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First results of investigation of the Venus upper haze by Venus Monitoring Camera onboard Venus Express

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Venus is completely enshrouded by clouds that have complex layered structure. The cloud top can be defined as the level where the optical depth reaches unity. However the aerosol haze extends to much higher altitudes of at least 80 km. Observation of the Venus limb made by the Venus Monitoring Camera (VMC) onboard Venus Express aim at the investigation of the vertical structure of the upper haze and its latitude variations. Early VMC limb observations shown detached hazes, but until now these are not very frequent. Specific observations of the limb at sunset and sunrise, performed in four filters and in forward scattering geometry, are used to study the optical and microphysical properties of the mesospheric haze and its dynamical properties. VMC is taking images of Venus limb with resolution of 1-2 km/pixel and with good latitude coverage (from -80 degrees up to 90 degrees). The first observations indicate a haze vertical scale height of 2-4 km and a detached haze thickness of ˜20 km. The paper will present the first results of the Venus limb observation by VMC.