^{118}Ag β^- decay (2.0 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=127.74 *16*; $J^\pi=(4^+)$; $T_{1/2}$=2.0 s *2*; Q(β^-)=7.06×10^3 *10*; %β^- decay=59.0

^{118}Ag-%β^- decay: from I(127γ ^{118}Ag)/I(487γ)=0.124 *15* from 1973FoZF.

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 $J^\pi\geq4$ given in 1979HiZR are fed from the 2.0-s decay but ones with $J^\pi=(1^+,1^-,2^+)$, 2^+ and 0^+ not fed. Levels with J=(2,3), (2,3,4) and (3,4,5) are also populated by the decay. Both 2091 level (3^+) and 2471 level (J^π unknown) proposed by 1987Ap01 are added in this scheme. The 1973 (6^+) level proposed by 1971Fo22 is not adopted because it has been not confirmed by other authors. However, this scheme results in a large intensity imbalance between the deexciting and populating γ's at the lowest 2^+ and 4^+ levels.

For observed Eβ, see ^{118}Ag β^- decay (3.76 s).

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; $\gamma\gamma$, $\beta\gamma$ 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.

^{118}Cd Levels

E(level)†	J^π†	Comments
0.0	0^+	
487.77 *8*	2^+	
1164.94 *9*	4^+	
1269.55 *8*	2^+	
1915.77 *10*	2^+	
1929.14 *9*	$(3,4^+)$	
1935.94 *13*	(6^+)	
2091.61‡ *9*	3^+	
2182.14? *25*		J^π: (≥4) in 1979HiZR.
2223.33 *10*	3,4,5	
2322.31 *10*	$3,4^+$	
2471.84‡ *11*		
2621.00? *11*		J^π: (≥4) in 1979HiZR.
2640.55 *25*		J^π: (≥4) in 1979HiZR.
2756.00 *20*		J^π: (≥4) in 1979HiZR.
3031.85 *18*		J^π: (≥4) in 1979HiZR.
3181.73 *23*	2,3,4	
3265.77 *19*	2,3,4	
3329.0 *4*		J^π: (≥4) in 1979HiZR.
3381.8? *3*		J^π: (2,3,4) in 1979HiZR.

† From Adopted Levels.

‡ From 1987Ap01.

^{118}Ag β^- decay (2.0 s) 1979HiZR,1987Ap01 (continued)

$\gamma(^{118}Cd)$

Iγ normalization: Σ Iγ(to g.s.)=100 assuming no β^-feeding to g.s. and 487 level.
For unplaced and isomeric uncertain γ′s, see ^{118}Ag β^- decay (3.76 s).

E_γ †‡	I_γ &f	E_i(level)	J_i^π	E_f	J_f^π	Mult.e	δe
230.66#@ *10*	*d*	2322.31	3,4+	2091.61	3+		
246.2 *3*	1.33 *13*	2182.14?		1935.94	(6+)		
248.50#@ *10*	*d*	2471.84		2223.33	3,4,5		
275.8 *3*	1.07 *11*	3031.85		2756.00			
294.20@ *10*	1.26 *13*	2223.33	3,4,5	1929.14	(3,4+)		
391.3 *3*	1.06 *11*	3031.85		2640.55			
397.67 *10*	1.27 *13*	2621.00?		2223.33	3,4,5		
406.54a@ *10*	<0.27a	2322.31	3,4+	1915.77	2+		
410.9 *3*	0.88 *9*	3031.85		2621.00?			
433.6 *3*	0.46 *5*	2756.00		2322.31	3,4+		
487.77 *10*	22.0cd *22*	487.77	2+	0.0	0+		
532.7 *3*	1.58 *16*	2756.00		2223.33	3,4,5		
542.70#@ *10*	*d*	2471.84		1929.14	(3,4+)		
646.20b *10*	<0.08b	1915.77	2+	1269.55	2+		
659.63a *10*	<2.7a	1929.14	(3,4+)	1269.55	2+		
677.13 *10*	21.7cd *22*	1164.94	4+	487.77	2+		
691.87#@ *10*	*d*	2621.00?		1929.14	(3,4+)		
704.6 *3*	1.65 *17*	2640.55		1935.94	(6+)		
764.23a *10*	<1.6a	1929.14	(3,4+)	1164.94	4+		
771.00@ *10*	7.4 *7*	1935.94	(6+)	1164.94	4+		
781.73b *10*	0.8b *5*	1269.55	2+	487.77	2+		
808.5 *3*	2.6 *3*	3031.85		2223.33	3,4,5		
822.02# *10*	*d*	2091.61	3+	1269.55	2+		
849.7 *3*	1.16 *12*	3031.85		2182.14?			
926.53# *10*	*d*	2091.61	3+	1164.94	4+		
1058.39@ *10*	11.7 *12*	2223.33	3,4,5	1164.94	4+		
1157.40a@ *10*	<1.73a	2322.31	3,4+	1164.94	4+		
1269.54b *10*	0.6b *3*	1269.55	2+	0.0	0+		
1336.8a *3*	<1.05a	3265.77	2,3,4	1929.14	(3,4+)		
1428.02b *10*	<0.19b	1915.77	2+	487.77	2+	E2+M1	+1.9
1441.34a *10*	<1.3a	1929.14	(3,4+)	487.77	2+		
1603.96# *10*	*d*	2091.61	3+	487.77	2+	E2+M1	+1.15
1735.52#@ *10*	*d*	2223.33	3,4,5	487.77	2+		
2016.9a *3*	<1.36a	3181.73	2,3,4	1164.94	4+		
2100.8a *3*	<8.1a	3265.77	2,3,4	1164.94	4+		
2164.0 *3*	4.0 *4*	3329.0		1164.94	4+		
2693.8a *3*	<2.5a	3181.73	2,3,4	487.77	2+		
2777.8a *3*	<8.2a	3265.77	2,3,4	487.77	2+		
2894.0a *3*	<2.0a	3381.8?		487.77	2+		

† From 1979HiZR, but values of γ′s with uncertainties of 0.10 keV are from 1987Ap01.
‡ Uncertainties are assigned by evaluator.
# From 1987Ap01. Not reported in 1979HiZR.
@ Value calculated by evaluator from relevant levels in authors′ fig. 2.

Continued on next page (footnotes at end of table)

^{118}Ag β^- decay (2.0 s) 1979HiZR,1987Ap01 (continued)

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

& From 1979HiZR. Values are relative to Iγ(787γ)=100 for the 3.76-s and 2.0-s combined decay, unless otherwise noted. Uncertainty of 10% assigned by evaluator.
[a] Placed in both 3.76-s and 2.0-s decay schemes. Intensity is not divided.
[b] Placed in both 3.76-s and 2.0-s decay schemes. Intensity is divided.
[c] Deduced from 1973FoZF using with the average value of ratios of Iγ from 1973FoZF to that from 1979HiZR for 770γ, 808γ and 1058γ.
[d] No intensity was given by authors.
[e] From $\gamma\gamma(\theta)$ in 1987Ap01.
[f] For absolute intensity per 100 decays, multiply by 2.6 *3*.

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Decay Scheme

Intensities: I_γ per 100 parent decays