

**Opportunity Title:** Heliospheric Flux Rope

**Opportunity Reference Code:** 0261-NPP-NOV23-GSFC-HelioSci

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

**Reference Code** 0261-NPP-NOV23-GSFC-HelioSci

**How to Apply** All applications must be submitted in [Zintellect](#)

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

**Description Description:**

Heliospheric flux ropes (FRs) are dynamically evolving structures in the heliosphere. They evolve through expansion, rotation, deflection, and/or erosion due to their interactions with the prevailing local environments. This project aims to study the spatiotemporal variations of FRs, inspect the dependence of FR local deformation on the ambient environments, and quantify the impact of FR evolution on their structures and intrinsic properties. The applicant is expected to use physics-based models to define the in-situ observed FR structure (preferentially probed at multiple locations) and to quantify their evolution and erosion. In addition, to facilitate the FR research and space weather forecasting, the project aims to improve existing machine learning architecture to identify FRs and their orientations automatically using solar wind data.

**Field of Science:** Heliophysics Science

**Advisors:**

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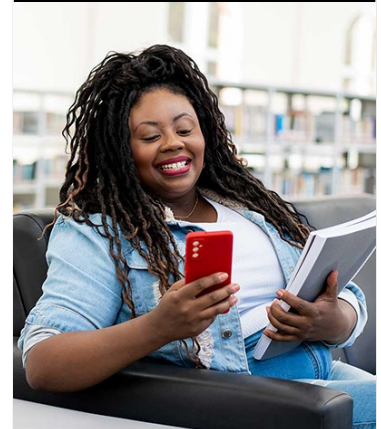
**Applications with citizens from Designated Countries will not be accepted at this time, unless they are Legal Permanent Residents of the United States.** A complete list of Designated Countries can be found at:

<https://www.nasa.gov/oiir/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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