(HI,xnγ) 2003MoZQ

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. Katakura, Z. D. Wu	NDS 109, 1655 (2008)	1-Apr-2008

2003Mo22,2003MoZQ: ^{122}Sn(^{7}Li,5nγ), E=54 MeV; measured γ using CAESAR array consisting of 6 Compton-suppressed HPGe detectors and 2 LEPS detectors. DCO ratios.

1997Bb12: ^{116}Cd(^{11}B,3nγ), E=38 MeV, ^{110}Pd(^{18}O,p3nγ), E=75 MeV; measured γ using GASP array and low-energy γ using a planar detector. Measured charged particles using ISIS spectrometer in ^{110}Pd(^{18}O,p3nγ).

The level scheme is based on 2003MoZQ. Only the negative parity levels were given in 1997Bb12. 2003Mo22 gave only the positive parity band based on (10^+) state and low-lying states below the (10^+) state.

^{124}I Levels

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	Comments
0.0	2⁻	4.1760 d *3*	$T_{1/2}$: from Adopted Levels. Jπ: from Adopted Levels.
55.2 *10*	(3⁺)	62 ns	
122.8 *10*	(4⁻)	10 ns	
162.8 *13*			
249.8 *13*		14 ns	
274.8 *13*	(5⁻)		
286.8 *13*	(6⁻)		
310.8 *15*	(7⁻)	3 ns	
426.0[e] *17*	(5⁺)		
453.4[a] *15*	(8⁻)		
466.4 *15*	(6⁻)		
535.0 *15*	(7⁻)		
556.5[b] *16*	(8⁻)		
689.1[c] *16*	(8⁻)	14 ns	
724.1[f] *20*	(6⁺)		
755.3[&] *16*	(9⁻)		
879.9 *16*	(8⁻)		
935.8 *15*			
946.6[c] *17*	(9⁻)		
1078.3 *16*	(9⁻)		
1080.3[e] *20*	(7⁺)		
1134.3[a] *16*	(10⁻)		
1244.7 *15*	(9⁻)		
1296.3[@] *16*	(10⁺)		
1303.7[b] *18*	(10⁻)		
1304.3[c] *17*	(10⁻)		
1431.9[f] *22*	(8⁺)		
1489.7[&] *17*	(11⁻)		
1681.2[@] *18*	(11⁺)		
1705.2[c] *18*	(11⁻)		
1809.7[e] *22*	(9⁺)		
1892.9[a] *17*	(12⁻)		
1985.4[@] *18*	(12⁺)		
2116.1[b] *18*	(12⁻)		
2129.4[c] *18*	(12⁻)		
2171.3[f] *24*	(10⁺)		
2343.1[@] *19*	(13⁺)		

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(HI,xnγ) 2003MoZQ (continued)

^{124}I Levels (continued)

E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡
2358.6[&] *18*	(13⁻)	2788.2 *18*		3744.7[a] *21*	(16⁻)	4651.7[a] *23*	(18⁻)
2561.5[e] *24*	(11⁺)	2907.1[@] *20*	(15⁺)	3859.5 *20*		4863.2[d] *23*	(19⁻)
2569.1[c] *18*	(13⁻)	3022.3[c] *19*	(14⁻)	3887.3[@] *21*	(17⁺)	4967.0[@] *22*	(19⁺)
2681.6[@] *19*	(14⁺)	3099.6[b] *20*	(14⁻)	4093.2 *21*	(17⁺)	5342.1[@] *22*	(20⁺)
2735.1 *18*		3205.2[@] *20*	(16⁺)	4210.9[d] *20*	(17⁻)	5515.0 *23*	
2745.7[a] *18*	(14⁻)	3382.1[&] *20*	(15⁻)	4365.4[@] *21*	(18⁺)	5554.9[d] *25*	(21⁻)
2763.2 *18*		3484.5[d] *18*	(15⁻)	4395.6[&] *22*	(17⁻)		

