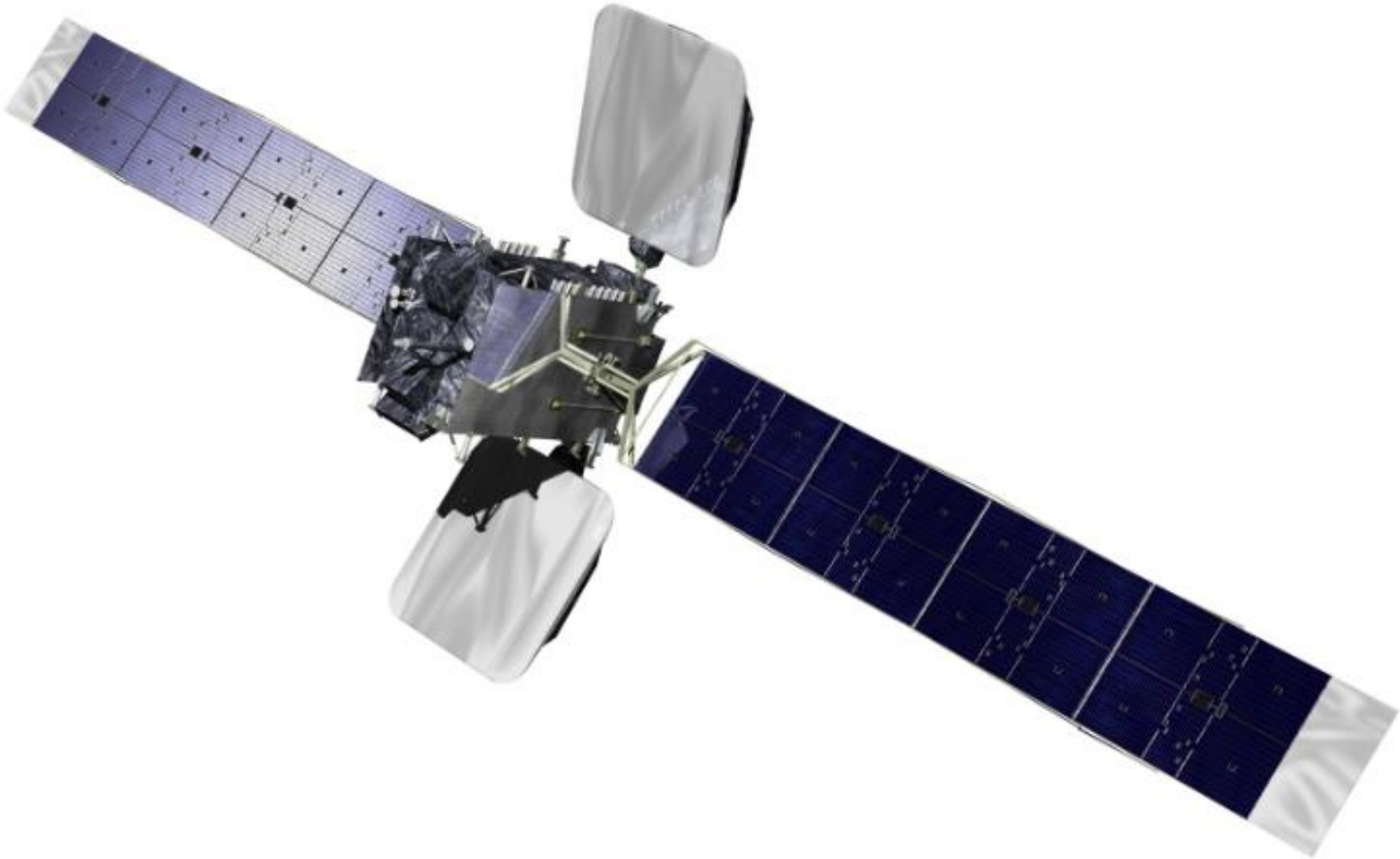
13th Annual Summer CubeSat Developers' Workshop
6 August 2016



Intelsat 28

- $250 million for Intelsat and Convergence partners
- Lost $310.2 million
- Intended replacement of Galaxy 11

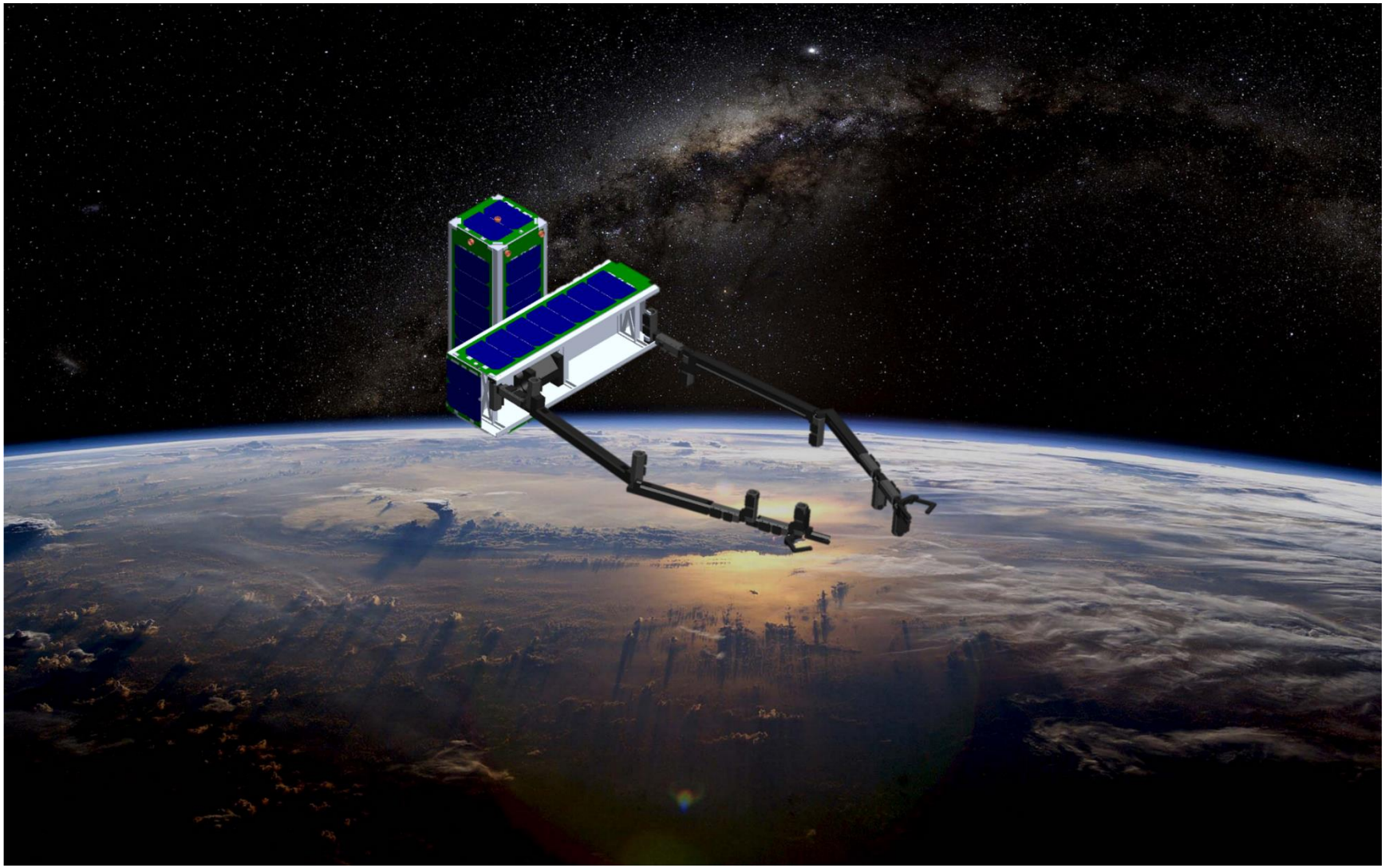
"If something happens to an asset, we want to be able to attribute it."

