^{130}Te(^{26}Mg,5nγ):SD 1998ErZY,1999ErZZ

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 110, 1 (2009)	20-Nov-2008

E=149 MeV. Measured Eγ, Iγ, $\gamma\gamma$ using Gammasphere array of 84 Compton suppressed HPGe detectors. Deduced SD bands. Tentative six SD bands reported.

Other: 1995CeZZ report observation of three SD bands from a γ-ray study (EUROGAM array) using reaction: ^{130}Te(^{26}Mg,5nγ) E=149 MeV. The details of this study are not available.

^{151}Gd Levels

All band assignments are from 1998ErZY and 1999ErZZ.

E(level)	J$^\pi$	E(level)	J$^\pi$	E(level)	J$^\pi$
x[†]	J≈(57/2$^+$)	11581.7+y[‡] *17*	J1+24	2622.6+u[@] *9*	J3+6
746.4+x[†] *8*	J+2	12850.3+y[‡] *18*	J1+26	3580.9+u[@] *10*	J3+8
1535.3+x[†] *9*	J+4	14170.7+y[‡] *18*	J1+28	4581.8+u[@] *10*	J3+10
2366.6+x[†] *10*	J+6	15543.3+y[‡] *19*	J1+30	5627.7+u[@] *11*	J3+12
3240.1+x[†] *11*	J+8	16969.3+y[‡] *19*	J1+32	6718.8+u[@] *12*	J3+14
4156.4+x[†] *11*	J+10	18449.0+y[‡] *20*	J1+34	7856.2+u[@] *13*	J3+16
5116.2+x[†] *11*	J+12	19983.5+y[‡] *21*	J1+36	9042.1+u[@] *16*	J3+18
6120.4+x[†] *13*	J+14	21573.0+y[‡] *23*	J1+38	10278.2+u[@] *16*	J3+20
7169.4+x[†] *13*	J+16	23218+y[‡] *3*	J1+40	11564.3+u[@] *17*	J3+22
8266.1+x[†] *14*	J+18	24919+y[‡] *3*	J1+42	12901.9+u[@] *17*	J3+24
9410.3+x[†] *14*	J+20	z[#]	J2≈(59/2$^-$)	14290.6+u[@] *18*	J3+26
10603.3+x[†] *14*	J+22	755.7+z[#] *4*	J2+2	15734.0+u[@] *19*	J3+28
11846.4+x[†] *15*	J+24	1561.3+z[#] *6*	J2+4	17231.8+u[@] *22*	J3+30
13141.0+x[†] *16*	J+26	2417.2+z[#] *11*	J2+6	18783+u[@] *3*	J3+32
14487.4+x[†] *17*	J+28	3324.0+z[#] *14*	J2+8	20390+u[@] *4*	J3+34
15886.5+x[†] *17*	J+30	4282.6+z[#] *15*	J2+10	v[&]	J4≈(63/2$^-$)
17339.1+x[†] *18*	J+32	5294.6+z[#] *16*	J2+12	808.6+v[&] *4*	J4+2
18846.3+x[†] *18*	J+34	6360.7+z[#] *18*	J2+14	1662.8+v[&] *6*	J4+4
20408.3+x[†] *19*	J+36	7481.4+z[#] *19*	J2+16	2558.1+v[&] *9*	J4+6
22026.2+x[†] *20*	J+38	8656.9+z[#] *21*	J2+18	3495.7+v[&] *9*	J4+8
23701.0+x[†] *22*	J+40	9887.3+z[#] *22*	J2+20	4474.9+v[&] *12*	J4+10
y[‡]	J1≈(55/2$^+$)	11174.0+z[#] *22*	J2+22	5498.7+v[&] *12*	J4+12
725.5+y[‡] *8*	J1+2	12516.7+z[#] *22*	J2+24	6566.9+v[&] *13*	J4+14
1493.9+y[‡] *10*	J1+4	13916.1+z[#] *23*	J2+26	7681.0+v[&] *14*	J4+16
2304.4+y[‡] *13*	J1+6	15372.4+z[#] *23*	J2+28	8842.6+v[&] *15*	J4+18
3157.0+y[‡] *14*	J1+8	16885.8+z[#] *24*	J2+30	10052.3+v[&] *17*	J4+20
4052.4+y[‡] *14*	J1+10	18455.8+z[#] *24*	J2+32	11313.6+v[&] *17*	J4+22
4991.2+y[‡] *15*	J1+12	20083.5+z[#] *25*	J2+34	12626.1+v[&] *18*	J4+24
5973.5+y[‡] *15*	J1+14	21769+z[#] *3*	J2+36	13989.3+v[&] *19*	J4+26
7001.0+y[‡] *15*	J1+16	23512+z[#] *3*	J2+38	15406.0+v[&] *20*	J4+28
8074.3+y[‡] *16*	J1+18	u[@]	J3≈(65/2$^-$)	16875.6+v[&] *25*	J4+30
9194.4+y[‡] *16*	J1+20	832.8+u[@] *6*	J4+2	18400+v[&] *3*	J4+32
10363.7+y[‡] *17*	J1+22	1706.8+u[@] *8*	J3+4	19980+v[&] *4*	J4+34

