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|---|---|---|
| P2SC-ROB-WR-858 - 20260831 | **P2SC Weekly report** | |
| Period covered:<br>Date:<br><br>Written by:<br>Approved by: | Mon Aug 31 to Sun Sep 06, 2026<br>09 Sep 2026<br><br>Dana Talpeanu<br>Marie Dominique | Royal Observatory of Belgium<br>-<br>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 31 Aug | Tuesday 01 Sep | Wednesday 02 Sep | Thursday 03 Sep | Friday 04 Sep | Saturday 05 Sep | Sunday 06 Sep |
|---|---|---|---|---|---|---|---|
| Activity | low | low | moderate | low | moderate | moderate | low |
| Flares | - | - | **M3.0** | - | **M1.2** | **M1.0** | - |

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

**Solar Activity**

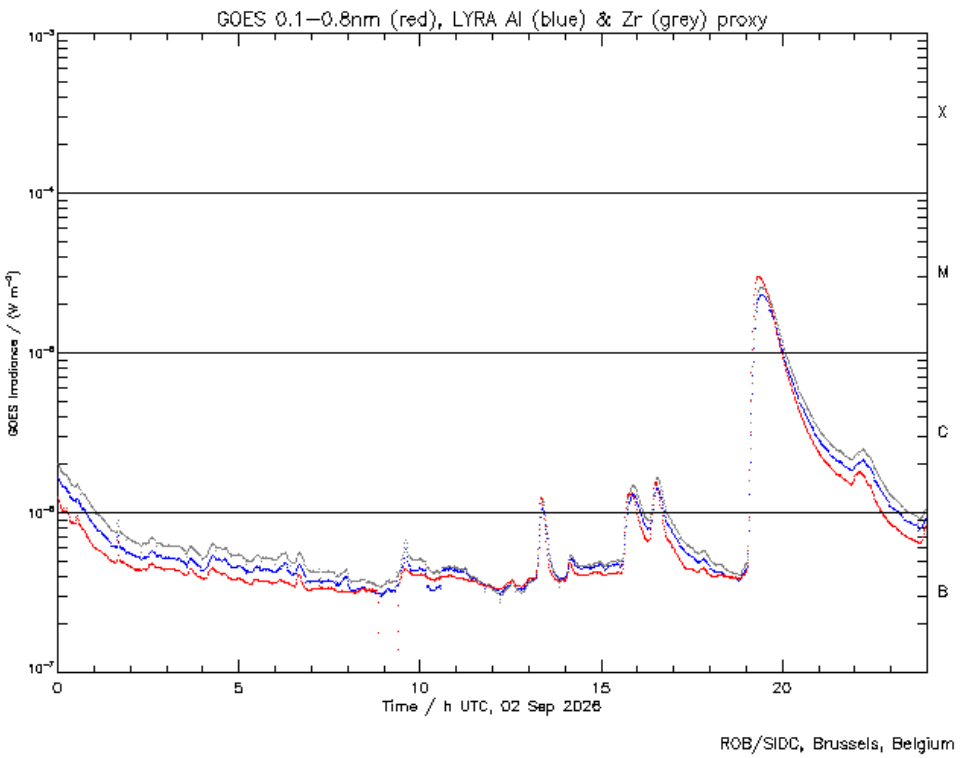
Solar flare activity fluctuated from low to moderate during the week.
In order to view the activity of this week in more detail, we suggest to go to the following website from which all the daily (normal and difference) movies can be accessed: https://proba2.oma.be/ssa
This page also lists the recorded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

