^{174}Yb(^{24}Mg,5nγ) 1996Ba54

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 143, 1 (2017)	31-Mar-2017

1996Ba54: ^{174}Yb(^{24}Mg,5nγ), HERA with E=129, 134 MeV and GAMMASPHERE with E=131 MeV; measured $\gamma\gamma$, $\gamma\gamma\gamma$, $\gamma(\theta)$.

^{193}Pb Levels

The level scheme proposed by 1996Ba54 expands on the one of 1991La07, but in several cases the transition intensities differ significantly among the two references. See the Adopted values dataset for further discussion.

There is a more or less systematic shift in the tabulated Eγ values from this work, as compared to results from other references. This adds up, shifting the energies of some of the higher lying levels downwards by up to ≈5 keV as compared with the adopted values.

E(level)[†]	J$^{\pi}$[g]	T$_{1/2}$[‡]	Comments
0.0+x[#]	(13/2$^+$)	5.8 min *2*	E(level),J$^{\pi}$: from Adopted Levels.
881.3+x[#] *2*	(17/2$^+$)		
1022.1+x[#] *4*	(15/2$^+$)		
1400.9+x[#] *3*	(21/2$^+$)		
1549.3+x[#] *3*	(19/2$^+$)		
1585.2+x[a] *4*	(21/2$^-$)	20.5 ns *4*	
1993.5+x[#] *4*	(25/2$^+$)		
2057.5+x[a] *6*	(23/2$^-$)		
2139.9+x[#] *4*	(23/2$^+$)		
2140.7+x[a] *5*	(23/2$^-$)		
2212.5+x[#] *4*	(25/2$^+$)		
2320.9+x[a] *6*	(25/2)		
2404.1+x[a] *5*			E(level): Level not established by other groups.
2425.5+x[#] *5*	(27/2$^+$)		
2523.3+x[@] *6*	(27/2)		
2525.0+x[&] *7*	(29/2$^+$)		
2583.9+x[#] *6*	(29/2$^-$)	9.4 ns *7*	
2610.5+x[&] *11*	(33/2$^+$)	180 ns *15*	
2652.0+x[a] *6*			
2670.5+x[&] *6*	(29/2$^+$)		
2686.4+x[c] *8*	(31/2$^-$)		
2705.5+x[a] *6*			
2768.1+x[f] *6*	(29/2$^+$)		
2938.6+x[c] *8*	(33/2$^-$)		
2992.8+x[a] *6*	(29/2)		
3078.3+x[@] *7*	(29/2)		
3126.7+x[a] *6*	(29/2)		
3131.5+x[f] *7*	(31/2$^+$)		B(M1)/B(E2)(exp)=7.0 *13* (μ_N/eb)^2.
3247.7+x[a] *8*			
3319.8+x[c] *8*	(35/2$^-$)		B(M1)/B(E2)(exp)=16.4 *52* (μ_N/eb)^2.
3364.9+x[&] *12*			E(level): Level not established by other groups.
3374.6+x[@] *7*	(31/2)		
3412.4+x[&] *8*	(33/2$^+$)		
3417.9+x[b] *8*			

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^{174}Yb(^{24}Mg,5nγ) 1996Ba54 (continued)

^{193}Pb Levels (continued)

E(level)[†]	J$^{\pi}$[g]	Comments
3539.1+x[a] *8*	(33/2)	
3540.8+x[f] *7*	(33/2$^+$)	B(M1)/B(E2)(exp)=4.1 *8* (μ_N/eb)^2.
3607.0+x[&] *12*		E(level): Level not established by other groups.
3639.3+x[b] *10*		
3721.1+x[c] *9*	(37/2$^-$)	B(M1)/B(E2)(exp)=12.8 *26* (μ_N/eb)^2.
3739.3+x[a] *7*	(33/2)	
3770.0+x[@] *8*		
3837.2+x[@] *7*	(33/2)	
3860.0+x[&] *10*		E(level): Level not established by other groups.
3904.4+x[&] *13*		E(level): Level not established by other groups.
3922.6+x[f] *8*	(35/2$^+$)	B(M1)/B(E2)(exp)=4.9 *10* (μ_N/eb)^2.
3987.2+x[a] *9*		E(level): Level not established by other groups.
4001.5+x[@] *9*	(35/2)	
4054.6+x[b] *11*		
4113.6+x[&] *9*		
4134.3+x[c] *9*	(39/2$^-$)	B(M1)/B(E2)(exp)=7.9 *20* (μ_N/eb)^2.
4147.9+x[@] *10*	(37/2)	
4165.6+x[b] *9*	(39/2$^-$)	
4177.4+x[a] *10*	(37/2)	
4208.3+x[@] *10*		
4239.2+x[&] *14*		E(level): Level not established by other groups.
4296.6+x[@] *11*	(39/2)	
4395.0+x[a] *8*	(37/2)	
4432.2+x[a] *8*	(37/2)	
4441.4+x[&] *12*		E(level): Level not adopted. A comparable 581.8γ placed from 3997.1+x in Adopted Levels.
4468.6+x[c] *9*	(41/2$^-$)	B(M1)/B(E2)(exp)=28 *12* (μ_N/eb)^2.
4493.6+x[eh] *13*	(41/2)	
4537.1+x[b] *12*		
4575.7+x[@] *12*		
4588.9+x[b] *9*	(41/2$^-$)	
4634.7+x[a] *11*		E(level): Level not established by other groups.
4725.6+x[eh] *14*	(43/2)	
4757.6+x[&] *11*		
4826.0+x[c] *10*	(43/2$^-$)	B(M1)/B(E2)(exp)=22 *8* (μ_N/eb)^2.
4888.9+x[a] *11*		
4943.5+x[@] *13*		
5017.0+x[eh] *15*	(45/2)	
5030.6+x[b] *11*		
5161.5+x[a] *8*	(41/2)	Despite the 4.4 keV energy difference, this Group 4 level appears to be the equivalent of the 5165.9 keV (43/2$^-$) Group C level in 1996Du18 (see note in caption for Level table, and footnote for Group 4 regarding the difference in J).
5167.8+x[@] *14*		
5179.3+x[c] *10*	(45/2$^-$)	B(M1)/B(E2)(exp)=10.0 *38* (μ_N/eb)^2.
5381.9+x[eh] *15*	(47/2)	
5770.9+x[eh] *15*	(49/2)	B(M1)/B(E2)(exp)=8.2 *22* (μ_N/eb)^2.
6186.6+x[eh] *16*	(51/2)	
6612.3+x[eh] *17*	(53/2)	E(level): Level not confirmed in later work (^{30}Si,5nγ). 426.1γ placed from 6657.6+x in Adopted

