

**<sup>113</sup>Ag β<sup>-</sup> decay (68.7 s) 1975BrYM,1990Fo07**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 111, 1471 (2010)	1-May-2009

Parent: <sup>113</sup>Ag: E=43.2; J<sup>π</sup>=7/2<sup>+</sup>; T<sub>1/2</sub>=68.7 s 50; Q(β<sup>-</sup>)=2016 16; %β<sup>-</sup> decay=36 7

Measured E<sub>γ</sub>, I<sub>γ</sub>, γγ coin, γ(t), E<sub>β</sub>, βγ coin, (1975BrYM) E<sub>γ</sub>, I<sub>γ</sub> (1981Me17).

E<sub>γ</sub>, branching for IT decay (1990Fo07). Others: 1969Hn01, 1970Ma47.

α: [Additional information 1](#).

<sup>113</sup>Cd Levels

E(level)	J <sup>π</sup>	T <sub>1/2</sub>	Comments
0	1/2 <sup>+</sup>	7.7×10 <sup>15</sup> y 5	T <sub>1/2</sub> : from Adopted Levels.
298.30 8	3/2 <sup>+</sup>		
316.09 8	5/2 <sup>+</sup>		
458.30 16	7/2 <sup>+</sup>		
583.87 25	5/2 <sup>+</sup>		
708.34 17	5/2 <sup>+</sup>		
1007.1 3	(5/2) <sup>+</sup>		
1047.4 4	7/2 <sup>+</sup>		
1195.3 6	5/2 <sup>+</sup>		

β<sup>-</sup> radiations

E(decay)	E(level)	Iβ <sup>-†‡</sup>	Log ft	Comments
(864 16)	1195.3	0.5 3	≈5.3	av Eβ=291 8
(1012 16)	1047.4	≈0.44	≈5.6	av Eβ=351 9
(1052 16)	1007.1	≈0.99	≈5.3	av Eβ=368 9
(1351 16)	708.34	≈8.9	≈4.8	av Eβ=495 9
(1475 16)	583.87	≈2.4	≈5.5	av Eβ=549 9
(1601 16)	458.30	≈0.60	≈6.3	av Eβ=604 9
(1743 16)	316.09	≈5.8	≈5.4	av Eβ=668 9

† β<sup>-</sup> branches were obtained from (γ+ce) imbalance at each level.

‡ For absolute intensity per 100 decays, multiply by 1.8 4.

γ(<sup>113</sup>Cd)

I<sub>γ</sub> normalization: assuming no β<sup>-</sup> feeding to g.s. ΔJ=3, Δπ=no.

E <sub>γ</sub>	I <sub>γ</sub> <sup>‡</sup>	E <sub>i</sub> (level)	J <sub>i</sub> <sup>π</sup>	E <sub>f</sub>	J <sub>f</sub> <sup>π</sup>	Mult.	α	I <sub>(γ+ce)</sub> <sup>‡</sup>	Comments
17.8 1		316.09	5/2 <sup>+</sup>	298.30	3/2 <sup>+</sup>	M1	9.72 22	48.66	ce(L)/(γ+ce)=0.738 10; ce(M)/(γ+ce)=0.142 4; ce(N)/(γ+ce)=0.0252 8; ce(O)/(γ+ce)=0.00141 5; Particle normalization/T <sub>1/2</sub> =0.0266 8 I <sub>(γ+ce)</sub> : calculated from the decay scheme with assumption of no β <sup>-</sup> feeding of the 298 level. I <sub>γ</sub> : from I(γ+ce) and α. Mult.: from <sup>113</sup> Ag β <sup>-</sup> decay (5.37 h).
126 1	<2	583.87	5/2 <sup>+</sup>	458.30	7/2 <sup>+</sup>				

Continued on next page (footnotes at end of table)

$^{113}\text{Ag} \beta^-$  decay (68.7 s) **1975BrYM,1990Fo07** (continued) $\gamma(^{113}\text{Cd})$  (continued)

