(HI,xnγ):SD 1991Az04,1994Du16,1995Az01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Huang Xiaolong and Kang Mengxiao	NDS 121, 395 (2014)	1-Mar-2014

1995Az01: ^{186}W(^{15}N,6nγ) E=105 MeV, ^{184}W(^{15}N,5nγ) E=96 MeV; measured Eγ, γγγ, SD bands using EUROGAM array (45 detectors). SD bands for ^{195}Tl deduced.

1994Du16: ^{186}W(^{15}N,6nγ) E=105 MeV. Measured Eγ, γγγ, SD bands using EUROGAM array (45 detectors). From transitions between SD signature partners (assumed as M1) value of g_K deduced for two SD bands.

1991Az04: ^{181}Ta(^{18}O,xnγ), E=95-104 MeV; ^{186}W(^{15}N,6nγ), E=90,95 MeV; measured Eγ, γγ-coin, with BGO ball of 40 elements surrounded by 20 Compton-suppressed Ge(Li) spectras. Deduced superdeformed bands for ^{195}Tl.

For analyzing superdeformed band transition Eγ and deducing J of superdeformed band by using power series expansion approach of rotational model, see 1992Be25.

^{195}Tl Levels

E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡
x#	J≈(11/2+)	1680.8+x@ *10*	J+13	5012.6+x# *12*	J+26
67.8+x@ *10*	J+1	1882.7+x# *10*	J+14	5298.1+x@ *13*	J+27
146.2+x# *5*	J+2	2088.3+x@ *10*	J+15	5658.4+x# *13*	J+28
235.3+x@ *8*	J+3	2311.6+x# *10*	J+16	5951.1+x@ *13*	J+29
334.4+x# *7*	J+4	2534.0+x@ *11*	J+17	6337.8+x# *13*	J+30
443.6+x@ *8*	J+5	2778.8+x# *11*	J+18	6635.3+x@ *13*	J+31
563.2+x# *8*	J+6	3016.5+x@ *11*	J+19	7050.6+x# *14*	J+32
692.6+x@ *9*	J+7	3283.3+x# *11*	J+20	7350.8+x@ *14*	J+33
832.9+x# *9*	J+8	3535.5+x@ *11*	J+21	7796.4+x# *15*	J+34
982.0+x@ *9*	J+9	3824.1+x# *12*	J+22	8096.8+x@ *15*	J+35
1143.4+x# *9*	J+10	4089.3+x@ *12*	J+23	8573.6+x# *16*	J+36
1311.7+x@ *9*	J+11	4400.6+x# *12*	J+24	8874.3+x@ *16*	J+37
1492.9+x# *9*	J+12	4677.1+x@ *12*	J+25		

† From least-squares fit to transition Eγ′s within SD band.

‡ From band assignments and similar assignments in neighboring nuclei.

Band(A): SD-1 band (1995Az01,1994Du16,1991Az04). α=+1/2 member of 5/2[642] proton orbital (1994Du16,1991Az04). Percent population=0.5 (1991Az04). Experimental g_K=1.4 *4* (1994Du16).

@ Band(B): SD-2 band (1995Az01,1994Du16,1991Az04). α=−1/2 member of 5/2[642] proton orbital (1994Du16,1991Az04). Percent population=0.25 (1991Az04). Experimental g_K=1.4 *4* (1994Du16, 1995Az01). SD-1 and SD-2 bands are proposed (1991Az04) as signature partners with a splitting that is probably due to i13/2 (ω=5/2) proton orbital.

γ(^{195}Tl)

E_γ†	E_i(level)	J^π_i	E_f	J^π_f	E_γ†	E_i(level)	J^π_i	E_f	J^π_f
99.0‡ *5*	334.4+x	J+4	235.3+x	J+3	161.5‡ *5*	1143.4+x	J+10	982.0+x	J+9
109.0‡ *5*	443.6+x	J+5	334.4+x	J+4	167.5 *5*	235.3+x	J+3	67.8+x	J+1
119.5‡ *5*	563.2+x	J+6	443.6+x	J+5	168.0‡ *5*	1311.7+x	J+11	1143.4+x	J+10
129.5‡ *5*	692.6+x	J+7	563.2+x	J+6	181.0‡ *5*	1492.9+x	J+12	1311.7+x	J+11
140.5‡ *5*	832.9+x	J+8	692.6+x	J+7	188.2 *5*	334.4+x	J+4	146.2+x	J+2
146.2 *5*	146.2+x	J+2	x	J≈(11/2+)	208.4 *5*	443.6+x	J+5	235.3+x	J+3
149.0‡ *5*	982.0+x	J+9	832.9+x	J+8	228.8 *5*	563.2+x	J+6	334.4+x	J+4

