^{148}Nd(^{14}N,6nγ) 1998Cu01

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. W. Reich	NDS 113, 2537 (2012)	1-Mar-2012

Additional information 1.

Data set adapted from the compilation in the XUNDL data file by J. Chenkin and B. Singh (July, 1999).

1998Cu01: ^{148}Nd(^{14}N,6nγ), E(^{14}N)=96 MeV. Stacked thin (≈800 μg/εM^2) targets of enriched (94.1%) ^{148}Nd. γ radiation studied using the Gammasphere array of 36 escape-suppressed Ge detectors. Measured Eγ, Iγ, $\gamma\gamma$, and DCO ratios.

1996YuZY: ^{148}Nd(^{14}N,6nγ), E(^{14}N)=95 MeV. Work is by many of the same authors as 1998Cu01 under similar conditions. Report levels in the yrast band up to 35$^-$ and 36$^-$ for α=1 and 0, respectively.

1995Bh06: ^{140}Ce(^{19}F,3nγ), E(^{19}F)=79, 82, 85 MeV. Self-supporting natural Ce target, 3.4 mg/cm^2 thick. γ radiation detected using an array of 6 BGO Compton-suppressed HPGe detectors and one LEPS detector. Measured Eγ, Iγ, $\gamma\gamma$, excitation functions. Report yrast band up to 23$^-$ and 22$^-$ for α=1 and 0, respectively and 10 levels in an additional side-band structure.

1982Lo05: ^{146}Nd(^{14}N,4nγ), E(^{14}N)=72 MeV. Measured $\gamma\gamma$ and $\gamma(\theta)$ using 4 Ge and 3 NaI(Tl) detectors.

Other: 1979ReZU: an abstract. Author of 1982Lo05 is a co-author here, so this probably represents the same measurement.

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Band-label (quasiparticle) conventions for neutrons:
        α       1/2[660], α=+1/2 , π=+
        B       1/2[660], α=-1/2 , π=+
        C       3/2[651], α=+1/2 , π=+
        D       3/2[651], α=-1/2 , π=+
        E       3/2[521], α=+1/2 , π=-
        F       3/2[521], α=-1/2 , π=-
        X      11/2[505], α=+1/2 , π=-
        Y      11/2[505], α=-1/2 , π=-

Band-label (quasiparticle) conventions for protons:
        Ap      7/2[523], α=-1/2 , π=-
        Bp      7/2[523], α=+1/2 , π=-
        Ep      7/2[404], α=-1/2 , π=+
        Fp      7/2[404], α=+1/2 , π=+
        Xp      1/2[541], α=-1/2 , π=-
        Yp      1/2[541], α=+1/2 , π=-
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^{156}Ho Levels

The alpha-numeric designations for the bands are those assigned by 1998Cu01 and are included here for convenience in referring to them.

E(level)[†]	J$^\pi$[‡]	T$_{1/2}$	Comments
0	4$^-$	56 min *1*	J$^\pi$,T$_{1/2}$: From the adopted values. Level not reported in these reactions.
0+x[#]	(8$^-$)		
91.0+x[@]	(9$^-$)		
171.5+x	(10$^-$)		
185.5+x[#]	(10$^-$)		
187.0+x			
219.0+x			
277.5+x			
320.0+x[@]	(11$^-$)		
530.2+x[#]	(12$^-$)		
660.1+x[@]	(13$^-$)		
660.5+x[b]	(10$^+$)		

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^{148}Nd(^{14}N,6nγ) 1998Cu01 (continued)

^{156}Ho Levels (continued)

E(level)[†]	Jπ[‡]
849.1+x[c]	(11+)
923.8+x[#]	(14−)
1044.0+x[b]	(12+)
1135.7+x[@]	(15−)
1267.0+x[c]	(13+)
1436.3+x[#]	(16−)
1505.7+x[b]	(14+)
1719.2+x[@]	(17−)
1769.6+x[c]	(15+)
2037.2+x[b]	(16+)
2045.9+x[#]	(18−)
2337.6+x[c]	(17+)
2387.8+x[a]	(17+)
2390.0+x[@]	(19−)
2640.1+x[b]	(18+)
2685.1+x[&]	(18+)
2738.7+x[#]	(20−)
2907.4+x[a]	(19+)
2969.6+x[c]	(19+)
3133.6+x[@]	(21−)
3197.0+x[&]	(20+)
3315.9+x[b]	(20+)
3448.8+x[a]	(21+)
3496.3+x[#]	(22−)
3668.8+x[c]	(21+)
3764.6+x[&]	(22+)
3930.5+x[@]	(23−)
4057.3+x[a]	(23+)
4066.8+x[b]	(22+)
4297.2+x[#]	(24−)
4413.3+x[&]	(24+)
4439.8+x[c]	(23+)
4749.6+x[a]	(25+)
4750.8+x[@]	(25−)
4922.8+x[b]	(24+)
5123.2+x[#]	(26−)
5139.7+x[&]	(26+)
5301.8+x[c]	(25+)
5525.3+x[a]	(27+)
5587.5+x[@]	(27−)
5853.8+x[b]	(26+)
5939.5+x[&]	(28+)
5978.3+x[#]	(28−)
6214.8+x[c]	(27+)
6393.3+x[a]	(29+)
6464.5+x[@]	(29−)
6809.8+x[b]	(28+)

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^{148}Nd(^{14}N,6nγ) 1998Cu01 (continued)

^{156}Ho Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	Comments
6818.5+x[&]	(30$^+$)	
6884.3+x[#]	(30$^-$)	
7066.8+x[c]	(29$^+$)	
7328.3+x[a]	(31$^+$)	
7402.5+x[@]	(31$^-$)	
7701+x[b]	(30$^+$)	
7745.5+x[&]	(32$^+$)	
7854.4+x[#]	(32$^-$)	
8291+x[a]	(33$^+$)	
8411+x[@]	(33$^-$)	
8611+x[b]	(32$^+$)	
8682+x[&]	(34$^+$)	
8890+x[#]	(34$^-$)	
9290+x[a]	(35$^+$)	
9489+x[@]	(35$^-$)	
9628+x[&]	(36$^+$)	
9994+x[#]	(36$^-$)	
10248+x[a]	(37$^+$)	
0+y[e]	(12)	E(level): y>185.5+x from possible decay of this level to 185.5+x, (10$^-$). The energy of this transition is not reported.
227.9+y[d]	(13)	
484.1+y[e]	(14)	
761.7+y[d]	(15)	
1056.7+y[e]	(16)	
1367.1+y[d]	(17)	
1691.0+y[e]	(18)	
2023.9+y[d]	(19)	
2365.2+y[e]	(20)	
2700.1+y[d]	(21)	
2823.5+y[g]	(21)	
2984.3+y[e]	(22)	
3043.2+y[f]	(22)	
3234.3+y[d]	(23)	
3379.1+y[g]	(23)	
3501.4+y[e]	(24)	
3781.2+y[f]	(24)	
3789.2+y[d]	(25)	
4064.1+y[g]	(25)	
4103.7+y[e]	(26)	
4443.3+y[d]	(27)	
4803.1+y[g]	(27)	
4804.0+y[e]	(28)	
5191.3+y[d]	(29)	
5598.0+y[e]	(30)	
5612+y[g]	(29)	
6030.3+y[d]	(31)	
6477.0+y[e]	(32)	

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^{148}Nd(^{14}N,6nγ) 1998Cu01 (continued)

