

$^{119}\text{Ag}$   $\beta^-$  decay (2.1 s)    1975Ka09

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	D. M. Symochko, E. Browne, J. K. Tuli		NDS 110,2945 (2009)	1-Dec-2008

Parent:  $^{119}\text{Ag}$ : E=0.0+x;  $J^\pi=(7/2^+)$ ;  $T_{1/2}=2.1$  s *I*;  $Q(\beta^-)=5.33\times 10^3$  4; % $\beta^-$  decay=100.0

**Additional information 1.**

1975Ka09:  $^{235}\text{U}(n,f)$  E=th, on-line mass separation; semi, scin; measured:  $\gamma$ , K x ray, ce; semi-semi  $\gamma\gamma$ ; plastic-NaI  $\gamma\gamma(t)$ ,

$\gamma$ (K x ray)(t).

Others: semi  $\beta\gamma$ ,  $Q(\beta^-)$  (1982Al29);  $\gamma$  (1988RuZW).

$\beta$ -strength function: 1975Al11 deduced 92% decay to levels above 250 keV.

Decay scheme is that proposed by 1975Ka09. Four possible levels 1245, 1471, 2605 and 2869 keV suggested by 1975Ka09 are also added by the evaluators.

 $^{119}\text{Cd}$  Levels

E(level) <sup>‡</sup>	$J^\pi$ <sup>†</sup>	$T_{1/2}$	E(level) <sup>‡</sup>	$J^\pi$ <sup>†</sup>
0	1/2 <sup>+</sup>	2.69 min 2	1130.80 10	(5/2,7/2 <sup>+</sup> )
27.00 6	3/2 <sup>+</sup>	2.3 ns 4	1245.57? 12	
146.53 11	(11/2 <sup>-</sup> )	2.20 min 2	1278.80 9	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )
213.90 11	(9/2 <sup>-</sup> )	$\leq 1.5$ ns	1401.76 7	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )
228.26 9	(7/2 <sup>-</sup> ,9/2 <sup>-</sup> )	43 ns 3	1471.39? 20	
393.20 7	+		1538.82 15	(5/2,7/2 <sup>+</sup> )
399.13 7	(3/2 <sup>-</sup> ,5/2)		1925.51 13	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )
427.27 8	(7/2 <sup>+</sup> )	1.6 ns 1	2088.18 15	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )
525.04 9	(3/2 <sup>-</sup> ,5/2,7/2 <sup>+</sup> )		2424.18 20	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> ,9/2 <sup>+</sup> )
570.88 7	(5/2,7/2)		2442.53 25	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )
655.49 10	(5/2,7/2)		2605.79? 23	
806.11 6	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )		2676.52 19	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )
866.48 12	(5/2,7/2,9/2)		2813.51 19	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )
924.24 11	(5/2,7/2 <sup>+</sup> )		2862.4 5	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> ,9/2 <sup>+</sup> )
1053.65 6	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )		2869.6? 3	
1086.73 10	(5/2,7/2 <sup>+</sup> )			

<sup>†</sup> From Adopted Levels.

<sup>‡</sup> E(levels) are based on a least-squares fit to E( $\gamma$ 's) by the evaluators.

 $\beta^-$  radiations

E(decay)	E(level)	$I\beta^-$ <sup>†‡</sup>	Log ft	Comments
(2.47×10 <sup>3</sup> 4)	2862.4	0.7 2	5.5 1	av E $\beta$ =1010 19
(2.52×10 <sup>3</sup> 4)	2813.51	3.4 4	4.8 1	av E $\beta$ =1033 19 E(decay): 2610 340 from $\beta\gamma$ (1982Al29).
(2.65×10 <sup>3</sup> 4)	2676.52	1.3 2	5.3 1	av E $\beta$ =1097 19
(2.89×10 <sup>3</sup> 4)	2442.53	1.4 3	5.4 1	av E $\beta$ =1206 19
(2.91×10 <sup>3</sup> 4)	2424.18	1.1 1	5.6 1	av E $\beta$ =1215 19
(3.24×10 <sup>3</sup> 4)	2088.18	7.8 8	4.9 1	av E $\beta$ =1372 19
(3.40×10 <sup>3</sup> 4)	1925.51	6.7 5	5.1 1	av E $\beta$ =1449 19
(3.79×10 <sup>3</sup> 4)	1538.82	1.5 2	5.9 1	av E $\beta$ =1631 19
(3.93×10 <sup>3</sup> 4)	1401.76	10.5 7	5.1 1	av E $\beta$ =1696 19 E(decay): 3930 150 from $\beta\gamma$ (1982Al29).
(4.05×10 <sup>3</sup> 4)	1278.80	5.4 4	5.5 1	av E $\beta$ =1755 19 E(decay): 4010 200 from $\beta\gamma$ (1982Al29).
(4.20×10 <sup>3</sup> 4)	1130.80	1.2 2	6.2 1	av E $\beta$ =1825 19
(4.24×10 <sup>3</sup> 4)	1086.73	1.8 2	6.0 1	av E $\beta$ =1846 19

