Adopted Levels, Gammas

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

Q(β^-)=−1308 *27*; S(n)=6.91×10^3 *3*; S(p)=3655 *17*; Q(α)=3.85×10^3 *10* 2021Wa16
For hfs and isotope shift measurements, see 2006Ve10, 2000Ve10, 2001LeZX (g.s. and isomer).

^{186}Ir Levels

For discussion of possible configurations for levels, see 1991Be25, 1992Kr02, 1997Ca01.

Cross Reference (XREF) Flags

A ^{186}Ir IT decay
B ^{186}Pt ε decay
C ^{180}Hf(^{11}B,5nγ),^{181}Ta(^{9}Be,4nγ)

E(level)[†]	J$^\pi$[‡]	T$_{1/2}$	XREF	Comments
0.0[#]	5$^+$	16.64 h *3*	A C	%ε+%β^+=100 μ=+3.80 *+12−2*; Q=−2.55 *3* μ: From (2019StZV, 1980Ha49 − NMR). Other values: 3.88 *5* (1982Al11 − static nuclear orientation); +3.8 *2* (2006Ve10 − laser spectroscopy); +3.69 *15* (2000Ve10 − resonance ionization LASER spectroscopy); and 3.78 *5* (1981Sp06 − NMR). Q: From 2021StZZ, 1996Se15 (NMR on oriented nuclei). Other values: −2.6 *9* (2006Ve10 − laser spectroscopy); −2.89 *10* (1980Ha49 − nuclear orientation); −2.5 *2* (1980Mu07); −2.3 *2* (1979Er06 and 1970Wa18 − nuclear orientation); −2.65 *18* (preliminary result using NMR on oriented nuclei (1996Ha09)); −2.6 *9* (2000Ve10, resonance ionization LASER spectroscopy). δ<r^2>(^{191}Ir,^{186}Ir) =−0.073 fm^2 *4* (2006Ve10). J$^\pi$: J=5 from atomic beam magnetic resonance (1975Ru06,1978Ru04). π from decay to (3)$^-$ 1481 with log $f^{1u}t$=10.1 and decay to 6$^+$ 868 keV level with log ft = 7.8. T$_{1/2}$: from 1982Al34. Others: 14 h *2* (1955Sm42), 16 h *3* (1958Di44), 15 h *2* (1959Sc23), 14.5 h *10* (1960Ma28), 14 h *1* (1961Kr02), 15 h *1* (1962Bo22), 15.8 h *3* (1963Em02), 17 h *1* (1963Ma47), and 16.3 h *9* (1972Fi12).
x+0.0	2$^-$	1.90 h *5*	A B	%ε+%β^+≈75; %IT≈25 μ=0.638 *8*; Q=+1.456 *17* Additional information 1. μ: g-factor=0.319 4 (1990Ed01, NMR on oriented nuclei); Sign from 2000Ve10. Others: −0.66 *3* (2014StZZ, 2006Ve10 − laser spectroscopy); −0.63 *3* (2000Ve10, resonance ionization LASER spectroscopy). Q: From 1996Se15 − NMR on oriented nuclei. Others:+1.5 *2* (2006Ve10), +1.5 *1* (2000Ve10); +1.53 *10* from 1996Ha09, NMR on oriented nuclei (preliminary result). δ<r^2>(^{191}Ir,^{186}Ir)=−0.221 fm^2 *2* (2006Ve10). J$^\pi$: E1 689γ from 1$^+$ x+689; ε decay to 3$^+$ 910 with log ft=7.3 and to 4$^+$ 434 with log $f^{1u}t$=9.2; J=2 from NMR and temperature dependence of 767γ anisotropy following ε decay from Ir in Fe host (1990Ed01). Probable configuration=((π 3/2[402])-(ν 7/2[503])) (1975Ya10,1991Be25); based on systematics and on hindrance of unobserved E≤1.5 keV IT. T$_{1/2}$: from 1991Be25. Other values: 1.75 h *15* (1972Fi12), 1.7 h *2* (1963Ma47), 2.0 h *5* (1963Gr22), 1.7 h *2* (1962Bo22). %IT: 20-30% estimated from 1991Be25, based on their ^{186}Pt ε decay scheme and observation of time variation of intensities of 434γ(^{186}Os) and 987γ(^{186}Os) produced

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Adopted Levels, Gammas (continued)

^{186}Ir Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	XREF	Comments
			exclusively in ^{186}Ir ε decay (16.64 h) and ^{186}Ir ε decay (1.90 h), respectively.
			E(level): 0<x≤1.5 (1991Be25), based on absence in ^{186}Pt ε decay of any conversion electron line from an E>2.6 transition having adequate intensity to be the expected (x+1.1 to g.s.) transition.
x+1.10 *11*	(3)$^{+}$	B	J$^{\pi}$: 1991Be25 expect low-lying 3^{+} and 5^{+} states arising from configuration=((ν 1/2[510])(π h$_{9/2}$)) at approximately the same energy (in ^{184}Ir and ^{184}Au, the 3^{+} state lies at the lower energy; here, the 5^{+} may be the g.s.). M1-M1 612γ-77γ cascade from 1^{+} x+689 establishes π=+ and eliminates the J=5 option.
x+54.15 *8*	1^{-},2^{-}	B	J$^{\pi}$: M1+E2 54γ to 2^{-} x+0.0; E1 635γ from 1^{+} x+689 level.
x+71.84 *25*	(2,3,4)$^{+}$	B	J$^{\pi}$: M1 71γ to (3)$^{+}$ x+1.1.
x+77.93 *10*	(2)$^{+}$	B	J$^{\pi}$: M1 612γ from 1^{+} x+689; M1 77γ to (3)$^{+}$ x+1.1.
x+102.89 *15*	(2,3,4)$^{+}$	B	J$^{\pi}$: M1 102γ to (3)$^{+}$ x+1.1; absence of γ to 2^{-} x+0.0.
x+110.09 *10*	(2)$^{-}$	B	J$^{\pi}$: E1 579γ from 1^{+} x+689; E1 109γ to (3)$^{+}$ x+1.1.
117.4[#] *9*	7^{+}	C	
x+120.48 *11*	(1,3)$^{+}$	B	J$^{\pi}$: M1 43γ to (2)$^{+}$ x+78 level; E2 119γ to (3)$^{+}$ x+1.1 level.
137.3[b] *10*		C	
167.3[b] *9*	(6^{+})	C	
x+182.1? *4*	(1^{+},2^{+},3^{+})	B	J$^{\pi}$: (M1) 104γ to (2)$^{+}$ x+78 level.
x+194.46 *23*	(1,2,3)$^{+}$	B	J$^{\pi}$: M1+E2 117γ to (2)$^{+}$ x+78 level.
x+204.75 *14*	(0,1,2)$^{+}$	B	J$^{\pi}$: M1+E2 84γ to (1,2)$^{+}$ x+120 level; M1 33γ from (0,1)$^{+}$ x+237 level.
206.4 *14*		C	
x+213.34 *19*	(1,2,3)$^{-}$	B	J$^{\pi}$: E2(+M1) 121γ from (1)$^{-}$ x+335 level. Possible (M1+E2) 111γ to (2,3,4)$^{+}$ x+103 level (1991Be25).
x+225.49 *14*	(2)$^{+}$	B	J$^{\pi}$: E2+M1 225γ to (3)$^{+}$ x+1.1; 219γ from J=(1)$^{+}$ x+445 level.
x+237.31 *14*	(0,1)$^{+}$	B	J$^{\pi}$: log *ft*=7.3 from 0^{+}; M1 33γ to π=+ x+205 level.
246.4[b] *10*	(7^{+})	C	
x+252.57 *19*	(1,2,3,4)	B	J$^{\pi}$: Doubly placed γ's to (2,3,4)$^{+}$ x+72 level (181γ) and from 1^{+},2^{+} x+447 level (194γ). Possible configuration=(ν 7/2[503]) (π h$_{9/2}$) (1991Be25) allows J$^{\pi}$=3^{+} and 4^{+}, but the γ to 5^{+} g.s. expected for that state has not been reported.
x+259.64 *11*	0^{-},1^{-},2^{-}	B	J$^{\pi}$: M1 311γ from 0^{-},1^{-} x+571 level.
x+264.51 *10*	(1)$^{-}$	B	J$^{\pi}$: E1 186γ to (2)$^{+}$ x+78 level.
312.7[&] *10*	(7^{-})	C	J$^{\pi}$: E1 66γ to (7^{+}) 246 level, (8^{-}) not excluded.
x+324.32 *20*	(2)$^{+}$	B	J$^{\pi}$: M1 365γ from 1^{+} x+689; M1 323γ to (3)$^{+}$ x+1.1 level.
x+331.20 *14*	(0,1)	B	J$^{\pi}$: 94γ to (0,1)$^{+}$ x+237 level, 253γ to (2)$^{+}$ x+78 keV level, no observed γ to (3)$^{+}$ x+1.1 keV level.
x+334.59 *16*	(1)$^{-}$	B	J$^{\pi}$: E1 355γ from 1^{+} x+689; possible E0 component in 70 keV γ to (1)$^{-}$ x+265 level.
359.1[#] *11*	9^{+}	C	
363.2[b] *10*	(8^{+})	C	
396.6[&] *13*	(8^{-})	C	
402.8[@] *11*	(8)	C	J$^{\pi}$: D 285γ to 7^{+} 117 level.
x+419.74 *14*	0^{+},1^{+},2^{+}	B	J$^{\pi}$: M1(+E2) 270γ from 1^{+} x+689.
x+433.30 *9*	(1,2)$^{+}$	B	J$^{\pi}$: M1 281γ from 1^{+} x+714; M1,E2 432γ to (3)$^{+}$ x+1.1.
x+444.76 *12*	(1)$^{+}$	B	J$^{\pi}$: M1 367γ to (2)$^{+}$ x+78; log *ft*=6.6 from 0^{+}.
x+446.65 *17*	1^{+},2^{+}	B	J$^{\pi}$: M1 243γ from 1^{+} x+689; 445γ to (3)$^{+}$ x+1.1.
519.8[b] *11*	(9^{+})	C	
520.1[&] *13*	(9^{-})	C	
x+570.67 *19*	0^{-},1^{-},2^{-}	B	J$^{\pi}$: M1 306γ to (1)$^{-}$ x+265 level.
686.0[&] *14*	(10^{-})	C	
x+689.44 *7*	1^{+}	B	J$^{\pi}$: log *ft*=4.9 from 0^{+}.
704.6[b] *10*	(10^{+})	C	
x+714.20 *8*	1^{+}	B	J$^{\pi}$: E1 714γ to 2^{-} x+0.0; log *ft*=6.3 from 0^{+}.
719.1[@] *11*	(10^{+})	C	
721.7[#] *13*	11^{+}	C	

