

$^{36}\text{S}(\text{p,p}')_{(\alpha,\alpha')}$ 1990Ho19

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Ninel Nica, John Cameron and Balraj Singh		NDS 113, 1 (2012)	31-Dec-2011

$E(\text{p})=28.0$ MeV, $E(\alpha)=31.6$ MeV. Measured particle spectra, $\sigma(\theta)$, couple-channel calculations. FWHM=14 keV for protons and 24 keV for alpha particles. See also [1989Ho14](#) from the same group.

Mass deformation lengths are deduced from $\sigma(\theta)$ data in [1990Ho19](#) using phenomenological and folding analyses.

[Additional information 1.](#)

 ^{36}S Levels

δ_L =mass deformation length.

E(level)	$J\pi^\dagger$	Comments
0	0^+	
3291 3	2^+	$\delta_2(\text{p,p}')=0.619$ fm, 0.649 fm. $\delta_2(\alpha,\alpha')=0.684$ fm, 0.669 fm.
3344 3	0^+	
4193 3	3^-	$\delta_3(\text{p,p}')=1.376$ fm, 1.424 fm. $\delta_3(\alpha,\alpha')=1.386$ fm, 1.393 fm.
4522 3	1^+	
4573 3	2^+	
5020 3	4^-	
5204 3	5^-	$\delta_5(\text{p,p}')=1.015$ fm, 0.946 fm. $\delta_5(\alpha,\alpha')=0.780$ fm, 0.789 fm.
5250 3	3^-	$\delta_3(\text{p,p}')=0.658$ fm. $\delta_3(\alpha,\alpha')=0.913$ fm.
5338 3		
5379 3	2^+	$\delta_2(\text{p,p}')=0.193$ fm. $\delta_2(\alpha,\alpha')=0.172$ fm.
5462 3	3^+	
5514 3	4^-	
5575 3	1^-	$\delta_1(\text{p,p}')=0.042$ fm. $\delta_1(\alpha,\alpha')=0.032$ fm.
5837 3	3^-	$\delta_3(\text{p,p}')=0.553$ fm. $\delta_3(\alpha,\alpha')=0.501$ fm.
6180 3	3^-	$\delta_3(\text{p,p}')=0.283$ fm. $\delta_3(\alpha,\alpha')=0.216$ fm.
6220 3	2^+	$\delta_2(\text{p,p}')=0.096$ fm.
6350 3		
6472 3	1^-	$\delta_1(\text{p,p}')=0.029$ fm. $\delta_1(\alpha,\alpha')=0.023$ fm.
6510 3	4^+	$\delta_4(\text{p,p}')=0.592$ fm, 0.594 fm. $\delta_4(\alpha,\alpha')=0.711$ fm, 0.710 fm.
6553 3		

† From comparison of $\sigma(\theta)$ data in $(\text{p,p}')_{(\alpha,\alpha')}$ to DWBA calculations.