^{170}Er(α,3nγ) E=35,40 MeV 1998Ar08

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin, E. A. Mccutchan	NDS 151, 334 (2018)	30-Jun-2018

Eα=35, 40 MeV. Target: two thin ^{170}Er foils. Detectors: 10 escape-suppressed Ge detectors and a 28-element BGO multiplicity filter. Measured Eγ, Iγ, $\gamma\gamma$ coin, DCO ratios.

^{171}Yb Levels

E(level)[†]	J^π[‡]	E(level)[†]	J^π[‡]	E(level)[†]	J^π[‡]	E(level)[†]	J^π[‡]
0.0[@]	$1/2^-$	1005.20[a] *19*	$21/2^+$	1986.8[g] *4*	$23/2^{(+)}$	3015.8[&] *7*	$31/2^-$
67.2[&] *4*	$3/2^-$	1114.43[f] *20*	$15/2^+$	2060.31[e] *23*	$25/2^+$	3059.5[@] *4*	$33/2^-$
76.3[@] *3*	$5/2^-$	1190.88[d] *20*	$19/2^-$	2070.1[j] *4*	$(23/2^+)$	3143.1[e] *5*	$(33/2^+)$
95.27[#b]	$7/2^+$	1234.70[b] *20*	$23/2^+$	2087.6[i] *4*	$(25/2^+)$	3146.9[a] *4*	$37/2^+$
122.42[#c]	$5/2^-$	1264.3[&] *4*	$19/2^-$	2180.26[d] *24*	$27/2^-$	3282.3[d] *4*	$35/2^-$
167.92[a] *15*	$9/2^+$	1266.27[e] *20*	$17/2^+$	2294.3[b] *3*	$31/2^+$	3390.5[h] *7*	$(33/2^+)$
208.27[d] *20*	$7/2^-$	1295.2[@] *4*	$21/2^-$	2306.6[f] *3*	$27/2^+$	3448.4[f] *6*	$(35/2^+)$
231.4[&] *3*	$7/2^-$	1421.88[c] *19*	$21/2^-$	2319.4[h] *5*	$(25/2^+)$	3538.9[g] *7*	$(35/2^+)$
247.3[@] *4*	$9/2^-$	1436.31[a] *22*	$25/2^+$	2334.7 *6*	$27/2^{(+)}$	3568.0[c] *5*	$37/2^-$
259.42[b] *14*	$11/2^+$	1437.08[f] *21*	$19/2^+$	2359.2 *6*	$(27/2^+)$	3656.9[b] *6*	$39/2^+$
317.73[c] *16*	$9/2^-$	1517.8[h] *4*	$17/2^{(+)}$	2360.5[&] *4*	$27/2^-$	3747.4[&] *9*	$(35/2^-)$
369.28[a] *16*	$13/2^+$	1615.0[g] *4*	$19/2^{(+)}$	2393.5[@] *4*	$29/2^-$	3773.0[@] *7*	$(37/2^-)$
450.16[d] *19*	$11/2^-$	1626.60[e] *22*	$21/2^+$	2429.1[g] *4*	$27/2^{(+)}$	3779.5[e] *7*	$(37/2^+)$
488.1[&] *4*	$11/2^-$	1656.80[j] *23*	$(19/2^+)$	2447.66[c] *23*	$29/2^-$	3848.4[a] *6*	$(41/2^+)$
501.75[b] *17*	$15/2^+$	1665.30[d] *20*	$23/2^-$	2509.4[a] *3*	$33/2^+$	3883.2[d] *5*	$(39/2^-)$
510.0[@] *4*	$13/2^-$	1665.6[i] *3*	$(21/2^+)$	2567.0[e] *3*	$29/2^+$	4103.4[f] *8*	$(39/2^+)$
604.86[c] *18*	$13/2^-$	1724.85[b] *22*	$27/2^+$	2578.4[j] *5*	$(27/2^+)$	4198.0[c] *11*	$(41/2^-)$
648.62[a] *18*	$17/2^+$	1773.7 *6*	$23/2^{(+)}$	2596.6[i] *7*	$(29/2^+)$	4442.9[b] *8*	$(43/2^+)$
780.80[d] *19*	$15/2^-$	1774.9[&] *4*	$23/2^-$	2717.5[d] *3*	$31/2^-$	4468.5?[e] *12*	$(41/2^+)$
826.49[b] *19*	$19/2^+$	1808.4[@] *4*	$25/2^-$	2821.5[h] *5*	$(29/2^+)$	4528.2[d] *11*	$(43/2^-)$
833.8[&] *4*	$15/2^-$	1835.23[f] *24*	$23/2^+$	2846.5[f] *4*	$31/2^+$	4612.5[a] *8*	$(45/2^+)$
861.8[@] *4*	$17/2^-$	1885.5[h] *5*	$21/2^{(+)}$	2939.5[b] *4*	$35/2^+$	4812.4[f] *10*	$(43/2^+)$
976.84[c] *19*	$17/2^-$	1920.00[c] *22*	$25/2^-$	2945.2[g] *4*	$31/2^{(+)}$	4880.0?[c] *15*	$(45/2^-)$
981.29[e] *18*	$13/2^+$	1938.59[a] *24*	$29/2^+$	2984.5[c] *4*	$33/2^-$		

[†] From least-squares fit to Eγ. Two bandhead excitation energies have been taken from Adopted Levels, as indicated.
[‡] Authors′ values, based on values already in the literature in addition to γ multipolarities deduced from measured DCO ratios.
[#] From Adopted Levels.
[@] Band(A): 1/2[521], α=+1/2 band.
[&] Band(a): 1/2[521], α=−1/2 band.
[a] Band(B): 7/2[633], α=+1/2 band.
[b] Band(b): 7/2[633], α=−1/2 band.
[c] Band(C): 5/2[512], α=+1/2 band.
[d] Band(c): 5/2[512], α=−1/2 band.
[e] Band(D): $K^\pi=13/2^+$, ν(7/2[633])(5/2[512])(1/2[521]) α=+1/2 band. Supersedes previous (1972Li25) assignment of 11/2[505].
[f] Band(d): $K^\pi=13/2^+$, ν(7/2[633])(5/2[512])(1/2[521]) α=−1/2 band. Supersedes previous (1972Li25) assignment of 11/2[505].
[g] Band(e): α=−1/2 band. Probable 1/2[521] + Octupole vibration band.
[h] Band(E): α=+1/2 band. Probable 1/2[521] + Octupole vibration band.

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^{170}Er(α,3nγ) E=35,40 MeV 1998Ar08 (continued)

^{171}Yb Levels (continued)

[i] Band(F): α=+1/2 band. Weakly populated. Probably involves $i_{13/2}$ neutron.
[j] Band(f): α=−1/2 band. Weakly populated. Probably involves $i_{13/2}$ neutron.

