


P2SC-ROB-WR-838 - 20260413	<b>P2SC Weekly report</b>	
Period covered: Date:	Mon Apr 13 to Sun Apr 19, 2026 20 Apr 2026	Royal Observatory of Belgium -
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## 1. Science

### Solar & Space weather events

The level of solar activity<sup>1</sup> 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 13 Apr	Tuesday 14 Apr	Wednesday 15 Apr	Thursday 16 Apr	Friday 17 Apr	Saturday 18 Apr	Sunday 19 Apr
Activity	low	very low	low	low	low	low	very low
Flares	-	-	-	-	-	-	-

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<sup>1</sup> See appendix. All timings are given in UT.

## **Solar Activity**

Solar flare activity fluctuated from very low to 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: <https://proba2.oma.be/ssa>

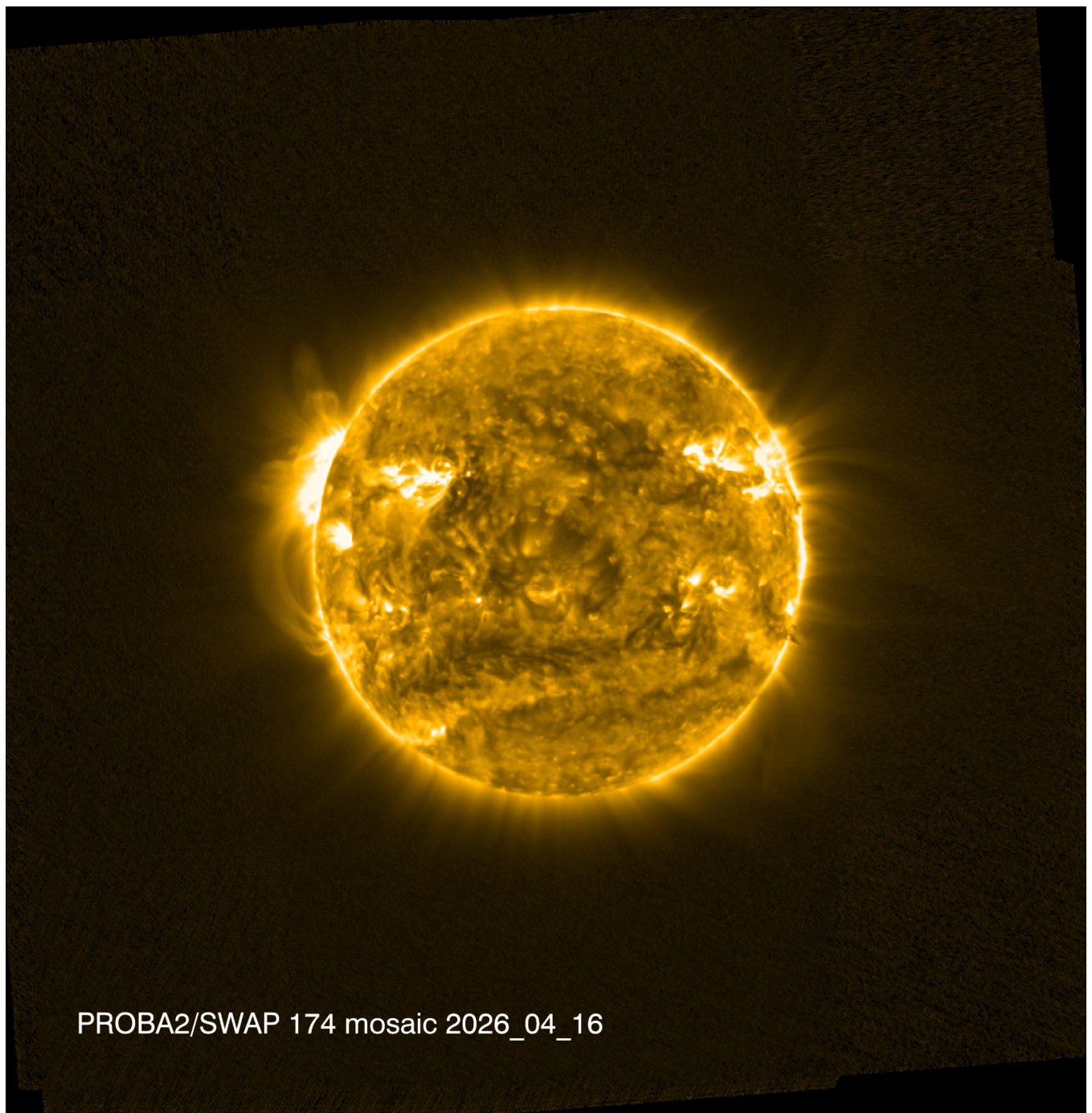
This page also lists the recorded flaring events.

