First results from VIRTIS on Venus Express

1. Overview

G. Piccioni (1), P. Drossart (2), A. Coradini (3), G. Arnold (4), A. Sémery(2), G. Peter (4), M. Cosi (5), B. Saggin (6), S. Erard (2), S. Lebonnois (7) and the VIRTIS team

(1) IASF-INAF, Rome, (2) LESIA, Observatoire de Paris, (3) IFSI-INAF, Rome, (4) DLR German Aerospace Center, Berlin, (5) Galileo Avionica, Florence, (6) Politecnico di Milano, (7) Laboratoire de Meteorologie Dynamique, Paris

Giuseppe.Piccioni@iasf-roma.inaf.it , FAX : +39 06 20660188

VIRTIS is one of the instrument payload for the ESA mission Venus Express. VIRTIS consists of two channels: VIRTIS-M, an imaging spectrometer with moderate spectral resolution in the range from 0.25um to 5um and VIRTIS-H, an high spectral resolution spectrometer in the range from 2 to 5um having its field of view within the field of view of –M. The resolution of VIRTIS-M is 2nm from 0.25 to 1um and 10 nm from 1 to 5um. The resolution of VIRTIS-H is about 2nm.

The orbit insertion will be April 11 2006 and the 500 days of nominal mission will start on June 2006. The main scientific objectives of VIRTIS for Venus Express are: study of the lower atmosphere composition below the clouds and its variations (CO, OCS, SO2, H2O); study of the cloud structure, composition, and scattering properties; cloud tracking in the UV ($\sim$70 km, day side) and IR ($\sim$50 km, night side); measurements of the temperature field with subsequent determination of the zonal wind in the altitude range 60-100km (night side); lightning search (night side); mesospheric sounding; search for variations related to surface/atmosphere interaction, dynamics, meteorology, and volcanism; temperature mapping of the surface, search for hot spots related to volcanic activity; search for seismic waves from propagation of acoustic waves amplified in the mesosphere.

Here we will present some preliminary results at Venus.