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^{130}Te(^{26}Mg,5nγ):SD 1998ErZY,1999ErZZ (continued)

^{151}Gd Levels (continued)

E(level)	J$^\pi$	E(level)	J$^\pi$	E(level)	J$^\pi$
21615+v[&] *4*	J4+36	5515.7+w[a] *19*	J5+12	13942+w[a] *3*	J5+26
w[a]	J5≈(61/2$^-$)	6580.6+w[a] *20*	J5+14	15343+w[a] *3*	J5+28
817.8+w[a] *7*	J5+2	7688.7+w[a] *20*	J5+16	16795+w[a] *4*	J5+30
1677.9+w[a] *15*	J5+4	8843.1+w[a] *21*	J5+18	18300+w[a] *4*	J5+32
2577.7+w[a] *16*	J5+6	10043.8+w[a] *22*	J5+20	19855+w[a] *4*	J5+34
3516.1+w[a] *17*	J5+8	11293.1+w[a] *22*	J5+22		
4494.6+w[a] *18*	J5+10	12592.3+w[a] *24*	J5+24		

[†] Band(A): SD-1 band. Configuration=$\pi 6^2 \nu 7^2 \nu 5/2[402]^1$; α=+1/2.
[‡] Band(a): SD-2 band. Configuration=$\pi 6^2 \nu 7^2 \nu 5/2[402]^1$; α=−1/2. Band intensity=92% *2* of SD-1 band.
[#] Band(B): SD-3 band. Configuration=$\pi 6^2 \nu 7^1 \nu 5/2[402]^2$; α=−1/2 Band intensity=85% *2* of SD-1 band.
[@] Band(C): SD-4 band. Configuration=$\pi 6^2 \nu 7^2 \nu 9/2[514]^1$; α=+1/2 Band intensity=77% *2* of SD-1 band.
[&] Band(c): SD-5 band. Configuration=$\pi 6^2 \nu 7^2 \nu 9/2[514]^1$; α=−1/2 Band intensity=54% *2* of SD-1 band.
[a] Band(D): SD-6 band. Configuration=$\pi 6^2 \nu 7^2 \nu 3/2[521]^1$; α=+1/2 Band intensity=38% *2* of SD-1 band.

γ(^{151}Gd)

E$_\gamma$	I$_\gamma$[†]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
725.5 *8*	22.1 *16*	725.5+y	J1+2	y	J1≈(55/2$^+$)
746.4 *8*	0.226 *15*	746.4+x	J+2	x	J≈(57/2$^+$)
755.7 *4*	0.594 *16*	755.7+z	J2+2	z	J2≈(59/2$^-$)
768.4 *5*	0.48 *3*	1493.9+y	J1+4	725.5+y	J1+2
788.9 *4*	0.543 *22*	1535.3+x	J+4	746.4+x	J+2
805.6 *4*	0.705 *17*	1561.3+z	J2+4	755.7+z	J2+2
808.6 *4*	0.391 *15*	808.6+v	J4+2	v	J4≈(63/2$^-$)
810.5 *9*	0.696 *24*	2304.4+y	J1+6	1493.9+y	J1+4
817.8 *7*	0.220 *19*	817.8+w	J5+2	w	J5≈(61/2$^-$)
831.3 *4*	0.654 *18*	2366.6+x	J+6	1535.3+x	J+4
832.8 *6*	0.424 *17*	832.8+u	J4+2	u	J3≈(65/2$^-$)
852.6 *4*	0.915 *20*	3157.0+y	J1+8	2304.4+y	J1+6
854.2 *4*	0.571 *15*	1662.8+v	J4+4	808.6+v	J4+2
855.9 *9*	1.021 *21*	2417.2+z	J2+6	1561.3+z	J2+4
860.0 *13*	0.365 *18*	1677.9+w	J5+4	817.8+w	J5+2
873.5 *3*	0.886 *19*	3240.1+x	J+8	2366.6+x	J+6
874.0 *4*	0.713 *17*	1706.8+u	J3+4	832.8+u	J4+2
895.3 *6*	0.914 *19*	2558.1+v	J4+6	1662.8+v	J4+4
895.4 *3*	0.930 *19*	4052.4+y	J1+10	3157.0+y	J1+8
899.8 *5*	0.501 *16*	2577.7+w	J5+6	1677.9+w	J5+4
906.8 *8*	0.915 *18*	3324.0+z	J2+8	2417.2+z	J2+6
915.8 *5*	0.925 *19*	2622.6+u	J3+6	1706.8+u	J3+4
916.3 *3*	0.902 *19*	4156.4+x	J+10	3240.1+x	J+8
937.5 *3*	0.987 *18*	3495.7+v	J4+8	2558.1+v	J4+6
938.4 *7*	0.596 *19*	3516.1+w	J5+8	2577.7+w	J5+6
938.7 *3*	1.005 *20*	4991.2+y	J1+12	4052.4+y	J1+10
958.3 *3*	0.971 *18*	3580.9+u	J3+8	2622.6+u	J3+6
958.7 *7*	1.012 *18*	4282.6+z	J2+10	3324.0+z	J2+8
959.8 *3*	1.013 *19*	5116.2+x	J+12	4156.4+x	J+10
978.5 *4*	0.876 *19*	4494.6+w	J5+10	3516.1+w	J5+8
979.2 *7*	0.93 *3*	4474.9+v	J4+10	3495.7+v	J4+8
982.4 *3*	0.980 *19*	5973.5+y	J1+14	4991.2+y	J1+12
1000.9 *4*	1.013 *18*	4581.8+u	J3+10	3580.9+u	J3+8