† From a least-squares fit to Eγ's.
‡ From 2003MoZQ, except those noted. Only the J^{π} values were given and the arguments to determine them were not given.
# From γγ(t) in 2003MoZQ.
@ Band(A): band 1 Configuration=((π $h_{11/2}$)(ν $h_{11/2}$)).
& Band(B): band 2 Configuration=((π $g_{7/2}$)(ν $h_{11/2}$)), favored (P,$g_{7/2}$) coupled favored (N,$h_{11/2}$).
a Band(C): band 3 Configuration=((π $g_{7/2}$)(ν $h_{11/2}$)), unfavored (P,$g_{7/2}$) coupled favored (N,$h_{11/2}$).
b Band(D): band 4 Configuration=((π $g_{7/2}$)(ν $h_{11/2}$)), favored (P,$g_{7/2}$) coupled unfavored (N,$h_{11/2}$).
c Band(E): band 5 Configuration=((π $g_{9/2}$)(ν $h_{11/2}$)).
d Band(F): band 6 Configuration=((π $g_{7/2}$)(ν $h_{11/2}$)(π $11/2)^{+2}$).
e Band(G): band 7 Configuration=((π $g_{7/2}$)(ν $d_{3/2}$)).
f Band(H): band 8 Configuration=((π $g_{7/2}$)(ν $d_{3/2}$)).

γ(^{124}I)

Eγ†	Ei(level)	Jiπ	Ef	Jfπ	Eγ†	Ei(level)	Jiπ	Ef	Jfπ
12.0	286.8	(6⁻)	274.8	(5⁻)	301.9	755.3	(9⁻)	453.4	(8⁻)
24	310.8	(7⁻)	286.8	(6⁻)	304.3	1985.4	(12⁺)	1681.2	(11⁺)
51.6	1296.3	(10⁺)	1244.7	(9⁻)	309	1244.7	(9⁻)	935.8	
55.2	55.2	(3⁺)	0.0	2⁻	338.1	2681.6	(14⁺)	2343.1	(13⁺)
68.6	535.0	(7⁻)	466.4	(6⁻)	344.9	879.9	(8⁻)	535.0	(7⁻)
87.0	249.8		162.8		355.4	1489.7	(11⁻)	1134.3	(10⁻)
107.6	162.8		55.2	(3⁺)	357.6	2343.1	(13⁺)	1985.4	(12⁺)
122.8	122.8	(4⁻)	0.0	2⁻	357.7	1304.3	(10⁻)	946.6	(9⁻)
132.6	689.1	(8⁻)	556.5	(8⁻)	364.8	1244.7	(9⁻)	879.9	(8⁻)
142.6	453.4	(8⁻)	310.8	(7⁻)	375.1	5342.1	(20⁺)	4967.0	(19⁺)
152.0	274.8	(5⁻)	122.8	(4⁻)	378.3	689.1	(8⁻)	310.8	(7⁻)
164.0	286.8	(6⁻)	122.8	(4⁻)	379.0	1134.3	(10⁻)	755.3	(9⁻)
176.2	426.0	(5⁺)	249.8		384.9	1681.2	(11⁺)	1296.3	(10⁺)
191.6	466.4	(6⁻)	274.8	(5⁻)	387.1	2745.7	(14⁻)	2358.6	(13⁻)
194.6	249.8		55.2	(3⁺)	400.9	1705.2	(11⁻)	1304.3	(10⁻)
198.8	755.3	(9⁻)	556.5	(8⁻)	403.2	1892.9	(12⁻)	1489.7	(11⁻)
218.0	1296.3	(10⁺)	1078.3	(9⁻)	424.2	2129.4	(12⁻)	1705.2	(11⁻)
225.5	2907.1	(15⁺)	2681.6	(14⁺)	439.7	2569.1	(13⁻)	2129.4	(12⁻)
235.7	689.1	(8⁻)	453.4	(8⁻)	453.2	3022.3	(14⁻)	2569.1	(13⁻)
245.7	556.5	(8⁻)	310.8	(7⁻)	477.4	3859.5		3382.1	(15⁻)
248.2	535.0	(7⁻)	286.8	(6⁻)	478.1	4365.4	(18⁺)	3887.3	(17⁺)
257.5	946.6	(9⁻)	689.1	(8⁻)	482.4	935.8		453.4	(8⁻)
272.2	4365.4	(18⁺)	4093.2	(17⁺)	489.4	1244.7	(9⁻)	755.3	(9⁻)
298.1	724.1	(6⁺)	426.0	(5⁺)	521.8	1078.3	(9⁻)	556.5	(8⁻)
298.1	3205.2	(16⁺)	2907.1	(15⁺)	523.6	3205.2	(16⁺)	2681.6	(14⁺)

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(HI,xnγ) 2003MoZQ (continued)

