(HI,xnγ) 2012Ma09,2012Ma36

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Zoltan Elekes and Janos Timar	NDS 129, 191 (2015)	28-Feb-2015

Evaluators benefited from XUNDL compilations by D.M. Symochko (IEP, NAS, Ukraine) and B. Singh (McMaster), from 2012Ma09, April 10, 2012 and from 2012Ma36, Aug 23, 2012.

2012Ma09, 2012Ma36, 2013Ma30: ^{118}Sn(^{14}N,4nγ); Beam: 69 MeV ^{14}N provided by the HI-13 tandem accelerator at the CIAE. Target: ^{118}Sn (enriched 92.8%) with 2.4 mg/cm^2 thickness rolled onto lead backing. Measured Eγ, Iγ, γγ, γγ(θ) with 14 Compton-suppressed and 2 planar HPGe detectors.

1989Go04, 1989Go06: ^{95}Mo(^{36}S,p2nγ) E=135,145 MeV; γ, γγ, γ(θ).

1987No07: ^{115}In(^{16}O,3nγ) E=65-80 MeV; ^{98}Mo(^{37}Cl,α3nγ) E=145 MeV; γ, γγ, excitation.

1995Ha16: ^{115}In(^{16}O,3nγ) E=66 MeV; ^{103}Rh(^{28}Si,2pnγ) E=105 MeV; γ, γγ, γγ(θ).

1992Co15: ^{115}In(^{16}O,3nγ) E=80,85 MeV; measured α(K)exp.

1986Qu01: ^{116}Sn(^{14}N,2nγ) E=60 MeV; γ, γγ.

The level scheme is taken from 2012Ma09 and 2012Ma36 unless noted otherwise.

^{128}La Levels

E(level)†	Jπ#	T$_{1/2}$#	E(level)†	Jπ#	E(level)†	Jπ#
0.0	(5$^+$)	5.18 min *14*	1717.4[e] *4*	(13$^-$)	3756.6[f] *5*	(18$^+$)
6.1[c] *5*	(6$^-$)		1842.1[c] *4*	(14$^-$)	4037.2[d] *5*	(19$^-$)
37.01[@] *24*	(6$^+$)		1903.8[&] *4*	(15$^+$)	4150.7[g] *5*	(19$^+$)
84.99[&] *24*	(7$^+$)		1929.4[a] *4*	(14$^+$)	4241.4[@] *6*	(20$^+$)
88.0[d] *4*	(7$^-$)		1946.2 *4*	(13$^+$)	4286.3[e] *6*	(19$^-$)
151.0[@] *3*	(8$^+$)		1999.6 *5*	(14$^+$)	4295.7[b] *6*	(19$^+$)
203.5[e] *5*	(7$^-$)		2249.5[d] *4*	(15$^-$)	4457.7[c] *5*	(20$^-$)
207.8[c] *4*	(8$^-$)		2272.2[@] *4*	(16$^+$)	4583.3[f] *6*	(20$^+$)
255.2[&] *3*	(9$^+$)		2361.2[b] *4*	(15$^+$)	4744.6[a] *6*	(20$^+$)
381.2[d] *4*	(9$^-$)		2527.7[e] *5*	(15$^-$)	4831.2[&] *6*	(21$^+$)
393.6[@] *4*	(10$^+$)		2651.2[f] *5*	(14$^+$)	4912.3[d] *5*	(21$^-$)
532.3[e] *4*	(9$^-$)		2674.7[c] *4*	(16$^-$)	5050.9[g] *6*	(21$^+$)
590.3[c] *4*	(10$^-$)		2703.5 *5*	(15$^+$)	5377.5[c] *5*	(22$^-$)
628.7[&] *4*	(11$^+$)		2731.6[a] *5*	(16$^+$)	5394.7[@] *6*	(22$^+$)
850.6[d] *4*	(11$^-$)		2762.6[&] *5*	(17$^+$)	5549.0[f] *6*	(22$^+$)
851.1[@] *4*	(12$^+$)		2857.7[g] *5*	(15$^+$)	5878.5[‡d] *9*	(23$^-$)
959.4[b] *4*	(11$^+$)		2908.1 *5*	(15$^+$)	6006.6[&] *7*	(23$^+$)
1044.4[e] *4*	(11$^-$)		3101.5[f] *5*	(16$^+$)	6071.0[g] *6*	(23$^+$)
1140.9[c] *4*	(12$^-$)		3135.6[d] *4*	(17$^-$)	6402.7[‡c] *9*	(24$^-$)
1153.6 *4*	(12$^+$)		3195.5[@] *5*	(18$^+$)	6637.7[@] *7*	(24$^+$)
1186.1[&] *4*	(13$^+$)		3280.7[b] *5*	(17$^+$)	6940.9[‡d] *10*	(25$^-$)
1230.0[a] *4*	(12$^+$)		3406.1[g] *5*	(17$^+$)	7537.6[‡c] *14*	(26$^-$)
1479.5[d] *4*	(13$^-$)		3465.2[e] *6*	(17$^-$)	7923.5[‡@] *23*	(26$^+$)
1485.1[@] *4*	(14$^+$)		3589.1[c] *5*	(18$^-$)	8093.1[‡d] *14*	(27$^-$)
1617.1[b] *4*	(13$^+$)		3702.6[a] *6*	(18$^+$)	8774.6[‡c] *18*	(28$^-$)
1623.6 *5*	(14$^+$)		3744.2[&] *5*	(19$^+$)	9255[‡@] *3*	(28$^+$)

† From least-squares fit to Eγ's.

‡ Seen only in 1989GO04.

From Adopted Levels.

@ Band(A): πh$_{11/2}$⊗νh$_{11/2}$,α=0.

Continued on next page (footnotes at end of table)

(HI,xnγ) 2012Ma09,2012Ma36 (continued)

^{128}La Levels (continued)

& Band(a): $\pi h_{11/2}\otimes\nu h_{11/2}$,$\alpha$=1.
[a] Band(B): chiral partner of $\pi h_{11/2}\otimes\nu h_{11/2}$,$\alpha$=0.
[b] Band(b): chiral partner of $\pi h_{11/2}\otimes\nu h_{11/2}$,$\alpha$=1.
[c] Band(C): $\pi h_{11/2}\otimes\nu d_{5/2}$,$\alpha$=0.
[d] Band(c): $\pi h_{11/2}\otimes\nu d_{5/2}$,$\alpha$=1.
[e] Band(D): $\pi h_{11/2}\otimes\nu d_{3/2}$,$\alpha$=0.
[f] Band(E): $\pi h_{11/2}\otimes\nu h^3_{11/2}$,$\alpha$=0.
[g] Band(e): $\pi h_{11/2}\otimes\nu h^3_{11/2}$,$\alpha$=1.

