$^{142}_{62}$Sm

Δ: –78997 *11* **S_n:** 11122 *16* **S_p:** 5810 *30*
Q_{EC}: 2090 *40* **Q_α:** (620)

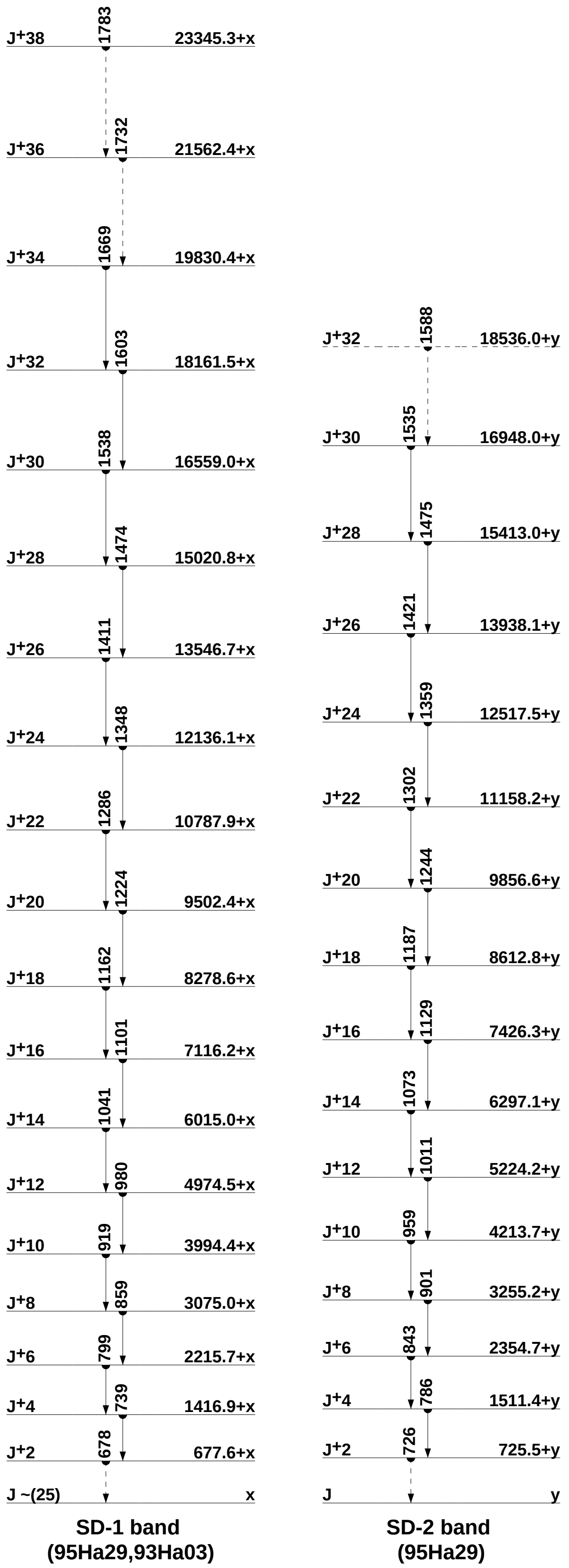
Nuclear Bands

A SD-1 band (95Ha29,93Ha03)
B SD-2 band (95Ha29)

Levels and γ-ray branchings:

0, 0^+, 72.49 *5* m, %EC+%β^+=100
768.0 *2*, 2^+ γ_0 ***768.0*** *2* ($\dagger_\gamma$100) E2
1450.2 *8*, (0^+) γ_{768} ***682.2*** *7* ($\dagger_\gamma$100)
1572 *6*
1657.7 *3*, $(2)^+$ γ_{768} ***889.6*** *3* ($\dagger_\gamma$100 *9*) γ_0 ***1658.1*** *5* ($\dagger_\gamma$98 *23*)
1784.1 *3*, 3^- γ_{768} ***1016.1*** *2* ($\dagger_\gamma$100) (E1)
1791.2 *3*, 4^+ γ_{768} ***1023.3*** *2* ($\dagger_\gamma$100) E2
2055.4 *4*, 2^+ γ_{768} ***1287.4*** *3* ($\dagger_\gamma$100 *9*) γ_0 ***2055.5*** *10* ($\dagger_\gamma$37 *5*)
2173.2 *5*, 0^+ γ_{768} ***1405.2*** *4* ($\dagger_\gamma$100)
2280 *3*, 0^+
2347.7 *3*, 5^- γ_{1791} ***556.6*** *2* ($\dagger_\gamma$100 *3*) E1 γ_{1784} ***563.7*** *2* ($\dagger_\gamma$9.6 *5*) E2,(M1)
2371.8 *4*, 7^-, 170 *2* ns, μ=+0.06, Q=+1.12 *27* γ_{2348} ***24.1*** *3* ($\dagger_{\gamma+e}$95.0) E2 γ_{1791} ***580.7*** *4* (?) ($\dagger_{\gamma+e}$≈0.5)
2415.9 *1*, (4) γ_{1784} ***631.8***
2420.0 *3*, 6^+, <2 ns γ_{1791} ***628.7*** *2* ($\dagger_\gamma$100)
2497 *2*
2582 *2*, 4^+
2656 *2*
2747 *6*, (2^+)
2867 *1*, 4^+
2911.8 *4*, 7^- γ_{2420} ***491.8*** γ_{2372} ***540.0*** *2* ($\dagger_\gamma$100) M1
2955 *2*, 4^+
3002.9 *1*, (6^+) γ_{1791} ***1211.7*** ($\dagger_\gamma$100)
3007 *5*
3052 *3*
3112.9 *4*, 8^- γ_{2912} ***200.9*** *5* ($\dagger_\gamma$65 *12*) E2,M1 γ_{2372} ***741.2*** *2* ($\dagger_\gamma$100 *12*)
3118 *4*
3182 *1*
3219.8 *5* (?) γ_{2372} ***848.0*** *3* ($\dagger_\gamma$100)
3245 *4*
3326.1 *4*, 8^+ γ_{2420} ***906.4*** *3* ($\dagger_\gamma$86 *21*) γ_{2372} ***954.3*** *2* ($\dagger_\gamma$100 *14*)
3386.6 *5*, 9^- γ_{3113} ***273.8*** *5* ($\dagger_\gamma$100 *17*) E2,M1 γ_{2912} ***474.4*** *5* ($\dagger_\gamma$63 *8*)
3570.8 *4* γ_{2420} ***1151.0*** *3* ($\dagger_\gamma$90 *18*) γ_{2372} ***1198.8*** *3* ($\dagger_\gamma$100 *26*)
3639.7 *1*, 11^- γ_{3387} ***253.1*** ($\dagger_\gamma$100)
3661.9 *7*, 10^+, 480 *60* ns γ_{3387} ***275.1*** γ_{3326} ***336.0*** γ_{2372} ***1290.3***
3713.7 *4* γ_{2372} ***1341.9*** *2* ($\dagger_\gamma$100)
3798.6 *4* γ_{2912} ***886.7*** *2* ($\dagger_\gamma$88 *9*) γ_{2372} ***1426.8*** *3* ($\dagger_\gamma$100 *19*)
3825.7 *8*, 10^+ γ_{3662} ***163.9*** γ_{3387} ***438.9*** ($\dagger_\gamma$100)
3974.4 *8*, 10^- γ_{3387} ***587.7*** γ_{3113} ***861.6***
4072.1 *4*, (7^-) γ_{2420} ***1652.1*** *3* ($\dagger_\gamma$35 *7*) γ_{2372} ***1700.1*** *3* ($\dagger_\gamma$100 *8*) γ_{2348} ***1724.5*** *4* ($\dagger_\gamma$14 *5*)
4210.4 *5* γ_{2372} ***1838.6*** *3* ($\dagger_\gamma$100 *11*)
4293.8 *9*, 11^- γ_{3974} ***319.4*** γ_{3387} ***907.2***
4309.1 *4*, (7^-) γ_{3326} ***982.0*** *5* ($\dagger_\gamma$47 *10*) γ_{2420} ***1889.0*** *4* ($\dagger_\gamma$29 *6*) γ_{2372} ***1937.6*** *3* ($\dagger_\gamma$100 *12*)
4371.6 *1*, 11^- γ_{3974} ***397.1*** γ_{3387} ***985***
4541.3 *1*, 11^+ γ_{3826} ***715.6***
4546.7 *1*, 13^-, 2.6 *6* ns γ_{4372} ***175.1*** γ_{4294} ***252.9***
4630.3 *4* γ_{2372} ***2258.4*** *2* ($\dagger_\gamma$100 *9*)
4745.7 *1*, 12^+ γ_{3826} ***920.0*** ($\dagger_\gamma$100)
4970.1, (11^+) γ_{3662} ***1308.4***
5048.1, 12 γ_{4970} ***78.1*** γ_{4746} ***302.5*** γ_{4541} ***506.7***
5133.5, 13 γ_{5048} ***85.5*** γ_{4746} ***387.7***
5223.9, 14 γ_{5134} ***90.5*** γ_{4547} ***677.1***
5417.7, 15 γ_{5224} ***193.8*** ($\dagger_\gamma$100)
5763.6, 16 γ_{5418} ***345.7*** ($\dagger_\gamma$100)
5802.9, 16 γ_{5418} ***385.2***
6089.8 γ_{5803} ***286.9***
A **x**, J≈(25)
A **677.6+x**, J+2 γ_x ***677.6*** *6* (?) ($\dagger_\gamma$0.30 *17*) *$I^{(2)}$=64.8, ħω=0.354*
A **1416.9+x**, J+4 γ_{678+x} ***739.3*** *1* ($\dagger_\gamma$0.84 *19*) *$I^{(2)}$=67.2, ħω=0.385*
A **2215.7+x**, J+6 γ_{1417+x} ***798.8*** *1* ($\dagger_\gamma$0.85 *5*) *$I^{(2)}$=66.1, ħω=0.415*
A **3075.0+x**, J+8 γ_{2216+x} ***859.3*** *1* ($\dagger_\gamma$1.09 *6*) *$I^{(2)}$=66.6, ħω=0.445*
A **3994.4+x**, J+10 γ_{3075+x} ***919.4*** *1* ($\dagger_\gamma$1.02 *9*) *$I^{(2)}$=65.9, ħω=0.475*
A **4974.5+x**, J+12 γ_{3994+x} ***980.1*** *1* ($\dagger_\gamma$0.95 *5*) *$I^{(2)}$=66.2, ħω=0.505*
A **6015.0+x**, J+14 γ_{4975+x} ***1040.5*** *1* ($\dagger_\gamma$1.11 *6*) *$I^{(2)}$=65.9, ħω=0.535*
A **7116.2+x**, J+16 γ_{6015+x} ***1101.2*** *1* ($\dagger_\gamma$0.93 *5*) *$I^{(2)}$=65.4, ħω=0.566*
A **8278.6+x**, J+18 γ_{7116+x} ***1162.4*** *1* ($\dagger_\gamma$0.94 *5*) *$I^{(2)}$=65.1, ħω=0.597*
A **9502.4+x**, J+20 γ_{8279+x} ***1223.8*** *1* ($\dagger_\gamma$1.06 *6*) *$I^{(2)}$=64.8, ħω=0.627*
A **10787.9+x**, J+22 γ_{9502+x} ***1285.5*** *1* ($\dagger_\gamma$0.82 *5*) *$I^{(2)}$=63.8, ħω=0.658*
A **12136.1+x**, J+24 $\gamma_{10788+x}$ ***1348.2*** *1* ($\dagger_\gamma$0.66 *4*) *$I^{(2)}$=64.1, ħω=0.690*

