

⁴⁸Ca(d,p),(pol d,p)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	T. W. Burrows ^a	NDS 109, 1879 (2008)	14-Jul-2008

1975Me15: E=9, 13, 16, 19.3 , 20 MeV. Proton energy spread≈15 keV.

1978Ab05: E=11.9 MeV. Also measured vector-analyzing power (VAP); Si telescopes. FWHM=65 keV for protons. Beam polarization≈45%.

1994Uo02: E=56 MeV. Measured $\sigma(\theta)$ and $A(\theta)$ ($\theta=5^\circ$ to 45°); magnetic spectrograph and focal-plane detector system. FWHM≈40 keV; beam polarization≈80%. DWBA.

1995HiZZ: E=25 MeV. 97.8% enriched target. Measured $\sigma(\theta)$ ($\theta=11^\circ$ to 80°); QDD spectrograph with single-wire pc joined to thin plastic scin. FWHM=30-55 keV.

Other: 2005MaZM.

⁴⁹Ca Levels

J(D),L(E) assumed by 1978Ab05 for DWBA calculations.

J(H),S(I) 1995HiZZ report J=1/2⁻, (3/2⁺) and C²S=0.13, (0.023).

E(level) [†]	J ^{π‡}	L [‡]	C ² S [#]	E(level) [†]	J ^{π‡}	L [‡]	C ² S [#]
0.0 [@]	3/2 ⁻	1	0.84 12	5612			
2021 [@]	1/2 ⁻	1	0.91 15	5693			
3357	(9/2 ⁺) ^{&}	(4)	(0.0037)	5722			
3586	5/2 ⁻	3	0.11	6066	5/2 ⁺	2	0.069
3888	[9/2 ⁺ ,3/2 ⁻]	[4,1]	^a	6262			
3993 [@]	5/2 ⁻	3	0.84	6373			
4018	9/2 ⁺ ^b	4	0.14	6443			
4069	3/2 ⁻	1	0.13 2	6529	9/2 ⁺	4	0.14
4261	1/2 ⁻	1	0.12 1	6595			
4416	5/2 ⁺	2	0.039	6672			
4617 ^c 6				6753	9/2 ⁺	4	0.085
4767	(5/2 ⁺)	(2)	(0.021)	6882			
4788 ^c 6	[9/2 ⁺]	[4]	^d	6971			
4887	9/2 ⁺	4	0.020	7335			
5314				7428			
5378	9/2 ⁺	4	0.083	7529	(9/2 ⁺)	(4)	(0.034)
5456				7612			
5552				7705	(9/2 ⁺)	(4)	(0.027)
5568				7872			

[†] From 1994Uo02 (energy resolution≈30 keV In the bound region), except As noted.

[‡] From comparison of $\sigma(\theta)$ and $A(\theta)$ by 1994Uo02 to DWBA calculations, except As noted.

[#] From 1994Uo02, except As noted. $\sigma(\text{exp})=1.55[C^2S/(2J+1)][(2J_f+1)/(2J_i+1)]\sigma_{\text{dw}}$. uncertainties estimated from an uncertainty In the renormalization procedures.

[@] Principal single-particle transition.

[&] Although $A(\theta)$ resembles L,J^π=2,5/2⁺ particularly At large angles, the overall behavior of $\sigma(\theta)$ and $A(\theta)$ suggest L,J^π=4,9/2⁺ (1994Uo02).

^a S=0.011,0.0081 from 1978Ab05. S(g.s.)=0.85. Mean of results for different potentials, assuming $\sigma(\text{exp})=1.53S\sigma(\text{DWUCK})$.

^b Discrepant with adopted J^π=7/2⁺.

^c From 1975Me15 (not observed by 1994Uo02) with respect to state At 3586 which 1975Me15 give As 3594 5. Note that energies from 1975Me15 appear to Be 6 to 19 keV higher than those derived by 1971Ca22 In (d,py).

^d S=(0.053) from 1975Me15 (E=19.3 or 20 MeV; S(g.s.)=1.03).