^{165}Ho(^{18}O,4nγ), ^{170}Er(^{14}N,5nγ) 2004Ch12,1989Ve08

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 110, 265 (2009)	15-Nov-2008

Other: 2002Th12 (E=82 MeV; see (^{11}B,5nγ) source dataset).

1989Ve08: E(^{18}O)=84 MeV, E(^{14}N)=71 MeV; natural ^{165}Ho and 96.9% ^{170}Er targets, Compton-suppressed Ge detectors; measured Eγ, Iγ, $\gamma\gamma$ coin (prompt and delayed), directional correlation ratios.

2004Ch12,2003Ch76: E(^{18}O)=82 MeV; 12 Compton-suppressed HPGe detectors, 14-element BGO multiplicity detector array; measured Eγ, Iγ, $T_{1/2}$ from RDM (18 target-stopper distances, from 10 to 5000 υm).

^{179}Re Levels

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$[#]	Comments
0.0[l]	5/2$^+$		
0.0+x[d]	9/2$^-$		
65.39[g] *9*	5/2$^-$		
115.4[g] *4*	9/2$^-$		
124.20[m] *16*	7/2$^+$		
165.50+x[e] *9*	11/2$^-$		
279.80[l] *16*	9/2$^+$		
284.1[g] *3*	13/2$^-$		
359.62+x[d] *11*	13/2$^-$	8.1 ps *6*	
465.90[m] *19*	11/2$^+$	11.4 ps *+8−11*	
570.0[g] *3*	17/2$^-$	18.7 ps *+4−6*	
577.32+x[e] *13*	15/2$^-$	4.9 ps *+4−5*	
676.99[l] *21*	13/2$^+$	4.37 ps *+35−28*	
818.57+x[d] *14*	17/2$^-$	2.36 ps *+21−28*	
913.82[m] *23*	15/2$^+$	3.12 ps *21*	$T_{1/2}$: 2.56 ps *14* In 2003Ch76.
927.5[f] *4*	(15/2$^-$)		
962.0[g] *3*	21/2$^-$	3.33 ps *+28−35*	
1076.31+x[e] *17*	19/2$^-$	1.66 ps *14*	
1166.45[l] *24*	17/2$^+$	1.59 ps *7*	$T_{1/2}$: 1.80 ps *14* In 2003Ch76.
1208.6 *3*	(15/2$^-$)		
1210.18+x *14*	(15/2$^-$)[&]		
1315.1 *3*	(19/2$^+$)		
1330.3[f] *4*	(19/2$^-$)		
1353.05+x[d] *19*	21/2$^-$	1.32 ps *+21−35*	
1436.6[m] *3*	19/2$^+$	<1.2 ps	
1445.6[g] *3*	25/2$^-$	1.46 ps *+21−28*	
1458.00+x *15*	(17/2$^-$)[&]		
1490.7[j] *3*	(17/2$^-$)		
1530.40+x *15*	(17/2$^-$)[&]		
1636.59+x[e] *21*	23/2$^-$		
1637.0[k] *3*	21/2$^+$		
1684.51+x *15*	(19/2$^-$)[&]		
0.0+y[c]	(23/2$^+$)	>0.4[@] μs	E(level): y-(1684.15+x)≤140 keV. Possible Configuration=((ν 7/2[514])+(ν 7/2[633])+(π 9/2[514])).
1714.2[l] *3*	21/2$^+$	<0.90 ps	
1738.9+x *4*	(21/2,23/2)		J$^\pi$: based on absence of γ rays feeding levels below the J$^\pi$=19/2$^-$ 1684+x level. $T_{1/2}$: level is isomeric, but $T_{1/2}$ could not Be determined.
130.00+y[b] *16*	(25/2$^+$)		

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^{165}Ho(^{18}O,4nγ), ^{170}Er(^{14}N,5nγ) 2004Ch12,1989Ve08 (continued)

^{179}Re Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	T$_{1/2}$[#]	Comments
1819.9[f] 4	(23/2$^-$)		
1857.9[j] 3	(19/2$^-$)		
1858.5[h] 4			
1890.91+x[a] 25			
1894.5[h] 4			
1932.61+x[d] 23	25/2$^-$	<0.62 ps	
1986.4[m] 3	23/2$^+$		
2004.8[g] 4	29/2$^-$	0.69 ps 14	
324.70+y[c] 16	(27/2$^+$)		
2052.5[k] 4	(25/2$^+$)		
2099.6+x[a] 3			
2226.01+x[e] 25	27/2$^-$		
553.51+y[b] 19	(29/2$^+$)		
2251.7[l] 3	25/2$^+$		
2299.3[j] 4	(21/2$^-$)		
2314.3 4	(21/2$^-$)		
2320.6[h] 4			
2330.2+x[a] 3			
2382.1[f] 4	(27/2$^-$)		
2411.6[h] 4			
808.59+y[c] 21	(31/2$^+$)		
2508.3[i] 4			
2519.1[m] 4	27/2$^+$		
2523.9+x[d] 3	29/2$^-$		
2552.7[k] 4	(29/2$^+$)		
2555.3+x[a] 4			level not adopted; deexcitation transitions not confirmed In later (HI,xnγ) study (viz., by 2002Th12).
2623.4[g] 5	33/2$^-$	<0.7 ps	
1085.94+y[b] 23	(33/2$^+$)		
2791.4[l] 4	29/2$^+$		
2819.4+x[e] 3	31/2$^-$		
2821.0[j] 4			
2827.7 4			
2851.3[h] 5			
2983.9[i] 5			
1382.31+y[c] 25	(35/2$^+$)		
3072.0[m] 4	31/2$^+$		
3118.3+x[d] 3	33/2$^-$		
3130.3[k] 5	(33/2$^+$)		
3289.6[g] 5	37/2$^-$		
3344.1[l] 5	33/2$^+$		
1695.2+y[b] 3	(37/2$^+$)		
3420.7+x[e] 3	35/2$^-$		
3426.6[j] 5			
3547.8[i] 5			
3630.6[m] 4	(35/2$^+$)		
2021.3+y[c] 3	(39/2$^+$)		
3733.7+x[d] 4	37/2$^-$		
3775.8[k] 5	(37/2$^+$)		

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^{165}Ho(^{18}O,4nγ), ^{170}Er(^{14}N,5nγ) 2004Ch12,1989Ve08 (continued)

^{179}Re Levels (continued)

E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡
3999.6[g] 5	41/2⁻	4107.3[j] 5		4476.4[k] 6	(41/2⁺)
2358.8+y[b] 3	(41/2⁺)	4190.9[i] 6		3054.1+y[b] 4	(45/2⁺)
4055.1+x[e] 4	39/2⁻	2704.9+y[c] 3	(43/2⁺)	4756.6[g] 6	45/2⁻

