

$^{110}\text{Cd}(\text{p,n})$ 1982Mu01,1994Or07

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

1982Mu01: Beam: $E(\text{p})=25$ MeV. Target: 4.75 mg/cm², 96% enriched ^{110}Cd . The beam was provided by the AVF cyclotron at the Cyclotron and Radioisotope Center at Tohoku University. Neutron energies were measured with time of flight method. Angular distributions of emitted neutrons between 0° and 145° were obtained by employing a beam swinger system, which consisted of three dipoles. NE213 liquid scintillator with two photomultipliers attached to both ends of the long axis in each detector were used to detect the neutrons. Measured: $E(\text{n})$ (tof), FWHM ≈ 120 keV, angular distributions of emitted neutrons. Deduced: $\sigma(E(\text{n}),\theta)$, $\theta=0^\circ-145^\circ$. DWBA and CCBA analysis.

1994Or07: Beam: $E(\text{p})=35$ MeV. Target: 4.64 mg/cm², 96% enriched metallic foil of ^{110}Cd . The beam was provided by the AVF cyclotron and Radioisotope Center at Tohoku University. Angular distributions of emitted neutrons between 0° and 80° were obtained using a beam swinger system. Neutrons were detected by an array of twelve detectors, which were located at 44.3 m from the target and contained a total of 23.2 liters of NE213 scintillator. Measured: Angular distributions of emitted neutrons. Deduced: $\sigma(\text{p,n})$, β decay rate [1^+ to 0^+] and $\log ft$.

Other: [1971Mi03](#).

 ^{110}In Levels

E(level) [†]	J^π [#]	L	Comments
342.55	1^+		E(level): From Adopted Levels. J^π : From $\sigma(\text{p,n})=0.256$, $\log ft(1^+$ to 0^+ $^{110}\text{Cd})=4.75$ 6 (1994Or07).
8768.59	0^+	0	IAS of ^{110}Cd g.s.
9438.59	2^+	2	IAS of $^{110}\text{Cd}(657.8)$ level.
10268 [‡] .59	$(0^+,2^+,4^+)$	$(0,2,4)$	Unresolved triplet IAS of $^{110}\text{Cd}(1473.1, 1475.8, 1542.4)$ levels.
10568 [‡] .59			
10858.59	3^-	3	IAS of $^{110}\text{Cd}(2078.5)$ level.
11068.59	4^+		IAS of $^{110}\text{Cd}(2220.1)$ level.
11268 [‡] .59			
11468 [‡] .59			
11768 [‡] .59			

[†] From Coulomb displacement energies ([1997An07](#)), p-n mass difference and $Q(\varepsilon)$ ([2011AuZZ](#), [2003Au03](#)), unless otherwise stated.

[‡] From [2000De11](#).

[#] From L-transfer ([2000De11](#)).