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^{174}Yb(^{24}Mg,5nγ) 1996Ba54 (continued)

^{193}Pb Levels (continued)

E(level)[†]	J$^{\pi}$[g]	Comments
		Level. Level not adopted.
7044.6+x[eh] *18*	(55/2)	
0.0+y[d]	J	J≈(47/2) (1996Ba54). E(level): In Adopted Levels y≈5092.5 keV+X, J^{π}=(45/2$^-$).
239.1+y[d] *6*	J+1	
504.2+y[d] *9*	J+2	
833.6+y[d] *11*	J+3	
1208.5+y[d] *12*	J+4	

[†] From least-squares fit to Eγ.
[‡] From Adopted values.
[#] Group 1 Set of positive parity levels on top of the 13/2$^+$ 5.8 min isomeric state. All the higher lying levels decay through this group.
[@] Group 2 Group comprising levels below Band 2, Aswell as a few other states.
[&] Group 3 Group of positive parity levels, feeding the 1993-keV level.
[a] Group 4 Group of levels above the 1586-keV isomeric level. Note that the spin sequence adopted for several of the levels in this group differ by one unit from those proposed in 1996Du18. This is a consequence of the ΔJ=2 value adopted in this latter reference for the 556 keV transition feeding the isomeric state.
[b] Group 5 Set of negative-parity levels above the 3320-keV level.
[c] Band(A): Magnetic dipole band 1a. Group of negative parity levels connected by strong M1 γ rays, with E2 cross-over transitions.
[d] Band(B): Magnetic dipole band 1b. Possible extension of Band 1a towards higher energies. The connecting transitions could not be observed, as the levels are only weakly populated in the reaction.
[e] Band(C): Magnetic dipole band 2. Set of levels connected by a cascade of (M1) transition, feeding the 4297-keV bandhead level. The level and transition sequence is the same as in 1996Du18. Note however that the level spins and energies differ from those of Band 2 in 1996Du18, because there the 232-keV γ connects to the 4297-keV bandhead state via a sequence of two γ rays (149 and 90 keV), while the present authors show only a single 197-keV γ ray as first transition in the band. This produces a downward shift of about 45 keV in the Band 2 levels from the present dataset, as compared to the energies from 1996Du18. The different assignment for the lowest transitions for Band 2 also implies differences in the proposed J^{π} values for the band levels.
[f] Band(D): Magnetic dipole band 3. Weakly populated band, connected by M1 γ rays. with E2 cross-over transitions.
[g] The authors have adopted spins and parities for Group 1 transitions from 1991La07.
[h] Band 2 level. Its energy is about 45 keV lower than the same level in Band 2 from 1996Du18. See footnote comment for Band 2 for a discussion of the source of this difference.

γ(^{193}Pb)

E$_{\gamma}$[@]	I$_{\gamma}$[‡]	E$_i$(level)	J$_i^{\pi}$	E$_f$	J$_f^{\pi}$	Comments
72.7[&] *10*		2212.5+x	(25/2$^+$)	2139.9+x	(23/2$^+$)	
85.5[b] *8*		2610.5+x	(33/2$^+$)	2525.0+x	(29/2$^+$)	
97.7[a] *5*	2.2 *8*	2523.3+x	(27/2)	2425.5+x	(27/2$^+$)	
102.5[e] *5*	3.4 *8*	2686.4+x	(31/2$^-$)	2583.9+x	(29/2$^-$)	
146.4[a] *5*	4.8 *18*	4147.9+x	(37/2)	4001.5+x	(35/2)	DCO=0.48 *21*. The multipolarity of this transition is in doubt, since the authors, based on intensity balance arguments, suggest an E1 character, and therefore a parity change between the connected levels. This change does not agree with the proposed character of positive-parity levels suggested by 1996Du18.

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^{174}Yb(^{24}Mg,5nγ) 1996Ba54 (continued)

$\gamma(^{193}Pb)$ (continued)

