

# BurstCube: A CubeSat for Gravitational Wave Counterparts

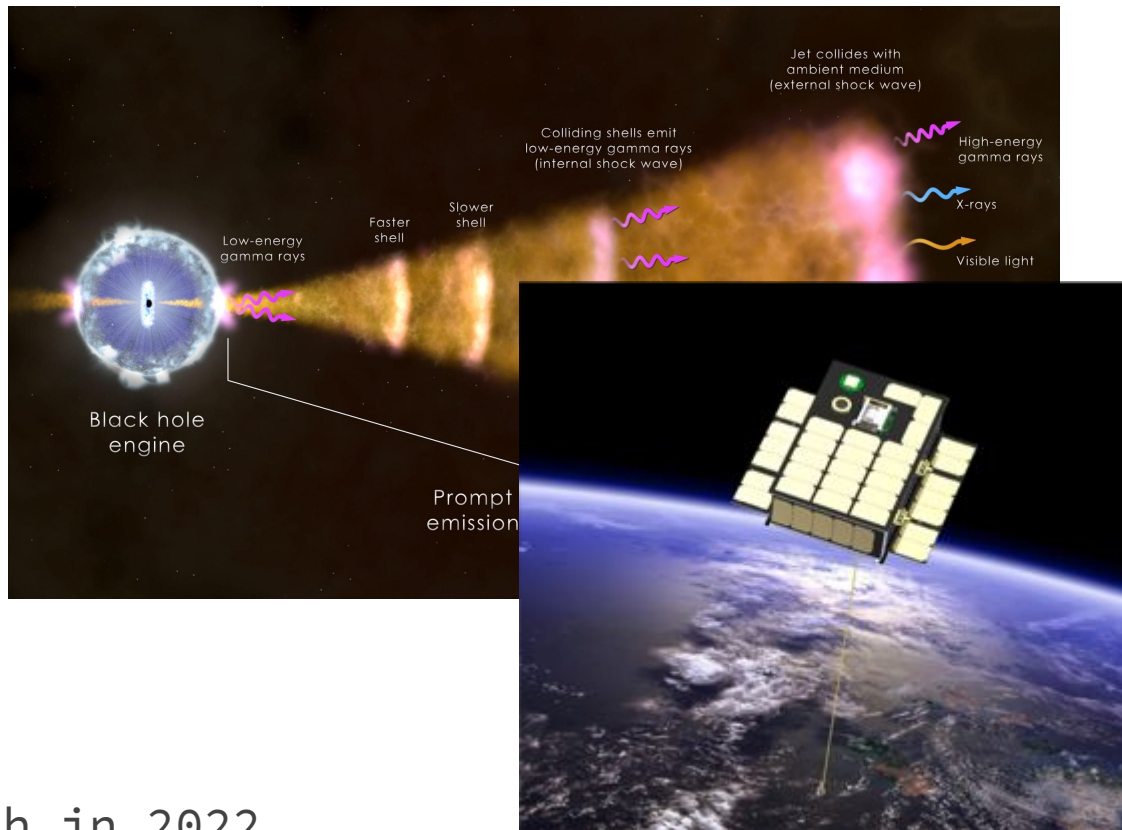
BurstCube is an approved 6U CubeSat that will detect and localize Gamma-ray Bursts (GRBs).

BurstCube will detect long GRBs and other gamma-ray transients.

Of particular interest are short GRBs thought to be the counterparts of gravitational wave (GW) signals.

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Credit: NASA/GSFC



BurstCube will launch in 2022.

Artist's conception of BurstCube

# BurstCube Science

Increase the confidence in low-significance GW detections independently made by LIGO/Virgo

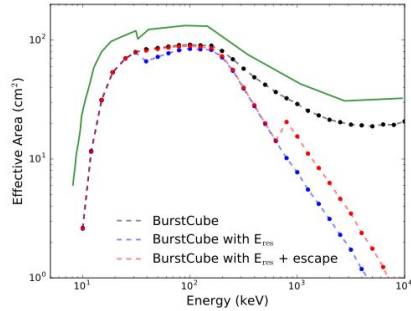
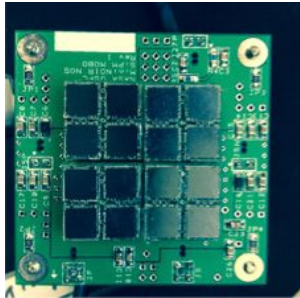
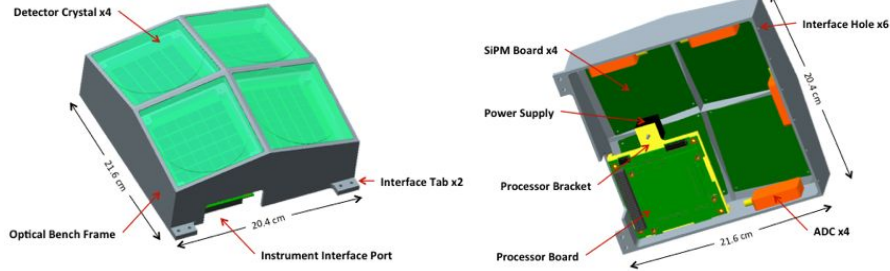
Provide short temporal and positional windows for targeted searches of GW data.

