



ASU - High Altitude Turbine Project (HATS)

Project Update : **April '12**

Date: 4/27/12

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Summary:

Over the course of this month, sensors were repeatedly tested and debugged. The team also continued to work on the mechanical structure in order to adapt to sensor and propeller mounting requirements. The propellers were 3D printed using scaled dynamically analyzed models of two types of turbine airfoil designs. The weatherstation unit finally arrived after over a month delay in shipping and testing was done immediately. We are also preparing for our payload demonstration as required by our senior design class. During the demonstration, we will show that all of the mounted sensors are collecting, storing, and transferring data via a serial computer connection. Once this project demonstration has been achieved, we will more rigorously test the payload in varied conditions. Our final payload integration and test plan will be completed in May.

Key Accomplishments:

- Mounting of all hardware and electrical
- HASP plate integration
- Debugging and proving sensors
- Design, Analysis, and Fabrication of Propeller models
- System-wide software to control and collect data from all sensors simultaneously

Upcoming Tasks:

- Project Review - senior design class requirement
- Full-scale payload testing and continued sensor calibration
- Prepare data-analysis system / algorithms
- Thermal Vacuum and wind tunnel testing
- Develop HASP communications and testing protocol

-Patrick McGarey // Project Manager