E_γ[@]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	Comments
148.7[a] 5	4.5 23	4296.6+x	(39/2)	4147.9+x	(37/2)	D	DCO=0.53 18.
158.4[&] 3	28 4	2583.9+x	(29/2$^-$)	2425.5+x	(27/2$^+$)	D(+Q)	DCO=0.67 20.
164.3[a] 5	7.5 21	4001.5+x	(35/2)	3837.2+x	(33/2)		DCO=0.51 16. From a comparison of the total intensity for the 462.6 keV transition with that for the one of 164.3 keV, the authors argue that this γ ray cannot have an M1 multipolarity, leading to an E1 assignment. While the resultant I(γ+ce)=8.4 24 is then in very good agreement with that reported in 1996Du18, the required parity change also implies that one (or possibly more) of the transitions on top of the 4001.5-keV level have to be of parity-changing character.
180.2[c] 3	12.1 29	2320.9+x	(25/2)	2140.7+x	(23/2$^-$)	D(+Q)	DCO=0.61 16.
184.3[c] 3	19.5 30	1585.2+x	(21/2$^-$)	1400.9+x	(21/2$^+$)		Mult.: DCO=1.07 28 indicates Q, however, placement 21/2$^-$ to 21/2$^+$
197.0[g] 6	2.0 8	4493.6+x	(41/2)	4296.6+x	(39/2)	D	DCO=0.52 16. E_γ: a comparable 196.9γ placed as deexciting 4388+x in Adopted Levels. In 1996Ba54, authors propose it to be the lowest member of the cascade of magnetic dipole transitions in Band 2.
213.0[&] 3	23.0 34	2425.5+x	(27/2$^+$)	2212.5+x	(25/2$^+$)	D(+Q)	DCO=0.60 17.
219.1[&] 5	4.2 10	2212.5+x	(25/2$^+$)	1993.5+x	(25/2$^+$)		DCO=1.04 26 indicates Q, however, placement 25/2$^+$ to 25/2$^+$. Additional information 1.
224.3[a] 5	1.7 8	5167.8+x		4943.5+x			
232.0[g] 5	5.5 17	4725.6+x	(43/2)	4493.6+x	(41/2)	D	DCO=0.44 12. E_γ: This γ ray has been placed by 1996Du18 as deexciting their 4769-keV level, which is not established by the present authors.
239.1[f] 6	1.0 6	239.1+y	J+1	0.0+y	J		
252.3[e] 3	19 4	2938.6+x	(33/2$^-$)	2686.4+x	(31/2$^-$)	D	DCO=0.50 10.
265.1[f] 6	1.6 9	504.2+y	J+2	239.1+y	J+1		
279.1[a] 5	3.4 13	4575.7+x		4296.6+x	(39/2)		
291.4[g] 5	5.6 18	5017.0+x	(45/2)	4725.6+x	(43/2)	D	DCO=0.52 10. This γ ray has been placed by 1996Du18 as deexciting their 5061-keV level.
296.3[a] 5	4.9 15	3374.6+x	(31/2)	3078.3+x	(29/2)	D	DCO=0.53 11.
301.6[c] 5	1.8 6	2705.5+x		2404.1+x			This γ ray has not been reported in other references.
302.8[d] 5	1.0 4	4468.6+x	(41/2$^-$)	4165.6+x	(39/2$^-$)	D	DCO=0.45 12.
310.8[a] 5	9.9 19	2523.3+x	(27/2)	2212.5+x	(25/2$^+$)		DCO=0.63 13 indicates d(+Q), placement 27/2 to 25/2$^+$ in 1996Ba54. 25/2$^+$ at 2213.8+x is 23/2$^+$ in Adopted Levels.
319.5[d] 5	2.4 8	3639.3+x		3319.8+x	(35/2$^-$)		DCO=0.53 10.
329.4[f] 6	1.1 7	833.6+y	J+3	504.2+y	J+2		
331.3[c] 6	0.5 3	2652.0+x		2320.9+x	(25/2)		This γ ray not reported in other references. The closest match is the 330.4-keV transition from 1996Du18, placed there as deexciting their 6927-keV level.
334.4[e] 5	3.5 9	4468.6+x	(41/2$^-$)	4134.3+x	(39/2$^-$)	D	DCO=0.51 7.
340.7[c] 5	1.9 6	2992.8+x	(29/2)	2652.0+x			
342.6[h] 5	6.4 12	2768.1+x	(29/2$^+$)	2425.5+x	(27/2$^+$)	D	DCO=0.48 7.
353.3[e] 6	1.4 6	5179.3+x	(45/2$^-$)	4826.0+x	(43/2$^-$)	D(+Q)	DCO=0.59 12.

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^{174}Yb(^{24}Mg,5nγ) 1996Ba54 (continued)

γ(^{193}Pb) (continued)

