^{161}Dy(^{19}F,5nγ) 1995Ba51,1992Ki06

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 102, 719 (2004)	1-Jun-2004

1995Ba51: Target: ^{161}Dy. Projectile: ^{19}F, E=106 MeV. Measured Eγ, $\gamma\gamma$ coin. Detector: NORDBALL detector array equipped with 20 HPGe detectors and 60-element BaF2 innerball.

1992Ki06: Target: ^{161}Dy. Projectile: ^{19}F, E=88-112 MeV. Measured Eγ, Iγ, $\gamma\gamma$ coin, $\gamma\gamma$(t), $\gamma\gamma(\theta)$, γ-ray excitation functions. Detectors: CAESAR array of six germanium detectors with BGO Compton suppression shields; planar Ge for low energy γ's.

^{175}Re Levels

E(level)[†][d]	J$^{\pi}$[‡]	Comments
0.0[#]	5/2$^-$	
75.7[#e] 9	9/2$^-$	
(76.4[c] 9)	9/2$^-$	E(level): Estimated value. State's excitation energy was unknown, but based on the basis of population intensity in 1992Ki06.
125.3[a] 9	5/2$^+$	
(236.8[c] 11)	11/2$^-$	
239.7[a] 10	7/2$^+$	
272.2[#e] 12	13/2$^-$	
361.8[&] 11	7/2$^+$	
377.7[a] 10	9/2$^+$	
(427.9[c] 11)	13/2$^-$	
489.3[&] 11	9/2$^+$	
536.3[a] 11	11/2$^+$	
587.2[#e] 12	17/2$^-$	
(638.1[c] 11)	15/2$^-$	
638.5[&] 11	11/2$^+$	
709.6[a] 11	13/2$^+$	
807.3[&] 11	13/2$^+$	
(869.0[c] 12)	17/2$^-$	
899.1[a] 11	15/2$^+$	
994.8[&] 11	15/2$^+$	
1008.1[#e] 13	21/2$^-$	
1080.3[@f] 17	13/2$^+$	
1100.1[a] 11	17/2$^+$	
(1109.5[c] 12)	19/2$^-$	
1198.0[&] 11	17/2$^+$	
1316.6[a] 12	19/2$^+$	
1324.4[@e] 13	17/2$^+$	
(1365.3[c] 12)	21/2$^-$	
1403.9[b] 13	15/2	
1418.0[&] 13	19/2$^+$	
1519.5[#e] 14	25/2$^-$	
1543.5[a] 12	21/2$^+$	
1601.2 16	(21/2$^-$)	
1614.6[b] 12	17/2	
1616.7[@e] 12	21/2$^+$	
(1625.3[c] 13)	23/2$^-$	
1655.4[&] 13	21/2$^+$	
1787.5[a] 12	23/2$^+$	

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^{161}Dy(^{19}F,5nγ) 1995Ba51,1992Ki06 (continued)

^{175}Re Levels (continued)

E(level)[†][d]	J$^{\pi}$[‡]	T$_{1/2}$	Comments
1794.0[b] *11*	(19/2)	≈27.7 ns	T$_{1/2}$: From 1992Ki06.
1898.1[&] *14*	23/2$^+$		
(1898.8[c] *14*)	25/2$^-$		
1909.4 *16*	(23/2$^+$)		
1943.6[b] *14*	(21/2)		
1991.8[@e] *12*	25/2$^+$		
2043.1[a] *13*	25/2$^+$		
2104.7[#e] *16*	29/2$^-$		
2120.7[b] *14*	(23/2)		
2168.7[&] *17*	25/2$^+$		
(2177.1[c] *14*)	27/2$^-$		
2305.9[a] *14*	27/2$^+$		
2323.1[b] *15*	(25/2)		
2326.2[@] *16*	27/2$^+$		
2432.6[&] *18*	27/2$^+$		
2440.0[@e] *16*	29/2$^+$		
2450.1 *18*	(27/2$^+$)		
(2468.1[c] *15*)	29/2$^-$		
2549.4[b] *15*	(27/2)		
2576.9 *17*	(29/2$^+$)		
2579.4 *16*	(29/2$^-$)		
2597.9[a] *15*	29/2$^+$		Level not adopted, because both 292.1γ and 554.8γ depopulating this level are higher by about 20 keV than as observed in ^{156}Gd(^{23}Na,4nγ) and resulted different level energy for the 29/2$^+$ state.
2737.8[&] *20*	29/2$^+$		
2739.0[#e] *19*	33/2$^-$		
(2762.4[c] *16*)	31/2$^-$		
2797.6[b] *16*	(29/2)		
2800.0[@] *19*	31/2$^+$		
2950.7[@e] *19*	33/2$^+$		
3036.8 *17*	(33/2$^-$)		
3042.3 *19*	(33/2$^-$)		
(3042.9[c] *16*)	33/2$^-$		
3066.3[b] *17*	(31/2)		
3122.9 *18*	(33/2$^-$)		
3141.6 *19*	(33/2$^+$)		
3172.5 *18*	(33/2$^-$)		
3190.7[a] *18*	33/2$^+$		Level not adopted, because depopulating 592γ feeding to the 29/2$^+$ state, whose energy level disagrees by about 20 keV with the ^{156}Gd(^{23}Na,4nγ) dataset not adopted.
3212.3 *18*	(33/2$^+$)		
(3276.4[c] *17*)	35/2$^-$		
3351.6[@] *21*	35/2$^+$		
3353.7[b] *17*	(33/2)		
3372.1[#e] *22*	37/2$^-$		
3519.9[@e] *21*	37/2$^+$		
(3523.7[c] *18*)	37/2$^-$		
3630.8 *22*	(37/2$^-$)		
3658.4[b] *18*	(35/2)		
(3796.8[c] *18*)	39/2$^-$		
3967.0[@] *24*	39/2$^+$		

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^{161}Dy(^{19}F,5nγ) 1995Ba51,1992Ki06 (continued)

^{175}Re Levels (continued)

