$^{145}_{64}$Gd

Δ: −72950 *40* **S$_n$:** (9100) **S$_p$:** 4580 *40*
Q$_{EC}$: 5050 *40* **Q$_\alpha$:** 570 *40*

Nuclear Bands

- *A* SD-1 band (95Rz03)
- *B* SD-2 band (95Rz03)
- *C* SD-3 band (95Rz03)

Levels and γ-ray branchings:

0, 1/2$^+$, 23.0 *4* m, %EC+%β$^+$=100

27.3 *1*, 3/2$^+$, 11.5 *3* ns γ_0***27.3*** *1* ($\dagger_\gamma$100) M1+E2: δ=0.09 *2*

748.7 *1*, 11/2$^-$, 85 *3* s, %IT=94.3 *5*, %EC+%β$^+$=5.7 *5* γ_{27}***721.8*** *1* ($\dagger_\gamma$100) M4

1015.1, 5/2$^+$ γ_{27}***987.8*** ($\dagger_\gamma$100 *6*) M1+E2: δ=+0.20 *5* γ_0***1015.1*** ($\dagger_\gamma$9.4 *31*) E2

1272.9, 7/2$^-$ γ_{1015}***257.8*** ($\dagger_\gamma$100 *5*) E1 γ_{749}***524.1*** ($\dagger_\gamma$30 *2*) E2

1415.3, 7/2$^+$, <0.3 ns γ_{27}***1388.0*** ($\dagger_\gamma$100) E2

1498.0, 5/2$^+$ γ_{1273}***225.1*** ($\dagger_\gamma$10 *4*) D γ_{27}***1471.0*** ($\dagger_\gamma$100 *10*) M1+E2

1524.7, 5/2$^-$,7/2$^-$ γ_{1415}***109.5*** ($\dagger_\gamma$8 *4*) γ_{1015}***509.8*** ($\dagger_\gamma$100 *40*) E1

1666.3, 7/2(⁻) γ_{1525}***141.6*** ($\dagger_\gamma$23 *9*) γ_{1498}***168.3*** ($\dagger_\gamma$100 *18*) D γ_{1273}***393.9*** ($\dagger_\gamma$45 *9*) D+Q γ_{1015}***651.7*** ($\dagger_\gamma$45 *23*)

1683.9, 9/2$^-$ γ_{1415}***268.6*** ($\dagger_\gamma$63 *13*) E1 γ_{749}***935.1*** ($\dagger_\gamma$100 *10*) M1+E2

1809.9, 9/2$^-$ γ_{1273}***537.0*** ($\dagger_\gamma$100) M1+E2: δ=+0.8 *2*

2181.8, (9/2$^-$), <0.3 ns γ_{1810}***371.9*** ($\dagger_\gamma$15 *3*) γ_{1273}***908.9*** ($\dagger_\gamma$76 *8*) γ_{749}***1432.5*** ($\dagger_\gamma$100 *9*)

2195.6, 11/2$^-$ γ_{749}***1446.8*** ($\dagger_\gamma$100) M1+E2

2200.1, 13/2$^+$, 20.4 *16* ns γ_{1273}***927.2*** ($\dagger_\gamma$100 *8*) E3 γ_{749}***1451.3*** ($\dagger_\gamma$56 *4*) E1+M2+E3

2258.5, 11/2$^-$ γ_{1810}***448.6*** ($\dagger_\gamma$40 *7*) M1+E2: δ=+0.3 *1* γ_{1273}***985.6*** ($\dagger_\gamma$100 *7*) E2

2301.6, 13/2$^+$ γ_{749}***1552.8*** ($\dagger_\gamma$100) E1

2382.3, (9/2$^-$) γ_{2182}***200.6*** ($\dagger_\gamma$51 *5*) γ_{1810}***572.4*** ($\dagger_\gamma$100 *14*) D+Q γ_{1684}***698.0*** ($\dagger_\gamma$39 *4*) γ_{1273}***1109.4*** ($\dagger_\gamma$100 *14*)

2411.4, 15/2$^+$ γ_{2302}***109.8*** ($\dagger_\gamma$100) M1+E2

2411.8 γ_{2200}***211.7*** ($\dagger_\gamma$100) M1(+E2)

