Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 102,719 (2004)	1-Jun-2004

Q(β^-)=−6711 *17*; S(n)=8181 *16*; S(p)=3.72×10^3 *3*; Q(α)=4.56×10^3 *3* 2012Wa38
Note: Current evaluation has used the following Q record −6676 248180 173720 304560 30 2003Au03.

^{175}Os Levels

Cross Reference (XREF) Flags

A ^{150}Sm(^{29}Si,4nγ)
B ^{175}Ir ε decay
C ^{179}Pt α decay

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$	XREF	Comments
0.0[#]	(5/2$^-$)	1.4 min *1*	AB	%ε+%β^+=100 J$^\pi$: the assignment of the ground-state configuration to 5/2[512] is based on the values of g_K-g_R determined from crossover-cascade branching ratios in (^{29}Si,4nγ). $T_{1/2}$: from 1972Be89.
90.32[#] *14*	(7/2$^-$)		A	
102.3[@] *4*	(1/2$^-$)		A C	
105.7[&] *2*	(7/2$^+$)	10 ns *2*	AB	$T_{1/2}$: from $\gamma\gamma$(t) in (^{29}Si,4nγ). J$^\pi$: 105.7γ (E1) and assigned from 7/2[633] Nilsson configuration as such bands present throughout the odd Os isotopes at low spin levels in (^{29}Si,4nγ).
147.8[&] *3*	(9/2$^+$)		A	
175.60[@] *17*	(3/2$^-$)		A	
193.76[@] *15*	(5/2$^-$)		A	
207.56[#] *15*	(9/2$^-$)		A	
218.3[&] *3*	(11/2$^+$)		A	
279.1[&] *3*	(13/2$^+$)		A	
346.56[#] *17*	(11/2$^-$)		A	
355.86[@] *22*	(7/2$^-$)		A	
381.56[@] *21*	(9/2$^-$)		A	
443.7[&] *3*	(15/2$^+$)		A	
504.4 *3*			B	
504.77[#] *19*	(13/2$^-$)		A	
523.9[&] *3*	(17/2$^+$)		A	
614.8[@] *3*	(11/2$^-$)		A	
644.51[@] *25*	(13/2$^-$)		A	
679.89[#] *21*	(15/2$^-$)		A	
783.9[&] *3*	(19/2$^+$)		A	
869.25[#] *22*	(17/2$^-$)		A	
890.0[&] *3*	(21/2$^+$)		A	
940.4[@] *3*	(15/2$^-$)		A	
970.2[@] *3*	(17/2$^-$)		A	
1072.87[#] *23*	(19/2$^-$)		A	
1210.9[&] *3*	(23/2$^+$)		A	

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Adopted Levels, Gammas (continued)

^{175}Os Levels (continued)

E(level)†	Jπ‡	XREF	E(level)†	Jπ‡	XREF	E(level)†	Jπ‡	XREF
1288.79# *24*	(21/2−)	A	2471.2& *4*	(33/2+)	A	4059.1@ *6*	(39/2−)	A
1327.0@ *4*	(19/2−)	A	2548.7# *3*	(31/2−)	A	4085.8# *4*	(41/2−)	A
1350.6& *4*	(25/2+)	A	2794.7@ *4*	(33/2−)	A	4288.9& *5*	(43/2+)	A
1352.0@ *3*	(21/2−)	A	2815.8@ *5*	(31/2−)	A	4404.2# *5*	(43/2−)	A
1517.65# *25*	(23/2−)	A	2833.3# *3*	(33/2−)	A	4563.5& *5*	(45/2+)	A
1708.2& *4*	(27/2+)	A	2886.1& *4*	(35/2+)	A	4667.3@ *5*	(45/2−)	A
1757.1# *3*	(25/2−)	A	3116.2& *4*	(37/2+)	A	4771.8?# *7*	(45/2−)	A
1770.9@ *4*	(23/2−)	A	3125.8# *4*	(35/2−)	A	5064.9& *7*	(47/2+)	A
1785.9@ *3*	(25/2−)	A	3368.8@ *4*	(37/2−)	A	5115.2# *7*	(47/2−)	A
1881.4& *4*	(29/2+)	A	3410.2@ *5*	(35/2−)	A	5352.5& *7*	(49/2+)	A
2010.9# *3*	(27/2−)	A	3438.0# *4*	(37/2−)	A	5391.2@ *5*	(49/2−)	A
2265.7@ *3*	(29/2−)	A	3560.3& *5*	(39/2+)	A	5880.9?& *9*	(51/2+)	A
2267.9& *4*	(31/2+)	A	3741.1# *4*	(39/2−)	A	6170.5& *9*	(53/2+)	A
2268.2@ *5*	(27/2−)	A	3814.5& *5*	(41/2+)	A	6172.2?@ *7*	(53/2−)	A
2274.5# *3*	(29/2−)	A	3992.5@ *5*	(41/2−)	A	7007.5?& *10*	(57/2+)	A

