(HI,xnγ) 2000Li14,1998Su04

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 113, 715 (2012)	31-May-2011

2000Li14: ^{97}Mo(^{51}V,p4nγ) E=238 MeV. Measured Eγ, Iγ, γγ, γγγ-p coin, γγ(θ)(DCO), γ(lin pol) using GASP Spectrometer consisting of 40 escape-suppressed Ge detectors, 80 BGO scintillators, and the charged particle array ISIS. Others: 2000LiZY, 1998LiZZ.

1998Su04: ^{111}Cd(^{35}Cl,p2nγ) E=170 MeV. Measured Eγ, γγ, and γγ(θ)(DCO) using spectrometer array of 11 BGO Compton-suppressed detectors and a Si ball of 21 detectors. Other:1998SuZR.

1997Ri16: ^{100}Mo(^{48}Ti,5nγ) E=215, 209, 214 MeV. Measured Eγ, Iγ, γγ(θ)(DCO), using the GASP Multi-Array, containing 40 Compton-suppressed Ge detectors, and an inner ball of 80 bismuth germanate (BGO) detectors.

1993La10: ^{144}Sm(α,5nγ). E=77, 80 MeV. Measured γ, ce, γγ, γ(θ), Ge, Si detectors.

Level scheme is mostly from 2000Li14, 1998Su04 based on earlier works by 1997Ri16, 1993La10. There are considerable differences between the level schemes presented by various authors. The choice of 2000Li14 over others is arbitrary.

^{143}Gd Levels

E(level)[†]	Jπ[‡]	$T_{1/2}$	Comments
0	(1/2)$^+$		
153[a] *1*	(11/2$^-$)	112 s	Additional information 1. $T_{1/2}$: from 1993La10.
752.3[a] *4*	(15/2$^-$)		
1076.6 *4*	(13/2$^-$)		E(level): from 1998Su03, 1997Ri16. Not in 2000Li14.
1775.9[a] *4*	(19/2$^-$)		
1794.1[#] *4*	13/2$^+$		
1847.9 *4*	(15/2$^-$)		Jπ: 13/2$^+$ in 1997Ri16.
1864.2 *5*	(15/2$^+$)		E(level): from 1998Su04, 1997Ri16. Not in 2000Li14.
1912.3 *4*	(17/2$^-$)		
2053.8 *5*	(17/2$^+$)		
2180.9 *4*	(13/2$^+$)		Jπ: (17/2) in 1997Ri16.
2236.7? *5*			E(level): from 1997Ri16. Not in 2000Li14, 1998Su04.
2327.9 *5*	(17/2$^+$)		E(level): from 1998Su04, 1997Ri16. Not in 2000Li14.
2420.0 *5*	(19/2$^+$)		
2430.5 *4*	(19/2$^+$)		
2505.1 *5*	(19/2$^-$)		E(level): from 1998Su04, 1997Ri16. Not in 2000Li14.
2537.3[#] *4*	17/2$^+$		
2651.8[b] *5*	(21/2$^+$)		
2668.5 *5*	(23/2$^+$)		
2670.1 *6*	(23/2$^-$)		
2767.6[b] *6*	(23/2$^+$)		
2883.1[b] *6*	(25/2$^+$)		
2985.7? *9*	(23/2$^-$)		E(level): from 1998Su04. Not in 2000Li14, 1997Ri16.
2993.9? *11*	(23/2$^-$)		E(level): from 1998Su04. Not in 2000Li14, 1997Ri16.
3007.0? *11*	(23/2$^-$)		E(level): from 1998Su04. Not in 2000Li14, 1997Ri16.
3087.4[a] *5*	(23/2$^-$)		
3091.0[b] *7*	(27/2$^+$)		
3149.3 *5*	(23/2$^-$)		E(level): from 1998Su04, 1997Ri16. Not in 2000Li14.
3159.2[c] *6*	(25/2$^-$)		
3224.3 *6*	(23/2)		
3249.4[c] *7*	(27/2$^-$)		
3273.2[#] *5*	21/2$^+$		
3284.1 *5*	(21/2$^+$)		
3330.6 *8*	(27/2$^-$)		E(level): from 1998Su04, 1997Ri16. Not in 2000Li14.
3535.1[b] *8*	(29/2$^+$)		

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(HI,xnγ) 2000Li14,1998Su04 (continued)

^{143}Gd Levels (continued)

E(level)[†]	Jπ[‡]	Comments
3583.7[c] 7	(29/2⁻)	
3601.1[d] 7	(25/2⁻)	E(level): from 1998Su04. Not in 2000Li14, 1997Ri16.
3821.3[b] 8	(31/2⁺)	
3836.0[#] 5	25/2⁺	
4015.8 8	(29/2⁻)	E(level): from 1998Su04. Not in 2000Li14, 1997Ri16.
4126.5 8	(31/2⁻)	
4214.5 9	(31/2⁻)	E(level): from 1998Su04, 1997Ri16. Not in 2000Li14.
4251.2[d] 8	(29/2⁻)	E(level): from 1998Su04. Not in 2000Li14, 1997Ri16.
4395.1[#] 7	29/2⁺	
4453.5[b] 8	(33/2⁺)	E(level): shown as part of cascade built on 21/2⁺ in 1998Su04 but not in 2000Li14.
4489.3 9	(31/2⁻)	E(level): from 1998Su04, 1997Ri16. Not in 2000Li14.
4646.3 8	(33/2⁻)	
4799.0 8	(35/2)	E(level): from 1998Su04, 1997Ri16. Not in 2000Li14.
4847.2 11	(35/2⁻)	E(level): from 1998Su04, 1997Ri16. Not in 2000Li14.
4924.3 9	(31/2⁻)	
4931.6[b] 8	(35/2⁺)	
5023.5[#] 9	33/2⁺	
5123.1[d] 9	(33/2⁻)	E(level): from 1998Su04, 1997Ri16. Not in 2000Li14.
5226.8[@] 8	(33/2⁺)	
5306.5 10	(37/2)	E(level): from 1998Su04. Not in 2000Li14, 1997Ri16.
5400.2[@] 8	(35/2⁺)	
5587.8[@] 8	(37/2⁺)	
5625.7 11	(35/2⁻)	E(level): from 1998Su04. Not in 2000Li14.
5757.2[#] 10	37/2⁺	
5764.4[@] 9	(39/2⁺)	
5825.5 15	(39/2)	E(level): from 1998Su04. Not in 2000Li14.
6064.7[d] 11	(37/2⁻)	E(level): from 1998Su04, 1997Ri16. Not in 2000Li14.
6159.9[@] 10	(41/2⁺)	
6575.5[#] 12	41/2⁺	
6591.0[@] 11	(43/2⁺)	
6651.2 11		
7098.2 13		
7109.0[@] 13	(45/2⁺)	
7187.5 15		
7281.0[#] 13	45/2⁺	
7453.5 15		
7539.1[@] 12	(47/2⁺)	
7910.2[#] 14	49/2⁺	
8039.1[@] 16	(49/2⁺)	
8425.5 18		
8539.1[@] 19	(51/2⁺)	
8721.8[#] 14	53/2⁺	
8750.4 16		
9594.6 16		
9746.8[#] 18	(57/2⁺)	
10634.6 19		
10935.8[#] 20	(61/2⁺)	
11942.8[#] 23	(65/2⁺)	
12924.8[#] 25	(69/2⁺)	

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(HI,xnγ) 2000Li14,1998Su04 (continued)

^{143}Gd Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	Comments
14082[#] *3*	(73/2$^+$)	
x		Additional information 2.
546.0+x[&] *10*		
1155.0+x[&] *15*		
1825.5+x[&] *18*		
2557.2+x[&] *19*		
3349.8+x[&] *20*		
4203.5+x[&] *22*		
5116.6+x[&] *22*		
6088.7+x[&] *23*		
7119.1+x[&] *24*		
8207.3+x[&] *25*		
9354+x[&] *3*		
10560+x[&] *3*		
11824+x[&] *3*		
13148+x[&] *3*		
14532+x[&] *3*		

[†] From least-squares fit to Eγ′s.
[‡] From 2000Li14, unless stated otherwise. J^{π} values are based on DCO ratios. Parity of the 13/2$^+$ band is based on the polarization of 1641γ stated to have been measured by the authors in a separate Euroball experiment. Except for the levels in 13/2$^+$ band, the evaluators have placed J^{π} within parentheses.
[#] Band(A): band based on 13/2$^+$ (2000Li14).
[@] Band(B): band based on 33/2$^+$ (2000Li14).
[&] Band(C): SD band (2000Li04).
[a] Band(D): 11/2$^-$ band (2000Li14).
[b] Band(E): band based on (21/2$^+$) (1998Su04,2000Li14).
[c] Band(F): cascade built on (25/2$^-$) (2000Li14).
[d] Band(G): cascade built on (25/2$^-$) (1998Su04).

