P2SC-ROB-WR-842 - 20260511	**P2SC Weekly report**	
Period covered: Date: Written by: Approved by:	Mon May 11 to Sun May 17, 2026 19 May 2026 Dana Talpeanu Marie Dominique	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 **low and moderate** this week.

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

	Monday 11 May	Tuesday 12 May	Wednesday 13 May	Thursday 14 May	Friday 15 May	Saturday 16 May	Sunday 17 May
Activity	low	low	low	low	low	moderate	moderate
Flares	-	-	-	-	-	**M1.9** **M1.3** **M1.9**	**M1.4**

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

Solar Activity

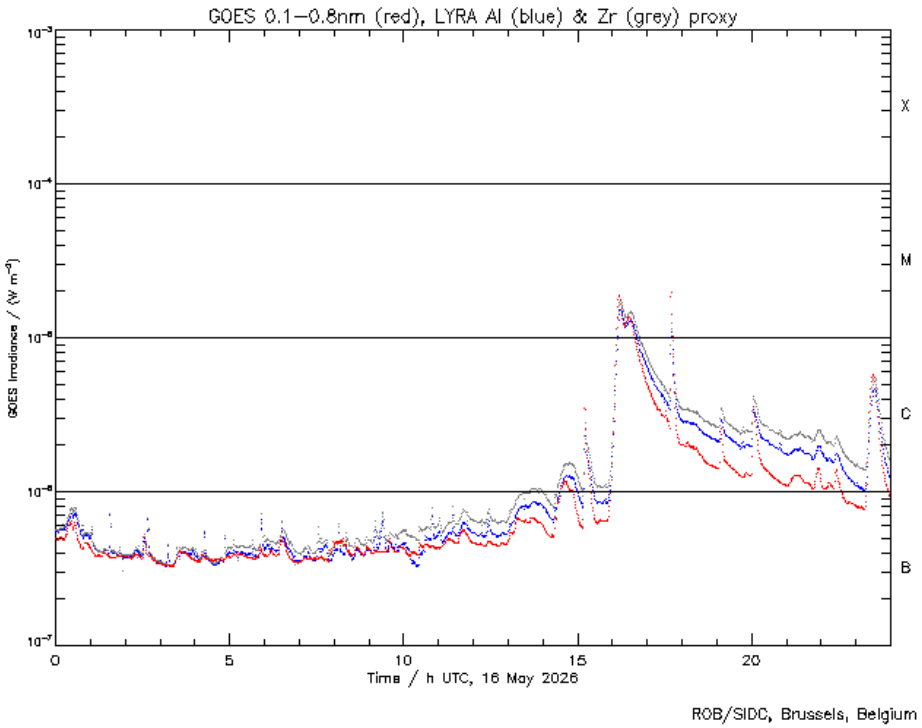
Solar flare activity fluctuated from low to moderate during the week.
In order to view the activity of this week in more detail, we suggest to go to the following website from which all the daily (normal and difference) movies can be accessed: https://proba2.oma.be/ssa
This page also lists the recorded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

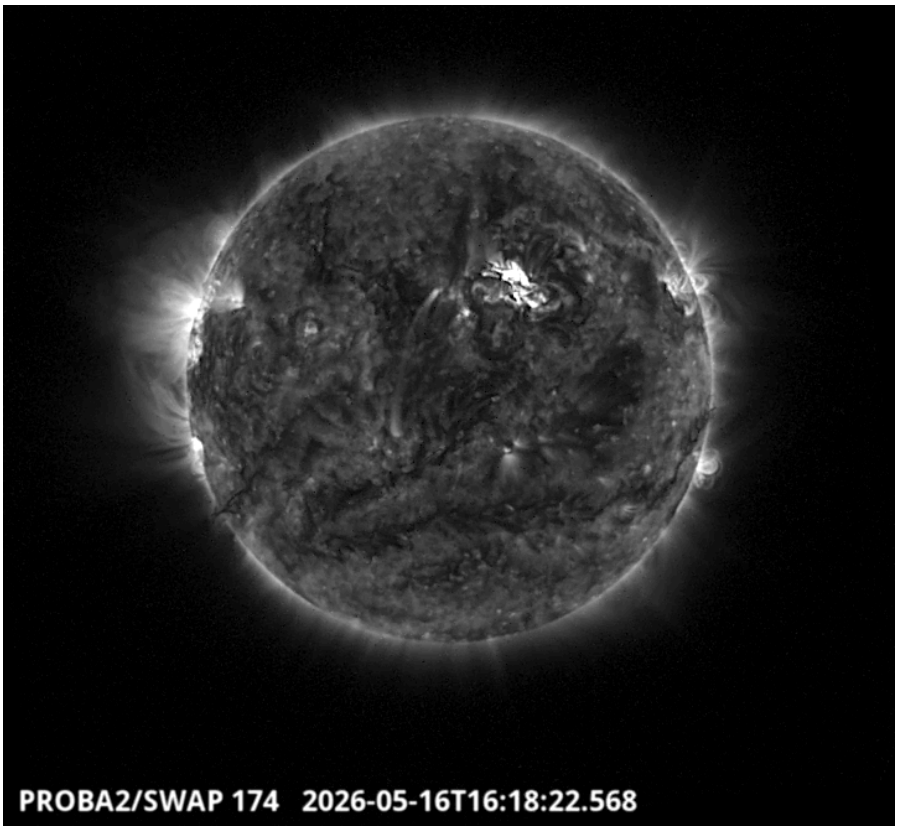
A weekly overview movie can be found here (SWAP week 842).

