

Opportunity Title: Heliophysics: Orbital and Physical Studies of Meteoroids

Opportunity Reference Code: 0133-NPP-NOV23-GSFC-HelioSci

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0133-NPP-NOV23-GSFC-HelioSci

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

Description The space weather laboratory at GSFC/NASA is interested in expanding existing expertise in meteor science related to both solar system and atmospheric studies. Opportunities exist to participate in both theoretical and observational studies of meteors using ground-based and satellite measurements. Research includes, but is not limited to, to resolve major outstanding problems related to the impact of the meteoric flux in the upper atmosphere, with primary emphasis on ablation processes, seasonal and geographical variability and their role on the aeronomy of the Mesosphere and Lower Thermosphere (MLT) atmospheric region. Specific applications include: (1) The sources and variations (temporal and geographical) of the meteoric flux, and its role in the chemical composition of the MLT; (2) The origin and global distribution of the metallic layers, dynamical transport of metals, and modelling the subsequent formation of meteoric smoke and its seasonal distribution in the MLT; (3) Orbital dust distribution and populations in the solar system; (4) The mechanisms by which metallic atoms are ablated from the meteoroid body and deposited in the MLT; and (5) Physical and Electronic risk assessment to satellites due to meteoroid impacts.

Location:

Goddard Space Flight Center
Greenbelt, Maryland

Field of Science:Heliophysics Science

Advisors:

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



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Eligibility Requirements • **Degree:** Doctoral Degree.