^{118}Ag β^- decay (3.76 s) 1979HiZR,1987Ap01

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	K. Kitao	NDS 75,99 (1995)	1-Feb-1993

Parent: ^{118}Ag: E=0.0; $J^\pi=1^{(-)}$; $T_{1/2}$=3.76 s *15*; Q(β^-)=7.06×10^3 *10*; %β^- decay=100.0

The decay scheme is deduced from that given for the combined 2.0- and 3.76-s decay by 1979HiZR, based on following assumptions: levels with $J^\pi=(1^+,1^-,2^+)$ given in 1979HiZR are fed from the 3.76-s decay but not with J≥4. Levels with J=(2,3), (2,3,4) and (3,4,5) in 1979HiZR also populated by the decay. Four levels at 1615- (0^+), 2072- (0^+), 2091- (2^+) and 2471 keV (J^π unknown) proposed by 1987Ap01 are added in this scheme.

1979HiZR: fission products, on-line mass; γ, $\gamma\gamma$ coin, γ(t).

1982Al29: U(n,F), on-line mass; $\beta\gamma$ coin.

1987Ap01: ^{235}U(n,F), on-line mass; γ, β, $\gamma\gamma$ coin, $\beta\gamma$ coin, $\gamma\gamma(\theta)$ γ(t).

1971Fo22: U(n,F), on-line mass; γ, ce, $\gamma\gamma$ coin.

1973FoZF: as quoted by 1976Ca02.

Others: 1984Ap04, 1982Br10, 1989Ma33.

^{118}Cd Levels

E(level)†	J^π†	$T_{1/2}$	Comments
0.0	0^+		
487.77 *8*	2^+	17.9 ps *15*	$T_{1/2}$: from B(high energy γ)(488γ)(t) (1989Ma33).
1164.94 *9*	4^+	<1.9 ps	$T_{1/2}$: from B(high energy γ)(677γ)(t) (1989Ma33).
1269.55 *8*	2^+		
1285.61 *12*	0^+	9.7 ps *14*	$T_{1/2}$: from (β)(1938γ)(798γ)(t) and (β)(798γ)(487γ) (1989Ma33).
1615.07‡ *10*	0^+	<7.1 ps	$T_{1/2}$: from B(1127γ)(487γ)(t) (1989Ma33).
1915.77 *10*	2^+		
1929.14 *9*	$(3,4^+)$		
2073.69‡ *13*	0^+		
2091.61‡ *9*	3^+		
2223.33 *10*	3,4,5		
2322.31 *10*	$3,4^+$		
2471.84‡ *11*			
2788.72 *19*	(1)		
3181.73 *23*	2,3,4		
3224.32 *17*	(1)		
3265.77 *19*	2,3,4		
3381.8 *3*			

† From Adopted Levels.

‡ From 1987Ap01. Not reported in 1979HiZR.

$\gamma(^{118}Cd)$

Iγ normalization: Iβ(to g.s.)=15% 15 was assumed from that of<30% (1971Fo22), estimated from measured I(ce 488γ)/Iβ^-.

E_γ†‡	$I_\gamma$ah	E_i(level)	J_i^π	E_f	J_f^π
230.66@& *10*	e	2322.31	$3,4^+$	2091.61	3^+
248.50@& *10*	e	2471.84		2223.33	3,4,5
294.20@ *10*	e	2223.33	3,4,5	1929.14	$(3,4^+)$
345.51& *10*	<0.066d	1615.07	0^+	1269.55	2^+

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^{118}Ag β^- decay (3.76 s) 1979HiZR,1987Ap01 (continued)

$\gamma(^{118}Cd)$ (continued)

