^{130}Te(^{27}Al,6nγ) 1994Pe17,1995Kh06,2008Ro02

History

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

1995Kh06, 1994De33, 1994Pe17 (also 1989Fa02, 1990By01, 1992AlZE, 1993Cu06, 1993Be29, 1994KhZZ, 1994De24, 1995De50, 1995Pe16): ^{130}Te(^{27}Al,6nγ) E=154, 150 MeV. Measured γ, γγ. Data for eight SD bands and normal high-spin states. Deduced Q(intrinsic) from lifetime data (1998Fi01) and feeding patterns (1997Fi03).

2008Ro02 (also 2007Be20): E=155 MeV, measured γ-rays using EUROBALL IV with 30 Tapered detectors in forward position, 26 Clover detectors at 90° and 15 Cluster detectors at backward angles. The γ multiplicity was determined using 210 BGO crystals. In 2008Ro02, two new SD bands, in addition to eight previously known SD bands, were discovered. In 2007Be20, the Eγ′s were grouped into matrices which revealed SD ridge structures, and using these ridges approximately 30 discrete (superdeformed) rotational bands were observed with an average spacing of about 50 keV in each case. About 15 of these bands are in coincidence with the SD yrast band. Interpretation of these data was based on cranked shell-model calculations. 2008Ro23 (by the same group as 2008Ro02) report linking transitions from yrast SD band to normal deformed structures.

2008Ro23: search and detection of linking γ transitions from yrast SD band to normal-deformed states. E=155 MeV beam provided by Vivitron accelerator at Strasbourg, France. Measured Eγ, Iγ, γγ-coin, angular distributions, using EUROBALL IV array of 30 tapered Ge detectors, 26 clover detectors and 15 cluster Ge detectors. All detectors had BGO shielding, and in addition a 210-element BGO crystal ball was used. Two possible decay scenarii are given by 2008Ro23 and the available experimental evidence cannot distinguish between the two possibilities. Based on theoretical spin predictions the alternative giving rise to lower spin of 65/2^{+} for the yrast SD bandhead is preferred by 2008Ro23; and that one is adopted here. See 2008Ro23 for detailed discussion.

2008Le21: continuum gamma-ray spectroscopy in the second minimum. E=155 MeV beam provided by Vivitron in Strasbourg. Measured continuum γ-ray distribution using EUROBALL IV array. Analyzed ridge structures in the continuum spectra which correspond to superdeformed bands. Intensities of two ridge structures are 2% and 1.3%, relative to the total decay flux. This intensity is about 3 times higher than the intensity of the yrast SD band in the plateau region. two ridge structures indicate existence of several discrete but The unresolved SD bands decaying into levels in the normal-deformed minimum. Evidence is provided for E1 transitions around 1 MeV between the discrete SD bands, which is associated with octupole vibrations.

Additional information 1.

2000El10: Mainly a theoretical paper discussing configurations of SD bands. Data for SD-1 and SD-2 bands also reported.

1997Ni01: ^{122}Sn(^{34}S,4npγ) E=175 MeV. Deduced Q(intrinsic) from lifetime data.

1992Mu10: ^{124}Sn(^{33}S,5npγ) E=160, 170 MeV. Measured γ(evaporation residue) coincidence, deduced SD band population.

^{151}Tb Levels

See 1994Pe17 for detailed configuration assignments based on model calculations. These assignments are given in ‘Adopted Levels’.

The level scheme for the decay of the yrast SD band in the second scenario as described by 2008Ro23 begins the yrast SD band at a spin of 69/2 and level energy of 13772. This level decays by a 2409-1985 cascade to a 9378 level in the normal-deformed structure. It also decays by a 2071-1950 cascade to a 9749 level. There is also a 2261-1930 cascade that is a transition from a 14540, 73/2^{+} level in the SD band to a 10349 level in normal deformed structure.

E(level)[†]	Jπ[‡]	$T_{1/2}$	Comments
0.0	1/2$^{(+)}$		
22.924 *20*	3/2$^{(+)}$		
72.39 *3*	(5/2^{+})		
99.48 *11*	(11/2^{-})	25 s *3*	%IT=93.4 *20*; %ε+%β^{+}=6.6 *20*
704.00 *14*	(15/2^{-})		
887.87 *14*	(13/2^{-})		
1096.84 *14*	(15/2^{+})		
1319.98 *16*	(19/2^{-})		
1694.15 *17*	(19/2^{+})		
2002.69 *18*	(23/2^{-})		
2046.13 *23*	(21/2^{+})		

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^{130}Te(^{27}Al,6nγ) 1994Pe17,1995Kh06,2008Ro02 (continued)

^{151}Tb Levels (continued)

E(level)[†]	J$^{\pi}$[‡]
2120.8 *4*	(23/2$^-$)
2180.97 *23*	(25/2$^-$)
2220.72 *18*	(23/2$^+$)
2375.55 *24*	(27/2$^-$)
2469.38 *19*	(25/2$^+$)
2783.52 *21*	(27/2$^+$)
2847.90 *21*	(29/2$^+$)
3116.29 *22*	(31/2$^+$)
3129.1 *3*	(31/2$^-$)
3196.6 *5*	(31/2$^+$)
3274.49 *24*	(33/2$^+$)
3808.9 *3*	(35/2$^-$)
3901.47 *24*	(35/2$^+$)
4148.76 *24*	(37/2$^+$)
4565.75 *25*	(39/2$^+$)
4765.9 *5*	(39/2$^-$)
4774.53 *24*	(41/2$^+$)
4840.7 *3*	(39/2$^-$)
5034.8 *4*	(41/2$^-$)
5163.0 *3*	(45/2$^+$)
5364.1 *5*	
5467.8 *4*	(43/2$^-$)
5475.4 *3*	(43/2$^-$)
5656.9 *6*	
5819.2 *4*	(45/2$^-$)
5925.1 *4*	(45/2$^-$)
5985.7 *3*	(47/2$^-$)
6165.7 *4*	(49/2$^-$)
6170.4 *4*	(49/2$^-$)
6485.5 *3*	(49/2$^+$)
6594.4 *4*	(51/2$^-$)
6674.2? *4*	(49/2$^-$)
6880.4 *3*	(51/2$^-$)
7248.5 *4*	(53/2$^-$)
7264.9 *3*	(53/2$^+$)
7296.2 *4*	(53/2$^-$)
7304.6 *3*	(53/2$^+$)
7619.0 *4*	(55/2$^+$)
7676.3 *4*	(55/2$^-$)
7764.6 *5*	(57/2$^-$)
7882.3 *4*	(57/2$^-$)
7901.9 *3*	(57/2$^+$)
8283.3 *3*	(61/2$^+$)
8335.9 *4*	(59/2$^-$)
8802.5 *4*	(61/2$^-$)
9035.3 *4*	(63/2)
9123.7 *4*	(63/2$^-$)
9379.8 *3*	(65/2$^+$)
9406.5 *4*	(65/2)
9445.7 *5*	(63/2)
9490.5 *4*	(65/2$^+$)
9530.6 *4*	(63/2$^-$)
9709.0 *4*	(67/2)
9733.9 *4*	(65/2$^+$)
9750.8 *3*	(67/2$^-$)
10032.5 *4*	(67/2$^+$)

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^{130}Te(^{27}Al,6nγ) 1994Pe17,1995Kh06,2008Ro02 (continued)

^{151}Tb Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	Comments
10297.0 *6*	(71/2)	
10350.8 *4*	(69/2$^+$)	
10620.6 *5*		
10772.6 *6*	(71/2)	
10792.3 *4*	(71/2$^-$)	
10998.0 *5*	(69/2$^-$)	
11200.8 *5*	(71/2)	
11202.2 *6*		
11275.1 *4*	(71/2$^-$)	
11321.7? *25*		
11425.7? *25*		
11426.2 *6*	(73/2$^+$)	
11593.3 *4*	(73/2$^-$)	
11726.7 *4*	(75/2$^-$)	
11756.9 *7*		
11760.9 *7*		
11830.3 *5*	(73/2)	
11957.2 *4*	(75/2$^-$)	
12704.3 *4*	(75/2$^-$)	
12720.3 *4*	(79/2$^-$)	
12754.5 *5*	(79/2$^-$)	
12962[b] *3*	(65/2$^+$)[#]	Additional information 2.
13019.8 *5*	(79/2$^-$)	
13249.6 *7*		
13461.1 *5*	(81/2)	
13523.1 *6*		
13524.9 *6*		
13730.61[b] *10*	(69/2$^+$)	
13791.6 *5*	(83/2$^-$)	
13850.8 *6*	(79/2$^-$)	
14539.3 *7*		
14541.40[b] *14*	(73/2$^+$)	
14900.8 *7*		
15317.3 *7*		
15343.8 *7*		
15395.31[b] *18*	(77/2$^+$)	
15641.6 *7*	(87/2$^-$)	
16293.01[b] *20*	(81/2$^+$)	
16589.4 *8*	(91/2$^-$)	
17235.61[b] *23*	(85/2$^+$)	
18223.82[b] *25*	(89/2$^+$)	
19258.5[b] *3*	(93/2$^+$)	
20340.3[b] *3*	(97/2$^+$)	
21470.1[b] *3*	(101/2$^+$)	
22648.6[b] *4*	(105/2$^+$)	
23876.5[b] *4*	(109/2$^+$)	
25154.5[b] *4*	(113/2$^+$)	
26483.0[b] *4*	(117/2$^+$)	
27862.5[b] *4*	(121/2$^+$)	
29293.6[b] *4*	(125/2$^+$)	
30776.9[b] *4*	(129/2$^+$)	
32312.4[b] *5*	(133/2$^+$)	

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$^{130}Te(^{27}Al,6n\gamma)$ 1994Pe17,1995Kh06,2008Ro02 (continued)

^{151}Tb Levels (continued)

E(level)[†]	Jπ[‡]	Comments
33901.5[b] *6*	(137/2+)	
35544.1[b] *12*	(141/2+)	
x[c]	J≈(45/2)[@]	Additional information 3.
556.20+x[c] *20*	J+2	
1157.3+x[c] *4*	J+4	
1803.5+x[c] *5*	J+6	
2494.9+x[c] *5*	J+8	
3231.9+x[c] *5*	J+10	
4014.8+x[c] *5*	J+12	
4843.2+x[c] *5*	J+14	
5717.8+x[c] *5*	J+16	
6639.2+x[c] *5*	J+18	
7607.4+x[c] *6*	J+20	
8622.8+x[c] *6*	J+22	
9685.8+x[c] *6*	J+24	
10796.5+x[c] *6*	J+26	
11955.2+x[c] *7*	J+28	
13162.1+x[c] *7*	J+30	
14417.1+x[c] *7*	J+32	
15720.5+x[c] *8*	J+34	
17071.9+x[c] *8*	J+36	
18471.7+x[c] *8*	J+38	
19919.9+x[c] *8*	J+40	
21416.2+x[c] *8*	J+42	
22960.3+x[c] *9*	J+44	
24554.5+x[c] *14*	J+46	
y[d]	J1≈(55/2)[&]	Additional information 4.
681.2+y[d] *3*	J1+2	
1408.1+y[d] *5*	J1+4	
2181.6+y[d] *6*	J1+6	
3002.1+y[d] *6*	J1+8	
3869.9+y[d] *7*	J1+10	
4785.5+y[d] *8*	J1+12	
5749.4+y[d] *8*	J1+14	
6762.2+y[d] *9*	J1+16	
7824.0+y[d] *9*	J1+18	
8935.1+y[d] *10*	J1+20	
10095.4+y[d] *10*	J1+22	
11305.2+y[d] *11*	J1+24	
12564.6+y[d] *11*	J1+26	
13873.7+y[d] *12*	J1+28	
15232.4+y[d] *12*	J1+30	
16640.6+y[d] *12*	J1+32	
18098.3+y[d] *13*	J1+34	
19604.9+y[d] *13*	J1+36	
21160.7+y[d] *14*	J1+38	
22765.0+y[d] *17*	J1+40	

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$^{130}Te(^{27}Al,6n\gamma)$ 1994Pe17,1995Kh06,2008Ro02 (continued)

^{151}Tb Levels (continued)

E(level)[†]	Jπ[‡]	Comments
z[e]	J2≈(59/2)	Additional information 5.
691.7+z[e] 3	J2+2	
1447.6+z[e] 5	J2+4	
2263.2+z[e] 6	J2+6	
3128.5+z[e] 7	J2+8	
4041.9+z[e] 8	J2+10	
5002.6+z[e] 8	J2+12	
6011.1+z[e] 9	J2+14	
7067.1+z[e] 9	J2+16	
8171.1+z[e] 10	J2+18	
9323.0+z[e] 10	J2+20	
10523.3+z[e] 11	J2+22	
11771.8+z[e] 11	J2+24	
13068.7+z[e] 12	J2+26	
14414.2+z[e] 12	J2+28	
15808.5+z[e] 12	J2+30	
17251.8+z[e] 13	J2+32	
18746.4+z[e] 13	J2+34	
20305.4+z?[e] 24	J2+36	
u[f]	J3≈(53/2)[a]	Additional information 6.
709.8+u[f] 3	J3+2	
1470.4+u[f] 5	J3+4	
2281.3+u[f] 6	J3+6	
3143.6+u[f] 6	J3+8	
4057.3+u[f] 7	J3+10	
5022.9+u[f] 8	J3+12	
6041.4+u[f] 8	J3+14	
7112.4+u[f] 9	J3+16	
8235.8+u[f] 9	J3+18	
9412.0+u[f] 10	J3+20	
10641.8+u[f] 10	J3+22	
11924.2+u[f] 11	J3+24	
13261.3+u[f] 11	J3+26	
14652.6+u[f] 12	J3+28	
16098.1+u[f] 12	J3+30	
17597.7+u[f] 13	J3+32	
19151.3+u[f] 14	J3+34	
v[g]	J4≈(59/2)[a]	Additional information 7.
790.6+v[g] 3	J4+2	
1629.1+v[g] 5	J4+4	
2518.2+v[g] 6	J4+6	
3458.7+v[g] 6	J4+8	
4450.6+v[g] 7	J4+10	
5495.1+v[g] 8	J4+12	
6592.2+v[g] 8	J4+14	
7742.3+v[g] 9	J4+16	
8945.3+v[g] 9	J4+18	
10201.7+v[g] 10	J4+20	

