

Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia	NDS 107,3323 (2006)	15-Mar-2006

$Q(\beta^-) = -3.94 \times 10^3$ syst; $S(n) = 6.68 \times 10^3$ 8; $S(p) = 4.08 \times 10^3$ syst; $Q(\alpha) = 6.77 \times 10^3$ 5 [2012Wa38](#)

Note: Current evaluation has used the following Q record -3800 syst 6700 syst 4200 syst 6800 syst [2003Au03](#).

$\Delta Q(\beta^-) = 300$ (syst), $\Delta S(n) = 300$ (syst), $\Delta S(p) = 230$ (syst), $\Delta Q(\alpha) = 200$ (syst) [2003Au03](#).

Mass excess for ^{237}Cm was interpolated in [1988Ha24](#) as 49.35 MeV from plots of “semiempirical-microscopic mass” systematics verses $N_p N_n / (N_p + N_n)$. The “semiempirical- microscopic mass” terms, giving the structure-dependent component of the atomic masses, were taken as the differences between the empirical masses of [1985Wa02](#) and the calculated masses of [1981Mo24](#) for spherical nuclei. From [2003Au03](#), mass excess for ^{237}Cm is 49.28 $2I$ (syst) MeV.

The nucleus and its decay have not been experimentally studied. Existence of a level at ≈ 190 keV is deduced from the 7342-keV α observed in ^{241}Cf decay.

 ^{237}Cm LevelsCross Reference (XREF) Flags

[A](#) ^{241}Cf α decay

E(level)	XREF	Comments
(0.0)	A	α branching of ^{241}Cf to ^{237}Cm has not been experimentally determined, but estimated by the evaluator as 14% 7. The assumption that the observed 7342-keV α of ^{241}Cf is a favored transition (therefore $HF \leq 4.0$) and its intensity is about 76% of α decay yield $\% \alpha \geq 12.5$. See ^{241}Cf α decay.
≈ 194	A	E(level): level energy is calculated from $Q(\alpha)(^{241}\text{Cf}) = 7660$ keV (2003Au03) and $E\alpha = 7342$ keV (^{241}Cf α decay).