P2SC-ROB-WR-054-20110328 Weekly report #054	**P2SC Weekly report**	
Period covered: Date: Written by: Released by:	Mon Mar 28 to Sun Apr 03 2011 Tue April 5 2011 Joe Zender Carlos Cabanas	Royal Observatory of Belgium PROBA2 Science Center
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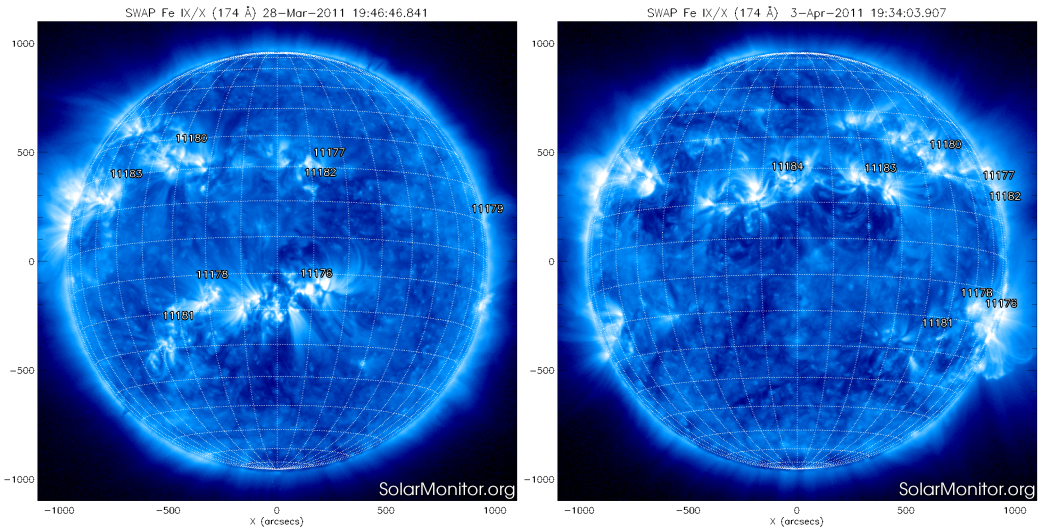
1. Science

Solar & Space weather events

The expected increase in activity from the newly arising active regions in the East did not take place. Overall, this was a quiet week.



The upper two images show the view of SWAP at the begin and end of the week respectively.

On 2011-03-28, a nice flare evolution seen in SWAP and LYRA originating from AR 11176. At 14:30 there was a CME behind the South-West limb and at 15:00 there was a CME behind the

North-East limb. Both CME's can be nicely followed by SWAP.

On 2011-03-29, several intersting events happend betwen 19:00 and 20:00. From behind the East limb a CME erupted. At the polar north, there was a cavity eruption (tbc) and there were jets and flaring activity on the disk centre (AR11176, 11178).

On 2011-03-31 and 2011-04-01 only minor C-flares were observed by LYRA.

2011-04-02 was a rather quiet Sun day.
LYRA did detect only very small flares. From 11:30 until 13:00, there was a CME (quiet large, but not strong) on the southern hemisphere. The CME can be seen far out of the limb. This CME was not detected by CACTUS. LYRA detected only a small, shallow increase during this time. The CME spans the region between AR 11176 and AR 11181.

Scientific campaigns
SWAP off-pointing campaign in support of V. Slemzin on 3 April 2011.

Outreach, papers, presentations, etc.
During the Solar Orbiter Workshop that took place in Telluride, Colorado, from March 27-31. The following Proba2 related contributions were made:

- David Berghmans: "Towards eruption detection onboard Solar Orbiter", a talk based on algorithms running on SWAP data."
- Anik De Groof: "SWAP: A PIONEERING CMOS DETECTOR FOR SOLAR PHYSICS"
- Poster Katrien Bonte: " Flare detection & prediction with the SWAP CMOS imager. A proprotype system for the upcoming ESA Solar Orbiter mision."