γ(^{143}Gd)

E$_{\gamma}$[‡]	E$_i$(level)	J$_i^{\pi}$	E$_f$	J$_f^{\pi}$	Mult.[#]	α[†]	Comments
(10.0 *5*)	3159.2	(25/2$^-$)	3149.3	(23/2$^-$)			E$_{\gamma}$: from 1998Su04, 1997Ri16, 1993La10. Not in 2000Li14.
(17.0 *5*)	2668.5	(23/2$^+$)	2651.8	(21/2$^+$)			E$_{\gamma}$: from 1997Ri16. Placed elsewhere in 2000Li14, 1998Su04.
(61.7 *5*)	3149.3	(23/2$^-$)	3087.4	(23/2$^-$)			E$_{\gamma}$: from 1997Ri16. Not in 2000Li14, 1998Su04.
71.7 *5*	3159.2	(25/2$^-$)	3087.4	(23/2$^-$)			
90.3 *5*	3249.4	(27/2$^-$)	3159.2	(25/2$^-$)	M1[@]	2.70 *6*	α(K)=2.28 *5*; α(L)=0.330 *7*; α(M)=0.0716 *16*; α(N+..)=0.0192 *5* α(N)=0.0165 *4*; α(O)=0.00255 *6*; α(P)=0.000170 *4*
99.5 *5*	2767.6	(23/2$^+$)	2668.5	(23/2$^+$)	(M1)[@]	2.04 *5*	α(K)=1.72 *4*; α(L)=0.249 *5*; α(M)=0.0541 *11*; α(N+..)=0.0145 *3* α(N)=0.0125 *3*; α(O)=0.00193 *4*; α(P)=0.000129 *3* E$_{\gamma}$: from 1998Su04, 1997Ri16, 1993La10. Placed elsewhere in 2000Li14.

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(HI,xnγ) 2000Li14,1998Su04 (continued)

γ(^{143}Gd) (continued)

E_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[†]	Comments
101 *1*	3087.4	(23/2$^-$)	2985.7?	(23/2$^-$)			E_γ: from 1998Su04. Not in 2000Li14, 1997Ri16.
102.8 *5*	2430.5	(19/2$^+$)	2327.9	(17/2$^+$)			E_γ: from 1998Su04, 1997Ri16. Not in 2000Li14.
115 *1*	2767.6	(23/2$^+$)	2651.8	(21/2$^+$)	M1[@]	1.35 *4*	α(K)=1.14 *4*; α(L)=0.164 *5*; α(M)=0.0357 *11*; α(N+..)=0.0096 *3* α(N)=0.00822 *24*; α(O)=0.00127 *4*; α(P)=8.50×10^{-5} *25*
115.3 *5*	2883.1	(25/2$^+$)	2767.6	(23/2$^+$)	M1[@]	1.34 *3*	α(K)=1.132 *22*; α(L)=0.163 *3*; α(M)=0.0355 *7*; α(N+..)=0.00951 *18* α(N)=0.00816 *16*; α(O)=0.001265 *24*; α(P)=8.44×10^{-5} *16*
152.5 *5*	4799.0	(35/2)	4646.3	(33/2$^-$)			E_γ: from 1993La10. Also in 1998Su04, 1997Ri16, not in 2000Li14.
173.5 *5*	5400.2	(35/2$^+$)	5226.8	(33/2$^+$)			
176.6 *5*	5764.4	(39/2$^+$)	5587.8	(37/2$^+$)			
187.7 *5*	5587.8	(37/2$^+$)	5400.2	(35/2$^+$)			
207.8 *5*	3091.0	(27/2$^+$)	2883.1	(25/2$^+$)			
214.8 *5*	2883.1	(25/2$^+$)	2668.5	(23/2$^+$)			
221.5 *5*	2651.8	(21/2$^+$)	2430.5	(19/2$^+$)			
248.6 *5*	2668.5	(23/2$^+$)	2420.0	(19/2$^+$)			
283.0 *5*	5306.5	(37/2)	5023.5	33/2$^+$			E_γ: from 1998Su04, 1997Ri16. Not in 2000Li14.
286.4 *5*	3821.3	(31/2$^+$)	3535.1	(29/2$^+$)			E_γ: possibly E=258.8 in 1993La10 is a typographical error.
300.5 *5*	2537.3	17/2$^+$	2236.7?				E_γ: from 1997Ri16. Placed elsewhere in 2000Li14, 1998Su04.
309.8 *5*	4799.0	(35/2)	4489.3	(31/2$^-$)			E_γ: from 1998Su04, 1997Ri16. Not in 2000Li14.
334.3 *5*	3583.7	(29/2$^-$)	3249.4	(27/2$^-$)	M1[@]	0.0718	α(K)=0.0608 *9*; α(L)=0.00856 *13*; α(M)=0.00186 *3*; α(N+..)=0.000498 *8* α(N)=0.000427 *7*; α(O)=6.64×10^{-5} *10*; α(P)=4.48×10^{-6} *7*
356.3 *5*	2537.3	17/2$^+$	2180.9	(13/2$^+$)			
376.7 *5*	2430.5	(19/2$^+$)	2053.8	(17/2$^+$)	M1[@]	0.0525	α(K)=0.0445 *7*; α(L)=0.00624 *9*; α(M)=0.001352 *20*; α(N+..)=0.000363 *6* α(N)=0.000311 *5*; α(O)=4.84×10^{-5} *7*; α(P)=3.27×10^{-6} *5*
395.4 *5*	6159.9	(41/2$^+$)	5764.4	(39/2$^+$)			
430 *1*	7539.1	(47/2$^+$)	7109.0	(45/2$^+$)			E_γ: placed elsewhere in 1998Su04, 1997Ri16.
431.1 *5*	6591.0	(43/2$^+$)	6159.9	(41/2$^+$)			
432.2 *5*	4015.8	(29/2$^-$)	3583.7	(29/2$^-$)	M1[@]	0.0367	α(K)=0.0312 *5*; α(L)=0.00435 *7*; α(M)=0.000942 *14*; α(N+..)=0.000253 *4* α(N)=0.000217 *4*; α(O)=3.37×10^{-5} *5*; α(P)=2.29×10^{-6} *4* E_γ: from 1998Su04. Not in 2000Li14. Placed elsewhere in 1997Ri16.
441 *1*	7539.1	(47/2$^+$)	7098.2				
441.9 *5*	3601.1	(25/2$^-$)	3159.2	(25/2$^-$)			E_γ: from 1998Su04. Not in 2000Li14. Placed elsewhere in 1997Ri16.
444.3 *5*	3535.1	(29/2$^+$)	3091.0	(27/2$^+$)	M1[@]	0.0342	α(K)=0.0290 *5*; α(L)=0.00405 *6*; α(M)=0.000877 *13*; α(N+..)=0.000235 *4* α(N)=0.000202 *3*; α(O)=3.14×10^{-5} *5*; α(P)=2.13×10^{-6} *3*
447 *1*	7098.2		6651.2				
457.1 *5*	3224.3	(23/2)	2767.6	(23/2$^+$)			E_γ: from 1997Ri16. Not in 2000Li14, 1998Su04.
473.6 *5*	4489.3	(31/2$^-$)	4015.8	(29/2$^-$)			E_γ: from 1998Su04, 1997Ri16. Not in 2000Li14.
491.4 *5*	6651.2		6159.9	(41/2$^+$)			
500 *1*	8039.1	(49/2$^+$)	7539.1	(47/2$^+$)			
500 *1*	8539.1	(51/2$^+$)	8039.1	(49/2$^+$)			
507.8 *5*	2420.0	(19/2$^+$)	1912.3	(17/2$^-$)	E1[@]	0.00455 *7*	α=0.00455 *7*; α(K)=0.00389 *6*; α(L)=0.000524 *8*; α(M)=0.0001128 *16*; α(N+..)=3.01×10^{-5} *5*

