.0328	0.0201	0.0199
5.0000	0.179E-06	0.174E-05	0.270E-01	0.209E-02	0.107E-03	0.0	0.0169	0.0018	0.0292	0.0187	0.0184
6.0000	0.144E-06	0.121E-05	0.239E-01	0.257E-02	0.164E-03	0.0	0.0154	0.0023	0.0266	0.0176	0.0173
8.0000	0.103E-06	0.680E-06	0.195E-01	0.339E-02	0.276E-03	0.0	0.0130	0.0032	0.0232	0.0162	0.0158
10.0000	0.802E-07	0.435E-06	0.166E-01	0.405E-02	0.380E-03	0.0	0.0113	0.0040	0.0210	0.0153	0.0148
15.0000	0.516E-07	0.193E-06	0.123E-01	0.530E-02	0.596E-03	0.0	0.0088	0.0055	0.0182	0.0142	0.0135
20.0000	0.380E-07	0.109E-06	0.987E-02	0.621E-02	0.766E-03	0.0	0.0072	0.0066	0.0168	0.0138	0.0128
30.0000	0.249E-07	0.483E-07	0.718E-02	0.748E-02	0.102E-02	0.0	0.0054	0.0082	0.0157	0.0136	0.0122
40.0000	0.185E-07	0.272E-07	0.571E-02	0.837E-02	0.120E-02	0.0	0.0044	0.0093	0.0153	0.0137	0.0119
50.0000	0.147E-07	0.174E-07	0.477E-02	0.903E-02	0.135E-02	0.0	0.0037	0.0102	0.0152	0.0139	0.0117
60.0000	0.122E-07	0.121E-07	0.411E-02	0.956E-02	0.146E-02	0.0	0.0033	0.0108	0.0151	0.0141	0.0116
80.0000	0.910E-08	0.680E-08	0.324E-02	0.104E-01	0.165E-02	0.0	0.0026	0.0118	0.0153	0.0145	0.0113
100.0000	0.726E-08	0.435E-08	0.269E-02	0.110E-01	0.179E-02	0.0	0.0022	0.0126	0.0155	0.0148	0.0111

POLYSTYRENE [All Units: cm²/g]

