

Opportunity Title: Heliophysics Science: Magnetospheric Substorms

Opportunity Reference Code: 0051-NPP-NOV23-GSFC-HelioSci

Organization National Aeronautics and Space Administration (NASA)

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

Description Substorms are magnetosphere-wide disturbances, which dissipate 10^{13} to 10^{15} Joules of solar wind-derived energy over a period of about an hour. This energy is observed in the form of hot plasma injected into the inner magnetosphere, field-aligned currents, which transmit momentum and energy down to the ionosphere, plasma sheet heating and bulk flows, and energetic particle acceleration in the magnetotail. A primary objective of NASA's Sun-Earth Connection Theme is to understand and quantitatively model the plasma sources and processes governing the transport and dissipation of energy and momentum within the magnetosphere. Comprehensive particles and fields measurements from critical regions of the magnetosphere involved in the substorm process are now available from the Polar, Geotail, Cluster, and IMAGE missions. Research opportunities exist involving theory, data analysis, and modeling studies of substorms and their influence over space weather within the Geospace.

Location:

Goddard Space Flight Center
Greenbelt, Maryland

Field of Science:Heliophysics Science

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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:

- 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.