Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 130, 21 (2015)	15-Jul-2015

Q(β^-)=−2883 *25*; S(n)=7650 *30*; S(p)=2790 *30*; Q(α)=4180 *30* 2012Wa38
S(2n)=17220 *30*, S(2p)=7792 *30*, Q(εp)=180 *24* (2012Wa38).
1990Kr13: analyzed band structures.
Additional information 1.
First identification of ^{182}Ir by 1961Di04.

^{182}Ir Levels

Cross Reference (XREF) Flags

- A ^{182}Pt ε decay (2.67 min)
- B ^{186}Au α decay (10.7 min)
- C ^{172}Yb(^{14}N,4nγ)

E(level)	J$^{\pi}$†	T$_{1/2}$‡	XREF	Comments
0.0#	3$^+$	15.0 min *10*	ABC	%ε+%β^+=100 μ=+2.6 *2* (2006Ve10,2014StZZ) Q=−1.7 *6* (2006Ve10,2013StZZ,2014StZZ) (<r^2>)$^{1/2}$(rms charge radius)=5.37 fm *11* (2013An02,evaluation). J$^{\pi}$,μ,Q: from LASER spectroscopy COMPLIS experiment at ISOLDE facility at CERN (2006Ve10, also 2000Ve10,2000Sa58). Other: μ=2.28 *8* (1992Bo39), on-line nuclear orientation. 2006Ve10 provide detailed comparison of experimental quadrupole moment with that from model calculations. The results agree with mixed K^{π}=0$^+$ and 1$^+$ prolate (β_2=+0.20) configuration= ν1/2[521]⊗π1/2[541]. E(level): it is assumed that the lowest state populated in the (^{14}N,4nγ) reaction is the ground state. In a recent study of ^{182}Ir ε decay, the 15-min activity of ^{182}Ir was produced by a similar heavy-ion reaction: ^{168}Er(^{19}F,5n) at 106 MeV. Thus it is likely that the g.s. is the bandhead of the decoupled band. T$_{1/2}$: From weighted average of 15 min *1* (1972Ak03), 15.0 min *15* (1971Na27), 15 min *1* (1961Di04). Others: 16.7 min *19* (1972HuZL), 15.5 min *25* (1971Na27).
8.1? *4*			A	E(level): ordering of 8.1-374.1γ cascade is not established.
25.89# *18*	(5)$^+$		A C	J$^{\pi}$: E2 γ to 3$^+$; band assignment.
71.02@ *17*	(5)$^+$	170 ns *40*	A C	J$^{\pi}$: M1+E2 γ to (5)$^+$, γ to 3$^+$; band assignment.
74.82# *13*	(2)$^+$		A	J$^{\pi}$: M1+E2 γ to 3$^+$; M1(+E2) γ from 1$^+$.
87.38# *13*	(1,2)$^+$		A	J$^{\pi}$: E2 γ to 3$^+$; M1(+E2) γ from 1$^+$; band assignment favors J=1.
88.8@ *3*	(4)$^+$		A	J$^{\pi}$: M1 γ to (5)$^+$; band assignment.
95.07# *16*	(4)$^+$		A	J$^{\pi}$: M1+E2 γ to (5)$^+$, M1(+E2) γ to 3$^+$; band assignment.
109.9@ *3*	(6$^+$)		C	J$^{\pi}$: (M1) γ to (5)$^+$.
152.23 *17*	(1,2)$^-$		AB	XREF: B(?). J$^{\pi}$: E1 γ to (2)$^+$; E1 from 1$^+$. Possible configuration=K^{π}=2$^-$, π3/2[402]⊗ν1/2[521].
152.44& *15*	(4)$^-$		A C	J$^{\pi}$: E1 γs to (5)$^+$ and (4)$^+$, γ to 3$^+$. Possible configuration=K^{π}=4$^-$, π1/2[541]⊗ν9/2[624] + π1/2[541]⊗ν7/2[633].
171.4# *3*	(7$^+$)		C	J$^{\pi}$: (E2) γ to (5)$^+$.
174.48 *18*	(3)$^-$		A	J$^{\pi}$: M1 γ to (4)$^-$; possible configuration= K^{π}=3$^-$, π1/2[541]⊗ν7/2[633] + π3/2[532]⊗ν9/2[624].
176.4 *3*	(6$^-$)	130 ns *50*	C	J$^{\pi}$: (E1) γ to (5)$^+$.

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Adopted Levels, Gammas (continued)

^{182}Ir Levels (continued)

E(level)	J^{π}†	XREF	Comments
185.8@ 4	(7+)	C	J^{π}: (γ to (6+).
190.37@ 19	(3)+	A	J^{π}: M1(+E2) γ to (4)+; γ from 1+.
194.36 19	(1,2)+	A	J^{π}: M1(+E2) γ to (1,2)+; (M1) γ from 1+.
199.8 4	(0 to 3)−	A	J^{π}: M1 γ to (1,2)−; possible configuration= π3/2[402]⊗ν1/2[521],K^{π}=1− for J^{π}=3−.
210.97# 15	1+	A	J^{π}: strong (allowed) $\varepsilon+\beta^+$ feeding from 0+ with log ft≈4.7.
231.6& 3	(6−)	C	J^{π}: (M1) γ to (6−); (E2) γ to (4)−.
255.1 4	0+,1+,2+	A	J^{π}: M1 γ to 1+.
259.60 17	(2)+	A	J^{π}: M1(+E2) γ to (2)+; M1(+E2) γ from 1+.
266.6& 5	(7−)	C	J^{π}: (M1) γ to (6−).
283.80# 18	(2)+	A	J^{π}: M1(+E2) γ to 3+, M1(+E2) γ from 1+.
292.2@ 4	(8+)	C	J^{π}: γs to (6+) and (7+).
320.93 17	(2)−	A	J^{π}: E1 γ to and from 1+; M1 γ to (3)−. Possible configuration=K^{π}=2−, π5/2[402]⊗ν1/2[521].
341.66# 21	(2,3,4)+	A	J^{π}: M1,E2 γ to (2)+, γ to (4)+; band assignment favors 3+.
345.67 19	(2)−	A	J^{π}: E1 γ from 1+; M1+E2 γ to (2)−; γ to (3)−. Possible configuration=K^{π}=2−, π3/2[532]⊗ν7/2[633].
346.7& 5	(8−)	C	J^{π}: γ to (7−).
377.06 22	(2)+	A	J^{π}: M1(+E2) γ from 1+; M1(+E2) γ to (3)+. Possible configuration=K^{π}=2+, π3/2[532]⊗ν7/2[514].
382.16 15	(3)+	A	J^{π}: M1+E2 γ to 3+; E1 γ to (4)−; γ from 1+. Possible configuration=K^{π}=3+, π1/2[541]⊗ν5/2[512].
426.0@ 4	(9+)	C	J^{π}: ΔJ=(2) γ to (7+); γ to (8+).
439.4# 4	(9+)	C	J^{π}: ΔJ=(2) γ to (7+); γ to (8+).
452.50 16	(2)+	A	J^{π}: M1 γ to (3)+, E1 γ to (3)−; M1(+E2) γ from 1+. Possible configuration=K^{π}=2+, π1/2[541]⊗ν5/2[512].
458.30 25	(2,3,4)+	A	J^{π}: M1(+E2) γ to (3)+.
519.8& 5	(9−)	C	J^{π}: ΔJ=1, (M1+E2) γ to (8−); ΔJ=(2) γ to (7−).
590.7@ 4	(10+)	C	J^{π}: ΔJ=1 γ to (9+); γ to (8+).
615.21 24	(2,3)+	A	J^{π}: M1+E2 γ to (3)+; γ from 1+.
632.4& 5	(10−)	C	J^{π}: ΔJ=1, (M1+E2) γ to (9−); γ to (8−).
636.87 16	(1,2)+	A	J^{π}: M1(+E2) γ to (2)+; M1(+E2) γ from 1+.
662.70 17	(1,2)+	A	J^{π}: M1(+E2) γ to (2)+; M1(+E2) γ from 1+. Possible configuration=π3/2[532]⊗ν5/2[512].
776.3@ 4	(11+)	C	J^{π}: γs to (9+) and (10+).
782.9 3	(1,2)+	A	J^{π}: M1(+E2) γ to (2)+; M1(+E2) γ from (1)+.
807.0# 4	(11+)	C	J^{π}: ΔJ=(2) γ to (9+).
852.8 3	(3)+	A	J^{π}: M1(+E2) γ to (2)+; (E2) γ to (5)+.
904.1 3	(1,2,3)+	A	J^{π}: M1(+E2) γ to (2)+.
907.5& 6	(11−)	C	
922.7 4	(0− to 4−)	A	J^{π}: γ to (2)−.
985.3@ 4	(12+)	C	J^{π}: ΔJ=(2) γ to (10+).
1002.34 14	1+	A	J^{π}: M1 γ to 1+; E1 γ to (2)−; allowed $\varepsilon+\beta^+$ feeding from 0+ with log ft≈5.3.
1024.85 16	(1)+	A	J^{π}: E1 γ to (2)−; M1 γ to (2)+; probable allowed $\varepsilon+\beta^+$ feeding from 0+ with log ft≈5.7.
1039.0& 6	(12−)	C	J^{π}: ΔJ=(2) γ to (10−); γ to (11−).
1135.66 23	(1,2)+	A	J^{π}: E1 γ to (2)−; M1 γ to 1+; 1+ favored by possible β feeding from 0+.
1212.1@ 5	(13+)	C	
1248.3# 5	(13+)	C	
1408.6& 6	(13−)	C	
1456.8@ 5	(14+)	C	
1540.7 4	(0+ to 4+)	A	J^{π}: γ to (2)+.
1554.6& 6	(14−)	C	J^{π}: ΔJ=(2) γ to (12−); γ to (13−).

