TABELLER

RADIOFYSIK

DEL I

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Göteborgs universitet
Avdelningen för radiofysik

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	Ia	IIa	IIIb	IVb	Vb	VIb	VIIb	VIII			Ib	IIb	IIIa	IVa	Va	VIa	VIIa	0
1	1 H $1s^1$ 1.0079 2.1																	2 He $1s^2$ 4.0026
2	3 Li $1s^2 2s^1$ 6.941 1.0	4 Be $1s^2 2s^2$ 9.0122 1.5											5 B $1s^2 2s^2 2p^1$ 10.811 2.0	6 C $1s^2 2s^2 2p^2$ 12.011 2.5	7 N $1s^2 2s^2 2p^3$ 14.0067 3.0	8 O $1s^2 2s^2 2p^4$ 15.9994 3.5	9 F $1s^2 2s^2 2p^5$ 18.9984 4.0	10 Ne $1s^2 2s^2 2p^6$ 20.179
3	11 Na (Ne) $3s^1$ 22.9898 0.9	12 Mg (Ne) $3s^2$ 24.305 1.2											13 Al (Ne) $3s^2 3p^1$ 26.9815 1.5	14 Si (Ne) $3s^2 3p^2$ 28.0855 1.8	15 P (Ne) $3s^2 3p^3$ 30.9738 2.1	16 S (Ne) $3s^2 3p^4$ 32.066 2.5	17 Cl (Ne) $3s^2 3p^5$ 35.453 3.0	18 Ar (Ne) $3s^2 3p^6$ 39.948
4	19 K (Ar) $4s^1$ 39.0983 0.8	20 Ca (Ar) $4s^2$ 40.078 1.0	21 Sc (Ar) $3d^1 4s^2$ 44.9559 1.3	22 Ti (Ar) $3d^2 4s^2$ 47.88 1.5	23 V (Ar) $3d^3 4s^2$ 50.9415 1.6	24 Cr (Ar) $3d^5 4s^1$ 51.996 1.6	25 Mn (Ar) $3d^5 4s^2$ 54.938 1.5	26 Fe (Ar) $3d^6 4s^2$ 55.847 1.8	27 Co (Ar) $3d^7 4s^2$ 58.9332 1.8	28 Ni (Ar) $3d^8 4s^2$ 58.69 1.8	29 Cu (Ar) $3d^{10} 4s^1$ 63.546 1.9	30 Zn (Ar) $3d^{10} 4s^2$ 65.39 1.6	31 Ga (Ar) $3d^{10} 4s^2 4p^1$ 69.723 1.6	32 Ge (Ar) $3d^{10} 4s^2 4p^2$ 72.59 1.8	33 As (Ar) $3d^{10} 4s^2 4p^3$ 74.9216 2.0	34 Se (Ar) $3d^{10} 4s^2 4p^4$ 78.96 2.4	35 Br (Ar) $3d^{10} 4s^2 4p^5$ 79.904 2.8	36 Kr (Ar) $3d^{10} 4s^2 4p^6$ 83.80
5	37 Rb (Kr) $5s^1$ 85.4678 0.8	38 Sr (Kr) $5s^2$ 87.62 1.0	39 Y (Kr) $4d^1 5s^2$ 88.9059 1.3	40 Zr (Kr) $4d^2 5s^2$ 91.224 1.4	41 Nb (Kr) $4d^4 5s^1$ 92.9064 1.6	42 Mo (Kr) $4d^5 5s^1$ 95.94 1.8	43 Tc (Kr) $4d^5 5s^2$ 98.9062 1.9	44 Ru (Kr) $4d^7 5s^1$ 101.07 2.2	45 Rh (Kr) $4d^8 5s^1$ 102.9055 2.2	46 Pd (Kr) $4d^{10} 5s^0$ 106.42 2.2	47 Ag (Kr) $4d^{10} 5s^1$ 107.868 1.9	48 Cd (Kr) $4d^{10} 5s^2$ 112.41 1.7	49 In (Kr) $4d^{10} 5s^2 5p^1$ 114.82 1.7	50 Sn (Kr) $4d^{10} 5s^2 5p^2$ 118.710 1.8	51 Sb (Kr) $4d^{10} 5s^2 5p^3$ 121.75 1.9	52 Te (Kr) $4d^{10} 5s^2 5p^4$ 127.60 2.1	53 I (Kr) $4d^{10} 5s^2 5p^5$ 126.9045 2.5	54 Xe (Kr) $4d^{10} 5s^2 5p^6$ 131.29
6	55 Cs (Xe) $6s^1$ 132.905 0.7	56 Ba (Xe) $6s^2$ 137.33 0.9	57 La (Xe) $5d^1 6s^2$ 138.9055 1.1	72 Hf (Xe) $4f^{14} 5d^2 6s^2$ 178.49 1.3	73 Ta (Xe) $4f^{14} 5d^3 6s^2$ 180.9479 1.5	74 W (Xe) $4f^{14} 5d^4 6s^2$ 183.85 1.7	75 Re (Xe) $4f^{14} 5d^5 6s^2$ 186.207 1.9	76 Os (Xe) $4f^{14} 5d^6 6s^2$ 190.2 2.2	77 Ir (Xe) $4f^{14} 5d^7 6s^2$ 192.22 2.2	78 Pt (Xe) $4f^{14} 5d^9 6s^1$ 195.08 2.2	79 Au (Xe) $4f^{14} 5d^{10} 6s^1$ 196.9665 2.4	80 Hg (Xe) $4f^{14} 5d^{10} 6s^2$ 200.59 1.9	81 Tl (Xe) $4f^{14} 5d^{10} 6s^2 6p^1$ 204.383 1.8	82 Pb (Xe) $4f^{14} 5d^{10} 6s^2 6p^2$ 207.2 1.8	83 Bi (Xe) $4f^{14} 5d^{10} 6s^2 6p^3$ 208.9804 1.9	84 Po (Xe) $4f^{14} 5d^{10} 6s^2 6p^4$ (209) 2.0	85 At (Xe) $4f^{14} 5d^{10} 6s^2 6p^5$ (210) 2.2	86 Rn (Xe) $4f^{14} 5d^{10} 6s^2 6p^6$ (222)
7	87 Fr (Rn) $7s^1$ (223) 0.7	88 Ra (Rn) $7s^2$ 226.0254 0.9	89 Ac (Rn) $6d^1 7s^2$ (227) 1.1															
LANTHANIDE SERIES				58 Ce (Xe) $4f^2 5d^0 6s^2$ 140.12 1.1	59 Pr (Xe) $4f^3 5d^0 6s^2$ 140.9077 1.1	60 Nd (Xe) $4f^4 5d^0 6s^2$ 144.24 1.20	61 Pm (Xe) $4f^5 5d^0 6s^2$ (147)	62 Sm (Xe) $4f^6 5d^0 6s^2$ 150.36 1.2	63 Eu (Xe) $4f^7 5d^0 6s^2$ 151.96	64 Gd (Xe) $4f^7 5d^1 6s^2$ 157.25 1.1	65 Tb (Xe) $4f^9 5d^0 6s^2$ 158.9254 1.2	66 Dy (Xe) $4f^{10} 5d^0 6s^2$ 162.50 1.2	67 Ho (Xe) $4f^{11} 5d^0 6s^2$ 164.9304 1.2	68 Er (Xe) $4f^{12} 5d^0 6s^2$ 167.26 1.2	69 Tm (Xe) $4f^{13} 5d^0 6s^2$ 168.9342 1.2	70 Yb (Xe) $4f^{14} 5d^0 6s^2$ 173.04 1.1	71 Lu (Xe) $4f^{14} 5d^1 6s^2$ 174.967 1.2
ACTINIDE SERIES				90 Th (Rn) $5f^0 6d^2 7s^2$ 232.0381 1.3	91 Pa (Rn) $5f^2 6d^1 7s^2$ 231.0359 1.5	92 U (Rn) $5f^3 6d^1 7s^2$ 238.0289 1.7	93 Np (Rn) $5f^4 6d^1 7s^2$ 237.0482 1.3	94 Pu (Rn) $5f^6 6d^0 7s^2$ (242) 1.3	95 Am (Rn) $5f^7 6d^0 7s^2$ (243) 1.3	96 Cm (Rn) $5f^7 6d^1 7s^2$ (247)	97 Bk (Rn) $5f^9 6d^0 7s^2$ (247)	98 Cf (Rn) $5f^{10} 6d^0 7s^2$ (249)	99 Es (Rn) $5f^{11} 6d^0 7s^2$ (254)	100 Fm (Rn) $5f^{12} 6d^0 7s^2$ (253)	101 Md (Rn) $5f^{13} 6d^0 7s^2$ (256)	102 No (Rn) $5f^{14} 6d^0 7s^2$ (254)	103 Lr (Rn) $5f^{14} 6d^1 7s^2$ (257)

Numbers between brackets are mass numbers of the most stable or most common isotope.
Atomic weights are conform to the Bulletin of the International Union of Pure and Applied Chemistry, vol. 56, N° 6, 1984. Scaled to Ar (c^{12}) = 12

1 2
3
4
5 6

NEDERLANDS
1 Atoomnummer
2 Oxidatietrap
3 Symbool
4 Elektronenstruktuur
5 Atoommassa
6 Elektronegativiteit

2

FRANÇAIS
1 Nombre atomique
2 Etats d'oxydation
3 Symbole
4 Structure électronique
5 Masse atomique
6 Electronégativité

ENGLISH
1 Atomic number
2 Oxydation states
3 Symbol
4 Electronic Structure
5 Atomic weight
6 Electronegativity

DEUTSCH
1 Atomnummer
2 Oxydationsstufe
3 Symbol
4 Elektronenstruktur
5 Atomgewicht
6 Elektronegativitäten

NEDERLANDS
1 * Benaderende stoechiometrie van het oxide.
2 De oxidatietrappen tussen haakjes komen weinig voor; enkele, zeer zeldzame, werden weggelaten.
3 De afwezigheid van een kleurstreep betekent dat het oxide voor de overeenstemmende oxidatietrap niet bestaat, onstabiel is of slecht, of niet bepaalde zuur-basische eigenschappen heeft.

basisch oxide
zuur oxide
amfoteren
amfoteren overwegend basisch
amfoteren overwegend zuur

FRANÇAIS
1 * Stoechiométrie approximative de l'oxyde.
2 Les états d'oxydation entre parenthèses sont peu fréquents, quelques-uns très rares, sont omis.
3 L'absence de trait coloré signifie que, pour l'état d'oxydation correspondant, l'oxyde n'existe pas, ou est instable ou a des propriétés acido-basiques mal ou non définies.

oxyde basique
oxyde acide
amphotère
amphotère à prédominance basique
amphotère à prédominence acide

ENGLISH
1 * Approximate stoichimetry of the oxide.
2 The stages of oxidation between brackets are not frequent; a few that are very rare have been omitted.
3 The absence of a coloured strip means that for the corresponding stage of oxidation the oxide does not exist, is unstable or that the acid-base properties thereof are not or badly defined.

basic oxide
acid oxide
amphoteric
predominantly basic amphoteric
predominantly acid amphoteric

DEUTSCH
1 * Annäherende Stöchiometrie des Oxyds.
2 Die eingeklammerte Oxydationsstufen kommen nicht oft vor; einige sehr selten vorkommende Stufen wurden ausgelassen.
3 Das Auslassen eines farbigen Striches bedeutet dass das Oxyd für die entsprechende Oxydationsstufe nicht existiert, unstabil ist oder dass dessen Säure-Baseneigenschaften - schlacht oder nicht bestimmt worden sind

basisches Oxyd
saures Oxyd
Amphoter
überwiegend basisches Amphoter
überwiegend saures Amphoter

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Tabell 1 Physical Constants and Conversion Factors

Speed of light in vacuum	$c = 2.998 \times 10^{8}\ \mathrm{m\,s^{-1}}$
Planck's constant	$h = 6.626 \times 10^{-34}\ \mathrm{J\,s}$
	$= 4.1357 \times 10^{-21}\ \mathrm{MeV\,s}$
	$\hbar = 1.055 \times 10^{-34}\ \mathrm{J\,s}$
	$= 6.582 \times 10^{-22}\ \mathrm{MeV\,s}$
Boltzmann's constant	$k = 1.381 \times 10^{-23}\ \mathrm{J\,K^{-1}}$
	$= 8.617 \times 10^{-11}\ \mathrm{MeV\,K^{-1}}$
Avogadro's number	$N_0 = 6.023 \times 10^{26}\ (\mathrm{kmole})^{-1}$
Gravitational constant	$G = 6.67 \times 10^{-11}\ \mathrm{Nm^2\,kg^{-2}}$
Electron charge	$e = 1.602 \times 10^{-19}\ \mathrm{C}$
Electron rest mass	$m_e = 9.109 \times 10^{-31}\ \mathrm{kg}$
	$= 0.511\ \mathrm{MeV}/c^2$
Proton rest mass	$m_p = 1.6726 \times 10^{-27}\ \mathrm{kg}$
	$= 938.28\ \mathrm{MeV}/c^2$
	$= 1836.15\, m_e$
	$= 1.007276\ \mathrm{amu}$
Neutron rest mass	$m_n = 1.6749 \times 10^{-27}\ \mathrm{kg}$
	$= 939.55\ \mathrm{MeV}/c^2$
	$= 1.008665\ \mathrm{amu}$
Permittivity of free space	$\varepsilon_0 = 8.8542 \times 10^{-12}\ \mathrm{C^2\,N^{-1}\,m^{-2}}$
Coulomb's Law constant	$\frac{1}{4\pi\varepsilon_0} = 8.9878 \times 10^{9}\ \mathrm{N\,m^2\,C^{-2}}$
Permeability of free space	$\mu_0 = 4\pi \times 10^{-7}\ \mathrm{H\,m^{-1}}$
	$= 12.5664 \times 10^{-7}\ \mathrm{H\,m^{-1}}$
Atomic mass unit	$\mathrm{amu} = \frac{1}{12} m_{^{12}\mathrm{C}} = \frac{1}{N_0}$
	(or u)
	$= 1.661 \times 10^{-27}\ \mathrm{kg}$
	$= 931.5\ \mathrm{MeV}/c^2$
Faraday	$F = 9.6487 \times 10^{7}\ \mathrm{C\,(kmole)^{-1}}$
Specific electron charge	$\frac{e}{m_e} = 1.759 \times 10^{11}\ \mathrm{C\,kg^{-1}}$
Electron Compton wavelength	$\frac{h}{m_e c} = 2.426 \times 10^{-12}\ \mathrm{m}$
	$\frac{\hbar}{m_e c} = 3.862 \times 10^{-13}\ \mathrm{m}$
Rydberg constant for infinite mass	$R_\infty = 1.09737 \times 10^{7}\ \mathrm{m^{-1}}$
Bohr radius	$a_0 = \frac{4\pi\varepsilon_0 \hbar^2}{m_e e^2}$
	$= 5.29 \times 10^{-11}\ \mathrm{m}$
	$= 0.529\ \text{Å}$
Bohr energy	$E_1 = -\frac{m_e e^4}{(4\pi\varepsilon_0)^2 2\hbar^2}$
	$= -2.17 \times 10^{-18}\ \mathrm{J}$
	$= -13.6\ \mathrm{eV}$
Bohr magneton	$\mu_B = \frac{e\hbar}{2m_e}$
	$= 9.27 \times 10^{-24}\ \mathrm{J\,T^{-1}}$

Nuclear magneton	$\mu_N = \frac{e\hbar}{2m_p}$
	$= 5.05 \times 10^{-27}\ \mathrm{J\,T^{-1}}$
Fine structure constant	$\alpha = \frac{e^2}{4\pi\varepsilon_0 \hbar c}$
	$= 7.30 \times 10^{-3}$
	$\doteq \frac{1}{137}$
Gas constant	$R = 8.31 \times 10^{3}\ \mathrm{J\,K^{-1}\,(kmole)^{-1}}$
Standard volume of ideal gas	$V_0 = 22.42\ \mathrm{m^3\,(kmole)^{-1}}$

Conversion factors

1 eV	$= 1.602 \times 10^{-19}\ \mathrm{J}$
1 J	$= 6.242 \times 10^{18}\ \mathrm{eV}$
1 fermi (F)	$= 10^{-15}\ \mathrm{m}$
1 Å	$= 10^{-10}\ \mathrm{m}$
1 curie	$= 3.7 \times 10^{10}$ disintegration/s
λ (in Å)	$= \frac{hc}{eV} = \frac{12{,}398}{V\ (\text{in volts})}$

Tabell 2 —*SI units and their symbols*

Name	Symbol
coulomb	C
joule	J
kilogram	kg
metre	m
mole	mol
second	s
steradian	sr
watt	W

Tabell 3 —*SI prefixes*

Factor	Prefix	Symbol	Factor	Prefix	Symbol
10^{18}	exa	E	10^{-1}	deci	d
10^{15}	peta	P	10^{-2}	centi	c
10^{12}	tera	T	10^{-3}	milli	m
10^{9}	giga	G	10^{-6}	micro	μ
10^{6}	mega	M	10^{-9}	nano	n
10^{3}	kilo	k	10^{-12}	pico	p
10^{2}	hecto	h	10^{-15}	femto	f
10^{1}	deka	da	10^{-18}	atto	a

Tabell 4 —*Quantities and units for general use*

Definition No.	Quantity: Name	Quantity: Symbol	Unit Symbols: SI	Unit Symbols: SI Restricted Name[a]	Unit Symbols: Special[b]
A.1.a	Particle number	N	1		
A.1.b	Radiant energy	R	J		
A.2.a	(Particle) flux[c]	$\dot{N}$	s^{-1}		
A.2.b	Energy flux	$\dot{R}$	W		
A.3.a	(Particle) fluence	Φ	m^{-2}		
A.3.b	Energy fluence	Ψ	$J\ m^{-2}$		
A.4.a	(Particle) fluence rate[c]	φ	$m^{-2}\ s^{-1}$		
A.4.b	Energy fluence rate	ψ	$W\ m^{-2}$		
A.5.a	Particle radiance[c]	p	$m^{-2}\ s^{-1}\ sr^{-1}$		
A.5.b	Energy radiance	r	$W\ m^{-2}\ sr^{-1}$		
B.1	Cross section	σ	m^2		b
B.2	Mass attenuation coefficient	μ/ρ	$m^2\ kg^{-1}$		
B.3	Mass energy transfer coefficient	μ_{tr}/ρ	$m^2\ kg^{-1}$		
B.4	Mass energy absorption coefficient	μ_{en}/ρ	$m^2\ kg^{-1}$		
B.5	Total mass stopping power	S/ρ	$J\ m^2\ kg^{-1}$		$eV\ m^2\ kg^{-1}$
B.6	Linear energy transfer	L_Δ	$J\ m^{-1}$		$eV\ m^{-1}$ [d]
B.7	Radiation chemical yield	$G(x)$	$mol\ J^{-1}$		
B.8	Mean energy expended per ion pair	W	J		eV
C.1	Energy imparted	ϵ	J		
C.2	Lineal energy	y	$J\ m^{-1}$		$eV\ m^{-1}$ [d]
C.3	Specific energy (imparted)	z	$J\ kg^{-1}$	Gy	rad
C.4	Absorbed dose	D	$J\ kg^{-1}$	Gy	rad
C.5	Absorbed dose rate[c]	$\dot{D}$	$J\ kg^{-1}\ s^{-1}$	$Gy\ s^{-1}$	$rad\ s^{-1}$
C.6	Kerma	K	$J\ kg^{-1}$	Gy	rad
C.7	Kerma rate[c]	$\dot{K}$	$J\ kg^{-1}\ s^{-1}$	$Gy\ s^{-1}$	$rad\ s^{-1}$
C.8	Exposure	X	$C\ kg^{-1}$		R
C.9	Exposure rate[c]	$\dot{X}$	$C\ kg^{-1}\ s^{-1}$		$R\ s^{-1}$
D.1	Decay constant[c]	λ	s^{-1}		
D.2	Activity[c]	A	s^{-1}	Bq	Ci
D.3	Air kerma-rate constant[c]	Γ_δ	$m^2\ J\ kg^{-1}$	$m^2\ Gy\ Bq^{-1}\ s^{-1}$	$m^2\ rad\ Ci^{-1}\ s^{-1}$

[a] The symbol for the special name of the SI unit restricted to specified quantities.
[b] One should not infer that the size of a unit given in this column is equal to the size of a unit on the same line in the other columns.
[c] Day (d), hour (h), and minute (min) may be used instead of second (s).
[d] For practical purposes, keV μm^{-1} may be used as a convenient multiple.

Tabell 5 —*Some derived SI units.*

Quantity	Common Symbol	Name	Symbol	Expression in terms of other units	Expression in terms of SI base units
Capacitance	C	farad	F	CV^{-1}	$m^{-2}\ kg^{-1}\ s^4\ A^2$
Charge	q	coulomb	C	A s	s A
Conductance	G	siemen	S	Ω^{-1} or AV^{-1}	$m^{-2}\ kg^{-1}\ s^3\ A^2$
Conductivity	σ	siemen per meter	$S\ m^{-1}$	$\Omega^{-1}m^{-1}$	$m^{-3}\ kg^{-1}\ s^3\ A^2$
Current density	**J**	ampere per square meter	$A\ m^{-2}$		$m^{-2}\ A$
Electric field strength	**E**	volt per meter	$V\ m^{-1}$		$m\ kg\ s^{-3}\ A^{-1}$
Electric flux density (electric displacement)	**D**	coulomb per square meter	$C\ m^{-2}$		$m^{-2}\ s\ A$
Energy	W	joule	J	N m	$m^2\ kg\ s^{-2}$
Energy flux density (power density)	S	watt per square meter	$W\ m^{-2}$	$J\ s^{-1}m^{-2}$	$kg\ s^{-3}$
Frequency	f	hertz	Hz		s^{-1}
Impedance	Z	ohm	Ω	VA^{-1}	$m^2\ kg\ s^{-3}\ A^{-2}$
Inductance	L	henry	h	$Wb\ A^{-1}$	$m^2\ kg\ s^{-2}\ A^{-2}$
Magnetic field strength	**H**	ampere per meter	$A\ m^{-1}$		$m^{-1}\ A$
Magnetic flux density	**B**	tesla	T	$Wb\ m^{-2}$	$kg\ s^{-2}A^{-1}$
Permeability	μ	henry per meter	$h\ m^{-1}$		$m\ kg\ s^{-2}\ A^{-2}$
Permittivity	ϵ	farad per meter	$F\ m^{-1}$		$m^{-3}\ kg^{-1}\ s^4\ A^2$
Power	P	watt	W	Js^{-1}	$m^2\ kg\ s^{-3}$
Reactance	X	ohm	Ω	VA^{-1}	$m^2\ kg\ s^{-3}\ A^{-2}$
Resistance	R	ohm	Ω	VA^{-1}	$m^2\ kg\ s^{-3}\ A^{-2}$
Resistivity	ρ	ohm meter	$\Omega\ m$		$m^3\ kg\ s^{-3}\ A^{-2}$
Voltage (potential difference)	V	volt	V		

Tabell 6 **Atomic-Electron Binding Energies** (keV)

El	K	L_1	L_2	L_3	M_1	M_2	M_3	M_4	M_5	N_1	N_2	N_3	N_4	N_5
1 H	0.0136													
2 He	0.0246													
3 Li	0.0548	0.0053												
4 Be	0.1121	0.0080												
5 B	0.1880	0.0126	0.0047	0.0047										
6 C	0.2838	0.0180	0.0064	0.0064										
7 N	0.4016	0.0244	0.0092	0.0092										
8 O	0.5320	0.0285	0.0071	0.0071										
9 F	0.6854	0.0340	0.0086	0.0086										
10 Ne	0.8701	0.0485	0.0217	0.0216										
11 Na	1.0721	0.0633	0.0311	0.0311	0.0007									
12 Mg	1.3050	0.0894	0.0514	0.0514	0.0021									
13 Al	1.5596	0.1177	0.0732	0.0727	0.0007	0.0055	0.0055							
14 Si	1.8389	0.1487	0.0995	0.0989	0.0076	0.0030	0.0030							
15 P	2.1455	0.1893	0.1362	0.1353	0.0162	0.0099	0.0099							
16 S	2.4720	0.2292	0.1654	0.1642	0.0158	0.0080	0.0080							
17 Cl	2.8224	0.2702	0.2016	0.2000	0.0175	0.0068	0.0068							
18 Ar	3.2060	0.3263	0.2507	0.2486	0.0292	0.0159	0.0158							
19 K	3.6074	0.3771	0.2963	0.2936	0.0339	0.0178	0.0178							
20 Ca	4.0381	0.4378	0.3500	0.3464	0.0437	0.0254	0.0254							
21 Sc	4.4928	0.5004	0.4067	0.4022	0.0538	0.0323	0.0323	0.0066	0.0066					
22 Ti	4.9664	0.5637	0.4615	0.4555	0.0603	0.0346	0.0346	0.0037	0.0037					
23 V	5.4651	0.6282	0.5205	0.5129	0.0665	0.0378	0.0378	0.0022	0.0022					
24 Cr	5.9892	0.6946	0.5837	0.5745	0.0741	0.0425	0.0425	0.0023	0.0023					
25 Mn	6.5390	0.7690	0.6514	0.6403	0.0839	0.0486	0.0486	0.0033	0.0033					
26 Fe	7.1120	0.8461	0.7211	0.7081	0.0929	0.0540	0.0540	0.0036	0.0036					
27 Co	7.7089	0.9256	0.7936	0.7786	0.1007	0.0595	0.0595	0.0029	0.0029					
28 Ni	8.3328	1.0081	0.8719	0.8547	0.1118	0.0681	0.0681	0.0036	0.0036					
29 Cu	8.9789	1.0961	0.9510	0.9311	0.1198	0.0736	0.0736	0.0016	0.0016					
30 Zn	9.6586	1.1936	1.0428	1.0197	0.1359	0.0866	0.0866	0.0081	0.0081					
31 Ga	10.3671	1.2977	1.1423	1.1154	0.1581	0.1068	0.1029	0.0174	0.0174	0.0015	0.0008	0.0008		
32 Ge	11.1031	1.4143	1.2478	1.2167	0.1800	0.1279	0.1208	0.0287	0.0287	0.0050	0.0023	0.0023		
33 As	11.8667	1.5265	1.3586	1.3231	0.2035	0.1464	0.1405	0.0412	0.0412	0.0085	0.0025	0.0025		
34 Se	12.6578	1.6539	1.4762	1.4358	0.2315	0.1682	0.1619	0.0567	0.0567	0.0120	0.0056	0.0056		
35 Br	13.4737	1.7820	1.5960	1.5499	0.2565	0.1893	0.1815	0.0701	0.0690	0.0273	0.0052	0.0046		
36 Kr	14.3256	1.9210	1.7272	1.6749	0.2921	0.2218	0.2145	0.0950	0.0938	0.0275	0.0147	0.0140		
37 Rb	15.1997	2.0651	1.8639	1.8044	0.3221	0.2474	0.2385	0.1118	0.1103	0.0293	0.0148	0.0140		
38 Sr	16.1046	2.2163	2.0068	1.9396	0.3575	0.2798	0.2691	0.1350	0.1331	0.0377	0.0199	0.0199		
39 Y	17.0384	2.3725	2.1555	2.0800	0.3936	0.3124	0.3003	0.1596	0.1574	0.0454	0.0256	0.0256	0.0024	0.0024
40 Zr	17.9976	2.5316	2.3067	2.2223	0.4303	0.3442	0.3305	0.1824	0.1800	0.0513	0.0287	0.0287	0.0030	0.0030
41 Nb	18.9856	2.6977	2.4647	2.3705	0.4684	0.3784	0.3630	0.2074	0.2046	0.0581	0.0339	0.0339	0.0032	0.0032
42 Mo	19.9995	2.8655	2.6251	2.5202	0.5046	0.4097	0.3923	0.2303	0.2270	0.0618	0.0348	0.0348	0.0018	0.0018
43 Tc	21.0440	3.0425	2.7932	2.6769	0.5440	0.4449	0.4250	0.2564	0.2529	0.0680	0.0389	0.0389	0.0020	0.0020
44 Ru	22.1172	3.2240	2.9669	2.8379	0.5850	0.4828	0.4606	0.2836	0.2794	0.0749	0.0431	0.0431	0.0020	0.0020
45 Rh	23.2199	3.4119	3.1461	3.0038	0.6271	0.5210	0.4962	0.3117	0.3070	0.0810	0.0479	0.0479	0.0025	0.0025
El	K	L_1	L_2	L_3	M_1	M_2	M_3	M_4	M_5	N_1	N_2	N_3	N_4	N_5

Tabell 6 **Atomic-Electron Binding Energies** (keV)

El	K	L_1	L_2	L_3	M_1	M_2	M_3	M_4	M_5	N_1	N_2	N_3	N_4	N_5
1 H	0.0136													
2 He	0.0246													
3 Li	0.0548	0.0053												
4 Be	0.1121	0.0080												
5 B	0.1880	0.0126	0.0047	0.0047										
6 C	0.2838	0.0180	0.0064	0.0064										
7 N	0.4016	0.0244	0.0092	0.0092										
8 O	0.5320	0.0285	0.0071	0.0071										
9 F	0.6854	0.0340	0.0086	0.0086										
10 Ne	0.8701	0.0485	0.0217	0.0216										
11 Na	1.0721	0.0633	0.0311	0.0311	0.0007									
12 Mg	1.3050	0.0894	0.0514	0.0514	0.0021									
13 Al	1.5596	0.1177	0.0732	0.0727	0.0007	0.0055	0.0055							
14 Si	1.8389	0.1487	0.0995	0.0989	0.0076	0.0030	0.0030							
15 P	2.1455	0.1893	0.1362	0.1353	0.0162	0.0099	0.0099							
16 S	2.4720	0.2292	0.1654	0.1642	0.0158	0.0080	0.0080							
17 Cl	2.8224	0.2702	0.2016	0.2000	0.0175	0.0068	0.0068							
18 Ar	3.2060	0.3263	0.2507	0.2486	0.0292	0.0159	0.0158							
19 K	3.6074	0.3771	0.2963	0.2936	0.0339	0.0178	0.0178							
20 Ca	4.0381	0.4378	0.3500	0.3464	0.0437	0.0254	0.0254							
21 Sc	4.4928	0.5004	0.4067	0.4022	0.0538	0.0323	0.0323	0.0066	0.0066					
22 Ti	4.9664	0.5637	0.4615	0.4555	0.0603	0.0346	0.0346	0.0037	0.0037					
23 V	5.4651	0.6282	0.5205	0.5129	0.0665	0.0378	0.0378	0.0022	0.0022					
24 Cr	5.9892	0.6946	0.5837	0.5745	0.0741	0.0425	0.0425	0.0023	0.0023					
25 Mn	6.5390	0.7690	0.6514	0.6403	0.0839	0.0486	0.0486	0.0033	0.0033					
26 Fe	7.1120	0.8461	0.7211	0.7081	0.0929	0.0540	0.0540	0.0036	0.0036					
27 Co	7.7089	0.9256	0.7936	0.7786	0.1007	0.0595	0.0595	0.0029	0.0029					
28 Ni	8.3328	1.0081	0.8719	0.8547	0.1118	0.0681	0.0681	0.0036	0.0036					
29 Cu	8.9789	1.0961	0.9510	0.9311	0.1198	0.0736	0.0736	0.0016	0.0016					
30 Zn	9.6586	1.1936	1.0428	1.0197	0.1359	0.0866	0.0866	0.0081	0.0081					
31 Ga	10.3671	1.2977	1.1423	1.1154	0.1581	0.1068	0.1029	0.0174	0.0174	0.0015	0.0008	0.0008		
32 Ge	11.1031	1.4143	1.2478	1.2167	0.1800	0.1279	0.1208	0.0287	0.0287	0.0050	0.0023	0.0023		
33 As	11.8667	1.5265	1.3586	1.3231	0.2035	0.1464	0.1405	0.0412	0.0412	0.0085	0.0025	0.0025		
34 Se	12.6578	1.6539	1.4762	1.4358	0.2315	0.1682	0.1619	0.0567	0.0567	0.0120	0.0056	0.0056		
35 Br	13.4737	1.7820	1.5960	1.5499	0.2565	0.1893	0.1815	0.0701	0.0690	0.0273	0.0052	0.0046		
36 Kr	14.3256	1.9210	1.7272	1.6749	0.2921	0.2218	0.2145	0.0950	0.0938	0.0275	0.0147	0.0140		
37 Rb	15.1997	2.0651	1.8639	1.8044	0.3221	0.2474	0.2385	0.1118	0.1103	0.0293	0.0148	0.0140		
38 Sr	16.1046	2.2163	2.0068	1.9396	0.3575	0.2798	0.2691	0.1350	0.1331	0.0377	0.0199	0.0199		
39 Y	17.0384	2.3725	2.1555	2.0800	0.3936	0.3124	0.3003	0.1596	0.1574	0.0454	0.0256	0.0256	0.0024	0.0024
40 Zr	17.9976	2.5316	2.3067	2.2223	0.4303	0.3442	0.3305	0.1824	0.1800	0.0513	0.0287	0.0287	0.0030	0.0030
41 Nb	18.9856	2.6977	2.4647	2.3705	0.4684	0.3784	0.3630	0.2074	0.2046	0.0581	0.0339	0.0339	0.0032	0.0032
42 Mo	19.9995	2.8655	2.6251	2.5202	0.5046	0.4097	0.3923	0.2303	0.2270	0.0618	0.0348	0.0348	0.0018	0.0018
43 Tc	21.0440	3.0425	2.7932	2.6769	0.5440	0.4449	0.4250	0.2564	0.2529	0.0680	0.0389	0.0389	0.0020	0.0020
44 Ru	22.1172	3.2240	2.9669	2.8379	0.5850	0.4828	0.4606	0.2836	0.2794	0.0749	0.0431	0.0431	0.0020	0.0020
45 Rh	23.2199	3.4119	3.1461	3.0038	0.6271	0.5210	0.4962	0.3117	0.3070	0.0810	0.0479	0.0479	0.0025	0.0025
El	K	L_1	L_2	L_3	M_1	M_2	M_3	M_4	M_5	N_1	N_2	N_3	N_4	N_5

Tabell 6. **Atomic-Electron Binding Energies** (continued) (keV)

El	K	L_1	L_2	L_3	M_1	M_2	M_3	M_4	M_5	N_1	N_2	N_3	N_4	N_5
46 Pd	24.3503	3.6043	3.3303	3.1733	0.6699	0.5591	0.5315	0.3400	0.3347	0.0864	0.0511	0.0511	0.0015	0.0015
47 Ag	25.5140	3.8058	3.5237	3.3511	0.7175	0.6024	0.5714	0.3728	0.3667	0.0952	0.0626	0.0559	0.0033	0.0033
48 Cd	26.7112	4.0180	3.7270	3.5375	0.7702	0.6507	0.6165	0.4105	0.4037	0.1076	0.0669	0.0669	0.0093	0.0093
49 In	27.9399	4.2375	3.9380	3.7301	0.8256	0.7022	0.6643	0.4508	0.4431	0.1219	0.0774	0.0774	0.0162	0.0162
50 Sn	29.2001	4.4647	4.1561	3.9288	0.8838	0.7564	0.7144	0.4933	0.4848	0.1365	0.0886	0.0886	0.0239	0.0239
51 Sb	30.4912	4.6983	4.3804	4.1322	0.9437	0.8119	0.7656	0.5369	0.5275	0.1520	0.0984	0.0984	0.0314	0.0314
52 Te	31.8138	4.9392	4.6120	4.3414	1.0060	0.8697	0.8187	0.5825	0.5721	0.1683	0.1102	0.1102	0.0398	0.0398
53 I	33.1694	5.1881	4.8521	4.5571	1.0721	0.9305	0.8746	0.6313	0.6194	0.1864	0.1227	0.1227	0.0496	0.0496
54 Xe	34.5644	5.4528	5.1037	4.7822	1.1487	1.0021	0.9406	0.6894	0.6767	0.2133	0.1455	0.1455	0.0695	0.0675
55 Cs	35.9846	5.7143	5.3594	5.0119	1.2171	1.0650	0.9976	0.7395	0.7255	0.2308	0.1723	0.1616	0.0788	0.0765
56 Ba	37.4406	5.9888	5.6236	5.2470	1.2928	1.1367	1.0622	0.7961	0.7807	0.2530	0.1918	0.1797	0.0925	0.0899
57 La	38.9246	6.2663	5.8906	5.4827	1.3613	1.2044	1.1234	0.8485	0.8317	0.2704	0.2058	0.1914	0.0989	0.0989
58 Ce	40.4430	6.5488	6.1642	5.7234	1.4346	1.2728	1.1854	0.9013	0.8833	0.2896	0.2233	0.2072	0.1100	0.1100
59 Pr	41.9906	6.8348	6.4404	5.9643	1.5110	1.3374	1.2422	0.9511	0.9310	0.3045	0.2363	0.2176	0.1132	0.1132
60 Nd	43.5689	7.1260	6.7215	6.2079	1.5753	1.4028	1.2974	0.9999	0.9777	0.3152	0.2433	0.2246	0.1175	0.1175
61 Pm	45.1840	7.4279	7.0128	6.4593	1.6500	1.4714	1.3569	1.0515	1.0269	0.3310	0.2420	0.2420	0.1204	0.1204
62 Sm	46.8342	7.7368	7.3118	6.7162	1.7228	1.5407	1.4198	1.1060	1.0802	0.3457	0.2656	0.2474	0.1290	0.1290
63 Eu	48.5190	8.0520	7.6171	6.9769	1.8000	1.6139	1.4806	1.1606	1.1309	0.3602	0.2839	0.2566	0.1332	0.1332
64 Gd	50.2391	8.3756	7.9303	7.2428	1.8808	1.6883	1.5440	1.2172	1.1852	0.3758	0.2885	0.2709	0.1405	0.1405
65 Tb	51.9957	8.7080	8.2516	7.5140	1.9675	1.7677	1.6113	1.2750	1.2412	0.3979	0.3102	0.2850	0.1470	0.1470
66 Dy	53.7885	9.0458	8.5806	7.7901	2.0468	1.8418	1.6756	1.3325	1.2949	0.4163	0.3318	0.2929	0.1542	0.1542
67 Ho	55.6177	9.3942	8.9178	8.0711	2.1283	1.9228	1.7412	1.3915	1.3514	0.4357	0.3435	0.3066	0.1610	0.1610
68 Er	57.4855	9.7513	9.2643	8.3579	2.2065	2.0058	1.8118	1.4533	1.4093	0.4491	0.3662	0.3200	0.1767	0.1676
69 Tm	59.3896	10.1157	9.6169	8.6480	2.3068	2.0898	1.8845	1.5146	1.4677	0.4717	0.3859	0.3366	0.1796	0.1796
70 Yb	61.3323	10.4864	9.9782	8.9436	2.3981	2.1730	1.9498	1.5763	1.5278	0.4872	0.3967	0.3435	0.1981	0.1849
71 Lu	63.3138	10.8704	10.3486	9.2441	2.4912	2.2635	2.0236	1.6394	1.5885	0.5062	0.4101	0.3593	0.2048	0.1950
72 Hf	65.3508	11.2707	10.7394	9.5607	2.6009	2.3654	2.1076	1.7164	1.6617	0.5381	0.4370	0.3804	0.2238	0.2137
73 Ta	67.4164	11.6815	11.1361	9.8811	2.7080	2.4687	2.1940	1.7932	1.7351	0.5655	0.4648	0.4045	0.2413	0.2293
74 W	69.5250	12.0998	11.5440	10.2068	2.8196	2.5749	2.2810	1.8716	1.8092	0.5950	0.4916	0.4253	0.2588	0.2454
75 Re	71.6764	12.5267	11.9587	10.5353	2.9317	2.6816	2.3673	1.9489	1.8829	0.6250	0.5179	0.4444	0.2737	0.2602
76 Os	73.8708	12.9680	12.3850	10.8709	3.0485	2.7922	2.4572	2.0308	1.9601	0.6543	0.5465	0.4682	0.2894	0.2728
77 Ir	76.1110	13.4185	12.8241	11.2152	3.1737	2.9087	2.5507	2.1161	2.0404	0.6901	0.5771	0.4943	0.3114	0.2949
78 Pt	78.3948	13.8805	13.2726	11.5638	3.2976	3.0270	2.6453	2.2015	2.1211	0.7240	0.6076	0.5191	0.3307	0.3138
79 Au	80.7249	14.3528	13.7336	11.9187	3.4249	3.1478	2.7430	2.2911	2.2057	0.7588	0.6437	0.5454	0.3520	0.3339
80 Hg	83.1023	14.8393	14.2087	12.2839	3.5616	3.2785	2.8471	2.3849	2.2949	0.8030	0.6810	0.5769	0.3785	0.3593
81 Tl	85.5304	15.3467	14.6979	12.6575	3.7041	3.4157	2.9566	2.4851	2.3893	0.8455	0.7213	0.6090	0.4066	0.3862
82 Pb	88.0045	15.8608	15.2000	13.0352	3.8507	3.5542	3.0664	2.5856	2.4840	0.8936	0.7639	0.6445	0.4352	0.4129
83 Bi	90.5259	16.3875	15.7111	13.4186	3.9991	3.6963	3.1769	2.6876	2.5796	0.9382	0.8053	0.6789	0.4636	0.4400
84 Po	93.1000	16.9280	16.2370	13.8100	4.1520	3.8440	3.2930	2.7940	2.6800	0.9870	0.8510	0.7150	0.4950	0.4690
85 At	95.7240	17.4820	16.7760	14.2070	4.3100	3.9940	3.4090	2.9010	2.7810	1.0380	0.8970	0.7510	0.5270	0.4990
86 Rn	98.3970	18.0480	17.3280	14.6100	4.4730	4.1500	3.5290	3.0120	2.8840	1.0900	0.9440	0.7900	0.5580	0.5300
87 Fr	101.1300	18.6340	17.8990	15.0250	4.6440	4.3150	3.6560	3.1290	2.9940	1.1480	0.9990	0.8340	0.5970	0.5670
88 Ra	103.9150	19.2320	18.4840	15.4440	4.8220	4.4830	3.7850	3.2480	3.1050	1.2080	1.0550	0.8790	0.6360	0.6030
89 Ac	106.7560	19.8460	19.0810	15.8700	4.9990	4.6550	3.9150	3.3700	3.2190	1.2690	1.1120	0.9240	0.6760	0.6400
90 Th	109.6500	20.4720	19.6930	16.3000	5.1820	4.8310	4.0460	3.4910	3.3320	1.3300	1.1680	0.9670	0.7130	0.6770
91 Pa	112.5960	21.1050	20.3140	16.7330	5.3610	5.0010	4.1740	3.6060	3.4420	1.3830	1.2170	1.0040	0.7430	0.7080
92 U	115.6020	21.7580	20.9480	17.1680	5.5480	5.1810	4.3040	3.7260	3.5500	1.4410	1.2710	1.0430	0.7790	0.7370
93 Np	118.6690	22.4270	21.6000	17.6100	5.7390	5.3660	4.4350	3.8490	3.6640	1.5010	1.3280	1.0850	0.8160	0.7710
94 Pu	121.7910	23.1040	22.2660	18.0570	5.9330	5.5470	4.5630	3.9700	3.7750	1.5590	1.3800	1.1230	0.8460	0.7980
95 Am	124.9820	23.8080	22.9520	18.5100	6.1330	5.7390	4.6980	4.0960	3.8900	1.6200	1.4380	1.1650	0.8800	0.8290
96 Cm	128.2410	24.5260	23.6510	18.9700	6.3370	5.9370	4.8380	4.2240	4.0090	1.6840	1.4980	1.2070	0.9160	0.8620
97 Bk	131.5560	25.2560	24.3710	19.4350	6.5450	6.1380	4.9760	4.3530	4.1270	1.7480	1.5580	1.2490	0.9550	0.8980
98 Cf	134.9390	26.0100	25.1080	19.9070	6.7610	6.3450	5.1160	4.4840	4.2470	1.8130	1.6200	1.2920	0.9910	0.9300
99 Es	138.3960	26.7820	25.8650	20.3840	6.9810	6.5580	5.2590	4.6170	4.3680	1.8830	1.6830	1.3360	1.0290	0.9650
100 Fm	141.9260	27.5740	26.6410	20.8680	7.2080	6.7760	5.4050	4.7520	4.4910	1.9520	1.7490	1.3790	1.0670	1.0000
101 Md	146.5260	28.3870	27.4380	21.3560	7.4400	7.0010	5.5520	4.8890	4.6150	2.0240	1.8160	1.4240	1.1050	1.0340
102 No	149.2080	29.2210	28.2550	21.8510	7.6780	7.2310	5.7020	5.0280	4.7410	2.0970	1.8850	1.4690	1.1450	1.0700
103 Lr	152.9700	30.0830	29.1030	22.3590	7.9300	7.4740	5.8600	5.1760	4.8760	2.1800	1.9630	1.5230	1.1920	1.1120
104	156.2880	30.8810	29.9860	22.9070	8.1610	7.7380	6.0090	5.3360	5.0140	2.2370	2.0350	1.5540	1.2330	1.1490
El	K	L_1	L_2	L_3	M_1	M_2	M_3	M_4	M_5	N_1	N_2	N_3	N_4	N_5

Tabell 6 **Atomic-Electron Binding Energies** (continued) (keV)

El	N_6	N_7	O_1	O_2	O_3	O_4	O_5	O_6	O_7	P_1	P_2	P_3	P_4	P_5
48 Cd			0.0022	0.0022	0.0022									
49 In			0.0001	0.0008	0.0008									
50 Sn			0.0009	0.0011	0.0011									
51 Sb			0.0067	0.0021	0.0021									
52 Te			0.0116	0.0023	0.0023									
53 I			0.0136	0.0033	0.0033									
54 Xe			0.0234	0.0134	0.0121									
55 Cs			0.0227	0.0131	0.0114									
56 Ba			0.0291	0.0166	0.0146									
57 La			0.0323	0.0144	0.0144									
58 Ce	0.0001	0.0001	0.0378	0.0198	0.0198									
59 Pr	0.0020	0.0020	0.0374	0.0223	0.0223									
60 Nd	0.0015	0.0015	0.0375	0.0211	0.0211									
61 Pm	0.0040	0.0040	0.0380	0.0220	0.0220									
62 Sm	0.0055	0.0055	0.0374	0.0213	0.0213									
63 Eu			0.0318	0.0220	0.0220									
64 Gd	0.0001	0.0001	0.0361	0.0203	0.0203									
65 Tb	0.0026	0.0026	0.0390	0.0254	0.0254									
66 Dy	0.0042	0.0042	0.0629	0.0263	0.0263									
67 Ho	0.0037	0.0037	0.0512	0.0203	0.0203									
68 Er	0.0043	0.0043	0.0598	0.0294	0.0294									
69 Tm	0.0053	0.0053	0.0532	0.0323	0.0323									
70 Yb	0.0063	0.0063	0.0541	0.0234	0.0234									
71 Lu	0.0069	0.0069	0.0568	0.0280	0.0280	0.0046	0.0046							
72 Hf	0.0171	0.0171	0.0649	0.0381	0.0306	0.0066	0.0066							
73 Ta	0.0275	0.0256	0.0711	0.0449	0.0364	0.0057	0.0057							
74 W	0.0379	0.0358	0.0771	0.0468	0.0356	0.0061	0.0061							
75 Re	0.0481	0.0457	0.0828	0.0456	0.0346	0.0035	0.0035							
76 Os	0.0538	0.0510	0.0837	0.0580	0.0454									
77 Ir	0.0640	0.0610	0.0952	0.0630	0.0505	0.0038	0.0038							
78 Pt	0.0745	0.0711	0.1017	0.0653	0.0510	0.0021	0.0021							
79 Au	0.0878	0.0841	0.1078	0.0717	0.0587	0.0025	0.0025							
80 Hg	0.1040	0.0999	0.1203	0.0840	0.0650	0.0098	0.0078							
81 Tl	0.1231	0.1188	0.1363	0.0996	0.0730	0.0153	0.0131							
82 Pb	0.1412	0.1363	0.1473	0.1048	0.0830	0.0218	0.0192							
83 Bi	0.1624	0.1571	0.1593	0.1168	0.0930	0.0265	0.0244			0.0031	0.0007	0.0007		
84 Po	0.1840	0.1780	0.1760	0.1320	0.1020	0.0340	0.0300			0.0080	0.0027	0.0027		
85 At	0.2060	0.1990	0.1920	0.1440	0.1130	0.0410	0.0370			0.0090	0.0040	0.0010		
86 Rn	0.2290	0.2220	0.2080	0.1580	0.1230	0.0480	0.0430			0.0130	0.0060	0.0010		
87 Fr	0.2580	0.2490	0.2290	0.1780	0.1380	0.0600	0.0550			0.0160	0.0080	0.0020		
88 Ra	0.2870	0.2790	0.2510	0.1970	0.1530	0.0720	0.0660			0.0240	0.0140	0.0070		0.0038
89 Ac	0.3160	0.3070	0.2720	0.2170	0.1680	0.0840	0.0760			0.0310	0.0200	0.0120		0.0047
90 Th	0.3440	0.3350	0.2900	0.2360	0.1800	0.0940	0.0870			0.0370	0.0240	0.0150	0.0044	0.0054
91 Pa	0.3660	0.3550	0.3050	0.2450	0.1880	0.0970	0.0900	0.0073		0.0410	0.0240	0.0170	0.0055	0.0059
92 U	0.3890	0.3790	0.3240	0.2570	0.1940	0.1040	0.0950	0.0085		0.0430	0.0270	0.0170	0.0046	0.0056
93 Np	0.4140	0.4030	0.3380	0.2740	0.2060	0.1090	0.1010	0.0097		0.0440	0.0270	0.0170	0.0046	0.0057
94 Pu	0.4360	0.4240	0.3500	0.2830	0.2130	0.1130	0.1020	0.0070		0.0470	0.0290	0.0180	0.0046	0.0058
95 Am	0.4610	0.4460	0.3650	0.2980	0.2190	0.1160	0.1060	0.0079	0.0066	0.0460	0.0290	0.0160		0.0054
96 Cm	0.4840	0.4700	0.3830	0.3130	0.2290	0.1240	0.1100	0.0129	0.0113	0.0480	0.0290	0.0160		0.0055
97 Bk	0.5110	0.4950	0.3990	0.3260	0.2370	0.1300	0.1170	0.0140	0.0122	0.0500	0.0300	0.0160	0.0045	0.0061
98 Cf	0.5380	0.5200	0.4160	0.3410	0.2450	0.1370	0.1220	0.0105	0.0087	0.0520	0.0320	0.0160	0.0044	0.0062
99 Es	0.5640	0.5460	0.4340	0.3570	0.2550	0.1420	0.1270	0.0113	0.0094	0.0540	0.0330	0.0170		0.0057
100 Fm	0.5910	0.5720	0.4520	0.3730	0.2620	0.1490	0.1330	0.0170	0.0147	0.0570	0.0350	0.0170		0.0058
101 Md	0.6180	0.5970	0.4710	0.3890	0.2720	0.1540	0.1370	0.0129	0.0105	0.0590	0.0360	0.0170	0.0042	0.0065
102 No	0.6450	0.6240	0.4900	0.4060	0.2800	0.1610	0.1420	0.0136	0.0111	0.0610	0.0370	0.0170		0.0059
103 Lr	0.6800	0.6580	0.5160	0.4290	0.2960	0.1740	0.1540	0.0199	0.0170	0.0630	0.0380	0.0180		0.0060
104	0.7250	0.7010	0.5350	0.4480	0.3190	0.1900	0.1710	0.0260	0.0228	0.0710	0.0440	0.0210	0.0039	0.0069
El	N_6	N_7	O_1	O_2	O_3	O_4	O_5	O_6	O_7	P_1	P_2	P_3	P_4	P_5
										0.0820	0.0550	0.0330	0.0050	0.0075

Tabell 7 **Fluorescence and Coster-Kronig Yields**

El	ω_K	ω_{L_1}	ω_{L_2}	ω_{L_3}	f_{12}	f_{13}	f_{13}'	f_{23}
5 B	0.0017							
6 C	0.0028							
7 N	0.0052							
8 O	0.0083							
9 F	0.013							
10 Ne	0.018							
11 Na	0.023							
12 Mg	0.030	0.000029	0.0012	0.0012	0.32	0.64	0.000020	
13 Al	0.039	0.000026	0.00075	0.00075	0.32	0.64	0.000016	
14 Si	0.050	0.000030	0.00037	0.00038	0.32	0.64	0.000014	
15 P	0.063	0.000039	0.00031	0.00031	0.32	0.63	0.000012	
16 S	0.078	0.000074	0.00026	0.00026	0.32	0.62	0.000014	
17 Cl	0.097	0.00012	0.00024	0.00024	0.32	0.62	0.000014	
18 Ar	0.118	0.00018	0.00022	0.00022	0.31	0.62	0.000013	
19 K	0.140	0.00024	0.00027	0.00027	0.31	0.62	0.000012	
20 Ca	0.163	0.00031	0.00033	0.00033	0.31	0.61	0.000014	
21 Sc	0.188	0.00039	0.00084	0.00084	0.31	0.60	0.000014	
22 Ti	0.214	0.00047	0.0015	0.0015	0.31	0.59	0.000015	
23 V	0.243	0.00058	0.0026	0.0026	0.31	0.58	0.000016	
24 Cr	0.275	0.00071	0.0037	0.0037	0.31	0.57	0.000018	
25 Mn	0.308	0.00084	0.0050	0.0050	0.30	0.58	0.000019	
26 Fe	0.340	0.0010	0.0063	0.0063	0.30	0.57	0.000021	
27 Co	0.373	0.0012	0.0077	0.0077	0.30	0.56	0.000023	
28 Ni	0.406	0.0014	0.0086	0.0093	0.30	0.55	0.000024	0.028
29 Cu	0.440	0.0016	0.0100	0.011	0.30	0.54	0.000026	0.028
30 Zn	0.474	0.0018	0.011	0.012	0.29	0.54	0.000028	0.026
31 Ga	0.507	0.0021	0.012	0.013	0.29	0.53	0.000030	0.032
32 Ge	0.535	0.0024	0.013	0.015	0.28	0.53	0.000032	0.050
33 As	0.562	0.0028	0.014	0.016	0.28	0.53	0.000034	0.063
34 Se	0.589	0.0032	0.016	0.018	0.28	0.52	0.000036	0.076
35 Br	0.618	0.0036	0.018	0.020	0.28	0.52	0.000038	0.088
36 Kr	0.643	0.0041	0.020	0.022	0.27	0.52	0.000041	0.100
37 Rb	0.667	0.0046	0.022	0.024	0.27	0.52	0.000044	0.109
38 Sr	0.690	0.0051	0.024	0.026	0.27	0.52	0.000047	0.117
39 Y	0.710	0.0059	0.026	0.028	0.26	0.52	0.000052	0.126
40 Zr	0.730	0.0068	0.028	0.031	0.26	0.52	0.000058	0.132
41 Nb	0.747	0.0094	0.031	0.034	0.10	0.61	0.000078	0.137
42 Mo	0.765	0.0100	0.034	0.037	0.10	0.61	0.000081	0.141
43 Tc	0.780	0.011	0.037	0.040	0.10	0.61	0.000088	0.144
44 Ru	0.794	0.012	0.040	0.043	0.10	0.61	0.000096	0.148
45 Rh	0.808	0.013	0.043	0.046	0.10	0.60	0.000100	0.150
46 Pd	0.820	0.014	0.047	0.049	0.10	0.60	0.00011	0.151
47 Ag	0.831	0.016	0.051	0.052	0.10	0.59	0.00012	0.153
48 Cd	0.843	0.018	0.056	0.056	0.10	0.59	0.00014	0.155
49 In	0.853	0.020	0.061	0.060	0.10	0.59	0.00016	0.157
50 Sn	0.862	0.037	0.065	0.064	0.17	0.27	0.00030	0.157
51 Sb	0.870	0.039	0.069	0.069	0.17	0.28	0.00032	0.156
52 Te	0.877	0.041	0.074	0.074	0.18	0.28	0.00034	0.155
53 I	0.884	0.044	0.079	0.079	0.18	0.28	0.00037	0.154
54 Xe	0.891	0.046	0.083	0.085	0.19	0.28	0.00040	0.154
55 Cs	0.897	0.049	0.090	0.091	0.19	0.28	0.00043	0.154
56 Ba	0.902	0.052	0.096	0.097	0.19	0.28	0.00047	0.153
57 La	0.907	0.055	0.103	0.104	0.19	0.29	0.00051	0.153
58 Ce	0.912	0.058	0.110	0.111	0.19	0.29	0.00055	0.153
59 Pr	0.917	0.061	0.117	0.118	0.19	0.29	0.00060	0.153
60 Nd	0.921	0.064	0.124	0.125	0.19	0.30	0.00066	0.152
61 Pm	0.925	0.066	0.132	0.132	0.19	0.30	0.00072	0.151
62 Sm	0.929	0.071	0.140	0.139	0.19	0.30	0.00079	0.150
63 Eu	0.932	0.075	0.149	0.147	0.19	0.30	0.00087	0.149
64 Gd	0.935	0.079	0.158	0.155	0.19	0.30	0.00096	0.147
65 Tb	0.938	0.083	0.167	0.164	0.19	0.30	0.0011	0.145
66 Dy	0.941	0.089	0.178	0.174	0.19	0.30	0.0012	0.143
67 Ho	0.944	0.094	0.189	0.182	0.19	0.30	0.0013	0.142
68 Er	0.947	0.100	0.200	0.192	0.19	0.30	0.0014	0.140
69 Tm	0.949	0.106	0.211	0.201	0.19	0.29	0.0016	0.139
70 Yb	0.951	0.112	0.222	0.210	0.19	0.29	0.0018	0.138
71 Lu	0.953	0.120	0.234	0.220	0.19	0.28	0.0020	0.136
72 Hf	0.955	0.128	0.246	0.231	0.18	0.28	0.0023	0.135
73 Ta	0.957	0.137	0.258	0.243	0.18	0.28	0.0026	0.134
74 W	0.958	0.147	0.270	0.255	0.17	0.28	0.0028	0.133
75 Re	0.959	0.144	0.283	0.268	0.16	0.33	0.0030	0.130
76 Os	0.961	0.130	0.295	0.281	0.16	0.39	0.0029	0.128
77 Ir	0.962	0.120	0.308	0.294	0.15	0.45	0.0028	0.126
78 Pt	0.963	0.114	0.321	0.306	0.14	0.50	0.0028	0.124
79 Au	0.964	0.107	0.334	0.320	0.14	0.53	0.0028	0.122
80 Hg	0.965	0.107	0.347	0.333	0.13	0.56	0.0030	0.120
81 Tl	0.966	0.107	0.360	0.347	0.13	0.57	0.0032	0.118
82 Pb	0.967	0.112	0.373	0.360	0.12	0.58	0.0035	0.116
83 Bi	0.968	0.117	0.387	0.373	0.11	0.58	0.0038	0.113
84 Po	0.968	0.122	0.401	0.386	0.11	0.58	0.0042	0.111
85 At	0.969	0.128	0.415	0.399	0.10	0.59	0.0047	0.111
86 Rn	0.969	0.134	0.429	0.411	0.10	0.58	0.0052	0.110
87 Fr	0.970	0.139	0.443	0.424	0.10	0.58	0.0058	0.109
88 Ra	0.970	0.146	0.456	0.437	0.09	0.58	0.0064	0.108
89 Ac	0.971	0.153	0.468	0.450	0.09	0.58	0.0071	0.108
90 Th	0.971	0.161	0.479	0.463	0.09	0.57	0.0078	0.108
91 Pa	0.972	0.162	0.472	0.476	0.08	0.58	0.0084	0.139
92 U	0.972	0.176	0.467	0.489	0.08	0.57	0.0097	0.167
93 Np	0.973	0.187	0.466	0.502	0.07	0.57	0.011	0.192
94 Pu	0.973	0.205	0.464	0.514	0.05	0.56	0.013	0.198
95 Am	0.974	0.218	0.471	0.526	0.05	0.55	0.014	0.203
96 Cm	0.974	0.228	0.479	0.539	0.04	0.55	0.016	0.200
97 Bk	0.975	0.236	0.485	0.550	0.04	0.54	0.017	0.198
98 Cf	0.975	0.244	0.490	0.560	0.03	0.54	0.019	0.197
99 Es	0.975	0.253	0.497	0.570	0.03	0.54	0.021	0.196
100 Fm	0.976	0.263	0.506	0.579	0.03	0.53	0.023	0.194
101 Md	0.976	0.272	0.515	0.588	0.02	0.53	0.026	0.191
102 No	0.976	0.280	0.524	0.596	0.02	0.52	0.028	0.189
103 Lr	0.977	0.282	0.533	0.604	0.01	0.53	0.030	0.185
104	0.977	0.291	0.544	0.611	0.01	0.52	0.033	0.181
105	0.977	0.300	0.553	0.618	0.01	0.51	0.035	0.178
106	0.978	0.310	0.562	0.624		0.51	0.038	0.174
107	0.978	0.320	0.573	0.630		0.50	0.042	0.171
108	0.978	0.331	0.584	0.635		0.50	0.046	0.165
109	0.978	0.343	0.590	0.640		0.49	0.050	0.163
110	0.979	0.354	0.598	0.644		0.48	0.054	0.158

Table 4. Estimated Percentage Uncertainties for Fluorescence and Coster-Kronig Yields

Z(range)	ω_K	ω_{L_1}	ω_{L_2}	ω_{L_3}	f_{12}	f_{13}	f_{23}
5-10	40-10[a]						
10-20	10-5	>30[a]	>25[a]	>25[a]	10[a]	5[a]	
20-30	5-3	30[a]	25[a,b]	25	15[a]	10[a]	40[a]
30-40	3	30[b]	25	20	15	10	30-20
40-50	2	30-20[b]	25-10	20-10	20[b]	10[b]	20
50-60	2-1	20-15	10	10-5	20	15	20
60-70	1	15	10-5	5	15	10	20-15[a]
70-80	1	15[b]	5	5-3	20[b]	10-5[b]	15
80-90	<1	15	5	3	10	5	15
90-100	<1	15-20	10[b]	3-5	10-50	5-10	15[b]
100-110	1	20	10	5	50-100	15	20

[a] In these regions, yields for molecules and solids may differ from those for atoms by more than the values quoted.

[b] Near breaks in the yield curves, uncertainties may exceed those listed.

Figur 2 **Notations for X-ray Transitions**

Classical designation (Siegbahn notation)	Associated initial - final shell vacancies
K_{α_1}	$K - L_3$
K_{α_2}	$K - L_2$
K_{α_3}	$K - L_1$
K_{β_1}	$K - M_3$
K_{β_2}	$K - N_2N_3$
K_{β_3}	$K - M_2$
K_{β_4}	$K - N_4N_5$
K_{β_5}	$K - M_4M_5$
$KO_{2,3}$	$K - O_2O_3$
$KP_{2,3}$	$K - P_2P_3$
L_{α_1}	$L_3 - M_5$
L_{α_2}	$L_3 - M_4$
L_{β_1}	$L_2 - M_4$
$L_{\beta_{2,15}}$	$L_3 - N_4N_5$
L_{β_3}	$L_1 - M_3$
L_{β_4}	$L_1 - M_2$
L_{β_5}	$L_3 - O_4O_5$
L_{β_6}	$L_3 - N_1$
L_{γ_1}	$L_2 - N_4$
L_{γ_2}	$L_1 - N_2$
L_{γ_3}	$L_1 - N_3$
L_{γ_6}	$L_2 - O_4$
L_η	$L_2 - M_1$
L_ℓ	$L_3 - M_1$
Group designation	**Associated transitions**
K'_{β_1}	$K_{\beta_1} + K_{\beta_3} + K_{\beta_5}$
K'_{β_2}	$K_{\beta_2} + K_{\beta_4} + \ldots$
L_α	$L_{\alpha_1} + L_{\alpha_2}$
L_β	$L_{\beta_1} + L_{\beta_{2,15}} + L_{\beta_3} + L_{\beta_4} + L_{\beta_5} + L_{\beta_6}$
L_γ	$L_{\gamma_1} + L_{\gamma_2} + L_{\gamma_3} + L_{\gamma_6}$

Atomic shell	Associated x-rays
K	$K_{\alpha_1}, K_{\alpha_2}, K_{\alpha_3}, K_{\beta_1}, K_{\beta_2}, K_{\beta_3}, K_{\beta_4}, K_{\beta_5}, KO_{2,3}, KP_{2,3}$
L_1	$L_{\beta_3}, L_{\beta_4}, L_{\gamma_2}, L_{\gamma_3}$
L_2	$L_{\beta_1}, L_\eta, L_{\gamma_1}, L_{\gamma_6}$
L_3	$L_{\alpha_1}, L_{\alpha_2}, L_{\beta_{2,15}}, L_{\beta_5}, L_{\beta_6}, L_\ell$

Tabell 8 X-ray Energies and Intensities (per 100 K-Shell Vacancies)

	$_{5}B$	$_{6}C$	$_{7}N$	$_{8}O$	$_{9}F$	$_{10}Ne$	$_{11}Na$	$_{12}Mg$	$_{13}Al$	$_{14}Si$	$_{15}P$	$_{16}S$	$_{17}Cl$	$_{18}Ar$	$_{19}K$
$K_{\alpha 1}$	**0.183** 0.11 *5*	**0.277** 0.19 *8*	**0.392** 0.35 *14*	**0.525** 0.55 *22*	**0.677** 0.9 *4*	**0.849** 1.20 *12*	**1.041** 1.53 *16*	**1.254** 2.0 *2*	**1.487** 2.6 *3*	**1.740** 3.3 *3*	**2.010** 4.1 *4*	**2.308** 5.0 *5*	**2.622** 6.1 *6*	**2.957** 7.3 *7*	**3.31** 8.5 *9*
$K_{\alpha 2}$	**0.183** 0.056 *23*	**0.277** 0.09 *4*	**0.392** 0.17 *7*	**0.525** 0.28 *11*	**0.677** 0.43 *17*	**0.848** 0.60 *6*	**1.041** 0.77 *8*	**1.254** 1.00 *10*	**1.486** 1.29 *13*	**1.739** 1.64 *17*	**2.009** 2.04 *21*	**2.307** 2.49 *25*	**2.621** 3.0 *3*	**2.955** 3.6 *4*	**3.31** 4.3 *4*
$K_{\beta 1}$									**1.554** 0.0155 *16*	**1.836** 0.056 *6*	**2.136** 0.122 *12*	**2.464** 0.229 *23*	**2.816** 0.38 *4*	**3.190** 0.58 *6*	**3.59** 0.79 *8*
$K_{\beta 3}$									**1.554** 0.0079 *8*	**1.836** 0.028 *3*	**2.136** 0.062 *6*	**2.464** 0.116 *12*	**2.816** 0.192 *20*	**3.190** 0.30 *3*	**3.59** 0.40 *4*
$L_{\beta 1}$														**0.251** 0.011 *3*	**0.296** 0.013 *4*
$L_{\beta 3}$														**0.310** 0.0038 *13*	**0.359** 0.0050 *1*
$L_{\beta 4}$														**0.310** 0.0024 *9*	**0.359** 0.0010

	$_{20}Ca$	$_{21}Sc$	$_{22}Ti$	$_{23}V$	$_{24}Cr$	$_{25}Mn$	$_{26}Fe$	$_{27}Co$	$_{28}Ni$	$_{29}Cu$	$_{30}Zn$	$_{31}Ga$	$_{32}Ge$	$_{33}As$	$_{34}Se$
$K_{\alpha 1}$	**3.692** 9.8 *4*	**4.091** 11.3 *5*	**4.511** 12.8 *6*	**4.952** 14.5 *7*	**5.415** 16.4 *7*	**5.899** 18.3 *8*	**6.404** 20.2 *9*	**6.930** 22.1 *10*	**7.478** 24.0 *11*	**8.048** 26.0 *12*	**8.639** 28.0 *10*	**9.252** 29.8 *11*	**9.886** 31.3 *11*	**10.544** 32.7 *12*	**11.222** 34.1 *12*
$K_{\alpha 2}$	**3.688** 4.93 *22*	**4.086** 5.68 *25*	**4.505** 6.4 *3*	**4.945** 7.3 *3*	**5.405** 8.3 *4*	**5.888** 9.3 *4*	**6.391** 10.2 *5*	**6.915** 11.2 *5*	**7.461** 12.2 *6*	**8.028** 13.3 *6*	**8.616** 14.3 *5*	**9.225** 15.2 *6*	**9.855** 16.1 *6*	**10.508** 16.8 *6*	**11.182** 17.6 *6*
$K_{\beta 1}$	**4.013** 1.02 *5*	**4.461** 1.22 *6*	**4.932** 1.42 *6*	**5.427** 1.64 *7*	**5.947** 1.84 *8*	**6.490** 2.14 *10*	**7.058** 2.40 *11*	**7.649** 2.65 *12*	**8.265** 2.88 *13*	**8.905** 3.10 *14*	**9.572** 3.39 *12*	**10.264** 3.70 *13*	**10.982** 3.98 *14*	**11.726** 4.25 *15*	**12.496** 4.54 *16*
$K_{\beta 2}$												**10.366** 0.0314 *11*	**11.101** 0.097 *4*	**11.864** 0.194 *7*	**12.652** 0.323 *12*
$K_{\beta 3}$	**4.013** 0.519 *23*	**4.461** 0.62 *3*	**4.932** 0.72 *3*	**5.427** 0.84 *4*	**5.947** 0.94 *4*	**6.490** 1.09 *5*	**7.058** 1.23 *6*	**7.649** 1.36 *6*	**8.265** 1.48 *7*	**8.905** 1.59 *7*	**9.572** 1.74 *6*	**10.260** 1.90 *7*	**10.975** 2.05 *7*	**11.720** 2.19 *8*	**12.490** 2.34 *8*
$K_{\beta 5}$							**7.108** 0.00127 *7*	**7.706** 0.00188 *11*	**8.329** 0.00264 *15*	**8.977** 0.00365 *21*	**9.651** 0.00504 *25*	**10.350** 0.0063 *3*	**11.074** 0.0078 *4*	**11.826** 0.0095 *5*	**12.601** 0.0116 *6*
$L_{\alpha 1}$		**0.396** 0.026 *7*	**0.452** 0.063 *16*	**0.511** 0.12 *3*	**0.572** 0.19 *5*	**0.637** 0.26 *7*	**0.704** 0.33 *8*	**0.776** 0.41 *10*	**0.851** 0.50 *13*	**0.929** 0.60 *15*	**1.012** 0.65 *13*	**1.098** 0.70 *14*	**1.188** 0.81 *16*	**1.282** 0.87 *17*	**1.379** 0.98 *20*
$L_{\alpha 2}$		**0.396** 0.0028 *7*	**0.452** 0.0070 *18*	**0.511** 0.013 *3*	**0.572** 0.021 *5*	**0.637** 0.029 *7*	**0.704** 0.037 *9*	**0.776** 0.045 *11*	**0.851** 0.056 *14*	**0.929** 0.066 *17*	**1.012** 0.072 *15*	**1.098** 0.077 *16*	**1.188** 0.090 *18*	**1.282** 0.096 *19*	**1.379** 0.108 *22*
$L_{\beta 1}$	**0.350** 0.016 *4*	**0.400** 0.020 *5*	**0.458** 0.050 *12*	**0.518** 0.096 *24*	**0.581** 0.15 *4*	**0.648** 0.20 *5*	**0.717** 0.25 *6*	**0.791** 0.31 *8*	**0.868** 0.34 *9*	**0.949** 0.39 *10*	**1.035** 0.42 *11*	**1.125** 0.46 *12*	**1.219** 0.49 *12*	**1.317** 0.52 *13*	**1.420** 0.58 *15*
$L_{\beta 3}$	**0.412** 0.0062 *19*	**0.468** 0.0075 *23*	**0.529** 0.009 *3*	**0.590** 0.010 *3*	**0.652** 0.012 *4*	**0.720** 0.014 *4*	**0.792** 0.016 *5*	**0.866** 0.018 *5*	**0.940** 0.020 *6*	**1.022** 0.021 *6*	**1.107** 0.023 *7*	**1.195** 0.024 *7*	**1.294** 0.025 *7*	**1.386** 0.027 *8*	**1.492** 0.029 *9*
$L_{\beta 4}$	**0.412** 0.0039 *12*	**0.468** 0.0048 *15*	**0.529** 0.0056 *17*	**0.590** 0.0067 *20*	**0.652** 0.0079 *24*	**0.720** 0.009 *3*	**0.792** 0.010 *3*	**0.866** 0.012 *4*	**0.940** 0.013 *4*	**1.022** 0.014 *4*	**1.107** 0.015 *5*	**1.191** 0.016 *5*	**1.286** 0.016 *5*	**1.380** 0.018 *5*	**1.486** 0.019 *6*
$L_{\beta 6}$		**0.402** 0.0017 *4*	**0.456** 0.0018 *5*	**0.513** 0.0022 *6*		**0.640** 0.0023 *6*	**0.708** 0.0022 *6*	**0.779** 0.0022 *6*	**0.855** 0.0022 *6*		**1.020** 0.0021 *4*	**1.114** 0.0027 *5*	**1.212** 0.0033 *7*	**1.315** 0.0038 *8*	**1.424** 0.0045 *9*
$L_{\gamma 3}$												**1.297** 0.0012 *4*	**1.412** 0.0042 *13*	**1.524** 0.0047 *15*	**1.648** 0.0051 *16*
L_{η}		**0.353** 0.020 *5*	**0.401** 0.022 *6*	**0.454** 0.026 *7*	**0.510** 0.025 *6*	**0.568** 0.026 *7*	**0.628** 0.028 *7*	**0.693** 0.028 *7*	**0.760** 0.026 *7*	**0.831** 0.028 *7*	**0.907** 0.029 *7*	**0.984** 0.030 *8*	**1.068** 0.031 *8*	**1.155** 0.031 *8*	**1.245** 0.034 *9*
L_{ℓ}		**0.348** 0.026 *7*	**0.395** 0.029 *8*	**0.446** 0.034 *9*	**0.500** 0.033 *9*	**0.556** 0.038 *10*	**0.615** 0.040 *11*	**0.678** 0.043 *11*	**0.743** 0.045 *12*	**0.811** 0.048 *13*	**0.884** 0.047 *10*	**0.957** 0.048 *10*	**1.037** 0.052 *11*	**1.120** 0.053 *11*	**1.204** 0.056 *12*

	$_{35}Br$	$_{36}Kr$	$_{37}Rb$	$_{38}Sr$	$_{39}Y$	$_{40}Zr$	$_{41}Nb$	$_{42}Mo$	$_{43}Tc$	$_{44}Ru$	$_{45}Rh$	$_{46}Pd$	$_{47}Ag$	$_{48}Cd$	$_{49}In$
$K_{\alpha 1}$	**11.924** 35.6 *13*	**12.651** 36.8 *13*	**13.395** 38.0 *14*	**14.165** 39.1 *14*	**14.958** 40.1 *14*	**15.775** 41.0 *12*	**16.615** 41.8 *12*	**17.479** 42.6 *12*	**18.367** 43.3 *12*	**19.279** 44.0 *12*	**20.216** 44.6 *13*	**21.177** 45.1 *13*	**22.163** 45.6 *13*	**23.174** 46.1 *13*	**24.210** 45.3 *13*
$K_{\alpha 2}$	**11.878** 18.4 *7*	**12.598** 19.0 *7*	**13.336** 19.7 *7*	**14.098** 20.3 *7*	**14.883** 20.9 *8*	**15.691** 21.4 *6*	**16.521** 21.9 *6*	**17.374** 22.4 *6*	**18.251** 22.8 *6*	**19.150** 23.2 *7*	**20.074** 23.5 *7*	**21.020** 23.9 *7*	**21.990** 24.2 *7*	**22.984** 24.5 *7*	**24.002** 24.5 *7*
$K_{\alpha 3}$													**21.708** 0.00100 *4*	**22.693** 0.00115 *4*	**23.702** 0.00135 *5*
$K_{\beta 1}$	**13.292** 4.84 *17*	**14.111** 5.12 *19*	**14.961** 5.39 *19*	**15.836** 5.63 *20*	**16.738** 5.89 *21*	**17.667** 6.15 *17*	**18.623** 6.35 *18*	**19.607** 6.61 *19*	**20.619** 6.80 *19*	**21.657** 6.99 *20*	**22.724** 7.18 *20*	**23.819** 7.35 *21*	**24.943** 7.52 *21*	**26.095** 7.69 *22*	**27.276** 7.85 *22*
$K_{\beta 2}$	**13.469** 0.484 *18*	**14.311** 0.676 *24*	**15.185** 0.85 *3*	**16.085** 1.00 *4*	**17.013** 1.13 *4*	**17.969** 1.25 *4*	**18.952** 1.33 *4*	**19.965** 1.45 *4*	**21.005** 1.54 *4*	**22.074** 1.64 *5*	**23.172** 1.72 *5*	**24.299** 1.79 *5*	**25.455** 1.88 *5*	**26.644** 1.98 *6*	**27.863** 2.09 *6*
$K_{\beta 3}$	**13.284** 2.50 *9*	**14.104** 2.64 *10*	**14.952** 2.78 *10*	**15.825** 2.91 *10*	**16.726** 3.04 *11*	**17.653** 3.17 *9*	**18.607** 3.28 *9*	**19.590** 3.41 *10*	**20.599** 3.51 *10*	**21.634** 3.61 *10*	**22.699** 3.71 *10*	**23.791** 3.81 *11*	**24.912** 3.90 *11*	**26.060** 3.99 *11*	**27.238** 4.07 *12*
$K_{\beta 4}$							**18.982** 0.0010 *5*	**19.998** 0.0015 *7*	**21.042** 0.0023 *11*	**22.115** 0.0032 *16*	**23.217** 0.0043 *21*	**24.349** 0.006 *3*	**25.511** 0.007 *3*	**26.702** 0.008 *4*	**27.924** 0.010 *5*
$K_{\beta 5}$	**13.404** 0.0139 *7*	**14.231** 0.0162 *8*	**15.089** 0.0186 *9*	**15.971** 0.0215 *11*	**16.880** 0.0244 *12*	**17.816** 0.0275 *12*	**18.780** 0.0305 *14*	**19.771** 0.0341 *15*	**20.789** 0.0377 *17*	**21.836** 0.0418 *19*	**22.911** 0.0446 *20*	**24.013** 0.0496 *22*	**25.144** 0.0547 *25*	**26.304** 0.060 *3*	**27.493** 0.065 *3*
$KO_{2,3}$															**27.939** 0.0170 *18*
$L_{\alpha 1}$	**1.481** 1.09 *22*	**1.581** 1.20 *24*	**1.694** 1.3 *3*	**1.806** 1.4 *3*	**1.923** 1.5 *3*	**2.042** 1.66 *25*	**2.166** 1.8 *3*	**2.293** 1.9 *3*	**2.424** 2.0 *3*	**2.558** 2.1 *3*	**2.697** 2.3 *3*	**2.839** 2.4 *4*	**2.984** 2.5 *4*	**3.134** 2.6 *4*	**3.287** 2.8 *4*

Tabell 8 **X-ray Energies and Intensities (per 100 K-Shell Vacancies)** (continued)

	$_{35}$Br	$_{36}$Kr	$_{37}$Rb	$_{38}$Sr	$_{39}$Y	$_{40}$Zr	$_{41}$Nb	$_{42}$Mo	$_{43}$Tc	$_{44}$Ru	$_{45}$Rh	$_{46}$Pd	$_{47}$Ag	$_{48}$Cd	$_{49}$In
	continued														
$L_{\alpha 2}$	**1.480** 0.121 24	**1.580** 0.13 3	**1.693** 0.15 3	**1.805** 0.16 3	**1.920** 0.17 3	**2.040** 0.19 3	**2.163** 0.20 3	**2.290** 0.21 3	**2.420** 0.23 3	**2.554** 0.24 4	**2.692** 0.25 4	**2.833** 0.26 4	**2.978** 0.28 4	**3.127** 0.29 5	**3.279** 0.31 5
$L_{\beta 1}$	**1.526** 0.64 16	**1.632** 0.69 17	**1.752** 0.75 19	**1.872** 0.81 20	**1.996** 0.86 21	**2.124** 0.90 14	**2.257** 0.93 14	**2.395** 1.00 15	**2.537** 1.07 16	**2.683** 1.14 17	**2.834** 1.20 18	**2.990** 1.28 19	**3.151** 1.39 21	**3.317** 1.51 23	**3.487** 1.63 25
$L_{\beta 2,15}$					**2.078** 0.0044 9	**2.219** 0.0116 18	**2.367** 0.056 9	**2.518** 0.100 15	**2.675** 0.150 23	**2.836** 0.20 3	**3.001** 0.24 4	**3.172** 0.28 4	**3.348** 0.32 5	**3.528** 0.38 6	**3.714** 0.43 7
$L_{\beta 3}$	**1.601** 0.029 9	**1.707** 0.030 9	**1.827** 0.031 9	**1.947** 0.032 10	**2.072** 0.035 11	**2.201** 0.038 10	**2.335** 0.049 12	**2.473** 0.048 12	**2.617** 0.050 13	**2.763** 0.052 13	**2.916** 0.053 13	**3.073** 0.054 14	**3.234** 0.059 15	**3.402** 0.062 16	**3.573** 0.065 16
$L_{\beta 4}$	**1.593** 0.020 6	**1.699** 0.020 6	**1.818** 0.022 7	**1.936** 0.022 7	**2.060** 0.025 7	**2.187** 0.026 7	**2.319** 0.034 9	**2.456** 0.034 9	**2.598** 0.035 9	**2.741** 0.035 9	**2.891** 0.035 9	**3.045** 0.036 9	**3.203** 0.038 10	**3.367** 0.039 10	**3.535** 0.041 10
$L_{\beta 6}$	**1.523** 0.0052 11	**1.647** 0.0060 12	**1.775** 0.0069 14	**1.902** 0.0079 16	**2.035** 0.0088 18	**2.171** 0.0100 15	**2.312** 0.0110 17	**2.458** 0.0119 18	**2.609** 0.0128 20	**2.763** 0.0139 21	**2.923** 0.0149 23	**3.087** 0.0157 24	**3.256** 0.0166 25	**3.430** 0.018 3	**3.608** 0.019 3
$L_{\gamma 1}$					**2.153** 0.012 3	**2.304** 0.030 5	**2.462** 0.041 6	**2.623** 0.055 8	**2.791** 0.068 10	**2.965** 0.083 13	**3.144** 0.109 17	**3.329** 0.137 21	**3.520** 0.147 23	**3.718** 0.161 25	**3.922** 0.18 3
$L_{\gamma 2}$	**1.777** 0.0013 4	**1.906** 0.0018 6	**2.050** 0.0022 7	**2.196** 0.0027 8	**2.347** 0.0031 9	**2.503** 0.0036 9	**2.664** 0.0050 13	**2.831** 0.0051 13	**3.004** 0.0055 14	**3.181** 0.0059 15	**3.364** 0.0062 16	**3.553** 0.0065 17	**3.743** 0.0073 19	**3.951** 0.0080 20	**4.160** 0.0087 22
$L_{\gamma 3}$	**1.777** 0.0052 16	**1.907** 0.0054 17	**2.051** 0.0058 18	**2.196** 0.0061 19	**2.347** 0.0066 20	**2.503** 0.0072 19	**2.664** 0.0095 24	**2.831** 0.0095 24	**3.004** 0.010 3	**3.181** 0.011 3	**3.364** 0.011 3	**3.553** 0.011 3	**3.750** 0.012 3	**3.951** 0.013 3	**4.160** 0.014 4
L_{η}	**1.339** 0.036 9	**1.435** 0.037 9	**1.542** 0.039 10	**1.649** 0.04 1	**1.762** 0.041 10	**1.876** 0.041 6	**1.996** 0.041 6	**2.120** 0.043 7	**2.249** 0.044 7	**2.382** 0.046 7	**2.519** 0.046 7	**2.660** 0.048 7	**2.806** 0.051 8	**2.957** 0.054 8	**3.112** 0.056 9
L_{ℓ}	**1.293** 0.060 13	**1.383** 0.063 14	**1.482** 0.067 14	**1.582** 0.069 15	**1.686** 0.073 16	**1.792** 0.078 13	**1.902** 0.082 14	**2.016** 0.085 15	**2.133** 0.089 15	**2.253** 0.092 16	**2.377** 0.095 16	**2.503** 0.097 17	**2.634** 0.101 17	**2.767** 0.107 18	**2.905** 0.112 19

	$_{50}$Sn	$_{51}$Sb	$_{52}$Te	$_{53}$I	$_{54}$Xe	$_{55}$Cs	$_{56}$Ba	$_{57}$La	$_{58}$Ce	$_{59}$Pr	$_{60}$Nd	$_{61}$Pm	$_{62}$Sm	$_{63}$Eu	$_{64}$Gd
$K_{\alpha 1}$	**25.271** 45.7 10	**26.359** 46.0 10	**27.472** 46.2 11	**28.612** 46.4 11	**29.782** 46.6 11	**30.973** 46.7 11	**32.194** 46.7 11	**33.442** 46.8 11	**34.720** 47.0 11	**36.026** 47.1 11	**37.361** 47.2 10	**38.725** 47.3 10	**40.118** 47.5 10	**41.542** 47.6 10	**42.996** 47.5 10
$K_{\alpha 2}$	**25.044** 24.7 6	**26.111** 24.9 6	**27.202** 25.0 6	**28.317** 25.2 6	**29.461** 25.3 6	**30.625** 25.5 6	**31.817** 25.6 6	**33.034** 25.7 6	**34.279** 25.9 6	**35.550** 26.1 6	**36.847** 26.2 6	**38.171** 26.3 6	**39.522** 26.4 6	**40.902** 26.6 6	**42.309** 26.6 6
$K_{\alpha 3}$	**24.735** 0.00154 5	**25.793** 0.00179 6	**26.875** 0.00203 6	**27.981** 0.00227 7	**29.112** 0.00262 8	**30.270** 0.00296 9	**31.452** 0.00334 11	**32.658** 0.00373 12	**33.894** 0.00422 13	**35.156** 0.00472 15	**36.443** 0.00531 16	**37.756** 0.00580 18	**39.097** 0.00678 21	**40.467** 0.00727 22	**41.864** 0.00824 25
$K_{\beta 1}$	**28.486** 7.99 18	**29.726** 8.09 18	**30.995** 8.21 18	**32.295** 8.34 19	**33.624** 8.42 19	**34.987** 8.53 19	**36.378** 8.63 19	**37.801** 8.70 19	**39.258** 8.83 20	**40.748** 8.9 2	**42.272** 8.97 19	**43.827** 9.08 19	**45.414** 9.15 19	**47.038** 9.21 19	**48.695** 9.30 19
$K_{\beta 2}$	**29.111** 2.19 5	**30.393** 2.28 5	**31.704** 2.37 5	**33.047** 2.47 6	**34.419** 2.55 6	**35.818** 2.64 6	**37.255** 2.73 6	**38.726** 2.81 6	**40.228** 2.84 6	**41.764** 2.88 7	**43.335** 2.93 6	**44.942** 2.98 6	**46.578** 3.02 6	**48.249** 3.05 6	**49.959** 3.11 6
$K_{\beta 3}$	**28.444** 4.15 9	**29.679** 4.20 9	**30.944** 4.26 10	**32.239** 4.32 10	**33.562** 4.36 10	**34.920** 4.42 10	**36.304** 4.47 10	**37.720** 4.51 10	**39.170** 4.57 10	**40.653** 4.61 10	**42.166** 4.65 10	**43.713** 4.69 10	**45.293** 4.73 10	**46.905** 4.76 10	**48.551** 4.81 10
$K_{\beta 4}$	**29.176** 0.012 6	**30.460** 0.013 6	**31.774** 0.015 7	**33.120** 0.017 8	**34.496** 0.019 9	**35.907** 0.021 10	**37.349** 0.023 11	**38.826** 0.025 12	**40.333** 0.027 13	**41.877** 0.028 14	**43.451** 0.030 15	**45.064** 0.032 16	**46.705** 0.034 17	**48.386** 0.036 18	**50.099** 0.038 19
$K_{\beta 5}$	**28.711** 0.070 3	**29.959** 0.071 3	**31.236** 0.075 3	**32.544** 0.081 3	**33.881** 0.086 4	**35.252** 0.091 4	**36.652** 0.100 4	**38.085** 0.105 4	**39.551** 0.110 5	**41.050** 0.116 5	**42.580** 0.121 5	**44.145** 0.130 5	**45.741** 0.136 6	**47.373** 0.141 6	**49.038** 0.146 6
$KO_{2,3}$	**29.199** 0.049 5	**30.489** 0.092 10	**31.812** 0.147 15	**33.166** 0.212 22	**34.552** 0.29 3	**35.972** 0.35 4	**37.425** 0.40 4	**38.910** 0.45 5	**40.423** 0.42 4	**41.968** 0.42 4	**43.548** 0.42 4	**45.162** 0.42 4	**46.813** 0.42 4	**48.497** 0.42 4	**50.219** 0.45 5
$L_{\alpha 1}$	**3.444** 2.9 3	**3.605** 3.0 3	**3.769** 3.2 3	**3.938** 3.4 4	**4.106** 3.6 4	**4.286** 3.8 4	**4.466** 4.1 4	**4.651** 4.3 5	**4.840** 4.6 5	**5.033** 4.9 5	**5.230** 5.2 3	**5.432** 5.4 3	**5.636** 5.7 3	**5.846** 6.0 3	**6.058** 6.3 4
$L_{\alpha 2}$	**3.435** 0.32 3	**3.595** 0.34 4	**3.759** 0.36 4	**3.926** 0.38 4	**4.093** 0.40 4	**4.272** 0.43 4	**4.451** 0.45 5	**4.634** 0.48 5	**4.822** 0.51 5	**5.013** 0.54 6	**5.208** 0.57 3	**5.408** 0.60 3	**5.610** 0.63 4	**5.816** 0.67 4	**6.026** 0.70 4
$L_{\beta 1}$	**3.663** 1.75 18	**3.843** 1.84 19	**4.029** 1.96 20	**4.221** 2.07 21	**4.414** 2.16 22	**4.620** 2.32 24	**4.828** 2.47 25	**5.042** 2.6 3	**5.263** 2.8 3	**5.489** 3.0 3	**5.722** 3.12 23	**5.961** 3.31 24	**6.206** 3.5 3	**6.457** 3.7 3	**6.713** 3.9 3
$L_{\beta 2,15}$	**3.905** 0.46 5	**4.101** 0.52 6	**4.302** 0.58 6	**4.508** 0.64 7	**4.714** 0.71 7	**4.934** 0.77 8	**5.156** 0.84 9	**5.384** 0.91 10	**5.613** 0.97 10	**5.851** 1.03 11	**6.090** 1.10 7	**6.339** 1.15 7	**6.587** 1.21 7	**6.844** 1.27 8	**7.102** 1.32 8
$L_{\beta 3}$	**3.750** 0.113 23	**3.933** 0.114 23	**4.121** 0.114 23	**4.314** 0.116 23	**4.512** 0.115 23	**4.717** 0.116 23	**4.927** 0.118 24	**5.143** 0.120 24	**5.363** 0.120 24	**5.593** 0.120 24	**5.829** 0.121 18	**6.071** 0.119 18	**6.317** 0.122 18	**6.571** 0.125 19	**6.832** 0.126 19
$L_{\beta 4}$	**3.708** 0.071 14	**3.886** 0.070 14	**4.070** 0.069 14	**4.258** 0.070 14	**4.451** 0.069 14	**4.649** 0.069 14	**4.852** 0.070 14	**5.062** 0.071 14	**5.276** 0.071 14	**5.497** 0.071 14	**5.723** 0.072 11	**5.956** 0.071 11	**6.196** 0.073 11	**6.438** 0.075 11	**6.687** 0.077 12
$L_{\beta 5}$								**5.483** 0.0091 9							**7.243** 0.0108 6
$L_{\beta 6}$	**3.792** 0.0205 21	**3.980** 0.0225 23	**4.173** 0.0245 25	**4.371** 0.026 3	**4.569** 0.029 3	**4.781** 0.031 3	**4.994** 0.034 4	**5.212** 0.036 4	**5.434** 0.039 4	**5.660** 0.042 4	**5.893** 0.0454 25	**6.128** 0.049 3	**6.370** 0.053 3	**6.617** 0.058 3	**6.867** 0.063 4
$L_{\gamma 1}$	**4.132** 0.206 22	**4.349** 0.226 24	**4.572** 0.25 3	**4.802** 0.28 3	**5.034** 0.30 3	**5.281** 0.33 4	**5.531** 0.36 4	**5.792** 0.39 4	**6.054** 0.43 5	**6.327** 0.46 5	**6.604** 0.50 4	**6.892** 0.54 4	**7.183** 0.58 4	**7.484** 0.62 5	**7.790** 0.67 5
$L_{\gamma 2}$	**4.376** 0.016 3	**4.600** 0.016 3	**4.829** 0.017 4	**5.065** 0.018 4	**5.307** 0.018 4	**5.542** 0.019 4	**5.797** 0.020 4	**6.060** 0.020 4	**6.326** 0.021 4	**6.599** 0.021 4	**6.883** 0.022 4	**7.186** 0.022 4	**7.471** 0.023 4	**7.768** 0.023 4	**8.087** 0.024 4
$L_{\gamma 3}$	**4.376** 0.025 5	**4.600** 0.025 5	**4.829** 0.026 5	**5.065** 0.027 6	**5.307** 0.027 6	**5.553** 0.028 6	**5.809** 0.028 6	**6.075** 0.029 6	**6.342** 0.030 6	**6.617** 0.030 6	**6.901** 0.031 5	**7.186** 0.031 5	**7.489** 0.032 5	**7.795** 0.033 5	**8.105** 0.034 6
$L_{\gamma 6}$								**5.891** 0.0042 5							**7.930** 0.0055 6
L_{η}	**3.272** 0.059 6	**3.437** 0.060 6	**3.606** 0.063 6	**3.780** 0.064 7	**3.955** 0.065 7	**4.142** 0.068 7	**4.331** 0.070 7	**4.529** 0.073 7	**4.730** 0.075 8	**4.929** 0.078 8	**5.146** 0.081 6	**5.363** 0.083 6	**5.589** 0.086 6	**5.817** 0.089 7	**6.049** 0.092 7
L_{ℓ}	**3.045** 0.114 15	**3.189** 0.122 16	**3.335** 0.129 17	**3.485** 0.136 18	**3.634** 0.145 19	**3.795** 0.155 20	**3.954** 0.163 21	**4.121** 0.176 23	**4.289** 0.189 24	**4.453** 0.20 3	**4.633** 0.213 20	**4.809** 0.225 22	**4.993** 0.237 23	**5.177** 0.252 24	**5.362** 0.266 25

Tabell 8 **X-ray Energies and Intensities (per 100 K-Shell Vacancies)** (continued)