^{156}Ho Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	Comments
6951.3+y[d]	(33)	
7436+y[e]	(34)	
7945+y[d]	(35)	
8467+y[e]	(36)	
9016+y[d]	(37)	
0+z[i]	(11)	E(level): z>185.5+x from possible decay of this level to 185.5+x, (10$^-$) and 171.5+x, (10$^-$). The energies of these transitions are not reported.
161.9+z[h]	(12)	
324.1+z[i]	(13)	
541.5+z[h]	(14)	
758.1+z[i]	(15)	
1023.9+z[h]	(16)	
1285.9+z[i]	(17)	
1592.1+z[h]	(18)	
1891.6+z[i]	(19)	
2228.8+z[h]	(20)	
2557.7+z[i]	(21)	
2902.8+z[h]	(22)	
3285.7+z[i]	(23)	
3581.8+z[h]	(24)	
4039.7+z[i]	(25)	
4828.7+z[i]	(27)	
0+u[j]	(22)	E(level): u>3496.3+x from possible decay of this level to 3496.3+x, (22$^-$) and 3133.6+x, (21$^-$). The energies of these transitions are not reported.
696+u[j]	(24)	
1450+u[j]	(26)	
2242+u[j]	(28)	
3073+u[j]	(30)	
3953+u[j]	(32)	
4890+u[j]	(34)	
5878+u[j]	(36)	
6911+u[j]	(38)	
0+v[k]	(24)	E(level): v>4297.2+x from possible decay of this level to 4297.2+x, (24$^-$) and 3930.5+x, (23$^-$). The energies of these transitions are not reported.
624+v[k]	(26)	
1304+v[k]	(28)	
2068+v[k]	(30)	
2922+v[k]	(32)	
3843+v[k]	(34)	
4814+v[k]	(36)	
5821+v[k]	(38)	

[†] Computed from the listed γ-ray energies. 1998Cu01 do not report level energies.

[‡] J$^{\pi}$ values and configuration assignments, except for the g.s., are those proposed by 1998Cu01. These are based on the usual considerations in such studies, including the existence of rotational bands, DCO ratios, deduced alignments and cranked shell-model calculations.

[#] Band(A): Band 1a. Yrast band, α=0. At lower spins, conf is AA$_p$, changing to ABCA$_p$ at the higher spins.

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^{148}Nd(^{14}N,6nγ) 1998Cu01 (continued)

^{156}Ho Levels (continued)

[@] Band(a): Band 1b. α=1 partner of the yrast band. At the lower spins, conf is AB_p, changing to $ABCB_p$ at the higher spins.
[&] Band(B): Band 2a. Proposed conf is $EABA_p$, α=0, up to the band termination.
[a] Band(b): Band 2b. Proposed conf is $EABB_p$, α=1, up to the band termination.
[b] Band(C): Band 3a. Proposed conf is AE_p, α=0, up to the band termination.
[c] Band(c): Band 3b. Proposed conf is AF_p, α=1, up to the band termination.
[d] Band(D): Band 7b. Proposed conf is YA_p, α=1, at lower spins, becoming $YABA_p$ at the higher spins.
[e] Band(d): Band 7a. Proposed conf is XA_p, α=0, at lower spins, becoming $XABA_p$ at the higher spins.
[f] Band(E): Band 8a. Proposed conf: XA_p to $XBCA_p$, α=0.
[g] Band(e): Band 8b. Proposed conf: YA_p to $YBCA_p$, α=1.
[h] Band(F): Band 6a. Proposed conf is BF_p, α=0.
[i] Band(f): Band 6b. Proposed conf is BE_p, α=1.
[j] Band(G): Band 5. Decoupled band, proposed conf is X_pEAB, α=0.
[k] Band(H): Band 4. Decoupled band,α=0. One possible conf is X_pA, becoming X_pABC. Aa alternative possibility is X_pA, becoming $X_pAA_pB_p$.

γ(^{156}Ho)

E_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	Comments
81	171.5+x	(10$^-$)	91.0+x	(9$^-$)		
91	91.0+x	(9$^-$)	0+x	(8$^-$)	E2	DCO=1.02 *19*.
94	185.5+x	(10$^-$)	91.0+x	(9$^-$)		
96	187.0+x		91.0+x	(9$^-$)		
101	320.0+x	(11$^-$)	219.0+x			
130	660.1+x	(13$^-$)	530.2+x	(12$^-$)	M1+E2	DCO=0.57 *5*.
130	660.5+x	(10$^+$)	530.2+x	(12$^-$)		DCO=0.45 *5*.
133	320.0+x	(11$^-$)	187.0+x			
134	320.0+x	(11$^-$)	185.5+x	(10$^-$)	M1+E2	DCO=0.67 *3*.
149	320.0+x	(11$^-$)	171.5+x	(10$^-$)		
161	2984.3+y	(22)	2823.5+y	(21)		
162	161.9+z	(12)	0+z	(11)		
163	324.1+z	(13)	161.9+z	(12)		
189	849.1+x	(11$^+$)	660.5+x	(10$^+$)		
195	1044.0+x	(12$^+$)	849.1+x	(11$^+$)	M1+E2	DCO=0.66 *10*.
211	530.2+x	(12$^-$)	320.0+x	(11$^-$)	M1+E2	DCO=0.58 *1* for 211+212.
212[‡]	1135.7+x	(15$^-$)	923.8+x	(14$^-$)	M1+E2	DCO=0.58 *1* for 211+212.
217	758.1+z	(15)	541.5+z	(14)		
218	541.5+z	(14)	324.1+z	(13)		
223	1267.0+x	(13$^+$)	1044.0+x	(12$^+$)	M1+E2	DCO=0.66 *7*.
228	227.9+y	(13)	0+y	(12)	M1	DCO=0.40 *2*.
229	320.0+x	(11$^-$)	91.0+x	(9$^-$)		
239	1505.7+x	(14$^+$)	1267.0+x	(13$^+$)	M1+E2	DCO=0.57 *5*.
250	3234.3+y	(23)	2984.3+y	(22)		
252	3448.8+x	(21$^+$)	3197.0+x	(20$^+$)	M1+E2	DCO=0.54 *7*.
256	484.1+y	(14)	227.9+y	(13)		
262	1285.9+z	(17)	1023.9+z	(16)		
263	1769.6+x	(15$^+$)	1505.7+x	(14$^+$)	M1+E2	DCO=0.51 *3*.
264	923.8+x	(14$^-$)	660.1+x	(13$^-$)	M1+E2	DCO=0.60 *4*.
266	1023.9+z	(16)	758.1+z	(15)		
267	2037.2+x	(16$^+$)	1769.6+x	(15$^+$)		
267	3501.4+y	(24)	3234.3+y	(23)		
278	761.7+y	(15)	484.1+y	(14)		
284	1719.2+x	(17$^-$)	1436.3+x	(16$^-$)	M1+E2	DCO=0.59 *6*.
288	3789.2+y	(25)	3501.4+y	(24)		

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^{148}Nd(^{14}N,6nγ) 1998Cu01 (continued)

γ(^{156}Ho) (continued)

