$^{143}_{63}$Eu

Δ: –74253 *13* **S_n:** 10970 *30* **S_p:** 2545 *17*
Q_{EC}: 5275 *14* **Q_α:** 860 *60*

Nuclear Bands

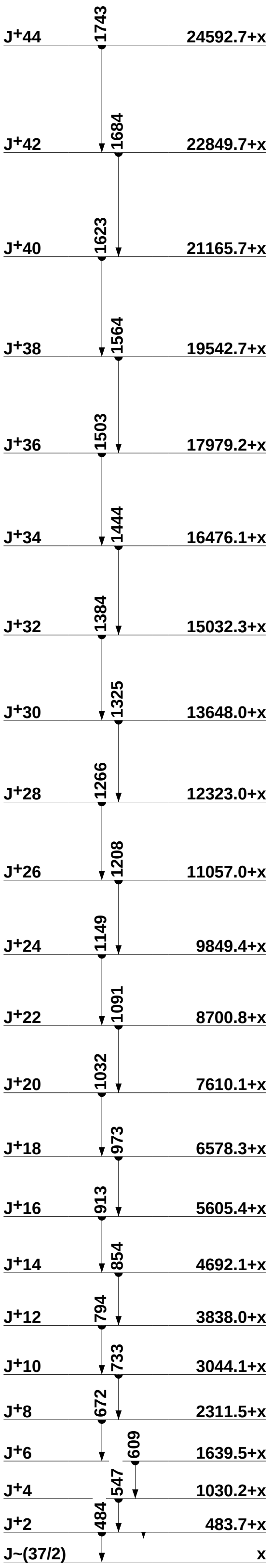
A SD band (93At01,91Mu08)

Levels and γ-ray branchings:

0, 5/2$^+$, 2.63 *5* m, %EC+%β^+=100
258.82 *3*, (3/2)$^+$ γ_0 ***258.81*** *3* ($\dagger_\gamma$100) (M1)
271.93 *3*, 7/2$^+$ γ_0 ***271.94*** *3* ($\dagger_\gamma$100) M1
389.51 *4*, 11/2$^-$, 50.0 *5* µs γ_{272} ***117.57*** *5* ($\dagger_\gamma$100 *8*) M2 γ_0 ***389.47*** *5* ($\dagger_\gamma$53 *4*) E3
463.61 *5*, (1/2)$^+$ γ_{259} ***204.77*** *5* ($\dagger_\gamma$100 *7*) M1,E2 γ_0 ***463.7*** *1* ($\dagger_\gamma$51 *4*)
804.1 *3* γ_{464} ***340.5*** *3* ($\dagger_\gamma$100)
812.90 *10*, (1/2,3/2)$^+$ γ_{259} ***554.1*** *3* ($\dagger_\gamma$14 *7*) γ_0 ***812.9*** *1* ($\dagger_\gamma$100 *10*)
906.94 *6*, 9/2$^+$ γ_0 ***906.96*** *6* ($\dagger_\gamma$100) E2
977.48 *4*, (9/2)$^-$ γ_{390} ***588.00*** *3* ($\dagger_\gamma$100) M1+E2
1057.42 *6*, 11/2$^+$ γ_{272} ***785.56*** *6* ($\dagger_\gamma$100) E2
1057.66 *5*, 13/2$^-$ γ_{390} ***668.10*** *3* ($\dagger_\gamma$100) M1+E2: $\delta=-0.75^{+23}_{-73}$
1088.31 *11* γ_{390} ***698.8*** *1* ($\dagger_\gamma$100)
1188.42 *5*, 11/2$^-$ γ_{1057} ***131.1*** *1* ($\dagger_\gamma$3.5 *6*) γ_{977} ***210.9*** *1* ($\dagger_\gamma$10 *1*) M1 γ_{390} ***798.89*** *6* ($\dagger_\gamma$100 *7*) E2+M1
1213.94 *10*, 11/2$^-$ γ_{390} ***824.43*** *9* ($\dagger_\gamma$100) E2(+M1)
1256.88 *6*, 11/2$^+$ γ_{272} ***984.93*** *5* ($\dagger_\gamma$100) E2
1306.10 *6*, 15/2$^-$ γ_{1058} ***248.4*** *1* ($\dagger_\gamma$67 *9*) D γ_{390} ***916.53*** *5* ($\dagger_\gamma$100 *17*) E2
1331.24 *11*, 11/2$^+$ γ_{272} ***1059.3*** *1* ($\dagger_\gamma$100) Q
1405.58 *21* γ_{977} ***428.1*** *2* ($\dagger_\gamma$100)
1497.74 *20* γ_{907} ***590.8*** *2* ($\dagger_\gamma$100 *50*) γ_{272} ***1225.8*** *5* ($\dagger_\gamma$75 *25*)
1543.0 *4* (?), (1/2,3/2)$^+$ γ_{259} ***1284.2*** *4* ($\dagger_\gamma$100)
1565.24 *21* γ_{272} ***1293.3*** *2* ($\dagger_\gamma$100)
1602.62 *7* γ_{1057} ***545.3*** *1* ($\dagger_\gamma$50 *7*) γ_{977} ***625.23*** *8* ($\dagger_\gamma$100 *7*) γ_{390} ***1213.1*** *3* ($\dagger_\gamma$47 *7*)
1676.50 *8* γ_{272} ***1404.56*** *7* ($\dagger_\gamma$100)
1723.6 *4* (?), (1/2,3/2)$^+$ γ_{259} ***1464.8*** *4* ($\dagger_\gamma$100)
1754.23 *8* γ_{1257} ***497.3*** *1* ($\dagger_\gamma$70 *10*) γ_{977} ***776.8*** *1* ($\dagger_\gamma$100 *10*) M1
1761.74 *21* γ_{272} ***1489.8*** *2* ($\dagger_\gamma$100)
1892.45 *8*, (15/2$^-$) γ_{1058} ***834.3*** *1* ($\dagger_\gamma$47 *4*) γ_{390} ***1503.4*** *1* ($\dagger_\gamma$100 *7*)
1903.62 *15* γ_{1058} ***845.5*** *2* ($\dagger_\gamma$46 *15*) γ_{977} ***926.6*** *2* ($\dagger_\gamma$100 *14*)
1908.08 *10*, (15/2$^-$) γ_{1306} ***601.7*** *2* ($\dagger_\gamma$100 *9*) γ_{1058} ***850.5*** *1* ($\dagger_\gamma$24 *4*)
1970.6 *3* γ_{977} ***993.1*** *3* ($\dagger_\gamma$100)
2018.72 *5*, (9/2$^-$) γ_{1188} ***830.1*** *1* ($\dagger_\gamma$18 *2*) γ_{977} ***1041.35*** *5* ($\dagger_\gamma$100 *8*) γ_{390} ***1629.3*** *1* ($\dagger_\gamma$64 *6*) γ_{272} ***1746.4*** *1* ($\dagger_\gamma$25 *3*)
2065.07 *6*, (9/2$^-$) γ_{977} ***1087.3*** *1* ($\dagger_\gamma$29 *6*) γ_{907} ***1158.2*** *1* ($\dagger_\gamma$21 *3*) γ_{390} ***1675.9*** *3* ($\dagger_\gamma$18 *3*) γ_{272} ***1793.21*** *7* ($\dagger_\gamma$100 *6*)
2092.15 *7* γ_{390} ***1702.5*** *1* ($\dagger_\gamma$36 *3*) γ_{272} ***1820.27*** *7* ($\dagger_\gamma$100 *8*)
2116.83 *10*, 17/2$^-$ γ_{1908} ***208.5*** γ_{1306} ***810.4*** *2* γ_{1058} ***1059.3*** *1* Q
2121.26 *11*, (15/2$^+$) γ_{1058} ***1063.6*** *1* ($\dagger_\gamma$100) Q
2196.69 *5*, (11/2$^-$) γ_{1892} ***304.2*** *2* ($\dagger_\gamma$13 *1*) M1+E2 γ_{1603} ***594.3*** *1* ($\dagger_\gamma$7.6 *7*) γ_{1306} ***890.52*** *9* ($\dagger_\gamma$43 *4*) γ_{1188} ***1008.28*** *5* ($\dagger_\gamma$18 *2*) M1 γ_{1058} ***1138.9*** *1* ($\dagger_\gamma$11 *1*) γ_{977} ***1219.21*** *7* ($\dagger_\gamma$54 *4*) γ_{390} ***1807.14*** *7* ($\dagger_\gamma$100 *3*) Q+D
2209.3 *3* γ_{977} ***1231.8*** *3* ($\dagger_\gamma$100)
2254.33 *12* γ_{1057} ***1196.9*** *1* ($\dagger_\gamma$100 *8*) γ_{977} ***1276.9*** *5* ($\dagger_\gamma$28 *9*)
2275.58 *10* γ_{1188} ***1087.3*** *1* ($\dagger_\gamma$100 *20*) γ_{977} ***1297.6*** *2* ($\dagger_\gamma$42 *7*) γ_{390} ***1886.0*** *2* ($\dagger_\gamma$90 *10*)
2318.4 *9*, (19/2$^-$) γ_{1306} ***1012.4*** ($\dagger_\gamma$100)
2329.58 *20*, (17/2$^-$) γ_{1058} ***1271.9*** *2* ($\dagger_\gamma$100) Q
2331.89 *21* γ_{977} ***1354.4*** *2* ($\dagger_\gamma$100)
2351.12 *10* γ_{1188} ***1162.8*** *2* ($\dagger_\gamma$100 *8*) γ_{977} ***1373.6*** *1* ($\dagger_\gamma$69 *8*)
2357.84 *14* γ_{1214} ***1143.9*** *1* ($\dagger_\gamma$100)
2378.31 *12*, 19/2$^-$ γ_{1306} ***1072.2*** *1* ($\dagger_\gamma$100) E2
2417.6 *6* γ_{1088} ***1329.3*** *5* ($\dagger_\gamma$100)
2457.46 *11*, 17/2$^-$ γ_{1908} ***550.5*** γ_{1306} ***1151.3*** *1* M1+E2: $\delta=-4.16^{+43}_{-54}$
2474.1 *10*, 21/2($^+$), 5.8 *15* ns γ_{2318} ***155.7*** ($\dagger_\gamma$100) (E1)
2559.46 *22*, 19/2$^-$ γ_{2457} ***101.6*** *3* ($\dagger_\gamma$22 *1*) M1(+E2): δ=+0.09 *14* γ_{2330} ***229.6*** γ_{2117} ***443.0*** *3* ($\dagger_\gamma$100 *4*) D(+Q): δ=+0.00 *5*
2600.63 *12* γ_{1214} ***1386.69*** *7* ($\dagger_\gamma$100)
2610.8 *5* γ_{977} ***1633.3*** *6* ($\dagger_\gamma$33 *17*) γ_{272} ***2338.9*** *8* ($\dagger_\gamma$100 *33*)
2612.1 *8*, 21/2($^+$) γ_{2474} ***138.1*** γ_{2378} ***233.4***
2630.4 *6*, 21/2$^-$ γ_{2559} ***70.4*** M1 γ_{2378} ***251.6*** γ_{2117} ***514.9***
2812.0 *9*, 23/2$^-$ γ_{2630} ***181.9*** M1 γ_{2612} ***199.5***

