


P2SC-ROB-WR-110- 20120430 Weekly report #110	<b>P2SC Weekly report</b>	
Period covered: Date: Written by: Approved by:	Mon Apr 30 to Sun May 06, 2012 09 May 2012 Marie Dominique David Berghmans	Royal Observatory of Belgium PROBA2 Science Center
To:	LYRA PI, marie.dominique@sidc.be SWAP Deputy PI, dan.seaton@sidc.be	<a href="http://proba2.sidc.be">http://proba2.sidc.be</a> ++ 32 (0) 2 373 0 559
cc:	ROB DIR, ronald@oma.be ESA Redu, Etienne.Tilmans@esa.int ESA D/SRE, Joe.Zender@esa.int ESA D/TEC, Stefano.Santandrea@esa.int	

## 1. Science

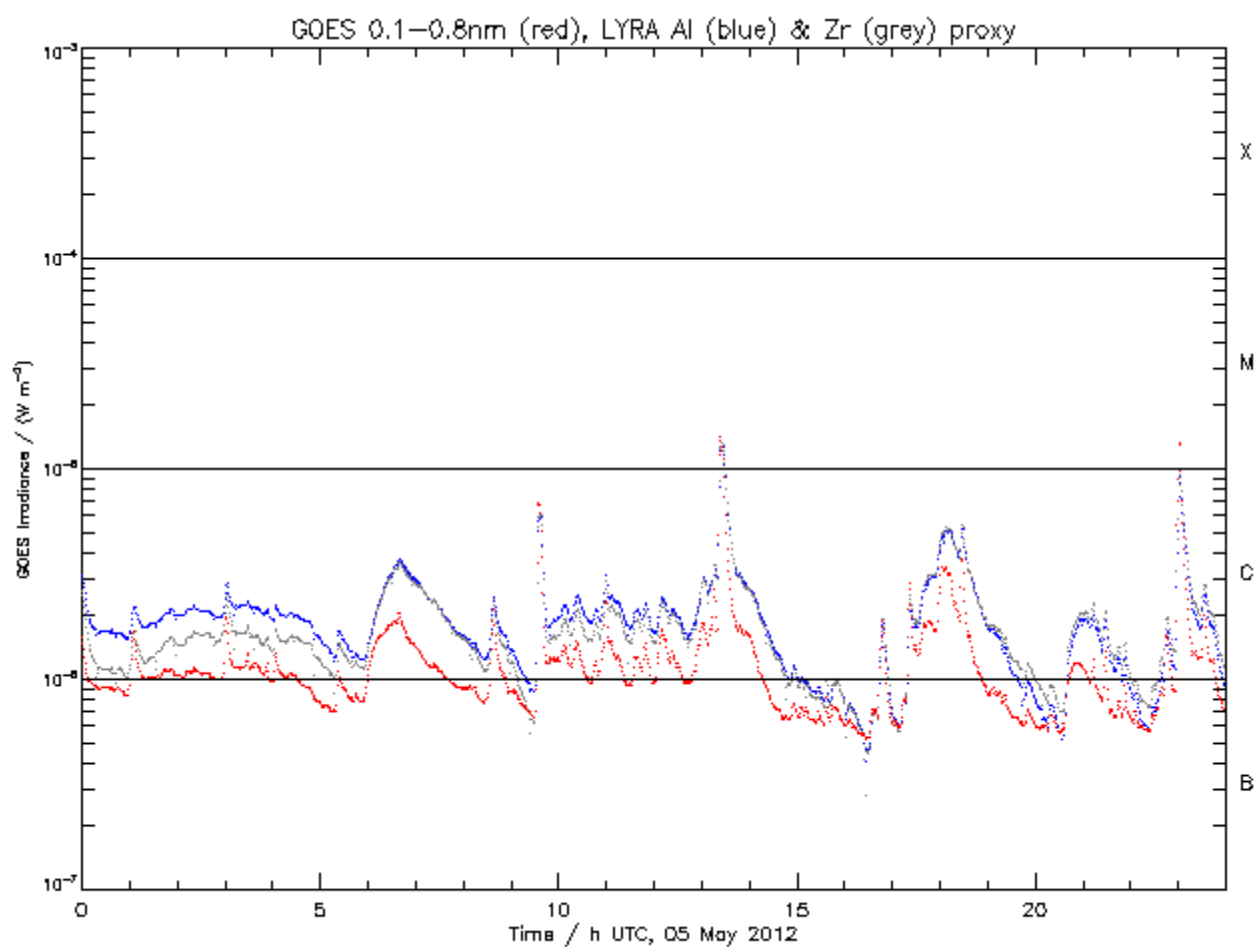
### Solar & Space weather events

#### Overview

The level of solar activity this week and associated M- and X-flares (if any):

