^{117}Ag β^- decay (5.34 s) 1976Fo10

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	ENSDF	1-Mar-2009

Parent: ^{117}Ag: E=28.6 *2*; J^π=(7/2$^+$); $T_{1/2}$=5.34 s *5*; Q(β^-)=4238 *15*; %β^- decay=100.0

Activity: on-line isotopic separations of fission products (1976Fo10) chemistry (1982Br10).

Measured: $\gamma\gamma$-coin, $\beta\gamma$(t), $\gamma\gamma$(t), Ice(K)/Iγ (1976Fo10), γ, $\gamma\gamma$ (1982Br10), $T_{1/2}$ (1974Gr29), Q (1982Al29).

See 1975Al11 for β-strength function.

Impossible to state if the 7/2$^+$, 5.34 s level is the g.s. (1982Al29). The energy difference is less than 25 keV from Q(β^-) measurement.

α: Additional information 1.

^{117}Cd Levels

E(level)	J^π	$T_{1/2}$	E(level)	J^π	$T_{1/2}$	E(level)	J^π
0.0	1/2$^+$	2.49 h *4*	442.54 *10*	3/2$^+$,5/2$^+$		863.28 *15*	(5/2$^+$,7/2$^+$)
135.36 *7*	3/2$^+$		497.94 *11*	(7/2)$^+$	0.95[†] ns	1079.84 *15*	(5/2$^+$)
136.35 *17*	(11/2)$^-$	3.36 h *5*	522.08 *9*	(5/2)$^+$		1276.88 *19*	(5/2$^+$,7/2$^+$)
278.35 *19*	(9/2)$^-$		665.18 *15*	5/2$^+$		1355.86 *22*	(5/2$^+$)
293.48 *14*	(7/2)$^-$	3.6 ns	690.9 *3*	5/2$^+$			
337.70 *8*	(3/2)$^+$		820.07 *9*	(5/2$^+$)			

[†] From 1976Fo10.

β^- radiations

E(decay)	E(level)	Iβ^-[†]	Log *ft*	Comments
(2911 *15*)	1355.86	1.26 *4*	5.885 *18*	av Eβ=1207.6 *71*
(2990 *15*)	1276.88	3.94 *11*	5.439 *16*	av Eβ=1244.5 *71*
(3187 *15*)	1079.84	5.03 *13*	5.450 *15*	av Eβ=1337.0 *71*
(3403 *15*)	863.28	3.02 *12*	5.794 *20*	av Eβ=1438.9 *71*
(3447 *15*)	820.07	33.5 *8*	4.772 *14*	av Eβ=1459.3 *71*
(3576 *15*)	690.9	0.75 *4*	6.491 *25*	av Eβ=1520.2 *71*
(3601 *15*)	665.18	1.1 *5*	6.34 *20*	av Eβ=1532.4 *71*
(3745 *15*)	522.08	23.5 *7*	5.081 *16*	av Eβ=1600.0 *71*
(3769[‡] *15*)	497.94	<1.0	>6.5	av Eβ=1611.4 *71*
(3988 *15*)	278.35	1.76 *12*	6.33 *3*	av Eβ=1715.4 *71*
(4130 *15*)	136.35	<20.1	>5.3	av Eβ=1782.7 *72*
(4131 *15*)	135.36	<5.03	>5.9	av Eβ=1783.2 *72*

[†] Absolute intensity per 100 decays.

[‡] Existence of this branch is questionable.

γ(^{117}Cd)

Iγ normalization: from 1976Fo10, presumably from Ice/Iβ. An uncertainty of 20% has been assigned by the evaluator. From I(γ+ce)(g.s.+136.5)=100. Iβ(136.5 level)<0.5% assuming log $f^{1u}t$>8.5.

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^{117}Ag β^- decay (5.34 s) 1976Fo10 (continued)

$\gamma(^{117}Cd)$ (continued)

