Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 192,1 (2023)	1-Aug-2023

Q(β^-)=640 *30*; S(n)=7282 *20*; S(p)=9490 *50*; Q(α)=−750 *40* 2021Wa16

^{200}Pt Levels

Cross Reference (XREF) Flags

A ^{200}Ir β^- decay
B ^{198}Pt(t,p)
C ^{198}Pt(t,pγ)
D ^{9}Be(^{208}Pb,Xγ)
E ^{198}Pt(^{82}Se,^{80}Seγ)

E(level)†	J$^\pi$‡	$T_{1/2}$	XREF	Comments
0.0#	0$^+$	12.6 h *3*	ABCDE	%β^-=100 $T_{1/2}$: From: 1976Hi06; Other: 11.5 h *10* (1957Ro49).
470.10# *20*	2$^+$		ABCDE	XREF: B(466). J$^\pi$: 470.1γ E2 to 0$^+$.
867.58 *25*	(2)$^+$		ABCDE	XREF: B(863). J$^\pi$: 397.3γ M1+E2 to 2$^+$; L(t,p)=(2).
1103.3# *3*	4$^+$		ABCDE	XREF: B(1099). J$^\pi$: 633.0γ E2 to 2$^+$; L(t,p)=(4).
1118.0? *10*	(0$^+$)		C	J$^\pi$: 1118 keV (E0) to 0$^+$ in ^{198}Pt(t,pγ).
1181.29 *25*	(3)$^+$		A C	J$^\pi$: 711.1γ M1+E2 to 2$^+$; no γ observed to 0$^+$ g.s.
1268.5 *3*	(4)$^+$		BCDE	XREF: B(1263). J$^\pi$: 400.6γ E2 to (2)$^+$; L(t,p)=(4).
1566.9 *3*	(5)$^-$		BCDE	XREF: B(1561). J$^\pi$: 463.4γ E1 to 4$^+$; no γ's observed to (3)$^+$ or 2$^+$.
1566.9+x	(7$^-$)	14.2 ns *6*	CDE	Additional information 1. E(level): x≤90 keV is suggested in ^{9}Be(^{208}Pb,Xγ) (2005Ca02); x≤50 keV is suggested in ^{9}Be(^{208}Pb,Xγ) (2011St21). J$^\pi$: From systematics of even-even Pt isotopes. $T_{1/2}$: Weighted average of 14.3 ns *6* in ^{198}Pt(t,pγ) (1988Ya03) and 14.0 ns 6 in ^{9}Be(^{208}Pb,Xγ) (2005Ca02). Other: 17.0 ns *5* from γ(t) in 2011St21. configuration: Possible π ($d^{-1}_{3/2}$,$h^{-1}_{11/2}$).
1583.1 *5*	0$^+$		BC	XREF: B(1579). J$^\pi$: L(t,p)=0; 1583 keV (E0) to 0$^+$ g.s.
1617 *8*			B	
1624.9 *13*			A	
1690.5 *18*			Ab	XREF: b(1684).
1692.5 *4*	(2)$^+$		bC	XREF: b(1684). J$^\pi$: 424.1γ E2 to (4)$^+$; 511.1γ to (3)$^+$.
