


P2SC-ROB-WR-236 - 20140929 Weekly report #236	P2SC Weekly report	
Period covered: Date:	Mon Sep 29 to Sun Oct 05, 2014 08 Oct 2014	Royal Observatory of Belgium - PROBA2 Science Center
Written by: Approved by:	Robbe Vansintjan Matthew West	
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1. Science

Solar & Space weather events

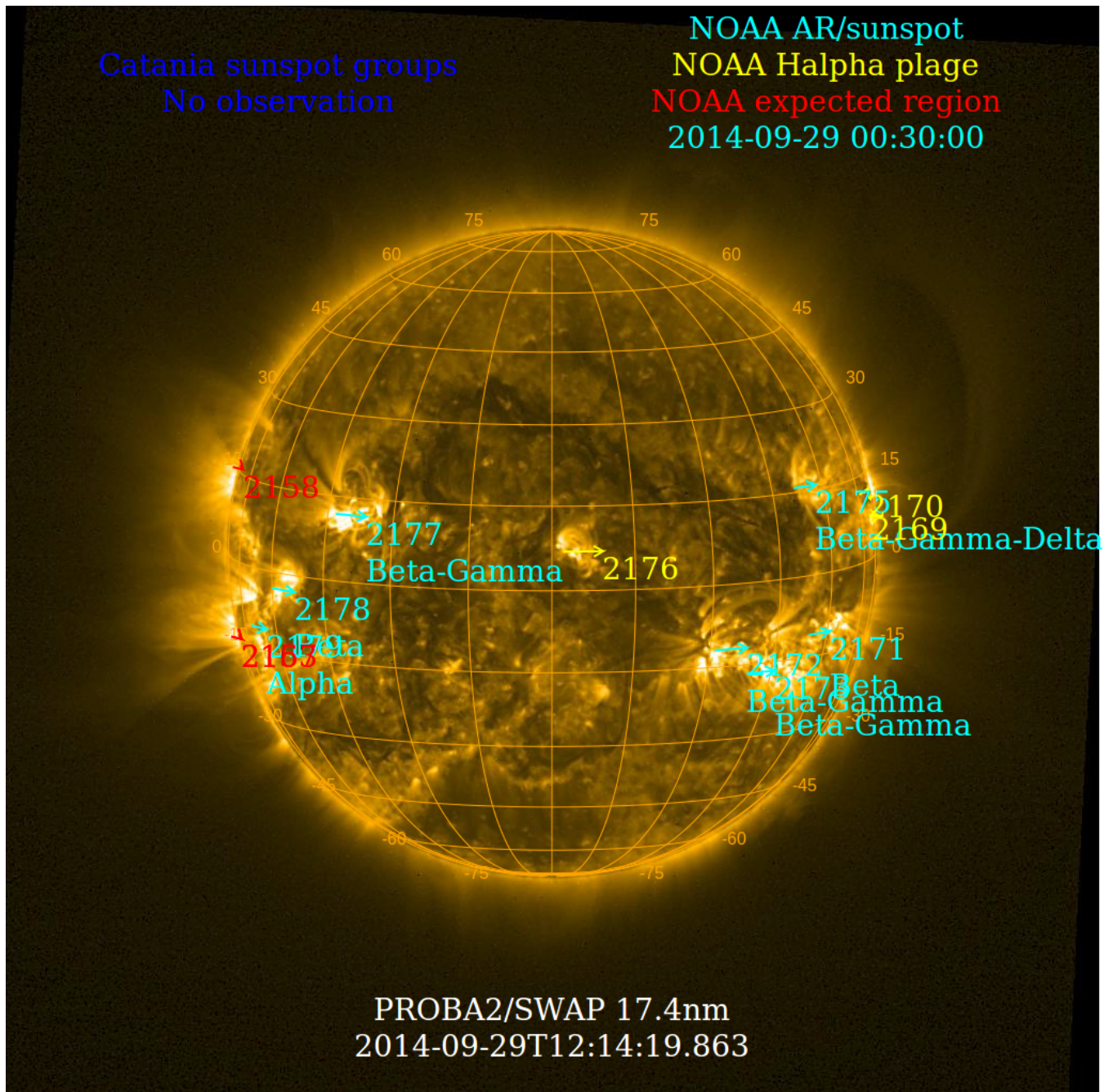
The level of solar activity¹ fluctuated between **low** and **moderate** this week.

