

<sup>61</sup>Ni(d,p),(pol d,p) 1963Fu04,1967Te02,1981Ka24

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Alan L. Nichols, Balraj Singh, Jagdish K. Tuli		NDS 113, 973 (2012)	15-Apr-2012

$J^\pi(^{61}\text{Ni})=3/2^-$ .

1981Ka24: E=12.3 MeV, vector- and tensor-polarized beams, telescopes, FWHM=75 keV, measured  $\sigma(\theta)$ , analyzing power, DWBA.

1963Fu04: E=15 MeV, spectrograph, FWHM=45 keV.

1967A104: E=7.0 MeV, spectrograph. The results of this unpublished work are tabulated by 1967Ve10, and in part by 1974Ve13.

1967Te02: E=7-7.5 MeV, spectrograph, FWHM=15 keV, no L values. All levels were seen by 1967Te02 in (p,p') with better resolution.

1965Bo36: E=6 MeV, spectrograph.

Others: 1975ShYO (g.s.,1170 only), 1975Ch03 (continuum). See 1974Ve13 and 1967Ve10 for earlier work.

See <sup>62</sup>Ni(p,p') for many more levels observed by 1967Te02.

<sup>62</sup>Ni Levels

L( $\alpha$ ),S( $\alpha$ ) From 1967A104.

L( $\beta$ ),S( $\beta$ ) From 1981Ka24.

Dominant J transfers are deduced from analyzing power data (1981Ka24).

E(level) <sup>†</sup>	L <sup>@</sup>	S'&	Comments
0.0	1	0.45	S': 0.55 (1981Ka24).
1169 10	1	0.31	S': 0.46 (1981Ka24).
2043 10	1	0.085	S': 0.14 (1981Ka24).
2294 10	1+3	0.244	E(level): not 2244 (private communication from authors of 1967Te02 to H. Verheul, 1974Ve13).
2334 10	1+3	0.037+0.55	L,S': L=3,S'=0.95 (1981Ka24).
2890 10	1	0.12	S': 0.16 (1981Ka24).
3060 25	3	0.46	
3168 10	1+3	0.11+0.22	L,S': L=1,S'=0.14 (1981Ka24).
3249 10	3	5.72	
3265 10	1+3	0.076+0.82	L,S': L=3,S=2.1 for a level at 3260 25.
3363 10	1	0.26	S': 0.31 (1981Ka24).
3464 10	3	0.63	
3518 10	1	0.32	S': 0.36 (1981Ka24).
3750 10	4	0.58	L,S': 1967A104: L=1+3,S'=0.136.
3853 10	1	0.38	S': 0.45 (1981Ka24).
3910? <sup>‡</sup>	1	0.12	
3965 10	1	0.075	
4012 10	(3)	0.720	
4035 10	1	0.092	
4050 10	1	0.268	
4153 10	3	2.748	
4197 10	4	2.08	
4400 25	3	0.28	
4454 10			
4500 25	4	0.35	
4712 10			
4720 25	4	1.18	
4870 25	4	2.23	
4885 10			
5030 25	4	2.3	
5071 10			
5331 10	2	0.38	S': 0.25 (1981Ka24).
5511 10			
5540 25	4	1.0	

Continued on next page (footnotes at end of table)

${}^{61}\text{Ni}(\text{d,p}),(\text{pol d,p})$  [1963Fu04](#),[1967Te02](#),[1981Ka24](#) (continued) ${}^{62}\text{Ni}$  Levels (continued)

E(level) <sup>†</sup>	L <sup>@</sup>	S' <sup>&amp;</sup>	Comments
5630 <i>10</i>	2	0.32	S': 0.16 ( <a href="#">1981Ka24</a> ).
5830 25	2	0.09	
5859 <i>10</i>			
6103 <i>10</i>	2	0.63	S': 0.33 ( <a href="#">1981Ka24</a> ).
6320 25	2	0.21	
6390 <sup>‡</sup>			
6570 25	2	0.29	
6740 <sup>‡</sup>	0		
6900 25	(0)		
7080 <sup>#</sup> <i>30</i>			
7300 25	2	0.36	
7800 25	2	0.28	
8130 25	(2)	0.3	
8460 25	(4)		

<sup>†</sup> The levels with  $\Delta E=10$  are selected from [1967Te02](#); those with  $\Delta E=25$  are taken from [1981Ka24](#), except as noted.

<sup>‡</sup> From [1963Fu04](#).

<sup>#</sup> From [1965Bo36](#).

<sup>@</sup> From DWBA analysis by [1963Fu04](#), except as noted.

<sup>&</sup> From [1963Fu04](#), except as noted.