Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 113,1871 (2012)	15-Jun-2012

Q(β^-)=1454.5 *24*; S(n)=6198.13 *11*; S(p)=5729.8 *12*; Q(α)=1756.3 *13* 2012Wa38
Note: Current evaluation has used the following Q record 1454.5 23 *6198*.1311 *5729*.8 *12* 1756.4 *13* 2003Au03,2011AuZZ.
Q(β^-), S(n), S(p), Q(α): from 2011AuZZ (cf. 1459.7 *19*, 6198.11 *11*, 5728.5 *11*, 1758.0 *12*, respectively, from 2003Au03).
See ^{191}Ir(n,γ) E=res dataset for the energies of a number of resonances with energies near 6198 keV; they have not been included here.
Specific activity of ^{192}Ir: 265.2 *11* kBq/g (2001Fo01).

^{192}Ir Levels

Band structure is discussed in 1997BaZV, 1994Ga05 and 1991Ke10; assignments are based on Nilsson model calculations for plausible configurations, spectroscopic factors from transfer reactions and γ decay patterns.

Cross Reference (XREF) Flags

A	^{192}Ir IT decay (1.45 min)	E	^{191}Ir(d,p)	I	^{191}Ir(n,γ) E=2, 24 keV
B	^{192}Ir IT decay (241 y)	F	^{193}Ir(d,t)	J	^{191}Ir(n,γ) E=res
C	^{191}Ir(n,γ) E=thermal:primary	G	^{193}Ir(^{3}He,α)		
D	^{191}Ir(n,γ) E=thermal:secondary	H	^{195}Pt(p,α)		

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$[#a]	XREF	Comments
0.0	4$^+$	73.829[&] d *11*	AB D	%β^-=95.24 *4*; %ε=4.76 *4* μ=+1.924 *10*; Q=+2.22 *7* %β^-, %ε: from Σ(I(γ+ce) to ^{192}Pt g.s.), representing all decays by β^-, and Σ(I(γ+ce) to ^{192}Os g.s.), representing all decays by ε. μ: Magnitude from radiative detection of NMR (1989Ra17); value relative to μ=+0.1637 *6* for ^{193}Ir(g.s.). Sign from nuclear orientation, γ-ray circular polarization (1988Sc20). Q: Average of +2.15 *6* (from Q/Q(^{189}Ir)=+1.658 *5* and Q(^{189}Ir)=+0.878 *10*; 1996Se15, NMR on oriented nuclei) and +2.28 *6* (value relative to Q=+0.751 *9* for ^{193}Ir(g.s.); radiative detection of NMR, 1989Ra17 from 1985Ed02). Other values: +2.03 *23* and +2.36 *11* (1989Ra17 from 1986Gr26 and 1985Ha41); +2.28 *6* (preliminary result, 1996Ha09). J$^\pi$: spin from atomic beam (1963Do13); E3 γ from π=− 57 level establishes π=+. The probable configuration for ^{192}Ir g.s. is configuration=((π 3/2[402])-(ν 11/2[615]))+((π 11/2[505])-(ν 3/2[512])) (1991Ke10), as for ^{190}Ir; supported by measured μ.
12.984? *14*	(6$^+$)		B D	J$^\pi$: possible mixed configuration=((π 1/2[400])+(ν 11/2[615]))+((π 11/2[505])+(ν 1/2[512])) (1997BaZV).
16.050? *23*	(6$^-$)		D	J$^\pi$: possible E2 50.8γ from (4)$^-$ 67 level; tentative bandhead for configuration=((π 3/2[402])+(ν 9/2[505])) (1997BaZV) which is expected to lie below the 3$^-$ 84 level (based on Gallagher-Moszkowski rule); absence in (n,γ) E=2, 24 keV favors J>3. However, the expected strong L=5 excitation of this configuration in (d,t) is unobserved up to E=200 keV (1994Ga05).
56.720[f] *5*	1$^-$	1.45 min *5*	A CDEF HI	%IT=99.9825; %β^-=0.0175 %β^-: from ΣIβ^- (three groups) relative to total number of disintegrations (1959Sc41; uncertainty unstated). J$^\pi$: L(d,p)=1; E3 57γ to J=4 g.s. $T_{1/2}$: from 1953We02, 1954We10. Other value: 1.42 min *10* (1961Sc07). Others: 1937Mc04, 1948Ho37, 1954Mi85.

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Adopted Levels, Gammas (continued)

^{192}Ir Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$[#a]	XREF	Comments
66.830 *20*	(4)⁻	15 ns *4*	CDEFGh	Jπ: L(d,p)=3 for 3/2⁺ target; 67γ to 4⁺ is not M2 or higher; absence of primary γ in (n,γ) (average resonance capture) favors J>3; tentative configuration=((π 3/2[402])+(ν 5/2[503])) (1994Ga05) or configuration=((π 1/2[400])-(ν 9/2[505])) (1997BaZV) (or mixture of the two) implies J=4.
72? *2*			EF h	
84.275[g] *3*	3⁻	1.9 ns *4*	CDEFG I	Jπ: E1 84γ to 4⁺ g.s.; M1 227γ from J≤2, 311 level.
104.776[d] *5*	(1)⁻	17.4 ns *26*	CDEFgHI	Jπ: M1+E2 48γ to 1⁻ 57; M1 24γ from (0)⁻ 129.
115.564[f] *5*	(2)⁻		CDEFg i	Jπ: 1⁻,2⁻ from M1+E2 59γ to 1⁻; band assignment requires J=2.
118.7824 *18*	3⁻	>15 ns	CDEFg i	Jπ: E1 119γ to 4⁺; fed by primary γ from 1⁺,2⁺ in (n,γ) E=thermal. Possible bandhead for configuration=((π 3/2[402])+(ν 3/2[512])) (1991Ke10).
122.5? *10*			E h	
128.744[@d] *6*	(0)⁻[@]		CDEF hI	Jπ: M1 72γ to 1⁻ 57; L(d,t)=1 for 3/2⁺ target; band assignment. Eγ=128.736 *25* for a transition in (n,γ) E=thermal suggests a placement from this level, but the implied M4 multipolarity (α=1082) rules this out because that γ was absent from the ce spectrum.
139.942? *18*	(5⁺)		D	Jπ: population ratio for 127γ in (n,γ) (E=resonance) favors J=4 (1991Ke10) or J=5 (1997BaZV); possible M1 127γ to (6⁺) 13; proposed (1997BaZV) bandhead for possible mixed configuration=((π 1/2[400])-(ν 11/2[615]))+((π 11/2[505])-(ν 1/2[512])).
143.556[e] *6*	(1)⁻		CDEF I	Jπ: 1⁻,2⁻ based on M1 86γ to 1⁻ and L(d,t)=1,3; band assignments from 1997BaZV and 1994Ga05 differ, but both require J=1.
144.904? *5*	(5⁺)		D G	XREF: G(143). Jπ: possible (M1) 145γ to 4⁺ g.s.; possible g.s. band member (1997BaZV), consistent with observed excitation strength in (^{3}He,α) and absence in (d,t) (1994Ga05). However, implied rotational band parameter (A≈14 keV) is lower than anticipated (1997BaZV, 1994Ga05).
168.14 *12*	(11⁻)	241 y *9*	B	%IT=100 %IT: only IT decay has been observed (γ-ray spectrum from very old source almost identical to spectrum from ^{192}Ir g.s. decay (1959Sc41)). The β⁻ and ε+β⁺ decay energies are such that the highest spin state available for population would be the (7⁻) 1518 level in ^{192}Pt. Additional information 1. E(level): assuming IT decay feeds the tentative 12.98 level as suggested in 1997BaZV. Jπ: (E5) 155γ to highly tentative (6⁺) 13 level. See also comment on *Jπ* for this level in ^{192}Ir (241 y) IT decay data set. $T_{1/2}$: from 1970Ha32. Others: 1959Sc41, 1963Ha17.
173.2 *12*			C	
178 *2*			H	
192.935 *6*	(2)⁻		cDEF i	Jπ: M1 109γ to 3⁻ 84 level; M1 49γ to (1)⁻ 144. Possible configuration=((π 3/2[402])+(ν 1/2[510])) (1994Ga05).
193.511[c] *5*	(1)⁺	2.7 ns *6*	cD i	Jπ: E1 137γ to 1⁻ 57; E1 78γ to (2)⁻ 116 level; band assignment requires J=1.
202.9 *8*	≤3		C EFg I	XREF: E(198)F(198). Additional information 2. Jπ: fed by primary γ in (n,γ) E=thermal; 1⁺,2⁺ suggested by (n,γ) E=2,24 keV.
212.808 *5*	(1,2)⁻		CDEFgHI	Jπ: M1 156γ to 1⁻ 57; M1 118γ from (2)⁻ 331.
216.905? *4*	(4⁺)		D	Jπ: 217γ population ratio in (n,γ) (E=resonance) favors J=3 (1991Ke10) or J=4 (1997BaZV); possible M1 217γ to 4⁺ g.s.; proposed as bandhead (1997BaZV) for mixed configuration=((π 3/2[402])-(ν 11/2[615]))+((π 11/2[505])-(ν 3/2[512])) (amplitudes orthogonal to those for g.s.

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Adopted Levels, Gammas (continued)

^{192}Ir Levels (continued)

