(HI,xnγ):SD 1997Ha01

History

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

1997Ha01: ^{150}Nd(^{48}Ca,4nγ) E=201 MeV; measured Eγ, Iγ, γγ-coin, γγγ-coin, SD bands using GAMMASPHERE array (72 Compton-suppressed HPGe detectors).

^{195}Hg Levels

E(level)	J^π	Comments
x†	J≈(25/2$^+$)	J^π: from 33/2 to 29/2 assignment for 333.9γ transition. Parity from 9/2[624] orbital assignment.
294.0+x?† *10*	J+2	
627.9+x† *10*	J+4	J^π: 333.9γ assigned as 33/2 to 29/2 (J+4 to J+2) transition based on Harris expansion of moment of inertia versus angular frequency (1997Ha01).
1000.7+x† *11*	J+6	
1411.9+x† *11*	J+8	
1860.3+x† *11*	J+10	
2345.0+x† *11*	J+12	
2864.8+x† *11*	J+14	
3418.8+x† *11*	J+16	
4006.3+x† *12*	J+18	
4626.6+x† *12*	J+20	
5278.8+x† *13*	J+22	
5962.0+x† *13*	J+24	
6676.2+x† *13*	J+26	
7419.4+x† *15*	J+28	
8192.2+x† *16*	J+30	
8994.4+x† *18*	J+32	
9826.3+x?† *21*	J+34	
10687.4+x?† *23*	J+36	
11574.4+x?† *25*	J+38	
y‡	J≈(23/2$^+$)	J^π: from 27/2 to 23/2 assignment for 273.9γ transition. Parity from 9/2[624] orbital assignment.
273.9+y‡ *2*	J+2	J^π: 273.9γ assigned as 27/2 to 23/2 (J+2 to J) transition based on Harris expansion of moment of inertia versus angular frequency (1997Ha01).
588.1+y‡ *2*	J+4	
941.6+y‡ *3*	J+6	
1333.8+y‡ *3*	J+8	
1763.7+y‡ *3*	J+10	
2230.6+y‡ *3*	J+12	
2733.4+y‡ *4*	J+14	
3271.0+y‡ *4*	J+16	
3842.3+y‡ *4*	J+18	
4446.5+y‡ *4*	J+20	
5082.7+y‡ *6*	J+22	
5750.8+y‡ *6*	J+24	
6448.9+y‡ *6*	J+26	
7177.2+y‡ *7*	J+28	
7935.0+y‡ *7*	J+30	

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(HI,xnγ):SD 1997Ha01 (continued)

^{195}Hg Levels (continued)

E(level)	J^π	Comments
8722.2+y‡ *8*	J+32	
9538.0+y‡ *12*	J+34	
10383.0+y‡ *15*	J+36	
11257.0+y?‡ *18*	J+38	
z#	J≈(21/2⁻)	J^π: from 29/2 to 25/2 assignment for 284.5γ transition. Parity from $j_{15/2}$ orbital assignment.
244.0+z?# *10*	J+2	
528.5+z# *10*	J+4	J^π: 284.5γ assigned as 29/2 to 25/2 (J+4 to J+2) transition based on Harris expansion of moment of inertia versus angular frequency (1997Ha01).
853.5+z# *10*	J+6	
1218.9+z# *11*	J+8	
1624.2+z# *11*	J+10	
2069.2+z# *11*	J+12	
2553.7+z# *11*	J+14	
3077.3+z# *11*	J+16	
3639.4+z# *11*	J+18	
4239.4+z# *11*	J+20	
4876.6+z# *11*	J+22	
5549.9+z# *11*	J+24	
6258.6+z# *12*	J+26	
7000.8+z# *15*	J+28	
7776.9+z# *15*	J+30	
8581.9+z# *16*	J+32	
9411.0+z# *17*	J+34	
10259.5+z# *18*	J+36	
11127.5+z?# *20*	J+38	
u@	J≈(31/2⁻)	J^π: from 35/2 to 31/2 assignment for 341.9γ transition. Parity from $j_{15/2}$ orbital assignment.
341.9+u@ *1*	J+2	J^π: 341.9γ assigned as 35/2 to 31/2 (J+2 to J) transition based on Harris expansion of moment of inertia versus angular frequency (1997Ha01).
722.8+u@ *2*	J+4	
1141.9+u@ *2*	J+6	
1599.1+u@ *2*	J+8	
2093.6+u@ *2*	J+10	
2625.0+u@ *3*	J+12	
3192.6+u@ *3*	J+14	
3795.4+u@ *3*	J+16	
4433.5+u@ *3*	J+18	
5105.9+u@ *4*	J+20	
5811.8+u@ *5*	J+22	
6550.9+u@ *9*	J+24	
7322.5+u@ *10*	J+26	
8125.5+u@ *11*	J+28	
8962.0+u@ *12*	J+30	
9830.0+u@ *13*	J+32	
10729.0+u?@ *15*	J+34	