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^{130}Te(^{26}Mg,5nγ):SD 1998ErZY,1999ErZZ (continued)

$\gamma(^{151}Gd)$ (continued)

E_γ	I_γ †	E_i(level)	J_i^π	E_f	J_f^π
1004.2 *6*	0.993 *22*	6120.4+x	J+14	5116.2+x	J+12
1012.0 *5*	0.973 *25*	5294.6+z	J2+12	4282.6+z	J2+10
1021.2 *6*	0.888 *17*	5515.7+w	J5+12	4494.6+w	J5+10
1023.9 *4*	1.048 *20*	5498.7+v	J4+12	4474.9+v	J4+10
1027.4 *3*	1.004 *20*	7001.0+y	J1+16	5973.5+y	J1+14
1045.9 *3*	1.028 *18*	5627.7+u	J3+12	4581.8+u	J3+10
1049.0 *3*	1.002 *19*	7169.4+x	J+16	6120.4+x	J+14
1064.9 *5*	0.989 *19*	6580.6+w	J5+14	5515.7+w	J5+12
1066.1 *8*	1.018 *24*	6360.7+z	J2+14	5294.6+z	J2+12
1068.2 *4*	1.033 *18*	6566.9+v	J4+14	5498.7+v	J4+12
1073.3 *4*	0.988 *19*	8074.3+y	J1+18	7001.0+y	J1+16
1091.1 *4*	1.035 *18*	6718.8+u	J3+14	5627.7+u	J3+12
1096.7 *3*	0.996 *19*	8266.1+x	J+18	7169.4+x	J+16
1108.0 *4*	1.015 *17*	7688.7+w	J5+16	6580.6+w	J5+14
1114.1 *5*	1.023 *18*	7681.0+v	J4+16	6566.9+v	J4+14
1120.1 *4*	0.969 *20*	9194.4+y	J1+20	8074.3+y	J1+18
1120.7 *6*	0.993 *22*	7481.4+z	J2+16	6360.7+z	J2+14
1137.4 *5*	1.004 *19*	7856.2+u	J3+16	6718.8+u	J3+14
1144.2 *3*	0.999 *19*	9410.3+x	J+20	8266.1+x	J+18
1154.4 *7*	0.971 *18*	8843.1+w	J5+18	7688.7+w	J5+16
1161.5 *4*	1.040 *18*	8842.6+v	J4+18	7681.0+v	J4+16
1169.3 *4*	1.018 *21*	10363.7+y	J1+22	9194.4+y	J1+20
1175.5 *9*	1.042 *22*	8656.9+z	J2+18	7481.4+z	J2+16
1185.9 *9*	0.99 *3*	9042.1+u	J3+18	7856.2+u	J3+16
1193.0 *3*	1.026 *19*	10603.3+x	J+22	9410.3+x	J+20
1200.7 *5*	1.038 *20*	10043.8+w	J5+20	8843.1+w	J5+18
1209.8 *8*	0.968 *23*	10052.3+v	J4+20	8842.6+v	J4+18
1218.0 *4*	0.991 *21*	11581.7+y	J1+24	10363.7+y	J1+22
1230.4 *4*	1.056 *15*	9887.3+z	J2+20	8656.9+z	J2+18
1236.1 *5*	0.983 *21*	10278.2+u	J3+20	9042.1+u	J3+18
1243.1 *4*	0.98 *2*	11846.4+x	J+24	10603.3+x	J+22
1249.3 *5*	1.026 *20*	11293.1+w	J5+22	10043.8+w	J5+20
1261.3 *5*	1.011 *19*	11313.6+v	J4+22	10052.3+v	J4+20
1268.6 *4*	1.004 *20*	12850.3+y	J1+26	11581.7+y	J1+24
1286.1 *4*	0.983 *19*	11564.3+u	J3+22	10278.2+u	J3+20
1286.7 *4*	0.968 *14*	11174.0+z	J2+22	9887.3+z	J2+20
1294.6 *6*	0.993 *22*	13141.0+x	J+26	11846.4+x	J+24
1299.2 *8*	1.027 *15*	12592.3+w	J5+24	11293.1+w	J5+22
1312.5 *5*	0.968 *19*	12626.1+v	J4+24	11313.6+v	J4+22
1320.4 *4*	1.035 *20*	14170.7+y	J1+28	12850.3+y	J1+26
1337.5 *4*	0.987 *18*	12901.9+u	J3+24	11564.3+u	J3+22
1342.7 *4*	0.845 *14*	12516.7+z	J2+24	11174.0+z	J2+22
1346.4 *4*	0.987 *19*	14487.4+x	J+28	13141.0+x	J+26
1349.8 *9*	0.957 *24*	13942+w	J5+26	12592.3+w	J5+24
1363.2 *6*	0.989 *19*	13989.3+v	J4+26	12626.1+v	J4+24
1372.6 *4*	0.918 *20*	15543.3+y	J1+30	14170.7+y	J1+28
1388.7 *4*	0.848 *19*	14290.6+u	J3+26	12901.9+u	J3+24
1399.1 *4*	0.828 *19*	15886.5+x	J+30	14487.4+x	J+28
1399.4 *4*	0.792 *14*	13916.1+z	J2+26	12516.7+z	J2+24
1400.7 *12*	0.970 *23*	15343+w	J5+28	13942+w	J5+26
1416.7 *6*	0.818 *18*	15406.0+v	J4+28	13989.3+v	J4+26
1426.0 *5*	0.810 *20*	16969.3+y	J1+32	15543.3+y	J1+30
1443.4 *6*	0.662 *17*	15734.0+u	J3+28	14290.6+u	J3+26
1451.8 *16*	0.785 *19*	16795+w	J5+30	15343+w	J5+28
1452.6 *5*	0.750 *19*	17339.1+x	J+32	15886.5+x	J+30
1456.3 *5*	0.718 *14*	15372.4+z	J2+28	13916.1+z	J2+26
1469.6 *15*	0.543 *21*	16875.6+v	J4+30	15406.0+v	J4+28

