

**Adopted Levels, Gammas**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 160, 1 (2019)	21-Oct-2019

$Q(\beta^-) = -3830$  18;  $S(n) = 9472$  19;  $S(p) = 2935$  19;  $Q(\alpha) = 3159$  18    [2017Wa10](#)  
 $Q(\epsilon) = 3116$  17;  $S(2n) = 17170$  19;  $S(2p) = 9304$  19    [2017Wa10](#)

<sup>155</sup>Ho Levels

Band structures are those of [2015Re03](#) (in <sup>124</sup>Sn(<sup>37</sup>Cl,6n $\gamma$ ) dataset).

Band 3 decays by E2 transitions to band 1, whence for band 3  $\pi = +$ .

Band 5 decays by E2 transitions to band 3, whence for band 5  $\pi = +$ .

Quasiparticle labeling scheme:

A:  $\nu i_{13/2}$ ,  $\alpha = +1/2$ .

B:  $\nu i_{13/2}$ ,  $\alpha = -1/2$ .

E:  $\nu(f_{7/2}/h_{9/2})$ ,  $\alpha = +1/2$ .

F:  $\nu(f_{7/2}/h_{9/2})$ ,  $\alpha = -1/2$ .

A<sub>p</sub>:  $\pi h_{11/2}$ ,  $\alpha = -1/2^{-1}$ .

B<sub>p</sub>:  $\pi h_{11/2}$ ,  $\alpha = +1/2^{-1}$ .

C<sub>p</sub>:  $\pi h_{11/2}$ ,  $\alpha = -1/2^{-2}$ .

D<sub>p</sub>:  $\pi h_{11/2}$ ,  $\alpha = +1/2^{-2}$ .

E<sub>p</sub>:  $N_{osc} = 4$ ,  $\alpha = -1/2$ .

F<sub>p</sub>:  $N_{osc} = 4$ ,  $\alpha = +1/2$ .

$B(M1)/B(E2) = (1/1.43)[I\gamma(M1)/I\gamma(E2)][E\gamma(\Delta J=2)^5/E\gamma(\Delta J=1)^3]$ , where  $E\gamma$  is in MeV. The  $\Delta J=1$  transitions were assumed to be pure dipole. Branching ratio  $I\gamma(\Delta J=1)/I\gamma(\Delta J=2)$  were determined separately from coincidence spectra with gates on relevant transitions.

Cross Reference (XREF) Flags

- A <sup>155</sup>Er  $\epsilon$  decay
- B <sup>124</sup>Sn(<sup>37</sup>Cl,6n $\gamma$ )
- C (HL,xn $\gamma$ )

E(level) <sup>†</sup>	J $\pi$ <sup>‡</sup>	T <sub>1/2</sub>	XREF	Comments
0.0 <sup>#</sup>	5/2 <sup>+</sup>	48 min 2	ABC	$\% \epsilon + \% \beta^+ = 100$ $\mu = +3.51$ 3; $Q = +1.56$ 12 $J^\pi$ : atomic beam ( <a href="#">1969Ek01</a> ). M1 transition from 7/2 <sup>+</sup> state indicates that $\pi = +$ . Probable configuration = ( $\pi$ 5/2[402]). $T_{1/2}$ : weighted average of: 48 min 2 ( <a href="#">1972To07</a> ), 48 min 2 ( <a href="#">1967Av03</a> ), 46 min 3 ( <a href="#">1960Da14</a> ). Other measurements: <a href="#">1966La11</a> , <a href="#">1959Ka08</a> . $\mu$ : From the compilation <a href="#">2014StZZ</a> . $Q$ : From the compilation <a href="#">2016St14</a> . From the measured hyperfine structure using resonance-ionization spectroscopy, <a href="#">1989Al27</a> report $\Delta \langle r^2 \rangle (^{155}\text{Ho} - ^{165}\text{Ho}) = -0.949$ fm <sup>2</sup> . In an evaluation of nuclear rms charge radii, <a href="#">2013An02</a> report $\langle r^2 \rangle^{1/2} = 5.1076$ fm 326.
110.14 <sup>@</sup> 6	7/2 <sup>+</sup>	<0.7 ns	ABC	$J^\pi$ : M2 from 11/2 <sup>-</sup> level indicates $J^\pi = 7/2^+$ through 15/2 <sup>+</sup> . M1 to g.s. requires $J^\pi = 7/2^+$ .
141.87 <sup>a</sup> 11	11/2 <sup>-</sup>	0.88 ms 8	ABC	$T_{1/2}$ : from <a href="#">1990AbZS</a> , <a href="#">1990AbZW</a> , <sup>155</sup> Er $\epsilon$ decay. $\%IT = 100$ $J^\pi$ : M2-M1 cascade to J=5/2, together with the $T_{1/2}$ value of this state, indicate that J=11/2. Bandhead of h11/2-based band. The similarity of this low-energy level structure to that of the isotone <sup>153</sup> Tb supports the assertion that this is in fact the

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Adopted Levels, Gammas (continued) $^{155}\text{Ho}$  Levels (continued)

E(level) <sup>†</sup>	J <sup>π</sup> <sup>‡</sup>	XREF	Comments
			11/2 <sup>-</sup> bandhead.
201.03 9	3/2 <sup>+</sup> ,5/2 <sup>+</sup> ,7/2 <sup>+</sup>	A	T <sub>1/2</sub> : from 1979Fo11, (HI,xnγ).
230.58& 15	9/2 <sup>-</sup>	ABC	J <sup>π</sup> : M1 to 5/2 <sup>+</sup> state.
233.93 8	5/2 <sup>-</sup> ,7/2 <sup>-</sup>	A	J <sup>π</sup> : sole mode of population in in-beam studies is via an E2 transition from 13/2 <sup>-</sup> ;
241.50 12	7/2 <sup>+</sup>	A	decays via an M1 transition to an 11/2 <sup>-</sup> state.
344.81# 16	9/2 <sup>+</sup>	ABC	J <sup>π</sup> : E1 transitions to 5/2 <sup>+</sup> and 7/2 <sup>+</sup> states.
388.99 13		A	J <sup>π</sup> : 3/2 <sup>+</sup> ,5/2 <sup>+</sup> ,7/2 <sup>+</sup> from M1 to 5/2 <sup>+</sup> ; 3/2 <sup>+</sup> ,5/2 <sup>+</sup> less likely from γ from (11/2 <sup>+</sup> ).
418.96 12	-	A	J <sup>π</sup> : M1 to 7/2 <sup>+</sup> .
451.36 22	(7/2 <sup>-</sup> )	A	J <sup>π</sup> : M1 to negative-parity state indicates π=-.
470.66 17		A	J <sup>π</sup> : (7/2 <sup>-</sup> ,9/2 <sup>-</sup> ,11/2 <sup>-</sup> ) from (M1) to 9/2 <sup>-</sup> ; (9/2 <sup>-</sup> ,11/2 <sup>-</sup> ) less likely from γ to 5/2 <sup>+</sup> .
518.71 <sup>a</sup> 24	15/2 <sup>-</sup>	BC	J <sup>π</sup> : E2 in band to 11/2 <sup>-</sup> .
529.60 14		A	
538.16& 21	13/2 <sup>-</sup>	BC	J <sup>π</sup> : E2 in band to 9/2 <sup>-</sup> .
565.01@ 23	11/2 <sup>+</sup>	B	J <sup>π</sup> : E2 in band to 7/2 <sup>+</sup> .
565.22 23	(11/2 <sup>+</sup> )	A	J <sup>π</sup> : (11/2 <sup>+</sup> ,13/2 <sup>+</sup> ,15/2 <sup>+</sup> ) from (M1+E2) from 13/2 <sup>+</sup> ; (11/2 <sup>+</sup> ) from γ to 7/2 <sup>+</sup> .
653.31 16		A	
683.18 25		A	
817.27# 23	13/2 <sup>+</sup>	B	J <sup>π</sup> : E2 in band to 9/2 <sup>+</sup> .
1001.55& 24	17/2 <sup>-</sup>	BC	J <sup>π</sup> : E2 in band to 13/2 <sup>-</sup> .
1017.4 <sup>a</sup> 3	19/2 <sup>-</sup>	BC	J <sup>π</sup> : E2 in band to 15/2 <sup>-</sup> .
1080.18@ 25	15/2 <sup>+</sup>	B	J <sup>π</sup> : E2 in band to 11/2 <sup>+</sup> .
1361.9# 3	17/2 <sup>+</sup>	B	J <sup>π</sup> : E2 in band to 13/2 <sup>+</sup> .
1561.2& 3	21/2 <sup>-</sup>	BC	J <sup>π</sup> : E2 in band to 17/2 <sup>-</sup> .
1605.2 <sup>a</sup> 3	23/2 <sup>-</sup>	BC	J <sup>π</sup> : E2 in band to 19/2 <sup>-</sup> .
1646.99 25	19/2 <sup>+</sup>	BC	J <sup>π</sup> : E2 from to 23/2 <sup>+</sup> .
1669.4@ 3	19/2 <sup>+</sup>	B	J <sup>π</sup> : in band to 15/2 <sup>+</sup> .
1973.0# 4	21/2 <sup>+</sup>	B	J <sup>π</sup> : E2 in band to 17/2 <sup>+</sup> .
2129.3 <sup>c</sup> 3	23/2 <sup>+</sup>	BC	J <sup>π</sup> : E2 to 19/2 <sup>+</sup> , bandhead.
2189.3& 3	25/2 <sup>-</sup>	BC	J <sup>π</sup> : E2 in band to 21/2 <sup>-</sup> .
2265.4 <sup>a</sup> 4	27/2 <sup>-</sup>	BC	J <sup>π</sup> : E2 in band to 23/2 <sup>-</sup> .
2297.1@ 5	23/2 <sup>+</sup>	B	J <sup>π</sup> : E2 in band to 19/2 <sup>+</sup> .
2464.4 <sup>c</sup> 4	27/2 <sup>+</sup>	BC	J <sup>π</sup> : E2 in band to 23/2 <sup>+</sup> .
2616.8# 5	(25/2 <sup>+</sup> )	B	J <sup>π</sup> : in band γ to 21/2 <sup>+</sup> .
2643.8 <sup>d</sup> 4	(27/2 <sup>+</sup> )	BC	J <sup>π</sup> : E2 in band from (31/2 <sup>+</sup> ), bandhead.
2729.9 <sup>b</sup> 4	29/2 <sup>(+)</sup>	BC	J <sup>π</sup> : D(+Q) inter band to 27/2 <sup>+</sup> , bandhead of α=+1/2, π=(+) inferred from π=+ of α=-1/2 partner band.
2858.8& 4	29/2 <sup>-</sup>	BC	J <sup>π</sup> : E2 in band to 25/2 <sup>-</sup> .
2876.8 4	(29/2 <sup>+</sup> )	B	level pertaining possibly to the signature partner of band 4 (2015Re03).
2917.4 <sup>c</sup> 4	31/2 <sup>+</sup>	BC	J <sup>π</sup> : E2 in band to 27/2 <sup>+</sup> .
2935.3@ 6	(27/2 <sup>+</sup> )	B	J <sup>π</sup> : in band to 23/2 <sup>+</sup> .
2978.0 <sup>a</sup> 4	31/2 <sup>-</sup>	BC	J <sup>π</sup> : E2 in band to 27/2 <sup>-</sup> .
3064.7 <sup>d</sup> 4	(31/2 <sup>+</sup> )	BC	J <sup>π</sup> : inter band (M1+E2) to 29/2 <sup>+</sup> and band member.
3262.6 <sup>b</sup> 4	33/2 <sup>(+)</sup>	BC	J <sup>π</sup> : D inter band to 31/2 <sup>+</sup> , π=(+) inferred as α=+1/2 partner of π=+, α=-1/2 band.
3264.9# 6	(29/2 <sup>+</sup> )	B	J <sup>π</sup> : in band γ to (25/2 <sup>+</sup> ).
3399.6& 4	33/2 <sup>-</sup>	BC	J <sup>π</sup> : E2 in band to 29/2 <sup>-</sup> .
3489.7 <sup>c</sup> 4	35/2 <sup>+</sup>	BC	J <sup>π</sup> : E2 in band to 31/2 <sup>+</sup> .
3651.3 <sup>a</sup> 5	35/2 <sup>-</sup>	BC	J <sup>π</sup> : E2 in band to 31/2 <sup>-</sup> .

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Adopted Levels, Gammas (continued) $^{155}\text{Ho}$  Levels (continued)

E(level) <sup>†</sup>	J <sup>π</sup> <sup>‡</sup>	XREF	Comments
3657.6 <sup>d</sup> 4	(35/2 <sup>+</sup> )	BC	J <sup>π</sup> : inter band (M1+E2) to 33/2 <sup>+</sup> and band member.
3834.2 <sup>g#</sup> 12	(33/2 <sup>+</sup> )	B	J <sup>π</sup> : in band $\gamma$ to (29/2 <sup>+</sup> ).
3838.4 <sup>b</sup> 4	37/2 <sup>(+)</sup>	BC	J <sup>π</sup> : E2 in band to 33/2 <sup>(+)</sup> .
3905.9 <sup>&amp;</sup> 5	37/2 <sup>-</sup>	BC	J <sup>π</sup> : E2 in band to 33/2 <sup>-</sup> .
4120.3 <sup>c</sup> 5	39/2 <sup>+</sup>	BC	J <sup>π</sup> : E2 in band to 35/2 <sup>+</sup> .
4211.2 <sup>a</sup> 5	39/2 <sup>-</sup>	BC	J <sup>π</sup> : D(+Q) inter band to 37/2 <sup>-</sup> and band member.
4278.4 <sup>d</sup> 5	(39/2 <sup>+</sup> )	BC	J <sup>π</sup> : D inter band from 41/2 <sup>(+)</sup> and in band $\gamma$ to (35/2 <sup>+</sup> ).
4489.3 <sup>b</sup> 5	41/2 <sup>(+)</sup>	BC	J <sup>π</sup> : E2 in band to 37/2 <sup>(+)</sup> .
4493.8 <sup>&amp;</sup> 5	41/2 <sup>-</sup>	BC	J <sup>π</sup> : E2 in band to 37/2 <sup>-</sup> .
4601.4 5	41/2 <sup>(+)</sup>	BC	J <sup>π</sup> : E2 from 45/2 <sup>(+)</sup> band to 43/2 <sup>-</sup> .
4837.9 <sup>a</sup> 5	43/2 <sup>-</sup>	BC	J <sup>π</sup> : E2 in band to 39/2 <sup>-</sup> .
4875.5 <sup>c</sup> 5	43/2 <sup>+</sup>	BC	J <sup>π</sup> : E2 in band to 39/2 <sup>+</sup> .
5135.8 5	(41/2 <sup>+</sup> )	B	J <sup>π</sup> : D(+Q) to 39/2 <sup>+</sup> .
5167.3 <sup>&amp;</sup> 5	45/2 <sup>-</sup>	BC	J <sup>π</sup> : D inter band to 43/2 <sup>-</sup> and band member.
5214.6 <sup>b</sup> 5	45/2 <sup>(+)</sup>	BC	J <sup>π</sup> : E2 in band to 41/2 <sup>(+)</sup> .
5392.3 <sup>e</sup> 5	45/2 <sup>(+)</sup>	BC	J <sup>π</sup> : E2 to 41/2 <sup>(+)</sup> , bandhead.
5546.8 <sup>a</sup> 5	47/2 <sup>-</sup>	BC	J <sup>π</sup> : E2 in band to 43/2 <sup>-</sup> .
5710.2 <sup>c</sup> 5	47/2 <sup>+</sup>	BC	J <sup>π</sup> : E2 in band to 43/2 <sup>+</sup> .
5786.5 6	(45/2 <sup>+</sup> )	B	J <sup>π</sup> : $\gamma$ 's from 49/2 <sup>(+)</sup> and to (41/2 <sup>+</sup> ) respectively.
5932.6 <sup>&amp;</sup> 5	49/2 <sup>-</sup>	BC	J <sup>π</sup> : E2 in band to 45/2 <sup>-</sup> .
6057.5 <sup>b</sup> 5	49/2 <sup>(+)</sup>	BC	J <sup>π</sup> : E2 in band to 45/2 <sup>(+)</sup> .
6168.2 <sup>e</sup> 5	49/2 <sup>(+)</sup>	BC	J <sup>π</sup> : E2 in band to 45/2 <sup>(+)</sup> .
6341.7 <sup>a</sup> 5	51/2 <sup>-</sup>	BC	J <sup>π</sup> : E2 in band to 47/2 <sup>-</sup> .
6576.0 <sup>h</sup> 7	(51/2 <sup>-</sup> )	B	J <sup>π</sup> : in band $\gamma$ from (55/2 <sup>-</sup> ), bandhead.
6617.1 <sup>c</sup> 5	51/2 <sup>+</sup>	B	J <sup>π</sup> : E2 in band to 47/2 <sup>+</sup> .
6773.9 <sup>&amp;</sup> 5	53/2 <sup>-</sup>	BC	J <sup>π</sup> : E2 in band to 49/2 <sup>-</sup> .
6843.5 <sup>e</sup> 5	53/2 <sup>(+)</sup>	BC	J <sup>π</sup> : E2 in band to 49/2 <sup>(+)</sup> .
6952.6 <sup>b</sup> 5	53/2 <sup>(+)</sup>	B	J <sup>π</sup> : E2 in band to 49/2 <sup>(+)</sup> .
7194.5 <sup>a</sup> 5	55/2 <sup>-</sup>	BC	J <sup>π</sup> : E2 in band to 51/2 <sup>-</sup> .
7292.1 <sup>e</sup> 5	57/2 <sup>(+)</sup>	BC	J <sup>π</sup> : E2 in band to 53/2 <sup>(+)</sup> .
7421.0 <sup>h</sup> 6	(55/2 <sup>-</sup> )	B	J <sup>π</sup> : in band $\gamma$ from (59/2 <sup>-</sup> ).
7535.6 <sup>c</sup> 6	55/2 <sup>+</sup>	B	J <sup>π</sup> : E2 in band to 51/2 <sup>+</sup> .
7680.1 <sup>&amp;</sup> 5	57/2 <sup>-</sup>	BC	J <sup>π</sup> : E2 in band to 53/2 <sup>-</sup> .
7711.2 5	57/2 <sup>-</sup>	B	J <sup>π</sup> : E2 to 53/2 <sup>-</sup> .
7820.3 <sup>b</sup> 5	57/2 <sup>(+)</sup>	B	J <sup>π</sup> : E2 in band to 53/2 <sup>(+)</sup> .
8053.9 <sup>a</sup> 5	59/2 <sup>-</sup>	B	J <sup>π</sup> : E2 in band to 55/2 <sup>-</sup> .
8222.1 <sup>e</sup> 5	61/2 <sup>(+)</sup>	BC	J <sup>π</sup> : E2 in band to 57/2 <sup>(+)</sup> .
8240.9 5	59/2	BC	J <sup>π</sup> : D(+Q) from 61/2 <sup>-</sup> and D to 57/2 <sup>(+)</sup> .
8273.6 <sup>h</sup> 6	(59/2 <sup>-</sup> )	B	J <sup>π</sup> : in band $\gamma$ from (55/2 <sup>-</sup> ).
8387.4 <sup>g</sup> 5	61/2 <sup>(+)</sup>	B	J <sup>π</sup> : E2 to 57/2 <sup>(+)</sup> , bandhead.
8486.6 5	61/2 <sup>-</sup>	BC	J <sup>π</sup> : E2 to 57/2 <sup>-</sup> .
8515.5 <sup>&amp;</sup> 5	61/2 <sup>-</sup>	BC	J <sup>π</sup> : E2 in band to 57/2 <sup>-</sup> .
8742.1 <sup>h</sup> 5	(63/2 <sup>-</sup> )	B	J <sup>π</sup> : E2 in band from (67/2 <sup>-</sup> ).
8905.5 6	65/2 <sup>-</sup>	B	J <sup>π</sup> : E2 to 61/2 <sup>-</sup> .
8924.5 <sup>a</sup> 6	63/2 <sup>-</sup>	B	J <sup>π</sup> : (M1+E2) inter band to 61/2 <sup>-</sup> and in band $\gamma$ to 59/2 <sup>-</sup> .
9086.9 <sup>e</sup> 6	65/2 <sup>(+)</sup>	B	J <sup>π</sup> : E2 in band to 61/2 <sup>(+)</sup> .
9279.4 <sup>g</sup> 6	65/2 <sup>(+)</sup>	B	J <sup>π</sup> : E2 in band to 61/2 <sup>(+)</sup> .
9430.5 6	65/2 <sup>(+)</sup>	B	J <sup>π</sup> : E2 to 61/2 <sup>(+)</sup> .

