P2SC-ROB-WR-795 - 20250616	**P2SC Weekly report**	
Period covered: Date: Written by: Approved by:	Mon Jun 16 to Sun Jun 22, 2025 23 Jun 2025 Laurence Wauters 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 high** this week.

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

	Monday 16 Jun	Tuesday 17 Jun	Wednesday 18 Jun	Thursday 19 Jun	Friday 20 Jun	Saturday 21 Jun	Sunday 22 Jun
Activity	moderate	high	low	high	moderate	low	low
Flares	**M1.1, M1.4, M6.3, M1.8**	**X1.2**	-	**X1.9**	**M1.0,M4.6**	-	-

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

Solar Activity

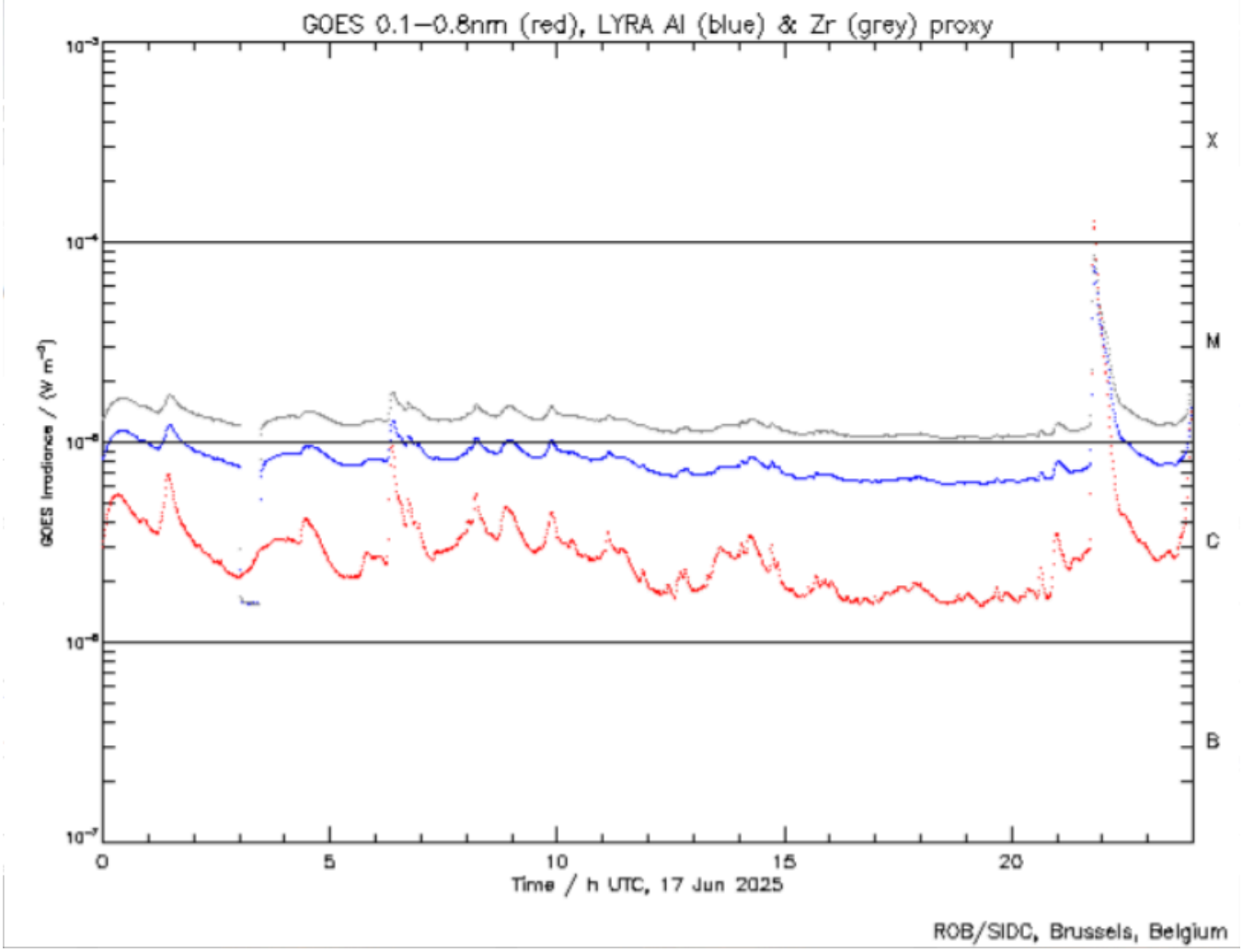
Solar flare activity fluctuated from low to high during the week.
In order to view the activity of this week in more detail, we suggest to go to the following website from which all the daily (normal and difference) movies can be accessed: https://proba2.oma.be/ssa
This page also lists the recorded flaring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