E (MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ *	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.204E+04	0.102E+01	0.155E-01	0.0	0.0	2038.0	0.0	0.0	2041.0	2038.0	2038.0
0.0015	0.645E+03	0.907E+00	0.308E-01	0.0	0.0	645.1	0.0	0.0	645.9	645.1	645.1
0.0020	0.278E+03	0.787E+00	0.471E-01	0.0	0.0	278.3	0.0	0.0	278.8	278.3	278.3
0.0030	0.827E+02	0.578E+00	0.768E-01	0.0	0.0	82.70	0.0	0.0	83.35	82.70	82.70
0.0040	0.344E+02	0.433E+00	0.996E-01	0.0	0.0	34.35	0.0	0.0	34.93	34.35	34.35
0.0050	0.172E+02	0.338E+00	0.116E+00	0.0	0.0	17.21	0.0	0.0	17.65	17.21	17.21
0.0060	0.973E+01	0.274E+00	0.127E+00	0.0	0.0	9.728	0.002	0.0	10.131	9.730	9.730
0.0080	0.391E+01	0.196E+00	0.143E+00	0.0	0.0	3.913	0.002	0.0	4.249	3.915	3.915
0.0100	0.192E+01	0.151E+00	0.152E+00	0.0	0.0	1.915	0.003	0.0	2.223	1.918	1.918
0.0150	0.515E+00	0.912E-01	0.168E+00	0.0	0.0	0.5153	0.0050	0.0	0.7742	0.5203	0.5203
0.0200	0.201E+00	0.603E-01	0.175E+00	0.0	0.0	0.2008	0.0068	0.0	0.4363	0.2076	0.2076
0.0300	0.526E-01	0.313E-01	0.180E+00	0.0	0.0	0.0527	0.0098	0.0	0.2639	0.0625	0.0625
0.0400	0.202E-01	0.190E-01	0.179E+00	0.0	0.0	0.0202	0.0124	0.0	0.2182	0.0326	0.0326
0.0500	0.962E-02	0.127E-01	0.176E+00	0.0	0.0	0.0096	0.0146	0.0	0.1983	0.0242	0.0242
0.0600	0.523E-02	0.911E-02	0.173E+00	0.0	0.0	0.0052	0.0165	0.0	0.1873	0.0217	0.0217
0.0800	0.200E-02	0.530E-02	0.165E+00	0.0	0.0	0.0020	0.0196	0.0	0.1723	0.0216	0.0216
0.1000	0.952E-03	0.345E-02	0.158E+00	0.0	0.0	0.0010	0.0220	0.0	0.1624	0.0230	0.0230
0.1500	0.250E-03	0.156E-02	0.143E+00	0.0	0.0	0.0002	0.0261	0.0	0.1448	0.0263	0.0263
0.2000	0.981E-04	0.886E-03	0.131E+00	0.0	0.0	0.0002	0.0284	0.0	0.1320	0.0286	0.0286
0.3000	0.275E-04	0.396E-03	0.114E+00	0.0	0.0	0.0	0.0309	0.0	0.1144	0.0309	0.0309
0.4000	0.117E-04	0.223E-03	0.102E+00	0.0	0.0	0.0	0.0318	0.0	0.1022	0.0318	0.0318
0.5000	0.631E-05	0.143E-03	0.936E-01	0.0	0.0	0.0	0.0320	0.0	0.0937	0.0320	0.0320
0.6000	0.392E-05	0.993E-04	0.866E-01	0.0	0.0	0.0	0.0318	0.0	0.0867	0.0318	0.0318
0.8000	0.198E-05	0.558E-04	0.761E-01	0.0	0.0	0.0	0.0311	0.0	0.0762	0.0311	0.0311
1.0000	0.123E-05	0.357E-04	0.684E-01	0.0	0.0	0.0	0.0301	0.0	0.0684	0.0301	0.0301
1.2500	0.770E-06	0.229E-04	0.612E-01	0.136E-04	0.0	0.0	0.0288	0.0	0.0612	0.0288	0.0287
1.5000	0.559E-06	0.159E-04	0.556E-01	0.758E-04	0.0	0.0	0.0275	0.0	0.0557	0.0275	0.0274
2.0000	0.353E-06	0.894E-05	0.475E-01	0.302E-03	0.0	0.0	0.0252	0.0001	0.0478	0.0253	0.0252
3.0000	0.198E-06	0.397E-05	0.373E-01	0.865E-03	0.131E-04	0.0	0.0215	0.0006	0.0382	0.0221	0.0220
4.0000	0.136E-06	0.224E-05	0.311E-01	0.140E-02	0.533E-04	0.0	0.0188	0.0011	0.0326	0.0200	0.0198
5.0000	0.104E-06	0.143E-05	0.269E-01	0.189E-02	0.106E-03	0.0	0.0169	0.0016	0.0289	0.0184	0.0182
6.0000	0.834E-07	0.994E-06	0.238E-01	0.232E-02	0.163E-03	0.0	0.0153	0.0021	0.0263	0.0173	0.0171
8.0000	0.599E-07	0.559E-06	0.194E-01	0.305E-02	0.275E-03	0.0	0.0129	0.0029	0.0227	0.0159	0.0155
10.0000	0.467E-07	0.358E-06	0.166E-01	0.365E-02	0.379E-03	0.0	0.0113	0.0036	0.0206	0.0149	0.0145
15.0000	0.300E-07	0.159E-06	0.123E-01	0.478E-02	0.595E-03	0.0	0.0087	0.0050	0.0177	0.0137	0.0130
20.0000	0.221E-07	0.894E-07	0.984E-02	0.560E-02	0.764E-03	0.0	0.0072	0.0060	0.0162	0.0132	0.0123
30.0000	0.145E-07	0.397E-07	0.716E-02	0.675E-02	0.102E-02	0.0	0.0054	0.0075	0.0149	0.0129	0.0116
40.0000	0.108E-07	0.224E-07	0.569E-02	0.755E-02	0.120E-02	0.0	0.0044	0.0085	0.0144	0.0129	0.0113
50.0000	0.856E-08	0.143E-07	0.475E-02	0.816E-02	0.134E-02	0.0	0.0037	0.0093	0.0143	0.0130	0.0111
60.0000	0.711E-08	0.994E-08	0.409E-02	0.864E-02	0.146E-02	0.0	0.0032	0.0099	0.0142	0.0131	0.0109
80.0000	0.531E-08	0.559E-08	0.323E-02	0.936E-02	0.164E-02	0.0	0.0026	0.0109	0.0142	0.0135	0.0106
100.0000	0.424E-08	0.358E-08	0.268E-02	0.990E-02	0.178E-02	0.0	0.0022	0.0116	0.0144	0.0137	0.0104

POLYTETRAFLUOROETHYLENE [All Units: cm²/g]

