

Adopted Levels 1995La09,1970Si19

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, E. Browne		NDS 109,2439 (2008)	31-Jul-2008

$Q(\beta^-) = -6.2 \times 10^3$ syst; $S(n) = 8.33 \times 10^3$ syst; $S(p) = 3.55 \times 10^3$ syst; $Q(\alpha) = 7711$ 4 2012Wa38

Note: Current evaluation has used the following Q record 8180 syst 3540 syst 7719 10 2003Au03.

$\Delta S(n) = 290$, $\Delta S(p) = 310$.

Assignment: $^{233}\text{U}(^{12}\text{C}, 5n)$ excitation functions (1970Si19).

Other reactions:

$^{208}\text{Pb}(^{32}\text{S}, X)$: 2000Sh11 (also 2001Di18), 1995Ho08, 1994Ho03, 1983Ts02: GDR and other features of fission.

$(^{34}\text{S}, X)$, $(^{36}\text{S}, X)$ on Pb isotopes: 1995La09.

2007Hi04: $^{208}\text{Pb}(^{32}\text{S}, X)$; $^{206}\text{Pb}(^{34}\text{S}, X)$; $^{204}\text{Pb}(^{36}\text{S}, X)$, $E = 152\text{--}212$ MeV, measured cross sections and fusion barrier energy.

 ^{240}Cf Levels

E(level)	J^π	$T_{1/2}$	Comments
0	0^+	0.96 min 15	<p>$\% \alpha \approx 98$; $\% \text{SF} \approx 2$; $\% \varepsilon + \% \beta^+ = ?$</p> <p>Except for half-life and decay modes, no other properties of the decay of ^{240}Cf are known.</p> <p>$T_{1/2}$: weighted average from 0.9 min 2 (1995La09); 0.8 min +3-2 (1995La09); 1.06 min 15 (1970Si19).</p> <p>$T_{1/2}(\text{SF}) \approx 53$ min (recommended value by 2000Ho27) from 1995La09. The SF decay mode has been observed by 1995La09.</p> <p>Only the α decay and SF decay modes have been observed. However, calculations of 1997Mo25 predict $T_{1/2} = 54$ s for β decay and $T_{1/2} = 74$ s for α decay, suggesting that a significant fraction of the decay proceeds by β decay. However gross theory calculations of 1973Ta30 predict $400\text{--}10^6$ s which suggests $<14\%$ $\varepsilon + \beta^+$ decay.</p>