A weekly overview movie can be found [here](#) (SWAP week 838).

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](#)

Thursday Apr 16

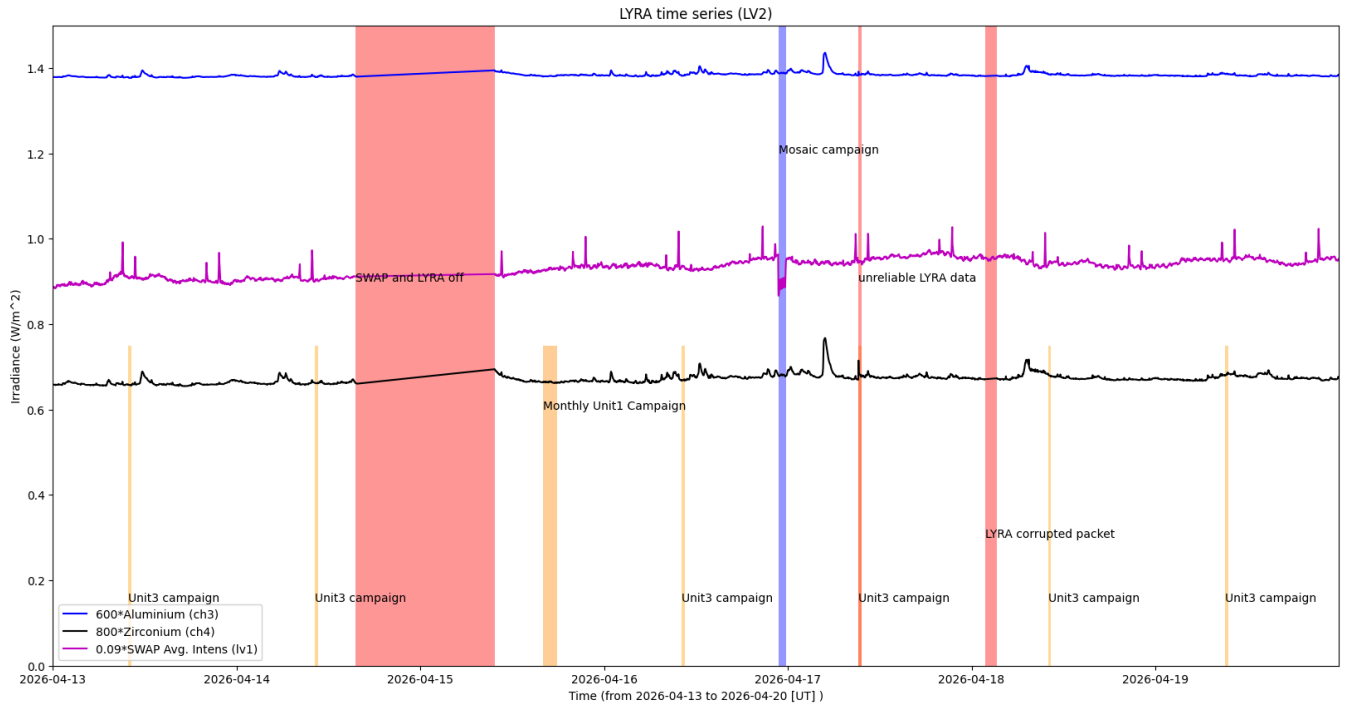


During this week there were no M-class flares observed, only C- and B- flares. We perform weekly mosaics with SWAP, meaning that we acquire off-pointed observations in four directions during one hour in total, then merge them in order to obtain an extended field of view. The above figure shows the configuration of the corona seen in such a mosaic on 2026-Apr-16.

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:

- SWAP weekly mosaic, 2026-Apr-16

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

- Daily Unit 3 campaign, 2026-Apr-13
- Daily Unit 3 campaign, 2026-Apr-14
- Monthly Unit 1 campaign, 2026-Apr-15
- Daily Unit 3 campaign, 2026-Apr-16
- Daily Unit 3 campaign, 2026-Apr-17
- Daily Unit 3 campaign, 2026-Apr-18
- Daily Unit 3 campaign, 2026-Apr-19

The red shaded periods related to other issues corresponds to:

- SWAP and LYRA were off to allow a collision avoidance maneuver (CAM) to take place, so there is a data gap from 2026-Apr-14 at 15:44 UT for LYRA, and at 15:24 UT for SWAP, until 2026-Apr-15 at 09:43 UT for both
- Unreliable LYRA data on 2026-Apr-17 between 09:14 - 09:40 UT due to a jump in Unit 2 data at the time of the start of the daily Unit 3 campaign (and then slowly decreasing)
- Corrupted packet during pass 53349, resulting in LYRA data gap on 2026-Apr-18 between 01:44 - 03:19 UT

## 2. LYRA instrument status

### IOS

Start IOS	Mon Apr 13 2026	LYIOS01234
End IOS	Sun Apr 19 2026	LYIOS01237

### LYRA detector temperature

LYRA detector 2 temperature globally varied between 41.66 and 52.12 °C.