E_γ[@]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	Comments
357.4[e] 5	2.9 9	4826.0+x	(43/2$^-$)	4468.6+x	(41/2$^-$)	D	DCO=0.49 7.
363.5[h] 5	4.7 10	3131.5+x	(31/2$^+$)	2768.1+x	(29/2$^+$)	D	DCO=0.41 7.
365.0[g] 5	4.3 14	5381.9+x	(47/2)	5017.0+x	(45/2)	D	DCO=0.53 9.
367.8[a] 5	2.5 10	4943.5+x		4575.7+x			
374.9[f] 6	0.4 3	1208.5+y	J+4	833.6+y	J+3		
381.2[e] 3	18.5 39	3319.8+x	(35/2$^-$)	2938.6+x	(33/2$^-$)	D	DCO=0.48 5.
381.7[h] 6	1.5 5	3922.6+x	(35/2$^+$)	3540.8+x	(33/2$^+$)		DCO=0.38 8.
384.4[c] 5	1.5 7	2705.5+x		2320.9+x	(25/2)		
389.1[g] 5	2.5 8	5770.9+x	(49/2)	5381.9+x	(47/2)	D	DCO=0.53 11. This γ ray has been placed by 1996Du18 as deexciting their 5815-keV level (Band 2).
395.4[a] 5	5.5 17	3770.0+x		3374.6+x	(31/2)		
401.3[e] 4	11.1 24	3721.1+x	(37/2$^-$)	3319.8+x	(35/2$^-$)	D	DCO=0.48 5.
409.3[h] 5	2.2 5	3540.8+x	(33/2$^+$)	3131.5+x	(31/2$^+$)	D	DCO=0.40 8.
413.3[e] 5	6.8 16	4134.3+x	(39/2$^-$)	3721.1+x	(37/2$^-$)	D	DCO=0.50 6.
415.3[d] 5	1.9 10	4054.6+x		3639.3+x			
415.7[g] 5	1.6 6	6186.6+x	(51/2)	5770.9+x	(49/2)	D	DCO=0.54 12.
421.2[c] 5	4.4 13	3126.7+x	(29/2)	2705.5+x			DCO=0.89 17 indicates Q. No J^π assignment for final level in 1996Ba54.
423.3[d] 5	1.3 5	4588.9+x	(41/2$^-$)	4165.6+x	(39/2$^-$)	D	DCO=0.44 9.
425.7[g] 6	0.9 4	6612.3+x	(53/2)	6186.6+x	(51/2)	D	DCO=0.50 13.
431.9[&] 5	1.7 7	2425.5+x	(27/2$^+$)	1993.5+x	(25/2$^+$)	D(+Q)	DCO=0.59 14.
432.3[g] 6	0.6 3	7044.6+x	(55/2)	6612.3+x	(53/2)		
438.3[a] 5	2.1 8	4208.3+x		3770.0+x			
441.7[d] 5	1.0 4	5030.6+x		4588.9+x	(41/2$^-$)		
444.4[d] 5	3.4 11	4165.6+x	(39/2$^-$)	3721.1+x	(37/2$^-$)	D	DCO=0.46 8.
447.6[b] 6	0.9 3	3860.0+x		3412.4+x	(33/2$^+$)		This γ ray has not been reported in other references.
454.6[d] 5	0.7 4	4588.9+x	(41/2$^-$)	4134.3+x	(39/2$^-$)		
462.6[a] 4	13.0 33	3837.2+x	(33/2)	3374.6+x	(31/2)	D	DCO=0.49 7.
472.1[c] 5	4.8 14	2057.5+x	(23/2$^-$)	1585.2+x	(21/2$^-$)	D	DCO=0.46 13.
482.5[d] 5	1.9 9	4537.1+x		4054.6+x		D	DCO=0.45 8.
519.6[&] 2	82 10	1400.9+x	(21/2$^+$)	881.3+x	(17/2$^+$)	Q	DCO=0.96 11.
527.3[&] 4	10.2 19	1549.3+x	(19/2$^+$)	1022.1+x	(15/2$^+$)	Q	DCO=1.05 15.
531.5[b] 5	3.8 11	2525.0+x	(29/2$^+$)	1993.5+x	(25/2$^+$)	Q	DCO=0.93 17.
539.5[b] 6	1.8 12	3904.4+x		3364.9+x			This γ ray may be the same as the 540.4 keV transition from 1996Du18, who place it as deexciting their 3822-keV level.
542.2[c] 5	2.8 10	3247.7+x		2705.5+x			
546.3[c] 5	6.4 17	3539.1+x	(33/2)	2992.8+x	(29/2)	Q	DCO=1.11 17.
555.0[a] 4	6.6 23	3078.3+x	(29/2)	2523.3+x	(27/2)	D(+Q)	DCO=0.62 7.
555.5[c] 3	30 10	2140.7+x	(23/2$^-$)	1585.2+x	(21/2$^-$)	D+Q	DCO=0.77 9.
564.6[c] 4	7.2 19	2705.5+x		2140.7+x	(23/2$^-$)		Mult.: DCO=0.89 15 indicates Q, however, no spin assigned for depopulating level in 1996Ba54.
581.4[b] 6	0.8 3	4441.4+x		3860.0+x			a 581.8 keV γ is placed from 3997.1+x in Adopted Levels.
590.6[&] 3	30 6	2139.9+x	(23/2$^+$)	1549.3+x	(19/2$^+$)	Q	DCO=0.97 15.
592.5[&] 3	35 9	1993.5+x	(25/2$^+$)	1400.9+x	(21/2$^+$)	Q	DCO=1.08 14.
594.3[c] 5	2.6 13	2652.0+x		2057.5+x	(23/2$^-$)		
612.6[c] 3	8.3 22	3739.3+x	(33/2)	3126.7+x	(29/2)	Q	DCO=0.96 13.

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^{174}Yb(^{24}Mg,5nγ) 1996Ba54 (continued)

γ(^{193}Pb) (continued)

