

Opportunity Title: Astrophysics: Advanced Techniques in X-ray Optics

Opportunity Reference Code: 0096-NPP-NOV23-GSFC-Astrophys

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0096-NPP-NOV23-GSFC-Astrophys

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

Description Our objective is to develop techniques to manufacture x-ray telescopes with five characteristics: high angular resolution, high throughput, light weight, low cost, and efficient production. Two independent technologies are in development. We have pioneered an epoxy replication technique that enabled the manufacture of the lightweight, high throughput optics that flew on ASCA and Suzaku. We are improving this technology further to enable both better angular resolution and higher throughput for the upcoming Astro-H mission, scheduled for launch in 2014. We have also pioneered a precision glass mirror forming technique that we have used for manufacturing the mirrors for the upcoming NuSTAR mission, scheduled for launch in 2012. We are developing the glass mirror technology and a corresponding alignment and integration technology to meet the 5 arc-second angular resolution requirement of the International X-ray Observatory. We have the laboratory and engineering resources for making, measuring, and testing high quality x-ray mirrors to advance these technologies for missions in this decade as well as future missions with unprecedented angular resolution (better than 0.5 arc-seconds) and photon collection areas (larger than one square meter). We seek postdoctoral fellows interested in working on state-of-the-art x-ray optics.

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



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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

Eligibility Requirements

- **Degree:** Doctoral Degree.