^{170}Au α decay (0.29 ms) 2004Ke06

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 109, 1103 (2008)	1-Mar-2008

Parent: ^{170}Au: E=0.0; J^π=(2$^-$); $T_{1/2}$=0.29 ms *+5−4*; Q(α)=7170 *10*; %α decay=11 *10*

^{170}Au-%α decay: based on %p(^{170}Au)=89 *10* (2004Ke06).

2004Ke06: source from ^{96}Ru(^{78}Kr,p3n), E(^{78}Kr)=385 MeV; tof and energy-loss gas detector and position-sensitive focal plane detector; observed correlated recoil-proton-α decay chain; measured $T_{1/2}$, %p, Eα for ^{170}Au α decay, α-α correlations (2004Ke06).

Parent J^π: unhindered (HF<4) α decay to (2$^-$) ^{166}Ir.

^{166}Ir Levels

E(level)	J^π[†]
0.0	(2$^-$)

[†] From Adopted Levels.

α radiations

Eα	E(level)	Iα[‡]	HF[†]	Comments
7001 *10*	0.0	100	2.2 *21*	Iα: only one α group has been observed. Eα: from 2004Ke06; this Eα implies Q(α)=7170 *10*, cf. 7168 *21* from 2003Au03. correlated with known α decays from g.s. of ^{166}Ir and ^{162}Re (2004Ke06).

[†] If r_0=1.56 *1*, estimated from r_0(^{164}Os)=1.554 *17* (1998Ak04), r_0(^{166}Os)=1.5638 *12* (this evaluation), r_0(^{168}Pt)≈1.55; r_0(^{166}Pt) not known; Q(α)=7170 *10* (from Eα=7001 *10*); $T_{1/2}$=0.29 ms *+5−4* from combination of p(t) and α(t) data (2004Ke06).

[‡] For absolute intensity per 100 decays, multiply by 0.11 *10*.