E_γ[@]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	Comments
632.2[b] 6	1.3 9	4239.2+x		3607.0+x			This γ ray has not been reported in other references.
633.2[e] 6	1.4 5	3319.8+x	(35/2$^-$)	2686.4+x	(31/2$^-$)	#	
638.3[c] 5	3.2 10	4177.4+x	(37/2)	3539.1+x	(33/2)	Q	DCO=1.13 19.
644.0[b] 6	0.6 3	4757.6+x		4113.6+x			
647.5[c] 5	1.3 5	4634.7+x		3987.2+x			This γ ray has not been reported in other references.
655.7[c] 4	1.9 8	4395.0+x	(37/2)	3739.3+x	(33/2)		
668.0[&] 4	9.0 17	1549.3+x	(19/2$^+$)	881.3+x	(17/2$^+$)	D+Q	DCO=0.58 7.
672.0[c] 4	6.9 18	2992.8+x	(29/2)	2320.9+x	(25/2)	Q	DCO=1.09 15.
677.0[b] 4	9.9 19	2670.5+x	(29/2$^+$)	1993.5+x	(25/2$^+$)	Q	DCO=0.93 11.
691.7[e] 6	0.3 1	4826.0+x	(43/2$^-$)	4134.3+x	(39/2$^-$)	#	
692.8[c] 4	3.2 10	4432.2+x	(37/2)	3739.3+x	(33/2)	Q	DCO=0.89 15.
701.2[b] 5	1.6 5	4113.6+x		3412.4+x	(33/2$^+$)		
705.9[h] 6	1.7 4	3131.5+x	(31/2$^+$)	2425.5+x	(27/2$^+$)	#	
710.7[e] 6	0.4 2	5179.3+x	(45/2$^-$)	4468.6+x	(41/2$^-$)	#	
711.5[c] 6	0.7 4	4888.9+x		4177.4+x	(37/2)		
729.3[c] 4	1.5 6	5161.5+x	(41/2)	4432.2+x	(37/2)	Q	DCO=0.97 30.
739.0[&] 3	19 4	2139.9+x	(23/2$^+$)	1400.9+x	(21/2$^+$)	D+Q	DCO=0.58 15.
739.5[c] 5	1.8 6	3987.2+x		3247.7+x			This γ ray has not been reported in other references. 1996Du18 list a 739.7 keV γ with Iγ=23.3 14. The sum of the γ intensities of the 739.0 and 739.5 keV τransitions from the present authors is 20.8 40. Therefore the transition seen in 1996Du18 may be an unresolved doublet.
741.9[b] 5	4.5 12	3412.4+x	(33/2$^+$)	2670.5+x	(29/2$^+$)	Q	DCO=0.97 17.
747.6[e] 6	0.5 2	4468.6+x	(41/2$^-$)	3721.1+x	(37/2$^-$)	#	
753.8[g] 6	0.9 3	5770.9+x	(49/2)	5017.0+x	(45/2)	#	
754.4[b] 5	5.6 30	3364.9+x		2610.5+x	(33/2$^+$)		1996Du18 report a 755.1 keV transition deexciting their level at 3282 keV.
758.9[a] 5	2.3 9	3837.2+x	(33/2)	3078.3+x	(29/2)	Q	DCO=1.16 31.
766.5[c] 6	0.8 4	5161.5+x	(41/2)	4395.0+x	(37/2)		
772.8[h] 6	1.5 4	3540.8+x	(33/2$^+$)	2768.1+x	(29/2$^+$)	#	
782.5[e] 6	2.8 7	3721.1+x	(37/2$^-$)	2938.6+x	(33/2$^-$)	Q#	DCO=1.09 21.
791.1[h] 6	1.2 3	3922.6+x	(35/2$^+$)	3131.5+x	(31/2$^+$)	#	
805.9[c] 3	8.8 22	3126.7+x	(29/2)	2320.9+x	(25/2)	Q	DCO=0.91 11.
811.7[&] 4	9.8 19	2212.5+x	(25/2$^+$)	1400.9+x	(21/2$^+$)	Q	DCO=0.91 12.
814.5[e] 5	3.0 9	4134.3+x	(39/2$^-$)	3319.8+x	(35/2$^-$)	#	
819.0[c] 3	3.3 10	2404.1+x		1585.2+x	(21/2$^-$)		This γ ray has not been reported in other references.
834.0[d] 5	2.8 13	3417.9+x		2583.9+x	(29/2$^-$)		
845.8[d] 5	1.1 5	4165.6+x	(39/2$^-$)	3319.8+x	(35/2$^-$)		
851.3[a] 4	16 6	3374.6+x	(31/2)	2523.3+x	(27/2)	Q	DCO=0.96 14.
867.8[d] 5	1.2 5	4588.9+x	(41/2$^-$)	3721.1+x	(37/2$^-$)		
881.3[&] 2	100 11	881.3+x	(17/2$^+$)	0.0+x	(13/2$^+$)	Q	DCO=0.96 11.
996.5[b] 6	3.0 18	3607.0+x		2610.5+x	(33/2$^+$)		This γ ray has not been reported in other references.
1022.1[&] 4	12.2 21	1022.1+x	(15/2$^+$)	0.0+x	(13/2$^+$)	D+Q	DCO=0.77 14.

[†] Assigned by the evaluator based on DCO ratios, normalized to E2 quadrupole transitions by 1996Ba54.

Continued on next page (footnotes at end of table)

^{174}Yb(^{24}Mg,5nγ) 1996Ba54 (continued)

$\gamma(^{193}Pb)$ (continued)

‡ The quoted uncertainty for the γ intensity does not contain the uncertainty listed for the 881-keV transition.
# Crossover stretched quadrupole transition between alternate levels in magnetic dipole band, connected by stretched (M1) transitions.
@ An uncertainty of 0.1% (with a minimum value of ± 0.3 keV) has been assigned by the evaluator from comparison with previous HERA and GAMMASPHERE results.
& Group 1.
a Group 2.
b Group 3.
c Group 4.
d Group 5.
e Band 1a.
f Band 1b.
g Band 2.
h Band 3.

