

$^{105}\text{Pd}(\text{n},\text{n}'\gamma)$ 1975GoYY,1976Av07

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, J. Timar and Z. Elekes		NDS 161, 1 (2019)	1-Apr-2019

1975GoYY: Beam: fast neutrons; Detectors: one Ge(Li); Measured: $E\gamma$, $I\gamma$; Also from the same group: 1976Av07.

 ^{105}Pd Levels

$E(\text{level})^\dagger$	$J^\pi^\ddagger$	$E(\text{level})^\dagger$	$J^\pi^\ddagger$	$E(\text{level})^\dagger$	$J^\pi^\ddagger$
0.0	$5/2^+$	928.91 22	$(5/2^+)$	1477.6? 8	
280.38 9	$3/2^+$	961.4 4	$(1/2, 3/2)^+$	1520.5 5	$(3/2^+ \text{ to } 7/2^+)$
306.25 9	$7/2^+$	969.84 23	$15/2^-$	1601.3 5	$(1/2^+ \text{ to } 5/2^+)$
319.29 9	$5/2^+$	1011.50 21	$(11/2^+)$	1650.4 4	$(7/2^-)$
344.52 10	$1/2^+$	1074.4? 4	$(3/2^+)$	1700.6 8	$(1/2^+ \text{ to } 9/2^+)$
442.15 9	$(7/2)^+$	1088.3 4	$3/2^-$	1774.6? 5	$(1/2^+ \text{ to } 9/2^+)$
489.04 12	$11/2^-$	1098.1? 3	$(5/2^+, 7/2^+, 9/2^+)$	1865.5 4	$(1/2^+ \text{ to } 7/2^+)$
560.56 9	$3/2^+$	1102.1 4	$(1/2^+ \text{ to } 5/2^+)$	1922.9? 4	$(1/2^+, 3/2^+)$
644.69 10	$7/2^-$	1142.35 14	$(1/2^+, 3/2^+)$	1988.4 4	$(1/2, 3/2, 5/2)^+$
650.76 12	$(3/2)^+$	1177.7 3	$(1/2^+, 3/2^+)$	2064.5 7	$(1/2^+, 3/2^+)$
672.78 17	$1/2^+$	1201.6 4	$(1/2^+, 3/2^+)$	2101.4? 7	$(7/2^-, 9/2, 11/2^+)$
726.97 14	$5/2^+$	1259.11 20	$(3/2^+)$		
781.53 11	$9/2^+$	1405.05 25	$(3/2^+, 5/2^+)$		

† From a least-squares fit to $E\gamma$.

‡ From the Adopted Levels.

 $\gamma(^{105}\text{Pd})$

$E_\gamma^\dagger$	$I_\gamma^\dagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π
155.6 2	1.4 2	644.69	$7/2^-$	489.04	$11/2^-$
182.8 1	27 3	489.04	$11/2^-$	306.25	$7/2^+$
216.3 4	0.87 15	560.56	$3/2^+$	344.52	$1/2^+$
228.9 ‡	0.9	1011.50	$(11/2^+)$	781.53	$9/2^+$
263.3 5	0.58 12	1405.05	$(3/2^+, 5/2^+)$	1142.35	$(1/2^+, 3/2^+)$
280.4 1	68 2	280.38	$3/2^+$	0.0	$5/2^+$
285.0 ‡	2.2	928.91	$(5/2^+)$	644.69	$7/2^-$
306.2 1	100	306.25	$7/2^+$	0.0	$5/2^+$
319.2 1	6 2	319.29	$5/2^+$	0.0	$5/2^+$
326.5 $^\#$	1.30 $^\#$ 10	644.69	$7/2^-$	319.29	$5/2^+$
326.5 ‡	1.30 $^\#$ 10	672.78	$1/2^+$	344.52	$1/2^+$
331.5 1	6.3 3	650.76	$(3/2)^+$	319.29	$5/2^+$
339.4 1	9.7 3	781.53	$9/2^+$	442.15	$(7/2)^+$
344.5 1	10.0 3	344.52	$1/2^+$	0.0	$5/2^+$
353.1 6	0.80 10	672.78	$1/2^+$	319.29	$5/2^+$
370.3 3	2.00 12	650.76	$(3/2)^+$	280.38	$3/2^+$
392.5 2	3.40 16	672.78	$1/2^+$	280.38	$3/2^+$
400.4 4	1.50 10	961.4	$(1/2, 3/2)^+$	560.56	$3/2^+$
406.9 3	2.10 12	726.97	$5/2^+$	319.29	$5/2^+$
420.8 2	4.1 2	726.97	$5/2^+$	306.25	$7/2^+$
442.2 1	57 2	442.15	$(7/2)^+$	0.0	$5/2^+$
446.74 ‡		726.97	$5/2^+$	280.38	$3/2^+$
459.0 5	1.10 10	1601.3	$(1/2^+ \text{ to } 5/2^+)$	1142.35	$(1/2^+, 3/2^+)$
475.0 4	1.30 10	781.53	$9/2^+$	306.25	$7/2^+$

