

## A European Coordinated Network for Ground-based Observations of Venus

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### Abstract

During two coordinated periods in May-June 2007 and February 2009, a world-wide Earth-based observational campaign was initiated in support of ESA's Venus Express mission, in order to obtain cross-validation of atmospheric measurements using complementary techniques, simultaneous measurements at different wavelength ranges / altitudes on a long temporal baseline, and monitoring of time - varying phenomena. The prime objective was to provide direct absolute Doppler wind velocities at several levels in the Venus' mesosphere, in order to help interpreting the massive but indirect information obtained by Venus Express payload instruments SPICAV/ SOIR, VIRTIS, VeRa and VMC on the mesospheric dynamics [e. g. 1-4].

### Coordination and networking

In the framework of Europlanet N3-activity, a strategic workshop was organized on April 2 2006 in Vienna, prior to the EGU, addressing ground based observations of the dynamics and chemistry of the upper atmospheres of Venus and Mars which in support of the VEx and MEx missions (WS#5 : 1st strategic workshop on atmospheres/ exospheres and their dynamics/ composition on Venus and Mars). A workshop was organized at ESTEC on Dec. 17-19, 2007 to summarize the achievements of the first coordination period (May-June 2007) and a special issue of Planetary and Space Science was published in August 2008.

### NA1 workshop program

Following the second successful February 2009 campaign a new strategic workshop will be proposed in the framework of NA-1 Europlanet activity.

### References

- [1] Widemann, T., Lellouch, E., Donati, J.-F., 2008, Venus Doppler winds at Cloud Tops Observed with ESPaDOnS at CFHT, *Planet. and Space Sci.*, 56, 1320-1334.
- [2] Lellouch, E., Paubert, G., Moreno, R., Moullet, A., Monitoring Venus' mesospheric winds in support of Venus Express : IRAM 30-m and APEX observations, *Planet. and Space Sci.*, 56, 1355-1367.
- [3] Rengel, M., Hartogh, P., Jarchow, C. 2008, Mesospheric vertical thermal structure and winds on Venus from HHSMT CO spectral-line observations, *Planet. and Space Sci.*, 56, 1320-1334.
- [4] Sornig, M., Livengood, T., Sonnabend, G., Kroetz, P., Stupar, D., Kostiuk, T. and Scheider, R., Temperatures in Venus upper atmosphere from mid-infrared heterodyne spectroscopy of CO<sub>2</sub> around 10 μm wavelength, *Planet. and Space Sci.*, 56, 1407-1413.