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(HI,xnγ):SD 1997Ha01 (continued)

^{195}Hg Levels (continued)

† Band(A): SD-1 band (1997Ha01), α=+1/2.
‡ Band(B): SD-2 band (1997Ha01), α=−1/2. SD-1 and SD-2 bands are interpreted (1997Ha01) as signature partners based on ν9/2[624] orbital.
# Band(C): SD-3 band (1997Ha01), α=+1/2.
@ Band(D): SD-4 band (1997Ha01), α=−1/2. SD-3 and SD-4 bands are interpreted (1997Ha01) as signature partners based on $\nu j_{15/2}$ intruder orbital.

γ(^{195}Hg)

E_γ	E_i(level)	J_i^π	E_f	J_f^π	$I_{(\gamma+ce)}$ †
244‡	244.0+z?	J+2	z	J≈(21/2⁻)	
273.9 *2*	273.9+y	J+2	y	J≈(23/2⁺)	0.49 *5*
284.5 *1*	528.5+z	J+4	244.0+z?	J+2	0.76 *5*
294‡	294.0+x?	J+2	x	J≈(25/2⁺)	
314.2 *1*	588.1+y	J+4	273.9+y	J+2	0.64 *5*
325.0 *1*	853.5+z	J+6	528.5+z	J+4	0.92 *6*
333.9 *1*	627.9+x	J+4	294.0+x?	J+2	0.64 *7*
341.9 *1*	341.9+u	J+2	u	J≈(31/2⁻)	0.89 *16*
353.5 *1*	941.6+y	J+6	588.1+y	J+4	0.88 *5*
365.4 *1*	1218.9+z	J+8	853.5+z	J+6	0.99 *6*
372.8 *3*	1000.7+x	J+6	627.9+x	J+4	1.07 *30*
380.9 *1*	722.8+u	J+4	341.9+u	J+2	1.06 *22*
392.2 *1*	1333.8+y	J+8	941.6+y	J+6	0.92 *5*
405.3 *1*	1624.2+z	J+10	1218.9+z	J+8	0.93 *6*
411.2 *3*	1411.9+x	J+8	1000.7+x	J+6	0.65 *8*
419.1 *1*	1141.9+u	J+6	722.8+u	J+4	0.81 *16*
429.9 *1*	1763.7+y	J+10	1333.8+y	J+8	1.00 *6*
445.0 *1*	2069.2+z	J+12	1624.2+z	J+10	0.97 *6*
448.4 *1*	1860.3+x	J+10	1411.9+x	J+8	0.86 *7*
457.2 *1*	1599.1+u	J+8	1141.9+u	J+6	1.00 *16*
466.9 *1*	2230.6+y	J+12	1763.7+y	J+10	0.94 *5*
484.5 *1*	2553.7+z	J+14	2069.2+z	J+12	0.99 *6*
484.7 *1*	2345.0+x	J+12	1860.3+x	J+10	0.96 *9*
494.5 *1*	2093.6+u	J+10	1599.1+u	J+8	1.03 *16*
502.8 *1*	2733.4+y	J+14	2230.6+y	J+12	1.02 *5*
519.8 *1*	2864.8+x	J+14	2345.0+x	J+12	0.92 *10*
523.6 *1*	3077.3+z	J+16	2553.7+z	J+14	1.03 *6*
531.4 *1*	2625.0+u	J+12	2093.6+u	J+10	0.90 *17*
537.6 *1*	3271.0+y	J+16	2733.4+y	J+14	1.05 *6*
554.0 *1*	3418.8+x	J+16	2864.8+x	J+14	1.01 *9*
562.1 *1*	3639.4+z	J+18	3077.3+z	J+16	0.82 *7*
567.6 *1*	3192.6+u	J+14	2625.0+u	J+12	0.97 *18*
571.3 *1*	3842.3+y	J+18	3271.0+y	J+16	0.87 *6*
587.5 *2*	4006.3+x	J+18	3418.8+x	J+16	1.00 *9*
600.0 *1*	4239.4+z	J+20	3639.4+z	J+18	1.01 *7*
602.8 *1*	3795.4+u	J+16	3192.6+u	J+14	1.00 *18*
604.2 *1*	4446.5+y	J+20	3842.3+y	J+18	1.04 *7*
620.3 *3*	4626.6+x	J+20	4006.3+x	J+18	1.06 *10*
636.2 *4*	5082.7+y	J+22	4446.5+y	J+20	1.16 *8*
637.1 *4*	4876.6+z	J+22	4239.4+z	J+20	1.00 *9*
638.1 *1*	4433.5+u	J+18	3795.4+u	J+16	1.02 *21*
652.2 *3*	5278.8+x	J+22	4626.6+x	J+20	1.05 *9*
668.1 *1*	5750.8+y	J+24	5082.7+y	J+22	1.08 *7*
672.4 *2*	5105.9+u	J+20	4433.5+u	J+18	1.12 *22*
673.4 *2*	5549.9+z	J+24	4876.6+z	J+22	1.07 *7*

