


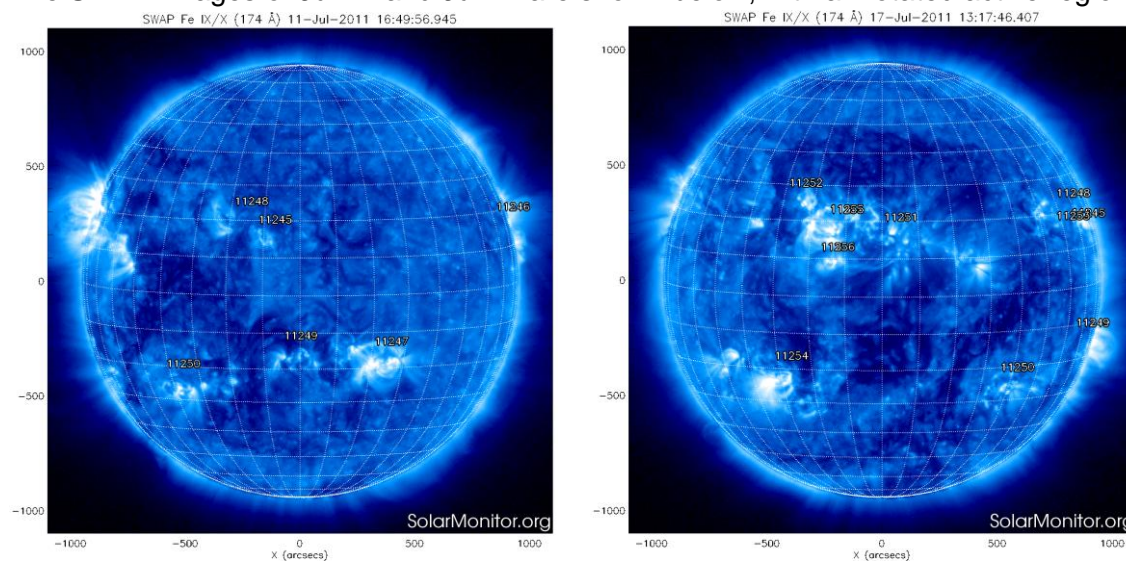
P2SC-ROB-WR-069-20110711 Weekly report #069	P2SC Weekly report	
Period covered: Date: Written by: Released by:	Mon Jul 11 to Sun Jul 17 2011 Mon Jul 18 M. Dominique, E. Pylyser E. Pylyser	Royal Observatory of Belgium PROBA2 Science Center
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1. Science

Solar & Space weather events

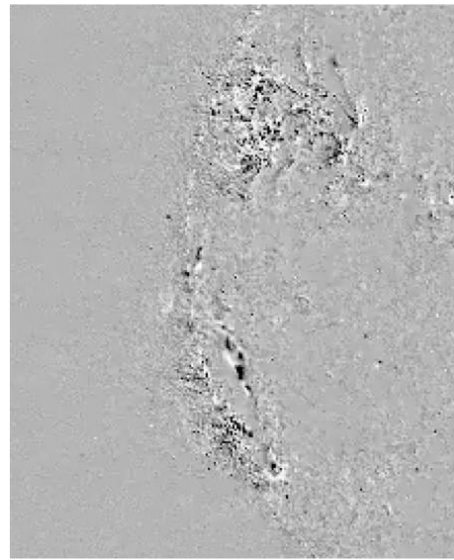
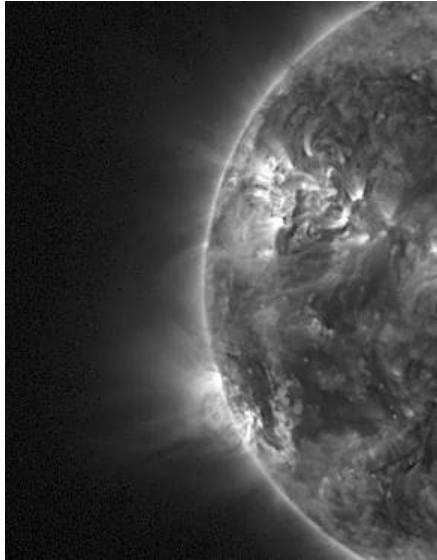
Overview

