

$^{40}\text{Ca}(\text{d},\text{n})$ 1969Ge05,1975Vi05

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja, E. A. Mccutchan		NDS 133, 1 (2016)	30-Sep-2015

1969Ge05: E(d)=5.0, 6.0, 6.5 MeV. Measured $\sigma(\theta)$ using time-of-flight system with NE213 liquid scintillator and neutron $\text{pol}(\theta)$ using neutron polarimeter; DWBA analysis.

1975Vi05, 1976Vi06: E(d)=10.5-11 MeV. Measured probability of proton decay (to ^{40}Ca) from the residual ^{41}Sc proton-unbound states. Measured neutron-proton(θ) using NE213 liquid scintillator for neutrons and four surface barrier detectors for protons; DWBA analysis.

Others:

1973DoZG: Measured neutron polarization.

1972Ta07 (also 1971TaZN): E(d)=3.8 MeV. Measured $\sigma(\theta)$, $\text{pol}(\theta)$ for neutrons for ground state.

1970GrZY: E(d)=3-6 MeV. Measured $\sigma(\theta)$.

1968Le05: E(d)=5.0, 6.0, and 6.5 MeV. Measured $\sigma(\theta)$ for ground state.

1963Kn04: E(d)=7.7 MeV. Four levels reported using time-of-flight for neutrons.

1959PI53: E(d)=4.15 MeV. Measured $\sigma(\theta)$ for first four states.

Additional information 1.

 ^{41}Sc Levels

E(level) [†]	J π [#]	Γ_p (keV) [@]	L [‡]	S [†]	Comments
0			3	0.83	S: From 1968Le05.
1718 7			1	0.67	
2096 7			2		L: other: L=1 in 1959PI53.
2415 8			1	0.05	
2593 9					
2719 8			0		
3463 9	1/2 ⁻	73 keV 10	1		E(level): other: 3470 20 (1975Vi05). L: from 1975Vi05. Other: (0,1) in 1969Ge05.
3721 10					
3776 10					
4950 [@] 20	5/2 ⁻	1.7 keV 4			
5040 [@] 20	9/2 ⁺	0.40 keV 7			
5700 [@] 20	5/2 ⁻	14 keV 3			
5860 [@] 20	5/2 ⁻	8.8 keV 17			
5970 [@] 20	(5/2 ⁻ , 7/2 ⁻)	2.6 keV 5			Γ_p (keV): for J=5/2.
6460 [@] 20	5/2 ⁻	18 keV 3			

[†] From 1969Ge05, except where noted.

[‡] From DWBA analysis of $\sigma(\theta)$ (1969Ge05).

[#] From neutron-proton angular distribution measurements (1975Vi05).

[@] From 1975Vi05.