

SPIRE SVR-3 and Consortium Meeting Plan

Stockholm, October 29-31 2007

Matt Griffin

SPIRE-UCF-DOC-002971

19 October 2007

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1. Introduction

This document outlines the plan for Phase 3 of the SPIRE Science Verification Review (SVR) and the next SPIRE Consortium meeting, to be held in Stockholm on October 29-31.

2. SVR-3 and Consortium meeting logistics and agenda

The meeting starts at 14:00 on Oct. 29. Rooms will be available if necessary on the morning of the 29th for SAG splinter meetings (SAG coordinators should contact Göran Olofsson if they want to have such a meeting).

Venue: AlbaNova University Center, Roslagstullsbacken 21, SE-106 91 Stockholm

Meeting rooms: FA31 and FA32 (on the 3rd floor)

Tel.: +46 8 5537 8500 (switchboard); +46 8 5537 8524 (Göran Olofsson)

Fax: +46 8 5537 8510

Location and directions: See <http://www.albanova.se/information/index.php?id=hitta>
See attached maps (Appendix 1)

Travel from the airport Taxi: takes 30-45 min, cost ~ 350 SEK
Train to central station + taxi: total cost about the same

Note: If you are coming by taxi to the meeting location, it's best not to give "Stockholm Observatory" as your destination to the driver - you might end up at the old observatory which is somewhere else. So ask to be taken to the above address.

Local point of contact with any enquiries: Göran Olofsson:
Tel: +46 8 5537 8524
E-mail: olofsson@astro.su.se

Suitable hotels

The closest hotel to AlbaNova is Hotel Arcadia, K rsb rsv gen 1, Tel: +46 8 566 215 00

<http://www.destination-stockholm.se/hotels/arcadia.htm>

There are a number of other hotels within walking distance: see e.g. <http://www.booking.com> (choose language and ‘Stockholm City’, and you will find a map with the listed hotels). Some of them are listed below:

Best Western Time Hotel	www.bestwestern.com
Brunnen Hotel	http://www.hotelbrunnen.se/
Pensionat Oden Vasastan	http://www.pensionat.nu/vasaen.htm
Hotel Burger Jarl	http://www.birgerjarl.se/eng/
Hotel Taptos	http://www.choice.no/html/page.jsp?propcode=SE018&langcode=EN-GB&catcode=null

Outline Agenda	
Day 1: October 29 Start: 14:00 End: 18:30	<ul style="list-style-type: none"> • SPIRE SVR-3 Day 1 <ul style="list-style-type: none"> • All consortium members welcome to attend • See Section 4 for detailed description and Appendix 1 for the agenda • Evening: relaxing social event
Day 2: October 30 Start: 09:00 End: 17:00	<ul style="list-style-type: none"> • AM: SPIRE SVR-3 Day 2 <ul style="list-style-type: none"> • All consortium members welcome to attend • PM: In parallel <ul style="list-style-type: none"> • Review Board meeting • SAG Splinter meetings
Day 3: October 31 Start: 09:00 End: - 13:00 (Main meeting) - 16:30 (Co-Is’ meeting)	<ul style="list-style-type: none"> • AM: Consortium meeting (all consortium members welcome to attend) <ul style="list-style-type: none"> • 09:00 Update on Herschel/Planck project status (Pilbratt) • 09:20 Update on SPIRE project status (Griffin) • 09:40 Feedback from SVR Review Board (Pilbratt) • 10:00 Coffee • 10:15 SAG reports -10 min. per SAG (GT programme status, preparation for data processing and science, ancillary activities, resources, problem areas . . .) • 11:15 Reports from Cross-SAG Working Groups (15 min. each) <ul style="list-style-type: none"> - Extended emission (Abergel) - Point source extraction (Oliver) - FTS imaging spectroscopy (Naylor/Baluteau) • 12:00 ICC (King, Clements) <ul style="list-style-type: none"> - ICC development status and plans - Logistics and planning for first year after launch • 13:00 End • PM (14:00 – 16:30): Co-Is’ and SAG Coordinators’ meeting <ul style="list-style-type: none"> • Co-Is or their nominated alternates, and SAG coordinators

3. SVR format and objectives

The Herschel SVRs are formal ESA reviews chaired by the Herschel Project Scientist. The primary objective of the SVRs is to ensure that at the time of the Mission-level Flight Readiness Review (M-FRR) it will be possible to conclude that (on the assumption of a successful launch and commissioning) Herschel will live up to reasonable expectations of the scientific community based on a proper assessment of design and testing.