The SWAP images of Jul 11 and Jul 17 are shown below, with annotated active regions:

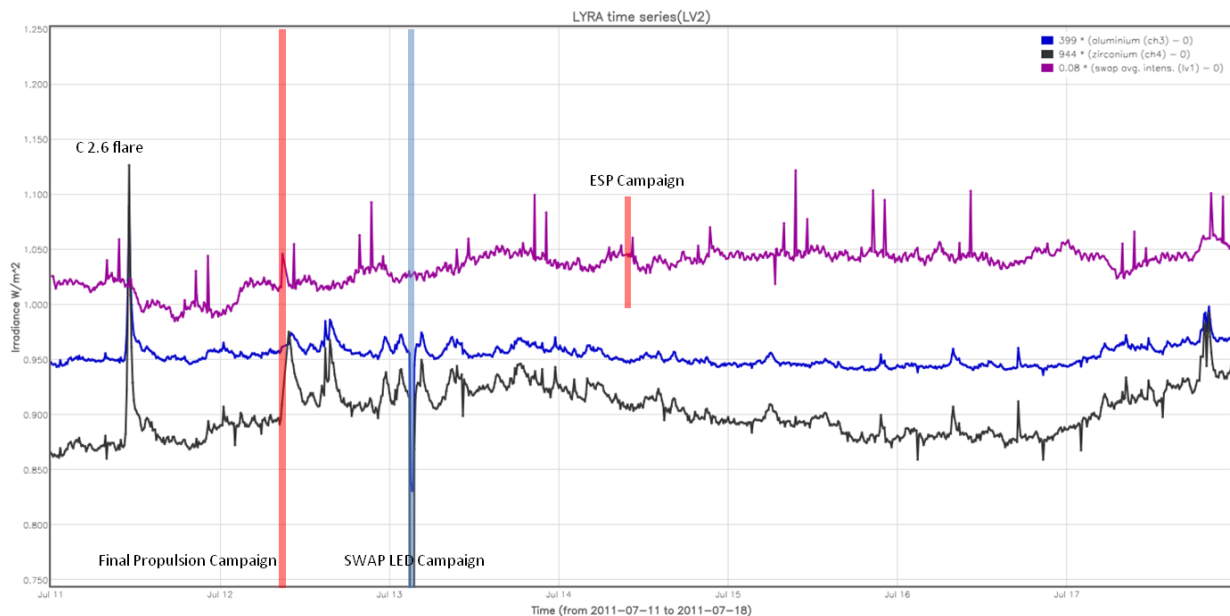


The solar activity was rather low this week, with only two C flares: C2.6 on Jul 11 11:00 and C1.9 on Jul 12 14:45.

On SWAP, we observed a couple of prominence eruptions on Jul 12 and 13. On Jul 14, we also see the large scale plasma flows along trans-equatorial loops.



Week overview of LYRA Al/Zr signals and SWAP average intensity (SWAVINT in purple):



The calibration campaigns are annotated in blue, data gaps in red. The peaks in LYRA signals are due to solar flares. The tiny, periodical peaks in SWAVINT were caused by crossing over the SAA.

Scientific campaigns

There were no scientific campaigns performed this week. The calibration campaigns are described in the Sections below.

Outreach, papers, presentations, etc.

/ (quiet holiday week)

To be explored

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2. LYRA instrument status

Calibration

No calibration this week.