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$^{105}\text{Pd}(\text{n},\text{n}'\gamma)$ **1975GoYY,1976Av07 (continued)** $\gamma(^{105}\text{Pd})$ (continued)

E_γ †	I_γ †	$E_i(\text{level})$	J_i^π	E_f	J_f^π
480.8 2	3.50 16	969.84	15/2 ⁻	489.04	11/2 ⁻
487.7 5	1.40 10	928.91	(5/2 ⁺)	442.15	(7/2 ⁺)
491.2 5	1.40 10	1142.35	(1/2 ⁺ , 3/2 ⁺)	650.76	(3/2 ⁺)
523.6 7	0.45 8	1011.50	(11/2 ⁺)	489.04	11/2 ⁻
^x 539.1 7	0.48 8				
560.6 1	13.1 4	560.56	3/2 ⁺	0.0	5/2 ⁺
^x 576.7 3	0.74 10				
582.1 2	2.40 12	1142.35	(1/2 ⁺ , 3/2 ⁺)	560.56	3/2 ⁺
608.9 4	0.60 10	928.91	(5/2 ⁺)	319.29	5/2 ⁺
^x 627.0 4	0.55 10				
640.8 5	1.70 11	1201.6	(1/2 ⁺ , 3/2 ⁺)	560.56	3/2 ⁺
644.7 1	18.5 6	644.69	7/2 ⁻	0.0	5/2 ⁺
650.4 3	4.8 2	650.76	(3/2 ⁺)	0.0	5/2 ⁺
^x 658.0 3	0.94 10				
^x 666.3 2	1.60 10				
672.8 3	0.70 10	672.78	1/2 ⁺	0.0	5/2 ⁺
680.0 @ 6	0.25 6	961.4	(1/2, 3/2) ⁺	280.38	3/2 ⁺
705.2 2	1.40 10	1011.50	(11/2 ⁺)	306.25	7/2 ⁺
727.2 2	2.40 12	726.97	5/2 ⁺	0.0	5/2 ⁺
768.4 5	0.12 6	1074.4?	(3/2 ⁺)	306.25	7/2 ⁺
781.5 2	7.5 2	781.53	9/2 ⁺	0.0	5/2 ⁺
793.8 5	0.30 6	1074.4?	(3/2 ⁺)	280.38	3/2 ⁺
808.2 5	0.78 10	1088.3	3/2 ⁻	280.38	3/2 ⁺
821.7 4	1.20 10	1102.1	(1/2 ⁺ to 5/2 ⁺)	280.38	3/2 ⁺
825.1 3	0.57 10	1922.9?	(1/2 ⁺ , 3/2 ⁺)	1098.1?	(5/2 ⁺ , 7/2 ⁺ , 9/2 ⁺)
^x 829.3 3	1.30 10				
^x 853.8 4	0.53 8				
890.7 4	0.91 10	1988.4	(1/2, 3/2, 5/2) ⁺	1098.1?	(5/2 ⁺ , 7/2 ⁺ , 9/2 ⁺)
^x 912.5 4	0.76 10				
921.3 4	0.78 10	1201.6	(1/2 ⁺ , 3/2 ⁺)	280.38	3/2 ⁺
^x 925.3 3	1.10 10				
928.9 3	1.70 11	928.91	(5/2 ⁺)	0.0	5/2 ⁺
^x 945.9 4	0.67 10				
952.6 3	1.30 10	1259.11	(3/2 ⁺)	306.25	7/2 ⁺
961.6 8	0.30 6	961.4	(1/2, 3/2) ⁺	0.0	5/2 ⁺
973.3 8	0.24 6	1700.6	(1/2 ⁺ to 9/2 ⁺)	726.97	5/2 ⁺
979.0 4	0.64 10	1259.11	(3/2 ⁺)	280.38	3/2 ⁺
988.6 @ 7	0.67 10	1477.6?		489.04	11/2 ⁻
1026.7 4	0.57 10	1988.4	(1/2, 3/2, 5/2) ⁺	961.4	(1/2, 3/2) ⁺
^x 1054.1 4	0.83 10				
1078.0 5	0.47 10	1520.5	(3/2 ⁺ to 7/2 ⁺)	442.15	(7/2) ⁺
^x 1084.0 8	0.30 7				
1088.1 4	0.61 10	1088.3	3/2 ⁻	0.0	5/2 ⁺
1098.5 # 3	2.30 # 12	1098.1?	(5/2 ⁺ , 7/2 ⁺ , 9/2 ⁺)	0.0	5/2 ⁺
1098.5 # 3	2.30 # 12	1405.05	(3/2 ⁺ , 5/2 ⁺)	306.25	7/2 ⁺
1142.2 2	1.50 11	1142.35	(1/2 ⁺ , 3/2 ⁺)	0.0	5/2 ⁺
1162.1 8	0.25 6	1650.4	(7/2 ⁻)	489.04	11/2 ⁻
1177.7 3	1.10 10	1177.7	(1/2 ⁺ , 3/2 ⁺)	0.0	5/2 ⁺
1208.7 8	0.27 7	1650.4	(7/2 ⁻)	442.15	(7/2) ⁺
^x 1230.4 7	0.46 10				
1240.8 7	0.29 7	1520.5	(3/2 ⁺ to 7/2 ⁺)	280.38	3/2 ⁺
1259.2 3	1.10 10	1259.11	(3/2 ⁺)	0.0	5/2 ⁺
^x 1273.0 4	0.78 11				
1305.5 # 4	0.80 # 11	1650.4	(7/2 ⁻)	344.52	1/2 ⁺

