^{142}Nd(n,n′γ) 1996Go29

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	T. D. Johnson, D. Symochko(a), M. Fadil(b), and J. K. Tuli	NDS 112, 1949 (2011)	1-Jun-2010

1996Go29: E=fast, measured γ, γ(θ), linear pol.
1995Be41: E=3.7 MeV. Measured γ(t) DSA. Observed γ-ray branching from the first 1^- state to one-phonon state, lending support to the interpretation of 1^- state as having a significant $2^+\otimes3^-$ component.
1993Be03: E=1.75 MeV. Measured γ(t) DSA.
Others: 1984GaZR, 1978AhZX.

^{142}Nd Levels

E(level)†	Jπ‡	$T_{1/2}$	Comments
0.0	0^+		
1575.781 *10*	2^+	0.090 ps *+35−20*	$T_{1/2}$: from DSA (1993Be03).
2083.943 *20*	3^-	0.44 ps *+37−14*	$T_{1/2}$: from DSA (1995Be41).
2100.788 *13*	4^+		
2209.304 *21*	6^+		
2217.484 *24*	0^+		
2384.340 *20*	2^+		
2437.171 *20*	4^+		
2513.889 *21*	5^+		
2547.280 *15*	3^+		
2583.091 *22*	2^+		
2585.551 *20*	$1^{(+)}$		
2737.26 *3*	4^+		
2845.86 *5*	2^+		
2886.31 *4*	6^+		
2975.90 *6*	5^-		
2983.1 *10*	0^+		
3009.97 *5*	4^+		
3045.19 *4*	2^+		
3081.06 *4*	4^+		
3085.85 *6*	5^+		
3128.06 *7*	2^+		
3242.62 *6*	7^-		
3244.83 *6*	4^-		
3296.2 *10*	(5^-)		
3318.73 *6*	4^+		
3358.68 *9*	2^+		
3365.26 *6*	(3^-)		
3414.24 *8*	$(5)^-$		
3424.24 *14*	1^-	1.9 fs *3*	$T_{1/2}$: deduced from $\Gamma_{\gamma0}$=228 meV *34* (1990Pi04) and their measured branching ratios by 1995Be41. $T_{1/2}$<2.9 fs from DSA (1995Be41).
3439.81 *11*			
3448.54 *13*			
3454.1 *3*	8^+		
3456.01 *14*	8^-		
3466.83? *9*			
3470.31 *11*	2^+		
3499.17 *22*	(7^-)		
3511.9 *4*			
3519.94 *19*	(7^+)		
3576.81 *8*	(3^-)		
3579.11 *6*	2^+		
3584.3 *3*	(0^+)		
3598.31 *10*	5^-		

Continued on next page (footnotes at end of table)

^{142}Nd(n,n′γ) 1996Go29 (continued)

^{142}Nd Levels (continued)

E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡
3633.2 *4*	6^+	3831.11 *20*	2^-	4068.9 *3*		4335.0 *10*	(1^-)
3708.65 *6*	$(5)^-$	3861.18 *18*		4094.8 *7*	1	4362.8 *8*	
3709.77 *13*	$(3)^-$	3871.79 *19*		4145.9 *6*	(1^-)	4390.2 *4*	(1^-)
3743.7 *3*	$(1^-,2^+)$	3896.0 *5*	(2^+)	4174.4 *4*	(4^+)	4456.1 *3*	3^-
3757.6 *5*	$1,2^+$	3923.3 *10*	(1^-)	4203.04 *23*	2^+	4464.3 *8*	
3763.2 *5*	(0^+)	3939.1 *7*		4255.7 *9*	$1,2^+$	4500.1 *17*	2^+
3781.31 *13*	3^-	3982.0 *4*	1	4269.1 *8*		4511.5 *6*	3^-
3785.0 *3*	$1,2^+$	3985.89 *17*		4286.4 *11*	3^-	4552.8 *6*	
3803.7 *7*	(4^+)	4053.8 *4*		4319.3 *6*			

† From least-squares fit to Eγ.

‡ ADOPTED values mostly from (n,n′γ) based on γ(θ), γ(linear pol), see 1996Go29 for detailed arguments.

^{142}Nd(n,n′γ) 1996Go29 (continued)

γ(^{142}Nd)

