

BurstCube: A CubeSat for Gravitational Wave Counterparts

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Joint detections between gravitational waves and gamma-ray bursts (GRBs) enable multi-messenger science and allows for constraints on the neutron star equation of state, tests of fundamental physics, and insight into the origin of the prompt emission. To increase the likelihood of these coincident detections, full sky coverage in the gamma-ray regime is needed. BurstCube aims to expand sky coverage in order to detect and localize GRBs. BurstCube will be comprised of 4 Cesium Iodide scintillators coupled to arrays of silicon photo-multipliers (SiPMs) and will be sensitive to gamma-rays between 50 keV and 1 MeV, the ideal energy range for GRB prompt emission. BurstCube will assist current observatories, such as Swift and Fermi, in the detection of GRBs as well as provide astronomical context to gravitational wave events detected by LIGO, Virgo, and KAGRA. BurstCube is currently in its development phase and will reach launch readiness in the spring of 2022. I present the mission concept, preliminary performance, and current status.

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