

²⁵²Cf SF decay 2010LuAA

Type	History		Literature Cutoff Date
	Author	Citation	
Full Evaluation	Balraj Singh	ENSDF	30-Apr-2010

Parent: ²⁵²Cf: E=0; J^π=0⁺; T_{1/2}=2.645 y 8; %SF decay=?

2010LuAA: Luo et al. Nucl. Phys. A 838, 1 (2010).

2010LuAA: measured E_γ, I_γ, γγ using Gammasphere array of 101 HPGe detectors at LBNL. Identification of γ rays from coincidence with known γ rays from complementary fission fragments of Tc isotopes.

¹⁴⁴Cs Levels

E(level) [†]	J ^π	Comments
0+x [‡]	J	
108.0+x [‡] 6	J+2	
223.1+x [‡] 6	J+4	
486.9+x [‡] 7	J+6	
891.7+x [‡] 8	J+8	
1366.1+x 8		
1426.9+x [‡] 9	J+10	
2065.3+x? [‡] 9	J+12	E(level): not included in the Adopted Levels due to tentative nature of 638γ.

[†] From Eγ's, uncertainty of 0.3 keV assumed by the evaluator.

[‡] Band(A): ΔJ=2 band.

γ(¹⁴⁴Cs)

Total conversion coefficients for 108.0 and 115.1 gammas are from double gating γ rays and using intensity balance arguments.

E _i (level)	J _i ^π	E _γ	I _γ	E _f	J _f ^π	Mult. [†]	α [‡]	Comments
108.0+x	J+2	108.0	100	0+x	J	(E2)	1.421	α(exp)=1.28 19 (2010LuAA) α(K)=0.953 14; α(L)=0.370 6; α(M)=0.0799 12; α(N+..)=0.0182 3
223.1+x	J+4	115.1	100	108.0+x	J+2	(E2)	1.135	α(N)=0.01622 23; α(O)=0.00192 3; α(P)=2.68×10 ⁻⁵ 4 α(exp)=1.16 15 (2010LuAA) α(K)=0.780 11; α(L)=0.281 4; α(M)=0.0604 9; α(N+..)=0.01377 20
486.9+x	J+6	263.8	100	223.1+x	J+4			
891.7+x	J+8	404.8	100	486.9+x	J+6			
1366.1+x		474.4	100	891.7+x	J+8			
1426.9+x	J+10	535.2	100	891.7+x	J+8			
2065.3+x?	J+12	638.4 [#]	100	1426.9+x	J+10			E _γ : not included in the Adopted Gammas due to its tentative nature.

[†] From total conversion coefficients estimated from intensity balance arguments in double-gated γ-ray coincidence spectra.

[‡] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

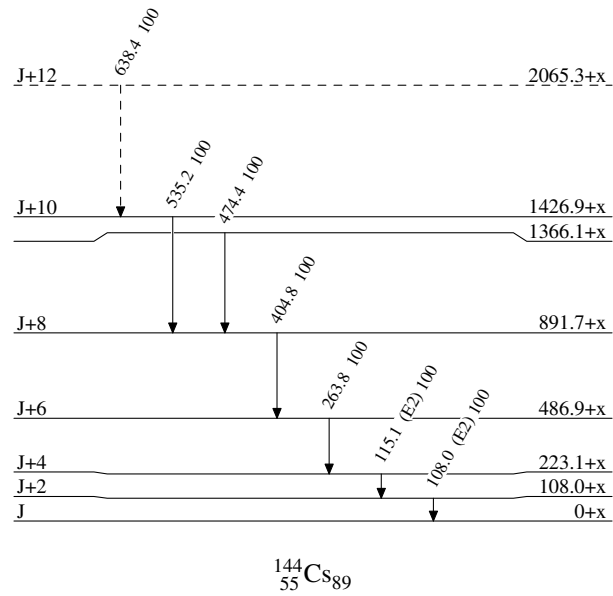
[#] Placement of transition in the level scheme is uncertain.

^{252}Cf SF decay 2010LuAA

Legend

Level Scheme

Intensities: Relative photon branching from each level

-----► γ Decay (Uncertain)

^{252}Cf SF decay 2010LuAABand(A): $\Delta J=2$ band $^{144}_{55}\text{Cs}_{89}$