^{132}Cd β^- decay (84 ms) 2000Ha55

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	28-Feb-2018

Parent: ^{132}Cd: E=0; $J^\pi=0^+$; $T_{1/2}$=84 ms *5*; Q(β^-)=12150 *SY*; %β^- decay=100.0

^{132}Cd-$T_{1/2}$: From ^{132}Cd Adopted Levels.

^{132}Cd-Q(β^-): 12150 *210* (syst,2017Wa10).

^{132}Cd-%β^- decay: %β^-n=60 *15* (2000Ha55).

^{132}Cd produced and identified by 2000Ha55 (also 2001Ha39) using ^{238}U(p,F) E=1 GeV (target=uranium carbide/graphite) reaction followed by LASER ionization and mass separation at CERN/ISOLDE facility. Measured β and β-delayed neutron spectra. Deduced levels in ^{132}In. No γ rays were reported.

^{132}In Levels

E(level)	J^π[†]	Comments
≈800	(1^-)	Probable configuration=$\nu f_{7/2}\otimes\pi g_{9/2}^{-1}$.
≈1200	(1^+)	Probable configuration=$\nu p_{3/2}\otimes\pi p_{1/2}^{-1}$.
≈5000[‡]	(1^-)	Probable configuration=$\nu h_{11/2}\otimes\pi g_{9/2}^{-1}$.
≈5200[‡]	(1^+)	Probable configuration=$\nu f_{7/2}\otimes\pi f_{5/2}^{-1}$.
≈5900[‡]	(1^+)	Probable configuration=$\nu g_{7/2}\otimes\pi g_{9/2}^{-1}$.
≈8100[‡#]	(1^+)	
≈8600[‡#]	(1^+)	
≈9300[‡#]	(1^+)	

[†] As proposed by 2000Ha55, based on shell-model predictions and estimated log *ft* values from 0^+. The parentheses have been added by the evaluators.

[‡] Neutron-decaying level to ^{131}In.

[#] Member of configuration=$\nu g_{7/2}^{-1}\otimes\pi g_{9/2}^{-1}$.

β^- radiations

E(decay)	E(level)	Iβ^-[‡#]	Log *ft*[†]
(2850 *SY*)	≈9300	≈0.4	≈4.7
(3550 *SY*)	≈8600	≈2	≈4.4
(4050 *SY*)	≈8100	≈0.3	≈5.5
(6250 *SY*)	≈5900	≈25	≈4.4
(6950 *SY*)	≈5200	≈4	≈5.4
(7150 *SY*)	≈5000	≈6	≈5.2
(10950 *SY*)	≈1200	<2	>6.5
(11350 *SY*)	≈800	≈30	≈5.4

[†] From 2000Ha55, based on the authors' β strength distributions.

[‡] Estimated (evaluators) based on log *ft*'s quoted by 2000Ha55. In deducing these feedings, uncertainty of 500 keV was assumed for Q(β^-) and 100 keV for level energy. About 70% of the β strength is accounted for in the branches shown by 2000Ha55.

[#] Absolute intensity per 100 decays.