P2SC-ROB-WR-055-20110404 Weekly report #055	**P2SC Weekly report**	
Period covered: Date: Written by: Released by:	Mon April 04 to Sun April 10 2011 Tue April 12 2011 Carlos Cabanas Carlos Cabanas	Royal Observatory of Belgium PROBA2 Science Center
To:	LYRA PI, marie.dominique@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

Solar & Space weather events

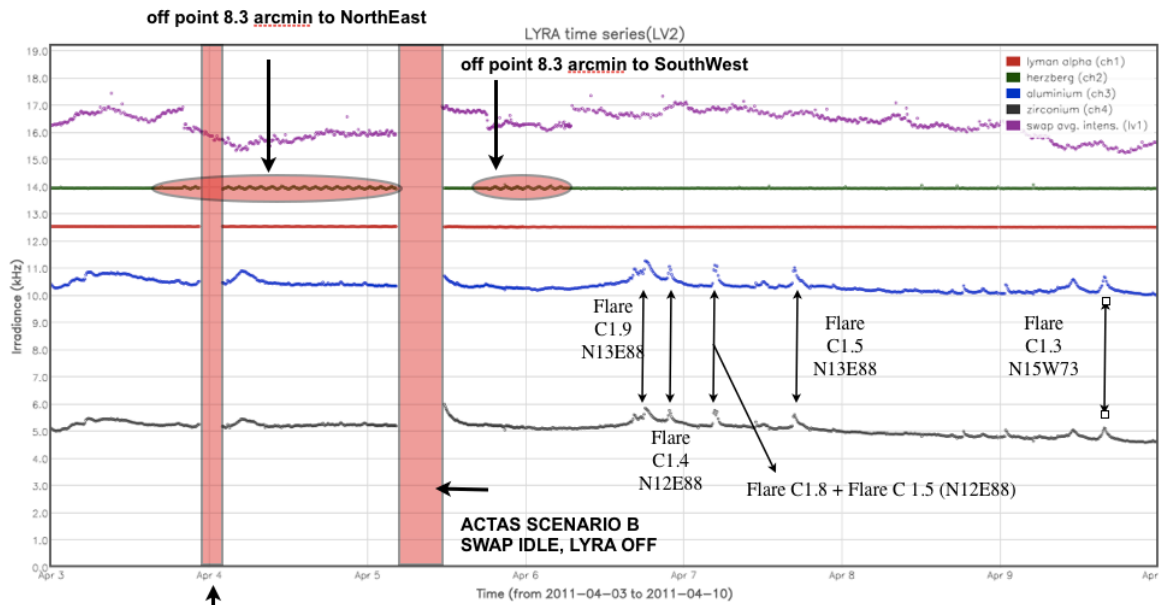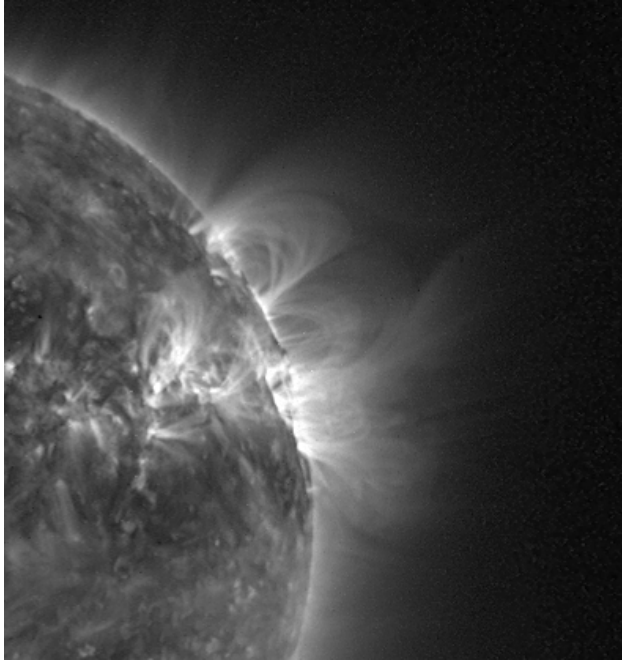Below the active regions at the start and the end of this week are overlaid on SWAP images:

LYRA overview of the week, in W/m^2, with factors (2000,20,4000,4000) for (Ly-a, Hz, Al, Zr) resp. Also the SWAP average intensity is shown in purple:

Solar events of the week seen by SWAP and LYRA:

	Flares	Others
Monday 04 April	Only B-class flares were observed.	
Tuesday 05 April	Only B-class flares were observed.	
Wednesday 06 April	LYRA saw 2 C-flares in addition to some B-flares.	
Thursday 07 April	LYRA saw 3 C-class flares during the period from a region on the NE limb.	Curious event seen by SWAP around 19:00. Probably two solar loop systems, coming from sunspots with equal polarity, collide in its way, repelling each other and causing an off limb, cusp-shaped structure. (see figure below)
Friday 08 April	Only B-class events were observed.	
Saturday 09 April	A C1 flare was observed from Region 1184 (N15W73) at 15:45Z.	
Sunday 10 April	Only B-class events were observed	

