PERFORMANCE ASSURANCE

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SPACE PHYSICS RESEARCH LABORATORY

TIDI

Contamination Control

- **Preassembly clean all hardware except clean optics**
- **Special handling after final cleaning, clean bagging, etc.**
  - **Need roll of clean ESD control bagging material**
- **Optical Elements processed only in HEPA filtered laminar flow (Benches & High Bay Clean Room)**
  - **High Bay Clean Room set up nearing completion**
  - **Tested and certified to Fed-Std -209 Class10000 (close to 1000)**
  - **Entry/Gowning/Maintenance procedures similar to UARS/HRDI**
    - **Beard mask, hood, bunny suit, booties, gloves**
    - **Equipment/tools to undergo isoprophyl wipe and black light inspect**
    - **Daily HEPA filtered vacuum and floor damp mop**
  - **Filtered N2 purge for Telescopes and Profiler**
- **Telescope Covers not opened at SPRL**

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Flight Safety

- **Structural**
  - Materials selected to avoid stress corrosion cracking.
  - Fracture control of safety critical Kinematic mount

    Inspect/NDE per APL SP14000 Table 1
  - Verify design SF by NASTRAN analysis and perform environmental test
- **Pressure**
  - Vent filters in ‘sealed’ subsystems (Telescopes, Profiler) to be sized for launch depressurization
- **Electrical**
  - Instrument off during launch
  - Parts derated per Mil-Std-975
  - Short Circuit protection via packaging design, insulation & coating
  - Spacecraft provides fusing
- **Pyros provided by APL, controlled by Spacecraft**

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Ground Safety Issues

- **2 Radioactive sources (~1μC ea.) in Cal Lamp PS**
  - Vacuum rated, similar to Europium-152 beads used on UARS/HRDI
  - Bonded in place and captured by CALPS cover
  - Licensing & Transport paperwork will be completed (late May delivery)
- **Lifting Fixture Not Needed**
  - Lift handles will be installed on Profiler
- **N2 Purge**
  - Telescopes and Sensor housing. Low rate (~0.1 cfm). Purge panel supplied by spacecraft
- **EGSE Isolation**
  - Facility power isolated
  - Exterior surfaces chassis grounded
  - 1553 interface to instrument