2432.4, 17/2$^+$, 0.37 *15* ns γ_{2411}***20.7*** ($\dagger_\gamma$62 *3*) [M1+E2]: δ<0.7 γ_{749}***1683.6*** ($\dagger_\gamma$100 *8*) E3

2442.7, 13/2$^-$ γ_{2196}***247.1*** ($\dagger_\gamma$100) M1(+E2): δ=+0.1 *1*

2472.4 γ_{2302}***170.8*** ($\dagger_\gamma$100)

2784.1, (11/2$^+$,13/2$^+$) γ_{2443}***341.4*** ($\dagger_\gamma$17 *6*) γ_{749}***2035.3*** ($\dagger_\gamma$100 *9*)

2823.2, 15/2$^+$ γ_{2200}***623.1*** ($\dagger_\gamma$100) M1+E2: δ=+0.8 *3*

2872.6 γ_{1810}***1062.7*** ($\dagger_\gamma$100)

2886.0 γ_{2411}***474.6*** ($\dagger_\gamma$100) E1

2974.8 γ_{2784}***190.7*** ($\dagger_\gamma$100 *20*) M1(+E2) γ_{2443}***532.1*** ($\dagger_\gamma$32 *8*) M1(+E2) γ_{2411}***563.4*** ($\dagger_\gamma$32 *8*) M1(+E2)

2987.3 γ_{2443}***544.6*** ($\dagger_\gamma$100) M1

3176.2 γ_{2975}***201.4*** ($\dagger_\gamma$100 *30*) D γ_{2886}***290.2*** ($\dagger_\gamma$80 *20*) M1(+E2)

3195.1 γ_{2975}***220.3*** ($\dagger_\gamma$100 *43*) D γ_{2886}***309.1*** ($\dagger_\gamma$57 *29*)

3207.3, 17/2$^+$ γ_{2432}***775.5*** ($\dagger_\gamma$19 *10*) γ_{2411}***795.9*** ($\dagger_\gamma$100 *6*) M1+E2: δ=−0.13 *4*

3285.1 γ_{3207}***77.8*** ($\dagger_\gamma$100)

3354.2 γ_{2975}***379.4*** ($\dagger_\gamma$100)

3357.1, 19/2$^+$ γ_{3207}***149.8*** ($\dagger_\gamma$30 *3*) D γ_{2432}***924.7*** ($\dagger_\gamma$100 *6*) M1

3458.4, 21/2$^+$ γ_{3357}***101.3*** ($\dagger_\gamma$100 *20*) D γ_{2432}***1026*** ($\dagger_\gamma$40 *20*) E2

3469.6 γ_{3357}***112.5*** ($\dagger_\gamma$100)

3511.7 γ_{3176}***335.5*** ($\dagger_\gamma$100)

3573.6 γ_{3458}***115.2*** ($\dagger_\gamma$100)

3585 (?) γ_{3207}***378.3*** ($\dagger_\gamma$100)

3603 (?), (19/2) γ_{3207}***395.7*** ($\dagger_\gamma$100) D

A **x**, J

A **723.2+x**, J+2 γ_x***723.2*** *7* ($\dagger_\gamma$0.41 *5*) I$^{(2)}$*=86.2, ħω=0.373*

A **1492.8+x**, J+4 γ_{723+x}***769.6*** *3* ($\dagger_\gamma$1.00 *12*) I$^{(2)}$*=82.5, ħω=0.397*

A **2310.9+x**, J+6 γ_{1493+x}***818.1*** *3* ($\dagger_\gamma$0.85 *10*) I$^{(2)}$*=80.2, ħω=0.422*

A **3178.9+x**, J+8 γ_{2311+x}***868.0*** *3* ($\dagger_\gamma$0.85 *10*) I$^{(2)}$*=78.7, ħω=0.447*

A **4097.7+x**, J+10 γ_{3179+x}***918.8*** *5* ($\dagger_\gamma$1.02 *12*) I$^{(2)}$*=76.9, ħω=0.472*

A **5068.5+x**, J+12 γ_{4098+x}***970.8*** *3* ($\dagger_\gamma$0.94 *11*) I$^{(2)}$*=75.5, ħω=0.499*

A **6092.3+x**, J+14 γ_{5069+x}***1023.8*** *3* ($\dagger_\gamma$1.12 *14*) I$^{(2)}$*=75.0, ħω=0.525*