γ(^{171}Yb)

Eγ[†]	Iγ[‡]	Ei(level)	J_i^π	Ef	J_f^π	Mult.[#]	Comments
67.2 5		67.2	3/2−	0.0	1/2−		
72.8 2	89 3	167.92	9/2+	95.27	7/2+		
76.1 5		76.3	5/2−	0.0	1/2−		
86.1 5		208.27	7/2−	122.42	5/2−		
91.6 2	103 9	259.42	11/2+	167.92	9/2+	D+Q	DCO=0.38 1.
109.5 2	53 6	317.73	9/2−	208.27	7/2−	D	DCO=0.44 1.
110.0 2	92 5	369.28	13/2+	259.42	11/2+	D+Q	DCO=0.33 1.
132.5 2	48 4	450.16	11/2−	317.73	9/2−	D	DCO=0.42 1.
132.7 2	127 12	501.75	15/2+	369.28	13/2+	D	DCO=0.41 1.
133.2 2	57 6	1114.43	15/2+	981.29	13/2+	D	DCO=0.48 2.
147.0 2	160 13	648.62	17/2+	501.75	15/2+	D+Q	DCO=0.39 1.
152.1 2	47 5	1266.27	17/2+	1114.43	15/2+	D+Q	DCO=0.34 2.
154.9 2	45 5	604.86	13/2−	450.16	11/2−	D	DCO=0.46 2.
155.1 2	17 2	231.4	7/2−	76.3	5/2−		DCO=1.05 2.
164.1 2	97 10	259.42	11/2+	95.27	7/2+		DCO=1.20 6. Q.
164.2 2	41 6	231.4	7/2−	67.2	3/2−	Q	DCO=1.17 2.
171.0 2	127 13	247.3	9/2−	76.3	5/2−	Q	DCO=1.16 2.
171.0 2	49 5	1437.08	19/2+	1266.27	17/2+	D+Q	DCO=0.33 2.
176.1 2	46 2	780.80	15/2−	604.86	13/2−	D	DCO=0.48 2.
177.9 2	142 13	826.49	19/2+	648.62	17/2+	D+Q	DCO=0.33 2.
178.8 2	114 11	1005.20	21/2+	826.49	19/2+	D+Q	DCO=0.37 1.
189.6 2	28 3	1626.60	21/2+	1437.08	19/2+	D+Q	DCO=0.33 3.
195.2 2	52 7	317.73	9/2−	122.42	5/2−		
196.1 2	30 3	976.84	17/2−	780.80	15/2−		
201.4 2	128 7	369.28	13/2+	167.92	9/2+	Q	DCO=1.04 4.
201.7 2	45 2	1436.31	25/2+	1234.70	23/2+		
208.7 2	22 2	1835.23	23/2+	1626.60	21/2+	D+Q	DCO=0.26 2.
213.8 2	14.3 9	1938.59	29/2+	1724.85	27/2+		
214.1 2	25 2	1190.88	19/2−	976.84	17/2−	D	DCO=0.42 2.
224.9 5	8 1	2060.31	25/2+	1835.23	23/2+	D+Q	DCO=0.34 3.
229.5 2	83.5 7	1234.70	23/2+	1005.20	21/2+	D+Q	Iγ: reported precision is higher than for much stronger lines; evaluator suspects typographical error (possibly, Iγ=84 7 instead). DCO=0.32 1.
231.0 2	17 2	1421.88	21/2−	1190.88	19/2−	D+Q	DCO=0.39 4.
240.9 2	31 2	488.1	11/2−	247.3	9/2−	D	DCO=0.84 6.
241.9 2	55 6	450.16	11/2−	208.27	7/2−		
242.3 2	281 7	501.75	15/2+	259.42	11/2+	Q	DCO=0.98 2.
243.4 2	15 2	1665.30	23/2−	1421.88	21/2−		
246.5 5	8 1	2306.6	27/2+	2060.31	25/2+	D	DCO=0.44 6.
254.8 5	8 1	1920.00	25/2−	1665.30	23/2−	D	DCO=0.4 1.
256.7 2	180 5	488.1	11/2−	231.4	7/2−		
260.1 5	4.8 9	2180.26	27/2−	1920.00	25/2−	D	DCO=0.7 1.
260.1 5	3.8 6	2567.0	29/2+	2306.6	27/2+		
262.7 2	362 7	510.0	13/2−	247.3	9/2−		
267.6 5	3.3 9	2447.66	29/2−	2180.26	27/2−		
269.6 5	1.6 5	2717.5	31/2−	2447.66	29/2−		
279.1 5	2.5 7	2846.5	31/2+	2567.0	29/2+		
279.2 2	390 7	648.62	17/2+	369.28	13/2+	Q	DCO=1.05 2.
284.9 2	22 3	1266.27	17/2+	981.29	13/2+		

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^{170}Er(α,3nγ) E=35,40 MeV 1998Ar08 (continued)

γ(^{171}Yb) (continued)