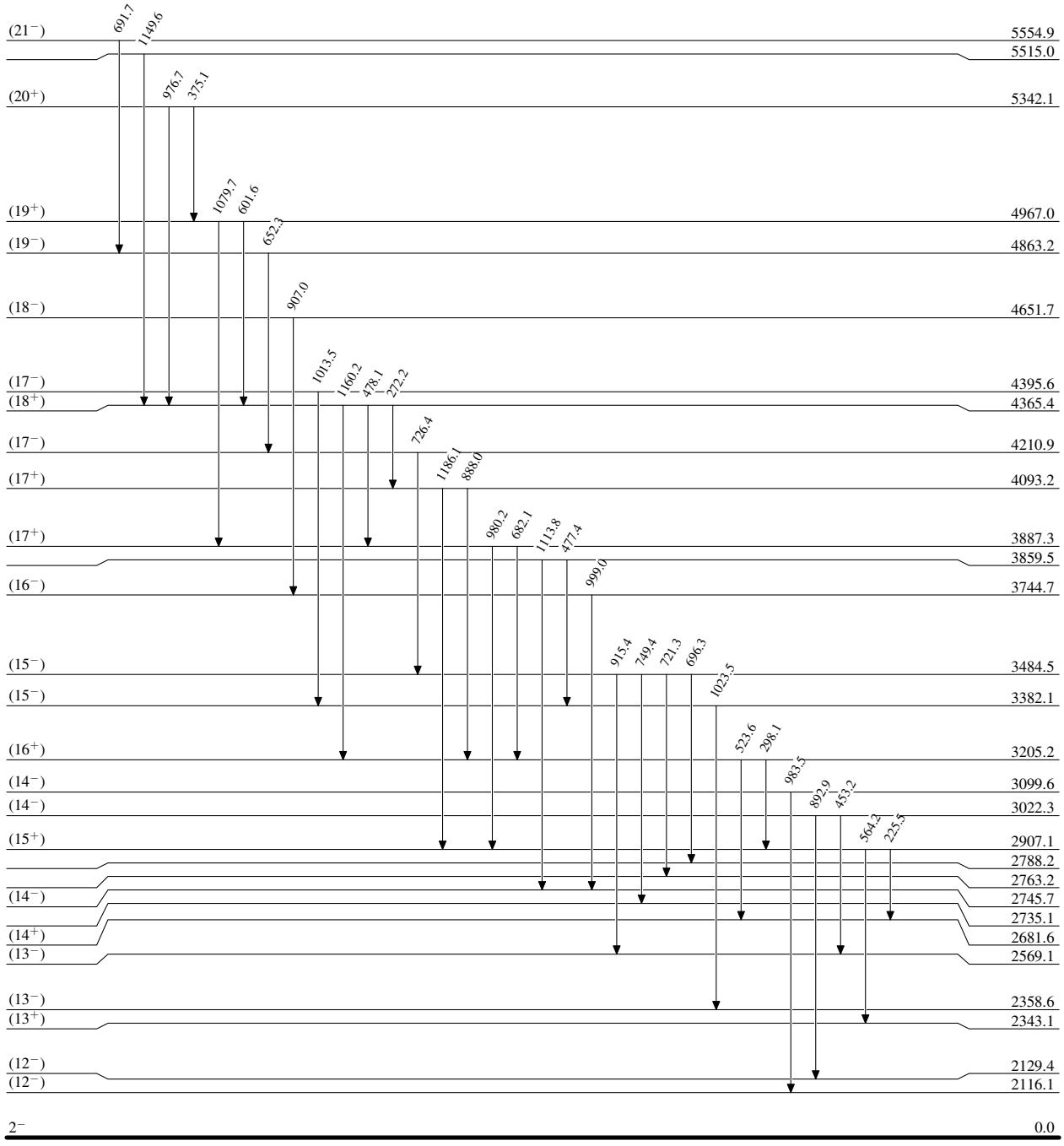
γ(^{124}I) (continued)

