

²⁴⁸Cm SF decay 1996Ur02

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli		NDS 110, 507 (2009)	1-Oct-2008

Parent: ²⁴⁸Cm: E=0; J^π=0⁺; T_{1/2}=3.48×10⁵ y 6; %SF decay=?

Additional information 1.

Measured γγγ coincidence with EUROGAM2. 52 Compton-shielded GE detectors and 4 LEPS detectors. γ rays assigned by x-ray coincidence and coincidence with γ rays from yttrium isotopes.

¹⁴⁵La Levels

E(level) [‡]	J ^π [†]	T _{1/2}	Comments
0.0 [@]	(5/2 ⁺)		
66.01 ^{&} 24	(7/2 ⁺)	9 ns 2	T _{1/2} : from 1974CIZX.
237.99 [@] 24	(9/2 ⁺)		
380.3 ^{&} 3	(11/2 ⁺)		
572.4 [#] 4	(11/2 ⁻)		
622.2 [@] 3	(13/2 ⁺)		
805.0 [#] 4	(15/2 ⁻)		
810.8 ^{&} 4	(15/2 ⁺)		
1095.2 [@] 4	(17/2 ⁺)		
1171.2 ^a 4	(17/2 ⁻)		
1171.3 [#] 4	(19/2 ⁻)		
1314.6 ^{&} 4	(19/2 ⁺)		
1598.7 ^a 4	(21/2 ⁻)		
1647.0 [#] 5	(23/2 ⁻)		
1862.1 ^{&} 5	(23/2 ⁺)		
2117.5 ^a 5	(25/2 ⁻)		
2210.2 [#] 6	(27/2 ⁻)		
2846.2 [#] 7	(31/2 ⁻)		

[†] From Adopted g.s. J^π, γγ(θ), γγγ(θ), and α.

[‡] Deduced by evaluators from least-squares fit to γ-ray energies using ΔE=03 keV for all γ rays.

Band(A): Rotational band based on (11/2⁻).

@ Band(B): (5/2⁺) g.s. rotational band, α=+1/2.

& Band(b): (5/2⁺) g.s. rotational band, α=-1/2.

^a Band(C): (15/2⁻) rotational band.

γ(¹⁴⁵La)

E _γ	E _i (level)	J _i ^π	E _f	J _f ^π	Mult.	Comments
66.0	66.01	(7/2 ⁺)	0.0	(5/2 ⁺)	M1	Mult.: From α(K)exp=4 1.
142.3	380.3	(11/2 ⁺)	237.99	(9/2 ⁺)		
143.3	1314.6	(19/2 ⁺)	1171.3	(19/2 ⁻)		
172.0	237.99	(9/2 ⁺)	66.01	(7/2 ⁺)	M1	Mult.: α(K)exp consistent with M1,E2 and γγ(θ) consistent with dipole. α(K)exp=0.5 2.
182.9	805.0	(15/2 ⁻)	622.2	(13/2 ⁺)	E1	Mult.: From α(exp)=0.15 8. Stretched dipole from γγγ(θ).
188.6	810.8	(15/2 ⁺)	622.2	(13/2 ⁺)		
219.5	1314.6	(19/2 ⁺)	1095.2	(17/2 ⁺)		