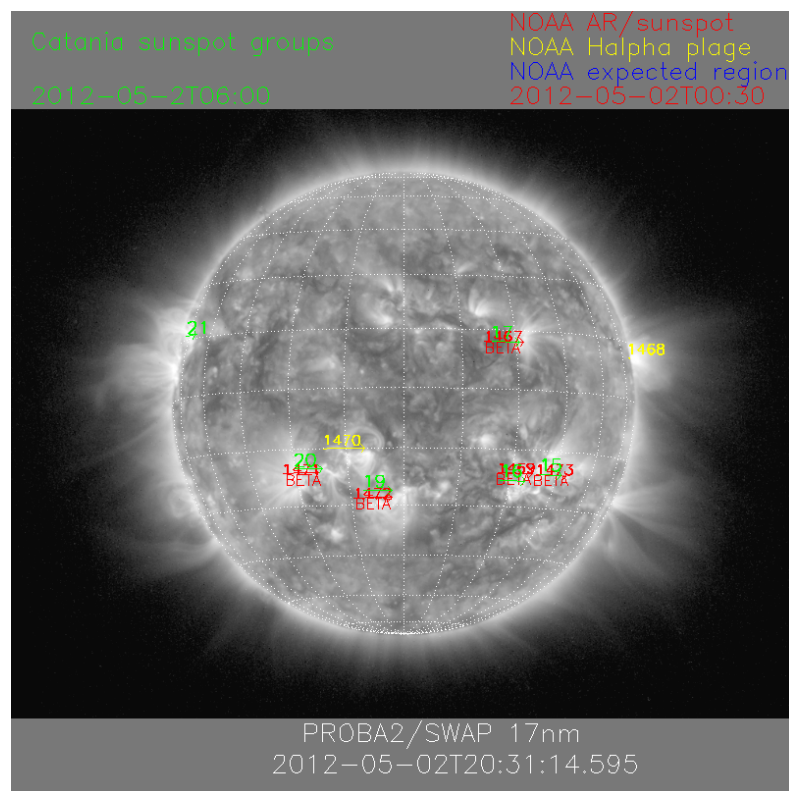
	Monday 30 Apr	Tuesday 01 May	Wednesday 02 May	Thursday 03 May	Friday 04 May	Saturday 05 May	Sunday 06 May
Flaring activity	several C-flares	several C-flares	several C-flares	several C-flares	several C-flares	two M1 flares, several C-flares	two M1 flares, several C-flares

The figure below shows the biggest event of the week: the M 1.4 flare on May 05 as seen by LYRA and GOES.

