^{199}At α decay (6.92 s)   2013Ja06,1986Wo03,1967Tr06

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Huang Xiaolong and Kang Mengxiao	NDS 121, 395 (2014)	1-Mar-2014

Parent: ^{199}At: E=0.0; J^{π}=(9/2$^-$); $T_{1/2}$=6.92 s 13; Q(α)=6777.2 12; %α decay=90.0

^{199}At-$T_{1/2}$: from 2013Ja06.

^{199}At-%α decay: %α=90 (2013Ja06). Others: %$\alpha \approx$100 (theoretical calculation from 1973Ma52), $\approx$90 (systematics (1980Sc26)).

1967Tr06: ^{199}At from ^{185}Re(^{20}Ne,6n) E=100-200 MeV. Eα, $T_{1/2}$, and σ(E) measured.

1980Ew03: ^{199}At from U(p,X), E=660 MeV. Eα and $T_{1/2}$ measured.

1986Wo03: ^{199}At from Re,Ir(^{20}Ne,xn), E=120-180 MeV. Eα, A(θ) measured.

2013Ja06: ^{199}At from ^{203}Fr(α)[from ^{169}Tm(^{40}Ar,6n)]. E(^{40}Ar)=205 MeV provided by the K-130 cyclotron at the Accelerator Laboratory in the University of Jyvaskyla (JYFL). Target=^{169}Tm (99.8%). Measured Eγ, Iγ, Eα, Iα, E(ce), I(ce), $\gamma\gamma$, (ce)γ-coin, $T_{1/2}$ using the recoil-decay tagging (RDT) technique with JUROGAM array. Deduced α branching ratio.

For evaluations, see 1991Ry01, 1988Sc02, and 1986BrZQ.

For α decay systematics, see 1983Po07.

^{195}Bi Levels

E(level)	J^{π}
0†	[9/2$^-$]†

† From Adopted Levels.

α radiations

Eα	E(level)	Iα†	HF	Comments
6643 3	0	100	1.7 3	Eα: from weighted av of 6645 3 (1975BaYJ) and 6639 5 (1973Ry07), recalibration of 1967Tr06). Others: 6636 10 (1980Ew03), 6643 (1986Wo03). Uncertain placement between ground states of ^{199}At and ^{195}Bi. Measured anisotrophy vs 1/T (1986Wo03).

† For absolute intensity per 100 decays, multiply by 0.90.