† From least-squares fit to Eγ. From Adopted Levels, the energy offset x=87.54 *23*.
‡ Authors′ assignment based on DCO ratios, Iγ and systematics of (HI,xnγ) reactions.
# From recoil distance measurement (2004Ch12), except As noted. 2004Ch12 supersedes 2003Ch76.
@ Authors′ estimate, based on time difference (relative to beam bursts) for transitions above and below isomeric state. Observed delay much greater than beam pulse spacing of 180 ns.
& Most probable value; however, a J value one unit smaller could not be excluded by the authors (because some mult assignments are uncertain). The value shown here does agree with the adopted one.
[a] Band(A): possible collective band. Note that the proposed 2555.3+x level is not included In Adopted Levels (its deexcitation gammas were not confirmed In a separate (HI,xnγ) study (viz., 2002Th12).
[b] Band(B): possible 3-quasiparticle α=+1/2 band. Suggested Configuration=((π 7/2[514])+(ν 7/2[633])+(π 9/2[514]))23/2⁺.
[c] Band(b): possible 3-quasiparticle α=−1/2 band. Suggested Configuration=((π 7/2[514])+(ν 7/2[633])+(π 9/2[514]))23/2⁺.
[d] Band(C): 9/2[514] α=+1/2 band.
[e] Band(c): 9/2[514] α=−1/2 band.
[f] Band(D): (15/2⁻) band.
[g] Band(E): 1/2[541] band.
[h] Band(F): possible π=− side band.
[i] Band(G): collective band.
[j] Band(H): (17/2⁻) band.
[k] Band(I): 1/2[660] band.
[l] Band(J): 5/2[402] g.s. α=+1/2 band.
[m] Band(j): 5/2[402] g.s. α=−1/2 band.

γ(^{179}Re)

Eγ†	Iγ‡	Ei(level)	Jiπ	Ef	Jfπ	Mult.#	Comments
(x)		0.0+x	9/2⁻	0.0	5/2⁺		Eγ: <80 based on nonobservance of transition in prompt-delayed coin search (1989Ve08). Consistent with separation of 5/2[402] and 9/2[514] bandheads in ^{177}Re and ^{181}Re. from Adopted Levels, x=87.54 *23*.
(z@)		0.0+y	(23/2⁺)	1684.51+x	(19/2⁻)		
(50.0 *4*)		115.4	9/2⁻	65.39	5/2⁻		Eγ: from level energy difference.
(54.4& *4*)		1738.9+x	(21/2,23/2)	1684.51+x	(19/2⁻)		
65.39 *9*		65.39	5/2⁻	0.0	5/2⁺		Eγ: from Adopted Gammas.
124.2 *2*	28 *6*	124.20	7/2⁺	0.0	5/2⁺	D	
130.1 *2*		130.00+y	(25/2⁺)	0.0+y	(23/2⁺)	(D)	
152.0 *2*	1.9 *7*	1890.91+x		1738.9+x	(21/2,23/2)		
154.1 *2*	1.9 *5*	1684.51+x	(19/2⁻)	1530.40+x	(17/2⁻)		
155.6 *2*	31 *6*	279.80	9/2⁺	124.20	7/2⁺	D	
165.5 *1*	123 *25*	165.50+x	11/2⁻	0.0+x	9/2⁻	D	
168.7 *1*	81 *8*	284.1	13/2⁻	115.4	9/2⁻	Q	
186.1 *2*	30 *6*	465.90	11/2⁺	279.80	9/2⁺	D	
194.0 *2*	0.9 *2*	2508.3		2314.3	(21/2⁻)		

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^{165}Ho(^{18}O,4nγ), ^{170}Er(^{14}N,5nγ) 2004Ch12,1989Ve08 (continued)

γ(^{179}Re) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]
194.1 *1*	77 *15*	359.62+x	13/2$^-$	165.50+x	11/2$^-$	D
194.7 *2*	31 *6*	324.70+y	(27/2$^+$)	130.00+y	(25/2$^+$)	(D)
206.4 *2*	5.4 *27*	1890.91+x		1684.51+x	(19/2$^-$)	
208.7 *2*	3.8 *19*	2099.6+x		1890.91+x		
211.1 *2*	22 *4*	676.99	13/2$^+$	465.90	11/2$^+$	D
217.7 *1*	64 *13*	577.32+x	15/2$^-$	359.62+x	13/2$^-$	D
225.2 *2*	≤1.5	2555.3+x		2330.2+x		
226.6 *2*	4.6 *15*	1684.51+x	(19/2$^-$)	1458.00+x	(17/2$^-$)	
228.8 *2*	27 *5*	553.51+y	(29/2$^+$)	324.70+y	(27/2$^+$)	(D)
230.6 *2*	3.8 *23*	2330.2+x		2099.6+x		
236.8 *2*	16 *5*	913.82	15/2$^+$	676.99	13/2$^+$	D
241.2 *1*	45 *9*	818.57+x	17/2$^-$	577.32+x	15/2$^-$	D
247.8 *2*	≤1.4	1458.00+x	(17/2$^-$)	1210.18+x	(15/2$^-$)	
252.7 *2*	10.8 *22*	1166.45	17/2$^+$	913.82	15/2$^+$	D
255.1 *2*	15 *3*	808.59+y	(31/2$^+$)	553.51+y	(29/2$^+$)	(D)
257.7 *2*	26 *5*	1076.31+x	19/2$^-$	818.57+x	17/2$^-$	D
265.2 *2*	1.9 *9*	2251.7	25/2$^+$	1986.4	23/2$^+$	
267.4 *2*	≤1.0	2519.1	27/2$^+$	2251.7	25/2$^+$	
270.2 *2*	6.1 *18*	1436.6	19/2$^+$	1166.45	17/2$^+$	D
272.3 *2*	1.6 *8*	1986.4	23/2$^+$	1714.2	21/2$^+$	
276.8 *2*	17 *3*	1353.05+x	21/2$^-$	1076.31+x	19/2$^-$	D
277.4 *2*	9.8 *20*	1085.94+y	(33/2$^+$)	808.59+y	(31/2$^+$)	(D)
277.6 *2*	5.5 *27*	1714.2	21/2$^+$	1436.6	19/2$^+$	D
279.8 *2*	5.3 *26*	279.80	9/2$^+$	0.0	5/2$^+$	
282.1 *2*	6.5 *13*	1490.7	(17/2$^-$)	1208.6	(15/2$^-$)	(D)
283.5 *2*	10 *3*	1636.59+x	23/2$^-$	1353.05+x	21/2$^-$	D
285.8 *1*	100 *10*	570.0	17/2$^-$	284.1	13/2$^-$	Q
293.4 *2*	7.8 *23*	2226.01+x	27/2$^-$	1932.61+x	25/2$^-$	(D)
295.5 *2*	2.3 *7*	2819.4+x	31/2$^-$	2523.9+x	29/2$^-$	
296.0 *2*	9 *3*	1932.61+x	25/2$^-$	1636.59+x	23/2$^-$	(D)
296.4 *2*	6.8 *14*	1382.31+y	(35/2$^+$)	1085.94+y	(33/2$^+$)	(D)
297.9 *2*	4.6 *23*	2523.9+x	29/2$^-$	2226.01+x	27/2$^-$	
298.8 *2*	2.3 *12*	3118.3+x	33/2$^-$	2819.4+x	31/2$^-$	
302.5 *2*	2.9 *9*	3420.7+x	35/2$^-$	3118.3+x	33/2$^-$	
312.8 *2*	8.9 *18*	1695.2+y	(37/2$^+$)	1382.31+y	(35/2$^+$)	
312.9 *2*	2.0 *10*	3733.7+x	37/2$^-$	3420.7+x	35/2$^-$	
320.3 *2*	4.8 *14*	1530.40+x	(17/2$^-$)	1210.18+x	(15/2$^-$)	
321.8 *2*	4.9 *24*	1637.0	21/2$^+$	1315.1	(19/2$^+$)	(D)
324.2 *2*	3.5 *11*	1490.7	(17/2$^-$)	1166.45	17/2$^+$	
324.6 *2*	2.1 *10*	324.70+y	(27/2$^+$)	0.0+y	(23/2$^+$)	
326.1 *2*	3.6 *7*	2021.3+y	(39/2$^+$)	1695.2+y	(37/2$^+$)	
337.4 *2*	11.8 *4*	2358.8+y	(41/2$^+$)	2021.3+y	(39/2$^+$)	
341.7 *2*	9.8 *19*	465.90	11/2$^+$	124.20	7/2$^+$	Q
346.0 *2*	1.0 *5*	2704.9+y	(43/2$^+$)	2358.8+y	(41/2$^+$)	
357.6 *2*	1.1 *4*	927.5	(15/2$^-$)	570.0	17/2$^-$	
359.6 *2*	9.7 *19*	359.62+x	13/2$^-$	0.0+x	9/2$^-$	Q
367.2 *2*	8.2 *16*	1857.9	(19/2$^-$)	1490.7	(17/2$^-$)	(D)
392.0 *1*	72 *7*	962.0	21/2$^-$	570.0	17/2$^-$	Q
397.2 *2*	16 *3*	676.99	13/2$^+$	279.80	9/2$^+$	Q
401.2 *2*	3.0 *9*	1315.1	(19/2$^+$)	913.82	15/2$^+$	(Q)
402.7 *2*	2.5 *5*	1330.3	(19/2$^-$)	927.5	(15/2$^-$)	(Q)
411.9 *2*	22 *4*	577.32+x	15/2$^-$	165.50+x	11/2$^-$	
415.5 *2*	4.8 *14*	2052.5	(25/2$^+$)	1637.0	21/2$^+$	(Q)
421.4 *2*	2.6 *8*	1857.9	(19/2$^-$)	1436.6	19/2$^+$	
423.6 *2*	3.7 *8*	553.51+y	(29/2$^+$)	130.00+y	(25/2$^+$)	
439.3 *2*	2.3 *7*	2330.2+x		1890.91+x		

