P2SC-ROB-WR-126-20120820 Weekly report #126	**P2SC Weekly report**	
Period covered: Date: Written by: Approved by:	Mon Aug 20 to Sun Aug 26, 2012 29 Aug 2012 Erik Pylyser David Berghmans	Royal Observatory of Belgium PROBA2 Science Center
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1. Science

Solar & Space weather events

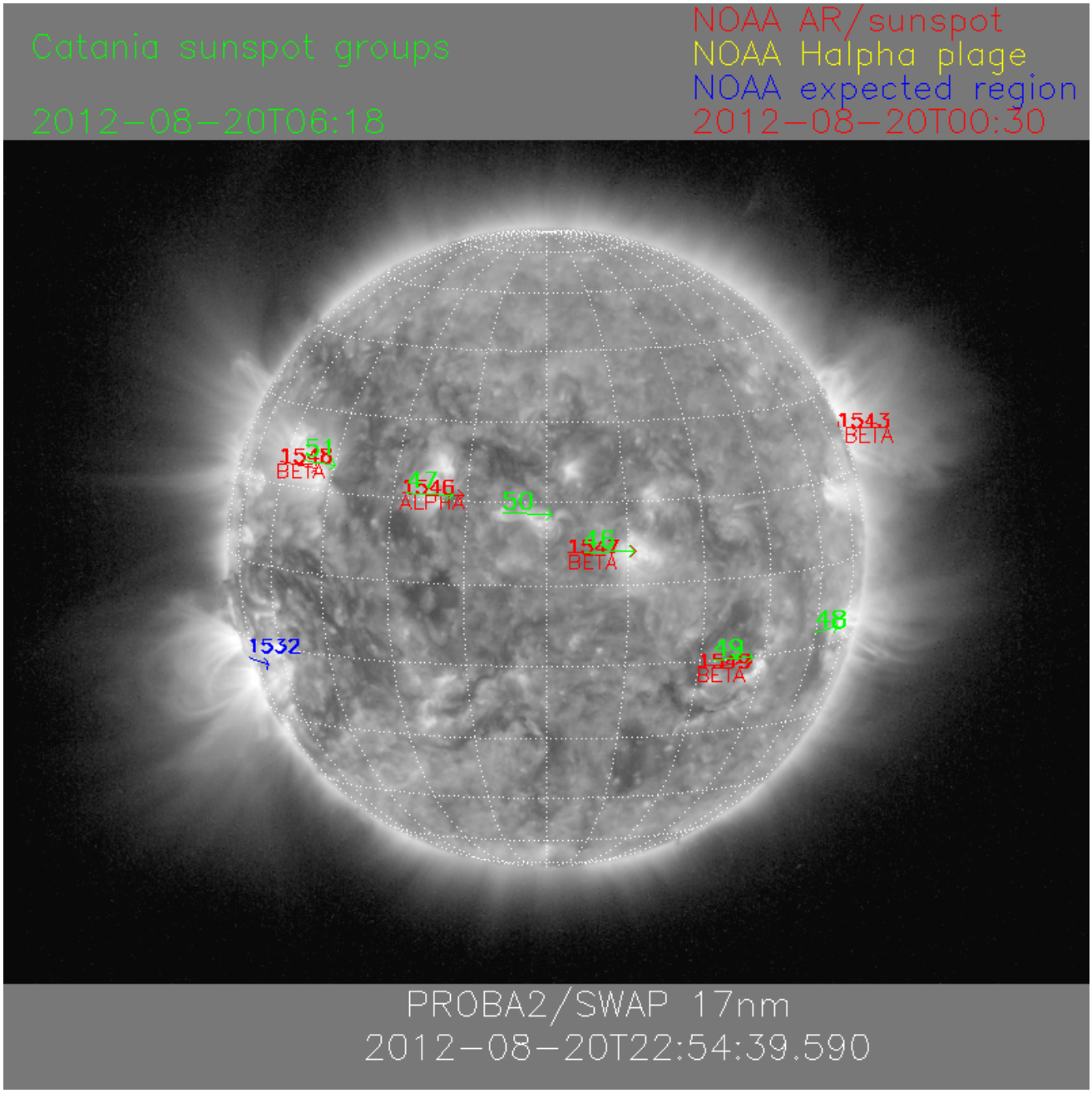
Overview

The level of solar activity this week[1] and associated M- and X-flares:

