HASP LSU Directional Cherenkov Detector
May 2012 Status Report

Activities

The computer simulations of the detector performance are ongoing. We are in the process of modifying the subroutines responsible for simulating the light signals from the two radiator materials and outputting the corresponding data to files. These modifications are tested using inputted particle fluxes with a limited range of energies, incident angles, and compositions. The software testing process involves comparing the analysis of outputted data to analytical predictions of the detector performance under ideal conditions. Once these modifications and testing are completed, more realistic particle fluxes can be added to the detector simulation software input. The analysis of the data from these simulated events can help in characterizing the detector performance and data analysis.

Aside from the computer simulation activities, last month's tasks included fabricating the payload. The process of testing and repairing the previous payload's PMTs has been completed. All of the PMTs are now functioning properly. The main activity for next month will be to redo the optical bonds on the radiator. The optical bonding compound requires multiple days of dead time for curing. During this dead time, the planned activities include the further fabrication of parts needed for the mechanical structure and further testing of the flight software and electronics.

Team Management Structure

Team Electron Volt is comprised of Sean McNeil. Contact information and individual roles are shown in Table 1.

Table 1 – Team Management Structure

Name	Sean McNeil	Dr. Gregory T. Guzik
Roles	• Software • Testing • Calibrations • Data Analysis • Project Management • Electrical • Mechanical	• Faculty Advisor

Department	LSU Physics and Astronomy	LSU Physics and Astronomy
Contact Information	smcnei2@tigers.lsu.edu (209) 202-8522	guzik@phunds.phys.lsu.edu (225) 578-8597