^{186}Pt ε decay 1991Be25

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. C. Batchelder and A. M. Hurst, M. S. Basunia	NDS 183, 1 (2022)	1-Mar-2022

Parent: ^{186}Pt: E=0.0; $J^{\pi}=0^{+}$; $T_{1/2}$=2.10 h *5*; Q(ε)=1308 *27*; %ε+%β^{+} decay=100.0

Others: 1970FiZZ, 1971FiZV, 1961Kr02.

1991Be25: measured Eγ, Iγ, I(ce), $\gamma\gamma$ coin, x ray-γ coin; deduced conversion coefficients. Ge(Li), hyperpure Ge, Si(Li), magnetic spectrograph (for E(ce) as low as 1.5 keV).

All data are from 1991Be25, unless noted otherwise.

^{186}Ir Levels

E(level)[†]	J^{π}[‡]	$T_{1/2}$[‡]	Comments
x+0.0	2^-	1.90 h *5*	Additional information 1.
x+1.10 *11*	$(3)^+$		
x+54.15 *8*	$1^-,2^-$		
x+71.84 *25*	$(2,3,4)^+$		
x+77.93 *10*	$(2)^+$		
x+102.89 *15*	$(2,3,4)^+$		
x+110.09 *10*	$(2)^-$		
x+120.47 *11*	$(1,3)^+$		
x+182.1? *4*	$(1^+,2^+,3^+)$		
x+194.46 *23*	$(1,2,3)^+$		
x+204.75 *14*	$(0,1,2)^+$		
x+213.34 *19*	$(1,2,3)^-$		
x+225.49 *14*	$(2)^+$		
x+237.31 *14*	$(0,1)^+$		
x+252.57 *19*	(1,2,3,4)		
x+259.64 *11*	$0^-,1^-,2^-$		
x+264.51 *10*	$(1)^-$		
x+324.32 *20*	$(2)^+$		
x+331.20 *14*	(0,1)		
x+334.59 *16*	$(1)^-$		
x+419.74 *14*	$0^+,1^+,2^+$		
x+433.30 *9*	$(1,2)^+$		
x+444.76 *12*	$(1)^+$		
x+446.65 *17*	$1^+,2^+$		
x+570.67 *19*	$0^-,1^-,2^-$		
x+689.44 *7*	1^+		
x+714.20 *8*	1^+		
x+772.2 *4*	$(1,2,3)^+$		

† 0<x≤1.5 (1991Be25), based on absence of any conversion electron line from an E>2.6 keV transition having sufficient intensity to account for the expected (x+1.1 to g.s.) transition.

‡ From Adopted Levels.

γ(^{186}Ir)

Iγ normalization: The dataset appears to be incomplete, not normalized.
Several transitions, noted by 1971FiZV to possibly belong to ^{186}Ir ε decay (1.90 h), were not confirmed in subsequent studies, so they have not been included here.

E_γ[†]	I_γ	E_i(level)	J^π_i	E_f	J^π_f	Mult.[@]	δ[@a]	α[&]	$I_{(\gamma+ce)}$	Comments
(4.87)		x+264.51	(1)$^-$	x+259.64	0$^-$,1$^-$,2$^-$				≈30	E_γ: From level energy difference. $I_{(\gamma+ce)}$: Estimated by authors (1991Be25) from coincidence spectra. Evaluators note: A 5 keV γ would not be expected to compete with other transitions de-exciting this level.
32.6 *1*	≈1.2[‡]	x+237.31	(0,1)$^+$	x+204.75	(0,1,2)$^+$	M1		28.8 *5*		α(L)=22.2 *4*; α(M)=5.11 *9* α(N)=1.256 *21*; α(O)=0.222 *4*; α(P)=0.0167 *3* L1:L2=25:2.4. Mult.: from L1/L2.
42.5 *1*	8.3 *12*	x+120.47	(1,3)$^+$	x+77.93	(2)$^+$	M1		13.14 *21*		α(L1)exp=8.2 α(L)=10.13 *16*; α(M)=2.33 *4* α(N)=0.574 *9*; α(O)=0.1015 *16*; α(P)=0.00764 *12* L1:L2:M1:N1=8.2:0.84:2.53:0.51.
54.2 *1*	42 *6*	x+54.15	1$^-$,2$^-$	x+0.0	2$^-$	M1+E2	0.093	6.99 *11*		α(L1)exp=5.69 α(L)=5.37 *9*; α(M)=1.251 *19* α(N)=0.307 *5*; α(O)=0.0536 *9*; α(P)=0.00371 *6* L1:L2:L3=5.69:0.86:0.36.
55.9 *3*	1.30 *20*	x+110.09	(2)$^-$	x+54.15	1$^-$,2$^-$	M1+E2	0.57	19.6 *6*		α(L1)exp=4.5 α(L)=14.9 *5*; α(M)=3.72 *11* α(N)=0.90 *3*; α(O)=0.141 *4*; α(P)=0.00269 *6* L1:L2:L3=4.5:8.5:7.7. δ: 0.57 from L1:L2:L3; δ from L1/L3 or L2/L3 differs from this value by ≈0.20.
^{x}59.5 *3*	1.7 *3*					(M1)		4.89 *10*		α(L1)exp=4.9; α(L2)exp=0.47 α(L)=3.77 *8*; α(M)=0.868 *18* α(N)=0.213 *5*; α(O)=0.0378 *8*; α(P)=0.00284 *6* Coin with 324γ and possibly 127γ.
70.1 *3*	1.40 *21*	x+334.59	(1)$^-$	x+264.51	(1)$^-$	M1		3.03 *6*		α(L1)exp=5.1 α(L)=2.33 *5*; α(M)=0.537 *11* α(N)=0.1321 *25*; α(O)=0.0234 *5*; α(P)=0.00176 *4* Mult.: α(L1)exp significantly exceeds α(L1)(M1), suggesting presence of E0 component or contaminant line.
70.7 *3*	1.9 *3*	x+71.84	(2,3,4)$^+$	x+1.10	(3)$^+$	M1		2.95 *6*		α(L1)exp=3.8 α(L)=2.27 *5*; α(M)=0.524 *10* α(N)=0.1289 *25*; α(O)=0.0228 *5*; α(P)=0.00172 *4*
(71.56 *21*)		x+331.20	(0,1)	x+259.64	0$^-$,1$^-$,2$^-$					Transition deduced by authors from coincidence relationships. Eγ from level energy difference.

