$^{196}_{82}Pb$

Δ: (−25420) **S_n:** (9700) **S_p:** (4440)
Q_{EC}: (2050) **Q_α:** (4200)

Nuclear Bands

A Band Structure
B Band Structure
C Band Structure
D Oblate band
E SD-1 band (95Va32,94Cl02)(93Mo19,91Wa14,90Br10)
F SD-2 band? (95Va32)
G SD-3 band? (95Va32)

Levels and γ-ray branchings:

0, 0^+, 37 *3* m, %EC+%β^+≈100, %α≤3×10^{-5}

1049.20 *9*, 2^+, <100 ns γ_0***1049.21*** *9* (†γ100) E2

A **1142.86** *17*, 0^+ γ_0***1142.7*** *3* (†$_e$2.0 *3*) E0

A **1449.87** *13*, 2^+ γ_{1143}***306.9*** *3* (†γ16 *5*) γ_{1049}***400.9*** *2* (†γ91 *5*) E0+M1+E2 γ_0***1449.7*** *3* (†γ100 *9*) E2

1697.8 *5*, 0^+ γ_0***1697.8*** *5* (†$_e$0.2 *1*) E0

1738.27 *12*, 4^+, <1 μs γ_{1450}***288.7*** *2* (†γ1.3 *4*) γ_{1049}***689.00*** *9* (†γ100 *4*) E2

1797.51 *14*, 5^-, 140 *14* ns, μ=0.490 *15* γ_{1738}***59.23*** *9* (†γ100 *23*) E1 γ_{1049}***748.4*** *3* (†γ10 *1*) E3

1825.60 *16*, 3^+,4^+ γ_{1450}***375.5*** *2* (†γ9 *2*) γ_{1049}***776.6*** *2* (†γ100 *7*) E2(+M1): δ=2.0

A **1861.7** *6*, (4^+) γ_{1450}***411.8*** *5* (†γ100)

1896.10 *17*, 2^+ γ_{1143}***753.4*** *2* (†γ58 *25*) E2 γ_{1049}***846.7*** *2* (†γ100 *8*) E2(+M1): δ=1.83 γ_0***1896.3*** *5* (†γ38 *17*)

1991.61 *22*, 2^-,3^- γ_{1049}***942.4*** *2* (†γ100) E1

2060.06 *23*, $(1^-,2^+)$ γ_{1143}***916.8*** *3* (†γ33 *25*) γ_{1049}***1011.1*** *3* (†γ100 *17*) γ_0***2060.9*** *7* (†γ17 *8*)

2124.42 *22*, $(1^-,2,3)$ γ_{1450}***674.6*** *2* (†γ100 *20*) γ_{1049}***1075.0*** *4* (†γ70 *50*)

2169.44 *16*, 7^-, <5 ns γ_{1798}***371.93*** *8* (†γ100) E2

2203.27 *24*, 4^+ γ_{1450}***753.4*** *2* (†γ100) E2

2307.84 *18*, 9^-, 52 *5* ns γ_{2169}***138.41*** *7* (†γ100) E2

2333.9 *3*, (8^-) γ_{2169}***164.5*** *2* (†γ100)

2376.05 *20*, $(5)^+$,$(6)^+$ γ_{1826}***550.4*** *3* (†γ12 *6*) γ_{1738}***637.8*** *2* (†γ100 *18*) E2

A **2423.9** *8*, (6^+) γ_{1862}***562.2*** *5* (†γ100)

2470.77 *23*, (3,4,5$^-$) γ_{1738}***732.5*** *2* (†γ100)

2590.96 *19*, 8^+ γ_{2308}***283.2*** *2* (†γ63 *8*) γ_{2169}***421.5*** *1* (†γ100 *13*) E1

A **2621.9** *9*, (8^+), 50 *15* ns γ_{2424}***198.0*** *5* (†γ100)

2645.13 *19*, 10^+, <2 ns γ_{2308}***337.29*** *7* (†γ100) E1

2692.8 *6*, (12^+), 270 *4* ns, μ=−1.920 *18*, Q=0.65 *5* γ_{2645}***47.7*** *5* (†γ100) (E2)

3041.4 *3*, 4^+ γ_{2376}***665.4*** *2* (†γ100) E2

3087.25 *25*, $(9,10)^+$ γ_{2591}***496.3*** *2* (†γ100) M1(+E2): δ=0.89

3190.5 *6*, (11^-), 72 *4* ns, μ=10.6 *9* γ_{2693}***497.7*** *2* (†γ100) (E1) γ_{2645}***548.4*** (?)

