SPARTAN-V Colorado Space Grant Consortium Monthly Status Report

29 April 2011

During the month of April the Colorado team has completed the physical integration of the payload's subsystems. Software system testing is underway and is expected to be completed early in May.

Due to time and man power restraints the in-flight operation of the payload has changed. The system will no longer utilize an onboard control system to track a single area of sky, rather the yaw axis of the telescope will remain fixed with respect to the HASP platform. Images will be continuously taken, and matched or "stacked" with other images that display the same region of sky. The HASP platform is expected to spin, therefore compass data will be used to create a subset of flight images for each respective bearing, and from there the images will be run through post-flight analysis code to arrange and analyze the data. The post-flight code mentioned is complete and has been tested with images taken by the payload's telescope at a location outside of Boulder (Flagstaff Mountain).

The pitch axis of the telescope is fully operational and will be used to unstow and stow the telescope after ascent and before descent, respectively. This axis will not use a control feedback loop during flight to change its orientation, but will remain at a fixed angle while photos are being taken.

Although the engineering goal of creating a control-driven telescope will not be met, the mission goal of collecting extinction and scintillation science data is still fully possible and will remain the focus of the SPARTAN-V project.

During the summer the SPARTAN-V team will shrink to two part-time members (Brian Ibeling and myself). Assistance from former teammates will happen as necessary, but the majority of the work in the summer leading up to integration is planned to be small tasks to prepare the payload for integration.

We plan on taking three people to integration in August for which the exact dates are currently undecided, with a fourth member possible. These details are laid out in the PSIP form also attached in the email.

Looking forward to August,

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