

**Opportunity Title:** Heliophysics Science: The Dynamics of Solar Active Regions and Its Implications for the Chromosphere and Corona

**Opportunity Reference Code:** 0155-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** Our research is focused on studying the motion of magnetic fields in the photosphere through a combination of theory and data-analysis. A key objective of this research is to understand the timing and magnitude of the energy and helicity fluxes through the photosphere and their implications for driving coronal mass ejections and flares. We use state-of-the-art data sets and physics based optical flow techniques to derive vector plasma velocities in the photosphere. These flows drive the photospheric disturbances that ultimately structure, heat, and drive reconnection in the chromosphere and corona. We work closely with colleagues specializing in numerical simulations to develop quantitative tests for active region formation and CME initiation models. Ongoing investigations in this program involve formation and evolution of filament channels, energization of CMEs, initiation of CMEs, wave propagation through the lower solar atmosphere and its implications for chromospheric and coronal heating.

**Location:**

Goddard Space Flight Center  
Greenbelt, Maryland

**Field of Science:**Heliophysics Science

**Advisors:**

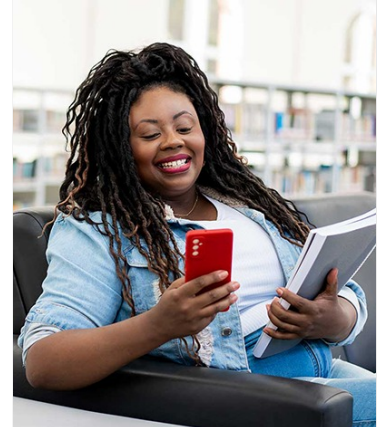
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**Applications with citizens from Designated Countries will not be accepted at this time, unless they are Legal Permanent Residents of the United States.** A complete list of Designated Countries can be found at: <https://www.nasa.gov/oijr/export-control>.

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.



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