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(HI,xnγ) 2000Li14,1998Su04 (continued)

γ(^{143}Gd) (continued)

E_γ[‡]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[†]	Comments
								α(N)=2.58×10^{-5} *4*; α(O)=3.97×10^{-6} *6*; α(P)=2.56×10^{-7} *4*
518 *1*		7109.0	(45/2$^+$)	6591.0	(43/2$^+$)			
518.4 *5*		2430.5	(19/2$^+$)	1912.3	(17/2$^-$)			
519 *1*		5825.5	(39/2)	5306.5	(37/2)			E_γ: from 1998Su04, 1997Ri16. Not in 2000Li14.
519.7 *5*		4646.3	(33/2$^-$)	4126.5	(31/2$^-$)	M1[@]	0.0229	α(K)=0.0195 *3*; α(L)=0.00270 *4*; α(M)=0.000585 *9*; α(N+..)=0.0001570 *23* α(N)=0.0001346 *20*; α(O)=2.09×10^{-5} *3*; α(P)=1.424×10^{-6} *21* E_γ: placement of 519γ and 543γ are reversed in 1998Su04.
542.8 *5*		4126.5	(31/2$^-$)	3583.7	(29/2$^-$)			E_γ: placement of 519γ and 543γ are reversed in 1998Su04.
546.0 *10*	0.33 *7*	546.0+x		x				
552.2 *5*		3836.0	25/2$^+$	3284.1	(21/2$^+$)			
555 *1*		2420.0	(19/2$^+$)	1864.2	(15/2$^+$)			E_γ: from 1998Su04. Not in 2000Li14, 1997Ri16.
559.1 *5*	143 *11*	4395.1	29/2$^+$	3836.0	25/2$^+$	E2	0.01046	α(K)=0.00858 *13*; α(L)=0.001468 *21*; α(M)=0.000324 *5*; α(N+..)=8.56×10^{-5} *13* α(N)=7.40×10^{-5} *11*; α(O)=1.102×10^{-5} *16*; α(P)=5.81×10^{-7} *9* E_γ: placed elsewhere in 1998Su04. DCO=2.3 *5*.
562.4 *5*	119 *11*	3836.0	25/2$^+$	3273.2	21/2$^+$	E2	0.01030	α(K)=0.00845 *12*; α(L)=0.001443 *21*; α(M)=0.000319 *5*; α(N+..)=8.42×10^{-5} *12* α(N)=7.27×10^{-5} *11*; α(O)=1.084×10^{-5} *16*; α(P)=5.73×10^{-7} *9* DCO=2.2 *4*.
565 *1*		2430.5	(19/2$^+$)	1864.2	(15/2$^+$)			E_γ: from 1998Su04. Not in 2000Li14, 1997Ri16.
572.1 *5*		3224.3	(23/2)	2651.8	(21/2$^+$)			
582.2 *5*		3087.4	(23/2$^-$)	2505.1	(19/2$^-$)			E_γ: from 1998Su04, 1997Ri16. Not in 2000Li14.
599.5 *5*		752.3	(15/2$^-$)	153	(11/2$^-$)	E2[@]	0.00878 *13*	α=0.00878 *13*; α(K)=0.00724 *11*; α(L)=0.001206 *18*; α(M)=0.000266 *4*; α(N+..)=7.03×10^{-5} *10* α(N)=6.07×10^{-5} *9*; α(O)=9.08×10^{-6} *13*; α(P)=4.92×10^{-7} *7*
604.5 *5*		3273.2	21/2$^+$	2668.5	(23/2$^+$)			
609.0 *10*	0.34 *7*	1155.0+x		546.0+x				
611.8 *5*		3836.0	25/2$^+$	3224.3	(23/2)			
612 *1*		7187.5		6575.5	41/2$^+$			
614.9 *5*		3284.1	(21/2$^+$)	2668.5	(23/2$^+$)			E_γ: from 1997Ri16. Not in 2000Li14, 1998Su04.
621.3 *5*		3273.2	21/2$^+$	2651.8	(21/2$^+$)			
628.4 *5*	135 *12*	5023.5	33/2$^+$	4395.1	29/2$^+$	E2	0.00783 *11*	α=0.00783 *11*; α(K)=0.00647 *10*; α(L)=0.001060 *15*; α(M)=0.000233 *4*; α(N+..)=6.17×10^{-5} *9* α(N)=5.33×10^{-5} *8*; α(O)=8.00×10^{-6} *12*; α(P)=4.41×10^{-7} *7*

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(HI,xnγ) 2000Li14,1998Su04 (continued)

γ(^{143}Gd) (continued)

E_γ[‡]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[†]	Comments
629.2 *5*	58 *7*	7910.2	49/2$^+$	7281.0	45/2$^+$	E2	0.00780 *11*	α=0.00780 *11*; α(K)=0.00645 *10*; α(L)=0.001057 *15*; α(M)=0.000233 *4*; α(N+..)=6.15×10^{-5} *9* α(N)=5.31×10^{-5} *8*; α(O)=7.97×10^{-6} *12*; α(P)=4.40×10^{-7} *7*
632.2 *5*		4453.5	(33/2$^+$)	3821.3	(31/2$^+$)			
632.7 *5*		4847.2	(35/2$^-$)	4214.5	(31/2$^-$)			E_γ: from 1998Su04, 1997Ri16. Not in 2000Li14.
643.6 *5*		2420.0	(19/2$^+$)	1775.9	(19/2$^-$)			E_γ: from 1993La10.
644.3 *5*		3149.3	(23/2$^-$)	2505.1	(19/2$^-$)			E_γ: from 1993La10, 1997Ri16. Not in 2000Li14, 1998Su04.
650.2 *5*		4251.2	(29/2$^-$)	3601.1	(25/2$^-$)			E_γ: from 1998Su04. Not in 2000Li14. Placed elsewhere in 1997Ri16.
654.5 *5*		2430.5	(19/2$^+$)	1775.9	(19/2$^-$)			
660.5 *5*		3330.6	(27/2$^-$)	2670.1	(23/2$^-$)			E_γ: from 1998Su04, 1997Ri16, 1993La10. Not in 2000Li14.
667.5 *5*		4251.2	(29/2$^-$)	3583.7	(29/2$^-$)			E_γ: from 1998Su04. Not in 2000Li14. Placed elsewhere in 1997Ri16.
670.5 *10*	0.30 *7*	1825.5+x		1155.0+x				
673.1 *5*		4924.3	(31/2$^-$)	4251.2	(29/2$^-$)			E_γ: from 1998Su04, 1997Ri16. Not in 2000Li14.
673.2 *5*		2537.3	17/2$^+$	1864.2	(15/2$^+$)			E_γ: from 1998Su04, 1997Ri16. Placed elsewhere in 2000Li14.
689.3 *5*	29 *4*	2537.3	17/2$^+$	1847.9	(15/2$^-$)			
701.4 *5*		5625.7	(35/2$^-$)	4924.3	(31/2$^-$)			E_γ: from 1998Su04, 1997Ri16. Not in 2000Li14.
705.5 *5*	80 *9*	7281.0	45/2$^+$	6575.5	41/2$^+$	E2	0.00594 *9*	α=0.00594 *9*; α(K)=0.00494 *7*; α(L)=0.000780 *11*; α(M)=0.0001711 *25*; α(N+..)=4.54×10^{-5} *7* α(N)=3.91×10^{-5} *6*; α(O)=5.91×10^{-6} *9*; α(P)=3.39×10^{-7} *5* DCO=2.3 *6*.
729.1 *5*		2505.1	(19/2$^-$)	1775.9	(19/2$^-$)			E_γ: from 1998Su04, 1997Ri16. Not in 2000Li14.
730.1 *5*		3821.3	(31/2$^+$)	3091.0	(27/2$^+$)			
731.7 *7*	0.38 *8*	2557.2+x		1825.5+x				
733.7 *5*	107 *11*	5757.2	37/2$^+$	5023.5	33/2$^+$	E2	0.00543 *8*	α=0.00543 *8*; α(K)=0.00452 *7*; α(L)=0.000706 *10*; α(M)=0.0001546 *22*; α(N+..)=4.10×10^{-5} *6* α(N)=3.54×10^{-5} *5*; α(O)=5.35×10^{-6} *8*; α(P)=3.11×10^{-7} *5* DCO=1.9 *4*.
735.8 *5*	116 *9*	3273.2	21/2$^+$	2537.3	17/2$^+$	E2	0.00539 *8*	α=0.00539 *8*; α(K)=0.00450 *7*; α(L)=0.000701 *10*; α(M)=0.0001535 *22*; α(N+..)=4.07×10^{-5} *6* α(N)=3.51×10^{-5} *5*; α(O)=5.31×10^{-6} *8*; α(P)=3.09×10^{-7} *5* DCO=1.7 *3*.
743.2 *5*	84 *6*	2537.3	17/2$^+$	1794.1	13/2$^+$	E2	0.00527 *8*	α=0.00527 *8*; α(K)=0.00440 *7*; α(L)=0.000683 *10*; α(M)=0.0001496 *21*; α(N+..)=3.97×10^{-5} *6* α(N)=3.42×10^{-5} *5*; α(O)=5.18×10^{-6} *8*; α(P)=3.02×10^{-7} *5* DCO=2.7 *5*.
747 *1*		3284.1	(21/2$^+$)	2537.3	17/2$^+$			

