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Altimetry of the Venus cloud tops derived from the Venus Express observations

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Imaging of Venus in the UV-blue range by the VMC and VIRTIS experiments onboard Venus Express shows variety of cloud features that include mottled and streaky clouds in the low latitudes, bright mid-latitude belt, dark "polar cap" with imbedded oval polar dipole. Simultaneous spectral measurements in the CO2 near-IR bands by VIRTIS constrain the altitude of the Venus cloud tops and its variability over the planet. Preliminary estimates show that the altitude of the unit opacity level varies from ~69 km in the bright mid-latitude belt to ~65 km in the core of the polar vortex that corresponds to about one atmospheric scale height. More accurate altimetry will also help to derive the differences in cloud structure in the UV dark and bright regions that would give a clue about the location of the unknown UV absorber within the upper cloud deck.