

Adopted Levels

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	M. J. Martin, C. D. Nesaraja		NDS 186, 261 (2022)	31-Dec-2021

$Q(\beta^-) = -5410$ SY; $S(n) = 8010$ SY; $S(p) = 3880$ SY; $Q(\alpha) = 7517$ 4 [2021Wa16](#)

$\Delta Q(\beta^-) = 260$, $\Delta S(n) = 170$, $\Delta S(p) = 170$ (syst, [2021Wa16](#)).

$S(2n) = 14744$ 22, $S(2p) = 6915$ 13 ([2021Wa16](#)).

For references on theoretical studies refer to the NSR file at the Web site given in the abstract.

 ^{242}Cf LevelsCross Reference (XREF) Flags

- A ^{246}Fm α decay
- B ^{242}Es ε decay

E(level)	J^π	$T_{1/2}$	XREF	Comments
0.0	0^+	3.5 min 2	AB	<p>$\% \alpha = 61$ 3; $\% \varepsilon + \% \beta^+ = 39$ 3; $\% \text{SF} \leq 0.014$</p> <p>$\% \alpha$: From α decay of ^{246}Fm (2011Ve03). Others: 80 % 20 deduced by 1981Mu12 from relative alpha intensities of mother and daughter decay following ^{246}Fm decay.</p> <p>$\% \varepsilon + \% \beta^+$: Deduced from β/ε obtained from intensity ratio of α lines of ^{242}Cf and ^{246}Fm by 2011Ve03.</p> <p>$\% \text{SF}$: The upper limit for SF decay was obtained by 1995La09.</p> <p>$T_{1/2}$: The measured half-lives are $T_{1/2}(^{242}\text{Cf}) = 3.7$ min 3 (1967Il01), 3.2 min 5 (1967Fi04), 3.4 min 2 (1967Si07), and 3.68 min 44 (1970Si19). A weighted average of these values gives 3.49 15. The evaluators assign as uncertainty the smallest of the input values, giving 3.49 20 and then rounds off the value.</p>
0+x (45 SY)	(2^+)		B B	<p>$\% \text{SF} = 1.3 +12-7$ (2010An08)</p> <p>J^π: from systematic of neighboring even even nuclei.</p>