^{166}Ho β^- decay (1.20×10^3 y)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 109, 1103 (2008)	1-Mar-2008

Parent: ^{166}Ho: E=5.969 *12*; $J^\pi=7^-$; $T_{1/2}=1.20\times10^3$ y *18*; $Q(\beta^-)=1854.7$ *9*; $\%\beta^-$ decay=100.0

^{166}Er Levels

E(level)†	Jπ‡	$T_{1/2}$	Comments
0.0	0^+	stable	
80.574 *4*	2^+	1.83 ns *5*	$T_{1/2}$: from $\gamma\gamma$(t) (1.83 ns *6* (1963Li04); 1.83 ns *5* (1968Ku03)).
264.987 *5*	4^+	118 ps *4*	g=+0.315 *16* (1985Al22) $T_{1/2}$: from $\gamma\gamma$(t) (1986Bo36). other data: 120 ps *8* (1963Li04), 117 ps *7* (1968Ku03).
545.451 *5*	6^+		g=+0.258 *11* (1985Al22)
785.933 *11*	2^+		
859.384 *6*	3^+		
911.204 *7*	8^+		g=+0.262 *47* (1985Al22)
956.227 *6*	4^+		
1075.271 *6*	5^+	≤60 ps	$T_{1/2}$: from $\gamma\gamma$(t) (1963Li04).
1215.963 *6*	6^+		g=+0.254 *32* (1985Al22)
1376.029 *6*	7^+		
1514.0 *3*	3^-		
1527.12? *9*	2^+		
1555.739 *11*	8^+		
1572.177 *8*	$(4)^-$		
1596.232 *8*	(4^-)		
1665.795 *7*	$5^{(-)}$		Jπ: (1120.3γ)(280.45γ)(θ) $A_2=-0.103$ *32*, $A_4=-0.008$ *42* is consistent only with 5(D)6(Q)4 spin sequence (1981La27).
1692.292 *7*	$5^{(-)}$		Jπ: (1146.8γ)(280.45γ) $A_2=-0.098$ *45*, $A_4=-0.06$ *7*; and (1427.25γ)(184.41γ)(θ) $A_2=-0.089$ *45*, $A_4=0.00$ *3*. The two sets A_2, A_4 are consistent only with 5(D+Q)6(Q)4 spin sequence with $\delta(1146.8\gamma)=-0.02$ *+7−6* or *+9 +9−6* and 5(D+Q)4(Q)2 spin sequence with $\delta(1427.25\gamma)=-0.025$ *25* (1981La27).
1786.969 *6*	6^-		Jπ: (711.68γ)(280.45γ)(θ) $A_2=-0.05$ *1*, $A_4=-0.02$ *2* and (1241.48γ)(280.45γ)(θ) $A_2=+0.129$ *13*, $A_4=0.000$ *23* are consistent only with J=6 (1981La27).
1827.552 *7*	6^-		

† From least-squares fit to Eγ.
‡ From Adopted Levels, unless otherwise noted.

β^- radiations

E(decay)‡	E(level)	Iβ−†#	Log *ft*	Comments
(33.1 *9*)	1827.552	17.23 *16*	8.41 *8*	av Eβ=8.38 *24*
(73.7 *9*)	1786.969	73.9 *10*	8.83 *7*	av Eβ=19.02 *24*
(168.4 *9*)	1692.292	0.08 *3*	12.91 *18*	av Eβ=45.26 *26*
(304.9 *9*)	1555.739	0.385 *6*	13.04 *7*	av Eβ=86.32 *29*
(484.6 *9*)	1376.029	0.58 *24*	13.52 *20*	av Eβ=145.33 *31*
(644.7 *9*)	1215.963	2.27 *18*	13.35 *8*	av Eβ=201.79 *33*
(949.5 *9*)	911.204	1.16 *7*	14.23 *7*	av Eβ=316.97 *36*
(1315.2 *9*)	545.451	3.3 *3*	14.30 *8*	av Eβ=464.67 *38*

† From level scheme.
‡ For measured values, see 1963Cl02, 1962Ge02, 1959Bo57, 1952Bu18.
# Absolute intensity per 100 decays.

^{166}Ho β^- decay (1.20×10^3 y) (continued)

$\gamma(^{166}Er)$

Iγ normalization: the absolute intensity per decay for the 184γ determined from activity measurements is 0.699 *14* (1989Da18), 0.7258 *22* (1994Mi22), 0.7021 *35* (1996Mo11), 0.724 *7* (2000Hi01), 0.726 *5* (2002Be04). No β^- feeding is expected from the $(7)^-$ ^{166}Ho parent to the 0^+ g.s., 2^+ 80.6 level or the 4^+ 265 level. Σ (I(γ+ce) to 265 level) + Σ (I(γ+ce) for crossover transitions to g.s. and 81 level)=100 implies Iγ normalization=0.731 *9* and Σ (I(γ+ce) to 81 level)+Ti(786γ)+Ti(859γ)=100 implies Iγ normalization=0.723 *6*; the evaluator adopts the weighted average of these two values and the five absolute measurements, viz., 0.720 *4*. however, Σ (I(γ+ce) to g.s.)=100 implies Iγ normalization=0.773 *11* which gives an unphysical intensity imbalance At the 81 level, suggesting that the adopted I(81γ) is too low.

$\gamma\gamma(\theta)$: 1965Re02, 1972Ca42, 1975Ba39, 1981La27, 1981Ka37, 1985Al22, .

x-rays: (Iγ relative to Iγ(184.4γ)=100.0).

Energy	1988Ch44	1992Wa33	1996Mo11	2002Be04	x-ray
48.22	15.1 3	15.9 4	14.66 11	13.74 21	Kα_2 x ray
49.13	25.4 4	26.9 7	26.43 19	26.9 4	Kα_1 x ray
55.67	7.86 12	7.67 18	8.32 7	8.03 12	Kβ_1' x ray
56.08	1.94 4	1.75 4	2.20 3	2.08 4	Kβ_2' x ray

Summary of relative intensity data for principal lines:

Reference	80.6γ #	94.7γ	119.0γ	121.2γ	135.3γ	140.7γ
1967Bu14	14.5 29	0.16 3 @	0.7 5 d		0.1 1 @	-
1967Gu04	14.55 45	-	-	-	-	-
1970Re16	17.1 5	0.191 14	0.246 27	0.36 4	0.137 14	0.059 14
1973La32	14.5 5	-	-	0.78 18	-	-
1974Li11	16.8 4	0.21 3	0.23 3	0.54 5 @	-	-
1977Ge12	16.7 9	-	-	-	-	-
1978Sa14	17.5 5	0.221 11	0.222 11	0.337 13	0.126 14	0.059 9
1981Ka37		0.217 24	-		0.136 14	0.045 14
1982Bl28	16.56 8	-	-	-	-	-
1982So12	17.8 4	0.22 1	0.27 2 @	0.45 2 @	0.14 1	0.06 1
1986Og03	16.97 13	0.20 1	0.24 1	0.35 2	0.14 1	0.07 1
1988Ad05	17.2 7	0.190 25	0.243 12	0.346 12	0.128 5	0.060 3
1988Ch44	17.2 2	-	-	-	-	-
1989Da18	16.59 31	-	-	-	-	-
1992Ar06	17.6 4	0.23 3	0.23 3	0.38 3 @	0.15 3	0.07 1
1992Wa10	17.00 22	0.208 10	-	0.307 11@	-	-
1992Wa33	16.7 4	0.198 4	0.236 5	0.362 7	0.1358 28	0.0584 16
1994Mi22	16.05 11	-	-	-	-	-
1996Mo11	17.18 11	0.198 5	0.238 7	0.343 11	0.142 9	0.051 7
2000Hi01	16.35 22	-	-	-	-	-
2002Be04	16.09 14	0.187 3	0.576 14 d		0.138 3	0.0579 14
Recommended	16.62 12	0.195 3	0.235 6	0.350 5	0.1364 19	0.0584 10

Reference	160.1γ	161.7γ	184.4γ	190.7γ	214.8γ	215.9γ

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1967Bu14	0.35 10 d		100.0	-		3.8 4 @	
1967Gu04	-	-	100.0 10	-	4.15 6 d		
1970Re16	0.134 14	0.150 14	100 5	0.301 27	0.75 10@	3.55 27	
1973La32	0.36 15 @	-	100.0	-	-	-	
1974Li11	0.16 3 @	0.16 3	100.0	0.31 4	-	-	
1977Ge12	-	-	100.0 31	-	4.06 16 d		
1978Sa14	0.109 8 @	0.135 8	100.0 20	0.304 14	0.586 20@	3.54 10	
1981Ka37	0.132 13	0.133 13	100.0 10	0.305 16	0.61 4	3.57 6	
1982Bl28	-	-	100.0	-	-	4.04 4	
1982So12	0.14 1	0.15 8	100.0	0.31 1	0.61 2	3.67 9	
1986Og03	0.14 2	0.15 2	100.0	0.33 2 @	0.61 2	3.60 13	
1988Ad05	0.124 8 @	0.140 6	100.0 20	0.291 9	4.14 5 d		
1988Ch44	-	-	100.0 10	-	-	-	
1989Da18	-	-	100.0 14	-	0.602 48	3.61 12	
1992Ar06	0.14 3	0.15 3	100.0	0.31 3	0.61 4	3.49 14	
1992Wa10	0.153 7 @	-	100.0	-	-	3.59 4	
1992Wa33	0.139 3	0.160 4	100.0 16	0.273 6 @	0.671 13@	3.60 6	
1994Mi22	-	-	100.0 3	-	-	3.447 23 @	
1996Mo11	0.140 11	0.158 8	100.0 5	0.301 6	0.600 9	3.566 19	
2000Hi01	-	-	100.0 10	-	-	-	
2002Be04	0.266 6 d		100.0 6	0.292 4	4.145 33 d		
Recommended	0.139 3	0.150 4	100.0	0.297 3	0.604 8	3.570 11	

