^{112}Sb IT decay (0.56 μs)   1976Ke07,1976Ka19,1982Ma29

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, F. G. Kondev	NDS 124, 157 (2015)	1-Aug-2014

Parent: ^{112}Sb: E=826.8 *6*; J$^\pi$=(8$^-$); T$_{1/2}$=536 ns *22*; %IT decay=100.0

1976Ke07: Facility: Natuurkunding Laboratorium van de Vrije Universiteit, Amsterdam; Beam: E(p)= 17MeV; Measured: γ(t) and μ; Deduced: T$_{1/2}$ and μ.

1976Ka19: Facility: IKO cyclotron, Amsterdam; Beam: E(^{3}He)=72 MeV; Detectors: electron spectrometer; Measured: E(ce), Ice; Deduced: ^{112}Sb level scheme, α(K)exp/α(L)exp ratio, γ-ray mult., J$^\pi$, T$_{1/2}$.

1982Ma29: Facility: Stony Brook FN Tandem; Beam: E(^{12}C)= 50 MeV, pulsed. Pulse width FWHM = 5 ns and 2 μs repetition time; Target: 0.8 mg/cm^2 Rh foil; Detectors: NaI(Tl); Measured: γ, $\gamma(\theta$,t), Iγ, Eγ; Deduced: Q.

^{112}Sb Levels

E(level)[†]	J$^\pi$[‡]	T$_{1/2}$	Comments
0.0	(3$^+$)		
103.9 *3*	(4$^+$)		
133.5 *3*	(5$^+$)		
370.4 *5*	(6$^+$)		
826.8 *6*	(8$^-$)	536 ns *22*	E(level): 796 *4* keV in 1976Ka19.
			T$_{1/2}$: from γ(t) in 1982Ma29. Other: 0.56 μs *12* from 456.4γ(t) in 1976Ke07.
			μ: +2.19 *4* (1976Ke07).
			Q: 0.71 *8* from $\gamma(\theta$,t) from abs(Q(^{112}Sb,8$^-$)/Q(^{123}Sb,5/2$^+$))=1.958 *10* in 1982Ma29, deduced using the perturbed angular correlations technique, and Q(^{121}Sb,5/2$^+$)=−0.36 *4* (1978Bu24).
			configuration: πd$_{5/2}\otimes\nu$h$_{11/2}$.

[†] From a least-squares fit to Eγ.
[‡] From the Adopted Levels.

γ(^{112}Sb)

E$_\gamma$[†]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.	δ	Comments
29.6	133.5	(5$^+$)	103.9	(4$^+$)			
103.9 *3*	103.9	(4$^+$)	0.0	(3$^+$)			
133.5 *3*	133.5	(5$^+$)	0.0	(3$^+$)			
236.9 *3*	370.4	(6$^+$)	133.5	(5$^+$)			
456.4 *3*	826.8	(8$^-$)	370.4	(6$^+$)	M2+E3	2.5 *20*	Mult.,δ: from K/L=5.6 *13* in 1976Ka19.

[†] From the Adopted Levels.

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Decay Scheme

%IT=100.0