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**Adopted Levels, Gammas (continued)**

<sup>155</sup>Ho Levels (continued)

E(level) <sup>†</sup>	J <sup>π</sup> <sup>‡</sup>	XREF	Comments
9543.7 <sup>h</sup> 6	(67/2 <sup>-</sup> )	B	J <sup>π</sup> : (M1+E2) to 65/2 <sup>-</sup> .
9617.7 <sup>&amp;</sup> 6	65/2 <sup>-</sup>	B	J <sup>π</sup> : E2 in band to 61/2 <sup>-</sup> .
9649.3 <sup>i</sup> 6	(67/2)	B	J <sup>π</sup> : D+Q to 65/2 <sup>-</sup> .
9668.0 <sup>f</sup> 6	67/2	B	J <sup>π</sup> : D(+Q) to 65/2 <sup>(+)</sup> , bandhead.
9958.4 <sup>a</sup> 6	67/2 <sup>-</sup>	B	J <sup>π</sup> : E2 in band to 63/2 <sup>-</sup> .
10177.6 <sup>g</sup> 6	69/2 <sup>(+)</sup>	B	J <sup>π</sup> : E2 in band to 65/2 <sup>(+)</sup> .
10290.3 <sup>f</sup> 6	71/2	B	J <sup>π</sup> : E2 in band to 67/2.
10422.7 <sup>h</sup> 6	(71/2 <sup>-</sup> )	B	J <sup>π</sup> : E2 in band to (67/2 <sup>-</sup> ).
10519.9 <sup>&amp;</sup> 7	69/2 <sup>-</sup>	B	J <sup>π</sup> : E2 in band to 65/2 <sup>-</sup> .
10735.6 <sup>i</sup> 7	71/2	B	J <sup>π</sup> : E2 in band to 67/2.
10858.5 <sup>a</sup> 7	(71/2 <sup>-</sup> )	B	J <sup>π</sup> : in band γ to 67/2 <sup>-</sup> .
11036.2 <sup>h</sup> 7	(75/2 <sup>-</sup> )	B	J <sup>π</sup> : E2 in band to (71/2 <sup>-</sup> ).
11159.9 <sup>g</sup> 6	(73/2 <sup>+</sup> )	B	J <sup>π</sup> : in band γ to 69/2 <sup>(+)</sup> .
11323.6 <sup>i</sup> 7	(75/2)	B	J <sup>π</sup> : in band γ to 71/2.
11330.7 <sup>&amp;</sup> 7	(73/2 <sup>-</sup> )	B	J <sup>π</sup> : in band γ to 69/2 <sup>-</sup> .
11674.4 <sup>h</sup> 7	(79/2 <sup>-</sup> )	B	J <sup>π</sup> : E2 in band to (75/2 <sup>-</sup> ).
11810.4 <sup>i</sup> 12		B	
12195.8 <sup>k</sup> 7	(77/2)	B	J <sup>π</sup> : D(+Q) to (75/2 <sup>-</sup> ), bandhead.
12454.3 <sup>k</sup> 7	(81/2)	B	J <sup>π</sup> : in band γ to (75/2 <sup>-</sup> ).
12597.2 <sup>j</sup> 7	(81/2)	B	J <sup>π</sup> : D to (79/2 <sup>-</sup> ), bandhead.
13139.2 <sup>k</sup> 8	(85/2)	B	J <sup>π</sup> : E2 in band to (81/2).
13489.7 <sup>j</sup> 8	(85/2)	B	J <sup>π</sup> : E2 in band to (81/2).
13557.0 7	(83/2 <sup>-</sup> )	B	J <sup>π</sup> : E2 in band to (79/2 <sup>-</sup> ).
13601.1 7	(83/2 <sup>-</sup> )	B	J <sup>π</sup> : E2 to (79/2 <sup>-</sup> ).
13759.2 <sup>j</sup> 8	(87/2)	B	J <sup>π</sup> : (D+Q) to (81/2).
			Non-collective oblate state with configuration= π[(d <sub>5/2</sub> /g <sub>7/2</sub> <sup>-1</sup> 3/2)(h <sub>11/2</sub> <sup>4</sup> 16)] <sub>35/2+</sub> ⊗ ν[(i <sub>13/2</sub> <sup>2</sup> 12)(f <sub>7/2</sub> /h <sub>9/2</sub> <sup>4</sup> 14] <sub>26+</sub> .
13989.8 8	(85/2 <sup>-</sup> )	B	J <sup>π</sup> : (M1+E2) to (83/2 <sup>-</sup> ).
14195.5 8	(85/2)	B	J <sup>π</sup> : E2 to (81/2).
14202.8 <sup>k</sup> 8	(89/2)	B	J <sup>π</sup> : (M1+E2) inter band to (87/2) and in band γ to (85/2).
			Non-collective oblate state with configuration= π[(d <sub>5/2</sub> /g <sub>7/2</sub> <sup>-1</sup> 5/2)(h <sub>11/2</sub> <sup>4</sup> 16)] <sub>37/2+</sub> ⊗ ν[(i <sub>13/2</sub> <sup>2</sup> 12)(f <sub>7/2</sub> /h <sub>9/2</sub> <sup>4</sup> 14] <sub>26+</sub> .
14554.4 8	(87/2 <sup>-</sup> )	B	J <sup>π</sup> : E2 to (83/2 <sup>-</sup> ).
			Non-collective oblate state with configuration= π[(d <sub>5/2</sub> /g <sub>7/2</sub> <sup>-1</sup> 5/2)(h <sub>11/2</sub> <sup>3</sup> 27/2)(d <sub>3/2</sub> 3/2)] <sub>35/2-</sub> ⊗ν[(i <sub>13/2</sub> <sup>2</sup> 12)(f <sub>7/2</sub> /h <sub>9/2</sub> <sup>4</sup> 14] <sub>26+</sub> .
14699.9 8	(87/2 <sup>-</sup> )	B	J <sup>π</sup> : E2 to (83/2 <sup>-</sup> ).
14888.5 13		B	

<sup>†</sup> From a least-squares fit to γ-ray energies.

<sup>‡</sup> Unless otherwise indicated, the listed values for those levels observed in the in-beam studies only are those reported by [2015Re03](#) (<sup>124</sup>Sn(<sup>37</sup>Cl,6nγ) dataset), as in part amended by evaluator, based on measured E<sub>γ</sub> multipolarities combined with the rotational band structures, specific high-spin level scheme physical arguments and thorough cranked Nilsson-Strutinsky calculations, and systematics. There is a very good agreement in between [2015Re03](#) and the previous studies grouped in the (HI,xny) dataset, particularly the main references therein, [1986HeZR](#) and [1984Ha35](#).

# Band(A): Band 1, π5/2[402],α=+1/2 or F<sub>p</sub>. Based on πd<sub>5/2</sub> orbital.

@ Band(a): Band 1, π5/2[402],α=-1/2 or E<sub>p</sub>. Based on πd<sub>5/2</sub> orbital.

& Band(B): Band 2, π7/2[523],α=+1/2. Based on πh<sub>11/2</sub> orbital. Configuration: B<sub>p</sub> ->B<sub>p</sub>AB ->A<sub>p</sub>B<sub>p</sub>D<sub>p</sub>AB.

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**Adopted Levels, Gammas (continued)**

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 $^{155}\text{Ho}$  Levels (continued)

- <sup>a</sup> Band(b): Band 2,  $\pi 7/2[523], \alpha = -1/2$ . Based on  $\pi h_{11/2}$  orbital. Configuration:  $A_p \rightarrow A_p A B \rightarrow A_p B_p C_p A B$ .
- <sup>b</sup> Band(C): Band 3, based on  $29/2^{(+)}, \alpha = +1/2$ . Configuration =  $\pi h_{11/2} \otimes \nu(i_{13/2} f_{7/2} h_{9/2})$  or  $A_p A E$ .
- <sup>c</sup> Band(c): Band 3, based on  $23/2^+, \alpha = -1/2$ . Configuration =  $\pi h_{11/2} \otimes \nu(i_{13/2} f_{7/2} h_{9/2})$  or  $B_p A E$ .
- <sup>d</sup> Band(D): Band 4, based on  $(27/2^+)$  Configuration =  $\pi h_{11/2} \otimes \nu(i_{13/2} f_{7/2} h_{9/2})$  or  $A_p A F$ .
- <sup>e</sup> Band(E): Band 5, based on  $45/2^{(+)}$  Irregular band.
- <sup>f</sup> Band(F): Band 5a, based on  $67/2$ .
- <sup>g</sup> Band(G): Band 5b, based on  $61/2^{(+)}$ .
- <sup>h</sup> Band(H): Band 6, based on  $(51/2^-)$ .
- <sup>i</sup> Band(I): Band 6a, based on  $(67/2)$ .
- <sup>j</sup> Band(J): Band 7a, based on  $(81/2)$ .
- <sup>k</sup> Band(K): Band 7b, based on  $(77/2)$ .

Adopted Levels, Gammas (continued)

$\gamma(^{155}\text{Ho})$

$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult.#	$\alpha\&$	Comments
110.14	7/2 <sup>+</sup>	110.12 7	100	0.0	5/2 <sup>+</sup>	M1	1.98	$\alpha(\text{K})=1.665$ 24; $\alpha(\text{L})=0.247$ 4; $\alpha(\text{M})=0.0545$ 8 $\alpha(\text{N})=0.01267$ 18; $\alpha(\text{O})=0.00184$ 3; $\alpha(\text{P})=0.0001032$ 15 B(M1)(W.u.)=0.016 +20-9
141.87	11/2 <sup>-</sup>	31.7 1	100	110.14	7/2 <sup>+</sup>	M2	998 21	$\alpha(\text{L})=759$ 16; $\alpha(\text{M})=188$ 4 $\alpha(\text{N})=44.1$ 9; $\alpha(\text{O})=6.01$ 13; $\alpha(\text{P})=0.259$ 6 B(M2)(W.u.)=0.0382 +40-33
201.03	3/2 <sup>+</sup> , 5/2 <sup>+</sup> , 7/2 <sup>+</sup>	201.1 1	100	0.0	5/2 <sup>+</sup>	M1	0.364	$\alpha(\text{K})=0.306$ 5; $\alpha(\text{L})=0.0450$ 7; $\alpha(\text{M})=0.00993$ 14 $\alpha(\text{N})=0.00231$ 4; $\alpha(\text{O})=0.000336$ 5; $\alpha(\text{P})=1.89\times 10^{-5}$ 3
230.58	9/2 <sup>-</sup>	88.6 3	100	141.87	11/2 <sup>-</sup>	M1	3.70 7	$\alpha(\text{K})=3.11$ 6; $\alpha(\text{L})=0.462$ 8; $\alpha(\text{M})=0.1021$ 18 $\alpha(\text{N})=0.0237$ 4; $\alpha(\text{O})=0.00345$ 6; $\alpha(\text{P})=0.000193$ 4
233.93	5/2 <sup>-</sup> , 7/2 <sup>-</sup>	123.8 1	68 3	110.14	7/2 <sup>+</sup>	E1	0.179	$\alpha(\text{K})=0.1500$ 22; $\alpha(\text{L})=0.0230$ 4; $\alpha(\text{M})=0.00506$ 8 $\alpha(\text{N})=0.001156$ 17; $\alpha(\text{O})=0.0001580$ 23; $\alpha(\text{P})=7.05\times 10^{-6}$ 10
		234.0 1	100 5	0.0	5/2 <sup>+</sup>	(E1)	0.0335	$\alpha(\text{K})=0.0282$ 4; $\alpha(\text{L})=0.00410$ 6; $\alpha(\text{M})=0.000899$ 13 $\alpha(\text{N})=0.000207$ 3; $\alpha(\text{O})=2.91\times 10^{-5}$ 4; $\alpha(\text{P})=1.438\times 10^{-6}$ 21
241.50	7/2 <sup>+</sup>	131.2 3	4 1	110.14	7/2 <sup>+</sup>			
		241.5 2	100 11	0.0	5/2 <sup>+</sup>	M1	0.220	$\alpha(\text{K})=0.186$ 3; $\alpha(\text{L})=0.0272$ 4; $\alpha(\text{M})=0.00599$ 9 $\alpha(\text{N})=0.001391$ 20; $\alpha(\text{O})=0.000203$ 3; $\alpha(\text{P})=1.142\times 10^{-5}$ 17
344.81	9/2 <sup>+</sup>	234.8 2	100 9	110.14	7/2 <sup>+</sup>	M1(+E2)	0.19 5	$\alpha(\text{K})=0.150$ 51; $\alpha(\text{L})=0.0316$ 23; $\alpha(\text{M})=0.0072$ 8 $\alpha(\text{N})=0.00165$ 16; $\alpha(\text{O})=0.000224$ 6; $\alpha(\text{P})=8.6\times 10^{-6}$ 37 $I_\gamma$ : unc from $^{124}\text{Sn}(^{37}\text{Cl}, 6\text{n}\gamma)$ .
388.99		344.9 3	24 8	0.0	5/2 <sup>+</sup>			
		147.6 3	32 8	241.50	7/2 <sup>+</sup>			
		188.1 2	57 7	201.03	3/2 <sup>+</sup> , 5/2 <sup>+</sup> , 7/2 <sup>+</sup>			
		278.3 5	22 10	110.14	7/2 <sup>+</sup>			
		388.9 2	100 11	0.0	5/2 <sup>+</sup>			
418.96	-	185.1 1	100 4	233.93	5/2 <sup>-</sup> , 7/2 <sup>-</sup>	M1	0.458	$\alpha(\text{K})=0.385$ 6; $\alpha(\text{L})=0.0567$ 8; $\alpha(\text{M})=0.01251$ 18 $\alpha(\text{N})=0.00291$ 4; $\alpha(\text{O})=0.000423$ 6; $\alpha(\text{P})=2.38\times 10^{-5}$ 4
451.36	(7/2 <sup>-</sup> )	308.2 3	16 4	110.14	7/2 <sup>+</sup>			
		221.1 2	100	230.58	9/2 <sup>-</sup>	(M1)	0.280	$\alpha(\text{K})=0.236$ 4; $\alpha(\text{L})=0.0346$ 5; $\alpha(\text{M})=0.00764$ 11 $\alpha(\text{N})=0.00177$ 3; $\alpha(\text{O})=0.000258$ 4; $\alpha(\text{P})=1.455\times 10^{-5}$ 21
470.66		450.1 4	29	0.0	5/2 <sup>+</sup>			
		229.2 3	100 27	241.50	7/2 <sup>+</sup>			
		360.9 6	≈20	110.14	7/2 <sup>+</sup>			
		470.6 2	85 9	0.0	5/2 <sup>+</sup>			
518.71	15/2 <sup>-</sup>	376.7 3	100	141.87	11/2 <sup>-</sup>	E2	0.0341	$\alpha(\text{K})=0.0263$ 4; $\alpha(\text{L})=0.00602$ 9; $\alpha(\text{M})=0.001383$ 20 $\alpha(\text{N})=0.000316$ 5; $\alpha(\text{O})=4.21\times 10^{-5}$ 6; $\alpha(\text{P})=1.416\times 10^{-6}$ 20
529.60		288.2 2	46 6	241.50	7/2 <sup>+</sup>			
		295.6 5	15 6	233.93	5/2 <sup>-</sup> , 7/2 <sup>-</sup>			
		298.8 2	60 7	230.58	9/2 <sup>-</sup>			
		328.7 2	100 12	201.03	3/2 <sup>+</sup> , 5/2 <sup>+</sup> , 7/2 <sup>+</sup>			
538.16	13/2 <sup>-</sup>	(19.3)	0.10 2	518.71	15/2 <sup>-</sup>			$I_\gamma$ : estimated in (HI,xn $\gamma$ ) dataset.
		307.6 3	38 4	230.58	9/2 <sup>-</sup>	E2	0.0619	$\alpha(\text{K})=0.0461$ 7; $\alpha(\text{L})=0.01222$ 18; $\alpha(\text{M})=0.00283$ 4 $\alpha(\text{N})=0.000646$ 10; $\alpha(\text{O})=8.43\times 10^{-5}$ 13; $\alpha(\text{P})=2.40\times 10^{-6}$ 4

