P2SC-ROB-WR-123-20120730 Weekly report #123	**P2SC Weekly report**	
Period covered: Date: Written by: Approved by:	Mon Jul 30 to Sun Aug 05, 2012 08 Aug 2012 Erik Pylyser & Dan Seaton David Berghmans	Royal Observatory of Belgium PROBA2 Science Center
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1. Science

Solar & Space weather events

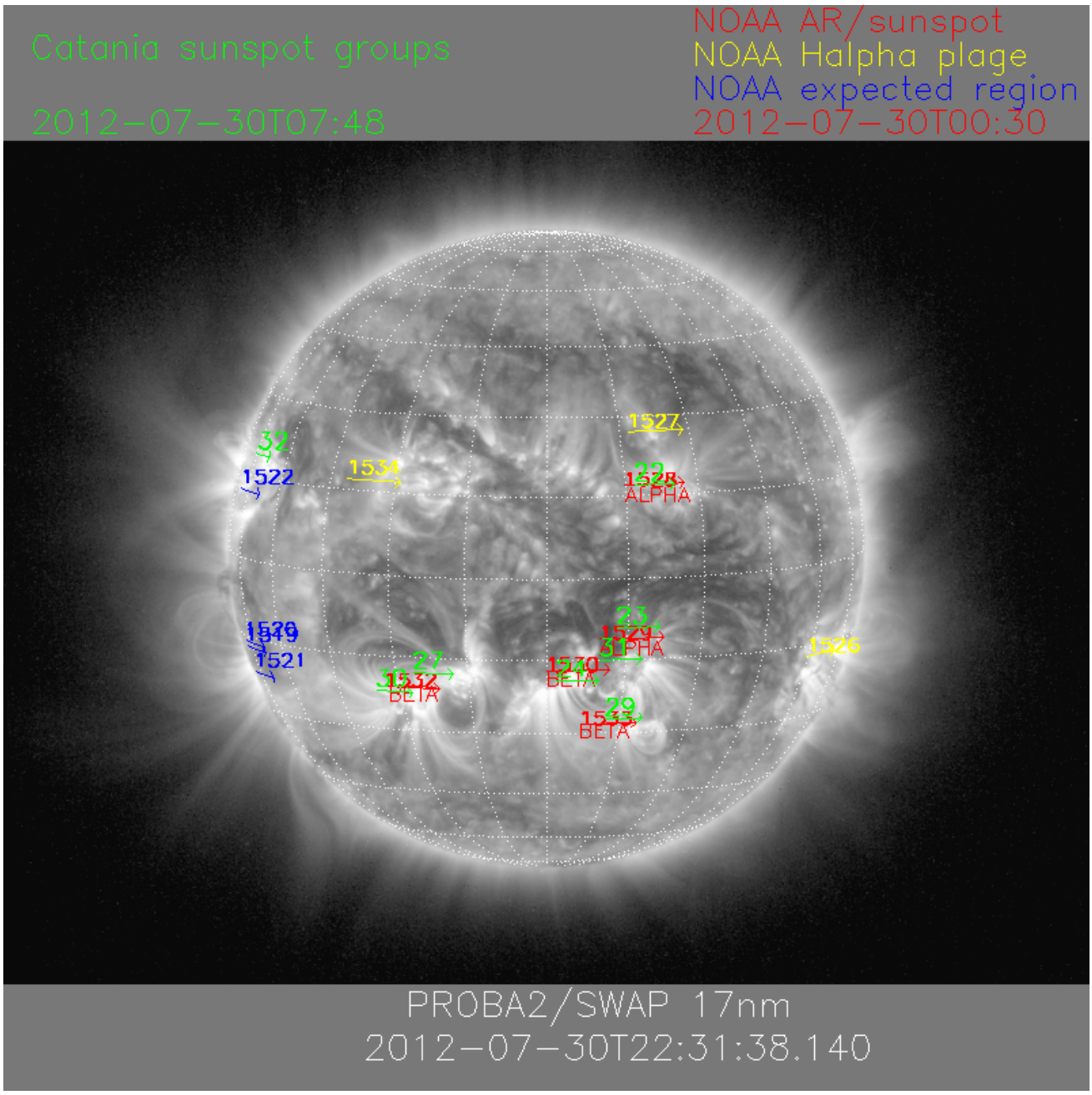
Overview

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

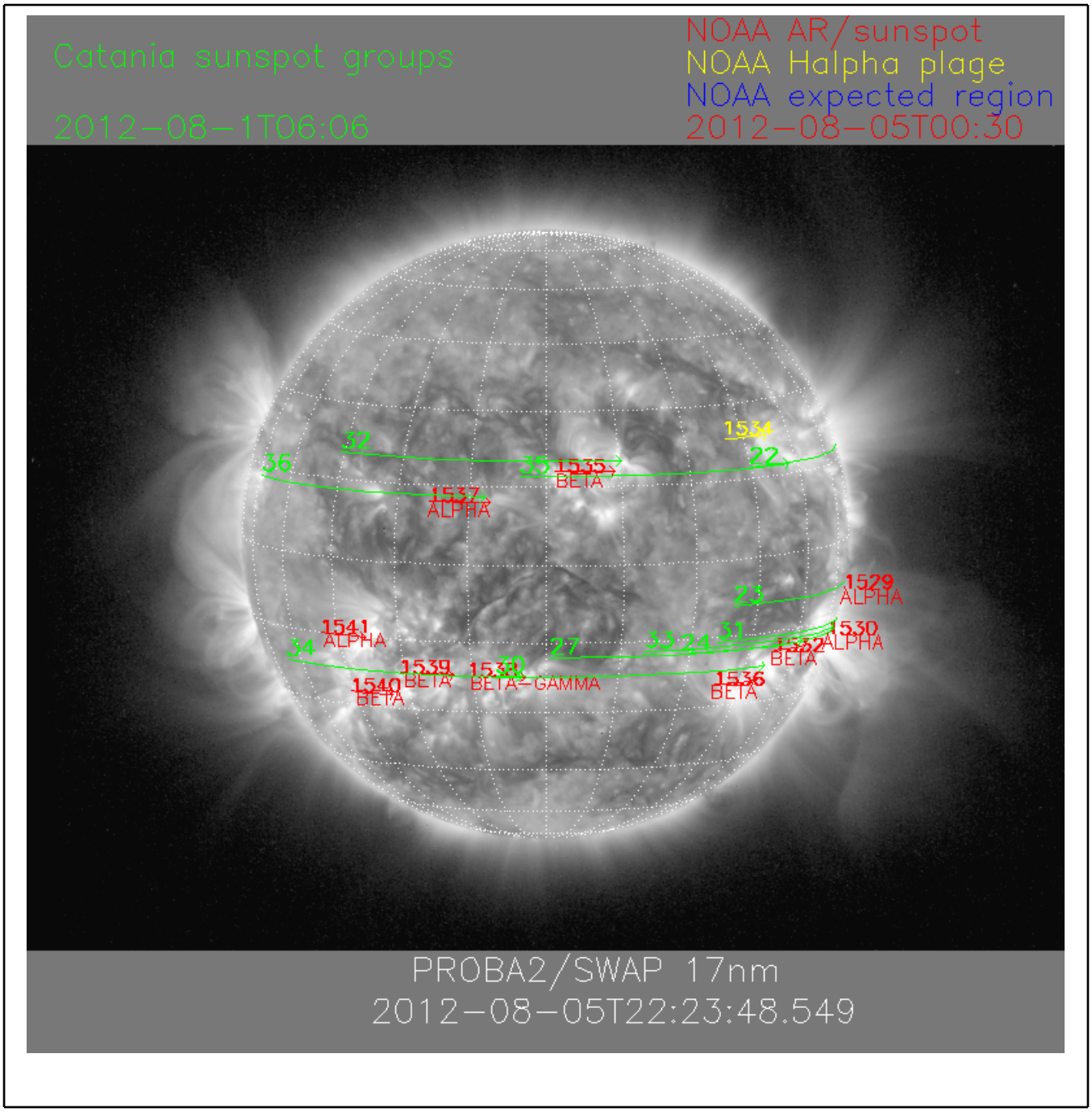
	Monday 30 Jul	Tuesday 31 Jul	Wednesday 01 Aug	Thursday 02 Aug	Friday 03 Aug	Saturday 04 Aug	Sunday 05 Aug
Activity	moderate	low	low	low	low	low	low
Flares	**M1.1@15:39**	–	–	–	–	–	–

The annotated SWAP images from Jul 30 and Aug 05 below show the main regions of activity for the week.

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



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


Catania sunspot groups
2012-08-1T06:06
NOAA AR/sunspot
NOAA Halpha plage
NOAA expected region
2012-08-05T00:30
32
36
35
1535
BETA
1534
22
1537
ALPHA
1529
ALPHA
25
1541
ALPHA
34
27
33
24
31
1530
ALPHA
1532
BETA
1539
BETA
1538
BETA-GAMMA
1540
BETA
1536
BETA
PROBA2/SWAP 17nm
2012-08-05T22:23:48.549

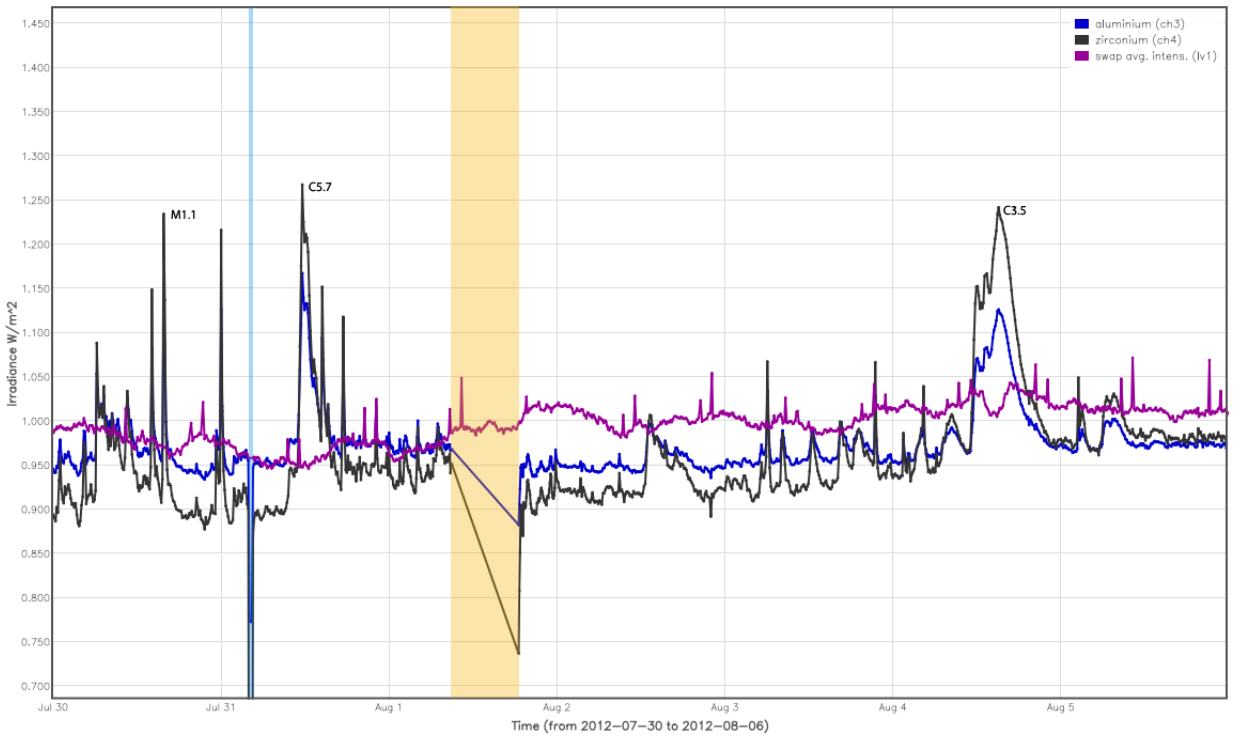
Solar Activity

Solar activity levels this week were quite low, with only a single flare breaking the M-barrier to reach M1.1 level on Monday 30 July, associated with a brief, impulsive brightening in AR 11532. The only other activity of note was a long-duration event rising to about C3.5 level that began near midday on 4 August. This event was linked to a relatively weak eruption as well as some large scale flows and brightening in a filament associated with the cluster of active regions in the southeast quadrant, primarily ARs 11540 and 11541 (see the daily SWAP movie of 4 August for additional detail).

PROBA2's Space Situational Awareness Service provides an overview of daily activity for the entire week, including links to daily movies and a list of all recorded flares.

An overview of the weekly LYRA & SWAP data is provided below. The three colored curves correspond to:

- Black: Zirconium Channel LYRA Unit 2
- Blue: Aluminium Channel of LYRA Unit 2
- Violet: SWAVINT (SWAP Average Intensity; DN/s/px computed from SWAP images)



The blue shaded periods correspond to, from left to right:

1. SWAP Calibration

The orange shaded periods correspond to, from left to right:

1. LYRA Calibration

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.

- None

2. LYRA instrument status

Calibration

Calibration on Wednesday.

IOS & operations

Monday 30 Jul	Tuesday 31 Jul	Wednesday 01 Aug	Thursday 02 Aug	Friday 03 Aug	Saturday 04 Aug	Sunday 05 Aug
Nominal acquisition + daily U3	Nominal acquisition + daily U3	Nominal acquisition + daily U3 + Calibration	Nominal acquisition + daily U3	Nominal acquisition + daily U3	Nominal acquisition + daily U3	Nominal acquisition + daily U3
LYIOS00261	LYIOS00261	LYIOS00261	LYIOS00261	LYIOS00261	LYIOS00261 -> 262	LYIOS00262

Activities performed this week with LYRA:
- daily U3 campaign.
- bi-weekly calibration campaign on Wednesday 1st of August

LYRA detector temperature

LYRA detector 2 temperature fluctuated between 43.98 and 46.21 degrees.

To be explored

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3. SWAP instrument status

Calibration

Calibration on Tuesday.

MCPM errors

The number of MCPM recoverable errors increased from 2295 to 2351.

The number of MCPM unrecoverable errors is still 0.

IOS & operations

Monday 30 Jul	Tuesday 31 Jul	Wednesday 01 Aug	Thursday 02 Aug	Friday 03 Aug	Saturday 04 Aug	Sunday 05 Aug
Nominal acquisition IOS00407 580 images	Nominal acquisition + Calibration IOS00407 665 images	Nominal acquisition IOS00407 634 images	Nominal acquisition IOS00407 644 images	Nominal acquisition IOS00407 541 images	Nominal acquisition IOS00408 463 images	Nominal acquisition IOS00408 572 images

SWAP detector temperature

The SWAP Cold Finger Temperature fluctuated between –2.25 and –1.05 degrees Celsius, under nominal operations.

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 8539 to 8595) 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 Jul 30 0UT and 2012 Aug 05 0UT: 3527
Highest cadence in this period: 30 seconds
Average cadence in this period: 146.96 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
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?)