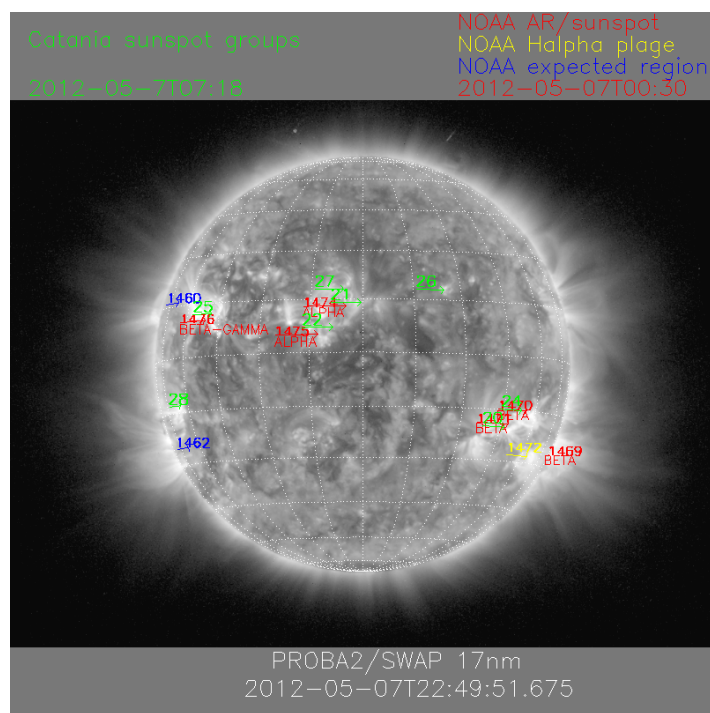


ROB/SIDC, Brussels, Belgium

\_\_\_\_\_



<http://sidc.be/html/CmapPage.html>

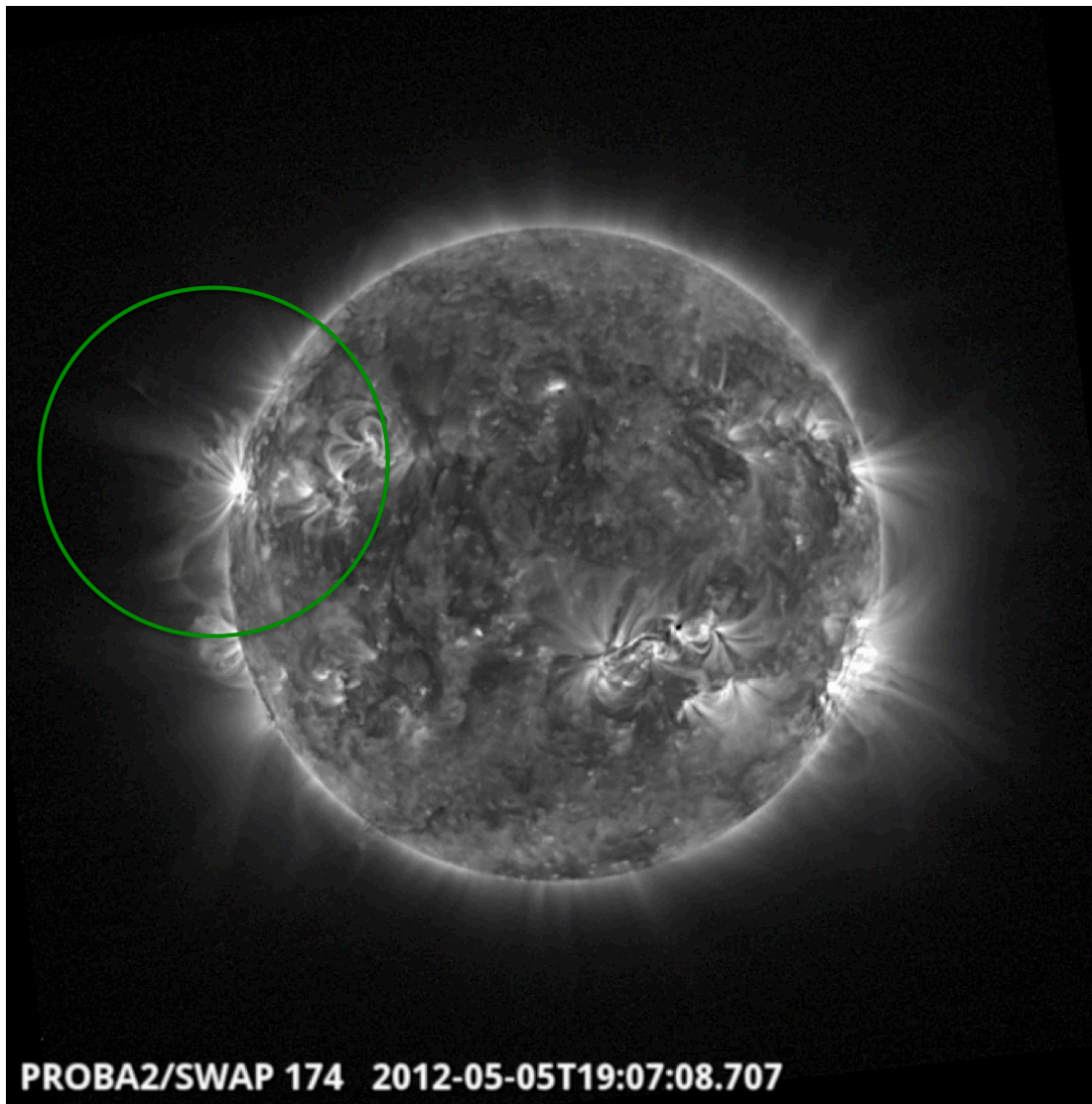


There was no exceptional event this week, but several flares of medium intensities can be seen in SWAP images as well as in LYRA timeseries. A couple of CMEs were also observed