^{220}Rn α decay 1977Ku15

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	S. -c. Wu	NDS 108, 1057 (2007)	1-Mar-2007

Parent: ^{220}Rn: E=0; $J^\pi=0^+$; $T_{1/2}$=55.6 s *1*; Q(α)=6404.67 *10*; %α decay=100.0

1977Ku15: ^{220}Rn activity from decay chain of ^{232}U; Eγ, Iγ measured; Ge(Li) detectors.

1989Po03: ^{220}Rn activity from decay chain of ^{228}Th; measured Eγ, Iγ, αγ-coin. γ(θ); POLYTESSA array, 24 Compton suppressed Ge(L detectors.

^{216}Po Levels

E(level)	J^π	$T_{1/2}$	Comments
0	0^+	0.145 s *2*	$T_{1/2}$: from 1963Di05. Others: 0.158 s *8* (1942Wa04), 0.145 s *15* (1911Mo01).
549.73 *5*	2^+		E(level): from Eγ. J^π: αγ(θ) from 0^+ parent (1989Po03).

α radiations

Eα	E(level)	Iα[‡]	HF[†]	Comments
5747	549.73	0.114 *17*	3.2 *5*	Eα: from 1962Wa28; other: 5.75 MeV (1989Po03). Iα: from Iγ. 1962Wa28 report Iα=0.07 *2*.
6288.08 *10*	0	99.886 *17*	1.0	Eα: from 1991Ry01 based on measurement by 1971Gr17. Iα: from Iα(5747α) and requirement that ΣIα=100.

[†] HF(6288.08α)=1.00 yields $r_0(^{216}Po)$=1.5555 *2* (1998Ak04).

[‡] Absolute intensity per 100 decays.

γ(^{216}Po)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.	Comments
549.73 *5*	0.114 *17*	549.73	2^+	0	0^+	(E2)	E_γ: from 1977Ku15. I_γ: Iγ per 100 decays; recommended value from 1986LoZT based on measurements by 1984Ge07, 1977Ku15. Mult.: from αγ(θ) (α decay of $J^\pi=0^+$ parent) (1989Po03).

[†] Absolute intensity per 100 decays.

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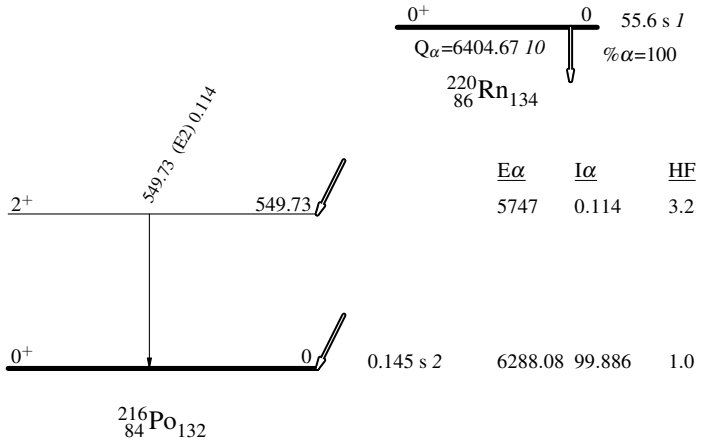
Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays



	Eα	Iα	HF
	5747	0.114	3.2
	6288.08	99.886	1.0