

**$^{196}\text{Pt}(p,t)$     2010II03, 1979De25**

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

**2010II03:** E(p)=25 MeV; tritons were analyzed with high-resolution Q3D magnetic spectrograph at TU, Munich facility. Particle identification and position determination made with a 1-meter focal plane detector. FWHM≈6 keV. Spectra recorded at 5°, 17.5° and 30°. DWBA analysis of  $\sigma(\theta)$  data for L=0 transfers.

**1979De25:** E(p)=35 MeV proton beam was produced from the Michigan State University Cyclotron. Tritons were analyzed using Enge split-pole spectrograph with high resolution position-sensitive detectors. FWHM=15 keV.  $\sigma(\theta)$  data from 7° to 60° (lab). DWBA calculations. Uncertainty in cross section=15 to 20%. Theoretical interpretation based on IBA model. Cross section data are given at 7° (lab). See also [1980DeZX](#) from the same laboratory.

Others:

[1985Mi06](#): E(p)=51.9 MeV. Transition strength to g.s. measured.

[1980Se05](#): E(p)=51.9 MeV.  $\sigma(\theta)$  data from 6° to 70° (lab). Detailed comparison of  $\sigma(\theta)$  data for g.s., first 2+ and first 4+ state with DWBA and CCBA calculations. Deformation parameters deduced for 2+ and 4+ states.

[1977Se15](#): E(p)=26 MeV. Position sensitive detectors and split-pole spectrometer. FWHM=13 keV.  $\sigma(\theta)$  data at six angles. DWBA calculations. Relative summed cross sections given for 12 levels. See also [1976VeZY](#) from the same group.

[1972Ma15](#): E(p)=17 MeV.  $\sigma(\theta)$  data for five levels.

 **$^{194}\text{Pt}$  Levels**

Unidentified contaminants in [2010II03](#): 1200.8 4 group:  $d\sigma/d\Omega=0.6 \mu\text{b}/\text{sr}$  2 at 5°, 0.2  $\mu\text{b}/\text{sr}$  1 at 17°, 3.7  $\mu\text{b}/\text{sr}$  1 at 30°. 448.7 1 group:  $d\sigma/d\Omega=15.6 \mu\text{b}/\text{sr}$  7 at 5°, 2.1  $\mu\text{b}/\text{sr}$  2 at 17°, 5.9  $\mu\text{b}/\text{sr}$  3 at 30°.

Cross sections given under comments are from [2010II03](#), unless otherwise noted. Values in [2010II03](#) have an additional 10% uncertainty from beam normalization current on the target. Cross sections from [1979De25](#) at 7° are also given under comments.

E(level) <sup>†</sup>	J <sup>π</sup>	L	Enhancement factor <sup>‡</sup>	Comments
0.0	0 <sup>+</sup> #	0#@	3.6	$d\sigma/d\Omega(5^\circ)=1761 \mu\text{b}/\text{sr}$ 10, $d\sigma/d\Omega(30^\circ)=63 \mu\text{b}/\text{sr}$ 5, $d\sigma/d\Omega(17.5^\circ)=112.1 \mu\text{b}/\text{sr}$ 12. $d\sigma/d\Omega(7^\circ)=801 \mu\text{b}/\text{sr}$ ( <a href="#">1979De25</a> ).
328.5 1	2@	1.3		$\beta_2=-0.15$ ( <a href="#">1980Se05</a> , coupled-channel calculations). $d\sigma/d\Omega(5^\circ)=104 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(30^\circ)=69.9 \mu\text{b}/\text{sr}$ 10, $d\sigma/d\Omega(17.5^\circ)=155.3 \mu\text{b}/\text{sr}$ 15. E(level)=328, $d\sigma/d\Omega(7^\circ)=159 \mu\text{b}/\text{sr}$ ( <a href="#">1979De25</a> ).
621.6 1	2@	0.16		$d\sigma/d\Omega(5^\circ)=16.7 \mu\text{b}/\text{sr}$ 7, $d\sigma/d\Omega(30^\circ)=9.2 \mu\text{b}/\text{sr}$ 4, $d\sigma/d\Omega(17.5^\circ)=22.6 \mu\text{b}/\text{sr}$ 5. E(level)=622, $d\sigma/d\Omega(7^\circ)=18 \mu\text{b}/\text{sr}$ ( <a href="#">1979De25</a> ).
811.1 1	4@	0.10		$\beta_4=-0.047$ ( <a href="#">1980Se05</a> , coupled-channel calculations). $d\sigma/d\Omega(5^\circ)=12.6 \mu\text{b}/\text{sr}$ 6, $d\sigma/d\Omega(30^\circ)=4.0 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(17.5^\circ)=7.5 \mu\text{b}/\text{sr}$ 3. E(level)=811, $d\sigma/d\Omega(7^\circ)=9 \mu\text{b}/\text{sr}$ ( <a href="#">1979De25</a> ).
1229.7 1	4@	0.63		$d\sigma/d\Omega(5^\circ)=34.4 \mu\text{b}/\text{sr}$ 10, $d\sigma/d\Omega(30^\circ)=21.4 \mu\text{b}/\text{sr}$ 5, $d\sigma/d\Omega(17.5^\circ)=21.1 \mu\text{b}/\text{sr}$ 5. E(level)=1229, $d\sigma/d\Omega(7^\circ)=30 \mu\text{b}/\text{sr}$ ( <a href="#">1979De25</a> ).
1267.4 1	0 <sup>+</sup> #	0#@	0.08	$d\sigma/d\Omega(5^\circ)=25.2 \mu\text{b}/\text{sr}$ 9, $d\sigma/d\Omega(30^\circ)=10.3 \mu\text{b}/\text{sr}$ 4, $d\sigma/d\Omega(17.5^\circ)=4.9 \mu\text{b}/\text{sr}$ 2. E(level)=1267, $d\sigma/d\Omega(7^\circ)=20 \mu\text{b}/\text{sr}$ ( <a href="#">1979De25</a> ).
1373.7 1	(4,5)@	0.26		$d\sigma/d\Omega(5^\circ)=2.4 \mu\text{b}/\text{sr}$ 3, $d\sigma/d\Omega(30^\circ)=5.0 \mu\text{b}/\text{sr}$ 3, $d\sigma/d\Omega(17.5^\circ)=3.3 \mu\text{b}/\text{sr}$ 2. E(level)=1374 1, $d\sigma/d\Omega(7^\circ)=4 \mu\text{b}/\text{sr}$ ( <a href="#">1979De25</a> ).
1411.8 2	6@	0.10		$d\sigma/d\Omega(5^\circ)=0.7 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(30^\circ)=1.3 \mu\text{b}/\text{sr}$ 1, $d\sigma/d\Omega(17.5^\circ)=1.4 \mu\text{b}/\text{sr}$ 1. E(level)=1414 1, $d\sigma/d\Omega(7^\circ)=5 \mu\text{b}/\text{sr}$ ( <a href="#">1979De25</a> ).

