^{196}Pt(n,γ) E=thermal 1978Ya07

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Huang Xiaolong, Zhou Chunmei	NDS 104, 283 (2005)	1-Jan-2002

Measured S(n)=5846.3 *4* (1978Ya07). Others: 5849 *3* (1968Sa13), 5850 *3* (1977Wa08), 5846.3 *4* (1985Wa02).

^{197}Pt Levels

E(level)[†]	Jπ[‡]	Comments
0.0	1/2⁻	
52.99 *6*	5/2⁻	
71.59 *7*	3/2⁻	
98.58 *8*	3/2⁻	
130.98 *4*	1/2⁻	
269.10 *3*	1/2⁻,3/2⁻	Branching: Iγ(138γ):Iγ(216γ):Iγ(269γ)=32 *14*:19 *4*:100.
299.33 *4*	5/2⁻	Branching: Iγ(228γ):Iγ(246γ):Iγ(299γ)=21 *9*:47 *14*:100.
425.7 *6*		
456.85 *6*	5/2⁻	Branching: Iγ(157γ):Iγ(404γ):Iγ(457γ)=13 *7*:9 *3*:100.
502.43 *5*	3/2⁻	Branching: Iγ(233γ):Iγ(371γ):Iγ(431γ):Iγ(502γ)=12 *4*:8 *5*:65 *8*:100.
595.31 *8*	(5/2⁻,1/2⁻)	Branching: Iγ(524γ):Iγ(542γ):Iγ(595γ)=100:100 *13*:54 *11*.
708.37 *5*	3/2⁻	Branching: Iγ(439γ):Iγ(637γ):Iγ(708γ)=19 *3*:17 *3*:100.
747.81 *9*	1/2⁻	Branching: Iγ(649γ):Iγ(676γ):Iγ(695γ)=100:3.1 *5*:3.9 *7*.
978.0 *9*	1/2⁻,3/2⁻	
(5846.29 *27*)	1/2⁺	E(level): from S(n)=5846.29 *27*(2003Au03). Jπ: from s-wave neutron capture.

[†] From level scheme and Eγ's by using least-squares fit to data.
[‡] From Adopted Levels, except E(level)=5846.3 *4* (from s-wave neutron capture).

γ(^{197}Pt)

Eγ	Iγ[†‡]	Ei(level)	Jiπ	Ef	Jfπ	Comments
71.53 *17*	88 *39*	71.59	3/2⁻	0.0	1/2⁻	
98.58 *10*	30 *28*	98.58	3/2⁻	0.0	1/2⁻	
130.99 *5*	11 *5*	130.98	1/2⁻	0.0	1/2⁻	
[x]135.21 *4*	25 *10*					
138.13 *4*	19 *8*	269.10	1/2⁻,3/2⁻	130.98	1/2⁻	
157.38 *19*	2.4 *12*	456.85	5/2⁻	299.33	5/2⁻	
[x]167.32 *15*	9.8 *31*					
216.05 *7*	11 *2*	269.10	1/2⁻,3/2⁻	52.99	5/2⁻	
227.62 *15*	4.0 *15*	299.33	5/2⁻	71.59	3/2⁻	
233.27 *13*	3.7 *12*	502.43	3/2⁻	269.10	1/2⁻,3/2⁻	
246.15 *15*	8.9 *24*	299.33	5/2⁻	52.99	5/2⁻	
[x]259.25 *11*	2.4 *10*					
269.12 *4*	59 *5*	269.10	1/2⁻,3/2⁻	0.0	1/2⁻	
[x]274.08 *4*	29 *3*					
299.34 *4*	19 *2*	299.33	5/2⁻	0.0	1/2⁻	
371.45 *34*	2.6 *15*	502.43	3/2⁻	130.98	1/2⁻	
[x]390.38 *17*	3.5 *8*					
404.03 *10*	1.7 *6*	456.85	5/2⁻	52.99	5/2⁻	γ placement is consistent with Iγ branching via ^{197}Ir decay.
430.89[#] *5*	20 *2*	502.43	3/2⁻	71.59	3/2⁻	
439.35 *10*	6.8 *9*	708.37	3/2⁻	269.10	1/2⁻,3/2⁻	
[x]441.81 *9*	8.7 *11*					
[x]453.70 *22*	1.9 *7*					
456.81 *6*	18 *2*	456.85	5/2⁻	0.0	1/2⁻	

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^{196}Pt(n,γ) E=thermal 1978Ya07 (continued)

$\gamma(^{197}Pt)$ (continued)

