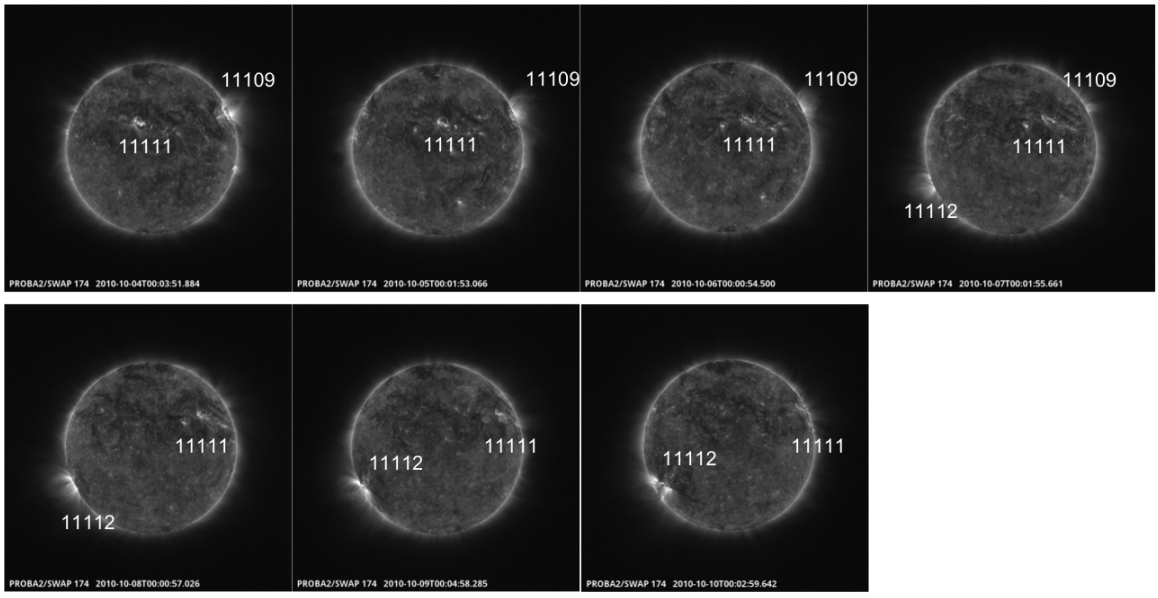
P2SC-ROB-WR-030-20101004 Weekly report #30	**P2SC Weekly report**	
Period covered: Date: Written by: Released by:	Mon Oct 04 to Sun 10 Oct 12 Oct 2010 Marie Dominique David Berghmans	Royal Observatory of Belgium PROBA2 Science Center
To:	LYRA PI, hochedez@sidc.be SWAP PI, david@sidc.be	http://proba2.sidc.be ++ 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	

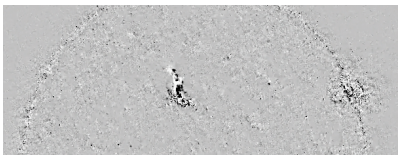
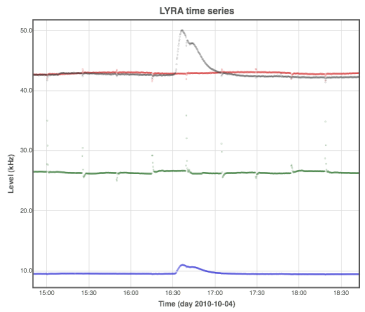
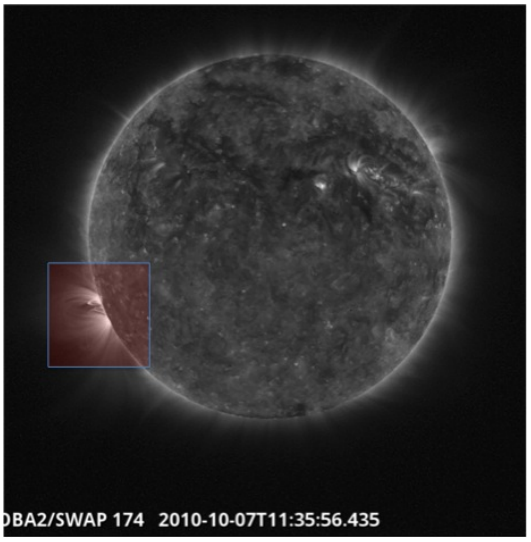
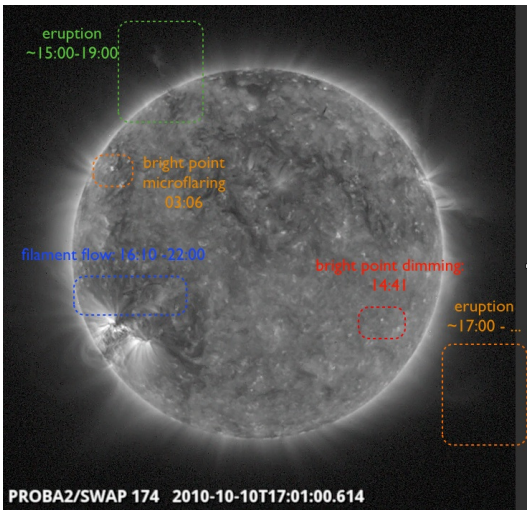
1. Science

