^{121}Te ε decay (19.17 d) 1975Me23

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	S. Ohya	NDS 111, 1619 (2010)	20-Jan-2009

Parent: ^{121}Te: E=0.0; $J^{\pi}=1/2^+$; $T_{1/2}$=19.17 d *4*; Q(ε)=1054 *26*; %ε+%β^+ decay=100.0

1975Me23: Compton suppression spectrometer semi γ.

Others: scin γ, $\gamma\gamma$, magnetic spectrograph ce (1964Ch08); semi γ (1971Au03).

^{121}Sb Levels

E(level)†	J^{π}‡	$T_{1/2}$‡
0.0	$5/2^+$	stable
37.133 *9*	$7/2^+$	3.46 ns *3*
507.597 *8*	$3/2^+$	
573.142 *9*	$1/2^+$	

† E(levels) are based on a least-squares fit to Eγ's from 1975Me23.

‡ From Adopted Levels.

ε,β^+ radiations

E(decay)	E(level)	Iε†	Log *ft*	Comments
(4.8×10^2 *3*)	573.142	81.6 *6*	6.11 *6*	εK=0.8468 *9*; εL=0.1212 *7*; εM+=0.03195 *21*
(5.5×10^2 *3*)	507.597	18.4 *6*	6.88 *5*	εK=0.8487 *7*; εL=0.1198 *6*; εM+=0.03152 *16*

† For absolute intensity per 100 decays, multiply by 1.00 *4*.

$\gamma(^{121}Sb)$

Iγ normalization: from I(γ+ce to g.s. + 37 level)=100.

E_γ [†]	I_γ [‡#]	E_i(level)	J_i^π	E_f	J_f^π	Mult.	δ	α [@]	$I_{(\gamma+ce)}$ [#]	Comments
37.138 *10*	1.49 *4*	37.133	7/2$^+$	0.0	5/2$^+$	M1		10.87	17.7 *4*	ce(K)/(γ+ce)=0.788 *6*; ce(L)/(γ+ce)=0.1033 *19*; ce(M)/(γ+ce)=0.0205 *4*; ce(N+)/(γ+ce)=0.00433 *9* ce(N)/(γ+ce)=0.00394 *8*; ce(O)/(γ+ce)=0.000386 *8* I_γ: from I(γ+ce) and α. $I_{(\gamma+ce)}$: from intensity balance at 37-keV level.
65.548 *13*	3.23 *11*	573.142	1/2$^+$	507.597	3/2$^+$	M1+E2	−0.18 *10*	2.25 *23*		α(K)=1.87 *11*; α(L)=0.30 *10*; α(M)=0.061 *20*; α(N+..)=0.013 *4* α(N)=0.012 *4*; α(O)=0.00105 *24* δ: −0.18 *10*; from (66γ)(510γ)(θ) A_2=0.066 *9*, A_4=0.00015 (1964Au05).
470.472 *13*	17.5 *4*	507.597	3/2$^+$	37.133	7/2$^+$	(E2)		0.00924 *13*		α=0.00924 *13*; α(K)=0.00788 *11*; α(L)=0.001098 *16*; α(M)=0.000218 *3*; α(N+..)=4.55×10^{-5} *7* α(N)=4.16×10^{-5} *6*; α(O)=3.90×10^{-6} *6* α(K)exp=0.0083 suggests E2 or M1.Placement in the decay scheme requires ΔJ=2.
507.591 *11*	220 *5*	507.597	3/2$^+$	0.0	5/2$^+$	M1+E2	+0.137 *11*	0.00831 *12*		α(K)=0.00721 *10*; α(L)=0.000887 *13*; α(M)=0.0001750 *25*; α(N+..)=3.72×10^{-5} α(N)=3.38×10^{-5} *5*; α(O)=3.36×10^{-6} *5* δ: from adopted gammas.
573.139 *11*	1000 *21*	573.142	1/2$^+$	0.0	5/2$^+$	E2		0.00532 *8*		α(K)=0.00456 *7*; α(L)=0.000611 *9*; α(M)=0.0001213 *17*; α(N+..)=2.54×10^{-5} *4* α(N)=2.32×10^{-5} *4*; α(O)=2.21×10^{-6} *3* Mult.: from L1:L2:L3=1.00:0.12:0.09 (1964Ch08).

[†] From 1975Me23. The evaluators have added 10 eV in quadrature to the quoted uncertainties to allow for uncertainties in energy calibration.
[‡] From 1975Me23. The evaluators have added 2% in quadrature to the quoted uncertainties to allow for uncertainties in efficiency calibration.
[#] For absolute intensity per 100 decays, multiply by 0.0804 *14*.
[@] 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.

$^{121}_{51}Sb_{70}$-2

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Decay Scheme

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