E (MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.482E+04	0.149E+01	0.792E-02	0.0	0.0	4794.0	0.0	0.0	4821.5	4794.0	4794.0
0.0015	0.167E+04	0.139E+01	0.163E-01	0.0	0.0	1663.0	0.0	0.0	1671.4	1663.0	1663.0
0.0020	0.759E+03	0.127E+01	0.261E-01	0.0	0.0	756.6	0.0	0.0	760.3	756.6	756.6
0.0030	0.240E+03	0.102E+01	0.465E-01	0.0	0.0	239.6	0.0	0.0	241.1	239.6	239.6
0.0040	0.104E+03	0.809E+00	0.651E-01	0.0	0.0	103.5	0.0	0.0	104.9	103.5	103.5
0.0050	0.533E+02	0.646E+00	0.806E-01	0.0	0.0	53.28	0.0	0.0	54.03	53.28	53.28
0.0060	0.308E+02	0.524E+00	0.930E-01	0.0	0.0	30.78	0.0	0.0	31.42	30.78	30.78
0.0080	0.128E+02	0.365E+00	0.111E+00	0.0	0.0	12.78	0.0	0.0	13.28	12.78	12.78
0.0100	0.641E+01	0.271E+00	0.122E+00	0.0	0.0	6.407	0.003	0.0	6.803	6.410	6.410
0.0150	0.179E+01	0.155E+00	0.139E+00	0.0	0.0	1.793	0.004	0.0	2.084	1.797	1.797
0.0200	0.717E+00	0.103E+00	0.147E+00	0.0	0.0	0.7168	0.0058	0.0	0.9670	0.7226	0.7226
0.0300	0.194E+00	0.543E-01	0.154E+00	0.0	0.0	0.1938	0.0085	0.0	0.4023	0.2023	0.2023
0.0400	0.759E-01	0.334E-01	0.155E+00	0.0	0.0	0.0759	0.0109	0.0	0.2643	0.0868	0.0868
0.0500	0.366E-01	0.225E-01	0.154E+00	0.0	0.0	0.0366	0.0129	0.0	0.2131	0.0495	0.0495
0.0600	0.201E-01	0.162E-01	0.152E+00	0.0	0.0	0.0200	0.0147	0.0	0.1883	0.0347	0.0347
0.0800	0.779E-02	0.949E-02	0.146E+00	0.0	0.0	0.0077	0.0175	0.0	0.1633	0.0252	0.0252
0.1000	0.374E-02	0.622E-02	0.140E+00	0.0	0.0	0.0038	0.0196	0.0	0.1500	0.0234	0.0234
0.1500	0.993E-03	0.284E-02	0.127E+00	0.0	0.0	0.0011	0.0232	0.0	0.1308	0.0243	0.0243
0.2000	0.393E-03	0.162E-02	0.117E+00	0.0	0.0	0.0004	0.0254	0.0	0.1190	0.0258	0.0258
0.3000	0.111E-03	0.725E-03	0.102E+00	0.0	0.0	0.0001	0.0276	0.0	0.1028	0.0277	0.0276
0.4000	0.478E-04	0.409E-03	0.914E-01	0.0	0.0	0.0	0.0284	0.0	0.0919	0.0284	0.0284
0.5000	0.258E-04	0.262E-03	0.835E-01	0.0	0.0	0.0	0.0286	0.0	0.0838	0.0286	0.0285
0.6000	0.161E-04	0.182E-03	0.773E-01	0.0	0.0	0.0	0.0284	0.0	0.0775	0.0284	0.0284
0.8000	0.811E-05	0.103E-03	0.679E-01	0.0	0.0	0.0	0.0278	0.0	0.0680	0.0278	0.0277
1.0000	0.504E-05	0.657E-04	0.611E-01	0.0	0.0	0.0	0.0269	0.0	0.0612	0.0269	0.0268
1.2500	0.320E-05	0.420E-04	0.546E-01	0.191E-04	0.0	0.0	0.0257	0.0	0.0547	0.0257	0.0256
1.5000	0.232E-05	0.292E-04	0.496E-01	0.106E-03	0.0	0.0	0.0245	0.0	0.0497	0.0246	0.0245
2.0000	0.146E-05	0.164E-04	0.424E-01	0.422E-03	0.0	0.0	0.0225	0.0002	0.0428	0.0227	0.0225
3.0000	0.813E-06	0.730E-05	0.333E-01	0.121E-02	0.117E-04	0.0	0.0192	0.0008	0.0345	0.0200	0.0198
4.0000	0.557E-06	0.411E-05	0.278E-01	0.196E-02	0.476E-04	0.0	0.0168	0.0015	0.0298	0.0183	0.0181
5.0000	0.422E-06	0.263E-05	0.240E-01	0.263E-02	0.949E-04	0.0	0.0151	0.0022	0.0267	0.0172	0.0169
6.0000	0.339E-06	0.182E-05	0.212E-01	0.323E-02	0.146E-03	0.0	0.0136	0.0028	0.0246	0.0165	0.0160
8.0000	0.243E-06	0.103E-05	0.174E-01	0.424E-02	0.246E-03	0.0	0.0116	0.0039	0.0219	0.0155	0.0150
10.0000	0.189E-06	0.657E-06	0.148E-01	0.508E-02	0.338E-03	0.0	0.0101	0.0049	0.0202	0.0150	0.0143
15.0000	0.121E-06	0.292E-06	0.109E-01	0.663E-02	0.531E-03	0.0	0.0078	0.0067	0.0181	0.0145	0.0135
20.0000	0.894E-07	0.164E-06	0.878E-02	0.776E-02	0.681E-03	0.0	0.0064	0.0080	0.0172	0.0144	0.0132
30.0000	0.584E-07	0.730E-07	0.639E-02	0.934E-02	0.905E-03	0.0	0.0049	0.0099	0.0166	0.0148	0.0129
40.0000	0.434E-07	0.411E-07	0.508E-02	0.104E-01	0.107E-02	0.0	0.0040	0.0112	0.0166	0.0152	0.0127
50.0000	0.345E-07	0.263E-07	0.424E-02	0.113E-01	0.120E-02	0.0	0.0034	0.0122	0.0167	0.0156	0.0126
60.0000	0.287E-07	0.182E-07	0.365E-02	0.119E-01	0.130E-02	0.0	0.0029	0.0130	0.0169	0.0159	0.0125
80.0000	0.214E-07	0.103E-07	0.288E-02	0.129E-01	0.146E-02	0.0	0.0024	0.0142	0.0172	0.0166	0.0122
100.0000	0.171E-07	0.657E-08	0.239E-02	0.136E-01	0.158E-02	0.0	0.0020	0.0150	0.0176	0.0171	0.0119

TE GAS (METHANE) [All Units: cm^2/g]

