

Opportunity Title: The Interstellar Medium and Star Formation with Herschel and Beyond

Opportunity Reference Code: 0080-NPP-NOV23-JPL-Astrophys

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0080-NPP-NOV23-JPL-Astrophys

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

Description New observational capabilities including the Herschel Space Observatory and ground-based facilities are transforming our view of the interstellar medium and the formation of new stars. Herschel observations of dust emission suggest that filamentary structure dominates the interstellar medium (ISM) over a large range of scales, consistent with structure seen from optical wavelengths to millimeter spectral line observations. We have a number of observational programs to exploit and extend this new view of the ISM. These include Herschel Guaranteed Time and Open Time Key Projects on tracers ranging from ionized carbon (CII) to molecular oxygen (O₂). We are carrying out measurements of the polarized emission and absorption from dust grains to understand the role of the magnetic field in determining the structure of the ISM and in particular how the morphology of the gas and dust is related to star formation. Individuals working in this area at JPL can use the Caltech Submillimeter Observatory (CSO) for spectral line observations, and can also be involved with analysis of data expected from suborbital balloon missions that should be operating in the next few years. These varied ongoing programs and opportunities allow attacking these important challenges from an unusually wide perspective participating in ongoing efforts as well as starting new projects. 2008, Ap.J. 680, 428-445. Large-Scale Structure of the Molecular Gas in Taurus Revealed by High Linear Dynamic Range Spectral Line Mapping

Location:

Jet Propulsion Laboratory
Pasadena, California

Field of Science: Astrophysics

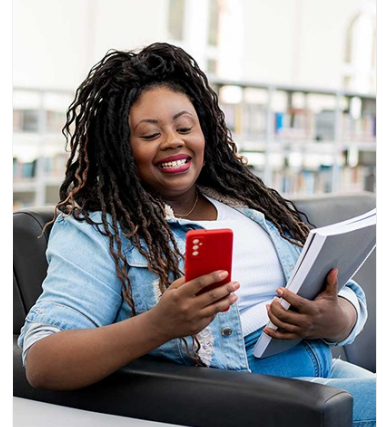
Advisors:

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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.