E(level)[†]	Jπ[‡]	XREF	Comments
			configuration).
223.352? 24	(6⁺)	D	Jπ: possible E1 207γ to (6⁻) 16; multiply-placed 210γ to (6⁺) 13; proposed as bandhead (1997BaZV) for possible mixed configuration=((π 1/2[400])+(ν 11/2[615]))+((π 11/2[505])+(ν 1/2[512])) (amplitudes orthogonal to those for 13-keV level configuration).
225.918 6	(2)⁻	cDEF Hi	XREF: i(228.2). Jπ: E2 169γ to 1⁻ 57; M1 107γ to 3⁻ 119 level; M1 121γ to (1)⁻ 105. Possible configuration=((π 1/2[400])+(ν 3/2[512])) (1994Ga05).
226.261? 7	(≤2⁻)	cD i	XREF: i(228.2). Jπ: possible M1 166.1γ from (1,2,3)⁻ 392 level; doubly-placed M1 170γ to 1⁻ 57; nominated as bandhead for a second expected K^π=0⁻ configuration (1997BaZV).
235.760 6	(1⁻)	CD I	Jπ: possible M1+E2 179γ to 1⁻ 57; possible M1 107γ to (0)⁻ 129. Tentative configuration=((π 1/2[400])+(ν 1/2[510])) (1994Ga05). Not excited in transfer reactions.
239.770? 6	(1)⁻	D	Jπ: possible M1 111γ to (0)⁻ 129; possible 26γ to (1,2)⁻ 213.
240.902[d] 5	(2)⁻	CDEFGHI	XREF: G(245)H(246). Jπ: L(d,p)=1,3; M1 136γ to (1)⁻ 105; M1 26γ from (3)⁻ 267.
256.8 2	(4,5)⁻	EF	Additional information 3. Jπ: L(d,p)=3, so J=1 to 5; absence in (n,γ) studies favors J>3. Tentative configuration=((π 3/2[402])+(ν 7/2[503])) (1994Ga05) favors J=5; however, configuration=((π 3/2[402])+(ν 5/2[503])), J=4 is also possible.
265.160? 8	(0⁻)	D i	Jπ: possible M1 208γ to 1⁻ 57; postulated as a third K^π=0⁻ bandhead (1997BaZV); (n,γ) E=2, 24 keV is consistent with the excitation of a 0⁻ & 3⁻ doublet comprising this level and the (3)⁻ 267 level.
267.128 6	(3)⁻	DEF hi	Jπ: L(d,t)=1,3; M1 152γ to (2)⁻ 116 level; J=3 from population ratio for 152γ in (n,γ) (E=resonance).
277.1 10	(1⁺,2⁺)	I	Jπ: based on excitation strength in (n,γ) E=2, 24 keV.
277.993[g] 5	(4)⁻	D Fgh	Jπ: 3⁻,4⁻ from M1 194γ to 3⁻ 84 level and L(d,t)=5; absence of primary γ in (n,γ) E=thermal favors J>3; should be (but is not) strongly excited in (n,γ) E=2, 24 keV if J^π=3⁻. J=4 required by band assignment.
284.215[c] 5	(2)⁺	D g	Jπ: M1 91γ to (1)⁺ 193.5 level; possible M1 134γ from (3)⁺ 418; band assignment.
288.403 6	(2)⁻	CDEF hI	Jπ: M1 232γ to 1⁻ 57 level; M1 95γ to (2)⁻ 192.9; J=2 or possibly 3 from population ratio for 184γ in (n,γ) (E=resonance).
292.381[e] 13	(2)⁻	CDEFGhI	Jπ: M1 66γ to (2)⁻ 226 level; 1⁻,2⁻ from (n,γ) E=2, 24 keV; band assignment. 292γ to 4⁺ g.s. may be wrongly placed (1991Ke10).
310.999 6	2⁻	DEF hI	Jπ: M1 227γ to 3⁻ 84 level; M1 254γ to 1⁻ 57 level.
319.883 8	(2)⁻	CDEFGhI	XREF: C(317.4). Jπ: M1 215γ to (1)⁻ 105 level; L(d,t)=1,3; M1 201γ to 3⁻ 119.
331.077 6	(2)⁻	cDef i	Jπ: M1 226γ to (1)⁻ 105 level; M1 216γ to (2)⁻ 116 level; J=2 from population ratios for 188γ and 226γ in (n,γ) (E=resonance).
331.761 6	(1)⁻	cDef i	Jπ: M1 203γ to (0)⁻ 129 level; M1 216γ to (2)⁻ 116.
341? 2		EF	
351.690[b] 4	(2)⁺	CD gH	Jπ: E2 352γ to 4⁺ g.s.; 158γ to (1)⁺ 193.5 level; J=2 or possibly 1 from population ratio for 267γ in (n,γ) (E=resonance); 232γ to 3⁻ 119. Possible K=2 bandhead (1997BaZV).
365.653? 7	(2⁻,3⁻)	cDefg i	Jπ: possible M1 99γ to (3)⁻ 267; possible M1 140γ to (2)⁻ 225.9. However, proposed as a J=4 band member (1997BaZV).
366.730 8	(2)⁻	cDefg i	Jπ: M1 262γ to (1)⁻ 105 level; J=2 from population ratio for 262γ in (n,γ) (E=resonance).
368.353 7	(2)⁻	cDef i	Jπ: M1 284γ to 3⁻ 84 level; M1 264γ to (1)⁻ 105 level.
380.3 7		C	
389.720 9	(2)⁻	cDeF i	Jπ: M1+E2 285γ to (1)⁻ 105 level; M1 123γ to (3)⁻ 267; J=1,2 from population ratio for 149γ in (n,γ) (E=resonance). However, preferred (based on γ decay pattern) over the 392 level for J=3 member of band which includes the 105 level (1994Ga05).
392.351[d] 7	(1,2,3)⁻	cDeF hi	XREF: h(402).

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Adopted Levels, Gammas (continued)

^{192}Ir Levels (continued)

E(level)[†]	Jπ[‡]	XREF	Comments
			Jπ: M1 199γ to (2)⁻ 192.9 level; 274γ to 3⁻ 119 level. J=3 if tentative band assignment is correct.
407.3 *10*		EFgh	XREF: h(402).
415.038 *10*	1⁻,2⁻,3⁻	CDEFg I	Jπ: L(d,t)=1,3; supported by M1 174γ to (2)⁻ 241 level.
418.141?[b] *7*	(3⁺,4⁺)	D	Jπ: possible E1 334γ to 3⁻ 84 level; possible 278γ to (5⁺) 140. J=3 if tentative band assignment is correct.
426 *2*		H	
439.3 *5*	1⁻,2⁻,3⁻	C EF I	XREF: F(437.6). Additional information 4. Jπ: L(d,t)=1,3.
440.870[c] *6*	(3⁺)	D	Jπ: (M1) 157γ to (2)⁺ 284 level; suggested band structure (1997BaZV).
444.5 *4*	0⁻ to 3⁻	EF	Additional information 5. Jπ: L(d,t)=1.
451.250 *13*	(1,2)⁻	CDEF I	Jπ: M1 140γ to 2⁻ 311 level; 323γ to (0)⁻ 129 level.
471.1 *3*	1⁻,2⁻,3⁻	C E hI	XREF: h(474). Additional information 6. Jπ: L(d,t)=1,3.
480.4 *9*		EFGh	XREF: h(474). Jπ: possible J=8 member of configuration=((π 3/2[402])+(ν 11/2[615])) based on excitation strength in (^{3}He,α) (1994Ga05).
489.50 *15*	1⁻,2⁻,3⁻	CDEF HI	XREF: H(493). Jπ: L(d,t)=1,3; possible M1 197γ to (2)⁻ 292 level; possible 433γ to 1⁻.
508.988 *8*	(2,3)⁻	CDEF I	Jπ: M1 242γ to (3)⁻ 267; L(d,t)=1,3; M1 178γ to (2)⁻ 331.1.
513.197?[b] *8*	(4⁺)	D	Jπ: possible M1 72γ to (3⁺) 441; possible M1 95γ to (3⁺,4⁺) 418; tentative band structure (1997BaZV).
516.7 *4*	1⁻,2⁻,3⁻	C EF hI	XREF: h(524). Additional information 7. Jπ: L(d,t)=1,3.
529.167? *10*	(1⁻)	D ghi	XREF: h(524). Jπ: possible M1 303γ to (0⁻) 226.
530.266 *13*	1⁻,2⁻,3⁻	CDEFghi	XREF: F(532.5)h(524). Jπ: possible M1 199γ to (2)⁻ 331.1 level; L(d,t)=1,3 for 532.5 *6*, L(d,p)=1 for 531.3 *8* level.
536.87 *23*		C EF	E(level): from (n,γ) E=thermal: primary.
543.63 *21*	0⁻ to 3⁻	C EF HI	Additional information 8. E(level): from (n,γ) E=thermal: primary. Jπ: L(d,p)=1.
559.5 *8*		C I	Additional information 9.
570 *2*		GH	Additional information 10.
582.06 *25*	1⁻,2⁻,3⁻	EF I	Additional information 11. Jπ: L(d,t)=1,3.
585.5 *3*		C	
602.25 *17*	0⁻ to 3⁻	C F HI	E(level): from (n,γ) E=thermal: primary. Others: 603.2 *4* from ^{191}Ir(n,γ) E=2, 24 keV, 604 *4* from (p,t), 603.7 *7* from (d,t). Jπ: L(d,t)=1.
615.0 *6*	0⁻ to 3⁻	C EF	E(level): average of 614.4 *7* in (d,p) and 615.5 *7* in (d,t); however, E=612.9 *8* in (n,γ) E=thermal: primary. Jπ: L(d,p)=1.
628.5 *4*	1⁻,2⁻,3⁻	C EF H	Additional information 12. Jπ: L(d,t)=1,3.
633.34 *17*		C	
645.1 *7*	0⁻ to 3⁻	C EF H	Additional information 13. Jπ: L(d,p)=1.
657.8 *11*		C ef	
663.30 *20*		C ef	Additional information 14.

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Adopted Levels, Gammas (continued)

^{192}Ir Levels (continued)

E(level)[†]	Jπ[‡]	XREF	Comments
			Jπ: L(d,p)=1, L(d,t)=1,3 for E(level)=660.7 *8*, 662.0 *7*, respectively.
670.640?[c] *13*	(4+)	D	Jπ: possible M1 230γ to (3+) 441; proposed band structure (1997BaZV).
681.0 *6*	1−,2−,3−	C F h	XREF: F(679). Additional information 15. Jπ: L(d,t)=1,3.
686.5 *6*	1−,2−,3−	EF h	Additional information 16. Jπ: L(d,t)=1,3.
702.2 *5*	0− to 3−	C EF H	XREF: H(697). Additional information 17. E(level): 697 *4* from (p,α) excluded from average. Jπ: L(d,p)=1.
707.9 *9*		C	
713.6 *6*	0− to 3−	C F	Additional information 18. Jπ: L(d,t)=1.
723 *2*		H	
734.3 *6*		C	
738.9 *6*	1−,2−,3−	C F	Additional information 19. Jπ: L(d,t)=1,3.
749.5 *3*		C	
751.9 *8*	0− to 3−	F	Jπ: L(d,t)=1.
766.67 *17*	1−,2−,3−	C F	E(level): from (n,γ) E=thermal: primary. Jπ: L(d,t)=1,3.
777.8 *6*	0− to 3−	C F	Additional information 20. Jπ: L(d,t)=1.
788.2 *10*		C	
791.1 *9*	0− to 3−	F	Jπ: L(d,t)=1.
797.1 *5*		C	
813.17 *23*	1−,2−,3−	C F	E(level): from (n,γ) E=thermal: primary. Jπ: L(d,t)=1,3.
821.82 *20*		C	
825.0 *9*	1−,2−,3−	F	Jπ: L(d,t)=1,3.
841.2 *3*	0− to 3−	C F	Additional information 21. Jπ: L(d,t)=1.
850.9 *5*	0− to 3−	C F	Additional information 22. Jπ: L(d,t)=1.
865.3 *7*	0− to 3−	C F	Additional information 23. Jπ: L(d,t)=1.
870.47 *21*		C	
874.1 *17*	1−,2−,3−	F	Jπ: L(d,t)=1,3.
884.6 *5*	1−,2−,3−	C F	Additional information 24. Jπ: L(d,t)=1,3.
893.55 *18*		C	
902.8 *23*	1−,2−,3−	C F	Additional information 25. Jπ: L(d,t)=1,3.
914.4 *4*		C	
918.0 *21*	1−,2−,3−	F	Jπ: L(d,t)=1,3.
937.4 *4*	0− to 3−	C F	Additional information 26. Jπ: L(d,t)=1.
944.2 *4*		C	
950.0 *5*		C	
962.9 *18*		C	
967.2 *22*	0− to 3−	F	Jπ: L(d,t)=1.
978.26 *21*		C	
999.5 *3*		C f	XREF: f(1001). Jπ: L(d,t)=1 for 999 and/or 1004 level.
1003.5 *3*		C f	XREF: f(1001).