From ENSDF

$^{186}_{77}$Ir$_{109}$-2

γ(^{186}Ir) (continued)

E_γ[†]	I_γ	E_i(level)	J^π_i	E_f	J^π_f	Mult.[@]	δ[@a]	α[&]	$I_{(\gamma+ce)}$	Comments
74.7 3	≈6	x+334.59	(1)$^-$	x+259.64	0$^-$,1$^-$,2$^-$	M1+E2	≈0.5	5.07 11		α(L1)exp≈1.5; α(L2)exp≈1.3 α(L)≈3.85; α(M)≈0.950 α(N)≈0.231; α(O)≈0.0373; α(P)≈0.001208 δ: from L1:L2=9:8.
76.8 1	≈29	x+77.93	(2)$^+$	x+1.10	(3)$^+$	M1		2.32 4		α(L)=1.848; α(M)=0.4258; α(N+..)=0.1316 α(M1)exp≈0.41 L2:L3:M1:N1≈0.103:0.017:0.41:0.10. Additional information 2.
84.4 3	≈1.4[‡]	x+204.75	(0,1,2)$^+$	x+120.47	(1,3)$^+$	M1+E2	≈0.36	9.89		L1:L2=1.6:0.7 α(K)≈7.34; α(L)≈1.94; α(M)≈0.467 α(N)≈0.1141; α(O)≈0.0190; α(P)≈0.000923 Mult.,δ: from L1/L2.
87.1 3	<0.4	x+324.32	(2)$^+$	x+237.31	(0,1)$^+$					
93.9[c] 3	≈2	x+331.20	(0,1)	x+237.31	(0,1)$^+$					
101.8 1	11.0 17	x+102.89	(2,3,4)$^+$	x+1.10	(3)$^+$	M1		5.82 9		α(K)=4.79 7; α(L)=0.789 12; α(M)=0.182 3 α(N)=0.0447 7; α(O)=0.00791 12; α(P)=0.000596 9 Mult.: K/L=5.9. K:L1:L2:M1=5.0:0.78:0.073:0.19.
103.5[c] 3	≈0.8	x+213.34	(1,2,3)$^-$	x+110.09	(2)$^-$					
104.2[c] 3		x+182.1?	(1$^+$,2$^+$,3$^+$)	x+77.93	(2)$^+$	(M1)		5.44 9	≈11	α(K)=4.49 8; α(L)=0.738 12; α(M)=0.170 3 α(N)=0.0418 7; α(O)=0.00740 12; α(P)=0.000557 9 I_γ: 1.7, 10.6, 26 for mult=M1, E2, E1, respectively, based on I(ce(K))=7.6; M1 assumed from authors′ report of a “weak” Iγ. $I_{(\gamma+ce)}$: Estimated value by evaluators for I(ce(K)) and mult=M1. <11 in 1991Be25.
105.0 1	5.2 8	x+225.49	(2)$^+$	x+120.47	(1,3)$^+$	M1		5.32 8		α(K)exp=4.8; α(L1)exp=1.12 α(K)=4.39 7; α(L)=0.722 11; α(M)=0.1663 24 α(N)=0.0409 6; α(O)=0.00724 11; α(P)=0.000545 8
108.9 3	19 3	x+110.09	(2)$^-$	x+1.10	(3)$^+$	E1		0.321 5		α(K)exp=0.30 α(K)=0.260 4; α(L)=0.0470 8; α(M)=0.01086 18 α(N)=0.00262 5; α(O)=0.000435 7; α(P)=2.26×10^{-5} 4
110.0 3	4.2 6	x+110.09	(2)$^-$	x+0.0	2$^-$	M1		4.66 8		α(K)exp=4.5; α(L1)exp=0.40 α(K)=3.84 7; α(L)=0.631 11; α(M)=0.1454 24 α(N)=0.0358 6; α(O)=0.00633 11; α(P)=0.000477 8 Mult.: δ(M1,E2)<0.2 from α(K)exp, 0.8 2 from α(L1)exp.
^{x}110.8 3	<1					(M1+E2)	<0.6	4.36 22		α(K)exp>3 α(K)=3.4 5; α(L)=0.78 16; α(M)=0.18 5 α(N)=0.045 11; α(O)=0.0076 15; α(P)=0.00041 6 E_γ: Tentatively placed by 1991Be25 from x+213 level based on possible 111γ-102γ coin; however,

From ENSDF

$^{186}_{77}$Ir$_{109}$-3

γ(^{186}Ir) (continued)

