P2SC-ROB-WR-279 - 20150727 Weekly report #279	**P2SC Weekly report**	
Period covered: Date: Written by: Approved by:	Mon Jul 27 to Aug 02, 2015 05 Aug 2015 Robbe Vansintjan D.B. Seaton	Royal Observatory of Belgium - PROBA2 Science Center
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1. Science

Solar & Space weather events

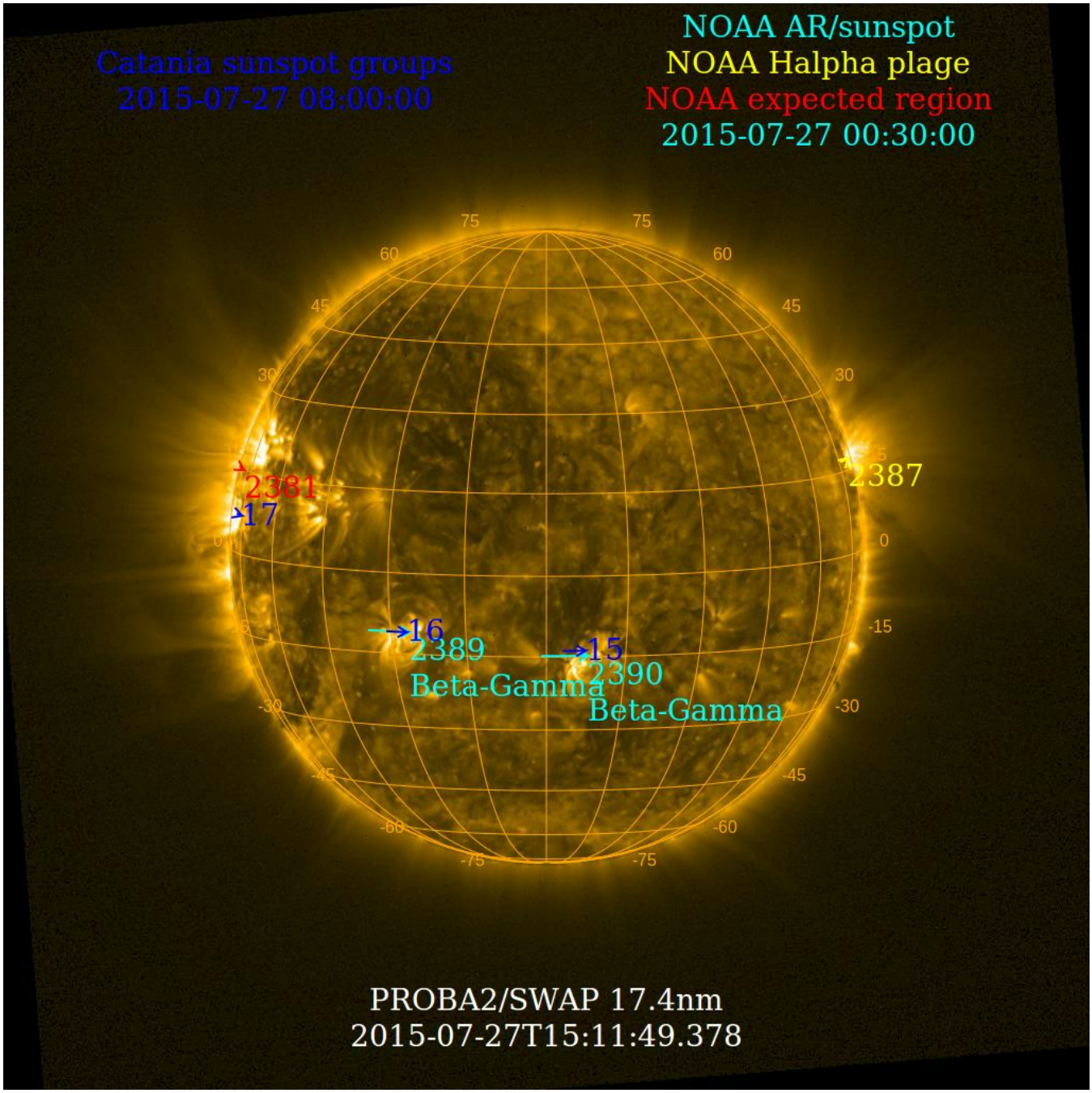
The level of solar activity[1] fluctuated between **very low** and **low** this week.

