^{202}Tl IT decay (591 μs) 2007Fo06

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 196,342 (2024)	1-Sep-2023

Parent: ^{202}Tl: E=950.19 *10*; $J^\pi=7^+$; $T_{1/2}$=591 μs *3*; %IT decay=100

2007Fo06: γ-rays were produced in the bombardment of a ^{203}Tl target by neutrons from the Los Alamos Neutron Science Center Weapons Neutron Research facility. E(n) from 0.6 to 250 MeV, pulsed beams with 775 μs repetition period and 1.8 μs width. GEANIE spectrometer was comprised of 11 Compton-suppressed LEPS, 9 Compton-suppressed HPGe and 6 unsuppressed HPGe detectors. Measured: γ(t), excitation functions, Eγ. Other (same group): 2020Fo05.

Others: 2013Bo18, 1991Be41, 1977HeZJ, 1973Sa22, 1965Gr04, 1958Du80.

^{202}Tl Levels

E(level)†	J^π‡	$T_{1/2}$‡	Comments
0.0	2^-	12.4706 d *55*	
490.47 *7*	4^-		
950.19 *10*	7^+	591 μs *3*	$T_{1/2}$: Weighted average of 592 μs *4* [490.5γ(t)] and 589 μs *4* [459.7 γ(t)] in 2007Fo06. Others: 565 μs *10* (1965Gr04), 585 μs *25* (1958Du80), 536 μs *15* (1973Sa22), 500 μs (1972Gu06), 570 μs (1991Be41) and 572 μs (1977HeZJ). Isomeric ratio=17.0 % *26* in ^{9}Be(^{238}U,x) (2013Bo18).

† From a least-squares fit to Eγ.
‡ From Adopted Levels, unless otherwise stated.

γ(^{202}Tl)

E_γ†	I_γ‡@	E_i(level)	J_i^π	E_f	J_f^π	Mult.†	α#	Comments
459.72 *7*	89.19 *14*	950.19	7^+	490.47	4^-	E3	0.1212 *17*	α(K)=0.0614 *9*; α(L)=0.0447 *6*; α(M)=0.01165 *16* α(N)=0.00294 *4*; α(O)=0.000527 *7*; α(P)=2.99×10^{-5} *4*
490.47 *7*	97.13 *4*	490.47	4^-	0.0	2^-	E2	0.0295 *4*	α(K)=0.02096 *29*; α(L)=0.00643 *9*; α(M)=0.001591 *22* α(N)=0.000400 *6*; α(O)=7.33×10^{-5} *10*; α(P)=4.91×10^{-6} *7*

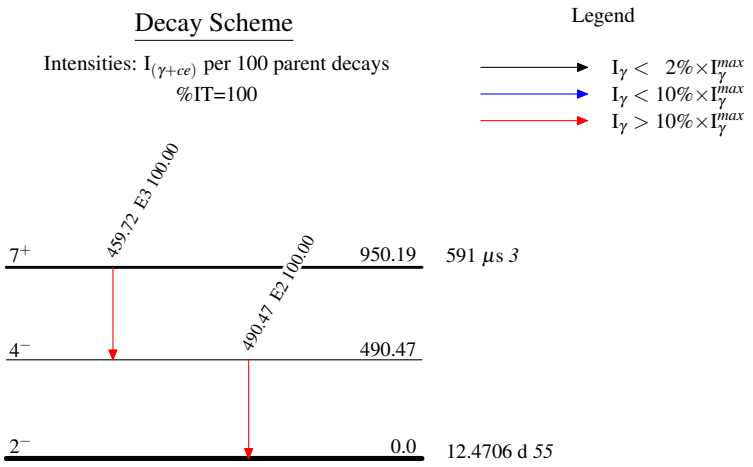
† From adopted gammas.
‡ From total γ-ray intensity balances.
# Additional information 1.
@ Absolute intensity per 100 decays.

^{202}Tl IT decay (591 μs) 2007Fo06

Decay Scheme

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

%IT=100



$^{202}_{81}Tl_{121}$