

¹⁰⁸Cd(γ, γ') 2003Ga06

Type	History		Literature Cutoff Date
	Author	Citation	
Full Evaluation	Jean Blachot	ENSDF	1-Jul-2008

E=4.1 MeV, bremsstrahlung beam. Measured E γ , I γ , $\gamma\gamma$, $\gamma\gamma(\theta)$; using Compton-suppressed HPGe detectors. Deduced lifetimes.

¹⁰⁸Cd Levels

E(level) [†]	J $^\pi$	T _{1/2}	Scattering cross section in (eVb)
0.0	0 ⁺		
632.974 [‡] 20	2 ⁺ [‡]		
1601.79 [‡] 3	2 ⁺ [‡]		
1720.64 [‡] 3	0 ⁺ [‡]		
1913.43 [‡] 4	0 ⁺ [‡]		
2162.71 [‡] 3	2 ⁺ [‡]		
2365.76 [‡] 3	2 ⁺ [‡]		
2374.49 [‡] 6	0 ⁺ [‡]		
2619.96 [‡] 4	2 ⁺ [‡]		
2678.0 3	1 ⁻	27.2 fs 10	26.9 9
3005.62 22	1	13.0 fs 6	31.1 12
3048.52 18	1 ⁺	20.8 fs 14	8.4 5
3292.83 22	1	16.6 fs 7	13.8 6
3454.11 12	1 ⁺	22.9 fs 21	6.5 5
3667.1 3	1	12.9 fs 6	30.3 13
3814.60 13	1 ⁺	14.6 fs 14	10.7 9
3827.86 11	1 ⁺	26 fs +6-5	2.8 5

[†] From least-squares fit to E γ 's assuming $\Delta(E\gamma)=0.3$ keV when not stated.

[‡] Level and J $^\pi$ from Adopted Levels for ¹⁰⁸Cd.

$\gamma(^{108}\text{Cd})$

E _i (level)	J $^\pi_i$	E γ	I γ [‡]	E _f	J $^\pi_f$	Mult. ^{‡#}	δ [‡]	Comments
632.974	2 ⁺	632.97 [†] 2		0.0	0 ⁺			
1601.79	2 ⁺	968.81 [†] 2		632.974	2 ⁺			
1720.64	0 ⁺	1087.66 [†] 2		632.974	2 ⁺			
1913.43	0 ⁺	1280.45 [†] 3		632.974	2 ⁺			
2162.71	2 ⁺	1529.72 [†] 2		632.974	2 ⁺			
2365.76	2 ⁺	1732.77 [†] 2		632.974	2 ⁺			
2374.49	0 ⁺	772.69 [†] 5		1601.79	2 ⁺			
2619.96	2 ⁺	1986.96 [†] 3		632.974	2 ⁺			
2678.0	1 ⁻	2678.0		0.0	0 ⁺	E1		B(E1)= 0.83×10 ⁻⁵ 3.
3005.62	1	2372.6		632.974	2 ⁺	D(+Q)	0.06 5	B(E1)= 0.78×10 ⁻⁵ 5, B(M1)= 0.070 4, B(E2)= 0.65×10 ⁻⁴ 5.
3048.52	1 ⁺	3005.6		0.0	0 ⁺			B(E1)= 0.85×10 ⁻⁵ 9, B(M1)= 0.077 8.
		1446.6	19 3	1601.79	2 ⁺	M1+E2	+0.169 34	B(M1)= 0.06 1, B(E2)= 0.0013 2.
		2415.6	62 5	632.974	2 ⁺	M1+E2	+0.319 15	B(M1)= 0.042 4, B(E2)= 0.0011 1.
		3048.5	100 8	0.0	0 ⁺	M1		B(M1)= 0.037 4.
3292.83	1	2659.8		632.974	2 ⁺			B(E1)= 0.43×10 ⁻⁵ 5, B(M1)= 0.039 5, B(E2)= 0.0080 12.
		3292.8		0.0	0 ⁺			B(E1)= 0.51×10 ⁻⁵ 2, B(M1)= 0.046 2.

Continued on next page (footnotes at end of table)

$^{108}\text{Cd}(\gamma, \gamma')$ **2003Ga06 (continued)** $\gamma(^{108}\text{Cd})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ	I_γ^\ddagger	E_f	J_f^π	Mult. ^{‡#}	δ^\ddagger	Comments
3454.11	1 ⁺	1079.5	7 5	2374.49	0 ⁺	M1		B(M1)= 0.06 4.
		1291.3	7.0 14	2162.71	2 ⁺	[E2]		B(E2)= 0.028 5.
		1540.7	3.3 7	1913.43	0 ⁺	M1		B(M1)= 0.009 2.
		1733.6	4.4 9	1720.64	0 ⁺	M1		B(M1)= 0.008 2.
		1852.3	30 9	1601.79	2 ⁺	M1(+E2)	+0.005 20	B(M1)= 0.05 1, B(E2)= 0.005×10 ⁻⁴ 2.
		2821.1	8 2	632.974	2 ⁺	E2(+M1)	≤+11.7	B(E2)= 0.0007 2.
		3454.1	100 12	0.0	0 ⁺	M1		B(M1)= 0.024 4.
3667.1	1	3667.0		0.0	0 ⁺		B(E1)= 0.69×10 ⁻⁵ 3, B(M1)= 0.06 2.	
3814.60	1 ⁺	1194.6	0.7 1	2619.96	2 ⁺	[E2]		B(E2)= 0.0075 7.
		1651.7	1.6 3	2162.71	2 ⁺	[E2]		B(E2)= 0.0034 3.
		1901.1	4.4 9	1913.43	0 ⁺	M1		B(M1)= 0.012 1.
		2093.9	2.8 6	1720.64	0 ⁺	M1		B(M1)= 0.0055 5.
		3181.8	40 8	632.974	2 ⁺	M1+E2	+0.107 17	B(M1)= 0.022 2, B(E2)= 0.36×10 ⁻⁴ 3.
		3814.6	100 20	0.0	0 ⁺	M1		B(M1)= 0.033 3.
3827.86	1 ⁺	1207.8	1.0 2	2619.96	2 ⁺	[E2]		B(E2)= 0.0039 21.
		1453.2	1.0 2	2374.49	0 ⁺	M1		B(M1)= 0.011 4.
		1461.9	4 1	2365.76	2 ⁺	[E2]		B(E2)= 0.0060 20.
		1665.1	4 1	2162.71	2 ⁺	[E2]		B(E2)= 0.0031 11.
		1914.5	18 4	1913.43	0 ⁺	M1		B(M1)= 0.018 5.
		2107.3	1.5 3	1720.64	0 ⁺	M1		B(M1)= 0.0011 4.
		2226.2	72 14	1601.79	2 ⁺	M1+E2	-0.060 17	B(M1)= 0.04 1, B(E2)= 0.5×10 ⁻⁴ 1.
		3194.9	7.0 14	632.974	2 ⁺	[E2]		B(E2)= 0.00021 8.
		3827.9	100 20	0.0	0 ⁺	M1		B(M1)= 0.012 3.

† From ENSDF for ^{108}Cd .

‡ From 2002Ga35.

For assumed E2's, measurements failed to determine an M1+E2 admixture.

¹⁰⁸Cd(γ,γ) ²⁰⁰³Ga06

Level Scheme

Intensities: Relative photon branching from each level

