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Preliminary study of Venus cloud layers with polarimetric data from SPICAV/VEx

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Abstract

We present unique polarization data from the SPICAV-IR spectrometer onboard ESA's *Venus Express* (VEx) spacecraft and a first retrieval of cloud parameters. The polarization data have been collected from 2006 to 2010, and cover mostly the northern hemisphere, in the 0.65 to 1.7 μm spectral range. They contain information about latitudinal and longitudinal variations in the properties of Venus clouds and hazes, and about temporal variations in these properties. The degree of polarization measured on a few test orbits is in agreement with previous observations from the ground and from *Pioneer Venus*. Using numerical modeling to interpret the nadir observations, we retrieve mean values of $r_{\text{eff}} \sim 1 \mu\text{m}$ and $\nu_{\text{eff}} \sim 0.07$ for, respectively, the effective radius and variance of the cloud particle size distribution and a

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