


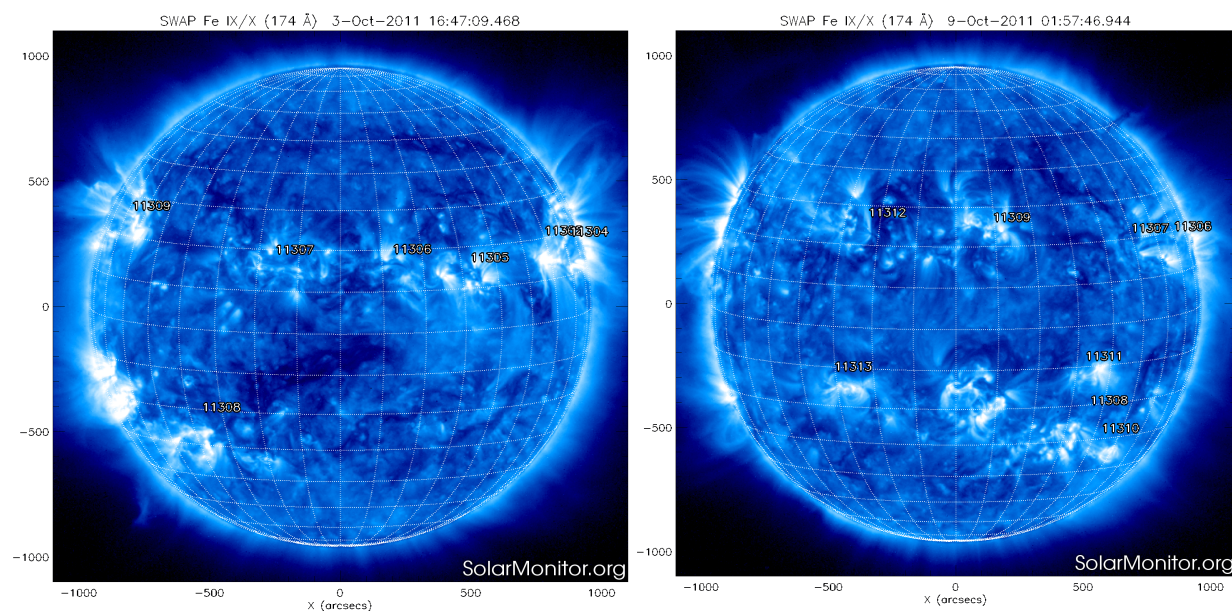
P2SC-ROB-WR-081-20111003 Weekly report #081	<b>P2SC Weekly report</b>	
Period covered: Date: Written by: Released by:	Mon Oct 03 to Sun Oct 09, 2011 Wed 12 Oct 2011 Erik Pylyser Marie Dominique	Royal Observatory of Belgium PROBA2 Science Center
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## 1. Science

