$^{154}_{66}$Dy

Δ: –70400 *9* **S_n:** 9318 *9* **S_p:** 6366 *9* **Q_α:** 2947 *5*

Nuclear Bands

- *A* GS band
- *B* β band
- *C* γ band
- *D* Band Structure
- *E* Octupole band
- *F* Band Structure
- *G* Band Structure
- *H* Band Structure
- *I* SD band (95Ni03)

Levels and γ-ray branchings:

A **0**, 0^+, 3.0×10^6 *15* y, %α=100

A **334.58** *8*, 2^+, 27.5 *20* ps γ_0***334.6*** *1* (†$_\gamma$100) E2

B **660.82** *12*, 0^+ γ_{335}***326.2*** *3* (†$_\gamma$100 *16*) γ_0***660.8*** *2* (†$_e$9.5 *5*) E0

A **747.04** *12*, 4^+, 6.9 *5* ps γ_{335}***412.4*** *1* (†$_\gamma$100) E2

B **905.19** *12*, 2^+ γ_{661}***244.2*** *4* (†$_\gamma$3.8 *11*) γ_{335}***570*** *2* (†$_\gamma$100 *5*) E0+E2,M1 γ_0***905.2*** *2* (†$_\gamma$19.7 *18*)

C **1027.11** *12*, 2^+ γ_{661}***366.2*** *3* (†$_\gamma$18.7 *24*) γ_{335}***692.5*** *2* (†$_\gamma$90 *6*) M1 γ_0***1027.1*** *2* (†$_\gamma$100 *6*)

D **1058.08** *18*, 0^+ γ_{905}***152.7*** *3* (†$_\gamma$100 *17*) γ_{661}***397.3*** *2* (†$_e$244 *15*) E0 γ_{335}***723.6*** *5* (†$_\gamma$34 *17*) γ_0***1058.4*** *6* (†$_e$5.8 *17*) E0

E **1208.02** *12*, 3^- γ_{747}***460.9*** *3* (†$_\gamma$7.4 *7*) γ_{335}***873.4*** *1* (†$_\gamma$100 *7*) E1

A **1224.08** *16*, 6^+, 2.4 *4* ps γ_{747}***477.1*** *1* (†$_\gamma$100) E2

B **1251.86** *18*, 4^+ γ_{905}***346.6*** *3* (†$_\gamma$67 *7*) E2 γ_{747}***504.9*** *3* (†$_\gamma$100 *10*) E0+E2,M1

C **1334.31** *17*, 3^+ γ_{905}***429.1*** *4* (†$_\gamma$14 *3*) γ_{747}***587.4*** *3* (†$_\gamma$24.3 *26*) γ_{335}***999.7*** *2* (†$_\gamma$100 *6*)

D **1390.30** *15*, 2^+ γ_{1208}***182.0*** *4* (†$_\gamma$52 *10*) γ_{1027}***363.4*** *4* (†$_\gamma$29 *14*) γ_{905}***485.3*** *3* (†$_\gamma$45 *7*) E0+E2,M1 γ_{747}***642.8*** *4* (†$_\gamma$37 *17*) γ_{661}***729.7*** *3* (†$_\gamma$100 *8*) γ_{335}***1055.8*** *3* (†$_\gamma$78 *10*) E0+E2,M1 γ_0***1390.0*** *4* (†$_\gamma$40 *9*)

E **1420.39** *20*, 1^- γ_{905}***515.2*** *4* (†$_\gamma$20 *8*) γ_{335}***1085.9*** *3* (†$_\gamma$80 *7*) γ_0***1420.3*** *3* (†$_\gamma$100 *10*)

C **1442.67** *23*, 4^+ γ_{1027}***415.8*** *4* (†$_\gamma$37 *9*) γ_{747}***695.5*** *3* (†$_\gamma$100 *9*) M1(+E2) γ_{335}***1108.0*** *4* (†$_\gamma$62 *16*)

F **1507.65** *15*, 2^+ γ_{1027}***480.0*** *4* (†$_\gamma$12 *5*) γ_{905}***602.9*** *4* (†$_\gamma$17 *5*) γ_{661}***846.6*** *3* (†$_\gamma$53 *5*) γ_{335}***1173.2*** *2* (†$_\gamma$100 *9*) γ_0***1507.6*** *4* (†$_\gamma$42 *9*)

