zintellect
climb higher

Opportunity Title: Visible Light Adaptive Optics for Extreme precision radial velocity measurements of Exoplanets
Opportunity Reference Code: 0225-NPP-MAR25-JPL-Astrophys

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0225-NPP-MAR25-JPL-Astrophys

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 3/1/2025 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 extreme precision radial velocity (EPRV) technique holds the promise of discovering terrestrial planets orbiting solar type stars. Most plans for EPRV measurements have assumed the use of seeing limited spectrographs using multi-mode fibers, but adaptive optics (AO) can feed single mode fibers, which would produce compact spectrographs that would be more stable. For this and a number of other reasons, AO fed spectrographs promise to have smaller RV measurement errors. The vast majority of AO systems have been developed in the near-infrared, but EPRV studies will most likely be done in the visible.

We welcome applicants interested in understanding the impact of AO on EPRV measurements, particularly those aspects of the EPRV error budget that change when an AO system is used in conjunction with a diffraction-limited spectrometer. In addition, applicants interested in modeling visible light AO performance are encouraged to apply. Other possible areas on research are determining ways to improve the fiber coupling efficiency in single and multi-mode fibers, such as improved coupling optics, methods for maintaining fiber alignment, or for correcting non-common path aberrations in the fiber arm of the AO system. In addition the applicant will have have the opportunity to work with a diffraction limited spectrograph for RV measurements at Palomar in the Near-IR and the other AO instruments at Palomar.

zintellect
climb higher

Opportunity Title: Visible Light Adaptive Optics for Extreme precision radial velocity measurements of Exoplanets
Opportunity Reference Code: 0225-NPP-MAR25-JPL-Astrophys

Location:
Jet Propulsion Laboratory
Pasadena, California

Field of Science: Astrophysics

Advisors:
Lewis C. Roberts
lewis.c.roberts@jpl.nasa.gov
818-354-2503

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

Eligibility Requirements

- **Degree:** Doctoral Degree.