

Adopted Levels

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen		NDS 191,1 (2023)	22-Aug-2023

$S(n)=10040$ syst; $S(p)=740$ syst; $Q(\alpha)=7160$ 60 [2021Wa16](#)

$\Delta S(n)=430$, $\Delta S(p)=370$ (syst,[2021Wa16](#)).

$S(2n)=22580$ 500, $S(2p)=-420$ 370, $Q(\epsilon p)=11390$ 310, $Q(\epsilon)=10320$ 310 (syst,[2021Wa16](#)).

$Q(\alpha)=7154$ 7 from weighted averaged $E\alpha=6983$ 7 from $E\alpha=6985$ 8 ([2019Hi06](#)), 6979 7 ([2004Ke06](#)), 6988 10 ([1996Bi07](#)); if 6983 α is a g.s. to g.s. transition.

[1996Bi07](#): ^{167}Pt produced and identified in $^{92}\text{Mo}(^{78}\text{Kr},3n)$ reaction at $E(^{78}\text{Kr})=357, 384$ MeV, followed by mass separation using fragment mass analyzer at ORNL cyclotron facility. ^{92}Mo target was 97% enriched. Measured $E\alpha$ and half-life of the decay of ^{167}Pt .

[2004Ke06](#): ^{167}Pt produced in $^{96}\text{Ru}(^{78}\text{Kr},3n\alpha)$, $E=361-391$ MeV, followed by recoil mass separation using RITU separator at the University of Jyvaskyla cyclotron facility. Measured $E\alpha$ and half-life of the decay of ^{167}Pt .

[Additional information 1](#).

[2019Hi06](#): ^{167}Pt produced in $^{96}\text{Ru}(^{78}\text{Kr},3n\alpha)$, $E=390$ MeV, followed by recoil mass separation using MARA separator at the University of Jyvaskyla cyclotron facility. Measured $E\alpha$ and half-life of the decay of ^{167}Pt .

No reference was found in the NSR database for theoretical structure calculation for ^{167}Pt .

 ^{167}Pt Levels

E(level)	J^π	$T_{1/2}$	Comments
0	(7/2 ⁻)	0.9 ms 2	<p>$\% \alpha=100$</p> <p>Only the α decay has been detected by 1996Bi07, 2004Ke06 and 2019Hi06. From theoretical calculations in 2019Mo01, $T_{1/2}(\beta)=0.2167$ s implying $\% \epsilon + \% \beta^+ \approx 0.4$. From Gross theory of β decay, $T_{1/2}(\beta) \approx 0.9$ s (1973Ta30) implying $\% \epsilon + \% \beta^+ = 0.1$.</p> <p>$T_{1/2}$: from α decay, weighted average of 1.1 ms 2 (2019Hi06), 0.9 ms +3-2 (2004Ke06) and 0.7 ms 2 (1996Bi07).</p> <p>J^π: probable favored α decay to (7/2⁻) g.s. in ^{163}Os. Possible $\nu f_{7/2}$ orbital. Additionally, (7/2⁻) g.s. of ^{169}Pt and ^{171}Pt, and 7/2⁻ g.s. for ^{175}Pt. 7/2⁻ proposed by 2021Ko07 from systematic trend. In theoretical calculations, 2019Mo01 give 3/2⁻.</p>