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^{130}Te(^{27}Al,6nγ) 1994Pe17,1995Kh06,2008Ro02 (continued)

^{151}Tb Levels (continued)

E(level)[†]	Jπ[‡]	Comments
11511.6+v[g] *10*	J4+22	
12875.2+v[g] *11*	J4+24	
14292.5+v[g] *15*	J4+26	
15762.1+v[g] *15*	J4+28	
17281.7+v[g] *18*	J4+30	
18840.5+v[g] *21*	J4+32	
w[h]	J5≈(55/2)[a]	Additional information 8.
754.3+w[h] *4*	J5+2	
1560.8+w[h] *6*	J5+4	
2417.8+w[h] *7*	J5+6	
3326.0+w[h] *8*	J5+8	
4285.6+w[h] *9*	J5+10	
5296.9+w[h] *10*	J5+12	
6360.4+w[h] *11*	J5+14	
7476.4+w[h] *12*	J5+16	
8645.2+w[h] *12*	J5+18	
9867.4+w[h] *13*	J5+20	
11142.6+w[h] *14*	J5+22	
12470.7+w[h] *14*	J5+24	
13852.7+w[h] *15*	J5+26	
15288.4+w[h] *15*	J5+28	
16777.6+w[h] *16*	J5+30	
18322.9+w?[h] *19*	J5+32	
s[i]	J6≈(61/2)[a]	Additional information 9.
831.8+s[i] *3*	J6+2	
1714.2+s[i] *5*	J6+4	
2647.9+s[i] *6*	J6+6	
3633.3+s[i] *6*	J6+8	
4671.0+s[i] *7*	J6+10	
5760.7+s[i] *8*	J6+12	
6902.7+s[i] *8*	J6+14	
8097.7+s[i] *9*	J6+16	
9346.1+s[i] *9*	J6+18	
10647.6+s[i] *10*	J6+20	
12002.7+s[i] *11*	J6+22	
13411.7+s[i] *11*	J6+24	
14875.2+s[i] *12*	J6+26	
16392.8+s[i] *13*	J6+28	
t[j]	J7	Additional information 10.
824.4+t[j] *5*	J7+2	
1698.3+t[j] *6*	J7+4	
2622.5+t[j] *7*	J7+6	
3598.2+t[j] *8*	J7+8	
4624.8+t[j] *9*	J7+10	
5702.6+t[j] *10*	J7+12	
6832.9+t[j] *10*	J7+14	
8014.3+t[j] *11*	J7+16	
9248.0+t[j] *12*	J7+18	

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^{130}Te(^{27}Al,6nγ) 1994Pe17,1995Kh06,2008Ro02 (continued)

^{151}Tb Levels (continued)

E(level)[†]	Jπ[‡]	Comments
10533.6+t[j] *12*	J7+20	
11872.0+t[j] *13*	J7+22	
13264.0+t[j] *14*	J7+24	
14708.2+t[j] *14*	J7+26	
16205.5+t[j] *16*	J7+28	
17753+t[j] *3*	J7+30	
a[k]	J8	Additional information 11.
1001.6+a[k] *4*	J8+2	
2052.8+a[k] *6*	J8+4	
3155.7+a[k] *7*	J8+6	
4310.9+a[k] *9*	J8+8	
5518.3+a[k] *10*	J8+10	
6778.1+a[k] *11*	J8+12	
8090.1+a[k] *11*	J8+14	
9453.5+a[k] *12*	J8+16	
10870.0+a[k] *13*	J8+18	
12339.2+a[k] *14*	J8+20	

[†] From least-squares fit to Eγ′s. Energies in SD-1 band are relative to 12962 keV for the bandhead, and the uncertainties in higher members of the band are relative. Systematic uncertainty is 3 keV. It should be noted that the bandhead energy of SD-1 band was proposed by 2008Ro23 as a more likely possibility. Another less likely scenario of the level scheme proposed by 2008Ro23 gave 14672 keV and Jπ=69/2+ for the bandhead energy of SD-1 band.

[‡] From 'Adopted Levels'. For levels above the 11/2− isomer the adopted values are based γ(θ) and ce data.

[#] With 57/2 for the bandhead, the 769γ was implied as 65/2 to 61/2 by 1995Kh06, 1993Ra07 and 1993Cu06. 1993Ra07 suggested 61/2 also for the bandhead. The lowest energy γ ray of 726.5 keV is not confirmed by 2008Ro02 in SD-1 band. From linking transitions, 2008Ro23 propose 65/2+ in one scenario of level scheme and a less likely choice of Jπ=69/2+ in a second scenario.

[@] The bandhead was proposed at 49/2 with the lowest γ ray at 602 keV in 1993Cu06, 1993Ra07 (who also suggested J=53/2 for the bandhead). 2008Ro02 propose the lowest energy transition at 556.2 keV.

[&] The bandhead was proposed at 63/2 with the lowest γ ray at 768.6 keV in 1995Kh06. 2008Ro02 propose the lowest energy transition at 691.7 and the second transition at 755.9 keV.

[a] From 1994KhZZ. For SD-6 band, bandhead was proposed at 55/2 with 739γ as the lowest transition in this band. But in 2008Ro02, the lowest transition is 790.6 keV (the second transition in 1994KhZZ). For SD-8 band, bandhead was proposed at 57/2 with 785γ as the lowest transition in this band. But in 2008Ro02, the lowest transition is 832 keV (the second transition in 1994KhZZ).

[b] Band(A): SD-1 (yrast) band. Band from 1989Fa02, 1993Cu06, 1995Kh06, 2000El10 and 2008Ro02. Intruder configuration=$\pi 6^3 \otimes \nu 7^2$ (2008Ro02,1989Fa02,1993Cu06) or $\pi 6^4(\pi[651]^{-1})\otimes\nu 7^2$ (1998Fi01). Q(intrinsic)=16.8 *+7−6* (1997Ni01), 17.2 *4* (1998Fi01, systematic error increases the uncertainty to 0.7). Percent population=1.0 (1989Fa02). Other: 1.4 *4* (1992Mu10) in ^{124}Sn(^{33}S,p5nγ) at 170 MeV. a 726.5γ reported earlier by 1995Kh06 is not listed by 2008Ro02, thus it is omitted here. feedings of normal states by the decay of SD-1 band (1997Fi03): 5% 4 to 69/2+, 8% 2 to 67/2−, 8% 3 to 63/2−, 26% 10 to 61/2+, 5.5% 20 to 59/2−, 12% 8 to 57/2− and 5% 2 to 55/2+. Linking transitions and level scheme for SD-1 band have been reported by 2008Ro23. The decay scheme for SD-1 band is from the second scenario as described by 2008Ro23. In the first (less likely) scenario described by 2008Ro23, level energies are higher by 810 keV and spin higher by 2 units.

[c] Band(B): SD-2 band. Band from 1990By01, 1993Cu06, 1995Kh06, 2000El10 and 2008Ro02. Q(intrinsic)=18.4 *6* (1998Fi01, systematic error increases the uncertainty to 0.8). Intruder configuration=$\pi 6^4(\pi 1/2[301],\alpha=-1/2)^{-1}\otimes\nu 7^2$ (2008Ro02,1990By01,1993Cu06,1998Fi01). Similarity with yrast SD band in ^{152}Dy (2008Ro02). Percent population=0.3 (1990By01). Other: 1.5 *5* (1992Mu10) in ^{124}Sn(^{33}S,p5nγ) E=170 MeV. Intensity relative to SD-1 (yrast) band=0.29 *3*

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^{130}Te(^{27}Al,6nγ) 1994Pe17,1995Kh06,2008Ro02 (continued)

^{151}Tb Levels (continued)

(2008Ro02), 0.50 *5* (1995Kh06). feedings of normal states by the decay of SD-2 band (1997Fi03): 23% 5 to 47/2$^-$, 17% 6 to 45/2$^+$, 18% 9 to 41/2$^+$, 16% 10 to 39/2$^+$, 19% 8 to 37/2$^+$ and 12% 6 to 31/2$^+$.

[d] Band(C): SD-3 band. Band from 1995Kh06 and 2008Ro02. Intruder configuration=$\pi6^4(\pi3/2[651],\alpha=+1/2)^{-1}\otimes\nu7^2$ (2008Ro02). Also interpreted as signature partner of SD-1 and as excitation from 3/2[651],α=−1/2 ($\pi6^3$) to 3/2[651],α=+1/2 ($\pi6^4$) (1995Kh06). Similarity with yrast SD band in ^{152}Dy (2008Ro02). Intensity relative to SD-1 (yrast) band=0.24 *3* (2008Ro02), 0.35 *5* (1995Kh06). feedings of normal states by the decay of SD-3 band (1997Fi03): 27% 17 to 47/2$^-$, 13% 15 to 45/2$^+$, 26% 20 to 41/2$^+$, 7% 7 to 39/2$^+$, 2% 2 to 37/2$^+$ and 2% 2 to 35/2$^+$.

[e] Band(D): SD-4 band. Band from 1995Kh06 and 2008Ro02. Intruder configuration=$\pi6^4(\pi1/2[301],\alpha=+1/2)^{-1}\otimes\nu7^2$ $(\nu1/2[411],\alpha=-1/2)^{-1}(\nu3/2[761],\alpha=+1/2)^1$ (2008Ro02). Possible signature partner of SD-2 (1995Kh06). Similarity with yrast SD band in ^{152}Dy (2008Ro02). Intensity relative to SD-1 (yrast) band=0.13 *2* (2008Ro02), 0.06 *2* (1995Kh06).

[f] Band(E): SD-5 band. Band from 1994De33 and 2008Ro02. Intruder configuration=$\pi6^3\otimes\nu7^1(\nu5/2[402],\alpha=+1/2)^1$ (2008Ro02). Signature partner of SD-6 band. Intensity relative to SD-1 (yrast) band=0.13 *3* (2008Ro02), 0.10 *2* (1995Kh06). Similarity with yrast SD band in ^{150}Tb (2008Ro02).

[g] Band(F): SD-6 band. Band from 1994De33 and 2008Ro02. a 739γ reported earlier by 1994De33 is not listed by 2008Ro02, thus it is omitted here. Intruder configuration=$\pi6^3\otimes\nu7^1(\nu5/2[402],\alpha=-1/2)^1$ (2008Ro02). Signature partner of SD-5 band. Intensity relative to SD-1 (yrast) band=0.14 *3* (2008Ro02), 0.09 *2* (1994De33). Similarity with yrast SD band in ^{150}Tb (2008Ro02).

[h] Band(G): SD-7 band. Band from 1994De33 and 2008Ro02. Intruder configuration=$\pi6^3\otimes\nu7^1(\nu3/2[521],\alpha=-1/2)^1$ (2008Ro02). Intensity relative to SD-1 (yrast) band=0.10 *3* (2008Ro02), 0.11 *2* (1994De33). Signature partner of SD-8 band. Similarity with yrast SD band in ^{150}Tb (2008Ro02).

[i] Band(H): SD-8 band. Band from 1994De33 and 2008Ro02. a 785γ reported earlier by 1994De33 is not listed by 2008Ro02, thus it is omitted here. Intruder configuration=$\pi6^3\otimes\nu7^1(\nu3/2[521],\alpha=+1/2)^1$ (2008Ro02). Intensity relative to SD-1 (yrast) band=0.10 *2* (2008Ro02), 0.07 *3* (1994De33). Signature partner of SD-7 band. Similarity with yrast SD band in ^{150}Tb (2008Ro02).

[j] Band(I): SD-9 band. Band from 2008Ro02. Intruder configuration=$\pi6^3\otimes\nu7^1(\nu9/2[514],\alpha=-1/2)^1$ (2008Ro02). Signature partner of SD-10 band. Intensity relative to SD-1 (yrast) band=0.08 *2* (2008Ro02). Similarity with yrast SD band in ^{150}Tb (2008Ro02).

[k] Band(J): SD-10 band. Band from 2008Ro02. Intruder configuration=$\pi6^3\otimes\nu7^1(\nu9/2[514],\alpha=+1/2)^1$ (2008Ro02). Signature partner of SD-9 band. Intensity relative to SD-1 (yrast) band=0.07 *2* (2008Ro02). Similarity with yrast SD band in ^{150}Tb (2008Ro02).

γ(^{151}Tb)

E_γ[†]	I_γ[‡]	E_i(level)	J^π_i	E_f	J^π_f	Comments
22.92[#] *2*		22.924	3/2$^{(+)}$	0.0	1/2$^{(+)}$	
27.1[#] *1*		99.48	(11/2$^-$)	72.39	(5/2$^+$)	
49.46[#] *2*		72.39	(5/2$^+$)	22.924	3/2$^{(+)}$	
59.7		2180.97	(25/2$^-$)	2120.8	(23/2$^-$)	
64.2		2847.90	(29/2$^+$)	2783.52	(27/2$^+$)	$I_{(\gamma+ce)}$: 30 *12* from intensity balance.
72.5[#] *1*		72.39	(5/2$^+$)	0.0	1/2$^{(+)}$	
77.5		3274.49	(33/2$^+$)	3196.6	(31/2$^+$)	
117.2 *4*	0.10 *1*	7882.3	(57/2$^-$)	7764.6	(57/2$^-$)	
134.3 *4*	0.10 *1*	11726.7	(75/2$^-$)	11593.3	(73/2$^-$)	
145.1 *4*	0.20 *4*	7764.6	(57/2$^-$)	7619.0	(55/2$^+$)	
146.0 *4*	0.20 *2*	3274.49	(33/2$^+$)	3129.1	(31/2$^-$)	
158.2 *1*	14.9 *8*	3274.49	(33/2$^+$)	3116.29	(31/2$^+$)	A_2=−0.19 *7*.
166.6 *4*	0.7 *4*	5985.7	(47/2$^-$)	5819.2	(45/2$^-$)	A_2=−0.46 *27*.
178.4 *2*	7.9 *8*	2180.97	(25/2$^-$)	2002.69	(23/2$^-$)	A_2=−0.38 *11*.
183.9 *2*	2.0 *2*	887.87	(13/2$^-$)	704.00	(15/2$^-$)	
194.7 *2*	8.6 *9*	2375.55	(27/2$^-$)	2180.97	(25/2$^-$)	A_2=−0.22 *6*.
205.8 *2*	2.4 *3*	7882.3	(57/2$^-$)	7676.3	(55/2$^-$)	A_2=−0.45 *14*.