Solar & Space weather events

Active regions evolution during the week:



SWAP and LYRA observed daily B-flares. The other noticeable events of the week were:

	a surge on Monday 04, 06:00 (NOAA 11111)
	a C-flare on Monday 04, 16:30 (NOAA 11111)
	nice post-flare loops appearing from behind the limb on Thursday 07, 11:30 (NOAA 11112)
	A few small, but well visible filament eruptions on Sunday 10, from all active regions. The one in the Sout East (bottom right, orange) resulted in a partial halo CME which is expected to trigger a weak geomagnetic storm on Oct 16.

Scientific and calibration campaigns
The following campaigns were planned during the week:

Campaign 1: Support SDO
Period:
- 04 October 06:01 - 07:13 SDO Earth Eclipse
- 05 October 06:01 - 06:49 SDO Earth Eclipse + 20:00 - 20:30 AIA calibration
- 06 October 06:08 - 06:36 SDO Earth Eclipse + 20:00 - 20:30 AIA calibration
- 07 October 06:04 - 06:43 SDO Earth Eclipse

Objectives: high cadence imaging (60 sec) when AIA is not imaging.
Asked by: SWAP team.

Campaign 2: Support ESP
Period: Thursday 07 October, 07:03 - 07:32
Objectives: support ESP weekly campaign: SWAP is not imaging during 2 LARS and interLAR period (~28 minutes) without passes.
Asked by: REDU

Outreach, papers, presentations, etc.
- Anik De Groof gave a presentation at the “Volkssterrenwacht Urania” on October 5

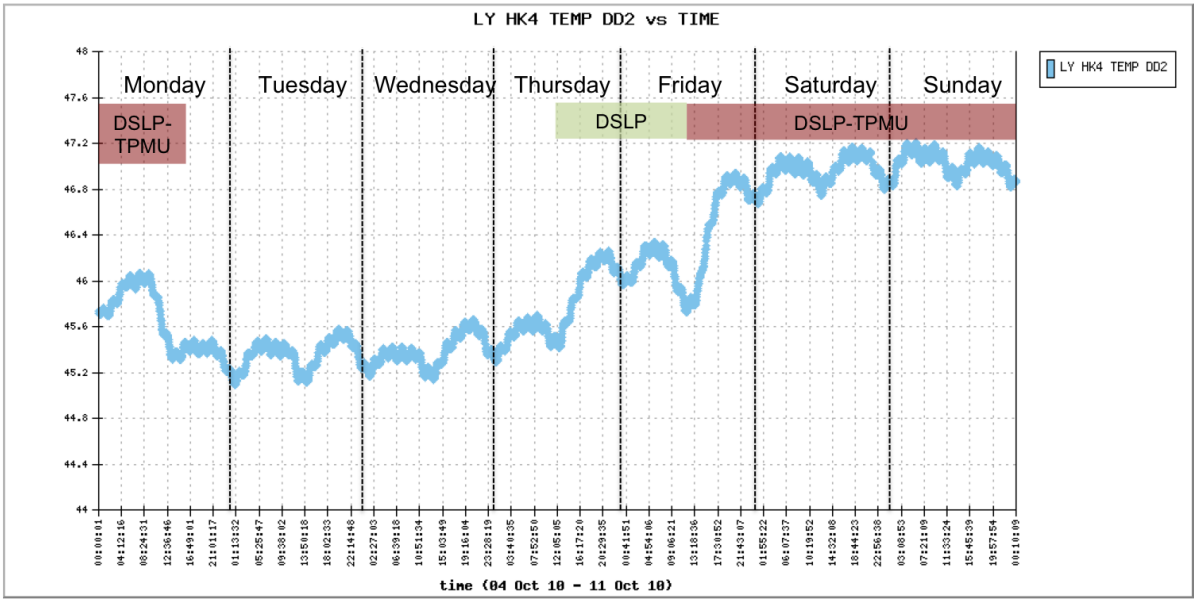
entitled “Ruimteweer - Over de relatie tussen Zon en Aarde”
- David Berghmans was at Soteria meeting at Debrecen (Hungary), October 5-6. He gave a presentation titled “First results from PROBA2”
- A Science & Technology Operations Working Group meeting took place at ROB on October 08.
- Dr. Yulia Shugay started her visit to P2SC as Guest Investigator for SWAP. She will analyse SWAP data in the framework of a project “Studies of coronal holes and solar wind velocity forecasts based on SWAP data analysis”.
- Dr. Kariyappa is still visiting us as Guest Investigator for LYRA.