by SWAP, none of them being directed to Earth. The most important one is displayed below.



[For the movie, click here](#)





**PROBA2/SWAP 174 2012-05-05T19:07:08.707**

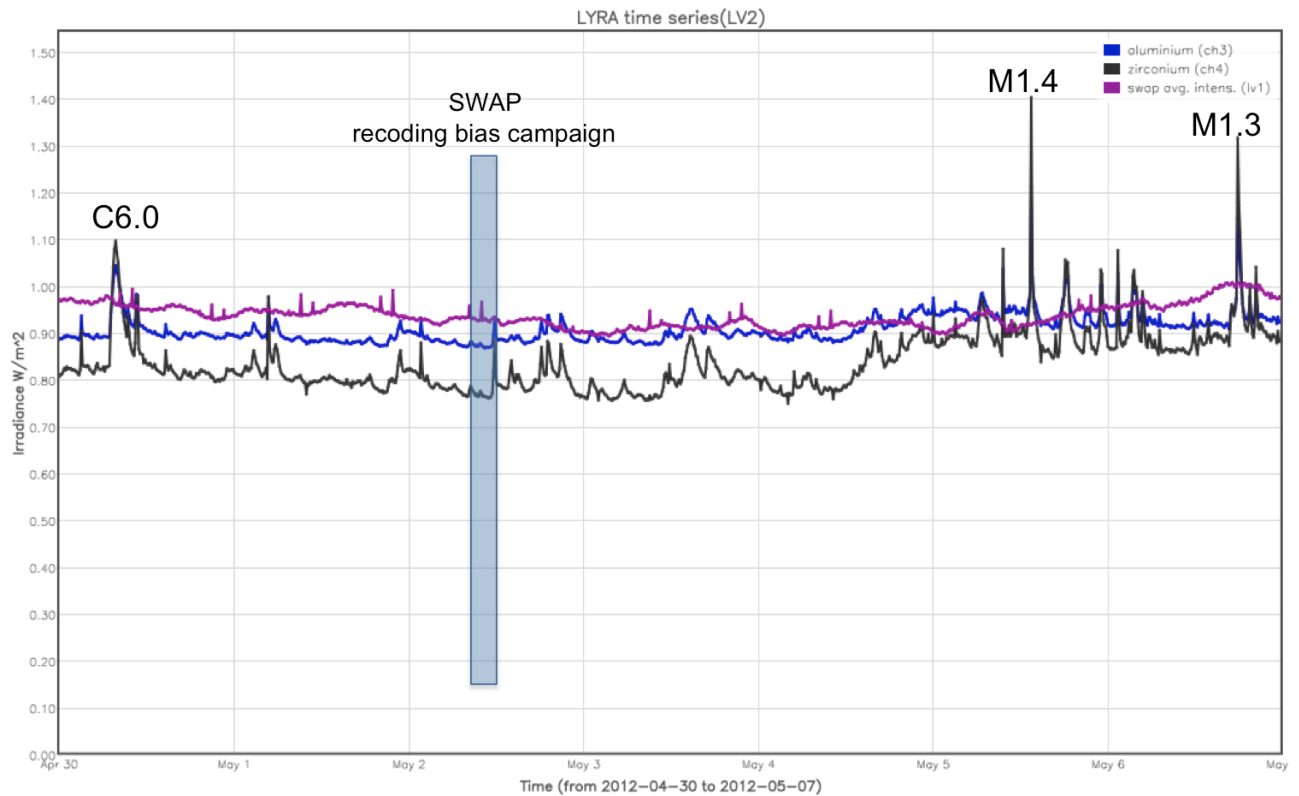
**C3.7 Flare - East limb - AR11476, 03/05 @ 18:00 - SWAP image - the eruption extended up to the area indicated in green.**

