

$^{60}\text{Ni}(\text{p,p}')$, (pol p,p') [1967Te02,1986Ho15,1989Va02](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 114, 1849 (2013)	31-Dec-2012

Other measurements of E(level): [1962Va32](#), [1962Ma20](#), [1957Sp90](#), [1968Ba14](#).

For deformation parameters obtained with poor energy resolution, see [1981In01](#), [1977Th05](#), [1970Li20](#), [1970Pe09](#), [1968Ba14](#).

For giant resonance region, see [1983Ma09](#).

[1992Ke07](#): reanalyzed previous data $\beta_2(1331 \text{ level}) = 0.26$, $\beta_3(4042 \text{ level}) = 0.18$.

For theoretical analysis of data in [1982Sa37](#), see [1987Va01](#) and [1990Ha20](#).

(p,p'): E=11-11.5 MeV. Measured $\sigma(E(\text{p}'))$, magnetic spectrograph, FWHM ≈ 15 keV, enriched target ([1967Te02](#)).

(pol p,p): E= 20.4 MeV. Measured $\sigma(\theta)$, A(θ) ([1989Wa05](#)).
E= 65 MeV. Measured $\sigma(\theta)$, A(θ) ([1982Sa37](#)).

(pol p,p'): E=20.4, 24.6 MeV. Measured $\sigma(\theta)$, A(θ) ([1989Va02](#)).
E= 16 MeV. Measured A(θ) for 1st and 2nd 2^+ ([1993PlZW](#)).
E= 65 MeV. FWHM ≈ 20 keV. Measured $\sigma(\theta)$, A(θ)
for the M1 states. $\theta(\text{lab})=10^\circ$ to 40° ([1986Ho15](#)).

 ^{60}Ni Levels

Tentative J^π and configuration from comparison of $\sigma(\theta)$ and A(θ) to DWBA calculation ([1986Ho15](#)).

J^π and configuration from similarity of $\sigma(\theta)$ and A(θ) to those of the 2903-keV, 1^+ state in ^{58}Ni ([1986Ho15](#)).

E(level) [†]	L [#]	$\beta_L^@$	E(level) [†]	E(level) [†]
0			4362 7	5347 10
1331 7	2	0.26 3	4410 7	5372 10
2156 7	2	0.030 3	4493 [‡] 7	5396 [‡] 10
2284 7			4537 7	5428 10
2502 7	4	0.127 13	4550 7	5449 10
2621 7			4579 7	5474 [‡] 10
3119 7	2	0.051 5	4613 7	5532 [‡] 10
3187 [‡] 7			4766 7	5615 [‡] 10
3271 7			4781 10	5642 10
3316 7			4805 10	5675 10
3390 7			4849 10	5713 10
3589 7			4891 10	5741 10
3619 7			4932 10	5781 10
3671 7	4	0.066 7	4955 10	5802 10
3732 7			4972 10	5824 10
3864 7			4985 10	5848 10
3891 7			5020 10	5863 10
3927 7			5054 10	5900 10
4011 7			5069 10	5921 10
4021 7			5102 [‡] 10	5946 10
4042 7	3	0.21 2	5132 10	5973 10
4082 7			5153 10	5992 10
4116 7			5171 10	6028 10
4169 7			5188 10	6054 10
4191 [‡] 7			5208 10	6071 10
4271 7			5238 10	6121 10
4299 7			5264 10	6142 10
4325 7			5293 10	6181 10
4342 7			5313 10	6192 10

Continued on next page (footnotes at end of table)

$^{60}\text{Ni}(\text{p},\text{p}')$, (pol p,p') 1967Te02,1986Ho15,1989Va02 (continued) ^{60}Ni Levels (continued)

<u>E(level)[†]</u>	<u>E(level)[†]</u>	<u>E(level)[†]</u>	<u>E(level)[†]</u>	<u>J^π</u>
6239 [‡] 10	6468 10	6652 10	6800 10	
6275 10	6492 10	6658 10	6832 10	
6292 10	6516 10	6687 10	6837 10	
6331 [‡] 10	6551 10	6708 10	6859 10	
6362 10	6568 10	6728 10	6892 10	
6380 10	6584 10	6753 10	8280 ^{&} 20	1 ⁺
6403 10	6610 10	6765 10	11620 ^{ad} 20	1 ⁺
6431 10	6623 10	6791 10	11860 ^c 20	1 ⁺ ^b

[†] From 1967Te02.[‡] Complex level (1967Te02).[#] From $\sigma(\theta)$ and analyzing power fits to DWBA and coupled-channels calculations (1989Va02).[@] Deformation parameter from 1989Va02.[&] configuration (f7/2)⁻¹(f5/2).^a configuration (p3/2)(f5/2).^b DWBA calculations with the isovector 1⁺ wave function reproduce $\sigma(\theta)$ well, but not A(θ) (1986Ho15).^c configuration (f7/2)⁻¹(f5/2).^d configuration (p3/2)(f5/2).