
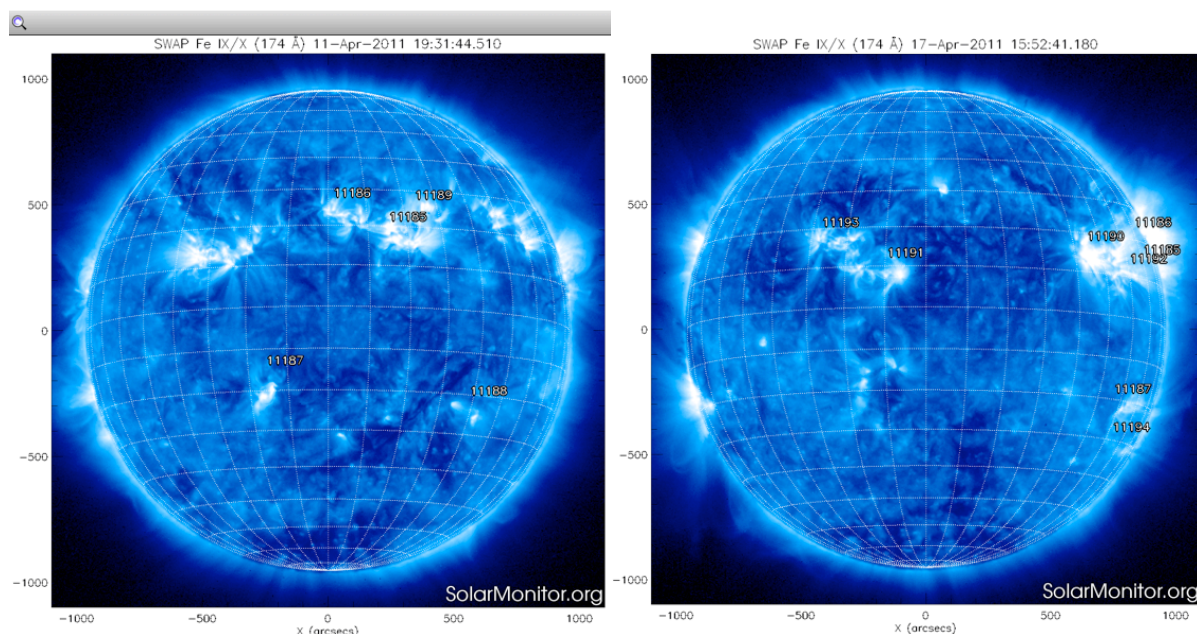


P2SC-ROB-WR-056-20110411 Weekly report #056	<b>P2SC Weekly report</b>	
Period covered: Date: Written by: Released by:	Mon April 11 to Sun April 17 2011 Thu April 28 2011 Carlos Cabanas Anik De Groof	Royal Observatory of Belgium PROBA2 Science Center
To:	LYRA PI, marie.dominique@sidc.be SWAP PI, david.berghmans@sidc.be	<a href="http://proba2.sidc.be">http://proba2.sidc.be</a> ++ 32 (0) 2 373 0 559
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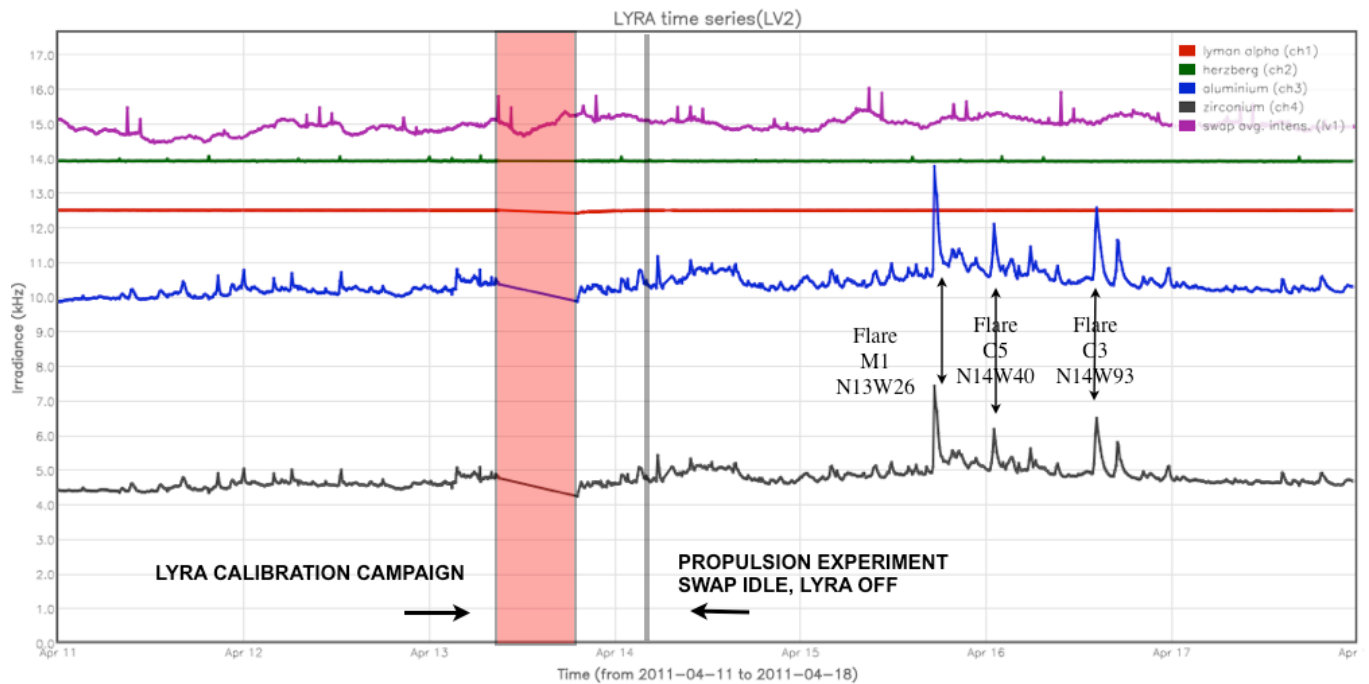
## 1. Science

