

¹⁴²Nd(p,α),(pol p,α) 2009GuZU,2003GuZU,1980HaZE

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	P. K. Joshi, B. Singh, S. Singh, A. K. Jain		NDS 138, 1 (2016)	15-Oct-2016

2009GuZU, 2003GuZU, 2003GuZV: (pol p,α): E=23.5 MeV. Measured $\sigma(\theta)$, analyzing powers $A_y(\theta)$ using Q3D magnetic spectrograph at Munich, DWBA analysis. Target=¹⁴²Nd₂O₃ enriched to 98.26%, thickness=82 $\mu\text{g}/\text{cm}^2$ on 8 $\mu\text{g}/\text{cm}^2$ carbon backing.

1980HaZE: E=17 MeV, measured $\sigma(\theta=6.5^\circ-65^\circ, 12 \text{ angles})$; mag spect, delay-line counter. Levels shown are those observed in the 20° spectra.

1996Gu03: (p,α): E=23.1 MeV; measured $\sigma(\theta)$; deduced angle integrated σ .

Other: **1983Ga04:** E≈24 MeV, investigated role of unpaired nucleon.

¹³⁹Pr Levels

E(level) [†]	J ^π [@]	Comments
0 [‡]	5/2 ⁺	
114 [‡]		E(level): 107 (1980HaZE).
405	3/2 ⁺	E(level): 405 (1980HaZE).
590		E(level): 582 (1980HaZE).
624		
828 [‡]	9/2 ⁺	E(level): 822 (1980HaZE).
852 [#]	11/2 ⁺	
917		E(level): 909 (1980HaZE).
1009		E(level): 1000 (1980HaZE).
1154		E(level): 1147 (1980HaZE).
1312 [#]	1/2 ⁻	
1328		E(level): 1328 (1980HaZE).
1449 [#]	3/2 ⁻	
1478		E(level): 1493 (1980HaZE).
1492		E(level): 1508 (1980HaZE).
1532		
1623		E(level): 1624 (1980HaZE).
1650 [#]	1/2 ⁺	
1762		
1783	13/2 ⁺	E(level): 1782 (1980HaZE).
1831		E(level): 1841 (1980HaZE).
1857		
1908	7/2 ⁺	E(level): 1910 (1980HaZE).
1926		E(level): 1927 (1980HaZE).
1952 [#]	5/2 ⁺	
1975		E(level): 1980 (1980HaZE).
2033		
2050		
2097		E(level): 2098 (1980HaZE).
2127		
2149		E(level): 2144 (1980HaZE).
2205		

[†] From 2003GuZU, unless stated otherwise. From spectral Fig. 1 in 2003GuZV, FWHM seems about 10 keV. The uncertainties are probably about 5 keV.

[‡] Most intensely populated level.

[#] From 2009GuZU.

[@] From $\sigma(\theta)$ and $A_y(\theta)$ with DWBA analysis (2009GuZU).