

Opportunity Title: Heliophysics Science: Global Magnetospheric Simulation

Opportunity Reference Code: 0030-NPP-NOV23-GSFC-HelioSci

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0030-NPP-NOV23-GSFC-HelioSci

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

Description Current research focuses on developing the next generation of global simulations of the terrestrial magnetosphere and on intercalibrating existing simulation codes against themselves, data-based global models (e.g., those due to Tsyganenko), and against direct spacecraft observations. World-class research capabilities exist in all of these areas. A long-range objective is to develop global magnetosphere simulations, which allow for a quantitatively correct description of the terrestrial magnetosphere system. The presence of the SEC/LWS Programs at Goddard and their goal of understanding the global magnetosphere as a system provide a strong motivation for these research activities. The principal new techniques in global magnetohydrodynamics (MHD) code development include the construction of a finite element; a fully adaptive grid global MHD magnetospheric code, which will allow us to test the limits of MHD methods to modeling the global magnetosphere and on a longer timescale; and the use of hybrid and kinetic code patches to regions of the global MHD code where MHD is not applicable.

Location:

Goddard Space Flight Center
Greenbelt, Maryland

Field of Science:Heliophysics Science

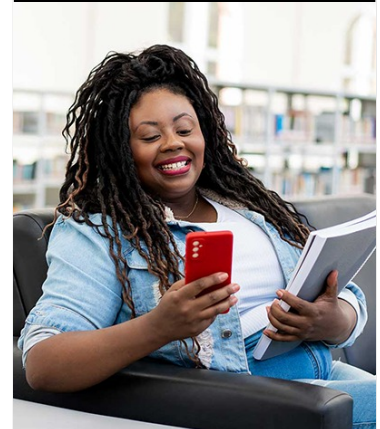
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Applications with citizens from Designated Countries will not be



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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.