E_γ †	E_i(level)	J_i^π	E_f	J_f^π	E_γ †	E_i(level)	J_i^π	E_f	J_f^π
541.0	1296.3	(10^+)	755.3	(9^-)	758.6	1705.2	(11^-)	946.6	(9^-)
564.2	2907.1	(15^+)	2343.1	(13^+)	758.6	1892.9	(12^-)	1134.3	(10^-)
601.6	4967.0	(19^+)	4365.4	(18^+)	767.5	1078.3	(9^-)	310.8	(7^-)
615.2	1304.3	(10^-)	689.1	(8^-)	791.3	1244.7	(9^-)	453.4	(8^-)
619.0	2735.1		2116.1	(12^-)	812.4	2116.1	(12^-)	1303.7	(10^-)
625.0	935.8		310.8	(7^-)	825.1	2129.4	(12^-)	1304.3	(10^-)
647.1	2763.2		2116.1	(12^-)	842.2	2735.1		1892.9	(12^-)
649.0	935.8		286.8	(6^-)	852.8	2745.7	(14^-)	1892.9	(12^-)
652.3	4863.2	(19^-)	4210.9	(17^-)	863.9	2569.1	(13^-)	1705.2	(11^-)
654.3	1080.3	(7^+)	426.0	(5^+)	868.9	2358.6	(13^-)	1489.7	(11^-)
661.8	2343.1	(13^+)	1681.2	(11^+)	870.3	2763.2		1892.9	(12^-)
680.9	1134.3	(10^-)	453.4	(8^-)	888.0	4093.2	(17^+)	3205.2	(16^+)
682.1	3887.3	(17^+)	3205.2	(16^+)	892.9	3022.3	(14^-)	2129.4	(12^-)
688.2	1244.7	(9^-)	556.5	(8^-)	895.3	2788.2		1892.9	(12^-)
689.1	1985.4	(12^+)	1296.3	(10^+)	907.0	4651.7	(18^-)	3744.7	(16^-)
691.7	5554.9	(21^-)	4863.2	(19^-)	915.4	3484.5	(15^-)	2569.1	(13^-)
696.3	2681.6	(14^+)	1985.4	(12^+)	976.7	5342.1	(20^+)	4365.4	(18^+)
696.3	3484.5	(15^-)	2788.2		980.2	3887.3	(17^+)	2907.1	(15^+)
707.8	1431.9	(8^+)	724.1	(6^+)	983.5	3099.6	(14^-)	2116.1	(12^-)
721.3	3484.5	(15^-)	2763.2		999.0	3744.7	(16^-)	2745.7	(14^-)
726.4	4210.9	(17^-)	3484.5	(15^-)	1013.5	4395.6	(17^-)	3382.1	(15^-)
729.4	1809.7	(9^+)	1080.3	(7^+)	1023.5	3382.1	(15^-)	2358.6	(13^-)
734.4	1489.7	(11^-)	755.3	(9^-)	1079.7	4967.0	(19^+)	3887.3	(17^+)
739.4	2171.3	(10^+)	1431.9	(8^+)	1113.8	3859.5		2745.7	(14^-)
747.2	1303.7	(10^-)	556.5	(8^-)	1149.6	5515.0		4365.4	(18^+)
749.4	3484.5	(15^-)	2735.1		1160.2	4365.4	(18^+)	3205.2	(16^+)
751.8	2561.5	(11^+)	1809.7	(9^+)	1186.1	4093.2	(17^+)	2907.1	(15^+)

† Uncertainty is assumed to be 1.0 keV by evaluators.