The SVRs cover:

- instrument performance;
- telescope performance;
- spacecraft performance directly related to scientific performance;
- ‘integrated’ Herschel (observatory) scientific performance.

The instrument SVR sequence is as follows.

SVR-1: CQM ILT/EQM & FM ILT Preparation Review: SPIRE carried out this review in January 2006.

SVR-2: FM ILT Pre-completion Review: The SPIRE SVR-2 was held in September 2006.

SVR-3: Instrument Performance Review: This is to be held after delivery of the flight instrument and comprehensive analysis of the ILT results, and should:

- take stock of the fully assessed FM ILT results;
- take stock of instrument verification at module and satellite level;
- make the best possible current assessment of expected scientific performance;
- generate the required instrument input for feeding into higher level Herschel science verification reviews.

Additional or complementary SPIRE objectives are to

- review the progress and planning for system-level testing;
- assess the status of the in-flight Commissioning, PV phase and Calibration plans - verify that they are at an appropriate stage of development and that they will be fully adequate to perform and analyse all essential tests before routine operations start;
- review progress and planning for populating all essential calibration files before launch at a level adequate for efficient and successful PV.

The outcome of the SVR-3 will be used to prepare for the Instrument Flight Acceptance Review (IFAR) Subsequent SVRs are planned by ESA for the telescope, the spacecraft and the overall Herschel mission.

4. SVR-3 format and arrangements

4.1 Review format

The format will be very similar to that of the SVR-1 and 2. The review will consist of two parts:

- review of the documentation package;
- a review meeting involving presentations, discussion, Review Board meeting, and feedback.

A set of documents was submitted for the SVR Phase-2. These will be revised and updated as appropriate, to constitute the SVR Phase-3 document set, together with various additional documents. The documents will be to be available 10 days before the meeting (October 20).

4.2 Review Board

The Review Board members are listed below.

- | | |
|--------------------------|---|
| • Göran Pilbratt (Chair) | ESA Herschel Project Scientist |
| • Gerry Crone | ESA Herschel Payload Manager |
| • Carsten Scharnberg | ESA SPIRE Instrument Manager (observer) |
| • Sarah Leeks | ESA HSC SPIRE Instrument and Calibration Scientist |
| • Ivan Valtchanov | ESA HSC SPIRE Instrument and Calibration Scientist (observer) |
| • Helmut Feuchtgruber | PACS ILT expert |
| • Paul Harvey | Herschel Mission Scientist |
| • Ray Carvell | PPARC representative |
| • Karine Mercier | CNES representative |
| • Ulf Israelsson | NASA representative |
| • Matt Griffin | SPIRE Principal Investigator (observer) |

4.3 Review documents

- The SVR-2 documents are to be updated and extended as needed. Document authors are asked to
 - incorporate all relevant results from all PFM cooldown campaigns;
 - be as brief and concise as possible;
 - use appendices if necessary to make details available;
 - focus on
 - analyses that relate to scientific performance;
 - results and their implications rather than detailed accounts of the data reduction and analysis;
 - compliance with explicit system and subsystem requirements (as detailed in the Instrument Requirements Document and the subsystem specification documents);
 - shortcomings/incomplete aspects of the currently available data and needs for additional tests and calibrations;
 - a list of identified concerns/problems.
- A preliminary list of documents to be issued for the review is attached.

