


P2SC-ROB-WR-218- 20140526 Weekly report #218	P2SC Weekly report	
Period covered: Date: Written by: Approved by:	Mon May 26 to Sun Jun 01, 2014 04 Jun 2014 Erik Pyllyser Matthew West	Royal Observatory of Belgium - PROBA2 Science Center
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1. Science

Solar & Space weather events

This week, the level of solar activity¹ was generally **low**. It was **very low** on Friday.

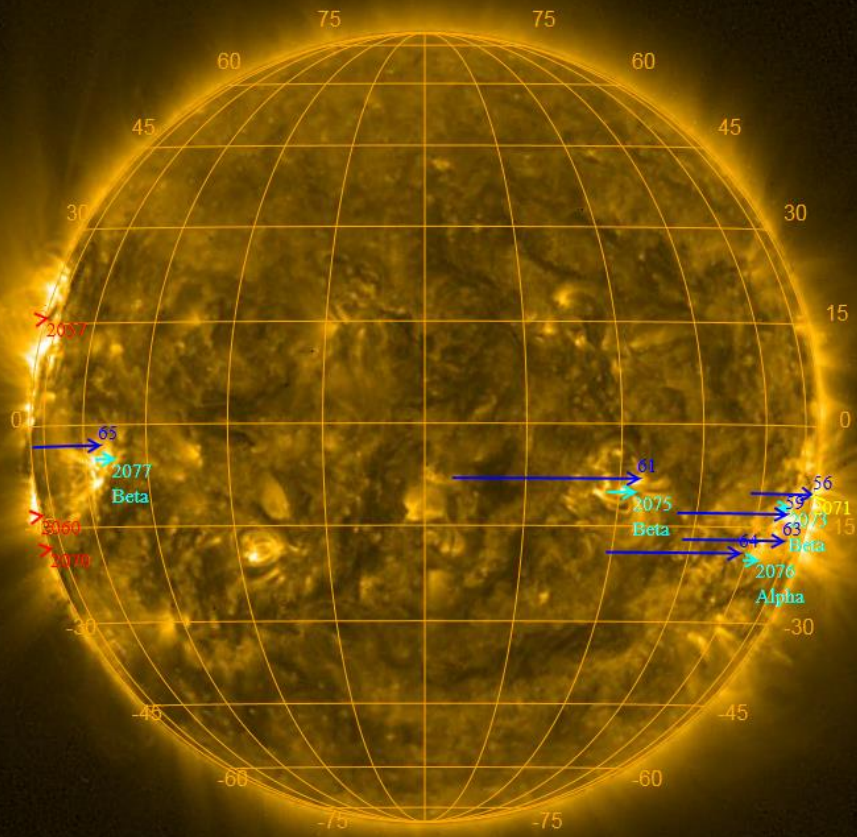
Only M- and X-flares are mentioned, the most energetic one(s) per day are presented in **bold**:

	Monday 26 May	Tuesday 27 May	Wednesday 28 May	Thursday 29 May	Friday 30 May	Saturday 31 May	Sunday 01 Jun
Activity	low	low	low	low	very low	low	low
Flares	-	-	-	-	-	-	-

¹ See appendix. All timings are given in UT.

Catania sunspot groups
2014-05-30 08:18:00

NOAA AR/sunspot
NOAA Halpha plage
NOAA expected region
2014-06-01 00:30:00



PROBA2/SWAP 17.4nm
2014-06-01T08:01:56.809

Solar Activity

Solar flare activity was generally **low**. It was **very low** on Friday.

In order to view the activity of this week in more detail, we suggest going 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 218). A few prominence eruptions can be seen. Details about some of this week's events can be found further below.