† Deduced by evaluator from a least-squares fit to adopted γ-ray energies.
‡ Spin and parity assignments are based on rotational structure, γ-ray decay patterns, $\gamma(\theta)$ and systematics of neighboring odd Os nuclei. In particular, the $(1/2^-)$ state can be associated with the 1/2[521] configuration on the basis of its decoupling parameter.
# Band(A): 5/2(512) band.
@ Band(B): 1/2(521) band.
& Band(C): 7/2(633) band : strongly mixed by Coriolis coupling with the other members of the (ν $1i_{13/2}$) intruder orbital.

$\gamma(^{175}Os)$

E_i(level)	J_i^π	E_γ†	I_γ†	E_f	J_f^π	Mult.#	α^b
90.32	(7/2−)	90.3 *2*	100	0.0	(5/2−)		
102.3	(1/2−)	102.0 *5*	100	0.0	(5/2−)		
105.7	(7/2+)	105.7 *2*	100	0.0	(5/2−)	(E1)[a]	0.343
147.8	(9/2+)	42.1 *2*	100	105.7	(7/2+)		
175.60	(3/2−)	73.0 *5*	30& *9*	102.3	(1/2−)		
		175.7 *2*	100 *20*	0.0	(5/2−)		
193.76	(5/2−)	91.3 *2*	55 *20*	102.3	(1/2−)		
		103.5 *2*	58 *13*	90.32	(7/2−)		
		193.7 *2*	100 *13*	0.0	(5/2−)		
207.56	(9/2−)	117.2 *2*	100.0 *21*	90.32	(7/2−)		
		207.6 *2*	42 *5*	0.0	(5/2−)		
218.3	(11/2+)	71.0 *5*	100& *68*	147.8	(9/2+)		
		112.6 *2*	90 *12*	105.7	(7/2+)		
279.1	(13/2+)	61.0 *5*	33@ *20*	218.3	(11/2+)		
		131.3 *2*	100.0 *23*	147.8	(9/2+)	Q	
346.56	(11/2−)	139.0 *2*	60 *10*	207.56	(9/2−)		
		256.2 *2*	100.0 *17*	90.32	(7/2−)		
355.86	(7/2−)	162.0 *5*	43 *7*	193.76	(5/2−)		
		180.3 *2*	100 *4*	175.60	(3/2−)		
381.56	(9/2−)	187.8 *2*	100	193.76	(5/2−)	Q	
443.7	(15/2+)	164.6 *2*	100.0 *18*	279.1	(13/2+)		

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Adopted Levels, Gammas (continued)

