


P2SC-ROB-WR-178- 20130819 Weekly report #178	P2SC Weekly report	
Period covered: Date: Written by: Approved by:	Mon August 19 to Sun August 25, 2013 28 Aug 2013 Erik Pylyser Matthew West	Royal Observatory of Belgium - PROBA2 Science Center
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1. Science

Solar & Space weather events

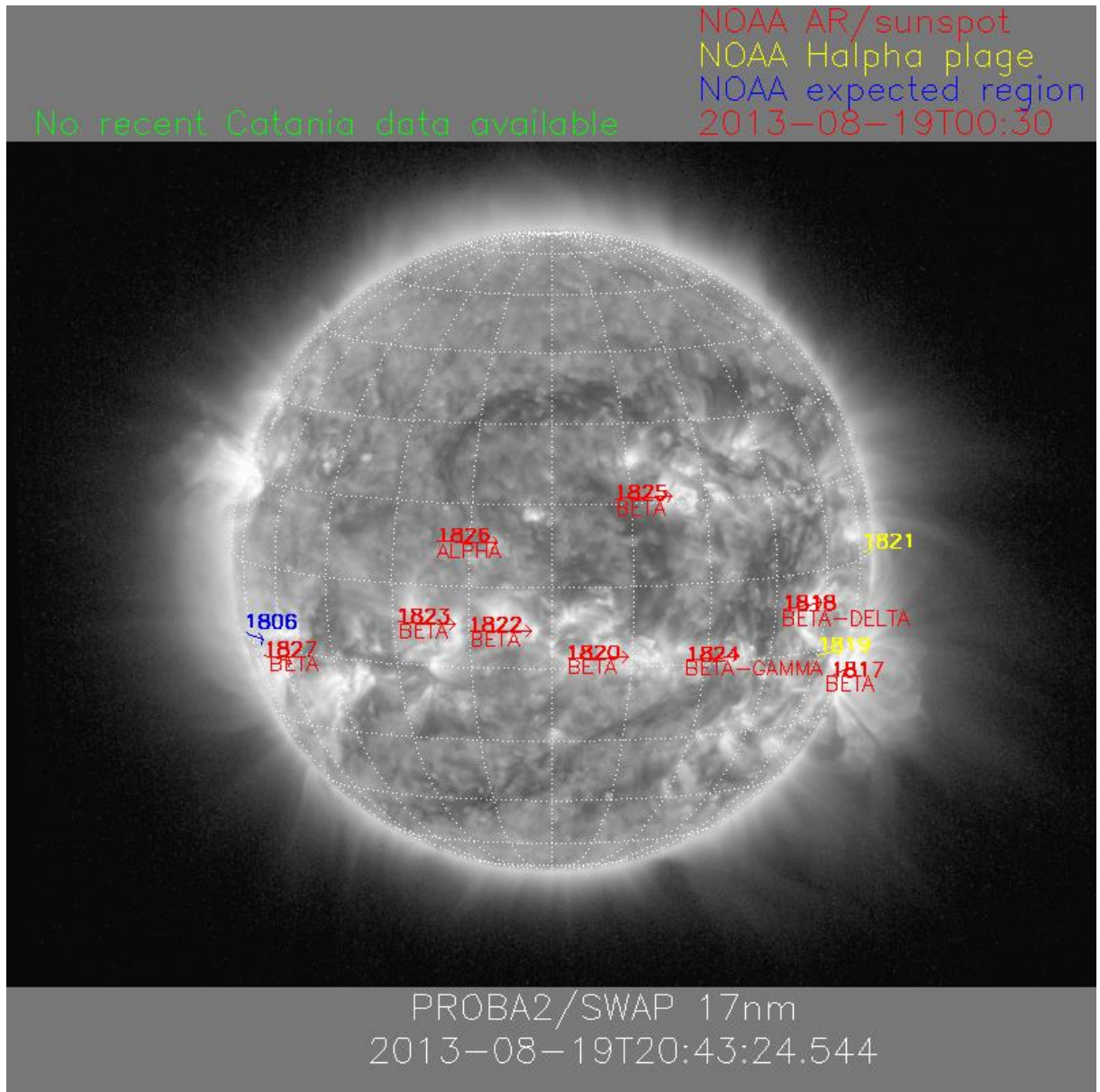
The level of solar activity¹ this week evolved from **low to very low** this week.

