^{40}Ca(pol d,p),(d,p) 1990Ec01,1994Uo01,1965Be14

History

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

Main references:

1994Uo01: (pol d,p), E(pol d)=56 MeV from AVF cyclotron, Osaka University. Measured $\sigma(\theta)$, Ay(θ) for θ(lab) between 5° and 45°. Protons were detected with two position sensitive proportional counters, a gaseous ΔE counter and plastic E counter (FWHM≈ 30 keV) DWBA analysis (DWUCK code). Deduced C^2S values. A total of 91 levels reported up to 9.7 MeV.

1990Ec01 (also 1989Ec02,1987He25): (pol d,p), E(pol d)= 20 MeV from Munich MP-tandem facility. Protons detected with a proportional detector and a plastic scintillator (FWHM=6-8 keV). Measured $\sigma(\theta)$, Ay(θ) for θ between 5° and 55°. DWBA and CCBA analysis. A total of 183 levels were reported.

1965Be14 (also 1968Be36): (d,p), E(d)=7.0, 7.2 MeV from MIT-ONR Van de Graaff accelerator. Reaction protons detected with nuclear emulsion plates. Measured $\sigma(\theta)$. DWBA analysis (JULIE code) A total of 119 levels reported with L-transfers and S-factors deduced for 34 of these levels.

1974Br19: (d,p), E(d)=10 MeV. Measured $\sigma(\theta)$ with multigap spectrograph (FWHM=12 keV). DWBA analysis.

1974Se12 (also 1973Se09): (d,p), E(d)=11 MeV from Argonne National Laboratory FN tandem. Reaction protons detected with the split-pole spectrograph and photographic plates (FWHM=28-30 keV). Measured $\sigma(\theta)$. DWBA analysis.

1970Se01: (d,p), E(d)= 9.8-12.12 MeV from Saclay EN tandem Van de Graaff accelerator. Reaction protons detected with two thick surface barrier silicon detectors (FWHM=28-30 keV). Measured $\sigma(\theta)$. DWBA analysis.

1975Ha14: (d,p), E(d)= 12 MeV from Niels Bohr tandem accelerator. Reaction protons detected with a broad range spectrograph (FWHM=15 keV). Measured $\sigma(\theta)$ for θ= 5°−100°. Identified 94 levels. DWBA analysis (DWUCK code).

1972Ko41 (also 1971Ko20, 1970Ko11, 1970KoZU): (pol d,p), E(pol d)=5,9,10,11 MeV from University of Wisconsin tandem acceleartor. Reaction protons detected with two silicon surface- barrier and two Si(Li) detectors (FWHM ≈300 keV (1972Ko41), 125 keV (1971Ko20), 50 keV (1970Ko11), 40-80 keV (1970KoZU)). Measured $\sigma(\theta)$, Ay(θ). DWBA analysis.

Others:

1991NaZZ: (d,p), E(d)=25 MeV. Measured $\sigma(\theta)$.

1990Na34: (pol d,p), E(pol d)= 18 MeV. Measured $\sigma(\theta)$, Ay(θ). Coupled-channel and DWBA analysis.

1984Ha26: (pol d,p), E(pol d)=56 MeV. Measured $\sigma(\theta)$, Ay(θ). DWBA analysis for g.s.

1983Ca20: (pol d,p) E(pol d)=4 MeV. Measured $\sigma(\theta)$, Ay(θ) for g.s., 1940, 3610 and 3940 levels. DWBA analysis.

1980Im01: (d,p), E(d)= 4.50-5.43 MeV. Measured $\sigma(\theta)$. DWBA analysis.

1978Vo04: (pol d,p,), E(pol d)= 11 MeV. Measured $\sigma(\theta)$, Ay(θ). DWBA analysis.

1977YaZR: (d,p), E(d)= 1.4-4.5 MeV. Measured $\sigma(\theta)$. DWBA analysis.

1977Sc05: (d,p), E(d)= 2.5 MeV. Measured $\sigma(\theta)$. DWBA analysis.