**Adopted Levels, Gammas (continued)**

$\gamma(^{155}\text{Ho})$  (continued)

$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult.#	$\delta@a$	$\alpha\&$	Comments
538.16	13/2 <sup>-</sup>	396.2 3	100 4	141.87	11/2 <sup>-</sup>	M1+E2	+1.5 +8-5	0.039 6	$\alpha(\text{K})=0.031$ 6; $\alpha(\text{L})=0.0057$ 4; $\alpha(\text{M})=0.00129$ 8 $\alpha(\text{N})=0.000298$ 20; $\alpha(\text{O})=4.1\times 10^{-5}$ 4; $\alpha(\text{P})=1.8\times 10^{-6}$ 4
565.01	11/2 <sup>+</sup>	220.7 454.7 3	<56 100 11	344.81 110.14	9/2 <sup>+</sup> 7/2 <sup>+</sup>	E2		0.0203	$I_\gamma$ : from <sup>124</sup> Sn( <sup>37</sup> Cl,6n $\gamma$ ). $\alpha(\text{K})=0.01606$ 23; $\alpha(\text{L})=0.00327$ 5; $\alpha(\text{M})=0.000745$ 11 $\alpha(\text{N})=0.0001708$ 25; $\alpha(\text{O})=2.31\times 10^{-5}$ 4; $\alpha(\text{P})=8.85\times 10^{-7}$ 13
565.22	(11/2 <sup>+</sup> )	322.9 3 455.9 3	53 12 100 18	241.50 110.14	7/2 <sup>+</sup> 7/2 <sup>+</sup>				
653.31		264.4 4 412.1 3 422.7 1	12 4 24 4 100 6	388.99 241.50	7/2 <sup>+</sup> 7/2 <sup>+</sup>				
683.18		452.6 2	100	230.58	9/2 <sup>-</sup>				
817.27	13/2 <sup>+</sup>	252.1 3	37 3	565.01	11/2 <sup>+</sup>	(M1+E2)		0.155 41	$\alpha(\text{K})=0.123$ 42; $\alpha(\text{L})=0.0249$ 9; $\alpha(\text{M})=0.0057$ 4 $\alpha(\text{N})=0.00130$ 7; $\alpha(\text{O})=0.000177$ 4; $\alpha(\text{P})=7.1\times 10^{-6}$ 31
		472.8 3	100 10	344.81	9/2 <sup>+</sup>	E2		0.0183	$\alpha(\text{K})=0.01454$ 21; $\alpha(\text{L})=0.00290$ 4; $\alpha(\text{M})=0.000659$ 10 $\alpha(\text{N})=0.0001512$ 22; $\alpha(\text{O})=2.06\times 10^{-5}$ 3; $\alpha(\text{P})=8.05\times 10^{-7}$ 12
1001.55	17/2 <sup>-</sup>	463.3 3	100 5	538.16	13/2 <sup>-</sup>	E2		0.0193	$\alpha(\text{K})=0.01531$ 22; $\alpha(\text{L})=0.00309$ 5; $\alpha(\text{M})=0.000702$ 10 $\alpha(\text{N})=0.0001611$ 23; $\alpha(\text{O})=2.19\times 10^{-5}$ 3; $\alpha(\text{P})=8.45\times 10^{-7}$ 12
		482.8 3	67 3	518.71	15/2 <sup>-</sup>	M1+E2	+1.2 +5-3	0.025 3	$\alpha(\text{K})=0.0203$ 25; $\alpha(\text{L})=0.00335$ 24; $\alpha(\text{M})=0.00075$ 5 $\alpha(\text{N})=0.000173$ 12; $\alpha(\text{O})=2.44\times 10^{-5}$ 20; $\alpha(\text{P})=1.19\times 10^{-6}$ 16
1017.4	19/2 <sup>-</sup>	(16.3)	0.10 3	1001.55	17/2 <sup>-</sup>	M1(+E2)		$6.1\times 10^3$ 60	$\alpha(\text{L})=4.7\times 10^3$ 46; $\alpha(\text{M})=1.1\times 10^3$ 11 $\alpha(\text{N})=2.5\times 10^2$ 25; $\alpha(\text{O})=29$ 28; $\alpha(\text{P})=0.025$ 3 $I_\gamma$ : estimated in (HI,xn $\gamma$ ) dataset.
		498.6 3	100 5	518.71	15/2 <sup>-</sup>	E2		0.01590	$\alpha(\text{K})=0.01273$ 18; $\alpha(\text{L})=0.00247$ 4; $\alpha(\text{M})=0.000559$ 8 $\alpha(\text{N})=0.0001285$ 19; $\alpha(\text{O})=1.754\times 10^{-5}$ 25; $\alpha(\text{P})=7.08\times 10^{-7}$ 10
1080.18	15/2 <sup>+</sup>	263.1 3 515.2 3	25 3 100 10	817.27 565.01	13/2 <sup>+</sup> 11/2 <sup>+</sup>	E2		0.01462	$\alpha(\text{K})=0.01174$ 17; $\alpha(\text{L})=0.00224$ 4; $\alpha(\text{M})=0.000506$ 8 $\alpha(\text{N})=0.0001164$ 17; $\alpha(\text{O})=1.594\times 10^{-5}$ 23; $\alpha(\text{P})=6.55\times 10^{-7}$ 10
		541.7 <sup>c</sup> 3 561.2 <sup>c</sup> 3	20 2 20 2	538.16 518.71	13/2 <sup>-</sup> 15/2 <sup>-</sup>				
1361.9	17/2 <sup>+</sup>	281.5 544.6 3	<100 100 10	1080.18 817.27	15/2 <sup>+</sup> 13/2 <sup>+</sup>	E2		0.01270	$\alpha(\text{K})=0.01025$ 15; $\alpha(\text{L})=0.00190$ 3; $\alpha(\text{M})=0.000430$ 6 $\alpha(\text{N})=9.88\times 10^{-5}$ 14; $\alpha(\text{O})=1.359\times 10^{-5}$ 20; $\alpha(\text{P})=5.74\times 10^{-7}$ 8
1561.2	21/2 <sup>-</sup>	543.8 3	55 3	1017.4	19/2 <sup>-</sup>	M1+E2	+0.59 10	0.0226 10	$\alpha(\text{K})=0.0190$ 8; $\alpha(\text{L})=0.00282$ 9; $\alpha(\text{M})=0.000623$ 19 $\alpha(\text{N})=0.000144$ 5; $\alpha(\text{O})=2.09\times 10^{-5}$ 7; $\alpha(\text{P})=1.14\times 10^{-6}$ 6

**Adopted Levels, Gammas (continued)**

$\gamma(^{155}\text{Ho})$  (continued)

$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult. #	$\delta@a$	$\alpha\&$	Comments
1561.2	21/2 <sup>-</sup>	559.6 3	100 5	1001.55	17/2 <sup>-</sup>	E2		0.01186	$\alpha(\text{K})=0.00960$ 14; $\alpha(\text{L})=0.001759$ 25; $\alpha(\text{M})=0.000397$ 6 $\alpha(\text{N})=9.13\times 10^{-5}$ 13; $\alpha(\text{O})=1.259\times 10^{-5}$ 18; $\alpha(\text{P})=5.39\times 10^{-7}$ 8
1605.2	23/2 <sup>-</sup>	(44.0)	0.50 15	1561.2	21/2 <sup>-</sup>	M1(+E2)		46 42	$\alpha(\text{L})=35$ 32; $\alpha(\text{M})=8.4$ 77 $\alpha(\text{N})=1.9$ 18; $\alpha(\text{O})=0.22$ 20; $\alpha(\text{P})=8.7\times 10^{-4}$ 62 $I_\gamma$ : estimated in (HL,xny) dataset.
		587.9 <sup>b</sup> 3	100 <sup>b</sup> 5	1017.4	19/2 <sup>-</sup>	E2		0.01051	$\alpha(\text{K})=0.00854$ 12; $\alpha(\text{L})=0.001530$ 22; $\alpha(\text{M})=0.000344$ 5 $\alpha(\text{N})=7.93\times 10^{-5}$ 12; $\alpha(\text{O})=1.098\times 10^{-5}$ 16; $\alpha(\text{P})=4.81\times 10^{-7}$ 7
1646.99	19/2 <sup>+</sup>	285.3 3	12.1 16	1361.9	17/2 <sup>+</sup>				
		566.9 3	100 5	1080.18	15/2 <sup>+</sup>				
		629.5 3	36 4	1017.4	19/2 <sup>-</sup>				
		645.3 3	33 3	1001.55	17/2 <sup>-</sup>				
1669.4	19/2 <sup>+</sup>	307.3 3	33 4	1361.9	17/2 <sup>+</sup>				
		589.4 3	100 11	1080.18	15/2 <sup>+</sup>				
1973.0	21/2 <sup>+</sup>	611.1 3	100	1361.9	17/2 <sup>+</sup>	E2		0.00956	$\alpha(\text{K})=0.00780$ 11; $\alpha(\text{L})=0.001375$ 20; $\alpha(\text{M})=0.000309$ 5 $\alpha(\text{N})=7.12\times 10^{-5}$ 10; $\alpha(\text{O})=9.88\times 10^{-6}$ 14; $\alpha(\text{P})=4.40\times 10^{-7}$ 7
2129.3	23/2 <sup>+</sup>	459.8 3	22 3	1669.4	19/2 <sup>+</sup>	E2		0.0197	$\alpha(\text{K})=0.01561$ 22; $\alpha(\text{L})=0.00316$ 5; $\alpha(\text{M})=0.000719$ 11 $\alpha(\text{N})=0.0001649$ 24; $\alpha(\text{O})=2.24\times 10^{-5}$ 4; $\alpha(\text{P})=8.61\times 10^{-7}$ 13
		482.4 3	44 4	1646.99	19/2 <sup>+</sup>	E2		0.01733	$\alpha(\text{K})=0.01383$ 20; $\alpha(\text{L})=0.00273$ 4; $\alpha(\text{M})=0.000619$ 9 $\alpha(\text{N})=0.0001421$ 20; $\alpha(\text{O})=1.93\times 10^{-5}$ 3; $\alpha(\text{P})=7.66\times 10^{-7}$ 11
		524.1 3	17 2	1605.2	23/2 <sup>-</sup>				
		568.1 3	100 5	1561.2	21/2 <sup>-</sup>	D			
2189.3	25/2 <sup>-</sup>	584.2 3	58 3	1605.2	23/2 <sup>-</sup>	M1+E2	+0.42 6	0.0200 5	$\alpha(\text{K})=0.0169$ 5; $\alpha(\text{L})=0.00245$ 6; $\alpha(\text{M})=0.000540$ 12 $\alpha(\text{N})=0.000125$ 3; $\alpha(\text{O})=1.82\times 10^{-5}$ 4; $\alpha(\text{P})=1.02\times 10^{-6}$ 3
		628.1 3	100 5	1561.2	21/2 <sup>-</sup>	E2		0.00896	$\alpha(\text{K})=0.00732$ 11; $\alpha(\text{L})=0.001275$ 18; $\alpha(\text{M})=0.000286$ 4 $\alpha(\text{N})=6.60\times 10^{-5}$ 10; $\alpha(\text{O})=9.18\times 10^{-6}$ 13; $\alpha(\text{P})=4.14\times 10^{-7}$ 6
2265.4	27/2 <sup>-</sup>	(75.7)	1.5 6	2189.3	25/2 <sup>-</sup>	M1(+E2)		7.0 13	$\alpha(\text{K})=3.4$ 15; $\alpha(\text{L})=2.8$ 21; $\alpha(\text{M})=0.67$ 51 $\alpha(\text{N})=0.15$ 12; $\alpha(\text{O})=0.018$ 13; $\alpha(\text{P})=1.9\times 10^{-4}$ 11 $I_\gamma$ : estimated in (HL,xny) dataset.
		660.1 3	100 5	1605.2	23/2 <sup>-</sup>	E2		0.00796	$\alpha(\text{K})=0.00653$ 10; $\alpha(\text{L})=0.001116$ 16; $\alpha(\text{M})=0.000250$ 4 $\alpha(\text{N})=5.76\times 10^{-5}$ 9; $\alpha(\text{O})=8.05\times 10^{-6}$ 12; $\alpha(\text{P})=3.70\times 10^{-7}$ 6
2297.1	23/2 <sup>+</sup>	627.7 3	100	1669.4	19/2 <sup>+</sup>	E2		0.00897	$\alpha(\text{K})=0.00733$ 11; $\alpha(\text{L})=0.001277$ 18; $\alpha(\text{M})=0.000287$ 4 $\alpha(\text{N})=6.61\times 10^{-5}$ 10; $\alpha(\text{O})=9.19\times 10^{-6}$ 13; $\alpha(\text{P})=4.14\times 10^{-7}$ 6
2464.4	27/2 <sup>+</sup>	275.3 3	75 4	2189.3	25/2 <sup>-</sup>	D			
		335.0 3	100 5	2129.3	23/2 <sup>+</sup>	E2		0.0479	$\alpha(\text{K})=0.0363$ 6; $\alpha(\text{L})=0.00902$ 13; $\alpha(\text{M})=0.00208$ 3 $\alpha(\text{N})=0.000476$ 7; $\alpha(\text{O})=6.25\times 10^{-5}$ 9; $\alpha(\text{P})=1.92\times 10^{-6}$ 3
2616.8	(25/2 <sup>+</sup> )	643.8 3	100	1973.0	21/2 <sup>+</sup>				
2643.8	(27/2 <sup>+</sup> )	454.5 3	49 2	2189.3	25/2 <sup>-</sup>				
		514.5 3	100 5	2129.3	23/2 <sup>+</sup>				
2729.9	29/2 <sup>(+)</sup>	265.5 3	100 5	2464.4	27/2 <sup>+</sup>	D(+Q)			
		464.5 3	27 3	2265.4	27/2 <sup>-</sup>	D			
2858.8	29/2 <sup>-</sup>	593.3 3	26 3	2265.4	27/2 <sup>-</sup>				