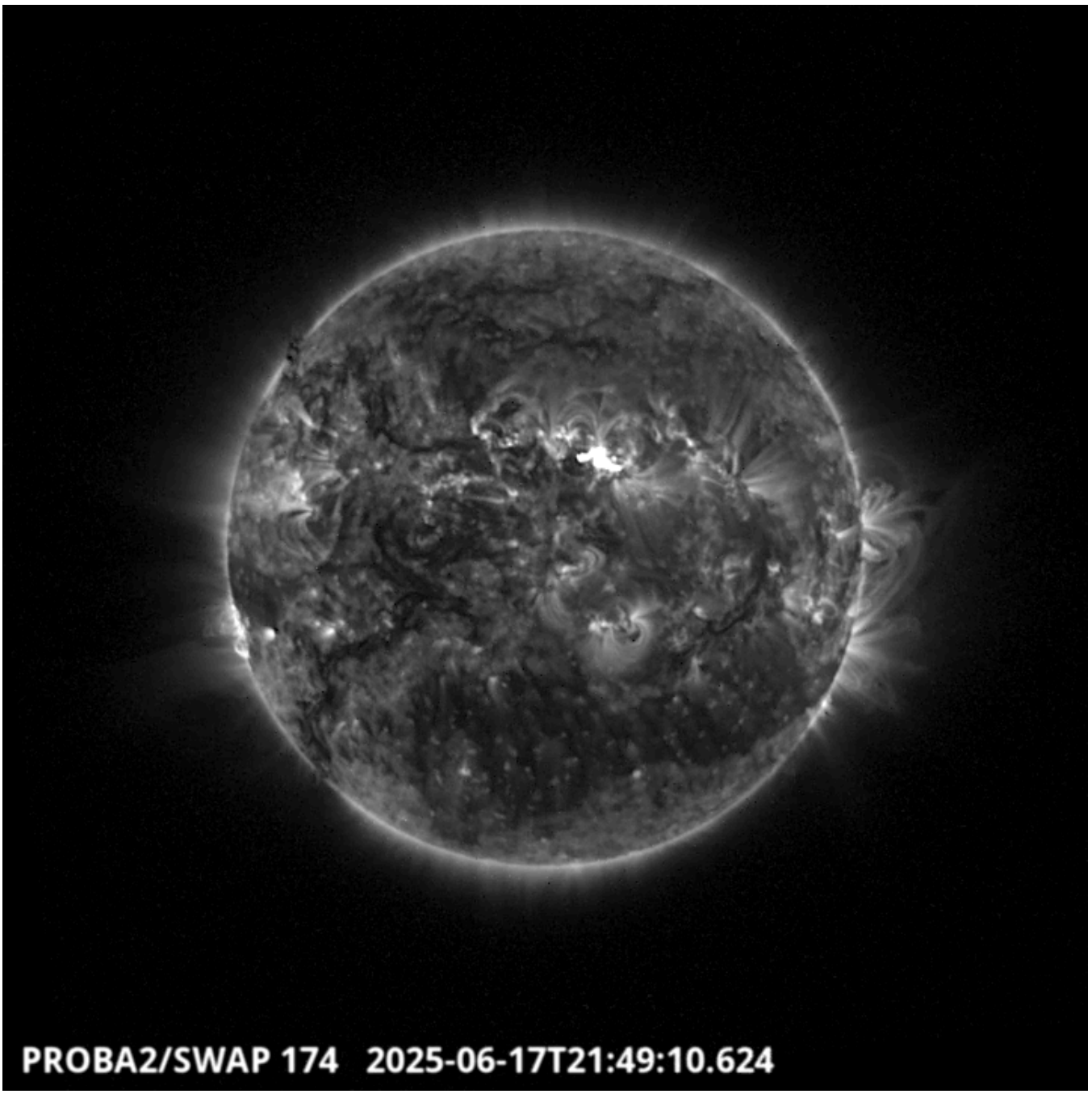
A weekly overview movie can be found here (SWAP week 795).