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**$^{196}\text{Pt}(\text{p},\text{t})$  2010II03,1979De25 (continued)** **$^{194}\text{Pt}$  Levels (continued)**

E(level) <sup>†</sup>	J <sup>π</sup>	L	Enhancement factor <sup>‡</sup>	Comments
1422.0 2				$d\sigma/d\Omega(5^\circ)=1.4 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(30^\circ)=0.4 \mu\text{b}/\text{sr}$ 1, $d\sigma/d\Omega(17.5^\circ)=0.8 \mu\text{b}/\text{sr}$ 1.
1432.3 1	3@	1.3		$d\sigma/d\Omega(5^\circ)=18.9 \mu\text{b}/\text{sr}$ 8, $d\sigma/d\Omega(30^\circ)=9.8 \mu\text{b}/\text{sr}$ 4, $d\sigma/d\Omega(17.5^\circ)=19.1 \mu\text{b}/\text{sr}$ 5. E(level)=1433, $d\sigma/d\Omega(7^\circ)=12 \mu\text{b}/\text{sr}$ (1979De25).
1479.3 2	0@	0.03		Accurate $\sigma(\theta)$ in 2010II03 could not be extracted for 1479.3 and 1485.5 peaks. $d\sigma/d\Omega(5^\circ)=0.7 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(30^\circ)=0.2 \mu\text{b}/\text{sr}$ 1, $d\sigma/d\Omega(17.5^\circ)=1.6 \mu\text{b}/\text{sr}$ 1. E(level)=1479 2, $d\sigma/d\Omega(7^\circ)=3 \mu\text{b}/\text{sr}$ (1979De25).
1485.5 2				Accurate $\sigma(\theta)$ could not be extracted for 1479.3 and 1485.5 peaks. $d\sigma/d\Omega(5^\circ)=0.5 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(30^\circ)=1.5 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(17.5^\circ)=0.6 \mu\text{b}/\text{sr}$ 1.
1511.5 1				E(level)=1486 2, $d\sigma/d\Omega(7^\circ)=3 \mu\text{b}/\text{sr}$ (1979De25). $d\sigma/d\Omega(5^\circ)=2.5 \mu\text{b}/\text{sr}$ 3, $d\sigma/d\Omega(30^\circ)=0.8 \mu\text{b}/\text{sr}$ 1, $d\sigma/d\Omega(17.5^\circ)=2.3 \mu\text{b}/\text{sr}$ 2. E(level)=1512 3, $d\sigma/d\Omega(7^\circ)=2 \mu\text{b}/\text{sr}$ (1979De25).
1547.0 1	0+ <sup>#</sup>	0 <sup>#</sup> @	0.26	$d\sigma/d\Omega(5^\circ)=98.7 \mu\text{b}/\text{sr}$ 17, $d\sigma/d\Omega(30^\circ)=36.5 \mu\text{b}/\text{sr}$ 7, $d\sigma/d\Omega(17.5^\circ)=17.0 \mu\text{b}/\text{sr}$ 5. E(level)=1547, $d\sigma/d\Omega(7^\circ)=46 \mu\text{b}/\text{sr}$ (1979De25).
1670.8 1				$d\sigma/d\Omega(5^\circ)=2.2 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(30^\circ)=2.2 \mu\text{b}/\text{sr}$ 1, $d\sigma/d\Omega(17.5^\circ)=5.7 \mu\text{b}/\text{sr}$ 3.
1779.0 1				E(level)=1670 2, $d\sigma/d\Omega(7^\circ)=5 \mu\text{b}/\text{sr}$ (1979De25). $d\sigma/d\Omega(5^\circ)=1.9 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(30^\circ)=1.8 \mu\text{b}/\text{sr}$ 1, $d\sigma/d\Omega(17.5^\circ)=4.8 \mu\text{b}/\text{sr}$ 3.
1798.3 3				E(level)=1778 2, $d\sigma/d\Omega(7^\circ)=6 \mu\text{b}/\text{sr}$ (1979De25). $d\sigma/d\Omega(5^\circ)=0.4 \mu\text{b}/\text{sr}$ 1, $d\sigma/d\Omega(30^\circ)=0.7 \mu\text{b}/\text{sr}$ 1, $d\sigma/d\Omega(17.5^\circ)=0.9 \mu\text{b}/\text{sr}$ 3.
1816.9 1				$d\sigma/d\Omega(5^\circ)=7.2 \mu\text{b}/\text{sr}$ 3, $d\sigma/d\Omega(30^\circ)=4.8 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(17.5^\circ)=5.7 \mu\text{b}/\text{sr}$ 3. E(level)=1815 2, $d\sigma/d\Omega(7^\circ)=14 \mu\text{b}/\text{sr}$ (1979De25).
1871.6 1				$d\sigma/d\Omega(5^\circ)=4.4 \mu\text{b}/\text{sr}$ 3, $d\sigma/d\Omega(30^\circ)=7.8 \mu\text{b}/\text{sr}$ 3, $d\sigma/d\Omega(17.5^\circ)=16.2 \mu\text{b}/\text{sr}$ 5. E(level)=1870 2 (1979De25).
