^{40}Ca(n,γ),(pol n,γ) E=thermal 1967Gr16,1970Cr04,1969ArZT

History

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

1970Cr04: (n,γ). Gammas detected with Ge(Li) detectors. Measured Eγ, Iγ and deduced Q-value.
1969ArZT: (n,γ). Gammas detected with Ge(Li) pair spectrometer and anti-Compton spectrometer. Measured Eγ, Iγ.
1967Gr16: (n,γ). Gammas detected with Ge(Li) detectors. Measured Eγ, Iγ and deduced Q-value.
Others:
1972St04: (pol n, γ). Measured γ(circ pol).
1969Ab03: (pol n, γ). Measured γ(circ pol).
1956Tr33: (pol n, γ). Measured 6420γ(circ pol).
1956Ad49: (n,γ). Measured Eγ, Iγ.
1954Ki54, 1952Ki32: (n,γ). Measured Eγ, Iγ.

^{41}Ca Levels

E(level)[#]	Jπ[‡]	Comments
0	7/2−	
1942.70 *19*	3/2−	
2009.8 *3*	3/2+	
2462.21 *23*	3/2−	
2576.0 *15*	5/2−	
2669.89 *24*	1/2+	
3049.8 *14*	3/2+	
3400.0 *3*	1/2+	
3526		
3613.45 *24*	1/2−	
3738.3[†] *20*		
3844.5 *5*	1/2+	
3944.3 *3*	1/2−	
4603.5 *6*	3/2−	
4752.7 *4*	1/2−	
4777.8 *7*	(3/2)+	
5011.3 *13*	1/2+	
5074?		
5369.0 *10*		
5451.3? *20*		
5468.0 *15*		
5669.4 *15*		
(8363.1 *3*)	1/2+	E(level): From 2012Wa38. Jπ: From s-wave neutron capture in ^{40}Ca g.s.

[†] From 1969ArZT.
[‡] From Adopted Levels.
[#] From least-squares fit to Eγ's except where noted.

γ(^{41}Ca)

Iγ normalization: Normalized assuming ΣIγ(g.s)= 100.

Continued on next page (footnotes at end of table)

^{40}Ca(n,γ),(pol n,γ) E=thermal 1967Gr16,1970Cr04,1969ArZT (continued)

γ(^{41}Ca) (continued)

E_γ [†]	I_γ [‡@]	E_i(level)	J_i^π	E_f	J_f^π
[x]182					
444.5 *4*	0.5	3844.5	1/2$^+$	3400.0	1/2$^+$
519.50 *15*	13.4	2462.21	3/2$^-$	1942.70	3/2$^-$
660.2 *6*	0.8	2669.89	1/2$^+$	2009.8	3/2$^+$
727.15 *17*	2.1	2669.89	1/2$^+$	1942.70	3/2$^-$
943.0 *10*	0.5	3613.45	1/2$^-$	2669.89	1/2$^+$
1040.1 *15*	0.3	3049.8	3/2$^+$	2009.8	3/2$^+$
1151.24 *20*	1.1	3613.45	1/2$^-$	2462.21	3/2$^-$
1390.16 *20*	2.2	3400.0	1/2$^+$	2009.8	3/2$^+$
1482.0 *3*	1.3	3944.3	1/2$^-$	2462.21	3/2$^-$
1670.71 *20*	1.3	3613.45	1/2$^-$	1942.70	3/2$^-$
1942.64 *20*	88.5	1942.70	3/2$^-$	0	7/2$^-$
2001.6 *4*	18.9	3944.3	1/2$^-$	1942.70	3/2$^-$
2009.8 *3*	11.5	2009.8	3/2$^+$	0	7/2$^-$
2290.2 *8*	1.6	4752.7	1/2$^-$	2462.21	3/2$^-$
2575.9[#] *15*		2576.0	5/2$^-$	0	7/2$^-$
[x]2606.5 *2*	1.6				
2660.3 *20*	1.3	4603.5	3/2$^-$	1942.70	3/2$^-$
2768.8 *20*	2.8	4777.8	(3/2)$^+$	2009.8	3/2$^+$
2809.8 *5*	3.8	4752.7	1/2$^-$	1942.70	3/2$^-$
3067.3 *20*	0.7	5011.3	1/2$^+$	1942.70	3/2$^-$
[x]3083.0 *15*	0.7				
3351.0 *15*	0.4	(8363.1)	1/2$^+$	5011.3	1/2$^+$
3585.2 *6*	1.6	(8363.1)	1/2$^+$	4777.8	(3/2)$^+$
3610.2 *4*	6.0	(8363.1)	1/2$^+$	4752.7	1/2$^-$
3736.5[&] *15*		3738.3		0	7/2$^-$
3759.4 *5*	3.1	(8363.1)	1/2$^+$	4603.5	3/2$^-$
[x]3947 *3*	0.4				
4418.8 *6*	17.1	(8363.1)	1/2$^+$	3944.3	1/2$^-$
4517.7 *30*	0.7	(8363.1)	1/2$^+$	3844.5	1/2$^+$
[x]4559.7 *15*	0.1				
4749.4 *6*	2.6	(8363.1)	1/2$^+$	3613.45	1/2$^-$
4838.7[&] *30*	0.5	(8363.1)	1/2$^+$	3526	
[x]4944.4 *20*	0.8				
4962.7 *6*	1.8	(8363.1)	1/2$^+$	3400.0	1/2$^+$
5313.7 *30*	0.3	(8363.1)	1/2$^+$	3049.8	3/2$^+$
5368.6[#] *15*		5369.0		0	7/2$^-$
5467.6[#] *15*		5468.0		0	7/2$^-$
5669.0[#] *15*		5669.4		0	7/2$^-$
5692.8 *8*	1.1	(8363.1)	1/2$^+$	2669.89	1/2$^+$
5900.4 *8*	7.0	(8363.1)	1/2$^+$	2462.21	3/2$^-$
6352.0 *30*	0.2	(8363.1)	1/2$^+$	2009.8	3/2$^+$
6420.7 *10*	43.5	(8363.1)	1/2$^+$	1942.70	3/2$^-$