2. LYRA instrument status

Calibration
No calibration this week

IOS & operations
On Thursday 07, weekly ASIC reloads were re-activated. After each ASIC reload, the operator has to check whether the LYRA data are not becoming noisy.

Anomalies
- No new jump was observed in the Herzberg channel. Nevertheless, since such jumps - and other problems like appearance of noise in the data - occur more and more frequently, it was decided to re-activate the weekly ASIC reloads. Note that so far, ASIC reloads had an impact on some herzberg perturbations but not all.
- LYRA DD2 is permanently quite hot, with variations depending on the other instruments used at the same time



3. SWAP instrument status

MCPM errors

The number of MCPM recoverable errors increased from 202 to 203 at 2010-10-05T11:23:26.000Z. The number of MCPM unrecoverable errors is still 0.

IOS & operations

The SWAP operations were again handled via the pre-loaded table_acquisition. Those operations consisted in SDO support campaigns and one ESP campaign.

Discussion have been started to schedule a SWAP bake-out on Tuesday 12 Oct. IOSs for SWAP and LYRA were uploaded.

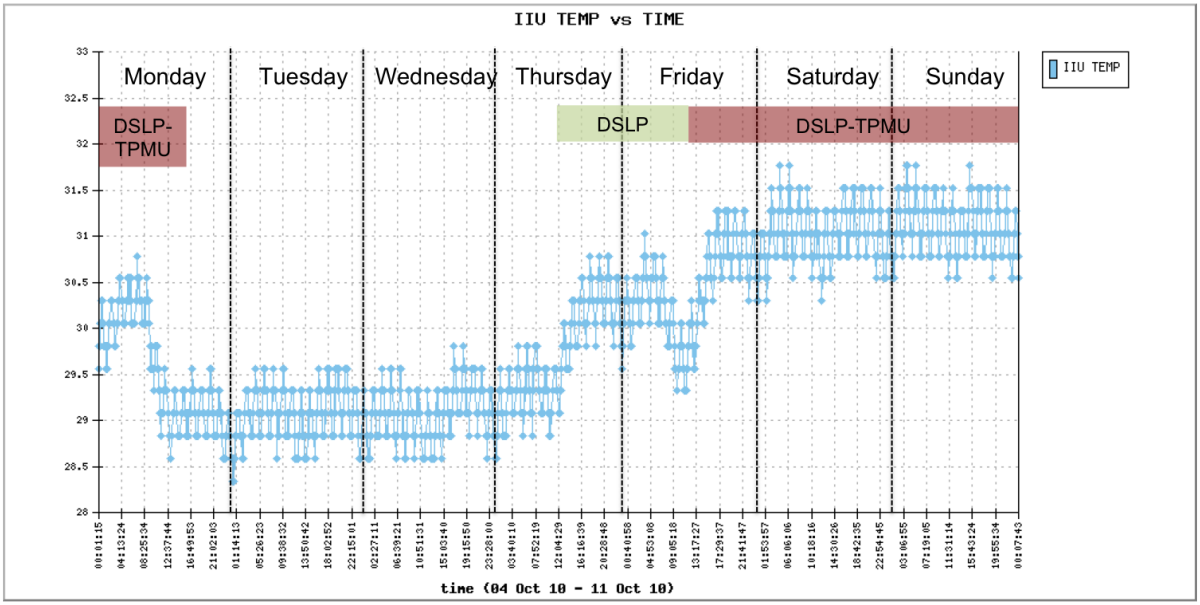
SWAP activities consist in
- a calibration campaign (LEDs, dark current)
- 24h with heater manually switched on by Redu,
- a calibration campaign immediately after the heater switch off
- a calibration campaign 90 min after heater switch off,
- another one 3 h after heater switch off

The spacecraft will be 3° off-pointed during the whole sequence (i.e. from 2010.10.12T09:50 to 2010.10.13T14:00).

