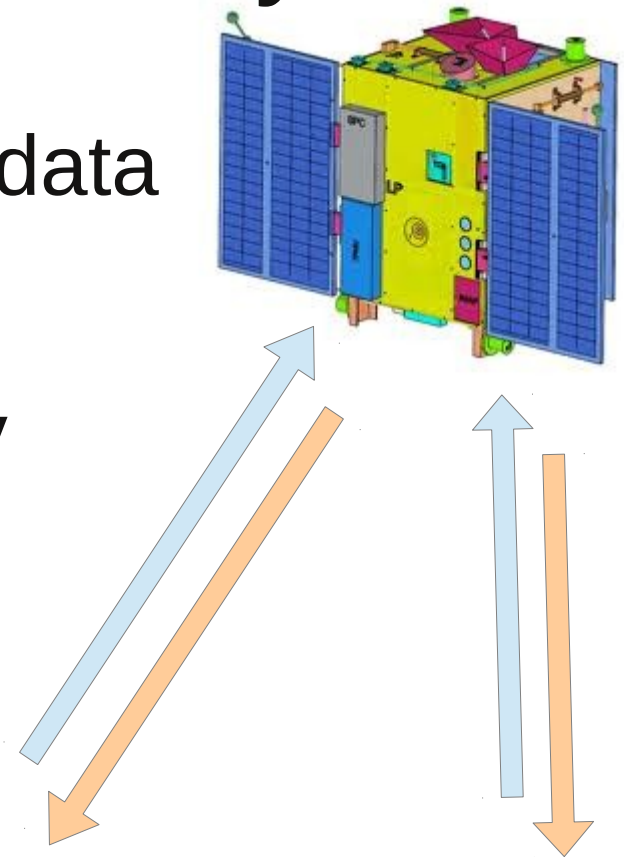


# Functionality and Architecture of the PROBA2 Science Center (P2SC)

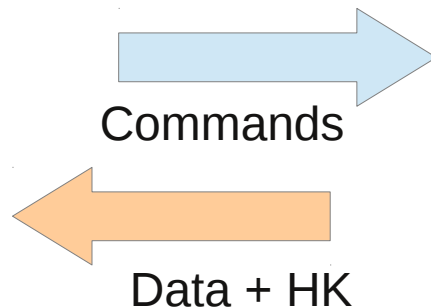


# P2SC Main functionality

- Command instruments to take data
- Process downloaded data
- Monitor health and consistency
- Documentation & Reports



P2SC (Uccle)



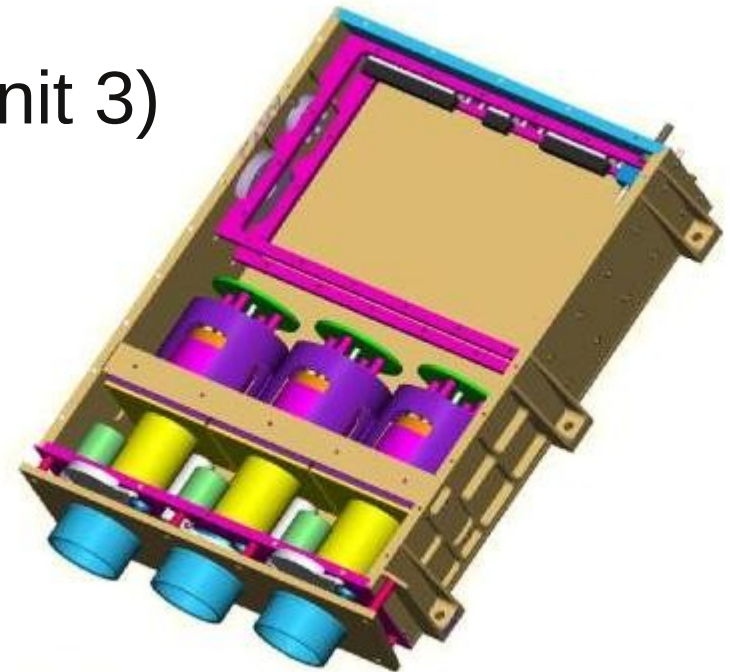
MOC (Redu)



