

Contribution of the Optical Mesosphere Thermosphere Imagers (OMTIs) to VarSITI

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The Optical Mesosphere Thermosphere Imagers (OMTIs) consist of thirteen all-sky cooled-CCD imagers, five Fabry-Perot interferometers (FPIs), three meridian scanning photometers, and four airglow temperature photometers. They measure two-dimensional pattern, Doppler wind, and temperature through airglow emissions from oxygen (wavelength: 557.7 nm) and OH (near infrared band) in the mesopause region (80-100 km) and from oxygen (630.0 nm) in the thermosphere/ionosphere (200-300 km). They are in automatic operation at Australia, Indonesia, Thailand, far-east Russia, Japan, Canada, Hawaii, and Norway. Station information and quick look plots are available at <http://stdb2.stelab.nagoya-u.ac.jp/omti/>. We show recent results obtained by OMTIs particularly focusing on the penetration of short-period gravity wave from the lower atmosphere to the thermosphere and the ionosphere, which are often recognized as meridum-scale traveling ionospheric disturbances (MSTIDs) in the ionosphere. We also show some results obtained by the multi-point Fabry-Perot interferometers. These observations will contribute the next SCOSTEP program VarSITI, particularly to the ROSMIC Project.

Keywords: airglow, ionosphere, thermosphere, mesosphere, gravity wave, traveling ionospheric disturbance