E (MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.299E+04	0.118E+01	0.147E-01	0.0	0.0	2984.0	0.0	0.0	2991.2	2984.0	2984.0
0.0015	0.987E+03	0.108E+01	0.295E-01	0.0	0.0	985.1	0.0	0.0	988.1	985.1	985.1
0.0020	0.437E+03	0.955E+00	0.455E-01	0.0	0.0	436.1	0.0	0.0	438.0	436.1	436.1
0.0030	0.134E+03	0.732E+00	0.753E-01	0.0	0.0	133.8	0.0	0.0	134.8	133.8	133.8
0.0040	0.567E+02	0.561E+00	0.987E-01	0.0	0.0	56.65	0.0	0.0	57.36	56.65	56.65
0.0050	0.288E+02	0.440E+00	0.116E+00	0.0	0.0	28.79	0.0	0.0	29.36	28.79	28.79
0.0060	0.165E+02	0.355E+00	0.128E+00	0.0	0.0	16.45	0.0	0.0	16.98	16.45	16.45
0.0080	0.673E+01	0.249E+00	0.145E+00	0.0	0.0	6.728	0.003	0.0	7.124	6.731	6.731
0.0100	0.334E+01	0.188E+00	0.155E+00	0.0	0.0	3.336	0.003	0.0	3.683	3.339	3.339
0.0150	0.916E+00	0.111E+00	0.170E+00	0.0	0.0	0.9159	0.0051	0.0	1.1970	0.9210	0.9210
0.0200	0.362E+00	0.733E-01	0.178E+00	0.0	0.0	0.3617	0.0069	0.0	0.6133	0.3686	0.3686
0.0300	0.963E-01	0.385E-01	0.183E+00	0.0	0.0	0.0963	0.0100	0.0	0.3178	0.1063	0.1063
0.0400	0.374E-01	0.235E-01	0.182E+00	0.0	0.0	0.0374	0.0126	0.0	0.2429	0.0500	0.0500
0.0500	0.179E-01	0.158E-01	0.180E+00	0.0	0.0	0.0179	0.0149	0.0	0.2137	0.0328	0.0328
0.0600	0.978E-02	0.113E-01	0.176E+00	0.0	0.0	0.0098	0.0168	0.0	0.1971	0.0266	0.0266
0.0800	0.377E-02	0.662E-02	0.169E+00	0.0	0.0	0.0037	0.0201	0.0	0.1794	0.0238	0.0238
0.1000	0.180E-02	0.433E-02	0.161E+00	0.0	0.0	0.0019	0.0224	0.0	0.1671	0.0243	0.0243
0.1500	0.475E-03	0.197E-02	0.146E+00	0.0	0.0	0.0005	0.0266	0.0	0.1484	0.0271	0.0271
0.2000	0.188E-03	0.112E-02	0.134E+00	0.0	0.0	0.0002	0.0291	0.0	0.1353	0.0293	0.0293
0.3000	0.529E-04	0.500E-03	0.117E+00	0.0	0.0	0.0	0.0316	0.0	0.1176	0.0316	0.0316
0.4000	0.226E-04	0.282E-03	0.105E+00	0.0	0.0	0.0	0.0325	0.0	0.1053	0.0325	0.0325
0.5000	0.122E-04	0.181E-03	0.957E-01	0.0	0.0	0.0	0.0327	0.0	0.0959	0.0327	0.0327
0.6000	0.759E-05	0.126E-03	0.886E-01	0.0	0.0	0.0	0.0326	0.0	0.0887	0.0326	0.0325
0.8000	0.383E-05	0.707E-04	0.778E-01	0.0	0.0	0.0	0.0318	0.0	0.0779	0.0318	0.0318
1.0000	0.238E-05	0.452E-04	0.700E-01	0.0	0.0	0.0	0.0308	0.0	0.0700	0.0308	0.0307
1.2500	0.150E-05	0.290E-04	0.626E-01	0.155E-04	0.0	0.0	0.0295	0.0	0.0626	0.0294	0.0294
1.5000	0.109E-05	0.201E-04	0.569E-01	0.861E-04	0.0	0.0	0.0281	0.0	0.0570	0.0281	0.0280
2.0000	0.686E-06	0.113E-04	0.485E-01	0.343E-03	0.0	0.0	0.0257	0.0002	0.0489	0.0259	0.0258
3.0000	0.384E-06	0.503E-05	0.382E-01	0.981E-03	0.134E-04	0.0	0.0220	0.0007	0.0392	0.0227	0.0225
4.0000	0.264E-06	0.283E-05	0.319E-01	0.159E-02	0.546E-04	0.0	0.0193	0.0012	0.0335	0.0205	0.0203
5.0000	0.200E-06	0.181E-05	0.275E-01	0.214E-02	0.109E-03	0.0	0.0172	0.0018	0.0298	0.0190	0.0188
6.0000	0.161E-06	0.126E-05	0.243E-01	0.262E-02	0.167E-03	0.0	0.0156	0.0023	0.0271	0.0179	0.0176
8.0000	0.115E-06	0.707E-06	0.199E-01	0.345E-02	0.282E-03	0.0	0.0132	0.0033	0.0236	0.0165	0.0161
10.0000	0.898E-07	0.453E-06	0.169E-01	0.413E-02	0.387E-03	0.0	0.0115	0.0041	0.0214	0.0156	0.0151
15.0000	0.577E-07	0.201E-06	0.125E-01	0.540E-02	0.608E-03	0.0	0.0088	0.0056	0.0185	0.0145	0.0138
20.0000	0.425E-07	0.113E-06	0.101E-01	0.632E-02	0.781E-03	0.0	0.0073	0.0067	0.0172	0.0140	0.0131
30.0000	0.278E-07	0.503E-07	0.733E-02	0.763E-02	0.104E-02	0.0	0.0055	0.0084	0.0160	0.0138	0.0126
40.0000	0.207E-07	0.283E-07	0.582E-02	0.853E-02	0.123E-02	0.0	0.0044	0.0095	0.0156	0.0139	0.0123
50.0000	0.164E-07	0.181E-07	0.486E-02	0.921E-02	0.137E-02	0.0	0.0037	0.0104	0.0154	0.0141	0.0121
60.0000	0.136E-07	0.126E-07	0.419E-02	0.975E-02	0.149E-02	0.0	0.0032	0.0110	0.0154	0.0143	0.0120
80.0000	0.102E-07	0.707E-08	0.330E-02	0.106E-01	0.168E-02	0.0	0.0026	0.0120	0.0156	0.0147	0.0118
100.0000	0.813E-08	0.453E-08	0.274E-02	0.112E-01	0.182E-02	0.0	0.0022	0.0129	0.0158	0.0150	0.0116

