^{248}Cm SF decay 1994Sh26

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	G. Gürdal and F. G. Kondev	NDS 113, 1315 (2012)	1-Aug-2011

Parent: ^{248}Cm: E=0.0; $J^\pi=0^+$; $T_{1/2}=348\times10^3$ y *6*; %SF decay=8.39 *16*

1994Sh26: Source: ≈ 2μCi ^{248}Cf. Prompt γ-rays were detected using the EUROGAM array consisting of 45 Compton suppressed Ge and 5 LEPS detectors. Measured: Eγ, Iγ, γγγ (2×10^9 triple-γ or higher fold coincident events). Deduced: Levels, J^π.

Other: 1999SmZX.

^{110}Ru Levels

E(level)†	J^π‡	$T_{1/2}$	Comments
0.0#	0^+	12.04 s *17*	$T_{1/2}$: From Adopted Levels.
240.60# *24*	2^+		Q: −0.74 *9* from lifetime measurements using Doppler-profile method in 1999SmZX.
612.70@ *24*	(2^+)		
663.2# *3*	4^+		
859.8@ *3*	(3^+)		
1084.7@ *3*	(4^+)		
1238.8# *4*	6^+		
1375.5@ *3*	(5^+)		
1684.6@ *4*	(6^+)		
1944.0# *5*	(8^+)		
2020.9@ *5*	(7^+)		
2398.1@ *11*	(8^+)		
2758.7# *6*	(10^+)		
2776.8@ *6*	(9^+)		

† From a least-square fit to E_γ.

‡ From 1994Sh26, based on γγ(θ), systematics of low-lying collective states in Ru isotopes and the observed decay patterns.

Band(A): g.s. band.

@ Band(B): γ band.

γ(^{110}Ru)

E_γ†	I_γ‡	E_i(level)	J_i^π	E_f	J_f^π	Mult.#
196.6 *3*	0.41	859.8	(3^+)	663.2	4^+	
224.9 *3*	0.4	1084.7	(4^+)	859.8	(3^+)	
240.6 *3*	100	240.60	2^+	0.0	0^+	E2
247.1 *3*	5.7	859.8	(3^+)	612.70	(2^+)	
290.8 *3*	0.9	1375.5	(5^+)	1084.7	(4^+)	
309.1 *3*	0.5	1684.6	(6^+)	1375.5	(5^+)	
372.1 *3*	11.7	612.70	(2^+)	240.60	2^+	
421.5 *3*	5.5	1084.7	(4^+)	663.2	4^+	
422.6 *3*	54.6	663.2	4^+	240.60	2^+	E2
445.8 *3*	0.6	1684.6	(6^+)	1238.8	6^+	
472.0 *3*	10.8	1084.7	(4^+)	612.70	(2^+)	
515.7 *3*	21.4	1375.5	(5^+)	859.8	(3^+)	
575.6 *3*	40.6	1238.8	6^+	663.2	4^+	E2
599.9 *3*	6.2	1684.6	(6^+)	1084.7	(4^+)	
612.7 *3*	10.3	612.70	(2^+)	0.0	0^+	

Continued on next page (footnotes at end of table)

^{248}Cm SF decay 1994Sh26 (continued)

$\gamma(^{110}Ru)$ (continued)