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^{165}Ho(^{18}O,4nγ), ^{170}Er(^{14}N,5nγ) 2004Ch12,1989Ve08 (continued)

γ(^{179}Re) (continued)

E_γ [†]	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [#]
441.4 2	4.0 8	2299.3	(21/2$^-$)	1857.9	(19/2$^-$)	(D)
447.9 2	22 4	913.82	15/2$^+$	465.90	11/2$^+$	
455.6 2	≤1.5	2555.3+x		2099.6+x		
456.4 2	3.5 7	2314.3	(21/2$^-$)	1857.9	(19/2$^-$)	(D)
458.9 2	21 4	818.57+x	17/2$^-$	359.62+x	13/2$^-$	Q
470.6 2	2.3 7	1637.0	21/2$^+$	1166.45	17/2$^+$	Q
474.4 2	3.5 8	1684.51+x	(19/2$^-$)	1210.18+x	(15/2$^-$)	(Q)
475.6 2	0.6 2	2983.9		2508.3		
483.6 1	50 5	1445.6	25/2$^-$	962.0	21/2$^-$	Q
483.8 2	6.8 14	808.59+y	(31/2$^+$)	324.70+y	(27/2$^+$)	
489.5 2	16 3	1166.45	17/2$^+$	676.99	13/2$^+$	
489.6 2	3.5 7	1819.9	(23/2$^-$)	1330.3	(19/2$^-$)	
498.9 2	19 4	1076.31+x	19/2$^-$	577.32+x	15/2$^-$	Q
500.2 2	2.1 4	2552.7	(29/2$^+$)	2052.5	(25/2$^+$)	
513.4 2	0.6 3	2827.7		2314.3	(21/2$^-$)	
521.7 2	0.7 2	2821.0		2299.3	(21/2$^-$)	
522.7 2	12.7 25	1436.6	19/2$^+$	913.82	15/2$^+$	
528.6 2	1.2 4	1490.7	(17/2$^-$)	962.0	21/2$^-$	
532.5 2	5.8 11	1085.94+y	(33/2$^+$)	553.51+y	(29/2$^+$)	(Q)
532.8 2	3.2 9	2519.1	27/2$^+$	1986.4	23/2$^+$	
534.4 2	14 4	1353.05+x	21/2$^-$	818.57+x	17/2$^-$	Q
537.4 2	4.8 14	2251.7	25/2$^+$	1714.2	21/2$^+$	
539.7 2	3.6 12	2791.4	29/2$^+$	2251.7	25/2$^+$	
547.7 2	7.9 16	1714.2	21/2$^+$	1166.45	17/2$^+$	
549.9 2	6.0 12	1986.4	23/2$^+$	1436.6	19/2$^+$	
552.7 2	≈1	3344.1	33/2$^+$	2791.4	29/2$^+$	
552.9 2	≈1	3072.0	31/2$^+$	2519.1	27/2$^+$	
558.6[a] 2	≤1	3630.6	(35/2$^+$)	3072.0	31/2$^+$	
559.2 2	28 3	2004.8	29/2$^-$	1445.6	25/2$^-$	Q
560.3 2	13 4	1636.59+x	23/2$^-$	1076.31+x	19/2$^-$	Q
562.2 2	4.8 9	2382.1	(27/2$^-$)	1819.9	(23/2$^-$)	
563.9 2	≤1	3547.8		2983.9		
573.6 2	6.5 6	1382.31+y	(35/2$^+$)	808.59+y	(31/2$^+$)	
576.9 2	5.4 11	1490.7	(17/2$^-$)	913.82	15/2$^+$	(D)
577.6 2	1.4 7	3130.3	(33/2$^+$)	2552.7	(29/2$^+$)	
579.6 2	10 3	1932.61+x	25/2$^-$	1353.05+x	21/2$^-$	Q
589.4 2	13 4	2226.01+x	27/2$^-$	1636.59+x	23/2$^-$	
591.3 2	6.9 21	2523.9+x	29/2$^-$	1932.61+x	25/2$^-$	
593.4 2	8.5 25	2819.4+x	31/2$^-$	2226.01+x	27/2$^-$	
594.4 2	3.3 10	3118.3+x	33/2$^-$	2523.9+x	29/2$^-$	
601.3 2	2.9 9	3420.7+x	35/2$^-$	2819.4+x	31/2$^-$	
605.6 2	≤1	3426.6		2821.0		
608.0 2	10 3	1684.51+x	(19/2$^-$)	1076.31+x	19/2$^-$	D
609.4 2	1.7 4	1695.2+y	(37/2$^+$)	1085.94+y	(33/2$^+$)	
615.4 2	2.8 14	3733.7+x	37/2$^-$	3118.3+x	33/2$^-$	
618.6 2	14 3	2623.4	33/2$^-$	2004.8	29/2$^-$	Q
632.9 2	2.1 8	1210.18+x	(15/2$^-$)	577.32+x	15/2$^-$	
634.4 2	≤1.5	4055.1+x	39/2$^-$	3420.7+x	35/2$^-$	
638.2 2	2.6 5	1208.6	(15/2$^-$)	570.0	17/2$^-$	D
639.0 2	2.3 5	2021.3+y	(39/2$^+$)	1382.31+y	(35/2$^+$)	
639.5 2	≤1.5	1458.00+x	(17/2$^-$)	818.57+x	17/2$^-$	
643.1 2	≤1	4190.9		3547.8		
643.2 2	4.1 8	927.5	(15/2$^-$)	284.1	13/2$^-$	D
645.5 2	≤1	3775.8	(37/2$^+$)	3130.3	(33/2$^+$)	
663.5 2	0.9 4	2358.8+y	(41/2$^+$)	1695.2+y	(37/2$^+$)	
666.2 2	4.8 10	3289.6	37/2$^-$	2623.4	33/2$^-$	(Q)

