

Adopted Levels, Gammas

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

Q(β⁻)=1704.6 22; S(n)=5556.0 5; S(p)=8.86×10³ syst; Q(α)=-3.0×10² 6 [2012Wa38](#)

Note: Current evaluation has used the following Q record \$ 1703 3 5556.0 5 8860 syst -1.3e+250 [2003Au03](#).

Δ(S(p))=200 (syst,[2003Au03](#)).

[1985Ma50](#): L1 subshell fluorescence yield, Coster Kronig yield determined.

[1992Eb01](#): The electric field gradient of Pt determined.

Mass measurement: [1985De40](#).

Structure calculations:

[1990Bu26](#), [1985Su05](#), [1984Su01](#), [1984Fe11](#): U(6/12) supersymmetry in Pt isotopes.

[Additional information 1](#).

¹⁹⁹Pt Levels

Cross Reference (XREF) Flags

A	¹⁹⁹ Pt IT decay (13.6 s)	D	¹⁹⁸ Pt(pol d,p),(d,p)
B	¹⁹⁸ Pt(n,γ) E=95.82 eV	E	¹⁹⁸ Pt(t,d)
C	¹⁹⁸ Pt(n,γ) E=2,24 keV:arc		

E(level) [‡]	J ^π	T _{1/2}	XREF	Comments
0.0	5/2 ⁻	30.80 min 21	ABCDE	%β ⁻ =100 T _{1/2} : weighted average of 30.8 min 4 (1967Ba45), 30.6 min 3 and 31.4 min 5 (1965BI18). Others: 30.79 min (1992An13), 30 min 3 (1956Le44), 29 min 1 (1941Sh08), 31 min (1937Mc04).
32.2	(7/2) ⁻		A	J ^π : M1 γ to 5/2 ⁻ ; E3 γ from (13/2) ⁺ .
35.9 6	(3/2) ⁻		BCDE	J ^π : L(d,p)=L(t,d)=1; Ay(θ) in (d,p).
42.0 10	1/2 ⁻ , 3/2 ^{-†}		C	
87.4 6	(3/2) ⁻		BCDE	J ^π : L(d,p)=L(t,d)=1; Ay(θ) in (d,p).
132.5 6	1/2 ⁻		CDE	J ^π : L(d,p)=L(t,d)=1; Ay(θ) in (d,p).
351 1	5/2 ⁻ , 7/2 ⁻		DE	J ^π : L(d,p)=L(t,d)=3.
383.6 7	3/2 ⁻		CDE	
424 2	(13/2) ⁺	13.6 s 4	A	%IT=100 %β ⁻ : From log ft>5.1 to (11/2) ⁻ level in ¹⁹⁹ Au, %β ⁻ <0.06. J ^π : corresponds to i _{13/2} orbital; E3, M1 cascade to g.s.; systematics. T _{1/2} : weighted average of 13.3 s 2 (1973Ur01), 14.1 s 3 (1959Wa15). Additional information 2 .
431 2			DE	E(level): possibly the same as the 424 isomer; however, the discrepancy in measured energy suggests separate levels.
474.5 9	3/2 ⁻		BCDE	XREF: B(471). J ^π : L(d,p)=L(t,d)=1; Ay(θ) in (d,p).
495 1	(11/2 ⁺ , 13/2 ⁺)		DE	J ^π : L(d,p)=L(t,d)=(6).
514 1	(7/2) ⁻		DE	J ^π : L(d,p)=L(t,d)=(3); Ay(θ) in (d,p).
581 1	(7/2) ⁻		DE	J ^π : L(d,p)=L(t,d)=(3); Ay(θ) in (d,p).
646 1	(1/2 ⁻ , 3/2 ⁻)		CDE	J ^π : L(d,p)=L(t,d)=1; (1/2 ⁺ , 3/2 ⁺) suggested in (n,γ) E=2,24 keV:arc.
888 1	1/2, 3/2 [†]		C	
910 1	1/2 ⁻ , 3/2 ^{-†}		CDE	J ^π : also L(d,p)=L(t,d)=(1).
937 1	1/2 ⁻ , 3/2 ^{-†}		CD	
960 1	1/2 ⁻ , 3/2 ^{-†}		CDE	J ^π : L(d,p)=L(t,d)=1.
979 2	(5/2 ⁻ , 7/2 ⁻)		DE	J ^π : L(d,p)=L(t,d)=(3).
1058 2	(1/2 ⁻ , 3/2 ⁻)		B DE	XREF: B(1093). J ^π : L(d,p)=L(t,d)=(1).

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued) ^{199}Pt Levels (continued)

E(level) [‡]	J ^π	XREF	Comments
1161 2	(1/2,3/2)	B DE	XREF: B(1202). J ^π : primary γ from 1/2 ⁺ .
1243 2	(5/2 ⁻ ,7/2 ⁻)	DE	J ^π : L(d,p)=(3).
1279 3		DE	
1339 2		DE	
1365 3	(1/2,3/2)	B DE	XREF: B(1377). J ^π : primary γ from 1/2 ⁺ capture state.
1403 2		DE	
1442 3		D	
1499 4		D	
1527 4	(5/2 ⁻ ,7/2 ⁻)	DE	J ^π : L(d,p)=(3).
1578 4		D	
1604 7		E	
1690 3		DE	
1718 3	(5/2 ⁻ ,7/2 ⁻)	DE	J ^π : L(d,p)=(3).
1781 4		D	
1823?	(1/2,3/2)	B	J ^π : primary γ from 1/2 ⁺ capture state.
1923 6		D	
2009 7		D	
2052 4		D	
2136 5		D	
2164 5		D	
2205 3		DE	
2225 10		E	
2270 10		E	
2297 10		E	
2356 5		D	
2392 5		DE	
2440 10		DE	
2.48×10 ³ 2		D	
2.55×10 ³ 2		D	
2.70×10 ³ 2		D	
2.76×10 ³ 2		D	
2.83×10 ³ 2		D	
2.88×10 ³ 2		D	
2.99×10 ³ 2		D	
3.08×10 ³ 2		D	
3.15×10 ³ 2		D	
3.23×10 ³ 2		D	
3.31×10 ³ 2		D	
3.41×10 ³ 2		D	
3.56×10 ³ 2		D	
3.67×10 ³ 2		D	
3.73×10 ³ 2		D	
3.80×10 ³ 2		D	

[†] From (n,γ) average resonance capture (ARC) based on reduced I_γ and reduced I_γ ratio from E(n)=2 keV/E(n)=24 keV.

[‡] Weighted average of values in (pol d,p), (t,d), and/or (n,γ).

Adopted Levels, Gammas (continued)

$\gamma(^{199}\text{Pt})$								
$E_i(\text{level})$	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	α^\dagger	Comments
32	$(7/2)^-$	32.2	100	0.0	$5/2^-$	M1	35.7	$\alpha(L)=27.5$; $\alpha(M)=6.2$ 13
35.9	$(3/2)^-$	(35.9.6)		0.0	$5/2^-$			
424	$(13/2)^+$	391.93 14	100	32	$(7/2)^-$	E3	0.177	$\alpha(K)=0.0852$; $\alpha(L)=0.0712$; $\alpha(M)=0.0183$; $\alpha(N+..)=0.00568$ $B(E3)(W.u.)=2.26 \times 10^{-5}$ 7

† Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ -ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

----- \blacktriangleright γ Decay (Uncertain)