	$_{65}$Tb	$_{66}$Dy	$_{67}$Ho	$_{68}$Er	$_{69}$Tm	$_{70}$Yb	$_{71}$Lu	$_{72}$Hf	$_{73}$Ta	$_{74}$W	$_{75}$Re	$_{76}$Os	$_{77}$Ir	$_{78}$Pt	$_{79}$Au
$K_{\alpha1}$	**44.482** 47.5 *10*	**45.998** 47.5 *10*	**47.547** 47.5 *10*	**49.128** 47.5 *10*	**50.742** 47.4 *10*	**52.389** 47.4 *10*	**54.070** 47.3 *10*	**55.790** 47.1 *10*	**57.535** 47.2 *10*	**59.318** 47.0 *10*	**61.141** 46.9 *10*	**63.000** 46.7 *10*	**64.896** 46.7 *10*	**66.831** 46.5 *10*	**68.806** 46.4 *10*
$K_{\alpha2}$	**43.744** 26.7 *6*	**45.208** 26.8 *6*	**46.700** 26.9 *6*	**48.221** 27.0 *6*	**49.773** 27.2 *6*	**51.354** 27.2 *6*	**52.965** 27.3 *6*	**54.611** 27.3 *6*	**56.280** 27.3 *6*	**57.981** 27.4 *6*	**59.718** 27.4 *6*	**61.486** 27.4 *6*	**63.287** 27.4 *6*	**65.122** 27.4 *6*	**66.991** 27.5 *6*
$K_{\alpha3}$	**43.288** 0.0092 *3*	**44.743** 0.0102 *3*	**46.224** 0.0111 *3*	**47.734** 0.0126 *4*	**49.274** 0.0135 *4*	**50.846** 0.0145 *4*	**52.443** 0.0159 *5*	**54.080** 0.0173 *5*	**55.735** 0.0192 *6*	**57.425** 0.0206 *6*	**59.150** 0.0224 *7*	**60.903** 0.0242 *7*	**62.693** 0.0261 *8*	**64.514** 0.0298 *9*	**66.372** 0.0326 *10*
$K_{\beta1}$	**50.384** 9.44 *19*	**52.113** 9.58 *20*	**53.877** 9.68 *20*	**55.674** 9.77 *20*	**57.505** 9.86 *20*	**59.383** 9.99 *20*	**61.290** 10.1 *2*	**63.243** 10.20 *21*	**65.222** 10.30 *21*	**67.244** 10.30 *21*	**69.309** 10.40 *21*	**71.414** 10.60 *21*	**73.560** 10.60 *22*	**75.749** 10.70 *22*	**77.982** 10.70 *22*
$K_{\beta2}$	**51.698** 3.15 *7*	**53.476** 3.20 *7*	**55.293** 3.24 *7*	**57.142** 3.28 *7*	**59.028** 3.32 *7*	**60.962** 3.38 *7*	**62.929** 3.42 *7*	**64.942** 3.48 *7*	**66.982** 3.53 *7*	**69.067** 3.58 *7*	**71.195** 3.63 *7*	**73.363** 3.71 *8*	**75.575** 3.75 *8*	**77.831** 3.81 *8*	**80.130** 3.84 *8*
$K_{\beta3}$	**50.228** 4.88 *10*	**51.947** 4.95 *10*	**53.695** 5.0 *1*	**55.480** 5.06 *10*	**57.300** 5.11 *10*	**59.159** 5.18 *10*	**61.050** 5.21 *10*	**62.985** 5.28 *11*	**64.948** 5.32 *11*	**66.950** 5.35 *11*	**68.995** 5.42 *11*	**71.079** 5.48 *11*	**73.202** 5.52 *11*	**75.368** 5.56 *11*	**77.577** 5.57 *11*
$K_{\beta4}$	**51.849** 0.040 *20*	**53.634** 0.042 *21*	**55.457** 0.045 *22*	**57.313** 0.047 *23*	**59.210** 0.049 *24*	**61.141** 0.051 *25*	**63.114** 0.05 *3*	**65.132** 0.06 *3*	**67.181** 0.06 *3*	**69.273** 0.06 *3*	**71.409** 0.07 *3*	**73.590** 0.07 *3*	**75.808** 0.07 *3*	**78.073** 0.08 *4*	**80.382** 0.08 *4*
$K_{\beta5}$	**50.738** 0.156 *6*	**52.475** 0.166 *7*	**54.246** 0.176 *7*	**56.054** 0.186 *8*	**57.898** 0.195 *8*	**59.780** 0.204 *8*	**61.700** 0.213 *9*	**63.662** 0.222 *9*	**65.652** 0.232 *9*	**67.685** 0.241 *10*	**69.760** 0.25 *1*	**71.875** 0.259 *10*	**74.033** 0.268 *11*	**76.233** 0.276 *11*	**78.476** 0.285 *11*
$KO_{2,3}$	**51.970** 0.42 *4*	**53.762** 0.42 *4*	**55.597** 0.42 *4*	**57.456** 0.42 *4*	**59.357** 0.42 *4*	**61.309** 0.41 *4*	**63.286** 0.44 *5*	**65.316** 0.46 *5*	**67.376** 0.49 *5*	**69.484** 0.51 *5*	**71.636** 0.54 *6*	**73.819** 0.56 *6*	**76.054** 0.57 *6*	**78.337** 0.60 *6*	**80.660** 0.62 *6*
$L_{\alpha1}$	**6.273** 6.7 *4*	**6.495** 7.1 *4*	**6.720** 7.4 *4*	**6.949** 7.7 *4*	**7.180** 8.1 *5*	**7.416** 8.3 *4*	**7.656** 8.6 *4*	**7.899** 8.9 *4*	**8.146** 9.3 *4*	**8.398** 9.7 *4*	**8.652** 10.1 *5*	**8.911** 10.4 *5*	**9.175** 10.9 *5*	**9.443** 11.2 *5*	**9.713** 11.6 *5*
$L_{\alpha2}$	**6.239** 0.74 *4*	**6.458** 0.78 *4*	**6.680** 0.82 *5*	**6.905** 0.86 *5*	**7.133** 0.90 *5*	**7.367** 0.93 *4*	**7.605** 0.97 *5*	**7.844** 1.00 *5*	**8.088** 1.04 *5*	**8.335** 1.08 *5*	**8.586** 1.13 *5*	**8.840** 1.17 *5*	**9.099** 1.22 *6*	**9.362** 1.26 *6*	**9.628** 1.30 *6*
$L_{\beta1}$	**6.977** 4.1 *3*	**7.248** 4.4 *3*	**7.526** 4.7 *3*	**7.811** 4.9 *4*	**8.102** 5.2 *4*	**8.402** 5.4 *3*	**8.709** 5.7 *3*	**9.023** 6.0 *3*	**9.343** 6.2 *3*	**9.672** 6.5 *4*	**10.010** 6.7 *4*	**10.354** 7.0 *4*	**10.708** 7.2 *4*	**11.071** 7.5 *4*	**11.443** 7.8 *4*
$L_{\beta2,15}$	**7.367** 1.38 *8*	**7.636** 1.45 *9*	**7.910** 1.49 *9*	**8.186** 1.55 *9*	**8.468** 1.59 *10*	**8.752** 1.62 *8*	**9.044** 1.75 *9*	**9.342** 1.90 *10*	**9.646** 2.05 *10*	**9.955** 2.19 *11*	**10.268** 2.31 *12*	**10.590** 2.44 *13*	**10.912** 2.57 *13*	**11.242** 2.69 *14*	**11.576** 2.82 *14*
$L_{\beta3}$	**7.097** 0.127 *19*	**7.370** 0.131 *20*	**7.653** 0.132 *20*	**7.940** 0.133 *20*	**8.231** 0.137 *21*	**8.537** 0.139 *21*	**8.847** 0.144 *22*	**9.163** 0.147 *22*	**9.488** 0.151 *23*	**9.819** 0.159 *24*	**10.159** 0.152 *23*	**10.511** 0.131 *20*	**10.868** 0.118 *18*	**11.235** 0.109 *16*	**11.610** 0.099 *15*
$L_{\beta4}$	**6.940** 0.078 *12*	**7.204** 0.081 *12*	**7.471** 0.083 *12*	**7.746** 0.085 *13*	**8.026** 0.088 *13*	**8.313** 0.091 *14*	**8.607** 0.096 *15*	**8.905** 0.100 *15*	**9.213** 0.104 *16*	**9.525** 0.112 *17*	**9.845** 0.109 *16*	**10.176** 0.096 *15*	**10.510** 0.088 *13*	**10.854** 0.083 *13*	**11.205** 0.078 *12*
$L_{\beta5}$							**9.240** 0.0103 *5*	**9.554** 0.0268 *12*	**9.875** 0.0372 *17*	**10.201** 0.0483 *22*	**10.532** 0.091 *4*	**10.871** 0.138 *6*	**11.211** 0.179 *8*	**11.562** 0.222 *10*	**11.916** 0.268 *12*
$L_{\beta6}$	**7.116** 0.068 *4*	**7.374** 0.074 *4*	**7.635** 0.079 *4*	**7.909** 0.087 *5*	**8.176** 0.092 *5*	**8.456** 0.098 *5*	**8.738** 0.103 *5*	**9.023** 0.108 *5*	**9.316** 0.114 *5*	**9.612** 0.121 *6*	**9.910** 0.132 *6*	**10.217** 0.143 *7*	**10.525** 0.152 *7*	**10.840** 0.160 *7*	**11.160** 0.170 *8*
$L_{\gamma1}$	**8.105** 0.71 *5*	**8.426** 0.76 *6*	**8.757** 0.82 *6*	**9.088** 0.88 *7*	**9.437** 0.93 *7*	**9.780** 0.99 *6*	**10.144** 1.04 *6*	**10.516** 1.10 *6*	**10.895** 1.16 *7*	**11.285** 1.22 *7*	**11.685** 1.29 *8*	**12.096** 1.35 *8*	**12.513** 1.41 *8*	**12.942** 1.47 *9*	**13.382** 1.56 *9*
$L_{\gamma2}$	**8.398** 0.025 *4*	**8.714** 0.025 *4*	**9.051** 0.026 *4*	**9.385** 0.026 *4*	**9.730** 0.028 *5*	**10.090** 0.029 *5*	**10.460** 0.030 *5*	**10.834** 0.031 *5*	**11.217** 0.033 *5*	**11.608** 0.035 *6*	**12.009** 0.034 *6*	**12.421** 0.030 *5*	**12.841** 0.028 *5*	**13.273** 0.027 *4*	**13.709** 0.025 *4*
$L_{\gamma3}$	**8.423** 0.035 *6*	**8.753** 0.037 *6*	**9.088** 0.038 *6*	**9.431** 0.039 *6*	**9.779** 0.040 *7*	**10.143** 0.041 *7*	**10.511** 0.044 *7*	**10.890** 0.045 *7*	**11.277** 0.047 *8*	**11.675** 0.050 *8*	**12.082** 0.049 *8*	**12.500** 0.043 *7*	**12.924** 0.039 *6*	**13.361** 0.037 *6*	**13.807** 0.034 *6*
$L_{\gamma6}$							**10.344** 0.0063 *6*	**10.733** 0.0167 *16*	**11.130** 0.030 *3*	**11.538** 0.047 *4*	**11.955** 0.081 *8*	**12.385** 0.112 *11*	**12.820** 0.145 *14*	**13.270** 0.180 *17*	**13.731** 0.209 *20*
L_{η}	**6.284** 0.095 *7*	**6.534** 0.099 *7*	**6.789** 0.103 *8*	**7.058** 0.106 *8*	**7.310** 0.110 *8*	**7.580** 0.114 *6*	**7.857** 0.119 *6*	**8.139** 0.124 *7*	**8.428** 0.130 *7*	**8.724** 0.136 *7*	**9.027** 0.142 *8*	**9.337** 0.148 *8*	**9.650** 0.155 *8*	**9.975** 0.163 *9*	**10.309** 0.172 *9*
L_{ℓ}	**5.546** 0.28 *3*	**5.743** 0.30 *3*	**5.943** 0.32 *3*	**6.151** 0.34 *3*	**6.341** 0.36 *3*	**6.545** 0.37 *3*	**6.753** 0.39 *4*	**6.960** 0.41 *4*	**7.173** 0.43 *4*	**7.387** 0.46 *4*	**7.604** 0.49 *4*	**7.822** 0.52 *5*	**8.042** 0.55 *5*	**8.266** 0.58 *5*	**8.494** 0.61 *6*

	$_{80}$Hg	$_{81}$Tl	$_{82}$Pb	$_{83}$Bi	$_{84}$Po	$_{85}$At	$_{86}$Rn	$_{87}$Fr	$_{88}$Ra	$_{89}$Ac	$_{90}$Th	$_{91}$Pa	$_{92}$U	$_{93}$Np	$_{94}$Pu
$K_{\alpha1}$	**70.818** 46.3 *9*	**72.873** 46.3 *9*	**74.969** 46.2 *9*	**77.107** 46.2 *9*	**79.290** 46.1 *9*	**81.517** 46.1 *9*	**83.787** 46.0 *9*	**86.105** 45.8 *9*	**88.471** 45.7 *9*	**90.886** 45.5 *9*	**93.350** 45.4 *9*	**95.863** 45.3 *9*	**98.434** 45.1 *9*	**101.059** 45.1 *9*	**103.734** 45.1 *9*
$K_{\alpha2}$	**68.894** 27.5 *6*	**70.832** 27.6 *6*	**72.805** 27.7 *6*	**74.815** 27.7 *6*	**76.863** 27.7 *6*	**78.948** 27.9 *6*	**81.069** 27.9 *6*	**83.231** 27.9 *6*	**85.431** 28.0 *6*	**87.675** 28.1 *6*	**89.957** 28.1 *6*	**92.282** 28.1 *6*	**94.654** 28.2 *6*	**97.069** 28.3 *6*	**99.525** 28.4 *6*
$K_{\alpha3}$	**68.263** 0.0358 *11*	**70.184** 0.0395 *12*	**72.144** 0.0428 *13*	**74.138** 0.0474 *14*	**76.172** 0.196 *6*	**78.242** 0.0571 *17*	**80.349** 0.0616 *19*	**82.496** 0.0675 *20*	**84.683** 0.0732 *22*	**86.910** 0.0791 *24*	**89.178** 0.085 *3*	**91.491** 0.091 *3*	**93.844** 0.099 *3*	**96.242** 0.105 *3*	**98.687** 0.114 *3*
$K_{\beta1}$	**80.255** 10.70 *22*	**82.574** 10.70 *22*	**84.938** 10.70 *22*	**87.349** 10.70 *21*	**89.807** 10.70 *21*	**92.315** 10.70 *21*	**94.868** 10.60 *21*	**97.474** 10.70 *21*	**100.130** 10.70 *21*	**102.841** 10.70 *21*	**105.604** 10.70 *21*	**108.422** 10.70 *22*	**111.298** 10.70 *22*	**114.234** 10.70 *22*	**117.228** 10.70 *22*
$K_{\beta2}$	**82.473** 3.87 *8*	**84.865** 3.90 *8*	**87.300** 3.91 *8*	**89.784** 3.93 *8*	**92.317** 3.95 *8*	**94.900** 3.97 *8*	**97.530** 3.98 *8*	**100.214** 4.01 *8*	**102.948** 4.04 *8*	**105.738** 4.07 *8*	**108.582** 4.10 *8*	**111.486** 4.13 *8*	**114.445** 4.15 *8*	**117.463** 4.17 *8*	**120.540** 4.18 *8*
$K_{\beta3}$	**79.824** 5.59 *11*	**82.115** 5.59 *11*	**84.450** 5.58 *11*	**86.830** 5.59 *11*	**89.256** 5.57 *11*	**91.730** 5.58 *11*	**94.247** 5.56 *11*	**96.815** 5.58 *11*	**99.432** 5.59 *11*	**102.101** 5.61 *11*	**104.819** 5.61 *11*	**107.595** 5.64 *11*	**110.421** 5.65 *11*	**113.303** 5.65 *11*	**116.244** 5.44 *11*
$K_{\beta4}$	**82.733** 0.08 *4*	**85.134** 0.09 *4*	**87.580** 0.09 *4*	**90.074** 0.09 *4*	**92.618** 0.09 *4*	**95.211** 0.10 *5*	**97.853** 0.10 *5*	**100.548** 0.10 *5*	**103.295** 0.11 *5*	**106.098** 0.11 *5*	**108.955** 0.11 *5*	**111.870** 0.12 *6*	**114.844** 0.12 *6*	**117.876** 0.12 *6*	**120.969** 0.13 *6*
$K_{\beta5}$	**80.762** 0.294 *12*	**83.093** 0.303 *12*	**85.470** 0.312 *12*	**87.892** 0.321 *13*	**90.363** 0.330 *13*	**92.883** 0.339 *14*	**95.449** 0.349 *14*	**98.069** 0.358 *14*	**100.738** 0.362 *15*	**103.462** 0.371 *15*	**106.239** 0.380 *15*	**109.072** 0.389 *16*	**111.964** 0.397 *16*	**114.912** 0.405 *16*	**117.918** 0.413 *16*
$KO_{2,3}$	**83.028** 0.64 *7*	**85.444** 0.67 *7*	**87.911** 0.70 *7*	**90.421** 0.73 *8*	**92.983** 0.76 *8*	**95.595** 0.78 *8*	**98.257** 0.81 *8*	**100.972** 0.84 *9*	**103.740** 0.86 *9*	**106.563** 0.89 *9*	**109.442** 0.90 *9*	**112.380** 0.93 *10*	**115.377** 0.95 *10*	**118.429** 0.97 *10*	**121.543** 0.99 *10*
$KP_{2,3}$		**85.530** 0.0059 *6*	**88.003** 0.0165 *17*	**90.522** 0.031 *3*	**93.095** 0.049 *5*	**95.717** 0.070 *7*	**98.389** 0.094 *10*	**101.118** 0.114 *12*	**103.899** 0.132 *13*	**106.738** 0.146 *15*	**109.630** 0.160 *16*	**112.575** 0.156 *16*	**115.580** 0.159 *16*	**118.646** 0.162 *17*	**121.768** 0.157 *16*
$L_{\alpha1}$	**9.989** 12.0 *5*	**10.268** 12.4 *5*	**10.551** 12.8 *5*	**10.839** 13.2 *5*	**11.130** 13.6 *5*	**11.426** 13.9 *5*	**11.726** 14.2 *5*	**12.031** 14.6 *5*	**12.339** 14.9 *6*	**12.651** 15.3 *6*	**12.968** 15.6 *7*	**13.291** 16.2 *8*	**13.618** 16.8 *8*	**13.946** 17.3 *8*	**14.282** 17.9 *9*
$L_{\alpha2}$	**9.899** 1.35 *5*	**10.172** 1.39 *5*	**10.450** 1.44 *5*	**10.731** 1.48 *6*	**11.016** 1.52 *6*	**11.306** 1.56 *6*	**11.598** 1.59 *6*	**11.896** 1.63 *6*	**12.196** 1.67 *6*	**12.500** 1.71 *6*	**12.809** 1.75 *8*	**13.127** 1.82 *8*	**13.442** 1.89 *9*	**13.761** 1.94 *9*	**14.087** 2.00 *10*
$L_{\beta1}$	**11.824** 8.0 *4*	**12.213** 8.3 *4*	**12.614** 8.5 *5*	**13.024** 8.8 *5*	**13.443** 9.1 *5*	**13.875** 9.4 *5*	**14.316** 9.7 *5*	**14.770** 9.9 *5*	**15.236** 10.2 *6*	**15.711** 10.4 *6*	**16.202** 10.7 *11*	**16.708** 10.5 *11*	**17.222** 10.3 *11*	**17.751** 10.3 *10*	**18.296** 10.3 *10*

Tabell 8 X-ray Energies and Intensities (per 100 K-Shell Vacancies) (continued)

	$_{80}$Hg	$_{81}$Tl	$_{82}$Pb	$_{83}$Bi	$_{84}$Po	$_{85}$At	$_{86}$Rn	$_{87}$Fr	$_{88}$Ra	$_{89}$Ac	$_{90}$Th	$_{91}$Pa	$_{92}$U	$_{93}$Np	$_{94}$Pu
	continued														
$L_{\beta 2,15}$	11.915 2.94 13	12.261 3.06 13	12.611 3.18 14	12.967 3.28 14	13.328 3.40 15	13.694 3.52 15	14.066 3.65 16	14.443 3.74 16	14.825 3.86 17	15.212 3.97 17	15.605 4.09 21	16.008 4.27 22	16.410 4.45 23	16.817 4.59 24	17.235 4.77 25
$L_{\beta 3}$	11.992 0.097 15	12.390 0.094 14	12.794 0.095 14	13.211 0.096 15	13.635 0.107 16	14.073 0.101 15	14.519 0.106 16	14.978 0.106 16	15.447 0.110 17	15.931 0.111 17	16.426 0.116 20	16.931 0.113 19	17.454 0.122 21	17.992 0.124 21	18.541 0.135 23
$L_{\beta 4}$	11.561 0.077 12	11.931 0.077 12	12.307 0.080 12	12.691 0.083 13	13.084 0.095 14	13.488 0.092 14	13.898 0.099 15	14.319 0.102 15	14.749 0.109 16	15.191 0.113 17	15.641 0.122 21	16.104 0.121 21	16.577 0.134 23	17.061 0.140 24	17.557 0.16 3
$L_{\beta 5}$	12.275 0.315 12	12.643 0.362 13	13.015 0.411 15	13.393 0.458 17	13.778 0.506 19	14.168 0.556 21	14.565 0.605 23	14.967 0.683 25	15.375 0.71 3	15.790 0.76 3	16.209 0.81 4	16.639 0.87 [illegible]	17.069 0.94 4	17.505 1.17 6	17.950 1.06 5
$L_{\beta 6}$	11.481 0.180 7	11.812 0.190 7	12.142 0.200 8	12.480 0.210 8	12.823 0.220 8	13.169 0.230 9	13.520 0.239 9	13.877 0.251 9	14.236 0.263 10	14.601 0.273 10	14.970 0.284 13	15.350 0.300 [illegible]	15.727 0.318 15	16.109 0.333 16	16.498 0.349 17
$L_{\gamma 1}$	13.830 1.63 10	14.291 1.71 10	14.765 1.78 10	15.248 1.87 11	15.742 1.95 11	16.249 2.05 12	16.770 2.15 13	17.302 2.25 13	17.848 2.34 14	18.405 2.42 14	18.980 2.5 3	19.571 2.5 3	20.169 2.5 3	20.784 2.5 3	21.420 2.5 3
$L_{\gamma 2}$	14.158 0.025 4	14.625 0.026 4	15.097 0.027 4	15.582 0.029 5	16.077 0.033 5	16.585 0.033 5	17.104 0.036 6	17.635 0.038 6	18.177 0.041 7	18.734 0.044 7	19.304 0.048 9	19.888 0.048 9	20.487 0.055 10	21.099 0.059 11	21.724 0.067 12
$L_{\gamma 3}$	14.262 0.034 6	14.738 0.033 5	15.216 0.034 6	15.709 0.035 6	16.213 0.040 6	16.731 0.038 6	17.258 0.040 7	17.800 0.041 7	18.353 0.044 7	18.922 0.045 7	19.505 0.048 9	20.101 0.047 9	20.715 0.052 9	21.342 0.054 10	21.981 0.059 11
$L_{\gamma 6}$	14.199 0.248 23	14.683 0.28 3	15.178 0.31 3	15.685 0.34 3	16.203 0.38 4	16.735 0.41 4	17.280 0.44 4	17.839 0.47 4	18.412 0.50 5	18.997 0.52 5	19.599 0.54 7	20.217 0.53 7	20.844 0.53 7	21.491 0.53 7	22.153 0.53 7
L_{η}	10.647 0.180 10	10.994 0.188 10	11.349 0.196 11	11.712 0.207 11	12.085 0.218 12	12.466 0.228 12	12.855 0.238 13	13.255 0.247 13	13.662 0.255 14	14.082 0.266 14	14.511 0.28 3	14.953 0.28 3	15.400 0.27 3	15.861 0.28 3	16.333 0.28 3
L_{ℓ}	8.722 0.65 6	8.953 0.68 6	9.184 0.72 6	9.420 0.75 7	9.658 0.79 7	9.897 0.82 7	10.137 0.86 7	10.381 0.89 8	10.622 0.93 8	10.871 0.98 8	11.118 1.02 9	11.372 1.08 10	11.620 1.14 10	11.871 1.20 11	12.124 1.25 11

	$_{95}$Am	$_{96}$Cm	$_{97}$Bk	$_{98}$Cf	$_{99}$Es	$_{100}$Fm	$_{101}$Md	$_{102}$No	$_{103}$Lr	104
$K_{\alpha 1}$	106.472 44.9 9	109.271 44.8 9	112.121 44.6 9	115.032 44.4 9	118.012 44.3 9	121.058 44.2 9	125.170 44.1 9	127.357 44.0 9	130.611 43.8 9	133.381 43.6 9
$K_{\alpha 2}$	102.030 28.5 6	104.590 28.5 6	107.185 28.7 6	109.831 28.7 6	112.531 28.8 6	115.285 28.9 6	119.088 29.0 6	120.953 29.0 6	123.867 29.1 6	126.302 29.2 6
$K_{\alpha 3}$	101.174 0.123 4	103.715 0.132 4	106.300 0.145 4	108.929 0.158 5	111.614 0.171 5	114.352 0.184 6	118.139 0.201 6	119.987 0.218 7	122.887 0.235 7	125.407 0.252 8
$K_{\beta 1}$	120.284 10.70 21	123.403 10.60 21	126.580 10.70 21	129.823 10.70 22	133.137 10.70 22	136.521 10.80 22	140.974 10.70 22	143.506 10.70 22	147.110 10.80 22	150.279 10.80 22
$K_{\beta 2}$	123.680 4.19 8	126.889 4.19 8	130.152 4.22 9	133.483 4.26 9	136.887 4.27 9	140.362 4.31 9	144.906 4.30 9	147.531 4.32 9	151.227 4.35 9	154.494 4.36 9
$K_{\beta 3}$	119.243 5.64 11	122.304 5.63 11	125.418 5.67 11	128.594 5.70 11	131.838 5.71 11	135.150 5.74 12	139.525 5.73 12	141.977 5.75 12	145.496 5.78 12	148.550 5.79 12
$K_{\beta 4}$	124.127 0.13 6	127.352 0.13 6	130.630 0.14 7	133.979 0.14 7	137.399 0.14 7	140.892 0.15 7	145.456 0.15 7	148.100 0.15 7	151.818 0.16 8	155.097 0.16 8
$K_{\beta 5}$	120.989 0.421 17	124.124 0.429 17	127.316 0.437 18	130.573 0.449 18	133.904 0.454 18	137.304 0.457 18	141.774 0.465 19	144.323 0.472 19	147.944 0.479 19	151.113 0.486 19
$KO_{2,3}$	124.723 1.0 1	127.970 1.02 10	131.274 1.04 11	134.646 1.05 11	138.090 1.06 11	141.608 1.08 11	146.195 1.09 11	148.865 1.10 11	152.607 1.12 11	155.904 1.13 12
$KP_{2,3}$	124.955 0.158 16	128.210 0.169 17	131.524 0.170 17	134.908 0.162 17	138.363 0.163 17	141.889 0.163 17	146.490 0.164 17	149.171 0.165 17	152.926 0.174 18	156.236 0.183 19
$L_{\alpha 1}$	14.620 18.2 9	14.961 18.5 9	15.308 18.8 9	15.660 19.0 9	16.016 19.2 9	16.377 19.4 11	16.741 19.6 11	17.110 19.7 11	17.483 19.8 11	17.893 19.8 11
$L_{\alpha 2}$	14.414 2.04 10	14.746 2.08 10	15.082 2.1 1	15.423 2.12 10	15.767 2.15 10	16.116 2.17 13	16.467 2.19 13	16.823 2.20 13	17.183 2.22 13	17.571 2.22 13
$L_{\beta 1}$	18.856 10.4 11	19.427 10.6 11	20.018 10.7 11	20.624 10.8 11	21.248 11.0 11	21.889 11.2 11	22.549 11.4 12	23.227 11.5 12	23.927 11.7 12	24.650 12.0 12
$L_{\beta 2,15}$	17.655 4.9 3	18.081 5.0 3	18.509 5.1 3	18.946 5.2 3	19.387 5.3 3	19.834 5.3 3	20.286 5.4 3	20.744 5.5 3	21.207 5.5 4	21.716 5.6 4
$L_{\beta 3}$	19.110 0.137 24	19.688 0.142 24	20.280 0.142 24	20.894 0.145 25	21.523 0.15 3	22.169 0.15 3	22.835 0.15 3	23.519 0.15 3	24.223 0.15 3	24.872 0.15 3
$L_{\beta 4}$	18.069 0.16 3	18.589 0.17 3	19.118 0.18 3	19.665 0.19 3	20.224 0.21 4	20.798 0.21 4	21.386 0.23 5	21.990 0.24 5	22.609 0.24 5	23.143 0.26 5
$L_{\beta 5}$	18.399 1.11 5	18.853 1.16 6	19.312 1.19 6	19.777 1.23 6	20.249 1.26 6	20.727 1.29 8	21.210 1.32 8	21.700 1.35 8	22.195 1.38 8	22.727 1.41 8
$L_{\beta 6}$	16.890 0.361 17	17.286 0.373 18	17.687 0.385 18	18.094 0.396 19	18.501 0.407 19	18.916 0.419 24	19.332 0.430 25	19.754 0.44 3	20.179 0.45 3	20.670 0.46 3
$L_{\gamma 1}$	22.072 2.6 3	22.735 2.7 3	23.416 2.7 3	24.117 2.8 3	24.836 2.8 3	25.574 2.9 3	26.333 3.0 3	27.110 3.1 3	27.911 3.1 3	28.753 3.2 3
$L_{\gamma 2}$	22.370 0.073 13	23.028 0.079 14	23.698 0.082 15	24.390 0.087 16	25.099 0.093 17	25.825 0.096 20	26.571 0.102 21	27.336 0.109 23	28.120 0.109 23	28.846 0.116 24
$L_{\gamma 3}$	22.643 0.062 11	23.319 0.065 12	24.007 0.065 12	24.718 0.068 12	25.446 0.071 13	26.195 0.071 15	26.963 0.073 15	27.752 0.075 16	28.560 0.074 15	29.327 0.076 16
$L_{\gamma 6}$	22.836 0.54 7	23.527 0.55 7	24.241 0.57 7	24.971 0.59 8	25.723 0.60 8	26.492 0.63 8	27.284 0.65 8	28.094 0.68 9	28.929 0.70 9	29.796 0.73 9
L_{η}	16.819 0.28 3	17.314 0.29 3	17.826 0.30 3	18.347 0.30 3	18.884 0.31 3	19.433 0.31 3	19.998 0.32 3	20.577 0.33 3	21.173 0.34 3	21.825 0.35 4
L_{ℓ}	12.377 1.31 12	12.633 1.36 12	12.890 1.40 13	13.146 1.45 13	13.403 1.49 14	13.660 1.53 15	13.916 1.57 15	14.173 1.61 16	14.429 1.64 16	14.746 1.68 16

Tabell 9 **Auger-Electron Intensities per 100 K-Shell Vacancies**

	$_{18}Ar$	$_{19}K$	$_{20}Ca$	$_{21}Sc$	$_{22}Ti$	$_{23}V$	$_{24}Cr$	$_{25}Mn$	$_{26}Fe$	$_{27}Co$	$_{28}Ni$	$_{29}Cu$	$_{30}Zn$	$_{31}Ga$	$_{32}Ge$
$K-L_1L_1$	6.1	5.8	5.6	5.4	5.2	5.0	4.8	4.6	4.4	4.2	4.0	3.8	3.6	3.4	3.3
$K-L_1L_2$	6.7	6.4	6.2	6.0	5.8	5.6	5.4	5.1	4.9	4.7	4.5	4.3	4.0	3.8	3.7
$K-L_1L_3$	12.8	12.2	11.7	11.3	10.9	10.4	10.0	9.4	9.0	8.5	8.0	7.5	7.1	6.7	6.3
$K-L_1M_1$	1.35	1.39	1.40	1.38	1.36	1.32	1.28	1.23	1.17	1.12	1.07	1.02	0.97	0.94	0.91
$K-L_1M_2$	0.63	0.69	0.72	0.71	0.70	0.69	0.68	0.65	0.62	0.60	0.57	0.55	0.53	0.52	0.51
$K-L_1M_3$	1.20	1.30	1.35	1.34	1.31	1.28	1.24	1.19	1.13	1.08	1.02	0.97	0.92	0.89	0.86
$K-L_1M_4$								0.030	0.029	0.029	0.029	0.029	0.029	0.032	0.033
$K-L_1M_5$								0.0076	0.0176	0.026	0.032	0.037	0.040	0.042	0.044
$K-L_1N_1$			0.159	0.150	0.141	0.132	0.123	0.113	0.097	0.085	0.078	0.075	0.074	0.083	0.089
$K-L_2L_2$	1.23	1.18	1.13	1.10	1.07	1.03	0.99	0.94	0.90	0.85	0.81	0.76	0.72	0.68	0.64
$K-L_2L_3$	30	29	28	27	26	24.9	23.8	22.5	21.4	20.3	19.1	18.0	16.8	15.8	14.9
$K-L_2M_1$	0.65	0.67	0.67	0.66	0.65	0.63	0.61	0.59	0.56	0.54	0.51	0.49	0.46	0.45	0.43
$K-L_2M_2$	0.221	0.239	0.248	0.247	0.244	0.239	0.233	0.224	0.214	0.204	0.195	0.185	0.176	0.170	0.165
$K-L_2M_3$	2.53	2.7	2.8	2.8	2.7	2.7	2.6	2.46	2.33	2.21	2.10	1.98	1.88	1.81	1.74
$K-L_2M_4$								0.043	0.042	0.041	0.041	0.041	0.041	0.043	0.044
$K-L_2M_5$								0.028	0.065	0.096	0.119	0.137	0.148	0.156	0.162
$K-L_2N_1$			0.074	0.070	0.066	0.062	0.057	0.053	0.045	0.040	0.037	0.035	0.034	0.038	0.041
$K-L_3L_3$	17.2	16.5	15.7	15.2	14.6	14.0	13.3	12.6	12.0	11.3	10.6	9.9	9.3	8.6	8.0
$K-L_3M_1$	1.25	1.28	1.28	1.25	1.22	1.18	1.13	1.08	1.02	0.97	0.92	0.86	0.81	0.72	0.66
$K-L_3M_2$	2.53	2.7	2.8	2.8	2.7	2.7	2.6	2.46	2.34	2.22	2.10	1.99	1.88	1.66	1.54
$K-L_3M_3$	2.9	3.1	3.2	3.2	3.1	3.0	2.9	2.8	2.6	2.50	2.37	2.24	2.11	1.88	1.74
$K-L_3M_4$								0.194	0.188	0.184	0.181	0.180	0.179	0.144	0.132
$K-L_3M_5$			0.142	0.083	0.046	0.028	0.0241	0.033	0.080	0.117	0.146	0.167	0.181	0.145	0.133
$K-L_3N_1$								0.098	0.083	0.073	0.066	0.062	0.060	0.037	0.030
$K-M_1M_1$	0.075	0.084	0.089	0.088	0.087	0.086	0.083	0.081	0.077	0.074	0.071	0.068	0.066	0.052	0.047
$K-M_1M_2$	0.063	0.072	0.078	0.079	0.080	0.079	0.078	0.075	0.071	0.068	0.065	0.063	0.060	0.046	0.040
$K-M_1M_3$	0.117	0.137	0.149	0.149	0.147	0.145	0.141	0.136	0.129	0.123	0.117	0.112	0.107	0.087	0.078
$K-M_1N_1$			0.0213	0.0199	0.0187	0.0175	0.0163	0.0151	0.0130	0.0115	0.0107	0.0103	0.0104	0.0032	
$K-M_2M_3$	0.217	0.26	0.29	0.30	0.29	0.29	0.28	0.27	0.26	0.245	0.234	0.223	0.214	0.177	0.160
$K-M_2N_1$			0.0106	0.0100	0.0094	0.0088	0.0082	0.0076	0.0065	0.0058	0.0054	0.0052	0.0052	0.00214	0.00120
$K-M_3M_3$	0.125	0.153	0.170	0.172	0.171	0.169	0.165	0.158	0.149	0.140	0.133	0.126	0.121	0.10	0.091
$K-M_3M_4$								0.0176	0.0171	0.0169	0.0169	0.0170	0.0173	0.0123	0.0108
$K-M_3M_5$								0.00252	0.0070	0.0106	0.0135	0.0157	0.0173	0.0123	0.0108
$K-M_3N_1$			0.0177	0.0166	0.0156	0.0146	0.0136	0.0126	0.0108	0.0096	0.0089	0.0086	0.0086	0.0043	0.0030

	$_{33}As$	$_{34}Se$	$_{35}Br$	$_{36}Kr$	$_{37}Rb$	$_{38}Sr$	$_{39}Y$	$_{40}Zr$	$_{41}Nb$	$_{42}Mo$	$_{43}Tc$	$_{44}Ru$	$_{45}Rh$	$_{46}Pd$	$_{47}Ag$
$K-L_1L_1$	3.1	2.9	2.6	2.40	2.27	2.14	2.02	1.90	1.79	1.67	1.58	1.49	1.40	1.32	1.25
$K-L_1L_2$	3.5	3.2	3.0	2.7	2.55	2.41	2.28	2.15	2.03	1.90	1.80	1.71	1.61	1.53	1.45
$K-L_1L_3$	5.9	5.5	4.9	4.4	4.1	3.9	3.6	3.3	3.1	2.9	2.7	2.49	2.31	2.15	2.01
$K-L_1M_1$	0.88	0.83	0.77	0.71	0.68	0.65	0.63	0.60	0.57	0.54	0.51	0.49	0.47	0.44	0.42
$K-L_1M_2$	0.49	0.47	0.44	0.41	0.39	0.38	0.36	0.35	0.33	0.32	0.31	0.29	0.28	0.27	0.26
$K-L_1M_3$	0.83	0.78	0.72	0.66	0.63	0.60	0.57	0.54	0.51	0.48	0.45	0.43	0.40	0.38	0.36
$K-L_1M_4$	0.034	0.034	0.033	0.031	0.031	0.030	0.030	0.029	0.028	0.027	0.026	0.0255	0.0245	0.0237	0.0229
$K-L_1M_5$	0.045	0.044	0.041	0.039	0.039	0.038	0.037	0.036	0.034	0.033	0.032	0.030	0.029	0.027	0.026
$K-L_1N_1$	0.094	0.096	0.094	0.092	0.096	0.098	0.099	0.098	0.096	0.094	0.091	0.089	0.086	0.084	0.081
$K-L_1N_2$			0.040	0.040	0.044	0.047	0.049	0.050	0.049	0.048	0.048	0.047	0.047	0.046	0.045
$K-L_1N_3$			0.049	0.065	0.071	0.074	0.076	0.076	0.075	0.073	0.071	0.068	0.066	0.064	0.062
$K-L_1O_1$													0.0042	0.0033	0.0036
$K-L_2L_2$	0.60	0.56	0.50	0.46	0.43	0.40	0.37	0.34	0.32	0.30	0.28	0.26	0.239	0.223	0.208
$K-L_2L_3$	13.9	12.9	11.5	10.4	9.7	9.0	8.3	7.7	7.1	6.6	6.1	5.7	5.2	4.8	4.5
$K-L_2M_1$	0.42	0.39	0.36	0.34	0.32	0.31	0.30	0.28	0.27	0.26	0.246	0.235	0.223	0.214	0.206
$K-L_2M_2$	0.158	0.149	0.137	0.126	0.120	0.114	0.108	0.102	0.097	0.091	0.085	0.080	0.075	0.071	0.067
$K-L_2M_3$	1.66	1.57	1.44	1.32	1.25	1.18	1.12	1.05	0.99	0.93	0.87	0.82	0.76	0.72	0.68
$K-L_2M_4$	0.045	0.044	0.043	0.041	0.040	0.039	0.039	0.037	0.037	0.035	0.034	0.032	0.031	0.029	0.028
$K-L_2M_5$	0.164	0.162	0.155	0.147	0.145	0.141	0.137	0.132	0.128	0.122	0.117	0.111	0.106	0.101	0.096
$K-L_2N_1$	0.043	0.044	0.044	0.043	0.045	0.046	0.046	0.045	0.044	0.043	0.042	0.041	0.040	0.039	0.038
$K-L_2N_2$			0.0123	0.0130	0.0140	0.0144	0.0146	0.0144	0.0139	0.0133	0.0130	0.0126	0.0122	0.0119	0.0116
$K-L_2N_3$			0.098	0.128	0.138	0.144	0.147	0.145	0.141	0.136	0.132	0.128	0.122	0.117	0.112
$K-L_2N_5$													0.0075	0.0095	0.0108
$K-L_2O_1$													0.00188	0.00145	0.00160
$K-L_3L_3$	7.5	6.9	6.3	5.7	5.3	4.9	4.5	4.1	3.8	3.5	3.2	3.0	2.7	2.53	2.34
$K-L_3M_1$	0.63	0.62	0.61	0.61	0.56	0.51	0.47	0.44	0.41	0.39	0.36	0.34	0.32	0.30	0.28
$K-L_3M_2$	1.47	1.45	1.44	1.46	1.33	1.22	1.13	1.05	0.99	0.92	0.86	0.81	0.76	0.71	0.67
$K-L_3M_3$	1.66	1.63	1.59	1.60	1.46	1.34	1.24	1.15	1.08	1.0	0.94	0.88	0.82	0.77	0.72

Tabell 9 **Auger-Electron Intensities per 100 K-Shell Vacancies** (continued)

	$_{33}$As	$_{34}$Se	$_{35}$Br	$_{36}$Kr	$_{37}$Rb	$_{38}$Sr	$_{39}$Y	$_{40}$Zr	$_{41}$Nb	$_{42}$Mo	$_{43}$Tc	$_{44}$Ru	$_{45}$Rh	$_{46}$Pd	$_{47}$Ag
continued															
K-L_3M_4	0.138	0.158	0.183	0.214	0.194	0.177	0.164	0.154	0.147	0.140	0.133	0.127	0.120	0.114	0.108
K-L_3M_5	0.140	0.160	0.185	0.217	0.196	0.179	0.167	0.156	0.150	0.142	0.135	0.129	0.122	0.116	0.110
K-L_3N_1	0.036	0.052	0.073	0.098	0.088	0.081	0.075	0.070	0.068	0.065	0.062	0.060	0.057	0.054	0.052
K-L_3N_2			0.130	0.202	0.181	0.165	0.154	0.145	0.141	0.135	0.132	0.128	0.122	0.117	0.112
K-L_3N_3			0.108	0.222	0.20	0.182	0.170	0.160	0.154	0.148	0.143	0.138	0.132	0.125	0.120
K-L_3N_4				0.0090	0.0058	0.0045	0.0049	0.0065	0.010	0.0121	0.0125	0.0127	0.0127	0.0124	0.0124
K-L_3N_5										0.00181	0.0041	0.0064	0.0085	0.0109	0.0124
K-L_3O_1				0.0120	0.0055	0.00170			0.00132	0.0036	0.0033	0.0031	0.0028	0.00229	0.00241
K-M_1M_1	0.046	0.050	0.056	0.064	0.058	0.052	0.049	0.046	0.045	0.043	0.041	0.040	0.038	0.037	0.036
K-M_1M_2	0.041	0.046	0.054	0.064	0.058	0.052	0.049	0.046	0.045	0.043	0.042	0.040	0.039	0.038	0.037
K-M_1M_3	0.077	0.081	0.089	0.099	0.090	0.082	0.076	0.071	0.068	0.065	0.062	0.059	0.056	0.053	0.050
K-M_1N_1	0.00249	0.0071	0.0135	0.0210	0.0185	0.0167	0.0157	0.0151	0.0153	0.0151	0.0148	0.0145	0.0141	0.0139	0.0136
K-M_1N_2			0.0045	0.0090	0.0078	0.0071	0.0067	0.0065	0.0066	0.0066	0.0067	0.0067	0.0066	0.0065	0.0064
K-M_1N_3			0.0067	0.0140	0.0125	0.0113	0.0106	0.0101	0.0099	0.0097	0.0094	0.0091	0.0089	0.0089	0.0088
K-M_2M_3	0.158	0.168	0.182	0.202	0.183	0.167	0.155	0.145	0.139	0.132	0.126	0.119	0.113	0.107	0.102
K-M_2N_1	0.00193	0.0040	0.0067	0.010	0.0088	0.0079	0.0075	0.0072	0.0073	0.0073	0.0072	0.0072	0.0071	0.0069	0.0068
K-M_2N_3			0.0123	0.028	0.0249	0.0226	0.0212	0.0201	0.0199	0.0194	0.0189	0.0185	0.0179	0.0173	0.0168
K-M_3M_3	0.089	0.095	0.102	0.113	0.102	0.094	0.087	0.081	0.077	0.073	0.069	0.066	0.062	0.059	0.056
K-M_3M_4	0.0119	0.0150	0.0191	0.0240	0.0215	0.0195	0.0182	0.0173	0.0169	0.0163	0.0159	0.0153	0.0146	0.0139	0.0132
K-M_3M_5	0.0119	0.0150	0.0191	0.0240	0.0215	0.0195	0.0182	0.0173	0.0169	0.0163	0.0159	0.0153	0.0146	0.0139	0.0132
K-M_3N_1	0.0042	0.0072	0.0112	0.0160	0.0143	0.0130	0.0121	0.0115	0.0113	0.0109	0.0105	0.0102	0.0099	0.0098	0.0096
K-M_3N_2			0.0168	0.028	0.0249	0.0226	0.0212	0.0201	0.0198	0.0194	0.0192	0.0189	0.0183	0.0178	0.0172
K-M_3N_3			0.0135	0.031	0.028	0.0252	0.0235	0.0223	0.0218	0.0212	0.0209	0.0204	0.0198	0.0190	0.0184

	$_{48}$Cd	$_{49}$In	$_{50}$Sn	$_{51}$Sb	$_{52}$Te	$_{53}$I	$_{54}$Xe	$_{55}$Cs	$_{56}$Ba	$_{57}$La	$_{58}$Ce	$_{59}$Pr	$_{60}$Nd	$_{61}$Pm	$_{62}$Sm
K-L_1L_1	1.17	1.11	1.05	1.0	0.95	0.91	0.86	0.82	0.79	0.76	0.73	0.69	0.67	0.64	0.61
K-L_1L_2	1.37	1.30	1.24	1.18	1.14	1.09	1.04	1.0	0.97	0.94	0.90	0.87	0.85	0.82	0.79
K-L_1L_3	1.85	1.73	1.61	1.51	1.42	1.33	1.24	1.17	1.10	1.04	0.98	0.92	0.87	0.82	0.78
K-L_1M_1	0.40	0.38	0.36	0.35	0.34	0.32	0.31	0.30	0.29	0.28	0.27	0.26	0.248	0.240	0.231
K-L_1M_2	0.248	0.238	0.229	0.221	0.214	0.207	0.20	0.193	0.189	0.184	0.179	0.173	0.169	0.165	0.161
K-L_1M_3	0.34	0.32	0.30	0.28	0.27	0.26	0.241	0.228	0.218	0.208	0.197	0.187	0.179	0.170	0.162
K-L_1M_4	0.0217	0.0208	0.0199	0.0192	0.0185	0.0178	0.0170	0.0165	0.0160	0.0155	0.0149	0.0143	0.0138	0.0133	0.0128
K-L_1M_5	0.0245	0.0233	0.0221	0.0211	0.0202	0.0190	0.0180	0.0171	0.0164	0.0157	0.0149	0.0141	0.0135	0.0128	0.0121
K-L_1N_1	0.079	0.077	0.075	0.073	0.071	0.069	0.067	0.066	0.065	0.063	0.061	0.059	0.057	0.056	0.054
K-L_1N_2	0.044	0.044	0.043	0.043	0.042	0.042	0.041	0.041	0.041	0.040	0.039	0.038	0.038	0.037	0.036
K-L_1N_3	0.059	0.058	0.056	0.054	0.053	0.051	0.049	0.048	0.047	0.045	0.043	0.041	0.039	0.038	0.036
K-L_1O_1	0.0061	0.0079	0.0090	0.0095	0.0099	0.0101	0.0104	0.0112	0.0116	0.0112	0.0108	0.0103	0.0100	0.0096	0.0092
K-L_1O_2			0.0037	0.0042	0.0046	0.0047	0.0051	0.0058	0.0062	0.0061	0.0060	0.0058	0.0056	0.0053	0.0051
K-L_1O_3					0.0027	0.0045	0.0058	0.0066	0.0070	0.0066	0.0063	0.0059	0.0056	0.0053	0.0050
K-L_2L_2	0.192	0.179	0.167	0.156	0.147	0.138	0.128	0.121	0.114	0.108	0.101	0.095	0.090	0.085	0.080
K-L_2L_3	4.1	3.8	3.6	3.3	3.1	2.9	2.7	2.50	2.35	2.21	2.06	1.92	1.81	1.70	1.59
K-L_2M_1	0.195	0.187	0.179	0.173	0.167	0.161	0.155	0.150	0.146	0.142	0.138	0.133	0.130	0.127	0.124
K-L_2M_2	0.063	0.059	0.056	0.052	0.049	0.047	0.044	0.041	0.039	0.037	0.035	0.033	0.032	0.030	0.029
K-L_2M_3	0.63	0.59	0.55	0.52	0.49	0.46	0.43	0.41	0.39	0.36	0.34	0.32	0.31	0.29	0.27
K-L_2M_4	0.027	0.0255	0.0243	0.0233	0.0223	0.0213	0.0203	0.0192	0.0184	0.0177	0.0170	0.0162	0.0156	0.0150	0.0143
K-L_2M_5	0.091	0.086	0.081	0.077	0.074	0.070	0.066	0.063	0.060	0.057	0.054	0.051	0.049	0.046	0.044
K-L_2N_1	0.037	0.036	0.035	0.034	0.034	0.033	0.033	0.032	0.032	0.031	0.030	0.029	0.029	0.028	0.028
K-L_2N_2	0.0111	0.0107	0.0103	0.0100	0.0097	0.0093	0.0090	0.0087	0.0084	0.0081	0.0077	0.0073	0.0070	0.0066	0.0062
K-L_2N_3	0.107	0.103	0.099	0.096	0.093	0.089	0.086	0.083	0.080	0.076	0.072	0.069	0.065	0.062	0.058
K-L_2N_5	0.0113	0.0116	0.0118	0.0120	0.0121	0.0122	0.0122	0.0121	0.0120	0.0116	0.0112	0.0107	0.0103	0.0098	0.0093
K-L_2O_1	0.0030	0.0038	0.0044	0.0044	0.0046	0.0046	0.0048	0.0053	0.0056	0.0056	0.0054	0.0053	0.0051	0.0049	0.0047
K-L_2O_3					0.0048	0.0079	0.0099	0.0112	0.0118	0.0111	0.0105	0.0098	0.0092	0.0087	0.0081
K-L_3L_3	2.14	1.97	1.82	1.69	1.57	1.46	1.35	1.25	1.17	1.10	1.02	0.95	0.89	0.83	0.77
K-L_3M_1	0.26	0.247	0.232	0.219	0.207	0.195	0.183	0.173	0.165	0.156	0.148	0.140	0.133	0.126	0.120
K-L_3M_2	0.62	0.58	0.54	0.51	0.48	0.45	0.42	0.40	0.38	0.36	0.34	0.32	0.30	0.28	0.27
K-L_3M_3	0.67	0.62	0.58	0.54	0.51	0.48	0.45	0.42	0.40	0.37	0.35	0.33	0.31	0.29	0.27
K-L_3M_4	0.101	0.095	0.090	0.085	0.081	0.076	0.072	0.067	0.064	0.061	0.057	0.054	0.051	0.048	0.046
K-L_3M_5	0.103	0.097	0.092	0.087	0.082	0.078	0.073	0.069	0.065	0.062	0.058	0.055	0.052	0.049	0.047
K-L_3N_1	0.050	0.047	0.046	0.044	0.042	0.040	0.038	0.037	0.036	0.034	0.032	0.031	0.029	0.028	0.026
K-L_3N_2	0.107	0.103	0.099	0.095	0.092	0.088	0.084	0.081	0.078	0.075	0.071	0.067	0.064	0.061	0.057
K-L_3N_3	0.114	0.109	0.105	0.101	0.097	0.094	0.089	0.086	0.082	0.078	0.074	0.070	0.067	0.063	0.059
K-L_3N_4	0.0126	0.0128	0.0131	0.0135	0.0137	0.0136	0.0134	0.0131	0.0128	0.0123	0.0118	0.0112	0.0108	0.0103	0.0098
K-L_3N_5	0.0126	0.0128	0.0131	0.0135	0.0137	0.0137	0.0136	0.0134	0.0132	0.0126	0.0120	0.0114	0.0109	0.0104	0.0099

Tabell 9 **Auger-Electron Intensities per 100 K-Shell Vacancies** (continued)

	$_{48}$Cd	$_{49}$In	$_{50}$Sn	$_{51}$Sb	$_{52}$Te	$_{53}$I	$_{54}$Xe	$_{55}$Cs	$_{56}$Ba	$_{57}$La	$_{58}$Ce	$_{59}$Pr	$_{60}$Nd	$_{61}$Pm	$_{62}$Sm
continued															
K-L_3O_1	0.0037	0.0047	0.0053	0.0057	0.0059	0.0059	0.0060	0.0063	0.0064	0.0061	0.0058	0.0054	0.0051	0.0049	0.0046
K-L_3O_2			0.0084	0.0091	0.0097	0.0097	0.0101	0.0113	0.0118	0.0111	0.0104	0.0098	0.0092	0.0087	0.0082
K-L_3O_3					0.0051	0.0082	0.0104	0.0117	0.0124	0.0116	0.0108	0.010	0.0094	0.0088	0.0083
K-M_1M_1	0.034	0.033	0.032	0.030	0.029	0.028	0.027	0.026	0.026	0.0250	0.0243	0.0235	0.0229	0.0222	0.0214
K-M_1M_2	0.036	0.034	0.033	0.032	0.032	0.031	0.030	0.029	0.029	0.028	0.028	0.027	0.027	0.026	0.026
K-M_1M_3	0.048	0.045	0.043	0.041	0.039	0.037	0.035	0.034	0.032	0.031	0.030	0.028	0.027	0.026	0.0246
K-M_1N_1	0.0133	0.0130	0.0128	0.0125	0.0124	0.0122	0.0120	0.0118	0.0116	0.0113	0.0110	0.0107	0.0104	0.0102	0.0099
K-M_1N_2	0.0063	0.0063	0.0062	0.0062	0.0062	0.0062	0.0062	0.0062	0.0062	0.0061	0.0061	0.0060	0.0059	0.0058	0.0057
K-M_1N_3	0.0085	0.0083	0.0081	0.0079	0.0078	0.0076	0.0074	0.0072	0.0070	0.0067	0.0064	0.0061	0.0059	0.0057	0.0055
K-M_2M_3	0.096	0.091	0.086	0.081	0.077	0.073	0.069	0.066	0.063	0.060	0.057	0.054	0.051	0.049	0.046
K-M_2N_1	0.0067	0.0066	0.0065	0.0065	0.0065	0.0065	0.0065	0.0063	0.0062	0.0061	0.0061	0.0060	0.0059	0.0058	0.0058
K-M_2N_3	0.0164	0.0160	0.0156	0.0152	0.0148	0.0143	0.0138	0.0134	0.0130	0.0125	0.0119	0.0114	0.0109	0.0104	0.0099
K-M_3M_3	0.052	0.049	0.047	0.044	0.042	0.040	0.038	0.036	0.034	0.032	0.031	0.029	0.028	0.026	0.0247
K-M_3M_4	0.0126	0.0121	0.0115	0.0110	0.0105	0.0100	0.0094	0.0090	0.0086	0.0082	0.0078	0.0074	0.0071	0.0068	0.0065
K-M_3M_5	0.0126	0.0121	0.0115	0.0110	0.0105	0.0100	0.0094	0.0090	0.0086	0.0082	0.0078	0.0074	0.0071	0.0068	0.0065
K-M_3N_1	0.0091	0.0087	0.0084	0.0082	0.0081	0.0078	0.0076	0.0074	0.0072	0.0069	0.0066	0.0063	0.0061	0.0058	0.0056
K-M_3N_2	0.0165	0.0160	0.0156	0.0153	0.0150	0.0146	0.0140	0.0136	0.0132	0.0127	0.0122	0.0117	0.0112	0.0107	0.0102
K-M_3N_3	0.0178	0.0173	0.0168	0.0165	0.0161	0.0156	0.0150	0.0145	0.0140	0.0135	0.0129	0.0123	0.0118	0.0113	0.0107

	$_{63}$Eu	$_{64}$Gd	$_{65}$Tb	$_{66}$Dy	$_{67}$Ho	$_{68}$Er	$_{69}$Tm	$_{70}$Yb	$_{71}$Lu	$_{72}$Hf	$_{73}$Ta	$_{74}$W	$_{75}$Re	$_{76}$Os	$_{77}$Ir
K-L_1L_1	0.60	0.58	0.56	0.54	0.51	0.49	0.48	0.47	0.45	0.44	0.42	0.42	0.41	0.40	0.39
K-L_1L_2	0.78	0.76	0.74	0.72	0.70	0.68	0.67	0.66	0.65	0.63	0.62	0.62	0.62	0.60	0.60
K-L_1L_3	0.74	0.70	0.67	0.63	0.60	0.56	0.54	0.51	0.49	0.46	0.44	0.43	0.41	0.39	0.38
K-L_1M_1	0.225	0.219	0.212	0.206	0.198	0.191	0.187	0.182	0.178	0.173	0.167	0.166	0.164	0.158	0.157
K-L_1M_2	0.158	0.155	0.152	0.149	0.145	0.141	0.140	0.138	0.136	0.134	0.131	0.131	0.130	0.126	0.126
K-L_1M_3	0.155	0.149	0.142	0.135	0.129	0.122	0.117	0.113	0.108	0.103	0.099	0.096	0.094	0.089	0.086
K-L_1M_4	0.0124	0.0120	0.0116	0.0112	0.0108	0.0103	0.010	0.0097	0.0094	0.0091	0.0087	0.0086	0.0084	0.0080	0.0079
K-L_1M_5	0.0115	0.0110	0.0105	0.0100	0.0095	0.0090	0.0086	0.0082	0.0078	0.0074	0.0070	0.0068	0.0066	0.0062	0.0060
K-L_1N_1	0.053	0.051	0.050	0.048	0.047	0.045	0.044	0.043	0.042	0.041	0.040	0.040	0.040	0.039	0.039
K-L_1N_2	0.036	0.035	0.034	0.034	0.033	0.032	0.032	0.032	0.031	0.031	0.031	0.031	0.031	0.031	0.031
K-L_1N_3	0.035	0.033	0.032	0.031	0.029	0.028	0.027	0.026	0.0248	0.0238	0.0229	0.0224	0.0220	0.0210	0.0206
K-L_1O_1	0.0089	0.0086	0.0083	0.0080	0.0077	0.0073	0.0071	0.0070	0.0071	0.0071	0.0071	0.0073	0.0074	0.0074	0.0075
K-L_1O_2	0.0050	0.0049	0.0047	0.0046	0.0045	0.0042	0.0042	0.0042	0.0043	0.0044	0.0045	0.0048	0.0050	0.0050	0.0052
K-L_1O_3	0.0047	0.0045	0.0043	0.0040	0.0038	0.0035	0.0034	0.0032	0.0032	0.0032	0.0032	0.0033	0.0033	0.0033	0.0033
K-L_2L_2	0.076	0.072	0.068	0.065	0.061	0.057	0.055	0.052	0.050	0.047	0.045	0.043	0.042	0.039	0.038
K-L_2L_3	1.50	1.42	1.34	1.25	1.17	1.10	1.04	0.99	0.93	0.88	0.82	0.79	0.76	0.71	0.68
K-L_2M_1	0.122	0.119	0.117	0.114	0.111	0.108	0.107	0.106	0.104	0.103	0.101	0.101	0.101	0.099	0.099
K-L_2M_2	0.027	0.026	0.0248	0.0235	0.0222	0.0210	0.0201	0.0192	0.0183	0.0174	0.0165	0.0160	0.0155	0.0147	0.0142
K-L_2M_3	0.26	0.248	0.235	0.222	0.210	0.197	0.188	0.179	0.170	0.161	0.153	0.148	0.143	0.134	0.129
K-L_2M_4	0.0138	0.0132	0.0127	0.0121	0.0115	0.0110	0.0106	0.0102	0.0098	0.0094	0.0090	0.0088	0.0086	0.0082	0.0079
K-L_2M_5	0.042	0.040	0.038	0.036	0.034	0.032	0.031	0.029	0.028	0.026	0.0250	0.0241	0.0233	0.0219	0.0210
K-L_2N_1	0.027	0.027	0.026	0.026	0.0253	0.0247	0.0245	0.0243	0.0240	0.0237	0.0234	0.0236	0.0238	0.0233	0.0235
K-L_2N_2	0.0060	0.0057	0.0055	0.0052	0.0050	0.0047	0.0045	0.0043	0.0041	0.0039	0.0038	0.0037	0.0036	0.0034	0.0033
K-L_2N_3	0.056	0.053	0.051	0.048	0.046	0.043	0.041	0.039	0.037	0.036	0.034	0.033	0.032	0.031	0.030
K-L_2N_5	0.0089	0.0086	0.0082	0.0078	0.0074	0.0071	0.0068	0.0066	0.0063	0.0060	0.0058	0.0056	0.0055	0.0053	0.0051
K-L_2O_1	0.0046	0.0045	0.0044	0.0043	0.0042	0.0040	0.0040	0.0039	0.0040	0.0041	0.0041	0.0043	0.0044	0.0044	0.0045
K-L_2O_3	0.0077	0.0073	0.0068	0.0064	0.0059	0.0053	0.0050	0.0047	0.0047	0.0047	0.0047	0.0048	0.0048	0.0047	0.0048
K-L_3L_3	0.73	0.68	0.64	0.60	0.56	0.52	0.49	0.46	0.44	0.41	0.38	0.36	0.35	0.33	0.31
K-L_3M_1	0.115	0.109	0.104	0.099	0.094	0.089	0.085	0.081	0.078	0.074	0.071	0.069	0.067	0.063	0.061
K-L_3M_2	0.253	0.241	0.228	0.215	0.203	0.190	0.181	0.173	0.164	0.155	0.146	0.141	0.136	0.128	0.123
K-L_3M_3	0.26	0.247	0.233	0.219	0.206	0.193	0.183	0.174	0.165	0.156	0.147	0.141	0.136	0.127	0.122
K-L_3M_4	0.043	0.041	0.039	0.037	0.034	0.032	0.031	0.029	0.028	0.026	0.0246	0.0237	0.0227	0.0213	0.0203
K-L_3M_5	0.044	0.042	0.040	0.038	0.035	0.033	0.031	0.030	0.028	0.027	0.0250	0.0240	0.0231	0.0215	0.0206
K-L_3N_1	0.0254	0.0244	0.0233	0.0222	0.0211	0.0199	0.0192	0.0184	0.0177	0.0169	0.0162	0.0158	0.0154	0.0146	0.0142
K-L_3N_2	0.055	0.052	0.050	0.047	0.044	0.042	0.040	0.038	0.036	0.035	0.033	0.032	0.031	0.029	0.028
K-L_3N_3	0.056	0.054	0.051	0.048	0.045	0.042	0.040	0.038	0.037	0.035	0.033	0.032	0.031	0.029	0.028
K-L_3N_4	0.0094	0.0090	0.0085	0.0081	0.0076	0.0072	0.0069	0.0066	0.0063	0.0060	0.0057	0.0056	0.0054	0.0051	0.0050
K-L_3N_5	0.0096	0.0092	0.0087	0.0083	0.0078	0.0073	0.0070	0.0066	0.0064	0.0061	0.0058	0.0056	0.0055	0.0052	0.0050
K-L_3O_1	0.0043	0.0041	0.0039	0.0036	0.0034	0.0032	0.0031	0.0030	0.0030	0.0029	0.0029	0.0029	0.0029	0.0028	0.0028
K-L_3O_2	0.0078	0.0074	0.0070	0.0066	0.0061	0.0055	0.0051	0.0049	0.0049	0.0049	0.0049	0.0050	0.0049	0.0047	0.0047
K-L_3O_3	0.0078	0.0073	0.0069	0.0064	0.0059	0.0053	0.0050	0.0047	0.0048	0.0048	0.0047	0.0048	0.0047	0.0045	0.0045
K-M_1M_1	0.0210	0.0205	0.020	0.0195	0.0189	0.0183	0.0179	0.0176	0.0171	0.0167	0.0163	0.0162	0.0160	0.0155	0.0154
K-M_1M_2	0.0254	0.0251	0.0247	0.0243	0.0239	0.0234	0.0232	0.0231	0.0228	0.0226	0.0222	0.0224	0.0225	0.0221	0.0222
K-M_1M_3	0.0237	0.0228	0.0219	0.0209	0.0199	0.0190	0.0183	0.0176	0.0169	0.0162	0.0155	0.0152	0.0148	0.0141	0.0137

Tabell 9 **Auger-Electron Intensities per 100 K-Shell Vacancies** (continued)

	$_{63}$Eu	$_{64}$Gd	$_{65}$Tb	$_{66}$Dy	$_{67}$Ho	$_{68}$Er	$_{69}$Tm	$_{70}$Yb	$_{71}$Lu	$_{72}$Hf	$_{73}$Ta	$_{74}$W	$_{75}$Re	$_{76}$Os	$_{77}$Ir
continued															
K-M_1N_1	0.0098	0.0097	0.0095	0.0092	0.0090	0.0086	0.0085	0.0083	0.0082	0.0080	0.0078	0.0078	0.0078	0.0076	0.0076
K-M_1N_2	0.0057	0.0057	0.0056	0.0055	0.0054	0.0053	0.0053	0.0053	0.0053	0.0052	0.0052	0.0053	0.0053	0.0053	0.0053
K-M_1N_3	0.0053	0.0051	0.0049	0.0047	0.0045	0.0043	0.0042	0.0040	0.0039	0.0038	0.0036	0.0036	0.0035	0.0034	0.0033
K-M_2M_3	0.045	0.043	0.041	0.039	0.037	0.034	0.033	0.032	0.030	0.029	0.027	0.026	0.026	0.0242	0.0233
K-M_2N_1	0.0057	0.0056	0.0055	0.0054	0.0053	0.0052	0.0052	0.0051	0.0051	0.0051	0.0050	0.0051	0.0051	0.0050	0.0051
K-M_2N_3	0.0096	0.0091	0.0087	0.0083	0.0079	0.0075	0.0072	0.0070	0.0067	0.0064	0.0061	0.0059	0.0058	0.0055	0.0054
K-M_3M_3	0.0236	0.0225	0.0215	0.0204	0.0193	0.0182	0.0174	0.0166	0.0158	0.0151	0.0143	0.0138	0.0134	0.0126	0.0122
K-M_3M_4	0.0062	0.0059	0.0056	0.0054	0.0051	0.0048	0.0046	0.0044	0.0042	0.0039	0.0038	0.0036	0.0035	0.0033	0.0032
K-M_3M_5	0.0062	0.0059	0.0056	0.0054	0.0051	0.0048	0.0046	0.0044	0.0041	0.0039	0.0037	0.0036	0.0035	0.0033	0.0032
K-M_3N_1	0.0055	0.0053	0.0051	0.0049	0.0047	0.0044	0.0043	0.0041	0.0040	0.0038	0.0037	0.0036	0.0036	0.0034	0.0034
K-M_3N_2	0.0098	0.0094	0.0090	0.0086	0.0082	0.0078	0.0075	0.0072	0.0069	0.0066	0.0063	0.0062	0.0061	0.0058	0.0056
K-M_3N_3	0.0103	0.0098	0.0093	0.0089	0.0084	0.0080	0.0077	0.0073	0.0070	0.0067	0.0064	0.0063	0.0061	0.0058	0.0056

	$_{78}$Pt	$_{79}$Au	$_{80}$Hg	$_{81}$Tl	$_{82}$Pb	$_{83}$Bi	$_{84}$Po	$_{85}$At	$_{86}$Rn	$_{87}$Fr	$_{88}$Ra	$_{89}$Ac	$_{90}$Th	$_{91}$Pa	$_{92}$U
K-L_1L_1	0.39	0.38	0.37	0.37	0.36	0.35	0.35	0.35	0.35	0.34	0.35	0.34	0.34	0.33	0.33
K-L_1L_2	0.60	0.60	0.59	0.59	0.58	0.58	0.59	0.59	0.60	0.59	0.61	0.60	0.61	0.61	0.62
K-L_1L_3	0.36	0.35	0.34	0.32	0.31	0.30	0.29	0.28	0.28	0.27	0.26	0.250	0.246	0.234	0.231
K-L_1M_1	0.155	0.152	0.150	0.148	0.145	0.142	0.144	0.141	0.143	0.140	0.141	0.138	0.140	0.136	0.137
K-L_1M_2	0.125	0.125	0.125	0.125	0.126	0.125	0.128	0.127	0.130	0.129	0.132	0.131	0.133	0.132	0.135
K-L_1M_3	0.084	0.081	0.078	0.076	0.073	0.070	0.070	0.067	0.067	0.064	0.063	0.061	0.060	0.057	0.057
K-L_1M_4	0.0077	0.0075	0.0073	0.0071	0.0069	0.0067	0.0067	0.0064	0.0064	0.0062	0.0062	0.0059	0.0059	0.0056	0.0056
K-L_1M_5	0.0057	0.0055	0.0053	0.0050	0.0048	0.0046	0.0045	0.0043	0.0042	0.0040	0.0039	0.0037	0.0036	0.0034	0.0033
K-L_1N_1	0.038	0.038	0.038	0.037	0.037	0.036	0.037	0.036	0.037	0.036	0.037	0.036	0.037	0.036	0.037
K-L_1N_2	0.031	0.031	0.031	0.031	0.031	0.031	0.032	0.032	0.033	0.033	0.034	0.034	0.034	0.034	0.035
K-L_1N_3	0.0201	0.0196	0.0191	0.0186	0.0180	0.0175	0.0175	0.0170	0.0169	0.0164	0.0163	0.0158	0.0157	0.0151	0.0150
K-L_1O_1	0.0076	0.0077	0.0078	0.0079	0.0080	0.0081	0.0083	0.0084	0.0086	0.0086	0.0089	0.0089	0.0092	0.0091	0.0094
K-L_1O_2	0.0054	0.0056	0.0058	0.0060	0.0062	0.0063	0.0066	0.0067	0.0071	0.0072	0.0076	0.0078	0.0081	0.0082	0.0085
K-L_1O_3	0.0034	0.0034	0.0034	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0036	0.0036	0.0036	0.0036	0.0036
K-L_2L_2	0.036	0.035	0.034	0.032	0.031	0.030	0.029	0.028	0.028	0.026	0.026	0.0246	0.0242	0.0230	0.0226
K-L_2L_3	0.65	0.62	0.59	0.56	0.54	0.51	0.50	0.47	0.46	0.44	0.43	0.40	0.39	0.37	0.36
K-L_2M_1	0.099	0.099	0.099	0.098	0.098	0.097	0.100	0.099	0.102	0.101	0.103	0.102	0.105	0.103	0.106
K-L_2M_2	0.0137	0.0132	0.0127	0.0122	0.0117	0.0112	0.0111	0.0106	0.0105	0.010	0.0099	0.0094	0.0093	0.0088	0.0087
K-L_2M_3	0.124	0.119	0.114	0.109	0.105	0.10	0.098	0.094	0.092	0.088	0.086	0.082	0.080	0.076	0.075
K-L_2M_4	0.0077	0.0075	0.0072	0.0070	0.0068	0.0065	0.0065	0.0063	0.0062	0.0060	0.0060	0.0057	0.0057	0.0054	0.0054
K-L_2M_5	0.0202	0.0193	0.0185	0.0177	0.0168	0.0160	0.0157	0.0149	0.0146	0.0139	0.0136	0.0128	0.0125	0.0118	0.0115
K-L_2N_1	0.0236	0.0237	0.0238	0.0239	0.0239	0.0239	0.0246	0.0246	0.0253	0.0253	0.026	0.026	0.027	0.026	0.027
K-L_2N_2	0.0032	0.0031	0.0030	0.0029	0.0028	0.0027	0.0027	0.0026	0.0026	0.00249	0.00247	0.00236	0.00234	0.00224	0.00221
K-L_2N_3	0.029	0.028	0.027	0.026	0.0248	0.0238	0.0236	0.0227	0.0225	0.0215	0.0213	0.0203	0.0201	0.0192	0.0189
K-L_2N_5	0.0050	0.0048	0.0047	0.0045	0.0043	0.0042	0.0041	0.0040	0.0039	0.0038	0.0037	0.0036	0.0035	0.0033	0.0033
K-L_2O_1	0.0047	0.0048	0.0049	0.0051	0.0052	0.0053	0.0055	0.0056	0.0058	0.0059	0.0062	0.0062	0.0065	0.0066	0.0070
K-L_2O_3	0.0048	0.0048	0.0048	0.0047	0.0047	0.0046	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0045	0.0045
K-L_3L_3	0.29	0.28	0.27	0.253	0.240	0.227	0.221	0.209	0.203	0.192	0.187	0.175	0.170	0.160	0.156
K-L_3M_1	0.059	0.057	0.055	0.053	0.051	0.049	0.049	0.047	0.046	0.044	0.044	0.042	0.041	0.039	0.039
K-L_3M_2	0.118	0.113	0.108	0.104	0.099	0.094	0.093	0.088	0.086	0.082	0.080	0.076	0.075	0.070	0.069
K-L_3M_3	0.117	0.112	0.107	0.102	0.097	0.092	0.091	0.086	0.084	0.080	0.078	0.074	0.073	0.068	0.067
K-L_3M_4	0.0194	0.0185	0.0177	0.0168	0.0160	0.0151	0.0148	0.0140	0.0137	0.0129	0.0126	0.0118	0.0115	0.0108	0.0105
K-L_3M_5	0.0196	0.0187	0.0178	0.0169	0.0160	0.0151	0.0148	0.0140	0.0136	0.0128	0.0124	0.0117	0.0113	0.0106	0.0103
K-L_3N_1	0.0138	0.0134	0.0130	0.0127	0.0122	0.0118	0.0118	0.0114	0.0113	0.0109	0.0108	0.0104	0.0103	0.0099	0.0098
K-L_3N_2	0.027	0.026	0.0254	0.0244	0.0234	0.0224	0.0222	0.0212	0.0209	0.020	0.0197	0.0187	0.0184	0.0175	0.0171
K-L_3N_3	0.027	0.026	0.0252	0.0242	0.0232	0.0223	0.0220	0.0210	0.0208	0.0198	0.0195	0.0186	0.0183	0.0174	0.0171
K-L_3N_4	0.0048	0.0046	0.0044	0.0043	0.0041	0.0039	0.0039	0.0037	0.0037	0.0035	0.0035	0.0033	0.0032	0.0031	0.0030
K-L_3N_5	0.0049	0.0047	0.0045	0.0043	0.0041	0.0039	0.0039	0.0037	0.0037	0.0035	0.0034	0.0033	0.0032	0.0030	0.0029
K-L_3O_1	0.0028	0.0027	0.0027	0.0027	0.0027	0.0026	0.0026	0.0026	0.0026	0.0026	0.0026	0.00255	0.0026	0.00248	0.00248
K-L_3O_2	0.0047	0.0047	0.0046	0.0046	0.0046	0.0046	0.0045	0.0044	0.0044	0.0043	0.0043	0.0042	0.0042	0.0041	0.0041
K-L_3O_3	0.0045	0.0045	0.0044	0.0045	0.0044	0.0044	0.0044	0.0043	0.0043	0.0042	0.0042	0.0042	0.0042	0.0041	0.0041
K-M_1M_1	0.0152	0.0151	0.0149	0.0147	0.0145	0.0142	0.0145	0.0142	0.0144	0.0141	0.0143	0.0140	0.0141	0.0138	0.0140
K-M_1M_2	0.0223	0.0223	0.0223	0.0223	0.0223	0.0222	0.0228	0.0227	0.0234	0.0232	0.0239	0.0237	0.0243	0.0241	0.0247
K-M_1M_3	0.0133	0.0129	0.0125	0.0121	0.0117	0.0113→	0.0113	0.0109	0.0108	0.0104	0.0103	0.0099	0.0098	0.0094	0.0092
K-M_1N_1	0.0075	0.0075	0.0074	0.0073	0.0073	0.0072	0.0074	0.0073	0.0074	0.0073	0.0074	0.0073	0.0074	0.0073	0.0074
K-M_1N_2	0.0054	0.0054	0.0054	0.0055	0.0055	0.0055	0.0057	0.0057	0.0059	0.0059	0.0061	0.0061	0.0063	0.0063	0.0065
K-M_1N_3	0.0032	0.0031	0.0031	0.0030	0.0029	0.0028	0.0028	0.0028	0.0028	0.0027	0.0027	0.0026	0.00255	0.00246	0.00245
K-M_2M_3	0.0225	0.0217	0.0208	0.020	0.0192	0.0183	0.0181	0.0173	0.0170	0.0162	0.0160	0.0152	0.0149	0.0141	0.0139
K-M_2N_1	0.0051	0.0051	0.0052	0.0052	0.0052	0.0052	0.0054	0.0054	0.0055	0.0055	0.0057	0.0057	0.0059	0.0058	0.0060
K-M_2N_3	0.0052	0.0051	0.0049	0.0047	0.0046	0.0044	0.0044	0.0043	0.0043	0.0041	0.0040	0.0037	0.0036	0.0035	0.0035

Tabell 9 **Auger-Electron Intensities per 100 K-Shell Vacancies** (continued)

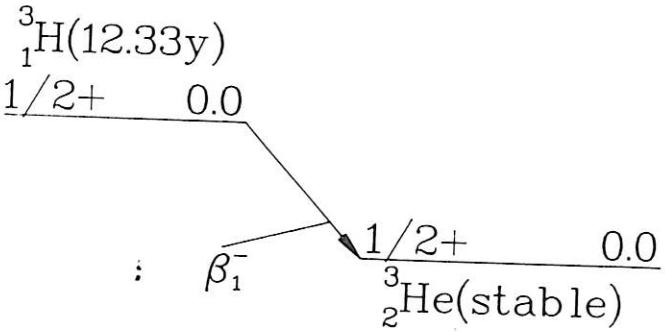
	$_{78}$Pt	$_{79}$Au	$_{80}$Hg	$_{81}$Tl	$_{82}$Pb	$_{83}$Bi	$_{84}$Po	$_{85}$At	$_{86}$Rn	$_{87}$Fr	$_{88}$Ra	$_{89}$Ac	$_{90}$Th	$_{91}$Pa	$_{92}$U
continued															
K-M_3M_3	0.0117	0.0113	0.0108	0.0104	0.010	0.0096	0.0095	0.0090	0.0089	0.0085	0.0084	0.0080	0.0078	0.0074	0.0073
K-M_3M_4	0.0031	0.0030	0.0028	0.0027	0.0026	0.00249	0.00246	0.00234	0.00230	0.00219	0.00215	0.00203	0.00199	0.00188	0.00184
K-M_3M_5	0.0030	0.0029	0.0028	0.0027	0.00254	0.00241	0.00238	0.00226	0.00222	0.00210	0.00205	0.00192	0.00187	0.00177	0.00173
K-M_3N_1	0.0033	0.0032	0.0031	0.0030	0.0029	0.0028	0.0028	0.0028	0.0028	0.0027	0.0027	0.0026	0.00255	0.00244	0.00243
K-M_3N_2	0.0055	0.0053	0.0051	0.0050	0.0048	0.0046	0.0046	0.0044	0.0044	0.0042	0.0042	0.0040	0.0039	0.0038	0.0037
K-M_3N_3	0.0055	0.0053	0.0051	0.0050	0.0048	0.0046	0.0046	0.0044	0.0044	0.0042	0.0042	0.0040	0.0039	0.0038	0.0037

	$_{93}$Np	$_{94}$Pu	$_{95}$Am	$_{96}$Cm	$_{97}$Bk	$_{98}$Cf	$_{99}$Es	$_{100}$Fm	$_{101}$Md	$_{102}$No	$_{103}$Lr	104
K-L_1L_1	0.32	0.33	0.32	0.32	0.31	0.31	0.31	0.30	0.30	0.31	0.29	0.30
K-L_1L_2	0.61	0.62	0.61	0.62	0.61	0.62	0.64	0.62	0.63	0.65	0.63	0.64
K-L_1L_3	0.219	0.216	0.204	0.201	0.190	0.186	0.183	0.173	0.170	0.166	0.157	0.154
K-L_1M_1	0.134	0.135	0.131	0.132	0.128	0.130	0.131	0.126	0.127	0.128	0.124	0.124
K-L_1M_2	0.133	0.135	0.133	0.136	0.133	0.136	0.139	0.136	0.138	0.141	0.137	0.139
K-L_1M_3	0.054	0.053	0.051	0.050	0.048	0.047	0.046	0.044	0.043	0.043	0.040	0.040
K-L_1M_4	0.0053	0.0053	0.0050	0.0050	0.0047	0.0047	0.0046	0.0044	0.0043	0.0042	0.0040	0.0039
K-L_1M_5	0.0031	0.0030	0.0028	0.0027	0.0026	0.00249	0.00242	0.00225	0.00219	0.00213	0.00198	0.00193
K-L_1N_1	0.036	0.036	0.035	0.036	0.035	0.035	0.036	0.034	0.035	0.035	0.034	0.034
K-L_1N_2	0.035	0.036	0.035	0.036	0.036	0.036	0.037	0.037	0.037	0.038	0.037	0.038
K-L_1N_3	0.0144	0.0143	0.0137	0.0136	0.0129	0.0128	0.0127	0.0121	0.0120	0.0119	0.0112	0.0111
K-L_1O_1	0.0093	0.0095	0.0094	0.0096	0.0094	0.0096	0.0099	0.0096	0.0098	0.010	0.0098	0.0099
K-L_1O_2	0.0086	0.0089	0.0089	0.0092	0.0091	0.0094	0.0097	0.0096	0.0099	0.0101	0.0100	0.0102
K-L_1O_3	0.0035	0.0035	0.0034	0.0034	0.0033	0.0033	0.0033	0.0032	0.0032	0.0032	0.0030	0.0030
K-L_2L_2	0.0214	0.0210	0.0199	0.0195	0.0184	0.0181	0.0177	0.0167	0.0164	0.0161	0.0151	0.0148
K-L_2L_3	0.34	0.33	0.31	0.30	0.28	0.27	0.26	0.247	0.240	0.233	0.216	0.210
K-L_2M_1	0.104	0.107	0.105	0.108	0.106	0.108	0.110	0.108	0.110	0.112	0.109	0.111
K-L_2M_2	0.0082	0.0081	0.0077	0.0076	0.0072	0.0070	0.0069	0.0065	0.0064	0.0063	0.0060	0.0059
K-L_2M_3	0.071	0.069	0.065	0.064	0.060	0.058	0.057	0.054	0.052	0.051	0.048	0.047
K-L_2M_4	0.0051	0.0051	0.0049	0.0048	0.0046	0.0045	0.0045	0.0043	0.0042	0.0042	0.0040	0.0039
K-L_2M_5	0.0108	0.0105	0.0098	0.0096	0.0089	0.0087	0.0084	0.0078	0.0076	0.0073	0.0068	0.0066
K-L_2N_1	0.027	0.028	0.027	0.028	0.028	0.029	0.029	0.029	0.029	0.030	0.029	0.030
K-L_2N_2	0.00211	0.00209	0.00199	0.00197	0.00187	0.00185	0.00184	0.00175	0.00173	0.00171	0.00163	0.00161
K-L_2N_3	0.0180	0.0177	0.0168	0.0165	0.0156	0.0153	0.0150	0.0142	0.0139	0.0136	0.0128	0.0125
K-L_2N_5	0.0031	0.0031	0.0029	0.0028	0.0027	0.0026	0.00255	0.00240	0.00235	0.00229	0.00215	0.00210
K-L_2O_1	0.0070	0.0073	0.0073	0.0075	0.0075	0.0077	0.0079	0.0078	0.0079	0.0081	0.0079	0.0080
K-L_2O_3	0.0043	0.0043	0.0042	0.0042	0.0040	0.0040	0.0040	0.0039	0.0039	0.0039	0.0037	0.0038
K-L_3L_3	0.146	0.141	0.132	0.128	0.119	0.115	0.111	0.103	0.100	0.096	0.089	0.086
K-L_3M_1	0.037	0.036	0.035	0.034	0.032	0.032	0.031	0.030	0.029	0.029	0.027	0.026
K-L_3M_2	0.065	0.063	0.059	0.058	0.054	0.053	0.052	0.048	0.047	0.046	0.043	0.042
K-L_3M_3	0.063	0.061	0.058	0.056	0.053	0.051	0.050	0.047	0.045	0.044	0.041	0.040
K-L_3M_4	0.0099	0.0096	0.0090	0.0087	0.0081	0.0078	0.0076	0.0070	0.0068	0.0066	0.0061	0.0059
K-L_3M_5	0.0096	0.0093	0.0086	0.0083	0.0077	0.0074	0.0071	0.0066	0.0063	0.0061	0.0056	0.0053
K-L_3N_1	0.0093	0.0092	0.0088	0.0087	0.0082	0.0081	0.0080	0.0076	0.0075	0.0073	0.0069	0.0068
K-L_3N_2	0.0162	0.0159	0.0150	0.0147	0.0138	0.0136	0.0133	0.0125	0.0122	0.0119	0.0112	0.0110
K-L_3N_3	0.0162	0.0159	0.0150	0.0147	0.0139	0.0136	0.0133	0.0125	0.0122	0.0120	0.0112	0.0110
K-L_3N_4	0.0028	0.0028	0.0026	0.0026	0.00243	0.00237	0.00231	0.00216	0.00210	0.00205	0.00191	0.00185
K-L_3N_5	0.0028	0.0027	0.00253	0.00247	0.00232	0.00227	0.00222	0.00208	0.00204	0.0020	0.00187	0.00184
K-L_3O_1	0.00239	0.00238	0.00228	0.00228	0.00218	0.00217	0.00216	0.00207	0.00206	0.00205	0.00195	0.00194
K-L_3O_2	0.0040	0.0039	0.0037	0.0037	0.0035	0.0034	0.0033	0.0031	0.0029	0.0028	0.0026	0.00248
K-L_3O_3	0.0039	0.0039	0.0037	0.0037	0.0035	0.0034	0.0033	0.0031	0.0030	0.0030	0.0028	0.0027
K-M_1M_1	0.0137	0.0138	0.0134	0.0136	0.0132	0.0133	0.0134	0.0130	0.0130	0.0131	0.0127	0.0127
K-M_1M_2	0.0244	0.0250	0.0246	0.0252	0.0248	0.0254	0.026	0.0254	0.026	0.026	0.026	0.026
K-M_1M_3	0.0088	0.0087	0.0083	0.0082	0.0078	0.0077	0.0076	0.0073	0.0072	0.0071	0.0067	0.0067
K-M_1N_1	0.0072	0.0073	0.0072	0.0073	0.0071	0.0072	0.0073	0.0071	0.0072	0.0073	0.0070	0.0071
K-M_1N_2	0.0064	0.0066	0.0065	0.0067	0.0066	0.0068	0.0069	0.0068	0.0070	0.0071	0.0069	0.0071
K-M_1N_3	0.00236	0.00235	0.00225	0.00223	0.00213	0.00211	0.00209	0.00199	0.00197	0.00195	0.00184	0.00182
K-M_2M_3	0.0131	0.0128	0.0121	0.0119	0.0112	0.0109	0.0107	0.0101	0.0099	0.0096	0.0090	0.0089
K-M_2N_1	0.0059	0.0061	0.0060	0.0062	0.0061	0.0062	0.0064	0.0063	0.0064	0.0065	0.0064	0.0065
K-M_2N_3	0.0034	0.0034	0.0032	0.0031	0.0029	0.0028	0.0027	0.00242	0.00228	0.00213	0.00189	0.00173
K-M_3M_3	0.0069	0.0068	0.0064	0.0063	0.0059	0.0058	0.0057	0.0053	0.0052	0.0051	0.0047	0.0046
K-M_3M_4	0.00174	0.00170	0.00161	0.00158	0.00149	0.00146	0.00144	0.00136	0.00133	0.00131	0.00124	0.00122
K-M_3M_5	0.00163	0.00159	0.00149	0.00144	0.00135	0.00130	0.00126	0.00117	0.00112	0.00108		
K-M_3N_1	0.00232	0.00231	0.00220	0.00219	0.00209	0.00207	0.00206	0.00196	0.00194	0.00193	0.00183	0.00182
K-M_3N_2	0.0036	0.0035	0.0033	0.0033	0.0031	0.0031	0.0030	0.0028	0.0028	0.0027	0.0026	0.00254
K-M_3N_3	0.0036	0.0035	0.0034	0.0033	0.0031	0.0031	0.0031	0.0029	0.0029	0.0028	0.0027	0.0026

Tabell 10 Några radionukliders atommassor bl. a.

SOME ATOMIC AND NUCLEAR PROPERTIES

Element	*Z*	*A*	*Chem. atm. wgt.*	*Atm. mass (MeV)*	*Percent abundance*
Hydrogen	1	1	1.008	938.767	99.98
		2		1,876.092	0.02
		3		2,809.384	
Helium	2	3	4.0026	2,809.365	10^{-4}
		4		3,728.337	100
Lithium	3	6	6.939	5,602.956	7.5
		7		6,535.253	92.5
		8		7,472.770	
Beryllium	4	7	9.013	6,536.115	
		9		8,394.653	100
Boron	5	8	10.82	7,474.747	
		10		9,326.832	18.4
		11		10,254.876	81.6
		12		11,191.106	
Carbon	6	11	12.011	10,256.856	
		12		11,177.736	98.892
		13		12,112.339	1.108
		14		13,043.712	
Nitrogen	7	14	14.008	13,043.556	99.64
		15		13,972.270	0.36
Oxygen	8	16	16	14,898.911	99.759
		17		15,834.318	0.037
		18		16,765.822	
Fluorine	9	19	19.00	17,696.596	100
Neon	10	20	20.183	18,662.518	90.9
		21		19,555.308	0.27
		22		20,484.491	8.83
Sodium	11	22	22.990	20,487.334	
		23		21,414.466	100
		24		22,347.054	
Magnesium	12	24	24.32	22,341.539	78.6
		25		23,273.759	10.2
		26		24,202.214	11.2
Aluminum	13	27	26.98	25,132.710	100
Silicon	14	28	28.09	26,059.894	92.27
		29		26,990.968	4.68
		30		27,919.901	3.05
Phosphorous	15	31	30.974	28,851.380	100
		32		29,782.993	
Sulphur	16	32	32.066	29,781.283	95.02
		33		30,712.191	0.75
		34		31,640.318	4.12
		35		32,572.883	
Chlorine	17	35	35.457	32,572.715	75.4
		37		34,432.921	24.6
Argon	18	36	39.944	33,502.976	0.337
		38		35,361.446	0.063
		40		37,224.082	99.600
Potassium	19	39	39.100	36,293.839	93.08
		40		37,225.587	0.0119
		41		38,155.046	6.91
		42		39,087.056	
Calcium	20	40	40.08	37,224.272	96.97
		44		40,943.572	2.06
Vanadium	23	51	50.95	47,453.179	99.75
Chromium	24	50	52.01	46,523.651	4.31
		51		47,453.931	
		52		48,381.445	83.76
Iron	26	54	55.85	50,243.566	5.84
		55		51,176.816	
		56		52,102.163	91.68
		57		53,034.070	2.17
		58		53,963.577	0.31
		59		54,896.542	
Cobalt	27	59	58.94	54,894.969	100
		60		55,827.029	
Nickel	28	58	58.69	53,965.49	67.76
		60		55,824.21	26.16
Copper	29	63	63.54	58,617.531	69.09
		64		59,549.164	
		65		60,578.80	30.91
Zinc	30	64	65.37	59,548.592	48.87
		65		60,480.15	
		66		61,406.67	27.62
Silver	47	107	107.88	99,579.7	51.35
		109		101,442.3	48.65
Lead	82	204	207.21	189,996.4	1.48
		206		191,860.7	23.6
		207		192,793.6	22.6
		208		193,725.8	52.3
Bismuth	83	209	209.0	194,661.4	100
Uranium	92	234	238.07	218,004.0	0.0058
		235		218,938.2	0.715
		236		219,186.3	
		238		221,739.0	99.28
		239		222,673.8	



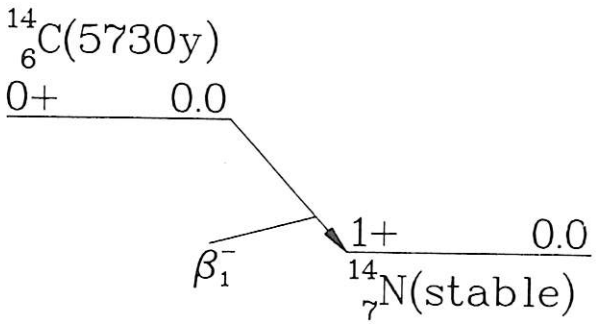
1-HYDROGEN-3

HALF-LIFE 12.33 YEARS
DECAY MODE(S): β

18-AUG-82

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	ENERGY/TRANSITION Δ(i) Gy kg/Bq s
β 1	1.00E+00	5.674E-03†	1.21E-02	9.08E-16
Listed β,ce and Auger radiations			1.21E-02	9.08E-16
Listed radiations			1.21E-02	9.08E-16

† Average energy
HELIUM-3 daughter is stable.



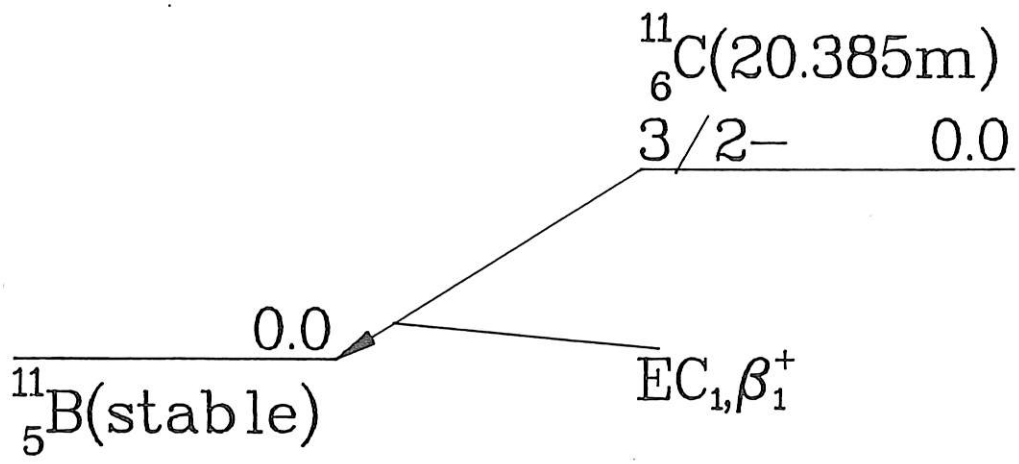
6-CARBON-14

HALF-LIFE 5730 YEARS
DECAY MODE(S): β

13-OCT-77

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	ENERGY/TRANSITION Δ(i) Gy kg/Bq s
β 1	1.00E 00	4.945E-02†	1.05E-01	7.93E-15
Listed β,ce and Auger radiations			1.05E-01	7.93E-15
Listed radiations			1.05E-01	7.93E-15

† Average energy
NITROGEN-14 daughter is stable.

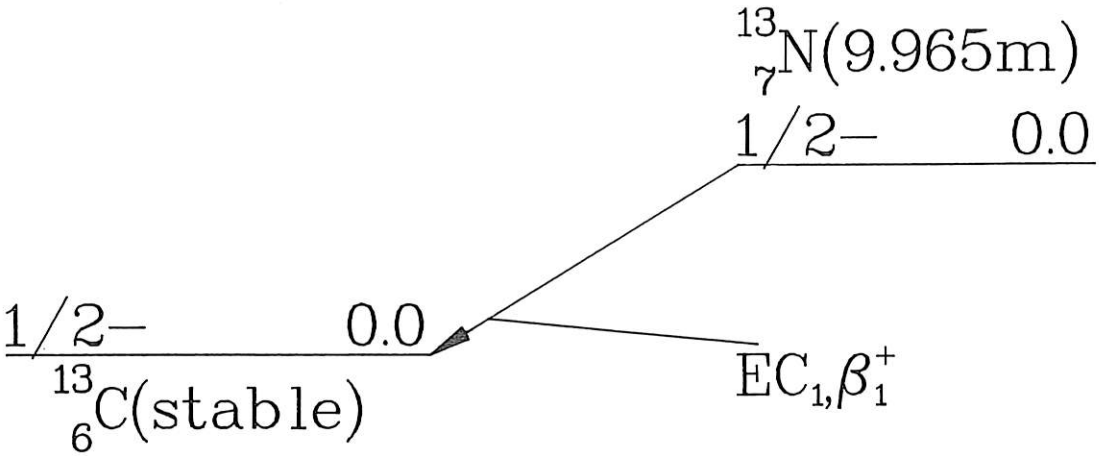


6-CARBON-11

HALF-LIFE = 20.385 MINUTES 08-AUG-84
DECAY MODE(S): EC, β^+

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
β^+ 1	9.98E-01	3.856E-01†	8.20E-01	6.17E-14
$\gamma\pm$	2.00E+00	5.110E-01	2.18E+00	1.63E-13
Listed x,γ and $\gamma\pm$ radiations			2.17E+00	1.63E-13
Omitted x,γ and $\gamma\pm$ radiations‡			9.53E-10	7.16E-23
Listed β,ce and Auger radiations			8.21E-01	6.17E-14
Listed radiations			2.98E+00	2.24E-13
Omitted radiations‡			9.53E-10	7.16E-23

† Average energy
‡ Each omitted transition contributes <0.100% to ΣΔ(i) in its category.
BORON-11 daughter is stable.