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^{165}Ho(^{18}O,4nγ), ^{170}Er(^{14}N,5nγ) 2004Ch12,1989Ve08 (continued)

$\gamma(^{179}Re)$ (continued)

E_γ [†]	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]
680.7 *2*	≤0.5	4107.3		3426.6		
683.8 *2*	0.8 *6*	2704.9+y	(43/2$^+$)	2021.3+y	(39/2$^+$)	
695.3 *2*	≤0.6	3054.1+y	(45/2$^+$)	2358.8+y	(41/2$^+$)	
700.6 *2*	≤0.5	4476.4	(41/2$^+$)	3775.8	(37/2$^+$)	
710.0 *2*	2.1 *4*	3999.6	41/2$^-$	3289.6	37/2$^-$	
711.7 *2*	≤1.5	1530.40+x	(17/2$^-$)	818.57+x	17/2$^-$	
757.0 *2*	1.0 *5*	4756.6	45/2$^-$	3999.6	41/2$^-$	
760.3 *2*	3.6 *7*	1330.3	(19/2$^-$)	570.0	17/2$^-$	D
846.5 *2*	1.3 *5*	2851.3		2004.8	29/2$^-$	
850.6 *2*	2.5 *7*	1210.18+x	(15/2$^-$)	359.62+x	13/2$^-$	
857.9 *2*	1.8 *8*	1819.9	(23/2$^-$)	962.0	21/2$^-$	(D)
865.9 *2*	11.9 *23*	1684.51+x	(19/2$^-$)	818.57+x	17/2$^-$	D
875.0 *2*	1.0 *4*	2320.6		1445.6	25/2$^-$	
880.7 *2*	2.5 *8*	1458.00+x	(17/2$^-$)	577.32+x	15/2$^-$	
896.5 *2*	1.3 *5*	1858.5		962.0	21/2$^-$	
920.8 *2*	2.8 *6*	1490.7	(17/2$^-$)	570.0	17/2$^-$	D
924.8 *2*	6.8 *14*	1208.6	(15/2$^-$)	284.1	13/2$^-$	(D)
932.5 *2*	1.8 *7*	1894.5		962.0	21/2$^-$	
953.2 *2*	2.9 *8*	1530.40+x	(17/2$^-$)	577.32+x	15/2$^-$	(D)
966.0 *2*	1.5 *5*	2411.6		1445.6	25/2$^-$	
1044.7 *2*	7.0 *21*	1210.18+x	(15/2$^-$)	165.50+x	11/2$^-$	(Q)
1098.4 *2*	5.8 *17*	1458.00+x	(17/2$^-$)	359.62+x	13/2$^-$	(Q)
1107.3 *2*	13 *3*	1684.51+x	(19/2$^-$)	577.32+x	15/2$^-$	(Q)
1170.7 *2*	4.0 *13*	1530.40+x	(17/2$^-$)	359.62+x	13/2$^-$	(Q)

