

Status Report

Activities

Epoxy compound was found, which was fluid enough to release air bubbles. A successful test of its dielectric properties was done with a test board. This compound prevented arcing at voltages exceeding 2500 V, which is more than sufficient for our needs.

The microcontroller and relevant accessories were ordered and received. Tests using the serial interface onboard the microcontroller yielded positive results. The controller board was successfully tested with analog and digital inputs and outputs. All analog and digital I/O pins seem to be function correctly. An external power input of 12V was tested and verified. Tests integrating the microcontroller with the sensor system have been started.

Additionally software code is being written, which will allow the device to be tested under simulated flight operations. A preliminary design for the electronic system and the system interface has been drawn and will be implemented as soon as new front end boards are produced.

The structure of the payload was redesigned to fit the 16 cm x 16 cm front end module (used for PMT pulse shaping and discrimination) in the payload and to fit light guides onto the PMTs so the wave shifting bars would not need to be bent. The payload will now stand on four supports within the 15 cm x 15 cm required HASP footprint, lifting the payload a maximum of 3 inches off the HASP interfacing plate. The weight of the total mechanical system stands at 317.75 g. The total weight budget is shown below

Component	Measurement Method	Weight (g)
PMTs with coated bases	Measured	450 ± 0.1
Pulse Height Analyzer System	Measured	615 ± 0.1
Control System	Measured	35.2 ± 0.1
Power system and wiring	Measured	175 ± 0.1
Lucite radiator	Estimated	354 ± 1
Lead glass radiator	Estimated	872 ± 1
Mechanical structure	Estimated	317.75 ± 1
Total		2818.95 ± 12.3