Continued on next page (footnotes at end of table)

$^{119}\text{Ag}$   $\beta^-$  decay (2.1 s)    1975Ka09 (continued) $\beta^-$  radiations (continued)

E(decay)	E(level)	$I\beta^{-\dagger\dagger}$	Log $f_t$	Comments
( $4.28 \times 10^3$ 4)	1053.65	38 2	4.7 1	av $E\beta=1861$ 19 E(decay): 4300 50 from $\beta\gamma$ (1982Al29).
( $4.41 \times 10^3$ 4)	924.24	1.6 2	6.2 1	av $E\beta=1923$ 19
( $4.46 \times 10^3$ 4)	866.48	1.0 2	6.4 1	av $E\beta=1950$ 19
( $4.52 \times 10^3$ 4)	806.11	7.0 7	5.6 1	av $E\beta=1979$ 19
( $4.67 \times 10^3$ 4)	655.49	3.5 6	5.9 1	av $E\beta=2051$ 19
( $4.76 \times 10^3$ 4)	570.88	1.3 4	6.4 2	av $E\beta=2091$ 19
( $4.80 \times 10^3$ 4)	525.04	0.5 4	6.8 4	av $E\beta=2113$ 19
( $4.90 \times 10^3$ 4)	427.27	$\leq 2$	$\geq 6.3$	av $E\beta=2159$ 19
( $4.93 \times 10^3$ 4)	399.13	$\leq 3$	$\geq 6.1$	av $E\beta=2172$ 19
( $5.10 \times 10^3$ 4)	228.26	$\leq 3$	$\geq 6.2$	av $E\beta=2254$ 19
( $5.12 \times 10^3$ 4)	213.90	4 3	6.0 4	av $E\beta=2260$ 19

<sup>†</sup> From intensity balance of transitions. Values are tentative because unobserved  $\gamma$ 's from higher levels ( $>2.9$  MeV) and unplaced  $\gamma$ 's could affect intensity balances, and therefore  $I\beta$  values.

<sup>‡</sup> Absolute intensity per 100 decays.

<sup>119</sup>Ag β<sup>-</sup> decay (2.1 s) 1975Ka09 (continued)γ(<sup>119</sup>Cd)

I<sub>γ</sub> normalization: From Σ [Ti(to gs) + Ti(to 27) + Ti(to 146)] = 100%, assuming no β<sup>-</sup> feedings to the ground state ( $J^\pi=3/2^+$ ), to the 27-keV level ( $J^\pi=3/2^+$ ), and 146-keV level ( $J^\pi=11/2^-$ ), and excluding from the sum the total γ-ray intensity of the 27-keV transition. Other value: 0.107 22 (1975Ka09).

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. <sup>#</sup>	α <sup>†</sup>	I <sub>(γ+ce)</sub> <sup>@</sup>	Comments
14.3	<0.9	228.26	(7/2 <sup>-</sup> ,9/2 <sup>-</sup> )	213.90	(9/2 <sup>-</sup> )	[M1]	18.7		ce(L)/(γ+ce)=0.773 7; ce(M)/(γ+ce)=0.149 3; ce(N+)/(γ+ce)=0.0278 6 ce(N)/(γ+ce)=0.0264 5; ce(O)/(γ+ce)=0.00147 3 I <sub>(γ+ce)</sub> : from γγ (1975Ka09). I <sub>γ</sub> : possible small E2 admixture (1975Ka09). α(K)=18.4; α(L)= 2.337; α(M)= 0.449 α(K)exp=19 5 α(K)exp: from I(K x ray)/Iγ. I <sub>(γ+ce)</sub> : from intensity balance.
26.9 1	18.5 7	27.00	3/2 <sup>+</sup>	0	1/2 <sup>+</sup>	M1	21.2	410 10	I <sub>γ</sub> : Deduced by evaluators from γ-ray transition intensity balance at 27-keV level using Ti(26.9γ)=410 10 (from γ rays feeding the 27-keV level) and assuming no β <sup>-</sup> feeding to this level. Thus I <sub>γ</sub> (26.9γ)= (410 10)/1 + α = (410 10)/1 + (21.2 6) = 18.5 7. Other value: 21 4 (experimental, 1975Ka09). Mult.: α(K)exp is consistent with α(K)(M1) and also α(K)(E2). But, E2 is ruled out since α(E2) leads to a larger (and inconsistent) value for I <sub>(γ+ce)</sub> due to the large L-shell conversion for an E2 multipolarity. α(K)exp=1.04 16 α(K)=1.237 19; α(L)=0.1560 23; α(M)=0.0300 5; α(N+..)=0.00564 9 α(N)=0.00534 8; α(O)=0.000302 5
67.4 1	53 9	213.90	(9/2 <sup>-</sup> )	146.53 (11/2 <sup>-</sup> )		M1	1.428		α(K)exp=2.20 32 α(K)=2.17 4; α(L)=0.730 11; α(M)=0.1456 22; α(N+..)=0.0244 4 α(N)=0.0240 4; α(O)=0.000388 6
81.7 1	19.4 21	228.26	(7/2 <sup>-</sup> ,9/2 <sup>-</sup> )	146.53 (11/2 <sup>-</sup> )		E2	3.07		I <sub>γ</sub> : very weak.
131		525.04	(3/2 <sup>-</sup> ,5/2,7/2 <sup>+</sup> )	393.20	+				I <sub>γ</sub> : very weak.
150.7 2	2.2 6	806.11	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	655.49	(5/2,7/2)				α(K)exp=0.022 7 α(K)=0.0207 3; α(L)=0.00248 4; α(M)=0.000474 7; α(N+..)=8.81×10 <sup>-5</sup> 13 α(N)=8.36×10 <sup>-5</sup> 12; α(O)=4.48×10 <sup>-6</sup> 7
x173.4 3	2.5 6								I <sub>γ</sub> : other: 55 9 (1988RuZW).
177		570.88	(5/2,7/2)	393.20	+				
192.0 5	0.5 3	1245.57?		1053.65	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )				
199.0 1	61 7	427.27	(7/2 <sup>+</sup> )	228.26	(7/2 <sup>-</sup> ,9/2 <sup>-</sup> )	E1	0.0237		