E_γ	I_γ ‡	E_i(level)	J_i^π	E_f	J_f^π	Mult. #	δ @	α †	Comments
108.52 *2*	2.9 *3*	2209.304	6^+	2100.788	4^+				
190.07 *8*	0.16 *2*	2737.26	4^+	2547.280	3^+	D+Q			δ: +0.01 *4* or −6.1 *+13−20*.
213.39 *12*	0.109 *15*	3456.01	8^-	3242.62	7^-				
223.42 *12*	0.145 *20*	2737.26	4^+	2513.889	5^+	D+Q			δ: −0.04 *9* or −8 *+4−20*.
304.589 *17*	1.76 *2*	2513.889	5^+	2209.304	6^+	D+Q			δ: −0.06 *2* or −7.0 *+10−15*.
336.383 *17*	4.8 *3*	2437.171	4^+	2100.788	4^+	D+Q	−0.09 *3*		
352.95 *20*	0.08 *3*	2437.171	4^+	2083.943	3^-				
372.45 *7*	0.128 *8*	2886.31	6^+	2513.889	5^+				
413.098 *22*	1.21 *6*	2513.889	5^+	2100.788	4^+	D+Q	−0.038 *10*		
446.501 *19*	2.01 *10*	2547.280	3^+	2100.788	4^+	D+Q	−0.08 *2*		
508.15 *2*	17.0 *15*	2083.943	3^-	1575.781	2^+				
525.009 *10*	24.6 *13*	2100.788	4^+	1575.781	2^+				
538.63 *10*	0.201 *15*	2975.90	5^-	2437.171	4^+	D+Q	+0.02 *2*		
x587.3 *6*	0.021 *10*								
636.460 *25*	1.56 *8*	2737.26	4^+	2100.788	4^+	D+Q	−0.08 *4*		
641.704 *22*	1.66 *9*	2217.484	0^+	1575.781	2^+	E2		0.00618 *9*	α=0.00618 *9*; α(K)=0.00519 *8*; α(L)=0.000785 *11*; α(M)=0.0001678 *24*; α(N+..)=4.31×10^{-5} *6* α(N)=3.73×10^{-5} *6*; α(O)=5.52×10^{-6} *8*; α(P)=3.10×10^{-7} *5*
648.65 *10*	0.047 *8*	3085.85	5^+	2437.171	4^+				
676.99 *4*	0.47 *3*	2886.31	6^+	2209.304	6^+	D+Q	−0.13 *4*		
x701.8 *3*	0.031 *10*								
x748.57 *15*	0.20 *2*								
x756.66 *17*	0.071 *9*								
x799.9 *4*	0.043 *14*								
x805.41 *23*	0.09 *2*								
808.555 *23*	1.02 *5*	2384.340	2^+	1575.781	2^+	D+Q	+0.16 *+6−5*		
x821.0 *2*	0.020 *10*								
x826.4 *2*	0.030 *10*								
x831.4 *2*	0.030 *10*								
861.32 *6*	0.45 *3*	2437.171	4^+	1575.781	2^+				
871.8 *3*	0.11 *2*	3081.06	4^+	2209.304	6^+				
875.2 *2*	0.71 *5*	2975.90	5^-	2100.788	4^+	D+Q	+0.01 *3*		
876.6 *2*	0.51 *5*	3085.85	5^+	2209.304	6^+	D+Q			δ: +0.8<δ<+1.8.
881.51 *7*	0.14 *3*	3318.73	4^+	2437.171	4^+				δ: −0.23 *10* or +1.7 *+5−3*.
891.99 *7*	<0.214	2975.90	5^-	2083.943	3^-				
900.4 *4*	0.035 *10*	3414.24	$(5)^-$	2513.889	5^+				
909.16 *8*	0.21 *2*	3009.97	4^+	2100.788	4^+	D+Q			δ: +0.10 *8* or +0.8 *+2−4*.
925.93[b] *13*	<0.108[b]	3009.97	4^+	2083.943	3^-				
925.93[b] *13*	<0.108[b]	3439.81		2513.889	5^+				
x929.2 *3*	0.061 *12*								
934.6[b] *4*	<0.028[b]	3318.73	4^+	2384.340	2^+				
934.6[b] *4*	<0.028[b]	3448.54		2513.889	5^+				

$^{142}_{60}Nd_{82}$-3

^{142}Nd(n,n′γ) 1996Go29 (continued)

γ(^{142}Nd) (continued)

E_γ	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[@]	α[†]	Comments
961.23 *5*	0.25 *2*	3045.19	2^+	2083.943	3^-				
971.494 *13*	1.97 *10*	2547.280	3^+	1575.781	2^+	D+Q	−0.07 *2*		
980.3 *3*	0.18 *3*	3081.06	4^+	2100.788	4^+				
985.07 *7*	0.16 *2*	3085.85	5^+	2100.788	4^+	D+Q			δ: −0.6 *+1−8* or −1.64 *+15−26*.
1002.4 *4*	0.022 *8*	3439.81		2437.171	4^+				
1007.309 *24*	1.31 *8*	2583.091	2^+	1575.781	2^+	D+Q	−0.28 *3*		
1009.768 *18*	1.91 *10*	2585.551	$1^{(+)}$	1575.781	2^+	D+Q			δ: −0.16 *+10−13* or −2.0 *+5−8*.
1027.35 *20*	0.068 *12*	3128.06	2^+	2100.788	4^+				
[x]1030.0 *4*	0.029 *14*								
1033.31 *5*	<0.31	3242.62	7^-	2209.304	6^+	E1		0.000879 *13*	α=0.000879 *13*; α(K)=0.000758 *11*; α(L)=9.58×10^{-5} *14*; α(M)=2.01×10^{-5} *3*; α(N+..)=5.22×10^{-6} *8* α(N)=4.49×10^{-6} *7*; α(O)=6.83×10^{-7} *10*; α(P)=4.49×10^{-8} *7*
1044.17 *12*	0.11 *2*	3128.06	2^+	2083.943	3^-				
[x]1092.7 *4*	0.034 *10*								
[x]1095.6 *2*	0.11 *3*								
[x]1127.43 *21*	0.16 *2*								
[x]1136.6 *5*	0.037 *14*								
1160.88 *5*	0.85 *4*	3244.83	4^-	2083.943	3^-	D+Q			δ: +2.6 *2* or +0.58 *3*.
1194.75[b] *5*	<0.055[b]	3579.11	2^+	2384.340	2^+				
1194.75[b] *5*	<0.055[b]	3708.65	$(5)^-$	2513.889	5^+				
1212.24[a]	<0.69	3296.2	(5^-)	2083.943	3^-				
1217.98 *8*	0.41 *2*	3318.73	4^+	2100.788	4^+	D+Q			δ: −0.14 *4* or +1.32 *+12−10*.
1234.9[b] *5*	<0.055[b]	3318.73	4^+	2083.943	3^-				
1234.9[b] *5*	<0.055[b]	3781.31	3^-	2547.280	3^+				
1239.24 *13*	0.153 *16*	3448.54		2209.304	6^+				
1244.8 *3*	0.11 *2*	3454.1	8^+	2209.304	6^+				
1270.03 *17*	0.16 *2*	2845.86	2^+	1575.781	2^+	D+Q			δ: −0.6 *+2−3* or −6 *+3−29*.
1274.9[c] *2*	0.15 *2*	3358.68	2^+	2083.943	3^-				
1289.86 *21*	<0.13	3499.17	(7^-)	2209.304	6^+				
1289.9[c] *2*	<0.13	3803.7	(4^+)	2513.889	5^+				
1310.63 *18*	0.14 *3*	3519.94	(7^+)	2209.304	6^+				
1313.44 *8*	0.41 *3*	3414.24	$(5)^-$	2100.788	4^+	D+Q	+0.11 *3*		
[x]1323.1 *3*	0.08 *2*								
[x]1329.58 *18*	0.12 *2*								
1339.03 *17*	0.22 *3*	3439.81		2100.788	4^+				
1339.9[&] *2*	<0.013[&]	3424.24	1^-	2083.943	3^-	E2		0.001261 *18*	B(E2)(W.u.)=3.E+1 *3* α=0.001261 *18*; α(K)=0.001055 *15*; α(L)=0.0001395 *20*; α(M)=2.94×10^{-5} *5*; α(N+..)=3.69×10^{-5} α(N)=6.58×10^{-6} *10*; α(O)=9.97×10^{-7} *14*; α(P)=6.40×10^{-8} *9*; α(IPF)=2.93×10^{-5} *5*
1382.88 *8*	0.44 *3*	3466.83?		2083.943	3^-				