(HI,xnγ) 2003MoZQ

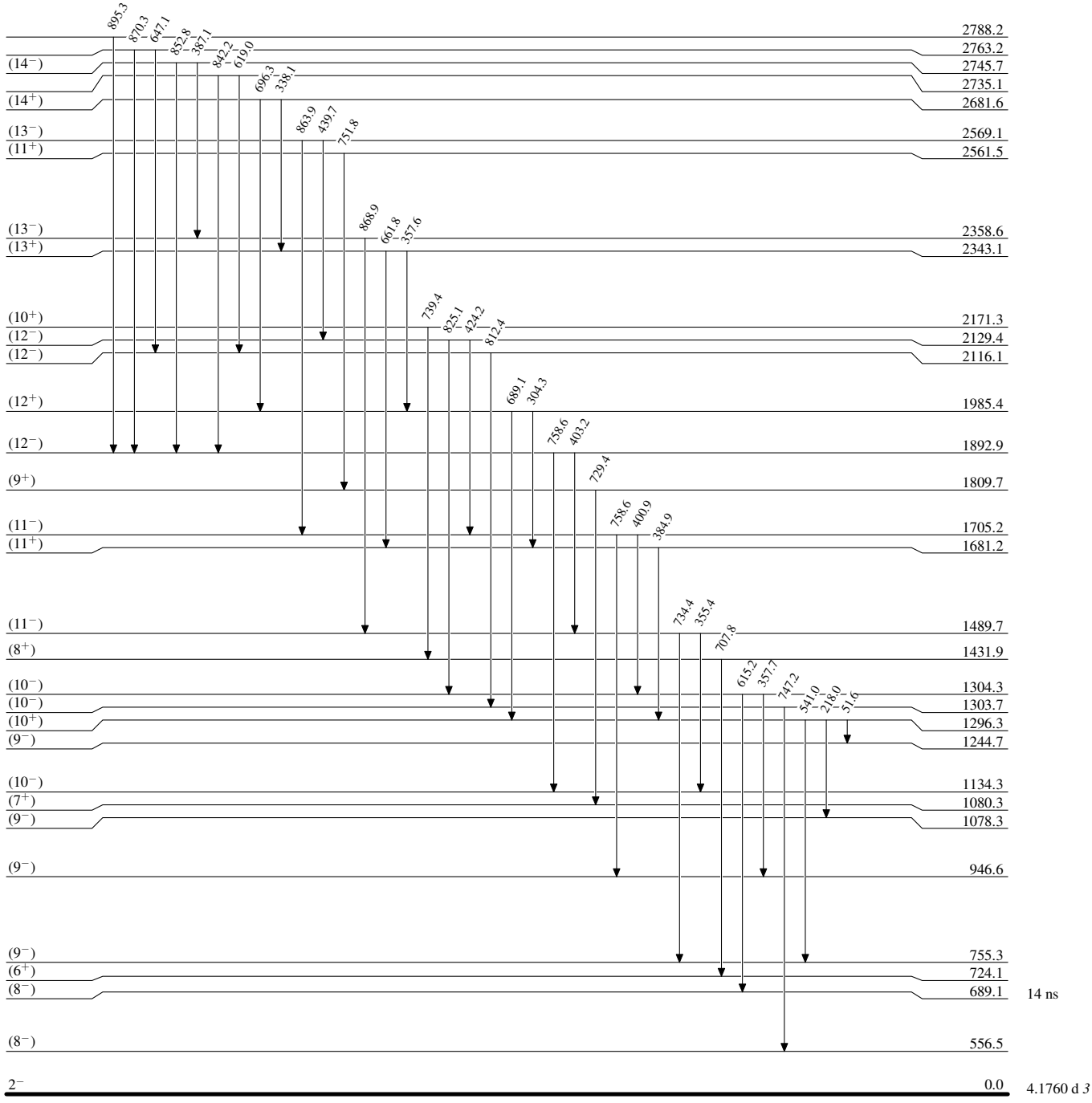
Level Scheme



$^{124}_{53}I_{71}$

