



Analysis of planetary wave activity in mesopause OH* temperature fluctuations at different measurement stations during the first NDMC Campaign in September/October 2009

Kathrin Höppner (1), Michael Bittner (1), Carsten Schmidt (1), Petr Ammosov (2), Galina Gavrilyeva (2), John French (3), Peter Knieling (4), Ralf Koppmann (4), Dirk Offermann (4), Maria J. López-González (5), Jürgen Scheer (6), Esteban Reisin (6), Anatoly Semenov (7), and Wolfgang Steinbrecht (8)

(1) German Aerospace Center (DLR), German Remote Sensing Data Center (DFD), Wessling, Germany

(kathrin.hoeppner@dlr.de), (2) Institute of Cosmophysical Research and Aeronomy, Yakutsk, Russia, (3) Australian Antarctic Division, Tasmania, Australia, (4) University of Wuppertal, Wuppertal, Germany, (5) Instituto de Astrofísica de Andalucía (CSIC), Granada, Spain, (6) Instituto de Astronomía y Física del Espacio (IAFE), Buenos Aires, Argentina, (7) Institute of Atmospheric Physics, Moscow, Russia, (8) German Meteorological Service, Hohenpeissenberg, Germany

The Network for the Detection of Mesopause Change (NDMC) is a global program with the mission to promote international cooperation among research groups investigating the mesopause region (80-100 km) with the goal of early identification of changing climate signals. This program involves also the coordinated study of atmospheric variability at all time scales. The measurement program of NDMC has been established including operational and campaign-based activities. There will be regular global NDMC campaigns once a year usually at the equinox period.

The first global NDMC campaign was conducted from September 01 to October 31, 2009. In the study presented the rotational temperature data measured by ground-based instruments at the NDMC stations Maimaga (63.0°N, 129.5°E), Zvenigorod (55.7°N, 36.8°E), Wuppertal (51.3°N, 7.2°E), Oberpfaffenhofen (48.1°N, 11.3°E), Hohenpeissenberg (47.8°N, 11.0°E), Schneefernerhaus (47.4°N, 11.0°E), Sierra Nevada (37.1°N, 3.4°W), El Leoncito (31.8°S, 69.3°W), and Davis (68.6°S, 78.0°E) are analysed with respect to planetary wave activity. Nightly mean time series of OH* temperature fluctuations are investigated using spectral analyses over temporal scales of 3 to 20 days. Dominant wave periods are compared for each station.