1976Bo33: (pol d,p), E(pol d)= 11 MeV. Measured $\sigma(\theta)$, Ay(θ). CCBA analysis.

1976Os01 (also 1977Os04): (d,p), E(d)=7.0 MeV. Measured $\sigma(\theta)$. DWBA analysis.

1973Me22: (pol d,p), E(pol d)= 5-12 MeV. Measured Ay(θ). DWBA analysis.

1973Jo10: (pol d,p), E(pol d)= 12.3 MeV. Measured $\sigma(\theta)$, Ay(θ). DWBA analysis.

1971Br44: (pol d,p), E(pol d)= 12.3 MeV. Measured Ay(θ). DWBA analysis.

1970Ro09, 1968Le12: (d,p) E(d)=4.8, 5 MeV. Measured $\sigma(\theta)$ and proton polarization. DWBA analysis.

1970Ku11: (d,p), E(d)= 5.58, 6.50 MeV. Measured proton polarization.

1970Ke04: (d,p), E(d)= 10.8 MeV. Measured proton polarization.

1970Br27: (d,p), E(d)= 12 MeV. Measured $\sigma(\theta)$. DWBA analysis.

1969Go20: (d,p), E(d)= 2 MeV. Measured $\sigma(\theta)$. DWBA analysis.

1969Fo05: (d,p), E(pol d)= 11 MeV. Measured $\sigma(\theta)$ and proton polarization.

1969Cu10: (pol d,p), E(pol d)= 5, 6.5, 10 MeV. Measured Ay(θ). DWBA analysis.

1968Le05: (d,p), E(d)= 5.0, 6.0, 6.5 MeV. Measured $\sigma(\theta)$. DWBA analysis.

1968Yu01: (pol d,p), E(pol d)= 8 MeV. Measured Ay(θ). DWBA analysis.

1968Kl03: (d,p), E(d)= 9-11 MeV. Measured $\sigma(\theta)$, Ay(θ).

1968An10: (d,p), E(d)= 10 MeV. Measured $\sigma(\theta)$.

1966Ni02: (d,p), E(d)= 12.8 MeV. Measured $\sigma(\theta)$.

1965Ru01: (d,p), E(d)= 4.1, 4.7 MeV. Measured $\sigma(\theta)$. DWBA analysis.

1965Hj01: (d,p), E(d)= 14.3 MeV. Measured s(θ) and proton polarization.

1965Fo10: (d,p), E(d)= 1.8-2.0 MeV. Measured $\sigma(\theta)$. DWBA analysis.

1964ZA03: (d,p), E(d)= 6.6 MeV.

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1964Sc12: (d,p), E(d)= 11.8 MeV. Measured $\sigma(\theta)$. PWBA analysis.
1964Le12: (d,p), E(d)= 7.0,8.0,9.0,10.0,11.0,12.0 MeV. Measured $\sigma(\theta)$. DWBA analysis.
1964Be08: (d,p), E(d)= 10 MeV. Measured $\sigma(\theta)$ and polarization of protons. DWBA analysis.
1963Za03: (d,p), E(d)= 13.6 MeV.
1962Pa12: (d,p), E(d)= 13.8 MeV. Measured proton polarization.
1958Hi74: (d,p), E(d)= 8.9 MEV. Measured proton polarization.
1957Bp01: (d,p), E(d)= 7 MeV. Measured $\sigma(\theta)$, deduced L-transfers for 10 groups.
1957Te01 (also 1958Te13): (d,p), E(d)= 1.3, 2.2, 4.0 MeV. Measured $\sigma(\theta)$ for g.s.
1956Br97: (d,p), E(d)=2.5-7 MeV. Measured proton spectum and excitation energy.
1953Ho48: (d,p), E(d)= 8.1 MEV. Measured $\sigma(\theta)$.
1949Sa19: (d,p), E(d)= 3.9 MeV. Deduced Q value.

