Adopted Levels

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev, S. Lalkovski	NDS 112,707 (2011)	1-Aug-2010

S(n)=1.039×10^4 *syst*; S(p)=−2.9×10^2 *6*; Q(α)=7.84×10^3 *5* 2012Wa38

Note: Current evaluation has used the following Q record 10450 *90* 280 *60* 7840 *50* 2003Au03.

1998Es02: activity produced by bombarding a 320 μg/cm thick ^{175}Lu target with 198-MeV and 199-MeV ^{36}Ar ions. The reaction products were separated by a gas-filled separator (RITU) and implanted into a position sensitive PIPS detector (800 mm wide and 35 mm high). Separate amplified branches for energy ranges 0.5-15 MeV (α-decay) and 2-200 MeV (reaction residues) were used. Decay of ^{207}Ac was identified using 4 quadrupole events (recoil-α_1-α_2-α_3) and 5 triple events of which three were (recoil-α_1-α_2) and two (recoil-α_2-α_3). The results also included 3 triple events from 1994Le05.

1998LuZV: activity produced by bombarding a 307 μg/cm^2 hafnium target (64.6% ^{176}Hf, 21.7% ^{177}Hf, 6.8% ^{178}Hf, 2.2% ^{179}Hf and 4.7% ^{180}Hf) with 186-MeV (effective energy at half-target thickness) ^{35}Cl ions (beam intensity was about 600 enA). The reaction products were separated by a recoil mass separator at JAERI and implanted on position-sensitive silicon detector.

The results from 1998Es02 include raw data reported in 1994Le05.

^{207}Ac Levels

E(level)	J^π	$T_{1/2}$	Comments
0	(9/2$^-$)	27 ms *+11−6*	%α≈100 $T_{1/2}$: From 1998Es02; superseded 22 ms +40 −9 (1994Le05). Other: 65 ms *+32−16* (1998LuZV). J^π: Unhindered α decay to ^{203}Fr(J^π=(9/2$^-$)) and subsequent unhindered decays to ^{199}At(J^π=(9/2$^-$)), and to ^{195}Bi(J^π=(9/2$^-$)). Eα=7693 keV *25* form 1998Es02; superseded 7712 keV *25* (1994Le05). Other: 7734 keV *50* (1998LuZV). Configuration=(π h$_{9/2}$)$^{+1}$. The assignment is tentative.