^{196}Pt(p,p′),(pol p,p′),(d,d′) 1981De12,1991Se04

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Huang Xiaolong	NDS 108, 1093 (2007)	1-Jan-2006

1981De12: E=35 MeV. Enriched target, mag spect, nuclear emulsion (FWHM=2-8 keV), position sensitive proportional counter (FWHM=15 keV). Measured differential cross sections.
Coupled channels calculations, interacting boson approximation model; deduced optical model and deformation parameters, quadrupole and hexadecapole moments.
1987De06: (pol p,p′) E=35 MeV. Calculated $\sigma(\theta)$, analyzing power for (pol p,p′) scattering from the second 2^+ state. Coupled channels description.
1991Se04: (pol p,p′) E=647 MeV. QDD detector system.
1965Mu05: (d,d′) inelastic scattering, E=15 MeV. Cross sections measured at θ=60°, enriched target, FWHM=50-70 keV.
See 1977DeXT for inelastic proton data.
Others: 1984Mu19, 1988Co16, 1988Co19, 1990HoZV.

^{196}Pt Levels

E(level)[&]	Jπ[#]	L	S[c]	Comments
0.0[†]	0^+		5.69×10^5	
356[†] *1*	2^+[@]	2	4.55×10^3	B(E2)↑=1.38 *4* (1984Mu19) Q=−0.22 (1987De06) B(E2)↑: Also B(E2)=1.72 *5* (1991Se04). B(E2)↑: from B(E2(2^+ to 0^+)=0.276 *8*(1984Mu19).
689[‡a]	2^+[@]	2	48.7	S: at 40°.
877[†a]	4^+[@]	4	258	B(E4)↑=0.0308 *23* (1991Se04) B(E4)↑: Also B(E4)=0.041 (1981De12).
1014[‡] *2*	3^+[@]		9.88	S: at 45°.
1270[a]	5^-	5	180	
1293[‡a]	4^+[@]	4	269	B(E4)↑=0.025 *3* (1991Se04) Jπ: determined as 4^+ also by 1991Se04. B(E4)↑: Also B(E4)=0.020 (1981De12).
1350				E(level): from (d,d′) (1965Mu05).
1374[a]	7^-	7	104	Jπ: two-quasiparticle configurations built on the nonexcited core play significant roles (1988Co16).
1447 *1*	3^-[@]	3	1.08×10^3	B(E3)↑=9.9×10^{-2} *20* (1988Co19); β_3=0.050 *5* (1988Co19) Jπ: this state can Be understood In an octupole vibrational picture (1988Co16); the fragmentation of octupole strength is responsible for the apparent anomalous behavior of $3(1)^-$ (1988Co19). B(E3)↑,β_3: Also quoted in 1988Co16. Data of both are based on a reanalysis of data in 1981De12. B(E3)↑: from B(E3)(0^+ to 3^-)(W.u.)=6.2 *6* (1988Co16).
1529 *1*			77.0	
1537	4^+	4		B(E4)↑=0.0045 *8* (1991Se04) E(level),L: from 1991Se04.
1603 *3*	2^+	2	29.8	
1679 *3*			32.9	
1756 *3*			37.7	
1826 *3*	0^+	0	67.8	
1880				
1887 *2*	4^+	4	536	B(E4)↑=0.0398 *19* (1991Se04)
1964 *3*				
2008 *2*	4^+	4	295	
2055 *3*				
2116 *2*			179	
2129 *2*			291	

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^{196}Pt(p,p′),(pol p,p′),(d,d′) 1981De12,1991Se04 (continued)

^{196}Pt Levels (continued)

E(level)[&]	Jπ[#]	L	S[c]	Comments
2179 *2*				
2243 *2*			48.6	
2280 *2*	4^+	4	65.0	
2305 *2*			50.0	
2331 *4*				
2349 *2*				
2360 *2*				
2390				
2393 *2*				
2431 *2*	3^-	3[b]	541	B(E3)↑=7.0×10^{-2} *14* (1988Co19); β_3=0.042 *4* (1988Co19) B(E3)↑,β_3: Data of 1988Co19 is based on a reanalysis of data in 1981De12. B(E3)↑: from B(E3)(0^+ to 3^-)(W.u.)=4.4 *9* (1988Co19).
2469 *2*				
2505 *3*				
2550 *3*				
2570				E(level): from (d,d′) (1965Mu05).
2582 *3*				
2608 *3*	3^-	3[b]	230	B(E3)↑=3.4×10^{-2} *7* (1988Co19); β_3=0.029 *3* (1988Co19) B(E3)↑,β_3: Data of 1988Co19 is based on a reanalysis of data in 1981De12. B(E3)↑: from B(E3)(0^+ to 3^-)(W.u.)=2.1 *4* (1988Co19).
2638 *3*	3^-	3[b]	499	
2640				B(E3)↑=7.0×10^{-2} *14* (1988Co19); β_3=0.042 *4* (1988Co19) B(E3)↑,β_3: Data of 1988Co19 is based on a reanalysis of data in 1981De12. B(E3)↑: from B(E3)(0^+ to 3^-)(W.u.)=4.4 *9* (1988Co19).
2707 *3*	3^-	3[b]	298	B(E3)↑=5.1×10^{-2} *10* (1988Co19); β_3=0.036 *4* (1988Co19) B(E3)↑,β_3: Data of 1988Co19 is based on a reanalysis of data in 1981De12. B(E3)↑: from B(E3)(0^+ to 3^-)(W.u.)=3.2 *6* (1988Co19).
2774 *5*			90.5	
2797 *3*			62.3	S: at 35°.
2893 *3*				E(level): taken from pictures of 1981De12 by evaluator.

† Band(A): g.s. rotational band.

‡ Band(B): quasi-γ rotational band.

Based upon comparisons of angular distribution shapes to empirical shapes for states with well-known Jπ, and from energy and spin systematics in the Pt nuclei, except as indicated.

@ From Adopted Levels.

& Uncertainties in excitation energy≈1 keV below 1.8 MeV and≈0.1% above 1.8 MeV (1981De12), except as indicated.

a Value adopted by 1981De12 as an internal energy calibration.

b Unique angular distributions with essentially the same features. The L-value assignments are those of 1988Co19 based on a DWBA reanalysis of data in 1981De12.

c Cross section (30°) in μb/sr, unless otherwise specified (1981De12).

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Band(B): Quasi-γ rotational band

4^+ 1293

3^+ 1014

Band(A): g.s. rotational band

4^+ 877

2^+ 689

2^+ 356

0^+ 0.0

$^{196}_{78}Pt_{118}$