(HI,xnγ) 2012Ma09,2012Ma36 (continued)

$\gamma(^{128}La)$

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[#b]	α[a]	Comments
37[@]		37.01	(6^+)	0.0	(5^+)				
48[@]		84.99	(7^+)	37.01	(6^+)				
66.1		151.0	(8^+)	84.99	(7^+)				
81.8		88.0	(7^-)	6.1	(6^-)				
85[@]		84.99	(7^+)	0.0	(5^+)				
104.0	50.5[&] *15*	255.2	(9^+)	151.0	(8^+)	(M1+E2)	0.08 *10*	0.972 *24*	DCO=0.87 *17* A_2=−0.14 *8*, A_4=0.02 *8* (1987No07).
114.0		151.0	(8^+)	37.01	(6^+)				
119.7	71.2[&] *12*	207.8	(8^-)	88.0	(7^-)	(M1+E2)	0.03 *7*	0.649 *10*	A_2=−0.17 *2*, A_4=0.02 *3* (1989Go04).
138.5	98 *10*	393.6	(10^+)	255.2	(9^+)	(M1+E2)	0.00 *5*	0.431	DCO=0.92 *18* A_2=−0.26 *2*, A_4=−0.01 *2* (1987No07).
170.2	1.1[&] *3*	255.2	(9^+)	84.99	(7^+)				
173.3	78.6[&] *9*	381.2	(9^-)	207.8	(8^-)	M1+E2	−0.05 *4*	0.231	α(K)exp=0.22 *7* (1992Co15) A_2=−0.28 *2*, A_4=0.02 *2* (1989Go04).
193.4	2.2 *7*	3101.5	(16^+)	2908.1	(15^+)	(M1+E2)		0.1714 *25*	DCO=1.12 *34*
197.5	6.8 *14*	203.5	(7^-)	6.1	(6^-)				
201.7	6.9[&] *17*	207.8	(8^-)	6.1	(6^-)				
206.5	4.4 *13*	2857.7	(15^+)	2651.2	(14^+)	(M1+E2)		0.1434 *21*	DCO=1.07 *32*
209.2	61.6[&] *16*	590.3	(10^-)	381.2	(9^-)	M1+E2	−0.12 *5*	0.1385	α(K)exp=0.13 *5* (1992Co15) A_2=−0.35 *2*, A_4=−0.01 *2* (1989Go04).
222.3	80 *8*	851.1	(12^+)	628.7	(11^+)	M1+E2	−0.10 *5*	0.1174	DCO=1.07 *21* A_2=−0.36 *2*, A_4=−0.02 *2* (1987No07). α(K)exp=0.12 (1992Co15).
230.3		381.2	(9^-)	151.0	(8^+)				
235.2	100 *10*	628.7	(11^+)	393.6	(10^+)	M1+E2	−0.11 *5*	0.1008	DCO=1.03 *21* A_2=−0.37 *2*, A_4=−0.03 *2* (1987No07). α(K)exp=0.12 (1992Co15).
242.5	11.5 *23*	393.6	(10^+)	151.0	(8^+)				
243.8		3101.5	(16^+)	2857.7	(15^+)				
260.2	31.1[&] *9*	850.6	(11^-)	590.3	(10^-)	(M1+E2)	−0.16 *5*	0.0769	A_2=−0.42 *3*, A_4=0.01 *3* (1989Go04).
270.5	2.0 *6*	1230.0	(12^+)	959.4	(11^+)	(M1+E2)		0.0694	DCO=1.0 *4*
290.4	25.7[&] *8*	1140.9	(12^-)	850.6	(11^-)	(M1+E2)	−0.13 *6*	0.0575 *9*	A_2=−0.38 *4*, A_4=0.03 *4* (1989Go04).
293.1	13.1[&] *22*	381.2	(9^-)	88.0	(7^-)				
299.0	29 *3*	1485.1	(14^+)	1186.1	(13^+)	(M1+E2)	−0.16 *6*	0.0532	DCO=1.01 *20* A_2=−0.45 *2*, A_4=0.05 *3* (1987No07).
304.6		3406.1	(17^+)	3101.5	(16^+)				
312.3	2.1 *6*	1929.4	(14^+)	1617.1	(13^+)	(M1+E2)		0.0475	DCO=1.1 *5*
324.5	7.9 *16*	532.3	(9^-)	207.8	(8^-)	(M1+E2)		0.0430	DCO=1.07 *16*
328.9	13.2 *13*	532.3	(9^-)	203.5	(7^-)	(E2)		0.0352	DCO=1.59 *21*
335.0		590.3	(10^-)	255.2	(9^+)				

$^{128}_{57}La_{71}$-3

(HI,xnγ) 2012Ma09,2012Ma36 (continued)