Continued on next page (footnotes at end of table)

(HI,xnγ) 2000Li14,1998Su04 (continued)

γ(^{143}Gd) (continued)

E_γ[‡]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[†]	Comments
754 *1*		5400.2	(35/2$^+$)	4646.3	(33/2$^-$)			
787.2 *5*		1864.2	(15/2$^+$)	1076.6	(13/2$^-$)			E_γ: from 1998Su04, 1997Ri16. Not in 2000Li14.
788.7 *5*		5587.8	(37/2$^+$)	4799.0	(35/2)			E_γ: from 1998Su04, 1997Ri16. Not in 2000Li14.
792.6 *7*	0.41 *9*	3349.8+x		2557.2+x				
811.6 *5*	26 *3*	8721.8	53/2$^+$	7910.2	49/2$^+$	E2	0.00432 *6*	α=0.00432 *6*; α(K)=0.00362 *5*; α(L)=0.000549 *8*; α(M)=0.0001199 *17*; α(N+..)=3.19×10^{-5} *5* α(N)=2.74×10^{-5} *4*; α(O)=4.17×10^{-6} *6*; α(P)=2.49×10^{-7} *4*
818.3 *5*	93 *6*	6575.5	41/2$^+$	5757.2	37/2$^+$	E2	0.00424 *6*	α=0.00424 *6*; α(K)=0.00355 *5*; α(L)=0.000538 *8*; α(M)=0.0001175 *17*; α(N+..)=3.12×10^{-5} *5* α(N)=2.69×10^{-5} *4*; α(O)=4.09×10^{-6} *6*; α(P)=2.45×10^{-7} *4* DCO=1.8 *4*.
832.8 *5*		5764.4	(39/2$^+$)	4931.6	(35/2$^+$)			E_γ: 632γ in 1998Su04 to a 35/2$^+$ level could be a misprint.
836.1 *5*		1912.3	(17/2$^-$)	1076.6	(13/2$^-$)			E_γ: from 1998Su04. Not in 2000Li14, placed elsewhere in 1997Ri16.
840 *1*		8750.4		7910.2	49/2$^+$			
842.8 *5*		3273.2	21/2$^+$	2430.5	(19/2$^+$)			
844 *1*		9594.6		8750.4				
853.7 *7*	0.32 *6*	4203.5+x		3349.8+x				
863.5 *5*		3284.1	(21/2$^+$)	2420.0	(19/2$^+$)			E_γ: from 1997Ri16. Not in 2000Li14, 1998Su04.
871.9 *5*		5123.1	(33/2$^-$)	4251.2	(29/2$^-$)			E_γ: from 1998Su04, 1997Ri16. Not in 2000Li14.
873 *1*		9594.6		8721.8	53/2$^+$			
875.4 *5*		2651.8	(21/2$^+$)	1775.9	(19/2$^-$)			
876 *5*		4126.5	(31/2$^-$)	3249.4	(27/2$^-$)			E_γ: from 2000Li14. Not in 1998Su04, 1997Ri16.
878 *1*		7453.5		6575.5	41/2$^+$			
883.9 *5*		4214.5	(31/2$^-$)	3330.6	(27/2$^-$)			E_γ: from 1998Su04, 1997Ri16. Not in 2000Li14.
888 *1*		7539.1	(47/2$^+$)	6651.2				
895.1 *5*		2670.1	(23/2$^-$)	1775.9	(19/2$^-$)			E_γ: from 1998Su04, 1997Ri16. Placed elsewhere in 2000Li14.
913.1 *5*	0.50 *11*	5116.6+x		4203.5+x				Contaminated line.
923.6 *5*		1076.6	(13/2$^-$)	153	(11/2$^-$)			E_γ: from 1998Su04, 1997Ri16. Not in 2000Li14.
941.6 *5*		6064.7	(37/2$^-$)	5123.1	(33/2$^-$)			E_γ: from 1998Su04, 1997Ri16. Not in 2000Li14.
948 *1*		7539.1	(47/2$^+$)	6591.0	(43/2$^+$)			
972 *1*		8425.5		7453.5				
972.1 *6*	0.40 *8*	6088.7+x		5116.6+x				
982 *1*		12924.8	(69/2$^+$)	11942.8	(65/2$^+$)	(E2)	0.00286 *4*	α=0.00286 *4*; α(K)=0.00241 *4*; α(L)=0.000350 *5*; α(M)=7.62×10^{-5} *11*; α(N+..)=2.03×10^{-5} *3* α(N)=1.747×10^{-5} *25*; α(O)=2.67×10^{-6} *4*; α(P)=1.670×10^{-7} *24*
1007 *1*		11942.8	(65/2$^+$)	10935.8	(61/2$^+$)	(E2)	0.00271 *4*	α=0.00271 *4*; α(K)=0.00229 *4*;

Continued on next page (footnotes at end of table)

(HI,xnγ) 2000Li14,1998Su04 (continued)

γ(^{143}Gd) (continued)

