Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 117, 1 (2014)	1-Oct-2013

Q(β^-)=−543 *6*; S(n)=7332.5 *17*; S(p)=9253 *16*; Q(α)=599 *3* 2012Wa38
Measured hyperfine structure and isotope shifts: 2005Ma10, 2005Ro35, 2001Mb05.
The band designations are from Coulomb excitation.

^{148}Nd Levels

Cross Reference (XREF) Flags

A	^{148}Pr β^- decay (2.29 min)	E	Coulomb excitation	I	^{148}Nd(p,p′)
B	^{148}Pr β^- decay (2.01 min)	F	^{150}Nd(p,t)	J	^{148}Nd(γ,γ')
C	^{146}Nd(t,p)	G	^{148}Nd(n,n′γ)		
D	^{148}Nd(d,d′)	H	^{150}Nd(α,α2nγ)		

E(level)	J$^\pi$	T$_{1/2}$	XREF	Comments
0.0[c]	0$^+$	stable	ABCDEFGHIJ	β_4=0.07 *2* (2003Na39) Double β^- decay to the lowest 2$^+$ levels of ^{148}Sm was not observed (T$_{1/2}$>2.7×10^{18} y) (1982Be20); 2009Ba21 give limits for (0ν+2ν) transitions to the 2+$_1$, 0+$_1$, and 2+$_2$ states In ^{148}Sm of the order of≈(4-8) × 10^{20} Y. rms charge radius <r^2>$^{1/2}$=4.9986 fm *19* (2004An14).
301.705[c] *16*	2$^+$[‡@]	80[a] ps *3*	ABCDEFGHIJ	μ=+0.73 *3* (2005St24,2001Ho02) Q=−1.46 *13* (2005St24,1970Ge08) T$_{1/2}$: other value: 79 ps *1* from B(E2)=1.37 *2* which is the unweighted average of 1.30 *6* (1997Ib01), 1.36 *3* (1971Cr01), 1.39 *2* (1988Ah01), 1.42 *5* (1980FaZW), 1.39 *2* (1986Sc30). Others: 0.96 *10* (1966Ec02), 0.95 *15* (1967BuZW). μ: measured by transient field integral perturbed angular correlation method; Others: +0.64 *8* (1978Ka36), +0.86 *14* (1972Ku10), +0.86 *14* (1972Ku10), +0.96 *8* (1970Be36), +1.00 *8* (1978FaZP), +1.12 *24* (1967Be08), 0.81 *8* (1987Be08), 0.70 *4* (1997StZR,1990St18). Q: Others: −1.36 *30* (1971Cr01), −0.67 *11* (1978FaZP).
752.29[c] *7*	4$^+$[‡@]	6.9[a] ps *3*	AB DE GHI	μ=+1.4 *2* (2005St24,2001Ho02) B(E4)↑=0.16 *5* (2003Na39) μ: measured by transient field integral perturbed angular correlation method. T$_{1/2}$: other value: 6.9 ps *2* from B(E2)(2+$_1$ → 4+$_1$)=0.784 *24*, which is the unweighted average of 0.80 *3* (1997Ib01) and 0.768 *24* (1980FaZW); other: 0.81 (1967BuZX).
916.93[e] *8*	0$^+$[‡@]	4.4[a] ps *3*	A CDEFG I	XREF: F(970). B(E2)(2+$_1$ → 0+$_2$)=0.025 *1* (1997Ib01); 0.039 *7* (1980FaZW).
999.33[d] *7*	3$^-$[‡@]		ABCDE GHI	B(E3)(0$^+$ → 3$^-$)=0.32 *2* (1997Ib01), 0.40 *8* (1988Ah01), 0.13 *4* (1967BuZX).
1023.17[d] *6*	1$^-$[‡@]		A DE G IJ	J$^\pi$: from $\gamma\gamma(\theta)$ and linear pol; γ to 2$^+$ is E1.
1170.95[e] *7*	2$^+$[‡@]	1.4[a] ps *1*	A CDE G I	
1242.26[d] *11*	5$^-$[‡@]	1.0[a] ps *1*	B E GHI	J$^\pi$: γ to 4$^+$ is E1(+M2), no γ to J<4.
1248.85[f] *6*	2$^+$[‡@]	1.4[a] ps *2*	A DE G I	
1279.81[c] *12*	6$^+$[†@]	2.9[a] ps *2*	B E GH	μ=+1.6 *3* (2005St24,2001Ho02) μ: measured by transient field integral perturbed angular correlation method. J$^\pi$: γ to 4$^+$ is E2 from lin pol.

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Adopted Levels, Gammas (continued)

^{148}Nd Levels (continued)

E(level)	J$^\pi$	T$_{1/2}$	XREF	Comments
1400 *2*	$(0^+,1^-)$[‡]		D I	
1432 *2*	$(0^+,1^-)$[‡]		D I	
1475 *2*	(1^-)[‡]		D I	
1511.61[f] *7*	3^+[@]		A E G	J$^\pi$: γ's to 2^+ and 4^+ are M1+E2.
1515.6 *3*			A	
1521.64 *16*	1		G	J$^\pi$: $\gamma(\theta)$ and linear-polarization in (n,n$'\gamma$).
1577 *2*	2^+[‡]		D I	
≈1600	0^+		F	J$^\pi$: L(p,t)=0.
1604.1[e] *6*	4^+[‡@]		DE I	
1644.5[d] *6*	7^-[†@]	1.0[a] ps *2*	E H	
1645.6 *3*			A G	J$^\pi$: $\gamma\gamma(\theta)$ in ^{148}Pr β^- decay suggest J=0; $\gamma(\theta)$ and observation of 1645 in (n,n$'\gamma$) suggest J=1,2^+.
1654 *2*	(3^-)[‡]		D I	
1659.92 *5*	2^+		A G	J$^\pi$: γ's to 3^-, 0^+; $\gamma(\theta)$.
1683.38[f] *18*	4^+[‡@]		A CDE G I	
1688.12 *12*	$3^+,4^+,5^+$		B G	J$^\pi$: γ to 4^+ is M1+E2.
1725 *2*	3^-[‡]		CD I	
1729.11 *15*	3^+		G	J$^\pi$: γ's to 2^+ and 4^+ are M1+E2.
1778 *2*	(3^-)[‡]		D I	
1809.0 *3*			c G	
1824.55 *16*			c G	
1837 *2*	(1^-)[‡]		D I	
1856.2[c] *8*	8^+[†@]	1.4[a] ps *2*	E H	
1858.4 *4*	$(2^+,3)$		BC G	J$^\pi$: γ to 2^+ is D+Q; γ to 4^+.
1887 *2*	4^+[‡]		D I	
2034 *2*	3^-[‡]		CD I	
2073.73 *14*	$2^{(+)}$		A C	J$^\pi$: J=2 from $\gamma(\theta)$ in β^- decay; γ to 0^+.
2098 *2*	4^+[‡]		D I	
2099.1[f] *8*	6^+[@]		E	
2131.8[d] *9*	9^-[†@]		E H	
2145 *2*	4^+[‡]		D I	
2149.0[e] *6*	6^+[@]		E	
2153.0 *10*	$(1,2^+)$[&]	0.6[b] ps *4*	J	
2182.2 *4*			A C	
2197 *2*	5^-[‡]		D I	
2236.8 *9*			A	
2257 *4*	(2^+)[‡]		CD I	
2286	(3^-)[‡]		D I	
2341 *4*	3^-[‡]		D I	
2375.9 *7*	1[#]		J	
2388 *4*	4^+[‡]		D I	
2406.20 *19*	0,1,2		A	J$^\pi$: log *ft*=7.0 from 1^- parent.
2431.48 *17*	2^+[‡]		A D I	
2471.2[c] *10*	(10^+)[†@]		E H	
2481.0 *10*	1[#]	0.14[b] ps *4*	J	
2484 *4*	3^-[‡]		D I	
2544.7 *6*	(1^-)[‡]	0.25[b] ps *10*	A D IJ	J=(1) from $\gamma(\theta)$ and linear-polarization data from (γ,γ').
2590 *4*	4^+[‡]		D I	