E(level)[†d]	Jπ[‡]	E(level)[†d]	Jπ[‡]	E(level)[†d]	Jπ[‡]	E(level)[†d]	Jπ[‡]
3978.5[b] *18*	(37/2)	4636[@] *3*	43/2$^+$	5416[#e] *3*	49/2$^-$	7989[#f] *4*	(61/2$^-$)
4000.2[#e] *24*	41/2$^-$	4672.4[b] *21*	(41/2)	5550[@e] *3*	49/2$^+$	8784[@f] *4*	65/2$^+$
(4093.7[c] *19*)	41/2$^-$	4676[#e] *3*	45/2$^-$	6217[#e] *3*	53/2$^-$	8949[#f] *4*	(65/2$^-$)
4144.4[@e] *24*	41/2$^+$	(4757.8[c] *21*)	45/2$^-$	6319[@e] *3*	53/2$^+$	9695[@f] *4*	(69/2$^+$)
4310.4[b] *19*	(39/2)	4822[@e] *3*	45/2$^+$	7077[#g] *3*	57/2$^-$	10659[@f] *4*	(73/2$^+$)
4336.0 *24*	(41/2$^-$)	(5136.8[c] *22*)	47/2$^-$	7108[@e] *3*	57/2$^+$	11673[@f] *4*	(77/2$^+$)
(4414.5[c] *20*)	43/2$^-$	5354[@] *3*	47/2$^+$	7924[@e] *4*	61/2$^+$	12733?[@f] *4*	(81/2$^+$)

† Deduced by evaluator from a least-squares fit to γ-ray energies assuming ΔE=1.0 keV for all transitions.
‡ Spin and parity assignments are based on γ-ray angular correlations and rotational structure. Additional support for assignments of spin, parity, rotational bands, and Nilsson quantum numbers, comes from comparisons of gyromagnetic ratios (g_K) predicted by the Nilsson model, with experimental values deduced from B(M1)/B(E2) cascade-to-crossover branching ratios in 1992Ki06.
# 1/2(541) band.
@ 1/2(660) band.
& 7/2(404) band.
a 5/2(402) band.
b K=(15/2) 3-quasiparticle band : energy is tentative.
c 9/2(514) band.
d Level present only in 1992Ki06, except as noted.
e Level present both in 1995Ba51 and 1992Ki06.
f Level present only in 1995Ba51.
g From 1995Ba51, level is uncertain in 1992Ki06.

γ(^{175}Re)

Angular distribution coefficient (A_2) is from 1992Ki06.

E_γ[†]	I_γ[@]	E_i(level)	J_i^π	E_f	J_f^π	Comments
75.7[‡]	91 *10*	75.7	9/2$^-$	0.0	5/2$^-$	
(76.4)		(76.4)	9/2$^-$	0.0	5/2$^-$	
114.3	111 *6*	239.7	7/2$^+$	125.3	5/2$^+$	A_2=+0.02 *4*.
(125.3)		125.3	5/2$^+$	0.0	5/2$^-$	
127.5	15 *4*	489.3	9/2$^+$	361.8	7/2$^+$	A_2=+0.00 *8*.
137.7	117 *6*	377.7	9/2$^+$	239.7	7/2$^+$	A_2=−0.16 *6*.
149.1	18 *4*	638.5	11/2$^+$	489.3	9/2$^+$	A_2=+0.06 *17* for doublet.
149.5	54 *5*	1943.6	(21/2)	1794.0	(19/2)	A_2=+0.06 *17* for doublet dominated by this transition.
158.4	135 *8*	536.3	11/2$^+$	377.7	9/2$^+$	A_2=+0.12 *6*.
160.3	153 *7*	(236.8)	11/2$^-$	76.4?	9/2$^-$	A_2=+0.05 *4*.
168.9	19 *3*	807.3	13/2$^+$	638.5	11/2$^+$	A_2=−0.04 *17*.
173.3	105 *7*	709.6	13/2$^+$	536.3	11/2$^+$	A_2=−0.17 *6*.
177.0	56 *5*	2120.7	(23/2)	1943.6	(21/2)	A_2=+0.16 *12*.
179.5	20 *5*	1794.0	(19/2)	1614.6	17/2	A_2=−0.07 *6*.
187.3	17 *5*	994.8	15/2$^+$	807.3	13/2$^+$	
189.3	81 *6*	899.1	15/2$^+$	709.6	13/2$^+$	A_2=+0.06 *3*.
191.0	185 *8*	(427.9)	13/2$^-$	236.8?	11/2$^-$	A_2=−0.07 *4*.
196.5[‡]	580 *27*	272.2	13/2$^-$	75.7	9/2$^-$	A_2=+0.15 *3*.
200.9	86 *4*	1100.1	17/2$^+$	899.1	15/2$^+$	A_2=−0.07 *5*.

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^{161}Dy(^{19}F,5nγ) 1995Ba51,1992Ki06 (continued)

γ(^{175}Re) (continued)