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Adopted Levels, Gammas (continued)

$\gamma(^{155}\text{Ho})$  (continued)

$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult.#	$\delta@a$	$\alpha\&$	Comments
2858.8	29/2 <sup>-</sup>	669.7 3	100 5	2189.3	25/2 <sup>-</sup>	E2		0.00770	$\alpha(\text{K})=0.00632$ 9; $\alpha(\text{L})=0.001074$ 15; $\alpha(\text{M})=0.000241$ 4 $\alpha(\text{N})=5.55\times 10^{-5}$ 8; $\alpha(\text{O})=7.75\times 10^{-6}$ 11; $\alpha(\text{P})=3.59\times 10^{-7}$ 5
2876.8	(29/2 <sup>+</sup> )	233.0 3	30 3	2643.8	(27/2 <sup>+</sup> )				
		611.5 3	100 10	2265.4	27/2 <sup>-</sup>				
2917.4	31/2 <sup>+</sup>	187.4 3	40 2	2729.9	29/2 <sup>(+)</sup>	D			
		273.6 3	57 3	2643.8	(27/2 <sup>+</sup> )				
		453.0 3	100 5	2464.4	27/2 <sup>+</sup>	E2		0.0205	$\alpha(\text{K})=0.01622$ 23; $\alpha(\text{L})=0.00331$ 5; $\alpha(\text{M})=0.000753$ 11 $\alpha(\text{N})=0.0001729$ 25; $\alpha(\text{O})=2.34\times 10^{-5}$ 4; $\alpha(\text{P})=8.93\times 10^{-7}$ 13
2935.3	(27/2 <sup>+</sup> )	638.4 <sup>C</sup> 3	100	2297.1	23/2 <sup>+</sup>				
2978.0	31/2 <sup>-</sup>	(119.0 3)	8 1	2858.8	29/2 <sup>-</sup>	M1(+E2)		1.54 6	$\alpha(\text{K})=1.02$ 32; $\alpha(\text{L})=0.40$ 20; $\alpha(\text{M})=0.094$ 51 $\alpha(\text{N})=0.021$ 12; $\alpha(\text{O})=0.0027$ 13; $\alpha(\text{P})=5.6\times 10^{-5}$ 27
		712.5 3	100 5	2265.4	27/2 <sup>-</sup>	E2		0.00667	$\alpha(\text{K})=0.00550$ 8; $\alpha(\text{L})=0.000914$ 13; $\alpha(\text{M})=0.000204$ 3 $\alpha(\text{N})=4.71\times 10^{-5}$ 7; $\alpha(\text{O})=6.61\times 10^{-6}$ 10; $\alpha(\text{P})=3.13\times 10^{-7}$ 5
3064.7	(31/2 <sup>+</sup> )	187.9 3	4.5 5	2876.8	(29/2 <sup>+</sup> )				
		334.8 3	23 2	2729.9	29/2 <sup>(+)</sup>	(M1+E2)		0.070 22	$\alpha(\text{K})=0.057$ 21; $\alpha(\text{L})=0.0101$ 11; $\alpha(\text{M})=0.00228$ 20 $\alpha(\text{N})=0.00052$ 5; $\alpha(\text{O})=7.3\times 10^{-5}$ 11; $\alpha(\text{P})=3.3\times 10^{-6}$ 14
		420.9 3	42 2	2643.8	(27/2 <sup>+</sup> )	E2		0.0250	$\alpha(\text{K})=0.0196$ 3; $\alpha(\text{L})=0.00418$ 6; $\alpha(\text{M})=0.000955$ 14 $\alpha(\text{N})=0.000219$ 4; $\alpha(\text{O})=2.94\times 10^{-5}$ 5; $\alpha(\text{P})=1.071\times 10^{-6}$ 16
3262.6	33/2 <sup>(+)</sup>	600.3 3	100 5	2464.4	27/2 <sup>+</sup>				
3264.9	(29/2 <sup>+</sup> )	345.2 3	100	2917.4	31/2 <sup>+</sup>	D			
3399.6	33/2 <sup>-</sup>	648.1 3	100	2616.8	(25/2 <sup>+</sup> )				
		421.5 3	71 3	2978.0	31/2 <sup>-</sup>	(M1+E2)	+0.065 24	0.0499 8	$\alpha(\text{K})=0.0422$ 6; $\alpha(\text{L})=0.00607$ 9; $\alpha(\text{M})=0.001337$ 19 $\alpha(\text{N})=0.000311$ 5; $\alpha(\text{O})=4.53\times 10^{-5}$ 7; $\alpha(\text{P})=2.57\times 10^{-6}$ 4 Mult., $\delta$ : small amount of mixing does not exclude E1.
		540.9 3	100 5	2858.8	29/2 <sup>-</sup>	E2		0.01292	$\alpha(\text{K})=0.01042$ 15; $\alpha(\text{L})=0.00194$ 3; $\alpha(\text{M})=0.000438$ 7 $\alpha(\text{N})=0.0001008$ 15; $\alpha(\text{O})=1.386\times 10^{-5}$ 20; $\alpha(\text{P})=5.84\times 10^{-7}$ 9
3489.7	35/2 <sup>+</sup>	227.0 3	11 1	3262.6	33/2 <sup>(+)</sup>	D			
		572.3 3	100 5	2917.4	31/2 <sup>+</sup>	E2		0.01122	$\alpha(\text{K})=0.00910$ 13; $\alpha(\text{L})=0.001650$ 24; $\alpha(\text{M})=0.000372$ 6 $\alpha(\text{N})=8.56\times 10^{-5}$ 12; $\alpha(\text{O})=1.183\times 10^{-5}$ 17; $\alpha(\text{P})=5.12\times 10^{-7}$ 8
3651.3	35/2 <sup>-</sup>	251.7 3	39 4	3399.6	33/2 <sup>-</sup>	(M1+E2)	+0.07 4	0.197	$\alpha(\text{K})=0.1655$ 25; $\alpha(\text{L})=0.0243$ 4; $\alpha(\text{M})=0.00535$ 8 $\alpha(\text{N})=0.001243$ 18; $\alpha(\text{O})=0.000181$ 3; $\alpha(\text{P})=1.018\times 10^{-5}$ 16 Mult., $\delta$ : small amount of mixing does not exclude E1.
		673.2 3	100 5	2978.0	31/2 <sup>-</sup>	E2		0.00760	$\alpha(\text{K})=0.00625$ 9; $\alpha(\text{L})=0.001059$ 15; $\alpha(\text{M})=0.000237$ 4 $\alpha(\text{N})=5.47\times 10^{-5}$ 8; $\alpha(\text{O})=7.65\times 10^{-6}$ 11; $\alpha(\text{P})=3.54\times 10^{-7}$ 5
3657.6	(35/2 <sup>+</sup> )	395.0 3	35 3	3262.6	33/2 <sup>(+)</sup>	(M1+E2)		0.045 15	$\alpha(\text{K})=0.037$ 14; $\alpha(\text{L})=0.0062$ 11; $\alpha(\text{M})=0.00138$ 21 $\alpha(\text{N})=0.00032$ 5; $\alpha(\text{O})=4.5\times 10^{-5}$ 9; $\alpha(\text{P})=2.16\times 10^{-6}$ 90
3834.2?	(33/2 <sup>+</sup> )	592.9 3	100 5	3064.7	(31/2 <sup>+</sup> )				
3838.4	37/2 <sup>(+)</sup>	569.6 <sup>C</sup> 3	100	3264.9	(29/2 <sup>+</sup> )				
		348.8 3	100 5	3489.7	35/2 <sup>+</sup>	D			
		575.8 3	72 8	3262.6	33/2 <sup>(+)</sup>				
3905.9	37/2 <sup>-</sup>	254.7 3	100 5	3651.3	35/2 <sup>-</sup>	D			

## Adopted Levels, Gammas (continued)

$\gamma(^{155}\text{Ho})$ (continued)									
$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult.#	$\alpha\&$	Comments	
3905.9	37/2 <sup>-</sup>	506.2 3	90 5	3399.6	33/2 <sup>-</sup>	E2	0.01529	$\alpha(\text{K})=0.01226$ 18; $\alpha(\text{L})=0.00236$ 4; $\alpha(\text{M})=0.000534$ 8 $\alpha(\text{N})=0.0001227$ 18; $\alpha(\text{O})=1.678\times 10^{-5}$ 24; $\alpha(\text{P})=6.83\times 10^{-7}$ 10	
4120.3	39/2 <sup>+</sup>	281.9 3 630.6 3	9 1 100 5	3838.4 3489.7	37/2 <sup>(+)</sup> 35/2 <sup>+</sup>	D(+Q) E2	0.00887	$\alpha(\text{K})=0.00725$ 11; $\alpha(\text{L})=0.001262$ 18; $\alpha(\text{M})=0.000283$ 4 $\alpha(\text{N})=6.52\times 10^{-5}$ 10; $\alpha(\text{O})=9.08\times 10^{-6}$ 13; $\alpha(\text{P})=4.10\times 10^{-7}$ 6	
4211.2	39/2 <sup>-</sup>	305.3 3 559.9 3	100 5 90 4	3905.9 3651.3	37/2 <sup>-</sup> 35/2 <sup>-</sup>	D(+Q)			
4278.4	(39/2 <sup>+</sup> )	620.9 3	100	3657.6	(35/2 <sup>+</sup> )				
4489.3	41/2 <sup>(+)</sup>	369.0 3 650.9 3	100 5 94 5	4120.3 3838.4	39/2 <sup>+</sup> 37/2 <sup>(+)</sup>	D E2	0.00823	$\alpha(\text{K})=0.00674$ 10; $\alpha(\text{L})=0.001158$ 17; $\alpha(\text{M})=0.000260$ 4 $\alpha(\text{N})=5.99\times 10^{-5}$ 9; $\alpha(\text{O})=8.35\times 10^{-6}$ 12; $\alpha(\text{P})=3.82\times 10^{-7}$ 6	
4493.8	41/2 <sup>-</sup>	282.6 3 587.9 <sup>b</sup> 3	66 3 100 <sup>b</sup> 5	4211.2 3905.9	39/2 <sup>-</sup> 37/2 <sup>-</sup>	D E2	0.01051	$\alpha(\text{K})=0.00854$ 12; $\alpha(\text{L})=0.001530$ 22; $\alpha(\text{M})=0.000344$ 5 $\alpha(\text{N})=7.93\times 10^{-5}$ 12; $\alpha(\text{O})=1.098\times 10^{-5}$ 16; $\alpha(\text{P})=4.81\times 10^{-7}$ 7	
4601.4	41/2 <sup>(+)</sup>	323.4 3 481.0 3	96 10 100 10	4278.4 4120.3	(39/2 <sup>+</sup> ) 39/2 <sup>+</sup>	D			
4837.9	43/2 <sup>-</sup>	344.1 <sup>b</sup> 3 626.7 3	58 <sup>b</sup> 3 100 5	4493.8 4211.2	41/2 <sup>-</sup> 39/2 <sup>-</sup>	D(+Q) E2	0.00900	$\alpha(\text{K})=0.00736$ 11; $\alpha(\text{L})=0.001283$ 18; $\alpha(\text{M})=0.000288$ 4 $\alpha(\text{N})=6.64\times 10^{-5}$ 10; $\alpha(\text{O})=9.23\times 10^{-6}$ 13; $\alpha(\text{P})=4.16\times 10^{-7}$ 6	
4875.5	43/2 <sup>+</sup>	274.1 3 386.3 3 596.9 3 755.3 3	14 1 32 3 61 3 100 5	4601.4 4489.3 4278.4 4120.3	41/2 <sup>(+)</sup> 41/2 <sup>(+)</sup> (39/2 <sup>+</sup> ) 39/2 <sup>+</sup>	D(+Q) E2	0.00585	$\alpha(\text{K})=0.00484$ 7; $\alpha(\text{L})=0.000788$ 11; $\alpha(\text{M})=0.0001757$ 25 $\alpha(\text{N})=4.06\times 10^{-5}$ 6; $\alpha(\text{O})=5.71\times 10^{-6}$ 8; $\alpha(\text{P})=2.76\times 10^{-7}$ 4	
5135.8	(41/2 <sup>+</sup> )	1015.4 3	100	4120.3	39/2 <sup>+</sup>	D(+Q)			
5167.3	45/2 <sup>-</sup>	329.4 3 673.4 3	44 5 100 5	4837.9 4493.8	43/2 <sup>-</sup> 41/2 <sup>-</sup>	D			
5214.6	45/2 <sup>(+)</sup>	339.0 3 725.3 3	100 5/1 57 3	4875.5 4489.3	43/2 <sup>+</sup> 41/2 <sup>(+)</sup>	D(+Q) E2	0.00641	$\alpha(\text{K})=0.00529$ 8; $\alpha(\text{L})=0.000873$ 13; $\alpha(\text{M})=0.000195$ 3 $\alpha(\text{N})=4.50\times 10^{-5}$ 7; $\alpha(\text{O})=6.32\times 10^{-6}$ 9; $\alpha(\text{P})=3.01\times 10^{-7}$ 5	
5392.3	45/2 <sup>(+)</sup>	256.5 3 516.7 3	49 5 90 5	5135.8 4875.5	(41/2 <sup>+</sup> ) 43/2 <sup>+</sup>	D(+Q)	0.0221 76	$\alpha(\text{K})=0.0183$ 67; $\alpha(\text{L})=0.0029$ 7; $\alpha(\text{M})=0.00064$ 15 $\alpha(\text{N})=0.00015$ 4; $\alpha(\text{O})=2.12\times 10^{-5}$ 55; $\alpha(\text{P})=1.08\times 10^{-6}$ 44	
		791.2 3	100 5	4601.4	41/2 <sup>(+)</sup>	E2	0.00527	$\alpha(\text{K})=0.00437$ 7; $\alpha(\text{L})=0.000702$ 10; $\alpha(\text{M})=0.0001563$ 22 $\alpha(\text{N})=3.61\times 10^{-5}$ 5; $\alpha(\text{O})=5.10\times 10^{-6}$ 8; $\alpha(\text{P})=2.50\times 10^{-7}$ 4	
		902.9 3	79 8	4489.3	41/2 <sup>(+)</sup>	E2	0.00396	$\alpha(\text{K})=0.00331$ 5; $\alpha(\text{L})=0.000511$ 8; $\alpha(\text{M})=0.0001134$ 16 $\alpha(\text{N})=2.62\times 10^{-5}$ 4; $\alpha(\text{O})=3.73\times 10^{-6}$ 6; $\alpha(\text{P})=1.89\times 10^{-7}$ 3	
5546.8	47/2 <sup>-</sup>	379.5 3 708.9 3	92 5 100 5	5167.3 4837.9	45/2 <sup>-</sup> 43/2 <sup>-</sup>	E2	0.00675	$\alpha(\text{K})=0.00556$ 8; $\alpha(\text{L})=0.000926$ 13; $\alpha(\text{M})=0.000207$ 3 $\alpha(\text{N})=4.77\times 10^{-5}$ 7; $\alpha(\text{O})=6.70\times 10^{-6}$ 10; $\alpha(\text{P})=3.16\times 10^{-7}$ 5	
5710.2	47/2 <sup>+</sup>	834.7 3	100	4875.5	43/2 <sup>+</sup>	E2	0.00469	$\alpha(\text{K})=0.00390$ 6; $\alpha(\text{L})=0.000616$ 9; $\alpha(\text{M})=0.0001370$ 20 $\alpha(\text{N})=3.16\times 10^{-5}$ 5; $\alpha(\text{O})=4.48\times 10^{-6}$ 7; $\alpha(\text{P})=2.23\times 10^{-7}$ 4	