4.4 Meeting presentations

- Review Board members will already be fully informed as to the status at the time of the SVR-2.
- Presentations have to be short and concise and run strictly to time – they are not intended to present complete information (that's in the documentation) but to highlight the key conclusions and points that the Review Board should note.
- Presentation slots (normally 15 or 20 minutes) should include 5 minutes for questions, and should focus on
 - main conclusions from the corresponding documents
 - key updates to the SVR-2 documents (especially concerning compliance with requirements);
 - new conclusions, based on post SVR-2 tests and other new information;
 - open issues and problems;
 - implications for the System-Level testing and PV phase.

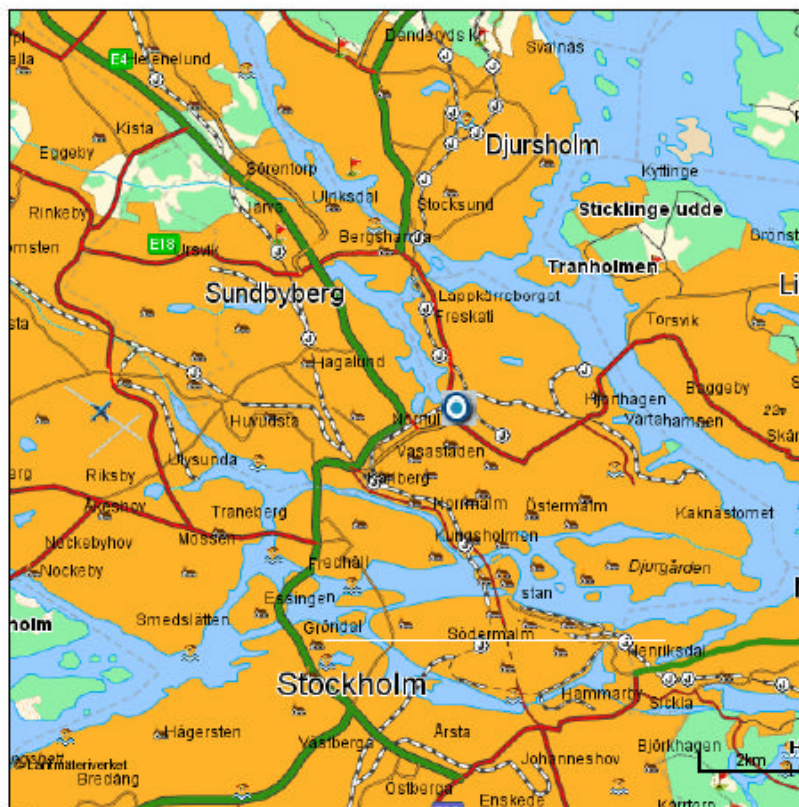
4.5 List of review documents

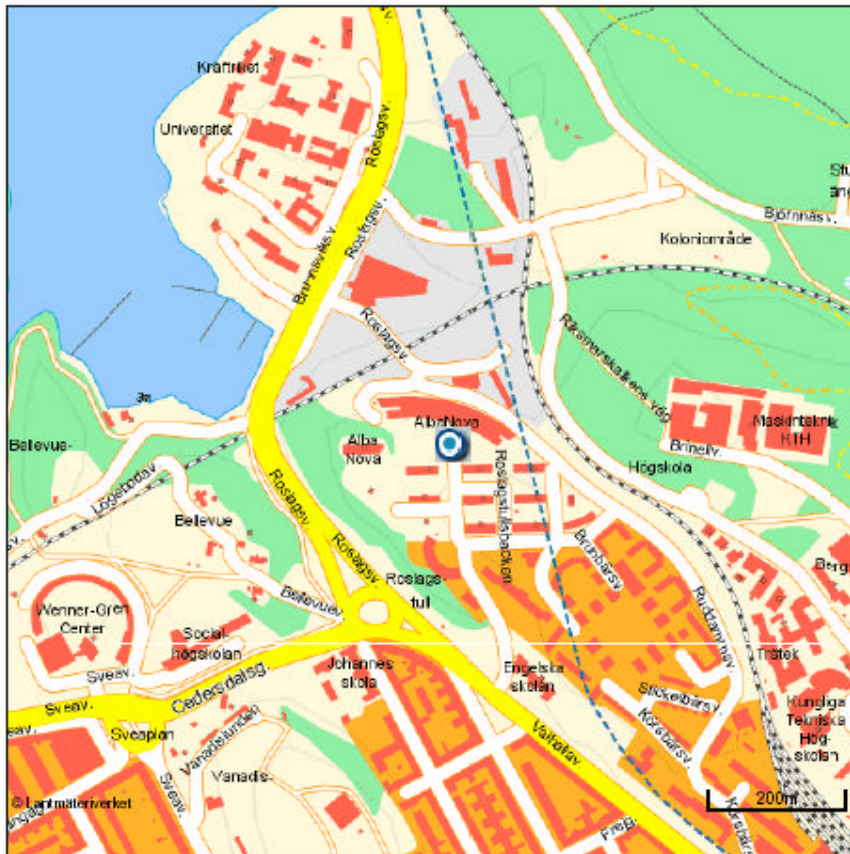
The proposed document set is summarised in Appendix 1