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Adopted Levels, Gammas (continued)

^{182}Ir Levels (continued)

E(level)	J^{π}†	XREF	E(level)	J^{π}†	XREF	E(level)	J^{π}†	XREF
1714.5@ *6*	(15$^+$)	C	2267.1@ *7*	(17$^+$)	C	3388.5# *7*	(21$^+$)	C
1730.0# *5*	(15$^+$)	C	2559.7@ *6*	(18$^+$)	C	3492.1@ *8*	(21$^+$)	C
1986.2@ *6*	(16$^+$)	C	2782.0# *7*	(19$^+$)	C	3520.4& *8*	(20$^-$)	C
1995.3& *6*	(15$^-$)	C	2823.3& *8*	(18$^-$)	C	3869.4@ *8*	(22$^+$)	C
2159.1& *7*	(16$^-$)	C	2860.1@ *7*	(19$^+$)	C			
2237.8# *6*	(17$^+$)	C	3172.4@ *7*	(20$^+$)	C			

† For high-spin (J>5) states, the assignments are based on tentative multipolarity assignments, band associations and systematics of neighboring nuclei. Ascending spins are assumed as the excitation energy rises.

‡ From $\gamma\gamma$(t) in (^{14}N,4nγ) (1990Kr06) for excited states.

Band(A): ν1/2[521]$\otimes\pi$1/2[541]. K^{π}=1$^+$ and 0$^+$, Coriolis-mixed, doubly-decoupled band (1990Kr06). Configuration is mixed with K=1 and 2 members of configuration=π3/2[532]$\otimes\nu$1/2[521].

@ Band(B): π1/2[541]$\otimes\nu$7/2[514]. K^{π}=3$^+$ and 4$^+$, Coriolis-mixed. Configuration is mixed with K=2 and 5 members of configuration=π3/2[532]$\otimes\nu$7/2[514]. 1990Kr06 propose π5/2[402]$\nu i_{13/2}$ or $\pi h_{9/2}\nu$7/2[514].

& Band(C): $\pi h_{9/2}\otimes\nu i_{13/2}$. Semi-decoupled band (1990Kr06). Spins are decreased by one unit from those proposed by 1990Kr06 following the assignment of 4$^-$ for 152.4 level.

$\gamma(^{182}\mathrm{Ir})$

E_i(level)	J^π_i	E_γ†	I_γ†	E_f	J^π_f	Mult.‡	δ‡	α&	$I_{(\gamma+ce)}$	Comments
8.1?		(8.1#)		0.0	3^+					
25.89	$(5)^+$	25.7 *3*		0.0	3^+	E2		2.83×10^3 *18*	100	ce(L)/(γ+ce)=0.76 *4*; ce(M)/(γ+ce)=0.192 *15* ce(N)/(γ+ce)=0.046 *4*; ce(O)/(γ+ce)=0.0070 *6*; ce(P)/(γ+ce)=5.9×10^{-6} *6* α(L)=2.14×10^3 *14*; α(M)=5.4×10^2 *4* α(N)=130 *8*; α(O)=19.7 *12*; α(P)=0.0167 *11*
71.02	$(5)^+$	45.3 *3*	100 *15*	25.89	$(5)^+$	M1+E2	0.10 *3*	12.5 *12*		α(L)=9.6 *9*; α(M)=2.24 *22* α(N)=0.55 *6*; α(O)=0.095 *8*; α(P)=0.00628 *16*
		71.1 *3*	≈4	0.0	3^+	[E2]		19.4 *5*		α(L)=14.6 *4*; α(M)=3.76 *10* α(N)=0.907 *23*; α(O)=0.138 *4*; α(P)=0.000223 *5*
74.82	$(2)^+$	74.8 *2*	100	0.0	3^+	M1+E2	0.27 *5*	3.4 *4*		α(L)=2.58 *25*; α(M)=0.61 *7* α(N)=0.150 *16*; α(O)=0.0254 *23*; α(P)=0.00137 *4*
87.38	$(1,2)^+$	(12.6)		74.82	$(2)^+$	[M1]		115.3		α(L)=4.09 *6*; α(M)=86.0 *12* α(N)=21.1 *3*; α(O)=3.74 *6*; α(P)=0.281 *4*
		87.4 *2*	100	0.0	3^+	E2		8.10 *14*		α(K)=0.832 *12*; α(L)=5.47 *10*; α(M)=1.407 *25* α(N)=0.340 *6*; α(O)=0.0517 *10*; α(P)=0.0001273 *20*
88.8	$(4)^+$	17.8 *3*		71.02	$(5)^+$	M1		173 *10*	100	ce(L)/(γ+ce)=0.77 *3*; ce(M)/(γ+ce)=0.177 *13* ce(N)/(γ+ce)=0.044 *4*; ce(O)/(γ+ce)=0.0077 *6*; ce(P)/(γ+ce)=0.00058 *5* α(L)=133 *7*; α(M)=30.8 *17* α(N)=7.6 *4*; α(O)=1.34 *8*; α(P)=0.100 *6*
95.07	$(4)^+$	69.3 *3*	100 *19*	25.89	$(5)^+$	M1+E2	≈0.2	≈3.85		α(L)≈2.95; α(M)≈0.698 α(N)≈0.171; α(O)≈0.0292; α(P)≈0.00176
		95.1 *3*	36 *6*	0.0	3^+	M1(+E2)	<1.1	6.7 *4*		α(K)=4.4 *14*; α(L)=1.70 *75*; α(M)=0.42 *20* α(N)=0.102 *48*; α(O)=0.0165 *69*; α(P)=5.5×10^{-4} *17*
109.9	(6^+)	39.0 *3*	100	71.02	$(5)^+$	(M1)		16.9 *5*		α(L)=13.0 *4*; α(M)=3.01 *9* α(N)=0.739 *20*; α(O)=0.131 *4*; α(P)=0.0098 *3*
152.23	$(1,2)^-$	64.9 *3*	≈4	87.38	$(1,2)^+$	[E1]		0.251 *5*		α(L)=0.193 *4*; α(M)=0.0449 *9* α(N)=0.01076 *21*; α(O)=0.00173 *4*; α(P)=7.61×10^{-5} *14*
		77.4 *2*	100 *15*	74.82	$(2)^+$	E1		0.748		α(K)=0.593 *9*; α(L)=0.1193 *19*; α(M)=0.0277 *5* α(N)=0.00665 *11*; α(O)=0.001083 *17*; α(P)=5.06×10^{-5} *8*
152.44	$(4)^-$	57.3@ *2*	15.7 *24*	95.07	$(4)^+$	E1		0.353 *6*		α(L)=0.272 *5*; α(M)=0.0633 *11* α(N)=0.0151 *3*; α(O)=0.00242 *4*; α(P)=0.0001012 *17*
		81.5 *2*	100 *16*	71.02	$(5)^+$	E1		0.666 *11*		α(K)=0.532 *8*; α(L)=0.1036 *16*; α(M)=0.0240 *4* α(N)=0.00577 *9*; α(O)=0.000944 *15*; α(P)=4.48×10^{-5} *7*
		152.5 *3*	10.3 *16*	0.0	3^+	[E1]		0.1357 *21*		α(K)=0.1111 *17*; α(L)=0.0190 *3*; α(M)=0.00438 *7* α(N)=0.001061 *16*; α(O)=0.000179 *3*; α(P)=1.011×10^{-5} *15*

Adopted Levels, Gammas (continued)