γ(^{175}Os) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]
443.7	(15/2$^+$)	225.4 *2*	96.1 *12*	218.3	(11/2$^+$)	Q
504.4		399.0[‡] *2*	100[‡]	105.7	(7/2$^+$)	
504.77	(13/2$^-$)	158.2 *2*	59 *6*	346.56	(11/2$^-$)	
		297.2 *2*	100.0 *20*	207.56	(9/2$^-$)	Q
523.9	(17/2$^+$)	80.3 *2*	12.4 *12*	443.7	(15/2$^+$)	
		244.7 *2*	100.0 *10*	279.1	(13/2$^+$)	Q
614.8	(11/2$^-$)	233.0 *5*	36 *7*	381.56	(9/2$^-$)	
		259.0 *2*	100 *11*	355.86	(7/2$^-$)	
644.51	(13/2$^-$)	263.0 *2*	100	381.56	(9/2$^-$)	
679.89	(15/2$^-$)	175.1 *2*	27 *6*	504.77	(13/2$^-$)	
		333.3 *2*	100.0 *25*	346.56	(11/2$^-$)	
783.9	(19/2$^+$)	260.0 *2*	51 *13*	523.9	(17/2$^+$)	
		340.1 *2*	100 *5*	443.7	(15/2$^+$)	Q
869.25	(17/2$^-$)	189.4 *2*	52.0 *20*	679.89	(15/2$^-$)	
		364.5 *2*	100.0 *17*	504.77	(13/2$^-$)	Q
890.0	(21/2$^+$)	106.1 *2*	7.1 *10*	783.9	(19/2$^+$)	
		366.1 *2*	100.0 *15*	523.9	(17/2$^+$)	Q
940.4	(15/2$^-$)	296.0[d] *5*	≈2.7	644.51	(13/2$^-$)	
		325.6 *2*	100 *14*	614.8	(11/2$^-$)	
970.2	(17/2$^-$)	325.7 *2*	100	644.51	(13/2$^-$)	
1072.87	(19/2$^-$)	203.7 *2*	27.9 *15*	869.25	(17/2$^-$)	
		392.9 *2*	100 *3*	679.89	(15/2$^-$)	Q
1210.9	(23/2$^+$)	321.0 *2*	27.8 *8*	890.0	(21/2$^+$)	
		427.1 *2*	100.0 *18*	783.9	(19/2$^+$)	Q
1288.79	(21/2$^-$)	216.1 *2*	36.7 *23*	1072.87	(19/2$^-$)	
		419.5 *2*	100 *10*	869.25	(17/2$^-$)	Q
1327.0	(19/2$^-$)	386.6 *2*	100	940.4	(15/2$^-$)	
1350.6	(25/2$^+$)	139.7 *2*	5.8 *18*	1210.9	(23/2$^+$)	
		460.6 *2*	100 *6*	890.0	(21/2$^+$)	
1352.0	(21/2$^-$)	381.9 *2*	100	970.2	(17/2$^-$)	Q
1517.65	(23/2$^-$)	228.9 *2*	21.8 *7*	1288.79	(21/2$^-$)	
		444.6 *2*	100 *3*	1072.87	(19/2$^-$)	Q
1708.2	(27/2$^+$)	357.4 *2*	22.5 *11*	1350.6	(25/2$^+$)	
		497.3[c] *2*	100[c] *11*	1210.9	(23/2$^+$)	Q
1757.1	(25/2$^-$)	239.4 *2*	22.6 *10*	1517.65	(23/2$^-$)	
		468.4 *2*	100.0 *17*	1288.79	(21/2$^-$)	
1770.9	(23/2$^-$)	443.9 *2*	100	1327.0	(19/2$^-$)	
1785.9	(25/2$^-$)	433.9 *2*	100	1352.0	(21/2$^-$)	
1881.4	(29/2$^+$)	173.2 *2*	8.5 *3*	1708.2	(27/2$^+$)	
		530.9 *2*	100 *4*	1350.6	(25/2$^+$)	Q
2010.9	(27/2$^-$)	253.8 *2*	17 *6*	1757.1	(25/2$^-$)	
		493.2 *2*	100.0 *13*	1517.65	(23/2$^-$)	
2265.7	(29/2$^-$)	479.8 *2*	100.0 *18*	1785.9	(25/2$^-$)	
		508.6 *2*	55 *7*	1757.1	(25/2$^-$)	
2267.9	(31/2$^+$)	386.5 *2*	25 *3*	1881.4	(29/2$^+$)	
		559.7 *2*	100 *6*	1708.2	(27/2$^+$)	
2268.2	(27/2$^-$)	497.3[c] *2*	100[c]	1770.9	(23/2$^-$)	Q
2274.5	(29/2$^-$)	263.4 *2*	19 *5*	2010.9	(27/2$^-$)	
		488.7 *2*	45 *10*	1785.9	(25/2$^-$)	
		517.5 *2*	100 *3*	1757.1	(25/2$^-$)	Q
2471.2	(33/2$^+$)	203.3 *2*	2.9 *9*	2267.9	(31/2$^+$)	
		589.8 *2*	100 *5*	1881.4	(29/2$^+$)	
2548.7	(31/2$^-$)	274.0 *5*	16.5 *19*	2274.5	(29/2$^-$)	
		537.9 *2*	100 *19*	2010.9	(27/2$^-$)	
2794.7	(33/2$^-$)	529.0 *2*	100	2265.7	(29/2$^-$)	Q

