$^{238}_{94}$Pu

Δ: 46158.7 *20* **S_n:** 7000.5 *14* **S_p:** 5997.8 *7*
Q_α: 5593.20 *19*
σ_f^0: 17.9 *4* b , **σ_γ^0:** 540 *7* b

Nuclear Bands

- *A* GS band
- *B* Octupole band
- *C* β band
- *D* ν7/2[743]-ν5/2[622]
- *E* Band Structure
- *F* Band Structure
- *G* Band Structure
- *H* ν7/2[743]+ν1/2[631]
- *I* ν7/2[743]-ν1/2[631]
- *J* Fission isomer

Levels:

0, 0^+, 87.7 *3* y, %α=100, %SF=1.9×10^{-7} *1*

A **44.08** *3*, 2^+, 177 *5* ps γ_0***44.08*** *3* (†$_\gamma$100) E2

A **145.96** *4*, 4^+ γ_{44}***101.90*** *3* (†$_\gamma$100) E2

A **303.40** *7*, 6^+ γ_{146}***157.42*** *5* (†$_\gamma$100) E2

A **513.4** *2*, 8^+ γ_{303}***210.0*** *2* (†$_\gamma$100)

B **605.18** *6*, 1^-, 4.7 *5* ps γ_{44}***561.11*** *7* (†$_\gamma$100 *2*) E1 γ_0***605.13*** *9* (†$_\gamma$71 *4*) E1

B **661.43** *10*, 3^-, 3.7 *11* ps γ_{146}***515.5*** *2* (†$_\gamma$66 *3*) γ_{44}***617.36*** *11* (†$_\gamma$100 *7*)

B **763.2** *3*, (5^-) γ_{303}***459.80*** *22* γ_{146}***617.36*** *11*

A **772.8** *2*, 10^+ γ_{513}***259.4*** *2* (†$_\gamma$100)

C **941.5** *2*, 0^+ γ_{605}***336.38*** *15* (†$_\gamma$3.1 *12*) γ_{44}***897.33*** *10* (†$_\gamma$100 *7*) γ_0***941.5*** *3* (†$_e$59) E0

D **962.77** *3*, 1^-, 6.2 *12* ps γ_{661}***301.4*** *3* (†$_\gamma$1.7 *2*) E2 γ_{605}***357.62*** *7* (†$_\gamma$7.6 *4*) M1+E2 γ_{44}***918.69*** *4* (†$_\gamma$84 *3*) E1 γ_0***962.77*** *3* (†$_\gamma$100 *3*) E1

968.1 *8*(?), (2^-) γ_{44}***924*** (†$_\gamma$100)

C **983.1** *1*, 2^+, 0.5 *3* ps γ_{661}***321.75*** *20* (†$_\gamma$1.7 *8*) γ_{605}***378.05*** *13* (†$_\gamma$4.4 *8*) γ_{146}***837.11*** *15* (†$_\gamma$37 *3*) γ_{44}***938.95*** *10* (†$_\gamma$35 *4*) E0+E2 γ_0***983.0*** *3* (†$_\gamma$100 *25*)

D **985.46** *5*, 2^- γ_{661}***323.98*** *9* (†$_\gamma$2.9 *2*) M1+E2 γ_{605}***380.29*** *13* (†$_\gamma$2.18 *10*) γ_{44}***941.38*** *5* (†$_\gamma$100 *4*)

E **1028.55** *2*, 2^+ γ_{146}***882.63*** *3* (†$_\gamma$3.1 *1*) E2 γ_{44}***984.45*** *2* (†$_\gamma$100) E2 γ_0***1028.54*** *2* (†$_\gamma$73 *3*) E2

E **1069.95** *2*, 3^+ γ_{146}***923.98*** *2* (†$_\gamma$29.5 *10*) E2 γ_{44}***1025.87*** *2* (†$_\gamma$100 *6*) E2

A **1078.5** *2*, 12^+ γ_{773}***305.7*** *2* (†$_\gamma$100)

H **1082.57** *7*, (4^-), 8.5 *5* ns γ_{968}***114.4*** *4* (†$_\gamma$1.5 *2*) γ_{763}***319.29*** *11* (†$_\gamma$2.2 *2*) M1+E2 γ_{661}***421.14*** *11* (†$_\gamma$5.7 *3*) γ_{146}***936.61*** *6* (†$_\gamma$100 *3*)

E **1125.8** *3*, (4^+) γ_{146}***979.8*** *2* (†$_\gamma$100 *17*) γ_{44}***1081.7*** *3* (†$_\gamma$19 *6*)

1134 *4*, (0^+)

1174.4 *4*, $(2^+,1)$ γ_{44}***1130.2*** *5* (†$_\gamma$100 *16*) γ_0***1174.5*** *5* (†$_\gamma$83 *16*)

I **1202.66** *10*, (3^-) γ_{1083}***119.9*** *1* (†$_\gamma$100 *7*) (M1) γ_{1070}***132.49*** *11* (†$_\gamma$2.7 *2*) γ_{1029}***174.0*** *2* (†$_\gamma$25 *1*)

