

Proceedings of SPIE - The International Society for Optical Engineering 2004 vol.5397, pages 252-259

Wave interactions in midlatitude middle atmosphere of the Earth

Fahrutdinova A., Korotyshkin D., Fedorov D.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

Investigation of wave interactions in heights of the upper mesosphere - lower thermosphere is accomplished using time series of zonal and meridional winds. These time series are acquired in Kazan State University (56N, 49E) by radio meteor observations. Applied bispectral analysis shows expressed non-linear interactions of wave processes with tidal scales (12 and 24 hours) and planetary wave scales (so-called as normal Rossby modes with periods 5, 10, 16 days).

<http://dx.doi.org/10.1117/12.548608>

Keywords

Bispectral analysis, Planetary waves, Tides, Wave interactions