E_γ	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.	α	Comments
104.7 *4*	≈0.4	442.54	$3/2^+,5/2^+$	337.70	$(3/2)^+$			
135.4[†] *1*	100	135.36	$3/2^+$	0.0	$1/2^+$	M1	0.199	α(K)=0.1723 *25*; α(L)=0.0215 *3*; α(M)=0.00413 *6*; α(N)=0.000735 *11*; α(O)=4.21×10^{-5} *6* α(N+..)=0.000777 *11*
142.1[†] *2*	9.7 *20*	278.35	$(9/2)^-$	136.35	$(11/2)^-$	M1	0.174	α(K)=0.1508 *22*; α(L)=0.0188 *3*; α(M)=0.00361 *6*; α(N)=0.000643 *10*; α(O)=3.68×10^{-5} *6* α(N+..)=0.000679 *10*
157.1[†] *1*	12.9 *30*	293.48	$(7/2)^-$	136.35	$(11/2)^-$	E2	0.300	α(K)=0.243 *4*; α(L)=0.0465 *7*; α(M)=0.00912 *13*; α(N)=0.001547 *22*; α(O)=4.85×10^{-5} *7* α(N+..)=0.001595 *23* B(E2)(W.u.)=37.1 *3*
184.5[†] *4*	12.9 *10*	522.08	$(5/2)^+$	337.70	$(3/2)^+$	M1	0.0855	α(K)=0.0742 *12*; α(L)=0.00916 *14*; α(M)=0.00176 *3*; α(N)=0.000314 *5*; α(O)=1.81×10^{-5} *3* α(N+..)=0.000332 *5*
202.2[†] *3*	1.3 *5*	337.70	$(3/2)^+$	135.36	$3/2^+$			
204.6[†] *2*	11.7 *20*	497.94	$(7/2)^+$	293.48	$(7/2)^-$	E1	0.0219	α(K)exp=0.027 *15* α(K)=0.0191 *3*; α(L)=0.00230 *4*; α(M)=0.000439 *7*; α(N)=7.74×10^{-5} *11*; α(O)=4.15×10^{-6} *6* α(N+..)=8.15×10^{-5} *12* B(E1)(W.u.)=1.825×10^{-5} *6*
[x]215.3 *3*	1.4 *4*							
219.7[†] *2*	6.7 *6*	497.94	$(7/2)^+$	278.35	$(9/2)^-$	E1	0.0180	α(K)exp<0.043 α(K)=0.01570 *23*; α(L)=0.00188 *3*; α(M)=0.000359 *6*; α(N)=6.35×10^{-5} *9*; α(O)=3.43×10^{-6} *5* α(N+..)=6.69×10^{-5} *10* B(E1)(W.u.)=8.442×10^{-6} *24*
[x]249.5 *2*	2.1 *5*							
298.1[†] *1*	43.7 *25*	820.07	$(5/2^+)$	522.08	$(5/2)^+$	M1,E2	0.029 *5*	α(K)exp=0.028 *4* α(K)=0.025 *4*; α(L)=0.0033 *8*; α(M)=0.00065 *16*; α(N)=0.00011 *3*; α(O)=5.6×10^{-6} *5* α(N+..)=0.00012 *3*
307.2[†] *1*	4.6 *10*	442.54	$3/2^+,5/2^+$	135.36	$3/2^+$	M1,E2	0.026 *4*	α(K)=0.022 *3*; α(L)=0.0030 *7*; α(M)=0.00059 *14*; α(N)=0.000103 *22*; α(O)=5.1×10^{-6} *5* α(N+..)=0.000108 *23*
322.1[†] *1*	14.5 *12*	820.07	$(5/2^+)$	497.94	$(7/2)^+$	M1,E2	0.023 *3*	α(K)exp=0.020 *13* α(K)=0.0196 *23*; α(L)=0.0026 *6*; α(M)=0.00051 *11*; α(N)=8.9×10^{-5} *17*; α(O)=4.5×10^{-6} *4* α(N+..)=9.3×10^{-5} *18*
337.7[†] *1*	19.2 *30*	337.70	$(3/2)^+$	0.0	$1/2^+$	M1,E2	0.0198 *23*	α(K)=0.0171 *18*; α(L)=0.0023 *4*; α(M)=0.00044 *8*; α(N)=7.7×10^{-5} *14*; α(O)=3.92×10^{-6} *23* α(N+..)=8.1×10^{-5} *14*
341.1[†] *2*	4.2 *10*	863.28	$(5/2^+,7/2^+)$	522.08	$(5/2)^+$			

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^{117}Ag β^- decay (5.34 s) 1976Fo10 (continued)

$\gamma(^{117}Cd)$ (continued)