Cross section data from 1990Ec01

Level	$\sigma(20°)$ μb/sr	$\sigma(30°)$ μb/sr	Level	$\sigma(20°)$ μb/sr	$\sigma(30°)$ μb/sr
0	7230	6300	6354.1	c	5
1942.7	6649	2252	6376.7	162	118
2009.8	334	88	6400.7	18	20
2462.6	2069	852	6410.9	7	c
2574.2	28	20	6437.9	584	240
2606.5	16	12	6450.7	525	256
2670.5	107	128	6483.4	40	19
2884.2	80	88	6520.6	292	132
2959.8	26	26	6567.4	695	250
3050.4	c	6	6602.6	13	c
3200.4	159	204	6614.2	10	c
3368.2	21	23	6628.6	38	8
3399.8	109	155	6647.0	227	83
3494.5	22	7	6674.3	101	27
3526.0	39	31	6686.2	465	199
3613.5	388	266	6729.2	75	40
3730.3	c	104	6748.1	340	147
3829.2	12	9	6792.9	97	35
3845.7	26	21	6806.7	24	18
3914.9	23	c	6827.1	c	7
3943.9	2628	c	6851.8	c	11
3974.3	20	c	6869.5	c	117
4014.9	12	c	6901.2	c	18
4093.3	66	29	6917.3	c	99
4278.0	35	29	6931.8	c	16(55°)
4329.8	c	6	6990.6	291	c
4418.3	c	4	7014.8	359	c
4448.5	c	132	7026.5	47	c
4520.6	c	5	7041.0	50	c
4602.9	492	c	7073.1	100	c
4733.5	65	65	7092.7	37	c
4753.4	918	462	7107.8	11	c
4778.1	165	29	7115.8	6	c
4817.1	135	43	7137.5	111	c
4830.7	51	16	7164.2	77	c
4878.3	1010	394	7176.1	24	c
4970.5	607	595	7190.7	93	c
4995.1	7	11	7237.8	159	67
5013.6	19	c	7267.6	27	3
5046.9	36	32	7295.8	145	72
5072.3	47	23	7308.4	561	221
5078.4	31	12	7340.6	54	10

5095.3	59	16	7365.3	c	111
5120.7	32	17	7377.1	252	182
5148.1	39	29	7392.9	366	85
5157.0	12	7	7417.1	227	58
5194.9	265	277	7437.3	c	35
5217.3	6	9	7459.0	c	5
5283.3	c	81	7487.5	c	2
5304.7	c	4	7508.8	c	129
5339.7	c	3	7524.7	c	74
5349.7	c	2(55°)	7537.9	c	413
5370.3	c	10(55°)	7576.4	c	3
5411.5	140	c	7607.6	c	20(55°)
5451.7	127	c	7631.3	c	33(55°)
5468.9	348	c	7657.0	c	27(55°)
5482.2	123	c	7678.6	c	3(55°)
5504.2	5	c	7706.7	c	2(55°)
5519.9	105	c	7731.7	c	11(45°)
5539.9	9	c	7751.0	c	81(45°)
5588.5	13	13	7770.3	c	32(45°)
5615.8	32	18	7817.1	1385	c
5648.8	1290	557	7887.8	107	c
5670.1	102	50	7919.1	233	c
5685.9	18	18	7956.8	347	c
5704.0	288	147	7974.1	78	c
5719.0	287	125	7994.8	50	c
5728.3	113	36	8047.5	213	100
5750.9	180	150	8063.4	560	236
5759.6	424	167	8101.8	44	19
5801.2	893	420	8119.7	212	76
5866.1	c	5(45°)	8136.1	325	135
5891.6	105	48	8150.8	439	202
5910.1	18	c	8179.0	131	36
5933.2	106	36	8199.7	110	47
5975.9	166	42	8229.4	151	52
6004.6	33	14	8242.2	c	26
6013.0	15	19	8258.6	c	9(55°)
6036.0	44	31	8312.7	c	17
6065.9	23	35	8335.7	478	151
6083.3	78	c	8373.5	191	40
6098.7	16	10	8402.2	124	50
6140.6	42	14	8447.4	145	125
6148.0	108	8	8467.4	113	63
6164.1	c	6	8522.4	339	113
6179.8	130	82	8549.0	487	229
6192.9	5	53	8584.6	163	89
6208.2	32	c	8619.6	943	405
6238.8	204	86	8637.8	1217	525
6272.9	13	8	8673.5	c	6(45°)
6284.0	20	4	8699.6	170	71
6295.9	17	6			

c: Either contaminated, poor statistics or poor resolution.