A **7169.4+x**, J+16 γ_{6092+x}***1077.1*** *3* ($\dagger_\gamma$1.02 *11*) I$^{(2)}$*=74.2, ħω=0.552*

A **8300.4+x**, J+18 γ_{7169+x}***1131.0*** *3* ($\dagger_\gamma$0.84 *10*) I$^{(2)}$*=72.9, ħω=0.579*

A **9486.3+x**, J+20 γ_{8300+x}***1185.9*** *4* ($\dagger_\gamma$0.94 *11*) I$^{(2)}$*=73.7, ħω=0.607*

A **10726.5+x**, J+22 γ_{9486+x}***1240.2*** *6* ($\dagger_\gamma$0.75 *8*) I$^{(2)}$*=72.6, ħω=0.634*

A **12021.8+x**, J+24 $\gamma_{10727+x}$ ***1295.3*** *4*
($\dagger_\gamma$0.63 *8*) $I^{(2)}$=*72.3, ħω=0.661*

A **13372.4+x**, J+26 $\gamma_{12022+x}$ ***1350.6*** *4*
($\dagger_\gamma$0.58 *8*) $I^{(2)}$=*71.2, ħω=0.689*

A **14779.2+x**, J+28 $\gamma_{13372+x}$ ***1406.8*** *4*
($\dagger_\gamma$0.38 *6*) $I^{(2)}$=*69.9, ħω=0.718*

A **16243.2+x**, J+30 $\gamma_{14779+x}$ ***1464.0*** *10*
($\dagger_\gamma$0.30 *10*) $I^{(2)}$=*71.3, ħω=0.746*

A **17763.3+x**, J+32 $\gamma_{16243+x}$ ***1520.1*** *7*
($\dagger_\gamma$0.28 *5*) $I^{(2)}$=*71.3, ħω=0.774*

A **19339.5+x**, J+34 $\gamma_{17763+x}$ ***1576.2*** *7*
($\dagger_\gamma$0.25 *5*)

B **y**, J

B **792.7+y** (?), J+2 γ_{y} ***792.7*** *11* (?)
($\dagger_\gamma$0.21 *7*) $I^{(2)}$=*228.6, ħω=0.401*

B **1602.9+y**, J+4 γ_{793+y} ***810.2*** *3* ($\dagger_\gamma$0.44 *6*)
$I^{(2)}$=*120.8, ħω=0.413*

B **2446.2+y**, J+6 γ_{1603+y} ***843.3*** *3* ($\dagger_\gamma$0.48 *7*)
$I^{(2)}$=*82.0, ħω=0.434*

B **3338.3+y**, J+8 γ_{2446+y} ***892.1*** *3* ($\dagger_\gamma$0.46 *6*)
$I^{(2)}$=*72.5, ħω=0.460*

B **4285.6+y**, J+10 γ_{3338+y} ***947.3*** *3*
($\dagger_\gamma$0.47 *6*) $I^{(2)}$=*70.2, ħω=0.488*

B **5289.9+y**, J+12 γ_{4286+y} ***1004.3*** *3*
($\dagger_\gamma$0.60 *8*) $I^{(2)}$=*69.8, ħω=0.516*

B **6351.5+y**, J+14 γ_{5290+y} ***1061.6*** *3*
($\dagger_\gamma$0.50 *7*) $I^{(2)}$=*68.0, ħω=0.545*

B **7471.9+y**, J+16 γ_{6352+y} ***1120.4*** *3*
($\dagger_\gamma$0.54 *7*) $I^{(2)}$=*72.1, ħω=0.574*

B **8647.8+y**, J+18 γ_{7472+y} ***1175.9*** *3*
($\dagger_\gamma$0.48 *7*) $I^{(2)}$=*76.3, ħω=0.601*

B **9876.1+y**, J+20 γ_{8648+y} ***1228.3*** *3*
($\dagger_\gamma$0.43 *6*) $I^{(2)}$=*83.2, ħω=0.626*

B **11152.5+y**, J+22 γ_{9876+y} ***1276.4*** *3*
($\dagger_\gamma$0.33 *5*) $I^{(2)}$=*93.5, ħω=0.649*