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Adopted Levels, Gammas (continued)

γ(^{175}Os) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]
2815.8	(31/2$^-$)	547.6 *2*	100	2268.2	(27/2$^-$)	
2833.3	(33/2$^-$)	285.0 *5*	7 *4*	2548.7	(31/2$^-$)	
		558.7 *2*	100 *5*	2274.5	(29/2$^-$)	Q
2886.1	(35/2$^+$)	415.0 *5*	13 *5*	2471.2	(33/2$^+$)	
		618.2 *2*	100.0 *20*	2267.9	(31/2$^+$)	
3116.2	(37/2$^+$)	230.0 *5*	2.6 *10*	2886.1	(35/2$^+$)	
		644.9 *2*	100 *3*	2471.2	(33/2$^+$)	
3125.8	(35/2$^-$)	292.0 *5*	≈15	2833.3	(33/2$^-$)	
		577.1 *2*	100 *23*	2548.7	(31/2$^-$)	Q
3368.8	(37/2$^-$)	574.1 *2*	100	2794.7	(33/2$^-$)	Q
3410.2	(35/2$^-$)	594.4 *2*	100	2815.8	(31/2$^-$)	
3438.0	(37/2$^-$)	312.0 *5*	≈13	3125.8	(35/2$^-$)	
		604.7 *2*	100 *30*	2833.3	(33/2$^-$)	Q
3560.3	(39/2$^+$)	444.0 *5*	≈4.4	3116.2	(37/2$^+$)	
		674.3 *5*	100 *18*	2886.1	(35/2$^+$)	
3741.1	(39/2$^-$)	615.3 *2*	100	3125.8	(35/2$^-$)	Q
3814.5	(41/2$^+$)	254.0 *5*	≈3.8	3560.3	(39/2$^+$)	
		698.4 *2*	100 *4*	3116.2	(37/2$^+$)	
3992.5	(41/2$^-$)	623.7 *2*	100	3368.8	(37/2$^-$)	Q
4059.1	(39/2$^-$)	648.9 *2*	100	3410.2	(35/2$^-$)	
4085.8	(41/2$^-$)	647.8 *2*	100	3438.0	(37/2$^-$)	
4288.9	(43/2$^+$)	475.0[d] *5*	≈9	3814.5	(41/2$^+$)	
		728.6 *2*	100 *7*	3560.3	(39/2$^+$)	
4404.2	(43/2$^-$)	663.1 *2*	100	3741.1	(39/2$^-$)	
4563.5	(45/2$^+$)	275.0[d] *5*	≈9	4288.9	(43/2$^+$)	
		749.0 *2*	100 *17*	3814.5	(41/2$^+$)	
4667.3	(45/2$^-$)	674.8 *2*	100	3992.5	(41/2$^-$)	
4771.8?	(45/2$^-$)	686.0[d] *5*	100	4085.8	(41/2$^-$)	
5064.9	(47/2$^+$)	776.0 *5*	100	4288.9	(43/2$^+$)	
5115.2	(47/2$^-$)	711.0 *5*	100	4404.2	(43/2$^-$)	
5352.5	(49/2$^+$)	789.0 *5*	100	4563.5	(45/2$^+$)	
5391.2	(49/2$^-$)	723.9 *2*	100	4667.3	(45/2$^-$)	
5880.9?	(51/2$^+$)	816.0[d] *5*	100	5064.9	(47/2$^+$)	
6170.5	(53/2$^+$)	818.0 *5*	100	5352.5	(49/2$^+$)	
6172.2?	(53/2$^-$)	781.0[d] *5*	100	5391.2	(49/2$^-$)	
7007.5?	(57/2$^+$)	837.0[d] *5*	100	6170.5	(53/2$^+$)	

[†] From ^{150}Sm(^{29}Si,4nγ), except as noted.
[‡] From ^{175}Ir ε decay.
[#] From angular distributions, except as noted.
[@] Transition obscured by Os Kα x ray.
[&] Transition obscured by Os Kβ x ray.
[a] From α≈0.34, determined from intensity balance in (^{29}Si,4nγ).
[b] 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.
[c] Multiply placed with intensity suitably divided.
[d] Placement of transition in the level scheme is uncertain.