$\gamma(^{182}\mathrm{Ir})$ (continued)

E_i(level)	J_i^π	E_γ†	I_γ†	E_f	J_f^π	Mult.‡	δ‡	α&	Comments
171.4	(7+)	145.4 *3*	100	25.89	(5)+	(E2)		1.071 *18*	α(K)=0.373 *6*; α(L)=0.526 *9*; α(M)=0.1346 *23* α(N)=0.0326 *6*; α(O)=0.00502 *9*; α(P)=3.71×10^{-5} *6*
174.48	(3)−	22.0 *3*	100	152.44	(4)−	M1		92 *4*	α(L)=71 *4*; α(M)=16.4 *8* α(N)=4.03 *18*; α(O)=0.71 *4*; α(P)=0.0536 *24*
176.4	(6−)	105.4 *3*	100	71.02	(5)+	(E1)		0.349 *6*	B(E1)(W.u.)=1.0×10^{-6} *4* α(K)=0.283 *5*; α(L)=0.0514 *9*; α(M)=0.01188 *19* α(N)=0.00287 *5*; α(O)=0.000475 *8*; α(P)=2.44×10^{-5} *4*
185.8	(7+)	75.7 *3*	100	109.9	(6+)				
190.37	(3)+	101.6 *3*	100	88.8	(4)+	M1(+E2)	<0.5	5.70 *18*	α(K)=4.4 *5*; α(L)=0.98 *20*; α(M)=0.23 *6* α(N)=0.057 *13*; α(O)=0.0097 *18*; α(P)=0.00055 *6*
194.36	(1,2)+	106.9 *3*	100 *16*	87.38	(1,2)+	M1(+E2)	<0.5	4.90 *18*	α(K)=3.8 *4*; α(L)=0.83 *15*; α(M)=0.20 *4* α(N)=0.048 *10*; α(O)=0.0082 *14*; α(P)=0.00047 *5*
		119.6 *3*	25 *4*	74.82	(2)+	M1,E2		3.0 *7*	α(K)=1.8 *13*; α(L)=0.88 *39*; α(M)=0.22 *11* α(N)=0.054 *26*; α(O)=0.0085 *36*; α(P)=2.2×10^{-4} *16*
199.8	(0 to 3)−	47.6 *3*	100	152.23	(1,2)−	M1		9.41 *22*	α(L)=7.25 *17*; α(M)=1.67 *4* α(N)=0.411 *10*; α(O)=0.0727 *17*; α(P)=0.00547 *13*
210.97	1+	58.7 *2*	20 *3*	152.23	(1,2)−	E1		0.330 *6*	α(L)=0.254 *5*; α(M)=0.0592 *10* α(N)=0.01416 *24*; α(O)=0.00227 *4*; α(P)=9.58×10^{-5} *16*
		123.6 *2*	13.0 *13*	87.38	(1,2)+	M1(+E2)	<0.3	3.28 *8*	α(K)=2.66 *10*; α(L)=0.48 *3*; α(M)=0.111 *8* α(N)=0.0273 *18*; α(O)=0.0048 *3*; α(P)=0.000329 *13*
		136.2 *2*	100 *12*	74.82	(2)+	M1(+E2)	<0.5	2.42 *13*	α(K)=1.92 *17*; α(L)=0.38 *4*; α(M)=0.089 *11* α(N)=0.0218 *25*; α(O)=0.0038 *4*; α(P)=0.000237 *22*
231.6	(6−)	55.2 *3*	100 *15*	176.4	(6−)	(M1)		6.09 *13*	α(L)=4.69 *10*; α(M)=1.082 *23* α(N)=0.266 *6*; α(O)=0.0471 *10*; α(P)=0.00354 *8*
		79.2 *3*	61	152.44	(4)−	(E2)		12.4 *3*	α(K)=0.775 *13*; α(L)=8.72 *20*; α(M)=2.24 *6* α(N)=0.542 *13*; α(O)=0.0823 *19*; α(P)=0.000165 *3*
255.1	0+,1+,2+	44.1 *3*	100	210.97	1+	M1		11.8 *3*	α(L)=9.08 *23*; α(M)=2.09 *6* α(N)=0.514 *13*; α(O)=0.0911 *23*; α(P)=0.00685 *17*
259.60	(2)+	172.3 *3*	13.9 *20*	87.38	(1,2)+	[M1,E2]		0.94 *37*	α(K)=0.66 *42*; α(L)=0.21 *4*; α(M)=0.052 *12* α(N)=0.013 *3*; α(O)=0.0021 *4*; α(P)=7.9×10^{-5} *54*
		184.9 *3*	100 *14*	74.82	(2)+	M1(+E2)	<1.5	0.86 *22*	α(K)=0.65 *24*; α(L)=0.158 *15*; α(M)=0.038 *5* α(N)=0.0093 *12*; α(O)=0.00155 *12*; α(P)=7.8×10^{-5} *31*
266.6	(7−)	35.0 *3*	100	231.6	(6−)	(M1)		23.3 *7*	α(L)=18.0 *6*; α(M)=4.14 *13* α(N)=1.02 *3*; α(O)=0.180 *6*; α(P)=0.0135 *4*
283.80	(2)+	196.6 *3*	75 *11*	87.38	(1,2)+	[E2]		0.366	α(K)=0.177 *3*; α(L)=0.1422 *22*; α(M)=0.0361 *6* α(N)=0.00875 *14*; α(O)=0.001364 *21*; α(P)=1.79×10^{-5} *3*
		283.9 *3*	100 *17*	0.0	3+	M1(+E2)	<0.7	0.29 *4*	α(K)=0.24 *4*; α(L)=0.0418 *20*; α(M)=0.0097 *4* α(N)=0.00239 *9*; α(O)=0.000417 *22*; α(P)=2.9×10^{-5} *5*
292.2	(8+)	106.5 *3*	≈100	185.8	(7+)				
		182.5 *3*	≈82	109.9	(6+)				
320.93	(2)−	110.1 *3*	5.3 *8*	210.97	1+	E1		0.312	α(K)=0.253 *4*; α(L)=0.0456 *8*; α(M)=0.01054 *17* α(N)=0.00255 *4*; α(O)=0.000423 *7*; α(P)=2.20×10^{-5} *4*
		146.4 *2*	100 *15*	174.48	(3)−	M1		2.06	α(K)=1.702 *25*; α(L)=0.278 *4*; α(M)=0.0641 *10* α(N)=0.01577 *23*; α(O)=0.00279 *4*; α(P)=0.000210 *3*
		168.8 *3*	4.2 *7*	152.23	(1,2)−	M1		1.380	α(K)=1.139 *17*; α(L)=0.186 *3*; α(M)=0.0428 *7*

From ENSDF

$^{182}_{77}\mathrm{Ir}_{105}$-5

γ(^{182}Ir) (continued)

E_i(level)	J^π_i	E_γ †	I_γ †	E_f	J^π_f	Mult. ‡	δ ‡	α &	Comments
									α(N)=0.01053 *16*; α(O)=0.00186 *3*; α(P)=0.0001405 *21*

$^{182}_{77}Ir_{105}$-6

$\gamma(^{182}Ir)$ (continued)

