

Dynamics Research Infrastructure in Europe: The ARISE Project

ARISE proposes to design a new infrastructure that integrates different station networks in order to provide a new “3D” image of the atmospheric dynamics from the ground up to the mesosphere with unprecedented spatio-temporal resolution. These networks are: - the International infrasound network developed for the verification of the Comprehensive nuclear Test Ban Treaty (CTBT). This system is unique by its quality for infrasound and atmospheric wave observations, - the Network for the Detection of Atmospheric Composition Changes (NDACC) which uses Lidar to measure stratospheric dynamics, - the Network for the Detection of Mesopause Changes (NDMC), dedicated to airglow layer measurements in the mesosphere, and additional complementary stations and satellite data. The infrastructure extends across Europe and outlying regions, including polar and equatorial regions. The measurements will be used to improve the parameterization of gravity waves in the stratosphere to better resolve climate models. The project also concerns civil applications related to monitoring of natural hazards as volcanoes. The presentation will highlight the first results obtained in the frame of the project.

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