

Overview of AERONET and Recent Development & Updates

Pawan Gupta, Tom Eck, Alexander Smirnov, Joel Schafer, Aliaksandr Siniuk, Mikhail Sorokin,
Jason Kraft, Ilya Slutsker, Petar T. Grigorov, C. Bennett, and, A.V.Kelly

The AERONET program is a federation of ground-based sun-photometer networks and operates in partnership with various national and international agencies, universities, institutions, research groups, and individual scientists and stakeholders. It provides worldwide observations of spectral aerosol optical depth, inversion products (microphysical and radiative properties), and precipitable water across diverse aerosol regimes. In addition, other network components enable measurements of normalized water-leaving radiance, solar flux, and marine aerosols. For the past three decades, AERONET has been providing long-term, continuous, and readily accessible public-domain datasets. The network has been growing steadily, with currently about 600 active sites. The program also supports research and application field campaigns around the world. The program continues to refine instrumentation, measurement techniques, and algorithms through research and development. The project's biggest strength is its imposition of standardized instruments, calibration, quality control, processing, and data distribution. This presentation will provide an overview of the project with examples of available datasets, current research and applications. We will also highlight important upcoming satellite missions, field campaigns, and new research results from the AERONET team at NASA Goddard.