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

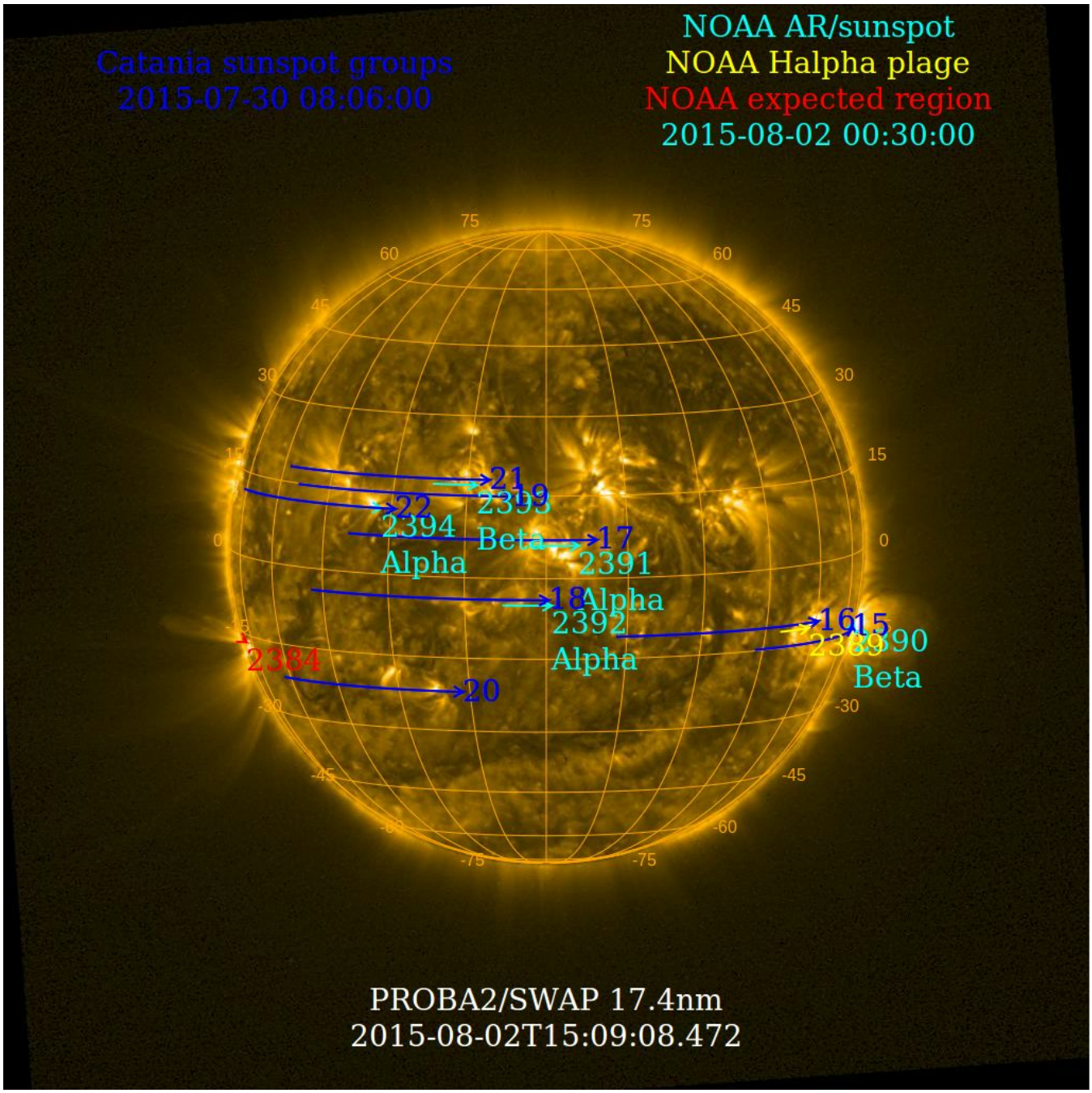
	Monday 27 Jul	Tuesday 28 Jul	Wednesday 29 Jul	Thursday 30 Jul	Friday 31 Jul	Saturday 01 Aug	Sunday 02 Aug
Activity	very low	very low	very low	very low	very low	low	very low
Flares	-	-	-	-	-	-	-

