

Opportunity Title: Astrophysics: X-Ray Polarimetry

Opportunity Reference Code: 0090-NPP-NOV23-GSFC-Astrophys

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0090-NPP-NOV23-GSFC-Astrophys

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

Description X rays from many astrophysical sources are expected to have some degree of polarization which depends on the emission mechanism and the source geometry. Polarization could provide definitive information about the structure of supernova remnants, active galactic nuclei, stellar black holes, and high magnetic field neutron star X-ray sources. We are developing gas micro-pattern detectors, which at the focus of mirrors in a SMEX or MIDEX mission provide measurements sensitive to expected polarization of x rays from relatively faint X-ray sources. We are also studying the use of large-area pixelized gas well detectors to enable polarization measurements up to 300 MeV. A balloon-borne instrument based on Compton scattering is being developed to measure time-resolved polarization in the 30-200 keV range from specific bright X-ray sources. There are opportunities for research both on these detectors and on astrophysical source models.

Location:

Goddard Space Flight Center
Greenbelt, Maryland

Field of Science: Astrophysics

Advisors:

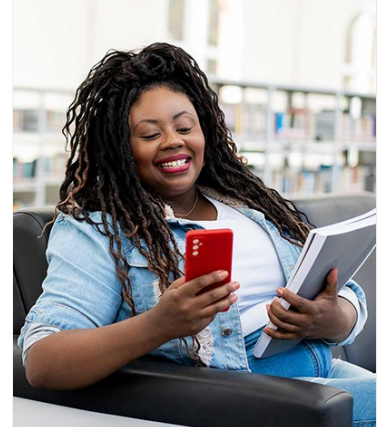
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Applications with citizens from Designated Countries will not be accepted at this time, unless they are Legal Permanent Residents of the United States. A complete list of Designated Countries can be found at: <https://www.nasa.gov/oiiir/export-control>.

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

Eligibility Requirements

- **Degree:** Doctoral Degree.