


P2SC-ROB-WR-226- 20140721 Weekly report #226	P2SC Weekly report	
Period covered: Date: Written by: Approved by:	Mon Jul 21 to Sun Jul 27, 2014 30 Jul 2014 Erik Pilyser Matthew West	Royal Observatory of Belgium - PROBA2 Science Center
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1. Science

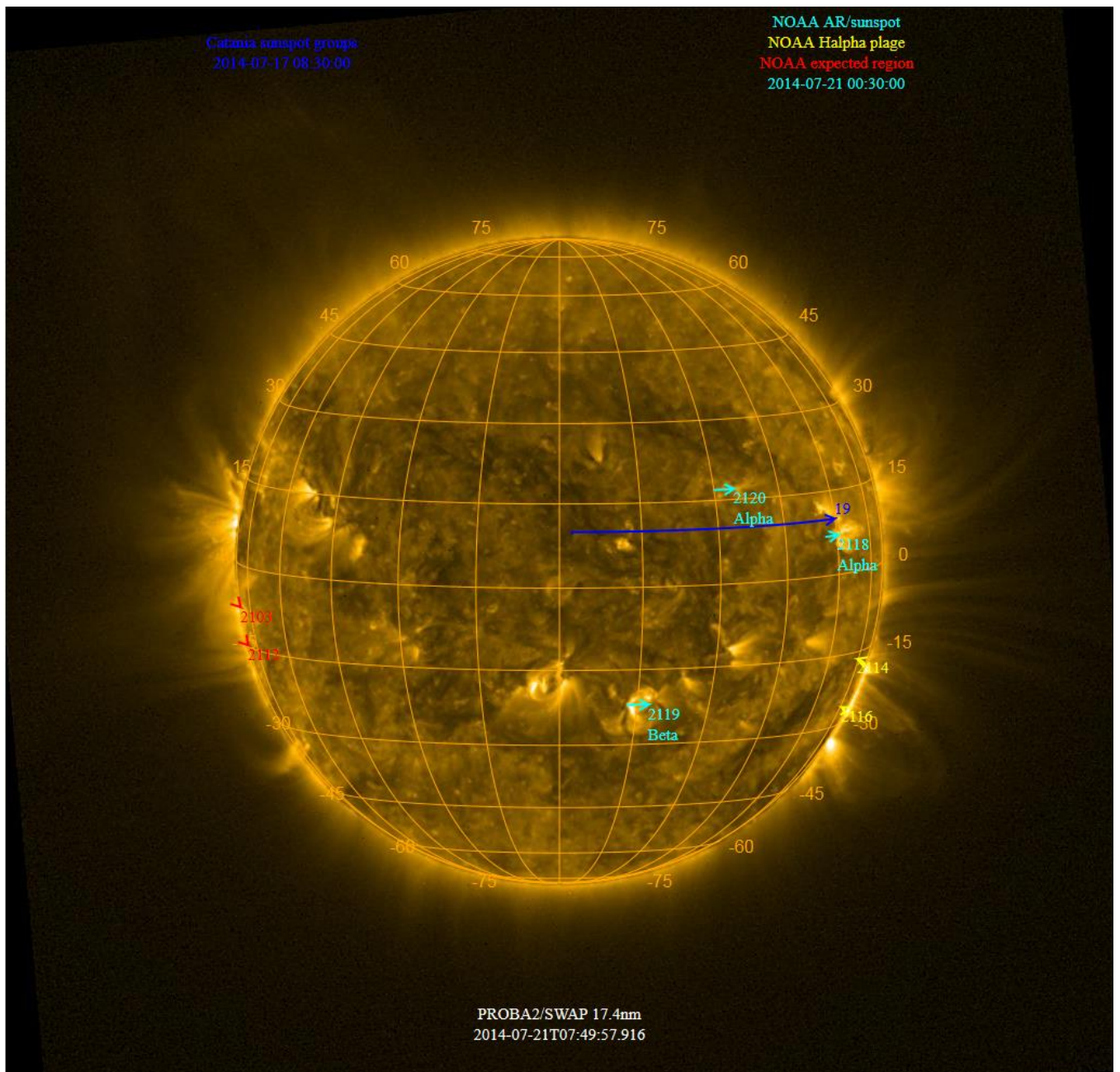
Solar & Space weather events

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

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

	Monday 21 Jul	Tuesday 22 Jul	Wednesday 23 Jul	Thursday 24 Jul	Friday 25 Jul	Saturday 26 Jul	Sunday 27 Jul
Activity	very low	very low	very low	low	low	low	low
Flares	-	-	-	-	-	-	-