γ(^{128}La) (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[#b]	α[a]	Comments
335.0	36 *4*	1186.1	(13$^+$)	851.1	(12$^+$)	(M1+E2)	−0.16 *6*	0.0395	DCO=0.92 *18* A_2=−0.42 *2*, A_4=−0.02 *3* (1987No07).
338.5	17.4[&] *7*	1479.5	(13$^-$)	1140.9	(12$^-$)	(M1+E2)	−0.22 *8*	0.0383	A_2=−0.47 *4*, A_4=0.00 *4* (1989Go04).
350.5		3756.6	(18$^+$)	3406.1	(17$^+$)				
362.7	14.1[&] *6*	1842.1	(14$^-$)	1479.5	(13$^-$)	(M1+E2)	−0.19 *11*	0.0321 *6*	A_2=−0.48 *7*, A_4=0.10 *8* (1989Go04).
368.4	12.2 *24*	2272.2	(16$^+$)	1903.8	(15$^+$)	(M1+E2)		0.0309	DCO=1.05 *21*
370.4	2.0 *6*	2731.6	(16$^+$)	2361.2	(15$^+$)				
373.5	17 *3*	628.7	(11$^+$)	255.2	(9$^+$)	(E2)		0.0239	
382.5	24.0[&] *8*	590.3	(10$^-$)	207.8	(8$^-$)	(E2)		0.0222	A_2=0.48 *7*, A_4=0.10 *11* (1987No07).
387.1	4.3 *13*	1617.1	(13$^+$)	1230.0	(12$^+$)	(M1+E2)		0.0272	DCO=1.1 *4*
394.1		4150.7	(19$^+$)	3756.6	(18$^+$)				
398.0	5.2 *10*	3101.5	(16$^+$)	2703.5	(15$^+$)	(M1+E2)		0.0254	DCO=0.97 *29*
407.4	9.0[&] *5*	2249.5	(15$^-$)	1842.1	(14$^-$)				
418.6	19.8 *20*	1903.8	(15$^+$)	1485.1	(14$^+$)	(M1+E2)	−0.21 *7*	0.0221 *4*	DCO=0.96 *19* A_2=−0.51 *3*, A_4=0.05 *3* (1987No07).
420.4	6.3[&] *4*	4457.7	(20$^-$)	4037.2	(19$^-$)				
425.0	8.9[&] *5*	2674.7	(16$^-$)	2249.5	(15$^-$)				
431.8	3.2 *10*	2361.2	(15$^+$)	1929.4	(14$^+$)				
432.6		4583.3	(20$^+$)	4150.7	(19$^+$)				
432.8	5.3 *11*	3195.5	(18$^+$)	2762.6	(17$^+$)				
437.5	<1	1623.6	(14$^+$)	1186.1	(13$^+$)				
448.1	6.1[&] *5*	4037.2	(19$^-$)	3589.1	(18$^-$)				
450.3	0.9 *3*	3101.5	(16$^+$)	2651.2	(14$^+$)	(E2)		0.01381	DCO=1.71 *48*
453.5	29.4[&] *37*	3589.1	(18$^-$)	3135.6	(17$^-$)				I_γ: only branching ratio is given.
454.0	5.8 *12*	1044.4	(11$^-$)	590.3	(10$^-$)	(M1+E2)		0.0182	DCO=1.13 *17*
454.6	3.1[&] *7*	4912.3	(21$^-$)	4457.7	(20$^-$)				
457.2		850.6	(11$^-$)	393.6	(10$^+$)				
457.5	50 *5*	851.1	(12$^+$)	393.6	(10$^+$)	(E2)		0.01320	DCO=1.7 *3*
460.7	7.7[&] *10*	3135.6	(17$^-$)	2674.7	(16$^-$)				
465.1	26.5[&] *47*	5377.5	(22$^-$)	4912.3	(21$^-$)				I_γ: only branching ratio is given.
467.6		5050.9	(21$^+$)	4583.3	(20$^+$)				
469.5	28.4[&] *18*	850.6	(11$^-$)	381.2	(9$^-$)				
490.4	7.2 *14*	2762.6	(17$^+$)	2272.2	(16$^+$)	(M1+E2)		0.01497 *22*	DCO=0.95 *19*
498.1		5549.0	(22$^+$)	5050.9	(21$^+$)				
501.1 *5*	4.1 *5*	5878.5	(23$^-$)	5377.5	(22$^-$)				
512.1	17.8 *18*	1044.4	(11$^-$)	532.3	(9$^-$)	(E2)		0.00966	DCO=1.65 *23*
512.2		1140.9	(12$^-$)	628.7	(11$^+$)				
522.0		6071.0	(23$^+$)	5549.0	(22$^+$)				
524.2 *5*	1.3 *6*	6402.7	(24$^-$)	5878.5	(23$^-$)				
538.2 *5*	3.7 *6*	6940.9	(25$^-$)	6402.7	(24$^-$)				

$^{128}_{57}La_{71}$-4

(HI,xnγ) 2012Ma09,2012Ma36 (continued)