1893.9 1	0+ <sup>#</sup>	0 <sup>#</sup>		L=(0) in 1977Se15. $d\sigma/d\Omega(5^\circ)=51.4 \mu\text{b}/\text{sr}$ 9, $d\sigma/d\Omega(30^\circ)=11.6 \mu\text{b}/\text{sr}$ 3, $d\sigma/d\Omega(17.5^\circ)=5.6 \mu\text{b}/\text{sr}$ 3. E(level)=1892 2, $d\sigma/d\Omega(7^\circ)=5 \mu\text{b}/\text{sr}$ (1979De25).
1912.9 1	(4)@	1.9		$d\sigma/d\Omega(5^\circ)=65.8 \mu\text{b}/\text{sr}$ 10, $d\sigma/d\Omega(30^\circ)=47.0 \mu\text{b}/\text{sr}$ 7, $d\sigma/d\Omega(17.5^\circ)=47.6 \mu\text{b}/\text{sr}$ 8. E(level)=1911 2, $d\sigma/d\Omega(7^\circ)=71 \mu\text{b}/\text{sr}$ (1979De25).
1930.5 1				$d\sigma/d\Omega(5^\circ)=10.0 \mu\text{b}/\text{sr}$ 6, $d\sigma/d\Omega(30^\circ)=8.4 \mu\text{b}/\text{sr}$ 6, $d\sigma/d\Omega(17.5^\circ)=25.4 \mu\text{b}/\text{sr}$ 13.
1934.7 1				E(level)=1931 2, $d\sigma/d\Omega(7^\circ)=42 \mu\text{b}/\text{sr}$ (1979De25). $d\sigma/d\Omega(5^\circ)=13.7 \mu\text{b}/\text{sr}$ 7, $d\sigma/d\Omega(30^\circ)=24.8 \mu\text{b}/\text{sr}$ 7, $d\sigma/d\Omega(17.5^\circ)=21.3 \mu\text{b}/\text{sr}$ 12.
1948.9 1				$d\sigma/d\Omega(5^\circ)=5.6 \mu\text{b}/\text{sr}$ 3, $d\sigma/d\Omega(30^\circ)=5.5 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(17.5^\circ)=5.2 \mu\text{b}/\text{sr}$ 3. E(level)=1947 2, $d\sigma/d\Omega(7^\circ)=10 \mu\text{b}/\text{sr}$ (1979De25).
1981.3 1				$d\sigma/d\Omega(5^\circ)=4.9 \mu\text{b}/\text{sr}$ 3, $d\sigma/d\Omega(30^\circ)=2.7 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(17.5^\circ)=4.0 \mu\text{b}/\text{sr}$ 3. E(level)=1980 2 (1979De25).
1991.5 1	(6,7)	0.91,3.6		$d\sigma/d\Omega(5^\circ)=7.2 \mu\text{b}/\text{sr}$ 4, $d\sigma/d\Omega(30^\circ)=10.6 \mu\text{b}/\text{sr}$ 3, $d\sigma/d\Omega(17.5^\circ)=9.4 \mu\text{b}/\text{sr}$ 4. E(level)=1990 2, $d\sigma/d\Omega(7^\circ)=9 \mu\text{b}/\text{sr}$ (1979De25).
2003.1 1				$d\sigma/d\Omega(5^\circ)=3.9 \mu\text{b}/\text{sr}$ 3, $d\sigma/d\Omega(30^\circ)=5.4 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(17.5^\circ)=11.1 \mu\text{b}/\text{sr}$ 4. E(level)=2001 2, $d\sigma/d\Omega(7^\circ)=17 \mu\text{b}/\text{sr}$ (1979De25).
2032.8 1				$d\sigma/d\Omega(5^\circ)=1.0 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(30^\circ)=2.5 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(17.5^\circ)=2.3 \mu\text{b}/\text{sr}$ 2. E(level)=2031 2, $d\sigma/d\Omega(7^\circ)=3 \mu\text{b}/\text{sr}$ (1979De25).
2046.2 3				$d\sigma/d\Omega(5^\circ)=0.8 \mu\text{b}/\text{sr}$ 1, $d\sigma/d\Omega(30^\circ)=1.1 \mu\text{b}/\text{sr}$ 6, $d\sigma/d\Omega(17.5^\circ)=1.2 \mu\text{b}/\text{sr}$ 2.
2051.6 5				$d\sigma/d\Omega(5^\circ)=0.3 \mu\text{b}/\text{sr}$ 1, $d\sigma/d\Omega(30^\circ)=0.5 \mu\text{b}/\text{sr}$ 6, $d\sigma/d\Omega(17.5^\circ)=1.7 \mu\text{b}/\text{sr}$ 2.
2063.3 1				$d\sigma/d\Omega(5^\circ)=3.3 \mu\text{b}/\text{sr}$ 3, $d\sigma/d\Omega(30^\circ)=2.2 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(17.5^\circ)=1.7 \mu\text{b}/\text{sr}$ 2. E(level)=2062 2, $d\sigma/d\Omega(7^\circ)=4 \mu\text{b}/\text{sr}$ (1979De25).
2073.6 2				$d\sigma/d\Omega(5^\circ)=1.5 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(30^\circ)=0.8 \mu\text{b}/\text{sr}$ 1, $d\sigma/d\Omega(17.5^\circ)=0.8 \mu\text{b}/\text{sr}$ 1.
2085.6 1	0+ <sup>#</sup>	0 <sup>#</sup>		$d\sigma/d\Omega(5^\circ)=3.0 \mu\text{b}/\text{sr}$ 3, $d\sigma/d\Omega(30^\circ)=1.4 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(17.5^\circ)=1.2 \mu\text{b}/\text{sr}$ 2.

