^{153}Tb IT decay (186 μs)

	Type	Author	History Citation	Literature Cutoff Date
	Full Evaluation	N. Nica	NDS 170, 1 (2020)	16-Aug-2020

Parent: ^{153}Tb: E=163.175 5; J$^{\pi}$=11/2$^-$; T$_{1/2}$=186 μs 4; %IT decay=100.0

Sources produced by ^{151}Eu(α,2n), (1977KoZH); Eu(α,xn), (1968Io01); ^{154}Gd(p,2n), (1967Co20); and ^{154}Gd(p,2n) and ^{155}Gd(p,3n), (1965Gr04).

The ce-ce coincidence observed by 1961Dz04 of the 80.8-keV and 82.5-keV transitions and the lifetime of the isomer suggest that the 163.3-keV level is the isomeric state, rather than the 80.8-keV level as suggested by 1965Gr04.

^{153}Tb Levels

E(level)†	J$^{\pi\,\dagger}$	T$_{1/2}$	Comments
0.0	5/2$^+$	2.34 d 1	
80.720 2	7/2$^+$		
163.175 5	11/2$^-$	186 μs 4	T$_{1/2}$: Weighted average of 187 μs 6 (1977KoZH), 172 μs 35 (1968Io01), 190 μs 6 (1967Co20), and 173 μs 10 (1965Gr04).

† From ^{153}Tb Adopted Levels.

γ(^{153}Tb)

E$_\gamma{}^\dagger$	I$_\gamma{}^@$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.†	$\delta^\#$	$\alpha^\ddagger$	I$_{(\gamma+ce)}{}^@$	Comments
80.723 2	19.3 5	80.720	7/2$^+$	0.0	5/2$^+$	M1+E2	0.13 1	4.10	100	ce(K)/(γ+ce)=0.667 6; ce(L)/(γ+ce)=0.1067 22; ce(M)/(γ+ce)=0.0235 6 ce(N)/(γ+ce)=0.00542 12; ce(O)/(γ+ce)=0.000820 17; ce(P)/(γ+ce)=4.97×10^{-5} 9 α(K)=3.40 5; α(L)=0.544 10; α(M)=0.1198 24 α(N)=0.0276 6; α(O)=0.00418 8; α(P)=0.000253 4 I$_\gamma$: From I(γ+ce)=100 and α. E$_\gamma$: From Adopted γ radiations. Measurements for the IT decay are 78 5 (1965Gr04), 80.9 (1967Co20), and 83 8 (1968Io01). The 80.7 γ observed in the ^{153}Dy ε decay is presumed to be this same γ.
82.464 4	2.18 7	163.175	11/2$^-$	80.720	7/2$^+$	M2		43.9	100	ce(K)/(γ+ce)=0.710 8; ce(L)/(γ+ce)=0.206 4; ce(M)/(γ+ce)=0.0484 10 ce(N)/(γ+ce)=0.01125 22; ce(O)/(γ+ce)=0.00167 4; ce(P)/(γ+ce)=9.26×10^{-5} 19 α(K)=31.9 5; α(L)=9.24 13; α(M)=2.17 3 α(N)=0.505 7; α(O)=0.0750 11; α(P)=0.00416 6 I$_\gamma$: From I(γ+ce+)=100 and α.

† From ^{153}Tb Adopted γ radiations.

^{153}**Tb IT decay (186 μs) (continued)**

$\gamma(^{153}$Tb) (continued)

‡ Additional information 1.
# Additional information 2.
@ Absolute intensity per 100 decays.

^{153}**Tb IT decay (186 μs)**

Decay Scheme

Intensities: I$_{(\gamma+ce)}$ per 100 parent decays
%IT=100.0

Legend

I$_\gamma$ < 2%×I$_\gamma^{max}$
I$_\gamma$ < 10%×I$_\gamma^{max}$
I$_\gamma$ > 10%×I$_\gamma^{max}$

11/2⁻   82.464 M2 100   163.175   186 μs 4

7/2⁺   80.723 M1+E2 100   80.720

5/2⁺   0.0   2.34 d 1

$^{153}_{65}$Tb$_{88}$