Only M- and X-flares are mentioned, the most energetic one(s) per day are presented in **bold**:

	Monday 19 Aug	Tuesday 20 Aug	Wednesday 21 Aug	Thursday 22 Aug	Friday 23 Aug	Saturday 24 Aug	Sunday 25 Aug
Activity	low	low	low	low	low	very low	very low
Flares	-	-	-	-	-	-	-

¹ See appendix. All timings are given in UT.

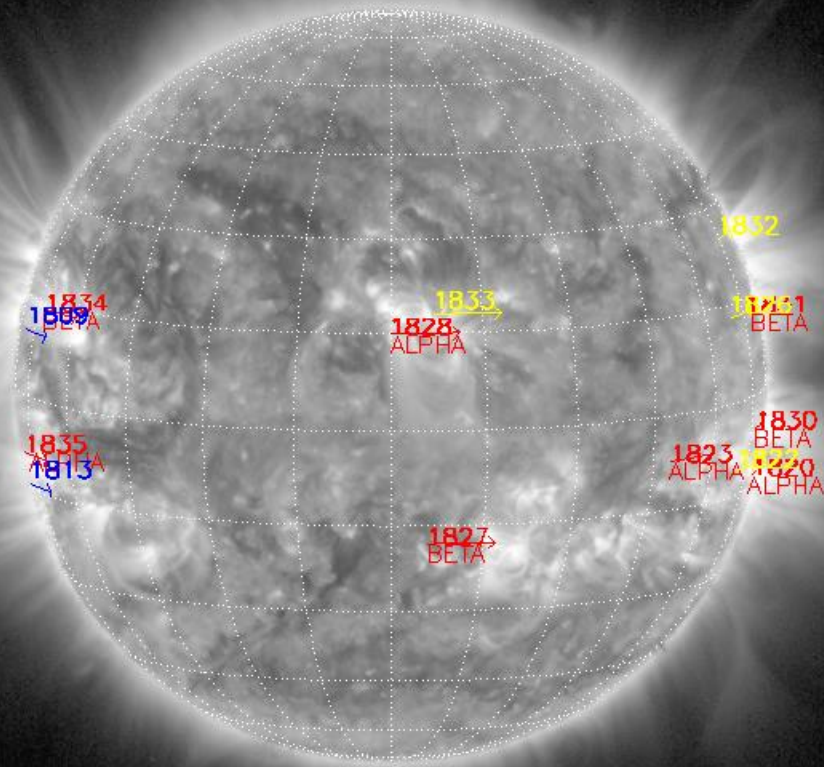
The SWAP images of August 19 and Aug 25 are shown below, with annotated active regions.



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

No recent Catania data available

NOAA AR/sunspot
NOAA Halpha plage
NOAA expected region
2013-08-25T00:30



PROBA2/SWAP 17nm
2013-08-25T20:33:23.074

Solar Activity

Solar (flaring) activity evolved from low to very low during the week.