E_i(level)	J^π_i	E_γ†	I_γ†	E_f	J^π_f	Mult.‡	δ‡	α&	$I_{(\gamma+ce)}$	Comments
341.66	(2,3,4)$^+$	246.8 *3*	83 *13*	95.07	(4)$^+$	[M1,E2]		0.33 *16*		α(K)=0.25 *15*; α(L)=0.060 *5*; α(M)=0.0144 *4* α(N)=0.00353 *12*; α(O)=0.00059 *6*; α(P)=2.9×10^{-5} *20*
		266.7 *3*	100 *13*	74.82	(2)$^+$	M1,E2		0.26 *13*		α(K)=0.20 *12*; α(L)=0.047 *6*; α(M)=0.0111 *8* α(N)=0.00272 *22*; α(O)=0.00046 *6*; α(P)=2.4×10^{-5} *16*
345.67	(2)$^-$	24.8 *3*		320.93	(2)$^-$	M1+E2	0.05 *3*	73 *14*	338 *85*	ce(L)/(γ+ce)=0.76 *10*; ce(M)/(γ+ce)=0.18 *5* ce(N)/(γ+ce)=0.043 *11*; ce(O)/(γ+ce)=0.0075 *19*; ce(P)/(γ+ce)=0.00051 *10* α(L)=56 *10*; α(M)=13 *3* α(N)=3.2 *6*; α(O)=0.56 *10*; α(P)=0.0375 *15*
		171.2 *2*	100 *15*	174.48	(3)$^-$	M1(+E2)	<0.5	1.25 *8*		α(K)=1.01 *9*; α(L)=0.186 *9*; α(M)=0.044 *3* α(N)=0.0107 *6*; α(O)=0.00186 *8*; α(P)=0.000124 *12*
346.7	(8$^-$)	80.2 *3*	100	266.6	(7$^-$)					
377.06	(2)$^+$	186.7 *3*	100	190.37	(3)$^+$	M1(+E2)	<0.7	0.94 *10*		α(K)=0.75 *11*; α(L)=0.146 *7*; α(M)=0.0343 *22* α(N)=0.0084 *5*; α(O)=0.00145 *6*; α(P)=9.2×10^{-5} *15*
382.16	(3)$^+$	229.8 *3*	27 *8*	152.44	(4)$^-$	E1		0.0483		α(K)=0.0398 *6*; α(L)=0.00650 *10*; α(M)=0.001493 *22* α(N)=0.000363 *6*; α(O)=6.21×10^{-5} *9*; α(P)=3.83×10^{-6} *6*
		287.2 *3*	94 *12*	95.07	(4)$^+$	M1(+E2)	<0.6	0.29 *3*		α(K)=0.24 *3*; α(L)=0.0408 *16*; α(M)=0.0095 *3* α(N)=0.00232 *8*; α(O)=0.000407 *18*; α(P)=2.9×10^{-5} *4*
		307.2 *3*	100 *18*	74.82	(2)$^+$	M1(+E2)	<0.7	0.23 *3*		α(K)=0.19 *3*; α(L)=0.0333 *19*; α(M)=0.0077 *4* α(N)=0.00190 *10*; α(O)=0.000333 *21*; α(P)=2.3×10^{-5} *4*
		374.1# *3*	36 *5*	8.1?						
		382.1 *3*	18 *6*	0.0	3$^+$	M1+E2	1.4 *5*	0.081 *22*		α(K)=0.063 *19*; α(L)=0.0139 *19*; α(M)=0.0033 *4* α(N)=0.00081 *10*; α(O)=0.000137 *19*; α(P)=7.4×10^{-6} *24*
426.0	(9$^+$)	133.6 *3*	29 *4*	292.2	(8$^+$)					
		240.3 *3*	100 *11*	185.8	(7$^+$)					
		254.8 *3*	89 *11*	171.4	(7$^+$)	(Q)				
439.4	(9$^+$)	147.7 *3*	9 *2*	292.2	(8$^+$)					
		253.1 *3*	50 *6*	185.8	(7$^+$)	(Q)				
		267.8 *3*	100 *28*	171.4	(7$^+$)	(Q)				
452.50	(2)$^+$	70.3 *3*	100 *22*	382.16	(3)$^+$	M1		3.00 *6*		α(L)=2.31 *5*; α(M)=0.533 *10* α(N)=0.1310 *25*; α(O)=0.0232 *5*; α(P)=0.00175 *4*
		110.9 *3*	10.9 *17*	341.66	(2,3,4)$^+$	M1(+E2)	<1	4.2 *4*		α(K)=2.98 *78*; α(L)=0.91 *30*; α(M)=0.222 *80* α(N)=0.054 *20*; α(O)=0.0089 *28*; α(P)=3.67×10^{-4} *99*
		262.3 *3*	65 *9*	190.37	(3)$^+$	M1(+E2)	<1.7	0.308 *98*		α(K)=0.242 *94*; α(L)=0.050 *4*; α(M)=0.0119 *6*

From ENSDF

$^{182}_{77}Ir_{105}$-7

Adopted Levels, Gammas (continued)

$\gamma(^{182}\mathrm{Ir})$ (continued)

E_i(level)	J^π_i	E_γ†	I_γ†	E_f	J^π_f	Mult.‡	δ‡	α&	Comments
									α(N)=0.00292 *15*; α(O)=0.00050 *5*; α(P)=2.9×10^{-5} *12*
452.50	(2)$^+$	278.1 *3*	52 *9*	174.48	(3)$^-$	E1		0.0303	α(K)=0.0251 *4*; α(L)=0.00402 *6*; α(M)=0.000922 *14* α(N)=0.000225 *4*; α(O)=3.86×10^{-5} *6*; α(P)=2.46×10^{-6} *4*
458.30	(2,3,4)$^+$	458.4 *3*	100 *22*	0.0	3$^+$	M1(+E2)	<0.6	0.082 *9*	α(K)=0.068 *8*; α(L)=0.0112 *8*; α(M)=0.00257 *18* α(N)=0.00063 *5*; α(O)=0.000112 *9*; α(P)=8.2×10^{-6} *9*
519.8	(9$^-$)	173.1 *3*	100 *6*	346.7	(8$^-$)	(M1+E2)		0.93 *36*	α(K)=0.65 *41*; α(L)=0.21 *4*; α(M)=0.051 *12* α(N)=0.012 *3*; α(O)=0.0020 *3*; α(P)=7.8×10^{-5} *54*
		253.0 *3*	46 *5*	266.6	(7$^-$)	(Q)			
590.7	(10$^+$)	151.2 *3*	12 *2*	439.4	(9$^+$)				
		165.2 *3*	13 *2*	426.0	(9$^+$)	D			
		298.7 *3*	100 *10*	292.2	(8$^+$)				
615.21	(2,3)$^+$	157.0 *3*	43 *6*	458.30	(2,3,4)$^+$	[M1,E2]		1.25 *45*	α(K)=0.85 *55*; α(L)=0.30 *8*; α(M)=0.074 *22* α(N)=0.0180 *52*; α(O)=0.0029 *7*; α(P)=1.02×10^{-4} *71*
		615.1 *3*	100 *16*	0.0	3$^+$	M1+E2	≈0.8	≈0.0312	α(K)≈0.0256; α(L)≈0.00434; α(M)≈0.001004 α(N)≈0.000246; α(O)≈4.32×10^{-5}; α(P)≈3.06×10^{-6}
632.4	(10$^-$)	112.6 *3*	36 *4*	519.8	(9$^-$)	(M1+E2)		3.6 *8*	α(K)=2.1 *15*; α(L)=1.13 *55*; α(M)=0.28 *15* α(N)=0.069 *36*; α(O)=0.0109 *50*; α(P)=2.6×10^{-4} *19*
		285.8 *3*	100 *11*	346.7	(8$^-$)				
636.87	(1,2)$^+$	184.8 *3*	20 *3*	452.50	(2)$^+$	M1(+E2)	<1.2	0.89 *19*	α(K)=0.68 *20*; α(L)=0.156 *13*; α(M)=0.037 *5* α(N)=0.0091 *10*; α(O)=0.00154 *10*; α(P)=8.3×10^{-5} *26*
		353.3 *3*	13 *3*	283.80	(2)$^+$	(M1)		0.181	α(K)=0.1495 *22*; α(L)=0.0240 *4*; α(M)=0.00552 *8* α(N)=0.001358 *20*; α(O)=0.000241 *4*; α(P)=1.82×10^{-5} *3*
		377.2 *3*	84 *12*	259.60	(2)$^+$	M1(+E2)	<0.5	0.141 *11*	α(K)=0.116 *10*; α(L)=0.0193 *9*; α(M)=0.00445 *19* α(N)=0.00109 *5*; α(O)=0.000193 *10*; α(P)=1.41×10^{-5} *12*
		549.3 *3*	16 *3*	87.38	(1,2)$^+$	[M1,E2]		0.038 *19*	α(K)=0.031 *17*; α(L)=0.0054 *20*; α(M)=0.00127 *43* α(N)=3.1×10^{-4} *11*; α(O)=5.4×10^{-5} *20*; α(P)=3.6×10^{-6} *20*
		561.9 *3*	100 *13*	74.82	(2)$^+$	M1(+E2)	<0.7	0.047 *6*	α(K)=0.039 *5*; α(L)=0.0064 *7*; α(M)=0.00147 *14* α(N)=0.00036 *4*; α(O)=6.4×10^{-5} *7*; α(P)=4.7×10^{-6} *7*
662.70	(1,2)$^+$	210.3 *3*	100 *14*	452.50	(2)$^+$	M1,E2		0.52 *23*	α(K)=0.38 *24*; α(L)=0.104 *4*; α(M)=0.0251 *21* α(N)=0.0061 *5*; α(O)=0.001018 *20*; α(P)=4.5×10^{-5} *31*
		403.1 *3*	71 *14*	259.60	(2)$^+$	M1(+E2)	<0.7	0.113 *15*	α(K)=0.093 *13*; α(L)=0.0156 *13*; α(M)=0.0036 *3* α(N)=0.00089 *7*; α(O)=0.000156 *14*; α(P)=1.12×10^{-5} *16*
		468.3 *3*	46 *8*	194.36	(1,2)$^+$	E2+M1	1.7 *6*	0.043 *12*	α(K)=0.0334 *99*; α(L)=0.0071 *11*; α(M)=0.00169 *24* α(N)=0.00041 *6*; α(O)=7.0×10^{-5} *12*; α(P)=3.9×10^{-6} *13*
		588.0 *3*	≈50	74.82	(2)$^+$	M1		0.0471	α(K)=0.0391 *6*; α(L)=0.00619 *9*; α(M)=0.001419 *20* α(N)=0.000349 *5*; α(O)=6.19×10^{-5} *9*; α(P)=4.72×10^{-6} *7*
776.3	(11$^+$)	185.7 *3*	14 *3*	590.7	(10$^+$)				
		350.1 *3*	100 *12*	426.0	(9$^+$)				
782.9	(1,2)$^+$	523.2 *3*	100	259.60	(2)$^+$	M1(+E2)	<0.3	0.0621 *20*	α(K)=0.0514 *17*; α(L)=0.00823 *22*; α(M)=0.00189 *5* α(N)=0.000465 *12*; α(O)=8.23×10^{-5} *22*; α(P)=6.22×10^{-6} *21*
807.0	(11$^+$)	367.3 *3*	100	439.4	(9$^+$)	(Q)			