<sup>119</sup>Ag β<sup>-</sup> decay (2.1 s) 1975Ka09 (continued)γ(<sup>119</sup>Cd) (continued)

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. <sup>#</sup>	a <sup>†</sup>	Comments
213.4 1	67 7	427.27	(7/2 <sup>+</sup> )	213.90	(9/2 <sup>-</sup> )	E1	0.0195	$\alpha(K)\exp=0.012\ 3$ $\alpha(K)=0.01701\ 24$ ; $\alpha(L)=0.00204\ 3$ ; $\alpha(M)=0.000390\ 6$ ; $\alpha(N..)=7.25\times10^{-5}\ 11$ $\alpha(N)=6.88\times10^{-5}\ 10$ ; $\alpha(O)=3.71\times10^{-6}\ 6$
224.8 3	1.0 4	1278.80	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	1053.65	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )			
235.3 2	2.1 6	806.11	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	570.88	(5/2,7/2)			
247.6 1	6.5 10	1053.65	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	806.11	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )			
262.7 2	1.0 3	655.49	(5/2,7/2)	393.20	+			
271.1 2	3.1 9	1401.76	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	1130.80	(5/2,7/2 <sup>+</sup> )			
280.6 1	4.5 8	1086.73	(5/2,7/2 <sup>+</sup> )	806.11	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )			
325.0 2	1.4 3	1130.80	(5/2,7/2 <sup>+</sup> )	806.11	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )			
366.2 1	93 5	393.20	+	27.00	3/2 <sup>+</sup>	M1,E2	0.0157 14	$\alpha(K)\exp=0.011\ 3$ $\alpha(K)=0.0135\ 11$ ; $\alpha(L)=0.0018\ 3$ ; $\alpha(M)=0.00034\ 6$ ; $\alpha(N..)=6.3\times10^{-5}\ 9$ $\alpha(N)=6.0\times10^{-5}\ 9$ ; $\alpha(O)=3.12\times10^{-6}\ 12$
x370.6 1	26.3 19							
372.3 1	11.8 11	399.13	(3/2 <sup>-</sup> ,5/2)	27.00	3/2 <sup>+</sup>			
379.0 1	2.1 4	806.11	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	427.27	(7/2 <sup>+</sup> )			
393.2 2	6.5 9	393.20	+	0	1/2 <sup>+</sup>			
399.1 2	83 13	399.13	(3/2 <sup>-</sup> ,5/2)	0	1/2 <sup>+</sup>	[E1]	0.00369 6	$\alpha(K)\exp=0.006\ +4-2$ $\alpha=0.00369\ 6$ ; $\alpha(K)=0.00323\ 5$ ; $\alpha(L)=0.000382\ 6$ ; $\alpha(M)=7.29\times10^{-5}\ 11$ ; $\alpha(N..)=1.366\times10^{-5}\ 20$ $\alpha(N)=1.293\times10^{-5}\ 19$ ; $\alpha(O)=7.29\times10^{-7}\ 11$ $\alpha(K)\exp$ : given for 399.1γ+400.1γ. Mult.: if 400.1γ is E2 from decay scheme, the combined $\alpha(K)\exp$ suggests the 399.1γ to be E1, or possibly M1,E2.
400.1 2	12.0 18	427.27	(7/2 <sup>+</sup> )	27.00	3/2 <sup>+</sup>	[E2]	0.01294	$\alpha(K)\exp=0.006\ +4-2$ $\alpha(K)=0.01108\ 16$ ; $\alpha(L)=0.001514\ 22$ ; $\alpha(M)=0.000292\ 5$ ; $\alpha(N..)=5.36\times10^{-5}\ 8$ $\alpha(N)=5.12\times10^{-5}\ 8$ ; $\alpha(O)=2.48\times10^{-6}\ 4$ $\alpha(K)\exp$ : given for 399.1γ+400.1γ. Mult.: from decay scheme.
407.1 1	21.2 18	806.11	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	399.13	(3/2 <sup>-</sup> ,5/2)			
412.9 1	9.2 11	806.11	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	393.20	+			
431.9 2	2.7 4	1086.73	(5/2,7/2 <sup>+</sup> )	655.49	(5/2,7/2)			
439.2 1	8.1 8	866.48	(5/2,7/2,9/2)	427.27	(7/2 <sup>+</sup> )			
472.9 1	4.8 6	1278.80	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	806.11	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )			
482.7 1	17.7 13	1053.65	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	570.88	(5/2,7/2)			
497.9 1	29.5 21	525.04	(3/2 <sup>-</sup> ,5/2,7/2 <sup>+</sup> )	27.00	3/2 <sup>+</sup>			
517.5 & 3	0.8 2	1086.73	(5/2,7/2 <sup>+</sup> )	570.88	(5/2,7/2)			
524.5 3	2.5 5	924.24	(5/2,7/2 <sup>+</sup> )	399.13	(3/2 <sup>-</sup> ,5/2)			
528.9 3	4.0 8	1053.65	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	525.04	(3/2 <sup>-</sup> ,5/2,7/2 <sup>+</sup> )			
531.1 1	7.1 9	924.24	(5/2,7/2 <sup>+</sup> )	393.20	+			