Continued on next page (footnotes at end of table)

(HI,xnγ):SD 1991Az04,1994Du16,1995Az01 (continued)

γ(^{195}Tl) (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
249.1 *5*	692.6+x	J+7	443.6+x	J+5	553.8 *3*	4089.3+x	J+23	3535.5+x	J+21
269.7 *3*	832.9+x	J+8	563.2+x	J+6	576.5 *3*	4400.6+x	J+24	3824.1+x	J+22
289.5 *3*	982.0+x	J+9	692.6+x	J+7	587.8 *3*	4677.1+x	J+25	4089.3+x	J+23
310.5 *3*	1143.4+x	J+10	832.9+x	J+8	612.0 *3*	5012.6+x	J+26	4400.6+x	J+24
329.6 *3*	1311.7+x	J+11	982.0+x	J+9	621.0 *3*	5298.1+x	J+27	4677.1+x	J+25
349.6 *3*	1492.9+x	J+12	1143.4+x	J+10	645.7 *3*	5658.4+x	J+28	5012.6+x	J+26
369.1 *3*	1680.8+x	J+13	1311.7+x	J+11	653.0 *3*	5951.1+x	J+29	5298.1+x	J+27
389.8 *3*	1882.7+x	J+14	1492.9+x	J+12	679.4 *3*	6337.8+x	J+30	5658.4+x	J+28
407.5 *3*	2088.3+x	J+15	1680.8+x	J+13	684.2 *3*	6635.3+x	J+31	5951.1+x	J+29
428.9 *3*	2311.6+x	J+16	1882.7+x	J+14	712.8 *5*	7050.6+x	J+32	6337.8+x	J+30
445.7 *3*	2534.0+x	J+17	2088.3+x	J+15	715.5 *5*	7350.8+x	J+33	6635.3+x	J+31
467.2 *3*	2778.8+x	J+18	2311.6+x	J+16	745.8 *5*	7796.4+x	J+34	7050.6+x	J+32
482.5 *3*	3016.5+x	J+19	2534.0+x	J+17	746.0 *5*	8096.8+x	J+35	7350.8+x	J+33
504.5 *3*	3283.3+x	J+20	2778.8+x	J+18	777.2 *5*	8573.6+x	J+36	7796.4+x	J+34
519.0 *3*	3535.5+x	J+21	3016.5+x	J+19	777.5 *5*	8874.3+x	J+37	8096.8+x	J+35
540.8 *3*	3824.1+x	J+22	3283.3+x	J+20					

† From 1994Du16. Uncertainty=0.3 to 0.5 keV (1994Du16).
‡ From 1995Ag01.

