


P2SC-ROB- WR-013-20100607 Weekly Report # 013	P2SC Weekly report	
Period Covered: Date: Written By: Released By:	Mon Jun 07 to Sun Jun 13 2010 Mon Jun 14 2010 Joe Zender David Berghmans	Royal Observatory of Belgium PROBA2 Science Center
	To: LYRA PI, hochedez@sidc.be SWAP PI, david@sidc.be	http://proba2.sidc.be ++ 32 (0) 2 373 0 559
	cc: ROB DIR, ronald@oma.be ESA Redu, Etienne.Tilmans@esa.int ESA D/SRE, Joe.Zender@esa.int ESA D/TEC, Karsten.Strauch@esa.int	

1. Science

Space weather events

The following flares of type B and higher were observed by LYRA:

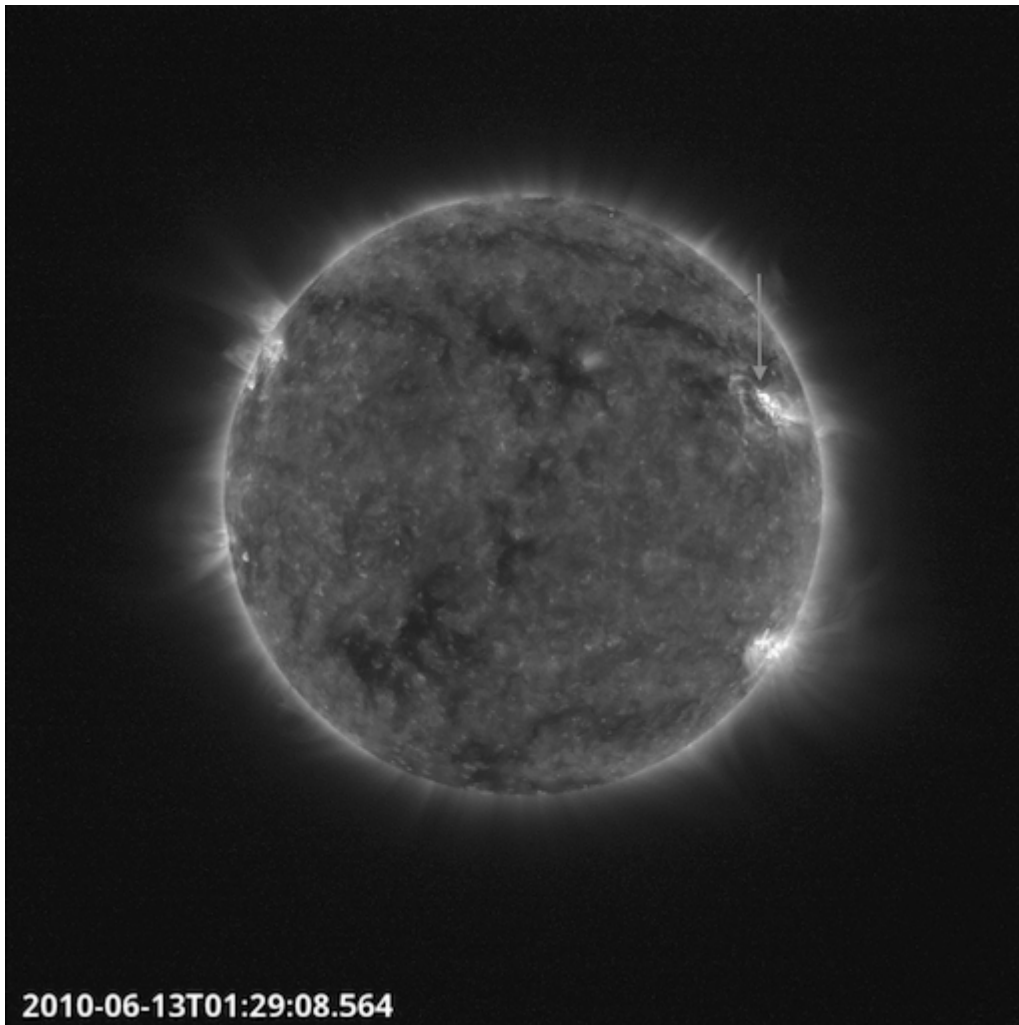
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2010-06-07T06:27:00 06:34:00 B2.0    N20W65
2010-06-07T19:15:00 19:31:00 B2.0    N15E23
2010-06-11T10:51:00 10:58:00 B1.4    N22W36 ( 1081 )
2010-06-11T11:58:00 12:04:00 B3.0    N23E89 ( )
2010-06-11T20:34:00 20:54:00 B4.5    N23W46 ( 1077 )
2010-06-11T23:56:00 00:04:00 B6.3    N22W47 ( 1077 )
2010-06-12T00:30:00 01:02:00 M2.0    N23W47 ( 1081 )
2010-06-12T02:53:00 03:03:00 B3.8    S24W67 ( 1079 )
2010-06-12T03:57:00 04:17:00 C1.0    N23W50 ( 1077 )
2010-06-13T00:06:00 00:26:00 B8.8    S26W89 ( 1079 )
2010-06-13T02:28:00 02:35:00 B4.6    S25W89 ( 1079 )
2010-06-13T05:30:00 05:44:00 M1.0    S24W82 ( 1079 )
2010-06-13T06:08:00 06:13:00 C1.2    N23W64 ( 1081 )
2010-06-13T06:55:00 07:00:00 B5.3    N22W63 ( 1081 )
2010-06-13T07:05:00 07:10:00 C1.2    S24W68 ( 1080 )
2010-06-13T07:31:00 07:38:00 C1.2    S23W89 ( 1078 )
2010-06-13T08:06:00 08:16:00 C1.2    N22W65 ( 1081 )
2010-06-13T09:41:00 09:48:00 C1.7    N23W66 ( 1081 )

