

May 30, 2014

To: Dr. T. Gregory Guzik - HASP Project Director
From: Seth Frick – Team Lead
RE: HASP Monthly Status Report

1. Activities

Populated and tested two-channel peak detector board.

Performed interface testing of GNSS receiver, IMU and level converter (which converts 5V IMU logic to 3.3V for BeagleBone flight computer), detector systems including peak detector, and RS-232 transceiver.

Began manufacturing and assembly of structural payload components.

Manufactured scintillator for second detector. Assembled and successfully tested second detector.

Assembled interconnect cables for interfacing of all electrical hardware.

Began working on software development for both primary flight computer and secondary camera computer.

Began planning for travel to HASP integration in Palestine, Texas.

2. Issues Encountered

The manufacturing and assembly of structural components was scheduled to be completed by this point, but has been delayed due to scheduling difficulties with shop personnel and student team members. These tasks should be completed within the next 2-3 weeks, however.

Significant noise was seen on the interrupt signals generated by the logic network on the two-channel peak detector board, since some of the gate inputs were deliberately slowed to allow for the desired timing of competing interrupts. This issue was solved by replacing the problematic gates with new parts featuring Schmitt-trigger inputs.

3. Milestones Achieved

All electrical components and hardware have been assembled, interfaced, and tested.

4. Current Student Team

Name	Gender	Ethnicity	Race	Student Status	Responsibilities
Seth Frick	M	Non-hispanic	Caucasian	Graduate 1 st year	Team lead, detector systems and photon energy measurement, GPS and IMU operation
Andrew Mahon	M	Non-hispanic	Caucasian	Undergraduate Junior	Detector systems, hardware configuration, and structure fabrication
Haley Rorvick	F	Non-hispanic	Caucasian	Undergraduate Junior	Structure design and fabrication, hardware configuration
Josiah DeLange	M	Non-hispanic	Caucasian	Undergraduate Junior	Flight computer and power systems, flight software
Alec Forsman	M	Non-hispanic	Caucasian	Undergraduate Junior	Flight computer and power systems, flight software
Seth Merrifield	M	Non-hispanic	Caucasian	Undergraduate Junior	Thermal monitoring and protection.
John Jackson	M	Non-hispanic	Caucasian	Undergraduate Junior	Detector energy measurement and testing

Note: I (Seth Frick) will be leaving the university temporarily for the summer for an internship opportunity in Los Angeles. I will continue to oversee the team operations remotely (which will primarily consist of software development between now and integration), and will remain the primary contact for the University of Minnesota HASP team. My place on the monthly teleconferences will be assumed by one or more undergraduate students who will be at the university all summer. I will still be attending integration (along with a few undergraduate team members).