IOS & operations

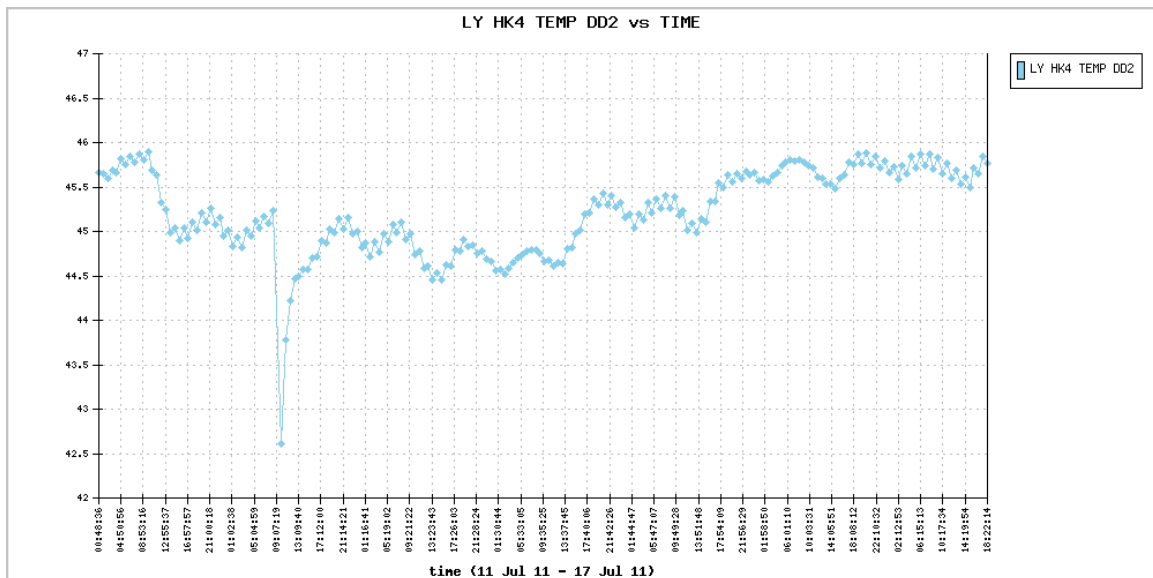
Monday 11 Jul	Tuesday 12 Jul	Wednesday 13 Jul	Thursday 14 Jul	Friday 15 Jul	Saturday 16 Jul	Sunday 17 Jul
Nominal acquisition	Nominal acquisition + propulsion campaign	Nominal acquisition	Nominal acquisition	Nominal acquisition	Nominal acquisition	Nominal acquisition
LYIOS00179	LYIOS00180	LYIOS00180	LYIOS00180	LYIOS00180	LYIOS00180	LYIOS00180

Note: IOS 180 was generated manually due to a break down of P2SC. It was sent by email to the MOC in Redu. It was later entered manually in the P2SC database. The acceptance report received from Redu was processed and completed the consistency of the P2SC system.

The final propulsion campaign took place on Jul 12 from 08:55 to 09:35.

LYRA detector temperature

The LYRA detector 2 temperature (nominal unit) fluctuated between 44.5 and 46 degrees Celsius. Effects were seen of the DSLP and the propulsion campaign.



To be explored

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3. SWAP instrument status

Calibration

A SWAP LED campaign took place on Jul 13 from 03:00 to 04:00.

MCPM recoverable errors

increased from 70 to 129 this week.
The number of MCPM unrecoverable errors is still 0.

IOS & operations

Monday 11 Jul	Tuesday 12 Jul	Wednesday 13 Jul	Thursday 14 Jul	Friday 15 Jul	Saturday 16 Jul	Sunday 17 Jul
Nominal acquisition	Nominal acquisition + propulsion campaign	Nominal acquisition + LAR delay and LED campaigns	Nominal acquisition + LAR delay and ESP campaigns	Nominal acquisition + LAR delay campaign	Nominal acquisition	Nominal acquisition
IOS00315 707 images	IOS00316 734 images	IOS00317 753 images	IOS00317 667 images	IOS00317 697 images	IOS00317 691 images	IOS00317 659 images

Note: IOS00316 was generated manually due to a break down of P2SC. It contained a few errors that were corrected by Redu. It was later entered manually in the P2SC database. The acceptance report received from Redu was processed and completed the consistency of the P2SC system.