A **13546.7+x**, J+26 $\gamma_{12136+x}$***1410.6*** *2*
(†$_{\gamma}$0.58 *4*) $I^{(2)}$*=63.0, ħω=0.721*
A **15020.8+x**, J+28 $\gamma_{13547+x}$***1474.1*** *2*
(†$_{\gamma}$0.52 *4*) $I^{(2)}$*=62.4, ħω=0.753*
A **16559.0+x**, J+30 $\gamma_{15021+x}$***1538.2*** *2*
(†$_{\gamma}$0.31 *3*) $I^{(2)}$*=62.2, ħω=0.785*
A **18161.5+x**, J+32 $\gamma_{16559+x}$***1602.5*** *3*
(†$_{\gamma}$0.21 *3*) $I^{(2)}$*=60.2, ħω=0.818*
A **19830.4+x**, J+34 $\gamma_{18162+x}$***1668.9*** *5*
(†$_{\gamma}$0.12 *2*) $I^{(2)}$*=63.4, ħω=0.850*
A **21562.4+x**, J+36 $\gamma_{19830+x}$***1732.0*** *9* (?)
(†$_{\gamma}$0.06 *2*) $I^{(2)}$*=78.6, ħω=0.879*
A **23345.3+x**, J+38 $\gamma_{21562+x}$***1782.9*** *14* (?)
(†$_{\gamma}$0.04 *2*)
B **y**, J
B **725.5+y**, J+2 γ_{y}***725.5*** *6* (?) (†$_{\gamma}$0.08 *3*)
$I^{(2)}$*=66.2, ħω=0.378*
B **1511.4+y**, J+4 γ_{726+y}***785.9*** *5* (†$_{\gamma}$0.18 *3*)
$I^{(2)}$*=69.7, ħω=0.407*
B **2354.7+y**, J+6 γ_{1511+y}***843.3*** *5* (†$_{\gamma}$0.19 *3*)
$I^{(2)}$*=69.9, ħω=0.436*
B **3255.2+y**, J+8 γ_{2355+y}***900.5*** *4* (†$_{\gamma}$0.16 *3*)
$I^{(2)}$*=69.0, ħω=0.465*
B **4213.7+y**, J+10 γ_{3255+y}***958.5*** *5*
(†$_{\gamma}$0.17 *3*) $I^{(2)}$*=76.9, ħω=0.492*
B **5224.2+y**, J+12 γ_{4214+y}***1010.5*** *6*
(†$_{\gamma}$0.16 *3*) $I^{(2)}$*=64.1, ħω=0.521*
B **6297.1+y**, J+14 γ_{5224+y}***1072.9*** *5*
(†$_{\gamma}$0.18 *3*) $I^{(2)}$*=71.0, ħω=0.551*
B **7426.3+y**, J+16 γ_{6297+y}***1129.2*** *4*
(†$_{\gamma}$0.25 *6*) $I^{(2)}$*=69.8, ħω=0.579*
B **8612.8+y**, J+18 γ_{7426+y}***1186.5*** *9*
(†$_{\gamma}$0.16 *3*) $I^{(2)}$*=69.8, ħω=0.608*
B **9856.6+y**, J+20 γ_{8613+y}***1243.8*** *7*
(†$_{\gamma}$0.13 *3*) $I^{(2)}$*=69.2, ħω=0.636*
B **11158.2+y**, J+22 γ_{9857+y}***1301.6*** *7*
(†$_{\gamma}$0.12 *3*) $I^{(2)}$*=69.3, ħω=0.665*
B **12517.5+y**, J+24 $\gamma_{11158+y}$***1359.3*** *8*
(†$_{\gamma}$0.08 *3*) $I^{(2)}$*=65.3, ħω=0.695*
B **13938.1+y**, J+26 $\gamma_{12518+y}$***1420.6*** *18*
(†$_{\gamma}$0.07 *5*) $I^{(2)}$*=73.7, ħω=0.724*
B **15413.0+y**, J+28 $\gamma_{13938+y}$***1474.9*** *7*
(†$_{\gamma}$0.08 *2*) $I^{(2)}$*=66.6, ħω=0.752*
B **16948.0+y**, J+30 $\gamma_{15413+y}$***1535.0*** *11*
(†$_{\gamma}$0.06 *2*) $I^{(2)}$*=75.5, ħω=0.781*
B **18536.0+y** (?), J+32
$\gamma_{16948+y}$***1588.0*** *15* (?) (†$_{\gamma}$0.04 *2*)