E_γ[‡]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[†]	Comments
								α(L)=0.000331 *5*; α(M)=7.20×10^{-5} *11*; α(N+..)=1.92×10^{-5} *3* α(N)=1.650×10^{-5} *24*; α(O)=2.53×10^{-6} *4*; α(P)=1.586×10^{-7} *23*
1023.7 *5*		1775.9	(19/2$^-$)	752.3	(15/2$^-$)	E2[@]	0.00262 *4*	α=0.00262 *4*; α(K)=0.00221 *4*; α(L)=0.000319 *5*; α(M)=6.93×10^{-5} *10*; α(N+..)=1.85×10^{-5} *3* α(N)=1.589×10^{-5} *23*; α(O)=2.44×10^{-6} *4*; α(P)=1.534×10^{-7} *22*
1025 *1*		9746.8	(57/2$^+$)	8721.8	53/2$^+$	(E2)	0.00261 *4*	α=0.00261 *4*; α(K)=0.00221 *4*; α(L)=0.000318 *5*; α(M)=6.91×10^{-5} *10*; α(N+..)=1.84×10^{-5} *3* α(N)=1.585×10^{-5} *23*; α(O)=2.43×10^{-6} *4*; α(P)=1.530×10^{-7} *22*
1030.4 *8*	0.46 *10*	7119.1+x		6088.7+x				
1040 *1*		10634.6		9594.6				E_γ: placed elsewhere in 1998Su04.
1062.5 *5*		4646.3	(33/2$^-$)	3583.7	(29/2$^-$)			
1088.2 *5*	0.47 *11*	8207.3+x		7119.1+x				
1100.5 *5*		5226.8	(33/2$^+$)	4126.5	(31/2$^-$)			
1110.3 *5*		4931.6	(35/2$^+$)	3821.3	(31/2$^+$)			
1134.4 *5*		5587.8	(37/2$^+$)	4453.5	(33/2$^+$)			
1146.9 *7*	0.52 *11*	9354+x		8207.3+x				Contaminated line.
1157 *1*		14082	(73/2$^+$)	12924.8	(69/2$^+$)	(E2)	0.00204 *3*	α=0.00204 *3*; α(K)=0.001729 *25*; α(L)=0.000244 *4*; α(M)=5.29×10^{-5} *8*; α(N+..)=1.613×10^{-5} *23* α(N)=1.213×10^{-5} *18*; α(O)=1.87×10^{-6} *3*; α(P)=1.199×10^{-7} *17*; α(IPF)=2.02×10^{-6} *7*
1159.8 *5*		1912.3	(17/2$^-$)	752.3	(15/2$^-$)	M1[@]	0.00322 *5*	α=0.00322 *5*; α(K)=0.00274 *4*; α(L)=0.000370 *6*; α(M)=7.98×10^{-5} *12*; α(N+..)=2.39×10^{-5} *4* α(N)=1.84×10^{-5} *3*; α(O)=2.87×10^{-6} *4*; α(P)=1.98×10^{-7} *3*; α(IPF)=2.42×10^{-6} *5*
1160.0 *5*		2236.7?		1076.6	(13/2$^-$)			E_γ: from 1997Ri16. Not in 2000Li14, 1998Su04.
1189 *1*		10935.8	(61/2$^+$)	9746.8	(57/2$^+$)	(E2)	0.00194 *3*	α=0.00194 *3*; α(K)=0.001638 *23*; α(L)=0.000230 *4*; α(M)=4.98×10^{-5} *7*; α(N+..)=1.77×10^{-5} *3* α(N)=1.144×10^{-5} *17*; α(O)=1.761×10^{-6} *25*; α(P)=1.136×10^{-7} *16*; α(IPF)=4.41×10^{-6} *12*
1205.6 *5*	0.33 *8*	10560+x		9354+x				

Continued on next page (footnotes at end of table)

(HI,xnγ) 2000Li14,1998Su04 (continued)

γ(^{143}Gd) (continued)

E_γ[‡]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[†]	Comments
1209 *1*		2985.7?	(23/2$^-$)	1775.9	(19/2$^-$)			E_γ: from 1998Su04. Not in 2000Li14, 1997Ri16.
1218 *1*		2993.9?	(23/2$^-$)	1775.9	(19/2$^-$)			E_γ: from 1998Su04. Not in 2000Li14, 1997Ri16.
1231 *1*		3007.0?	(23/2$^-$)	1775.9	(19/2$^-$)			E_γ: from 1998Su04. Not in 2000Li14, 1997Ri16.
1264.5 *5*	0.40 *11*	11824+x		10560+x				
1301.6 *5*		2053.8	(17/2$^+$)	752.3	(15/2$^-$)	E1[@]	0.000778 *11*	α=0.000778 *11*; α(K)=0.000605 *9*; α(L)=7.83×10^{-5} *11*; α(M)=1.678×10^{-5} *24*; α(N+..)=7.75×10^{-5} *1* α(N)=3.85×10^{-6} *6*; α(O)=5.99×10^{-7} *9*; α(P)=4.08×10^{-8} *6*; α(IPF)=7.30×10^{-5} *11*
1311.7 *5*		3087.4	(23/2$^-$)	1775.9	(19/2$^-$)	E2[@]	0.001612 *23*	α=0.001612 *23*; α(K)=0.001351 *19*; α(L)=0.000187 *3*; α(M)=4.05×10^{-5} *6*; α(N+..)=3.30×10^{-5} *5* α(N)=9.29×10^{-6} *13*; α(O)=1.433×10^{-6} *20*; α(P)=9.37×10^{-8} *14*; α(IPF)=2.22×10^{-5} *4*
1323.8 *5*	0.18 *5*	13148+x		11824+x				
1373.4 *5*		3149.3	(23/2$^-$)	1775.9	(19/2$^-$)			E_γ: from 1998Su04, 1997Ri16, 1993La10. Not in 2000Li14.
1383.7 *10*	0.18 *5*	14532+x		13148+x				
1405 *1*		5226.8	(33/2$^+$)	3821.3	(31/2$^+$)			
1429 *1*		2180.9	(13/2$^+$)	752.3	(15/2$^-$)			
1575.8 *5*		2327.9	(17/2$^+$)	752.3	(15/2$^-$)			E_γ: from 1998Su04, 1997Ri16. Not in 2000Li14.
1641.1 *5*	84 *6*	1794.1	13/2$^+$	153	(11/2$^-$)	E1	0.000784 *11*	α=0.000784 *11*; α(K)=0.000408 *6*; α(L)=5.24×10^{-5} *8*; α(M)=1.123×10^{-5} *16*; α(N+..)=0.000313 *5* α(N)=2.58×10^{-6} *4*; α(O)=4.01×10^{-7} *6*; α(P)=2.76×10^{-8} *4*; α(IPF)=0.000310 *5* Mult.: stated to be from measured pol in a euroball experiment (2000Li14). DCO=0.55 *3* (quadrupole gated).
1694.8 *5*	29 *4*	1847.9	(15/2$^-$)	153	(11/2$^-$)			DCO=0.43 *5* (quadrupole gated).
1752.8 *5*		2505.1	(19/2$^-$)	752.3	(15/2$^-$)			E_γ: from 1998Su04, 1997Ri16. Not in 2000Li14.
2027.8 *5*		2180.9	(13/2$^+$)	153	(11/2$^-$)			

[†] Additional information 3.

[‡] From 2000Li14 for SDB band. Eγ values given with decimal point are from 1997Ri16, unless stated otherwise. Iγ values are from 1997Ri16. DCO ratios from 1997Ri06 are for dipole gated transitions, unless given otherwise. Evaluators have assigned an

Continued on next page (footnotes at end of table)

(HI,xnγ) 2000Li14,1998Su04 (continued)

$\gamma(^{143}Gd)$ (continued)

uncertainty of 0.5 keV for Eγ given with decimal point, 1 keV for others, except for the transitions in the SDB band.
[#] From DCO ratios (2000Li14), unless given otherwise.
[@] From 1993La10, probably from ce(K).

