Japan Geoscience Union Meeting 2011
(May 22-27 2011 at Makuhari, Chiba, Japan)

U003-16 Room:304 Time:May 27 12:30-12:45

Vertical wavenumber spectra of gravity waves in the Venus atmosphere from Venus Express radio occultation

Hiroki Ando[1*], Takeshi Imamura[2]

[1]University of Tokyo, [2]ISAS/JAXA

We obtained five profiles of the temperature from 35 to 95 km altitude by the radio occultation in Venus Express mission using the UDSC antenna. Vertical wavenumber spectra of small-vertical scale perturbations in these profiles were obtained for the regions above and below the cloud layer and were examined based on the assumption that the temperature perturbations are associated with internal gravity waves. The spectra above clouds tend to show power law indices of around -3 for large wavenumbers, being indicative of saturated gravity waves. The spectra below clouds show less power and less spectral slopes, suggesting that the waves are not saturated in this region.

Keywords: Radio occultation, Venus Express, Internal gravity wave, Vertical wavenumber spectra