J+38 1783 23345.3+x
J+36 1732 21562.4+x
J+34 1669 19830.4+x
J+32 1603 18161.5+x
J+30 1538 16559.0+x
J+28 1474 15020.8+x
J+26 1411 13546.7+x
J+24 1348 12136.1+x
J+22 1286 10787.9+x
J+20 1224 9502.4+x
J+18 1162 8278.6+x
J+16 1101 7116.2+x
J+14 1041 6015.0+x
J+12 980 4974.5+x
J+10 919 3994.4+x
J+8 859 3075.0+x
J+6 799 2215.7+x
J+4 739 1416.9+x
J+2 678 677.6+x
J ~(25) x
SD-1 band
(95Ha29,93Ha03)
J+32 1588 18536.0+y
J+30 1535 16948.0+y
J+28 1475 15413.0+y
J+26 1421 13938.1+y
J+24 1359 12517.5+y
J+22 1302 11158.2+y
J+20 1244 9856.6+y
J+18 1187 8612.8+y
J+16 1129 7426.3+y
J+14 1073 6297.1+y
J+12 1011 5224.2+y
J+10 959 4213.7+y
J+8 901 3255.2+y
J+6 843 2354.7+y
J+4 786 1511.4+y
J+2 726 725.5+y
J y
SD-2 band
(95Ha29)

$^{142}_{62}$Sm