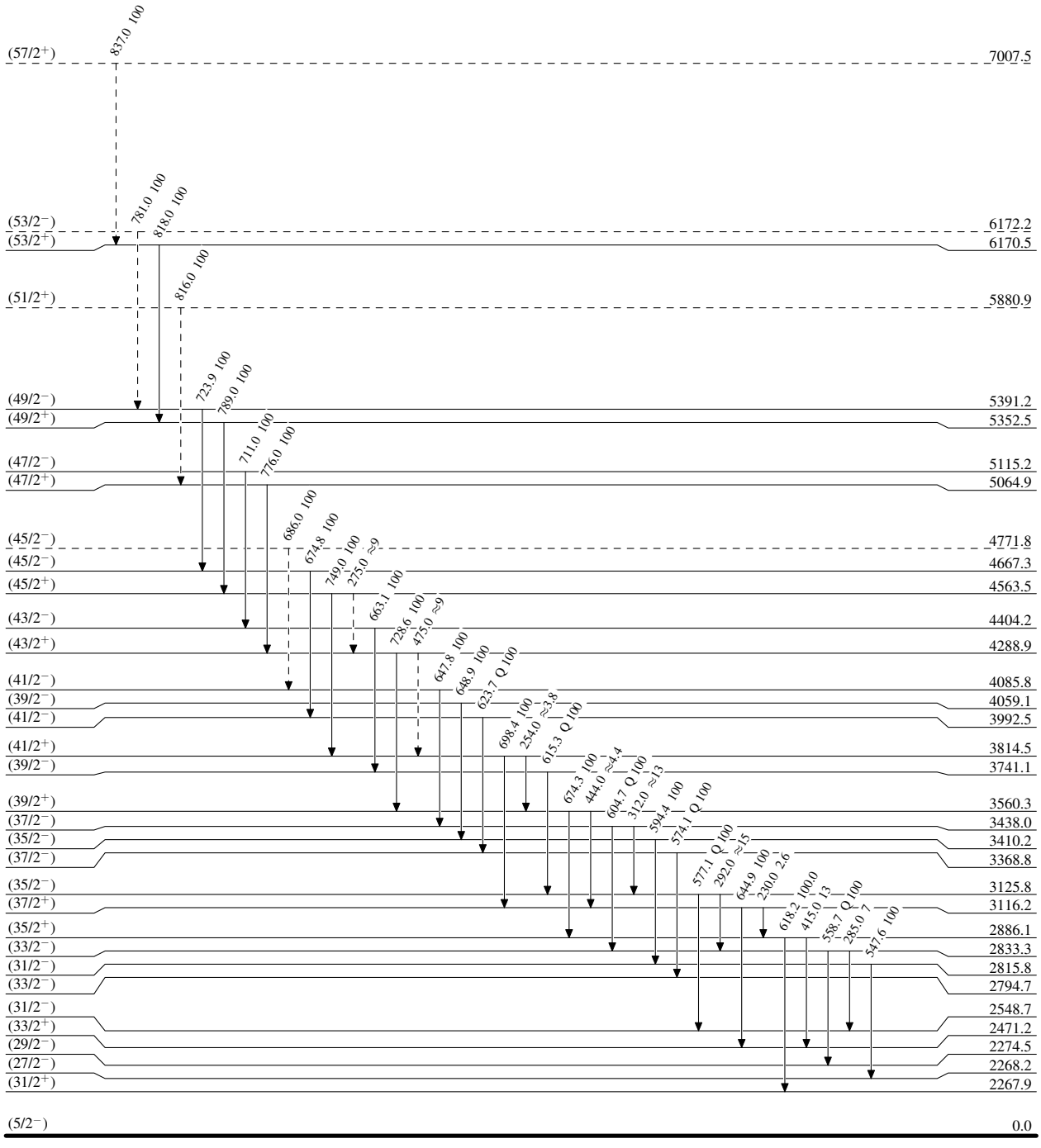
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)

