

Climatology of the Venus upper haze as measured by SOIR on board Venus Express

S. Robert¹, V. Wilquet¹, A. Mahieux¹, R. Drummond¹, A.C Vandaele¹ and J.-L. Bertaux^{2,3}

¹ *Planetary Aeronomy, Belgian Institute for Space Aeronomy, Brussels, Belgium*

² *LATMOS, 11 Bd d'Alembert, 78280 Guyancourt, France*

³ *IPSL, Université UVSQ, Guyancourt, France*

Contact: severine.robert@aeronomie.be

We recently demonstrated the potential of the SPICAV/SOIR suite of instruments onboard the Venus Express spacecraft to characterize the aerosols in the mesosphere of Venus from a data set of three selected orbits [1]. The wavelength dependence of the continuum is primarily due to the extinction caused by the aerosol particles of the upper haze and is directly related to the effective particle radius of the particles.

The continuum of the SOIR spectra was obtained with the ASIMAT retrieval code [2]. The possibility to use the SOIR channel alone, instead of in combination with the SPICAV channels is important as it offers a larger data set, although less informative in terms of microphysical properties. Therefore, temporal and geographical variations of the vertical profiles of the aerosol extinction were investigated for a particular diffraction order. This spectral window was measured in many solar occultations and over a period of 3 years leading to good spatial and temporal coverages.

1. Wilquet, V., et al., *Preliminary characterization of the upper haze by SPICAV/SOIR solar occultation in UV to mid-IR onboard Venus Express*. J. Geophysical Research, 2009. **114**(E00B42): p. doi:10.1029/2008JE003186.
2. Mahieux, A., et al., *Venus atmospheric densities and temperature profiles retrieved from SOIR solar occultations on board Venus Express*. J. Geophys. Res. 2010. **(submitted)**.