^{78}Se(p,t) 1977Bo18,2007Fr10

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, Jun Chen and Ameenah R. Farhan	NDS 194,3 (2024)	8-Jan-2024

E=33 MeV.

1977Bo18: detector telescope arrangement, FWHM=60-85 keV. $\sigma(\theta)$ data from 15° to 90°. Absolute σ accurate to 15%. DWBA analysis.

2007Fr10: E=23 MeV. Measured σ at 3° and 22° for g.s., 559, 1121, and 1220 states. Authors deduce very similar neutron pair structures for ground states of ^{76}Se and ^{76}Ge through precise cross section measurements.

Reaction Q value=−9433.7 *43* (1982Zu04).

Others: 1985Mi06, 1980Or04: E=52 MeV, $\sigma(\theta)$ data and DWBA analysis for g.s. transition strengths.

All data are from 1977Bo18, unless otherwise stated.

^{76}Se Levels

E(level)	L	Enhancement factor†	Comments
0	0	1.89,1.48	L: from 2007Fr10 and other authors. σ=7.1 mb/sr (2007Fr10) at 3°. Relative σ=100 at 3°, $\sigma(3°)/\sigma(22°)$=150 (2007Fr10).
559 *10*	(2)‡	4.47,4.05	Relative σ=1.2 at 3°, $\sigma(3°)/\sigma(22°)$=0.4 (2007Fr10).
1122 *25*	(0)‡		Relative σ=0.8 at 3°, $\sigma(3°)/\sigma(22°)$=4 (2007Fr10).
1216 *10*	(2)‡	1.39,1.31	Relative σ=0.7 at 3°, $\sigma(3°)/\sigma(22°)$=1.0 (2007Fr10).
1332 *25*	(4)‡	2.00,1.10	
2033 *25*	(3,4)		
2166 *10*	(0)‡	1.03,0.92	
2347 *25*			
2429 *10*	(3)‡		
2511 *25*	(2)		
2614 *25*	(3,4)		
2670 *25*			
2820 *10*	(2)‡		
2922 *10*			
3017 *25*	(2)		
3106 *25*			
3232 *10*	(3,4)		
3306 *25*			
3458 *25*	(3,4)		
3591 *25*			
3693 *10*	(3,4)		
3843 *25*			
3980 *10*	(3,4)		
4181 *25*			
4425 *10*	(3,4)		

† Enhancement coefficients for two sets of optical parameters (1977Bo18).

‡ L-value from 1977Bo18 is treated (by evaluators) as tentative, on the basis of a discussion of L-transfers in (p,t) reactions in germanium nuclides (1982Be45) which points out difficulty in assigning unique L-values in such reactions.