### Solar & Space weather events

Below the active regions at the start and the end of this week are overlaid on SWAP images:



LYRA overview of the week, in  $\text{W/m}^2$ , with factors (2000,20,4000,4000) for (Ly-a, Hz, Al, Zr) resp. Also the SWAP average intensity is shown in purple:



Solar events of the week seen by SWAP and LYRA:

	Flares	Others
Monday 11 April	A B9.2 flare took place on the east limb from returning old region 1176 (now 1190). This region also produced C-class flares peaking at 16:02UT, 20:30UT and a last one over midnight.	
Tuesday 12 April	Region 1190 (N15E12) produced three C-class flares during the period. The largest was a C3 event at 06:07UT.	
Wednesday 13 April	Regions 1185, 1190, 1191 (N8E56) and 1193 (N17E71) all produced minor C class flares.	
Thursday 14 April	A series of C-class flares occurred. The largest was a C4.9 flare at 05:27 from region 1193 (N16E58). The majority of the flares were observed from region 1193	

	and region 1190 (N13W14).	
Friday 15 April	Region 1190 (N13W26) produced an M1 flare at 17:12UT. Occasional C-class flares were also observed during the period.	An Earth-directed coronal mass ejection was observed early on April 15, associated with a filament from the northeast quadrant late on April 14. <a href="http://proba2.sidc.be/swap/data/mpg/movies/20110414_swap_movie.mp4">http://proba2.sidc.be/swap/data/mpg/movies/20110414_swap_movie.mp4</a>
Saturday 16 April	Occasional C-class flares were observed during the period. Two C5 flares were observed from Region 1190 (N14W40): a C5 flare at 16/0057Z and a C5 flare at 16/1414Z. Additionally, Region 1185 (N14W93) produced a C3 flare at 16/1653Z	
Sunday 17 April	Region 1185 (N14, L=032) produced four C-class flares as it rotated off of the solar limb.	

### Outreach, papers, presentations, etc.

Tom Van Doorselaere submitted the paper "LYRA observations of two oscillation modes in a single flare" to the Astrophysical Journal.

## 2. LYRA instrument status

### Calibration

There was a LYRA calibration campaign on April 13th.