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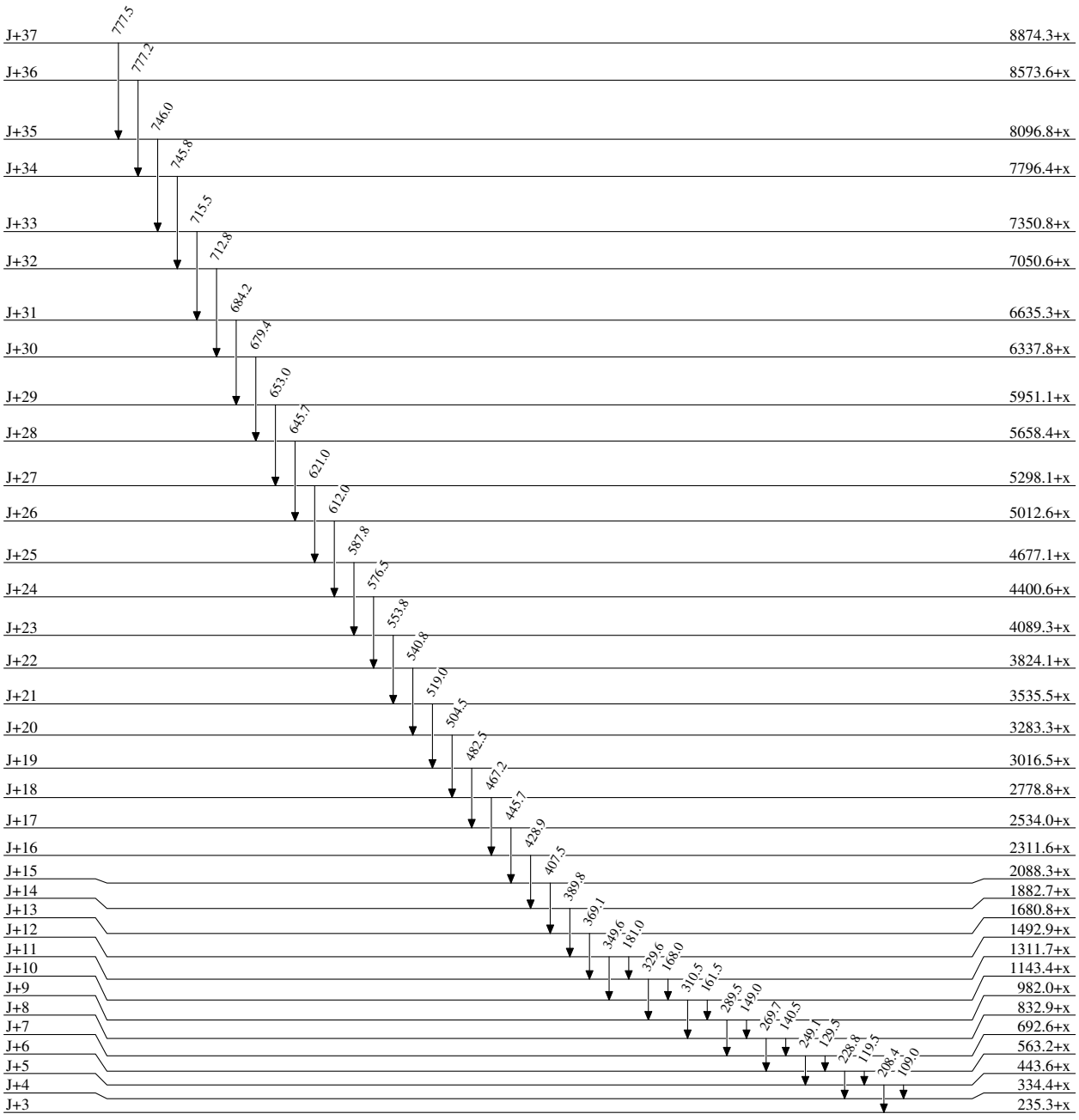
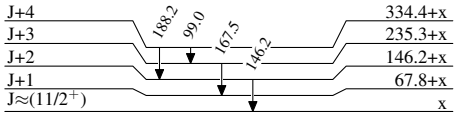
Level Scheme



$^{195}_{81}Tl_{114}$

(HI,xnγ):SD 1991Az04,1994Du16,1995Az01

Level Scheme (continued)



$^{195}_{81}Tl_{114}$

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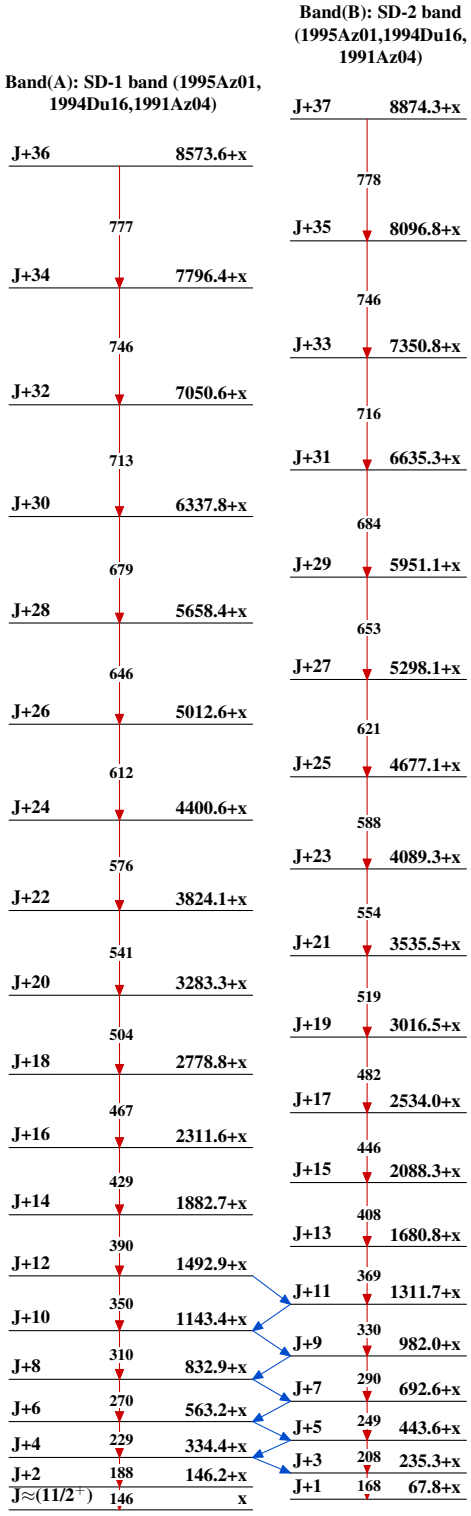

$^{195}_{81}Tl_{114}$