Recommended Nuclear Decay Data

Ra-224

Decay Mode: α		Half-Life: (3.66 ± 0.04) d			[2]
Radiation Type		Energy (keV)	Intensity (%)		Ref.
Auger-L		5.58 - 17.3	0.46	5	[8]
ce-K-1		42.60	0.45	1	[8]
ce-L-1		222.93	0.50	1	[8]
α		5448.8	5.2	1	[8]
α		5685.4	94.8	1	[8]
α	Bi-212	6050.8	25.2	1	[8]
α	Bi-212	6089.9	9.7	1	[8]
α	Rn-220	6288.2	99.88	1	[8]
α	Po-216	6788.3	100	1	[8]
α	Po-212	8784.1	100	1	[8]
β^-max	Tl-208	1038	3.40	4	[8]
β^-max	Tl-208	1291	25.8	4	[8]
X-ray	Σ	70 - 98	45	--	[8]
γ	Bi-212	39.86	1.1788	10	[8]
γ	Pb-212	115.19	0.6788	9	[8]
γ	Pb-212	238.63	49.2135	9	[8]
γ		240.99	4.0288	6	[8]
γ	Tl-208	277.36	2.6337	11	[8]
γ	Bi-212	288.07	0.3548	10	[8]
γ	Pb-212	300.09	3.6769	9	[8]
γ	Bi-212	327.96	0.1373	10	[8]
γ	Bi-212	452.83	0.4120	10	[8]
γ	Tl-208	510.77	9.3897	11	[8]
γ	Tl-208	583.19	35.0396	11	[8]
γ	Bi-212	727.33	7.5590	10	[8]
γ	Tl-208	763.13	0.7787	11	[8]
γ	Bi-212	785.42	1.2589	10	[8]
γ	Tl-208	860.56	5.1529	11	[8]
γ	Bi-212	893.41	0.4360	10	[8]
γ	Bi-212	1078.6	0.6569	10	[8]
γ	Bi-212	1512.8	0.3777	10	[8]
γ	Bi-212	1620.7	1.7052	10	[8]
γ	Tl-208	2614.5	41.0856	11	[8]

γ, β^-, X-ray: Ra-224 in equilibrium with daughters

Recommended Nuclear Decay Data

Decay Mode

α	Alpha
β-, β+	Beta
EC	Electron capture
IT	Isomeric transition

Half-Life

s	Seconds
m	Minutes
h	Hours
d	Days
y	Years

Energy

All energies are given in keV. Normally there are energies listed with an intensity ≥ 1 %.

Radiation Type

Auger-L/K	L or K-shell auger electron
ce-K-1	K-shell conversion electron transition 1
ce-L-2	L-shell conversion electron transition 2
α	Alpha particle
β^- max, β^+ max	Beta particle (maximal energy)
β^- av, β^+ av	Beta particle (average energy)
X-ray L	L X-ray
X-ray Kα, Kβ	K X-rays
γ	Gamma ray
γ Annih.	Annihilation radiation
Σ	Signifies weighted mean energies and intensities

Intensity

Values are given in percent. The format used for the uncertainties in the listed values can be illustrated by the following examples:

1.2	56	=	1.2	±	5.6
1.23	56	=	1.23	±	0.56

References

[1] PTB-6.11-97-1, Braunschweig, Oktober 1997
[2] PTB-Ra-16/5, Braunschweig, Mai 2000
[3] LMRI. Table de radionuclides. 1982 ff
[4] NCRP Report No.58, 2nd Edition, February 1985
[5] Table de Radionuclidés, BNM-CEA/DTA/LPRI Commissariat à l´Énergie Atomique – France 1999
[6] National Nuclear Data Center USA, Brookhaven National Laboratory Upton N.Y.
[7] Table of Isotopes, 8th Edition, 1996
[8] BNM-CEA/DTA/DAMRI Nuclear and Atomic Decay Data ; 19/12/98

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