<sup>119</sup>Ag β<sup>-</sup> decay (2.1 s) 1975Ka09 (continued)γ(<sup>119</sup>Cd) (continued)

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>	Comments
543.9 1	29.0 20	570.88	(5/2,7/2)	27.00	3/2 <sup>+</sup>	
561.2 2	2.2 4	1086.73	(5/2,7/2 <sup>+</sup> )	525.04	(3/2 <sup>-</sup> ,5/2,7/2 <sup>+</sup> )	
570.8 1	5.8 9	570.88	(5/2,7/2)	0	1/2 <sup>+</sup>	
578.0 2	3.3 6	806.11	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	228.26	(7/2 <sup>-</sup> ,9/2 <sup>-</sup> )	
595.7 1	6.4 6	1401.76	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	806.11	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	
604.7 3	2.6 4	1471.39?		866.48	(5/2,7/2,9/2)	
626.4 2	100	1053.65	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	427.27	(7/2 <sup>+</sup> )	α(K)exp<0.004 α(K)exp: given for 626.4γ+628.2γ. I <sub>γ</sub> : 13.9 16 % (1988RuZW).
628.2 2	21 3	655.49	(5/2,7/2)	27.00	3/2 <sup>+</sup>	α(K)exp<0.004 α(K)exp: given for 626.4γ+628.2γ.
638.0 5	2.2 5	866.48	(5/2,7/2,9/2)	228.26	(7/2 <sup>-</sup> ,9/2 <sup>-</sup> )	
654.4 2	32 5	1053.65	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	399.13	(3/2 <sup>-</sup> ,5/2)	
656.1 2	14.3 22	655.49	(5/2,7/2)	0	1/2 <sup>+</sup>	
660.4 1	54 5	1053.65	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	393.20	+	
693.4 2	4.1 7	1086.73	(5/2,7/2 <sup>+</sup> )	393.20	+	
720.4 1	4.1 8	1245.57?		525.04	(3/2 <sup>-</sup> ,5/2,7/2 <sup>+</sup> )	
x727.1 2	2.5 5					
731.0 4	1.2 4	1130.80	(5/2,7/2 <sup>+</sup> )	399.13	(3/2 <sup>-</sup> ,5/2)	
732.7 4	2.2 5	1538.82	(5/2,7/2 <sup>+</sup> )	806.11	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	
737.6 1	10.0 12	1130.80	(5/2,7/2 <sup>+</sup> )	393.20	+	
746.3 4	4.4 17	1401.76	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	655.49	(5/2,7/2)	
753.6 2	5.4 13	1278.80	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	525.04	(3/2 <sup>-</sup> ,5/2,7/2 <sup>+</sup> )	
779.2 1	42 3	806.11	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	27.00	3/2 <sup>+</sup>	
806.2 2	1.1 4	806.11	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	0	1/2 <sup>+</sup>	
825.4 1	20.2 16	1053.65	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	228.26	(7/2 <sup>-</sup> ,9/2 <sup>-</sup> )	
830.8 2	4.9 6	1401.76	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	570.88	(5/2,7/2)	
846.9 2	4.0 5	1245.57?		399.13	(3/2 <sup>-</sup> ,5/2)	
851.4 1	18.1 15	1278.80	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	427.27	(7/2 <sup>+</sup> )	
872.3 4	3.1 8	1925.51	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	1053.65	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	
877.0 2	1.9 6	1401.76	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	525.04	(3/2 <sup>-</sup> ,5/2,7/2 <sup>+</sup> )	
885.4 3	4.3 8	1278.80	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	393.20	+	
897.5 5	2.9 12	924.24	(5/2,7/2 <sup>+</sup> )	27.00	3/2 <sup>+</sup>	
x926.9 3	3.0 8					
x950.4 5	3.1 12					
974.5 2	4.6 9	1401.76	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	427.27	(7/2 <sup>+</sup> )	
1002.6 2	5.3 8	1401.76	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	399.13	(3/2 <sup>-</sup> ,5/2)	
1008.5 1	21.6 20	1401.76	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	393.20	+	
1014.0 3	2.3 6	1538.82	(5/2,7/2 <sup>+</sup> )	525.04	(3/2 <sup>-</sup> ,5/2,7/2 <sup>+</sup> )	
1026.5 1	58 5	1053.65	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	27.00	3/2 <sup>+</sup>	
1044.3 3	0.8 4	1471.39?		427.27	(7/2 <sup>+</sup> )	
1053.8 1	4.2 6	1053.65	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	0	1/2 <sup>+</sup>	
x1064.8 3	3.8 9					

