

109 46Pd (Continued)

981.755 $10, 5/2^+$, [ACDEFG] γ_{426} **555.614** 13
 $(\dagger_{41} 7) \gamma_{327}$ **654.892** $16 (\dagger_{43} 9) \gamma_{291}$ **690.300** 26
 $(\dagger_{100} 10) \gamma_{276}$ **705.433** $47 (\dagger_{18} 7)$
1006 $4, [F]$
1053.628 $20, 3/2^+$, [CDEFG] γ_{321} **726.740** 24
 $(\dagger_{100} 10) \gamma_{266}$ **787.314** $34 (\dagger_{42} 9)$
1065.8 $5, 1/2^+$, [CEG]
1091.0 $5, 5/2^+$, [CDEFG]
1111.8 $5, 1/2, 3/2$, [CE]
1134.696 $10, 1/2, 3/2$, [CEFG] γ_{673} **461.194** 7
 $(\dagger_{100} 10) \gamma_{605}$ **530.202** $10 (\dagger_{20} 3)$
1147.7 $5, 3/2^+$, [CEFG]
1176 $4, 5/2^-, 7/2^-, [F]$
1232.795 $50, 1/2^+$, [CEFG] γ_{434} **799.265** $51 (\dagger_{65} 8)$
 γ_{266} **966.439** $24 (\dagger_{100} 10)$
1241 $5, 5/2^-, 7/2^-, [F]$
1243.9 $5, 1/2, 3/2$, [CEG]
1269.5 $5, 5/2^+, 3/2^+$, [CDEFG]
1308 $4, [F]$
1318.0 $5, [A] \gamma_{276}$ **1041.7** $5 (\dagger_{100} 25) \gamma_{10}$ **1318** 1
 $(\dagger_{100} 10)$
1328.4 $5, 5/2$, [CDEFG]
1329 $5, (1/2^-, 3/2^-), [F]$
1347.7 $5, 1/2^+$, [CDEFG]
1359.413 $14, 1/2, 3/2$, [CE] γ_{1135} **224.717** $7 (\dagger_{2.2} 4)$
 γ_{673} **685.909** $24 (\dagger_{85} 9) \gamma_{605}$ **754.908** 22
 $(\dagger_{100} 10) \gamma_{340}$ **1019.868** $27 (\dagger_{47} 5)$
1371.1 $5, 5/2^+$, [CDEG]
1399.0 $5, 1/2, 3/2$, [CDE]
1448 $4, 3/2^+, 5/2^+$, [DFG]
1478.7 $5, 1/2^+$, [CFG]
1484.9 $5, 1/2, 3/2, 5/2^+$, [CF]
1499 $4, [F]$
1537.3 $5, 1/2^+$, [CG]
1540.3 $5, 3/2$, [CDF]
1601.7 $5, (1/2^+), [CG]$
1615.8 $5, 1/2, 3/2, 5/2$, [C]
1623.9 $5, 1/2, 3/2, 5/2$, [CDG]
1644.6 $5, (3/2^-), [CFG]$
1647.8 $5, 1/2, 3/2, 5/2$, [CDG]
1656 $4(?)$, $(1/2^+)$, [G]
1664 $4, [F]$
1683.5 $5, 1/2^+$, [CF]
1692 $4, 1/2^+$, [G]
1710.2 $5, 1/2, 3/2$, [C]
1737 $4, [F]$
1773 $4, 5/2^-, 7/2^-, [F]$
1785 $4(?)$, $1/2^+$, [CFG]
1791 $4, [G]$
1800 $4, 1/2^+$, [F]
1819 $4, [F]$
1836 $4, 5/2^-, 7/2^-, [CF]$
1846 $4, [F]$
1848 $4, 1/2^+$, [G]
1863 $4, (5/2^-, 7/2^-), [F]$
1877 $4, 1/2^-, 3/2^-, [F]$
1878 $4, 3/2^+, 5/2^+$, [G]
1915 $4, 1/2^-, 3/2^-, [CF]$
1925 $4, 1/2^-, 3/2^-, [FG]$
1941 $4, 5/2^-, 7/2^-, [F]$
1954 $4, [F]$
1972 $4, 5/2^-, 7/2^-, [F]$
1977 $4, 1/2^-, 3/2^-, [G]$
1999 $4, [CG]$
2014 $4, 1/2^+$, [G]
2021 $4, 1/2^-, 3/2^-, [CF]$
2053 $4, [F]$
2091 $4, 3/2^+, 5/2^+$, [CF]
2101 $4, (3/2^+, 5/2^+), [G]$
2117 $4, 1/2^-, 3/2^-, [F]$
2120 $4, 1/2^+$, [CG]
2135 $4, (1/2^-, 3/2^-), [F]$
2160 $4, 1/2^-, 3/2^-, [CF]$
2174 $4, 3/2^+, 5/2^+$, [G]
2188 $4, 1/2^+$, [G]

