^{174}Lu IT decay (145 ns) 1980Ke08

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, Huo Junde	NDS 87, 15 (1999)	1-Nov-1998

Parent: ^{174}Lu: E=365.1 *9*; J^π=(4$^-$); $T_{1/2}$=145 ns *3*; %IT decay=100.0

From ^{176}Yb(p,3nγ), E(p)=22.7 MeV. Measured γ-ray energies and intensities of prompt and delayed transitions as a function of time.

^{174}Lu Levels

E(level)	J^π‡	$T_{1/2}$	Comments
0.0†	(1$^-$)		
44.7† *9*	(2$^-$)		
111.7† *9*	(3$^-$)		
200.2† *9*	(4$^-$)		
240.7 *9*	(3$^+$)		J^π: from γ multipolarity.
259.4 *9*	(4$^+$)		
365.1 *9*	(4$^-$)	145 ns *3*	$T_{1/2}$: other value: 48 ns *8* (1973AnYG).

† Band(A): K^π=1$^-$ band member. Configuration=(π 7/2(404))-(ν 5/2(512)).

‡ From Adopted Levels, unless indicated otherwise.

$\gamma(^{174}Lu)$

E_γ†	I_γ‡	E_i(level)	J_i^π	E_f	J_f^π	Mult.@	Comments
(19 *CA*)		259.4	(4$^+$)	240.7	(3$^+$)		
44.70 *3*		44.7	(2$^-$)	0.0	(1$^-$)		
67.058 *10*	8# *2*	111.7	(3$^-$)	44.7	(2$^-$)		
88.525 *10*	2.5 *5*	200.2	(4$^-$)	111.7	(3$^-$)		
105.65 *5*	2.0 *2*	365.1	(4$^-$)	259.4	(4$^+$)	(E1)	
111.64 *5*	0.6# *1*	111.7	(3$^-$)	0.0	(1$^-$)		
124.37 *3*	2.6 *1*	365.1	(4$^-$)	240.7	(3$^+$)	(E1)	
129.066 *4*	3.5 *2*	240.7	(3$^+$)	111.7	(3$^-$)	(E1)	I_γ: deduced by evaluator from decay scheme.
164.885 *20*	4.9 *3*	365.1	(4$^-$)	200.2	(4$^-$)	(M1,E2)	
196.120 *10*	1.1 *2*	240.7	(3$^+$)	44.7	(2$^-$)	(E1)	I_γ: deduced by evaluator from decay scheme.
253.415 *20*	15.8 *5*	365.1	(4$^-$)	111.7	(3$^-$)	(M1,E2)	

† Relative to 411.8044 keV of ^{198}Au β^- decay.

‡ Relative to Iγ(129.066γ)=100.

Contains component due to 395-ns IT decay.

@ From ^{176}Yb(p,3nγ).

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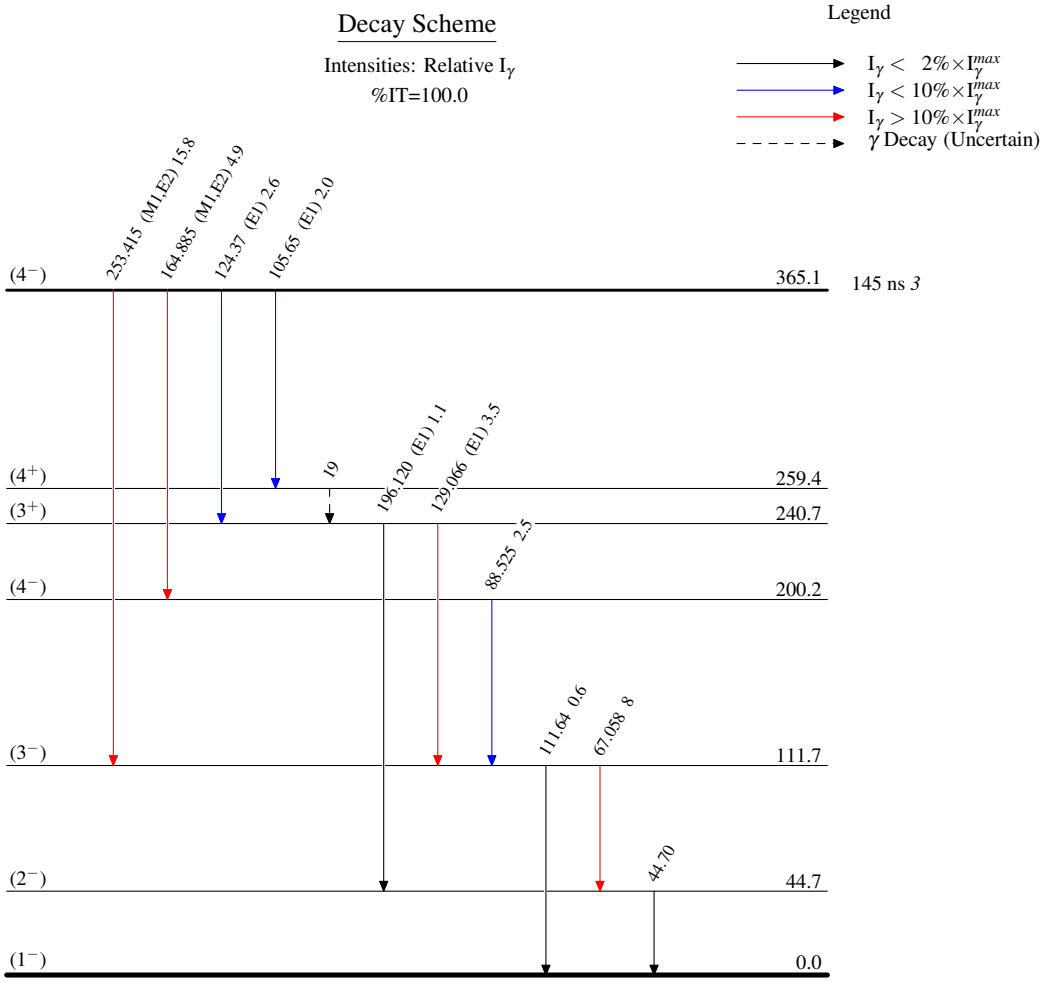
Decay Scheme

Intensities: Relative I_γ

%IT=100.0



$^{174}_{71}Lu_{103}$

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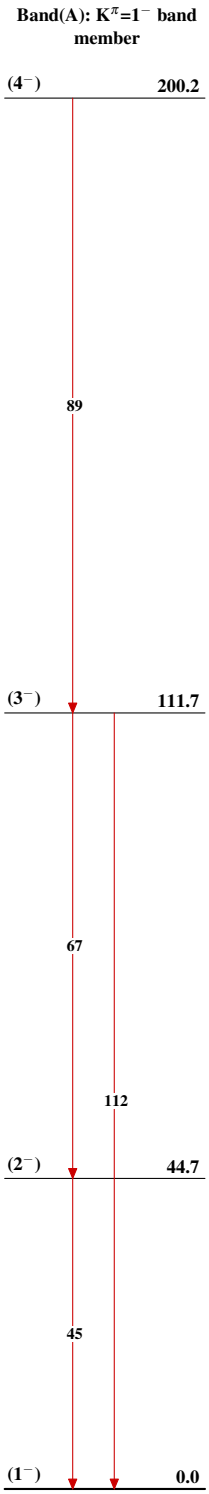

$^{174}_{71}Lu_{103}$