



The ARISE project: multi-instrument observations in the middle atmosphere for improving extreme event monitoring and weather forecasts

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The ARISE project integrates different station networks providing observations from ground to the lower thermosphere, including the infrasound network developed for the Comprehensive Nuclear-Test-Ban Treaty (CTBT) verification regime augmented by national stations, the Network for the Detection of Atmospheric Composition Changes (NDACC) providing Lidar measurements, complementary Mesosphere-Stratosphere-Troposphere (MST) and meteor radars, wind radiometers, ionospheric sounders and satellites. The main objective is to recover the vertical structure of the atmospheric disturbances over broad spatial and temporal scales with unprecedented resolution in both space and time. The poster highlights recent results obtained in the main project applications which focus on weather and climate forecasting, remote observations of extreme events such as thunderstorms or volcanic eruptions, and characterisation of large scale disturbances such as gravity waves and sudden stratospheric warming events.