

**Opportunity Title:** Heliophysics: Coronal Mass Ejections and Space Weather

**Opportunity Reference Code:** 0015-NPP-NOV23-GSFC-HelioSci

**Organization** National Aeronautics and Space Administration (NASA)

**Reference Code** 0015-NPP-NOV23-GSFC-HelioSci

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

**Description** Coronal mass ejections (CMEs) are large-scale magnetized plasma structures ejected from the Sun with speeds ranging from a few to more than 2000 kilometers per second. The CMEs impart energy and momentum to planetary atmospheres and magnetospheres. CMEs also drive fast mode magnetohydrodynamic shocks, which in turn accelerate electrons and ions. Experimental and theoretical research is conducted to investigate various aspects of CMEs from their initiation at the Sun, their interplanetary propagation, and the subsequent impact on various heliospheric structures. These studies also include the shock-driving capability of CMEs, as derived from the interplanetary radio emission associated with these solar eruptions. Spacecraft data obtained by white-light coronagraphs and radio instruments are used for these investigations. Emphasis is placed on space weather studies that relate the properties of CMEs to the intensity of geomagnetic storms and solar energetic particle events.

**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.