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Adopted Levels, Gammas (continued)

^{148}Nd Levels (continued)

E(level)	J^π	$T_{1/2}$	XREF	Comments
2642 *4*	$4^{+‡}$		D I	
2676.4[d] *11*	$(11^-)^{†@}$		E H	
2682 *4*	$0^{+‡}$		D I	
2689.0 *10*	1[#]	86[b] fs *22*	J	
2709 *4*	$4^{+‡}$		D I	
2726.1[e] *10*	$8^{+@}$		E	
2729.9 *7*	(1)[#]		J	
2736.0 *10*	1[#]	0.12[b] ps *7*	J	
2770 *4*	$4^{+‡}$		D I	
2795.0 *10*	$(1,2^+)$[&]	0.25[b] ps *10*	J	
2807 *4*	$3^{-‡}$		D I	
2839.0 *10*	1[#]	0.08[b] ps *3*	J	
2845.0 *10*	(1)[#]	0.27[b] ps *18*	J	
2871 *4*	$(3^-)^‡$		D I	
2913 *4*	$4^{+‡}$		D I	
2920.0 *10*	1[#]	0.08[b] ps *3*	J	
2922.9 *7*	1[#]		J	
2930.63 *21*	(2^-)		A	J^π: γ's to 3^-, 2^+, 1^-; no γ to 0^+.
2961 *4*	$4^{+‡}$		D I	
2982.0 *10*	1[#]	27[b] fs *11*	J	
3002.0 *10*	$(1,2^+)$[&]	0.12[b] ps *6*	J	
3022 *4*	$4^{+‡}$		D I	
3036.8 *9*			A	
3068 *4*	$(3^-)^‡$		D I	
3091.9 *7*	1[#]		D IJ	
3106.2[c] *14*	$(12^+)^@$		E	
3113.0 *10*	1[#]	0.11[b] ps *3*	J	
3129.9 *8*			A	
3136.0 *10*	1[#]	54[b] fs *15*	J	
3142 *4*	$4^{+‡}$		D I	
3176.0 *10*	(1)[#]	57[b] fs *23*	J	
3191 *4*	$4^{+‡}$		D I	
3191.0 *10*	(1)	0.13[b] ps *4*	J	
3205.0 *10*	$(1,2^+)$[&]	0.16[b] ps *9*	J	
3214.9 *7*	1[#]		J	
3241 *4*	$4^{+‡}$		D I	
3264.4[d] *15*	$(13^-)^@$		E	
3265.0 *10*	1[#]	0.11[b] ps *4*	J	
3281.0 *10*	$(1,2^+)$[&]	0.21[b] ps *15*	J	
3340.9 *7*	1[#]		J	
3369.9 *7*	1[#]		J	
3377.9 *7*	1[#]		J	
3404.9 *7*	1[#]		J	
3414.9 *7*	1[#]		J	
3490.0 *10*	(1)[#]	71[b] fs *23*	J	

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Adopted Levels, Gammas (continued)

^{148}Nd Levels (continued)

E(level)	J^π	$T_{1/2}$	XREF	Comments
3527.9 *7*	$(1,2^+)$[&]		J	
3544.9 *7*	1[#]		J	
3596.9 *7*	(1)[#]		J	
≈3650	2^+		F	J^π: L(p,t)=2.
3689.0 *10*	1[#]	11[b] fs *3*	J	
3716.9 *7*	(1)[#]		J	
3755.1 *10*	(1)[#]	0.07[b] ps *3*	J	
3771.1 *10*	(1)[#]	57[b] fs *24*	J	
3793.1 *10*	1[#]		J	
3805.1 *10*	1[#]	35[b] fs *13*	J	
3826.1 *10*	$(1,2^+)$[&]	57[b] fs *24*	J	
3860.9 *7*	1[#]		J	

† From $\gamma(\theta)$ and DCO measurement in (α,α2nγ); since details are not given (1988Ur01), some of these assignments, especially for higher J values, are considered as tentative.

‡ From coupled-channel analysis of (p,p′) and (d,d′) data.

From $\gamma(\theta)$ in (γ,γ').

@ From Coulomb excitation; since details are not given, some of these assignments, especially for higher J values, are considered as tentative.

& From γ to 0^+.

a From recoil-distance method (RDM) in Coulomb excitation.

b From $\Gamma_{\gamma 0}/\Gamma$ and $\Gamma_{\gamma 0}$ in (γ,γ').

c Band(A): g.s. band.

d Band(B): negative-parity band.

e Band(C): β-vibrational band.

f Band(D): γ-vibrational band.

Adopted Levels, Gammas (continued)

γ(^{148}Nd)

