



NRA 02-OSS-04; Awarded May 2003

Flight Investigations

- **Cosmic Radiation Environment Dosimetry and Charging Experiment (CREDANCE)/QinetiQ/Clive Dyer**
 - Correlative Environment Monitor (CEM)
- **Energetic Particle Spectrometer for Characterizing the Environment Around the LWS-SET Spacecraft. Also referred to as a Light Particle Detector (LPD)/Physical Sciences Inc./Gary Galica**
 - Correlative Environment Monitor (CEM)
- **Dosimetry Intercomparison and Miniaturization/Clemson University/Peter McNulty**
 - Compare low-cost, high-return environment monitoring techniques
- **Space Flight Evaluation of the Radiation Performance of PolyRAD/Longhill/Edward Long**
 - Characterize effectiveness of high-density shielding
- **Definition of the Mechanisms for On-Orbit Degradation of Variable Emissivity, Variable Absorptivity and Variable Reflectivity Materials Degradation/Physical Sciences Inc./Gary Galica**
 - Demonstrate active materials experiment
 - Characterize synergistic effects of space environments in the absence of Atomic Oxygen
- **Development of Space-Based Test Platform for the Characterization of Proton Effects and Enhanced Low Dose Rate Sensitivity (ELDRS) in Bipolar Junction Transistors/AZ State/Huge Barnaby**
 - Develop physics based model of ELDRS
 - Validate ground test protocols for ELDRS ground based testing
- **Total Dose and SEU Radiation Hardness Degradation Due to the Addition of Built-In Self Test (BIST) to Mixed Signal Electronic Circuits/Bert Vermire**