(HI,xnγ) 2000Li14,1998Su04

Level Scheme

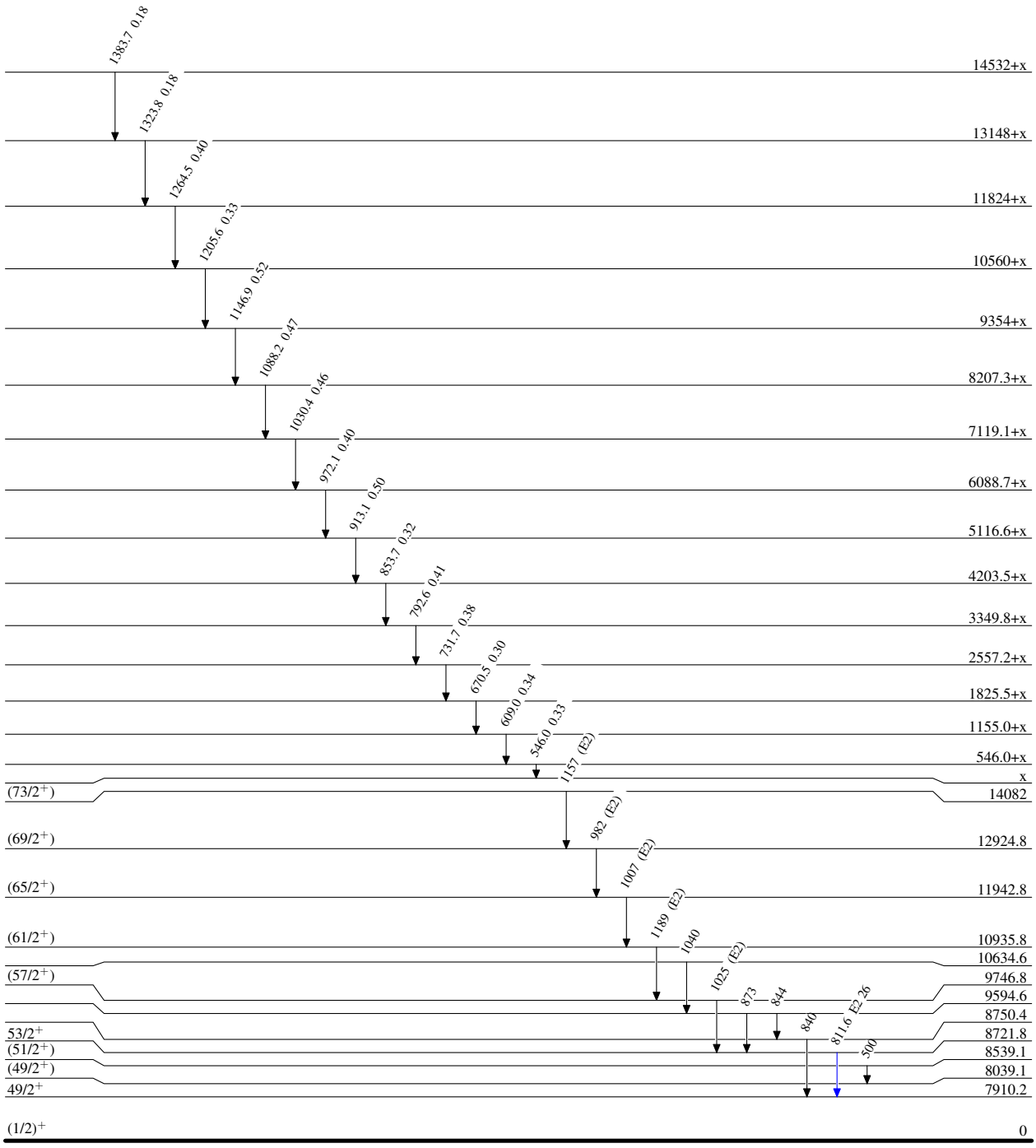
Intensities: Relative I_γ

Legend

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

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

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



$^{143}_{64}Gd_{79}$

(HI,xnγ) 2000Li14,1998Su04

Level Scheme (continued)