E_γ[†]	I_γ	E_i(level)	J^π_i	E_f	J^π_f	Mult.[@]	δ[@a]	α[&]	Comments
									α(K)exp is not consistent with such a placement, and evaluators question whether coin data for this very weak γ is reliable.
116.7 *3*	4.5 *7*	x+194.46	(1,2,3)$^+$	x+77.93	(2)$^+$	M1+E2	0.52 *7*	3.63 *9*	α(K)exp=2.7 α(K)=2.68 *13*; α(L)=0.72 *5*; α(M)=0.174 *12* α(N)=0.043 *3*; α(O)=0.0071 *4*; α(P)=0.000330 *17* 194.2 keV γ assigned as a doublet with Iγ=4.5 depopulating 419.8+x and 446.6+x keV levels. Transition strength from 446.6+x level shown as strong in fig 3, while transition from 419.8+x is shown as uncertain. Therefore the evaluators assign the intensity of the 194.2 keV transition as arising mostly from de-exciting the 446.6+x level. K:L1:L2=2.7:0.42:0.20.
119.3 *3*	7.9 *12*	x+120.47	(1,3)$^+$	x+1.10	(3)$^+$	E2		2.28 *4*	α(L2)exp=0.71 α(K)=0.569 *9*; α(L)=1.285 *24*; α(M)=0.330 *6* α(N)=0.0798 *15*; α(O)=0.01222 *23*; α(P)=5.95×10^{-5} *9* L1:L2:L3=0.051:0.71:0.56.
121.4 *3*	≈3	x+334.59	(1)$^-$	x+213.34	(1,2,3)$^-$	E2(+M1)	≥5	2.15 *5*	α(K)exp≈0.67 α(K)=0.59 *5*; α(L)=1.17 *3*; α(M)=0.301 *7* α(N)=0.0728 *16*; α(O)=0.01116 *24*; α(P)=6.3×10^{-5} *6*
127.0 *3*	≤13	x+204.75	(0,1,2)$^+$	x+77.93	(2)$^+$	E2(+M1)	≥6	1.80 *4*	α(L2)exp≥0.45 α(K)=0.53 *3*; α(L)=0.959 *19*; α(M)=0.246 *5* α(N)=0.0595 *12*; α(O)=0.00913 *18*; α(P)=5.5×10^{-5} *4* L1:L2:L3=0.069:0.45:0.32.
139[c]	≈11	x+259.64	0$^-$,1$^-$,2$^-$	x+120.47	(1,3)$^+$	[E1]		0.172 *2*	α(K)=0.1405 *20*; α(L)=0.0243 *4*; α(M)=0.00561 *8* α(N)=0.001359 *19*; α(O)=0.000228 *4*; α(P)=1.262×10^{-5} *18*
149.8 *3*	<16.0	x+252.57	(1,2,3,4)	x+102.89	(2,3,4)$^+$	[M1,E2]		1.45 *49*	α(K)=0.97 *63*; α(L)=0.36 *10*; α(M)=0.089 *29* α(N)=0.0217 *69*; α(O)=0.00351 *90*; α(P)=1.16×10^{-4} *82* 149.8 keV γ assigned as a doublet with Iγ=16 depopulating 252.6+x and 259.6+x keV levels. Transition strength from 252.6+x level shown as strong in fig 3, while transition from 259.6+x is shown as uncertain. Therefore the evaluators assign the intensity of the 149.8 keV transition as arising mostly from de-exciting the 252.6+x level. Mult.: M1+E2 (δ≈1.054) from α(K)exp=0.94 for doublet.
149.8[c] *3*		x+259.64	0$^-$,1$^-$,2$^-$	x+110.09	(2)$^-$	[M1,E2]		1.45 *49*	α(K)=0.97 *63*; α(L)=0.36 *10*; α(M)=0.089 *29* α(N)=0.0217 *69*; α(O)=0.00351 *90*; α(P)=1.16×10^{-4} *82* see comment for 149 kev transition de-exciting 252.6+x level. Mult.: M1+E2 (δ≈1.05) from α(K)exp=0.94 for doublet.
154.4 *3*	5.2 *8*	x+264.51	(1)$^-$	x+110.09	(2)$^-$	E2+M1	≈1.9	1.057 *17*	α(K)exp=0.58 α(K)≈0.571; α(L)≈0.368; α(M)≈0.0926 α(N)≈0.0225; α(O)≈0.00354; α(P)≈6.43×10^{-5}
159.4 *3*	≈2.5	x+213.34	(1,2,3)$^-$	x+54.15	1$^-$,2$^-$				159.4 keV transition assigned as a doublet (1991Be25)

$^{186}_{77}$Ir$_{109}$-4

γ(^{186}Ir) (continued)