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Adopted Levels, Gammas (continued)

^{192}Ir Levels (continued)

E(level)†	Jπ‡	XREF	Comments
			Jπ: L(d,t)=1 for 999 and/or 1004 level.
1013.6 *4*	0⁻ to 3⁻	C F	Jπ: L(d,t)=1. E(level): from (n,γ) E=thermal:primary. Other: 1015.0 *19* from (d,t).
1023.6 *24*	1⁻,2⁻,3⁻	C F	Jπ: L(d,t)=1,3. E(level): from (d,t). Other: 1019 *4* from (n,γ) E=thermal:primary.
1031.07 *16*		C	
1044.6 *3*		C	
1050.53 *15*	1⁻,2⁻,3⁻	C F	XREF: F(1053). E(level): from (n,γ) E=thermal; primary. Jπ: L(d,t)=1,3.
1060.09 *20*		C F	E(level): from (n,γ) E=thermal:primary. Other: 1060.5 *25* from (d,t).
1068.8 *3*		C	
1074.6 *3*		C F	E(level): from (n,γ) E=thermal:primary. Other: 1078.2 *16* from (d,t).
1088.4 *10*		C f	XREF: f(1091). E(level): from (n,γ) E=thermal:primary.
1093.7 *4*		C f	XREF: f(1091). E(level): from (n,γ) E=thermal:primary.
1106.9 *3*		C	
1112.5 *5*		C	
1131.8 *4*		C	
1144.99 *24*		C	
1151.6 *11*		C	
1155.8 *4*		C	
1160.7 *4*		C	
1169.4 *4*		C	
1177.38 *19*		C	
1194.3 *3*		C	
1204.7 *4*		C	
1212.12 *18*		C	
1217.61 *17*		C	
1225.80 *21*		C	
1231.2 *3*		C	
1242.8 *5*		C	
1248.3 *3*		C	
1255.32 *22*		C	
1259.1 *6*		C	
1265.2 *6*		C	
1273.5 *15*		C	
1282.5 *7*		C	
1291.0 *8*		C	
1299.3 *6*		C	
1304.3 *3*		C	
1322.9 *5*		C	
1331.03 *17*		C	
1338.7 *3*		C	
1343.3 *10*		C	
1348.3 *6*		C	
1359.8 *8*		C	
1365.8 *9*		C	
1372.0 *8*		C	
1380.9 *3*		C	
1388.47 *23*		C	
1396.4 *6*		C	
1409.0 *10*		C	
1418.21 *19*		C	
1432.4 *6*		C	
1436.6 *10*		C	

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Adopted Levels, Gammas (continued)

^{192}Ir Levels (continued)

E(level)†	Jπ‡	XREF	Comments
1441.7 *10*		C	
1448.0 *4*		C	
1463.9 *5*		C	
1468.4 *5*		C	
1486.6 *6*		C	
1495.2 *10*		C	
1502.4 *10*		C	
1514.4 *8*		C	
1530.02 *20*		C	
1534.5 *3*		C	
1551.52 *13*		C	
1558.0 *10*		C	
1571.9 *5*		C	
1586.7 *10*		C	
1597.0 *10*		C	
1608.3 *6*		C	
1626.2 *6*		C	
1634.8 *14*		C	
1641.5 *13*		C	
1648.5 *9*		C	
1659.0 *7*		C	
1666.67 *22*		C	
1676.8 *7*		C	
1692.4 *7*		C	
1703.0 *7*		C	
(6198.13 *11*)	$1^+,2^+$	C	E(level): neutron separation energy from 2011AuZZ. Not a discrete state. Jπ: s-wave neutron capture by $3/2^+$ target.

† From ^{191}Ir(n,γ), except as noted, for levels for which decay γ′s have been observed. Weighted average of all available data, except as noted, for other levels.

‡ Justification for adopted values are given in comments. Additionally, with $J^\pi=1^+,2^+$ for capture states (in s-wave capture from $3/2^+$), J=0,1,2,3 for levels fed by primary γ′s in ^{192}Ir(n,γ) E=thermal.

\# From γγ(t) or centroid shift in ^{191}Ir(n,γ): secondary γ′s, except as noted.

@ $J^\pi=(0^-,3^-)$ for E=130.8 *7* level in (n,γ) E=2, 24 keV, and E=130.8 *10* for a level fed by a primary γ from a $1^+,2^+$ capture state in (n,γ) E=thermal. These data suggest a $(0^-,3^-)$ level at 130.8 *6*. (n,γ) E=thermal populates a nearby $J^\pi\leq 2^-$ 128.7 level and (n,γ) E=2, 24 keV would be expected to do likewise. Possibly the energy mismatch is not significant, but the existence of a 131+129 doublet cannot be ruled out. If there were a doublet, the (n,γ) E=2, 24 keV data would favor J=0 for the 129 level (since π=− is established independently for that level) and $J^\pi=1^+,2^+$ for a 131 level.

& Weighted average (χ^2/n-1=2.63 cf. critical value of 2.60) of 73.84 d *5* and 73.814 d *17* (1992Wo06), 73.810 d *19* (2002Un02), 73.831 d *8* (1980Ho17), 74.02 d *6* (1972La14), 73.6 d *4* (1963Ha17), and 74.2 d *2* (1961Wy01). Others: 74.37 d *7* (1951Ka39) and 74.17 d *7* (1960Al15), measured using electrometers (analog instruments); the authors determined the half-life of ^{192}Ir using unweighted least-squares fits and their reported uncertainties are the standard deviations of those fits. Other recent evaluations (2004Wo02 and 1999BeZQ,1999BeZS obtain values (73.826 d *10* and 73.827 d *13*, respectively) similar to that recommended here (73.829 d *11*).

a Additional information 27.

b Band(A): γ band (1991Ke10).

c Band(B): (π 11/2[505])-(ν 9/2[505])? band (1991Ke10,1997BaZV).

d Band(C): (π 3/2[402])-(ν 3/2[512])? band (1994Ga05). Strong Newby shift expected, with J=1 member at lower energy than J=0 member. The levels assigned to this band (105, 129, 240, 393?) in 1994Ga05 differ from those suggested in 1991Ke10 or 1997BaZV (viz., 129, 144, 213, 267, 365 levels), but 1994Ga05′s assignments are supported by excitation strengths in (d,t) and (d,p). 1994Ga05 assign the J=3 member as one component of the unresolved 390+392 doublet (based on transfer reaction spectroscopic factors); since $J^\pi=(2)^-$ seems most probable for the 390 level, the evaluator tentatively assigns the 392 level as the

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{192}Ir Levels (continued)

band member, even though 1994Ga05 preferred the 390 level based on its γ decay pattern.

[e] Band(D): (π 1/2[400])-(ν 3/2[512])? band (1994Ga05). The levels assigned to this band by 1991Ke10 (104 and 240) differ from those adopted here (144 and 292); 1994Ga05′s assignments are supported by excitation strengths in transfer reactions.

[f] Band(E): (π 3/2[402])-(ν 1/2[510])? band (1991Ke10). 1997BaZV propose the 225.9 level for the J=3 member, but the adopted J^{π}=(2)$^{-}$ for that level is inconsistent with such a designation.

[g] Band(F): (π 3/2[402])-(ν 9/2[505])? band (1994Ga05).

$\gamma(^{192}\mathrm{Ir})$

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[†]	δ[†]	α[&]	Comments
12.984?	(6$^+$)	(12.984)	100	0.0	4$^+$	[E2]		≈5.7×10^4	E_γ: from level energy difference; no radiation observed.
56.720	1$^-$	56.71 *3*	100	0.0	4$^+$	E3[#]		2.85×10^3	B(E3)(W.u.)=0.00119 *5*
66.830	(4)$^-$	50.780[b] *10*	10.1 *6*	16.050?	(6$^-$)	E2		98.9	B(E2)(W.u.)=15 *5*
		66.83 *2*	100 *8*	0.0	4$^+$	[E1]		0.231	B(E1)(W.u.)=4.0×10^{-6} *12* Mult.: not M2 or higher, from RUL and $T_{1/2}$(67 level).
84.275	3$^-$	84.276 *3*	100	0.0	4$^+$	E1		0.614	B(E1)(W.u.)=0.000111 *24*
104.776	(1)$^-$	48.0568 *8*	100	56.720	1$^-$	M1+E2	0.163 *10*	12.3 *5*	B(M1)(W.u.)=0.00084 *13*; B(E2)(W.u.)=3.8 *8*
115.564	(2)$^-$	58.8438 *10*	100	56.720	1$^-$	M1+E2	0.227 *5*	7.17 *14*	
118.7824	3$^-$	34.520 *10*	4.3 *3*	84.275	3$^-$	M1		24.3	B(M1)(W.u.)<0.00066
		118.7817 *18*	100 *12*	0.0	4$^+$	E1		0.257	B(E1)(W.u.)<3.5×10^{-6}
128.744	(0)$^-$	23.970 *6*	27.8 *17*	104.776	(1)$^-$	M1		71.4	
		72.025 *3*	100 *25*	56.720	1$^-$	M1		2.80	
139.942?	(5$^+$)	126.958[b] *3*	100	12.984?	(6$^+$)	M1		3.09	
143.556	(1)$^-$	28.010 *10*	2.20 *18*	115.564	(2)$^-$	M1		45.0	
		38.80 *2*	3.2 *3*	104.776	(1)$^-$	M1		17.19	
		86.837 *5*	100 *20*	56.720	1$^-$	M1		9.17	
144.904?	(5$^+$)	144.904[b] *5*	100	0.0	4$^+$	(M1)		2.12	Mult.: M1 for (144.8γ+144.9γ) doublet dominated by the latter γ.
168.14	(11$^-$)	155.16[@] *12*	100	12.984?	(6$^+$)	(E5)[@]		1085	B(E5)(W.u.)=0.68 *3*
192.935	(2)$^-$	49.390 *10*	3.08 *18*	143.556	(1)$^-$	M1		8.44	
		77.368 *4*	10 *3*	115.564	(2)$^-$	M1		12.62	
		108.668 *12*	2.9 *8*	84.275	3$^-$	M1		4.83	
		136.210 *6*	100 *12*	56.720	1$^-$	(M1,E2)		1.9 *6*	
193.511	(1)$^+$	49.970 *10*	2.68 *17*	143.556	(1)$^-$	(E1)		0.513	B(E1)(W.u.)=4.2×10^{-6} *11* Mult.: α(L1)exp allows mult=M1 or E1+M2 (δ=+0.21 *3*); $\Delta\pi$=yes from level scheme, but δ violates RUL.
		77.9466 *8*	94 *19*	115.564	(2)$^-$	E1		0.738	B(E1)(W.u.)=3.9×10^{-5} *13*
		88.7335 *8*	100 *9*	104.776	(1)$^-$	E1		0.540	B(E1)(W.u.)=2.8×10^{-5} *8*
		136.792 *2*	52 *4*	56.720	1$^-$	E1		0.179	B(E1)(W.u.)=4.0×10^{-6} *11*
212.808	(1,2)$^-$	69.252 *6*	10 *3*	143.556	(1)$^-$	M1		3.14	
		108.0318 *16*	100 *8*	104.776	(1)$^-$	M1		4.91	
		156.081 *3*	40 *4*	56.720	1$^-$	M1		1.721	
216.905?	(4$^+$)	216.905[b] *4*	100	0.0	4$^+$	M1		0.685	
223.352?	(6$^+$)	207.302[b] *6*	100 *11*	16.050?	(6$^-$)	E1		0.0624	
		210.353[ab] *5*	<165[a]	12.984?	(6$^+$)				α(K)exp=0.45 *16* (1991Ke10), mult=M1(+E2) for multiply-placed γ.
225.918	(2)$^-$	32.981 *7*	3.04 *17*	192.935	(2)$^-$	M1		27.8	
		107.129 *10*	12 *3*	118.7824	3$^-$	M1		5.03	
		110.358 *4*	29 *3*	115.564	(2)$^-$	M1		4.62	