WATER, LIQUID [All Units: cm²/g]

E (MeV)	τ/ρ	σ_r/ρ	σ/ρ	κ_n/ρ	κ_e/ρ	τ_{tr}/ρ	σ_{tr}/ρ	κ_{tr}/ρ	μ/ρ	μ_{tr}/ρ	μ_{en}/ρ
0.0010	0.408E+04	0.137E+01	0.132E-01	0.0	0.0	4062.0	0.0	0.0	4081.4	4062.0	4062.0
0.0015	0.137E+04	0.127E+01	0.267E-01	0.0	0.0	1371.0	0.0	0.0	1371.3	1371.0	1371.0
0.0020	0.616E+03	0.115E+01	0.418E-01	0.0	0.0	615.1	0.0	0.0	617.2	615.1	615.1
0.0030	0.192E+03	0.909E+00	0.707E-01	0.0	0.0	191.6	0.0	0.0	193.0	191.6	191.6
0.0040	0.820E+02	0.708E+00	0.943E-01	0.0	0.0	81.90	0.0	0.0	82.80	81.90	81.90
0.0050	0.419E+02	0.558E+00	0.112E+00	0.0	0.0	41.89	0.0	0.0	42.57	41.89	41.89
0.0060	0.241E+02	0.449E+00	0.126E+00	0.0	0.0	24.05	0.0	0.0	24.67	24.05	24.05
0.0080	0.992E+01	0.310E+00	0.144E+00	0.0	0.0	9.914	0.003	0.0	10.374	9.917	9.917
0.0100	0.494E+01	0.231E+00	0.155E+00	0.0	0.0	4.943	0.003	0.0	5.326	4.946	4.946
0.0150	0.137E+01	0.133E+00	0.170E+00	0.0	0.0	1.369	0.005	0.0	1.673	1.374	1.374
0.0200	0.544E+00	0.886E-01	0.177E+00	0.0	0.0	0.5438	0.0068	0.0	0.8096	0.5506	0.5506
0.0300	0.146E+00	0.469E-01	0.183E+00	0.0	0.0	0.1457	0.0100	0.0	0.3759	0.1557	0.1557
0.0400	0.568E-01	0.287E-01	0.183E+00	0.0	0.0	0.0568	0.0127	0.0	0.2685	0.0695	0.0695
0.0500	0.272E-01	0.194E-01	0.180E+00	0.0	0.0	0.0272	0.0150	0.0	0.2266	0.0422	0.0422
0.0600	0.149E-01	0.139E-01	0.177E+00	0.0	0.0	0.0149	0.0170	0.0	0.2058	0.0319	0.0319
0.0800	0.577E-02	0.816E-02	0.170E+00	0.0	0.0	0.0058	0.0202	0.0	0.1839	0.0260	0.0260
0.1000	0.276E-02	0.535E-02	0.163E+00	0.0	0.0	0.0027	0.0228	0.0	0.1711	0.0255	0.0255
0.1500	0.731E-03	0.244E-02	0.147E+00	0.0	0.0	0.0008	0.0269	0.0	0.1502	0.0277	0.0276
0.2000	0.289E-03	0.139E-02	0.135E+00	0.0	0.0	0.0004	0.0293	0.0	0.1367	0.0297	0.0297
0.3000	0.816E-04	0.622E-03	0.118E+00	0.0	0.0	0.0	0.0319	0.0	0.1187	0.0319	0.0319
0.4000	0.349E-04	0.351E-03	0.106E+00	0.0	0.0	0.0	0.0328	0.0	0.1064	0.0328	0.0328
0.5000	0.188E-04	0.225E-03	0.966E-01	0.0	0.0	0.0	0.0330	0.0	0.0968	0.0330	0.0330
0.6000	0.117E-04	0.156E-03	0.894E-01	0.0	0.0	0.0	0.0329	0.0	0.0896	0.0329	0.0328
0.8000	0.592E-05	0.879E-04	0.786E-01	0.0	0.0	0.0	0.0321	0.0	0.0787	0.0321	0.0320
1.0000	0.368E-05	0.563E-04	0.707E-01	0.0	0.0	0.0	0.0311	0.0	0.0708	0.0311	0.0310
1.2500	0.233E-05	0.360E-04	0.632E-01	0.178E-04	0.0	0.0	0.0297	0.0	0.0633	0.0297	0.0296
1.5000	0.169E-05	0.250E-04	0.574E-01	0.982E-04	0.0	0.0	0.0284	0.0	0.0575	0.0284	0.0283
2.0000	0.106E-05	0.141E-04	0.490E-01	0.391E-03	0.0	0.0	0.0260	0.0002	0.0494	0.0262	0.0260
3.0000	0.594E-06	0.626E-05	0.385E-01	0.112E-02	0.135E-04	0.0	0.0222	0.0007	0.0396	0.0230	0.0228
4.0000	0.407E-06	0.352E-05	0.322E-01	0.181E-02	0.551E-04	0.0	0.0195	0.0014	0.0341	0.0209	0.0206
5.0000	0.309E-06	0.225E-05	0.278E-01	0.243E-02	0.110E-03	0.0	0.0174	0.0020	0.0303	0.0194	0.0191
6.0000	0.248E-06	0.156E-05	0.245E-01	0.299E-02	0.169E-03	0.0	0.0158	0.0026	0.0277	0.0184	0.0181
8.0000	0.178E-06	0.880E-06	0.201E-01	0.393E-02	0.284E-03	0.0	0.0134	0.0037	0.0243	0.0171	0.0166
10.0000	0.139E-06	0.563E-06	0.171E-01	0.470E-02	0.391E-03	0.0	0.0117	0.0046	0.0222	0.0163	0.0157
15.0000	0.891E-07	0.250E-06	0.127E-01	0.614E-02	0.613E-03	0.0	0.0091	0.0063	0.0195	0.0153	0.0144
20.0000	0.656E-07	0.141E-06	0.102E-01	0.719E-02	0.788E-03	0.0	0.0075	0.0076	0.0182	0.0150	0.0139
30.0000	0.429E-07	0.626E-07	0.740E-02	0.866E-02	0.105E-02	0.0	0.0056	0.0094	0.0171	0.0150	0.0133
40.0000	0.319E-07	0.352E-07	0.588E-02	0.967E-02	0.124E-02	0.0	0.0046	0.0106	0.0168	0.0152	0.0131
50.0000	0.253E-07	0.225E-07	0.491E-02	0.104E-01	0.139E-02	0.0	0.0039	0.0116	0.0167	0.0155	0.0129
60.0000	0.210E-07	0.156E-07	0.422E-02	0.111E-01	0.151E-02	0.0	0.0034	0.0124	0.0168	0.0158	0.0128
80.0000	0.157E-07	0.880E-08	0.333E-02	0.120E-01	0.169E-02	0.0	0.0028	0.0135	0.0170	0.0163	0.0125
100.0000	0.125E-07	0.563E-08	0.277E-02	0.127E-01	0.183E-02	0.0	0.0024	0.0144	0.0173	0.0167	0.0122