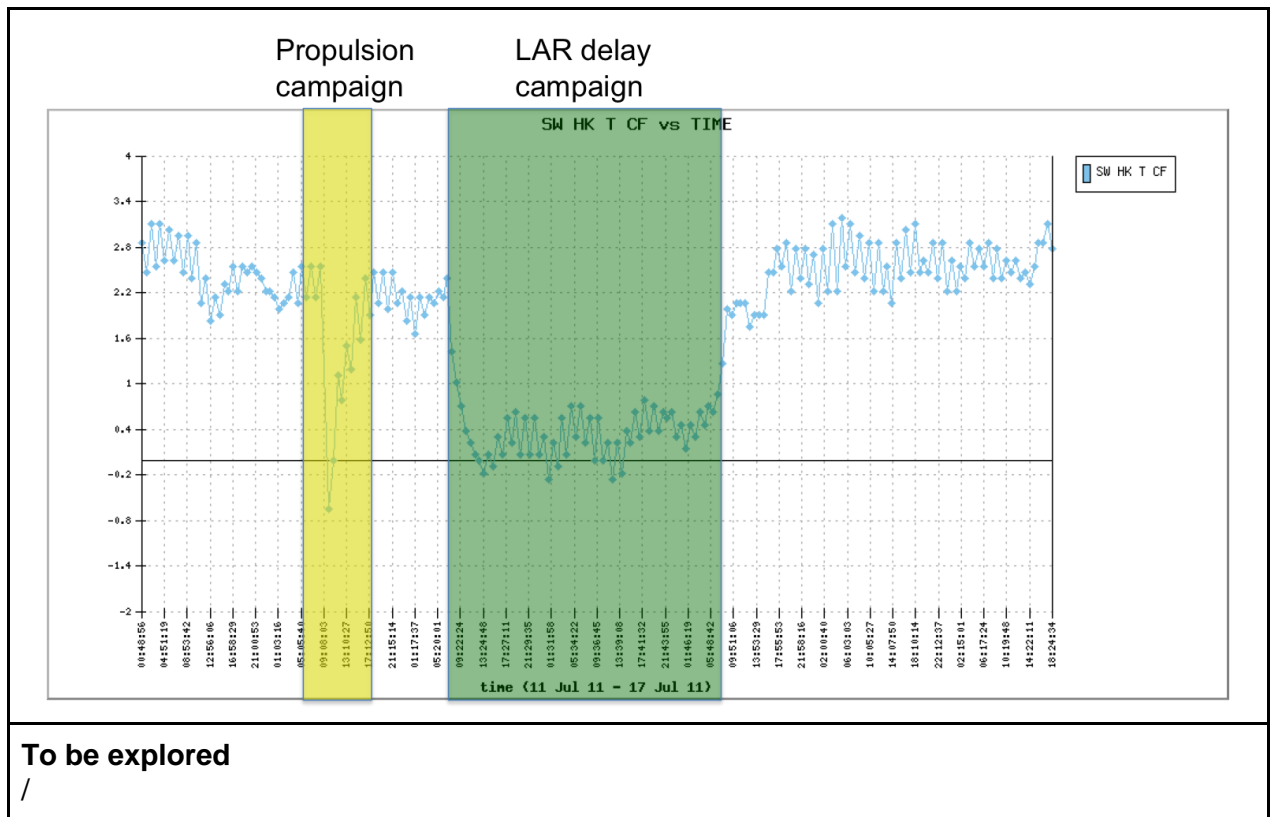
- The final propulsion campaign took place on Jul 12 from 08:55 to 09:35.
- From Jul 13 06:06 to Jul 15 06:06, LARs were delayed by 3 min in order to test the impact of such a delay on SWAP detector temperature.
- The weekly ESP campaign took place on Jul 14 from 09:09 to 09:38

SWAP detector temperature

The SWAP Cold Finger Temperature fluctuated between 1.5 and 3 degrees Celsius in nominal conditions.

From Jul 13 06:06 to Jul 15 06:06, LARs were delayed by 3 min in order to test the impact of such a delay on SWAP detector temperature. A delay in LAR times causes the SWAP radiator to be more exposed to deep space (when it is facing Earth it is heated), and is expected to result in lower SWAP detector temperatures.

This effect was indeed seen. At the start of the LAR delay campaign, a decrease of 2 to 2.5 degrees was observed. The temperature increased again to 2-3 degrees after the test was finished.



To be explored

4. PROBA2 Science Center Status

M. Dominique and E. Pylyser were operators during this week.

P2SC has been down from Jul 10 00:32 to Jul 11 13:31UT, due to the crash of one of its servers. After recovering, some packets had to be downloaded manually from REDU website.