Col. Cothren, USAF

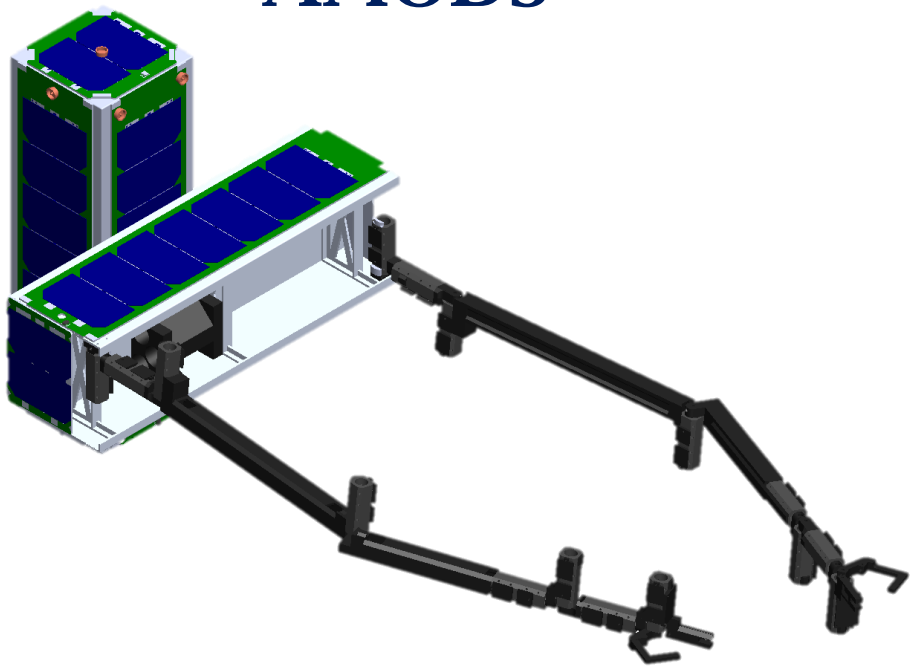
AMODS

AMODS

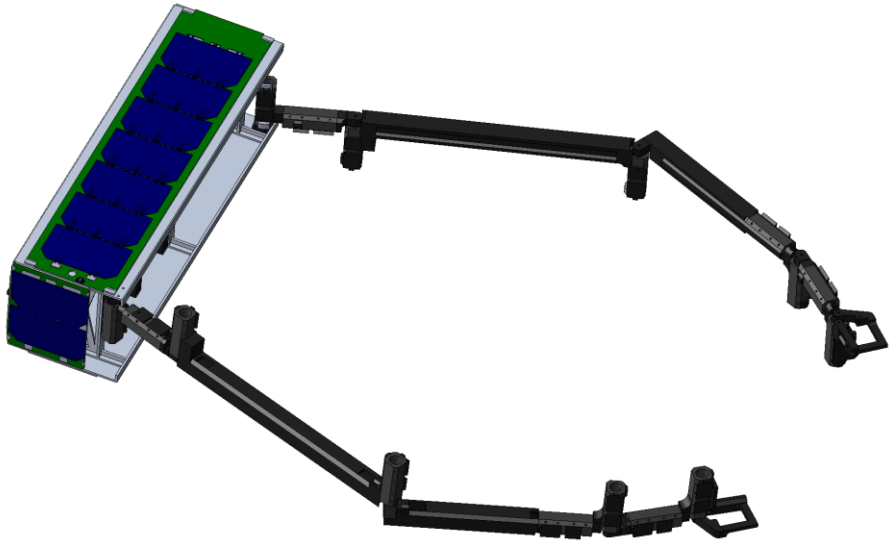
Autonomous Mobile On-orbit Diagnostic System



