

Opportunity Title: High Performance and Compact UV Camera and Spectrometer

Opportunity Reference Code: 0227-NPP-NOV23-JPL-PlanetSci

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0227-NPP-NOV23-JPL-PlanetSci

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

Description UV instruments aboard Hubble Space Telescope, New Horizons, Cassini, and Rosetta have proven invaluable in producing scientific results regarding magnetospheric studies, potential signs of water (e.g., plumes of Europa, Enceladus), surface albedo, surface mineralogy, planetary and satellite aurorae, and airglow. UV instrumentation will continue to have an important role in future NASA missions. The Decadal Survey highlights new exciting concepts such as the Io Observer (IO) mission as a prime target for a New Frontiers (NF) mission. There are a number of questions that need to be addressed regarding lunar science such as its water cycle. In anticipation of these exciting missions and to improve science return, we are working to advance the state of ultraviolet (UV) imaging spectrometry and UV spectroscopy by making a significant leap forward in UV detection technology in terms of quantum efficiency, dynamic range, operational streamlining, reliability, and fabrication simplicity over the state-of-practice that uses image-tube based detection technologies. Our UV spectrometer and the modular camera at its focal plane rely on several technological advancements in UV detectors, UV coatings, and UV gratings. We are developing a modular camera subsystem that will enable higher performance in a more compact form factor to a variety of spectrometer designs.

This research opportunity will involve working on all aspects of technology and system-level for this modular camera and spectrometer, and interactions with collaborators at JPL, U of Arizona, U of Colorado, Columbia, Caltech, and other institutions. NPP candidates interested in this project could also expect to enjoy working in a team environment and contributing to the team's expansion into new directions. In addition, the opportunity will result in technical refereed journals and presentations in technical conferences.

Location:

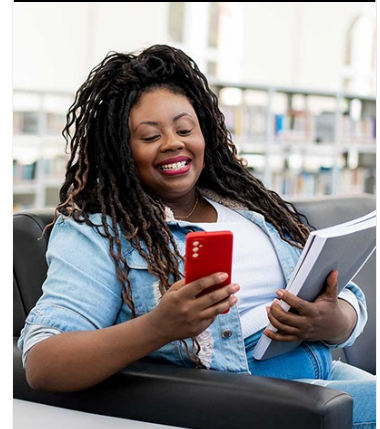
Jet Propulsion Laboratory
Pasadena, California

Field of Science: Planetary Science

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



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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.