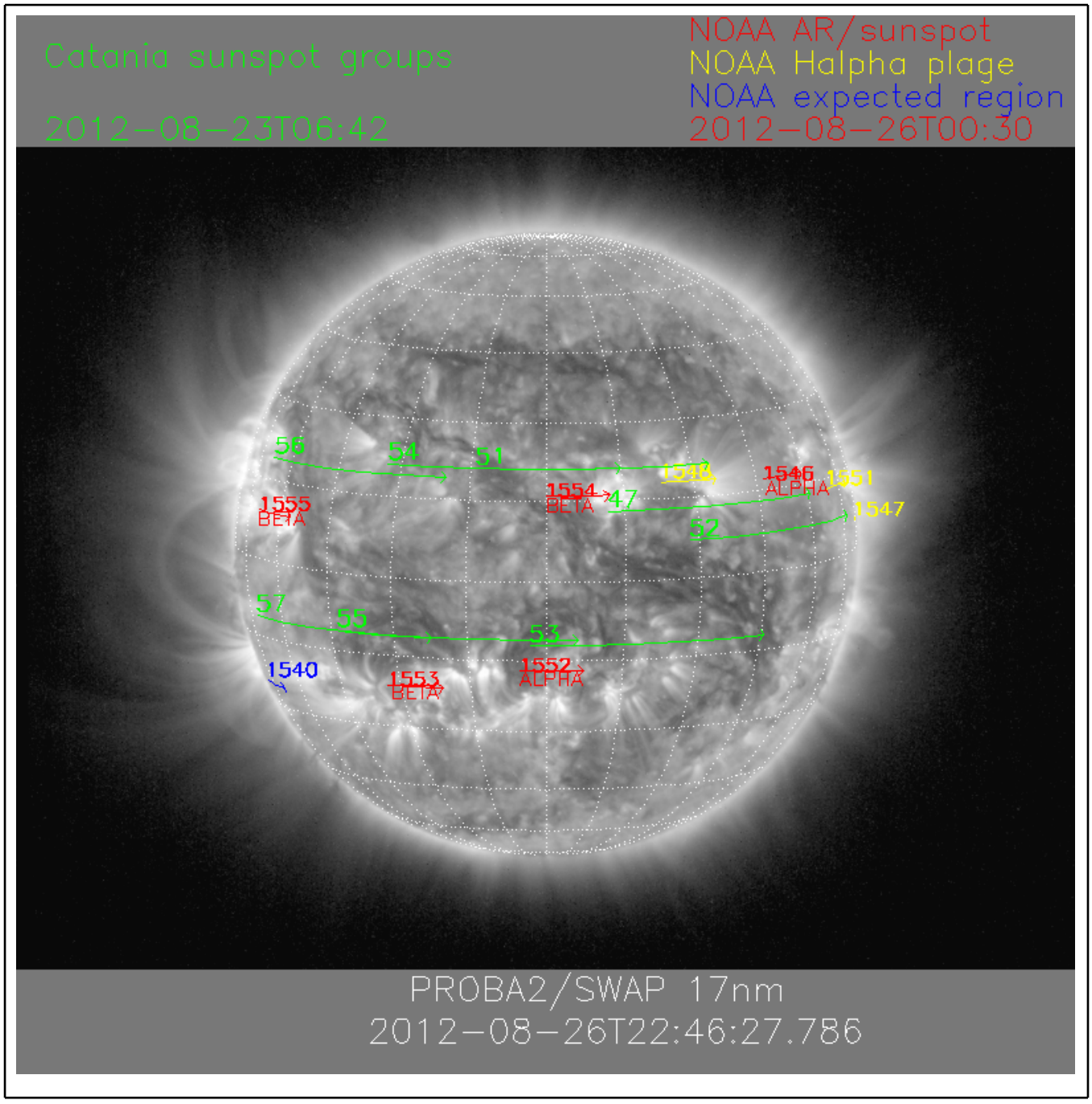
	Monday 20 Aug	Tuesday 21 Aug	Wednesday 22 Aug	Thursday 23 Aug	Friday 24 Aug	Saturday 25 Aug	Sunday 26 Aug
Activity	very low	very low	very low	very low	very low	low	low
Flares	-	-	-	-	-	-	-

[1] See appendix. All timings are given in UT.