### Solar & Space weather events

#### Overview

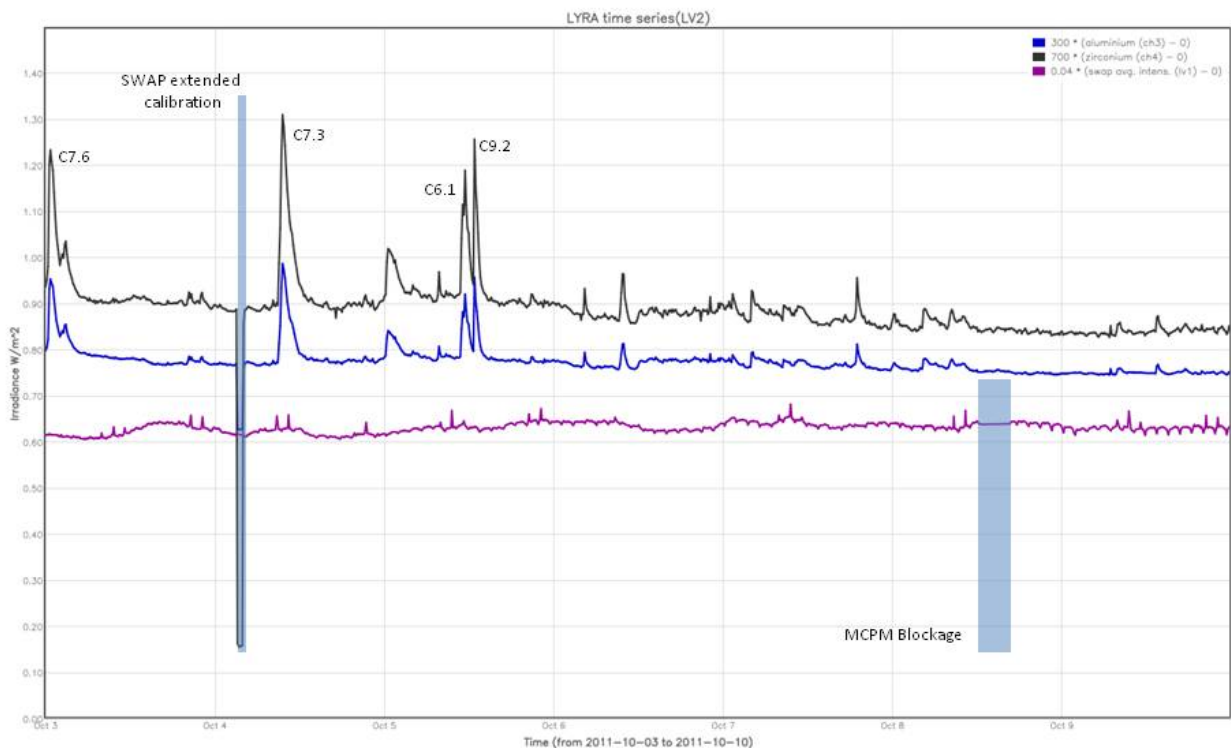
The SWAP images of October 03 and Octobre 09 are shown below, with annotated active regions:



Solar activity evolved from High early in the week, to Medium for the rest of the week. Four M-flares

were observed, 2 early and 2 late in the week.

Solar Activity was fluctuating between Medium and Low, with flaring activity in the C-level. The number of C-flares gradually decreased in the course of the week. On Oct 04, a slow CME left the Sun. The source region was situated in the southern part near the central meridian. The CME was not associated with a C-flare. It was an event in the high corona. An EUV wave and coronal dimming was visible in SWAP.



Above we show the weekly overview of LYRA Al/Zr signals and SWAP average intensity (SWAVINT in purple). The blue areas indicate, from left to right, the current weekly SWAP calibration campaign, and the duration of a MCPM blockage occurrence.

### Scientific campaigns

The Guest Investigator campaign, started on October 1st (Vladimir Slemzin), was continued during this week. No particular commanding was necessary. This campaign will finish on October 14.

### Outreach, papers, presentations, etc.

Guest investigator Nandita Srivastava visited the P2SC during the period. A Korean delegation working on the K-Star project visited the P2SC.

### To be explored

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## 2. LYRA instrument status

