Geophysical Research Abstracts, Vol. 9, 11284, 2007
SRef-ID: 1607-7962/gra/EGU2007-A-11284

First cloud-tracked winds from the Venus Express VMC images

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The spectrum of the solar radiation reflected by Venus has a broad absorption signature between 0.2 – 0.5 μm. Although the part between 0.2 and 0.32 μm is well explained by the presence of SO_2 at the cloud tops, the spectrum above 0.32 μm corresponds to another, so far unidentified, UV-blue absorber. Inhomogeneities in the vertical and spatial distribution of this absorber create the well-known UV markings on the Venus disc that have been repeatedly used for tracking the winds at the cloud tops and thus to monitor the global and local dynamics of the lower Venus mesosphere. The UV channel of the Venus Monitoring Camera (VMC), with its maximum sensitivity at 0.365 μm, provides images with up to 30% of contrast for the UV markings.

This presentation will show the first wind speed measurements from cloud-tracking in image sequences from the VMC-UV channel, covering up to ten hours with intervals of less than 30 minutes, optimized for wind tracking. So far the zonal wind speeds measured at several latitudes are in good agreement with previous observations, ranging between $\sim$90-110 m/s.