<sup>119</sup>Ag β<sup>-</sup> decay (2.1 s) 1975Ka09 (continued)γ(<sup>119</sup>Cd) (continued)

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>
1111.0 3	2.2 5	1538.82	(5/2,7/2 <sup>+</sup> )	427.27	(7/2 <sup>+</sup> )
1140.2 3	0.9 3	1538.82	(5/2,7/2 <sup>+</sup> )	399.13	(3/2 <sup>-</sup> ,5/2)
1145.1 3	1.9 4	1538.82	(5/2,7/2 <sup>+</sup> )	393.20	+
1173.3 2	10.0 14	1401.76	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	228.26	(7/2 <sup>-</sup> ,9/2 <sup>-</sup> )
1244.6 & 3	2.2 4	1471.39?		228.26	(7/2 <sup>-</sup> ,9/2 <sup>-</sup> )
1251.9 2	7.7 14	1278.80	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	27.00	3/2 <sup>+</sup>
1257.5 3	2.0 4	1471.39?		213.90	(9/2 <sup>-</sup> )
1274.7 3	3.0 9	2676.52	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	1401.76	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )
x1333.2 2	4.6 8				
1374.8 2	12.3 16	1401.76	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	27.00	3/2 <sup>+</sup>
1401.6 2	8.3 7	1401.76	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	0	1/2 <sup>+</sup>
x1426.5 3	1.3 5				
1512.7 5	2.0 4	1538.82	(5/2,7/2 <sup>+</sup> )	27.00	3/2 <sup>+</sup>
1526.6 2	13.1 15	1925.51	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	399.13	(3/2 <sup>-</sup> ,5/2)
1532.7 5	3.0 9	1925.51	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	393.20	+
1689.0 2	8.1 11	2088.18	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	399.13	(3/2 <sup>-</sup> ,5/2)
1695.5 3	5.5 10	2088.18	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	393.20	+
1800.2 3	4.0 10	2605.79?		806.11	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )
x1824.7 4	4.5 17				
x1851.9 3	5.8 12				
1898.3 2	23.0 20	1925.51	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	27.00	3/2 <sup>+</sup>
1925.0 3	8.7 13	1925.51	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	0	1/2 <sup>+</sup>
x1970.3 4	4.0 14				
1996.9 2	6.3 7	2424.18	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> ,9/2 <sup>+</sup> )	427.27	(7/2 <sup>+</sup> )
x2028.2 2	10.0 9				
2043.6 5	1.0 4	2442.53	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	399.13	(3/2 <sup>-</sup> ,5/2)
2050.1 5	1.0 4	2442.53	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	393.20	+
2060.7 5	40.5 50	2088.18	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	27.00	3/2 <sup>+</sup>
2087.9 3	5.8 12	2088.18	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	0	1/2 <sup>+</sup>
2151.7 4	4.1 9	2676.52	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	525.04	(3/2 <sup>-</sup> ,5/2,7/2 <sup>+</sup> )
2195.9 4	1.9 5	2424.18	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> ,9/2 <sup>+</sup> )	228.26	(7/2 <sup>-</sup> ,9/2 <sup>-</sup> )
2205.3 5	1.2 4	2605.79?		399.13	(3/2 <sup>-</sup> ,5/2)
2212.4 5	1.1 5	2605.79?		393.20	+
x2302.0 5	3.5 16				
x2334.7 6	2.0 5				
2344.2 5	1.5 5	2869.6?		525.04	(3/2 <sup>-</sup> ,5/2,7/2 <sup>+</sup> )
x2376.1 5	3.2 9				
2386.2 5	4.0 9	2813.51	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	427.27	(7/2 <sup>+</sup> )
2391.9 7	1.9 7	2605.79?		213.90	(9/2 <sup>-</sup> )
2415.2 6	3.0 15	2442.53	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	27.00	3/2 <sup>+</sup>
2435.4 7	3.1 12	2862.4	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> ,9/2 <sup>+</sup> )	427.27	(7/2 <sup>+</sup> )
2442.0 4	6.0 15	2442.53	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	0	1/2 <sup>+</sup>
2470.9 4	8.7 21	2869.6?		399.13	(3/2 <sup>-</sup> ,5/2)

