^{186}Au ε decay (10.7 min) 1972Fi12,1985Va07

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}Au: E=0.0; J$^{\pi}$=3$^-$; T$_{1/2}$=10.7 min *5*; Q(ε)=6.15×10^3 *3*; %ε+%β^+ decay=100.0

Others: 1970Jo02, 1995AnZZ, 1996St12.

1985Va07: measured low-temperature nuclear orientation; deduced multipolarity, δ from $\gamma(\theta$,H,T) data; revised level scheme.

1972Fi12: measured Eγ, Iγ, I(ce), $\gamma\gamma$ coin, ce-γ coin.

1970Jo02: measured I(ce), E(ce).

The decay scheme is essentially that of 1985Va07.

^{186}Pt Levels

E(level)[†]	J$^{\pi}$	T$_{1/2}$	Comments
0.0	0$^+$	2.10 h *5*	
191.53 *4*	2$^+$	260 ps *10*	g=0.27 *3* (1996St12) J$^{\pi}$: 2$^+$ from 192$\gamma(\theta$,H,T) (1985Va07). T$_{1/2}$: from 1972Fi12. g-factor, relative to g[^{192}Pt, 2$^+$]=0.30 *1*, is from transient field IMPAC measurements of 1996St12.
471.53 *18*	0$^+$		
490.34 *9*	4$^+$		J$^{\pi}$: 4$^+$ from 299$\gamma(\theta$,H,T) (1985Va07).
607.15 *12*	2$^+$		
798.49 *12*	2$^+$		
877.3 *4*	6$^+$		J$^{\pi}$: 6$^+$ from 387$\gamma(\theta$,H,T) (1985Va07).
956.55 *14*	3$^+$		
991.51 *22*	4$^+$		
1176.03 *20*	2$^+$		J$^{\pi}$: 2$^+$ from 985$\gamma(\theta$,H,T) or 704$\gamma(\theta$,H,T) (1985Va07).
1222.59 *15*	4$^+$		J$^{\pi}$: 4$^+$ from 424$\gamma(\theta$,H,T) or 1031$\gamma(\theta$,H,T) (1985Va07).
1363.40 *21*	(5$^+$)		J$^{\pi}$: 3$^+$,4$^+$ from 873$\gamma(\theta$,H,T) (1985Va07); however, J=5 is also consistent with experiment.
1407.79 *15*	3$^-$		J$^{\pi}$: 3$^-$ from 1216$\gamma(\theta$,H,T) (1985Va07).
1417.90 *18*	(3)$^+$		J$^{\pi}$: From Adopted Levels. 2$^+$,3$^+$ from 1226$\gamma(\theta$,H,T) (1985Va07).
1612.2 *4*			
1633.00 *17*	4$^-$		
1671.8 *5*	3$^+$,4		J$^{\pi}$: 3$^+$,4 from 1182$\gamma(\theta$,H,T) (1985Va07).
1814.0 *5*			
1838.11 *18*	(4)$^-$		J$^{\pi}$: (4)$^-$ from 882$\gamma(\theta$,H,T) (1985Va07).
1896.5 *3*	2$^+$,3$^+$		J$^{\pi}$: 2$^+$,3$^+$ from 1289$\gamma(\theta$,H,T) (1985Va07).
2159.6 *3*	4$^+$		J$^{\pi}$: 2$^+$,4$^+$ from 1203$\gamma(\theta$,H,T) (1985Va07).
2216.2 *4*	3$^+$,4$^+$		J$^{\pi}$: 3$^+$,4$^+$ from 1726$\gamma(\theta$,H,T) (1985Va07).
2227.6 *3*	3$^+$,4$^+$		J$^{\pi}$: 3$^+$,4$^+$ from 1738$\gamma(\theta$,H,T) (1985Va07).

[†] From least-squares adjustment of Eγ.