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(HI,xnγ):SD 1997Ha01 (continued)

γ(^{195}Hg) (continued)

E_γ	E_i(level)	J_i^π	E_f	J_f^π	$I_{(\gamma+ce)}$[†]
683.2 *2*	5962.0+x	J+24	5278.8+x	J+22	0.70 *7*
698.1 *2*	6448.9+y	J+26	5750.8+y	J+24	0.96 *7*
705.9 *2*	5811.8+u	J+22	5105.9+u	J+20	1.00 *26*
708.7 *4*	6258.6+z	J+26	5549.9+z	J+24	1.12 *9*
714.2 *3*	6676.2+x	J+26	5962.0+x	J+24	0.62 *8*
728.3 *2*	7177.2+y	J+28	6448.9+y	J+26	0.69 *5*
739.1 *8*	6550.9+u	J+24	5811.8+u	J+22	0.75 *20*
742.2 *9*	7000.8+z	J+28	6258.6+z	J+26	0.64 *10*
743.2 *8*	7419.4+x	J+28	6676.2+x	J+26	0.41 *7*
757.8 *2*	7935.0+y	J+30	7177.2+y	J+28	0.71 *5*
771.6 *2*	7322.5+u	J+26	6550.9+u	J+24	0.64 *18*
772.8 *4*	8192.2+x	J+30	7419.4+x	J+28	0.34 *4*
776.1 *3*	7776.9+z	J+30	7000.8+z	J+28	0.54 *4*
787.2 *3*	8722.2+y	J+32	7935.0+y	J+30	0.54 *5*
802.2 *9*	8994.4+x	J+32	8192.2+x	J+30	0.32 *4*
803.4 *5*	8125.5+u	J+28	7322.5+u	J+26	0.40 *16*
805.0 *4*	8581.9+z	J+32	7776.9+z	J+30	0.33 *5*
815.8 *9*	9538.0+y	J+34	8722.2+y	J+32	0.38 *4*
829.1 *6*	9411.0+z	J+34	8581.9+z	J+32	0.22 *4*
832[‡]	9826.3+x?	J+34	8994.4+x	J+32	
836.1 *5*	8962.0+u	J+30	8125.5+u	J+28	0.38 *15*
845.0 *9*	10383.0+y	J+36	9538.0+y	J+34	0.16 *3*
848.5 *5*	10259.5+z	J+36	9411.0+z	J+34	0.17 *4*
861[‡]	10687.4+x?	J+36	9826.3+x?	J+34	
868[‡]	11127.5+z?	J+38	10259.5+z	J+36	
868.0 *6*	9830.0+u	J+32	8962.0+u	J+30	0.38 *17*
874[‡]	11257.0+y?	J+38	10383.0+y	J+36	
887[‡]	11574.4+x?	J+38	10687.4+x?	J+36	
899[‡]	10729.0+u?	J+34	9830.0+u	J+32	

