


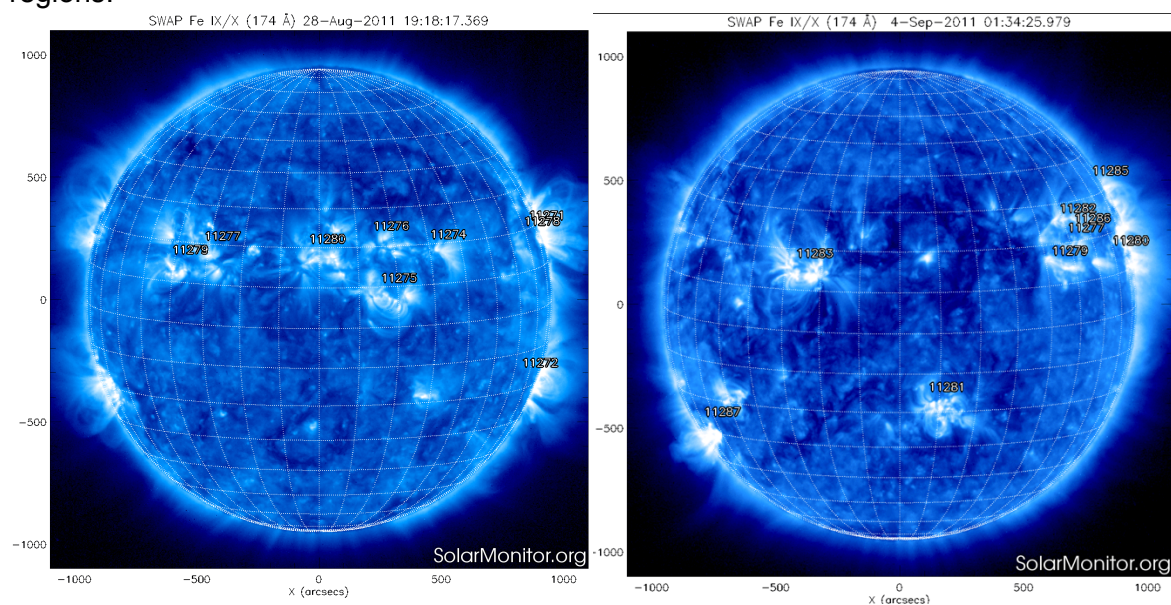
P2SC-ROB-WR-076-20110829 Weekly report #076	P2SC Weekly report	
Period covered: Date: Written by: Released by:	Mon Aug 29 to Sun Sep 04 2011 Tue 6 Sep 2011 Joe Zender Erik Pylyser	Royal Observatory of Belgium PROBA2 Science Center
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1. Science

