



SCARLET HAWK I – HASP 2013

**April Status Update
04/26/13**

INTRODUCTION

Summary of progress

For the AIAA-IIT HASP team, April was spent building a completed payload and composing the Preliminary Specification and Integration Plan (PSIP). Due to unexpected problems integrating the electronics components onto the PCB's, testing and calibration was delayed. The problem was identified and the information required to complete the PSIP was collected. May will be spent completing changes to the payload electronics and testing the completed payload.

Upcoming deadlines

- May 16: Payload Electronics Changes Completed
- May 28: Complete In-House Environmental Testing and Calibration
- May 30: Clear payload for environmental testing and integration at Palestine, TX

Updated Team Structure

Project Manager: Peter Kozak

Faculty Adviser: Keith Bowman

GPS & Comm.

Aniruddha Katre (Subgroup Leader), Raisa Vitto, Lou Grimaud, Collin Rutenbar

Electronics and Sensing

Shalmik Borate (Subgroup Leader), Peter Kozak, Raisa Vitto

Image Processing

David Finol (Subgroup Leader), Rodolfo Manotas, Corey Page, Collin Rutenbar, Abdulrhman Arnaout

Structure

Miguel Javier (Subgroup Leader), Manpreet Singh

SENSING AND GENERAL ELECTRONICS

PCB's arrived at the beginning of April and electronics components were integrated onto the boards. While the other boards were completed and tested to be functional, errors were found with the wiring of the power board and the MOSFET circuits. The problem has been identified, the completed electronics package is now functional, and the corrected boards have been ordered. Final EPS drawings have been completed for the entire payload system and data was collected for the PSIP. The entire payload is now expected to be complete one week after final exams week at IIT.

IMAGE CAPTURE AND PROCESSING

The image capture and inter-Arduino communication software has been completed and a protocol for manually transmitting images and adjusting the Reed-Soloman algorithm while in flight.

STRUCTURE

The structure components were machined and the payload structure is nearly completed. The carbon fiber exterior will be spraypainted white and the payload interior will be covered with a thermally reflective insulation coating.

QUESTIONS FOR HASP COORDINATORS

- What is the procedure for setting up a date for thermal/vac tests at the Palestine, TX facility? Will there be specific dates to choose from?
- Could thermal/vac testing and payload integration be done concurrently during the integration period on/after July 29th?