4.6 SVR-3 detailed agenda

The preliminary SVR-3 meeting agenda are given in Appendix 3. There may be some changes but most of the key presentations and nominal presenters are identified.

5. Appendix 1: Maps





6. Appendix 2: List of SVR-3 documents

- Documents are divided into the following categories
 - SVR status and plan
 - Requirements documents
 - Test reports
 - Pipelines and Calibration Files
 - System Level and In-Flight Test Plans
 - Scientific performance estimation
- Blue: Existing document (no update)
- Yellow: Existing document updated
- Green: New document
- Grey: No document (presentation at the review meeting)

No.	Details	
	SVR status and plan	
0	Title:	Science Verification Review (SVR) Procedure
	Doc. No	Herschel/HSC/DOC/0710 v3.0
	Author	Göran Pilbratt
1	Title:	SPIRE Science Verification Review - Phase 3 and Consortium Meeting (this document)
	Doc. No	SPIRE-UCF-DOC-002971 (October 19, 2007)
	Author	Matt Griffin
2	Title	Report on progress on SVR-2 recommendations
	Doc. No.	SPIRE-UCF-REP-002973 (Issue 1.0, October 19 2007)
	Author	Matt Griffin
	Requirements Documents	
3	Title:	SPIRE Scientific Requirements
	Doc. No	SPIRE-UCF-PRJ-000064 (Version 3.0, Nov. 21 2000)
	Authors	Matt Griffin and Walter Gear
4	Title:	SPIRE: Instrument Requirements Document
	Doc. No	SPIRE-RAL-PRJ-000034 (Issue 1.3, 14 July 2005)
	Author	Bruce Swinyard
5	Title:	SPIRE: Calibration Requirements Document
	Doc. No	SPIRE-RAL-PRJ-001064 (Issue 1, 17 Jan. 2006)
	Author	Bruce Swinyard
6	Title:	SPIRE FM Calibration and Performance Test Plan
	Doc. No	SPIRE-RAL-DOC-002535 (Draft 0.1, 13 Jan. 2006)
	Author	Tanya Lim
7	Title:	SPIRE Cryogenic Thermal Design Requirements
	Doc. No	SPIRE-RAL-PJR-002075 (Issue 1, 13 Jan. 2006)
	Author	Bruce Swinyard

	Test reports	
8	Title	Thermal performance
	Doc. No.	SPIRE-RAL-REP-002557 (19 October 2007)
	Authors	Allan Dowell
	Comments	Update of Anneso Goizel's SVR-2 document

