^{168}Lu IT decay 1999Ba65,1997Ba26

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 111, 1807 (2010)	15-Jun-2010

Parent: ^{168}Lu: E=202.81 *12*; $J^{\pi}=3^{+}$; $T_{1/2}$=6.7 min *4*; %IT decay<0.8

^{168}Lu-%IT decay: From 1999Ba65; see general comment above.

Other: 1972Ch44.

Candidates for the ^{168}Lu isomeric transition have been reported by 1997Ba26 In γ spectra following ^{168}Hf ε decay and by 1999Ba65 In γ spectra from an isomeric ^{168}Lu source. the respective Eγ data (202.81 *12* In 1997Ba26 and 202.5 *4* In 1999Ba65) and %Iγ data (0.86 *21* from 1997Ba26 and 0.54 *15* from 1999Ba65) are consistent, and the transition is not coincident with ^{168}Yb transitions. However, the principal transitions expected from ^{168}Lu(g.s.) ε decay were not observed by 1999Ba65 and, consequently, the authors propose only an upper limit for %IT, namely 0.8%. other %IT: <5 (1972Ch44).

^{168}Lu Levels

E(level)[†]	J^{π}[‡]	$T_{1/2}$[‡]	Comments
0.0	$6^{(-)}$	5.5 min *1*	
202.81? *12*	3^{+}	6.7 min *4*	E(level): uncertain because identification of isomeric transition is very tentative.

[†] From Eγ.
[‡] From Adopted Levels.

γ(^{168}Lu)

Eγ	E$_i$(level)	J^{π}_i	E$_f$	J^{π}_f	Mult.	α[‡]	I$_{(\gamma+ce)}$[†]	Comments
202.81[#] *12*	202.81?	3^{+}	0.0	$6^{(-)}$	[E3]	1.83	100	ce(K)/(γ+ce)=0.177 *3*; ce(L)/(γ+ce)=0.355 *5*; ce(M)/(γ+ce)=0.0906 *15*; ce(N+)/(γ+ce)=0.0236 *4* ce(N)/(γ+ce)=0.0210 *4*; ce(O)/(γ+ce)=0.00256 *5*; ce(P)/(γ+ce)=1.426×10^{-5} *24* Eγ: from 1997Ba26; 202.5 *4* In 1999Ba65, 202.8 In 1966Ha23. Mult.: transition is significantly converted (1966Ha23).

[†] For absolute intensity per 100 decays, multiply by <0.008.
[‡] 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.
[#] Placement of transition in the level scheme is uncertain.

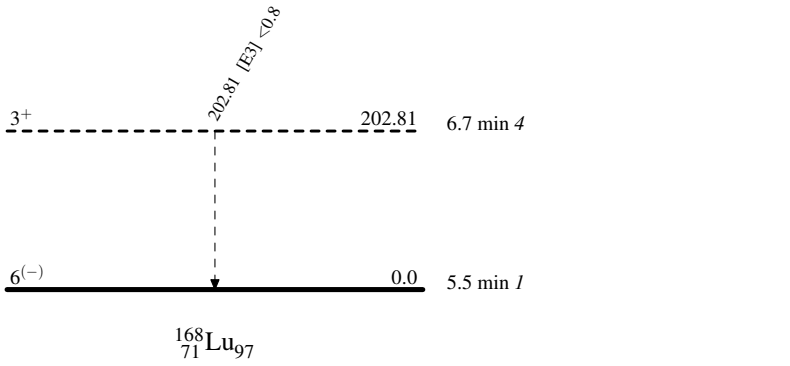
^{168}Lu IT decay 1999Ba65,1997Ba26

Legend

Decay Scheme

%IT<0.8

γ Decay (Uncertain)



$^{168}_{71}Lu_{97}$