

Adopted Levels

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	B. Singh, J. K. Tuli, E. Browne		NDS 170, 499 (2020)	8-Oct-2020

$Q(\beta^-) = -3210$ SY; $S(n) = 6380$ 50; $S(p) = 4600$ SY; $Q(\alpha) = 6420$ 50 [2017Wa10](#)

Estimated $\Delta Q(\beta^-) = \Delta S(p) = 110$ ([2017Wa10](#)).

$S(2n) = 14400$ 60, $S(2p) = 8330$ 50 ([2017Wa10](#)).

[1957Th10](#): production and identification of ^{233}Pu in $^{233}\text{U}(\alpha, 4n)$, $E = 46$ MeV, followed by chemical separation.

In $^{237}\text{Np}({}^6\text{Li}, 6n)$ reaction followed by mass separation of fragments, [2002As08](#) assign an α group at 6660 10 to the decay of ^{237}Cm that may feed the g.s. of ^{233}Pu , but the half-life of ^{237}Cm is not determined due to low statistics. evaluators consider this assignment as preliminary.

Theoretical studies: consult the NSR database at www.nndc.bnl.gov for 11 references dealing with theoretical calculations about decay modes and half-lives, and four for nuclear structure.

[Additional information 1.](#)

 ^{233}Pu LevelsCross Reference (XREF) Flags

A ^{237}Cm α decay

E(level)	$T_{1/2}$	XREF	Comments
0	20.9 min 4	A	<p>$\% \alpha = 0.12$ 5 (1957Th10); $\% \epsilon + \% \beta^+ = 99.88$ 5</p> <p>$\% \alpha: (\alpha)/(\alpha + \epsilon + \beta^+) = 0.0012$ 5 was determined from ^{233}Np α activity (1957Th10).</p> <p>J^π: in analogy with g.s. and a low-lying level in ^{229}Th, 5/2[633] and 3/2[631] states are possible for g.s. Others: 5/2⁺ (syst, 2017Au03); 5/2⁻ from $\Omega(\text{neutron}) = 5/2^-$ in theoretical calculations (2019Mo01).</p> <p>$T_{1/2}$: from 1973Ja06. Other measurement: 20 min 2 (1957Th10). Theoretical half-lives (2019Mo01): >100 s for β decay, 13.6 d for α decay.</p>