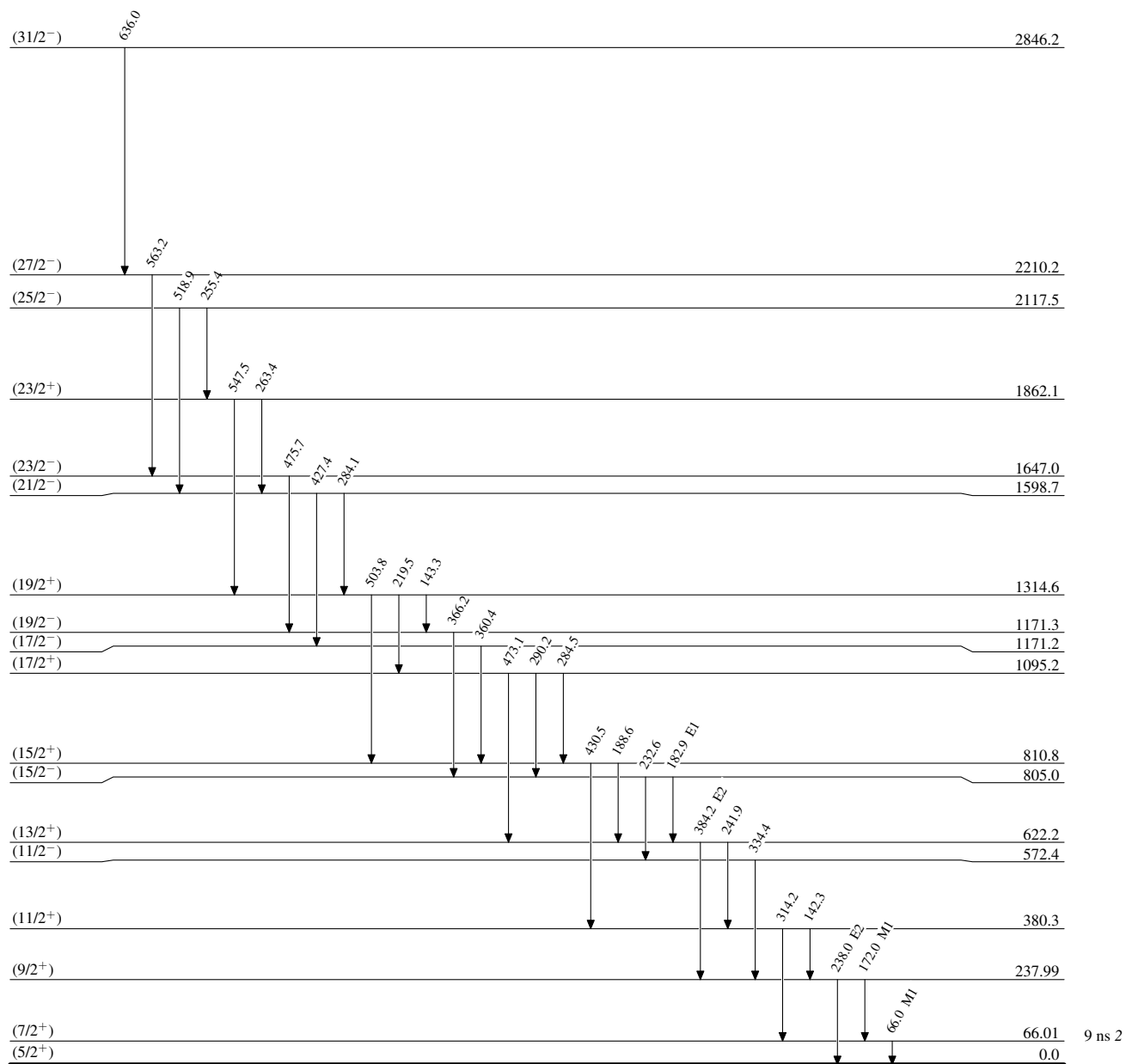
Continued on next page (footnotes at end of table)

^{248}Cm SF decay **1996Ur02** (continued) $\gamma(^{145}\text{La})$ (continued)