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Adopted Levels, Gammas (continued)

^{186}Ir Levels (continued)

E(level)[†]	Jπ[‡]	XREF	Comments
756.1[a] *15*	(10⁻)	C	Jπ: D 236γ to 520 keV level. band configuration (π $h_{11/2}$)(ν $i_{13/2}$), similar to (π $h_{11/2}$) band in ^{185}Ir (1997Ca01).
x+772.2 *4*	(0,1,2,3)⁺	B	Jπ: M1+E2 339γ to (1,2)⁺ x+433 level.
869.8[&] *14*	(11⁻)	C	
928.0[b] *11*	(11⁺)	C	
1036.4[a] *17*	(11⁻)	C	
1117.3[&] *15*	(12⁻)	C	
1131.6[@] *12*	(12⁺)	C	
1177.4[b] *12*	(12⁺)	C	
1195.8[#] *14*	13⁺	C	
1299.9[a] *17*	(12⁻)	C	
1338.1[&] *16*	(13⁻)	C	
1449.5[b] *13*	(13⁺)	C	
1482.4 *19*		C	
1603.1[a] *17*	(13⁻)	C	
1647.9[@] *14*	(14⁺)	C	
1674.0[&] *16*	(14⁻)	C	
1748.8[b] *14*	(14⁺)	C	
1770.0[#] *16*	15⁺	C	
1869.7[a] *18*	(14⁻)	C	
1910.4[&] *17*	(15⁻)	C	
1953.0 *19*		C	
2022.0 *18*		C	
2067.3[b] *14*	(15⁺)	C	
2220.9[a] *18*	(15⁻)	C	
2252.0[@] *16*	(16⁺)	C	
2339.4[&] *18*	(16⁻)	C	
2408.4[b] *15*	(16⁺)	C	
2422.8 *18*		C	
2432.9[#] *18*	(17⁺)	C	
2511.9 *18*		C	
2555.8[a] *18*	(16⁻)	C	
2576.7[&] *20*	(17⁻)	C	
2636.7 *18*		C	
2766.2[b] *16*	(17⁺)	C	
2862.5 *19*		C	
2882.1 *20*		C	
2930.6[@] *18*	(18⁺)	C	
2935.9[a] *19*	(17⁻)	C	
3035.5 *20*		C	
3144.4[b] *18*	(18⁺)	C	
3170.7[#] *20*	(19⁺)	C	
3327.0[&] *22*	(19⁻)	C	
3527.2[b] *19*	(19⁺)	C	
3657.5[@] *20*	(20⁺)	C	
3734.7 *23*		C	
3916.6?[b]	(20⁺)	C	
3963.2[#] *23*	(21⁺)	C	

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Adopted Levels, Gammas (continued)

^{186}Ir Levels (continued)

E(level)[†]	J^{π}[‡]	XREF
4144.0[&] *24*	(21$^-$)	C
4205.5 *25*		C
4398.5[@] *23*	(22$^+$)	C
4566 *3*		C
4785.5[#] *25*	(23$^+$)	C

[†] From least-squares adjustment of Eγ.

[‡] If J>5, J^{π} is based on deduced band structure and transition multipolarity in (^{11}B,5nγ); definite values follow from the observation of a stretched E2 cascade to the 5$^+$ g.s.

[#] Band(A): π=+, α=1 ((π 1/2[541])(ν pseudospin doublet)). Favored portion of doubly-decoupled band in which the valence neutron occupies a pseudospin doublet involving the 3/2[512] and 1/2[510] orbitals (1997Ca01). Energy spacing in this band closely resembles that of the core nucleus, ^{184}Os (1985Kr01). The bandhead (i.e., g.s.) had been described earlier (1991Be25) as having dominant configuration=((ν 1/2[510])(π h$_{9/2}$)) with significant admixture of configuration=((ν 1/2[521])(π h$_{9/2}$)).

[@] Band(B): π=+, α=0 ((π 1/2[541])(ν pseudospin doublet)). Unfavored portion of doubly-decoupled band in which the valence neutron occupies a pseudospin doublet involving the 3/2[512] and 1/2[510] orbitals (1997Ca01).

[&] Band(C): ((π h$_{9/2}$)(ν i$_{13/2}$)). Prolate semidecoupled band (1997Ca01).

[a] Band(D): ((π h$_{11/2}$)(ν i$_{13/2}$)). Structure very similar to (π h$_{11/2}$) band in ^{185}Ir (1997Ca01).

[b] Band(E): ((π h$_{9/2}$)(ν 7/2[503])). Compressed band, similar to one observed in ^{182}Ir (1997Ca01). Portion of band shows similarity to (ν 7/2[503]) band in ^{185}Os, consistent with expectations for a semidecoupled band (1997Ca01).

Adopted Levels, Gammas (continued)

