CINEMA
CubeSat for Ions, Neutrals, Electrons and Magnetic Fields

Status Update
GEM/CEDAR 2011

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Mechanical Engineer
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STEIN Scientist
John Sample, UCB

MAGIC Scientist
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QUICK STATUS

CINEMA manifested on ELaNa 6 (OUTSat/L36)

- Payload Readiness Review early Nov 2011
- S/C Delivery late Nov/early Dec 2011
- Atlas 5 Launch at Vandenberg June 2012

Electrical Power


Attitude Control

- Major Advances. We will De-tumble and Spin-Up (4 RPM) on Z-axis w/out ground ephemeris (autonomously), using solar panels for De-tumble ACS.
Attitude Control (cont.)
- Flight Sun Sensor done (4th version!)
- Torque coil structure redesigned to lower external height on S/C
- Test different sampling times and modify the communication loop

STEIN (SupraThermal Electrons, Ions and Neutrals) Particle Detector
- Collaboration with LBL on FPGA, ASIC, and detectors ongoing
  - FPGA coding has begun
  - 3 STEIN Boards delivered, being populated.

MAGIC (MAGnetometer from Imperial College)
- Flight Boards layout final this week. Going to order.
- Currently testing FSW/IIB/MAGIC ETU chain

Spacecraft Structure
- Chassis flight design is done. Drawings being created.

FSW/C&DH
- Almost fully incorporated ACS Simulink model with FSW.
- Loader Module and Watchdog to be written.
- LATE on command and telemetry formats – revisit July week 1

RF Communications
- S-Band Radio first thing in thermal vac
- New Helium 100 radio tuned to 450 MHz coming from AstroDev
UHF antenna deployment mechanism - DONE

Flight Panels - DONE

Interface Board
Rev 2 to layout
New Space for Mech. Eng. Team!!!

W/KHU guys and chassis ETU

CINEMA has new space at SSL, and expects 12 visiting students from KHU and UIAPR this summer.
Mech Eng. moved so more room for CINEMA EE, FSW and Attitude Control
Almost 1000 documents on Knowledge Tree