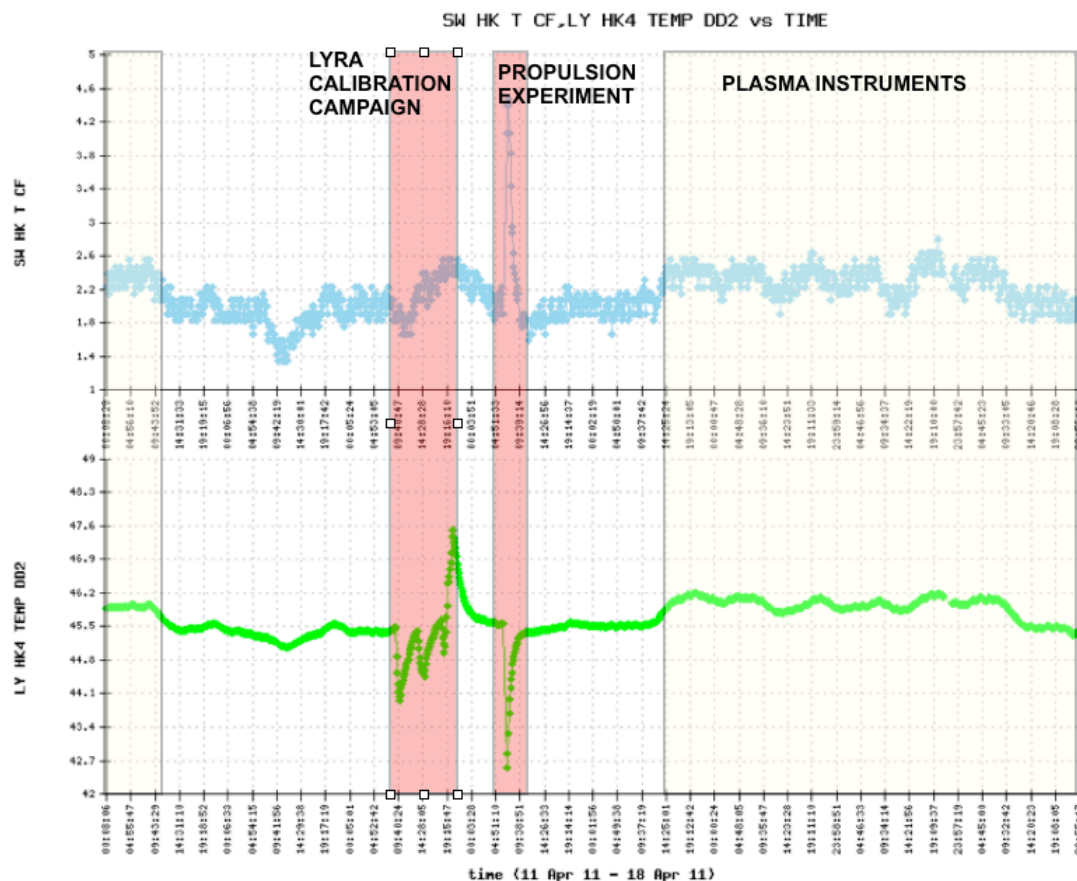
### IOS & operations

Nominal acquisition at 50ms for the whole week. Two gaps in the nominal solar data due to a calibration campaign on Wednesday and a short interruption of LYRA acquisitions on Thursday.

Monday 11 Apr	Tuesday 12 Apr	Wednesday 13 Apr	Thursday 14 Apr	Friday 15 Apr	Saturday 16 Apr	Sunday 17 Apr
Nominal acquisition	Nominal acquisition	Nominal acquisition + calibration campaign	Nominal acquisition + propulsion experiment	Nominal acquisition	Nominal acquisition	Nominal acquisition
(LYRA00153)	(LYRA00153)	(LYRA00154)	(LYRA00155)	(LYRA00155)	(LYRA00155)	(LYRA00155)

Thursday 2011-04-14	
Before 06:21:00	SWAP and LYRA IDLE and OFF by IOS
06:26:00	Flight mode in anti-velocity
06:41:00	2 minutes valve test start
06:42:00	Test mid-point
06:43:00	Test stop
06:51:00	Sun mode
After 06:56:00	SWAP and LYRA ON by IOS

## LYRA & SWAP temperature



## 3. SWAP instrument status

### MCPM recoverable errors

increase from 1023 to 1063. The number of MCPM unrecoverable errors is still 0.

### IOS & operations

Monday 11 Apr	Tuesday 12 Apr	Wednesday 13 Apr	Thursday 14 Apr	Friday 15 Apr	Saturday 16 Apr	Sunday 17 Apr
Nominal acquisition	Nominal acquisition	Nominal acquisition	Nominal acquisition + propulsion experiment	Nominal acquisition	Nominal acquisition	Nominal acquisition

(IOS00277)	(IOS00277)	(IOS00277)	(IOS00278)	(IOS00278)	(IOS00278)	(IOS00278)
669 images	677 images	713 images	680 images	637 images	653 images	486 images

**SWAP detector temperature**  
Described in the LYRA section.

## 4. PROBA2 Science Center Status

Carlos Cabanas was operator during this week.

No P2SC tools were updated on the operational server this week.

## 5. Data reception & discussions with MOC

### Passes

No passes were completely missed.

### Data coverage HK

Pass 4358 was first missed and only partially recovered.

This left a gap from April 17 21UT to ~22:45UT.

### Data coverage SWAP

Statistics for complete week:

*Total number of images between 2011 Apr 11 0UT and 2011 Apr 18 0UT: 4515*

*Highest cadence in this period: 110 seconds*

*Average cadence in this period: 133.91 seconds*

*Number of image gaps larger than 300 seconds: 30*

*Largest data gap: 135.67 minutes*

*The biggest gaps of the week:*

Gap of 2109 seconds, just before image

BINSWAP201104140656200000297049PROCESSED in

BINSWAP\_4327\_SVA1\_2011.04.14T10.44.32.tar

-> this one was due to the halted SWAP acquisition for the propulsion experiment

Gap of 8140 seconds, just before image

BINSWAP201104172316350000299816PROCESSED in

BINSWAP\_4366\_RED3\_2011.04.18T20.33.38.tar

-> this one was due to the failed download of SWAP data during pass 4358.

### Data coverage LYRA

Complete.

## 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
IU	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
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
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