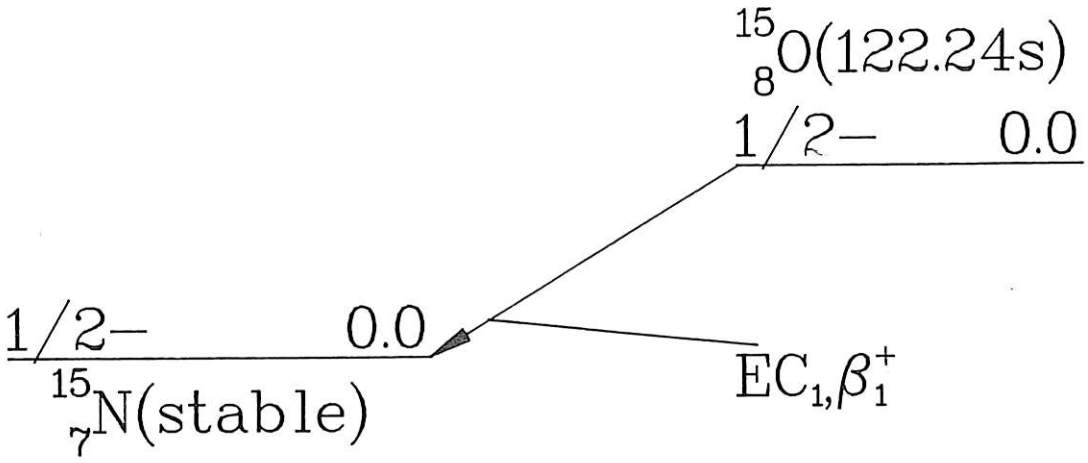


7-NITROGEN-13

HALF-LIFE = 9.965 MINUTES 29-MAR-78
DECAY MODE(S): EC, β^+

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
β^+ 1	9.98E-01	4.918E-01†	1.05E+00	7.87E-14
$\gamma\pm$	2.00E 00	5.110E-01	2.18E+00	1.63E-13
$K\alpha_1$ x-ray	2.38E-06	2.774E-04	1.41E-09	1.06E-22
$K\alpha_2$ x-ray	1.19E-06	2.774E-04	7.04E-10	5.29E-23
Auger-KLL	1.80E-03	2.564E-04†	9.84E-07	7.39E-20
Listed x,γ and $\gamma\pm$ radiations			2.17E+00	1.63E-13
Listed β,ce and Auger radiations			1.05E+00	7.87E-14
Listed radiations			3.22E+00	2.42E-13

† Average energy
CARBON-13 daughter is stable.

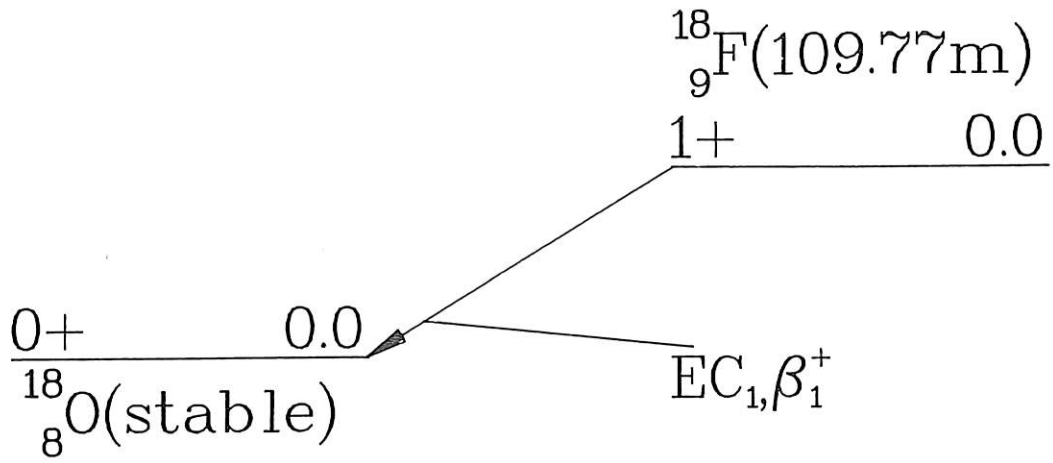


8-OXYGEN-15

HALF-LIFE = 122.24 SECONDS 29-MAR-78
DECAY MODE(S): EC, β^+

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
β^+ 1	9.99E-01	7.353E-01†	1.57E+00	1.18E-13
$\gamma\pm$	2.00E 00	5.110E-01	2.18E+00	1.63E-13
$K\alpha_1$ x-ray	2.65E-06	3.924E-04	2.22E-09	1.67E-22
$K\alpha_2$ x-ray	1.32E-06	3.924E-04	1.10E-09	8.31E-23
Auger-KLL	1.13E-03	3.684E-04†	8.87E-07	6.65E-20
Listed x,γ and $\gamma\pm$ radiations			2.17E+00	1.63E-13
Listed β,ce and Auger radiations			1.56E+00	1.18E-13
Listed radiations			3.75E+00	2.82E-13

† Average energy
NITROGEN-15 daughter is stable.

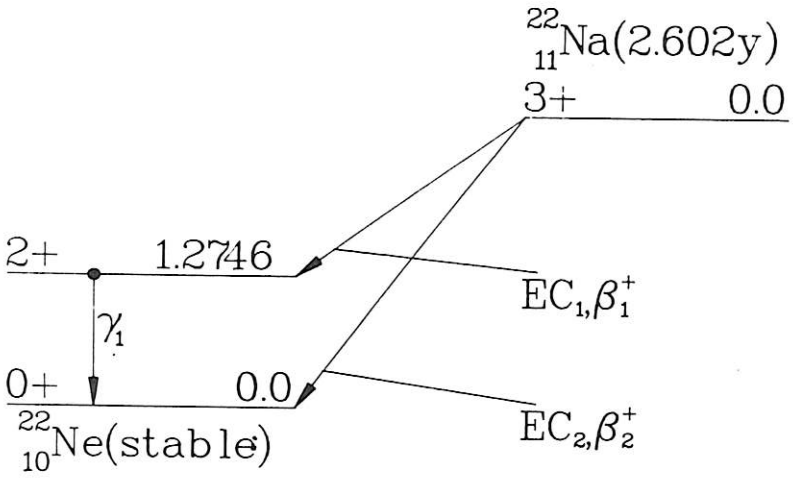


9-FLUORINE-18

HALF-LIFE = 109.77 MINUTES 13-DEC-78
DECAY MODE(S): EC, β^+

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
β^+ 1	1.00E 00	2.498E-01†	5.32E-01	4.00E-14
γ±	2.00E 00	5.110E-01	2.18E+00	1.63E-13
Listed x,γ and γ± radiations			2.17E+00	1.63E-13
Listed β,ce and Auger radiations			5.33E-01	4.00E-14
Listed radiations			2.71E+00	2.03E-13

† Average energy
OXYGEN-18 daughter is stable.



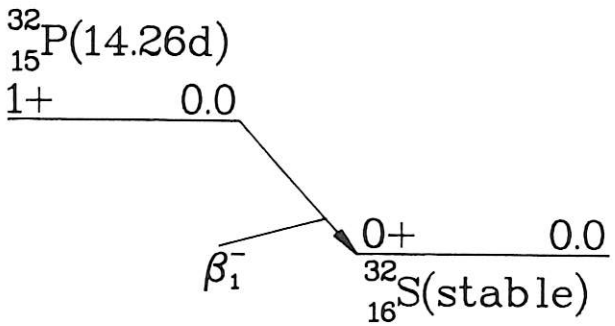
11-SODIUM-22

HALF-LIFE 2.602 YEARS 31-JUL-80
DECAY MODE(S): EC, β^+

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
β^+ 1	8.98E-01	2.154E-01†	4.12E-01	3.11E-14
β^+ 2	5.60E-04	8.350E-01†	9.97E-04	7.50E-17
γ ±	1.80E+00	5.110E-01	1.96E+00	1.47E-13
γ 1	9.99E-01	1.275E+00	2.71E+00	2.03E-13
Listed x,γ and γ± radiations			4.67E+00	3.51E-13
Omitted x,γ and γ± radiations‡			2.56E-06	1.92E-19
Listed β,ce and Auger radiations			4.13E-01	3.11E-14
Omitted β,ce and Auger radiations‡			1.88E-04	1.42E-17
Listed radiations			5.09E+00	3.83E-13
Omitted radiations‡			1.91E-04	1.44E-17

† Average energy
‡ Each omitted transition contributes 0.100% to ΣΔ(i) in its category.
NEON-22 daughter is stable.

Tabell 11



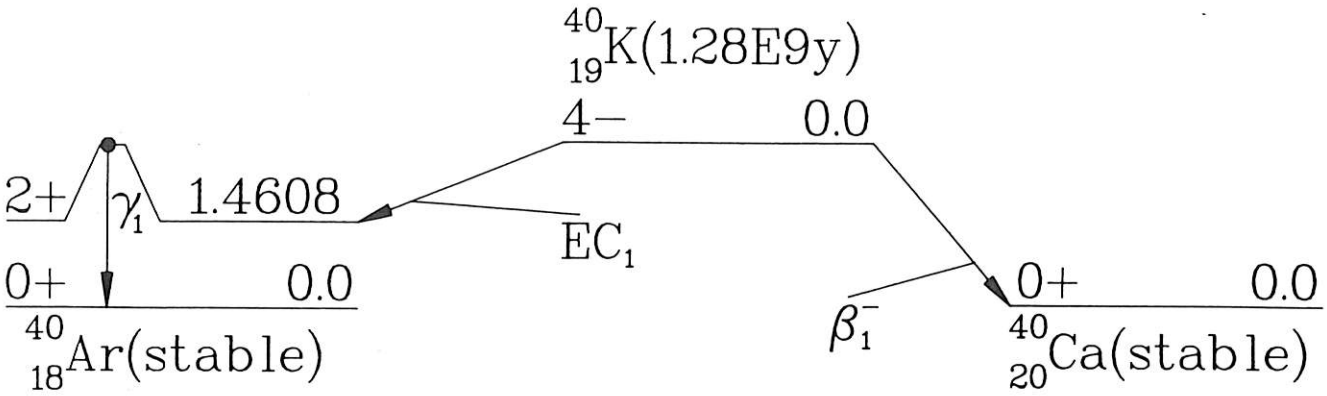
15-PHOSPHORUS-32

HALF-LIFE = 14.26 DAYS 26-JAN-83
DECAY MODE(S): β^-

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
β 1	1.00E+00	6.947E-01†	1.48E+00	1.11E-13
Listed β,ce and Auger radiations			1.48E+00	1.11E-13
Listed radiations			1.48E+00	1.11E-13

† Average energy
SULPHUR-32 daughter is stable.

Tabell 11

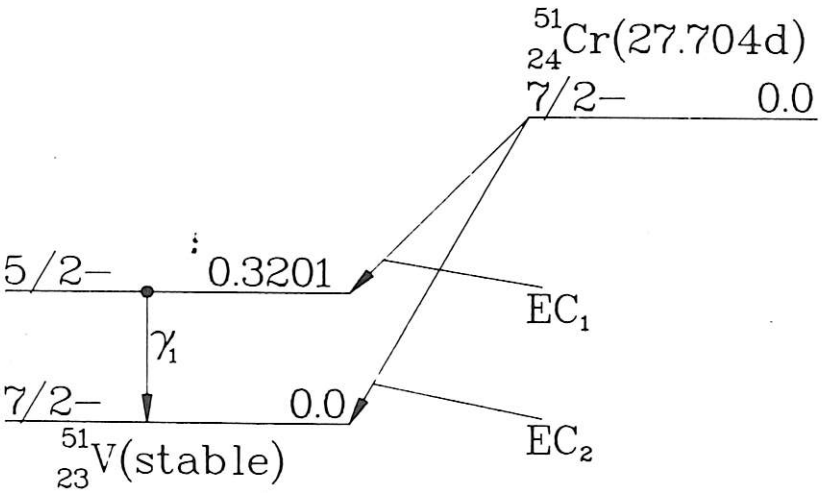


19-POTASSIUM-40

HALF-LIFE = 1.28E9 YEARS 05-MAY-77
DECAY MODE(S): β^-, EC

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
β^- 1	8.93E-01	5.850E-01†	1.11E+00	8.36E-14
γ 1	1.07E-01	1.461E+00	3.33E-01	2.50E-14
ce-K, γ 1	2.82E-06	1.458E+00	8.76E-06	6.57E-19
ce-L_1, γ 1	2.31E-07	1.460E+00	7.19E-07	5.41E-20
ce-L_2, γ 1	5.46E-10	1.461E+00	1.70E-09	1.28E-22
ce-L_3, γ 1	8.26E-10	1.461E+00	2.57E-09	1.94E-22
$K\alpha_1$ x-ray	5.79E-03	2.958E-03	3.65E-05	2.74E-18
$K\alpha_2$ x-ray	2.91E-03	2.956E-03	1.83E-05	1.38E-18
$K\alpha_3$ x-ray	2.87E-10	2.883E-03	1.76E-12	1.33E-25
$K\beta_1$ x-ray	5.91E-04	3.190E-03	4.02E-06	3.03E-19
$K\beta_3$ x-ray	3.00E-04	3.190E-03	2.04E-06	1.53E-19
Lα x-ray	2.63E-05	2.452E-04†	1.37E-08	1.03E-21
Lβ x-ray	3.22E-06	3.076E-04†	2.11E-09	1.58E-22
Auger-KLL	6.49E-02	2.640E-03†	3.65E-04	2.74E-17
Auger-KLX	8.42E-03	2.919E-03†	5.24E-05	3.94E-18
Auger-KXY	4.85E-04	3.174E-03†	3.28E-06	2.47E-19
Auger-MXY	1.03E-02	1.587E-05†	3.48E-07	2.63E-20
Listed x,γ and γ± radiations			3.32E-01	2.50E-14
Listed β,ce and Auger radiations			1.11E+00	8.38E-14
Listed radiations			1.45E+00	1.09E-13

† Average energy
CALCIUM-40 daughter, yield 8.93E-01, is stable.
ARGON-40 daughter, yield 1.07E-01, is stable.



Tabell 11

24-CHROMIUM-51

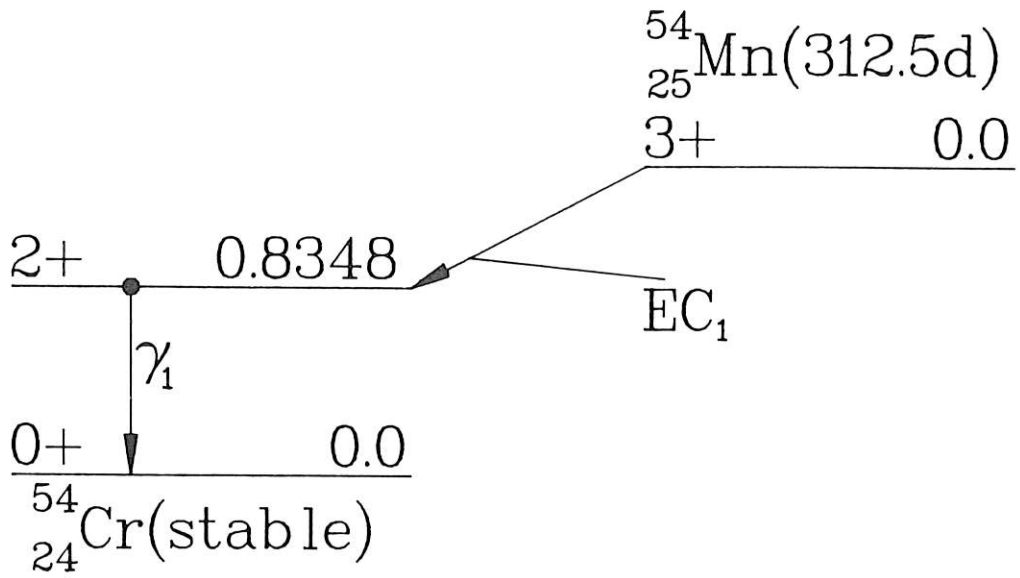
HALF-LIFE = 27.704 DAYS
DECAY MODE(S): EC

27-MAY-86

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
γ 1	1.01E-01	3.201E-01	6.89E-02	5.17E-15
ce-K, γ 1	1.69E-04	3.146E-01	1.13E-04	8.51E-18
ce-L$_1$, γ 1	1.52E-05	3.195E-01	1.03E-05	7.77E-19
Kα$_1$ x-ray	1.33E-01	4.952E-03	1.40E-03	1.06E-16
Kα$_2$ x-ray	6.70E-02	4.945E-03	7.06E-04	5.30E-17
Kβ$_1$ x-ray	1.76E-02	5.427E-03	2.04E-04	1.53E-17
Kβ$_3$ x-ray	8.88E-03	5.427E-03	1.03E-04	7.72E-18
Auger-KL$_1$L$_1$	3.03E-02	4.168E-03	2.69E-04	2.02E-17
Auger-KL$_1$L$_2$	1.17E-01	4.259E-03	1.06E-03	7.99E-17
Auger-KL$_1$L$_3$	2.66E-02	4.293E-03	2.43E-04	1.83E-17
Auger-KL$_2$L$_2$	3.59E-02	4.362E-03	3.34E-04	2.50E-17
Auger-KL$_2$L$_3$	3.23E-01	4.381E-03	3.02E-03	2.26E-16
Auger-KL$_3$L$_3$	2.53E-02	4.397E-03	2.37E-04	1.78E-17
Auger-KL$_1$X	3.24E-02	4.796E-03†	3.31E-04	2.48E-17
Auger-KL$_2$X	2.85E-02	4.903E-03†	2.98E-04	2.24E-17
Auger-KL$_3$X	5.19E-02	4.911E-03†	5.43E-04	4.09E-17
Auger-KXY	8.59E-03	5.386E-03†	9.86E-05	7.42E-18
Auger-L$_1$MM	1.71E-02	5.986E-04†	2.18E-05	1.63E-18
Auger-L$_2$MM	2.59E-01	4.909E-04†	2.71E-04	2.03E-17
Auger-L$_2$MX	1.05E-02	5.183E-04†	1.16E-05	8.73E-19
Auger-L$_3$MM	1.24E+00	4.833E-04†	1.28E-03	9.56E-17
Auger-MXY	3.19E+00	1.603E-05†	1.09E-04	8.20E-18
Listed x,γ and γ± radiations			7.12E-02	5.35E-15
Omitted x,γ and γ± radiations‡			1.26E-06	9.44E-20
Listed β,ce and Auger radiations			8.25E-03	6.20E-16
Omitted β,ce and Auger radiations‡			3.28E-07	2.47E-20
Listed radiations			7.95E-02	5.98E-15
Omitted radiations‡			1.58E-06	1.19E-19

† Average energy
‡ Each omitted transition contributes 0.100% to ΣΔ(i) in its category.
VANADIUM-51 daughter is stable.

Tabell 11

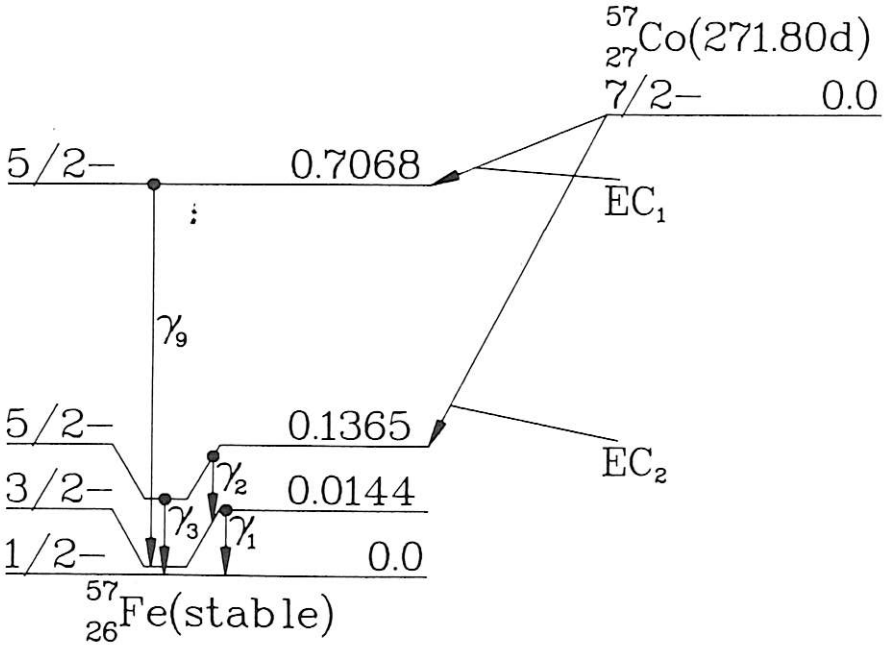


25-MANGANESE-54

HALF-LIFE = 312.5 DAYS 10-APR-78
DECAY MODE(S): EC

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
γ 1	1.00E+00	8.348E-01	1.78E+00	1.34E-13
ce-K, γ 1	2.24E-04	8.288E-01	3.96E-04	2.98E-17
ce-L., γ 1	2.04E-05	8.341E-01	3.63E-05	2.72E-18
Auger-KL.L.	2.87E-02	4.557E-03	2.79E-04	2.10E-17
Auger-KL.L_2	1.10E-01	4.651E-03	1.09E-03	8.19E-17
Auger-KL.L_3	2.53E-02	4.687E-03	2.53E-04	1.89E-17
Auger-KL_2L_2	3.26E-02	4.757E-03	3.31E-04	2.48E-17
Auger-KL_2L_3	3.02E-01	4.778E-03	3.08E-03	2.31E-16
Auger-KL_3L_3	2.89E-02	4.795E-03	2.95E-04	2.23E-17
Auger-KL.X	3.27E-02	5.248E-03†	3.66E-04	2.76E-17
Auger-KL_2X	2.85E-02	5.358E-03†	3.25E-04	2.45E-17
Auger-KL_3X	5.17E-02	5.368E-03†	5.91E-04	4.44E-17
Auger-KXY	9.12E-03	5.900E-03†	1.15E-04	8.62E-18
Auger-L.MM	1.50E-02	6.599E-04†	2.11E-05	1.58E-18
Auger-L_2MM	2.47E-01	5.490E-04†	2.89E-04	2.16E-17
Auger-L_2MX	1.20E-02	5.814E-04†	1.49E-05	1.12E-18
Auger-L_3MM	1.19E+00	5.398E-04†	1.37E-03	1.03E-16
Auger-L_3MX	2.62E-02	5.722E-04†	3.20E-05	2.40E-18
Auger-MXY	3.10E+00	1.865E-05†	1.23E-04	9.26E-18
Listed x,γ and γ± radiations			1.78E+00	1.34E-13
Omitted x,γ and γ± radiations‡			2.98E-03	2.24E-16
Listed β,ce and Auger radiations			8.99E-03	6.76E-16
Omitted β,ce and Auger radiations‡			7.29E-07	5.48E-20
Listed radiations			1.79E+00	1.34E-13
Omitted radiations‡			2.98E-03	2.24E-16

† Average energy
‡ Each omitted transition contributes 0.100% to ΣΔ(i) in its category.
CHROMIUM-54 daughter is stable.



Tabell 11

27-COBALT-57

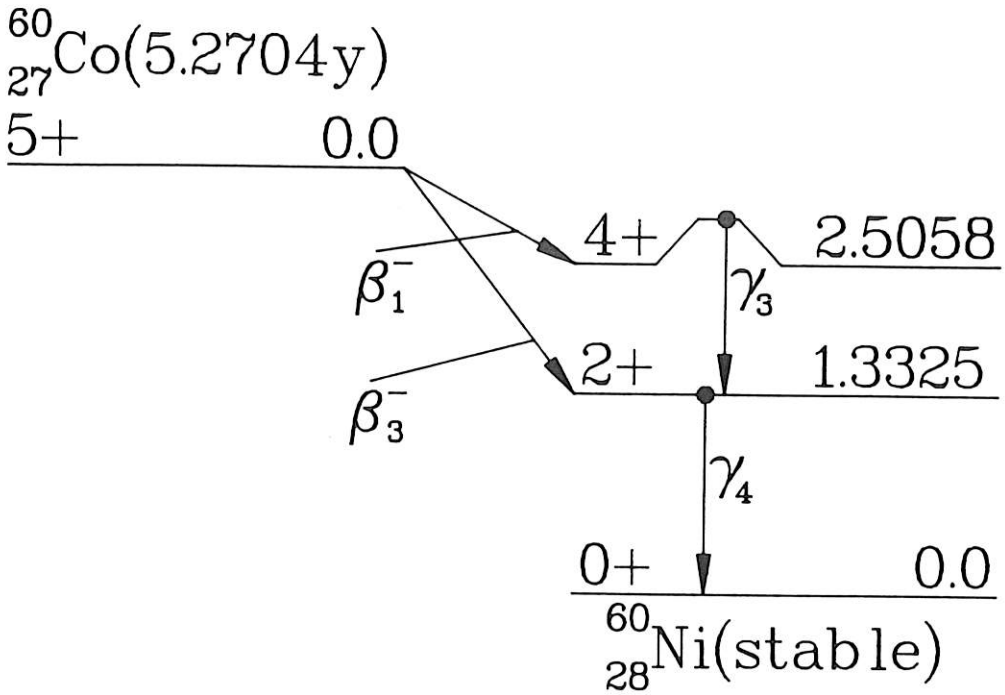
HALF-LIFE = 271.8 DAYS
DECAY MODE(S): EC

30-JAN-86

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
γ 1	9.23E-02	1.441E-02	2.83E-03	2.13E-16
ce-K, γ 1	7.16E-01	7.301E-03	1.11E-02	8.38E-16
ce-L_1, γ 1	6.83E-02	1.357E-02	1.98E-03	1.48E-16
ce-L_2, γ 1	4.22E-03	1.369E-02	1.23E-04	9.26E-18
ce-L_3, γ 1	1.70E-03	1.370E-02	4.96E-05	3.72E-18
γ 2	8.59E-01	1.221E-01	2.24E-01	1.68E-14
ce-K, γ 2	1.84E-02	1.149E-01	4.51E-03	3.40E-16
ce-L_1, γ 2	1.73E-03	1.212E-01	4.47E-04	3.36E-17
γ 3	1.03E-01	1.365E-01	3.00E-02	2.26E-15
ce-K, γ 3	1.39E-02	1.294E-01	3.83E-03	2.87E-16
ce-L_1, γ 3	1.24E-03	1.356E-01	3.58E-04	2.69E-17
γ 9	1.62E-03	6.924E-01	2.39E-03	1.79E-16
Kα$_1$ x-ray	3.35E-01	6.404E-03	4.57E-03	3.43E-16
Kα$_2$ x-ray	1.69E-01	6.391E-03	2.30E-03	1.73E-16
Kβ$_3$ x-ray	4.52E-02	7.058E-03	6.80E-04	5.11E-17
Kβ$_1$ x-ray	2.29E-02	7.058E-03	3.44E-04	2.60E-17
Auger-KL$_1$L$_1$	4.72E-02	5.374E-03	5.41E-04	4.07E-17
Auger-KL$_1$L$_2$	1.77E-01	5.480E-03	2.07E-03	1.55E-16
Auger-KL$_1$L$_3$	4.22E-02	5.519E-03	4.96E-04	3.73E-17
Auger-KL$_2$L$_2$	4.86E-02	5.598E-03	5.80E-04	4.36E-17
Auger-KL$_2$L$_3$	4.77E-01	5.622E-03	5.72E-03	4.29E-16
Auger-KL$_3$L$_3$	6.39E-02	5.644E-03	7.69E-04	5.78E-17
Auger-KL$_1$X	5.99E-02	6.208E-03†	7.93E-04	5.96E-17
Auger-KL$_2$X	5.13E-02	6.333E-03†	6.92E-04	5.21E-17
Auger-KL$_3$X	9.32E-02	6.346E-03†	1.26E-03	9.47E-17
Auger-KXY	1.80E-02	7.000E-03†	2.69E-04	2.02E-17
Auger-L$_1$MM	2.47E-02	8.047E-04†	4.24E-05	3.19E-18
Auger-L$_2$MM	4.05E-01	6.797E-04†	5.87E-04	4.41E-17
Auger-L$_2$MX	2.60E-02	7.175E-04†	3.98E-05	2.98E-18
Auger-L$_3$MM	2.01E+00	6.667E-04†	2.86E-03	2.15E-16
Auger-L$_3$MX	1.28E-01	7.045E-04†	1.92E-04	1.45E-17
Auger-MXY	5.34E+00	2.232E-05†	2.54E-04	1.91E-17
Listed x,γ and γ± radiations			2.66E-01	2.00E-14
Omitted x,γ and γ± radiations‡			2.81E-04	2.11E-17
Listed β,ce and Auger radiations			3.96E-02	2.98E-15
Omitted β,ce and Auger radiations‡			8.52E-05	6.41E-18
Listed radiations			3.07E-01	2.31E-14
Omitted radiations‡			3.67E-04	2.76E-17

† Average energy
‡ Each omitted transition contributes 0.100% to Σ Δ(i) in its category.
IRON-57 daughter is stable.

Tabell 11



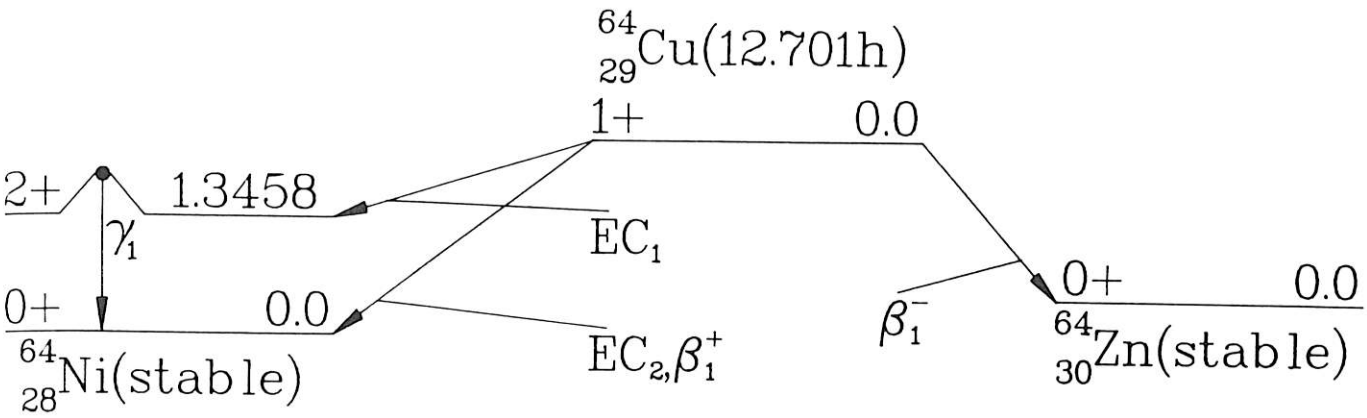
27-COBALT-60

HALF-LIFE = 5.2704 YEARS 05-AUG-86
DECAY MODE(S): β^-

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
β^- 1	9.99E-01	9.577E-02†	2.04E-01	1.53E-14
β^- 3	5.70E-04	6.258E-01†	7.60E-04	5.72E-17
γ 3	9.99E-01	1.173E+00	2.50E+00	1.87E-13
ce-K, γ 3	1.50E-04	1.165E+00	3.72E-04	2.80E-17
γ 4	1.00E+00	1.333E+00	2.84E+00	2.13E-13
ce-K, γ 4	1.14E-04	1.324E+00	3.22E-04	2.40E-17
Listed x,γ and γ± radiations			5.33E+00	4.00E-13
Omitted x,γ and γ± radiations‡			2.43E-04	1.83E-17
Listed β,ce and Auger radiations			2.05E-01	1.54E-14
Omitted β,ce and Auger radiations‡			8.44E-05	6.34E-18
Listed radiations			5.54E+00	4.17E-13
Omitted radiations‡			3.28E-04	2.47E-17

† Average energy
‡ Each omitted transition contributes
0.100% to ΣΔ(i) in its category.
NICKEL-60 daughter is stable.

Tabell 11

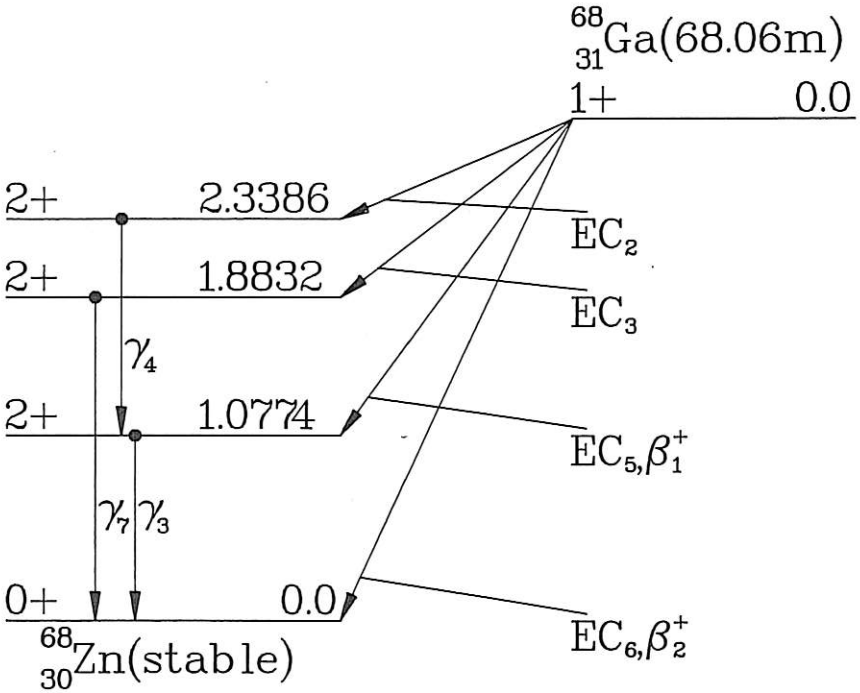


29-COPPER-64

HALF-LIFE = 12.701 HOURS 23-JUL-80
DECAY MODE(S): EC, β^+, β^-

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
β^- 1	1.79E-01	2.781E-01†	1.06E-01	7.98E-15
$\gamma\pm$	3.58E-01	5.110E-01	3.90E-01	2.93E-14
γ 1	4.84E-03	1.346E+00	1.39E-02	1.04E-15
$K\alpha_1$ x-ray	9.80E-02	7.478E-03	1.56E-03	1.17E-16
$K\alpha_2$ x-ray	4.98E-02	7.461E-03	7.92E-04	5.94E-17
Auger-KL_1L_2	3.76E-02	6.384E-03	5.12E-04	3.84E-17
Auger-KL_2L_3	1.00E-01	6.542E-03	1.39E-03	1.05E-16
Auger-KL_3X	2.20E-02	7.406E-03†	3.47E-04	2.61E-17
Auger-L_3MM	4.72E-01	8.058E-04†	8.11E-04	6.09E-17
β^- 1	3.71E-01	1.902E-01†	1.50E-01	1.13E-14
Listed x,γ and $\gamma\pm$ radiations			4.07E-01	3.06E-14
Omitted x,γ and $\gamma\pm$ radiations‡			3.58E-04	2.69E-17
Listed β,ce and Auger radiations			2.60E-01	1.95E-14
Omitted β,ce and Auger radiations‡			1.46E-03	1.09E-16
Listed radiations			6.65E-01	5.00E-14
Omitted radiations‡			1.81E-03	1.36E-16

† Average energy
‡ Each omitted transition contributes
<0.100% to ΣΔ(i) in its category.
NICKEL-64 daughter, yield 6.29E-01, is stable.
ZINC-64 daughter, yield 3.71E-01, is stable.



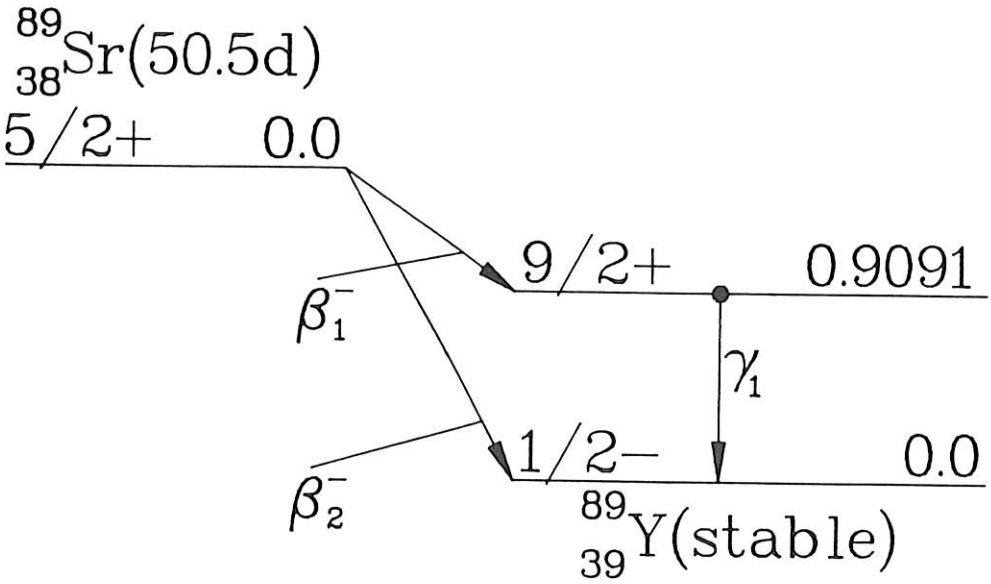
31-GALLIUM-68

HALF-LIFE = 68.06 MINUTES 20-JAN-82
DECAY MODE(S): EC, β^+

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
β^+ 1	1.12E-02	3.526E-01†	8.42E-03	6.33E-16
β^+ 2	8.79E-01	8.358E-01†	1.57E+00	1.18E-13
γ±	1.78E+00	5.110E-01	1.94E+00	1.46E-13
γ 3	3.00E-02	1.077E+00	6.89E-02	5.17E-15
γ 4	9.00E-04	1.261E+00	2.42E-03	1.83E-16
γ 7	1.30E-03	1.883E+00	5.22E-03	3.92E-16
Listed x,γ and γ± radiations			2.02E+00	1.52E-13
Omitted x,γ and γ± radiations‡			3.20E-03	2.40E-16
Listed β,ce and Auger radiations			1.57E+00	1.18E-13
Omitted β,ce and Auger radiations‡			1.16E-03	8.71E-17
Listed radiations			3.58E+00	2.69E-13
Omitted radiations‡			4.35E-03	3.27E-16

† Average energy
‡ Each omitted transition contributes <0.100% to ΣΔ(i) in its category.
ZINC-68 daughter is stable.

Tabell 11



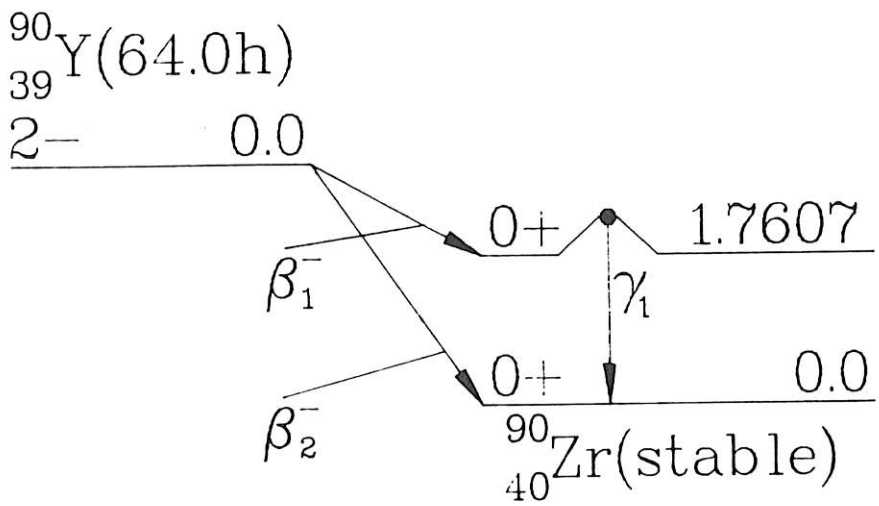
38-STRONTIUM-89

HALF-LIFE = 50.5 DAYS 29-MAR-78
DECAY MODE(S): β^-

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
β^- 2	1.00E 00	5.833E-01†	1.24E+00	9.34E-14
γ 1	9.30E-05	9.091E-01	1.80E-04	1.35E-17
Listed x,γ and γ± radiations			1.80E-04	1.35E-17
Omitted x,γ and γ± radiations‡			1.60E-08	1.21E-21
Listed β,ce and Auger radiations			1.24E+00	9.34E-14
Omitted β,ce and Auger radiations‡			4.31E-05	3.24E-18
Listed radiations			1.24E+00	9.34E-14
Omitted radiations‡			4.31E-05	3.24E-18

† Average energy
‡ Each omitted transition contributes <0.100% to ΣΔ(i) in its category.
YTTRIUM-89 daughter is stable.

Tabell 11

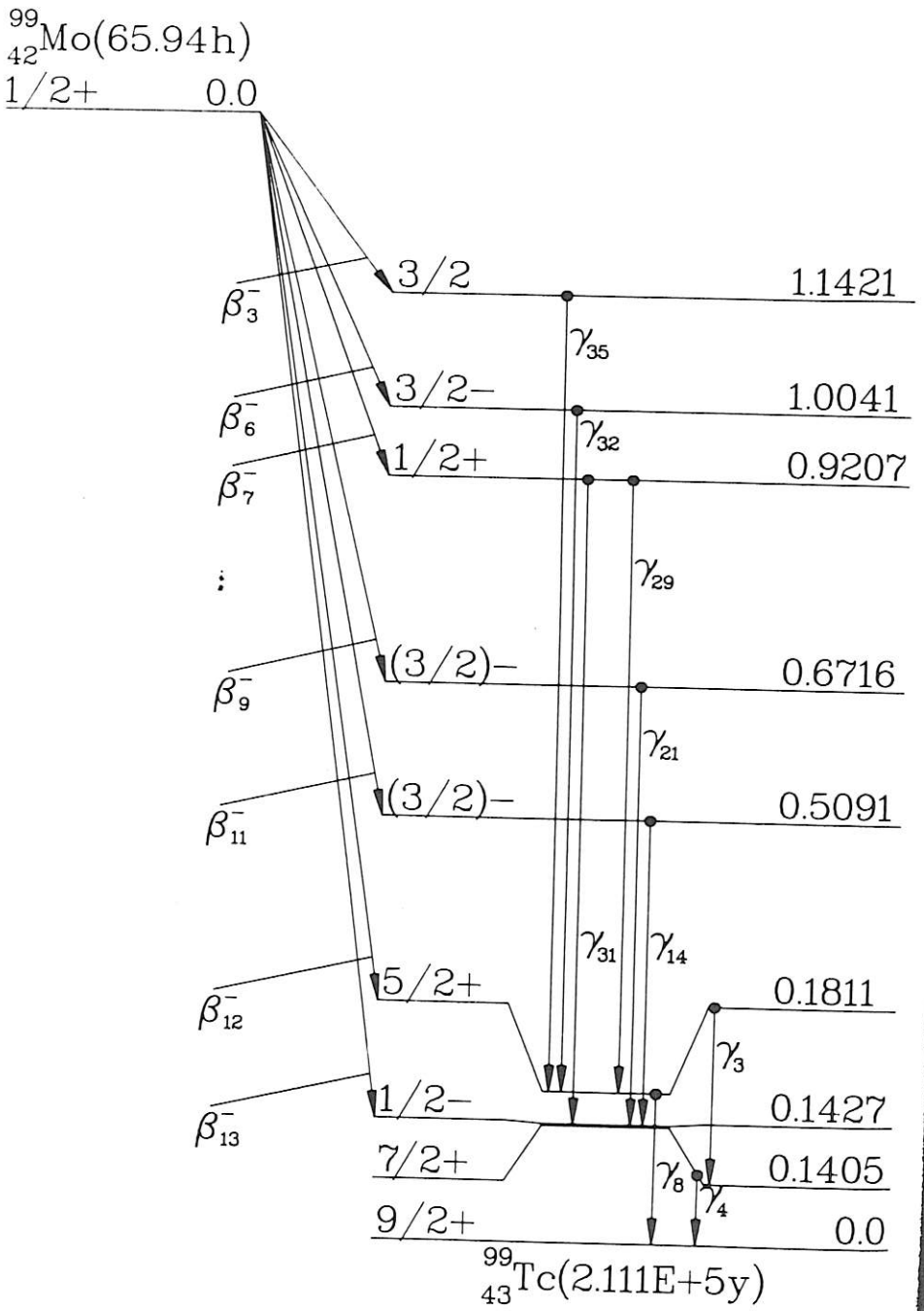


39-YTTRIUM-90

HALF-LIFE = 64 HOURS 05-JAN-78
DECAY MODE(S): β⁻

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
β^- 2	1.00E 00	9.348E-01†	1.99E+00	1.50E-13
$K\alpha_1$ x-ray	5.79E-05	1.578E-02	1.95E-06	1.46E-19
$K\alpha_2$ x-ray	3.03E-05	1.569E-02	1.01E-06	7.61E-20
$K\beta_1$ x-ray	9.55E-06	1.767E-02	3.60E-07	2.71E-20
$K\beta_2$ x-ray	2.14E-06	1.797E-02	8.20E-08	6.17E-21
$K\beta_3$ x-ray	4.89E-06	1.765E-02	1.84E-07	1.38E-20
$L\alpha$ x-ray	2.29E-06	2.042E-03†	9.97E-09	7.48E-22
$L\beta$ x-ray	1.61E-06	2.130E-03†	7.31E-09	5.49E-22
Listed x,γ and γ± radiations			3.60E-06	2.71E-19
Omitted x,γ and γ± radiations‡			2.66E-09	2.00E-22
Listed β,ce and Auger radiations			1.99E+00	1.50E-13
Omitted β,ce and Auger radiations‡			6.61E-04	4.97E-17
Listed radiations			1.99E+00	1.50E-13
Omitted radiations‡			6.61E-04	4.97E-17

† Average energy
‡ Each omitted transition contributes
<0.100% to ΣΔ(i) in its category.
ZIRCONIUM-90 daughter is stable.



Tabell 11

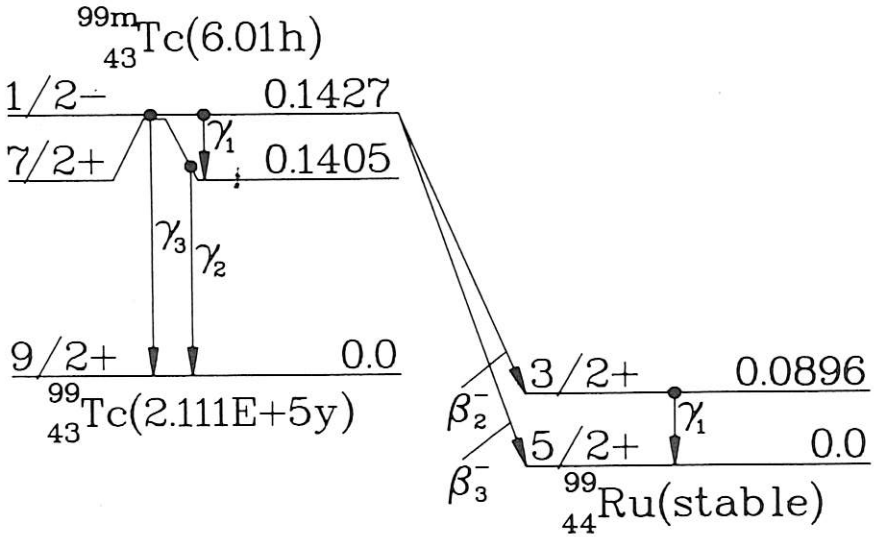
42-MOLYBDENUM-99

HALF-LIFE 65.94 HOURS
DECAY MODE(S): β

11-AUG-86

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
β 7	1.64E-01	1.330E-01†	4.65E-02	3.49E-15
β 11	1.13E-02	2.896E-01†	6.97E-03	5.25E-16
β 12	2.98E-03	4.425E-01†	2.81E-03	2.11E-16
β 13	8.19E-01	4.427E-01†	7.73E-01	5.80E-14
γ 3	1.05E-02	4.058E-02	9.08E-04	6.84E-17
ce-K, γ 3	3.44E-02	1.954E-02	1.43E-03	1.08E-16
γ 4	4.52E-02	1.405E-01	1.35E-02	1.02E-15
ce-K, γ 4	4.49E-03	1.195E-01	1.14E-03	8.60E-17
γ 8	6.08E-02	1.811E-01	2.35E-02	1.76E-15
ce-K, γ 8	7.64E-03	1.600E-01	2.61E-03	1.95E-16
γ 14	1.15E-02	3.664E-01	8.98E-03	6.76E-16
γ 21	5.34E-04	5.289E-01	6.02E-04	4.52E-17
γ 29	1.21E-01	7.396E-01	1.91E-01	1.44E-14
γ 31	4.34E-02	7.780E-01	7.20E-02	5.41E-15
γ 32	1.32E-03	8.230E-01	2.32E-03	1.75E-16
γ 35	1.02E-03	9.610E-01	2.09E-03	1.57E-16
Kα x-ray	2.01E-02	1.837E-02	7.87E-04	5.90E-17
Kα x-ray	1.06E-02	1.825E-02	4.12E-04	3.09E-17
Listed x,γ and γ± radiations			3.15E-01	2.37E-14
Omitted x,γ and γ± radiations‡			1.72E-03	1.29E-16
Listed β,ce and Auger radiations			8.33E-01	6.26E-14
Omitted β,ce and Auger radiations‡			3.03E-03	2.27E-16
Listed radiations			1.15E+00	8.65E-14
Omitted radiations‡			4.73E-03	3.56E-16

† Average energy
‡ Each omitted transition contributes 0.100% to ΣΔ(i) in its category.
TECHNETIUM-99M daughter, yield 8.7476E-01, is radioactive.
TECHNETIUM-99 daughter, yield 1.2524E-01, is radioactive.



Tabell 11

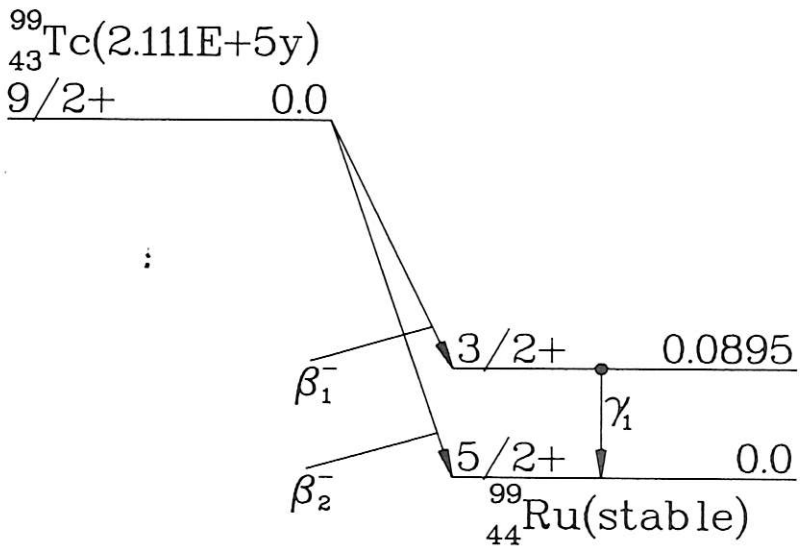
43-TECHNETIUM-99M

HALF-LIFE 6.01 HOURS
DECAY MODE(S): β , IT

11-AUG-86

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
ce-M, γ 1	9.16E-01	1.748E-03†	3.41E-03	2.56E-16
ce-N', γ 1	7.58E-02	2.173E-03†	3.51E-04	2.64E-17
γ 2	8.91E-01	1.405E-01	2.67E-01	2.00E-14
ce-K, γ 2	8.84E-02	1.195E-01	2.25E-02	1.70E-15
ce-L_1, γ 2	9.72E-03	1.375E-01	2.85E-03	2.15E-16
ce-L_2, γ 2	6.32E-04	1.377E-01	1.85E-04	1.40E-17
ce-L_3, γ 2	3.29E-04	1.378E-01	9.66E-05	7.26E-18
ce-M, γ 2	1.94E-03	1.401E-01†	5.79E-04	4.36E-17
ce-N', γ 2	3.74E-04	1.405E-01†	1.12E-04	8.43E-18
ce-K, γ 3	5.53E-03	1.216E-01	1.43E-03	1.08E-16
ce-L_1, γ 3	9.34E-04	1.396E-01	2.78E-04	2.08E-17
ce-L_2, γ 3	1.94E-04	1.398E-01	5.78E-05	4.34E-18
ce-L_3, γ 3	5.92E-04	1.400E-01	1.77E-04	1.33E-17
ce-M, γ 3	3.35E-04	1.422E-01†	1.02E-04	7.64E-18
$K\alpha_1$ x-ray	3.99E-02	1.837E-02	1.56E-03	1.17E-16
$K\alpha_2$ x-ray	2.10E-02	1.825E-02	8.17E-04	6.14E-17
Kβ x-ray	6.82E-03	2.062E-02	3.00E-04	2.26E-17
Auger-KL_1L_1	1.23E-03	1.487E-02	3.90E-05	2.95E-18
Auger-KL_1L_2	2.14E-03	1.512E-02	6.90E-05	5.17E-18
Auger-KL_1L_3	1.64E-03	1.524E-02	5.33E-05	4.00E-18
Auger-KL_2L_3	6.44E-03	1.547E-02	2.12E-04	1.60E-17
Auger-KL_3L_3	2.43E-03	1.559E-02	8.07E-05	6.07E-18
Auger-KL1X	1.80E-03	1.755E-02†	6.73E-05	5.05E-18
Auger-KL_2X	1.42E-03	1.780E-02†	5.39E-05	4.05E-18
Auger-KL_3X	2.49E-03	1.792E-02†	9.51E-05	7.13E-18
Auger-L_2MM	1.98E-02	2.125E-03†	8.97E-05	6.74E-18
Auger-L_2MX	8.37E-03	2.538E-03†	4.53E-05	3.40E-18
Auger-L_3MM	4.81E-02	2.009E-03†	2.06E-04	1.55E-17
Auger-L_3MX	2.07E-02	2.422E-03†	1.07E-04	8.03E-18
Auger-MXY	1.11E+00	4.092E-04†	9.68E-04	7.27E-17
Listed x,γ and γ± radiations			2.69E-01	2.02E-14
Omitted x,γ and γ± radiations‡			3.22E-04	2.42E-17
Listed β,ce and Auger radiations			3.43E-02	2.58E-15
Omitted β,ce and Auger radiations‡			1.22E-04	9.20E-18
Listed radiations			3.03E-01	2.27E-14
Omitted radiations‡			4.45E-04	3.35E-17

† Average energy
‡ Each omitted transition contributes
0.100% to ΣΔ(i) in its category.
RUTHENIUM-99 daughter, yield 3.70E-05, is stable.
TECHNETIUM-99 daughter, yield 9.9996E-01, is radioactive.



Tabell 11

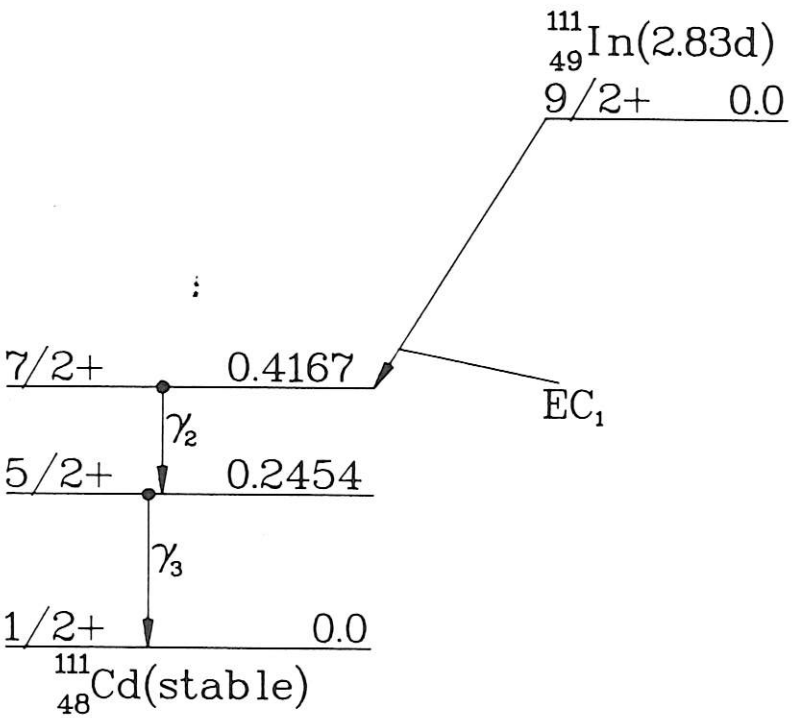
43-TECHNETIUM-99

HALF-LIFE = 211100 YEARS
DECAY MODE(S): β^-

11-AUG-86

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
β 2	1.00E+00	1.013E-01†	2.16E-01	1.62E-14
γ 1	6.50E-06	8.950E-02	1.24E-06	9.32E-20
$K\alpha_1$ x-ray	3.31E-06	1.928E-02	1.36E-07	1.02E-20
$K\alpha_2$ x-ray	1.75E-06	1.915E-02	7.14E-08	5.35E-21
$K\beta_1$ x-ray	5.73E-07	2.166E-02	2.65E-08	1.99E-21
$K\beta_2$ x-ray	1.49E-07	2.207E-02	7.01E-09	5.27E-22
$K\beta_3$ x-ray	3.09E-07	2.163E-02	1.42E-08	1.07E-21
Listed x,γ and $\gamma\pm$ radiations			1.49E-06	1.12E-19
Omitted x,γ and $\gamma\pm$ radiations‡			2.26E-09	1.70E-22
Listed β,ce and Auger radiations			2.15E-01	1.62E-14
Omitted β,ce and Auger radiations‡			4.39E-06	3.30E-19
Listed radiations			2.15E-01	1.62E-14
Omitted radiations‡			4.39E-06	3.30E-19

† Average energy
‡ Each omitted transition contributes <0.100% to ΣΔ(i) in its category.
RUTHENIUM-99 daughter is stable.



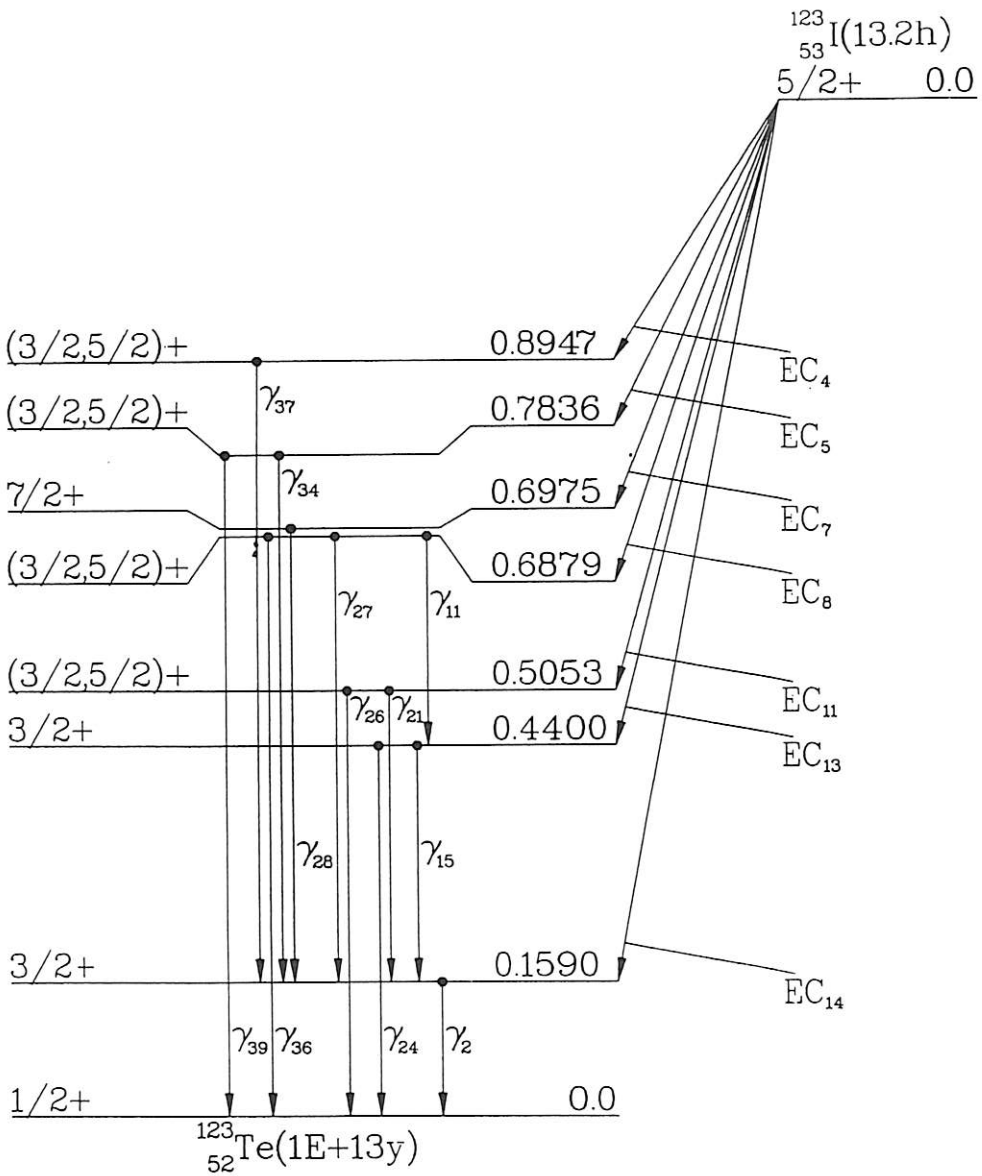
49-INDIUM-111

HALF-LIFE 2.83 DAYS
DECAY MODE(S): EC

11-AUG-79

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i Gy kg/Bq s
γ 2	9.02E-01	1.713E-01	3.29E-01	2.48E-14
ce-K, γ 2	8.41E-02	1.446E-01	2.59E-02	1.95E-15
ce-L_1, γ 2	9.62E-03	1.673E-01	3.43E-03	2.58E-16
ce-L_2, γ 2	6.55E-04	1.676E-01	2.34E-04	1.76E- 7
ce-L_3, γ 2	2.90E-04	1.677E-01	1.04E-04	7.79E-18
ce-M, γ 2	2.03E-03	1.707E-01†	7.39E-04	5.54E-17
ce-N', γ 2	4.22E-04	1.713E-01†	1.54E-04	1.16E-17
γ 3	9.40E-01	2.453E-01	4.91E-01	3.70E-14
ce-K, γ 3	5.04E-02	2.186E-01	2.35E-02	1.76E-15
ce-L_1, γ 3	5.15E-03	2.413E-01	2.65E-03	1.99E-16
ce-L_2, γ 3	1.38E-03	2.416E-01	7.11E-04	5.33E-17
ce-L_3, γ 3	1.32E-03	2.418E-01	6.80E-04	5.11E-17
ce-M, γ 3	1.52E-03	2.447E-01†	7.93E-04	5.94E-17
ce-N', γ 3	3.01E-04	2.453E-01†	1.57E-04	1.18E-17
$K\alpha_1$ x-ray	4.44E-01	2.317E-02	2.19E-02	1.65E-15
$K\alpha_2$ x-ray	2.36E-01	2.298E-02	1.16E-02	8.70E-16
$K\beta_1$ x-ray	8.08E-02	2.609E-02	4.49E-03	3.38E-16
$K\beta_2$ x-ray	2.35E-02	2.664E-02	1.33E-03	1.00E-16
$K\beta_3$ x-ray	4.15E-02	2.606E-02	2.30E-03	1.73E-16
Auger-KL_1L_1	1.01E-02	1.857E-02	4.00E-04	3.01E-17
Auger-KL_1L_2	1.57E-02	1.886E-02	6.31E-04	4.76E-17
Auger-KL_1L_3	1.34E-02	1.905E-02	5.44E-04	4.10E-17
Auger-KL_2L_2	3.39E-03	1.912E-02	1.38E-04	1.04E-17
Auger-KL_2L_3	4.48E-02	1.932E-02	1.84E-03	1.39E-16
Auger-KL_3L_3	1.85E-02	1.952E-02	7.70E-04	5.78E-17
Auger-KL_1X	1.46E-02	2.204E-02†	6.86E-04	5.16E-17
Auger-KL_2X	1.13E-02	2.233E-02†	5.38E-04	4.05E-17
Auger-KL_3X	1.96E-02	2.252E-02†	9.41E-04	7.08E-17
Auger-KXY	5.86E-03	2.544E-02†	3.18E-04	2.39E-17
Auger-L_1MM	2.52E-02	3.003E-03†	1.61E-04	1.21E-17
Auger-L_1MX	1.31E-02	3.598E-03†	1.00E-04	7.55E-18
Auger-L_2MM	1.78E-01	2.712E-03†	1.03E-03	7.72E-17
Auger-L_2MX	7.94E-02	3.307E-03†	5.60E-04	4.21E-17
Auger-L_2XY	1.03E-02	3.701E-03†	8.12E-05	6.09E-18
Auger-L_3MM	4.71E-01	2.522E-03†	2.53E-03	1.91E-16
Auger-L_3MX	2.14E-01	3.118E-03†	1.42E-03	1.07E-16
Auger-L_3XY	2.68E-02	3.512E-03†	2.01E-04	1.51E-17
Auger-MXY	1.91E+00	5.104E-04†	2.08E-03	1.57E-16
Listed x,γ and γ± radiations			8.63E-01	6.49E-14
Omitted x,γ and γ± radiations‡			4.37E-04	3.28E-17
Listed β,ce and Auger radiations			7.40E-02	5.56E-15
Omitted β,ce and Auger radiations‡			4.65E-05	3.49E-18
Listed radiations			9.36E-01	7.03E-14
Omitted radiations‡			4.82E-04	3.62E-17

† Average energy
‡ Each omitted transition contributes <0.100% to ΣΔ(i) in its category.
CADMIUM-111 daughter is stable.



53-IODINE-123

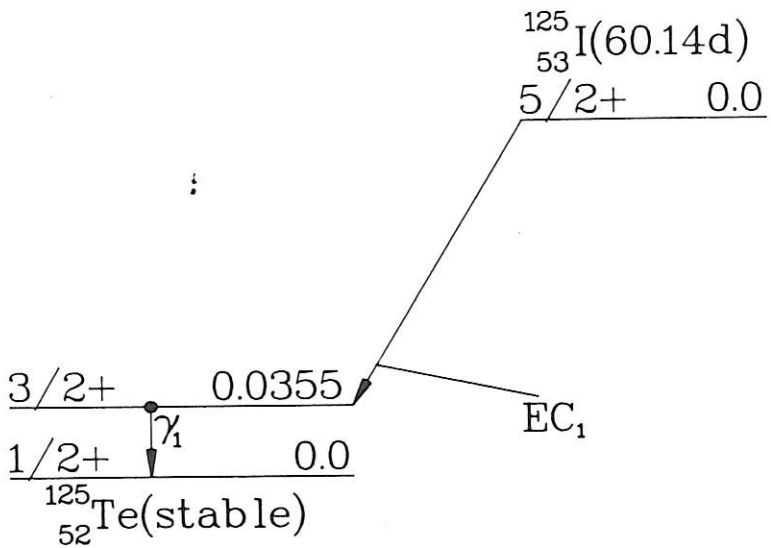
HALF-LIFE 13.2 HOURS
DECAY MODE(S): EC

04-JUN-80

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
γ 2	8.33E-01	1.590E-01	2.82E-01	2.11E-14
ce-K, γ 2	1.36E-01	1.272E-01	3.69E-02	2.77E-15
ce-L_1, γ 2	1.61E-02	1.540E-01	5.28E-03	3.99E-16
ce-L_2, γ 2	1.17E-03	1.544E-01	3.85E-04	2.88E-17
ce-L_3, γ 2	4.20E-04	1.546E-01	1.38E-04	1.04E-17
ce-M, γ 2	3.52E-03	1.582E-01†	1.19E-03	8.92E-17
ce-N, γ 2	8.40E-04	1.590E-01†	2.85E-04	2.15E-17
γ 11	7.11E-04	2.480E-01	3.76E-04	2.82E-17
γ 15	7.91E-04	2.810E-01	4.74E-04	3.56E-17
γ 21	1.26E-03	3.464E-01	9.30E-04	6.98E-17
γ 24	4.28E-03	4.400E-01	4.01E-03	3.01E-16
γ 26	3.16E-03	5.053E-01	3.40E-03	2.56E-16
γ 27	1.39E-02	5.290E-01	1.57E-02	1.18E-15
ce-K, γ 27	9.97E-05	4.971E-01	1.06E-04	7.93E-18
γ 28	3.82E-03	5.385E-01	4.38E-03	3.28E-16
γ 34	8.33E-04	6.246E-01	1.11E-03	8.33E-17
γ 36	2.67E-04	6.879E-01	3.91E-04	2.95E-17
γ 37	6.16E-04	7.358E-01	9.66E-04	7.26E-17
γ 39	5.94E-04	7.836E-01	9.92E-04	7.45E-17
Kα₁ x-ray	4.59E-01	2.747E-02	2.69E-02	2.02E-15
Kα₂ x-ray	2.47E-01	2.720E-02	1.43E-02	1.07E-15
Kβ₁ x-ray	8.68E-02	3.100E-02	5.73E-03	4.31E-16
Kβ₂ x-ray	2.66E-02	3.171E-02	1.80E-03	1.35E-16
Kβ₃ x-ray	4.46E-02	3.094E-02	2.94E-03	2.21E-16
Auger-KL₁L₁	8.47E-03	2.181E-02	3.94E-04	2.96E-17
Auger-KL₁L₂	1.24E-02	2.215E-02	5.85E-04	4.41E-17
Auger-KL₁L₃	1.10E-02	2.241E-02	5.25E-04	3.96E-17
Auger-KL₂L₂	2.57E-03	2.244E-02	1.23E-04	9.23E-18
Auger-KL₂L₃	3.30E-02	2.272E-02	1.60E-03	1.20E-16
Auger-KL₃L₃	1.42E-02	2.300E-02	6.96E-04	5.22E-17
Auger-KL₁X	1.19E-02	2.601E-02†	6.60E-04	4.97E-17
Auger-KL₂X	9.30E-03	2.634E-02†	5.22E-04	3.92E-17
Auger-KL₃X	1.57E-02	2.661E-02†	8.90E-04	6.71E-17
Auger-KXY	4.93E-03	3.013E-02†	3.17E-04	2.39E-17
Auger-L₁MM	5.05E-02	3.553E-03†	3.82E-04	2.87E-17
Auger-L₁MX	3.02E-02	4.317E-03†	2.78E-04	2.08E-17
Auger-L₂MM	1.68E-01	3.226E-03†	1.16E-03	8.68E-17
Auger-L₂MX	8.19E-02	3.990E-03†	6.96E-04	5.24E-17
Auger-L₂XY	1.16E-02	4.523E-03†	1.12E-04	8.39E-18
Auger-L₃MM	3.88E-01	2.955E-03†	2.44E-03	1.84E-16
Auger-L₃MX	1.99E-01	3.720E-03†	1.58E-03	1.19E-16
Auger-L₃XY	2.83E-02	4.252E-03†	2.56E-04	1.92E-17
Auger-MXY	1.80E-00	6.991E-04†	2.68E-03	2.02E-16
Listed x,γ and γ= radiations			3.67E-01	2.76E-14
Omitted x,γ and γ= radiations‡			1.44E-03	1.08E-16
Listed β,ce and Auger radiations			6.01E-02	4.52E-15
Omitted β,ce and Auger radiations‡			3.03E-04	2.27E-17
Listed radiations			4.26E-01	3.20E-14
Omitted radiations‡			1.75E-03	1.31E-16

† Average energy
‡ Each omitted transition contributes <0.100% to ΣΔ(i) in its category.
TELLURIUM-123M daughter, yield 4.4417E-05, is radioactive.
TELLURIUM-123 daughter, yield 9.9996E-01, is radioactive.

Tabell 11



Tabell 11

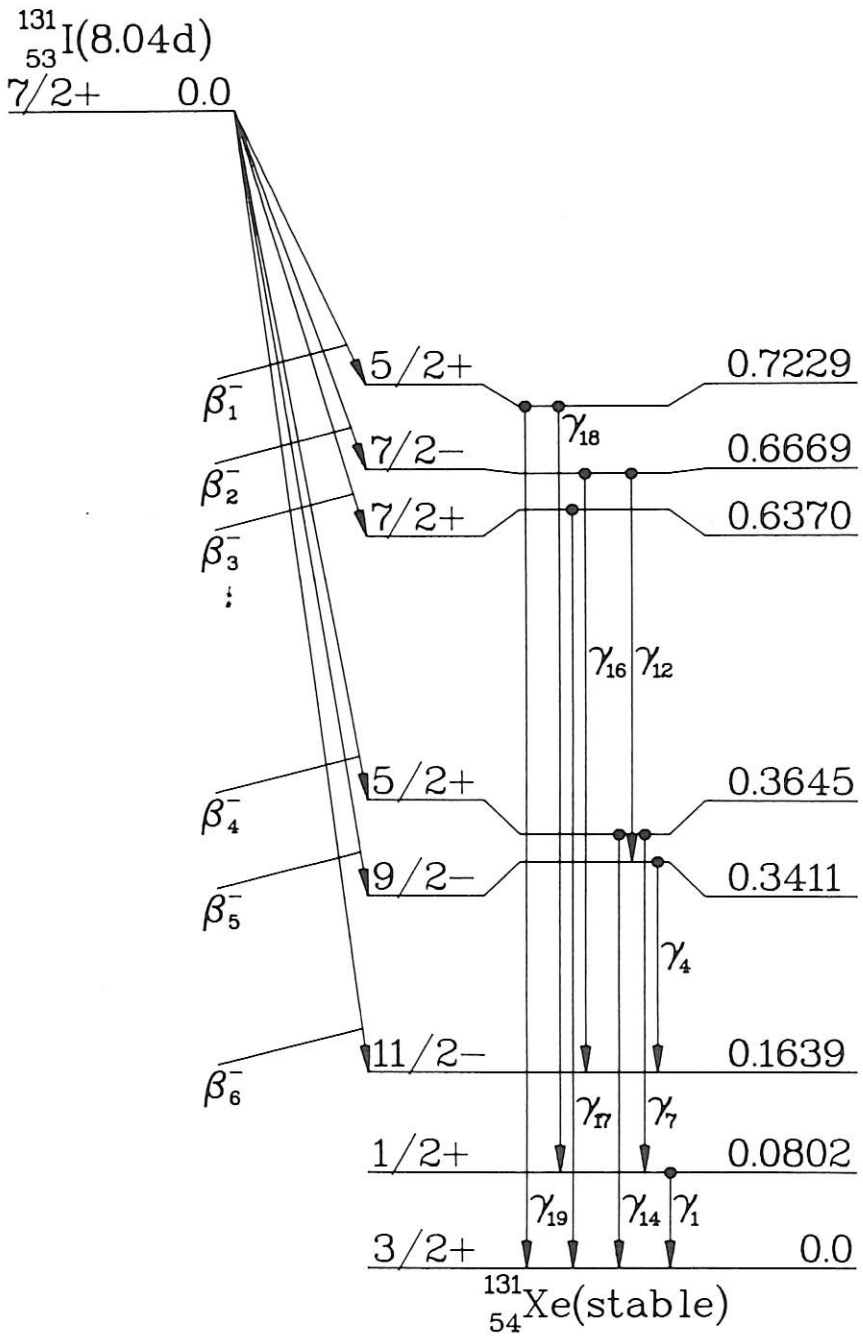
53-IODINE-125

HALF-LIFE 60.14 DAYS
DECAY MODE(S): EC

15-JAN-82

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
γ 1	6.65E-02	3.549E-02	5.03E-03	3.78E-16
ce-K, γ 1	8.00E-01	3.678E-03	6.27E-03	4.71E-16
ce-L_1, γ 1	9.49E-02	3.055E-02	6.18E-03	4.65E-16
ce-L_2, γ 1	8.61E-03	3.088E-02	5.67E-04	4.26E-17
ce-L_3, γ 1	3.32E-03	3.115E-02	2.20E-04	1.65E-17
ce-M, γ 1	2.13E-02	3.467E-02†	1.57E-03	1.19E-16
ce-N', γ 1	5.05E-03	3.549E-02†	3.82E-04	2.87E-17
Kα$_1$ x-ray	7.39E-01	2.747E-02	4.33E-02	3.25E-15
Kα$_2$ x-ray	3.97E-01	2.720E-02	2.30E-02	1.73E-15
Kβ$_1$ x-ray	1.40E-01	3.100E-02	9.25E-03	6.94E-16
Kβ$_2$ x-ray	4.29E-02	3.171E-02	2.90E-03	2.18E-16
Kβ$_3$ x-ray	7.19E-02	3.094E-02	4.74E-03	3.56E-16
Kβ$_5$ x-ray	1.44E-03	3.124E-02	9.59E-05	7.21E-18
Lα$_1$ x-ray	5.52E-02	3.769E-03	4.43E-04	3.33E-17
Lβ$_1$ x-ray	3.58E-02	4.029E-03	3.07E-04	2.31E-17
Lβ$_2$ x-ray	9.94E-03	4.302E-03	9.11E-05	6.84E-18
Auger-KL$_1$L$_1$	1.37E-02	2.181E-02	6.37E-04	4.77E-17
Auger-KL$_1$L$_2$	2.00E-02	2.215E-02	9.44E-04	7.10E-17
Auger-KL$_1$L$_3$	1.78E-02	2.241E-02	8.50E-04	6.38E-17
Auger-KL$_2$L$_2$	4.14E-03	2.244E-02	1.98E-04	1.49E-17
Auger-KL$_2$L$_3$	5.31E-02	2.272E-02	2.57E-03	1.94E-16
Auger-KL$_3$L$_3$	2.28E-02	2.300E-02	1.12E-03	8.41E-17
Auger-KL$_1$X	1.92E-02	2.601E-02†	1.06E-03	7.99E-17
Auger-KL$_2$X	1.50E-02	2.634E-02†	8.42E-04	6.33E-17
Auger-KL$_3$X	2.54E-02	2.661E-02†	1.44E-03	1.08E-16
Auger-KXY	7.94E-03	3.013E-02†	5.10E-04	3.83E-17
Auger-L$_1$MM	9.35E-02	3.553E-03†	7.08E-04	5.32E-17
Auger-L$_1$MX	5.58E-02	4.317E-03†	5.13E-04	3.86E-17
Auger-L$_1$XY	7.80E-03	4.850E-03†	8.06E-05	6.06E-18
Auger-L$_2$MM	2.77E-01	3.226E-03†	1.90E-03	1.43E-16
Auger-L$_2$MX	1.35E-01	3.990E-03†	1.15E-03	8.63E-17
Auger-L$_2$XY	1.91E-02	4.523E-03†	1.84E-04	1.39E-17
Auger-L$_3$MM	6.36E-01	2.955E-03†	4.01E-03	3.01E-16
Auger-L$_3$MX	3.26E-01	3.720E-03†	2.58E-03	1.94E-16
Auger-L$_3$XY	4.63E-02	4.252E-03†	4.20E-04	3.16E-17
Auger-MXY	2.99E+00	6.988E-04†	4.45E-03	3.35E-16
Residual E	6.22E-01	5.578E-05†	7.39E-05	5.56E-18
Listed x,γ and γ± radiations			8.91E-02	6.70E-15
Omitted x,γ and γ± radiations‡			2.66E-04	2.00E-17
Listed β,ce and Auger radiations			4.16E-02	3.12E-15
Listed radiations			1.31E-01	9.82E-15
Omitted radiations‡			2.66E-04	2.00E-17

† Average energy
‡ Each omitted transition contributes 0.100% to ΣΔ(i) in its category.
TELLURIUM-125 daughter is stable.



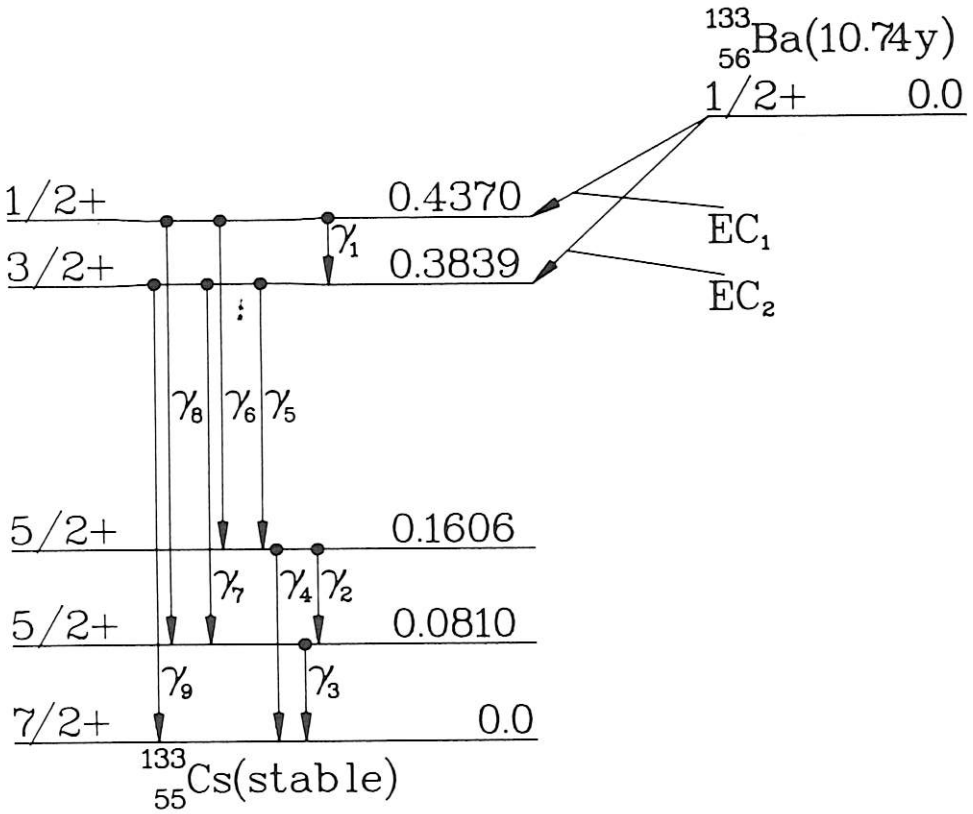
53-IODINE-131

HALF-LIFE 8.04 DAYS
DECAY MODE(S): β

21-JAN-76

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
β 1	2.13E-02	6.935E-02†	3.15E-03	2.37E-16
β 2	6.20E-03	8.693E-02†	1.15E-03	8.63E-17
β 3	7.36E-02	9.660E-02†	1.52E-02	1.14E-15
β 4	8.94E-01	1.915E-01†	3.65E-01	2.74E-14
β 6	4.20E-03	2.832E-01†	2.53E-03	1.91E-16
γ 1	2.62E-02	8.018E-02	4.48E-03	3.36E-16
ce-K, γ 1	3.63E-02	4.562E-02	3.53E-03	2.66E-16
ce-L$_{1}$, γ 1	4.30E-03	7.473E-02	6.85E-04	5.14E-17
γ 4	2.65E-03	1.772E-01	1.00E-03	7.53E-17
γ 7	6.06E-02	2.843E-01	3.67E-02	2.76E-15
ce-K, γ 7	2.48E-03	2.497E-01	1.32E-03	9.93E-17
γ 12	2.51E-03	3.258E-01	1.74E-03	1.31E-16
γ 14	8.12E-01	3.645E-01	6.31E-01	4.74E-14
ce-K, γ 14	1.55E-02	3.299E-01	1.09E-02	8.17E-16
ce-L$_{1}$, γ 14	1.71E-03	3.590E-01	1.31E-03	9.82E-17
γ 16	3.61E-03	5.030E-01	3.87E-03	2.92E-16
γ 17	7.27E-02	6.370E-01	9.87E-02	7.42E-15
γ 18	2.20E-03	6.427E-01	3.01E-03	2.26E-16
γ 19	1.80E-02	7.229E-01	2.77E-02	2.08E-15
Kα$_{1}$ x-ray	2.59E-02	2.978E-02	1.64E-03	1.24E-16
Kα$_{2}$ x-ray	1.40E-02	2.946E-02	8.79E-04	6.60E-17
Listed x,γ and γ± radiations			8.10E-01	6.09E-14
Omitted x,γ and γ± radiations‡			2.32E-03	1.75E-16
Listed β,ce and Auger radiations			4.05E-01	3.04E-14
Omitted β,ce and Auger radiations‡			3.96E-03	2.98E-16
Listed radiations			1.21E+00	9.13E-14
Omitted radiations‡			6.29E-03	4.73E-16

† Average energy
‡ Each omitted transition contributes
<0.100% to ΣΔ(i) in its category.
XENON-131M daughter, yield 1.11E-02, is radioactive.
XENON-131 daughter, yield 9.889E-01, is stable.



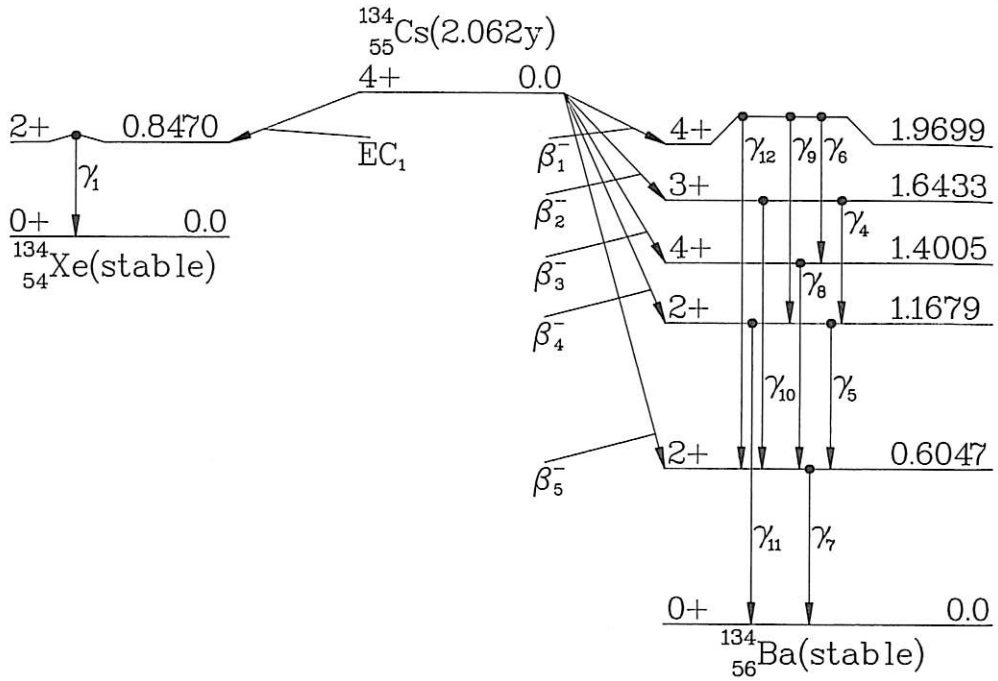
Tabell 11

56-BARIUM-133

HALF-LIFE 10.74 YEARS 04-AUG-81
DECAY MODE(S): EC

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
γ 1	2.17E-02	5.315E-02	2.46E-03	1.84E-16
ce-K, γ 1	1.06E-01	1.717E-02	3.88E-03	2.92E-16
ce-L, γ 1	1.28E-02	4.744E-02	1.29E-03	9.76E-17
ce-M, γ 1	3.30E-03	5.216E-02†	3.67E-04	2.76E-17
γ 2	2.56E-02	7.962E-02	4.34E-03	3.25E-16
ce-K, γ 2	3.88E-02	4.364E-02	3.61E-03	2.71E-16
ce-L, γ 2	4.69E-03	7.391E-02	7.39E-04	5.56E-17
γ 3	3.38E-01	8.100E-02	5.83E-02	4.37E-15
ce-K, γ 3	4.83E-01	4.501E-02	4.63E-02	3.48E-15
ce-L, γ 3	5.88E-02	7.528E-02	9.43E-03	7.10E-16
ce-L_2, γ 3	4.43E-03	7.564E-02	7.14E-04	5.37E-17
ce-M, γ 3	1.31E-02	8.000E-02†	2.23E-03	1.68E-16
ce-N, γ 3	3.43E-03	8.100E-02†	5.92E-04	4.45E-17
γ 4	6.15E-03	1.606E-01	2.10E-03	1.58E-16
ce-K, γ 4	1.27E-03	1.246E-01	3.37E-04	2.55E-17
γ 5	4.60E-03	2.232E-01	2.19E-03	1.65E-16
γ 6	7.09E-02	2.764E-01	4.18E-02	3.14E-15
ce-K, γ 6	3.27E-03	2.404E-01	1.68E-03	1.26E-16
γ 7	1.84E-01	3.029E-01	1.19E-01	8.92E-15
ce-K, γ 7	6.93E-03	2.669E-01	3.94E-03	2.96E-16
ce-L_1, γ 7	8.40E-04	2.971E-01	5.32E-04	3.99E-17
γ 8	6.21E-01	3.560E-01	4.71E-01	3.54E-14
ce-K, γ 8	1.31E-02	3.200E-01	8.93E-03	6.73E-16
ce-L, γ 8	1.44E-03	3.503E-01	1.08E-03	8.09E-17
ce-L_2, γ 8	4.07E-04	3.506E-01	3.04E-04	2.29E-17
ce-L_3, γ 8	3.12E-04	3.510E-01	2.33E-04	1.76E-17
ce-M, γ 8	4.46E-04	3.550E-01†	3.37E-04	2.53E-17
γ 9	8.91E-02	3.839E-01	7.29E-02	5.48E-15
ce-K, γ 9	1.50E-03	3.479E-01	1.11E-03	8.36E-17
$K\alpha_1$ x-ray	6.29E-01	3.097E-02	4.15E-02	3.12E-15
$K\alpha_2$ x-ray	3.40E-01	3.063E-02	2.22E-02	1.67E-15
$K\beta_1$ x-ray	1.21E-01	3.499E-02	9.02E-03	6.81E-16
$K\beta_2$ x-ray	4.21E-02	3.584E-02	3.22E-03	2.42E-16
$K\beta_3$ x-ray	6.26E-02	3.492E-02	4.66E-03	3.49E-16
Auger-KL$_1$L$_1$	1.01E-02	2.441E-02	5.25E-04	3.94E-17
Auger-KL$_1$L$_2$	1.43E-02	2.478E-02	7.55E-04	5.70E-17
Auger-KL$_1$L$_3$	1.29E-02	2.512E-02	6.91E-04	5.17E-17
Auger-KL$_2$L$_3$	3.58E-02	2.546E-02	1.94E-03	1.46E-16
Auger-KL$_3$L$_3$	1.56E-02	2.582E-02	8.58E-04	6.47E-17
Auger-KL$_1$X	1.40E-02	2.922E-02†	8.72E-04	6.55E-17
Auger-KL$_2$X	1.08E-02	2.958E-02†	6.81E-04	5.13E-17
Auger-KL$_3$X	1.81E-02	2.993E-02†	1.15E-03	8.70E-17
Auger-KXY	5.87E-03	3.394E-02†	4.25E-04	3.19E-17
Auger-L$_1$MM	8.99E-02	3.994E-03†	7.65E-04	5.75E-17
Auger-L$_1$MX	6.03E-02	4.896E-03†	6.29E-04	4.73E-17
Auger-L$_2$MM	2.29E-01	3.639E-03†	1.78E-03	1.33E-16
Auger-L$_2$MX	1.19E-01	4.541E-03†	1.15E-03	8.63E-17
Auger-L$_3$MM	5.14E-01	3.291E-03†	3.61E-03	2.71E-16
Auger-L$_3$MX	2.96E-01	4.194E-03†	2.65E-03	1.99E-16
Auger-L$_3$XY	4.62E-02	4.843E-03†	4.77E-04	3.59E-17
Auger-MXY	2.58E+00	8.683E-04†	4.77E-03	3.59E-16
Listed x,γ and γ: radiations			8.55E-01	6.42E-14
Omitted x,γ and γ: radiations‡			1.52E-03	1.14E-16
Listed β,ce and Auger radiations			1.11E-01	8.38E-15
Omitted β,ce and Auger radiations‡			2.79E-03	2.10E-16
Listed radiations			9.65E-01	7.26E-14
Omitted radiations‡			4.31E-03	3.24E-16

† Average energy
‡ Each omitted transition contributes 0.200% to Σ Δ(i) in its category.
CESIUM-133 daughter is stable.

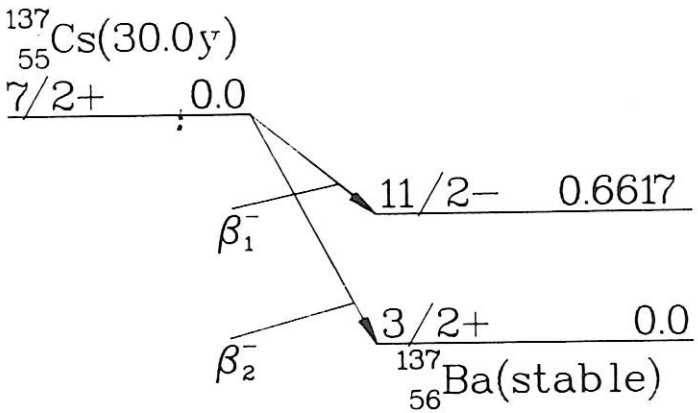


55-CESIUM-134

HALF-LIFE = 2.062 YEARS 20-APR-82
DECAY MODE(S): EC, β^-

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
β^- 1	2.73E-01	2.308E-02†	1.34E-02	1.01E-15
β^- 2	2.47E-02	1.234E-01†	6.50E-03	4.89E-16
β^- 3	6.98E-01	2.101E-01†	3.13E-01	2.35E-14
β^- 4	4.48E-03	3.134E-01†	2.99E-03	2.24E-16
γ 4	1.46E-02	4.754E-01	1.48E-02	1.11E-15
γ 5	8.38E-02	5.632E-01	1.01E-01	7.56E-15
ce-K, γ 5	5.10E-04	5.258E-01	5.71E-04	4.29E-17
γ 6	1.54E-01	5.693E-01	1.87E-01	1.41E-14
ce-K, γ 6	1.25E-03	5.319E-01	1.42E-03	1.07E-16
γ 7	9.76E-01	6.047E-01	1.26E+00	9.45E-14
ce-K, γ 7	4.91E-03	5.673E-01	5.94E-03	4.47E-16
ce-L_1, γ 7	5.64E-04	5.987E-01	7.20E-04	5.41E-17
γ 8	8.54E-01	7.958E-01	1.45E+00	1.09E-13
ce-K, γ 8	2.21E-03	7.584E-01	3.57E-03	2.68E-16
ce-L_1, γ 8	2.56E-04	7.899E-01	4.31E-04	3.24E-17
γ 9	8.73E-02	8.019E-01	1.49E-01	1.12E-14
ce-K, γ 9	2.22E-04	7.645E-01	3.62E-04	2.71E-17
γ 10	1.00E-02	1.039E+00	2.21E-02	1.67E-15
γ 11	1.80E-02	1.168E+00	4.48E-02	3.38E-15
γ 12	3.04E-02	1.365E+00	8.84E-02	6.65E-15
Listed x,γ and γ± radiations			3.30E+00	2.48E-13
Omitted x,γ and γ± radiations‡			8.14E-04	6.12E-17
Listed β,ce and Auger radiations			3.47E-01	2.61E-14
Omitted β,ce and Auger radiations‡			1.65E-03	1.24E-16
Listed radiations			3.67E+00	2.76E-13
Omitted radiations‡			2.45E-03	1.84E-16

† Average energy
‡ Each omitted transition contributes <0.100% to ΣΔ(i) in its category.
XENON-134 daughter, yield 3.00E-06, is stable.
BARIUM-134 daughter is stable.



