

SMITH Progress Report February 2012

The primary goal for the SMITH team for the month of February was to rebuild the SMITH 2011 payload. The payload was damaged during landing when HASP rolled on top of it. With the payload fully functional, we can utilize the new thermal vacuum chamber for calibrations to measure the flow of air at 5 mbar. Previously we were only able to calculate air flow based on bench top testing at STP. This will give us an accurate account of what volume we sampling during HASP 2011, and allow us to make improvements.

The following tasks were completed in order to rebuild SMITH 2011:

- Created fully dimensioned multi-views for the updated parts that needed to be replaced. (with some minor design changes, (like slightly thicker vertical struts, mirror finished interior on paneling, and different alloy material for the exterior paneling)
- Rebuilt previous iteration of the payload including:
 - Cleaned boards of unnecessary solder and repaired possible cold solder joints
 - Repaired/Replaced broken or inconveniently placed connections (relieving mechanical stress on these)
 - Replaced missing parts and electronics
- Replaced Super Tigre engines
- Assembled electronics box and pump system
- Gathered, inventoried and re-ordered parts for SMITH
- In the process of testing functionality of the payload