E_γ[†]	I_γ	E_i(level)	J^π_i	E_f	J^π_f	Mult.[@]	δ[@a]	α[&]	Comments
									depopulating 213.2+x and 237.3+x keV levels. Transition strength from both levels are shown as equally strong in fig 3. Therefore the evaluators assign the intensity of the 159.4 keV transition as split evenly between the two transitions.
159.4 *3*	≈2.5	x+237.31	$(0,1)^+$	x+77.93	$(2)^+$	[M1,E2]		1.19 *43*	α(K)=0.82 *52*; α(L)=0.28 *7*; α(M)=0.070 *20* α(N)=0.0170 *47*; α(O)=0.0028 *6*; α(P)=9.7×10^{-5} *68* See comment for 159 keV γ de-exciting 213.3 keV level.
[x]173.9 *3*	2.1 *3*								
180.7[b] *3*	≤14[b#]	x+252.57	(1,2,3,4)	x+71.84	$(2,3,4)^+$	[M1]		1.140 *17*	α(K)=0.941 *14*; α(L)=0.1534 *23*; α(M)=0.0353 *6* α(N)=0.00868 *13*; α(O)=0.001538 *23*; α(P)=0.0001160 *18* Mult.: M1 from α(K)exp=0.90 and K:L1:L2=0.90:0.14:0.012 for doublet. 181γ is coincident with itself.
180.7[b] *3*	≤27[b#]	x+433.30	$(1,2)^+$	x+252.57	(1,2,3,4)	[M1]		1.140 *17*	α(K)=0.941 *14*; α(L)=0.1534 *23*; α(M)=0.0353 *6* α(N)=0.00868 *13*; α(O)=0.001538 *23*; α(P)=0.0001160 *18* Mult.: M1 from α(K)exp=0.90 and K:L1:L2=0.90:0.14:0.012 for doublet. 181γ is coincident with itself.
182.7 *3*	≈2	x+419.74	$0^+,1^+,2^+$	x+237.31	$(0,1)^+$	[M1,E2]		0.79 *32*	α(K)=0.56 *35*; α(L)=0.171 *23*; α(M)=0.042 *8* α(N)=0.0102 *18*; α(O)=0.00168 *19*; α(P)=6.7×10^{-5} *46*
185	≤3	x+444.76	$(1)^+$	x+259.64	$0^-,1^-,2^-$				
186.6 *3*	17 *3*	x+264.51	$(1)^-$	x+77.93	$(2)^+$	E1		0.0813 *12*	α(K)exp=0.076 α(K)=0.0668 *10*; α(L)=0.01114 *17*; α(M)=0.00256 *4* α(N)=0.000622 *10*; α(O)=0.0001057 *16*; α(P)=6.25×10^{-6} *9*
194.2[c] *3*		x+419.74	$0^+,1^+,2^+$	x+225.49	$(2)^+$	[M1]		0.932	α(K)=0.769 *12*; α(L)=0.1253 *19*; α(M)=0.0288 *5* α(N)=0.00709 *11*; α(O)=0.001256 *19*; α(P)=9.47×10^{-5} *14* α(K)exp=0.80, α(L1)exp=0.11, mult=M1 for doublet. Placement from x+420 level uncertain.
194.2 *3*	<4.5	x+446.65	$1^+,2^+$	x+252.57	(1,2,3,4)				α(K)exp=0.80, α(L1)exp=0.111, mult=M1 for doublet.
205.5 *1*	≈50	x+259.64	$0^-,1^-,2^-$	x+54.15	$1^-,2^-$	M1		0.796 *12*	α(K)exp≈0.62 α(K)=0.657 *10*; α(L)=0.1069 *15*; α(M)=0.0246 *4* α(N)=0.00605 *9*; α(O)=0.001072 *15*; α(P)=8.09×10^{-5} *12* K:L1:L2≈0.62:0.12:0.012.
207.7 *3*	≤2	x+444.76	$(1)^+$	x+237.31	$(0,1)^+$				
210.4 *1*	100	x+264.51	$(1)^-$	x+54.15	$1^-,2^-$	M1		0.745 *11*	α(K)exp=0.65 α(K)=0.615 *9*; α(L)=0.1001 *14*; α(M)=0.0230 *4* α(N)=0.00566 *8*; α(O)=0.001003 *15*; α(P)=7.57×10^{-5} *11* K:L1:L2:M1=0.65:0.10:0.007:0.026.
213.3 *3*	≈1	x+213.34	$(1,2,3)^-$	x+0.0	2^-				
215.1 *3*	2.7 *4*	x+419.74	$0^+,1^+,2^+$	x+204.75	$(0,1,2)^+$	M1		0.701 *11*	α(K)exp=0.59 α(K)=0.579 *9*; α(L)=0.0941 *14*; α(M)=0.0217 *4* α(N)=0.00532 *8*; α(O)=0.000943 *14*; α(P)=7.12×10^{-5} *11*
219.3 *3*	13.0 *20*	x+444.76	$(1)^+$	x+225.49	$(2)^+$	M1+E2	0.9 *3*	0.48 *8*	α(K)exp=0.38; α(L1)exp=0.092

From ENSDF

$^{186}_{77}$Ir$_{109}$-5

γ(^{186}Ir) (continued)

