

Team PLEASE

September Status Report

HASP

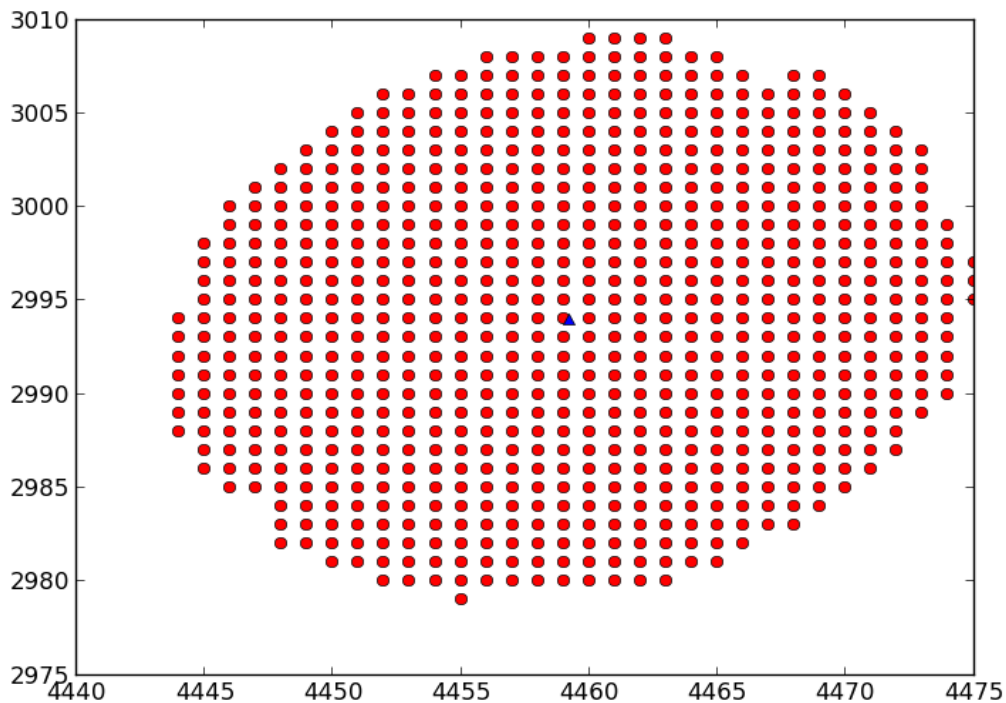
Activities of the Team:

Team PLEASE has begun data analysis on its payload. This includes planning the steps and order of analyzing the various data as well as beginning the necessary algorithms.

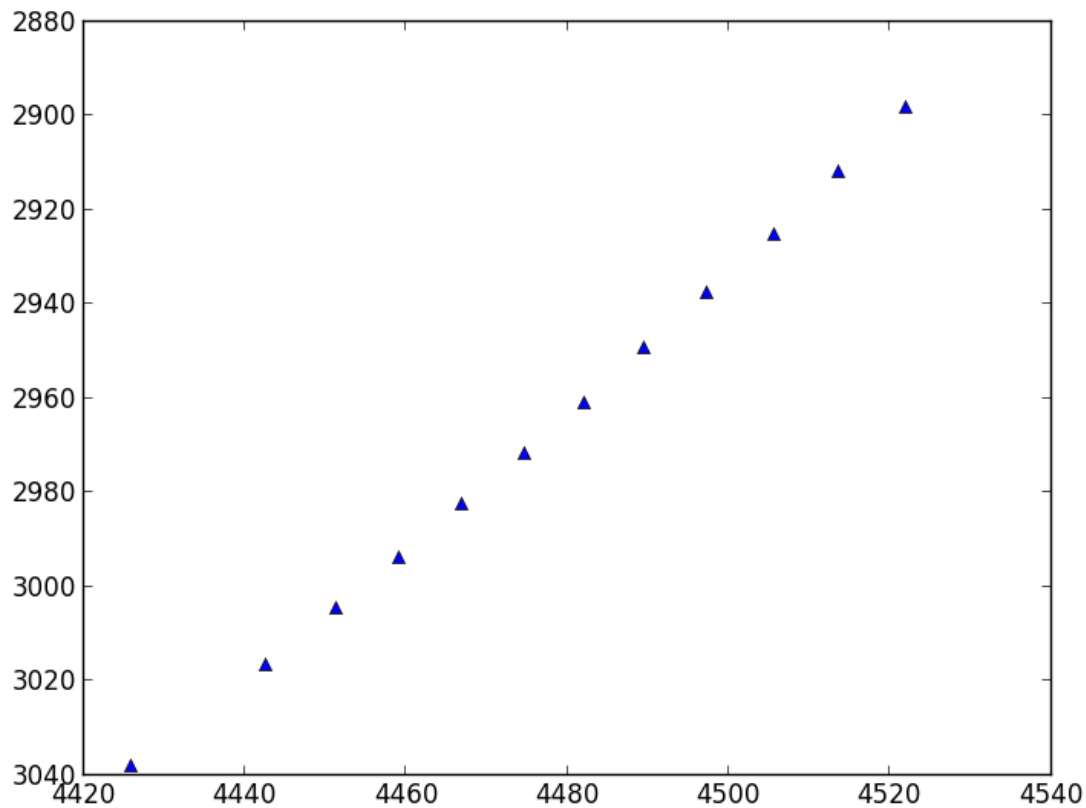
The planned steps include locating and tracking the centroid of the Sun through multiple, and eventually all, pictures and plotting the result; using the tiltmeter data to adjust each image for the tilt of the platform; and using GPS coordinates to compare the calculated position of the Sun with the expected position.