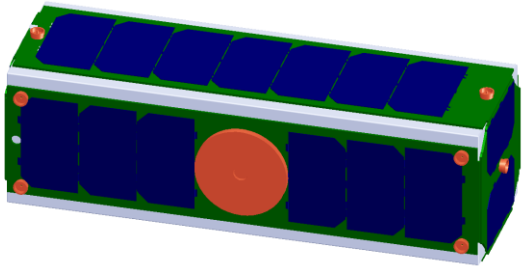
AMODS



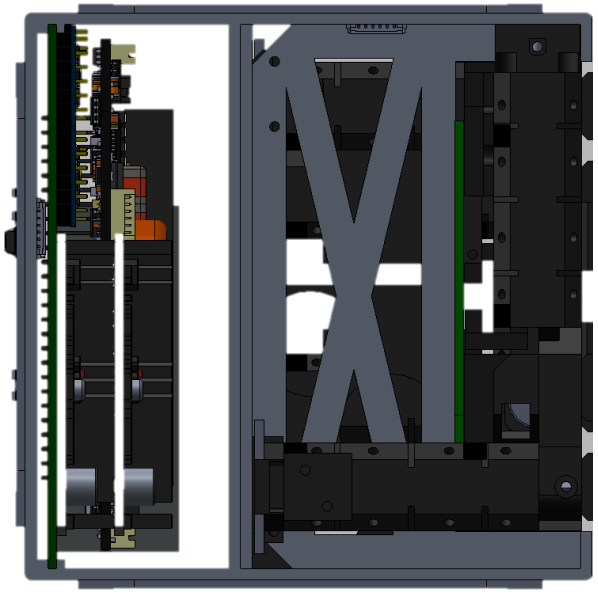
RSat



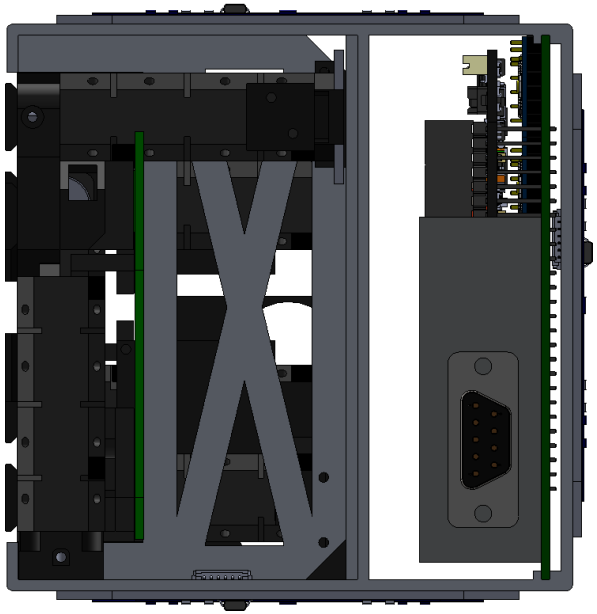
BRICSat

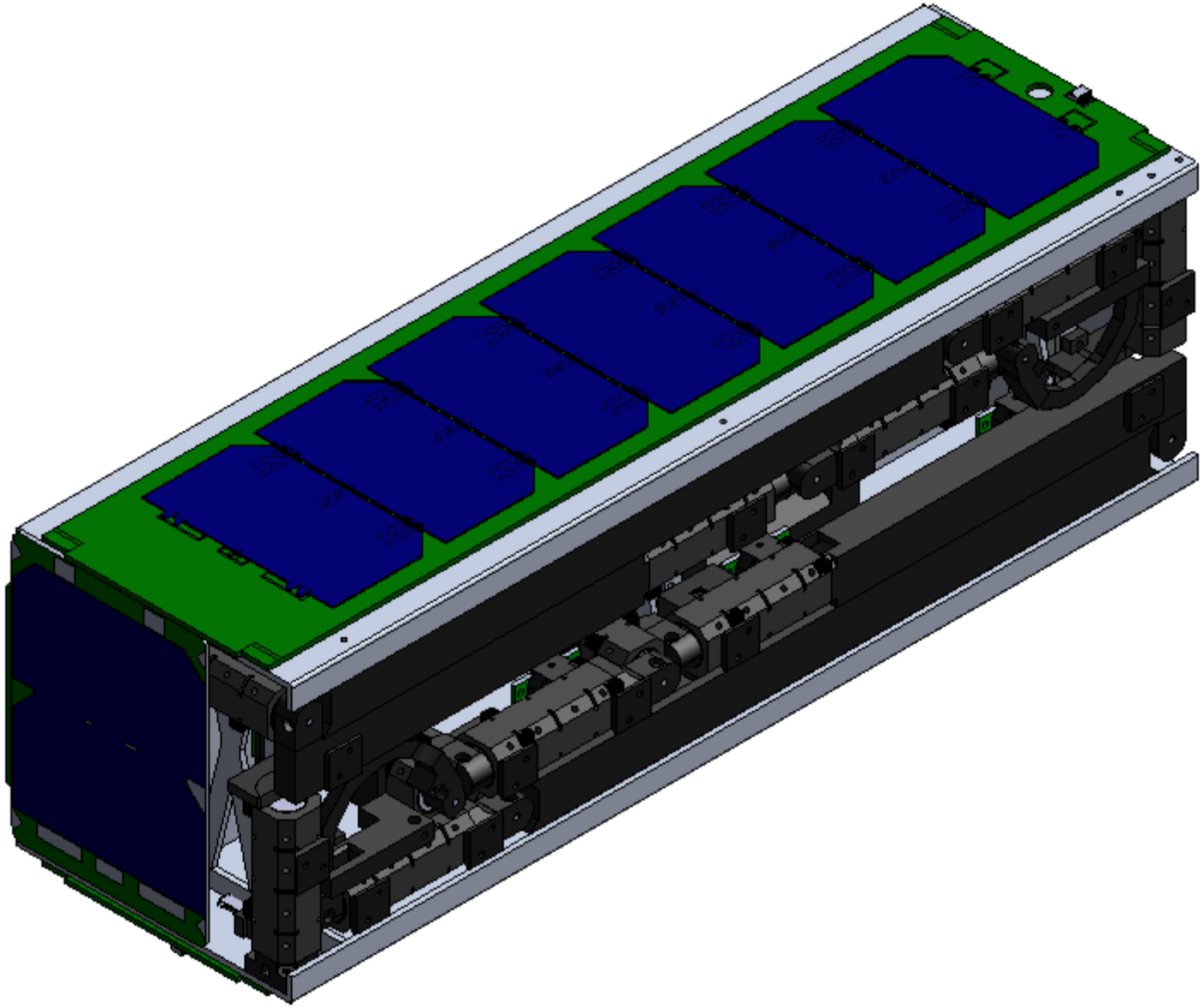


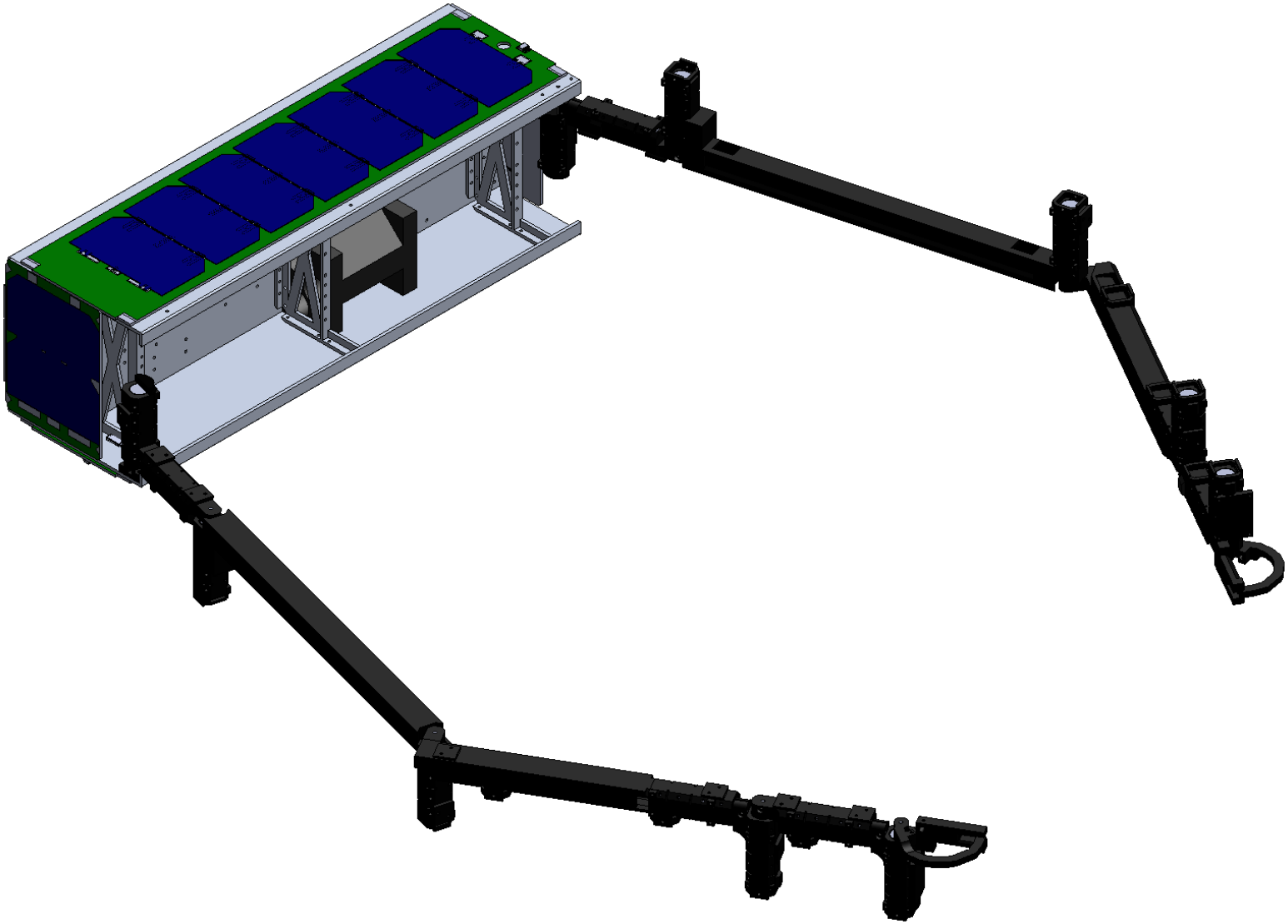
