P2SC-ROB-WR-480 - 20190603	**P2SC Weekly report**	
Period covered: Date: Written by: Approved by:	Mon June 03 to Sun Jun 09, 2019 12 Jun 2019 Laurence Wauters Matthew West	Royal Observatory of Belgium - PROBA2 Science Center
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1. Science

Solar & Space weather events

The level of solar activity[1] was **very low** this week.

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

	Monday 03 June	Tuesday 04 Jun	Wednesday 05 Jun	Thursday 06 Jun	Friday 07 Jun	Saturday 08 Jun	Sunday 09 Jun
Activity	very low	very low	very low	very low	very low	very low	very low
Flares	-	-	-	-	-	-	-

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

Solar Activity

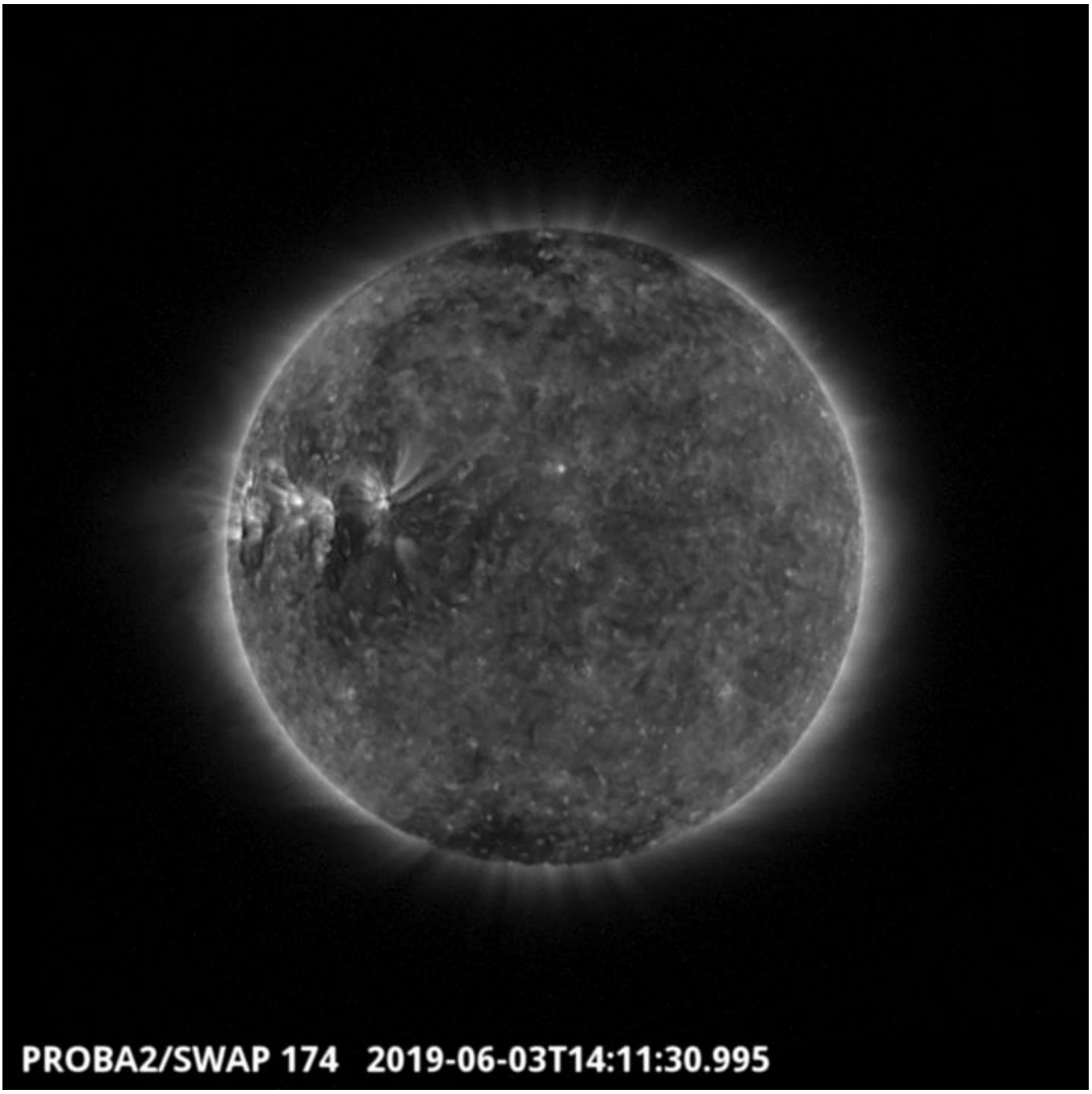
Solar flare activity fluctuated was very low during the week.
In order to view the activity of this week in more detail, we suggest to go to the following website from which all the daily (normal and difference) movies can be accessed: http://proba2.oma.be/ssa
This page also lists the recorded flaring events.