The SWAP images of Aug 20 and Aug 26 are shown below, with annotated active regions.



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


Catania sunspot groups
2012-08-23T06:42
NOAA AR/sunspot
NOAA Halpha plage
NOAA expected region
2012-08-26T00:30
56
54
51
1548
1546
ALPHA
1551
1555
BETA
1554
BETA
47
1547
52
57
55
53
1540
1553
BETA
1552
ALPHA
PROBA2/SWAP 17nm
2012-08-26T22:46:27.786

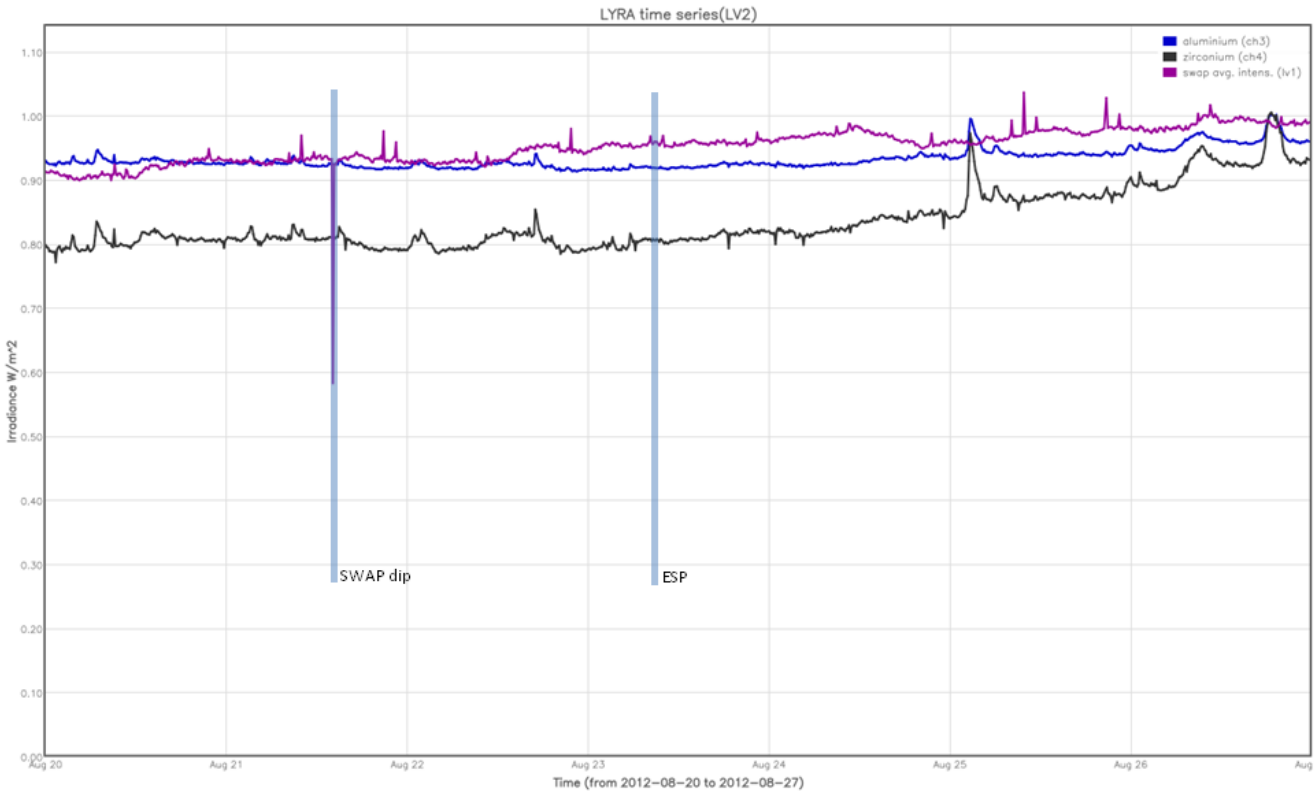
Solar Activity

For most of this week, the Sun's activity level was *Very low*, with a slight increase to *Low* from Saturday on (2 C1 flares in the week-end). The back-ground radiation started increasing slowly from Friday on.