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

Saturday May 16

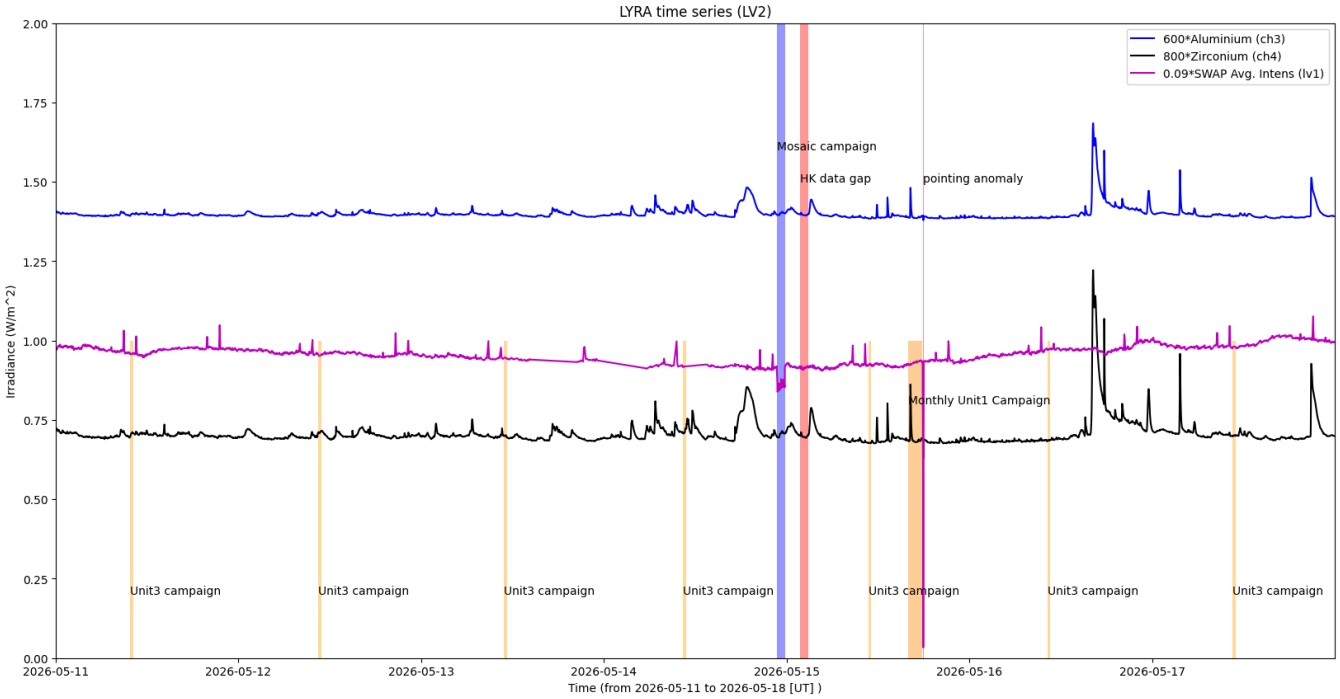




The largest flares of this week were two M1.9 on 2026-May-16, and they were observed by LYRA (top panel) and SWAP (bottom panel). The first M1.9 flare peaked at 16:12 UT (SWAP image) and occurred close to the central meridian in the northern hemisphere, originating from active region NOAA4436 (SIDC 825). The second one was much shorter and occurred from NOAA 4435, which was just rotating behind the limb. Find a SWAP movie of the event here.

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:

- Mosaic campaign, 2026-May-14

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

- Daily Unit 3 campaign, 2026-May-11
- Daily Unit 3 campaign, 2026-May-12
- Daily Unit 3 campaign, 2026-May-13
- Daily Unit 3 campaign, 2026-May-14
- Daily Unit 3 campaign, 2026-May-15
- Monthly Unit 1 campaign, 2026-May-15
- Daily Unit 3 campaign, 2026-May-16
- Daily Unit 3 campaign, 2026-May-17

The red shaded periods related to other issues corresponds to:

- small LYRA_AD for pass 53588 on 2026-May-15, resulting in HK data gap between 01:46 - 02:49 UT (just some very scarce data points in this interval)
- strong off-point on 2026-May-15 between 17:55-17:58:30 UT, from switching between TLE and GPS

2. LYRA instrument status

IOS

Start IOS	Mon May 11 2026	LYIOS01244
End IOS	Sun May 17 2026	LYIOS01244

LYRA detector temperature

LYRA detector 2 temperature globally varied between 49.89 and 51.655 °C.

3. SWAP instrument status

MCPM errors
The number of MCPM recoverable errors increased from 18783 to 18845.
The number of MCPM unrecoverable errors remained at 0.

IOS

Start IOS	Mon May 11 2026	IOS01381
End IOS	Sun May 17 2026	IOS01382

SWAP detector temperature

The SWAP Cold Finger Temperature globally varied between -0.81 and 0.15 °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 53546 to 53604) was nominal, except for:

- Small files for passes 53560, 53588, 53595 due to bad signal

Data coverage HK

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

- None.
- small LYRA_AD for pass 53588 on 2026-May-15, resulting in HK data gap between 01:46 - 02:49 UT (just some very scarce data points in this interval)

Data coverage SWAP

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

- None
- small BINSWAP for pass 53560 on 2026-May-12
- strongly off-pointed SWAP image on 2026-May-15 at ~ 17:56 UT, from switching between TLE and GPS
- small BINSWAP for pass 53595

Total number of images between 2026 May 11 00:00 UT and 2026 May 18 00:00 UT: 3836
Highest cadence in this period: 0 seconds
Average cadence in this period: 157.68 seconds
Number of image gaps larger than 300 seconds: 278
Largest data gap: 11.00 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)