E_γ †	I_γ ‡	E_i(level)	J_i^π	E_f	J_f^π	Mult. #	Comments
287.0 2	68 4	604.86	13/2$^-$	317.73	9/2$^-$	Q	DCO=0.96 5.
288.5 2	30 2	1724.85	27/2$^+$	1436.31	25/2$^+$	D+Q	DCO=0.29 2.
297.1 5	1.2 4	3143.1	(33/2$^+$)	2846.5	31/2$^+$		
322.5 2	34 4	1437.08	19/2$^+$	1114.43	15/2$^+$	Q	DCO=1.07 7.
323.9 2	26 3	833.8	15/2$^-$	510.0	13/2$^-$	D	DCO=0.74 2.
324.8 2	488 6	826.49	19/2$^+$	501.75	15/2$^+$	Q	DCO=1.03 2.
330.5 2	96 4	780.80	15/2$^-$	450.16	11/2$^-$	Q	DCO=1.06 4.
345.4 5	7 2	604.86	13/2$^-$	259.42	11/2$^+$	D	DCO=0.63 8.
345.7 2	174 4	833.8	15/2$^-$	488.1	11/2$^-$	Q	DCO=1.07 2.
350.7 2	341 5	861.8	17/2$^-$	510.0	13/2$^-$	Q	DCO=1.04 2.
355.6 5	10 2	2294.3	31/2$^+$	1938.59	29/2$^+$		
356.6 2	500	1005.20	21/2$^+$	648.62	17/2$^+$	Q	DCO=0.94 2.
360.3 2	36 4	1626.60	21/2$^+$	1266.27	17/2$^+$	Q	DCO=1.1 1.
367.7 5	7 1	1885.5	21/2$^{(+)}$	1517.8	17/2$^{(+)}$	(Q)	DCO=1.0 2.
371.7 5	9 2	1986.8	23/2$^{(+)}$	1615.0	19/2$^{(+)}$		DCO=0.8 1.
371.9 2	100 4	976.84	17/2$^-$	604.86	13/2$^-$	Q	DCO=0.94 4.
398.1 2	41 4	1835.23	23/2$^+$	1437.08	19/2$^+$	Q	DCO=0.97 6.
403.4 2	10.9 9	1264.3	19/2$^-$	861.8	17/2$^-$	D	DCO=0.87 6.
408.2 2	390 5	1234.70	23/2$^+$	826.49	19/2$^+$	Q	DCO=0.97 2.
410.0 2	95 4	1190.88	19/2$^-$	780.80	15/2$^-$	Q	DCO=1.05 5.
411.4 5	8 2	780.80	15/2$^-$	369.28	13/2$^+$		
413.2 5	7 2	2070.1	(23/2$^+$)	1656.80	(19/2$^+$)		
422.0 5	7 1	2087.6	(25/2$^+$)	1665.6	(21/2$^+$)	Q	DCO=0.8 1.
430.6 2	138 4	1264.3	19/2$^-$	833.8	15/2$^-$	Q	DCO=0.97 3.
431.1 2	277 5	1436.31	25/2$^+$	1005.20	21/2$^+$	Q	DCO=0.96 3.
433.7 2	26 3	2060.31	25/2$^+$	1626.60	21/2$^+$	Q	DCO=0.9 1.
433.9 2	14 3	2319.4	(25/2$^+$)	1885.5	21/2$^{(+)}$		
434.3 2	242 4	1295.2	21/2$^-$	861.8	17/2$^-$	Q	DCO=1.00 2.
442.4 2	13 2	2429.1	27/2$^{(+)}$	1986.8	23/2$^{(+)}$	Q	DCO=1.04 4.
445.0 2	80 3	1421.88	21/2$^-$	976.84	17/2$^-$	Q	DCO=1.07 8.
461.0 5	<0.5	2821.5	(29/2$^+$)	2360.5	27/2$^-$		
471.4 2	35 4	2306.6	27/2$^+$	1835.23	23/2$^+$	Q	DCO=1.0 1.
474.4 2	70 3	1665.30	23/2$^-$	1190.88	19/2$^-$	Q	DCO=1.07 7.
475.3 5	8 2	976.84	17/2$^-$	501.75	15/2$^+$		
479.3 5	6 1	981.29	13/2$^+$	501.75	15/2$^+$		DCO=1.0 1.
479.7 5	5.6 9	1774.9	23/2$^-$	1295.2	21/2$^-$		
490.2 2	205 4	1724.85	27/2$^+$	1234.70	23/2$^+$	Q	DCO=0.95 3.
498.2 2	51 2	1920.00	25/2$^-$	1421.88	21/2$^-$	Q	DCO=1.0 1.
502.1 2	11 2	2821.5	(29/2$^+$)	2319.4	(25/2$^+$)		
502.3 2	176 3	1938.59	29/2$^+$	1436.31	25/2$^+$	Q	DCO=0.99 2.
506.6 2	19 2	2567.0	29/2$^+$	2060.31	25/2$^+$	Q	DCO=1.0 2.
508.4 5	9 2	2578.4	(27/2$^+$)	2070.1	(23/2$^+$)		
509.0 5	6 2	2596.6	(29/2$^+$)	2087.6	(25/2$^+$)	Q	DCO=0.8 1.
510.6 2	89 3	1774.9	23/2$^-$	1264.3	19/2$^-$	Q	DCO=0.95 4.
513.0 2	139 3	1808.4	25/2$^-$	1295.2	21/2$^-$	Q	DCO=1.05 3.
514.9 2	42 2	2180.26	27/2$^-$	1665.30	23/2$^-$	Q	DCO=0.98 6.
516.1 2	16 2	2945.2	31/2$^{(+)}$	2429.1	27/2$^{(+)}$	Q	DCO=1.3 2.
527.7 2	24 2	2447.66	29/2$^-$	1920.00	25/2$^-$	Q	DCO=0.9 1.
537.2 2	20 2	2717.5	31/2$^-$	2180.26	27/2$^-$	Q	DCO=1.1 4.
537.2 5	8 2	2984.5	33/2$^-$	2447.66	29/2$^-$	Q	DCO=1.1 1.
540.1 2	17 2	2846.5	31/2$^+$	2306.6	27/2$^+$	Q	DCO=1.0 2.
542.2 5	9 2	1190.88	19/2$^-$	648.62	17/2$^+$	D	DCO=0.56 8.
544.4 5	6 1	2319.4	(25/2$^+$)	1774.9	23/2$^-$		
551.7 5	5 1	2945.2	31/2$^{(+)}$	2393.5	29/2$^-$		
564.7 2	12 2	3282.3	35/2$^-$	2717.5	31/2$^-$	Q	DCO=1.0 1.

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^{170}Er(α,3nγ) E=35,40 MeV 1998Ar08 (continued)