$^{142}_{60}Nd_{82}$-4

^{142}Nd(n,n′γ) 1996Go29 (continued)

γ(^{142}Nd) (continued)

E_γ	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[@]	α[†]	Comments
1386.49 *17*	0.165 *18*	3470.31	2^+	2083.943	3^-				
1400.7 *3*	0.034 *12*	3785.0	$1,2^+$	2384.340	2^+				
1407.3[a]	0.42	2983.1	0^+	1575.781	2^+				
1423.9[b] *4*	<0.044[b]	3633.2	6^+	2209.304	6^+				
1423.9[b] *4*	<0.044[b]	3861.18		2437.171	4^+				
1434.20 *5*	1.12 *6*	3009.97	4^+	1575.781	2^+	E2		0.001133 *16*	α=0.001133 *16*; α(K)=0.000924 *13*; α(L)=0.0001214 *17*; α(M)=2.56×10^{-5} *4*; α(N+..)=6.16×10^{-5} α(N)=5.72×10^{-6} *8*; α(O)=8.68×10^{-7} *13*; α(P)=5.61×10^{-8} *8*; α(IPF)=5.50×10^{-5} *8*
[x]1442.63 *9*	0.23 *3*								
1469.53 *9*	0.38 *2*	3045.19	2^+	1575.781	2^+	D+Q			δ: +0.1<δ<+1.5.
1475.99 *11*	0.155 *16*	3576.81	(3^-)	2100.788	4^+	D+Q	−0.15 *9*		
[x]1486.7 *3*	0.06 *2*								
[x]1489.79 *23*	0.09 *2*								
1492.94 *13*	0.17 *2*	3576.81	(3^-)	2083.943	3^-				
1497.5 *3*	0.066 *14*	3598.31	5^-	2100.788	4^+				
1505.27 *4*	0.96 *5*	3081.06	4^+	1575.781	2^+	E2		0.001060 *15*	α=0.001060 *15*; α(K)=0.000842 *12*; α(L)=0.0001101 *16*; α(M)=2.32×10^{-5} *4*; α(N+..)=8.41×10^{-5} α(N)=5.19×10^{-6} *8*; α(O)=7.88×10^{-7} *11*; α(P)=5.11×10^{-8} *8*; α(IPF)=7.81×10^{-5} *11*
1514.36 *10*	0.258 *14*	3598.31	5^-	2083.943	3^-	E2		0.001052 *15*	α=0.001052 *15*; α(K)=0.000833 *12*; α(L)=0.0001088 *16*; α(M)=2.29×10^{-5} *4*; α(N+..)=8.72×10^{-5} α(N)=5.13×10^{-6} *8*; α(O)=7.78×10^{-7} *11*; α(P)=5.06×10^{-8} *7*; α(IPF)=8.13×10^{-5} *12*
[x]1537.6 *5*	0.053 *12*								
1552.24 *10*	0.58 *3*	3128.06	2^+	1575.781	2^+	D+Q			δ: −0.69 *9* or −5.1 *+14−22*.
1575.771 *10*	100.0	1575.781	2^+	0.0	0^+	E2		0.001003 *14*	B(E2)(W.u.)=15 *6* α=0.001003 *14*; α(K)=0.000772 *11*; α(L)=0.0001005 *14*; α(M)=2.12×10^{-5} *3*; α(N+..)=0.000109 α(N)=4.74×10^{-6} *7*; α(O)=7.19×10^{-7} *10*; α(P)=4.69×10^{-8} *7*; α(IPF)=0.0001037 *15*
[x]1589.8 *6*	0.042 *7*								
[x]1602.75 *20*	0.126 *15*								
1608.0 *3*	0.12 *2*	3708.65	$(5)^-$	2100.788	4^+				
1625.82 *12*	0.190 *15*	3709.77	$(3)^-$	2083.943	3^-	D+Q			δ: −0.08 *9* or +1.7 *+4−3*.
[x]1635.4 *3*	0.055 *14*								
[x]1638.7 *6*	0.019 *10*								
[x]1650.6[a]	0.08 *2*								
1659.8 *3*	0.10 *2*	3743.7	$(1^-,2^+)$	2083.943	3^-				
[x]1663.9 *3*	0.14 *2*								
[x]1672.9 *2*	0.12 *2*								
1697.25 *14*	0.131 *14*	3781.31	3^-	2083.943	3^-				

^{142}Nd(n,n′γ) 1996Go29 (continued)

γ(^{142}Nd) (continued)

