



## Distribution Of Carbon Monoxide And Other Minor Species In The Lower Atmosphere Of Venus Using Venus Express/VIRTIS-M-IR Data

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After more than one year in orbit, the European spacecraft Venus Express and the instruments onboard are continuing to observe the composition and circulation of the atmosphere of Venus. In particular, the spectral imaging capabilities of VIRTIS have allowed detailed study of the night side thermal infrared radiation from the deep atmosphere in the spectral "windows" at wavelengths ranging from 1.0 to 2.50 microns.

We present here, with a brief description of the forward and retrieval model, the results of the retrieved tropospheric carbon monoxide and other trace gas abundances, at heights around 35km, from the VIRTIS-M-IR channel at 2.18 to 2.30 microns, with a spectral resolution of 0.01 microns. Whilst these gases have been previously detected in Venus's atmosphere, their global distribution, as well as their temporal and spatial variability, has not been as well studied. VIRTIS-M measurements of these gases have been analysed to better understand the global distributions of these minor species, as well as to look for temporal and spatial variability. The retrieved carbon monoxide maps show an enhancement of between 30 - 50 % from equator to pole, peaking between 55 and 60° south. This strongly supports a Hadley type circulation, with air rising from the equator and descending near the poles. Variability in the CO abundances also has dynamical implications, which will be discussed.

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