

**Opportunity Title:** Analysis of Multispectral Data Sets of Planetary Surfaces

**Opportunity Reference Code:** 0022-NPP-NOV23-JPL-PlanetSci

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

**Reference Code** 0022-NPP-NOV23-JPL-PlanetSci

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

**Description** A wealth of observations on the surfaces of planets, satellites, and small bodies has been obtained by both ground-based and spacecraft instruments. An understanding of the structure and composition of surfaces—both rocky and icy—can be acquired by fitting scattering models to photometrically accurate measurements of surfaces. These measurements can also be used to create maps of intrinsic color and albedo variations on surfaces. This information leads to an understanding of the evolution of the surfaces and answers such fundamental questions as whether the dominant processes are exogenic or endogenic. Objects currently under study are the icy satellites of the outer planets, Titan, comets, asteroids, Pluto, Kuiper Belt Objects and Centaurs, and the Moon. Data sets include observations from the Visual Infrared Mapping Spectrometer on Cassini; New Horizons; and various ground-based telescopes, including the 200-inch Hale Telescope at Palomar Mountain.

**References:**

Buratti, B. J. et al. 2005. Cassini Visual and Infrared Mapping Spectrometer Observations of Iapetus: Detection of CO<sub>2</sub>. *Ap. J.* 622, L149-L152.

Buratti, B. J., M. Hicks, and A. Davies 2005. Spectrophotometry of the small satellites of Saturn and their relationship to Iapetus, Phoebe, and Hyperion. *Icarus* 175, 490-495.

**Location:**

Jet Propulsion Laboratory  
Pasadena, California

**Field of Science:** Planetary Science

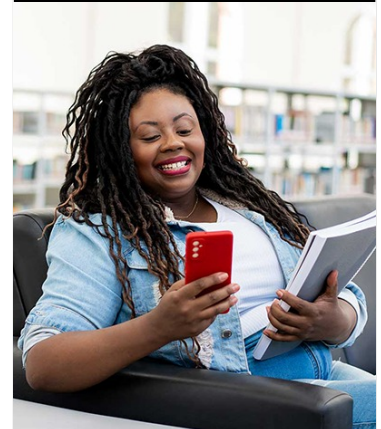
**Advisors:**

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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,



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- 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.