Svalbard

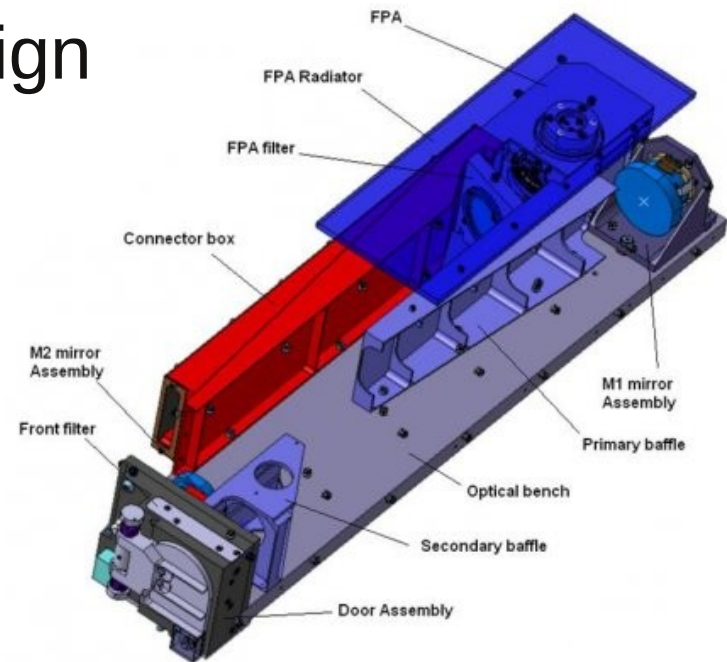
# Command instruments (what)

- LYRA: radiometer with 3 units
  - Unit 2 nominally open, 1 & 3 closed
  - Daily occultation campaign (Oct. - Feb.)
  - Bi-weekly calibration campaign
  - Flare hunting campaigns (24h unit 3)
  - Solar eclipse campaigns
  - Guest Investigator requests



# Command instruments (what)

- SWAP: imager
  - Off-Pointing (complete satellite)
  - Cadence (110 – 130 sec nominally)
  - Bi-weekly calibration campaign
  - Occultation jumps
  - ESP jumps
  - Solar eclipse campaigns
  - Guest Investigator requests




# Command instruments (how)

File Edit View History Bookmarks Tools Help

SWAP Planning Tool Interf... +

p2sc-s2.oma.be/PTI/SW-PTI/index2.php































☆ Google



**Actions** 30

- Show work\_space
- Clean work\_space
- Load timeline
- Commit timeline
- Load sequence
- Save sequence
- Launch los Writer
- Launch los Translator
- SAA & LAR info
- Off-point facilities

Database: **swapworkdb** Table: **work\_table**

Action	rowid	time	timeaux	command	source
  	2	1358502700	Fri January 18, 2013, 09:51:40	data_management	swapcomdb
  	3	1358502710	Fri January 18, 2013, 09:51:50	acquisition_configuration	swapcomdb
  	4	1358502720	Fri January 18, 2013, 09:52:00	specific_acquisition	swapcomdb
  	5	1358503610	Fri January 18, 2013, 10:06:50	acquisition_configuration	swapcomdb
  	6	1358503620	Fri January 18, 2013, 10:07:00	specific_acquisition	swapcomdb
  	7	1358504210	Fri January 18, 2013, 10:16:50	acquisition_configuration	swapcomdb
  	8	1358504220	Fri January 18, 2013, 10:17:00	specific_acquisition	swapcomdb
  	9	1358504990	Fri January 18, 2013, 10:29:50	data_management	swapcomdb
  	10	1358505000	Fri January 18, 2013, 10:30:00	table_acquisition	swapcomdb
  	1	1358508901	Fri January 18, 2013, 11:35:01	table_acquisition	swapcomdb