E_i(level)	J^π_i	E_γ†	I_γ	E_f	J^π_f	Mult.‡	δ‡@	α#	Comments
301.705	2^+	301.702 *16*	100	0.0	0^+	E2		0.0515	B(E2)(W.u.)=57.9 *22* α(K)=0.0408 *6*; α(L)=0.00840 *12*; α(M)=0.00184 *3* α(N)=0.000404 *6*; α(O)=5.69×10^{-5} *8*; α(P)=2.24×10^{-6} *4*
752.29	4^+	450.58 *7*	100	301.705	2^+	E2		0.01566	B(E2)(W.u.)=94 *4* α(K)=0.01288 *18*; α(L)=0.00219 *3*; α(M)=0.000473 *7* α(N)=0.0001047 *15*; α(O)=1.517×10^{-5} *22*; α(P)=7.47×10^{-7} *11*
916.93	0^+	615.21 *8*	100	301.705	2^+	E2		0.00687	α(K)=0.00575 *8*; α(L)=0.000880 *13*; α(M)=0.000188 *3* α(N)=4.19×10^{-5} *6*; α(O)=6.18×10^{-6} *9*; α(P)=3.42×10^{-7} *5* B(E2)(W.u.)=31.2 *22*
999.33	3^-	246.8 *6*	5.3 *7*	752.29	4^+	[E1]		0.0225	α(K)=0.0192 *3*; α(L)=0.00258 *4*; α(M)=0.000543 *9* α(N)=0.0001207 *19*; α(O)=1.79×10^{-5} *3*; α(P)=1.064×10^{-6} *17* E_γ: mean value of 246.2 *2* (n,n′γ) and 247.4 *3* (β^- decay (2.29 min)). I_γ: mean value of 6.0 *6* (n,n′γ) and 4.5 *6* (β^- decay (2.01 min)).
		697.61 *7*	100 *12*	301.705	2^+	E1		0.00191	α(K)=0.001640 *23*; α(L)=0.000210 *3*; α(M)=4.42×10^{-5} *7* α(N)=9.88×10^{-6} *14*; α(O)=1.495×10^{-6} *21*; α(P)=9.63×10^{-8} *14*
1023.17	1^-	721.43 *8*	67 *11*	301.705	2^+	E1		1.78×10^{-3}	α(K)=0.001530 *22*; α(L)=0.000196 *3*; α(M)=4.12×10^{-5} *6* α(N)=9.20×10^{-6} *13*; α(O)=1.393×10^{-6} *20*; α(P)=8.99×10^{-8} *13*
		1023.18 *7*	100 *11*	0.0	0^+	E1		8.95×10^{-4}	α(K)=0.000772 *11*; α(L)=9.76×10^{-5} *14*; α(M)=2.05×10^{-5} *3* α(N)=4.58×10^{-6} *7*; α(O)=6.96×10^{-7} *10*; α(P)=4.57×10^{-8} *7*
1170.95	2^+	418.2 *4*	2.8 *13*	752.29	4^+	[E2]		0.0193	α(K)=0.01581 *23*; α(L)=0.00277 *4*; α(M)=0.000600 *9* α(N)=0.0001327 *19*; α(O)=1.91×10^{-5} *3*; α(P)=9.10×10^{-7} *13* B(E2)(W.u.)=16 *8* I_γ: from (N,nγ); 5 *3* in β^- decay data.
		869.23 *7*	100 *7*	301.705	2^+	M1+E2	+8 *+12−2*	0.00307	α(K)=0.00260 *5*; α(L)=0.000366 *6*; α(M)=7.77×10^{-5} *12* α(N)=1.73×10^{-5} *3*; α(O)=2.60×10^{-6} *4*; α(P)=1.57×10^{-7} *3* B(M1)(W.u.)=0.0003 *+10−3*; B(E2)(W.u.)=14.4 *19*
		1171.06 *15*	16.4 *16*	0.0	0^+	E2		1.62×10^{-3}	B(E2)(W.u.)=0.54 *8* α(K)=0.001379 *20*; α(L)=0.000185 *3*; α(M)=3.92×10^{-5} *6* α(N)=8.75×10^{-6} *13*; α(O)=1.322×10^{-6} *19*; α(P)=8.36×10^{-8} *12*; α(IPF)=3.18×10^{-6} *5*
1242.26	5^-	489.96 *8*	100	752.29	4^+	E1(+M2)	+0.03 *2*	0.00418 *11*	α(K)=0.00359 *10*; α(L)=0.000468 *14*; α(M)=9.9×10^{-5} *3* α(N)=2.20×10^{-5} *7*; α(O)=3.31×10^{-6} *10*; α(P)=2.09×10^{-7} *7* B(E1)(W.u.)=0.00205 *21*
1248.85	2^+	496.8 *6*	5 *3*	752.29	4^+				

$^{148}_{60}$Nd$_{88}$-5

γ(^{148}Nd) (continued)

E_i(level)	J^π_i	E_γ †	I_γ	E_f	J^π_f	Mult. ‡	α #	Comments
1248.85	2^+	947.09 *10*	44 *3*	301.705	2^+	E2(+M1)	0.0032 *7*	α(K)=0.0027 *6*; α(L)=0.00036 *7*; α(M)=7.7×10^{-5} *14* α(N)=1.7×10^{-5} *4*; α(O)=2.6×10^{-6} *5*; α(P)=1.7×10^{-7} *4* δ: >+100 or<−9.
		1248.89 *8*	100 *6*	0.0	0^+	E2	1.43×10^{-3}	B(E2)(W.u.)=1.9 *4* α(K)=0.001212 *17*; α(L)=0.0001616 *23*; α(M)=3.41×10^{-5} *5* α(N)=7.62×10^{-6} *11*; α(O)=1.153×10^{-6} *17*; α(P)=7.35×10^{-8} *11*; α(IPF)=1.237×10^{-5} *18*
1279.81	6^+	527.51 *10*	100	752.29	4^+	E2	0.01020	B(E2)(W.u.)=102 *7* α(K)=0.00848 *12*; α(L)=0.001361 *19*; α(M)=0.000293 *4* α(N)=6.49×10^{-5} *9*; α(O)=9.50×10^{-6} *14*; α(P)=4.99×10^{-7} *7*
1511.61	3^+	759.32 *18*	22.6 *26*	752.29	4^+	M1+E2	0.0053 *12*	α(K)=0.0045 *11*; α(L)=0.00062 *12*; α(M)=0.000132 *24* α(N)=2.9×10^{-5} *6*; α(O)=4.4×10^{-6} *9*; α(P)=2.8×10^{-7} *8* δ: +0.35 *15* or +5.0 *+15−22*.
		1209.92 *8*	100 *7*	301.705	2^+	M1+E2	0.0018 *4*	α(K)=0.0016 *3*; α(L)=0.00021 *4*; α(M)=4.4×10^{-5} *8* α(N)=9.8×10^{-6} *17*; α(O)=1.5×10^{-6} *3*; α(P)=9.8×10^{-8} *20*; α(IPF)=7.16×10^{-6} *14* δ: >400,<−28 or 0.20 *4*.
1515.6		492.4 *3*	100	1023.17	1^-			
1521.64	1	605.2 *3*	44 *9*	916.93	0^+			
		1521.46 *18*	100 *9*	0.0	0^+			
1604.1	4^+	604.8		999.33	3^-			
		851.8		752.29	4^+			
		1302.3		301.705	2^+			
1644.5	7^-	364.6	100 *5*	1279.81	6^+	(E1)	0.00832	α(K)=0.00713 *10*; α(L)=0.000941 *14*; α(M)=0.000198 *3* α(N)=4.41×10^{-5} *7*; α(O)=6.62×10^{-6} *10*; α(P)=4.07×10^{-7} *6* B(E1)(W.u.)=0.0043 *10*
		402.0	15 *5*	1242.26	5^-	E2	0.0217	α(K)=0.01766 *25*; α(L)=0.00315 *5*; α(M)=0.000683 *10* α(N)=0.0001508 *22*; α(O)=2.17×10^{-5} *3*; α(P)=1.012×10^{-6} *15* B(E2)(W.u.)=1.5×10^2 *6*
1645.6		622.7 *4*	100 *25*	1023.17	1^-			
		1343.5 *5*	88 *12*	301.705	2^+			
		1645.6 *10*	19 *5*	0.0	0^+			
1659.92	2^+	636.5 *3*	17 *3*	1023.17	1^-			
		660.0 *3*	26 *3*	999.33	3^-			
		1358.23 *5*	100 *17*	301.705	2^+			
1683.38	4^+	512.2 *4*	15 *9*	1170.95	2^+			
		933.7 *24*	9 *3*	752.29	4^+			
		1381.7 *2*	100 *13*	301.705	2^+			
1688.12	3^+,4^+,5^+	935.83 *10*	100 *6*	752.29	4^+	M1+E2	0.0033 *7*	α(K)=0.0028 *6*; α(L)=0.00037 *7*; α(M)=7.9×10^{-5} *15* α(N)=1.8×10^{-5} *4*; α(O)=2.7×10^{-6} *6*; α(P)=1.7×10^{-7} *4* δ: −0.53 *+8−10* or +3.0 *5*.
		1386.1 *5*	9 *3*	301.705	2^+			

$^{148}_{60}$Nd$_{88}$-6

Adopted Levels, Gammas (continued)

γ(^{148}Nd) (continued)

E_i(level)	J^π_i	E_γ†	I_γ	E_f	J^π_f	Mult.‡	δ‡@	α#	Comments
1729.11	3^+	976.8 2	83 14	752.29	4^+	M1(+E2)	+0.00 +13−14	0.00358 6	α(K)=0.00307 5; α(L)=0.000401 7; α(M)=8.46×10^{-5} 13 α(N)=1.89×10^{-5} 3; α(O)=2.89×10^{-6} 5; α(P)=1.93×10^{-7} 3
		1427.4 2	100 15	301.705	2^+	M1+E2	+0.37 5	1.50×10^{-3} 2	α(K)=0.001238 21; α(L)=0.000160 3; α(M)=3.37×10^{-5} 6 α(N)=7.55×10^{-6} 13; α(O)=1.153×10^{-6} 19; α(P)=7.72×10^{-8} 13; α(IPF)=5.51×10^{-5} 8
1809.0		297.5 3	100 30	1511.61	3^+				
		637.3 7	47 16	1170.95	2^+				
1824.55		825.23 15	100 17	999.33	3^-				
		1071.9 7	40 14	752.29	4^+				
1856.2	8^+	211.7	38 6	1644.5	7^-	E1		0.0337	α(K)=0.0288 4; α(L)=0.00389 6; α(M)=0.000821 12 α(N)=0.000182 3; α(O)=2.70×10^{-5} 4; α(P)=1.571×10^{-6} 22 B(E1)(W.u.)=0.0049 11
		576.2	100 6	1279.81	6^+	E2		0.00811	α(K)=0.00677 10; α(L)=0.001056 15; α(M)=0.000226 4 α(N)=5.03×10^{-5} 7; α(O)=7.40×10^{-6} 11; α(P)=4.01×10^{-7} 6 B(E2)(W.u.)=98 17
1858.4	(2^+,3)	1106.2 5	84 7	752.29	4^+				
		1556.7 4	100 8	301.705	2^+				
2073.73	$2^{(+)}$	562.4 2	19 4	1511.61	3^+				
		825.3 9	100 7	1248.85	2^+				
		903.1 7	78 11	1170.95	2^+				
		1050.5 7	22 4	1023.17	1^-				
		1156.5 2	30 7	916.93	0^+				
		1771.7 6	89 7	301.705	2^+	(M1(+E2))	−0.03 +25−28	1.12×10^{-3} 2	α(K)=0.000789 19; α(L)=0.0001012 24; α(M)=2.13×10^{-5} 5 α(N)=4.77×10^{-6} 11; α(O)=7.30×10^{-7} 17; α(P)=4.92×10^{-8} 13; α(IPF)=0.000199 3
2099.1	6^+	819.3		1279.81	6^+				
		1346.8		752.29	4^+				
2131.8	9^-	275.5	100 10	1856.2	8^+	E1		0.01686	α(K)=0.01443 21; α(L)=0.00193 3; α(M)=0.000406 6 α(N)=9.03×10^{-5} 13; α(O)=1.346×10^{-5} 19; α(P)=8.07×10^{-7} 12
		487.4	80 10	1644.5	7^-	E2		0.01261	α(K)=0.01043 15; α(L)=0.001721 24; α(M)=0.000371 6 α(N)=8.22×10^{-5} 12; α(O)=1.197×10^{-5} 17; α(P)=6.10×10^{-7} 9
2149.0	6^+	504		1644.5	7^-				

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$\gamma(^{148}Nd)$ (continued)

E_i(level)	J^π_i	E_γ†	I_γ	E_f	J^π_f	Mult.‡
2149.0	6^+	869.3		1279.81	6^+	
		907		1242.26	5^-	
		1396.8		752.29	4^+	
2153.0	$(1,2^+)$	2153 *1*	100	0.0	0^+	
2182.2		522.2 *4*		1659.92	2^+	
		1880.9 *7*		301.705	2^+	
2236.8		1065.5 *13*	100	1170.95	2^+	
2375.9	1	2074 *1*	98 *30*	301.705	2^+	
		2376 *1*	100	0.0	0^+	
2406.20	0,1,2	894.4 *4*	38 *5*	1511.61	3^+	
		1157.4 *2*	100 *29*	1248.85	2^+	
2431.48	2^+	918.4 *6*	11 *8*	1511.61	3^+	
		1182.7 *2*	14 *3*	1248.85	2^+	
		1260.7 *4*	36 *14*	1170.95	2^+	
		1409.8 *9*	6 *6*	1023.17	1^-	
		2129.6 *5*	100 *17*	301.705	2^+	
2471.2	(10^+)	339.4	100 *33*	2131.8	9^-	D
		615.0	67 *33*	1856.2	8^+	(Q)
2481.0	1	2481 *1*	100	0.0	0^+	
2544.7	(1^-)	1521.8 *6*		1023.17	1^-	
		2544 *1*		0.0	0^+	
2676.4	(11^-)	205.3	40 *20*	2471.2	(10^+)	D
		544.6	100 *20*	2131.8	9^-	Q
2689.0	1	2689 *1*	100	0.0	0^+	
2726.1	8^+	1446.3	100	1279.81	6^+	
2729.9	(1)	2428 *1*	100	301.705	2^+	
		2730 *1*	84 *22*	0.0	0^+	
2736.0	1	2736 *1*	100	0.0	0^+	
2795.0	$(1,2^+)$	2795 *1*	100	0.0	0^+	
2839.0	1	2839 *1*	100	0.0	0^+	
2845.0	(1)	2845 *1*	100	0.0	0^+	
2920.0	1	2920 *1*	100	0.0	0^+	
2922.9	1	2621 *1*	61 *18*	301.705	2^+	
		2923 *1*	100	0.0	0^+	
2930.63	(2^-)	1271.2 *5*	33 *8*	1659.92	2^+	
		1418.6 *7*	29 *13*	1511.61	3^+	
		1907.1 *3*	71 *21*	1023.17	1^-	
		1931.9 *5*	42 *17*	999.33	3^-	
		2629.0 *6*	100 *25*	301.705	2^+	
2982.0	1	2982 *1*	100	0.0	0^+	
3002.0	$(1,2^+)$	3002 *1*	100	0.0	0^+	
3036.8		800.0 *1*	50 *42*	2236.8		

