^{171}Pt α decay (45.5 ms) 1981De22,1981Ho10

History

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

Parent: ^{171}Pt: E=0.0; J^π=(7/2$^-$); $T_{1/2}$=45.5 ms *25*; Q(α)=6607 *3*; %α decay=90 *7*

^{171}Pt-J^π,$T_{1/2}$: From ^{171}Pt Adopted Levels in the ENSDF database (June 2018 update). No new references after this update.

^{171}Pt-Q(α): From 2021Wa16.

^{171}Pt-%α decay: %α=90 *7* for the decay of ^{171}Pt from ^{171}Pt Adopted Levels in the ENSDF database (June 2018 update).

1981De22: sources from ^{112}Sn(^{63}Cu,p3n), E=240-300 MeV; measured Eα (annular silicon detector), parent $T_{1/2}$.

1981Ho10: sources from ^{58}Ni bombardments of tin; measured Eα (silicon detector system correlating time, energy, position), parent and daughter $T_{1/2}$, %α(^{167}Os).

1982En03: sources from ^{144}Sm(^{32}S,5n), E≈186 MeV; recoil-mass selection; measured Eα (thin gas ΔE, surface-barrier E detectors), parent and daughter $T_{1/2}$, %α(^{167}Os).

1996Pa01: sources from heavy-ion fusion-evaporation reactions; recoil mass separator, double-sided Si strip detector (FWHM≤20 keV); measured Eα, parent and daughter $T_{1/2}$, %α(^{167}Os).

1997Uu01: observed (evaporation residue)-α(mother)-α(daughter) correlated chains following the ^{144}Sm(^{36}Ar,5n) reaction at E=180-230 MeV; gas-filled recoil separator with PIPS detector in focal plane. Measured Eα (FWHM≈27 keV), parent $T_{1/2}$.

2002Ro17: ^{102}Pd(^{78}Kr,X) E=340 MeV, Berkeley gas-filled separator, measured half-life of ^{171}Pt α decay.

2004GoZZ: source from ^{84}Sr bombardment of Mo targets. Measured Eα, %α.

^{167}Os Levels

E(level)	J^π	Comments
0.0	(7/2$^-$)	J^π: from the Adopted Levels.

α radiations

Eα	E(level)	Iα[‡]	HF[†]	Comments
6453 *3*	0.0	100	1.58 *16*	Eα: value recommended by 1991Ry01, based on 6453 keV *4* (1981De22), 6452 keV *5* (revision of 6448 *5*, 1981Ho10), 6455 keV *10* (revision of 6450 *10*, 1982En03). Other Eα: 6450 *11* (1997Uu01).

[†] The nuclear radius parameter r_0(^{167}Os)=1.5607 *30* is deduced from interpolation (or unweighted average) of radius parameters of the adjacent even-even nuclides (2020Si16).

[‡] For absolute intensity per 100 decays, multiply by 0.90 *7*.