E$_\gamma$[†]	I$_\gamma$	E$_i$(level)	J^π_i	E$_f$	J^π_f	Mult.[@]	δ[@a]	α[&]	Comments
									α(K)=0.36 *8*; α(L)=0.0897 *14*; α(M)=0.0215 *6* α(N)=0.00526 *12*; α(O)=0.000882 *14*; α(P)=4.3×10^{-5} *10* δ: from α(K)exp; δ<0.01 from α(L1)exp.
221.3 *3*	≈3	x+331.20	(0,1)	x+110.09	(2)$^-$				
224.5 *3*	6.6 *10*	x+225.49	(2)$^+$	x+1.10	(3)$^+$	E2+M1	≈2.8	0.279 *4*	α(K)exp=0.17 α(K)≈0.1701; α(L)≈0.0822; α(M)≈0.0205 α(N)≈0.00499; α(O)≈0.000794; α(P)≈1.86×10^{-5}
239.0 *3*	14.0 *21*	x+433.30	(1,2)$^+$	x+194.46	(1,2,3)$^+$	M1+E2	0.9 *3*	0.38 *6*	α(K)exp=0.30; α(L1)exp=0.10 α(K)=0.29 *6*; α(L)=0.0673 *16*; α(M)=0.01610 *24* α(N)=0.00394 *6*; α(O)=0.000663 *20*; α(P)=3.4×10^{-5} *8* δ: from α(K)exp; δ=0 based on α(L1)exp. Additional information 3.
242.8 *3*	8.9 *13*	x+689.44	1$^+$	x+446.65	1$^+$,2$^+$	M1		0.501 *8*	α(K)exp=0.37; α(L1)exp=0.090 α(K)=0.414 *6*; α(L)=0.0672 *10*; α(M)=0.01546 *23* α(N)=0.00380 *6*; α(O)=0.000673 *10*; α(P)=5.09×10^{-5} *8* Mult.: α(K)exp allows some E2 admixture, α(L1)exp allows none.
244.7 *3*	7.5 *11*	x+689.44	1$^+$	x+444.76	(1)$^+$	M1+E2	0.9 *3*	0.35 *6*	α(K)exp=0.27; α(L1)exp=0.067 α(K)=0.27 *6*; α(L)=0.0623 *17*; α(M)=0.01488 *24* α(N)=0.00364 *7*; α(O)=0.000614 *21*; α(P)=3.2×10^{-5} *8* δ: from α(K)exp.
251.3[c] *3*	≈2	x+433.30	(1,2)$^+$	x+182.1?	(1$^+$,2$^+$,3$^+$)				
253.2 *3*	≈10	x+331.20	(0,1)	x+77.93	(2)$^+$				
256.2 *1*	42 *6*	x+689.44	1$^+$	x+433.30	(1,2)$^+$	M1+E2	0.64 *24*	0.35 *5*	α(K)exp=0.29 α(K)=0.28 *5*; α(L)=0.0551 *17*; α(M)=0.0130 *3* α(N)=0.00318 *7*; α(O)=0.000547 *19*; α(P)=3.4×10^{-5} *6* K:L1:M1=0.29:0.050:0.0095.
267.5 *3*	10.0 *15*	x+714.20	1$^+$	x+446.65	1$^+$,2$^+$	M1+E2	0.3	0.364 *6*	α(K)exp=0.30 α(K)=0.318 *5*; α(L)=0.0514 *8*; α(M)=0.01182 *17* α(N)=0.00291 *5*; α(O)=0.000515 *8*; α(P)=3.89×10^{-5} *6*
269.5 *3*	13.0 *20*	x+689.44	1$^+$	x+419.74	0$^+$,1$^+$,2$^+$	M1(+E2)	<0.7	0.34 *4*	α(K)exp=0.28 α(K)=0.27 *4*; α(L)=0.0486 *19*; α(M)=0.0113 *4* α(N)=0.00278 *9*; α(O)=0.000485 *22*; α(P)=3.3×10^{-5} *5*
[x]271.2 *3*	0.90 *14*								Possible coin with 205γ.
276.9 *3*	≈13	x+331.20	(0,1)	x+54.15	1$^-$,2$^-$				
280.9 *1*	59 *9*	x+714.20	1$^+$	x+433.30	(1,2)$^+$	M1		0.336 *5*	α(K)exp=0.32 α(K)=0.278 *4*; α(L)=0.0449 *7*; α(M)=0.01033 *15* α(N)=0.00254 *4*; α(O)=0.000450 *7*; α(P)=3.40×10^{-5} *5* K:L1:L2=0.32:0.041:0.0034.
299.2 *1*	≈20	x+419.74	0$^+$,1$^+$,2$^+$	x+120.47	(1,3)$^+$	[M1,E2]		0.189 *94*	α(K)=0.147 *87*; α(L)=0.032 *6*; α(M)=0.0077 *11* α(N)=0.0019 *3*; α(O)=0.00032 *6*; α(P)=1.8×10^{-5} *11*
306.2 *3*	7.6 *11*	x+570.67	0$^-$,1$^-$,2$^-$	x+264.51	(1)$^-$	M1		0.266 *4*	α(K)exp=0.25

γ(^{186}Ir) (continued)