$\gamma(^{186}Ir)$

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[†b]	α[a]	Comments
x+0.0	2^-	(≤1.5)				[E3]			This transition has not been observed.
x+54.15	$1^-,2^-$	54.2 *1*	100	x+0.0	2^-	M1+E2	0.093 *12*	6.99 *11*	α(L)=5.45 *15*; α(M)=1.27 *4* α(N)=0.312 *9*; α(O)=0.0543 *15*; α(P)=0.00370 *6*
x+71.84	$(2,3,4)^+$	70.7 *3*	100	x+1.10	$(3)^+$	M1		2.95 *6*	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*
x+77.93	$(2)^+$	76.8 *1*	100	x+1.10	$(3)^+$	M1		2.32 *4*	
x+102.89	$(2,3,4)^+$	101.8 *1*	100	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*
x+110.09	$(2)^-$	55.9 *3*	6.8 *15*	x+54.15	$1^-,2^-$	M1+E2	0.57	19.6 *6*	α(L)≈15.7; α(M)≈3.94 α(N)≈0.95; α(O)≈0.149; α(P)≈0.00264
		108.9 *3*	100 *16*	x+1.10	$(3)^+$	E1		0.321 *5*	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*	22 *5*	x+0.0	2^-	M1		4.66 *8*	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*
117.4	7^+	117.6[‡]	100	0.0	5^+	E2[@]		2.41 *4*	α(K)=0.584 *9*; α(L)=1.372 *20*; α(M)=0.352 *5* α(N)=0.0853 *12*; α(O)=0.01305 *19*; α(P)=6.16×10^{-5} *9*
x+120.48	$(1,3)^+$	42.5 *1*	100 *14*	x+77.93	$(2)^+$	M1		13.14 *21*	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*
		119.3 *3*	95 *20*	x+1.10	$(3)^+$	E2		2.28 *4*	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*
137.3		137.3[‡]	100	0.0	5^+	[M1]		2.48 *4*	α(K)=2.04 *3*; α(L)=0.334 *5*; α(M)=0.0770 *11* α(N)=0.0189 *3*; α(O)=0.00335 *5*; α(P)=0.000252 *4*
167.3	(6^+)	167.1[‡]	100	0.0	5^+				
x+182.1?	$(1^+,2^+,3^+)$	104.2[d] *3*	100	x+77.93	$(2)^+$	(M1)		5.44 *9*	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*
x+194.46	$(1,2,3)^+$	116.7 *3*	100	x+77.93	$(2)^+$	M1+E2	0.52 *7*	3.63 *9*	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*
x+204.75	$(0,1,2)^+$	84.4 *3*	≈11	x+120.48	$(1,3)^+$	M1+E2	≈0.36	≈9.89	α(K)≈7.34; α(L)≈1.94; α(M)≈0.467 α(N)≈0.1141; α(O)≈0.0190; α(P)≈0.000923
		127.0 *3*	≤100	x+77.93	$(2)^+$	E2(+M1)	≥6	1.80 *4*	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*
x+213.34	$(1,2,3)^-$	103.5[d] *3*	≈16	x+110.09	$(2)^-$				
		159.4 *3*	≈100	x+54.15	$1^-,2^-$				
		213.3 *3*	≈20	x+0.0	2^-				
x+225.49	$(2)^+$	105.0 *1*	79 *17*	x+120.48	$(1,3)^+$	M1		5.32 *8*	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*
		224.5 *3*	100 *15*	x+1.10	$(3)^+$	E2+M1	≈2.8	0.279 *4*	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}
x+237.31	$(0,1)^+$	32.6 *1*	≈48	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*
		159.4 *3*	≈100	x+77.93	$(2)^+$				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*

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

Adopted Levels, Gammas (continued)

γ(^{186}Ir) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[†][b]	α[a]	Comments
246.4	(7$^+$)	40[‡]		206.4					
		79.2[‡]		167.3	(6$^+$)	(M1)[#]		11.89 *16*	α(K)=9.77 *14*; α(L)=1.634 *23*; α(M)=0.376 *6* α(N)=0.0926 *13*; α(O)=0.01638 *23*; α(P)=0.001233 *18*
x+252.57	(1,2,3,4)	149.8[c] *3*	≈59[c]	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* α(K)exp for doubly-placed γ corresponds to mult=M1+E2.
		180.7[c] *1*	100[c]	x+71.84	(2,3,4)$^+$	[M1]		1.140 *17*	α(K)=0.941 *14*; α(L)=0.1534 *22*; α(M)=0.0353 *5* α(N)=0.00868 *13*; α(O)=0.001538 *22*; α(P)=0.0001160 *17* α(K)exp for doubly-placed γ corresponds to mult=M1.
x+259.64	0$^-$,1$^-$,2$^-$	139[d]	≈22	x+120.48	(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[cd] *3*	[c]	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* α(K)exp for doubly-placed γ corresponds to mult=M1+E2.
		205.5 *1*	≈100	x+54.15	1$^-$,2$^-$	M1		0.796 *12*	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*
x+264.51	(1)$^-$	154.4 *3*	5.2 *8*	x+110.09	(2)$^-$	E2+M1	≈1.9	1.057 *17*	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}
		186.6 *3*	17 *3*	x+77.93	(2)$^+$	E1		0.0813 *12*	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*
		210.4 *1*	100	x+54.15	1$^-$,2$^-$	M1		0.745 *11*	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*
312.7	(7$^-$)	66.2[‡]		246.4	(7$^+$)	E1		0.237 *4*	α(L)=0.183 *3*; α(M)=0.0425 *6* α(N)=0.01019 *15*; α(O)=0.001645 *23*; α(P)=7.27×10^{-5} *11* Mult.: based on Iγ(66) and intensity of ^{186}Os produced in (^{9}Be,4nγ).
		145.4[‡]		167.3	(6$^+$)				
		195.3[‡]		117.4	7$^+$				
x+324.32	(2)$^+$	87.1 *3*	<5.8	x+237.31	(0,1)$^+$				
		323.2 *3*	100 *14*	x+1.10	(3)$^+$	M1		0.230 *4*	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*
x+331.20	(0,1)	93.9[d] *3*	≈15	x+237.31	(0,1)$^+$				
		221.3 *3*	≈23	x+110.09	(2)$^-$				
		253.2 *3*	≈77	x+77.93	(2)$^+$				
		276.9 *3*	≈100	x+54.15	1$^-$,2$^-$				
x+334.59	(1)$^-$	70.1 *3*	23 *4*	x+264.51	(1)$^-$	M1		3.03 *6*	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).
		74.7 *3*	≈100	x+259.64	0$^-$,1$^-$,2$^-$	M1+E2	≈0.5	5.07 *11*	α(L)≈3.85; α(M)≈0.950 α(N)≈0.231; α(O)≈0.0373; α(P)≈0.001208
		121.4 *3*	≈50	x+213.34	(1,2,3)$^-$	E2(+M1)	≥5	2.15 *5*	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*

$^{186}_{77}Ir_{109}$-6

Adopted Levels, Gammas (continued)

γ(^{186}Ir) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[†b]	α[a]	Comments
x+334.59	(1)$^-$	333.7[c] *3*	[c]	x+1.10	(3)$^+$				
359.1	9$^+$	241.7[‡]	100	117.4	7$^+$	E2[@]		0.185 *3*	α(K)=0.1043 *15*; α(L)=0.0609 *9*; α(M)=0.01532 *22* α(N)=0.00372 *6*; α(O)=0.000586 *9*; α(P)=1.084×10^{-5} *16*
363.2	(8$^+$)	116.9		246.4	(7$^+$)	(M1)[#]		3.92 *5*	α(K)=3.23 *5*; α(L)=0.530 *8*; α(M)=0.1221 *17* α(N)=0.0300 *5*; α(O)=0.00531 *8*; α(P)=0.000400 *6*
		195.6[‡]		167.3	(6$^+$)				
396.6	(8$^-$)	83.7[‡]	100	312.7	(7$^-$)	(M1)		10.19 *14*	α(K)=8.38 *12*; α(L)=1.391 *20*; α(M)=0.321 *5* α(N)=0.0788 *11*; α(O)=0.01395 *20*; α(P)=0.001050 *15* Mult.: from γ(θ) and intensity balance in (^{9}Be,4nγ).
402.8	(8)	285.6[‡]	100	117.4	7$^+$	(M1)[#]		0.321	α(K)=0.266 *4*; α(L)=0.0429 *6*; α(M)=0.00987 *14* α(N)=0.00243 *4*; α(O)=0.000430 *6*; α(P)=3.25×10^{-5} *5*
x+419.74	0$^+$,1$^+$,2$^+$	182.7 *3*	≈10	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*
		194.2[cd] *3*	[c]	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 for doubly-placed γ corresponds to mult=M1.
		215.1 *3*	13.5 *20*	x+204.75	(0,1,2)$^+$	M1		0.701 *11*	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*
		299.2 *1*	≈100	x+120.48	(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*
x+433.30	(1,2)$^+$	180.7[c] *1*	100[c] *15*	x+252.57	(1,2,3,4)	[M1]		1.140 *17*	α(K)=0.941 *14*; α(L)=0.1534 *22*; α(M)=0.0353 *5* α(N)=0.00868 *13*; α(O)=0.001538 *22*; α(P)=0.0001160 *17* α(K)exp for doubly-placed γ corresponds to mult=M1.
		239.0 *3*	52 *7*	x+194.46	(1,2,3)$^+$	M1+E2	0.9 *3*	0.38 *6*	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*
		251.3[d] *3*	≈7.4	x+182.1?	(1$^+$,2$^+$,3$^+$)				
		355.7 *3*	≈9.3	x+77.93	(2)$^+$				
		432.3 *3*	59 *8*	x+1.10	(3)$^+$	M1,E2		0.070 *36*	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*
x+444.76	(1)$^+$	185	≤4.1	x+259.64	0$^-$,1$^-$,2$^-$				
		207.7 *3*	≤2.7	x+237.31	(0,1)$^+$				
		219.3 *3*	18 *4*	x+225.49	(2)$^+$	M1+E2	0.9 *3*	0.48 *8*	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*
		324.3 *3*	15 *3*	x+120.48	(1,3)$^+$	M1+E2	≈0.6	0.187 *3*	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[cd] *3*	[c]	x+110.09	(2)$^-$				

