

Adopted Levels, Gammas

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

$Q(\beta^-)=690\times 10^1$ 15; S(n)=6823 15; S(p)=15950 5Y; $Q(\alpha)=-11110$ 5Y 2012Wa38

Mass excess in 2010Br02 for ^{128}Cd is -67250 17 while -67242 7 in 2012Wa38.

 ^{128}Cd LevelsCross Reference (XREF) Flags

- A ^{128}Ag β^- decay
 B $^9\text{Be}(^{136}\text{Xe}, X\gamma), (^{238}\text{U}, X)$
 C $^9\text{Be}(^{238}\text{U}, F\gamma)$: isomer

E(level)	J^π [†]	$T_{1/2}$	XREF	Comments
0.0	0^+	0.28 s 4	ABC	$\% \beta^- = 100$ $T_{1/2}$: from γ -multiscaling. Value is weighted average of 0.34 s 3 (1986Go10) and 0.26 s 2 (1986Ma42). J^π : ground state of even-even nucleus.
645.80 20	(2 ⁺)		ABC	
1430.39 22	(4 ⁺)		ABC	
1870.5 3	(5 ⁻)	270 ns 7	BC	$T_{1/2}$: time distribution of several γ rays in ($^{136}\text{Xe}, X\gamma$).
2097.1 5			A	
2108.3 4	(7 ⁻)	12 ns 2	BC	$T_{1/2}$: time distribution of 237.9 γ , centroid shift method in ($^{136}\text{Xe}, X\gamma$).
2195.4 4	(6 ⁺)		B	
2645.9 4	(8 ⁺)		BC	
2714.6 4	(10 ⁺)	3.56 μ s 6	BC	$T_{1/2}$: time distribution of 69 γ , 238 γ and 538 γ in ($^{136}\text{Xe}, X\gamma$), other: 3.76 μ s +44-37 from $^9\text{Be}(^{238}\text{U}, F\gamma)$:isomer.
2892.6 5			A	
3083.1? 7			A	
3290.9 5			A	

[†] from shell-model comparison and Cd isotope systematics (2009Ca02) except as noted.

 $\gamma(^{128}\text{Cd})$

$E_i(\text{level})$	J^π_i	E_γ [†]	I_γ [†]	E_f	J^π_f	Mult.	$\alpha^\ddagger$	Comments
645.80	(2 ⁺)	645.8 2	100	0.0	0^+			
1430.39	(4 ⁺)	784.6 1	100	645.80	(2 ⁺)			
1870.5	(5 ⁻)	440.3 3	100 5	1430.39	(4 ⁺)			
		1224.0 6	13.1 12	645.80	(2 ⁺)			
2097.1		666.7 5	100	1430.39	(4 ⁺)			E_γ : from ^{128}Ag β^- decay.
2108.3	(7 ⁻)	237.9 5	100	1870.5	(5 ⁻)			
2195.4	(6 ⁺)	765.0 3	100	1430.39	(4 ⁺)			
2645.9	(8 ⁺)	450.4 3	3.8 6	2195.4	(6 ⁺)			
		537.6 2	100 6	2108.3	(7 ⁻)			
2714.6	(10 ⁺)	68.7 1	100	2645.9	(8 ⁺)	E2	5.69	$\alpha(\text{exp})=6.4$ 9 $\alpha(\text{K})=3.74$ 6; $\alpha(\text{L})=1.582$ 25; $\alpha(\text{M})=0.317$ 5; $\alpha(\text{N})=0.0519$ 8; $\alpha(\text{O})=0.000650$ 10 $\alpha(\text{exp})$: from $\gamma\gamma$ coincidence data with gate on 238 γ in

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued) $\gamma(^{128}\text{Cd})$ (continued)

<u>$E_i(\text{level})$</u>	<u>$E_\gamma^\dagger$</u>	<u>$I_\gamma^\dagger$</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Comments</u>
					($^{136}\text{Xe}, X\gamma$).
					Mult.: from $\alpha(\text{exp})$.
2892.6	2892.6 5	100	0.0	0 ⁺	E_γ : from $^{128}\text{Ag } \beta^-$ decay.
3083.1?	986.0 5	100	2097.1		E_γ : from $^{128}\text{Ag } \beta^-$ decay.
3290.9	3290.9 5	100	0.0	0 ⁺	E_γ : from $^{128}\text{Ag } \beta^-$ decay.

[†] From $^9\text{Be}(^{136}\text{Xe}, X\gamma), (^{238}\text{U}, X)$ unless otherwise stated.

[‡] Total theoretical internal conversion coefficients, calculated using the BrIcc code ([2008Ki07](#)) with Frozen orbital approximation based on γ -ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

Adopted Levels, Gammas**Level Scheme**

Intensities: Relative photon branching from each level

