^{110}Cd(p,p′γ) 1992Ku01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	G. Gürdal and F. G. Kondev	NDS 113, 1315 (2012)	1-Aug-2011

1992Ku01: E(p)=7-9 MeV. 96% enriched in ^{110}Cd metallic foil was used as a target. γ-rays were detected using a 19% Ge detector positioned at about 3 cm from the target at 90° to the beam direction. Protons were detected using three 200mm^{2}x3mm Si(Li) detectors, positioned at about 2.5 cm from the target at angles of about 140° with respect to the beam. The energy resolution in the summed Si(Li) spectra was ≈200 keV. Measured: Eγ, Iγ, pγ, ce. Deduced: ^{110}Cd levels, J^π, α(K)exp, mult.

Evaluators′ note: α(K)exp were measured using ^{110}Cd(p,p′γ) and ^{110}In ε decay by the same authors and the results of both experiments were given in 1992Ku01 without any distinction. Please see ^{110}In ε decay dataset for α(K)exp values and deduced mult.

Other: 1976KoZO.

^{110}Cd Levels

E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡
0.0	0+	1542.5 *3*	4+	2078.9 *4*	0+	2287.5 *4*	2+
657.79 *20*	2+	1731.4 *3*	0+	2078.9 *3*	3−	2332.1 *4*	(0+)
1473.2 *4*	0+	1783.61 *24*	2+	2162.9 *3*	3+	2355.8 *4*	(1+,2+)
1475.93 *22*	2+			2220.2 *3*	4+		
				2250.5 *5*	4+		

† From least-squares fit to Eγ′s.
‡ From Adopted Levels.

γ(^{110}Cd)

Eγ†	Iγ‡	Ei(level)	J^π_i	Ef	J^π_f	Eγ†	Iγ‡	Ei(level)	J^π_i	Ef	J^π_f
255.4 *3*	0.27 *4*	1731.4	0+	1475.93	2+	1073.7 *3*	2.0 *3*	1731.4	0+	657.79	2+
295.3 *3*	0.92 *14*	2078.9	0+	1783.61	2+	1125.8 *3*	3.3 *5*	1783.61	2+	657.79	2+
602.9 *3*	0.69 *11*	2078.9	3−	1475.93	2+	1421.2 *3*	4.3 *7*	2078.9	3−	657.79	2+
657.8 *3*	100 *15*	657.79	2+	0.0	0+	1475.9 *3*	4.0 *6*	1475.93	2+	0.0	0+
677.8 *3*	0.36 *5*	2220.2	4+	1542.5	4+	1505.0 *3*	1.2 *2*	2162.9	3+	657.79	2+
687.0 *3*	0.36 *5*	2162.9	3+	1475.93	2+	1562.3 *3*	<0.07	2220.2	4+	657.79	2+
708.0 *3*	0.24 *4*	2250.5	4+	1542.5	4+	1629.7 *3*	1.5 *2*	2287.5	2+	657.79	2+
744.3 *3*	0.15 *2*	2220.2	4+	1475.93	2+	1674.3 *3*	1.2 *2*	2332.1	(0+)	657.79	2+
815.4 *3*	7.5 *11*	1473.2	0+	657.79	2+	1698.0 *3*	1.3 *2*	2355.8	(1+,2+)	657.79	2+
818.1 *3*	8.1 *12*	1475.93	2+	657.79	2+	1783.6 *3*	1.1 *2*	1783.61	2+	0.0	0+
884.8 *3*	1.5 *2*	1542.5	4+	657.79	2+						

† From 1992Ku01. ΔEγ≈0.3 keV quoted by the authors.
‡ From 1992Ku01. Iγ(657.8)=100 and ΔIγ≈15%, quoted by the authors.