E **1546.0** *4*, 5^- γ_{747}***799.0*** *3* (†$_\gamma$100)

G **1635.19** *22*, 2^- γ_{335}***1300.6*** *2* (†$_\gamma$100)

B **1658.76** *17*, 6^+ γ_{1252}***406.9*** *1* (†$_\gamma$100 *7*) E2 γ_{1224}***434.7*** *2* (†$_\gamma$13.4 *15*) E2+E0(+M1)

C **1739.98** *19*, 5^+ γ_{1334}***405.8*** *4* (†$_\gamma$58 *9*) γ_{1224}***515.6*** *3* (†$_\gamma$38 *6*) γ_{747}***992.9*** *3* (†$_\gamma$100 *9*)

A **1747.82** *17*, 8^+, 1.5 *3* ps γ_{1224}***523.8*** *1* (†$_\gamma$100) E2

F **1781.9** *4*, (3^+) γ_{1027}***755.1*** *5* (†$_\gamma$100 *20*) γ_{335}***1447.1*** *4* (†$_\gamma$91 *20*)

G **1819.1** *3*, (4^-) γ_{1208}***610.6*** *5* (†$_\gamma$30 *14*) γ_{747}***1072.2*** *3* (†$_\gamma$100 *13*)

1832.9 *4* γ_{335}***1498.3*** *3* (†$_\gamma$100)

1844.9 *4* γ_{335}***1510.3*** *3* (†$_\gamma$100)

1877.2 *4* γ_{335}***1542.7*** *5* (†$_\gamma$100 *13*) γ_0***1877.1*** *6* (†$_\gamma$52 *13*)

C **1885.5** *3*, $(6)^+$ γ_{1224}***661.5*** *3* (†$_\gamma$100 *26*) M1,E2 γ_{747}***1138.5*** *3* (†$_\gamma$53 *11*)

G **1903.8** *3*, (3^-) γ_{1334}***569*** *1* (†$_\gamma$100 *5*) γ_{1027}***876.6*** *3* (†$_\gamma$5.4 *8*) γ_{747}***1156.8*** *4* (†$_\gamma$4.3 *21*)

1958.3 *5* γ_{335}***1623.7*** *5* (†$_\gamma$100)

E **1964.7** *3*, 7^- γ_{1224}***740.6*** *2* (†$_\gamma$100)

1991.1 *4* γ_{335}***1656.5*** *3* (†$_\gamma$100)

2148.4 *5* γ_{335}***1813.8*** *5* (†$_\gamma$100)

B **2163.4** *3*, 8^+ γ_{1659}***504.7*** *4* (†$_\gamma$100)

2168.7 *4* γ_{335}***1834.1*** *4* (†$_\gamma$100)

2178.2 *3* γ_{747}***1431.0*** *3* (†$_\gamma$100 *19*) γ_{335}***1843.8*** *5* (†$_\gamma$90 *19*)

C **2183.45** *24*, 7^+ γ_{1740}***443.3*** *2* (†$_\gamma$100 *7*) E2 γ_{1224}***959.1*** *3* (†$_\gamma$47 *5*) γ_{335}***1849.3*** *4* (†$_\gamma$100 *13*)

2192.4 *4*, (7,8) γ_{1224}***968.3*** *3* (†$_\gamma$100)

2249.6 *5* γ_{747}***1502.5*** *4* (†$_\gamma$100)

2271.92 *25* γ_{1027}***1244.6*** *3* (†$_\gamma$55 *14*) γ_{661}***1611.2*** *5* (†$_\gamma$51 *21*) γ_{335}***1937.8*** *5* (†$_\gamma$100 *21*)

A **2304.3**, 10^+, 1.1 *3* ps γ_{1748}***556.9*** (†$_\gamma$100) E2

2344.9 *6* γ_{335}***2010.3*** *6* (†$_\gamma$100)