Reference	231.3γ	259.7γ	280.5γ	300.7γ #	304.9γ #	339.8γ
1967Bu14	0.3 2	1.8 5 @	39.5 28	4.8 4	-	-
1967Gu04	0.32 5	1.42 10	43.6 4 @	5.45 5	-	-
1970Re16	0.328 27	1.50 8	40.7 20	5.12 26	-	0.232 27
1973La32	0.36 3 @	1.77 12 @	38.6 5 @	4.77 9	-	-
1974Li11	0.31 4	1.52 5	39.6 13	4.92 12	-	0.23 4
1977Ge12	-	-	40.2 13	4.97 16	-	-
1978Sa14	0.284 14	1.45 4	40.8 12	5.12 15	-	0.234 15
1981Ka37	0.289 12	1.482 23	41.34 20	5.165 27	-	0.232 18
1982Bl28	-	-	41.26 28	5.22 4	-	-
1982So12	0.30 1	1.53 3	41.0 5	5.17 8	-	0.21 1
1986Og03	0.33 3	1.52 3	40.6 5	5.11 8	0.023 3	0.21 3
1988Ad05	0.289 9	1.47 4	40.4 13	5.04 16	0.030 3	0.222 7
1989Da18	0.263 19	1.502 40	40.88 48	5.13 7	-	-
1992Ar06	0.30 4	1.45 5	39.8 9	4.98 13	0.023 3	0.22 3
1992Wa10	0.283 6	1.529 34	41.4 5	5.34 6	-	-
1992Wa33	0.260 5	1.507 23	41.8 6	5.29 8	0.020 10	0.221 5
1994Mi22	-	1.434 25	40.63 11	5.079 36	-	-
1996Mo11	0.293 5	1.480 9	40.66 20	5.118 26	0.026 6	0.2250 34
2000Hi01	-	-	41.02 41	-	-	-
2002Be04	0.291 5	1.445 10	40.36 21	5.004 28	0.0220 14	0.215 6
2006Ku03 s	-	1.428 17	-	-	0.0310 12	0.223 4
Recommended	0.286 3	1.468 8	40.78 10	5.13 3	0.027 4 e	0.2221 21

Reference	365.7γ #	410.9γ	451.5γ #	464.8γ #	476.4γ	496.9γ
1967Bu14	2.9 3 @	15.8 12	3.5 7 @	2.0 4	0.4 2 @	-
1967Gu04	3.72 7 @	16.8 2 @	4.30 8	1.66 8	-	-
1970Re16	3.44 18	15.8 8	4.18 20	1.68 11	-	-

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1973La32	2.93 6 @	15.50 19	3.48 7 @	2.00 7	-	-
1974Li11	3.25 10	14.8 3	3.84 13	1.50 8	-	-
1977Ge12	3.30 3	15.27 16	3.99 4	-	-	-
1978Sa14	3.33 10	15.25 43	4.02 12	1.65 5	-	-
1981Ka37	3.445 24	15.95 15	4.160 25	1.699 21	-	-
1982Bl28	3.30 3	15.65 10	3.85 5	-	-	-
1982So12	3.49 6	15.9 2	4.17 5	1.67 3	-	0.18 3 @
1986Og03	3.46 6	15.5 4	4.04 11	1.73 7	0.052 6	0.17 1
1988Ad05	3.33 10	15.3 4	4.00 11	1.59 4	0.050 3	0.170 5
1989Da18	3.44 5	15.93 16	4.12 7	1.69 6	-	-
1992Ar06	3.34 9	15.0 4	3.89 13	1.66 7	0.052 7	0.17 3
1992Wa10	3.589 45	16.49 19 @	4.24 6	1.729 35	-	-
1992Wa33	3.51 6	16.02 25	4.11 7	1.73 3	0.0494 24	0.175 3
1994Mi22	3.439 45	15.42 6	4.023 28	2.027 30	-	-
1996Mo11	3.404 17	15.81 9	4.062 37	1.665 17	-	0.174 16
2000Hi01	-	15.73 18	-	-	-	-
2002Be04	3.351 21	15.39 8	4.001 22 d	1.587 11	-	0.168 6
2006Ku03 s	-	-	-	1.619 19	-	-
Recommended	3.400 20	15.56 6	4.04 4 e	1.67 8 e	0.0498 18	0.172 3

Reference	520.9γ	529.8γ #	570.9γ #	594.5γ	611.6γ	615.8γ #
1967Bu14	-	10.3 10 @	6.8 7	1.2 4 @	1.4 10 @	-
1967Gu04	-	13.0 4	7.08 14	0.74 10	1.59 32 @	-
1970Re16	-	13.9 7	7.86 40	0.96 5 @	1.90 11	-
1973La32	-	10.16 32 @	6.77 14	1.28 18 @	1.48 27 @	-
1974Li11	-	12.4 3	7.04 14	0.70 5 @	1.67 9 @	-
1977Ge12	-	12.78 13	7.45 8	-	-	-
1978Sa14	-	13.1 4	7.53 22	0.77 3	1.95 6	-
1981Ka37	-	13.46 7	7.70 8	0.813 27	2.001 27	-
1982Bl28	-	12.48 10	7.22 6	-	-	-
1982So12	0.22 3	13.3 2	7.65 9	0.77 2	1.86 4	-
1986Og03	0.21 1	13.18 34	7.64 20	0.80 9	1.86 12	0.044 13
1988Ad05	0.20 3	12.83 29	7.42 18	0.769 18	1.85 6	0.163 7
1989Da18	0.240 23	13.46 18	7.81 10	0.803 32	1.95 10	-
1992Ar06	0.21 3	12.6 4	7.27 23	0.78 7	1.86 11	0.044 13
1992Wa10	-	13.19 15	7.96 9	0.761 22	2.097 26 @	-
1992Wa33	0.276 13	-	-	-	-	0.138 10
1994Mi22	-	13.38 5	7.50 7	-	1.95 6	-
1996Mo11	0.212 13	13.33 7	7.705 43	0.880 20 @	1.911 34	0.160 10
2000Hi01	-	13.30 15	7.65 11	-	-	-
2002Be04	0.241 7	12.88 7	7.47 4	0.788 8	1.850 22	0.128 6
Recommended	0.227 6	13.14 24 e	7.51 20 e	0.783 7	1.900 18	0.128 17

Reference	640.0γ	644.7γ #	670.6γ #	691.3γ	705.1γ #	711.7γ #
1967Bu14	-	0.27 15	7.0 7	1.9 4	-	72.5 60
1967Gu04	-	0.31 3 @	7.35 29	1.62 8 @	-	71.5 7
1970Re16	0.22 7 @	0.246 27	7.88 40	2.09 11 @	-	80.2 40 @
1973La32	-	-	7.01 25	1.85 9	-	71.65 68
1974Li11	-	-	6.98 16	1.60 10 @	-	71.1 14
1977Ge12	-	-	7.37 8	1.805 18	-	74.5 8
1978Sa14	0.122 16	0.213 19	7.37 21	1.87 6	-	74.5 22

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1981Ka37	0.124 18	0.222 24	7.583 35	1.886 18	-	76.47 27
1982Bl28	-	-	7.28 6	-	-	72.4 4
1982So12	0.12 1	0.19 1	7.53 9	1.87 4	-	75.7 8
1986Og03	0.11 1	0.23 6	7.16 20	1.86 9	0.011 1	75.3 18
1988Ad05	0.124 5	0.186 5	7.32 17	1.79 4	0.025 15	73.8 20
1989Da18	-	-	7.60 9	1.839 40	-	76.4 8
1992Ar06	0.11 2	0.21 4	6.98 22	1.78 9	0.011 2	72.0 19
1992Wa10	-	-	7.72 8	1.87 4	-	77.5 6
1992Wa33	0.137 3	0.206 4	-	-	0.0272 6	-
1994Mi22	-	-	7.618 39	1.914 26	-	76.30 26
1996Mo11	0.138 9	0.189 11	7.563 43	1.862 19	-	76.34 43
2000Hi01	-	-	7.80 12	-	-	77.3 7
2002Be04	0.123 4	0.154 4	7.33 4	1.804 14	-	74.10 28
2006Ku03 s	-	0.2071 29	-	-	-	-
Recommended	0.128 3	0.193 6	7.49 13 e	1.851 11	0.019 8 e	75.2 12 e

Reference	736.7γ	752.3γ #	778.9γ #	785.8γ #	810.3γ #	830.6γ #
1967Bu14	0.45 15	16.1 12	3.8 3	-	76 8	12.5 10
1967Gu04	0.50 5	15.2 3 @	3.88 6	-	76.4 8	12.9 3
1970Re16	0.14 4 @	17.9 10 @	4.51 23	-	85.7 42 @	14.5 8 @
1973La32	0.46 4	16.06 40	3.72 7	-	76.4 8	12.07 25 @
1974Li11	0.45 5	15.98 32	4.16 12	-	75.7 15	12.83 3
1977Ge12	-	16.57 16	4.13 4	-	78.1 8	13.26 13
1978Sa14	0.506 24	16.6 5	4.17 12	-	78.7 22	13.3 4
1981Ka37	0.531 19	16.99 6	4.267 20	-	80.39 30	13.57 6
1982Bl28	-	16.26 12	4.00 3	-	76.9 4	12.99 10
1982So12	0.51 2	17.0 2	4.25 6	-	80.1 8	13.5 2
1986Og03	0.50 4	17.08 43	4.22 14	0.019 4	79.3 18	13.51 35
1988Ad05	0.530 14	16.5 4	4.13 10	0.023 3	78.2 20	13.3 3
1989Da18	0.547 22	16.98 22	4.27 7	-	80.3 11	13.62 18
1992Ar06	0.49 4	16.2 5	4.04 14	0.019 4	76.1 20	12.9 4
1992Wa10	0.510 12	17.16 14	4.28 6	-	80.8 6	13.87 18
1992Wa33	-	-	-	0.0312 10	-	-
1994Mi22	-	16.97 7	4.257 25	-	80.52 29	13.64 7
1996Mo11	0.550 17	16.98 9	4.242 26	-	80.3 4	13.64 7
2000Hi01	-	16.95 21	-	-	80.4 7	13.49 17
2002Be04	0.530 7	16.50 8	4.158 25	-	77.96 41	13.17 7
2006Ku03 s	-	-	-	-	[79.0]	-
Recommended	0.524 5	16.80 17 e	4.16 10 e	0.026 5 e	79.0 15 e	13.1 3 e

Reference	875.6γ	951.0γ	1010.3γ	1120.4γ	1146.8γ	1241.5γ #
1967Bu14	1.15 15 @	3.6 6	0.1 1	-	0.38 6 @	1.25 25
1967Gu04	0.91 4 @	3.16 12 @	0.11 3	0.26 2	0.26 2	1.06 4
1970Re16	1.08 8 @	4.15 20 @	0.123 14 @	0.314 27 @	0.301 27	1.37 7 @
1973La32	1.14 7 @	3.50 14 @	-	0.30	0.38 5	1.22 5
1974Li11	1.00 9	3.74 16	-	-	-	1.17 12
1977Ge12	0.979 10	3.68 4	-	-	0.274 3	1.098 13
1978Sa14	0.99 3	3.71 11	0.096 7	0.327 13 @	0.271 13	1.14 3
1981Ka37	1.026 12	3.800 18	0.104 6	-	0.293 20	1.071 31
1982Bl28	-	3.65 4	-	-	-	-
1982So12	0.99 4	3.89 6	0.11 1	0.35 1 @	0.30 1	1.21 4

1986Og03	1.00 5	3.87 12	0.13 3 @	0.28 5	0.29 4	1.21 6
1988Ad05	0.987 24	3.74 9	0.107 3	0.268 6	0.279 7	1.118 25
1989Da18	1.002 21	3.85 6	-	-	0.281 27	1.116 32
1992Ar06	0.97 6	3.68 12	0.11 2	0.28 3	0.27 3	1.14 5
1992Wa10	1.003 21	3.90 5	-	-	0.290 6	1.211 10
1992Wa33	-	-	0.1113 22	0.281 6	0.289 6	-
1994Mi22	-	3.789 22	-	-	-	-
1996Mo11	1.016 17	3.793 23	0.107 6	0.278 10	0.279 6	1.121 13
2002Be04	0.994 10	3.709 26	0.100 4	0.260 4	0.278 7	1.099 12
2006Ku03 s	-	-	0.1082 19	-	-	-
Recommended	1.003 7	3.775 18	0.1073 13	0.273 3 e	0.282 3	1.15 6 e

Reference	1282.1γ	1306.6γ #	1331.0γ #	1400.8γ	1427.2γ
1967Bu14	-	-	-	-	0.69 7
1967Gu04	0.22 2	-	-	0.72 2	0.69 2
1970Re16	0.314 27 @	-	-	0.75 4	0.81 4 @
1973La32	0.38 4 @	-	-	0.86 5 @	0.65 3
1974Li11	0.24 5	-	-	-	-
1977Ge12	0.241 4	-	-	0.670 7	0.666 10
1978Sa14	0.246 12	-	-	0.686 21	0.667 21
1981Ka37	0.226 18	-	-	0.702 27	0.701 27
1982So12	0.29 1	-	-	0.74 2	0.72 2
1986Og03	0.28 4	0.010 2	0.010 1	0.76 4	0.77 4 @
1988Ad05	0.240 8	0.0044 4	0.0051 6	0.672 16	0.673 17
1989Da18	0.271 18	-	-	0.720 25	0.708 18
1992Ar06	0.27 3	0.010 2	0.010 2	0.70 3	0.68 3
1992Wa10	0.268 12	-	-	0.707 17	0.705 28
1992Wa33	0.263 5	0.00615 23	0.0025 10	-	-
1996Mo11	0.2434 27	-	-	0.689 6	0.696 6
2002Be04	0.255 6	-	-	0.697 10	0.664 10
Recommended	0.256 4	0.0076 15e	0.0059 16	0.697 5	0.687 5

Data For This γ Are Discrepant (χ^2 Exceeds Critical Value).
@ Statistical Outlier Based On Chauvenet Criterion; Datum Excluded From Average.
s Iγ data were Reported Relative To I(810γ)=80.0; Values Have Been Scaled So I(810γ)=79.0, The Value ADOPTED Here.
d For Doublet.
e Weighted Average With Uncertainty Expanded To Encompass Most Precise Datum.

$^{166}_{68}Er_{98}$-6

^{166}Ho β^- decay (1.20×10^3 y) (continued)

γ(^{166}Er) (continued)

E_γ[†]	I_γ[‡a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[b]	Comments
(73.45[&] *2*)	0.002[&]	859.384	3^+	785.933	2^+	M1	6.92	α(K)=5.80 *9*; α(L)=0.876 *13*; α(M)=0.194 *3*; α(N+..)=0.0522 *8* α(N)=0.0453 *7*; α(O)=0.00655 *10*; α(P)=0.000360 *5*

$^{166}_{68}Er_{98}$-7

^{166}Ho β^- decay (1.20×10^3 y) (continued)

$\gamma(^{166}Er)$ (continued)

E_γ [†]	I_γ [‡a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ	α[b]	Comments
80.574 *4*	16.62 *12*	80.574	2^+	0.0	0^+	E2		6.78	α(K)=1.671 *24*; α(L)=3.92 *6*; α(M)=0.954 *14*; α(N+..)=0.241 *4* α(N)=0.216 *3*; α(O)=0.0251 *4*; α(P)=7.29×10^{-5} *11* E_γ: unweighted average of 80.573 *15* (1970Re16), 80.589 *5* (1975Mo13), 80.572 *15* (1982So12), 80.56 *1* (1986Og03), 80.585 *15* (1988Ad05), 80.566 *3* (1992Wa33), 80.577 *7* (1992Ar06). Weighted average is 80.572 *4*. I_γ: this value appears to Be too low; intensity balance At the 81 level requires Ti(81γ)= Σ (I(γ+ce) to 81 level)=138.3 *5*, so Iγ(81)=17.78 *21* is expected assuming α(E2 theory)=6.78.
94.674 *3*	0.195 *3*	1786.969	6^-	1692.292	$5^{(-)}$	[M1]		3.33	α(K)=2.79 *4*; α(L)=0.419 *6*; α(M)=0.0930 *13*; α(N+..)=0.0250 *4* α(N)=0.0217 *3*; α(O)=0.00313 *5*; α(P)=0.0001723 *25* E_γ: weighted average of 94.679 *9* (1992Ar06), 94.672 *2* (1992Wa33), 94.697 *23* (1988Ad05), 94.70 *1* (1986Og03), 94.68 *3* (1982So12), 94.653 *30* (1970Re16). Unweighted average: 94.680 *7*.
(96.85[&] *5*)	0.00307[&] *16*	956.227	4^+	859.384	3^+	E2		3.32	α(K)=1.9 *8*; α(L)=1.0 *7*; α(M)=0.25 *16*; α(N+..)=0.06 *4* α(N)=0.06 *4*; α(O)=0.007 *4*; α(P)=0.00010 *6*
119.041 *3*	0.235 *6*	1075.271	5^+	956.227	4^+	(M1+E2)	+1.94 *+23−21*	1.579 *24*	α(K)=0.86 *4*; α(L)=0.556 *19*; α(M)=0.134 *5*; α(N+..)=0.0341 *12* α(N)=0.0304 *11*; α(O)=0.00366 *12*; α(P)=4.2×10^{-5} *3* E_γ: weighted average of 119.035 *10* (1992Ar06), 119.040 *2* (1992Wa33); 119.09 *4* (1988Ad05); 119.07 *1* (1986Og03), 119.08 *4* (1982So12), 119.04 *3* (1970Re16). (unweighted average is 119.059 10.). Mult.,δ: D+Q from 119γ-876$\gamma(\theta)$ for intraband γ (1996Al31).
121.175 *3*	0.350 *5*	1786.969	6^-	1665.795	$5^{(-)}$	[E2]		1.442	α(K)=0.665 *10*; α(L)=0.596 *9*; α(M)=0.1443 *21*; α(N+..)=0.0366 *6* α(N)=0.0327 *5*; α(O)=0.00388 *6*; α(P)=2.81×10^{-5} *4* E_γ: weighted average of 121.175 *10* (1992Ar06), 121.174 *2* (1992Wa33), 121.209 *26* (1988Ad05), 121.20 *1* (1986Og03), 121.161 *30* (1970Re16). Other Eγ: 121.30 *10* (1982So12); statistical outlier. Unweighted average: 121.184 *9*.
135.260 *4*	0.1364 *19*	1827.552	6^-	1692.292	$5^{(-)}$	[E2]		0.970	α(K)=0.494 *7*; α(L)=0.365 *6*; α(M)=0.0882 *13*; α(N+..)=0.0224 *4* α(N)=0.0200 *3*; α(O)=0.00239 *4*; α(P)=2.13×10^{-5} *3* E_γ: weighted average of 135.257 *14* (1992Ar06), 135.259 *4* (1992Wa33), 135.275 *26* (1988Ad05), 135.30 *2* (1986Og03), 135.30 *10* (1982So12), 135.238 *35* (1970Re16). Unweighted average is 135.272 *10*.

^{166}Ho β^- decay (1.20×10^3 y) (continued)

$\gamma(^{166}Er)$ (continued)

E_γ [†]	I_γ [‡a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[b]	Comments
140.692 *6*	0.0584 *10*	1215.963	6^+	1075.271	5^+	[M1,E2]	0.96 *12*	α(K)=0.67 *23*; α(L)=0.22 *9*; α(M)=0.052 *22*; α(N+..)=0.013 *6* α(N)=0.012 *5*; α(O)=0.0015 *5*; α(P)=3.7×10^{-5} *19* E_γ: weighted average of 140.702 *20* (1992Ar06), 140.692 *5* (1992Wa33), 140.73 *4* (1988Ad05), 140.72 *2* (1986Og03), 140.81 *10* (1982So12), 140.62 *4* (1970Re16).
160.076 *5*	0.129 *8*	1376.029	7^+	1215.963	6^+	[M1,E2]	0.64 *11*	α(K)=0.47 *16*; α(L)=0.13 *4*; α(M)=0.031 *11*; α(N+..)=0.008 *3* α(N)=0.0072 *24*; α(O)=0.00093 *23*; α(P)=2.6×10^{-5} *13* E_γ: weighted average of 160.077 *20* (1992Ar06), 160.074 *6* (1992Wa33), 160.09 *3* (1988Ad05), 160.09 *2* (1986Og03), 160.09 *10* (1982So12), 160.06 *5* (1970Re16). Unweighted average is 160.080 *5*.
161.731 *8*	0.150 *4*	1827.552	6^-	1665.795	$5^{(-)}$	[M1,E2]	0.62 *11*	α(K)=0.45 *16*; α(L)=0.13 *4*; α(M)=0.030 *10*; α(N+..)=0.0078 *25* α(N)=0.0069 *23*; α(O)=0.00089 *22*; α(P)=2.5×10^{-5} *12* E_γ: weighted average of 161.707 *14* (1992Ar06), 161.728 *6* (1992Wa33), 161.78 *3* (1988Ad05), 161.78 *2* (1986Og03), 161.75 *8* (1982So12), 161.75 *5* (1970Re16). unweighted average is 161.749 *12*.
170.288 *23*	0.0194 *5*	956.227	4^+	785.933	2^+	E2	0.434	α(K)=0.258 *4*; α(L)=0.1348 *19*; α(M)=0.0323 *5*; α(N+..)=0.00825 *12* α(N)=0.00734 *11*; α(O)=0.000894 *13*; α(P)=1.170×10^{-5} *17* E_γ: from 1992Wa33. I_γ: weighted average of 0.0192 *11* (1992Wa33) and 0.0195 *6* (2006Ku03, relative to adopted I(810γ)=79.0).
184.4113 *24*	100.0	264.987	4^+	80.574	2^+	E2	0.331	α(K)=0.205 *3*; α(L)=0.0964 *14*; α(M)=0.0230 *4*; α(N+..)=0.00590 *9* α(N)=0.00524 *8*; α(O)=0.000642 *9*; α(P)=9.48×10^{-6} *14* I_γ: Iγ(%)=69.9 *14* (1989Da18); 70.21 *35* (1996Mo11); 72.58 *22* (1994Mi22); 72.4 *7* (2000Hi01); 72.6 *5* (2002Be04). E_γ: weighted average of 184.407 *15* (1970Re16), 184.415 *6* (1975Mo13), 184.42 *2* (1982So12), 184.41 *1*(1986Og03), 184.405 *15* (1988Ad05), 184.404 *7* (1992Ar06), 184.412 *3* (1992Wa33).
190.762 *15*	0.297 *3*	1786.969	6^-	1596.232	(4^-)	[E2]	0.295	α(K)=0.186 *3*; α(L)=0.0838 *12*; α(M)=0.0200 *3*; α(N+..)=0.00512 *8* α(N)=0.00455 *7*; α(O)=0.000559 *8*; α(P)=8.66×10^{-6} *13* E_γ: unweighted average of 190.747 *16* (1992Ar06), 190.746 *3* (1992Wa33), 190.759 *29* (1988Ad05), 190.80 *3* (1986Og03), 190.81 *2* (1982So12), 190.711 *25* (1970Re16). Weighted average is 190.748 *5*.
214.807 *8*	0.604 *8*	1786.969	6^-	1572.177	$(4)^-$	[E2]	0.199	α(K)=0.1318 *19*; α(L)=0.0516 *8*; α(M)=0.01226 *18*; α(N+..)=0.00315 *5* α(N)=0.00280 *4*; α(O)=0.000347 *5*; α(P)=6.31×10^{-6} *9* E_γ: weighted average of 214.79 *3* (1992Ar06), 214.814 *9* (1992Wa33), 214.79 *2* (1986Og03), 214.79 *4* (1982So12), 214.76 *5* (1970Re16). The unweighted average is 214.789 *9*.
215.8887 *21*	3.570 *11*	1075.271	5^+	859.384	3^+	[E2]	0.195	α(K)=0.1298 *19*; α(L)=0.0506 *7*; α(M)=0.01201 *17*; α(N+..)=0.00308 *5* α(N)=0.00274 *4*; α(O)=0.000340 *5*; α(P)=6.23×10^{-6} *9* other Iγ: Iγ(119γ)/Iγ(215.8γ)=0.063 *5* (1969Su07). E_γ: weighted average of 215.871 *10* (1992Ar06), 215.889 *2* (1992Wa33), 215.90 *1* (1986Og03), 215.91 *4* (1982So12), 215.875 *30* (1970Re16).
231.318 *8*	0.286 *3*	1827.552	6^-	1596.232	(4^-)	[E2]	0.1561	α(K)=0.1063 *15*; α(L)=0.0384 *6*; α(M)=0.00909 *13*; α(N+..)=0.00234 *4*

$^{166}_{68}Er_{98}$-9

^{166}Ho β^- decay (1.20×10^3 y) (continued)

$\gamma(^{166}Er)$ (continued)

E_γ[†]	I_γ[‡a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ	α[b]	Comments
									α(N)=0.00208 *3*; α(O)=0.000260 *4*; α(P)=5.18×10^{-6} *8* E_γ: weighted average of 231.32 *4* (1992Ar06), 231.320 *10* (1992Wa33), 231.322 *26* (1988Ad05), 231.31 *2* (1986Og03). Other Eγ: 231.39 *3* (1982So12), 231.28 *4* (1970Re16) (statistical outliers). Unweighted average: 231.318 *3*.
255.20 *12*	0.0059 *13*	1827.552	6^-	1572.177	$(4)^-$	[E2]		0.1140	α(K)=0.0801 *12*; α(L)=0.0262 *4*; α(M)=0.00618 *9*; α(N+..)=0.001593 *23* α(N)=0.001411 *20*; α(O)=0.000178 *3*; α(P)=3.99×10^{-6} *6* E_γ,I_γ: from 1988Ad05.
259.740 *3*	1.468 *8*	1215.963	6^+	956.227	4^+	[E2]		0.1079	α(K)=0.0761 *11*; α(L)=0.0245 *4*; α(M)=0.00577 *8*; α(N+..)=0.001489 *21* α(N)=0.001318 *19*; α(O)=0.0001669 *24*; α(P)=3.81×10^{-6} *6* other Iγ: Iγ(140.7γ)/Iγ(259.7γ)=0.037 *9* (1969Su07). E_γ: weighted average of 259.70 *3* (1992Ar06), 259.741 *3* (1992Wa33), 259.717 *18* (1988Ad05), 259.76 *2* (1986Og03), 259.76 *2* (1982So12), 259.716 *20* (1970Re16). Unweighted average is 259.732 *10*.
280.464 *2*	40.78 *10*	545.451	6^+	264.987	4^+	E2		0.0849	α(K)=0.0611 *9*; α(L)=0.0183 *3*; α(M)=0.00430 *6*; α(N+..)=0.001112 *16* α(N)=0.000984 *14*; α(O)=0.0001255 *18*; α(P)=3.11×10^{-6} *5* E_γ: weighted average of 280.456 *20* (1970Re16); 280.46 *2* (1982So12); 280.46 *1* (1986Og03); 280.450 *26* (1988Ad05); 280.450 *8* (1975Mo13); 280.468 *7* (1992Ar06); 280.465 *2* (1992Wa33). Unweighted average is 280.458 *3*.
300.755 *4*	5.13 *3*	1376.029	7^+	1075.271	5^+	E2(+M3)	−0.018 *+15−16*	0.0691 *19*	α(K)=0.0507 *14*; α(L)=0.0143 *4*; α(M)=0.00334 *9*; α(N+..)=0.000866 *25* α(N)=0.000765 *22*; α(O)=9.8×10^{-5} *3*; α(P)=2.63×10^{-6} *12* Mult.,δ: from 1985Ma22. other Iγ: Iγ(160.1γ)/Iγ(300.75γ)=0.032 *4* (1969Su07). E_γ: weighted average of 300.731 *9* (1992Ar06), 300.756 *3* (1992Wa33), 300.730 *24* (1988Ad05), 300.77 *1* (1986Og03), 300.77 *2* (1982So12), 300.744 *20* (1970Re16). Unweighted average is 300.750 *7*.
304.91 *5*	0.027 *4*	1215.963	6^+	911.204	8^+				E_γ: unweighted average of 304.8 *1* (1996Mo11), 305.03 *5* (1992Ar06), 304.86 *7* (1992Wa33), 304.82 *4* (1988Ad05), 305.03 *5* (1986Og03). data are discrepant. Weighted average is 304.92 *5*.
339.751 *21*	0.2221 *21*	1555.739	8^+	1215.963	6^+	(E2)		0.0477	α(K)=0.0358 *5*; α(L)=0.00915 *13*; α(M)=0.00213 *3*; α(N+..)=0.000553 *8* α(N)=0.000488 *7*; α(O)=6.35×10^{-5} *9*; α(P)=1.89×10^{-6} *3*