ε,β^+ radiations

E(decay)	E(level)	Iβ^+ [†]	Iε[†]	Log *ft*	I($\varepsilon+\beta^+$)[†]	Comments
(3.92×10^3 *3*)	2227.6	1.5 *1*	3.7 *4*	6.83 *5*	5.2 *5*	av Eβ=1308 *14*; εK=0.587 *5*; εL=0.1004 *9*; εM+=0.0319 *3*
(3.93×10^3 *3*)	2216.2	0.91 *9*	2.3 *2*	7.04 *5*	3.2 *3*	av Eβ=1314 *14*; εK=0.585 *5*; εL=0.1001 *9*; εM+=0.0318 *3*
(3.99×10^3 *3*)	2159.6	0.35 *4*	0.83 *8*	7.50 *5*	1.18 *12*	av Eβ=1339 *14*; εK=0.575 *5*; εL=0.0984 *9*; εM+=0.0312 *3*
(4.25×10^3 *3*)	1896.5	0.84 *7*	1.6 *1*	7.28 *5*	2.4 *2*	av Eβ=1458 *14*; εK=0.531 *5*; εL=0.0907 *9*; εM+=0.0288 *3*
(4.31×10^3 *3*)	1838.11	2.9 *2*	5.1 *4*	6.78 *4*	8.0 *6*	av Eβ=1485 *14*; εK=0.521 *5*; εL=0.0890 *9*; εM+=0.0282 *3*
(4.34×10^3 *3*)	1814.0	0.18 *3*	0.32 *4*	7.99 *7*	0.50 *7*	av Eβ=1496 *14*; εK=0.517 *5*; εL=0.0883 *9*; εM+=0.0280 *3*
(4.48×10^3 *3*)	1671.8	0.25 *3*	0.37 *5*	7.94 *6*	0.62 *8*	av Eβ=1560 *14*; εK=0.494 *5*; εL=0.0842 *9*; εM+=0.0267 *3*

Continued on next page (footnotes at end of table)

^{186}Au ε decay (10.7 min) 1972Fi12,1985Va07 (continued)

ϵ,β^+ radiations (continued)

E(decay)	E(level)	Iβ^+ †	Iε†	Log *ft*	I($\varepsilon+\beta^+$)†	Comments
(4.52×10^3 *3*)	1633.00	0.44 *12*	0.66 *18*	7.71 *12*	1.1 *3*	av Eβ=1578 *14*; εK=0.487 *5*; εL=0.0831 *9*; εM+=0.0264 *3*
(4.54×10^3 *3*)	1612.2	0.18 *3*	0.25 *4*	8.12 *8*	0.43 *7*	av Eβ=1587 *14*; εK=0.484 *5*; εL=0.0825 *9*; εM+=0.0262 *3*
(4.73×10^3 *3*)	1417.90	0.77 *7*	0.95 *8*	7.59 *5*	1.72 *15*	av Eβ=1676 *14*; εK=0.453 *5*; εL=0.0771 *9*; εM+=0.0245 *3*
(4.74×10^3 *3*)	1407.79	2.0 *3*	2.4 *4*	7.18 *8*	4.4 *7*	av Eβ=1680 *14*; εK=0.451 *5*; εL=0.0768 *9*; εM+=0.0244 *3*
(4.79×10^3 *3*)	1363.40	0.23 *3*	0.70 *8*	9.66^{1u} *6*	0.93 *11*	av Eβ=1661 *14*; εK=0.615 *4*; εL=0.1077 *7*; εM+=0.03432 *23* Additional information 1.
(4.93×10^3 *3*)	1222.59	1.5 *1*	1.7 *2*	7.38 *5*	3.2 *3*	av Eβ=1765 *14*; εK=0.423 *5*; εL=0.0719 *8*; εM+=0.02282 *25*
(4.97×10^3 *3*)	1176.03	0.92 *10*	0.96 *10*	7.63 *6*	1.88 *20*	av Eβ=1787 *14*; εK=0.416 *5*; εL=0.0707 *8*; εM+=0.02243 *25*
(5.16×10^3 *3*)	991.51	2.0 *3*	1.9 *2*	7.37 *6*	3.9 *5*	av Eβ=1871 *14*; εK=0.389 *5*; εL=0.0661 *8*; εM+=0.02097 *24*
(5.19×10^3 *3*)	956.55	3.5 *4*	3.1 *4*	7.16 *6*	6.6 *8*	av Eβ=1887 *14*; εK=0.384 *5*; εL=0.0653 *8*; εM+=0.02071 *23*
(5.35×10^3 *3*)	798.49	2.9 *5*	2.4 *4*	7.30 *8*	5.3 *9*	av Eβ=1960 *14*; εK=0.363 *4*; εL=0.0616 *7*; εM+=0.01953 *22*
(5.54×10^3 *3*)	607.15	4.9 *9*	3.5 *7*	7.16 *9*	8.4 *16*	av Eβ=2048 *14*; εK=0.338 *4*; εL=0.0574 *7*; εM+=0.01819 *21*
(5.66×10^3 *3*)	490.34	8.8 *11*	5.8 *7*	6.96 *6*	14.6 *18*	av Eβ=2102 *14*; εK=0.324 *4*; εL=0.0549 *7*; εM+=0.01741 *20*
(5.96×10^3 *3*)	191.53	16 *5*	8.9 *25*	6.82 *13*	25 *7*	av Eβ=2241 *14*; εK=0.290 *4*; εL=0.0491 *6*; εM+=0.01556 *18*

† Absolute intensity per 100 decays.

