

**Opportunity Title:** Earth Science: Development of EM Simulation Tools for Remote Sensing

**Opportunity Reference Code:** 0102-NPP-NOV23-GSFC-EarthSci

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

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

**Description** This research opportunity involves the development of new concepts and numerical techniques to estimate and characterize scattering and emission from various constituent of inhomegeous media and develop appropriate methods to extract information about the individual component of the media. For this opportunity exploring methods to estimate fully polarimetric scattering model of composite media will be of interest for space borne SAR technology. For NASA's landed missions (where a space craft will be in touch with planatary surface) development of proximity sensors such as Capacitance/Inductance Tomography is essential. This opportunity solicits new ideas/concepts to design and analyze Capacitance/Inductance sensors to be mounted on future space craft. NASA in its future missions invisions use of submillimeter (200 GHz~ 800GHz) technology for atmospheric probing. The experimetal testing of electrically large antennas used in these missions is problematic due to limited size of the compact anechoic chambers. Under this opportunity new ideas/concepts to measure performance of electrically large antennas are also welcomed.

**Location:**

Goddard Space Flight Center  
Greenbelt, Maryland

**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



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**Eligibility Requirements** • **Degree:** Doctoral Degree.