Gannon University HARD payload

Status Report #4

4/29/2012

1. Achievements

- Delivered a preliminary Payload Specification & Integration Plan (PSIP) to the HASP Program office.
- Received a payload plate from the HASP program office
- Detector Module: completed a preliminary integration testing of the photomultiplier and amplifier board
- Comparator Module: a unit test for the comparator completed
  - The MCU is used to obtain functionality of the comparator; the MCU-based comparator is expected to detect an analog signal and set digital flags in order to create a comparator. The MCU could detect differences as small as 0.004885 Vdc.
- Microprocessor/CPU Module:
  - Completed a unit test on the initial MCU codes for GPS (for extraction of time information)
- Thermal Plan:
  - Identified and acquired cooling devices (heating devices were already acquired)
- Began constructing Styrofoam-based payloads

2. Issues

- Integration testing is taking time and key modules (i.e., detector module and comparator module) need to be re-evaluated and unit-tested more thoroughly.
- Key student members are graduating in May and junior members' availability is limited during the summer

3. Next Steps

- Re-evaluation of detector module and comparator module and integration testing
- Complete design and testing of the coincidence detector module
- Complete design and testing of the power module
- Complete integration of a rotator and position adjustment module
- Recruit graduate students to the team

4. Current team members and leader

Robby Frantz, Electrical Engineering
Dan Grasinger, Computer Engineering
Emily Wright, Electrical Engineering
Nichole McGuire, Electrical Engineering (Team Lead)
Aaron Neiman, Computer Engineering
Joe Veneri, Electrical Engineering

Dr. Wookwon Lee, ECE Faculty Advisor
Dr. Nicholas Conklin, Physics Faculty Advisor