To be explored
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2. LYRA instrument status

Calibration
Calibration campaign from 2011-03-29T14:05 until 2011-03-29T23:55.
Backup acquisition of unit1 from 2011-03-30T12:30 until 2011-03-30T13:20.
Backup acquisition of unit3 from 2011-03-30T12:30 until 2011-03-30T14:27.

IOS & operations
Nominal acquisition at 50ms until switch-off at 2011-03-29T06:50 for the ACTAS campaign. Resume operations at 2011-03-29T14:05 with calibration campaign and backup acquisition of unit1 and unit3.

Monday 28 Mar	Tuesday 29 Mar	Wednesday 30 Mar	Thursday 31 Mar	Friday 01 Apr	Saturday 02 Apr	Sunday 03 Apr
Nominal acquisition (LYRA00150)	Nominal acquisition (LYRA00151+ LYRA00152)	Nominal acquisition (LYRA00152)	Nominal acquisition (LYRA00152)	Nominal acquisition (LYRA00152)	Nominal acquisition (LYRA00152)	Nominal acquisition (LYRA00152)

An ASIC reload (automatically scheduled onboard every 100 orbits) took place on 2011-03-31T15:33:06.

LYRA temperature
The LYRA detector 2 temperature was below 47.6 degrees with the exception of a short peak to 48.2 at the end of the backup calibration campaign.

To be explored
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3. SWAP instrument status

MCPM recoverable errors
increased from 961 to 978 this week.
The number of MCPM unrecoverable errors is still 0.

IOS & operations

Monday 28 Mar	Tuesday 29 Mar	Wednesday 30 Mar	Thursday 31 Mar	Friday 01 Arl	Saturday 02 Apr	Sunday 03 Apr
Nominal acquisition, cadence 110 (IOS00272) 783 images	Nominal acquisition + IDLE from 06:50 until 14:00 to support ACTAS (IOS00272) 552 images	Nominal acquisition (IOS00272) 784 images	Nominal acquisition + ESP test (IOS00273) 723 images	Nominal acquisition (IOS00273) 645 images	Nominal acquisition (IOS00273) 602 images	Nominal acquisition +off-pointing for for Vladimir (IOS00275) 682 images

SWAP detector temperature
The SWAP Cold Finger Temperature fluctuated around 3 degrees. After the ACTAS campaign the start temperature was -4.2 degrees increasing back to the 3 degrees within 5 hours.

SWAP off-pointing campaign
Due to wrong pointing, the area of interest was not fully imaged. Campaign will be repeated April 3-5.

4. PROBA2 Science Center Status

Joe Zender was operator during this week.

No P2SC tools were updated on the operational server this week.

5. Data reception & discussions with MOC

Passes
No passes were completely missed. Some lost some SWAP images or contained corrupted packets, as listed below.

Data coverage HK
Complete. Some passes were missed at first but resend later.

Data coverage SWAP

Corrupted first packets (image not readable) in passes: 4162, 4202, 4223.
The overall data coverage was fine.

Statistics for complete week:

Start checking all images between 2011 Mar 28 0UT and 2011 Apr 04 0UT
Gap of 25889 seconds, just before image BINSWAP20110329140020000286484PROCESSED in BINSWAP_4184_RED3_2011.03.29T17.49.56.tar // ACTAS campaign
Gap of 1800 seconds, just before image BINSWAP20110331230353000288076PROCESSED in BINSWAP_4204_SVA1_2011.04.01T08.11.19.tar // ESP support by non-imgaging
Gap of 330 seconds, just before image BINSWAP20110401030743000288239PROCESSED in BINSWAP_4206_RED3_2011.04.01T05.00.02.tar
Gap of 600 seconds, just before image BINSWAP20110403230947000290142PROCESSED in BINSWAP_4231_SVA1_2011.04.04T11.29.39.tar
Total number of images between 2011 Mar 28 0UT and 2011 Apr 04 0UT: 4707
Highest cadence in this period: 0 seconds
Average cadence in this period: 128.50 seconds
Number of image gaps larger than 300 seconds: 4
Largest data gap: 431.48 minutes

Data coverage LYRA
Complete.

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