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

	Monday 29 Sep	Tuesday 30 Sep	Wednesday 01 Oct	Thursday 02 Oct	Friday 03 Oct	Saturday 04 Oct	Sunday 05 Oct
Activity	low	low	low	moderate	low	low	low
Flares	-	-	-	M7.3@19:01 M1.5@17:44	-	-	-

¹ See appendix. All timings are given in UT.

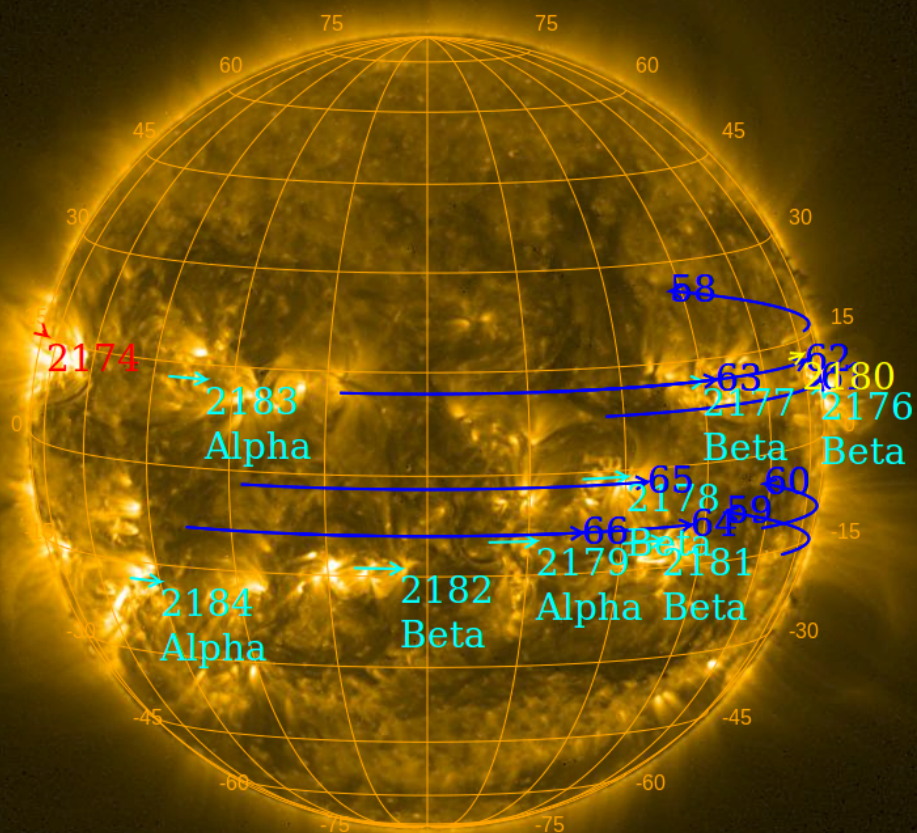
The SWAP images of Sep 29 and Oct 05 are shown below, with annotated active regions.



