^{41}Ca(d,t) 1975Be45

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 140, 1 (2017)	30-Sep-2015

$J^{\pi}(^{41}Ca$ g.s.)=7/2$^-$.

1975Be45: E=40 MeV deuteron beam was produced from the University of Groningen cyclotron. Target was about 160 μg/cm^2 99.9% pure calcium. Reaction products were detected in separate counter telescopes of two silicon surface barrier detectors (FWHM=80 keV). Measured $\sigma(\theta)$. Deduced levels, J, π, L-transfers, spectroscopic factors from DWBA analysis.

All data are from 1975Be45, unless otherwise noted.

^{40}Ca Levels

Spectroscopic factor C^2S is defined by $C^2S=(2j+1)/N\times\sigma_{exp}/\sigma_{DWBA}$ with N=3.33 and j the spin of transferred particle (1975Be45).

E(level)	L[†]	C^2S[†]	Comments
0	3	0.79	
3350	(3)	<0.02	
3740	0+2	0.16,0.22	
4490	2	0.58	
5610	2	0.50	
6030	(2)	0.10	
6580	0+2	0.27	C^2S: for L=2.
6750	2	0.18	
6940	(2)	0.20	E(level): unresolved triplet: 6930+6940+6950.
7110	0+2	0.05,0.23	
7675	2	1.2	E(level): unresolved doublet: 7660+7690.
8450	2	0.24	E(level): unresolved doublet: 8420+8480.
8550	2	0.68	
9030	0	0.15	
10060	0	0.42	
11220[‡]	2	0.8[‡]	
11700[‡]	2	0.4[‡]	

[†] Extracted from DWBA fits to measured differential cross sections (1975Be45).

[‡] Tentatively assigned as $d_{5/2}$ pickup, since they are too strong to be L=0 (1975Be45).