### 3. SWAP instrument status

#### MCPM errors

The number of MCPM recoverable errors increased from 18292 to 18440.

The number of MCPM unrecoverable errors remained at 0.

#### IOS

Start IOS	Mon Apr 13 2026	IOS01375
End IOS	Sun Apr 19 2026	IOS01378

#### SWAP detector temperature

The SWAP Cold Finger Temperature globally varied between -6.01 and 0.07 °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 53306 to 53364) was nominal, except for:

- None.

### Data coverage HK

All HK data files (LYRA\_AD) have been received, except:

- None.
- data gap due to the instruments being turned off during a collision avoidance maneuver (CAM), from 2026-Apr-14 at 15:44 UT until 2026-Apr-15 at 09:35 UT.

### Data coverage SWAP

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

- passes 53321-53327; SWAP was off to allow a collision avoidance maneuver to take place, so there is a data gap from 2026-Apr-14 at 15:24 UT until 2026-Apr-15 at 09:45 UT

Total number of images between 2026 Apr 13 00:00 UT and 2026 Apr 20 00:00 UT: 3540

Highest cadence in this period: 45 seconds

Average cadence in this period: 170.85 seconds

Number of image gaps larger than 300 seconds: 211

Largest data gap: 1100.98 minutes

### Data coverage LYRA

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

- passes 53322-53327; LYRA was off to allow a collision avoidance maneuver to take place, so there is a data gap from 2026-Apr-14 at 15:44 UT until 2026-Apr-15 at 09:43 UT
- unreliable LYRA data on 2026-Apr-17 between 09:14 - 09:40 UT due to a jump in Unit 2 data at the time of the start of the daily Unit 3 campaign (which then slowly decreased)
- corrupted packet during pass 53349, resulting in LYRA data gap on 2026-Apr-18 between 01:44 - 03:19 UT.

## 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)