$^{186}_{77}Ir_{109}$-7

Adopted Levels, Gammas (continued)

γ(^{186}Ir) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[†b]	α[a]	Comments
x+444.76	$(1)^+$	366.8 *1*	100 *15*	x+77.93	$(2)^+$	M1		0.163 *2*	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*
		443.7[d] *3*	≈2.7	x+1.10	$(3)^+$				
x+446.65	$1^+,2^+$	194.2[c] *3*	<35[c]	x+252.57	(1,2,3,4)	[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 for doubly-placed γ corresponds to mult=M1.
		445.4 *3*	100 *15*	x+1.10	$(3)^+$				
519.8	(9^+)	156.4‡		363.2	(8^+)	(M1)[#]		1.71 *2*	α(K)=1.412 *20*; α(L)=0.231 *4*; α(M)=0.0531 *8* α(N)=0.01307 *19*; α(O)=0.00231 *4*; α(P)=0.0001744 *25*
		274‡[d]		246.4	(7^+)				
520.1	(9^-)	123.2‡		396.6	(8^-)	(M1)		3.37 *5*	α(K)=2.78 *4*; α(L)=0.456 *7*; α(M)=0.1050 *15* α(N)=0.0258 *4*; α(O)=0.00457 *7*; α(P)=0.000344 *5* Mult.: from γ(θ) and intensity balance in (^{9}Be,4nγ).
		207.6‡		312.7	(7^-)				
x+570.67	$0^-,1^-,2^-$	306.2 *3*	100 *14*	x+264.51	$(1)^-$	M1		0.266 *4*	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*	≈39	x+259.64	$0^-,1^-,2^-$	M1		0.255 *4*	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*
		516.5 *3*	46 *9*	x+54.15	$1^-,2^-$				
686.0	(10^-)	165.7‡		520.1	(9^-)	[M1]		1.45 *2*	α(K)=1.200 *17*; α(L)=0.196 *3*; α(M)=0.0451 *7* α(N)=0.01109 *16*; α(O)=0.00196 *3*; α(P)=0.0001481 *21*
		289.4‡		396.6	(8^-)				
x+689.44	1^+	242.8 *3*	0.35 *5*	x+446.65	$1^+,2^+$	M1		0.501 *8*	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*
		244.7 *3*	0.30 *4*	x+444.76	$(1)^+$	M1+E2	0.9 *3*	0.35 *6*	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*
		256.2 *1*	1.67 *24*	x+433.30	$(1,2)^+$	M1+E2	0.64 *24*	0.35 *5*	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*
		269.5 *3*	0.52 *8*	x+419.74	$0^+,1^+,2^+$	M1(+E2)	<0.7	0.34 *4*	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*
		355.0 *3*	0.68 *12*	x+334.59	$(1)^-$	E1		0.017 *3*	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*
		358.2 *3*	0.37 *6*	x+331.20	(0,1)				
		365.2 *3*	0.68 *12*	x+324.32	$(2)^+$	M1		0.165 *2*	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*
		425.1 *3*	0.22 *3*	x+264.51	$(1)^-$	E1		0.0113 *2*	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*	≈0.28	x+259.64	$0^-,1^-,2^-$				

$^{186}_{77}Ir_{109}$-8

Adopted Levels, Gammas (continued)

γ(^{186}Ir) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[†b]	α[a]	Comments
x+689.44	1$^+$	451.8 *3*	0.151 *24*	x+237.31	(0,1)$^+$				
		463.9 *3*	0.159 *24*	x+225.49	(2)$^+$				
		484.6 *3*	0.60 *9*	x+204.75	(0,1,2)$^+$	M1,E2		0.052 *27*	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*
		569.0 *3*	0.36 *6*	x+120.48	(1,3)$^+$				
		579.3 *1*	2.1 *3*	x+110.09	(2)$^-$	E1		0.00585 *9*	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*	8.2 *12*	x+77.93	(2)$^+$	M1		0.0426 *6*	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*	3.7 *6*	x+54.15	1$^-$,2$^-$	E1		0.00484 *7*	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*	100 *2*	x+0.0	2$^-$	E1		0.00411 *6*	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*
704.6	(10$^+$)	184.8[‡]		519.8	(9$^+$)				
		301.8[‡]		402.8	(8)				
		341.4[‡]		363.2	(8$^+$)				
		345.4[‡]		359.1	9$^+$				
x+714.20	1$^+$	267.5 *3*	16.9 *36*	x+446.65	1$^+$,2$^+$	M1		0.364 *6*	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*
		280.9 *1*	100 *15*	x+433.30	(1,2)$^+$	M1		0.336 *5*	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*
		449.8 *3*	15.3 *33*	x+264.51	(1)$^-$				
		714.2 *1*	42 *9*	x+0.0	2$^-$	E1		0.00384 *6*	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*
719.1	(10$^+$)	199.3[‡]		519.8	(9$^+$)				
		316.5[‡]		402.8	(8)				
		360.1[‡]		359.1	9$^+$				
721.7	11$^+$	362.6[‡]	100	359.1	9$^+$	E2[@]		0.0550 *8*	α(K)=0.0375 *6*; α(L)=0.01325 *19*; α(M)=0.00326 *5* α(N)=0.000794 *12*; α(O)=0.0001287 *18*; α(P)=4.13×10^{-6} *6*
756.1	(10$^-$)	70[‡]		686.0	(10$^-$)				
		236.2[‡]		520.1	(9$^-$)	D			Mult.: D from γ(θ) in (^{9}Be,4nγ).
x+772.2	(0,1,2,3)$^+$	338.9 *3*	100	x+433.30	(1,2)$^+$	M1+E2	≈0.8	0.149 *2*	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}
869.8	(11$^-$)	183.9[‡]		686.0	(10$^-$)	(M1)[#]		1.085 *14*	α(K)=0.896 *13*; α(L)=0.1460 *21*; α(M)=0.0336 *5* α(N)=0.00826 *12*; α(O)=0.001464 *21*; α(P)=0.0001104 *16*
		349.8[‡]		520.1	(9$^-$)	E2[@]		0.0608 *9*	α(K)=0.0410 *6*; α(L)=0.01504 *21*; α(M)=0.00371 *6* α(N)=0.000903 *13*; α(O)=0.0001460 *21*; α(P)=4.49×10^{-6} *7*
928.0	(11$^+$)	208.8[‡]		719.1	(10$^+$)				
		223.5[‡]		704.6	(10$^+$)				

$^{186}_{77}Ir_{109}$-9

Adopted Levels, Gammas (continued)

