

1. SPIRE PROJECT**SPIRE-RAL-REP-000987****1.1 General**

- This report covers September 2001.
- Project team has focussed on
 - Support and assistance of subsystem DDRs
 - Cryo-harness definition
 - IID-B update for SRR
 - Thermal modelling and analysis

1.2 Instrument performance

- Mirror sizes have been optimised
- Stray light analysis continuing
- Analysis of detector sensitivity to uncertain in-flight thermal background shows that performance is robust over a wide range of backgrounds (factor of 3 above or below expected). Bolometer design parameters have been fixed (based on 80 K telescope with 4% effective emissivity)

1.3 Problem Areas

- Definition of cryo harness connectors (awaiting confirmation)
- Requested CQM delivery date remains incompatible with the SPIRE schedule.
- Electrical isolation of cold straps

1.4 Meetings

- Detector subsystem meeting 4 and 6 September.
- ESTEC schedule meeting 10 September.
- Detector CDR at JPL 11 and 12 Sept.
- Project Team meeting, RAL, 13 September.
- Filters and calibrators DDR 18 September
- ESA/ALCATEL technical meeting 25 Sept.

1.5 Documents Issued

- Updated JPL-SPIRE Business Agreement
- Updated BDA Subsystem Specification Document
- Documentation set for filters and calibrators Detailed Design Review
- RIDs from BSM Detailed Design Review
- Sub system ECRs

2. INSTRUMENT MANAGEMENT**2.1 Personnel**

- No changes to RAL team.
- Christine Brockley-Blatt has joined MSSSL

2.2 Workpackages

No changes.

2.3 Schedule

No changes to major milestone list since April 2001

2.4 Funding

- The UK funding envelope is still inadequate for the hardware plus ICC development programme. Pressure still exists to descope hardware (BSM or Flight Spare).
- High cost of DRCU electronic components poses potentially serious funding problem in France.

3. INSTRUMENT ENGINEERING

3.1 Instrument Design Changes

- Minor changes to mirror sizes.

3.2 PA/QA

- Cleanliness plan is being progressed

3.3 Budgets

- Nothing to report

4. INSTRUMENT SUBSYSTEMS

Subsystem	Responsible	Status	Schedule status
BSM	ATC	Preparatory work for detailed 2 axis prototype testing (prototype assembled and integrated to breadboard electronics. Magnetic field tests performed. Basic chop and jiggle ranges of motions and sensor outputs studied. Test software tested for data capture). Design changes to DM now in hand. In particular a more robust harness for motor packages have been identified. Flex pivot discussions. Standard DM flex pivots ordered from Lucas , due 16wks.	OK
Calibrators	Cardiff	Documentation heavily updated for DDR. Dewar adapted ready for HB6 tests DDR took place on Sept. 18 th at Cardiff. Successful –	OK
Cooler	SBT	Manufacture of CQM and STM underway Modelling of overall cooler performance underway Kevlar characterisation programme in progress. Thermal strap experimental campaign complete ITT for test cryostat issued.	OK
Detectors, JFETS and RF Filters	JPL	NASA CDR completed. Vibration levels problem, a solution has been agreed	OK
DPU and OBS	IFSI	OBS meeting held	OK
DRCU and WIH	SAP	VHDL coding & Simulation. Commanding definition PSU Specification writing DRCU box Re-design due to new PSU I/F	OK
DRCU simulator Inst simulator	Stockholm	OBS meeting supported	OK
Filters, Dichroics	Cardiff	DDR held on Sept. 18. Some interface issues with BDAs to be resolved.	OK
Mirrors	LAM	Mirror sizes optimised.	OK
Shutter	USK	PDR complete	OK
Spectrometer Mechanism	LAM	Study done by BE systems on selection of flex pivots. Pivot type selected. Request for increased maximum thermal dissipation studied and	OK

SPIRE	Monthly Report to Alcatel/ESA September 2001	Date: 09/10/01
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		report issued (SPIRE-RAL-NOT-000771)	
Structure	MSSL	FPU mechanical model enhanced to allow more accurate analysis/prediction of subsystem vibration levels. 2-K photometer box is being redesigned to minimise vibration levels at detectors. Structure DDR delayed (now expected November 2001)	To be reviewed
Thermal straps	Cardiff	A small team has been formed to set up a design and test programme Testing of prototype straps has started.	OK
AIV/Calibration facility	RAL	DDR completed. Detailed design of cryostat due for completion end October.	OK

5. INSTRUMENT AIV

- A review of the AIV and calibration was carried out on 6/9/01

6. ACTIONS.

See action list attached to minutes HP-ASPII-MN-390