

$^{110}\text{Pd(d,t)}$ 1970Di05

Type	Author	History	Citation	Literature Cutoff Date
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Target ^{110}Pd $J^\pi(\text{g.s.})=0^+$.

1970Di05: E=17 MeV deuteron beam was produced from the University of Pittsburgh three-stage Van de Graaff accelerator.

Targets are 50-100 $\mu\text{g}/\text{cm}^2$ 99% enriched ^{110}Pd on 30 $\mu\text{g}/\text{cm}^2$ carbon foils. Reaction products were momentum analyzed by a Enge split-pole spectrograph (FWHM=8-10 keV) and detected in photographic plates. Measured $\sigma(E_t, \theta)$. Deduced levels, L, spectroscopic factors from DWBA analysis using the code JULIE. Also see **1968Co32** with E=17 MeV beam.

1980Sc23: E=50 MeV deuterons are from the KVI cyclotron. Targets are 500 $\mu\text{g}/\text{cm}^2$ self-supporting metallic palladium. Reaction products were detected with ΔE -E solid-state detector telescopes. Measured $\sigma(E_t, \theta)$. Deduced levels, L, spectroscopic factors from DWBA analysis using the code DWUCK.

 ^{109}Pd Levels

E(level) [†]	J^π	L [‡]	S [‡]	Comments
0	$5/2^+$	2	1.16	S: 1.30 from 1980Sc23 .
113 4		0	0.43	S: 0.29 from 1980Sc23 .
188 4		5	2.6	S: 3.42 from 1980Sc23 .
243 4		4	2.3 [#]	
266 4		0	0.156	
291 4		2	0.60	
324 4		2	0.063	
339 4				
426 4		4	4.0 [#]	S: 3.89 from 1980Sc23 .
491 4		2	0.28	
540 4		2	0.47	
596 4		4	0.4	
623 4		0	0.056	
644 4		4	0.46 [#]	
671 4		1	0.049	
712 4		(4)	0.2	
729 4		2	0.035	
789 4		2	0.179	
809 4		2	0.27	
842 4		(2)	0.10	
883 4		5	0.31	
910 4		2	0.195	
946 4		0	0.034	
960 4		(0)	0.050	
982 4		2	0.122	
1054 4		2	0.092	
1065 4		0	0.046	
1091 4		2	0.079	
1146 4		2	0.073	
1235 4		0	0.022	
1269 4		2	0.114	
1346 4		0	0.033	
1371 4		2	0.076	
1448 4		2	0.058	
1478 4		0	0.043	
1539 4		0	0.049	
1600 4		(0)	0.009	
1643? 4		(2)	0.012	
1656? 4		(0)	0.006	
1692 4		0	0.017	

Continued on next page (footnotes at end of table)

$^{110}\text{Pd(d,t)}$ **1970Di05 (continued)** ^{109}Pd Levels (continued)

$E(\text{level})^\dagger$	$L^\ddagger$	$S^\ddagger$	$E(\text{level})^\dagger$	$L^\ddagger$	$S^\ddagger$	$E(\text{level})^\dagger$	$L^\ddagger$	$S^\ddagger$
1785? 4	0	0.006	2014 4	0	0.052	2295 4	1	0.063
1792 4	(0,2)	0.006,0.01	2101 4	(2)	0.029	2320 4	2	0.033
1848 4	0	0.04	2122 4	0	0.046	2371 4	2	0.029
1878 4	2	0.03	2174 4	2	0.025	2380 4	0	0.014
1927 4	1	0.056	2188 4	0	0.011	2479 4	1	0.038
1977 4	1	0.063	2240 4	(2)	0.030			
1999 4	(1,2)	0.018,0.033	2282 4	0	0.018			

[†] From **1970Di05**. Authors do not give uncertainty. Evaluators estimate $\Delta E=4$ keV from the proton spectrum.

[‡] From DWBA analysis in **1970Di05** using the code JULIE. Spectroscopic factor S is deduced using $d\sigma/d\Omega(\text{exp})=N \times S \times d\sigma/d\Omega(\text{DWBA})$, where $N=3.33$ for (d,t) transfer reaction.

[#] **1968Co32** obtain $S=1.52, 4.72$ and 0.64 for $E=243, 426$ and 644 keV $J^\pi=7/2^+$ levels, respectively, with beam energy=17 MeV. They claim that the strong variations of $S(\text{d,p})/S(\text{d,t})$ could arise from a breakdown of the basic stripping theory.