E_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	Comments
290	3197.0+x	(20^+)	2907.4+x	(19^+)	M1+E2	DCO=0.59 *10*.
293	4057.3+x	(23^+)	3764.6+x	(22^+)	M1+E2	DCO=0.52 *8*.
295	1056.7+y	(16)	761.7+y	(15)		
299	1891.6+z	(19)	1592.1+z	(18)		
300	1436.3+x	(16^-)	1135.7+x	(15^-)	M1+E2	DCO=0.55 *1*.
300	2337.6+x	(17^+)	2037.2+x	(16^+)		
303	2640.1+x	(18^+)	2337.6+x	(17^+)		
306	1592.1+z	(18)	1285.9+z	(17)		
310	1367.1+y	(17)	1056.7+y	(16)		
315	4103.7+y	(26)	3789.2+y	(25)		
316	3764.6+x	(22^+)	3448.8+x	(21^+)	M1+E2	DCO=0.47 *7*.
324	1691.0+y	(18)	1367.1+y	(17)		
324	324.1+z	(13)	0+z	(11)		
327	2045.9+x	(18^-)	1719.2+x	(17^-)	M1+E2	DCO=0.61 *4*.
329	2969.6+x	(19^+)	2640.1+x	(18^+)		
329	2557.7+z	(21)	2228.8+z	(20)		
337	4749.6+x	(25^+)	4413.3+x	(24^+)		
337	2228.8+z	(20)	1891.6+z	(19)		
340	660.1+x	(13^-)	320.0+x	(11^-)	E2	DCO=0.96 *6*.
340	660.5+x	(10^+)	320.0+x	(11^-)	[E1]	DCO=0.59 *6*. Mult.: Assigned (M1) by 1998Cu01.
340	4443.3+y	(27)	4103.7+y	(26)		
344	2390.0+x	(19^-)	2045.9+x	(18^-)		
345	2902.8+z	(22)	2557.7+z	(21)		
346	3315.9+x	(20^+)	2969.6+x	(19^+)		
348	2738.7+x	(20^-)	2390.0+x	(19^-)		
352	3668.8+x	(21^+)	3315.9+x	(20^+)		
356	4413.3+x	(24^+)	4057.3+x	(23^+)	M1+E2	DCO=0.48 *17*.
361	4804.0+y	(28)	4443.3+y	(27)		
362	3496.3+x	(22^-)	3133.6+x	(21^-)		
366	4297.2+x	(24^-)	3930.5+x	(23^-)		
372	4439.8+x	(23^+)	4066.8+x	(22^+)		
373	5123.2+x	(26^-)	4750.8+x	(25^-)		
379	541.5+z	(14)	161.9+z	(12)		
382[‡]	1044.0+x	(12^+)	660.5+x	(10^+)	E2	DCO=0.98 *8* for 382+383.
383	660.5+x	(10^+)	277.5+x		E2	DCO=0.98 *8* for 382+383.
385	5525.3+x	(27^+)	5139.7+x	(26^+)		
390	5139.7+x	(26^+)	4749.6+x	(25^+)		
390	5978.3+x	(28^-)	5587.5+x	(27^-)		
394	923.8+x	(14^-)	530.2+x	(12^-)	E2	DCO=0.93 *8*.
394	3133.6+x	(21^-)	2738.7+x	(20^-)		
396	4066.8+x	(22^+)	3668.8+x	(21^+)		
411	3234.3+y	(23)	2823.5+y	(21)		
414	5939.5+x	(28^+)	5525.3+x	(27^+)		
418	1267.0+x	(13^+)	849.1+x	(11^+)	E2	DCO=1.04 *13*.
433	3930.5+x	(23^-)	3496.3+x	(22^-)		
434	758.1+z	(15)	324.1+z	(13)		
454	4750.8+x	(25^-)	4297.2+x	(24^-)		
462	1505.7+x	(14^+)	1044.0+x	(12^+)	E2	DCO=1.03 *7*.
464	5587.5+x	(27^-)	5123.2+x	(26^-)		
476	1135.7+x	(15^-)	660.1+x	(13^-)	E2	DCO=0.98 *1*.
482	1023.9+z	(16)	541.5+z	(14)		
484	484.1+y	(14)	0+y	(12)		
502	1769.6+x	(15^+)	1267.0+x	(13^+)	E2	DCO=0.93 *11*.
512	1436.3+x	(16^-)	923.8+x	(14^-)	E2	DCO=0.95 *6*.
512	3197.0+x	(20^+)	2685.1+x	(18^+)	E2	DCO=0.92 *11*.

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^{148}Nd(^{14}N,6nγ) 1998Cu01 (continued)

γ(^{156}Ho) (continued)

E_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	Comments
514	1044.0+x	(12^+)	530.2+x	(12^-)		
517	3501.4+y	(24)	2984.3+y	(22)		
520	2907.4+x	(19^+)	2387.8+x	(17^+)		
528	1285.9+z	(17)	758.1+z	(15)		
529	849.1+x	(11^+)	320.0+x	(11^-)	[E1]	DCO=1.19 *23*. Mult.: Assigned (E2/M1) by 1998Cu01.
532	2037.2+x	(16^+)	1505.7+x	(14^+)	E2	DCO=1.00 *4*.
534	761.7+y	(15)	227.9+y	(13)		
534	3234.3+y	(23)	2700.1+y	(21)		
541	3448.8+x	(21^+)	2907.4+x	(19^+)	E2	DCO=0.91 *16*.
555	3789.2+y	(25)	3234.3+y	(23)		
561	4057.3+x	(23^+)	3496.3+x	(22^-)		
568	2337.6+x	(17^+)	1769.6+x	(15^+)	E2	DCO=1.12 *8*.
568	3764.6+x	(22^+)	3197.0+x	(20^+)	E2	DCO=0.94 *19*.
568	1592.1+z	(18)	1023.9+z	(16)		
572	1056.7+y	(16)	484.1+y	(14)	E2	DCO=0.91 *7*.
582	1505.7+x	(14^+)	923.8+x	(14^-)	[E1]	DCO=0.90 *10*. Mult.: Assigned (M1) by 1998Cu01.
583	1719.2+x	(17^-)	1135.7+x	(15^-)	E2	DCO=1.03 *7*.
598	2037.2+x	(16^+)	1436.3+x	(16^-)		
602	2640.1+x	(18^+)	2037.2+x	(16^+)	E2	DCO=1.01 *5*.
602	4103.7+y	(26)	3501.4+y	(24)		
606	1267.0+x	(13^+)	660.1+x	(13^-)		DCO=0.94 *11*.
606	1367.1+y	(17)	761.7+y	(15)	E2	DCO=1.09 *5*.
606	1891.6+z	(19)	1285.9+z	(17)		
608	4057.3+x	(23^+)	3448.8+x	(21^+)	E2	DCO=0.95 *10*.
610	2045.9+x	(18^-)	1436.3+x	(16^-)	E2	DCO=1.04 *9*.
619	2984.3+y	(22)	2365.2+y	(20)	E2	DCO=1.16 *10*.
624	624+v	(26)	0+v	(24)		
631	2969.6+x	(19^+)	2337.6+x	(17^+)	E2	DCO=0.89 *3*.
634	1769.6+x	(15^+)	1135.7+x	(15^-)		
634	1691.0+y	(18)	1056.7+y	(16)		
637	2228.8+z	(20)	1592.1+z	(18)		
649	4413.3+x	(24^+)	3764.6+x	(22^+)	E2	DCO=1.45 *28*.
654	4443.3+y	(27)	3789.2+y	(25)		
657	2023.9+y	(19)	1367.1+y	(17)		
666	2557.7+z	(21)	1891.6+z	(19)		
671	2390.0+x	(19^-)	1719.2+x	(17^-)	E2	DCO=1.00 *13*.
674	2365.2+y	(20)	1691.0+y	(18)		
674	2902.8+z	(22)	2228.8+z	(20)		
676	3315.9+x	(20^+)	2640.1+x	(18^+)	E2	DCO=0.87 *6*.
676	2700.1+y	(21)	2023.9+y	(19)	E2	DCO=1.21 *9*.
678	3043.2+y	(22)	2365.2+y	(20)		
679	3379.1+y	(23)	2700.1+y	(21)		
679	3581.8+z	(24)	2902.8+z	(22)		
680	1304+v	(28)	624+v	(26)		
685	4064.1+y	(25)	3379.1+y	(23)		
692	4749.6+x	(25^+)	4057.3+x	(23^+)	E2	DCO=0.91 *11*.
693	2738.7+x	(20^-)	2045.9+x	(18^-)	E2	DCO=0.92 *11*.
696	696+u	(24)	0+u	(22)		
699	3668.8+x	(21^+)	2969.6+x	(19^+)	E2	DCO=0.91 *7*.
700	4804.0+y	(28)	4103.7+y	(26)		
710	3448.8+x	(21^+)	2738.7+x	(20^-)	(E1)	DCO=0.52 *4*.
724	1044.0+x	(12^+)	320.0+x	(11^-)	[E1]	DCO=0.69 *6*. Mult.: Assigned (M1) by 1998Cu01.
726	5139.7+x	(26^+)	4413.3+x	(24^+)	E2	DCO=0.87 *10*.

