^{77}Se(t,p) 1992Wa03

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 135, 193 (2016)	31-May-2016

E=17 MeV. Measured $\sigma(\theta)$ from 3.75° to 86.75° (lab angle) in 7.5° steps. Protons analyzed by multiangle spectrograph and recorded on emulsion plates, FWHM=18 keV.

$J^{\pi}(^{77}Se\ g.s.)=1/2^{-}$.

L-transfers and enhancement factors deduced from comparison of $\sigma(\theta)$ data with DWBA calculations assuming following configurations for 2 neutrons: $(1g_{9/2},1g_{9/2})$ for L=0 and 2; $(2p_{1/2},3s_{1/2})$ for L=1; $(2p_{1/2},2d_{5/2})$ for L=3; $(1d_{5/2},1d_{5/2})$ for L=4 and $(2p_{1/2},1g_{9/2})$ for L=5.

Measured cross sections in mb/sr (maximum values) are given by 1992Wa03, values range between 0.004 and 1.42. The uncertainties are from 5% for strong groups to 25% for weak groups. The systematic uncertainty is given by 1992Wa03 as 10%.

^{79}Se Levels

E(level)	L	$\varepsilon(2J_f+1)$†	E(level)	L	$\varepsilon(2J_f+1)$†	E(level)	L	$\varepsilon(2J_f+1)$†
96 *3*	0	46	1737 *10*	1	0.04	2599 *6*	2	8.4
143 *4*	5	1.8	1865‡ *10*			2651 *5*	3	0.26
367 *3*	2	36	1957 *6*	2	3.3	2736 *6*	2	7.7
534 *4*	3	0.18	2129 *7*	2	5.5	2841‡ *8*		
586 *6*	1	0.77	2168 *8*	3	0.07	2987 *8*	0	2.9
650 *12*	3	0.08	2252 *10*	2	1.8	3021 *6*	0	4.7
750 *10*	(1)	0.08	2306 *11*	2	2.8	3072 *7*	2	4.6
1134 *8*	0	9.9	2336 *7*	2	4.1	3121 *5*	3	0.25
1261 *7*	3	0.49	2416 *9*	2	3.2	3176 *4*	2	8.8
1346 *9*	3	0.059	2467 *6*	1	0.14	3221 *7*	1	0.26
1441 *9*	2	25.0	2543‡ *7*					
1647 *10*	3	0.15	2552 *6*	1	0.24			

† $\varepsilon(2J_f+1)=(\sigma(exp)(2L+1)(2J_i+1))/(N\times\sigma(DWBA))$ where ε=enhancement factor, J_f=spin of residual nucleus, J_i=spin of target nucleus, L=angular momentum of transferred neutron pair, N=230. The uncertainty is expected to be at least 10%. Some of the values listed by 1992Wa03 have been rounded off.

‡ $\sigma(\theta)$ fails to reproduce theoretical result for a single L value. Data fit equally well several different pairs of L values.