A weekly overview movie can be found here (SWAP week 480).

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

If any of the linked movies are unavailable they can be found in the P2SC movie repository here

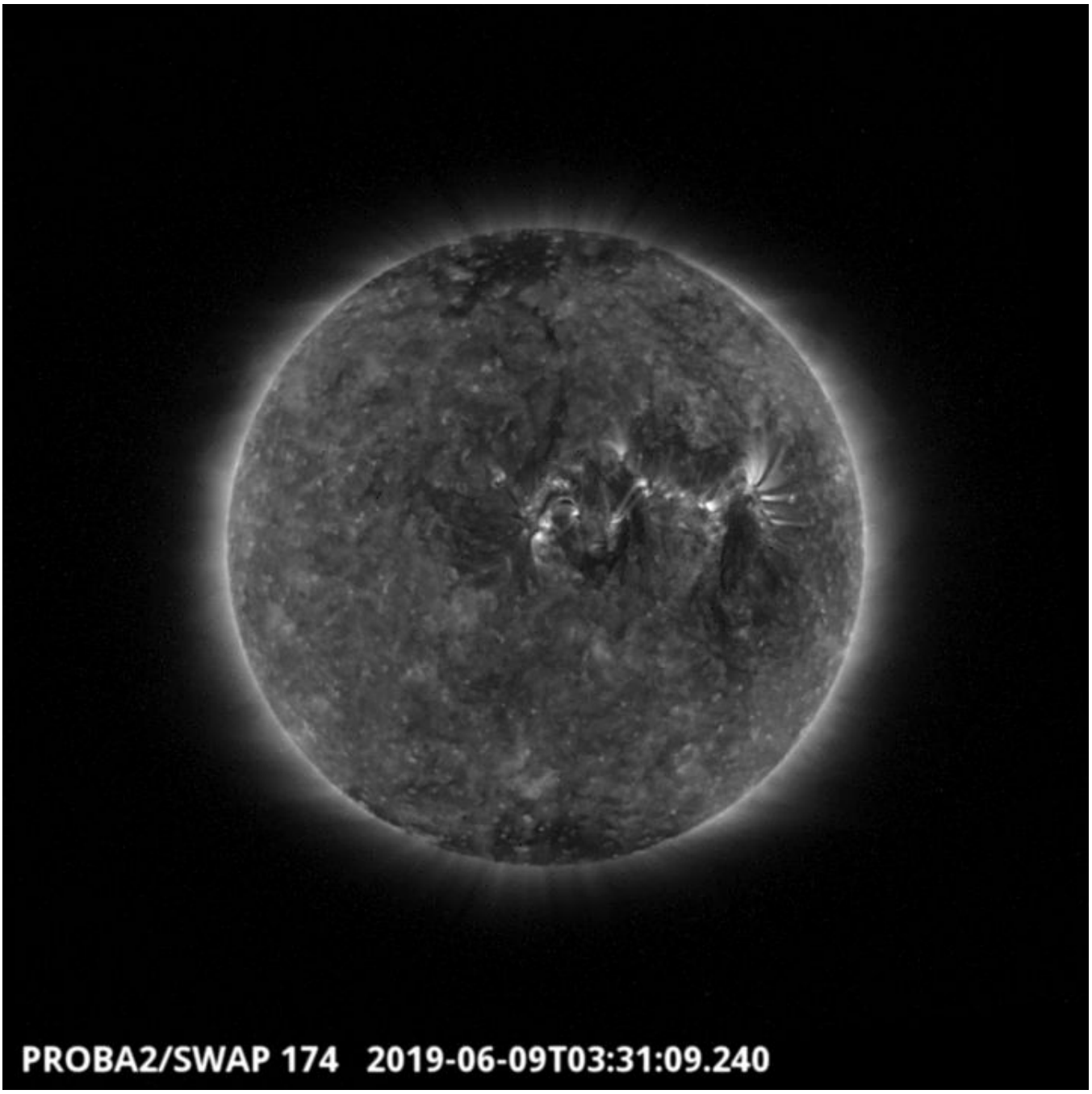
Monday Jun 03



A simple magnetic structure rotated from the Eastern hemisphere into the western hemisphere throughout the week. It is visible in the Eastern hemisphere in the SWAP image above.