RSat

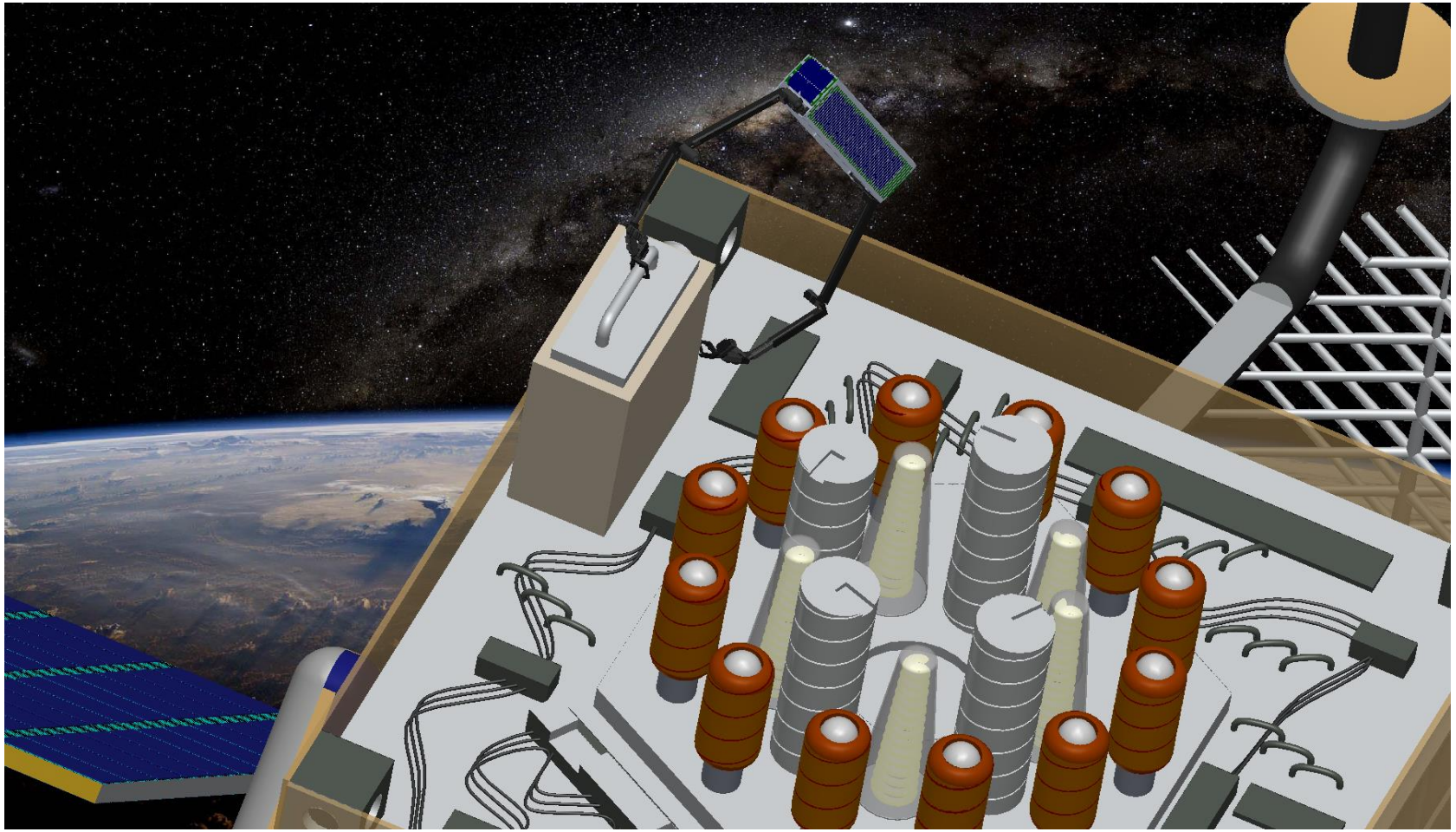


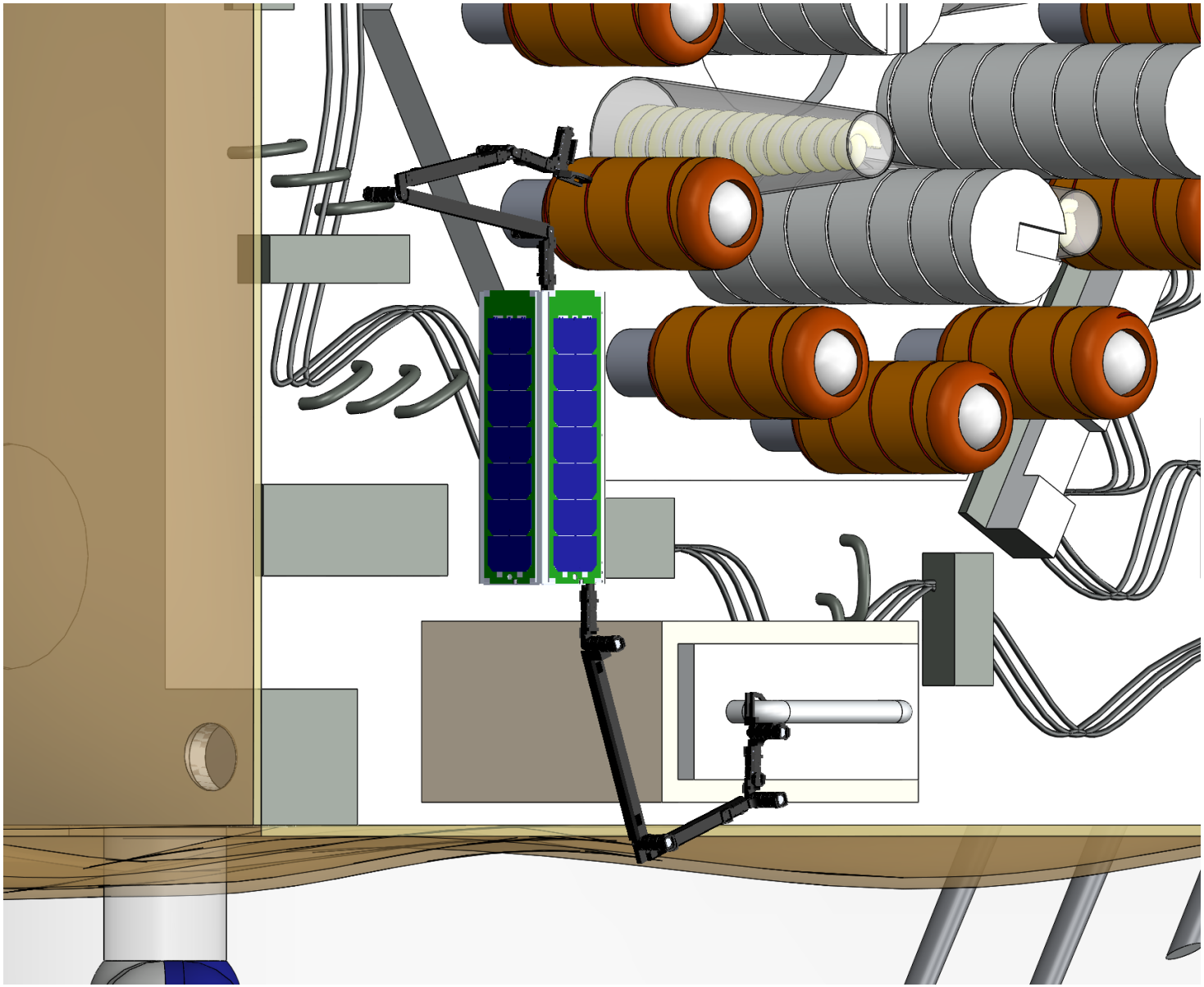
RSat

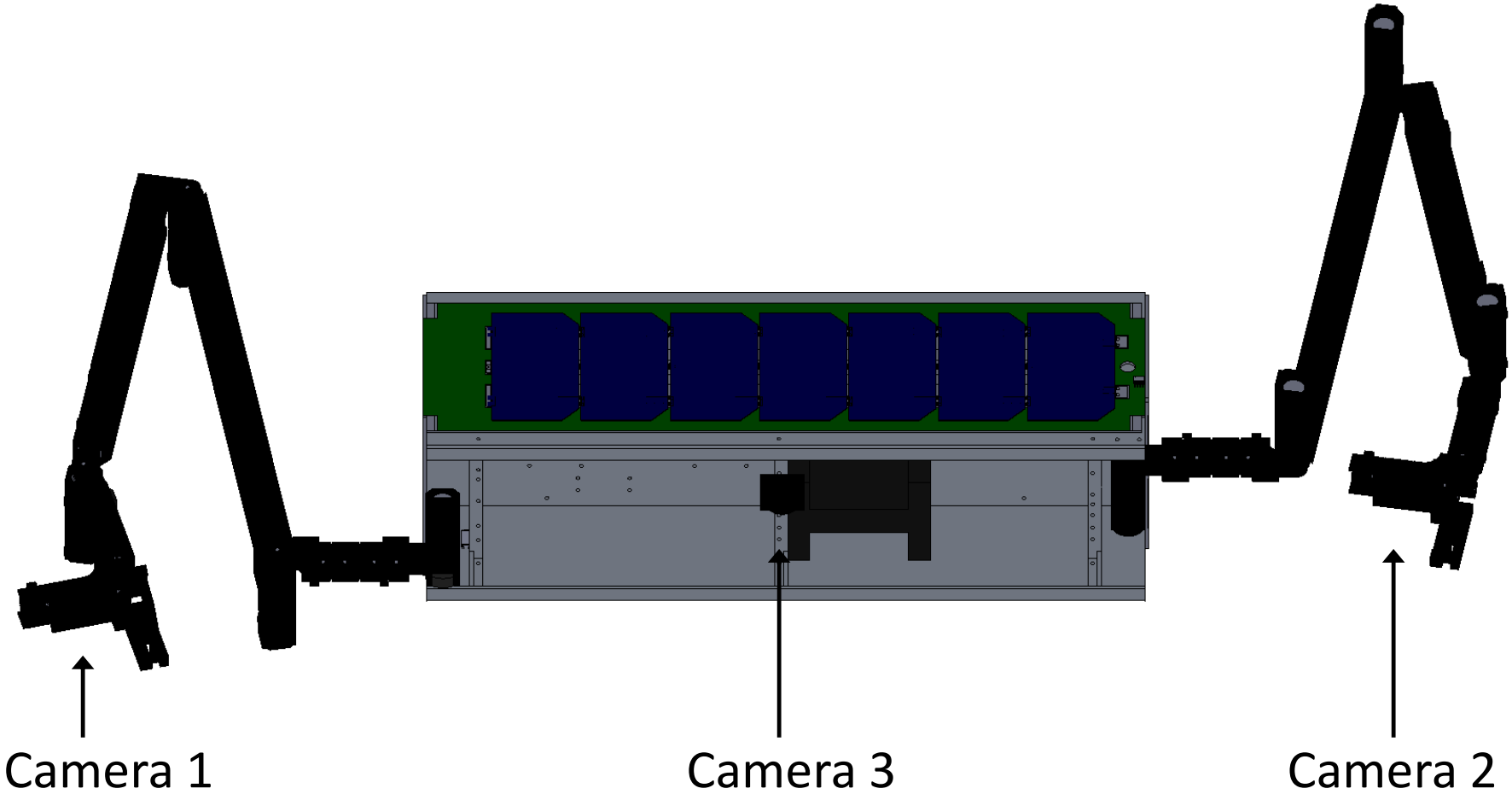


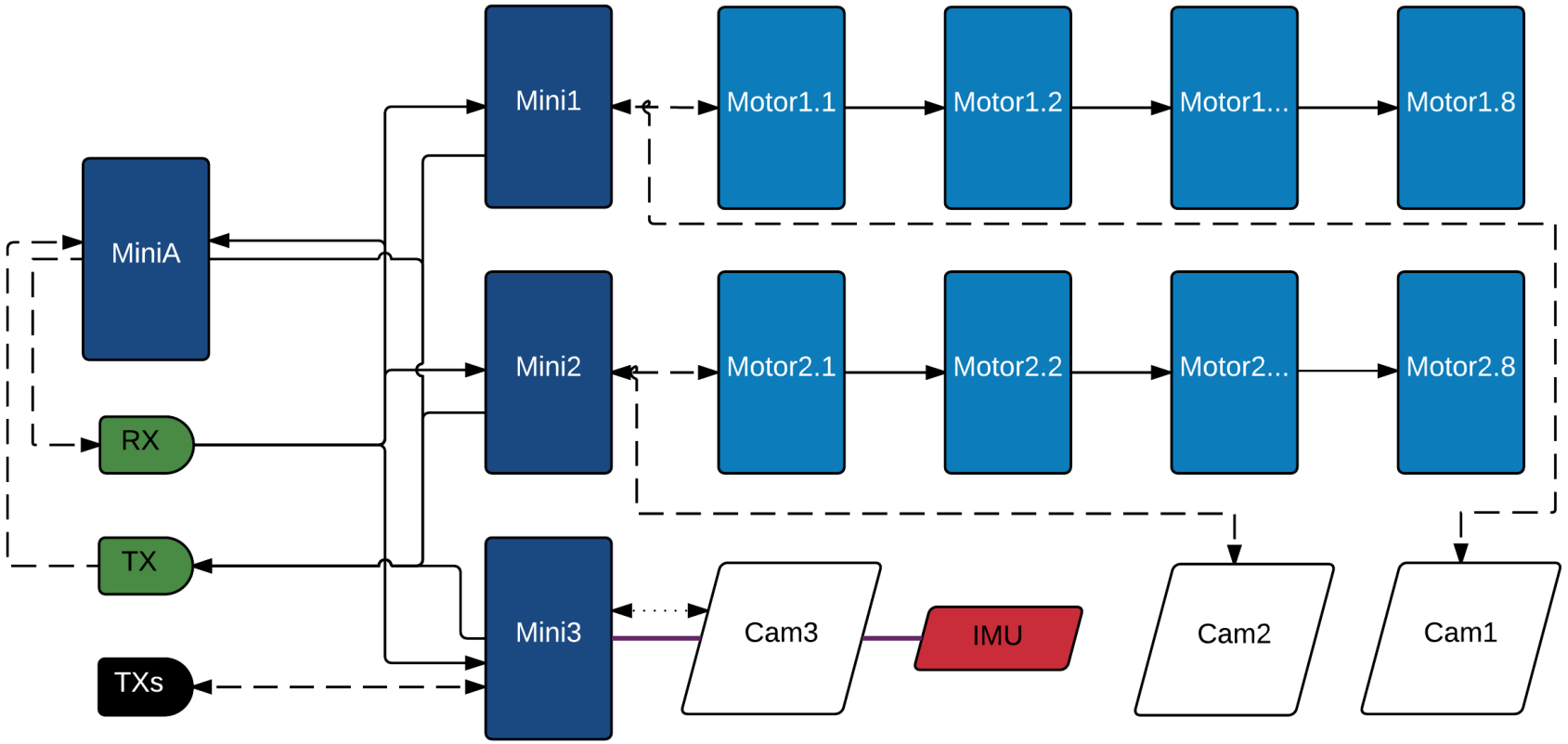




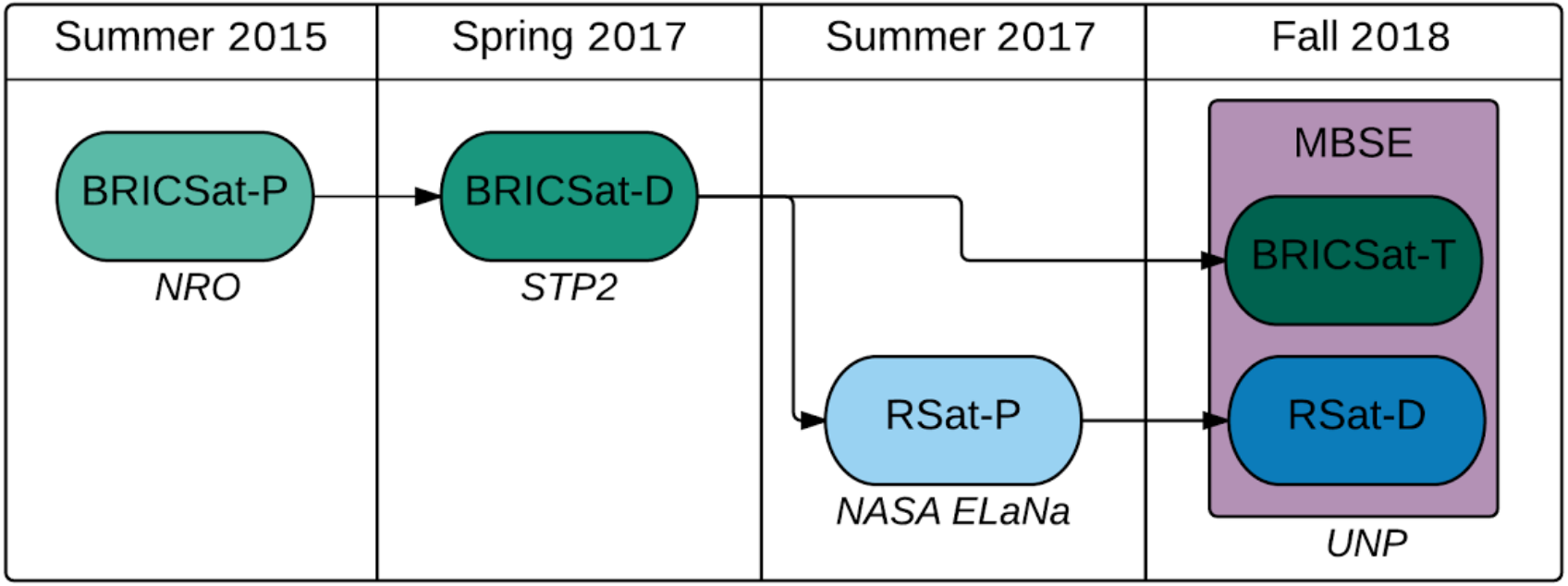