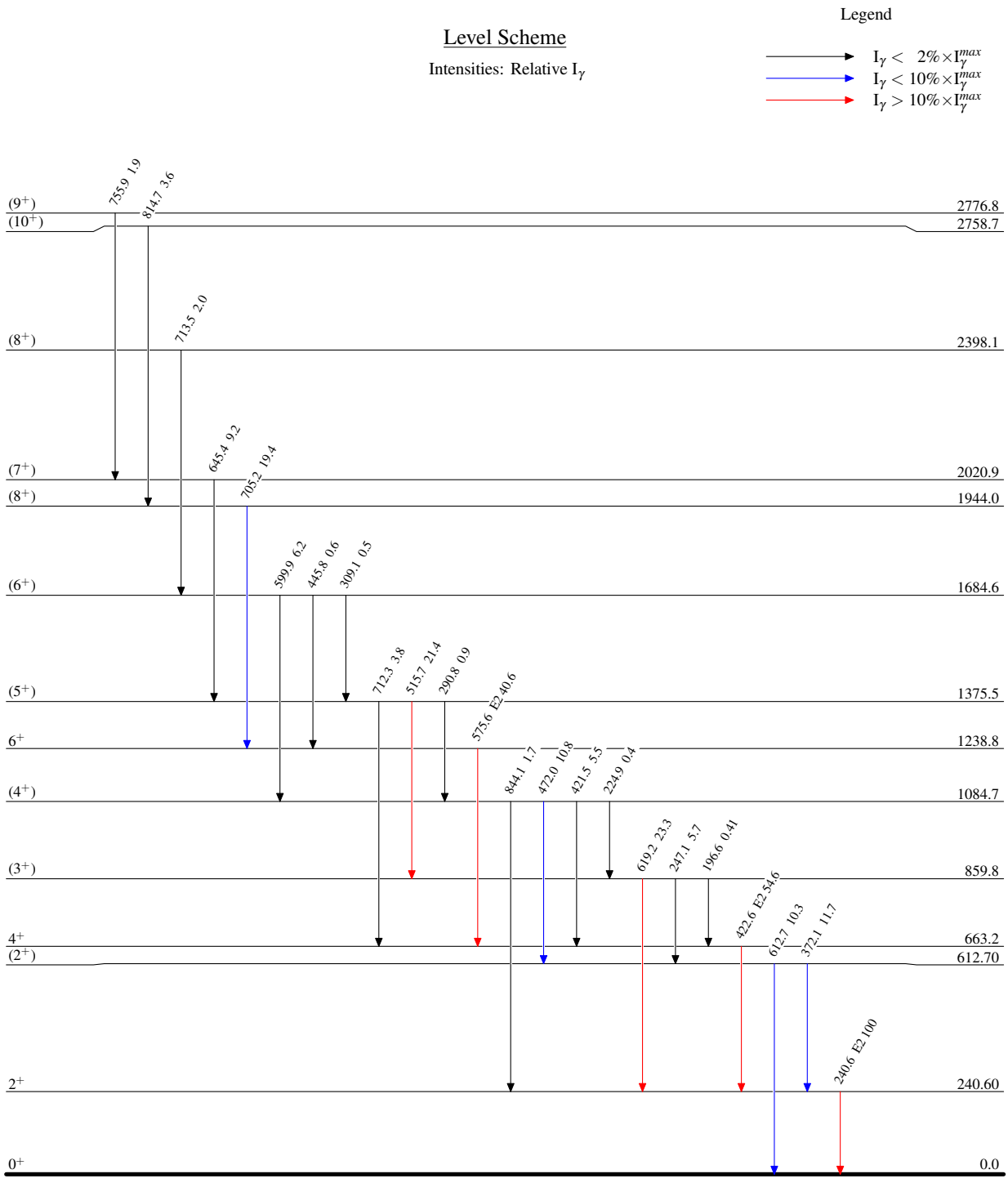
E_γ [†]	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π	E_γ [†]	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π
619.2 *3*	23.3	859.8	(3^+)	240.60	2^+	713.5 *3*	2.0	2398.1	(8^+)	1684.6	(6^+)
645.4 *3*	9.2	2020.9	(7^+)	1375.5	(5^+)	755.9 *3*	1.9	2776.8	(9^+)	2020.9	(7^+)
705.2 *3*	19.4	1944.0	(8^+)	1238.8	6^+	814.7 *3*	3.6	2758.7	(10^+)	1944.0	(8^+)
712.3 *3*	3.8	1375.5	(5^+)	663.2	4^+	844.1 *3*	1.7	1084.7	(4^+)	240.60	2^+

[†] From the level energy differences in 1994Sh26. $\Delta E\gamma$ estimated by the evaluator.
[‡] From 1994Sh26. The uncertainties vary from 20% for weak transitions to 3% for strong transitions.
[#] From $\gamma\gamma(\theta)$ in 1994Sh26, but A_2 and A_4 values were not given by the authors.

^{248}Cm SF decay 1994Sh26

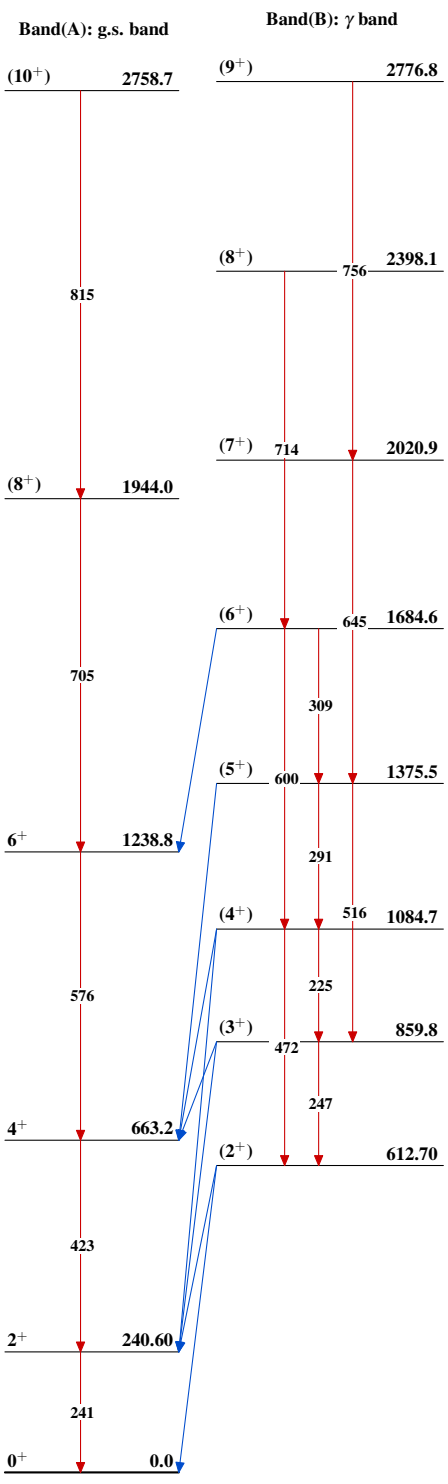
Level Scheme

Intensities: Relative I_γ



$^{110}_{44}Ru_{66}$

^{248}Cm SF decay 1994Sh26



$^{110}_{44}Ru_{66}$