3394.13 *25*, $(9,10)^+$ γ_{3087}***306.9*** *3* (†γ75 *25*) (E2) γ_{2645}***749.0*** *2* (†γ<100) γ_{2591}***803.1*** *5* (†γ50 *25*)

3652.5 *6*, (14^+) γ_{2693}***959.69*** *9* (†γ100) E2

3737.9 *7*, $(12^-,13^-)$ γ_{3191}***547.4*** *4* (†γ100) (E2+M1)

4046.7 *10*, (13^-) γ_{3738}***309*** D γ_{3191}***856*** Q

4120.1 *6*, (15^-) γ_{3653}***467.61*** *9* (†γ100) E1

4217.2 *6*, (16^+) γ_{3653}***564.7*** *1* (†γ100) E2

4332.1 *6*, (16^+) γ_{3653}***679.7*** *3* (†γ100) E2

4478.0 *6*, (15^-), 5.0 *5* ns γ_{4120}***357.9*** *1* (†γ100) M1+E2: $\delta=1.5^{+20}_{-5}$

4646.0 *7*, (16^-) γ_{4120}***525.9*** *3* (†γ100) M1+E2: $\delta=-0.4^{+3}_{-40}$

4652.7 *14*, (15^-) γ_{4047}***606*** (†γ100) Q

4675.0 *7*, (13^-) γ_{4478}***197.0*** *4* (†γ100) (E2)

4722.3 *6*, (16^-) γ_{4478}***244.31*** *10* (†γ100) M1(+E2): $\delta=0.3^{+1}_{-5}$

4962.5 *6*, (18^+) γ_{4332}***630.4*** *3* (†γ91 *9*) E2 γ_{4217}***745.2*** *2* (†γ100 *18*) E2

B **5155.7** *17*, 16(−) γ_{4653}***503*** (†γ100) D

B **5263.7** *20*, 17(−) γ_{5156}***108*** (†γ100) D

B **5401.7** *22*, 18(−) γ_{5264}***138*** (†γ100) D

5491.6 *7*, (20^+) γ_{4963}***529.1*** *3* (†γ100) E2

B **5605.7** *22*, 19(−) γ_{5402}***204*** D γ_{5264}***342*** Q

5707.7, (19^-) γ_{4963}***745.2*** *2* (?) (†γ100) E1

B **5873.7** *22*, 20(−) γ_{5606}***268*** D γ_{5402}***472*** Q

B **6205.7** *25*, 21(−) γ_{5874}***332*** (†γ100) D

B **6574** *3*, 22(−) γ_{6206}***368*** (†γ100) D

B **6966** *3*, 23(−) γ_{6574}***392*** (†γ100) D

B **7365** *3*, 24(−) γ_{6966}***399*** (†γ100) D

B **7774** *4*, 25(−) γ_{7365}***409*** (†γ100) D

B **8196** *4*, 26(−) γ_{7774}***422*** (†γ100) D

B **8624** *4*, 27(−) γ_{8196}***428*** (†γ100) D

C **0+z**

C **165.0+z** *10* γ_{0+z}***165*** († γ 100) D

C **374.0+z** *15* γ_{165+z}***209*** († γ 100) D

C **625.0+z** *18* γ_{374+z}***251*** († γ 100) D

C **934.0+z** *20* γ_{625+z}***309*** († γ 100) D

C **1309.0+z** *23* γ_{934+z}***375*** († γ 100) D

C **1714.0+z** *25* γ_{1309+z}***405*** († γ 100) D

D **0+y**

D **193.0+y** *10* γ_{0+y}***193*** († γ 100) D

D **508.0+y** *15* γ_{193+y}***315*** († γ 100) D

D **883.0+y** *17* γ_{508+y}***375*** († γ 100) D

D **1238.0+y** *17* γ_{883+y}***355*** D γ_{508+y}***730*** Q

D **1580.0+y** *18* γ_{1238+y}***342*** D γ_{883+y}***697***

D **1824.0+y** *20* γ_{1580+y}***244*** († γ 100) D

D **2034.0+y** *23* γ_{1824+y}***210*** († γ 100) D

D **2274.0+y** *25* γ_{2034+y}***240*** († γ 100) D

D **2612+y** *3* γ_{2274+y}***338*** († γ 100) D

D **2899+y** *3* γ_{2612+y}***287*** († γ 100) D

D **3296+y** *3* γ_{2899+y}***397*** († γ 100) D

D **3744+y** *4* γ_{3296+y}***448*** († γ 100) D

D **4234+y** *4* γ_{3744+y}***490*** († γ 100) D

E **u**, J≈ (6)

E **171.4+u** *2*, J+2 γ_{0}***171.4*** *2* († γ 0.20 *5*)
$I^{(2)}$*=90.5, ħ ω=0.097*

E **387.0+u** *3*, J+4 γ_{171+u}***215.6*** *2* († γ 0.60 *5*)
(E2) $I^{(2)}$*=91.1, ħ ω=0.119*

