

# Progress/Status

**Eric Sawyer**

**SPIRE**

## AVM

- No update from last telecon

## CQM

### Cold Qualification model

- Following cold vibration Test campaign at CSL
- Full post test visual inspection shows no damage
- Cooler has been returned to CEA for checkout, no loss of performance. A test report is available.
- Modifications to internal thermal interfaces on the detector boxes has been initiated, design complete, parts manufactured, currently being annealed, then gold plating, then assembly.
- This delays start of next cold test until end of July
- November delivery to Spacecraft is ok.

## 2K inter-box strap

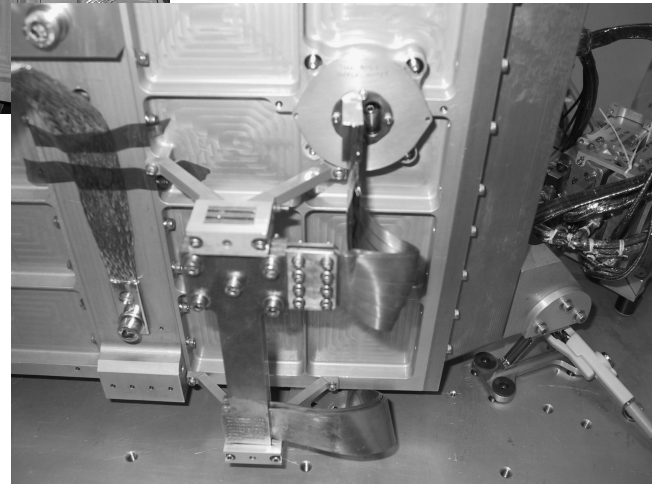
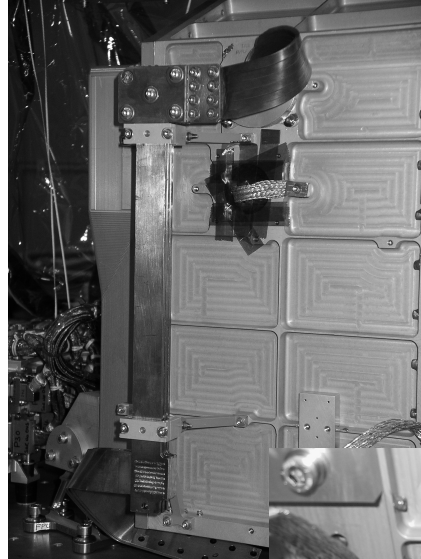
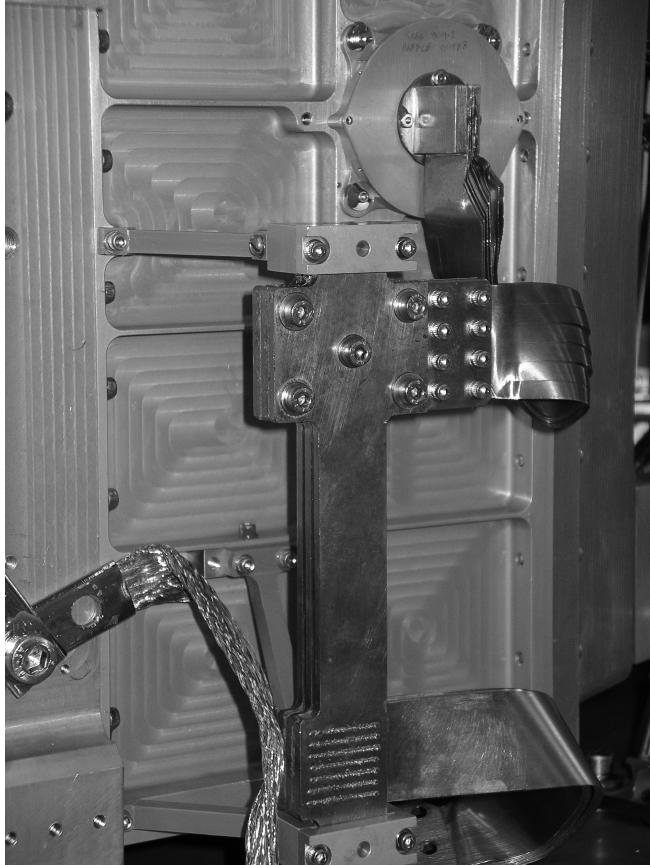
- High Delta T recorded during cold test
- Strap redesigned to improve performance
- Large area bonded copper to aluminium joints
- This doubles up as electrical isolation joints as well
- Bolted copper to copper joints
- Design complete, parts manufactured, currently being annealed, then gold plating, then assembly.