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^{41}Ca Levels

E(level)[†]	Jπ[‡]	L[‡]	(2J+1)S[‡]	Comments
0.0	7/2−	3	6.82	(2J+1)S: 1990Ec01 quote value from a thesis by N. Seichert (University of Munich 1982) from 21 MeV data. Others: 6.8 (1990En08). C^2S=0.59 (1984Ha26), 0.57 (1978Vo04), 0.77 (1994Uo01).
1942.7 *3*	3/2−	1	2.14	(2J+1)S: 2.6 (1990En08), 2.3 (1978Vo04). C^2S=0.54 (1994Uo01).

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^{40}Ca(pol d,p),(d,p) 1990Ec01,1994Uo01,1965Be14 (continued)

^{41}Ca Levels (continued)

E(level)[†]	Jπ[‡]	L[‡]	(2J+1)S[‡]	Comments
2009.8 *8*	3/2+	2	0.26[@]	(2J+1)S: 0.33 (1990En08). C^2S=0.14 (1994Uo01).
2462.6 *3*	3/2−	1	0.67	(2J+1)S: 0.89 (1990En08), 0.80 (1978Vo04). C^2S=0.20 (1994Uo01).
2574.2 *10*	5/2−	3	0.03	(2J+1)S: (0.04) (1990En08).
2606.5 *11*		(2)	(0.03)	L,(2J+1)S: from 1990En08. 1990Ec01 give L=2, J^π=5/2+ and assign as pure CCBA.
2670.5 *11*	1/2+	0	0.03[@]	(2J+1)S: 0.025 (1990En08). C^2S=0.084 (1994Uo01).
2884.2 *8*	9/2+	4	0.12	Jπ: 7/2+ in Adopted Levels. (2J+1)S: 0.16 (1990En08).
2959.8 *7*		(3)	(0.06)	L,(2J+1)S: from 1990En08.
3050.4 *23*				Jπ: (3/2+) from 1994Uo01. C^2S=(0.092).
3131?[a] *5*				
3200.4 *5*	9/2+	4	0.21	(2J+1)S: 0.3 (1990En08). C^2S=0.0083 (1994Uo01).
3368.2 *5*				
3399.8 *14*	1/2+	0	0.03[@]	(2J+1)S: 0.03 (1990En08). C^2S=0.12 (1994Uo01).
3494.5 *21*	5/2+	2	0.01	
3526.0 *6*		(2)		L,Jπ: from 1990En08. 1990Ec01 give L=2, J^π=5/2+ and assign as pure CCBA. 1994Uo01 assign 3/2+ with C^2S=0.038.
3613.5 *5*	1/2−	1	0.13	(2J+1)S: 0.17 (1990En08). C^2S=0.092 (1994Uo01).
3686?[a] *5*				
3730.3 *8*	3/2−	1	0.06	(2J+1)S: 0.02 (1990En08). C^2S=0.027 (1994Uo01).
