^{192}Pt(p,d),(d,t) 1980Ka19,1978Be09

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia	NDS 195,368 (2024)	1-Dec-2023

Other: 1976VeZZ (p,d).

1980Ka19 target: 57% enriched ^{192}Pt. Projectile: protons, E=25 MeV. Measured scattered deuterons at 6 angles between 5° and 55°. Detector: magnetic spectrometer, FWHM=12 keV. The agreement between experimental and theoretical (DWBA) cross sections is good for L=1, fair for L=6, and poor for L=3 transfers.

1978Be09 target: 57% enriched ^{192}Pt. Projectile: deuterons, E=26 MeV. Measured scattered tritons at θ=15°. Detector: magnetic spectrometer, FWHM≈10 keV. Because of target low enrichment and uniformity problems, only 7 levels were clearly separated. θ=15° was chosen to observe the first J^π=5/2$^-$ level. The cross section is maximum for L=3, and minimum for L=1 at this angle, consequently, spectroscopic factors calculated for other L transfers may be more imprecise.

1980Ka19 and 1978Be09 from the same research group.

^{191}Pt Levels

E(level)[†]	J^π[#]	L[@]	C^2S(p,d)[a]	Comments
0.0	3/2$^-$	1+(3)[&]	1.0	C^2S(p,d): assuming J^π=3/2$^-$. C^2S=1.19 in (d,t).
≈9	(5/2)$^-$			Observed as a separate level in (d,t) only. C^2S=1.85 in (d,t) assuming J^π=5/2$^-$.
30.0 *25*	1/2$^-$,3/2$^-$	1	0.73	assuming J^π=1/2$^-$; C^2S=1.38 in (d,t).
100.0[‡] *25*	(9/2)$^-$	5,6	0.83	
149.0[‡] *25*	(13/2)$^+$	6,5	4.05	
165.0[‡] *25*	(3/2)$^-$	1,3	0.03	C^2S(p,d): assuming J^π=3/2$^-$.
173.0[‡] *25*	(11/2)$^+$		0.24	
292[‡] *3*	(5/2)$^-$	1,(3)	0.26	C^2S(p,d): C^2S=0.04 if J^π=3/2$^-$.
307.0[‡] *25*	(9/2)$^+$	4	0.73	
400.0 *25*	5/2$^-$,7/2$^-$	3	1.40	J^π: From L=3. 7/2$^-$ in the Adopted Levels. C^2S(p,d): assuming J^π=5/2$^-$; C^2S=1.70 in (d,t).
452.0[‡] *25*	(3/2$^-$,5/2$^-$)	1+(4)[&]	0.11	C^2S(p,d): assuming J^π=3/2$^-$. Doublet; for L=(4) component, C^2S=0 to 0.30 assuming J^π=7/2$^+$ (1980Ka19). 1978Be09 assigned L=1+(3); L=(4) is compatible with level properties from ^{191}Au ε decay.
488.0 *25*	(7/2)$^-$	3	1.21	C^2S(p,d): C^2S=0.99 in (d,t).
560[‡] *4*	1/2$^-$,3/2$^-$	1	0.014	C^2S(p,d): assuming J^π=3/2$^-$.
611.0[‡] *25*	(1/2,3/2,5/2)$^-$			
690.0[‡] *25*		3,4	0.11	C^2S(p,d): assuming J^π=5/2$^-$; C^2S=0.28 if J^π=9/2$^+$.
732.5[‡] *25*	1/2$^-$,3/2$^-$	1	0.40	C^2S(p,d): assuming J^π=3/2$^-$.
810[‡] *5*	(11/2$^+$,13/2$^+$)	6,5	0.66	C^2S(p,d): assuming J^π=13/2$^+$. C^2S=0.85 if J^π=9/2$^-$.
885[‡] *5*	(1/2$^-$,3/2$^-$)	(1)	0.06	C^2S(p,d): assuming J^π=3/2$^-$.
925[‡] *5*				

[†] From (1980Ka19), unless otherwise specified.
[‡] Observed in (p,d) only.
[#] From Adopted Levels, except otherwise noted.
[@] For the (p,d) reaction, from a comparison between experimental and theoretical (DWBA) cross sections at various angles.
[&] The angular distribution is compatible with L=1 transfer. However, the peak corresponds to a known doublet, and therefore a mixed L analysis has been performed.
[a] From (dσ/dΩ)(exp)/N(dσ/dΩ)(DWBA); the value of N was not given in 1980Ka19 for (p,d), probably N=2.29 given in 1978Be09 was used. Spectroscopic factors for (d,t) are given in comments, for θ=15° and N=3.33 (1978Be09).