Camera 1
Camera 3
Camera 2

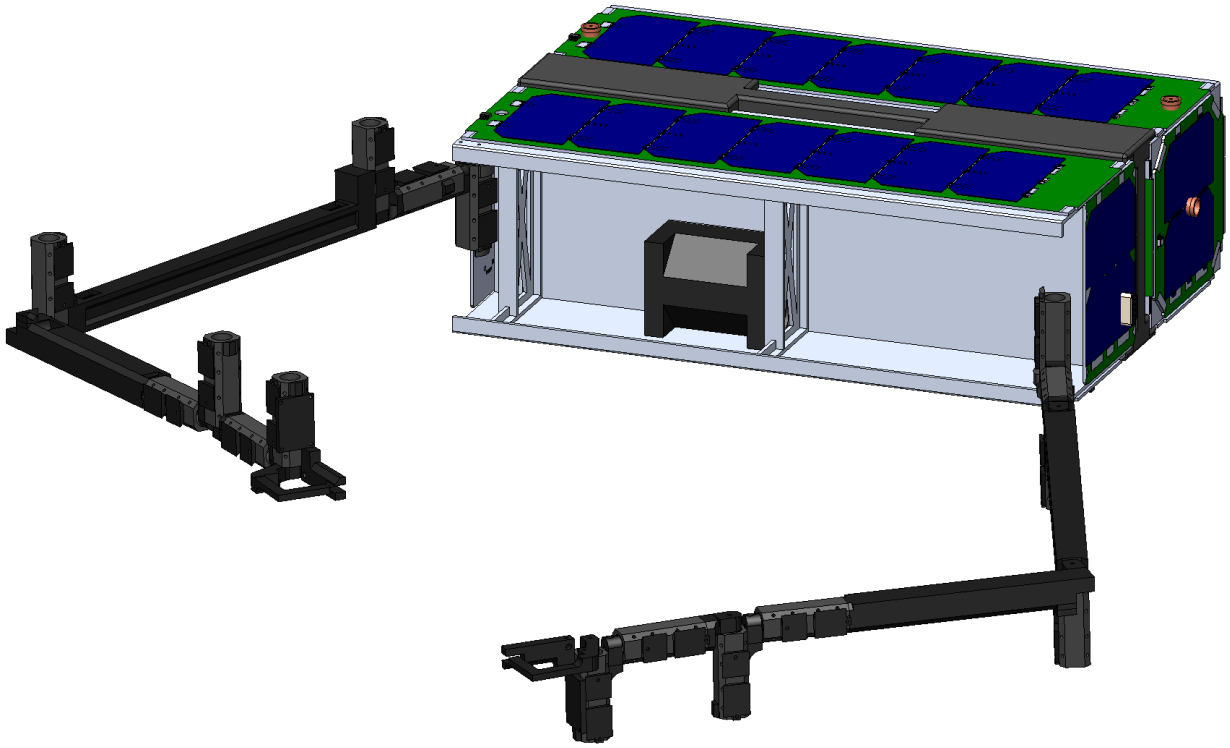

Mini1
Motor1.1
Motor1.2
Motor1...
Motor1.8
MiniA
Mini2
Motor2.1
Motor2.2
Motor2...
Motor2.8
RX
TX
Mini3
Cam3
IMU
Cam2
Cam1
TXs