$E_\gamma$	$I_\gamma^\ddagger$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult.	$\alpha$	Comments
142.20 <sup>†</sup> 15	16.5	458.30	7/2 <sup>+</sup>	316.09	5/2 <sup>+</sup>	[M1]	0.1735	$\alpha(\text{K})=0.1505$ 22; $\alpha(\text{L})=0.0187$ 3; $\alpha(\text{M})=0.00360$ 6; $\alpha(\text{N})=0.000641$ 10; $\alpha(\text{O})=3.67 \times 10^{-5}$ 6 $\alpha(\text{N}+..)=0.000678$ 10
188 1	<2	1195.3	5/2 <sup>+</sup>	1007.1	(5/2) <sup>+</sup>			
249.9 <sup>†</sup> 4	6.3	708.34	5/2 <sup>+</sup>	458.30	7/2 <sup>+</sup>			
268.0 6	<2	583.87	5/2 <sup>+</sup>	316.09	5/2 <sup>+</sup>			
285 1	0.75	583.87	5/2 <sup>+</sup>	298.30	3/2 <sup>+</sup>			
298.3 <sup>†</sup> 1	57.5	298.30	3/2 <sup>+</sup>	0	1/2 <sup>+</sup>	[M1]	0.0242	$\alpha(\text{K})=0.0210$ 3; $\alpha(\text{L})=0.00256$ 4; $\alpha(\text{M})=0.000491$ 7; $\alpha(\text{N})=8.76 \times 10^{-5}$ 13; $\alpha(\text{O})=5.09 \times 10^{-6}$ 8 $\alpha(\text{N}+..)=9.27 \times 10^{-5}$ 13
316.1 <sup>†</sup> 1	100	316.09	5/2 <sup>+</sup>	0	1/2 <sup>+</sup>	[E2]	0.0273	$\alpha(\text{K})=0.0232$ 4; $\alpha(\text{L})=0.00335$ 5; $\alpha(\text{M})=0.000649$ 10; $\alpha(\text{N})=0.0001129$ 16; $\alpha(\text{O})=5.08 \times 10^{-6}$ 8 $\alpha(\text{N}+..)=0.0001180$ 17
392.3 <sup>†</sup> 2	63	708.34	5/2 <sup>+</sup>	316.09	5/2 <sup>+</sup>			
410.0 <sup>†</sup> 6	3.8	708.34	5/2 <sup>+</sup>	298.30	3/2 <sup>+</sup>			
423 1	<1	1007.1	(5/2) <sup>+</sup>	583.87	5/2 <sup>+</sup>			
487 1	2.2	1195.3	5/2 <sup>+</sup>	708.34	5/2 <sup>+</sup>			
549 1	2.0	1007.1	(5/2) <sup>+</sup>	458.30	7/2 <sup>+</sup>			
583.8 3	20.5	583.87	5/2 <sup>+</sup>	0	1/2 <sup>+</sup>			$I_\gamma$ : <b>1981Me17</b> gives 17.7 9.
589 1	1	1047.4	7/2 <sup>+</sup>	458.30	7/2 <sup>+</sup>			
690.8 4	4.1	1007.1	(5/2) <sup>+</sup>	316.09	5/2 <sup>+</sup>			
708.3 4	20	708.34	5/2 <sup>+</sup>	0	1/2 <sup>+</sup>			
709.0 5	5	1007.1	(5/2) <sup>+</sup>	298.30	3/2 <sup>+</sup>			$E_\gamma$ : not seen by <b>1981Me17</b> and also by <b>1987BaYW</b> in (n,n' $\gamma$ ).
731.3 4	3.5	1047.4	7/2 <sup>+</sup>	316.09	5/2 <sup>+</sup>			
737 1	<2	1195.3	5/2 <sup>+</sup>	458.30	7/2 <sup>+</sup>			
897 1	<2	1195.3	5/2 <sup>+</sup>	298.30	3/2 <sup>+</sup>			

<sup>†</sup> Also seen by **1981Me17** which agrees on  $I_\gamma$ .

<sup>‡</sup> For absolute intensity per 100 decays, multiply by 0.18 4.

$^{113}\text{Ag} \beta^-$  decay (68.7 s) 1975BrYM,1990Fo07

Decay Scheme

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

Legend

- $I_{\gamma} < 2\% \times I_{\gamma}^{max}$
- $I_{\gamma} < 10\% \times I_{\gamma}^{max}$
- $I_{\gamma} > 10\% \times I_{\gamma}^{max}$
- Coincidence