Provide astrophysical context for GW signals via population statistics.

Provide localizations that will assist wide-field follow-up observers.

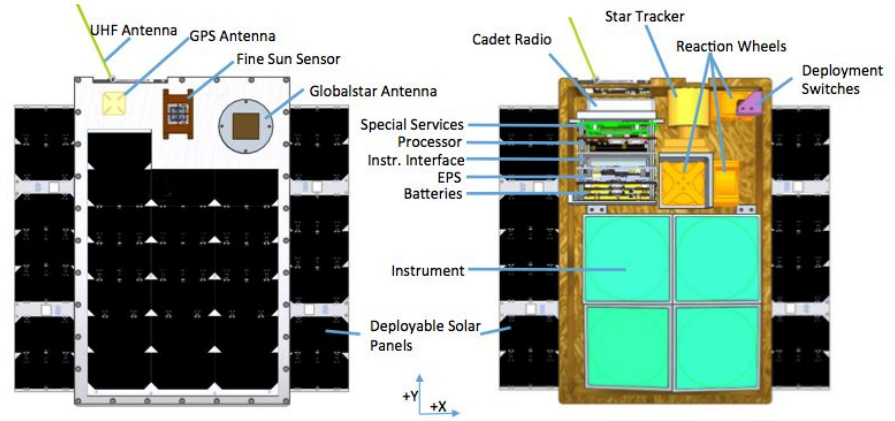
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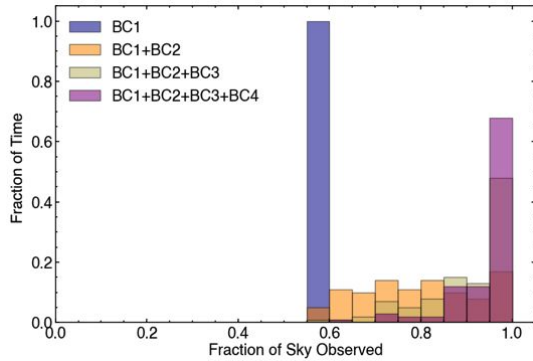
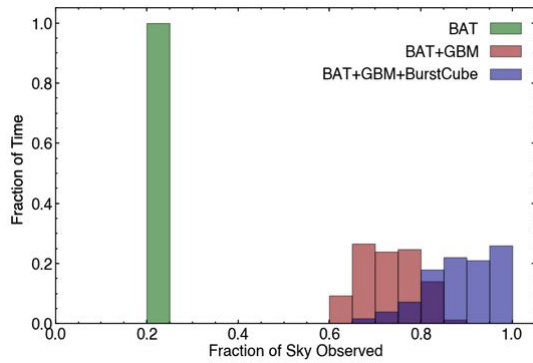
## BurstCube Instrument

BurstCube detects gamma-rays via four CsI detectors (top, in green) read out by arrays of SiPMs (bottom left). The effective area is comparable to *Fermi*-GBM.



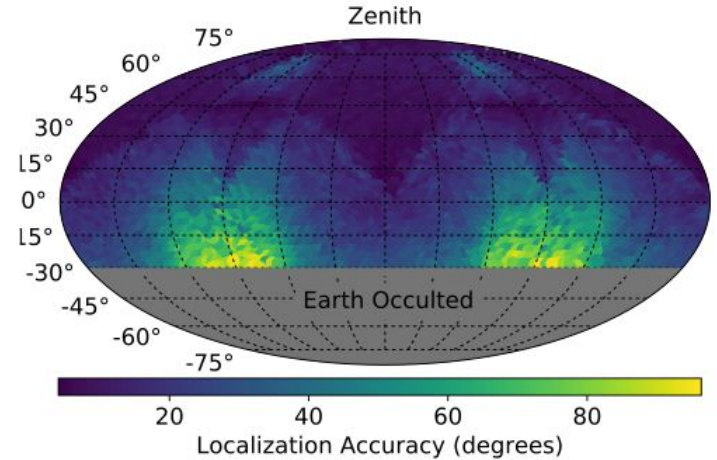
## BurstCube Spacecraft

BurstCube is based on the qualified and tested 6U Dellingr platform. The first Dellingr system is on the ISS ready for deployment. The instrument is contained in 4U of the bus.



## BurstCube Sky Coverage

BurstCube will increase the sky coverage to improve the probability of detecting and characterizing GRBs (and thus GW signals).



## BurstCube Localizations

BurstCube localizes GRBs to ~7 degree radius when viewed by 3 or more detectors.