

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 117, 1 (2014)	1-Oct-2013

$Q(\beta^-)=5110$ 60; $S(n)=5400$ 70; $S(p)=12860$ 80; $Q(\alpha)=-3150$ 60 [2012Wa38](#)
 $Q(\beta^-n)=1010$ 60 ([2012Wa38](#)).

 ^{148}Ba LevelsCross Reference (XREF) Flags

A ^{148}Cs β^- decay
B ^{248}Cm SF decay
C ^{252}Cf SF decay
D ^{254}Cf SF decay

E(level)	J^π [†]	$T_{1/2}$	XREF	Comments
0.0 [‡]	0 ⁺	0.612 s 17	ABCD	$\% \beta^- = 100$; $\% \beta^- n = 0.4$ 3 $T_{1/2}$: unweighted average of 0.607 s 25 (1984Ch02), 0.620 s 5 (1986Wa17), 0.63 s 5 (1982Ga24), 0.55 s 5 (1993Ru01), and 0.653 s 2 (1986ReZR). Others: ≈ 0.7 s (1981ChZX), 0.47 s 3 (1981En05), 0.47 s 20 (1979En02). $\% \beta^- n$: recommended value of 1993Ru01 based on the following data: 23.9 21 (1981En05), ≤ 0.01 (1982Ga24), ≤ 0.03 (1983Re10), 0.057 20 (1986ReZR), and 0.72 20 (1993Ru01). $\langle r^2 \rangle^{1/2} = 4.9773$ fm 168 (2004An14).
141.8 [‡] 1	2 ⁺		ABCD	
423.10 [‡] 15	4 ⁺		ABC	
687.2 [#] 7	1 ⁻		A	
775.00 [#] 23	(3 ⁻)		AB	
807.90 [‡] 18	6 ⁺		BC	
963.20 [#] 25	(5 ⁻)		BC	
1049.2	2 ⁺		A	
1255.70 [#] 20	7 ⁻		BC	
1264.70 [‡] 20	8 ⁺		BC	
1644.92 [#] 21	9 ⁻		BC	
1767.78 [‡] 22	10 ⁺		BC	
2117.30 [#] 25	(11 ⁻)		BC	
2303.5 [‡] 3	(12 ⁺)		BC	
2659.3 [#] 4			B	
2867.0 [‡] 4			B	

[†] From DCO ratios, linear polarization, and $\gamma\gamma\gamma(\theta)$ from ^{248}Cm SF decay data which are in agreement with the $\gamma\gamma(\theta)$, $\gamma\gamma\gamma(\theta)$ from ^{252}Cf SF decay data, and systematics for even-even nuclei with $A \approx 150$.

[‡] Band(A): g.s. band.

[#] Band(B): octupole band.

Adopted Levels, Gammas (continued)

$\gamma(^{148}\text{Ba})$								
$E_i(\text{level})$	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult. [†]	$\alpha^\ddagger$	Comments
141.8	2 ⁺	141.8 1	100	0.0	0 ⁺			
423.10	4 ⁺	281.3 1	100	141.8	2 ⁺	E2		
687.2	1 ⁻	545.5	87	141.8	2 ⁺			
		687.2	100	0.0	0 ⁺			
775.00	(3 ⁻)	351.9	21	423.10	4 ⁺			
		633.2 2	100	141.8	2 ⁺			
807.90	6 ⁺	384.8 1	100	423.10	4 ⁺	E2	0.0209	$\alpha(\text{K})=0.01735$ 25; $\alpha(\text{L})=0.00284$ 4; $\alpha(\text{M})=0.000596$ 9 $\alpha(\text{N})=0.0001267$ 18; $\alpha(\text{O})=1.85\times 10^{-5}$ 3; $\alpha(\text{P})=1.017\times 10^{-6}$ 15
963.20	(5 ⁻)	540.1 2	100	423.10	4 ⁺	D		
1049.2	2 ⁺	626.1	21	423.10	4 ⁺			
		907.5	86	141.8	2 ⁺			
		1049.1	100	0.0	0 ⁺			
1255.70	7 ⁻	293.0 [#] 3	<6	963.20	(5 ⁻)			
		447.8 1	100 13	807.90	6 ⁺	E1	0.00421	$\alpha(\text{K})=0.00364$ 5; $\alpha(\text{L})=0.000459$ 7; $\alpha(\text{M})=9.40\times 10^{-5}$ 14 $\alpha(\text{N})=2.02\times 10^{-5}$ 3; $\alpha(\text{O})=3.07\times 10^{-6}$ 5; $\alpha(\text{P})=2.17\times 10^{-7}$ 3
1264.70	8 ⁺	456.8 1	100	807.90	6 ⁺	E2	0.01269	$\alpha(\text{K})=0.01062$ 15; $\alpha(\text{L})=0.001643$ 23; $\alpha(\text{M})=0.000343$ 5 $\alpha(\text{N})=7.31\times 10^{-5}$ 11; $\alpha(\text{O})=1.079\times 10^{-5}$ 16; $\alpha(\text{P})=6.34\times 10^{-7}$ 9
1644.92	9 ⁻	380.2 1	100 14	1264.70	8 ⁺	E1	0.00626	$\alpha(\text{K})=0.00540$ 8; $\alpha(\text{L})=0.000686$ 10; $\alpha(\text{M})=0.0001405$ 20 $\alpha(\text{N})=3.02\times 10^{-5}$ 5; $\alpha(\text{O})=4.58\times 10^{-6}$ 7; $\alpha(\text{P})=3.20\times 10^{-7}$ 5
		389.2 2	43 14	1255.70	7 ⁻			
1767.78	10 ⁺	503.1 1	100	1264.70	8 ⁺	E2	0.00969	$\alpha(\text{K})=0.00814$ 12; $\alpha(\text{L})=0.001225$ 18; $\alpha(\text{M})=0.000255$ 4 $\alpha(\text{N})=5.45\times 10^{-5}$ 8; $\alpha(\text{O})=8.08\times 10^{-6}$ 12; $\alpha(\text{P})=4.90\times 10^{-7}$ 7
2117.30	(11 ⁻)	349.5 2	75 25	1767.78	10 ⁺	D		
		472.4 2	100 25	1644.92	9 ⁻			
2303.5	(12 ⁺)	535.7 2	100	1767.78	10 ⁺	E2		
2659.3?		542.0 2	100	2117.30	(11 ⁻)			
2867.0?		563.5 2	100	2303.5	(12 ⁺)			