Table 2

Radiative loss factors for electrons generated in Compton interactions (G_σ), for electrons and positrons produced in pair or triplet production processes (G_κ) and the weighted, summed correction factors (1-G) that may be applied to determine the total fraction of energy absorbed in energy transfer processes.

Z=1 HYDROGEN

E (MeV)	G_o	G_r	(1-G)
0.0150	0.0000	0.0000	1.0000
0.0200	0.0000	0.0000	1.0000
0.0300	0.0000	0.0000	1.0000
0.0400	0.0000	0.0000	1.0000
0.0500	0.0000	0.0000	1.0000
0.0600	0.0000	0.0000	1.0000
0.0800	0.0000	0.0000	1.0000
0.1000	0.0000	0.0000	1.0000
0.1500	0.0000	0.0000	1.0000
0.2000	0.0000	0.0000	1.0000
0.3000	0.0000	0.0000	1.0000
0.4000	0.0000	0.0000	1.0000
0.5000	0.0000	0.0000	1.0000
0.6000	0.0000	0.0000	1.0000
0.8000	0.0000	0.0000	1.0000
1.0000	0.0004	0.0000	1.0000
1.2500	0.0005	0.0010	0.9996
1.5000	0.0006	0.0025	0.9994
2.0000	0.0009	0.0053	0.9989
3.0000	0.0016	0.0097	0.9982
4.0000	0.0023	0.0131	0.9975
5.0000	0.0030	0.0158	0.9965
6.0000	0.0038	0.0179	0.9955
8.0000	0.0055	0.0218	0.9937
10.0000	0.0073	0.0251	0.9912
15.0000	0.0120	0.0319	0.9850
20.0000	0.0168	0.0378	0.9787
30.0000	0.0268	0.0481	0.9671
40.0000	0.0368	0.0573	0.9562
50.0000	0.0468	0.0660	0.9445
60.0000	0.0567	0.0743	0.9346
80.0000	0.0761	0.0899	0.9155
100.0000	0.0951	0.1045	0.8986