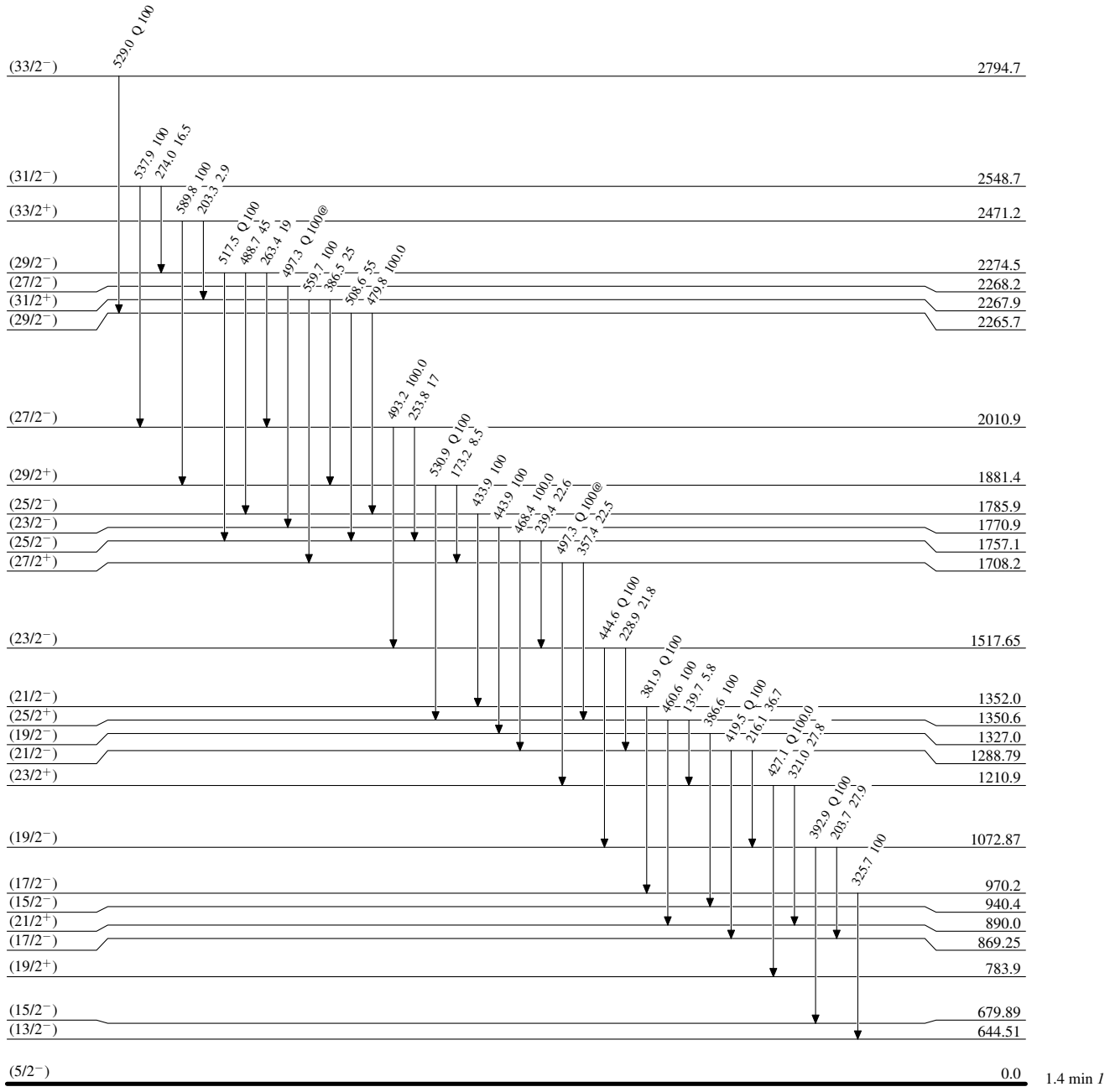


$^{175}_{76}Os_{99}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided



