

$^{76}\text{Ge}(\alpha, \alpha)$ 2007ScZX, 2008Sc03

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

2007ScZX (also 2008Sc03): E=26 MeV beam provided by Yale tandem accelerator. Enriched target. Particles detected with the Enge spectrograph and gas-filled focal plane detector backed by a scintillator. FWHM=70 keV. Measured cross sections (statistical uncertainty 1%, systematic uncertainty 5%). Spectroscopic factors deduced from analysis of cross section data by DWBA calculations using PTOLEMY code.

Level	Cross-section data (2007ScZX)	
	$d\sigma/d\Omega$ (mb/sr)	$\sigma(^3\text{He}, \alpha)/\sigma(\text{d}, \text{p})(11^\circ)$
0	0.120	0.015
197	6.86	3.8
317	1.67	1.9
457	0.15	
576	0.77	0.5
758	0.34	5.4
1146	0.31	3.8
1242	0.30	1.5
1408	0.25	1.0
1503	0.66	1.2
1603	0.62	2.4

 ^{75}Ge Levels

E(level)	J^π^\dagger	L^\ddagger	C ² S	Comments
0				J^π, L : L=4, $J^\pi=9/2^+$ listed in 2007ScZX seems a misprint; should be L=1, $J^\pi=1/2^-$ as in ($\alpha, ^3\text{He}$).
197	9/2 ⁺	4	5.68	
317	5/2 ⁻	3	2.27	
457	5/2 ⁻	3	0.20	
576		3 [@]	1.00	
758		4 [@]	0.28	
1146		1,(2)		
1242	(5/2 ⁻)	3	0.33	
1408	9/2 ⁺	4	0.22	
1503		4		
1603		(3)		
x [#]		3 [@]	0.159	
y [#]		4 [@]	0.081	

[†] From Adopted Levels.

[‡] 2007ScZX measured cross sections at a forward angle. The L-transfers quoted here are from previous particle-transfer studies, except for 576 and 758 levels.

[#] Analog state from 2007ScZX.

[@] Assignment from 2007ScZX based on cross section ratio.