^{128}Cd β^- decay 1988FoZX

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Zoltan Elekes and Janos Timar	NDS 129, 191 (2015)	28-Feb-2015

Parent: ^{128}Cd: E=0.0; $J^\pi=0^+$; $T_{1/2}$=0.28 s *4*; Q(β^-)=690×10[1] *15*; %β^- decay=100.0
The decay scheme is that from the work by B. Ekstrom quoted in 1988FoZX.
J: from Adopted Levels.

^{128}In Levels

E(level)[†]	J^π	$T_{1/2}$
0.0	$(3)^+$	0.84 s *6*
247.87 *10*	(1^-)	[‡]
315.86 *13*	(1^-)	
710.37 *24*		
1172.88 *14*	1^+	

[†] Energy values are based on a least-squares fit to the Eγ's by evaluator.
[‡] 10 μs<$T_{1/2}$<20 ms (1988FoZX).

β^- radiations

E(decay)	E(level)	Iβ^-[†]	Log *ft*	Comments
5.90×10[3] *29*	1172.88	93 *9*	4.03 *9*	av Eβ=2537 *72* E(decay): from (β)(857γ) coincidence (1987Sp09).
(6.19×10[3] *15*)	710.37	<2.0	>5.8	av Eβ=2757 *72*
(6.58×10[3] *15*)	315.86	<12	>5.2	av Eβ=2944 *72*
(6.65×10[3] *15*)	247.87	<17	>5.1	av Eβ=2977 *72*

[†] Absolute intensity per 100 decays.

$\gamma(^{128}In)$

Iγ normalization: from the branching of 247γ (75% 7) quoted in 1986Go10 and from assumption of no β^-feeding to g.s. from 0^+ parent.

E$_\gamma$[†]	I$_\gamma$[†‡&]	E$_i$(level)	J^π_i	E$_f$	J^π_f	Mult.[@]	α[a]	Comments
68.02 *10*	38 *4*	315.86	(1^-)	247.87	(1^-)	(M1)	1.536	α(exp)=1.55 α(K)=1.328 *20*; α(L)=0.1689 *25*; α(M)=0.0328 *5*; α(N)=0.00601 *9*; α(O)=0.000442 *7*
247.92 *10*	100	247.87	(1^-)	0.0	$(3)^+$	(M2,E3)	0.25 *4*	α(exp)=0.25 *4* α(K)=0.196 *15*; α(L)=0.042 *16*; α(M)=0.009 *4*; α(N)=0.0015 *6*; α(O)=7.7×10^{-5} *10*
462.7 *3*	4.8[#] *10*	710.37		247.87	(1^-)			
462.7 *3*	3.9[#] *13*	1172.88	1^+	710.37				
857.05 *10*	95 *10*	1172.88	1^+	315.86	(1^-)			
925.0 *3*	12.4 *12*	1172.88	1^+	247.87	(1^-)			
1172.4 *3*	10.8 *11*	1172.88	1^+	0.0	$(3)^+$			

[†] From data quoted in 1988FoZX; uncertainties are assumed by evaluator.

Continued on next page (footnotes at end of table)

^{128}Cd β^- decay 1988FoZX (continued)

$\gamma(^{128}In)$ (continued)

‡ Relative to I(247.92γ)=100 (quoted in 1988FoZX), uncertainties are assumed as 10%.
# Divided on the basis of Iβ(to 710 level) by evaluators.
@ From α(exp) from the work by B. Ekstrom quoted in 1988FoZX.
& For absolute intensity per 100 decays, multiply by 0.76 *3*.
[a] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

^{128}Cd β^- decay 1988FoZX

Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays