**CubeSat Requirements:**

Our "customer" defined requirements are:

A CubeSat that will maintain:

1.       A relative position solution (i.e., relative to the formation) with an accuracy of 10 meters (1 standard deviation)

2.       A relative attitude solution with an accuracy of 10 mrad.

3.       A clock offset or timing accuracy (relative to the formation) better than 10 µs.

4. HASP must receive a predefined power requirement.

Our undefined requirements so far:

The CubeSat must contain:

* + HASP experiment payload
  + Power and power management hardware
    - Solar Panels
    - Power systems control board
    - Battery systems
  + Attitude determination and Control Hardware
    - Horizon/Magnetic/Sun sensor system (to be determined)
  + Timing and control hardware
    - Atomic clock preferred, RTC or other Timer may be used
  + Communications systems
    - Radio (to be researched)
* The CubeSat must remain under 6 kg
* The Hardware we implement must not interfere either electronically, or magnetically with the data collection of the HASP detectors.
  + Magnetic shielding
  + Electrostatic shielding
* If possible, and at no detriment to the HASP experiment, we may be able to Share data hardware (ie. GPS, IMU, ATOMIC Clock data with the HASP module to streamline CubeSat system.
  + This would exclude the use of redundant hardware unless absolutely necessary for experimental purposes.
* We need to create/acquire a testing environment suitable for the following:
  + Vibration testing simulating launch characteristics
  + Thermal/vacuum properties that simulate LEO environment