9	Title	SPIRE ILT Test Report: Instrument Throughput
	Doc. No.	SPIRE-RAL-REP-002977 (19 October 2007)
	Author	Bruce Swinyard
10	Title	BSM performance in PFM2
	Doc. No.	SPIRE-RAL-REP-002565 (Issue 1, 17 January 2006)
	Author	Tanya Lim
11	Title	SPIRE ILT Report: SMEC and spectrometer performance
	Doc. No.	SPIRE-BSS-DOC-002969 (19 October 2007)
	Authors	Jean-Paul Baluteau, Trevor Fulton, David Naylor
12	Title	SPIRE ILT Report: PCAL performance
	Doc. No.	SPIRE-UCF-REP-002567 (17 October 2007)
	Author	Peter Hargrave
		Note: Only very minor updates to the SVR-2 document
13	Title	SPIRE ILT Report: SCAL performance
	Doc. No.	SPIRE-UCF-REP-00**** (17 October 2007) (Doc. number to be assigned)
	Author	Peter Hargrave
14	Title	Detector Channel Performance Estimation from Unit-Level tests and ILT
	Doc. No.	
	Author	Matt Griffin
	Comments	Updated detector parameters from the PFM-5 campaign are not yet finalised. Therefore this document is deleted from the review. Parameters values will not change significantly, and the equivalent document provided for SVR-2 can still be taken as indicative. A summary of the overall yield and list of problem pixels is given in SVR-15
15	Title	SPIRE Bolometer Array Noise Performance
	Doc. No.	Version 1.1, 19 October 2007 (Document number to be assigned)
	Authors	Bernhard Schulz, Nanyao Lu, Lijun Zhang, Kevin Xu, Jamie Bock, Darren Dowell, Hien Nguyen, Glenn Laurent
16	Title	Bolometer Array Performance: Summary
	Doc. No.	SPIRE-UCF-REP-002571
	Author	Matt Griffin
	Comments	Document not yet updated (no significant non-compliances)
17	Title	SPIRE ILT Report: Instrument Optical Performances
	Doc. No.	SPIRE-RAL-REP-002963
	Author	Marc Ferlet
18	Title	SPIRE EMC DRB Status Summary
	Doc. No.	SPIRE-RAL-REP-002853 (Issue 0.4, 27 June 2007)
	Author	Doug Griffin
19	Title	Microphonics Test Report
	Doc. No.	To be assigned
	Author	Doug Griffin
	Comments	Document not available – to be issued prior to the review meeting
20	Title	CQM Cold Test 1 Performance Test Report
	Doc. No.	SPIRE-RAL-REP-002083 (Draft, 14 July 2004)

	Author	Bruce Swinyard
21	Title	Straylight testing during EQM
	Doc. No.	SPIRE-RAL-NOT-002688 (Issue 1, 17 July 2006)
	Author	Bruce Swinyard
22	Title	Report on analysis of STM-2 straylight testing
	Doc. No.	SPIRE-RAL-REP-002799 (Issue 1.0, 12 Jan. 2007)
	Author	Bruce Swinyard
23	Title	SPIRE ILT Report: AOT Tests
	Doc. No.	SPIRE-RAL-REP-002961 (Issue 1, 26 Sept. 2007)
	Author	Ken King
24	Title	SPIRE IID-B Requirements Verification Matrix
	Doc. No.	SPIRE-RAL-DOC-002874 (Issue 1.0, 15 June 2007)
	Author	Bruce Swinyard

Pipelines and Calibration Files		
25	Title	The SPIRE Analogue Signal Chain and Photometer Detector Data Processing Pipeline
	Doc. No.	SPIRE-UCF-DOC-002890 (Issue 3, 9 October 2007)
	Author	Matt Griffin
26	Title	SPIRE Spectrometer Pipeline Description
	Doc. No.	SPIRE-BSS-DOC-2966 (Version 1.5, 2 October 2007)
	Author	Trevor Fulton
27	Title	SPIRE Pipeline Description
	Doc. No.	SPIRE-RAL-DOC-002437 (Draft 0.3, 19 Oct. 2007)
	Author	Tanya Lim
28	Title	Status of SPIRE Calibration Files
	Doc. No.	N/A
	Author	Tanya Lim
	Comments:	No document available – to be covered in a presentation at the review meeting