^{174}Yb(^{24}Mg,5nγ) **1996Ba54**

Level Scheme

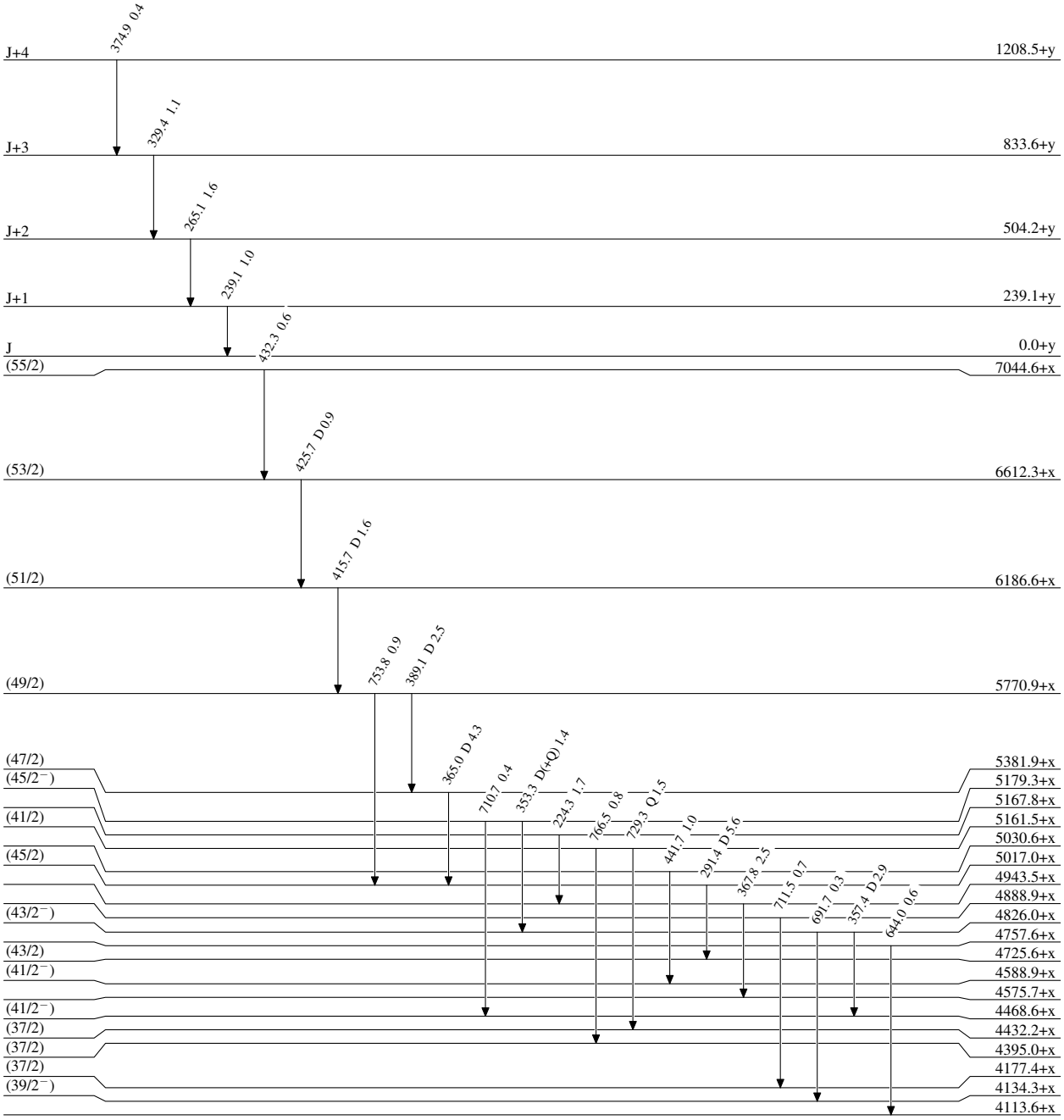
Intensities: Relative I_γ

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$

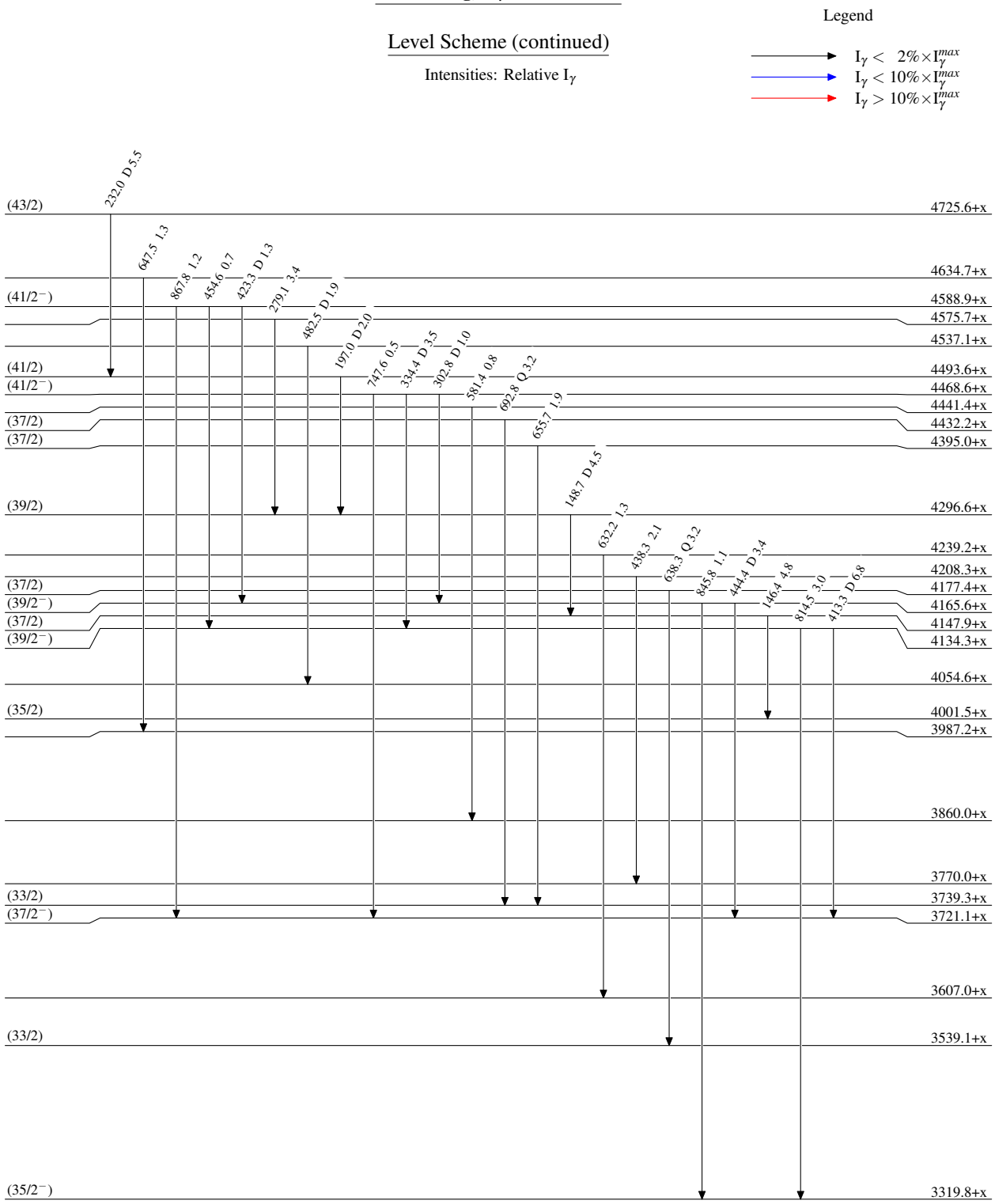


$^{193}_{82}Pb_{111}$

^{174}Yb(^{24}Mg,5nγ) **1996Ba54**

Level Scheme (continued)

