

Z102r BurstCube: A CubeSat for Gravitational Wave Counterparts

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BurstCube is a 6U CubeSat comprised of 4 CsI scintillators read out by arrays of SiPMs designed to detect gamma-ray bursts (GRBs) and other short gamma-ray transients and enable multi-messenger astrophysics. Observations of coincident GRBs and gravitational waves from compact binary mergers provides a wealth of science, and BurstCube is operating during the O4b observing run. It was launched in March 2024 and deployed into Low Earth Orbit from the International Space Station on April 18, 2024, with science operations beginning after a commissioning period. Like many other GRB detectors on mission scales from CubeSats to Fermi, BurstCube will detect GRBs, increase sky coverage, and inform the follow-up efforts of both space and ground-based observatories. The onboard instrument triggering algorithm autonomously enables rapid downlink of data using the Tracking and Data Relay Satellites (TDRS) - BurstCube is the first CubeSat to do so. The alerts are distributed via the General Coordinates Network (GCN) within minutes of detection, and data is publicly available via HEASARC immediately upon processing with open-source analysis software. This presentation will describe the current status of the mission and early science results.