E_i(level)	J^π_i	E_γ†	I_γ	E_f	J^π_f
3036.8		2735.3 *11*	100 *42*	301.705	2^+
3091.9	1	2790 *1*	100	301.705	2^+
		3092 *1*	86 *7*	0.0	0^+
3106.2	(12^+)	635	100	2471.2	(10^+)
3113.0	1	3113 *1*	100	0.0	0^+
3129.9		2106.7 *8*	100	1023.17	1^-
3136.0	1	3136 *1*	100	0.0	0^+
3176.0	(1)	3176 *1*	100	0.0	0^+
3191.0	(1)	3191 *1*	100	0.0	0^+
3205.0	$(1,2^+)$	3205 *1*	100	0.0	0^+
3214.9	1	2913 *1*	24 *9*	301.705	2^+
		3215 *1*	100	0.0	0^+
3264.4	(13^-)	588	100	2676.4	(11^-)
3265.0	1	3265.0 *10*	100	0.0	0^+
3281.0	$(1,2^+)$	3281 *1*	100	0.0	0^+
3340.9	1	3039 *1*	45 *10*	301.705	2^+
		3341 *1*	100	0.0	0^+
3369.9	1	3068 *1*	70 *25*	301.705	2^+
		3370 *1*	100	0.0	0^+
3377.9	1	3076 *1*	100	301.705	2^+
		3378 *1*	98 *29*	0.0	0^+
3404.9	1	3103 *1*	67 *18*	301.705	2^+
		3405 *1*	100	0.0	0^+
3414.9	1	3113 *1*	100	301.705	2^+
		3415 *1*	52 *31*	0.0	0^+
3490.0	(1)	3490 *1*	100	0.0	0^+
3527.9	$(1,2^+)$	3226 *1*	61 *28*	301.705	2^+
		3528 *1*	100	0.0	0^+
3544.9	1	3243 *1*	52 *31*	301.705	2^+
		3545 *1*	100	0.0	0^+
3596.9	(1)	3295 *1*	56 *24*	301.705	2^+
		3597 *1*	100	0.0	0^+
3689.0	1	3689 *1*	100	0.0	0^+
3716.9	(1)	3415 *1*		301.705	2^+
		3717 *1*		0.0	0^+
3755.1	(1)	3755 *1*	100	0.0	0^+
3771.1	(1)	3771 *1*	100	0.0	0^+
3793.1	1	3793 *1*	100	0.0	0^+
3805.1	1	3805 *1*	100	0.0	0^+
3826.1	$(1,2^+)$	3826 *1*	100	0.0	0^+
3860.9	1	3559 *1*	15 *6*	301.705	2^+
		3861 *1*	100	0.0	0^+

$\gamma(^{148}Nd)$ (continued)

† From β^- decay, (n,n′γ), Coulomb ex., (α,α2nγ), and (γ,γ').

‡ From $\gamma(\theta)$ in β^- decay, (n,n′γ), (α,α2nγ), (γ,γ') and linear-polarization data in (n,n′γ).

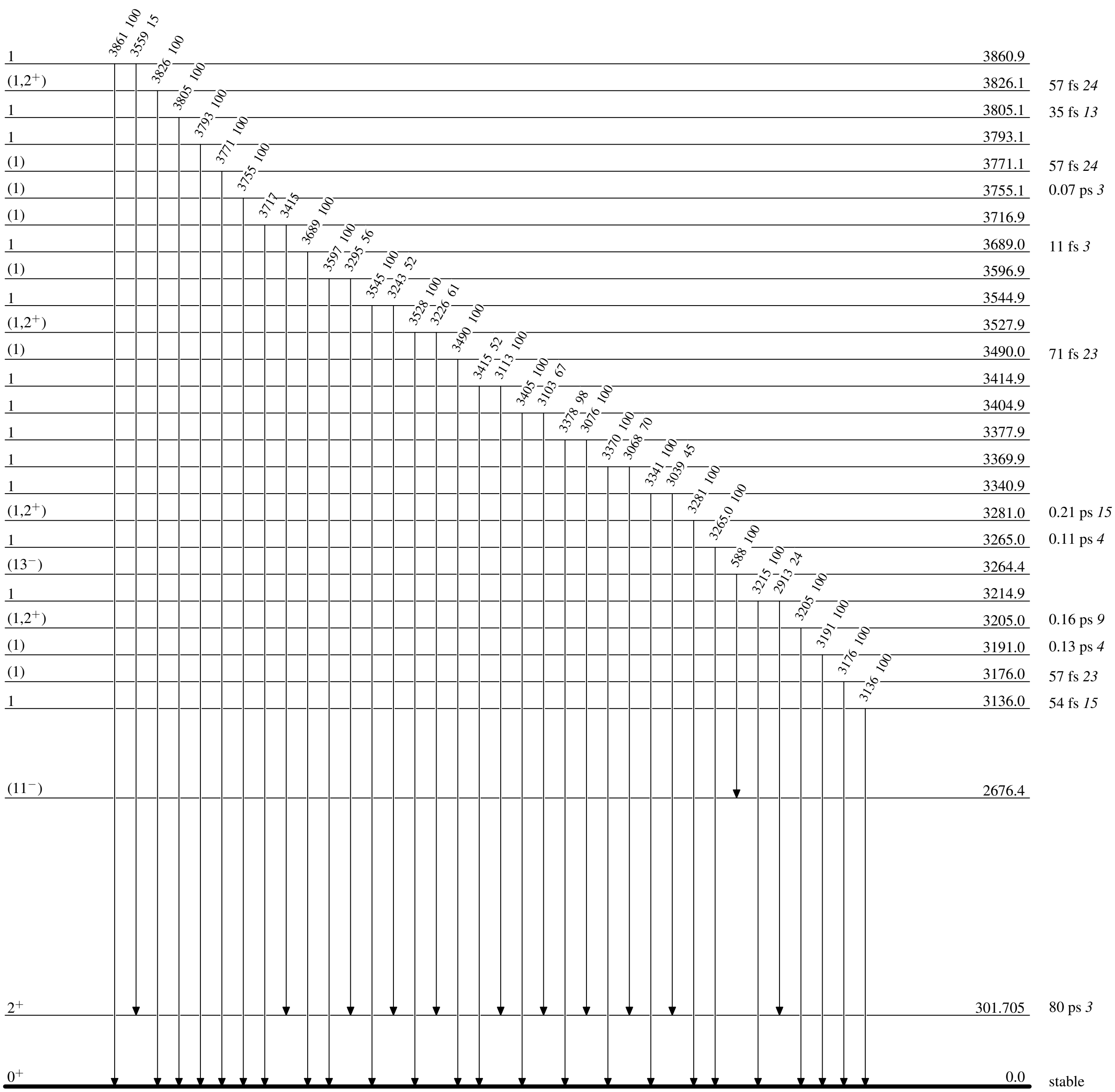
Additional information 1.

