

^{250}Fm α decay

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja	NDS 198,449 (2024)	31-Jul-2022

Parent: ^{250}Fm : $E=0.0$; $J^\pi=0^+$; $T_{1/2}=31.0$ min 15; $Q(\alpha)=7557$ 8; $\% \alpha$ decay > 90

^{250}Fm - $T_{1/2}$: From weighted average of 32.5 min 18 (2018Mi11), 28.4 min +39-30 (2008Ga25), 30.4 min 15 (2006Ba09) and 30 min 3 (1957Am47). Others: 18 min +13-6 (2006Fo02), 23 min +15-10 (1981Mu06), 20.1 min 80 (2006Ni09), 30 min (1962Do11). The current value in the ENSDF database (2001Ak11) is 30 min 3.

^{250}Fm - $Q(\alpha)$: From 2021Wa16.

^{250}Fm - $\% \alpha$ decay: From 2001Ak11.

2006Fo02: ^{250}Fm was produced from the ε decay of ^{250}Md . The study of the ^{262}Bh decay chain was performed at Berkeley Gas-filled Separator at Lawrence Berkeley Laboratory. Measurements were performed with Si detectors and multiwire proportional counter. Measured $E\alpha$ and $T_{1/2}$.

1981Mu06: ^{250}Fm was produced from the ε decay of ^{250}Md . The study of the decay chain was performed at UNILAC linear accelerator at GSI. Measurements were done with surface barrier detectors. Measured $E\alpha$ and $T_{1/2}$.

1977Be36: ^{250}Fm was produced from the ε decay of ^{250}Md . The study of the decay chain was performed at the Oak Ridge Isochronous Cyclotron (ORIC) at ORNL. Measurements were done with surface barrier detectors. Measured $E\alpha$.

1966Ak01: ^{250}Fm produced from $^{238}\text{U}(^{16}\text{O},6n)$. α decay was measured with (Si+Au) detectors. Measured $E\alpha$ and $T_{1/2}$.

Others: 1981Mu06, 1962Do11, 1957Am47.

 ^{246}Cf Levels

E(level)	J^π^\dagger	$T_{1/2}^\dagger$	Comments
0	0^+	35.7 h 5	
41 15	(2^+)		E(level): Calculated by evaluator from $E\alpha$ and $Q(\alpha)$.

† From Adopted Levels.

 α radiations

$E\alpha$	E(level)	$I\alpha^{\ddagger\#}$	HF ‡	Comments
7396 15	41	≈ 17	≈ 3.4	$E\alpha$: From 1977Be36, uncertainty estimated by the evaluator.
7435 15	0	≈ 83	≈ 1	$E\alpha$: From weighted average of 7424 35 (2006Fo02), 7435 35 (1981Mu06), 7439 15 (1977Be36; uncertainty estimated by the evaluator), 7440 30 (1973Es01; uncertainty estimated by the evaluator), 7420 30 (1966Ak01) and 7430 50 (1957Am47). Others: 7440 (1962Do11).

† Calculated by evaluator from $\text{HF}(7396) \approx 3.4$ estimated from systematics of neighboring even-even Cf nuclides (^{242}Cf , ^{244}Cf , ^{248}Cf , ^{250}Cf).

‡ The nuclear radius parameter $r_0(^{246}\text{Cf}) = 1.4776$ 41 is deduced by assuming $\text{HF} = 1.0$ for the ground-state to ground-state alpha decay branch.

$^\#$ For absolute intensity per 100 decays, multiply by > 0.9 .