^{182}Au α decay 1995Bi01,1979Ha10

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Achterberg, O. A. Capurro, G. V. Marti	NDS 110, 1473 (2009)	31-May-2008

Parent: ^{182}Au: E=0.0; $J^\pi=2^+$; $T_{1/2}$=15.5 s *4*; Q(α)=5526 *4*; %α decay=0.13 *5*

^{182}Au-J^π from 2001Ib02; $T_{1/2}$ from 2003Au02; Q(α) from 2003Au03; branching from 1995Bi01.

^{182}Au-The half-life measurements for three α transitions and for the ^{182}Au ε decay reported in 1995Bi01 lead to an average of $T_{1/2}$=15.0 s *8*.

1995Bi01: Activities produced by the bombardment of Yb (diffused into a C felt) with 165MeV ^{19}F beam. Identification and measurements using the UNISOR on-line isotope separator. Si(Li) detectors to identify α rays and electrons. Ge(Li) detectors to measure γ and x-rays, Si(Au) surface barrier detector to measure α particles. Two Ge(Li) detectors were used to observe γ and x-rays in coincidence. Measured Eα, Iα, $\alpha\gamma$ coin., α-x coin., α-e coin., and half-lives, deduced HF.

1979Ha10: Activity produced by protons on Pb; E=600 MeV. Measured Eα, Iα, $\alpha\gamma$ coin. Detectors: semiconductors Ge(Li).

^{178}Ir Levels

Level and transition energies are from 1995Bi01, as well as the HF estimates.

E(level)	J^π	$T_{1/2}$	Comments
0.0		12 s *2*	$T_{1/2}$: from Adopted Levels.
54.4 *5*	(2^+)		J^π: from the hindrance factor of the α transition feeding this level, which indicates that it has the same J^π and structure as the ^{182}Au g.s., for which a $J^\pi=(2^+)$ has been established (2001Ib02).
123 *7*			E(level): from α-particle energy differences (1995Bi01).

α radiations

Eα	E(level)	Iα[†]	HF	Comments
5283 *5*	123	7	28	
5352 *5*	54.4	72	3	Eα: other value: 5353 *10* (1979Ha10).
5403 *5*	0.0	21	21	

[†] For absolute intensity per 100 decays, multiply by 0.0013 *5*.

$\gamma(^{178}Ir)$

E_γ	E_i(level)	J_i^π	E_f	Comments
54.4 *5*	54.4	(2^+)	0.0	E_γ: from 1995Bi01.

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Decay Scheme