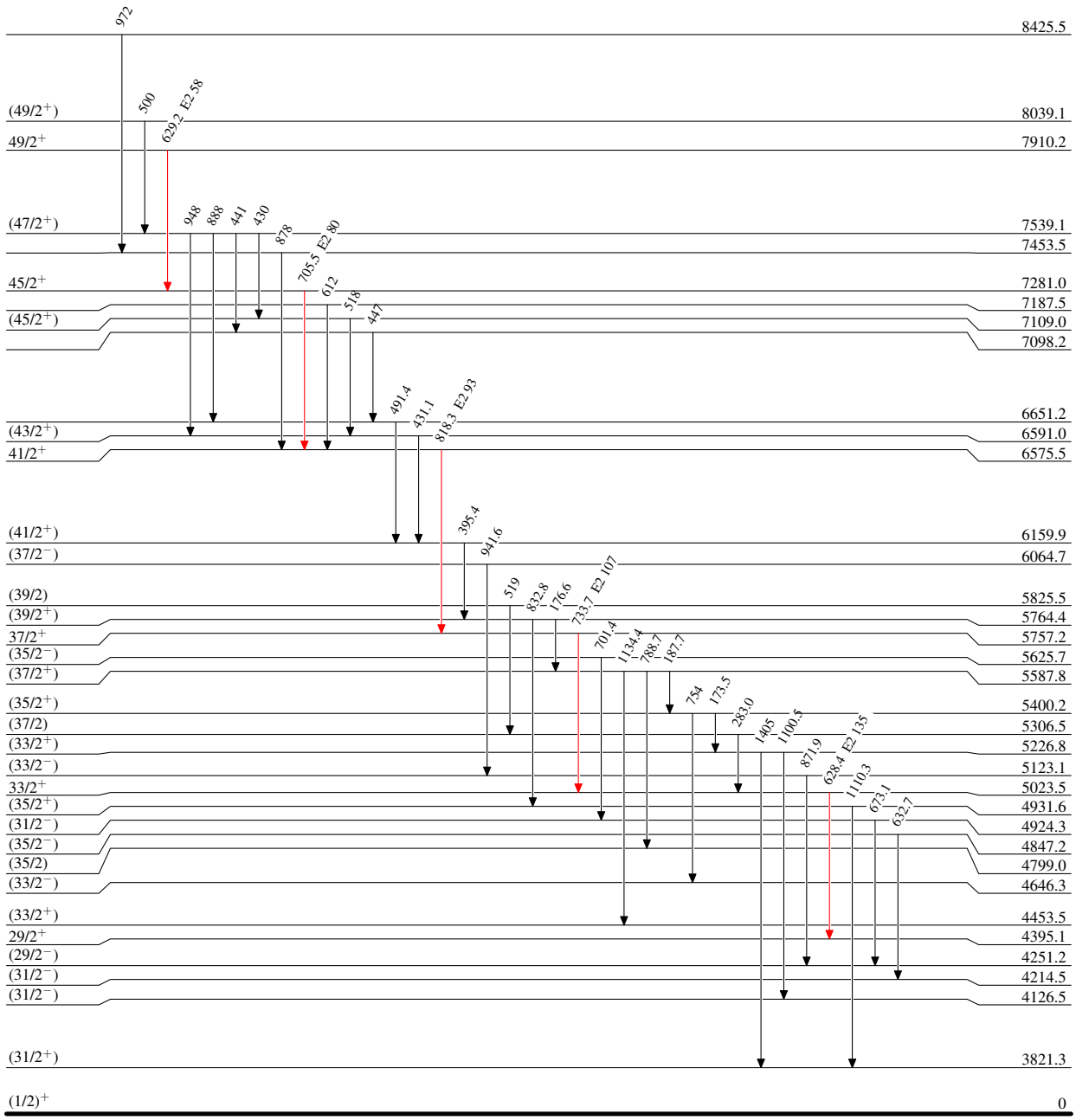
Intensities: Relative I_γ

Legend

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

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

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



$^{143}_{64}Gd_{79}$

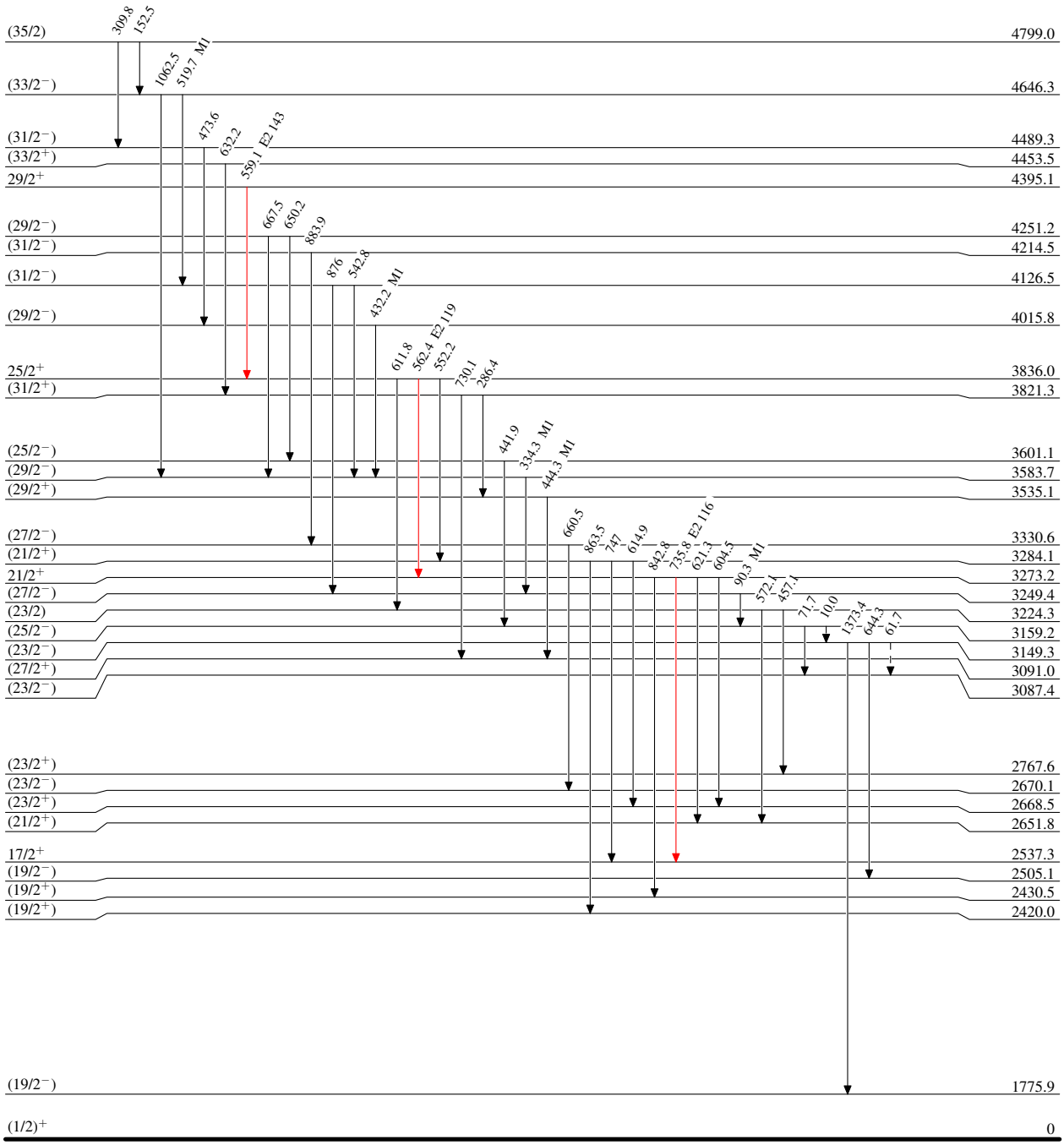
(HI,xnγ) 2000Li14,1998Su04

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)

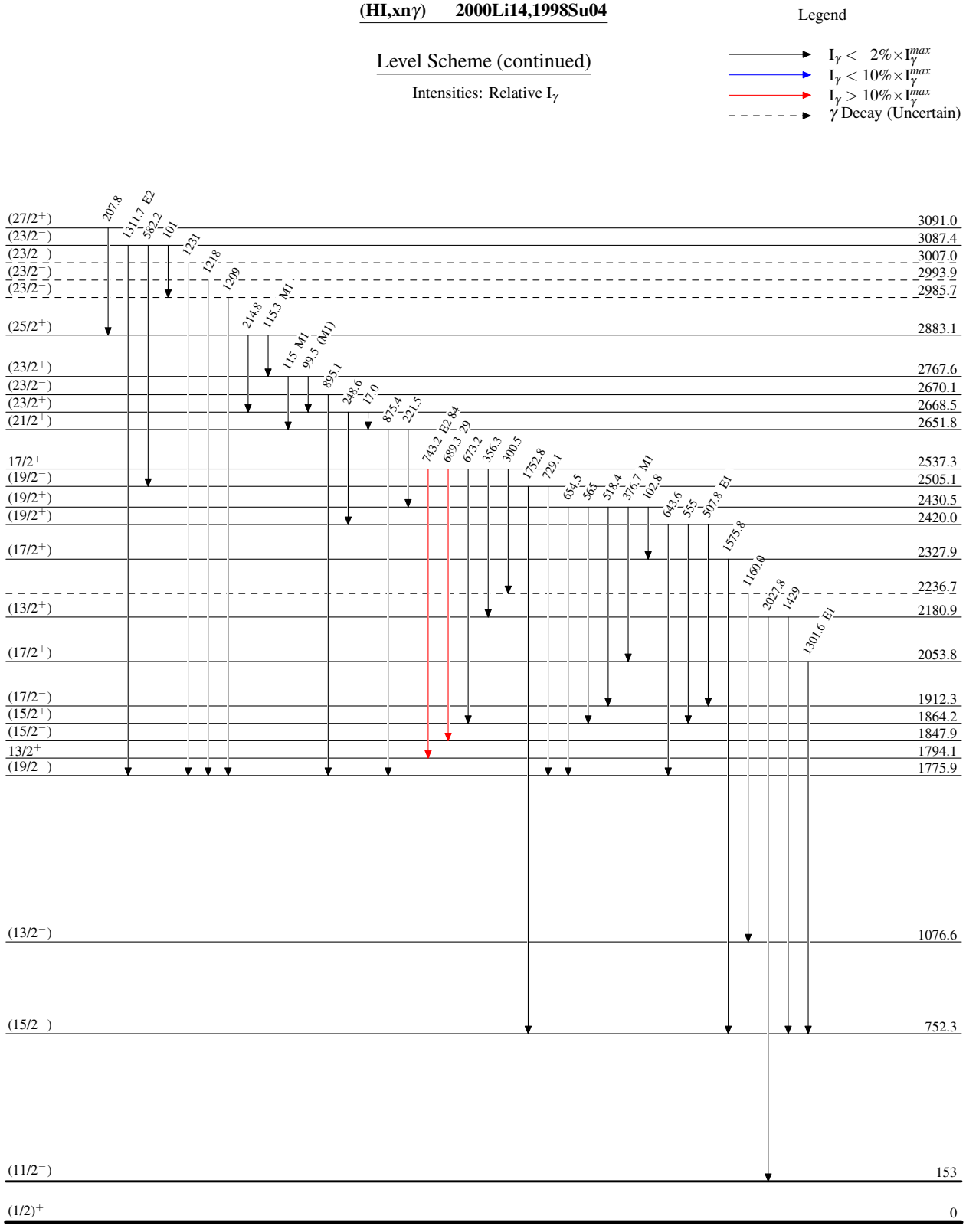


$^{143}_{64}Gd_{79}$

(HI,xnγ) 2000Li14,1998Su04

Level Scheme (continued)