γ(^{186}Pt)

Iγ normalization: Normalized assuming I(γ+ce)(191.5+471.6+607.2+798.7+1176.1)= 100.

E_γ [†]	I_γ [†d]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [&]	δ [&c]	α [b]	Comments
191.53 *4*	100 *7*	191.53	2+	0.0	0+	E2		0.417	%Iγ=62.4 *11* α(K)=0.189 *3*; α(L)=0.1712 *24*; α(M)=0.0438 *7* α(N)=0.01069 *15*; α(O)=0.001699 *24*; α(P)=1.80×10^{-5} *3* E_γ: from ce data of 1970Jo02; 191.5 *3* from 1972Fi12. K:L1:L2:L3=100:20 *3*:54 *5*:42 *5* (1970Jo02). (L1+L2)/L3=1.89 *23*, L1/L2=0.34 *5* from 1970Jo02). α_k=0.19 (1972Fi12).
205.0 *3*	3.3 *2*	1838.11	(4)−	1633.00	4−	M1+E2	−0.309 *23*	0.824 *14*	%Iγ=2.06 *18* α(K)=0.669 *12*; α(L)=0.1190 *18*; α(M)=0.0278 *5* α(N)=0.00686 *11*; α(O)=0.001220 *18*; α(P)=7.62×10^{-5} *14* α_k=0.72 13 (1972Fi12) suggesting M1 multipolarity. δ: −0.309 *23* or +1.79 *9* from $\gamma(\theta$,H,T); 0.3 *3* from α(K)exp.
225.1 *3*	0.70 *5*	1633.00	4−	1407.79	3−	M1+E2	1.3 *+14−5*	0.40 *11*	%Iγ=0.44 *5* α(K)exp=0.29 *11* (1972Fi12) α(K)=0.29 *11*; α(L)=0.0887 *16*; α(M)=0.0218 *5* α(N)=0.00534 *10*; α(O)=0.000894 *22*; α(P)=3.1×10^{-5} *13* δ: from α(K)exp.
231.7 *3*	0.93 *7*	1407.79	3−	1176.03	2+	(E1)		0.0487	%Iγ=0.58 *6* α(K)exp=0.07 *4* (1972Fi12) α(K)=0.0401 *6*; α(L)=0.00662 *10*; α(M)=0.001527 *22* α(N)=0.000374 *6*; α(O)=6.49×10^{-5} *10*; α(P)=3.56×10^{-6} *5* Mult.: E1 or E2 from α(K)exp; E2 is inconsistent with level scheme.
[x]257.9 *3*	1.40 *8*								%Iγ=0.87 *8*
266.5 [f] *4*	0.42 *4*	1222.59	4+	956.55	3+				%Iγ=0.26 *3* Assignment to ^{186}Au ε decay is not certain (1972Fi12).
279.7 *3*	2.2 *1*	471.53	0+	191.53	2+	E2		0.1216	%Iγ=1.37 *11* α(K)exp=0.09 *3* (1972Fi12) α(K)=0.0728 *11*; α(L)=0.0369 *6*; α(M)=0.00928 *14* α(N)=0.00227 *4*; α(O)=0.000369 *6*; α(P)=7.26×10^{-6} *11*
298.84 *10*	41 *2*	490.34	4+	191.53	2+	E2		0.0996	%Iγ=25.6 *19* α(K)exp=0.065 *6* (1972Fi12) α(K)=0.0617 *9*; α(L)=0.0287 *4*; α(M)=0.00719 *11* α(N)=0.001762 *25*; α(O)=0.000287 *4*; α(P)=6.21×10^{-6} *9* E_γ: from ce data of 1970Jo02; 298.6 *3* from 1972Fi12.
307.9 *3*	0.66 *5*	798.49	2+	490.34	4+	E2		0.0912	%Iγ=0.41 *4* α(K)exp=0.10 *6* (1972Fi12) α(K)=0.0573 *9*; α(L)=0.0257 *4*; α(M)=0.00642 *10* α(N)=0.001573 *23*; α(O)=0.000257 *4*; α(P)=5.78×10^{-6} *9*
326.8 *3*	1.30 *10*	798.49	2+	471.53	0+	E2		0.0766	%Iγ=0.81 *8*