γ(^{186}Ir) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	α[a]	Comments
928.0	(11$^+$)	408.1[‡]		519.8	(9$^+$)			
1036.4	(11$^-$)	280.3[‡]	100	756.1	(10$^-$)	(M1)[#]	0.338 *5*	α(K)=0.280 *4*; α(L)=0.0452 *7*; α(M)=0.01040 *15* α(N)=0.00256 *4*; α(O)=0.000453 *7*; α(P)=3.42×10^{-5} *5*
1117.3	(12$^-$)	247.6[&]	100[&] *20*	869.8	(11$^-$)	(M1)[#]	0.475 *7*	α(K)=0.393 *6*; α(L)=0.0636 *9*; α(M)=0.01464 *21* α(N)=0.00360 *5*; α(O)=0.000638 *9*; α(P)=4.82×10^{-5} *7*
		431.2[&]	81[&] *17*	686.0	(10$^-$)	E2[@]	0.0345 *5*	α(K)=0.0248 *4*; α(L)=0.00738 *11*; α(M)=0.00180 *3* α(N)=0.000438 *7*; α(O)=7.19×10^{-5} *10*; α(P)=2.78×10^{-6} *4*
1131.6	(12$^+$)	409.9[‡]		721.7	11$^+$			
		412.6[‡]		719.1	(10$^+$)			
		426.9[‡]		704.6	(10$^+$)			
1177.4	(12$^+$)	249.4[‡]		928.0	(11$^+$)			
		458.4[‡]		719.1	(10$^+$)			
		472.7[‡]		704.6	(10$^+$)			
1195.8	13$^+$	474.1[‡]	100	721.7	11$^+$	E2[@]	0.0271 *4*	α(K)=0.0199 *3*; α(L)=0.00545 *8*; α(M)=0.001320 *19* α(N)=0.000322 *5*; α(O)=5.33×10^{-5} *8*; α(P)=2.25×10^{-6} *4*
1299.9	(12$^-$)	263.6[&]	100[&] *20*	1036.4	(11$^-$)	(M1)[#]	0.400 *6*	α(K)=0.331 *5*; α(L)=0.0535 *8*; α(M)=0.01231 *18* α(N)=0.00303 *5*; α(O)=0.000536 *8*; α(P)=4.05×10^{-5} *6*
		543.8[&]	54[&] *11*	756.1	(10$^-$)	E2	0.0194 *3*	α(K)=0.01468 *21*; α(L)=0.00359 *5*; α(M)=0.000863 *12* α(N)=0.000211 *3*; α(O)=3.52×10^{-5} *5*; α(P)=1.665×10^{-6} *24* Mult.: stretched Q from γ(θ); Δπ from band structure.
1338.1	(13$^-$)	220.6[&]	59[&] *13*	1117.3	(12$^-$)	(M1)[#]	0.654 *9*	α(K)=0.540 *8*; α(L)=0.0877 *13*; α(M)=0.0202 *3* α(N)=0.00496 *7*; α(O)=0.000879 *13*; α(P)=6.64×10^{-5} *10*
		468.3[&]	100[&] *21*	869.8	(11$^-$)	E2[@]	0.0279 *4*	α(K)=0.0205 *3*; α(L)=0.00566 *8*; α(M)=0.001373 *20* α(N)=0.000335 *5*; α(O)=5.53×10^{-5} *8*; α(P)=2.31×10^{-6} *4*
1449.5	(13$^+$)	272.3[‡]		1177.4	(12$^+$)			
		521.4[‡]		928.0	(11$^+$)			
1482.4		446.0[‡]	100	1036.4	(11$^-$)			
1603.1	(13$^-$)	303.1[‡]		1299.9	(12$^-$)	[M1]	0.273 *4*	α(K)=0.226 *4*; α(L)=0.0365 *6*; α(M)=0.00839 *12* α(N)=0.00206 *3*; α(O)=0.000365 *6*; α(P)=2.76×10^{-5} *4*
		566.7[‡]		1036.4	(11$^-$)			Mult.: (Q) from γ(θ) for presumed doublet in (^{9}Be,4nγ).
1647.9	(14$^+$)	452.0[‡]		1195.8	13$^+$			
		516.2[‡]		1131.6	(12$^+$)			
1674.0	(14$^-$)	336.0[‡]		1338.1	(13$^-$)			
		556.9[‡]		1117.3	(12$^-$)			
1748.8	(14$^+$)	299.5[‡]		1449.5	(13$^+$)			
		571.4[‡]		1177.4	(12$^+$)			

$^{186}_{77}Ir_{109}$-10

Adopted Levels, Gammas (continued)

γ(^{186}Ir) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	α[a]	Comments
1770.0	15$^+$	574.4[‡]	100	1195.8	13$^+$	E2[@]	0.0170 *4*	α(K)=0.01303 *19*; α(L)=0.00307 *5*; α(M)=0.000734 *11* α(N)=0.000179 *3*; α(O)=3.01×10^{-5} *5*; α(P)=1.480×10^{-6} *21*
1869.7	(14$^-$)	266.6[‡]		1603.1	(13$^-$)	(M1)[#]	0.388 *5*	α(K)=0.321 *5*; α(L)=0.0519 *8*; α(M)=0.01193 *17* α(N)=0.00293 *5*; α(O)=0.000520 *8*; α(P)=3.93×10^{-5} *6*
		569.9[‡]		1299.9	(12$^-$)			Mult.: (Q) from γ(θ) for presumed doublet.
1910.4	(15$^-$)	236.5[‡]		1674.0	(14$^-$)			
		572.1[‡]		1338.1	(13$^-$)			
1953.0		470.5[‡]	100	1482.4		(E2)	0.0276 *4*	α(K)=0.0203 *3*; α(L)=0.00558 *8*; α(M)=0.001352 *19* α(N)=0.000330 *5*; α(O)=5.45×10^{-5} *8*; α(P)=2.29×10^{-6} *4* Mult.: from γ(θ) in (^{9}Be,4nγ).
2022.0		152.3[d]		1869.7	(14$^-$)			E_γ: from level energy difference.
		419.0[‡]		1603.1	(13$^-$)	Q		Mult.: from γ(θ) in (^{9}Be,4nγ).
		722.0[‡]		1299.9	(12$^-$)			
2067.3	(15$^+$)	318.4[‡]		1748.8	(14$^+$)			
		617.7[‡]		1449.5	(13$^+$)			
2220.9	(15$^-$)	351.3[‡]		1869.7	(14$^-$)			
		617.8[‡]		1603.1	(13$^-$)			
2252.0	(16$^+$)	482.0[‡]		1770.0	15$^+$			
		604.0[‡]		1647.9	(14$^+$)			
2339.4	(16$^-$)	429.0[‡]		1910.4	(15$^-$)			
		665.3[‡]		1674.0	(14$^-$)			
2408.4	(16$^+$)	341.0[‡]		2067.3	(15$^+$)			
		659.8[‡]		1748.8	(14$^+$)			
2422.8		201.8[‡d]		2220.9	(15$^-$)			
		400.7[‡]		2022.0				
		553.2[‡]		1869.7	(14$^-$)			
		819.8[‡]		1603.1	(13$^-$)			
2432.9	(17$^+$)	662.9[‡]	100	1770.0	15$^+$			
2511.9		489.8[‡]		2022.0				
		558.9[‡]		1953.0				
2555.8	(16$^-$)	335.0[‡]		2220.9	(15$^-$)			
		686.0[‡]		1869.7	(14$^-$)			
2576.7	(17$^-$)	237[‡d]		2339.4	(16$^-$)			
		666.3[‡]		1910.4	(15$^-$)			
2636.7		80.7[‡]		2555.8	(16$^-$)			

$^{186}_{77}Ir_{109}$-11

Adopted Levels, Gammas (continued)

γ(^{186}Ir) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π
2636.7		124.7‡		2511.9	
		214.1‡		2422.8	
		415.9‡		2220.9	(15$^-$)
2766.2	(17$^+$)	358‡		2408.4	(16$^+$)
		698.7‡		2067.3	(15$^+$)
2862.5		225.8‡		2636.7	
		306.7‡		2555.8	(16$^-$)
2882.1		245.4‡	100	2636.7	
2930.6	(18$^+$)	497.8‡		2432.9	(17$^+$)
		678.5‡		2252.0	(16$^+$)
2935.9	(17$^-$)	380.2‡		2555.8	(16$^-$)
		714.8‡		2220.9	(15$^-$)
3035.5		153.4‡		2882.1	
		173.0‡		2862.5	
3144.4	(18$^+$)	736‡	100	2408.4	(16$^+$)
3170.7	(19$^+$)	737.8‡	100	2432.9	(17$^+$)
3327.0	(19$^-$)	750.3‡	100	2576.7	(17$^-$)
3527.2	(19$^+$)	761‡	100	2766.2	(17$^+$)
3657.5	(20$^+$)	726.9‡	100	2930.6	(18$^+$)
3734.7		699.2‡	100	3035.5	
3916.6?	(20$^+$)	772‡*d*	100	3144.4	(18$^+$)
3963.2	(21$^+$)	792.5‡	100	3170.7	(19$^+$)
4144.0	(21$^-$)	817‡	100	3327.0	(19$^-$)
4205.5		470.8‡	100	3734.7	
4398.5	(22$^+$)	741‡	100	3657.5	(20$^+$)
4566		360.5‡	100	4205.5	
4785.5	(23$^+$)	822.3‡	100	3963.2	(21$^+$)

† From ^{186}Pt ε decay, unless noted to the contrary. Note that, in assigning mult and δ in that decay, uncertainties in conversion coefficients and δ reflected only the stated 15% uncertainty in Iγ, not the (unstated) uncertainty in I(ce); thus, actual uncertainties in δ and α may be larger than indicated here.

‡ From (^{11}B,5nγ); uncertainties not stated by authors.

D from γ(θ) in (^{9}Be,4nγ); Δπ from band structure.

@ Q from γ(θ) in (^{9}Be,4nγ); not M2 from RUL and 15 ns coin resolving time.

& Eγ, Iγ from ^{180}Hf(^{11}B,5nγ).

a Additional information 2.

b 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.

c Multiply placed with undivided intensity.

d Placement of transition in the level scheme is uncertain.