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^{130}Te(^{26}Mg,5nγ):SD 1998ErZY,1999ErZZ (continued)

$\gamma(^{151}Gd)$ (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π
1479.7 *5*	0.552 *18*	18449.0+y	J1+34	16969.3+y	J1+32
1497.8 *12*	0.544 *21*	17231.8+u	J3+30	15734.0+u	J3+28
1505.0 *15*	0.478 *18*	18300+w	J5+32	16795+w	J5+30
1507.2 *4*	0.440 *17*	18846.3+x	J+34	17339.1+x	J+32
1513.4 *5*	0.563 *13*	16885.8+z	J2+30	15372.4+z	J2+28
1524.0 *15*	0.444 *17*	18400+v	J4+32	16875.6+v	J4+30
1534.4 *7*	0.421 *18*	19983.5+y	J1+36	18449.0+y	J1+34
1551.5 *15*	0.398 *21*	18783+u	J3+32	17231.8+u	J3+30
1555.3 *18*	0.186 *17*	19855+w	J5+34	18300+w	J5+32
1562.0 *5*	0.290 *16*	20408.3+x	J+36	18846.3+x	J+34
1570.0 *5*	0.428 *13*	18455.8+z	J2+32	16885.8+z	J2+30
1580.5 *17*	0.236 *16*	19980+v	J4+34	18400+v	J4+32
1589.5 *10*	0.326 *20*	21573.0+y	J1+38	19983.5+y	J1+36
1606.2 *17*	0.329 *18*	20390+u	J3+34	18783+u	J3+32
1617.8 *7*	0.240 *15*	22026.2+x	J+38	20408.3+x	J+36
1627.7 *6*	0.225 *12*	20083.5+z	J2+34	18455.8+z	J2+32
1635.2 *18*	0.149 *14*	21615+v	J4+36	19980+v	J4+34
1645.3 *11*	0.117 *15*	23218+y	J1+40	21573.0+y	J1+38
1674.8 *9*	0.100 *13*	23701.0+x	J+40	22026.2+x	J+38
1685.6 *9*	0.135 *12*	21769+z	J2+36	20083.5+z	J2+34
1700.8 *13*	0.063 *14*	24919+y	J1+42	23218+y	J1+40
1742.9 *11*	0.052 *11*	23512+z	J2+38	21769+z	J2+36

[†] Relative intensities within each band. Values are from 1999ErZZ. Similar values in graphical format are given in 1998ErZY.