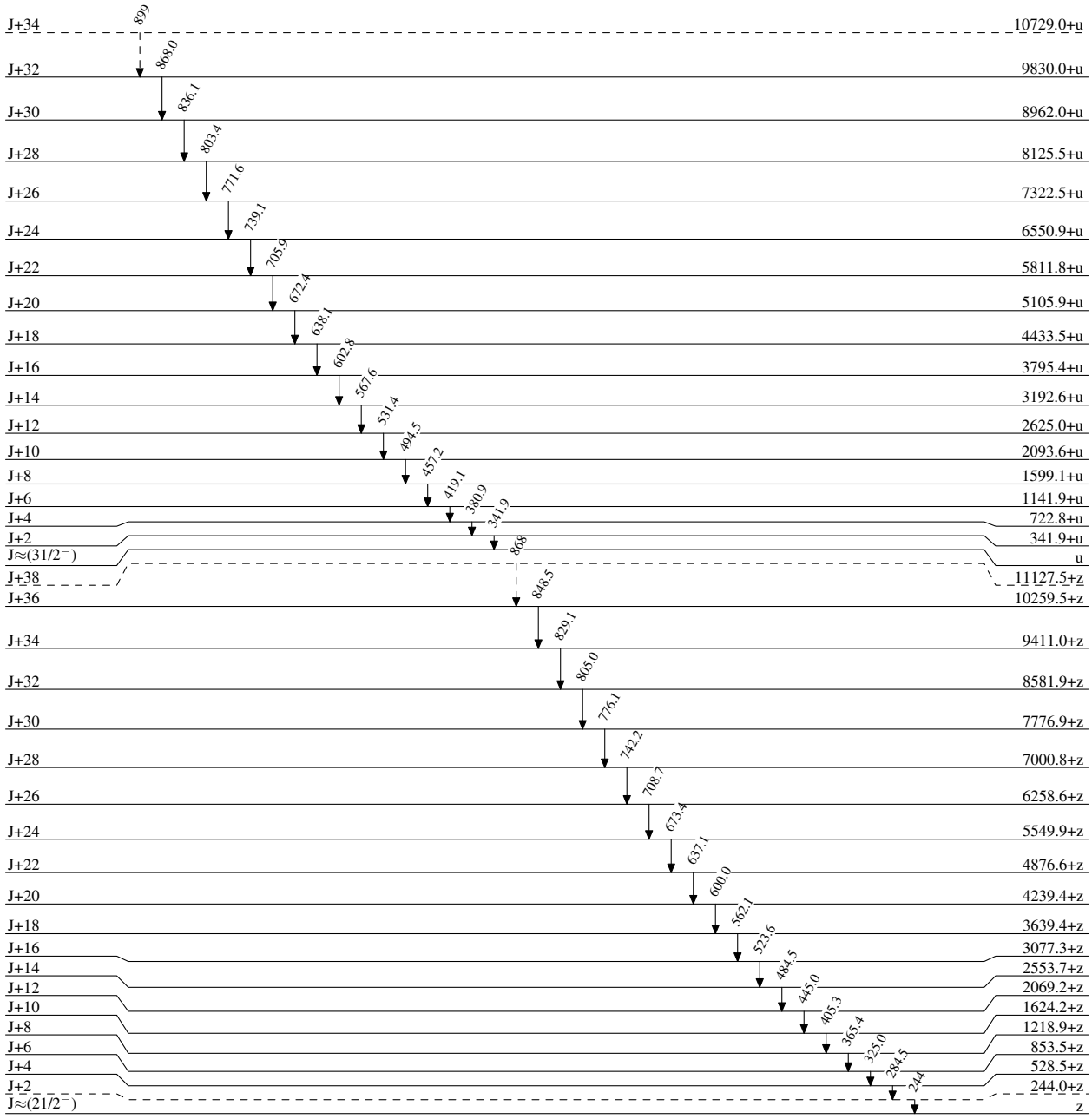
[†] Relative intensities within each band.
[‡] Placement of transition in the level scheme is uncertain.

(HI,xnγ):SD 1997Ha01

Legend

γ Decay (Uncertain)