γ(^{192}Ir) (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[†]	δ[†]	α[&]	Comments
225.918	(2)⁻	121.136 *7*	8.7 *17*	104.776	(1)⁻	M1		3.54	
		169.202 *7*	100 *10*	56.720	1⁻	E2		0.617	
226.261?	(≤2⁻)	169.541[ab] *5*	100[a]	56.720	1⁻				Mult=M1 (1991Ke10) for doubly-placed γ.
235.760	(1⁻)	107.025[b] *8*	10 *3*	128.744	(0)⁻	M1		5.04	
		179.038[b] *2*	100 *8*	56.720	1⁻	M1+E2	1.0 *+2−4*	0.81 *11*	
239.770?	(1)⁻	26.960[b] *10*	1.97 *14*	212.808	(1,2)⁻				α(L1)exp is much larger than expected from M1 theory.
		111.025[b] *3*	100 *10*	128.744	(0)⁻	M1		4.54	
240.902	(2)⁻	97.351[a] *6*	<4.8[a]	143.556	(1)⁻				Mult=M1 from α(K)exp for doubly-placed γ.
		136.1248 *15*	100 *13*	104.776	(1)⁻	M1		2.54	Mult.: based on α(K)exp for 136.1γ+136.2γ doublet in which this transition is major component.
265.160?	(0⁻)	208.437[b] *7*	100	56.720	1⁻	M1		0.765	
267.128	(3)⁻	26.231 *6*	6.6 *3*	240.902	(2)⁻	M1		54.7	
		54.324 *4*	15.3 *9*	212.808	(1,2)⁻	M1		6.38	
		151.561 *3*	100 *10*	115.564	(2)⁻	M1		1.87	
277.993	(4)⁻	193.718 *4*	100	84.275	3⁻	M1		0.938	
284.215	(2)⁺	90.7035 *15*	100	193.511	(1)⁺	M1		8.10	
288.403	(2)⁻	95.47 *4*	24 *4*	192.935	(2)⁻	M1		7.00	
		144.828 *11*	75 *12*	143.556	(1)⁻				
		172.841 *4*	63 *6*	115.564	(2)⁻	M1		1.291	
		183.624 *6*	100 *12*	104.776	(1)⁻	M1		1.090	
		231.67 *3*	60 *8*	56.720	1⁻	M1		0.571	
292.381	(2)⁻	66.472 *14*	48 *24*	225.918	(2)⁻	M1		3.53	
		148.822[a] *3*	<590[a]	143.556	(1)⁻				Iγ=536 *52*, mult=M1 for doubly-placed γ.
		176.826 *25*	100 *20*	115.564	(2)⁻	M1		1.211	
		292.35[b] *6*	68 *20*	0.0	4⁺				
310.999	2⁻	195.426 *14*	11 *3*	115.564	(2)⁻				
		206.219 *4*	100 *8*	104.776	(1)⁻	M1		0.788	
		226.74 *4*	7.8 *17*	84.275	3⁻	M1		0.606	
		254.277 *15*	47 *5*	56.720	1⁻	M1		0.442	
319.883	(2)⁻	191.16[b] *4*	28 *14*	128.744	(0)⁻				
		201.108 *20*	90 *24*	118.7824	3⁻	M1		0.845	
		215.091 *12*	100 *14*	104.776	(1)⁻	M1		0.701	
331.077	(2)⁻	105.155 *12*	5.7 *17*	225.918	(2)⁻	M1		5.30	
		118.270 *6*	6.3 *13*	212.808	(1,2)⁻	M1		3.79	
		187.521 *6*	17.7 *20*	143.556	(1)⁻	M1		1.027	
		212.31 *5*	3.0 *17*	118.7824	3⁻				
		215.519 *8*	10.0 *17*	115.564	(2)⁻	M1		0.697	
		226.297 *3*	100 *8*	104.776	(1)⁻	M1		0.609	
		246.801 *14*	6.0 *17*	84.275	3⁻				

Adopted Levels, Gammas (continued)

γ(^{192}Ir) (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[†]	δ[†]	α[&]	Comments
331.761	(1)$^-$	90.854[b] *5*	31 *6*	240.902	(2)$^-$	M1		8.06	
		138.247 *4*	83 *10*	193.511	(1)$^+$	(E1)		0.1744	Mult.: E1,E2 from α(K)exp; Δπ=yes from level scheme.
		188.19 *4*	20 *6*	143.556	(1)$^-$				
		203.018 *8*	41 *6*	128.744	(0)$^-$	M1		0.823	
		216.196 *4*	100 *13*	115.564	(2)$^-$	M1		0.691	
		275.042 *20*	50 *10*	56.720	1$^-$				
351.690	(2)$^+$	158.179 *10*	1.3 *4*	193.511	(1)$^+$				
		232.891 *16*	1.9 *4*	118.7824	3$^-$				
		267.416 *10*	5.8 *7*	84.275	3$^-$	(E1)		0.0333	Mult.: E1,E2 from α(K)exp in (n,γ); Δπ=yes from level scheme.
		351.691 *5*	100 *12*	0.0	4$^+$	E2		0.0599	
365.653?	(2$^-$,3$^-$)	98.524[b] *4*	100 *15*	267.128	(3)$^-$	M1		6.39	
		139.736[b] *9*	85 *13*	225.918	(2)$^-$	M1		2.35	
366.730	(2)$^-$	140.830 *15*	8.0 *24*	225.918	(2)$^-$				
		223.18 *3*	8.8 *16*	143.556	(1)$^-$				
		261.951 *6*	100 *10*	104.776	(1)$^-$	M1		0.407	
		310.01 *4*	13 *4*	56.720	1$^-$				
368.353	(2)$^-$	101.221 *15*	9 *3*	267.128	(3)$^-$				
		263.571 *8*	77 *8*	104.776	(1)$^-$	M1		0.400	
		284.072 *12*	100 *8*	84.275	3$^-$	M1		0.326	
		311.70 *5*	20 *5*	56.720	1$^-$				
389.720	(2)$^-$	97.351[a] *6*	<57[a]	292.381	(2)$^-$				Mult=M1 from α(K)exp for doubly-placed γ.
		122.599 *10*	36 *11*	267.128	(3)$^-$	M1		3.42	
		148.822[a] *3*	<229[a]	240.902	(2)$^-$				Iγ=209 *20*, mult=M1 for doubly-placed γ.
		246.152 *12*	28 *8*	143.556	(1)$^-$				
		284.939 *14*	100 *13*	104.776	(1)$^-$	M1+E2	1.1 *+30−7*	0.21 *9*	
		305.45 *5*	42 *8*	84.275	3$^-$				
392.351	(1,2,3)$^-$	72.464 *12*	10 *5*	319.883	(2)$^-$				
		151.444 *25*	29 *5*	240.902	(2)$^-$				
		166.086[b] *6*	100 *10*	226.261?	(≤2$^-$)	M1		1.445	
		166.439 *6*	27 *5*	225.918	(2)$^-$				
		199.41 *4*	15 *5*	192.935	(2)$^-$	M1		0.865	
		273.57 *4*	20 *6*	118.7824	3$^-$				
		276.762 *16*	60 *9*	115.564	(2)$^-$	E2		0.1209	
415.038	1$^-$,2$^-$,3$^-$	83.956 *15*	81 *41*	331.077	(2)$^-$	M1		10.10	
		104.020 *25*	59 *19*	310.999	2$^-$				
		174.144 *10*	96 *19*	240.902	(2)$^-$	M1		1.264	
		299.50 *5*	59 *19*	115.564	(2)$^-$				
		358.34 *8*	100 *30*	56.720	1$^-$				
418.141?	(3$^+$,4$^+$)	133.934[b] *9*	8.3 *21*	284.215	(2)$^+$	M1		2.66	

$^{192}_{77}Ir_{115}$-11

Adopted Levels, Gammas (continued)