E_γ	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[@]	α[†]	Comments
1719.7 *7*	0.14 *2*	3803.7	(4$^+$)	2083.943	3$^-$				
[x]1743.6 *5*	0.06 *2*								
1747.0 *3*	0.123 *15*	3831.11	2$^-$	2083.943	3$^-$				
1760.6 *12*	0.023 *12*	3861.18		2100.788	4$^+$				
1765.1 *4*	0.030 *12*	3982.0	1	2217.484	0$^+$				
1770.9 *3*	0.06 *2*	3871.79		2100.788	4$^+$				
[x]1773.4 *4*	0.05 *2*								
1782.89 *9*	0.26 *3*	3358.68	2$^+$	1575.781	2$^+$	D+Q			δ: −5<δ<−0.7.
1789.47 *6*	0.57 *3*	3365.26	(3$^-$)	1575.781	2$^+$				
[x]1799.44 *14*	0.128 *15*								
1807.0 *4*	0.070 *15*	4390.2	(1$^-$)	2583.091	2$^+$				
1811.5 *6*	0.037 *15*	3896.0	(2$^+$)	2083.943	3$^-$				
1818.8 *3*	0.077 *14*	4203.04	2$^+$	2384.340	2$^+$				
[x]1838.57 *19*	0.107 *12*								
1848.6[&] *3*	0.011[&] *3*	3424.24	1$^-$	1575.781	2$^+$	E1		0.000794 *12*	B(E1)(W.u.)=0.00060 *20* α=0.000794 *12*; α(K)=0.000278 *4*; α(L)=3.45×10^{-5} *5*; α(M)=7.22×10^{-6} *11*; α(N+..)=0.000475 *7* α(N)=1.616×10^{-6} *23*; α(O)=2.47×10^{-7} *4*; α(P)=1.650×10^{-8} *24*; α(IPF)=0.000473 *7*
[x]1879.8 *16*	0.021 *10*								
1885.0 *3*	0.072 *12*	3985.89		2100.788	4$^+$				
1894.39 *16*	0.099 *12*	3470.31	2$^+$	1575.781	2$^+$				
[x]1903.9 *6*	0.020 *10*								
1928.6[ac]	<0.09	4145.9	(1$^-$)	2217.484	0$^+$				
[x]1935.6 *5*	0.045 *15*								
1969.2 *4*	0.047 *15*	4053.8		2083.943	3$^-$				
[x]1978.6 *4*	0.046 *20*								
[x]1987.4 *4*	0.046 *7*								
2000.9 *2*	0.23 *2*	3576.81	(3$^-$)	1575.781	2$^+$	D+Q	+0.26 *4*		
2003.5 *8*	0.09 *4*	3579.11	2$^+$	1575.781	2$^+$				
2008.5 *3*	0.08 *2*	3584.3	(0$^+$)	1575.781	2$^+$				
[x]2017.1 *5*	0.038 *15*								
[x]2037.9 *4*	0.029 *7*								
[x]2050.9 *5*	0.028 *10*								
[x]2059.3 *5*	0.047 *15*								
[x]2078.0 *7*	0.042 *20*								
[x]2082.6 *5*	0.068 *15*								
(2084.0 *1*)	≈0.03	2083.943	3$^-$	0.0	0$^+$	E3		0.001135 *16*	α=0.001135 *16*; α(K)=0.000805 *12*; α(L)=0.0001076 *15*; α(M)=2.27×10^{-5} *4*; α(N+..)=0.000199 α(N)=5.09×10^{-6} *8*; α(O)=7.73×10^{-7} *11*; α(P)=5.00×10^{-8} *7*; α(IPF)=0.000193 *3* I_γ: deduced from $T_{1/2}$ and B(E3) (1995Be41).
2119.1 *4*	0.055 *15*	4203.04	2$^+$	2083.943	3$^-$				

^{142}Nd(n,n′γ) 1996Go29 (continued)

γ(^{142}Nd) (continued)

E_γ	I_γ ‡	E_i(level)	J_i^π	E_f	J_f^π	Mult.#	α†	Comments
x2144.7 5	0.028 10							
x2159.2 7	0.032 10							
2182.0 6	0.028 10	3757.6	1,2+	1575.781	2+			
2187.4 5	0.041 10	3763.2	(0+)	1575.781	2+			
2205.7 3	0.087 15	3781.31	3−	1575.781	2+			
2210.4c 8	0.035 15	3785.0	1,2+	1575.781	2+			
x2231.4 4	0.06 2							
2255.41 25	0.079 12	3831.11	2−	1575.781	2+			
2285.40 20	0.111 12	3861.18		1575.781	2+			
2296.05 23	0.092 12	3871.79		1575.781	2+			
x2310.7 8	0.038 12							
2319.84a	<0.134	3896.0	(2+)	1575.781	2+			
2347.50a	<0.18	3923.3	(1−)	1575.781	2+			
2372.1 3	0.019 9	4456.1	3−	2083.943	3−			
2384.32 3	5.0 3	2384.340	2+	0.0	0+	E2	0.000894 13	α=0.000894 13; α(K)=0.000361 5; α(L)=4.58×10^{-5} 7; α(M)=9.61×10^{-6} 14; α(N+..)=0.000477 7 α(N)=2.15×10^{-6} 3; α(O)=3.28×10^{-7} 5; α(P)=2.19×10^{-8} 3; α(IPF)=0.000475 7
2410.12 20	0.134 10	3985.89		1575.781	2+			
2427.6 7	0.067 15	4511.5	3−	2083.943	3−			
x2438.4 5	0.027 10							
2452.4 10	0.046 10	4552.8		2100.788	4+			
x2472.0 4	0.037 12							
2479.1 6	0.017 9	4053.8		1575.781	2+			
x2487.7 5	0.035 15							
2493.1 3	0.085 20	4068.9		1575.781	2+			
x2528.7 6	0.020 10							
x2574.7 3	0.06 2							
2583.06 4	2.26 12	2583.091	2+	0.0	0+	E2	0.000932 13	α=0.000932 13; α(K)=0.000313 5; α(L)=3.96×10^{-5} 6; α(M)=8.31×10^{-6} 12; α(N+..)=0.000570 8 α(N)=1.86×10^{-6} 3; α(O)=2.84×10^{-7} 4; α(P)=1.90×10^{-8} 3; α(IPF)=0.000568 8
2585.49 8	0.40 5	2585.551	1(+)	0.0	0+			
2598.6 4	0.053 10	4174.4	(4+)	1575.781	2+			
x2603.5 9	0.023 10							
2626.6 7	0.039 10	4203.04	2+	1575.781	2+			
x2644.8 11	0.021 10							
x2650.7 10	0.035 10							
x2670.4 9	0.011 6							
x2677.8 10	0.016 10							
2694.1 11	0.030 10	4269.1		1575.781	2+			
2710.6 11	0.031 11	4286.4	3−	1575.781	2+			
x2731.4 11	0.032 10							