Continued on next page (footnotes at end of table)

^{148}Nd(^{14}N,6nγ) 1998Cu01 (continued)

γ(^{156}Ho) (continued)

E_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	Comments
728	3285.7+z	(23)	2557.7+z	(21)		
737	1267.0+x	(13$^+$)	530.2+x	(12$^-$)	[E1]	DCO=1.15 *10*. Mult.: Assigned M1 by 1998Cu01.
738[‡]	3781.2+y	(24)	3043.2+y	(22)		
739	4803.1+y	(27)	4064.1+y	(25)		
744	3133.6+x	(21$^-$)	2390.0+x	(19$^-$)	E2	DCO=0.97 *7*.
748	5191.3+y	(29)	4443.3+y	(27)		
752	4066.8+x	(22$^+$)	3315.9+x	(20$^+$)	E2	DCO=0.97 *7*.
754	4039.7+z	(25)	3285.7+z	(23)		
754	1450+u	(26)	696+u	(24)		
758	3496.3+x	(22$^-$)	2738.7+x	(20$^-$)	E2	DCO=1.08 *12*.
764	2068+v	(30)	1304+v	(28)		
772	4439.8+x	(23$^+$)	3668.8+x	(21$^+$)	E2	DCO=0.96 *7*.
776	5525.3+x	(27$^+$)	4749.6+x	(25$^+$)	E2	DCO=0.97 *14*.
789	4828.7+z	(27)	4039.7+z	(25)		
792	2242+u	(28)	1450+u	(26)		
794	5598.0+y	(30)	4804.0+y	(28)		
797	3930.5+x	(23$^-$)	3133.6+x	(21$^-$)	E2	DCO=0.98 *19*.
800	5939.5+x	(28$^+$)	5139.7+x	(26$^+$)	E2	DCO=0.61 *7*.
800	2823.5+y	(21)	2023.9+y	(19)	E2	DCO=1.31 *18*.
802	4297.2+x	(24$^-$)	3496.3+x	(22$^-$)	E2	DCO=0.90 *12*.
807	3197.0+x	(20$^+$)	2390.0+x	(19$^-$)	(E1)	DCO=0.49 *8*.
809	5612+y	(29)	4803.1+y	(27)		
820	4750.8+x	(25$^-$)	3930.5+x	(23$^-$)	E2	DCO=1.06 *25*.
826	5123.2+x	(26$^-$)	4297.2+x	(24$^-$)		
831	3073+u	(30)	2242+u	(28)		
836	5587.5+x	(27$^-$)	4750.8+x	(25$^-$)		
839	6030.3+y	(31)	5191.3+y	(29)		
844	1505.7+x	(14$^+$)	660.1+x	(13$^-$)	[E1]	DCO=0.62 *4*. Mult.: Assigned (M1) by 1998Cu01.
847	1769.6+x	(15$^+$)	923.8+x	(14$^-$)	[E1]	DCO=0.84 *8*. Mult.: Assigned M1 by 1998Cu01.
852	7066.8+x	(29$^+$)	6214.8+x	(27$^+$)		
854	2922+v	(32)	2068+v	(30)		
856	4922.8+x	(24$^+$)	4066.8+x	(22$^+$)	E2	DCO=0.83 *9*.
856	5978.3+x	(28$^-$)	5123.2+x	(26$^-$)		
861	2907.4+x	(19$^+$)	2045.9+x	(18$^-$)	(E1)	DCO=0.45 *3*.
862	5301.8+x	(25$^+$)	4439.8+x	(23$^+$)		
868	6393.3+x	(29$^+$)	5525.3+x	(27$^+$)	E2	DCO=0.87 *12*.
877	6464.5+x	(29$^-$)	5587.5+x	(27$^-$)		
879	6818.5+x	(30$^+$)	5939.5+x	(28$^+$)	E2	DCO=1.00 *17*.
879	6477.0+y	(32)	5598.0+y	(30)		
880	3953+u	(32)	3073+u	(30)		
891	7701+x	(30$^+$)	6809.8+x	(28$^+$)		
901	2337.6+x	(17$^+$)	1436.3+x	(16$^-$)	[E1]	DCO=0.36 *4*. Mult.: Assigned M1 by 1998Cu01.
903	2037.2+x	(16$^+$)	1135.7+x	(15$^-$)		
906	6884.3+x	(30$^-$)	5978.3+x	(28$^-$)		
910	8611+x	(32$^+$)	7701+x	(30$^+$)		
913	6214.8+x	(27$^+$)	5301.8+x	(25$^+$)		
921	2640.1+x	(18$^+$)	1719.2+x	(17$^-$)		
921	6951.3+y	(33)	6030.3+y	(31)		
921	3843+v	(34)	2922+v	(32)		
925	2969.6+x	(19$^+$)	2045.9+x	(18$^-$)		
926	3315.9+x	(20$^+$)	2390.0+x	(19$^-$)		
927	7745.5+x	(32$^+$)	6818.5+x	(30$^+$)	E2	DCO=1.07 *27*.

Continued on next page (footnotes at end of table)

^{148}Nd(^{14}N,6nγ) 1998Cu01 (continued)

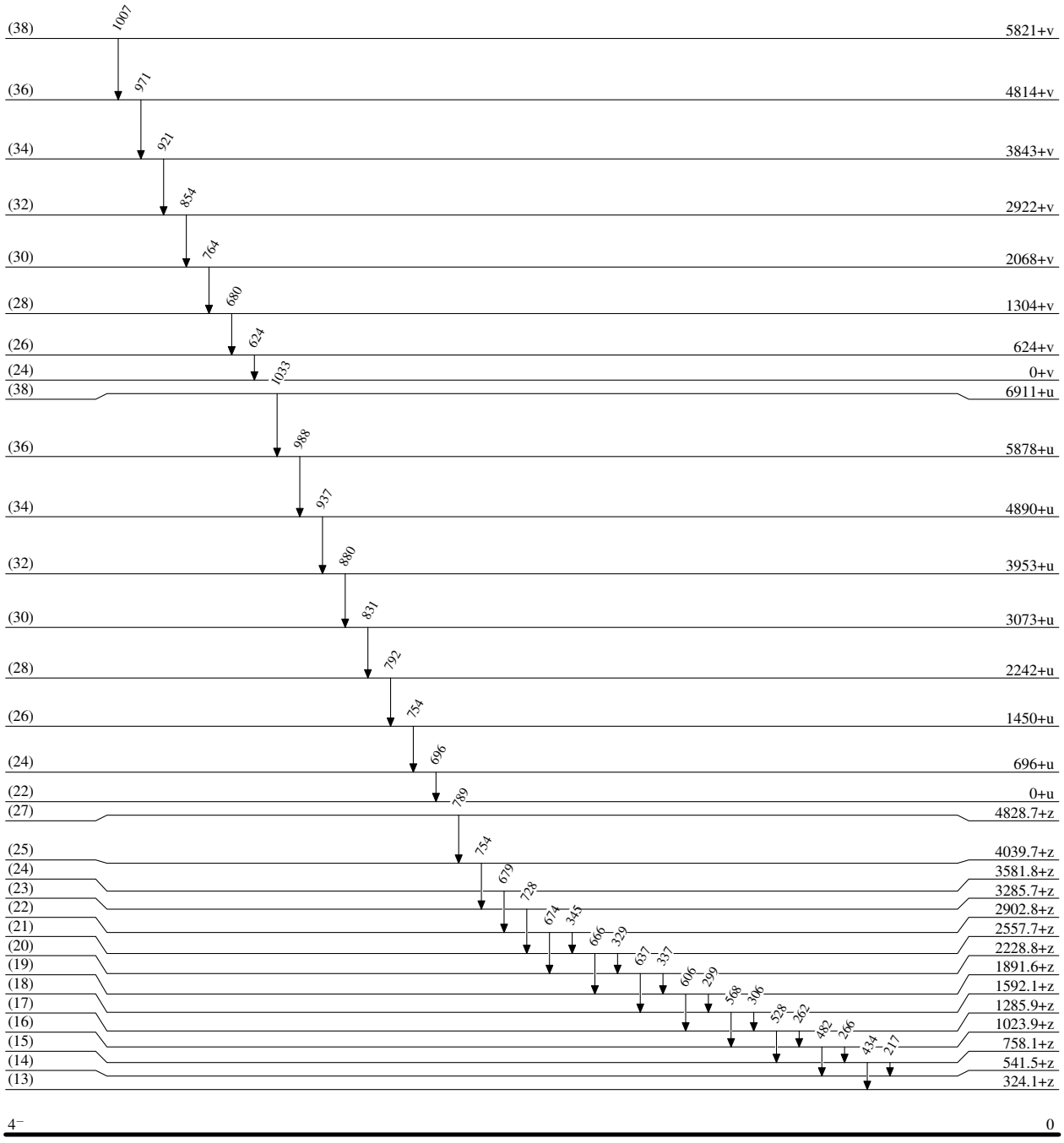
γ(^{156}Ho) (continued)