γ(^{192}Ir) (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[†]	α[&]	Comments
418.141?	(3+,4+)	273.25[ab] *3*	21[a] *3*	144.904?	(5+)			Mult=E2 (1991Ke10) for doubly-placed γ.
		278.199[b] *16*	17.9 *21*	139.942?	(5+)	(E2)	0.1190	Mult.: E1,E2 from α(K)exp; Δπ=(no) from level scheme.
		333.866[b] *9*	58 *9*	84.275	3−	E1	0.0196	
		418.114[b] *25*	100 *14*	0.0	4+			
440.870	(3+)	156.653 *3*	100	284.215	(2)+	(M1)	1.704	
451.250	(1,2)−	140.237 *14*	85 *13*	310.999	2−	M1	2.33	
		162.826[b] *15*	36 *9*	288.403	(2)−	M1	1.528	
		210.353[a] *5*	<217[a]	240.902	(2)−			Mult=M1(+E2) from α(K)exp for multiply-placed γ.
		258.338 *25*	64 *13*	192.935	(2)−	M1	0.423	
		322.55 *4*	100 *19*	128.744	(0)−			
489.50	1−,2−,3−	169.541[ab] *5*	<45[a]	319.883	(2)−			Mult=M1 for doubly-placed γ.
		197.072[b] *8*	28 *6*	292.381	(2)−	M1	0.894	
		384.64[b] *8*	21 *6*	104.776	(1)−			
		432.64[b] *4*	100 *15*	56.720	1−			
508.988	(2,3)−	140.610 *15*	6 *3*	368.353	(2)−			
		177.926 *12*	17 *3*	331.077	(2)−	M1	1.190	
		189.099 *10*	11.4 *24*	319.883	(2)−			
		220.57 *4*	4.8 *14*	288.403	(2)−			
		241.872 *15*	12.4 *24*	267.128	(3)−	M1	0.507	
		273.25[ab] *3*	<33[a]	235.760	(1−)			Mult=E2 for doubly-placed γ.
		316.02 *10*	100 *52*	192.935	(2)−			
		365.44 *4*	30 *6*	143.556	(1)−			
513.197?	(4+)	72.326[b] *5*	100 *31*	440.870	(3+)	M1	2.76	
		95.068[b] *12*	86 *17*	418.141?	(3+,4+)	M1	7.08	
529.167?	(1−)	264.003[b] *9*	97 *11*	265.160?	(0−)	M1,E2	0.27 *13*	
		302.911[b] *10*	100 *15*	226.261?	(≤2−)	M1	0.274	
530.266	1−,2−,3−	199.190[b] *12*	100 *20*	331.077	(2)−	M1	0.868	
		210.353[ab] *5*	<208[a]	319.883	(2)−			Mult=M1(+E2) from α(K)exp for multiply-placed γ.
670.640?	(4+)	229.769[b] *11*	98 *15*	440.870	(3+)	M1	0.584	
		252.54[b] *6*	100 *15*	418.141?	(3+,4+)	M1,E2	0.31 *15*	
(6198.13)	1+,2+	4495.1 *7*	9.1 *15*	1703.0				
		4505.7 *7*	9.1 *15*	1692.4				
		4521.3 *7*	7.6 *15*	1676.8				
		4531.38 *22*	27 *5*	1666.67				
		4539.1 *7*	12 *3*	1659.0				
		4549.6 *9*	8 *3*	1648.5				
		4556.6 *13*	8 *3*	1641.5				

$^{192}_{77}Ir_{115}$-12

$\gamma(^{192}Ir)$ (continued)

E_i(level)	E_γ †	I_γ ‡	E_f	J^π_f
(6198.13)	4563.3 *14*	6 *5*	1634.8	
	4571.9 *6*	20 *3*	1626.2	
	4589.8 *6*	23 *5*	1608.3	
	4601.1 *10*	5 *3*	1597.0	
	4611.4 *10*	5 *3*	1586.7	
	4626.2 *5*	6.1 *15*	1571.9	
	4640.0 *10*	6.8 *25*	1558.0	
	4646.53 *13*	10.6 *21*	1551.52	
	4663.5 *3*	10 *3*	1534.5	
	4668.03 *20*	14 *4*	1530.02	
	4683.6 *8*	3.8 *24*	1514.4	
	4695.6 *10*	3.0 *15*	1502.4	
	4702.8 *10*	3.0 *15*	1495.2	
	4711.4 *6*	7.6 *15*	1486.6	
	4729.6 *5*	5.8 *26*	1468.4	
	4734.1 *5*	20 *4*	1463.9	
	4750.0 *4*	14 *3*	1448.0	
	4756.3 *10*	3.5 *23*	1441.7	
	4761.4 *10*	4.4 *24*	1436.6	
	4765.6 *6*	16 *3*	1432.4	
	4779.84 *19*	18.9 *21*	1418.21	
	4789.0 *10*	4.8 *25*	1409.0	
	4801.6 *6*	6.0 *13*	1396.4	
	4809.58 *23*	17.4 *22*	1388.47	
	4817.1 *3*	10 *3*	1380.9	
	4826.0 *8*	5.1 *15*	1372.0	
	4832.2 *9*	4.5 *15*	1365.8	
	4838.2 *8*	7.0 *18*	1359.8	
	4849.7 *6*	9 *3*	1348.3	
	4854.7 *10*	12.7 *23*	1343.3	
	4859.32 *25*	24 *3*	1338.7	
	4867.01 *17*	32 *3*	1331.03	
	4875.1 *5*	16 *3*	1322.9	
	4893.7 *3*	15 *4*	1304.3	
	4898.7 *6*	18 *4*	1299.3	
	4907.0 *8*	4.5 *15*	1291.0	
	4915.5 *7*	27 *6*	1282.5	
	4924.5 *15*	5 *3*	1273.5	
	4932.8 *6*	10.6 *26*	1265.2	
	4938.9 *6*	11 *4*	1259.1	
	4942.72 *22*	19 *5*	1255.32	
	4949.7 *3*	11 *4*	1248.3	
	4955.2 *5*	7 *3*	1242.8	
(6198.13)	4966.8 *3*	6 *3*	1231.2	
	4972.24 *21*	11.2 *19*	1225.80	
	4980.43 *17*	27 *3*	1217.61	
	4985.92 *18*	25 *3*	1212.12	
	4993.3 *4*	12.6 *20*	1204.7	
	5003.7 *3*	15.8 *22*	1194.3	
	5020.66 *19*	21 *3*	1177.38	
	5028.6 *4*	11 *3*	1169.4	
	5037.3 *4*	7 *3*	1160.7	
	5042.2 *4*	26 *5*	1155.8	
	5046.4 *11*	5.5 *15*	1151.6	
	5053.05 *24*	9.2 *24*	1144.99	
	5066.2 *4*	4.4 *16*	1131.8	
	5085.5 *5*	10.2 *24*	1112.5	
	5091.1 *3*	16.5 *17*	1106.9	
	5104.3 *4*	4.8 *18*	1093.7	
	5109.6 *10*	5 *3*	1088.4	
	5123.4 *3*	5 *3*	1074.6	
	5129.2 *3*	29 *3*	1068.8	
	5137.95 *20*	15.5 *20*	1060.09	
	5147.51 *15*	52 *5*	1050.53	$1^-,2^-,3^-$
	5153.4 *3*	9 *3*	1044.6	
	5166.97 *16*	41 *4*	1031.07	
	5178[b] *4*	3 *6*	1023.6	$1^-,2^-,3^-$
	5184.4 *4*	9.0 *26*	1013.6	0^- to 3^-
	5194.5 *3*	16 *4*	1003.5	
	5198.5 *3*	17 *4*	999.5	
	5219.77 *21*	27 *5*	978.26	
	5235.1 *18*	1.5 *15*	962.9	
	5248.0 *5*	5 *3*	950.0	
	5253.8 *4*	5 *3*	944.2	
	5260.7 *6*	10.1 *22*	937.4	0^- to 3^-
	5283.6 *4*	33 *5*	914.4	
	5291 *4*	3 *6*	902.8	$1^-,2^-,3^-$
	5304.48 *18*	32 *3*	893.55	
	5313.6 *6*	7 *4*	884.6	$1^-,2^-,3^-$
	5327.56 *21*	29 *6*	870.47	
	5332.47 *23*	20 *4*	865.3	0^- to 3^-
	5347.2 *4*	8 *3*	850.9	0^- to 3^-
	5357.0 *3*	32 *5*	841.2	0^- to 3^-
	5376.21 *20*	13.4 *16*	821.82	
	5384.86 *23*	12.6 *14*	813.17	$1^-,2^-,3^-$
	5400.9 *5*	13.8 *16*	797.1	

$^{192}_{77}Ir_{115}$-13

Adopted Levels, Gammas (continued)

$\gamma(^{192}Ir)$ (continued)

E_i(level)	E_γ†	I_γ‡	E_f	J^π_f
(6198.13)	5409.8 *10*	1 *3*	788.2	
	5420.6 *3*	8 *3*	777.8	0^- to 3^-
	5431.36 *17*	38 *3*	766.67	$1^-,2^-,3^-$
	5448.5 *3*	21.7 *23*	749.5	
	5458.96 *22*	21 *4*	738.9	$1^-,2^-,3^-$
	5463.7 *6*	18 *5*	734.3	
	5483.9 *7*	7.6 *26*	713.6	0^- to 3^-
	5490.1 *9*	8.3 *10*	707.9	
	5495.2 *3*	8 *3*	702.2	0^- to 3^-
	5516.7 *5*	24.2 *25*	681.0	$1^-,2^-,3^-$
	5534.73 *17*	59 *5*	663.30	
	5540.2 *13*	2.0 *18*	657.8	
	5552.2 *3*	9.0 *24*	645.1	0^- to 3^-
	5564.68 *17*	55 *5*	633.34	
	5569.1 *4*	18 *4*	628.5	$1^-,2^-,3^-$
	5585.1 *8*	4.5 *15*	615.0	0^- to 3^-
	5595.77 *17*	28.0 *23*	602.25	0^- to 3^-
	5612.5 *3*	44 *4*	585.5	
	5637.5 *7*	3.6 *18*	559.5	
	5654.39 *21*	22 *3*	543.63	0^- to 3^-
	5661.15 *23*	16.0 *24*	536.87	
	5667.81 *16*	100.0	530.266	$1^-,2^-,3^-$
	5681.5 *7*	6.9 *17*	516.7	$1^-,2^-,3^-$
	5689.23 *16*	65 *5*	508.988	$(2,3)^-$
	5708.3 *5*	5.8 *16*	489.50	$1^-,2^-,3^-$
	5727.2 *5*	12.1 *15*	471.1	$1^-,2^-,3^-$
	5746.81 *25*	8.8 *21*	451.250	$(1,2)^-$
	5758.2 *3*	21.8 *20*	439.3	$1^-,2^-,3^-$
	5782.85 *16*	58 *7*	415.038	$1^-,2^-,3^-$
	5808.28 *22*	21 *5*	389.720	$(2)^-$
	5817.7 *7*	5.1 *12*	380.3	
	5830.0 *5*	7.2 *21*	368.353	$(2)^-$
	5846.4 *10*	3.4 *16*	351.690	$(2)^+$
	5866.76 *19*	32.2 *23*	331.077	$(2)^-$
	5880.7 *7*	2.6 *10*	319.883	$(2)^-$
	5905.88 *24*	15 *4*	292.381	$(2)^-$
	5910.2 *6*	17 *4*	288.403	$(2)^-$
	5958.09 *23*	74 *8*	240.902	$(2)^-$
	5962.25 *23*	28 *5*	235.760	(1^-)
	5972.02 *24*	10.5 *20*	225.918	$(2)^-$
	5985.5 *10*	4.1 *12*	212.808	$(1,2)^-$
	5994.5 *11*	2.3 *15*	202.9	≤3

$^{192}_{77}Ir_{115}$-14

Adopted Levels, Gammas (continued)

$\gamma(^{192}Ir)$ (continued)

E_i(level)	J^π_i	E_γ†	I_γ‡	E_f	J^π_f	Comments
(6198.13)	$1^+,2^+$	6004.77 *24*	10.8 *18*	193.511	$(1)^+$	
		6024.8 *12*	2.4 *12*	173.2		
		6055.1 *5*	2.4 *10*	143.556	$(1)^-$	
		6067.2 *11*	2.3 *12*	128.744	$(0)^-$	
		6078.5 *12*	13 *4*	118.7824	3^-	
		6082.02 *18*	99 *7*	115.564	$(2)^-$	
		6093.34 *24*	25.8 *20*	104.776	$(1)^-$	
		6112		84.275	3^-	
		6130.1[b] *15*	1.5 *15*	66.830	$(4)^-$	Implied multipolarity of M2 or higher makes placement highly unlikely.
		6141.1 *8*	5.0 *10*	56.720	1^-	

† From ^{191}Ir(n,γ), except as noted.