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**$^{196}\text{Pt}(\text{p,t}) \quad 2010\text{II03,1979De25}$  (continued)** **$^{194}\text{Pt}$  Levels (continued)**

E(level) <sup>†</sup>	J <sup>π</sup>	L	Enhancement factor <sup>‡</sup>	Comments
2107.7 <i>I</i>				$d\sigma/d\Omega(5^\circ)=5.9 \mu\text{b}/\text{sr}$ 4, $d\sigma/d\Omega(30^\circ)=5.1 \mu\text{b}/\text{sr}$ 3, $d\sigma/d\Omega(17.5^\circ)=6.9 \mu\text{b}/\text{sr}$ 4.
2117.7 <i>I</i>				$E(\text{level})=2105$ 2, $d\sigma/d\Omega(7^\circ)=16 \mu\text{b}/\text{sr}$ ( <b>1979De25</b> ). $d\sigma/d\Omega(5^\circ)=2.4 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(30^\circ)=4.0 \mu\text{b}/\text{sr}$ 3, $d\sigma/d\Omega(17.5^\circ)=3.7 \mu\text{b}/\text{sr}$ 3.
2126.5 <i>I</i>	(4) <sup>@</sup>	0.57		$d\sigma/d\Omega(5^\circ)=10.6 \mu\text{b}/\text{sr}$ 6, $d\sigma/d\Omega(30^\circ)=13.1 \mu\text{b}/\text{sr}$ 6, $d\sigma/d\Omega(17.5^\circ)=9.8 \mu\text{b}/\text{sr}$ 7. $E(\text{level})=2125$ 2, $d\sigma/d\Omega(7^\circ)=37 \mu\text{b}/\text{sr}$ ( <b>1979De25</b> ). $d\sigma/d\Omega(5^\circ)=7.7 \mu\text{b}/\text{sr}$ 6, $d\sigma/d\Omega(30^\circ)=3.0 \mu\text{b}/\text{sr}$ 5, $d\sigma/d\Omega(17.5^\circ)=8.4 \mu\text{b}/\text{sr}$ 7.
2130.7 <i>I</i>				$d\sigma/d\Omega(5^\circ)=9.7 \mu\text{b}/\text{sr}$ 5, $d\sigma/d\Omega(30^\circ)=13.4 \mu\text{b}/\text{sr}$ 5, $d\sigma/d\Omega(17.5^\circ)=23.8 \mu\text{b}/\text{sr}$ 5. $E(\text{level})=2137$ 2, $d\sigma/d\Omega(7^\circ)=30 \mu\text{b}/\text{sr}$ ( <b>1979De25</b> ).
2157.4 <i>I</i>	(2) <sup>@</sup>	0.27		$d\sigma/d\Omega(5^\circ)=15.1 \mu\text{b}/\text{sr}$ 6, $d\sigma/d\Omega(30^\circ)=11.6 \mu\text{b}/\text{sr}$ 4, $d\sigma/d\Omega(17.5^\circ)=32.3 \mu\text{b}/\text{sr}$ 4. $E(\text{level})=2155$ 2, $d\sigma/d\Omega(7^\circ)=38 \mu\text{b}/\text{sr}$ ( <b>1979De25</b> ).
2163.2 2	0 <sup>+</sup> #	0 <sup>#</sup>		$d\sigma/d\Omega(5^\circ)=3.6 \mu\text{b}/\text{sr}$ 4, $d\sigma/d\Omega(30^\circ)=2.0 \mu\text{b}/\text{sr}$ 3, $d\sigma/d\Omega(17.5^\circ)=1.0 \mu\text{b}/\text{sr}$ 4. $d\sigma/d\Omega(5^\circ)=0.8 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(30^\circ)=2.5 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(17.5^\circ)=2.3 \mu\text{b}/\text{sr}$ 2.
2175.4 <i>I</i>				$d\sigma/d\Omega(5^\circ)=4.0 \mu\text{b}/\text{sr}$ 3, $d\sigma/d\Omega(30^\circ)=1.8 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(17.5^\circ)=2.5 \mu\text{b}/\text{sr}$ 2.
2184.3 <i>I</i>				$d\sigma/d\Omega(5^\circ)=3.8 \mu\text{b}/\text{sr}$ 3, $d\sigma/d\Omega(30^\circ)=7.1 \mu\text{b}/\text{sr}$ 3, $d\sigma/d\Omega(17.5^\circ)=6.2 \mu\text{b}/\text{sr}$ 3.
2192.9 <i>I</i>				$E(\text{level})=2189$ 2, $d\sigma/d\Omega(7^\circ)=18 \mu\text{b}/\text{sr}$ ( <b>1979De25</b> ). $d\sigma/d\Omega(5^\circ)=2.0 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(30^\circ)=1.9 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(17.5^\circ)=4.5 \mu\text{b}/\text{sr}$ 4.