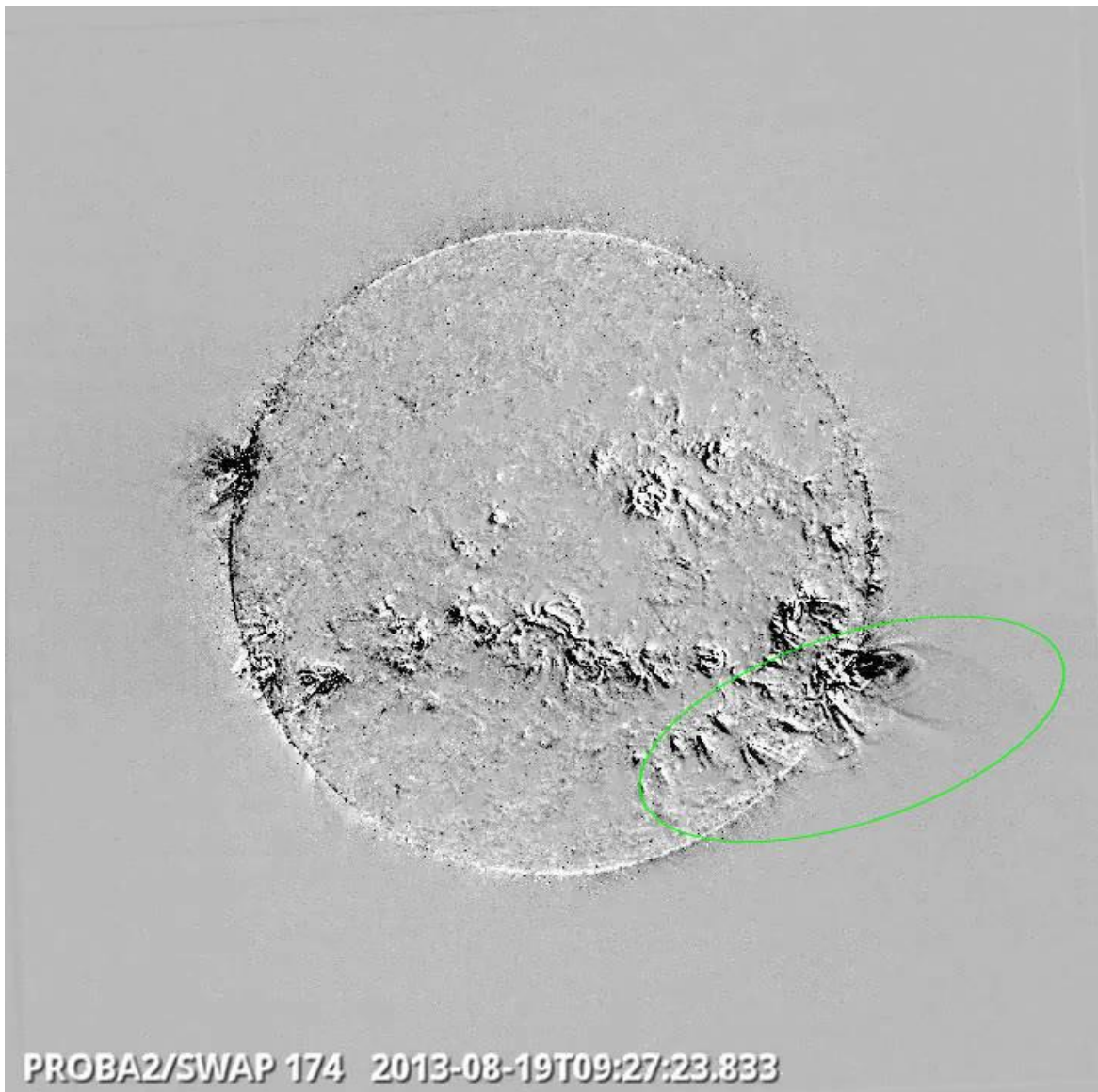
In order to view the activity of this week in more detail, we suggest going to the following website from which all the daily (normal and difference) movies can be accessed: <http://proba2.oma.be/ssa>.

This page also lists the recorded flaring events.

A weekly overview movie can be found [here](#) (SWAP174; HelioViewer.org).

Details about some of this week's events can be found further below.