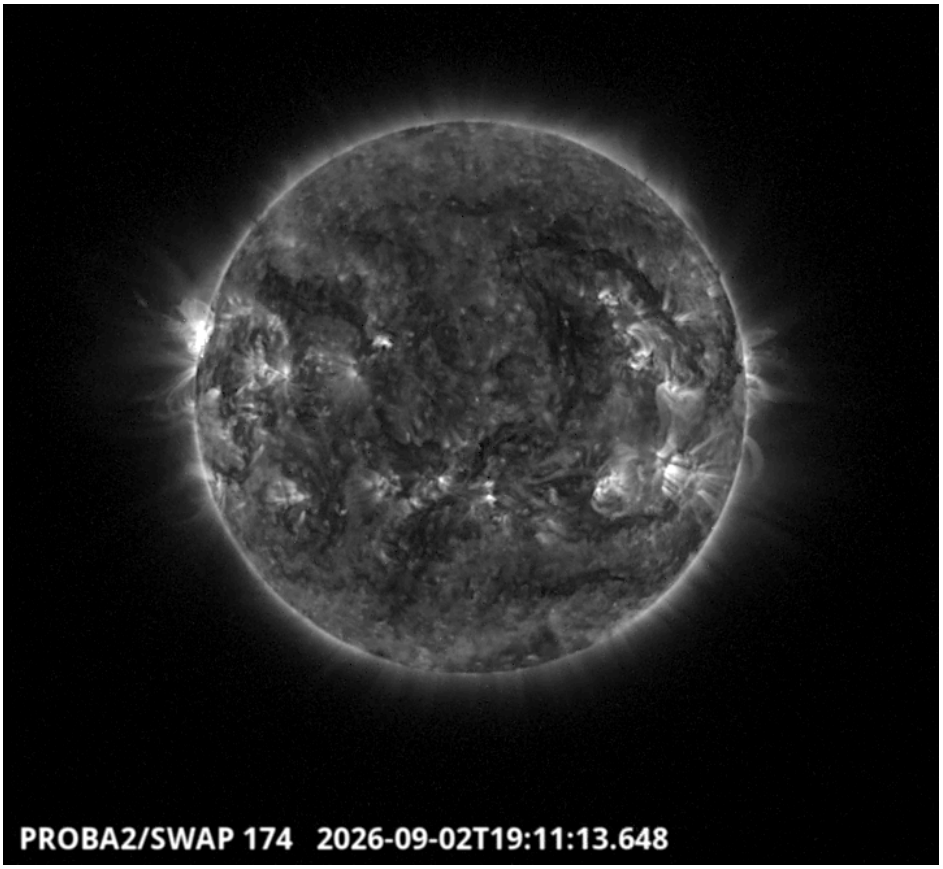
A weekly overview movie can be found here (SWAP week 858).

