

Opportunity Title: Multiple Natural Hazards Ionospheric Remote Sensing Using Ground and Space-Based GPS Measurements

Opportunity Reference Code: 0089-NPP-NOV23-JPL-EarthSci

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0089-NPP-NOV23-JPL-EarthSci

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

Description Natural hazards including earthquakes, volcanic eruptions, and tsunamis, have been significant threats to humans throughout recorded history. The Global Positioning System (GPS) satellites have become primary sensors to measure signatures associated with such natural hazards. These signatures typically include GPS-derived seismic deformation measurements, co-seismic vertical displacements, and real-time GPS-derived ocean buoy positioning estimates. Another way to use GPS observables is to compute the ionospheric total electron content (TEC) to measure and monitor ionospheric disturbances caused by earthquakes, volcano eruptions, and tsunamis. We conduct research and develop new and innovative technologies that may be used for detecting natural-hazards-generated TEC perturbations including earthquakes and tsunamis. Furthermore, volcanic eruptions and nuclear tests can generate TEC perturbations which may potentially be detected using the same technology. This research area directly addresses NASA Strategic Goals and Outcome 2.1 and Objective 2.1.6 “Characterize the dynamics of Earth’s surface and interior and form the scientific basis for the assessment and mitigation of natural hazards and response to rare and extreme events.”

Location:

Jet Propulsion Laboratory
Pasadena, California

Field of Science:Earth 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/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 • **Degree:** Doctoral Degree.



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Requirements