γ(^{186}Pt) (continued)

E_γ[†]	I_γ[†d]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[&]	δ[&c]	α[b]	Comments
									α(K)exp=0.08 *5* (1972Fi12) α(K)=0.0494 *7*; α(L)=0.0206 *3*; α(M)=0.00514 *8* α(N)=0.001259 *19*; α(O)=0.000206 *3*; α(P)=5.03$\times10^{-6}$ *8*
349.4 *3*	2.10 *13*	956.55	3$^+$	607.15	2$^+$	M1+E2	+2.7 *3*	0.080 *4*	%Iγ=1.31 *12* α(K)exp=0.057 *19* (1972Fi12) α(K)=0.057 *4*; α(L)=0.0175 *4*; α(M)=0.00429 *9* α(N)=0.001054 *22*; α(O)=0.000176 *4*; α(P)=6.1$\times10^{-6}$ *4* δ: +0.70 *6* or +2.8 *3* from γ(θ,H,T); >1.7 from α(K)exp.
384.3 *3*	3.0 *5*	991.51	4$^+$	607.15	2$^+$	E2		0.0487	%Iγ=1.9 *4* α(K)exp=0.051 *30* (1972Fi12) α(K)=0.0334 *5*; α(L)=0.01161 *17*; α(M)=0.00287 *4* α(N)=0.000703 *10*; α(O)=0.0001166 *17*; α(P)=3.46$\times10^{-6}$ *5* Mult.: D admixture possible; δ(M1,E2)>1.1 from α(K)exp.
387.0 *3*	1.7 *5*	877.3	6$^+$	490.34	4$^+$	E2		0.0478	%Iγ=1.1 *4* α(K)=0.0329 *5*; α(L)=0.01133 *17*; α(M)=0.00280 *4* α(N)=0.000686 *10*; α(O)=0.0001138 *17*; α(P)=3.40$\times10^{-6}$ *5*
415.56 *16*	13.7 *6*	607.15	2$^+$	191.53	2$^+$	M1+E2	−0.38 *4*	0.116 *3*	%Iγ=8.6 *7* α(K)exp=0.097 *12* (1972Fi12) α(K)=0.0953 *23*; α(L)=0.0160 *3*; α(M)=0.00370 *7* α(N)=0.000915 *17*; α(O)=0.000164 *3*; α(P)=1.07$\times10^{-5}$ *3* E from ce data of 1970Jo02; 415.5 *3* from 1972Fi12. Other α(K)exp: 0.072 *30* (1970Jo02). δ: −0.38 *4* or +19 *+20−8* from γ(θ,H,T); 0.3 *3* from α(K)exp. −0.38 results in α_k=0.95 which fits value from (1972Fi12).
423.9 *3*	1.0 *1*	1222.59	4$^+$	798.49	2$^+$	E2		0.0375	%Iγ=0.62 *8* α(K)exp=0.04 *3* (1972Fi12) α(K)=0.0266 *4*; α(L)=0.00835 *12*; α(M)=0.00205 *3* α(N)=0.000503 *8*; α(O)=8.40$\times10^{-5}$ *12*; α(P)=2.77$\times10^{-6}$ *4*
430.3 *3*	2.9 *2*	1838.11	(4)$^-$	1407.79	3$^-$	M1+E2	+6.6 *9*	0.0379 *8*	%Iγ=1.81 *17* α(K)exp=0.027 *12* (1972Fi12) α(K)=0.0272 *7*; α(L)=0.00812 *13*; α(M)=0.00198 *3* α(N)=0.000488 *8*; α(O)=8.17$\times10^{-5}$ *13*; α(P)=2.86$\times10^{-6}$ *8* δ: +0.353 *22* or +6.6 *9* from γ(θ,H,T), >2 from α(K)exp.
^{x}440.3 *3*	2.0 *1*					(E1,E2)			%Iγ=1.25 *10* α(K)exp=0.021 *15* (1972Fi12) α(K)=0.017 *8*; α(L)=0.0044 *30*; α(M)=0.0011 *8*
461.8 *3*	≤0.16	1417.90	(3)$^+$	956.55	3$^+$	M1(+E2+E0)			%Iγ=0.100 *7* α(K)exp≥0.5 (1972Fi12) I_γ: limit, given as ≥0.16 in 1972Fi12, is presumed to mean ≤0.16.
466.3 *3*	2.1 *1*	956.55	3$^+$	490.34	4$^+$	(M1+E2)		0.062 *33*	%Iγ=1.31 *11* α(K)=0.049 *28*; α(L)=0.0093 *32*; α(M)=0.00219 *70* α(N)=5.4$\times10^{-4}$ *18*; α(O)=9.5$\times10^{-5}$ *34*; α(P)=5.5$\times10^{-6}$ *33* δ(D,Q)=+0.42 *7* or +3.8 *9* from γ(θ,H,T); Δπ=no from level scheme.