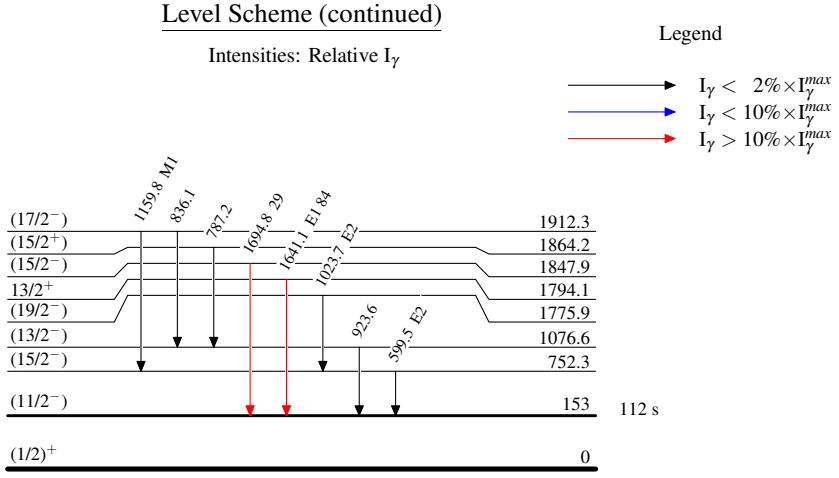
Intensities: Relative I_γ



(HI,xnγ) 2000Li14,1998Su04

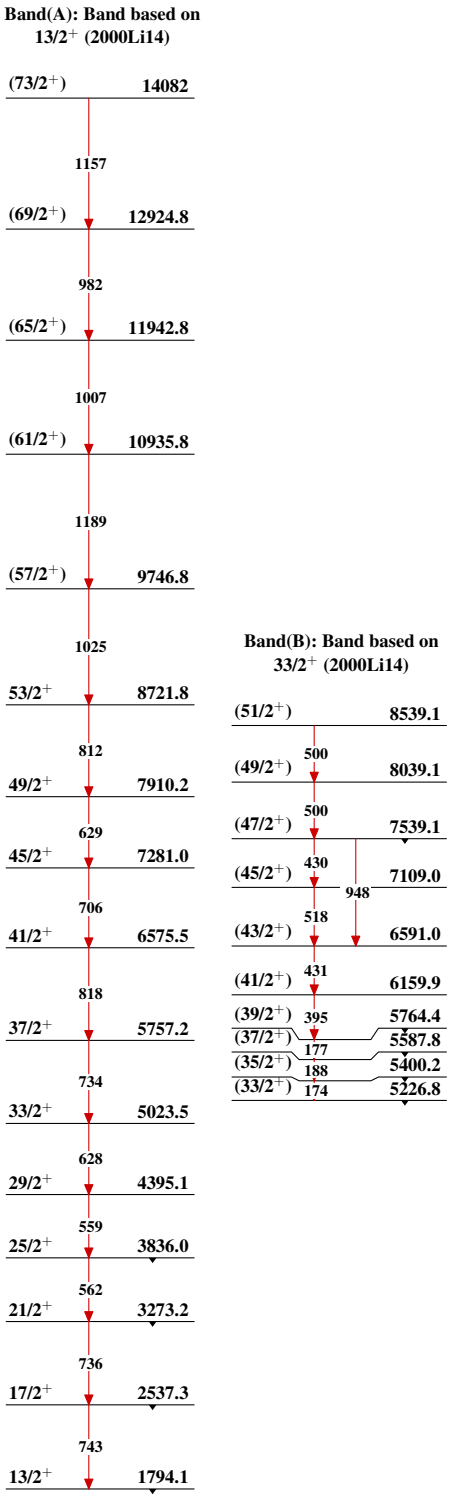
Level Scheme (continued)

Intensities: Relative I_γ



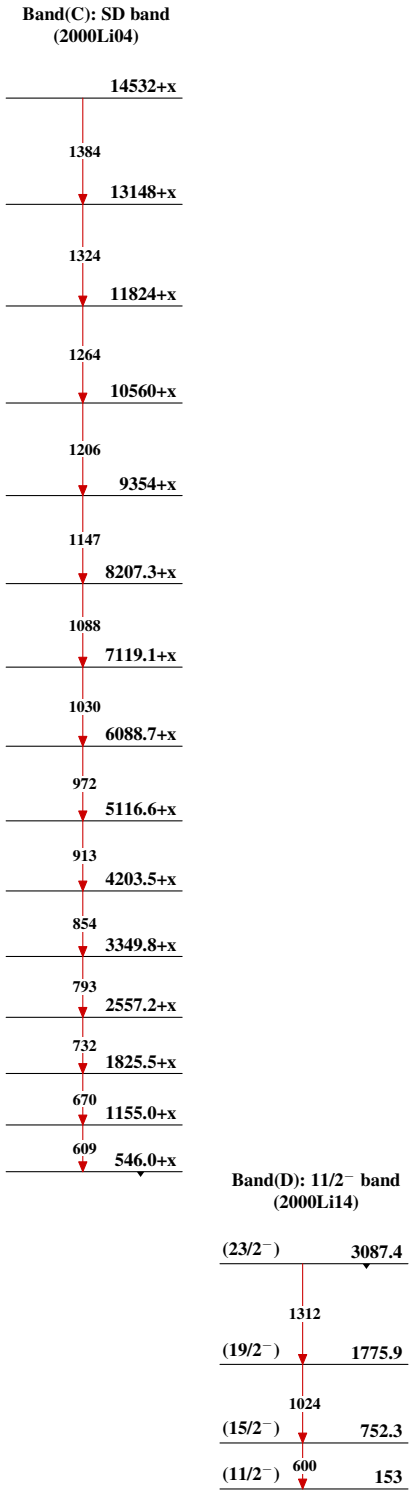
$^{143}_{64}Gd_{79}$

(HI,xnγ) 2000Li14,1998Su04



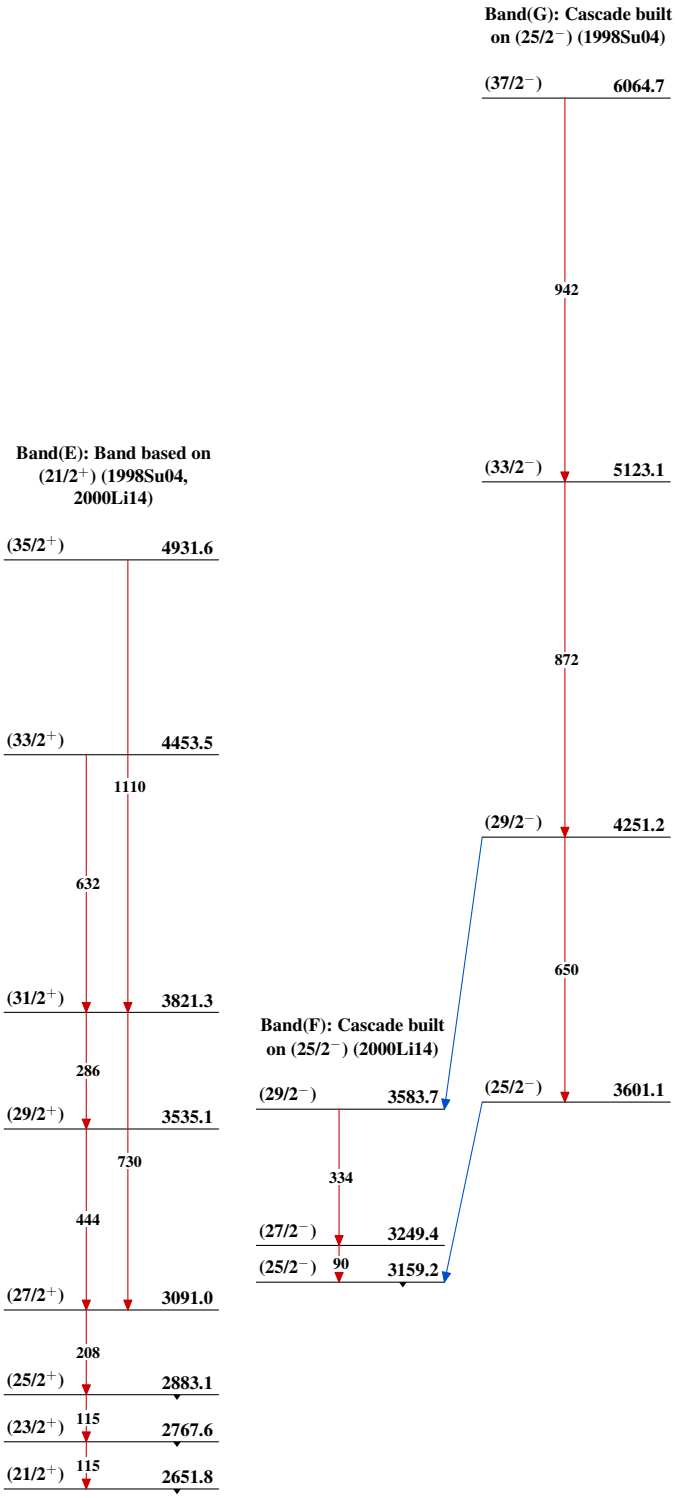
$^{143}_{64}Gd_{79}$

(HI,xnγ) 2000Li14,1998Su04 (continued)



$^{143}_{64}Gd_{79}$

(HI,xnγ) 2000Li14,1998Su04 (continued)



$^{143}_{64}Gd_{79}$