E_γ[†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	δ[@a]	α[&]	Comments
									α(K)=0.220 *4*; α(L)=0.0355 *5*; α(M)=0.00816 *12* α(N)=0.00201 *3*; α(O)=0.000355 *5*; α(P)=2.69×10^{-5} *4*
311.0 *3*	≈3	x+570.67	$0^-,1^-,2^-$	x+259.64	$0^-,1^-,2^-$	M1		0.255 *4*	α(K)exp≈0.3 α(K)=0.211 *3*; α(L)=0.0340 *5*; α(M)=0.00782 *12* α(N)=0.00192 *3*; α(O)=0.000341 *5*; α(P)=2.58×10^{-5} *4*
323.2 *3*	6.9 *10*	x+324.32	$(2)^+$	x+1.10	$(3)^+$	M1		0.230 *4*	α(K)exp=0.20 α(K)=0.190 *3*; α(L)=0.0306 *5*; α(M)=0.00704 *10* α(N)=0.001730 *25*; α(O)=0.000307 *5*; α(P)=2.32×10^{-5} *4*
324.3 *3*	11.0 *17*	x+444.76	$(1)^+$	x+120.47	$(1,3)^+$	M1+E2	0.5	0.187 *3*	α(K)exp=0.160 α(K)≈0.1515; α(L)≈0.0275; α(M)≈0.00642 α(N)≈0.001576; α(O)≈0.000274; α(P)≈1.83×10^{-5}
333.7 *3*	4.0 *6*	x+334.59	$(1)^-$	x+1.10	$(3)^+$				333.7 keV γ transition assigned as a doublet with Iγ=4.0 depopulating 334.5+x and 444.8+x keV levels. Transition strength from 334.5+x level shown as weak in fig 3, while transition from 444.8+x is shown as uncertain. Therefore the evaluators assign the intensity of the 333.7 keV transition as arising mostly from de-exciting the 334.5+x level.
333.7[c] *3*		x+444.76	$(1)^+$	x+110.09	$(2)^-$				Placement from x+445 level is uncertain, also see comment for 333.7 keV γ de-exciting 334+X keV level.
338.9 *3*	4.4 *7*	x+772.2	$(1,2,3)^+$	x+433.30	$(1,2)^+$	M1+E2	≈0.8	0.149 *2*	α(K)exp=0.125 α(K)≈0.1192; α(L)≈0.0230; α(M)≈0.00540 α(N)≈0.001322; α(O)≈0.000228; α(P)≈1.433×10^{-5}
355.0 *3*	17 *3*	x+689.44	1^+	x+334.59	$(1)^-$	E1		0.01703	α(K)exp<0.017 α(K)=0.01415 *20*; α(L)=0.00222 *4*; α(M)=0.000508 *8* α(N)=0.0001240 *18*; α(O)=2.15×10^{-5} *3*; α(P)=1.424×10^{-6} *21*
355.7 *3*	≈2.5	x+433.30	$(1,2)^+$	x+77.93	$(2)^+$				
358.2 *3*	9.4 *14*	x+689.44	1^+	x+331.20	(0,1)				
365.2 *3*	17 *3*	x+689.44	1^+	x+324.32	$(2)^+$	M1		0.165 *2*	α(K)exp=0.15 α(K)=0.1368 *20*; α(L)=0.0220 *4*; α(M)=0.00505 *8* α(N)=0.001241 *18*; α(O)=0.000220 *4*; α(P)=1.668×10^{-5} *24*
366.8 *1*	73 *11*	x+444.76	$(1)^+$	x+77.93	$(2)^+$	M1		0.163 *2*	α(K)exp=0.15 α(K)=0.1352 *19*; α(L)=0.0217 *3*; α(M)=0.00499 *7* α(N)=0.001227 *18*; α(O)=0.000218 *3*; α(P)=1.648×10^{-5} *24*
425.1 *3*	5.6 *8*	x+689.44	1^+	x+264.51	$(1)^-$	E1		0.0113 *2*	α(K)exp<0.011 α(K)=0.00944 *14*; α(L)=0.001460 *21*; α(M)=0.000334 *5* α(N)=8.15×10^{-5} *12*; α(O)=1.415×10^{-5} *20*; α(P)=9.64×10^{-7} *14*
430.1 *3*	≈7	x+689.44	1^+	x+259.64	$0^-,1^-,2^-$				
432.3 *3*	16.0 *24*	x+433.30	$(1,2)^+$	x+1.10	$(3)^+$	M1,E2		0.070 *36*	α(K)exp≈0.05 α(K)=0.056 *32*; α(L)=0.0106 *34*; α(M)=0.00249 *72* α(N)=6.1×10^{-4} *18*; α(O)=1.06×10^{-4} *35*; α(P)=6.7×10^{-6} *40*
443.7[c] *3*	≈2	x+444.76	$(1)^+$	x+1.10	$(3)^+$				
445.4 *3*	13.0 *20*	x+446.65	$1^+,2^+$	x+1.10	$(3)^+$				
449.8 *3*	9.0 *14*	x+714.20	1^+	x+264.51	$(1)^-$				

γ(^{186}Ir) (continued)

E_γ [†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult. [@]	α [&]	Comments
451.8 *3*	3.8 *6*	x+689.44	1^+	x+237.31	$(0,1)^+$			
463.9 *3*	4.0 *6*	x+689.44	1^+	x+225.49	$(2)^+$			
484.6 *3*	15.0 *23*	x+689.44	1^+	x+204.75	$(0,1,2)^+$	M1,E2	0.052 *27*	α(K)exp≈0.037 α(K)=0.042 *23*; α(L)=0.0077 *26*; α(M)=0.00180 *57* α(N)=4.4×10^{-4} *14*; α(O)=7.6×10^{-5} *27*; α(P)=5.0×10^{-6} *29*
516.5 *3*	3.5 *5*	x+570.67	$0^-,1^-,2^-$	x+54.15	$1^-,2^-$			
569.0 *3*	9.0 *14*	x+689.44	1^+	x+120.47	$(1,3)^+$			
579.3 *1*	53 *8*	x+689.44	1^+	x+110.09	$(2)^-$	E1	0.00585 *9*	α(K)exp<0.0057 α(K)=0.00489 *7*; α(L)=0.000738 *11*; α(M)=0.0001683 *24* α(N)=4.11×10^{-5} *6*; α(O)=7.19×10^{-6} *10*; α(P)=5.09×10^{-7} *8*
611.5 *1*	205 *31*	x+689.44	1^+	x+77.93	$(2)^+$	M1	0.0426 *6*	α(K)exp=0.032; α(L)exp<0.0063 α(K)=0.0353 *5*; α(L)=0.00558 *8*; α(M)=0.001281 *18* α(N)=0.000315 *5*; α(O)=5.59×10^{-5} *8*; α(P)=4.26×10^{-6} *6*
635.3 *1*	93 *14*	x+689.44	1^+	x+54.15	$1^-,2^-$	E1	0.00484 *7*	α(K)exp<0.0065 α(K)=0.00406 *6*; α(L)=0.000608 *9*; α(M)=0.0001385 *20* α(N)=3.39×10^{-5} *5*; α(O)=5.93×10^{-6} *9*; α(P)=4.24×10^{-7} *6*
689.4 *1*	2.51×10^3 *38*	x+689.44	1^+	x+0.0	2^-	E1	0.00411 *6*	α(K)exp=0.0034; α(L)exp<0.00048 α(K)=0.00345 *5*; α(L)=0.000514 *8*; α(M)=0.0001170 *17* α(N)=2.86×10^{-5} *4*; α(O)=5.02×10^{-6} *7*; α(P)=3.62×10^{-7} *5*
714.2 *1*	25 *4*	x+714.20	1^+	x+0.0	2^-	E1	0.00384 *6*	α(K)exp≈0.004 α(K)=0.00322 *5*; α(L)=0.000479 *7*; α(M)=0.0001089 *16* α(N)=2.66×10^{-5} *4*; α(O)=4.67×10^{-6} *7*; α(P)=3.38×10^{-7} *5*