@ If No value given it was assumed δ=1.00 for E2/M1, δ=1.00 for E3/M2 and δ=0.10 for the other multipolarities.

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level



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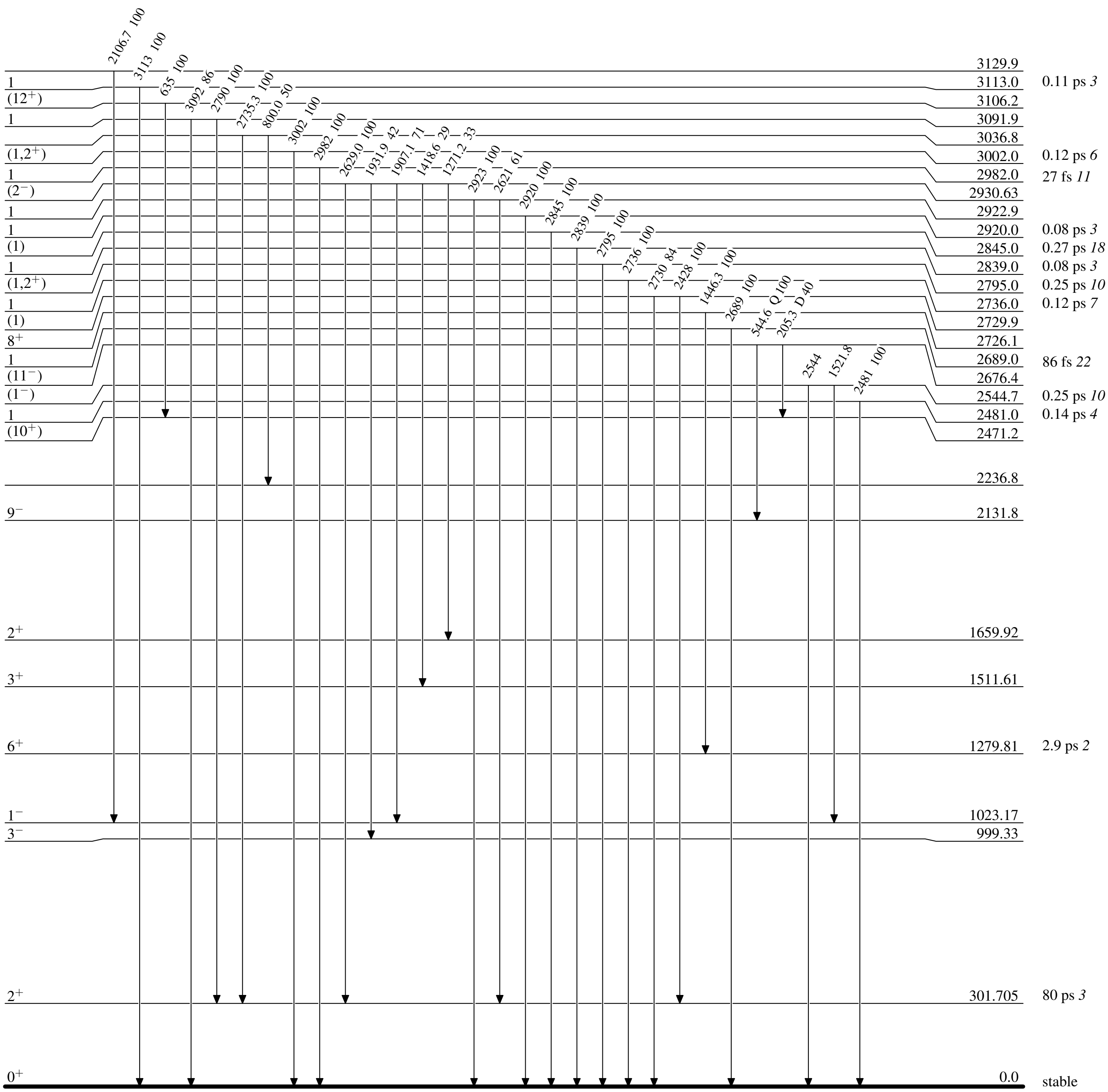
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



