

¹⁹⁶Pt(pol d,α) 2008Ba25

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen and Balraj Singh		NDS 177, 1 (2021)	3-Sep-2021

2008Ba25 (also 2002WiZU): E=18 MeV polarized deuteron beam was provided by the tandem Van de Graaff accelerator at University of Munich. Target was 40 μg/cm² metallic Pt (97% enriched) on an 8 μg/cm² carbon backing. Reaction products were momentum-analyzed with the Q3D magnetic spectrograph (FWHM=8 keV) and detected with a position-sensitive proportional counter. Measured alpha spectra, angular distributions, analyzing powers. Deduced levels, J, π from DWBA analysis. Comparisons with available data and theoretical calculations.

¹⁹⁴Ir Levels

dσ/dΩ values given under comments were obtained at θ=20° (2008Ba25).

E(level)	J ^π †	L‡	G _{LJ} #	Comments
0.0	(1 ⁻)		0.0012	dσ/dΩ=0.1 μb/sr.
43.1 3	0 ⁻	1	0.0072	dσ/dΩ=1.5 μb/sr.
83.9 3	2 ⁻	1,3	0.0018	Other G _{LJ} =0.0096 for L=3. dσ/dΩ=5.4 μb/sr.
112.2 3	2 ⁻	1,3	0.0033	Other G _{LJ} =0.0042 for L=3. dσ/dΩ=2.7 μb/sr.
138.5 5	(0 ⁻ ,1 ⁻)	(1)	0.0014	Other G _{LJ} =0.0022 for 1 ⁻ . dσ/dΩ=0.3 μb/sr.
148.2 7	2 ⁻ ,(3 ⁻)	1,3	0.0006	Other G _{LJ} =0.0004 for 2 ⁻ and 0.0008 for 3 ⁻ , with L=3. dσ/dΩ=0.3 μb/sr.
161.5 3	5 ⁺ ,(4 ⁻)	(4,6)	0.0223	L: Other possibilities: (3,5). Other G _{LJ} =0.0070 for L=3, 0.0121 for L=5, 0.0096 for L=6. dσ/dΩ=6.0 μb/sr.
195.5 3	2 ⁻	1,3	0.0009	Other G _{LJ} =0.0026 for L=3. dσ/dΩ=1.7 μb/sr.
235.8 6				dσ/dΩ=0.3 μb/sr.
254.3 3	2 ⁻	1,3	0.0110	Other G _{LJ} =0.0 for L=3. dσ/dΩ=2.1 μb/sr.
270.9 3	(2 ⁻ ,3 ⁺)	(2,3,4)	0.0128	L=1 to 4. Other G _{LJ} =0.0063 for L=2, 0.0031 for L=3, 0.0147 for L=4. dσ/dΩ=4.2 μb/sr.
296.8 3	4 ⁻	3,5	0.0009	Other G _{LJ} =0.0117 for L=5. dσ/dΩ=1.9 μb/sr.
313.6 3	2 ⁻	1,3	0.0026	Other G _{LJ} =0.0005 for L=3. dσ/dΩ=0.7 μb/sr.
336.7 5	2 ⁻	1,3	0.0005	Other G _{LJ} =0.0008 for L=3. dσ/dΩ=0.7 μb/sr.
346.7 4	(2 ⁻ ,3 ⁻)	(1,3)	0.0010	other G _{LJ} =0.0026 for 3 ⁻ and 0.0015 for 2 ⁻ , with L=3. dσ/dΩ=1.2 μb/sr.
374.8 6	(4 ⁻ ,5 ⁺)	(4,5,6)	0.0004	L=3 to 6. Other G _{LJ} =0.0011 for L=4, 0.0 for L=5 and L=6. dσ/dΩ=0.3 μb/sr.
393.3 3	3 ⁺ ,4 ⁻	2,3,4,5	0.0006	Other G _{LJ} =0.00040 for L=3, 0.0103 for L=4, 0.0130 for L=5. dσ/dΩ=1.9 μb/sr.
406.4 5	3 ⁺	2,4	0.0	Other G _{LJ} =0.0041 for L=4. dσ/dΩ=0.8 μb/sr.
416.0 6	(4 ⁻)	(3,5)	0.011	Other G _{LJ} =0.0007 for L=5. dσ/dΩ=0.9 μb/sr.
436.1 3	2 ⁻	1,3	0.0083	Other G _{LJ} =0.0003 for L=3. dσ/dΩ=1.9 μb/sr.
466.9 8				dσ/dΩ=0.2 μb/sr.