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

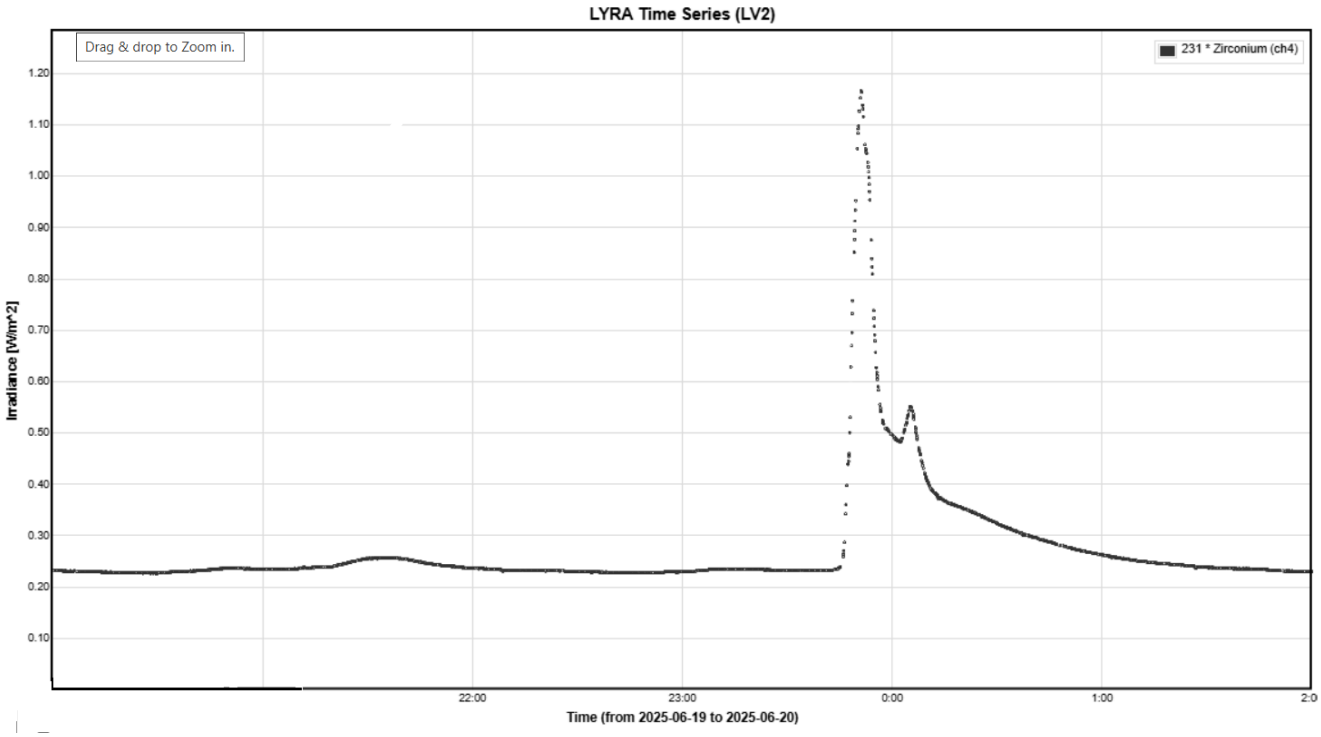
Tuesday Sep 17

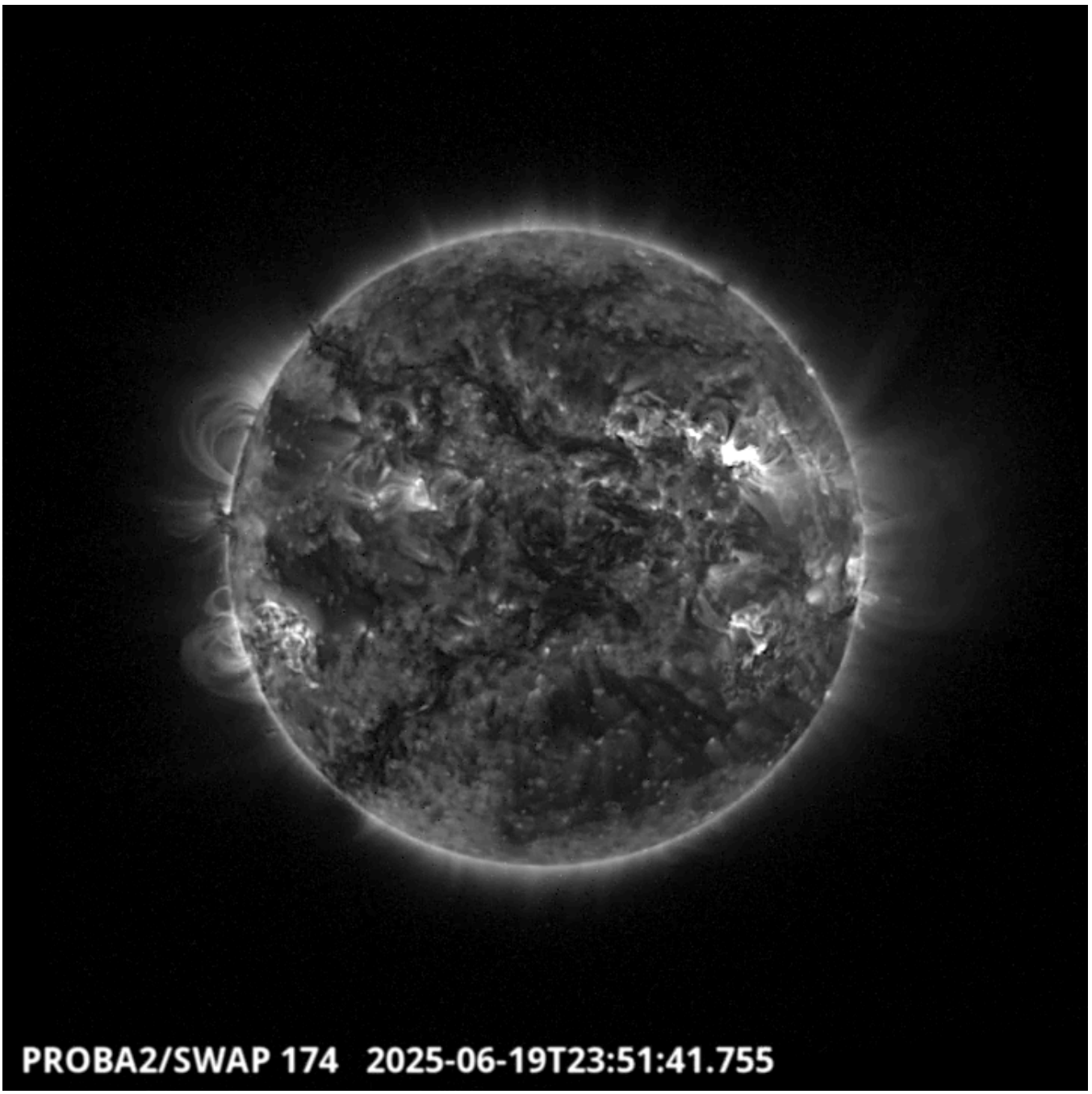




Active regions 4114 and 4115, located in the North West part of the solar disk, erupted in a succession of flares on June 17th. The NOAA active region 4114 produced X1.2 solar flare peaking at 21:49 UT. It has been registered by LYRA (above) and SWAP (below). Find a SWAP movie of the event here.

