Rocket Team Meeting 10/21 Notes

- **Error State**
    - Can either remove or keep:
        - Remove Error State:
            - Benefit: launch will already happen regardless of whether there is an error or not.
                - Reduces complexity, error state not really necessary.
        - **Keep Error State**:
            - Deliver command from the ground station to get out of the error state
                - Make an override for real launches
                    - In the case that someone doesn't really care about a particular sensor not functioning
                - Beeping to signify error encounters
                - Check that the data is what we want.
                - Flags.
            - Make sure someone *knows* that there are errors
                - **Report / log errors (via both flash and radio)** + handle errors later in the code (handle sensor code in the case)
                - Test errors for all sensor failures.
            - Benefit: keep the possibility of completely forbidding launch (for any particular reason)
- **Prevent flash wiping after restarting pyxida**
    - Only append to the current data, don't wipe it (in the case of inadvertent restarts during launch)
    - **Manual data logging initiation**
        - Allows for easier testing for pyxida sensors
            - Hook up ground station pyxida with the other, verify that the sensors are logging data.
                - Test connection from any distance.
    - Also **verify that pyxida is actually writing to the flash** (check for a return signal)
        - Confirming flash is more important than radio. More reliable.
- General goals for avionics:
    - Getting **a legitimate, complete set of data**.
    - Focusing solely on Hermes launch could be risky--only one chance.
        - Other launches?
            - Verdict: **no test flights** except Hermes III
- Keeping track of hardware:
    - Make a wiki page with a list of pyxidas, serial numbers, and the people who have them currently, since when, where it was last seen, state of the part (broken? damaged?)

    - Also keep track of cameras, antennas
- Camera Integration:
    - Using photodiodes to verify that the camera is working (capturing flash on the camera)
        - Software involves reading waves from the analog pins
        - Also pinging the camera until there is a connection, then send data collected back
- Hardware Test Script:
    - Improve such that at the end of the tests, every component of the hardware is tested sufficiently
    - Continuity check on Pyros
        - Check that there is no continuity at first (to catch unwanted shorts), connect, then wait and re-check for continuity.
        - Needs battery / power supply.
        - Check all continuities individually, because some of them could interact with each other
    - Radio testing:
        Verify that it's on, check register
    - Keep track of CPU temperature sensor
    - Batteries:
        - Read voltages (ADC - use internal voltage to deduce supply voltage) and determine which battery is used.
    - Testing flash:
        - Verify that the flash can be written to, erased, and read out of.
    - I2C
        - Accelerometer, pyros, antenna switch, GPS, etc.
            - Carry on 915 on low power
            - Switch antennas, and measure both