$^{142}_{60}Nd_{82}$-7

^{142}Nd(n,n′γ) 1996Go29 (continued)

γ(^{142}Nd) (continued)

E_γ	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[†]	Comments
2743.4 *6*	0.028 *10*	4319.3		1575.781	2^+			
x2762.6 *5*	0.050 *12*							
x2809.2 *10*	0.031 *10*							
2845.83 *5*	2.25 *12*	2845.86	2^+	0.0	0^+	E2	0.000994 *14*	α=0.000994 *14*; α(K)=0.000265 *4*; α(L)=3.33×10^{-5} *5*; α(M)=6.98×10^{-6} *10*; α(N+..)=0.000689 *10* α(N)=1.563×10^{-6} *22*; α(O)=2.39×10^{-7} *4*; α(P)=1.603×10^{-8} *23*; α(IPF)=0.000687 *10*
2888.5 *8*	0.041 *7*	4464.3		1575.781	2^+			
x2901.2 *10*	0.024 *10*							
2924.3 *17*	0.021 *10*	4500.1	2^+	1575.781	2^+			
2935.5 *12*	0.021 *10*	4511.5	3^-	1575.781	2^+			
2976.9 *6*	0.053 *10*	4552.8		1575.781	2^+			
x3026.0 *16*	0.020 *10*							
x3033.0 *9*	0.022 *10*							
3045.11 *8*	0.60 *3*	3045.19	2^+	0.0	0^+	E2	0.001047 *15*	α=0.001047 *15*; α(K)=0.000235 *4*; α(L)=2.95×10^{-5} *5*; α(M)=6.19×10^{-6} *9*; α(N+..)=0.000776 *11* α(N)=1.386×10^{-6} *20*; α(O)=2.12×10^{-7} *3*; α(P)=1.425×10^{-8} *20*; α(IPF)=0.000774 *11*
3127.97 *16*	0.255 *15*	3128.06	2^+	0.0	0^+	E2	0.001070 *15*	α=0.001070 *15*; α(K)=0.000225 *4*; α(L)=2.82×10^{-5} *4*; α(M)=5.90×10^{-6} *9*; α(N+..)=0.000811 *12* α(N)=1.322×10^{-6} *19*; α(O)=2.02×10^{-7} *3*; α(P)=1.361×10^{-8} *19*; α(IPF)=0.000810 *12*
x3142.7 *12*	0.013 *7*							
3358.6 *4*	0.164 *15*	3358.68	2^+	0.0	0^+	E2	0.001135 *16*	α=0.001135 *16*; α(K)=0.000199 *3*; α(L)=2.49×10^{-5} *4*; α(M)=5.21×10^{-6} *8*; α(N+..)=0.000906 *13* α(N)=1.168×10^{-6} *17*; α(O)=1.785×10^{-7} *25*; α(P)=1.204×10^{-8} *17*; α(IPF)=0.000905 *13*
x3365.1 *12*	0.015 *6*							
x3384.2 *12*	0.016 *10*							
3424.70 *25*	0.36 *2*	3424.24	1^-	0.0	0^+	E1	0.001527 *22*	B(E1)(W.u.)=0.0031 *6* α=0.001527 *22*; α(K)=0.0001093 *16*; α(L)=1.340×10^{-5} *19*; α(M)=2.80×10^{-6} *4*; α(N+..)=0.001402 α(N)=6.28×10^{-7} *9*; α(O)=9.59×10^{-8} *14*; α(P)=6.49×10^{-9} *9*; α(IPF)=0.001401 *20*
3470.3 *3*	0.19 *2*	3470.31	2^+	0.0	0^+	E2	0.001166 *17*	α=0.001166 *17*; α(K)=0.000188 *3*; α(L)=2.35×10^{-5} *4*; α(M)=4.93×10^{-6} *7*; α(N+..)=0.000950 *14* α(N)=1.103×10^{-6} *16*; α(O)=1.687×10^{-7} *24*; α(P)=1.139×10^{-8} *16*; α(IPF)=0.000949 *14*
3511.9 *4*	0.062 *10*	3511.9		0.0	0^+			
3579.8 *4*	0.201 *15*	3579.11	2^+	0.0	0^+	E2	0.001199 *17*	α=0.001199 *17*; α(K)=0.0001785 *25*; α(L)=2.23×10^{-5} *4*; α(M)=4.67×10^{-6} *7*; α(N+..)=0.000993 *1* α(N)=1.046×10^{-6} *15*; α(O)=1.599×10^{-7} *23*; α(P)=1.080×10^{-8} *16*; α(IPF)=0.000992 *14*

^{142}Nd(n,n′γ) 1996Go29 (continued)

γ(^{142}Nd) (continued)

