



Venus' South Polar Vortex morphology and dynamics from VIRTIS measurements during the Venus Express mission

Itziar Garate-Lopez (1), Ricardo Hueso (1), Agustín Sánchez-Lavega (1), and Javier Peralta (2)

(1) Escuela Técnica Superior de Ingeniería, Universidad del País Vasco, Bilbao, Spain (itziar_garate@ehu.es / Fax: 00 34 94 601 4178), (2) Centro Astronomía e Astrofísica da Universidade de Lisboa, Portugal

The VIRTIS instrument onboard VEX observes Venus in two channels (visible and infrared) obtaining spectra and multi-wavelength images of the planet. Here we present a study of the variable morphology of the South Polar Vortex, both in the upper and lower cloud levels, and a dynamical study based on measurements of the wind field in the vortex retrieved from cloud tracking over an ample set of images and wavelengths sensitive to different altitude levels. We present results from day-side images of the vortex obtained at 380 nm and 980 nm, both sensitive to two altitude levels within the upper cloud (66-70 km), night-side images in the near-infrared (1.74 μ m) sensitive to the lower cloud (48 km), and from thermal infrared (3 – 5 μ m) images sensitive to the cloud tops and able to study both the day and night-side of the planet. We explore the different dynamics associated to the varying morphology of the vortex.

Acknowledgements This work has been funded by Spanish MICIIN AYA2009-10701 with FEDER support and Grupos Gobierno Vasco IT-464-07.