The first algorithm has been completed to analyze the pictures taken. The written program locates the centroid of the Sun for each picture, and then plots them.

Nicholas Chason now primarily works on the HARMEnI **experiment's physical structure**.



In the above image the red dots are the pixels of the Sun from a picture taken in float. The blue triangle marks the centroid of Sun in this image.



In the above image the markers represent the pixel locations of centroids located in multiple pictures. The data coinciding with this graph can be found in attachment 1 at the end of this report.

Problems Encountered

Just before float occurred the GPS began to have intermittent results. There was no GPS NMEA string for much of the float time. The attempted fix for the problem was a hard reset of the payload, however it was not a success. The plan is now to use either GPS data from team HADES or the HASP GPS data.

Milestones Achieved:

Completed HASP flight and payload retrieved.

A track of centroids from a small number of pictures has been plotted.

Current Team Members and Demographics:

Team Leader: Ryan Gueho

Team Members: Nicholas Chason

Faculty Advisor: Michael Cherry

With Guidance From: Michael Stewart, Gregory Guzik, Ching-Cheng, Brad Ellison, Michael Cherry

Attachment 1: Centroid locations for a chosen set of images.

DSC_0253.JPG
JPEG (6016, 4000) RGB
X-pixel= 4425.97790027 Y-pixel= 3038.35452714

DSC_0254.JPG
JPEG (6016, 4000) RGB
X-pixel= 4442.67426003 Y-pixel= 3016.59138591

DSC_0255.JPG
JPEG (6016, 4000) RGB
X-pixel= 4451.35000782 Y-pixel= 3004.77352223

DSC_0256.JPG
JPEG (6016, 4000) RGB
X-pixel= 4459.22602603 Y-pixel= 2993.9447467

DSC_0257.JPG
JPEG (6016, 4000) RGB
X-pixel= 4466.96129687 Y-pixel= 2982.64009505

DSC_0258.JPG
JPEG (6016, 4000) RGB
X-pixel= 4474.67837958 Y-pixel= 2971.88546598

DSC_0259.JPG
JPEG (6016, 4000) RGB
X-pixel= 4482.20552637 Y-pixel= 2961.16612991

DSC_0260.JPG
JPEG (6016, 4000) RGB
X-pixel= 4489.59513954 Y-pixel= 2949.31394722

DSC_0261.JPG
JPEG (6016, 4000) RGB
X-pixel= 4497.41577106 Y-pixel= 2937.8251971

DSC_0262.JPG
JPEG (6016, 4000) RGB
X-pixel= 4505.70784083 Y-pixel= 2925.24372658

DSC_0263.JPG
JPEG (6016, 4000) RGB
X-pixel= 4513.701262 Y-pixel= 2911.87782963

DSC_0264.JPG
JPEG (6016, 4000) RGB
X-pixel= 4522.02658238 Y-pixel= 2898.28168811

Images taken from 20:43:24 – 20:43:46 UTC. Included: filename, image size, and centroid coordinates