1730.4 *8*	(2$^+$)		AB	XREF: B(1726). J$^\pi$: 1260.3γ to (2$^+$); L(t,p)=(2).
1757 *5*	(2$^+$)		B	J$^\pi$: L(t,p)=(2).
1833.6 *12*			Ab	XREF: b(1842).
1850.5 *16*	(2$^+$)		Ab	XREF: b(1842). J$^\pi$: L(t,p)=(2).
1884.2# *4*	(6$^+$)		BC E	XREF: B(1872). J$^\pi$: 317.4γ to (5)$^-$; 780.8γ to 4$^+$; band member.
1908.1 *5*	(4,5,6)$^-$		C	J$^\pi$: 341.2γ E2(+M1) to (5)$^-$.
1919.4 *4*			BC	XREF: B(1915).
1936 *5*	(4$^+$)		B	J$^\pi$: L(p,t)=(4).
1970.3 *4*	(4,5,6)$^-$		C	J$^\pi$: 403.4γ M1+E2 to (5)$^-$.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{200}Pt Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$	XREF	Comments
1990.7 *4*	(2^+)		BC	XREF: B(1986). Jπ: 887.2γ to 4^+; L(t,p)=(2).
2014 *6*	0^+		B	Jπ: L(t,p)=0.
2098.5 *5*			C	
2118 *7*	(2^+)		B	Jπ: L(t,p)=(2).
2120.1 *5*	$(4,5,6)^-$		BC	XREF: B(2128). Jπ: 553.2γ M1(+E2) to $(5)^-$.
2144 *6*			B	
2156 *6*	(2^+)		B	Jπ: L(t,p)=(2).
2168 *6*			B	
2253 *7*	0^+		B	Jπ: L(t,p)=0.
2258.3 *5*	$(4,5,6)^-$		C	Jπ: 691.4γ M1(+E2) to $(5)^-$.
2275.50+x *20*	(9^-)		DE	Jπ: From syst of similar structures in neighboring even-even Pt and Hg nuclei.
2299 *7*			B	
2402 *9*			B	
2431 *7*			B	
2461 *8*	(4^+)		B	Jπ: L(t,p)=(4).
2491 *10*			B	
2525 *10*			B	
2551 *8*			B	
2668 *9*	(2^+)		B	Jπ: L(t,p)=(2).
2709 *9*			B	
2731 *11*			B	
2753[#] *3*	(8^+)		E	Jπ: 869γ to (6^+); band assignment.
2818.0+x *3*			DE	
3136.4+x *4*			DE	
3136.4+y	(12^+)	13.4 ns *10*	DE	Additional information 2. E(level): y= x + ≤90 keV is suggested in ^{9}Be(^{208}Pb,Xγ) (2005Ca02). Jπ: From syst of neighboring even-even Pt and Hg isotopes. $T_{1/2}$: Weighted average of 10.3 ns *24* (2005Ca02) and 13.9 ns *10* (2011St21), both from γ(t) in ^{9}Be(^{208}Pb,Xγ). configuration: Possible $\nu(i^{-2}_{13/2})$.