Tabell 11

55-CESIUM-137

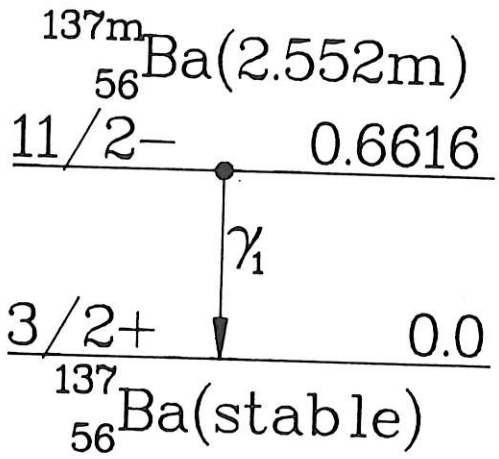
HALF-LIFE = 30 YEARS
DECAY MODE(S): β⁻

05-OCT-83

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
β 1	9.44E-01	1.734E-01†	3.49E-01	2.63E-14
β 2	5.57E-02	4.246E-01†	5.04E-02	3.80E-15
Listed β,ce and Auger radiations			3.99E-01	3.00E-14
Listed radiations			3.99E-01	3.00E-14

† Average energy
BARIUM-137M daughter, yield 9.443E-01, is radioactive.
BARIUM-137 daughter, yield 5.57E-02, is stable.

Tabell 11



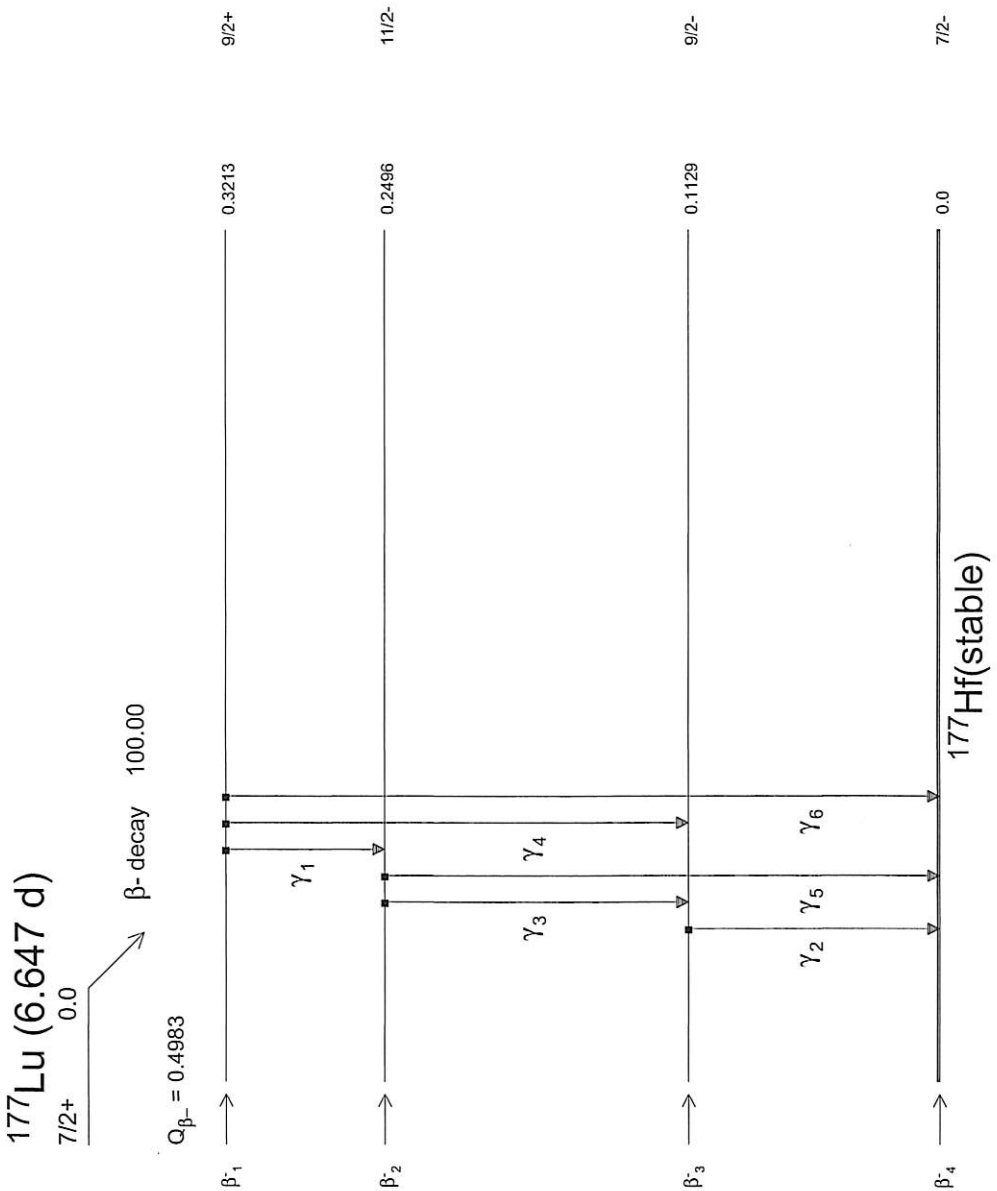
56-BARIUM-137M

HALF-LIFE = 2.552 MINUTES
DECAY MODE(S): IT

04-MAY-77

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
γ 1	8.98E-01	6.616E-01	1.27E+00	9.52E-14
ce-K, γ 1	8.32E-02	6.242E-01	1.11E-01	8.31E-15
ce-L_1, γ 1	1.19E-02	6.557E-01	1.66E-02	1.25E-15
ce-L_2, γ 1	1.69E-03	6.560E-01	2.36E-03	1.78E-16
ce-L_3, γ 1	1.39E-03	6.564E-01	1.94E-03	1.46E-16
ce-M, γ 1	3.18E-03	6.606E-01†	4.48E-03	3.36E-16
ce-N^+, γ 1	9.02E-04	6.616E-01†	1.27E-03	9.56E-17
$K\alpha_1$ x-ray	3.92E-02	3.219E-02	2.69E-03	2.02E-16
$K\alpha_2$ x-ray	2.13E-02	3.182E-02	1.44E-03	1.09E-16
Auger-KLL	5.35E-03	2.618E-02†	2.99E-04	2.24E-17
Auger-KLX	2.53E-03	3.075E-02†	1.66E-04	1.25E-17
Auger-LMM	4.76E-02	3.577E-03†	3.63E-04	2.72E-17
Auger-LMX	2.78E-02	4.531E-03†	2.68E-04	2.02E-17
Auger-MXY	1.49E-01	9.276E-04†	2.95E-04	2.21E-17
Listed x,γ and γ± radiations			1.27E+00	9.55E-14
Omitted x,γ and γ± radiations‡			1.21E-03	9.10E-17
Listed β,ce and Auger radiations			1.39E-01	1.04E-14
Omitted β,ce and Auger radiations‡			8.44E-05	6.34E-18
Listed radiations			1.41E+00	1.06E-13
Omitted radiations‡			1.29E-03	9.72E-17

† Average energy
‡ Each omitted transition contributes <0.100% to ΣΔ(i) in its category.
BARIUM-137 daughter is stable.



71-LUTETIUM-177

Halflife = 6.647 Days — May-2003

Decay Mode(s): β^-

RADIATIONS	y(i) $(Bq\text{-}s)^{-1}$	E(i) (MeV)	y(i)×E(i)
β^- 1	1.16E−01	4.766E−02*	5.53E−03
β^- 3	9.00E−02	1.117E−01*	1.01E−02
β^- 4	7.94E−01	1.494E−01*	1.19E−01
γ 1	1.72E−03	7.164E−02	1.23E−04
γ 2	6.17E−02	1.129E−01	6.97E−03
ce-K, γ 2	5.12E−02	4.760E−02	2.44E−03
ce-L, γ 2	6.73E−02	1.017E−01[a]	6.84E−03
ce-M, γ 2	1.67E−02	1.103E−01[a]	1.85E−03
ce-N+, γ 2	4.80E−03	1.124E−01[a]	5.40E−04
γ 3	4.69E−04	1.367E−01	6.42E−05
γ 4	1.04E−01	2.084E−01	2.16E−02
ce-K, γ 4	5.70E−03	1.430E−01	8.15E−04
ce-L, γ 4	9.74E−04	1.971E−01[a]	1.92E−04
γ 5	2.01E−03	2.497E−01	5.01E−04
γ 6	2.10E−03	3.213E−01	6.76E−04
$K\alpha_1$ X-ray	2.81E−02	5.579E−02	1.57E−03
$K\alpha_2$ X-ray	1.61E−02	5.461E−02	8.77E−04
Kβ X-ray	1.18E−02	6.320E−02*	7.43E−04
L X-ray	3.06E−02	7.900E−03*	2.42E−04
Auger-L	8.70E−02	6.180E−03*	5.38E−04

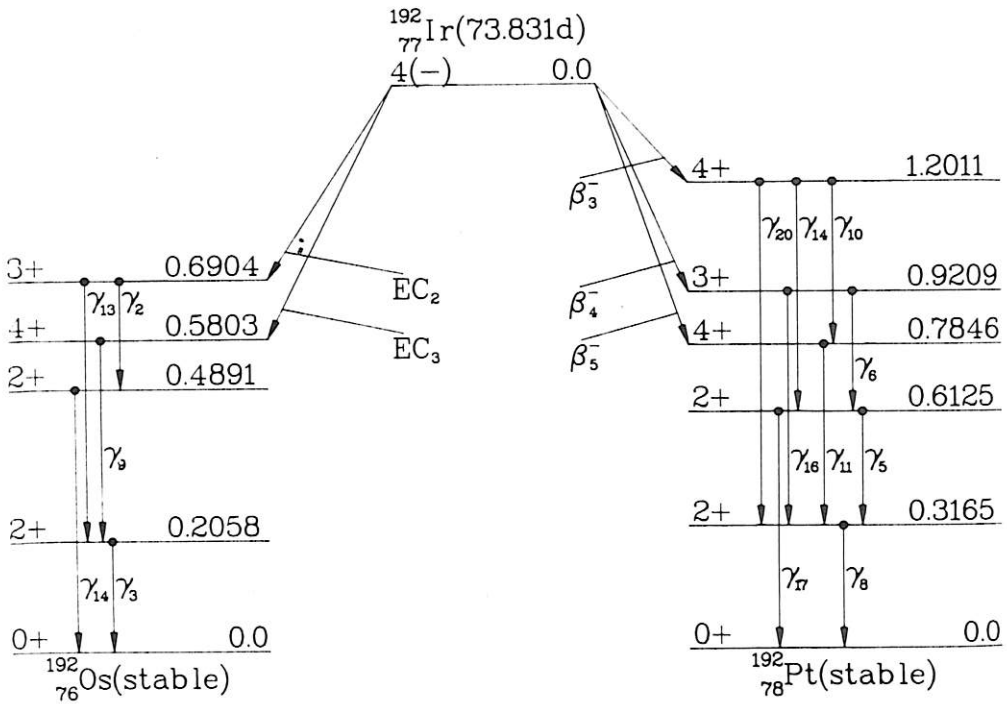
Listed X, γ and γ± Radiations	3.34E−02
Listed β, ce and Auger Radiations	1.47E−01
Omitted β, ce and Auger Radiations **	3.71E−04
Listed Radiations	1.81E−01
Omitted Radiations**	3.71E−04

* Average Energy (MeV).

a Maximum Energy (MeV) for subshell.

** Each omitted transition contributes <0.100 % to $\sum E(i)\times y(i)$ in its category.

Hafnium-177 Daughter is stable.



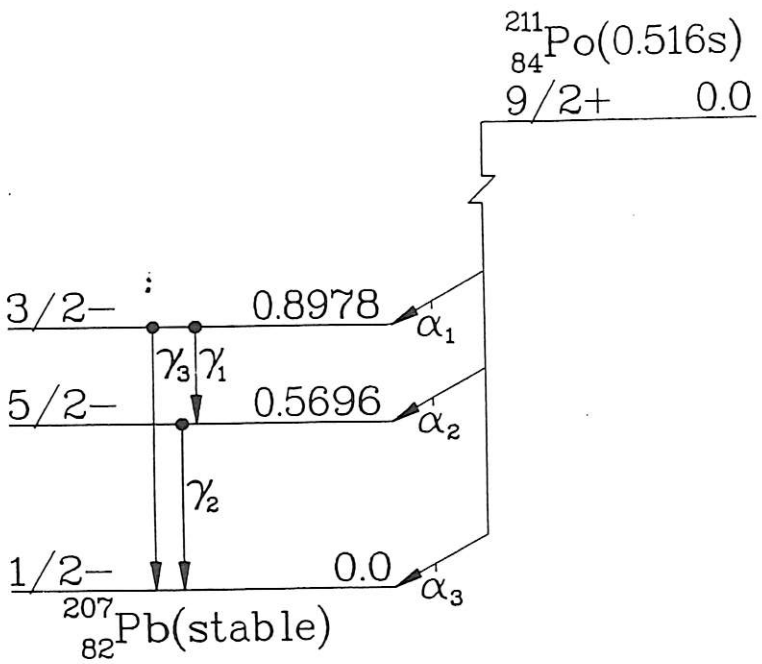
Tabell 11

77-IRIDIUM-192

HALF-LIFE : 73.831 DAYS 24-JUL-84
DECAY MODE(S): EC, β

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
γ 2	4.54E-03	2.013E-01	1.95E-03	1.46E-16
γ 3	3.18E-02	2.058E-01	1.39E-02	1.05E-15
ce-K, γ 3	5.05E-03	1.319E-01	1.42E-03	1.07E-16
ce-L_2, γ 3	1.76E-03	1.934E-01	7.25E-04	5.45E-17
ce-L_3, γ 3	1.15E-03	1.949E-01	4.78E-04	3.60E-17
γ 9	7.09E-03	3.745E-01	5.66E-03	4.25E-16
γ 13	3.14E-02	4.846E-01	3.24E-02	2.44E-15
ce-K, γ 13	5.99E-04	4.107E-01	5.24E-04	3.94E-17
γ 14	4.32E-03	4.891E-01	4.50E-03	3.38E-16
Kα, x-ray	2.00E-02	6.300E-02	2.69E-03	2.02E-16
β 3	5.55E-02	7.074E-02†	8.37E-03	6.30E-16
β 4	4.16E-01	1.611E-01†	1.43E-01	1.07E-14
β 5	4.81E-01	2.088E-01†	2.14E-01	1.60E-14
γ 5	2.87E-01	2.960E-01	1.81E-01	1.36E-14
ce-K, γ 5	1.94E-02	2.176E-01	9.00E-03	6.78E-16
ce-L_1, γ 5	2.58E-03	2.821E-01	1.55E-03	1.16E-16
ce-L_2, γ 5	4.03E-03	2.827E-01	2.43E-03	1.83E-16
ce-L_3, γ 5	2.13E-03	2.844E-01	1.29E-03	9.71E-17
ce-M, γ 5	2.18E-03	2.933E-01†	1.36E-03	1.02E-16
γ 6	2.97E-01	3.085E-01	1.95E-01	1.47E-14
ce-K, γ 6	1.81E-02	2.301E-01	8.88E-03	6.65E-16
ce-L_1, γ 6	2.41E-03	2.946E-01	1.51E-03	1.14E-16
ce-L_2, γ 6	3.52E-03	2.952E-01	2.21E-03	1.67E-16
ce-L_3, γ 6	1.82E-03	2.969E-01	1.15E-03	8.68E-17
ce-M, γ 6	1.93E-03	3.058E-01†	1.26E-03	9.45E-17
γ 8	8.30E-01	3.165E-01	5.60E-01	4.21E-14
ce-K, γ 8	4.48E-02	2.381E-01	2.27E-02	1.71E-15
ce-L_1, γ 8	5.93E-03	3.026E-01	3.82E-03	2.88E-16
ce-L_2, γ 8	8.95E-03	3.032E-01	5.78E-03	4.34E-16
ce-L_3, γ 8	4.60E-03	3.049E-01	2.99E-03	2.24E-16
ce-M, γ 8	4.85E-03	3.139E-01†	3.24E-03	2.44E-16
ce-N, γ 8	1.47E-03	3.165E-01†	9.92E-04	7.45E-17
γ 10	6.64E-03	4.165E-01	5.89E-03	4.44E-16
γ 11	4.77E-01	4.681E-01	4.76E-01	3.57E-14
ce-K, γ 11	1.02E-02	3.897E-01	8.47E-03	6.34E-16
ce-L_1, γ 11	1.40E-03	4.542E-01	1.36E-03	1.02E-16
ce-L_2, γ 11	1.07E-03	4.548E-01	1.04E-03	7.80E-17
ce-M, γ 11	7.13E-04	4.654E-01†	7.07E-04	5.32E-17
γ 14	4.48E-02	5.886E-01	5.62E-02	4.23E-15
ce-K, γ 14	5.78E-04	5.102E-01	6.28E-04	4.73E-17
γ 16	8.09E-02	6.044E-01	1.04E-01	7.83E-15
ce-K, γ 16	1.64E-03	5.260E-01	1.84E-03	1.38E-16
γ 17	5.26E-02	6.125E-01	6.87E-02	5.16E-15
ce-K, γ 17	6.23E-04	5.341E-01	7.09E-04	5.33E-17
γ 20	2.84E-03	8.845E-01	5.35E-03	4.02E-16
Kα, x-ray	4.61E-02	6.683E-02	6.57E-03	4.93E-16
Kα, x-ray	2.69E-02	6.512E-02	3.73E-03	2.80E-16
Auger-MXY	1.81E-01	2.462E-03†	9.50E-04	7.13E-17
Listed x,γ and γ: radiations			1.72E+00	1.30E-13
Omitted x,γ and γ: radiations‡			1.33E-02	9.98E-16
Listed β,ce and Auger radiations			4.54E-01	3.41E-14
Omitted β,ce and Auger radiations‡			8.55E-03	6.42E-16
Listed radiations			2.17E+00	1.63E-13
Omitted radiations‡			2.17E-02	1.63E-15

† Average energy
‡ Each omitted transition contributes
0.100% to ΣΔ(i) in its category.
OSMIUM-192 daughter, yield 4.60E-02, is stable.
PLATINUM-192 daughter, yield 9.54E-01, is stable.



Tabell 11

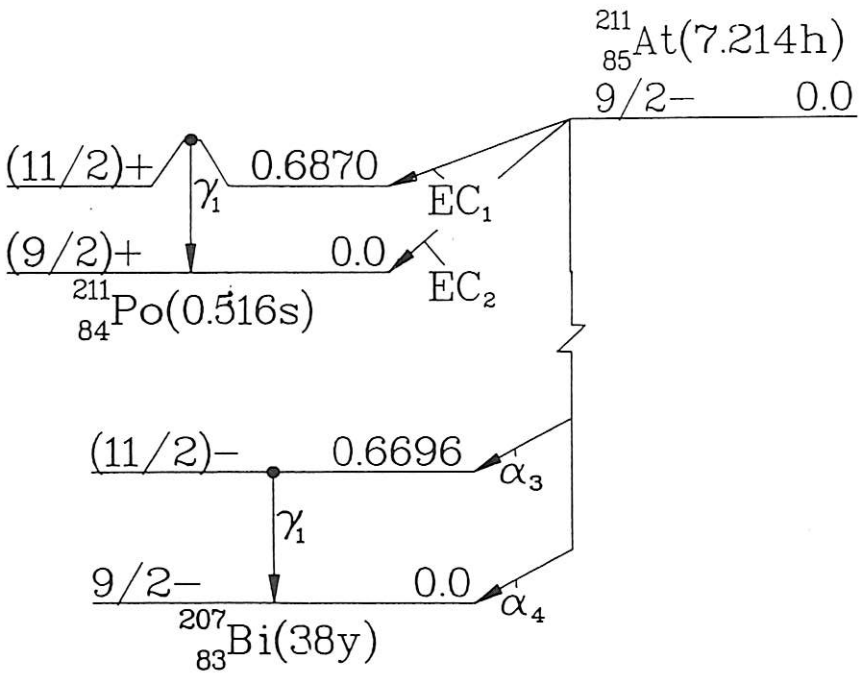
84-POLONIUM-211

HALF-LIFE = .516 SECONDS
DECAY MODE(S): α

02-MAY-85

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
α 1	5.37E-03	6.569E+00	7.52E-02	5.66E-15
α recoil	5.37E-03	1.270E-01	1.45E-03	1.09E-16
α 2	5.46E-03	6.891E+00	8.02E-02	6.02E-15
α recoil	5.46E-03	1.333E-01	1.55E-03	1.17E-16
α 3	9.89E-01	7.450E+00	1.57E+01	1.18E-12
α recoil	9.89E-01	1.441E-01	3.04E-01	2.27E-14
γ 1	3.20E-05	3.282E-01	2.24E-05	1.68E-18
ce-K, γ 1	7.86E-06	2.402E-01	4.02E-06	3.03E-19
ce-L_1, γ 1	1.21E-06	3.123E-01	8.05E-07	6.06E-20
γ 2	5.34E-03	5.696E-01	6.48E-03	4.87E-16
ce-K, γ 2	8.49E-05	4.816E-01	8.71E-05	6.55E-18
ce-L_1, γ 2	1.25E-05	5.538E-01	1.48E-05	1.11E-18
ce-L_2, γ 2	8.37E-06	5.544E-01	9.89E-06	7.43E-19
ce-L_3, γ 2	2.88E-06	5.566E-01	3.42E-06	2.56E-19
ce-M, γ 2	5.80E-06	5.666E-01†	7.00E-06	5.27E-19
ce-N^-, γ 2	1.92E-06	5.696E-01†	2.33E-06	1.75E-19
γ 3	5.18E-03	8.978E-01	9.91E-03	7.45E-16
ce-K, γ 3	1.04E-04	8.098E-01	1.79E-04	1.35E-17
ce-L_1, γ 3	1.58E-05	8.819E-01	2.97E-05	2.23E-18
ce-L_2, γ 3	1.42E-06	8.826E-01	2.67E-06	2.02E-19
ce-M, γ 3	3.83E-06	8.947E-01†	7.30E-06	5.48E-19
ce-N^-, γ 3	1.48E-06	8.978E-01†	2.83E-06	2.13E-19
Auger-L_2MM	2.01E-05	9.625E-03†	4.12E-07	3.11E-20
Auger-L_3MM	4.88E-05	7.460E-03†	7.76E-07	5.83E-20
Auger-L_3MX	3.20E-05	1.009E-02†	6.88E-07	5.17E-20
Auger-MXY	2.94E-04	2.916E-03†	1.83E-06	1.37E-19
Listed x,γ and γ= radiations			1.64E-02	1.23E-15
Omitted x,γ and γ± radiations‡			3.30E-05	2.48E-18
Listed β,ce and Auger radiations			3.56E-04	2.68E-17
Omitted β,ce and Auger radiations‡			2.13E-06	1.60E-19
Listed α and α recoil radiations			1.62E+01	1.22E-12
Listed radiations			1.62E+01	1.22E-12
Omitted radiations‡			3.52E-05	2.64E-18

† Average energy
‡ Each omitted transition contributes <0.100% to ΣΔ(i) in its category.
LEAD-207 daughter is stable.



Tabell 11

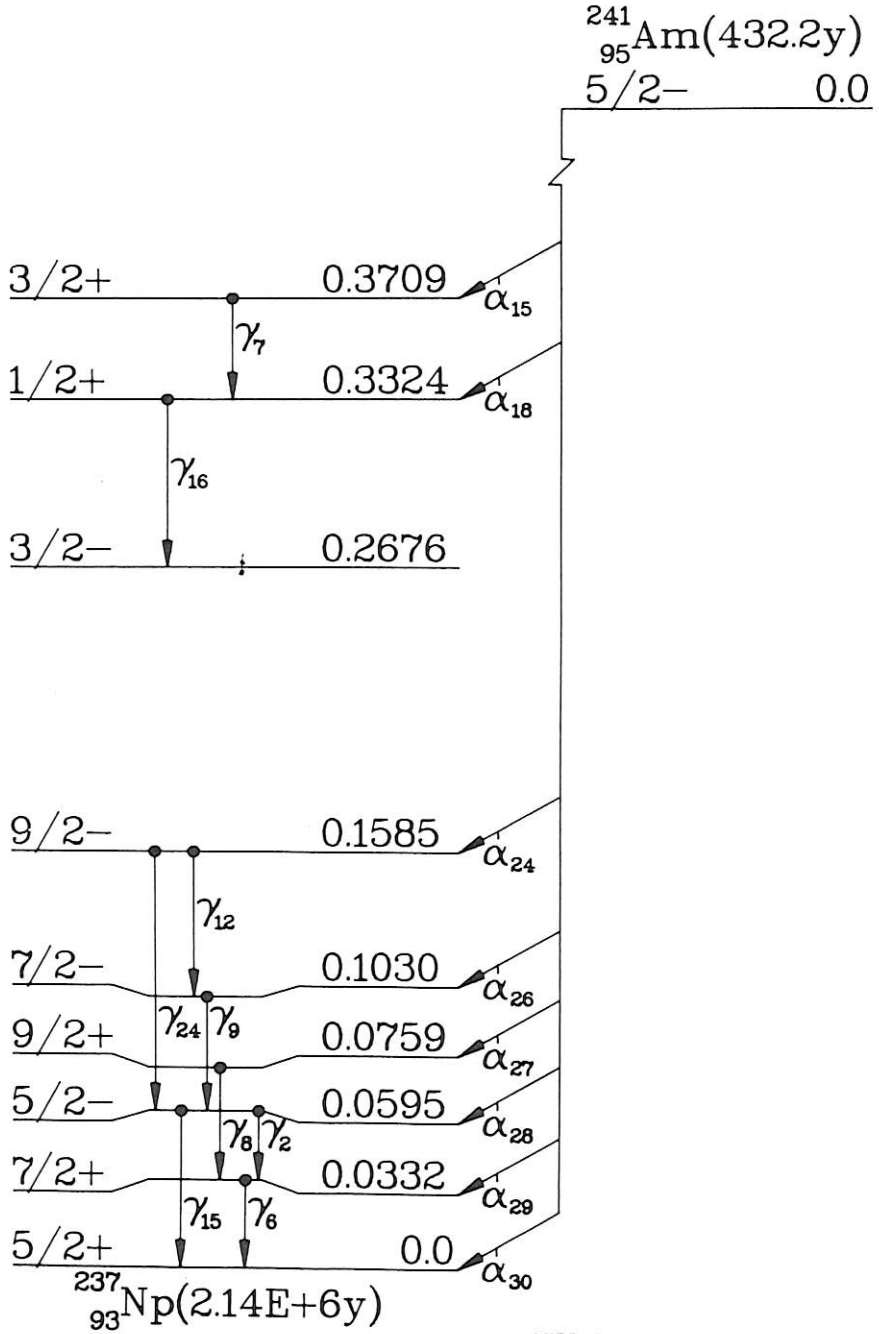
85-ASTATINE-211

HALF-LIFE = 7.214 HOURS
DECAY MODE(S): α, EC

02-SEP-78

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
α 4	4.17E-01	5.867E+00	5.21E+00	3.92E-13
α recoil	4.17E-01	1.134E-01	1.01E-01	7.58E-15
γ 1	2.46E-03	6.870E-01	3.60E-03	2.71E-16
ce-K, γ 1	1.03E-04	5.939E-01	1.30E-04	9.84E-18
ce-L, γ 1	1.60E-05	6.701E-01	2.28E-05	1.71E-18
Kα1 x-ray	2.11E-01	7.929E-02	3.57E-02	2.68E-15
Kα2 x-ray	1.26E-01	7.686E-02	2.06E-02	1.55E-15
Kβ1 x-ray	4.80E-02	8.980E-02	9.19E-03	6.90E-16
Kβ2 x-ray	2.27E-02	9.246E-02	4.47E-03	3.36E-16
Kβ3 x-ray	2.51E-02	8.925E-02	4.77E-03	3.59E-16
Kβ5 x-ray	1.48E-03	9.037E-02	2.85E-04	2.15E-17
Lα1 x-ray	7.54E-02	1.113E-02	1.79E-03	1.35E-16
Lα2 x-ray	8.43E-03	1.102E-02	1.98E-04	1.49E-17
Lβ1 x-ray	4.81E-02	1.345E-02	1.38E-03	1.04E-16
Lβ2 x-ray	1.90E-02	1.334E-02	5.40E-04	4.05E-17
Lβ3 x-ray	4.90E-03	1.364E-02	1.42E-04	1.07E-17
Lβ4 x-ray	4.34E-03	1.309E-02	1.21E-04	9.10E-18
Lγ1 x-ray	1.04E-02	1.574E-02	3.49E-04	2.61E-17
Auger-KL1L1	1.39E-03	5.892E-02	1.75E-04	1.31E-17
Auger-KL1L2	2.28E-03	5.966E-02	2.90E-04	2.18E-17
Auger-KL1L3	1.11E-03	6.205E-02	1.47E-04	1.11E-17
Auger-KL2L2	2.26E-04	6.031E-02	2.90E-05	2.18E-18
Auger-KL2L3	2.15E-03	6.274E-02	2.87E-04	2.16E-17
Auger-KL3L3	9.41E-04	6.518E-02	1.31E-04	9.82E-18
Auger-KL1X	1.59E-03	7.277E-02†	2.47E-04	1.86E-17
Auger-KL2X	1.16E-03	7.347E-02†	1.82E-04	1.36E-17
Auger-KL3X	1.82E-03	7.590E-02†	2.94E-04	2.21E-17
Auger-KXY	7.50E-04	8.641E-02†	1.38E-04	1.04E-17
Auger-L1MM	5.91E-03	1.092E-02†	1.38E-04	1.03E-17
Auger-L1MX	4.31E-03	1.372E-02†	1.26E-04	9.48E-18
Auger-L1XY	7.51E-04	1.593E-02†	2.55E-05	1.92E-18
Auger-L2MM	4.15E-02	1.022E-02†	9.04E-04	6.81E-17
Auger-L2MX	2.70E-02	1.303E-02†	7.50E-04	5.64E-17
Auger-L2XY	4.46E-03	1.524E-02†	1.45E-04	1.09E-17
Auger-L3MM	1.07E-01	7.794E-03†	1.78E-03	1.34E-16
Auger-L3MX	7.11E-02	1.060E-02†	1.61E-03	1.21E-16
Auger-L3XY	1.23E-02	1.281E-02†	3.36E-04	2.53E-17
Auger-MXY	6.64E-01	3.159E-03†	4.47E-03	3.36E-16
Residual E	1.67E-01	5.762E-04†	2.05E-04	1.54E-17
Listed x,γ and γ± radiations			8.31E-02	6.25E-15
Omitted x,γ and γ± radiations‡			5.05E-04	3.80E-17
Listed β,ce and Auger radiations			1.26E-02	9.44E-16
Omitted β,ce and Auger radiations‡			1.53E-05	1.15E-18
Listed α and α recoil radiations			5.31E+00	3.99E-13
Omitted α and α recoil radiations‡			5.54E-04	4.17E-17
Listed radiations			5.41E+00	4.07E-13
Omitted radiations‡			1.07E-03	8.07E-17

† Average energy
‡ Each omitted transition contributes <0.100% to ΣΔ(i) in its category.
BISMUTH-207 daughter, yield 4.17E-01, is radioactive.
POLONIUM-211 daughter, yield 5.83E-01, is radioactive.



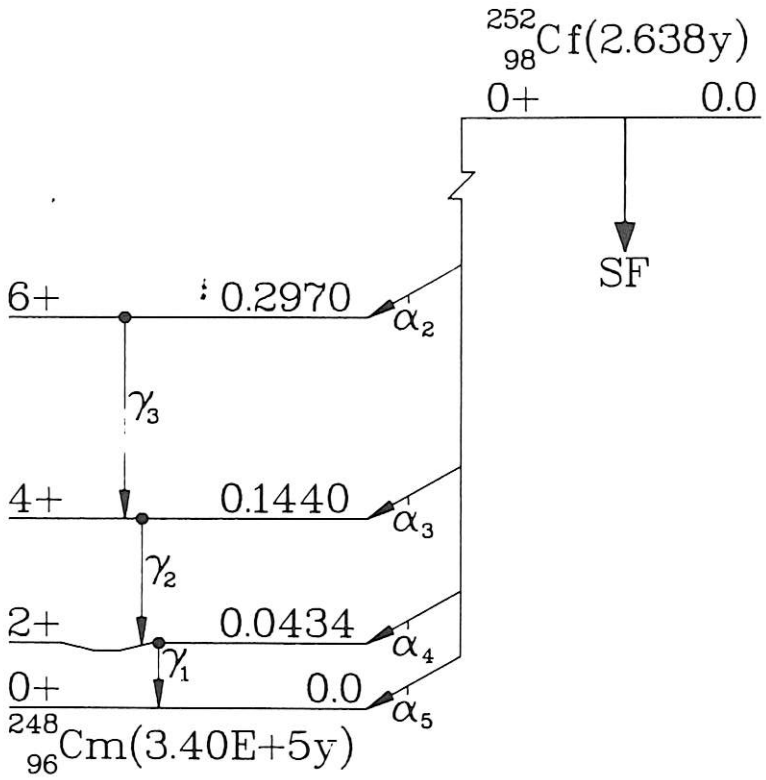
Tabell 11

95-AMERICIUM-241

HALF-LIFE 432.2 YEARS 29-OCT-84
DECAY MODE(S): α

RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
α 24	1.40E-02	5.388E+00	1.61E-01	1.21E-14
α recoil	1.40E-02	9.100E-02	2.72E-03	2.03E-16
α 26	1.28E-01	5.443E+00	1.48E+00	1.12E-13
α recoil	1.28E-01	9.193E-02	2.51E-02	1.89E-15
α 28	8.52E-01	5.486E+00	9.96E+00	7.48E-13
α recoil	8.52E-01	9.265E-02	1.68E-01	1.26E-14
γ 2	2.41E-02	2.634E-02	1.35E-03	1.02E-16
ce-L$_1$, γ 2	5.01E-02	4.744E-03	5.07E-04	3.81E-17
ce-L$_2$, γ 2	6.53E-02	8.735E-03	1.22E-03	9.15E-17
ce-M, γ 2	3.68E-02	2.191E-02†	1.72E-03	1.29E-16
ce-N$^+$, γ 2	1.44E-02	2.634E-02†	8.08E-04	6.07E-17
ce-L$_1$, γ 5	2.23E-01	1.058E-02	5.03E-03	3.78E-16
ce-L$_2$, γ 5	2.06E-01	1.457E-02	6.40E-03	4.81E-16
ce-M, γ 5	1.20E-01	2.775E-02†	7.10E-03	5.33E-16
ce-N$^+$, γ 5	4.76E-02	3.218E-02†	3.26E-03	2.45E-16
ce-L$_1$, γ 6	1.16E-01	1.078E-02	2.67E-03	2.00E-16
ce-L$_2$, γ 6	3.64E-02	1.160E-02	9.00E-04	6.78E-17
ce-L$_3$, γ 6	2.19E-02	1.560E-02	7.28E-04	5.46E-17
ce-M, γ 6	4.38E-02	2.877E-02†	2.69E-03	2.02E-16
ce-N$^+$, γ 6	1.73E-02	3.320E-02†	1.22E-03	9.20E-17
ce-L$_1$, γ 7	1.19E-01	1.611E-02	4.09E-03	3.06E-16
ce-M, γ 7	3.24E-02	3.411E-02†	2.36E-03	1.76E-16
ce-N$^+$, γ 7	1.24E-02	3.854E-02†	1.02E-03	7.67E-17
ce-L$_1$, γ 9	2.74E-02	2.100E-02	1.23E-03	9.21E-17
ce-L$_2$, γ 9	3.50E-02	2.182E-02	1.63E-03	1.22E-16
ce-L$_3$, γ 9	2.79E-02	2.581E-02	1.53E-03	1.15E-16
ce-M, γ 9	2.40E-02	3.899E-02†	1.99E-03	1.50E-16
ce-N$^+$, γ 9	9.15E-03	4.342E-02†	8.47E-04	6.36E-17
γ 15	3.59E-01	5.954E-02	4.56E-02	3.43E-15
ce-L$_1$, γ 15	1.11E-01	3.711E-02	8.78E-03	6.57E-16
ce-L$_2$, γ 15	1.01E-01	3.794E-02	8.17E-03	6.12E-16
ce-L$_3$, γ 15	1.01E-01	4.193E-02	9.03E-03	6.78E-16
ce-M, γ 15	7.72E-02	5.510E-02†	9.07E-03	6.81E-16
ce-N$^+$, γ 15	2.71E-02	5.954E-02†	3.44E-03	2.58E-16
Lα x-ray	2.46E-01	1.394E-02	7.31E-03	5.49E-16
Lα$_2$ x-ray	2.75E-02	1.376E-02	8.06E-04	6.06E-17
Lβ x-ray	2.00E-01	1.775E-02	7.57E-03	5.69E-16
Lβ$_2$ x-ray	6.53E-02	1.684E-02	2.34E-03	1.76E-16
Lβ$_3$ x-ray	2.82E-02	1.799E-02	1.08E-03	8.12E-17
Lβ$_4$ x-ray	3.19E-02	1.706E-02	1.16E-03	8.71E-17
Lβ$_5$ x-ray	1.41E-02	1.750E-02	5.26E-04	3.96E-17
Lγ x-ray	4.86E-02	2.078E-02	2.15E-03	1.62E-16
Lγ$_2$ x-ray	1.33E-02	2.110E-02	5.98E-04	4.50E-17
Lγ$_3$ x-ray	1.22E-02	2.134E-02	5.55E-04	4.17E-17
Lγ$_4$ x-ray	1.03E-02	2.149E-02	4.72E-04	3.54E-17
Ll x-ray	1.38E-02	1.189E-02	3.50E-04	2.63E-17
Auger-L MM	2.29E-02	1.424E-02†	6.95E-04	5.22E-17
Auger-L$_1$MX	1.72E-02	1.791E-02†	6.57E-04	4.93E-17
Auger-L$_2$MM	7.94E-02	1.341E-02†	2.27E-03	1.70E-16
Auger-L$_2$MX	5.49E-02	1.709E-02†	2.00E-03	1.50E-16
Auger-L$_3$MM	2.28E-01	9.418E-03†	4.58E-03	3.44E-16
Auger-L$_3$MX	1.60E-01	1.310E-02†	4.47E-03	3.36E-16
Auger-L$_3$XY	2.71E-02	1.599E-02†	9.24E-04	6.95E-17
Auger-MXY	1.79E+00	4.060E-03†	1.55E-02	1.16E-15
Residual E	5.72E-01	9.351E-04†	1.14E-03	8.57E-17
Listed x,γ and γ: radiations			7.18E-02	5.40E-15
Omitted x,γ and γ: radiations‡			8.46E-04	6.36E-17
Listed β,ce and Auger radiations			1.20E-01	8.99E-15
Omitted β,ce and Auger radiations‡			5.35E-03	4.02E-16
Listed α and α recoil radiations			1.18E+01	8.88E-13
Omitted α and α recoil radiations‡			7.33E-02	5.51E-15
Listed radiations			1.20E+01	9.02E-13
Omitted radiations‡			7.95E-02	5.98E-15

† Average energy
‡ Each omitted transition contributes 0.400% to Σ Δ(i) in its category.
NEPTUNIUM-237 daughter is radioactive.



98-CALIFORNIUM-252

HALF-LIFE 2.638 YEARS
DECAY MODE(S): SF, α

05-MAY-81

Tabell 11

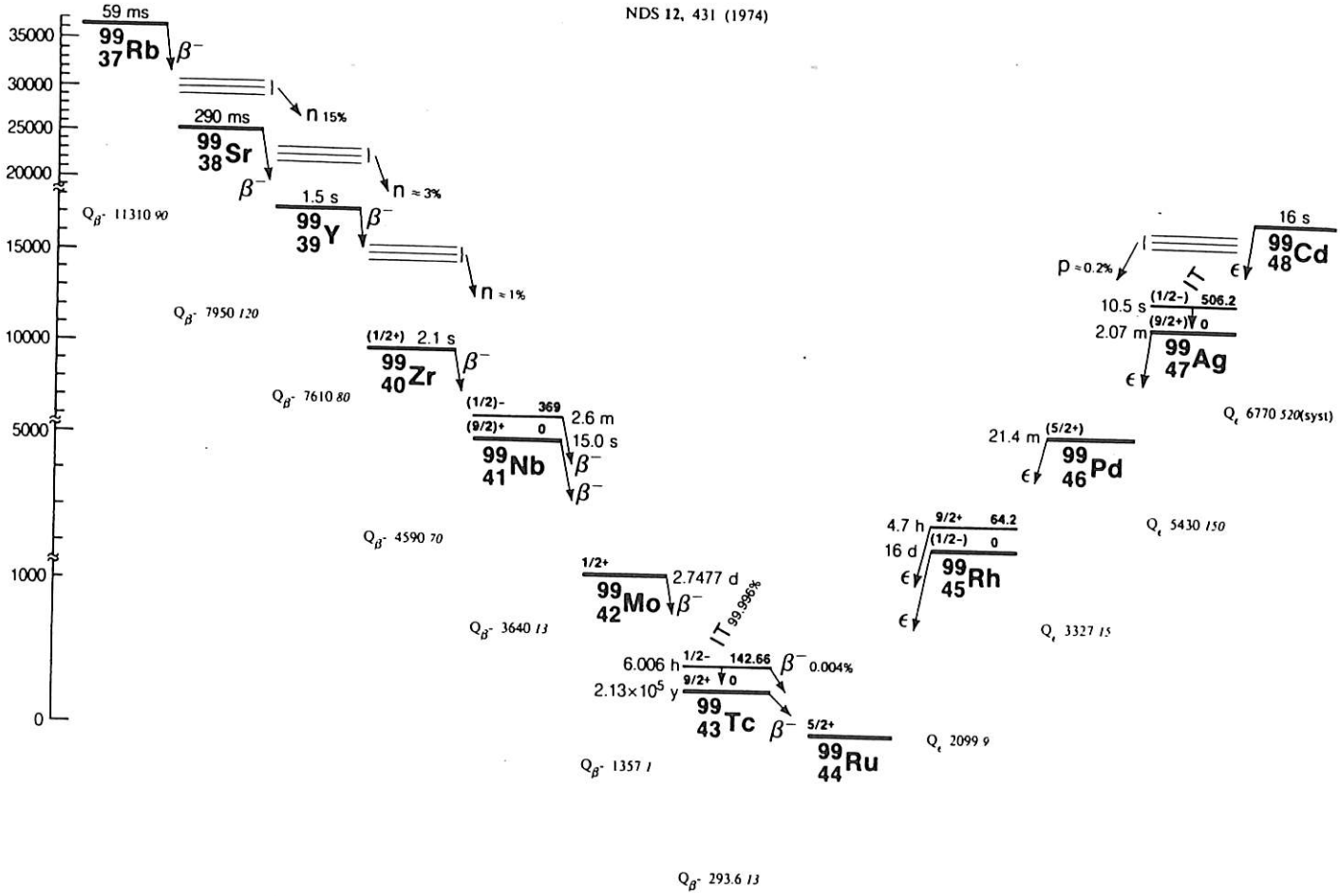
RADIATION	PARTICLES/ TRANSITION n(i)	ENERGY/ PARTICLE E(i) MeV	ENERGY/TRANSITION Δ(i) rad g/μCi h	Δ(i) Gy kg/Bq s
SF n	1.15E-01	2.164E+00†	5.30E-01	4.00E-14
SF f	6.18E-02	9.514E+01†	1.25E+01	9.42E-13
SF p γ	2.67E-01	8.847E-01†	5.03E-01	3.78E-14
SF d γ	2.51E-01	9.578E-01†	5.12E-01	3.86E-14
SF β	1.92E-01	1.280E+00†	5.24E-01	3.94E-14
α 3	2.32E-03	5.977E+00	2.96E-02	2.23E-15
α recoil	2.32E-03	9.646E-02	4.77E-04	3.59E-17
α 4	1.52E-01	6.076E+00	1.97E+00	1.48E-13
α recoil	1.52E-01	9.806E-02	3.18E-02	2.39E-15
α 5	8.15E-01	6.118E+00	1.06E+01	7.99E-13
α recoil	8.15E-01	9.875E-02	1.72E-01	1.29E-14
γ 1	1.48E-04	4.340E-02	1.37E-05	1.03E-18
ce-L$_{III}$, γ 1	2.19E-03	1.894E-02	8.84E-05	6.65E-18
ce-L$_{II}$, γ 1	5.87E-02	1.962E-02	2.45E-03	1.84E-16
ce-L$_{I}$, γ 1	4.86E-02	2.447E-02	2.53E-03	1.91E-16
ce-M, γ 1	3.07E-02	3.860E-02†	2.53E-03	1.91E-16
ce-N', γ 1	1.21E-02	4.340E-02†	1.12E-03	8.43E-17
γ 2	1.26E-04	1.002E-01	2.69E-05	2.02E-18
ce-L$_{III}$, γ 2	1.02E-03	7.642E-02	1.66E-04	1.25E-17
ce-L$_{II}$, γ 2	6.41E-04	8.127E-02	1.11E-04	8.35E-18
ce-M, γ 2	4.85E-04	9.540E-02†	9.86E-05	7.42E-18
ce-N', γ 2	1.91E-04	1.002E-01†	4.08E-05	3.06E-18
γ 3	1.94E-05	1.600E-01	6.62E-06	4.97E-19
Lα$_{1}$ x-ray	2.15E-02	1.496E-02	6.85E-04	5.14E-17
Lα$_{2}$ x-ray	2.40E-03	1.470E-02	7.52E-05	5.66E-18
Lβ$_{1}$ x-ray	2.45E-02	1.955E-02	1.02E-03	7.66E-17
Lβ$_{2}$ x-ray	5.78E-03	1.806E-02	2.22E-04	1.67E-17
Lβ$_{3}$ x-ray	1.51E-04	1.966E-02	6.33E-06	4.74E-19
Lβ$_{4}$ x-ray	1.85E-04	1.856E-02	7.32E-06	5.51E-19
Lβ$_{5}$ x-ray	1.34E-03	1.882E-02	5.37E-05	4.05E-18
Lβ$_{6}$ x-ray	4.32E-04	1.729E-02	1.59E-05	1.20E-18
Lγ$_{1}$ x-ray	6.14E-03	2.286E-02	2.99E-04	2.24E-17
Lγ$_{2}$ x-ray	8.39E-05	2.302E-02	4.12E-06	3.09E-19
Lγ$_{3}$ x-ray	6.88E-05	2.331E-02	3.42E-06	2.56E-19
Lγ$_{4}$ x-ray	1.27E-03	2.366E-02	6.40E-05	4.82E-18
Ln x-ray	6.73E-04	1.749E-02	2.51E-05	1.89E-18
Ll x-ray	1.27E-03	1.264E-02	3.42E-05	2.56E-18
Auger-L$_{3}$MM	8.80E-03	1.484E-02†	2.78E-04	2.10E-17
Auger-L$_{3}$MX	6.20E-03	1.885E-02†	2.49E-04	1.87E-17
Auger-L$_{3}$XY	1.04E-03	2.196E-02†	4.87E-05	3.65E-18
Auger-L$_{2}$MM	1.59E-02	9.995E-03†	3.39E-04	2.55E-17
Auger-L$_{2}$MX	1.14E-02	1.400E-02†	3.40E-04	2.56E-17
Auger-L$_{2}$XY	1.90E-03	1.711E-02†	6.93E-05	5.22E-18
Auger-MXY	1.49E-01	4.389E-03†	1.39E-03	1.05E-16
Residual E	4.81E-02	1.007E-03†	1.03E-04	7.75E-18
Listed x,γ and γ: radiations			2.56E-03	1.92E-16
Omitted x,γ and γ: radiations‡			7.97E-07	5.99E-20
Listed β,ce and Auger radiations			1.20E-02	8.99E-16
Omitted β,ce and Auger radiations‡			3.13E-05	2.35E-18
Listed α and α recoil radiations			1.28E+01	9.64E-13
Omitted α and α recoil radiations‡			2.51E-04	1.89E-17
Listed radiations			2.69E+01	2.02E-12
Omitted radiations‡			2.83E-04	2.13E-17

† Average energy
‡ Each omitted transition contributes
0.100% to ΣΔ(i) in its category.
SF yield is 3.0920E-02.
CURIUM-248 daughter, yield 9.6908E-01, is radioactive.

Tabell 12

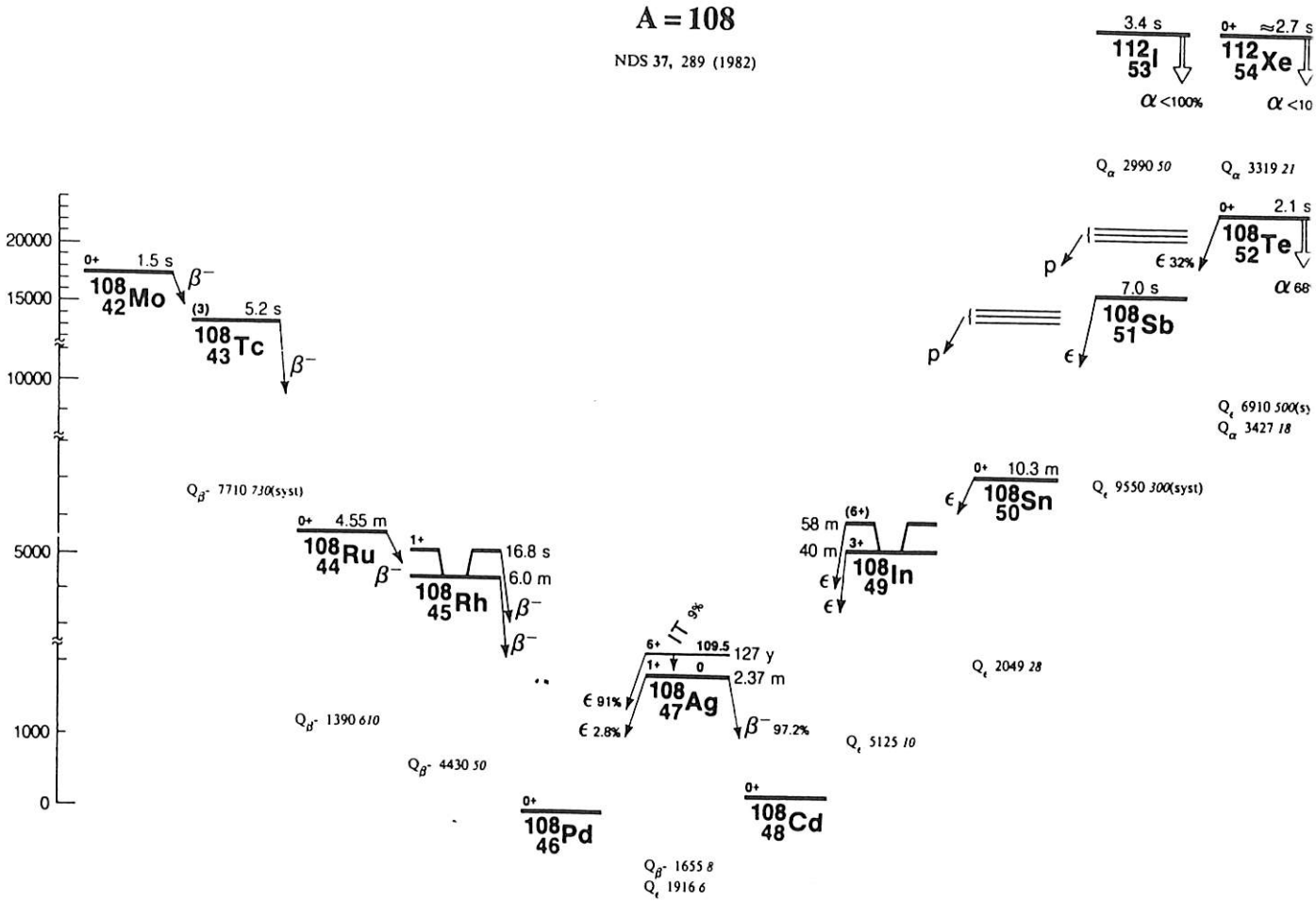
A = 99

NDS 12, 431 (1974)



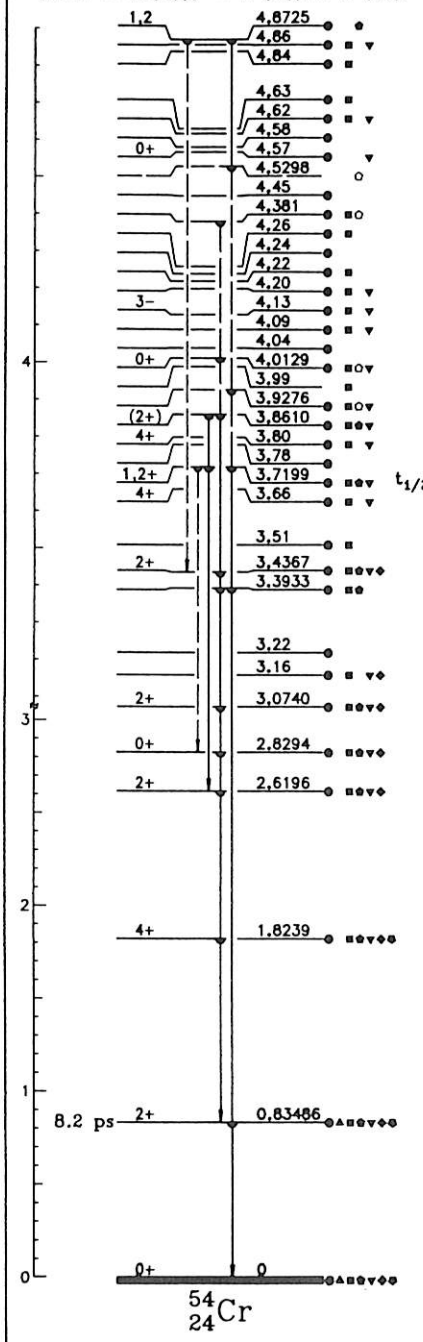
A = 108

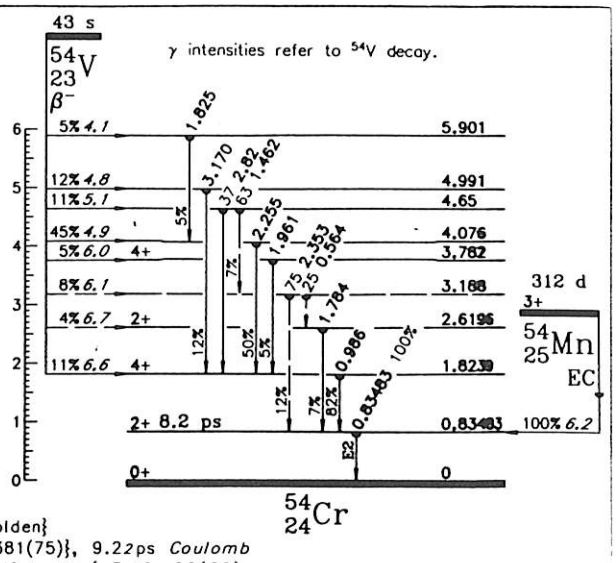
NDS 37, 289 (1982)



Additional levels above 4.873 MeV: 17 in (p,p'), 56 in (d,p), ≈1 in (n,γ), 2 in (t,p).

● ^{54}Cr(p,p')
▲ ^{54}Cr(p,p'γ)
■ ^{53}Cr(d,p)
●○ ^{53}Cr(n,γ)
▼ ^{52}Cr(t,p)
◆ ^{51}V(α,p)
● Coul. ex.





$^{54}_{24}$Cr

%: 2.36 {BNL-NCS-50605(77)}
Δ: −56.9313 *16* {ANDT 19 175(77)}
σ_c: 0.38 *4* (reactor spectrum) {PC77 Holden}
$t_{1/2}$(0.835): 8.23 ps *Coulomb excit* {NP A250 381(75)}, 9.22 ps *Coulomb excit* {JPJS 34 439(73)}; **others:** {NP 19 400(60), IzF 23 223(59)}

$^{54}_{25}$Mn

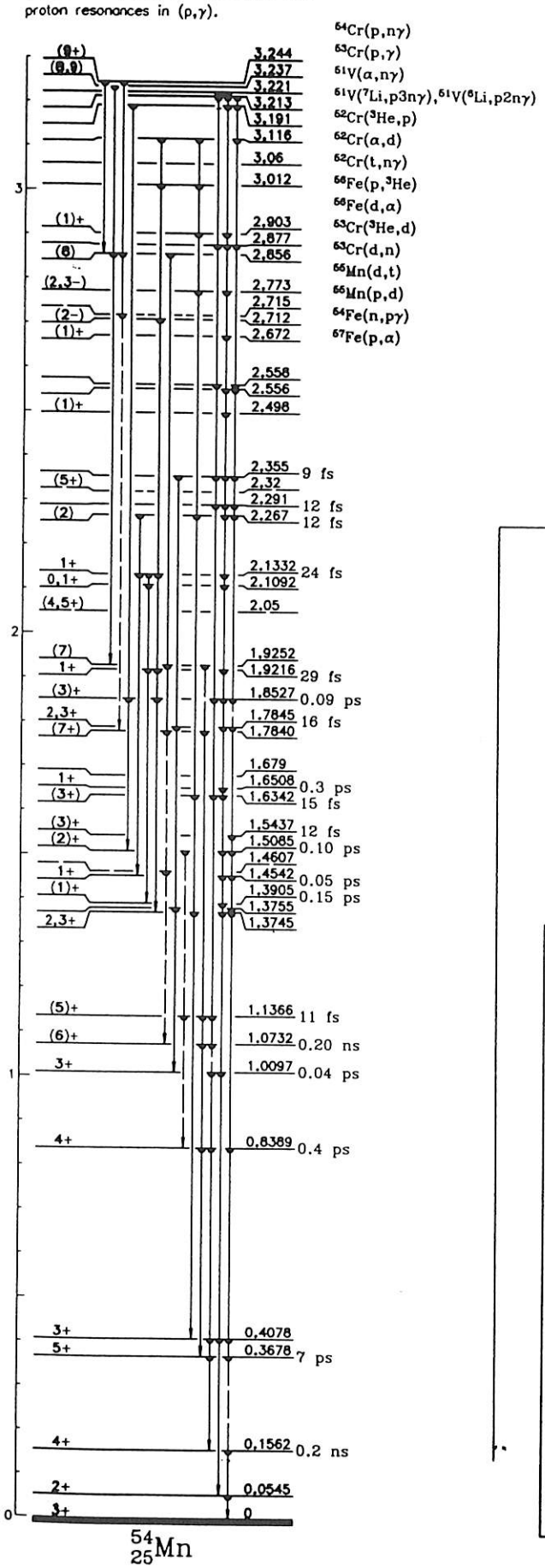
Δ: −55.5543 *18* {ANDT 19 175(77)}
I: 3 *EPR, NO/D* {PCry 3 129(61)}
σ_c: <10 (reactor spectrum) {PC77 Holden}
%: EC, no β^+ (lim 8×10^{-5}%), no β^- {NP A106 248(68), PR 54 486(38), PR 54 391(38), PR 65 211(44)}
$t_{1/2}$: 312.20 *7* d {PC74 Merritt}; 312.99 *10* d {NSEg 32 132(68)}; 312.29 d {IIso 19 475(68)}; 312.46 d {AECL-2501 26(65)}; 312.26 d {CEA-R-2991(66)}; 313.57 d {NSEg 11 74(61)}; **others:** {NSEg 55 450(74), Agro 5 15(73), ZP 216 355(68), PR 140 B305(65), NSEg 19 465(64), NSEg 2 427(57), JINC 3 160(56), PR 104 703(56), PR 97 743(55), JPJa 8 734(53), PR 54 391(38)}
Class: A; **Ident:** chem, excit, cross bomb {PR 52 135(37), PR 54 391(38)}
Prod: ^{56}Fe(d,α) {PR 54 391(38), PR 65 211(44)}; ^{51}V(α,n) {PR 54 391(38)}; ^{53}Cr(d,n) {PR 54 391(38), IIso 19 475(68)}; ^{54}Fe(n,p) {JINC 3 160(56)}
γ: (**norm:** $\gamma_{0.835}$ (γ 100%), from level scheme) **0.834827** *21 Ge(Li)* {NIM 96 173(71)}
$\gamma_{0.835}$ (e/γ 2.51 *11*×10^{-4}) *mag, mag conv* {PL 19 682(66)}
0.8379 *3* (K/L+M+... 8.5 *7*) *mag conv* {JPJa 13 1419(58)}
others: {NIM 76 285(69), NIM 65 26(68), NP A107 177(68), RaAc 10 1(68), NP A90 650(67), PL 24B 49(67), PL 19 682(66), NP 74 281(65), PL 18 36(65), NuoC s10v30 507(63), PR 125 1655(62), JPJa 13 1419(58), Phca 20 521(54), PR 65 211(44)}
γγ(θ): {NuoC s11v6A 576(71), PL 26B 374(68), ZhPi 5 99(67)}
Align: {PR 120 946(60), Phil s7v45 1192(54)}
$t_{1/2}$(levels): **0.054:** <0.4 ns *delay coinc* {Th66 TubbsNA}
0.156: 0.19$^{+3}_{-8}$ ns *recoil dist Doppler* {PR C10 2329(74)}
0.368: 7.2 *11* ps *recoil dist Doppler* {PR C10 2329(74)}
0.408: >0.29 ps *Doppler* {NP A261 238(76)}
0.839: 0.35$^{+14}_{-8}$ ps *Doppler* {NP A261 238(76)}
1.009: 42 *13* fs *Doppler* {NP A261 238(76)}
1.073: 197 *12* ps *recoil dist Doppler* {AR75 AFI 64}
1.137: 11.4 *21* fs *Doppler* {NP A261 238(76)}
1.390: 146 *35* fs *Doppler* {NP A261 238(76)}
1.454: 49 *10* fs *Doppler* {NP A261 238(76)}
1.508: 97 *21* fs *Doppler* {NP A261 238(76)}
1.544: 124 *4* fs *Doppler* {NP A261 238(76)}
1.634: 153 fs *Doppler* {NP A261 238(76)}
1.651: 0.33$^{+10}_{-6}$ ps *Doppler* {NP A261 238(76)}
1.784: >1.4 ps *Doppler* {PR C10 2329(74)}
1.785: 164 fs *Doppler* {NP A261 238(76)}
1.853: 94 *19* fs *Doppler* {NP A261 238(76)}
1.922: 295 fs *Doppler* {NP A261 238(76)}
2.109: >0.4 ps *Doppler* {NP A261 238(76)}
2.133: 244 fs *Doppler* {NP A261 238(76)}
2.267: 123 fs *Doppler* {NP A261 238(76)}
2.291: 123 fs *Doppler* {NP A261 238(76)}
2.355: 92 fs *Doppler* {NP A261 238(76)}
others: {PR C10 2329(74), Th66 TubbsNA}
EC: EC(L)/EC(K) 0.106 *3* {NuoC s10v27 251(63)}; EC(L)/EC(K) 0.098 *6* {PR 131 821(63)}; EC(L+M+...)/EC(K) 0.122 *4* {ZP 206 66(67), ASE}; EC(L+M+...)/EC(K) 0.124 *8* {ZP 216 355(68), ASE}; **others:** {Atke 8 311(65), Phca 28 569(62)}
Internal bremsstrahlung endpoint (decay to 0.835 level): 0.518 *8* *scint-scint γγ coinc* {PR C6 1713(72)}; **0.512** *25* *scint-scint γγ coinc* {PR 188 1683(69)}; **others:** {NP A153 383(70)}

$^{54}_{24}$Cr levels – References

Decay: NP A148 225(70), NIM 96 173(71), ND B3n5 161(70)
^{54}Cr(p,p'): NP 88 385(66); others: IzF 35 2355(71), NP 51 641(64), ZETF 44 148(63), PR 112 468(58)
^{54}Cr(p,p'γ): ZP 199 506(67)
^{53}Cr(d,p): NP 88 385(66), NP 51 641(64), Cf67 AtMoss 527, NP 51 161(64), NP A252 381(75); others: NP A153 145(70), PRL 23 315(69), ZETF 44 1129(63), NP 19 604(60), PR 111 925(58)
^{53}Cr(n,γ): NIM 66 70(68), ND A3 367(67), ZP 246 151(71); others: NP A240 29(75), YodF 13 233(71), YodF 13 3(71), NIM 56 189(67), YodF 5 504(67)
^{52}Cr(t,p): NP A119 305(68); others: PR C4 130(71)
^{51}V(α,p): ND B3n5 161(70), AR65 AFI 34
Coul. ex.: Cf65 Gatl 222, JPJS 34 439(73); others: NP 19 400(60), IzF 23 223(59)

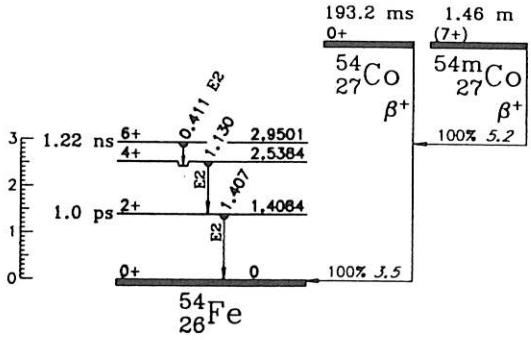
Other reactions:
^{55}Mn(μ⁻,nγ): NP A162 541(71), NP A207 379(73)
μ⁻ on Fe: NP A207 379(73)
^{55}Mn(n,d): NuoC s10v14 1120(59), NuoC s10v20 94(61)
^{55}Mn(d,^{3}He): Cf61 RuthJub 521
^{55}Mn(p,2p): NP A95 526(67)
^{54}Cr(α,α'): IzF 35 830(71)

Additional levels above 3.244 MeV: 59 in (^{3}He,p), 33 in (^{3}He,d), 2 in (d,α), 5 in (α,d), 7 in (d,n), 21 levels plus 279 proton resonances in (p,γ).



$^{54}_{25}$Mn levels – References

^{54}Cr(p,nγ): NP A194 259(72), NuoC s11v27A 249(75), NP A261 238(76), NP A226 381(74); others: IzF 37 1076(73), ParN 3 237(72), YadF 15 617(72), APPo 35 295(69), PstF 20 169(69)
^{53}Cr(p,γ): PScr 11 10(75), ArkF 32 549(66), JPJa 26 589(69)
^{51}V(α,nγ): NP A194 259(72), NuoC s11v27A 249(75)
^{51}V(^{7}Li,p3nγ),^{51}V(^{6}Li,p2nγ): PR C10 2329(74)
^{52}Cr(^{3}He,p): NP A182 69(72), APPo B2 293(71); others: NP A135 97(69)
^{52}Cr(α,d): PR 186 1086(69), PL 27B 217(68), JPJa 37 789(74)
^{52}Cr(t,nγ): JPJa 26 589(69)
^{56}Fe(p,^{3}He): PR C12 1762(75)
^{56}Fe(d,α): NP A209 615(73), NP 51 641(64), Cf67 AtMass 527, ArkF 33 147(67), APPo B2 293(71)
^{53}Cr(^{3}He,d): NP A135 97(69), APPo B2 293(71)
^{53}Cr(d,n): YadF 4 975(66), Cf68 Riga 118, ND B3n5 161(70)
^{55}Mn(d,t): NP A257 427(76), PR 120 1723(60), PR 127 204(62)
^{55}Mn(p,d): PR 134 B752(64)
^{54}Fe(n,pγ): PR C5 1977(72)
^{57}Fe(p,α): PR 134 B142(64)
Other reactions:
π on ^{55}Mn: ZP 227 311(69)
^{54}Cr(p,n): PR 112 1200(58)

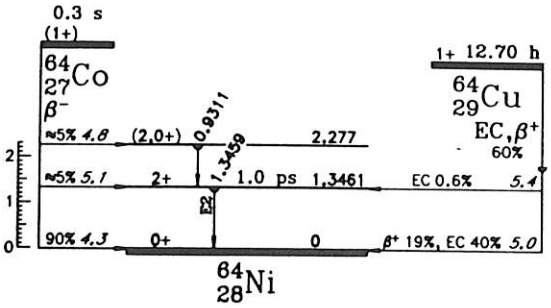


$^{54}_{26}$Fe levels – References

Decay: ZP 198 251(67), Th62 Sutton, PL 8 115(64), NP 65 113(65), ND B3n5 161(70)
^{54}Fe(p,p'γ): NP A194 12(72), ZP 230 337(70), PRL 27 1587(71), PR C6 1224(72); others: PRL 26 857(71), PL 29B 170(69), PR 160 894(67), NP 78 561(66)
^{54}Fe(p,p'): NP 46 33(63), PR 134 B142(64), NP A157 471(70), PR 141 1067(66); others: NP A196 337(72), IzF 35 1718(71), NP A147 461(70), NP A99 203(67), NP A97 561(67), PR 164 1437(67), PR 163 1153(67), PR 160 894(67), NP 78 561(66), NP 67 565(65), NP 51 641(64), PR 135 B330(64), PR 134 B117(64), PR 114 525(59), PR 103 1321(56)
^{54}Fe(d,d'): NP A118 41(68), NP A115 570(68); others: NP A235 428(74), NP A233 409(74)
^{54}Fe(α,α'): NP A146 597(70), Th66 Petersn, ND B3n5 161(70); others: IzF 35 830(71), PL 22 640(66)
^{54}Fe(n,n'γ): PR 163 1252(67), PR 108 760(57); others: AmJP 39 131(71), YadF 9 1129(69), Phca 32 1397(66), YadF 2 823(65), NP 30 93(62), PR 124 1531(61), CzJP B10 335(60), JPJa 14 699(59), JPPa 20 51(59), Atya 4 132(58), PR 102 767(56), Phil s7v46 963(55), PR 99 1351(55)
^{54}Fe(e,e'): NP 36 476(62); others: UkrF 17 1210(72)
^{54}Fe(γ,γ'): NP A257 29(76)
^{56}Fe(p,t): NP A220 461(74); others: PL 33B 468(70), PR 136 B1006(64)
^{52}Cr(^{3}He,n): NP A245 107(75), NP A230 109(74), NP A243 269(75), NP A198 268(72)
^{51}V(^{6}Li,3nγ): PR C10 2329(74)
Coul. ex.: NP 62 385(65), YadF 6 219(67)
^{60}Ni(d,^{6}Li): NP A212 304(73); others: NP A228 216(74)
Other reactions:
^{54}Fe(n,n'): PR 100 434(55)
^{54}Fe(^{16}O,^{16}O'): NP A203 1(73)

$^{64}_{28}$Ni levels – References

Decay: ND 12 305(74), JINC 31 2679(69), PFen 9 103(74)
^{64}Ni(p,p'): NP A98 417(67), NP A128 594(69), PL 6 53(63); others: IzF 34 400(70), PR C2 468(70), IzF 33 1728(69), PR 150 935(66), PR 132 1190(63), PR 130 309(63)
^{64}Ni(p,p'γ): NP A128 594(69)
^{64}Ni(α,α'): PL 27B 280(68), NP A193 357(72); others: ZP 256 258(72), IzF 35 830(71), NP A147 107(70), NP A146 597(70), NP A143 373(70), PR 165 1218(68), PL 22 640(66), PL 7 203(63), PL 6 222(63), JPPo 21 399(60)
^{62}Ni(t,p): NP A170 253(71)
^{65}Cu(t,α): NP A193 357(72), PL 27B 280(68)
^{65}Cu(d,^{3}He): NP A113 176(68), NP A134 180(69)
^{63}Ni(n,γ): PR C11 1477(75); others: NIM 105 557(72), ArkF 39 295(69)
Other reactions:
^{64}Ni(^{3}He,^{3}He'): PR 168 1287(68), YadF 9 266(69)
^{64}Ni(d,d'): NP A123 54(69), NP A115 570(68), PR 128 2292(62)
^{64}Ni(e,e'): YadF 10 33(69), YadF 9 478(69), YadF 20 17(74)
^{65}Cu(γ,p): NIM 91 547(71)
^{65}Cu(n,d): NP A93 209(67)
^{69}Zn(d,^{6}Li): PR C4 1959(71), NP A208 617(73)
Coul. ex.: BAPS 16 625(71), ND 12 305(74), NP 19 400(60), IzF 23 223(59)



$^{64}_{28}$Ni

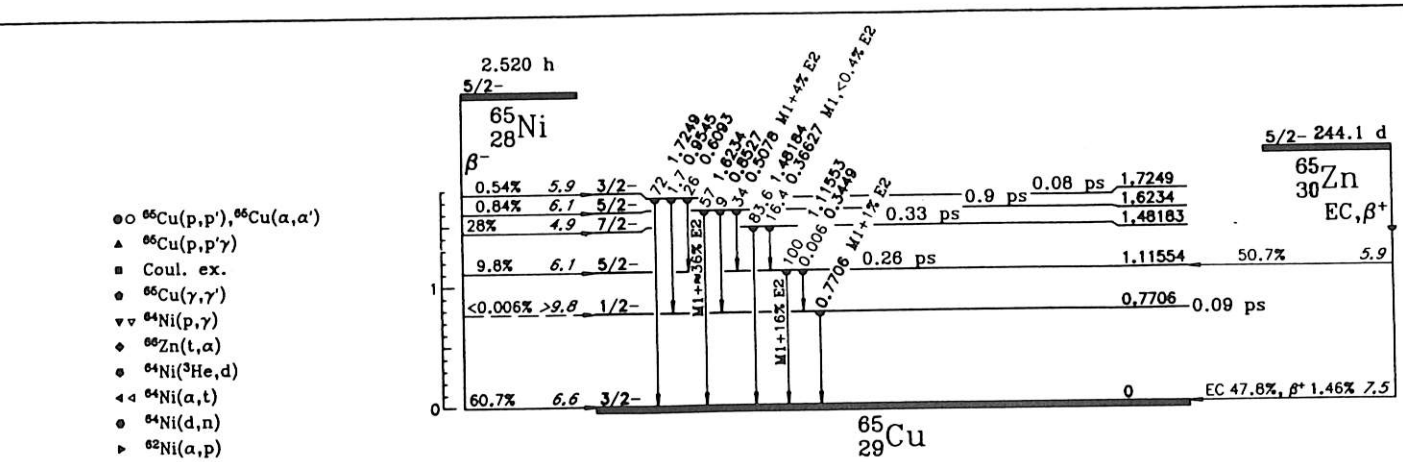
%: 0.91 {BNL-NCS-50605(77)}
Δ: −67.0979 *16* {ANDT 19 175(77)}
σ_0: 1.49 *3* {PC77 Holden}
$t_{1/2}$(1.346): 0.98 *6* ps *Coulomb excit* {BAPS 16 625(71), ND 12 305(74)}, 0.7 ps *Coulomb excit* {NP 19 400(60)}, 0.28 *11* ps *Doppler* {NP A218 104(74)}; others: {IzF 23 223(59)}

$^{64}_{29}$Cu

Δ: −65.4230 *17* {ANDT 19 175(77)}
I: 1 *AB* {PR 95 1356(54)}
%: EC 41.1%, β^+ 19.3 *7*%, β^- 39.6 *20*% {ND 12 305(74)}; β^- 38 *2*% {PR 79 789(50)}
$t_{1/2}$: 12.699 *8* h {RRL 15 261(73)}; 12.704 *6* h {JPAL 7 2318(74)}; 12.701 *11* h {HPAc 41 431(68)}; 12.71 *1* h {NSEg 48 319(72)}; no variation of $t_{1/2}$ with chemical environment {NSEg 48 319(72), RSI 44 55(73)}; variation of $t_{1/2}$ with chemical environment {RRou 13 901(68)}; **others:** {JINC 35 361(73), PR C5 419(72), NP A130 195(69), RRou 13 901(68), YadF 5 1175(67), JPJa 21 1947(66), Nukl 7 117(65), YadF 1 189(65), NP 51 337(64), PR 115 989(59), NP 2 593(57), NSEg 2 427(57), AnP s12v10 783(55), JPPo 16 48(55), PR 87 377(52), CJP 29 59(51), PR 84 671(51), PR 84 481(51), PR 84 158(51), PR 81 973(51), PPSL 63A 1040(50), PR 80 1062(50), PR 77 717(50), PR 75 988(49), PR 74 347(48), HPAc 17 195(44), HPAc 16 226(43), PR 50 895(36)}
Class: A; Ident: chem, n-capt {PRSL 149A 522(35)}; excit {PR 50 895(36)}; chem, excit {PR 55 113(39)}
Prod: ^{63}Cu(n,γ) {Phca 4 1224(37), PR 72 888(47)}
β^-: 0.571 *2 mag* {PR 73 601(48)}
0.578 *3 mag* {PR 56 125(39)}
0.574 *3 mag* {PRSL 177A 357(41)}
others: {ZP 154 294(59), ZP 154 286(59), JPPo 10 110(49), PR 76 1726(49), PR 76 1725(49), HPAc 19 219(46)}
β^+: 0.657 *4 mag* {PR 73 601(48)}
0.659 *3 mag* {PR 56 125(39)}
0.649 *4 mag* {PRSL 177A 357(41)}
others: {ZP 154 294(59), ZP 154 286(59), PR 84 156(51), JPPo 10 110(49), PR 76 1726(49), HPAc 19 219(46)}
γ with EC+β^+: (norm: $\gamma_{1.346}$ (γ 0.6 *2*%), from level scheme) 1.3459 *3 Ge(Li)* {CJP 48 483(70)}
1.3456 *3 Ge(Li)* {JINC 36 2397(74)}
$\gamma_{1.346}$ (e_K/γ 1.3 *3*×10^{-4}) *mag conv* {PR 86 1054(52)}
$\gamma_{1.346}$ (γ/β^+ 0.025) *mag* {PR 72 729(47)}
$\gamma_{1.346}$ (γ/β^+ 0.041) *mag* {NuoS s10v4 2(56), IzF 17 511(53)}
others: {PR C5 419(72), ZP 154 294(59), ZP 154 286(59), Phca 18 275(52), IstA 16A 51(51), JPPo 11 105(50), PR 79 23(50), HPAc 22 375(49), PR 74 677(48), PR 74 348(48)}
$\gamma\gamma(\theta)$: {JPJa 21 1947(66), PR 108 160(57)}
$\beta_{lon\ p}$: {NP 4 271(57), PR 106 1363(57)}
$t_{1/2}$(levels): 0.159: 20.7 *37* ps *delay coinc* {NP A260 189(76)}
0.278: <9 ps *delay coinc* {NP A260 189(76)}
0.344: <4 ps *delay coinc* {NP A260 189(76)}
0.362: <4 ps *delay coinc* {NP A260 189(76)}
0.574: <17 ps *delay coinc* {NP A260 189(76)}
0.609: <0.1 ps *Doppler* {AuJP 27 147(74)}
0.663: <0.1 ps *Doppler* {AuJP 27 147(74)}
0.739: <11 ps *delay coinc* {NP A260 189(76)}
0.746: <12 ps *delay coinc* {NP A260 189(76)}
0.878: <15 ps *delay coinc* {NP A260 189(76)}
0.896: <20 ps *delay coinc* {NP A260 189(76)}
0.927: <10 ps *delay coinc* {NP A260 189(76)}
1.5937: 20.4 *7* ns *delay coinc* {NP A197 620(72), JPJS 34 254(73)}
others: {NP A260 189(76), NIM 121 439(74), ANU-P-564 32(73), BAPS 16 13(71)}

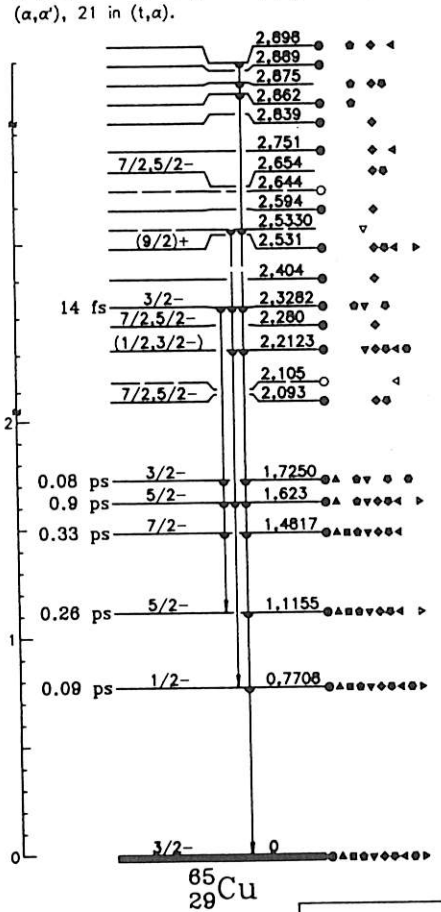
$^{64}_{29}$Cu levels – References

^{63}Cu(n,γ): PR C1 1468(70), PR 169 940(68), JPCo 29 C1-113(68), SFen 41 311(71), NP A215 54(73); others: Cf69 Studsvk 15, NP A135 241(69), NP A127 385(69), NP A111 1(68), CJP 45 2395(67), NP 71 221(65), NP 68 449(65), PR 137 B1175(65), NP 50 209(64), NP 26 10(61), PR 123 629(61), CJP 37 203(59), PR 89 386(53)
^{63}Cu(d,p): PR 180 1082(69), ArkF 33 207(67), PR 112 873(58); others: ZETF 42 1481(62), PR 115 427(59), PR 81 353(51)
^{63}Cu(d,pγ): NP A197 620(72), JPJS 34 254(73); others: NP A122 113(68)
^{66}Zn(d,α): PR 180 1082(69)
^{64}Ni(p,n): PR C2 2154(70)
^{64}Ni(p,nγ): ND 12 305(74), YadF 16 225(72), NP A142 167(70), IzF 36 2097(72), NP A260 189(76), NP A274 125(76); others: IzF 37 1076(73), PR C3 153(71), YadF 14 915(71), IzF 25 1127(61)
^{62}Ni(α,pnγ): NP A257 413(76); others: BAPS 16 13(71)
Other reactions:
^{61}Ni(α,p): NuoL s2v8 396(73)
^{65}Cu(d,t): ArkF 33 207(67), PR 120 1723(60), PR 180 1082(69)
^{62}Ni(α,d): PR 186 1086(69), PL 27B 217(68)
^{64}Ni(^{6}Li,^{6}He): NP A221 238(74)



●○ ^{65}Cu(p,p'),^{65}Cu(α,α')
▲ ^{65}Cu(p,p'γ)
■ Coul. ex.
● ^{65}Cu(γ,γ')
▼▽ ^{64}Ni(p,γ)
◆ ^{66}Zn(t,α)
● ^{64}Ni(^{3}He,d)
◀◀ ^{64}Ni(α,t)
● ^{64}Ni(d,n)
▶ ^{62}Ni(α,p)

Additional levels above 2.898 MeV: 23 in (γ,γ'), 11 in (α,t), 13 in (^{3}He,d), 4 in (d,n), 14 in (p,p') + (α,α'), 21 in (t,α).



$^{65}_{29}$Cu levels – References

Decay: PR C7 1995(73), CJP 50 2728(72), ZP 250 395(72), NIM 96 173(71), PR 171 1257(68), NP A111 331(68), PR C14 650(76), ND 16 351(75)

^{65}Cu(p,p'),^{65}Cu(α,α'): NP A101 163(67), PR 150 935(66), PL 7 209(63), JPJa 25 301(68), NP A147 107(70), ND 16 351(75); others: StCF 25 919(73), IzF 33 1728(69), IzF 26 1143(62)

^{65}Cu(p,p'γ): NP A116 545(68), ND 16 351(75); others: PR 153 1169(67)

Coul. ex.: PR 134 B567(64), IzF 26 205(62), NP A191 225(72), ND 16 351(75); others: IzF 30 449(66), KDVM 34n8(64), PR 104 967(56)

^{65}Cu(γ,γ'): PR C13 1104(76), NP A171 1257(68), NP 57 403(64), PR 135 B577(64), NP 19 426(60), ZETF 44 1811(63), APLz s7v30 121(73), IzF 34 1742(70), NIM 105 29(72), ND 16 351(75); others: CR 281 201(75), NP A227 373(74), IzF 35 131(71), YodF 12 449(70)

^{64}Ni(p,γ): SFen 43 203(73), ND 16 351(75)

^{66}Zn(t,α): NP A99 487(67), ND 16 351(75)

^{64}Ni(^{3}He,d): PR 140 B648(65), ND 16 351(75); others: PR C13 1123(76)

^{64}Ni(α,t): NP A155 306(70), ND 16 351(75); others: PL 25B 400(67), PR 155 1254(67)

^{64}Ni(d,n): YodF 8 668(68), ND 16 351(75); others: PL 20 676(66), YodF 4 975(66)

^{62}Ni(α,p): NP A226 413(74), NP A189 577(72), ND 16 351(75); others: NP A197 321(72), NP A190 229(72)

Other reactions:

^{65}Cu(n,n'γ): CJP 46 1849(68), AmJP 39 131(71), NIM 37 165(65), JPPa 20 51(59), PR 128 1231(62), ArkF 35 71(68), JPJa 16 355(61), ArkF 39 295(69)

^{65}Cu(d,d'): ArkF 33 207(67)

^{63}Cu(t,p): NP 85 583(66)

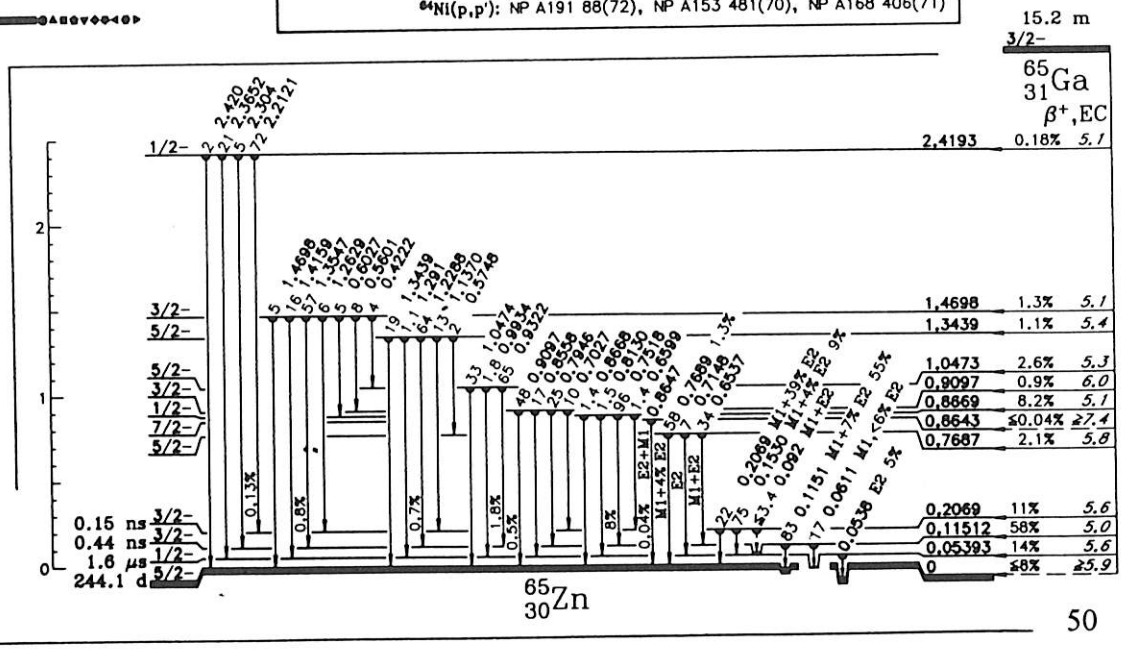
^{65}Zn(p,α): PL 21 705(66), Th65 Nolen

^{65}Zn(n,d): NP A93 209(67)

^{64}Ni(^{16}O,^{15}N),^{64}Ni(^{12}C,^{11}B): PR C10 180(74)

^{64}Ni(p,n): PR C13 2083(76), NP A168 406(71), IzF 33 129(69), IzF 30 271(66), PL 8 352(64)

^{64}Ni(p,p'): NP A191 88(72), NP A153 481(70), NP A168 406(71)



$^{65}_{30}$Zn levels - References

Decay: NP A182 433(72), NP A156 553(70), ND 16 351(75)
^{62}Ni(α,nγ): PScr 9 83(74), NP A241 332(75), ND 16 351(75)
^{65}Cu(p,n),^{65}Cu(p,nγ): NP A218 470(74), NP A149 241(70), PR 112 532(58), ND 16 351(75); others: AnBx s1v85 172(71), NP A153 533(70), NP A144 67(70), HPAc 40 981(67), HPAc 34 85(61), NP 17 116(60), UkrF 4 46(59), PR 112 1200(58), PR 107 737(57), PR 101 283(56), PR 100 84(55)
^{64}Zn(n,γ): YadF 11 934(70), GA-10248(70), ND A3 367(67), Cf74 Petten 229, AuJP 24 487(71), VANB 1972n6 96(72), ND 16 351(75); others: AnBx s1v85 172(71), ZP 246 151(71), NP A107 14(68), IzF 30 1136(66), NP 2 664(56)
^{64}Zn(d,p): PR 164 1374(67), VLen 10n2 34(65), ND 16 351(75); others: IzF 32 560(68), YadF 8 1101(68), PR 132 2632(63), PR 112 1667(58)
^{66}Zn(^{3}He,α): NP A171 401(71), ND 16 351(75)

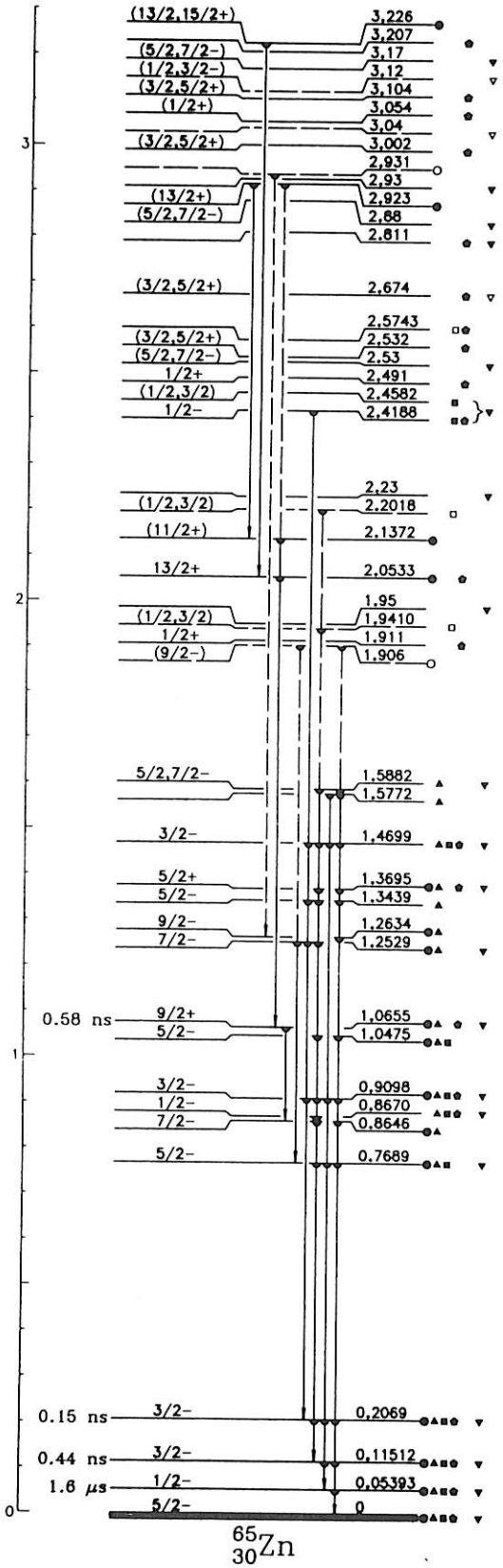
Other reactions:
^{66}Zn(p,d): PR 152 1013(66)
^{67}Zn(p,t): PR 152 1013(66)
^{62}Ni(α,n): NP A232 157(74)

$^{65}_{30}$Zn

Δ: −65.9096 20 {ANDT 19 175(77)}
I: 5/2 *OD* {PR 134 A47(64)}
𝔐: EC 98.54%, β^+ 1.46 7% {ZP 250 395(72)}; β^+ 1.7 1% {PR 113 287(59)}; β^+ 1.2 3% {PL 3 142(62)}; **others:** {ZP 216 355(68), NuoC s10v17 523(60)}
$t_{1/2}$: 244.0 2 d {ZP 250 395(72)}; 244.52 7 d {Agro 5 15(73)}; 244.34 4 d {NSEg 55 450(74)}; 243.75 35 d {IIso 26 131(75)}; 245.0 8 d {JPPa 14 553(53)}; 245.7 11 d {NP 20 155(60)}; **others:** {PR C5 419(72), ZP 216 355(68), NP-15663(65), ARom 12 653(61), CR 252 3979(61), NSEg 2 427(57), PR 105 1539(57), PR 53 104(38)}
Class: A; **Ident:** chem {PR 53 104(38)}; chem, excit, cross bomb {PR 55 457(39)}
Prod: ^{64}Zn(n,γ) {PR 55 31(39), PR 72 888(47)}
β^+: **0.325** 2 *mag* {CJR 27A 164(49), IzF 17 468(53)}
0.327 3 *mag* {CR 236 1249(53)}
0.320 4 *mag* {CR 237 1077(53)}
0.324 4 *mag* {AnP s13v1 10(56)}
others: {PR 92 687(53)}
γ: **1.115518** 25 *Ge(Li)* {NIM 96 173(71)}
$\gamma_{1.116}$ (γ 50.75 10%) *ion ch-scint 4πβγ coinc* {ZP 250 395(72)}
$\gamma_{1.116}$ (e_K/γ 1.664 66×10^{-4}, K/L+M+... 8.7 13) *mag, mag conv* {PL 19 682(66)}
0.344 ($\dagger_\gamma$0.0060 6), **0.771**, $\gamma_{1.116}$ ($\dagger_\gamma$100) *Ge(Li)-scint γγ coinc* {NP A111 331(68)}
0.338 2 ($\dagger_K$28), **0.777** 4 ($\dagger_K$35.8), **1.1155** ($\dagger_K$100, K/L 10.5, K/β^+ 0.0051) *mag conv* {IzF 34 2237(70)}
others: {NIM 112 179(73), ANCR-1016 408(71), NP A129 481(69), NP A107 177(68), RaAc 10 1(68), ZP 216 355(68), NP A90 650(67), PL 24B 49(67), CurS 35 384(66), PR 148 1151(66), NP 74 281(65), NP 61 13(65), NP 31 600(62), NuoC s10v17 523(60), CJP 37 1055(59), PR 113 287(59), ArkF 10 247(56), IzF 20 1359(56), NuoS s10v4 2(56), HPAc 27 3(54), PR 93 1053(54), ZP 137 523(54), CR 236 1249(53), IzF 17 468(53), IzF 17 437(53), JPPa 14 273(53), PR 92 687(53), Phca 18 1171(52), Nat 168 1005(51), PR 83 852(51), PR 81 891(51), PPSL 63A 960(50), PR 80 420(50), CJR 27A 164(49), PR 76 430(49)}
γγ(θ): {NuoC s11v6A 576(71)}
$t_{1/2}$(levels): **0.054:** 1.65 5 μs *delay coinc* {PR 120 2072(60)}, 1.52 9 μs *delay coinc* {ZP A275 45(75)}
0.115: 0.444 9 ns *delay coinc* {NP A260 189(76)}
0.207: 0.150 7 ns *delay coinc* {NP A260 189(76)}
0.867: <0.2 ns *delay coinc* {ZP A275 45(75)}
1.066: 0.575 26 ns *delay coinc* {NP A260 189(76)}
others: {ZP A275 45(75), IzKa 1971n6 24(71), PR 168 1193(68)}
EC: EC(L)/EC(K) 0.118 3 {ZP 238 78(70), ZNat 24a 285(69)}
EC(1.116): EC(L)/EC(K) 0.120 3, EC(M)/EC(L) 0.153 20 {ZP 238 78(70), ZNat 24a 285(69)}; EC(L)/EC(K) 0.111 6 {ZP 205 137(67)}; EC(L+M+...)/EC(K) 0.16 1 {Phca 28 569(62)}; EC(L+M+...)/EC(K) 0.127 15 {ZP 216 355(68)}; **others:** {NIM 65 173(68), NP A121 233(68), ZP 214 374(68), PR 128 258(62)}

●○ ^{62}Ni(α,nγ)
▲ ^{65}Cu(p,n),^{65}Cu(p,nγ)
■□ ^{64}Zn(n,γ)
● ^{64}Zn(d,p)
▼▽ ^{66}Zn(^{3}He,α)

Additional levels above 3.226 MeV: 7 in (d,p), 20 in (^{3}He,α).