Continued on next page (footnotes at end of table)

^{130}Te(^{27}Al,6nγ) 1994Pe17,1995Kh06,2008Ro02 (continued)

γ(^{151}Tb) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J^π_i	E_f	J^π_f	Comments
206.3 *4*	0.3 *1*	6880.4	(51/2⁻)	6674.2?	(49/2⁻)	
208.8 *1*	14.1 *7*	4774.53	(41/2⁺)	4565.75	(39/2⁺)	
209.0 *1*	22.3 *11*	1096.84	(15/2⁺)	887.87	(13/2⁻)	
220.2 *4*	0.40 *4*	9750.8	(67/2⁻)	9530.6	(63/2⁻)	A_2=+0.45 *20*.
240.6 *4*	1.7 *4*	6165.7	(49/2⁻)	5925.1	(45/2⁻)	A_2=+0.32 *7*.
245.3 *4*	0.10 *1*	6170.4	(49/2⁻)	5925.1	(45/2⁻)	
247.3 *2*	4.3 *4*	4148.76	(37/2⁺)	3901.47	(35/2⁺)	
248.7 *1*	12.7 *6*	2469.38	(25/2⁺)	2220.72	(23/2⁺)	A_2=−0.12 *14*.
256.2 *4*	0.8 *1*	9379.8	(65/2⁺)	9123.7	(63/2⁻)	A_2=−0.57 *40*.
260.3 *2*	2.2 *15*	9750.8	(67/2⁻)	9490.5	(65/2⁺)	A_2=−0.24 *11*.
268.4 *1*	46.4 *23*	3116.29	(31/2⁺)	2847.90	(29/2⁺)	A_2=−0.32 *3*.
276.9 *4*	0.70 *7*	11275.1	(71/2⁻)	10998.0	(69/2⁻)	
282.8 *4*	0.4 *2*	7901.9	(57/2⁺)	7619.0	(55/2⁺)	
288.2 *4*	1.4 *6*	9733.9	(65/2⁺)	9445.7	(63/2)	A_2=−0.52 *32*.
288.4 *4*	1.1 *5*	2469.38	(25/2⁺)	2180.97	(25/2⁻)	
298.6 *2*	2.7 *14*	10032.5	(67/2⁺)	9733.9	(65/2⁺)	A_2=−0.22 *18*.
302.5 *2*	2.4 *10*	9709.0	(67/2)	9406.5	(65/2)	A_2=−0.24 *7*.
317.6 *4*	1.2 *6*	11593.3	(73/2⁻)	11275.1	(71/2⁻)	
318.2 *2*	4.6 *15*	10350.8	(69/2⁺)	10032.5	(67/2⁺)	A_2=−0.14 *29*.
321.4 *4*	1.7 *2*	9123.7	(63/2⁻)	8802.5	(61/2⁻)	A_2=−0.49 *31*.
322.3 *4*	0.8 *2*	7619.0	(55/2⁺)	7296.2	(53/2⁻)	A_2=−0.31 *18*.
330.7 *4*	0.20 *4*	11756.9		11426.2	(73/2⁺)	
339.8 *4*	0.50 *5*	4148.76	(37/2⁺)	3808.9	(35/2⁻)	
343.9 *4*	1.2 *4*	5819.2	(45/2⁻)	5475.4	(43/2⁻)	A_2=−0.24 *26*.
346.4 *4*	0.6 *4*	6165.7	(49/2⁻)	5819.2	(45/2⁻)	
348.1 *4*	0.9 *2*	2469.38	(25/2⁺)	2120.8	(23/2⁻)	
348.6 *4*	1.6 *2*	3196.6	(31/2⁺)	2847.90	(29/2⁺)	
351.1 *4*	0.10 *5*	6170.4	(49/2⁻)	5819.2	(45/2⁻)	
351.5 *4*	0.40 *10*	5819.2	(45/2⁻)	5467.8	(43/2⁻)	I_γ: uncertainty of 0.02 quoted by 1994Pe17 has been increased to 0.10 (evaluator) in view of close doublet at 351.1 and 351.5.
352.8 *4*	0.80 *7*	2046.13	(21/2⁺)	1694.15	(19/2⁺)	
366.9 *4*	0.70 *7*	9490.5	(65/2⁺)	9123.7	(63/2⁻)	
368.2 *2*	5.9 *6*	7248.5	(53/2⁻)	6880.4	(51/2⁻)	A_2=−0.33 *40*.
371.0 *1*	20.7 *10*	9750.8	(67/2⁻)	9379.8	(65/2⁺)	A_2=−0.25 *7*.
378.5 *1*	16.8 *9*	2847.90	(29/2⁺)	2469.38	(25/2⁺)	A_2=+0.14 *2*.
381.4 *1*	46.8 *24*	8283.3	(61/2⁺)	7901.9	(57/2⁺)	A_2=+0.30 *4*.
388.5 *1*	52 *3*	5163.0	(45/2⁺)	4774.53	(41/2⁺)	A_2=+0.24 *6*.
392.9 *1*	38.1 *19*	1096.84	(15/2⁺)	704.00	(15/2⁻)	A_2=+0.19 *3*.
401.0 *4*	1.0 *1*	8283.3	(61/2⁺)	7882.3	(57/2⁻)	A_2=+0.38 *26*.
416.3 *4*	0.8 *3*	7296.2	(53/2⁻)	6880.4	(51/2⁻)	A_2=−0.21 *24*.
423.5 *4*	1.6 *5*	2469.38	(25/2⁺)	2046.13	(21/2⁺)	
423.9 *4*	0.20 *4*	6594.4	(51/2⁻)	6170.4	(49/2⁻)	
427.8 *2*	3.8 *4*	7676.3	(55/2⁻)	7248.5	(53/2⁻)	A_2=−0.13 *13*.
428.6 *2*	2.5 *3*	6594.4	(51/2⁻)	6165.7	(49/2⁻)	A_2=−0.32 *8*.
440.5 *4*	0.40 *4*	5475.4	(43/2⁻)	5034.8	(41/2⁻)	
441.3 *4*	0.60 *6*	10792.3	(71/2⁻)	10350.8	(69/2⁺)	A_2=−0.21 *16*.
455.3 *4*	0.90 *9*	9490.5	(65/2⁺)	9035.3	(63/2)	
457.3 *4*	1.5 *2*	5925.1	(45/2⁻)	5467.8	(43/2⁻)	A_2=+0.14 *14*.
466.0 *4*	0.50 *9*	2469.38	(25/2⁺)	2002.69	(23/2⁻)	
466.8 *2*	3.2 *3*	8802.5	(61/2⁻)	8335.9	(59/2⁻)	
472.5 *2*	8.6 *9*	2847.90	(29/2⁺)	2375.55	(27/2⁻)	A_2=−0.4 *6*.
510.5 *4*	1.2 *7*	5985.7	(47/2⁻)	5475.4	(43/2⁻)	
526.6 *1*	54 *3*	2220.72	(23/2⁺)	1694.15	(19/2⁺)	A_2=+0.21 *1*.
556.2[b] *2*		556.20+x	J+2	x	J≈(45/2)	

Continued on next page (footnotes at end of table)

$^{130}Te(^{27}Al,6n\gamma)$ 1994Pe17,1995Kh06,2008Ro02 (continued)

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

E_γ[†]	I_γ[‡]	E_i(level)	J^π_i	E_f	J^π_f	Comments
561.0 *4*	0.20 *2*	5925.1	(45/2⁻)	5364.1		
562.8 *1*	40.1 *20*	2783.52	(27/2⁺)	2220.72	(23/2⁺)	A_2=+0.17 *3*.
588.0 *4*	0.40 *4*	10297.0	(71/2)	9709.0	(67/2)	A_2=+0.6 *7*.
597.2 *1*	16.3 *8*	7901.9	(57/2⁺)	7304.6	(53/2⁺)	
597.4 *1*	64 *3*	1694.15	(19/2⁺)	1096.84	(15/2⁺)	A_2=+0.13 *2*.
598.2 *4*	0.20 *2*	5364.1		4765.9	(39/2⁻)	
601.1 *3*	0.22 *7*	1157.3+x	J+4	556.20+x	J+2	
604.5 *1*	71 *4*	704.00	(15/2⁻)	99.48	(11/2⁻)	A_2=+0.07 *1*.
615.9 *1*	26.6 *13*	1319.98	(19/2⁻)	704.00	(15/2⁻)	A_2=+0.30 *3*.
625.8 *1*	35.0 *21*	4774.53	(41/2⁺)	4148.76	(37/2⁺)	A_2=+0.32 *1*.
627.0 *2*	2.3 *9*	5467.8	(43/2⁻)	4840.7	(39/2⁻)	A_2=+0.28 *4*.
634.0 *4*	0.4 *2*	5475.4	(43/2⁻)	4840.7	(39/2⁻)	
634.6 *4*	1.0 *3*	7882.3	(57/2⁻)	7248.5	(53/2⁻)	
637.0 *1*	32.6 *16*	7901.9	(57/2⁺)	7264.9	(53/2⁺)	A_2=+0.29 *1*.
646.2 *2*	0.39 *8*	1803.5+x	J+6	1157.3+x	J+4	
652.7 *2*	3.6 *4*	10032.5	(67/2⁺)	9379.8	(65/2⁺)	A_2=−0.23 *9*.
653.2 *4*	0.7 *4*	7901.9	(57/2⁺)	7248.5	(53/2⁻)	
654.6 *4*	1.4 *2*	7248.5	(53/2⁻)	6594.4	(51/2⁻)	
659.7 *2*	2.5 *3*	8335.9	(59/2⁻)	7676.3	(55/2⁻)	
664.3 *1*	19.4 *10*	4565.75	(39/2⁺)	3901.47	(35/2⁺)	A_2=+0.16 *1*.
670.8 *4*	0.30 *3*	7264.9	(53/2⁺)	6594.4	(51/2⁻)	
679.6 *2*	3.6 *4*	3808.9	(35/2⁻)	3129.1	(31/2⁻)	A_2=+0.25 *9*.
681.2 *3*	0.31 *10*	681.2+y	J1+2	y	J1≈(55/2)	
682.7 *1*	16.1 *8*	2002.69	(23/2⁻)	1319.98	(19/2⁻)	A_2=+0.26 *9*.
691.4 *1*	1.04 *15*	2494.9+x	J+8	1803.5+x	J+6	
691.7[b] *3*		691.7+z	J2+2	z	J2≈(59/2)	
700.7 *4*	0.8 *1*	7296.2	(53/2⁻)	6594.4	(51/2⁻)	
701.1 *2*	2.5 *3*	5475.4	(43/2⁻)	4774.53	(41/2⁺)	
706.6 *4*	0.3 *1*	13461.1	(81/2)	12754.5	(79/2⁻)	
709.8 *3*		709.8+u	J3+2	u	J3≈(53/2)	
710.4 *4*	0.60 *6*	7304.6	(53/2⁺)	6594.4	(51/2⁻)	
726.0 *2*	2.8 *4*	2046.13	(21/2⁺)	1319.98	(19/2⁻)	
726.9 *3*	0.65 *6*	1408.1+y	J1+4	681.2+y	J1+2	
737.0 *1*	1.04 *15*	3231.9+x	J+10	2494.9+x	J+8	
740.8 *4*	0.5 *1*	13461.1	(81/2)	12720.3	(79/2⁻)	
747.7 *4*	0.10 *1*	14539.3		13791.6	(83/2⁻)	
752.1 *4*	1.2 *1*	9035.3	(63/2)	8283.3	(61/2⁺)	A_2=+0.40 *24*.
753.5 *2*	5.0 *5*	3129.1	(31/2⁻)	2375.55	(27/2⁻)	A_2=+0.16 *5*.
754.3 *4*		754.3+w	J5+2	w	J5≈(55/2)	
755.9 *3*		1447.6+z	J2+4	691.7+z	J2+2	E_γ: 768.6 *5* in 1995Kh06.
760.6 *3*		1470.4+u	J3+4	709.8+u	J3+2	
763.0 *4*	0.8 *1*	12720.3	(79/2⁻)	11957.2	(75/2⁻)	
768.6 *1*	0.30 *2*	13730.61	(69/2⁺)	12962	(65/2⁺)	
771.8 *4*	0.20 *2*	13791.6	(83/2⁻)	13019.8	(79/2⁻)	
773.5 *3*	0.99 *8*	2181.6+y	J1+6	1408.1+y	J1+4	
779.5 *1*	31.7 *16*	7264.9	(53/2⁺)	6485.5	(49/2⁺)	A_2=+0.30 *6*.
782.9 *1*	1.12 *15*	4014.8+x	J+12	3231.9+x	J+10	
785.2 *1*	29.8 *15*	3901.47	(35/2⁺)	3116.29	(31/2⁺)	A_2=+0.28 *6*.
788.4 *1*	28.6 *14*	887.87	(13/2⁻)	99.48	(11/2⁻)	A_2=−0.40 *15*.
790.6 *3*		790.6+v	J4+2	v	J4≈(59/2)	
800.3 *4*	1.3 *7*	2120.8	(23/2⁻)	1319.98	(19/2⁻)	
801.4 *2*	4.0 *4*	11593.3	(73/2⁻)	10792.3	(71/2⁻)	A_2=+0.16 *9*.
806.5 *4*		1560.8+w	J5+4	754.3+w	J5+2	
810.8 *1*	0.61 *3*	14541.40	(73/2⁺)	13730.61	(69/2⁺)	
810.9 *3*		2281.3+u	J3+6	1470.4+u	J3+4	
815.6 *4*	0.41 *8*	2263.2+z	J2+6	1447.6+z	J2+4	