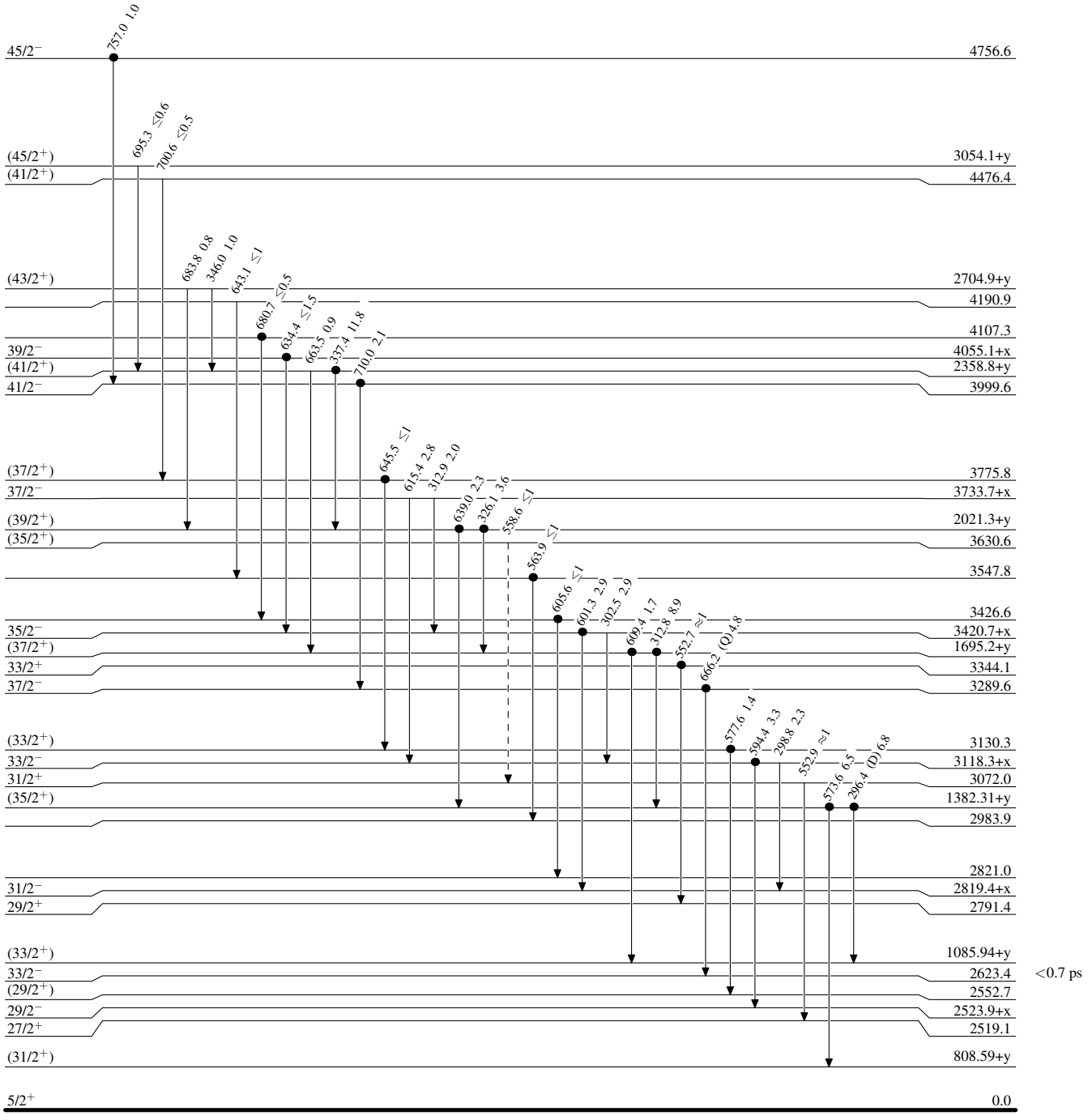
[†] ΔE=0.1 keV for strong lines, 0.2 keV for weak ones (1989Ve08). Evaluator has assigned ΔE=0.2 keV whenever Iγ<40.
[‡] From ^{170}Er(^{14}N,5nγ) at 71 MeV.
[#] Authors′ assignments based on unenumerated directional correlation (DCO) ratio measurements.
[@] z≤140 based on absence of transition in prompt-delayed and delayed-delayed spectra (1989Ve08).
[&] from level energy difference.
[a] Placement of transition in the level scheme is uncertain.

^{165}Ho(^{18}O,4nγ), ^{170}Er(^{14}N,5nγ) 2004Ch12,1989Ve08

Level Scheme

Intensities: Relative Iγ from ^{170}Er(^{14}N,5nγ) at 71 MeV .

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)
- Coincidence



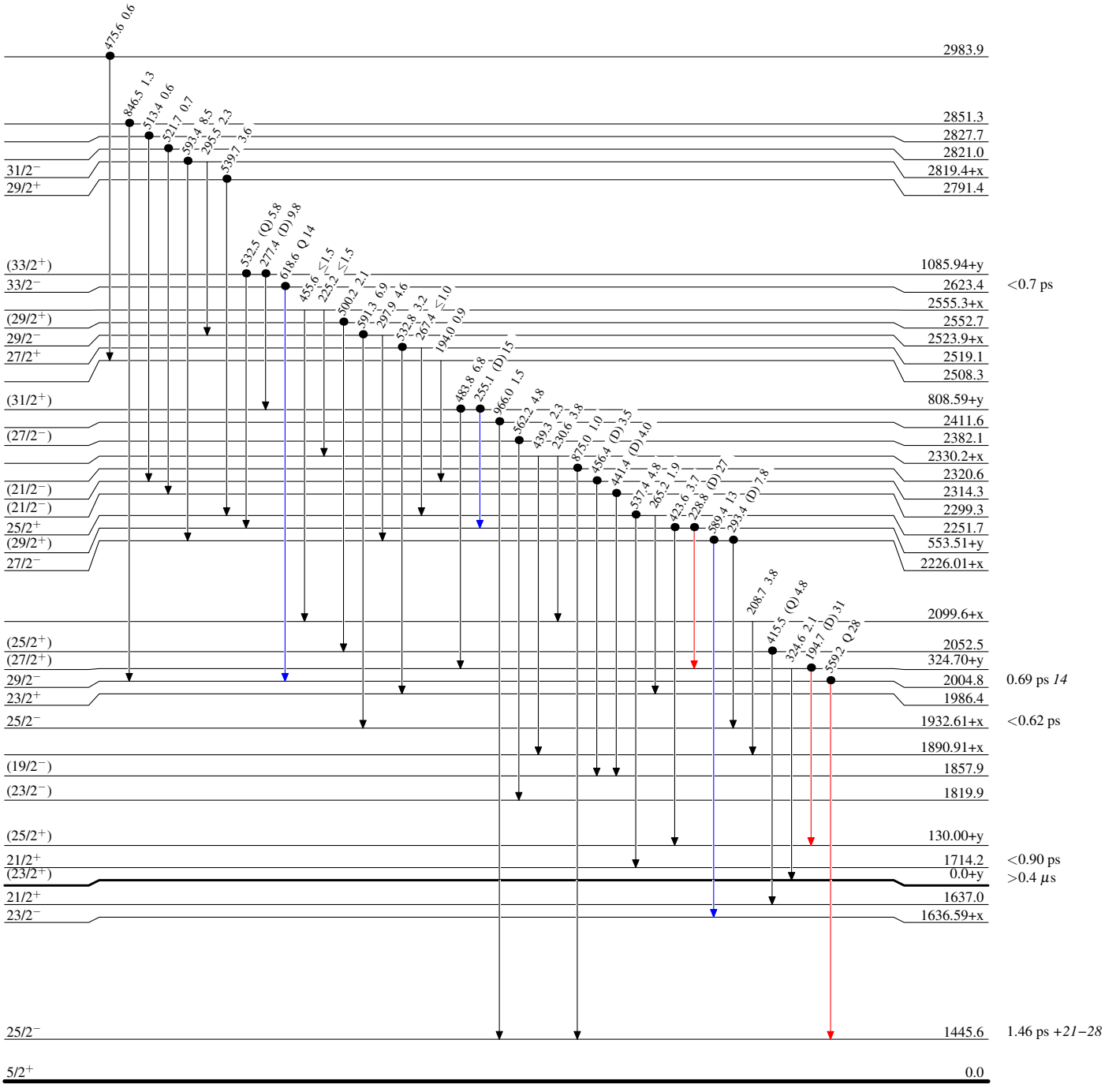
$^{179}_{75}Re_{104}$

^{165}Ho(^{18}O,4nγ), ^{170}Er(^{14}N,5nγ) 2004Ch12,1989Ve08

Level Scheme (continued)

Intensities: Relative Iγ from ^{170}Er(^{14}N,5nγ) at 71 MeV .