3112.2 *4*, 21/2 γ_{2559}***552.7*** *3* ($\dagger_\gamma$100)
D(+Q): $\delta=-0.13^{+10}_{-11}$
3294.3 *5*, (23/2) γ_{3112}***182.1*** *3* ($\dagger_\gamma$100)
(D)
3343.8 *12*, 25/2 γ_{2812}***531.8*** ($\dagger_\gamma$100)
3364.6 *10*, 25/2 γ_{2812}***552.7*** *3* ($\dagger_\gamma$100)
D(+Q): $\delta=-0.13^{+10}_{-11}$
3470.0 *6* (?), (25/2) γ_{3294}***175.7*** *3* ($\dagger_\gamma$100)
3629.3 *12* (?), (27/2) γ_{3470}***159.3*** ($\dagger_\gamma$100)
D
3749.4 *12*, 27/2 γ_{3365}***384.8*** γ_{3344}***405.6***
4319.0 *12*, 29/2 γ_{3749}***569.5*** γ_{3365}***954.4***
γ_{3344}***975.1***
4494.6 *16* (?), 31/2 γ_{4319}***175.6*** ($\dagger_\gamma$100)
D(+Q): $\delta=-0.02$ *10*
4653.9 *16*, 33/2 γ_{4495}***159.3*** *3* ($\dagger_\gamma$100)
D(+Q): $\delta=+0.00^{+9}_{-7}$
4947.3 *19*, 35/2 γ_{4654}***293.4*** ($\dagger_\gamma$100)

