

$^{105}\text{Pd}(n,\gamma)$ E=res: av [1970Bo29](#)

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	D. De Frenne and A. Negret		NDS 109, 943 (2008)	1-May-2007

Primary γ spectrum produced by n capture in many resonances using a ^{10}B absorber in reactor studied with semi conductor detector.

See [1973Mu14](#) for compilation of neutron resonance bound level energies, spins, $\Gamma(\gamma)$, and $2g\Gamma(n)$.

$S(n)=9562.8 \pm 11$ ([1970Bo29](#)), 9560.97 ± 28 ([2003Au03](#)) mass adjustment.

 ^{106}Pd Levels

E(level)	J^π	Comments
0.0	0^+	
511.8 2	2^+	
1128.0 2	2^+	
1228.0 3	4^+	
1557.6 10	3^+	$J^\pi: (4)^+$.
1562.4 10	2^+	
1705.3 20	0^+	
1910.4 4	2^+	$J^\pi: 1,4^+$.
1932.6 4	4^+	
2000.3 20	0^+	
2079.7 10	4^+	$J^\pi: 4,5^+$.
2085.7 3	3^-	
2242.8 5	2^+	
2283.0 10	4^+	
2307.2 6	4^-	
2310.9 20	2^+	$J^\pi: 0-5^+$.
2350.8 7	4^+	
2401.4 2	$2^-, 3^-$	
2438.4 10	2^+	
2472 20	$1^+, 2^+$	
2485.4 4	(1^-)	$J^\pi: 1,4^-$.
2500.5 2	2^-	$J^\pi: 2,3^-$.
2579.4 3	(4^-)	$J^\pi: 1,4^-$.
2590.5 10	$(2,3)^+$	
2628.2 10	$(2,3)^+$	$J^\pi: (2)^+$.
2647.6 20	4^+	$J^\pi: (1,4)^+$.
2662.5?	$(^+)$	
2705.1?	$(1)^+$	
2713.6 10	$2^+, 3^+$	
2748.7 20	$2, 3^-$	
2776.0 10	(4^+)	$J^\pi: (2,3^+)$.
2784.5? 15	2^+	
2848.1 15	(4^+)	$J^\pi: (2,3^+)$.
2861.0 10	$(^+)$	
2878.0 30	0^+	
2886.1 5	$(^-)$	
2898.8 7	$(1^-, 4^-)$	
2908.5 7	(1^-)	$J^\pi: (1^-, 4^-)$.
2916.2 20	2^+	
2936.2 4	$(2^-, 3^-)$	
2971.7 5	3^-	
2977.4 20	$^+$	
3042.7 15	4^+	$J^\pi: (1,2^+)$.
3056.4 20	1^+	$J^\pi: 2^+$.

Continued on next page (footnotes at end of table)

$^{105}\text{Pd}(n,\gamma)$ E=res: av **1970Bo29** (continued) ^{106}Pd Levels (continued)

E(level)	J^π [†]	Comments
3071.8 5	2 ⁺	J^π : if level corresponds to adopted 3069.9 level, then $J^\pi=(2^-,3^-)$ from (n, γ) in conflict with adopted value.
9560.97+x		E(level): E res: av not given by the authors. S(n)=9560.97 is adopted value.

[†] From Adopted Levels. J^π values from $^{105}\text{Pd}(n,\gamma)$ E=res: av are given in comments if different from adopted values. They were inferred from primary γ -lineshape and reduced I_γ .

 $\gamma(^{106}\text{Pd})$

E_γ [†]	I_γ [‡]	$E_i(\text{level})$	E_γ [†]	I_γ [‡]	$E_i(\text{level})$	E_f	J_f^π
6489.8 11	204 10	9560.97+x	7061.1 10	142 14	9560.97+x		
6505.2 22	53 8	9560.97+x	7076.2 11	68 4	9560.97+x		
6518.9 18	47 5	9560.97+x	7090 22	12 4	9560.97+x	2472	1 ⁺ , 2 ⁺
6584.2 22	47 15	9560.97+x	7123.2 14	29 3	9560.97+x		
6589.8 11	152 6	9560.97+x	7160.2 10	160 4	9560.97+x		
6625.4 11	160 8	9560.97+x	7210.4 12	25 3	9560.97+x		
6645.4 22	30 6	9560.97+x	7250.7 22	<35	9560.97+x	2310.9	2 ⁺
6653.1 12	136 7	9560.97+x	7254.4 12	87 12	9560.97+x		
6662.8 12	108 9	9560.97+x	7278.6 14	28 4	9560.97+x		
6675.5 11	135 7	9560.97+x	7318.8 11	35 2	9560.97+x		
6683.6 32	12 5	9560.97+x	7475.9 10	144 5	9560.97+x		
6700.6 14	69 5	9560.97+x	7481.9 14	26 4	9560.97+x		
6713.5 18	51 7	9560.97+x	7561.3 22	8 2	9560.97+x		
6777.1 22	36 7	9560.97+x	7629.0 11	40 2	9560.97+x		
6785.6 14	63 7	9560.97+x	7651.2 11	34 2	9560.97+x		
6812.9 22	>30	9560.97+x	7856.3 22	4 1	9560.97+x		
6848.0 14	36 4	9560.97+x	7999.2 14	64 5	9560.97+x		
6856.5 32	17 5	9560.97+x	8004.0 14	35 5	9560.97+x		
6899.1 22	16 4	9560.97+x	8333.6 10	31 1	9560.97+x		
6914.0 22	10 3	9560.97+x	8433.6 10	61 2	9560.97+x		
6933.4 14	27 3	9560.97+x	9049.8 10	52 2	9560.97+x		
6971.1 14	33 3	9560.97+x	9562.4 12	7 1	9560.97+x		
6982.2 10	110 4	9560.97+x					

[†] E_γ corrected for energy shift ascribed to E(res n-capture) in order to correspond with E(th n-capture).

[‡] Reduced photon intensity (I_γ/E_γ^3).

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Level Scheme

Intensities: Type not specified

Legend

—→ $I_\gamma < 2\% \times I_\gamma^{\max}$
—→ $I_\gamma < 10\% \times I_\gamma^{\max}$
—→ $I_\gamma > 10\% \times I_\gamma^{\max}$

