

^{241}Bk ε decay [2003As01,2003AsZY](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja	NDS 130, 183 (2015)	30-Sep-2015

Parent: ^{241}Bk : $E=0$; $J^\pi=(7/2^+)$; $T_{1/2}=4.6$ min 4; $Q(\varepsilon)=2330$ SY; $\% \varepsilon + \% \beta^+$ decay=?

^{241}Bk - $Q(\varepsilon)$: 2330 200(sys, [2012Wa38](#)).

^{241}Bk - $T_{1/2}$: From decay curves of Cm $K_{\alpha 1}$, $K_{\alpha 1}$ and L_{α} x-rays in ^{241}Bk ([2003As01](#)).

^{241}Bk - J^π : From Adopted Levels in ^{241}Bk .

[2003As01,2003AsZY](#): ^{241}Bk was produced in the $^{239}\text{Pu}(^6\text{Li},4n)$ reaction at the JAERI tandem accelerator facility. The ε decay was studied using the gas-jet coupled JAERI-ISOL. γ -singles, $\gamma\gamma$ -coin and X-rays associated with the decay were measured with Ge detectors.

The decay scheme is given explicitly in [2003AsZY](#), otherwise, the two references contain the same data.

 ^{241}Cm Levels

E(level) [†]	J^π	Comments
0 [‡]	1/2 ⁺	
5.5 [‡]	(3/2 ⁺)	E(level): From ^{245}Cf α decay.
57.1 [‡]	(5/2 ⁺)	
267.8	(5/2 ⁺)	Configuration=5/2[622].
420.2	(7/2 ⁺)	Configuration=7/2[624].

[†] From Adopted Levels.

[‡] Band(A): 1/2[631] band.

 $\gamma(^{241}\text{Cm})$

E_γ	I_γ [†]	$E_i(\text{level})$	J_i^π	E_f	J_f^π
152.4 1	6 2	420.2	(7/2 ⁺)	267.8	(5/2 ⁺)
210.7 1	6 2	267.8	(5/2 ⁺)	57.1	(5/2 ⁺)
262.3 2	10 3	267.8	(5/2 ⁺)	5.5	(3/2 ⁺)

[†] The authors point out that the intensities are tentative since the coincidence summing effect cannot be corrected for without knowing the decay scheme.

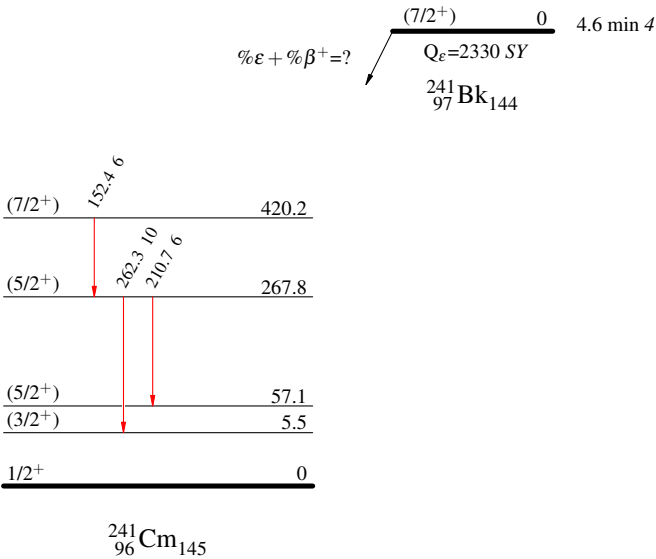
$^{241}\text{Bk } \epsilon \text{ decay } \quad 2003\text{As01}, 2003\text{AsZY}$

Decay Scheme

Legend

Intensities: Type not specified

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$



^{241}Bk ε decay 2003As01,2003AsZY

Band(A): 1/2[631] band

(5/2⁺) 57.1

(3/2⁺) 5.5

1/2⁺ 0

$^{241}_{96}\text{Cm}_{145}$