Adopted Levels, Gammas (continued)

$\gamma(^{182}Ir)$ (continued)

E_i(level)	J^π_i	E_γ†	I_γ†	E_f	J^π_f	Mult.‡	δ‡	α&	Comments
852.8	(3)$^+$	593.6 3	79 12	259.60	(2)$^+$	M1(+E2)	<0.5	0.043 3	α(K)=0.036 3; α(L)=0.0057 4; α(M)=0.00131 8 α(N)=0.000323 19; α(O)=5.7$\times10^{-5}$ 4; α(P)=4.3$\times10^{-6}$ 4
		826.5 3	100 17	25.89	(5)$^+$	(E2)		0.00767	α(K)=0.00614 9; α(L)=0.001173 17; α(M)=0.000275 4 α(N)=6.74$\times10^{-5}$ 10; α(O)=1.157$\times10^{-5}$ 17; α(P)=7.00$\times10^{-7}$ 10
904.1	(1,2,3)$^+$	527.2 3	100 15	377.06	(2)$^+$	M1(+E2)	<0.1	0.0624	α(K)=0.0517 8; α(L)=0.00822 12; α(M)=0.00189 3 α(N)=0.000464 7; α(O)=8.23$\times10^{-5}$ 12; α(P)=6.26$\times10^{-6}$ 9
		713.5 3	50 8	190.37	(3)$^+$				
907.5	(11$^-$)	275.2 3	100 11	632.4	(10$^-$)				
		387.7 3	46 4	519.8	(9$^-$)				
922.7	(0$^-$ to 4$^-$)	577.0 3	100	345.67	(2)$^-$	E1,E2			
985.3	(12$^+$)	209.0 3		776.3	(11$^+$)				
		394.8 3	100 12	590.7	(10$^+$)	(Q)			
1002.34	1$^+$	339.8 3	4.2 6	662.70	(1,2)$^+$	M1(+E2)	<1.5	0.154 47	α(K)=0.124 43; α(L)=0.023 4; α(M)=0.0054 7 α(N)=0.00133 18; α(O)=0.00023 4; α(P)=1.49$\times10^{-5}$ 54
		365.6 3	11.7 17	636.87	(1,2)$^+$	M1(+E2)	<0.6	0.150 15	α(K)=0.123 14; α(L)=0.0207 13; α(M)=0.0048 3 α(N)=0.00118 7; α(O)=0.000207 13; α(P)=1.50$\times10^{-5}$ 17
		387 1	3.9 6	615.21	(2,3)$^+$	[M1,E2]		0.094 48	α(K)=0.075 43; α(L)=0.0147 42; α(M)=0.0035 9 α(N)=8.5$\times10^{-4}$ 22; α(O)=1.46$\times10^{-4}$ 43; α(P)=8.9$\times10^{-6}$ 54
		549.6 3	9.4 17	452.50	(2)$^+$	M1(+E2)	<0.1	0.0560	α(K)=0.0464 7; α(L)=0.00737 11; α(M)=0.001691 25 α(N)=0.000416 6; α(O)=7.37$\times10^{-5}$ 11; α(P)=5.61$\times10^{-6}$ 9
		620.2 3	4.3 7	382.16	(3)$^+$				
		625.1 3	8.3 11	377.06	(2)$^+$	M1(+E2)	<1.6	0.0308 95	α(K)=0.0253 81; α(L)=0.0042 11; α(M)=0.00098 23 α(N)=0.00024 6; α(O)=4.2$\times10^{-5}$ 11; α(P)=3.0$\times10^{-6}$ 10
		656.6 3	55 6	345.67	(2)$^-$	E1		0.00453	α(K)=0.00380 6; α(L)=0.000568 8; α(M)=0.0001293 19 α(N)=3.16$\times10^{-5}$ 5; α(O)=5.54$\times10^{-6}$ 8; α(P)=3.98$\times10^{-7}$ 6
		681.4 3	100 10	320.93	(2)$^-$	E1		0.00421	α(K)=0.00353 5; α(L)=0.000526 8; α(M)=0.0001198 17 α(N)=2.93$\times10^{-5}$ 5; α(O)=5.14$\times10^{-6}$ 8; α(P)=3.70$\times10^{-7}$ 6
		718.6 3	3.7 6	283.80	(2)$^+$	M1(+E2)	<0.6	0.0257 24	α(K)=0.0213 21; α(L)=0.0034 3; α(M)=0.00078 6 α(N)=0.000192 15; α(O)=3.4$\times10^{-5}$ 3; α(P)=2.6$\times10^{-6}$ 3
		742.7 3	2.4 4	259.60	(2)$^+$	M1(+E2)	<2	0.0193 65	α(K)=0.0159 56; α(L)=0.00263 74; α(M)=6.1$\times10^{-4}$ 17 α(N)=1.49$\times10^{-4}$ 41; α(O)=2.62$\times10^{-5}$ 75; α(P)=1.89$\times10^{-6}$ 69
		791.4 3	17.2 22	210.97	1$^+$	M1		0.0219	α(K)=0.0182 3; α(L)=0.00286 4; α(M)=0.000655 10 α(N)=0.0001610 23; α(O)=2.86$\times10^{-5}$ 4; α(P)=2.19$\times10^{-6}$ 3
		808.0 3	2.6 4	194.36	(1,2)$^+$	(M1)		0.0208	α(K)=0.01730 25; α(L)=0.00271 4; α(M)=0.000621 9 α(N)=0.0001526 22; α(O)=2.71$\times10^{-5}$ 4; α(P)=2.07$\times10^{-6}$ 3
		812.2 3	3.7 6	190.37	(3)$^+$				
		914.9 3	6.1 11	87.38	(1,2)$^+$				
1024.85	(1)$^+$	241.9 3	14.3 22	782.9	(1,2)$^+$	M1(+E2)	<0.5	0.47 4	α(K)=0.39 4; α(L)=0.0671 12; α(M)=0.01558 23 α(N)=0.00383 6; α(O)=0.000671 14; α(P)=4.7$\times10^{-5}$ 5
		362.2 3	41 5	662.70	(1,2)$^+$	M1(+E2)	<0.7	0.150 19	α(K)=0.123 17; α(L)=0.0210 16; α(M)=0.0049 4 α(N)=0.00119 8; α(O)=0.000209 16; α(P)=1.49$\times10^{-5}$ 22
		388.1 3	27 5	636.87	(1,2)$^+$	M1(+E2)	<0.8	0.122 19	α(K)=0.100 17; α(L)=0.0171 17; α(M)=0.0040 4 α(N)=0.00097 9; α(O)=0.000170 17; α(P)=1.21$\times10^{-5}$ 21