Scientific campaigns

SWAP campaign in accordance with SWAP/EIS project
Asked by: Vladimir Slemzin
Period: Tue, April 5, 18:10 – Wed, April 6, 05:50
Target: observation of the AR 111176 at the SW-limb. This AR was observed earlier by SWAP at the SE -limb on March 23 and by EIS at the disk on March 30-31.
Requirements: SWAP off point, 8.3 arcmin towards the South West. Nominal imaging.
Results: not yet

SWAP polar plumes campaign
Asked by: Serge Koutchmy
Period: Wed, April 6, 05:50 – 06:50
Target: to study the plume structures in the white-light corona around the poles.
Requirements: Duration 1 hour, high cadence = 30 seconds, exposure time = 20 seconds
Results: not yet

Outreach, papers, presentations, etc.

To be explored

2. LYRA instrument status

Calibration
No LYRA calibration this week.

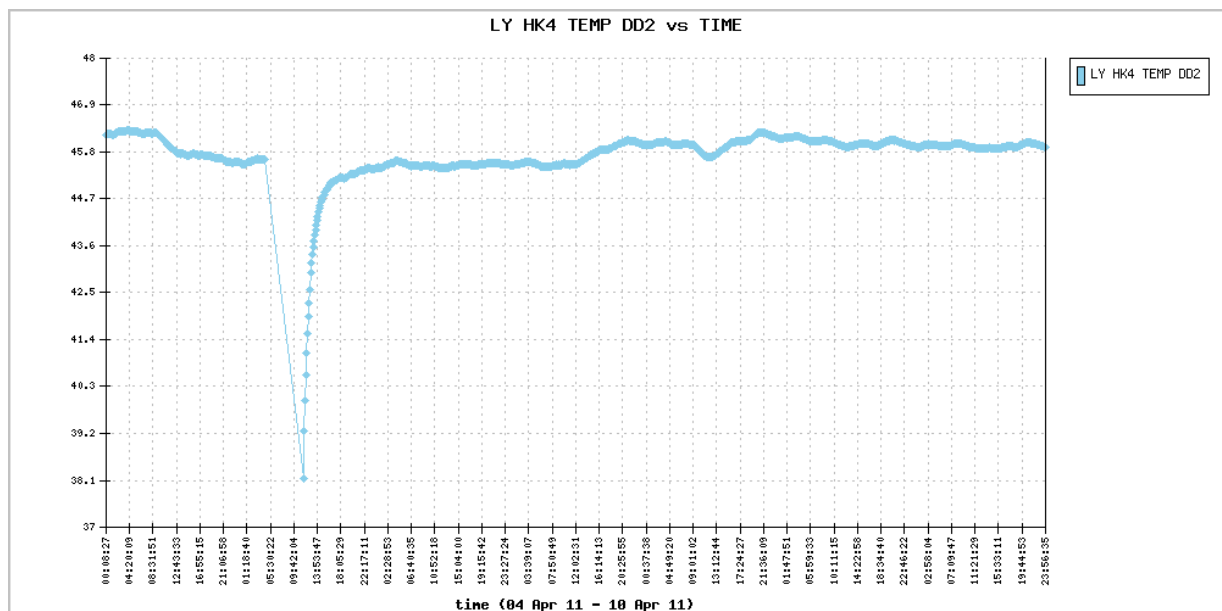**IOS & operations**
Nominal acquisition at 50ms for the whole week.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

04 April	05 April	06 April	07 April	08 April	09 April	10 April
Nominal acquisition	Nominal acquisition + LYRA OFF ACTAS SCENARIO b 04:25 – 10:15	Nominal acquisition	Nominal acquisition	Nominal acquisition	Nominal acquisition	Nominal acquisition
(LYRA00152)	(LYRA00153)	(LYRA00153)	(LYRA00153)	(LYRA00153)	(LYRA00153)	(LYRA00153)

LYRA temperature

Plasma experiments switching on and off produced the usual fluctuations of half a degree in LYRA temperatures.

LYRA switching off during ACTAS experiment caused a drop in the temperature of ~7 degrees Celsius (form 45.5 to 38). After switching on the instrument, temperature got its previous value after 5 hours approx.

