

Opportunity Title: BurstCube: A CubeSat for Gravitational Wave Counterparts

Opportunity Reference Code: 0185-NPP-NOV23-GSFC-Astrophys

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0185-NPP-NOV23-GSFC-Astrophys

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

Description The first direct detections of Gravitational Waves (GWs) has brought astronomy into a new era of discovery. The search for electromagnetic counterparts to GW sources is now more important than ever before. We have recently been approved to design, build, and fly a CubeSat to detect astrophysical counterparts to GW signals as well as other gamma-ray transients.

BurstCube will be a “6 U” CubeSat (10 cm x 20 cm x 30 cm) composed of 4 scintillator detectors read out by arrays of silicon photomultipliers. BurstCube will automatically detect gamma-ray transients onboard, sending rapid alerts to the ground to enable follow-up observations. The ultimate goal of BurstCube is to fly a set of 4-10 identical CubeSats to provide all sky coverage and rapid detection and localization of transients. Enhancing sky coverage for gamma-ray transients is especially important since GW events can happen anywhere and anytime.

BurstCube development is just beginning, and is scheduled to launch in 2021 for a 6 month mission (1 year goal). This is a unique opportunity to participate in hardware and/or software efforts in the development and ultimate flight of BurstCube. We welcome applicants that can contribute to instrument hardware development (including electronics and mechanical assembly), spacecraft design and fabrication, and/or ground systems, operations, scientific analysis software and pipelines, as well as contributing to scientific data analysis and publications.

Location:

Goddard Space Flight Center
Greenbelt, Maryland

Field of Science: Astrophysics

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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/oiiir/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.