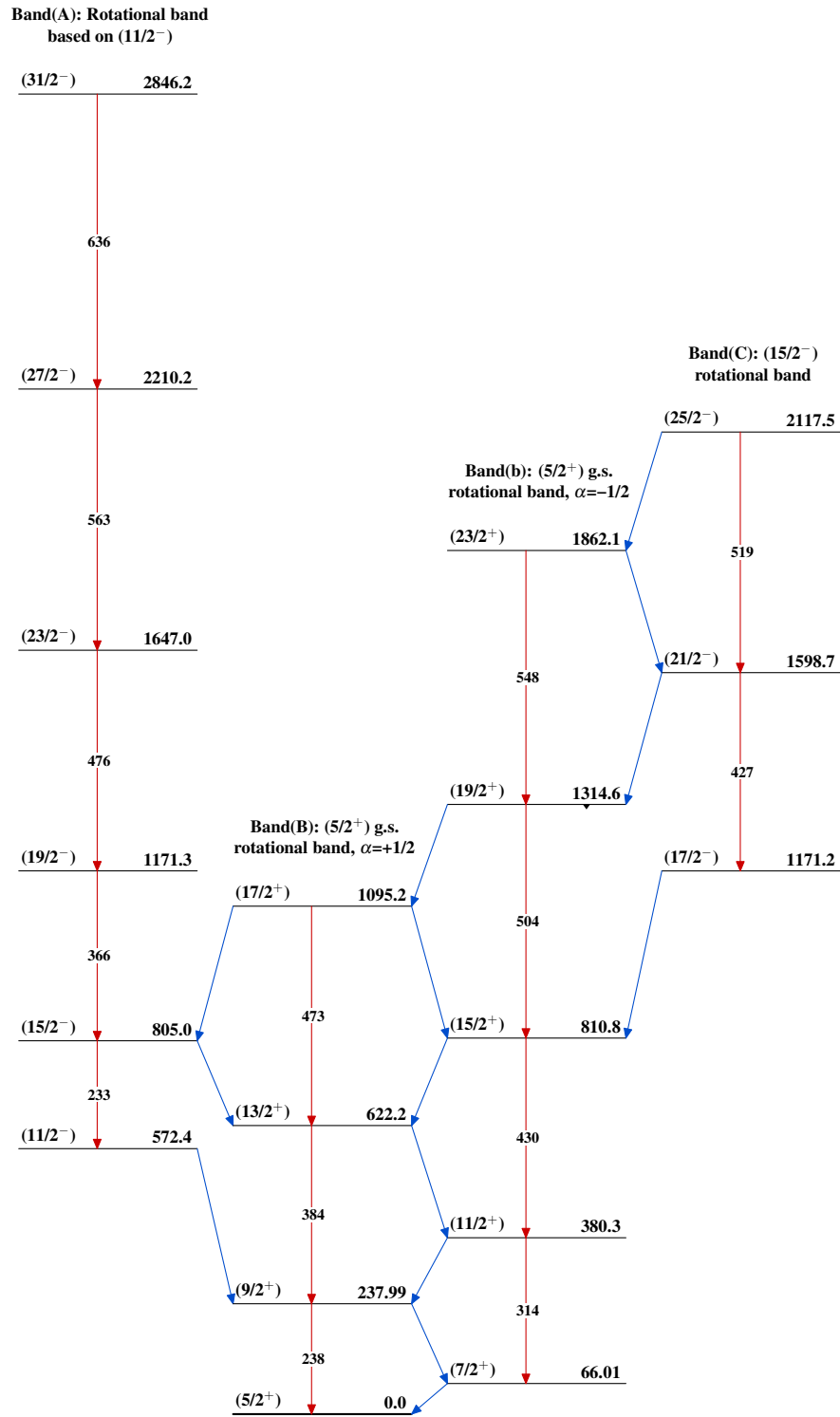
E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.	E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.
232.6	805.0	(15/2 ⁻)	572.4	(11/2 ⁻)		366.2	1171.3	(19/2 ⁻)	805.0	(15/2 ⁻)	
238.0	237.99	(9/2 ⁺)	0.0	(5/2 ⁺)	E2	384.2	622.2	(13/2 ⁺)	237.99	(9/2 ⁺)	E2
241.9	622.2	(13/2 ⁺)	380.3	(11/2 ⁺)		427.4	1598.7	(21/2 ⁻)	1171.2	(17/2 ⁻)	
255.4	2117.5	(25/2 ⁻)	1862.1	(23/2 ⁺)		430.5	810.8	(15/2 ⁺)	380.3	(11/2 ⁺)	
263.4	1862.1	(23/2 ⁺)	1598.7	(21/2 ⁻)		473.1	1095.2	(17/2 ⁺)	622.2	(13/2 ⁺)	
284.1	1598.7	(21/2 ⁻)	1314.6	(19/2 ⁺)		475.7	1647.0	(23/2 ⁻)	1171.3	(19/2 ⁻)	
284.5	1095.2	(17/2 ⁺)	810.8	(15/2 ⁺)		503.8	1314.6	(19/2 ⁺)	810.8	(15/2 ⁺)	
290.2	1095.2	(17/2 ⁺)	805.0	(15/2 ⁻)		518.9	2117.5	(25/2 ⁻)	1598.7	(21/2 ⁻)	
314.2	380.3	(11/2 ⁺)	66.01	(7/2 ⁺)		547.5	1862.1	(23/2 ⁺)	1314.6	(19/2 ⁺)	
334.4	572.4	(11/2 ⁻)	237.99	(9/2 ⁺)		563.2	2210.2	(27/2 ⁻)	1647.0	(23/2 ⁻)	
360.4	1171.2	(17/2 ⁻)	810.8	(15/2 ⁺)		636.0	2846.2	(31/2 ⁻)	2210.2	(27/2 ⁻)	

^{248}Cm SF decay 1996Ur02

Level Scheme

 $^{145}_{57}\text{La}_{88}$

9 ns 2

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