

SPIRE: report on LAM team visit & meeting 22-23/01/03.
(Marc Ferlet, RAL/SSTD-OSG, 24/01/03)

As part of the preparation for the instrument integration, optical alignment and verification (warm and cold), an exercise consisting in shipment and setting-up most of the OGSE equipment has been planned, ahead of the real integration task.

The LAM equipment was divided into 3 containers. This shipment arrived at RAL on January 14th. Alain Origne and Gerard Rousset, from LAM, came to RAL to set-up the equipment in dedicated clean room, Wed. 22rd and Thursday 23th January.

This note summarises activities performed and discussion during final meeting.

1. Summary of activity performed during LAM team visit at RAL

22/01/03

- AM:

Unpacking in prep. lab + checking the unpacked items against the packing lists.
Cleaning of the equipment not cleaned before shipment.
Equipment moved into G.56 cleanroom (tunnel area).

- PM:

Transport of big LAM bench to SPIRE calibration lab. + bench set-up in the corner between cryostat and HEPA filters (task took ~1 hour).
Bench partially dismantled and moved back to G.56 cleanroom.
Set-up of 2nd bench, theodolite support and alignment tools on them (MAT, theo., Hartmann).

23/01/03

- AM:

Finalise set-up of equipment on benches (M2 tools).
Packing the surplus items, light sources and electrical items (cables) into the SPIRE cupboard (-> leaving space for GERB-3 FM being brought in) and container #3 in prep. lab. + addition of labels on containers.
Benches with equipment on them (quasi ready to use) left in tunnel area, close to SMART-2 test experiments area. NB: should be moved/handled with care and only if necessary.
Meeting with Eric C for PA issues and ADP review.

- PM:

Final meeting concluding the LAM visit: see MoM below.

2. Minutes of the meeting concluding the LAM team visit

Meeting participants:

Eric Sawyer	(RAL)
Dave Smith	(RAL)
Eric Clark	(RAL)
Marc Ferlet	(RAL)
Alain Origne	(LAM)
Gerard Rousset	(LAM)

Location, time and date: RAL - SPIRE Project Room (Judy's office), 15:00 - 23/01/03

Overall Planning

Eric S, was just back from MSSL and gave us an update on the structure status: manufacturing of SOB just finished. Taking this into account, the latest update of schedule would lead to start of STM integration on March 6th with a baseline of 3 weeks for integration + optical alignment and verification (warm, all tasks in G56 clean room).

Cold tests in SPIRE calibration lab. would start around April 8th, eventually before if cryostat ready and warm integration + checks completed before.

Equipment delivered and remaining items to be delivered

-OGSE:

- Alignment tools:

The only LAM tools not sent with the main shipment of OGSE are:

- 3D-tool -> LAM can deliver them by end of January (x2); they are needed for structure metrology foreseen in February at RAL.
- D-tool -> under bake-out, not needed for the moment at RAL, not needed for metrology. Therefore it can be shipped with mirrors, see below.

- Related equipment:

The lightweight (honeycomb) interface plate to be mounted on SPIRE feet during integration (for global reference of tool and alignment wrt Herschel telescope axis) might have been damaged during transport or previously during test at LAM. Metrology to check the planarity of interface to SPIRE feet would help assess the eventual induced error. LAM will confirm planarity spec. from the manufacture and their measure before shipment. Dave will discuss it with Dave Wilsher.

Small table or trolley would be needed (in the SPIRE calibration lab) for extra laptop linked to (and therefore close to) camera on MAT during cold alignment verification. RAL will provide this item.

In order to use the french plugs attached to LAM tool electrical equipment, power plug adaptators (x2) will be needed. Marc will find these items on the model of the personal one used during LAM visit.

-Mirrors:

Just needed for integration. It was suggested to send them so that they would arrive at RAL ~1week before integration starts (=> March 1st).

3 cubes will come with the mirrors. NB: the STM cubes are dummy cubes with top reflectors (small mirrors) with fiducial marks, not single piece full metallic (Al alloy) flight model cubes.

PA

Eric C reviewed with Gerard the PA and ADP related issues. Only 3 details were noticed and LAM will provide further info on: screw sizes, update of tolerances on drawing, there is at the moment a possibility of mounting a component in 2 ways; only one is relevant and should be indicated or constrained so in order to avoid potential confusion.

Documentation

The Alignment sequence (detailed steps, in Excel spreadsheet form) will be updated by Alain with rough estimates of task duration. General feeling is that the overall procedure will take longer for STM due to lack of direct experience on the instrument itself and higher number of step for this model.

Alain will update the CAD plan view of the LAM bench position in the SPIRE calibration lab from measurements made during bench assembly trial, taking into account the definitive position of cryostat and surrounding benches (Tel. Sim.) and HEPA filter.