Legend
- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- Coincidence

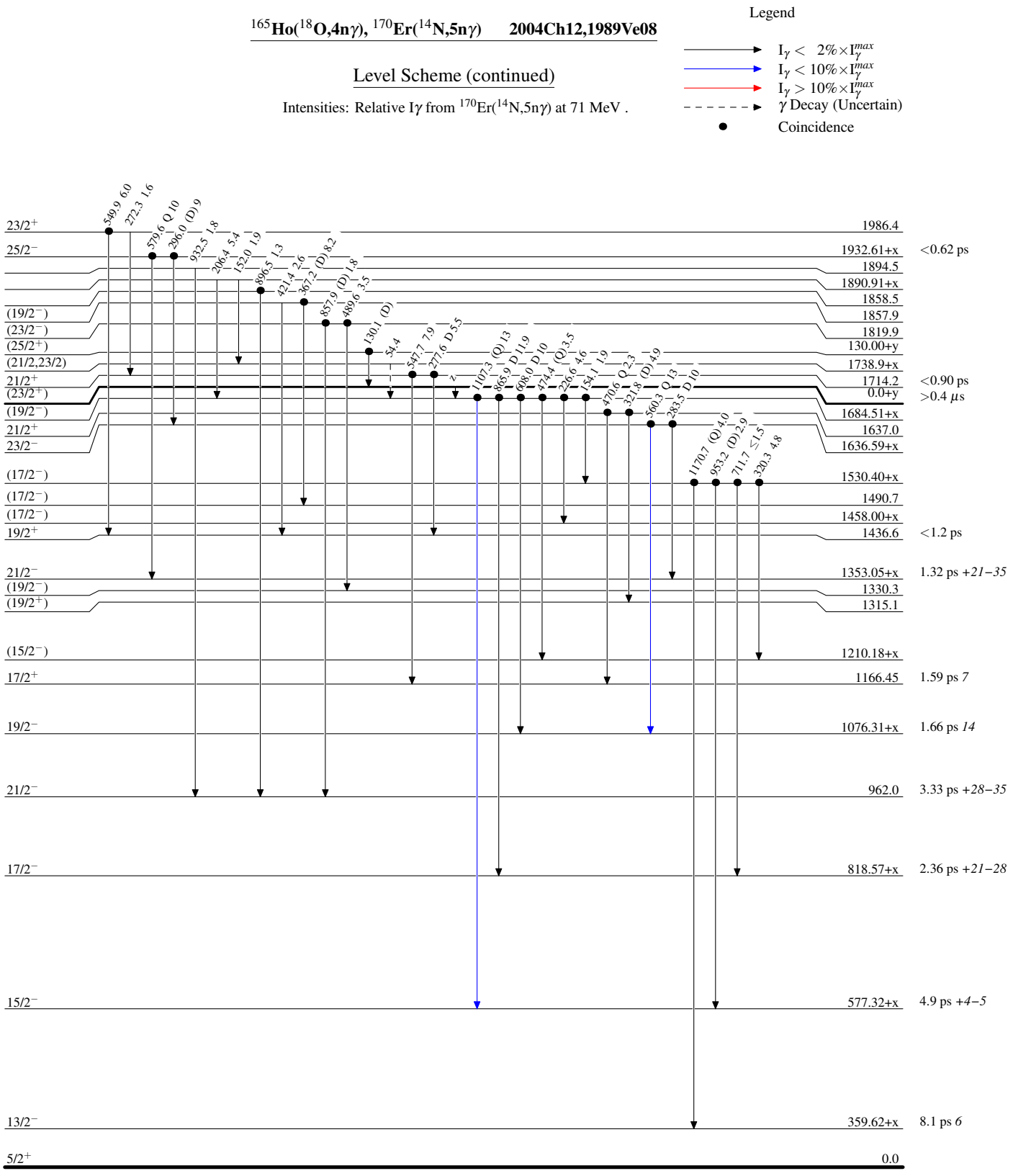


$^{179}_{75}Re_{104}$

^{165}Ho(^{18}O,4nγ), ^{170}Er(^{14}N,5nγ) 2004Ch12,1989Ve08

Level Scheme (continued)

Intensities: Relative Iγ from ^{170}Er(^{14}N,5nγ) at 71 MeV .