2209 $4, 5/2^-, 7/2^-, [F]$
2240 $4, (3/2^+, 5/2^+), [CG]$
2245 $4, 1/2^-, 3/2^-, [F]$
2259 $4, 1/2^-, 3/2^-, [F]$
2280 $4, 3/2^+, 5/2^+, [F]$
2282 $4, 1/2^+$, [G]
2295 $4, 1/2^-, 3/2^-, [G]$
2301 $4, (1/2^-, 3/2^-), [F]$
2320 $4, 3/2^+, 5/2^+, [G]$
2346 $4, (5/2^-, 7/2^-), [F]$
2357 $4, (1/2^-, 3/2^-), [F]$
2371 $4, 5/2^-, 7/2^-, [F]$
2372 $4, 3/2^+, 5/2^+, [G]$
2380 $4, 1/2^+$, [G]
2391 $4, 5/2^-, 7/2^-, [F]$
2415 $4, 1/2^-, 3/2^-, [CF]$
2465 $4, 5/2^-, 7/2^-, [F]$
2473 $4, 1/2^-, 3/2^-, [FG]$
2493 $4, (5/2^-, 7/2^-), [F]$
2522 $4, 3/2^+, 5/2^+, [F]$
2541 $4, [F]$

γ from ^{109}Pd (4.696 m) IT decay
 < for $I\gamma\%$ multiply by 1.0 >
188.9 $1 (\dagger_{55} 9) \text{E}3$.

$\gamma(^{109}\text{Ag})$ from ^{109}Pd (13.7012 h) β^- decay
 < for $I\gamma\%$ multiply by 0.000244 7 >
44.7 $6 (\dagger_{4.5} 5) \text{M}1+\text{E}2: \delta=0.30 \text{ } 12, \text{ } 88.04 \text{ } 5$
 $(\dagger_{1.48 \times 10^4} 14) \text{E}3, \text{ } 103.9 \text{ } 4 (\dagger_{3.8} 8)$
 $\text{M}1+\text{E}2: \delta=0.04 \text{ } 2, \text{ } 134.2 \text{ } 2 (\dagger_{5.4} 11) \text{M}1+\text{E}2, \text{ } 145.1 \text{ } 2$
 $(\dagger_{4.6} 8) \text{M}1+\text{E}2, \text{ } 286.3 \text{ } 5 (\dagger_{0.58} 15), \text{ } 309.1 \text{ } 5 (\dagger_{20} 6)$
 $\text{E}1, \text{ } 311.4 \text{ } 1 (\dagger_{131} 12) \text{M}1+\text{E}2: \delta=0.20 \text{ } 1, \text{ } 390.6 \text{ } 2$
 $(\dagger_{3.8} 8) \text{M}1+\text{E}2: \delta=0.241 \text{ } 16, \text{ } 395.6 \text{ } 3 (\dagger_{0.7} 3),$
413.0 $4 (\dagger_{27} 4) \text{E}1+\text{M}2: \delta=-0.249 \text{ } 15, \text{ } 415.2 \text{ } 3$
 $(\dagger_{44} 4) \text{E}2, \text{ } 423.9 \text{ } 2 (\dagger_{3.9} 8) \text{E}1+\text{M}2: \delta=-0.27 \text{ } 4,$
447.6 $2 (\dagger_{3.4} 8) \text{M}1+\text{E}2: \delta=0.16 \text{ } 4, \text{ } 454.3 \text{ } 3 (\dagger_{2.2} 9),$
496.9 $2 (\dagger_{0.31} 1), \text{ } 551.4 \text{ } 4 (\dagger_{2.5} 6) \text{M}1+\text{E}2: \delta=0.28 \text{ } 4,$
558.1 $2 (\dagger_{10.0} 12) \text{E}1+\text{M}2: \delta=-0.26 \text{ } 4, \text{ } 602.5 \text{ } 1$
 $(\dagger_{32.7} 19), \text{ } 636.3 \text{ } 1 (\dagger_{40.9} 19), \text{ } 647.3 \text{ } 1 (\dagger_{100} 1),$
701.9 $2 (\dagger_{12.7} 12) \text{M}1+\text{E}2, \text{ } 707.0 \text{ } 2 (\dagger_{6.5} 8), \text{ } 724.4 \text{ } 3$
 $(\dagger_{0.77} 19), \text{ } 736.7 \text{ } 2 (\dagger_{6.9} 8), \text{ } 778.3 \text{ } 5 (\dagger_{6.2} 19),$
781.4 $2 (\dagger_{46} 5), \text{ } 822.9 \text{ } 4 (\dagger_{0.77} 12), \text{ } 862.5 \text{ } 4$
 $(\dagger_{0.54} 12), \text{ } 966.2 \text{ } 3 (\dagger_{0.37} 12), \text{ } 1010.0 \text{ } 3 (\dagger_{0.25} 8)$.