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

Catania sunspot groups
2014-10-01 07:36:00

NOAA AR/sunspot
NOAA Halpha plage
NOAA expected region
2014-10-05 00:30:00



PROBA2/SWAP 17.4nm
2014-10-05T12:14:48.284

Solar Activity

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

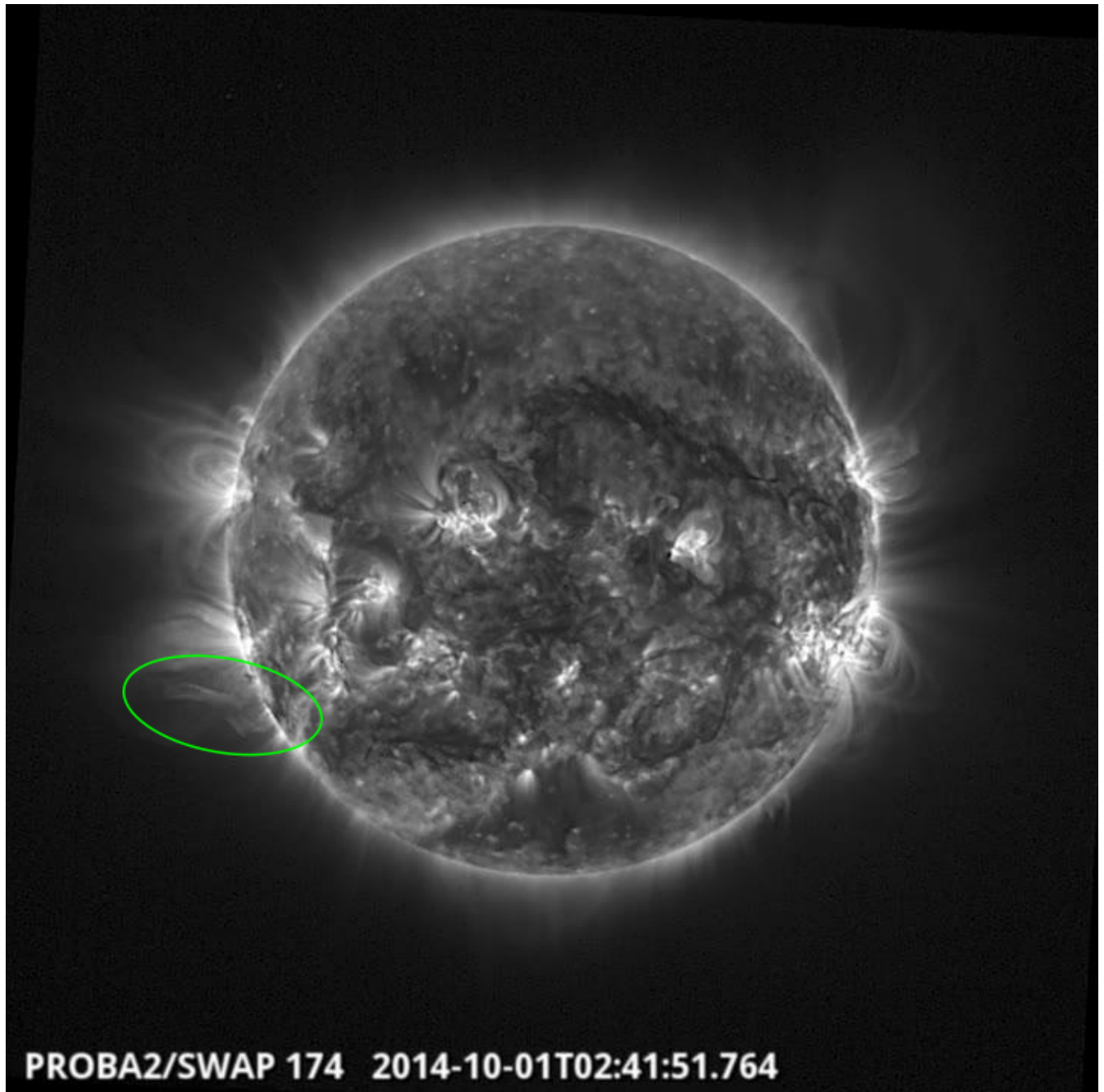
In order to view the activity of this week in more detail, we suggest to go to the following website from which all the daily (normal and difference) movies can be accessed: <http://proba2.oma.be/ssa>

This page also lists the recorded flaring events.

