

<sup>247</sup>Cf ε decay 1979Ah03

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja	NDS 125, 395 (2015)	31-Mar-2014

Parent: <sup>247</sup>Cf: E=0.0; J<sup>π</sup>=(7/2<sup>+</sup>); T<sub>1/2</sub>=3.11 h 3; Q(ε)=613 16; %ε decay=99.965 5

<sup>247</sup>Cf-J<sup>π</sup>, T<sub>1/2</sub>: From Adopted Levels in <sup>247</sup>Cf.

<sup>247</sup>Cf-Q(ε): From 2012Wa38.

1979Ah03: <sup>247</sup>Cf produced by irradiating <sup>246</sup>Cm with 40-MeV α-particle at the Argonne cyclotron. Chemical separation of the product was followed by isotope separation. γ spectra were measured with a Ge(Li) detector. Cd, Cu and Al absorbers were used to reduce summing-effect interference from intense Bk K x-rays. The electron spectra was measured with a cooled Si(Li) spectrometer with FWHM at 100 keV=1.0 keV.

1977Ah01: Experimental evidence for the identification of the deformed proton orbital 1/2[521].

<sup>247</sup>Bk Levels

E(level)	J <sup>π</sup> †	T <sub>1/2</sub>
0.0‡	3/2 <sup>-</sup>	1380 y 250
29.88‡ 11	(5/2 <sup>-</sup> )	
40.81# 11	7/2 <sup>+</sup>	
71.60‡ 13	(7/2 <sup>-</sup> )	
82.81# 23	(9/2 <sup>+</sup> )	
125.5‡ 4	(9/2 <sup>-</sup> )	
334.92@ 12	(5/2 <sup>+</sup> )	
378.1?@ 6	(7/2 <sup>+</sup> )	
447.80& 9	(5/2 <sup>-</sup> )	
489.4& 3	(7/2 <sup>-</sup> )	

- † From Adopted Levels.
- ‡ Band(A): 3/2[521] band.
- # Band(B): 7/2[633] band.
- @ Band(C): 5/2[642] band.
- & Band(D): 5/2[523] band.

ε radiations

E(decay)	E(level)	I <sub>ε</sub> †‡	Log ft	Comments
(124 16)	489.4	0.032 7	6.99 18	εL=0.667 14; εM+=0.333 15
(165 16)	447.80	1.60 16	5.65 16	εK=0.16 10; εL=0.58 6; εM+=0.26 4
(235# 16)	378.1?			
(278 16)	334.92	2.7 3	6.18 10	εK=0.53 3; εL=0.335 18; εM+=0.136 9
(488# 16)	125.5			
(530 16)	82.81	21 3	6.05 7	εK=0.680 4; εL=0.232 3; εM+=0.0880 13 I <sub>ε</sub> : Total ε feeding to the 82.81-, and 125.5-keV levels.
(541# 16)	71.60			
(572 16)	40.81	74 12	5.58 8	εK=0.689 4; εL=0.2258 23; εM+=0.0852 11 I <sub>ε</sub> : Total ε feeding to the 29.88-, 40.81-, and 71.60-keV levels.
(583 16)	29.88			

† Electron-capture intensity per 100 ε decay, deduced from intensity balance at each level.

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$^{247}\text{Cf}$   $\varepsilon$  decay **1979Ah03** (continued)

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$\varepsilon$  radiations (continued)

‡ For absolute intensity per 100 decays, multiply by 1.00635 5.

# Existence of this branch is questionable.