Geophysical Research Abstracts
Vol. 18, EGU2016-13477, 2016
EGU General Assembly 2016

Horizontal velocities of MSTIDs over Taiwan observed by continuous HF Doppler sounding

Jiří Fišer and Jaroslav Chum

Institute of Atmospheric Physics, Upper Atmosphere, Praha 4 Sporilov, Czech Republic (jifi@ufa.cas.cz)

Medium scale traveling ionospheric disturbances (MSTIDs) are signatures of gravity waves (GWs) which propagatein the termosphere. Since GWs play an important role in the coupling between the lower atmospheric layers and the thermosphere it is important to study their properties and source mechanisms. In this contribution we present an experimental study focused on horizontal velocities of MSTIDs over Taiwan in the nearly two year long period starting in April 2014. We observe MSTIDs by multipath continuous HF Doppler sounding system. The movement of ionospheric plasma induced via collisions by gravity waves is detected as Doppler shift of the sounding radio signal. We investigate seasonal and diurnal variations of MSTIDs horizontal propagation parameters and compare them with horizontal wind model (HWM) and also compare them with results obtained in other locations in middle a low latitudes where similar HF Doppler sounding systems are installed.