Timeline


Summer 2015
Spring 2017
Summer 2017
Fall 2018
BRICSat-P
NRO
BRICSat-D
STP2
RSat-P
NASA ELaNa
MBSE
BRICSat-T
RSat-D
UNP

MBSE (Pathfinder)

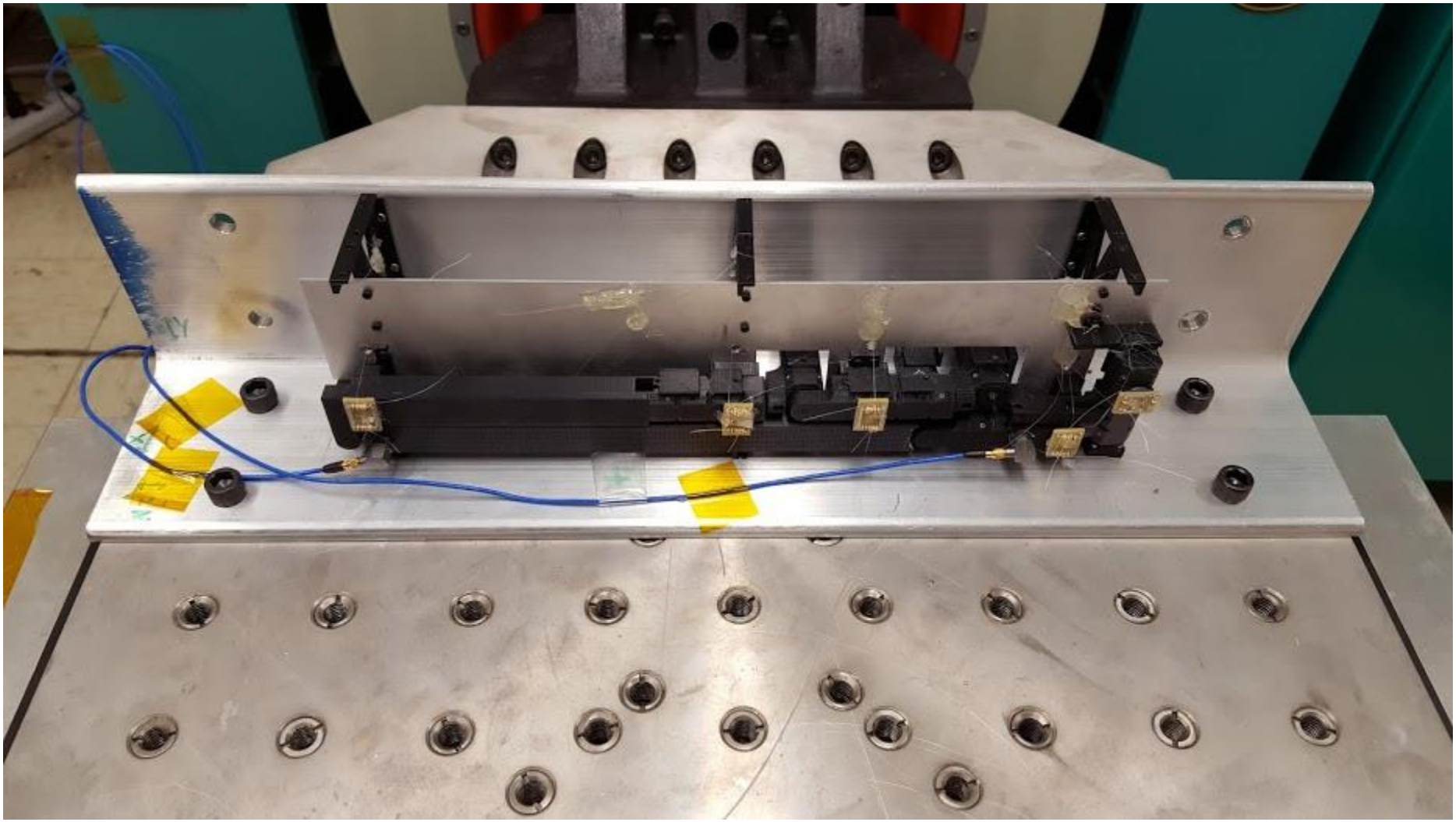
- **Delivery:** Spring 2018
- **Launch:** Spring 2019
- **Mission:** MBSE is a concept validator that focuses on navigation, propulsion, optimization and basic diagnostics. It aims to confirm the viability of the CubeSat coupling and transport system that will be integral to the efficiencies offered by AMODS.



Current Status

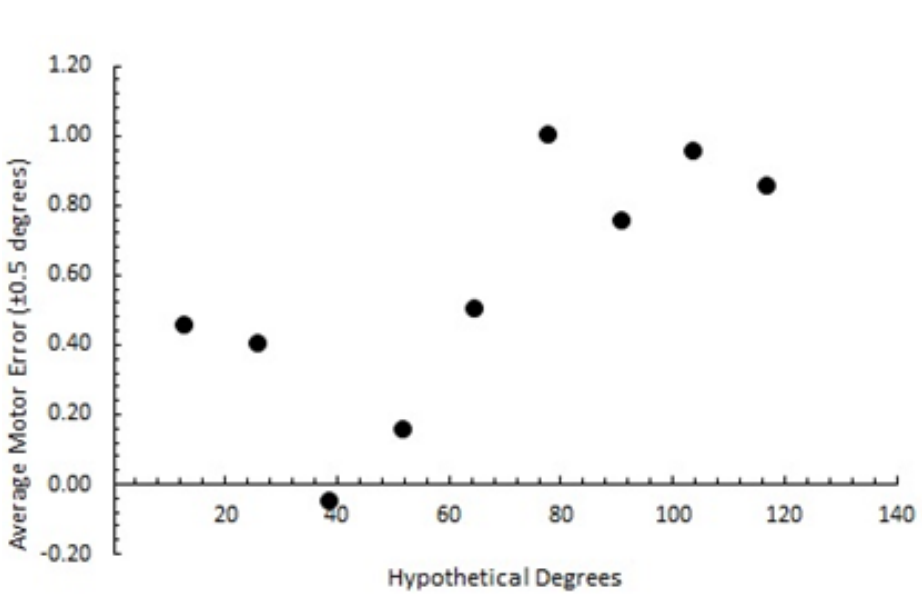
RSat-P (Prototype)

- **Delivery:** February 2017
- **Launch:** June 2017 (ELaNa XIX)
- **Mission:** Demonstrate the feasibility of using CubeSats to diagnose malfunctions or failure in – and perform on orbit repairs on – conventional satellites.

