Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 201,346 (2025)	21-Jan-2025

Q(β^-)=−9920 *70*; S(n)=10310 *29*; S(p)=2414 *20*; Q(α)=7415 *4* 2021Wa16
S(2n)=18638 *20*, S(2p)=3042 *19*, Q(ε)=4810 *30*, Q(εp)=3986 *19* (2021Wa16).

^{206}Ra Levels

Cross Reference (XREF) Flags

A ^{210}Th α decay
B ^{170}Yb(^{40}Ar,4nγ)

E(level)†	J$^\pi$‡	T$_{1/2}$	XREF	Comments
0	0$^+$	0.24 s *2*	AB	%α≈100 T$_{1/2}$: Weighted average of 0.24 s *2* (1987He10), 0.21 s *5* (1996Le09) and 0.238 s *48* (2021Ni08). Others: 0.25 s *5* (1995Le15), 0.40 s *+70−16* (1995Uu01) and 0.99 s (1995Le41) all superseded by 1996Le09, 0.4 s *2* (1967Va22) and 0.5 s (1968Lo15). E$_\alpha$=7294 keV *23* (2021Ni08), 7262 keV *15* (1995Uu01), 7270 keV *10* (1987He10) and 7270 keV *5* (1967Va22). Others: 7268 keV *10* (1995Le15, 1996Le09) and 7263 keV *20* (1995Le41).
474.3 *5*	(2$^+$)		B	
1052.1 *7*	(4$^+$)		B	
1762.7 *9*	(6$^+$)		B	
2010.1 *10*	(8$^+$)	<1 ns	B	T$_{1/2}$: From ^{170}Yb(^{40}Ar,4nγ) (1999Co13). Configuration=$\pi(h^{+2}_{9/2})_{8+}$ in 1999Co13. The assignment is tentative. Given the large B(E2) value for the 247.4γ a significant mixture with a collective J^π=8$^+$ state can be expected.

† From a least-squares fit to Eγ.
‡ From ^{170}Yb(^{40}Ar,4nγ) (1999Co13) based on the apparent band structure and systematics of heavier, even-even Ra nuclei.

γ(^{206}Ra)

E$_i$(level)	J$_i^\pi$	E$_\gamma$†	I$_\gamma$†	E$_f$	J$_f^\pi$	Mult.†	α‡	Comments
474.3	(2$^+$)	474.3 *5*	100	0	0$^+$	[E2]	0.0439 *6*	α(K)=0.0280 *4*; α(L)=0.01186 *17*; α(M)=0.00306 *4* α(N)=0.000807 *12*; α(O)=0.0001770 *26*; α(P)=2.80×10^{-5} *4*; α(Q)=1.032×10^{-6} *15*
1052.1	(4$^+$)	577.8 *5*	100	474.3	(2$^+$)	[E2]	0.0277 *4*	α(K)=0.01909 *27*; α(L)=0.00645 *9*; α(M)=0.001639 *23* α(N)=0.000432 *6*; α(O)=9.55×10^{-5} *14*; α(P)=1.540×10^{-5} *22*; α(Q)=6.87×10^{-7} *10*
1762.7	(6$^+$)	710.6 *5*	100	1052.1	(4$^+$)	[E2]	0.01776 *25*	α(K)=0.01295 *18*; α(L)=0.00361 *5*; α(M)=0.000903 *13* α(N)=0.0002380 *34*; α(O)=5.29×10^{-5} *7*; α(P)=8.69×10^{-6} *12*; α(Q)=4.55×10^{-7} *6*
2010.1	(8$^+$)	247.4 *5*	100	1762.7	(6$^+$)	[E2]	0.280 *4*	B(E2)(W.u.)>6.5 α(K)=0.1057 *15*; α(L)=0.1286 *21*; α(M)=0.0344 *6* α(N)=0.00910 *15*; α(O)=0.001958 *32*; α(P)=0.000294 *5*; α(Q)=4.42×10^{-6} *7*

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

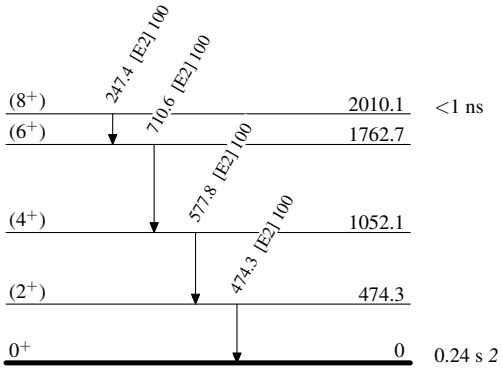
γ(^{206}Ra) (continued)

† From ^{170}Yb(^{40}Ar,4nγ) (1999Co13).
‡ Additional information 1.

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level



$^{206}_{88}Ra_{118}$