E_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	Comments
931	5853.8+x	(26$^+$)	4922.8+x	(24$^+$)	E2	DCO=0.97 *14*.
935	7328.3+x	(31$^+$)	6393.3+x	(29$^+$)	E2	DCO=1.02 *13*.
937	8682+x	(34$^+$)	7745.5+x	(32$^+$)		
937	4890+u	(34)	3953+u	(32)		
938	7402.5+x	(31$^-$)	6464.5+x	(29$^-$)		
946	9628+x	(36$^+$)	8682+x	(34$^+$)		
952	2387.8+x	(17$^+$)	1436.3+x	(16$^-$)	D	DCO<1.0.
956	6809.8+x	(28$^+$)	5853.8+x	(26$^+$)	E2	DCO=1.20 *28*.
958	10248+x	(37$^+$)	9290+x	(35$^+$)		
959	7436+y	(34)	6477.0+y	(32)		
963	8291+x	(33$^+$)	7328.3+x	(31$^+$)		
966	2685.1+x	(18$^+$)	1719.2+x	(17$^-$)	(E1)	DCO=0.55 *19*.
970	7854.4+x	(32$^-$)	6884.3+x	(30$^-$)		
971	4814+v	(36)	3843+v	(34)		
988	5878+u	(36)	4890+u	(34)		
994	7945+y	(35)	6951.3+y	(33)		
999	9290+x	(35$^+$)	8291+x	(33$^+$)		
1007	5821+v	(38)	4814+v	(36)		
1009	8411+x	(33$^-$)	7402.5+x	(31$^-$)		
1031	8467+y	(36)	7436+y	(34)		
1033	6911+u	(38)	5878+u	(36)		
1036	8890+x	(34$^-$)	7854.4+x	(32$^-$)		
1071	9016+y	(37)	7945+y	(35)		
1078	9489+x	(35$^-$)	8411+x	(33$^-$)		
1104	9994+x	(36$^-$)	8890+x	(34$^-$)		

[†] From DCO ratios (1998Cu01). Stretched quadrupole transitions are taken to be E2, rather than M2, and mixed multipoles are assumed to be M1/E2, rather than E1/M2.
[‡] Placement of transition in the level scheme is uncertain.

^{148}Nd(^{14}N,6nγ) 1998Cu01

Level Scheme



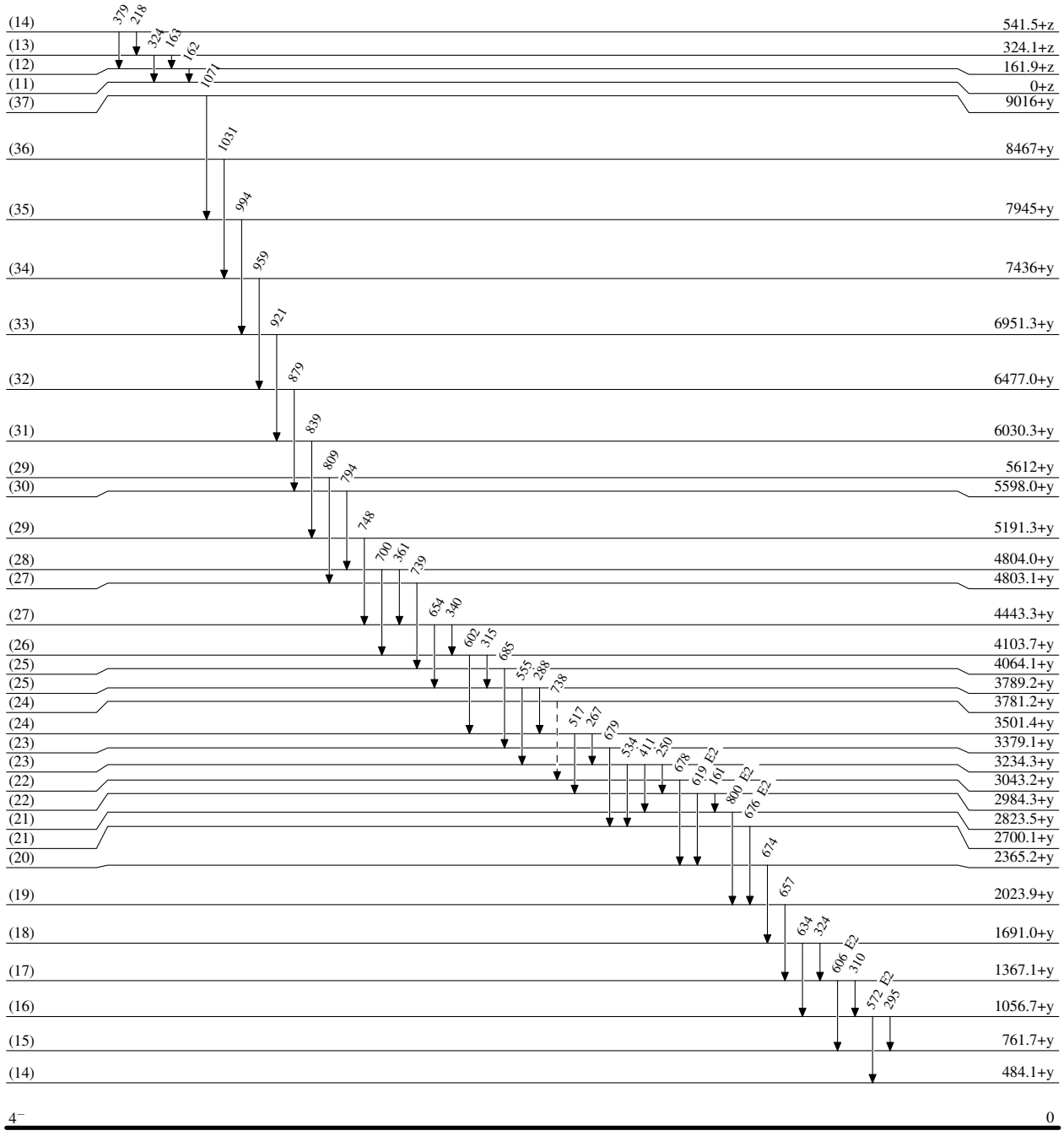
$^{156}_{67}Ho_{89}$

^{148}Nd(^{14}N,6nγ) 1998Cu01

Legend

γ Decay (Uncertain)