<sup>119</sup>Ag β<sup>-</sup> decay (2.1 s) 1975Ka09 (continued)γ(<sup>119</sup>Cd) (continued)

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>	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>
<sup>x</sup> 2529.4 5	4.9 19					<sup>x</sup> 2722.1 5	4.0 15				
<sup>x</sup> 2554.2 15	1.0 7					<sup>x</sup> 2732.4 7	1.6 9				
<sup>x</sup> 2563.8 6	1.2 6					<sup>x</sup> 2757.2 3	5.7 9				
<sup>x</sup> 2571.2 5	1.9 6					<sup>x</sup> 2768.2 4	2.7 7				
2633.9 5	2.0 5	2862.4	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> ,9/2 <sup>+</sup> )	228.26	(7/2 <sup>-</sup> ,9/2 <sup>-</sup> )	2786.4 2	20.2 20	2813.51	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	27.00	3/2 <sup>+</sup>
2649.5 7	1.9 6	2676.52	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	27.00	3/2 <sup>+</sup>	2814.4 7	1.7 8	2813.51	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	0	1/2 <sup>+</sup>
2655.5 4	4.0 8	2869.6?		213.90	(9/2 <sup>-</sup> )	<sup>x</sup> 2928.6 7	0.9 4				
2676.4 3	1.1 6	2676.52	(5/2 <sup>+</sup> ,7/2 <sup>+</sup> )	0	1/2 <sup>+</sup>	<sup>x</sup> 2938.4 3	4.7 6				
<sup>x</sup> 2706.9 8	2.4 16					<sup>x</sup> 2951.8 3	13.7 13				

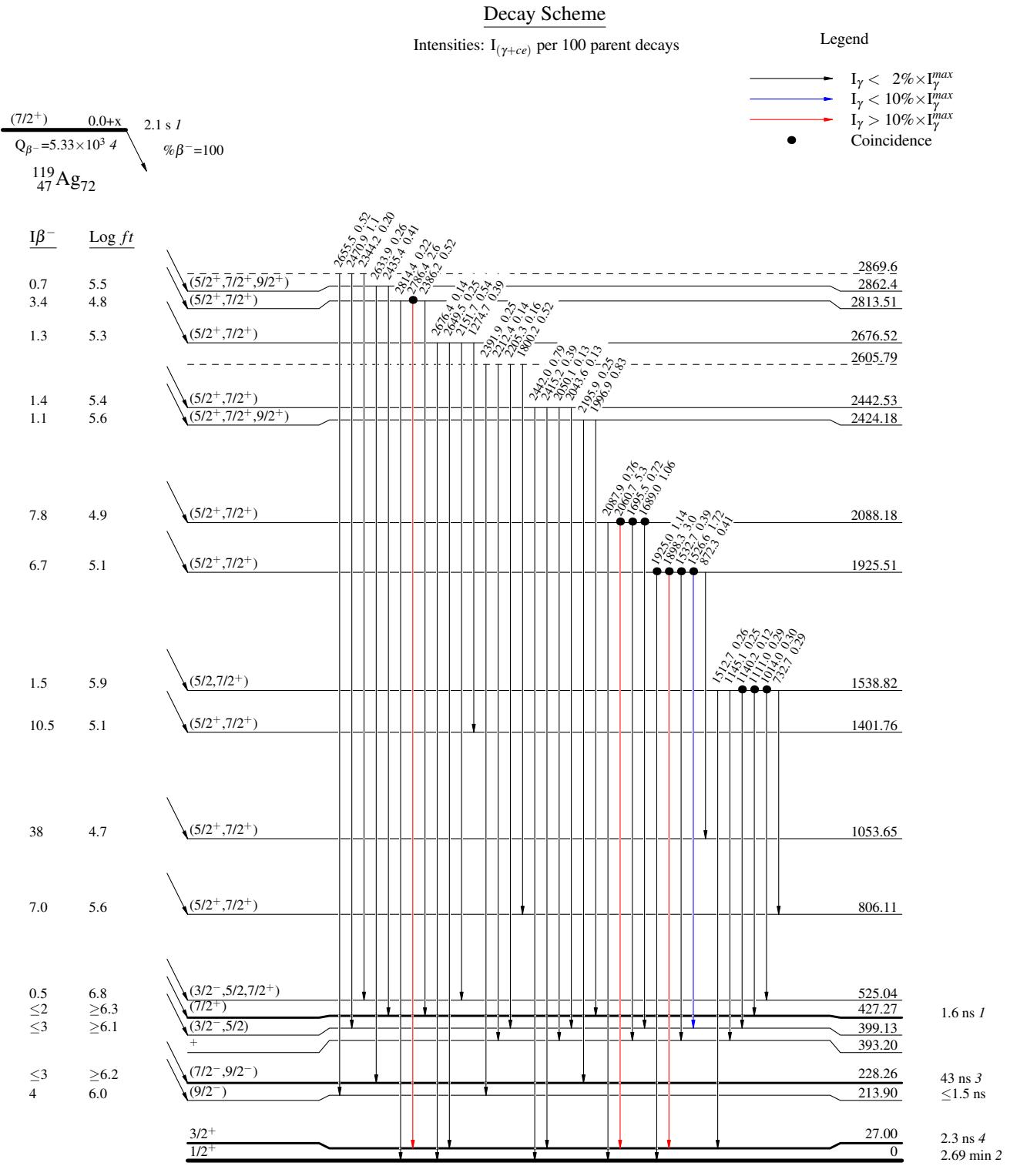
<sup>†</sup> Additional information 2.<sup>‡</sup> From 1975Ka09.