$^{175}_{76}Os_{99}$

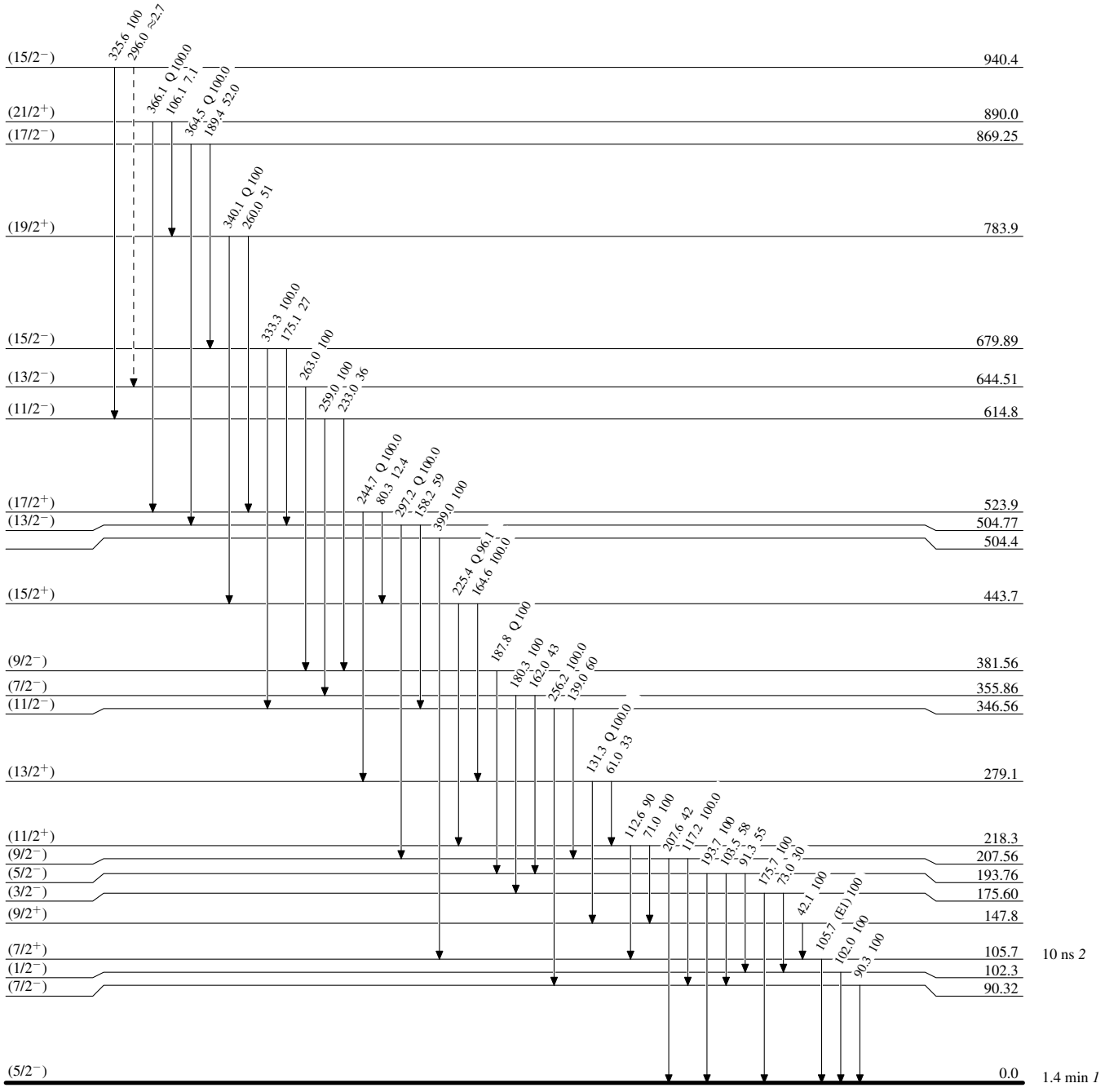
Adopted Levels, Gammas

Legend

Level Scheme (continued)