E_γ	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	E_γ	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π
[x]3690.6 *21*	0.021 *10*					4145.8 *6*	0.096 *12*	4145.9	(1⁻)	0.0	0⁺
3743.2 *11*	0.022 *10*	3743.7	(1⁻,2⁺)	0.0	0⁺	[x]4249.1 *15*	0.021 *10*				
3757.3 *6*	0.077 *15*	3757.6	1,2⁺	0.0	0⁺	4255.6 *9*	0.038 *12*	4255.7	1,2⁺	0.0	0⁺
3784.6 *10*	0.057 *10*	3785.0	1,2⁺	0.0	0⁺	4268.3 *10*	0.040 *12*	4269.1		0.0	0⁺
3896.8 *7*	0.047 *12*	3896.0	(2⁺)	0.0	0⁺	4320.2 *19*	0.016 *8*	4319.3		0.0	0⁺
3939.0 *7*	0.037 *12*	3939.1		0.0	0⁺	4334.9 *10*	0.032 *12*	4335.0	(1⁻)	0.0	0⁺
3981.1 *5*	0.073 *12*	3982.0	1	0.0	0⁺	4362.7 *8*	0.047 *12*	4362.8		0.0	0⁺
4055.3 *13*	0.022 *10*	4053.8		0.0	0⁺	4390.4 *9*	0.030 *12*	4390.2	(1⁻)	0.0	0⁺
4094.7 *7*	0.098 *15*	4094.8	1	0.0	0⁺						

† Additional information 1.
‡ Relative intensities.
# From γ(θ), linear pol.
@ From γ(θ).
& From 1995Be41.
a Unresolved multiplet.
b Multiply placed with undivided intensity.
c Placement of transition in the level scheme is uncertain.
x γ ray not placed in level scheme.

$^{142}_{60}Nd_{82}$-9

^{142}Nd(n,n′γ) 1996Go29

Level Scheme

Intensities: Type not specified

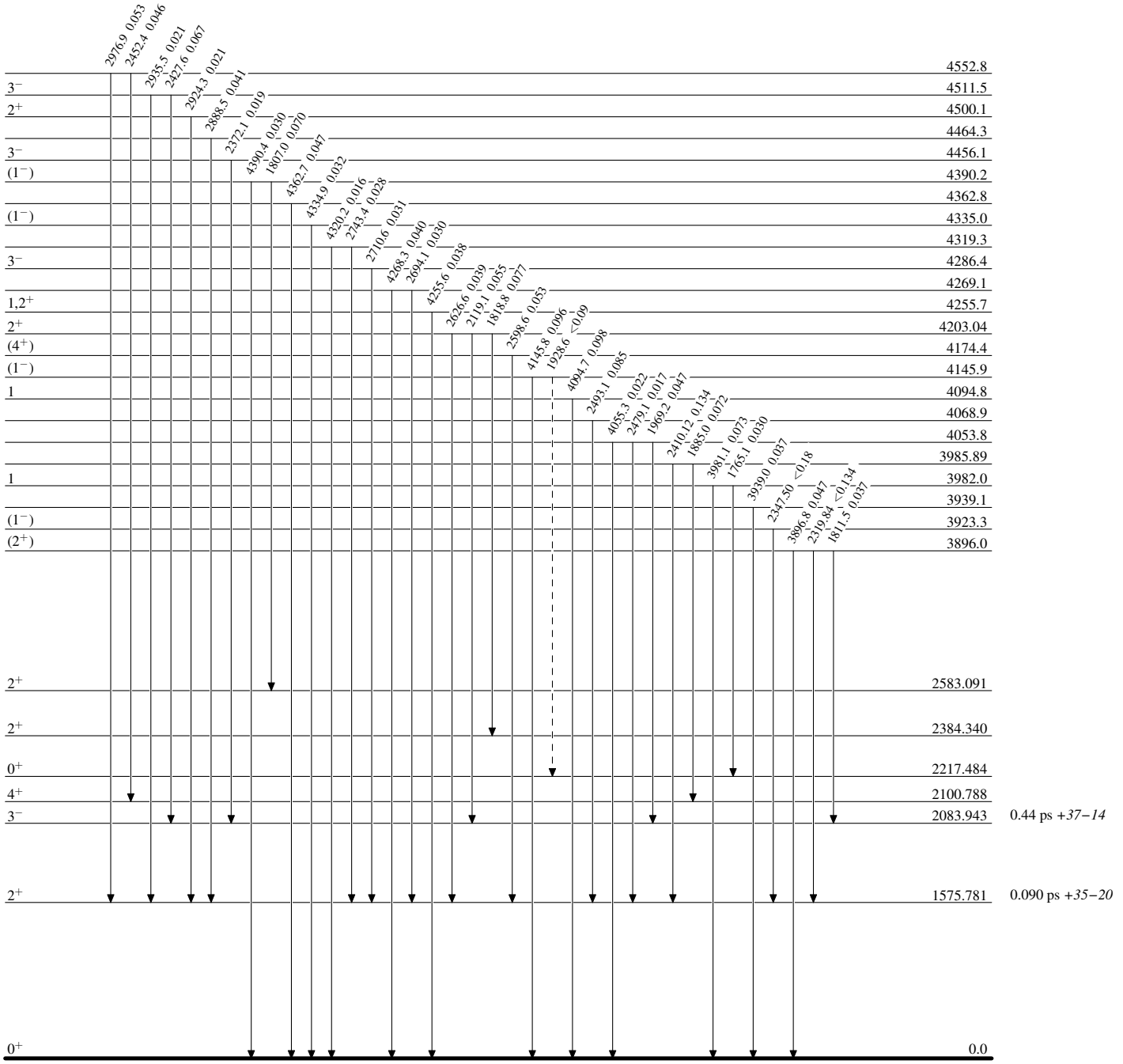
Legend

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

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

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

γ Decay (Uncertain)



