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Opportunity Title: Solar System Exploration: High-Resolution Spectroscopy of Comets at Infrared Wavelengths
Opportunity Reference Code: 0036-NPP-MAR26-GSFC-PlanetSci

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0036-NPP-MAR26-GSFC-PlanetSci

How to Apply All applications must be submitted in Zintellect

Please visit the NASA Postdoctoral Program website for application instructions and requirements: How to Apply | NASA Postdoctoral Program (orau.org)

A complete application to the NASA Postdoctoral Program includes:

1. Research proposal
2. Three letters of recommendation
3. Official doctoral transcript documents

Application Deadline 3/1/2026 6:00:59 PM Eastern Time Zone

Description **About the NASA Postdoctoral Program**

The NASA Postdoctoral Program (NPP) offers unique research opportunities to highly-talented scientists to engage in ongoing NASA research projects at a NASA Center, NASA Headquarters, or at a NASA-affiliated research institute. These one- to three-year fellowships are competitive and are designed to advance NASA's missions in space science, Earth science, aeronautics, space operations, exploration systems, and astrobiology.

Description:

The 3-5 micron spectral region contains fundamental ro-vibrational bands of key molecules comprising the volatile (icy) component of the nuclei of comets. Using modern infrared echelle spectrometers at world class observatories permits direct measure of the volatile component of comets. These instruments combine long-silt coverage with sensitive array detectors having small pixels. This is necessary for discriminating between release of volatiles directly from the nucleus, as opposed to release from one or more sources in the cometary atmosphere (coma). Because the ices are most sensitive to heating, their study provides clues to conditions prevalent in the early solar system and comets contain the best-preserved remnant material from this epoch. Since 1996, we have measured abundances of seven native ices (water, carbon monoxide, methyl alcohol, ethane, methane, hydrogen cyanide, and acetylene) in eight long-period comets, and have measured additional molecules (formaldehyde, ammonia, and carbonyl sulfide) in some of these comets. We will be targeting two long-period comets and four short-period comets over the next three years, and we expect additional long-period comets to become available for study, as these are being discovered (or recovered) at a significant rate through observational survey programs as well as by amateur observers.

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Opportunity Reference Code: 0036-NPP-MAR26-GSFC-PlanetSci

Goddard Space Flight Center
Greenbelt, Maryland

Field of Science: Planetary Science

Advisors:
Michael DiSanti
Michael.A.DiSanti@nasa.gov
301-286-7036

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

Questions about this opportunity? Please email npp@orau.org

Point of Contact Mikeala

Eligibility Requirements

- **Degree:** Doctoral Degree.