

$^{244}\text{Cf}$   $\alpha$  decay    [1967Si08,1967Fi04](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. Morse	NDS 206,359 (2025)	27-Sep-2024

Parent:  $^{244}\text{Cf}$ :  $E=0.0$ ;  $J^\pi=0^+$ ;  $T_{1/2}=19.5$  min 5;  $Q(\alpha)=7329.0$  18;  $\% \alpha$  decay=75 6

$^{244}\text{Cf}$ - $T_{1/2}$ : Weighted average of 19.3 min 12 ([2018Ko05](#)), 20.4 min 16 ([1967Fi04](#)), and 19.4 min 6 ([1967Si08](#)). Other: 20 min 11 ([1973Es02](#)), 25 min 3 ([1956Ch43](#)).

$^{244}\text{Cf}$ - $Q(\alpha)$ : From [2021Wa16](#).

$^{244}\text{Cf}$ - $\% \alpha$  decay: From [2018Ko05](#), though authors note that there may be unaccounted sources of systematic uncertainty.

[1950Th56](#), [1950Th57](#), and [1951Gh23](#) report on radioactivity initially assigned to  $^{244}\text{Cf}$ , but which was later reassigned to  $^{245}\text{Cf}$  in [1956Ch43](#).

 $^{240}\text{Cm}$  Levels

E(level)	$J^\pi$	Comments
0.0	$0^+$	
40 6	$(2^+)$	E(level): From difference of $E_\alpha$ . $J^\pi$ : From Adopted Levels.

 $\alpha$  radiations

$E\alpha^\dagger$	E(level)	$I\alpha^\ddagger@$	HF <sup>#</sup>	Comments
7174 4	40	25 8	2.1 7	$E\alpha$ : From <a href="#">1967Si08</a> . Other: 7178 keV 20 ( <a href="#">1996Ma72</a> ).
7214 4	0.0	75 3	1.000	$E\alpha$ : From <a href="#">1967Si08</a> . Other: 7218 keV 20 ( <a href="#">1967Fi04</a> ).

<sup>†</sup> The evaluator has considered values from studies where two  $\alpha$  decays were observed, namely [1996Ma72](#) and [1967Si08](#). Energies from other studies where only a single  $\alpha$  decay was observed: 7210 keV 20 ([1973Es02](#)), 7207 keV 2 ([1967Fi04](#)), 7170 keV 20 ([1956Ch43](#)).

<sup>‡</sup>  $\alpha$  intensity per 100  $\alpha$  decays, given as recommended by [1991Ry01](#) from the intensity ratio of  $I\alpha(7214\alpha)/I\alpha(7174\alpha)=3.0$  3, measured by [1967Si08](#). The increased uncertainty, following evaluation by [1991Ry01](#), reflects probable contributions from other sources.

<sup>#</sup> The nuclear radius parameter  $r_0(^{240}\text{Cm})=1.4981$  40 is deduced by assuming HF=1.0 for the ground-state to ground-state alpha decay branch.

<sup>@</sup> For absolute intensity per 100 decays, multiply by 0.75 6.