$^{186}_{77}Ir_{109}$-12

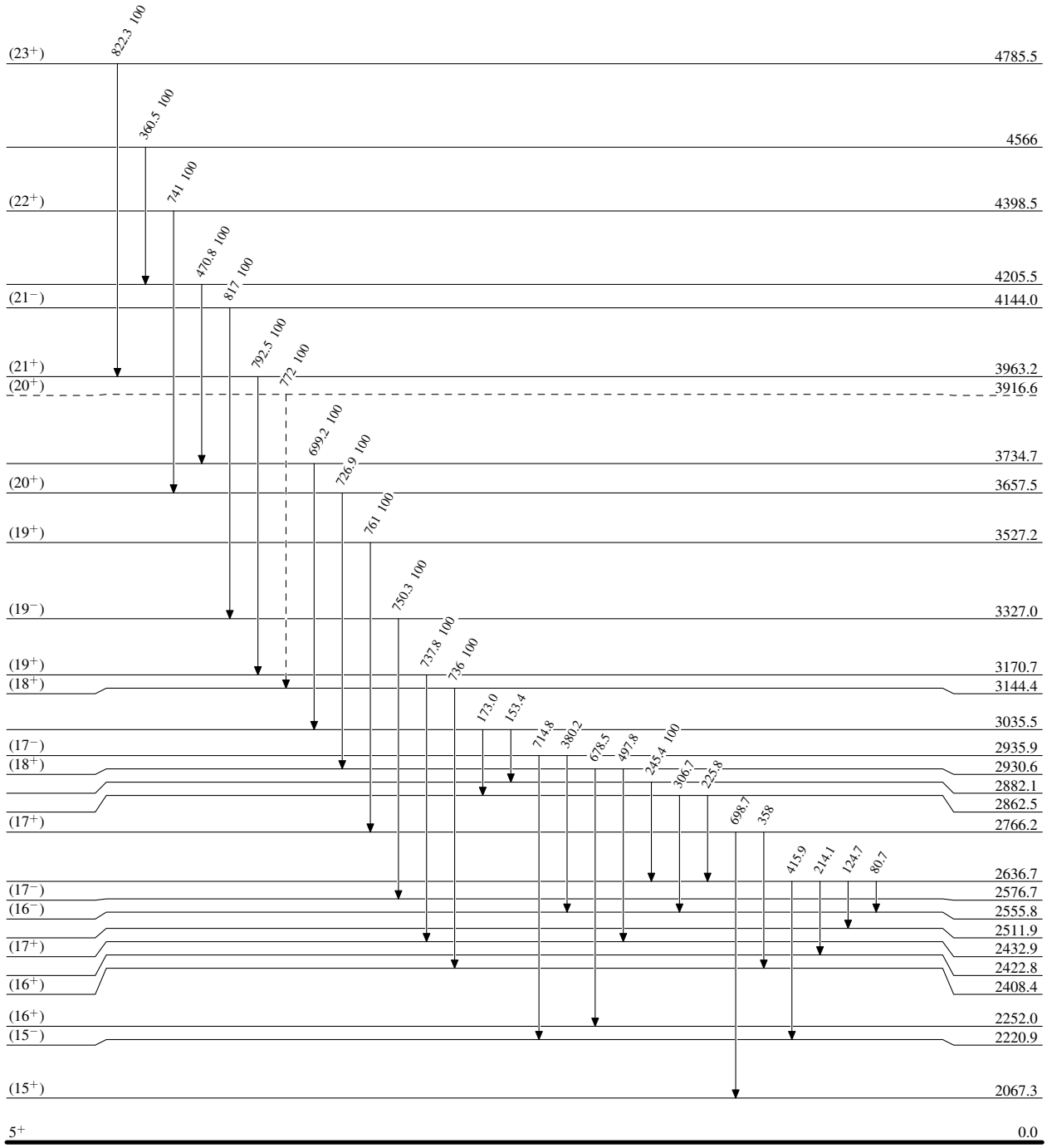
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{186}_{77}Ir_{109}$

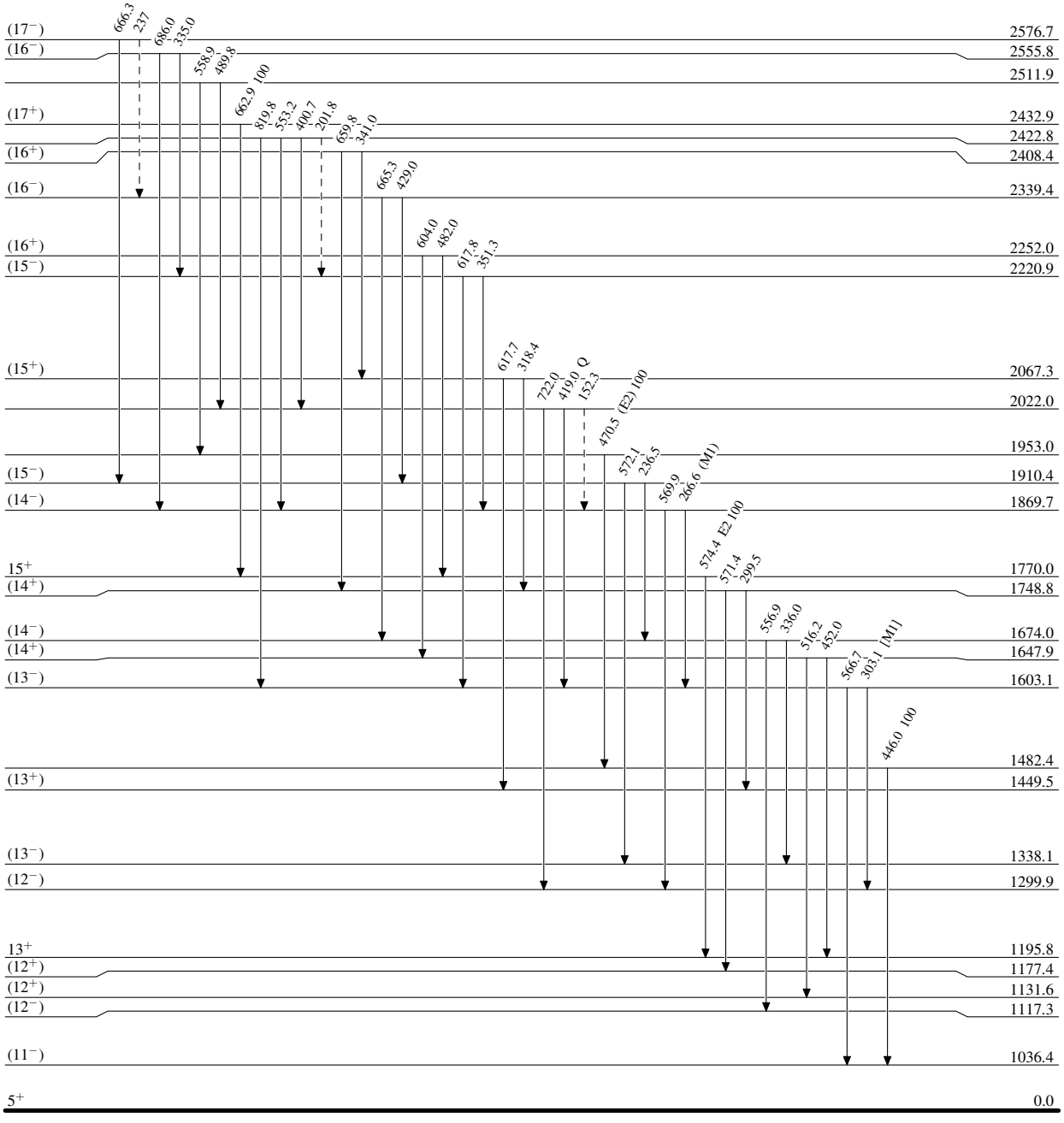
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)