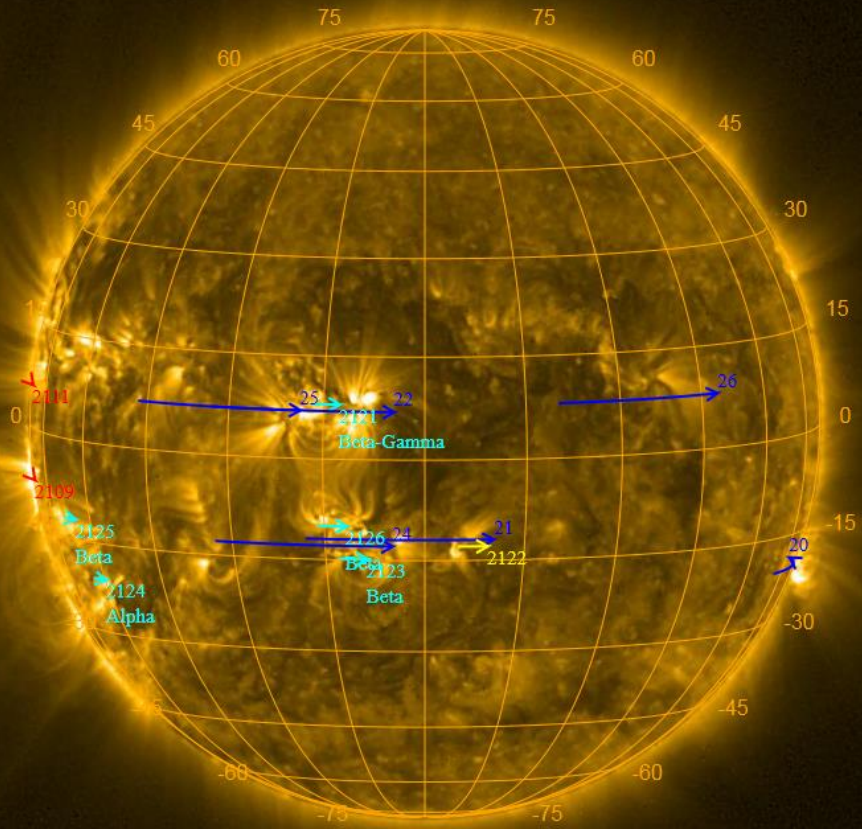
The SWAP images of July 21 and July 27 are shown below, with annotated active regions.



<http://sidc.be/soteria/soteria.php>

Catania sunspot groups
2014-07-25 09:06:00

NOAA AR/sunspot
NOAA Alpha plage
NOAA expected region
2014-07-27 00:30:00



PROBA2/SWAP 17.4nm
2014-07-27T07:46:26.545

Solar Activity

The level of solar activity evolved from **very low** to **low** this 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](#) (SWAP week 226).