Tuesday May 27

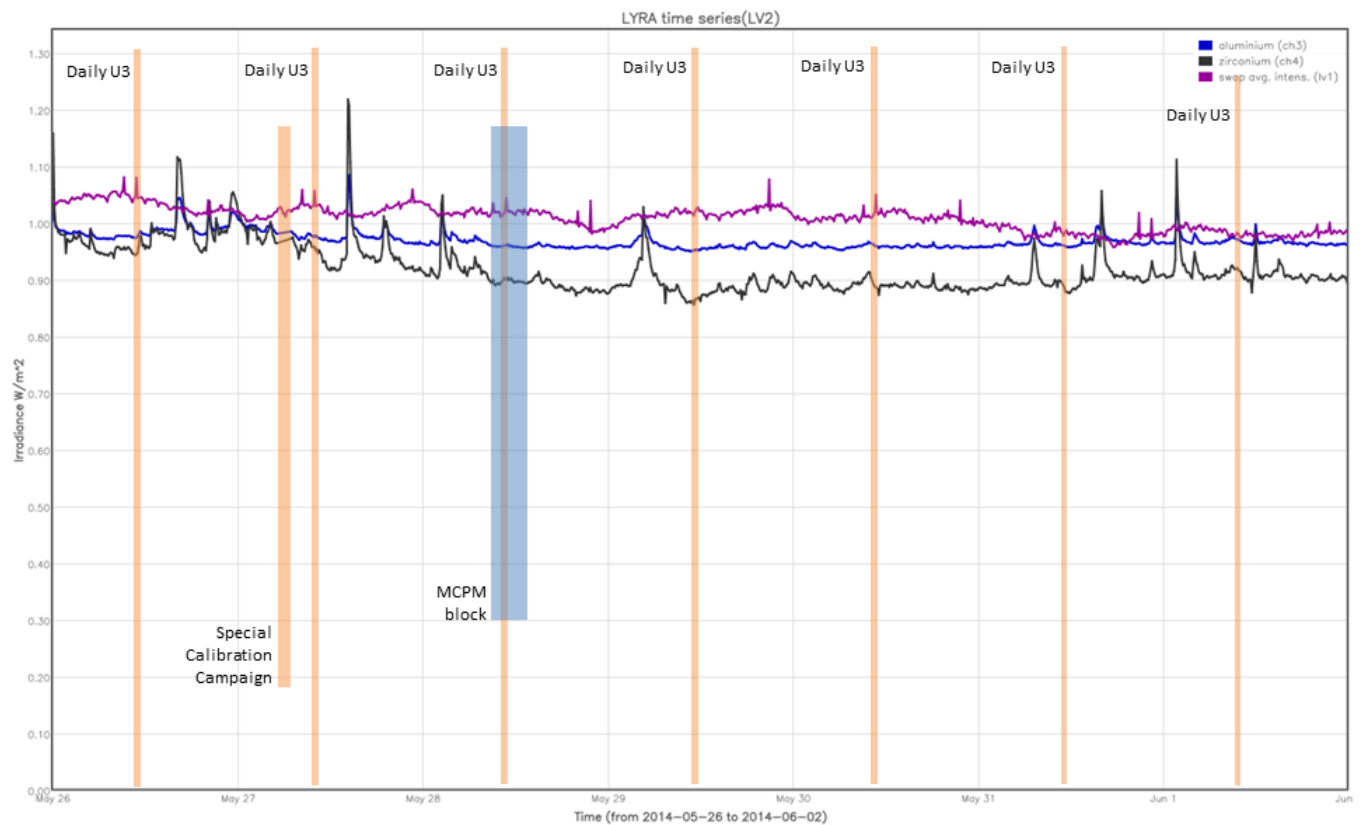


C4.9 flare on South West Limb @ 14:46 - SWAP difference image

An overview of the weekly LYRA & SWAP data is provided below:

The following curves are visible:

- black: Zirconium Channel LYRA Unit 2
- blue: Aluminum Channel of LYRA Unit 2
- purple: SWAVINT (SWAP Average Intensity; integrated solar intensity per SWAP image pixel)



The (LYRA related) orange shaded periods correspond to, from left to right (see also section 2):

- Daily LYRA unit 3 campaign
- Special LYRA calibration campaign on 27/05/2014
- Daily LYRA unit 3 campaign (6 consecutive days)

The (SWAP related) blue shaded periods correspond to, from left to right (see also section 3)

- MCPM blockage on Wednesday.

Outreach, papers, presentations, etc.

Please consult <http://proba2.oma.be/science/publications> for a list of interesting articles using SWAP & LYRA data, as well as a link to the complete article list.

The science section of this weekly report is also published in the weekly STCE newsletter (<http://www.stce.be/newsletter/newsletter.php>).

SWAP & LYRA data is being provided to the VENUS EXPRESS mission, in support of their upcoming operations to aerobrake the orbiter into Venus' atmosphere.

Guest Investigator Program

- Vida Zigman left P2SC on May 28.

Other Visitors

- None

2. LYRA instrument status

Calibration

No calibration this week.

IOS & operations

Monday 26 May	Tuesday 27 May	Wednesday 28 May	Thursday 29 May	Friday 30 May	Saturday 31 May	Sunday 01 Jun
Nominal acquisition + daily U3	Nominal acquisition + daily U3 + special campaign	Nominal acquisition + daily U3	Nominal acquisition + daily U3	Nominal acquisition + daily U3	Nominal acquisition + daily U3	Nominal acquisition + daily U3
LYIOS00397	LYIOS00399	LYIOS00399	LYIOS00399	LYIOS00399	LYIOS00399	LYIOS00399

The following science campaigns were performed by LYRA:

- daily U3 observation campaign (7 consecutive days)
- special (calibration) campaign on Tuesday (between 05:00 and 06:48), to understand some fluctuations in the LED signal

LYRA detector temperature

During normal operations, the LYRA detector 2 temperature varied between 48.0 °C to 47.1 °C, taking into account the small daily U3 activation temperature peaks. During the special calibration campaign, temperature dropped to 45.5 °C.

3. SWAP instrument status

Calibration

No calibration this week.

MCPM errors

The number of MCPM recoverable errors increased from 18973 to 19177.

The number of MCPM unrecoverable errors continued to increase regularly, from 1438 to 1630.

IOS & operations

Monday 26 May	Tuesday 27 May	Wednesday 28 May	Thursday 29 May	Friday 30 May	Saturday 31 May	Sunday 01 Jun
Nominal acquisition	Nominal acquisition	Nominal acquisition	Nominal acquisition	Nominal acquisition	Nominal acquisition	Nominal acquisition
IOS00522 639 images	IOS00523 597 images	IOS00523 648 images	IOS00523 642 images	IOS00523 664 images	IOS00523 604 images	IOS00523 501 images

Special SWAP operations this week:

- None

An MCPM blockage occurred on Wednesday. The last BINSWAP file received was at 09:34:52, during pass 14287. REDU unblocking procedure was performed during pass 14288, and new data was received at 12:54.

SWAP detector temperature

The SWAP Cold Finger Temperature varied between -0.97 °C and -0.25 °C.

4. PROBA2 Science Center Status

The main operator is Erik Pylyser

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 14266 and 14328) was nominal.

Data coverage HK

All HK data files (LYRA_AD) have been received.

Data coverage SWAP

All SWAP Science data files (BINSWAP) have been received.

Total number of images between 2014 May 26 OUT and 2014 Jun 02 OUT: 4295

Highest cadence in this period: 130 seconds

Average cadence in this period: 140.82 seconds

Number of image gaps larger than 300 seconds: 2

Largest data gap: 6.50 minutes

Data coverage LYRA

All LYRA Science data files (BINLYRA) have been received.

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
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
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)