No significant events were identified.

In order to view the activity of this week in more detail, we suggest to go to the following website from which all the daily (normal and difference) movies can be accessed: http://proba2.oma.be/ssa.
This page also lists the recorded flaring events.

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 periods correspond to, from left to right:
- Dip in SWAVINT curve, due to an 'excessive' LAR rotation, whereby the Sun partly disappears from

the SWAP FOV.
- ESP experiment on Thursday

The orange shaded periods correspond to, from left to right:
- None

The red shaded period corresponds to:
- None

Scientific campaigns

LYRA
The following scientific LYRA campaigns were performed this week:
- None

SWAP
The following scientific SWAP campaign was performed this week:
- None

Interesting, campaign associated, solar activity:
- None

Outreach, papers, presentations, etc.

- Specific interesting science topics (from section 1 above) are published in the weekly STCE bulletin.

2. LYRA instrument status

Calibration

No calibration this week.

IOS & operations

Monday 20 Aug	Tuesday 21 Aug	Wednesday 22 Aug	Thursday 23 Aug	Friday 24 Aug	Saturday 25 Aug	Sunday 26 Aug
Nominal acquisition + daily U3 LYIOS00263	Nominal acquisition + daily U3 LYIOS00264	Nominal acquisition + daily U3 LYIOS00264	Nominal acquisition + daily U3 LYIOS00264	Nominal acquisition + daily U3 LYIOS00264	Nominal acquisition+ daily U3 LYIOS00264	Nominal acquisition+ daily U3 LYIOS00264

- Except for the daily U3 campaign, no particular science campaigns this week.

LYRA detector temperature

LYRA detector 2 temperature fluctuated between 45.56 and 46.30 degrees.

To be explored

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3. SWAP instrument status

Calibration

No calibration this week.

MCPM errors

The number of MCPM recoverable errors increased from 2714 to 2929.

The number of MCPM unrecoverable errors is still 0.

IOS & operations

Monday 20 Aug	Tuesday 21 Aug	Wednesday 22 Aug	Thursday 23 Aug	Friday 24 Aug	Saturday 25 Aug	Sunday 26 Aug
Nominal acquisition IOS00409 648 images	Nominal acquisition IOS00409 663 images	Nominal acquisition IOS00409->410 665 images	Nominal acquisition + ESP IOS00410 650images	Nominal acquisition IOS00410 585 images	Nominal acquisition IOS00410 597 images	Nominal acquisition IOS00410 508 images

SWAP detector temperature

The SWAP Cold Finger Temperature fluctuated between - 1.3 and - 2.0 degrees Celsius, under nominal operations.

An increase of temperature was noticed on Monday 20th, at 04:33. This occurrence is related to a ‘missing’ LAR delay, which has occurred several times in the recent past. REDU was informed.

To be explored

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4. PROBA2 Science Center Status

The main operator is Koen Stegen.

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 8721 to 8782) 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

Total number of images between 2012 Aug 20 0UT and 2012 Aug 27 0UT: 4316
Highest cadence in this period: 130 seconds
Average cadence in this period: 140.12 seconds
Number of image gaps larger than 300 seconds: 1
Largest data gap: 34.33 minutes

The large gap is due to the ESP experiment on Thursday.

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
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
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

7. APPENDIX Solar Activity Definitions

In the science section we use the following solar activity standards.

The standard scale for solar activity is:
- very low (almost no flares, only B)
- low (a few C flares)
- moderate (many C flares and at least an M flare)
- high (several M flares and an X flare)
- very high (continuous background of C flares, numerous M flares, more than one X flare)
(+ extreme?)