^{112}Cd(p,p′) 1992Pi08,1990Pi14

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, F. G. Kondev	NDS 124, 157 (2015)	1-Aug-2014

1990Pi14,1990Pi08: Facility: KVI cyclotron; Beam: E(p)=34.9 MeV; Target: 1 mg/cm^2 enriched to 98% in ^{112}Cd; Detectors: KVI QMG/2 magnetic spectrograph, multiwhire drift chamber, scintillator counter. FWHM=15 MeV; Measured: dσ/dΩ, coupled-channel calculations; Deduced: ^{112}Cd levels, J$^\pi$, B(λ); Spectroscopic data, presented in 1992Pi08 and 1990Pi14 is a combination from (p,p) and (d,d) data sets;
Also, from the same collaboration: 1989De40, 1988Pi04, 1985De57, 1984Pi01.
Others: 1965Co04, 1967Ko07, 1968Ma34, 1968St18, 1969Lu02, 1976De28.

^{112}Cd Levels

Beλ and B$_\lambda$ were deduced from comparison of DWBA calculations with dσ/dΩ.

E(level)[†]	J$^\pi$[‡]	L[#]	Comments
0.0	0$^+$		
617 *2*	2$^+$	2	β_2=0.173 *11* (1968Ma34). Other: β_2=0.20 *1* (1968St18).
1224 *2*	0$^+$	0	
1312 *2*	2$^+$	2	
1416 *2*	4$^+$	4	B(E4)↑: 0.09 *1* W.u. (1992Pi08).
1436? *10*			
1469 *2*	2$^+$	2	
1871 *2*	0$^+$		
2005 *1*	3$^-$	3	B(E3)↑=0.0207 (1985De57) β_3=0.164 *11* (1968Ma34); 0.15 *2* (1968St18); 0.049 *5* (1985De57); 0.147 (1984Pi01).
2081 *2*	4$^+$	4	B(E4)↑: 8.2 *10* W.u. (1992Pi08).
2121 *2*	2$^+$	2	
2156 *2*	2$^+$	2	
2231 *2*	2$^+$	2	
2299 *2*	0$^+$	0	
2373 *2*	5$^-$	5	β_5=0.048 or 0.044 if two-step contributions through 2$^+$ and 3$^-$ states are included (1984Pi01).
2416 *2*	3$^-$	3	B(E3)↑=0.0019 (1985De57) β_3=0.0148 *17* (1985De57); 0.035 or 0.038 if two-step contributions through 2$^+$ and 3$^-$ states are included (1984Pi01).
2454 *2*	4$^+$	4	B(E4)↑: 8.4 *8* W.u. (1992Pi08).
2492 *2*	4$^+$	4	B(E4)↑: 8.2 *9* W.u. (1992Pi08).
2506 *5*	(1$^-$)	(1)	
2569 *5*	6$^+$	6	
2584?	1$^-$	1	level reported only in 1984Pi01.
2590 *5*	4$^-$		
2632 *5*	5$^-$	5	
2644? *5*	3$^-$	3	B(E3)↑=0.000172 (1985De57) β_3=0.0045 *11* (1985De57) level reported only in 1985De57.
2657 *3*	1$^-$	1	E(level): 2647 in 1990Pi14.
2667 *5*	2$^-$		
2711 *5*	4$^+$	4	B(E4)↑: 3.6 *4* W.u. (1992Pi08).
2724 *5*	2$^+$	2	
2765 *5*	2$^+$	2	
2791 *5*	5$^-$	5	
2815 *5*	4$^+$	4	B(E4)↑: 2.6 *3* W.u. (1992Pi08).
2836 *5*	4$^+$	4	B(E4)↑: 1.8 *4* W.u. (1992Pi08).
2866 *2*	3$^-$	3	B(E3)↑=0.00123 (1985De57)

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^{112}Cd(p,p′) 1992Pi08,1990Pi14 (continued)

^{112}Cd Levels (continued)