Z=13 ALUMINUM

E (MeV)	G_e	G_r	(1-G)
0.0100	0.0000	0.0000	1.0000
0.0150	0.0000	0.0000	1.0000
0.0200	0.0000	0.0000	1.0000
0.0300	0.0000	0.0000	1.0000
0.0400	0.0000	0.0000	1.0000
0.0500	0.0000	0.0000	1.0000
0.0600	0.0000	0.0000	1.0000
0.0800	0.0003	0.0000	1.0000
0.1000	0.0004	0.0000	1.0000
0.1500	0.0006	0.0000	1.0000
0.2000	0.0009	0.0000	0.9993
0.3000	0.0015	0.0000	0.9986
0.4000	0.0020	0.0000	0.9983
0.5000	0.0025	0.0000	0.9976
0.6000	0.0029	0.0000	0.9972
0.8000	0.0039	0.0000	0.9964
1.0000	0.0049	0.0000	0.9952
1.2500	0.0061	0.0026	0.9938
1.5000	0.0074	0.0055	0.9923
2.0000	0.0100	0.0110	0.9899
3.0000	0.0157	0.0203	0.9839
4.0000	0.0218	0.0283	0.9771
5.0000	0.0281	0.0356	0.9707
6.0000	0.0345	0.0423	0.9639
8.0000	0.0476	0.0550	0.9496
10.0000	0.0608	0.0670	0.9364
15.0000	0.0932	0.0948	0.9056
20.0000	0.1241	0.1203	0.8781
30.0000	0.1802	0.1657	0.8310
40.0000	0.2292	0.2050	0.7905
50.0000	0.2719	0.2396	0.7552
60.0000	0.3096	0.2701	0.7247
80.0000	0.3728	0.3219	0.6730
100.0000	0.4239	0.3644	0.6311

Z=29 COPPER

E (MeV)	G_o	G_r	(1-G)
0.0100	0.0000	0.0000	1.0000
0.0150	0.0000	0.0000	1.0000
0.0200	0.0000	0.0000	1.0000
0.0300	0.0000	0.0000	1.0000
0.0400	0.0000	0.0000	1.0000
0.0500	0.0000	0.0000	1.0000
0.0600	0.0000	0.0000	1.0000
0.0800	0.0006	0.0000	1.0000
0.1000	0.0009	0.0000	1.0000
0.1500	0.0016	0.0000	0.9994
0.2000	0.0024	0.0000	0.9991
0.3000	0.0038	0.0000	0.9973
0.4000	0.0052	0.0000	0.9956
0.5000	0.0065	0.0000	0.9943
0.6000	0.0078	0.0000	0.9923
0.8000	0.0103	0.0000	0.9901
1.0000	0.0127	0.0000	0.9877
1.2500	0.0157	0.0045	0.9846
1.5000	0.0187	0.0092	0.9817
2.0000	0.0249	0.0178	0.9756
3.0000	0.0377	0.0327	0.9628
4.0000	0.0509	0.0462	0.9502
5.0000	0.0641	0.0587	0.9376
6.0000	0.0772	0.0704	0.9256
8.0000	0.1028	0.0928	0.9027
10.0000	0.1273	0.1137	0.8810
15.0000	0.1831	0.1604	0.8339
20.0000	0.2320	0.2011	0.7927
30.0000	0.3120	0.2682	0.7260
40.0000	0.3752	0.3217	0.6729
50.0000	0.4263	0.3655	0.6294
60.0000	0.4685	0.4022	0.5933
80.0000	0.5346	0.4602	0.5362
100.0000	0.5843	0.5043	0.4926

Z=50 TIN

E (MeV)	G_o	G_r	(1-G)
0.0100	0.0000	0.0000	1.0000
0.0150	0.0000	0.0000	1.0000
0.0200	0.0000	0.0000	1.0000
0.0290	0.0000	0.0000	1.0000
0.0300	0.0000	0.0000	1.0000
0.0400	0.0000	0.0000	1.0000
0.0500	0.0000	0.0000	1.0000
0.0600	0.0000	0.0000	1.0000
0.0800	0.0010	0.0000	1.0000
0.1000	0.0015	0.0000	1.0000
0.1500	0.0028	0.0000	1.0000
0.2000	0.0042	0.0000	0.9995
0.3000	0.0072	0.0000	0.9980
0.4000	0.0100	0.0000	0.9952
0.5000	0.0127	0.0000	0.9921
0.6000	0.0152	0.0000	0.9891
0.8000	0.0199	0.0000	0.9837
1.0000	0.0245	0.0000	0.9787
1.2500	0.0299	0.0070	0.9727
1.5000	0.0353	0.0140	0.9671
2.0000	0.0459	0.0263	0.9572
3.0000	0.0667	0.0476	0.9388
4.0000	0.0869	0.0665	0.9219
5.0000	0.1065	0.0841	0.9052
6.0000	0.1253	0.1005	0.8891
8.0000	0.1607	0.1310	0.8592
10.0000	0.1931	0.1588	0.8325
15.0000	0.2631	0.2184	0.7742
20.0000	0.3207	0.2677	0.7258
30.0000	0.4094	0.3449	0.6498
40.0000	0.4753	0.4031	0.5925
50.0000	0.5263	0.4488	0.5474
60.0000	0.5671	0.4858	0.5109
80.0000	0.6286	0.5420	0.4553
100.0000	0.6733	0.5829	0.4149

