

⁷⁴Ge(p,t) 1977Gu12,1974Ba67,1980Re04

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	D. Abriola(a), A. A. Sonzogni		NDS 111,1 (2010)	1-May-2009

E=26 MeV, FWHM=10 keV, split-pole spectrometer, $\sigma(\theta)$, 7.5°–60° (1977Gu12).
 E=20 MeV, FWHM=30-40 keV, solid-state counter telescope, $\sigma(\theta)$, 15°–65° (1974Ba67).
 E=35.4 MeV, FWHM≈28 keV, broad-range spectrograph and nuclear emulsion, $\sigma(\theta)$, 5°–45°, DWBA (1980Re04).
 E=13 MeV, FWHM=30-50 keV, magnetic spectrograph, measured $\sigma(E(t),\theta)$, CCBA analysis (1982Be13).
 Data are taken from 1977Gu12, except where noted.

Other: 1976Ve05.

E=23 MeV from the Yale esty tandem Van de Graff generator. The protons were analyzed by Enge split-pole magnetic spectrograph. Measured $\sigma(\theta)$ to deduce L=0 transitions. DWBA analysis, (2007Fr10).

⁷²Ge Levels

E(level)	L	$\sigma/\sigma(\text{g.s.})$ at 3° from 2007Fr10	Comments
0	0	100	$d\sigma/d\Omega(\text{lab})=6.4$ mb/sr, $\sigma(3)/\sigma(22^\circ)=86$ (2007Fr10).
691 3	0	29	$\sigma(3)/\sigma(22^\circ)=280$ (2007Fr10).
835 3	2	2,8	L: from 1974Ba67 assuming $J^\pi=2^+$ is known. Not well fitted by DWBA (1977Gu12). $\sigma(3)/\sigma(22^\circ)=0.9$ (2007Fr10).
1467 3	2	0.5	L: from 1974Ba67. Not well fitted by DWBA (1977Gu12). $\sigma(3)/\sigma(22^\circ)=1.5$ (2007Fr10).
1730 3	4		L: from 1980Re04.
2029 10	(0)	0.5	L: not fitted by DWBA (1977Gu12). Shape similar to known $J^\pi=0^+$ 1481 level in ⁷⁴ Ge. $\sigma(3)/\sigma(22^\circ)=4$ (2007Fr10).
2035	4		From 1980Re04.
2064			E(level): from 1974Ba67.
2406 3	2		1980Re04 propose a doublet at 2400 with L=1+2.
2468 3	4		
2519 3	3		
2762	0	0.9	E(level): Observed only by 2007Fr10. $\sigma(3)/\sigma(22^\circ)=130$ (2007Fr10).
2951 10	3		L: from 1980Re04.
3037 10	(2) [†]		
3078 3	4		
3098 3	2		
3139 3	0		1980Re04 observed a doublet at 3135 with L=0+5.
3185 3	4		
3330 3	2		
3378 3	4		
3421 3	2		An unseparated doublet.
3509 3	2		
3528 3	4		
3554 10	(1)		
3589 3	0		
3625 3	(2)		Poor fit, similar to the case of 3981 level (1977Gu12).
3655	(3) [†]		From 1980Re04.
3663 10	(6)		
3703 3	2		
3821 3	5		
3850 3	4		
3890 10			1980Re04 observed a level at 3895 with angular distribution not fitted by DWBA, possibly an unresolved multiplet.
3981 10	(2)		
4013 3	4		

Continued on next page (footnotes at end of table)

 $^{74}\text{Ge}(\text{p,t})$ [1977Gu12](#), [1974Ba67](#), [1980Re04](#) (continued)

 ^{72}Ge Levels (continued)

<u>E(level)</u>	<u>L</u>	<u>Comments</u>
4076 3	5	
4108 3	2	
4144 3	4	
4191 3	0+(4)	An unseparated doublet with a possible L=4 component.
4229 3	(3)	
4285 3	3	
4525	(2) [†]	From 1980Re04 .
4895	4	From 1980Re04 .

[†] From [1980Re04](#) based on similarities of angular distributions with those of states of known J^π .