Adopted Levels, Gammas

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 111,1807 (2010)	15-Jun-2010

S(n)=1.23×10^4 *syst*; S(p)=1.27×10^3 *16*; Q(α)=6990 *3* 2012Wa38

Note: Current evaluation has used the following Q record 12570 SY1.25E3 21 *6988.9 23* 2003Au03,2009Go16.

Q(α): From Eα=6822.5 *23*, weighted average of 6823 *3* (2009Go16), 6820 *4* (2004Ke06), 6832 *10* (1996Bi07) and 6824 *20* (1981Ho10); Q(α)=6997 *9* in 2003Au03 and 2009AuZZ.

ΔS(n)=460 (2003Au03, 2009AuZZ).

Identification: 1981Ho10 unambiguously assign a new α group to ^{168}Pt by relating it to known transitions through a multi-dimensional analysis correlating parent energies, daughter energies, and the timing of events. The production reactions involved ^{58}Ni beam on tin targets.

^{168}Pt Levels

Cross Reference (XREF) Flags

- A ^{112}Sn(^{58}Ni,2nγ)
- B ^{172}Hg α decay
- C ^{92}Mo(^{78}Kr,2nγ)

E(level)†	J$^\pi$‡	T$_{1/2}$	XREF	Comments
0.0#	0$^+$	2.02 ms *10*	ABC	%α≈100 %α: only α decay observed. Gross β decay theory (1973Ta30) predicts a partial β decay T$_{1/2}$≈1 s implying %ε+%β^+≈0.2. J$^\pi$: g.s. of even-even nucleus. T$_{1/2}$: weighted average of 1.98 ms *16* (2009Go16), 2.1 ms *2* (2004Ke06), 2.0 ms *2* (1998Ki20) and 2.0 ms *4* (1996Bi07) from a(t).
581.40# *10*	(2$^+$)		A C	
915.0? *9*			C	
1112.9? *10*			C	
1175.30? *23*			A C	
1307.3# *12*	(4$^+$)		A C	
2033.2# *17*	(6$^+$)		A C	

† Based on adopted Eγ. Excited states are shown as uncertain because order of γ cascade in (^{58}Ni,2nγ) could not Be established due to similarity between intensities of the transitions.

‡ From probable band structure, except as noted.

Band(A): K$^\pi$=0$^+$ g.s. band (2009Go16).

γ(^{168}Pt)

E$_i$(level)	J$_i^\pi$	E$_\gamma$†	I$_\gamma$	E$_f$	J$_f^\pi$
581.40	(2$^+$)	581.4 *1*	100	0.0	0$^+$
915.0?		333.6# *9*	100	581.40	(2$^+$)
1112.9?		197.9# *4*	100	915.0?	
1175.30?		593.9# *2*	100	581.40	(2$^+$)
1307.3	(4$^+$)	725.9‡ *12*	100	581.40	(2$^+$)
2033.2	(6$^+$)	725.9‡ *12*	100	1307.3	(4$^+$)

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

$\gamma(^{168}Pt)$ (continued)

† From 192Mo(^{78}Kr,2nγ).
‡ Multiply placed.
# Placement of transition in the level scheme is uncertain.

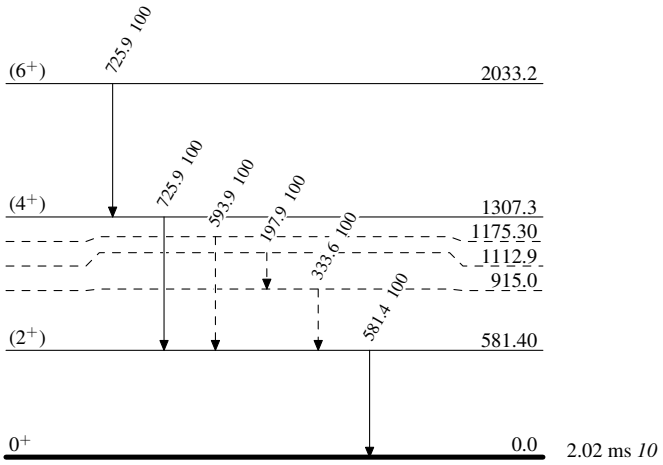
Adopted Levels, Gammas

Legend

Level Scheme

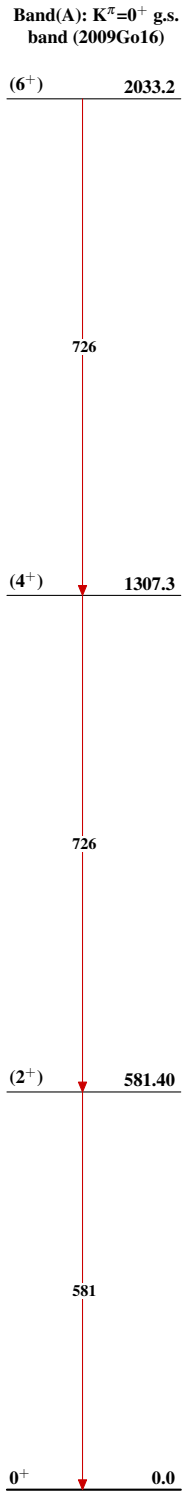
Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{168}_{78}Pt_{90}$

Adopted Levels, Gammas



$^{168}_{78}Pt_{90}$