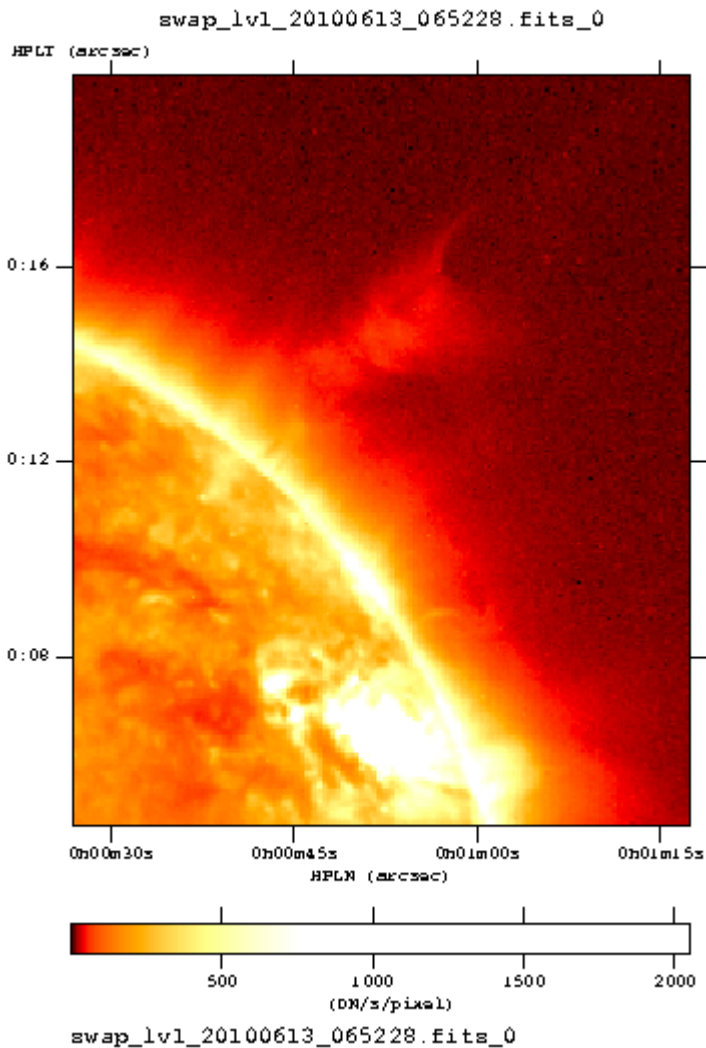
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2010-06-13T10:47:00 10:55:00 C1.5 N22W66 (1081)
2010-06-13T12:24:00 12:29:00 B4.3 N21W67 (1081)
2010-06-13T13:20:00 13:26:00 B2.5 N22W68 (1081)
2010-06-13T14:24:00 14:30:00 B2.4 N22W69 (1081)
2010-06-13T15:45:00 15:59:00 B4.2 N26W64 (1081)
2010-06-13T18:10:00 18:17:00 B1.8 N23W70 (1081)

On top of this long list, there was also an unreported flare observed by GOES and LYRA around 01:23-01:29. The location of the flare is shown in the image below.