off Create

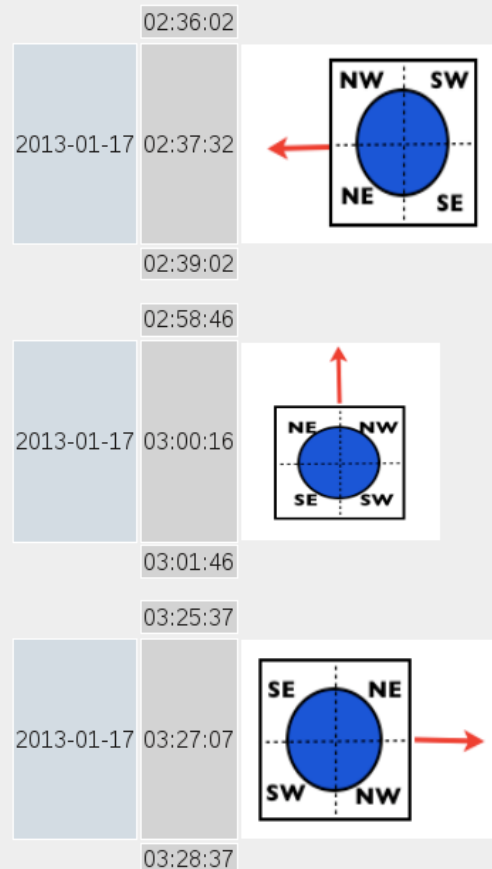


# Command instruments (support)

p2sc-s2.oma.be/PTI/SW-PTI/lar.php?date=20130117&

## LARGE ANGLE ROTATIONS

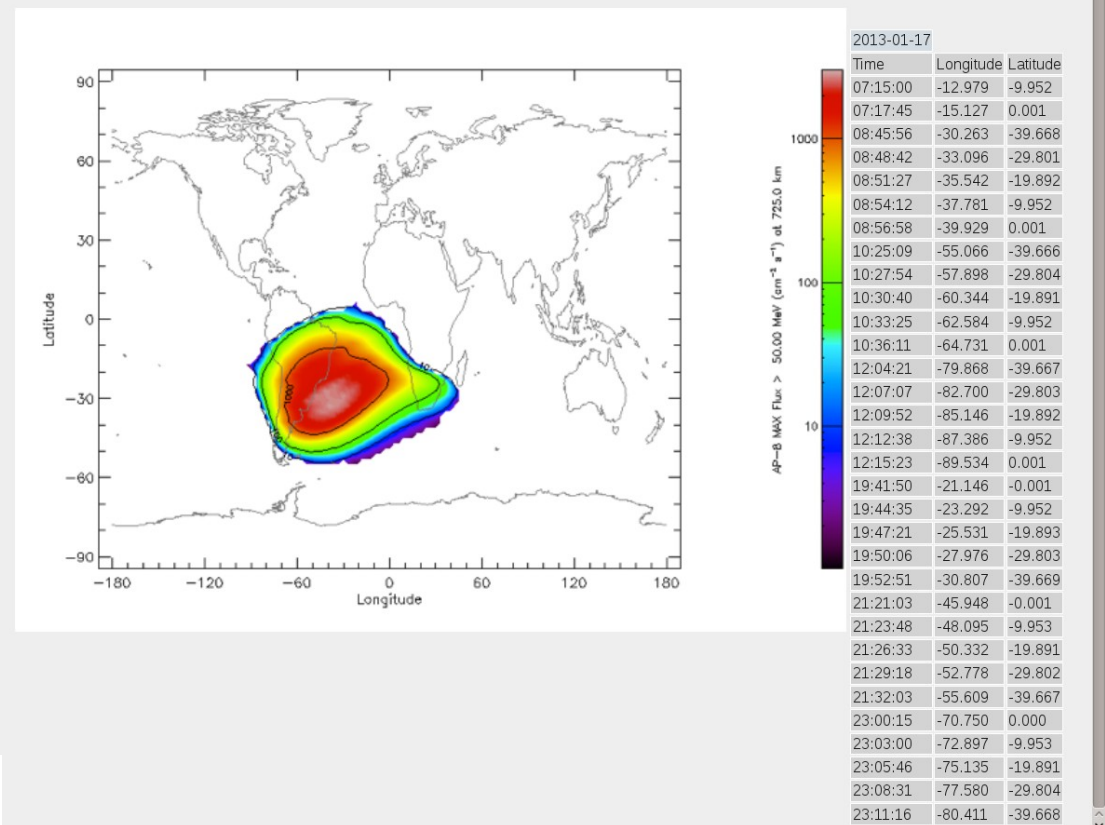
The real time of the LAR is the one which appears in the same line of the date.  
The previous/next line shows the LAR time  $\pm 90$  seconds.  
The operator can use this values to skip in a standard way the LAR when imaging.  
The info was processed from [http://194.78.233.110/proba2/products/Eclipse/PROBA2\\_Info\\_LARdelay7min\\_20130117.bt](http://194.78.233.110/proba2/products/Eclipse/PROBA2_Info_LARdelay7min_20130117.bt)