16.64 h *3*

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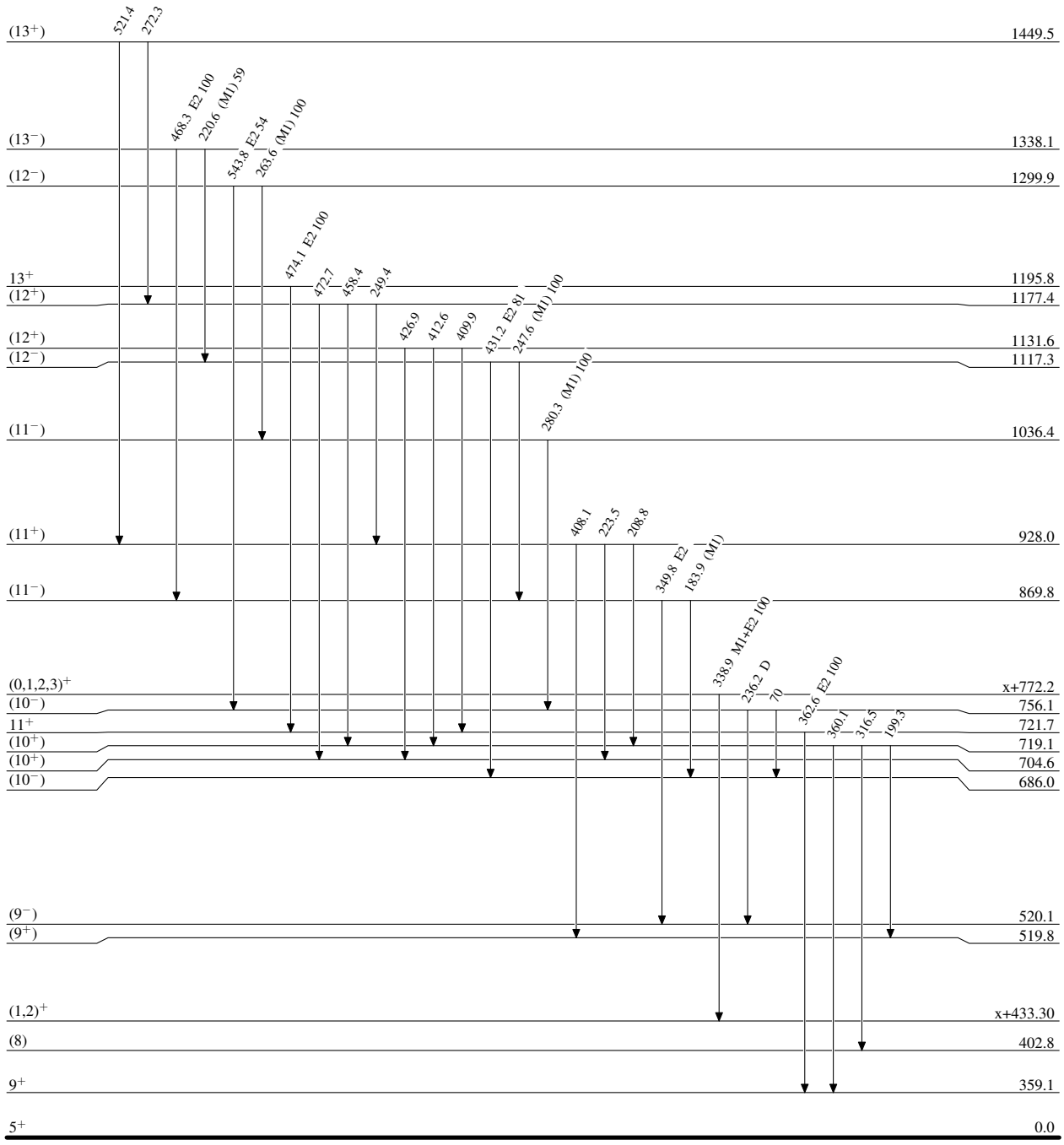
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{186}_{77}Ir_{109}$

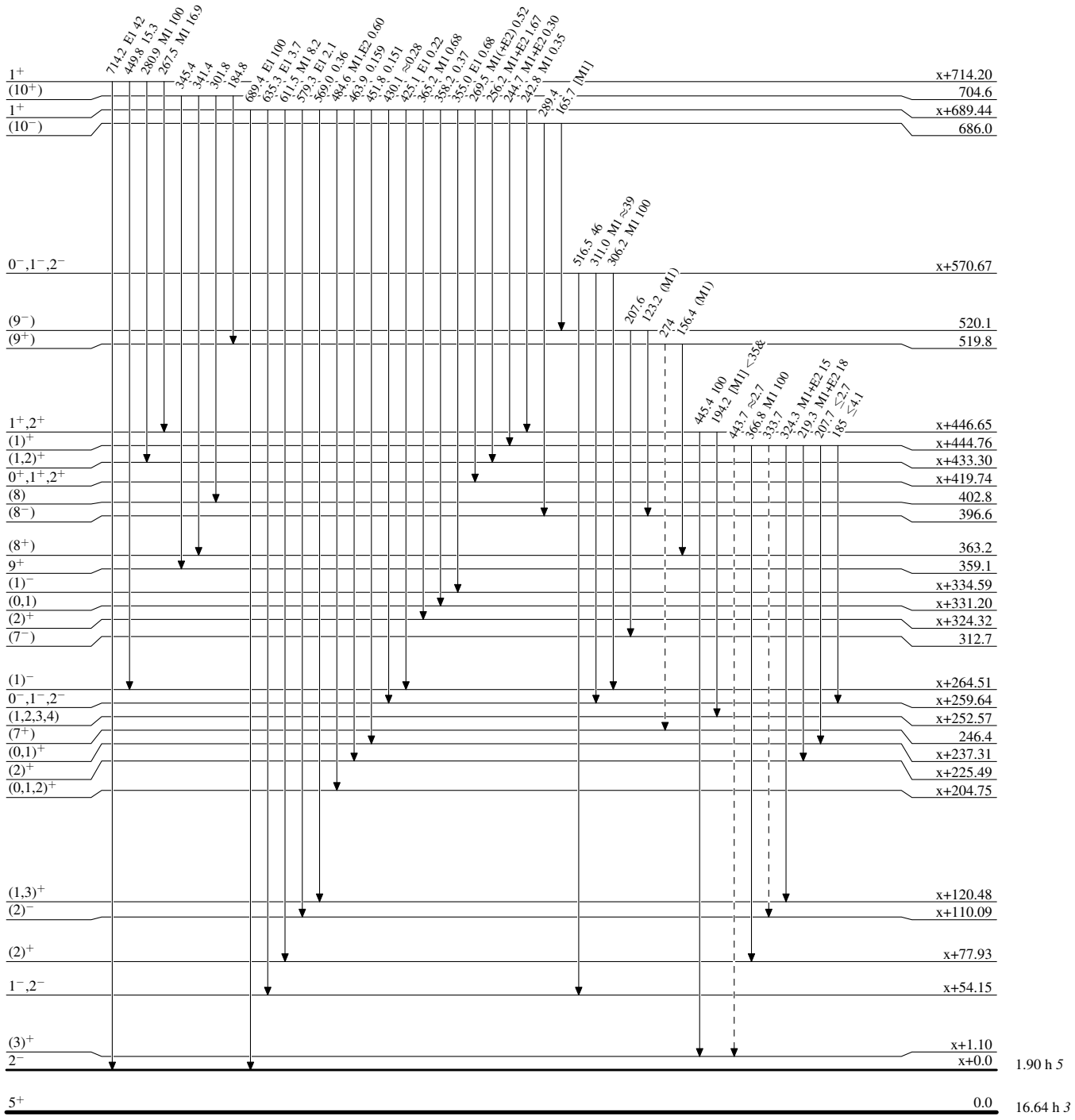
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

– – – – – – ► γ Decay (Uncertain)