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

Sunday Jun 09

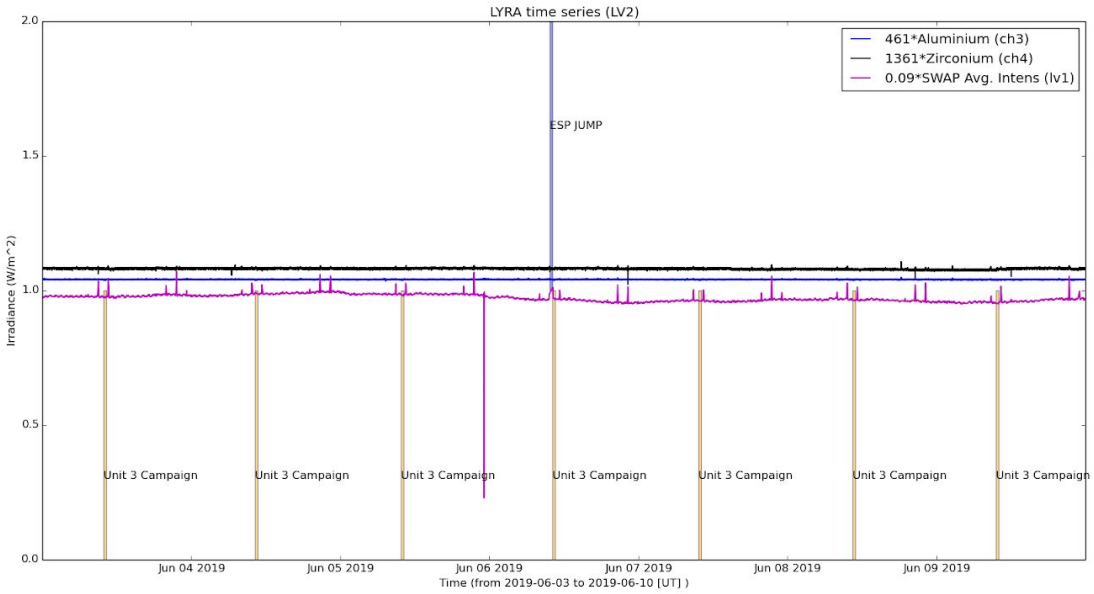


An extension of the northern polar coronal hole transited the solar meridian on 2019-Jun-09 and is visible in the SWAP image above.

Find a movie of the events **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)



Operations and Calibrations:

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

- ESP Jump, 2019-Jun-06

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

- Daily Unit 3 Campaign, 2019-Jun-03
- Daily Unit 3 Campaign, 2019-Jun-04
- Daily Unit 3 Campaign, 2019-Jun-05
- Daily Unit 3 Campaign, 2019-Jun-06
- Daily Unit 3 Campaign, 2019-Jun-07
- Daily Unit 3 Campaign, 2019-Jun-08
- Daily Unit 3 Campaign, 2019-Jun-09

The red shaded periods related to other issues corresponds to:

- None

2. LYRA instrument status

IOS

Start IOS	Mon Jun 03 2019	LYIOS00782
End IOS	Sun Jun 09 2019	LYIOS00783

LYRA detector temperature

LYRA detector 2 temperature globally varied between 48.40 and 49.20 °C.

3. SWAP instrument status

MCPM errors
The number of MCPM recoverable errors increased from 2976 to 2988.
The number of MCPM unrecoverable errors remained at 0.

IOS

Start IOS	Mon Jun 03 2019	IOS00849
End IOS	Sun Jun 09 2019	IOS00850

SWAP detector temperature

The SWAP Cold Finger Temperature globally varied between -1.050 and -0.010 °C.

4. PROBA2 Science Center Status

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 31050 to 31113) was nominal, except for:

- None.

Data coverage HK

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

- Pass 31113, gap of 0:26:15 detected between 2019-06-09 19:29:34 UT and 2019-06-09 19:55:49 UT (associated to HK high cadence)
- Pass 31114, gap of 0:32:15 detected between 2019-06-09 22:39:09 UT and 2019-06-09 23:11:24 UT (associated to HK high cadence)

Data coverage SWAP

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

- None.

Total number of images between 2019 Jun 03 0UT and 2019 Jun 10 0UT: 4679
Highest cadence in this period: 0 seconds
Average cadence in this period: 129.24 seconds
Number of image gaps larger than 300 seconds: 154
Largest data gap: 31.83 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
DAC	Data Acquisition Controller
DBR	Deployment, backup & recovery
DDA	Decommutated data archive
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)