$^{166}_{68}Er_{98}$-10

^{166}Ho β^- decay (1.20×10^3 y) (continued)

$\gamma(^{166}Er)$ (continued)

E_γ [†]	I_γ [‡a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ	α[b]	Comments
									E_γ: unweighted average of 339.75 *5* (1992Ar06), 339.807 *10* (1992Wa33, misprinted as 338.807 in table 1), 339.788 *25* (1988Ad05), 339.71 *3* (1986Og03), 339.67 *4* (1982So12), 339.78 *8* (1970Re16). Data are discrepant. Weighted average is 339.789 *17*.
365.760 *5*	3.400 *20*	911.204	8^+	545.451	6^+	E2		0.0385	α(K)=0.0293 *5*; α(L)=0.00709 *10*; α(M)=0.001643 *23*; α(N+..)=0.000428 *6* α(N)=0.000377 *6*; α(O)=4.95×10^{-5} *7*; α(P)=1.562×10^{-6} *22*
									E_γ: weighted average of 365.736 *9* (1992Ar06), 365.765 *4* (1992Wa33) 365.741 *22* (1988Ad05) 365.76 *2* (1986Og03), 365.74 *3* (1982So12), 365.739 *25* (1970Re16), 365.777 *16* (1975Mo13).
(410.797[&] *16*)	0.0231[&] *7*	956.227	4^+	545.451	6^+	E2			
410.949 *7*	15.56 *6*	1786.969	6^-	1376.029	7^+	E1+M2	−0.010 *5*	0.00873	α(K)=0.00739 *11*; α(L)=0.001047 *15*; α(M)=0.000231 *4*; α(N+..)=6.14×10^{-5} *9* α(N)=5.34×10^{-5} *8*; α(O)=7.57×10^{-6} *11*; α(P)=3.92×10^{-7} *6* unweighted average of Eγ for doublet: 410.950 *8* (1992Ar06), 410.974 *5* (1992Wa33), 410.96 *3* (1988Ad05), 410.95 *1* (1986Og03), 410.92 *2* (1982So12), 410.941 *25* (1970Re16). Weighted average of these data is 410.962 *6*. δ: from 1981Kr12. Other δ: −0.27 *18* (1965Re02); 0.23 *2* (1963Ge09).
[x]449.8 *1*	0.066 *10*								E_γ,I_γ: from 1996Mo11.
451.542 *7*	4.04 *4*	1827.552	6^-	1376.029	7^+	E1+M2	−0.0023 *22*	0.00706 *14*	α(K)=0.00598 *11*; α(L)=0.000843 *18*; α(M)=0.000186 *4*; α(N+..)=4.95×10^{-5} *11* α(N)=4.30×10^{-5} *9*; α(O)=6.12×10^{-6} *13*; α(P)=3.19×10^{-7} *7* E_γ: weighted average of 451.528 *9* (1992Ar06), 451.554 *6* (1992Wa33), 451.531 *26* (1988Ad05), 451.53 *2* (1986Og03), 451.50 *2* (1982So12), 451.524 *25* (1970Re16). Unweighted average is 451.528 *7*. δ: from 1985Ma22. other δ: −0.17 *13* (1981Kr12).
464.832 *6*	1.67 *8*	1376.029	7^+	911.204	8^+	E2+M1	−63 *+12−19*	0.0200 *4*	α(K)=0.0158 *3*; α(L)=0.00326 *5*; α(M)=0.000747 *12*; α(N+..)=0.000196 *3* α(N)=0.000172 *3*; α(O)=2.31×10^{-5} *4*; α(P)=8.70×10^{-7} *18* δ: from 1985Al22. δ data: −80<δ<+30 (1975Ba39); 11 *−7+INFINITY* or 0.20 *+14−12* (1981Ka37); (−13 *−15+5*, neodimium ethyl sulfate; −51 *+21−INFINITY*, Ho metal) (1981Kr12); −32 *−98+14* (1981La27); −63 *+12−19* (1985Al22); −238 *+152−303* (1985Ma22); −238 +153+320 (1990Ha34; solution includes ∞). E_γ: weighted average of 464.819 *12* (1992Ar06), 464.839 *7* (1992Wa33), 464.825 *20* (1988Ad05), 464.80 *3* (1982So12), 464.83 *4* (1970Re16). other: 464.76 *2* (1986Og03), statistical outlier. Unweighted average is 464.823 *7*.

$^{166}_{68}Er_{98}$-11

^{166}Ho β^- decay (1.20×10^3 y) (continued)

$\gamma(^{166}Er)$ (continued)

E_γ[†]	I_γ[‡a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ	α[b]	Comments
476.378 *19*	0.050 *3*	1692.292	$5^{(-)}$	1215.963	6^+				E_γ: weighted average of 476.38 *6* (1992Ar06), 476.380 *26* (1992Wa33), 476.37 *4* (1988Ad05), 476.38 *6* (1986Og03). Unweighted average: 476.3775 *25*.
496.923 *8*	0.172 *3*	1572.177	$(4)^-$	1075.271	5^+	E1		0.00566	α(K)=0.00480 *7*; α(L)=0.000672 *10*; α(M)=0.0001479 *21*; α(N+..)=3.94×10^{-5} *6* α(N)=3.43×10^{-5} *5*; α(O)=4.88×10^{-6} *7*; α(P)=2.57×10^{-7} *4* E_γ: weighted average of 497.0 *1* (1996Mo11), 496.86 *4* (1992Ar06), 496.929 *10* (1992Wa33), 496.935 *19* (1988Ad05), 496.86 *4* (1986Og03), 496.88 *5* (1982So12). Unweighted average: 496.911 *22*.
520.94 *3*	0.227[@] *6*	1596.232	(4^-)	1075.271	5^+				E_γ: unweighted average of 520.86 *5* (1982So12), 520.85 *5* (1986Og03), 520.99 *4* (1988Ad05), 521.0 *1* (1989Da18), 520.85 *5* (1992Ar06), 521.041 *25* (1992Wa33), 521.0 *1* (1996Mo11). Data are discrepant. weighted average is 520.97 *3*. Extremely weak component of 521γ from 786 level will have No significant effect on this Eγ.
520.945 *15*	0.00041[@] *8*	785.933	2^+	264.987	4^+	E2		0.01481	α(K)=0.01184 *17*; α(L)=0.00230 *4*; α(M)=0.000525 *8*; α(N+..)=0.0001381 *20* α(N)=0.0001210 *17*; α(O)=1.644×10^{-5} *23*; α(P)=6.58×10^{-7} *10*
529.807 *11*	13.14 *21*	1075.271	5^+	545.451	6^+	E2+M1	−25 *+4−5*	0.01421	α(K)=0.01139 *16*; α(L)=0.00219 *3*; α(M)=0.000499 *7*; α(N+..)=0.0001316 *19* α(N)=0.0001152 *17*; α(O)=1.568×10^{-5} *22*; α(P)=6.34×10^{-7} *9* δ: from 1981La27. Other δ: −85 *+45−INFINITY* (1965Re02); −25 *3* (1975Ba39); 158 +infinity-130 (1981Ka37); (−60 *−45+19*, neodimium ethyl sulfate; −62 *−40+17*, Ho metal) (1981Kr12); −43 *+5−7* (1990Ha34);. E_γ: weighted average of 529.811 *10* (1992Ar06), 529.835 *18* (1988Ad05), 529.76 *2* (1986Og03), 529.79 *3* (1982So12), 529.81 *3* (1970Re16). Unweighted average is 529.801 *13*.
570.976 *18*	7.51 *20*	1786.969	6^-	1215.963	6^+	E1+M2	+0.06 *3*	0.0044 *4*	α(K)=0.0038 *3*; α(L)=0.00053 *5*; α(M)=0.000116 *10*; α(N+..)=3.1×10^{-5} *3* α(N)=2.70×10^{-5} *23*; α(O)=3.9×10^{-6} *4*; α(P)=2.05×10^{-7} *18* E_γ: unweighted average of 570.940 *10* (1992Ar06), 571.034 *18* (1988Ad05), 570.94 *2* (1986Og03), 570.97 *3* (1982So12), 570.998 *30* (1970Re16); data are discrepant. weighted average is 570.962 *18*. δ: from 1981Kr12. Other δ: −0.08 *+12−8* (1965Re02).
590.56 *3*	0.032 *3*	1665.795	$5^{(-)}$	1075.271	5^+				E_γ: from 1992Wa33. Other: 590.67 *15* (1988Ad05).
594.46 *3*	0.783 *7*	859.384	3^+	264.987	4^+	E2+M1	−12 *2*	0.0109 *4*	α(K)=0.0088 *3*; α(L)=0.00160 *4*; α(M)=0.000361 *8*; α(N+..)=9.54×10^{-5} *21* α(N)=8.35×10^{-5} *18*; α(O)=1.15×10^{-5} *3*; α(P)=4.95×10^{-7} *17* δ: from Adopted Gammas. Others: −9 *+5−319* (1975Ba39), −9 *+5−INFINITY* (1981La27); (−8 *+3−15*, neodimium ethyl sulfate;

