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Opportunity Title: EUV Polarimetry for Solar Magnetic Field Studies
Opportunity Reference Code: 0022-NPP-NOV26-MSFC-Heliophys

Organization National Aeronautics and Space Administration (NASA)

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How to Apply All applications must be submitted in Zintellect

Please visit the NASA Postdoctoral Program website for application instructions and requirements: How to Apply | NASA Postdoctoral Program (orau.org)

A complete application to the NASA Postdoctoral Program includes:

1. Research proposal
2. Three letters of recommendation
3. Official doctoral transcript documents

Application Deadline 11/1/2026 6:00:59 PM Eastern Time Zone

Description **About the NASA Postdoctoral Program**

The NASA Postdoctoral Program (NPP) offers unique research opportunities to highly-talented scientists to engage in ongoing NASA research projects at a NASA Center, NASA Headquarters, or at a NASA-affiliated research institute. These one- to three-year fellowships are competitive and are designed to advance NASA's missions in space science, Earth science, aeronautics, space operations, exploration systems, and astrobiology.

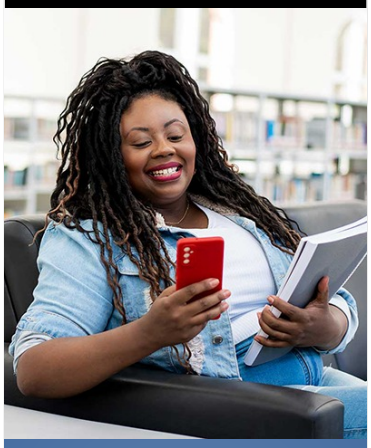
Description:

Understanding how magnetic energy is transported and released in the upper solar atmosphere remains one of the fundamental challenges in heliophysics. While routine observations of the solar photosphere provide detailed measurements of surface magnetic fields, direct observations of magnetic fields in the chromosphere, transition region, and low corona remain extremely limited. These atmospheric layers govern coronal heating, the initiation of solar eruptions, and the evolution of space weather, yet their magnetic structure is largely inferred through modeling rather than direct measurement.

Recent advances in ultraviolet spectropolarimetry have demonstrated the scientific potential of polarization diagnostics for probing solar magnetic fields. Extending these techniques into the extreme ultraviolet (EUV) offers the opportunity to directly measure magnetic fields in hotter plasma at greater heights on the Earth-facing solar disk than is currently accessible. Achieving this capability, however, requires significant advances in EUV coatings, detector technology, instrument calibration, and forward modeling.

The selected postdoctoral fellow will contribute to the development of next-generation EUV polarimetric instrumentation intended to enable future observations of magnetic fields in the upper solar atmosphere. Research opportunities span theoretical modeling of polarization diagnostics, optical system design, multilayer coating development, calibration methodologies, laboratory validation, and mission concept development. The exact balance of these activities will be tailored to the interests and expertise of the selected candidate.

The candidate will also aid in coupling forward models of polarized EUV emission with practical instrument design to establish measurement requirements and optimize observational performance. This work will be performed in close collaboration with experts in solar radiative transfer, advanced coatings, detector development, and space

NPP NASA Postdoctoral Program
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instrumentation. Opportunities also exist to participate in laboratory characterization of EUV optical systems, development of calibration techniques for polarization-sensitive optics, and analysis of experimental measurements.

In addition to the primary research effort, the postdoctoral fellow will have opportunities to contribute to the development and scientific exploitation of NASA sounding rocket payloads. The Solar Physics and Astrophysics Branch at NASA Marshall Space Flight Center maintains an active suborbital research program encompassing high-resolution EUV and X-ray imaging, spectroscopy, detector development, and calibration activities. Depending on the fellow's interests, participation may include instrument development, laboratory testing, mission operations, flight hardware integration, calibration campaigns, and scientific analysis of flight data from current and future sounding rocket investigations.

This position offers a unique opportunity to help establish EUV polarimetry as a new observational capability for heliophysics while participating in the complete lifecycle of space instrumentation from theoretical concept development and laboratory validation through suborbital flight demonstrations and future mission planning.

Field of Science: Heliophysics Science

Advisors:

Genevieve Vigil

genevieve.d.vigil@nasa.gov

(360) 649-1607

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

Questions about this opportunity? Please email npp@orau.org

Qualifications Preferred Expertise

Applicants with backgrounds in solar physics, astrophysics, optical engineering, applied physics, electrical engineering, or related disciplines are encouraged to apply. Experience in one or more of the following areas is desirable:

- Solar magnetism or radiative transfer

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- Polarization theory or spectropolarimetry
- Optical system design or optical coatings
- EUV/X-ray instrumentation
- Scientific detector development
- Scientific programming and numerical modeling
- Image processing or data analysis
- Laboratory instrumentation and experimental methods

Point of Contact Mikeala

Eligibility Requirements

- **Degree:** Doctoral Degree.