‡ Relative photon branching from each level; values are from ^{192}Ir(n,γ).

From ^{192}Ir IT decay (1.45 min).

@ From ^{192}Ir IT decay (241 y).

& Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

^{a} Multiply placed with undivided intensity.

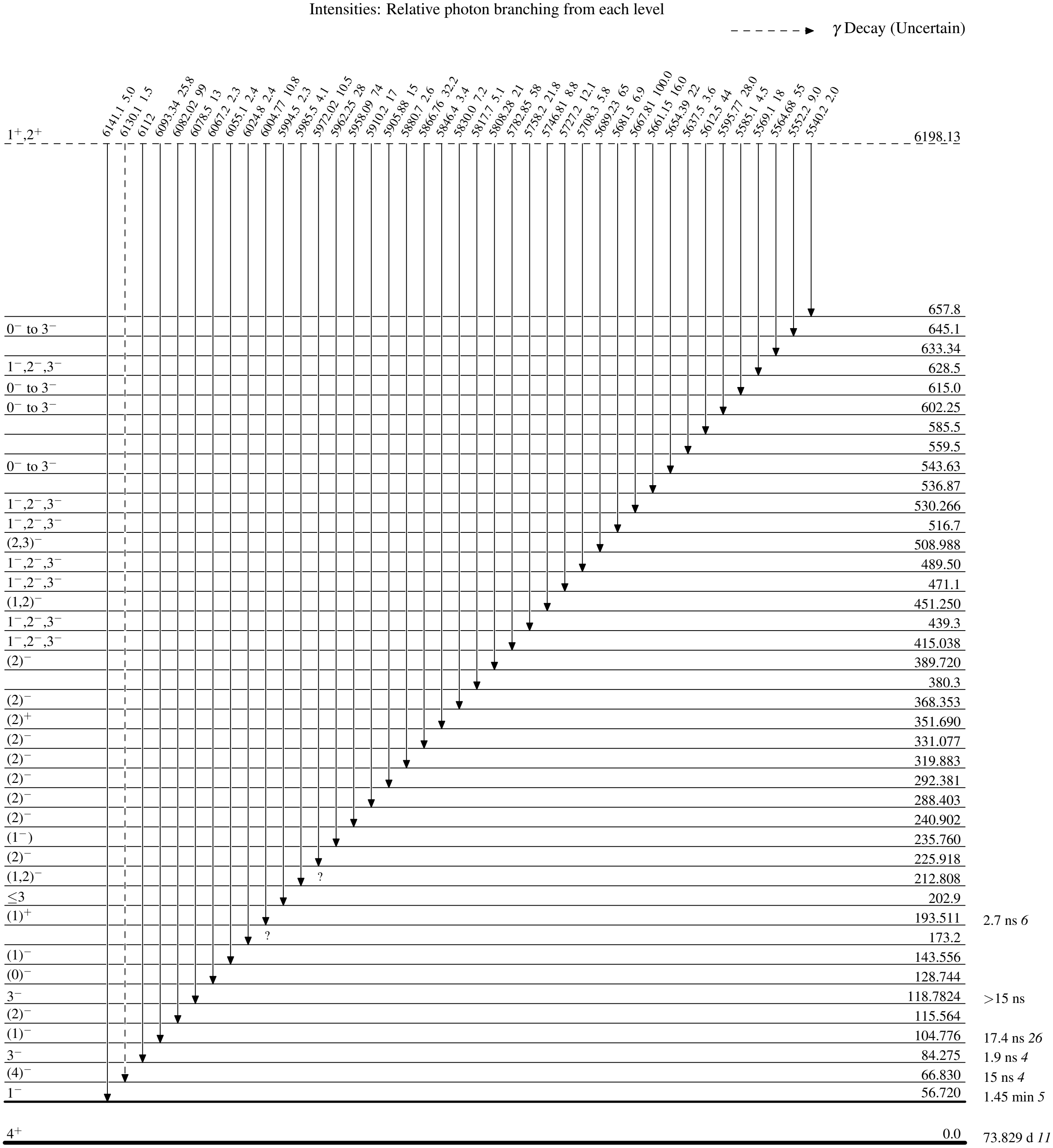
^{b} Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

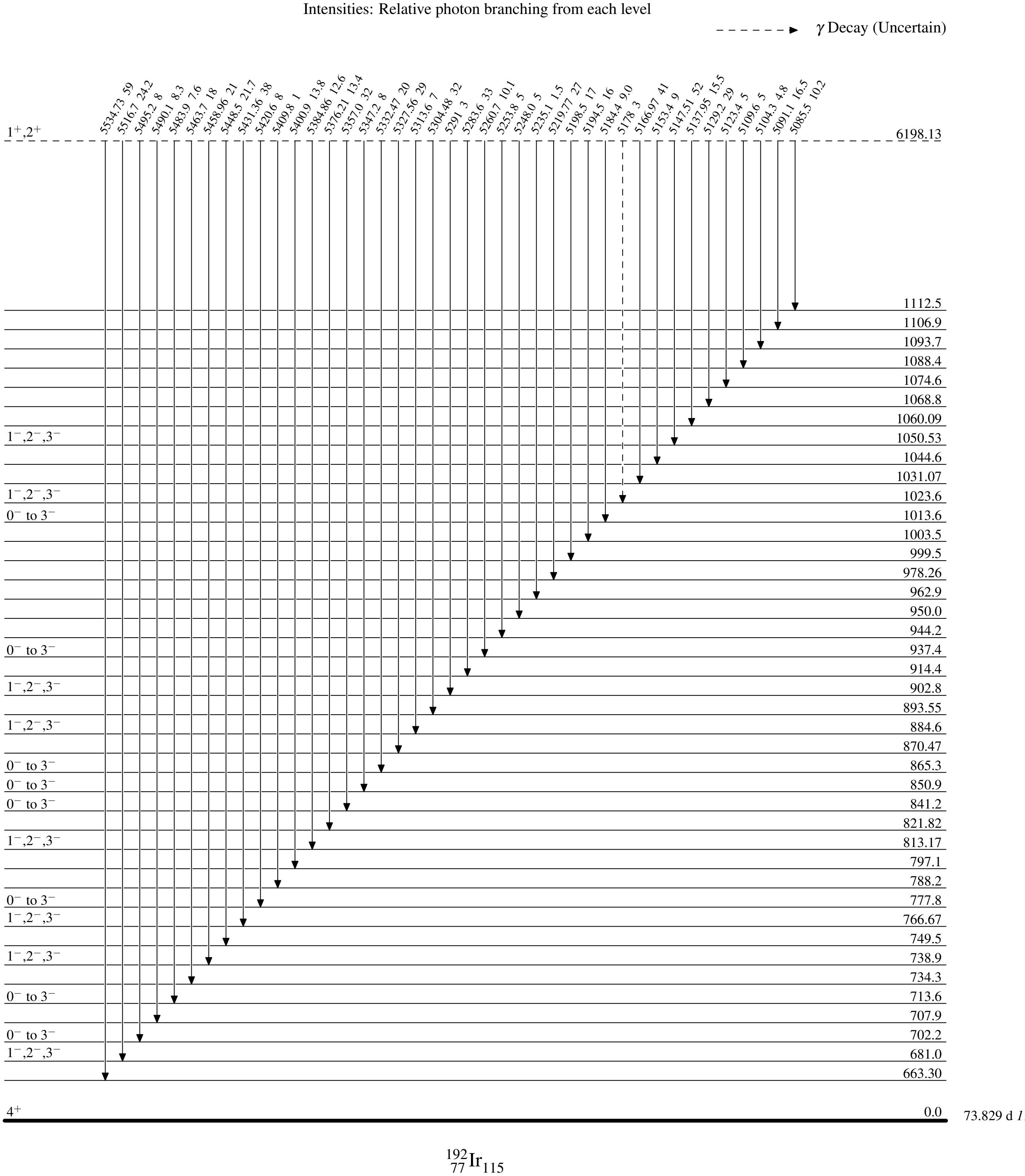


$^{192}_{77}Ir_{115}$

Adopted Levels, Gammas

Level Scheme (continued)

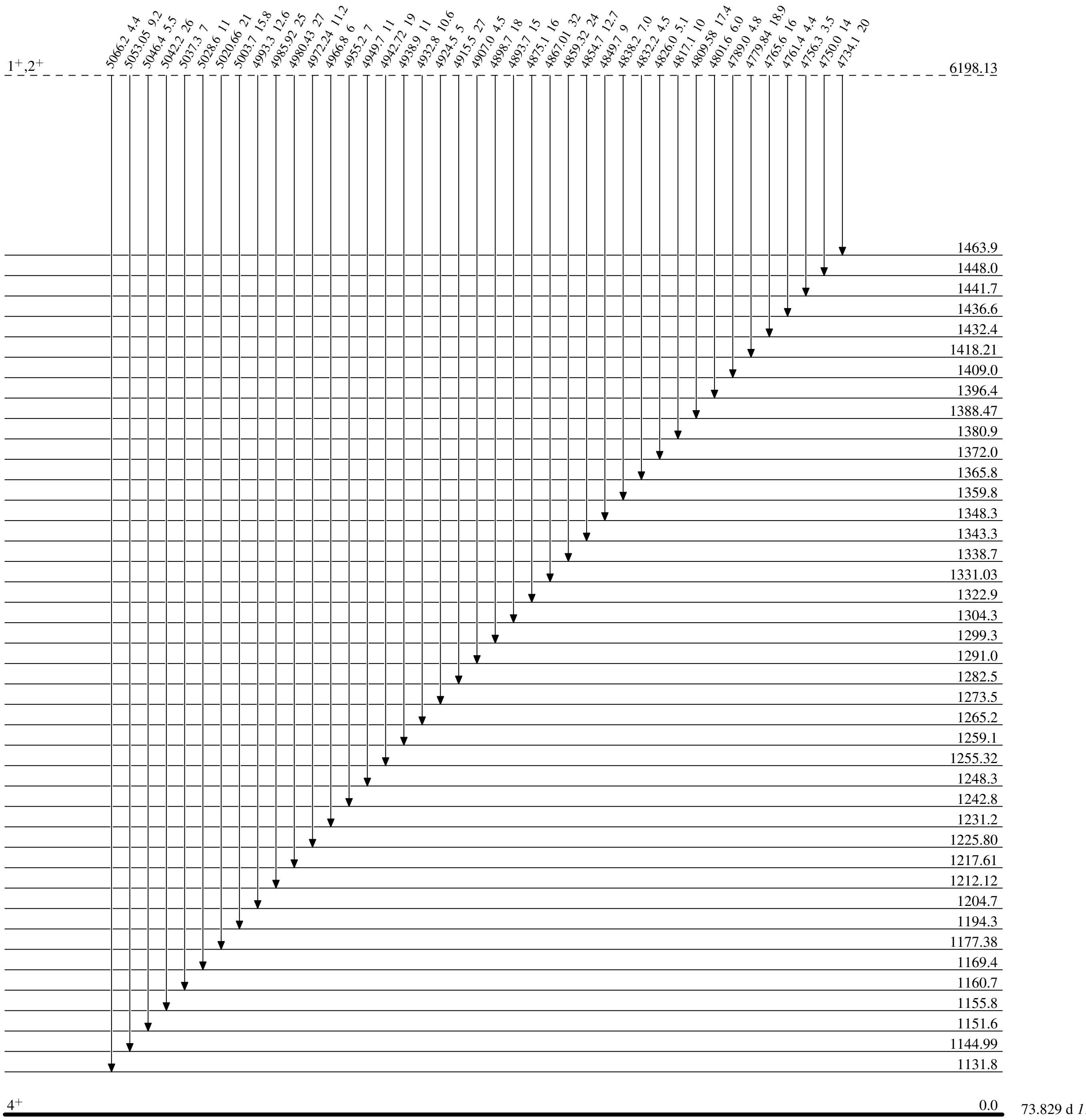
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