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

The SWAP images of Jul 27 and Aug 02 are shown below, with annotated active regions.



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


Catania sunspot groups
2015-07-30 08:06:00
NOAA AR/sunspot
NOAA Halpha plage
NOAA expected region
2015-08-02 00:30:00
75
60
45
30
15
0
-15
-30
-45
-60
-75
21
22
2394
Alpha
2393
Beta
17
2391
18
Alpha
2392
Alpha
16
15
2389
90
Beta
2384
20
PROBA2/SWAP 17.4nm
2015-08-02T15:09:08.472

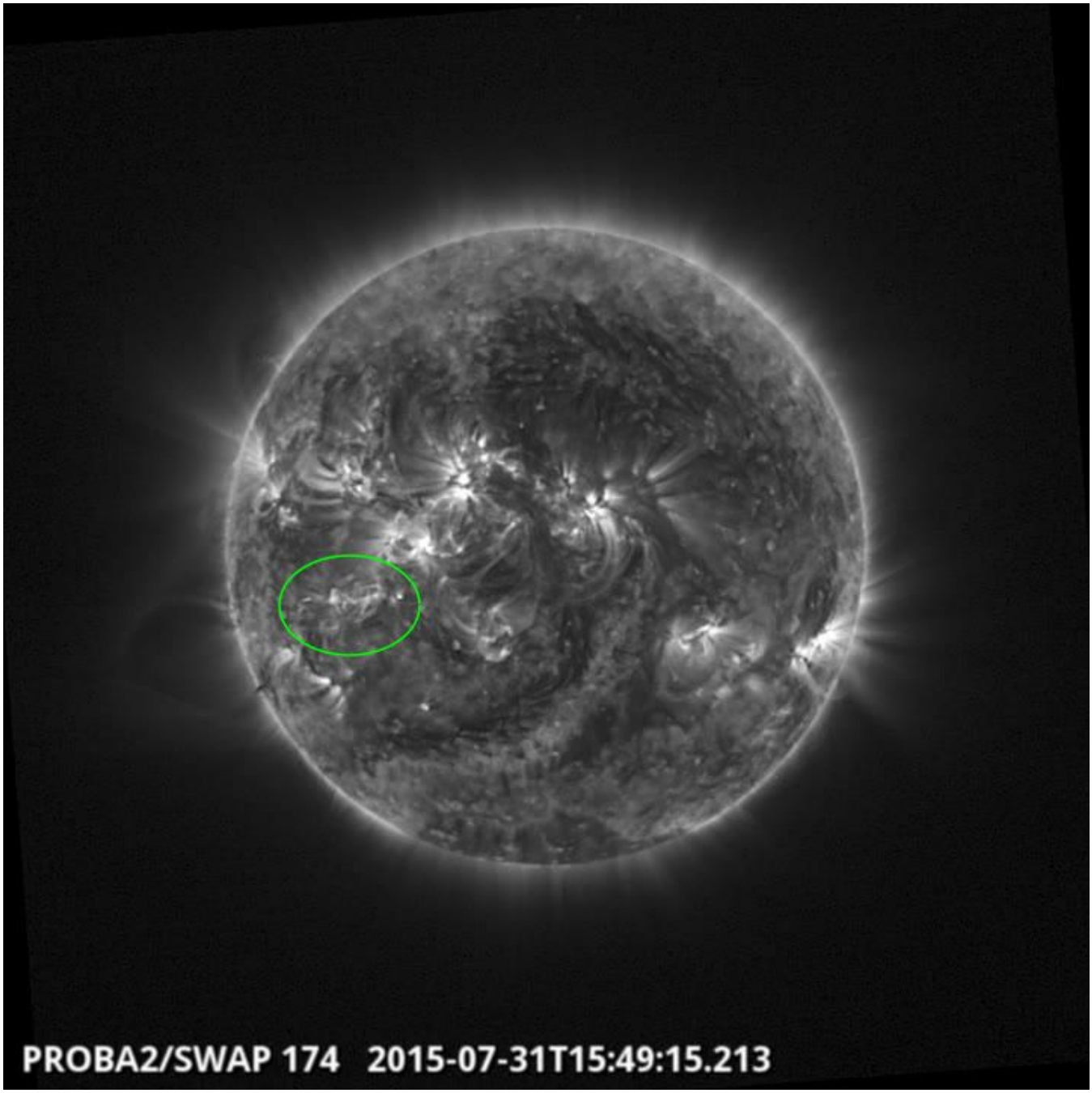
Solar Activity

Solar flare activity fluctuated between very low and low during the week.
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.

A weekly overview movie can be found here (SWAP week 279).