γ(^{128}La) (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	α[a]	Comments
548.4	1.2 *4*	3406.1	(17$^+$)	2857.7	(15$^+$)	(E2)	0.00804	DCO=1.65 *42*
548.7	2.9 *9*	3744.2	(19$^+$)	3195.5	(18$^+$)			
550.7	23.3[&] *17*	1140.9	(12$^-$)	590.3	(10$^-$)			
557.5	15 *3*	1186.1	(13$^+$)	628.7	(11$^+$)	(E2)	0.00769	DCO=1.7 *3*
565.7	2.5 *8*	959.4	(11$^+$)	393.6	(10$^+$)	(M1+E2)	0.01050	DCO=1.1 *5*
576.5	2.6 *8*	1717.4	(13$^-$)	1140.9	(12$^-$)	(M1+E2)	0.01002 *15*	DCO=0.98 *29*
601.2	4.5 *14*	1230.0	(12$^+$)	628.7	(11$^+$)	(M1+E2)	0.00904	
628.4	2.2 *7*	1479.5	(13$^-$)	851.1	(12$^+$)	(E1)	0.00205	DCO=1.12 *34*
629.0	32.1[&] *11*	1479.5	(13$^-$)	850.6	(11$^-$)			
634.0	43 *4*	1485.1	(14$^+$)	851.1	(12$^+$)	(E2)	0.00552	DCO=1.7 *4*
655.1	1.4 *4*	3756.6	(18$^+$)	3101.5	(16$^+$)	(E2)	0.00509	DCO=1.87 *56*
655.8	2.4 *7*	1842.1	(14$^-$)	1186.1	(13$^+$)	(E1)	0.00187	DCO=1.09 *29*
657.5	4.6 *14*	1617.1	(13$^+$)	959.4	(11$^+$)	(E2)	0.00504	DCO=1.8 *6*
673.0	19.9 *20*	1717.4	(13$^-$)	1044.4	(11$^-$)	(E2)	0.00476	DCO=1.68 *25*
685.5	2.2 *7*	2527.7	(15$^-$)	1842.1	(14$^-$)	(M1+E2)	0.00657	DCO=1.03 *31*
699.3	4.9 *15*	1929.4	(14$^+$)	1230.0	(12$^+$)	(E2)	0.00433	DCO=1.8 *7*
701.2	36.8[&] *14*	1842.1	(14$^-$)	1140.9	(12$^-$)			
704.0		2703.5	(15$^+$)	1999.6	(14$^+$)			
704.1	2.3 *7*	959.4	(11$^+$)	255.2	(9$^+$)	(E2)	0.00426	DCO=1.8 *7*
705.0	2.3 *7*	2651.2	(14$^+$)	1946.2	(13$^+$)			I_γ: for a doublet.
717.7	18 *4*	1903.8	(15$^+$)	1186.1	(13$^+$)	(E2)	0.00407	DCO=1.7 *3*
743.6	4.9 *15*	1929.4	(14$^+$)	1186.1	(13$^+$)			
744.1	4.2 *13*	2361.2	(15$^+$)	1617.1	(13$^+$)	(E2)	0.00373	DCO=1.8 *5*
744.6		4150.7	(19$^+$)	3406.1	(17$^+$)			
760.0	4.4 *13*	1153.6	(12$^+$)	393.6	(10$^+$)	(E2)	0.00355	DCO=1.59 *48*
764.2	1.7 *5*	2249.5	(15$^-$)	1485.1	(14$^+$)	(E1)	1.36×10^{-3}	DCO=1.04 *31*
766.1	5.2 *10*	1617.1	(13$^+$)	851.1	(12$^+$)	(M1+E2)	0.00503 *8*	DCO=0.9 *4*
770.1	30.7[&] *12*	2249.5	(15$^-$)	1479.5	(13$^-$)	(E2)	0.00344	A_2=0.48 *6*, A_4=−0.25 *7* (1987No07).
771.0[c]		2674.7	(16$^-$)	1903.8	(15$^+$)			
787.2	32 *3*	2272.2	(16$^+$)	1485.1	(14$^+$)	(E2)	0.0327	DCO=1.8 *4*
792.5	2.8 *8*	1946.2	(13$^+$)	1153.6	(12$^+$)	(M1+E2)	0.00464	DCO=1.05 *32*
802.1	4.2 *13*	2731.6	(16$^+$)	1929.4	(14$^+$)			
810.4	17.1 *17*	2527.7	(15$^-$)	1717.4	(13$^-$)	(E2)	0.00305	DCO=1.74 *26*
821.1	4.2 *13*	4286.3	(19$^-$)	3465.2	(17$^-$)	(E2)	0.00296	DCO=1.61 *29*
826.6[c]		3589.1	(18$^-$)	2762.6	(17$^+$)			
826.7		4583.3	(20$^+$)	3756.6	(18$^+$)			
832.6	38.0[&] *14*	2674.7	(16$^-$)	1842.1	(14$^-$)			
