

⁶⁴Ni(d,d'),(pol d,d') 1962Jo05,1974Ba74

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen		NDS 178,41 (2021).	12-Nov-2021

1962Jo05: (d,d') E=15 MeV. Scattered particles were momentum-analyzed with a magnetic spectrograph (FWHM=40 keV). Measured E(d), $\sigma(\theta)$. Deduced levels, J, π . See also **1969Jo01** (E=11.5,11.8 MeV) from the same group.

1974Ba74: (pol d,d') E=15 MeV deuterons from the Rutgers atomic-beam polarized source. Measured $\sigma(\theta)$, analyzing power with two ΔE -E counter telescopes. Deduced levels, J, π , deformation parameters from DWBA analysis. Data for first 2⁺, 4⁺ and 3⁻ states.

Others mainly dealing with optical model parameters from (d,d) and (d,d') scattering through g.s. and first 2⁺ state:

(pol d,d): **1987Ta15** (E=22 MeV), **1981Bi04** (E=12 MeV), **1980Ha14** (E=56 MeV), **1978Tu07** (E=12.4 MeV). Theoretical analysis: **1980No04** (E=15 MeV), **1978Go03** (E=15 MeV).

(d,d): **1983ScZL** (E=25.5 MeV), **1974Ch27** and **1977ChYO** (E=17 MeV), **1966Du08** (E=52 MeV). Theoretical analysis: **1980Da08** (E=17,52 MeV), **1972Ab08** (E=52 MeV).

(pol d,d'): **1980WoZR** (E=6-12 MeV).

(d,d'); **1974Co06**, **1973Co01** and **1972Ba36** (E=12-17 MeV), **1971Go25** (E=14 MeV), **1968Hi09** (E=52 MeV).

1985Ko08: (d,d) E=6.7 GeV, measured fragment yield.

2008Gr22: (d,d') E=37 MeV at INR, National Academy of Sciences of Ukraine. Measured E(d), I(d) with two ΔE -E telescopes. Deduced excitation of electric giant resonances.

[Additional information 1.](#)

⁶⁴Ni Levels

E(level) [†]	J π [‡]	Relative population [#]	Comments
0	0 ⁺		
1340	2 ⁺	845	$\beta_2=0.18$ (1974Ba74), 0.20 (1969Jo01).
1480?		15	Considered uncertain (evaluator) since not reported in any other reaction.
2290		9	
2490		6	
2600	4 ⁺	110	$\beta_4=0.07$ (1974Ba74).
2870		19	
3030		13	
3170		94	
3280		40	
3400		16	
3560	3 ⁻	320	$\beta_3=0.17$ (1974Ba74), 0.16 (1969Jo01).
3640		34	
3750		23	
3840		27	
3980		12	
4080		12	

[†] From **1962Jo05**. Estimated uncertainty ≈ 10 keV (evaluator).

[‡] From the Adopted Levels.

[#] From **1962Jo05**, at 45°.