

**Adopted Levels, Gammas**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	J. Katakura	NDS 112,495 (2011)	1-Jan-2010

Q(β<sup>-</sup>)=7.13×10<sup>3</sup> 3; S(n)=4718 5; S(p)=1.44×10<sup>4</sup> 3; Q(α)=-9591 5 [2012Wa38](#)

Note: Current evaluation has used the following Q record 7122 624733 70 14176 syst -9526 syst [2009AuZZ](#).

ΔS(p)=207, ΔQ(α)=508 (syst,[2009AuZZ](#)). From a reanalysis of data of [1987Sp09](#), the evaluators suggest that the gs Q value might be too large, by an amount X, the energy of the (11/2<sup>-</sup>) isomer, possibly ≠350 keV.

<sup>125</sup>Cd Levels

Cross Reference (XREF) Flags

- A <sup>9</sup>Be(<sup>136</sup>Xe,Xγ):isomer
- B <sup>239</sup>Pu(n,Fγ),<sup>241</sup>Pu(n,Fγ)
- C <sup>208</sup>Pb(<sup>238</sup>U,Xγ)

E(level) <sup>†</sup>	Jπ <sup>‡</sup>	T <sub>1/2</sub>	XREF	Comments
0.0	(3/2 <sup>+</sup> )	0.68 s 4		%β <sup>-</sup> =100 T <sub>1/2</sub> : From γ decay curve ( <a href="#">1989Hu03</a> ) and 0.64 s 3 from γ decay curve ( <a href="#">1986Ma42</a> ). Other: 0.64 s 3 ( <a href="#">1986Ma42</a> ), 0.75 s 4 ( <a href="#">1986Ho24,1986Go10</a> ; not divide two components of the decays from g.s. and 50-keV level). J <sup>π</sup> : Systematics of 3/2 <sup>+</sup> in odd-cadmium isotopes.
x	(11/2 <sup>-</sup> )	0.48 s 3	AB	%β <sup>-</sup> =100 <a href="#">Additional information 1.</a> E(level): x=186 4 ( <a href="#">2012Au07</a> ) from mass measurement. E(level): From systematics of the 11/2 <sup>-</sup> , 3/2 <sup>+</sup> energy difference for Cd isotopes with N=67 to 75, X is expected to be ≠350 keV. This value is consistent with statements made in <a href="#">1987Sp09</a> , whose Q(β <sup>-</sup> )determinations were based on the assumption of a single parent source (data of <a href="#">1986Ho24</a> ), now known to be a mixed gs+isomer source (data of <a href="#">1989Hu03</a> ). T <sub>1/2</sub> : From γ decay curve ( <a href="#">1989Hu03</a> ). Other: 0.66 s 3 from γ decay curve ( <a href="#">1986Ma42</a> ). E(level): Reversed ordering of 743-720 cascade gives 743.3.
x+719.70 20	(15/2 <sup>-</sup> )		AB	
x+1463.0 3	(19/2 <sup>-</sup> )		AB	
x+2249.2 5	(23/2 <sup>-</sup> )		A	
x+3116.9 5	(27/2 <sup>-</sup> )		A	
x+3171.7 5			A	
x+3580.4 7			A	
x+3606.5 7			A	
3606.5+y	(33/2 <sup>-</sup> )		A	<a href="#">Additional information 2.</a> E(level): Possible microsecond isomer. T <sub>1/2</sub> =14 μs 2 for the 720 and 743 γ's ( <a href="#">2003HeZT</a> ).

<sup>†</sup> From a least-squares fit to the adopted Eγ's relative to E(11/2<sup>-</sup>).

<sup>‡</sup> Systematics.

**Adopted Levels, Gammas (continued)**

$\gamma(^{125}\text{Cd})$

$E_i(\text{level})$	$J_i^\pi$	$E_\gamma$	$I_\gamma$	$E_f$	$J_f^\pi$	Comments
x+719.70	(15/2 <sup>-</sup> )	719.7 <sup>†</sup>	2	x	(11/2 <sup>-</sup> )	Could also be a 720-743 cascade, instead of 743-720.
x+1463.0	(19/2 <sup>-</sup> )	743.3 <sup>†</sup>	2	x+719.70	(15/2 <sup>-</sup> )	
x+2249.2	(23/2 <sup>-</sup> )	786.2	3	x+1463.0	(19/2 <sup>-</sup> )	
x+3116.9	(27/2 <sup>-</sup> )	867.7	2	x+2249.2	(23/2 <sup>-</sup> )	
x+3171.7		922.5	1	x+2249.2	(23/2 <sup>-</sup> )	
x+3580.4		408.7	5	x+3171.7		
x+3606.5		489.6	5	x+3116.9	(27/2 <sup>-</sup> )	

<sup>†</sup> Ordering of the 720-743 cascade is not established.

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Level Scheme

Intensities: Relative photon branching from each level

