

$^{76}\text{Ge}(\text{p},\text{d})$ 1975ShYV,1973Fo01,2008Sc03

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Alexandru Negret, Balraj Singh		NDS 114, 841 (2013)	30-Jun-2013

1975ShYV: E=35 MeV. Measured $\sigma(\theta)$; magnetic spectrograph; FWHM $\approx$ 8 keV; DWBA analysis.

1973Fo01: E=20 MeV; Target enrichment 74%; Measured $\sigma(\theta)$ using a counter telescope (FWHM=30-40 keV); DWBA analysis using the DWUCK code.

2008Sc03,2007ScZX: E=23 MeV beam provided by Yale tandem. Enriched target. Particles detected with the Enge spectrograph and gas-filled focal plane detector backed by a scintillator. Measured cross sections (statistical uncertainty 1%, systematic 5%). FWHM=40 keV. Spectroscopic factors deduced from analysis of cross section data by DWBA calculations performed using ptolemy code.

Data are from 1975ShYV, unless stated otherwise. There is a good agreement between 1975ShYV and 1973Fo01.

Level	Cross-section data (2007ScZX)		
	$d\sigma/d\Omega$ (mb/sr)(11°)	$\sigma(11^\circ)/\sigma(28^\circ)$	$\sigma(28^\circ)/\sigma(37^\circ)$
0	5.24	11.5	0.66
191	1.20	0.67	0.93
248	1.26	9.0	0.59
317	0.49	0.55	1.4
457	0.083	0.47	1.1
575	11.9	7.5	0.80
651	0.325	1.9	1.6
770	0.098	1.6	0.95
830	0.155	4.4	0.86
885	0.94	6.2	0.86
980	0.117	1.2	1.1
1137	0.902	6.2	0.96
1190	0.108	1.3	0.74
1250	0.146	0.72	1.1
1320	0.151	6.7	0.79
1410	1.17	4.6	1.04
1451	2.84	5.3	0.97
1580	0.160	0.61	1.28
1674	0.207	1.4	1.06

 ^{75}Ge Levels

E(level)	L	$\text{C}^2\text{S}^\dagger$	Comments
0	1	0.65 ^{&}	C^2S : 0.83 in 2007ScZX.
139 2	4	0.16	L, C^2S : for $J^\pi=7/2^+$.
197 $\frac{3}{2}$ 2	4	4.75	L: 1973Fo01 report L=2+4 suggesting mixture of $5/2^+$, 192 level.
253 2	1	0.17 ^{&}	C^2S : 0.213 in 2007ScZX.
317 2	3	2.17	
457 2	3	0.33	
576 2	1	1.58	C^2S : 2.18 in 2007ScZX.
585 2	2	0.25	
651 2	3	0.05	
675 2	0	0.01	L: 1973Fo01 report L=2.
770			E(level): from 2007ScZX.
830			E(level): from 2007ScZX.
886 2	1	0.16 ^{&}	C^2S : 0.188 in 2007ScZX.
988 2			

Continued on next page (footnotes at end of table)

$^{76}\text{Ge}(\text{p,d})$ 1975ShYV,1973Fo01,2008Sc03 (continued) ^{75}Ge Levels (continued)

E(level)	L	C ² S [†]	Comments
1137	1	0.192	E(level),C ² S: from 2007ScZX.
1190			E(level): from 2007ScZX.
1242 2	3	0.26	
1258 2	(4)	0.32	
1320?			E(level): from 2007ScZX; possibly the same level as 1258.
1396 2	2	0.08	
1417 5	1	0.19	
1503 2	1	0.50	E(level): 1451 in 2007ScZX. C ² S: 0.674 in 2007ScZX.
1539 2	2	0.05	
1603 2	3	0.76	E(level): 1580 in 2007ScZX.
1674?			E(level): from 2007ScZX; possibly the same level as 1699.
1699 [‡] 5	3+4	0.21+0.19	
1800 3	1	0.22	
1869 3			
2043 [@] 10			
2105 [@] 10			
2198 15			E(level): from 1973Fo01.
2281 3			
2323 3	1	0.19	
2359 4	1	0.04	
2382 4	4	0.4	
2534 4	3	0.22	
2572 4	1	0.03	
2681 [‡] 7	1	0.12	
2829 4			
2857 [‡] 7	1	0.03	
2954 4			
3067 5			
3165 5	1	0.03	
3182 [#] 7			
3194 [#] 7			
3272 5			
3385 5			
3451 5			
3494 [‡] 7			
3626 [‡] 7	1+3	0.03+0.03	
3719 6			
3839 6			

[†] C²S in 1975ShYV are calculated for the following spins: for L=1, J^π=3/2⁻; for L=2, J^π=5/2⁺; for L=3, J^π=5/2⁻ and when L=4, J^π=9/2⁺. These J^π assumptions are based upon the shell model.

[‡] A doublet (1975ShYV).

[#] L=1 and C²S=0.036 for doublet.

[@] From 1973Fo01. L=1+3, C²S=0.06+0.45.

[&] C²S for J^π=1/2⁻.