

$^{41}\text{Ca}(\text{p},\text{p}')$ 1977Vo09

Type	Author	History	Citation	Literature Cutoff Date
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1977Vo09: E(p)=19 MeV from University of Rochester MP tandem Van de Graaff accelerator. Scattered particles detected using position sensitive solid state detectors (FWHM=12 keV), and photographic emulsions. Measured $\sigma(\theta)$. FWHM=25 keV. Determined levels, angular momentum transfers and transition strengths using DWBA and coupled-channel analysis (DWUCK code).

Level	Cross section data		Level	Cross section data	
	$d\sigma/d\Omega$ $\mu\text{b}/\text{sr}$ (max)	$\theta(^{\circ})$		$d\sigma/d\Omega$ $\mu\text{b}/\text{sr}$	$\theta(^{\circ})$ (max)
1942	625	30	5093	79	60
2009	45	45	5119	93	45
2460	130	30	5142	98	67.5
2573	114	30	5158	88	60
2604	187	30	5194	97	37.5
2668	34	37	5218	206	37.5
2882	400	30	5281	117	37.5
2958	127	30	5306	88	60
3049	46	45	5337	184	37.5
3201	664	30	5364	56	45
3369	1186	52	5408	79	37.5
3399	105	52	5467	34	67.5
3496	8	45	5479	63	52.5
3525	212	45	5501	67	52.5
3613	315	52	5518	72	67.5
3676	216	30	5537	140	60
3730	222	52	5581	55	60
3828	501	30	5635		
3914	684	45	5646	60	37.5
3942	114	37	5682	157	45
3973	356	37	5716	54	45
4014	289	37.5	5746	101	37.5
4093	178	37.5	5762	80	60
4184	17	67.5	5796	80	60
4279	111	45	5814	54	60
4327	287	45	5845	60	60
4340	58	60	5862	73	60
4414	45	60	5884	51	60
4446	196	45	5927	152	52.5
4520	282	45	5970	56	60
4551	25	67.5	5980	54	52.5
4569	90	52.5	6007	90	52.5
4599	66	37.5	6029	74	37.5
4731	183	37.5	6057	474	37.5
4752	60	60.0	6071	143	60
4778	61	67.5	6091	69	37.5
4813	83	52.5	6160	54	60
4830	53	45	6176	31	60
4877	72	45	6197	25	60
4928	63	60	6232	52	60
4969	309	37.5	6245	39	52.5
4993	122	37.5	6305	109	45
5010	<29	52.5	6320	96	45
5046	95	52.5	6360	≤ 111	37.5
5062	63	60			

^{41}Ca Levels

E(level)	L	B(EL) [†]	Comments
0			
1942 5	(2)	28×10^{-4}	
2009 5	3,5	$1.6 \times 10^{-4}\#$	
2460 5	2+4	$2.9 \times 10^{-4}\&$	B(EL): 0.34×10^{-4} for B(E4).
2573 5	2+4	$2.1 \times 10^{-4}\&$	B(EL): 0.41×10^{-4} for B(E4).
2604 5	3,5		
2668 5	[3]	1×10^{-4}	
2882 5	3	1.3×10^{-4}	
2958 5	2+4	$2.3 \times 10^{-4}\&$	B(EL): 0.39×10^{-4} for B(E4).
3049 5	3,4,5	$1.6 \times 10^{-4}\#$	
3201 5	3	22×10^{-4}	
3369 5	3	39×10^{-4}	
3399 5	(3)	3.5×10^{-4}	
3496 5			
3525 5	(3)	7.2×10^{-4}	
3613 5	(3)	9.8×10^{-4}	
3676 5	2	9.1×10^{-4}	
3730 5	(3,5)	$8.2 \times 10^{-4}\#$	
3828 5	(3,5)	$1.12 \times 10^{-4}\@$	
3914 5	(3)	21×10^{-4}	
3942 5	2+4	$4.3 \times 10^{-4}\&$	B(EL): 0.46×10^{-4} for B(E4).
3973 5	(3,5)	$1.14 \times 10^{-4}\@$	
4014 5	2	19×10^{-4}	
4093 5	(3)	4.4×10^{-4}	
4184 5			
4279 5	2	8.6×10^{-4}	
4327 5	3,5	$8.9 \times 10^{-4}\#$	
4340 5			
4414 5			
4446 5	3	5.8×10^{-4}	
4520 5	(3,5)	$8.2 \times 10^{-5}\#$	B(EL): 0.85×10^{-4} for B(E5).
4551 5			
4569 5			
4599 5			
4731 5	[3]	4.4×10^{-4}	
4752 5	[2]	5.0×10^{-4}	
4778 5			
4813 5	[3]	2.0×10^{-4}	
4830 5			
4877 5	(2)	6.4×10^{-4}	
4928 5			
4969 5	(3,5)	$8.1 \times 10^{-4}\#$	
4993 5			
5010 5			
5046 5	[3]	2.5×10^{-4}	
5062 [‡] 5			
5093 5			
5119 5			
5142 5			
5158 5			
5194 5			
5218 5	(3,5)	$0.76 \times 10^{-4}\@$	
5281 5	[3]	3.1×10^{-4}	
5306 5			

Continued on next page (footnotes at end of table)

$^{41}\text{Ca}(\text{p},\text{p}')$ 1977Vo09 (continued) ^{41}Ca Levels (continued)

<u>E(level)</u>	<u>L</u>	<u>B(EL)[†]</u>	<u>Comments</u>
5337 5	(3,5)	$6.0 \times 10^{-5}\#$	
5364 5			
5408 [‡] 5			
5467 5			
5479 5			
5501 5			
5518 5			
5537 5	(3,5)	$4.5 \times 10^{-4}\#$	B(EL): 0.50×10^{-4} for B(E5).
5581 5			
5635 5			
5646 [‡] 5			
5682 [‡] 5	(3,5)	$5.0 \times 10^{-4}\#$	B(EL): 0.53×10^{-4} for B(E5).
5716 5			
5746 5			
5762 5			
5796 5			
5814 5			
5845 5			
5862 5			
5884 5			
5927 5	(3,5)	$4.4 \times 10^{-4}\#$	B(EL): 0.50×10^{-4} for B(E5).
5970 5			
5980 5			
6007 5			
6029 5			
6057 5	[3]	15×10^{-4}	
6071 5			
6091 5			
6160 5			
6176 5			
6197 [‡] 5			
6232 5			
6245 5			
6305 5			
6320 5			
6360 5			

[†] Isoscalar transition strengths, experimental uncertainty is 20%.

[‡] Probable doublet.

For E3.

@ For E5.

& For E2.