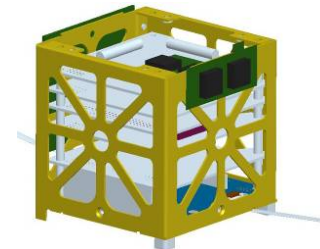




NASA GSFC Wallops Flight Facility Cubesat Collaboration with NSF

Scott H. Schaire
Project Manager
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WFF Cubesat Capabilities



- Experience in managing/building small, low-cost missions
 - Examples: UNEX/CHIPS, MPE development, GAS/Hitchhiker
 - Tailored design, I&T, review practices for low cost/higher risk missions (Class D)
 - Sounding Rockets, Balloons, Aircraft
- Technical Capabilities
 - Small Payload Engineering
 - Guidance, Navigation and Control
 - Communication
 - Balloon Bus Software (Class D Flight)
- Renowned customer focused capabilities supporting external principal investigators (PI's)
- Environmental test, integration and manufacturing facilities
- Multiple Payload Ejector
- Cubesat integration and manifest experience with Tacsat-3
- Launch Range
- Relationships with ORS, AFRL, Orbital



WFF CubeSat Services



- Vehicle Integration support
 - ✓ Bi-weekly phone calls with Launch Provider
 - ✓ Assistance with required documentation
 - Safety
 - Object Debris and Reentry Analysis
 - Ground Operations
 - Reviews
- Frequency Licensing Support
 - ✓ NASA Frequencies Only
 - ✓ Cubesat Only
- Cal Poly Equipment and Services
 - ✓ P-POD's
 - ✓ Test Support
 - ✓ Interface Control Documentation
- Facility and test equipment usage
 - ✓ Thermal Vacuum
 - ✓ Vibration
 - ✓ Mass Properties
- Support for Internal and External Reviews
 - ✓ Requirements
 - ✓ Design
 - ✓ Status
 - ✓ Readiness
 - ✓ Pre-Ship



Educational Outreach



- Small payloads < 10 lbs
- Weather balloon launch up to 120,000 feet
 - ~\$5,000
- Secondary on Sounding Rockets
 - ~\$5,000 + (\$500/lb - \$3000/lb)
 - Wallops
 - White Sands
- High Altitude Student Platform Balloon
- RockOn! Sounding Rocket Workshop





Educational Outreach Continued - Kentucky Space CubeSat on a Sounding Rocket



- SOCEM
 - Sub-
 - Orbital
 - CubeSat
 - Experimental
 - Mission