$^{182}_{77}Ir_{105}$-9

$\gamma(^{182}$Ir) (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[†]	E_f	J^π_f	Mult.[‡]	δ[‡]	α[&]	Comments
1024.85	(1)$^+$	572.3 3	100 11	452.50	(2)$^+$	M1		0.0505	α(K)=0.0419 6; α(L)=0.00664 10; α(M)=0.001524 22 α(N)=0.000375 6; α(O)=6.65×10^{-5} 10; α(P)=5.06×10^{-6} 8
		642.7 3	22 3	382.16	(3)$^+$				
		647.8 3	35 5	377.06	(2)$^+$	M1(+E2)	<0.9	0.031 6	α(K)=0.026 5; α(L)=0.0042 6; α(M)=0.00097 13 α(N)=0.00024 4; α(O)=4.2×10^{-5} 6; α(P)=3.1×10^{-6} 6
		679.3 3	62 8	345.67	(2)$^-$				
		703.9 3	62 8	320.93	(2)$^-$	E1		0.00395	α(K)=0.00331 5; α(L)=0.000493 7; α(M)=0.0001121 16 α(N)=2.74×10^{-5} 4; α(O)=4.81×10^{-6} 7; α(P)=3.48×10^{-7} 5
		834.3 3	21 3	190.37	(3)$^+$				
1039.0	(12$^-$)	131.5 3	7 1	907.5	(11$^-$)				
		406.5 3	100 13	632.4	(10$^-$)	(Q)			
1135.66	(1,2)$^+$	790.0 3	≈67	345.67	(2)$^-$	E1		0.00316	α(K)=0.00265 4; α(L)=0.000391 6; α(M)=8.90×10^{-5} 13 α(N)=2.18×10^{-5} 3; α(O)=3.83×10^{-6} 6; α(P)=2.79×10^{-7} 4
		814.8 3	100 12	320.93	(2)$^-$	E1		0.00297	α(K)=0.00250 4; α(L)=0.000368 6; α(M)=8.37×10^{-5} 12 α(N)=2.05×10^{-5} 3; α(O)=3.60×10^{-6} 5; α(P)=2.64×10^{-7} 4
		924.6 3	12.9 20	210.97	1$^+$	M1(+E2)	<0.6	0.0136 12	α(K)=0.0113 10; α(L)=0.00178 14; α(M)=0.00041 3 α(N)=0.000100 8; α(O)=1.78×10^{-5} 14; α(P)=1.35×10^{-6} 13
1212.1	(13$^+$)	435.8 3	100	776.3	(11$^+$)				
1248.3	(13$^+$)	441.1 3	100	807.0	(11$^+$)				
1408.6	(13$^-$)	369.5 3	96 12	1039.0	(12$^-$)				
		501.2 3	100 19	907.5	(11$^-$)				
1456.8	(14$^+$)	207.8 3		1248.3	(13$^+$)				
		471.7 3	100 6	985.3	(12$^+$)				
1540.7	(0$^+$ to 4$^+$)	1281.1 3	100	259.60	(2)$^+$				
1554.6	(14$^-$)	145.9[a] 3	6 1	1408.6	(13$^-$)				
		515.6 3	100 9	1039.0	(12$^-$)	(Q)			
1714.5	(15$^+$)	502.4 3	100	1212.1	(13$^+$)				
1730.0	(15$^+$)	272.8 3		1456.8	(14$^+$)				
		482.2 3	100 12	1248.3	(13$^+$)				
1986.2	(16$^+$)	529.4 3	100	1456.8	(14$^+$)				
1995.3	(15$^-$)	440.8 3	100 13	1554.6	(14$^-$)				
		586.7 3		1408.6	(13$^-$)				
2159.1	(16$^-$)	163.5[a] 3		1995.3	(15$^-$)				
		604.5 3	100 10	1554.6	(14$^-$)				
2237.8	(17$^+$)	507.8 3	100	1730.0	(15$^+$)				
2267.1	(17$^+$)	552.6 3	100	1714.5	(15$^+$)				
2559.7	(18$^+$)	573.5 3	100	1986.2	(16$^+$)				
2782.0	(19$^+$)	544.2 3	100	2237.8	(17$^+$)				
2823.3	(18$^-$)	664.2 3	100	2159.1	(16$^-$)				
2860.1	(19$^+$)	593.0 3	100	2267.1	(17$^+$)				
3172.4	(20$^+$)	612.7 3	100	2559.7	(18$^+$)				

$^{182}_{77}$Ir$_{105}$-10

$\gamma(^{182}$Ir) (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[†]	E_f	J^π_f
3388.5	(21$^+$)	606.5 *3*	100	2782.0	(19$^+$)
3492.1	(21$^+$)	632.0 *3*	100	2860.1	(19$^+$)
3520.4	(20$^-$)	697.1 *3*	100	2823.3	(18$^-$)
3869.4	(22$^+$)	697.0 *3*	100	3172.4	(20$^+$)

[†] From ce data in ^{182}Pt ε decay for transitions from low-spin (J<6) states and from $\gamma(\theta)$ in (^{14}N,4nγ) for high-spin (J>5) states.

[‡] From ce data in ^{182}Pt ε decay for transitions from low-spin (J<6) states and from $\gamma(\theta)$ in (^{14}N,4nγ) for high-spin (J>5) states. In (^{14}N,4nγ), E2 is assumed for ΔJ=2 transitions and M1 for ΔJ=1, Δπ=no and E1 for ΔJ=1, Δπ=yes. Data supporting assignments in for high-spins are available only for a few transitions. For some others, intensity balance arguments are used.

[#] Ordering of 373.6-8.1 and 17.6-101.5 cascades is not established.

[@] From ^{182}Pt ε decay only.

[&] Theoretical values from BrIcc v2.3b (16-Dec-2014) 2008Ki07, "Frozen Orbitals" approximation. If No value of δ(E2/M1) given it was as 1.00.

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

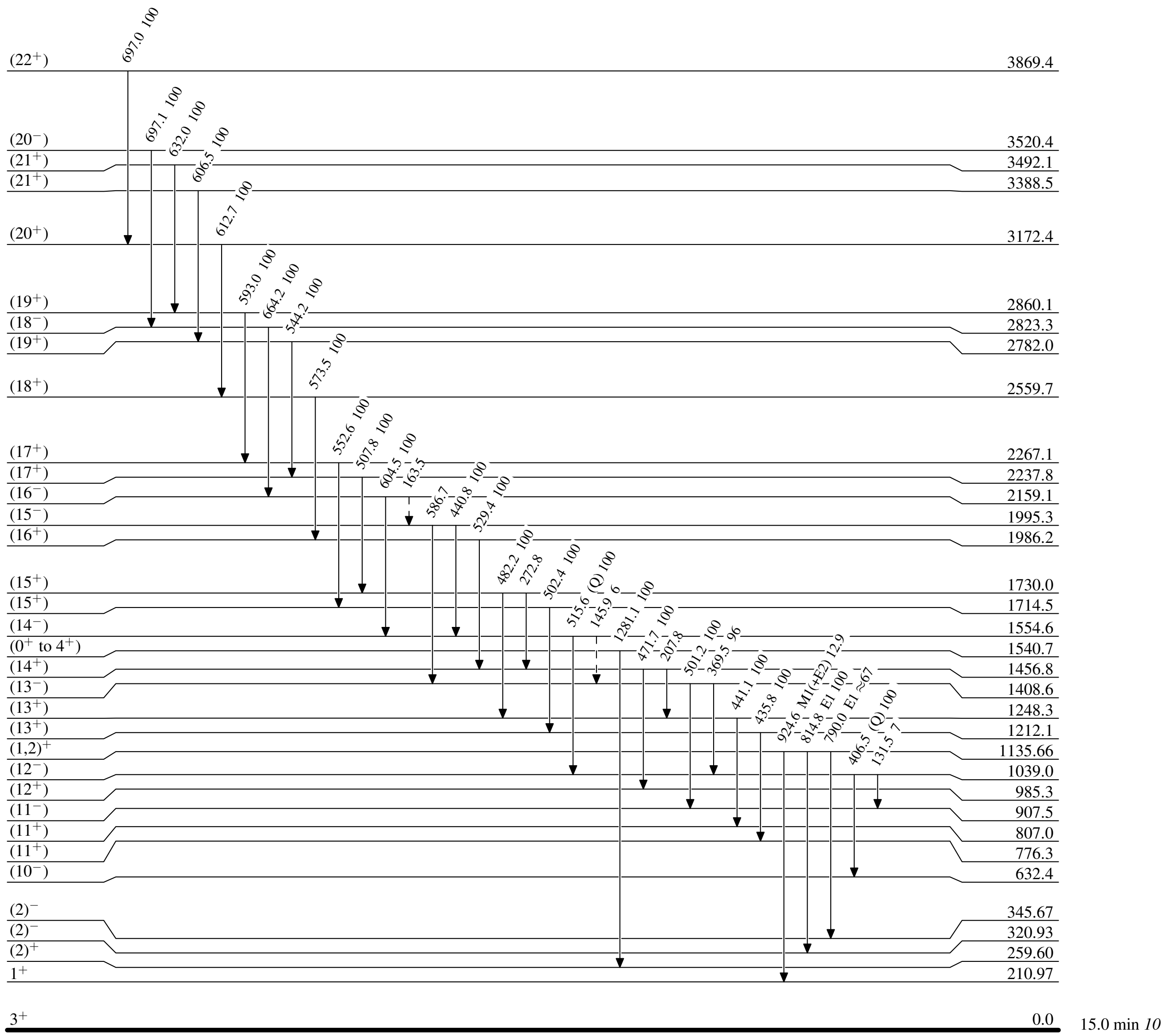
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