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^{130}Te(^{27}Al,6nγ) 1994Pe17,1995Kh06,2008Ro02 (continued)

γ(^{151}Tb) (continued)

Eγ[†]	Iγ[‡]	Ei(level)	J^π_i	Ef	J^π_f	Comments
818.7 *4*	0.70 *7*	13523.1		12704.3	(75/2⁻)	
819.1 *1*	16.0 *8*	7304.6	(53/2⁺)	6485.5	(49/2⁺)	A_2=+0.31 *2*.
820.5 *3*	0.92 *18*	3002.1+y	J1+8	2181.6+y	J1+6	
822.7 *2*	6.5 *7*	5985.7	(47/2⁻)	5163.0	(45/2⁺)	A_2=−0.34 *28*.
824.4[b] *5*		824.4+t	J7+2	t	J7	
828.4 *2*	0.91 *13*	4843.2+x	J+14	4014.8+x	J+12	
831.8 *3*		831.8+s	J6+2	s	J6≈(61/2)	
838.5 *3*		1629.1+v	J4+4	790.6+v	J4+2	
840.3 *4*	0.9 *2*	9123.7	(63/2⁻)	8283.3	(61/2⁺)	
851.4 *4*	1.1 *1*	11202.2		10350.8	(69/2⁺)	
853.9 *1*	1.04 *5*	15395.31	(77/2⁺)	14541.40	(73/2⁺)	
855.1[c] *4*	0.20 *2*	6674.2?	(49/2⁻)	5819.2	(45/2⁻)	
857.0 *4*		2417.8+w	J5+6	1560.8+w	J5+4	
862.3 *3*		3143.6+u	J3+8	2281.3+u	J3+6	
865.3 *3*	0.61 *12*	3128.5+z	J2+8	2263.2+z	J2+6	
867.8 *3*	1.08 *14*	3869.9+y	J1+10	3002.1+y	J1+8	
873.9[b] *3*		1698.3+t	J7+4	824.4+t	J7+2	
874.3 *1*	28 *3*	4148.76	(37/2⁺)	3274.49	(33/2⁺)	A_2=+0.27 *7*.
874.6 *1*	1.08 *13*	5717.8+x	J+16	4843.2+x	J+14	
882.4 *3*		1714.2+s	J6+4	831.8+s	J6+2	
886.0 *4*	0.50 *5*	5034.8	(41/2⁻)	4148.76	(37/2⁺)	
889.1 *3*		2518.2+v	J4+6	1629.1+v	J4+4	
891.0 *4*	0.9 *1*	5656.9		4765.9	(39/2⁻)	
894.8 *2*	7.1 *7*	6880.4	(51/2⁻)	5985.7	(47/2⁻)	A_2=+0.22 *9*.
897.7 *1*	0.97 *5*	16293.01	(81/2⁺)	15395.31	(77/2⁺)	
908.2 *4*		3326.0+w	J5+8	2417.8+w	J5+6	
913.4 *3*	0.88 *10*	4041.9+z	J2+10	3128.5+z	J2+8	
913.7 *3*		4057.3+u	J3+10	3143.6+u	J3+8	
915.6 *3*	0.99 *11*	4785.5+y	J1+12	3869.9+y	J1+10	
919.9 *4*	0.9 *1*	8802.5	(61/2⁻)	7882.3	(57/2⁻)	A_2=+0.14 *14*.
921.4 *1*	0.96 *12*	6639.2+x	J+18	5717.8+x	J+16	
924.2[b] *4*		2622.5+t	J7+6	1698.3+t	J7+4	
924.3 *4*	0.60 *6*	11275.1	(71/2⁻)	10350.8	(69/2⁺)	
933.7 *3*		2647.9+s	J6+6	1714.2+s	J6+4	
934.2 *2*	8.2 *8*	11726.7	(75/2⁻)	10792.3	(71/2⁻)	A_2=+0.32 *5*.
940.5 *3*		3458.7+v	J4+8	2518.2+v	J4+6	
942.6 *1*	1.00 *5*	17235.61	(85/2⁺)	16293.01	(81/2⁺)	
947.8 *4*	0.10 *1*	16589.4	(91/2⁻)	15641.6	(87/2⁻)	
957.0 *4*	1.2 *1*	4765.9	(39/2⁻)	3808.9	(35/2⁻)	
959.6 *4*		4285.6+w	J5+10	3326.0+w	J5+8	
960.7 *3*	0.95 *12*	5002.6+z	J2+12	4041.9+z	J2+10	
963.9 *3*	0.86 *10*	5749.4+y	J1+14	4785.5+y	J1+12	
965.6 *3*		5022.9+u	J3+12	4057.3+u	J3+10	
968.2 *2*	1.00 *13*	7607.4+x	J+20	6639.2+x	J+18	
970.9 *2*	2.8 *3*	10350.8	(69/2⁺)	9379.8	(65/2⁺)	A_2=+0.32 *3*.
975.7[b] *3*		3598.2+t	J7+8	2622.5+t	J7+6	
985.4 *3*		3633.3+s	J6+8	2647.9+s	J6+6	
988.2 *1*	0.97 *5*	18223.82	(89/2⁺)	17235.61	(85/2⁺)	
988.3 *4*	1.1 *5*	11760.9		10772.6	(71/2)	Eγ: 988.33 (1994Pe17) is rounded off.
991.9 *3*		4450.6+v	J4+10	3458.7+v	J4+8	
993.6 *2*	3.8 *4*	12720.3	(79/2⁻)	11726.7	(75/2⁻)	A_2=+0.28 *2*.
1001.6[b] *4*		1001.6+a	J8+2	a	J8	
1008.5 *3*	1.04 *13*	6011.1+z	J2+14	5002.6+z	J2+12	
1011.3 *4*		5296.9+w	J5+12	4285.6+w	J5+10	
1012.8 *3*	1.08 *13*	6762.2+y	J1+16	5749.4+y	J1+14	

Continued on next page (footnotes at end of table)

^{130}Te(^{27}Al,6nγ) 1994Pe17,1995Kh06,2008Ro02 (continued)

γ(^{151}Tb) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J^π_i	E_f	J^π_f	Comments
1015.4 *1*	0.98 *12*	8622.8+x	J+22	7607.4+x	J+20	
1018.5 *3*		6041.4+u	J3+14	5022.9+u	J3+12	
1026.6[b] *3*		4624.8+t	J7+10	3598.2+t	J7+8	
1027.8 *4*	1.6 *5*	12754.5	(79/2⁻)	11726.7	(75/2⁻)	
1031.7 *2*	2.8 *3*	4840.7	(39/2⁻)	3808.9	(35/2⁻)	A_2=+0.52 *17*.
1034.7 *1*	1.02 *6*	19258.5	(93/2⁺)	18223.82	(89/2⁺)	
1037.7 *3*		4671.0+s	J6+10	3633.3+s	J6+8	
1038.0 *4*	0.70 *7*	11830.3	(73/2)	10792.3	(71/2⁻)	
1041.6 *1*	17.8 *9*	10792.3	(71/2⁻)	9750.8	(67/2⁻)	A_2=+0.32 *2*.
1044.5 *3*		5495.1+v	J4+12	4450.6+v	J4+10	
1050.0 *4*	0.30 *3*	14900.8		13850.8	(79/2⁻)	
1051.2[b] *4*		2052.8+a	J8+4	1001.6+a	J8+2	
1056.0 *3*	0.99 *9*	7067.1+z	J2+16	6011.1+z	J2+14	
1061.8 *3*	0.95 *12*	7824.0+y	J1+18	6762.2+y	J1+16	
1063.0 *1*	0.97 *13*	9685.8+x	J+24	8622.8+x	J+22	
1063.5 *4*		6360.4+w	J5+14	5296.9+w	J5+12	
1063.6 *4*	1.6 *4*	10772.6	(71/2)	9709.0	(67/2)	
1071.0 *3*		7112.4+u	J3+16	6041.4+u	J3+14	
1071.3 *4*	1.4 *2*	13791.6	(83/2⁻)	12720.3	(79/2⁻)	A_2=+0.14 *14*.
1075.4 *4*	0.70 *7*	11426.2	(73/2⁺)	10350.8	(69/2⁺)	
1077.8[b] *4*		5702.6+t	J7+12	4624.8+t	J7+10	
1081.8 *1*	1.03 *5*	20340.3	(97/2⁺)	19258.5	(93/2⁺)	
1089.7 *3*		5760.7+s	J6+12	4671.0+s	J6+10	
1096.5 *1*	30.7 *15*	9379.8	(65/2⁺)	8283.3	(61/2⁺)	A_2=+0.30 *2*.
1097.1 *3*		6592.2+v	J4+14	5495.1+v	J4+12	
1102.9[b] *4*		3155.7+a	J8+6	2052.8+a	J8+4	
1104.0 *3*	1.01 *11*	8171.1+z	J2+18	7067.1+z	J2+16	
1110.7 *2*	1.00 *14*	10796.5+x	J+26	9685.8+x	J+24	
1111.1 *3*	1.04 *12*	8935.1+y	J1+20	7824.0+y	J1+18	
1116.0 *4*		7476.4+w	J5+16	6360.4+w	J5+14	
1123.2 *2*	3.0 *16*	9406.5	(65/2)	8283.3	(61/2⁺)	A_2=+0.31 *17*.
1123.4 *3*		8235.8+u	J3+18	7112.4+u	J3+16	
1129.8 *1*	1.07 *6*	21470.1	(101/2⁺)	20340.3	(97/2⁺)	
1130.3[b] *3*		6832.9+t	J7+14	5702.6+t	J7+12	
1142.0 *3*		6902.7+s	J6+14	5760.7+s	J6+12	
1146.4 *4*	1.1 *1*	13850.8	(79/2⁻)	12704.3	(75/2⁻)	A_2=+0.58 *35*.
1150.1 *3*		7742.3+v	J4+16	6592.2+v	J4+14	
1151.9 *3*	0.83 *13*	9323.0+z	J2+20	8171.1+z	J2+18	
1155.2[b] *5*		4310.9+a	J8+8	3155.7+a	J8+6	
1158.7 *2*	0.91 *13*	11955.2+x	J+28	10796.5+x	J+26	
1160.3 *3*	0.99 *12*	10095.4+y	J1+22	8935.1+y	J1+20	
1162.4 *4*	1.3 *4*	9445.7	(63/2)	8283.3	(61/2⁺)	
1164.8 *2*	3.7 *15*	11957.2	(75/2⁻)	10792.3	(71/2⁻)	A_2=+0.75 *40*.
1168.8 *4*		8645.2+w	J5+18	7476.4+w	J5+16	
1176.2 *3*		9412.0+u	J3+20	8235.8+u	J3+18	
1178.5 *1*	0.96 *5*	22648.6	(105/2⁺)	21470.1	(101/2⁺)	
1181.4[b] *4*		8014.3+t	J7+16	6832.9+t	J7+14	
1195.0 *3*		8097.7+s	J6+16	6902.7+s	J6+14	
1200.3 *3*	1.12 *12*	10523.3+z	J2+22	9323.0+z	J2+20	
1203.0 *3*		8945.3+v	J4+18	7742.3+v	J4+16	
1206.9 *2*	1.02 *17*	13162.1+x	J+30	11955.2+x	J+28	
1207.2 *2*	2.1 *1*	9490.5	(65/2⁺)	8283.3	(61/2⁺)	
1207.4[b] *4*		5518.3+a	J8+10	4310.9+a	J8+8	
1209.8 *3*	1.06 *11*	11305.2+y	J1+24	10095.4+y	J1+22	

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^{130}Te(^{27}Al,6nγ) 1994Pe17,1995Kh06,2008Ro02 (continued)