# From α(K)exp from Ice(K)/Iγ (1975Ka09), unless otherwise noted.

@ For absolute intensity per 100 decays, multiply by 0.131 5.

&amp; Placement of transition in the level scheme is uncertain.

<sup>x</sup> γ ray not placed in level scheme.

$^{119}\text{Ag } \beta^- \text{ decay (2.1 s) }$     1975Ka09

$^{119}\text{Ag} \beta^- \text{ decay (2.1 s)} \quad 1975\text{Ka09}$ 

## Decay Scheme (continued)

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

## Legend

- $\longrightarrow$   $I_\gamma < 2\% \times I_\gamma^{\max}$
- $\xrightarrow{\text{blue}}$   $I_\gamma < 10\% \times I_\gamma^{\max}$
- $\xrightarrow{\text{red}}$   $I_\gamma > 10\% \times I_\gamma^{\max}$
- $\dashrightarrow$   $\gamma$  Decay (Uncertain)
- Coincidence

$(7/2^+) \quad 0.0+x$   
 $Q_{\beta^-} = 5.33 \times 10^3 \text{ eV}$   
 $^{119}\text{Ag}_{72}$

 $I\beta^- \quad \text{Log } ft$ 

10.5

5.4

1.2

1.8

38

1.0

7.0

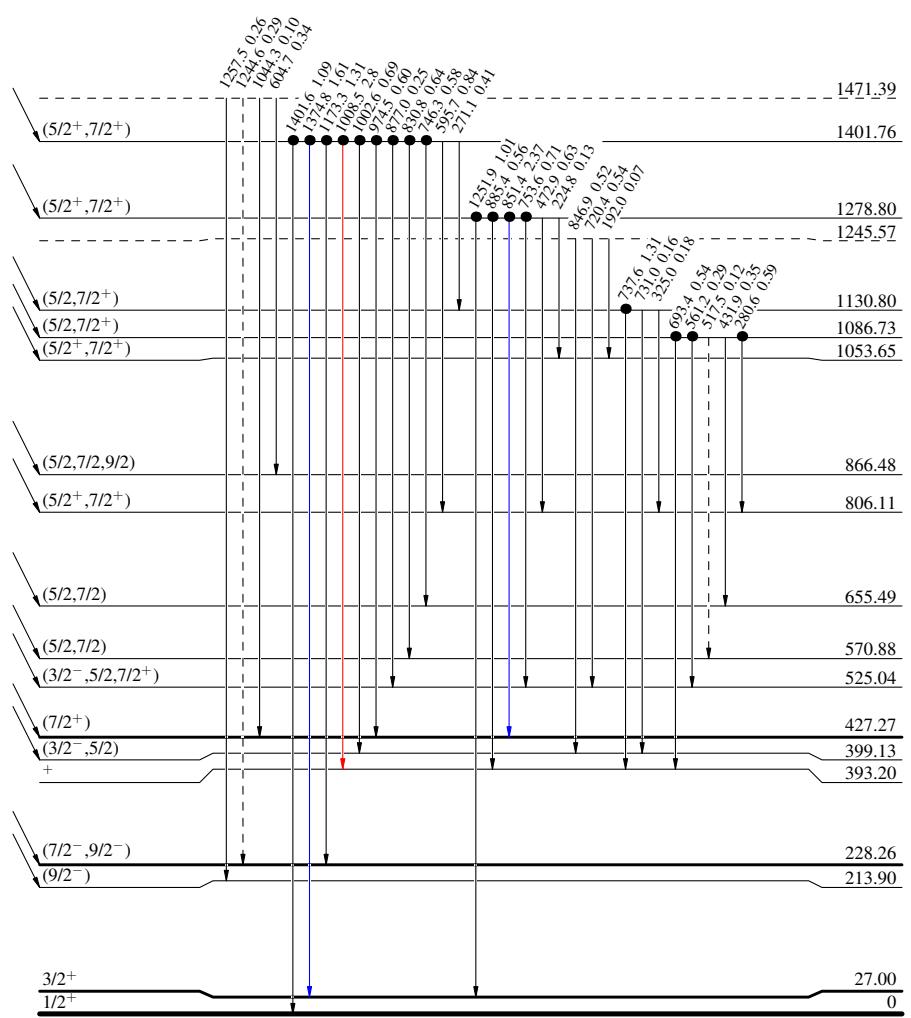
3.5

1.3

0.5

 $\leq 2$  $\leq 3$  $\leq 3$ 

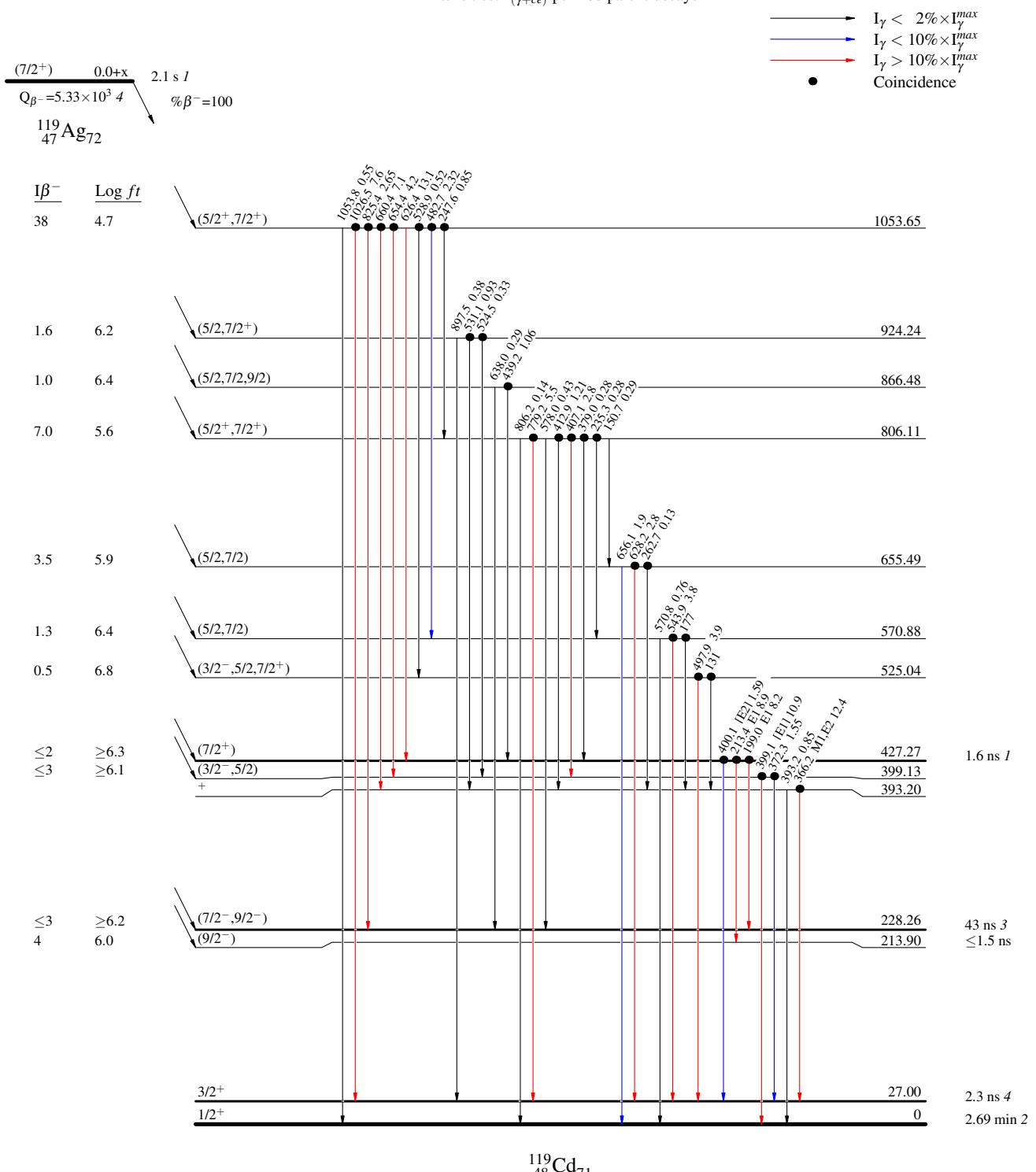
4

 $^{119}\text{Cd}_{71}$

## $^{119}\text{Ag}$ $\beta^-$ decay (2.1 s) 1975Ka09

### Decay Scheme (continued)

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



$^{119}\text{Ag} \beta^-$  decay (2.1 s) 1975Ka09

## Decay Scheme (continued)

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

Legend

