Satellite Design Project (SDP)

Presenters: Bruce Burlton
Agenda

- What is CuSAT
- Work to Date
- Future Work
- Questions
Satellite Design Project (SDP)

- Design and Implementation of a CubeSat
- 10 cm x 10 cm x 30 cm satellite
- Mass of 4.0 kg
- Originated at CalPoly and Stanford in 1999

Figure 1: CanX-2 (UTIAS)
CuSAT (DANTE)

- Demonstrator satellite for locating forest fires in the Canadian Boreal Forest

Figure 2: Canada Boreal Forest
CuSAT (DANTE)

- Designing and Building a 3U CubeSat
- Uses a thermal camera to locate hot spots

Figure 3: CuSAT
CuSAT (DANTE)
Work to Date

- Detailed Subsystem Design
- Manufactured Test Structure
- Procured:
  - iOBC
  - Magnetometer
  - Momentum Wheel
  - Magnetic Torquing Coils
  - GPS
  - EPS
Work to Date

- FlatSat Testing
- Thermal and ADCS simulations
- Participated in CSDC Activities

Figure 3: FlatSat
Future Work

- Continue FPGA design and testing
- Procure Transceiver and EPS
- Procure ADCS control devices
- Thermal Testing
- Vibration Testing
- FlatSat testing
- Software in the loop testing
- Design, implementation and testing of flight electronics
Questions?