γ(^{151}Tb) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J^π_i	E_f	J^π_f	Comments
1222.2 4		9867.4+w	J5+20	8645.2+w	J5+18	
1227.9 1	0.94 5	23876.5	(109/2+)	22648.6	(105/2+)	
1229.8 3		10641.8+u	J3+22	9412.0+u	J3+20	
1233.7[b] 4		9248.0+t	J7+18	8014.3+t	J7+16	
1240.8 4	0.4 2	10620.6		9379.8	(65/2+)	
1247.0 4	1.1 6	10998.0	(69/2−)	9750.8	(67/2−)	
1247.3 4	0.9 4	9530.6	(63/2−)	8283.3	(61/2+)	
1248.4 3		9346.1+s	J6+18	8097.7+s	J6+16	
1248.5 3	1.10 14	11771.8+z	J2+24	10523.3+z	J2+22	
1255.0 2	0.77 10	14417.1+x	J+32	13162.1+x	J+30	
1256.4 3		10201.7+v	J4+20	8945.3+v	J4+18	
1259.4 3	0.94 11	12564.6+y	J1+26	11305.2+y	J1+24	
1259.8[b] 4		6778.1+a	J8+12	5518.3+a	J8+10	
1275.2 4		11142.6+w	J5+22	9867.4+w	J5+20	
1278.0 1	0.78 4	25154.5	(113/2+)	23876.5	(109/2+)	
1282.4 3		11924.2+u	J3+24	10641.8+u	J3+22	
1285.6[b] 4		10533.6+t	J7+20	9248.0+t	J7+18	
1293.1 4	1.14 4	13019.8	(79/2−)	11726.7	(75/2−)	A_2=+0.14 7.
1296.9 3	1.08 12	13068.7+z	J2+26	11771.8+z	J2+24	
1301.5 4		10647.6+s	J6+20	9346.1+s	J6+18	
1303.3 2	0.62 13	15720.5+x	J+34	14417.1+x	J+32	
1309.0 3	0.65 8	13873.7+y	J1+28	12564.6+y	J1+26	
1309.9 3		11511.6+v	J4+22	10201.7+v	J4+20	
1312.0[b] 4		8090.1+a	J8+14	6778.1+a	J8+12	
1322.4 1	41.8 21	6485.5	(49/2+)	5163.0	(45/2+)	A_2=+0.28 1.
1328.1 4		12470.7+w	J5+24	11142.6+w	J5+22	
1328.4 1	0.63 4	26483.0	(117/2+)	25154.5	(113/2+)	
1337.1 3		13261.3+u	J3+26	11924.2+u	J3+24	
1338.4[b] 4		11872.0+t	J7+22	10533.6+t	J7+20	
1345.4 3	0.77 13	14414.2+z	J2+28	13068.7+z	J2+26	
1351.4 1	0.48 7	17071.9+x	J+36	15720.5+x	J+34	
1355.1 3		12002.7+s	J6+22	10647.6+s	J6+20	
1358.7 3	0.52 7	15232.4+y	J1+30	13873.7+y	J1+28	
1363.4[b] 5		9453.5+a	J8+16	8090.1+a	J8+14	
1363.5 3		12875.2+v	J4+24	11511.6+v	J4+22	
1379.5 1	0.48 4	27862.5	(121/2+)	26483.0	(117/2+)	
1381.9 4		13852.7+w	J5+26	12470.7+w	J5+24	
1391.2 3		14652.6+u	J3+28	13261.3+u	J3+26	
1391.9[b] 4		13264.0+t	J7+24	11872.0+t	J7+22	
1394.3 3	0.70 7	15808.5+z	J2+30	14414.2+z	J2+28	
1399.8 2	0.34 6	18471.7+x	J+38	17071.9+x	J+36	Additional information 12.
1408.2 3	0.48 6	16640.6+y	J1+32	15232.4+y	J1+30	
1408.9[b] 4		13411.7+s	J6+24	12002.7+s	J6+22	
1416.5[b] 4		10870.0+a	J8+18	9453.5+a	J8+16	
1417.3 10		14292.5+v	J4+26	12875.2+v	J4+24	
1419.3 4	0.40 4	13249.6		11830.3	(73/2)	
1431.1 1	0.25 2	29293.6	(125/2+)	27862.5	(121/2+)	
1435.7 4		15288.4+w	J5+28	13852.7+w	J5+26	
1443.3 3	0.42 6	17251.8+z	J2+32	15808.5+z	J2+30	
1444.2[b] 5		14708.2+t	J7+26	13264.0+t	J7+24	
1445.5 4		16098.1+u	J3+30	14652.6+u	J3+28	
1448.2 2	0.21 4	19919.9+x	J+40	18471.7+x	J+38	
1450.0 4	0.7 5	11200.8	(71/2)	9750.8	(67/2−)	
1450.6 4	1.8 6	9733.9	(65/2+)	8283.3	(61/2+)	

Continued on next page (footnotes at end of table)

^{130}Te(^{27}Al,6nγ) 1994Pe17,1995Kh06,2008Ro02 (continued)

γ(^{151}Tb) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J^π_i	E_f	J^π_f	Mult.	Comments
1457.7 3	0.32 5	18098.3+y	J1+34	16640.6+y	J1+32		
1463.5[b] 4		14875.2+s	J6+26	13411.7+s	J6+24		
1466.5 4	0.30 3	15317.3		13850.8	(79/2⁻)		
1469.1[b] 5		12339.2+a	J8+20	10870.0+a	J8+18		
1469.6 4		15762.1+v	J4+28	14292.5+v	J4+26		
1483.3 1	0.16 2	30776.9	(129/2⁺)	29293.6	(125/2⁺)		
1489.2 4		16777.6+w	J5+30	15288.4+w	J5+28		
1493.0 4	0.20 2	15343.8		13850.8	(79/2⁻)		
1494.6 4		18746.4+z	J2+34	17251.8+z	J2+32		E_γ: 1485.5 10 in 1995Kh06.
1496.3 2	0.13 4	21416.2+x	J+42	19919.9+x	J+40		
1497.3[b] 6		16205.5+t	J7+28	14708.2+t	J7+26		
1499.6 4		17597.7+u	J3+32	16098.1+u	J3+30		
1506.6 3	0.15 7	19604.9+y	J1+36	18098.3+y	J1+34		
1517.6[b] 4		16392.8+s	J6+28	14875.2+s	J6+26		
1519.6[b] 10		17281.7+v	J4+30	15762.1+v	J4+28		
1523.9 4	0.20 5	11275.1	(71/2⁻)	9750.8	(67/2⁻)		
1535.5 2	0.050 15	32312.4	(133/2⁺)	30776.9	(129/2⁺)		
1544.1[b] 3		22960.3+x	J+44	21416.2+x	J+42		
1545.3[bc] 10		18322.9+w?	J5+32	16777.6+w	J5+30		
1548[b] 2		17753+t	J7+30	16205.5+t	J7+28		
1553.6[b] 5		19151.3+u	J3+34	17597.7+u	J3+32		
1555.8[b] 4		21160.7+y	J1+38	19604.9+y	J1+36		
1558.8[b] 11		18840.5+v	J4+32	17281.7+v	J4+30		
1559[bc] 2		20305.4+z?	J2+36	18746.4+z	J2+34		
1589.1[b] 4		33901.5	(137/2⁺)	32312.4	(133/2⁺)		
1594.2[b] 10		24554.5+x	J+46	22960.3+x	J+44		
1604.3[b] 10		22765.0+y	J1+40	21160.7+y	J1+38		
1642.6[b] 10		35544.1	(141/2⁺)	33901.5	(137/2⁺)		
1676[&c]	≈0.005[&]	11425.7?		9750.8	(67/2⁻)		
1798.2 4	0.4 2	13524.9		11726.7	(75/2⁻)		
1850.0 4	0.3 1	15641.6	(87/2⁻)	13791.6	(83/2⁻)		
1912.0 2	2.1 1	12704.3	(75/2⁻)	10792.3	(71/2⁻)		A_2=+0.28 3.
[x]1930[@]	≈0.007[@]						1930γ and 2261γ form a cascade in the second scenario (2008Ro23).
1942[&c]	≈0.005[&]	11321.7?		9379.8	(65/2⁺)		
[x]1950[@]	≈0.008[@]						1950γ and 2071γ form a cascade in the second scenario (2008Ro23).
[x]1985[@]	≈0.007[@]						1985γ and 2409γ form a cascade in the second scenario (2008Ro23).
[x]2071[@]	≈0.008[@]						
[x]2261[@]	≈0.007[@]						
2306[&c]	≈0.005[&]	13730.61	(69/2⁺)	11425.7?			
2409[&c]	≈0.007[&]	13730.61	(69/2⁺)	11321.7?			
2818[&] 3	≈0.007[&]	14541.40	(73/2⁺)	11726.7	(75/2⁻)		
3748[&]	≈0.009[&]	14541.40	(73/2⁺)	10792.3	(71/2⁻)	(E1)[a]	

[†] From 1994Pe17 for normal deformed bands. Uncertainties are assigned by the evaluator as follows: 0.1 for Iγ>10, 0.2 for Iγ=2

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^{130}Te(^{27}Al,6nγ) 1994Pe17,1995Kh06,2008Ro02 (continued)

γ(^{151}Tb) (continued)

to 10 and 0.4 for Iγ<2. Values for SD bands are from 2008Ro02. See also earlier papers from the same laboratory: 2000El10 (SD-1 and SD-2 bands), 1995Kh06 (for SD-1 to SD-4) and 1994De33 (SD-5 to SD-8).

‡ From 1994Pe17 for normal deformed bands. For many γ rays, no uncertainty is quoted by 1994Pe17. From authors′ general statement that it is <10%, the evaluator assigns 5% to strong γ rays (Iγ>10) and 10% to others. For SD bands, the values are from 1994KhZZ and are relative intensities within each SD band.

From ‘adopted gammas’.

@ Possible linking (SD-1 band to normal-deformed structure) γ from 2008Ro23, in the second scenario as described by the authors in their figure 3. Intensity is relative to 1.0 for the most intense transition in the SD-1 band.

& Possible linking (SD-1 band to normal-deformed structure) γ from 2008Ro23, in the first scenario as described by the authors in their figure 3. Intensity is relative to 1.0 for the most intense transition in the SD-1 band.

[a] DCO=0.52 *11* (2008Ro23) gives ΔJ=1, dipole; E1 is assumed by 2008Ro23 from possible positive parity for the yrast SD band.

[b] The γ ray reported by 2008Ro02 only.

[c] Placement of transition in the level scheme is uncertain.

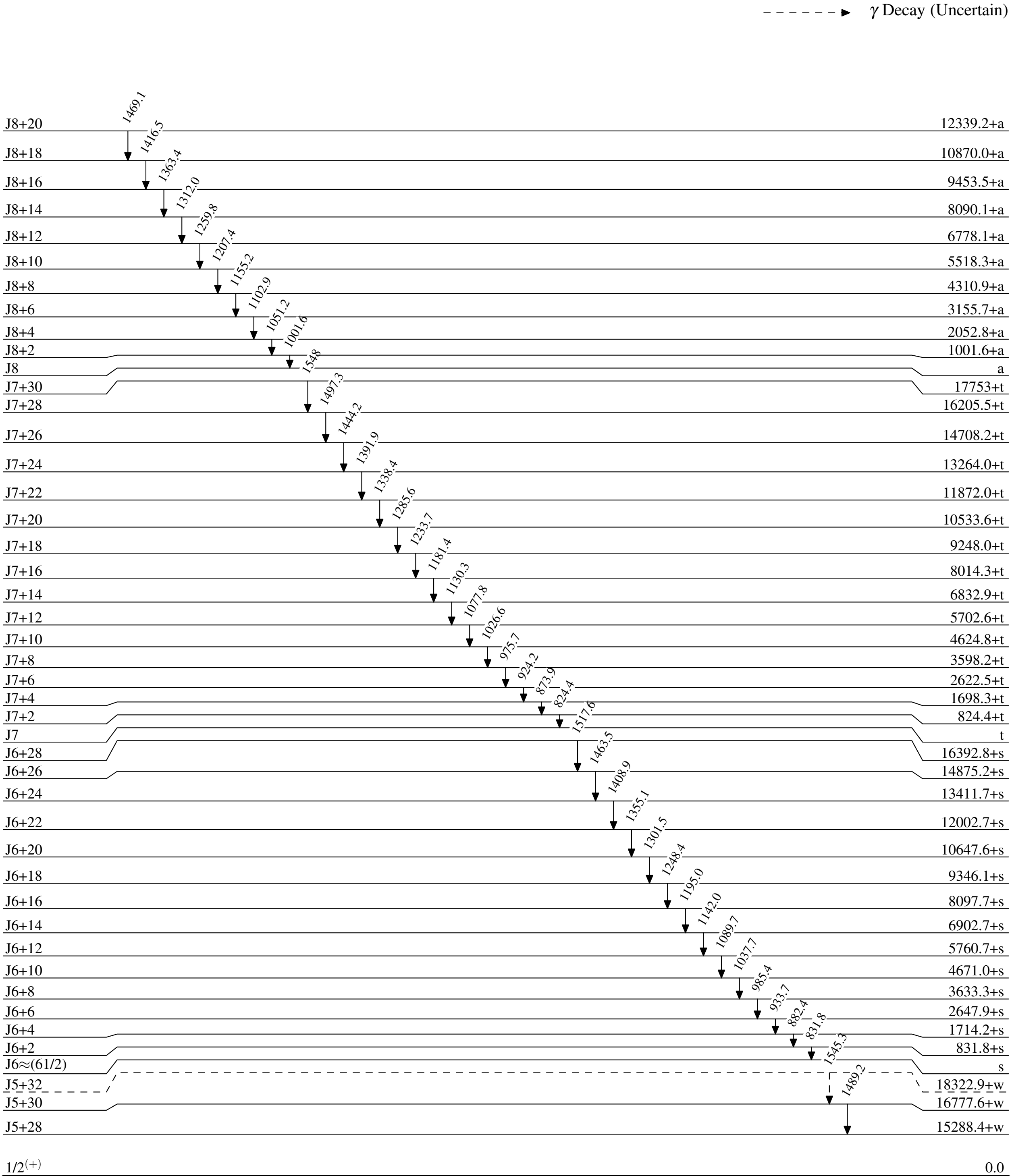
[x] γ ray not placed in level scheme.

