Opportunity Title: Advanced Computational Tools and Data-Analysis Techniques for LISA Science

Opportunity Reference Code: 0031-NPP-NOV23-JPL-TechDev

Organization	National Aeronautics and Space Administration (NASA)
Reference Code	0031-NPP-NOV23-JPL-TechDev
Application Deadline	11/1/2023 6:00:59 PM Eastern Time Zone

Description

Gravitational-wave observations will create matchless opportunities to investigate the dark side of the universe, providing direct information about the properties of black holes and neutron stars, and allowing precise tests of general relativity's yet unproven predictions. NASA's Laser Interferometer Space Antenna (LISA) will extend the observational window of ground-based detectors to lower frequencies, and to a considerably richer population of sources, including most of the compact binary systems in our Galaxy and the gravitational captures of compact objects into the supermassive black holes at the center of distant galaxies.

NASA Postdoctoral Fellows would participate in research at the strategic forefront of gravitational-wave data analysis, building next-generation computational tools to model the response and noise budgets of complex detectors [such as the software package Synthetic LISA, Phys. Rev. D 71, 022001 (2005)], to extract physical insight from measured waveforms [such as the "template families" for black-hole binaries described in Phys. Rev D 69, 104017 (2004)], and to manage the incremental, probabilistic knowledge about thousands of mutually interfering sources.

Location:
Jet Propulsion Laboratory
Pasadena, California

Field of Science: Technology Development

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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,
- 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

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Eligibility Requirements	• **Degree:** Doctoral Degree.