E **2421.2**, 9^- γ_{1965}***456.9*** γ_{1748}***673.8*** *4* D

2472.87 *17*, 7^+ γ_{2192}***280.4*** (†$_\gamma$7.4 *11*) γ_{2183}***289.4*** *2* (†$_\gamma$27.5 *21*) E0+M1,E2 γ_{2163}***309.5*** *2* (†$_\gamma$21.7 *16*) M1 γ_{1886}***587.3*** *3* (†$_\gamma$6.9 *11*) γ_{1748}***725.1*** *1* (†$_\gamma$70 *4*) M1+E2 γ_{1740}***732.8*** *2* (†$_\gamma$17.5 *16*) γ_{1659}***814.1*** *1* (†$_\gamma$79 *5*) M1+E2 γ_{1224}***1248.8*** *2* (†$_\gamma$100 *5*) M1

2493.3 γ_{1991}***434***

B **2758.4** *11*, (10^+) γ_{2163}***596.0*** *8*

E **2882.3**, 11^-, 4.5 *3* ps γ_{2421}***461.1***

($\dagger_{\gamma}$44 *3*) E2 γ_{2304}***577.9*** ($\dagger_{\gamma}$100 *4*) D

A **2892.6**, 12^{+}, 0.94 *19* ps γ_{2304}***588.5*** E2

2900.7, 12^{+} γ_{2304}***596.4***

E **3390.5**, 13^{-}, 1.7 ps γ_{2893}***497.9*** ($\dagger_{\gamma}$31 *2*) D γ_{2882}***508.1*** ($\dagger_{\gamma}$100 *3*) E2

A **3508.6**, 14^{+}, 0.55 *10* ps γ_{2893}***616.1*** E2

H **3679.4**, 14^{+} γ_{2893}***786.8***

E **3982.6**, 15^{-}, 3.0 ps γ_{3509}***474.0*** D γ_{3391}***592.0*** E2

H **4090.4**, 16^{+}, 1.3 *5* ps γ_{3679}***411.0*** γ_{3509}***581.8*** E2

A **4172.7**, 16^{+} γ_{3679}***493.3*** (?) γ_{3509}***664.1*** E2

H **4636.9**, 18^{+}, 0.76 *17* ps γ_{4090}***546.5*** E2

E **4642.5**, 17^{-}, 1.3$^{+10}_{-6}$ ps γ_{3983}***659.8*** E2

A **4868.6**, 18^{+} γ_{4173}***695.9*** γ_{4090}***778*** (?)

