

HASP Monthly Status Report – May 2016

North Carolina Infrasound

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1 Synopsis

- Flight ladder payload is being developed at UNC.
- Gondola payload is being developed in Albuquerque.
- System testing is beginning.

2 Activity Summary

Kayla worked to integrate equipment into the flight ladder box. This started with the development of an attachment plate anchored to the bottom of the box. Insulation was fitted to the box, then altered to cushion equipment. Simultaneously, cables were rewired for a better fit in the box. All of this allowed for the integration of the microphones, RefTek and GPS. Upon integrating the power system and running a full system test, it was discovered that the battery was being drained rather quickly. Brainstorming for tubing from microphones to outside of the box and a potential new power system design are taking place. The accelerometer has been developed by Kayla and Rebecca and will be completed once one more piece arrives in Chapel Hill.

Daniel constructed the support structure on the payload plate, and has installed the Data Cube digitizer and microphones inside. The imaging system will not be integrated until the successful completion of a high altitude infrasound experiment planned for June or July.

In addition to payload development, the team is starting to test the systems. This will include huddle tests while targeting events that are known to generate infrasound (i.e. rocket launches out of Cape Canaveral, aircraft take-offs and landings). Techniques are being learned and data is being analysed.

3 Issues Encountered

Flight ladder power system is being drained much quicker than calculated. Trouble shooting is already in the works and potential new designs is being discussed.

4 Milestones Achieved

Digitizer, microphones and GPS successfully installed in flight ladder box. Data Cube and microphones successfully installed on gondola payload.

5 Team

Name	Male/Female	Race	Position	School/Organisation
Jacob F. Anderson	Male	Caucasian	Student Team Member	Boise State University
Daniel C. Bowman	Male	Caucasian	Outside Advisor	UNC/Sandia National Lab
Ethan C. Dinwiddie	Male	Caucasian	Student Team Member	UNC-Chapel Hill
Jonathan M. Lees	Male	Caucasian	Faculty Advisor	UNC-Chapel Hill
Rebecca L. Rodd	Female	Caucasian	Team Member	UNC-Chapel Hill
Timothy J. Ronan	Male	Caucasian	Student Team Member	UNC-Chapel Hill
Kayla T. Seiffert	Female	Caucasian	Student Leader	UNC-Chapel Hill