E **646.5+u** *3*, J+6 γ_{387+u}***259.5*** *2* († γ 0.90 *5*)
(E2) $I^{(2)}$*=92.0, ħ ω=0.141*

E **949.5+u** *4*, J+8 γ_{647+u}***303.0*** *2* († γ 0.95 *5*)
(E2) $I^{(2)}$*=93.5, ħ ω=0.162*

E **1295.3+u** *4*, J+10 γ_{950+u}***345.8*** *2*
(† γ 1.00 *5*) (E2) $I^{(2)}$*=95.7, ħ ω=0.183*

E **1682.9+u** *5*, J+12 γ_{1295+u}***387.6*** *2*
(† γ 1.05 *5*) (E2) $I^{(2)}$*=97.8, ħ ω=0.204*

E **2111.4+u** *5*, J+14 γ_{1683+u}***428.5*** *2*
(† γ 1.03 *5*) (E2) $I^{(2)}$*=97.8, ħ ω=0.224*

E **2580.8+u** *6*, J+16, 0.23 *10* ps
γ_{2111+u}***469.4*** *2* († γ 1.00 *5*) (E2)
$I^{(2)}$*=102.3, ħ ω=0.244*

E **3089.3+u** *6*, J+18, 0.12^{+3}_{-5} *ps*
γ_{2581+u}***508.5*** *2* († γ 0.85 *5*) (E2)
$I^{(2)}$*=104.2, ħ ω=0.264*

E **3636.2+u** *6*, J+20, 0.08^{+5}_{-2} *ps*
γ_{3089+u}***546.9*** *2* († γ 1.00 *5*) (E2)
$I^{(2)}$*=107.2, ħ ω=0.283*

E **4220.4+u** *7*, J+22 γ_{3636+u}***584.2*** *2*
(† γ 0.75 *5*) (E2) $I^{(2)}$*=109.9, ħ ω=0.301*

E **4841.0+u** *7*, J+24 γ_{4220+u}***620.6*** *2*
(† γ 0.65 *5*) (E2) $I^{(2)}$*=116.6, ħ ω=0.319*

E **5495.9+u** *8*, J+26 γ_{4841+u}***654.9*** *3*
(† γ 0.65 *5*) $I^{(2)}$*=118.0, ħ ω=0.336*

E **6184.7+u** *8*, J+28 γ_{5496+u}***688.8*** *3*
(† γ 0.55 *5*) $I^{(2)}$*=127.8, ħ ω=0.352*

E **6904.8+u** *10*, J+30 γ_{6185+u}***720.1*** *5*
(† γ 0.35 *5*) $I^{(2)}$*=125.0, ħ ω=0.368*

E **7656.9+u** *11*, J+32 γ_{6905+u}***752.1*** *5*
(† γ 0.20 *5*)

F **v**, J≈ (8)

F **204.5+v**, J+2 γ_{0}***204.5*** $I^{(2)}$*=92.2, ħ ω=0.113*

F **452.4+v**, J+4 γ_{205+v}***247.9*** $I^{(2)}$*=96.4, ħ ω=0.134*

F **741.8+v**, J+6 γ_{452+v}***289.4*** $I^{(2)}$*=99.3, ħ ω=0.155*

F **1071.5+v**, J+8 γ_{742+v}***329.7*** $I^{(2)}$*=100.5, ħ ω=0.175*

F **1441.0+v**, J+10 γ_{1072+v}***369.5***
$I^{(2)}$*=100.3, ħ ω=0.195*

F **1850.4+v**, J+12 γ_{1441+v}***409.4***
$I^{(2)}$*=104.2, ħ ω=0.214*

F **2298.2+v**, J+14 γ_{1850+v}***447.8***
$I^{(2)}$*=106.7, ħ ω=0.233*

F **2783.5+v**, J+16 γ_{2298+v}***485.3***
$I^{(2)}$*=107.2, ħ ω=0.252*

F **3306.1+v**, J+18 γ_{2784+v}***522.6***
$I^{(2)}$*=112.4, ħ ω=0.270*

F **3864.3+v**, J+20 γ_{3306+v}***558.2***
$I^{(2)}$*=111.4, ħ ω=0.288*

F **4458.4+v**, J+22 γ_{3864+v}***594.1***
$I^{(2)}$*=111.4, ħ ω=0.306*

F **5088.4+v**, J+24 γ_{4458+v}***630.0***
$I^{(2)}$*=113.6, ħ ω=0.324*

F **5753.6+v**, J+26 γ_{5088+v}***665.2***

G **w**, J≈ (9)