836.3	2.8 *8*	1230.0	(12$^+$)	393.6	(10$^+$)	(E2)	0.00284	DCO=1.8 *7*
841.7		4037.2	(19$^-$)	3195.5	(18$^+$)			
858.1	3.2 *10*	2857.7	(15$^+$)	1999.6	(14$^+$)	(M1+E2)	0.00384	DCO=1.02 *31*
858.9	16 *3*	2762.6	(17$^+$)	1903.8	(15$^+$)	(E2)	0.00267	DCO=1.8 *4*
863.5	1.4 *4*	3135.6	(17$^-$)	2272.2	(16$^+$)	(E1)	1.06×10^{-3}	DCO=0.98 *29*

$^{128}_{57}La_{71}$-5

(HI,xnγ) 2012Ma09,2012Ma36 (continued)

γ(^{128}La) (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	α[a]	Comments
868.6	15.1[&] *10*	4457.7	(20$^-$)	3589.1	(18$^-$)			
875.2	12.0[&] *9*	4912.3	(21$^-$)	4037.2	(19$^-$)			
886.1	23.0[&] *11*	3135.6	(17$^-$)	2249.5	(15$^-$)			
900.2		5050.9	(21$^+$)	4150.7	(19$^+$)			
901.6	17.8[&] *10*	4037.2	(19$^-$)	3135.6	(17$^-$)			
908.5	<2	2908.1	(15$^+$)	1999.6	(14$^+$)			
914.4	70.6[&] *37*	3589.1	(18$^-$)	2674.7	(16$^-$)			I_γ: only branching ratio is given.
919.5	1.2 *4*	3280.7	(17$^+$)	2361.2	(15$^+$)			
919.8	73.5[&] *47*	5377.5	(22$^-$)	4457.7	(20$^-$)			I_γ: only branching ratio is given.
923.3	24.8 *25*	3195.5	(18$^+$)	2272.2	(16$^+$)	(E2)	0.00228	DCO=1.7 *5*
937.5	7.9 *16*	3465.2	(17$^-$)	2527.7	(15$^-$)	(E2)	0.00220	DCO=1.59 *24*
965.7		5549.0	(22$^+$)	4583.3	(20$^+$)			
966.1 *5*	9.0 *11*	5878.5	(23$^-$)	4912.3	(21$^-$)			
971.0	2.1 *6*	3702.6	(18$^+$)	2731.6	(16$^+$)			
981.6	8.4 *17*	3744.2	(19$^+$)	2762.6	(17$^+$)	(E2)	0.00199	DCO=1.8 *5*
1015.0	0.9 *3*	4295.7	(19$^+$)	3280.7	(17$^+$)			
1020.1		6071.0	(23$^+$)	5050.9	(21$^+$)			
1025.3 *5*	10.9 *8*	6402.7	(24$^-$)	5377.5	(22$^-$)			
1042.0	0.7 *2*	4744.6	(20$^+$)	3702.6	(18$^+$)			
1045.9	15 *3*	4241.4	(20$^+$)	3195.5	(18$^+$)			
1062.4 *5*	10.5 *8*	6940.9	(25$^-$)	5878.5	(23$^-$)			
1087.0	5.8 *12*	4831.2	(21$^+$)	3744.2	(19$^+$)			
1134.9 *10*	6.9 *11*	7537.6	(26$^-$)	6402.7	(24$^-$)			
1148.5	8.1 *16*	1999.6	(14$^+$)	851.1	(12$^+$)	(E2)	1.43×10^{-3}	DCO=1.87 *37*
1152.2 *10*	5.2 *10*	8093.1	(27$^-$)	6940.9	(25$^-$)			
1153.3	7.2 *14*	5394.7	(22$^+$)	4241.4	(20$^+$)			
1175.4	4.5 *14*	6006.6	(23$^+$)	4831.2	(21$^+$)			
1237.0 *12*	4.2 *9*	8774.6	(28$^-$)	7537.6	(26$^-$)			
1243.0	3.8 *11*	6637.7	(24$^+$)	5394.7	(22$^+$)			
1286.0 *12*	5.0 *10*	7923.5	(26$^+$)	6637.7	(24$^+$)			
1317.5	<2	1946.2	(13$^+$)	628.7	(11$^+$)			
1332.0 *12*	2.2 *10*	9255	(28$^+$)	7923.5	(26$^+$)			
1478.0[c]	<1	3101.5	(16$^+$)	1623.6	(14$^+$)			
1497.5[c]	<1	2651.2	(14$^+$)	1153.6	(12$^+$)			

[†] Uncertainties taken from 2012Ma09 and 2012Ma36 are stated by authors as 10%−30%. Based on this the evaluators assign as follows: 10% for Iγ>20, 20% for Iγ=5-20 and 30% for Iγ<5.

