^{117}In IT decay

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	ENSDF	1-Mar-2009

Parent: ^{117}In: E=315.302 *12*; $J^\pi=1/2^-$; $T_{1/2}$=116.2 min *3*; %IT decay=47.1 *15*

^{117}In-%IT decay: 0.471 *15* (1975Ta06), others: 0.429 (1970Ba62), 0.20 (1955Mc17).

From 1975Ta06 plus Eγ from ^{117}Cd decay.

Others: 1970Ba62, 1955Mc17, 1954Le09.

See also ^{117}In β^- decay.

1988FuZW has prepared radiochemically pure isomer sample and measured ce and branching.

^{117}In Levels

E(level)†	J^π	$T_{1/2}$	Comments
0	$9/2^+$	43.2 min *3*	
315.302 *13*	$1/2^-$	116.2 min *3*	%IT=47.1 *15* %IT: from 1975Ta06, others: 1970Ba62, 1955Mc17.

† From least-squares fit to Eγ′s.

γ(^{117}In)

E_γ	I_γ†	E_i(level)	J_i^π	E_f	J_f^π	Mult.	α‡	Comments
315.302 *13*	100	315.302	$1/2^-$	0	$9/2^+$	M4	1.46	α(K)exp=1.1 *1*; K/L+M=3.6 *3* (1988FuZW) α(K)= 1.149; α(L)= 0.252; α(M)= 0.0514; α(N+..)=0.01140 B(M4)(W.u.)=13.8 *5* I_γ: Iγ(315γ)/Iγ(158γ)=1.21 *12* (1970Ba62). 1988FuZW report a ratio of 1/1.6 for Iγ(315)(^{117}In)/Iγ(552). This ratio has to be 1 at equilibrium. No explanation is found.

† For absolute intensity per 100 decays, multiply by 0.191 *8*.

‡ 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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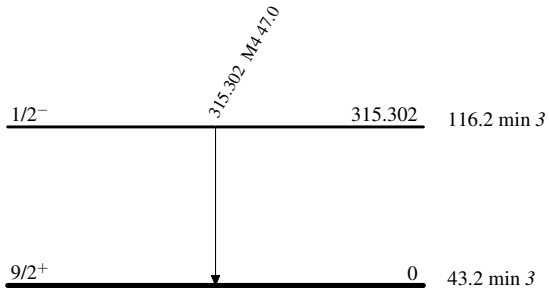
Decay Scheme

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

%IT=47.1 *15*



$^{117}_{49}In_{68}$