$^{166}_{68}Er_{98}$-12

^{166}Ho β^- decay (1.20×10^3 y) (continued)

$\gamma(^{166}Er)$ (continued)

E_γ[†]	I_γ[‡a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ	α[b]	Comments
									-12 *−29+5*, Ho metal) (1981Kr12); −36 *+32−11* (1990Ha34; sign from table 2, misprinted In table 1).
									E_γ: unweighted average of 594.536 *24* (1992Ar06), 594.423 *25* (1988Ad05), 594.52 *3* (1986Og03), 594.36 *3* (1982So12), 594.48 *8* (1970Re16). Data are discrepant. Weighted average is 594.47 *3*.
611.555 *26*	1.900 *18*	1827.552	6^-	1215.963	6^+	E1+M2	−0.18 *7*	0.0054 *16*	α(K)=0.0046 *13*; α(L)=0.00067 *22*; α(M)=0.00015 *5*; α(N+..)=4.0×10^{-5} *13*
									α(N)=3.5×10^{-5} *12*; α(O)=5.0×10^{-6} *17*; α(P)=2.7×10^{-7} *9*
									E_γ: unweighted average of 611.620 *17* (1992Ar06), 611.615 *26* (1988Ad05), 611.49 *3* (1986Og03), 611.53 *3* (1982So12), 611.52 *7* (1970Re16). Data are discrepant. weighted average is 611.583 *26*.
									δ: from 1981Kr12.
615.89 *4*	0.128 *17*	1572.177	$(4)^-$	956.227	4^+	(E1(+M2))			E_γ: weighted average of 616.0 *1* (1996Mo11); 615.84 *9* (1992Ar06), 615.85 *5* (1992Wa33), 616.08 *8* (1988Ad05), 615.84 *5* (1986Og03). Unweighted average is 615.92 *5*.
									Mult.: from Adopted Gammas.
617.0 *5*	0.031 *9*	1692.292	$5^{(-)}$	1075.271	5^+				E_γ,I_γ: from deconvolution of doublet (1988Ad05). See also comments on 615.96γ.
640.015 *9*	0.128 *3*	1596.232	(4^-)	956.227	4^+				E_γ: weighted average of 639.97 *9* (1992Ar06), 640.019 *10* (1992Wa33), 640.003 *24* (1988Ad05), 639.97 *5* (1986Og03); 640.0 *1* (1982So12); unweighted average is 639.992 *10*. Other Eγ: 639.77 *6* (1970Re16); statistical outlier.
644.60 *5*	0.193 *6*	1555.739	8^+	911.204	8^+	E2+M1	+4.9 *+23−11*	0.0092 *3*	α(K)=0.00751 *23*; α(L)=0.00130 *3*; α(M)=0.000294 *7*; α(N+..)=7.78×10^{-5} *18*
									α(N)=6.79×10^{-5} *16*; α(O)=9.42×10^{-6} *23*; α(P)=4.25×10^{-7} *15*
									δ: from $\gamma(\theta)$, oriented nuclei (Ho metal) (1990Ha34). Other δ: >2 (1975Ba39); $\delta\le-1$ or $\delta\ge+4$ (1981Kr12); $\delta>+1.4$ or $\delta<-6$ (1981La27).
									E_γ: unweighted average of 644.689 *15* (1992Ar06), 644.570 *8* (1992Wa33), 644.598 *26* (1988Ad05), 644.78 *5* (1986Og03), 644.51 *6* (1982So12), 644.45 *10* (1970Re16). Data are discrepant. weighted average: 644.598 *24*.
670.516 *14*	7.49 *13*	1215.963	6^+	545.451	6^+	E2+M1	+10.0 *+16−12*	0.00805 *13*	α(K)=0.00659 *11*; α(L)=0.001140 *17*; α(M)=0.000257 *4*; α(N+..)=6.81×10^{-5} *10*
									α(N)=5.95×10^{-5} *9*; α(O)=8.24×10^{-6} *13*; α(P)=3.72×10^{-7} *6*
									δ: from 1981Kr12. δ data: (76 +infinity-71 or 1.6 *+11−3* (1981Ka37)); (+10.0 *+16−12*, Ho metal; +9.4 *+29−16*, crystal of neodymium ethyl sulfate) (1981Kr12); +25

$^{166}_{68}Er_{98}$-13

^{166}Ho β^- decay (1.20×10^3 y) (continued)

$\gamma(^{166}Er)$ (continued)

E_γ [†]	I_γ [‡a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ	α[b]	Comments
									+17−7 (1985Ma22 and 1990Ha34); however, −20 *+9−90* (1975Ba39 and 1981La27).
									E_γ: unweighted average of 670.565 *12* (1992Ar06), 670.525 *21* (1988Ad05), 670.49 *2* (1986Og03), 670.49 *2* (1982So12), 670.51 *4* (1970Re16). Data are discrepant. Weighted average is 670.531 *17*.
691.251 *16*	1.851 *11*	956.227	4^+	264.987	4^+	E2+M1	−3.3 *+12−30*	0.0080 *6*	α(K)=0.0066 *5*; α(L)=0.00110 *6*; α(M)=0.000248 *12*; α(N+..)=6.6×10^{-5} *4*
									α(N)=5.7×10^{-5} *3*; α(O)=8.0×10^{-6} *5*; α(P)=3.7×10^{-7} *3*
									δ: from Adopted Gammas. δ from β^- decay: −10 *+4−27* (1975Ba39); 3.8 *+34−12* or 0.61 *+18−14* (1981Ka37); −16 *−27+4* (1981La27); −16 *+9−INFINITY* (1981Kr12); +566 −522-616 (1990Ha34; solution includes ∞).
									E_γ: unweighted average of 691.304 *12* (1992Ar06), 691.260 *18* (1988Ad05), 691.24 *3* (1986Og03), 691.24 *3* (1982So12), 691.21 *5* (1970Re16). Weighted average is 691.279 *15*.
705.24 *7*	0.019 *8*	785.933	2^+	80.574	2^+	E2+M1	−5 *+3−14*	0.00716 *13*	α(K)=0.00588 *11*; α(L)=0.000999 *16*; α(M)=0.000225 *4*; α(N+..)=5.96×10^{-5} *10*
									α(N)=5.20×10^{-5} *9*; α(O)=7.24×10^{-6} *12*; α(P)=3.33×10^{-7} *7*
									Mult.,δ: from Adopted Gammas.
									E_γ: weighted average of 705.09 *7* (1992Ar06), 705.34 *4* (1992Wa33); 706.2 *9* (1988Ad05); 705.09 *7* (1986Og03). Data are discrepant. unweighted average is 705.4 *3*.
711.681 *6*	75.2 *12*	1786.969	6^-	1075.271	5^+	E1(+M2)	+0.002 *3*	0.00264	α(K)=0.00225 *4*; α(L)=0.000309 *5*; α(M)=6.77×10^{-5} *10*; α(N+..)=1.81×10^{-5} *3*
									α(N)=1.573×10^{-5} *22*; α(O)=2.26×10^{-6} *4*; α(P)=1.223×10^{-7} *18*
									E_γ: weighted average of 711.680 *8* (1992Ar06), 711.701 *24* (1988Ad05), 711.68 *1* (1986Og03), 711.68 *2* (1982So12), 711.69 *4* (1970Re16). Unweighted average: 711.686 *4*.
									δ: from 1981Kr12. Other δ: −0.024 *29* (1965Re02); +0.01 *2* (1981La27); 0.06 *+11−6* (1963Ge09).
(712.89 *13*)	0.380 *12*	1572.177	$(4)^-$	859.384	3^+	E1		0.00264	α(K)=0.00224 *4*; α(L)=0.000308 *5*; α(M)=6.75×10^{-5} *10*; α(N+..)=1.80×10^{-5} *3*
									α(N)=1.568×10^{-5} *22*; α(O)=2.25×10^{-6} *4*; α(P)=1.219×10^{-7} *17*
									From ^{166}Tm ε decay. Iγ calculated from Iγ(712.89γ):Iγ(496.88γ)=(2.19 *4*):(0.99 *2*) (^{166}Tm ε decay) and I(496.88γ)=0.172 *3*.
736.02 *8*	0.17 *3*	1692.292	$5^{(-)}$	956.227	4^+				E_γ: from deconvolution of doublet (1988Ad05).
									I_γ: see comment on 737γ from 1596 level. Doublet intensity has been suitably divided.
736.83 *3*	0.351 *18*	1596.232	(4^-)	859.384	3^+	E1		0.00247	α(K)=0.00210 *4*; α(L)=0.000287 *5*; α(M)=6.31×10^{-5} *11*;