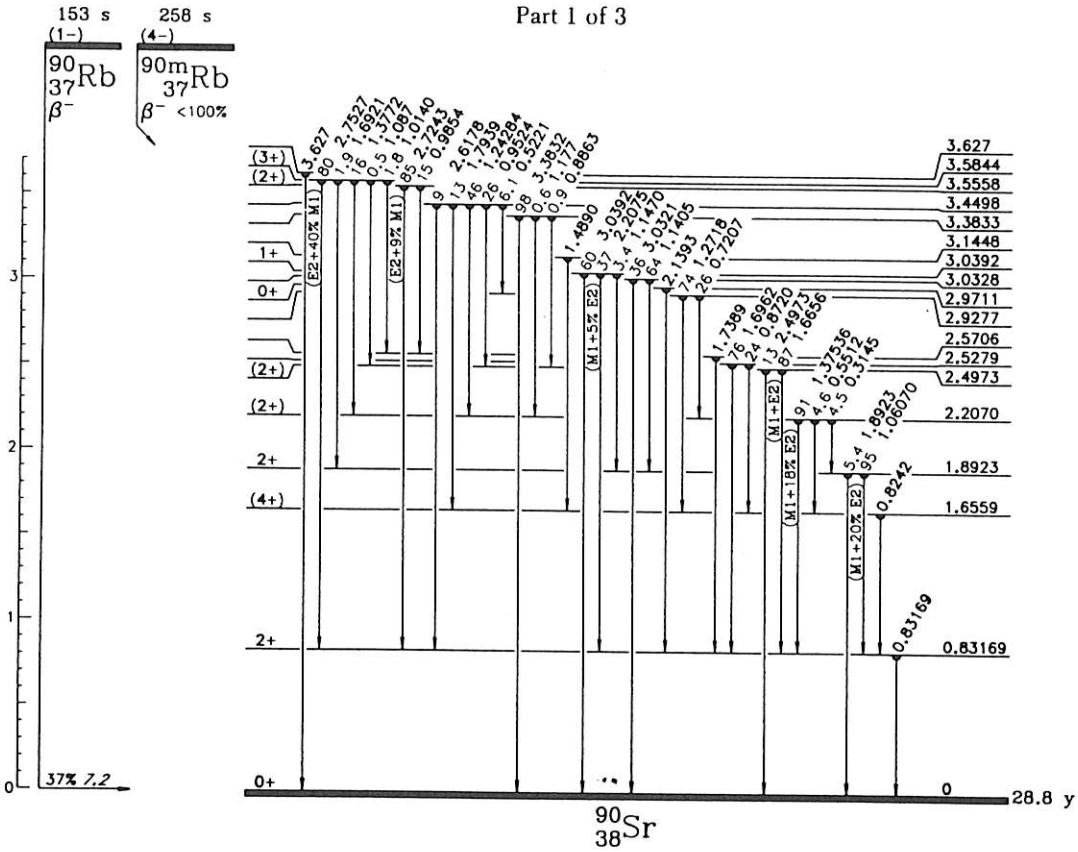
$^{90}_{38}Sr$

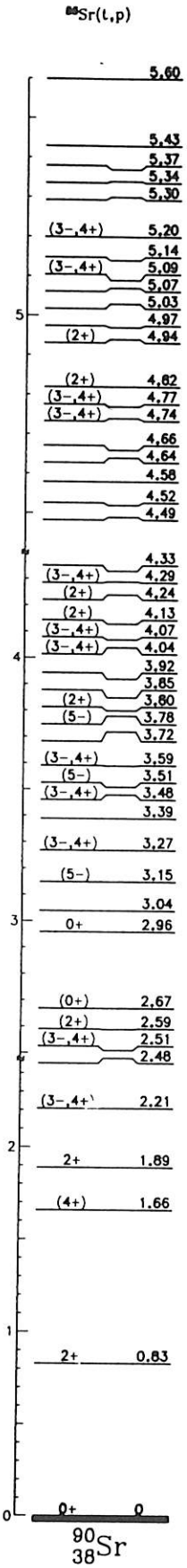
Δ: −85.9347 38 {ANDT 19 175(77)}
σ_c: 0.85 (reactor spectrum) {PC77 Holden}
τ: β^- {NNES 9d4 682(51)}
$t_{1/2}$: 28.82 14 y {NP−15663(65)}; 28.0 4 y {JINC 27 21(65)}; 27.7 4 y *sp act, mass spect* {CJP 33 133(55)}; **others:** {Atya 4 198(58), PR 98 1327(55), PR 79 175(50)}
Class: A; **Ident:** chem, genet {AbhP 1942n3(42)}; chem, mass spect {PR 74 650(48)}
Prod: fission {NNES 9d4 616(51), NNES 9d4 624(51), PR 82 96(51), KDVM 26n7(51), Nat 158 163(46), Nat 161 520(48)}
β^-: 0.546 2 *mag* {PR 136 B1240(64)}
others: {Nuka 14 407(69), IzF 20 275(56), PIAS A44 111(56), PR 79 412(50), PR 75 1964(49), PR 74 621(48)}
γ: no γ rays observed *obs* {NNES 9d4 687(51)}
$\beta_{lon\ p}$: {PR 145 952(66), NP 68 315(65), JPPa 19 28(58), NP 5 588(58), ZETF 34 785(58)}
$\beta IB_{pp}(\theta)$: {PRL 27 1816(71)}
IB_{cp}: {ZP A276 71(76), ZP 161 46(61), NP 6 125(58)}

$^{90}_{38}Sr$ levels – References

Decay: PC75 Tolbrt, ND 16 55(75), PR C13 2492(76); others: CJP 48 2056(70)
$^{88}Sr(t,p)$: PR C10 671(74)

Part 1 of 3





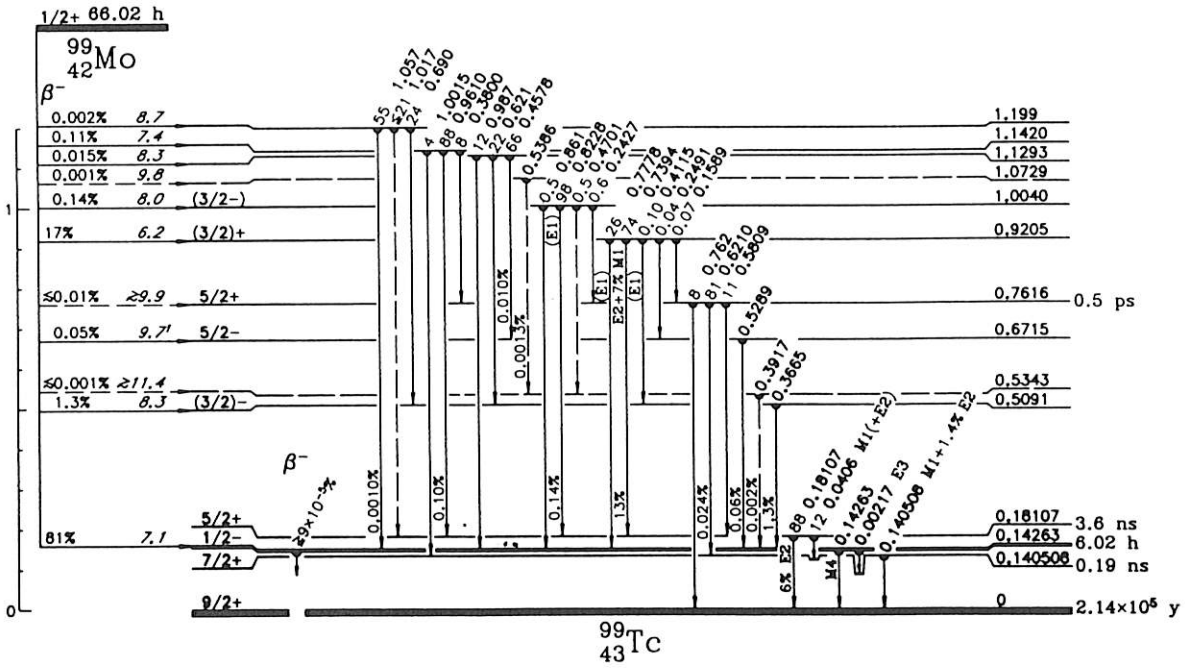
$^{99}_{43}$Tc

Δ: −87.3262*25* {ANDT 19 175(77)}
I: 9/2 *EPR, O* {PR 110 842(58), PR 92 303(53)}
σ_0: 19*2* {PC77 Holden}
☢: β^- {NNES 9d4 778(51), NNES 9d4 783(51)}
$t_{1/2}$: 2.145×10^5 y *sp act* {JINC 28 285(66)}; 2.124×10^5 y *sp act* {PR 81 741(51)}; **others:** {JACS 82 809(60)}
Class: A; **Ident:** chem {JACS 68 2411(c)(46), JACS 68 2411(d)(46)}; chem, mass spect {PR 72 1269(47)}
Prod: fission {PR 72 1269(47), NNES 9d4 778(51), NNES 9d4 783(51)}; ^{98}Mo(n,γ)^{99}Mo(β^-) {PR 72 1270(47)}
β^-: **0.292***3 mag* {PR 81 461(51)}
0.203*10 scint–Ge(Li) βγ coinc* {PR C9 2358(74)}
0.290*4 mag* {PR 87 1091(52)}
0.294*4 scint* {PR 147 867(66)}
others: {ZP 271 107(74), PR 86 631(52), PR 77 565(50)}
γ: **0.0897***4* (γ 6.5*15*×10^{-6}%) *Ge(Li)* {PR C8 366(73)}
0.0895*2* (γ 4.9*17*×10^{-6}%) *Si(Li), Ge(Li)–scint γβ coinc* {PR C9 2358(74)}
$t_{1/2}$(levels): **0.141:** 0.192*10* ns *Doppler* {ZP 221 281(69)}, 0.237*14* ns *nucl res fluor* {JPAL 6 L144(73)}, 0.16*2* ns *delay coinc* {NP A162 365(71)}
0.181: 3.61*7* ns *delay coinc* {NP A162 365(71)}
0.727: 1.25*14* ps *Doppler* {NP A267 190(76)}
0.7616: 0.5$^{+4}_{-2}$ ps *Doppler* {NP A267 190(76)}
0.7620: 1.7*2* ps *Doppler* {NP A267 190(76)}
0.920: <0.1 ns *delay coinc* {PR 166 1227(68)}
1.081: 0.6*2* ps *Doppler* {NP A267 190(76)}
others: {NP A179 389(72), IzF 35 2316(71), NP A163 571(71), IzUz 1970n4 56(70), IApP 6 553(68), PR 166 1227(68), NP 74 113(65), NP 66 545(65), ZP 153 423(59), CR 240 1525(55)}

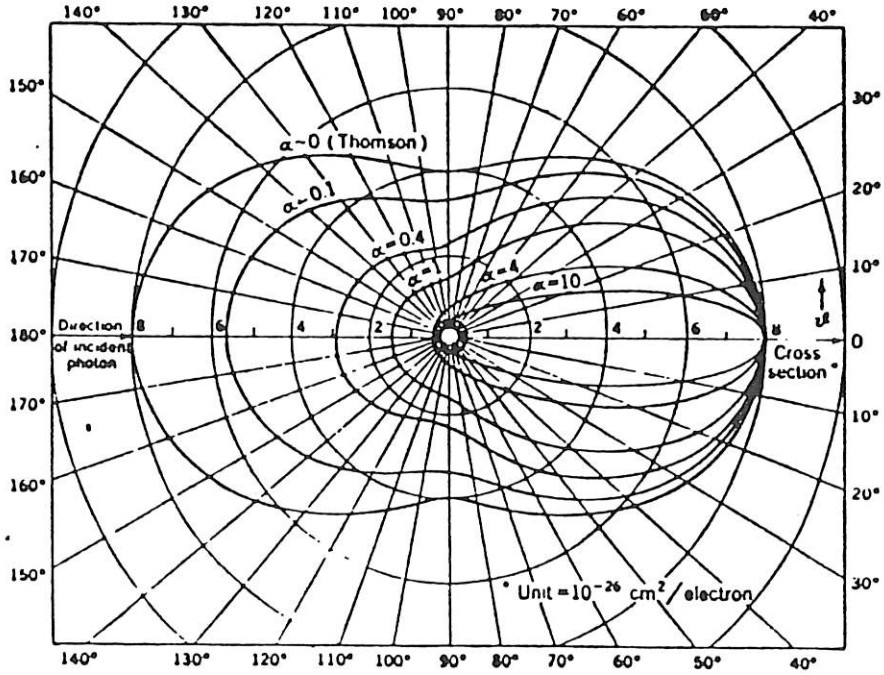
$^{99m}_{43}$Tc

Δ: −87.1836*25* {ANDT 19 175(77)}
I: 1/2 *AB* {NIM 119 269(74)}
☢: IT 99+%, β^- ≥9×10^{-5}% {RRL 4 381(70)}
$t_{1/2}$: 6.007*2* h {Not 210 614(66)}; 6.031*12* h {IIso 21 139(70)}; 6.014*4* h {AFen n311(69)}; 6.02*1* h {NSEg 48 319(72)}; $t_{1/2}$ varies by up to ≈0.3% with changes in chemical or physical environment {ARNS 22 165(72), PR 90 430(53), HPAc 43 411(70), PR C5 1718(72), PR B5 3218(72), PR 117 795(60), PR 112 77(58)}; **others:** {RRou 19 629(74), RRL 10 119(72), NP 66 472(65), NP 66 391(65), NNES 9d4 773(51)}
Class: A; **Ident:** chem, genet {PR 55 808(39)}
Prod: daughter ^{99}Mo {PR 55 808(39), PR 57 1179(40), HPAc 22 603(49), NNES 9d4 773(51), PR 82 972(51)}
γ with β^-: (intensities relative to t_γ100 for $\gamma_{0.141}$ (with IT))
0.3224*2* (t_γ9.7*15*×10^{-5}) *Ge(Li)* {RRL 4 381(70)}
0.3227*5* (t_γ1.1*1*×10^{-4}) *scint* {RRL 10 119(72)}
γ with IT: **0.00217***1* ($M_1/M_2/M_3/M_{4+5}$/N <7/56*2*/100/48*2*/29*5*) *mag conv* {NP A171 641(71), PL 23 581(66), EB}
(**norm:** $\gamma_{0.141}$ (γ 89.0*2*%), from level scheme) **0.1405***11*6 (t_K100, e_K/γ 0.104*7*, K/L 7.70*30*), **0.1426***3* (t_K7.2*3*, e_K/γ 23*6*) *mag conv, cryst, Ge(Li)* {NP A121 440(68)}
$\gamma_{0.141}$ (γ 89.42%, e/γ 0.118*3*) *ion ch eγ sum coinc* {NIM 112 101(73)}
$\gamma_{0.141}$ (t_K100, L_1/L_2 12*4*, L_1/L_3 18*7*), $\gamma_{0.143}$ (t_K7.5*8*, L_1/L_2 >1.1, L_1/L_3 >1.3) *mag conv* {IzF 33 1279(69)}
0.1403*2* (t_K100, K/L_1 7.7, L_1/L_3 >10), **0.1423***2* (t_K9.7, K/L_3 2.5) *mag conv* {PR 82 972(51), PR 87 646(52), EB}
0.0018*3* (e/γ very large), **0.1412***5* (e_K/γ 0.095*20*, K/L 7.9*5*) *mag conv* {HPAc 22 603(49), HPAc 24 72(51), EB}
0.1405*3* (t_K100, K/L 8.1), **0.1426***3* (t_K6.2, e/γ >30) *mag, mag conv* {JPPa 22 249(61)}
$\gamma_{0.141}$ (e_K/γ 0.094*8*, e/γ 0.122*5*) *scint–ion ch γγ coinc* {AFen n311(69)}
γ: others: {IzF 35 861(71), UCRL-18978(69), NP 66 472(65), NP 66 391(65), PR 109 2036(58), PR 108 836(57), CR 242 901(56), JPPa 17 944(56), JPPa 17 530(56), AnP s12v8 441(53), AnP s12v6 662(51), PR 80 961(50)}

$^{99}_{43}$Tc levels – References
Decay: NP A139 277(69), NP A121 440(68), ZP 235 431(70)
Coul. ex.: NP A267 190(76), NP A179 389(72)
^{99}Mo(^{3}He,d): ZP A280 149(77)



Figur 3 : Antalet spridda fotoner per rymdvinkel vid Compton växelverkan.



The *number* of photons scattered into unit solid angle $d(\sigma)/d\Omega$, at a mean scattering angle ϑ; Eq. (2.8). [*From Davisson and Evans* (D12).]

$$\alpha = \frac{h\nu_o}{m_o c^2}$$

Tabell 14 : Collision Differential Cross Section $d({}_e\sigma)/d\Omega$ in 10^{-27} cm²/Steradian, per Electron, from Eq. (13)[a]

$h\nu_0$	ϑ										
(MeV)	1°	5°	10°	20°	30°	45°	60°	90°	120°	150°	180°
0.01	79.4	79.1	78.1	74.6	69.1	59.0	48.6	38.3	46.4	64.7	73.6
0.04	79.4	79.0	78.0	74.0	68.0	57.5	45.5	34.4	40.4	53.5	60.2
0.1	79.4	79.0	77.7	73.0	66.0	53.7	41.0	29.3	31.3	39.2	43.2
0.2	79.4	78.8	77.3	71.3	62.8	48.2	35.0	22.9	23.0	27.2	29.3
0.4	79.4	78.6	76.4	68.2	57.2	41.0	28.5	16.8	15.7	17.2	17.9
1	79.3	77.9	73.7	60.2	45.0	27.7	17.7	10.4	8.80	8.45	8.35
2	79.3	76.8	69.7	50.1	33.0	18.3	11.5	6.80	5.30	4.73	4.54
4	79.2	74.6	62.8	37.3	21.7	11.5	7.15	4.09	2.98	2.50	2.39
10	78.9	68.6	48.4	21.2	11.0	5.6	3.48	1.86	1.28	1.05	0.98
20	78.4	60.4	34.2	12.5	6.3	2.93	1.86	0.97	0.66	0.535	0.498
40	77.6	48.6	22.0	7.00	3.40	1.56	0.97	0.492	0.336	0.270	0.254
100	75.0	30.5	10.5	3.08	1.45	0.64	0.40	0.204	0.135	0.108	0.102

[a] From Evans (1958).

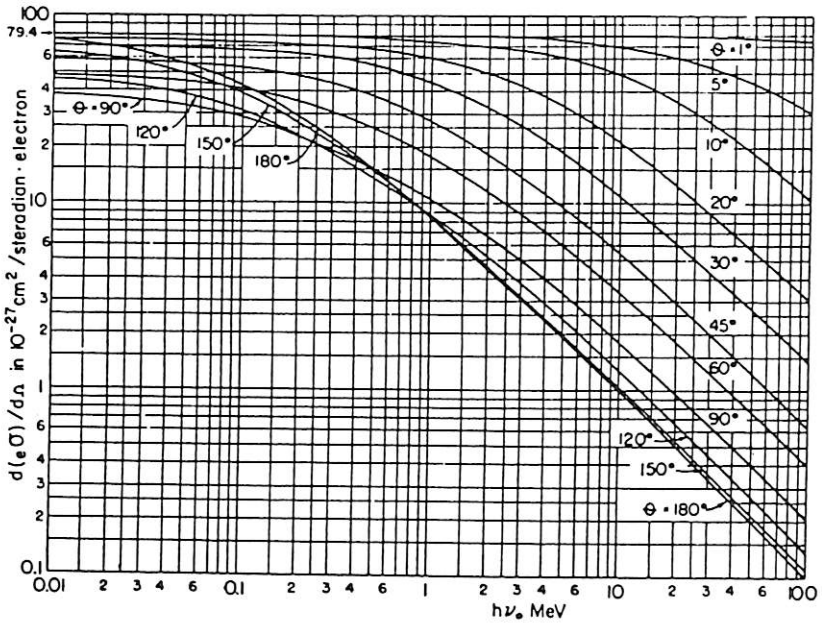


Fig. 4. Collision differential cross section $d({}_e\sigma)/d\Omega$ for the *number* of photons scattered per unit solid angle in the direction ϑ. From Evans (1958).

Tabell 15 : Klein-Nishina Cross Sections for Compton Interactions in 10^{-27} cm² (Millibarns) per Free Electron, and Related Quantities[a,b]

Photon energy, $h\nu_0$ (MeV)	Cross sections (10^{-27} cm²/electron) Collision, ${}_e\sigma$	Scattering, ${}_e\sigma_s$	Absorption, ${}_e\sigma_a$	Scattered photon average energy, $(h\nu')_{av}$ (MeV)	Recoil electron Average energy, $(T)_{av}$ (MeV)	Fraction of incident photon energy, $(T)_{av}/h\nu_0$
0.010	640.5	628.5	12.0	0.0098	0.0002	0.0187
0.015	629.0	611.6	17.4	0.0146	0.0004	0.0277
0.020	618.0	595.7	22.3	0.0193	0.0007	0.0361
0.030	597.6	566.5	31.1	0.0284	0.0016	0.0520
0.040	578.7	540.1	38.6	0.0373	0.0027	0.0667
0.050	561.5	516.2	45.3	0.0460	0.0040	0.0807
0.060	545.7	494.5	51.2	0.0544	0.0056	0.0938
0.080	517.3	456.7	60.6	0.0706	0.0094	0.1171
0.100	492.8	424.8	68.0	0.0862	0.0138	0.1380
0.150	443.6	363.1	80.5	0.1228	0.0272	0.1815
0.200	406.5	318.6	87.9	0.1568	0.0432	0.2162
0.300	353.5	258.2	95.3	0.2191	0.0809	0.2696
0.400	316.7	218.6	98.1	0.276	0.124	0.3098
0.500	289.7	190.5	99.2	0.329	0.171	0.3424
0.600	267.5	169.2	98.3	0.379	0.221	0.3675
0.800	235.0	138.9	96.1	0.473	0.327	0.4089
1.00	211.2	118.3	92.9	0.560	0.440	0.4399
1.50	171.6	86.70	84.9	0.758	0.742	0.4948
2.00	146.4	68.67	77.7	0.939	1.061	0.5307
3.00	115.1	48.65	66.4	1.269	1.731	0.5769
4.00	95.98	37.73	58.25	1.57	2.428	0.6069
5.00	82.87	30.83	52.04	1.86	3.140	0.6280
6.00	73.23	26.07	47.16	2.14	3.864	0.6440
8.00	59.89	19.93	39.96	2.66	5.338	0.6672
10	50.99	16.14	34.85	3.16	6.835	0.6835
15	37.71	10.94	26.77	4.35	10.65	0.7099
20	30.25	8.272	21.98	5.47	14.53	0.7266
30	22.00	5.563	16.44	7.58	22.42	0.7473
40	17.46	4.191	13.27	9.6	30.4	0.7600
50	14.58	3.362	11.22	11.5	38.5	0.7695
60	12.54	2.807	9.733	13.4	46.6	0.7762
80	9.882	2.110	7.772	17.1	62.9	0.7865
100	8.199	1.690	6.509	20.6	79.4	0.7939

[a] Calculated from the following equations: ${}_e\sigma$, Eqs. (22) and (23); ${}_e\sigma_s$, Eqs. (25) and (26); ${}_e\sigma_a$, Eqs. (28) and (29); $(h\nu')_{av}$, Eq. (27); T_{av}, Eq. (30); $T_{av}/h\nu_0$, Eq. (30) ($r_0 = 2.818 \times 10^{-13}$ cm and $m_0c^2 = 0.5110$ MeV). These numerical calculations for ${}_e\sigma$ and ${}_e\sigma_s$ were done on the I.B.M. computer at the Massachusetts Institute of Technology under the direction of Mr. W. B. Thurston.

Tabell 16 : Average energy lost by a beta particle in the production of an ion pair.

GAS	IONIZATION POTENTIAL (eV)	MEAN ENERGY EXPENDITURE PER ION PAIR W (eV)
H_2	13.0	36.6
He	24.5	41.5
N_2	14.5	34.6
O_2	13.6	30.8
Ne	21.5	36.2
Ar	15.7	26.2
Kr	14.0	24.3
Xe	12.1	21.9
Air		33.85
CO_2	14.4	32.9
CH_4	14.5	27.3
C_2H_2	11.6	25.7
C_2H_4	12.2	26.3
C_2H_6	12.8	24.6

Tabell 17

Material	Symbol	ρ (kg/m³)	$\bar{Z}$	Anmärkning
Väte	H	0.08375		20° C, 760 mm Hg
Helium	He	0.1663		20° C, 760 mm Hg
Litium	Li	534		20° C
Beryllium	Be	1 848		20° C
Bor	B	2 340		Kristallin form, 20° C
		2 370		Amorf form, 20° C
Kol	C	2 250		Grafit
Kväve	N	1.165		20° C, 760 mm Hg
Syre	O	1.332		20° C, 760 mm Hg
Fluor	F	1.696		0° C, 760 mm Hg
Neon	Ne	0.89990		0° C, 760 mm Hg
Natrium	Na	971		20° C
Magnesium	Mg	7 210 - 7 440		20° C
Aluminium	Al	2 699		
Kisel	Si	2 330		25° C
Fosfor	P	1 820		Vit, 20° C
		2 200		Röd, 20° C
		2 250 - 2 690		Svart, 20° C
Svavel	S	2 070		Rombisk, 20° C
		1 957		Monoklinisk, 20° C
Klor	Cl	3.214		0° C, 760 mm Hg
Argon	Ar	1.662		20° C, 760 mm Hg
Kalium	K	862		20° C
Kalcium	Ca	1 550		
Skandium	Sc	2 989		20° C
Titan	Ti	4 540		20° C
Vanadin	V	16 110		20° C
Krom	Cr	7 180 - 7 200		20° C
Mangan	Mn	7 210 - 7 440		20° C
Järn	Fe	7 874		
Kobolt	Co	8 900		20° C
Nickel	Ni	8 902		20° C
Koppar	Cu	8 960		
Germanium	Ge	5 323		
Silver	Ag	10 500		20° C
Tenn	Sn	7 298		
Uran	U	18 950		20° C
Bakelit	$C_{43}H_{38}O_7$	1 400	6.27	
Ben		1 650	12.31	
Betong		1 500 - 2 400		
Glas		2 500		
Koldioxid	CO_2	1.977		0° C, 760 mm Hg
Litiumfluorid	LiF	2 675	8.31	
Muskel		1 040	7.64	
Plexiglas	$C_5H_8O_2$	1 180	6.56	
Polystyren	$(C_8H_8)_n$	1 044	5.74	
Teflon	$(CF_2)_n$	2 200		

Tabell 18

DENSITY OF DRY AIR

AT THE TEMPERATURE t, AND UNDER THE PRESSURE H CM OF MERCURY THE DENSITY OF AIR

$$= \frac{0.001293}{1+0.00367\,t}\,\frac{H}{76}.$$

Units of this table are grams per milliliter
(From Miller's Laboratory Physics, Ginn & Co., publishers, by permission.)

t	Pressure H in Centimeters						Proportional Parts	
	72.0	73.0	74.0	75.0	76.0	77.0		
°								
10	0.001182	0.001198	0.001215	0.001231	0.001247	0.001264		17
11	178	193	210	227	243	259	cm 0.1	2
12	173	190	206	222	239	255	0.2	3
13	169	186	202	218	234	251	0.3	5
14	165	181	198	214	230	246	0.4	7
							0.5	8
							0.6	10
							0.7	12
15	0.001161	0.001177	0.001193	0.001210	0.001226	0.001242	0.8	14
16	157	173	189	205	221	238	0.9	15
17	153	169	185	201	217	233		16
18	149	165	181	197	213	229	cm	
19	145	161	177	193	209	225	0.1	2
							0.2	3
							0.3	5
							0.4	6
20	0.001141	0.001157	0.001173	0.001189	0.001205	0.001221	0.5	8
21	137	153	169	185	201	216	0.6	10
22	134	149	165	181	197	212	0.7	11
23	130	145	161	177	193	208	0.8	13
24	126	142	157	173	189	204	0.9	14
								15
25	0.001122	0.001138	0.001153	0.001169	0.001185	0.001200	cm 0.1	1
26	118	134	149	165	181	196	0.2	3
27	115	130	146	161	177	192	0.3	4
28	111	126	142	157	173	188	0.4	6
29	107	123	138	153	169	184	0.5	7
							0.6	9
							0.7	10
							0.8	12
30	0.001104	0.001119	0.001134	0.001150	0.001165	0.001180	0.9	13

Density of dry air at 20C and 760mm Hg = 1.204 mg/cm³. (*Rev. Mod. Phys.* 52, Part II, S33, 1980.)

DENSITY OF WATER

The temperature of maximum density for pure water, free from air = 3.98C (277.13K)

t, °C	d, gm/ml
0	0.99987
3.98	1.00000
5	0.99999
10	0.99973
15	0.99913
18	0.99862
20	0.99823
25	0.99707
30	0.99567
35	0.99406
38	0.99299
40	0.99224
45	0.99025
50	0.98807
55	0.98573
60	0.98324
65	0.98059
70	0.97781
75	0.97489
80	0.97183
85	0.96865
90	0.96534
95	0.96192
100	0.95838

Tabell 19 : Mass attenuerings-koefficienter (μ/ρ) (cm^2/gm)

(a) WITH, AND (b) WITHOUT COHERENT SCATTERING EFFECTS INCLUDED, FOR ELEMENTS HYDROGEN THROUGH NITROGEN[a,b]

$h\nu$(MeV)	$_1$H		$_2$He		$_3$Li		$_4$Be		$_5$B		$_6$C		$_7$N	
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
0.01	0.385		0.261	0.231	0.357	0.313	0.601	0.536	1.19	1.09	2.32	2.16	3.77	3.57
0.015	0.376		0.211	0.199	0.223	0.202	0.301	0.268	0.469	0.418	0.797	0.721	1.19	1.09
0.02	0.369		0.196	0.190	0.187	0.176	0.226	0.206	0.297	0.266	0.434	0.387	0.602	0.541
0.03	0.357		0.184	0.181	0.164	0.159	0.180	0.171	0.207	0.192	0.253	0.230	0.304	0.276
0.04	0.346		0.176	0.174	0.155	0.152	0.163	0.159	0.178	0.171	0.205	0.193	0.229	0.212
0.05	0.335		0.169	0.169	0.149	0.147	0.156	0.152	0.166	0.161	0.185	0.179	0.196	0.187
0.06	0.326		0.164	—	0.143	0.142	0.149	0.147	0.158	0.155	0.174	0.170	0.181	0.174
0.08	0.309		0.156	—	0.135	0.135	0.141	0.139	0.148	0.145	0.162	0.158	0.164	0.160
0.10	0.294		0.148	—	0.128	—	0.133	0.132	0.139	0.138	0.152	0.149	0.154	0.150
0.15	0.265		0.133	—	0.116	—	0.119	0.119	0.124	0.124	0.135	0.134	0.136	0.134
0.2	0.243		0.122	—	0.106	—	0.109	—	0.114	0.113	0.123	0.122	0.124	0.123
0.3	0.211		0.106	—	0.0920	—	0.0945	—	0.0984	0.0984	0.107	0.106	0.107	0.106
0.4	0.189		0.0953	—	0.0825	—	0.0847	—	0.0882	—	0.0953	0.0953	0.0953	0.0953
0.5	0.173		0.0870	—	0.0752	—	0.0773	—	0.0806	—	0.0870	—	0.0870	—
0.6	0.160		0.0805	—	0.0696	—	0.0715	—	0.0745	—	0.0805	—	0.0805	—
0.8	0.140		0.0707	—	0.0612	—	0.0628	—	0.0655	—	0.0707	—	0.0707	—
1.0	0.126		0.0635	—	0.0550	—	0.0565	—	0.0588	—	0.0635	—	0.0636	—
1.5	0.103		0.0516	—	0.0447	—	0.0459	—	0.0479	—	0.0517	—	0.0517	—
2	0.0875		0.0442	—	0.0382	—	0.0393	—	0.0410	—	0.0443	—	0.0444	—
3	0.0691		0.0349	—	0.0304	—	0.0313	—	0.0328	—	0.0356	—	0.0357	—
4	0.0581		0.0295	—	0.0258	—	0.0267	—	0.0280	—	0.0305	—	0.0308	
5	0.0505		0.0258	—	0.0226	—	0.0235	—	0.0248	—	0.0271	—	0.0274	—
6	0.0450		0.0231	—	0.0203	—	0.0212	—	0.0225	—	0.0247	—	0.0251	—
8	0.0375		0.0194	—	0.0173	—	0.0182	—	0.0194	—	0.0216	—	0.0221	—
10	0.0325		0.0170	—	0.0153	—	0.0163	—	0.0175	—	0.0196	—	0.0203	—

$h\nu$(MeV)	$_8$O		$_9$F		$_{10}$Ne		$_{11}$Na		$_{12}$Mg		$_{13}$Al		$_{14}$Si	
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
0.01	5.82	5.57	8.06	7.79	11.8	11.5	15.4	15.1	20.8	20.3	26.2	25.8	34.1	33.6
0.015	1.75	1.62	2.36	2.22	3.46	3.29	4.56	4.37	6.22	5.98	7.90	7.66	10.2	9.97
0.02	0.830	0.754	1.07	0.991	1.54	1.43	1.99	1.88	2.70	2.56	3.39	3.24	4.36	4.20
0.03	0.373	0.335	0.438	0.394	0.576	0.521	0.697	0.638	0.914	0.839	1.12	1.03	1.41	1.31
0.04	0.257	0.236	0.280	0.255	0.342	0.310	0.393	0.355	0.481	0.437	0.565	0.514	0.693	0.635
0.05	0.211	0.199	0.218	0.204	0.254	0.235	0.279	0.254	0.327	0.298	0.367	0.334	0.435	0.396
0.06	0.190	0.181	0.191	0.180	0.215	0.201	0.227	0.209	0.257	0.236	0.277	0.255	0.319	0.292
0.08	0.168	0.162	0.164	0.157	0.178	0.169	0.180	0.170	0.195	0.183	0.201	0.189	0.223	0.207
0.10	0.156	0.152	0.150	0.145	0.161	0.154	0.159	0.152	0.169	0.161	0.170	0.162	0.184	0.173
0.15	0.137	0.134	0.130	0.128	0.137	0.134	0.134	0.131	0.140	0.136	0.138	0.134	0.145	0.140
0.2	0.124	0.123	0.118	0.117	0.124	0.122	0.120	0.118	0.125	0.122	0.122	0.120	0.128	0.125
0.3	0.107	0.107	0.102	0.101	0.106	0.106	0.103	0.102	0.107	0.106	0.104	0.103	0.108	0.107
0.4	0.0957	0.0954	0.0907	0.0904	0.0950	0.0947	0.0919	0.0914	0.0948	0.0943	0.0926	0.0921	0.0961	0.0954
0.5	0.0871	0.0871	0.0825	0.0825	0.0863	0.0863	0.0837	0.0834	0.0863	0.0861	0.0844	0.0840	0.0875	0.0870
0.6	0.0805	—	0.0764	—	0.0797	—	0.0771	0.0771	0.0796	0.0796	0.0779	0.0777	0.0806	0.0804
0.8	0.0707	—	0.0669	—	0.0702	—	0.0677	—	0.0699	—	0.0682	0.0682	0.0708	0.0706
1.0	0.0636	—	0.0603	—	0.0630	—	0.0609	—	0.0628	—	0.0613	—	0.0634	0.0634
1.5	0.0518	—	0.0491	—	0.0513	—	0.0496	—	0.0512	—	0.0500	—	0.0517	—
2	0.0445	—	0.0422	—	0.0442	—	0.0428	—	0.0441	—	0.0431	—	0.0447	—
3	0.0359	—	0.0342	—	0.0359	—	0.0348	—	0.0360	—	0.0353	—	0.0367	—
4	0.0310	—	0.0296	—	0.0312	—	0.0304	—	0.0316	—	0.0311	—	0.0324	—
5	0.0278	—	0.0267	—	0.0282**	—	0.0276	—	0.0288	—	0.0284	—	0.0297	—
6	0.0255	—	0.0246	—	0.0261	—	0.0256	—	0.0268	—	0.0266	—	0.0279	—
8	0.0226	—	0.0220	—	0.0235	—	0.0232	—	0.0244	—	0.0244	—	0.0257	—
10	0.0209	—	0.0203	—	0.0219	—	0.0218	—	0.0231	—	0.0232	—	0.0246	—

[a] For the basis of these numbers, see the footnote to Table XVI. In addition, the "coherent scattering effects," which are the combination of the Rayleigh scattering cross section and the (negative) correction to the Compton collision cross section from electron binding effects, are taken from White-Grodstein (1957).

[b] Table supplied by J. H. Hubbell as part of work sponsored by the National Standard Reference Data System at the National Bureau

Tabell 19 : Mass attenuerings-koefficienter (μ/ρ) (cm^2/gm)

(a) WITH, AND (b) WITHOUT COHERENT SCATTERING EFFECTS INCLUDED, FOR ELEMENTS PHOSPHOROUS THROUGH SCANDIUM[a]

$h\nu$(MeV)	$_{15}$P		$_{16}$S		$_{17}$Cl		$_{18}$Ar		$_{19}$K		$_{20}$Ca		$_{21}$Sc	
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
0.01	40.8	40.2	51.0	50.3	58.3	57.6	64.5	63.8	80.9	80.1	96.5	95.6	103.	102.
0.015	12.3	12.0	15.6	15.2	17.9	17.5	19.9	19.5	25.0	24.6	30.1	29.6	32.5	32.1
0.02	5.29	5.10	6.65	6.42	7.64	7.40	8.53	8.27	10.8	10.5	12.9	12.6	14.0	13.7
0.03	1.66	1.55	2.06	1.95	2.37	2.25	2.61	2.49	3.29	3.14	3.98	3.82	4.31	4.15
0.04	0.795	0.731	0.965	0.891	1.08	1.01	1.19	1.11	1.49	1.39	1.78	1.67	1.92	1.81
0.05	0.486	0.444	0.577	0.527	0.634	0.582	0.683	0.630	0.839	0.777	0.994	0.925	1.06	0.992
0.06	0.347	0.318	0.404	0.367	0.434	0.397	0.458	0.420	0.557	0.512	0.646	0.595	0.682	0.631
0.08	0.232	0.215	0.257	0.238	0.269	0.247	0.274	0.252	0.324	0.296	0.363	0.334	0.373	0.343
0.10	0.186	0.175	0.202	0.189	0.205	0.190	0.204	0.189	0.233	0.216	0.255	0.237	0.257	0.237
0.15	0.144	0.138	0.151	0.145	0.148	0.142	0.143	0.136	0.158	0.150	0.168	0.159	0.162	0.153
0.2	0.125	0.122	0.130	0.127	0.127	0.123	0.121	0.117	0.132	0.127	0.138	0.133	0.132	0.126
0.3	0.105	0.104	0.109	0.107	0.105	0.104	0.0997	0.0979	0.108	0.106	0.112	0.109	0.105	0.103
0.4	0.0936	0.0928	0.0968	0.0958	0.0930	0.0921	0.0877	0.0868	0.0949	0.0938	0.0980	0.0966	0.0920	0.0907
0.5	0.0850	0.0846	0.0878	0.0873	0.0845	0.0840	0.0793	0.0789	0.0859	0.0852	0.0886	0.0877	0.0830	0.0822
0.6	0.0783	0.0781	0.0810	0.0806	0.0779	0.0775	0.0732	0.0729	0.0791	0.0786	0.0813	0.0809	0.0764	0.0758
0.8	0.0689	0.0685	0.0709	0.0707	0.0681	0.0679	0.0641	0.0639	0.0692	0.0689	0.0712	0.0709	0.0666	0.0663
1.0	0.0617	0.0617	0.0637	0.0635	0.0612	0.0611	0.0575	0.0574	0.0620	0.0619	0.0639	0.0636	0.0598	0.0595
1.5	0.0502	—	0.0517	0.0517	0.0499	0.0499	0.0468	0.0468	0.0505	0.0505	0.0519	0.0519	0.0486	0.0486
2	0.0436	—	0.0448	—	0.0432	—	0.0406	—	0.0439	—	0.0452	—	0.0423	—
3	0.0358	—	0.0371	—	0.0358	—	0.0338	—	0.0366	—	0.0377	—	0.0355	—
4	0.0317	—	0.0329	—	0.0319	—	0.0302	—	0.0328	—	0.0340	—	0.0320	—
5	0.0292	—	0.0304	—	0.0295	—	0.0280	—	0.0306	—	0.0317	—	0.0300	—
6	0.0275	—	0.0287	—	0.0280	—	0.0267	—	0.0292	—	0.0304	—	0.0288	—
8	0.0255	—	0.0268	—	0.0262	—	0.0252	—	0.0277	—	0.0289	—	0.0275	—
10	0.0245	—	0.0259	—	0.0255	—	0.0245	—	0.0270	—	0.0284	—	0.0272	

(a) WITH, AND (b) WITHOUT COHERENT SCATTERING EFFECTS INCLUDED, FOR ELEMENTS TITANIUM THROUGH NICKEL[a]

$h\nu$(MeV)	$_{22}$Ti		$_{23}$V		$_{24}$Cr		$_{25}$Mn		$_{26}$Fe		$_{27}$Co		$_{28}$Ni	
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
0.01	113.	112.	124.	123.	141.	140.	153.5	152.5	172.6	171.6	187.3	186.2	213.8	212.6
0.015	36.4	35.9	40.0	39.5	45.7	45.1	49.9	49.3	56.3	55.7	61.4	60.8	70.2	69.4
0.02	15.8	15.5	17.5	17.2	20.3	19.9	22.3	21.9	25.5	25.1	27.8	27.4	31.7	31.3
0.03	4.88	4.70	5.49	5.30	6.36	6.15	7.05	6.84	8.11	7.87	8.94	8.70	10.3	10.0
0.04	2.18	2.06	2.43	2.31	2.82	2.69	3.14	3.00	3.61	3.46	3.98	3.83	4.62	4.44
0.05	1.19	1.11	1.32	1.24	1.55	1.46	1.72	1.63	1.94	1.84	2.18	2.08	2.52	2.41
0.06	0.752	0.699	0.829	0.773	0.971	0.908	1.07	1.00	1.20	1.13	1.33	1.25	1.52	1.44
0.08	0.400	0.368	0.433	0.400	0.485	0.448	0.524	0.486	0.590	0.550	0.636	0.592	0.723	0.675
0.10	0.271	0.249	0.286	0.264	0.315	0.291	0.335	0.309	0.370	0.342	0.395	0.365	0.446	0.412
0.15	0.165	0.156	0.169	0.159	0.180	0.168	0.185	0.173	0.197	0.184	0.204	0.190	0.222	0.207
0.2	0.132	0.126	0.132	0.126	0.139	0.132	0.140	0.133	0.147	0.139	0.149	0.140	0.159	0.150
0.3	0.104	0.102	0.103	0.101	0.107	0.104	0.106	0.103	0.110	0.107	0.110	0.106	0.116	0.112
0.4	0.0908	0.0894	0.0897	0.0881	0.0922	0.0905	0.0914	0.0896	0.0941	0.0921	0.0932	0.0912	0.0978	0.0955
0.5	0.0818	0.0809	0.0807	0.0797	0.0828	0.0817	0.0819	0.0808	0.0841	0.0829	0.0831	0.0819	0.0870	0.0856
0.6	0.0750	0.0745	0.0740	0.0734	0.0759	0.0752	0.0750	0.0743	0.0768	0.0761	0.0759	0.0751	0.0793	0.0784
0.8	0.0657	0.0653	0.0645	0.0642	0.0661	0.0658	0.0653	0.0648	0.0669	0.0664	0.0659	0.0655	0.0688	0.0683
1.0	0.0589	0.0587	0.0579	0.0577	0.0592	0.0590	0.0585	0.0582	0.0600	0.0596	0.0590	0.0587	0.0615	0.0611
1.5	0.0478	0.0478	0.0471	0.0471	0.0483	0.0481	0.0476	0.0475	0.0487	0.0486	0.0480	0.0479	0.0500	0.0499
2	0.0417	—	0.0411	—	0.0420	0.0420	0.0415	0.0415	0.0425	0.0425	0.0419	0.0419	0.0437	0.0437
3	0.0350	—	0.0346	—	0.0355	—	0.0352	—	0.0361	—	0.0357	—	0.0373	—
4	0.0318	—	0.0314	—	0.0324	—	0.0321	—	0.0331	—	0.0328	—	0.0344	—
5	0.0298	—	0.0296	—	0.0306	—	0.0305	—	0.0315	—	0.0312	—	0.0329	—
6	0.0286	—	0.0285	—	0.0296	—	0.0295	—	0.0306	—	0.0304	—	0.0321	—
8	0.0275	—	0.0275	—	0.0287	—	0.0287	—	0.0299	—	0.0299	—	0.0316	—
10	0.0273	—	0.0273	—	0.0285	—	0.0287	—	0.0299	—	0.0300	—	0.0319	—

Tabell 19 : Mass attenuerings-koefficienter (μ/ρ) (cm^2/gm)

(a) WITH, AND (b) WITHOUT COHERENT SCATTERING EFFECTS INCLUDED, FOR TIN[a]

$h\nu$(MeV)	$_{50}$Sn (a)	$_{50}$Sn (b)
0.0010	11130	11110
0.0015	3960	3950
0.0020	1963	1954
0.0030	713	705
0.0039288	367	360
L_3 edge		
0.0039288	1118	1111
0.0040	1067	1061
0.0041573	973	967
L_2 edge		
0.0041573	1244	1238
0.0044648	1016	1010
L_1 edge		
0.0044648	1264	1258
0.005	919	914
0.006	561	556
0.008	259	255
0.010	141.6	139.1
0.015	45.8	44.3
0.020	21.2	20.1
0.0291947	7.61	7.01
K edge		
0.0291947	45.4	44.8
0.030	42.1	41.5

$h\nu$(MeV)	$_{50}$Sn (a)	$_{50}$Sn (b)
0.04	18.77	18.40
0.05	10.20	9.94
0.06	6.34	6.15
0.08	3.07	2.95
0.10	1.720	1.642
0.15	0.634	0.597
0.20	0.333	0.311
0.30	0.1649	0.1547
0.4	0.1163	0.1104
0.5	0.0948	0.0911
0.6	0.0811	0.0790
0.8	0.0667	0.0655
1.0	0.0578	0.0571
1.5	0.0462	0.0459
2.0	0.0410	0.0408
3.0	0.0366	0.0366
4	0.0355	—
5	0.0353	—
6	0.0357	—
8	0.0370	—
10	0.0387	—

(a) WITH, AND (b) WITHOUT COHERENT SCATTERING EFFECTS INCLUDED, FOR LEAD[a]

$h\nu$(MeV)	$_{82}$Pb (a)	$_{82}$Pb (b)
M_1 edge		
0.003854	1493	1483
0.004	1333	1323
0.005	767	759
0.006	493	486
0.008	238	233
0.010	136.6	132.1
0.0130406	70.1	66.7
L_3 edge		
0.0130406	165.7	162.4
0.015	114.7	111.8
0.0152053	112.0	109.2
L_2 edge		
0.0152053	145.4	142.6
0.015855	129.3	126.6
L_1 edge		
0.015855	159.2	156.5
0.02	85.5	83.4
0.03	29.1	27.9
0.04	13.80	13.04
0.05	7.71	7.17
0.06	4.87	4.47
0.08	2.37	2.12

$h\nu$(MeV)	$_{82}$Pb (a)	$_{82}$Pb (b)
0.088005	1.865	1.659
K edge		
0.088005	7.30	7.10
0.10	5.78	5.62
0.15	2.07	1.987
0.2	1.014	0.969
0.3	0.406	0.385
0.4	0.233	0.221
0.5	0.1614	0.1538
0.6	0.1249	0.1196
0.8	0.0886	0.0856
1.0	0.0708	0.0689
1.5	0.0518	0.0509
2	0.0455	0.0450
3	0.0417	0.0415
4	0.0415	0.0414
5	0.0424	0.0424
6	0.0436	—
8	0.0467	—
10	0.0496	—

Tabell 19 : Mass attenuerings-koefficienter (μ/ρ) (cm^2/gm)

(a) WITH, AND (b) WITHOUT COHERENT SCATTERING EFFECTS INCLUDED, FOR URANIUM[a]

$h\nu$(MeV)	$_{92}$U (a)	$_{92}$U (b)
N_1 edge		
0.001439	4480	4460
0.0015	4070	4050
0.002	2130	2110
0.003	831	818
0.003545	565	554
M_5 edge		
0.003545	1240	1228
0.003720	1097	1086
M_4 edge		
0.003720	1587	1576
0.004	1312	1302
0.004299	1089	1079
M_3 edge		
0.004299	1294	1284
0.005	885	876
0.005179	812	803
M_2 edge		
0.005179	872	863
0.005546	734	726

$h\nu$(MeV)	$_{92}$U (a)	$_{92}$U (b)
M_1 edge		
0.005546	768	759
0.006	635	627
0.008	312	306
0.010	178.3	173.2
0.015	63.7	60.3
0.017165	45.6	42.7
L_3 edge		
0.017165	105.7	102.9
0.020	70.8	68.5
0.020945	62.6	60.3
L_2 edge		
0.020945	87.9	85.6
0.021771	79.6	77.5
L_1 edge		
0.021771	91.7	89.5
0.03	40.9	39.6
0.04	19.60	18.73
0.05	11.05	10.43
0.06	6.91	6.45

$h\nu$(MeV)	$_{92}$U (a)	$_{92}$U (b)
0.08	3.33	3.04
0.10	1.090	1.712
0.11562	1.341	1.189
K edge		
0.11562	4.86	4.71
0.15	2.56	2.47
0.20	1.282	1.228
0.30	0.509	0.485
0.4	0.287	0.273
0.5	0.1938	0.1847
0.6	0.1460	0.1397
0.8	0.0999	0.0963
1.0	0.0776	0.0754
1.5	0.0549	0.0538
2	0.0476	0.0470
3	0.0438	0.0435
4	0.0436	0.0434
5	0.0443	0.0443
6	0.0455	—
8	0.0481	—
10	0.0509	—

(a) WITH, AND (b) WITHOUT COHERENT SCATTERING EFFECTS INCLUDED, FOR COPPER[a]

$h\nu$(MeV)	$_{29}$Cu (a)	$_{29}$Cu (b)
0.01	224.2	222.9
0.015	74.1	73.3
0.02	33.7	33.0
0.03	10.9	10.6
0.04	4.88	4.71
0.05	2.61	2.50
0.06	1.60	1.52
0.08	0.768	0.718
0.10	0.462	0.427
0.15	0.223	0.208
0.2	0.157	0.148
0.3	0.112	0.108
0.4	0.0942	0.0919
0.5	0.0835	0.0821
0.6	0.0762	0.0752
0.8	0.0659	0.0654
1.0	0.0590	0.0586
1.5	0.0479	0.0478
2	0.0419	0.0419
3	0.0359	—
4	0.0332	—
5	0.0318	—
6	0.0310	—
8	0.0307	—
10	0.0310	

Tabell 19: Mass attenuerings-koefficienter (μ/ρ) (cm^2/gm)

(a) WITH, AND (b) WITHOUT COHERENT SCATTERING EFFECTS INCLUDED, FOR SOME MIXTURES AND COMPOUNDS[a]

$h\nu$(MeV)	Air		Water		0.8*N* H_2SO_4 solution		Compact bone (femur)		Muscle (striated)		Polystyrene, $(C_8H_8)_n$	
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
0.01	5.04	4.82	5.21	4.99	5.80	5.57	20.3	20.0	5.30	5.09	2.17	2.02
0.015	1.56	1.45	1.60	1.48	1.77	1.65	6.32	6.15	1.64	1.53	0.764	0.694
0.02	0.758	0.691	0.778	0.711	0.853	0.783	2.79	2.68	0.796	0.730	0.429	0.386
0.03	0.350	0.318	0.371	0.337	0.392	0.358	0.962	0.907	0.375	0.342	0.261	0.240
0.04	0.248	0.229	0.267	0.248	0.275	0.256	0.511	0.478	0.267	0.249	0.216	0.205
0.05	0.206	0.196	0.225	0.214	0.229	0.218	0.346	0.326	0.224	0.214	0.197	0.191
0.06	0.187	0.179	0.205	0.197	0.207	0.199	0.273	0.258	0.204	0.196	0.186	0.182
0.08	0.167	0.162	0.185	0.179	0.185	0.180	0.209	0.200	0.183	0.178	0.173	0.171
0.10	0.155	0.151	0.171	0.168	0.172	0.168	0.181	0.175	0.170	0.167	0.164	0.161
0.15	0.136	0.134	0.151	0.149	0.151	0.148	0.150	0.146	0.150	0.147	0.145	0.144
0.2	0.124	0.123	0.137	0.136	0.137	0.136	0.133	0.132	0.136	0.135	0.132	0.131
0.3	0.107	0.106	0.119	0.119	0.118	0.118	0.114	0.113	0.118	0.117	0.115	0.114
0.4	0.0954	0.0954	0.106	—	0.106	—	0.102	0.101	0.105	0.105	0.103	0.103
0.5	0.0868	—	0.0966	—	0.0963	—	0.0926	0.0924	0.0958	—	0.0937	—
0.6	0.0804	—	0.0894	—	0.0891	—	0.0856	0.0855	0.0886	—	0.0867	—
0.8	0.0706	—	0.0785	—	0.0773	—	0.0751	0.0750	0.0778	—	0.0761	—
1.0	0.0635	—	0.0706	—	0.0704	—	0.0675	0.0674	0.0699	—	0.0683	—
1.5	0.0517	—	0.0575	—	0.0573	—	0.0549	0.0549	0.0570	—	0.0557	—
2	0.0444	—	0.0493	—	0.0492	—	0.0472	—	0.0489	—	0.0476	—
3	0.0358	—	0.0396	—	0.0395	—	0.0382	—	0.0392	—	0.0381	—
4	0.0308	—	0.0340	—	0.0340	—	0.0331	—	0.0337	—	0.0326	—
5	0.0276	—	0.0303	—	0.0303	—	0.0297	—	0.0300	—	0.0289	—
6	0.0252	—	0.0277	—	0.0277	—	0.0274	—	0.0274	—	0.0263	—
8	0.0223	—	0.0243	—	0.0243	—	0.0244	—	0.0240	—	0.0227	—
10	0.0205	—	0.0222	—	0.0221	—	0.0226	—	0.0219	—	0.0206	—

(a) WITH, AND (b) WITHOUT COHERENT SCATTERING EFFECTS INCLUDED, FOR SOME MIXTURES AND COMPOUNDS[a]

$h\nu$(MeV)	Methyl methacrylate (Perspex, plexiglass, Lucite), $C_5H_8O_2$		Polyethylene, $(CH_2)_n$		Bakelite (typical comp.), $C_{43}H_{38}O_7$		Pyrex glass (Corning #7740)		Concrete (typical comp.)	
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
0.01	3.31	3.11	2.04	1.90	2.80	2.63	17.1	16.7	26.9	26.5
0.015	1.07	0.981	0.737	0.671	0.933	0.852	5.11	4.94	8.22	8.01
0.02	0.555	0.503	0.425	0.384	0.497	0.448	2.24	2.12	3.58	3.44
0.03	0.300	0.274	0.268	0.248	0.279	0.255	0.785	0.723	1.19	1.12
0.04	0.233	0.219	0.225	0.215	0.222	0.209	0.430	0.394	0.603	0.559
0.05	0.205	0.198	0.207	0.201	0.198	0.191	0.299	0.277	0.389	0.361
0.06	0.191	0.186	0.196	0.192	0.185	0.181	0.241	0.225	0.294	0.273
0.08	0.176	0.172	0.183	0.180	0.172	0.168	0.190	0.180	0.213	0.201
0.10	0.165	0.162	0.173	0.171	0.162	0.159	0.166	0.160	0.179	0.171
0.15	0.146	0.145	0.154	0.153	0.143	0.142	0.139	0.136	0.144	0.140
0.2	0.133	0.132	0.140	0.139	0.130	0.129	0.125	0.123	0.127	0.125
0.3	0.115	0.115	0.122	0.121	0.113	0.112	0.107	0.106	0.108	0.107
0.4	0.103	—	0.109	0.109	0.101	0.101	0.0953	0.0950	0.0962	0.0957
0.5	0.0939	—	0.0994	—	0.0919	—	0.0868	0.0866	0.0875	0.0872
0.6	0.0869	—	0.0919	—	0.0851	—	0.0801	0.0800	0.0808	0.0806
0.8	0.0763	—	0.0807	—	0.0747	—	0.0704	0.0703	0.0709	0.0708
1.0	0.0686	—	0.0725	—	0.0671	—	0.0633	0.0633	0.0637	0.0637
1.5	0.0559	—	0.0591	—	0.0547	—	0.0515	—	0.0519	—
2	0.0478	—	0.0505	—	0.0468	—	0.0444	—	0.0447	—
3	0.0383	—	0.0403	—	0.0375	—	0.0360	—	0.0365	—
4	0.0329	—	0.0345	—	0.0322	—	0.0314	—	0.0319	—
5	0.0292	—	0.0305	—	0.0286	—	0.0284	—	0.0290	—
6	0.0266	—	0.0276	—	0.0260	—	0.0263	—	0.0270	—
8	0.0231	—	0.0238	—	0.0226	—	0.0237	—	0.0245	—
10	0.0210	—	0.0215	—	0.0205	—	0.0221	—	0.0231	—

Tabell 19: Mass attenuerings-koefficienter (μ/ρ) (cm^2/gm)

Energie MeV	CO_2	LiF	$_3Li$	$(C_2F_4)_n$	$(C_5H_8O_2)_n$	$(C_8H_8)_n$
0,010	4,59	5,77	0,284	6,40	3,04	1,93
0,015	1,37	1,76	0,196	1,93	0,958	0,655
0,020	0,646	0,761	0,172	0,832	0,495	0,377
0,030	0,304	0,333	0,159	0,356	0,273	0,240
0,040	0,220	0,222	0,152	0,234	0,217	0,205
0,050	0,190	0,185	0,147	0,194	0,196	0,190
0,060	0,176	0,169	0,142	0,177	0,185	0,181
0,080	0,161	0,152	0,135	0,158	0,171	0,169
0,100	0,150	0,140	0,128	0,146	0,161	0,160
0,150	0,134	0,125	0,116	0,129	0,145	0,144
0,200	0,123	0,114	0,106	0,118	0,132	0,131
0,500	0,0870	0,0806	0,0752	0,0837	0,0939	0,0937
1,000	0,0636	0,0587	0,0549	0,0609	0,0686	0,0684
2,000	0,0445	0,0411	0,0382	0,0427	0,0479	0,0477
5,000	0,0276	0,0255	0,0227	0,0266	0,0292	0,0289
10,000	0,0205	0,0191	0,0154	0,0202	0,0210	0,0206

"NARROW-BEAM" MASS ATTENUATION COEFFICIENTS (μ/ρ, CM²/GM) FOR PHOTONS OF 10 TO 100 MEV[a]

Material	Z	Photon energies								
		10 MeV	15 MeV	20 MeV	30 MeV	40 MeV	50 MeV	60 MeV	80 MeV	100 MeV
H	1	0.0324	0.0253	0.0214	0.0174	0.0153	0.0140	0.0132	0.0123	0.0118
Be	4	0.0162	0.0135	0.0122	0.0109	0.0103	0.0100	0.0100	0.0098	0.0099
C	6	0.0195	0.0169	0.0156	0.0146	0.0142	0.0142	0.0142	0.0143	0.0145
N	7	0.0201	0.0176	0.0166	0.0157	0.0155	0.0156	0.0156	0.0159	0.0162
O	8	0.0207	0.0185	0.0175	0.0169	0.0168	0.0169	0.0171	0.0175	0.0178
Na	11	0.0216	0.0200	0.0195	0.0194	0.0197	0.0201	0.0205	0.0212	0.0218
Mg	12	0.0229	0.0215	0.0211	0.0212	0.0216	0.0221	0.0226	0.0234	0.0241
Al	13	0.0230	0.0217	0.0215	0.0217	0.0224	0.0229	0.0234	0.0243	0.0251
Si	14	0.0244	0.0233	0.0231	0.0236	0.0243	0.0250	0.0256	0.0266	0.0275
Ar	18	0.0243	0.0238	0.0242	0.0254	0.0264	0.0274	0.0283	0.0295	0.0306
K	19	0.0268	0.0265	0.0271	0.0284	0.0298	0.0309	0.0318	0.0333	0.0345
Ca	20	0.0282	0.0281	0.0287	0.0302	0.0317	0.0329	0.0341	0.0357	0.0370
Fe	26	0.0296	0.0306	0.0318	0.0342	0.0363	0.0380	0.0394	0.0415	0.0431
Cu	29	0.0307	0.0320	0.0336	0.0365	0.0388	0.0407	0.0423	0.0446	0.0463
Sn	50	0.0384	0.0425	0.0458	0.0516	0.0556	0.0586	0.0612	0.0652	0.0680
Pb	82	0.0487	0.0554	0.0612	0.0698	0.0761	0.0807	0.0847	0.0903	0.0944
U	92	0.0509	0.0585	0.0646	0.0739	0.0805	0.0857	0.0899	0.0960	0.100
Air[b]	—	0.0155	0.0146	0.0144	0.0145	0.0147	0.0151	0.0153	0.0158	0.0163
Water	—	0.0220	0.0193	0.0180	0.0170	0.0166	0.0166	0.0166	0.0169	0.0172
Concrete[c]	—	0.0227	0.0210	0.0204	0.0204	0.0206	0.0210	0.0214	0.0222	0.0228

[a] Computed by Davisson (1965) and originally published in "Alpha-, Beta-, and Gamma-Ray Spectroscopy" (K. Siegbahn, ed.), North-Holland Publishing Co., Amsterdam, 1965. Reproduced here through courtesy of North-Holland Publishing Co.

[b] For composition by weight, see Table XIV.

[c] Composition by weight: 1.0% H, 0.1% C, 52.9% O, 1.6% Na, 0.2% Mg, 3.4% Al, 33.7% Si, 1.3% K, 4.4% Ca, and 1.4% Fe (density = 2.30 gm/cm³).

Tabell 20 : VALUES OF (a) THE MASS ENERGY-TRANSFER COEFFICIENT, μ_K/ρ (CM²/GM), AND (b) THE MASS ENERGY-ABSORPTION COEFFICIENT, μ_{en}/ρ (CM²/GM), FOR ELEMENTS HYDROGEN THROUGH SODIUM[a]

$h\nu$(MeV)	$_1$H		$_4$Be		$_5$B		$_6$C		$_7$N		$_8$O		$_{11}$Na	
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
0.01	0.00986	0.00986	0.368	0.368	0.911	0.911	1.97	1.97	3.38	3.38	5.39	5.39	14.9	14.9
0.015	0.0110	0.0110	0.104	0.104	0.248	0.248	0.536	0.536	0.908	0.908	1.44	1.44	4.20	4.20
0.02	0.0135	0.0135	0.0469	0.0469	0.0998	0.0998	0.208	0.208	0.362	0.362	0.575	0.575	1.70	1.70
0.03	0.0185	0.0185	0.0195	0.0195	0.0338	0.0338	0.0594	0.0594	0.105	0.105	0.165	0.165	0.475	0.475
0.04	0.0231	0.0231	0.0146	0.0146	0.0210	0.0210	0.0306	0.0306	0.0493	0.0493	0.0733	0.0733	0.199	0.199
0.05	0.0271	0.0271	0.0142	0.0142	0.0175	0.0175	0.0233	0.0233	0.0319	0.0319	0.0437	0.0437	0.106	0.106
0.06	0.0306	0.0306	0.0147	0.0147	0.0170	0.0170	0.0211	0.0211	0.0256	0.0256	0.0322	0.0322	0.0668	0.0668
0.08	0.0362	0.0362	0.0166	0.0166	0.0179	0.0179	0.0205	0.0205	0.0223	0.0223	0.0249	0.0249	0.0382	0.0382
0.10	0.0406	0.0406	0.0184	0.0184	0.0194	0.0194	0.0215	0.0215	0.0224	0.0224	0.0237	0.0237	0.0297	0.0297
0.15	0.0481	0.0481	0.0216	0.0216	0.0226	0.0226	0.0245	0.0245	0.0247	0.0247	0.0251	0.0251	0.0260	0.0260
0.2	0.0525	0.0525	0.0235	0.0235	0.0245	0.0245	0.0265	0.0265	0.0267	0.0267	0.0268	0.0268	0.0264	0.0264
0.3	0.0569	0.0569	0.0255	0.0255	0.0266	0.0266	0.0287	0.0287	0.0287	0.0287	0.0288	0.0288	0.0277	0.0277
0.4	0.0586	0.0586	0.0262	0.0262	0.0273	0.0273	0.0295	0.0295	0.0295	0.0295	0.0295	0.0295	0.0284	0.0284
0.5	0.0593	0.0593	0.0265	0.0265	0.0276	0.0276	0.0297	0.0297	0.0297	0.0296	0.0297	0.0297	0.0285	0.0285
0.6	0.0587	0.0587	0.0263	0.0263	0.0274	0.0273	0.0296	0.0295	0.0296	0.0295	0.0296	0.0296	0.0284	0.0284
0.8	0.0574	0.0574	0.0257	0.0256	0.0268	0.0267	0.0289	0.0288	0.0289	0.0289	0.0289	0.0289	0.0277	0.0275
1.0	0.0555	0.0555	0.0248	0.0248	0.0259	0.0258	0.0279	0.0279	0.0280	0.0279	0.0280	0.0278	0.0268	0.0266
1.5	0.0507	0.0507	0.0227	0.0227	0.0237	0.0236	0.0256	0.0255	0.0256	0.0255	0.0256	0.0254	0.0245	0.0243
2	0.0465	0.0464	0.0208	0.0208	0.0218	0.0217	0.0235	0.0234	0.0236	0.0234	0.0236	0.0234	0.0227	0.0225
3	0.0399	0.0398	0.0181	0.0180	0.0190	0.0188	0.0206	0.0204	0.0207	0.0205	0.0208	0.0206	0.0202	0.0199
4	0.0353	0.0352	0.0163	0.0161	0.0172	0.0170	0.0187	0.0185	0.0189	0.0186	0.0191	0.0188	0.0188	0.0184
5	0.0319	0.0317	0.0149	0.0148	0.0158	0.0156	0.0174	0.0171	0.0177	0.0173	0.0179	0.0175	0.0179	0.0174
6	0.0292	0.0290	0.0140	0.0138	0.0149	0.0146	0.0164	0.0161	0.0167	0.0163	0.0171	0.0166	0.0173	0.0161
8	0.0253	0.0252	0.0126	0.0123	0.0135	0.0132	0.0151	0.0147	0.0156	0.0151	0.0160	0.0155	0.0167	0.0159
10	0.0227	0.0225	0.0117	0.0114	0.0127	0.0123	0.0143	0.0138	0.0149	0.0143	0.0154	0.0148	0.0161	0.0155

[a] From Hubbell (1967) to be published also as an NBS-NRDS (National Standard Reference Data System) report. The photon cross-section data on which these values are based differ from those of White-Grodstein (1957), R. T. Berger (1961), McGinnies (1959), and Davisson (1965) in that:

(1) The Mork (1967a) radiative and double-Compton corrections to the Compton collision cross section are included for energies above 4 MeV.

(2) The photoelectric cross section was reevaluated on the basis of additional new experimental data over the range 10–100 keV, and on the basis of additional theoretical K-shell data (Pratt *et al.*, 1964; Hultberg *et al.*, 1967) over the range from 100 keV to 10 MeV. For uranium, the 10-keV to 2-MeV, K-through O-shell, screened theoretical data of Rakavy and Ron (1965) were also used; individual shell contributions were extrapolated to the lower energies indicated, to give totals consistent with the few existing experimental data in this region.

(3) The cross section for pair production in the field of the nucleus includes the radiative correction as evaluated by Mork and Olsen (1965), and a corresponding reevaluation of the correction to the Born approximation near threshold.

(4) The triplet (pair production in the field of the electrons) cross section is that of Borsellino (1947) and Ghizetti (1947), corrected by Mork (1967b) for γ-electron interactions and for exchange (indistinguishability of created and target electron) and includes the Mork–Olsen (1965) radiative correction.

The fractions f_c and f_κ were taken from Evans (1958) and R. T. Berger (1961), and the fraction f_τ is based on values of ΦB_e [Eq. (42)] taken from Nijgh *et al.* (1959).

The pair-production "energy-absorption" fraction $f_{\kappa(en)}$ includes the effect of positron annihilation in flight, as calculated by R. T. Berger (1961). The bremsstrahlung loss corrections to the photoeffect energy-absorption fraction $f_{\tau(en)}$ were taken from the calculated "radiation yield" data of M. J. Berger and Seltzer (1964).

The absorption-edge energy values are those of Bearden (1964).

Tabell 20 : Values of (a) the Mass Energy-Transfer Coefficient, μ_K/ρ (cm²/gm), and (b) the Mass Energy-Absorption Coefficient, μ_{en}/ρ (cm²/gm), for Elements Magnesium through Potassium[a]

$h\nu$(MeV)	$_{12}$Mg		$_{13}$Al		$_{14}$Si		$_{15}$P		$_{16}$S		$_{18}$Ar		$_{19}$K	
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
0.01	20.1	20.1	25.5	25.5	33.3	33.3	39.8	39.8	49.7	49.7	62.3	62.3	77.6	77.6
0.015	5.80	5.80	7.47	7.47	9.75	9.75	11.8	11.8	14.9	14.9	19.1	19.1	23.9	23.9
0.02	2.38	2.38	3.06	3.06	4.01	4.01	4.91	4.91	6.21	6.21	8.02	8.02	10.2	10.2
0.03	0.671	0.671	0.868	0.868	1.14	1.14	1.39	1.39	1.77	1.77	2.31	2.31	2.94	2.94
0.04	0.276	0.276	0.357	0.357	0.472	0.472	0.572	0.572	0.727	0.727	0.962	0.962	1.23	1.23
0.05	0.144	0.144	0.184	0.184	0.241	0.241	0.293	0.293	0.372	0.372	0.488	0.488	0.623	0.623
0.06	0.0888	0.0888	0.111	0.111	0.144	0.144	0.173	0.173	0.218	0.218	0.284	0.284	0.366	0.366
0.08	0.0475	0.0475	0.0562	0.0562	0.0700	0.0700	0.0820	0.0820	0.101	0.101	0.128	0.128	0.162	0.162
0.10	0.0346	0.0346	0.0386	0.0386	0.0459	0.0459	0.0511	0.0511	0.0609	0.0609	0.0735	0.0735	0.0913	0.0913
0.15	0.0279	0.0279	0.0285	0.0285	0.0312	0.0312	0.0322	0.0322	0.0357	0.0357	0.0377	0.0377	0.0442	0.0442
0.2	0.0277	0.0277	0.0276	0.0276	0.0292	0.0292	0.0293	0.0293	0.0311	0.0311	0.0304	0.0304	0.0343	0.0343
0.3	0.0288	0.0288	0.0282	0.0282	0.0294	0.0294	0.0288	0.0288	0.0299	0.0299	0.0278	0.0278	0.0304	0.0304
0.4	0.0294	0.0294	0.0287	0.0287	0.0298	0.0298	0.0291	0.0291	0.0301	0.0301	0.0275	0.0275	0.0298	0.0298
0.5	0.0294	0.0294	0.0287	0.0286	0.0298	0.0298	0.0291	0.0291	0.0300	0.0300	0.0272	0.0272	0.0294	0.0293
0.6	0.0293	0.0293	0.0286	0.0286	0.0296	0.0295	0.0288	0.0288	0.0297	0.0297	0.0269	0.0268	0.0291	0.0290
0.8	0.0286	0.0285	0.0279	0.0277	0.0289	0.0288	0.0280	0.0278	0.0290	0.0288	0.0262	0.0261	0.0283	0.0282
1.0	0.0276	0.0275	0.0270	0.0269	0.0279	0.0277	0.0272	0.0270	0.0280	0.0278	0.0253	0.0251	0.0273	0.0270
1.5	0.0253	0.0251	0.0247	0.0245	0.0255	0.0253	0.0248	0.0246	0.0256	0.0253	0.0232	0.0229	0.0250	0.0247
2	0.0234	0.0232	0.0229	0.0226	0.0237	0.0234	0.0231	0.0228	0.0238	0.0235	0.0215	0.0212	0.0233	0.0229
3	0.0210	0.0206	0.0206	0.0202	0.0214	0.0210	0.0209	0.0204	0.0216	0.0211	0.0198	0.0192	0.0214	0.0208
4	0.0196	0.0191	0.0193	0.0188	0.0202	0.0196	0.0198	0.0192	0.0205	0.0199	0.0189	0.0182	0.0206	0.0198
5	0.0187	0.0181	0.0185	0.0179	0.0194	0.0187	0.0191	0.0184	0.0200	0.0192	0.0185	0.0177	0.0202	0.0193
6	0.0182	0.0175	0.0181	0.0172	0.0191	0.0182	0.0188	0.0179	0.0197	0.0188	0.0184	0.0174	0.0202	0.0190
8	0.0177	0.0168	0.0177	0.0168	0.0187	0.0177	0.0187	0.0175	0.0197	0.0184	0.0186	0.0173	0.0205	0.0190
10	0.0175	0.0164	0.0176	0.0165	0.0188	0.0175	0.0188	0.0174	0.0200	0.0184	0.0190	0.0174	0.0210	0.0191

– Values of (a) the Mass Energy-Transfer Coefficient, μ_K/ρ (cm²/gm), and (b) the Mass Energy-Absorption Coefficient, μ_{en}/ρ (cm²/gm), for Elements Calcium through Copper[a]

$h\nu$(MeV)	$_{20}$Ca		$_{26}$Fe		$_{27}$Co		$_{28}$Ni		$_{29}$Cu	
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
0.01	91.6	91.6	142.	142.	148.6	148.6	161.	161.	160.	160.
0.015	28.6	28.6	49.3	49.3	52.5	52.5	58.2	58.2	59.4	59.4
0.02	12.2	12.2	22.8	22.8	24.4	24.4	27.4	27.4	28.2	28.2
0.03	3.60	3.60	7.28	7.28	7.97	7.97	9.06	9.06	9.50	9.50
0.04	1.50	1.50	3.17	3.17	3.49	3.49	4.03	4.03	4.24	4.24
0.05	0.764	0.764	1.64	1.64	1.64	1.64	2.15	2.15	2.22	2.22
0.06	0.444	0.444	0.961	0.961	1.08	1.08	1.25	1.25	1.32	1.32
0.08	0.196	0.196	0.414	0.414	0.454	0.454	0.528	0.528	0.573	0.573
0.10	0.109	0.109	0.219	0.219	0.243	0.243	0.284	0.284	0.302	0.302
0.15	0.0497	0.0497	0.0814	0.0814	0.0887	0.0887	0.101	0.101	0.106	0.106
0.2	0.0371	0.0371	0.0495	0.0495	0.0523	0.0523	0.0582	0.0582	0.0597	0.0597
0.3	0.0318	0.0318	0.0335	0.0335	0.0347	0.0347	0.0374	0.0374	0.0370	0.0370
0.4	0.0309	0.0309	0.0308	0.0308	0.0308	0.0308	0.0326	0.0326	0.0318	0.0318
0.5	0.0304	0.0304	0.0295	0.0295	0.0294	0.0294	0.0309	0.0309	0.0298	0.0298
0.6	0.0300	0.0299	0.0287	0.0286	0.0284	0.0283	0.0298	0.0297	0.0287	0.0286
0.8	0.0291	0.0289	0.0275	0.0273	0.0272	0.0270	0.0284	0.0282	0.0272	0.0271
1.0	0.0280	0.0278	0.0264	0.0262	0.0260	0.0258	0.0272	0.0269	0.0261	0.0258
1.5	0.0257	0.0254	0.0241	0.0237	0.0237	0.0234	0.0247	0.0243	0.0237	0.0233
2	0.0240	0.0236	0.0225	0.0220	0.0222	0.0217	0.0232	0.0227	0.0222	0.0217
3	0.0220	0.0214	0.0212	0.0204	0.0202	0.0202	0.0219	0.0211	0.0211	0.0202
4	0.0213	0.0205	0.0209	0.0199	0.0208	0.0197	0.0218	0.0207	0.0211	0.0200
5	0.0211	0.0200	0.0211	0.0198	0.0210	0.0196	0.0222	0.0207	0.0214	0.0200
6	0.0211	0.0198	0.0215	0.0199	0.0215	0.0198	0.0227	0.0209	0.0220	0.0202
8	0.0215	0.0198	0.0226	0.0204	0.0226	0.0203	0.0239	0.0215	0.0234	0.0209
10	0.0222	0.0201	0.0238	0.0209	0.0239	0.0210	0.0254	0.0222	0.0248	0.0215

Tabell 20 : Values of (a) the Mass Energy-Transfer Coefficient, μ_K/ρ (cm²/gm), and (b) the Mass Energy-Absorption Coefficient, μ_{en}/ρ (cm²/gm), for Uranium[a]

$h\nu$(MeV)	$_{92}$U (a)	$_{92}$U (b)
N_1 edge		
0.001439	4460	4460
0.0015	4050	4050
0.002	2110	2110
0.003	818	818
0.003545	554	554
M_5 edge		
0.003545	1191	1191
0.003720	1055	1055
M_4 edge		
0.003720	1520	1520
0.004	1258	1258
0.004299	1046	1046
M_3 edge		
0.004299	1242	1242
0.005	851	850
0.005179	781	780
M_2 edge		
0.005179	839	839

$h\nu$(MeV)	$_{92}$U (a)	$_{92}$U (b)
0.005546	707	706
M_1 edge		
0.005546	739	739
0.006	612	611
0.008	300	299
0.010	170.5	170.2
0.015	59.6	59.4
0.017165	42.2	42.1
L_3 edge		
0.017165	80.1	80.1
0.020	55.5	55.5
0.020945	49.4	49.4
L_2 edge		
0.020945	66.9	66.9
0.021771	61.2	61.1
L_1 edge		
0.021771	69.6	69.6
0.03	33.0	33.0
0.04	16.33	16.27
0.05	9.30	9.25

$h\nu$(MeV)	$_{92}$U (a)	$_{92}$U (b)
0.06	5.82	5.78
0.08	2.76	2.73
0.10	1.535	1.517
0.11562	1.049	1.036
K edge		
0.11562	1.660	1.658
0.15	1.120	1.193
0.20	0.712	0.704
0.30	0.322	0.315
0.4	0.1835	0.1779
0.5	0.1222	0.1175
0.6	0.0902	0.0864
0.8	0.0599	0.0569
1.0	0.0458	0.0432
1.5	0.0317	0.0295
2	0.0278	0.0255
3	0.0276	0.0246
4	0.0298	0.0256
5	0.0324	0.0270
6	0.0348	0.0281
8	0.0392	0.0298
10	0.0432	0.0312

Tabell 20 :

VALUES OF (a) THE MASS ENERGY-TRANSFER COEFFICIENT, μ_K/ρ (CM²/GM), AND (b) THE MASS ENERGY-ABSORPTION COEFFICIENT, μ_{en}/ρ (CM²/GM) FOR TIN[a]

$h\nu$(MeV)	$_{50}$Sn		$h\nu$(MeV)	$_{50}$Sn	
	(a)	(b)		(a)	(b)
0.0010	11110	11110	0.04	9.97	9.96
0.0015	3950	3950	0.05	6.25	6.24
0.0020	1954	1954	0.06	4.20	4.19
0.0030	705	705	0.08	2.19	2.18
0.0039288	360	360	0.10	1.257	1.250
L_3 edge			0.15	0.446	0.442
0.0039288	1067	1067	0.20	0.211	0.209
			0.30	0.0853	0.0843
0.0040	1019	1019			
			0.4	0.0536	0.0530
0.0041573	930	930	0.5	0.0423	0.0416
L_2 edge			0.6	0.0358	0.0353
0.0041573	1187	1187	0.8	0.0301	0.0294
0.0044648	971	971	1.0	0.0270	0.0264
L_1 edge			1.5	0.0233	0.0226
0.0044648	1207	1207	2.0	0.0220	0.0210
			3.0	0.0219	0.0205
0.005	880	880			
0.006	540	539	4	0.0232	0.0212
0.008	250	249	5	0.0247	0.0221
			6	0.0262	0.0230
0.010	136.5	136.4	8	0.0292	0.0245
0.015	43.7	43.6			
0.020	19.83	19.81	10	0.0319	0.0258
0.0291947	6.83	6.82			
K edge					
0.0291947	16.70	16.69			
0.030	16.18	16.17			

VALUES OF (a) THE MASS ENERGY-TRANSFER COEFFICIENT, μ_K/ρ (CM²/GM), AND (b) THE MASS ENERGY ABSORPTION COEFFICIENT, μ_{en}/ρ (CM²/GM), FOR LEAD[a]

$h\nu$(MeV)	$_{82}$Pb		$h\nu$(MeV)	$_{82}$Pb	
	(a)	(b)		(a)	(b)
M_1 edge			0.088005	1.494	1.481
0.003854	1454	1453	K edge		
			0.088005	2.47	2.47
0.004	1298	1297			
0.005	747	747	0.10	2.28	2.28
0.006	479	479	0.15	1.164	1.154
0.008	230	230	0.2	0.637	0.629
			0.3	0.265	0.259
0.010	131.0	130.7			
			0.4	0.1474	0.1432
0.0130406	66.2	66.0	0.5	0.0984	0.0951
L_3 edge			0.6	0.0737	0.0710
0.0130406	128.8	128.8	0.8	0.0503	0.0481
0.015	91.7	91.7	1.0	0.0396	0.0377
			1.5	0.0288	0.0271
0.0152053	89.6	89.6	2	0.0259	0.0240
L_2 edge			3	0.0260	0.0234
0.0152053	113.0	113.0			
			4	0.0281	0.0245
0.015855	101.7	101.6	5	0.0306	0.0259
L_1 edge			6	0.0331	0.0272
0.015855	123.0	123.0	8	0.0378	0.0294
0.02	69.2	69.1	10	0.0419	0.0310
0.03	24.6	24.6			
0.04	11.83	11.78			
0.05	6.57	6.54			
0.06	4.11	4.08			
0.08	1.924	1.908			

Tabell 20 : Values of (a) the Mass Energy-Transfer Coefficient, μ_K/ρ (cm²/gm), and (b) the Mass Energy-Absorption Coefficient, μ_{en}/ρ (cm²/gm) for Some Mixtures and Compounds[a]

$h\nu$(MeV)	Air		Water		0.8N (0.4M) H_2SO_4 soln.		Compact bone (femur)		Muscle (striated)		Polystyrene, $(C_8H_8)_n$	
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
0.01	4.61	4.61	4.79	4.79	5.36	5.36	19.2	19.2	4.87	4.87	1.82	1.82
0.015	1.27	1.27	1.28	1.28	1.45	1.45	5.84	5.84	1.32	1.32	0.495	0.495
0.02	0.511	0.511	0.512	0.512	0.585	0.585	2.46	2.46	0.533	0.533	0.193	0.193
0.03	0.148	0.148	0.149	0.149	0.169	0.169	0.720	0.720	0.154	0.154	0.0562	0.0562
0.04	0.0668	0.0668	0.0677	0.0677	0.0761	0.0761	0.304	0.304	0.0701	0.0701	0.0300	0.0300
0.05	0.0406	0.0406	0.0418	0.0418	0.0460	0.0460	0.161	0.161	0.0431	0.0431	0.0236	0.0236
0.06	0.0305	0.0305	0.0320	0.0320	0.0344	0.0344	0.0998	0.0998	0.0328	0.0328	0.0218	0.0218
0.08	0.0243	0.0243	0.0262	0.0262	0.0271	0.0271	0.0537	0.0537	0.0264	0.0264	0.0217	0.0217
0.10	0.0234	0.0234	0.0256	0.0256	0.0260	0.0260	0.0387	0.0387	0.0256	0.0256	0.0231	0.0231
0.15	0.0250	0.0250	0.0277	0.0277	0.0277	0.0277	0.0305	0.0305	0.0275	0.0275	0.0263	0.0263
0.2	0.0268	0.0268	0.0297	0.0297	0.0296	0.0296	0.0301	0.0301	0.0294	0.0294	0.0286	0.0286
0.3	0.0287	0.0287	0.0319	0.0319	0.0319	0.0319	0.0310	0.0310	0.0317	0.0317	0.0309	0.0309
0.4	0.0295	0.0295	0.0328	0.0328	0.0327	0.0327	0.0315	0.0315	0.0325	0.0325	0.0318	0.0318
0.5	0.0297	0.0296	0.0330	0.0330	0.0330	0.0330	0.0317	0.0317	0.0328	0.0328	0.0321	0.0321
0.6	0.0296	0.0295	0.0329	0.0329	0.0328	0.0328	0.0315	0.0314	0.0326	0.0325	0.0319	0.0318
0.8	0.0289	0.0289	0.0321	0.0321	0.0320	0.0320	0.0307	0.0306	0.0318	0.0318	0.0311	0.0310
1.0	0.0280	0.0278	0.0311	0.0309	0.0310	0.0308	0.0297	0.0295	0.0308	0.0306	0.0300	0.0300
1.5	0.0256	0.0254	0.0284	0.0282	0.0283	0.0281	0.0272	0.0270	0.0282	0.0280	0.0275	0.0275
2	0.0236	0.0234	0.0262	0.0260	0.0261	0.0259	0.0251	0.0249	0.0259	0.0257	0.0253	0.0252
3	0.0207	0.0205	0.0229	0.0227	0.0229	0.0227	0.0221	0.0219	0.0227	0.0225	0.0221	0.0219
4	0.0189	0.0186	0.0209	0.0206	0.0209	0.0206	0.0204	0.0200	0.0207	0.0204	0.0200	0.0198
5	0.0178	0.0174	0.0195	0.0191	0.0194	0.0191	0.0192	0.0187	0.0193	0.0189	0.0185	0.0182
6	0.0168	0.0164	0.0185	0.0180	0.0184	0.0180	0.0184	0.0178	0.0183	0.0178	0.0174	0.0171
8	0.0157	0.0152	0.0170	0.0166	0.0171	0.0166	0.0173	0.0167	0.0169	0.0164	0.0159	0.0155
10	0.0151	0.0145	0.0162	0.0157	0.0162	0.0157	0.0168	0.0159	0.0160	0.0155	0.0150	0.0145

$h\nu$(MeV)	Methyl methacrylate (Perspex, plexiglass, Lucite), $C_5H_8O_2$		Polyethylene, $(CH_2)_n$		Bakelite (Typical comp.), $C_{43}H_{38}O_7$		Pyrex glass (Corning #7740)		Concrete (typical comp.)	
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
0.01	2.91	2.91	1.69	1.69	2.43	2.43	16.5	16.5	25.5	25.5
0.015	0.783	0.783	0.461	0.461	0.658	0.658	4.75	4.75	7.66	7.66
0.02	0.310	0.310	0.180	0.180	0.258	0.258	1.94	1.94	3.22	3.22
0.03	0.0899	0.0899	0.0535	0.0535	0.0748	0.0748	0.554	0.554	0.936	0.936
0.04	0.0437	0.0437	0.0295	0.0295	0.0374	0.0374	0.232	0.232	0.393	0.393
0.05	0.0301	0.0301	0.0238	0.0238	0.0269	0.0269	0.122	0.122	0.204	0.204
0.06	0.0254	0.0254	0.0225	0.0225	0.0235	0.0235	0.0768	0.0768	0.124	0.124
0.08	0.0232	0.0232	0.0228	0.0228	0.0221	0.0221	0.0428	0.0428	0.0625	0.0625
0.10	0.0238	0.0238	0.0243	0.0243	0.0230	0.0230	0.0325	0.0325	0.0424	0.0424
0.15	0.0266	0.0266	0.0279	0.0279	0.0260	0.0260	0.0274	0.0274	0.0290	0.0290
0.2	0.0287	0.0287	0.0303	0.0303	0.0281	0.0281	0.0276	0.0276	0.0290	0.0290
0.3	0.0310	0.0310	0.0328	0.0328	0.0303	0.0303	0.0289	0.0289	0.0295	0.0295
0.4	0.0318	0.0318	0.0337	0.0337	0.0312	0.0312	0.0295	0.0295	0.0298	0.0298
0.5	0.0322	0.0322	0.0340	0.0340	0.0315	0.0315	0.0297	0.0297	0.0300	0.0300
0.6	0.0319	0.0319	0.0338	0.0337	0.0313	0.0312	0.0295	0.0294	0.0297	0.0297
0.8	0.0312	0.0311	0.0330	0.0329	0.0305	0.0305	0.0288	0.0287	0.0290	0.0289
1.0	0.0302	0.0301	0.0319	0.0319	0.0295	0.0295	0.0279	0.0277	0.0281	0.0279
1.5	0.0276	0.0275	0.0292	0.0291	0.0270	0.0269	0.0254	0.0252	0.0256	0.0254
2	0.0254	0.0253	0.0268	0.0267	0.0248	0.0247	0.0235	0.0233	0.0237	0.0235
3	0.0222	0.0220	0.0234	0.0232	0.0217	0.0215	0.0209	0.0207	0.0212	0.0209
4	0.0202	0.0199	0.0211	0.0209	0.0197	0.0195	0.0194	0.0190	0.0198	0.0193
5	0.0187	0.0184	0.0195	0.0192	0.0183	0.0180	0.0184	0.0179	0.0188	0.0182
6	0.0177	0.0173	0.0182	0.0180	0.0173	0.0169	0.0178	0.0171	0.0183	0.0176
8	0.0162	0.0158	0.0166	0.0162	0.0158	0.0154	0.0170	0.0163	0.0176	0.0168
10	0.0153	0.0148	0.0155	0.0151	0.0150	0.0145	0.0166	0.0157	0.0174	0.0163

Tabell 21 :

γ-Ray energy (MeV)	Mass energy-absorption coefficient (μ_{en}/ρ), cm²/gm											
	$_{15}P$	$_{16}S$	$_{18}Ar$	$_{19}K$	$_{20}Ca$	$_{26}Fe$	Air	Water	LiF	0.8N(0.4M) H_2SO_4 solution	Compact bone	Muscle[d]
0.01	39.8	49.7	62.3	77.6	91.6	142	4.61	4.79	5.61	5.36	19.2	4.87
0.015	11.8	14.9	19.1	23.9	28.6	49.3	1.27	1.28	1.51	1.45	5.84	1.32
0.02	4.91	6.21	8.02	10.2	12.2	22.8	0.511	0.512	0.607	0.585	2.46	0.533
0.03	1.39	1.77	2.31	2.94	3.60	7.28	0.148	0.149	0.174	0.169	0.720	0.154
0.04	0.572	0.727	0.962	1.23	1.50	3.17	0.0668	0.0677	0.0763	0.0761	0.304	0.0701
0.05	0.293	0.372	0.488	0.623	0.764	1.64	0.0406	0.0418	0.0448	0.0460	0.161	0.0431
0.06	0.173	0.218	0.284	0.366	0.444	0.961	0.0305	0.0320	0.0323	0.0344	0.0998	0.0328
0.08	0.0820	0.101	0.128	0.162	0.196	0.414	0.0243	0.0262	0.0240	0.0271	0.0537	0.0264
0.10	0.0511	0.0609	0.0735	0.0913	0.109	0.219	0.0234	0.0256	0.0224	0.0260	0.0387	0.0256
0.15	0.0322	0.0357	0.0377	0.0442	0.0497	0.0814	0.0250	0.0277	0.0234	0.0277	0.0305	0.0275
0.2	0.0293	0.0311	0.0304	0.0343	0.0371	0.0495	0.0268	0.0297	0.0249	0.0296	0.0301	0.0294
0.3	0.0288	0.0299	0.0278	0.0304	0.0318	0.0335	0.0287	0.0319	0.0266	0.0319	0.0310	0.0317
0.4	0.0291	0.0301	0.0275	0.0298	0.0309	0.0308	0.0295	0.0328	0.0274	0.0327	0.0315	0.0325
0.5	0.0291	0.0300	0.0272	0.0293	0.0304	0.0295	0.0296	0.0330	0.0276	0.0330	0.0317	0.0328
0.6	0.0288	0.0297	0.0268	0.0290	0.0299	0.0286	0.0295	0.0329	0.0274	0.0328	0.0314	0.0325
[b]0.662	0.0285	0.0294	0.0266	0.0288	0.0296	0.0282	0.0293	0.0327	0.0272	0.0326	0.0312	0.0323
0.8	0.0278	0.0288	0.0261	0.0282	0.0289	0.0273	0.0289	0.0321	0.0267	0.0320	0.0306	0.0318
1.0	0.0270	0.0278	0.0251	0.0270	0.0278	0.0262	0.0278	0.0309	0.0258	0.0308	0.0295	0.0306
[c]1.25	0.0258	0.0266	0.0240	0.0259	0.0266	0.0250	0.0266	0.0296	0.0247	0.0295	0.0283	0.0293
1.5	0.0246	0.0253	0.0229	0.0247	0.0254	0.0237	0.0254	0.0282	0.0236	0.0281	0.0270	0.0280
2.0	0.0228	0.0235	0.0212	0.0229	0.0236	0.0220	0.0234	0.0260	0.0217	0.0259	0.0249	0.0257
3.0	0.0204	0.0211	0.0192	0.0208	0.0214	0.0204	0.0205	0.0227	0.0190	0.0227	0.0219	0.0225
4.0	0.0192	0.0199	0.0182	0.0198	0.0205	0.0199	0.0186	0.0206	0.0173	0.0206	0.0200	0.0204
5.0	0.0184	0.0192	0.0177	0.0193	0.0200	0.0198	0.0174	0.0191	0.0161	0.0191	0.0187	0.0189
6.0	0.0179	0.0188	0.0174	0.0190	0.0198	0.0199	0.0164	0.0180	0.0152	0.0180	0.0178	0.0178
8.0	0.0175	0.0184	0.0173	0.0190	0.0198	0.0204	0.0152	0.0166	0.0141	0.0166	0.0167	0.0164
10.0	0.0174	0.0184	0.0174	0.0191	0.0201	0.0209	0.0145	0.0157	0.0134	0.0157	0.0159	0.0155

γ-Ray energy (MeV)	Mass energy-absorption coefficient (μ_{en}/ρ), cm²/gm						$f = 0.86, \frac{(\mu_{en}/\rho)_{med}}{(\mu_{en}/\rho)_{air}}$			
	Polystyrene $(C_8H_8)_n$	Lucite $(C_5H_8O_2)$	Polyethylene $(CH_2)_n$	Bakelite $(C_{43}H_{33}O_1)$	Teflon $(CF_2)_n$	Pyrex glass (Corning #7740)	Water	0.8 N H_2SO_4 solution	Compact[d] bone	Muscle[d]
0.01	1.82	2.91	1.69	2.43	6.26	16.5	0.903	1.010	3.619	0.918
0.015	0.495	0.783	0.461	0.658	1.69	4.75	0.876	0.992	3.996	0.903
0.02	0.193	0.310	0.180	0.258	0.674	1.94	0.871	0.995	4.183	0.906
0.03	0.0562	0.0899	0.0535	0.0748	0.191	0.554	0.875	0.992	4.228	0.904
0.04	0.0300	0.0437	0.0295	0.0374	0.0833	0.232	0.881	0.990	3.955	0.912
0.05	0.0236	0.0301	0.0238	0.0269	0.0486	0.122	0.895	0.985	3.446	0.923
0.06	0.0218	0.0254	0.0225	0.0235	0.0348	0.0768	0.912	0.980	2.844	0.935
0.08	0.0217	0.0232	0.0228	0.0221	0.0254	0.0428	0.937	0.969	1.920	0.944
0.10	0.0231	0.0238	0.0243	0.0230	0.0235	0.0325	0.951	0.966	1.437	0.951
0.15	0.0263	0.0266	0.0279	0.0260	0.0243	0.0274	0.963	0.963	1.060	0.956
0.2	0.0286	0.0287	0.0303	0.0281	0.0258	0.0276	0.963	0.960	0.976	0.953
0.3	0.0309	0.0310	0.0328	0.0303	0.0276	0.0289	0.966	0.966	0.939	0.960
0.4	0.0318	0.0318	0.0337	0.0312	0.0284	0.0295	0.966	0.963	0.928	0.957
0.5	0.0321	0.0322	0.0340	0.0315	0.0286	0.0297	0.969	0.969	0.931	0.963
0.6	0.0318	0.0319	0.0337	0.0312	0.0284	0.0294	0.969	0.966	0.925	0.957
[b]0.662	0.0316	0.0317	0.0335	0.0310	0.0282	0.0292	0.969	0.965	0.924	0.957
0.8	0.0310	0.0311	0.0329	0.0305	0.0277	0.0287	0.965	0.962	0.920	0.956
1.0	0.0300	0.0301	0.0319	0.0295	0.0268	0.0277	0.966	0.963	0.922	0.956
[c]1.25	0.0288	0.0288	0.0305	0.0282	0.0256	0.0265	0.965	0.962	0.923	0.957
1.5	0.0275	0.0275	0.0291	0.0269	0.0244	0.0252	0.965	0.961	0.924	0.958
2.0	0.0252	0.0253	0.0267	0.0247	0.0225	0.0233	0.966	0.962	0.925	0.954
3.0	0.0219	0.0220	0.0232	0.0215	0.0198	0.0207	0.962	0.962	0.928	0.954
4.0	0.0198	0.0199	0.0209	0.0195	0.0180	0.0190	0.962	0.962	0.934	0.953
5.0	0.0182	0.0184	0.0192	0.0180	0.0169	0.0179	0.954	0.954	0.934	0.944
6.0	0.0171	0.0173	0.0180	0.0169	0.0160	0.0171	0.954	0.954	0.943	0.943
8.0	0.0155	0.0158	0.0162	0.0154	0.0149	0.0163	0.949	0.949	0.955	0.938
10.0	0.0145	0.0148	0.0151	0.0145	0.0143	0.0157	0.941	0.941	0.953	0.929

[a] These data were provided by J. H. Hubbell (1967) from work sponsored by the National Standard Reference Data System at the National Bureau of Standards. [b] Cs^{137} γ rays. μ_{en}/ρ value obtained by linear interpolation between 0.6 and 0.8 MeV. [c] Average energy of Co^{60} γ rays (1.17 and 1.33 MeV); μ_{en}/ρ value obtained by linear interpolation between 1.0 and 1.5 MeV. [d] Compact bone and muscle are taken to have the same composition as those given in Table V of Chapter 3 (Volume I).