E(level)[†]	Jπ[‡]	L[#]	Comments
			β_3=0.0122 *11* (1985De57)
			E(level): 2863 keV in 1990Pi14.
2895 *5*	4^+	4	B(E4)↑: 4.7 *5* W.u. (1992Pi08).
2928 *5*	5^-	5	E(level): 2923 in 1990Pi14.
2942 *5*	2^+	2	
2962? *4*	3^-	3	B(E3)↑=0.00022 (1985De57)
			β_3=0.0051 *13* (1985De57)
			level reported only in 1985De57.
2969 *5*	2^+	2	
3046 *5*	1^-	1	
3072 *5*	4^+	4	E(level): probably identical with the 3069 level in 1967Ko07.
			B(E4)↑: 4.6 *8* W.u. (1992Pi08).
3102 *5*	4^+	4	B(E4)↑: 0.68 *13* W.u. (1992Pi08).
3131 *5*	3^-	3	E(level): 3130 in 1990Pi14.
3176 *5*	2^+	2	
3185? *5*	3^-		Level reported only in 1989De40.
3204 *5*	4^+	4	B(E4)↑: 1.27 *24* W.u. (1992Pi08).
3244 *5*	(6^+)	(6)	
3265 *5*	4^+	4	B(E4)↑: 2.5 *5* W.u. (1992Pi08).
3290? *5*	(4^+)		level reported only in 1989De40.
3292 *5*	(6^+)	(6)	
3325? *5*	4^+		reported only in 1989De40.
3326? *2*	3^-	3	B(E3)↑=0.00045 (1985De57)
			β_3=0.0073 *20* (1985De57)
			level reported only in 1985De57.
3327 *5*	(5^-)	(5)	
3344? *1*	3^-	3	B(E3)↑=0.00044 (1985De57)
			β_3=0.0072 *15* (1985De57)
3359 *5*	2^+	2	
3417 *5*	4^+	4	B(E4)↑: 3.1 *4* W.u. (1992Pi08).
3452 *5*	6^+	6	
3487 *5*	(6^+)	(6)	
3489? *5*	4^+		level reported only in 1989De40.
3534 *5*	4^+	4	B(E4)↑: 0.00 *1* W.u. (1992Pi08).
3557 *5*	3^-	3	
3586 *5*	3^-	3	E(level): 3583 in 1990Pi14.
3614 *5*	3^-	3	
3664 *5*	3^-	3	E(level): 3663 in 1990Pi14.
3691 *5*	4^+	4	B(E4)↑: 2.2 *4* W.u. (1992Pi08).
3748 *5*	4^+	4	B(E4)↑: 1.0 *3* W.u. (1992Pi08).
3764 *5*	4^+	4	B(E4)↑: 0.68 *16* W.u. (1992Pi08).
3800 *5*	4^+	4	B(E4)↑: 1.3 *3* W.u. (1992Pi08).
3815 *5*	3^-	3	
3835 *5*	4^+	4	B(E4)↑: 1.0 *3* W.u. (1992Pi08).
3863 *5*	4^+	4	B(E4)↑: 1.37 *23* W.u. (1992Pi08).
3892 *5*	(3^-)		E(level): 3889 in 1989De40.
			Jπ: reported only in 1989De40;
3945 *5*	4^+	4	B(E4)↑: 0.43 *14* W.u. (1992Pi08).
4010 *5*	3^-	3	
4034 *5*	3^-	3	
4060 *5*	4^+	4	B(E4)↑: 0.84 *16* W.u. (1992Pi08).
4090 *5*	3^-	3	
4118 *5*	4^+	4	B(E4)↑: 0.01 *3* W.u. (1992Pi08).
4172 *5*	3^-	3	
4221 *5*	7^-	7	
4248 *5*	3^-	3	

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^{112}Cd(p,p′) 1992Pi08,1990Pi14 (continued)

^{112}Cd Levels (continued)

E(level)[†]	Jπ[‡]	L[#]	Comments
4279 *5*	3^-	3	
4320 *5*	4^+	4	B(E4)↑: 0.71 *22* W.u. (1992Pi08).
4338 *5*	7^-	7	
4364 *5*	4^+	4	B(E4)↑: 0.62 *17* W.u. (1992Pi08).
4385 *5*	3^-	3	
4419 *5*	(4^+)	(4)	B(E4)↑: 0.83 *17* W.u. (1992Pi08).
4468 *5*	3^-		
4499 *5*	3^-		
4546 *5*	(2^-)		

[†] From 1992Pi08.
[‡] From 1992Pi08, based on the deduced L values.
[#] From 1992Pi08, based on comparison of DWBA calculations with dσ/dΩ.