[‡] From γ(θ) in 1989Go04, α(K)exp in 1992Co15, and DCO in 2012Ma09 and 2012Ma36. Expected DCO ratio is around 1 for stretched dipole and around 1.7 for stretched quadrupole transition.

$^{128}_{57}La_{71}$-6

(HI,xnγ) 2012Ma09,2012Ma36 (continued)

$\gamma(^{128}La)$ (continued)

[#] From 1987No07 and 1989Go04.
[@] From 1995Ha16.
[&] From 1989Go04.
[a] Additional information 1.
[b] If No value given it was assumed δ=0.10 for E2/M1, δ=1.00 for E3/M2 and δ=0.10 for the other multipolarities.
[c] Placement of transition in the level scheme is uncertain.

$^{128}_{57}La_{71}$-7

(HI,xnγ) 2012Ma09,2012Ma36

Level Scheme

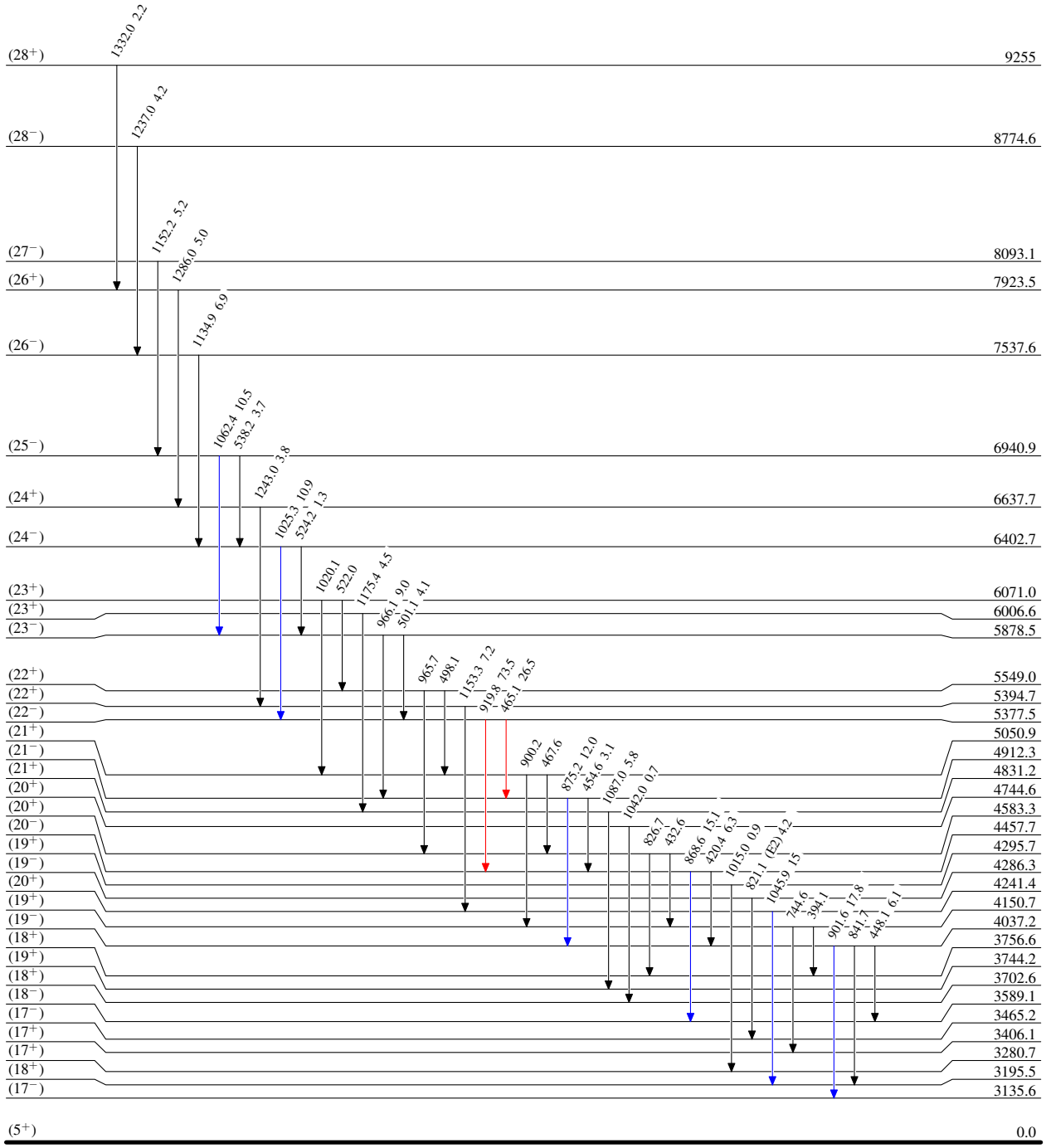
Intensities: Relative I_γ

Legend

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

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

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



5.18 min *14*

$^{128}_{57}La_{71}$

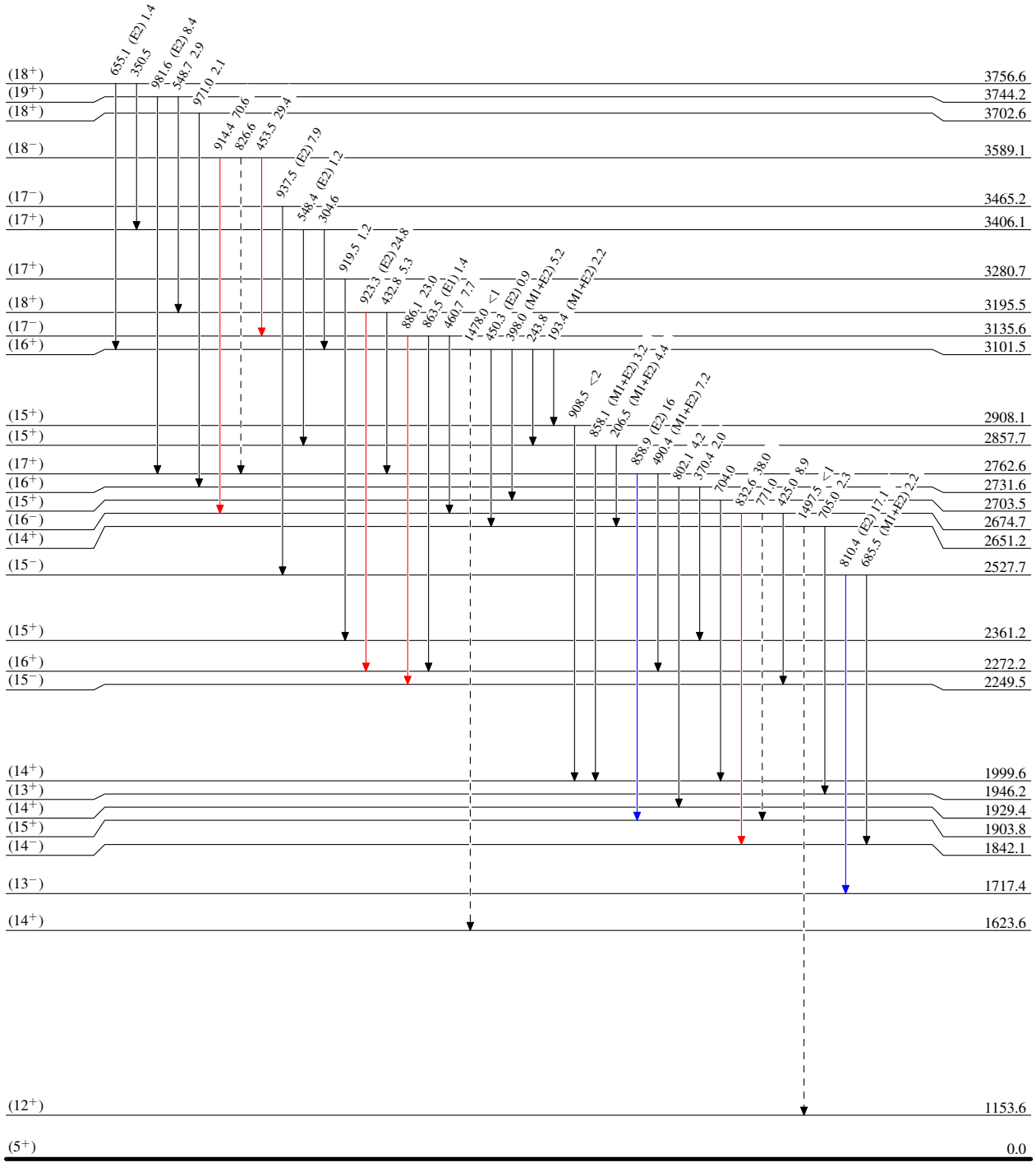
(HI,xnγ) 2012Ma09,2012Ma36

Level Scheme (continued)

Intensities: Relative I_γ

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
γ Decay (Uncertain)



5.18 min *14*

$^{128}_{57}La_{71}$

(HI,xnγ) 2012Ma09,2012Ma36

Level Scheme (continued)