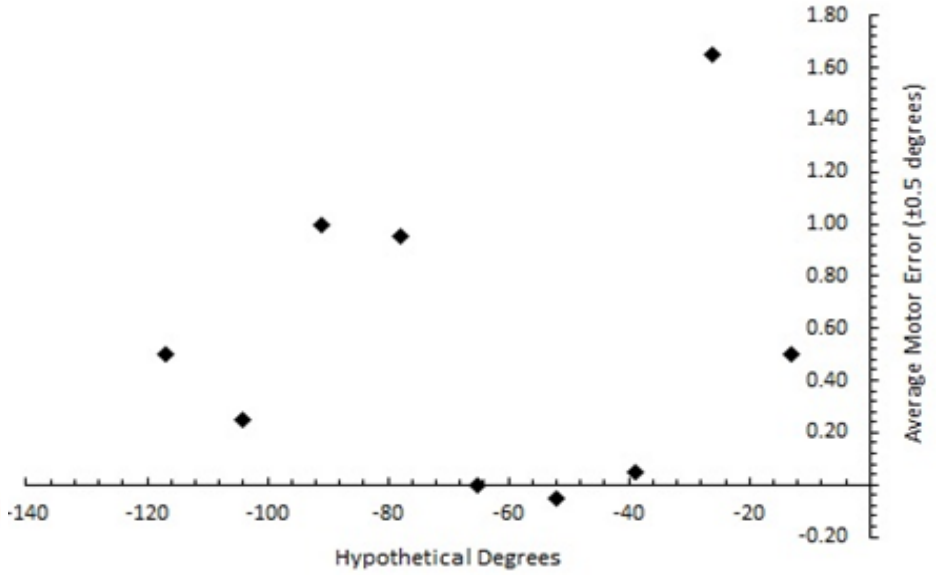


Ground Testing

Motor Accuracy Tests

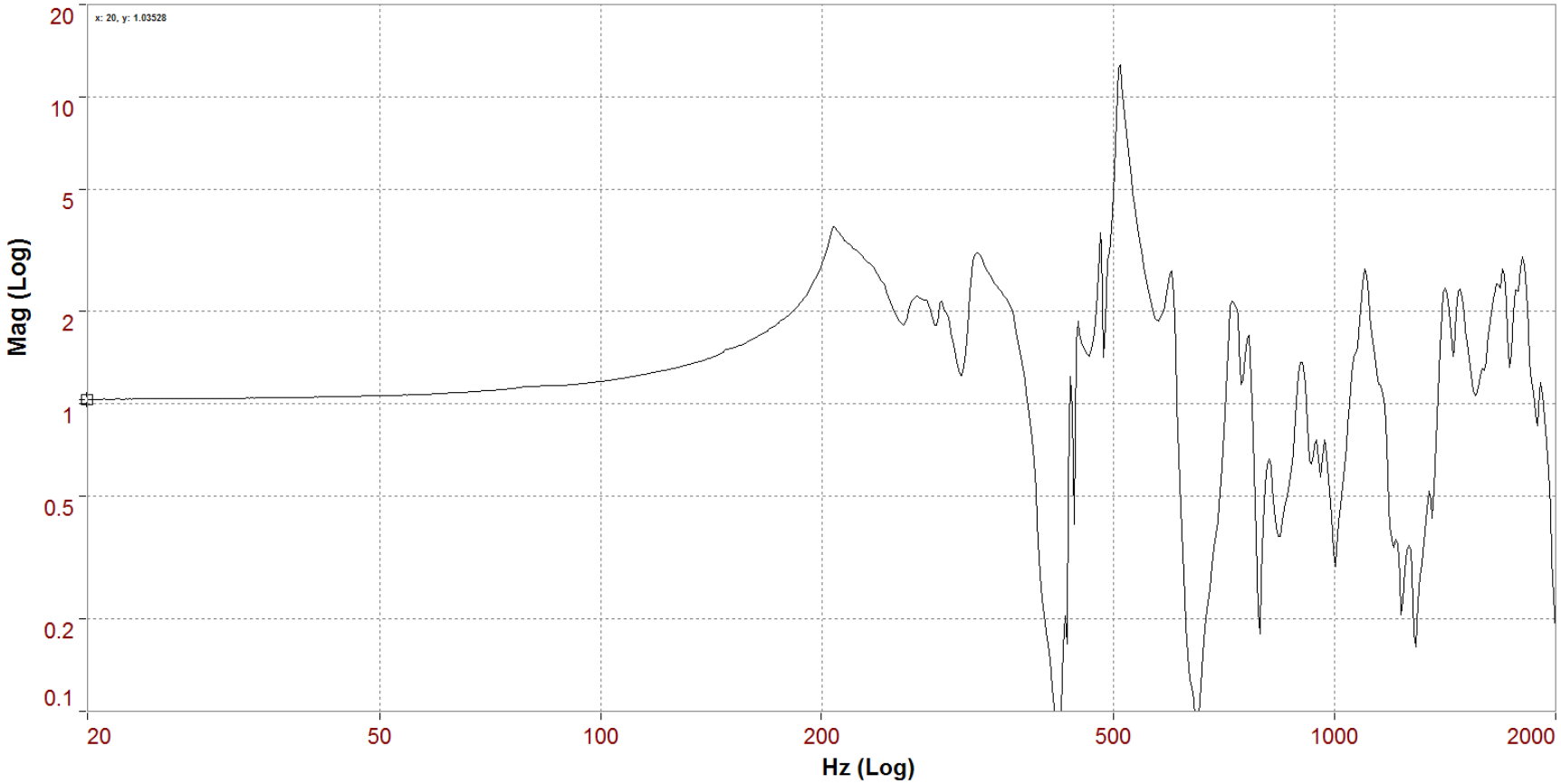


Positive Direction

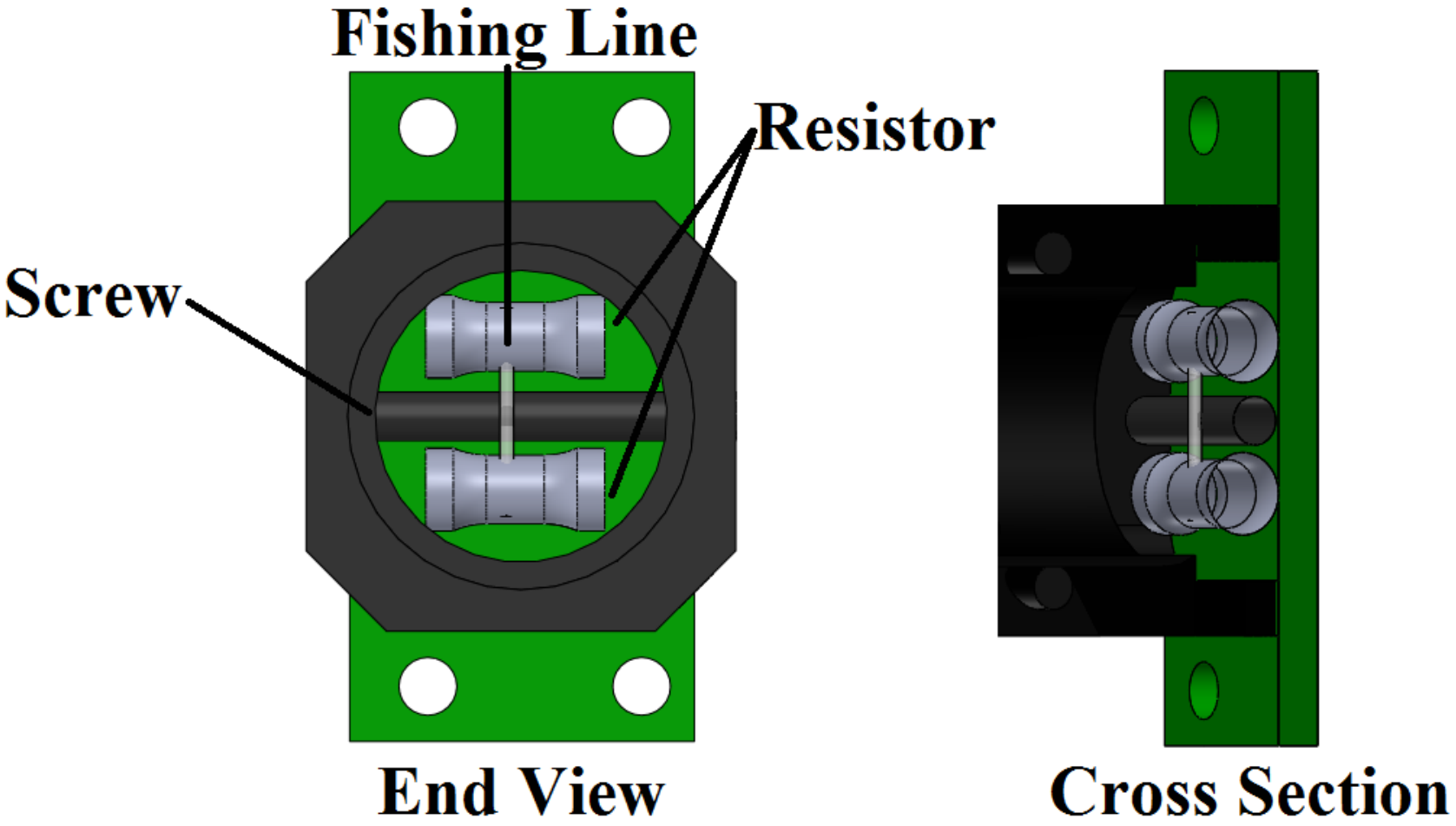


Negative Direction

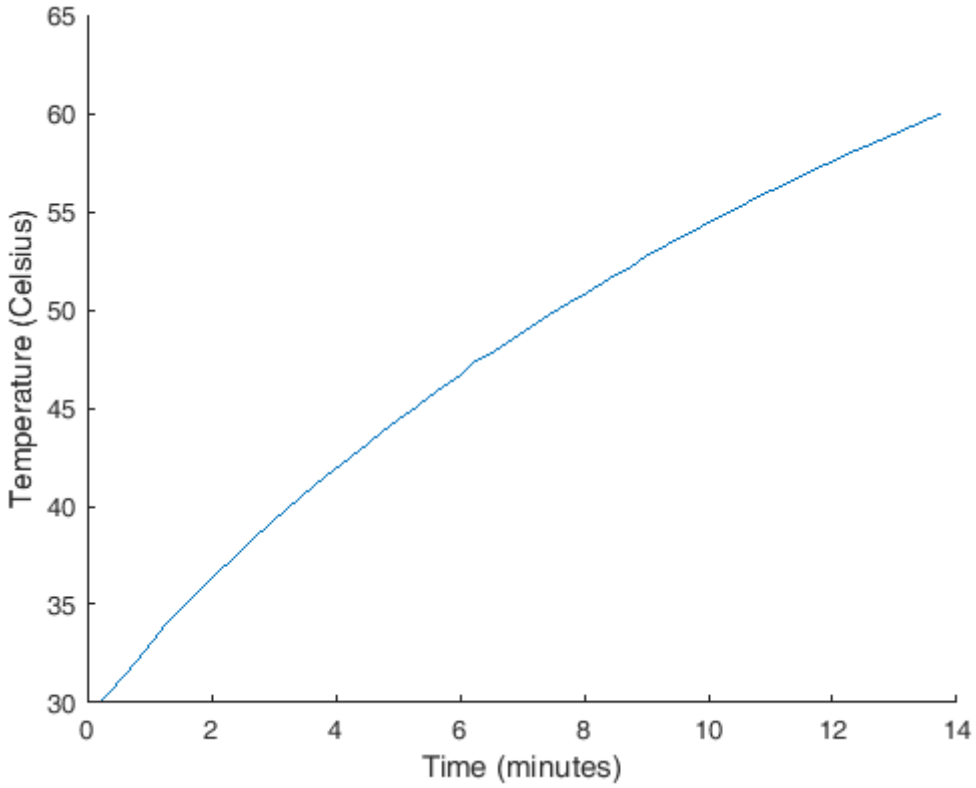
Vibration Testing



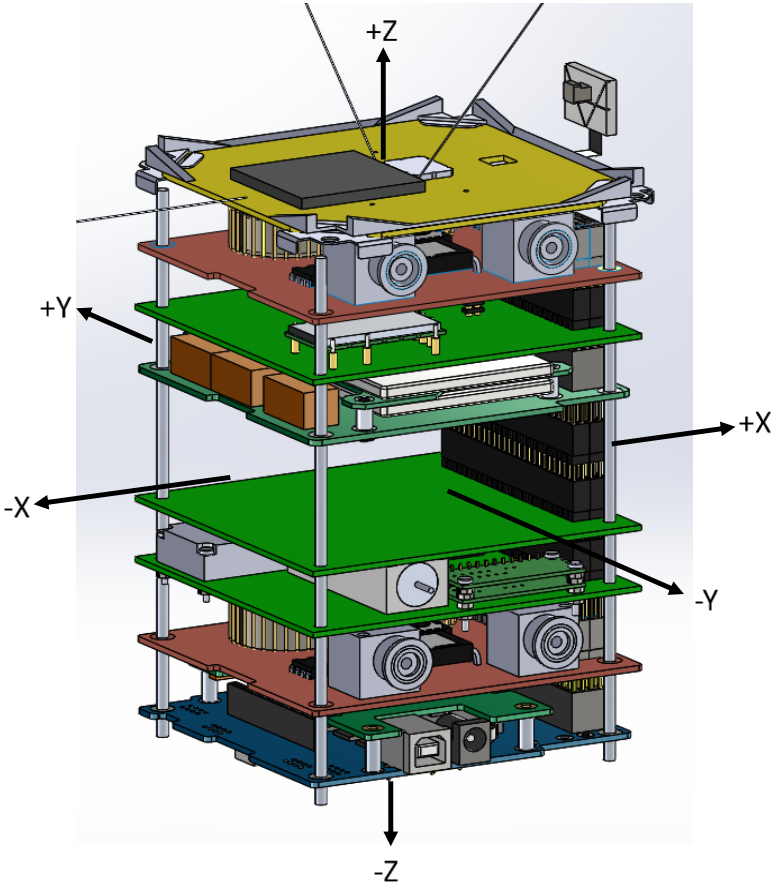
Restraint System

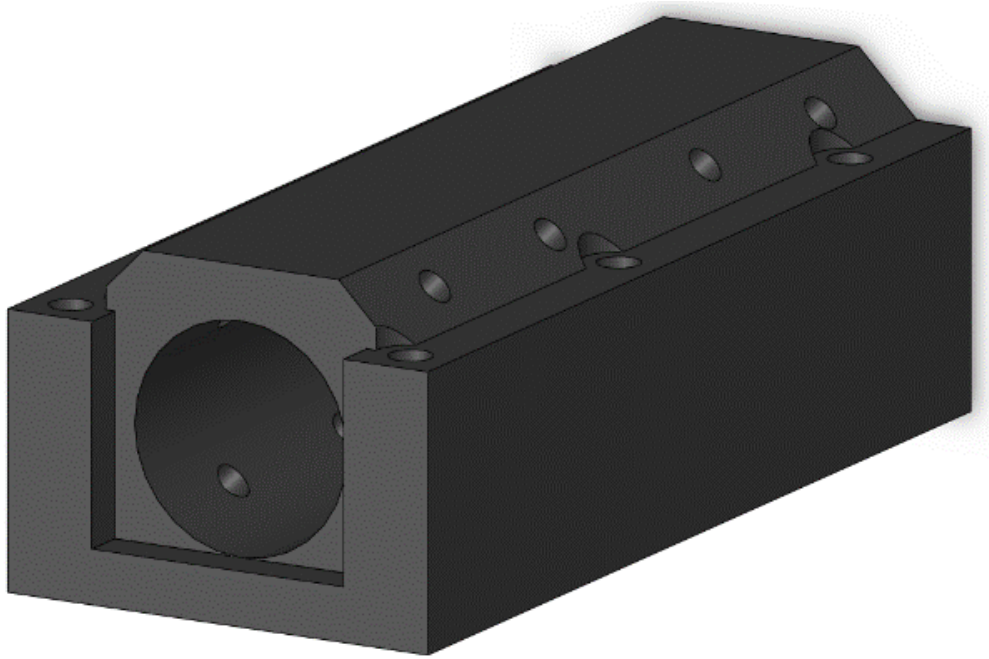


Thermal Testing

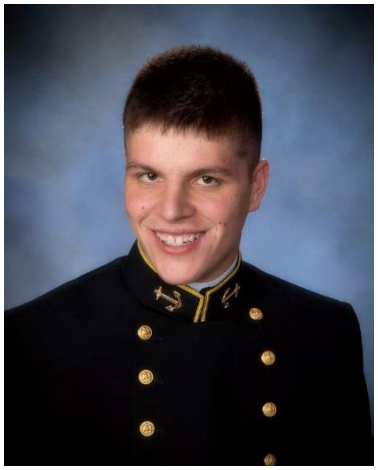


