Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 166, 1 (2020)	20-Apr-2020

Q(β^-)=−8268 *87*; S(n)=8290 *70*; S(p)=2060 *70*; Q(α)=7490 *50* 2017Wa10

^{205}Ra Levels

Cross Reference (XREF) Flags

A ^{209}Th α decay

E(level)	J^π	$T_{1/2}$	XREF	Comments
0.0	(3/2$^-$)	210 ms *+60−40*		%α≈100 J^π: Favored α decay to the ^{201}Rn g.s. (J^π=(3/2$^-$)); systematics of single-particle structures in neighboring nuclei. $T_{1/2}$: From α(t) in 1996Le09. A value of 210 ms *+55−40* is quoted in 1995Le15 (same group). Others: $T_{1/2}$=220 ms *60* (α(t) in 1987He10), but the value probably includes a contribution from the J^π=(13/2$^+$) isomer. configuration: $\nu(p^{-1}_{3/2})$ and spherical shape. Eα=7340 keV *20* (1996Le09) correlated with Eα=6728 keV *15* (^{201}Rn); Eα=7350 keV *25* (1995Le15); Eα=7360 keV *20* (1987He10), but the energy resolution of the experimental system was not sufficient to resolve it from Eα depopulating the J^π=(13/2$^+$) isomer.
263 *52*	(13/2$^+$)	170 ms *+60−40*	A	%α≈100 E(level): From E(13/2$^+$)=199 keV *12* in ^{197}Po from direct mass measurements in 2017Al34 and Qα's for ^{201,201m}Rn and ^{205,205m}Ra from 2017Hu03. J^π: Favored α decay to the ^{201}Rn isomer (J^π=(13/2$^+$)); systematics of single-particle structures in neighboring nuclei. $T_{1/2}$: From α(t) in 1996Le09. A value of $T_{1/2}$=190 s *+50−30* is quoted in 1995Le15 (same group). Others: $T_{1/2}$=120 ms *+107−49* (1995Le04) and $T_{1/2}$=220 ms *60* (1987He10), but the value includes a contribution from the J^π=(3/2$^-$) g.s.. configuration: $\nu(i^{-1}_{13/2})$ and spherical shape. Eα=7370 keV *20* (1996Le09), correlated with Eα=6766 keV *15* (^{201}Rn); Eα=7475 keV *25* (1995Le15); Eα=7355 keV *10* (1995Le04) correlated with Eα=6782 keV *10* (^{201}Rn,$T_{1/2}$=1.7 s *+15−07*) and Eα=6362 keV *12* (^{197}Po, $T_{1/2}$=41 s *+49−19*); Eα=7360 keV *20* (1987He10), but the energy resolution of the experimental system was not sufficient to resolve it from Eα depopulating the g.s..