

February 24, 2012

To: Dr. T. Gregory Guzik - HASP Project Director
From: Patrick Doyle – University of Minnesota (UMN)
High Altitude X-Ray Detector Testbed (HAXDT) Team Lead
RE: HASP Monthly Status Report

1. Activities

The structure has been modeled in Solidworks and aerogel was decided upon as our primary insulation option. More research is required verify aerogel's viability.

Power regulation and protection has been designed and is undergoing breadboard testing.

GPS receiver was tested and is working properly. Verified that Cocom altitude restrictions can be removed.

The flight computer's operating system has been installed and flight code is being edited to suit HAXDT's needs.

2. Issues Encountered

The flight computer had to be flashed so that the flight code can run. It was more difficult than expected, but was finally achieved.

We need to purchase some hardware components (pre-amp, and discriminator) to populate the Lockheed Martin hardware described in the Milestones section below.

3. Milestones Achieved

Lockheed Martin Corp. has agreed to provide an x-ray detector system that fits within our power requirements. They will provide a front-end protoboard to output pulses, which we will count and store via the flight computer. They have also offered to provide the actual detector.

Preliminary structure design has been completed (see Figure 1 below). We expect to go through some revision once we receive the detector system mentioned above.

4. Current Student Team

Name	Academic Level	Responsibilities
Patrick Doyle	Graduate Student – 1 st year	Team Lead and systems engineer. X-Ray detector and GPS integration
Curtis Albrecht	Graduate Student – 1 st year	Power management design and flight computer operations.
John Fraatz	Undergraduate – Senior	Attitude determination sensor integration.
Sean Grogan	Undergraduate – Fresh.	Structure design and mechanical drawings.
Zach Fadness	Undergraduate – Fresh.	Structure design and construction.
Ryan Carlson	Undergraduate – Soph.	Thermal protection and monitoring.
Brian Erickson	Undergraduate – Soph.	Thermal protection and monitoring.

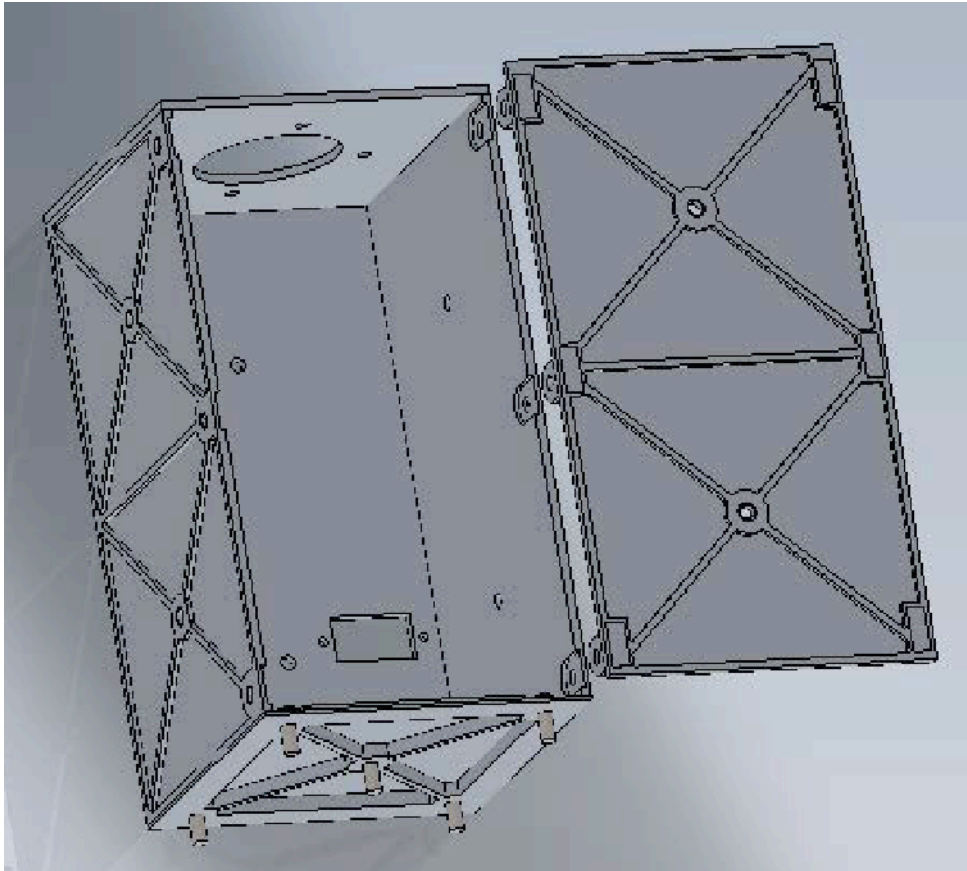


Figure 1. HAXDT Preliminary structure design