**Adopted Levels, Gammas (continued)**

$\gamma(^{155}\text{Ho})$ (continued)									
$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult.#	$\alpha\&$	Comments	
5786.5	(45/2 <sup>+</sup> )	650.0	100	5135.8	(41/2 <sup>+</sup> )				
5932.6	49/2 <sup>-</sup>	385.8 3 765.3 3	38 4 100 5	5546.8 5167.3	47/2 <sup>-</sup> 45/2 <sup>-</sup>	E2	0.00568	$\alpha(\text{K})=0.00470$ 7; $\alpha(\text{L})=0.000762$ 11; $\alpha(\text{M})=0.0001700$ 24 $\alpha(\text{N})=3.92\times 10^{-5}$ 6; $\alpha(\text{O})=5.53\times 10^{-6}$ 8; $\alpha(\text{P})=2.68\times 10^{-7}$ 4	
6057.5	49/2 <sup>(+)</sup>	347.4 3 842.8 3	38 4 100 5	5710.2 5214.6	47/2 <sup>+</sup> 45/2 <sup>(+)</sup>	D(+Q) E2	0.00459	$\alpha(\text{K})=0.00382$ 6; $\alpha(\text{L})=0.000602$ 9; $\alpha(\text{M})=0.0001338$ 19 $\alpha(\text{N})=3.09\times 10^{-5}$ 5; $\alpha(\text{O})=4.38\times 10^{-6}$ 7; $\alpha(\text{P})=2.18\times 10^{-7}$ 3	
6168.2	49/2 <sup>(+)</sup>	381.6 3 457.9 3 776.1 3	18 2 25 3 100 5	5786.5 5710.2 5392.3	(45/2 <sup>+</sup> ) 47/2 <sup>+</sup> 45/2 <sup>(+)</sup>	E2	0.00550	$\alpha(\text{K})=0.00456$ 7; $\alpha(\text{L})=0.000736$ 11; $\alpha(\text{M})=0.0001641$ 23 $\alpha(\text{N})=3.79\times 10^{-5}$ 6; $\alpha(\text{O})=5.34\times 10^{-6}$ 8; $\alpha(\text{P})=2.60\times 10^{-7}$ 4	
6341.7	51/2 <sup>-</sup>	409.0 3 794.9 3	39 4 100 5	5932.6 5546.8	49/2 <sup>-</sup> 47/2 <sup>-</sup>	E2	0.00522	$\alpha(\text{K})=0.00433$ 6; $\alpha(\text{L})=0.000694$ 10; $\alpha(\text{M})=0.0001545$ 22 $\alpha(\text{N})=3.57\times 10^{-5}$ 5; $\alpha(\text{O})=5.04\times 10^{-6}$ 7; $\alpha(\text{P})=2.47\times 10^{-7}$ 4	
6617.1	51/2 <sup>+</sup>	559.6 <sup>bc</sup> 3 906.9 3	55 <sup>b</sup> 6 100 5	6057.5 5710.2	49/2 <sup>(+)</sup> 47/2 <sup>+</sup>	E2	0.00392	$\alpha(\text{K})=0.00328$ 5; $\alpha(\text{L})=0.000506$ 7; $\alpha(\text{M})=0.0001122$ 16 $\alpha(\text{N})=2.59\times 10^{-5}$ 4; $\alpha(\text{O})=3.69\times 10^{-6}$ 6; $\alpha(\text{P})=1.88\times 10^{-7}$ 3	
6773.9	53/2 <sup>-</sup>	432.2 3 841.3 3	27 3 100 5	6341.7 5932.6	51/2 <sup>-</sup> 49/2 <sup>-</sup>	D(+Q) E2	0.00461	$\alpha(\text{K})=0.00383$ 6; $\alpha(\text{L})=0.000605$ 9; $\alpha(\text{M})=0.0001344$ 19 $\alpha(\text{N})=3.10\times 10^{-5}$ 5; $\alpha(\text{O})=4.40\times 10^{-6}$ 7; $\alpha(\text{P})=2.19\times 10^{-7}$ 3	
6843.5	53/2 <sup>(+)</sup>	226.3 3 675.4 3 785.9 3	7 1 100 5 31 2	6617.1 6168.2 6057.5	51/2 <sup>+</sup> 49/2 <sup>(+)</sup> 49/2 <sup>(+)</sup>	E2 E2	0.00755 0.00535	$\alpha(\text{K})=0.00620$ 9; $\alpha(\text{L})=0.001050$ 15; $\alpha(\text{M})=0.000235$ 4 $\alpha(\text{N})=5.42\times 10^{-5}$ 8; $\alpha(\text{O})=7.58\times 10^{-6}$ 11; $\alpha(\text{P})=3.52\times 10^{-7}$ 5 $\alpha(\text{K})=0.00444$ 7; $\alpha(\text{L})=0.000714$ 10; $\alpha(\text{M})=0.0001590$ 23 $\alpha(\text{N})=3.67\times 10^{-5}$ 6; $\alpha(\text{O})=5.18\times 10^{-6}$ 8; $\alpha(\text{P})=2.53\times 10^{-7}$ 4	
6952.6	53/2 <sup>(+)</sup>	335.6 3 895.1 3	21 2 100 5	6617.1 6057.5	51/2 <sup>+</sup> 49/2 <sup>(+)</sup>	E2	0.00403	$\alpha(\text{K})=0.00337$ 5; $\alpha(\text{L})=0.000522$ 8; $\alpha(\text{M})=0.0001158$ 17 $\alpha(\text{N})=2.68\times 10^{-5}$ 4; $\alpha(\text{O})=3.81\times 10^{-6}$ 6; $\alpha(\text{P})=1.93\times 10^{-7}$ 3	
7194.5	55/2 <sup>-</sup>	420.5 3 852.7 3	23 3 100 5	6773.9 6341.7	53/2 <sup>-</sup> 51/2 <sup>-</sup>	E2	0.00448	$\alpha(\text{K})=0.00373$ 6; $\alpha(\text{L})=0.000585$ 9; $\alpha(\text{M})=0.0001301$ 19 $\alpha(\text{N})=3.00\times 10^{-5}$ 5; $\alpha(\text{O})=4.26\times 10^{-6}$ 6; $\alpha(\text{P})=2.13\times 10^{-7}$ 3	
7292.1	57/2 <sup>(+)</sup>	448.7 3	100	6843.5	53/2 <sup>(+)</sup>	E2	0.0210	$\alpha(\text{K})=0.01662$ 24; $\alpha(\text{L})=0.00341$ 5; $\alpha(\text{M})=0.000777$ 11 $\alpha(\text{N})=0.000178$ 3; $\alpha(\text{O})=2.41\times 10^{-5}$ 4; $\alpha(\text{P})=9.14\times 10^{-7}$ 13	
7421.0	(55/2 <sup>-</sup> )	845.0 3	100	6576.0	(51/2 <sup>-</sup> )				
7535.6	55/2 <sup>+</sup>	583.0 <sup>c</sup> 3 918.5 3	100 5 50 3	6952.6 6617.1	53/2 <sup>(+)</sup> 51/2 <sup>+</sup>	E2	0.00382	$\alpha(\text{K})=0.00319$ 5; $\alpha(\text{L})=0.000491$ 7; $\alpha(\text{M})=0.0001089$ 16 $\alpha(\text{N})=2.52\times 10^{-5}$ 4; $\alpha(\text{O})=3.59\times 10^{-6}$ 5; $\alpha(\text{P})=1.83\times 10^{-7}$ 3	
7680.1	57/2 <sup>-</sup>	485.6 3 906.5 3	58 6 100 5	7194.5 6773.9	55/2 <sup>-</sup> 53/2 <sup>-</sup>	E2	0.00393	$\alpha(\text{K})=0.00328$ 5; $\alpha(\text{L})=0.000507$ 8; $\alpha(\text{M})=0.0001124$ 16 $\alpha(\text{N})=2.60\times 10^{-5}$ 4; $\alpha(\text{O})=3.70\times 10^{-6}$ 6; $\alpha(\text{P})=1.88\times 10^{-7}$ 3	
7711.2	57/2 <sup>-</sup>	937.1 3	100	6773.9	53/2 <sup>-</sup>	E2	0.00366	$\alpha(\text{K})=0.00306$ 5; $\alpha(\text{L})=0.000469$ 7; $\alpha(\text{M})=0.0001039$ 15 $\alpha(\text{N})=2.40\times 10^{-5}$ 4; $\alpha(\text{O})=3.42\times 10^{-6}$ 5; $\alpha(\text{P})=1.753\times 10^{-7}$ 25	

Adopted Levels, Gammas (continued)

$\gamma(^{155}\text{Ho})$  (continued)

$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult.#	$\alpha\&$	Comments
7820.3	57/2 <sup>(+)</sup>	867.7 3	100	6952.6	53/2 <sup>(+)</sup>	E2	0.00431	$\alpha(\text{K})=0.00359$ 5; $\alpha(\text{L})=0.000562$ 8; $\alpha(\text{M})=0.0001247$ 18 $\alpha(\text{N})=2.88\times 10^{-5}$ 4; $\alpha(\text{O})=4.09\times 10^{-6}$ 6; $\alpha(\text{P})=2.06\times 10^{-7}$ 3
8053.9	59/2 <sup>-</sup>	374.2 3 859.2 3	69 7 100 5	7680.1 7194.5	57/2 <sup>-</sup> 55/2 <sup>-</sup>	E2	0.00440	$\alpha(\text{K})=0.00367$ 6; $\alpha(\text{L})=0.000575$ 8; $\alpha(\text{M})=0.0001277$ 18 $\alpha(\text{N})=2.95\times 10^{-5}$ 5; $\alpha(\text{O})=4.19\times 10^{-6}$ 6; $\alpha(\text{P})=2.10\times 10^{-7}$ 3
8222.1	61/2 <sup>(+)</sup>	401.9 3	34 3	7820.3	57/2 <sup>(+)</sup>	E2	0.0284	$\alpha(\text{K})=0.0221$ 4; $\alpha(\text{L})=0.00486$ 7; $\alpha(\text{M})=0.001112$ 16 $\alpha(\text{N})=0.000255$ 4; $\alpha(\text{O})=3.41\times 10^{-5}$ 5; $\alpha(\text{P})=1.202\times 10^{-6}$ 17
		930.1 3	100 5	7292.1	57/2 <sup>(+)</sup>	E2	0.00372	$\alpha(\text{K})=0.00311$ 5; $\alpha(\text{L})=0.000477$ 7; $\alpha(\text{M})=0.0001058$ 15 $\alpha(\text{N})=2.44\times 10^{-5}$ 4; $\alpha(\text{O})=3.48\times 10^{-6}$ 5; $\alpha(\text{P})=1.780\times 10^{-7}$ 25
8240.9	59/2	559.8 3 820.0 3 948.8 3	80 8 49 5 100 10	7680.1 7421.0 7292.1	57/2 <sup>-</sup> (55/2 <sup>-</sup> ) 57/2 <sup>(+)</sup>	D		$E_\gamma$ : poor fit, level-energy difference=560.8.
8273.6	(59/2 <sup>-</sup> )	851.5	100	7421.0	(55/2 <sup>-</sup> )			
8387.4	61/2 <sup>(+)</sup>	1095.1 3	100	7292.1	57/2 <sup>(+)</sup>	E2	0.00266	$\alpha(\text{K})=0.00223$ 4; $\alpha(\text{L})=0.000331$ 5; $\alpha(\text{M})=7.30\times 10^{-5}$ 11 $\alpha(\text{N})=1.688\times 10^{-5}$ 24; $\alpha(\text{O})=2.42\times 10^{-6}$ 4; $\alpha(\text{P})=1.281\times 10^{-7}$ 18
8486.6	61/2 <sup>-</sup>	213.0 3 244.8 3 775.2 3	12 1 100 5 31 3	8273.6 8240.9 7711.2	(59/2 <sup>-</sup> ) 59/2 57/2 <sup>-</sup>	D(+Q) D(+Q) E2	0.00552	$E_\gamma$ : poor fit, level-energy difference=245.7. $\alpha(\text{K})=0.00457$ 7; $\alpha(\text{L})=0.000738$ 11; $\alpha(\text{M})=0.0001645$ 23 $\alpha(\text{N})=3.80\times 10^{-5}$ 6; $\alpha(\text{O})=5.36\times 10^{-6}$ 8; $\alpha(\text{P})=2.61\times 10^{-7}$ 4
8515.5	61/2 <sup>-</sup>	807.6 3 461.7 3 804.3 3 835.2 3	25 5 66 7 82 8 100 5	7680.1 8053.9 7711.2 7680.1	57/2 <sup>-</sup> 59/2 <sup>-</sup> 57/2 <sup>-</sup> 57/2 <sup>-</sup>	E2	0.00468	$\alpha(\text{K})=0.00389$ 6; $\alpha(\text{L})=0.000615$ 9; $\alpha(\text{M})=0.0001368$ 20 $\alpha(\text{N})=3.16\times 10^{-5}$ 5; $\alpha(\text{O})=4.48\times 10^{-6}$ 7; $\alpha(\text{P})=2.23\times 10^{-7}$ 4
8742.1	(63/2 <sup>-</sup> )	226.6 3 255.4 3 354.9 3 468.2	76 8 100 9 44 4 <14	8515.5 8486.6 8387.4 8273.6	61/2 <sup>-</sup> 61/2 <sup>-</sup> 61/2 <sup>(+)</sup> (59/2 <sup>-</sup> )	D(+Q) D(+Q) D D		
8905.5	65/2 <sup>-</sup>	519.8 3 163.4 3 418.8 3	78 8 100 5 89 4	8222.1 8742.1 8486.6	61/2 <sup>(+)</sup> (63/2 <sup>-</sup> ) 61/2 <sup>-</sup>	D D E2	0.0253	$\alpha(\text{K})=0.0199$ 3; $\alpha(\text{L})=0.00425$ 6; $\alpha(\text{M})=0.000970$ 14 $\alpha(\text{N})=0.000222$ 4; $\alpha(\text{O})=2.99\times 10^{-5}$ 5; $\alpha(\text{P})=1.084\times 10^{-6}$ 16
8924.5	63/2 <sup>-</sup>	408.9 3	39 4	8515.5	61/2 <sup>-</sup>	(M1+E2)	0.041 14	$\alpha(\text{K})=0.033$ 13; $\alpha(\text{L})=0.0056$ 10; $\alpha(\text{M})=0.00125$ 20 $\alpha(\text{N})=0.00029$ 5; $\alpha(\text{O})=4.1\times 10^{-5}$ 9; $\alpha(\text{P})=1.97\times 10^{-6}$ 82
9086.9	65/2 <sup>(+)</sup>	870.7 3 864.9 3	100 10 100	8053.9 8222.1	59/2 <sup>-</sup> 61/2 <sup>(+)</sup>	E2	0.00434	$\alpha(\text{K})=0.00362$ 5; $\alpha(\text{L})=0.000566$ 8; $\alpha(\text{M})=0.0001257$ 18 $\alpha(\text{N})=2.90\times 10^{-5}$ 4; $\alpha(\text{O})=4.12\times 10^{-6}$ 6; $\alpha(\text{P})=2.07\times 10^{-7}$ 3
9279.4	65/2 <sup>(+)</sup>	892.5 3	100 5	8387.4	61/2 <sup>(+)</sup>	E2	0.00406	$\alpha(\text{K})=0.00339$ 5; $\alpha(\text{L})=0.000525$ 8; $\alpha(\text{M})=0.0001166$ 17 $\alpha(\text{N})=2.69\times 10^{-5}$ 4; $\alpha(\text{O})=3.83\times 10^{-6}$ 6; $\alpha(\text{P})=1.94\times 10^{-7}$ 3
		1057.1 3	81 8	8222.1	61/2 <sup>(+)</sup>	E2	0.00285	$\alpha(\text{K})=0.00240$ 4; $\alpha(\text{L})=0.000357$ 5; $\alpha(\text{M})=7.89\times 10^{-5}$ 11 $\alpha(\text{N})=1.83\times 10^{-5}$ 3; $\alpha(\text{O})=2.62\times 10^{-6}$ 4; $\alpha(\text{P})=1.374\times 10^{-7}$ 20

**Adopted Levels, Gammas (continued)**

$\gamma(^{155}\text{Ho})$  (continued)

