^{248}Cm SF decay   1997Ho11

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	N. Nica and B. Singh	NDS 181, 1 (2022)	9-Mar-2022

Parent: ^{248}Cm: E=0; J^{π}=0$^+$; T$_{1/2}$=3.48×10^5 y *6*; %SF decay=8.39 *16*

^{248}Cm-E,J^{π},T$_{1/2}$: from 2014Ma86 (Adopted Levels).

1997Ho11: measured Eγ, Iγ, $\gamma\gamma$, using Eurogam 2 array 52 escape-suppressed Ge detectors, 24 Clovers, and four LEPS. No Iγ's and ΔEγ's are reported.

^{147}Ce Levels

E(level)[†]	J^{π}[‡]
0.0	(5/2$^-$)[#]
118	(7/2$^-$)[@]
401[&]	(9/2$^+$)[@]
484[&]	(13/2$^+$)
735[&]	(17/2$^+$)
1126[&]	(21/2$^+$)
1627[&]	(25/2$^+$)
2215[&]	(29/2$^+$)
2874[&]	(33/2$^+$)

[†] From 1997Ho11.
[‡] Assigned by 1997Ho11 based on γ multipolarities; above 1627 keV J^{π}'s follow from band assignment.
[#] From Adopted Levels.
[@] ΔJ=+1 relative to daughter level was adopted by 1997Ho11 based on the argument that fission populates predominantly yrast states.
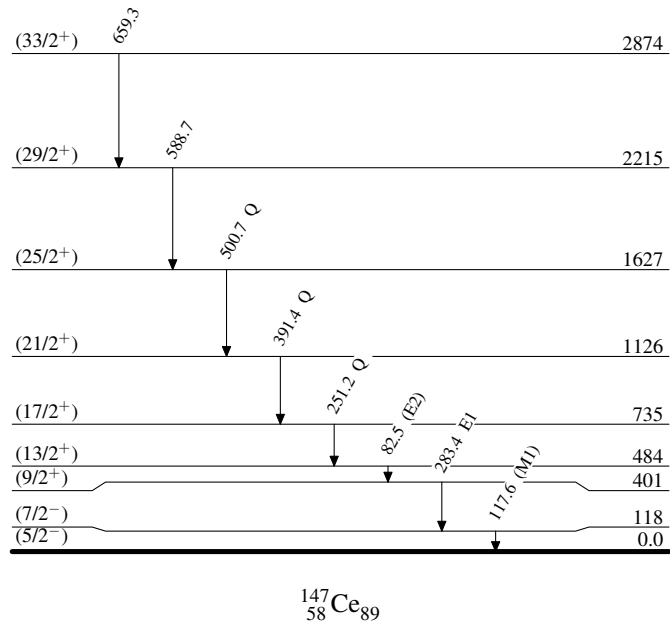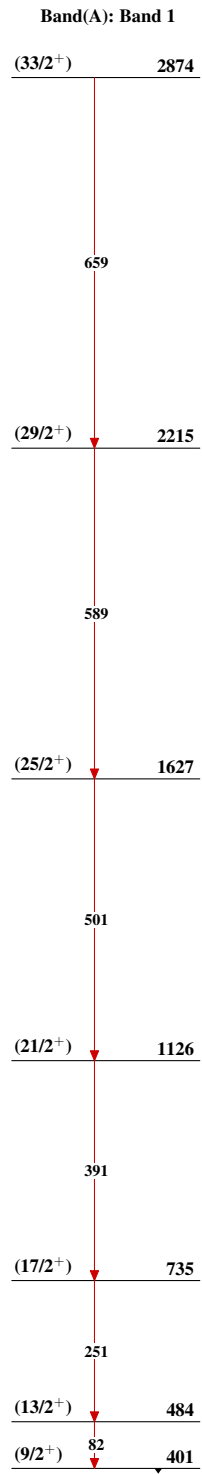[&] Band(A): band 1.

γ(^{147}Ce)

α(exp) from intensity balances (1997Ho11).

E$_\gamma$	E$_i$(level)	J^{π}_i	E$_f$	J^{π}_f	Mult.[†]	Comments
82.5	484	(13/2$^+$)	401	(9/2$^+$)	(E2)	Mult.: from α(exp); ΔJ=+2 relative to daughter level based on the argument that fission populates predominantly yrast states (1997Ho11); M1+E2 not excluded (1997Ho11).
117.6	118	(7/2$^-$)	0.0	(5/2$^-$)	(M1)	Mult.: stretched D from DCO; M1 from α(exp).
251.2	735	(17/2$^+$)	484	(13/2$^+$)	Q	Mult.: stretched Q from DCO.
283.4	401	(9/2$^+$)	118	(7/2$^-$)	E1	Mult.: stretched D from DCO; E1 from linear polarization.
391.4	1126	(21/2$^+$)	735	(17/2$^+$)	Q	Mult.: stretched Q from DCO.
500.7	1627	(25/2$^+$)	1126	(21/2$^+$)	Q	Mult.: stretched Q from DCO.
588.7	2215	(29/2$^+$)	1627	(25/2$^+$)		
659.3	2874	(33/2$^+$)	2215	(29/2$^+$)		

[†] From DCO, α(exp), and linear polarization.

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Level Scheme

(33/2$^+$)	659.3	2874
(29/2$^+$)	588.7	2215
(25/2$^+$)	500.7 Q	1627
(21/2$^+$)	391.4 Q	1126
(17/2$^+$)	251.2 Q	735
(13/2$^+$)	82.5 (E2)	484
(9/2$^+$)	283.4 E1	401
(7/2$^-$)	117.6 (M1)	118
(5/2$^-$)		0.0

$^{147}_{58}Ce_{89}$

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Band(A): Band 1

$(33/2^+)$		2874
	659	
$(29/2^+)$		2215
	589	
$(25/2^+)$		1627
	501	
$(21/2^+)$		1126
	391	
$(17/2^+)$		735
	251	
$(13/2^+)$	82	484
$(9/2^+)$		401

$^{147}_{58}$Ce$_{89}$