γ(^{171}Yb) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	Comments
569.0 5	6 1	3390.5	(33/2+)	2821.5	(29/2+)		
569.4 2	92 3	2294.3	31/2+	1724.85	27/2+	Q	DCO=0.99 9.
570.9 2	78 2	2509.4	33/2+	1938.59	29/2+	Q	DCO=0.95 7.
575.6 5	8 2	3143.1	(33/2+)	2567.0	29/2+		
583.8 5	6 1	3568.0	37/2−	2984.5	33/2−	Q	DCO=1.1 2.
585.2 2	54 2	2393.5	29/2−	1808.4	25/2−	Q	DCO=1.01 7.
585.6 2	30 2	2360.5	27/2−	1774.9	23/2−	Q	DCO=1.01 7.
591.0 5	5.0 6	2984.5	33/2−	2393.5	29/2−	Q	DCO=0.9 3.
593.7 5	4 1	3538.9	(35/2+)	2945.2	31/2(+)		
595.5 2	14 2	1421.88	21/2−	826.49	19/2+		
600.8 5	5.3 9	3883.2	(39/2−)	3282.3	35/2−		
601.9 5	8 1	3448.4	(35/2+)	2846.5	31/2+		
612.1 2	20 2	981.29	13/2+	369.28	13/2+		
612.1 5	3 1	3059.5	33/2−	2447.66	29/2−		
620.9 2	15 2	2429.1	27/2(+)	1808.4	25/2−	D	DCO=0.55 5.
621.2 5	6 2	1885.5	21/2(+)	1264.3	19/2−		
628.2 5	0.8 5	3568.0	37/2−	2939.5	35/2+		
630 1	<1	4198.0	(41/2−)	3568.0	37/2−		
634.0 5	8 2	2070.1	(23/2+)	1436.31	25/2+		
636.4 5	1.9 6	3779.5	(37/2+)	3143.1	(33/2+)		
637.5 2	19 1	3146.9	37/2+	2509.4	33/2+	Q	DCO=1.0 1.
639.8 5	4.8 9	2578.4	(27/2+)	1938.59	29/2+		DCO=1.0 3.
645 1	<0.5	4528.2	(43/2−)	3883.2	(39/2−)		
645.2 2	25 2	2939.5	35/2+	2294.3	31/2+	Q	DCO=0.99 6.
651.7 2	11 2	1656.80	(19/2+)	1005.20	21/2+		DCO=1.0 1.
655.0 5	0.8 3	4103.4	(39/2+)	3448.4	(35/2+)		
655.3 5	8.3 3	3015.8	31/2−	2360.5	27/2−	Q	DCO=1.2 2.
660.1 2	14 2	1665.30	23/2−	1005.20	21/2+		DCO=0.7 3. d.
666.0 2	11.4 9	3059.5	33/2−	2393.5	29/2−	Q	DCO=0.9 3.
680[@] 1	<0.5	4528.2	(43/2−)	3848.4	(41/2+)		
682[@] 1	<1	4880.0?	(45/2−)	4198.0	(41/2−)		
684.1 5	7 2	1517.8	17/2(+)	833.8	15/2−	D	DCO=0.7 1.
685.2 2	17 2	1920.00	25/2−	1234.70	23/2+	D	DCO=0.53 7.
689[@] 1	<0.5	4468.5?	(41/2+)	3779.5	(37/2+)		
690.2 5	6 1	2984.5	33/2−	2294.3	31/2+	D	DCO=0.6 1.
691.6 2	24 3	1986.8	23/2(+)	1295.2	21/2−	D	DCO=0.49 4.
701.5 5	4.1 6	3848.4	(41/2+)	3146.9	37/2+		
709.0 5	0.5 3	4812.4	(43/2+)	4103.4	(39/2+)		
713.5 5	2.3 6	3773.0	(37/2−)	3059.5	33/2−	Q	
717.4 5	6.1 9	3656.9	39/2+	2939.5	35/2+		DCO=1.2 2.
721.8 2	51 5	981.29	13/2+	259.42	11/2+	D	DCO=0.6 1.
722.8 2	13 2	2447.66	29/2−	1724.85	27/2+		
731.6 5	1.4 6	3747.4	(35/2−)	3015.8	31/2−		
736.3 5	0.9 3	3883.2	(39/2−)	3146.9	37/2+		
744.3 5	10 2	2180.26	27/2−	1436.31	25/2+		
745.2 2	13 2	1114.43	15/2+	369.28	13/2+		
754.2 2	16 2	1615.0	19/2(+)	861.8	17/2−	D	DCO=0.63 6.
764.1 5	<1	4612.5	(45/2+)	3848.4	(41/2+)		
764.5 5	9 2	1266.27	17/2+	501.75	15/2+		
768.5 5	5 1	1773.7	23/2(+)	1005.20	21/2+	(D)	DCO=0.8 3.
773.0 5	2.3 6	3282.3	35/2−	2509.4	33/2+	D	DCO=0.6 1.
779.3 5	7 1	2717.5	31/2−	1938.59	29/2+	D	DCO=0.6 1.
786.0 5	<1	4442.9	(43/2+)	3656.9	39/2+		
788.3 5	6 1	1437.08	19/2+	648.62	17/2+		

Continued on next page (footnotes at end of table)

^{170}Er(α,3nγ) E=35,40 MeV 1998Ar08 (continued)

γ(^{171}Yb) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	Comments
800.2 5	9 2	1626.60	21/2$^+$	826.49	19/2$^+$		
825.6 2	15 2	2060.31	25/2$^+$	1234.70	23/2$^+$		
830.2 2	12 2	1656.80	(19/2$^+$)	826.49	19/2$^+$		
835.2 5	6 2	2070.1	(23/2$^+$)	1234.70	23/2$^+$		DCO=0.9 2.
839.1 2	12 2	1665.6	(21/2$^+$)	826.49	19/2$^+$		
853.0 5	8 2	2087.6	(25/2$^+$)	1234.70	23/2$^+$	D	DCO=0.67 2.
869.1 5	5 2	1517.8	17/2$^{(+)}$	648.62	17/2$^+$		
898.4 5	9 1	2334.7	27/2$^{(+)}$	1436.31	25/2$^+$		DCO=0.9 2.
922.9 5	1.5 3	2359.2	(27/2$^+$)	1436.31	25/2$^+$		

† 1998Ar08 report that ΔE_γ is 0.2 keV for most transitions and 0.5 keV for weak or contaminated transitions; the evaluator has assigned ΔE_γ=0.2 keV if Iγ>10, 0.5 keV if I$\gamma\leq$10.

‡ Photon intensity relative to I(357γ)=500; most data are taken from Eα=35 MeV measurements but, for some transitions from the higher excited levels, the authors have supplemented the Eα=35 MeV information with data taken at Eα=40 MeV. 1998Ar08 also give intensity ratios for in-band ΔJ=2 and ΔJ=1 transitions for a number of levels; these were determined from spectra gated on transitions above the relevant level and are consistent with branching indicated by the intensities listed here.