LYRA_AD_1525 was truncated on P2SC server (with a.o. one time pair missing) and its processing was incomplete. This perturbed LYEDG which produced data with wrong timestamps. To fix the problem, data had to be reprocessed from Jul 05.

The following tools were updated on the operational server:

Software name	Update	Date	Comment
No update			

A new version of the LYRA flare list (<http://proba2.oma.be/lyra/data/Flarelist/Flarelist.html>) has been released on Jul 13.

5. Data reception & discussions with MOC

<p>Passes</p> <p>In general the data reception this week was nominal. The following passes contained corrupted or truncated data:</p> <ul style="list-style-type: none"> • all passes on Monday 11 (except 5126) • 5145, 5156, 5159, 5164
<p>Data coverage HK</p> <p>The HK data were complete this week.</p>
<p>Data coverage SWAP</p> <p>The SWAP data were mostly as planned this week.</p> <p>Statistics for complete week:</p> <p><i>Total number of images between 2011 Jul 11 OUT and 2011 Jul 18 OUT: 4977</i> <i>Highest cadence in this period: 30 seconds</i> <i>Average cadence in this period: 121.54 seconds</i> <i>Number of image gaps larger than 300 seconds: 3</i> <i>Largest data gap: 40.80 minutes</i></p> <p>Data gaps occurred from:</p> <ul style="list-style-type: none"> • Jul 12 - 08:55 to 09:35, final propulsion campaign • Jul 13 - 03:00 to 03:39, SWAP LED campaign • Jul 14 - 09:09 to 09:38, ESP campaign.
<p>Data coverage LYRA</p> <p>The LYRA data were as planned this week (see overview in Sect.1). Data gaps occurred from:</p> <ul style="list-style-type: none"> • Jul 12 - 08:55 to 09:35, final propulsion campaign

6. APPENDIX Frequently used acronyms

ADP	Ancillary Data Processor
ADPMS	Advanced Data and Power Management System
AOCS	Attitude and Orbit Control System
APS	Active Pixel image Sensor
ASIC	Application Specific Integrated Circuit
BBE	Base Band Equipment
CME	Coronal Mass Ejection
COGEX	Cool Gas Generator Experiment
CRC	Cyclic Redundancy Check
DR	Destructive Readout
DSLP	Dual Segmented Langmuir Probe
EIT	Extreme ultraviolet Imaging Telescope

FITS	Flexible Image Transport System
FOV	Field Of View FPA Focal Plane Assembly
FPGA	Field Programmable Gate Arrays
GPS	Global Positioning System
HAS	High Accuracy Star tracker
HK	Housekeeping
ICD	Interface Control Document
IIU	Instrument Interface Unit
IOS	Instrument Operations Sheet
LED	Light Emitting Diode
LEO	Low Earth Orbit
LYRA	LYman alpha RAdiometer
LYTMR	LYRA Telemetry Reformatter (software module of P2SC)
LYEDG	LYRA Engineering Data Generator (software module of P2SC)
MCPM	Mass Memory, Compression and Packetisation Module
MOC	Mission Operation Center
NDR	Non Destructive Readout
OBET	On board Elapsed Time
OBSW	On board Software
PE	Proximity Electronics
PGA	Programmable Gain Amplifier
PI	Principal Investigator
P2SC	PROBA2 Science Center
PPT	Pointing, Positioning and Time (software module of P2SC)
ROB	Royal Observatory of Belgium
SAA	South Atlantic Anomaly
SCOS	Spacecraft Operation System
SEU	Single Event Upset
SOHO	Solar and Heliospheric Observatory
SWAP	Sun Watcher using APS detector and image Processing
SWAVINT	SWAP AVerage INTensity
SWBSDG	SWAP Base Science Data Generator
SWEDG	SWAP Engineering Data Generator (software module of P2SC)
SWTMR	SWAP Telemetry Reformatter (software module of P2SC)
TBC	To Be Confirmed
TBD	To Be Defined
TBW	To Be Written
TC	Telecommand
TPMU	Thermal Plasma Measurement Unit
UTC	Coordinated Universal Time
UV	Ultraviolet