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$^{105}\text{Pd}(\text{n},\text{n}'\gamma)$ **1975GoYY,1976Av07** (continued) $\gamma(^{105}\text{Pd})$ (continued)

E_γ [†]	I_γ [†]	$E_i(\text{level})$	J_i^π	E_f	J_f^π
1305.5 [#] 4	0.80 [#] 11	1865.5	(1/2 ⁺ to 7/2 ⁺)	560.56	3/2 ⁺
1360.7 8	0.24 6	1922.9?	(1/2 ⁺ , 3/2 ⁺)	560.56	3/2 ⁺
1382.4 16	0.13 7	1700.6	(1/2 ⁺ to 9/2 ⁺)	319.29	5/2 ⁺
1405.5 7	0.31 8	1405.05	(3/2 ⁺ , 5/2 ⁺)	0.0	5/2 ⁺
^x 1436.4 16	0.17 7				
^x 1449.4 7	0.33 8				
1455.3 5	0.57 11	1774.6?	(1/2 ⁺ to 9/2 ⁺)	319.29	5/2 ⁺
^x 1461.9 5	0.63 11				
^x 1499.2 4	1.00 11				
^x 1514.7 8	0.46 11				
1583.9 6	0.39 10	1865.5	(1/2 ⁺ to 7/2 ⁺)	280.38	3/2 ⁺
1600.4 16	0.14 7	1601.3	(1/2 ⁺ to 5/2 ⁺)	0.0	5/2 ⁺
1611.8 8	0.50 11	2101.4?	(7/2 ⁻ , 9/2, 11/2 ⁺)	489.04	11/2 ⁻
^x 1633.0 14	0.19 7				
^x 1641.2 20	0.12 16				
1660.0 10	0.20 7	2101.4?	(7/2 ⁻ , 9/2, 11/2 ⁺)	442.15	(7/2) ⁺
^x 1697.5 15	0.16 7				
1745.2 7	0.56 11	2064.5	(1/2 ⁺ , 3/2 ⁺)	319.29	5/2 ⁺
1784.3 16	0.15 7	2064.5	(1/2 ⁺ , 3/2 ⁺)	280.38	3/2 ⁺
^x 1935.0 16	0.16 7				

[†] From **1975GoYY**, unless otherwise noted.

[‡] From **1976Av07**.

[#] Multiply placed with undivided intensity.

@ Placement of transition in the level scheme is uncertain.

^x γ ray not placed in level scheme.