3740?[a] *5*		2	0.024	(2J+1)S: From 1990En08. A misprint for (2J+1)S in 1990En08. Jπ: 5/2+ assigned by 1972Ko41.
3829.2 *11*				
3845.7 *12*	1/2+	0	0.01[@]	(2J+1)S: 0.01 (1990En08). C^2S=0.076 (1994Uo01).
3914.9 *17*				
3943.9 *4*	1/2−	1	0.87	(2J+1)S: 1.1 (1990En08), 0.90 (1978Vo04). C^2S=0.57 (1994Uo01).
3974.3 *13*				
4014.9 *19*				
4093.3 *14*	(5/2)+	2	(0.03)	Jπ: 1/2− (1994Uo01), C^2S=0.035 for 4109 level.
4198?[a] *10*		1	0.017	L,(2J+1)S: From 1965Be14.
4278.0 *4*	(9/2)+	4	(0.04)	Jπ: adopted J^π=(5/2,7/2,9/2)+.
4329.8 *15*				
4357?[a] *10*				
4418.3 *8*	3/2+	2	0.03	
4448.5 *7*	9/2+	4	0.12	C^2S=0.0074 (1994Uo01).
4520.6 *16*				E(level): 4559 (1994Uo01).
4561?[a] *10*				
4602.9 *3*	3/2−	1	0.12	(2J+1)S: 0.16 (1990En08). C^2S=0.14 (1994Uo01), possible misprint for energy level(5601.7) in 1994Uo01, evaluators assume it is 4601.7.
4733.5 *10*	(9/2)+	4	(0.07)	Jπ: (5/2)+ in Adopted Levels.
4753.4 *2*	1/2−	1	0.27	(2J+1)S: 0.37 (1990En08). C^2S=0.29 (1994Uo01).
4778.1 *7*	(3/2)+	2	(0.11)	(2J+1)S: (0.04) (1990En08).
4817.1 *9*	5/2+	2	0.06	Jπ: 3/2+ (1994Uo01), C^2S=0.035 for 4818 level. (2J+1)S: 0.07 (1990En08).
4830.7 *9*	(3/2)+	2	(0.03)	
4878.3 *7*	(5/2)−	3	(0.38)	(2J+1)S: 0.51 (1990En08). C^2S=0.091 (1994Uo01).
4944?[a] *10*				
4970.5 *12*	9/2+	4	0.51	(2J+1)S: 1.2 (1990En08). C^2S=0.029 (1994Uo01).
4995.1 *18*				
5014 *3*	1/2+	0	0.01[@]	(2J+1)S: 0.004 (1990En08). C^2S=(0.17) (1994Uo01).
5046.9 *10*	(9/2)+	4	(0.04)	L: 0 for a 5059 group (1965Be14). Jπ: (1/2+) (1994Uo01), C^2S=(0.11) for 5054 level.
5072.3 *9*	1/2−	1	0.02	L: 0 for a 5082 group (1965Be14).
5078.4 *25*	1/2−	1	0.02	
5095.3 *10*	3/2+	2	0.04	