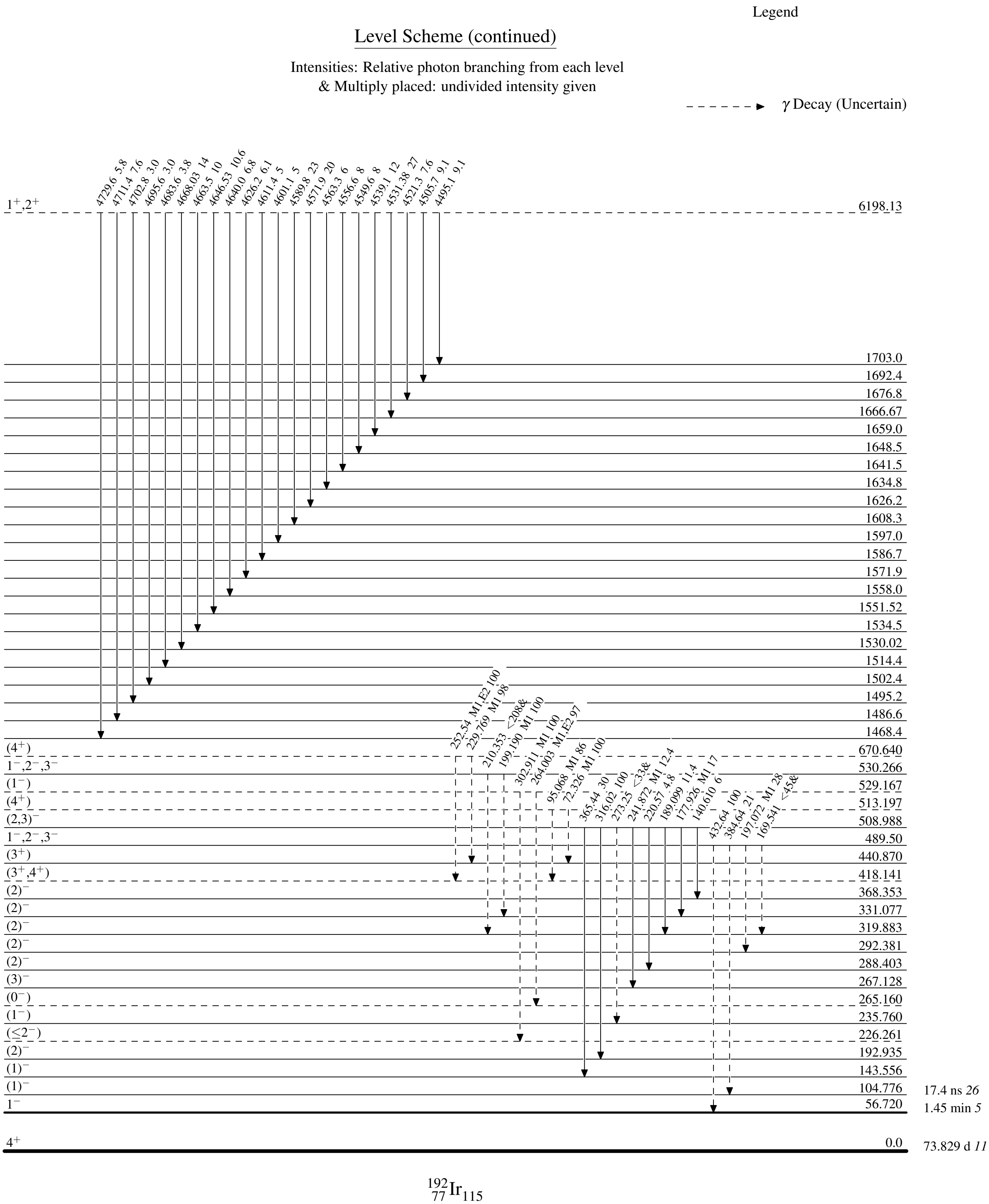


$^{192}_{77}Ir_{115}$

Adopted Levels, Gammas

Level Scheme (continued)

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



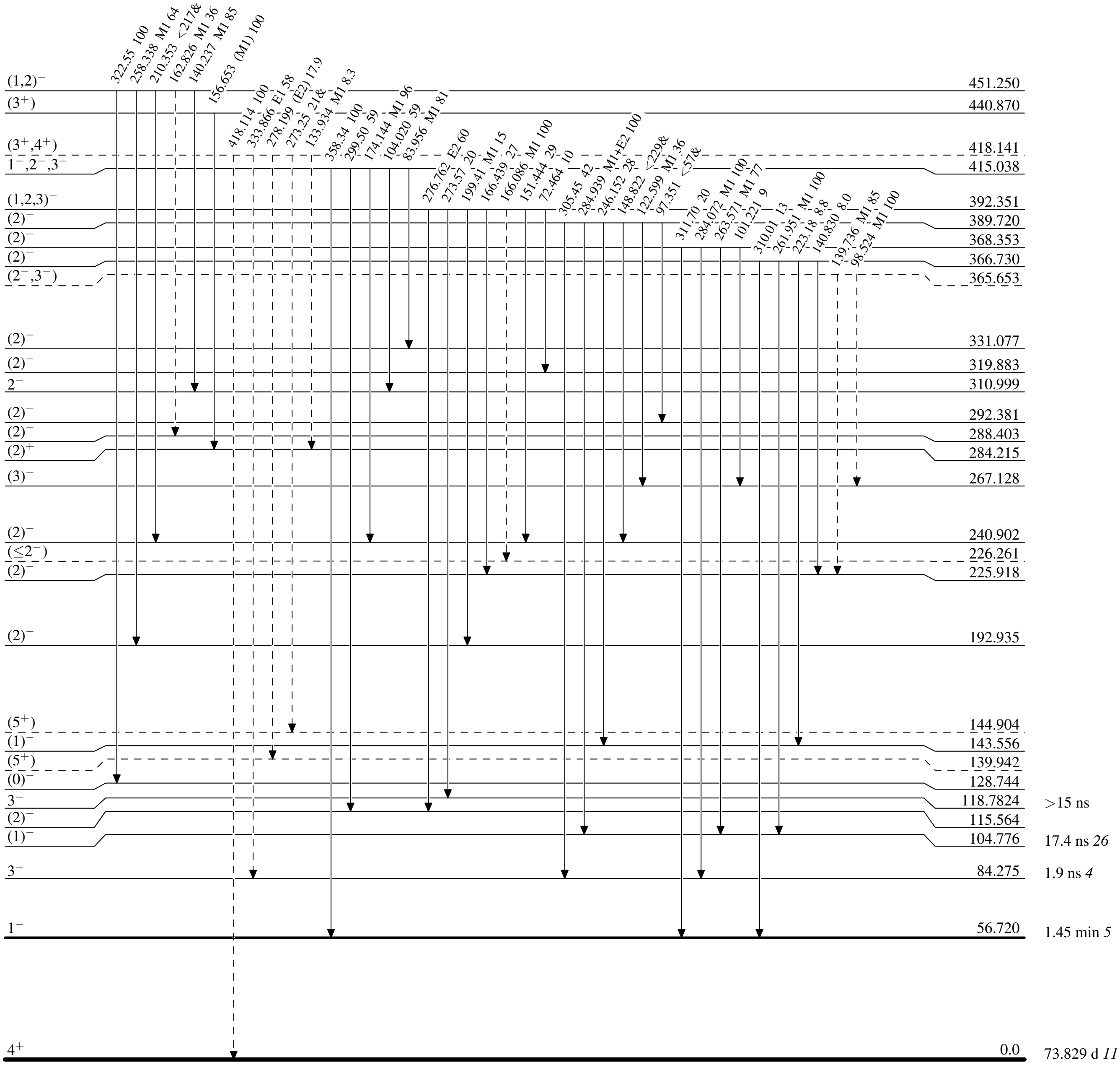
Adopted Levels, Gammas

Legend

Level Scheme (continued)

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

- - - - - ► γ Decay (Uncertain)