$E_i$ (level)	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult.#	$\alpha\&$	Comments
9430.5	65/2 <sup>(+)</sup>	1042.4 3 1208.8 3	100 10 90 10	8387.4 8222.1	61/2 <sup>(+)</sup> 61/2 <sup>(+)</sup>	E2	0.00219	$\alpha(\text{K})=0.00184$ 3; $\alpha(\text{L})=0.000267$ 4; $\alpha(\text{M})=5.88\times 10^{-5}$ 9 $\alpha(\text{N})=1.362\times 10^{-5}$ 19; $\alpha(\text{O})=1.96\times 10^{-6}$ 3; $\alpha(\text{P})=1.055\times 10^{-7}$ 15; $\alpha(\text{IPF})=6.16\times 10^{-6}$ 10
9543.7	(67/2 <sup>-</sup> )	638.1 3 801.8 3	100 5 17 2	8905.5 8742.1	65/2 <sup>-</sup> (63/2 <sup>-</sup> )	(M1+E2) E2	0.0130 44 0.00512	$\alpha(\text{K})=0.0109$ 39; $\alpha(\text{L})=0.00165$ 43; $\alpha(\text{M})=3.66\times 10^{-4}$ 92 $\alpha(\text{N})=8.5\times 10^{-5}$ 22; $\alpha(\text{O})=1.22\times 10^{-5}$ 34; $\alpha(\text{P})=6.4\times 10^{-7}$ 25 $\alpha(\text{K})=0.00425$ 6; $\alpha(\text{L})=0.000679$ 10; $\alpha(\text{M})=0.0001512$ 22 $\alpha(\text{N})=3.49\times 10^{-5}$ 5; $\alpha(\text{O})=4.94\times 10^{-6}$ 7; $\alpha(\text{P})=2.43\times 10^{-7}$ 4
9617.7	65/2 <sup>-</sup>	1102.2 3	100	8515.5	61/2 <sup>-</sup>	E2	0.00262	$\alpha(\text{K})=0.00220$ 3; $\alpha(\text{L})=0.000326$ 5; $\alpha(\text{M})=7.19\times 10^{-5}$ 10 $\alpha(\text{N})=1.664\times 10^{-5}$ 24; $\alpha(\text{O})=2.39\times 10^{-6}$ 4; $\alpha(\text{P})=1.265\times 10^{-7}$ 18; $\alpha(\text{IPF})=2.87\times 10^{-7}$ 6
9649.3	(67/2)	743.7 3	100	8905.5	65/2 <sup>-</sup>	D+Q	0.0089 29	$\alpha(\text{K})=0.0075$ 26; $\alpha(\text{L})=0.00112$ 30; $\alpha(\text{M})=2.47\times 10^{-4}$ 64 $\alpha(\text{N})=5.7\times 10^{-5}$ 15; $\alpha(\text{O})=8.2\times 10^{-6}$ 23; $\alpha(\text{P})=4.4\times 10^{-7}$ 16
9668.0	67/2	581.1 3	100	9086.9	65/2 <sup>(+)</sup>	D(+Q)		
9958.4	67/2 <sup>-</sup>	340.6 3 1033.9 3	100 10 70 7	9617.7 8924.5	65/2 <sup>-</sup> 63/2 <sup>-</sup>	E2	0.00299	$\alpha(\text{K})=0.00251$ 4; $\alpha(\text{L})=0.000375$ 6; $\alpha(\text{M})=8.29\times 10^{-5}$ 12 $\alpha(\text{N})=1.92\times 10^{-5}$ 3; $\alpha(\text{O})=2.75\times 10^{-6}$ 4; $\alpha(\text{P})=1.437\times 10^{-7}$ 21
10177.6	69/2 <sup>(+)</sup>	746.8 3 898.4 3	88 9 100 10	9430.5 9279.4	65/2 <sup>(+)</sup> 65/2 <sup>(+)</sup>	E2 E2	0.00600 0.00400	$\alpha(\text{K})=0.00496$ 7; $\alpha(\text{L})=0.000811$ 12; $\alpha(\text{M})=0.000181$ 3 $\alpha(\text{N})=4.17\times 10^{-5}$ 6; $\alpha(\text{O})=5.88\times 10^{-6}$ 9; $\alpha(\text{P})=2.82\times 10^{-7}$ 4 $\alpha(\text{K})=0.00334$ 5; $\alpha(\text{L})=0.000517$ 8; $\alpha(\text{M})=0.0001148$ 16 $\alpha(\text{N})=2.65\times 10^{-5}$ 4; $\alpha(\text{O})=3.77\times 10^{-6}$ 6; $\alpha(\text{P})=1.91\times 10^{-7}$ 3
10290.3	71/2	622.4 3	100	9668.0	67/2	E2	0.00915	$\alpha(\text{K})=0.00747$ 11; $\alpha(\text{L})=0.001307$ 19; $\alpha(\text{M})=0.000294$ 5 $\alpha(\text{N})=6.76\times 10^{-5}$ 10; $\alpha(\text{O})=9.41\times 10^{-6}$ 14; $\alpha(\text{P})=4.22\times 10^{-7}$ 6
10422.7	(71/2 <sup>-</sup> )	879.1 3	100	9543.7	(67/2 <sup>-</sup> )	E2	0.00419	$\alpha(\text{K})=0.00350$ 5; $\alpha(\text{L})=0.000544$ 8; $\alpha(\text{M})=0.0001209$ 17 $\alpha(\text{N})=2.79\times 10^{-5}$ 4; $\alpha(\text{O})=3.97\times 10^{-6}$ 6; $\alpha(\text{P})=2.00\times 10^{-7}$ 3
10519.9	69/2 <sup>-</sup>	902.1 3	100	9617.7	65/2 <sup>-</sup>	E2	0.00397	$\alpha(\text{K})=0.00331$ 5; $\alpha(\text{L})=0.000512$ 8; $\alpha(\text{M})=0.0001137$ 16 $\alpha(\text{N})=2.63\times 10^{-5}$ 4; $\alpha(\text{O})=3.74\times 10^{-6}$ 6; $\alpha(\text{P})=1.90\times 10^{-7}$ 3
10735.6	71/2	1086.2 3	100	9649.3	(67/2)	E2	0.00270	$\alpha(\text{K})=0.00227$ 4; $\alpha(\text{L})=0.000336$ 5; $\alpha(\text{M})=7.43\times 10^{-5}$ 11 $\alpha(\text{N})=1.719\times 10^{-5}$ 24; $\alpha(\text{O})=2.47\times 10^{-6}$ 4; $\alpha(\text{P})=1.302\times 10^{-7}$ 19
10858.5	(71/2 <sup>-</sup> )	900.1 3	100	9958.4	67/2 <sup>-</sup>			
11036.2	(75/2 <sup>-</sup> )	613.5 3	100	10422.7	(71/2 <sup>-</sup> )	E2	0.00947	$\alpha(\text{K})=0.00773$ 11; $\alpha(\text{L})=0.001360$ 20; $\alpha(\text{M})=0.000306$ 5 $\alpha(\text{N})=7.04\times 10^{-5}$ 10; $\alpha(\text{O})=9.78\times 10^{-6}$ 14; $\alpha(\text{P})=4.36\times 10^{-7}$ 7
11159.9	(73/2 <sup>+</sup> )	869.7 3 982.2 3	100 11 52 5	10290.3 10177.6	71/2 69/2 <sup>(+)</sup>			
11323.6	(75/2)	588.0 3	100	10735.6	71/2			
11330.7	(73/2 <sup>-</sup> )	810.8 3	100	10519.9	69/2 <sup>-</sup>			
11674.4	(79/2 <sup>-</sup> )	350.7 3 638.3 3	26 3 100 5	11323.6 11036.2	(75/2) (75/2 <sup>-</sup> )	E2	0.00862	$\alpha(\text{K})=0.00705$ 10; $\alpha(\text{L})=0.001221$ 18; $\alpha(\text{M})=0.000274$ 4 $\alpha(\text{N})=6.31\times 10^{-5}$ 9; $\alpha(\text{O})=8.79\times 10^{-6}$ 13; $\alpha(\text{P})=3.99\times 10^{-7}$ 6
11810.4?		487.0 <sup>c</sup>	100	11323.6	(75/2)			
12195.8	(77/2)	1159.6 3	100	11036.2	(75/2 <sup>-</sup> )	D(+Q)	1.01×10 <sup>-3</sup>	$\alpha(\text{K})=0.000852$ 12; $\alpha(\text{L})=0.0001133$ 16; $\alpha(\text{M})=2.47\times 10^{-5}$ 4

## Adopted Levels, Gammas (continued)

$\gamma(^{155}\text{Ho})$ (continued)								
$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult.#	$\alpha\&$	Comments
								$\alpha(\text{N})=5.72\times 10^{-6}$ 8; $\alpha(\text{O})=8.32\times 10^{-7}$ 12; $\alpha(\text{P})=4.72\times 10^{-8}$ 7; $\alpha(\text{IPF})=9.98\times 10^{-6}$ 16
12454.3	(81/2)	258.7	<33	12195.8	(77/2)			
		779.7 3	100 3	11674.4	(79/2 <sup>-</sup> )			
12597.2	(81/2)	922.9 3	100	11674.4	(79/2 <sup>-</sup> )	D		
13139.2	(85/2)	684.8 3	100	12454.3	(81/2)	E2	0.00731	$\alpha(\text{K})=0.00601$ 9; $\alpha(\text{L})=0.001013$ 15; $\alpha(\text{M})=0.000227$ 4 $\alpha(\text{N})=5.23\times 10^{-5}$ 8; $\alpha(\text{O})=7.32\times 10^{-6}$ 11; $\alpha(\text{P})=3.41\times 10^{-7}$ 5
13489.7	(85/2)	892.7 3	100	12597.2	(81/2)	E2	0.00406	$\alpha(\text{K})=0.00339$ 5; $\alpha(\text{L})=0.000525$ 8; $\alpha(\text{M})=0.0001165$ 17 $\alpha(\text{N})=2.69\times 10^{-5}$ 4; $\alpha(\text{O})=3.83\times 10^{-6}$ 6; $\alpha(\text{P})=1.94\times 10^{-7}$ 3
13557.0	(83/2 <sup>-</sup> )	1882.6 3	100	11674.4	(79/2 <sup>-</sup> )	E2	$1.17\times 10^{-3}$	$\alpha(\text{K})=0.000799$ 12; $\alpha(\text{L})=0.0001097$ 16; $\alpha(\text{M})=2.40\times 10^{-5}$ 4 $\alpha(\text{N})=5.56\times 10^{-6}$ 8; $\alpha(\text{O})=8.10\times 10^{-7}$ 12; $\alpha(\text{P})=4.58\times 10^{-8}$ 7; $\alpha(\text{IPF})=0.000229$ 4
13601.1	(83/2 <sup>-</sup> )	1926.6 3	100	11674.4	(79/2 <sup>-</sup> )	E2	$1.15\times 10^{-3}$	$\alpha(\text{K})=0.000766$ 11; $\alpha(\text{L})=0.0001049$ 15; $\alpha(\text{M})=2.30\times 10^{-5}$ 4 $\alpha(\text{N})=5.32\times 10^{-6}$ 8; $\alpha(\text{O})=7.75\times 10^{-7}$ 11; $\alpha(\text{P})=4.39\times 10^{-8}$ 7; $\alpha(\text{IPF})=0.000249$ 4
13759.2	(87/2)	269.6 3	100 10	13489.7	(85/2)	(D+Q)		
		620.0	<50	13139.2	(85/2)			
13989.8	(85/2 <sup>-</sup> )	388.7 3	100 14	13601.1	(83/2 <sup>-</sup> )	D(+Q)		
		432.8 3	100 14	13557.0	(83/2 <sup>-</sup> )	(M1+E2)	0.035 12	$\alpha(\text{K})=0.029$ 11; $\alpha(\text{L})=0.0047$ 10; $\alpha(\text{M})=0.00106$ 19 $\alpha(\text{N})=0.00024$ 5; $\alpha(\text{O})=3.5\times 10^{-5}$ 8; $\alpha(\text{P})=1.70\times 10^{-6}$ 71
14195.5	(85/2)	1598.3 3	100	12597.2	(81/2)	E2	$1.38\times 10^{-3}$	$\alpha(\text{K})=0.001081$ 16; $\alpha(\text{L})=0.0001509$ 22; $\alpha(\text{M})=3.31\times 10^{-5}$ 5 $\alpha(\text{N})=7.67\times 10^{-6}$ 11; $\alpha(\text{O})=1.113\times 10^{-6}$ 16; $\alpha(\text{P})=6.20\times 10^{-8}$ 9; $\alpha(\text{IPF})=0.0001075$ 15
14202.8	(89/2)	443.7 3	100 8	13759.2	(87/2)	(M1+E2)	0.033 11	$\alpha(\text{K})=0.027$ 10; $\alpha(\text{L})=0.0044$ 9; $\alpha(\text{M})=0.00099$ 19 $\alpha(\text{N})=0.00023$ 5; $\alpha(\text{O})=3.2\times 10^{-5}$ 8; $\alpha(\text{P})=1.60\times 10^{-6}$ 66
		1063.4 3	8 1	13139.2	(85/2)			
14554.4	(87/2 <sup>-</sup> )	997.4 3	100	13557.0	(83/2 <sup>-</sup> )	E2	0.00322	$\alpha(\text{K})=0.00269$ 4; $\alpha(\text{L})=0.000407$ 6; $\alpha(\text{M})=9.00\times 10^{-5}$ 13 $\alpha(\text{N})=2.08\times 10^{-5}$ 3; $\alpha(\text{O})=2.97\times 10^{-6}$ 5; $\alpha(\text{P})=1.544\times 10^{-7}$ 22
14699.9	(87/2 <sup>-</sup> )	1142.9 3	100	13557.0	(83/2 <sup>-</sup> )	E2	0.00244	$\alpha(\text{K})=0.00205$ 3; $\alpha(\text{L})=0.000301$ 5; $\alpha(\text{M})=6.64\times 10^{-5}$ 10 $\alpha(\text{N})=1.538\times 10^{-5}$ 22; $\alpha(\text{O})=2.21\times 10^{-6}$ 3; $\alpha(\text{P})=1.177\times 10^{-7}$ 17; $\alpha(\text{IPF})=1.236\times 10^{-6}$ 21
14888.5		1287.5 <sup>c</sup>		13601.1	(83/2 <sup>-</sup> )			
		1331.5	100	13557.0	(83/2 <sup>-</sup> )			

<sup>†</sup> When the same  $E_\gamma$  was measured in the  $\varepsilon$  decay dataset and in the reaction datasets, the more precise value in the  $\varepsilon$  decay is adopted. For the reaction datasets (that are similar), the  $E_\gamma$  values from the  $^{124}\text{Sn}(^{37}\text{Cl},6n\gamma)$  dataset set were preferred because the measurement is the most extensive, more recent, and it also gives  $E_\gamma$  uncertainties (while the (HI,xn $\gamma$ ) does not).

<sup>‡</sup> From  $\varepsilon$  decay dataset for  $\gamma$ 's from levels  $\leq 683$  and from  $^{124}\text{Sn}(^{37}\text{Cl},6n\gamma)$  dataset for  $\gamma$ 's from levels populated in this and in (HI,xn $\gamma$ ) datasets (from the latter if exclusively measured therein); exceptions are noted in comments.

**Adopted Levels, Gammas (continued)**

$\gamma(^{155}\text{Ho})$  (continued)

# For those levels populated in the  $\varepsilon$  decay dataset, the values are obtained from the  $\alpha(K)\text{exp}$  data. For those populated in the  $^{124}\text{Sn}(^{37}\text{Cl},6n\gamma)$  or  $(\text{HI},\text{Xn}\gamma)$  reaction datasets, they are deduced from  $\gamma(\theta)$  data (for the first reaction by a so called angular-intensity ratio method – see the dataset for definition). For both of these datasets quadrupole transitions are assumed to be stretched E2 (rather than M2), which are generally observed in the heavy ion reactions. For dipole transitions where the electric or magnetic character is more difficult to assess without polarization measurements D character was generally adopted except for cases where the measured mixing ratio of the Q component suggests that M1+E2 can be adopted (the E1 transitions being rather pure dipole).

@ From  $(\text{HI},\text{xn}\gamma)$ . The positive signs have been inserted by the evaluator, since [1984Ha35](#) do not include them. For  $^{124}\text{Sn}(^{37}\text{Cl},6n\gamma)$  [2015Re03](#) did not measure mixing ratios.

& [Additional information 1.](#)

<sup>a</sup> [Additional information 2.](#)

<sup>b</sup> Multiply placed with intensity suitably divided.

<sup>c</sup> Placement of transition in the level scheme is uncertain.