γ(^{186}Pt) (continued)

E_γ [†]	I_γ [†d]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [&]	δ [&c]	α [b]	$I_{(\gamma+ce)}$ [ad]	Comments
471.6 *5*		471.53	0^+	0.0	0^+	E0				α(K)exp>1.7 (1972Fi12) I_γ: Iγ<0.4. A very weak γ observed by 1972Fi12 at 470.8 keV can be explained, by summing 191.5 + 279.7.
501.3 *3*	3.5 *3*	991.51	4^+	490.34	4^+	M1+E2	−0.85 *9*	0.055 *3*		%Iγ=2.18 *23* α(K)exp=0.06 *3* (1972Fi12) α(K)=0.045 *3*; α(L)=0.0080 *3*; α(M)=0.00188 *7* α(N)=0.000464 *17*; α(O)=8.2×10^{-5} *4*; α(P)=5.0×10^{-6} *3* δ: −0.85 *9* or +10 *+11−3* from γ(θ,H,T); 0.3 *+16−3* from α(K)exp. Tentative placement from 1972Fi12; confirmed in (α,6nγ).
607.01 *15*	[#]	798.49	2^+	191.53	2^+	(E0+M1+E2)[#]			0.85[#] *14*	E_γ: from ce data of 1970Jo02 for doublet which is apparently dominated by this transition.
607.2 *3*	8.5[#] *20*	607.15	2^+	0.0	0^+	[E2][#]		0.01567	[#]	%Iγ=5.3 *13* α(K)=0.01200 *17*; α(L)=0.00280 *4*; α(M)=0.000671 *10* α(N)=0.0001652 *24*; α(O)=2.83×10^{-5} *4*; α(P)=1.270×10^{-6} *18*
609.4 *3*	2.4 *6*	1407.79	3^-	798.49	2^+					%Iγ=1.5 *4*
615.6[e‡] *3*	0.50[e] *5*	1222.59	4^+	607.15	2^+					%Iγ<0.31
615.6[e‡] *3*	0.50[e] *5*	1838.11	$(4)^-$	1222.59	4^+					%Iγ<0.31
676.5 *3*	5.3 *2*	1633.00	4^-	956.55	3^+	E1(+M2)	−0.14 *10*	0.0054 *9*		%Iγ=3.31 *25* α(K)exp=0.0051 *37* (1972Fi12) α(K)=0.00387 *19*; α(L)=0.00059 *4*; α(M)=0.000135 *9* α(N)=3.32×10^{-5} *21*; α(O)=5.9×10^{-6} *4*; α(P)=3.80×10^{-7} *25*
704.4 *3*	0.9 *1*	1176.03	2^+	471.53	0^+					%Iγ=0.56 *8* α(K)exp=0.017 *13* (1972Fi12)
732.4 *3*	1.8 *1*	1222.59	4^+	490.34	4^+	E0+M1+E2		0.07 *3*		%Iγ=1.12 *10* α(K)exp=0.057 *22* (1972Fi12) 1985Va07 deduce δ=+0.07 *10* or +0.83 *17* from γ(θ,H,T).
765.4 *3*	17.0 *9*	956.55	3^+	191.53	2^+	M1+E2	+16 *+4−3*	0.00950		%Iγ=10.6 *9* α(K)exp=0.0094 *16* (1972Fi12) α(K)=0.00752 *11*; α(L)=0.001520 *22*; α(M)=0.000360 *6* α(N)=8.86×10^{-5} *13*; α(O)=1.540×10^{-5} *22*; α(P)=7.96×10^{-7} *12* δ: +0.322 *16* or +16 *+4−3* from γ(θ,H,T); 2.6 *+45−8* from α(K)exp.