[†] From a least squares fit to Eγ.
[‡] From deduced transition multipolarities in ^{198}Pt(t,pγ), unless otherwise specified.
[#] Band(A): g.s. band.

Adopted Levels, Gammas (continued)

γ(^{200}Pt)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[‡]	α[&]	Comments
470.10	2^+	470.1 *2*	100	0.0	0^+	E2		0.0288 *4*	α(K)=0.02097 *29*; α(L)=0.00598 *8*; α(M)=0.001459 *21* α(N)=0.000358 *5*; α(O)=6.03×10^{-5} *8*; α(P)=2.202×10^{-6} *31* Mult.: α(K)exp=0.021 *4* (1988Ya03).
867.58	$(2)^+$	397.3 *2*	100 *7*	470.10	2^+	M1+E2	1.6 *+6−3*	0.072 *11*	α(K)=0.055 *10*; α(L)=0.0128 *10*; α(M)=0.00308 *21* α(N)=0.00076 *5*; α(O)=0.000130 *10*; α(P)=6.1×10^{-6} *11* Mult.: α(K)exp=0.055 *9* (1988Ya03).
		867.9[a] *4*	<3.8	0.0	0^+				
1103.3	4^+	633.0 *2*	100	470.10	2^+	E2		0.01426 *20*	α(K)=0.01100 *15*; α(L)=0.002493 *35*; α(M)=0.000597 *8* α(N)=0.0001468 *21*; α(O)=2.522×10^{-5} *35*; α(P)=1.165×10^{-6} *16* Mult.: α(K)exp=0.010 *3* (1988Ya03).
1118.0?	(0^+)	(1118)		0.0	0^+	(E0)			γ-ray not observed but (E0) mult suggested from e$^-$ measurements in ^{198}Pt(t,pγ) (1988Ya03).
1181.29	$(3)^+$	313.8 *2*	100 *9*	867.58	$(2)^+$	E2(+M1)	3.2 *+39−9*	0.103 *13*	α(K)=0.070 *12*; α(L)=0.0250 *9*; α(M)=0.00619 *19* α(N)=0.00152 *5*; α(O)=0.000251 *10*; α(P)=7.3×10^{-6} *14* Mult.: α(K)exp=0.070 *12* (1988Ya03).
		711.1 *2*	32 *4*	470.10	2^+	M1+E2	≤1.3	0.025 *6*	α(K)=0.020 *5*; α(L)=0.0034 *7*; α(M)=0.00079 *16* α(N)=0.00019 *4*; α(O)=3.5×10^{-5} *7*; α(P)=2.3×10^{-6} *6* Mult.: α(K)exp=0.021 *6* (1988Ya03).
1268.5	$(4)^+$	165.3 *4*	13 *4*	1103.3	4^+				
		400.6 *2*	100 *7*	867.58	$(2)^+$	E2		0.0436 *6*	α(K)=0.0303 *4*; α(L)=0.01008 *14*; α(M)=0.002482 *35* α(N)=0.000609 *9*; α(O)=0.0001013 *14*; α(P)=3.15×10^{-6} *4* Mult.: α(K)exp=0.034 *7* (1988Ya03).
		799.5 *3*	19 *5*	470.10	2^+				
1566.9	$(5)^-$	299.0 *3*	14.2 *17*	1268.5	$(4)^+$	E1		0.0263 *4*	α(K)=0.02174 *31*; α(L)=0.00350 *5*; α(M)=0.000806 *11* α(N)=0.0001978 *28*; α(O)=3.46×10^{-5} *5*; α(P)=1.987×10^{-6} *28* Mult.: α(K)exp=0.018 *8* (1988Ya03).
		463.4 *2*	100 *4*	1103.3	4^+	E1		0.00973 *14*	α(K)=0.00810 *11*; α(L)=0.001256 *18*; α(M)=0.000288 *4* α(N)=7.08×10^{-5} *10*; α(O)=1.251×10^{-5} *18*; α(P)=7.68×10^{-7} *11* Mult.: α(K)exp=0.0066 *20* (1988Ya03).
1583.1	0^+	1113.0 *5*	100	470.10	2^+				
		(1583)		0.0	0^+	(E0)			γ-ray not observed, but (E0) mult suggested from e$^-$ measurements in ^{198}Pt(t,pγ) (1988Ya03).
1624.9		757[@] *2*	78[@] *10*	867.58	$(2)^+$				
		1155.0[@] *16*	100[@] *13*	470.10	2^+				
1690.5		822.9[@] *17*	100[@]	867.58	$(2)^+$				
1692.5	$(2)^+$	424.1 *3*	100 *11*	1268.5	$(4)^+$	E2		0.0375 *5*	α(K)=0.0265 *4*; α(L)=0.00833 *12*; α(M)=0.002046 *29* α(N)=0.000502 *7*; α(O)=8.38×10^{-5} *12*; α(P)=2.77×10^{-6} *4* Mult.: α(K)exp=0.031 *8* (1988Ya03).

$^{200}_{78}Pt_{122}$-3

Adopted Levels, Gammas (continued)