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^{40}Ca(pol d,p),(d,p) 1990Ec01,1994Uo01,1965Be14 (continued)

^{41}Ca Levels (continued)

E(level)[†]	J$^\pi$[‡]	L[‡]	(2J+1)S[‡]	Comments
5120.7 *12*	3/2$^-$	1	0.02	
5148.1 *16*	7/2$^-$	3	0.02	
5157 *3*				
5194.9 *8*	9/2$^+$	4	0.24	C^{2}S=0.029 (1994Uo01).
5217.3 *14*				
5283.3 *8*	(5/2)$^+$	2	(0.11)	(2J+1)S: 0.08 (1990En08).
5305 *4*				
5339.7 *16*				
5349.7 *13*				
5370.3 *8*	3/2$^-$	1	0.02	(2J+1)S: 0.04 (1990En08).
5411.5 *7*	3/2$^+$	2	0.09	J$^\pi$: (1/2$^-$) (1994Uo01), C^{2}S=(0.028) for 5404 level. However, 1994Uo01 associate 5404 group with 5451.7 from 1990Ec01. J^π=5/2$^+$ in Adopted Levels.
5451.7 *11*	1/2$^-$	1	0.04	(2J+1)S: 0.05 (1990En08).
5468.9 *9*	3/2$^-$	1	0.09	(2J+1)S: 0.11 (1990En08).
5482.2 *13*	(3/2)$^+$	2	(0.06)	
5504.2 *9*				
5519.9 *13*	(5/2)$^-$	3	(0.06)	J$^\pi$: (7/2$^-$,5/2$^-$) (1994Uo01), C^{2}S=(0.0027) for 7/2, (0.0072) for 5/2 for 5513 level.
5540 *4*				
5588.5 *21*	(9/2)$^+$	4	(0.02)	
5616 *4*	(5/2)$^-$	3	(0.02)	
5648.8 *13*	5/2$^-$	3	(0.69)	(2J+1)S: 1.2 (1990En08). C^{2}S=0.12 (1994Uo01).
5670.1 *9*	3/2$^-$	1	0.03	(2J+1)S: 0.04 (1990En08).
5686 *3*				
5704.0 *9*	1/2$^-$	1	0.09	(2J+1)S: 0.10 (1990En08).
5719.0 *11*	(5/2)$^-$	3	(0.17)	
5728.3 *18*	5/2$^+$	2	0.04	
5750.9 *15*	9/2$^+$	4	0.15	J$^\pi$: (9/2$^+$,5/2$^-$) (1994Uo01), C^{2}S=(0.011) for 9/2, (0.0081) for 5/2 for 5748 level.
5759.6 *11*	(5/2)$^+$	2	(0.16)	
5801.2 *15*	5/2$^-$	3	(0.49)	(2J+1)S: 0.52 (1990En08). C^{2}S=0.081 (1994Uo01).
5832 *10*				E(level): from 1965Be14 only.
5866 *3*				
5891.6 *14*	1/2$^-$	1	0.03	(2J+1)S: 0.04 (1990En08).
5910 *3*				
5920?[a] *10*				E(level): Probably the same as 5933.2 level.
5933.2 *10*	(5/2)$^-$	3	(0.06)	
5975.9 *12*	(3/2)$^+$	2	(0.06)	J$^\pi$: (3/2,5/2)$^+$ in Adopted Levels.
6004.6 *13*	1/2$^-$	1	0.01	L: 0 for a 6011 level (1965Be14).
6013 *3*				
6036.0 *17*	(9/2)$^+$	4	(0.03)	
6065.9[&] *22*				
6083.3 *23*	(3/2)$^+$	2	(0.04)	
6098.7 *14*				
6140.6 *16*		3	0.03	J$^\pi$: 2J=4 is a misprint in 1990Ec01.
6148 *3*				
6164.1 *21*				
6179.8 *13*	1/2$^-$	1	0.04	(2J+1)S: 0.05 (1990En08).
6192.9 *11*				
6208.2 *13*	3/2$^-$	1	0.01	
6238.8 *8*	5/2$^-$	3	0.10	C^{2}S=0.017 (1994Uo01).
6272.9 *12*	5/2$^-$	3	0.01	
6284.0 *17*	(5/2)$^+$	2	(0.01)	
6295.9 *21*	7/2$^-$	3	0.01	
6330?[a] *10*				
6354.1 *24*	5/2$^+$	2	0.01	
6376.7 *10*	1/2$^-$	1	0.05	

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^{40}Ca(pol d,p),(d,p) 1990Ec01,1994Uo01,1965Be14 (continued)

^{41}Ca Levels (continued)