[†] Except where noted, gammas are the weighted average of values from 1967Gr16 and 1970Cr04 where the recoil energies in 1967Gr16 have been subtracted by the evaluators.
[‡] From 1967Gr16.
[#] From 1969ArZT with recoil energies subtracted by the evalutors.
[@] Intensity per 100 neutron captures.
[&] Placement of transition in the level scheme is uncertain.
[x] γ ray not placed in level scheme.

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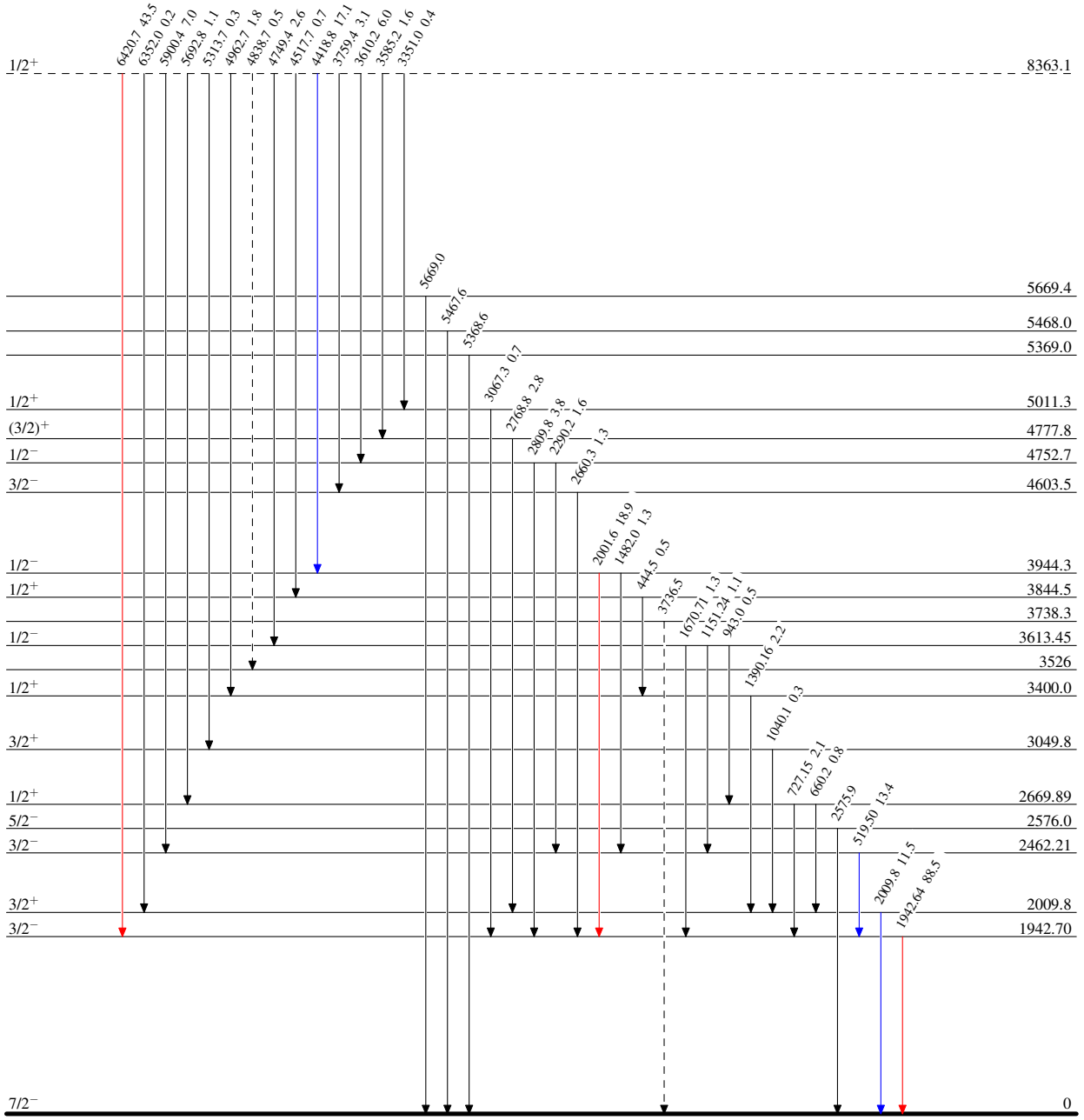
Legend

Level Scheme

Intensities: Intensities are per 100 neutron capture

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
γ Decay (Uncertain)



$^{41}_{20}Ca_{21}$