^{130}Te(^{26}Mg,5nγ):SD 1998ErZY,1999ErZZ

Level Scheme

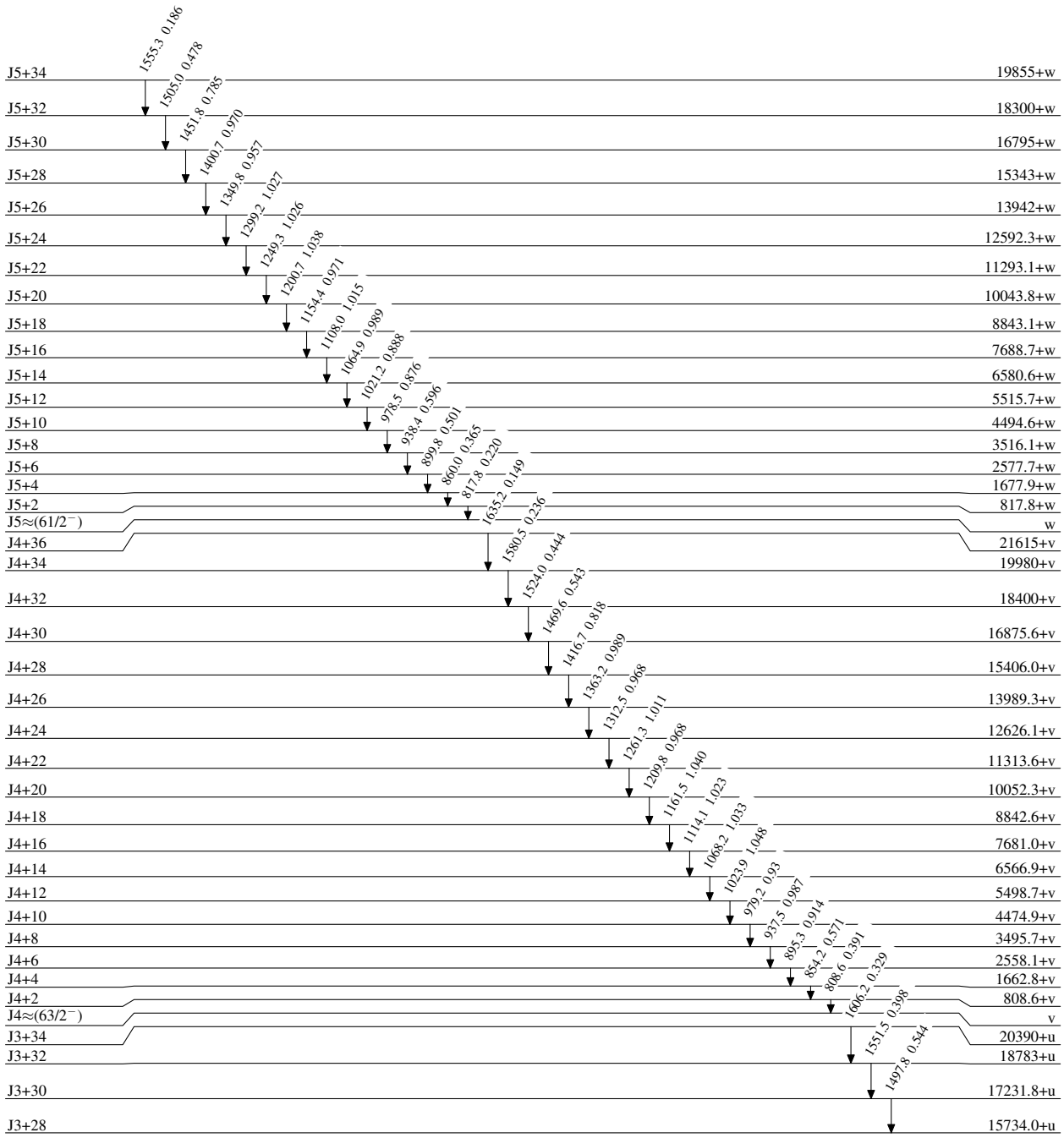
Intensities: Relative I_γ

Legend

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

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

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



$^{151}_{64}Gd_{87}$

^{130}Te(^{26}Mg,5nγ):SD 1998ErZY,1999ErZZ

Level Scheme (continued)