γ(^{200}Pt) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[‡]	α[&]	Comments
1692.5	(2)$^+$	511.1 *4*	67 *22*	1181.29	(3)$^+$				
1730.4	(2$^+$)	1260.3[@] *7*	100[@]	470.10	2$^+$				
1833.6		652.3[@] *11*	100[@]	1181.29	(3)$^+$				
1850.5	(2$^+$)	982.9[@] *15*	100[@]	867.58	(2)$^+$				
1884.2	(6$^+$)	317.4 *4*	81 *25*	1566.9	(5)$^-$				
		780.8 *2*	100 *14*	1103.3	4$^+$				
1908.1	(4,5,6)$^-$	341.2 *4*	100	1566.9	(5)$^-$	E2(+M1)	2.7 *+46−8*	0.086 *15*	α(K)=0.061 *14*; α(L)=0.0190 *12*; α(M)=0.00466 *24* α(N)=0.00114 *6*; α(O)=0.000191 *13*; α(P)=6.4×10^{-6} *16* Mult.: α(K)exp=0.061 *14* (1988Ya03).
1919.4		816.1 *3*	100	1103.3	4$^+$				
1970.3	(4,5,6)$^-$	403.4 *2*	100	1566.9	(5)$^-$	M1+E2	1.6 *+17−6*	0.069 *21*	α(K)=0.053 *18*; α(L)=0.0122 *19*; α(M)=0.0029 *4* α(N)=0.00072 *10*; α(O)=0.000124 *20*; α(P)=5.8×10^{-6} *21* Mult.: α(K)exp=0.054 *17* (1988Ya03).
1990.7	(2$^+$)	809.5 *3*	100 *13*	1181.29	(3)$^+$				
		887.2 *4*	74 *17*	1103.3	4$^+$				
2098.5		531.6 *3*	100	1566.9	(5)$^-$				
2120.1	(4,5,6)$^-$	553.2 *3*	100	1566.9	(5)$^-$	M1(+E2)	≤1.4	0.046 *13*	α(K)=0.038 *12*; α(L)=0.0065 *14*; α(M)=0.00152 *31* α(N)=0.00037 *8*; α(O)=6.7×10^{-5} *15*; α(P)=4.2×10^{-6} *13* Mult.: α(K)exp=0.046 *20* (1988Ya03).
2258.3	(4,5,6)$^-$	691.4 *3*	100	1566.9	(5)$^-$	M1(+E2)	≤1.3	0.027 *7*	α(K)=0.022 *6*; α(L)=0.0037 *8*; α(M)=0.00085 *17* α(N)=0.00021 *4*; α(O)=3.7×10^{-5} *8*; α(P)=2.4×10^{-6} *7* Mult.: α(K)exp=0.026 *10* (1988Ya03).
2275.50+x	(9$^-$)	708.6[#] *2*	100[#]	1566.9+x	(7$^-$)				
2753	(8$^+$)	869 *3*	100	1884.2	(6$^+$)				
2818.0+x		542.5[#] *2*	100[#]	2275.50+x	(9$^-$)				
3136.4+x		318.4[#] *2*	100[#]	2818.0+x					

[†] From ^{198}Pt(t,pγ) (1988Ya03), unless otherwise stated.
[‡] Using α(K)exp and the Briccmixing program (by the evaluator).
[#] From ^{9}Be(^{208}Pb,Xγ) (2005Ca02).
[@] From ^{200}Ir β$^-$ decay (2013Mo20).
[&] Additional information 3.
[a] Placement of transition in the level scheme is uncertain.