## L0 straps

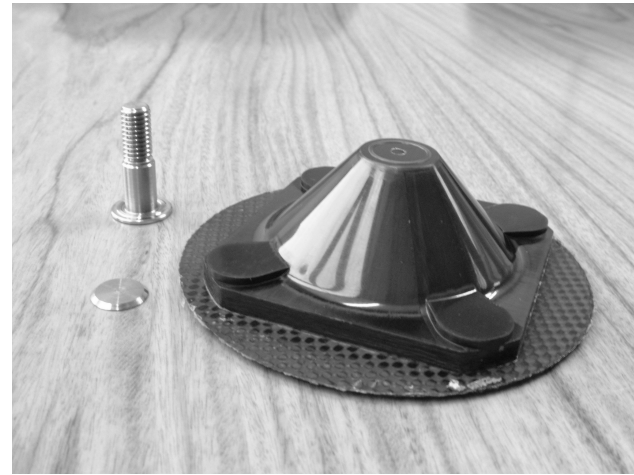
- Prototypes made and qualified mechanically during CSL cold vibration test
- Tests on copper samples show poor performance of thin sections
- Annealing improved results but not enough
- Other sources being explored, (Advent, Schlenk ) and samples obtained.
- Annealing today, then conductance testing.

# L0 straps



## CFRP feet

- Detector box and FPU test units manufactured and tested
- All cold strength tested
- All passed except FPU cone
- Broke below estimated load at bolt cone interface
- Some redesign required.
- All other released for manufacture.



# Warm electronics

- Release for FM manufacture
- No outstanding technical issues.
- CEA delay in QM2 delivery (4-6 weeks)

## PFM

- Structure manufactured, except CFRP legs and L0 straps
- Cooler –In manufacture, delivery September which will delay PFM
- DRCU FM manufacture initiated some delays
- SMEC – CQM in assembly and test, delivery in July
- Mirrors –delivered
- BDA - SSW delivered, SLW ready to send
- Photometer BDAs late may cause delay in PFM2 build
- DPU – Status uncertain
- Calibrators, filters – SCAL and filters ready, PCAL in test,.
- BSM – Built, some problems with range, FM will be delivered as is, FS will be fitted with new magnets and swapped out later.
- PFM FPU Mirror mounts integrated, metrology done.
- Alignment started 7<sup>th</sup> June, finished this week.

# AIV

- CQM tests phase 1 complete
- Test facility being readied for next phase
- New He level sensor and 'manostat' fitted
- Phase 2 to start end July

## schedule

### Milestones.

- CQM build complete 5/12/03 Complete
- CQM cold verification 1 start 31/01/04 Complete
- Cold vibration end 28/4/04 completed 8/5/04
- CQM Ready for delivery November with DRCU QM1 (temp)
- DRCU (QM1) required for FM programme.
- FM delivery October 05 with QM2 electronics, delay of 6 weeks
- FM DRCU delivery to spacecraft Nov 05

## BDA deliveries

- Technical problems at JPL
- Vibration failures on JFETs, traced to workmanship issues.
- New procedures implemented
- Spectrometer JFETs (PFM1) Sept 04
- Photometer JFETs (PFM2) Nov 04
- Photometer BDAs (PFM2) Dec 04