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Level Scheme

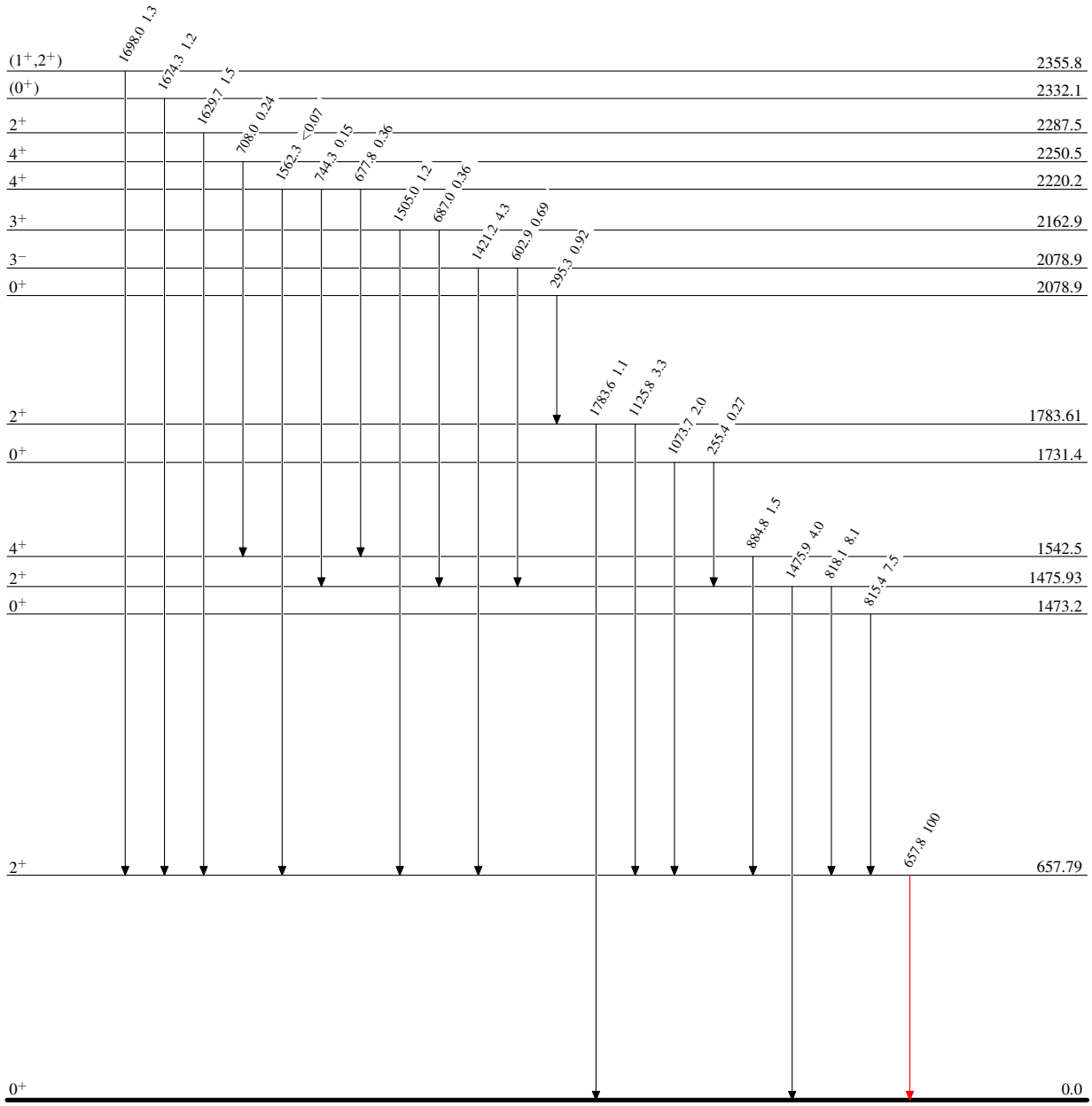
Intensities: Relative I_γ

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



$^{110}_{48}Cd_{62}$