$^{166}_{68}Er_{98}$-14

^{166}Ho β^- decay (1.20×10^3 y) (continued)

$\gamma(^{166}Er)$ (continued)

E_γ[†]	I_γ[‡a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ	α[b]	Comments
									α(N+..)=1.69×10^{-5} *3* α(N)=1.465×10^{-5} *24*; α(O)=2.10×10^{-6} *4*; α(P)=1.142×10^{-7} *19* I_γ: from I(640γ) here and I(737γ)/I(640γ)=2.74 *12* In ε decay (where the 737γ is not a doublet), I(737γ from 1596 level)=0.351 *18*. From table above, Iγ=0.524 *5* for doublet, so Iγ(737γ from 1692 level) is 0.17 *3*. δ: from Adopted Gammas. E_γ: from 1988Ad05. Others did not deconvolute observed doublet. Eγ for doublet: 736.70 *7* (1992Ar06), 736.653 *27* (1988Ad05), 736.65 *4* (1986Og03), 736.68 *5* (1982So12), 736.67 *8* (1970Re16); weighted average 736.661 *19*, unweighted average 736.671 *9*.
752.313 *12*	16.80 *17*	1827.552	6$^-$	1075.271	5$^+$	E1(+M2)	+0.005 *4*	0.00237	α(K)=0.00201 *3*; α(L)=0.000276 *4*; α(M)=6.04×10^{-5} *9*; α(N+..)=1.617×10^{-5} *23* α(N)=1.404×10^{-5} *20*; α(O)=2.02×10^{-6} *3*; α(P)=1.097×10^{-7} *16* E_γ: weighted average of 752.332 *10* (1992Ar06), 752.281 *19* (1988Ad05), 752.30 *2* (1986Og03), 752.27 *3* (1982So12), 752.27 *4* (1970Re16). unweighted average is 752.291 *12*. δ: from 1981Kr12. Other δ: 0.00 *2* (1981La27).
778.839 *11*	4.16 *10*	859.384	3$^+$	80.574	2$^+$	E2+M1	−20 *+2−4*	0.00574 *9*	α(K)=0.00474 *7*; α(L)=0.000778 *11*; α(M)=0.0001744 *25*; α(N+..)=4.63×10^{-5} *7* α(N)=4.04×10^{-5} *6*; α(O)=5.66×10^{-6} *8*; α(P)=2.69×10^{-7} *4* δ: from 1981Kr12. δ from β^- decay: −18 *+9−∞* (1975Ba39); (−20 *+2−4* Ho metal; −18 *−8+5*, neodimium ethyl sulfate) (1981Kr12); −19 *+10−INFINITY* (1981La27); −45 *+8−13* (1985Ma22 and 1990Ha34). Note that data from 1981Kr12 and 1990Ha34 do not overlap, however. E_γ: weighted average of 778.862 *12* (1992Ar06), 778.818 *18* (1988Ad05), 778.82 *2* (1986Og03), 778.81 *3* (1982So12), 778.82 *4* (1970Re16). Unweighted average is 778.826 *9*.
785.94 *3*	0.026 *5*	785.933	2$^+$	0.0	0$^+$	E2		0.00561	α(K)=0.00464 *7*; α(L)=0.000759 *11*; α(M)=0.0001701 *24*; α(N+..)=4.52×10^{-5} *7* α(N)=3.94×10^{-5} *6*; α(O)=5.52×10^{-6} *8*; α(P)=2.63×10^{-7} *4* E_γ: weighted average of 785.81 *7* (1992Ar06); 785.955 *17* (1992Wa33); 785.90 *7* (1988Ad05); 785.81 *7* (1986Og03). Unweighted average is 785.87 *4*.
810.293 *10*	79.0 *15*	1075.271	5$^+$	264.987	4$^+$	E2+M1	−21.2 *+18−21*	0.00526	α(K)=0.00436 *7*; α(L)=0.000706 *10*; α(M)=0.0001580 *23*; α(N+..)=4.20×10^{-5} *6* α(N)=3.66×10^{-5} *6*; α(O)=5.14×10^{-6} *8*; α(P)=2.47×10^{-7} *4* E_γ: unweighted average of 810.325 *10* (1992Ar06), 810.282 *16* (1988Ad05), 810.27 *1* (1986Og03), 810.28 *2* (1982So12), 810.31 *4* (1970Re16). Data are discrepant; weighted average is 810.294 *12*.

$^{166}_{68}Er_{98}$-15

^{166}Ho β^- decay (1.20×10^3 y) (continued)

$\gamma(^{166}Er)$ (continued)

E_γ [†]	I_γ [‡a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ	α[b]	Comments
									δ: from 1990Ha34. Other δ: −37 *−10+7* (1965Re02); −20 *4* (1975Ba39); 24 *+54−10* (1981Ka37); −20 *+3−4* (1981La27); (−15 *1*,neodimium ethyl sulfate; −21 *2* Ho metal) (1981Kr12); −36 *+7−11* (1985Al22); 1963Ge09.
830.585 *9*	13.1 *3*	1376.029	7^+	545.451	6^+	E2+M1	−16.6 *+15−18*	0.00499	α(K)=0.00414 *6*; α(L)=0.000665 *10*; α(M)=0.0001487 *21*; α(N+..)=3.96×10^{-5} *6* α(N)=3.45×10^{-5} *5*; α(O)=4.85×10^{-6} *7*; α(P)=2.35×10^{-7} *4* δ: from 1981Kr12. Other δ: −70 *−260+30* (1965Re02); −22 *+5−7* (1975Ba39); 63 *−44+INFINITY* (1981Ka37); −22 *−7+5* (1981La27); (−16.6 *−18+15*, neodimium ethyl sulfate; −23 *4*, Ho metal) (1981Kr12); −18 *+2−3* (1985Al22); −17.3 *+13−15* (1990Ha34); 1963Ge09.
									E_γ: weighted average of 830.601 *15* (1992Ar06), 830.583 *18* (1988Ad05), 830.58 *2* (1986Og03), 830.57 *2* (1982So12), 830.56 *4* (1970Re16). Unweighted average is 830.579 *7*.
859.3 *1*	0.049 *10*	859.384	3^+	0.0	0^+				E_γ: from 1996Mo11. I_γ: weighted average of 0.044 *14* (1996Mo11) and 0.055 *14* (2002Be04). placement from 1996Mo11.
875.650 *15*	1.003 *7*	956.227	4^+	80.574	2^+	E2		0.00444	α(K)=0.00369 *6*; α(L)=0.000584 *9*; α(M)=0.0001305 *19*; α(N+..)=3.47×10^{-5} *5* α(N)=3.03×10^{-5} *5*; α(O)=4.27×10^{-6} *6*; α(P)=2.10×10^{-7} *3* E_γ: weighted average of 875.63 *5* (1992Ar06), 875.658 *21* (1988Ad05), 875.69 *4* (1986Og03), 875.60 *4* (1982So12), 875.64 *5* (1970Re16). Unweighted average is 875.644 *15*.
950.964 *9*	3.775 *18*	1215.963	6^+	264.987	4^+	E2		0.00373	α(K)=0.00311 *5*; α(L)=0.000482 *7*; α(M)=0.0001074 *15*; α(N+..)=2.86×10^{-5} *4* α(N)=2.49×10^{-5} *4*; α(O)=3.53×10^{-6} *5*; α(P)=1.771×10^{-7} *25* E_γ: weighted average of 950.963 *10* (1992Ar06), 950.955 *28* (1988Ad05), 950.97 *3* (1986Og03), 951.00 *4* (1982So12), 950.94 *6* (1970Re16).
1010.288 *11*	0.1073 *13*	1555.739	8^+	545.451	6^+	E2		0.00329	α(K)=0.00275 *4*; α(L)=0.000420 *6*; α(M)=9.35×10^{-5} *13*; α(N+..)=2.49×10^{-5} *4* α(N)=2.17×10^{-5} *3*; α(O)=3.08×10^{-6} *5*; α(P)=1.567×10^{-7} *22* E_γ: weighted average of 1010.27 *6* (1992Ar06), 1010.290 *13* (1992Wa33), 1010.302 *26* (1988Ad05), 1010.27 *6* (1986Og03), 1010.25 *5* (1982So12), 1010.25 *10* (1970Re16). Unweighted average is 1010.272 *9*.
1120.330 *11*	0.273 *3*	1665.795	$5^{(-)}$	545.451	6^+				E_γ: weighted average of 1120.35 *5* (1992Ar06), 1120.329 *14* (1992Wa33), 1120.324 *28* (1988Ad05), 1120.35 *5* (1986Og03), 1120.33 *4* (1982So12), 1120.31 *7* (1970Re16). Unweighted average: 1120.332 *6*. δ(D,Q)=0.00 *+3−5* (1981La27).