Z=82 LEAD

E (MeV)	G_o	G_c	(1-G)
0.0100	0.0000	0.0000	1.0000
0.0130	0.0000	0.0000	1.0000
0.0150	0.0000	0.0000	1.0000
0.0160	0.0000	0.0000	1.0000
0.0200	0.0000	0.0000	1.0000
0.0300	0.0000	0.0000	1.0000
0.0400	0.0000	0.0000	1.0000
0.0500	0.0000	0.0000	1.0000
0.0600	0.0000	0.0000	1.0000
0.0800	0.0015	0.0000	1.0000
0.0880	0.0018	0.0000	1.0000
0.1000	0.0023	0.0000	1.0000
0.1500	0.0047	0.0000	1.0000
0.2000	0.0073	0.0000	1.0000
0.3000	0.0128	0.0000	0.9988
0.4000	0.0183	0.0000	0.9972
0.5000	0.0236	0.0000	0.9943
0.6000	0.0286	0.0000	0.9908
0.8000	0.0379	0.0000	0.9827
1.0000	0.0464	0.0000	0.9740
1.2500	0.0563	0.0111	0.9632
1.5000	0.0656	0.0222	0.9536
2.0000	0.0830	0.0409	0.9370
3.0000	0.1144	0.0714	0.9101
4.0000	0.1430	0.0972	0.8865
5.0000	0.1694	0.1204	0.8652
6.0000	0.1938	0.1416	0.8453
8.0000	0.2378	0.1801	0.8089
10.0000	0.2765	0.2141	0.7765
15.0000	0.3555	0.2843	0.7087
20.0000	0.4168	0.3396	0.6549
30.0000	0.5062	0.4216	0.5745
40.0000	0.5692	0.4802	0.5166
50.0000	0.6163	0.5246	0.4728
60.0000	0.6530	0.5594	0.4383
80.0000	0.7068	0.6104	0.3878
100.0000	0.7449	0.6462	0.3523

Z=92 URANIUM

E (MeV)	G_o	G_r	(1-G)
0.0100	0.0000	0.0000	1.0000
0.0150	0.0000	0.0000	1.0000
0.0170	0.0000	0.0000	1.0000
0.0200	0.0000	0.0000	1.0000
0.0210	0.0000	0.0000	1.0000
0.0220	0.0000	0.0000	1.0000
0.0300	0.0000	0.0000	1.0000
0.0400	0.0000	0.0000	1.0000
0.0500	0.0006	0.0000	1.0000
0.0600	0.0007	0.0000	1.0000
0.0800	0.0017	0.0000	1.0000
0.1000	0.0026	0.0000	1.0000
0.1160	0.0033	0.0000	1.0000
0.1500	0.0052	0.0000	1.0000
0.2000	0.0081	0.0000	1.0000
0.3000	0.0145	0.0000	1.0000
0.4000	0.0209	0.0000	0.9978
0.5000	0.0270	0.0000	0.9951
0.6000	0.0329	0.0000	0.9918
0.8000	0.0438	0.0000	0.9840
1.0000	0.0537	0.0000	0.9749
1.2500	0.0652	0.0123	0.9639
1.5000	0.0758	0.0247	0.9533
2.0000	0.0953	0.0456	0.9345
3.0000	0.1298	0.0790	0.9042
4.0000	0.1604	0.1068	0.8783
5.0000	0.1882	0.1314	0.8553
6.0000	0.2137	0.1536	0.8343
8.0000	0.2591	0.1936	0.7962
10.0000	0.2988	0.2287	0.7625
15.0000	0.3788	0.3006	0.6932
20.0000	0.4403	0.3567	0.6383
30.0000	0.5288	0.4392	0.5573
40.0000	0.5907	0.4976	0.4997
50.0000	0.6365	0.5415	0.4563
60.0000	0.6721	0.5756	0.4225
80.0000	0.7240	0.6252	0.3734
100.0000	0.7604	0.6597	0.3390

TABLE 3
PERCENT DIFFERENCES IN MASS ENERGY-ABSORPTION COEFFICIENTS COMPARED WITH PREVIOUS TABULATIONS

E (MeV)		Z = 1	6	20	50	82
.01	a)	-	+3.6	+1.1	+2.8	-
	b)	-	+9.0	-0.2	-1.5	-1.0
.10	a)	-	+0.5	+0.8	+0.7	-3.2
	b)	-	+0.9	-1.5	+1.2	+9.6
1.0	a)	-	-	-	-	-
	b)	-	-0.4	-	-	+4.0
10.0	a)	-	-	+1.0	+2.2	+4.3
	b)	-	-	-	-	+3.7
20.0						
100.0	b)	-	-1.0	-1.0	+2.2	+5.9

a): Comparison with Hubbell[6]

b): Comparison with Johns and Cunningham[11]

Dashes indicate less than 0.1% difference.

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Mass energy-transfer μ_{tr}/ρ and mass energy-absorption coefficients μ_{en}/ρ are tabulated in units of cm^2/g for photon energies between 1 keV and 100 MeV for 29 elements (Z = 1-92), and 14 mixtures and compounds of general dosimetric interest. Cross sections for photo-effect, incoherent scattering, pair and triplet production are those compiled or generated by the National Institute of Standards and Technology (NIST) (formerly the National Bureau of Standards). Corrections are included for in-flight positron annihilation, previously not applied in NIST calculations for energies above 10 MeV. Agreement with recently published data is good for energies above 1 MeV, but we find differences in mass energy-absorption coefficients in the low energy region of as much as 4% compared with the last NIST compilation, and as much as 9% when compared with other recent compilations.

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