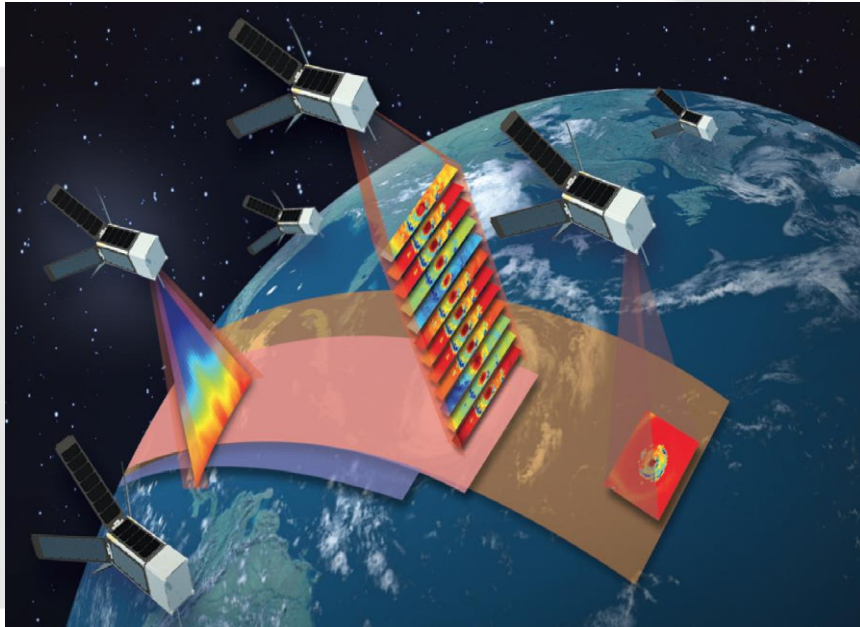




Time-Resolved Observations of Precipitation structure and storm Intensity with a Constellation of Smallsats (TROPICS)



- Investigation Start Date: June 2016
- Launch Date: NET 1Q2022
- Cost-Capped: \$30.2M
- NPR 7120.5 **Category 3**
- NPR 8705.4 Payload Risk **Class D**
- Mission consists of a constellation of 6 3U CubeSats that use scanning microwave radiometers.
- TROPICS will collect measurements of tropical cyclones. 3D temperature and humidity observations will improve our understanding of cyclone lifecycles and cyclone intensification.

Science Objectives:

- Relate precipitation structure evolution, including diurnal cycle, to the evolution of the upper-level warm core and associated intensity changes
- Relate the occurrence of intense precipitation cores (convective bursts) to storm intensity evolution
- Relate retrieved environmental moisture measurements to coincident measures of storm structure (including size) and intensity
- Assimilate microwave radiances and/or retrievals in mesoscale and global numerical weather prediction models to assess impacts on storm track and intensity

TROPICS Management Team

Principle Investigator: William Blackwell (MIT-LL)

Project Manager: Kristin Clark (MIT-LL)

Project Scientist: Scott Braun (GSFC)

NASA Program Executive: William Jarvis (HQ)

NASA Program Scientist: TBD (HQ)

ESSP Program Manager: Greg Stover (LaRC)

ESSP Mission Manager: Stuart Cooke (LaRC)