^{154}Tb IT decay (22.7 h) 1973La20,1983Be03,1972Vy04

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 200,2 (2025)	22-Aug-2022

Parent: ^{154}Tb: E=0+y; $J^{\pi}=7^-$; $T_{1/2}$=22.7 h *5*; %IT decay=1.8 *6*

Additional information 1.

Experimental methods:

1972Vy04: ^{154}Tb from spallation on Ta target with 680 MeV p. Measured $T_{1/2}$ of two isomers.

1973Ba20: from spallation on Ta target with 680 MeV p. Measured IT branching intensities.

1973La20: from (p,xn) reaction on natural Gd. Measured $T_{1/2}$ of the three isomers and the IT branching intensities.

1983Be03: ^{154}Tb isomers: from Gd(d,xnp), E(d)=25 MeV, and Eu(α,xn). Measured $\gamma(\theta,t)$ from oriented nuclei. Deduced J, μ, Q.

^{154}Tb Levels

E(level)	J^{π} †	$T_{1/2}$ †	Comments
0	0	21.5 h *4*	
0+x	3^-	9.973 h *44*	E(level): ≤ 25 keV (1973Ba20) from lack of Tb K x rays and lack of conversion lines above 18 keV. 2003Au02 list x=12 *7*.
0+y	7^-	22.7 h *5*	%IT=1.8 *6*; %ε+%β^+=98.2 *6* E(level): y>x (1973Ba20). From systematics, 2021Ko07 estimate y=200 *150*.

† From ^{154}Tb Adopted Levels.