2213.8 <i>I</i>				$E(\text{level})=2210$ 2, $d\sigma/d\Omega(7^\circ)=6 \mu\text{b}/\text{sr}$ ( <b>1979De25</b> ). $d\sigma/d\Omega(5^\circ)=0.8 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(30^\circ)=1.0 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(17.5^\circ)=0.7 \mu\text{b}/\text{sr}$ 3.
2219.0 3				$d\sigma/d\Omega(5^\circ)=2.8 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(30^\circ)=2.4 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(17.5^\circ)=2.4 \mu\text{b}/\text{sr}$ 2. $E(\text{level})=2224$ 2, $d\sigma/d\Omega(7^\circ)=4 \mu\text{b}/\text{sr}$ ( <b>1979De25</b> ).
2228.3 <i>I</i>				$d\sigma/d\Omega(5^\circ)=22.8 \mu\text{b}/\text{sr}$ 7, $d\sigma/d\Omega(30^\circ)=13.4 \mu\text{b}/\text{sr}$ 4, $d\sigma/d\Omega(17.5^\circ)=19.6 \mu\text{b}/\text{sr}$ 6. $E(\text{level})=2246$ 2, $d\sigma/d\Omega(7^\circ)=18 \mu\text{b}/\text{sr}$ ( <b>1979De25</b> ).
2248.2 <i>I</i>	(4) <sup>@</sup>	0.43		$d\sigma/d\Omega(5^\circ)=3.4 \mu\text{b}/\text{sr}$ 4, $d\sigma/d\Omega(30^\circ)=1.2 \mu\text{b}/\text{sr}$ 1, $d\sigma/d\Omega(17.5^\circ)=2.1 \mu\text{b}/\text{sr}$ 2. $E(\text{level})=2277$ 2, $d\sigma/d\Omega(7^\circ)=6 \mu\text{b}/\text{sr}$ ( <b>1979De25</b> ). $d\sigma/d\Omega(5^\circ)=5.5 \mu\text{b}/\text{sr}$ 5, $d\sigma/d\Omega(30^\circ)=2.4 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(17.5^\circ)=2.8 \mu\text{b}/\text{sr}$ 2.
2275.6 <i>I</i>				$E(\text{level})=2284$ 2, $d\sigma/d\Omega(7^\circ)=6 \mu\text{b}/\text{sr}$ ( <b>1979De25</b> ). $d\sigma/d\Omega(5^\circ)=3.1 \mu\text{b}/\text{sr}$ 4, $d\sigma/d\Omega(30^\circ)=2.5 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(17.5^\circ)=6.6 \mu\text{b}/\text{sr}$ 4. $E(\text{level})=2296$ 2, $d\sigma/d\Omega(7^\circ)=10 \mu\text{b}/\text{sr}$ ( <b>1979De25</b> ).
2309.0 <i>I</i>				$d\sigma/d\Omega(5^\circ)=1.8 \mu\text{b}/\text{sr}$ 3, $d\sigma/d\Omega(30^\circ)=3.5 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(17.5^\circ)=2.5 \mu\text{b}/\text{sr}$ 2.
2324.1 <i>I</i>				$d\sigma/d\Omega(5^\circ)=1.5 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(30^\circ)=1.4 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(17.5^\circ)=3.5 \mu\text{b}/\text{sr}$ 3.
2356.3 <i>I</i>	(4) <sup>@</sup>	0.87		$d\sigma/d\Omega(5^\circ)=24.9 \mu\text{b}/\text{sr}$ 9, $d\sigma/d\Omega(30^\circ)=22.1 \mu\text{b}/\text{sr}$ 7, $d\sigma/d\Omega(17.5^\circ)=20.1 \mu\text{b}/\text{sr}$ 7. $E(\text{level})=2353$ 2, $d\sigma/d\Omega(7^\circ)=37 \mu\text{b}/\text{sr}$ ( <b>1979De25</b> ). A level at 2356.06 keV in the Adopted Levels is firmly assigned 0 <sup>+</sup> . The level in (p,t) with L=(4) in <b>1979De25</b> and non-zero L value in <b>2010II03</b> (see caption of Fig. 4 in this paper) suggest a separate level at this energy.