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

Wednesday Sep 02



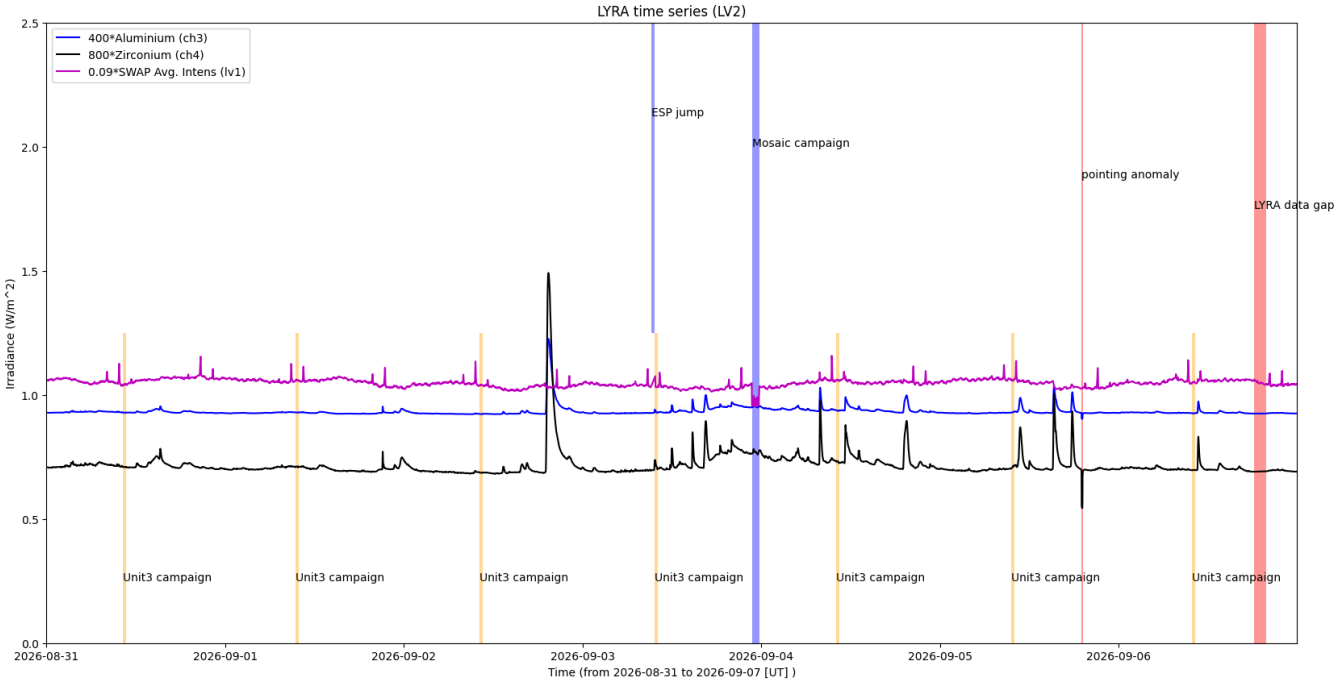




**The largest flare of this week was an M3.0, and it was observed by LYRA (top panel) and SWAP (bottom panel). The flare peaked on 2026-Sep-02 at 19:20 UT and occurred at the north-eastern limb of the Sun, originating from active region NOAA4524 (SIDC 943).**

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:

- ESP jump, 2026-Sep-03
- SWAP mosaic campaign, 2026-Sep-03

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

- Daily unit 3 campaign, 2026-Aug-31
- Daily unit 3 campaign, 2026-Sep-01
- Daily unit 3 campaign, 2026-Sep-02
- Daily unit 3 campaign, 2026-Sep-03
- Daily unit 3 campaign, 2026-Sep-04
- Daily unit 3 campaign, 2026-Sep-05
- Daily unit 3 campaign, 2026-Sep-06

The red shaded periods related to other issues corresponds to:

- Delayed and long LAR, creating a data gap on 2026-Sep-05 between 19:02 - 19:12 UT
- LYRA data gap due to bad signal of pass 54570, on 2026-Sep-06 between 18:12 - 19:52 UT

## 2. LYRA instrument status

### IOS

| | | |
|---|---|---|
| Start IOS | Mon Aug 31 2026 | LYIOS01265 |
| End IOS | Sun Sep 06 2026 | LYIOS01266 |

### LYRA detector temperature

LYRA detector 2 temperature globally varied between 49.92 and 50.72 °C.

## 3. SWAP instrument status

**MCPM errors**
The number of MCPM recoverable errors increased from 21602 to 21670.
The number of MCPM unrecoverable errors remained at 0.

**IOS**

| | | |
|---|---|---|
| Start IOS | Mon Aug 31 2026 | IOS01400 |
| End IOS | Sun Sep 06 2026 | IOS01400 |

**SWAP detector temperature**

The SWAP Cold Finger Temperature globally varied between -0.89 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 54510 to 54571) was nominal, except for:

- 54570 (bad signal).
- Delayed and long LAR, creating a data gap on 2026-Sep-05 between 19:02 - 19:12 UT

**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:

- small BINSWAP for pass 54570 due to bad signal

Total number of images between 2026 Aug 31 00:00 UT and 2026 Sep 07 00:00 UT: 4170
Highest cadence in this period: 0 seconds
Average cadence in this period: 145.02 seconds
Number of image gaps larger than 300 seconds: 229
Largest data gap: 33.67 minutes

**Data coverage LYRA**

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

- BINLYRA_54570 due to bad signal, resulting in a data gap on 2026-Sep-06 between 18:12 - 19:52 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)