$^{166}_{68}Er_{98}$-16

^{166}Ho β^- decay (1.20×10^3 y) (continued)

$\gamma(^{166}Er)$ (continued)

E_γ [†]	I_γ [‡a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ	α[b]	Comments
1146.825 *12*	0.282 *3*	1692.292	$5^{(-)}$	545.451	6^+				δ(D,Q)=−0.02 *+7−6* or +9 *+9−6* (1981La27). E_γ: weighted average of 1146.81 *9* (1992Ar06), 1146.818 *15* (1992Wa33), 1146.84 *4* (1988Ad05), 1146.83 *5* (1986Og03), 1146.86 *4* (1982So12); 1146.82 *7* (1970Re16). Unweighted average: 1146.830 *7*.
1241.500 *14*	1.15 *6*	1786.969	6^-	545.451	6^+	E1+M2	+0.21 *5*	0.00129 *17*	α(K)=0.00107 *14*; α(L)=0.000147 *21*; α(M)=3.2×10^{-5} *5*; α(N+..)=4.70×10^{-5} *8* α(N)=7.5×10^{-6} *11*; α(O)=1.09×10^{-6} *16*; α(P)=6.1×10^{-8} *9*; α(IPF)=3.83×10^{-5} *10* E_γ: weighted average of 1241.52 *2* (1992Ar06), 1241.484 *28* (1988Ad05); 1241.47 *4* (1986Og03), 1241.51 *4* (1982So12), 1241.44 *6* (1970Re16). Unweighted average is 1241.485 *14*. δ: from 1981La27. Other δ: −0.09 *6* (1965Re02); +0.21 *12* (1981La27).
1261.98[c] *12*	0.010 *1*	1527.12?	2^+	264.987	4^+				E_γ,I_γ: from 1986Og03. note that adopted Eγ=1263.412 *16* and that adopted Iγ is comparable to that of 1447γ.
1282.058 *15*	0.256 *4*	1827.552	6^-	545.451	6^+	E1+M2	0.20 *11*	0.0012 *4*	α(K)= 0.0010 *3*; α(L)=0.00013 *5* E_γ: weighted average of 1282.06 *6* (1992Ar06), 1282.050 *19* (1992Wa33), 1282.08 *4* (1988Ad05), 1282.06 *6* (1986Og03), 1282.07 *4* (1982So12). Unweighted average is 1282.064 *5*. Other Eγ: 1282.12 *7* (1970Re16); statistical outlier. δ: from 1981La27.
1306.74 *24*	0.0076 *15*	1572.177	$(4)^-$	264.987	4^+				E_γ: unweighted average of 1306.60 *15* (1992Ar06), 1306.90 *3* (1992Wa33), 1307.30 *8* (1988Ad05) and 1306.16 *15* (1986Og03). (weighted average is 1306.91 11.).
1331.17 *11*	0.0059 *16*	1596.232	(4^-)	264.987	4^+				E_γ: weighted average of 1331.04 *13* (1992Ar06), 1331.5 *5* (1992Wa33), 1331.45 *14* (1988Ad05), 1331.04 *13* (1986Og03). Unweighted average is 1331.26 *13*.
1400.770 *15*	0.697 *5*	1665.795	$5^{(-)}$	264.987	4^+	E1(+M2)	+0.025 *+18−26*	8.81×10^{-4} *14*	δ: from Adopted Gammas. other δ: +0.05 *+5−7* (1981La27). E_γ: weighted average of 1400.79 *2* (1992Ar06), 1400.75 *4* (1988Ad05); 1400.76 *5* (1986Og03); 1400.73 *4* (1982So12), 1400.72 *8* (1970Re16). unweighted average is 1400.750 *12*.
1427.227 *21*	0.687 *5*	1692.292	$5^{(-)}$	264.987	4^+	E1(+M2)	−0.002 *+22−31*	8.72×10^{-4} *14*	α(K)=0.000620 *10*; α(L)=8.24×10^{-5} *14*; α(M)=1.80×10^{-5} *3*; α(N+..)=0.0001513 *22* α(N)=4.19×10^{-6} *7*; α(O)=6.07×10^{-7} *11*;

$^{166}_{68}Er_{98}$-17

^{166}Ho β^- decay (1.20×10^3 y) (continued)

$\gamma(^{166}Er)$ (continued)

E_γ [†]	I_γ [‡a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ	α[b]	Comments
									α(P)=3.41×10^{-8} *6*; α(IPF)=0.0001465 *21* Mult.,δ: from Adopted Levels. other δ: −0.025 *25* (1981La27).
1433.42 *25*	0.00054 *25*	1514.0	3$^-$	80.574	2$^+$	E1+M2	+0.054 *+19−27*	8.70×10^{-4}	E_γ: weighted average of 1427.24 *2* (1992Ar06), 1427.24 *6* (1988Ad05), 1427.17 *5* (1986Og03), 1427.25 *4* (1982So12), 1427.05 *8* (1970Re16). Unweighted average: 1427.19 *4*. α(K)=0.000615 *9*; α(L)=8.18×10^{-5} *12*; α(M)=1.79×10^{-5} *3*; α(N+..)=0.0001555 *22* α(N)=4.16×10^{-6} *6*; α(O)=6.03×10^{-7} *9*; α(P)=3.39×10^{-8} *5*; α(IPF)=0.0001507 *22*
1446.72[c] *13*	≤0.01	1527.12?	2$^+$	80.574	2$^+$				E_γ,I_γ: from 1992Wa33. E_γ: from 1986Og03; 1446.7 *2* from 1992Ar06. I_γ: from 1992Ar06 and 1986Og03.
1521.86 *5*	0.0224 *8*	1786.969	6$^-$	264.987	4$^+$				E_γ: from 1992Wa33; measured using 50 mm thick Pb filter. I_γ: from 1992Wa33. Other Iγ: 0.018 *5* (1988Ad12).
1562.31 *14*	0.0047 *4*	1827.552	6$^-$	264.987	4$^+$				E_γ: from 1992Wa33; measured with 50 mm thick Pb filter. I_γ: from 0.0047 *4* (1992Wa33). Other Iγ: 0.0040 *11* (1988Ad12).

[†] From indicated data of 1970Re16 (semi γ), 1982So12 (semi γ), 1986Og03 (HPGE γ), 1988Ad05 (Ge(Li) anti-compt), 1992Ar06 (HPGE, LEPS), 1992Wa33 (HPGE), unless otherwise noted. Others: 1996Mo11, 1975Mo13, 1973La32, 1967Bu14, 1967Gu04.

[‡] Relative intensity normalized so I(184γ)=100. Adopted values are weighted averages of data tabulated above excluding all data identified as statistical outliers based on the Chauvenet criterion, unless noted to the contrary. Uncertainties in the 184γ reference line were combined in quadrature with with the uncertainties in other data from that measurement prior to averaging, where relevant. Data from 1967Bu14, 1967Gu04, 1970Re16, 1973La32, 1974Li11, 1977Ge12, 1978Sa14, 1981Ka37, 1982Bl28, 1982So12, 1986Og03, 1988Ad05, 1988Ch44, 1989Da18 (see also 1988DaZX), 1992Ar06, 1992Wa10, 1992Wa33, 1994Mi22, 2000Hi01, 2002Be04 and 2006Ku03 were considered. Other measurements: 1973Ko13, 1965Re02, 1963Ge09.

[#] From Adopted Gammas.

[@] The recommended I(521γ)=0.227 *6* is for a doublet. based on I(786γ+705γ)=0.045 *9* here and the adopted 786 level branching of I(521γ)/I(786γ+705γ)=0.00911 *25*, I(521γ from 786 level)=0.00041 *8* is expected In this decay. This represents a negligible fraction of the doublet intensity, so I(521γ from 1596 level)=0.227 *6* is ADOPTED.

[&] Eγ and branching assumed from Adopted Gammas.

[a] For absolute intensity per 100 decays, multiply by 0.720 *4*.

[b] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

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

[x] γ ray not placed in level scheme.

$^{166}_{68}Er_{98}$-18

^{166}Ho β^- decay (1.20×10^3 y)

Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays

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

7^- 5.969 1.20×10^3 y *18*

Q_{β^-}=1854.7 *9* $\%\beta^-$=100

$^{166}_{67}Ho_{99}$

Iβ⁻	Log *ft*		
17.23	8.41	6^-	1827.552
73.9	8.83	6^-	1786.969
0.08	12.91	$5^{(-)}$	1692.292
		$5^{(-)}$	1665.795
		(4^-)	1596.232
		$(4)^-$	1572.177
0.58	13.52	7^+	1376.029
2.27	13.35	6^+	1215.963
		5^+	1075.271 ≤60 ps
		4^+	956.227
		3^+	859.384
3.3	14.30	6^+	545.451
		4^+	264.987 118 ps *4*
		0^+	0.0 stable

1562.31 0.0034; 1282.058 E1+M2 0.185; 752.313 E1+M2 12.12; 611.555 E1+M2 1.375; 451.542 E1+M2 2.93; 255.20 [E2] 0.0047; 231.318 [E2] 0.238; 161.731 [M1,E2] 0.175; 135.260 [E2] 0.193; 1521.86 0.0161; 1241.500 E1+M2 0.83; 711.681 E1+M2 54.3; 570.976 E1+M2 5.43; 410.949 E1+M2 11.30; 214.807 [E2] 0.521; 190.762 [E2] 0.277; 121.175 [E2] 0.615; 94.674 [M1] 0.608; 1427.227 E1(+M2) 0.495; 1146.825 0.2030; 736.02 0.122; 617.0 0.022; 476.378 0.0360; 1400.770 E1(+M2) 0.502; 1120.330 0.1966; 590.56 0.0230; 1331.17 0.0042; 736.83 E1 0.253; 640.015 0.0922; 520.94 0.163; 1306.74 0.0055; 712.89 E1 0.274; 615.89 (E1(+M2)) 0.092; 496.923 E1 0.1245

$^{166}_{68}Er_{98}$

^{166}Ho β^- decay (1.20×10^3 y)

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays