25/03/24

Demonstrating Visual-Inertial A&OD & On-Orbit Edge Computing

Progress summary

38 days before May 1st

Updates

- **FSW**
  - Incorporated error logging capturing various errors with predefined error code messages in camera interface.
  - Camera interface executes command, checks operational status, real time video feed and stores images.
  - Camera interface can zoom, focus and change exposure time
  - Updated detumbling control task to handle sensor, magnetorquer diagnostic status, system states, and battery status.
  - Tested packetization of bytestream and basic protocol over UART between jetson and argus.
- **Estimation**
  - Worked with the mechanical team to create a mount for taking appropriate camera images for the star tracker

Blockers

- Bidirectional broken unknown reason- main suspect bad solder- only able to send data from argus to jetson
- Hit with bad weather for capturing calibration images for the star tracker. Hoping to get some good images in this week and complete testing of the tool

Weekly Plan

- FSW development
  - Continue development of camera interface and test with camera
  - Refine communication protocol with looser guarantees as automatic flow control and parity check is performing well
- Estimation
  - Complete taking images with camera, testing the star tracker tool
  - Complete MEKF testing in Sim

Interface dependencies