E_γ[†]	I_γ[@]	E_i(level)	J_i^π	E_f	J_f^π	Comments
202.4	31 *9*	2323.1	(25/2)	2120.7	(23/2)	A_2=+0.04 *10* for doublet.
203.2	21 *4*	1198.0	17/2$^+$	994.8	15/2$^+$	A_2=+0.04 *10* for doublet.
204.1	7 *2*	1991.8	25/2$^+$	1787.5	23/2$^+$	
210.1	176 *8*	(638.1)	15/2$^-$	427.9?	13/2$^-$	A_2=−0.08 *4*.
210.6	15 *4*	1614.6	17/2	1403.9	15/2	
216.4	54 *4*	1316.6	19/2$^+$	1100.1	17/2$^+$	A_2=−0.13 *6*.
220.0	10 *3*	1418.0	19/2$^+$	1198.0	17/2$^+$	A_2=+0.0 *1*.
226.2	21 *4*	2549.4	(27/2)	2323.1	(25/2)	
226.8	50 *3*	1543.5	21/2$^+$	1316.6	19/2$^+$	A_2=+0.00 *5*.
230.8	151 *6*	(869.0)	17/2$^-$	638.1?	15/2$^-$	A_2=−0.07 *4*.
233.6	18 *3*	(3276.4)	35/2$^-$	3042.9?	33/2$^-$	
236.5	52 *6*	361.8	7/2$^+$	125.3	5/2$^+$	A_2=+0.04 *10* for doublet dominated by this transition.
237.3	9 *4*	1655.4	21/2$^+$	1418.0	19/2$^+$	A_2=+0.04 *10* for doublet dominated by this transition.
240.3	128 *7*	(1109.5)	19/2$^-$	869.0?	17/2$^-$	A_2=+0.00 *3*.
242.7	5 *2*	1898.1	23/2$^+$	1655.4	21/2$^+$	
243.8	41 *3*	1787.5	23/2$^+$	1543.5	21/2$^+$	A_2=+0.04 *6*.
244.1[#]		1324.4	17/2$^+$	1080.3	13/2$^+$	
247.2	33 *3*	(3523.7)	37/2$^-$	3276.4?	35/2$^-$	A_2=+0.00 *9*.
248.2	21 *9*	2797.6	(29/2)	2549.4	(27/2)	
249.6	31 *4*	489.3	9/2$^+$	239.7	7/2$^+$	
252.4	21 *2*	377.7	9/2$^+$	125.3	5/2$^+$	A_2=+0.00 *6*.
255.6	105 *5*	(1365.3)	21/2$^-$	1109.5?	19/2$^-$	A_2=−0.07 *4* for doublet dominated by this transition.
255.8	31 *2*	2043.1	25/2$^+$	1787.5	23/2$^+$	A_2=−0.07 *4* for doublet.
260.0	76 *5*	(1625.3)	23/2$^-$	1365.3?	21/2$^-$	A_2=−0.08 *4* for doublet dominated by this transition.
260.9	27 *4*	638.5	11/2$^+$	377.7	9/2$^+$	A_2=−0.08 *4* for doublet.
262.9	24 *4*	2305.9	27/2$^+$	2043.1	25/2$^+$	A_2=−0.04 *22*.
268.7	24 *4*	3066.3	(31/2)	2797.6	(29/2)	A_2=+0.15 *10*.
270.6	15 *3*	807.3	13/2$^+$	536.3	11/2$^+$	A_2=+0.0 *3*.
272.9	30 *10*	(3796.8)	39/2$^-$	3523.7?	37/2$^-$	A_2=−0.15 *4* for doublet.
273.6	66 *10*	(1898.8)	25/2$^-$	1625.3?	23/2$^-$	A_2=−0.15 *4* for doublet dominated by this transition.
276.9	19 *4*	638.5	11/2$^+$	361.8	7/2$^+$	A_2=+0.2 *1*.
278.2	55 *3*	(2177.1)	27/2$^-$	1898.8?	25/2$^-$	A_2=−0.18 *7*.
280.4	23 *3*	(3042.9)	33/2$^-$	2762.4?	31/2$^-$	
285.5	17 *5*	994.8	15/2$^+$	709.6	13/2$^+$	A_2=−0.5 *1*.
287.3	12 *4*	3353.7	(33/2)	3066.3	(31/2)	
291.0	40 *6*	(2468.1)	29/2$^-$	2177.1?	27/2$^-$	A_2=+0.06 *6*.
292.1	17 *2*	2597.9	29/2$^+$	2305.9	27/2$^+$	A_2=+0.25 *6* for doublet.
292.3[‡]	71 *5*	1616.7	21/2$^+$	1324.4	17/2$^+$	A_2=+0.25 *6* for doublet dominated by this transition.
294.2	38 *3*	(2762.4)	31/2$^-$	2468.1?	29/2$^-$	A_2=+0.00 *6*.
296.6	52 *3*	536.3	11/2$^+$	239.7	7/2$^+$	A_2=+0.12 *3* for doublet dominated by this transition.
296.9	25 *3*	(4093.7)	41/2$^-$	3796.8?	39/2$^-$	A_2=+0.12 *3* for doublet dominated by this transition.
304.7	11 *3*	3658.4	(35/2)	3353.7	(33/2)	
315.1[‡]	562 *14*	587.2	17/2$^-$	272.2	13/2$^-$	A_2=+0.21 *3*.
318.1	48 *4*	807.3	13/2$^+$	489.3	9/2$^+$	A_2=+0.11 *13*.
320.2	12 *3*	3978.5	(37/2)	3658.4	(35/2)	A_2=0.09 *13* for doublet.
321.0	13 *2*	(4414.5)	43/2$^-$	4093.7?	41/2$^-$	A_2=0.09 *13* for doublet.
326.9	9 *3*	2120.7	(23/2)	1794.0	(19/2)	A_2=+0.0 *2*.
332.0	11 *3*	4310.4	(39/2)	3978.5	(37/2)	A_2=+0.15 *7* for doublet.
332.1	78 *5*	709.6	13/2$^+$	377.7	9/2$^+$	A_2=+0.15 *7* for doublet dominated by this transition.
351.5	27 *2*	(427.9)	13/2$^-$	76.4?	9/2$^-$	A_2=+0.13 *4*.
356.2	44 *5*	994.8	15/2$^+$	638.5	11/2$^+$	A_2=+0.29 *7*.
363.0	73 *4*	899.1	15/2$^+$	536.3	11/2$^+$	A_2=+0.20 *4*.
374.9[‡]	103 *6*	1991.8	25/2$^+$	1616.7	21/2$^+$	A_2=+0.20 *4*.
379.4	27 *2*	2323.1	(25/2)	1943.6	(21/2)	A_2=+0.1 *2*.
390.5	117 *4*	1100.1	17/2$^+$	709.6	13/2$^+$	A_2=+0.20 *2* for doublet.