G **226.7+w**, J+2 γ_{0}***226.7*** $I^{(2)}$*=97.6, ħ ω=0.124*

G **494.4+w**, J+4 γ_{227+w}***267.7*** $I^{(2)}$*=98.5, ħ ω=0.144*

G **802.7+w**, J+6 γ_{494+w}***308.3*** $I^{(2)}$*=99.8, ħ ω=0.164*

G **1151.1+w**, J+8 γ_{803+w}***348.4*** $I^{(2)}$*=100.5, ħ ω=0.184*

G **1539.3+w**, J+10 γ_{1151+w}***388.2***
$I^{(2)}$*=101.5, ħ ω=0.204*

G **1966.9+w**, J+12 γ_{1539+w}***427.6***
$I^{(2)}$*=103.6, ħ ω=0.223*

G **2433.1+w**, J+14 γ_{1967+w}***466.2***
$I^{(2)}$*=108.4, ħ ω=0.242*

G **2936.2+w**, J+16 γ_{2433+w}***503.1***
$I^{(2)}$*=107.8, ħ ω=0.261*

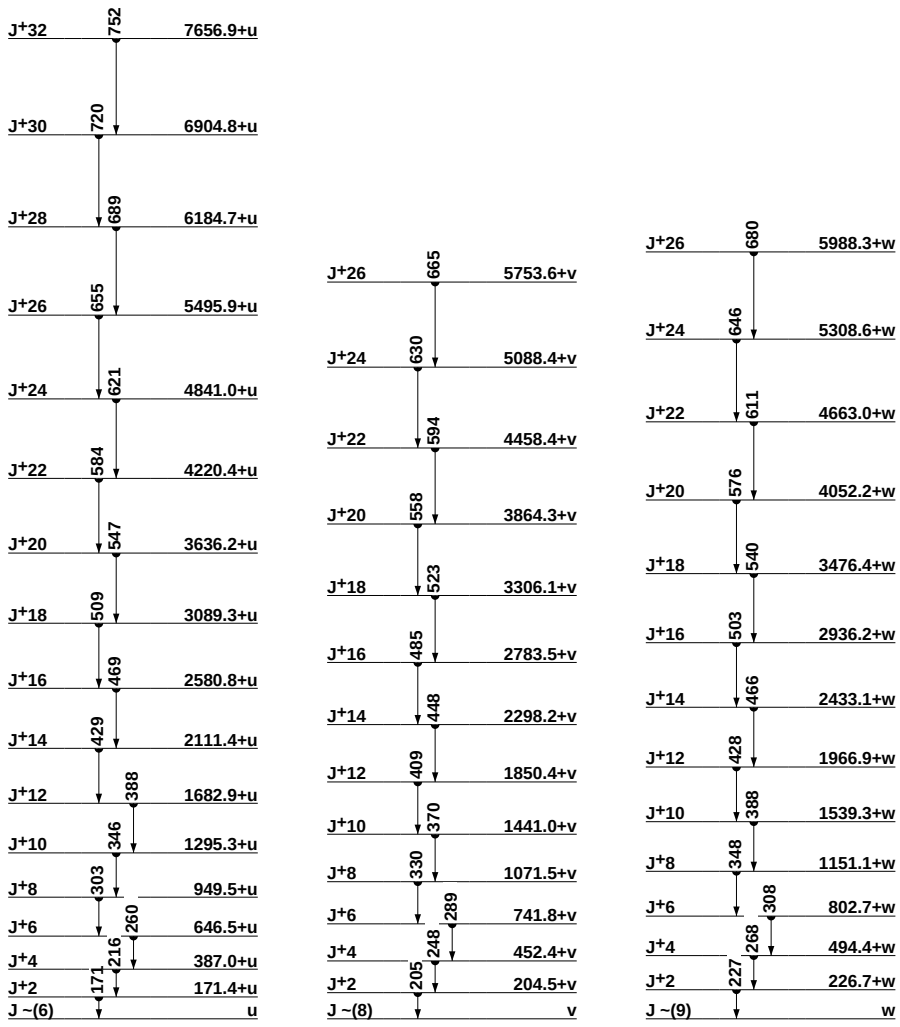
G **3476.4+w**, J+18 γ_{2936+w}***540.2***
$I^{(2)}$*=112.4, ħ ω=0.279*

G **4052.2+w**, J+20 γ_{3476+w}***575.8***
$I^{(2)}$*=114.3, ħ ω=0.297*

G **4663.0+w**, J+22 γ_{4052+w}***610.8***
$I^{(2)}$*=114.9, ħ ω=0.314*

G **5308.6+w**, J+24 γ_{4663+w}***645.6***
$I^{(2)}$*=117.3, ħ ω=0.331*

G **5988.3+w**, J+26 γ_{5309+w} ***679.7***



SD-1 band
(95Va32,94Cl02)
(93Mo19,91Wa14,90Br10)

SD-2 band?
(95Va32)

SD-3 band?
(95Va32)

$^{196}_{82}Pb$