

**Adopted Levels, Gammas**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 109,2033 (2008)	15-Jun-2008

Q( $\beta^-$ )=-1.07×10<sup>4</sup> syst; S(n)=9.5×10<sup>3</sup> syst; S(p)=1.09×10<sup>3</sup> syst; Q( $\alpha$ )=6858 6 2012Wa38

Note: Current evaluation has used the following Q record -10.59E3 syst 9410 syst 920 syst 6846 13 2003Au03.

$\Delta Q$ =-360,  $\Delta S(n)$ =290,  $\Delta S(p)$ =250 (2003Au03).

Q( $\alpha$ ): Based on E $\alpha$ =6691 3 for <sup>169</sup>Pt  $\alpha$  decay (2004Ke06), Q( $\alpha$ )=6853 3, assuming this is a g.s. to g.s. transition.

Production: <sup>112</sup>Sn(<sup>68</sup>Ni,x) (1996Pa01).

Identification: relationship of new  $\alpha$  group to known transitions, as obtained through a multi-dimensional analysis correlating parent energies, daughter energies, and timing of events; production reactions were <sup>58</sup>Ni on molybdenum through tin targets and <sup>107</sup>Ag on vanadium through nickel targets (1981Ho10).

<sup>169</sup>Pt Levels

Cross Reference (XREF) Flags

- A <sup>173</sup>Hg  $\alpha$  decay
- B <sup>170</sup>Au p decay (0.29 ms)
- C <sup>170</sup>Au p decay (0.62 ms)
- D <sup>112</sup>Sn(<sup>60</sup>Ni,3n $\gamma$ )

E(level) <sup>†</sup>	J $\pi$ <sup>‡</sup>	T <sub>1/2</sub>	XREF	Comments
0.0	(7/2 <sup>-</sup> )	7.0 ms 2	ABC	% $\alpha$ ≈100 % $\alpha$ : 1999Se14 report that number of <sup>169</sup> Pt daughter $\alpha$ 's correlated with <sup>173</sup> Hg decays is consistent with % $\alpha$ =100 for <sup>169</sup> Pt. This is consistent with gross $\beta$ decay theory prediction of a partial $\beta$ half-life of ≈1 s (1973Ta30) and microscopic theory prediction of 0.26 s (1997Mo25), implying % $\epsilon$ +% $\beta^+$ ≈0.7 and 2.7, respectively. Only $\alpha$ decay has been observed for <sup>169</sup> Pt. J $\pi$ : unhindered $\alpha$ decay to (7/2 <sup>-</sup> ) <sup>165</sup> Os. Supported by p emission data from <sup>170</sup> Au isomers whose configurations probably include ( $\nu$ f <sub>7/2</sub> ) orbital. T <sub>1/2</sub> : from 2004Ke06. Others: 13 ms +11-4 (2004Ke06, 6693 $\alpha$ ), 5 ms 3 (1996Pa01), 2.5 ms +25-10 (1981Ho10).
0.0+x	(13/2 <sup>+</sup> )		D	
545+x	(17/2 <sup>+</sup> )		D	

<sup>†</sup> From E $\gamma$ .

<sup>‡</sup> By analogy with heavier odd-A Pt isotopes, except as noted.

$\gamma$ (<sup>169</sup>Pt)

E <sub>i</sub> (level)	J $\pi$ <sub>i</sub>	E $\gamma$	I $\gamma$	E <sub>f</sub>	J $\pi$ <sub>f</sub>	Comments
545+x	(17/2 <sup>+</sup> )	545	100	0.0+x	(13/2 <sup>+</sup> )	E $\gamma$ : from <sup>112</sup> Sn( <sup>60</sup> Ni,3n $\gamma$ ).

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**Adopted Levels, Gammas****Level Scheme**

Intensities: Relative photon branching from each level

