

$^{146}\text{Nd}(\text{p,t})$ **1996Po12**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	A. A. Sonzogni	NDS 93, 599 (2001)	1-Dec-2000

E=35.6 MeV. Measured $\sigma(\theta)$, $\theta=6^\circ-62^\circ$ in 4° steps; deduced level J and π . Magnetic spectrograph, Resolution=20-25 keV. The differential cross section at 10° as well as the peak value are listed in units of $\mu\text{b/sr}$.

 ^{144}Nd Levels

E(level) ‡	J $^\pi$ †	$d\sigma/d\Omega(10^\circ)(\mu\text{b/sr})$	Comments
0	0 ⁺	639 5	$d\sigma/d\Omega(\text{max})=650$ 30.
696	2 ⁺	9.2 6	$d\sigma/d\Omega(\text{max})=80$ 20 (corrected for 2-step contributions).
1314	4 ⁺	60.0 15	$d\sigma/d\Omega(\text{max})=60$ 6.
1510	3 ⁻	23 1	$d\sigma/d\Omega(\text{max})=72$ 14 (corrected for 2-step contributions).
1561	2 ⁺	37 1	$d\sigma/d\Omega(\text{max})=70$ 5.
1791	6 ⁺	38 1	$d\sigma/d\Omega(\text{max})=40$ 4.
2073	2 ⁺	33 1	$d\sigma/d\Omega(\text{max})=68$ 4.
2084	0 ⁺	28 1	$d\sigma/d\Omega(\text{max})=30$ 2.
2109	(1 ⁻ ,2 ⁺)	5.9 5	$d\sigma/d\Omega(\text{max})=7$ 1.
2189	(1 ⁻)	2.3 3	$d\sigma/d\Omega(\text{max})=4.0$ 6.
2220	6 ⁺	2.9 3	$d\sigma/d\Omega(\text{max})=2.5$ 4.
2296	(4 ⁺)	1.8 3	$d\sigma/d\Omega(\text{max})=1.7$ 3.
2328	0 ⁺	4.0 4	$d\sigma/d\Omega(\text{max})=4.0$ 4.
2369	2 ⁺	13.2 7	$d\sigma/d\Omega(\text{max})=26$ 1.
2451	4 ⁺	42.0 12	$d\sigma/d\Omega(\text{max})=42$ 3.
2527	2 ⁺	1.5 3	$d\sigma/d\Omega(\text{max})=6.0$ 18 (corrected for 2-step contributions).
2599	3 ⁻	12.0 7	$d\sigma/d\Omega(\text{max})=16.0$ 8.
2613	6 ⁺ , (7 ⁻)	5.5 5	$d\sigma/d\Omega(\text{max})=10.0$ 5.
2656	(4 ⁺)	19.0 8	$d\sigma/d\Omega(\text{max})=19$ 1.
2675	0 ⁺	60.0 15	$d\sigma/d\Omega(\text{max})=60$ 3.
2693	2 ⁺	9.0 6	$d\sigma/d\Omega(\text{max})=20$ 3.
2732	(3 ⁻)	5.6 5	$d\sigma/d\Omega(\text{max})=8.0$ 8.
2779	3 ⁻	7.7 6	$d\sigma/d\Omega(\text{max})=20$ 6 (corrected for 2-step contributions).
2837	(2 ⁺ ,3 ⁻)	6.7 5	$d\sigma/d\Omega(\text{max})=8.0(16) + 6.0(12)$ (contributions of each state).
2868	(2 ⁺)	4.3 5	$d\sigma/d\Omega(\text{max})=8.5$ 8.
2896		2.7 4	$d\sigma/d\Omega(\text{max})=2.2$ 3.
2969	(3 ⁻)	10.3 7	$d\sigma/d\Omega(\text{max})=14.0$ 2.
2986	4 ⁺	3.1 5	$d\sigma/d\Omega(\text{max})=3.2$ 4.
3027	4 ⁺	56.0 14	$d\sigma/d\Omega(\text{max})=50$ 5.
3047	(5 ⁻)	15.0 9	$d\sigma/d\Omega(\text{max})=15$ 2.
3098	2 ⁺	31 1	$d\sigma/d\Omega(\text{max})=62$ 3.
3126	4 ⁺	16.0 9	$d\sigma/d\Omega(\text{max})=15$ 2.
3157	0 ⁺	88 2	$d\sigma/d\Omega(\text{max})=100$ 10.
3220	2 ⁺	5.1 6	$d\sigma/d\Omega(\text{max})=12.0$ 18.
3290	3 ⁻	48.0 14	$d\sigma/d\Omega(\text{max})=64$ 6.
3342	3 ⁻	11.0 8	$d\sigma/d\Omega(\text{max})=15$ 3.
3382	2 ⁺	96 2	$d\sigma/d\Omega(\text{max})=170$ 8.
3404	2 ⁺	42 1	$d\sigma/d\Omega(\text{max})=90$ 4.
3432	5 ⁻	7.5 7	$d\sigma/d\Omega(\text{max})=10.0$ 12.
3462	(4 ⁺)	23 1	$d\sigma/d\Omega(\text{max})=20.0$ 15.
3490	5 ⁻	13 2	$d\sigma/d\Omega(\text{max})=16.0$ 8.
3534	2 ⁺	87 2	$d\sigma/d\Omega(\text{max})=150$ 7.
3589	3 ⁻	25 1	$d\sigma/d\Omega(\text{max})=36$ 3.
3661	3 ⁻	11 1	$d\sigma/d\Omega(\text{max})=17$ 2.
3678		8.7 8	$d\sigma/d\Omega(\text{max})=10.0$ 15.
3702	2 ⁺	24 1	$d\sigma/d\Omega(\text{max})=44$ 2.
3731	2 ⁺	9.3 9	$d\sigma/d\Omega(\text{max})=22$ 3.