Motor Validation: BRICSat-D



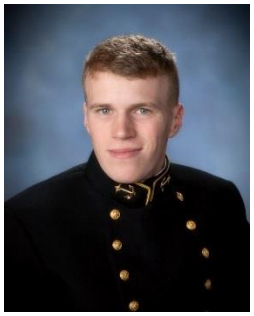


Systems Engineer
D.L. Wenberg



Program Lead
E.A. Hanlon

Executive Officer
M.E. Lange



N. Bakulinski

B. Keegan

G. Roser

S. Polsinelli

J. Pittman

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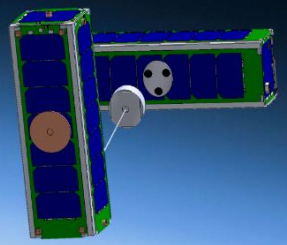

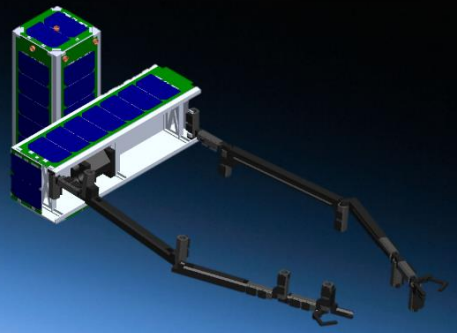

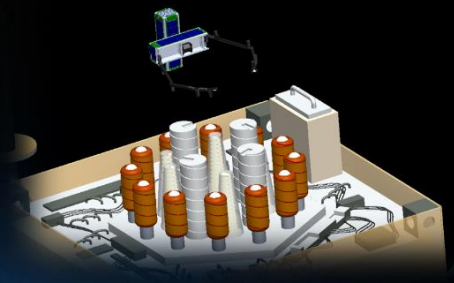

AMODS