B **12471.7+y**, J+24 $\gamma_{11153+y}$ ***1319.2*** *4*
($\dagger_\gamma$0.36 *6*) $I^{(2)}$=*92.8, ħω=0.670*

B **13834.0+y**, J+26 $\gamma_{12472+y}$ ***1362.3*** *4*
($\dagger_\gamma$0.37 *6*) $I^{(2)}$=*89.5, ħω=0.692*

B **15241.0+y**, J+28 $\gamma_{13834+y}$ ***1407.0*** *5*
($\dagger_\gamma$0.24 *5*) $I^{(2)}$=*82.3, ħω=0.716*

B **16696.6+y**, J+30 $\gamma_{15241+y}$ ***1455.6*** *7*
($\dagger_\gamma$0.26 *5*) $I^{(2)}$=*73.1, ħω=0.741*

B **18206.9+y**, J+32 $\gamma_{16697+y}$ ***1510.3*** *10*
($\dagger_\gamma$0.18 *4*)

C **z**, J

C **919.7+z**, J+2 γ_{z} ***919.7*** *10* ($\dagger_\gamma$0.06 *2*)
$I^{(2)}$=*74.1, ħω=0.473*

C **1893.4+z**, J+4 γ_{920+z} ***973.7*** *5* ($\dagger_\gamma$0.12 *3*)
$I^{(2)}$=*67.5, ħω=0.502*

C **2926.4+z**, J+6 γ_{1893+z} ***1033.0*** *5*
($\dagger_\gamma$0.15 *3*) $I^{(2)}$=*74.9, ħω=0.530*

C **4012.8+z**, J+8 γ_{2926+z} ***1086.4*** *5*
($\dagger_\gamma$0.13 *3*) $I^{(2)}$=*68.8, ħω=0.558*

C **5157.3+z**, J+10 γ_{4013+z} ***1144.5*** *5*
($\dagger_\gamma$0.14 *3*) $I^{(2)}$=*68.5, ħω=0.587*

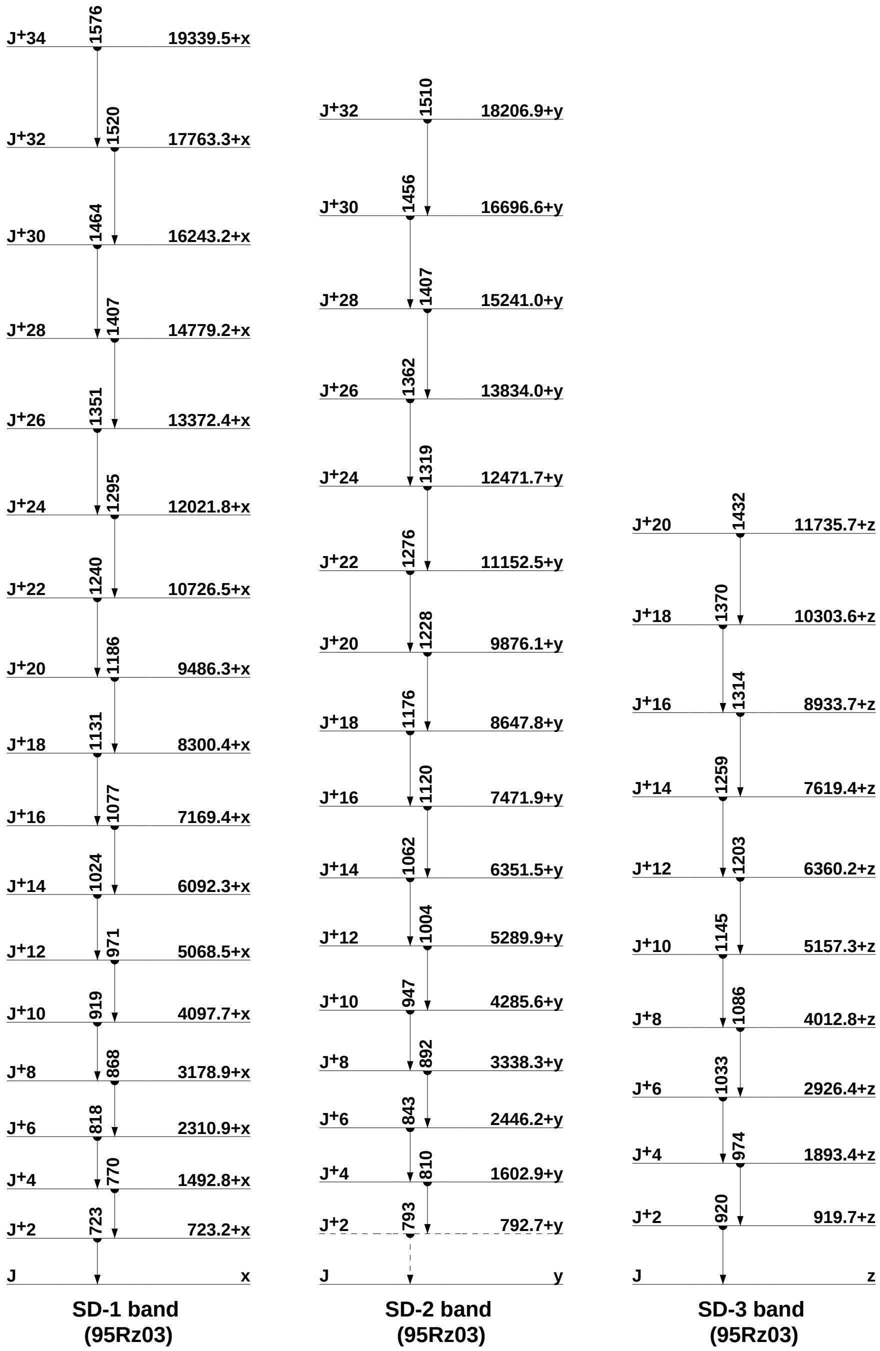
C **6360.2+z**, J+12 γ_{5157+z} ***1202.9*** *8*
($\dagger_\gamma$0.13 *5*) $I^{(2)}$=*71.0, ħω=0.616*