Solar & Space weather events

Overview

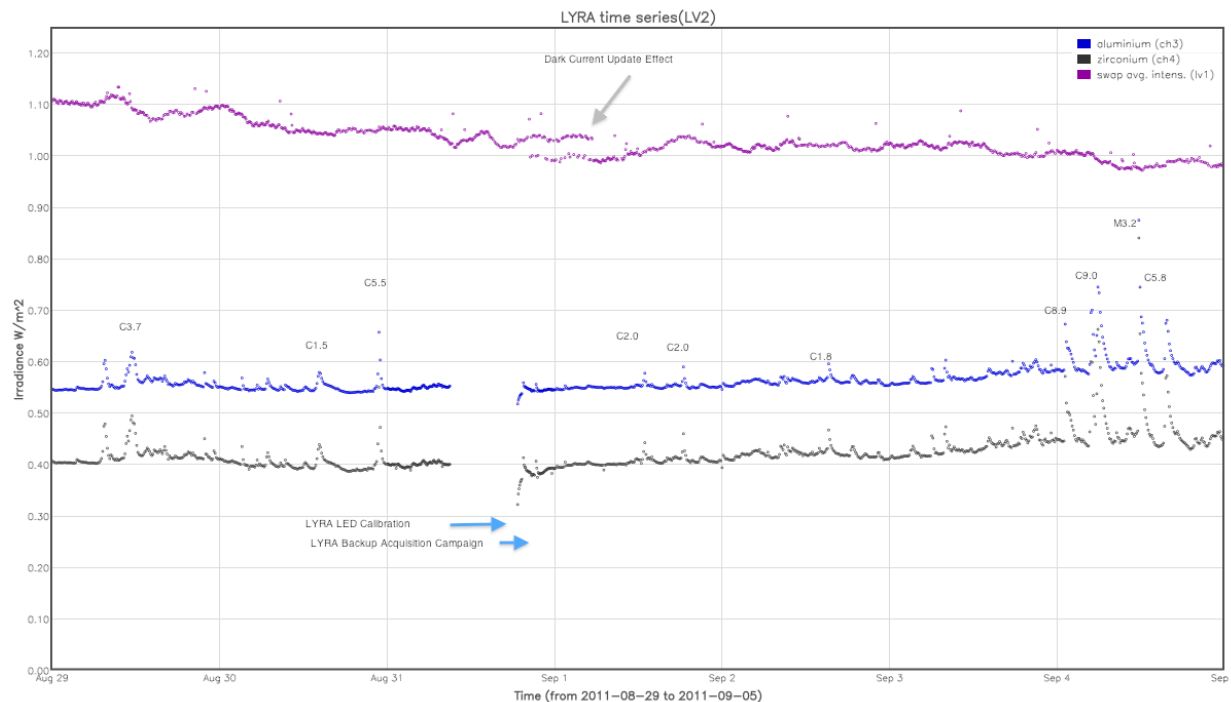
The SWAP images of August 28 and September 4 are shown below, with annotated active regions:



In general the solar activity on the Sun was very quiet, with the exception of Sunday, 4

September, when several larger C flares and one M3.2 flare were produced. On 28 August, several small eruptions from AR 1271 can be followed far off-limb in SWAP, e.g. the B5.4 flare starting at 04:22 UT or the flare around 13:00.

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



Two LYRA calibration campaigns were executed on Wednesday and annotated in blue. The overall decay in SWAP average intensity at the begin of the week is due to the disappearance of AR 11271 and 11272 behind the limb.

The SWAP dark current extraction was improved, which resulted in a lower SWAP average intensity in calibrated images. As a result, a drop in SWAVINT is observed on Wednesday. Due to the fact that images are downloaded in a non-chronological way, the calibration flips between the 2 values during the night of Aug 31-Sep 1st.

Scientific campaigns

There were no scientific campaigns performed this week.

Outreach, papers, presentations, etc.

No conferences or guest investigators visiting this week.

To be explored

The update of the SWAP dark current caused the SWAVINT to process images using different dark current correction values. (SPR raised)

2. LYRA instrument status

Calibration

The LYRA LED Calibration campaign took place from 2011.08.31T09:00:00.000 until 2011.08.31T18:29:00.000 and the Backup Acquisition Campaign from 2011.08.31T19:20:00.000 until 2011.08.31T21:16:00.000.

Both campaigns were executed nominal. Anomaly detected in BST fits file - 20 minutes of data were missing in the BST file (SPR raised).

IOS & operations

Monday 29 Aug	Tuesday 30 Aug	Wednesday 31 Aug	Thursday 01 Sep	Friday 02 Sep	Saturday 03 Sep	Sunday 04 Sep
Nominal acquisition 50ms cadence LYIOS00187	Nominal acquisition LYIOS00187	Nominal acquisition LED + Backup Cal LYIOS00187	Nominal acquisition LYIOS00187	Nominal acquisition LYIOS00187	Nominal acquisition LYIOS00187	Nominal acquisition LYIOS00187

LYRA detector temperature

The LYRA detector 2 temperature (nominal unit) fluctuated between 44 and 46 degrees Celsius during nominal operations. During the calibration campaigns the temperature peaked up to 46.5 degrees. The overall evolution is normal for a nominal week with plasma measurements on Thursday and in the weekend.

To be explored

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3. SWAP instrument status

Calibration

No calibration campaign was executed this week.