E(level)[†]	Jπ[‡]	L[‡]	(2J+1)S[‡]	Comments
6400.7 *13*	(9/2)$^+$	4	(0.02)	
6410.9 *4*		<3		E(level): uncertainty seems underestimated in view of very weak group.
6437.9 *7*	5/2$^-$	3	0.26	
6450.7 *14*	5/2$^-$	3	0.24	C^{2}S=0.061 (1994Uo01).
6473?[a] *10*				
6483.4[&] *22*				
6520.6 *11*	5/2$^-$	3	0.14	C^{2}S=0.035 (1994Uo01).
6555?[a] *10*				
6567.4 *13*	7/2$^-$	3	0.29	L: 2 for a 6568 level (1965Be14). Jπ: 5/2$^-$ (1994Uo01), C^{2}S=0.037 for 6571 level.
6602.6 *15*		>2		
6614.2 *16*		>2		
6628.6[&] *24*				
6647.0 *20*	5/2$^-$	3	0.10	C^{2}S=0.015 (1994Uo01).
6674.3 *13*	5/2$^+$	2	0.03	
6686.2 *8*	7/2$^-$	3	0.17	Jπ: 5/2$^-$ (1994Uo01), C^{2}S=0.031 for 6699 level.
6699?[a] *10*				
6729.2 *10*	7/2$^-$	3	0.03	
6748.1 *9*	7/2$^-$	3	0.12	Jπ: 5/2$^-$ (1994Uo01), C^{2}S=0.024 for 6758 level.
6792.9 *19*	(5/2)$^+$	2	(0.03)	
6806.7 *15*	(3/2)$^+$	2	(0.02)	
6827 *3*				
6851.8 *15*	5/2$^+$	2	0.02	
6869.5 *10*	(5/2)$^-$	3	(0.12)	Jπ: 5/2$^-$,3/2$^-$ (1994Uo01), C^{2}S=0.016 for 5/2, (0.0010) for 3/2 for 6884 level.
6901.2 *24*	5/2$^+$	2	0.02	
6917.3 *25*	(9/2)$^+$	4	(0.08)	
6931.8[&] *19*				
6990.6 *10*	5/2$^-$	3	0.13	
7014.8 *7*	(9/2)$^+$	4	(0.21)	C^{2}S=0.025 (1994Uo01) for 7030 level.
7026.5 *15*				
7041.0 *5*	3/2$^-$	1	0.02	
7073.1 *25*	1/2$^-$	1	0.03	E(level): 1994Uo01 associate a 7114 level with 7073 from 1990Ec01.
7092.7 *18*	(9/2)$^+$	4	(0.03)	
7107.8 *25*				
7115.8 *23*				
7137.5 *27*	5/2$^+$	2	0.04	
7164.2 *21*	(9/2)$^+$	4	(0.05)	
7176.1 *10*				
7191 *3*	1/2$^-$	1	0.03	Jπ: (3/2$^-$,9/2$^+$) (1994Uo01), C^{2}S=(0.0013) for 3/2, (0.015) for 9/2 for 7190 level.
7237.8 *23*	5/2$^-$	3	0.06	Jπ: (1/2$^-$,5/2$^-$) (1994Uo01), C^{2}S=(0.0035) for 1/2, (0.0032) for 5/2 for 7258 level.
7268 *3*		<4		
7295.8 *10*	5/2$^-$	3	0.05	
7308.4 *9*	7/2$^-$	3	0.19	Jπ: 5/2$^-$ (1994Uo01), C^{2}S=0.032 for 7331 level.
7340.6 *24*	3/2$^+$	2	0.02	
7365.3 *14*	(5/2)$^-$	3	(0.08)	
7377.1 *9*	(5/2)$^-$	3	(0.25)	Jπ: (5/2$^-$,7/2$^-$) (1994Uo01), C^{2}S=(0.0091) for 5/2, (0.0047) for 7/2 for 7396 level.
7392.9 *19*				
7417.1 *15*				
7437.3 *11*	5/2$^-$	3	0.33	C^{2}S=0.050 (1994Uo01) for 7460 level.
7459 *3*	5/2$^-$	3	0.01	
7487.5 *6*				
7508.8 *17*	7/2$^-$	3	0.08	
7524.7 *14*	7/2$^-$	3	0.05	
7537.9 *14*	(5/2)$^-$	3	(0.29)	C^{2}S=0.049 (1994Uo01) for 7567 level.
7576.4 *21*				

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^{40}Ca(pol d,p),(d,p) 1990Ec01,1994Uo01,1965Be14 (continued)

^{41}Ca Levels (continued)

