^{172}Pt α decay   1981De22,2003Da06,2004GoZZ

		History	
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 111, 1807 (2010)	15-Jun-2010

Parent: ^{172}Pt: E=0.0; J^{π}=0$^+$; T$_{1/2}$=97.6 ms 13; Q(α)=6464 4; %α decay=94 6

^{172}Pt-%α decay: From 2004GoZZ. other data: 94 +6−32 (1984ScZQ).

Others: 1975Ga25, 1982En03, 1984ScZQ, 1993ToZY, 1996Pa01, 2002Ro17, 2009An20.

2004GoZZ: source from α decay of ^{176}Hg produced In ^{84}Sr + ^{92}Mo reaction, E(^{84}Sr)=390,395 MeV; fragment mass analyzer; recoil-decay tagging technique; measured Eα, %α.

2003Da06: ^{172}Pt source from ^{92}Mo(^{84}Sr,2p2n), E=390, 395 MeV; fragment mass analyzer with multiwire parallel grid avalanche counter At focal plane; double-sided Si strip detector; measured Eα, parent T$_{1/2}$.

1981De22: sources from (^{63}Cu,xnyp) reaction on isotopically enriched targets of ^{112}Sn, ^{116}Sn or ^{113}In, (E(^{63}Cu)=245-300 MeV, helium-jet transport); measured excit, Eα, Iα (annular Si detector), parent T$_{1/2}$.

T$_{1/2}$(^{172}Pt)=97.6 ms 13 from 6316α(t) (2003Da06). Other T$_{1/2}$ data are 100 ms 20 (2009An20), 104 ms 7 (2002Ro17), 96 ms 3 (1996Pa01), 0.110 s 20 (1993ToZY), 0.09 s 1 (1982En03), 120 ms 10 (1981De22), 0.10 s 1 (1975Ga25), 0.12 s 5 (1984ScZQ). the weighted average of of all data is 97.8 ms 11.

Q(α)(^{172}Pt)=6464 4 is from 2009AuZZ.

^{168}Os Levels

E(level)	J^{π}
0.0	0$^+$

α radiations

Eα	E(level)	HF†	Comments
6315 3	0.0	1.0	Eα: weighted average of 6317 5 (2004GoZZ), 6316 5 (2003Da06) and 6314 4 (1981De22; recommended by 1991Ry01). others: 6324 15 (2009An20), 6314 20 (1984ScZQ). the adopted Eα implies Q(α)=6465 3 cf. 6465 4 In 2003Au03 and 6464 4 from 2009AuZZ. Iα: only one α group was observed. Probable α decay to the 341.2-keV 2$^+$ excited state is estimated to be <4% of α decay by requiring its hindrance factor to be greater than 1.0. Iα(6314α)=98 2 per 100 α decays is used in the computation of the r$_0$ parameter. correlated with 5676α from ^{168}Os daughter (2004GoZZ), and with α decays from ^{176}Hg parent and ^{180}Pb grandparent (2009An20).

† r$_0$(^{168}Os)=1.557 4 is calculated from Hf(6315α)=1.0 if Iα=98 2.