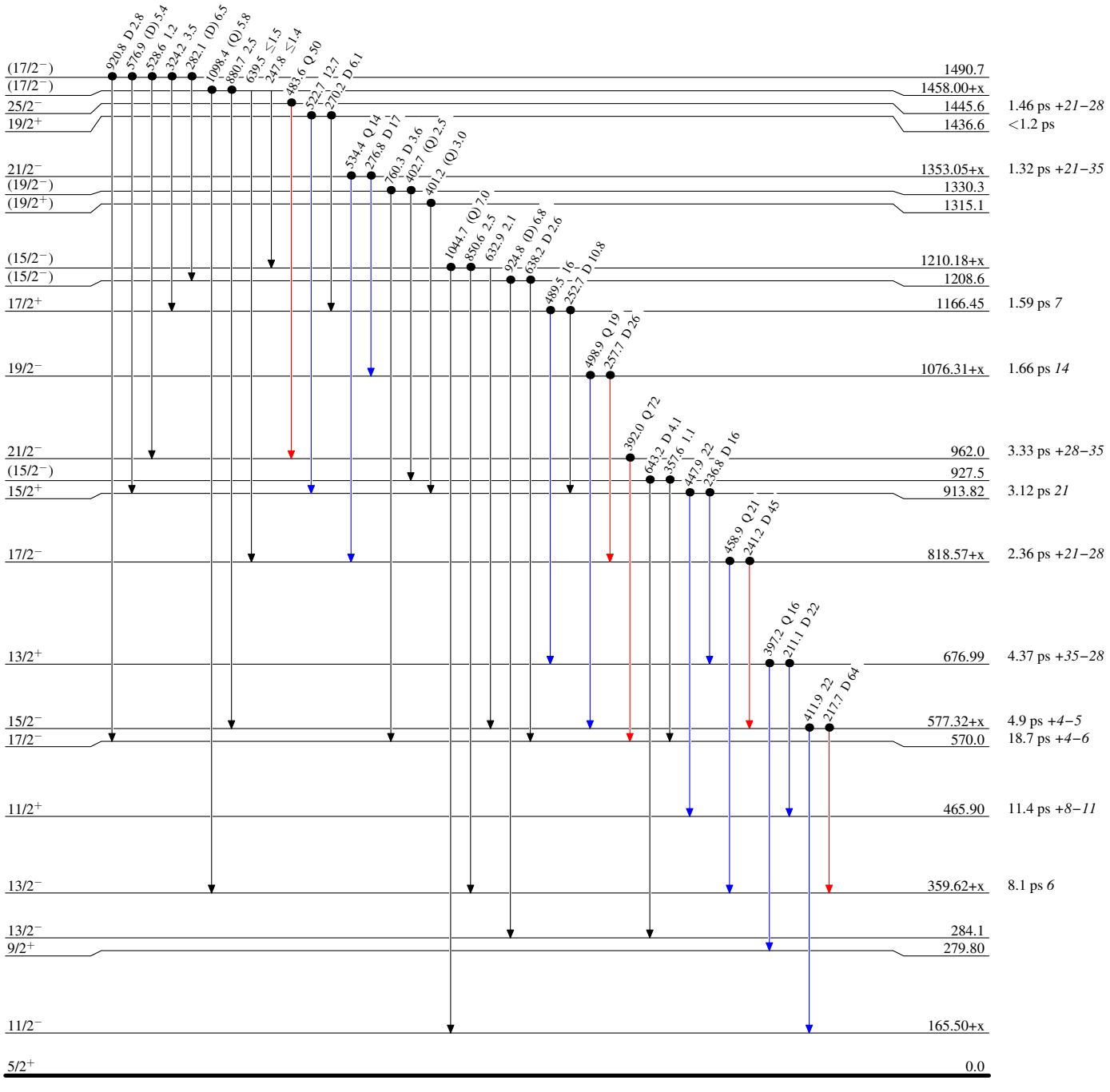
$^{179}_{75}Re_{104}$

^{165}Ho(^{18}O,4nγ), ^{170}Er(^{14}N,5nγ) **2004Ch12,1989Ve08**

Level Scheme (continued)

Intensities: Relative Iγ from ^{170}Er(^{14}N,5nγ) at 71 MeV .

Legend
- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- Coincidence



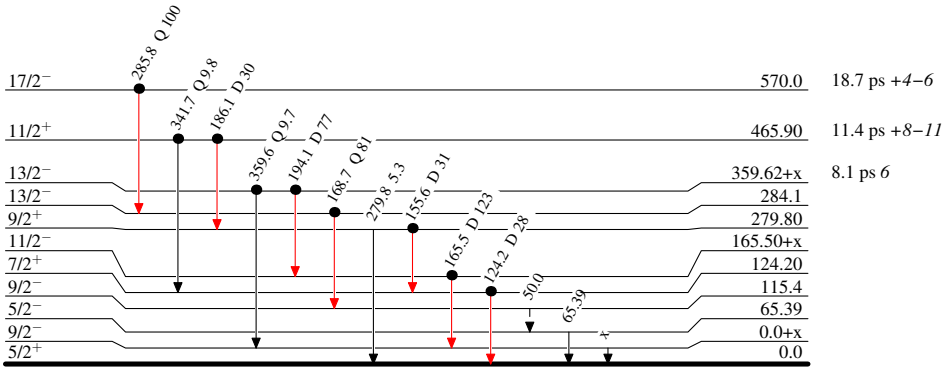
$^{179}_{75}Re_{104}$

^{165}Ho(^{18}O,4nγ), ^{170}Er(^{14}N,5nγ) 2004Ch12,1989Ve08

Level Scheme (continued)

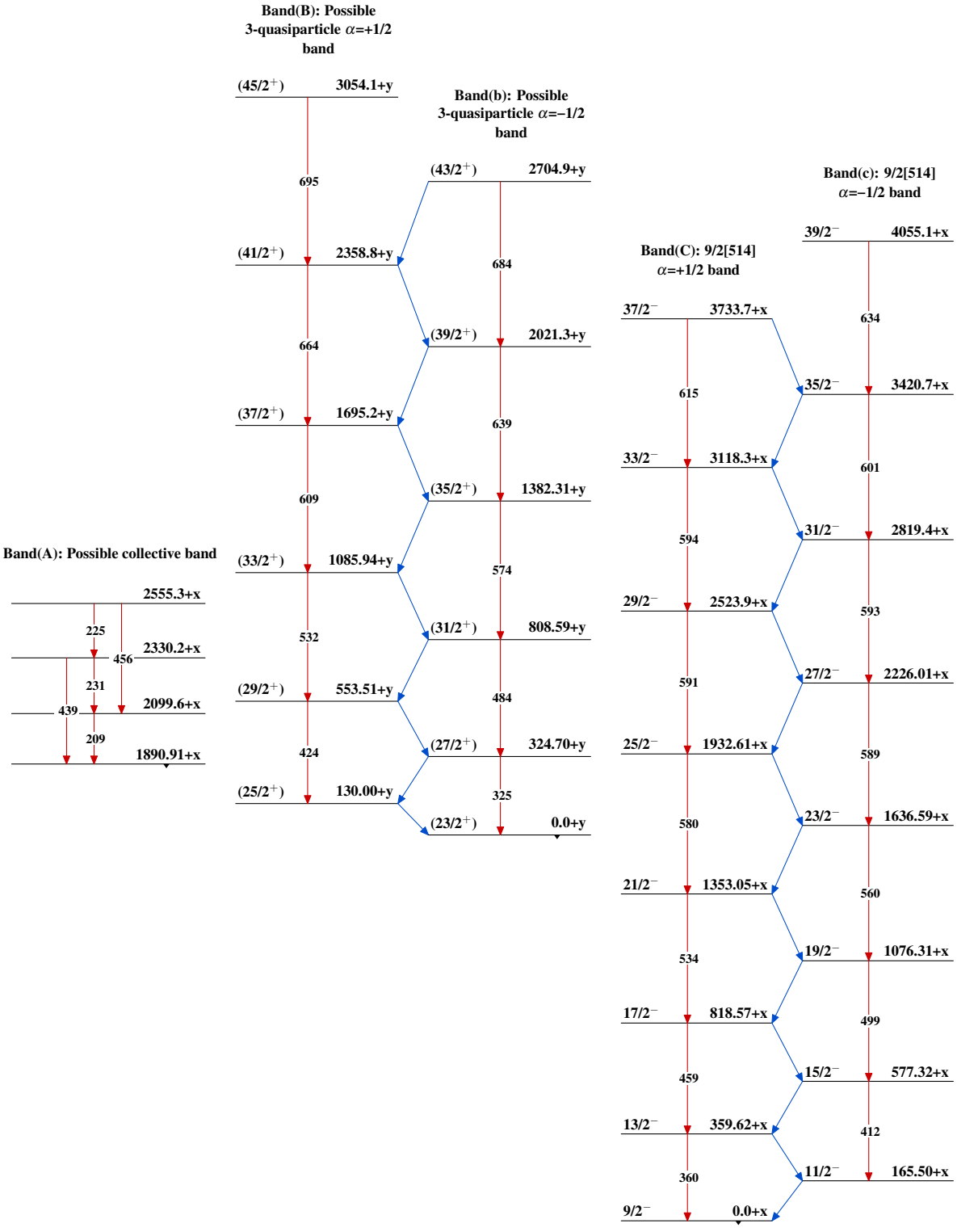
Intensities: Relative Iγ from ^{170}Er(^{14}N,5nγ) at 71 MeV .