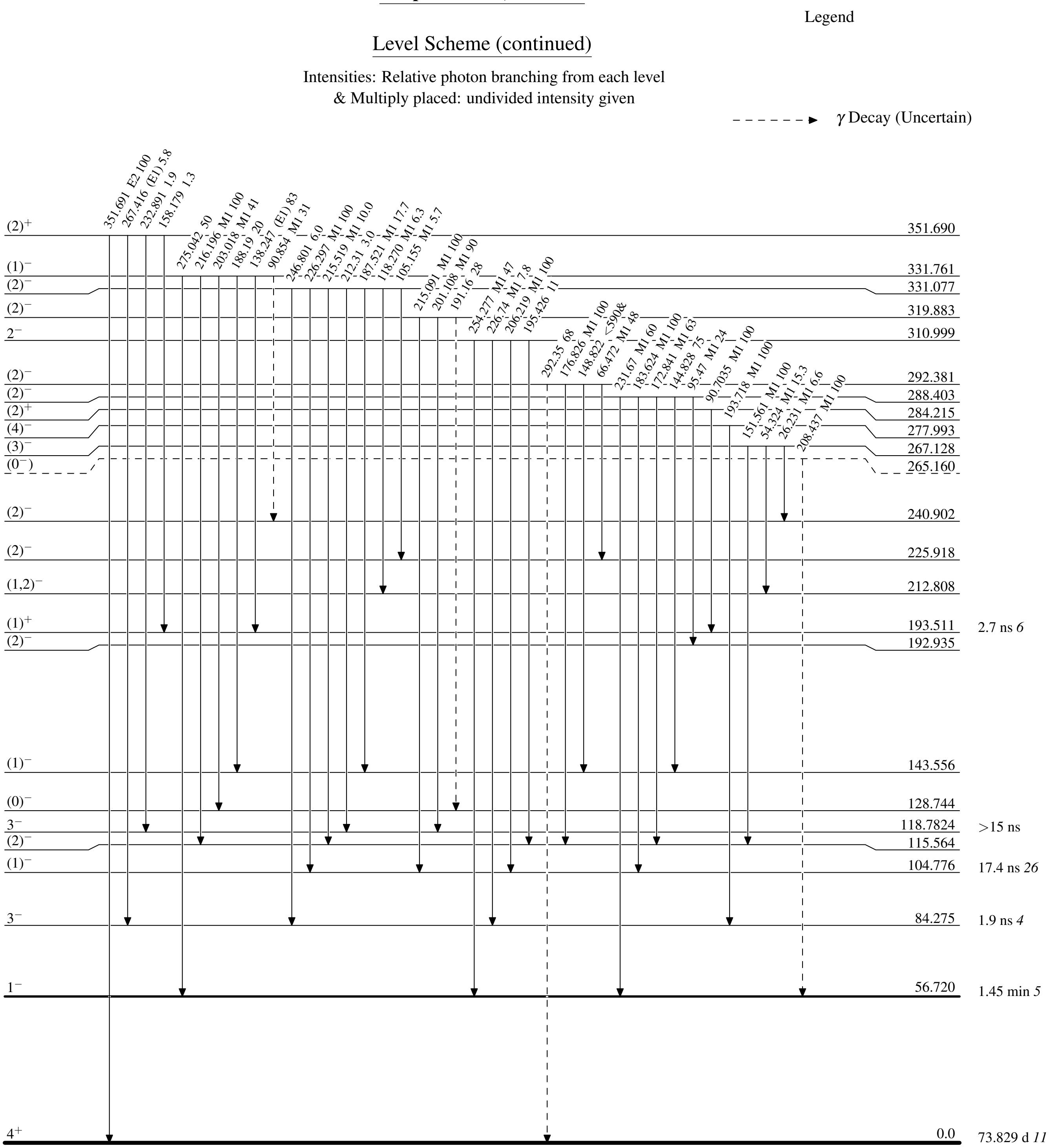


$^{192}_{77}Ir_{115}$

Adopted Levels, Gammas

Level Scheme (continued)

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



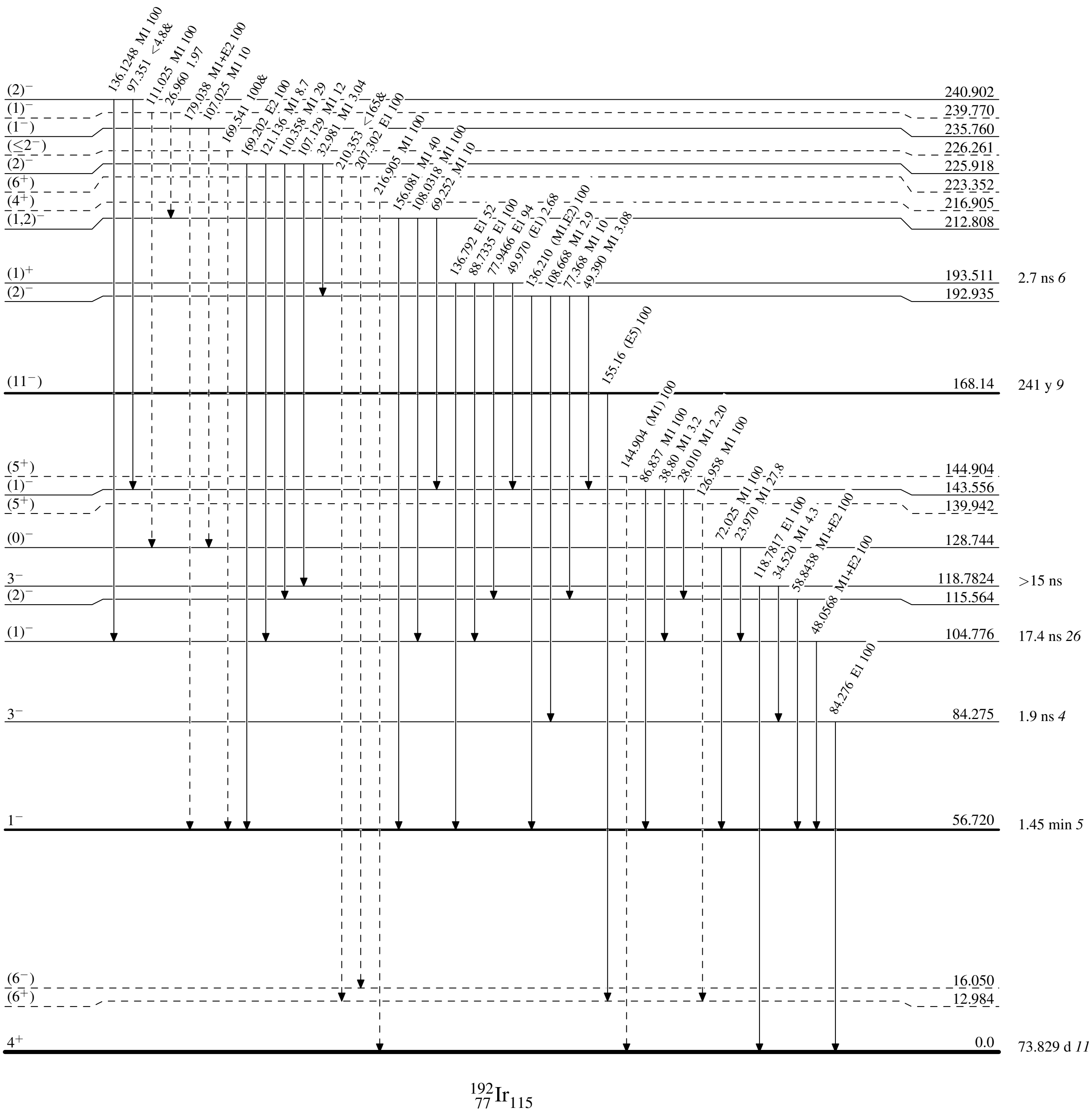
Adopted Levels, Gammas

Level Scheme (continued)

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

Legend

γ Decay (Uncertain)

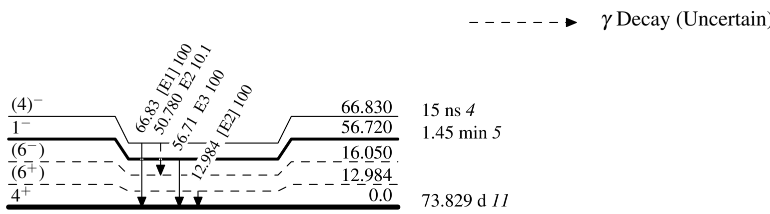


Adopted Levels, Gammas

Level Scheme (continued)

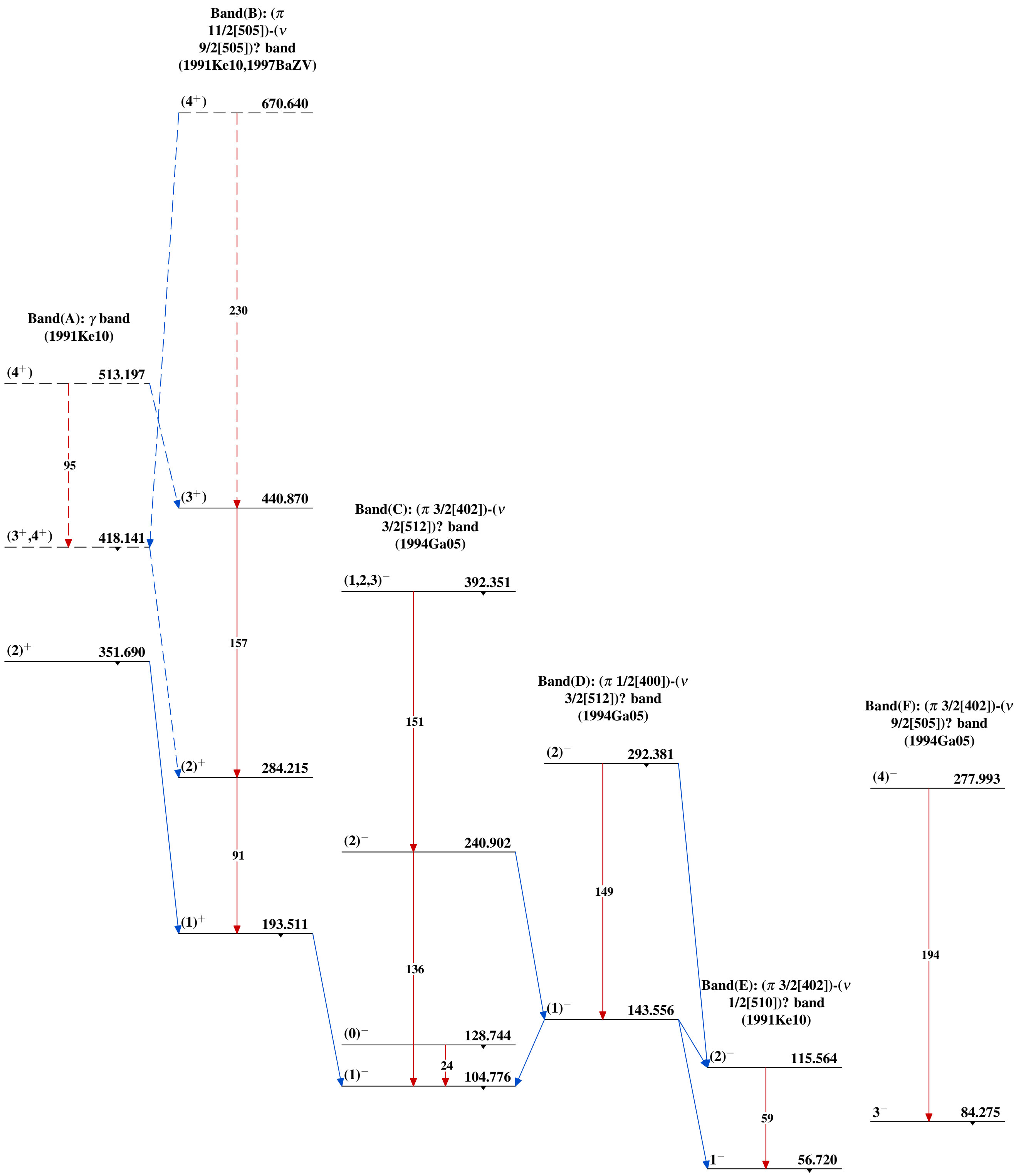
Intentities: Relative photon branching from each level
& Multiply placed: undivided intensity given

Legend



$^{192}_{77}Ir_{115}$

Adopted Levels, Gammas



$^{192}_{77}Ir_{115}$