

An innovative compact lidar for atmospheric aerosol, water vapour and transmissivity measurements

An innovative lidar system was recently made operational as part of the mobile unit for the atmospheric remote sensing of the Naples National Facility (NF) of the ACTRIS Aerosol Cloud and Trace Gases Research Infrastructure. The lidar is a two wavelength elastic/Raman compact and transportable system, with scanning unit, specially designed to investigate the atmosphere in a very large range of altitudes (from about 150m to 30km), combining compactness, accuracy, autonomy in remote use and ease of operation. The system was calibrated and tested according to the standard quality assurance procedures for ACTRIS NF operation, demonstrating high performances in term of signal-to-noise ratio of all detected signals in both analogical and photon-counting regimes. Measurements made by this lidar will be reported, showing off how this instrument can conduct in-depth analysis of atmospheric particulate matter, obtaining optical properties of the particles and transmissivity of the atmosphere.

Primary author(s) : MANZO, Matteo (Università degli studi di Napoli "Federico II")

Presenter(s) : MANZO, Matteo (Università degli studi di Napoli "Federico II")