

²⁵²Cf SF decay 1995Ha20

Type	Author	Citation	History	Literature Cutoff Date
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Parent: ²⁵²Cf: E=0.0; J^π=0⁺; T_{1/2}=2.645 y 8; %SF decay=?

Gammasphere array.

The level scheme is that from 1995Ha20. There are differences with the adopted values where the assignments from the more recent work 2009Rz01 (the ²⁴⁸Cm decay dataset) was preferred by the evaluators.

⁹⁴Sr Levels

E(level) [†]	J ^π	E(level) [†]	J ^π	E(level) [†]	J ^π	E(level) [†]	J ^π
0.0 [‡]	0 ⁺	2603.2	(4 ⁻)	2971.2		4631.6	(10 ⁺)
836.7 [‡]	2 ⁺	2648.5	(3 ⁺)	3155.3 [‡]	(6 ⁺)	4857.4 [‡]	(12 ⁺)
1925.8	(3 ⁻)	2733.4		3753.3	(8 ⁺)	5739.7 [‡]	(14 ⁺)
2145.5 [‡]	4 ⁺	2788.1		3922.8 [‡]	(8 ⁺)		
2414.1	(3 ⁻)	2856.0	(4 ⁺)	4382.8 [‡]	(10 ⁺)		

[†] From least-squares fit to E_γ assuming ΔE_γ=1 keV.

[‡] Band(A): Ground-state band.

γ(⁹⁴Sr)

E _γ	I _γ	E _i (level)	J _i ^π	E _f	J _f ^π	Comments
130.2	4.9	2733.4		2603.2	(4 ⁻)	
207.6	5.5	2856.0	(4 ⁺)	2648.5	(3 ⁺)	
226.0	3.6	4857.4	(12 ⁺)	4631.6	(10 ⁺)	E _γ : from level energy difference. Listed (in 1995Ha20) energy=266.0.
252.7	10.1	2856.0	(4 ⁺)	2603.2	(4 ⁻)	
299.2	11.7	3155.3	(6 ⁺)	2856.0	(4 ⁺)	
374.0	1.2	2788.1		2414.1	(3 ⁻)	
457.5	12.3	2603.2	(4 ⁻)	2145.5	4 ⁺	
459.8	4.5	4382.8	(10 ⁺)	3922.8	(8 ⁺)	
474.4	2.9	4857.4	(12 ⁺)	4382.8	(10 ⁺)	
502.9	5.0	2648.5	(3 ⁺)	2145.5	4 ⁺	
597.8	6.0	3753.3	(8 ⁺)	3155.3	(6 ⁺)	
677.4	14.5	2603.2	(4 ⁻)	1925.8	(3 ⁻)	
709.2	0.6	4631.6	(10 ⁺)	3922.8	(8 ⁺)	
710.5	7.6	2856.0	(4 ⁺)	2145.5	4 ⁺	
767.7	5.6	3922.8	(8 ⁺)	3155.3	(6 ⁺)	
825.7	3.5	2971.2		2145.5	4 ⁺	
836.7	100	836.7	2 ⁺	0.0	0 ⁺	
878.1	3.2	4631.6	(10 ⁺)	3753.3	(8 ⁺)	
882.3	3.0	5739.7	(14 ⁺)	4857.4	(12 ⁺)	
951.7 [†]	2.3	3922.8	(8 ⁺)	2971.2		This gamma from an (8 ⁺) feeds the 2971.1 level, which in turn feeds the 2145, 4 ⁺ level, implying that J ^π (2971.1)=6 ⁺ , at an energy lower than the 6 ⁺ belonging to the g.s. cascade. As a consequence, this transition is considered highly questionable.
1009.7	9.3	3155.3	(6 ⁺)	2145.5	4 ⁺	
1089.1	23.1	1925.8	(3 ⁻)	836.7	2 ⁺	
1189.4 [†]	1.3	3922.8	(8 ⁺)	2733.4		This gamma from an (8 ⁺) feeds the 2773 level, which in turn feeds the 2603, (4 ⁻) level. This would imply that either the 130.2 γ or the 1189.4 γ will have a rare E3 or M2 character, as a result we consider this gamma questionable.

Continued on next page (footnotes at end of table)

 ${}^{252}\text{Cf}$ SF decay **1995Ha20** (continued) $\gamma({}^{94}\text{Sr})$ (continued)

<u>E_γ</u>	<u>I_γ</u>	<u>$E_i(\text{level})$</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>
1308.7	29.2	2145.5	4^+	836.7	2^+
1577.4	15.1	2414.1	(3^-)	836.7	2^+
1811.9	1.7	2648.5	(3^+)	836.7	2^+