Continued on next page (footnotes at end of table)

$^{196}\text{Pt}(\text{pol } d, \alpha)$ 2008Ba25 (continued) ^{194}Ir Levels (continued)

E(level)	J^π^\dagger	L^\ddagger	$G_{LJ}^\#$	Comments
489.5 3	2^-	1,3	0.0051	Other $G_{LJ}=0.0034$ for $L=3$. $d\sigma/d\Omega=3.7 \mu\text{b/sr}$.
500.4 5	$(3^-, 4^+)$	(3,4)	0.0018	Other $G_{LJ}=0.0054$ for $L=4$. $d\sigma/d\Omega=0.9 \mu\text{b/sr}$.
519.5 4	(4^+)	(4)	0.0034	$d\sigma/d\Omega=0.5 \mu\text{b/sr}$.
544.4 3	2^-	1,3	0.0059	Other $G_{LJ}=0.0094$ for $L=3$. $d\sigma/d\Omega=8.0 \mu\text{b/sr}$.
561.8 9	(5^+)	(4,6)	0.0009	Other $G_{LJ}=0.0070$ for $L=6$. $d\sigma/d\Omega=0.5 \mu\text{b/sr}$.
574.6 7	(2^-)	(1,3)	0.0009	Other $G_{LJ}=0.0006$ for $L=3$. $d\sigma/d\Omega=0.6 \mu\text{b/sr}$.
590.7 4	2^-	1,3	0.0063	Other $G_{LJ}=0.0015$ for $L=3$. $d\sigma/d\Omega=2.7 \mu\text{b/sr}$.
604.1 5	$(3^+, 4^-)$	(3,4,5)	0.0010	$L=2$ to 5. Other $G_{LJ}=0.0006$ for $L=3$, 0.0008 for $L=4$, 0.0017 for $L=5$. $d\sigma/d\Omega=0.4 \mu\text{b/sr}$.
620.5 3	$4^-, 5^+$	3,4,5,6	0.0021	Other $G_{LJ}=0.0063$ for $L=4$, 0.0003 for $L=4$, 0.0 for $L=6$. $d\sigma/d\Omega=1.7 \mu\text{b/sr}$.
639.6 3	$5^+, (4^-)$	(4,6)	0.0105	L : other possible: (3,5). Other $G_{LJ}=0.0032$ for $L=3$, 0.0091 for $L=5$, 0.0088 for $L=6$. $d\sigma/d\Omega=3.1 \mu\text{b/sr}$.
662.3 4	(4^-)	(3,5)	0.0032	Other $G_{LJ}=0.0091$ for $L=5$. $d\sigma/d\Omega=3.6 \mu\text{b/sr}$.
669.2 4	$4^-, (3^+)$	(3,5)	0.0024	L : other possible: (2,4). Other $G_{LJ}=0.0031$ for $L=2$, 0.0143 for $L=5$, 0.0116 for $L=4$. $d\sigma/d\Omega=3.1 \mu\text{b/sr}$.
686.9 14	(1^-)	(1)	0.0012	$d\sigma/d\Omega=0.2 \mu\text{b/sr}$.
708.6 4	(2^-)	(1,3)	0.0034	Other $G_{LJ}=0.0010$ for $L=3$. $d\sigma/d\Omega=2.0 \mu\text{b/sr}$.
718.0 4	4^-	(3,5)	0.0010	Other $G_{LJ}=0.0146$ for $L=5$. $d\sigma/d\Omega=2.6 \mu\text{b/sr}$.
749.2 3	2^-	(1,3)	0.0214	Other $G_{LJ}=0.0016$ for $L=3$. $d\sigma/d\Omega=5.8 \mu\text{b/sr}$.
761.0 5	(4^-)	(3,5)	0.0013	Other $G_{LJ}=0.0094$ for $L=5$. $d\sigma/d\Omega=2.1 \mu\text{b/sr}$.

† From angular distributions $\sigma(\theta)$ and analyzing powers $A_y(\theta)$ (2008Ba25).

‡ As implied by spin-parity quoted by 2002WiZU.

$^\#$ G_{LJ} =spectroscopic strength of L transfer. Quoted value is for the first L and J quoted and other values are given under comments where available.