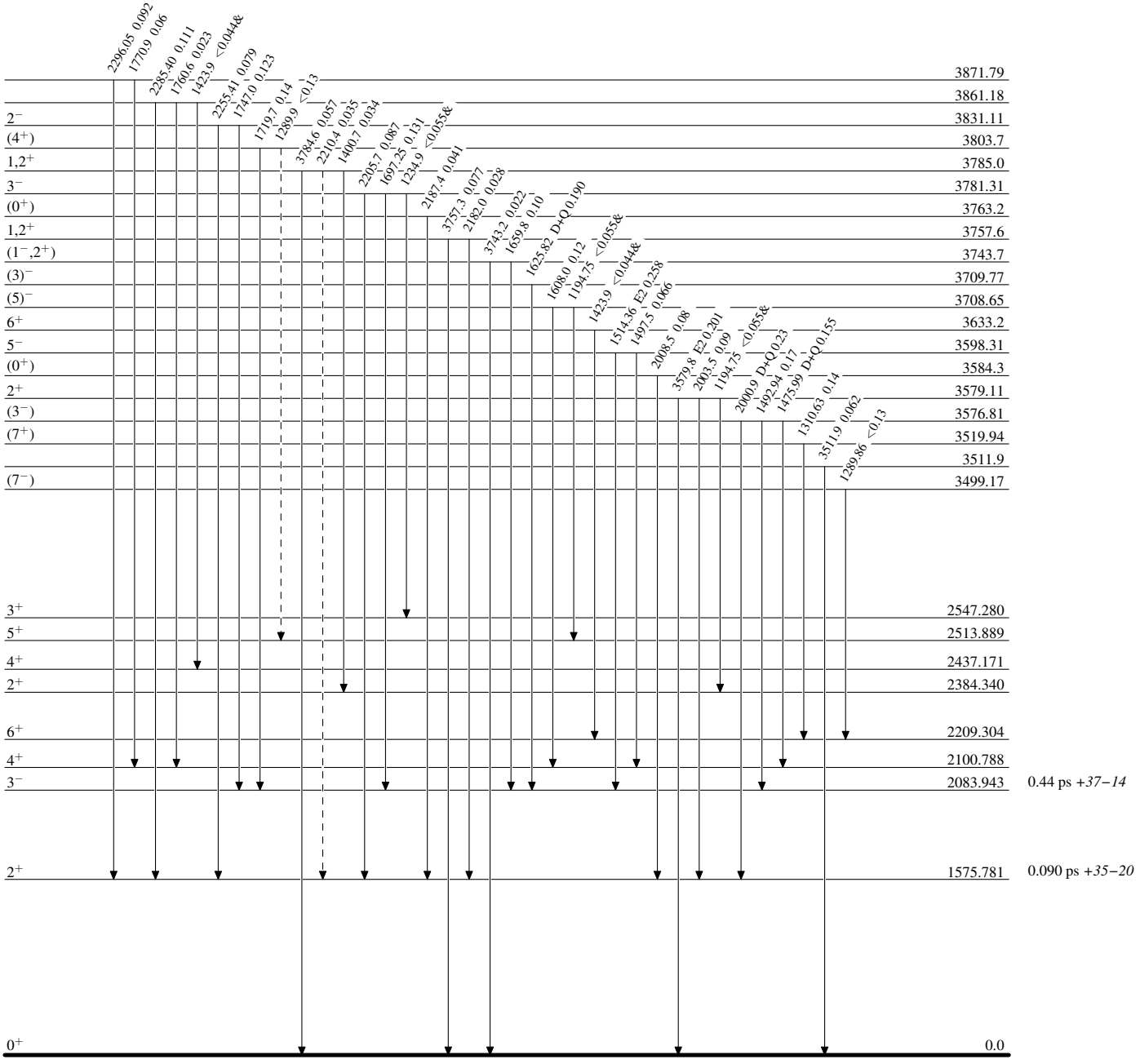
$^{142}_{60}Nd_{82}$

^{142}Nd(n,n′γ) 1996Go29

Level Scheme (continued)

