

**LONG TERM VARIABILITY OF THE CORONAL AND POST-CORONAL
REGIONS OF THE Oe STAR HD 149757 (zeta Oph)**

A. Antoniou¹, E. Danezis¹, E. Lyrtzi¹, D. Nikolaidis¹, L. Č. Popović², M. S. Dimitrijević²

¹*University of Athens, Faculty of Physics, Department of Astrophysics, Astronomy and
Mechanics, Panepistimioupoli, Zographou 157 84, Athens – Greece*

²*Astronomical Observatory, Volgina 7, 11160 Belgrade, Serbia*

In the spectra of many Oe and Be stars, many spectral lines present peculiar and complex profiles due to the fact that the observed absorption features are composed of two or more absorption components (Discrete or Satellite Absorption Components - DACs/SACs). In this poster paper we detect the presence of the SACs phenomenon in the C IV, N IV and N V spectral lines in 11 spectra of the Oe star HD 149757 (zeta Oph), taken with I.U.E. during a period of 13 years. In these 11 spectra, we study the time scale variation of the apparent rotational and radial velocities, the Gaussian standard deviation of the random motions of the ions, the random velocities of these motions, as well as the optical depth, the column density, the Full Width at Half Maximum (FWHM), the absorbed and the emitted energy of the independent regions of matter which produce the main and the satellite components of the studied spectral lines. We conclude that the above spectral lines consist of one or more Satellite Absorption Components (SACs) and we examine the timescale variations of the physical parameters. An interesting phenomenon which we found is the low radial velocities (about -50 km/s) in the N IV region, while in the C IV and N V region we found higher radial velocities with values about -800 km/s and -1300 km/s respectively. We point out that the new and important aspect of our study is the calculation of the above parameters and their time scale variations, using the DACs/SACs theory.