



SPIRE PHOTOMETER LARGE MAP

BASIC TUTORIAL: DATA AND PIPELINE PROCESSING

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OUTLINE

- Start HIPE
- Get the data
- Quick look at the data
 - Observation Context
 - Level-2
 - Calibration files used
- Run the standard pipeline

GET THE DATA

- Import Herschel data to HIPE
- or Send products from the HSA to HIPE
- or just register the pool
(the data already in the local store)

Import data to HIPE demo (not to be used!)

REGISTER A POOL

- HIPE => PAL
 - Create new store and register the pool in it
 - Query the store for observation contexts (from Product Browser view)
 - Select the observation context (double click)

Load pool and browse

BROWSE THE OBSERVATION CONTEXT

HIPE 2.0 - obsid_13...2183475

File Edit Run Window Help

Editor x

obsid_13...2183475 x

ObservationContext for SPIRE data of observation 1342183475

Summary

Instrument:	SPIRE	RA:	208.49302012459887
DEC:	-66.52934490800331	Operational Day:	117
Observation ID:	1342183475	Observation Mode:	Large Map

Meta Data

name	value	unit	description
type	OBS		Product Type Identification
creator	SPGv1.2.1676		Generator of this product
creationDate	2009-09-29T19:13:06Z		Creation date of this product
description	ObservationContext for SPIRE data of observation 134218...		Name of this product
instrument	SPIRE		Instrument attached to this product
modelName	FLIGHT		Model name attached to this product
startDate	2009-09-07T16:43:08Z		Start date of this product
endDate	2009-09-07T17:02:48Z		End date of this product

Data

- obsid_1342183475_ObservationContext_for_SPIRE_data_of_observation_1342183475
- auxiliary
- browseImageProduct
- browseProduct
- calibration
- level0
- level0_5
- level1
- level2
- PLW
- PMW
- PSW
- logObsContext
- quality

80 of 1995 MB

Browse obsContext demo

INSPECT LEVEL-2 PRODUCTS

- Maps, colours, error map, coverage/hit map.
- Save the maps to fits files.

Browse level-2 demo

INSPECT CALIBRATION PRODUCTS

- *Browse Calibration*

LOAD PIPELINE SCRIPT AND START THE PROCESSING

- There are different sections in the script
- We'll skip level-0 to level-0.5 and level-0.5 to level-1
- We'll do the browseProduct - three colour image, as this is not done in the version of the context
- Then at the end we'll save the observation to a pool

Run the pipeline

WHAT CAN WE CHANGE IN THE PIPELINE?

- Level-0 to level-0.5: nothing
- Level-0.5 to level-1: few things
 - an alternative deglitching or the standard deglitching parameters.
- Level-1 to level-2:
 - alternative baseline removal,
 - different map resolution.

CHANGE THE MAP RESOLUTION

- *Map resolution*

EXPLORE LEVEL-1 AND LEVEL-0.5 DETECTOR TIMELINE EXPLORER

- *DTE demo*

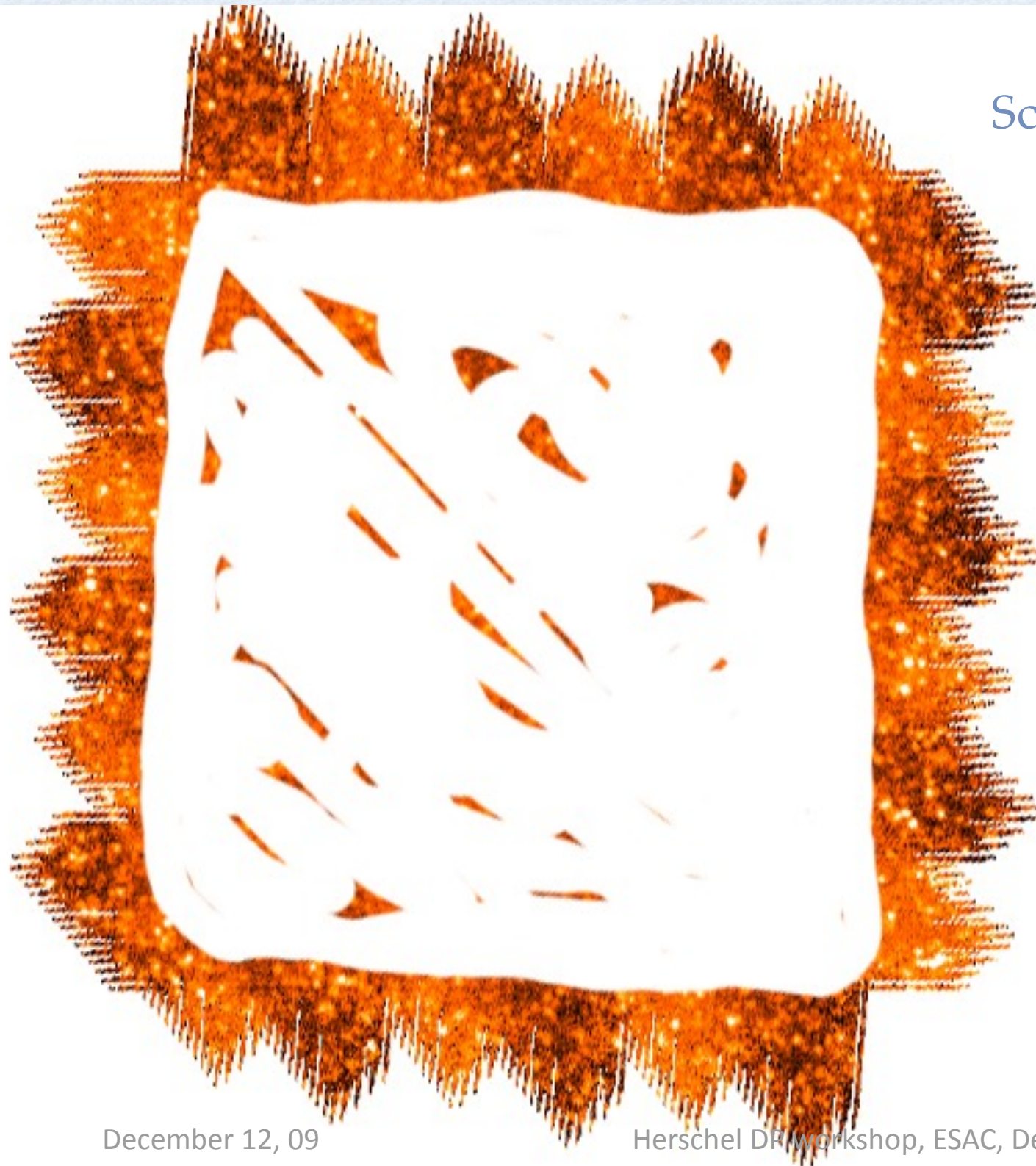
SPIRE PHOTOMETER LARGE MAP CALIBRATION ISSUES

WHAT CALIBRATION

- Early phases of the mission
 - Glitches
 - Saturated bolometers (bright sources)
 - Improper temperature drift correction and baseline removal
 - Pointing offsets

TEMPERATURE DRIFT

Scans with higher/lower background



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Herschel DR Workshop, ESAC, Dec 2009

14

TEMPERATURE DRIFT

Scans with higher/lower background



THE END