MCPM recoverable errors

increased from 268 to 282 this week.

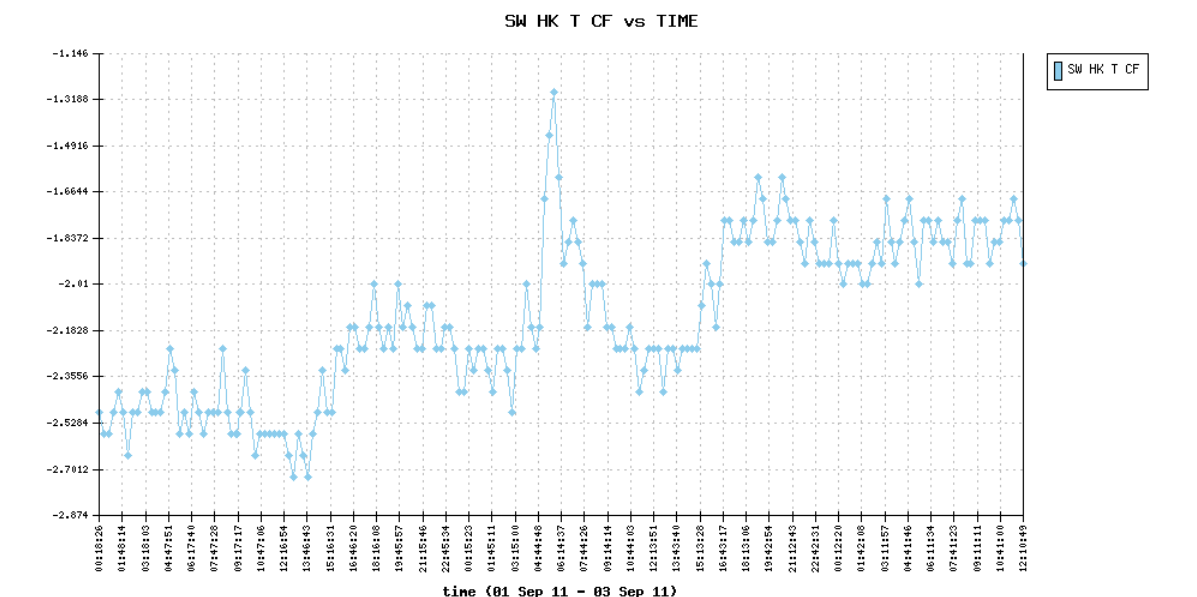
The number of MCPM unrecoverable errors is still 0.

IOS & operations

Monday 29 Aug	Tuesday 30 Aug	Wednesday 31 Aug	Thursday 01 Sep	Friday 02 Sep	Saturday 03 Sep	Sunday 04 Sep
Nominal acquisition 110s cadence	Nominal acquisition	Nominal acquisition	Nominal acquisition + ESP test	Nominal acquisition	Nominal acquisition	Nominal acquisition
IOS00325 669 images	IOS00325 709 images	IOS00325 686 images	IOS00325 641 images	IOS00325 674 images	IOS00325 690 images	IOS00325 668 images

SWAP detector temperature

The SWAP Cold Finger Temperature fluctuated between -2,9 and -1,47 degrees Celsius. As in the weeks before, one unexplained peak occurred around Friday, 2011-09-02T05:58:17.



To be explored

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4. PROBA2 Science Center Status

Joe Zender was operator during this week.

No tools were updated on the operational server.

5. Data reception & discussions with MOC

Passes

In general the data reception this week was nominal with no observed glitches!

Data coverage HK

The HK data were complete this week.

Data coverage SWAP

The overall data coverage was good.

Statistics for complete week:

Total number of images between 2011 Aug 29 OUT and 2011 Sep 05 OUT: 4845

Highest cadence in this period: 110 seconds

Average cadence in this period: 124.82 seconds

Number of image gaps larger than 300 seconds: 1

Largest data gap: 29.00 minutes

The one large data gap was commanded to allow an ESP test.

Data coverage LYRA

The LYRA data were complete this week.

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
DSLIP	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