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

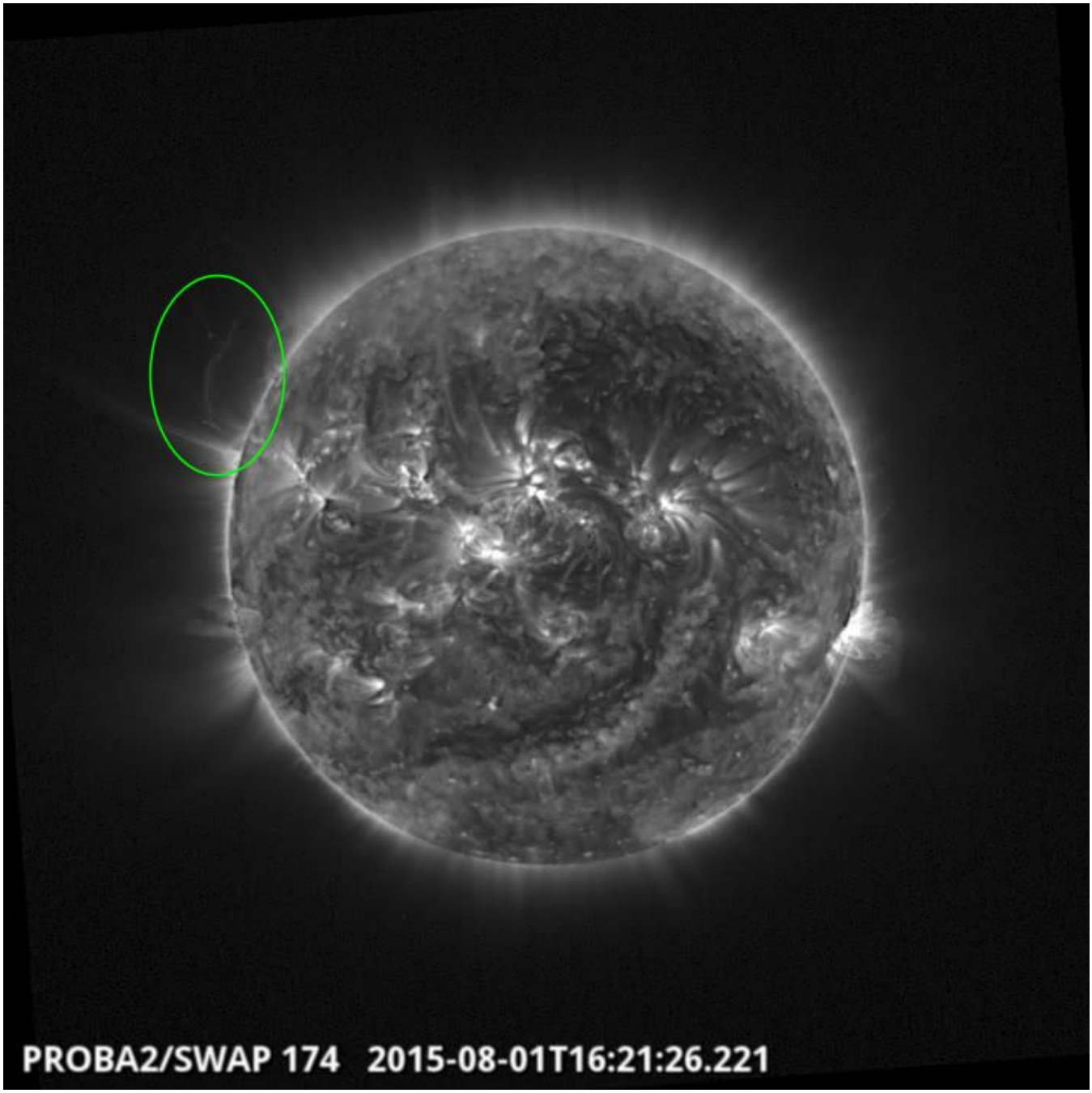
Friday Jul 31



Jet the south east quad @ 15:49 - SWAP image

Find a movie of the event **here** (SWAP movie)