Intensities: Type not specified
& Multiply placed: undivided intensity given

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



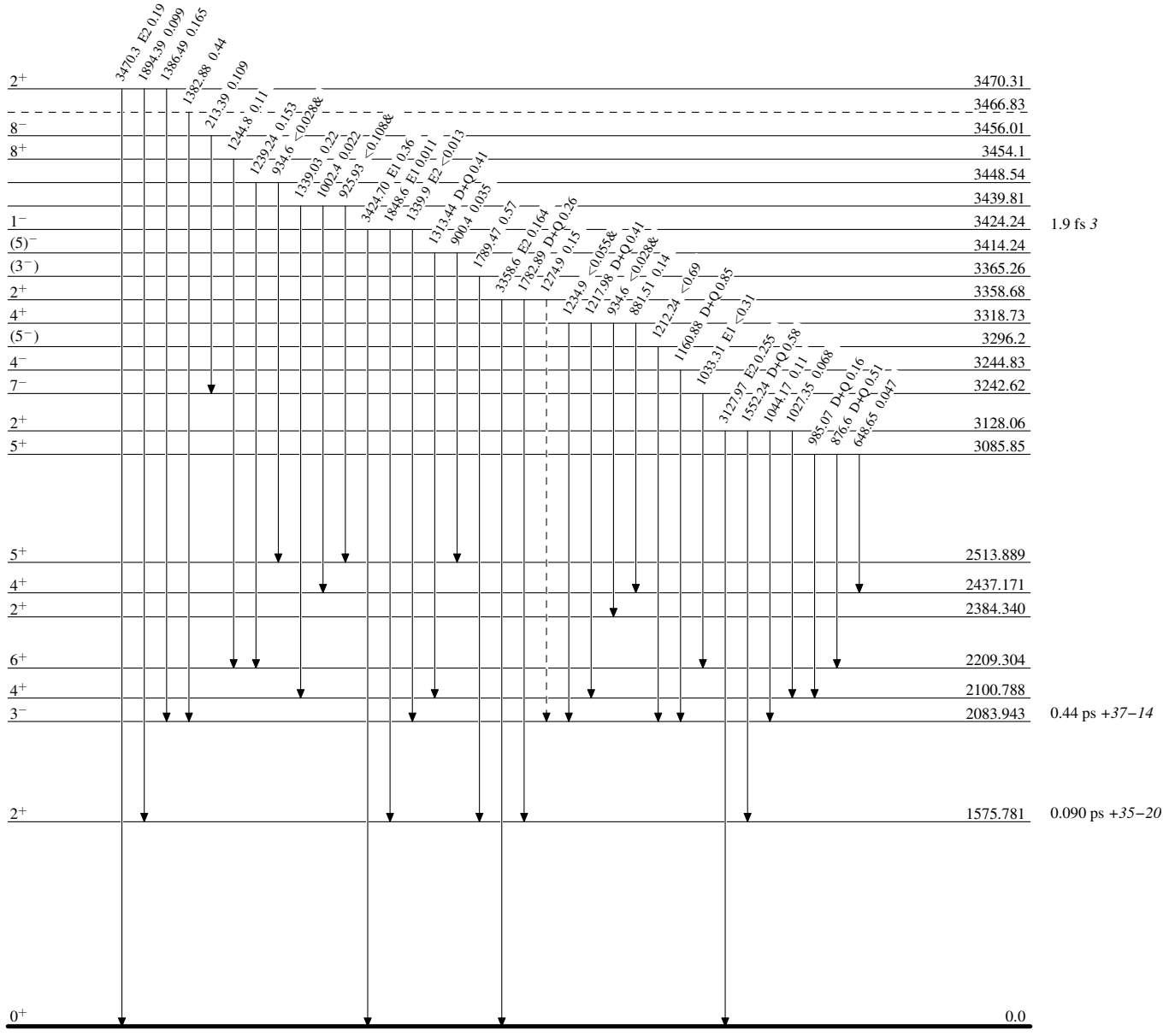
$^{142}_{60}Nd_{82}$

^{142}Nd(n,n′γ) 1996Go29

Level Scheme (continued)

Intensities: Type not specified
& Multiply placed: undivided intensity given

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

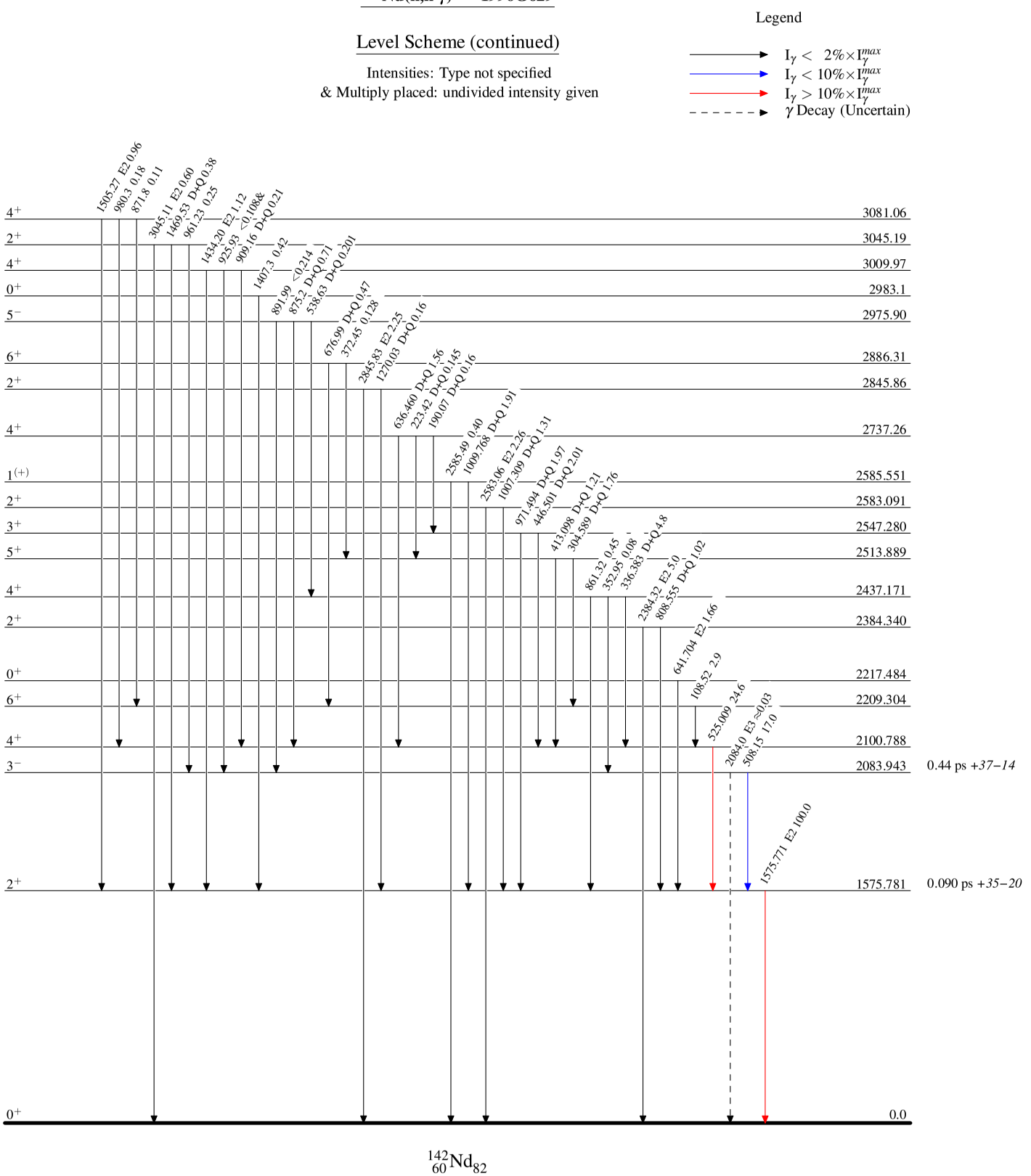


$^{142}_{60}Nd_{82}$

^{142}Nd(n,n′γ) 1996Go29

Level Scheme (continued)

Intensities: Type not specified
& Multiply placed: undivided intensity given



$^{142}_{60}Nd_{82}$