Monday August 19th:



C2.2 Flare eruption in South West Quadrant @ 09:27 - SWAP difference image

Find a movie of the event [here](#) (SWAP difference movie)

Tuesday August 20th:



Prominence Eruption in South West Quadrant @ 07:55 - SWAP difference image
Find a movie of the event [here](#) (SWAP difference movie)

Wednesday August 21st:



C1.3 Flare Eruption in South East Quadrant @ 04:06 - SWAP difference image
Find a movie of the event [here](#) (SWAP difference movie)

Thursday August 22nd:



C1.9 Flare Eruption in North East Quadrant @ 22:10 - SWAP difference image
Find a movie of the event [here](#) (SWAP difference movie)



Eruption on the West Limb @ 14:13 - SWAP difference image
Find a movie of the event [here](#) (SWAP difference movie)

Saturday August 24th:

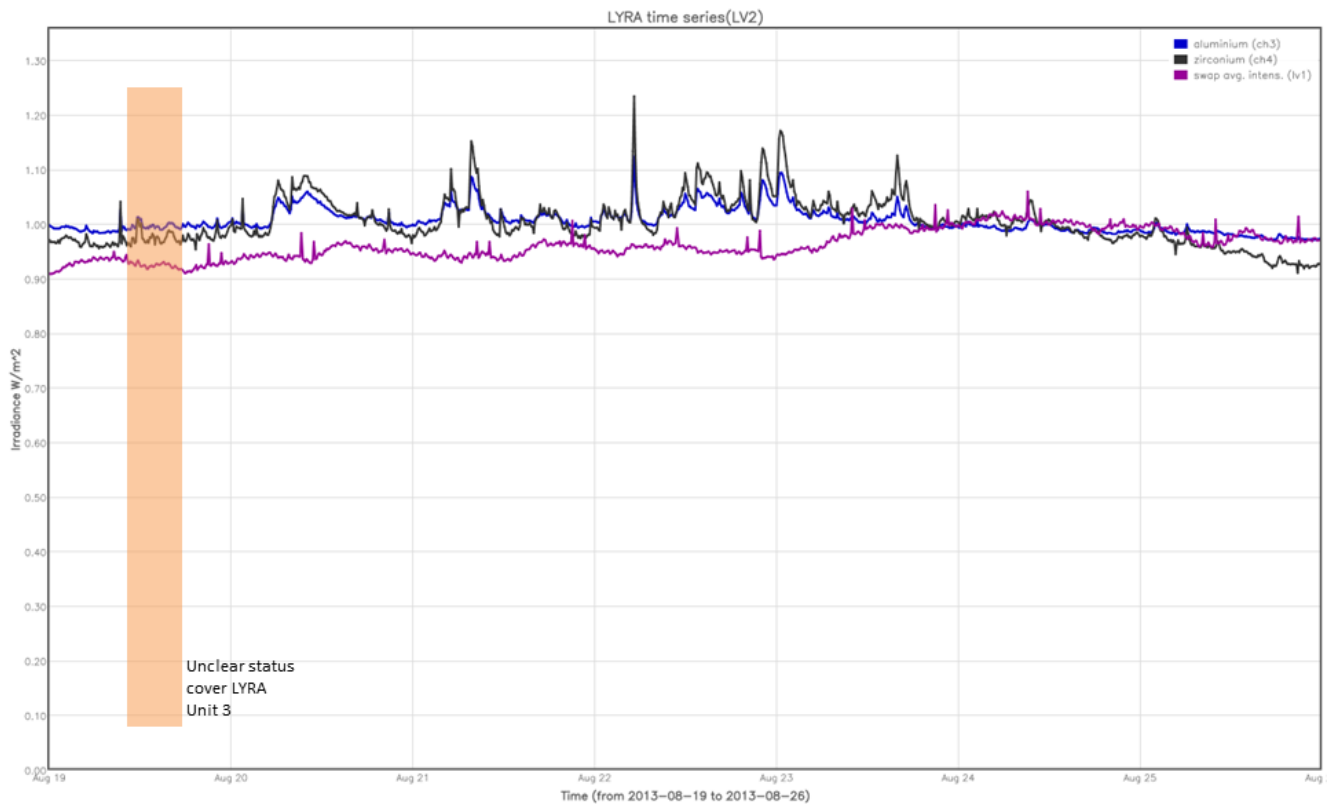


Eruption on the South West Limb @ 09:44 - SWAP difference image
Find a movie of the event [here](#) (SWAP difference movie)

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

The following curves are visible:

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



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

- None

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

- Unclear status of the cover of LYRA Unit 3 (i.e. 'not open' & 'not closed' - it should have been closed); occurrence on Monday 19th, from 10:15 to 17:40.