E_γ †‡	I_γ ah	E_i(level)	J_i^π	E_f	J_f^π	Mult.g	δg	Comments
406.54b@ 10	<0.27b	2322.31	3,4+	1915.77	2+			
435.6 3	0.51 5	3224.32	(1)	2788.72	(1)			
x438.6# 3								
487.77@ 10	79f 5	487.77	2+	0.0	0+			
542.70@& 10	e	2471.84		1929.14	(3,4+)			
646.20c 10	<0.7c	1915.77	2+	1269.55	2+			
659.63b 10	<2.7b	1929.14	(3,4+)	1269.55	2+			
677.13@ 10	33f 4	1164.94	4+	487.77	2+			
x731.1# 3								
764.23b 10	<1.6b	1929.14	(3,4+)	1164.94	4+			
781.73c 10	4.0c 5	1269.55	2+	487.77	2+			I_γ: other: 5.7 5 (1973FoZF).
797.83 10	6.6 7	1285.61	0+	487.77	2+			
822.02& 10	e	2091.61	3+	1269.55	2+			
926.53& 10	e	2091.61	3+	1164.94	4+			
x968.1# 3								
1058.39@ 10	e	2223.33	3,4,5	1164.94	4+			
x1067.1# 3								
1127.32& 10	1.30d 13	1615.07	0+	487.77	2+			
x1151.0# 3								
1157.40b@ 10	<1.73b	2322.31	3,4+	1164.94	4+			
1269.54c 10	2.7c 3	1269.55	2+	0.0	0+			I_γ: other: 4.2 5 (1973FoZF).
1336.8b 3	<1.05b	3265.77	2,3,4	1929.14	(3,4+)			
x1411.5# 3								
1428.02c 10	<1.8c	1915.77	2+	487.77	2+	E2+M1	+1.9	
1441.34b 10	<1.3b	1929.14	(3,4+)	487.77	2+			
x1535.2# 3								
x1580.6# 3								
1585.91@& 10	e	2073.69	0+	487.77	2+			
1603.96& 10	e	2091.61	3+	487.77	2+	E2+M1	+1.15	
1735.52@& 10	e	2223.33	3,4,5	487.77	2+			
x1845.6# 3								
1938.6 3	3.9 4	3224.32	(1)	1285.61	0+			
2016.9b 3	<1.36b	3181.73	2,3,4	1164.94	4+			
2100.8b 3	<8.1b	3265.77	2,3,4	1164.94	4+			I_γ: other: 7.8 9 (1973FoZF).
2300.9 3	0.68 7	2788.72	(1)	487.77	2+			
x2519.3# 3								
2693.8b 3	<2.5b	3181.73	2,3,4	487.77	2+			
2736.7 3	2.1 2	3224.32	(1)	487.77	2+			
2777.8b 3	<8.2b	3265.77	2,3,4	487.77	2+			I_γ: other: 6.3 9 (1973FoZF).
2788.7 3	12.5 13	2788.72	(1)	0.0	0+			I_γ: other: 9.0 13 (1973FoZF).
2894.0b 3	<2.0b	3381.8		487.77	2+			
3224.2 3	11.2 11	3224.32	(1)	0.0	0+			

† From 1979HiZR, but values of γ's with uncertainties of 0.10 keV are from 1987Ap01.
‡ Uncertainties are assigned by evaluator.

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^{118}Ag β^- decay (3.76 s) 1979HiZR,1987Ap01 (continued)

$\gamma(^{118}Cd)$ (continued)

[#] Read by evaluator from the experimental spectra shown in 1979HiZR, may belong to either decay (3.76-s, 2.0-s).
[@] Value is calculated by evaluator from relevant levels in authors′ fig.2.
[&] From 1987Ap01. Not reported in 1979HiZR.
[a] From 1979HiZR values are relative to Iγ(487γ)=100 for the 3.76-s and 2.0-s combined decay, unless otherwise noted. Uncertainty of 10% assigned by evaluator.
[b] Placed in both decay schemes of 3.76-s and 2.0-s. Intensity is not divided.
[c] Placed in both decay schemes of 3.76-s and 2.0-s. Intensity is divided.
[d] From 1984Ap04.
[e] No intensity was given by authors.
[f] Deduced from 1973FoZF using with the average value of ratios of Iγ from 1973FoZF to that from 1979HiZR for 781γ, 798γ, 1269γ, 1938γ, 2100, 2777γ, 2788γ and 3224γ.
[g] From $\gamma\gamma(\theta)$ in 1987Ap01.
[h] For absolute intensity per 100 decays, multiply by 0.81 *14*.
[x] γ ray not placed in level scheme.

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Decay Scheme

Intensities: I_γ per 100 parent decays