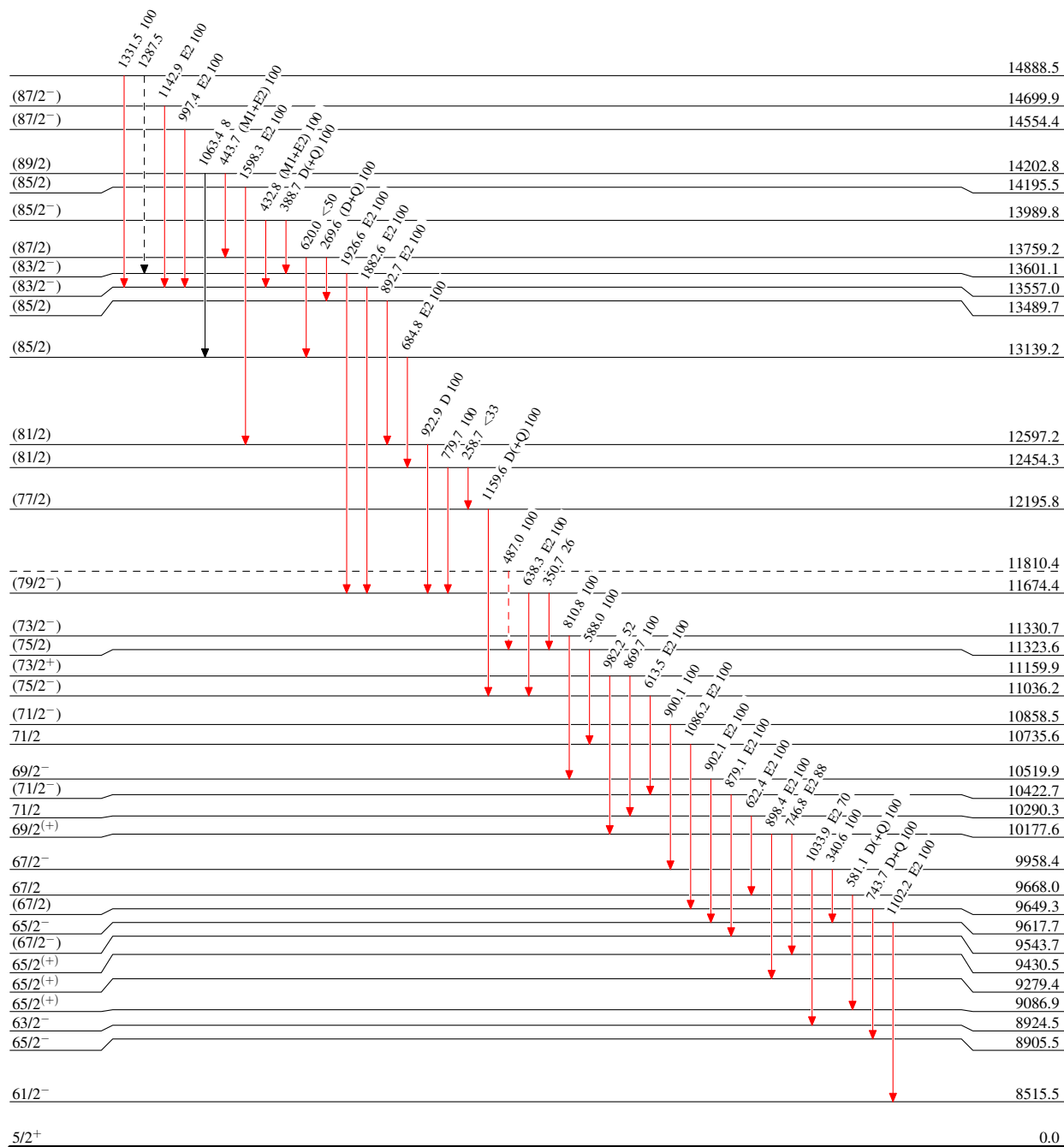
**Adopted Levels, Gammas**

Legend

**Level Scheme**

Intensities: Type not specified

- I<sub>γ</sub> < 2% × I<sub>γ</sub><sup>max</sup>
- I<sub>γ</sub> < 10% × I<sub>γ</sub><sup>max</sup>
- I<sub>γ</sub> > 10% × I<sub>γ</sub><sup>max</sup>
- - - - - → γ Decay (Uncertain)





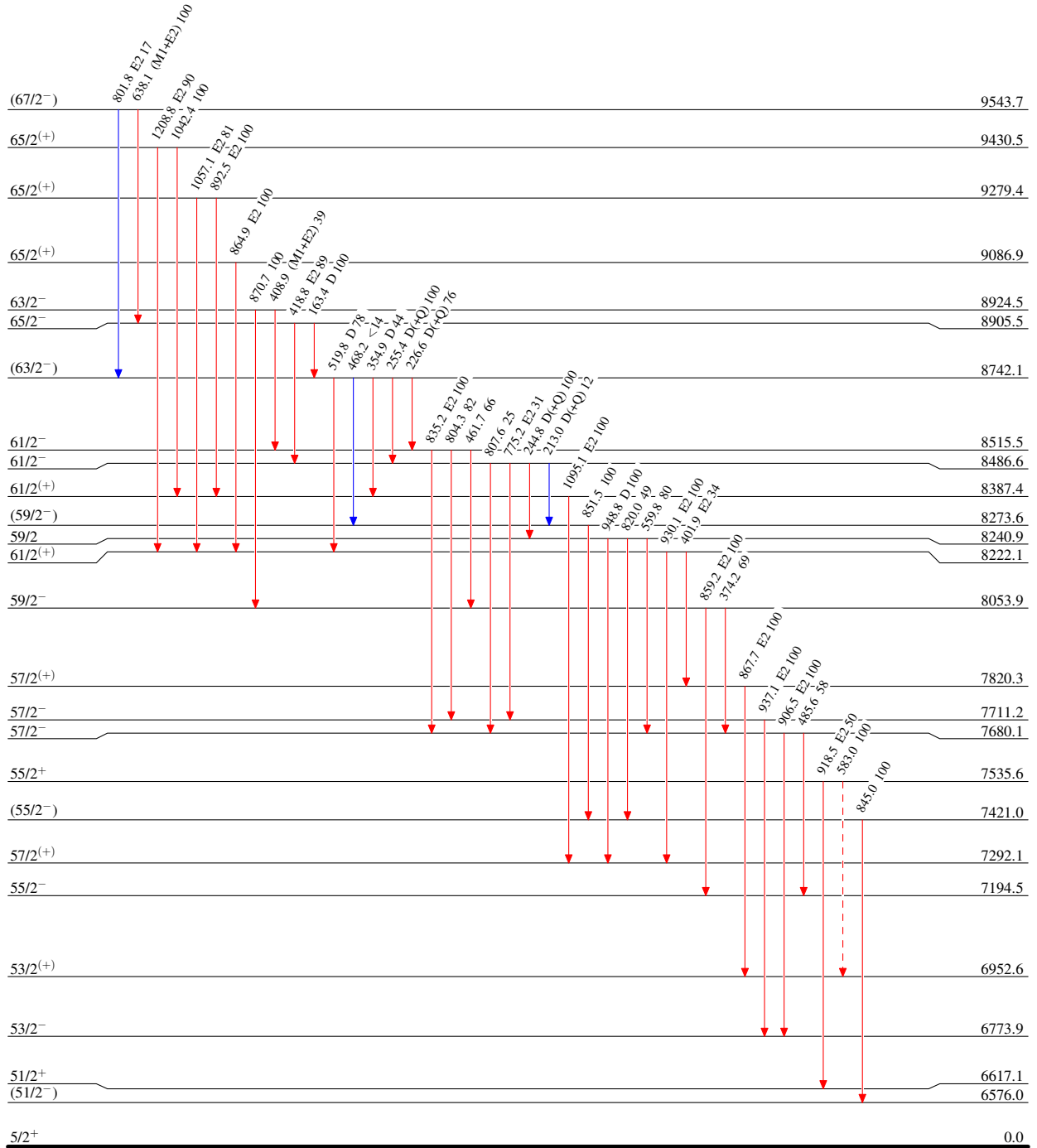
**Adopted Levels, Gammas**

## Legend

**Level Scheme (continued)**

Intensities: Type not specified

- ▶  $I_\gamma < 2\% \times I_\gamma^{max}$
- ▶  $I_\gamma < 10\% \times I_\gamma^{max}$
- ▶  $I_\gamma > 10\% \times I_\gamma^{max}$
- - - -▶  $\gamma$  Decay (Uncertain)



48 min 2

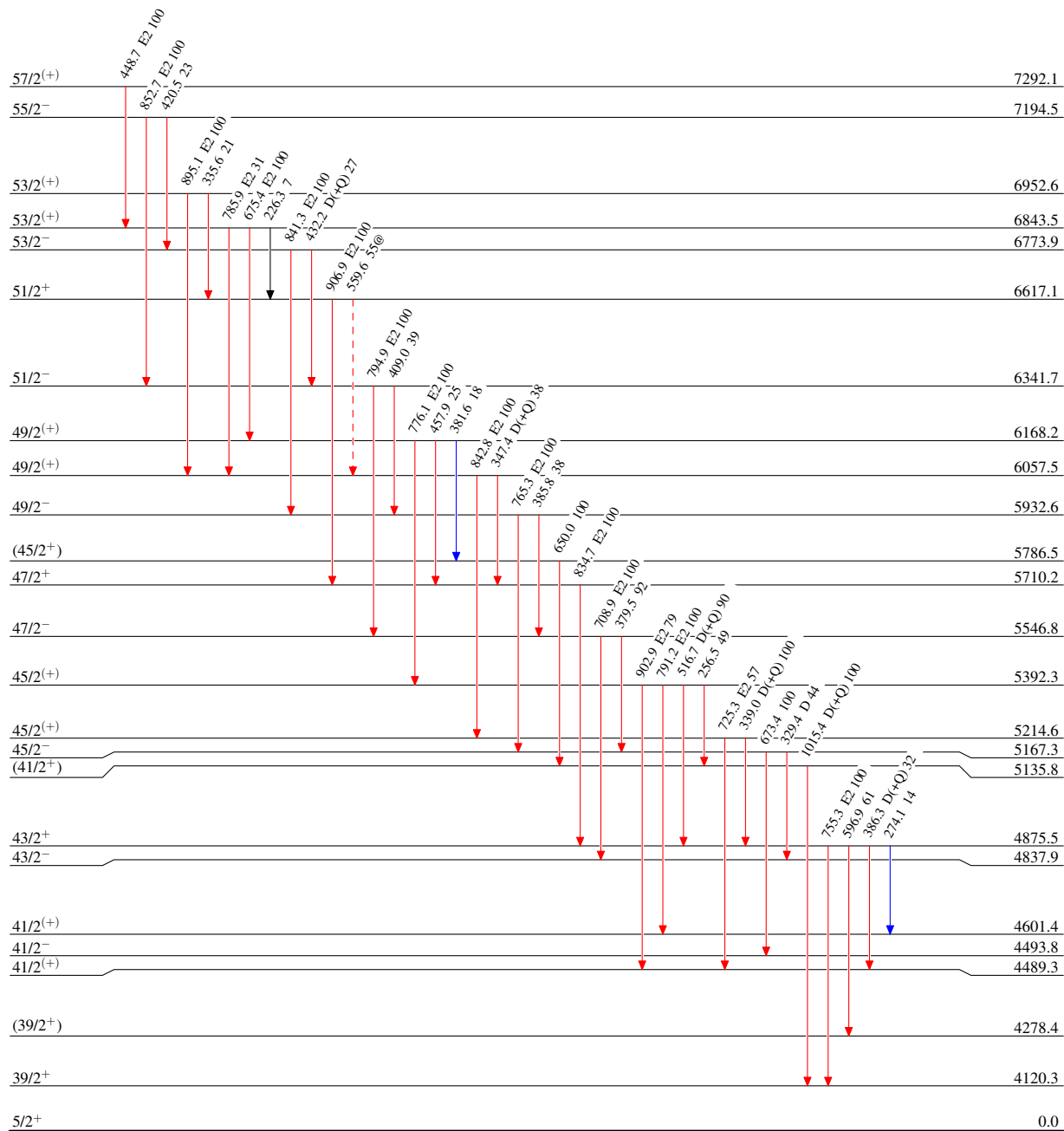
**Adopted Levels, Gammas**

**Level Scheme (continued)**

Intensities: Type not specified  
 @ Multiply placed: intensity suitably divided

**Legend**

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- - - - - →  $\gamma$  Decay (Uncertain)



48 min 2

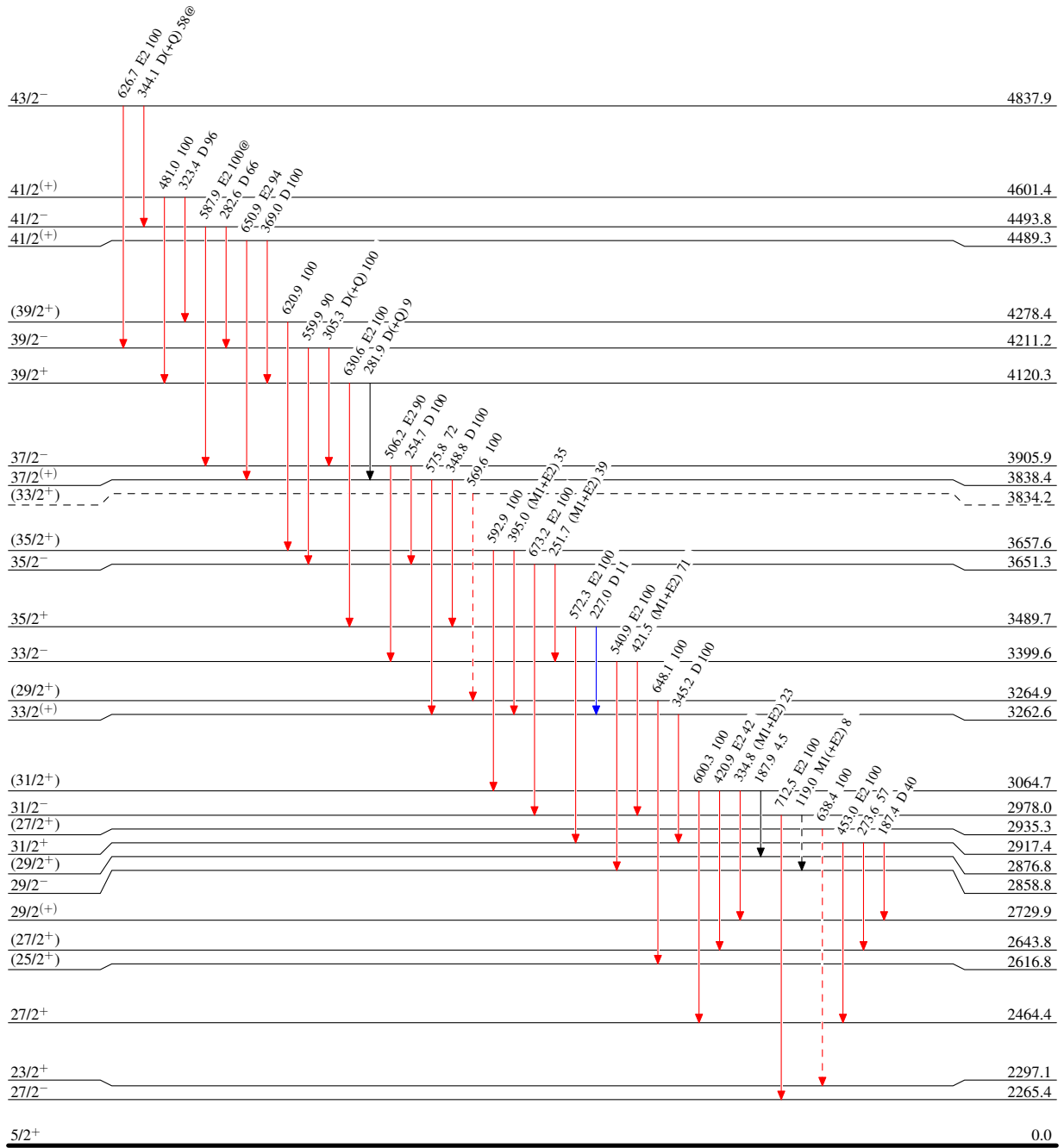
**Adopted Levels, Gammas**

**Level Scheme (continued)**

Intensities: Type not specified  
 @ Multiply placed: intensity suitably divided

**Legend**

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- - - - - →  $\gamma$  Decay (Uncertain)