Continued on next page (footnotes at end of table)

**$^{196}\text{Pt}(\text{p},\text{t}) \quad \text{2010II03,1979De25 (continued)}$**  **$^{194}\text{Pt}$  Levels (continued)**

E(level) <sup>†</sup>	J <sup>π</sup>	L	Enhancement factor <sup>‡</sup>	Comments
2369.9 1				$d\sigma/d\Omega(5^\circ)=2.8 \mu\text{b}/\text{sr } 3, d\sigma/d\Omega(30^\circ)=2.8 \mu\text{b}/\text{sr } 3, d\sigma/d\Omega(17.5^\circ)=2.8 \mu\text{b}/\text{sr } 3.$
2385.2 1				$d\sigma/d\Omega(5^\circ)=5.1 \mu\text{b}/\text{sr } 5, d\sigma/d\Omega(30^\circ)=3.3 \mu\text{b}/\text{sr } 3, d\sigma/d\Omega(17.5^\circ)=4.0 \mu\text{b}/\text{sr } 4.$
2395.3 5				$d\sigma/d\Omega(5^\circ)=7.7 \mu\text{b}/\text{sr } 6, d\sigma/d\Omega(30^\circ)=8.0 \mu\text{b}/\text{sr } 4, d\sigma/d\Omega(17.5^\circ)=14.4 \mu\text{b}/\text{sr } 7.$
2407.8 1				$d\sigma/d\Omega(5^\circ)=5.1 \mu\text{b}/\text{sr } 5, d\sigma/d\Omega(30^\circ)=6.4 \mu\text{b}/\text{sr } 4, d\sigma/d\Omega(17.5^\circ)=13.7 \mu\text{b}/\text{sr } 7.$
2429.5 1				$d\sigma/d\Omega(5^\circ)=1.1 \mu\text{b}/\text{sr } 2, d\sigma/d\Omega(30^\circ)=2.5 \mu\text{b}/\text{sr } 3, d\sigma/d\Omega(17.5^\circ)=2.0 \mu\text{b}/\text{sr } 3.$
2444.5 1				$d\sigma/d\Omega(5^\circ)=2.3 \mu\text{b}/\text{sr } 3, d\sigma/d\Omega(30^\circ)=2.2 \mu\text{b}/\text{sr } 2, d\sigma/d\Omega(17.5^\circ)=2.2 \mu\text{b}/\text{sr } 3.$
2457.3 1				$d\sigma/d\Omega(5^\circ)=2.5 \mu\text{b}/\text{sr } 3, d\sigma/d\Omega(30^\circ)=2.5 \mu\text{b}/\text{sr } 2, d\sigma/d\Omega(17.5^\circ)=2.1 \mu\text{b}/\text{sr } 2.$
2473.3 3				$d\sigma/d\Omega(5^\circ)=0.6 \mu\text{b}/\text{sr } 2, d\sigma/d\Omega(30^\circ)=0.5 \mu\text{b}/\text{sr } 1, d\sigma/d\Omega(17.5^\circ)=0.4 \mu\text{b}/\text{sr } 1.$
2481.9 1				$d\sigma/d\Omega(5^\circ)=2.2 \mu\text{b}/\text{sr } 3, d\sigma/d\Omega(30^\circ)=1.4 \mu\text{b}/\text{sr } 2, d\sigma/d\Omega(17.5^\circ)=1.8 \mu\text{b}/\text{sr } 2.$
2500.9 2				$d\sigma/d\Omega(5^\circ)=1.6 \mu\text{b}/\text{sr } 3, d\sigma/d\Omega(30^\circ)=1.7 \mu\text{b}/\text{sr } 2, d\sigma/d\Omega(17.5^\circ)=1.8 \mu\text{b}/\text{sr } 2.$
2511.0 1	0 <sup>+</sup> #	0#		$d\sigma/d\Omega(5^\circ)=5.5 \mu\text{b}/\text{sr } 5, d\sigma/d\Omega(30^\circ)=3.2 \mu\text{b}/\text{sr } 3, d\sigma/d\Omega(17.5^\circ)=2.3 \mu\text{b}/\text{sr } 3.$
2517.6 2				$d\sigma/d\Omega(5^\circ)=1.4 \mu\text{b}/\text{sr } 3, d\sigma/d\Omega(30^\circ)=1.7 \mu\text{b}/\text{sr } 2, d\sigma/d\Omega(17.5^\circ)=1.3 \mu\text{b}/\text{sr } 2.$
2528.1 1	(2)@	0.33		$d\sigma/d\Omega(5^\circ)=6.9 \mu\text{b}/\text{sr } 5, d\sigma/d\Omega(30^\circ)=7.7 \mu\text{b}/\text{sr } 6, d\sigma/d\Omega(17.5^\circ)=18.4 \mu\text{b}/\text{sr } 7.$ E(level)=2532 3, $d\sigma/d\Omega(7^\circ)=28 \mu\text{b}/\text{sr}$ ( <a href="#">1979De25</a> ). $d\sigma/d\Omega(5^\circ)=5.9 \mu\text{b}/\text{sr } 5, d\sigma/d\Omega(30^\circ)=6.2 \mu\text{b}/\text{sr } 3, d\sigma/d\Omega(17.5^\circ)=7.1 \mu\text{b}/\text{sr } 5.$
2544.3 1				$d\sigma/d\Omega(5^\circ)=3.6 \mu\text{b}/\text{sr } 4, d\sigma/d\Omega(30^\circ)=6.6 \mu\text{b}/\text{sr } 4, d\sigma/d\Omega(17.5^\circ)=6.8 \mu\text{b}/\text{sr } 5.$
2554.1 1				$d\sigma/d\Omega(5^\circ)=2.6 \mu\text{b}/\text{sr } 3, d\sigma/d\Omega(30^\circ)=1.9 \mu\text{b}/\text{sr } 3, d\sigma/d\Omega(17.5^\circ)=4.1 \mu\text{b}/\text{sr } 4.$
2557.8 2				$d\sigma/d\Omega(5^\circ)=6.7 \mu\text{b}/\text{sr } 5, d\sigma/d\Omega(30^\circ)=8.5 \mu\text{b}/\text{sr } 4, d\sigma/d\Omega(17.5^\circ)=8.8 \mu\text{b}/\text{sr } 6.$
2569.9 1	(6)@	0.56		E(level)=2566 3, $d\sigma/d\Omega(10^\circ)=11 \mu\text{b}/\text{sr}$ ( <a href="#">1979De25</a> ). $d\sigma/d\Omega(5^\circ)=4.4 \mu\text{b}/\text{sr } 4, d\sigma/d\Omega(30^\circ)=7.5 \mu\text{b}/\text{sr } 4, d\sigma/d\Omega(17.5^\circ)=8.2 \mu\text{b}/\text{sr } 6.$