E(level)†	Jπ‡	L‡	(2J+1)S‡	Comments
7607.6 *22*	(9/2)+	4	(0.08)	Jπ: (5/2−) (1994Uo01), C2S=(0.012) for 7636 level.
7631.3 *16*	(9/2)+	4	(0.19)	
7657.0 *13*		<3		
7678.6 *20*				
7706.7 *10*		>2		
7731.7 *12*		>2		
7751.0 *9*		2,3		L: 1<L<4.
7770.3 *14*		2,3		L: 1<L<4.
7817.1 *11*	5/2−	3	0.56	C2S=0.021 (1994Uo01) for 7795 level.
7887.8 *11*	5/2−	3	0.04	C2S=0.052 (1994Uo01) for 7851 level.
7919.1 *24*	(5/2)−	3	(0.08)	C2S=0.014 (1994Uo01) for 7894 level.
7957 *3*	5/2−	3	0.12	C2S=0.012 (1994Uo01).
7974 *3*	7/2−	3	0.03	Jπ: (5/2−) (1994Uo01), C2S=(0.015) for 7995 level.
7995 *3*	(9/2)+	4	(0.03)	
8047.5 *17*	(5/2)−	3	(0.10)	
8063.4 *23*	7/2−	3	0.14	
8101.8 *14*	7/2−	3	0.02	Jπ: 5/2− (1994Uo01), C2S=0.029 for 8105 level.
8120 *3*	5/2+	2	0.05	
8136.1 *16*	(5/2)−	3	(0.11)	
8150.8 *9*	(5/2)−	3	(0.15)	
8179.0 *19*	5/2+	2	0.03	
8199.7 *19*	7/2−	3	0.03	Jπ: 5/2− (1994Uo01), C2S=0.031 for 8196 level.
8229.4 *19*	5/2+	2	0.05	
8242 *3*		<3		
8259 *3*				
8312.7 *21*	(9/2)+	4	(0.02)	
8335.7 *23*	(5/2)−	3	(0.14)	
8373.5 *18*	5/2+	2	0.04	
8402.2 *21*		>2		Jπ: 5/2− (1994Uo01) for 8397 level, C2S=0.031.
8447 *4*	(9/2)+	4	(0.08)	C2S=(0.0014) (1994Uo01) for 8458 level.
8467.4 *12*	7/2−	3	0.03	
8522.4 *20*	7/2−	3	0.08	C2S=(0.0058) (1994Uo01).
8549 *3*	5/2−	3	0.15	
8585 *3*	7/2−	3	0.05	
8620 *4*	5/2−	3	0.29	C2S=0.021 (1994Uo01).
8638 *4*	5/2−	3	0.33	C2S=0.077 (1994Uo01) for 8697 level. But 8697 group in 1994Uo01 should be associated with 8700 level of 1990Ec01.
8673 *3*				
8700 *4*	5/2+	2	0.05	
8783# *10*	5/2−	3		(2J+1)S: C2S=0.025 (1994Uo01).
8855# *10*	(9/2+)	(4)		(2J+1)S: C2S=(0.0025) (1994Uo01).
8916# *10*	(3/2−,9/2+)	(1,4)		(2J+1)S: C2S=(0.0006) for 9/2+, (0.0011) for 3/2− (1994Uo01).
8997# *10*	(9/2+)	(4)		(2J+1)S: C2S=(0.0020) (1994Uo01).
9084# *10*	5/2−	3		(2J+1)S: C2S=0.020 (1994Uo01).
9177# *10*				
9273# *10*	(5/2−,9/2+)	(3,4)		Jπ: (5/2 to 11/2)+ in Adopted Levels. (2J+1)S: C2S=(0.0010) for 5/2−, (0.0006) for 9/2+ (1994Uo01).
9315# *10*				
9367# *10*				
9414# *10*				
9475# *10*				
9545# *10*				

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^{40}Ca(pol d,p),(d,p) 1990Ec01,1994Uo01,1965Be14 (continued)

^{41}Ca Levels (continued)

† From 1990Ec01, unless otherwise stated.
‡ From comparison of $\sigma(\theta)$ and Ay(θ) data with DWBA calculations. Values are from 1990Ec01, unless otherwise stated. For comparison C^2S (where C^2=1) values from 1994Uo01 and 1990En08 are given under comments. In 1990En08, values represent average of results from 1965Be14, 1970Se01, 1972Ko41, 1974Br19, 1975Ha14 and 1973Se09 as summarized in 1978En02.
# Level reported by 1994Uo01 only. J^π is from comparison of $\sigma(\theta)$ and Ay(θ) data with DWBA analysis.
@ Direct contribution in a CCBA analysis.
& Probable doublet (1990Ec01).
a From 1965Be14 only. This level is considered as uncertain since it is not confirmed in later studies.