

<sup>192</sup>At  $\alpha$  decay (88 ms) 2006An04

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev, S. Juutinen, D. J. Hartley		NDS 150, 1 (2018)	1-Feb-2018

Parent: <sup>192</sup>At: E=0+x; J <sup>$\pi$</sup> =(9<sup>-</sup>,10<sup>-</sup>); T<sub>1/2</sub>=88 ms 6; Q( $\alpha$ )=7696 26; % $\alpha$  decay=100.0

2006An04 (also 2005AnZY): <sup>192</sup>At produced in <sup>144</sup>Sm(<sup>51</sup>V,3n) reaction at E(<sup>51</sup>V)=230 MeV 1 at the middle of target (enrichment 96.5%). The evaporation residues were separated by velocity filter SHIP at GSI, and implanted into position-sensitive silicon (PSSD) detector. FWHM=25-35 keV. Measured E $\alpha$ , I $\alpha$ ,  $\gamma$ ,  $\alpha\gamma$  coin. Gamma rays measured with a four-fold segmented Clover Ge detector. The  $\alpha$  spectrum is complicated by summing of the ce and  $\alpha$  signals in the PSSD detector. Analyzed correlated recoil- $\alpha$ 1- $\alpha$ 2 chains. GEANT Monte-Carlo simulations for ce+ $\alpha$  summing.

<sup>188</sup>Bi Levels

E(level) <sup>†</sup>	J <sup><math>\pi</math></sup> <sup>‡</sup>	T <sub>1/2</sub> <sup>‡</sup>	Comments
0.0	(3 <sup>+</sup> )	60 ms 3	
0+x	(10 <sup>-</sup> )	265 ms 10	Configuration $\pi 1h_{9/2} \otimes \nu 1i_{13/2}$ proposed by the authors.
165+x 1	(9 <sup>-</sup> ,10 <sup>-</sup> )		Configuration $\pi 2f_{7/2} \otimes \nu 1i_{13/2}$ proposed by the authors.
188+x			

<sup>†</sup> From E $\gamma$ .

<sup>‡</sup> From Adopted Levels.

$\alpha$  radiations

E $\alpha$	E(level)	I $\alpha$ <sup>‡</sup>	HF <sup>†</sup>	Comments
7195 15	188+x	4.0 7	52 11	
7224 15	165+x	82 3	3.2 4	
7385 15	0+x	14 2	63 12	
7535 <sup>#</sup> 25	0.0	<1.0	>2318	E $\alpha$ : In the level scheme this $\alpha$ decay is placed to go to the g.s., but the authors also discuss possibility that it populates an excited state.

<sup>†</sup> r<sub>0</sub>=1.537 26, obtained as average of r<sub>0</sub> values for the neighboring even-even nuclei: r<sub>0</sub>(<sup>186</sup>Pb)=1.510 2, r<sub>0</sub>(<sup>188</sup>Pb)=1.511 8 and r<sub>0</sub>(<sup>190</sup>Po)=1.590 11, the later calculated by the evaluators from T<sub>1/2</sub>=0.78 ms 16, E $\alpha$ =7700 keV 10 and HF=1.0.

<sup>‡</sup> Absolute intensity per 100 decays.

<sup>#</sup> Existence of this branch is questionable.

$\gamma$ (<sup>188</sup>Bi)

E $\gamma$	E <sub>i</sub> (level)	J <sub>i</sub> <sup><math>\pi</math></sup>	E <sub>f</sub>	J <sub>f</sub> <sup><math>\pi</math></sup>	Mult.	Comments
(23)	188+x		165+x	(9 <sup>-</sup> ,10 <sup>-</sup> )		
<sup>x</sup> 27 1						
<sup>x</sup> 36 1						E $\gamma$ : This $\gamma$ may be the same as observed in <sup>192</sup> At 11.5 ms $\alpha$ decay.
<sup>x</sup> 64 1						
<sup>x</sup> 66 1						
<sup>x</sup> 101 1						
165 1	165+x	(9 <sup>-</sup> ,10 <sup>-</sup> )	0+x	(10 <sup>-</sup> )	M1	Mult.: From $\alpha$ (K)exp=3 1.
188 1	188+x		0+x	(10 <sup>-</sup> )		

<sup>x</sup>  $\gamma$  ray not placed in level scheme.

$^{192}\text{At}$   $\alpha$  decay (88 ms) 2006An04

Legend

Decay Scheme

----->  $\gamma$  Decay (Uncertain)