2576.7 1				E(level)=2580 3, $d\sigma/d\Omega(7^\circ)=27 \mu\text{b}/\text{sr}$ ( <a href="#">1979De25</a> ). $d\sigma/d\Omega(5^\circ)=8.5 \mu\text{b}/\text{sr } 6, d\sigma/d\Omega(30^\circ)=7.1 \mu\text{b}/\text{sr } 8, d\sigma/d\Omega(17.5^\circ)=8.2 \mu\text{b}/\text{sr } 5.$
2586.6 1				$d\sigma/d\Omega(5^\circ)=2.0 \mu\text{b}/\text{sr } 3, d\sigma/d\Omega(30^\circ)=2.0 \mu\text{b}/\text{sr } 2, d\sigma/d\Omega(17.5^\circ)=3.6 \mu\text{b}/\text{sr } 3.$
2599.5 1				E(level)=2595 3, $d\sigma/d\Omega(7^\circ)=16 \mu\text{b}/\text{sr}$ ( <a href="#">1979De25</a> ). $d\sigma/d\Omega(5^\circ)=0.7 \mu\text{b}/\text{sr } 2, d\sigma/d\Omega(30^\circ)=0.8 \mu\text{b}/\text{sr } 1, d\sigma/d\Omega(17.5^\circ)=0.5 \mu\text{b}/\text{sr } 2.$
2607.9 3				$d\sigma/d\Omega(5^\circ)=3.6 \mu\text{b}/\text{sr } 4, d\sigma/d\Omega(30^\circ)=3.1 \mu\text{b}/\text{sr } 2, d\sigma/d\Omega(17.5^\circ)=8.1 \mu\text{b}/\text{sr } 4.$
2616.4 1				$d\sigma/d\Omega(5^\circ)=11.4 \mu\text{b}/\text{sr } 7, d\sigma/d\Omega(30^\circ)=13.4 \mu\text{b}/\text{sr } 5, d\sigma/d\Omega(17.5^\circ)=14.0 \mu\text{b}/\text{sr } 7.$
2630.6 1				
2640.0 1	(4)@	0.61		$d\sigma/d\Omega(5^\circ)=3.9 \mu\text{b}/\text{sr } 4, d\sigma/d\Omega(30^\circ)=3.6 \mu\text{b}/\text{sr } 3, d\sigma/d\Omega(17.5^\circ)=3.4 \mu\text{b}/\text{sr } 4.$ E(level)=2638 3, $d\sigma/d\Omega(7^\circ)=29 \mu\text{b}/\text{sr}$ ( <a href="#">1979De25</a> ). $d\sigma/d\Omega(5^\circ)=0.8 \mu\text{b}/\text{sr } 2, d\sigma/d\Omega(30^\circ)=0.7 \mu\text{b}/\text{sr } 1, d\sigma/d\Omega(17.5^\circ)=1.1 \mu\text{b}/\text{sr } 3.$
2660.5 2				$d\sigma/d\Omega(5^\circ)=3.9 \mu\text{b}/\text{sr } 4, d\sigma/d\Omega(30^\circ)=3.9 \mu\text{b}/\text{sr } 3, d\sigma/d\Omega(17.5^\circ)=5.5 \mu\text{b}/\text{sr } 7.$
2676.4 1				$d\sigma/d\Omega(5^\circ)=2.6 \mu\text{b}/\text{sr } 4, d\sigma/d\Omega(30^\circ)=2.9 \mu\text{b}/\text{sr } 3, d\sigma/d\Omega(17.5^\circ)=2.6 \mu\text{b}/\text{sr } 5.$
2685.7 1				$d\sigma/d\Omega(5^\circ)=1.8 \mu\text{b}/\text{sr } 3, d\sigma/d\Omega(30^\circ)=4.2 \mu\text{b}/\text{sr } 4, d\sigma/d\Omega(17.5^\circ)=3.1 \mu\text{b}/\text{sr } 5.$
2695.3 1				$d\sigma/d\Omega(5^\circ)=1.3 \mu\text{b}/\text{sr } 3, d\sigma/d\Omega(30^\circ)=1.0 \mu\text{b}/\text{sr } 2, d\sigma/d\Omega(17.5^\circ)=1.1 \mu\text{b}/\text{sr } 3.$
2703.1 2	(6)@	0.61		E(level)=2700 3, $d\sigma/d\Omega(7^\circ)=18 \mu\text{b}/\text{sr}$ ( <a href="#">1979De25</a> ). $d\sigma/d\Omega(5^\circ)=1.3 \mu\text{b}/\text{sr } 3, d\sigma/d\Omega(30^\circ)=1.0 \mu\text{b}/\text{sr } 2, d\sigma/d\Omega(17.5^\circ)=1.6 \mu\text{b}/\text{sr } 4.$
2710.5 2				$d\sigma/d\Omega(5^\circ)=2.7 \mu\text{b}/\text{sr } 5, d\sigma/d\Omega(30^\circ)=1.8 \mu\text{b}/\text{sr } 4, d\sigma/d\Omega(17.5^\circ)=2.8 \mu\text{b}/\text{sr } 8.$
2717.9 2				$d\sigma/d\Omega(5^\circ)=3.9 \mu\text{b}/\text{sr } 5, d\sigma/d\Omega(30^\circ)=5.0 \mu\text{b}/\text{sr } 5, d\sigma/d\Omega(17.5^\circ)=3.6 \mu\text{b}/\text{sr } 9.$
2721.7 1				$d\sigma/d\Omega(5^\circ)=2.0 \mu\text{b}/\text{sr } 3, d\sigma/d\Omega(30^\circ)=6.9 \mu\text{b}/\text{sr } 5, d\sigma/d\Omega(17.5^\circ)=4.5 \mu\text{b}/\text{sr } 6.$
2739.7 1				$d\sigma/d\Omega(5^\circ)=8.5 \mu\text{b}/\text{sr } 6, d\sigma/d\Omega(30^\circ)=10.1 \mu\text{b}/\text{sr } 5, d\sigma/d\Omega(17.5^\circ)=9.0 \mu\text{b}/\text{sr } 7.$
2747.0 1				
2755.4 1				$d\sigma/d\Omega(5^\circ)=3.1 \mu\text{b}/\text{sr } 4, d\sigma/d\Omega(30^\circ)=3.5 \mu\text{b}/\text{sr } 4, d\sigma/d\Omega(17.5^\circ)=3.1 \mu\text{b}/\text{sr } 6.$