Tabell 22 : Grundämnes sammansättningen i vävnad.

Elément	H	C	N	O	Na	Mg	P	S	K	Ca
Concentration pondérale en %	10,2	12,3	3,5	72,9	0,08	0,02	0,2	0,5	0,3	0,007

Tabell 23 : Mass attenuerings- och mass energi-absorptions-koefficienter för vävnad. (cm^2/gm)

Energie des photons	Coefficient d'atténuation massique	Coefficient d'absorption massique en énergie
0,010	5,03	4,82
0,015	1,52	1,33
0,020	0,719	0,526
0,030	0,339	0,152
0,040	0,242	0,0652
0,050	0,211	0,0399
0,060	0,195	0,0310
0,080	0,177	0,0254
0,100	0,166	0,0251
0,150	0,147	0,0274
0,200	0,135	0,0294
0,500	0,0957	0,0329
1,000	0,0700	0,0307
2,000	0,0488	0,0258
5,000	0,0301	0,0188
10,000	0,0219	0,0153

Tabell 24 : Stopping Power värden

ELECTRONS IN AIR, DRY (NEAR SEA LEVEL)

I = 85.7 eV DENSITY = 1.205E-03 g/cm³ (20° C)

ENERGY	STOPPING POWER COLLISION	RADIATIVE	TOTAL	CSDA RANGE	RADIATION YIELD	DENS.EFF. CORR. (DELTA)	d(log)/d(logI) COLL LOSS	CSDA RANGE	RAD YIELD
MeV	MeV cm²/g	MeV cm²/g	MeV cm²/g	g/cm²					
0.0100	1.975E+01	3.897E-03	1.976E+01	2.883E-04	1.082E-04	0.0	-0.204	0.235	0.233
0.0125	1.663E+01	3.921E-03	1.663E+01	4.269E-04	1.299E-04	0.0	-0.195	0.223	0.222
0.0150	1.445E+01	3.937E-03	1.445E+01	5.886E-04	1.506E-04	0.0	-0.189	0.215	0.213
0.0175	1.283E+01	3.946E-03	1.283E+01	7.726E-04	1.706E-04	0.0	-0.184	0.208	0.207
0.0200	1.157E+01	3.954E-03	1.156E+01	9.781E-04	1.898E-04	0.0	-0.179	0.202	0.201
0.0250	9.753E+00	3.966E-03	9.757E+00	1.451E-03	2.267E-04	0.0	-0.173	0.194	0.193
0.0300	8.492E+00	3.976E-03	8.496E+00	2.001E-03	2.618E-04	0.0	-0.167	0.187	0.186
0.0350	7.563E+00	3.986E-03	7.567E+00	2.626E-03	2.955E-04	0.0	-0.163	0.182	0.181
0.0400	6.848E+00	3.998E-03	6.852E+00	3.322E-03	3.280E-04	0.0	-0.160	0.178	0.177
0.0450	6.281E+00	4.011E-03	6.285E+00	4.085E-03	3.594E-04	0.0	-0.157	0.174	0.174
0.0500	5.819E+00	4.025E-03	5.823E+00	4.912E-03	3.900E-04	0.0	-0.155	0.171	0.171
0.0550	5.435E+00	4.040E-03	5.439E+00	5.801E-03	4.197E-04	0.0	-0.153	0.168	0.168
0.0600	5.111E+00	4.057E-03	5.115E+00	6.750E-03	4.488E-04	0.0	-0.151	0.166	0.166
0.0700	4.593E+00	4.093E-03	4.597E+00	8.817E-03	5.049E-04	0.0	-0.147	0.162	0.162
0.0800	4.198E+00	4.133E-03	4.202E+00	1.110E-02	5.590E-04	0.0	-0.145	0.159	0.158
0.0900	3.886E+00	4.175E-03	3.890E+00	1.357E-02	6.112E-04	0.0	-0.142	0.156	0.156
0.1000	3.633E+00	4.222E-03	3.637E+00	1.623E-02	6.618E-04	0.0	-0.140	0.153	0.153
0.1250	3.172E+00	4.348E-03	3.177E+00	2.362E-02	7.826E-04	0.0	-0.136	0.149	0.148
0.1500	2.861E+00	4.485E-03	2.865E+00	3.193E-02	8.968E-04	0.0	-0.133	0.145	0.145
0.1750	2.637E+00	4.633E-03	2.642E+00	4.103E-02	1.006E-03	0.0	-0.131	0.142	0.142
0.2000	2.470E+00	4.789E-03	2.474E+00	5.082E-02	1.111E-03	0.0	-0.128	0.140	0.139
0.2500	2.236E+00	5.126E-03	2.242E+00	7.212E-02	1.311E-03	0.0	-0.125	0.136	0.135
0.3000	2.084E+00	5.495E-03	2.089E+00	9.527E-02	1.502E-03	0.0	-0.122	0.133	0.132
0.3500	1.978E+00	5.890E-03	1.984E+00	1.199E-01	1.688E-03	0.0	-0.120	0.130	0.129
0.4000	1.902E+00	6.311E-03	1.908E+00	1.456E-01	1.869E-03	0.0	-0.118	0.128	0.127
0.4500	1.845E+00	6.757E-03	1.852E+00	1.722E-01	2.048E-03	0.0	-0.116	0.126	0.125
0.5000	1.802E+00	7.223E-03	1.809E+00	1.995E-01	2.225E-03	0.0	-0.114	0.125	0.123
0.5500	1.769E+00	7.708E-03	1.776E+00	2.274E-01	2.401E-03	0.0	-0.113	0.123	0.122
0.6000	1.743E+00	8.210E-03	1.751E+00	2.558E-01	2.577E-03	0.0	-0.112	0.122	0.120
0.7000	1.706E+00	9.258E-03	1.715E+00	3.135E-01	2.929E-03	0.0	-0.109	0.120	0.118
0.8000	1.683E+00	1.036E-02	1.694E+00	3.722E-01	3.283E-03	0.0	-0.107	0.118	0.115
0.9000	1.669E+00	1.151E-02	1.681E+00	4.315E-01	3.638E-03	0.0	-0.106	0.116	0.114
1.0000	1.661E+00	1.271E-02	1.674E+00	4.912E-01	3.997E-03	0.0	-0.104	0.115	0.112
1.2500	1.655E+00	1.588E-02	1.671E+00	6.408E-01	4.906E-03	0.0	-0.101	0.112	0.108
1.5000	1.661E+00	1.927E-02	1.680E+00	7.900E-01	5.836E-03	0.0	-0.099	0.109	0.106
1.7500	1.672E+00	2.284E-02	1.694E+00	9.382E-01	6.784E-03	0.0	-0.097	0.107	0.103
2.0000	1.684E+00	2.656E-02	1.711E+00	1.085E+00	7.748E-03	0.0	-0.095	0.106	0.101
2.5000	1.712E+00	3.437E-02	1.747E+00	1.374E+00	9.716E-03	0.0	-0.092	0.103	0.098
3.0000	1.740E+00	4.260E-02	1.783E+00	1.658E+00	1.173E-02	0.0	-0.090	0.100	0.095
3.5000	1.766E+00	5.115E-02	1.817E+00	1.935E+00	1.377E-02	0.0	-0.088	0.098	0.093
4.0000	1.790E+00	5.999E-02	1.850E+00	2.208E+00	1.583E-02	0.0	-0.087	0.097	0.091
4.5000	1.812E+00	6.908E-02	1.882E+00	2.476E+00	1.792E-02	0.0	-0.086	0.095	0.089
5.0000	1.833E+00	7.838E-02	1.911E+00	2.740E+00	2.001E-02	0.0	-0.084	0.094	0.088
5.5000	1.852E+00	8.787E-02	1.940E+00	2.999E+00	2.211E-02	0.0	-0.083	0.093	0.086
6.0000	1.870E+00	9.754E-02	1.968E+00	3.255E+00	2.422E-02	0.0	-0.083	0.092	0.085
7.0000	1.902E+00	1.173E-01	2.020E+00	3.757E+00	2.845E-02	0.0	-0.081	0.090	0.083
8.0000	1.931E+00	1.376E-01	2.068E+00	4.246E+00	3.269E-02	0.0	-0.080	0.088	0.081
9.0000	1.956E+00	1.584E-01	2.115E+00	4.724E+00	3.692E-02	0.0	-0.079	0.087	0.080
10.0000	1.979E+00	1.795E-01	2.159E+00	5.192E+00	4.113E-02	0.0	-0.078	0.085	0.078
12.5000	2.029E+00	2.337E-01	2.262E+00	6.323E+00	5.156E-02	0.0	-0.076	0.083	0.075
15.0000	2.069E+00	2.895E-01	2.359E+00	7.405E+00	6.181E-02	0.0	-0.074	0.080	0.072
17.5000	2.104E+00	3.464E-01	2.451E+00	8.444E+00	7.185E-02	0.0	-0.073	0.078	0.070
20.0000	2.134E+00	4.042E-01	2.539E+00	9.446E+00	8.167E-02	0.0	-0.072	0.076	0.068
25.0000	2.185E+00	5.219E-01	2.707E+00	1.135E+01	1.006E-01	0.0	-0.070	0.073	0.065
30.0000	2.226E+00	6.417E-01	2.868E+00	1.315E+01	1.186E-01	7.636E-03	-0.062	0.071	0.062
35.0000	2.257E+00	7.630E-01	3.020E+00	1.485E+01	1.357E-01	5.984E-02	-0.052	0.068	0.057
40.0000	2.282E+00	8.855E-01	3.167E+00	1.646E+01	1.520E-01	1.378E-01	-0.044	0.064	0.052
45.0000	2.302E+00	1.009E+00	3.311E+00	1.801E+01	1.676E-01	2.266E-01	-0.039	0.061	0.048
50.0000	2.319E+00	1.133E+00	3.452E+00	1.948E+01	1.825E-01	3.192E-01	-0.035	0.059	0.044
55.0000	2.334E+00	1.258E+00	3.592E+00	2.090E+01	1.968E-01	4.120E-01	-0.032	0.056	0.040
60.0000	2.347E+00	1.384E+00	3.731E+00	2.227E+01	2.104E-01	5.029E-01	-0.030	0.054	0.037
70.0000	2.369E+00	1.637E+00	4.006E+00	2.486E+01	2.361E-01	6.762E-01	-0.027	0.050	0.033
80.0000	2.387E+00	1.892E+00	4.279E+00	2.727E+01	2.598E-01	8.365E-01	-0.025	0.047	0.029
90.0000	2.403E+00	2.148E+00	4.551E+00	2.954E+01	2.818E-01	9.842E-01	-0.023	0.044	0.026
100.0000	2.417E+00	2.405E+00	4.822E+00	3.167E+01	3.022E-01	1.120E+00	-0.022	0.042	0.024
125.0000	2.445E+00	3.053E+00	5.498E+00	3.652E+01	3.474E-01	1.419E+00	-0.020	0.038	0.020
150.0000	2.468E+00	3.705E+00	6.173E+00	4.081E+01	3.859E-01	1.670E+00	-0.019	0.035	0.017
175.0000	2.486E+00	4.360E+00	6.847E+00	4.465E+01	4.192E-01	1.887E+00	-0.018	0.032	0.015
200.0000	2.502E+00	5.018E+00	7.520E+00	4.814E+01	4.484E-01	2.078E+00	-0.017	0.030	0.013
250.0000	2.529E+00	6.340E+00	8.868E+00	5.425E+01	4.972E-01	2.403E+00	-0.016	0.028	0.011
300.0000	2.550E+00	7.667E+00	1.022E+01	5.950E+01	5.365E-01	2.675E+00	-0.015	0.026	0.009
350.0000	2.567E+00	8.998E+00	1.157E+01	6.410E+01	5.691E-01	2.909E+00	-0.014	0.024	0.008
400.0000	2.582E+00	1.033E+01	1.292E+01	6.819E+01	5.967E-01	3.116E+00	-0.013	0.023	0.007
450.0000	2.595E+00	1.167E+01	1.427E+01	7.187E+01	6.203E-01	3.302E+00	-0.012	0.022	0.007
500.0000	2.606E+00	1.301E+01	1.562E+01	7.522E+01	6.409E-01	3.472E+00	-0.011	0.021	0.006
550.0000	2.616E+00	1.435E+01	1.697E+01	7.829E+01	6.589E-01	3.628E+00	-0.010	0.020	0.006
600.0000	2.625E+00	1.569E+01	1.832E+01	8.112E+01	6.750E-01	3.772E+00	-0.010	0.019	0.005
700.0000	2.641E+00	1.838E+01	2.102E+01	8.622E+01	7.022E-01	4.034E+00	-0.008	0.018	0.004
800.0000	2.653E+00	2.107E+01	2.372E+01	9.069E+01	7.247E-01	4.267E+00	-0.007	0.017	0.004
900.0000	2.664E+00	2.376E+01	2.643E+01	9.468E+01	7.435E-01	4.477E+00	-0.006	0.017	0.004
1000.0000	2.674E+00	2.646E+01	2.913E+01	9.829E+01	7.595E-01	4.668E+00	-0.005	0.016	0.003

Tabell 24 :

ELECTRONS IN ALUMINUM

I = 166.0 eV DENSITY = 2.699E+00 g/cm³

ENERGY	STOPPING POWER COLLISION	STOPPING POWER RADIATIVE	STOPPING POWER TOTAL	CSDA RANGE	RADIATION YIELD	DENS.EFF. CORR. (DELTA)	d(log)/d(logI) COLL LOSS	d(log)/d(logI) CSDA RANGE	d(log)/d(logI) RAD YIELD
MeV	MeV cm²/g	MeV cm²/g	MeV cm²/g	g/cm²					
0.0100	1.649E+01	6.559E-03	1.650E+01	3.539E-04	2.132E-04	3.534E-04	-0.236	0.281	0.275
0.0125	1.398E+01	6.700E-03	1.398E+01	5.192E-04	2.583E-04	4.937E-04	-0.224	0.265	0.260
0.0150	1.220E+01	6.798E-03	1.221E+01	7.111E-04	3.016E-04	6.538E-04	-0.216	0.252	0.248
0.0175	1.088E+01	6.871E-03	1.088E+01	9.284E-04	3.435E-04	8.332E-04	-0.209	0.243	0.239
0.0200	9.844E+00	6.926E-03	9.851E+00	1.170E-03	3.840E-04	1.031E-03	-0.203	0.235	0.232
0.0250	8.338E+00	7.004E-03	8.345E+00	1.724E-03	4.616E-04	1.483E-03	-0.195	0.224	0.221
0.0300	7.287E+00	7.059E-03	7.294E+00	2.367E-03	5.353E-04	2.005E-03	-0.188	0.215	0.212
0.0350	6.509E+00	7.100E-03	6.516E+00	3.093E-03	6.058E-04	2.593E-03	-0.183	0.208	0.206
0.0400	5.909E+00	7.133E-03	5.916E+00	3.900E-03	6.736E-04	3.246E-03	-0.179	0.202	0.201
0.0450	5.430E+00	7.162E-03	5.437E+00	4.783E-03	7.390E-04	3.960E-03	-0.175	0.198	0.196
0.0500	5.039E+00	7.191E-03	5.046E+00	5.738E-03	8.022E-04	4.732E-03	-0.172	0.194	0.192
0.0550	4.714E+00	7.217E-03	4.721E+00	6.763E-03	8.636E-04	5.560E-03	-0.170	0.190	0.189
0.0600	4.439E+00	7.243E-03	4.446E+00	7.855E-03	9.232E-04	6.440E-03	-0.167	0.187	0.186
0.0700	3.998E+00	7.295E-03	4.005E+00	1.023E-02	1.038E-03	8.351E-03	-0.163	0.182	0.181
0.0800	3.661E+00	7.350E-03	3.668E+00	1.284E-02	1.147E-03	1.045E-02	-0.160	0.178	0.177
0.0900	3.394E+00	7.411E-03	3.401E+00	1.568E-02	1.252E-03	1.271E-02	-0.157	0.174	0.173
0.1000	3.177E+00	7.476E-03	3.185E+00	1.872E-02	1.353E-03	1.513E-02	-0.155	0.171	0.170
0.1250	2.781E+00	7.659E-03	2.789E+00	2.714E-02	1.593E-03	2.175E-02	-0.150	0.165	0.164
0.1500	2.513E+00	7.865E-03	2.521E+00	3.659E-02	1.816E-03	2.907E-02	-0.146	0.160	0.160
0.1750	2.320E+00	8.096E-03	2.328E+00	4.693E-02	2.028E-03	3.694E-02	-0.143	0.157	0.156
0.2000	2.174E+00	8.344E-03	2.183E+00	5.804E-02	2.231E-03	4.525E-02	-0.140	0.154	0.153
0.2500	1.972E+00	8.888E-03	1.981E+00	8.217E-02	2.616E-03	6.280E-02	-0.136	0.149	0.148
0.3000	1.839E+00	9.487E-03	1.849E+00	1.083E-01	2.982E-03	8.116E-02	-0.132	0.145	0.144
0.3500	1.747E+00	1.013E-02	1.757E+00	1.361E-01	3.335E-03	9.997E-02	-0.129	0.142	0.141
0.4000	1.680E+00	1.082E-02	1.691E+00	1.652E-01	3.678E-03	1.190E-01	-0.127	0.139	0.138
0.4500	1.630E+00	1.154E-02	1.642E+00	1.952E-01	4.016E-03	1.380E-01	-0.125	0.137	0.135
0.5000	1.592E+00	1.230E-02	1.604E+00	2.260E-01	4.349E-03	1.569E-01	-0.123	0.135	0.133
0.5500	1.563E+00	1.309E-02	1.576E+00	2.575E-01	4.680E-03	1.757E-01	-0.121	0.133	0.131
0.6000	1.540E+00	1.390E-02	1.554E+00	2.894E-01	5.009E-03	1.943E-01	-0.119	0.132	0.130
0.7000	1.507E+00	1.560E-02	1.522E+00	3.545E-01	5.664E-03	2.307E-01	-0.116	0.129	0.126
0.8000	1.486E+00	1.739E-02	1.503E+00	4.206E-01	6.319E-03	2.661E-01	-0.113	0.127	0.124
0.9000	1.473E+00	1.925E-02	1.492E+00	4.874E-01	6.976E-03	3.005E-01	-0.111	0.124	0.121
1.0000	1.465E+00	2.119E-02	1.486E+00	5.546E-01	7.636E-03	3.339E-01	-0.108	0.122	0.119
1.2500	1.457E+00	2.630E-02	1.484E+00	7.231E-01	9.306E-03	4.138E-01	-0.103	0.118	0.113
1.5000	1.460E+00	3.177E-02	1.491E+00	8.912E-01	1.101E-02	4.898E-01	-0.097	0.114	0.109
1.7500	1.466E+00	3.752E-02	1.504E+00	1.053E+00	1.274E-02	5.632E-01	-0.092	0.111	0.105
2.0000	1.475E+00	4.350E-02	1.518E+00	1.224E+00	1.449E-02	6.349E-01	-0.087	0.108	0.101
2.5000	1.493E+00	5.605E-02	1.549E+00	1.550E+00	1.808E-02	7.757E-01	-0.077	0.102	0.093
3.0000	1.510E+00	6.924E-02	1.580E+00	1.869E+00	2.173E-02	9.145E-01	-0.067	0.096	0.085
3.5000	1.526E+00	8.292E-02	1.609E+00	2.183E+00	2.544E-02	1.051E+00	-0.059	0.091	0.079
4.0000	1.540E+00	9.702E-02	1.637E+00	2.491E+00	2.918E-02	1.183E+00	-0.052	0.086	0.072
4.5000	1.552E+00	1.115E-01	1.664E+00	2.794E+00	3.296E-02	1.311E+00	-0.047	0.082	0.067
5.0000	1.564E+00	1.263E-01	1.690E+00	3.092E+00	3.675E-02	1.433E+00	-0.042	0.078	0.062
5.5000	1.574E+00	1.413E-01	1.715E+00	3.386E+00	4.055E-02	1.550E+00	-0.039	0.074	0.058
6.0000	1.583E+00	1.567E-01	1.739E+00	3.675E+00	4.436E-02	1.661E+00	-0.036	0.071	0.054
7.0000	1.599E+00	1.879E-01	1.787E+00	4.242E+00	5.197E-02	1.868E+00	-0.032	0.066	0.048
8.0000	1.613E+00	2.200E-01	1.833E+00	4.795E+00	5.955E-02	2.055E+00	-0.029	0.061	0.043
9.0000	1.625E+00	2.526E-01	1.877E+00	5.334E+00	6.708E-02	2.226E+00	-0.026	0.057	0.039
10.0000	1.636E+00	2.858E-01	1.921E+00	5.861E+00	7.454E-02	2.384E+00	-0.025	0.054	0.035
12.5000	1.658E+00	3.706E-01	2.029E+00	7.127E+00	9.281E-02	2.727E+00	-0.022	0.048	0.030
15.0000	1.676E+00	4.574E-01	2.134E+00	8.328E+00	1.105E-01	3.016E+00	-0.020	0.044	0.026
17.5000	1.691E+00	5.459E-01	2.237E+00	9.472E+00	1.275E-01	3.265E+00	-0.018	0.040	0.023
20.0000	1.704E+00	6.357E-01	2.340E+00	1.056E+01	1.438E-01	3.484E+00	-0.017	0.037	0.021
25.0000	1.726E+00	8.180E-01	2.544E+00	1.261E+01	1.745E-01	3.857E+00	-0.016	0.033	0.018
30.0000	1.743E+00	1.003E+00	2.746E+00	1.450E+01	2.027E-01	4.168E+00	-0.014	0.030	0.015
35.0000	1.757E+00	1.190E+00	2.947E+00	1.626E+01	2.287E-01	4.435E+00	-0.013	0.028	0.014
40.0000	1.769E+00	1.379E+00	3.148E+00	1.790E+01	2.528E-01	4.669E+00	-0.012	0.026	0.012
45.0000	1.780E+00	1.569E+00	3.349E+00	1.944E+01	2.751E-01	4.878E+00	-0.010	0.024	0.011
50.0000	1.789E+00	1.761E+00	3.550E+00	2.089E+01	2.959E-01	5.068E+00	-0.009	0.023	0.010
55.0000	1.797E+00	1.953E+00	3.751E+00	2.226E+01	3.152E-01	5.241E+00	-0.009	0.022	0.009
60.0000	1.805E+00	2.147E+00	3.951E+00	2.356E+01	3.333E-01	5.401E+00	-0.008	0.021	0.009
70.0000	1.818E+00	2.535E+00	4.353E+00	2.597E+01	3.662E-01	5.687E+00	-0.006	0.019	0.007
80.0000	1.829E+00	2.927E+00	4.755E+00	2.817E+01	3.953E-01	5.938E+00	-0.005	0.018	0.006
90.0000	1.838E+00	3.320E+00	5.158E+00	3.019E+01	4.214E-01	6.161E+00	-0.004	0.017	0.006
100.0000	1.847E+00	3.714E+00	5.561E+00	3.205E+01	4.448E-01	6.363E+00	-0.004	0.016	0.005
125.0000	1.864E+00	4.707E+00	6.571E+00	3.618E+01	4.945E-01	6.794E+00	-0.003	0.014	0.004
150.0000	1.879E+00	5.705E+00	7.583E+00	3.972E+01	5.346E-01	7.150E+00	-0.002	0.013	0.003
175.0000	1.890E+00	6.708E+00	8.598E+00	4.282E+01	5.678E-01	7.452E+00	-0.001	0.012	0.003
200.0000	1.900E+00	7.714E+00	9.614E+00	4.557E+01	5.958E-01	7.716E+00	-0.001	0.011	0.002
250.0000	1.917E+00	9.734E+00	1.165E+01	5.028E+01	6.406E-01	8.157E+00	-0.001	0.010	0.002
300.0000	1.931E+00	1.176E+01	1.369E+01	5.424E+01	6.751E-01	8.519E+00	-0.001	0.010	0.001
350.0000	1.943E+00	1.380E+01	1.574E+01	5.764E+01	7.027E-01	8.826E+00	-0.000	0.009	0.001
400.0000	1.952E+00	1.583E+01	1.778E+01	6.063E+01	7.253E-01	9.091E+00	-0.000	0.009	0.001
450.0000	1.961E+00	1.787E+01	1.983E+01	6.329E+01	7.443E-01	9.326E+00	-0.000	0.008	0.001
500.0000	1.969E+00	1.992E+01	2.189E+01	6.569E+01	7.604E-01	9.536E+00	-0.000	0.008	0.001
550.0000	1.976E+00	2.196E+01	2.394E+01	6.787E+01	7.744E-01	9.726E+00	-0.000	0.008	0.001
600.0000	1.983E+00	2.401E+01	2.599E+01	6.988E+01	7.866E-01	9.900E+00	-0.000	0.007	0.001
700.0000	1.994E+00	2.811E+01	3.010E+01	7.345E+01	8.069E-01	1.021E+01	-0.000	0.007	0.001
800.0000	2.004E+00	3.221E+01	3.421E+01	7.656E+01	8.233E-01	1.047E+01	-0.000	0.007	0.001
900.0000	2.013E+00	3.631E+01	3.833E+01	7.932E+01	8.367E-01	1.071E+01	-0.000	0.007	0.000
1000.0000	2.021E+00	4.042E+01	4.244E+01	8.180E+01	8.481E-01	1.092E+01	-0.000	0.006	0.000

Tabell 24 :

ELECTRONS IN ARGON

I = 188.0 eV DENSITY = 1.662E-03 g/cm³ (20° C)

ENERGY	STOPPING POWER COLLISION	STOPPING POWER RADIATIVE	STOPPING POWER TOTAL	CSDA RANGE	RADIATION YIELD	DENS.EFF. CORR. (DELTA)	d(log)/d(logI) COLL LOSS	d(log)/d(logI) CSDA RANGE	d(log)/d(logI) RAD YIELD
MeV	MeV cm²/g	MeV cm²/g	MeV cm²/g	g/cm²					
0.0100	1.497E+01	8.167E-03	1.498E+01	3.921E-04	2.846E-04	0.0	-0.243	0.292	0.284
0.0125	1.271E+01	8.444E-03	1.271E+01	5.740E-04	3.487E-04	0.0	-0.231	0.274	0.268
0.0150	1.110E+01	8.647E-03	1.111E+01	7.849E-04	4.108E-04	0.0	-0.222	0.261	0.255
0.0175	9.907E+00	8.803E-03	9.916E+00	1.024E-03	4.712E-04	0.0	-0.215	0.251	0.246
0.0200	8.974E+00	8.926E-03	8.983E+00	1.289E-03	5.299E-04	0.0	-0.209	0.243	0.238
0.0250	7.610E+00	9.107E-03	7.619E+00	1.896E-03	6.430E-04	0.0	-0.200	0.230	0.226
0.0300	6.657E+00	9.237E-03	6.666E+00	2.599E-03	7.511E-04	0.0	-0.193	0.221	0.218
0.0350	5.950E+00	9.334E-03	5.959E+00	3.394E-03	8.547E-04	0.0	-0.187	0.214	0.211
0.0400	5.404E+00	9.415E-03	5.414E+00	4.276E-03	9.546E-04	0.0	-0.183	0.208	0.205
0.0450	4.969E+00	9.482E-03	4.978E+00	5.240E-03	1.051E-03	0.0	-0.179	0.203	0.200
0.0500	4.614E+00	9.540E-03	4.623E+00	6.283E-03	1.144E-03	0.0	-0.176	0.199	0.196
0.0550	4.317E+00	9.593E-03	4.327E+00	7.402E-03	1.235E-03	0.0	-0.173	0.195	0.193
0.0600	4.067E+00	9.642E-03	4.077E+00	8.593E-03	1.323E-03	0.0	-0.171	0.192	0.190
0.0700	3.666E+00	9.733E-03	3.675E+00	1.118E-02	1.492E-03	0.0	-0.167	0.186	0.185
0.0800	3.358E+00	9.821E-03	3.368E+00	1.403E-02	1.654E-03	0.0	-0.163	0.182	0.180
0.0900	3.115E+00	9.909E-03	3.125E+00	1.712E-02	1.808E-03	0.0	-0.160	0.178	0.177
0.1000	2.918E+00	1.000E-02	2.928E+00	2.042E-02	1.957E-03	0.0	-0.158	0.175	0.174
0.1250	2.557E+00	1.025E-02	2.567E+00	2.958E-02	2.307E-03	0.0	-0.153	0.169	0.168
0.1500	2.312E+00	1.052E-02	2.323E+00	3.985E-02	2.633E-03	0.0	-0.149	0.164	0.163
0.1750	2.136E+00	1.081E-02	2.147E+00	5.106E-02	2.940E-03	0.0	-0.146	0.160	0.159
0.2000	2.004E+00	1.113E-02	2.015E+00	6.309E-02	3.233E-03	0.0	-0.143	0.157	0.156
0.2500	1.821E+00	1.182E-02	1.832E+00	8.920E-02	3.784E-03	0.0	-0.139	0.152	0.151
0.3000	1.701E+00	1.258E-02	1.713E+00	1.175E-01	4.303E-03	0.0	-0.135	0.148	0.147
0.3500	1.618E+00	1.340E-02	1.631E+00	1.474E-01	4.799E-03	0.0	-0.132	0.145	0.143
0.4000	1.558E+00	1.427E-02	1.572E+00	1.787E-01	5.280E-03	0.0	-0.130	0.142	0.141
0.4500	1.514E+00	1.519E-02	1.529E+00	2.109E-01	5.749E-03	0.0	-0.128	0.140	0.138
0.5000	1.480E+00	1.616E-02	1.497E+00	2.440E-01	6.211E-03	0.0	-0.126	0.138	0.136
0.5500	1.455E+00	1.716E-02	1.472E+00	2.777E-01	6.667E-03	0.0	-0.124	0.136	0.134
0.6000	1.435E+00	1.820E-02	1.453E+00	3.119E-01	7.119E-03	0.0	-0.122	0.135	0.132
0.7000	1.408E+00	2.036E-02	1.428E+00	3.814E-01	8.015E-03	0.0	-0.120	0.132	0.129
0.8000	1.391E+00	2.264E-02	1.414E+00	4.518E-01	8.905E-03	0.0	-0.117	0.129	0.127
0.9000	1.381E+00	2.502E-02	1.406E+00	5.227E-01	9.794E-03	0.0	-0.115	0.127	0.124
1.0000	1.376E+00	2.748E-02	1.404E+00	5.939E-01	1.068E-02	0.0	-0.114	0.126	0.122
1.2500	1.375E+00	3.399E-02	1.409E+00	7.718E-01	1.291E-02	0.0	-0.110	0.122	0.118
1.5000	1.383E+00	4.094E-02	1.424E+00	9.483E-01	1.517E-02	0.0	-0.107	0.119	0.114
1.7500	1.394E+00	4.822E-02	1.442E+00	1.123E+00	1.744E-02	0.0	-0.105	0.116	0.111
2.0000	1.407E+00	5.581E-02	1.463E+00	1.295E+00	1.973E-02	0.0	-0.103	0.114	0.109
2.5000	1.434E+00	7.168E-02	1.505E+00	1.632E+00	2.436E-02	0.0	-0.099	0.111	0.104
3.0000	1.460E+00	8.831E-02	1.548E+00	1.959E+00	2.903E-02	0.0	-0.097	0.108	0.101
3.5000	1.484E+00	1.056E-01	1.589E+00	2.278E+00	3.370E-02	0.0	-0.095	0.105	0.098
4.0000	1.506E+00	1.233E-01	1.629E+00	2.589E+00	3.837E-02	0.0	-0.093	0.103	0.096
4.5000	1.526E+00	1.415E-01	1.668E+00	2.892E+00	4.303E-02	0.0	-0.092	0.101	0.093
5.0000	1.545E+00	1.600E-01	1.705E+00	3.189E+00	4.766E-02	0.0	-0.090	0.099	0.091
5.5000	1.562E+00	1.789E-01	1.741E+00	3.479E+00	5.227E-02	0.0	-0.089	0.098	0.090
6.0000	1.579E+00	1.981E-01	1.777E+00	3.763E+00	5.684E-02	0.0	-0.088	0.096	0.088
7.0000	1.608E+00	2.373E-01	1.845E+00	4.315E+00	6.588E-02	0.0	-0.087	0.094	0.085
8.0000	1.634E+00	2.773E-01	1.911E+00	4.843E+00	7.476E-02	0.0	-0.085	0.092	0.083
9.0000	1.657E+00	3.181E-01	1.975E+00	5.363E+00	8.347E-02	0.0	-0.084	0.090	0.080
10.0000	1.678E+00	3.595E-01	2.037E+00	5.861E+00	9.200E-02	0.0	-0.083	0.088	0.078
12.5000	1.722E+00	4.651E-01	2.187E+00	7.045E+00	1.126E-01	0.0	-0.081	0.084	0.074
15.0000	1.759E+00	5.733E-01	2.332E+00	8.151E+00	1.320E-01	0.0	-0.079	0.081	0.070
17.5000	1.790E+00	6.833E-01	2.474E+00	9.192E+00	1.505E-01	0.0	-0.077	0.079	0.067
20.0000	1.818E+00	7.949E-01	2.613E+00	1.018E+01	1.680E-01	0.0	-0.076	0.076	0.064
25.0000	1.864E+00	1.021E+00	2.885E+00	1.200E+01	2.004E-01	0.0	-0.074	0.072	0.060
30.0000	1.901E+00	1.251E+00	3.152E+00	1.365E+01	2.296E-01	6.376E-04	-0.071	0.069	0.056
35.0000	1.931E+00	1.484E+00	3.415E+00	1.518E+01	2.563E-01	2.311E-02	-0.063	0.066	0.052
40.0000	1.956E+00	1.718E+00	3.674E+00	1.659E+01	2.807E-01	6.443E-02	-0.057	0.063	0.048
45.0000	1.977E+00	1.954E+00	3.931E+00	1.790E+01	3.031E-01	1.144E-01	-0.053	0.061	0.045
50.0000	1.995E+00	2.192E+00	4.187E+00	1.913E+01	3.238E-01	1.680E-01	-0.050	0.059	0.042
55.0000	2.011E+00	2.430E+00	4.441E+00	2.029E+01	3.431E-01	2.226E-01	-0.048	0.056	0.039
60.0000	2.025E+00	2.670E+00	4.695E+00	2.139E+01	3.610E-01	2.769E-01	-0.046	0.055	0.037
70.0000	2.050E+00	3.152E+00	5.202E+00	2.341E+01	3.934E-01	3.820E-01	-0.043	0.052	0.033
80.0000	2.071E+00	3.637E+00	5.703E+00	2.525E+01	4.220E-01	4.807E-01	-0.041	0.049	0.030
90.0000	2.089E+00	4.125E+00	6.214E+00	2.692E+01	4.474E-01	5.729E-01	-0.040	0.047	0.027
100.0000	2.105E+00	4.614E+00	6.719E+00	2.847E+01	4.702E-01	6.588E-01	-0.038	0.045	0.025
125.0000	2.138E+00	5.845E+00	7.982E+00	3.188E+01	5.183E-01	8.510E-01	-0.036	0.041	0.021
150.0000	2.164E+00	7.083E+00	9.247E+00	3.479E+01	5.569E-01	1.018E+00	-0.034	0.039	0.018
175.0000	2.185E+00	8.326E+00	1.051E+01	3.732E+01	5.887E-01	1.166E+00	-0.032	0.036	0.016
200.0000	2.204E+00	9.573E+00	1.178E+01	3.957E+01	6.155E-01	1.301E+00	-0.030	0.035	0.015
250.0000	2.234E+00	1.208E+01	1.431E+01	4.341E+01	6.583E-01	1.541E+00	-0.027	0.032	0.012
300.0000	2.257E+00	1.459E+01	1.635E+01	4.663E+01	6.911E-01	1.754E+00	-0.024	0.030	0.010
350.0000	2.275E+00	1.711E+01	1.938E+01	4.940E+01	7.174E-01	1.947E+00	-0.021	0.029	0.009
400.0000	2.291E+00	1.963E+01	2.192E+01	5.182E+01	7.389E-01	2.125E+00	-0.019	0.027	0.008
450.0000	2.304E+00	2.216E+01	2.446E+01	5.393E+01	7.569E-01	2.290E+00	-0.017	0.026	0.007
500.0000	2.315E+00	2.469E+01	2.700E+01	5.592E+01	7.722E-01	2.444E+00	-0.016	0.026	0.007
550.0000	2.325E+00	2.722E+01	2.954E+01	5.769E+01	7.854E-01	2.587E+00	-0.014	0.025	0.006
600.0000	2.334E+00	2.975E+01	3.209E+01	5.932E+01	7.970E-01	2.721E+00	-0.013	0.024	0.006
700.0000	2.349E+00	3.483E+01	3.718E+01	6.221E+01	8.163E-01	2.966E+00	-0.011	0.023	0.005
800.0000	2.361E+00	3.990E+01	4.227E+01	6.473E+01	8.319E-01	3.184E+00	-0.010	0.022	0.004
900.0000	2.372E+00	4.499E+01	4.736E+01	6.696E+01	8.447E-01	3.380E+00	-0.009	0.021	0.004
1000.0000	2.382E+00	5.007E+01	5.245E+01	6.897E+01	8.554E-01	3.558E+00	-0.009	0.021	0.003

Tabell 24 :

ELECTRONS IN BONE, COMPACT (ICRU)

I = 91.9 eV DENSITY = 1.850E+00 g/cm³

ENERGY	STOPPING POWER COLLISION	STOPPING POWER RADIATIVE	STOPPING POWER TOTAL	CSDA RANGE	RADIATION YIELD	DENS.EFF. CORR. (DELTA)	d(log)/d(logI) COLL LOSS	d(log)/d(logI) CSDA RANGE	d(log)/d(logI) RAD YIELD
MeV	MeV cm²/g	MeV cm²/g	MeV cm²/g	g/cm²					
0.0100	2.068E+01	4.793E-03	2.068E+01	2.761E-04	1.236E-04	0.0	-0.207	0.239	0.236
0.0125	1.742E+01	4.880E-03	1.742E+01	4.084E-04	1.501E-04	0.0	-0.198	0.227	0.224
0.0150	1.514E+01	4.942E-03	1.514E+01	5.628E-04	1.756E-04	0.0	-0.191	0.218	0.216
0.0175	1.344E+01	4.989E-03	1.345E+01	7.383E-04	2.004E-04	0.0	-0.186	0.211	0.209
0.0200	1.213E+01	5.026E-03	1.214E+01	9.343E-04	2.244E-04	0.0	-0.182	0.205	0.203
0.0250	1.023E+01	5.080E-03	1.024E+01	1.385E-03	2.706E-04	0.0	-0.175	0.196	0.195
0.0300	8.912E+00	5.121E-03	8.917E+00	1.910E-03	3.148E-04	0.0	-0.169	0.190	0.188
0.0350	7.939E+00	5.155E-03	7.944E+00	2.505E-03	3.572E-04	0.0	-0.165	0.184	0.183
0.0400	7.190E+00	5.184E-03	7.196E+00	3.168E-03	3.982E-04	0.0	-0.162	0.180	0.179
0.0450	6.596E+00	5.211E-03	6.601E+00	3.894E-03	4.379E-04	0.0	-0.159	0.176	0.175
0.0500	6.112E+00	5.237E-03	6.117E+00	4.682E-03	4.764E-04	0.0	-0.156	0.173	0.172
0.0550	5.709E+00	5.263E-03	5.715E+00	5.528E-03	5.139E-04	0.0	-0.154	0.170	0.170
0.0600	5.370E+00	5.288E-03	5.375E+00	6.431E-03	5.504E-04	0.0	-0.152	0.168	0.167
0.0700	4.827E+00	5.338E-03	4.832E+00	8.397E-03	6.210E-04	0.0	-0.149	0.164	0.163
0.0800	4.412E+00	5.390E-03	4.417E+00	1.056E-02	6.887E-04	0.0	-0.146	0.160	0.160
0.0900	4.085E+00	5.445E-03	4.090E+00	1.292E-02	7.540E-04	0.0	-0.144	0.158	0.157
0.1000	3.820E+00	5.502E-03	3.825E+00	1.545E-02	8.171E-04	0.0	-0.142	0.155	0.155
0.1250	3.336E+00	5.657E-03	3.342E+00	2.247E-02	9.670E-04	0.0	-0.138	0.150	0.150
0.1500	3.010E+00	5.826E-03	3.015E+00	3.037E-02	1.108E-03	0.0	-0.135	0.147	0.146
0.1750	2.775E+00	6.007E-03	2.781E+00	3.901E-02	1.242E-03	0.0	-0.132	0.143	0.143
0.2000	2.599E+00	6.200E-03	2.605E+00	4.832E-02	1.371E-03	0.0	-0.130	0.141	0.140
0.2500	2.354E+00	6.618E-03	2.361E+00	6.855E-02	1.615E-03	0.0	-0.126	0.137	0.136
0.3000	2.194E+00	7.075E-03	2.201E+00	9.053E-02	1.848E-03	0.0	-0.118	0.134	0.133
0.3500	2.079E+00	7.567E-03	2.087E+00	1.139E-01	2.072E-03	2.843E-02	-0.096	0.127	0.126
0.4000	1.996E+00	8.090E-03	2.004E+00	1.384E-01	2.292E-03	6.250E-02	-0.089	0.121	0.119
0.4500	1.932E+00	8.643E-03	1.941E+00	1.637E-01	2.509E-03	9.798E-02	-0.084	0.116	0.112
0.5000	1.883E+00	9.221E-03	1.893E+00	1.898E-01	2.724E-03	1.342E-01	-0.079	0.111	0.107
0.5500	1.845E+00	9.823E-03	1.855E+00	2.165E-01	2.939E-03	1.710E-01	-0.075	0.107	0.102
0.6000	1.815E+00	1.045E-02	1.825E+00	2.437E-01	3.153E-03	2.079E-01	-0.071	0.103	0.098
0.7000	1.770E+00	1.175E-02	1.782E+00	2.992E-01	3.582E-03	2.817E-01	-0.066	0.096	0.091
0.8000	1.740E+00	1.311E-02	1.753E+00	3.558E-01	4.014E-03	3.548E-01	-0.061	0.091	0.084
0.9000	1.719E+00	1.454E-02	1.734E+00	4.132E-01	4.449E-03	4.265E-01	-0.057	0.086	0.079
1.0000	1.705E+00	1.602E-02	1.721E+00	4.711E-01	4.889E-03	4.964E-01	-0.054	0.083	0.075
1.2500	1.686E+00	1.995E-02	1.706E+00	6.171E-01	6.009E-03	6.626E-01	-0.048	0.075	0.066
1.5000	1.680E+00	2.414E-02	1.705E+00	7.638E-01	7.161E-03	8.160E-01	-0.044	0.069	0.060
1.7500	1.681E+00	2.854E-02	1.709E+00	9.103E-01	8.341E-03	9.575E-01	-0.041	0.065	0.055
2.0000	1.684E+00	3.313E-02	1.718E+00	1.056E+00	9.547E-03	1.088E+00	-0.039	0.061	0.051
2.5000	1.696E+00	4.277E-02	1.739E+00	1.345E+00	1.202E-02	1.323E+00	-0.035	0.056	0.046
3.0000	1.709E+00	5.289E-02	1.762E+00	1.631E+00	1.457E-02	1.527E+00	-0.033	0.052	0.042
3.5000	1.722E+00	6.341E-02	1.786E+00	1.913E+00	1.717E-02	1.709E+00	-0.031	0.049	0.039
4.0000	1.735E+00	7.427E-02	1.809E+00	2.191E+00	1.981E-02	1.872E+00	-0.030	0.046	0.037
4.5000	1.747E+00	8.541E-02	1.832E+00	2.466E+00	2.248E-02	2.020E+00	-0.029	0.044	0.035
5.0000	1.758E+00	9.680E-02	1.855E+00	2.737E+00	2.517E-02	2.156E+00	-0.027	0.043	0.033
5.5000	1.768E+00	1.084E-01	1.877E+00	3.005E+00	2.783E-02	2.282E+00	-0.026	0.041	0.032
6.0000	1.778E+00	1.202E-01	1.898E+00	3.270E+00	3.060E-02	2.399E+00	-0.025	0.040	0.031
7.0000	1.795E+00	1.444E-01	1.939E+00	3.791E+00	3.607E-02	2.611E+00	-0.024	0.037	0.028
8.0000	1.810E+00	1.692E-01	1.979E+00	4.301E+00	4.156E-02	2.801E+00	-0.022	0.035	0.027
9.0000	1.823E+00	1.945E-01	2.018E+00	4.802E+00	4.705E-02	2.972E+00	-0.021	0.034	0.025
10.0000	1.835E+00	2.202E-01	2.055E+00	5.293E+00	5.252E-02	3.129E+00	-0.019	0.032	0.024
12.5000	1.860E+00	2.860E-01	2.146E+00	6.483E+00	6.608E-02	3.473E+00	-0.017	0.029	0.021
15.0000	1.879E+00	3.537E-01	2.233E+00	7.625E+00	7.939E-02	3.765E+00	-0.014	0.027	0.019
17.5000	1.896E+00	4.226E-01	2.318E+00	8.724E+00	9.240E-02	4.021E+00	-0.012	0.025	0.017
20.0000	1.909E+00	4.926E-01	2.402E+00	9.783E+00	1.051E-01	4.247E+00	-0.011	0.023	0.015
25.0000	1.931E+00	6.351E-01	2.566E+00	1.180E+01	1.294E-01	4.637E+00	-0.008	0.021	0.012
30.0000	1.949E+00	7.799E-01	2.729E+00	1.369E+01	1.523E-01	4.965E+00	-0.007	0.018	0.010
35.0000	1.963E+00	9.264E-01	2.890E+00	1.547E+01	1.739E-01	5.247E+00	-0.006	0.017	0.009
40.0000	1.976E+00	1.074E+00	3.050E+00	1.715E+01	1.943E-01	5.495E+00	-0.005	0.016	0.008
45.0000	1.986E+00	1.224E+00	3.210E+00	1.875E+01	2.134E-01	5.716E+00	-0.004	0.014	0.007
50.0000	1.996E+00	1.374E+00	3.369E+00	2.027E+01	2.316E-01	5.915E+00	-0.004	0.014	0.006
55.0000	2.004E+00	1.525E+00	3.529E+00	2.172E+01	2.487E-01	6.097E+00	-0.003	0.013	0.005
60.0000	2.012E+00	1.676E+00	3.688E+00	2.310E+01	2.649E-01	6.263E+00	-0.003	0.012	0.005
70.0000	2.025E+00	1.982E+00	4.007E+00	2.570E+01	2.949E-01	6.559E+00	-0.003	0.011	0.004
80.0000	2.037E+00	2.239E+00	4.326E+00	2.811E+01	3.221E-01	6.817E+00	-0.002	0.010	0.004
90.0000	2.047E+00	2.598E+00	4.645E+00	3.034E+01	3.468E-01	7.046E+00	-0.002	0.010	0.003
100.0000	2.056E+00	2.909E+00	4.965E+00	3.242E+01	3.694E-01	7.251E+00	-0.002	0.009	0.003
125.0000	2.075E+00	3.690E+00	5.765E+00	3.709E+01	4.184E-01	7.688E+00	-0.001	0.008	0.002
150.0000	2.090E+00	4.476E+00	6.566E+00	4.115E+01	4.590E-01	8.046E+00	-0.001	0.007	0.002
175.0000	2.103E+00	5.266E+00	7.369E+00	4.474E+01	4.932E-01	8.350E+00	-0.001	0.007	0.001
200.0000	2.114E+00	6.059E+00	8.173E+00	4.796E+01	5.226E-01	8.614E+00	-0.001	0.006	0.001
250.0000	2.133E+00	7.652E+00	9.784E+00	5.354E+01	5.707E-01	9.057E+00	-0.001	0.006	0.001
300.0000	2.148E+00	9.251E+00	1.140E+01	5.827E+01	6.085E-01	9.419E+00	-0.000	0.005	0.001
350.0000	2.160E+00	1.036E+01	1.302E+01	6.238E+01	6.392E-01	9.726E+00	-0.000	0.005	0.001
400.0000	2.171E+00	1.246E+01	1.464E+01	6.600E+01	6.647E-01	9.991E+00	-0.000	0.005	0.001
450.0000	2.181E+00	1.407E+01	1.626E+01	6.924E+01	6.863E-01	1.023E+01	-0.000	0.004	0.001
500.0000	2.189E+00	1.569E+01	1.788E+01	7.217E+01	7.048E-01	1.044E+01	-0.000	0.004	0.000
550.0000	2.197E+00	1.730E+01	1.950E+01	7.485E+01	7.210E-01	1.063E+01	-0.000	0.004	0.000
600.0000	2.204E+00	1.892E+01	2.112E+01	7.731E+01	7.352E-01	1.080E+01	-0.000	0.004	0.000
700.0000	2.217E+00	2.216E+01	2.437E+01	8.171E+01	7.591E-01	1.111E+01	-0.000	0.004	0.000
800.0000	2.228E+00	2.540E+01	2.763E+01	8.556E+01	7.785E-01	1.137E+01	-0.000	0.004	0.000
900.0000	2.237E+00	2.864E+01	3.088E+01	8.898E+01	7.947E-01	1.161E+01	-0.000	0.003	0.000
1000.0000	2.246E+00	3.189E+01	3.414E+01	9.206E+01	8.083E-01	1.182E+01	-0.000	0.003	0.000

Tabell 24 :

ELECTRONS IN CARBON (GRAPHITE)

I = 78.0 eV DENSITY = 1.700E+00 g/cm³

ENERGY	STOPPING POWER COLLISION	RADIATIVE	TOTAL	CSDA RANGE	RADIATION YIELD	DENS.EFF. CORR. (DELTA)	d(log)/d(logI) COLL LOSS	CSDA RANGE	RAD YIELD
MeV	MeV cm²/g	MeV cm²/g	MeV cm²/g	g/cm²					
0.0100	2.014E+01	3.150E-03	2.014E+01	2.820E-04	8.665E-05	1.920E-03	-0.200	0.229	0.228
0.0125	1.694E+01	3.161E-03	1.695E+01	4.179E-04	1.036E-04	2.481E-03	-0.191	0.218	0.217
0.0150	1.471E+01	3.168E-03	1.471E+01	5.767E-04	1.199E-04	3.073E-03	-0.185	0.210	0.209
0.0175	1.305E+01	3.172E-03	1.305E+01	7.575E-04	1.355E-04	3.695E-03	-0.180	0.203	0.202
0.0200	1.177E+01	3.176E-03	1.177E+01	9.595E-04	1.506E-04	4.347E-03	-0.176	0.198	0.197
0.0250	9.913E+00	3.184E-03	9.916E+00	1.424E-03	1.796E-04	5.736E-03	-0.169	0.189	0.189
0.0300	8.626E+00	3.194E-03	8.629E+00	1.966E-03	2.073E-04	7.236E-03	-0.164	0.183	0.183
0.0350	7.679E+00	3.204E-03	7.682E+00	2.582E-03	2.340E-04	8.843E-03	-0.160	0.178	0.177
0.0400	6.950E+00	3.215E-03	6.953E+00	3.267E-03	2.597E-04	1.055E-02	-0.156	0.174	0.173
0.0450	6.372E+00	3.228E-03	6.375E+00	4.019E-03	2.847E-04	1.236E-02	-0.153	0.170	0.170
0.0500	5.901E+00	3.241E-03	5.904E+00	4.835E-03	3.090E-04	1.425E-02	-0.151	0.167	0.167
0.0550	5.510E+00	3.255E-03	5.513E+00	5.712E-03	3.327E-04	1.624E-02	-0.149	0.164	0.164
0.0600	5.179E+00	3.270E-03	5.183E+00	6.648E-03	3.558E-04	1.832E-02	-0.147	0.162	0.162
0.0700	4.652E+00	3.303E-03	4.655E+00	8.688E-03	4.008E-04	2.271E-02	-0.143	0.158	0.158
0.0800	4.249E+00	3.337E-03	4.253E+00	1.094E-02	4.441E-04	2.740E-02	-0.140	0.154	0.154
0.0900	3.931E+00	3.375E-03	3.935E+00	1.339E-02	4.860E-04	3.237E-02	-0.137	0.152	0.151
0.1000	3.674E+00	3.414E-03	3.677E+00	1.602E-02	5.268E-04	3.760E-02	-0.135	0.149	0.149
0.1250	3.204E+00	3.523E-03	3.207E+00	2.333E-02	6.243E-04	5.166E-02	-0.130	0.144	0.143
0.1500	2.836E+00	3.640E-03	2.890E+00	3.156E-02	7.168E-04	6.694E-02	-0.126	0.140	0.139
0.1750	2.657E+00	3.764E-03	2.661E+00	4.059E-02	8.055E-04	8.320E-02	-0.123	0.136	0.136
0.2000	2.485E+00	3.896E-03	2.489E+00	5.032E-02	8.911E-04	1.003E-01	-0.120	0.133	0.133
0.2500	2.245E+00	4.179E-03	2.249E+00	7.152E-02	1.055E-03	1.363E-01	-0.115	0.129	0.128
0.3000	2.087E+00	4.489E-03	2.092E+00	9.462E-02	1.213E-03	1.740E-01	-0.110	0.125	0.123
0.3500	1.977E+00	4.820E-03	1.981E+00	1.192E-01	1.367E-03	2.129E-01	-0.106	0.121	0.120
0.4000	1.896E+00	5.173E-03	1.901E+00	1.450E-01	1.518E-03	2.524E-01	-0.102	0.118	0.116
0.4500	1.835E+00	5.545E-03	1.841E+00	1.718E-01	1.668E-03	2.922E-01	-0.099	0.115	0.113
0.5000	1.788E+00	5.935E-03	1.794E+00	1.993E-01	1.817E-03	3.321E-01	-0.095	0.113	0.110
0.5500	1.752E+00	6.340E-03	1.758E+00	2.274E-01	1.966E-03	3.719E-01	-0.092	0.110	0.108
0.6000	1.722E+00	6.759E-03	1.729E+00	2.561E-01	2.115E-03	4.114E-01	-0.090	0.108	0.105
0.7000	1.679E+00	7.637E-03	1.687E+00	3.147E-01	2.416E-03	4.891E-01	-0.085	0.104	0.101
0.8000	1.650E+00	8.559E-03	1.659E+00	3.745E-01	2.719E-03	5.648E-01	-0.081	0.101	0.096
0.9000	1.631E+00	9.523E-03	1.640E+00	4.352E-01	3.026E-03	6.382E-01	-0.077	0.098	0.093
1.0000	1.617E+00	1.053E-02	1.627E+00	4.964E-01	3.337E-03	7.091E-01	-0.074	0.095	0.090
1.2500	1.599E+00	1.318E-02	1.612E+00	6.509E-01	4.133E-03	8.756E-01	-0.069	0.089	0.083
1.5000	1.593E+00	1.602E-02	1.609E+00	8.062E-01	4.954E-03	1.028E+00	-0.064	0.085	0.078
1.7500	1.594E+00	1.901E-02	1.613E+00	9.614E-01	5.799E-03	1.167E+00	-0.061	0.081	0.073
2.0000	1.597E+00	2.213E-02	1.619E+00	1.116E+00	6.665E-03	1.295E+00	-0.059	0.078	0.070
2.5000	1.608E+00	2.870E-02	1.637E+00	1.423E+00	8.450E-03	1.522E+00	-0.055	0.073	0.065
3.0000	1.621E+00	3.561E-02	1.657E+00	1.727E+00	1.029E-02	1.720E+00	-0.052	0.069	0.061
3.5000	1.634E+00	4.281E-02	1.677E+00	2.027E+00	1.218E-02	1.894E+00	-0.050	0.067	0.058
4.0000	1.647E+00	5.026E-02	1.697E+00	2.323E+00	1.410E-02	2.051E+00	-0.048	0.064	0.055
4.5000	1.658E+00	5.792E-02	1.716E+00	2.616E+00	1.606E-02	2.193E+00	-0.047	0.062	0.053
5.0000	1.669E+00	6.576E-02	1.735E+00	2.906E+00	1.803E-02	2.323E+00	-0.045	0.060	0.051
5.5000	1.679E+00	7.378E-02	1.753E+00	3.193E+00	2.003E-02	2.443E+00	-0.044	0.059	0.050
6.0000	1.689E+00	8.193E-02	1.771E+00	3.476E+00	2.204E-02	2.555E+00	-0.042	0.057	0.048
7.0000	1.706E+00	9.865E-02	1.804E+00	4.036E+00	2.610E-02	2.758E+00	-0.040	0.055	0.046
8.0000	1.720E+00	1.158E-01	1.836E+00	4.585E+00	3.020E-02	2.939E+00	-0.037	0.053	0.043
9.0000	1.733E+00	1.334E-01	1.867E+00	5.125E+00	3.432E-02	3.104E+00	-0.035	0.051	0.041
10.0000	1.745E+00	1.513E-01	1.896E+00	5.657E+00	3.845E-02	3.256E+00	-0.032	0.049	0.039
12.5000	1.769E+00	1.971E-01	1.966E+00	6.952E+00	4.877E-02	3.591E+00	-0.027	0.045	0.035
15.0000	1.787E+00	2.444E-01	2.032E+00	8.202E+00	5.903E-02	3.879E+00	-0.022	0.041	0.031
17.5000	1.803E+00	2.927E-01	2.095E+00	9.414E+00	6.918E-02	4.133E+00	-0.018	0.038	0.027
20.0000	1.816E+00	3.417E-01	2.157E+00	1.059E+01	7.917E-02	4.361E+00	-0.015	0.035	0.024
25.0000	1.836E+00	4.417E-01	2.278E+00	1.284E+01	9.861E-02	4.755E+00	-0.011	0.031	0.019
30.0000	1.852E+00	5.435E-01	2.396E+00	1.498E+01	1.173E-01	5.088E+00	-0.008	0.028	0.016
35.0000	1.865E+00	6.466E-01	2.512E+00	1.702E+01	1.351E-01	5.376E+00	-0.006	0.025	0.013
40.0000	1.877E+00	7.508E-01	2.627E+00	1.897E+01	1.522E-01	5.628E+00	-0.005	0.023	0.011
45.0000	1.886E+00	8.559E-01	2.742E+00	2.083E+01	1.685E-01	5.854E+00	-0.004	0.021	0.009
50.0000	1.895E+00	9.617E-01	2.857E+00	2.262E+01	1.841E-01	6.057E+00	-0.003	0.020	0.008
55.0000	1.903E+00	1.068E+00	2.971E+00	2.433E+01	1.991E-01	6.241E+00	-0.003	0.018	0.007
60.0000	1.910E+00	1.175E+00	3.085E+00	2.598E+01	2.133E-01	6.411E+00	-0.002	0.017	0.006
70.0000	1.922E+00	1.391E+00	3.313E+00	2.911E+01	2.401E-01	6.712E+00	-0.002	0.016	0.005
80.0000	1.932E+00	1.608E+00	3.541E+00	3.203E+01	2.648E-01	6.974E+00	-0.001	0.014	0.004
90.0000	1.942E+00	1.826E+00	3.768E+00	3.477E+01	2.875E-01	7.206E+00	-0.001	0.013	0.004
100.0000	1.950E+00	2.046E+00	3.996E+00	3.735E+01	3.087E-01	7.415E+00	-0.001	0.012	0.003
125.0000	1.967E+00	2.598E+00	4.566E+00	4.319E+01	3.553E-01	7.857E+00	-0.001	0.011	0.002
150.0000	1.982E+00	3.155E+00	5.136E+00	4.835E+01	3.948E-01	8.219E+00	-0.000	0.010	0.002
175.0000	1.993E+00	3.714E+00	5.708E+00	5.297E+01	4.288E-01	8.525E+00	-0.000	0.009	0.001
200.0000	2.004E+00	4.276E+00	6.280E+00	5.714E+01	4.585E-01	8.791E+00	-0.000	0.008	0.001
250.0000	2.021E+00	5.405E+00	7.426E+00	6.446E+01	5.080E-01	9.236E+00	-0.000	0.007	0.001
300.0000	2.035E+00	6.540E+00	8.575E+00	7.072E+01	5.476E-01	9.599E+00	-0.000	0.007	0.001
350.0000	2.047E+00	7.678E+00	9.725E+00	7.619E+01	5.804E-01	9.907E+00	-0.000	0.006	0.001
400.0000	2.057E+00	8.820E+00	1.088E+01	8.105E+01	6.079E-01	1.017E+01	-0.000	0.006	0.001
450.0000	2.066E+00	9.964E+00	1.203E+01	8.542E+01	6.314E-01	1.041E+01	-0.000	0.005	0.000
500.0000	2.074E+00	1.111E+01	1.318E+01	8.938E+01	6.519E-01	1.062E+01	-0.000	0.005	0.000
550.0000	2.082E+00	1.226E+01	1.434E+01	9.302E+01	6.698E-01	1.081E+01	-0.000	0.005	0.000
600.0000	2.088E+00	1.340E+01	1.549E+01	9.637E+01	6.856E-01	1.098E+01	-0.000	0.005	0.000
700.0000	2.100E+00	1.570E+01	1.780E+01	1.024E+02	7.125E-01	1.129E+01	-0.000	0.005	0.000
800.0000	2.110E+00	1.801E+01	2.012E+01	1.077E+02	7.346E-01	1.156E+01	-0.000	0.004	0.000
900.0000	2.120E+00	2.031E+01	2.243E+01	1.124E+02	7.530E-01	1.179E+01	-0.000	0.004	0.000
1000.0000	2.128E+00	2.262E+01	2.475E+01	1.166E+02	7.687E-01	1.200E+01	-0.000	0.004	0.000

Tabell 24 :

ELECTRONS IN CARBON (GRAPHITE)

I = 78.0 eV DENSITY = 2.265E+00 g/cm³

ENERGY	STOPPING POWER COLLISION	STOPPING POWER RADIATIVE	STOPPING POWER TOTAL	CSDA RANGE	RADIATION YIELD	DENS.EFF. CORR. (DELTA)	d(log)/d(logI) COLL LOSS	d(log)/d(logI) CSDA RANGE	d(log)/d(logI) RAD YIELD
MeV	MeV cm²/g	MeV cm²/g	MeV cm²/g	g/cm²					
0.0100	2.014E+01	3.150E-03	2.014E+01	2.820E-04	8.665E-05	2.766E-03	-0.200	0.229	0.228
0.0125	1.694E+01	3.161E-03	1.694E+01	4.179E-04	1.036E-04	3.543E-03	-0.191	0.218	0.217
0.0150	1.471E+01	3.168E-03	1.471E+01	5.768E-04	1.199E-04	4.353E-03	-0.185	0.210	0.209
0.0175	1.305E+01	3.172E-03	1.305E+01	7.576E-04	1.355E-04	5.195E-03	-0.179	0.203	0.202
0.0200	1.177E+01	3.176E-03	1.177E+01	9.596E-04	1.506E-04	6.068E-03	-0.175	0.198	0.197
0.0250	9.911E+00	3.184E-03	9.915E+00	1.424E-03	1.796E-04	7.907E-03	-0.168	0.189	0.189
0.0300	8.624E+00	3.194E-03	8.623E+00	1.967E-03	2.074E-04	9.864E-03	-0.163	0.183	0.182
0.0350	7.677E+00	3.204E-03	7.680E+00	2.582E-03	2.340E-04	1.194E-02	-0.159	0.177	0.177
0.0400	6.948E+00	3.215E-03	6.951E+00	3.268E-03	2.597E-04	1.412E-02	-0.156	0.173	0.173
0.0450	6.370E+00	3.228E-03	6.373E+00	4.020E-03	2.847E-04	1.640E-02	-0.153	0.170	0.169
0.0500	5.899E+00	3.241E-03	5.902E+00	4.836E-03	3.090E-04	1.879E-02	-0.150	0.166	0.166
0.0550	5.508E+00	3.255E-03	5.511E+00	5.713E-03	3.328E-04	2.127E-02	-0.148	0.164	0.163
0.0600	5.177E+00	3.270E-03	5.181E+00	6.650E-03	3.559E-04	2.384E-02	-0.145	0.161	0.161
0.0700	4.650E+00	3.303E-03	4.653E+00	8.691E-03	4.009E-04	2.926E-02	-0.142	0.157	0.157
0.0800	4.247E+00	3.337E-03	4.250E+00	1.094E-02	4.443E-04	3.500E-02	-0.139	0.154	0.153
0.0900	3.929E+00	3.375E-03	3.932E+00	1.339E-02	4.862E-04	4.105E-02	-0.136	0.151	0.150
0.1000	3.671E+00	3.414E-03	3.675E+00	1.603E-02	5.270E-04	4.738E-02	-0.133	0.148	0.148
0.1250	3.201E+00	3.523E-03	3.205E+00	2.334E-02	6.246E-04	6.429E-02	-0.128	0.142	0.142
0.1500	2.883E+00	3.640E-03	2.887E+00	3.158E-02	7.173E-04	8.253E-02	-0.124	0.138	0.137
0.1750	2.654E+00	3.764E-03	2.658E+00	4.062E-02	8.061E-04	1.019E-01	-0.120	0.134	0.134
0.2000	2.432E+00	3.896E-03	2.486E+00	5.036E-02	8.919E-04	1.221E-01	-0.116	0.131	0.130
0.2500	2.241E+00	4.179E-03	2.245E+00	7.160E-02	1.056E-03	1.644E-01	-0.110	0.126	0.125
0.3000	2.053E+00	4.489E-03	2.087E+00	9.474E-02	1.215E-03	2.086E-01	-0.105	0.121	0.120
0.3500	1.972E+00	4.820E-03	1.977E+00	1.194E-01	1.369E-03	2.537E-01	-0.100	0.117	0.116
0.4000	1.891E+00	5.173E-03	1.896E+00	1.452E-01	1.521E-03	2.992E-01	-0.096	0.114	0.112
0.4500	1.830E+00	5.545E-03	1.835E+00	1.721E-01	1.671E-03	3.447E-01	-0.092	0.111	0.108
0.5000	1.782E+00	5.935E-03	1.788E+00	1.997E-01	1.821E-03	3.899E-01	-0.089	0.108	0.105
0.5500	1.745E+00	6.340E-03	1.752E+00	2.279E-01	1.971E-03	4.347E-01	-0.086	0.105	0.102
0.6000	1.716E+00	6.759E-03	1.722E+00	2.567E-01	2.121E-03	4.788E-01	-0.084	0.103	0.100
0.7000	1.672E+00	7.637E-03	1.680E+00	3.156E-01	2.423E-03	5.648E-01	-0.079	0.099	0.095
0.8000	1.643E+00	8.559E-03	1.651E+00	3.757E-01	2.728E-03	6.476E-01	-0.076	0.095	0.091
0.9000	1.623E+00	9.523E-03	1.632E+00	4.366E-01	3.037E-03	7.272E-01	-0.073	0.092	0.088
1.0000	1.609E+00	1.053E-02	1.619E+00	4.981E-01	3.350E-03	8.034E-01	-0.070	0.090	0.085
1.2500	1.590E+00	1.318E-02	1.603E+00	6.534E-01	4.151E-03	9.803E-01	-0.065	0.084	0.078
1.5000	1.584E+00	1.602E-02	1.600E+00	8.096E-01	4.978E-03	1.140E+00	-0.062	0.080	0.074
1.7500	1.584E+00	1.901E-02	1.603E+00	9.657E-01	5.828E-03	1.285E+00	-0.059	0.077	0.070
2.0000	1.587E+00	2.213E-02	1.609E+00	1.121E+00	6.700E-03	1.417E+00	-0.057	0.074	0.067
2.5000	1.598E+00	2.870E-02	1.627E+00	1.430E+00	8.497E-03	1.651E+00	-0.054	0.070	0.062
3.0000	1.611E+00	3.561E-02	1.646E+00	1.736E+00	1.035E-02	1.854E+00	-0.051	0.067	0.059
3.5000	1.623E+00	4.281E-02	1.666E+00	2.038E+00	1.225E-02	2.033E+00	-0.049	0.064	0.056
4.0000	1.636E+00	5.026E-02	1.686E+00	2.336E+00	1.419E-02	2.194E+00	-0.047	0.062	0.054
4.5000	1.647E+00	5.792E-02	1.705E+00	2.631E+00	1.616E-02	2.340E+00	-0.045	0.060	0.052
5.0000	1.658E+00	6.576E-02	1.723E+00	2.923E+00	1.815E-02	2.474E+00	-0.043	0.058	0.050
5.5000	1.667E+00	7.378E-02	1.741E+00	3.211E+00	2.016E-02	2.598E+00	-0.042	0.057	0.048
6.0000	1.676E+00	8.193E-02	1.758E+00	3.497E+00	2.219E-02	2.713E+00	-0.040	0.055	0.047
7.0000	1.693E+00	9.865E-02	1.791E+00	4.061E+00	2.628E-02	2.924E+00	-0.037	0.053	0.044
8.0000	1.707E+00	1.158E-01	1.823E+00	4.614E+00	3.041E-02	3.114E+00	-0.033	0.050	0.041
9.0000	1.719E+00	1.334E-01	1.853E+00	5.158E+00	3.456E-02	3.287E+00	-0.030	0.048	0.039
10.0000	1.730E+00	1.513E-01	1.881E+00	5.694E+00	3.872E-02	3.446E+00	-0.028	0.046	0.036
12.5000	1.753E+00	1.971E-01	1.950E+00	6.999E+00	4.914E-02	3.798E+00	-0.022	0.042	0.031
15.0000	1.770E+00	2.444E-01	2.015E+00	8.260E+00	5.949E-02	4.101E+00	-0.017	0.038	0.027
17.5000	1.735E+00	2.927E-01	2.077E+00	9.482E+00	6.973E-02	4.367E+00	-0.014	0.035	0.023
20.0000	1.797E+00	3.417E-01	2.139E+00	1.067E+01	7.981E-02	4.604E+00	-0.011	0.032	0.020
25.0000	1.816E+00	4.417E-01	2.258E+00	1.294E+01	9.943E-02	5.012E+00	-0.008	0.028	0.016
30.0000	1.832E+00	5.435E-01	2.375E+00	1.510E+01	1.183E-01	5.353E+00	-0.005	0.024	0.012
35.0000	1.845E+00	6.466E-01	2.491E+00	1.716E+01	1.363E-01	5.646E+00	-0.004	0.022	0.010
40.0000	1.856E+00	7.508E-01	2.606E+00	1.912E+01	1.535E-01	5.902E+00	-0.003	0.020	0.008
45.0000	1.865E+00	8.559E-01	2.721E+00	2.100E+01	1.699E-01	6.130E+00	-0.003	0.018	0.007
50.0000	1.874E+00	9.617E-01	2.835E+00	2.280E+01	1.856E-01	6.335E+00	-0.002	0.017	0.006
55.0000	1.881E+00	1.068E+00	2.949E+00	2.452E+01	2.007E-01	6.521E+00	-0.002	0.016	0.005
60.0000	1.888E+00	1.175E+00	3.063E+00	2.619E+01	2.150E-01	6.691E+00	-0.002	0.015	0.005
70.0000	1.900E+00	1.391E+00	3.291E+00	2.934E+01	2.420E-01	6.994E+00	-0.001	0.013	0.004
80.0000	1.911E+00	1.608E+00	3.519E+00	3.227E+01	2.667E-01	7.258E+00	-0.001	0.012	0.003
90.0000	1.920E+00	1.826E+00	3.746E+00	3.503E+01	2.896E-01	7.491E+00	-0.001	0.011	0.003
100.0000	1.928E+00	2.046E+00	3.974E+00	3.762E+01	3.108E-01	7.699E+00	-0.001	0.011	0.002
125.0000	1.945E+00	2.598E+00	4.544E+00	4.350E+01	3.575E-01	8.142E+00	-0.000	0.009	0.002
150.0000	1.960E+00	3.155E+00	5.115E+00	4.868E+01	3.971E-01	8.505E+00	-0.000	0.008	0.001
175.0000	1.972E+00	3.714E+00	5.686E+00	5.331E+01	4.312E-01	8.811E+00	-0.000	0.008	0.001
200.0000	1.982E+00	4.276E+00	6.258E+00	5.750E+01	4.609E-01	9.077E+00	-0.000	0.007	0.001
250.0000	1.999E+00	5.405E+00	7.405E+00	6.484E+01	5.103E-01	9.522E+00	-0.000	0.006	0.001
300.0000	2.013E+00	6.540E+00	8.553E+00	7.112E+01	5.499E-01	9.886E+00	-0.000	0.006	0.001
350.0000	2.025E+00	7.678E+00	9.703E+00	7.660E+01	5.826E-01	1.019E+01	-0.000	0.005	0.000
400.0000	2.035E+00	8.820E+00	1.085E+01	8.147E+01	6.101E-01	1.046E+01	-0.000	0.005	0.000
450.0000	2.044E+00	9.964E+00	1.201E+01	8.585E+01	6.335E-01	1.070E+01	-0.000	0.005	0.000
500.0000	2.052E+00	1.111E+01	1.316E+01	8.983E+01	6.539E-01	1.091E+01	-0.000	0.005	0.000
550.0000	2.060E+00	1.226E+01	1.432E+01	9.347E+01	6.718E-01	1.110E+01	-0.000	0.004	0.000
600.0000	2.066E+00	1.340E+01	1.547E+01	9.683E+01	6.876E-01	1.127E+01	-0.000	0.004	0.000
700.0000	2.078E+00	1.570E+01	1.778E+01	1.029E+02	7.144E-01	1.158E+01	-0.000	0.004	0.000
800.0000	2.088E+00	1.801E+01	2.010E+01	1.081E+02	7.363E-01	1.185E+01	-0.000	0.004	0.000
900.0000	2.097E+00	2.031E+01	2.241E+01	1.128E+02	7.546E-01	1.208E+01	-0.000	0.004	0.000
1000.0000	2.106E+00	2.262E+01	2.473E+01	1.171E+02	7.703E-01	1.229E+01	-0.000	0.004	0.000

Tabell 24 :

ELECTRONS IN COPPER

I = 322.0 eV DENSITY = 8.960E+00 g/cm³

ENERGY	STOPPING POWER COLLISION	STOPPING POWER RADIATIVE	STOPPING POWER TOTAL	CSDA RANGE	RADIATION YIELD	DENS.EFF. CORR. (DELTA)	d(log)/d(logI) COLL LOSS	d(log)/d(logI) CSDA RANGE	d(log)/d(logI) RAD YIELD
MeV	MeV cm²/g	MeV cm²/g	MeV cm²/g	g/cm²					
0.0100	1.318E+01	1.213E-02	1.319E+01	4.601E-04	4.701E-04	1.244E-03	-0.280	0.354	0.337
0.0125	1.127E+01	1.277E-02	1.128E+01	6.658E-04	5.814E-04	1.585E-03	-0.263	0.328	0.314
0.0150	9.904E+00	1.327E-02	9.917E+00	9.028E-04	6.904E-04	1.938E-03	-0.251	0.310	0.297
0.0175	8.874E+00	1.366E-02	8.887E+00	1.170E-03	7.972E-04	2.304E-03	-0.242	0.295	0.284
0.0200	8.066E+00	1.399E-02	8.080E+00	1.465E-03	9.019E-04	2.683E-03	-0.235	0.284	0.273
0.0250	6.877E+00	1.449E-02	6.892E+00	2.138E-03	1.105E-03	3.481E-03	-0.223	0.266	0.257
0.0300	6.040E+00	1.488E-02	6.055E+00	2.914E-03	1.301E-03	4.334E-03	-0.214	0.253	0.246
0.0350	5.416E+00	1.518E-02	5.431E+00	3.788E-03	1.491E-03	5.247E-03	-0.208	0.243	0.237
0.0400	4.931E+00	1.543E-02	4.947E+00	4.754E-03	1.674E-03	6.220E-03	-0.202	0.235	0.230
0.0450	4.544E+00	1.564E-02	4.560E+00	5.808E-03	1.852E-03	7.259E-03	-0.197	0.229	0.224
0.0500	4.226E+00	1.583E-02	4.242E+00	6.946E-03	2.025E-03	8.365E-03	-0.193	0.223	0.218
0.0550	3.961E+00	1.600E-02	3.977E+00	8.164E-03	2.194E-03	9.542E-03	-0.189	0.218	0.214
0.0600	3.736E+00	1.615E-02	3.753E+00	9.459E-03	2.358E-03	1.080E-02	-0.186	0.214	0.210
0.0700	3.375E+00	1.641E-02	3.392E+00	1.227E-02	2.674E-03	1.354E-02	-0.180	0.207	0.203
0.0800	3.098E+00	1.665E-02	3.114E+00	1.535E-02	2.977E-03	1.664E-02	-0.175	0.201	0.198
0.0900	2.877E+00	1.688E-02	2.894E+00	1.868E-02	3.267E-03	2.013E-02	-0.171	0.196	0.193
0.1000	2.698E+00	1.710E-02	2.715E+00	2.225E-02	3.547E-03	2.404E-02	-0.167	0.191	0.189
0.1250	2.370E+00	1.763E-02	2.387E+00	3.211E-02	4.208E-03	3.583E-02	-0.157	0.182	0.180
0.1500	2.146E+00	1.816E-02	2.164E+00	4.314E-02	4.822E-03	5.053E-02	-0.149	0.174	0.172
0.1750	1.984E+00	1.870E-02	2.002E+00	5.517E-02	5.401E-03	6.758E-02	-0.141	0.168	0.165
0.2000	1.861E+00	1.926E-02	1.881E+00	6.807E-02	5.950E-03	8.595E-02	-0.135	0.162	0.159
0.2500	1.691E+00	2.045E-02	1.711E+00	9.603E-02	6.981E-03	1.236E-01	-0.127	0.152	0.150
0.3000	1.579E+00	2.172E-02	1.601E+00	1.263E-01	7.945E-03	1.603E-01	-0.121	0.145	0.143
0.3500	1.501E+00	2.307E-02	1.524E+00	1.584E-01	8.860E-03	1.958E-01	-0.116	0.139	0.137
0.4000	1.444E+00	2.450E-02	1.469E+00	1.918E-01	9.741E-03	2.302E-01	-0.112	0.135	0.132
0.4500	1.402E+00	2.600E-02	1.428E+00	2.263E-01	1.060E-02	2.635E-01	-0.109	0.131	0.127
0.5000	1.370E+00	2.757E-02	1.396E+00	2.617E-01	1.143E-02	2.958E-01	-0.106	0.127	0.124
0.5500	1.345E+00	2.919E-02	1.375E+00	2.978E-01	1.226E-02	3.273E-01	-0.104	0.124	0.121
0.6000	1.326E+00	3.087E-02	1.357E+00	3.345E-01	1.307E-02	3.581E-01	-0.101	0.122	0.118
0.7000	1.298E+00	3.437E-02	1.333E+00	4.089E-01	1.467E-02	4.173E-01	-0.097	0.117	0.113
0.8000	1.281E+00	3.803E-02	1.319E+00	4.843E-01	1.625E-02	4.739E-01	-0.094	0.113	0.109
0.9000	1.270E+00	4.185E-02	1.312E+00	5.604E-01	1.782E-02	5.280E-01	-0.091	0.110	0.105
1.0000	1.263E+00	4.580E-02	1.309E+00	6.367E-01	1.938E-02	5.799E-01	-0.088	0.107	0.102
1.2500	1.257E+00	5.623E-02	1.313E+00	8.276E-01	2.328E-02	7.011E-01	-0.083	0.101	0.095
1.5000	1.259E+00	6.733E-02	1.327E+00	1.017E+00	2.720E-02	8.121E-01	-0.078	0.097	0.090
1.7500	1.265E+00	7.896E-02	1.344E+00	1.204E+00	3.113E-02	9.149E-01	-0.074	0.093	0.035
2.0000	1.273E+00	9.103E-02	1.364E+00	1.339E+00	3.509E-02	1.011E+00	-0.071	0.090	0.081
2.5000	1.289E+00	1.162E-01	1.405E+00	1.750E+00	4.302E-02	1.186E+00	-0.065	0.034	0.075
3.0000	1.305E+00	1.425E-01	1.448E+00	2.101E+00	5.095E-02	1.343E+00	-0.060	0.079	0.069
3.5000	1.320E+00	1.697E-01	1.490E+00	2.441E+00	5.885E-02	1.486E+00	-0.056	0.076	0.065
4.0000	1.334E+00	1.976E-01	1.531E+00	2.772E+00	6.668E-02	1.617E+00	-0.053	0.072	0.061
4.5000	1.346E+00	2.261E-01	1.573E+00	3.094E+00	7.443E-02	1.738E+00	-0.051	0.069	0.058
5.0000	1.358E+00	2.552E-01	1.613E+00	3.408E+00	8.209E-02	1.850E+00	-0.049	0.067	0.055
5.5000	1.368E+00	2.847E-01	1.653E+00	3.715E+00	8.965E-02	1.954E+00	-0.047	0.065	0.052
6.0000	1.378E+00	3.146E-01	1.693E+00	4.013E+00	9.710E-02	2.052E+00	-0.046	0.063	0.050
7.0000	1.396E+00	3.756E-01	1.771E+00	4.591E+00	1.117E-01	2.229E+00	-0.043	0.059	0.046
8.0000	1.411E+00	4.378E-01	1.849E+00	5.143E+00	1.258E-01	2.388E+00	-0.041	0.056	0.043
9.0000	1.424E+00	5.009E-01	1.925E+00	5.673E+00	1.394E-01	2.532E+00	-0.040	0.054	0.041
10.0000	1.436E+00	5.650E-01	2.001E+00	6.183E+00	1.526E-01	2.664E+00	-0.038	0.052	0.039
12.5000	1.462E+00	7.282E-01	2.190E+00	7.376E+00	1.837E-01	2.951E+00	-0.035	0.048	0.034
15.0000	1.482E+00	8.949E-01	2.377E+00	8.472E+00	2.122E-01	3.194E+00	-0.033	0.044	0.031
17.5000	1.499E+00	1.064E+00	2.563E+00	9.484E+00	2.385E-01	3.407E+00	-0.030	0.042	0.028
20.0000	1.513E+00	1.236E+00	2.749E+00	1.043E+01	2.628E-01	3.597E+00	-0.028	0.039	0.026
25.0000	1.537E+00	1.583E+00	3.120E+00	1.213E+01	3.061E-01	3.927E+00	-0.024	0.036	0.022
30.0000	1.555E+00	1.936E+00	3.491E+00	1.365E+01	3.437E-01	4.209E+00	-0.021	0.033	0.019
35.0000	1.570E+00	2.291E+00	3.861E+00	1.501E+01	3.767E-01	4.456E+00	-0.018	0.031	0.017
40.0000	1.582E+00	2.650E+00	4.233E+00	1.624E+01	4.059E-01	4.676E+00	-0.016	0.029	0.015
45.0000	1.593E+00	3.012E+00	4.605E+00	1.738E+01	4.320E-01	4.874E+00	-0.015	0.027	0.013
50.0000	1.603E+00	3.375E+00	4.978E+00	1.842E+01	4.554E-01	5.054E+00	-0.013	0.026	0.012
55.0000	1.611E+00	3.740E+00	5.351E+00	1.939E+01	4.766E-01	5.219E+00	-0.012	0.025	0.011
60.0000	1.619E+00	4.107E+00	5.725E+00	2.029E+01	4.959E-01	5.372E+00	-0.011	0.024	0.010
70.0000	1.632E+00	4.844E+00	6.476E+00	2.193E+01	5.298E-01	5.646E+00	-0.010	0.022	0.009
80.0000	1.643E+00	5.586E+00	7.229E+00	2.339E+01	5.587E-01	5.886E+00	-0.009	0.021	0.008
90.0000	1.653E+00	6.330E+00	7.983E+00	2.471E+01	5.836E-01	6.100E+00	-0.008	0.020	0.007
100.0000	1.661E+00	7.079E+00	8.740E+00	2.591E+01	6.054E-01	6.292E+00	-0.008	0.019	0.006
125.0000	1.679E+00	8.958E+00	1.064E+01	2.850E+01	6.498E-01	6.705E+00	-0.006	0.018	0.005
150.0000	1.694E+00	1.085E+01	1.254E+01	3.066E+01	6.838E-01	7.046E+00	-0.006	0.016	0.004
175.0000	1.706E+00	1.275E+01	1.445E+01	3.251E+01	7.110E-01	7.336E+00	-0.005	0.016	0.003
200.0000	1.716E+00	1.465E+01	1.637E+01	3.414E+01	7.332E-01	7.590E+00	-0.004	0.015	0.003
250.0000	1.733E+00	1.847E+01	2.020E+01	3.688E+01	7.676E-01	8.017E+00	-0.003	0.014	0.002
300.0000	1.747E+00	2.230E+01	2.404E+01	3.915E+01	7.932E-01	8.370E+00	-0.003	0.013	0.002
350.0000	1.758E+00	2.613E+01	2.789E+01	4.108E+01	8.131E-01	8.670E+00	-0.002	0.012	0.002
400.0000	1.768E+00	2.998E+01	3.174E+01	4.276E+01	8.291E-01	8.931E+00	-0.002	0.012	0.002
450.0000	1.776E+00	3.382E+01	3.560E+01	4.424E+01	8.422E-01	9.162E+00	-0.002	0.012	0.001
500.0000	1.784E+00	3.767E+01	3.946E+01	4.558E+01	8.532E-01	9.369E+00	-0.001	0.011	0.001
550.0000	1.791E+00	4.153E+01	4.332E+01	4.679E+01	8.626E-01	9.558E+00	-0.001	0.011	0.001
600.0000	1.797E+00	4.539E+01	4.718E+01	4.789E+01	8.708E-01	9.730E+00	-0.001	0.011	0.001
700.0000	1.808E+00	5.311E+01	5.491E+01	4.985E+01	8.842E-01	1.004E+01	-0.001	0.010	0.001
800.0000	1.818E+00	6.083E+01	6.265E+01	5.156E+01	8.948E-01	1.030E+01	-0.001	0.010	0.001
900.0000	1.826E+00	6.856E+01	7.039E+01	5.306E+01	9.034E-01	1.053E+01	-0.001	0.010	0.001
1000.0000	1.833E+00	7.629E+01	7.813E+01	5.441E+01	9.106E-01	1.074E+01	-0.000	0.009	0.001

Tabell 24 :