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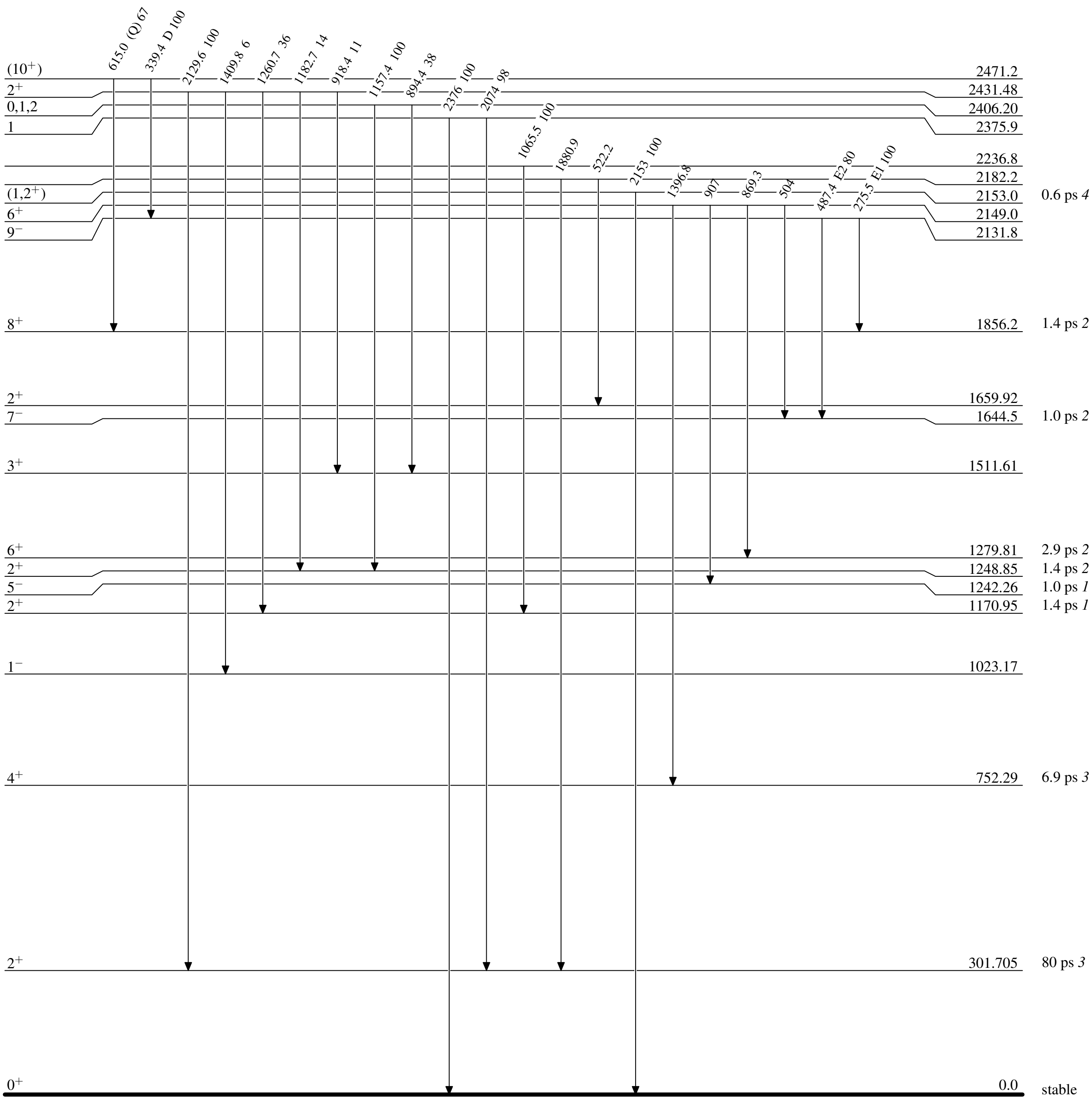
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



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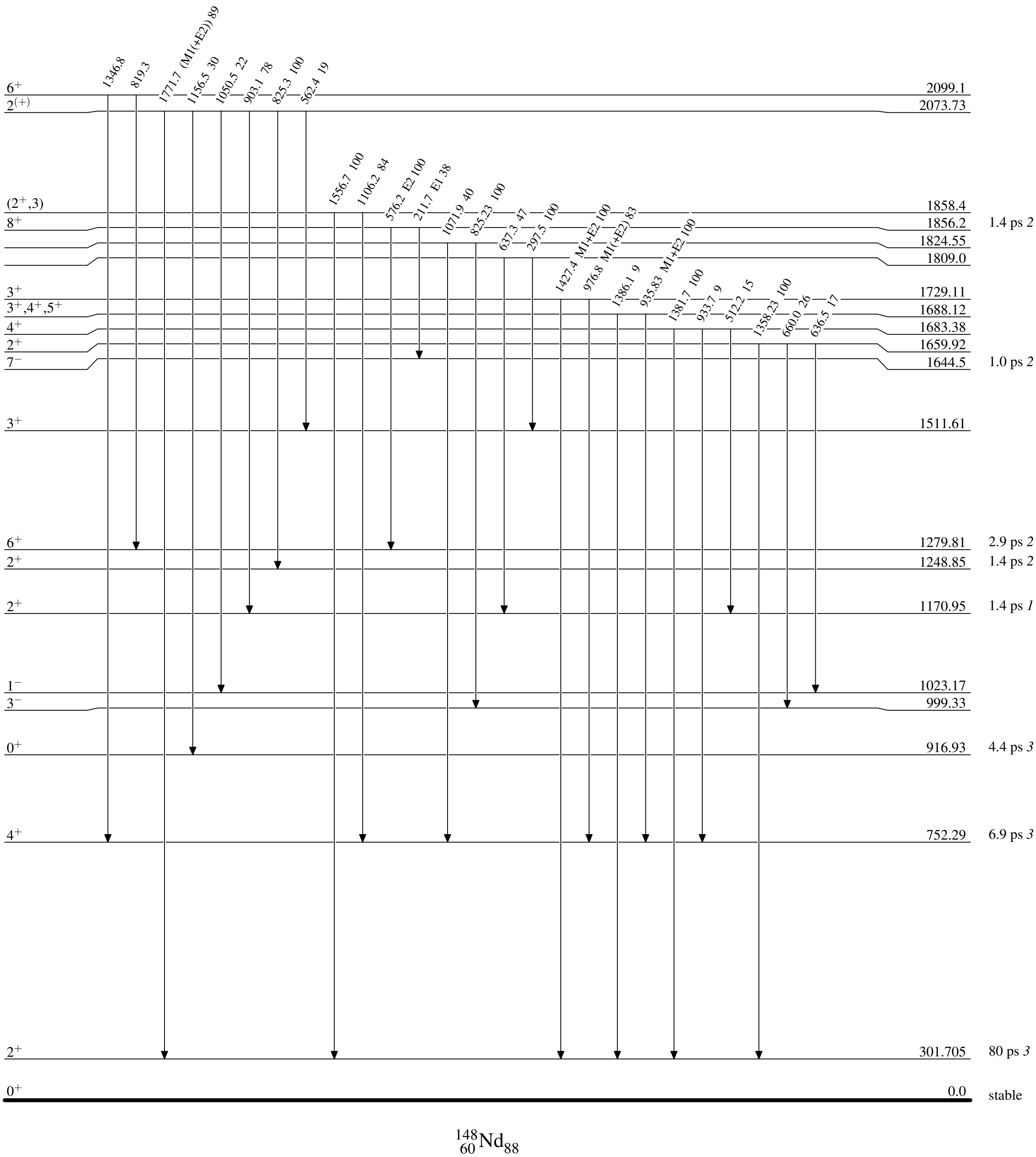
Adopted Levels, Gammas

Level Scheme (continued)