Saturday Aug 01

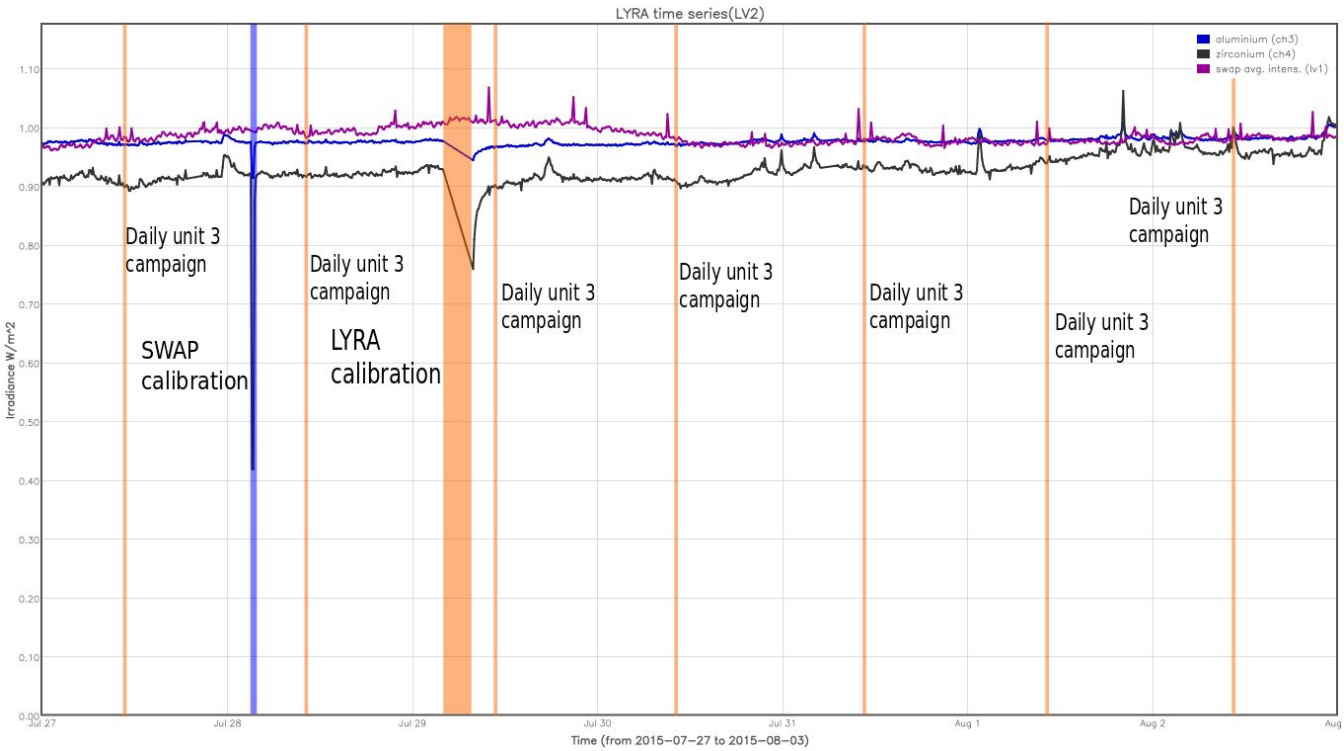


Plasma dynamics on the east limb @ 16:21 - SWAP image

Find a movie of the event **here** (SWAP movie)

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



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

- bi-weekly SWAP calibration campaign, 2015-07-27

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

- Daily unit 3 campaign, 2015-07-27
- Daily unit 3 campaign, 2015-07-28
- LYRA calibration campaign, 2015-07-29
- Daily unit 3 campaign, 2015-07-29
- Daily unit 3 campaign, 2015-07-30
- Daily unit 3 campaign, 2015-07-31
- Daily unit 3 campaign, 2015-08-01
- Daily unit 3 campaign, 2015-08-02

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

- C. Arridge LYRA “Solar EUV & solar wind effects on the ionosphere of Venus.”

2. LYRA instrument status

Calibration

Calibration campaign on Wednesday this week.

IOS & operations

Monday 27 Jul	Tuesday 28 Jul	Wednesday 29 Jul	Thursday 30 Jul	Friday 31 Jul	Saturday 01 Aug	Sunday 02 Aug
Nominal acquisition + daily U3 LYIOS00484	Nominal acquisition + daily U3 LYIOS00484	Nominal acquisition + daily U3 + calibration LYIOS00484	Nominal acquisition + daily U3 LYIOS00484	Nominal acquisition + daily U3 LYIOS00485	Nominal acquisition + daily U3 LYIOS00485	Nominal acquisition + daily U3 LYIOS00485

The following science campaigns were performed by LYRA:

- daily U3 observations campaign
- bi-weekly LYRA calibration