ELECTRONS IN GERMANIUM

I = 350.0 eV DENSITY = 5.323E+00 g/cm³

ENERGY	STOPPING POWER COLLISION	STOPPING POWER RADIATIVE	STOPPING POWER TOTAL	CSDA RANGE	RADIATION YIELD	DENS.EFF. CORR. (DELTA)	d(log)/d(logI) COLL LOSS	d(log)/d(logI) CSDA RANGE	d(log)/d(logI) RAD YIELD
MeV	MeV cm²/g	MeV cm²/g	MeV cm²/g	g/cm²					
0.0100	1.243E+01	1.267E-02	1.244E+01	4.908E-04	5.171E-04	5.175E-04	-0.286	0.367	0.347
0.0125	1.065E+01	1.339E-02	1.066E+01	7.087E-04	6.413E-04	6.632E-04	-0.269	0.340	0.322
0.0150	9.367E+00	1.395E-02	9.381E+00	9.593E-04	7.631E-04	8.152E-04	-0.257	0.319	0.304
0.0175	8.400E+00	1.439E-02	8.414E+00	1.241E-03	8.825E-04	9.734E-04	-0.247	0.304	0.291
0.0200	7.641E+00	1.475E-02	7.655E+00	1.553E-03	9.996E-04	1.138E-03	-0.240	0.292	0.280
0.0250	6.521E+00	1.532E-02	6.536E+00	2.263E-03	1.227E-03	1.484E-03	-0.228	0.273	0.263
0.0300	5.731E+00	1.575E-02	5.747E+00	3.081E-03	1.447E-03	1.853E-03	-0.219	0.260	0.251
0.0350	5.142E+00	1.609E-02	5.158E+00	4.001E-03	1.659E-03	2.244E-03	-0.212	0.249	0.242
0.0400	4.685E+00	1.638E-02	4.701E+00	5.018E-03	1.864E-03	2.656E-03	-0.206	0.241	0.235
0.0450	4.318E+00	1.663E-02	4.335E+00	6.127E-03	2.064E-03	3.089E-03	-0.201	0.234	0.228
0.0500	4.018E+00	1.684E-02	4.035E+00	7.323E-03	2.258E-03	3.541E-03	-0.197	0.228	0.223
0.0550	3.768E+00	1.704E-02	3.785E+00	8.604E-03	2.447E-03	4.013E-03	-0.194	0.223	0.218
0.0600	3.555E+00	1.722E-02	3.572E+00	9.964E-03	2.632E-03	4.502E-03	-0.191	0.219	0.214
0.0700	3.213E+00	1.755E-02	3.231E+00	1.291E-02	2.989E-03	5.535E-03	-0.185	0.212	0.208
0.0800	2.950E+00	1.784E-02	2.968E+00	1.615E-02	3.330E-03	6.634E-03	-0.181	0.206	0.202
0.0900	2.742E+00	1.811E-02	2.760E+00	1.965E-02	3.659E-03	7.795E-03	-0.177	0.201	0.198
0.1000	2.572E+00	1.837E-02	2.591E+00	2.339E-02	3.976E-03	9.014E-03	-0.174	0.197	0.194
0.1250	2.262E+00	1.900E-02	2.281E+00	3.371E-02	4.725E-03	1.230E-02	-0.168	0.188	0.186
0.1500	2.050E+00	1.960E-02	2.070E+00	4.525E-02	5.422E-03	1.588E-02	-0.163	0.182	0.180
0.1750	1.898E+00	2.020E-02	1.918E+00	5.782E-02	6.077E-03	1.973E-02	-0.158	0.177	0.175
0.2000	1.783E+00	2.081E-02	1.804E+00	7.127E-02	6.697E-03	2.381E-02	-0.155	0.173	0.171
0.2500	1.624E+00	2.208E-02	1.646E+00	1.004E-01	7.854E-03	3.258E-02	-0.149	0.166	0.164
0.3000	1.520E+00	2.344E-02	1.543E+00	1.318E-01	8.930E-03	4.209E-02	-0.144	0.161	0.159
0.3500	1.447E+00	2.488E-02	1.472E+00	1.650E-01	9.947E-03	5.225E-02	-0.139	0.156	0.154
0.4000	1.395E+00	2.641E-02	1.422E+00	1.996E-01	1.092E-02	6.300E-02	-0.135	0.153	0.150
0.4500	1.357E+00	2.802E-02	1.385E+00	2.353E-01	1.186E-02	7.432E-02	-0.132	0.149	0.147
0.5000	1.328E+00	2.971E-02	1.357E+00	2.718E-01	1.278E-02	8.619E-02	-0.128	0.146	0.144
0.5500	1.305E+00	3.146E-02	1.337E+00	3.089E-01	1.369E-02	9.857E-02	-0.125	0.144	0.141
0.6000	1.288E+00	3.326E-02	1.321E+00	3.465E-01	1.458E-02	1.114E-01	-0.122	0.141	0.138
0.7000	1.263E+00	3.702E-02	1.300E+00	4.229E-01	1.633E-02	1.386E-01	-0.116	0.137	0.133
0.8000	1.248E+00	4.095E-02	1.289E+00	5.001E-01	1.805E-02	1.673E-01	-0.111	0.133	0.128
0.9000	1.239E+00	4.504E-02	1.284E+00	5.779E-01	1.976E-02	1.973E-01	-0.106	0.129	0.124
1.0000	1.234E+00	4.926E-02	1.283E+00	6.558E-01	2.145E-02	2.282E-01	-0.102	0.125	0.120
1.2500	1.231E+00	6.036E-02	1.291E+00	8.501E-01	2.567E-02	3.083E-01	-0.092	0.118	0.111
1.5000	1.235E+00	7.213E-02	1.307E+00	1.043E+00	2.989E-02	3.894E-01	-0.085	0.112	0.103
1.7500	1.242E+00	8.442E-02	1.326E+00	1.233E+00	3.411E-02	4.695E-01	-0.080	0.106	0.097
2.0000	1.250E+00	9.714E-02	1.347E+00	1.420E+00	3.833E-02	5.474E-01	-0.075	0.102	0.091
2.5000	1.268E+00	1.236E-01	1.391E+00	1.785E+00	4.676E-02	6.953E-01	-0.068	0.094	0.082
3.0000	1.284E+00	1.512E-01	1.436E+00	2.139E+00	5.516E-02	8.323E-01	-0.063	0.089	0.075
3.5000	1.300E+00	1.797E-01	1.480E+00	2.482E+00	6.348E-02	9.593E-01	-0.058	0.084	0.070
4.0000	1.314E+00	2.089E-01	1.523E+00	2.815E+00	7.171E-02	1.077E+00	-0.055	0.080	0.065
4.5000	1.327E+00	2.387E-01	1.566E+00	3.138E+00	7.984E-02	1.188E+00	-0.052	0.076	0.061
5.0000	1.338E+00	2.691E-01	1.608E+00	3.454E+00	8.786E-02	1.292E+00	-0.049	0.073	0.058
5.5000	1.349E+00	2.999E-01	1.649E+00	3.761E+00	9.575E-02	1.389E+00	-0.047	0.070	0.055
6.0000	1.359E+00	3.312E-01	1.690E+00	4.060E+00	1.035E-01	1.481E+00	-0.045	0.068	0.052
7.0000	1.376E+00	3.949E-01	1.771E+00	4.638E+00	1.187E-01	1.651E+00	-0.042	0.064	0.048
8.0000	1.391E+00	4.598E-01	1.851E+00	5.190E+00	1.333E-01	1.805E+00	-0.040	0.060	0.044
9.0000	1.404E+00	5.257E-01	1.930E+00	5.719E+00	1.474E-01	1.945E+00	-0.038	0.057	0.041
10.0000	1.416E+00	5.926E-01	2.009E+00	6.227E+00	1.611E-01	2.074E+00	-0.036	0.055	0.039
12.5000	1.441E+00	7.631E-01	2.204E+00	7.415E+00	1.931E-01	2.357E+00	-0.033	0.050	0.034
15.0000	1.461E+00	9.373E-01	2.398E+00	8.502E+00	2.224E-01	2.597E+00	-0.031	0.046	0.030
17.5000	1.477E+00	1.114E+00	2.592E+00	9.504E+00	2.493E-01	2.806E+00	-0.029	0.043	0.027
20.0000	1.492E+00	1.294E+00	2.786E+00	1.043E+01	2.741E-01	2.991E+00	-0.028	0.041	0.025
25.0000	1.515E+00	1.659E+00	3.173E+00	1.212E+01	3.182E-01	3.311E+00	-0.025	0.037	0.021
30.0000	1.533E+00	2.029E+00	3.562E+00	1.360E+01	3.564E-01	3.583E+00	-0.022	0.034	0.018
35.0000	1.548E+00	2.403E+00	3.952E+00	1.493E+01	3.897E-01	3.820E+00	-0.020	0.032	0.016
40.0000	1.561E+00	2.781E+00	4.342E+00	1.614E+01	4.191E-01	4.031E+00	-0.018	0.030	0.015
45.0000	1.572E+00	3.162E+00	4.734E+00	1.724E+01	4.452E-01	4.222E+00	-0.016	0.028	0.013
50.0000	1.581E+00	3.545E+00	5.127E+00	1.826E+01	4.687E-01	4.396E+00	-0.015	0.027	0.012
55.0000	1.590E+00	3.930E+00	5.520E+00	1.920E+01	4.899E-01	4.556E+00	-0.014	0.026	0.011
60.0000	1.598E+00	4.316E+00	5.914E+00	2.007E+01	5.092E-01	4.704E+00	-0.013	0.025	0.010
70.0000	1.611E+00	5.093E+00	6.704E+00	2.166E+01	5.429E-01	4.971E+00	-0.011	0.023	0.009
80.0000	1.622E+00	5.874E+00	7.495E+00	2.307E+01	5.716E-01	5.206E+00	-0.010	0.022	0.008
90.0000	1.631E+00	6.658E+00	8.289E+00	2.434E+01	5.963E-01	5.417E+00	-0.009	0.021	0.007
100.0000	1.640E+00	7.445E+00	9.085E+00	2.549E+01	6.178E-01	5.607E+00	-0.008	0.020	0.006
125.0000	1.658E+00	9.420E+00	1.108E+01	2.798E+01	6.614E-01	6.015E+00	-0.007	0.019	0.005
150.0000	1.672E+00	1.141E+01	1.308E+01	3.005E+01	6.948E-01	6.352E+00	-0.006	0.017	0.004
175.0000	1.684E+00	1.340E+01	1.508E+01	3.183E+01	7.214E-01	6.640E+00	-0.005	0.016	0.004
200.0000	1.694E+00	1.540E+01	1.709E+01	3.339E+01	7.430E-01	6.891E+00	-0.005	0.016	0.003
250.0000	1.710E+00	1.940E+01	2.111E+01	3.601E+01	7.765E-01	7.315E+00	-0.004	0.015	0.002
300.0000	1.724E+00	2.342E+01	2.514E+01	3.818E+01	8.014E-01	7.664E+00	-0.003	0.014	0.002
350.0000	1.735E+00	2.744E+01	2.918E+01	4.003E+01	8.206E-01	7.961E+00	-0.003	0.013	0.002
400.0000	1.744E+00	3.148E+01	3.322E+01	4.163E+01	8.361E-01	8.220E+00	-0.002	0.013	0.002
450.0000	1.753E+00	3.552E+01	3.727E+01	4.305E+01	8.488E-01	8.449E+00	-0.002	0.012	0.001
500.0000	1.760E+00	3.956E+01	4.132E+01	4.433E+01	8.594E-01	8.655E+00	-0.002	0.012	0.001
550.0000	1.767E+00	4.360E+01	4.537E+01	4.548E+01	8.685E-01	8.842E+00	-0.001	0.012	0.001
600.0000	1.773E+00	4.765E+01	4.943E+01	4.654E+01	8.763E-01	9.014E+00	-0.001	0.011	0.001
700.0000	1.784E+00	5.576E+01	5.754E+01	4.841E+01	8.893E-01	9.318E+00	-0.001	0.011	0.001
800.0000	1.793E+00	6.387E+01	6.566E+01	5.003E+01	8.995E-01	9.582E+00	-0.001	0.011	0.001
900.0000	1.801E+00	7.199E+01	7.379E+01	5.147E+01	9.078E-01	9.815E+00	-0.001	0.010	0.001
1000.0000	1.808E+00	8.011E+01	8.192E+01	5.276E+01	9.147E-01	1.002E+01	-0.001	0.010	0.001

Tabell 24 :

ELECTRONS IN HELIUM

I = 41.8 eV DENSITY = 1.663E-04 g/cm³ (20° C)

ENERGY	STOPPING POWER COLLISION	STOPPING POWER RADIATIVE	STOPPING POWER TOTAL	CSDA RANGE	RADIATION YIELD	DENS.EFF. CORR. (DELTA)	d(log)/d(logI) COLL LOSS	d(log)/d(logI) CSDA RANGE	d(log)/d(logI) RAD YIELD
MeV	MeV cm²/g	MeV cm²/g	MeV cm²/g	g/cm²					
0.0100	2.267E+01	9.885E-04	2.267E+01	2.467E-04	2.412E-05	0.0	-0.178	0.200	0.200
0.0125	1.898E+01	9.941E-04	1.898E+01	3.678E-04	2.890E-05	0.0	-0.171	0.191	0.191
0.0150	1.642E+01	9.995E-04	1.642E+01	5.098E-04	3.352E-05	0.0	-0.166	0.185	0.185
0.0175	1.453E+01	1.005E-03	1.453E+01	6.720E-04	3.802E-05	0.0	-0.162	0.180	0.180
0.0200	1.307E+01	1.010E-03	1.307E+01	8.537E-04	4.242E-05	0.0	-0.159	0.176	0.176
0.0250	1.097E+01	1.020E-03	1.097E+01	1.273E-03	5.096E-05	0.0	-0.154	0.169	0.169
0.0300	9.521E+00	1.029E-03	9.522E+00	1.764E-03	5.923E-05	0.0	-0.150	0.164	0.164
0.0350	8.457E+00	1.039E-03	8.458E+00	2.322E-03	6.727E-05	0.0	-0.146	0.160	0.160
0.0400	7.642E+00	1.048E-03	7.643E+00	2.945E-03	7.510E-05	0.0	-0.144	0.157	0.157
0.0450	6.996E+00	1.057E-03	6.997E+00	3.630E-03	8.277E-05	0.0	-0.141	0.154	0.154
0.0500	6.471E+00	1.066E-03	6.472E+00	4.374E-03	9.029E-05	0.0	-0.139	0.152	0.152
0.0550	6.035E+00	1.075E-03	6.037E+00	5.174E-03	9.766E-05	0.0	-0.138	0.150	0.150
0.0600	5.669E+00	1.084E-03	5.670E+00	6.029E-03	1.049E-04	0.0	-0.136	0.148	0.148
0.0700	5.084E+00	1.101E-03	5.085E+00	7.896E-03	1.191E-04	0.0	-0.133	0.145	0.144
0.0800	4.638E+00	1.119E-03	4.639E+00	9.958E-03	1.328E-04	0.0	-0.131	0.142	0.142
0.0900	4.287E+00	1.138E-03	4.288E+00	1.220E-02	1.462E-04	0.0	-0.129	0.140	0.140
0.1000	4.003E+00	1.157E-03	4.004E+00	1.462E-02	1.593E-04	0.0	-0.128	0.138	0.138
0.1250	3.486E+00	1.207E-03	3.487E+00	2.134E-02	1.910E-04	0.0	-0.124	0.134	0.134
0.1500	3.137E+00	1.260E-03	3.139E+00	2.891E-02	2.215E-04	0.0	-0.122	0.131	0.131
0.1750	2.887E+00	1.316E-03	2.889E+00	3.723E-02	2.511E-04	0.0	-0.119	0.129	0.128
0.2000	2.700E+00	1.375E-03	2.701E+00	4.619E-02	2.800E-04	0.0	-0.118	0.127	0.126
0.2500	2.439E+00	1.499E-03	2.441E+00	6.573E-02	3.363E-04	0.0	-0.115	0.124	0.123
0.3000	2.269E+00	1.632E-03	2.270E+00	8.702E-02	3.914E-04	0.0	-0.112	0.121	0.120
0.3500	2.150E+00	1.774E-03	2.152E+00	1.097E-01	4.457E-04	0.0	-0.110	0.119	0.118
0.4000	2.064E+00	1.924E-03	2.066E+00	1.334E-01	4.997E-04	0.0	-0.109	0.117	0.116
0.4500	2.000E+00	2.081E-03	2.002E+00	1.580E-01	5.536E-04	0.0	-0.107	0.116	0.114
0.5000	1.952E+00	2.245E-03	1.954E+00	1.833E-01	6.076E-04	0.0	-0.106	0.114	0.113
0.5500	1.914E+00	2.416E-03	1.916E+00	2.092E-01	6.619E-04	0.0	-0.104	0.113	0.112
0.6000	1.884E+00	2.592E-03	1.887E+00	2.355E-01	7.165E-04	0.0	-0.103	0.112	0.110
0.7000	1.842E+00	2.961E-03	1.845E+00	2.891E-01	8.269E-04	0.0	-0.101	0.110	0.108
0.8000	1.815E+00	3.350E-03	1.818E+00	3.437E-01	9.389E-04	0.0	-0.100	0.109	0.106
0.9000	1.798E+00	3.757E-03	1.801E+00	3.990E-01	1.053E-03	0.0	-0.098	0.107	0.105
1.0000	1.787E+00	4.180E-03	1.791E+00	4.547E-01	1.168E-03	0.0	-0.097	0.106	0.103
1.2500	1.777E+00	5.306E-03	1.782E+00	5.947E-01	1.465E-03	0.0	-0.094	0.104	0.101
1.5000	1.780E+00	6.515E-03	1.787E+00	7.349E-01	1.773E-03	0.0	-0.092	0.102	0.098
1.7500	1.789E+00	7.793E-03	1.797E+00	8.744E-01	2.089E-03	0.0	-0.090	0.100	0.096
2.0000	1.801E+00	9.132E-03	1.810E+00	1.013E+00	2.414E-03	0.0	-0.089	0.098	0.095
2.5000	1.827E+00	1.196E-02	1.839E+00	1.287E+00	3.085E-03	0.0	-0.087	0.096	0.092
3.0000	1.854E+00	1.495E-02	1.869E+00	1.557E+00	3.779E-03	0.0	-0.085	0.094	0.090
3.5000	1.880E+00	1.809E-02	1.898E+00	1.822E+00	4.491E-03	0.0	-0.083	0.093	0.088
4.0000	1.903E+00	2.134E-02	1.925E+00	2.084E+00	5.218E-03	0.0	-0.082	0.091	0.086
4.5000	1.925E+00	2.469E-02	1.950E+00	2.342E+00	5.957E-03	0.0	-0.081	0.090	0.085
5.0000	1.946E+00	2.813E-02	1.974E+00	2.597E+00	6.706E-03	0.0	-0.080	0.089	0.084
5.5000	1.965E+00	3.165E-02	1.997E+00	2.848E+00	7.465E-03	0.0	-0.079	0.088	0.083
6.0000	1.983E+00	3.523E-02	2.018E+00	3.098E+00	8.231E-03	0.0	-0.078	0.087	0.082
7.0000	2.015E+00	4.260E-02	2.057E+00	3.588E+00	9.781E-03	0.0	-0.077	0.086	0.080
8.0000	2.043E+00	5.018E-02	2.093E+00	4.070E+00	1.135E-02	0.0	-0.075	0.084	0.079
9.0000	2.069E+00	5.793E-02	2.126E+00	4.544E+00	1.293E-02	0.0	-0.074	0.083	0.077
10.0000	2.092E+00	6.584E-02	2.157E+00	5.011E+00	1.453E-02	0.0	-0.074	0.082	0.076
12.5000	2.141E+00	8.617E-02	2.227E+00	6.151E+00	1.855E-02	0.0	-0.072	0.080	0.074
15.0000	2.182E+00	1.071E-01	2.289E+00	7.258E+00	2.258E-02	0.0	-0.071	0.078	0.072
17.5000	2.216E+00	1.286E-01	2.345E+00	8.337E+00	2.662E-02	0.0	-0.069	0.077	0.071
20.0000	2.247E+00	1.505E-01	2.397E+00	9.391E+00	3.064E-02	0.0	-0.068	0.075	0.069
25.0000	2.297E+00	1.952E-01	2.493E+00	1.144E+01	3.863E-02	0.0	-0.067	0.073	0.067
30.0000	2.339E+00	2.410E-01	2.580E+00	1.341E+01	4.651E-02	0.0	-0.066	0.071	0.065
35.0000	2.374E+00	2.875E-01	2.662E+00	1.531E+01	5.426E-02	0.0	-0.065	0.070	0.063
40.0000	2.405E+00	3.346E-01	2.739E+00	1.717E+01	6.187E-02	0.0	-0.064	0.068	0.062
45.0000	2.432E+00	3.822E-01	2.814E+00	1.897E+01	6.933E-02	0.0	-0.063	0.067	0.060
50.0000	2.456E+00	4.303E-01	2.886E+00	2.072E+01	7.665E-02	0.0	-0.063	0.066	0.059
55.0000	2.478E+00	4.786E-01	2.956E+00	2.243E+01	8.382E-02	0.0	-0.062	0.065	0.058
60.0000	2.498E+00	5.272E-01	3.025E+00	2.410E+01	9.085E-02	0.0	-0.062	0.064	0.057
70.0000	2.533E+00	6.252E-01	3.158E+00	2.734E+01	1.045E-01	0.0	-0.061	0.062	0.055
80.0000	2.564E+00	7.239E-01	3.288E+00	3.044E+01	1.176E-01	0.0	-0.060	0.061	0.054
90.0000	2.589E+00	8.231E-01	3.412E+00	3.343E+01	1.301E-01	2.142E-02	-0.048	0.059	0.051
100.0000	2.609E+00	9.229E-01	3.532E+00	3.631E+01	1.423E-01	7.841E-02	-0.039	0.057	0.048
125.0000	2.644E+00	1.174E+00	3.818E+00	4.311E+01	1.708E-01	2.879E-01	-0.024	0.051	0.039
150.0000	2.668E+00	1.427E+00	4.095E+00	4.943E+01	1.970E-01	5.234E-01	-0.017	0.047	0.032
175.0000	2.686E+00	1.681E+00	4.367E+00	5.534E+01	2.213E-01	7.535E-01	-0.012	0.043	0.027
200.0000	2.700E+00	1.937E+00	4.637E+00	6.090E+01	2.439E-01	9.696E-01	-0.009	0.039	0.023
250.0000	2.722E+00	2.451E+00	5.173E+00	7.110E+01	2.844E-01	1.356E+00	-0.006	0.034	0.017
300.0000	2.738E+00	2.967E+00	5.705E+00	8.030E+01	3.200E-01	1.688E+00	-0.004	0.031	0.013
350.0000	2.752E+00	3.486E+00	6.237E+00	8.868E+01	3.514E-01	1.976E+00	-0.003	0.028	0.011
400.0000	2.763E+00	4.006E+00	6.768E+00	9.637E+01	3.794E-01	2.230E+00	-0.002	0.026	0.009
450.0000	2.773E+00	4.527E+00	7.300E+00	1.035E+02	4.047E-01	2.457E+00	-0.002	0.024	0.007
500.0000	2.781E+00	5.049E+00	7.831E+00	1.101E+02	4.275E-01	2.661E+00	-0.002	0.023	0.006
550.0000	2.789E+00	5.573E+00	8.362E+00	1.163E+02	4.482E-01	2.847E+00	-0.001	0.022	0.006
600.0000	2.796E+00	6.097E+00	8.892E+00	1.221E+02	4.672E-01	3.017E+00	-0.001	0.021	0.005
700.0000	2.808E+00	7.147E+00	9.955E+00	1.327E+02	5.008E-01	3.321E+00	-0.001	0.019	0.004
800.0000	2.818E+00	8.199E+00	1.102E+01	1.422E+02	5.297E-01	3.584E+00	-0.001	0.018	0.003
900.0000	2.828E+00	9.253E+00	1.208E+01	1.509E+02	5.547E-01	3.818E+00	-0.001	0.017	0.003
1000.0000	2.836E+00	1.031E+01	1.314E+01	1.588E+02	5.768E-01	4.027E+00	-0.000	0.016	0.003

Tabell 24 :

ELECTRONS IN HYDROGEN

I = 19.2 eV DENSITY = 8.375E-05 g/cm³ (20° C)

ENERGY	STOPPING POWER COLLISION	STOPPING POWER RADIATIVE	STOPPING POWER TOTAL	CSDA RANGE	RADIATION YIELD	DENS.EFF. CORR. (DELTA)	d(log)/d(logI) COLL LOSS	d(log)/d(logI) CSDA RANGE	d(log)/d(logI) RAD YIELD
MeV	MeV cm²/g	MeV cm²/g	MeV cm²/g	g/cm²					
0.0100	5.125E+01	9.702E-04	5.125E+01	1.076E-04	1.029E-05	0.0	-0.156	0.172	0.172
0.0125	4.271E+01	9.793E-04	4.271E+01	1.613E-04	1.242E-05	0.0	-0.151	0.166	0.166
0.0150	3.682E+01	9.881E-04	3.682E+01	2.245E-04	1.450E-05	0.0	-0.147	0.161	0.161
0.0175	3.249E+01	9.964E-04	3.249E+01	2.970E-04	1.654E-05	0.0	-0.144	0.158	0.157
0.0200	2.917E+01	1.004E-03	2.917E+01	3.783E-04	1.854E-05	0.0	-0.141	0.154	0.154
0.0250	2.439E+01	1.019E-03	2.439E+01	5.667E-04	2.246E-05	0.0	-0.137	0.149	0.149
0.0300	2.110E+01	1.034E-03	2.110E+01	7.878E-04	2.628E-05	0.0	-0.134	0.145	0.145
0.0350	1.870E+01	1.048E-03	1.870E+01	1.040E-03	3.003E-05	0.0	-0.131	0.142	0.142
0.0400	1.687E+01	1.061E-03	1.687E+01	1.322E-03	3.371E-05	0.0	-0.129	0.140	0.139
0.0450	1.542E+01	1.074E-03	1.542E+01	1.632E-03	3.733E-05	0.0	-0.127	0.138	0.137
0.0500	1.424E+01	1.088E-03	1.424E+01	1.970E-03	4.090E-05	0.0	-0.126	0.136	0.135
0.0550	1.327E+01	1.101E-03	1.327E+01	2.334E-03	4.443E-05	0.0	-0.124	0.134	0.134
0.0600	1.245E+01	1.113E-03	1.245E+01	2.724E-03	4.791E-05	0.0	-0.123	0.133	0.132
0.0700	1.114E+01	1.138E-03	1.114E+01	3.575E-03	5.475E-05	0.0	-0.121	0.130	0.130
0.0800	1.015E+01	1.164E-03	1.015E+01	4.517E-03	6.146E-05	0.0	-0.119	0.128	0.127
0.0900	9.367E+00	1.190E-03	9.368E+00	5.543E-03	6.806E-05	0.0	-0.117	0.126	0.126
0.1000	8.737E+00	1.216E-03	8.738E+00	6.650E-03	7.457E-05	0.0	-0.116	0.125	0.124
0.1250	7.590E+00	1.285E-03	7.592E+00	9.732E-03	9.050E-05	0.0	-0.113	0.121	0.121
0.1500	6.819E+00	1.357E-03	6.820E+00	1.322E-02	1.061E-04	0.0	-0.111	0.119	0.118
0.1750	6.266E+00	1.433E-03	6.267E+00	1.705E-02	1.215E-04	0.0	-0.109	0.117	0.116
0.2000	5.851E+00	1.511E-03	5.852E+00	2.118E-02	1.367E-04	0.0	-0.108	0.115	0.115
0.2500	5.275E+00	1.677E-03	5.276E+00	3.021E-02	1.670E-04	0.0	-0.105	0.113	0.112
0.3000	4.898E+00	1.852E-03	4.899E+00	4.007E-02	1.971E-04	0.0	-0.103	0.111	0.110
0.3500	4.635E+00	2.038E-03	4.637E+00	5.057E-02	2.273E-04	0.0	-0.102	0.109	0.108
0.4000	4.445E+00	2.232E-03	4.447E+00	6.159E-02	2.577E-04	0.0	-0.100	0.107	0.106
0.4500	4.302E+00	2.436E-03	4.305E+00	7.303E-02	2.884E-04	0.0	-0.099	0.106	0.105
0.5000	4.193E+00	2.648E-03	4.196E+00	8.480E-02	3.194E-04	0.0	-0.098	0.105	0.103
0.5500	4.109E+00	2.869E-03	4.111E+00	9.684E-02	3.508E-04	0.0	-0.097	0.104	0.102
0.6000	4.042E+00	3.096E-03	4.045E+00	1.091E-01	3.825E-04	0.0	-0.096	0.103	0.101
0.7000	3.945E+00	3.573E-03	3.949E+00	1.341E-01	4.471E-04	0.0	-0.094	0.102	0.100
0.8000	3.883E+00	4.076E-03	3.887E+00	1.597E-01	5.133E-04	0.0	-0.093	0.100	0.098
0.9000	3.842E+00	4.603E-03	3.847E+00	1.856E-01	5.809E-04	0.0	-0.091	0.099	0.097
1.0000	3.816E+00	5.152E-03	3.821E+00	2.117E-01	6.501E-04	0.0	-0.090	0.098	0.096
1.2500	3.787E+00	6.614E-03	3.794E+00	2.774E-01	8.289E-04	0.0	-0.088	0.096	0.093
1.5000	3.788E+00	8.190E-03	3.796E+00	3.433E-01	1.016E-03	0.0	-0.086	0.094	0.091
1.7500	3.802E+00	9.862E-03	3.812E+00	4.090E-01	1.209E-03	0.0	-0.085	0.093	0.089
2.0000	3.823E+00	1.162E-02	3.835E+00	4.744E-01	1.409E-03	0.0	-0.083	0.091	0.088
2.5000	3.873E+00	1.534E-02	3.888E+00	6.039E-01	1.824E-03	0.0	-0.081	0.089	0.086
3.0000	3.924E+00	1.931E-02	3.943E+00	7.316E-01	2.257E-03	0.0	-0.079	0.088	0.084
3.5000	3.973E+00	2.348E-02	3.997E+00	8.575E-01	2.703E-03	0.0	-0.078	0.086	0.082
4.0000	4.020E+00	2.782E-02	4.047E+00	9.818E-01	3.162E-03	0.0	-0.077	0.085	0.081
4.5000	4.063E+00	3.230E-02	4.095E+00	1.105E+00	3.631E-03	0.0	-0.076	0.084	0.080
5.0000	4.103E+00	3.693E-02	4.140E+00	1.226E+00	4.108E-03	0.0	-0.075	0.083	0.079
5.5000	4.140E+00	4.166E-02	4.182E+00	1.346E+00	4.593E-03	0.0	-0.074	0.082	0.078
6.0000	4.175E+00	4.651E-02	4.222E+00	1.465E+00	5.084E-03	0.0	-0.074	0.082	0.077
7.0000	4.239E+00	5.647E-02	4.295E+00	1.700E+00	6.083E-03	0.0	-0.072	0.080	0.076
8.0000	4.295E+00	6.675E-02	4.361E+00	1.931E+00	7.101E-03	0.0	-0.071	0.079	0.074
9.0000	4.345E+00	7.731E-02	4.422E+00	2.159E+00	8.133E-03	0.0	-0.070	0.078	0.073
10.0000	4.391E+00	8.809E-02	4.479E+00	2.383E+00	9.177E-03	0.0	-0.070	0.077	0.072
12.5000	4.488E+00	1.159E-01	4.604E+00	2.934E+00	1.183E-02	0.0	-0.068	0.075	0.070
15.0000	4.569E+00	1.448E-01	4.714E+00	3.470E+00	1.451E-02	0.0	-0.067	0.074	0.069
17.5000	4.638E+00	1.744E-01	4.813E+00	3.995E+00	1.722E-02	0.0	-0.066	0.073	0.068
20.0000	4.698E+00	2.046E-01	4.903E+00	4.510E+00	1.994E-02	0.0	-0.065	0.071	0.066
25.0000	4.799E+00	2.667E-01	5.065E+00	5.513E+00	2.540E-02	0.0	-0.064	0.070	0.064
30.0000	4.881E+00	3.305E-01	5.212E+00	6.485E+00	3.084E-02	0.0	-0.063	0.068	0.063
35.0000	4.951E+00	3.955E-01	5.347E+00	7.432E+00	3.625E-02	0.0	-0.062	0.067	0.061
40.0000	5.010E+00	4.615E-01	5.471E+00	8.357E+00	4.161E-02	1.250E-02	-0.052	0.065	0.060
45.0000	5.055E+00	5.283E-01	5.583E+00	9.261E+00	4.693E-02	6.872E-02	-0.041	0.063	0.056
50.0000	5.091E+00	5.959E-01	5.686E+00	1.015E+01	5.221E-02	1.504E-01	-0.033	0.060	0.051
55.0000	5.120E+00	6.640E-01	5.784E+00	1.102E+01	5.745E-02	2.452E-01	-0.027	0.058	0.047
60.0000	5.144E+00	7.326E-01	5.876E+00	1.188E+01	6.264E-02	3.459E-01	-0.023	0.055	0.043
70.0000	5.183E+00	8.713E-01	6.054E+00	1.355E+01	7.288E-02	5.514E-01	-0.017	0.050	0.036
80.0000	5.213E+00	1.011E+00	6.225E+00	1.518E+01	8.293E-02	7.513E-01	-0.013	0.046	0.031
90.0000	5.238E+00	1.153E+00	6.391E+00	1.677E+01	9.277E-02	9.405E-01	-0.010	0.043	0.026
100.0000	5.259E+00	1.295E+00	6.554E+00	1.831E+01	1.024E-01	1.118E+00	-0.008	0.040	0.023
125.0000	5.301E+00	1.654E+00	6.955E+00	2.202E+01	1.255E-01	1.513E+00	-0.005	0.034	0.017
150.0000	5.333E+00	2.017E+00	7.350E+00	2.551E+01	1.473E-01	1.849E+00	-0.004	0.030	0.013
175.0000	5.359E+00	2.383E+00	7.742E+00	2.882E+01	1.679E-01	2.140E+00	-0.003	0.027	0.010
200.0000	5.381E+00	2.752E+00	8.133E+00	3.198E+01	1.873E-01	2.396E+00	-0.002	0.024	0.008
250.0000	5.417E+00	3.496E+00	8.913E+00	3.785E+01	2.231E-01	2.828E+00	-0.001	0.021	0.006
300.0000	5.446E+00	4.246E+00	9.692E+00	4.322E+01	2.552E-01	3.186E+00	-0.001	0.018	0.005
350.0000	5.470E+00	5.001E+00	1.047E+01	4.819E+01	2.842E-01	3.489E+00	-0.001	0.016	0.004
400.0000	5.491E+00	5.760E+00	1.125E+01	5.279E+01	3.106E-01	3.753E+00	-0.001	0.015	0.003
450.0000	5.509E+00	6.522E+00	1.203E+01	5.709E+01	3.347E-01	3.987E+00	-0.000	0.014	0.002
500.0000	5.526E+00	7.286E+00	1.281E+01	6.111E+01	3.568E-01	4.196E+00	-0.000	0.013	0.002
550.0000	5.540E+00	8.053E+00	1.359E+01	6.490E+01	3.771E-01	4.386E+00	-0.000	0.012	0.002
600.0000	5.554E+00	8.821E+00	1.438E+01	6.848E+01	3.960E-01	4.559E+00	-0.000	0.012	0.002
700.0000	5.577E+00	1.036E+01	1.594E+01	7.508E+01	4.298E-01	4.866E+00	-0.000	0.011	0.001
800.0000	5.598E+00	1.191E+01	1.751E+01	8.107E+01	4.592E-01	5.132E+00	-0.000	0.010	0.001
900.0000	5.616E+00	1.346E+01	1.908E+01	8.654E+01	4.853E-01	5.367E+00	-0.000	0.009	0.001
1000.0000	5.632E+00	1.502E+01	2.065E+01	9.157E+01	5.084E-01	5.577E+00	-0.000	0.009	0.001

Tabell 24 :

ELECTRONS IN IRON

I = 286.0 eV DENSITY = 7.874E+00 g/cm³

ENERGY	STOPPING POWER COLLISION	STOPPING POWER RADIATIVE	STOPPING POWER TOTAL	CSDA RANGE	RADIATION YIELD	DENS.EFF. CORR. (DELTA)	d(log)/d(logI) COLL LOSS	d(log)/d(logI) CSDA RANGE	d(log)/d(logI) RAD YIELD
MeV	MeV cm²/g	MeV cm²/g	MeV cm²/g	g/cm²					
0.0100	1.388E+01	1.138E-02	1.390E+01	4.329E-04	4.203E-04	2.474E-03	-0.270	0.338	0.324
0.0125	1.185E+01	1.193E-02	1.186E+01	6.284E-04	5.188E-04	3.157E-03	-0.255	0.314	0.302
0.0150	1.040E+01	1.235E-02	1.041E+01	8.539E-04	6.151E-04	3.866E-03	-0.244	0.297	0.286
0.0175	9.310E+00	1.269E-02	9.323E+00	1.108E-03	7.092E-04	4.602E-03	-0.235	0.284	0.274
0.0200	8.456E+00	1.296E-02	8.469E+00	1.390E-03	8.013E-04	5.365E-03	-0.228	0.273	0.264
0.0250	7.199E+00	1.338E-02	7.213E+00	2.032E-03	9.800E-04	6.975E-03	-0.217	0.257	0.249
0.0300	6.316E+00	1.369E-02	6.330E+00	2.774E-03	1.152E-03	8.696E-03	-0.209	0.245	0.239
0.0350	5.658E+00	1.394E-02	5.672E+00	3.610E-03	1.317E-03	1.053E-02	-0.202	0.235	0.230
0.0400	5.149E+00	1.414E-02	5.163E+00	4.536E-03	1.478E-03	1.248E-02	-0.196	0.228	0.223
0.0450	4.741E+00	1.431E-02	4.756E+00	5.546E-03	1.633E-03	1.455E-02	-0.192	0.222	0.217
0.0500	4.408E+00	1.446E-02	4.422E+00	6.637E-03	1.784E-03	1.673E-02	-0.188	0.216	0.212
0.0550	4.129E+00	1.459E-02	4.144E+00	7.806E-03	1.930E-03	1.902E-02	-0.184	0.212	0.208
0.0600	3.893E+00	1.471E-02	3.908E+00	9.050E-03	2.073E-03	2.143E-02	-0.181	0.207	0.204
0.0700	3.514E+00	1.493E-02	3.529E+00	1.175E-02	2.348E-03	2.657E-02	-0.175	0.200	0.198
0.0800	3.223E+00	1.512E-02	3.238E+00	1.471E-02	2.611E-03	3.211E-02	-0.170	0.195	0.192
0.0900	2.992E+00	1.531E-02	3.007E+00	1.792E-02	2.863E-03	3.801E-02	-0.166	0.190	0.187
0.1000	2.804E+00	1.548E-02	2.820E+00	2.136E-02	3.106E-03	4.422E-02	-0.162	0.185	0.183
0.1250	2.460E+00	1.593E-02	2.476E+00	3.085E-02	3.679E-03	6.070E-02	-0.154	0.177	0.175
0.1500	2.226E+00	1.639E-02	2.242E+00	4.149E-02	4.212E-03	7.794E-02	-0.148	0.170	0.168
0.1750	2.057E+00	1.687E-02	2.074E+00	5.310E-02	4.714E-03	9.538E-02	-0.143	0.164	0.162
0.2000	1.930E+00	1.736E-02	1.947E+00	6.556E-02	5.190E-03	1.127E-01	-0.139	0.160	0.158
0.2500	1.753E+00	1.842E-02	1.771E+00	9.257E-02	6.085E-03	1.467E-01	-0.133	0.152	0.151
0.3000	1.636E+00	1.956E-02	1.656E+00	1.218E-01	6.923E-03	1.797E-01	-0.128	0.147	0.145
0.3500	1.556E+00	2.079E-02	1.576E+00	1.528E-01	7.720E-03	2.116E-01	-0.124	0.142	0.140
0.4000	1.497E+00	2.209E-02	1.519E+00	1.851E-01	8.489E-03	2.427E-01	-0.120	0.138	0.136
0.4500	1.453E+00	2.346E-02	1.477E+00	2.186E-01	9.236E-03	2.731E-01	-0.117	0.135	0.133
0.5000	1.420E+00	2.489E-02	1.445E+00	2.528E-01	9.968E-03	3.027E-01	-0.114	0.132	0.129
0.5500	1.394E+00	2.638E-02	1.421E+00	2.877E-01	1.069E-02	3.317E-01	-0.112	0.130	0.127
0.6000	1.374E+00	2.791E-02	1.402E+00	3.231E-01	1.140E-02	3.601E-01	-0.109	0.127	0.124
0.7000	1.345E+00	3.112E-02	1.376E+00	3.952E-01	1.281E-02	4.152E-01	-0.105	0.123	0.120
0.8000	1.327E+00	3.448E-02	1.362E+00	4.683E-01	1.420E-02	4.682E-01	-0.101	0.120	0.116
0.9000	1.316E+00	3.797E-02	1.354E+00	5.420E-01	1.559E-02	5.195E-01	-0.098	0.117	0.112
1.0000	1.308E+00	4.160E-02	1.350E+00	6.159E-01	1.697E-02	5.690E-01	-0.095	0.114	0.109
1.2500	1.302E+00	5.117E-02	1.353E+00	8.011E-01	2.044E-02	6.865E-01	-0.088	0.108	0.102
1.5000	1.304E+00	6.137E-02	1.365E+00	9.851E-01	2.393E-02	7.962E-01	-0.082	0.103	0.096
1.7500	1.310E+00	7.206E-02	1.382E+00	1.167E+00	2.745E-02	8.990E-01	-0.077	0.099	0.091
2.0000	1.317E+00	8.315E-02	1.400E+00	1.347E+00	3.099E-02	9.959E-01	-0.073	0.095	0.086
2.5000	1.333E+00	1.063E-01	1.440E+00	1.699E+00	3.812E-02	1.174E+00	-0.067	0.089	0.079
3.0000	1.349E+00	1.306E-01	1.480E+00	2.042E+00	4.527E-02	1.333E+00	-0.062	0.084	0.073
3.5000	1.365E+00	1.557E-01	1.520E+00	2.375E+00	5.243E-02	1.478E+00	-0.059	0.080	0.068
4.0000	1.378E+00	1.814E-01	1.560E+00	2.700E+00	5.954E-02	1.610E+00	-0.056	0.076	0.064
4.5000	1.391E+00	2.077E-01	1.599E+00	3.016E+00	6.661E-02	1.730E+00	-0.054	0.073	0.061
5.0000	1.403E+00	2.346E-01	1.638E+00	3.325E+00	7.361E-02	1.842E+00	-0.052	0.071	0.058
5.5000	1.414E+00	2.619E-01	1.676E+00	3.627E+00	8.053E-02	1.946E+00	-0.050	0.069	0.056
6.0000	1.424E+00	2.896E-01	1.713E+00	3.922E+00	8.738E-02	2.043E+00	-0.049	0.066	0.053
7.0000	1.442E+00	3.460E-01	1.788E+00	4.493E+00	1.008E-01	2.219E+00	-0.046	0.063	0.050
8.0000	1.457E+00	4.036E-01	1.861E+00	5.042E+00	1.139E-01	2.377E+00	-0.044	0.060	0.047
9.0000	1.471E+00	4.622E-01	1.933E+00	5.569E+00	1.266E-01	2.521E+00	-0.042	0.057	0.044
10.0000	1.483E+00	5.216E-01	2.005E+00	6.077E+00	1.389E-01	2.652E+00	-0.040	0.055	0.041
12.5000	1.509E+00	6.731E-01	2.182E+00	7.272E+00	1.681E-01	2.942E+00	-0.036	0.051	0.037
15.0000	1.529E+00	8.279E-01	2.357E+00	8.374E+00	1.951E-01	3.192E+00	-0.032	0.047	0.033
17.5000	1.546E+00	9.852E-01	2.531E+00	9.397E+00	2.202E-01	3.412E+00	-0.029	0.044	0.029
20.0000	1.560E+00	1.145E+00	2.704E+00	1.035E+01	2.435E-01	3.610E+00	-0.026	0.041	0.027
25.0000	1.583E+00	1.468E+00	3.050E+00	1.209E+01	2.854E-01	3.956E+00	-0.021	0.037	0.022
30.0000	1.600E+00	1.795E+00	3.396E+00	1.365E+01	3.221E-01	4.251E+00	-0.018	0.034	0.019
35.0000	1.615E+00	2.126E+00	3.741E+00	1.505E+01	3.546E-01	4.508E+00	-0.016	0.032	0.016
40.0000	1.627E+00	2.460E+00	4.087E+00	1.633E+01	3.834E-01	4.736E+00	-0.014	0.030	0.014
45.0000	1.638E+00	2.797E+00	4.434E+00	1.750E+01	4.094E-01	4.941E+00	-0.013	0.028	0.013
50.0000	1.647E+00	3.135E+00	4.782E+00	1.859E+01	4.328E-01	5.126E+00	-0.012	0.027	0.012
55.0000	1.655E+00	3.475E+00	5.130E+00	1.959E+01	4.540E-01	5.295E+00	-0.011	0.025	0.011
60.0000	1.663E+00	3.816E+00	5.479E+00	2.054E+01	4.735E-01	5.451E+00	-0.010	0.024	0.010
70.0000	1.676E+00	4.503E+00	6.178E+00	2.226E+01	5.077E-01	5.729E+00	-0.009	0.023	0.008
80.0000	1.687E+00	5.193E+00	6.880E+00	2.379E+01	5.370E-01	5.973E+00	-0.008	0.021	0.007
90.0000	1.697E+00	5.887E+00	7.584E+00	2.517E+01	5.625E-01	6.189E+00	-0.008	0.020	0.006
100.0000	1.705E+00	6.584E+00	8.289E+00	2.643E+01	5.848E-01	6.384E+00	-0.007	0.019	0.006
125.0000	1.723E+00	8.336E+00	1.006E+01	2.917E+01	6.303E-01	6.801E+00	-0.006	0.018	0.005
150.0000	1.738E+00	1.010E+01	1.184E+01	3.146E+01	6.655E-01	7.146E+00	-0.005	0.017	0.004
175.0000	1.750E+00	1.187E+01	1.362E+01	3.342E+01	6.937E-01	7.440E+00	-0.004	0.016	0.003
200.0000	1.760E+00	1.364E+01	1.540E+01	3.515E+01	7.169E-01	7.696E+00	-0.004	0.015	0.003
250.0000	1.777E+00	1.720E+01	1.898E+01	3.807E+01	7.528E-01	8.128E+00	-0.003	0.014	0.002
300.0000	1.791E+00	2.077E+01	2.256E+01	4.048E+01	7.797E-01	8.484E+00	-0.002	0.013	0.002
350.0000	1.802E+00	2.435E+01	2.615E+01	4.254E+01	8.006E-01	8.787E+00	-0.002	0.012	0.002
400.0000	1.812E+00	2.793E+01	2.974E+01	4.433E+01	8.174E-01	9.050E+00	-0.001	0.012	0.001
450.0000	1.820E+00	3.152E+01	3.334E+01	4.592E+01	8.313E-01	9.283E+00	-0.001	0.011	0.001
500.0000	1.828E+00	3.512E+01	3.694E+01	4.734E+01	8.430E-01	9.491E+00	-0.001	0.011	0.001
550.0000	1.835E+00	3.871E+01	4.055E+01	4.863E+01	8.530E-01	9.680E+00	-0.001	0.011	0.001
600.0000	1.841E+00	4.231E+01	4.415E+01	4.981E+01	8.616E-01	9.853E+00	-0.001	0.011	0.001
700.0000	1.852E+00	4.951E+01	5.137E+01	5.191E+01	8.758E-01	1.016E+01	-0.001	0.010	0.001
800.0000	1.862E+00	5.673E+01	5.859E+01	5.373E+01	8.871E-01	1.043E+01	-0.000	0.010	0.001
900.0000	1.871E+00	6.394E+01	6.581E+01	5.534E+01	8.963E-01	1.066E+01	-0.000	0.010	0.001
1000.0000	1.878E+00	7.116E+01	7.304E+01	5.678E+01	9.040E-01	1.087E+01	-0.000	0.009	0.001

Tabell 24 :

ELECTRONS IN LEAD

I = 823.0 eV DENSITY = 1.135E+01 g/cm³

ENERGY	STOPPING POWER COLLISION	STOPPING POWER RADIATIVE	STOPPING POWER TOTAL	CSDA RANGE	RADIATION YIELD	DENS.EFF. CORR. (DELTA)	d(log)/d(logI) COLL LOSS	d(log)/d(logI) CSDA RANGE	d(log)/d(logI) RAD YIELD
MeV	MeV cm²/g	MeV cm²/g	MeV cm²/g	g/cm²					
0.0100	8.428E+00	2.045E-02	8.448E+00	8.253E-04	1.191E-03	4.841E-04	-0.379	0.713	0.539
0.0125	7.357E+00	2.251E-02	7.379E+00	1.143E-03	1.500E-03	6.147E-04	-0.350	0.615	0.475
0.0150	6.561E+00	2.421E-02	6.585E+00	1.502E-03	1.810E-03	7.491E-04	-0.329	0.549	0.432
0.0175	5.946E+00	2.566E-02	5.971E+00	1.901E-03	2.121E-03	8.872E-04	-0.314	0.501	0.402
0.0200	5.453E+00	2.693E-02	5.480E+00	2.339E-03	2.432E-03	1.029E-03	-0.301	0.464	0.379
0.0250	4.714E+00	2.908E-02	4.743E+00	3.323E-03	3.051E-03	1.324E-03	-0.283	0.413	0.347
0.0300	4.182E+00	3.086E-02	4.213E+00	4.444E-03	3.664E-03	1.633E-03	-0.269	0.378	0.324
0.0350	3.779E+00	3.240E-02	3.812E+00	5.694E-03	4.271E-03	1.956E-03	-0.259	0.352	0.308
0.0400	3.463E+00	3.376E-02	3.497E+00	7.066E-03	4.872E-03	2.294E-03	-0.250	0.333	0.295
0.0450	3.208E+00	3.500E-02	3.243E+00	8.552E-03	5.467E-03	2.646E-03	-0.243	0.317	0.284
0.0500	2.997E+00	3.613E-02	3.034E+00	1.015E-02	6.055E-03	3.011E-03	-0.238	0.305	0.276
0.0550	2.821E+00	3.718E-02	2.858E+00	1.185E-02	6.638E-03	3.390E-03	-0.232	0.294	0.268
0.0600	2.670E+00	3.817E-02	2.708E+00	1.365E-02	7.214E-03	3.783E-03	-0.228	0.285	0.262
0.0700	2.426E+00	3.998E-02	2.466E+00	1.752E-02	8.349E-03	4.608E-03	-0.220	0.271	0.251
0.0800	2.237E+00	4.162E-02	2.279E+00	2.175E-02	9.461E-03	5.485E-03	-0.214	0.260	0.242
0.0900	2.087E+00	4.313E-02	2.130E+00	2.629E-02	1.055E-02	6.413E-03	-0.209	0.251	0.235
0.1000	1.964E+00	4.454E-02	2.008E+00	3.113E-02	1.162E-02	7.392E-03	-0.205	0.243	0.229
0.1250	1.738E+00	4.772E-02	1.785E+00	4.438E-02	1.419E-02	1.005E-02	-0.196	0.229	0.217
0.1500	1.583E+00	5.054E-02	1.633E+00	5.905E-02	1.664E-02	1.300E-02	-0.189	0.218	0.208
0.1750	1.471E+00	5.312E-02	1.524E+00	7.492E-02	1.896E-02	1.623E-02	-0.183	0.210	0.201
0.2000	1.387E+00	5.555E-02	1.442E+00	9.180E-02	2.118E-02	1.971E-02	-0.178	0.203	0.195
0.2500	1.269E+00	6.015E-02	1.329E+00	1.280E-01	2.533E-02	2.736E-02	-0.170	0.193	0.186
0.3000	1.193E+00	6.460E-02	1.257E+00	1.668E-01	2.917E-02	3.579E-02	-0.163	0.185	0.178
0.3500	1.140E+00	6.900E-02	1.209E+00	2.074E-01	3.276E-02	4.484E-02	-0.157	0.178	0.172
0.4000	1.102E+00	7.340E-02	1.175E+00	2.494E-01	3.614E-02	5.437E-02	-0.153	0.173	0.166
0.4500	1.074E+00	7.781E-02	1.152E+00	2.924E-01	3.935E-02	6.426E-02	-0.148	0.168	0.162
0.5000	1.053E+00	8.228E-02	1.135E+00	3.361E-01	4.241E-02	7.442E-02	-0.144	0.164	0.157
0.5500	1.037E+00	8.677E-02	1.124E+00	3.804E-01	4.536E-02	8.479E-02	-0.141	0.160	0.154
0.6000	1.026E+00	9.132E-02	1.117E+00	4.250E-01	4.820E-02	9.529E-02	-0.138	0.157	0.150
0.7000	1.009E+00	1.005E-01	1.110E+00	5.149E-01	5.363E-02	1.166E-01	-0.132	0.151	0.144
0.8000	1.000E+00	1.098E-01	1.110E+00	6.050E-01	5.877E-02	1.380E-01	-0.128	0.146	0.139
0.9000	9.957E-01	1.193E-01	1.115E+00	6.949E-01	6.369E-02	1.595E-01	-0.124	0.142	0.134
1.0000	9.939E-01	1.290E-01	1.123E+00	7.843E-01	6.842E-02	1.809E-01	-0.120	0.138	0.130
1.2500	9.966E-01	1.537E-01	1.150E+00	1.004E+00	7.960E-02	2.337E-01	-0.113	0.130	0.121
1.5000	1.004E+00	1.792E-01	1.183E+00	1.219E+00	9.009E-02	2.854E-01	-0.107	0.124	0.114
1.7500	1.014E+00	2.053E-01	1.219E+00	1.427E+00	1.001E-01	3.360E-01	-0.102	0.118	0.108
2.0000	1.024E+00	2.319E-01	1.256E+00	1.629E+00	1.096E-01	3.855E-01	-0.097	0.114	0.103
2.5000	1.044E+00	2.866E-01	1.331E+00	2.016E+00	1.277E-01	4.817E-01	-0.089	0.106	0.094
3.0000	1.063E+00	3.427E-01	1.406E+00	2.381E+00	1.447E-01	5.743E-01	-0.083	0.100	0.086
3.5000	1.080E+00	3.999E-01	1.480E+00	2.728E+00	1.608E-01	6.631E-01	-0.078	0.095	0.080
4.0000	1.095E+00	4.582E-01	1.553E+00	3.057E+00	1.761E-01	7.479E-01	-0.073	0.091	0.075
4.5000	1.108E+00	5.174E-01	1.626E+00	3.372E+00	1.906E-01	8.289E-01	-0.070	0.087	0.070
5.0000	1.120E+00	5.773E-01	1.698E+00	3.673E+00	2.045E-01	9.061E-01	-0.067	0.083	0.066
5.5000	1.132E+00	6.379E-01	1.769E+00	3.962E+00	2.177E-01	9.798E-01	-0.064	0.080	0.063
6.0000	1.142E+00	6.991E-01	1.841E+00	4.239E+00	2.304E-01	1.050E+00	-0.061	0.078	0.060
7.0000	1.160E+00	8.233E-01	1.983E+00	4.762E+00	2.543E-01	1.182E+00	-0.057	0.073	0.054
8.0000	1.175E+00	9.495E-01	2.125E+00	5.249E+00	2.765E-01	1.304E+00	-0.054	0.069	0.050
9.0000	1.189E+00	1.077E+00	2.266E+00	5.705E+00	2.970E-01	1.417E+00	-0.051	0.066	0.046
10.0000	1.201E+00	1.206E+00	2.407E+00	6.133E+00	3.162E-01	1.523E+00	-0.049	0.063	0.043
12.5000	1.226E+00	1.535E+00	2.761E+00	7.102E+00	3.589E-01	1.759E+00	-0.044	0.058	0.037
15.0000	1.246E+00	1.870E+00	3.116E+00	7.954E+00	3.955E-01	1.964E+00	-0.041	0.053	0.032
17.5000	1.262E+00	2.210E+00	3.472E+00	8.713E+00	4.274E-01	2.147E+00	-0.038	0.050	0.029
20.0000	1.277E+00	2.554E+00	3.830E+00	9.399E+00	4.555E-01	2.310E+00	-0.036	0.047	0.026
25.0000	1.299E+00	3.252E+00	4.551E+00	1.059E+01	5.028E-01	2.596E+00	-0.032	0.043	0.022
30.0000	1.318E+00	3.961E+00	5.278E+00	1.161E+01	5.412E-01	2.841E+00	-0.029	0.040	0.019
35.0000	1.332E+00	4.678E+00	6.011E+00	1.250E+01	5.731E-01	3.055E+00	-0.027	0.038	0.016
40.0000	1.345E+00	5.402E+00	6.747E+00	1.329E+01	6.002E-01	3.247E+00	-0.025	0.036	0.015
45.0000	1.356E+00	6.132E+00	7.488E+00	1.399E+01	6.235E-01	3.420E+00	-0.023	0.034	0.013
50.0000	1.365E+00	6.865E+00	8.231E+00	1.463E+01	6.439E-01	3.579E+00	-0.021	0.033	0.012
55.0000	1.374E+00	7.603E+00	8.977E+00	1.521E+01	6.618E-01	3.725E+00	-0.020	0.032	0.011
60.0000	1.381E+00	8.345E+00	9.726E+00	1.574E+01	6.777E-01	3.861E+00	-0.019	0.031	0.010
70.0000	1.395E+00	9.836E+00	1.123E+01	1.670E+01	7.048E-01	4.107E+00	-0.017	0.029	0.009
80.0000	1.406E+00	1.134E+01	1.274E+01	1.753E+01	7.270E-01	4.326E+00	-0.015	0.028	0.008
90.0000	1.415E+00	1.284E+01	1.426E+01	1.828E+01	7.457E-01	4.521E+00	-0.014	0.027	0.007
100.0000	1.423E+00	1.436E+01	1.578E+01	1.894E+01	7.617E-01	4.699E+00	-0.013	0.026	0.006
125.0000	1.441E+00	1.816E+01	1.960E+01	2.036E+01	7.931E-01	5.083E+00	-0.011	0.024	0.005
150.0000	1.455E+00	2.198E+01	2.344E+01	2.153E+01	8.164E-01	5.404E+00	-0.010	0.023	0.004
175.0000	1.466E+00	2.582E+01	2.729E+01	2.251E+01	8.343E-01	5.679E+00	-0.009	0.022	0.004
200.0000	1.476E+00	2.966E+01	3.114E+01	2.337E+01	8.488E-01	5.921E+00	-0.008	0.021	0.003
250.0000	1.491E+00	3.737E+01	3.886E+01	2.480E+01	8.705E-01	6.330E+00	-0.006	0.020	0.003
300.0000	1.504E+00	4.509E+01	4.660E+01	2.598E+01	8.862E-01	6.670E+00	-0.005	0.019	0.002
350.0000	1.514E+00	5.283E+01	5.435E+01	2.697E+01	8.982E-01	6.960E+00	-0.005	0.018	0.002
400.0000	1.523E+00	6.058E+01	6.210E+01	2.783E+01	9.077E-01	7.213E+00	-0.004	0.018	0.002
450.0000	1.531E+00	6.833E+01	6.986E+01	2.859E+01	9.153E-01	7.438E+00	-0.004	0.017	0.001
500.0000	1.538E+00	7.609E+01	7.763E+01	2.927E+01	9.217E-01	7.640E+00	-0.003	0.017	0.001
550.0000	1.544E+00	8.386E+01	8.540E+01	2.988E+01	9.271E-01	7.824E+00	-0.003	0.017	0.001
600.0000	1.550E+00	9.163E+01	9.318E+01	3.044E+01	9.317E-01	7.992E+00	-0.003	0.016	0.001
700.0000	1.560E+00	1.072E+02	1.087E+02	3.143E+01	9.393E-01	8.290E+00	-0.002	0.016	0.001
800.0000	1.568E+00	1.227E+02	1.243E+02	3.229E+01	9.452E-01	8.550E+00	-0.002	0.015	0.001
900.0000	1.576E+00	1.383E+02	1.399E+02	3.305E+01	9.500E-01	8.780E+00	-0.002	0.015	0.001
1000.0000	1.583E+00	1.539E+02	1.555E+02	3.373E+01	9.539E-01	8.986E+00	-0.002	0.015	0.001

Tabell 24 :

ELECTRONS IN LITHIUM FLUORIDE

I = 94.0 eV DENSITY = 2.635E+00 g/cm³

ENERGY	STOPPING POWER COLLISION	STOPPING POWER RADIATIVE	STOPPING POWER TOTAL	CSDA RANGE	RADIATION YIELD	DENS.EFF. CORR. (DELTA)	d(log)/d(logI) COLL LOSS	d(log)/d(logI) CSDA RANGE	d(log)/d(logI) RAD YIELD
MeV	MeV cm²/g	MeV cm²/g	MeV cm²/g	g/cm²					
0.0100	1.796E+01	3.678E-03	1.796E+01	3.181E-04	1.117E-04	0.0	-0.208	0.240	0.238
0.0125	1.513E+01	3.712E-03	1.514E+01	4.704E-04	1.344E-04	0.0	-0.199	0.228	0.226
0.0150	1.315E+01	3.735E-03	1.316E+01	6.480E-04	1.561E-04	0.0	-0.192	0.219	0.217
0.0175	1.168E+01	3.750E-03	1.169E+01	8.501E-04	1.770E-04	0.0	-0.187	0.212	0.211
0.0200	1.055E+01	3.762E-03	1.055E+01	1.076E-03	1.973E-04	0.0	-0.182	0.206	0.205
0.0250	8.894E+00	3.779E-03	8.898E+00	1.594E-03	2.360E-04	0.0	-0.175	0.197	0.196
0.0300	7.748E+00	3.792E-03	7.751E+00	2.198E-03	2.729E-04	0.0	-0.170	0.190	0.190
0.0350	6.902E+00	3.804E-03	6.906E+00	2.883E-03	3.082E-04	0.0	-0.166	0.185	0.184
0.0400	6.252E+00	3.815E-03	6.256E+00	3.645E-03	3.423E-04	0.0	-0.162	0.181	0.180
0.0450	5.736E+00	3.827E-03	5.739E+00	4.480E-03	3.752E-04	0.0	-0.160	0.177	0.176
0.0500	5.315E+00	3.840E-03	5.319E+00	5.386E-03	4.071E-04	0.0	-0.157	0.174	0.173
0.0550	4.965E+00	3.853E-03	4.969E+00	6.359E-03	4.382E-04	0.0	-0.155	0.171	0.171
0.0600	4.670E+00	3.867E-03	4.674E+00	7.397E-03	4.684E-04	0.0	-0.153	0.169	0.168
0.0700	4.198E+00	3.898E-03	4.202E+00	9.659E-03	5.269E-04	0.0	-0.150	0.164	0.164
0.0800	3.838E+00	3.932E-03	3.842E+00	1.215E-02	5.831E-04	0.0	-0.147	0.161	0.161
0.0900	3.553E+00	3.970E-03	3.557E+00	1.486E-02	6.372E-04	0.0	-0.144	0.158	0.158
0.1000	3.323E+00	4.011E-03	3.327E+00	1.777E-02	6.896E-04	0.0	-0.142	0.156	0.155
0.1250	2.903E+00	4.125E-03	2.907E+00	2.584E-02	8.143E-04	0.0	-0.138	0.151	0.150
0.1500	2.619E+00	4.253E-03	2.623E+00	3.492E-02	9.321E-04	0.0	-0.135	0.147	0.147
0.1750	2.415E+00	4.392E-03	2.419E+00	4.486E-02	1.045E-03	0.0	-0.132	0.144	0.143
0.2000	2.261E+00	4.540E-03	2.266E+00	5.555E-02	1.153E-03	0.0	-0.130	0.141	0.141
0.2500	2.048E+00	4.363E-03	2.053E+00	7.881E-02	1.360E-03	6.058E-03	-0.118	0.136	0.135
0.3000	1.907E+00	5.215E-03	1.912E+00	1.041E-01	1.558E-03	2.136E-02	-0.112	0.131	0.130
0.3500	1.809E+00	5.592E-03	1.814E+00	1.310E-01	1.750E-03	3.978E-02	-0.106	0.126	0.125
0.4000	1.737E+00	5.992E-03	1.743E+00	1.591E-01	1.939E-03	6.095E-02	-0.100	0.122	0.120
0.4500	1.683E+00	6.412E-03	1.690E+00	1.883E-01	2.125E-03	8.445E-02	-0.095	0.118	0.116
0.5000	1.642E+00	6.852E-03	1.649E+00	2.183E-01	2.310E-03	1.098E-01	-0.090	0.115	0.112
0.5500	1.609E+00	7.308E-03	1.617E+00	2.489E-01	2.495E-03	1.367E-01	-0.086	0.112	0.108
0.6000	1.583E+00	7.779E-03	1.591E+00	2.801E-01	2.679E-03	1.648E-01	-0.082	0.108	0.104
0.7000	1.546E+00	8.765E-03	1.555E+00	3.437E-01	3.048E-03	2.236E-01	-0.075	0.103	0.098
0.8000	1.521E+00	9.800E-03	1.530E+00	4.036E-01	3.419E-03	2.846E-01	-0.070	0.098	0.092
0.9000	1.503E+00	1.088E-02	1.514E+00	4.743E-01	3.794E-03	3.467E-01	-0.065	0.094	0.087
1.0000	1.491E+00	1.200E-02	1.504E+00	5.406E-01	4.173E-03	4.093E-01	-0.060	0.090	0.083
1.2500	1.476E+00	1.499E-02	1.491E+00	7.077E-01	5.141E-03	5.644E-01	-0.052	0.082	0.073
1.5000	1.471E+00	1.818E-02	1.489E+00	8.756E-01	6.138E-03	7.142E-01	-0.046	0.075	0.066
1.7500	1.471E+00	2.154E-02	1.493E+00	1.043E+00	7.163E-03	8.568E-01	-0.041	0.070	0.059
2.0000	1.474E+00	2.505E-02	1.499E+00	1.210E+00	8.214E-03	9.917E-01	-0.037	0.066	0.054
2.5000	1.483E+00	3.244E-02	1.515E+00	1.542E+00	1.038E-02	1.240E+00	-0.032	0.059	0.047
3.0000	1.493E+00	4.021E-02	1.533E+00	1.870E+00	1.262E-02	1.461E+00	-0.028	0.054	0.041
3.5000	1.503E+00	4.830E-02	1.552E+00	2.194E+00	1.491E-02	1.660E+00	-0.026	0.049	0.037
4.0000	1.513E+00	5.666E-02	1.570E+00	2.515E+00	1.725E-02	1.839E+00	-0.024	0.046	0.034
4.5000	1.523E+00	6.524E-02	1.588E+00	2.832E+00	1.962E-02	2.003E+00	-0.022	0.044	0.031
5.0000	1.531E+00	7.402E-02	1.605E+00	3.145E+00	2.202E-02	2.154E+00	-0.021	0.041	0.029
5.5000	1.539E+00	8.298E-02	1.622E+00	3.455E+00	2.444E-02	2.293E+00	-0.020	0.039	0.027
6.0000	1.547E+00	9.211E-02	1.639E+00	3.761E+00	2.687E-02	2.422E+00	-0.019	0.038	0.026
7.0000	1.560E+00	1.108E-01	1.671E+00	4.365E+00	3.178E-02	2.655E+00	-0.018	0.035	0.024
8.0000	1.572E+00	1.299E-01	1.702E+00	4.958E+00	3.672E-02	2.861E+00	-0.017	0.033	0.022
9.0000	1.583E+00	1.494E-01	1.732E+00	5.541E+00	4.168E-02	3.046E+00	-0.016	0.031	0.020
10.0000	1.592E+00	1.693E-01	1.761E+00	6.113E+00	4.663E-02	3.214E+00	-0.016	0.029	0.019
12.5000	1.612E+00	2.201E-01	1.832E+00	7.504E+00	5.894E-02	3.577E+00	-0.014	0.026	0.017
15.0000	1.629E+00	2.723E-01	1.901E+00	8.844E+00	7.108E-02	3.881E+00	-0.013	0.024	0.015
17.5000	1.642E+00	3.256E-01	1.968E+00	1.014E+01	8.299E-02	4.143E+00	-0.011	0.022	0.014
20.0000	1.654E+00	3.797E-01	2.034E+00	1.139E+01	9.463E-02	4.374E+00	-0.010	0.021	0.013
25.0000	1.673E+00	4.896E-01	2.163E+00	1.377E+01	1.171E-01	4.769E+00	-0.008	0.018	0.011
30.0000	1.688E+00	6.014E-01	2.289E+00	1.602E+01	1.384E-01	5.099E+00	-0.007	0.017	0.009
35.0000	1.700E+00	7.146E-01	2.415E+00	1.814E+01	1.585E-01	5.383E+00	-0.005	0.015	0.008
40.0000	1.711E+00	8.289E-01	2.540E+00	2.016E+01	1.776E-01	5.633E+00	-0.004	0.014	0.007
45.0000	1.720E+00	9.441E-01	2.664E+00	2.208E+01	1.957E-01	5.856E+00	-0.004	0.013	0.006
50.0000	1.728E+00	1.060E+00	2.788E+00	2.392E+01	2.129E-01	6.057E+00	-0.003	0.012	0.005
55.0000	1.736E+00	1.177E+00	2.912E+00	2.567E+01	2.292E-01	6.240E+00	-0.003	0.011	0.005
60.0000	1.742E+00	1.294E+00	3.036E+00	2.735E+01	2.447E-01	6.408E+00	-0.002	0.011	0.004
70.0000	1.754E+00	1.530E+00	3.283E+00	3.052E+01	2.735E-01	6.707E+00	-0.002	0.010	0.004
80.0000	1.764E+00	1.767E+00	3.531E+00	3.346E+01	2.998E-01	6.968E+00	-0.001	0.009	0.003
90.0000	1.772E+00	2.006E+00	3.778E+00	3.619E+01	3.238E-01	7.199E+00	-0.001	0.008	0.003
100.0000	1.780E+00	2.245E+00	4.025E+00	3.876E+01	3.459E-01	7.406E+00	-0.001	0.008	0.002
125.0000	1.796E+00	2.848E+00	4.644E+00	4.453E+01	3.941E-01	7.847E+00	-0.001	0.007	0.002
150.0000	1.809E+00	3.455E+00	5.264E+00	4.959E+01	4.343E-01	8.209E+00	-0.000	0.006	0.001
175.0000	1.820E+00	4.065E+00	5.885E+00	5.408E+01	4.686E-01	8.515E+00	-0.000	0.006	0.001
200.0000	1.830E+00	4.677E+00	6.507E+00	5.811E+01	4.952E-01	8.780E+00	-0.000	0.005	0.001
250.0000	1.846E+00	5.907E+00	7.753E+00	6.514E+01	5.468E-01	9.225E+00	-0.000	0.005	0.001
300.0000	1.859E+00	7.142E+00	9.001E+00	7.112E+01	5.854E-01	9.538E+00	-0.000	0.004	0.001
350.0000	1.870E+00	8.381E+00	1.025E+01	7.633E+01	6.170E-01	9.896E+00	-0.000	0.004	0.001
400.0000	1.879E+00	9.622E+00	1.150E+01	8.093E+01	6.433E-01	1.016E+01	-0.000	0.004	0.000
450.0000	1.888E+00	1.087E+01	1.275E+01	8.505E+01	6.656E-01	1.040E+01	-0.000	0.004	0.000
500.0000	1.895E+00	1.211E+01	1.401E+01	8.879E+01	6.849E-01	1.061E+01	-0.000	0.004	0.000
550.0000	1.902E+00	1.336E+01	1.526E+01	9.221E+01	7.018E-01	1.080E+01	-0.000	0.003	0.000
600.0000	1.908E+00	1.461E+01	1.651E+01	9.536E+01	7.166E-01	1.097E+01	-0.000	0.003	0.000
700.0000	1.919E+00	1.711E+01	1.902E+01	1.010E+02	7.417E-01	1.128E+01	-0.000	0.003	0.000
800.0000	1.929E+00	1.961E+01	2.154E+01	1.059E+02	7.621E-01	1.155E+01	-0.000	0.003	0.000
900.0000	1.937E+00	2.211E+01	2.405E+01	1.103E+02	7.791E-01	1.178E+01	-0.000	0.003	0.000
1000.0000	1.945E+00	2.462E+01	2.656E+01	1.143E+02	7.935E-01	1.199E+01	-0.000	0.003	0.000

Tabell 24 :

ELECTRONS IN MUSCLE, SKELETAL (ICRP)

I = 75.3 eV DENSITY = 1.040E+00 g/cm³

ENERGY	STOPPING POWER COLLISION	STOPPING POWER RADIATIVE	STOPPING POWER TOTAL	CSDA RANGE	RADIATION YIELD	DENS.EFF. CORR. (DELTA)	d(log)/d(logI) COLL LOSS	d(log)/d(logI) CSDA RANGE	d(log)/d(logI) RAD YIELD
MeV	MeV cm²/g	MeV cm²/g	MeV cm²/g	g/cm²					
0.0100	2.231E+01	3.835E-03	2.231E+01	2.543E-04	9.366E-05	0.0	-0.199	0.228	0.226
0.0125	1.876E+01	3.863E-03	1.877E+01	3.771E-04	1.127E-04	0.0	-0.191	0.217	0.215
0.0150	1.628E+01	3.880E-03	1.629E+01	5.205E-04	1.310E-04	0.0	-0.184	0.209	0.207
0.0175	1.445E+01	3.892E-03	1.445E+01	6.836E-04	1.485E-04	0.0	-0.179	0.202	0.201
0.0200	1.303E+01	3.901E-03	1.303E+01	8.662E-04	1.655E-04	0.0	-0.175	0.197	0.196
0.0250	1.097E+01	3.913E-03	1.098E+01	1.286E-03	1.980E-04	0.0	-0.169	0.189	0.188
0.0300	9.547E+00	3.924E-03	9.551E+00	1.776E-03	2.290E-04	0.0	-0.164	0.183	0.182
0.0350	8.498E+00	3.934E-03	8.502E+00	2.332E-03	2.587E-04	0.0	-0.160	0.178	0.177
0.0400	7.692E+00	3.946E-03	7.696E+00	2.951E-03	2.874E-04	0.0	-0.157	0.174	0.173
0.0450	7.052E+00	3.959E-03	7.056E+00	3.631E-03	3.151E-04	0.0	-0.154	0.170	0.170
0.0500	6.531E+00	3.973E-03	6.535E+00	4.368E-03	3.421E-04	0.0	-0.152	0.167	0.167
0.0550	6.099E+00	3.988E-03	6.102E+00	5.160E-03	3.683E-04	0.0	-0.150	0.165	0.164
0.0600	5.733E+00	4.004E-03	5.737E+00	6.006E-03	3.939E-04	0.0	-0.148	0.162	0.162
0.0700	5.151E+00	4.040E-03	5.155E+00	7.848E-03	4.435E-04	0.0	-0.145	0.159	0.158
0.0800	4.706E+00	4.079E-03	4.710E+00	9.881E-03	4.912E-04	0.0	-0.142	0.155	0.155
0.0900	4.355E+00	4.122E-03	4.359E+00	1.209E-02	5.373E-04	0.0	-0.140	0.153	0.152
0.1000	4.071E+00	4.168E-03	4.075E+00	1.447E-02	5.821E-04	0.0	-0.138	0.150	0.150
0.1250	3.552E+00	4.294E-03	3.557E+00	2.106E-02	6.889E-04	0.0	-0.134	0.146	0.145
0.1500	3.203E+00	4.431E-03	3.207E+00	2.848E-02	7.899E-04	0.0	-0.131	0.142	0.142
0.1750	2.951E+00	4.579E-03	2.956E+00	3.662E-02	8.865E-04	0.0	-0.129	0.139	0.139
0.2000	2.763E+00	4.734E-03	2.768E+00	4.537E-02	9.795E-04	0.0	-0.126	0.137	0.137
0.2500	2.501E+00	5.070E-03	2.506E+00	6.442E-02	1.157E-03	0.0	-0.123	0.133	0.133
0.3000	2.329E+00	5.433E-03	2.335E+00	8.513E-02	1.327E-03	0.0	-0.120	0.130	0.129
0.3500	2.211E+00	5.832E-03	2.216E+00	1.071E-01	1.492E-03	0.0	-0.118	0.123	0.127
0.4000	2.125E+00	6.252E-03	2.131E+00	1.302E-01	1.653E-03	0.0	-0.116	0.126	0.125
0.4500	2.061E+00	6.694E-03	2.068E+00	1.540E-01	1.812E-03	0.0	-0.114	0.124	0.123
0.5000	2.012E+00	7.158E-03	2.019E+00	1.785E-01	1.970E-03	2.181E-03	-0.102	0.122	0.121
0.5500	1.972E+00	7.642E-03	1.980E+00	2.035E-01	2.128E-03	2.071E-02	-0.091	0.119	0.117
0.6000	1.941E+00	8.141E-03	1.949E+00	2.290E-01	2.285E-03	4.241E-02	-0.085	0.115	0.112
0.7000	1.895E+00	9.186E-03	1.904E+00	2.809E-01	2.602E-03	9.262E-02	-0.076	0.109	0.104
0.8000	1.863E+00	1.028E-02	1.874E+00	3.339E-01	2.921E-03	1.438E-01	-0.068	0.103	0.097
0.9000	1.842E+00	1.143E-02	1.853E+00	3.876E-01	3.244E-03	2.084E-01	-0.062	0.098	0.091
1.0000	1.830E+00	1.257E-02	1.842E+00	4.409E-01	3.550E-03	2.778E-01	-0.057	0.092	0.084
1.2500	1.809E+00	1.572E-02	1.825E+00	5.774E-01	4.382E-03	4.339E-01	-0.048	0.083	0.073
1.5000	1.802E+00	1.908E-02	1.821E+00	7.146E-01	5.242E-03	5.852E-01	-0.042	0.075	0.064
1.7500	1.801E+00	2.263E-02	1.824E+00	8.518E-01	6.127E-03	7.289E-01	-0.038	0.070	0.057
2.0000	1.804E+00	2.632E-02	1.830E+00	9.886E-01	7.035E-03	8.641E-01	-0.035	0.065	0.052
2.5000	1.814E+00	3.408E-02	1.848E+00	1.261E+00	8.907E-03	1.110E+00	-0.031	0.058	0.045
3.0000	1.826E+00	4.225E-02	1.869E+00	1.530E+00	1.084E-02	1.327E+00	-0.028	0.053	0.040
3.5000	1.839E+00	5.076E-02	1.890E+00	1.796E+00	1.283E-02	1.521E+00	-0.026	0.049	0.036
4.0000	1.851E+00	5.954E-02	1.910E+00	2.059E+00	1.485E-02	1.695E+00	-0.024	0.046	0.033
4.5000	1.862E+00	6.857E-02	1.931E+00	2.319E+00	1.690E-02	1.853E+00	-0.023	0.043	0.031
5.0000	1.873E+00	7.782E-02	1.951E+00	2.577E+00	1.898E-02	1.998E+00	-0.023	0.041	0.029
5.5000	1.883E+00	8.725E-02	1.970E+00	2.832E+00	2.108E-02	2.131E+00	-0.022	0.039	0.028
6.0000	1.892E+00	9.686E-02	1.989E+00	3.084E+00	2.320E-02	2.255E+00	-0.021	0.038	0.027
7.0000	1.909E+00	1.165E-01	2.026E+00	3.583E+00	2.747E-02	2.478E+00	-0.020	0.035	0.025
8.0000	1.924E+00	1.367E-01	2.061E+00	4.072E+00	3.178E-02	2.675E+00	-0.019	0.033	0.023
9.0000	1.937E+00	1.574E-01	2.094E+00	4.553E+00	3.611E-02	2.852E+00	-0.018	0.032	0.022
10.0000	1.949E+00	1.784E-01	2.127E+00	5.027E+00	4.045E-02	3.013E+00	-0.018	0.030	0.021
12.5000	1.974E+00	2.323E-01	2.206E+00	6.181E+00	5.128E-02	3.361E+00	-0.016	0.027	0.019
15.0000	1.995E+00	2.877E-01	2.232E+00	7.295E+00	6.202E-02	3.652E+00	-0.015	0.025	0.017
17.5000	2.012E+00	3.443E-01	2.356E+00	8.373E+00	7.261E-02	3.905E+00	-0.013	0.024	0.016
20.0000	2.026E+00	4.018E-01	2.428E+00	9.418E+00	8.302E-02	4.128E+00	-0.012	0.022	0.015
25.0000	2.050E+00	5.189E-01	2.569E+00	1.142E+01	1.032E-01	4.511E+00	-0.010	0.020	0.012
30.0000	2.068E+00	6.381E-01	2.706E+00	1.332E+01	1.225E-01	4.833E+00	-0.008	0.018	0.011
35.0000	2.084E+00	7.588E-01	2.842E+00	1.512E+01	1.410E-01	5.111E+00	-0.007	0.016	0.009
40.0000	2.097E+00	8.807E-01	2.977E+00	1.684E+01	1.585E-01	5.356E+00	-0.005	0.015	0.008
45.0000	2.108E+00	1.004E+00	3.111E+00	1.848E+01	1.753E-01	5.576E+00	-0.005	0.014	0.007
50.0000	2.118E+00	1.127E+00	3.245E+00	2.005E+01	1.913E-01	5.774E+00	-0.004	0.013	0.007
55.0000	2.126E+00	1.252E+00	3.378E+00	2.156E+01	2.065E-01	5.955E+00	-0.003	0.013	0.006
60.0000	2.134E+00	1.377E+00	3.512E+00	2.301E+01	2.211E-01	6.121E+00	-0.003	0.012	0.005
70.0000	2.148E+00	1.629E+00	3.777E+00	2.576E+01	2.484E-01	6.418E+00	-0.002	0.011	0.004
80.0000	2.160E+00	1.883E+00	4.043E+00	2.832E+01	2.735E-01	6.677E+00	-0.002	0.010	0.004
90.0000	2.171E+00	2.138E+00	4.308E+00	3.071E+01	2.965E-01	6.907E+00	-0.001	0.009	0.003
100.0000	2.180E+00	2.394E+00	4.574E+00	3.297E+01	3.179E-01	7.113E+00	-0.001	0.009	0.003
125.0000	2.199E+00	3.039E+00	5.238E+00	3.807E+01	3.649E-01	7.553E+00	-0.001	0.008	0.002
150.0000	2.215E+00	3.688E+00	5.903E+00	4.256E+01	4.046E-01	7.913E+00	-0.001	0.007	0.002
175.0000	2.228E+00	4.341E+00	6.569E+00	4.653E+01	4.388E-01	8.219E+00	-0.000	0.006	0.001
200.0000	2.240E+00	4.996E+00	7.236E+00	5.020E+01	4.684E-01	8.484E+00	-0.000	0.006	0.001
250.0000	2.259E+00	6.313E+00	8.571E+00	5.654E+01	5.177E-01	8.928E+00	-0.000	0.005	0.001
300.0000	2.274E+00	7.635E+00	9.909E+00	6.196E+01	5.571E-01	9.291E+00	-0.000	0.005	0.001
350.0000	2.287E+00	8.962E+00	1.125E+01	6.670E+01	5.895E-01	9.598E+00	-0.000	0.004	0.001
400.0000	2.299E+00	1.029E+01	1.259E+01	7.089E+01	6.168E-01	9.865E+00	-0.000	0.004	0.001
450.0000	2.309E+00	1.162E+01	1.393E+01	7.467E+01	6.400E-01	1.010E+01	-0.000	0.004	0.000
500.0000	2.317E+00	1.296E+01	1.528E+01	7.809E+01	6.602E-01	1.031E+01	-0.000	0.004	0.000
550.0000	2.325E+00	1.430E+01	1.662E+01	8.123E+01	6.778E-01	1.050E+01	-0.000	0.004	0.000
600.0000	2.333E+00	1.563E+01	1.797E+01	8.412E+01	6.935E-01	1.067E+01	-0.000	0.003	0.000
700.0000	2.346E+00	1.831E+01	2.066E+01	8.931E+01	7.199E-01	1.098E+01	-0.000	0.003	0.000
800.0000	2.357E+00	2.099E+01	2.335E+01	9.386E+01	7.416E-01	1.125E+01	-0.000	0.003	0.000
900.0000	2.367E+00	2.368E+01	2.605E+01	9.791E+01	7.596E-01	1.148E+01	-0.000	0.003	0.000
1000.0000	2.376E+00	2.637E+01	2.874E+01	1.016E+02	7.750E-01	1.170E+01	-0.000	0.003	0.000

Tabell 24 :

ELECTRONS IN NITROGEN

I = 82.0 eV DENSITY = 1.165E-03 g/cm³ (20° C)

ENERGY	STOPPING POWER COLLISION	STOPPING POWER RADIATIVE	STOPPING POWER TOTAL	CSDA RANGE	RADIATION YIELD	DENS.EFF. CORR. (DELTA)	d(log)/d(logI) COLL LOSS	d(log)/d(logI) CSDA RANGE	d(log)/d(logI) RAD YIELD
MeV	MeV cm²/g	MeV cm²/g	MeV cm²/g	g/cm²					
0.0100	1.995E+01	3.711E-03	1.996E+01	2.851E-04	1.023E-04	0.0	-0.202	0.232	0.230
0.0125	1.679E+01	3.729E-03	1.680E+01	4.223E-04	1.227E-04	0.0	-0.194	0.221	0.220
0.0150	1.458E+01	3.740E-03	1.459E+01	5.825E-04	1.421E-04	0.0	-0.187	0.213	0.211
0.0175	1.294E+01	3.747E-03	1.295E+01	7.648E-04	1.608E-04	0.0	-0.182	0.206	0.205
0.0200	1.168E+01	3.753E-03	1.168E+01	9.634E-04	1.789E-04	0.0	-0.178	0.200	0.200
0.0250	9.838E+00	3.762E-03	9.842E+00	1.437E-03	2.135E-04	0.0	-0.171	0.192	0.191
0.0300	8.564E+00	3.770E-03	8.568E+00	1.983E-03	2.465E-04	0.0	-0.166	0.185	0.185
0.0350	7.626E+00	3.779E-03	7.629E+00	2.603E-03	2.781E-04	0.0	-0.162	0.180	0.180
0.0400	6.904E+00	3.790E-03	6.908E+00	3.293E-03	3.086E-04	0.0	-0.159	0.176	0.176
0.0450	6.331E+00	3.803E-03	6.335E+00	4.049E-03	3.382E-04	0.0	-0.156	0.173	0.172
0.0500	5.865E+00	3.816E-03	5.868E+00	4.870E-03	3.669E-04	0.0	-0.154	0.170	0.169
0.0550	5.477E+00	3.831E-03	5.481E+00	5.753E-03	3.949E-04	0.0	-0.152	0.167	0.167
0.0600	5.150E+00	3.846E-03	5.154E+00	6.694E-03	4.222E-04	0.0	-0.150	0.165	0.164
0.0700	4.628E+00	3.881E-03	4.632E+00	8.745E-03	4.751E-04	0.0	-0.147	0.161	0.160
0.0800	4.229E+00	3.920E-03	4.233E+00	1.101E-02	5.260E-04	0.0	-0.144	0.158	0.157
0.0900	3.914E+00	3.961E-03	3.918E+00	1.347E-02	5.752E-04	0.0	-0.142	0.155	0.155
0.1000	3.660E+00	4.005E-03	3.664E+00	1.611E-02	6.229E-04	0.0	-0.140	0.152	0.152
0.1250	3.195E+00	4.127E-03	3.199E+00	2.344E-02	7.368E-04	0.0	-0.136	0.148	0.147
0.1500	2.881E+00	4.259E-03	2.885E+00	3.169E-02	8.447E-04	0.0	-0.132	0.144	0.144
0.1750	2.655E+00	4.400E-03	2.660E+00	4.073E-02	9.477E-04	0.0	-0.130	0.141	0.141
0.2000	2.486E+00	4.550E-03	2.491E+00	5.046E-02	1.047E-03	0.0	-0.128	0.139	0.138
0.2500	2.251E+00	4.874E-03	2.256E+00	7.162E-02	1.236E-03	0.0	-0.124	0.135	0.134
0.3000	2.097E+00	5.227E-03	2.103E+00	9.462E-02	1.418E-03	0.0	-0.121	0.132	0.131
0.3500	1.991E+00	5.606E-03	1.996E+00	1.191E-01	1.593E-03	0.0	-0.119	0.129	0.128
0.4000	1.914E+00	6.009E-03	1.920E+00	1.446E-01	1.765E-03	0.0	-0.117	0.127	0.126
0.4500	1.857E+00	6.436E-03	1.863E+00	1.711E-01	1.935E-03	0.0	-0.115	0.126	0.124
0.5000	1.813E+00	6.882E-03	1.820E+00	1.982E-01	2.103E-03	0.0	-0.114	0.124	0.122
0.5500	1.779E+00	7.347E-03	1.787E+00	2.260E-01	2.271E-03	0.0	-0.112	0.123	0.121
0.6000	1.753E+00	7.827E-03	1.761E+00	2.542E-01	2.438E-03	0.0	-0.111	0.121	0.119
0.7000	1.716E+00	8.831E-03	1.725E+00	3.116E-01	2.773E-03	0.0	-0.109	0.119	0.117
0.8000	1.693E+00	9.889E-03	1.703E+00	3.700E-01	3.109E-03	0.0	-0.107	0.117	0.115
0.9000	1.679E+00	1.099E-02	1.690E+00	4.289E-01	3.447E-03	0.0	-0.105	0.116	0.113
1.0000	1.670E+00	1.214E-02	1.683E+00	4.883E-01	3.788E-03	0.0	-0.104	0.114	0.111
1.2500	1.665E+00	1.518E-02	1.680E+00	6.371E-01	4.655E-03	0.0	-0.101	0.111	0.108
1.5000	1.670E+00	1.842E-02	1.688E+00	7.856E-01	5.541E-03	0.0	-0.098	0.109	0.105
1.7500	1.681E+00	2.184E-02	1.702E+00	9.331E-01	6.444E-03	0.0	-0.096	0.107	0.103
2.0000	1.693E+00	2.540E-02	1.719E+00	1.079E+00	7.364E-03	0.0	-0.095	0.105	0.101
2.5000	1.721E+00	3.290E-02	1.754E+00	1.367E+00	9.243E-03	0.0	-0.092	0.102	0.097
3.0000	1.749E+00	4.078E-02	1.790E+00	1.649E+00	1.116E-02	0.0	-0.090	0.100	0.095
3.5000	1.775E+00	4.899E-02	1.824E+00	1.926E+00	1.311E-02	0.0	-0.088	0.098	0.093
4.0000	1.799E+00	5.747E-02	1.857E+00	2.198E+00	1.509E-02	0.0	-0.087	0.096	0.091
4.5000	1.821E+00	6.620E-02	1.888E+00	2.465E+00	1.708E-02	0.0	-0.085	0.095	0.089
5.0000	1.842E+00	7.512E-02	1.917E+00	2.728E+00	1.909E-02	0.0	-0.084	0.094	0.088
5.5000	1.861E+00	8.423E-02	1.945E+00	2.987E+00	2.110E-02	0.0	-0.083	0.093	0.086
6.0000	1.879E+00	9.352E-02	1.972E+00	3.242E+00	2.312E-02	0.0	-0.082	0.091	0.085
7.0000	1.911E+00	1.125E-01	2.024E+00	3.742E+00	2.718E-02	0.0	-0.081	0.090	0.083
8.0000	1.940E+00	1.320E-01	2.072E+00	4.231E+00	3.124E-02	0.0	-0.080	0.088	0.081
9.0000	1.965E+00	1.520E-01	2.117E+00	4.708E+00	3.530E-02	0.0	-0.078	0.086	0.080
10.0000	1.988E+00	1.723E-01	2.161E+00	5.176E+00	3.934E-02	0.0	-0.077	0.085	0.078
12.5000	2.038E+00	2.244E-01	2.262E+00	6.306E+00	4.938E-02	0.0	-0.076	0.082	0.075
15.0000	2.079E+00	2.780E-01	2.356E+00	7.388E+00	5.926E-02	0.0	-0.074	0.080	0.072
17.5000	2.113E+00	3.327E-01	2.446E+00	8.430E+00	6.894E-02	0.0	-0.073	0.078	0.070
20.0000	2.144E+00	3.884E-01	2.532E+00	9.434E+00	7.842E-02	0.0	-0.072	0.076	0.068
25.0000	2.194E+00	5.016E-01	2.696E+00	1.135E+01	9.672E-02	0.0	-0.070	0.073	0.065
30.0000	2.235E+00	6.169E-01	2.852E+00	1.315E+01	1.142E-01	9.661E-03	-0.061	0.071	0.062
35.0000	2.266E+00	7.336E-01	3.000E+00	1.486E+01	1.308E-01	6.591E-02	-0.050	0.068	0.057
40.0000	2.290E+00	8.515E-01	3.142E+00	1.649E+01	1.467E-01	1.474E-01	-0.043	0.064	0.052
45.0000	2.310E+00	9.704E-01	3.281E+00	1.804E+01	1.619E-01	2.393E-01	-0.038	0.061	0.047
50.0000	2.327E+00	1.090E+00	3.417E+00	1.954E+01	1.765E-01	3.344E-01	-0.034	0.058	0.044
55.0000	2.342E+00	1.211E+00	3.552E+00	2.097E+01	1.904E-01	4.291E-01	-0.032	0.056	0.040
60.0000	2.355E+00	1.332E+00	3.686E+00	2.235E+01	2.038E-01	5.217E-01	-0.029	0.054	0.037
70.0000	2.377E+00	1.575E+00	3.952E+00	2.497E+01	2.290E-01	6.973E-01	-0.026	0.050	0.032
80.0000	2.395E+00	1.821E+00	4.216E+00	2.742E+01	2.523E-01	8.590E-01	-0.024	0.047	0.029
90.0000	2.411E+00	2.067E+00	4.478E+00	2.972E+01	2.740E-01	1.008E+00	-0.023	0.044	0.026
100.0000	2.424E+00	2.315E+00	4.740E+00	3.189E+01	2.941E-01	1.144E+00	-0.022	0.042	0.024
125.0000	2.453E+00	2.939E+00	5.392E+00	3.684E+01	3.389E-01	1.443E+00	-0.020	0.038	0.019
150.0000	2.475E+00	3.567E+00	6.042E+00	4.121E+01	3.771E-01	1.695E+00	-0.019	0.035	0.017
175.0000	2.494E+00	4.198E+00	6.693E+00	4.514E+01	4.103E-01	1.911E+00	-0.018	0.032	0.015
200.0000	2.510E+00	4.832E+00	7.343E+00	4.871E+01	4.394E-01	2.102E+00	-0.017	0.030	0.013
250.0000	2.537E+00	6.106E+00	8.643E+00	5.498E+01	4.883E-01	2.427E+00	-0.016	0.027	0.011
300.0000	2.558E+00	7.385E+00	9.943E+00	6.037E+01	5.278E-01	2.699E+00	-0.015	0.025	0.009
350.0000	2.575E+00	8.668E+00	1.124E+01	6.509E+01	5.606E-01	2.934E+00	-0.014	0.024	0.008
400.0000	2.590E+00	9.955E+00	1.254E+01	6.930E+01	5.883E-01	3.142E+00	-0.013	0.023	0.007
450.0000	2.603E+00	1.124E+01	1.385E+01	7.309E+01	6.122E-01	3.329E+00	-0.012	0.021	0.007
500.0000	2.614E+00	1.253E+01	1.515E+01	7.654E+01	6.330E-01	3.499E+00	-0.011	0.021	0.006
550.0000	2.624E+00	1.383E+01	1.645E+01	7.971E+01	6.513E-01	3.657E+00	-0.010	0.020	0.006
600.0000	2.633E+00	1.512E+01	1.775E+01	8.264E+01	6.675E-01	3.803E+00	-0.009	0.019	0.005
700.0000	2.648E+00	1.771E+01	2.036E+01	8.789E+01	6.952E-01	4.067E+00	-0.008	0.018	0.004
800.0000	2.660E+00	2.031E+01	2.297E+01	9.251E+01	7.180E-01	4.303E+00	-0.006	0.017	0.004
900.0000	2.671E+00	2.290E+01	2.558E+01	9.664E+01	7.371E-01	4.515E+00	-0.005	0.017	0.003
1000.0000	2.681E+00	2.550E+01	2.818E+01	1.004E+02	7.534E-01	4.707E+00	-0.005	0.016	0.003

Tabell 24 :

ELECTRONS IN OXYGEN

I = 95.0 eV DENSITY = 1.332E-03 g/cm³ (20° C)