LY HK4 TEMP DD2 vs TIME

To be explored
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3. SWAP instrument status

MCPM recoverable errors
increased from 990 to 1023 this week.
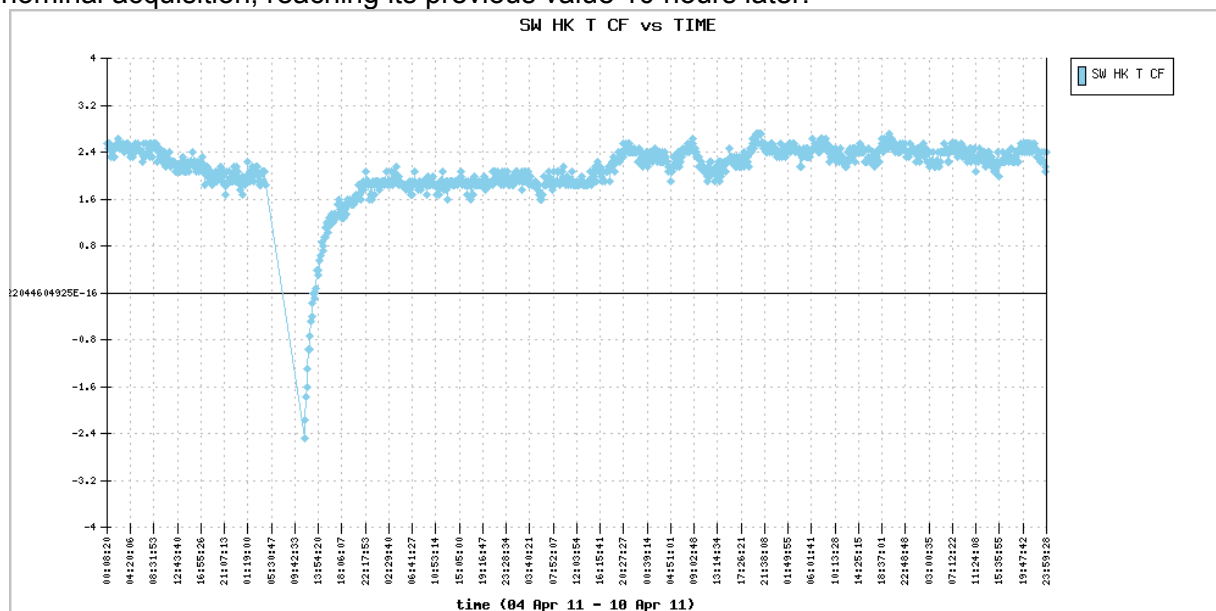The number of MCPM unrecoverable errors is still 0.

IOS & operations

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

04 April	05 April	06 April	07 April	08 April	09 April	10 April
Nominal acquisition + SWAP offpoint, 8.3 arcmins to NorthEast Sun, April 3, 20:00 – Tue, April 5, 04:25	Nominal acquisition + SWAP IDLE ACTAS SCENARIO b 04:25 – 10:15 + SWAP offpoint, 8.3 arcmins to NorthEast Sun, April 3, 20:00 – Tue, April 5, 04:25	Nominal acquisition + SWAP offpoint, 8.3 arcmins to SouthWest Tue, April 5, 18:10 – Wed, April 6, 05:50 + Hi.cad = 30s Exp.time = 20s 05:50 – 06:50	Nominal acquisition +	Nominal acquisition	Nominal acquisition	Nominal acquisition
(IOS00275)	(IOS00276)	(IOS00276)	(IOS00276)	(IOS00276)	(IOS00276)	(IOS00276)
720 images	548 images	777 images	621 images	718 images	580 images	621 images

SWAP detector temperature

SWAP detector temperature dropped 4 degrees Celsius (1.8,-2.4) while the instrument stayed in IDLE mode. The temperature increased rapidly when the instrument switched back to nominal acquisition, reaching its previous value 10 hours later.

4. PROBA2 Science Center Status

Carlos Cabanas was operator during this week.

LMAT-UI tool was updated on the operational server this week.

5. Data reception & discussions with MOC

Passes   No passes were completely missed.
Data coverage HK   Complete. Some passes were missed but resent later.

Data coverage SWAP

Corrupted SWAP packets:

BINSWAP_4262_RED3_2011.04.07T06.24.25.tar
    BINSWAP20110407042932000029 2327PROCESSED

BINSWAP_4260_SVA1_2011.04.07T03.18.40.tar
    BINSWAP20110407000001000029 2171PROCESSED
    BINSWAP20110407002731000029 2176PROCESSED
    BINSWAP20110407004931000029 2180PROCESSED
    BINSWAP20110407010031000029 2182PROCESSED
    BINSWAP20110406223921000029 2228PROCESSED

Statistics for complete week:
    Total number of images between 2011 Apr 04 0UT and 2011 Apr 11 0UT: 4585
    Highest cadence in this period: 29 seconds
    Average cadence in this period: 131.89 seconds
    Number of image gaps larger than 300 seconds: 1
    Largest data gap: 414.50 minutes (ACTAS experiment)

Data coverage LYRA   Almost complete. Only BINLYRA_4231_SVA1_2011.04.04T11.29.37 arrived corrupted and could not be 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
DSLP	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 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
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
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
TBW	To Be Written
TC	Telecommand
TPMU	Thermal Plasma Measurement Unit
UTC	Coordinated Universal Time
UV	Ultraviolet