Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 108,79 (2007)	15-Oct-2006

Q(β^-)=−7.32×10^3 *7*; S(n)=1.017×10^4 *syst*; S(p)=639 *19*; Q(α)=6777.2 *12* 2012Wa38
Note: Current evaluation has used the following Q record −7300 80 *10220* 70 *630* 50 *6780* 50 2003Au03.
Q(εp)=3260 *60* (2003Au03).
^{199}At first identified by 1967Tr06 in ^{185}Re(^{20}Ne,6n) and ^{187}Re(^{20}Ne,8n) reactions at E=100-200 MeV.
Discussions on nuclear structure effects on α anisotropy: 2002De24, 1996Sc35, 1995Ro39, 1992Be52, 1988Be44, 1988Wo11, 1986Wo03.
Mass measurement; mass mapping: 1999Sc46, 2002No01.
Additional information 1.

^{199}At Levels

Cross Reference (XREF) Flags

- A ^{203}Fr α decay (0.549 s)
- B ^{203}Fr α decay (60 ms):?
- C (HI,xnγ)

E(level)	J$^\pi$	T$_{1/2}$	XREF	Comments
0	(9/2$^-$)	7.03 s *15*	A C	%α=90 *5*; %ε+%β^+=10 *5* J$^\pi$: from α anisotropy (1986Wo03), configuration=π 1h$_{9/2}$. From magnitude and sign of α anisotropy, 1986Wo03 exclude the possibility of 7/2$^-$ to 9/2$^-$ α decay. T$_{1/2}$: weighted average of 7.2 s *5* (1967Tr06), 7.0 s *5* (from figure 12 of 1975BaYJ, assuming that the value 7 s ±*0*.05 quoted in the table of 1975BaYJ is a misprint), 8.5 s *10* (1996Ta18), 7.8 s *4* (2005Uu02) and 6.92 s *13* (2005De01). Branching from 1980Ew03 (%α given as 92 +*3*−*8*).
0+x?	(1/2$^+$)		B	J$^\pi$: from systematics of odd-A nuclei in this mass region (see figure 8 of 2005Uu02). This level possibly decays to 9/2$^-$ g.s. through an intermediate 7/2$^-$ level of unknown energy; no γ transitions are known.
573	(13/2$^+$)	0.58 μs *13*	C	J$^\pi$: from systematics of nuclides in this region (2000La36). T$_{1/2}$: recoil-decay (timing of recoil-x ray and recoil-γ ray events) tagging method (2000La36).

γ(^{199}At)

E$_i$(level)	J$_i^\pi$	E$_\gamma$	E$_f$	J$_f^\pi$
573	(13/2$^+$)	573	0	(9/2$^-$)

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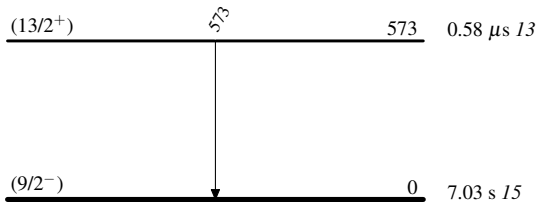
Level Scheme



$^{199}_{85}At_{114}$