LYRA detector temperature

LYRA detector 2 temperature globally varied between 45.8 and 48 °C.

3. SWAP instrument status

Calibration

Calibration campaign on Tuesday this week.

MCPM errors

The number of MCPM recoverable errors remained at 128.
The number of MCPM unrecoverable errors remained at 0.

IOS & operations

Monday 27 Jul	Tuesday 28 Jul	Wednesday 29 Jul	Thursday 30 Jul	Friday 31 Jul	Saturday 01 Aug	Sunday 02 Aug
Nominal acquisition IOS00589 634 images	Nominal acquisition + calibration IOS00589 708 images	Nominal acquisition IOS00589 686 images	Nominal acquisition IOS00589 695 images	Nominal acquisition IOS00590 688 images	Nominal acquisition IOS00590 700 images	Nominal acquisition IOS00590 675 images

Special operations for SWAP, this week:

- bi-weekly calibration

SWAP detector temperature

The SWAP Cold Finger Temperature globally varied between -1.29 and -0.56 °C.

4. PROBA2 Science Center Status

The main operator is Robbe Vansintjan.

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 18033 to 18095) 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 2015 Jul 27 0UT and 2015 Aug 03 0UT: 4786
Highest cadence in this period: 30 seconds
Average cadence in this period: 126.37 seconds
Number of image gaps larger than 300 seconds: 127
Largest data gap: 9.17 minutes

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
SoFAST	Solar Feature Automated Search Tool
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)