^{130}Te(^{27}Al,6nγ) 1994Pe17,1995Kh06,2008Ro02

Legend

Level Scheme

Intensities: Relative Iγ

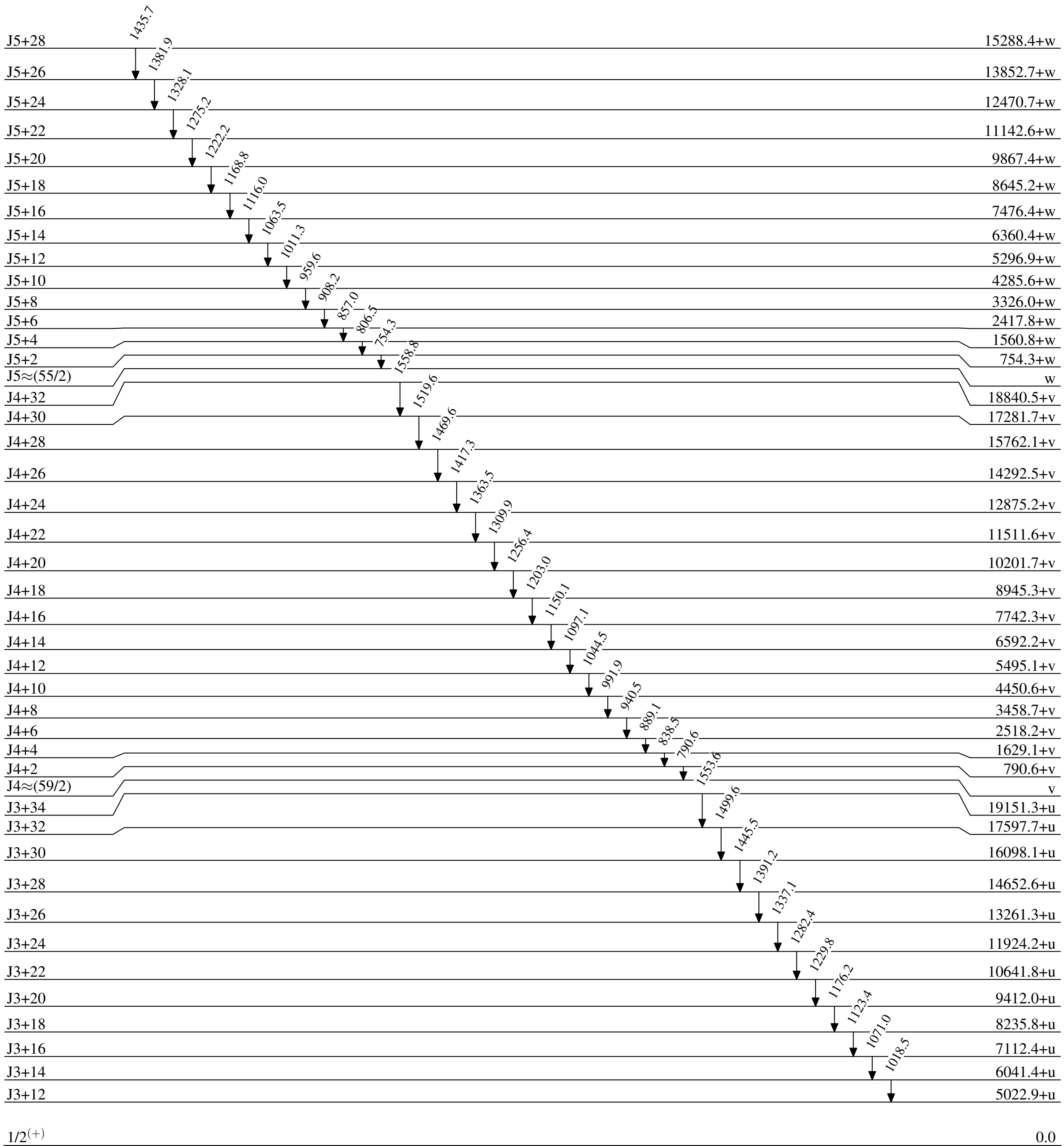


$^{151}_{65}Tb_{86}$

$^{130}Te(^{27}Al,6n\gamma)$ 1994Pe17,1995Kh06,2008Ro02

Level Scheme (continued)

Intensities: Relative I_γ



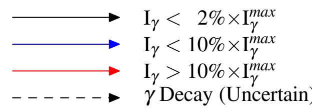
$^{151}_{65}Tb_{86}$

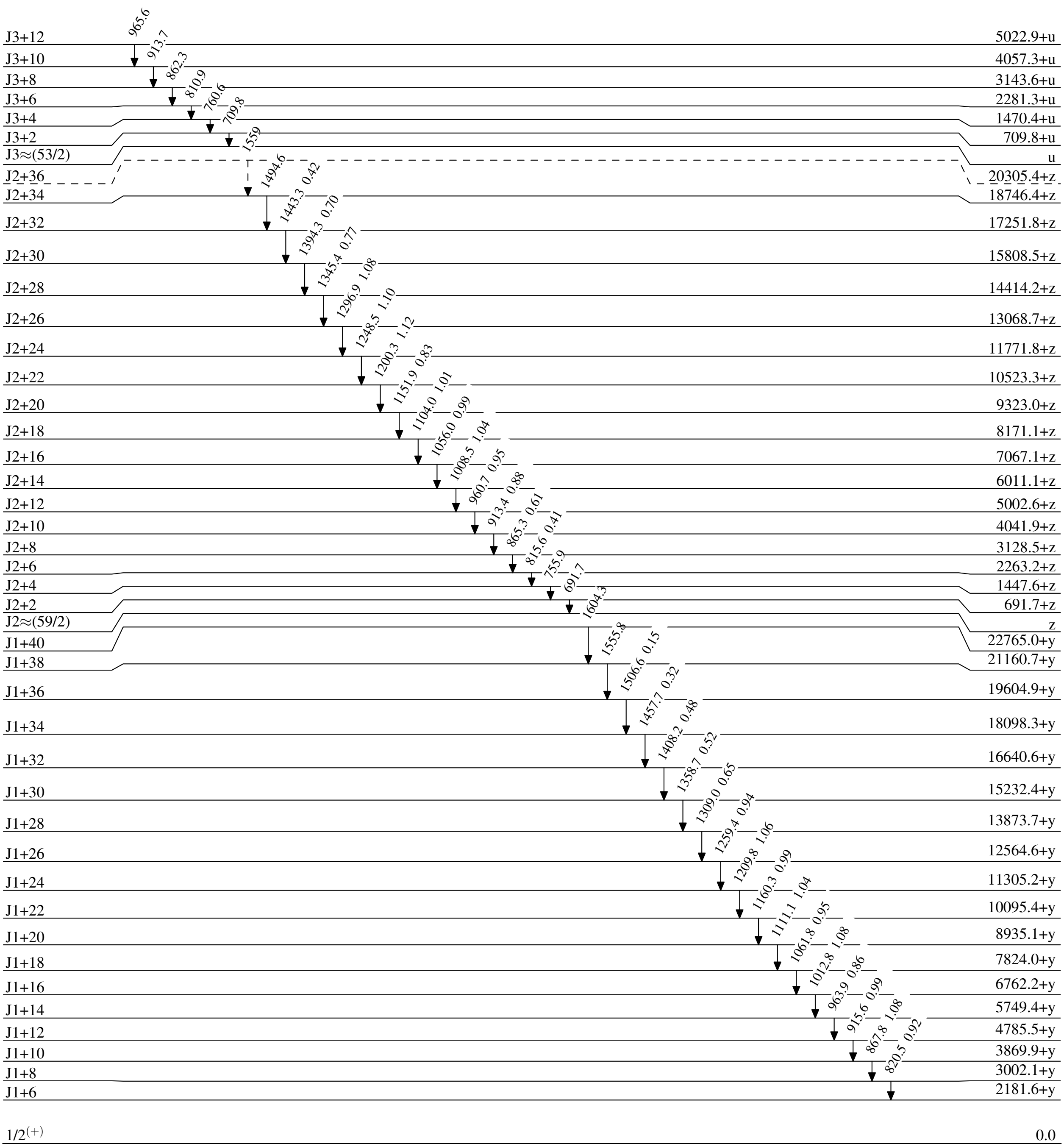
$^{130}Te(^{27}Al,6n\gamma)$ 1994Pe17,1995Kh06,2008Ro02

Level Scheme (continued)

Intensities: Relative I_γ

Legend



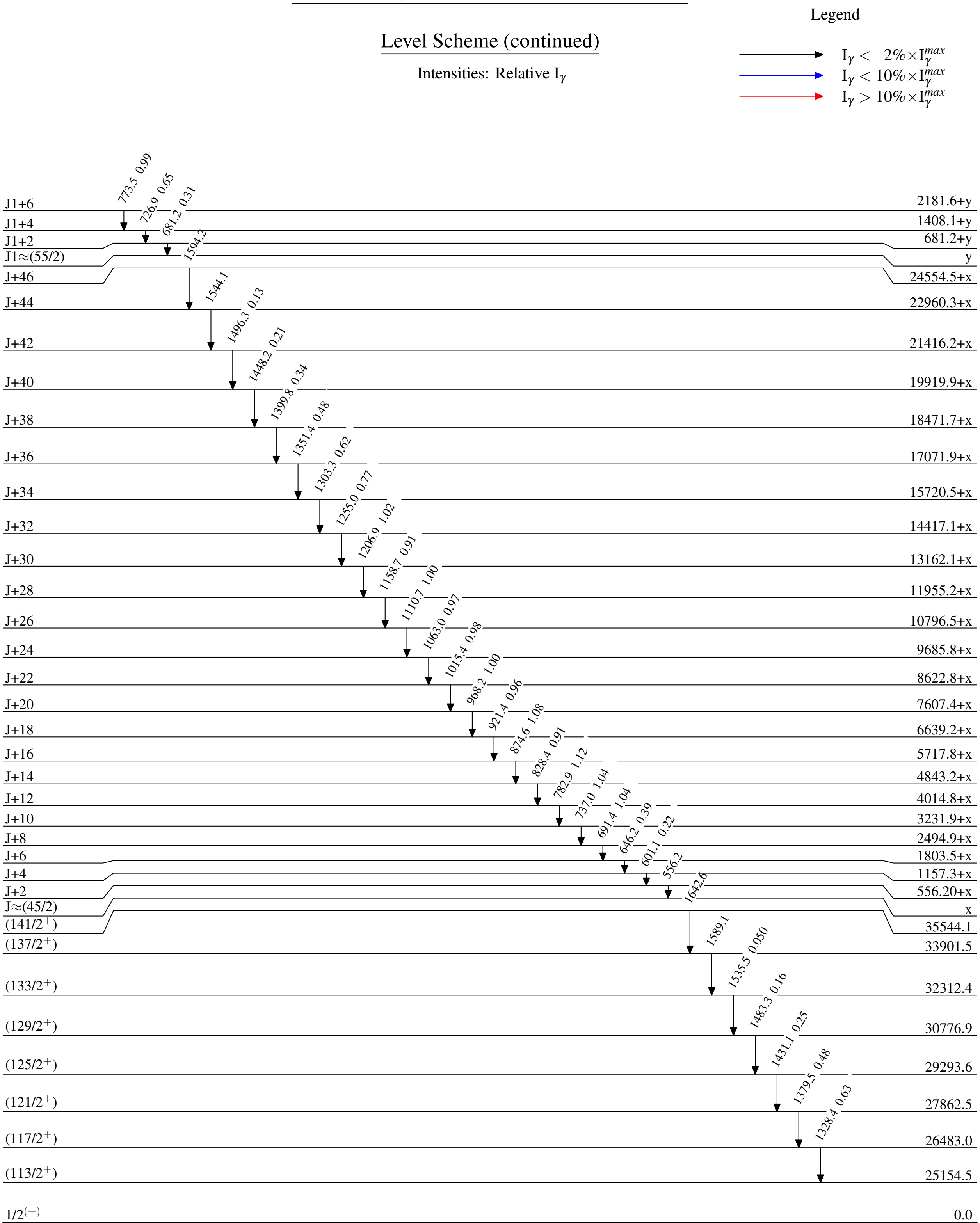


$^{151}_{65}Tb_{86}$

$^{130}Te(^{27}Al,6n\gamma)$ 1994Pe17,1995Kh06,2008Ro02

Level Scheme (continued)

Intensities: Relative I_γ

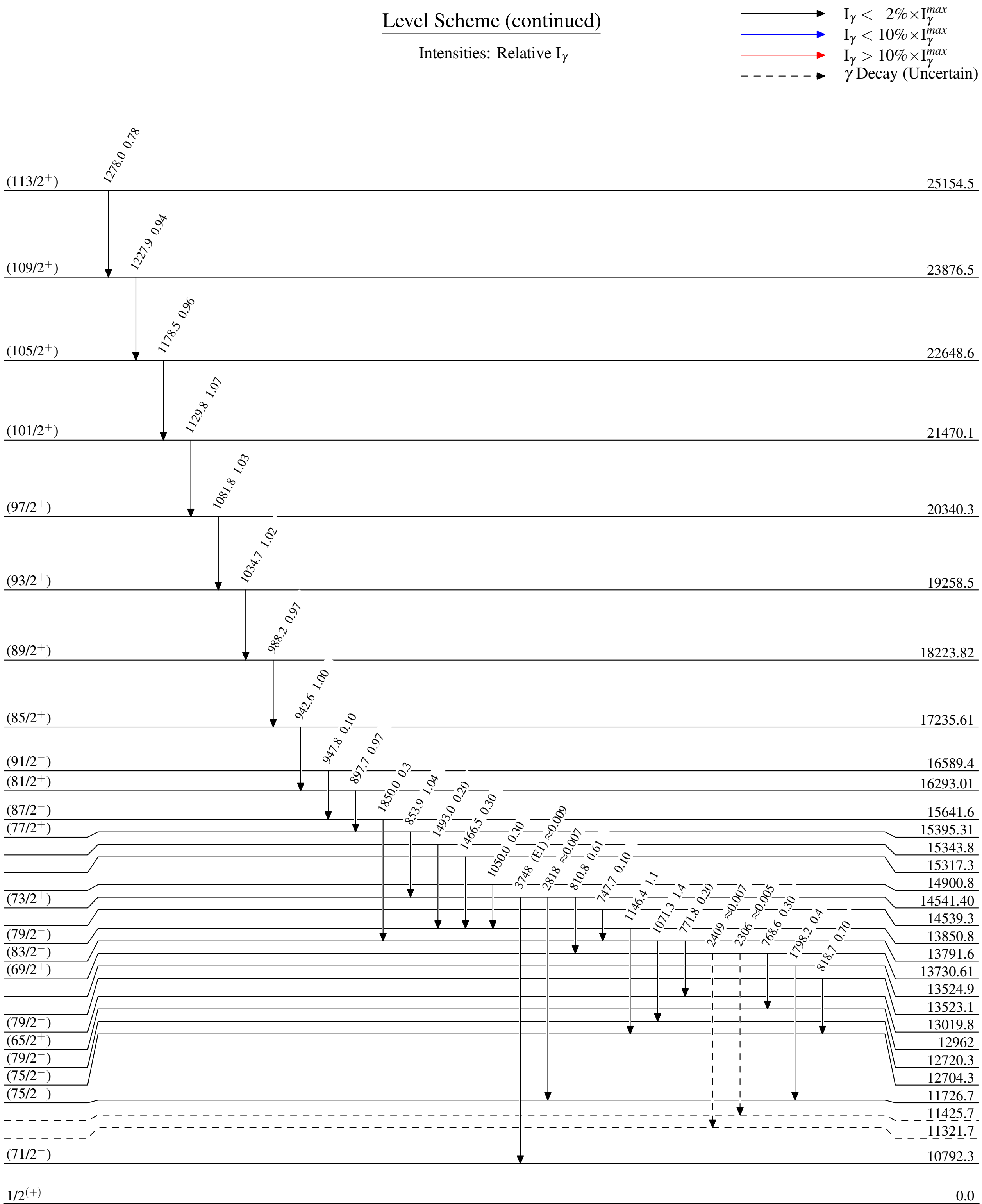


$^{151}_{65}Tb_{86}$

^{130}Te(^{27}Al,6nγ) 1994Pe17,1995Kh06,2008Ro02

Level Scheme (continued)