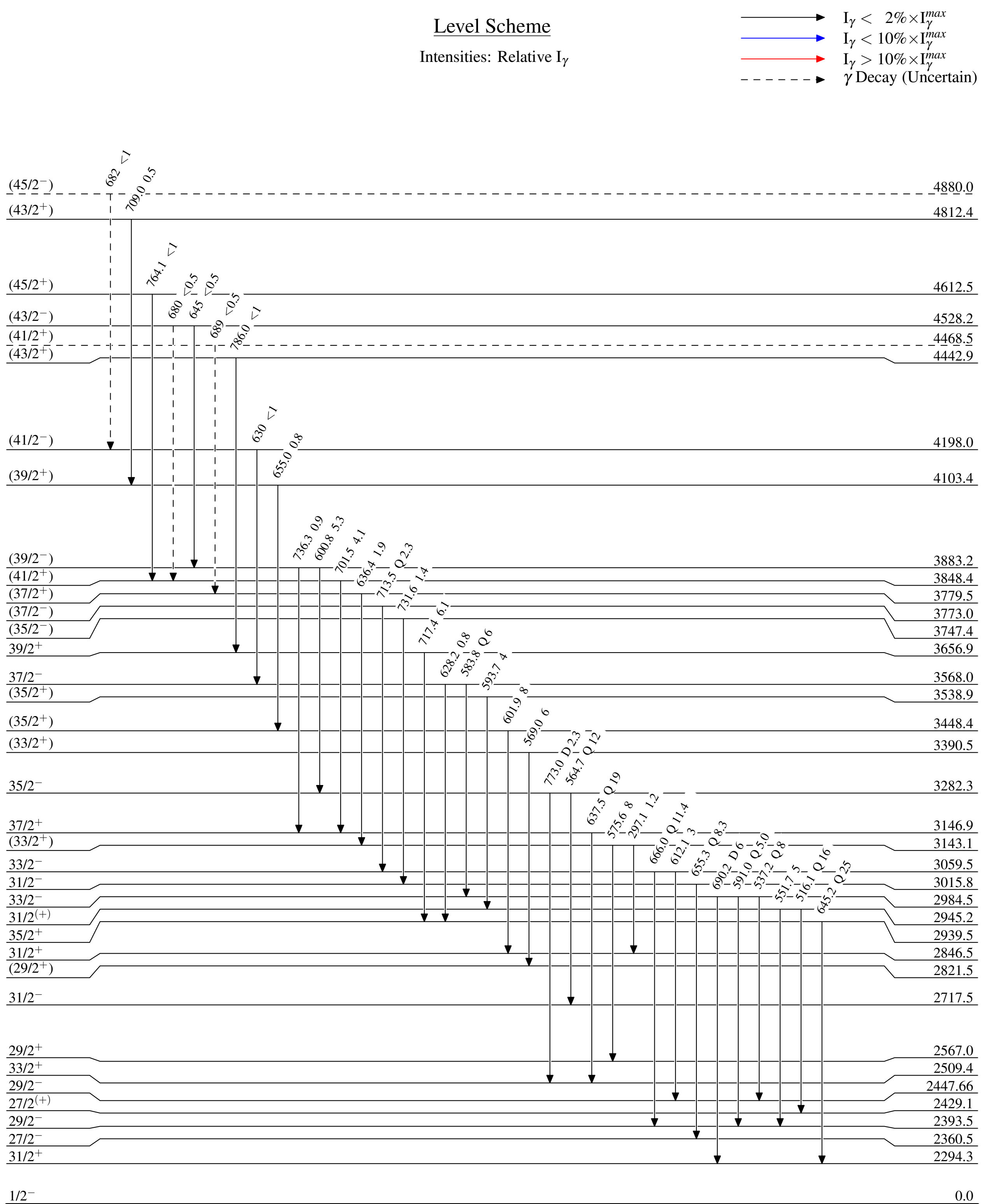
Based on DCO ratios; values expected are $\approx$ 1.0 for stretched Q (or D, ΔJ=0) and $\approx$ 0.5 for pure stretched D.

@ Placement of transition in the level scheme is uncertain.

^{170}Er(α,3nγ) E=35,40 MeV 1998Ar08

Level Scheme

Intensities: Relative I_γ



$^{171}_{70}Yb_{101}$

$^{170}Er(\alpha,3n\gamma)$ E=35,40 MeV 1998Ar08

Level Scheme (continued)

