^{156}Ta p decay (106 ms) 1992Pa05,1996Pa01,2011Da12

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 160, 1 (2019)	21-Oct-2019

Parent: ^{156}Ta: E=0.0; $J^{\pi}=(2^-)$; $T_{1/2}$=106 ms *4*; Q(p)=1020 *4*; %p decay=71 *3*

^{156}Ta-Q(p): from 2017Wa10.

^{156}Ta-$T_{1/2}$: from 2011Da12.

^{156}Ta-Q(p): Additional information 1.

^{156}Ta-%p decay: from 2011Da12.

Additional information 2.

Data are from 2003Re20 and are based on the studies of 1992Pa05 and 1996Pa01; also from 2011Da12.

1992Pa05: nuclide produced using the ^{106}Cd(^{58}Ni,p3n) reaction, E(^{58}Ni)=300 MeV. Recoil products separated in a recoil mass separator and analyzed using a double-sided Si strip detector (FWHM< ≈20 keV). Measured correlation of decay products, $T_{1/2}$, E(p), and proton branching fraction.

1996Pa01: nuclide produced in heavy-ion fusion reactions initiated by ^{58}Ni and ^{70}Ge bombardment of ^{102}Pd, ^{106}Cd and ^{112}Sn targets, with bombarding energies ranging from 290 MeV to 354 MeV. Reaction products separated in a recoil mass separator and analyzed using a double-sided Si strip detector. Measured correlation of decay products, $T_{1/2}$, E(p) and proton branching fraction.

2011Da12: nuclide produced using the ^{106}Cd(^{58}Ni,p3n) reaction, E(^{58}Ni)=290 MeV, leading to ^{160}Re that α decays to ^{156}Ta, p-decay parent of ^{155}Hf (lower decays to ^{156}Hf and ^{152}Yb were also detected). Fusion-evaporation products were separated in flight by a gas-filled separator, then implanted in a double-sided Si strip detector. A multiwire proportional detector provided discrimination in between evaporation residues, scattered beam, and decay particles. A planar double-sided Ge strip detector was mounted downstream to measure the energy of low-energy gamma rays. 10 ns precise time stamp was assigned by the acquisition system for offline data analysis. $T_{1/2}$, E(p) and proton branching fraction were measured for the p decay of ^{156}Ta that are included in this evaluation.

^{155}Hf Levels

E(level)	J^{π}	$T_{1/2}$	Comments
0.0	$(7/2^-)$	843 ms *30*	J^{π},$T_{1/2}$: adopted values (from Adopted Levels dataset).

Protons (^{155}Hf)

E(p)	E(^{155}Hf)	I(p)	Comments
1010 *5*	0.0	100	E(p): weighted average of 1022 *13* (1992Pa05), 1007 *5* (1996Pa01), and 1011 *5* (2011Da12).