H **5249.0**, 20^{+}, 0.62 *9* ps γ_{4637}***612.2*** E2

E **5339.0**, 19^{-} γ_{4643}***696.4*** E2

A **5589.9**, 20^{+} γ_{4869}***721.3***

H **5934.2**, 22^{+}, 0.38 ps γ_{5249}***685.2*** E2

E **6035.8**, 21^{-} γ_{5339}***696.7*** E2

6181.9, 21^{-} γ_{5339}***842.9***

A **6349.9**, 22^{+} γ_{5590}***760.0***

H **6690.0**, 24^{+}, 0.2 ps γ_{5934}***755.8*** E2

E **6754.5**, 23^{-} γ_{6036}***718.7*** E2

6805.4, 23^{-} γ_{6182}***623.4*** γ_{6036}***769.5*** γ_{5934}***871.3***

A **7160.7**, 24^{+} γ_{6350}***810.8***

7374.8, 24^{+} γ_{6690}***684.8***

H **7513.0**, 26^{+}, 0.2$^{+4}_{-2}$ ps γ_{6690}***823.0*** E2

E **7519.7**, 25^{-} γ_{6755}***765.2*** E2

7772 γ_{6805}***967***

A **8027.5**, 26^{+} γ_{7161}***866.8***

8138.3, 26^{+} γ_{7513}***625.6*** γ_{7375}***763.2***

8281.5, (27^{-}) γ_{7772}***508.4*** (?) γ_{7520}***761.8***

E **8335.9**, 27^{-} γ_{7520}***816.2*** E2

H **8400.3**, 28^{+}, 0.15 ps γ_{7513}***887.3*** E2

A **8723.4**, 28^{+} γ_{8028}***695.9***

8797.9

8916.1, 28^{+} γ_{8400}***516.0*** γ_{8138}***777.6***

9188.9, 29^{-} γ_{8336}***853.3*** (E2) γ_{8282}***907.1***

E **9218.1**, 29^{-} γ_{8336}***882.2*** E2

H **9349.6**, 30^{+} γ_{8400}***949.3*** E2

9566.6, 30^{+} γ_{8916}***650.5*** γ_{8798}***768.7***

9646.4, (30^{+}) γ_{8723}***923.0***

A **9668.1**, 30^{+} γ_{8723}***944.7***

9693.9, 30^{+} γ_{8916}***777.8***

10108.0, 31^{-} γ_{9218}***890.2*** γ_{9189}***918.8***

E **10156.5**, 31^{-} γ_{9218}***938.4*** E2

10227.0, (31) γ_{9218}***1008.9***

10307.9

10358.4, 32^{+} γ_{9350}***1008.8*** E2

H **10384.0**, 32^{+} γ_{9567}***817.1*** ($\dagger_{\gamma}$≈26) γ_{9350}***1034.6*** ($\dagger_{\gamma}$100 *4*) E2

A **10446.0**, 32^{+} γ_{9668}***777.9***

10566.5, 32^{+} γ_{9694}***872.6***

10628.9 γ_{9646}***982.5***

11082.5, 33^{-} γ_{10308}***774.6*** γ_{10157}***926.0*** γ_{10108}***974.5*** E2

H **11119.8**, 34^{+} γ_{10384}***735.8*** E2 γ_{10358}***761.5***

E **11148.1**, (33^{-}) γ_{10157}***991.6*** E2

A **11318.7**, 34^{+} γ_{10629}***690.0*** (?) γ_{10567}***751.9*** γ_{10446}***872.8*** γ_{10384}***934.8*** γ_{10358}***960.2***

11605 (?), $34(^{-})$ γ_{11083}***523*** (?)

11829.8, 35^{-} γ_{11605}***224*** (?) (D) γ_{11083}***747.3*** (E2)

11916.4, 35 γ_{11083}***833.9***

H **11924.6**, 36^{+} γ_{11319}***605.8*** γ_{11120}***805.0*** E2

E **12063.8**, (35) γ_{11830}***234*** (D)

12064, $36(^{-})$ γ_{11148}***915.7***

A **12213.0**, 36^{+} γ_{11319}***894.3***

12408.9, 36^{+} γ_{11925}***483.8*** γ_{11319}***1090.3*** γ_{11120}***1289.5***

12540.7, 37^{-} $\gamma_{12063.8}$***476*** γ_{11830}***710.9*** E2

12773.5, (37,38) γ_{11925}***848.9***

12813, $38(^{-})$ γ_{12541}***272*** (D)

13056.6 (?) γ_{12213}***843.6*** (?)

H **13256.6**, 38^{+}, 0.8 *4* ps γ_{12409}***847.8*** γ_{11925}***1332.0*** E2

13311.5, 39^{-} γ_{12813}***498*** γ_{12541}***770.8*** E2

13402.9, (39) γ_{12541}***862.2***

13877, (40) γ_{12813}***1063.8***

14012.3, 41^{-} γ_{13312}***700.8***

H **14134.4**, 40^{+}, 0.8 *3* ps γ_{13257}***877.8*** E2

14467.8 γ_{13257}***1211.2***

14728.2, (42,43) γ_{14012}***715.9***

H **14884.7**, 42^{+}, 1.1 *4* ps γ_{14134}***750.3*** E2

15944.7 (?) γ_{14468}***1476.9*** (?)

H **16010.5**, 44^{+}, 0.16 *6* ps γ_{14885}***1125.8*** E2

16357 γ_{14885}***1472***

H **17321.6**, 46^{+}, 0.08 *4* ps γ_{16011}***1311.1***

H **18620.4**, 48^{+}, <0.11 ps γ_{17322}***1298.8***

18733 (?) γ_{17322}***1411*** (?)

