

Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Khalifeh Abusaleem	NDS 116, 163 (2014)	31-Dec-2012

S(p)=3772 79; Q(α)=7940 18 [2012Wa38](#)

Calculations:

Equilibrium deformation energy: [1988So08](#).

[2003Ni10](#): ^{228}Pu was produced when ^{34}S ions bombarded ^{198}Pt at $E_{\text{beam}}=170$ and 172 MeV ($E_{\text{c.m.}}=141$ and 143 MeV).

Average $E(\alpha)=7772$ 35 and $Q(\alpha)=7948$ 36. These are in agreement with Geiger-Nuttall predictions.

$E\alpha=7810$ 20 from $^{208}\text{Pb}(^{24}\text{Mg},4n)^{228}\text{Pu}$ at beam energy $E/A=5.50$ MeV/u. Assigned to ^{228}Pu on the basis of genetic correlations with the α decay of known isotope ^{224}U and its daughter products ([1994An02](#),[1994Ye08](#)).

Estimated from Geiger-Nuttall law:

$Q(\alpha)=7823$, $T_{1/2}(\alpha)=0.24$ s ([1987Po06](#)).

$Q(\alpha)=8086$ 4, $T_{1/2}(\alpha)=0.14$ s ([1985Po25](#)).

$Q(\alpha)=7807$, $T_{1/2}(\alpha)=0.24$ s ([2003Ni10](#)).

$Q(\alpha)=7736$, $T_{1/2}(\alpha)=1.91$ s ([2003Ni10](#)).

 ^{228}Pu Levels

E(level)	J^{π}	$T_{1/2}$	Comments
0.0	0^{+}	1.1 s +20-5	$\% \alpha=100$ $\% \alpha$: $T_{1/2}(\epsilon) \approx 200$ s calculated from gross β^{-} decay theory (1973Ta30). This half-life predicts $\% \epsilon < 1.6$. From theoretical $T_{1/2}(\epsilon) < 7$ s (1997Mo25) and $T_{1/2}(\epsilon) \approx 200$ s $\% \epsilon$ should be < 7 . $T_{1/2}$: From α -decay (2003Ni10).