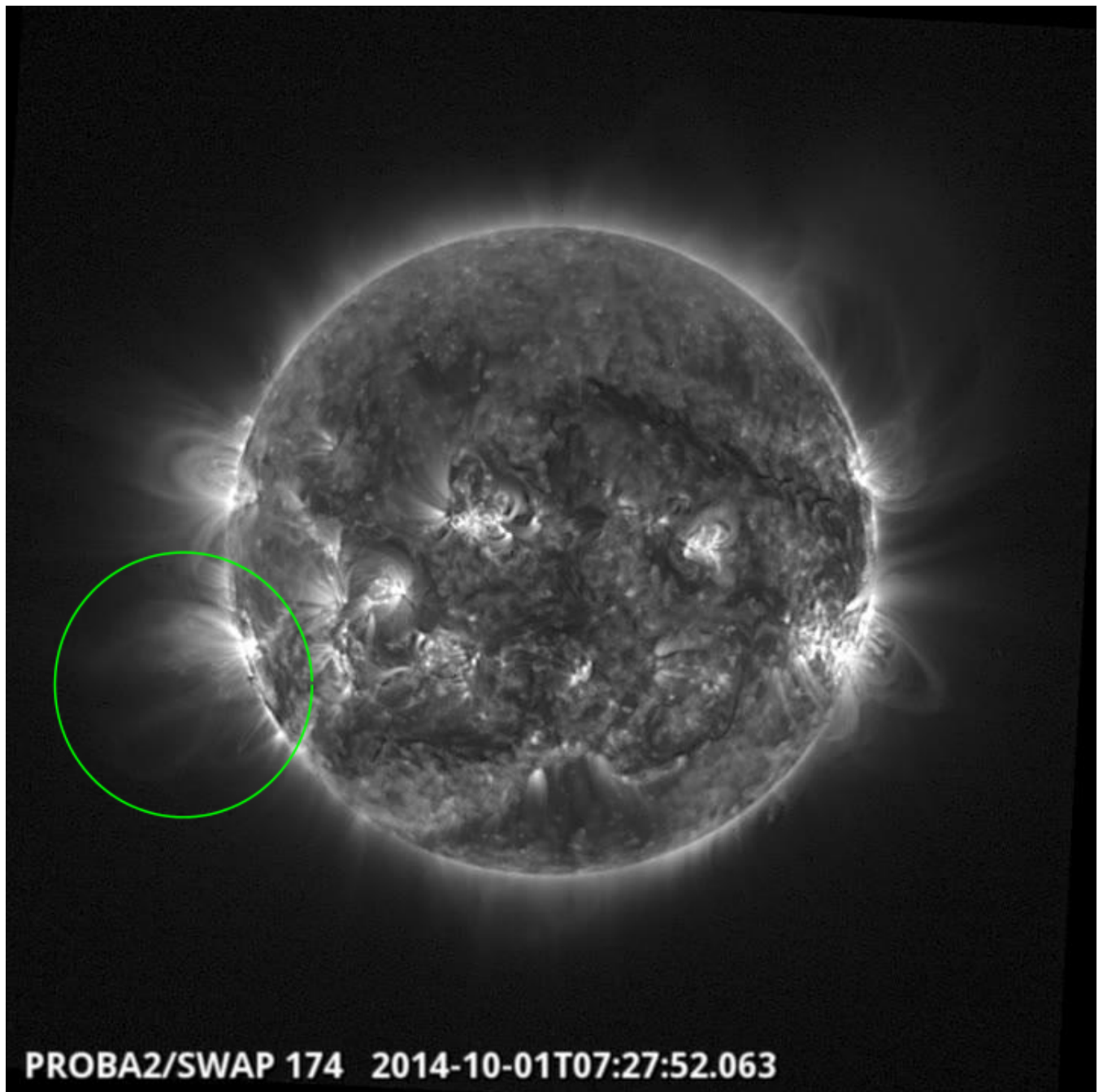
A weekly overview movie can be found [here](#) (SWAP week 236).