I **x**, J

/ **701.7+x**, J+2 γ_{x} ***701.7*** *10* (†$_{\gamma}$0.20 *5*)
$I^{(2)}$*=84.6, ħω=0.363*

/ **1450.7+x**, J+4 γ_{702+x} ***749.0*** *3* (†$_{\gamma}$0.30 *5*)
$I^{(2)}$*=88.1, ħω=0.386*

/ **2245.1+x**, J+6 γ_{1451+x} ***794.4*** *2* (†$_{\gamma}$0.67 *8*)
$I^{(2)}$*=86.6, ħω=0.409*

/ **3085.7+x**, J+8 γ_{2245+x} ***840.6*** *2*
(†$_{\gamma}$0.95 *15*) $I^{(2)}$*=85.5, ħω=0.432*

/ **3973.1+x**, J+10 γ_{3086+x} ***887.4*** *2*
(†$_{\gamma}$1.10 *20*) $I^{(2)}$*=86.8, ħω=0.455*

/ **4906.6+x**, J+12 γ_{3973+x} ***933.5*** *2*
(†$_{\gamma}$1.02 *15*) $I^{(2)}$*=84.0, ħω=0.479*

/ **5887.7+x**, J+14 γ_{4907+x} ***981.1*** *1*
(†$_{\gamma}$1.00 *15*) $I^{(2)}$*=84.9, ħω=0.502*

/ **6915.9+x**, J+16 γ_{5888+x} ***1028.2*** *2*
(†$_{\gamma}$1.07 *15*) $I^{(2)}$*=84.0, ħω=0.526*

/ **7991.7+x**, J+18 γ_{6916+x} ***1075.8*** *2*
(†$_{\gamma}$1.10 *12*) $I^{(2)}$*=83.3, ħω=0.550*

/ **9115.5+x**, J+20 γ_{7992+x} ***1123.8*** *2*
(†$_{\gamma}$1.05 *17*) $I^{(2)}$*=84.6, ħω=0.574*

/ **10286.6+x**, J+22 γ_{9116+x} ***1171.1*** *2*
(†$_{\gamma}$0.90 *10*) $I^{(2)}$*=84.0, ħω=0.597*

/ **11505.3+x**, J+24 $\gamma_{10287+x}$ ***1218.7*** *2*
(†$_{\gamma}$0.65 *8*) $I^{(2)}$*=83.3, ħω=0.621*

/ **12772.0+x**, J+26 $\gamma_{11505+x}$ ***1266.7*** *2*
(†$_{\gamma}$0.45 *7*) $I^{(2)}$*=82.6, ħω=0.645*

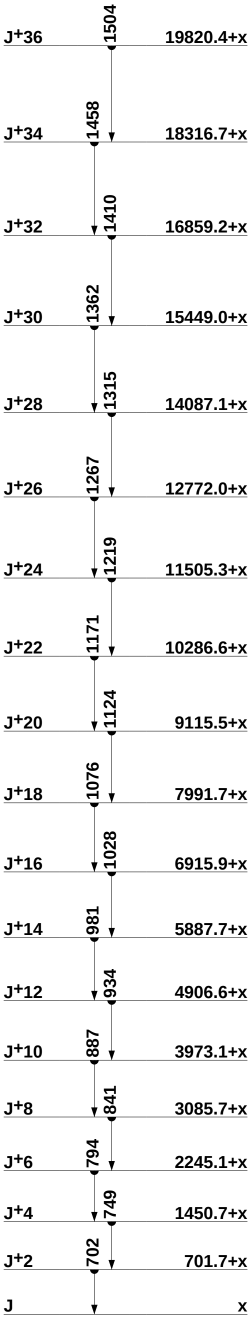
/ **14087.1+x**, J+28 $\gamma_{12772+x}$ ***1315.1*** *2*
(†$_{\gamma}$0.40 *10*) $I^{(2)}$*=85.5, ħω=0.669*

/ **15449.0+x**, J+30 $\gamma_{14087+x}$ ***1361.9*** *3*
(†$_{\gamma}$0.30 *7*) $I^{(2)}$*=82.8, ħω=0.693*

/ **16859.2+x**, J+32 $\gamma_{15449+x}$ ***1410.2*** *5*
(†$_{\gamma}$0.25 *5*) $I^{(2)}$*=84.6, ħω=0.717*

/ **18316.7+x**, J+34 $\gamma_{16859+x}$ ***1457.5*** *6*
(†$_{\gamma}$0.17 *7*) $I^{(2)}$*=86.6, ħω=0.740*

/ **19820.4+x**, J+36 $\gamma_{18317+x}$ ***1503.7*** *7*



SD band
(95Ni03)

$^{154}_{66}$Dy