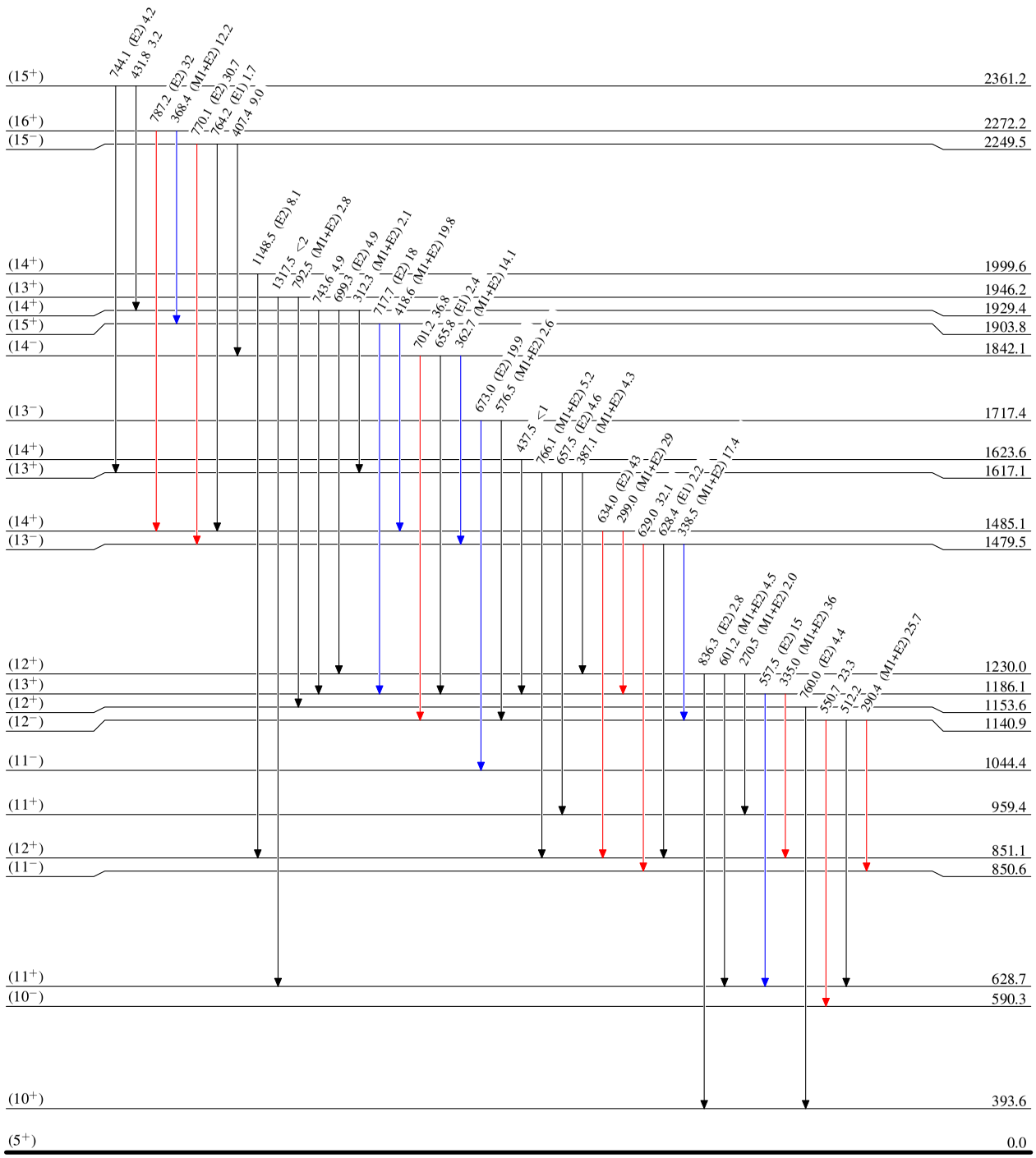
Intensities: Relative I_γ

Legend

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

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

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

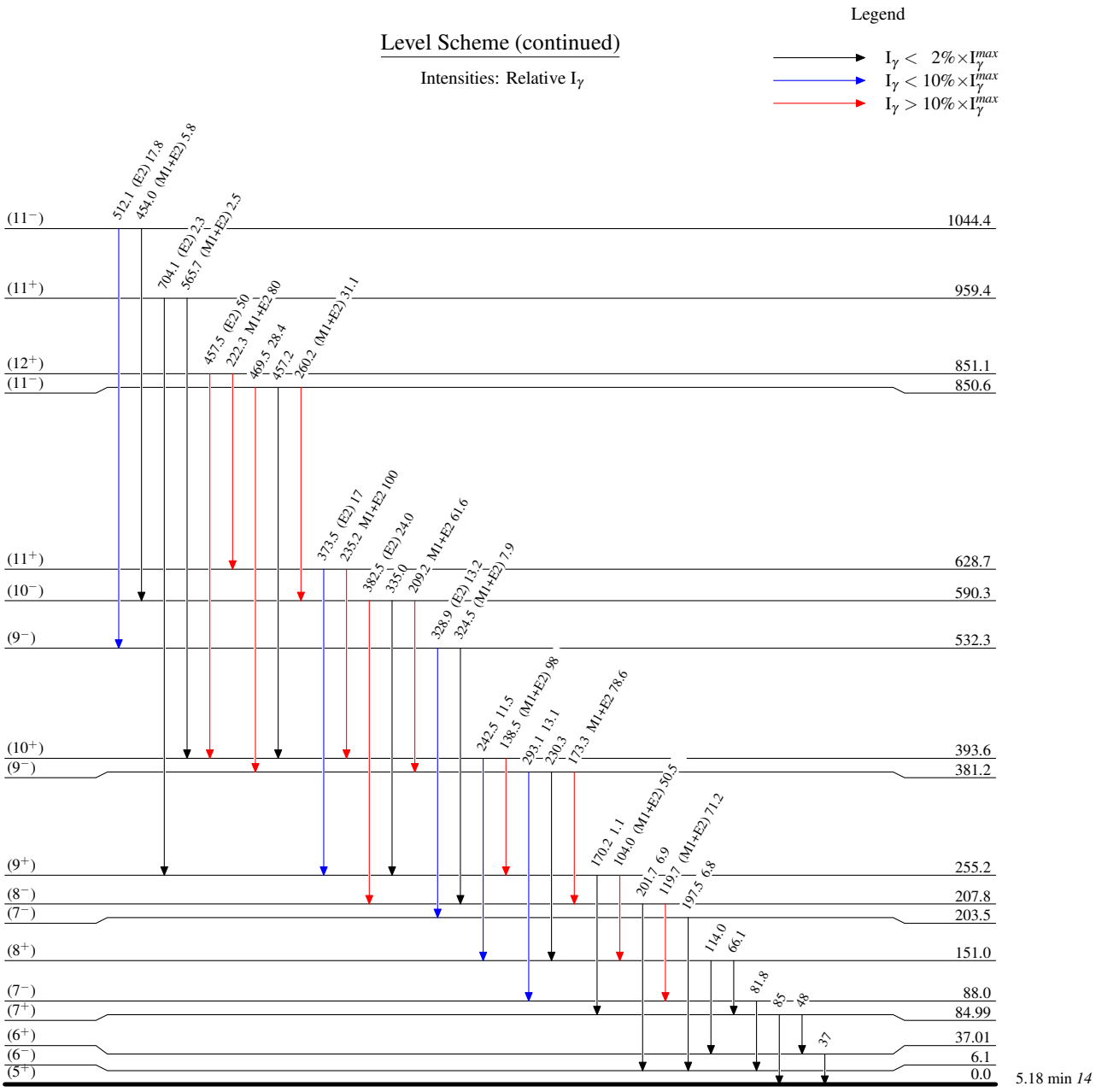


$^{128}_{57}La_{71}$

