^{217}Th IT decay (141 ns) 1989Dr02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	B. Singh, R. Shearman	NDS 147, 382 (2018)	1-Dec-2017

Parent: ^{217}Th: E=673.3 *1*; J^π=(15/2$^-$); $T_{1/2}$=141 ns *50*; %IT decay=100.0

1989Dr02: ^{204}Pb(^{16}O,3n),E=84 MeV; measured Eγ, Iγ(t), Ice(t) at ANU 14UD pelletron accelerator facility. Deduced isomer, half-life, multipolarity, B(E3).

^{217}Th Levels

E(level)	J^π[†]	$T_{1/2}$	Comments
0.0	(9/2$^+$)	0.252 ms *4*	$T_{1/2}$: from Adopted Levels.
673.3 *1*	(15/2$^-$)	141 ns *50*	%IT=100 $T_{1/2}$: from γ(t) and ce(t) (1989Dr02).

[†] From systematics of N=127 isotones (1989Dr02), same values are given in the Adopted Levels.

γ(^{217}Th)

Eγ	Iγ[†]	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.	α[#]	I$_{(\gamma+ce)}$[‡]	Comments
673.3 *1*	100	673.3	(15/2$^-$)	0.0	(9/2$^+$)	(E3)	0.0654	100	α(K)=0.0367 *6*; α(L)=0.0211 *3*; α(M)=0.00561 α(N)=0.001507 *22*; α(O)=0.000346 *5*; α(P)=6.18×10^{-5} *9*; α(Q)=2.67×10^{-6} *4* α(K)exp=0.051 *14* (1989Dr02); α(L)exp≤0.030 *11* (1989Dr02) Eγ: from 2005Ku31. Other: 673.8 (1989Dr02). Mult.: from α(K)exp and K/L ratio; also systematics of N=127 isotones.

[†] For absolute intensity per 100 decays, multiply by 0.9386 *8*.

[‡] Absolute intensity per 100 decays.

[#] 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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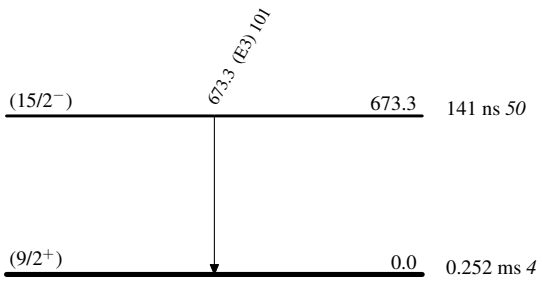
Decay Scheme

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



$^{217}_{90}Th_{127}$