The goal of SEDS is to test the effect of cosmic radiation on DNA plasmids

- Built a payload containing DNA plasmids and sensors to monitor alpha and beta radiation.
- Study plasmids to understand how the space radiation exposure affects their growth.
- Test the shielding ability of different materials

- Shielding used:
  - Demron
  - Gold Mylar
  - Lead Tape
  - Tungsten
  - 1 control (no shielding)

- Circuitry designed with Fritzing software
- Voltage calculations completed through EveryCircuit application

- Model was refined and simplified from 2018 to 2019
- 5 DNA vials used (9 in 2018)
- 1 RSB, Geiger Counter, & PCB

- We are using the Aequorea Victoria gene, which causes jellyfish to glow under UV light.
- Higher gene transfer rates should indicate undamaged DNA, or DNA that was NOT exposed to cosmic radiation.

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