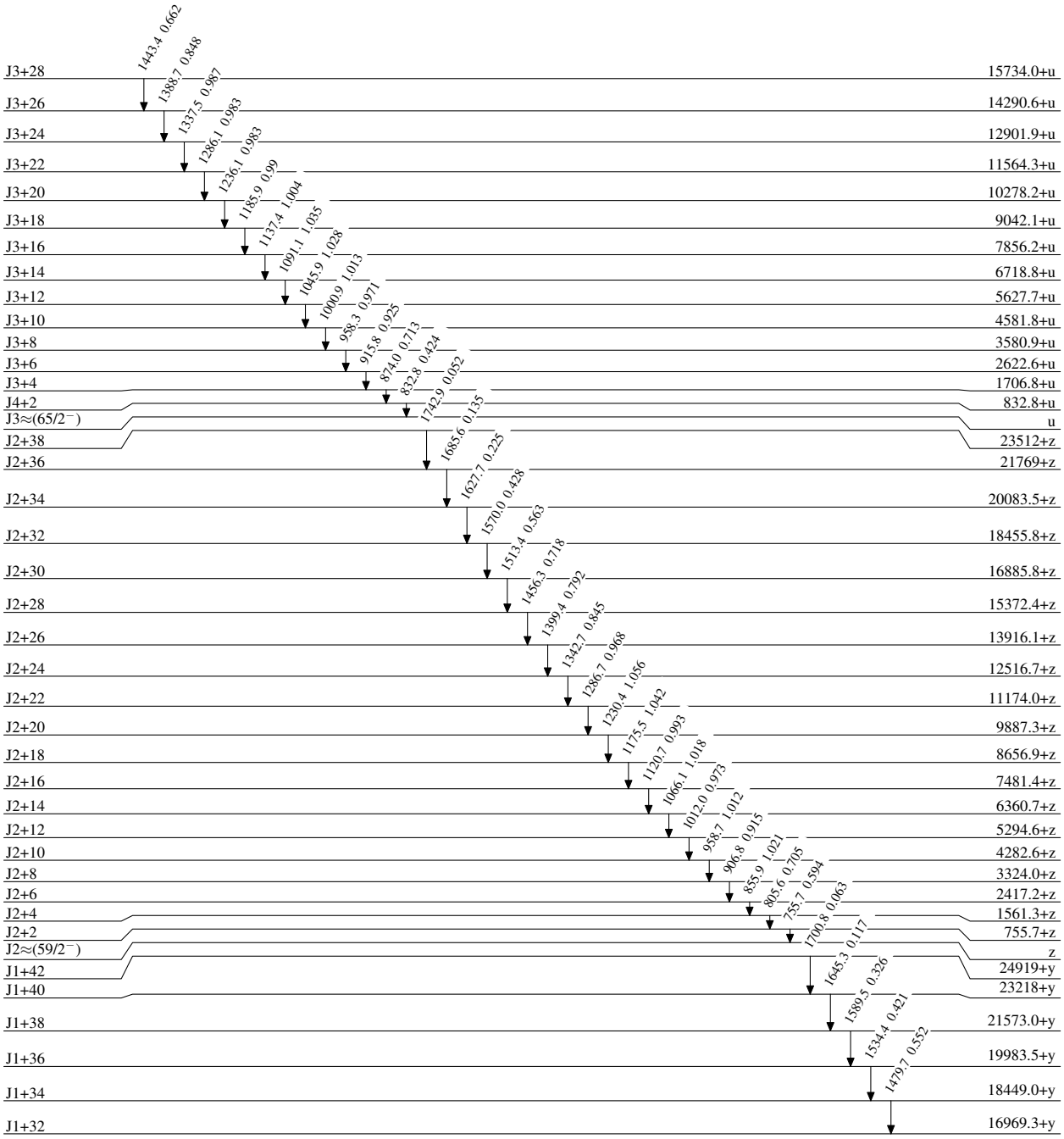
Intensities: Relative I_γ

Legend

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

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

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



$^{151}_{64}Gd_{87}$

^{130}Te(^{26}Mg,5nγ):SD 1998ErZY,1999ErZZ

Level Scheme (continued)

