



SCARLET HAWK I – HASP 2013

**June Status Update
06/28/13**

INTRODUCTION

Summary of progress

This month AIAA-IIT completed the final PSIP and began final testing and calibration of SCARLET HAWK I. Most of the major issues have been resolved with coding and the payload is ready for in-house thermal/vac testing. July will be spent tweaking the payload in preparation for delivery of the Flight Operations Plan (FLOP) and payload integration on July 29. Since the majority of work has been completed and most of the progress this month was summarized in the final PSIP, our June status update will be brief.

Upcoming deadlines

- July 18: Completion of final testing and preparation for integration
- July 26: Completion of the FLOP
- July 29: Delivery of SCARLET HAWK I and payload integration

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

Final current measurements were taken using a digital multimeter and oscilloscope to find the nominal and peak amperages for the payload, which were included in the PSIP. The inrush current was measured to be less than the maximum current spike of 200mA due to the short warm-up period required by the gas sensor before coming on-line. Peak current was found to occur during camera operation and data transmission instead.

In July, final testing at temperature extremes will be conducted to ensure that the payload electronics function normally during thermal/vac testing in Palestine, TX. Measurements will be taken from all of the sensors to establish a baseline to compare for validation of sensor accuracy during integration. The code for all payload systems will continue to be optimized until shortly before delivery of the FLOP.

STRUCTURE

Final drawings for the of the completed structure were completed for inclusion in the PSIP and the completed payload was weighed. This month the structural team will organize and document our structural analysis demonstrating the structure's ability to withstand the required 10g vertical and 5g horizontal shock loads.

QUESTIONS FOR HASP COORDINATORS

- None this month.