

$^{148}\text{Nd}(p,p')$ 1993Pi06

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 117, 1 (2014)	1-Oct-2013

1993Pi06: E=30.5 MeV, FWHM=12-15 keV; measured $\sigma(\theta)$, coupled-channel analysis.

1993Co03: E=26 MeV, FWHM \approx 50 keV; measured $\sigma(\theta)$, coupled-channel analysis.

See 1993Pi06 for the level coupling parameters deduced from the coupled-channel analysis.

 ^{148}Nd Levels

Given In table comments are the coupling parameters β_λ (1993Pi06).

E(level) [†]	J^π [‡]	Comments
0.0	0 ⁺	
303 2	2 ⁺	0.1980.
752 2	4 ⁺	0.0539.
920 2	0 ⁺	0.0036.
998 2	3 ⁻	0.1420.
1022 2	1 ⁻	0.0110.
1171 2	2 ⁺	0.0209.
1242 [#]	5 ⁻	
1244 2	2 ⁺	0.0460.
1400 2	(0 ⁺ ,1 ⁻)	
1432 2	(0 ⁺ ,1 ⁻)	
1475 2	(1 ⁻)	0.0020.
1577 2	2 ⁺	0.0113.
1602 2	4 ⁺	0.0144.
1654 2	(3 ⁻)	0.0170.
1685 2	4 ⁺	0.0630.
1725 2	3 ⁻	0.0696.
1778 2	(3 ⁻)	0.0089.
1837 2	(1 ⁻)	0.0036.
1887 2	4 ⁺	0.0310.
2034 2	3 ⁻	0.0348.
2098 2	4 ⁺	0.0414.
2145 2	4 ⁺	0.0122.
2197 2	5 ⁻	0.0333.
2257 4	(2 ⁺)	0.0171.
2286 4	(3 ⁻)	0.0121.
2341 4	3 ⁻	0.0187.
2388 4	4 ⁺	0.0242.
2429 4	2 ⁺	0.0163.
2484 4	3 ⁻	0.0125.
2544 4	(1 ⁻)	0.0025.
2590 4	4 ⁺	0.0280.
2642 4	4 ⁺	0.0110.
2682 4	0 ⁺	0.0039.
2709 4	4 ⁺	0.0187.
2770 4	4 ⁺	0.0190.
2807 4	3 ⁻	0.0123.
2871 4	(3 ⁻)	0.0153.
2913 4	4 ⁺	0.0216.
2961 4	4 ⁺	0.0159.
3022 4	4 ⁺	0.0200.
3068 4	(3 ⁻)	0.0089.

Continued on next page (footnotes at end of table)

 $^{148}\text{Nd}(p,p')$ [1993Pi06](#) (continued)

 ^{148}Nd Levels (continued)

<u>E(level)[†]</u>	<u>J^π[‡]</u>	<u>Comments</u>
3096 4	(1 ⁻)	0.0019.
3142 4	4 ⁺	0.0241.
3191 4	4 ⁺	0.0163.
3241 4	4 ⁺	0.0214.

[†] From combined (p,p') and (d,d') data ([1993Pi06](#)).

[‡] From coupled-channel analysis of $\sigma(\theta)$ in (p,p') and (d,d') ([1993Pi06](#)).

Observed by [1993Co03](#) who analyzed their data using coupled-channel calculations to obtain J^π and a coupling constant $\beta_5=0.046$. These authors ascribe this state to the coupling of 302 keV J^π=2⁺, and the 999 keV J^π=3⁻ states by octupole coupling or by direct excitation. Not observed by [1993Pi06](#) with a higher resolution.