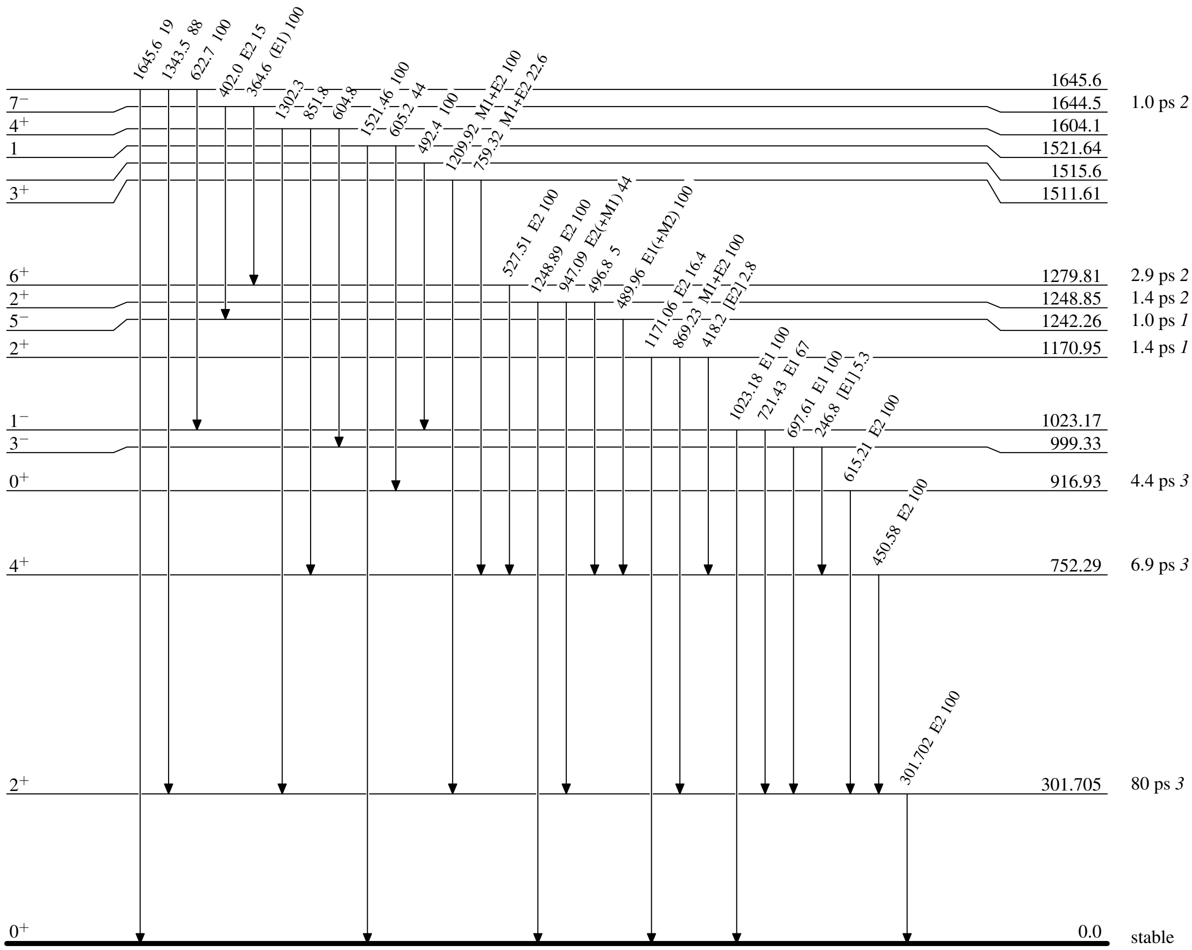
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



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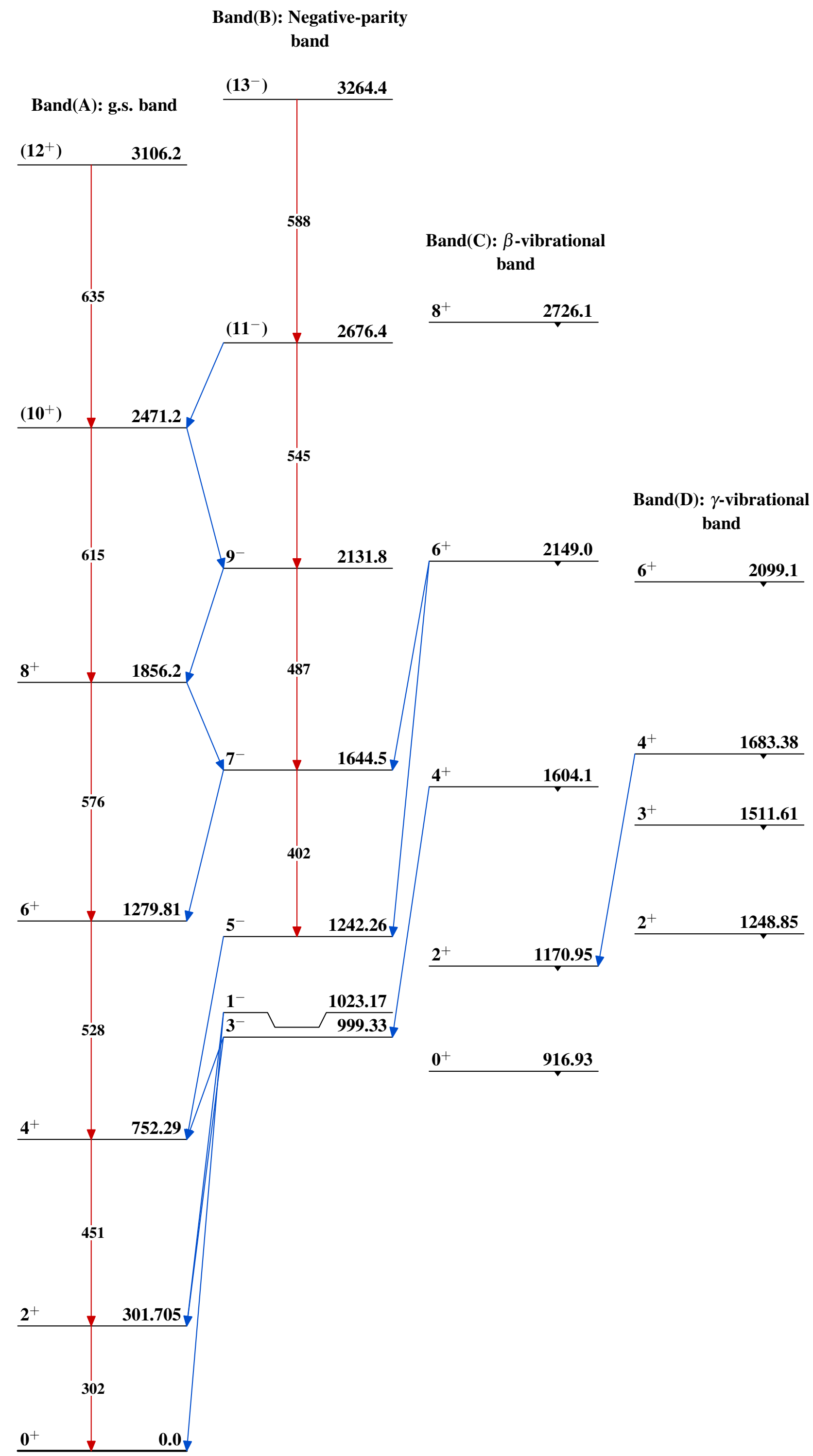
Adopted Levels, Gammas



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