From ENSDF

γ(^{186}Pt) (continued)

E_γ[†]	I_γ[†d]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[&]	α[b]	Comments
[x]791.0 *3*	2.0 *1*							%Iγ=1.25 *10*
796.4 *4*	0.5 *1*	2159.6	4$^+$	1363.40	(5$^+$)			%Iγ=0.31 *7*
798.7 *4*	8.6 *10*	798.49	2$^+$	0.0	0$^+$		0.00863	%Iγ=5.4 *7* α(K)exp≤0.022 (1972Fi12) α(K)=0.00686 *10*; α(L)=0.001360 *20*; α(M)=0.000321 *5* α(N)=7.92×10^{-5} *12*; α(O)=1.379×10^{-5} *20*; α(P)=7.26×10^{-7} *11*
800.4 *4*	<2.1[@]	1407.79	3$^-$	607.15	2$^+$			%Iγ=0.7 *7*
810.7 *3*	0.61 *6*	1417.90	(3)$^+$	607.15	2$^+$			%Iγ=0.38 *5*
873.1 *2*	2.0 *1*	1363.40	(5$^+$)	490.34	4$^+$			%Iγ=1.25 *10* E_γ: ΔE=2 keV in 1972Fi12 is probably a typographical error.
881.6 *3*	3.4 *2*	1838.11	(4)$^-$	956.55	3$^+$			%Iγ=2.12 *19* α(K)exp≤0.018 (1972Fi12) α(K)=0.0023 *10*; α(L)=0.00034 *17*; α(M)=8.E−5 *4* α(N)=1.9×10^{-5} *10*; α(O)=3.4×10^{-6} *18*; α(P)=2.3×10^{-7} *12* (1/δ)=−24 *18* (1985Va07) from γ(θ,H,T); δ≤0.9 from α(K)exp.
905.1 *3*	0.6 *1*	1896.5	2$^+$,3$^+$	991.51	4$^+$			%Iγ=0.37 *7*
[x]907.7 *4*	0.5 *1*							%Iγ=0.31 *7*
917.5 *4*	0.7 *1*	1407.79	3$^-$	490.34	4$^+$			%Iγ=0.44 *7*
927.3 *4*	0.4 *1*	1417.90	(3)$^+$	490.34	4$^+$			%Iγ=0.25 *7*
[x]956.7 *4*	≈0.1							%Iγ=0.06 *4* Placed from 957 level by 1985Va07.
984.5 *4*	2.1 *2*	1176.03	2$^+$	191.53	2$^+$	M1+E2		%Iγ=1.31 *15* Mult.,δ: from γ(θ,H,T); δ=−0.12 *6* or +3.2 *8* (1985Va07).
1031.0 *3*	2.2 *1*	1222.59	4$^+$	191.53	2$^+$	E2	0.00515	%Iγ=1.37 *11* α(K)=0.00418 *6*; α(L)=0.000746 *11*; α(M)=0.0001741 *25* α(N)=4.29×10^{-5} *6*; α(O)=7.56×10^{-6} *11*; α(P)=4.41×10^{-7} *7* Mult.: Q from γ(θ,H,T) (1985Va07).
1098.0[f] *3*	0.68 *7*	1896.5	2$^+$,3$^+$	798.49	2$^+$			%Iγ=0.42 *6* Assignment to ^{186}Au ε decay is not certain (1972Fi12).
1121.9 *3*	0.7 *1*	1612.2		490.34	4$^+$			%Iγ=0.44 *7*
1142.7 *3*	0.67 *7*	1633.00	4$^-$	490.34	4$^+$	(E1)	1.67×10^{-3}	%Iγ=0.42 *6* α(K)=0.001402 *20*; α(L)=0.000204 *3*; α(M)=4.65×10^{-5} *7* α(N)=1.147×10^{-5} *16*; α(O)=2.06×10^{-6} *3*; α(P)=1.381×10^{-7} *20*; α(IPF)=4.22×10^{-6} *7* Mult.: D from γ(θ,H,T) (1985Va07); Δπ=yes from level scheme.
1176.1 *5*	1.0 *1*	1176.03	2$^+$	0.0	0$^+$			%Iγ=0.62 *8*
1181.5 *5*	1.0 *1*	1671.8	3$^+$,4	490.34	4$^+$			%Iγ=0.62 *8*
1203.0 *3*	1.4 *1*	2159.6	4$^+$	956.55	3$^+$			%Iγ=0.87 *9*
1216.2 *3*	6.0 *3*	1407.79	3$^-$	191.53	2$^+$	E1	1.52×10^{-3}	%Iγ=3.7 *3* α(K)exp<0.0028 (1972Fi12) α(K)=0.001257 *18*; α(L)=0.000183 *3*; α(M)=4.16×10^{-5} *6* α(N)=1.024×10^{-5} *15*; α(O)=1.84×10^{-6} *3*; α(P)=1.240×10^{-7} *18*; α(IPF)=2.27×10^{-5} *4*