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$^{146}\text{Nd}(\text{p,t})$ **1996Po12 (continued)** ^{144}Nd Levels (continued)

E(level) [‡]	J ^π [†]	dσ/dΩ(10°)(μb/sr)	Comments
3759	6 ⁺	6.6 8	dσ/dΩ(max)=8 1.
3796		4.1 8	dσ/dΩ(max)=5 1.
3813	2 ⁺	6.5 9	dσ/dΩ(max)=17 2.
3834	(1 ⁻)	11 1	dσ/dΩ(max)=25 5.
3853	0 ⁺	7.4 3	dσ/dΩ(max)=8 1.
3871		3.1 8	dσ/dΩ(max)=10.0 15.
3902	(1 ⁻)	14.2 10	dσ/dΩ(max)=30 7.
3933	(6 ⁺ , 7 ⁻)	4.1 9	dσ/dΩ(max)=10.0 18.
3975	2 ⁺	10 1	dσ/dΩ(max)=26 5.
4004		5	
4032	(6 ⁺)	2.4 10	dσ/dΩ(max)=6.0 9.
4106	7 ⁻	5.6 10	dσ/dΩ(max)=10.0 18.
4133	(1 ⁻)	23 1	dσ/dΩ(max)=40 8.
4184	3 ⁻	20 1	dσ/dΩ(max)=27 2.
4227	(3 ⁻)	20 1	dσ/dΩ(max)=32 6.
4299	4 ⁺	14 1	dσ/dΩ(max)=15.0 15.
4317	2 ⁺	16 1	dσ/dΩ(max)=31 2.
4344	3 ⁻	17.0 15	dσ/dΩ(max)=21 2.
4415	5 ⁻	14 1	dσ/dΩ(max)=15.0 17.
4469	3 ⁻	27 2	dσ/dΩ(max)=34 3.
4543	(3 ⁻)	51 2	dσ/dΩ(max)=60 7.
4635	(2 ⁺)	12.3 16	dσ/dΩ(max)=25 3.
4657	(2 ⁺)	21.0 17	dσ/dΩ(max)=22 5.
4685	(7 ⁻)	8 2	dσ/dΩ(max)=7.0 14.
4708		5	
4765		22	
4794		34	
4821		32	
4845	(2 ⁺)	26 2	dσ/dΩ(max)=40 5.
4885		25	
5023	(5 ⁻ , 6 ⁺)	7.7 20	dσ/dΩ(max)=10.0 15.

[†] As given by authors, from $\sigma(\theta)$ following DWBA, coupled-channel calculations.

[‡] Uncertainties are 2 keV for E<2500 keV, 5-7 keV at highest energies.