F **1228.7** *3*, 0^+ γ_{44}***1184.5*** *3* (†$_\gamma$100) E2 γ_0***1228.7*** *3* (†$_e$9.2) E0

1252 *2*

F **1264.2** *3*, 2^+ γ_{146}***1118.2*** *3* γ_{44}***1220.0*** *3* E0+E2+M1

1310.3 *3*(?), $(2)^+$ γ_{44}***1266.2*** *3* (†$_\gamma$100) M1

G **1426.6** *3*, 0^+ γ_{605}***821.5*** *4* (†$_\gamma$100) E1 γ_0***1426.6*** *3* (†$_e$8.5) E0

A **1427.2** *3*, 14^+ γ_{1079}***348.7*** *3* (†$_\gamma$100)

1447.3 *2*, 1^- γ_{605}***841.9*** *4* (†$_e$4.4) E0 γ_{44}***1403.2*** *3* (†$_\gamma$100 *8*) E1 γ_0***1447.3*** *3* (†$_\gamma$63 *4*) E1

G **1458.3** *3*, 2^+ γ_{44}***1414.0*** *3* (†$_\gamma$≈23) γ_0***1458.5*** *3* (†$_\gamma$100 *11*)

1559.9 *2*, (1^-) γ_{985}***574.0*** *3* (†$_\gamma$65 *9*) (E2+M1) γ_{963}***597.0*** *3* (†$_\gamma$79 *10*) γ_{605}***954.7*** *3* (†$_\gamma$≈58) γ_{44}***1515.9*** *3* (†$_\gamma$100 *12*) γ_0***1560.0*** *3* (†$_\gamma$77 *19*)

1596.4 *3*, (2^+) γ_{146}***1450.4*** *5* (†$_\gamma$≈77) γ_{44}***1552.2*** *3* (†$_\gamma$100 *16*) γ_0***1596.5*** *5* (†$_\gamma$≈31)

1621.3 *2*, 1^- γ_{963}***658.4*** *2* (†$_\gamma$6.2 *7*) E0+E2+M1 γ_{942}***679.5*** *4* (†$_\gamma$8.9 *8*) E1 γ_{605}***1016.2*** *2* (†$_\gamma$9.7 *9*) E0+E2+M1 γ_{44}***1577.3*** *3* (†$_\gamma$100 *8*) E1 γ_0***1621.4*** *4* (†$_\gamma$≈0.6)

1636.4 *2*, 1^- γ_{983}***653.3*** *5* (†$_\gamma$≈4) γ_{963}***673.4*** *2* (†$_e$3.3) E0 γ_{605}***1031.3*** *3* (†$_e$4.2) E0 γ_{44}***1592.5*** *3* (†$_\gamma$38 *4*) γ_0***1636.6*** *3* (†$_\gamma$100 *9*) E1

1651.2 *4*, $(1,2^+)$ γ_{44}***1607.0*** *4* (†$_\gamma$100 *15*) γ_0***1651.4*** *5* (†$_\gamma$18 *6*)

1726.4 *3*, $(1,2^+)$ γ_{44}***1682.2*** *3* (†$_\gamma$100 *10*) γ_0***1726.4*** *3* (†$_\gamma$59 *6*)

1783.6 *3*, $(1,2^+)$ γ_{44}***1739.4*** *4* (†$_\gamma$48 *5*) γ_0***1783.6*** *4* (†$_\gamma$100 *20*)

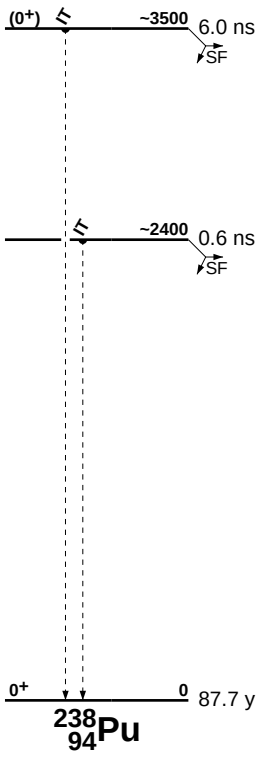
A **1816.2** *3*, 16^+ $\gamma_{1427.2}$***389.0*** *3* (†$_\gamma$100)

1898.3 *3*, 2^- γ_{661}***1237.0*** *3* (†$_\gamma$81 *8*) M1 γ_{605}***1293.2*** *3* (†$_\gamma$100 *10*) M1

A **2240.5** *4*, 18^+ γ_{1816}***424.3*** *4* (†$_\gamma$100)

J **≈2400**, 0.6 *2* ns, %SF≤100

J **≈3500**, (0^+), 6.0 *15* ns, %SF≤100


(0+)
~3500
6.0 ns
SF
~2400
0.6 ns
SF
0+
0
87.7 y
238 94 Pu