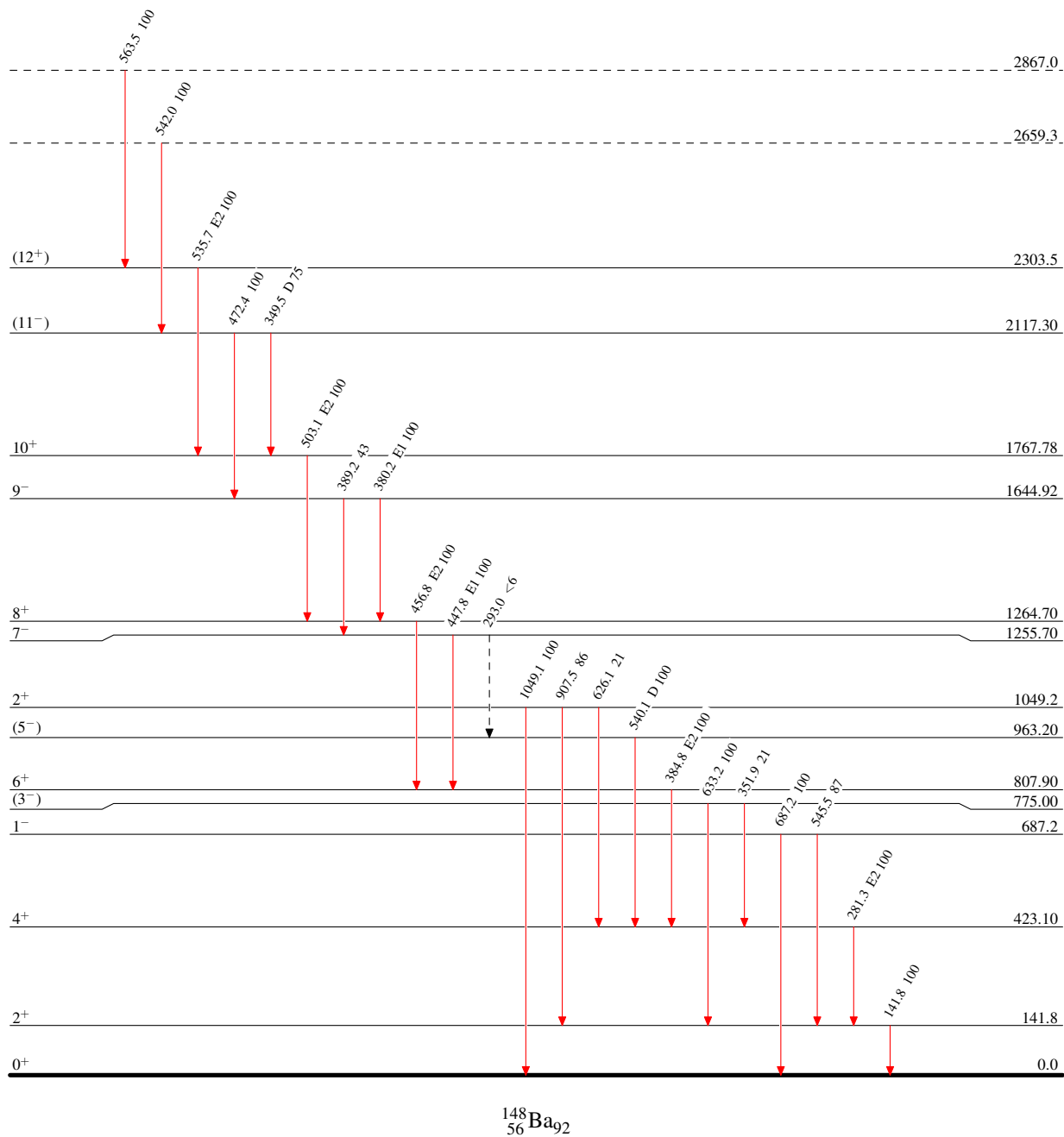
[†] From ^{248}Cm SF decay dataset based on DCO and linear polarization measurements.[‡] [Additional information 1.](#)[#] Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas**Level Scheme**

Intensities: Type not specified

Legend

- $I_\gamma < 2\% \times I_\gamma^{\max}$
- $I_\gamma < 10\% \times I_\gamma^{\max}$
- $I_\gamma > 10\% \times I_\gamma^{\max}$
- - - - -→ γ Decay (Uncertain)



Adopted Levels, Gammas