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)
- Coincidence



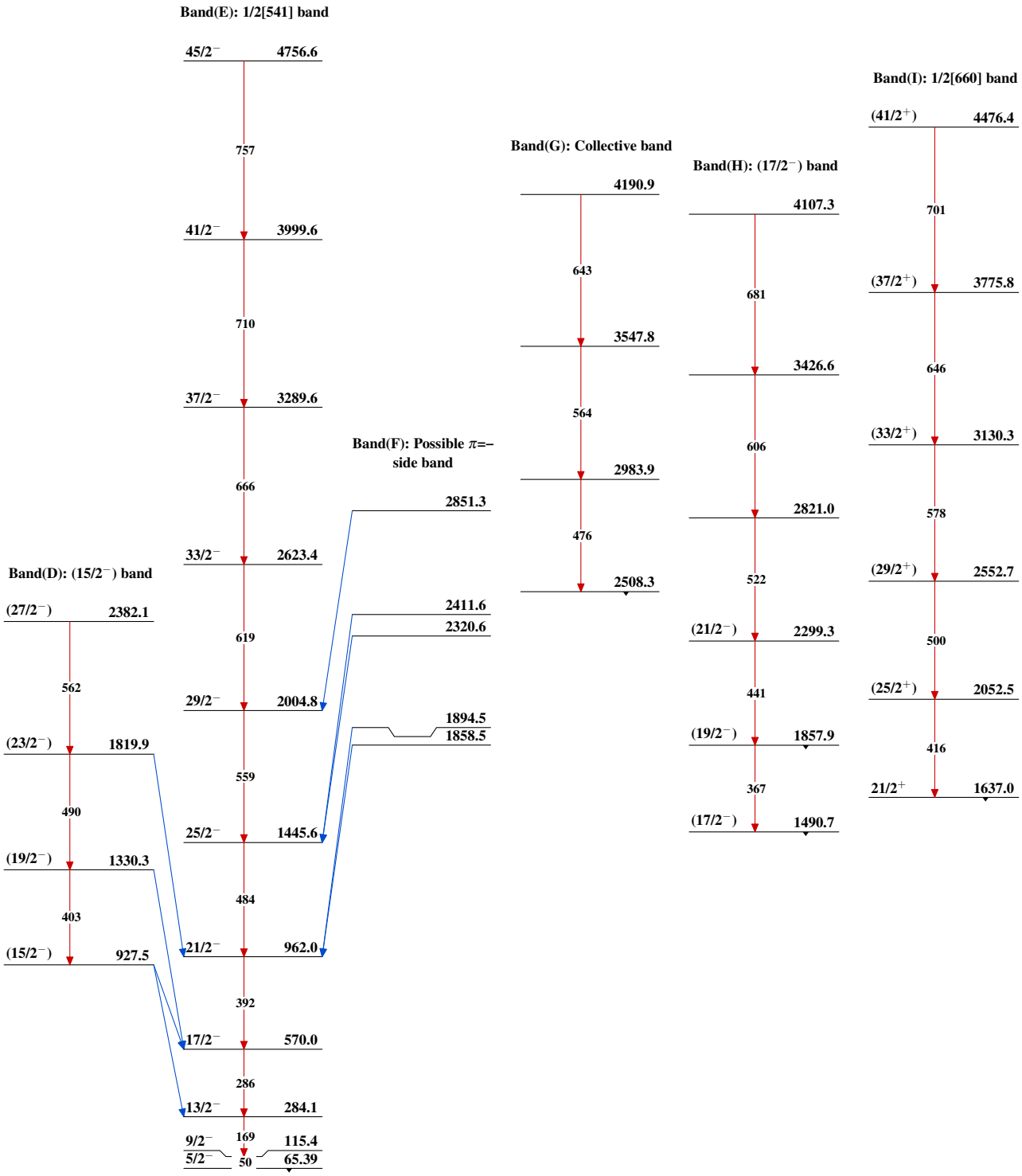
$^{179}_{75}Re_{104}$

^{165}Ho(^{18}O,4nγ), ^{170}Er(^{14}N,5nγ) 2004Ch12,1989Ve08



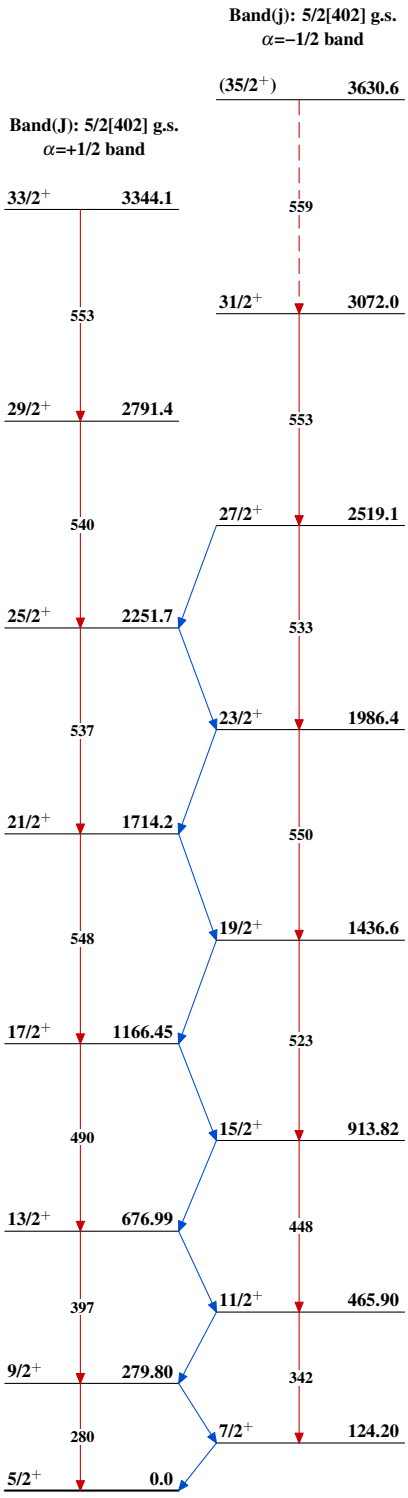
$^{179}_{75}Re_{104}$

^{165}Ho(^{18}O,4nγ), ^{170}Er(^{14}N,5nγ) 2004Ch12,1989Ve08 (continued)



$^{179}_{75}Re_{104}$

^{165}Ho(^{18}O,4nγ), ^{170}Er(^{14}N,5nγ) 2004Ch12,1989Ve08 (continued)



$^{179}_{75}Re_{104}$