(HI,xnγ) 2012Ma09,2012Ma36

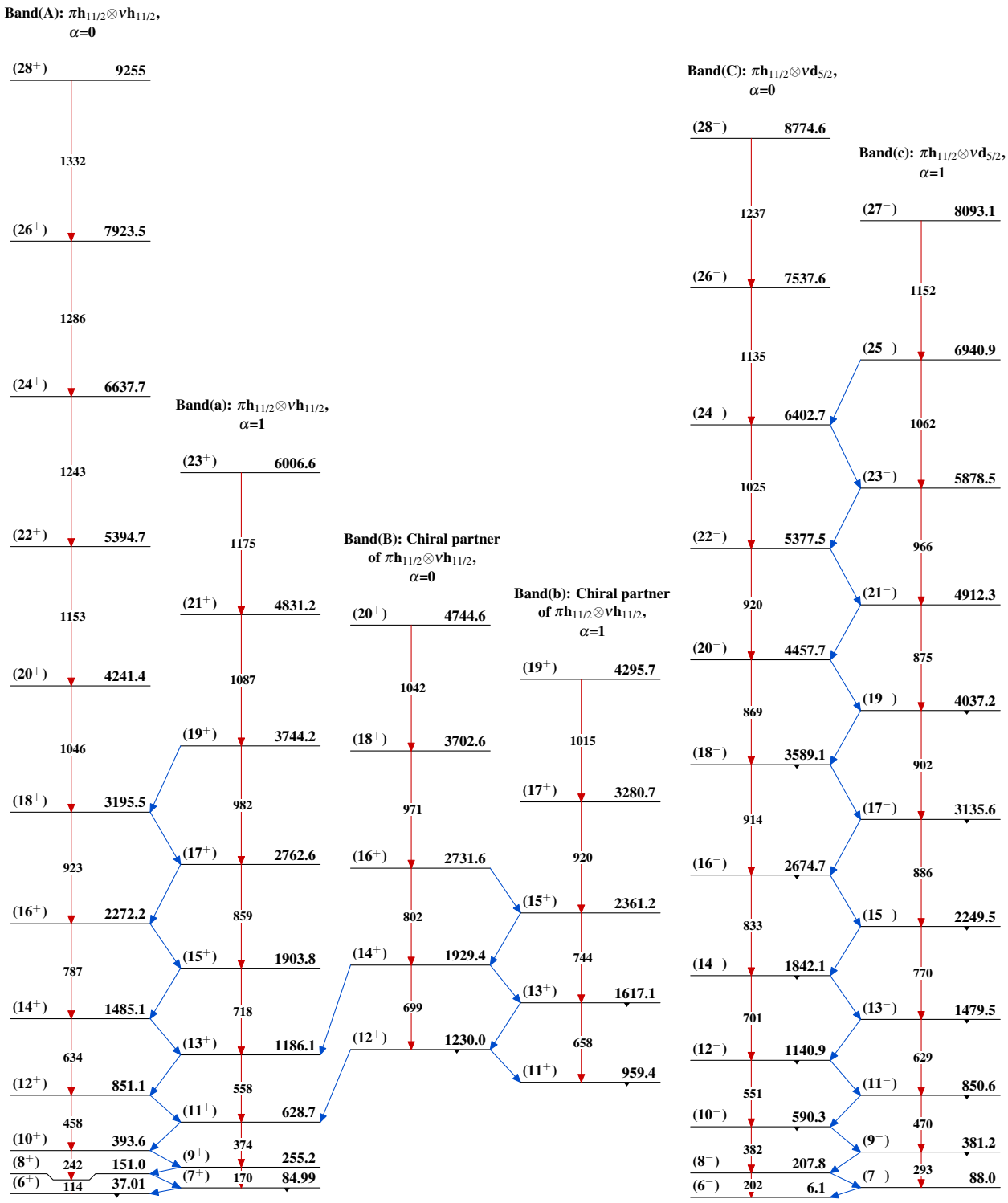
Level Scheme (continued)

Intensities: Relative I_γ



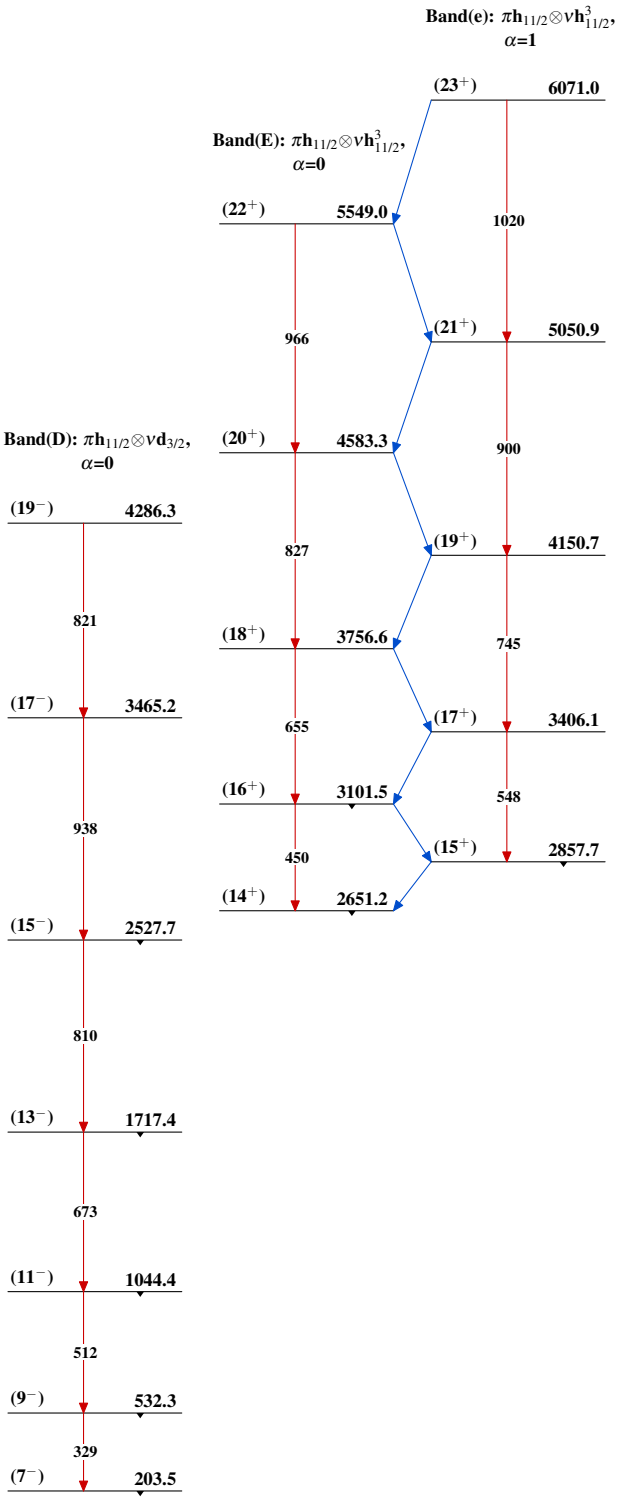
$^{128}_{57}La_{71}$

(HI,xnγ) 2012Ma09,2012Ma36



$^{128}_{57}La_{71}$

(HI,xnγ) 2012Ma09,2012Ma36 (continued)



$^{128}_{57}La_{71}$