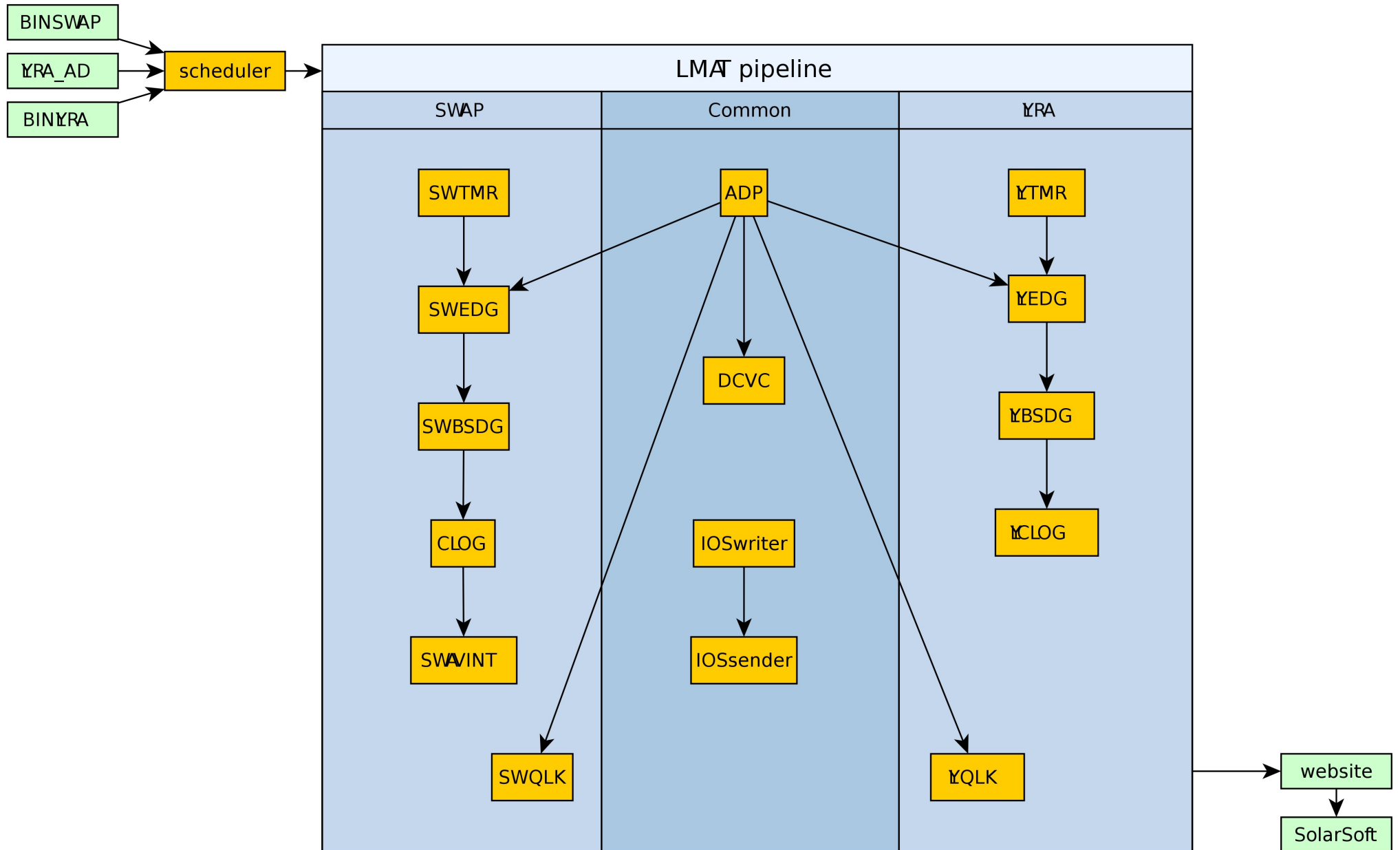
p2sc-s2.oma.be/PTI/SW-PTI/saa.php?date=20130117&