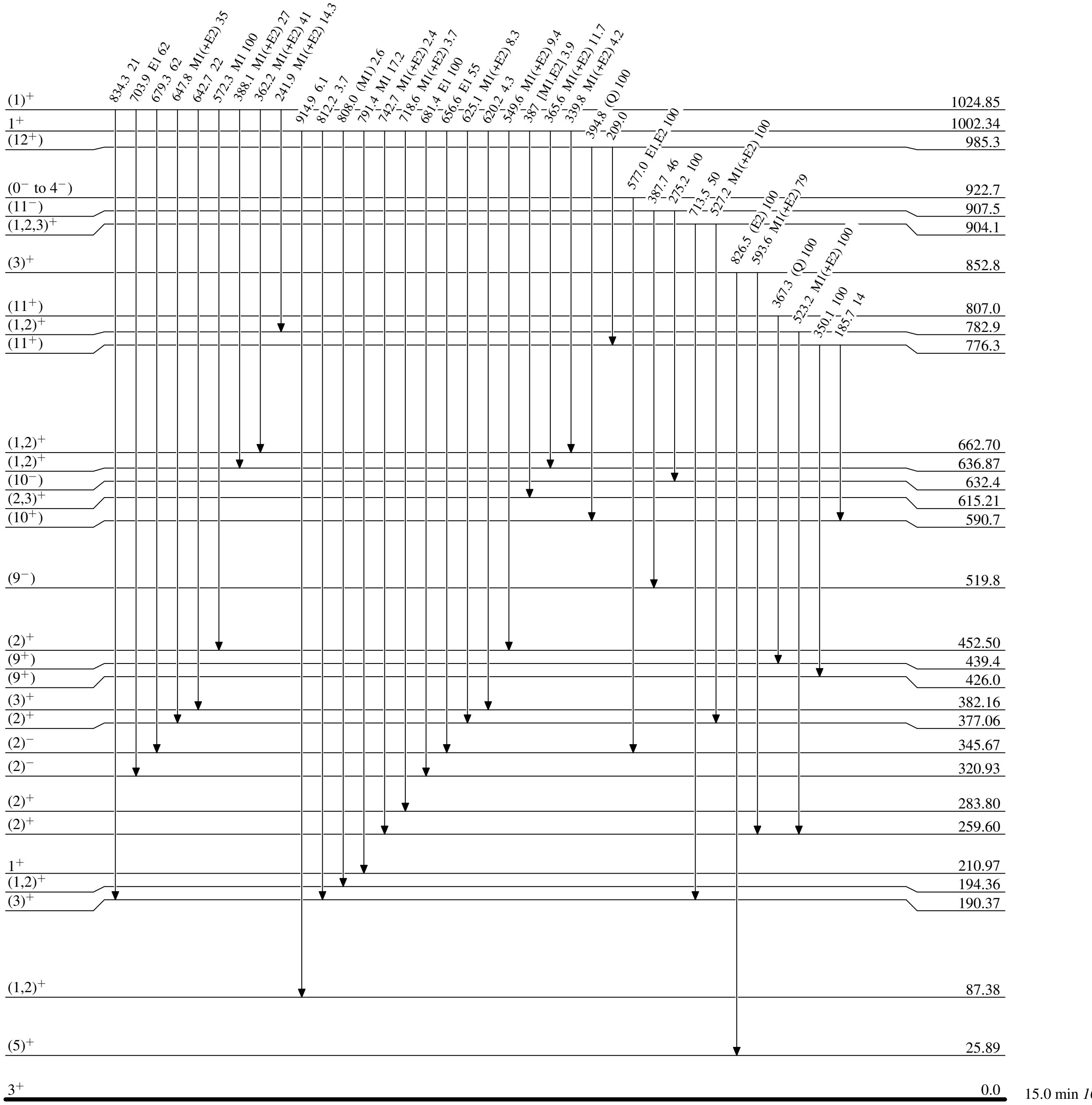


$^{182}_{77}\mathrm{Ir}_{105}$

Adopted Levels, Gammas

Level Scheme (continued)

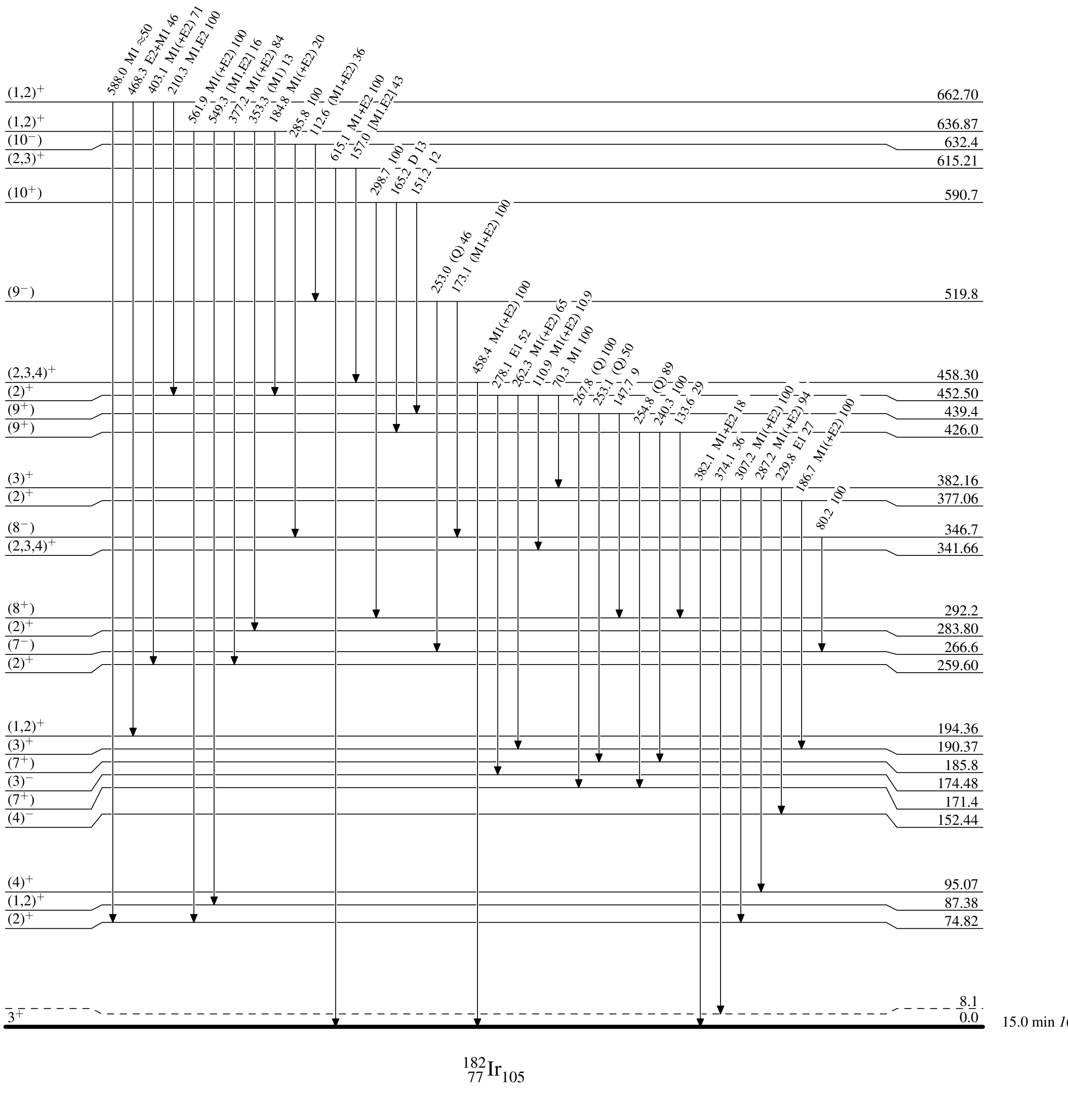
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

