

Recommended Nuclear Decay Data

Ra-226

Decay Mode: α		Half-Life: (584400 \pm 2600) d			[2]		
Radiation Type		Energy (keV)			Intensity (%)		Ref.
Auger-L		8.7			0.97	10	[4]
ce-K-1		87.59			0.677	23	[4]
ce-L-1		167.94			1.29	4	[4]
ce-M-1		181.52			0.345	14	[4]
ce-NOP-1		184.90			0.119	7	[4]
α		4601.7			5.94	12	[4]
α		4784.4			94.05	12	[4]
X-ray L	Σ	12.1	-	13.6	14.3	14	[2]
X-ray K α	Σ	74.8	-	83.8	19.5	22	[2]
X-ray K β	Σ	87.2	-	97.9	5.62	13	[2]
γ		186.10			3.51	6	[2]
γ	Pb-214	242.0			7.12	11	[2]
γ	Pb-214	295.22			18.15	22	[2]
γ	Pb-214	351.93			35.1	4	[2]
γ	Bi-214	609.31			44.6	5	[2]
γ	Bi-214	665.45			1.46	3	[2]
γ	Bi-214	768.36			4.76	7	[2]
γ	Pb-214	785.96			1.04	2	[2]
γ	Bi-214	806.17			1.22	2	[2]
γ	Bi-214	934.06			3.07	4	[2]
γ	Bi-214	1120.3			14.7	2	[2]
γ	Bi-214	1155.2			1.63	2	[2]
γ	Bi-214	1238.1			5.78	7	[2]
γ	Bi-214	1281.0			1.43	2	[2]
γ	Bi-214	1377.7			4.00	6	[2]
γ	Bi-214	1401.5			1.27	2	[2]
γ	Bi-214	1408.0			2.15	5	[2]
γ	Bi-214	1509.2			2.08	5	[2]
γ	Bi-214	1661.3			1.15	3	[2]
γ	Bi-214	1729.6			2.92	4	[2]
γ	Bi-214	1764.5			15.1	3	[2]
γ	Bi-214	1847.4			2.11	3	[2]
γ	Bi-214	2118.6			1.17	3	[2]
γ	Bi-214	2204.2			4.98	12	[2]
γ	Bi-214	2447.9			1.55	4	[2]

γ -lines with intensity < 1.0 % omitted

X-ray and γ : Ra-226 in equilibrium with daughters up to Bi-214

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■ 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 $\geq 1\%$.

■ 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 $K\alpha$, $K\beta$	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:

$$1.2 \quad 56 \quad = \quad 1.2 \pm 5.6$$
$$1.23 \quad 56 \quad = \quad 1.23 \pm 0.56$$

■ 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 Radionuclides, 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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