^{126}Sb β^- decay (19.15 min) 1969KlZZ,1971Ki22

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	H. Iimura, J. Katakura, S. Ohya	NDS 180, 1 (2022)	1-Oct-2021

Parent: ^{126}Sb: E=17.7 *3*; $J^\pi=(5^+)$; $T_{1/2}$=19.15 min *9*; Q(β^-)=3670 *30*; %β^- decay=81.4 *6*
The decay scheme is based on $\gamma\gamma$-coin and Eγ sums.
Others: semi γ: 1970Mu16, 1971Or04.
1969KlZZ: U(n,F) chem, semi γ.
2010Fe02:Fission product;plasma-mass spectrometry;semi(HPGe);γ,Iγ,; liquid scin.;β.
See also ^{126}Sb IT decay.

^{126}Te Levels

E(level)[†]	J^π[‡]	$T_{1/2}$
0.0	0^+	stable
666.10 *20*	2^+	
1360.9 *4*	4^+	
1775.5 *4*	6^+	
2395.7 *4*	6^+	
2703.6 *5*	$(5^+,6^+)$	
2837.1 *5*		

[†] E(levels) are based on a least-squares fit (by evaluators) to the Eγ's.
[‡] Spin and parity values are those given under Adopted Levels.

β^- radiations

E(decay)	E(level)	Iβ^-[†]	Log *ft*	Comments
$(8.5\times10^2$ *3*)	2837.1	0.811 *12*	6.39 *6*	av Eβ=286 *12*
$(9.8\times10^2$ *3*)	2703.6	1.58 *9*	6.33 *6*	av Eβ=340 *13*
$(1.29\times10^3$ *3*)	2395.7	3.2 *3*	6.46 *6*	av Eβ=469 *13*
1.87×10^3 *15*	1775.5	77 *4*	5.75 *4*	av Eβ=741 *14*

[†] For absolute intensity per 100 decays, multiply by 1.001 *11*.

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$\gamma(^{126}Te)$

Iγ normalization: the intensities per 100 decays are calculated by assuming ΣI(β)=81.4% *6* and no β-branching to levels below 1775 keV as reported by 2010Fe02.

E_γ[†]	I_γ[‡&]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[#]	α[a]	Comments
414.5 *2*	100 *5*	1775.5	6^+	1360.9	4^+	E2		0.01410 *7*	α(K)=0.01190 *17*; α(L)=0.001742 *25*; α(M)=0.000351 *5*
620.0 *2*	1.8 *2*	2395.7	6^+	1775.5	6^+	M1(+E2)	−0.17 *+6−8*		
666.1 *2*	100	666.10	2^+	0.0	0^+	E2		0.00378	α(K)=0.00325 *5*; α(L)=0.000430 *6*; α(M)=8.60×10^{-5} *12*
694.8 *3*	96 *5*	1360.9	4^+	666.10	2^+	E2		0.00340	α(K)=0.00292 *5*; α(L)=0.000384 *6*; α(M)=7.68×10^{-5} *11*
x726[@] *1*	0.05[@]								
x730.7[@] *10*	0.13[@]								
928.2 *3*	1.95 *11*	2703.6	$(5^+,6^+)$	1775.5	6^+	M1+E2	+0.8 *2*	0.00198 *7*	I_γ: a corrected value from 1.59 *9* (2010Fe02).
1034.9 *2*	2.1 *2*	2395.7	6^+	1360.9	4^+	E2		0.00134	
1061.6 *4*	0.6 *1*	2837.1		1775.5	6^+				
x1191[@] *1*	0.27[@]								
x1290[@] *1*	0.23[@]								
1476.1 *6*	0.4 *1*	2837.1		1360.9	4^+				
x1589[@] *1*	0.09[@]								

† From 1969KlZZ.
‡ From 1971Ki22.
# From Adopted Levels, gammas.
@ From 2010Fe02 with ^{126}Sn/^{126}Sb equilibrium source whitch include γ-rays from ^{126}Sb β^- decay (19.15 M) and ^{126}Sbβ^- decay (12.35 d). The γ-ray could belong to either, or both decays. In each case, RI′s must be corrected.
& For absolute intensity per 100 decays, multiply by 0.811 *6*.
a Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.
x γ ray not placed in level scheme.

$^{126}_{52}Te_{74}$-2

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Decay Scheme

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