## SOUTH ATLANTIC ANOMALY

This file shows the periods where PROBA2 is over the South Atlantic Anomaly for each day.  
We consider PROBA2 over SAA when its longitude is in between  $[-10, -100]$  and the latitude is in  $[5, -47]$ .  
The info was processed from [http://194.78.233.110/proba2/products/Eclipse/PROBA2\\_Info\\_20130117.bt](http://194.78.233.110/proba2/products/Eclipse/PROBA2_Info_20130117.bt)



# Process Downloaded Data



# proba2.oma.be


File Edit View History Bookmarks Tools Help

LMAT Interface About the PROBA2 Scie... +

proba2.oma.be

Google

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Welcome to the PROBA2 Science Center

About PROBA2

- Mission
- Spacecraft
- Launch and Orbit
- Operations Calendar
- Science Payload

Science


- Guest Investigator Program
- Publications

Data

- LYRA Data
- SWAP Data
- Data analysis

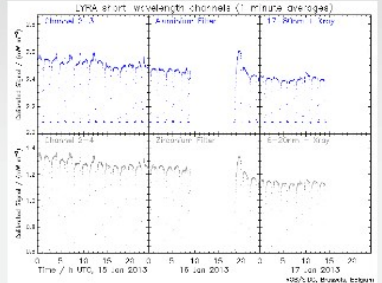
About the PROBA2 Science Center

The PROBA2 Science Center, located at the Royal Observatory of Belgium in Brussels, oversees scientific operations and data processing for ESA's

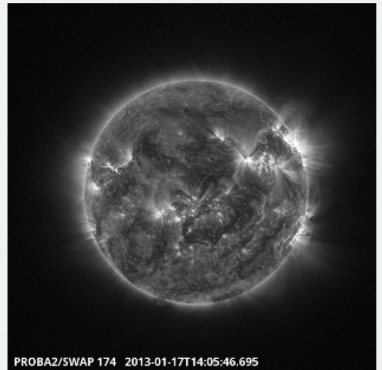


PROBA2 spacecraft. The P2SC is the primary archive and distribution center for data from SWAP and LYRA, as well as the primary maintainer of calibration tools, data analysis software, and additional instrument data. The P2SC is also home to the science operations center, where instrument observing plans are devised and, with the help of ESA's