E_γ	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.	α	Comments
353.1 *3*	1.0 *4*	690.9	5/2$^+$	337.70	(3/2)$^+$			
362.3[†] *2*	3.5 *6*	497.94	(7/2)$^+$	135.36	3/2$^+$			
365.4[†] *2*	3.2 *6*	863.28	(5/2$^+$,7/2$^+$)	497.94	(7/2)$^+$			
377.6[†] *3*	2.3 *4*	820.07	(5/2$^+$)	442.54	3/2$^+$,5/2$^+$			
386.8[†] *1*	82.8 *50*	522.08	(5/2)$^+$	135.36	3/2$^+$	M1,E2	0.0134 *10*	α(K)=0.0116 *8*; α(L)=0.00150 *19*; α(M)=0.00029 *4*; α(N)=5.1×10^{-5} *6*; α(O)=2.69×10^{-6} *7* α(N+..)=5.4×10^{-5} *7*
413.8 *3*	5.6 *10*	1276.88	(5/2$^+$,7/2$^+$)	863.28	(5/2$^+$,7/2$^+$)			
421.2[†] *4*	4.6 *10*	863.28	(5/2$^+$,7/2$^+$)	442.54	3/2$^+$,5/2$^+$			
442.6[†] *2*	2.7 *7*	442.54	3/2$^+$,5/2$^+$	0.0	1/2$^+$			
482.4[†] *2*	4.1 *6*	820.07	(5/2$^+$)	337.70	(3/2)$^+$			
[x]486.8 *2*	1.9 *6*							
[x]492.7 *2*	2.0 *5*							
[x]500.6 *4*	2.1 *8*							
522.1[†] *2*	19.4 *14*	522.08	(5/2)$^+$	0.0	1/2$^+$			
526.4 *2*	2.6 *10*	820.07	(5/2$^+$)	293.48	(7/2)$^-$			
529.9 *2*	1.5 *6*	665.18	5/2$^+$	135.36	3/2$^+$			
[x]543.2 *3*	0.6 *2*							
[x]546.5 *2*	0.7 *3*							
555.2 *9*	1.0 *5*	690.9	5/2$^+$	135.36	3/2$^+$			
557.8 *2*	4.3 *8*	1079.84	(5/2$^+$)	522.08	(5/2)$^+$			
569.9[†] *11*	1.4 *6*	863.28	(5/2$^+$,7/2$^+$)	293.48	(7/2)$^-$			
581.9 *3*	2.0 *3*	1079.84	(5/2$^+$)	497.94	(7/2)$^+$			
585.4[#] *5*	0.6 *2*	1276.88	(5/2$^+$,7/2$^+$)	690.9	5/2$^+$			
[x]591.9 *3*	0.6 *2*							
[x]608.8 *6*	1.1 *3*							
637.3 *3*	3.1 *3*	1079.84	(5/2$^+$)	442.54	3/2$^+$,5/2$^+$			
665.1 *2*	1.3 *5*	665.18	5/2$^+$	0.0	1/2$^+$			
684.6[†] *5*	16.2 *10*	820.07	(5/2$^+$)	135.36	3/2$^+$			
[x]691.7 *9*	0.5 *3*							
[x]743.1 *4*	0.7 *3*							
754.8 *4*	2.5 *7*	1276.88	(5/2$^+$,7/2$^+$)	522.08	(5/2)$^+$			
[x]772.1 *5*	0.4 *2*							
786.3 *2*	3.6 *4*	1079.84	(5/2$^+$)	293.48	(7/2)$^-$			
[x]801.2 *2*	1.1 *3*							
819.9 *2*	3.6 *4*	820.07	(5/2$^+$)	0.0	1/2$^+$			
834.2 *3*	≈1.0	1276.88	(5/2$^+$,7/2$^+$)	442.54	3/2$^+$,5/2$^+$			
[x]895.8 *2*	0.7 *3*							
[x]899.5 *3*	0.3 *2*							
913.4 *3*	≈1.0	1355.86	(5/2$^+$)	442.54	3/2$^+$,5/2$^+$			
[x]1038.0 *3*	2.0 *3*							
[x]1130.6 *3*	3.5 *4*							
1141.9 *5*	1.2 *2*	1276.88	(5/2$^+$,7/2$^+$)	135.36	3/2$^+$			
1220.4[†] *3*	2.2 *3*	1355.86	(5/2$^+$)	135.36	3/2$^+$			
[x]1258.6 *4*	3.2 *8*							
[x]1330.3 *5*	2.0 *6*							
[x]1455.8 *4*	0.7 *3*							
[x]1508.6 *4*	0.6 *2*							

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^{117}Ag β^- decay (5.34 s) 1976Fo10 (continued)

$\gamma(^{117}Cd)$ (continued)

† Seen also by 1982Br10.
‡ For absolute intensity per 100 decays, multiply by 0.513 *15*.
# Placement of transition in the level scheme is uncertain.
x γ ray not placed in level scheme.

^{117}Ag β^- decay (5.34 s) 1976Fo10

Decay Scheme

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