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^{161}Dy(^{19}F,5nγ) 1995Ba51,1992Ki06 (continued)

γ(^{175}Re) (continued)

E_γ[†]	I_γ[@]	E_i(level)	J_i^π	E_f	J_f^π	Comments
390.6	73 *10*	1198.0	17/2$^+$	807.3	13/2$^+$	A_2=+0.20 *2* for doublet.
401.4	58 *3*	(638.1)	15/2$^-$	236.8?	11/2$^-$	A_2=+0.16 *4*.
417.4	100 *5*	1316.6	19/2$^+$	899.1	15/2$^+$	A_2=+0.38 *7*.
418.8	43 *3*	1616.7	21/2$^+$	1198.0	17/2$^+$	A_2=+0.39 *11*.
420.9[‡]	419 *11*	1008.1	21/2$^-$	587.2	17/2$^-$	A_2=+0.26 *2*.
423.2	59 *4*	1418.0	19/2$^+$	994.8	15/2$^+$	A_2=+0.3 *1*.
428.7	20 *3*	1794.0	(19/2)	1365.3?	21/2$^-$	
428.8	42 *6*	2549.4	(27/2)	2120.7	(23/2)	A_2=+0.14 *6*.
441.2	74 *5*	(869.0)	17/2$^-$	427.9?	13/2$^-$	A_2=+0.24 *4*.
443.4	105 *5*	1543.5	21/2$^+$	1100.1	17/2$^+$	A_2=+0.31 *4*.
448.2[‡]	127 *6*	2440.0	29/2$^+$	1991.8	25/2$^+$	A_2=+0.20 *3* for doublet dominated by this transition.
448.5	42 *6*	1991.8	25/2$^+$	1543.5	21/2$^+$	A_2=+0.20 *3* for doublet.
457.2	20 *2*	3036.8	(33/2$^-$)	2579.4	(29/2$^-$)	A_2=+0.20 *15* for doublet.
457.5	46 *4*	1655.4	21/2$^+$	1198.0	17/2$^+$	A_2=+0.20 *15* for doublet.
470.8	115 *4*	1787.5	23/2$^+$	1316.6	19/2$^+$	A_2=+0.27 *5* for doublet.
471.5	91 *4*	(1109.5)	19/2$^-$	638.1?	15/2$^-$	A_2=+0.27 *5* for doublet.
472.6[#]		1991.8	25/2$^+$	1519.5	25/2$^-$	
473.8	34 *3*	2800.0	31/2$^+$	2326.2	27/2$^+$	A_2=+0.26 *9* for doublet.
474.5	50 *5*	2797.6	(29/2)	2323.1	(25/2)	A_2=+0.26 *9* for doublet.
480.1	46 *4*	1898.1	23/2$^+$	1418.0	19/2$^+$	A_2=+0.24 *7* for doublet dominated by this transition.
480.8	11 *2*	(3523.7)	37/2$^-$	3042.9?	33/2$^-$	A_2=+0.24 *7* for doublet.
491.4	29 *4*	1909.4	(23/2$^+$)	1418.0	19/2$^+$	A_2=+0.2 *1*.
494.0	29 *3*	2800.0	31/2$^+$	2305.9	27/2$^+$	A_2=+0.4 *1*.
496.3	95 *5*	(1365.3)	21/2$^-$	869.0?	17/2$^-$	A_2=+0.22 *4*.
499.7	113 *6*	2043.1	25/2$^+$	1543.5	21/2$^+$	A_2=+0.29 *3*.
510.7[‡]	96 *10*	2950.7	33/2$^+$	2440.0	29/2$^+$	A_2=+0.31 *3*.
511.6[‡]	379 *30*	1519.5	25/2$^-$	1008.1	21/2$^-$	A_2=+0.19 *2*.
513.3	34 *6*	2168.7	25/2$^+$	1655.4	21/2$^+$	A_2=+0.36 *4* for doublet.
514.0	25 *5*	(3276.4)	35/2$^-$	2762.4?	31/2$^-$	A_2=+0.36 *4* for doublet.
516.0	92 *6*	(1625.3)	23/2$^-$	1109.5?	19/2$^-$	A_2=+0.30 *3* for doublet.
516.9	45 *6*	3066.3	(31/2)	2549.4	(27/2)	A_2=+0.30 *3* for doublet.
518.2	77 *4*	2305.9	27/2$^+$	1787.5	23/2$^+$	A_2=+0.27 *4*.
520.5	16 *4*	(3796.8)	39/2$^-$	3276.4?	35/2$^-$	A_2=+0.4 *2*.
533.4	78 *10*	(1898.8)	25/2$^-$	1365.3?	21/2$^-$	A_2=+0.28 *6* for triplet.
533.8	31 *5*	2576.9	(29/2$^+$)	2043.1	25/2$^+$	A_2=+0.28 *6* for triplet.
534.5	29 *4*	2432.6	27/2$^+$	1898.1	23/2$^+$	A_2=+0.28 *6* for triplet.
538.7	41 *4*	2326.2	27/2$^+$	1787.5	23/2$^+$	A_2=+0.25 *7*.
551.6	29 *5*	3351.6	35/2$^+$	2800.0	31/2$^+$	A_2=+0.30 *4* for triplet.
551.8	97 *6*	(2177.1)	27/2$^-$	1625.3?	23/2$^-$	A_2=+0.30 *4* for triplet.
552.0	34 *4*	2450.1	(27/2$^+$)	1898.1	23/2$^+$	A_2=+0.30 *4* for triplet.
554.8	60 *5*	2597.9	29/2$^+$	2043.1	25/2$^+$	A_2=+0.4 *1*.
556.2	36 *5*	3353.7	(33/2)	2797.6	(29/2)	A_2=+0.4 *1*.
562.2	26 *4*	3141.6	(33/2$^+$)	2579.4	(29/2$^-$)	A_2=+0.37 *6*.
569.1	25 *5*	2737.8	29/2$^+$	2168.7	25/2$^+$	A_2=+0.32 *4* for triplet.
569.2[‡]	68 *8*	3519.9	37/2$^+$	2950.7	33/2$^+$	A_2=+0.32 *4* for triplet.
569.3	100 *7*	(2468.1)	29/2$^-$	1898.8?	25/2$^-$	A_2=+0.32 *4* for triplet.
570.2	16 *5*	(4093.7)	41/2$^-$	3523.7?	37/2$^-$	
574.8	30 *4*	(3042.9)	33/2$^-$	2468.1?	29/2$^-$	A_2=+0.17 *10*.
585.3	67 *4*	(2762.4)	31/2$^-$	2177.1?	27/2$^-$	A_2=+0.30 *2* for doublet.
585.5[‡]	257 *20*	2104.7	29/2$^-$	1519.5	25/2$^-$	A_2=+0.30 *2* for doublet dominated by this transition.
592.0	23 *4*	3658.4	(35/2)	3066.3	(31/2)	A_2=+0.5 *2* for doublet.
592.8	32 *3*	3190.7	33/2$^+$	2597.9	29/2$^+$	A_2=+0.5 *2* for doublet.
608.4[‡]	13 *9*	1616.7	21/2$^+$	1008.1	21/2$^-$	A_2=+0.3 *1*.
614.4	30 *5*	3212.3	(33/2$^+$)	2597.9	29/2$^+$	A_2=+0.3 *1* for doublet.