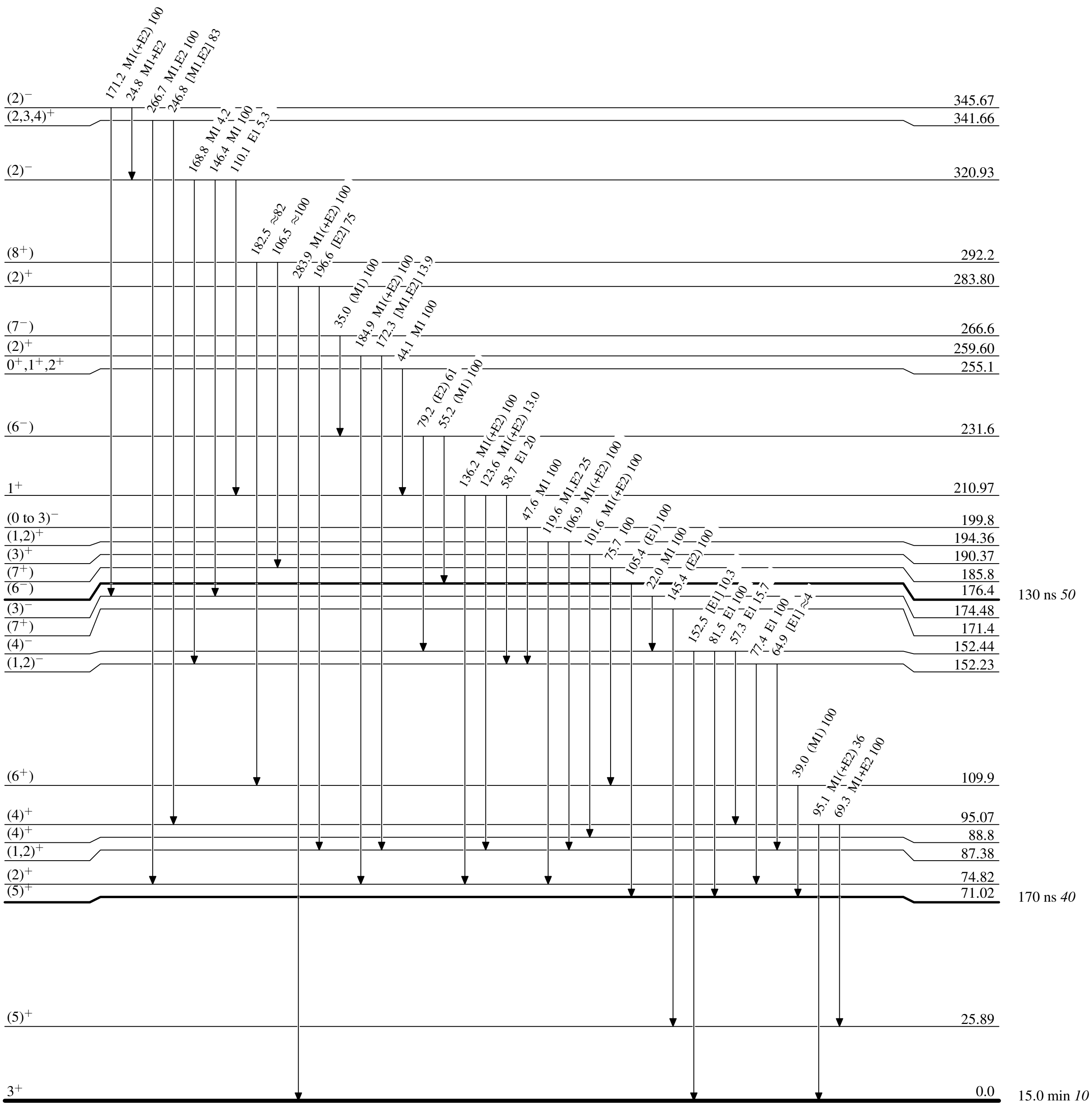


$^{182}_{77}Ir_{105}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



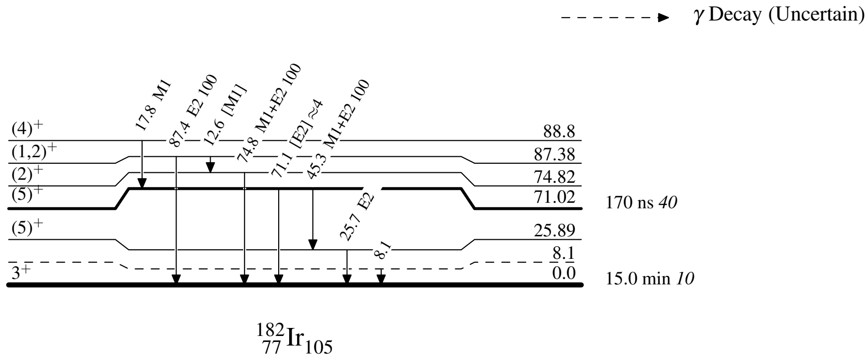
$^{182}_{77}Ir_{105}$

Adopted Levels, Gammas

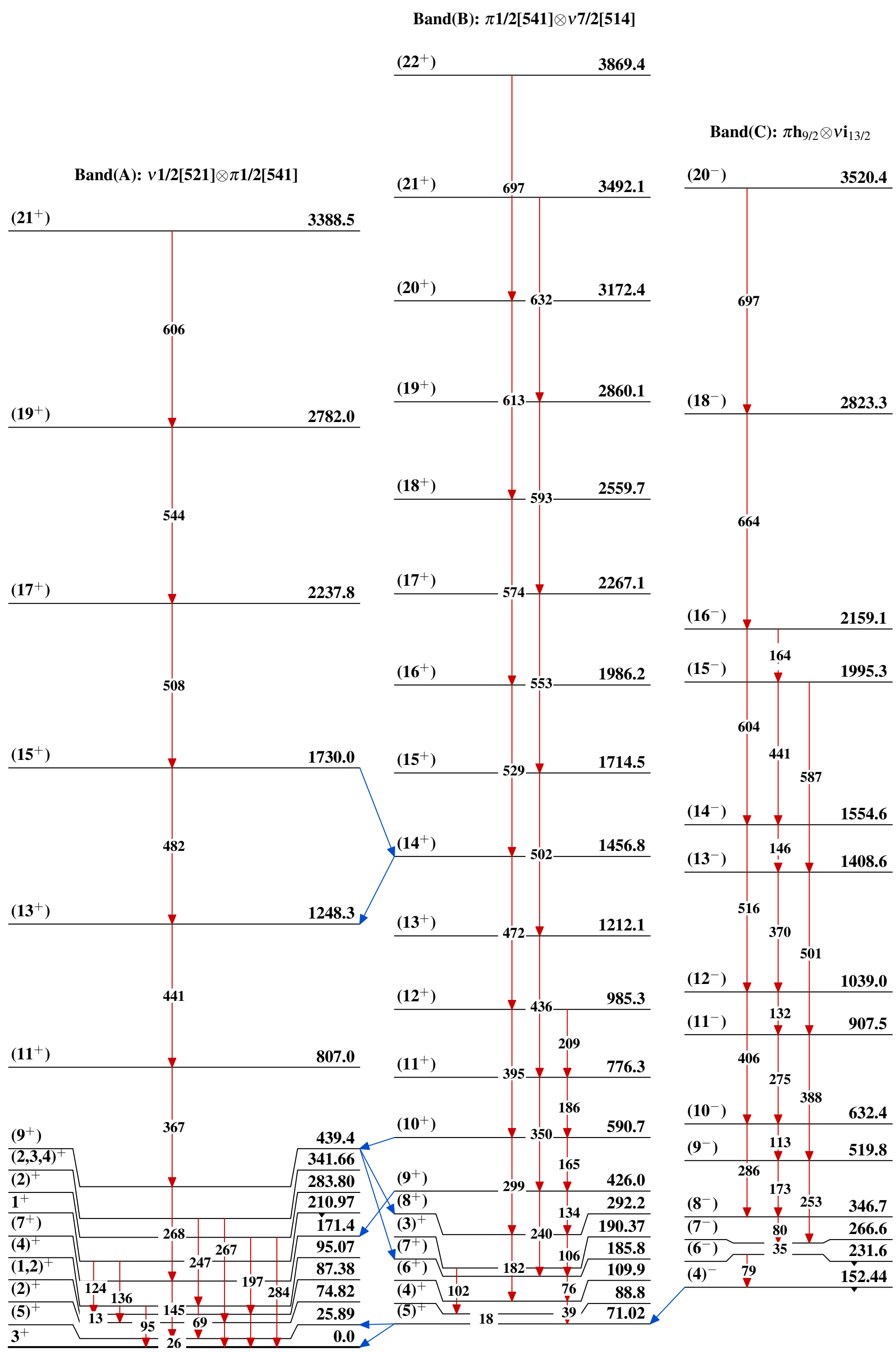
Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level



Adopted Levels, Gammas



$^{182}_{77}Ir_{105}$