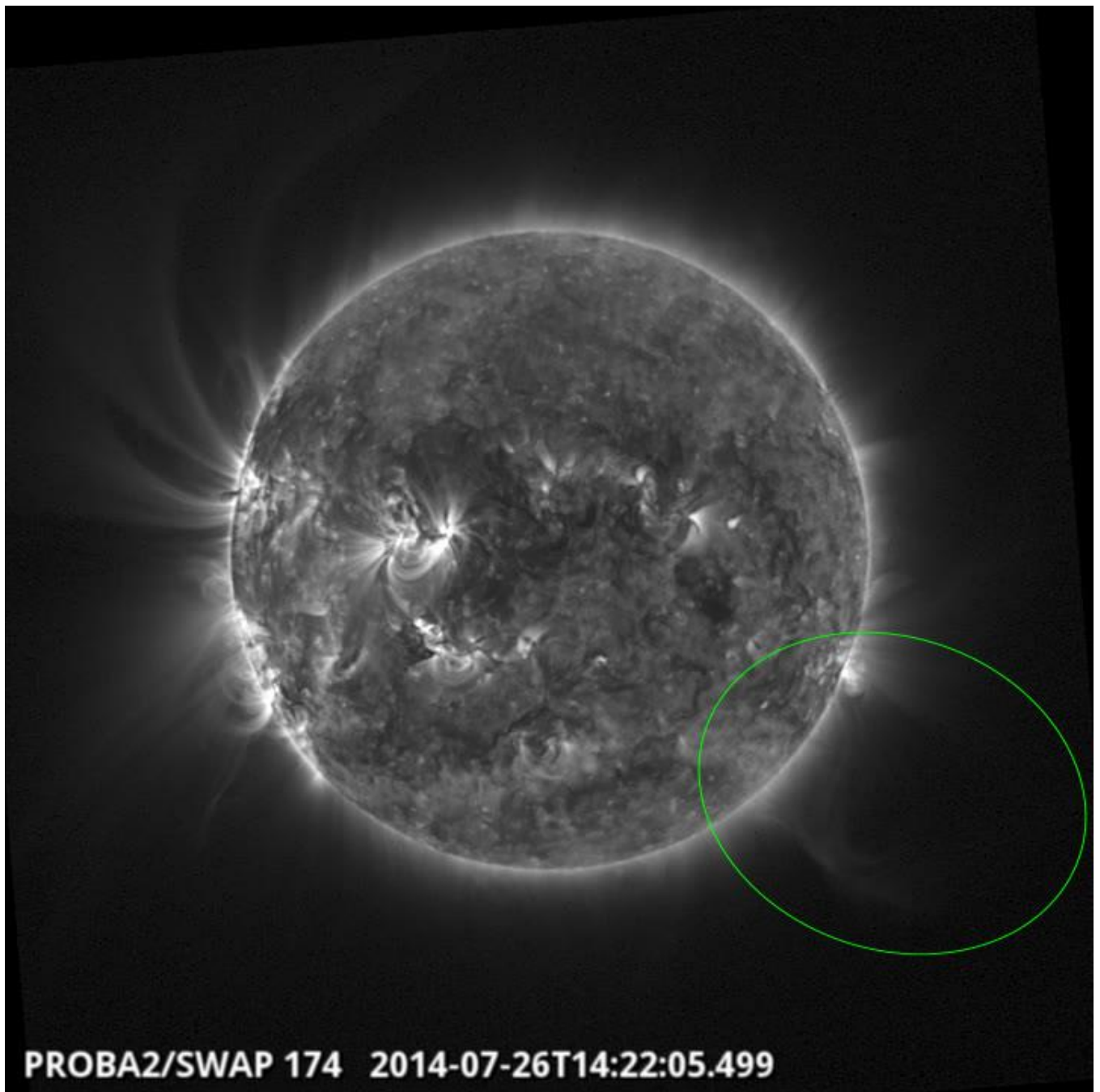
Details about some of this week's events can be found further below.

Tuesday Jul 22:



Prominence Eruption on north west limb @ 17:57 - SWAP difference image

Saturday Jul 26:

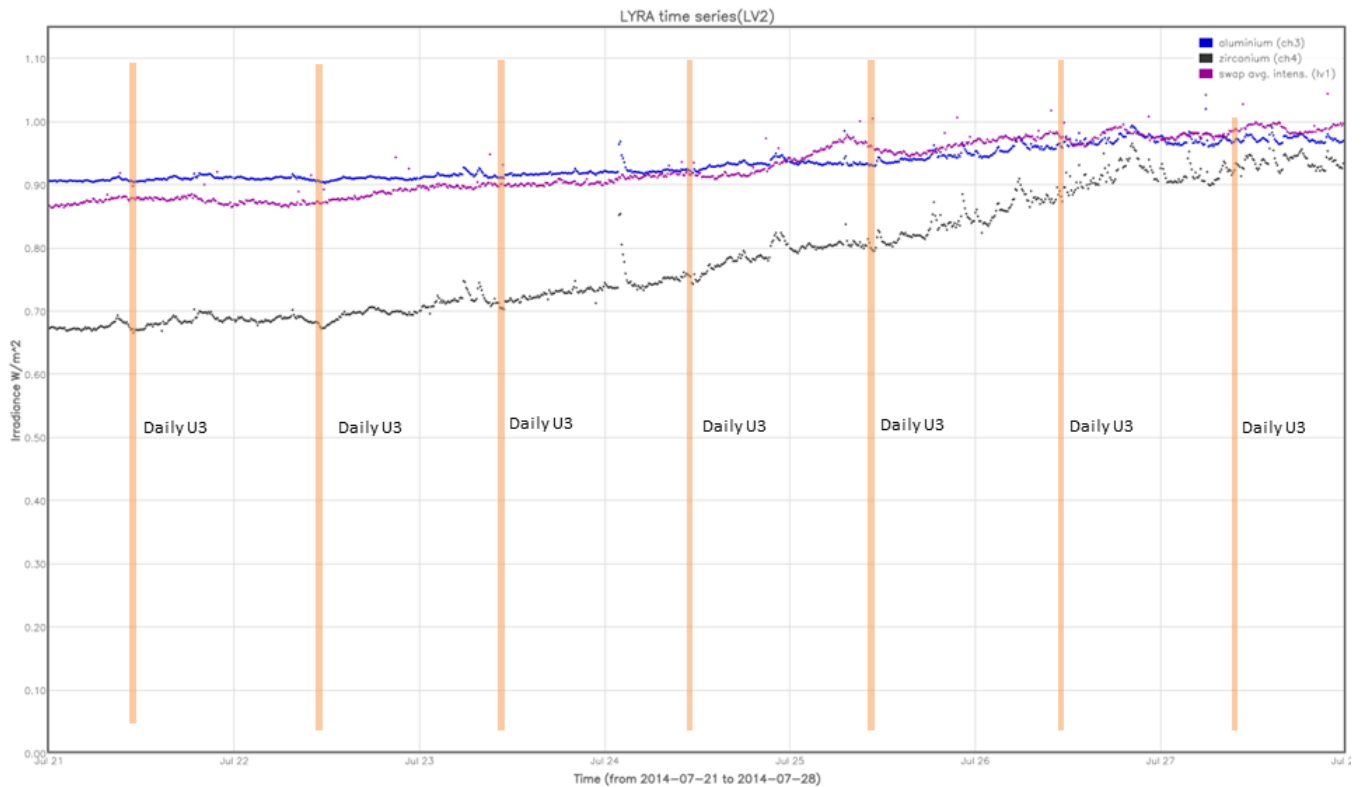


Prominence Eruption on south west limb @ 14:22 - SWAP image
Find a movie of the event [here](#) (SWAP movie).
for about 1.5 days ahead of eruption, the prominence shows quite some activity.

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 (SWAP Average Intensity; integrated solar intensity per SWAP image pixel)



The (LYRA related) orange shaded periods correspond to, from left to right (see also section 2):

- Daily LYRA unit 3 campaign (7 consecutive days)

The (SWAP related) blue shaded periods correspond to, from left to right (see also section 3)

- 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>).

SWAP & LYRA data is being provided to the VENUS EXPRESS mission, in support of their upcoming operations to aerobrake the orbiter into Venus' atmosphere (see also this ESA [link](#)). This type of information is provided on a daily basis and can be found on this [website](#).

Guest Investigator Program

- None

Other Visitors

- None

2. LYRA instrument status

Calibration

- None

IOS & operations

Monday 21 Jul	Tuesday 22 Jul	Wednesday 23 Jul	Thursday 24 Jul	Friday 25 Jul	Saturday 26 Jul	Sunday 27 Jul
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
LYIOS00411	LYIOS00411	LYIOS00411	LYIOS00411	LYIOS00411	LYIOS00411	LYIOS00411

The following science campaigns were performed by LYRA:

- Daily LYRA unit 3 campaign (7 consecutive days)

LYRA detector temperature

During normal operations, the LYRA detector 2 temperature varied between 46.52 and 47.45 °C, taking into account the small daily U3 activation temperature peaks.

3. SWAP instrument status

Calibration

- None

MCPM errors

The number of MCPM **recoverable** errors increased from 20471 to 20699.

The number of MCPM **unrecoverable** errors remained at 1657.

IOS & operations

Monday 21 Jul	Tuesday 22 Jul	Wednesday 23 Jul	Thursday 24 Jul	Friday 25 Jul	Saturday 26 Jul	Sunday 27 Jul
Nominal acquisition	Nominal acquisition	Nominal acquisition	Nominal acquisition	Nominal acquisition	Nominal acquisition	Nominal acquisition
IOS00527 639 images	IOS00527 665 images	IOS00527 664 images	IOS00527 664 images	IOS00527 665 images	IOS00527 603 images	IOS00527 588 images

Special SWAP operations this week

- None

SWAP detector temperature

The SWAP Cold Finger Temperature varied between -0.73 °C and -1.44 °C.

4. PROBA2 Science Center Status

The main operator is Koen Stegen & Erik Pylyser

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 14748 and 14800) 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 2014 Jul 21 0UT and 2014 Jul 28 0UT: 4519

Highest cadence in this period: 0 seconds

Average cadence in this period: 133.86 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

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)