Level Scheme



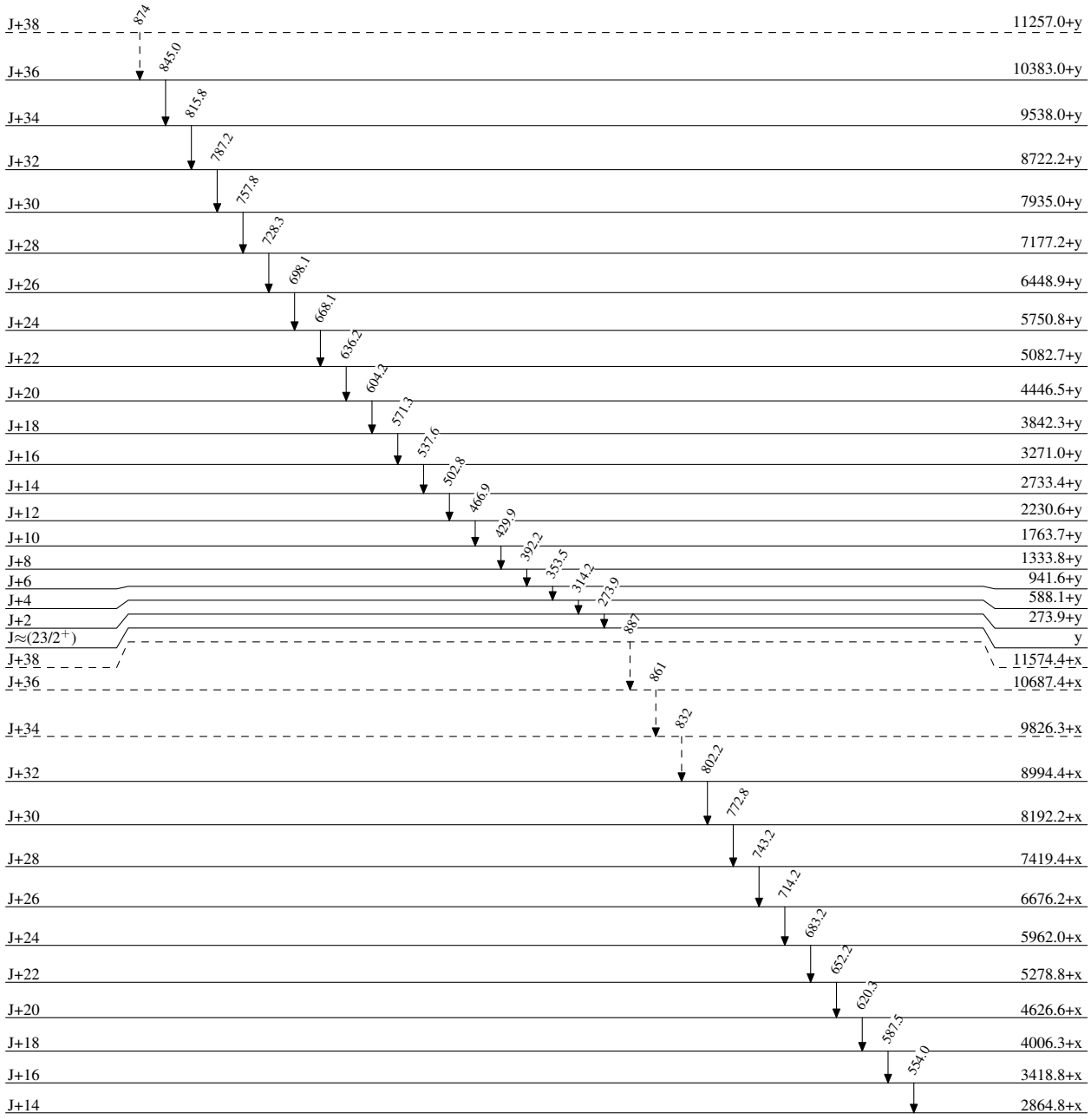
$^{195}_{80}Hg_{115}$

(HI,xnγ):SD 1997Ha01

Legend

γ Decay (Uncertain)

Level Scheme (continued)



