Adopted Levels

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Ictp-2014 Workshop Group	NDS 132, 257 (2016)	15-Jan-2016

Q(β^-)=−2190 *18*; S(n)=7273 *14*; S(p)=3654 *9*; Q(α)=6580.4 *21* 2012Wa38
S(2n)=13650 *70*, S(2p)=9385 *9* (2012Wa38).

^{227}Pa evaluated by B. Singh.

1951Me10: ^{227}Pa produced and identified in ^{232}Th(p,6n) reaction at Berkeley cyclotron facility. ^{227}Pa isotope seems to have been formed in earlier experiments (1948Gh01 and P.R. O′Connor and G.T. Seaborg, Phys. Rev. 74, 1189 (1948)) at Berkeley using U(^{3}He,F),E=380 MeV reaction with fission yield measured. In another study (Meinke et al, Jour. Inorg. Chem. 3, 69 (1956)) yield measurements were reported in several reactions leading to the production of ^{227}Pa.
Experimental spectroscopic studies of decay of ^{227}Pa: 1995Li04, 1990Sh15, 1989Ah05. Others: 1991Ga28, 1973Ja06, 1964Ge08, 1963Su10 (also 1962Su09), 1958Hi78,
1999Sc17, 1997Sc26: measured $\alpha(\theta)$ from oriented ^{227}Pa nuclei.
1991Cw01, 1987Sh24, 1984Le04: calculated levels, J, π, reflection-asymmetric shapes.
2016Du01: measured fission fragment mass distributions from ^{227}Pa compound nucleus formed in ^{208}Pb(^{19}F,X),E=87-120 MeV.
Additional information 1.

^{227}Pa Levels

Cross Reference (XREF) Flags

A ^{231}Np α decay (48.8 min)

E(level)	J^π	$T_{1/2}$	XREF	Comments
0.0	(5/2$^-$)	38.3 min *3*	A	%α=85 *2*; %ε=15 *2* Decay modes from εK(exp)/α=0.18 *2* (1951Me10). $T_{1/2}$: from α-decay curve (1951Me10). J^π: favored α decay (HF=2.5) to ^{223}Ac ground state, (5/2$^-$). 1990Sh15 (also 1990Sh16) suggested J^π=5/2$^-$, whereas 1989Ah05 preferred J^π=5/2$^+$ for ^{223}Ac g.s.