^{248}**Cm(^{209}Bi,^{209}Bi'γ)**   **2019Sh34**

2019Sh34: Inelastic reaction with heavy ions was used to study the K isomer of ^{248}Cm. E(^{209}Bi)=1450 MeV from the ATLAS superconducting heavy-ion accelerator at Argonne National Laboratory impinged a 200 μg/cm^2 ^{248}Cm target. Gamma rays were measured using the 4π Gammasphere array consisting of 101 Compton-suppressed HPGe detectors. Measured Eγ, Iγ, $\gamma\gamma$, $\gamma\gamma$(t). Time distribution of γ rays depopulating the K$^{\pi}$=8$^-$ isomer was done by utilizing the different beam-off time intervals. Deduced T$_{1/2}$ of the K$^{\pi}$=8$^-$ isomer.

^{248}Cm Levels

E(level)†	J$^{\pi}$†	T$_{1/2}$	Comments
0.0‡	0$^+$		
43‡	2$^+$		
144‡	4$^+$		
299‡	6$^+$		
507‡	8$^+$		
1284	6$^+$		
1454	8$^+$		
1461	(8$^-$)	146 μs 18	Configuration=ν^2(7/2$^+$[624],9/2$^-$[734]) or ν^2(7/2$^+$[613],9/2$^-$[734]) (2019Sh34).
			T$_{1/2}$: From time distribution of summed 155γ-208γ-947γ and 155γ-208γ-954γ (2019Sh34).

† From Figure 3 in 2019Sh34.
‡ Band(A): g.s. band.

γ(^{248}Cm)

E$_{\gamma}$†	E$_i$(level)	J$_i^{\pi}$	E$_f$	J$_f^{\pi}$	Comments
(7)	1461	(8$^-$)	1454	8$^+$	E$_{\gamma}$: Unobserved transition, implied by the observation of the 947γ, 954γ and 170γ transitions (2019Sh34).
43‡	43	2$^+$	0.0	0$^+$	
101‡	144	4$^+$	43	2$^+$	
155	299	6$^+$	144	4$^+$	
170	1454	8$^+$	1284	6$^+$	
208	507	8$^+$	299	6$^+$	
947	1454	8$^+$	507	8$^+$	
954	1461	(8$^-$)	507	8$^+$	
985	1284	6$^+$	299	6$^+$	

† From Figure 3 in 2019Sh34, except as noted. Authors have not provided any uncertainties.
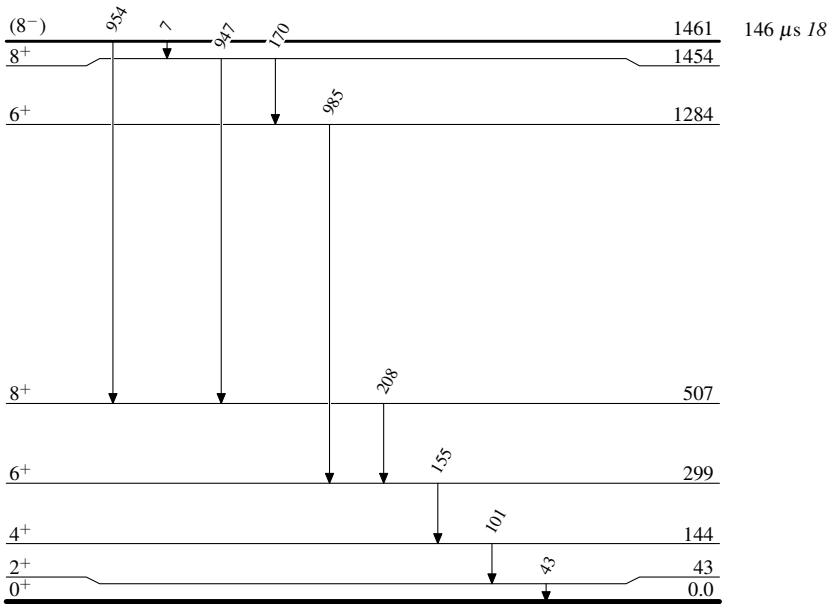‡ From level energy difference. Gamma transition not indicated in Figure 3 of 2019Sh34.

$${}^{248}\text{Cm}({}^{209}\text{Bi},{}^{209}\text{Bi}'\gamma) \quad \textbf{2019Sh34}$$
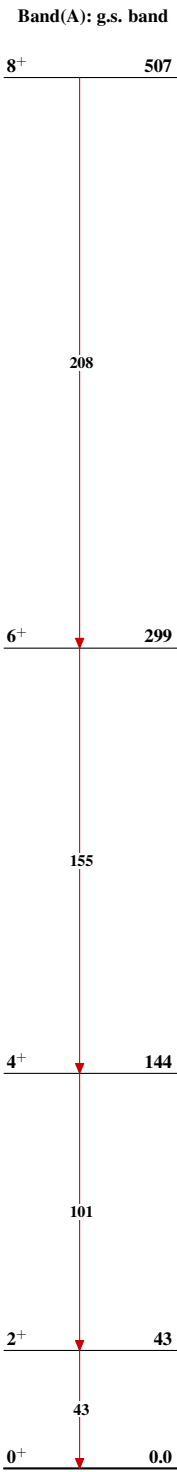
Legend

Level Scheme

- - - - - → γ Decay (Uncertain)

${}^{248}_{96}\text{Cm}_{152}$

^{248}Cm(^{209}Bi,^{209}Bi′γ)   2019Sh34

Band(A): g.s. band

8⁺ 507

208

6⁺ 299

155

4⁺ 144

101

2⁺ 43

43

0⁺ 0.0

$^{248}_{96}$Cm$_{152}$