

Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 156, 1 (2019)	31-Jan-2019

$Q(\beta^-)=-649$ 12; $S(n)=6031$ 12; $S(p)=6880$ 5Y; $Q(\alpha)=5927$ 5 [2017Wa10](#)

Estimated uncertainty=360 for $S(p)$ ([2017Wa10](#)).

$S(2n)=10836$ 11, $S(2p)=12290$ 300 (syst) ([2017Wa10](#)).

[1955Ha35](#): ^{254}Cf produced and identified as daughter of 39.3-h ^{254}Es decaying by ε mode, measured half-life of ^{254}Cf decay.

[1955Be99](#), [1956Fi11](#), [1957Hu70](#), [1963Ph01](#), [1965Me02](#): half-life measurements, and $\% \alpha$ decay mode by [1968Be21](#).

[Additional information 1](#).

Theoretical studies: consult the NSR database at www.nndc.bnl.gov for 86 references dealing with theoretical calculations of half-lives for different decay modes, binding energies, fission characteristics, and other nuclear structure aspects.

 ^{254}Cf LevelsCross Reference (XREF) Flags

A ^{254}Es ε decay (39.3 h)

E(level)	J^π	$T_{1/2}$	XREF	Comments
0	0^+	60.5 d 2	A	$\%SF=99.69$ 2; $\% \alpha=0.31$ 2 (1968Be21) $\% \alpha$: from the α and fission counts, the branching ratio was determined by 1968Be21 as $\alpha/\text{fission}=0.00310$ 16. Earlier measurement: $\% \alpha \approx 0.2$, $\%SF \approx 99.8$ (F. Asaro, I. Perlman-quoted by 1978LeZA). $T_{1/2}$: measured by 1963Ph01 . This value was also recommended by 1965Me02 . The partial SF half-life of 60.9 d 9 was recommended by 2000Ho27 ; the SF branching of 99.69% 2 yields $T_{1/2}=60.7$ d 9. Other half-life measurements: 61.9 d 11 (1965Me02), 60.3 d 11 (1957Hu70 , revised by 1965Me02), 56.2 d (1956Fi11 , reanalyzed by 1957Hu70), 60 d 10 (1955Be99), 85 d 15 (1955Ha35).
(50 5Y)	$[2^+]$		A	XREF: A(?). E(level), J^π : level not seen experimentally. Energy and J^π here is from systematics of known 2^+ g.s. band members in A=244-252 Cf isotopes.