Continued on next page (footnotes at end of table)

**$^{196}\text{Pt}(\text{p},\text{t})$  2010II03,1979De25 (continued)** **$^{194}\text{Pt}$  Levels (continued)**

E(level) <sup>†</sup>	J <sup>π</sup>	L	Comments
			E(level)=2757 3, $d\sigma/d\Omega(7^\circ)=30 \mu\text{b}/\text{sr}$ ( <a href="#">1979De25</a> ).
2769.9 2	(0 <sup>+</sup> ) <sup>#</sup>	(0) <sup>#</sup>	$d\sigma/d\Omega(5^\circ)=2.7 \mu\text{b}/\text{sr}$ 4, $d\sigma/d\Omega(30^\circ)=2.3 \mu\text{b}/\text{sr}$ 4, $d\sigma/d\Omega(17.5^\circ)=1.5 \mu\text{b}/\text{sr}$ 13.
2771.9 4			$d\sigma/d\Omega(5^\circ)=0.8 \mu\text{b}/\text{sr}$ 3, $d\sigma/d\Omega(30^\circ)=2.3 \mu\text{b}/\text{sr}$ 4,
2795.1 2			$d\sigma/d\Omega(5^\circ)=2.0 \mu\text{b}/\text{sr}$ 4, $d\sigma/d\Omega(30^\circ)=1.4 \mu\text{b}/\text{sr}$ 4, $d\sigma/d\Omega(17.5^\circ)=2.4 \mu\text{b}/\text{sr}$ 13.
2799.6 1			$d\sigma/d\Omega(5^\circ)=4.4 \mu\text{b}/\text{sr}$ 5, $d\sigma/d\Omega(30^\circ)=5.4 \mu\text{b}/\text{sr}$ 6, $d\sigma/d\Omega(17.5^\circ)=8.0 \mu\text{b}/\text{sr}$ 8.
2805.3 2			$d\sigma/d\Omega(5^\circ)=2.1 \mu\text{b}/\text{sr}$ 3, $d\sigma/d\Omega(30^\circ)=3.0 \mu\text{b}/\text{sr}$ 5, $d\sigma/d\Omega(17.5^\circ)=3.1 \mu\text{b}/\text{sr}$ 6.
2817.3 2			$d\sigma/d\Omega(5^\circ)=1.2 \mu\text{b}/\text{sr}$ 2, $d\sigma/d\Omega(17.5^\circ)=2.7 \mu\text{b}/\text{sr}$ 4.
2842.2 1			E(level)=2815 3, $d\sigma/d\Omega(7^\circ)=12 \mu\text{b}/\text{sr}$ ( <a href="#">1979De25</a> ).
			$d\sigma/d\Omega(5^\circ)=3.9 \mu\text{b}/\text{sr}$ 5, $d\sigma/d\Omega(30^\circ)=2.9 \mu\text{b}/\text{sr}$ 4, $d\sigma/d\Omega(17.5^\circ)=3.1 \mu\text{b}/\text{sr}$ 6.
2850.2 1			E(level)=2840 3, $d\sigma/d\Omega(7^\circ)=7 \mu\text{b}/\text{sr}$ ( <a href="#">1979De25</a> ).
2855.8 1			$d\sigma/d\Omega(5^\circ)=2.4 \mu\text{b}/\text{sr}$ 5, $d\sigma/d\Omega(30^\circ)=4.9 \mu\text{b}/\text{sr}$ 6, $d\sigma/d\Omega(17.5^\circ)=5.0 \mu\text{b}/\text{sr}$ 8.
2862.7 1			$d\sigma/d\Omega(5^\circ)=2.6 \mu\text{b}/\text{sr}$ 5, $d\sigma/d\Omega(30^\circ)=4.2 \mu\text{b}/\text{sr}$ 6, $d\sigma/d\Omega(17.5^\circ)=4.7 \mu\text{b}/\text{sr}$ 8.
2878.7 2			$d\sigma/d\Omega(5^\circ)=1.8 \mu\text{b}/\text{sr}$ 5, $d\sigma/d\Omega(30^\circ)=2.9 \mu\text{b}/\text{sr}$ 5, $d\sigma/d\Omega(17.5^\circ)=5.4 \mu\text{b}/\text{sr}$ 8.
			$d\sigma/d\Omega(5^\circ)=2.1 \mu\text{b}/\text{sr}$ 6, $d\sigma/d\Omega(17.5^\circ)=2.0 \mu\text{b}/\text{sr}$ 7.
2882.4 1			E(level)=2871 3, $d\sigma/d\Omega(7^\circ)=13 \mu\text{b}/\text{sr}$ ( <a href="#">1979De25</a> ).
2895 3			$d\sigma/d\Omega(5^\circ)=3.8 \mu\text{b}/\text{sr}$ 7, $d\sigma/d\Omega(30^\circ)=2.4 \mu\text{b}/\text{sr}$ 7, $d\sigma/d\Omega(17.5^\circ)=4.2 \mu\text{b}/\text{sr}$ 8.
			E(level): from <a href="#">1979De25</a> .
			$d\sigma/d\Omega(7^\circ)=7 \mu\text{b}/\text{sr}$ ( <a href="#">1979De25</a> ).

<sup>†</sup> From [2010II03](#), unless otherwise noted. Values from [1979De25](#) are given under comments.

<sup>‡</sup> The enhancement factors from [1979De25](#) are based on the following configurations for the neutron pair: p<sub>3/2</sub> for L=0, (p<sub>3/2</sub>,f<sub>7/2</sub>) for L=2, (i<sub>13/2</sub>,f<sub>7/2</sub>) for L=3, (f<sub>5/2</sub>,p<sub>3/2</sub>) for L=4, (p<sub>3/2</sub>,i<sub>13/2</sub>) for L=5, (f<sub>5/2</sub>,f<sub>7/2</sub>) for L=6 and (p<sub>1/2</sub>,i<sub>13/2</sub>) for L=7.

<sup>#</sup> From L=0 in [2010II03](#).

<sup>④</sup> From [1979De25](#), based on comparison with DWBA calculations and on empirical shapes of  $\sigma(\theta)$  distributions.