

**Opportunity Title:** Microwave Observations of Giant Planet Atmospheres

**Opportunity Reference Code:** 0021-NPP-NOV23-JPL-PlanetSci

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

**Reference Code:** 0021-NPP-NOV23-JPL-PlanetSci

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

**Description:** Observations of giant planet atmospheres at wavelengths from the sub-millimeter to tens-of-centimeters provides information on composition and temperature over a wide altitude range. This can be used to study weather, cloud formation, dynamics, and the composition of these objects. This Research Opportunity is designed to carry out, interpret, and/or augment observations made at telescope arrays such as the Very Large Array (VLA) or Submillimeter Array (SMA). Projects may involve these or other telescopes, other wavelengths, or purely theoretical studies that explain or predict relevant observations. Applicants are encouraged to propose their own research ideas, but some areas of active interest are seasonal variability in the atmosphere of Uranus, retrieval techniques for use with image data, and the vertical structure and circulation of giant-planet tropospheres. The work is expected to improve our understanding of all giant planets, and can impact current and future space missions. Recent references: Janssen, M.A., M.D. Hofstadter, S. Gulkis, A.P. Ingersoll, M. Allison, S.J. Bolton, S.M. Levin, and L.W. Kamp 2005. Microwave Remote Sensing of Jupiter's Atmosphere from an Orbiting Spacecraft. Icarus 173, 447-453.

Hofstadter, M.D. and B.J. Butler 2003. Seasonal Change in the Deep Atmosphere of Uranus. Icarus 165, 168-180.

**Location:**

Jet Propulsion Laboratory  
Pasadena, California

**Field of Science:** Planetary 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



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application with 1) a valid EAD card and 2) I-485 or I-589 forms in pending status

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