

Opportunity Title: Solar System Exploration: Solar Wind Interaction with Weakly Magnetized Bodies

Opportunity Reference Code: 0071-NPP-NOV23-GSFC-PlanetSci

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 solar wind interacts with weakly or nonmagnetized bodies in a variety of manners: (1) flow diversion resulting from mass loading caused by charge exchange and photo-ionization of their upper atmospheres, (2) direct interactions with ionospheric plasma, and (3) crustal absorption where both an intrinsic magnetic field and a neural atmosphere are lacking. These processes give rise to such phenomena as bow and limb shocks, pickup ion acceleration, the growth of various wave modes in the mass loaded solar wind, cometary ray structures, ionosheath plasma depletion layers, drift mirror waves, ionopause current layers, ionospheric fluxropes, nightside ionospheric holes, cometary type-I ion tails, induced magnetic tails, and plasma wake effects. Extensive data sets relevant to these phenomena from previous missions such as Pioneer Venus, International Cometary Explorer, Giotto, and Phobos-2 are available at LEP, two new data sets from Mars Global Surveyor and Lunar Prospector. Research opportunities exist for a range of data analysis and theoretical modeling topics related to all of these missions.

Location:

Goddard Space Flight Center
Greenbelt, Maryland

Field of Science: Planetary Science

Advisors:

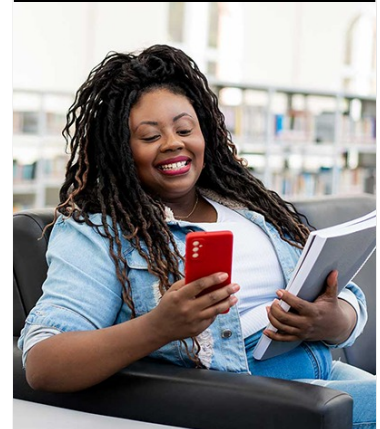
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
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Applications with citizens from Designated Countries will not be accepted at this time, unless they are Legal Permanent Residents of the United States. A complete list of Designated Countries can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

Eligibility is currently open to:



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- 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.