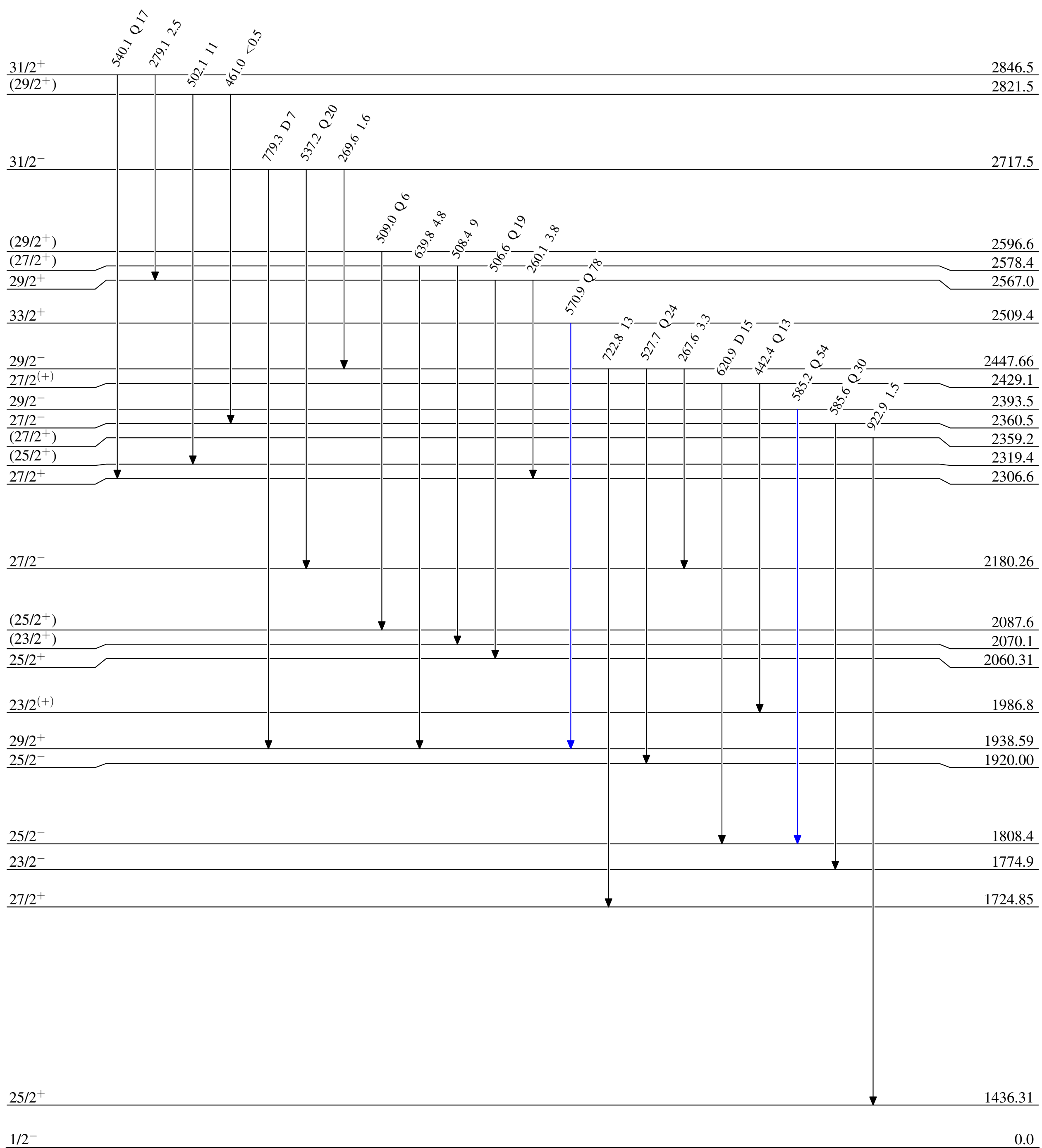
Intensities: Relative I_γ

Legend

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

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

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

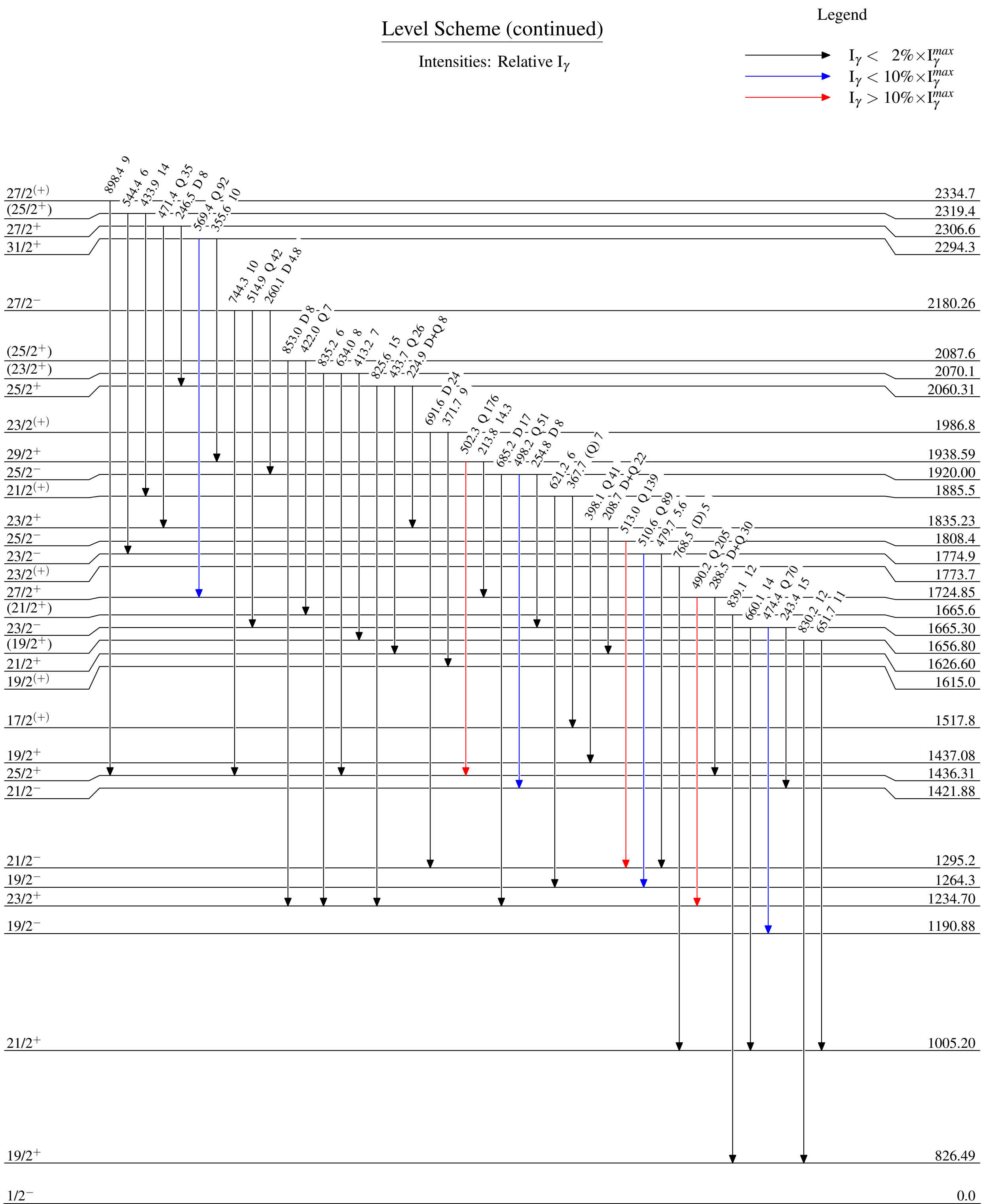


$^{171}_{70}Yb_{101}$

^{170}Er(α,3nγ) E=35,40 MeV 1998Ar08

Level Scheme (continued)

