^{170}Lu IT decay 1965Bj01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	C. M. Baglin[1], E. A. Mccutchan[2], S. Basunia[1]	NDS 153, 1 (2018)	1-Oct-2018

Parent: ^{170}Lu: E=92.91 *9*; J^π=(4)$^-$; $T_{1/2}$=0.67 s *10*; %IT decay=100.0
See also ^{170}Hf ε decay.
1965Bj01: sources produced by ^{170}Yb(p,n), E=8-13 MeV; scin, magnetic spectrometer; measured Eγ, Ice, γ(t).

^{170}Lu Levels

E(level)†	J^π†	$T_{1/2}$‡
0.0	0$^+$	
44.51 *5*	2$^+$	
92.91 *9*	(4)$^-$	0.67 s *10*

† From the Adopted Levels.
‡ From pulsed beam and γ(t) measurement (1965Bj01).

γ(^{170}Lu)

Iγ normalization: from Ti(44.5)=100 (no γ to g.s. expected from 93 keV (4)$^-$ level).

E_γ†	I_γ‡#	E_i(level)	J^π_i	E_f	J^π_f	Mult.†	α@	Comments
44.52 *10*	100	44.51	2$^+$	0.0	0$^+$	E2	114.6 *21*	α(L)=87.4 *16*; α(M)=21.7 *4*; α(N+..)=5.55 *10* α(N)=4.96 *9*; α(O)=0.589 *11*; α(P)=0.000369 *6* Other Eγ: 44 in 1965Bj01.
48.42 *10*	51.6	92.91	(4)$^-$	44.51	2$^+$	M2	223	α(L)=169 *3*; α(M)=42.4 *8*; α(N+..)=11.61 *20* α(N)=10.12 *17*; α(O)=1.422 *24*; α(P)=0.0698 *12* Other Eγ: 48 in 1965Bj01.

† From Adopted Gammas.
‡ Relative Iγ deduced assuming α(theory) values and Ti(44.52)=Ti(48.42) (from decay scheme).
# For absolute intensity per 100 decays, multiply by 0.00865 *16*.
@ 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