Intensities: Relative I_γ



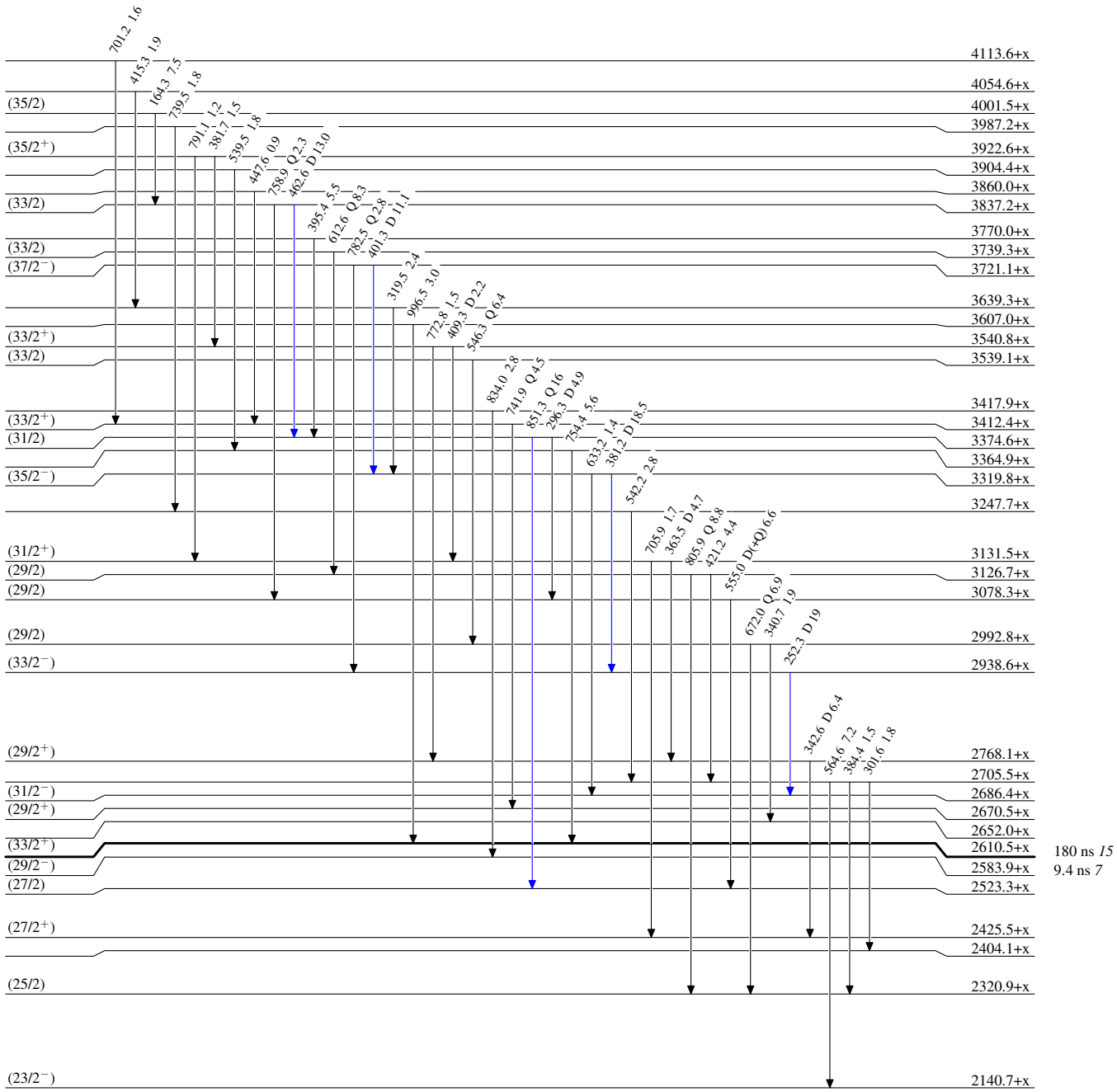
$^{193}_{82}Pb_{111}$

^{174}Yb(^{24}Mg,5nγ) 1996Ba54

Level Scheme (continued)

