^{127}Te β^- decay (9.35 h) 1970Ap02

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	A. Hashizume	NDS 112, 1647 (2011)	1-Oct-2009

Parent: ^{127}Te: E=0.0; $J^\pi=3/2^+$; $T_{1/2}$=9.35 h *7*; Q(β^-)=702 *3*; %β^- decay=100.0
1970Ap02: source ^{126}Te(n,γ), semi γ, proportional counter β.
Others: 1956Kn20, 1965Au01, 1966Ne02, 1971Bu27.

^{127}I Levels

E(level)†	J^π‡	$T_{1/2}$‡
0.0	$5/2^+$	stable
57.64 *7*	$7/2^+$	1.95 ns *1*
202.86 *7*	$3/2^+$	
375.0 *4*	$1/2^+$	
417.93 *7*	$5/2^+$	
618.4 *3*	$3/2^+$	

† From a least-squares fit to E(γ's).
‡ From Adopted Levels.

β^- radiations

E(decay)	E(level)	Iβ^-†	Log *ft*	Comments
(84 *3*)	618.4	0.000129 *24*	8.39 *10*	av Eβ=21.74 *82*
(284 *3*)	417.93	1.19 *16*	6.09 *6*	av Eβ=80.72 *95*
(327 *3*)	375.0	0.0006 *4*	9.6 *3*	av Eβ=94.49 *99*
(499 *3*)	202.86	0.027 *4*	8.54 *7*	av Eβ=153.0 *11*
(702 *3*)	0.0	98.79 *16*	5.490 *8*	av Eβ=227.8 *12*

† Absolute intensity per 100 decays.

$\gamma(^{127}I)$

Iγ normalization: Based on I(418γ)/I(total β)=0.0097 *1* and I(58γ from ^{127}Te(106.1 d+9.35 h))/(I(58γ from ^{127}Te(9.35 h))=18.8 in the ^{127}Te(106.1 d+9.35 h)) equilibrium source. ^{127}Te(106.1 d) IT intensity is 97.6% *2*. (1970Ap02).

E$_\gamma$†	I$_\gamma$†@	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.#	δ#	α‡	Comments
57.63 *8*	3.0 *3*	57.64	$7/2^+$	0.0	$5/2^+$	M1+E2	−0.083 *5*	3.72	α(K)=3.16 *5*; α(L)=0.449 *8*; α(M)=0.0909 *17*; α(N+..)=0.0204 *4* α(N)=0.0183 *4*; α(O)=0.00209 *4*
145.2 *1*	0.33 *3*	202.86	$3/2^+$	57.64	$7/2^+$	E2		0.471	α(K)=0.357 *5*; α(L)=0.0907 *13*; α(M)=0.0190 *3*; α(N+..)=0.00405 *6* α(N)=0.00369 *6*; α(O)=0.000362 *6*
172.1 *5*	0.03 *2*	375.0	$1/2^+$	202.86	$3/2^+$	M1+E2	−0.085 *6*	0.165 *3*	α(K)=0.1420 *23*; α(L)=0.0185 *3*; α(M)=0.00373 *6*; α(N+..)=0.000843 *14* α(N)=0.000755 *13*; α(O)=8.82×10^{-5} *15*
202.9 *1*	5.86 *21*	202.86	$3/2^+$	0.0	$5/2^+$	M1+E2	+0.52 *5*	0.1142 *22*	α(K)=0.0964 *17*; α(L)=0.0142 *5*; α(M)=0.00289 *10*;

Continued on next page (footnotes at end of table)

^{127}Te β^- decay (9.35 h) 1970Ap02 (continued)

$\gamma(^{127}I)$ (continued)

E_γ [†]	I_γ [†@]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[#]	α[‡]	Comments
215.1 *1*	3.91 *17*	417.93	5/2$^+$	202.86	3/2$^+$	(M1+E2)	−0.203 *15*	0.0911	α(N+..)=0.000644 *20* α(N)=0.000579 *18*; α(O)=6.49×10^{-5} *17* α(K)=0.0782 *11*; α(L)=0.01031 *16*; α(M)=0.00208 *4*; α(N+..)=0.000469 *7* α(N)=0.000420 *7*; α(O)=4.89×10^{-5} *8*
360.3 *1*	13.6 *1*	417.93	5/2$^+$	57.64	7/2$^+$	(M1+E2)	+0.194 *15*	0.0233	α(K)=0.0201 *3*; α(L)=0.00256 *4*; α(M)=0.000515 *8*; α(N+..)=0.0001164 *17* α(N)=0.0001042 *15*; α(O)=1.222×10^{-5} *18*
375.0 *4*	0.03 *2*	375.0	1/2$^+$	0.0	5/2$^+$	E2		0.0199	α(K)=0.01671 *24*; α(L)=0.00257 *4*; α(M)=0.000524 *8*; α(N+..)=0.0001158 *17* α(N)=0.0001044 *15*; α(O)=1.144×10^{-5} *17*
417.9 *1*	100 *10*	417.93	5/2$^+$	0.0	5/2$^+$	(M1+E2)	−0.087 *+5−7*	0.01599	α(K)=0.01382 *20*; α(L)=0.001742 *25*; α(M)=0.000350 *5*; α(N+..)=7.92×10^{-5} *12* α(N)=7.09×10^{-5} *10*; α(O)=8.34×10^{-6} *12*
618.4 *3*	0.013 *2*	618.4	3/2$^+$	0.0	5/2$^+$				

† From 1970Ap02.
‡ Theoretical conversion coefficients are calculated using BrIcc code for the multipolarity and mixing ratio indicated.
# From Adopted Levels, gammas.
@ For absolute intensity per 100 decays, multiply by 0.0099 *10*.

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Decay Scheme

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