LYRA Latest



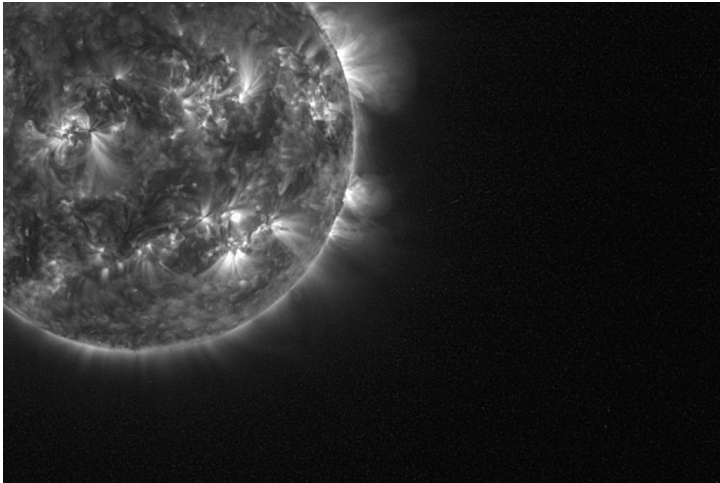
SWAP Latest



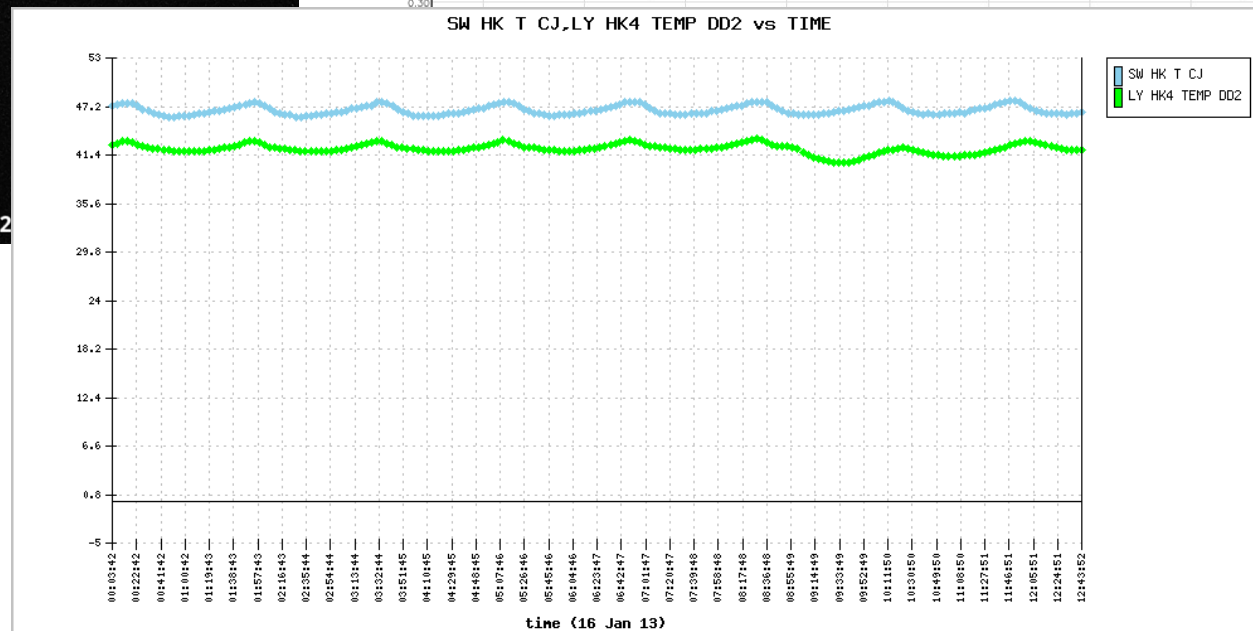
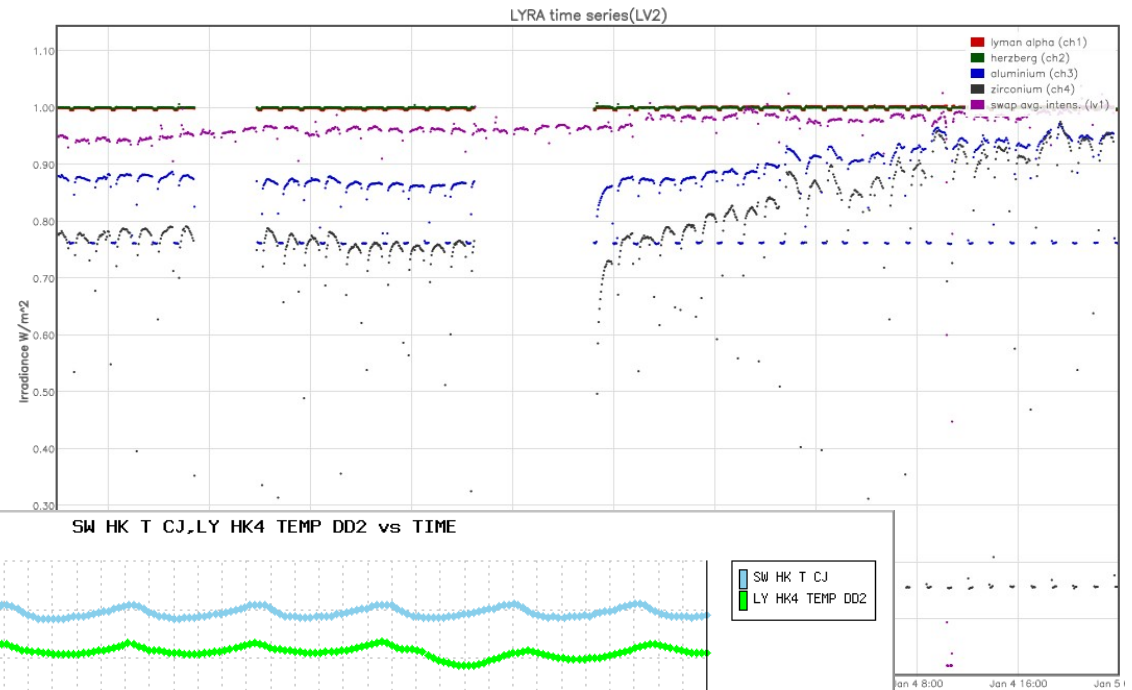
PROBA2/SWAP 174 2013-01-17T14:05:46.695



