

Opportunity Title: X-Ray Astrophysics of Supernova Remnants
Opportunity Reference Code: 0089-NPP-NOV23-GSFC-Astrophys

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0089-NPP-NOV23-GSFC-Astrophys

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

Description X-ray spectroscopy and imaging of supernova remnants are providing crucial information about their underlying physics, origin, and evolution. Observations with the current generation of X-ray observatories, Chandra, XMM-Newton, and NuSTAR, are making possible deeper understanding of the conditions in the forward- and reverse-shock heated gas, the pre-explosion progenitor evolution, the explosion mechanism, ejecta abundances, and the acceleration of relativistic particles by the forward shock. In particular, proper motion studies of the forward shock and the ejecta using Chandra have provided insights into the degree of symmetry of the supernova explosion. Our research program utilizes data from current and past X-ray observatories to investigate virtually all aspects of supernova remnant dynamics and evolution, and to frame questions to be answered by the upcoming JAXA/NASA X-ray Imaging and Spectroscopy Mission.

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/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.