

Opportunity Title: Shock layer kinetic and radiation experimentation in the Electric Arc Shock Tube Facility

Opportunity Reference Code: 0099-NPP-NOV23-ARC-Interdisc

Organization National Aeronautics and Space Administration (NASA)

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How to Apply All applications must be submitted in [Zintellect](#)

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

Description Description:

The Electric Arc Shock Tube (EAST) is world-unique facility for creating high speed flows (up to Mach 50) that are representative of conditions encountered during spacecraft entry to planetary atmospheres. The EAST is used primarily for spectroscopic studies of the radiation emitted in these flows and is used to benchmark predictive models for computing shock layer reaction kinetics and radiative heating. The EAST is equipped with four spectrometers spanning from vacuum ultraviolet through mid-infrared wavelengths to characterize entry into all planetary environments, including Earth, Mars, Venus, Titan, Saturn and Jupiter; or with arbitrary gas mixtures for studying specific reaction processes. A tunable diode laser is also available for measurement of specific line features and temperatures developing within the shock layer. The post-doctoral position permits characterization of the different planetary environments or entry scenarios, including compressive shocks and expanding flows, and the development of improved diagnostic techniques for better characterization of the shock environment.

Field of Science: Interdisciplinary/Other

Advisors:

Brett Cruden

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650-604-1933

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:

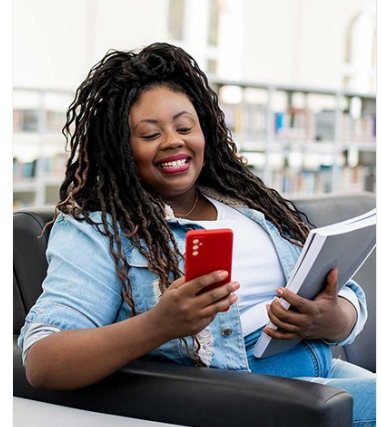
<https://www.nasa.gov/oir/export-control>.

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

Eligibility Requirements

- **Degree:** Doctoral Degree.



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