System Level and In-Flight Test Plans		
29	Title	SPIRE System Level Test Plan
	Doc. No.	SPIRE-RAL-DOC-002726 (Issue 1.1, 28 September 2007)
	Author	Bruce Swinyard
30	Title	SPIRE System Level EMC Test Plan Overview
	Doc. No.	To be assigned
	Author	Doug Griffin
	Comments	Document not available – to be issued prior to the review meeting
31	Title:	SPIRE Calibration Observation Definitions
	Doc. No	Draft 0.1, 19 October 2007; Document number to be assigned
	Author	Tanya Lim
32	Title	SPIRE Instrument Commissioning Plan
	Doc. No.	Document number to be assigned
	Authors	Sunil Sidher and Bruce Swinyard
	Comments	Document not available due to pressure of System Level Test support. Status will be reported at the SVR-3 meeting

33	Title	SPIRE PV Phase Plan
	Doc. No.	Draft 0.1, 19 October 2007; Document number to be assigned
	Author	Tanya Lim

	Scientific Performance Estimation	
34	Title	SPIRE Sensitivity Models
	Doc. No.	SPIRE-QMW-NOT-000642 (Draft produced for GS Review, 21 May 2007)
	Author	Matt
35	Title	Spacecraft Performance, AOT Implementation and Impact on SPIRE Scientific Performance
	Doc. No.	N/A – Presentation at the review meeting
	Authors	Göran Pilbratt and Sarah Leeks

7. Appendix 3 : SVR-3 Detailed Agenda

Day 1: 29 October

Start Time	End Time	Duration (Min.)		
14:00	14:05	5	Welcome and logistics	Olofsson
			Purpose and organisation of the review	
14:05	14:15	10	ESA and Review Board Perspective	Pilbratt
14:15	14:20	5	SPIRE perspective	M Griffin
			Review of ILT results	
14:20	14:40	20	Overview of the SPIRE ILT Programme	Swinyard
14:40	15:00	20	Thermal performance	Swinyard
15:00	15:15	15	Coffee	
15:15	15:35	20	Spectral passbands and throughput	Swinyard
15:35	15:55	20	SMEC and spectrometer performance	Baluteau/Fulton
15:55	16:10	15	Optical performance	Ferlet
16:10	16:40	30	Bolometer Array Performance	Schulz/Nguyen
16:40	16:55	15	PCAL and SCAL performance	Hargrave
16:55	17:15	20	EMC Tests: Status, Programme and Plan	D Griffin
17:15	17:35	20	AOT Tests: FM report and FS plan	King
			Instrument Compliance and Performance	
17:35	17:55	20	Compliance with Inst. Req. Doc.	Swinyard
17:55	18:10	15	Sensitivity Models	M Griffin
18:10	18:30	20	AOT Implementation and Spacecraft Performance	Leeks/Pilbratt
18:30	19:00	30	Preliminary Review Board meeting	
			Evening: Relaxing social event	

Day 2: 30 October

Start Time	End Time	Duration (Min.)		
			Data Processing Pipelines	
09:00	09:15	15	Pipeline Overview	King
09:15	09:30	15	Front End and Photometer Pipeline Status	Griffin
09:30	09:45	15	FTS Pipeline Status	Fulton
09:45	10:00	15	Status of Calibration Files	Lim
			Future Plans	
10:00	10:20	20	System-Level Test Plan	Swinyard
10:20	10:35	15	Coffee	
10:35	10:55	20	Commissioning Plan (inc. 10 min. discussion)	Swinyard
10:55	11:35	40	PV-Phase Test Plan (inc. 15 min. discussion)	Lim
11:35	11:55	20	Routine Phase Calib. Plan (inc. 10 min. discussion)	Lim
11:55	12:15	20	Photometric Calib. Scheme (inc. 10 min. discussion)	M Griffin
			Summary and conclusions	
12:15	12:30	15	Progress with respect to SVR-2 recommendations	M Griffin
12:30	12:45	15	Problem areas and conclusions	M Griffin
12:45	13:15	30	Discussion	
13:15	14:30	75	Lunch	
			In Parallel	
			- Review Board meeting	
			- SAG Splinters	

PM