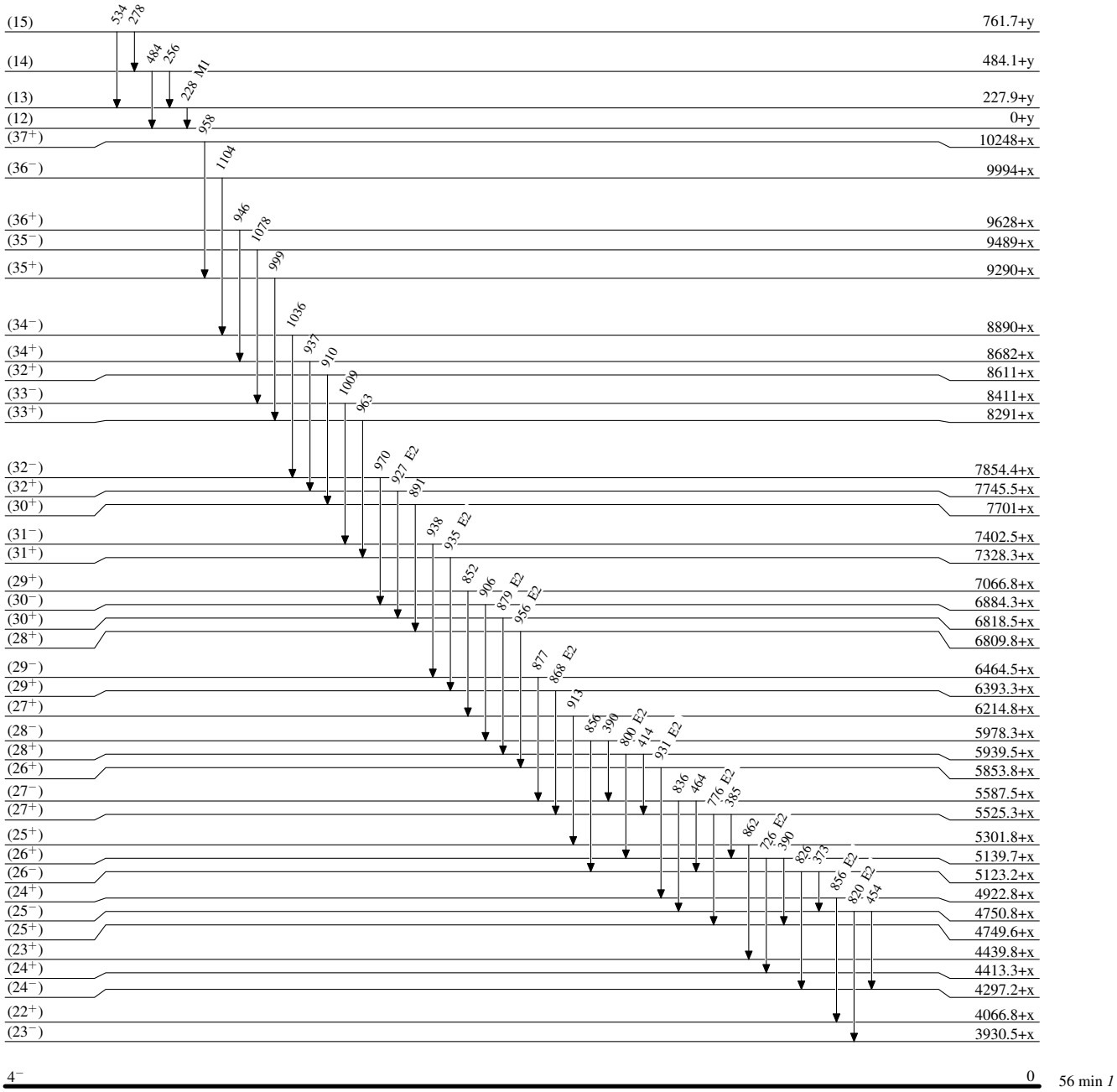
Level Scheme (continued)



$^{156}_{67}Ho_{89}$

^{148}Nd(^{14}N,6nγ) 1998Cu01

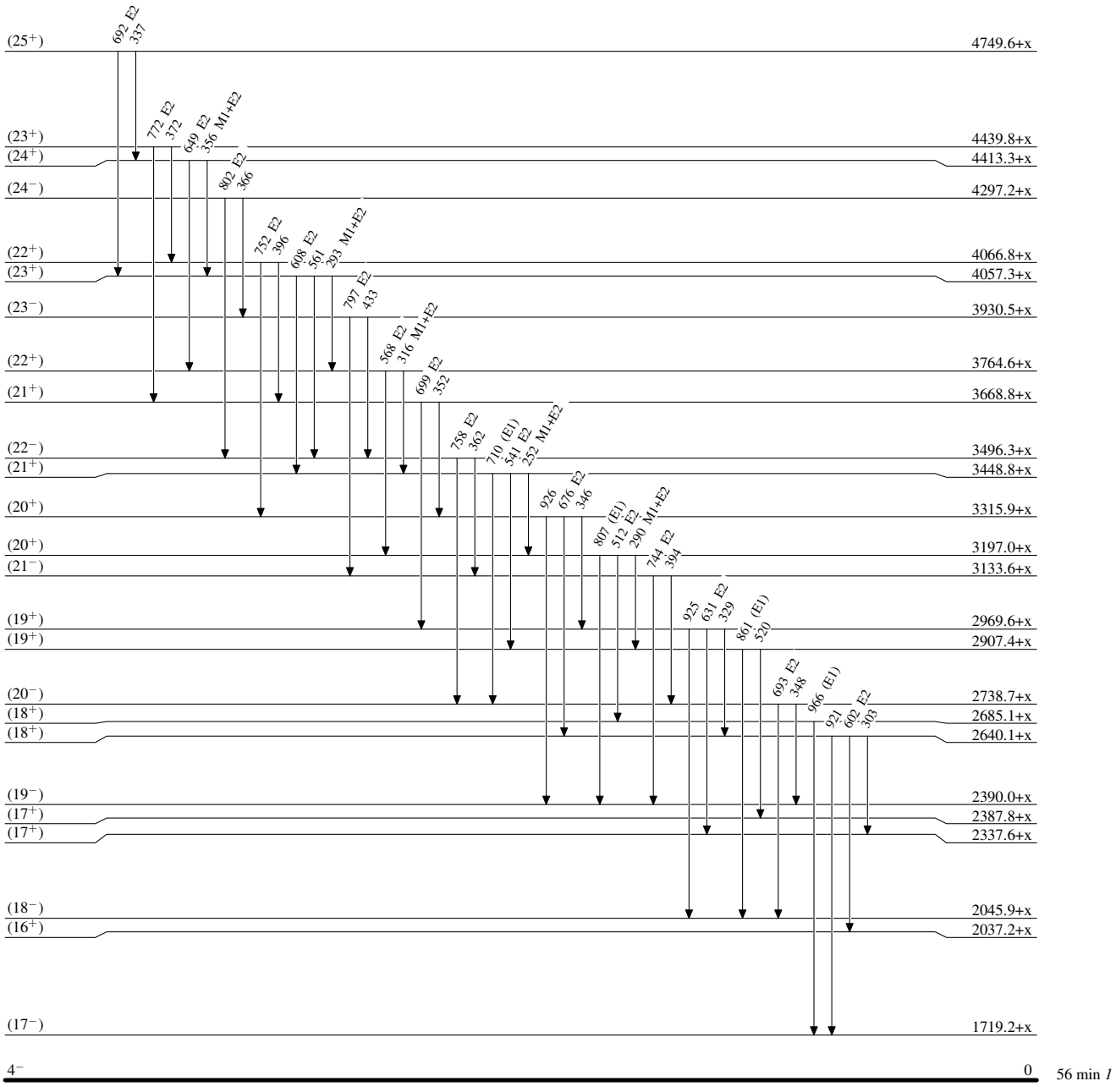
Level Scheme (continued)



