

$^{246}\text{Fm}$   $\alpha$  decay

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

Parent:  $^{246}\text{Fm}$ :  $E=0.0$ ;  $J^\pi=0^+$ ;  $T_{1/2}=1.54$  s 4;  $Q(\alpha)=8379$  5;  $\% \alpha$  decay=93.2 6

$^{246}\text{Fm}$ - $T_{1/2}$ : Weighted average 1.54 s 4 (2011Ve03) and 1.6 s 2 (2012Pi05).

$^{246}\text{Fm}$ - $Q(\alpha)$ : From 2021Wa16.

$^{246}\text{Fm}$ - $\% \alpha$  decay: 2011Ve03 report  $\% \text{SF}=6.8$  6 and  $\%(\epsilon+\beta^+) \leq 1.3$  (from systematics. These combine to give  $\% \alpha=100-6.8$  6=93.2 6.

Note that the authors give 93.2 36 in their Table 1. The evaluators assume that the uncertainty is a misprint.

 $^{242}\text{Cf}$  Levels

E(level)	$J^\pi$	$T_{1/2}$	Comments
0.0 (45 syst)	$0^+$ ( $2^+$ )	3.5 min 2	E(level): Level has not been observed. Its energy is from systematics of $2^+$ level energies.

 $\alpha$  radiations

$E\alpha$	E(level)	$I\alpha^{\dagger\ddagger}$	HF	Comments
( $\approx 8198$ )	(45)	$\approx 23$	2.5	$E\alpha$ : No $\alpha$ group was observed. The energy is from $Q(\alpha)$ and the energy of the $2^+$ state from systematics.
8242 5	0.0	$\approx 77$	1.0	$E\alpha$ : calculated from $Q(\alpha)(^{246}\text{Fm})=8379$ 5. The measured energies are 8244 7 (2012Pi05), 8230 20 (1966Ak01), 8250 30 (1967Fl15), 8240 20 (1967Nu01).

$^\dagger$  Alpha intensity per 100  $\alpha$  decays, calculated by the evaluators from  $\text{HF}(\alpha \text{ to } 2^+ \text{ level})=2.5$ , estimated from  $\alpha$  hindrance factor .

$^\ddagger$  For absolute intensity per 100 decays, multiply by 0.932 6.