

## Studying the Venusian atmosphere on the 2012 transit of Venus

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The solar satellite Hinode observed the transit of Venus on June 5-6th 2012. The solar optical telescope (SOT) observed the dark Venus disk against the bright solar surface. The images were acquired continuously for the wavelength of 396.8, 430.5, 450.4, 555.0, 668.4 nm with unprecedented spatial scale ( $\sim 0.3$  arcsec).

The purpose is the derivation of the latitudinal and vertical distribution of the cloud particle, SO<sub>2</sub> and SO from the transmittance for considering the global dynamics. We calculated the transmittance normalized by the unattenuated solar intensity after the data correction processes including the removal of the solar limb darkening and the calibration for the plate scale.

The altitude as the transmittance of 0.5 ( $\sim 90$  km) in the Venus atmosphere has the slant toward the equator. The difference is 9.1 km in the evening and 6.1 km in the morning. In the equatorial region (latitude  $\leq 40$  degree), the fluctuation of the altitude is observed. The amplitude for the wavelength shorter than 400 nm is a few times larger than that of 430.5 nm. We would show the consideration to explain the longitudinal distribution of the altitude of the Venus disk.

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