$^{156}_{67}Ho_{89}$

^{148}Nd(^{14}N,6nγ) 1998Cu01

Level Scheme (continued)



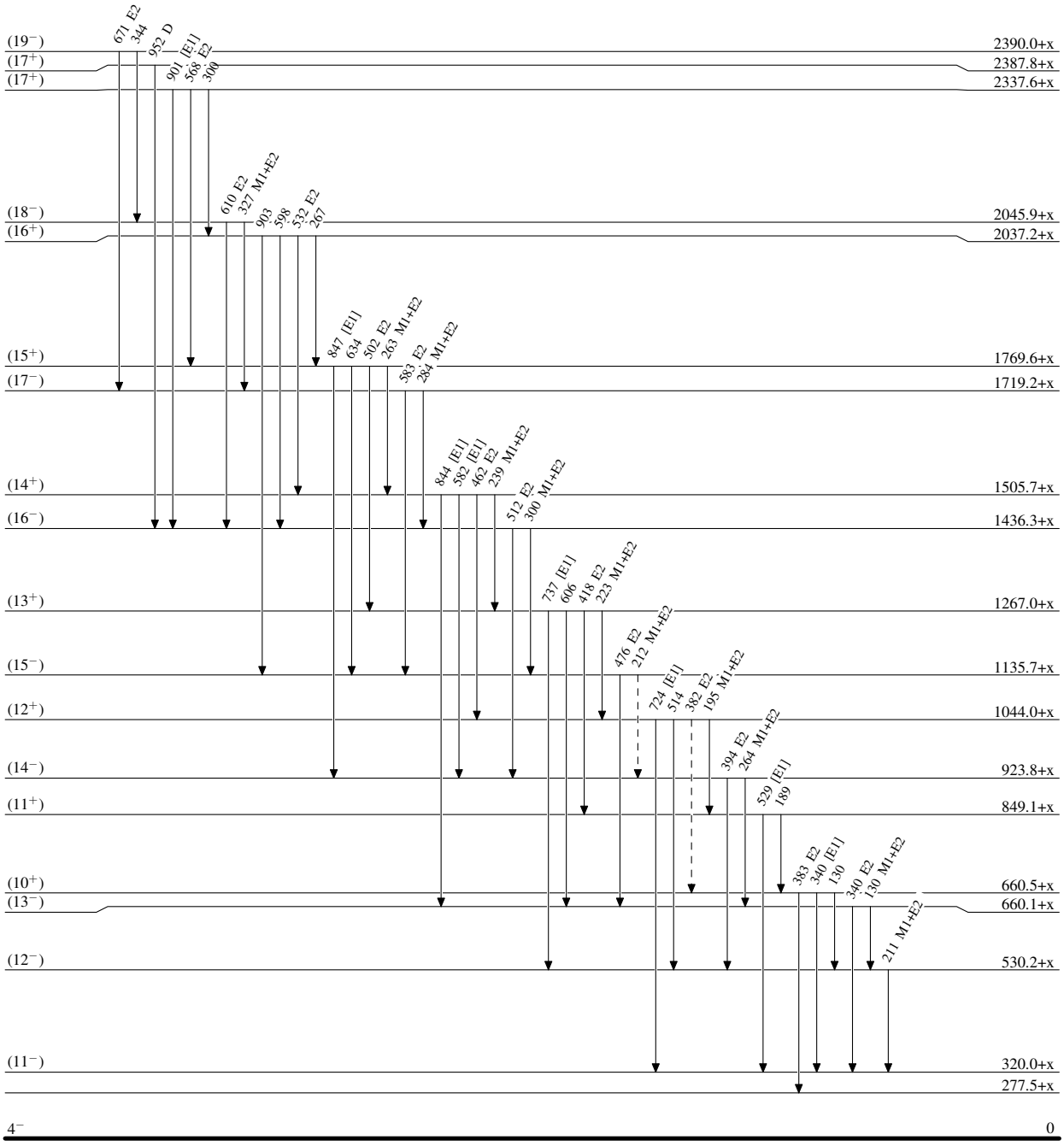
$^{156}_{67}Ho_{89}$

^{148}Nd(^{14}N,6nγ) 1998Cu01

Legend

Level Scheme (continued)

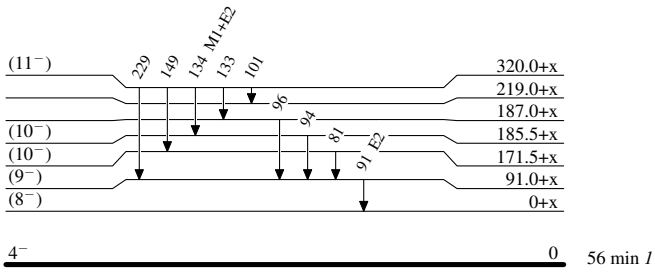
γ Decay (Uncertain)