(HI,xnγ) 2003MoZQ

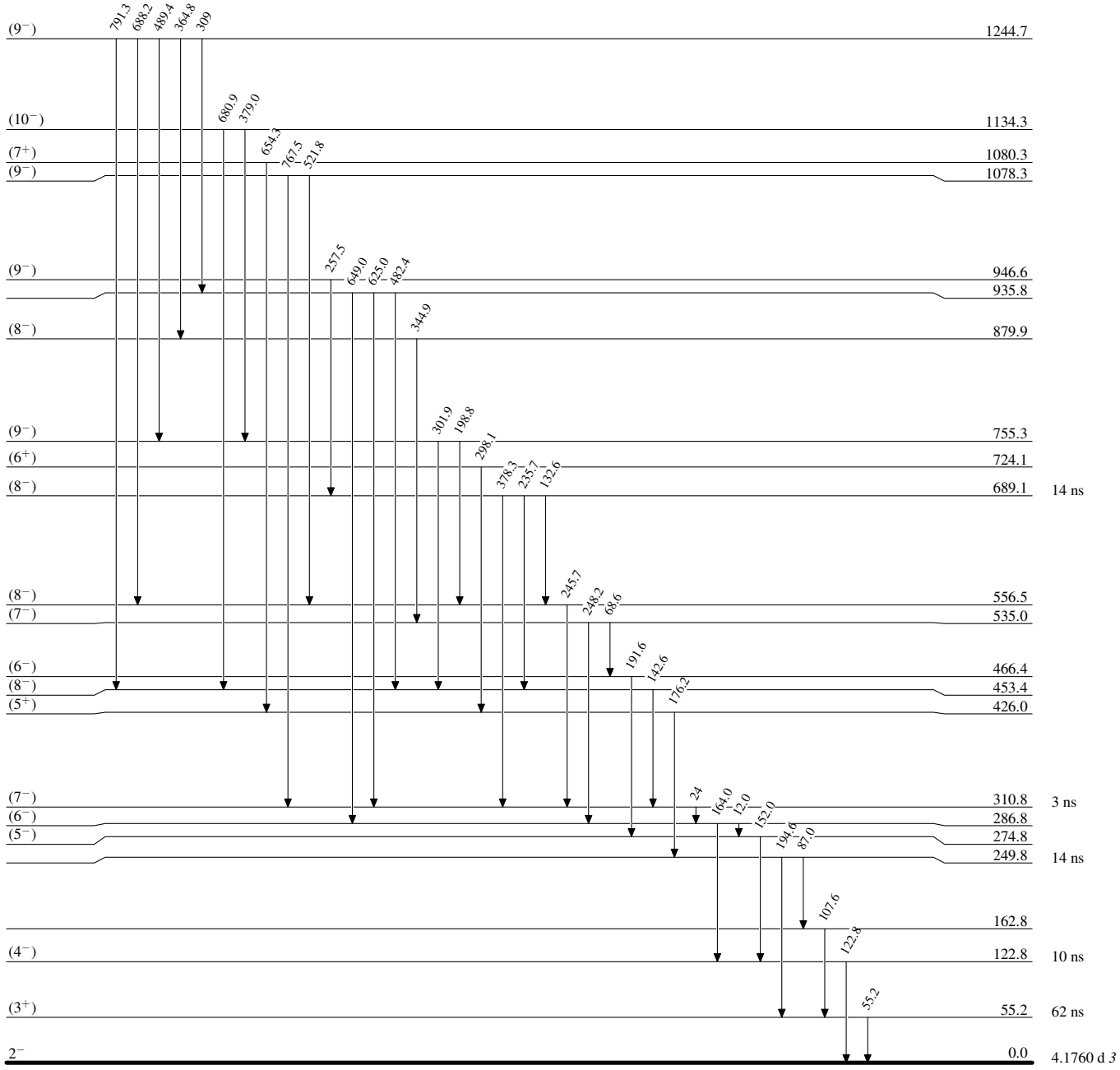
Level Scheme (continued)