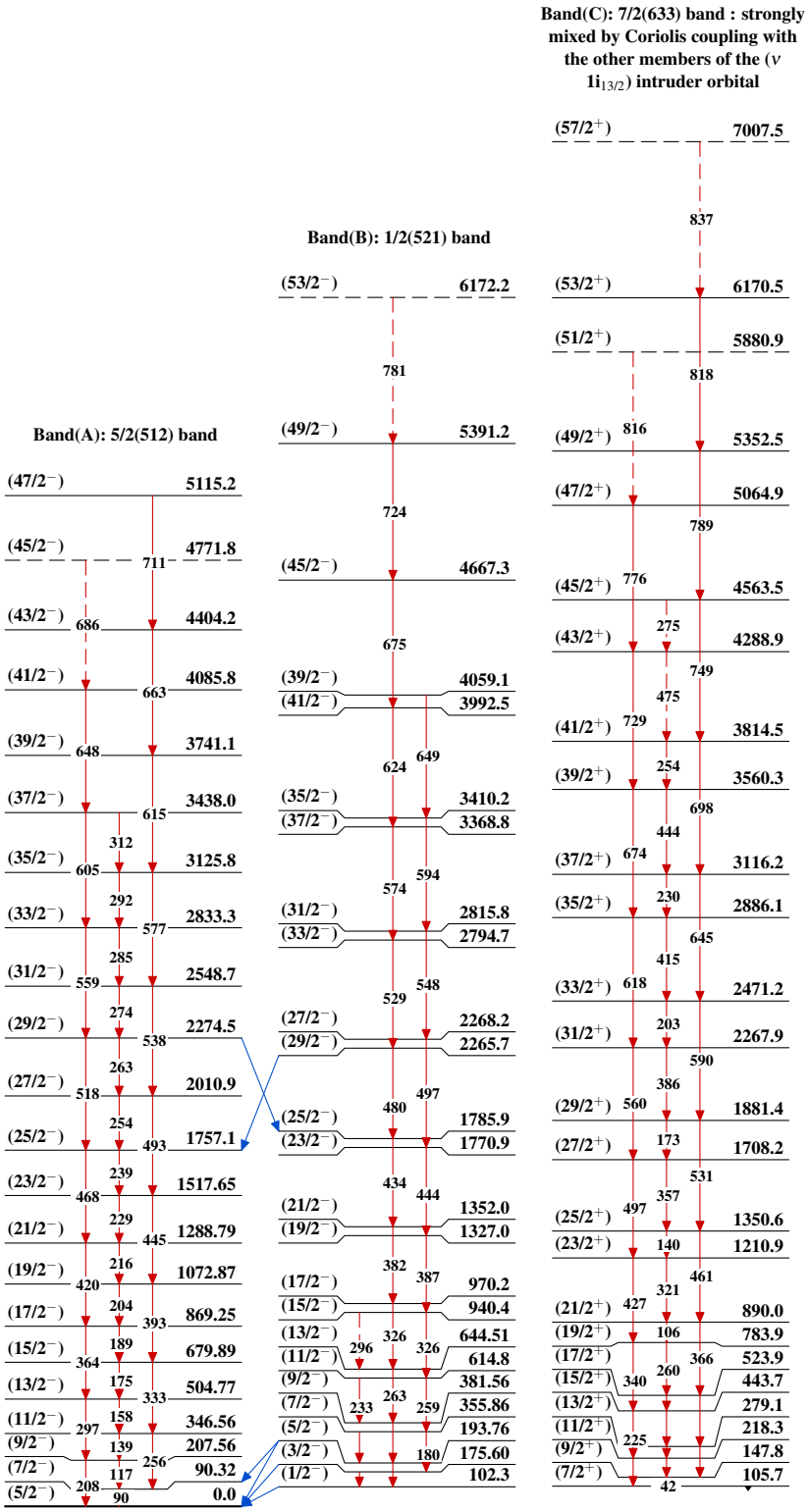
Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided

- - - - - - ► γ Decay (Uncertain)



$^{175}_{76}Os_{99}$

Adopted Levels, Gammas



$^{175}_{76}Os_{99}$