$^{156}_{67}Ho_{89}$

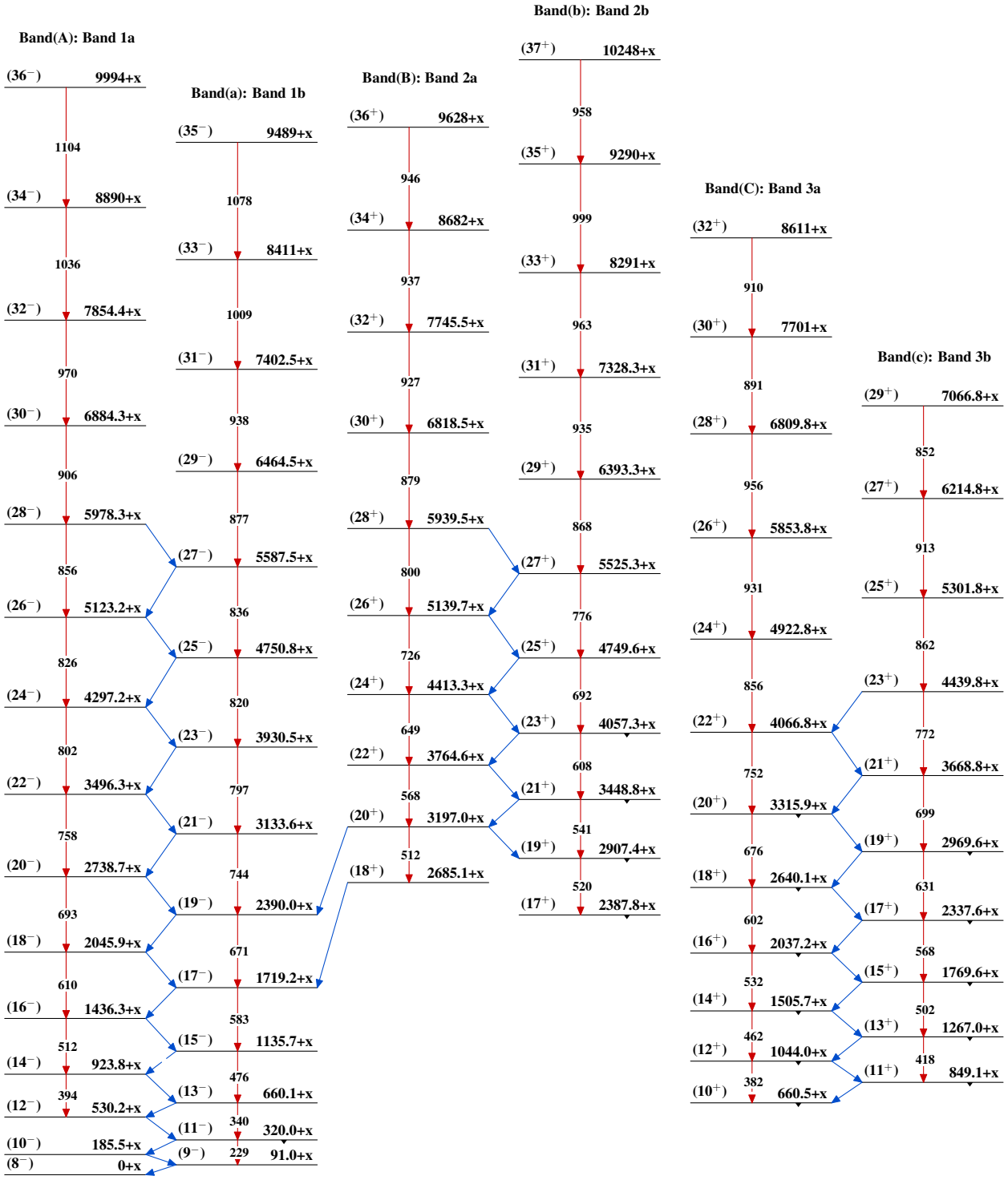
^{148}Nd(^{14}N,6nγ) 1998Cu01

Level Scheme (continued)



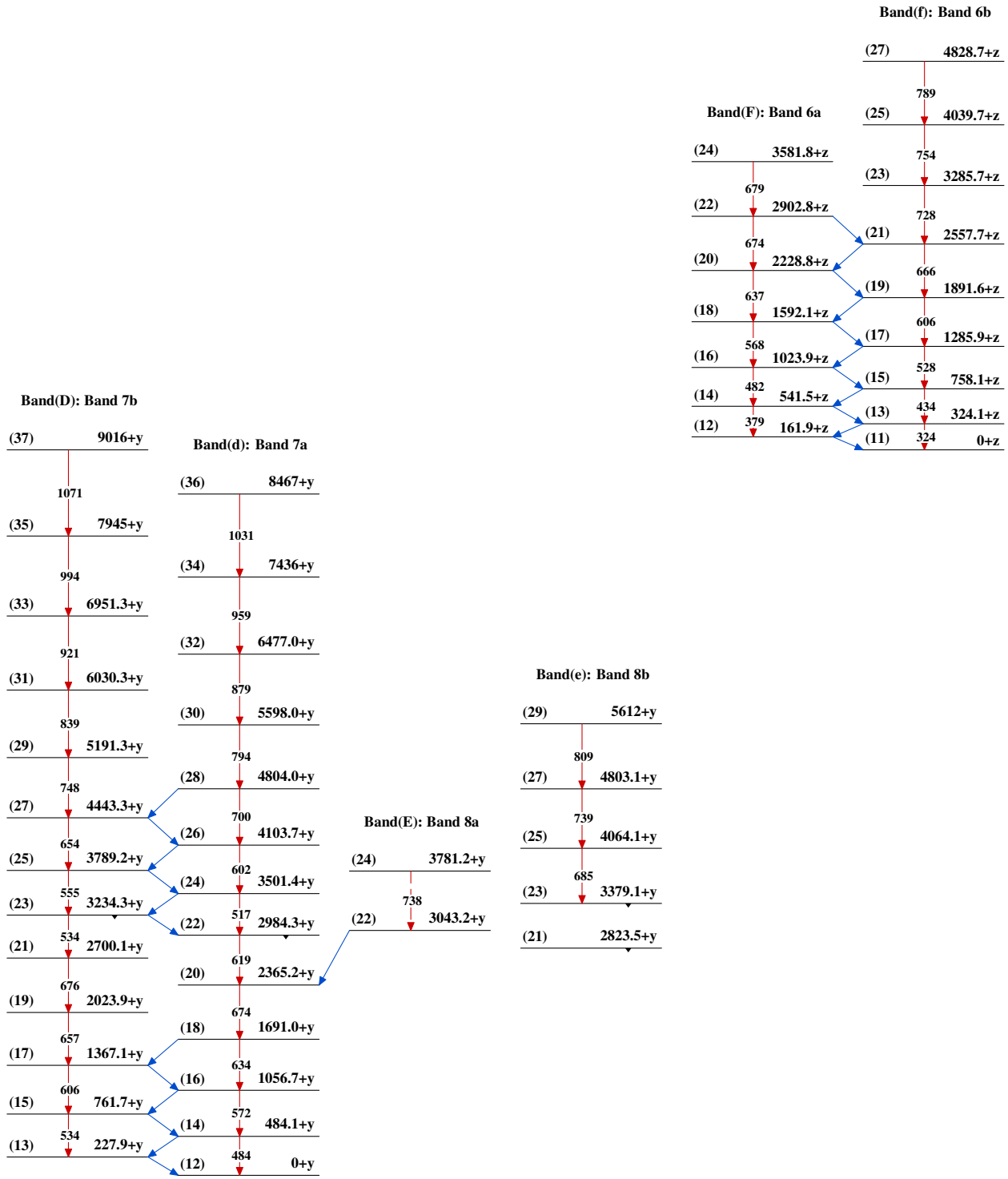
$^{156}_{67}Ho_{89}$

^{148}Nd(^{14}N,6nγ) 1998Cu01



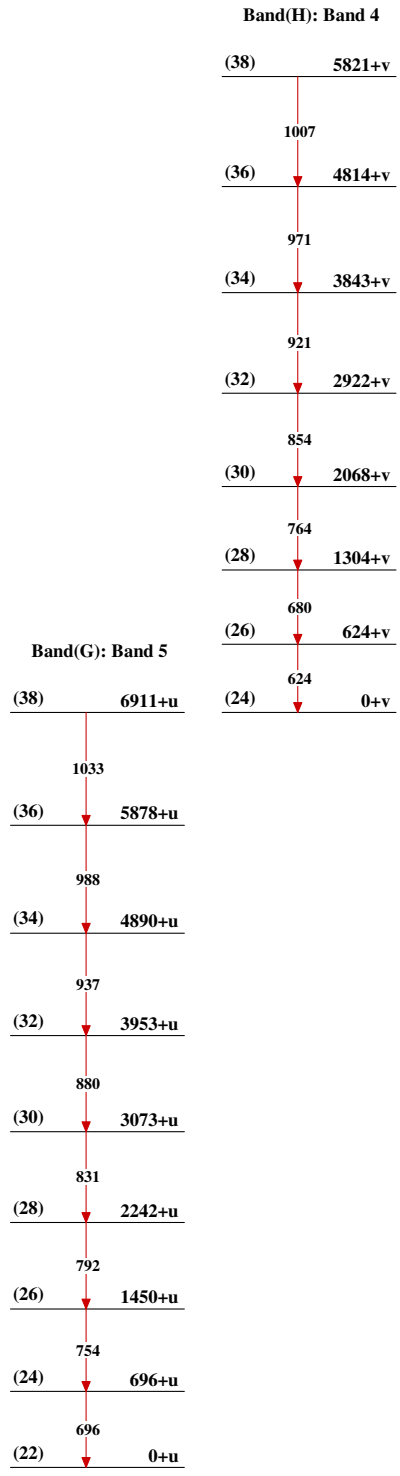
$^{156}_{67}Ho_{89}$

^{148}Nd(^{14}N,6nγ) 1998Cu01 (continued)



$^{156}_{67}Ho_{89}$

^{148}Nd(^{14}N,6nγ) 1998Cu01 (continued)



$^{156}_{67}Ho_{89}$