

$^{41}\text{Ca}(\alpha,\alpha')$ 1974De42

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

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

1974De42: $E(\alpha)=24$ MeV from University of Rochester MP tandem Van de Graaff accelerator. Scattered particles detected using long position sensitive proportional (FWHM=25 keV), and silicon detectors as well as photographic emulsions (FWHM \approx 17 keV). Measured $\sigma(\theta)$. FWHM=25 keV. Determined levels, angular momentum transfers and transition strengths using DWBA and coupled-channel analysis (CHUCK code).

 ^{41}Ca Levels

E(level)	L	B(EL) [†]	E(level)	L	B(EL) [†]	E(level)	L	B(EL) [†]
0			4013 5	2	35×10^{-4}	5188? 5		
1944 5	2	30×10^{-4}	4094 5	3	4.7×10^{-4}	5220 5	5	0.63×10^{-4}
2460 5	[2]	$\leq 15 \times 10^{-4}$	4180? 5	[2]	$\leq 20 \times 10^{-4}$	5285 5	3	5.6×10^{-4}
2575 5	(2)	14×10^{-4}	4276? 5			5335 5	3	5.3×10^{-4}
2609 5	(3+5)		4329 5	(3)	4.3×10^{-4}	5540 [‡] 5		
2884 5	3	12×10^{-4}	4343 5	(3)	2.8×10^{-4}	5630 [‡] 5		
2960? 5	[2]	$\leq 15 \times 10^{-4}$	4420 [‡] 5			5650 [‡] 5	[2]	$< 41 \times 10^{-4}\#$
3201 5	3	20×10^{-4}	4451 5	3	7.5×10^{-4}	5670 [‡] 5	[2]	$< 41 \times 10^{-4}\#$
3370 5	3	36×10^{-4}	4520 [‡] 5			5790 [‡] 5	[2]	$< 41 \times 10^{-4}\#$
3400 5	(3)	5.0×10^{-4}	4737 5	3	7.8×10^{-4}	5850 [‡] 5		
3527 5	3	7.8×10^{-4}	4797 5	(3)	6.5×10^{-4}	5930 [‡] 5		
3614 5	3	9.3×10^{-4}	4880 [‡] 5	[2]	$< 41 \times 10^{-4}\#$	6000 [‡] 5		
3676? 5			4974 5	3	12×10^{-4}	6064 5	3	25×10^{-4}
3728 5	(3)	9.3×10^{-4}	5000? 5			6090 [‡] 5		
3829 5	5	0.86×10^{-4}	5020 [‡] 5			6410 [‡] 5		
3915 5	3	18×10^{-4}	5050 [‡] 5			6500 [‡] 5		
3944 5	[2]	$\leq 20 \times 10^{-4}$	5110 [‡] 5			6530 [‡] 5		
3973 5	5	0.56×10^{-4}	5150 [‡] 5			6560 [‡] 5		

[†] Isoscalar transition strengths, experimental uncertainty= 15%.

[‡] From Figure 2 of 1974De42, uncertainty is assumed to be 5 keV as for the other levels.

[#] Estimated value for assumed L=2.