γ(^{186}Pt) (continued)

E_γ[†]	I_γ[†d]	E_i(level)	J^π_i	E_f	J^π_f	Comments
1226.1 *3*	1.6 *1*	1417.90	(3)$^+$	191.53	2$^+$	%Iγ=1.00 *9*
1271.1 *5*	0.8 *1*	2227.6	3$^+$,4$^+$	956.55	3$^+$	%Iγ=0.50 *7*
1289.2 *5*	3.3 *2*	1896.5	2$^+$,3$^+$	607.15	2$^+$	%Iγ=2.06 *18*
1323.7 *4*	0.8 *1*	1814.0		490.34	4$^+$	%Iγ=0.50 *7*
[x]1345.5 *4*	0.8 *1*					%Iγ=0.50 *7*
[x]1400.0 *4*	0.55 *6*					%Iγ=0.34 *5*
1441.3 *4*	0.76 *7*	1633.00	4$^-$	191.53	2$^+$	%Iγ=0.47 *6* α(K)=0.007 *3*; α(L)=0.0013 *5* Mult.: δ(E3/M2)=+0.25$^{+44}_{-21}$ or +3.7$^{+136}_{-23}$ from γ(θ,H,T), however an E3/M2 1141 keV transition would not compete with a 1143 keV E1, multiplicity not adopted. δ: +0.25 *+44−21* or +3.7 *+136−23* from γ(θ,H,T).
[x]1532.7 *4*	1.6 *2*					%Iγ=1.00 *14*
[x]1589.5 *4*	0.7 *1*					%Iγ=0.44 *7*
1725.9 *4*	2.0 *2*	2216.2	3$^+$,4$^+$	490.34	4$^+$	%Iγ=1.25 *15*
1737.6 *4*	3.0 *3*	2227.6	3$^+$,4$^+$	490.34	4$^+$	%Iγ=1.87 *22*
2024.6 *5*	3.2 *3*	2216.2	3$^+$,4$^+$	191.53	2$^+$	%Iγ=2.00 *23*
2035.6 *5*	4.6 *3*	2227.6	3$^+$,4$^+$	191.53	2$^+$	%Iγ=2.9 *3*

[†] From 1972Fi12, unless noted otherwise.

[‡] Placement from 1222 keV level in 1972Fi12 and from 1838 keV level in 1985Va07. However, 1985Va07 level scheme based on 1972Fi12 and 1978CoYZ. In 1978CoYZ, placement of this γ-ray from both states. Evaluators adopt 1978CoYZ placement.

[#] For the 607 doublet, α(K)exp=0.10 *3* (1972Fi12), consistent with a large E0 component. The 607 ce(K) is coincident with the 192γ, but the 607γ is not (1972Fi12). The ce(K) intensity from 1972Fi12 (0.84 12 for doublet) has been divided assuming that the 607 transition from the 799 level is pure E0 (i.e., that none of the observed I(607γ) deexcites that level); the ce(K) component from the 607 level was deduced from I(607.2γ) and α(K)(E2 theory) and, from the remaining ce(K), ce(total) for the 799 to 192 transition was calculated using E0 theory. It should be noted, however, that 607 keV gammas are reported from both the 607 and the 799 levels in (α,6nγ). Mult=(E0+M1+E2) (rather than pure E0) is assigned to the 799 to 192 transition.

[@] Iγ(798.7γ+800.4γ)=2.1 *2*; based on adopted branching, essentially all the intensity is attributable to the 798.7γ.

[&] From measured α(K)exp (1972Fi12, assuming 192γ is E2) and γ(θ,H,T) (1985Va07). The multipolarity of the 192γ is established from conversion electron subshell ratios (1970Jo02).

[a] From I(ce(K)) in 1972Fi12 and ce(K)/ce(total) from E0 theory, except as noted.

[b] Additional information 2.