On June 13, starting around 06:30, SWAP observed a cavity eruption:



2. LYRA instrument status

The LYRA operations were nominal during the whole reporting period.

The LED calibration campaign was executed on Wednesday using IOS00068. Due to the long-settling time of the sensors, LED and DARK acquisitions are taken during 2 orbits (200min) each (and with the 2 back-up units) to ensure the stabilization of the channel signals.

On Tuesday, 8 June 2010, 11:00:00 and 12:30:00, the off-pointing from the previous week was repeated due to a request from the LYRA team. In the previous week, the off-pointing lead to an increased channel response indicating that the flatfield of the detector is asymmetric. The test this week showed

the same signal response as in the previous week and one can assume that indeed the flatfield is asymmetric.

At all other times, LYRA Unit2 was operated in 50msec cadence.

3. SWAP instrument status

MCPCM recov err increased from 166 to 167 on Monday morning around 08:20.

On Tuesday, 2010-06-08, the weekly LED calibration campaign was executed between 10:30 until 12:00, using IOS000122.

On Wednesday, 2010-06-10, the s/c was pointed to observe the South-West part of the Sun limb and Active Region 11078 between 18:10 and Thursday morning 03:00. No CME or large flare was detected.

On Thursday, 2010-06-11T14:10, the s/c was off-pointed to observe the South-West of the Sun limb due to a likelihood of flares until 2010-06-12T14:00:00 using IOS000124. No CME or large flare was detected.

4. PROBA2 Science Center Status

Joe Zender was operator during this week.

During the whole week, the LYRA fits files as well as the SWAP movie files were generated manually twice a day.

In an off-line procedure led by Elke D'Huys, *all* BINSWAP and LYRA_AD files are being reprocessed to guarantee that all SWAP FITS files are up to the latest version. This procedure is progressing well but was not completed at the end of the period.

5. Data reception & discussions with MOC

Passes

No pass or delivery problems during the reporting period.

Data coverage HK

No data gaps were observed.

Data coverage SWAP

Average cadence of SWAP images was between 100 and 120s.

Corrupt images were detected.

total number of images in this week: 5271

average cadence in this time period: 114.75 seconds

number of image gaps larger than 299 seconds: 3 (all on June 9 around 3:40UT)

largest data gap: 5.00 minutes

Data coverage LYRA

No data gaps. All BINLYRA files received and all fits files processed.

6. APPENDIX Frequently used acronyms

ADP	Ancillary Data Processor
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
DR	Destructive Readout
DSLIP	Dual Segmented Langmuir Probe
EIT	Extreme ultraviolet Imaging Telescope
FITS	Flexible Image Transport System
FOV	Field Of View FPA Focal Plane Assembly
FPGA	Field Programmable Gate Arrays
GPS	Global Positioning System
HAS	High Accuracy Star tracker
HK	Housekeeping
ICD	Interface Control Document
IIU	Instrument Interface Unit
IOS	Instrument Operations Sheet
LED	Light Emitting Diode
LEO	Low Earth Orbit
LYRA	Lyman Yield 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
OBET	On board Elapsed Time
OBSW	On board Software

PE	Proximity Electronics
PGA	Programmable Gain Amplifier
PI	Principal Investigator
P2SC	PROBA2 Science Center
PPT	Pointing, Positioning and Time (software module of P2SC)
ROB	Royal Observatory of Belgium
SAA	South Atlantic Anomaly
SCOS	Spacecraft Operation System
SEU	Single Event Upset
SOHO	Solar and Heliospheric Observatory
SWAP	Sun Watcher using APS detector and image Processing
SWBSDG	SWAP Base Science Data Generator
	SWAP Engineering Data Generator (software module of P2SC)
SWEDG	SWAP Telemetry Reformatter (software module of P2SC)
SWTMR	To Be Confirmed
TBC	To Be Defined
TBD	To Be Written TC Telecommand
TBW	Thermal Plasma Measurement Unit
TPMU	Coordinated Universal Time
UTC	Ultraviolet
UV	