Opportunity Title: Investigation of atmospheric aerosols through multi-angle, multi-spectral and polarimetric observations
Opportunity Reference Code: 0219-NPP-NOV23-GSFC-EarthSci

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0219-NPP-NOV23-GSFC-EarthSci

Application Deadline 11/1/2023 6:00:59 PM Eastern Time Zone

Description New methods of constraining aerosol properties through the inversion of multi-angle, multi-spectral and polarimetric observations are developed. Specifically, this research utilizes a wide range of radiative measurements across the shortwave solar spectrum to derive properties of atmospheric particulate, including aerosol optical depth, single scattering albedo (i.e. absorption), size distribution, particle morphology, refractive index and chemical composition. Emphasis is placed on datasets with high information content, especially those stemming from next generation polarimeters possessing wide angular and spectral coverage as well as high polarimetric accuracy. Of particular interest are inversion techniques that fuse polarimetric observations with other measurements obtained through geostationary imagers and/or lidar. A wide range of in situ and remote sensing observation strategies are relevant, including those made from both space-based and suborbital platforms. Inversions of complex optical datasets (e.g. polar nephelometer measurements) obtained in situ aboard aircraft or in the laboratory are particularly pertinent.

Location:
Goddard Space Flight Center
Greenbelt, Maryland

Field of Science: Earth Science

Advisors:
Reed Espinosa
Reed.Espinosa@nasa.gov
(301) 614-5685

Robert Levy
Robert.C.Levy@nasa.gov
301-614-6307

Applications with citizens from Designated Countries will not be accepted at this time, unless they are Legal Permanent Residents of the United States. A complete list of Designated Countries can be found at: https://www.nasa.gov/oiir/export-control.

Eligibility is currently open to:

- U.S. Citizens;
- U.S. Lawful Permanent Residents (LPR);
- Foreign Nationals eligible for an Exchange Visitor J-1 visa status; and,
- Applicants for LPR, asylees, or refugees in the U.S. at the time of

Opportunity Title: Investigation of atmospheric aerosols through multi-angle, multi-spectral and polarimetric observations
Opportunity Reference Code: 0219-NPP-NOV23-GSFC-EarthSci

application with 1) a valid EAD card and 2) I-485 or I-589 forms in pending status

Eligibility Requirements

- **Degree:** Doctoral Degree.