[c] If no value given it was assumed δ=1.00 for E2/M1, δ=1.00 for E3/M2 and δ=0.10 for the other multipolarities.

[d] For absolute intensity per 100 decays, multiply by 0.62 *4*.

[e] Multiply placed with undivided intensity.

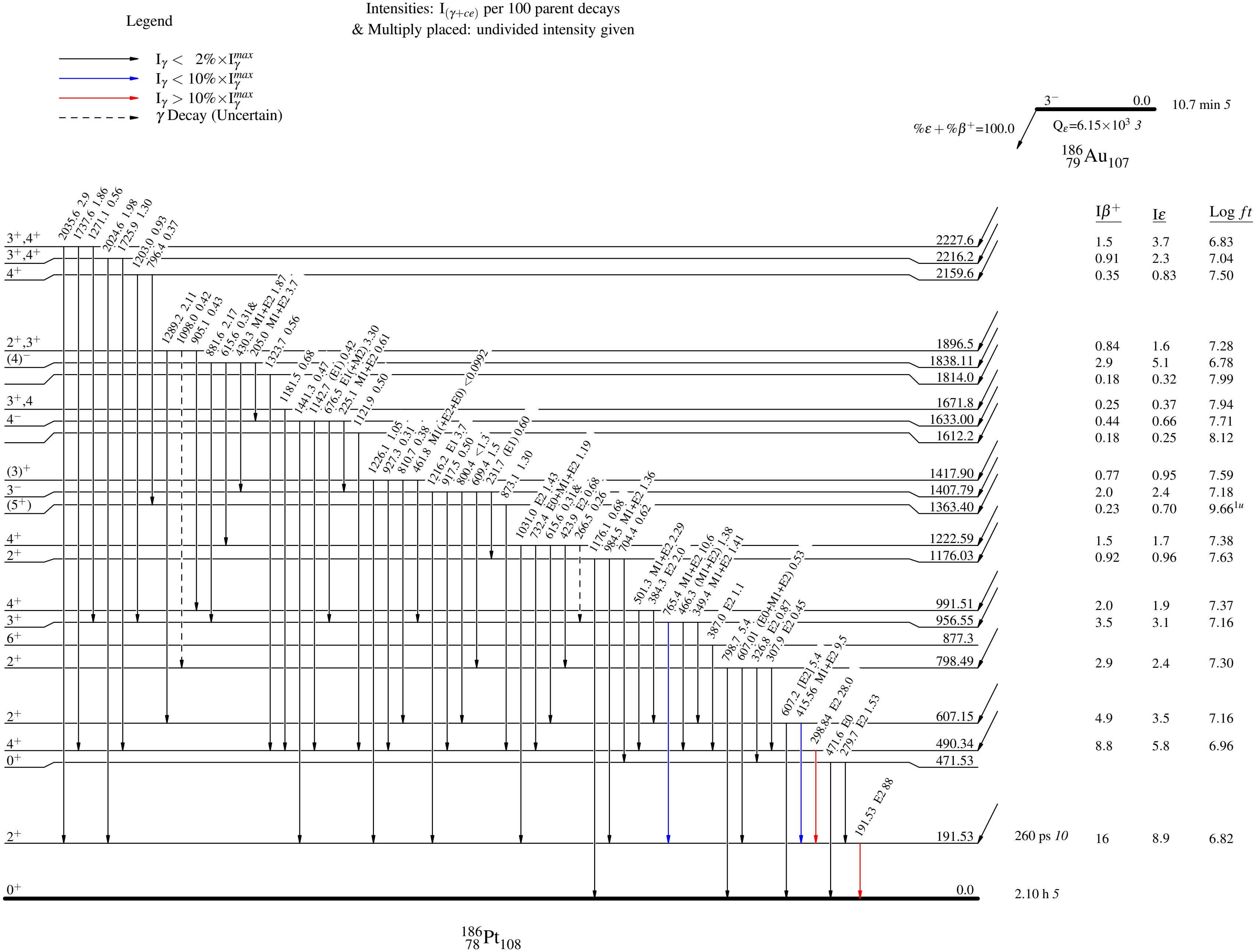
[f] Placement of transition in the level scheme is uncertain.

[x] γ ray not placed in level scheme.

^{186}Au ε decay (10.7 min) 1972Fi12,1985Va07

Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
& Multiply placed: undivided intensity given



From ENSDF

$^{186}_{78}Pt_{108}$-8