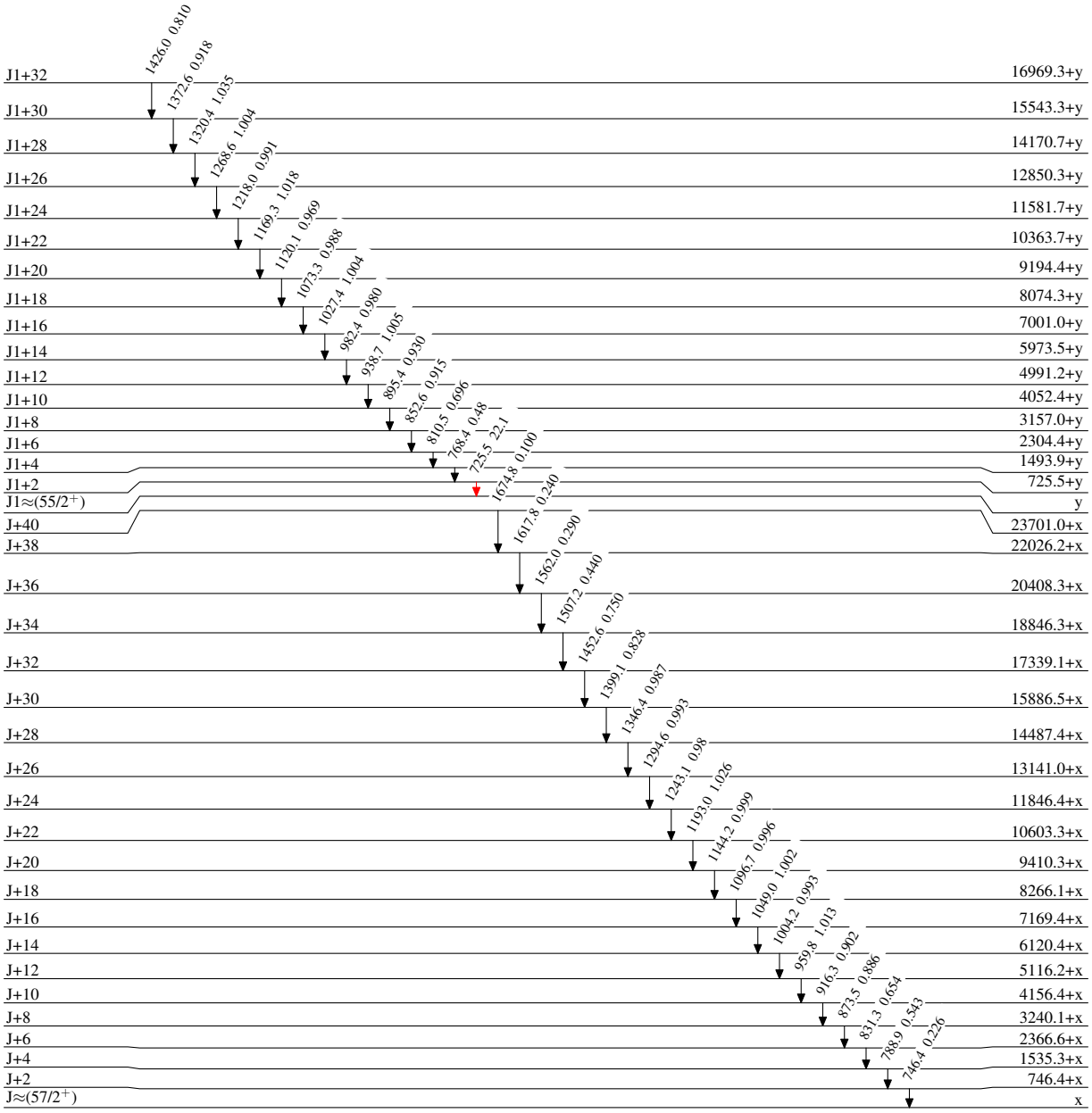
Intensities: Relative I_γ

Legend

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

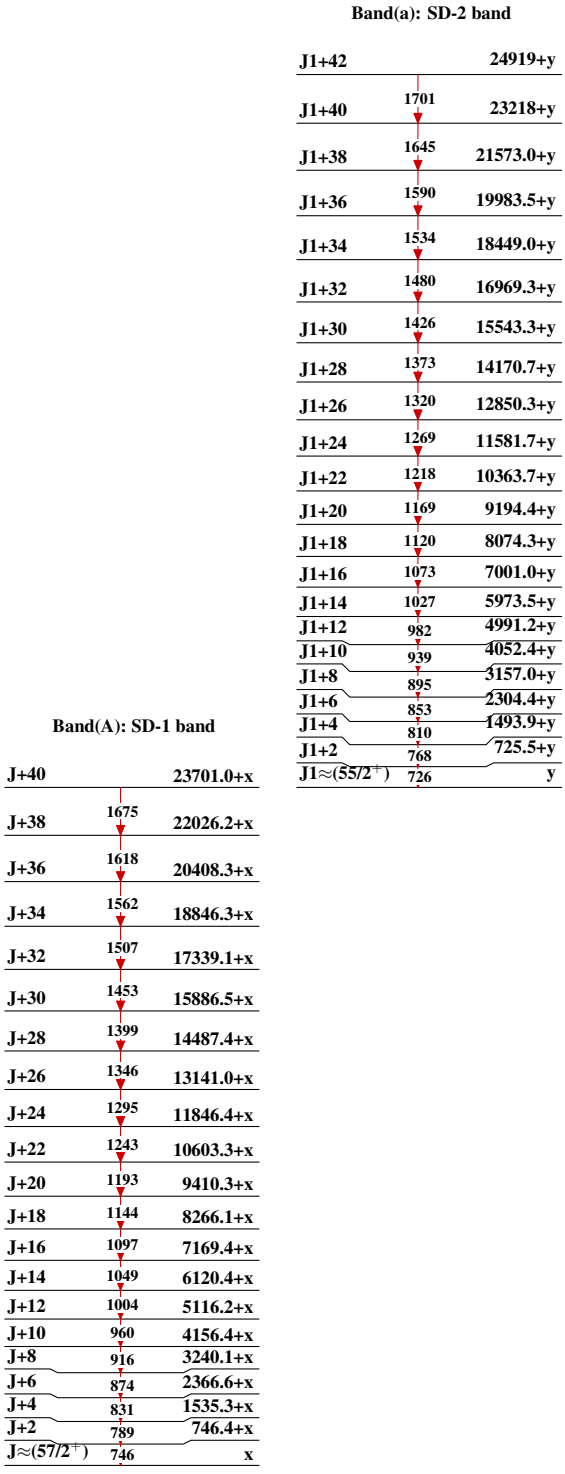
$I_\gamma < 10\% \times I_\gamma^{max}$

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



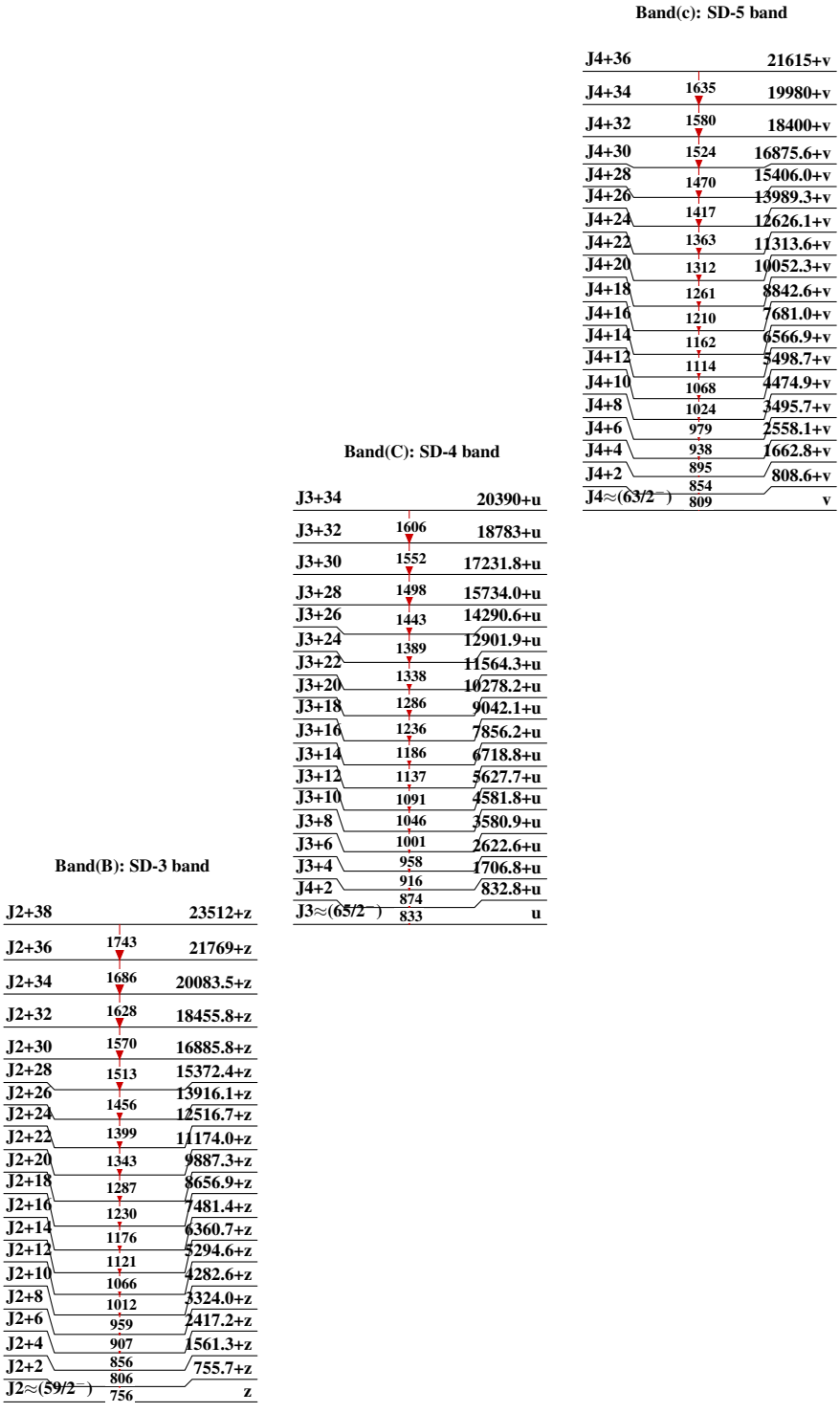
