^{207}Tl IT decay (1.33 s) 1965Ec02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev, S. Lalkovski	NDS 112, 707 (2011)	1-Aug-2010

Parent: ^{207}Tl: E=1350; $J^\pi=11/2^-$; $T_{1/2}$=1.33 s *11*; %IT decay=100.0

^{207}Tl isomer was produced in ^{208}Pb(t,$\alpha\gamma$) reaction; Beam: E(t)=12 MeV, Ic=1.0 $\mu\alpha$; Target: natural Pb; Detectors: 7.6x7.6 cm^2 NaI(Tl); Measured: Eγ, Iγ, Iγ(t); Deduced: level scheme, lifetime.

^{207}Tl Levels

E(level)†	J^π‡	$T_{1/2}$	Comments
0	$1/2^+$		
351.07 *5*	$3/2^+$		
1348.2 *3*	$11/2^-$	1.33 s *11*	$T_{1/2}$: From 1965Ec02, based on Iγ(t).

† From a least-squares fit to Eγ's.
‡ From the Adopted Levels.

$\gamma(^{207}Tl)$

E_γ†	I_γ‡	E_i(level)	J_i^π	E_f	J_f^π	Mult.†	δ#	α@	Comments
351.07 *5*	80.5 *3*	351.07	$3/2^+$	0	$1/2^+$	M1+E2	+0.271 *4*	0.243 *4*	E_γ: 350 in 1965Ec02.
997.1 *3*	87.26 *21*	1348.2	$11/2^-$	351.07	$3/2^+$	[M4]		0.1460 *21*	E_γ: 1000 in 1965Ec02.

† From adopted gammas.
‡ By the evaluators, based on intensity balances and α's.
# From the adopted gammas.
@ 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.

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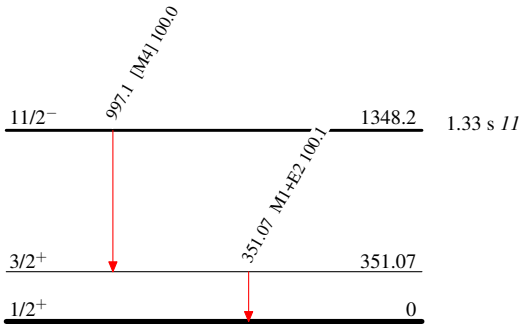
Decay Scheme

Intensities: Relative $I_{(\gamma+ce)}$

%IT=100.0



$^{207}_{81}Tl_{126}$

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$