

^{191}At α decay (2.1 ms) 2003Ke08,2005Ke10

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia	NDS 110, 999 (2009)	1-Nov-2008

Parent: ^{191}At : $E=55\ 30$; $J^\pi=(7/2^-)$; $T_{1/2}=2.1\ \text{ms} +4-3$; $Q(\alpha)=7820\ 30$; $\% \alpha$ decay ≈ 100.0

^{191}At - $T_{1/2}$: From $T_{1/2}=1.7\ \text{ms} +11-5$ (2003Ke08).

^{191}At - $\% \alpha$ decay: From 2007Va21.

2003Ke08, 2005Ke10: ^{191}At from $^{141}\text{Pr}(^{54}\text{Fe},4n)$, $E=248$ to $266\ \text{MeV}$ 8 8 energy points were checked for an optimum cross section; fusion-evaporation residues (ER) were separated using gas-filled recoil separator RITU; Detectors: position sensitive silicon detector, quadrant silicon detector; Measured: $E\alpha$, $I\alpha$, $T_{1/2}$ from ER- $\alpha(^{191}\text{Pt})$ - $\alpha(^{187}\text{Bi})$ coin.

 ^{187}Bi Levels

E(level)	J^π	Comments
0.0	$9/2^-$	J^π : Possible configuration $\pi h_{9/2}$ (2003Ke08).
63 10	$7/2^-$	E(level): Deduced by the authors (2003Ke08) from the shape of the α -decay spectrum and simulation. J^π : From systematics of the heavier odd-mass ^{189}Bi and ^{191}Bi isotopes and simulation result (2003Ke08).

 α radiations

$E\alpha^{\ddagger}$	E(level)	$I\alpha^{\ddagger\#}$	HF †
7653 15	63	98 2	1.1 3
7715 13	0.0	2 2	50 50

† From 2003Ke08, calculated from the measured values using the method in 1959Ra14 and normalized to the α decay of ^{212}Pb .

‡ Extracted based on the shape of the α -decay spectrum, a result of the simulation, and systematics of the heavier odd-mass At isotopes ^{193}At and ^{195}At (2003Ke08).

$^\#$ For absolute intensity per 100 decays, multiply by ≈ 1 .

 $\gamma(^{187}\text{Bi})$

E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.
(63)	63	$7/2^-$	0.0	$9/2^-$	[M1]

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Legend

Decay Scheme----- \rightarrow γ Decay (Uncertain)