Intensities: Relative I_γ

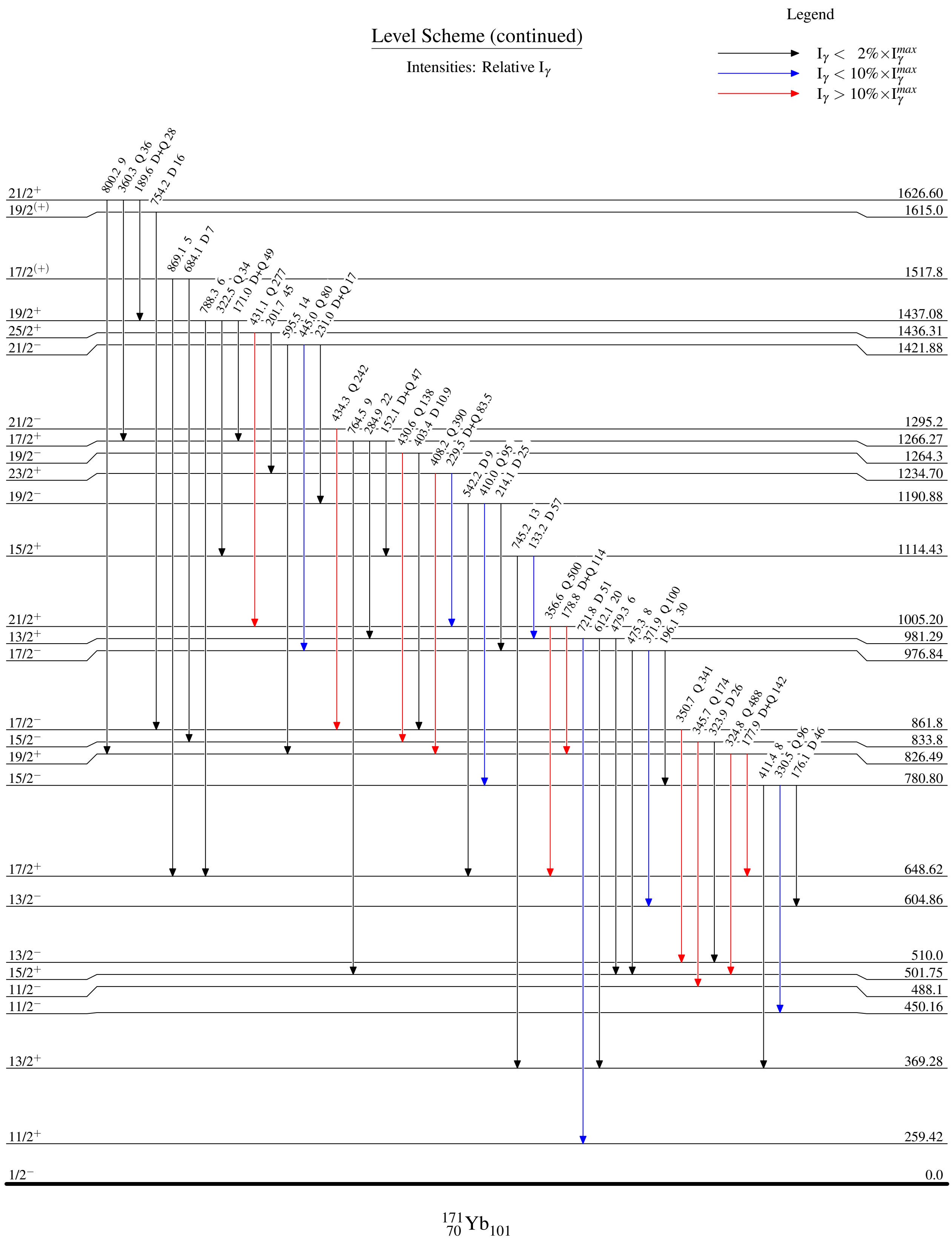


$^{171}_{70}Yb_{101}$

^{170}Er(α,3nγ) E=35,40 MeV 1998Ar08

Level Scheme (continued)

