

SPIRE Grounding Scheme Review

Matt Griffin
19 June 2002

SPIRE-UCF-NOT-001366

Introduction

Following extensive discussion in the recent series of telecons on the grounding scheme for the SPIRE detectors, there is still a lack of unanimity within the consortium on the best approach. This is a complex and highly critical issue, with implications for the scientific performance of SPIRE and the instrument development plan and schedule. It has therefore been decided that we shall hold a detailed review of the options and seek the advice of independent experts before coming to a decision. The review must therefore be carried out as quickly, but also as carefully, as possible, and needs to be given a high priority by all concerned.

Given the importance of this question, we have decided that a formal review of the issue and the options is going to be necessary to make sure that we make the best decision, and to make sure that even if it is controversial it will have been arrived at by an agreed process.

This note outlines the objectives and format of the review and places actions on various people who will be involved.

Objectives

- Review the technical merits of a set of grounding options to be put forward by JPL, CEA, and RAL
- Advise (if appropriate) on additional options
- Consider also the programmatic (schedule and funding) implications of the proposed options
- Recommend a course of action to the Project

Envisaged attendance

- **SPIRE:**
 - Cardiff: Matt Griffin
 - CEA: Laurent Vigroux, Jean-Louis Augueres, Christophe Cara, Dominique Schmitt, others as appropriate
 - JPL: Jamie Bock, Viktor Hristov, Gary Parks, others as appropriate
 - RAL: Eric Sawyer, Ken King, John Delderfield, Bruce Swinyard, Doug Griffin
 - ATC: Colin Cunningham
- **Panel of Advisers:**
 - ESA: Project Team (Gerry Crone and/or Thomas Passvogel, Astrid Heske)
EMC expert(s) (e.g., Bernard Jackson, Filippo Marliani)
 - Agencies: PPARC (Ray Carvell)
CNES representative(s) - technical/programmatic [CEA to liase]
NASA representative [JPL to liase]
 - Other technical experts: Planck HFI Electronic Systems Engineer (Roger Pons?)
PACS Electronic Systems Engineer?
Bolometer instrument expert [e.g., Ernst Kreysa]?

Review format

Documentation (preferably two weeks before):

- JPL and SAp each to provide a document outlining their proposals including design description, analysis, and comment as appropriate
- RAL (John Delderfield) then to provide a document reviewing these and outlining specific options for consideration (this needs the above docs. to be available early at least in draft form)
- SAp to provide a summary of their likely development plans for all the proposed options (with particular attention to schedule and model philosophy, with the objective of retaining the current delivery date of the SPIRE PFM instrument to ESA)

Meeting arrangements and draft agenda:

Location: RAL
 Duration: One and a half days, starting lunchtime on first day
 Chairman: Matt Griffin
 Date: Week of Sept. 9 or Sept. 16: available dates are 12, 13, 16,17, 18, 19 20
 The review must not be allowed to slip beyond Sept. 20.
 Based on (incomplete) information so far, I suggest 16 and 17 as the best dates

Draft agenda

- | | |
|---|----------------------|
| 1. Introduction | Griffin |
| 2. Current SPIRE electronics/AIV schedule | Sawyer |
| 3. SPIRE system grounding philosophy | Delderfield |
| 4. JPL view on detector grounding scheme | JPL |
| 5. CEA view on detector grounding scheme | CEA |
| 6. RAL analysis and comments; summary of proposed options | Delderfield |
| 7. Comments on submitted documents | Experts |
| 8. Schedule and funding implications of proposed options | CEA and RAL |
| 9. Panel questions and answers | |
| 10. Open discussion | |
| 11. Panel members advice (open session) | |
| 12. Conclusions and decision on future plan | Griffin/Vigroux/Bock |

Actions

1. **Eric** to take charge of review preparation until Matt gets back from vacation.
2. **JPL, CEA, ESA** to inform Eric about their availability so that he can fix the dates as soon as possible.
3. **JPL, CEA** to propose agency representatives to attend the review.
4. **Eric** to invite Roger Pons (roger.pons@cesr.fr) and PACS Electronic System Engineer (Otto Bauer should be able to identify the person).
5. **John** to liase with CEA and JPL on format of the documents to be submitted and the need dates for drafts.