$^{124}_{53}I_{71}$

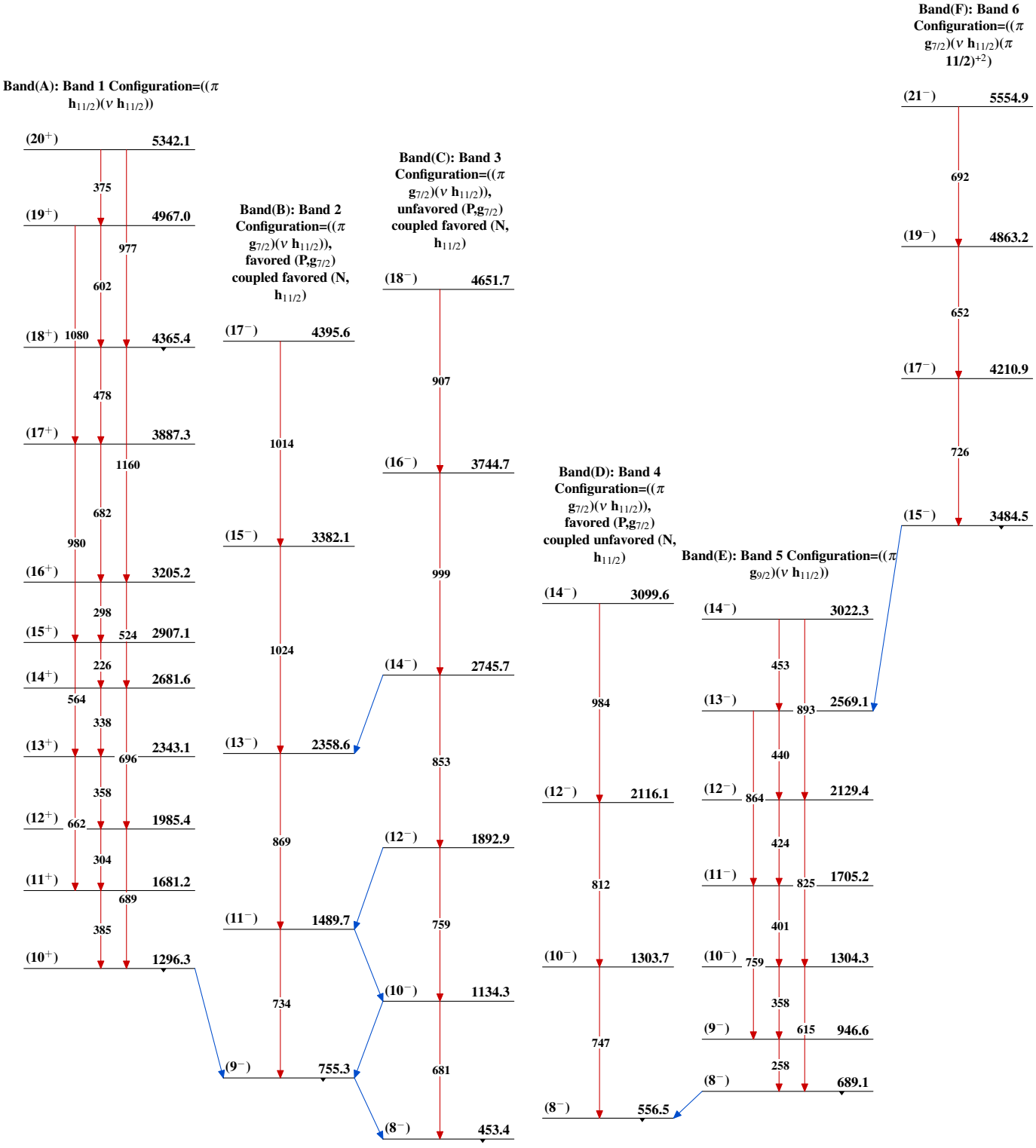
(HI,xnγ) 2003MoZQ

Level Scheme (continued)



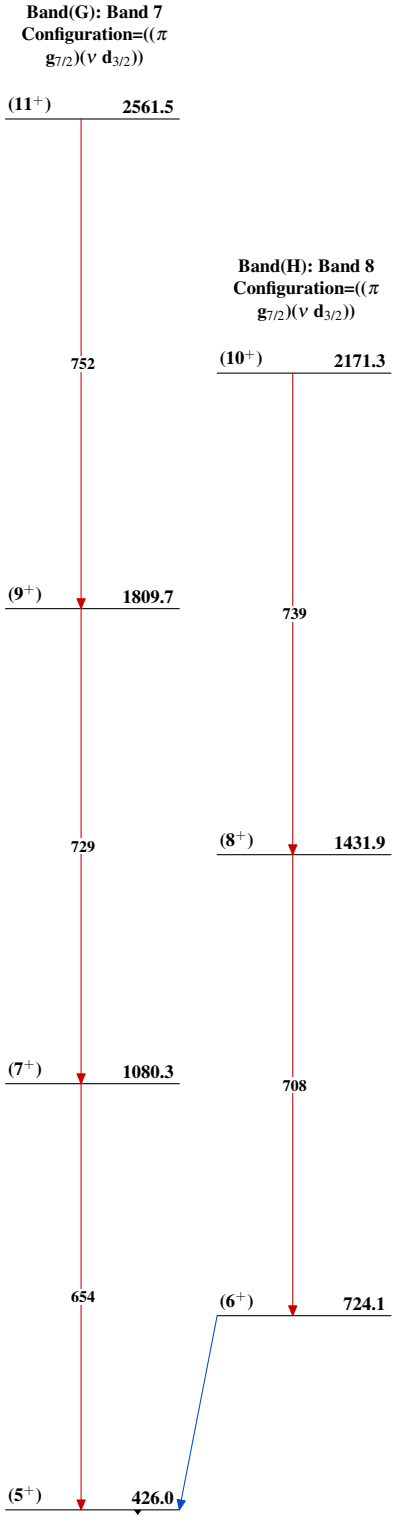
$^{124}_{53}I_{71}$

(HI,xnγ) 2003MoZQ



$^{124}_{53}I_{71}$

(HI,xnγ) 2003MoZQ (continued)



$^{124}_{53}I_{71}$