[For the movie, click here](#)

An overview of the weekly LYRA & SWAP data is provided below:

The following curves are visible:

- black: Zirconium Channel LYRA Unit 2
- blue: Aluminium Channel of LYRA Unit 2
- purple: SWAVINT (solar intensity derived from 'integrated' SWAP images)



The blue shaded period corresponds to the SWAP recoding bias campaign that happened on May 02 from 10:35 to 11:35

For detailed description of these campaigns, refer to the SWAP and LYRA instrument statuses below.

### Scientific campaigns

No scientific campaigns, besides nominal observing, were executed during the period.

### Outreach, papers, presentations, etc.

A two-day meeting was organized at ROB on May 3-4. The first day was dedicated to degradation onboard EUV solar instruments. The second day was dedicated to science with PROBA2. Details of this meeting (with a.o. the list of presentations) can be found on the [link to May 3](#) and [link to May 4](#)

## 2. LYRA instrument status

### Calibration

No calibration this week

### IOS & operations

Monday 30 Apr	Tuesday 01 May	Wednesday 02 May	Thursday 03 May	Friday 04 May	Saturday 05 May	Sunday 06 May
Nominal acquisition + daily U3  LYIOS00238	Nominal acquisition + daily U3  LYIOS00240	Nominal acquisition + daily U3+ warm-up  LYIOS00240	Nominal acquisition + daily U3  LYIOS00240	Nominal acquisition + daily U3  LYIOS00240	Nominal acquisition + daily U3  LYIOS00240	Nominal acquisition + daily U3  LYIOS00240

This week, there was no special LYRA campaign, only the usual daily unit3 acquisitions. The instrument was also restarted on May 2 to come back to the usual limit values for HK that were changed in the frame of the bake-out campaign of last week.

### LYRA detector temperature

LYRA detector 2 temperature fluctuated between 45.5 to 46.5 degrees.

### To be explored

/

### 3. SWAP instrument status

## Calibration

No calibration this week

## MCPM errors

The number of MCPM recoverable errors increased from 135 to 251.

The number of MCPM unrecoverable errors is still 0.

## IOS & operations

Monday 30 Apr	Tuesday 01 May	Wednesday 01 May	Thursday 03 May	Friday 04 May	Saturday 05 May	Sunday 06 May
Nominal acquisition	Nominal acquisition	Nominal acquisition	Nominal acquisition + recoding bias campaign	Nominal acquisition	Nominal acquisition	Nominal acquisition
IOS00389 662 images	IOS00389 664 images	IOS00389 616 images	IOS00390 657 images	IOS00390 664 images	IOS00390 657 images	IOS00390 664 images

This week, a SWAP recoding bias campaign was performed.

After the bake-out campaign it was suspected that the very dark pixels may be truncated due to a too high recoding bias. This bias was lowered from 10 to 3 for one hour, to assess this recoding effect.

This sequence happened on May 3, from 10:35 to 11:35.

### SWAP detector temperature

The SWAP Cold Finger Temperature fluctuated between -1.07 and -2.25 degrees Celsius.

## To be explored

/



#### 4. PROBA2 Science Center Status

The main operator is Koen Stegen; Marie Dominique provides support, when needed.

The following changes were made to the P2SC:

- None

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

##### **Passes**

The delivery of the passes for this week (passes 7661 to 7722) was nominal, except for:

- +None.

##### **Data coverage HK**

All HK data files (LYRA\_AD) have been received, except for:

- None.

##### **Data coverage SWAP**

All SWAP Science data files (BINSWAP) have been received, except for:

None

Processing of passes 7735 and 7759 failed

Total number of images between 2012 Apr 30 OUT and 2012 May 07 OUT: 4629

Highest cadence in this period: 130 seconds

Average cadence in this period: 130.65 seconds

Number of image gaps larger than 300 seconds: 0

##### **Data coverage LYRA**

All LYRA Science data files (BINLYRA) have been received, except for:

- None.

## 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)
MCMP	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
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
TC	Telecommand
UTC	Coordinated Universal Time
UV	Ultraviolet