<sup>155</sup>Ho<sub>88</sub>

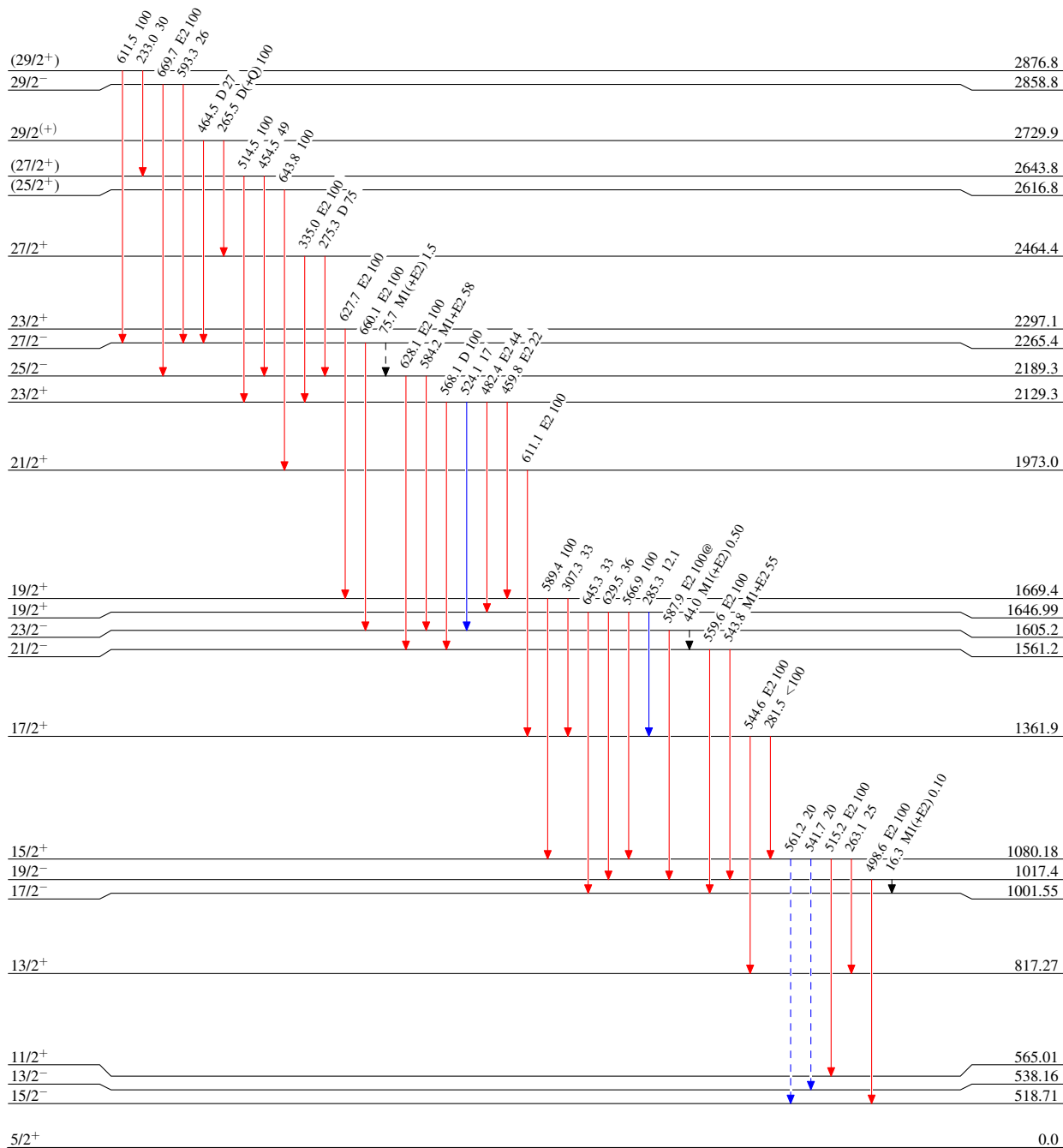
**Adopted Levels, Gammas**

**Level Scheme (continued)**

Intensities: Type not specified  
 @ Multiply placed: intensity suitably divided

**Legend**

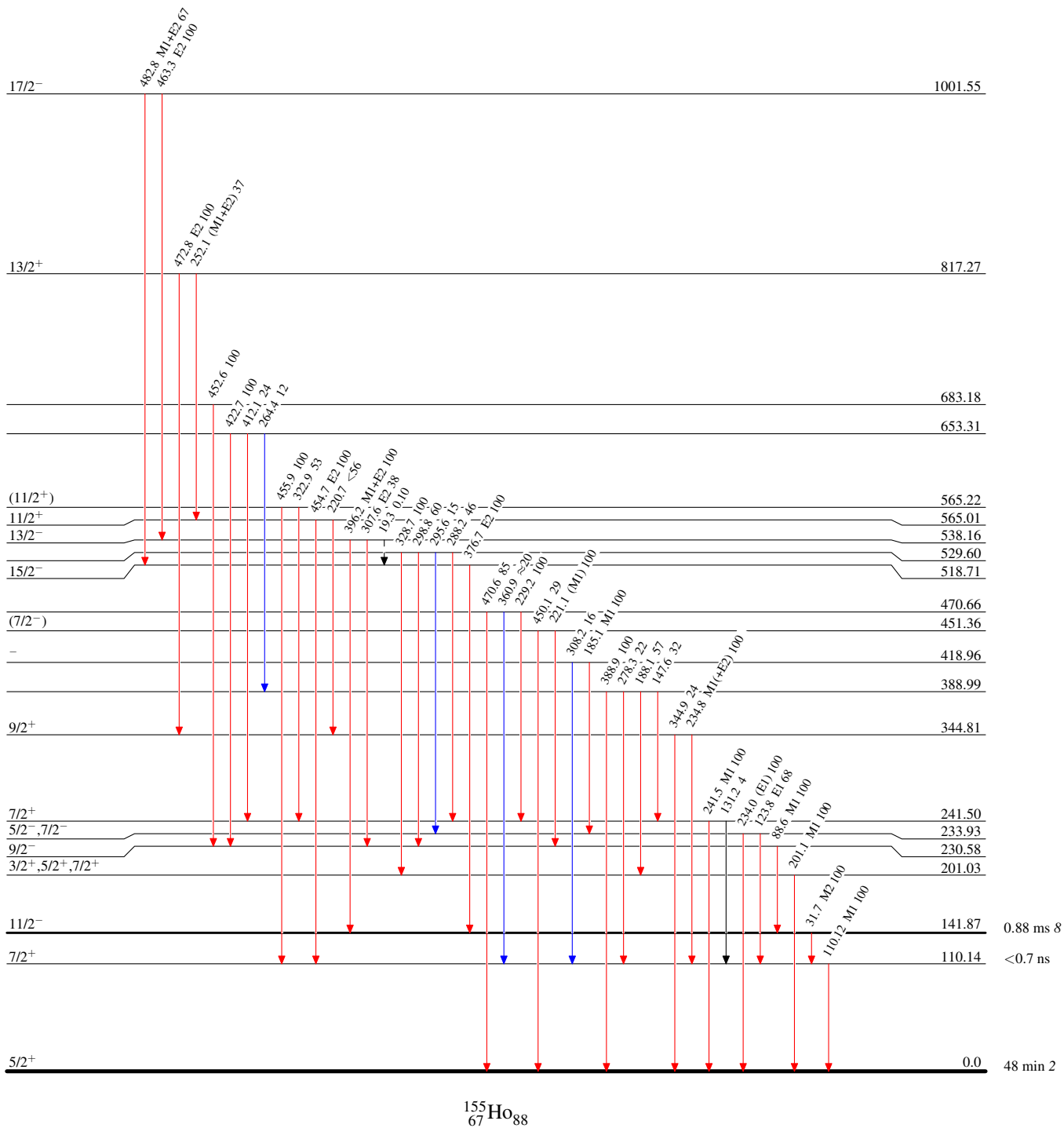
- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- - - - -  $\gamma$  Decay (Uncertain)



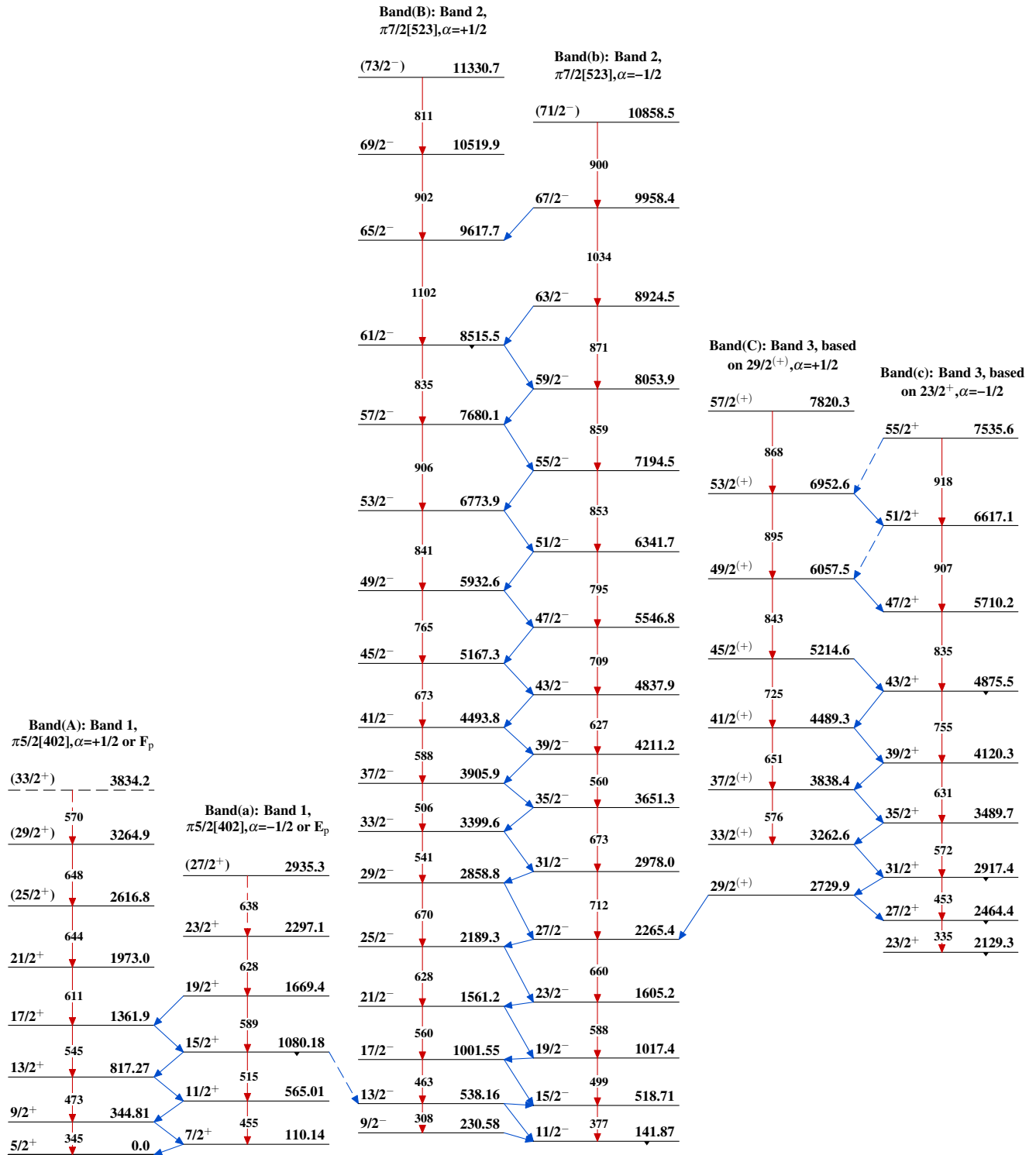
**Adopted Levels, Gammas**

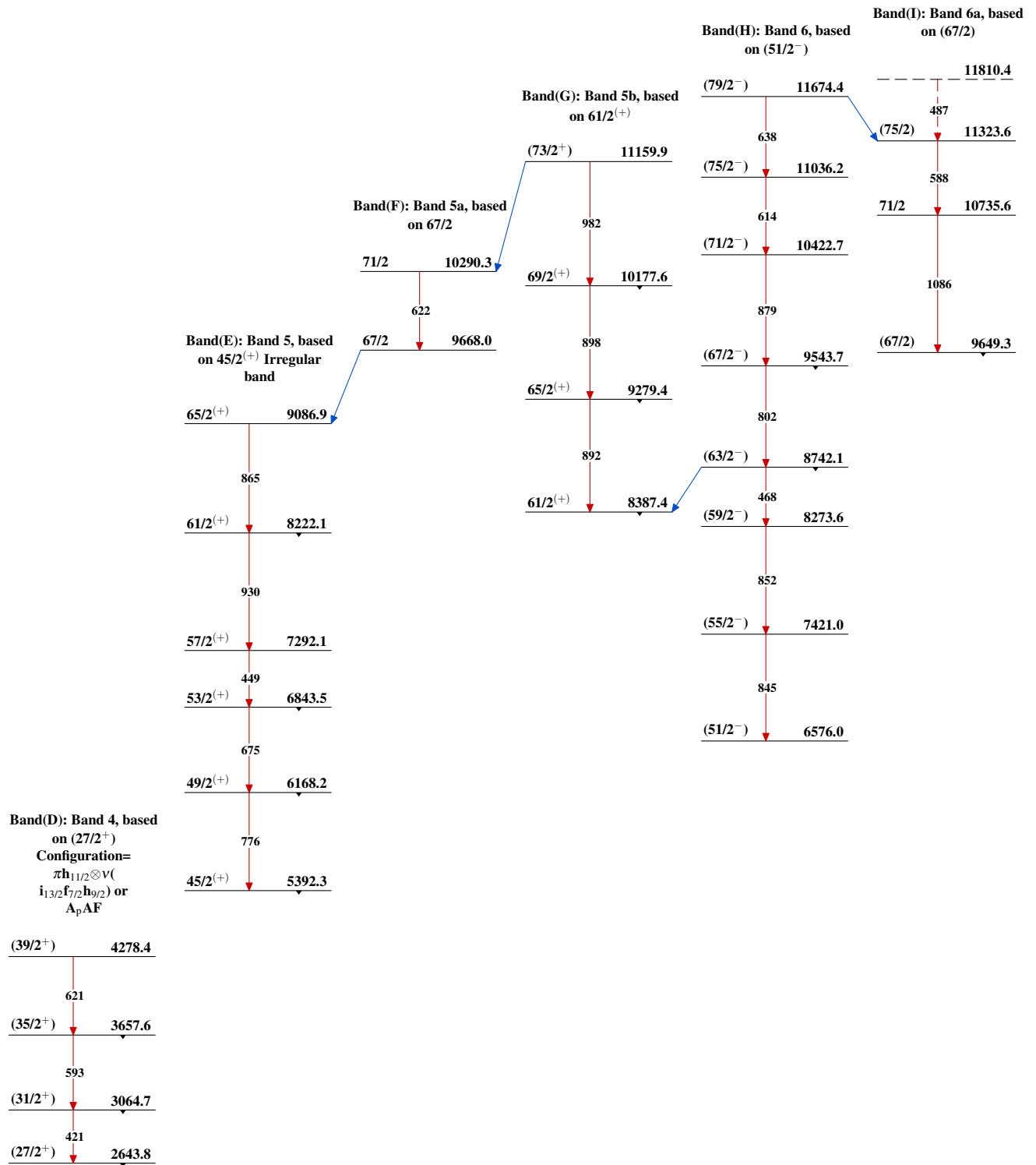
Level Scheme (continued)  
 Intensities: Type not specified  
 @ Multiply placed: intensity suitably divided

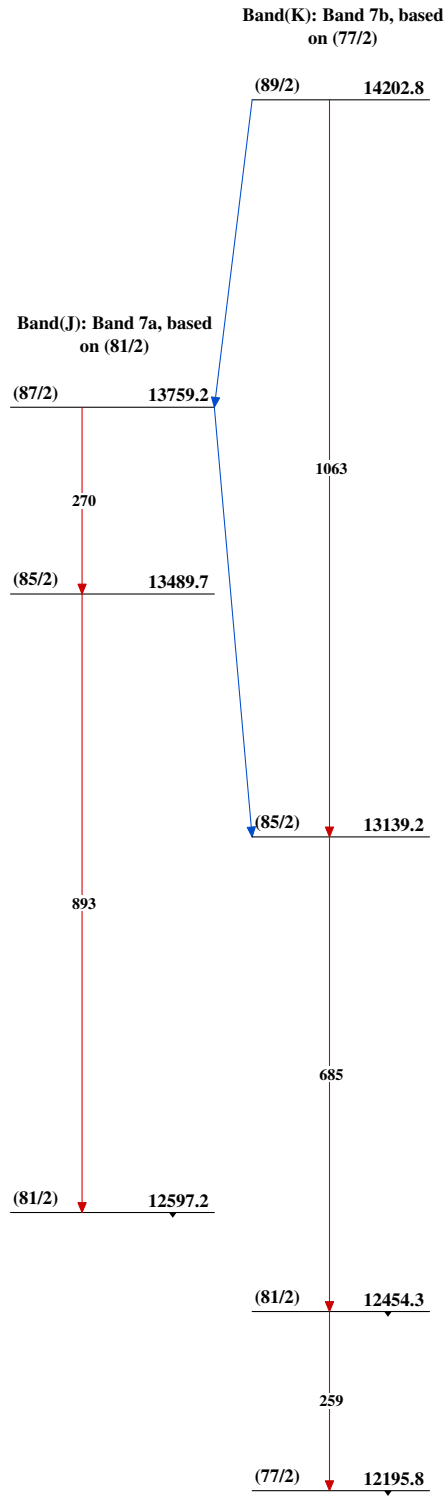
- Legend
- $I_\gamma < 2\% \times I_\gamma^{max}$
  - $I_\gamma < 10\% \times I_\gamma^{max}$
  - $I_\gamma > 10\% \times I_\gamma^{max}$
  - - - - - →  $\gamma$  Decay (Uncertain)



## Adopted Levels, Gammas

 $^{155}_{67}\text{Ho}_{88}$

**Adopted Levels, Gammas (continued)**

**Adopted Levels, Gammas (continued)** $^{155}_{67}\text{Ho}_{88}$