

Opportunity Title: Data Analysis Pipelines for the Compton Spectrometer and Imager

Opportunity Reference Code: 0246-NPP-NOV23-GSFC-Astrophys

Organization National Aeronautics and Space Administration (NASA)

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

Description The Compton Spectrometer and Imager (COSI) was recently selected as NASA's next SMEX mission. COSI will observe in the 0.2-5 MeV range with a wide-field-of view and excellent energy resolution to uncover the source of Galactic positrons, probe nucleosynthesis products in the Galaxy, perform polarization studies of gamma-ray bursts (GRBs), and provide detections of short GRB counterparts to gravitational waves. COSI offers a unique view of the gamma-ray sky and there are many science topics to be explored.

The data analysis pipeline is being developed primarily at GSFC and UC Berkeley. The pipeline starts from when the data is telemetered to ground and includes raw data conversion, response generation, event reconstruction, calibration, and high-level analysis tools. These tools are based on MEGALib and python and have heritage from the COSI Balloon instrument, but are in the process of being redefined for the SMEX mission.

We are looking for NPP applicants with a strong programming background, preferably in python or C++, to contribute to the data analysis pipeline and software tools. The selected applicant will have the opportunity to work with the COSI Science Team to perform simulations and predictions for COSI science observations.

Location:

Goddard Space Flight Center
Greenbelt, Maryland

Field of Science: Astrophysics

Advisors:

Carolyn Kierans
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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



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

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