Continued on next page (footnotes at end of table)

^{161}Dy(^{19}F,5nγ) 1995Ba51,1992Ki06 (continued)

$\gamma(^{175}Re)$ (continued)

E_γ [†]	I_γ [@]	E_i(level)	J_i^π	E_f	J_f^π	Comments
615.4	34 *4*	3967.0	$39/2^+$	3351.6	$35/2^+$	A_2=+0.3 *1* for doublet.
617.4	7 *3*	(4414.5)	$43/2^-$	3796.8?	$39/2^-$	
624.5[‡]	45 *5*	4144.4	$41/2^+$	3519.9	$37/2^+$	A_2=+0.18 *7* for doublet in which this is major component.
624.8	17 *6*	3978.5	(37/2)	3353.7	(33/2)	A_2=+0.18 *7* for doublet.
628.1[‡]	60 *5*	4000.2	$41/2^-$	3372.1	$37/2^-$	A_2=+0.30 *4*.
633.1[‡]	112 *14*	3372.1	$37/2^-$	2739.0	$33/2^-$	A_2=+0.17 *3* for doublet.
634.3[‡]	204 *11*	2739.0	$33/2^-$	2104.7	$29/2^-$	A_2=+0.17 *3* for doublet in which this is major component.
651.9	16 *3*	4310.4	(39/2)	3658.4	(35/2)	A_2=+0.2 *2*.
654.8	25 *3*	3122.9	$(33/2^-)$	2468.1?	$29/2^-$	A_2=+0.2 *1*.
664.1	22 *3*	(4757.8)	$45/2^-$	4093.7?	$41/2^-$	
668.7	18 *2*	4636	$43/2^+$	3967.0	$39/2^+$	A_2=+0.2 *2*.
676.0[‡]	39 *5*	4676	$45/2^-$	4000.2	$41/2^-$	A_2=+0.31 *2*.
677.8[‡]	21 *5*	4822	$45/2^+$	4144.4	$41/2^+$	
684.4	6 *3*	1794.0	(19/2)	1109.5?	$19/2^-$	
693.7	20 *4*	1794.0	(19/2)	1100.1	$17/2^+$	
693.9	10 *4*	4672.4	(41/2)	3978.5	(37/2)	
694.2	8 *4*	1403.9	15/2	709.6	$13/2^+$	
704.4	15 *3*	3172.5	$(33/2^-)$	2468.1?	$29/2^-$	
705.2	12 *3*	4336.0	$(41/2^-)$	3630.8	$(37/2^-)$	
715.6	10 *3*	1614.6	17/2	899.1	$15/2^+$	
718.5	8 *2*	5354	$47/2^+$	4636	$43/2^+$	
722.3	14 *3*	(5136.8)	$47/2^-$	4414.5?	$43/2^-$	
728.0[‡]	14 *3*	5550	$49/2^+$	4822	$45/2^+$	
737.1[‡]	54 *3*	1324.4	$17/2^+$	587.2	$17/2^-$	A_2=+0.22 *5*.
739.7[‡]	24 *4*	5416	$49/2^-$	4676	$45/2^-$	
768.4[‡]	9 *3*	6319	$53/2^+$	5550	$49/2^+$	
789.0[‡]	7 *2*	7108	$57/2^+$	6319	$53/2^+$	
801.0[‡]	14 *2*	6217	$53/2^-$	5416	$49/2^-$	
815.9[‡]	5 *2*	7924	$61/2^+$	7108	$57/2^+$	
859.7[‡]	10 *2*	7077	$57/2^-$	6217	$53/2^-$	Uncertain placement in 1992Ki06.
860.1[#]		8784	$65/2^+$	7924	$61/2^+$	
891.8	32 *3*	3630.8	$(37/2^-)$	2739.0	$33/2^-$	
911.1[#]		9695	$(69/2^+)$	8784	$65/2^+$	
912.8[#]		7989	$(61/2^-)$	7077	$57/2^-$	
932.3	35 *4*	3036.8	$(33/2^-)$	2104.7	$29/2^-$	
937.6	34 *4*	3042.3	$(33/2^-)$	2104.7	$29/2^-$	
960[#]		8949	$(65/2^-)$	7989	$(61/2^-)$	
963.8[#]		10659	$(73/2^+)$	9695	$(69/2^+)$	
1013.9	19 *2*	1601.2	$(21/2^-)$	587.2	$17/2^-$	
1014.6[#]		11673	$(77/2^+)$	10659	$(73/2^+)$	
1059.7	22 *2*	2579.4	$(29/2^-)$	1519.5	$25/2^-$	
1060[#&]		12733?	$(81/2^+)$	11673	$(77/2^+)$	

[†] From 1992Ki06, except as noted.
[‡] Average value of 1995Ba51 and 1992Ki06.
[#] From 1995Ba51.
[@] From 1992Ki06.
[&] Placement of transition in the level scheme is uncertain.