A **x**, J≈(37/2)
A **483.7+x**, J+2 γ_{x}***483.7*** *4* ($\dagger_\gamma$0.29 *3*)
$I^{(1)}$*=79.6*, $I^{(2)}$*=63.7*, $\hbar\omega$*=0.258*
γ***3360.6*** *7* ($\dagger_\gamma$0.032)
A **1030.2+x**, J+4 γ_{484+x}***546.5*** *4* ($\dagger_\gamma$0.71 *4*)
$I^{(1)}$*=77.9*, $I^{(2)}$*=63.7*, $\hbar\omega$*=0.289*
A **1639.5+x**, J+6 γ_{1030+x}***609.3*** *2* ($\dagger_\gamma$1.01 *7*)
$I^{(1)}$*=76.5*, $I^{(2)}$*=64.1*, $\hbar\omega$*=0.320*
A **2311.5+x**, J+8 γ_{1640+x}***671.7*** *2* ($\dagger_\gamma$0.88 *6*)
$I^{(1)}$*=75.5*, $I^{(2)}$*=65.4*, $\hbar\omega$*=0.351*
A **3044.1+x**, J+10 γ_{2312+x}***732.9*** *2*
($\dagger_\gamma$1.00 *7*) $I^{(1)}$*=74.7*, $I^{(2)}$*=65.6*,
$\hbar\omega$*=0.382*
A **3838.0+x**, J+12 γ_{3044+x}***793.9*** *2*
($\dagger_\gamma$0.95 *6*) $I^{(1)}$*=74.0*, $I^{(2)}$*=66.4*,
$\hbar\omega$*=0.412*
A **4692.1+x**, J+14 γ_{3838+x}***854.1*** *2*
($\dagger_\gamma$1.02 *6*) $I^{(1)}$*=73.6*, $I^{(2)}$*=67.6*,
$\hbar\omega$*=0.442*
A **5605.4+x**, J+16 γ_{4692+x}***913.3*** *2*
($\dagger_\gamma$0.98 *8*) $I^{(1)}$*=73.2*, $I^{(2)}$*=67.1*,
$\hbar\omega$*=0.472*
A **6578.3+x**, J+18 γ_{5605+x}***972.9*** *2*
($\dagger_\gamma$1.04 *8*) $I^{(1)}$*=72.8*, $I^{(2)}$*=67.9*,
$\hbar\omega$*=0.501*
A **7610.1+x**, J+20 γ_{6578+x}***1031.8*** *2*
($\dagger_\gamma$1.03 *7*) $I^{(1)}$*=72.6*, $I^{(2)}$*=67.9*,
$\hbar\omega$*=0.531*
A **8700.8+x**, J+22 γ_{7610+x}***1090.7*** *2*
($\dagger_\gamma$0.95 *6*) $I^{(1)}$*=72.3*, $I^{(2)}$*=69.1*,
$\hbar\omega$*=0.560*
A **9849.4+x**, J+24 γ_{8701+x}***1148.6*** *4*
($\dagger_\gamma$0.75 *11*) $I^{(1)}$*=72.2*, $I^{(2)}$*=67.8*,
$\hbar\omega$*=0.589*
A **11057.0+x**, J+26 γ_{9849+x}***1207.6*** *4*
($\dagger_\gamma$0.65 *10*) $I^{(1)}$*=72.0*, $I^{(2)}$*=68.5*,
$\hbar\omega$*=0.618*
A **12323.0+x**, J+28 $\gamma_{11057+x}$***1266.0*** *4*
($\dagger_\gamma$0.58 *11*) $I^{(1)}$*=71.8*, $I^{(2)}$*=67.8*,
$\hbar\omega$*=0.648*
A **13648.0+x**, J+30 $\gamma_{12323+x}$***1325.0*** *4*
($\dagger_\gamma$0.50 *10*) $I^{(1)}$*=71.6*, $I^{(2)}$*=67.5*,
$\hbar\omega$*=0.677*
A **15032.3+x**, J+32 $\gamma_{13648+x}$***1384.3*** *6*
($\dagger_\gamma$0.29 *9*) $I^{(1)}$*=71.4*, $I^{(2)}$*=67.2*,
$\hbar\omega$*=0.707*
A **16476.1+x**, J+34 $\gamma_{15032+x}$***1443.8*** *10*
($\dagger_\gamma$0.20 *10*) $I^{(1)}$*=71.3*, $I^{(2)}$*=67.5*,
$\hbar\omega$*=0.737*
A **17979.2+x**, J+36 $\gamma_{16476+x}$***1503.1*** *10*
($\dagger_\gamma$0.12 *7*) $I^{(1)}$*=71.1*, $I^{(2)}$*=66.2*,
$\hbar\omega$*=0.767*
A **19542.7+x**, J+38 $\gamma_{17979+x}$***1563.5*** *10*
($\dagger_\gamma$0.09 *6*) $I^{(1)}$*=70.9*, $I^{(2)}$*=67.2*,
$\hbar\omega$*=0.797*
A **21165.7+x**, J+40 $\gamma_{19543+x}$***1623*** *2*
$I^{(1)}$*=70.8*, $I^{(2)}$*=65.6*, $\hbar\omega$*=0.827*
A **22849.7+x**, J+42 $\gamma_{21166+x}$***1684*** *2*
$I^{(1)}$*=70.6*, $I^{(2)}$*=67.8*, $\hbar\omega$*=0.857*
A **24592.7+x**, J+44 $\gamma_{22850+x}$***1743*** *2*



SD band
(93At01,91Mu08)

$^{143}_{63}$Eu