Intensities: Relative I_γ

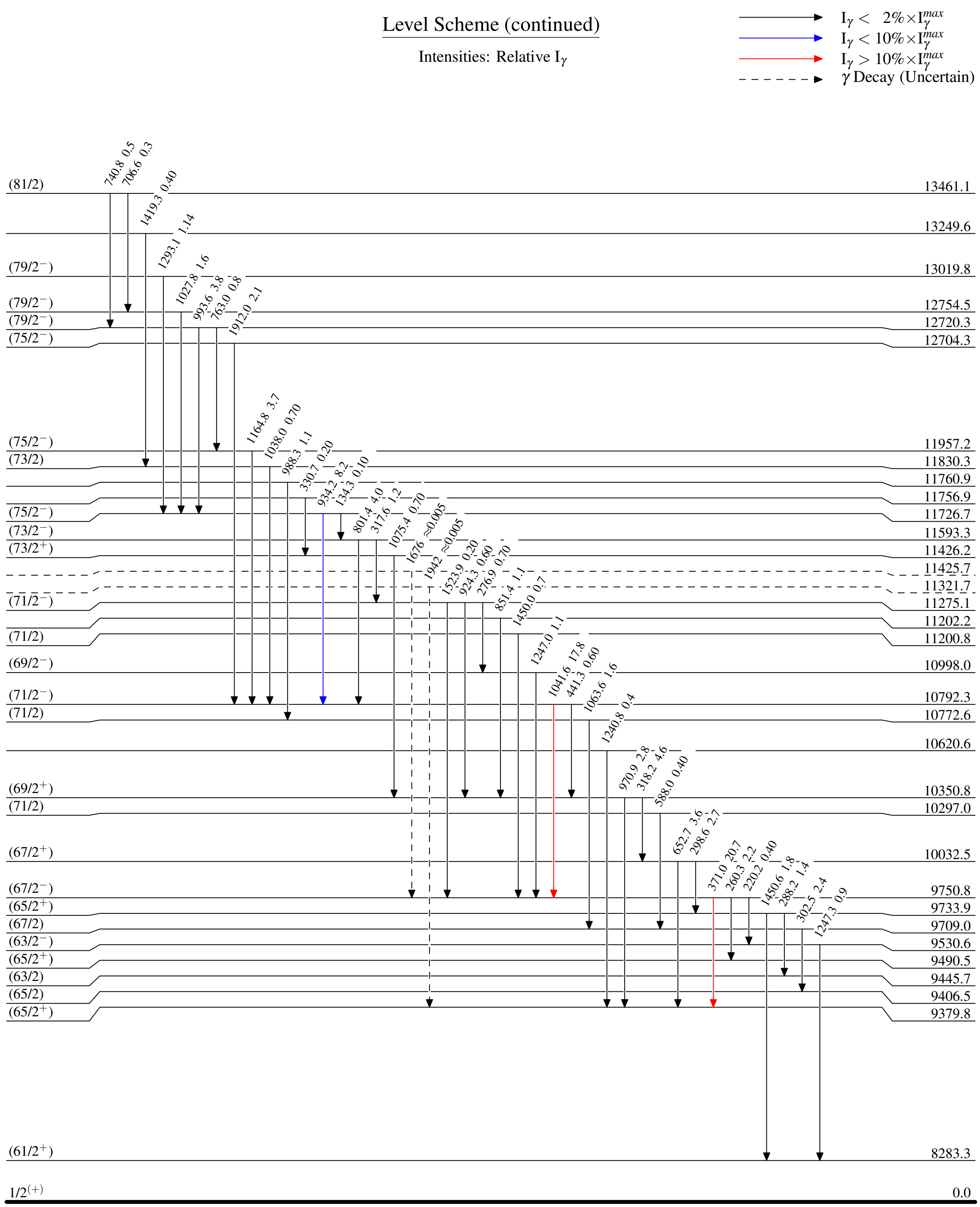


$^{151}_{65}Tb_{86}$

$^{130}Te(^{27}Al,6n\gamma)$ 1994Pe17,1995Kh06,2008Ro02

Level Scheme (continued)

Intensities: Relative I_γ

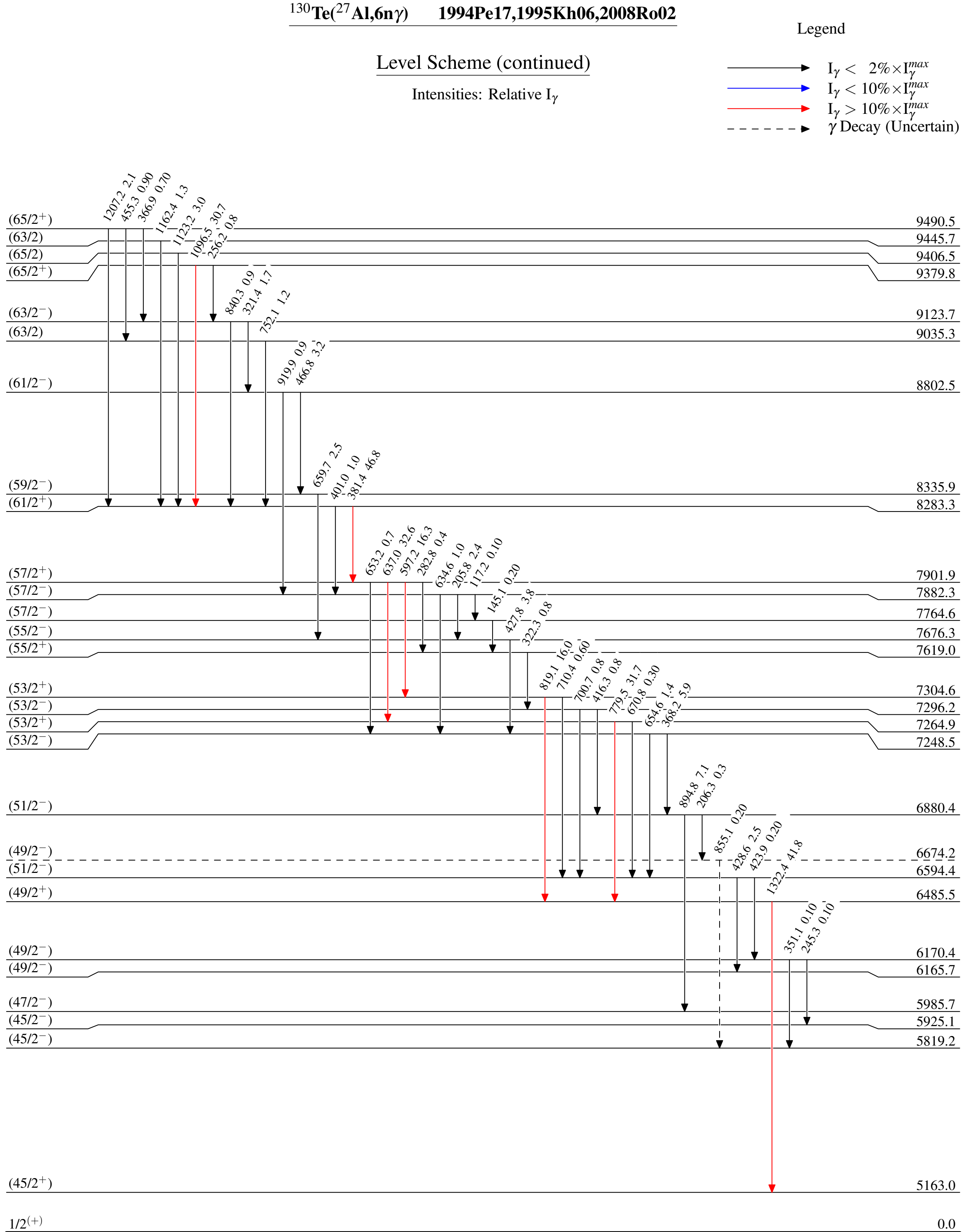


$^{151}_{65}Tb_{86}$

$^{130}Te(^{27}Al,6n\gamma)$ 1994Pe17,1995Kh06,2008Ro02

Level Scheme (continued)

Intensities: Relative I_γ

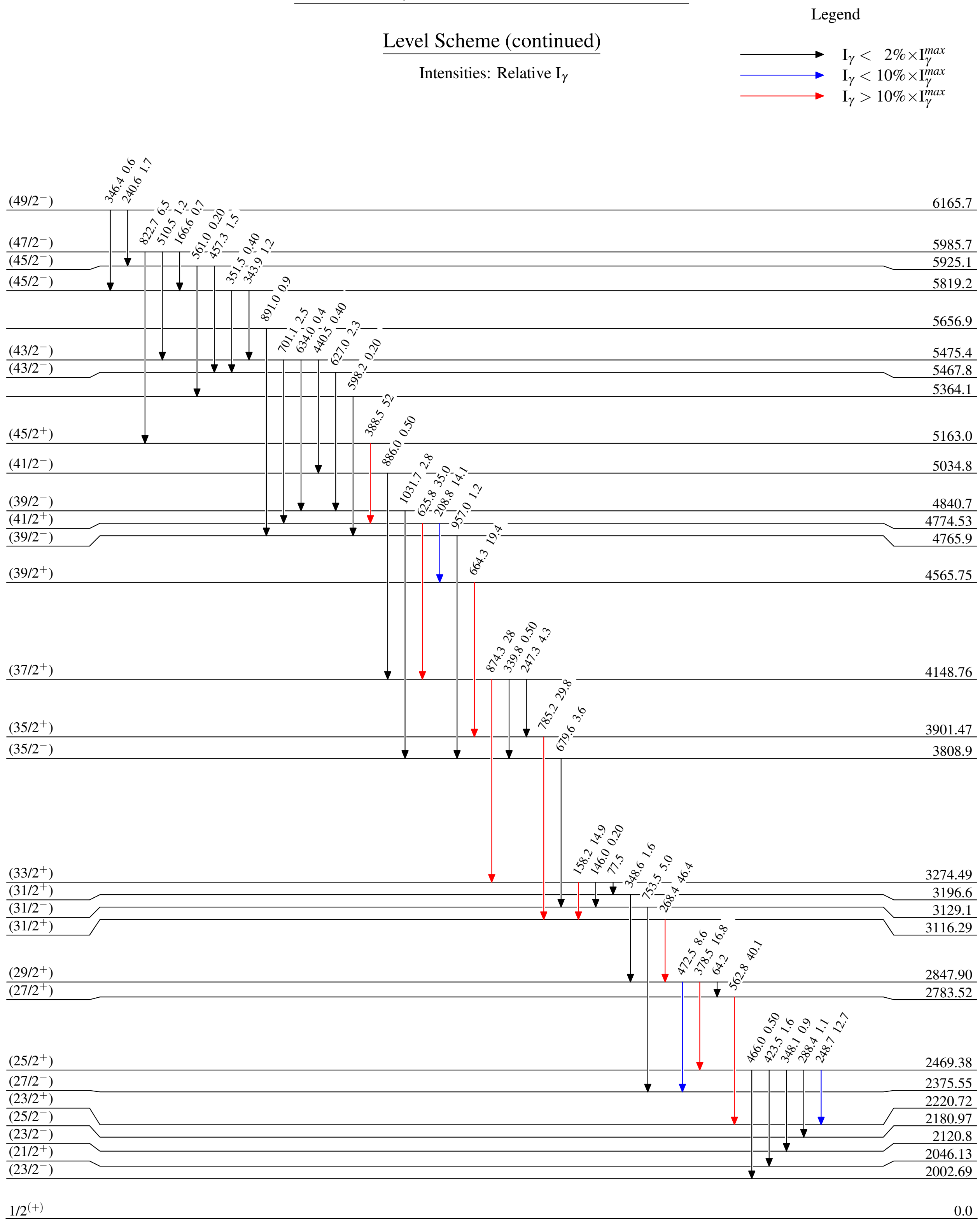


$^{151}_{65}Tb_{86}$

$^{130}Te(^{27}Al,6n\gamma)$ 1994Pe17,1995Kh06,2008Ro02

Level Scheme (continued)