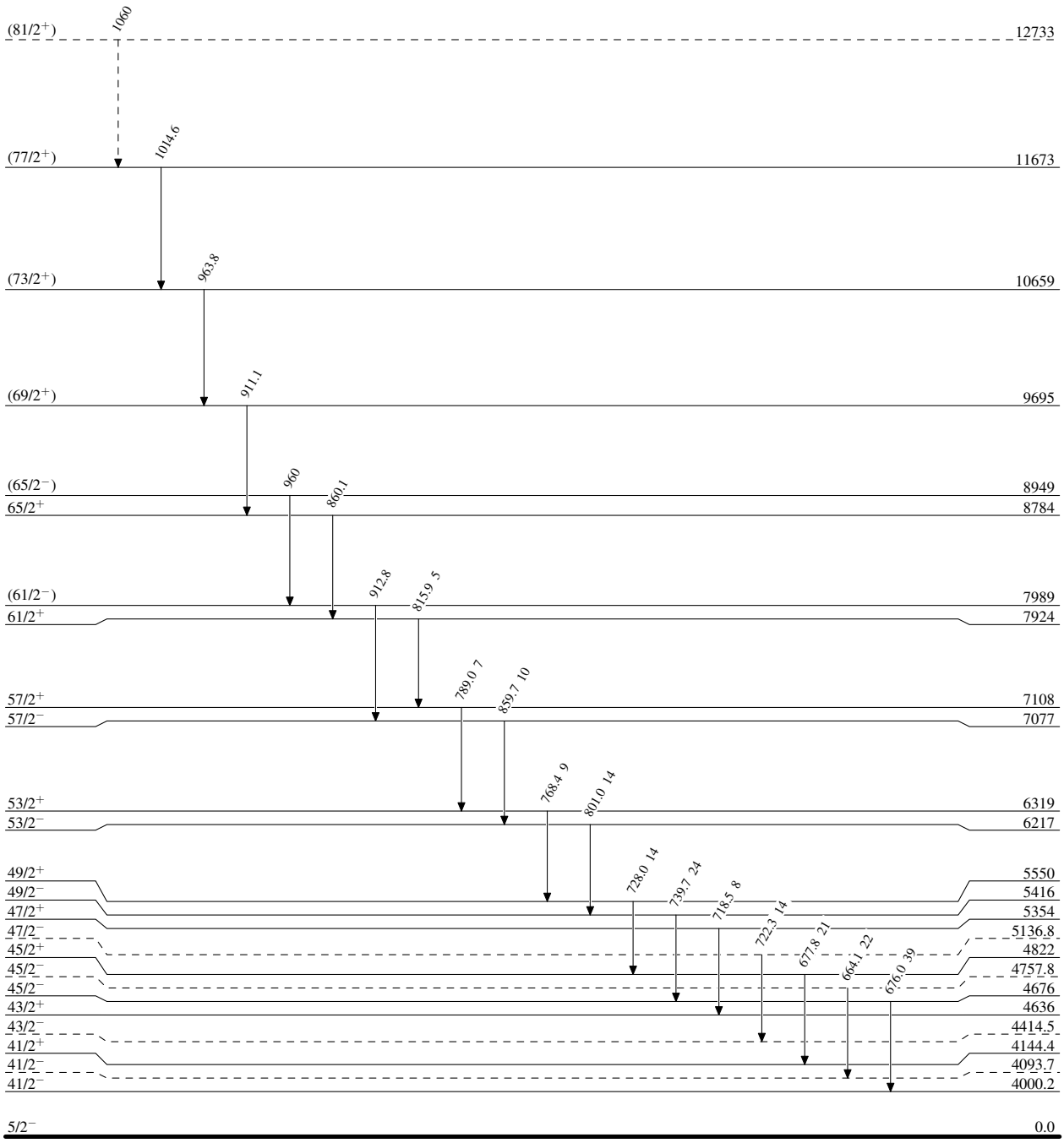
^{161}Dy(^{19}F,5nγ) 1995Ba51,1992Ki06

Level Scheme

Intensities: Type not specified

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)



$^{175}_{75}Re_{100}$

^{161}Dy(^{19}F,5nγ) 1995Ba51,1992Ki06

Level Scheme (continued)