$^{151}_{64}Gd_{87}$

^{130}Te(^{26}Mg,5nγ):SD 1998ErZY,1999ErZZ



$^{151}_{64}Gd_{87}$

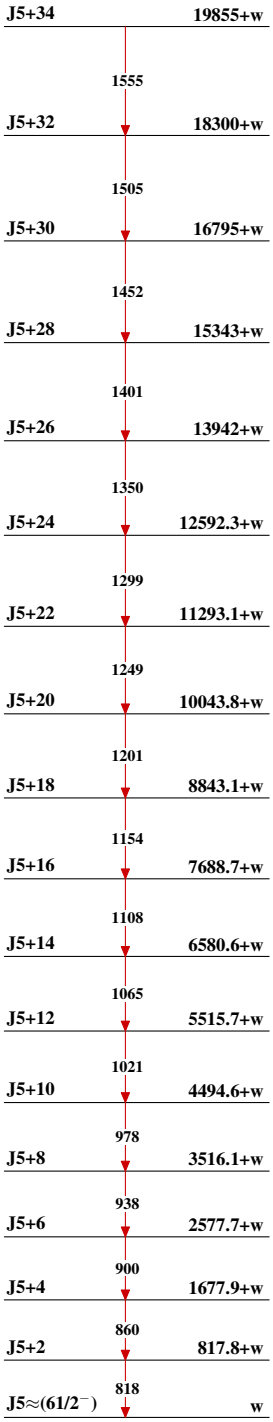
^{130}Te(^{26}Mg,5nγ):SD 1998ErZY,1999ErZZ (continued)



$^{151}_{64}Gd_{87}$

^{130}Te(^{26}Mg,5nγ):SD 1998ErZY,1999ErZZ (continued)

Band(D): SD-6 band



$^{151}_{64}Gd_{87}$