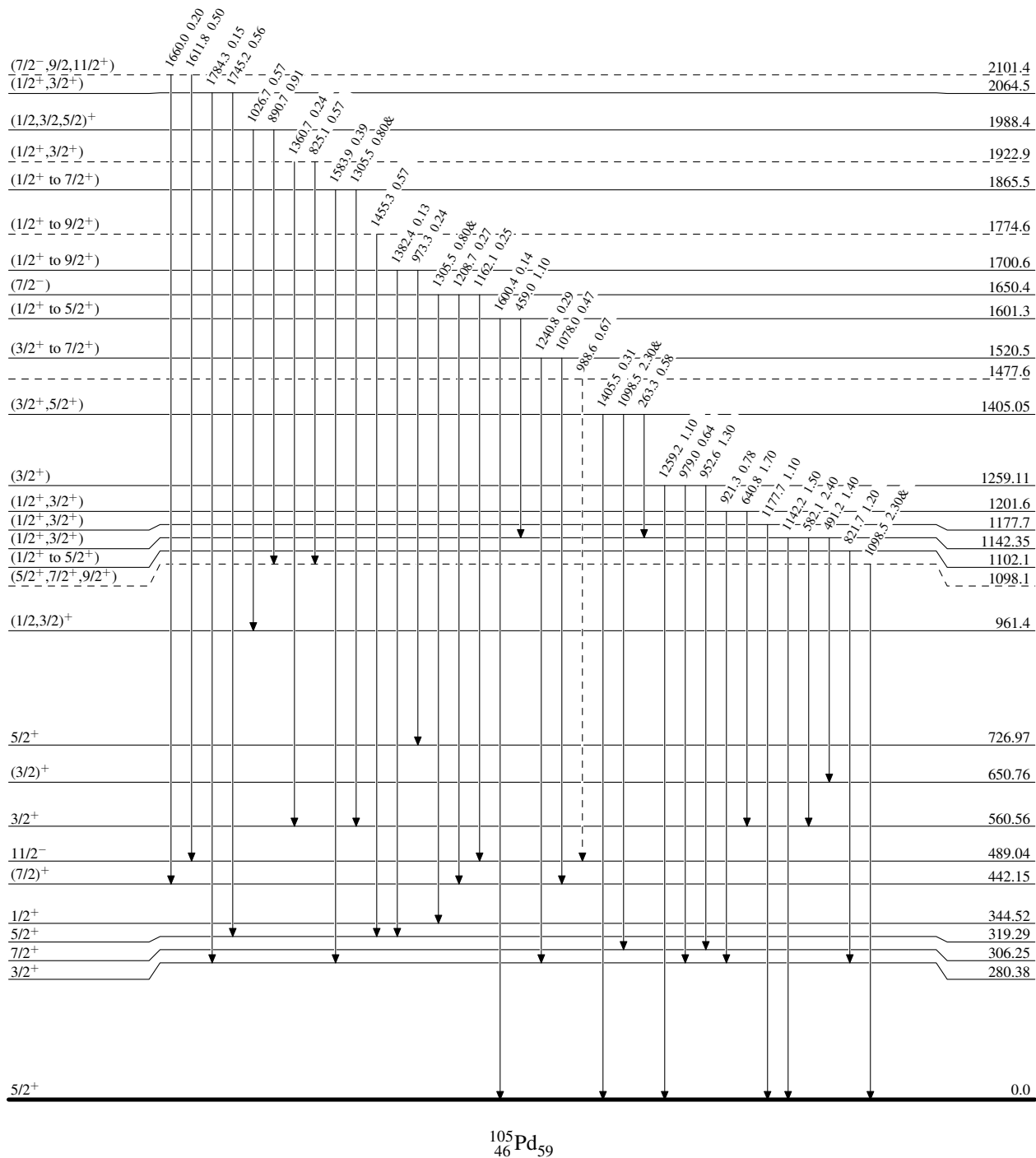
$^{105}\text{Pd}(n,n'\gamma)$ 1975GoYY,1976Av07

Level Scheme

Intensities: Type not specified
& Multiply placed: undivided intensity given

Legend

- $\longrightarrow$ $I_\gamma < 2\% \times I_\gamma^{\max}$
 $\longrightarrow$ $I_\gamma < 10\% \times I_\gamma^{\max}$
 $\longrightarrow$ $I_\gamma > 10\% \times I_\gamma^{\max}$
 $-\cdots-$ γ Decay (Uncertain)



$^{105}\text{Pd}(n,n'\gamma)$ 1975GoYY,1976Av07

Level Scheme (continued)

Intensities: Type not specified
& Multiply placed: undivided intensity given

Legend

- $\longrightarrow$ $I_\gamma < 2\% \times I_\gamma^{\max}$
 $\longrightarrow$ $I_\gamma < 10\% \times I_\gamma^{\max}$
 $\longrightarrow$ $I_\gamma > 10\% \times I_\gamma^{\max}$
 $-----$ γ Decay (Uncertain)