<p><b>Calibration</b></p> <p>No calibration campaign this week.</p>																											
<p><b>IOS &amp; operations</b></p> <table border="1"> <thead> <tr> <th>Monday 03 Oct</th> <th>Tuesday 04 Oct</th> <th>Wednesday 05 Oct</th> <th>Thursday 06 Oct</th> <th>Friday 07 Oct</th> <th>Saturday 08 Oct</th> <th>Sunday 09 Oct</th> </tr> </thead> <tbody> <tr> <td>Nominal acquisition</td> <td>Nominal acquisition</td> <td>Nominal acquisition</td> <td>Nominal acquisition</td> <td>Nominal acquisition</td> <td>Nominal acquisition</td> <td>Nominal acquisition</td> </tr> <tr> <td>LYIOS00193</td> <td>LYIOS00193</td> <td>LYIOS00193</td> <td>LYIOS00193</td> <td>LYIOS00194</td> <td>LYIOS00194</td> <td>LYIOS00194</td> </tr> </tbody> </table> <p>Tests were initiated for the 'set cover' command. A preliminary planning was made, but, upon first 2 issuings of the command, P2SC did not (yet) seem ready to use the commands without failure. The planned tests are postponed.</p>							Monday 03 Oct	Tuesday 04 Oct	Wednesday 05 Oct	Thursday 06 Oct	Friday 07 Oct	Saturday 08 Oct	Sunday 09 Oct	Nominal acquisition	Nominal acquisition	Nominal acquisition	Nominal acquisition	Nominal acquisition	Nominal acquisition	Nominal acquisition	LYIOS00193	LYIOS00193	LYIOS00193	LYIOS00193	LYIOS00194	LYIOS00194	LYIOS00194
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LYIOS00193	LYIOS00193	LYIOS00193	LYIOS00193	LYIOS00194	LYIOS00194	LYIOS00194																					
<p><b>LYRA detector temperature</b></p> <p>The LYRA detector 2 temperature (nominal unit) fluctuated between 46.3 and 47.6 degrees Celsius during nominal operations.</p> <p>The overall evolution is normal.</p>																											
<p><b>To be explored</b></p> <p>/</p>																											

## 3. SWAP instrument status

<p><b>Calibration</b></p> <p>The weekly 'extended' SWAP calibration campaigns was executed on Tuesday.</p>
<p><b>MCPM recoverable errors</b></p> <p>Increased from 477 to 548 this week.</p> <p>The number of MCPM unrecoverable errors is still 0.</p>
<p><b>IOS &amp; operations</b></p>

Monday 03 Oct	Tuesday 04 Oct	Wednesday 05 Oct	Thursday 06 Oct	Friday 07 Oct	Saturday 08 Oct	Sunday 09 Oct
Nominal acquisition 110s cadence  Day 3 GI Slemzin  IOS00334 569 images	Nominal acquisition + calibration campaign, including extra darks acquisition  Day 4 GI Slemzin  IOS00334 661 images	Nominal acquisition  Day 5 GI Slemzin  IOS00335 689 images	Nominal acquisition + ESP campaign  Day 6 GI Slemzin  IOS00335 620 images	Nominal acquisition  Day 7 GI Slemzin  IOS00335 598 images	Nominal acquisition  Day 8 GI Slemzin  IOS00335 332 images	Nominal acquisition  Day 9 GI Slemzin  IOS00335 322 images
<b>SWAP detector temperature</b> The SWAP Cold Finger Temperature fluctuated between -0,87 and 0,29 degrees Celsius. Temperature evolution is normal.						
<b>To be explored</b> /						

#### 4. PROBA2 Science Center Status

David Berghmans, supported by Erik Pyllyser and Koen Stegen, was operator during this week.

The following tools were updated on the operational server:

\* 03/10/2011: SWBSDG [r4204](#) (use runtime IDL license)

#### 5. Data reception & discussions with MOC

##### Passes

Except for the MCPM blockage, resulting in the loss of SWAP data during passes 5925 until 5933, all data was received.

##### Data coverage HK

The HK data were complete this week.

##### Data coverage SWAP

SWAP data during passes 5925 until, and including, 5933 were not received, due to the on-board MCPM blockage on 8 and 9 October. This resulted in a 247 minutes gap in the SWAP data on 8/10.

Statistics for complete week:

*Total number of images between 2011 Oct 03 OUT and 2011 Oct 10 OUT: 3791*

*Highest cadence in this period: 30 seconds*  
*Average cadence in this period: 159.54 seconds*  
*Number of image gaps larger than 300 seconds: 306*  
*Largest data gap: 247.50 minutes*

Another large data gap of 29 min was commanded to allow for an ESP test.

**Data coverage LYRA**

The HK 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
DSLPL	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