



Network for the Detection of Mesopause Change (NDMC): What can we learn from airglow measurements in terms of better understanding atmospheric dynamics?

Michael Bittner and the NDMC Team

Deutsches Zentrum für Luft- und Raumfahrt Oberpfaffenhofen, DLR, DFD-AT, Wessling, Germany (michael.bittner@dlr.de, +49-(0)8153-281363)

The international Network for the Detection of Mesopause Change (NDMC, <http://wdc.dlr.de/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.

NDMC is contributing to the European Project "Atmospheric dynamics Research Infrastructure in Europe, ARISE".

Measurements of the airglow at the mesopause altitude region (80-100km) from most of the European NDMC stations including spectro-photometers and imagers allow monitoring atmospheric variability at time scales comprising long-term trends, annual and seasonal variability, planetary and gravity waves and infrasonic signals. The measurements also allow validating satellite-based measurements such as from the TIMED-SABER instrument.

Examples will be presented for airglow measurements and for related atmospheric dynamics analysis on the abovementioned spatio-temporal scales and comparisons with satellite-based instruments as well as with LIDAR soundings in order to demonstrate the contribution of NDMC to the ARISE project.