[†] From 1991Be25. The following additional Eγ [Iγ] values are reported in 1970FiZZ only, and probably do not arise from ^{186}Pt ε decay: 191.1 *8* [≈7.5], 301.9 *12* [18 *5*], 316.8 *12* [≈15], 384.7 *12* [≈20], 846 *2*.

[‡] Calculated from I(ce(L1)) (1991Be25) and α(L1)(theory) for the multipolarity indicated; value differs slightly from that deduced in 1991Be25, presumably due to small difference in α(L1)(theory) value used.

[#] 180.7 keV γ assigned as a doublet with Iγ=41 depopulating 252.6+x and 433.3+x keV levels. Transition strength from 252.6+x level shown as weaker in fig 3, while transition from 433.3+x is shown as stronger. Intensity balance in deacy scheme allows for a maximum value of 2:1 stronger/weaker. Therefore the evaluators assign the intensity of the transition de-exciting the 433.3+x as <27 and the transition de-exciting the 252.6+x as <14.

[@] Based on experimental conversion coefficient and/or subshell ratio data of 1991Be25; authors normalized γ and ce intensity scales so α(K)exp(101.8γ)=α(K)(M1 theory)=5.0. Uncertainties reflect the stated 15% uncertainty in Iγ, but not the (unstated) uncertainty in I(ce); thus the actual uncertainty in α may be larger than indicated here.

[&] Additional information 4.

[a] If no value given it was assumed δ=1.00 for E2/M1.

[b] Multiply placed with undivided intensity.

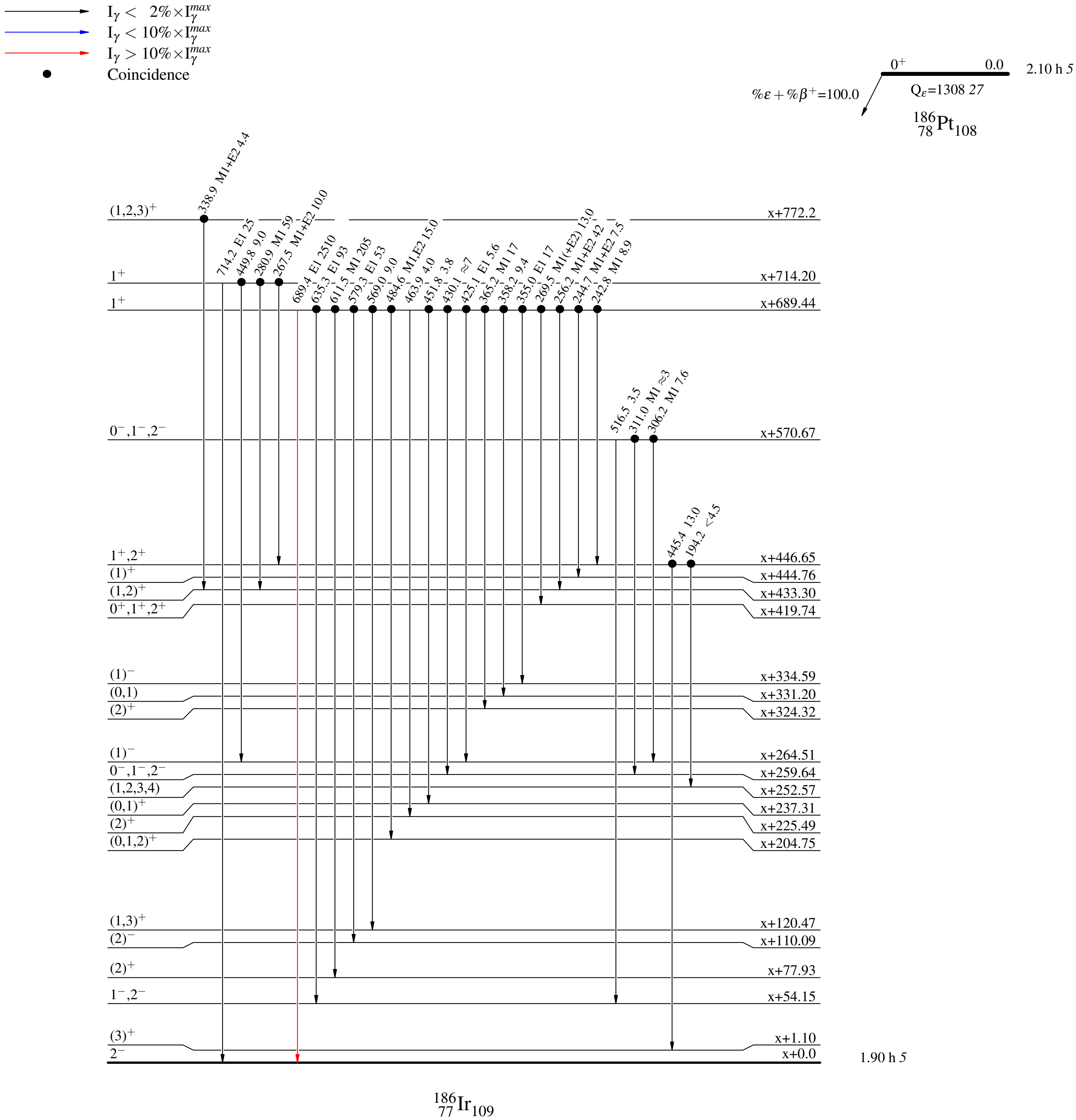
[c] Placement of transition in the level scheme is uncertain.