Thursday Jun 19



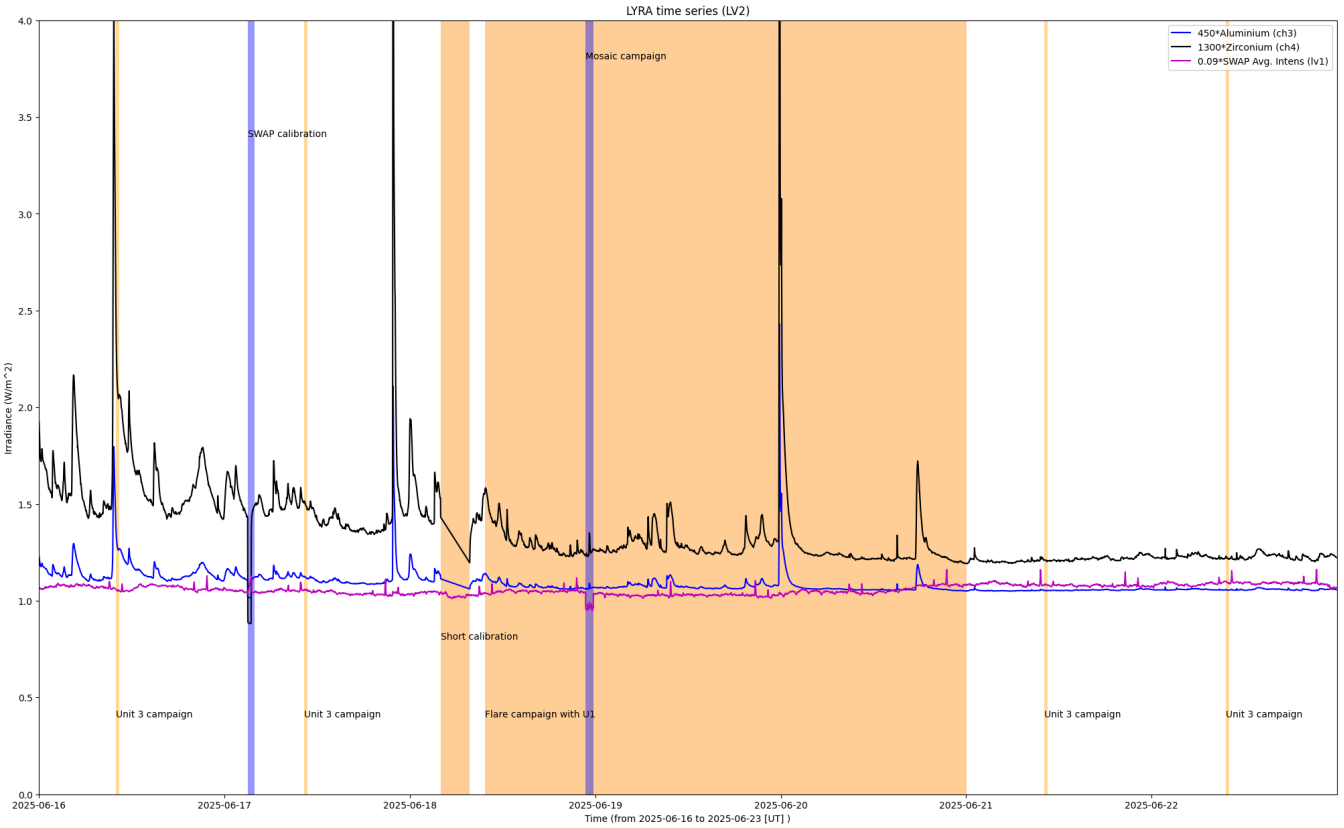


The active regions 4114, located in the North West part of the solar disk, erupted and produced an X1.9 solar flare peaking at 23:50 UT. It has been registered by LYRA (first plot) and SWAP.

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:

- Calibration, 2025-Jun-17
- Mosaïc campaign, 2025-Jun-18

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

- Short calibration, 2025-Jun-18
- Unit 1 flare campaign, 2025-Jun-18 until end of 2025-Jun-20.
- Unit 3 daily campaign

The red shaded periods related to other issues corresponds to:

- None

2. LYRA instrument status

IOS

Start IOS	Mon Jun 16 2025	LYIOS01180
End IOS	Sun Jun 22 2025	LYIOS01181

LYRA detector temperature

LYRA detector 2 temperature globally varied between 48.11 and 52.34 °C.

3. SWAP instrument status
-0.729986572 0.550012207

MCPM errors
The number of MCPM recoverable errors increased from 5611 to 5928.
The number of MCPM unrecoverable errors remained at 0.

IOS

Start IOS	Mon Jun 16 2025	IOS01291
End IOS	Sun Jun 22 2025	IOS01292

SWAP detector temperature

The SWAP Cold Finger Temperature globally varied between -0.730 and 0.550°C.

4. PROBA2 Science Center Status

The following changes were made to the P2SC:

- P2SC OS has been changed to include 2025 calibration and degradation.

5. Data reception & discussions with MOC

Passes

The delivery of the passes for this week (passes 50678 to 50736) 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 2025 Jun 16 0UT and 2025 Jun 23 0UT: 4039
Highest cadence in this period: 18 seconds
Average cadence in this period: 149.71 seconds
Number of image gaps larger than 300 seconds: 237
Largest data gap: 20.17 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
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)