# Monitor health and consistency



PROBA2/SWAP 174 2012-10-23T05:27:2

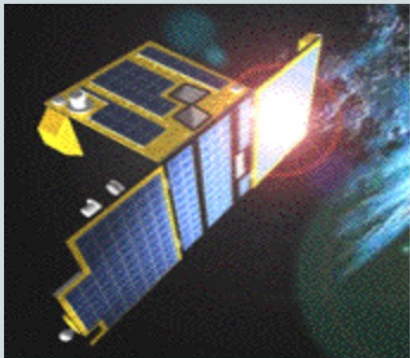


# Monitor health and consistency

File Edit View History Bookmarks Tools Help

LMAT Interface

p2sc-s2.oma.be/UI/LMAT-UI/



**Jobs**

- LMAT
- IOSwriter
- IOSsender
- Report\_Parser
- ADP
- PPT
- LYTMR
- LYEDG
- LYBSDG
- SWTMR ❗2 ⚠2
- SWEDG
- SWBSDG ❗1
- DCVC ❗28 ⚠8
- PP\_PROC
- PP\_MAKEPLOT

runID <span>▲▼</span>	originator <span>▲▼</span>	start_time <span>▲▼</span>	lastmsg_time <span>▲▼</span>	tool <span>▲▼</span>
200-300/1842 <span>⏪</span> <span>⏩</span> <span>1</span> <span>2</span> <span>3</span> <span>4</span> <span>5</span> <span>6</span> <span>7</span> <span>8</span> <span>9</span> <span>⏭</span>				
268195	268193	2013-01-13T13:43:02	2013-01-13T13:43:06	LYCLOG
268194	268192	2013-01-13T13:42:02	2013-01-13T13:42:06	LYCLOG
268193	268185	2013-01-13T13:38:02	2013-01-13T13:41:09	LYBSDG
268192	268183	2013-01-13T13:34:02	2013-01-13T13:37:12	LYBSDG
268191	268179	2013-01-13T13:32:03	2013-01-13T13:32:10	SWQLK
268190	268189	2013-01-13T13:31:03	2013-01-13T13:31:06	SWAVINT
268189	268187	2013-01-13T13:30:03	2013-01-13T13:30:25	CLOG
268188	268186	2013-01-13T13:29:02	2013-01-13T13:29:04	SWBSDG
268187	268184	2013-01-13T13:27:02	2013-01-13T13:28:15	SWBSDG
268186	268181	2013-01-13T13:26:03	2013-01-13T13:26:20	SWEDG
268185	268180	2013-01-13T13:26:02	2013-01-13T13:33:27	LYEDG
268184	268179	2013-01-13T13:25:03	2013-01-13T13:25:24	SWEDG
268183	268179	2013-01-13T13:25:02	2013-01-13T13:25:06	LYEDG
268182	268179	2013-01-13T13:25:02	2013-01-13T13:27:37	DCVC
268181	file detection	2013-01-13T13:24:04	2013-01-13T13:24:30	SWTMR
268180	file detection	2013-01-13T13:24:03	2013-01-13T13:24:43	LYTMR

# Documentation & Reports

- Development Wiki
  - Tool documentation
  - Bug tracker (trac)
- Subversion Code Repository
- Operational Wiki
  - Operating Procedures
  - Daily logbook
- Weekly reports on Google docs



# Infrastructure

- 2 physical servers + 30TB RAID storage hosting VMware virtual machines:
  - p2sc-s2: operational server
  - p2sc-s3: MySQL database server
  - sol020: development & reprocessing server
  - p2web: webserver ([proba2.oma.be](http://proba2.oma.be))