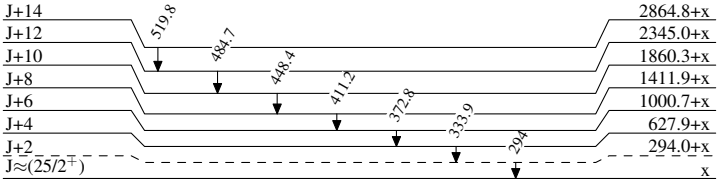
$^{195}_{80}Hg_{115}$

Legend

(HI,xnγ):SD 1997Ha01

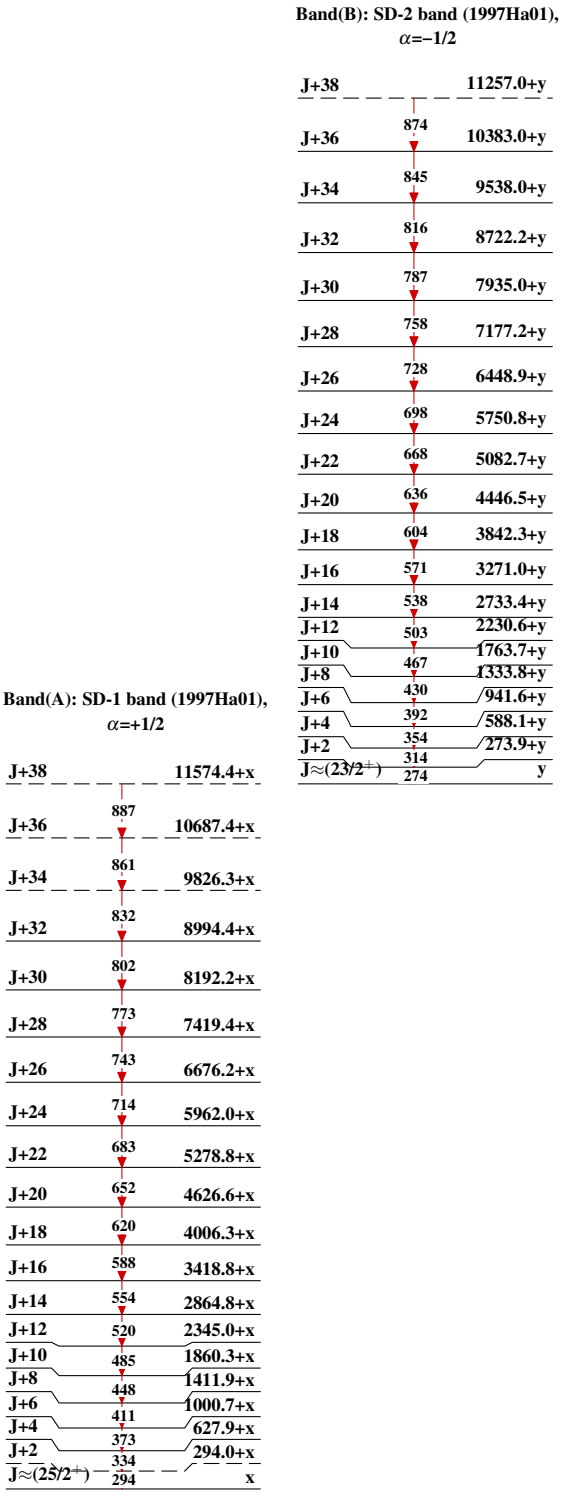
Level Scheme (continued)

– – – – – – ► γ Decay (Uncertain)



$^{195}_{80}Hg_{115}$

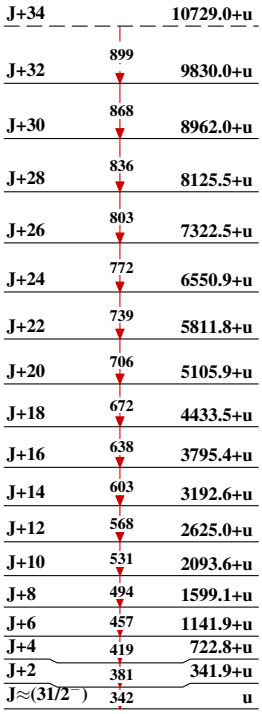
(HI,xnγ):SD 1997Ha01



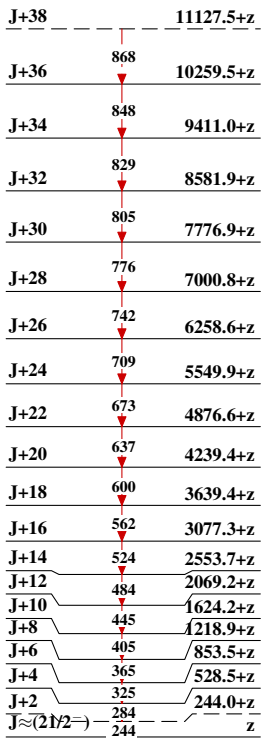
$^{195}_{80}Hg_{115}$

(HI,xnγ):SD 1997Ha01 (continued)

Band(D): SD-4 band (1997Ha01), α=−1/2



Band(C): SD-3 band (1997Ha01), α=+1/2



$^{195}_{80}Hg_{115}$