

^{233}Pu α decay [1957Th10](#)

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev, J. K. Tuli and E. Browne		NDS 208,397 (2026)	23-Oct-2025

Parent: ^{233}Pu : $E=0.0$; $J^\pi=(5/2^+)$; $T_{1/2}=20.9$ min 4; $Q(\alpha)=6420$ 50; $\% \alpha$ decay=0.12 5

^{233}Pu - $T_{1/2}$: From 235.4 γ (t) and 534.8 γ (t) in [1973Ja06](#). Other: 20 min 2 ([1957Th10](#)).

^{233}Pu - $Q(\alpha)$: From [2021Wa16](#).

^{233}Pu - J^π : From systematics in N=139 isotones ([2021Ko07](#)).

^{233}Pu -Probable configuration= $\nu 5/2[633]$ Nilsson assignment.

[1957Th10](#): ^{233}Pu was produced in $^{233}\text{U}(\alpha,4n)$ reactions at $E(\alpha)=46$ MeV; chemical separation; alpha-pulse-height analyzer.

Measured: $E\alpha$, α (t).

 ^{229}U Levels

E(level)	J^π	$T_{1/2}$	Comments
0.0	$3/2^+$	57.8 min 5	$J^\pi, T_{1/2}$: From Adopted Levels. configuration= $\nu 3/2[631]$ Nilsson assignment.

 α radiations

$E\alpha$	E(level)	$I\alpha^\ddagger$	HF^\dagger	Comments
6300 20	0.0	100	3.5 17	$E\alpha$: From 1957Th10 . It is also possible that the 6300 α populates an excited level in ^{229}U with $E \leq 50$ keV.

† $r_0(^{229}\text{U})=1.511$ 24, weighted average of 1.487 50 (^{228}U) and 1.518 27 (^{230}U) in [2020Si16](#).

‡ For absolute intensity per 100 decays, multiply by 0.0012 5.