Intensities: Relative I_γ

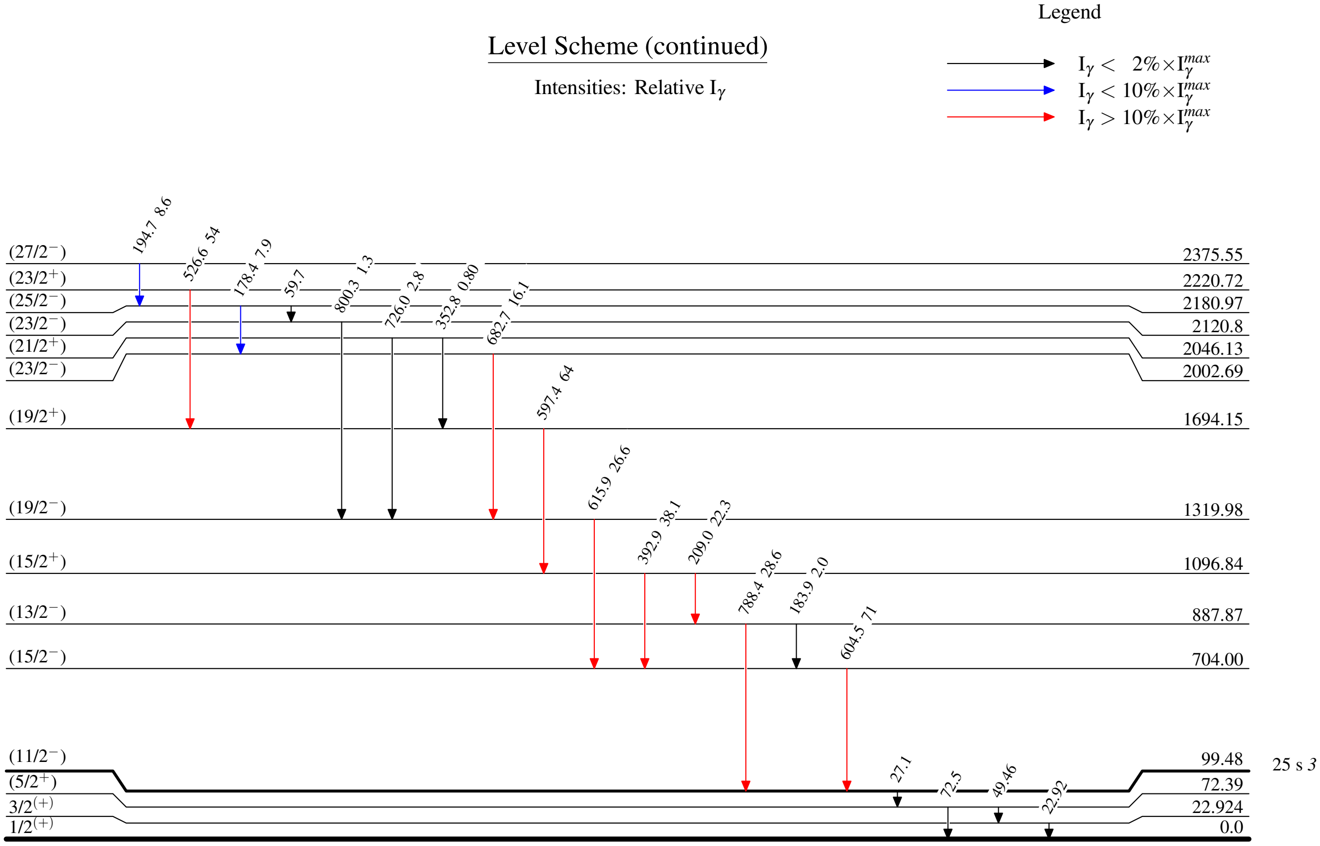


$^{151}_{65}Tb_{86}$

^{130}Te(^{27}Al,6nγ) 1994Pe17,1995Kh06,2008Ro02

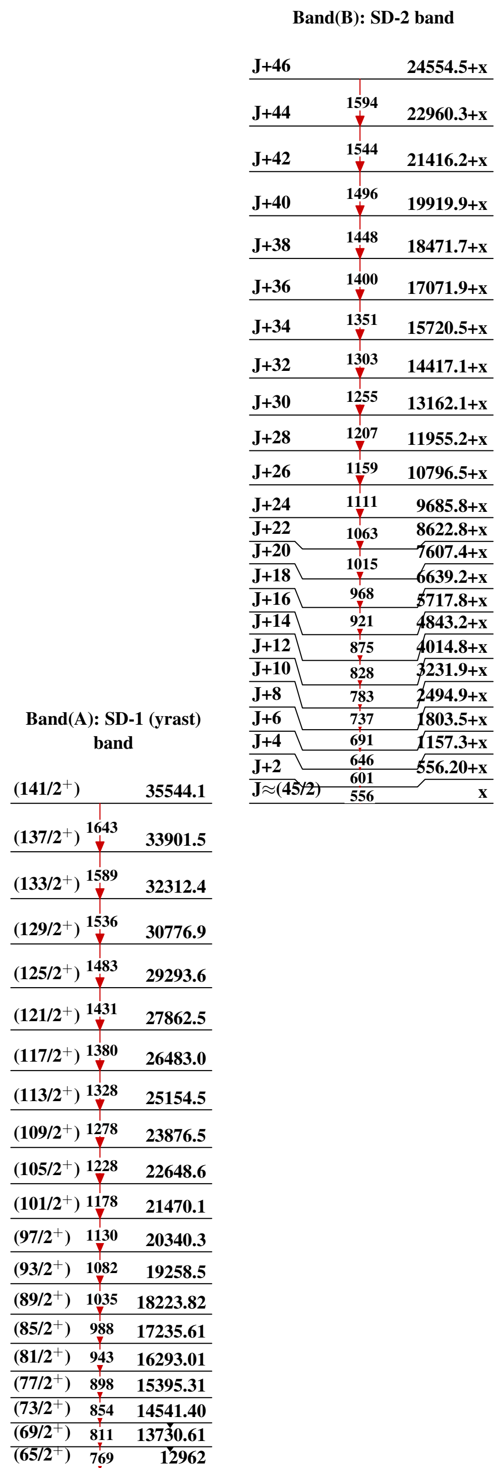
Level Scheme (continued)

Intensities: Relative I_γ



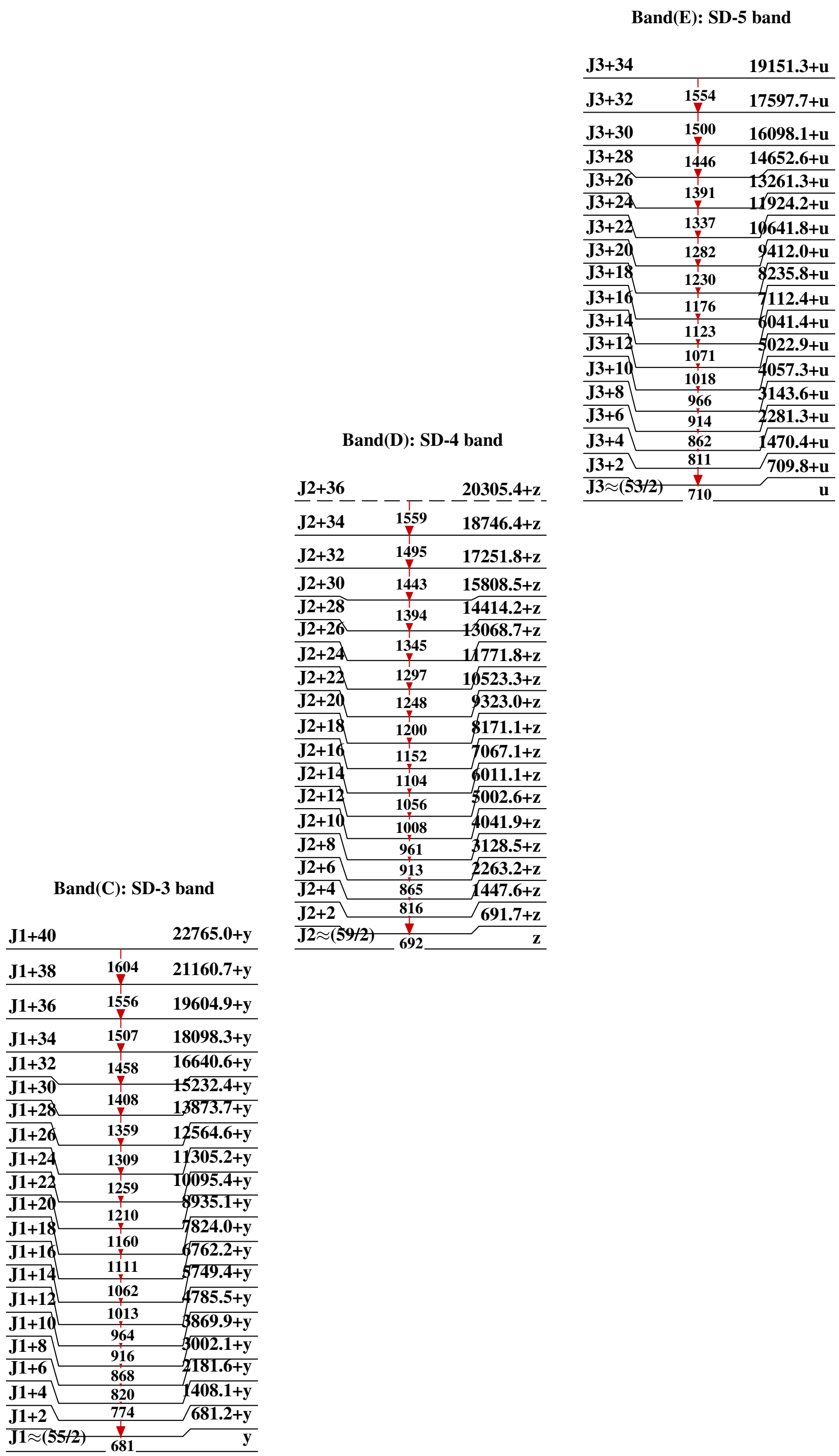
$^{151}_{65}Tb_{86}$

$^{130}Te(^{27}Al,6n\gamma)$ 1994Pe17,1995Kh06,2008Ro02



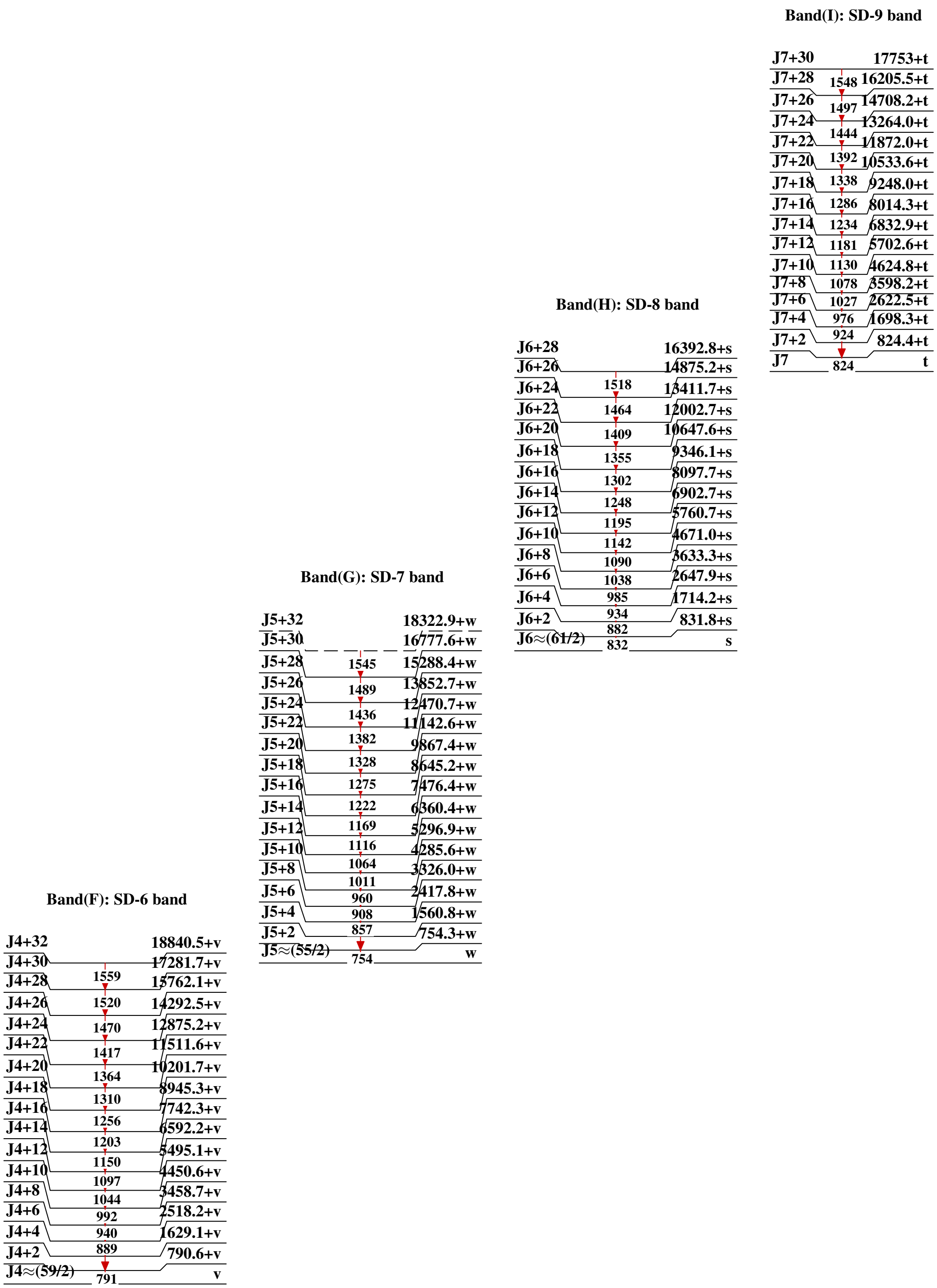
$^{151}_{65}Tb_{86}$

^{130}Te(^{27}Al,6nγ) 1994Pe17,1995Kh06,2008Ro02 (continued)



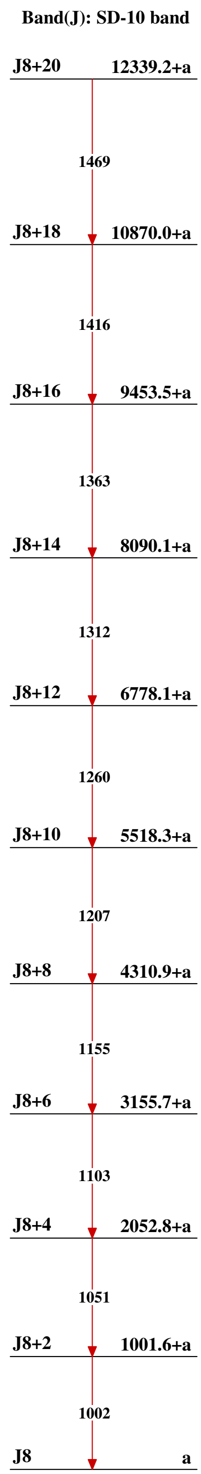
$^{151}_{65}Tb_{86}$

$^{130}Te(^{27}Al,6n\gamma)$ 1994Pe17,1995Kh06,2008Ro02 (continued)



$^{151}_{65}Tb_{86}$

$^{130}Te(^{27}Al,6n\gamma)$ 1994Pe17,1995Kh06,2008Ro02 (continued)



$^{151}_{65}Tb_{86}$