ENERGY	STOPPING POWER COLLISION	STOPPING POWER RADIATIVE	STOPPING POWER TOTAL	CSDA RANGE	RADIATION YIELD	DENS.EFF. CORR. (DELTA)	d(log)/d(logI) COLL LOSS	d(log)/d(logI) CSDA RANGE	d(log)/d(logI) RAD YIELD
MeV	MeV cm²/g	MeV cm²/g	MeV cm²/g	g/cm²					
0.0100	1.937E+01	4.267E-03	1.937E+01	2.950E-04	1.207E-04	0.0	-0.209	0.241	0.239
0.0125	1.632E+01	4.298E-03	1.633E+01	4.362E-04	1.449E-04	0.0	-0.199	0.229	0.227
0.0150	1.419E+01	4.316E-03	1.419E+01	6.009E-04	1.681E-04	0.0	-0.193	0.220	0.218
0.0175	1.260E+01	4.328E-03	1.261E+01	7.882E-04	1.903E-04	0.0	-0.187	0.213	0.211
0.0200	1.138E+01	4.336E-03	1.138E+01	9.973E-04	2.118E-04	0.0	-0.183	0.207	0.206
0.0250	9.595E+00	4.347E-03	9.600E+00	1.478E-03	2.529E-04	0.0	-0.176	0.198	0.197
0.0300	8.359E+00	4.356E-03	8.363E+00	2.037E-03	2.919E-04	0.0	-0.170	0.191	0.190
0.0350	7.447E+00	4.365E-03	7.452E+00	2.672E-03	3.293E-04	0.0	-0.166	0.185	0.185
0.0400	6.746E+00	4.376E-03	6.750E+00	3.378E-03	3.653E-04	0.0	-0.163	0.181	0.180
0.0450	6.189E+00	4.388E-03	6.193E+00	4.153E-03	4.001E-04	0.0	-0.160	0.177	0.177
0.0500	5.735E+00	4.402E-03	5.739E+00	4.992E-03	4.339E-04	0.0	-0.157	0.174	0.174
0.0550	5.358E+00	4.417E-03	5.362E+00	5.894E-03	4.668E-04	0.0	-0.155	0.171	0.171
0.0600	5.039E+00	4.434E-03	5.044E+00	6.856E-03	4.988E-04	0.0	-0.153	0.169	0.169
0.0700	4.530E+00	4.471E-03	4.535E+00	8.951E-03	5.608E-04	0.0	-0.150	0.165	0.164
0.0800	4.142E+00	4.512E-03	4.146E+00	1.126E-02	6.204E-04	0.0	-0.147	0.161	0.161
0.0900	3.835E+00	4.558E-03	3.839E+00	1.377E-02	6.779E-04	0.0	-0.145	0.158	0.158
0.1000	3.586E+00	4.607E-03	3.591E+00	1.647E-02	7.337E-04	0.0	-0.143	0.156	0.156
0.1250	3.133E+00	4.741E-03	3.137E+00	2.394E-02	8.666E-04	0.0	-0.138	0.151	0.151
0.1500	2.826E+00	4.889E-03	2.831E+00	3.235E-02	9.921E-04	0.0	-0.135	0.147	0.147
0.1750	2.606E+00	5.048E-03	2.611E+00	4.157E-02	1.112E-03	0.0	-0.132	0.144	0.144
0.2000	2.441E+00	5.215E-03	2.446E+00	5.147E-02	1.227E-03	0.0	-0.130	0.142	0.141
0.2500	2.211E+00	5.578E-03	2.217E+00	7.302E-02	1.447E-03	0.0	-0.127	0.138	0.137
0.3000	2.061E+00	5.975E-03	2.067E+00	9.642E-02	1.656E-03	0.0	-0.124	0.134	0.134
0.3500	1.957E+00	6.402E-03	1.963E+00	1.213E-01	1.859E-03	0.0	-0.121	0.132	0.131
0.4000	1.882E+00	6.856E-03	1.889E+00	1.473E-01	2.057E-03	0.0	-0.119	0.130	0.128
0.4500	1.826E+00	7.335E-03	1.833E+00	1.742E-01	2.253E-03	0.0	-0.117	0.128	0.126
0.5000	1.784E+00	7.838E-03	1.791E+00	2.018E-01	2.446E-03	0.0	-0.116	0.126	0.125
0.5500	1.751E+00	8.362E-03	1.759E+00	2.299E-01	2.639E-03	0.0	-0.114	0.125	0.123
0.6000	1.725E+00	8.904E-03	1.734E+00	2.586E-01	2.831E-03	0.0	-0.113	0.124	0.122
0.7000	1.690E+00	1.004E-02	1.700E+00	3.169E-01	3.215E-03	0.0	-0.111	0.121	0.119
0.8000	1.667E+00	1.122E-02	1.679E+00	3.761E-01	3.600E-03	0.0	-0.109	0.119	0.117
0.9000	1.654E+00	1.247E-02	1.666E+00	4.359E-01	3.987E-03	0.0	-0.107	0.118	0.115
1.0000	1.646E+00	1.376E-02	1.659E+00	4.961E-01	4.377E-03	0.0	-0.105	0.116	0.113
1.2500	1.641E+00	1.718E-02	1.658E+00	6.469E-01	5.366E-03	0.0	-0.102	0.113	0.110
1.5000	1.647E+00	2.084E-02	1.667E+00	7.973E-01	6.376E-03	0.0	-0.100	0.111	0.107
1.7500	1.658E+00	2.468E-02	1.682E+00	9.466E-01	7.405E-03	0.0	-0.098	0.108	0.104
2.0000	1.671E+00	2.869E-02	1.699E+00	1.094E+00	8.452E-03	0.0	-0.096	0.107	0.102
2.5000	1.699E+00	3.711E-02	1.736E+00	1.386E+00	1.059E-02	0.0	-0.093	0.104	0.099
3.0000	1.727E+00	4.598E-02	1.773E+00	1.671E+00	1.276E-02	0.0	-0.091	0.101	0.096
3.5000	1.753E+00	5.519E-02	1.808E+00	1.950E+00	1.497E-02	0.0	-0.089	0.099	0.094
4.0000	1.777E+00	6.471E-02	1.842E+00	2.224E+00	1.720E-02	0.0	-0.088	0.098	0.092
4.5000	1.799E+00	7.448E-02	1.874E+00	2.493E+00	1.945E-02	0.0	-0.086	0.096	0.090
5.0000	1.820E+00	8.449E-02	1.905E+00	2.758E+00	2.171E-02	0.0	-0.085	0.095	0.088
5.5000	1.839E+00	9.470E-02	1.934E+00	3.018E+00	2.398E-02	0.0	-0.084	0.094	0.087
6.0000	1.857E+00	1.051E-01	1.962E+00	3.275E+00	2.626E-02	0.0	-0.083	0.092	0.086
7.0000	1.889E+00	1.264E-01	2.016E+00	3.777E+00	3.081E-02	0.0	-0.082	0.091	0.084
8.0000	1.918E+00	1.482E-01	2.066E+00	4.267E+00	3.536E-02	0.0	-0.080	0.089	0.082
9.0000	1.944E+00	1.705E-01	2.114E+00	4.746E+00	3.990E-02	0.0	-0.079	0.087	0.080
10.0000	1.967E+00	1.932E-01	2.160E+00	5.214E+00	4.441E-02	0.0	-0.078	0.086	0.079
12.5000	2.016E+00	2.514E-01	2.268E+00	6.343E+00	5.558E-02	0.0	-0.076	0.083	0.075
15.0000	2.057E+00	3.112E-01	2.368E+00	7.421E+00	6.652E-02	0.0	-0.075	0.081	0.073
17.5000	2.092E+00	3.723E-01	2.464E+00	8.456E+00	7.720E-02	0.0	-0.074	0.079	0.070
20.0000	2.122E+00	4.343E-01	2.556E+00	9.452E+00	8.762E-02	0.0	-0.073	0.077	0.068
25.0000	2.173E+00	5.606E-01	2.733E+00	1.134E+01	1.076E-01	0.0	-0.071	0.074	0.065
30.0000	2.214E+00	6.890E-01	2.903E+00	1.312E+01	1.266E-01	2.989E-03	-0.065	0.071	0.062
35.0000	2.246E+00	8.189E-01	3.065E+00	1.479E+01	1.446E-01	4.425E-02	-0.054	0.068	0.057
40.0000	2.272E+00	9.502E-01	3.222E+00	1.638E+01	1.617E-01	1.129E-01	-0.047	0.065	0.053
45.0000	2.292E+00	1.083E+00	3.375E+00	1.790E+01	1.779E-01	1.940E-01	-0.041	0.062	0.048
50.0000	2.310E+00	1.216E+00	3.526E+00	1.935E+01	1.934E-01	2.804E-01	-0.037	0.059	0.045
55.0000	2.325E+00	1.350E+00	3.675E+00	2.074E+01	2.082E-01	3.682E-01	-0.034	0.057	0.041
60.0000	2.338E+00	1.484E+00	3.823E+00	2.207E+01	2.224E-01	4.554E-01	-0.031	0.055	0.038
70.0000	2.361E+00	1.755E+00	4.116E+00	2.459E+01	2.488E-01	6.239E-01	-0.028	0.051	0.033
80.0000	2.379E+00	2.028E+00	4.407E+00	2.694E+01	2.732E-01	7.819E-01	-0.025	0.048	0.030
90.0000	2.395E+00	2.302E+00	4.697E+00	2.914E+01	2.957E-01	9.288E-01	-0.023	0.045	0.027
100.0000	2.409E+00	2.577E+00	4.986E+00	3.120E+01	3.165E-01	1.065E+00	-0.022	0.043	0.024
125.0000	2.437E+00	3.270E+00	5.707E+00	3.589E+01	3.624E-01	1.366E+00	-0.019	0.038	0.020
150.0000	2.460E+00	3.967E+00	6.427E+00	4.001E+01	4.013E-01	1.622E+00	-0.018	0.035	0.017
175.0000	2.478E+00	4.668E+00	7.146E+00	4.370E+01	4.348E-01	1.843E+00	-0.017	0.033	0.015
200.0000	2.494E+00	5.371E+00	7.865E+00	4.703E+01	4.640E-01	2.038E+00	-0.016	0.031	0.013
250.0000	2.520E+00	6.784E+00	9.304E+00	5.287E+01	5.127E-01	2.369E+00	-0.015	0.028	0.011
300.0000	2.541E+00	8.202E+00	1.074E+01	5.787E+01	5.517E-01	2.644E+00	-0.015	0.026	0.009
350.0000	2.558E+00	9.625E+00	1.218E+01	6.223E+01	5.840E-01	2.879E+00	-0.014	0.024	0.008
400.0000	2.573E+00	1.105E+01	1.362E+01	6.611E+01	6.111E-01	3.086E+00	-0.013	0.023	0.007
450.0000	2.586E+00	1.248E+01	1.507E+01	6.960E+01	6.343E-01	3.271E+00	-0.013	0.022	0.006
500.0000	2.597E+00	1.391E+01	1.651E+01	7.277E+01	6.544E-01	3.438E+00	-0.012	0.021	0.006
550.0000	2.608E+00	1.534E+01	1.795E+01	7.568E+01	6.721E-01	3.592E+00	-0.011	0.020	0.005
600.0000	2.617E+00	1.678E+01	1.939E+01	7.835E+01	6.878E-01	3.733E+00	-0.011	0.020	0.005
700.0000	2.633E+00	1.965E+01	2.228E+01	8.316E+01	7.144E-01	3.989E+00	-0.010	0.019	0.004
800.0000	2.646E+00	2.252E+01	2.517E+01	8.738E+01	7.361E-01	4.215E+00	-0.008	0.018	0.004
900.0000	2.658E+00	2.540E+01	2.805E+01	9.114E+01	7.544E-01	4.418E+00	-0.008	0.017	0.004
1000.0000	2.668E+00	2.827E+01	3.094E+01	9.454E+01	7.699E-01	4.603E+00	-0.007	0.017	0.003

Tabell 24 : ELECTRONS IN POLYMETHYL METHACRYLATE, "LUCITE", "PERSPEX", "PLEXIGLAS"

I = 74.0 eV DENSITY = 1.190E+00 g/cm³

ENERGY	STOPPING POWER COLLISION	STOPPING POWER RADIATIVE	STOPPING POWER TOTAL	CSDA RANGE	RADIATION YIELD	DENS.EFF. CORR. (DELTA)	d(log)/d(logI) COLL LOSS	d(log)/d(logI) CSDA RANGE	d(log)/d(logI) RAD YIELD
MeV	MeV cm²/g	MeV cm²/g	MeV cm²/g	g/cm²					
0.0100	2.198E+01	3.332E-03	2.198E+01	2.580E-04	8.329E-05	0.0	-0.198	0.227	0.225
0.0125	1.848E+01	3.349E-03	1.849E+01	3.826E-04	9.993E-05	0.0	-0.190	0.216	0.215
0.0150	1.604E+01	3.359E-03	1.604E+01	5.282E-04	1.158E-04	0.0	-0.184	0.208	0.207
0.0175	1.423E+01	3.366E-03	1.423E+01	6.940E-04	1.311E-04	0.0	-0.179	0.201	0.201
0.0200	1.283E+01	3.372E-03	1.284E+01	8.792E-04	1.460E-04	0.0	-0.175	0.196	0.195
0.0250	1.080E+01	3.382E-03	1.081E+01	1.306E-03	1.744E-04	0.0	-0.168	0.188	0.187
0.0300	9.400E+00	3.391E-03	9.404E+00	1.803E-03	2.015E-04	0.0	-0.163	0.182	0.181
0.0350	8.367E+00	3.401E-03	8.370E+00	2.368E-03	2.275E-04	0.0	-0.160	0.177	0.177
0.0400	7.573E+00	3.413E-03	7.576E+00	2.997E-03	2.526E-04	0.0	-0.156	0.173	0.173
0.0450	6.942E+00	3.425E-03	6.946E+00	3.687E-03	2.770E-04	0.0	-0.154	0.170	0.169
0.0500	6.429E+00	3.438E-03	6.433E+00	4.436E-03	3.007E-04	0.0	-0.151	0.167	0.166
0.0550	6.003E+00	3.453E-03	6.007E+00	5.241E-03	3.238E-04	0.0	-0.149	0.164	0.164
0.0600	5.644E+00	3.468E-03	5.647E+00	6.100E-03	3.464E-04	0.0	-0.147	0.162	0.162
0.0700	5.070E+00	3.502E-03	5.073E+00	7.972E-03	3.901E-04	0.0	-0.144	0.158	0.158
0.0800	4.631E+00	3.538E-03	4.635E+00	1.004E-02	4.322E-04	0.0	-0.142	0.155	0.155
0.0900	4.286E+00	3.577E-03	4.289E+00	1.228E-02	4.729E-04	0.0	-0.140	0.152	0.152
0.1000	4.006E+00	3.619E-03	4.010E+00	1.470E-02	5.125E-04	0.0	-0.138	0.150	0.150
0.1250	3.496E+00	3.732E-03	3.500E+00	2.140E-02	6.070E-04	0.0	-0.134	0.145	0.145
0.1500	3.152E+00	3.855E-03	3.155E+00	2.894E-02	6.966E-04	0.0	-0.131	0.142	0.142
0.1750	2.904E+00	3.987E-03	2.908E+00	3.721E-02	7.824E-04	0.0	-0.128	0.139	0.139
0.2000	2.719E+00	4.126E-03	2.723E+00	4.610E-02	8.650E-04	0.0	-0.126	0.137	0.136
0.2500	2.461E+00	4.425E-03	2.465E+00	6.547E-02	1.023E-03	0.0	-0.123	0.133	0.132
0.3000	2.292E+00	4.751E-03	2.297E+00	8.653E-02	1.175E-03	0.0	-0.120	0.130	0.129
0.3500	2.175E+00	5.101E-03	2.180E+00	1.089E-01	1.322E-03	0.0	-0.118	0.128	0.127
0.4000	2.090E+00	5.474E-03	2.096E+00	1.323E-01	1.466E-03	0.0	-0.117	0.126	0.125
0.4500	2.026E+00	5.867E-03	2.032E+00	1.566E-01	1.609E-03	1.466E-02	-0.092	0.122	0.120
0.5000	1.975E+00	6.278E-03	1.981E+00	1.815E-01	1.751E-03	4.112E-02	-0.086	0.118	0.115
0.5500	1.935E+00	6.707E-03	1.942E+00	2.070E-01	1.892E-03	6.992E-02	-0.081	0.113	0.110
0.6000	1.903E+00	7.149E-03	1.910E+00	2.330E-01	2.035E-03	1.005E-01	-0.076	0.109	0.105
0.7000	1.856E+00	8.076E-03	1.864E+00	2.860E-01	2.320E-03	1.650E-01	-0.068	0.102	0.097
0.8000	1.825E+00	9.050E-03	1.834E+00	3.401E-01	2.609E-03	2.321E-01	-0.062	0.096	0.090
0.9000	1.803E+00	1.007E-02	1.813E+00	3.950E-01	2.902E-03	3.001E-01	-0.057	0.091	0.083
1.0000	1.788E+00	1.113E-02	1.799E+00	4.504E-01	3.199E-03	3.679E-01	-0.053	0.087	0.078
1.2500	1.767E+00	1.393E-02	1.781E+00	5.902E-01	3.959E-03	5.330E-01	-0.046	0.078	0.068
1.5000	1.760E+00	1.693E-02	1.776E+00	7.308E-01	4.744E-03	6.887E-01	-0.041	0.071	0.060
1.7500	1.759E+00	2.009E-02	1.779E+00	8.715E-01	5.553E-03	8.339E-01	-0.038	0.066	0.055
2.0000	1.762E+00	2.338E-02	1.785E+00	1.012E+00	6.383E-03	9.689E-01	-0.035	0.062	0.050
2.5000	1.772E+00	3.031E-02	1.802E+00	1.291E+00	8.096E-03	1.212E+00	-0.032	0.056	0.044
3.0000	1.784E+00	3.761E-02	1.822E+00	1.567E+00	9.868E-03	1.425E+00	-0.029	0.051	0.039
3.5000	1.797E+00	4.521E-02	1.842E+00	1.839E+00	1.168E-02	1.613E+00	-0.028	0.048	0.036
4.0000	1.809E+00	5.307E-02	1.862E+00	2.109E+00	1.354E-02	1.783E+00	-0.027	0.045	0.034
4.5000	1.821E+00	6.115E-02	1.882E+00	2.376E+00	1.542E-02	1.936E+00	-0.025	0.043	0.032
5.0000	1.832E+00	6.943E-02	1.901E+00	2.641E+00	1.733E-02	2.077E+00	-0.025	0.041	0.030
5.5000	1.842E+00	7.788E-02	1.920E+00	2.903E+00	1.926E-02	2.207E+00	-0.024	0.039	0.029
6.0000	1.851E+00	8.648E-02	1.938E+00	3.162E+00	2.120E-02	2.327E+00	-0.023	0.038	0.028
7.0000	1.868E+00	1.041E-01	1.972E+00	3.673E+00	2.513E-02	2.545E+00	-0.022	0.036	0.026
8.0000	1.883E+00	1.222E-01	2.005E+00	4.176E+00	2.910E-02	2.739E+00	-0.020	0.034	0.025
9.0000	1.896E+00	1.407E-01	2.037E+00	4.671E+00	3.309E-02	2.914E+00	-0.019	0.032	0.023
10.0000	1.908E+00	1.596E-01	2.067E+00	5.158E+00	3.710E-02	3.073E+00	-0.018	0.031	0.022
12.5000	1.932E+00	2.079E-01	2.140E+00	6.346E+00	4.712E-02	3.421E+00	-0.015	0.028	0.020
15.0000	1.952E+00	2.577E-01	2.210E+00	7.496E+00	5.709E-02	3.716E+00	-0.013	0.025	0.017
17.5000	1.968E+00	3.086E-01	2.277E+00	8.610E+00	6.695E-02	3.974E+00	-0.011	0.024	0.016
20.0000	1.982E+00	3.603E-01	2.342E+00	9.693E+00	7.667E-02	4.202E+00	-0.010	0.022	0.014
25.0000	2.004E+00	4.656E-01	2.470E+00	1.177E+01	9.561E-02	4.595E+00	-0.007	0.019	0.012
30.0000	2.022E+00	5.728E-01	2.595E+00	1.375E+01	1.133E-01	4.927E+00	-0.006	0.017	0.010
35.0000	2.036E+00	6.815E-01	2.718E+00	1.563E+01	1.313E-01	5.212E+00	-0.005	0.016	0.008
40.0000	2.049E+00	7.912E-01	2.840E+00	1.743E+01	1.480E-01	5.463E+00	-0.004	0.014	0.007
45.0000	2.059E+00	9.020E-01	2.961E+00	1.915E+01	1.639E-01	5.687E+00	-0.003	0.013	0.006
50.0000	2.069E+00	1.013E+00	3.082E+00	2.081E+01	1.792E-01	5.889E+00	-0.003	0.012	0.005
55.0000	2.077E+00	1.126E+00	3.203E+00	2.240E+01	1.939E-01	6.072E+00	-0.002	0.012	0.005
60.0000	2.085E+00	1.238E+00	3.323E+00	2.393E+01	2.079E-01	6.241E+00	-0.002	0.011	0.004
70.0000	2.098E+00	1.465E+00	3.563E+00	2.684E+01	2.342E-01	6.541E+00	-0.001	0.010	0.004
80.0000	2.109E+00	1.694E+00	3.804E+00	2.955E+01	2.585E-01	6.803E+00	-0.001	0.009	0.003
90.0000	2.120E+00	1.924E+00	4.044E+00	3.210E+01	2.810E-01	7.034E+00	-0.001	0.008	0.003
100.0000	2.128E+00	2.155E+00	4.284E+00	3.450E+01	3.019E-01	7.242E+00	-0.001	0.008	0.002
125.0000	2.147E+00	2.737E+00	4.884E+00	3.996E+01	3.481E-01	7.683E+00	-0.001	0.007	0.002
150.0000	2.163E+00	3.323E+00	5.486E+00	4.479E+01	3.874E-01	8.045E+00	-0.000	0.006	0.001
175.0000	2.176E+00	3.912E+00	6.087E+00	4.912E+01	4.213E-01	8.351E+00	-0.000	0.006	0.001
200.0000	2.187E+00	4.503E+00	6.690E+00	5.303E+01	4.509E-01	8.617E+00	-0.000	0.005	0.001
250.0000	2.205E+00	5.692E+00	7.897E+00	5.990E+01	5.004E-01	9.061E+00	-0.000	0.005	0.001
300.0000	2.220E+00	6.887E+00	9.107E+00	6.579E+01	5.402E-01	9.425E+00	-0.000	0.004	0.001
350.0000	2.233E+00	8.085E+00	1.032E+01	7.095E+01	5.731E-01	9.733E+00	-0.000	0.004	0.000
400.0000	2.244E+00	9.286E+00	1.153E+01	7.553E+01	6.008E-01	9.999E+00	-0.000	0.004	0.000
450.0000	2.254E+00	1.049E+01	1.274E+01	7.965E+01	6.246E-01	1.023E+01	-0.000	0.003	0.000
500.0000	2.263E+00	1.170E+01	1.396E+01	8.340E+01	6.452E-01	1.044E+01	-0.000	0.003	0.000
550.0000	2.271E+00	1.290E+01	1.518E+01	8.684E+01	6.633E-01	1.064E+01	-0.000	0.003	0.000
600.0000	2.278E+00	1.411E+01	1.639E+01	9.000E+01	6.793E-01	1.081E+01	-0.000	0.003	0.000
700.0000	2.291E+00	1.653E+01	1.882E+01	9.569E+01	7.066E-01	1.112E+01	-0.000	0.003	0.000
800.0000	2.302E+00	1.896E+01	2.126E+01	1.007E+02	7.289E-01	1.138E+01	-0.000	0.003	0.000
900.0000	2.312E+00	2.139E+01	2.370E+01	1.051E+02	7.476E-01	1.162E+01	-0.000	0.003	0.000
1000.0000	2.320E+00	2.382E+01	2.614E+01	1.092E+02	7.636E-01	1.183E+01	-0.000	0.003	0.000

Tabell 24 :

ELECTRONS IN POLYSTYRENE

I = 68.7 eV DENSITY = 1.060E+00 g/cm³

ENERGY	STOPPING POWER COLLISION	STOPPING POWER RADIATIVE	STOPPING POWER TOTAL	CSDA RANGE	RADIATION YIELD	DENS.EFF. CORR. (DELTA)	d(log)/d(logI) COLL LOSS	d(log)/d(logI) CSDA RANGE	d(log)/d(logI) RAD YIELD
MeV	MeV cm²/g	MeV cm²/g	MeV cm²/g	g/cm²					
0.0100	2.223E+01	2.982E-03	2.224E+01	2.546E-04	7.406E-05	0.0	-0.195	0.223	0.221
0.0125	1.868E+01	2.992E-03	1.869E+01	3.777E-04	8.869E-05	0.0	-0.187	0.212	0.211
0.0150	1.621E+01	2.999E-03	1.621E+01	5.218E-04	1.027E-04	0.0	-0.181	0.205	0.204
0.0175	1.437E+01	3.004E-03	1.438E+01	6.859E-04	1.162E-04	0.0	-0.176	0.198	0.198
0.0200	1.296E+01	3.008E-03	1.296E+01	8.694E-04	1.292E-04	0.0	-0.172	0.193	0.193
0.0250	1.091E+01	3.017E-03	1.091E+01	1.292E-03	1.543E-04	0.0	-0.166	0.185	0.185
0.0300	9.485E+00	3.027E-03	9.488E+00	1.785E-03	1.782E-04	0.0	-0.162	0.179	0.179
0.0350	8.440E+00	3.037E-03	8.443E+00	2.345E-03	2.013E-04	0.0	-0.158	0.175	0.174
0.0400	7.637E+00	3.048E-03	7.640E+00	2.968E-03	2.235E-04	0.0	-0.155	0.171	0.170
0.0450	7.000E+00	3.061E-03	7.003E+00	3.653E-03	2.452E-04	0.0	-0.152	0.167	0.167
0.0500	6.481E+00	3.074E-03	6.484E+00	4.395E-03	2.662E-04	0.0	-0.150	0.165	0.164
0.0550	6.051E+00	3.088E-03	6.054E+00	5.194E-03	2.867E-04	0.0	-0.148	0.162	0.162
0.0600	5.688E+00	3.103E-03	5.691E+00	6.047E-03	3.068E-04	0.0	-0.146	0.160	0.160
0.0700	5.108E+00	3.135E-03	5.111E+00	7.905E-03	3.458E-04	0.0	-0.143	0.156	0.156
0.0800	4.666E+00	3.169E-03	4.669E+00	9.955E-03	3.834E-04	0.0	-0.140	0.153	0.153
0.0900	4.317E+00	3.206E-03	4.320E+00	1.218E-02	4.197E-04	0.0	-0.138	0.151	0.150
0.1000	4.034E+00	3.244E-03	4.038E+00	1.458E-02	4.550E-04	0.0	-0.136	0.148	0.148
0.1250	3.520E+00	3.350E-03	3.523E+00	2.124E-02	5.396E-04	0.0	-0.132	0.144	0.144
0.1500	3.172E+00	3.463E-03	3.176E+00	2.873E-02	6.199E-04	0.0	-0.129	0.140	0.140
0.1750	2.923E+00	3.534E-03	2.926E+00	3.695E-02	6.967E-04	0.0	-0.127	0.138	0.137
0.2000	2.735E+00	3.711E-03	2.739E+00	4.579E-02	7.709E-04	0.0	-0.125	0.135	0.135
0.2500	2.475E+00	3.985E-03	2.479E+00	6.504E-02	9.131E-04	0.0	-0.122	0.132	0.131
0.3000	2.305E+00	4.284E-03	2.309E+00	8.598E-02	1.050E-03	0.0	-0.119	0.129	0.128
0.3500	2.187E+00	4.604E-03	2.192E+00	1.082E-01	1.182E-03	0.0	-0.117	0.127	0.125
0.4000	2.101E+00	4.945E-03	2.106E+00	1.315E-01	1.312E-03	2.729E-03	-0.102	0.124	0.123
0.4500	2.035E+00	5.304E-03	2.040E+00	1.557E-01	1.441E-03	2.688E-02	-0.090	0.119	0.117
0.5000	1.984E+00	5.680E-03	1.990E+00	1.805E-01	1.570E-03	5.420E-02	-0.084	0.115	0.112
0.5500	1.943E+00	6.071E-03	1.950E+00	2.059E-01	1.699E-03	8.383E-02	-0.079	0.111	0.107
0.6000	1.911E+00	6.475E-03	1.913E+00	2.318E-01	1.827E-03	1.152E-01	-0.074	0.107	0.102
0.7000	1.864E+00	7.322E-03	1.871E+00	2.346E-01	2.087E-03	1.810E-01	-0.067	0.100	0.094
0.8000	1.832E+00	8.212E-03	1.840E+00	3.335E-01	2.349E-03	2.492E-01	-0.061	0.094	0.088
0.9000	1.810E+00	9.142E-03	1.819E+00	3.932E-01	2.615E-03	3.179E-01	-0.057	0.089	0.082
1.0000	1.794E+00	1.011E-02	1.804E+00	4.484E-01	2.885E-03	3.862E-01	-0.053	0.085	0.077
1.2500	1.773E+00	1.267E-02	1.786E+00	5.878E-01	3.577E-03	5.515E-01	-0.046	0.077	0.067
1.5000	1.766E+00	1.541E-02	1.781E+00	7.281E-01	4.293E-03	7.064E-01	-0.042	0.070	0.060
1.7500	1.765E+00	1.830E-02	1.783E+00	8.684E-01	5.030E-03	8.501E-01	-0.039	0.065	0.055
2.0000	1.768E+00	2.132E-02	1.789E+00	1.008E+00	5.788E-03	9.834E-01	-0.037	0.062	0.050
2.5000	1.778E+00	2.766E-02	1.806E+00	1.287E+00	7.352E-03	1.222E+00	-0.034	0.056	0.045
3.0000	1.791E+00	3.435E-02	1.825E+00	1.562E+00	8.976E-03	1.431E+00	-0.031	0.051	0.041
3.5000	1.804E+00	4.132E-02	1.845E+00	1.835E+00	1.063E-02	1.616E+00	-0.030	0.048	0.033
4.0000	1.816E+00	4.852E-02	1.865E+00	2.104E+00	1.233E-02	1.782E+00	-0.029	0.046	0.035
4.5000	1.828E+00	5.593E-02	1.884E+00	2.371E+00	1.405E-02	1.932E+00	-0.027	0.044	0.034
5.0000	1.839E+00	6.353E-02	1.902E+00	2.635E+00	1.580E-02	2.070E+00	-0.026	0.042	0.032
5.5000	1.849E+00	7.129E-02	1.920E+00	2.897E+00	1.757E-02	2.197E+00	-0.025	0.040	0.031
6.0000	1.859E+00	7.919E-02	1.938E+00	3.156E+00	1.936E-02	2.316E+00	-0.025	0.039	0.030
7.0000	1.876E+00	9.539E-02	1.971E+00	3.667E+00	2.297E-02	2.531E+00	-0.023	0.037	0.028
8.0000	1.891E+00	1.120E-01	2.003E+00	4.171E+00	2.662E-02	2.722E+00	-0.021	0.035	0.026
9.0000	1.904E+00	1.290E-01	2.033E+00	4.666E+00	3.029E-02	2.896E+00	-0.020	0.033	0.025
10.0000	1.916E+00	1.464E-01	2.062E+00	5.155E+00	3.399E-02	3.054E+00	-0.019	0.032	0.023
12.5000	1.940E+00	1.909E-01	2.131E+00	6.347E+00	4.325E-02	3.403E+00	-0.015	0.029	0.020
15.0000	1.960E+00	2.367E-01	2.196E+00	7.502E+00	5.249E-02	3.702E+00	-0.013	0.026	0.018
17.5000	1.975E+00	2.835E-01	2.259E+00	8.625E+00	6.166E-02	3.963E+00	-0.010	0.024	0.016
20.0000	1.989E+00	3.311E-01	2.320E+00	9.717E+00	7.072E-02	4.196E+00	-0.009	0.022	0.014
25.0000	2.010E+00	4.282E-01	2.439E+00	1.182E+01	8.844E-02	4.596E+00	-0.006	0.019	0.011
30.0000	2.027E+00	5.270E-01	2.554E+00	1.382E+01	1.056E-01	4.933E+00	-0.005	0.017	0.009
35.0000	2.041E+00	6.271E-01	2.669E+00	1.574E+01	1.220E-01	5.223E+00	-0.003	0.016	0.008
40.0000	2.053E+00	7.284E-01	2.782E+00	1.757E+01	1.378E-01	5.478E+00	-0.003	0.014	0.006
45.0000	2.064E+00	8.306E-01	2.894E+00	1.933E+01	1.530E-01	5.704E+00	-0.002	0.013	0.005
50.0000	2.073E+00	9.334E-01	3.006E+00	2.103E+01	1.676E-01	5.908E+00	-0.002	0.012	0.005
55.0000	2.081E+00	1.037E+00	3.118E+00	2.266E+01	1.816E-01	6.093E+00	-0.002	0.011	0.004
60.0000	2.089E+00	1.141E+00	3.230E+00	2.424E+01	1.951E-01	6.263E+00	-0.001	0.011	0.004
70.0000	2.102E+00	1.351E+00	3.452E+00	2.723E+01	2.204E-01	6.565E+00	-0.001	0.010	0.003
80.0000	2.113E+00	1.562E+00	3.675E+00	3.004E+01	2.439E-01	6.823E+00	-0.001	0.009	0.002
90.0000	2.123E+00	1.774E+00	3.897E+00	3.268E+01	2.658E-01	7.060E+00	-0.001	0.008	0.002
100.0000	2.132E+00	1.988E+00	4.120E+00	3.518E+01	2.861E-01	7.269E+00	-0.001	0.008	0.002
125.0000	2.151E+00	2.525E+00	4.676E+00	4.037E+01	3.314E-01	7.711E+00	-0.000	0.006	0.001
150.0000	2.166E+00	3.067E+00	5.233E+00	4.592E+01	3.701E-01	8.073E+00	-0.000	0.006	0.001
175.0000	2.179E+00	3.611E+00	5.790E+00	5.046E+01	4.037E-01	8.380E+00	-0.000	0.005	0.001
200.0000	2.190E+00	4.158E+00	6.348E+00	5.458E+01	4.333E-01	8.646E+00	-0.000	0.005	0.001
250.0000	2.208E+00	5.255E+00	7.466E+00	6.184E+01	4.828E-01	9.091E+00	-0.000	0.004	0.001
300.0000	2.223E+00	6.362E+00	8.586E+00	6.808E+01	5.229E-01	9.454E+00	-0.000	0.004	0.000
350.0000	2.236E+00	7.471E+00	9.707E+00	7.355E+01	5.562E-01	9.762E+00	-0.000	0.004	0.000
400.0000	2.247E+00	8.583E+00	1.083E+01	7.842E+01	5.843E-01	1.003E+01	-0.000	0.003	0.000
450.0000	2.257E+00	9.697E+00	1.195E+01	8.282E+01	6.085E-01	1.026E+01	-0.000	0.003	0.000
500.0000	2.266E+00	1.081E+01	1.308E+01	8.681E+01	6.296E-01	1.047E+01	-0.000	0.003	0.000
550.0000	2.274E+00	1.193E+01	1.420E+01	9.048E+01	6.482E-01	1.066E+01	-0.000	0.003	0.000
600.0000	2.281E+00	1.305E+01	1.533E+01	9.387E+01	6.646E-01	1.084E+01	-0.000	0.003	0.000
700.0000	2.293E+00	1.529E+01	1.755E+01	9.996E+01	6.926E-01	1.115E+01	-0.000	0.003	0.000
800.0000	2.304E+00	1.754E+01	1.984E+01	1.053E+02	7.157E-01	1.141E+01	-0.000	0.003	0.000
900.0000	2.314E+00	1.978E+01	2.210E+01	1.101E+02	7.350E-01	1.165E+01	-0.000	0.002	0.000
1000.0000	2.323E+00	2.203E+01	2.436E+01	1.144E+02	7.515E-01	1.186E+01	-0.000	0.002	0.000

Tabell 24 : ELECTRONS IN POLYTETRAFLUOROETHYLENE, "TEFLON"

I = 99.1 eV DENSITY = 2.200E+00 g/cm³

ENERGY	STOPPING POWER COLLISION	STOPPING POWER RADIATIVE	STOPPING POWER TOTAL	CSDA RANGE	RADIATION YIELD	DENS.EFF. CORR. (DELTA)	d(log)/d(logI) COLL LOSS	d(log)/d(logI) CSDA RANGE	d(log)/d(logI) RAD YIELD
MeV	MeV cm²/g	MeV cm²/g	MeV cm²/g	g/cm²					
0.0100	1.843E+01	4.211E-03	1.843E+01	3.105E-04	1.249E-04	0.0	-0.210	0.243	0.241
0.0125	1.553E+01	4.247E-03	1.554E+01	4.589E-04	1.502E-04	0.0	-0.201	0.231	0.229
0.0150	1.351E+01	4.271E-03	1.351E+01	6.320E-04	1.743E-04	0.0	-0.194	0.222	0.220
0.0175	1.200E+01	4.287E-03	1.201E+01	8.287E-04	1.975E-04	0.0	-0.189	0.215	0.213
0.0200	1.084E+01	4.300E-03	1.084E+01	1.048E-03	2.199E-04	0.0	-0.184	0.209	0.207
0.0250	9.141E+00	4.316E-03	9.146E+00	1.553E-03	2.629E-04	0.0	-0.177	0.199	0.198
0.0300	7.965E+00	4.329E-03	7.970E+00	2.140E-03	3.037E-04	0.0	-0.172	0.192	0.192
0.0350	7.098E+00	4.341E-03	7.102E+00	2.806E-03	3.428E-04	0.0	-0.167	0.187	0.186
0.0400	6.430E+00	4.353E-03	6.435E+00	3.547E-03	3.805E-04	0.0	-0.164	0.182	0.182
0.0450	5.900E+00	4.366E-03	5.904E+00	4.359E-03	4.169E-04	0.0	-0.161	0.179	0.178
0.0500	5.468E+00	4.350E-03	5.472E+00	5.239E-03	4.522E-04	0.0	-0.158	0.175	0.175
0.0550	5.109E+00	4.395E-03	5.113E+00	6.185E-03	4.865E-04	0.0	-0.156	0.173	0.172
0.0600	4.806E+00	4.410E-03	4.810E+00	7.194E-03	5.200E-04	0.0	-0.154	0.170	0.170
0.0700	4.321E+00	4.444E-03	4.325E+00	9.391E-03	5.847E-04	0.0	-0.151	0.166	0.166
0.0800	3.951E+00	4.483E-03	3.955E+00	1.181E-02	6.467E-04	0.0	-0.148	0.163	0.162
0.0900	3.658E+00	4.525E-03	3.663E+00	1.444E-02	7.065E-04	0.0	-0.145	0.160	0.159
0.1000	3.421E+00	4.571E-03	3.426E+00	1.727E-02	7.643E-04	0.0	-0.143	0.157	0.157
0.1250	2.939E+00	4.700E-03	2.994E+00	2.511E-02	9.021E-04	0.0	-0.139	0.152	0.152
0.1500	2.697E+00	4.844E-03	2.702E+00	3.392E-02	1.032E-03	0.0	-0.136	0.148	0.148
0.1750	2.487E+00	5.000E-03	2.492E+00	4.357E-02	1.156E-03	0.0	-0.133	0.145	0.145
0.2000	2.330E+00	5.167E-03	2.335E+00	5.395E-02	1.275E-03	0.0	-0.131	0.143	0.142
0.2500	2.111E+00	5.530E-03	2.117E+00	7.651E-02	1.503E-03	0.0	-0.127	0.138	0.138
0.3000	1.968E+00	5.928E-03	1.974E+00	1.010E-01	1.721E-03	0.0	-0.124	0.135	0.134
0.3500	1.869E+00	6.353E-03	1.875E+00	1.271E-01	1.931E-03	0.0	-0.122	0.133	0.132
0.4000	1.797E+00	6.805E-03	1.804E+00	1.543E-01	2.137E-03	2.294E-03	-0.108	0.130	0.129
0.4500	1.742E+00	7.279E-03	1.749E+00	1.824E-01	2.341E-03	2.338E-02	-0.097	0.126	0.123
0.5000	1.699E+00	7.775E-03	1.707E+00	2.114E-01	2.543E-03	4.753E-02	-0.091	0.121	0.118
0.5500	1.665E+00	8.291E-03	1.674E+00	2.410E-01	2.744E-03	7.398E-02	-0.085	0.117	0.113
0.6000	1.639E+00	8.823E-03	1.647E+00	2.711E-01	2.945E-03	1.022E-01	-0.081	0.113	0.109
0.7000	1.600E+00	9.937E-03	1.610E+00	3.326E-01	3.347E-03	1.623E-01	-0.073	0.106	0.101
0.8000	1.573E+00	1.111E-02	1.585E+00	3.952E-01	3.753E-03	2.253E-01	-0.067	0.101	0.094
0.9000	1.555E+00	1.233E-02	1.568E+00	4.587E-01	4.162E-03	2.896E-01	-0.062	0.095	0.088
1.0000	1.543E+00	1.360E-02	1.557E+00	5.227E-01	4.575E-03	3.541E-01	-0.058	0.091	0.083
1.2500	1.527E+00	1.697E-02	1.544E+00	6.841E-01	5.631E-03	5.127E-01	-0.050	0.082	0.072
1.5000	1.522E+00	2.057E-02	1.542E+00	8.462E-01	6.719E-03	6.637E-01	-0.045	0.075	0.065
1.7500	1.522E+00	2.437E-02	1.546E+00	1.008E+00	7.837E-03	8.056E-01	-0.041	0.070	0.059
2.0000	1.525E+00	2.834E-02	1.553E+00	1.169E+00	8.983E-03	9.382E-01	-0.038	0.066	0.054
2.5000	1.535E+00	3.667E-02	1.572E+00	1.490E+00	1.134E-02	1.178E+00	-0.034	0.059	0.047
3.0000	1.546E+00	4.544E-02	1.592E+00	1.806E+00	1.377E-02	1.390E+00	-0.031	0.054	0.042
3.5000	1.558E+00	5.456E-02	1.612E+00	2.118E+00	1.626E-02	1.578E+00	-0.029	0.051	0.039
4.0000	1.569E+00	6.399E-02	1.633E+00	2.426E+00	1.879E-02	1.748E+00	-0.028	0.048	0.036
4.5000	1.579E+00	7.367E-02	1.653E+00	2.730E+00	2.136E-02	1.902E+00	-0.027	0.045	0.034
5.0000	1.589E+00	8.357E-02	1.672E+00	3.031E+00	2.395E-02	2.043E+00	-0.026	0.043	0.032
5.5000	1.598E+00	9.367E-02	1.692E+00	3.328E+00	2.656E-02	2.173E+00	-0.025	0.042	0.031
6.0000	1.605E+00	1.040E-01	1.710E+00	3.622E+00	2.919E-02	2.294E+00	-0.024	0.040	0.029
7.0000	1.621E+00	1.250E-01	1.746E+00	4.201E+00	3.447E-02	2.512E+00	-0.023	0.038	0.027
8.0000	1.635E+00	1.466E-01	1.781E+00	4.763E+00	3.973E-02	2.706E+00	-0.021	0.036	0.026
9.0000	1.646E+00	1.686E-01	1.815E+00	5.324E+00	4.509E-02	2.880E+00	-0.020	0.034	0.024
10.0000	1.657E+00	1.910E-01	1.848E+00	5.870E+00	5.040E-02	3.039E+00	-0.019	0.032	0.023
12.5000	1.679E+00	2.483E-01	1.927E+00	7.194E+00	6.355E-02	3.385E+00	-0.017	0.029	0.020
15.0000	1.697E+00	3.071E-01	2.004E+00	8.466E+00	7.648E-02	3.677E+00	-0.015	0.027	0.018
17.5000	1.712E+00	3.672E-01	2.079E+00	9.691E+00	8.913E-02	3.930E+00	-0.013	0.025	0.017
20.0000	1.724E+00	4.281E-01	2.152E+00	1.087E+01	1.015E-01	4.155E+00	-0.012	0.023	0.015
25.0000	1.745E+00	5.521E-01	2.297E+00	1.312E+01	1.252E-01	4.541E+00	-0.009	0.021	0.013
30.0000	1.761E+00	6.781E-01	2.439E+00	1.523E+01	1.476E-01	4.866E+00	-0.008	0.019	0.011
35.0000	1.774E+00	8.056E-01	2.579E+00	1.723E+01	1.687E-01	5.146E+00	-0.006	0.017	0.009
40.0000	1.785E+00	9.344E-01	2.719E+00	1.911E+01	1.886E-01	5.394E+00	-0.005	0.016	0.008
45.0000	1.795E+00	1.064E+00	2.859E+00	2.091E+01	2.075E-01	5.614E+00	-0.004	0.015	0.007
50.0000	1.803E+00	1.195E+00	2.998E+00	2.262E+01	2.253E-01	5.814E+00	-0.004	0.014	0.006
55.0000	1.811E+00	1.326E+00	3.137E+00	2.425E+01	2.421E-01	5.996E+00	-0.003	0.013	0.006
60.0000	1.818E+00	1.458E+00	3.276E+00	2.580E+01	2.581E-01	6.163E+00	-0.003	0.012	0.005
70.0000	1.830E+00	1.724E+00	3.554E+00	2.874E+01	2.878E-01	6.461E+00	-0.002	0.011	0.004
80.0000	1.840E+00	1.991E+00	3.831E+00	3.144E+01	3.147E-01	6.721E+00	-0.002	0.010	0.004
90.0000	1.849E+00	2.260E+00	4.109E+00	3.396E+01	3.392E-01	6.952E+00	-0.001	0.010	0.003
100.0000	1.857E+00	2.530E+00	4.387E+00	3.632E+01	3.616E-01	7.159E+00	-0.001	0.009	0.003
125.0000	1.874E+00	3.209E+00	5.083E+00	4.161E+01	4.104E-01	7.599E+00	-0.001	0.008	0.002
150.0000	1.887E+00	3.893E+00	5.780E+00	4.622E+01	4.508E-01	7.960E+00	-0.001	0.007	0.002
175.0000	1.899E+00	4.580E+00	6.479E+00	5.030E+01	4.851E-01	8.266E+00	-0.000	0.007	0.001
200.0000	1.909E+00	5.269E+00	7.178E+00	5.396E+01	5.146E-01	8.531E+00	-0.000	0.006	0.001
250.0000	1.926E+00	6.655E+00	8.580E+00	6.033E+01	5.629E-01	8.976E+00	-0.000	0.006	0.001
300.0000	1.939E+00	8.045E+00	9.984E+00	6.572E+01	6.010E-01	9.339E+00	-0.000	0.005	0.001
350.0000	1.950E+00	9.440E+00	1.139E+01	7.041E+01	6.319E-01	9.646E+00	-0.000	0.005	0.001
400.0000	1.960E+00	1.084E+01	1.280E+01	7.455E+01	6.577E-01	9.913E+00	-0.000	0.005	0.001
450.0000	1.969E+00	1.224E+01	1.421E+01	7.825E+01	6.796E-01	1.015E+01	-0.000	0.004	0.000
500.0000	1.977E+00	1.364E+01	1.562E+01	8.161E+01	6.984E-01	1.036E+01	-0.000	0.004	0.000
550.0000	1.984E+00	1.504E+01	1.703E+01	8.468E+01	7.148E-01	1.055E+01	-0.000	0.004	0.000
600.0000	1.990E+00	1.645E+01	1.844E+01	8.750E+01	7.292E-01	1.072E+01	-0.000	0.004	0.000
700.0000	2.002E+00	1.926E+01	2.126E+01	9.254E+01	7.535E-01	1.103E+01	-0.000	0.004	0.000
800.0000	2.012E+00	2.203E+01	2.409E+01	9.696E+01	7.732E-01	1.130E+01	-0.000	0.003	0.000
900.0000	2.020E+00	2.490E+01	2.692E+01	1.009E+02	7.896E-01	1.153E+01	-0.000	0.003	0.000
1000.0000	2.028E+00	2.772E+01	2.975E+01	1.044E+02	8.035E-01	1.174E+01	-0.000	0.003	0.000

Tabell 24 :

ELECTRONS IN WATER, LIQUID

I = 75.0 eV DENSITY = 1.000E+00 g/cm³

ENERGY	STOPPING POWER COLLISION	STOPPING POWER RADIATIVE	STOPPING POWER TOTAL	CSDA RANGE	RADIATION YIELD	DENS.EFF. CORR. (DELTA)	d(log)/d(logI) COLL LOSS	d(log)/d(logI) CSDA RANGE	d(log)/d(logI) RAD YIELD
MeV	MeV cm²/g	MeV cm²/g	MeV cm²/g	g/cm²					
0.0100	2.256E+01	3.898E-03	2.257E+01	2.515E-04	9.408E-05	0.0	-0.199	0.227	0.225
0.0125	1.897E+01	3.927E-03	1.898E+01	3.728E-04	1.133E-04	0.0	-0.190	0.217	0.215
0.0150	1.647E+01	3.944E-03	1.647E+01	5.147E-04	1.316E-04	0.0	-0.184	0.208	0.207
0.0175	1.461E+01	3.955E-03	1.461E+01	6.761E-04	1.492E-04	0.0	-0.179	0.202	0.201
0.0200	1.317E+01	3.963E-03	1.318E+01	8.566E-04	1.663E-04	0.0	-0.175	0.197	0.196
0.0250	1.109E+01	3.974E-03	1.110E+01	1.272E-03	1.990E-04	0.0	-0.169	0.189	0.188
0.0300	9.653E+00	3.984E-03	9.657E+00	1.756E-03	2.301E-04	0.0	-0.164	0.182	0.182
0.0350	8.592E+00	3.994E-03	8.596E+00	2.306E-03	2.599E-04	0.0	-0.160	0.177	0.177
0.0400	7.777E+00	4.005E-03	7.781E+00	2.919E-03	2.886E-04	0.0	-0.157	0.173	0.173
0.0450	7.130E+00	4.018E-03	7.134E+00	3.591E-03	3.165E-04	0.0	-0.154	0.170	0.170
0.0500	6.603E+00	4.031E-03	6.607E+00	4.320E-03	3.435E-04	0.0	-0.152	0.167	0.167
0.0550	6.166E+00	4.046E-03	6.170E+00	5.103E-03	3.698E-04	0.0	-0.150	0.165	0.164
0.0600	5.797E+00	4.062E-03	5.801E+00	5.940E-03	3.955E-04	0.0	-0.148	0.162	0.162
0.0700	5.207E+00	4.098E-03	5.211E+00	7.762E-03	4.452E-04	0.0	-0.145	0.158	0.158
0.0800	4.757E+00	4.138E-03	4.762E+00	9.773E-03	4.931E-04	0.0	-0.142	0.155	0.155
0.0900	4.402E+00	4.181E-03	4.407E+00	1.196E-02	5.393E-04	0.0	-0.140	0.153	0.152
0.1000	4.115E+00	4.228E-03	4.120E+00	1.431E-02	5.841E-04	0.0	-0.138	0.150	0.150
0.1250	3.591E+00	4.355E-03	3.596E+00	2.083E-02	6.912E-04	0.0	-0.134	0.146	0.145
0.1500	3.238E+00	4.494E-03	3.242E+00	2.817E-02	7.926E-04	0.0	-0.131	0.142	0.142
0.1750	2.984E+00	4.643E-03	2.988E+00	3.622E-02	8.894E-04	0.0	-0.128	0.139	0.139
0.2000	2.793E+00	4.801E-03	2.798E+00	4.487E-02	9.826E-04	0.0	-0.126	0.137	0.136
0.2500	2.528E+00	5.141E-03	2.533E+00	6.372E-02	1.161E-03	0.0	-0.123	0.133	0.132
0.3000	2.355E+00	5.514E-03	2.360E+00	8.421E-02	1.331E-03	0.0	-0.120	0.130	0.129
0.3500	2.235E+00	5.913E-03	2.241E+00	1.060E-01	1.496E-03	0.0	-0.118	0.128	0.127
0.4000	2.148E+00	6.339E-03	2.154E+00	1.288E-01	1.658E-03	0.0	-0.116	0.126	0.125
0.4500	2.083E+00	6.787E-03	2.090E+00	1.523E-01	1.818E-03	0.0	-0.114	0.124	0.123
0.5000	2.034E+00	7.257E-03	2.041E+00	1.766E-01	1.976E-03	0.0	-0.111	0.123	0.121
0.5500	1.995E+00	7.747E-03	2.003E+00	2.013E-01	2.134E-03	1.103E-02	-0.094	0.120	0.118
0.6000	1.963E+00	8.254E-03	1.972E+00	2.265E-01	2.292E-03	2.938E-02	-0.088	0.117	0.114
0.7000	1.917E+00	9.312E-03	1.926E+00	2.778E-01	2.608E-03	7.435E-02	-0.078	0.110	0.106
0.8000	1.886E+00	1.043E-02	1.896E+00	3.302E-01	2.928E-03	1.267E-01	-0.070	0.105	0.099
0.9000	1.864E+00	1.159E-02	1.876E+00	3.832E-01	3.251E-03	1.835E-01	-0.064	0.099	0.093
1.0000	1.849E+00	1.280E-02	1.862E+00	4.367E-01	3.579E-03	2.428E-01	-0.059	0.095	0.087
1.2500	1.829E+00	1.600E-02	1.845E+00	5.717E-01	4.416E-03	3.944E-01	-0.049	0.085	0.075
1.5000	1.822E+00	1.942E-02	1.841E+00	7.075E-01	5.281E-03	5.437E-01	-0.043	0.077	0.066
1.7500	1.821E+00	2.303E-02	1.844E+00	8.432E-01	6.171E-03	6.866E-01	-0.038	0.071	0.059
2.0000	1.824E+00	2.678E-02	1.850E+00	9.785E-01	7.085E-03	8.218E-01	-0.035	0.066	0.053
2.5000	1.834E+00	3.468E-02	1.868E+00	1.247E+00	8.969E-03	1.069E+00	-0.030	0.059	0.045
3.0000	1.846E+00	4.299E-02	1.889E+00	1.514E+00	1.092E-02	1.238E+00	-0.027	0.054	0.040
3.5000	1.858E+00	5.164E-02	1.910E+00	1.777E+00	1.291E-02	1.434E+00	-0.025	0.049	0.036
4.0000	1.870E+00	6.058E-02	1.931E+00	2.037E+00	1.495E-02	1.660E+00	-0.024	0.046	0.033
4.5000	1.882E+00	6.976E-02	1.951E+00	2.295E+00	1.702E-02	1.821E+00	-0.023	0.043	0.031
5.0000	1.892E+00	7.917E-02	1.971E+00	2.550E+00	1.911E-02	1.967E+00	-0.022	0.041	0.029
5.5000	1.902E+00	8.876E-02	1.991E+00	2.802E+00	2.123E-02	2.102E+00	-0.021	0.039	0.027
6.0000	1.911E+00	9.854E-02	2.010E+00	3.052E+00	2.336E-02	2.227E+00	-0.021	0.038	0.026
7.0000	1.928E+00	1.135E-01	2.047E+00	3.545E+00	2.766E-02	2.453E+00	-0.020	0.035	0.024
8.0000	1.943E+00	1.391E-01	2.082E+00	4.030E+00	3.200E-02	2.652E+00	-0.019	0.033	0.023
9.0000	1.956E+00	1.601E-01	2.116E+00	4.506E+00	3.636E-02	2.831E+00	-0.018	0.031	0.021
10.0000	1.968E+00	1.814E-01	2.149E+00	4.975E+00	4.072E-02	2.992E+00	-0.018	0.030	0.020
12.5000	1.993E+00	2.362E-01	2.230E+00	6.117E+00	5.163E-02	3.341E+00	-0.016	0.027	0.019
15.0000	2.014E+00	2.926E-01	2.306E+00	7.219E+00	6.243E-02	3.633E+00	-0.015	0.025	0.017
17.5000	2.031E+00	3.501E-01	2.381E+00	8.286E+00	7.309E-02	3.885E+00	-0.014	0.024	0.016
20.0000	2.046E+00	4.086E-01	2.454E+00	9.320E+00	8.355E-02	4.107E+00	-0.013	0.022	0.015
25.0000	2.070E+00	5.277E-01	2.598E+00	1.130E+01	1.039E-01	4.487E+00	-0.010	0.020	0.013
30.0000	2.089E+00	6.469E-01	2.738E+00	1.317E+01	1.233E-01	4.806E+00	-0.009	0.018	0.011
35.0000	2.105E+00	7.716E-01	2.876E+00	1.496E+01	1.418E-01	5.082E+00	-0.007	0.017	0.010
40.0000	2.118E+00	8.955E-01	3.013E+00	1.665E+01	1.594E-01	5.326E+00	-0.006	0.015	0.009
45.0000	2.129E+00	1.021E+00	3.150E+00	1.828E+01	1.762E-01	5.544E+00	-0.005	0.014	0.008
50.0000	2.139E+00	1.146E+00	3.286E+00	1.983E+01	1.923E-01	5.741E+00	-0.004	0.014	0.007
55.0000	2.148E+00	1.273E+00	3.421E+00	2.132E+01	2.076E-01	5.921E+00	-0.004	0.013	0.006
60.0000	2.156E+00	1.400E+00	3.556E+00	2.276E+01	2.222E-01	6.087E+00	-0.003	0.012	0.006
70.0000	2.170E+00	1.656E+00	3.827E+00	2.547E+01	2.496E-01	6.383E+00	-0.002	0.011	0.005
80.0000	2.182E+00	1.914E+00	4.096E+00	2.799E+01	2.747E-01	6.641E+00	-0.002	0.010	0.004
90.0000	2.193E+00	2.173E+00	4.366E+00	3.035E+01	2.978E-01	6.871E+00	-0.002	0.009	0.003
100.0000	2.202E+00	2.434E+00	4.636E+00	3.258E+01	3.192E-01	7.077E+00	-0.001	0.009	0.003
125.0000	2.222E+00	3.039E+00	5.311E+00	3.761E+01	3.662E-01	7.516E+00	-0.001	0.008	0.002
150.0000	2.238E+00	3.749E+00	5.987E+00	4.204E+01	4.060E-01	7.876E+00	-0.001	0.007	0.002
175.0000	2.251E+00	4.412E+00	6.663E+00	4.600E+01	4.401E-01	8.182E+00	-0.001	0.006	0.001
200.0000	2.263E+00	5.078E+00	7.341E+00	4.957E+01	4.698E-01	8.447E+00	-0.000	0.006	0.001
250.0000	2.282E+00	6.416E+00	8.698E+00	5.582E+01	5.190E-01	8.891E+00	-0.000	0.005	0.001
300.0000	2.297E+00	7.760E+00	1.006E+01	6.116E+01	5.584E-01	9.254E+00	-0.000	0.005	0.001
350.0000	2.311E+00	9.107E+00	1.142E+01	6.583E+01	5.908E-01	9.561E+00	-0.000	0.005	0.001
400.0000	2.322E+00	1.046E+01	1.278E+01	6.996E+01	6.180E-01	9.827E+00	-0.000	0.004	0.001
450.0000	2.332E+00	1.181E+01	1.414E+01	7.368E+01	6.412E-01	1.006E+01	-0.000	0.004	0.000
500.0000	2.341E+00	1.317E+01	1.551E+01	7.705E+01	6.613E-01	1.027E+01	-0.000	0.004	0.000
550.0000	2.349E+00	1.453E+01	1.688E+01	8.014E+01	6.789E-01	1.046E+01	-0.000	0.004	0.000
600.0000	2.357E+00	1.589E+01	1.824E+01	8.299E+01	6.945E-01	1.064E+01	-0.000	0.004	0.000
700.0000	2.370E+00	1.861E+01	2.098E+01	8.810E+01	7.209E-01	1.094E+01	-0.000	0.003	0.000
800.0000	2.381E+00	2.133E+01	2.371E+01	9.258E+01	7.425E-01	1.121E+01	-0.000	0.003	0.000
900.0000	2.391E+00	2.406E+01	2.645E+01	9.657E+01	7.605E-01	1.145E+01	-0.000	0.003	0.000
1000.0000	2.400E+00	2.679E+01	2.919E+01	1.002E+02	7.759E-01	1.166E+01	-0.000	0.003	0.000

Tabell 25 : —*Values of range and mass stopping power for electrons in water*[a, b]

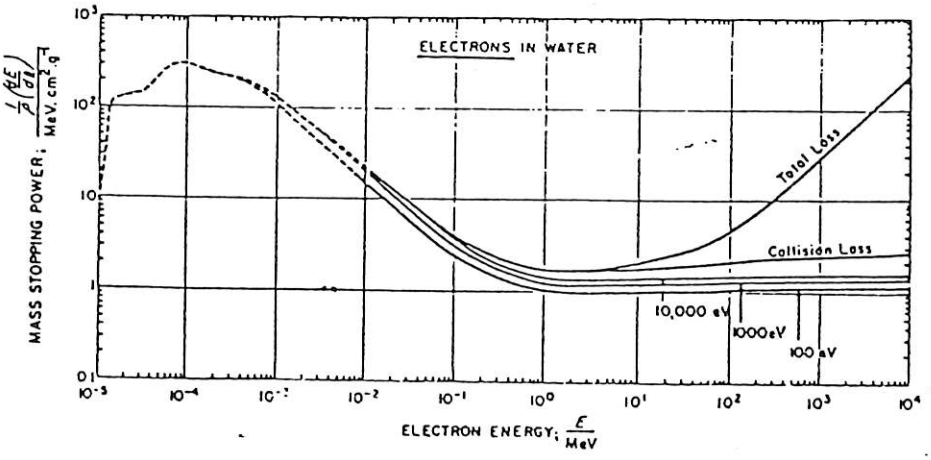
E/MeV	R_0/(g/cm²) [see note c]	Mass Stopping Power; $\frac{1}{\rho}\left(\frac{dE}{dl}\right)$ / MeV.cm²/g					
		$\frac{1}{\rho}\left(\frac{dE}{dl}\right)_{col.}$	$\frac{1}{\rho}\left(\frac{dE}{dl}\right)_{rad}$	$\frac{1}{\rho}\left(\frac{dE}{dl}\right)_{tot.}$	$\frac{1}{\rho}\left(\frac{dE}{dl}\right)_{100\ eV}$	$\frac{1}{\rho}\left(\frac{dE}{dl}\right)_{1000\ eV}$	$\frac{1}{\rho}\left(\frac{dE}{dl}\right)_{10,000\ eV}$
1×10^{-6}	$\sim 4 \times 10^{-6}$			~3–30			
2	8.2×10^{-6}	133		133	133	133	133
3	1.55×10^{-7}	139		139	139	139	139
5	2.85	232		232	232	232	232
1×10^{-4}	4.48	303		303	303	303	303
2	8.00	220		220	220	220	220
3	1.23×10^{-6}	215		215	211	215	215
5	2.20	195		195	183	195	195
1×10^{-3}	5.34	130		130	112	130	130
2	1.64×10^{-6}	77.5		77.5	60	77.5	77.5
3	3.22	57.8		57.8	42.2	56.6	57.8
5	7.70	39.2		39.2	27.1	36.9	39.2
1×10^{-2}	2.50×10^{-4}	23.2		23.2	15.1	20.2	23.2
2	8.33	13.5		13.5	8.5	11.1	13.5
3	1.71×10^{-3}	9.88		9.88	6.12	7.9	9.7
5	4.22	6.75		6.75	4.12	5.26	6.35
1×10^{-1}	1.40×10^{-2}	4.20		4.20	2.52	3.15	3.78
2	4.40	2.84_4	0.006	2.85	1.67	2.08	2.44
3	8.26	2.39_4	0.007_5	2.40	1.39	1.72	2.01
5	1.74×10^{-1}	2.06	0.01	2.07	1.17	1.44	1.69
1×10^{0}	4.30	1.87_6	0.01_7	1.89	1.05	1.28	1.48
2	9.61	1.86_4	0.03_2	1.89	1.02	1.23	1.41
3	1.49×10^{0}	1.88	0.04_5	1.93	1.01	1.22	1.41
5	2.50	1.93	0.08	2.01	1.00	1.23	1.41
1×10^{1}	4.88	2.00	0.18	2.18	1.00	1.24	1.42
2	9.18	2.06	0.41	2.47	1.02	1.25	1.42
3	1.30×10^{1}	2.10	0.64	2.74	1.03	1.25	1.42
5	1.97	2.14	1.13	3.27	1.04	1.26	1.43
1×10^{2}	3.25	2.20	2.40	4.61	1.06	1.27	1.44
2	4.96	2.26	5.01	7.27	1.07	1.28	1.46
3	6.13	2.30	7.65	9.95	1.08	1.29	1.47
5	7.74	2.34	12.9_6	15.30	1.09	1.30	1.49
1×10^{3}	1.01×10^{2}	2.40	26.3	28.7	1.12	1.31	1.50

[a] This table appears in three sections. The top section is based on experimental determinations of dE/dR only (Appendix 3.5); the middle section is based both on experimental data and theoretical calculations and the bottom section on calculations only. Data for electron energies below 10^{-4} MeV are to be considered tentative at present.

[b] Multiply values of mass stopping power in MeV·cm²/g by 0.1 in order to obtain values of LET in keV/μm in unit density material, i.e., a mass stopping power of 10 MeV·cm²/g corresponds to an LET of 1 keV/μm in unit density material.

[c] R represents an approximation to R_{csda} and is obtained from various theoretical and experimental determinations as described in appendix 2.

Figur 4 : Bromsförmågan hos elektroner i vatten.



Tabell 26 : Mass Stopping Power S/ρ (MeV-cm²/gm) for Protons in Different Materials[a]

T (MeV)	S/ρ Be	Graphite	Water	Al	Cu	Ag	Pb
1.0	222.54	229.41	271.36	173.86	120.51	92.06	62.87
1.1	208.08	214.94	253.40	163.88	114.25	87.71	60.15
1.2	195.57	202.42	237.96	155.10	108.75	83.82	57.71
1.3	184.63	191.51	224.52	147.33	103.87	80.45	55.52
1.4	174.97	181.85	212.70	140.38	99.49	77.40	53.52
1.5	166.36	173.24	202.23	134.15	95.53	74.60	51.75
1.6	158.64	165.51	192.90	128.52	92.01	72.02	50.20
1.7	151.67	158.52	184.48	123.40	88.81	69.62	48.73
1.8	145.35	152.16	176.88	118.72	85.83	67.39	47.33
1.9	139.59	146.35	169.96	114.43	83.06	65.39	46.01
2.0	134.32	141.01	163.62	110.48	80.48	63.56	44.76
2.1	129.46	136.09	157.80	106.81	78.06	61.83	43.57
2.2	124.98	131.55	152.42	103.42	75.79	60.22	42.45
2.3	120.83	127.33	147.44	100.27	73.66	58.69	41.48
2.4	116.98	123.41	142.80	97.33	71.73	57.25	40.57
2.5	113.38	119.76	138.49	94.57	69.93	55.91	39.70
2.6	110.02	116.33	134.45	91.99	68.22	54.65	38.87
2.7	106.88	113.11	130.67	89.56	66.60	53.45	38.07
2.8	103.93	110.09	127.12	87.28	65.06	52.32	37.31
2.9	101.15	107.25	123.77	85.12	63.60	51.24	36.59
3.0	98.53	104.56	120.61	83.09	62.21	50.21	35.91
3.1	96.05	102.02	117.64	81.16	60.89	49.23	35.28
3.2	93.71	99.61	114.82	79.32	59.65	48.30	34.67
3.3	91.49	97.32	112.15	77.59	58.47	47.41	34.08
3.4	89.39	95.14	109.61	75.93	57.34	46.56	33.52
3.5	87.40	93.07	107.20	74.36	56.26	45.74	32.98
3.6	85.49	91.09	104.90	72.85	55.22	44.96	32.45
3.7	83.67	89.21	102.71	71.42	54.23	44.20	31.95
3.8	81.94	87.41	100.62	70.04	53.27	43.48	31.48
3.9	80.28	85.69	98.62	68.73	52.35	42.79	31.02
4.0	78.70	84.04	96.71	67.47	51.48	42.12	30.57
4.1	77.18	82.46	94.88	66.26	50.64	41.48	30.15
4.2	75.73	80.94	93.12	65.10	49.83	40.86	29.73
4.3	74.33	79.49	91.44	63.98	49.04	40.26	29.33
4.4	73.00	78.09	89.81	62.91	48.29	39.68	28.94
4.5	71.71	76.75	88.26	61.87	47.56	39.12	28.57
4.6	70.47	75.45	86.76	60.88	46.86	38.58	28.21
4.7	69.28	74.21	85.31	59.92	46.18	38.06	27.86
4.8	68.13	73.00	83.92	58.99	45.52	37.56	27.52
4.9	67.02	71.84	82.57	58.10	44.89	37.07	27.20
5.0	65.96	70.72	81.27	57.23	44.27	36.60	26.88
5.5	61.13	65.65	75.40	53.31	41.47	34.43	25.42
6.0	57.02	61.32	70.39	49.95	39.04	32.53	24.12
6.5	53.47	57.57	66.06	47.04	36.92	30.84	22.98
7.0	50.37	54.29	62.27	44.48	35.04	29.35	21.95
7.5	47.64	51.40	58.93	42.21	33.37	28.03	21.03
8.0	45.22	48.83	55.96	40.19	31.87	26.83	20.20

T (MeV)	S/ρ Be	Graphite	Water	Al	Cu	Ag	Pb
8.0	45.223	48.826	55.964	40.190	31.866	26.833	20.204
8.5	43.056	46.530	53.306	38.373	30.514	25.748	19.448
9.0	41.106	44.452	50.914	36.731	29.265	24.757	18.754
9.5	39.340	42.568	48.744	35.239	28.163	23.852	18.114
10.0	37.732	40.852	46.768	33.875	27.134	23.022	17.528
10.5	36.263	39.281	44.960	32.625	26.187	22.256	16.984
11.0	34.914	37.838	43.299	31.474	25.311	21.544	16.478
11.5	33.671	36.507	41.768	30.410	24.499	20.883	16.005
12.0	32.522	35.276	40.351	29.424	23.745	20.268	15.563
12.5	31.456	34.132	39.041	28.506	23.042	19.693	15.150
13.0	30.464	33.068	37.817	27.651	22.384	19.154	14.761
13.5	29.538	32.074	36.675	26.850	21.767	18.646	14.395
14.0	28.673	31.144	35.606	26.100	21.188	18.171	14.049
14.5	27.861	30.272	34.603	25.396	20.643	17.722	13.722
15.0	27.099	29.452	33.662	24.732	20.128	17.298	13.412
15.5	26.382	28.680	32.774	24.106	19.642	16.897	13.119
16.0	25.705	27.951	31.938	23.515	19.181	16.516	12.841
16.5	25.065	27.262	31.147	22.955	18.745	16.154	12.577
17.0	24.460	26.610	30.398	22.424	18.330	15.810	12.325
17.5	23.886	25.992	29.688	21.920	17.936	15.482	12.084
18.0	23.341	25.404	29.014	21.441	17.560	15.170	11.854
18.5	22.823	24.845	28.372	20.984	17.202	14.872	11.633
19.0	22.330	24.313	27.762	20.549	16.861	14.587	11.422
19.5	21.860	23.806	27.180	20.134	16.534	14.314	11.220
20.0	21.412	23.322	26.624	19.737	16.221	14.053	11.025
21	20.573	22.416	25.585	18.993	15.635	13.562	10.658
22	19.805	21.565	24.633	18.311	15.095	13.108	10.319
23	19.097	20.820	23.756	17.681	14.596	12.689	10.003
24	18.444	20.113	22.946	17.098	14.133	12.299	9.710
25	17.839	19.458	22.195	16.557	13.702	11.936	9.437
26	17.276	18.849	21.497	16.053	13.301	11.596	9.181
27	16.752	18.281	20.846	15.582	12.925	11.279	8.941
28	16.262	17.750	20.239	15.142	12.573	10.980	8.715
29	15.804	17.253	19.669	14.729	12.243	10.700	8.502
30	15.373	16.786	19.135	14.341	11.932	10.435	8.301
31	14.966	16.347	18.632	13.976	11.638	10.185	8.110
32	14.587	15.933	18.158	13.631	11.361	9.949	7.930
33	14.227	15.542	17.710	13.305	11.098	9.725	7.759
34	13.886	15.172	17.287	12.996	10.849	9.513	7.597
35	13.563	14.821	16.886	12.703	10.613	9.311	7.442
36	13.257	14.489	16.506	12.425	10.388	9.119	7.295
37	12.966	14.173	16.144	12.161	10.175	8.936	7.154
38	12.689	13.872	15.800	11.909	9.971	8.761	7.020
39	12.426	13.586	15.473	11.669	9.776	8.594	6.891
40	12.175	13.313	15.160	11.439	9.590	8.435	6.768
41	11.935	13.052	14.862	11.220	9.412	8.282	6.650
42	11.705	12.802	14.577	11.011	9.242	8.136	6.537

Tabell 26 fortsätter.

T (MeV)	S/ρ Be	Graphite	Water	Al	Cu	Ag	Pb
42	11.705	12.602	14.577	11.011	9.242	8.136	6.537
43	11.406	12.303	14.304	10.810	9.079	7.995	6.429
44	11.275	12.335	14.042	10.619	8.922	7.861	6.324
45	11.074	12.115	13.791	10.434	8.772	7.731	6.224
46	10.880	11.905	13.551	10.257	8.627	7.607	6.127
47	10.694	11.703	13.320	10.086	8.488	7.487	6.034
48	10.516	11.508	13.098	9.922	8.354	7.371	5.945
49	10.344	11.321	12.884	9.765	8.225	7.260	5.858
50	10.179	11.141	12.676	9.613	8.101	7.153	5.775
52.5	9.791	10.718	12.195	9.256	7.809	6.900	5.578
55	9.435	10.332	11.754	8.929	7.541	6.668	5.396
57.5	9.109	9.976	11.348	8.628	7.294	6.454	5.229
60	8.808	9.648	10.973	8.350	7.065	6.256	5.074
62.5	8.530	9.345	10.627	8.092	6.853	6.072	4.929
65	8.272	9.063	10.305	7.853	6.656	5.900	4.795
67.5	8.031	8.801	10.006	7.631	6.472	5.741	4.669
70	7.807	8.556	9.727	7.422	6.300	5.591	4.551
72.5	7.597	8.327	9.465	7.226	6.139	5.451	4.440
75	7.400	8.113	9.220	7.045	5.988	5.319	4.336
77.5	7.215	7.911	8.990	6.873	5.845	5.194	4.238
80	7.042	7.721	8.774	6.711	5.711	5.077	4.145
82.5	6.877	7.542	8.570	6.556	5.584	4.966	4.057
85	6.723	7.373	8.377	6.414	5.464	4.862	3.974
87.5	6.576	7.213	8.194	6.277	5.350	4.762	3.895
90	6.437	7.061	8.021	6.147	5.242	4.668	3.820
92.5	6.305	6.917	7.857	6.024	5.140	4.578	3.748
95	6.180	6.780	7.701	5.907	5.042	4.493	3.680
97.5	6.060	6.650	7.552	5.795	4.949	4.411	3.615
100	5.947	6.526	7.411	5.689	4.860	4.333	3.553
105	5.735	6.294	7.147	5.491	4.694	4.186	3.437
110	5.541	6.082	6.906	5.309	4.543	4.055	3.331
115	5.364	5.888	6.684	5.143	4.403	3.932	3.233
120	5.200	5.709	6.481	4.989	4.274	3.819	3.142
125	5.049	5.544	6.292	4.847	4.155	3.715	3.058
130	4.909	5.391	6.118	4.715	4.045	3.617	2.980
135	4.779	5.248	5.956	4.593	3.942	3.527	2.908
140	4.657	5.116	5.804	4.476	3.846	3.442	2.840
145	4.544	4.992	5.663	4.372	3.756	3.363	2.776
150	4.438	4.875	5.531	4.272	3.672	3.289	2.716
155	4.338	4.767	5.407	4.178	3.593	3.219	2.660
160	4.245	4.664	5.290	4.089	3.518	3.153	2.607
165	4.157	4.568	5.181	4.006	3.448	3.092	2.557
170	4.073	4.477	5.077	3.928	3.382	3.033	2.510
175	3.995	4.391	4.979	3.853	3.319	2.978	2.465
180	3.921	4.309	4.887	3.783	3.260	2.925	2.423
185	3.850	4.232	4.799	3.716	3.204	2.875	2.382
190	3.783	4.159	4.715	3.653	3.150	2.828	2.344

T (MeV)	S/ρ Be	Graphite	Water	Al	Cu	Ag	Pb
190	3.783	4.159	4.715	3.653	3.150	2.828	2.344
195	3.720	4.089	4.636	3.593	3.099	2.783	2.308
200	3.659	4.023	4.561	3.536	3.051	2.740	2.273
205	3.602	3.960	4.489	3.481	3.005	2.699	2.240
210	3.547	3.900	4.421	3.429	2.960	2.660	2.208
215	3.494	3.842	4.355	3.379	2.918	2.623	2.178
220	3.444	3.787	4.293	3.332	2.878	2.588	2.149
225	3.396	3.735	4.233	3.286	2.840	2.553	2.121
230	3.350	3.684	4.176	3.243	2.803	2.521	2.095
235	3.306	3.636	4.121	3.201	2.767	2.489	2.069
240	3.264	3.590	4.068	3.161	2.733	2.459	2.045
245	3.223	3.545	4.018	3.122	2.701	2.430	2.021
250	3.184	3.503	3.969	3.085	2.669	2.403	1.999
255	3.147	3.462	3.922	3.050	2.639	2.376	1.977
260	3.111	3.422	3.876	3.016	2.610	2.350	1.956
265	3.076	3.384	3.834	2.983	2.582	2.325	1.936
270	3.043	3.348	3.793	2.951	2.555	2.301	1.917
275	3.010	3.312	3.753	2.920	2.529	2.278	1.898
280	2.979	3.278	3.714	2.891	2.504	2.256	1.880
285	2.949	3.245	3.676	2.862	2.480	2.235	1.862
290	2.920	3.214	3.640	2.835	2.457	2.214	1.845
295	2.892	3.183	3.605	2.808	2.434	2.194	1.829
300	2.865	3.153	3.572	2.782	2.412	2.174	1.813
310	2.814	3.097	3.508	2.733	2.370	2.137	1.783
320	2.766	3.044	3.447	2.687	2.331	2.103	1.755
330	2.720	2.994	3.391	2.644	2.295	2.070	1.728
340	2.678	2.947	3.338	2.604	2.260	2.039	1.703
350	2.637	2.903	3.288	2.565	2.228	2.011	1.680
360	2.599	2.862	3.240	2.529	2.197	1.983	1.658
370	2.564	2.822	3.196	2.495	2.168	1.956	1.637
380	2.530	2.785	3.153	2.463	2.141	1.933	1.617
390	2.497	2.750	3.113	2.432	2.115	1.910	1.598
400	2.467	2.717	3.075	2.403	2.090	1.888	1.580
410	2.438	2.685	3.039	2.376	2.066	1.867	1.563
420	2.410	2.655	3.005	2.349	2.044	1.847	1.547
430	2.384	2.626	2.972	2.325	2.023	1.828	1.531
440	2.359	2.598	2.941	2.301	2.003	1.810	1.517
450	2.335	2.572	2.911	2.278	1.983	1.793	1.503
460	2.313	2.547	2.883	2.256	1.965	1.777	1.489
470	2.291	2.523	2.856	2.236	1.947	1.761	1.477
480	2.270	2.501	2.830	2.216	1.930	1.746	1.464
490	2.250	2.479	2.805	2.197	1.914	1.732	1.453
500	2.231	2.458	2.781	2.179	1.899	1.718	1.442
510	2.213	2.438	2.758	2.162	1.884	1.705	1.431
520	2.195	2.419	2.737	2.145	1.870	1.693	1.421
530	2.179	2.400	2.716	2.129	1.856	1.681	1.411
540	2.162	2.383	2.696	2.114	1.843	1.669	1.401

Tabell 26 fortsätter.

T (MeV)	S/ρ Be	Graphite	Water	Al	Cu	Ag	Pb
540	2.162	2.383	2.696	2.114	1.843	1.669	1.401
550	2.147	2.366	2.676	2.099	1.831	1.658	1.392
560	2.132	2.349	2.658	2.085	1.819	1.647	1.384
570	2.118	2.334	2.640	2.071	1.807	1.637	1.375
580	2.104	2.319	2.623	2.058	1.796	1.627	1.367
590	2.091	2.304	2.606	2.045	1.786	1.618	1.360
600	2.078	2.290	2.590	2.033	1.775	1.609	1.352
610	2.065	2.276	2.575	2.022	1.765	1.600	1.345
620	2.054	2.263	2.560	2.010	1.756	1.591	1.338
630	2.042	2.251	2.546	1.999	1.747	1.583	1.331
640	2.031	2.239	2.532	1.989	1.738	1.575	1.325
650	2.020	2.227	2.518	1.979	1.729	1.567	1.319
660	2.010	2.216	2.506	1.969	1.721	1.560	1.313
670	2.000	2.205	2.493	1.960	1.713	1.553	1.307
680	1.990	2.194	2.481	1.950	1.705	1.546	1.302
690	1.981	2.184	2.470	1.942	1.698	1.540	1.296
700	1.972	2.174	2.458	1.933	1.690	1.533	1.291
710	1.963	2.165	2.447	1.925	1.683	1.527	1.286
720	1.955	2.155	2.437	1.917	1.677	1.521	1.281
730	1.947	2.146	2.427	1.909	1.670	1.515	1.276
740	1.939	2.138	2.417	1.902	1.664	1.510	1.272
750	1.931	2.129	2.407	1.894	1.658	1.504	1.268
760	1.924	2.121	2.398	1.887	1.652	1.499	1.263
770	1.916	2.113	2.389	1.880	1.646	1.494	1.259
780	1.909	2.106	2.380	1.874	1.640	1.489	1.255
790	1.903	2.098	2.372	1.867	1.635	1.484	1.251
800	1.896	2.091	2.363	1.861	1.630	1.480	1.248
810	1.890	2.084	2.356	1.855	1.625	1.475	1.244
820	1.883	2.077	2.348	1.849	1.620	1.471	1.241
830	1.877	2.071	2.340	1.844	1.615	1.466	1.237
840	1.871	2.064	2.333	1.838	1.610	1.462	1.234
850	1.866	2.058	2.326	1.833	1.606	1.458	1.231
860	1.860	2.052	2.319	1.828	1.601	1.455	1.228
870	1.855	2.046	2.312	1.823	1.597	1.451	1.225
880	1.850	2.040	2.306	1.818	1.593	1.447	1.222
890	1.845	2.035	2.299	1.813	1.589	1.444	1.219
900	1.840	2.029	2.293	1.808	1.585	1.440	1.216
910	1.835	2.024	2.287	1.804	1.581	1.437	1.213
920	1.830	2.019	2.282	1.800	1.578	1.434	1.211
930	1.826	2.014	2.276	1.795	1.574	1.431	1.208
940	1.821	2.009	2.270	1.791	1.571	1.428	1.206
950	1.817	2.005	2.265	1.787	1.567	1.425	1.204
960	1.813	2.000	2.260	1.783	1.564	1.422	1.201
970	1.809	1.996	2.255	1.779	1.561	1.419	1.199
980	1.805	1.991	2.250	1.776	1.558	1.416	1.197
990	1.801	1.987	2.245	1.772	1.555	1.414	1.195
1000	1.797	1.983	2.240	1.769	1.552	1.411	1.193

[a] Accuracy about 0.5 to 2%.

COEFFICIENTS C AND α FOR THE APPROXIMATION OF PROTON STOPPING POWER[a]

Material	Energy interval (MeV)	C	α	Max. error (%)
Lucite	1–1.5	255.9	0.7073	0.1
	1.5–2.5	258.8	0.7353	0.2
	2.5–4	265.3	0.7626	0.15
	4–7	274.4	0.7876	0.15
	7–13	284.2	0.8048	0.1
	13–32	290.2	0.8130	0
Higher error[b]	1.0–2.5	255.9	0.7229	0.6
	2.5–7	268.5	0.7757	0.6
	7–32	286.8	0.8095	0.3
Sapphire (Al_2O_3)	1–1.5	189.5	0.6778	0.13
	1.5–2.5	191.5	0.7029	0.16
	2.5–4	195.7	0.7267	0.12
	4–6	201.5	0.7478	0.10
	6–10.5	209.7	0.7700	0.17
	10.5–20	221.5	0.7933	0.16
	20–32	230.2	0.8062	0.03
Higher error[b]	1–2	189.5	0.6860	0.3
	2–5	195.0	0.7267	0.5
	5–10.5	207.7	0.7660	0.3
	10.5–32	224.1	0.7983	0.4
Si	1–2	183.8	0.6818	0.5
	2–5	190.0	0.7297	0.5
	5–13	200.8	0.7640	0.4
	13–32	220.2	0.7999	0.6
Quartz (SiO_2)	1–2	194.9	0.6898	0.3
	2–5	200.2	0.7281	0.5
	5–13	213.7	0.7692	0.4
	13–32	233.4	0.8036	0.4
Ge	1.5–2	172.0	0.9892	0.7
	2–3	154.4	0.8338	0.5
	3–5	140.7	0.7494	0.3
	5–20	136.7	0.7313	0.4
	20–32	143.8	0.7481	0.1
Mo	1–1.5	107.5	0.5720	0.3
	1.5–2.5	110.1	0.6306	0.3
	2.5–5	114.7	0.6753	0.3
	5–15.5	121.3	0.7098	0.3
	15.5–32	126.9	0.7264	0.2
Pt	2–3	96.7	0.7976	0.8
	3–5	85.7	0.6879	0.4
	5–15	82.9	0.6669	0.3
	15–32	88.8	0.6922	0.1

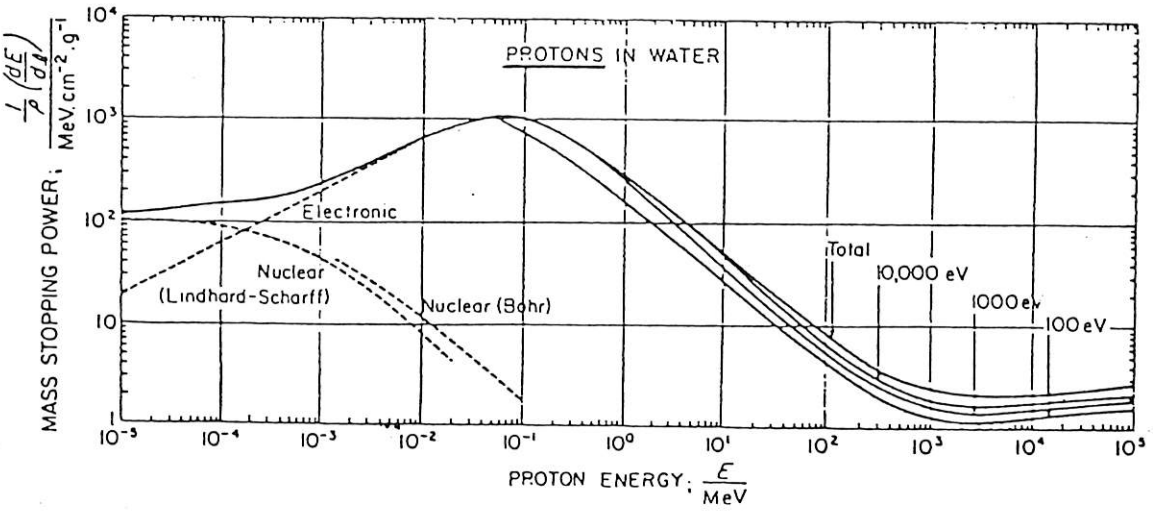
[a] $(S/\rho) = CT^{-\alpha}$ (MeV-cm²/gm) for T in MeV [Eq. (38)].

[b] The "higher error" values give an approximation over a wider energy range at the price of larger errors, as shown by the last column.

Tabell 27: —*Values of range and mass stopping power for protons in water*[a, b, c]

E/MeV	R_0/(g/cm²)	Mass Stopping Power; $\frac{1}{\rho}\left(\frac{dE}{dl}\right)$ / MeV.cm²/g					
		$\frac{1}{\rho}\left(\frac{dE}{dl}\right)_{nucl.}$	$\frac{1}{\rho}\left(\frac{dE}{dl}\right)_{col.}$	$\frac{1}{\rho}\left(\frac{dE}{dl}\right)_{tot.}$	$\frac{1}{\rho}\left(\frac{dE}{dl}\right)_{100\ eV}$	$\frac{1}{\rho}\left(\frac{dE}{dl}\right)_{1000\ eV}$	$\frac{1}{\rho}\left(\frac{dE}{dl}\right)_{10,000\ eV}$
1×10^{-6}	9×10^{-8}	96	18	114	114	114	114
2	1.68×10^{-7}	100	26	126	126	126	126
5	3.85	99	41	140	140	140	140
1×10^{-5}	7.2	90	58	148	148	148	148
2	1.37×10^{-6}	78	82	160	160	160	160
5	3.14	58	130	188	188	188	188
1×10^{-3}	5.58	43	180	223	223	223	223
2	9.43	20	260	289	289	289	289
5	1.80×10^{-5}	14.7	410	425	425	425	425
1×10^{-2}	2.79	7.5	580	587	587	587	587
2	4.22	~4.5	730	734	734	734	734
[illegible]	7.3		910	910	910	910	910
[illegible] $\times 10^{-1}$	1.25×10^{-4}		915	915	715	915	915
2	2.42		750	750	488	750	750
5	8.0		437	437	254	433	437
1×10^{0}	2.25×10^{-3}		268	268	147	240	268
2	7.13		170	170	91.8	141	170
4	2.30×10^{-2}		100	100	54	78	100
6	4.71		71.4	71.4	38.5	54.2	69.2
1×10^{1}	1.18×10^{-1}		46.8	46.8	25.3	34.2	43.0
3	8.64		19.2	19.2	10.3	13.4	16.5
5	2.18×10^{0}		12.7	12.7	6.88	8.76	10.8
1×10^{2}	7.57		7.42	7.42	4.00	5.04	6.08
1.5	1.55×10^{1}		5.54	5.54	3.00	3.77	4.55
3	5.06		3.58	3.58	1.93	2.46	2.90
5	1.15×10^{2}		2.79	2.79	1.50	1.90	2.25
1×10^{3}	3.21		2.24	2.24	1.23	1.52	1.81
3	1.29×10^{3}		2.03	2.03	1.13	1.39	1.63
5	2.26		2.07	2.07	1.18	1.42	1.67
1×10^{4}	4.62		2.17	2.17	1.29	1.54	1.78

Figur 5 : Bromsförmågan hos protoner i vatten.



Tabell 28 : Proton csda Ranges, R_0 (gm/cm²) for Different Materials[a]

T (MeV)	R_0 Be	Graphite	Water	Al	Cu	Ag	Pb
1.0	0.0029	0.0039	0.0039	0.0042	0.0061	0.0080	0.0116
1.2	0.0039	0.0048	0.0046	0.0054	0.0078	0.0102	0.0149
1.4	0.0049	0.0059	0.0055	0.0066	0.0098	0.0127	0.0185
1.6	0.0061	0.0070	0.0065	0.0082	0.0119	0.0154	0.0224
1.8	0.0075	0.0083	0.0076	0.0099	0.0141	0.0183	0.0265
2.0	0.0089	0.0097	0.0088	0.0116	0.0165	0.0213	0.0308
2.2	0.0104	0.0111	0.0101	0.0135	0.0191	0.0246	0.0354
2.4	0.0121	0.0127	0.0114	0.0155	0.0218	0.0280	0.0402
2.6	0.0139	0.0144	0.0129	0.0176	0.0247	0.0316	0.0453
2.8	0.0157	0.0161	0.0144	0.0198	0.0277	0.0353	0.0505
3.0	0.0177	0.0180	0.0160	0.0222	0.0308	0.0392	0.0560
3.2	0.0198	0.0200	0.0177	0.0246	0.0341	0.0433	0.0617
3.4	0.0220	0.0220	0.0195	0.0272	0.0375	0.0475	0.0675
3.6	0.0243	0.0242	0.0213	0.0299	0.0411	0.0519	0.0736
3.8	0.0266	0.0264	0.0233	0.0327	0.0447	0.0564	0.0799
4.0	0.0291	0.0287	0.0253	0.0356	0.0486	0.0611	0.0863
4.2	0.0317	0.0312	0.0274	0.0386	0.0525	0.0659	0.0929
4.4	0.0344	0.0337	0.0296	0.0418	0.0566	0.0708	0.0998
4.6	0.0372	0.0363	0.0319	0.0450	0.0608	0.0760	0.1068
4.8	0.0401	0.0390	0.0342	0.0483	0.0651	0.0812	0.1139
5.0	0.0431	0.0418	0.0367	0.0518	0.0696	0.0866	0.1213
6	0.0594	0.0570	0.0499	0.0705	0.0937	0.1156	0.1606
7	0.0781	0.0744	0.0650	0.0918	0.1208	0.1481	0.2042
8	0.0991	0.0938	0.0820	0.1155	0.1507	0.1837	0.2517
9	0.1223	0.1153	0.1008	0.1415	0.1835	0.2226	0.3031
10	0.1478	0.1388	0.1213	0.1699	0.2190	0.2645	0.3583
11	0.1753	0.1643	0.1435	0.2006	0.2572	0.3094	0.4172
12	0.2050	0.1916	0.1675	0.2334	0.2980	0.3573	0.4797
13	0.2368	0.2209	0.1931	0.2685	0.3414	0.4081	0.5457
14	0.2707	0.2521	0.2203	0.3058	0.3874	0.4617	0.6151
15	0.3066	0.2852	0.2492	0.3451	0.4358	0.5181	0.6880
16	0.3445	0.3200	0.2798	0.3866	0.4867	0.5773	0.7642
17	0.3844	0.3567	0.3119	0.4302	0.5401	0.6392	0.8437
18	0.4262	0.3952	0.3455	0.4758	0.5958	0.7038	0.9265
19	0.4700	0.4354	0.3808	0.5235	0.6539	0.7710	1.0125
20	0.5158	0.4774	0.4176	0.5731	0.7144	0.8409	1.1016
22	0.6130	0.5666	0.4957	0.6784	0.8423	0.9884	1.2892
24	0.7177	0.6627	0.5799	0.7915	0.9794	1.1460	1.4891
26	0.8298	0.7655	0.6700	0.9123	1.1253	1.3135	1.7011
28	0.9492	0.8749	0.7660	1.0407	1.2800	1.4909	1.9247
30	1.0758	0.9908	0.8677	1.1764	1.4434	1.6778	2.1600

T (MeV)	R_0 Be	Graphite	Water	Al	Cu	Ag	Pb
30	1.076	.991	.868	1.176	1.443	1.678	2.160
32	1.209	1.113	.975	1.320	1.615	1.874	2.407
34	1.350	1.242	1.088	1.470	1.795	2.080	2.664
36	1.497	1.377	1.206	1.627	1.984	2.295	2.933
38	1.652	1.518	1.330	1.792	2.180	2.518	3.213
40	1.813	1.665	1.459	1.963	2.385	2.751	3.503
42	1.980	1.816	1.594	2.141	2.598	2.993	3.804
44	2.154	1.977	1.734	2.326	2.818	3.243	4.115
46	2.335	2.143	1.879	2.518	3.046	3.501	4.436
48	2.522	2.314	2.029	2.716	3.281	3.769	4.767
50	2.715	2.490	2.184	2.921	3.524	4.044	5.109
55	3.226	2.957	2.594	3.461	4.165	4.769	6.005
60	3.775	3.456	3.035	4.041	4.850	5.543	6.961
65	4.361	3.993	3.505	4.659	5.580	6.367	7.976
70	4.984	4.561	4.005	5.314	6.352	7.238	9.046
75	5.642	5.161	4.533	6.006	7.167	8.155	10.173
80	6.334	5.793	5.089	6.733	8.022	9.117	11.352
85	7.061	6.456	5.673	7.496	8.917	10.124	12.585
90	7.822	7.149	6.283	8.292	9.852	11.174	13.868
95	8.615	7.872	6.919	9.122	10.825	12.266	15.202
100	9.440	8.624	7.581	9.985	11.835	13.400	16.585
110	11.183	10.213	8.980	11.806	13.965	15.787	19.494
120	13.048	11.911	10.476	13.750	16.236	18.330	22.587
130	15.028	13.715	12.065	15.813	18.642	21.022	25.856
140	17.120	15.620	13.744	17.990	21.179	23.857	29.295
150	19.321	17.623	15.510	20.278	23.841	26.830	32.898
160	21.626	19.721	17.359	22.671	26.624	29.936	36.657
170	24.032	21.910	19.289	25.167	29.524	33.171	40.568
180	26.535	24.187	21.298	27.762	32.537	36.529	44.625
190	29.132	26.550	23.381	30.453	35.658	40.007	48.822
200	31.820	28.996	25.538	33.236	38.885	43.599	53.155
210	34.597	31.521	27.766	36.109	42.213	47.304	57.620
220	37.458	34.123	30.062	39.068	45.640	51.116	62.211
230	40.403	36.801	32.424	42.111	49.161	55.032	66.925
240	43.428	39.551	34.851	45.235	52.775	59.049	71.758
250	46.530	42.371	37.340	48.437	56.478	63.163	76.705
260	49.708	45.260	39.889	51.716	60.267	67.372	81.763
270	52.959	48.215	42.497	55.069	64.139	71.673	86.928
280	56.280	51.234	45.162	58.493	68.093	76.062	92.197
290	59.671	54.315	47.882	61.987	72.125	80.537	97.567
300	63.128	57.457	50.656	65.548	76.234	85.096	103.035

Tabell 28 fortsätter.

T (MeV)	R_0						
	Be	Graphite	Water	Al	Cu	Ag	Pb
300	63.13	57.46	50.66	65.55	76.23	85.10	103.04
320	70.24	63.91	56.36	72.86	84.67	94.45	114.25
340	77.59	70.59	62.26	80.43	93.38	104.11	125.82
360	85.17	77.48	68.34	88.22	102.36	114.06	137.73
380	92.97	84.57	74.60	96.24	111.59	124.28	149.95
400	100.98	91.84	81.02	104.46	121.04	134.75	162.46
420	109.18	99.29	87.60	112.88	130.72	145.46	175.26
440	117.57	106.90	94.33	121.48	140.61	156.39	188.32
460	126.13	114.68	101.20	130.26	150.69	167.55	201.63
480	134.86	122.60	108.20	139.21	160.96	178.90	215.17
500	143.75	130.67	115.33	148.31	171.41	190.45	228.94
520	152.79	138.88	122.58	157.56	182.02	202.18	242.91
540	161.97	147.21	129.95	166.95	192.80	214.08	257.09
560	171.29	155.66	137.42	176.48	203.72	226.14	271.45
580	180.73	164.23	145.00	186.14	214.79	238.36	285.99
600	190.30	172.91	152.67	195.92	225.99	250.72	300.70
620	199.98	181.70	160.44	205.81	237.32	263.22	315.57
640	209.77	190.58	168.30	215.81	248.77	275.85	330.59
660	219.67	199.56	176.24	225.92	260.33	288.61	345.76
680	229.67	208.63	184.26	236.13	272.01	301.49	361.06
700	239.77	217.79	192.36	246.43	283.79	314.48	376.49
720	249.95	227.03	200.53	256.82	295.67	327.58	392.04
740	260.23	236.35	208.77	267.29	307.65	340.78	407.71
760	270.59	245.74	217.08	277.85	319.72	354.07	423.49
780	281.02	255.21	225.45	288.49	331.87	367.46	439.37
800	291.53	264.74	233.88	299.20	344.10	380.94	455.35
820	302.12	274.33	242.38	309.98	356.41	394.50	471.43
840	312.77	283.99	250.92	320.83	368.80	408.14	487.60
860	323.49	293.71	259.52	331.74	381.25	421.85	503.85
880	334.27	303.49	268.17	342.71	393.77	435.63	520.18
900	345.12	313.32	276.87	353.74	406.36	449.49	536.59
920	356.02	323.20	285.61	364.83	419.01	463.40	553.07
940	366.97	333.13	294.40	375.97	431.71	477.38	569.62
960	377.98	343.10	303.23	387.16	444.47	491.42	586.24
980	389.03	353.13	312.10	398.40	457.28	505.52	602.92
1000	400.14	363.19	321.01	409.68	470.15	519.66	619.66

[a] Ranges for muscle and lucite are within about 2% of that for water.

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