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

Wednesday Oct 01

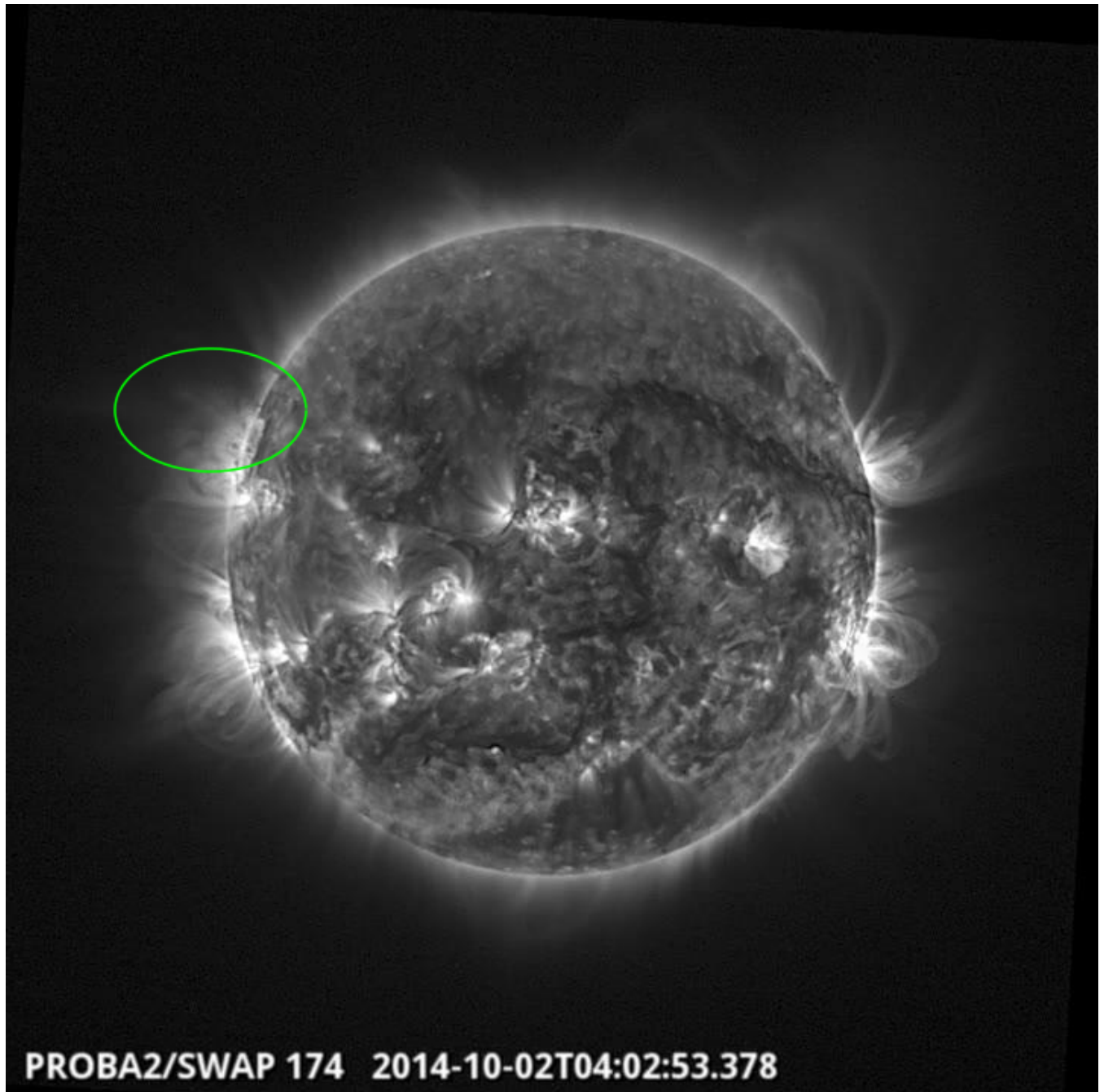


Failed eruption on the east Limb @ 02:41 - SWAP image
Find a movie of the event [here](#) (SWAP movie)