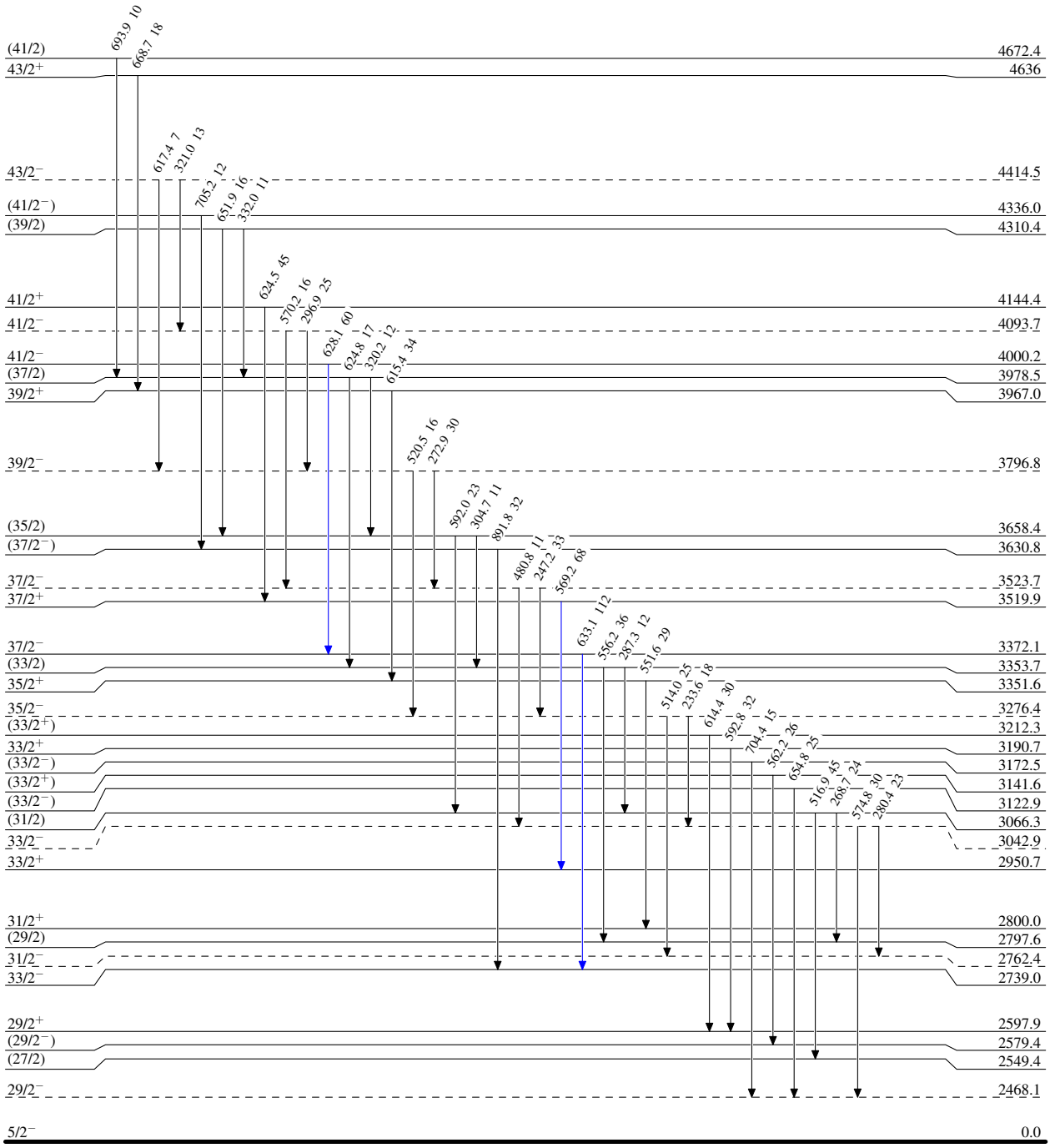
Intensities: Type not specified

Legend

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

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

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

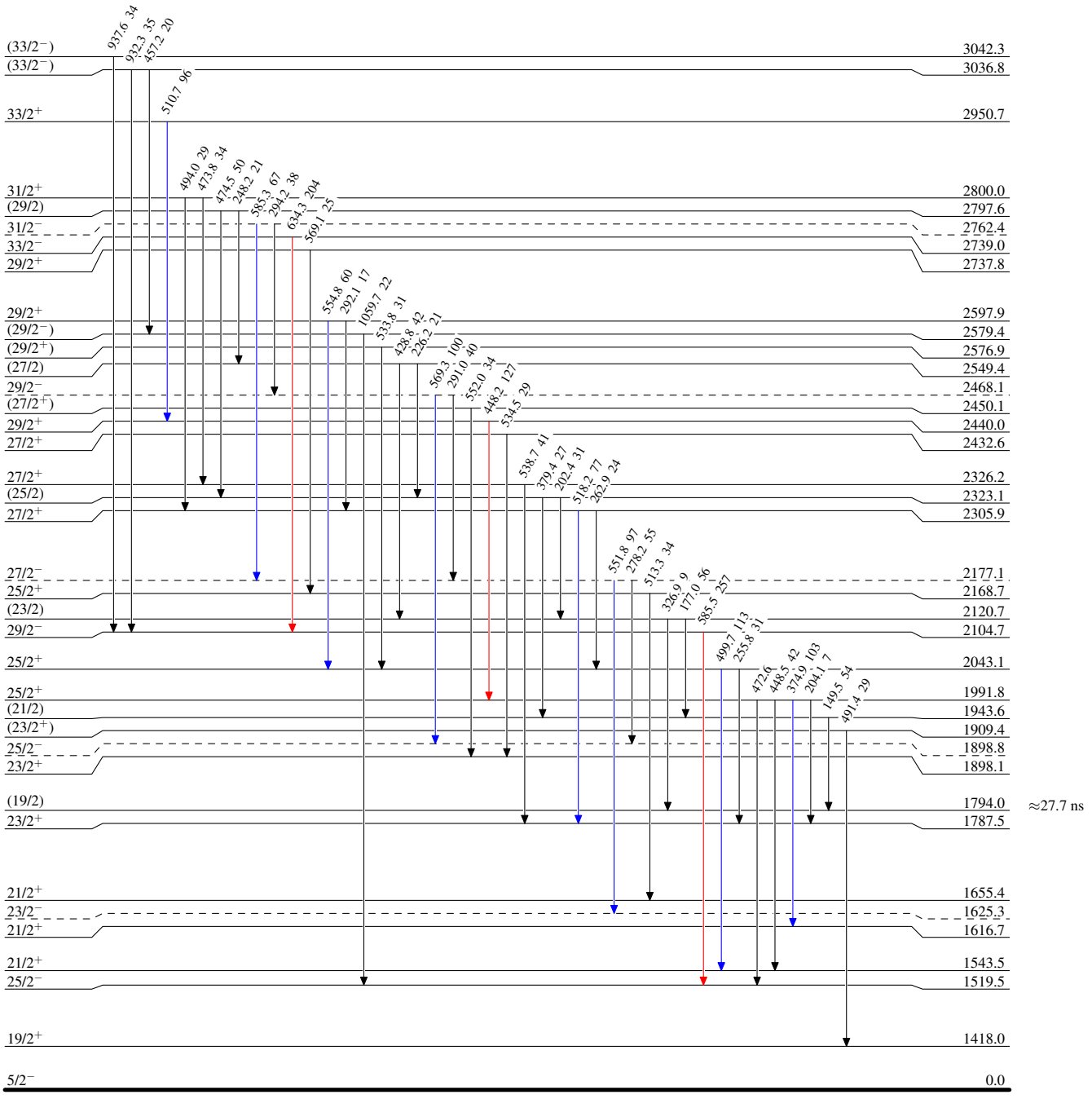


$^{175}_{75}Re_{100}$

^{161}Dy(^{19}F,5nγ) 1995Ba51,1992Ki06

Level Scheme (continued)