[x] γ ray not placed in level scheme.

^{186}Pt ε decay 1991Be25

Decay Scheme

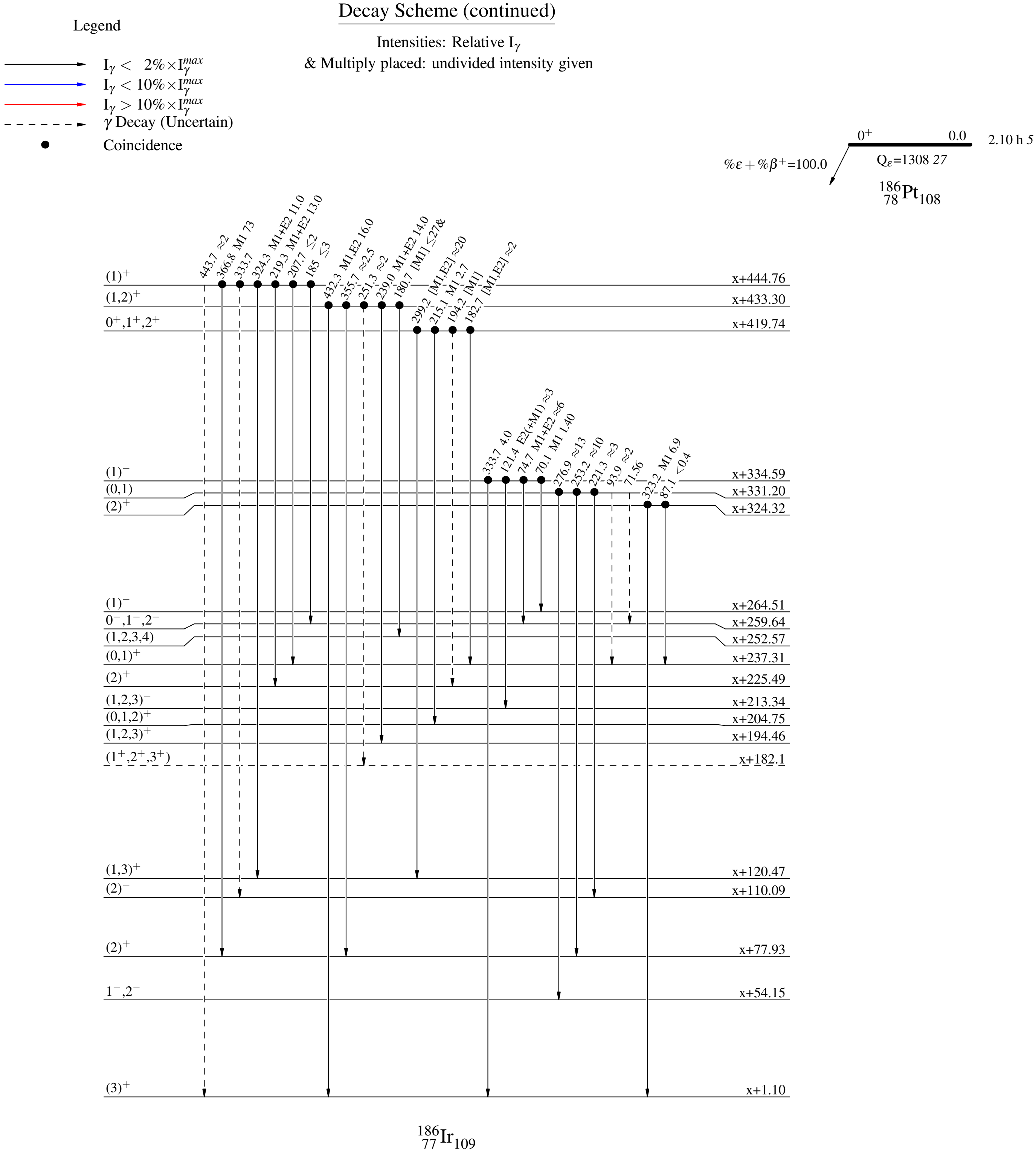
Intensities: Relative I_γ



^{186}Pt ε decay 1991Be25

Decay Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given



^{186}Pt ε decay 1991Be25

Decay Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given