

Ground-based OH emission measurements of upper mesospheric tidal waves in the northern high-latitude between 2001-2005

J.-K. Chung(1), Y.-I. Won(2), Q. Wu(1), Y. H. Kim(3), J. Kim (4)

(1) High Altitude Observatory, National Center for Atmospheric Research, Boulder, CO, U.S.A.

A ground-based Fourier Transform Spectrometer was used to study upper mesospheric waves by observing the terrestrial nightglow emissions in near infrared region at Esrange, Sweden (67.90°N, 21.10°E). For this study, we analyzed five years of data taken from the above site and performed spectral analysis to see the major peaks. Harmonic analysis is also done to retrieve the information of the major oscillations. Dominant oscillations at various periods near tidal frequency are found and tabulated seasonally. We also investigated the occurrence of the major tidal oscillation in relation with planetary waves.