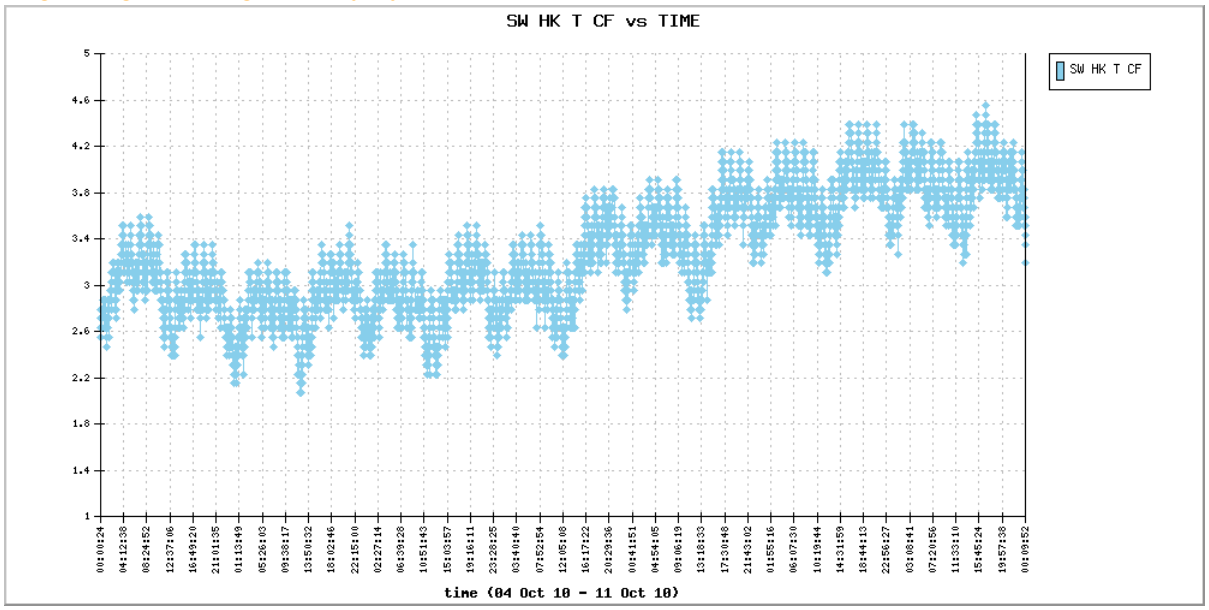
Lyra will stay on, acquiring science data for one orbit, then switching to idle mode (to still get HK).

SWAP detector and IIU temperature

The SWAP IIU temperature was nominal:



SW CF temperature progressively raised all long the week, like the other temperatures, following both a long term trend as well as short term increases when DSLP and TPMU activities started. The SWAP detector temperature now approaches 4C and is seriously degrading the image quality by thermal noise.



4. PROBA2 Science Center Status

Marie Dominique was operator during this week, with support of Carlos Cabanas on Wednesday 06 .

Nor LYRA neither SWAP pipeline underwent modifications.

The http://proba2.sidc.be/index.html/ website was updated.

5. Data reception & discussions with MOC

- There were three gaps in the HK due to glitch in the signal at Svalbard:
    - on Wednesday 06, from 07:09:38 to 07:34:38
    - on Wednesday 06, from 08:45:28 to 09:18:48
    - on Saturday 09, from 21:36:39 to 21:52:09

- A total of 7 SWAP packets were truncated or had an invalid CRC
- A total of 8 SWAP images were missing

Total number of images between 2010 Oct 04 0UT and 2010 Oct 11 0UT: 4923
Highest cadence in this period: 60 seconds
Average cadence in this period: 122.80 seconds
Number of image gaps larger than 300 seconds: 3
Largest data gap: 29.00 minutes (due to ESP test - another gap of 6 min was due to a missing image)

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