$^{200}_{78}Pt_{122}$-4

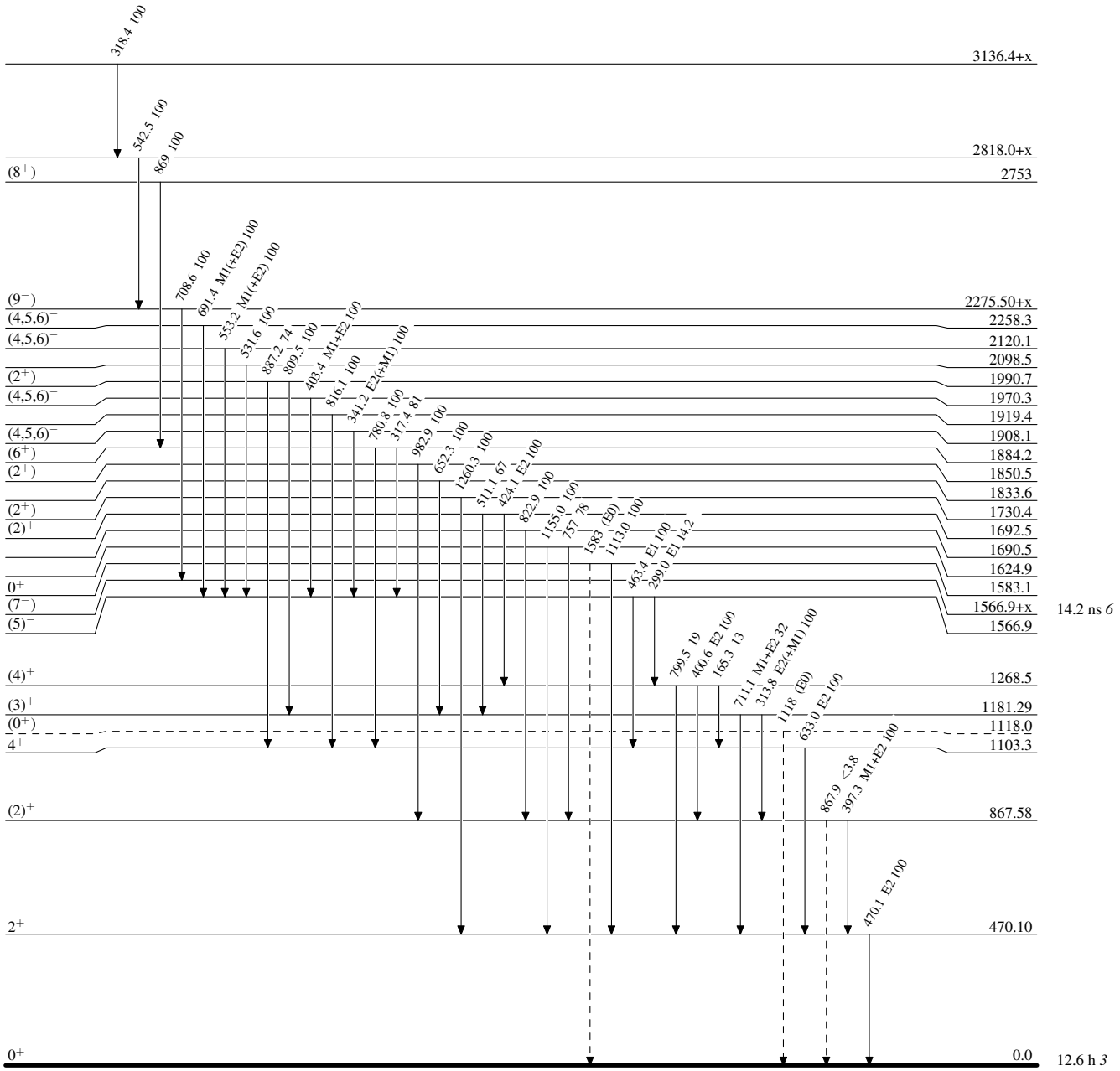
Adopted Levels, Gammas

Legend

Level Scheme

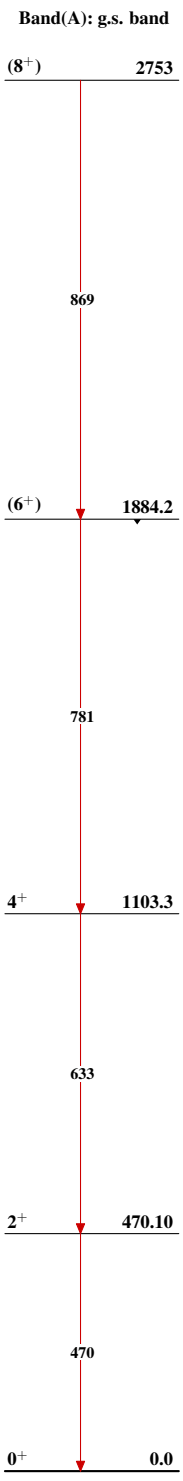
Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{200}_{78}Pt_{122}$

Adopted Levels, Gammas



$^{200}_{78}Pt_{122}$