Intensities: Relative I_γ

Legend
$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$

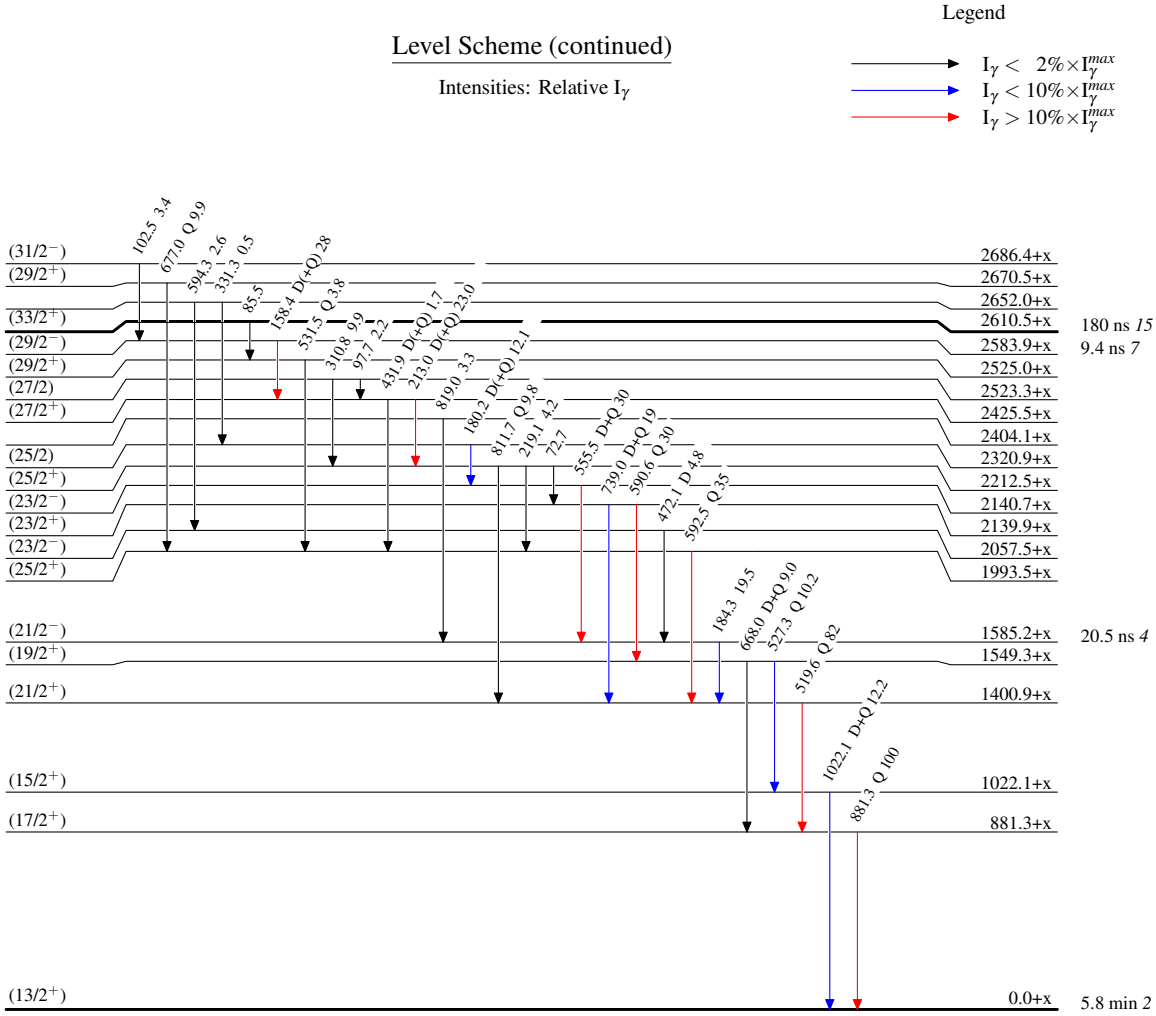


$^{193}_{82}Pb_{111}$

^{174}Yb(^{24}Mg,5nγ) 1996Ba54

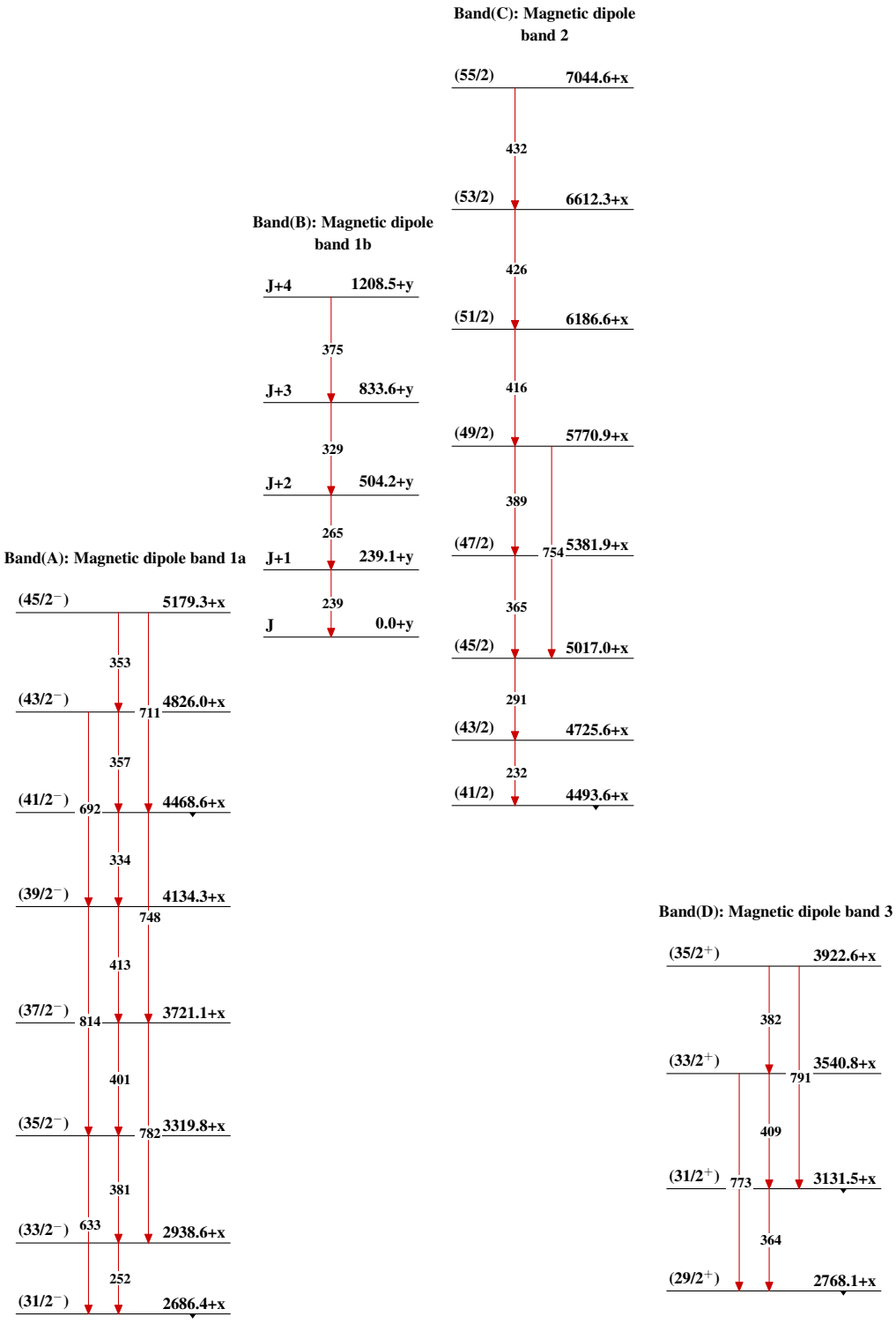
Level Scheme (continued)

Intensities: Relative I_γ



$^{193}_{82}Pb_{111}$

^{174}Yb(^{24}Mg,5nγ) 1996Ba54



$^{193}_{82}Pb_{111}$