C **7619.4+z**, J+14 γ_{6360+z} ***1259.2*** *5*
($\dagger_\gamma$0.13 *3*) $I^{(2)}$=*72.6, ħω=0.643*

C **8933.7+z**, J+16 γ_{7619+z} ***1314.3*** *7*
($\dagger_\gamma$0.10 *3*) $I^{(2)}$=*71.9, ħω=0.671*

C **10303.6+z**, J+18 γ_{8934+z} ***1369.9*** *12*
($\dagger_\gamma$0.09 *4*) $I^{(2)}$=*64.3, ħω=0.700*

C **11735.7+z**, J+20 $\gamma_{10304+z}$ ***1432.1*** *18*
($\dagger_\gamma$0.08 *3*)


J+34 1576 19339.5+x
J+32 1520 17763.3+x
J+30 1464 16243.2+x
J+28 1407 14779.2+x
J+26 1351 13372.4+x
J+24 1295 12021.8+x
J+22 1240 10726.5+x
J+20 1186 9486.3+x
J+18 1131 8300.4+x
J+16 1077 7169.4+x
J+14 1024 6092.3+x
J+12 971 5068.5+x
J+10 919 4097.7+x
J+8 868 3178.9+x
J+6 818 2310.9+x
J+4 770 1492.8+x
J+2 723 723.2+x
J x
SD-1 band
(95Rz03)
J+32 1510 18206.9+y
J+30 1456 16696.6+y
J+28 1407 15241.0+y
J+26 1362 13834.0+y
J+24 1319 12471.7+y
J+22 1276 11152.5+y
J+20 1228 9876.1+y
J+18 1176 8647.8+y
J+16 1120 7471.9+y
J+14 1062 6351.5+y
J+12 1004 5289.9+y
J+10 947 4285.6+y
J+8 892 3338.3+y
J+6 843 2446.2+y
J+4 810 1602.9+y
J+2 793 792.7+y
J y
SD-2 band
(95Rz03)
J+20 1432 11735.7+z
J+18 1370 10303.6+z
J+16 1314 8933.7+z
J+14 1259 7619.4+z
J+12 1203 6360.2+z
J+10 1145 5157.3+z
J+8 1086 4012.8+z
J+6 1033 2926.4+z
J+4 974 1893.4+z
J+2 920 919.7+z
J z
SD-3 band
(95Rz03)

$^{145}_{64}$Gd