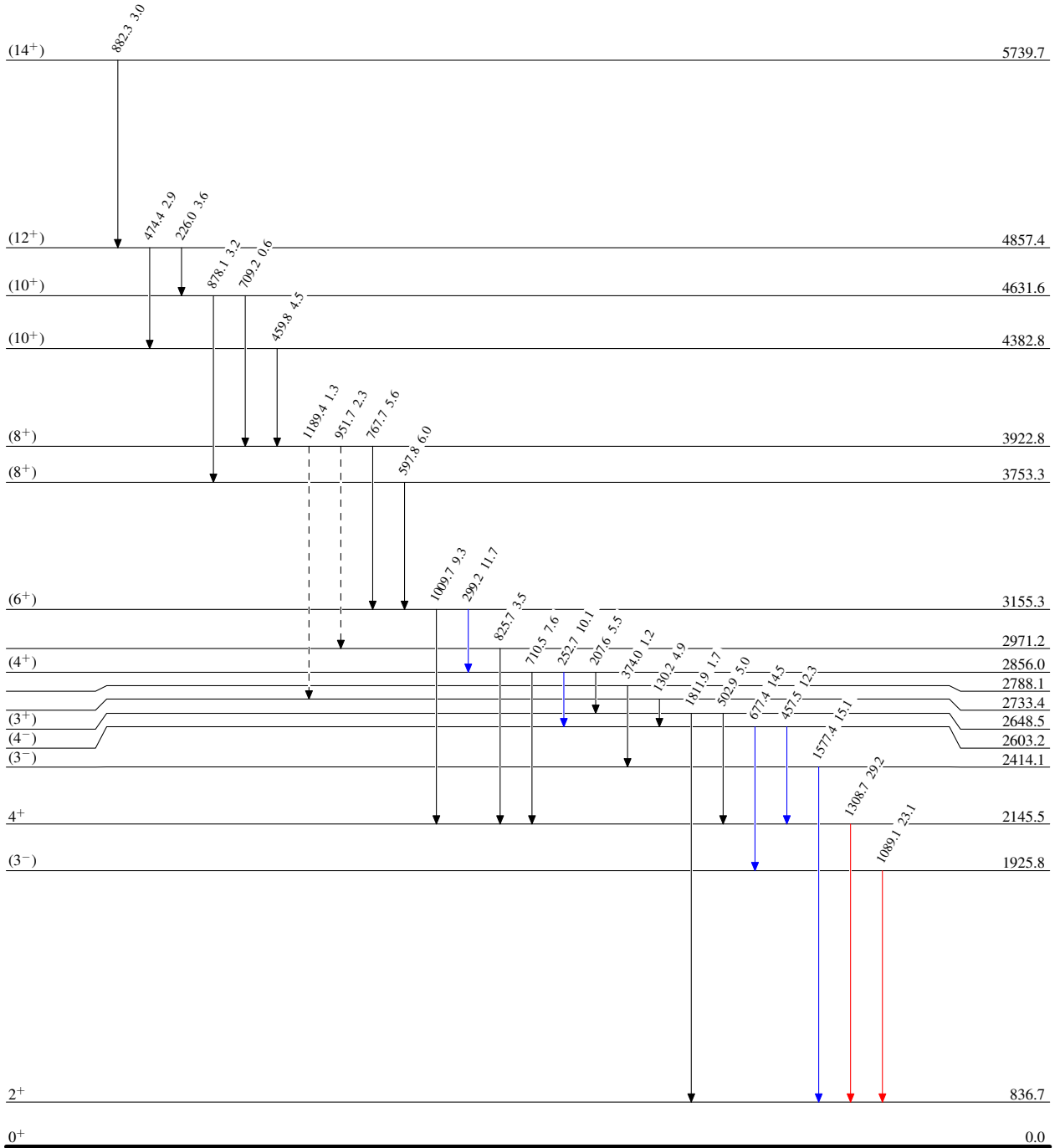
† Placement of transition in the level scheme is uncertain.

^{252}Cf SF decay 1995Ha20

Legend

Level Scheme
Intensities: Relative I_γ

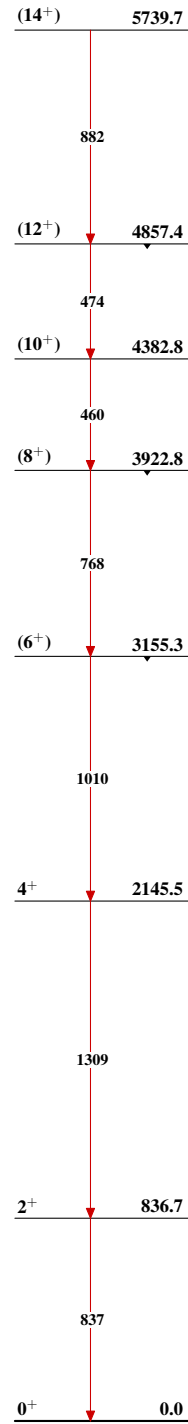
- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- - - γ Decay (Uncertain)



$^{94}_{38}\text{Sr}_{56}$

^{252}Cf SF decay 1995Ha20

Band(A): Ground-state
band

 $^{94}_{38}\text{Sr}_{56}$