$^{186}_{77}Ir_{109}$

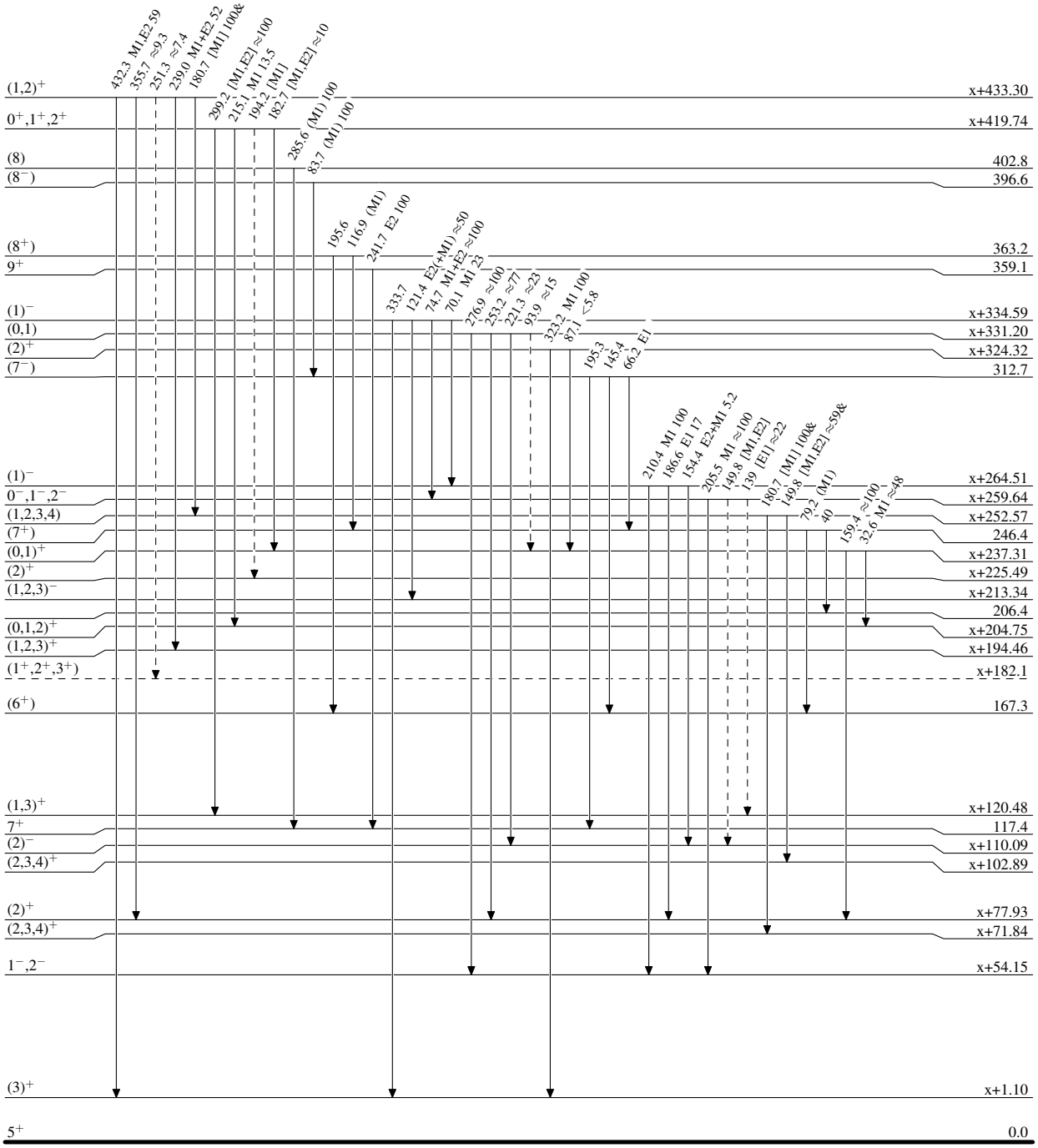
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

– – – – – – ► γ Decay (Uncertain)



$^{186}_{77}Ir_{109}$

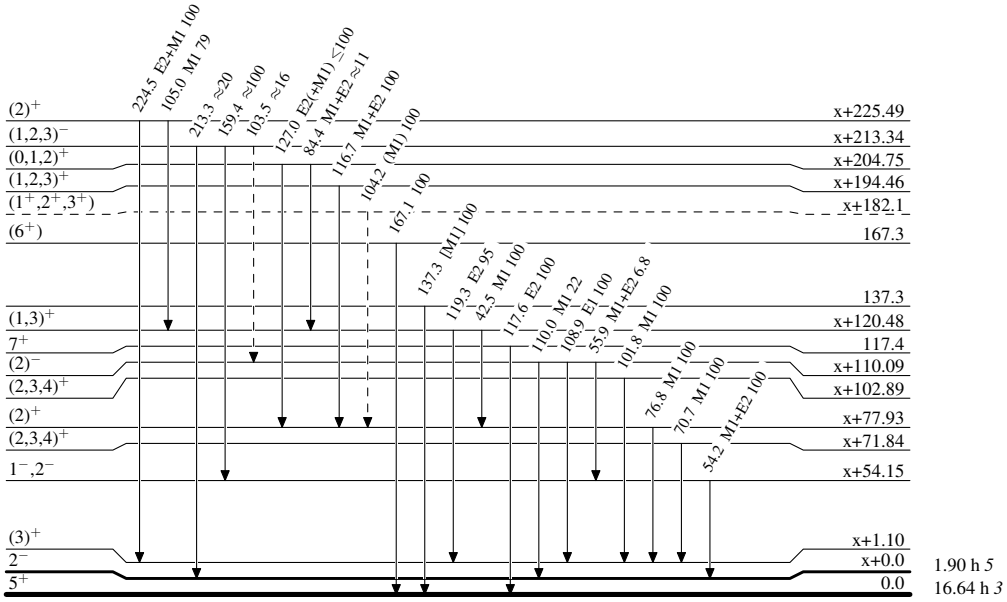
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

- - - - - - ► γ Decay (Uncertain)



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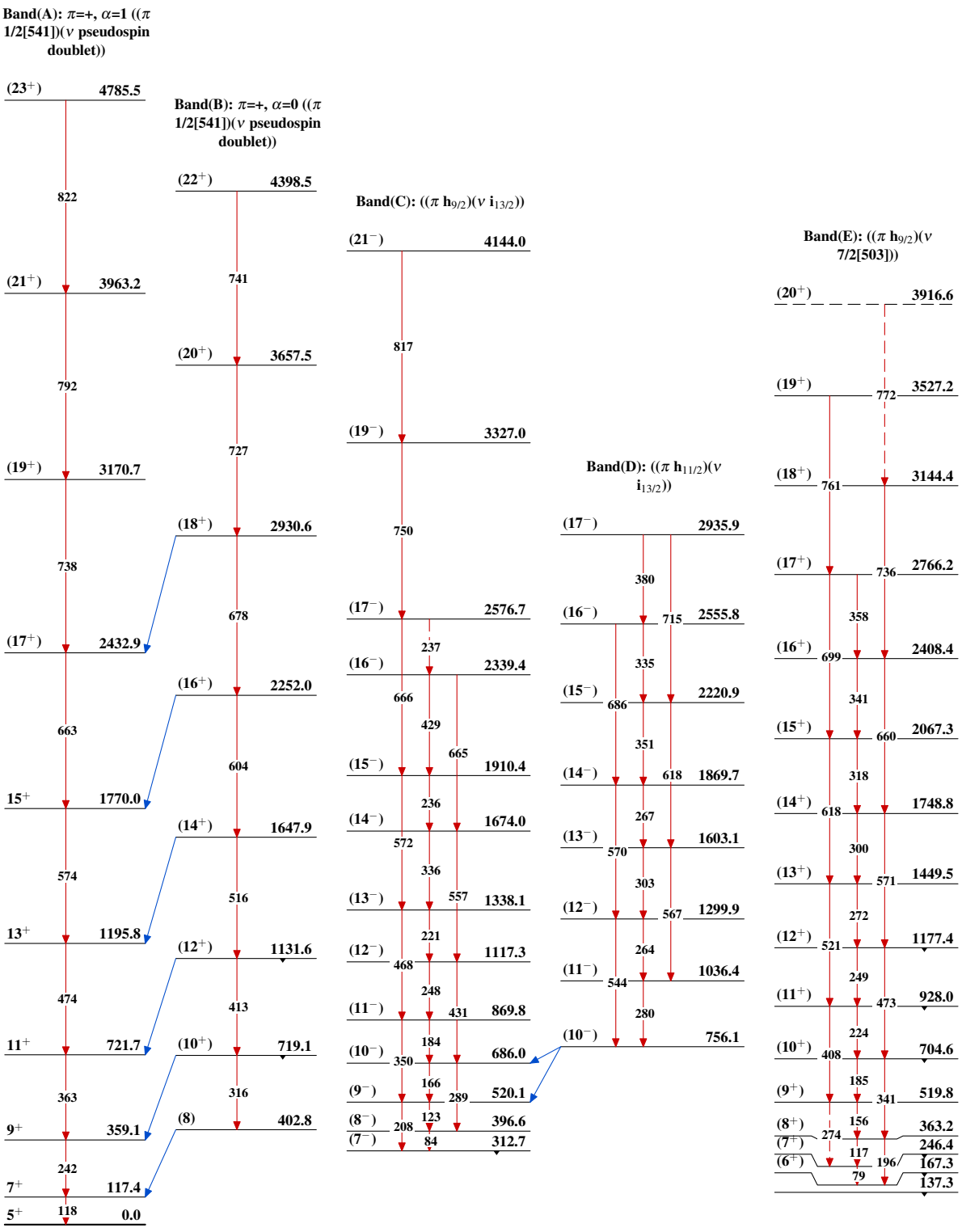
Adopted Levels, Gammas



$^{186}_{77}Ir_{109}$