Intensities: Type not specified

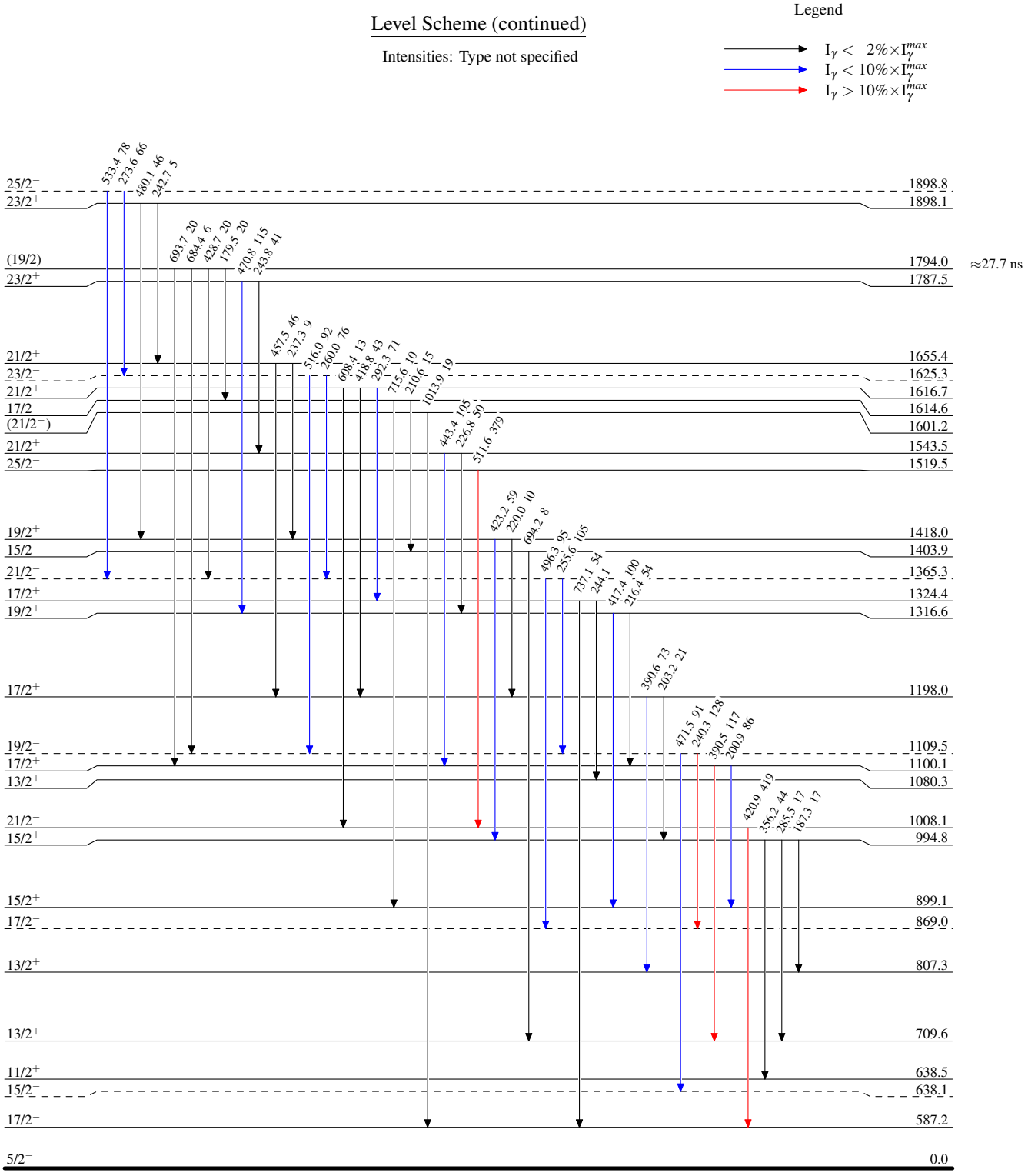


$^{175}_{75}Re_{100}$

^{161}Dy(^{19}F,5nγ) 1995Ba51,1992Ki06

Level Scheme (continued)

Intensities: Type not specified



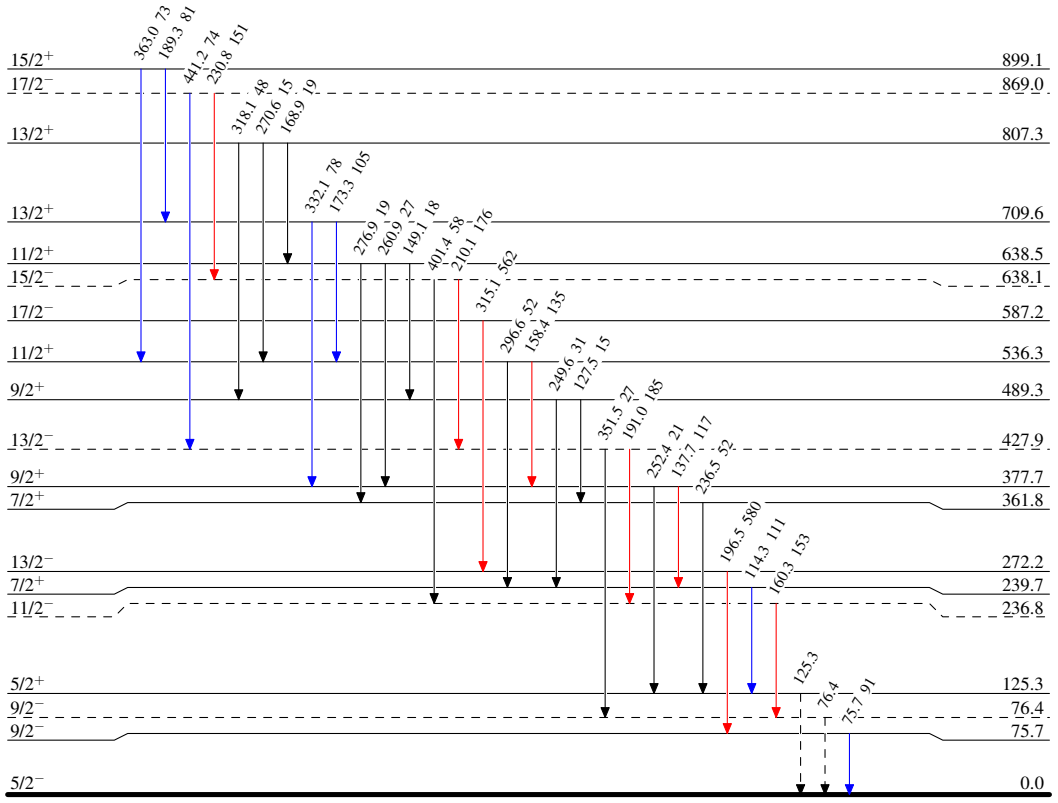
$^{175}_{75}Re_{100}$

^{161}Dy(^{19}F,5nγ) 1995Ba51,1992Ki06

Level Scheme (continued)

Intensities: Type not specified

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)



$^{175}_{75}Re_{100}$