The red shaded period corresponds to:

- None

Outreach, papers, presentations, etc.

Please consult <http://proba2.oma.be/science/publications> for a list of interesting articles using SWAP & LYRA data, as well as a link to the complete article list.

The science section of this weekly report is also published in the weekly STCE newsletter (<http://www.stce.be/newsletter/newsletter.php>).

Guest Investigator Program

- None

2. LYRA instrument status

Calibration

No calibration this week.

IOS & operations

Monday 19 Aug	Tuesday 20 Aug	Wednesday 21 Aug	Thursday 22 Aug	Friday 23 Aug	Saturday 24 Aug	Sunday 25 Aug
Nominal acquisition + daily U3	Nominal acquisition + daily U3	Nominal acquisition + daily U3	Nominal acquisition + daily U3	Nominal acquisition + daily U3	Nominal acquisition + daily U3	Nominal acquisition + daily U3
LYIOS00338 - > 339	LYIOS00339	LYIOS00339	LYIOS00339	LYIOS00339	LYIOS00339	LYIOS00339

The following science campaigns were performed by LYRA:

- daily U3 observations campaign

On Monday 19th, based on the HK data, the cover of LYRA Unit 3 was found to be 'not open' and 'not closed' after the daily unit 3 campaign. In order to ensure a proper situation on-board - i.e. to close the cover - an IOS was sent, after which the on-board LYRA U3 cover was confirmed to be closed.

LYRA detector temperature

LYRA detector 2 temperature globally varied between 46.8 and 47.7 degrees C, taking into account the daily U3 activation periods; the latter result in a temperature increase of about 0.6 degrees C.

To be explored

- None

3. SWAP instrument status

Calibration

No calibration this week.

MCPM errors

The number of MCPM recoverable errors increased from 10949 to 11211

The number of MCPM unrecoverable errors remained at 1127.

IOS & operations

Monday 19 Aug	Tuesday 20 Aug	Wednesday 21 Aug	Thursday 22 Aug	Friday 23 Aug	Saturday 24 Aug	Sunday 25 Aug
Nominal acquisition	Nominal acquisition	Nominal acquisition	Nominal acquisition	Nominal acquisition	Nominal acquisition	Nominal acquisition
IOS00474 637 images	IOS00474 590 images	IOS00474 625 images	IOS00474 530 images	IOS00474 665 images	IOS00474 595 images	IOS00474 584 images

Special operations for SWAP, this week:

- None

SWAP detector temperature

The SWAP Cold Finger Temperature globally varied between -1.61 and -0.97 degrees C.

To be explored

- None

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 11842 to 11904) was nominal, except for:

- None.

Data coverage HK

All HK data files (LYRA_AD) have been received, except:

- None.

Data coverage SWAP

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

- None.

Total number of images between 2013 Aug 19 0UT and 2013 Aug 26 0UT: 4311

Highest cadence in this period: 130 seconds

Average cadence in this period: 140.26 seconds

Number of image gaps larger than 300 seconds: 0

Data coverage LYRA

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

- None.

6. APPENDIX: Frequently used acronyms

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
ESP	Experimental Solar Panel
FITS	Flexible Image Transport System
FOV	Field Of View FPA Focal Plane Assembly
FPGA	Field Programmable Gate Arrays
GPS	Global Positioning System
HK	Housekeeping
IOS	Instrument Operations Sheet
LED	Light Emitting Diode
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
OBSW	On board Software
PI	Principal Investigator
P2SC	PROBA2 Science Center
ROB	Royal Observatory of Belgium
SAA	South Atlantic Anomaly
SEU	Single Event Upset
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
VFC	Voltage to Frequency Converter

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)