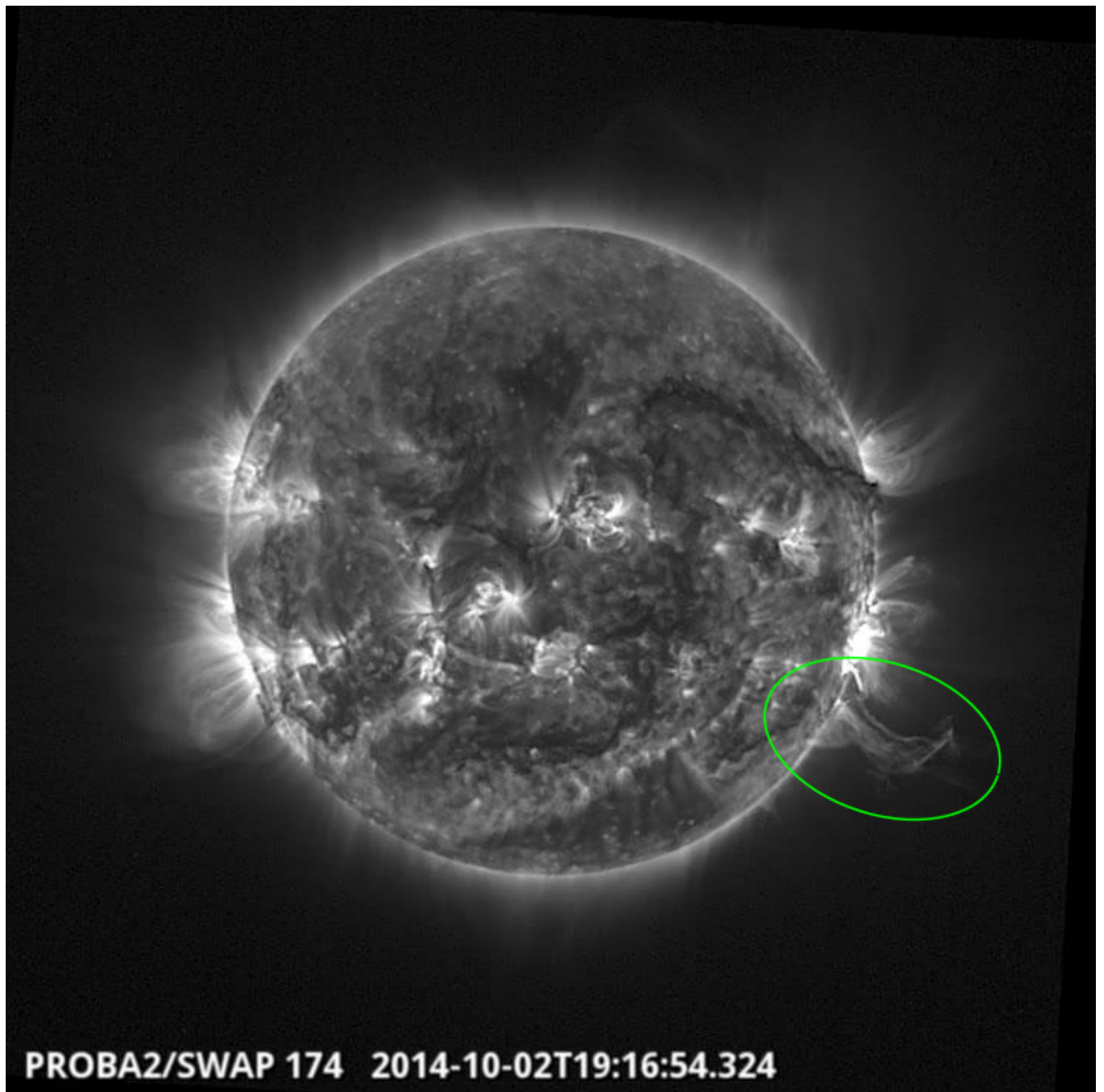


Eruption on the east limb @ 07:27 - SWAP image
Find a movie of the event [here](#) (SWAP movie)