109 47Ag

%: 48.161 7
 Δ : -88719 3 S_n : 9187 6 S_p : 6486 9 20
 σ_0 (to 117.6): 4.7 2 b, σ_0 (to 0): 86 3 b

Populating Reactions and Decay Modes

A ^{109}Pd β^- decay (13.7012 h) (53Av25, 53Nu04,
 54Mo38, 57Ma16, 57Wa05, 59St28, 62Br15,
 62Ec02, 68BaZy, 68Be22, 68BeZv, 68Gr02,
 69Sc12, 70Ba37, 70Ro14, 70RoZS, 72Ja01,
 73Co10, 73Ra10, 75El10, 77Bo04, 77Gi11,
 78Pr08, 82Br19, 83Ch42, 84ShZL)
B ^{109}Ag IT decay (39.6 s) (51Ka46, 57St87,
 58Sc03, 59St28, 64We09, 67Na18, 68Be22,
 69Sc12)
C ^{109}Cd EC decay (47Br05, 50Co60, 53Br73,
 53De26, 54Be41, 54Mo38, 54Wa15, 57Wa05,
 64Bo12, 65Le06, 65Mo06, 65Se08, 66Du01,
 66En05, 67Ab07, 67DiZ2, 67Li10, 67Mi11,
 67Pi05, 67Sc22, 68Ea01, 68Fo03, 68Fu05,
 68Go25, 68GoZy, 68Ha52, 69Fi05, 70Go39,
 70Gr13, 70Re15, 72Ca16, 73Le29, 76Dr07,
 78He21, 78Mo22, 79Pi04, 82HoZf, 82WaZZ,
 92ScZZ)
D ^{107}Ag (t,p) (77An01)
E ^{108}Pd ($^3\text{He}, d$) (73Au07)
F ^{109}Ag (γ, γ) (69Bo29)
G ^{109}Ag (p,p') (70Fo01, 70Ro14)
H ^{109}Ag (α, α') (60Cr05, 68St17)
I Coulomb excitation (55Mc51, 58Mc02, 67Bi08,
 69Ro03, 70Ro14, 70RoZS, 72Th16, 73Co10,
 74Er05, 74Mi02, 89Lo08)
J ^{110}Cd (d, ^3He) (76Va25)
K ^{112}Cd (p, α) (66WeZZ, 77SmZX)

Levels and γ -ray branchings:

0, $1/2^-$, stable, [ABCDEFGHJK], $\mu=-0.130563 \text{ } 23$
88.0341 $11, 7/2^+$, 39.6 2 s, [ABCIK], %IT=100,
 $\mu=+4.400 \text{ } 6, Q=+(+1.02 \text{ } 12) \gamma_{10}$ **88.04** $5 (\dagger_{100} 10) \text{E}3$
132.74 $11, 9/2^+, 7/2^+$, 2.6 12 ns, [AEIJK] γ_{88} **44.7** 2
 $(\dagger_{100} 10) \text{M}1+\text{E}2: \delta=0.30 \text{ } 12$
311.38 $8, 3/2^-, 5/9 \text{ } 7 \text{ ps}$, [ADEFGHIJK],
 $\mu=+0.99 \text{ } 15, Q=-0.7 \gamma_{311}$ **103.9** $4 (\dagger_{8} 1)$
 $\text{M}1+\text{E}2: \delta=0.2 \text{ } 1$
415.21 $16, 5/2^-, 32.6 \text{ } 16 \text{ ps}$, [ADEFGHIK],
 $\mu=+0.90 \text{ } 13, Q=-0.3 \gamma_{311}$ **103.9** $4 (\dagger_{8} 1)$
 $\text{M}1+\text{E}2: \delta=0.04 \text{ } 2 \gamma_{415}$ **2.3** $3 (\dagger_{100} 10) \text{E}2$
420 $10, (7/2^+, 9/2^+), [J]$
701.91 $15, 3/2^-, 0.5 \text{ } 2 \text{ ps}$, [ADGIJK] γ_{415} **286.3** 5
 $(\dagger_{4.6} 12) \gamma_{311}$ **390.6** $2 (\dagger_{30} 6)$
 $\text{M}1+\text{E}2: \delta=0.241 \text{ } 16 \gamma_{701}$ **9.2** $3 (\dagger_{100} 9)$
 $\text{M}1+\text{E}2: \delta=0.029 \text{ } 7$
706 $5, 1/2^+, [E]$
707.00 $17, [A] \gamma_{311}$ **395.6** $3 (\dagger_{11} 5) \gamma_{10}$ **707.0** 2
 $(\dagger_{100} 12)$
724.35 $10, (3/2)^+$, 3.2 8 ns, [A] γ_{415} **309.1** 5
 $(\dagger_{49} 15) \text{E}1 \gamma_{311}$ **413.0** $4 (\dagger_{66} 10)$
 $\text{E}1+\text{M}2: \delta=-0.249 \text{ } 15 \gamma_{88}$ **636.3** $1 (\dagger_{100} 5)$
 γ_{10} **724.3** $1 (\dagger_{1.9} 5)$
735.29 $9, 5/2^+, [AEJ] \gamma_{311}$ **423.9** $2 (\dagger_{3.9} 8)$
 $\text{E}1+\text{M}2: \delta=-0.27 \text{ } 4 \gamma_{133}$ **602.5** $1 (\dagger_{32.7} 19)$
 γ_{88} **647.3** $1 (\dagger_{100} 10)$
789 $11(?)$, [K]
862.76 $20, 5/2^-, 1.3 \text{ } 4 \text{ ps}$, [ADGIK] γ_{415} **447.6** 2
 $(\dagger_{100} 24) \text{M}1+\text{E}2: \delta=0.16 \text{ } 4 \gamma_{311}$ **551.4** $4 (\dagger_{74} 18)$
 $\text{M}1+\text{E}2: \delta=0.28 \text{ } 4 \gamma_{862}$ **5.4** $3 (\dagger_{16} 4) \text{E}2$
869.47 $11, 5/2^+, [AEH] \gamma_{735}$ **134.2** $2 \text{M}1+\text{E}2$
 γ_{724} **145.1** $2 (\dagger_{10} 2) \text{M}1+\text{E}2 \gamma_{415}$ **454.3** $3 (\dagger_{5} 2)$
 γ_{311} **558.1** $2 (\dagger_{21.7} 26) \text{E}1+\text{M}2: \delta=-0.26 \text{ } 4$
 γ_{133} **736.7** $2 (\dagger_{15} 2) \gamma_{88}$ **781.4** $2 (\dagger_{100} 11)$
870 $10, (5/2^-, 7/2^-), [J]$
890 $10, (7/2^+, 9/2^+), [J]$
911.0 $4, 7/2^+, [ADE] \gamma_{133}$ **778.3** $5 (\dagger_{100} 31)$
 γ_{88} **822.9** $4 (\dagger_{32} 4)$
912.1, $7/2^-$, [AGHIK] γ_{415} **497.2** $4 (\dagger_{100} 5)$
 γ_{311} **601.1** $7 (\dagger_{25} 5)$
1090.6 $5, 9/2^-, [DG] \gamma_{415}$ **675.5** $5 (\dagger_{100} 1)$
1098.5 $2, (5/2, 7/2), [A] \gamma_{133}$ **966.2** $3 (\dagger_{100} 32)$
 γ_{88} **1010.0** $3 (\dagger_{68} 22)$
1200 $10, (7/2^+, 9/2^+), [EFJK]$
1260 $5, 1/2^-, [DEGHJ]$
1310 $10, (1/2^-, 3/2^-), [EJ]$
1324.2 $7, (3/2^-), 0.31 \text{ } 9 \text{ ps}$, [DGIK] γ_{311} **1012.9** 10
 $(\dagger_{100} 5) \text{M}1+\text{E}2: \delta=-0.09 \text{ } 3 \gamma_{10}$ **1324.2** $5 (\dagger_{16} 4)$
1430 $10, 1/2^-, [EF]$
1490 $5, 3/2^+, 5/2^+, [E]$
1500 $5, 3/2^-, [DEFHJK]$
1524 $5, (3/2, 5/2)^-, [DK]$
1570 $(?)$, [K]
1599 $5, [DEG]$
1613 $5, 1/2^-, [D]$
1658 $10, 1/2^+, [E]$
1675 $(?)$, [F]
1736 $5, (3/2, 5/2)^-, [DE]$
1792 $5, (7/2, 9/2)^-, [D]$
1815 $5, (3/2, 5/2)^-, [D]$
1839 $5, 3/2^+, 5/2^-, [E]$
1844 $5, (3/2, 5/2)^-, [DK]$
1860 $10, (7/2^+, 9/2^+), [J]$
1891 $5, (7/2, 9/2)^-, [DK]$
1950 $5, (7/2, 9/2)^-, [D]$
1970 $10, 3/2^+, 5/2^+, [E]$
1993 $5, (3/2, 5/2)^-, [DE]$
2043 $11, [K]$
2062 $10, (7/2, 9/2)^-, [DE]$
2093 $10, (3/2, 5/2)^-, [D]$
2124 $10, (5/2, 7/2)^+, [DEGHK]$
2185 $10, [D]$
2199 $10, [DE]$
2222 $10, [DGK]$
2256 $10, (9/2, 11/2)^+, [D]$