^{182}Hg α decay 1995Bi12,1993Wa03,1979Ha10

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Achterberg, O. A. Capurro, G. V. Marti	NDS 110, 1473 (2009)	31-May-2008

Parent: ^{182}Hg: E=0.0; $J^\pi=0^+$; $T_{1/2}$=10.83 s *6*; Q(α)=5997 *5*; %α decay=15.2 *8*

Additional information 1.

1995Bi12: activity produced by protons on Th; E=1 GeV. Alpha decays studied at the LISOL and GSI separator. Measured Eα, α-x coin, α-e^- coin, and α-γ coin.

1993Wa03: activity produced by ^{147}Sm(^{40}Ar,5n), E=180 MeV. Measured Eα, Iα (not reported), $\alpha\gamma$ coin, (α)(ce) coin, $\alpha\gamma$(t), (α)(ce)(t). Detectors: semi, germanium hyperpure, plastic scintillator. Measured $T_{1/2}$.

1979Ha10: activity produced by protons on Pb; E=600 MeV. Measured Eα, Iα, $\alpha\gamma$ coin. Detectors: semi, Ge(Li).

Others: 1986Ke03, 1969Ha03, 1968De01.

%α=15.2 *8* was determined from a comparison of α-particle intensities of ^{182}Hg and its daughter nucleus ^{178}Pt in the same spectrum (1980Sc09). %α=9 *2* was determined from a comparison of K x ray and α-particle intensities (1970Ha18). This method is less precise because the decay scheme of ^{182}Hg is not well known, and therefore, the contribution of x-rays due to internal conversion cannot be accurately calculated.

^{178}Pt Levels

E(level)[†]	J^π[†]	$T_{1/2}$	Comments
0.0	0^+	20.7 s *7*	$T_{1/2}$: From Adopted Levels.
170.7 *7*	(2^+)		
422.0 *8*	0^+	<0.7 ns	$T_{1/2}$: From 1993Wa03.

[†] From Adopted Levels.

α radiations

Eα[†]	E(level)	Iα[†‡]	HF	Comments
5455 *10*	422.0	0.24 *6*	5.2 *14*	Iα: from Iα=0.086 *20*, measured in coincidence with γ rays (1979Ha10), corrected by evaluator for the intensity of the 422-keV E0 transition (1993Wa03). Eα: Other value: 5446 (1995Bi12). HF=3.5 *6* (1995Bi12,1993Wa03).
5700 *5*	170.7	0.57 *10*	31 *6*	Eα: Other values: 5700 *15* (1970Ha18), 5689 *7* (1993Wa03). Iα: Other value: 0.40 *8* (1970Ha18). HF=24 *3* (1993Wa03).
5867 *5*	0.0	99	1	Eα: Other value: 5865 *15* (1995Bi12,1970Ha18).

[†] From 1979Ha10.
[‡] For absolute intensity per 100 decays, multiply by 0.152 *8*.

γ(^{178}Pt)

E$_\gamma$[‡]	I$_\gamma$[†]	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.	I$_{(\gamma+ce)}$	Comments
170.7 *7*	36 *10*	170.7	(2^+)	0.0	0^+			
251.2	36 *10*	422.0	0^+	170.7	(2^+)			
422		422.0	0^+	0.0	0^+	E0	64 *13*	E$_\gamma$,Mult.: From 1993Wa03.

[†] Relative intensities from 1993Wa03.
[‡] From 1979Ha10, unless otherwise specified.

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Decay Scheme

Intensities: Relative I_γ