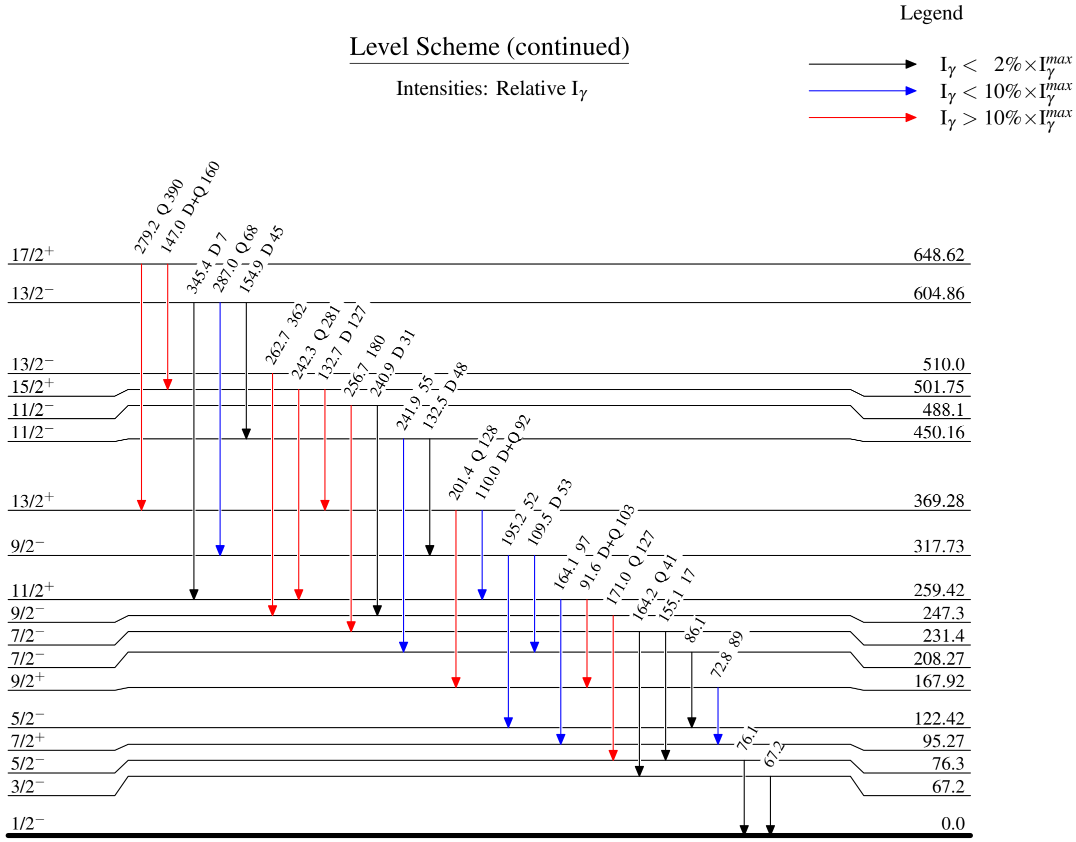
Intensities: Relative I_γ



^{170}Er(α,3nγ) E=35,40 MeV 1998Ar08

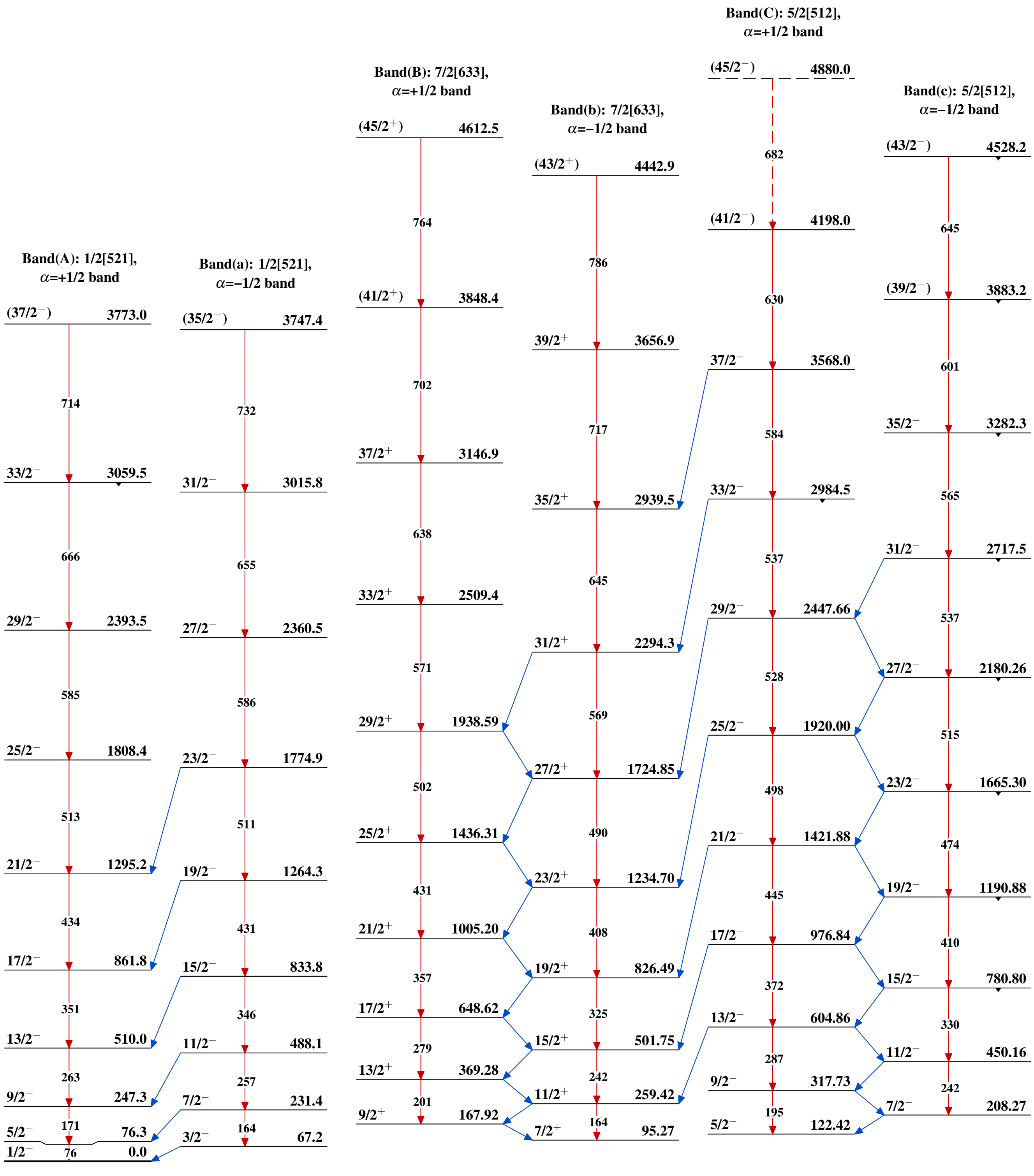
Level Scheme (continued)

Intensities: Relative I_γ



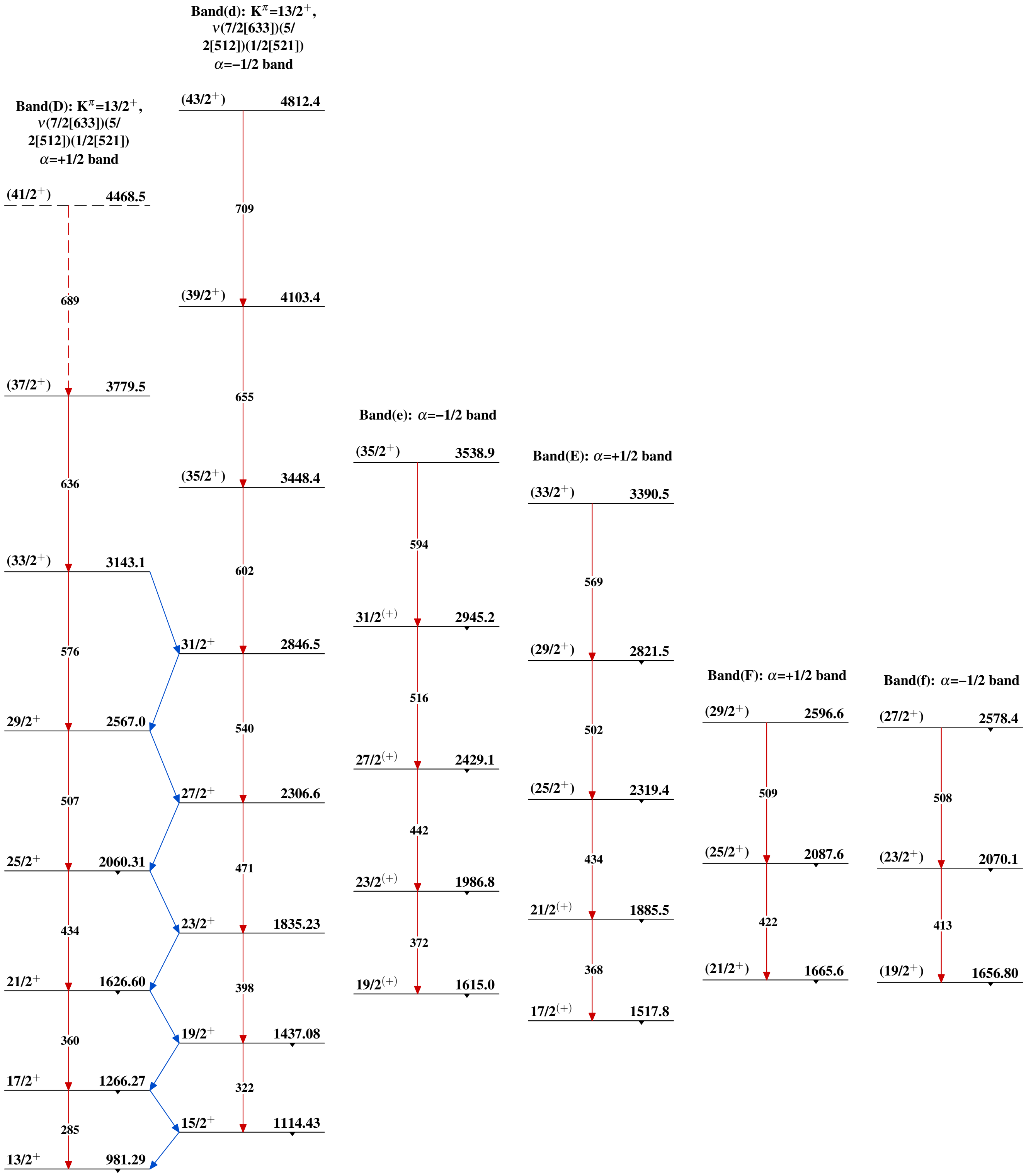
$^{171}_{70}Yb_{101}$

^{170}Er(α,3nγ) E=35,40 MeV 1998Ar08



$^{171}_{70}Yb_{101}$

^{170}Er(α,3nγ) E=35,40 MeV 1998Ar08 (continued)



$^{171}_{70}Yb_{101}$