E_γ	I_γ[†][‡]	E_i(level)	J_i^π	E_f	J_f^π	Comments
502.44 *5*	31 *2*	502.43	$3/2^-$	0.0	$1/2^-$	
[x]517.11 *5*	20 *2*					
523.77 *7*	11 *1*	595.31	$(5/2^-,1/2^-)$	71.59	$3/2^-$	
[x]527.18 *15*	2.7 *6*					
542.22[#] *9*	11 *1*	595.31	$(5/2^-,1/2^-)$	52.99	$5/2^-$	
[x]558.42 *6*	16 *2*					
[x]570.65 *20*	2.0 *5*					
[x]578.31 *14*	8.2 *15*					E_γ: 578γ placement between $\Delta L=5$ states (1978Ya07) is incompatible with prompt (n,γ) spectrum.
595.17 *11*	5.9 *10*	595.31	$(5/2^-,1/2^-)$	0.0	$1/2^-$	
[x]620.10 *13*	3.8 *6*					
[x]625.50 *6*	15 *2*					
636.73 *10*	6.2 *9*	708.37	$3/2^-$	71.59	$3/2^-$	
649.22 *5*	100	747.81	$1/2^-$	98.58	$3/2^-$	
[x]658.74 *18*	3.5 *8*					
676.12 *14*	3.1 *5*	747.81	$1/2^-$	71.59	$3/2^-$	
695.04 *21*	3.9 *7*	747.81	$1/2^-$	52.99	$5/2^-$	
[x]701.93 *12*	5.6 *6*					
708.35 *5*	36 *2*	708.37	$3/2^-$	0.0	$1/2^-$	
4868.4 *8*	18 *3*	(5846.29)	$1/2^+$	978.0	$1/2^-,3/2^-$	
5098.5 *4*	100	(5846.29)	$1/2^+$	747.81	$1/2^-$	
5137.8 *4*	17 *2*	(5846.29)	$1/2^+$	708.37	$3/2^-$	
5344.0 *5*	3.9 *9*	(5846.29)	$1/2^+$	502.43	$3/2^-$	
5420.6 *5*	6.2 *9*	(5846.29)	$1/2^+$	425.7		
5577.2 *5*	10 *2*	(5846.29)	$1/2^+$	269.10	$1/2^-,3/2^-$	
5715.9 *7*	8.2 *19*	(5846.29)	$1/2^+$	130.98	$1/2^-$	
5747.8 *6*	2.7 *6*	(5846.29)	$1/2^+$	98.58	$3/2^-$	
5846.3 *4*	107 *9*	(5846.29)	$1/2^+$	0.0	$1/2^-$	

[†] Relative photon intensity normalized to Iγ(649.22γ)=100.
[‡] For intensity per 100 neutron captures, multiply by 0.935.
[#] Placement of transition in the level scheme is uncertain.
[x] γ ray not placed in level scheme.

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Level Scheme

Intensities: Relative I_γ

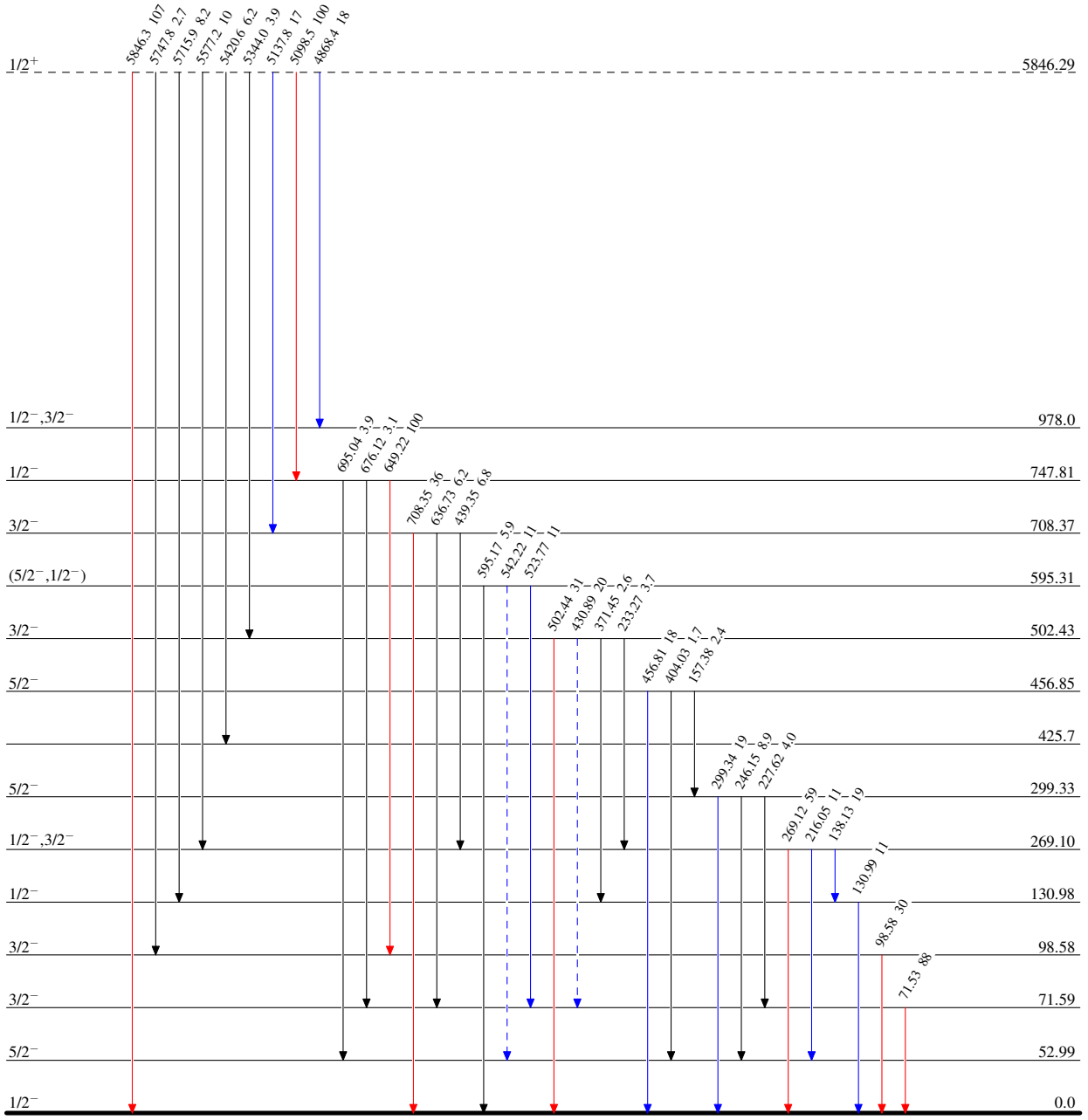
Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$

γ Decay (Uncertain)



$^{197}_{78}Pt_{119}$