Thursday Oct 02



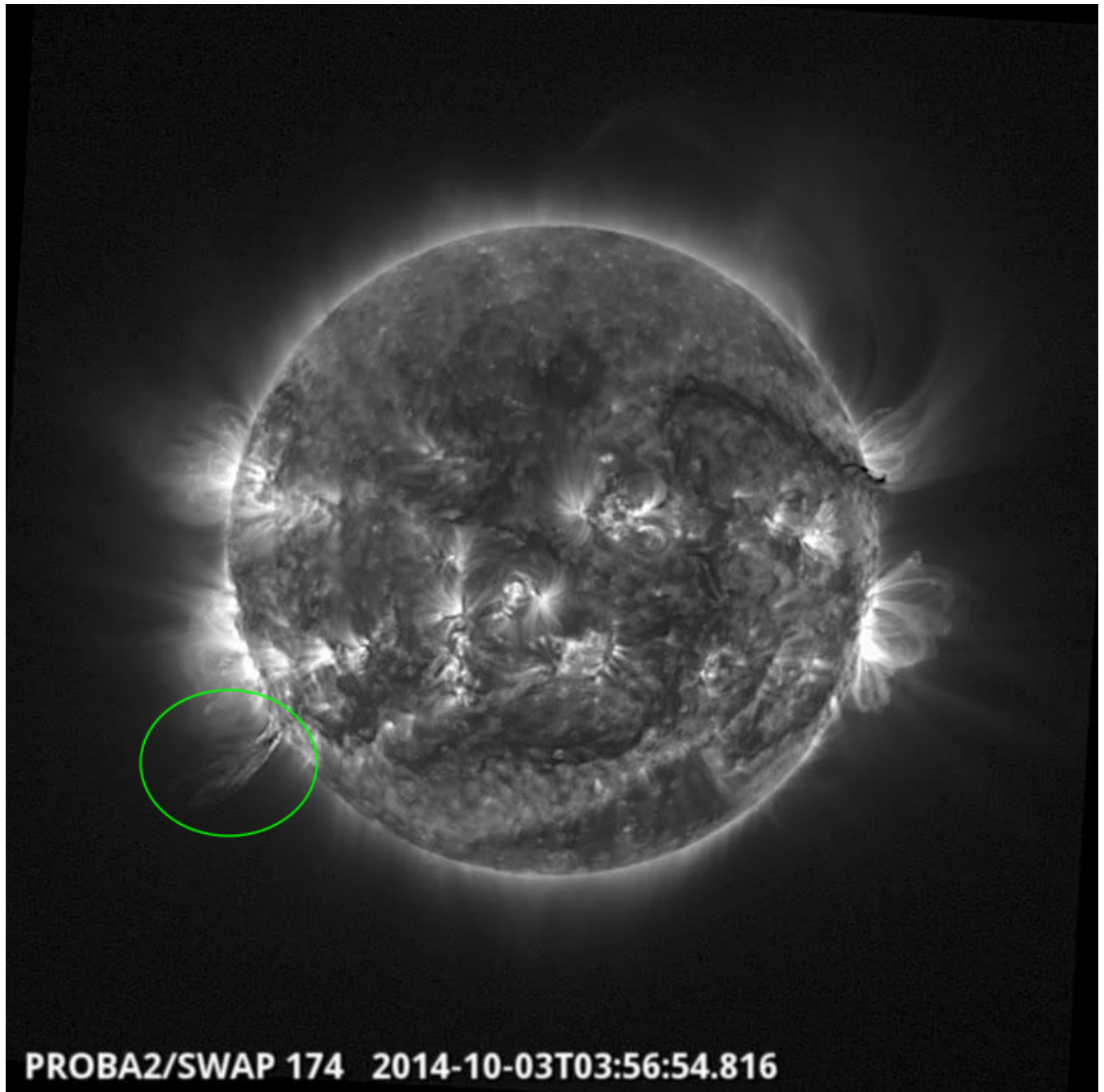
Eruption on the east limb @ 04:02 - SWAP image
Find a movie of the event [here](#) (SWAP movie)



PROBA2/SWAP 174 2014-10-02T19:16:54.324

Eruption on the west limb @ 19:16 - SWAP image
Find a movie of the event [here](#) (SWAP movie)

Friday Oct 03

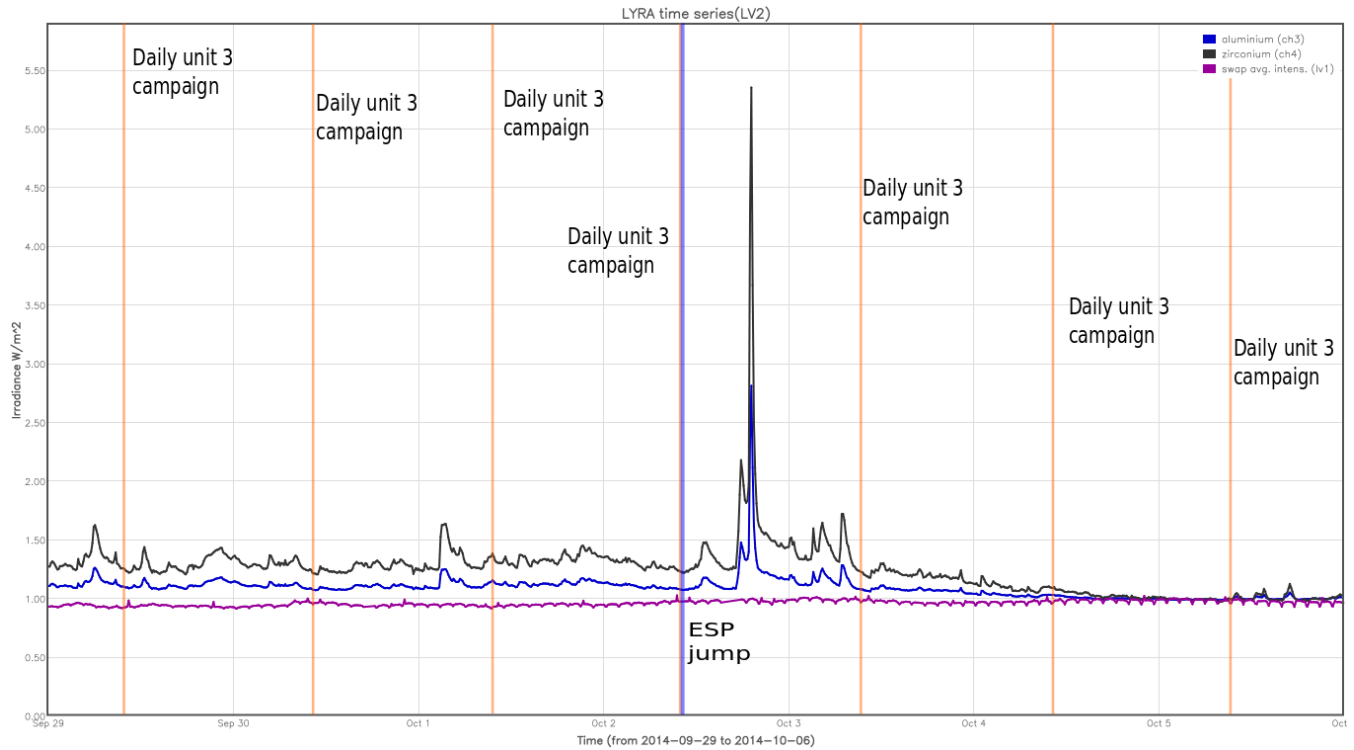


Eruption on the west limb @ 03:56 - SWAP image
Find a movie of the event [here](#) (SWAP movie)

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:

- ESP jump

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

- Daily unit 3 campaign, seven times.

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 29 Sep	Tuesday 30 Sep	Wednesday 01 Oct	Thursday 02 Oct	Friday 03 Oct	Saturday 04 Oct	Sunday 05 Oct
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
LYIOS00420	LYIOS00421	LYIOS00421	LYIOS00421	LYIOS00421	LYIOS00421	LYIOS00421

The following science campaigns were performed by LYRA:

- daily U3 observations campaign

LYRA detector temperature

LYRA detector 2 temperature globally varied between 49 and 50.2 °C, taking into account the daily U3 activation periods.

3. SWAP instrument status

Calibration

No calibration this week.

MCPM errors

The number of MCPM recoverable errors increased from 22202 to 22424.

The number of MCPM unrecoverable errors remained at 1657.

IOS & operations

Monday 29 Sep	Tuesday 30 Sep	Wednesday 01 Oct	Thursday 02 Oct	Friday 03 Oct	Saturday 04 Oct	Sunday 05 Oct
Nominal acquisition	Nominal acquisition	Nominal acquisition	Nominal acquisition +ESP jump	Nominal acquisition	Nominal acquisition	Nominal acquisition
IOS00537 652 images	IOS00538 650 images	IOS00538 664 images	IOS00538 642 images	IOS00538 612 images	IOS00538 567 images	IOS00538 556 images

Special operations for SWAP, this week:

- ESP jump

SWAP detector temperature

The SWAP Cold Finger Temperature globally varied between 0.4 and 1.2 °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 15361 to 15420) 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 2014 Sep 29 0UT and 2014 Oct 06 0UT: 4343

Highest cadence in this period: 130 seconds

Average cadence in this period: 139.28 seconds

Number of image gaps larger than 300 seconds: 5

Largest data gap: 34.33 minutes

The data gap is caused by the ESP jump.

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)