
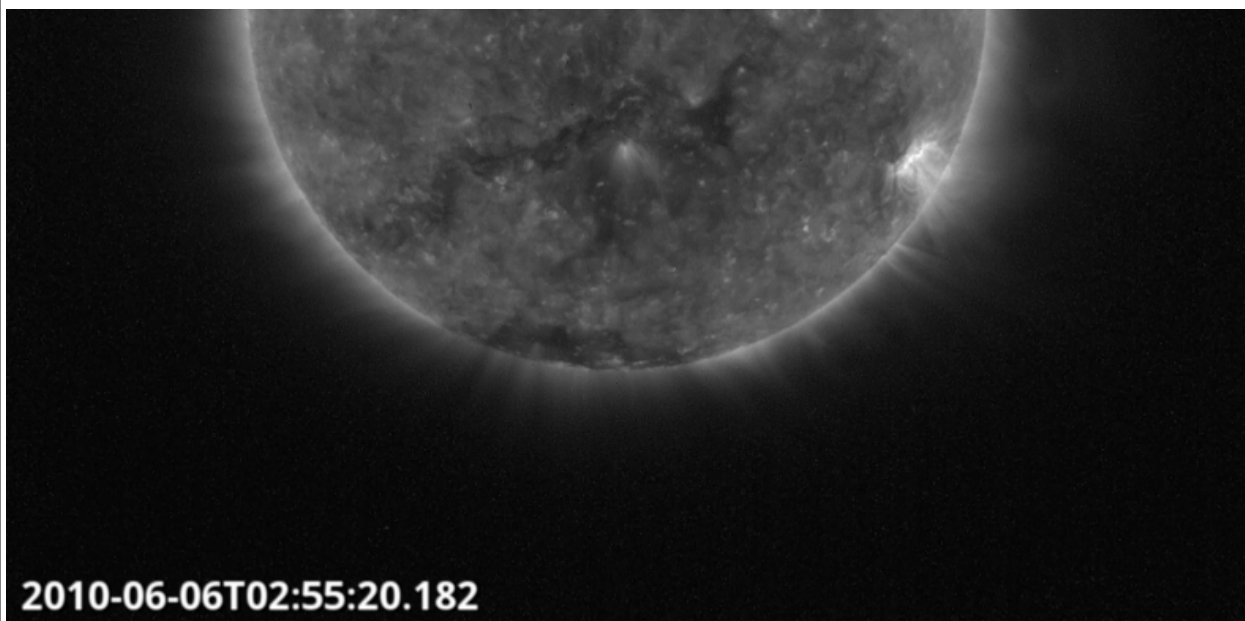
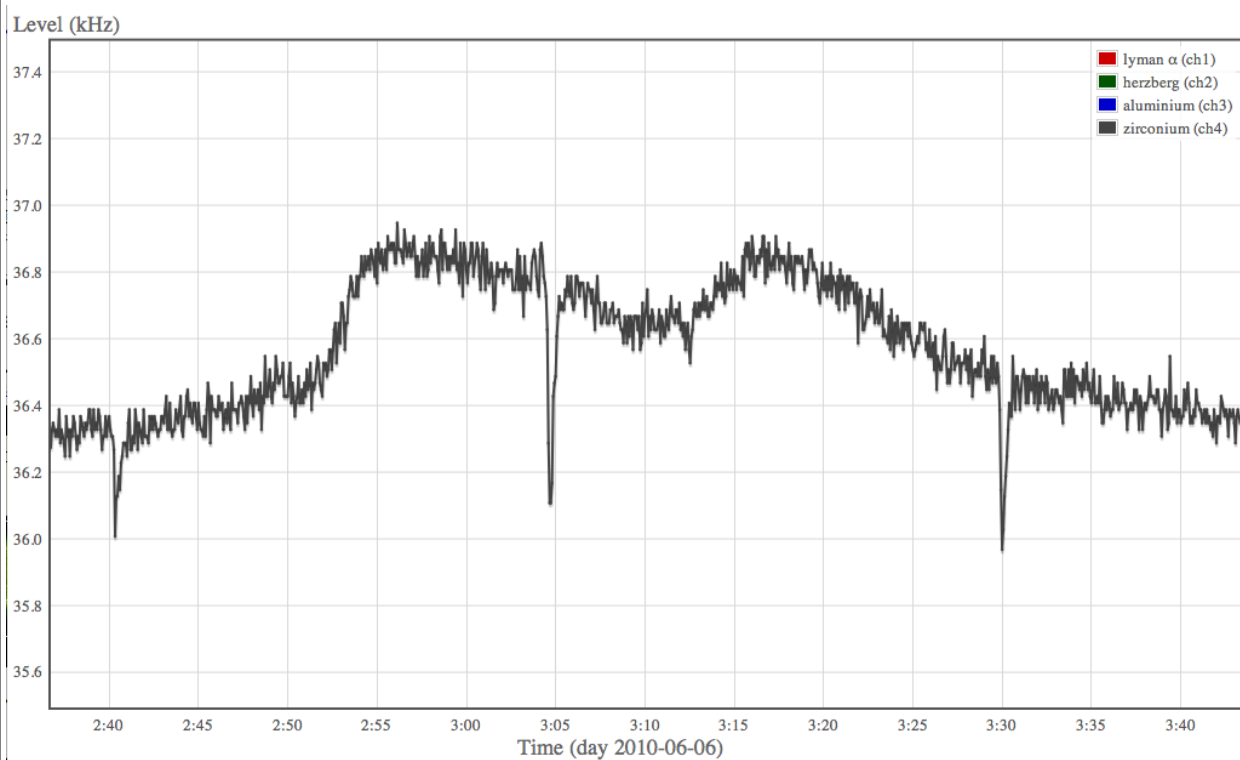


<p>P2SC-ROB- WR-012-20100531 Weekly Report # 012</p>	<p>P2SC Weekly report</p>	
<p>Period Covered: Date: Written By: Released By:</p>	<p>Mon May 31 to Sun Jun 06 2010 Wed Jun 10 2010 David Berghmans David Berghmans</p>	<p>Royal Observatory of Belgium PROBA2 Science Center</p>
	<p>To: LYRA PI, hochedez@sidc.be SWAP PI, david@sidc.be</p>	<p>http://proba2.sidc.be ++ 32 (0) 2 373 0 559</p>
	<p>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</p>	

1. Science

Space weather events

Solar activity gradually increased towards the middle of the period with the background solar X-ray levels peaking on June 3 and sunspot number peaking on June 5. Nevertheless only B-flares were observed, originating from NOAA AR 11076. As an example we show below a B1.4 flare (the downward peaks are of non-solar origin):



Outreach, papers, etc.

PROBA2 was presented at various outreach events:

- Public talk to "Astro Event Group" (Oostende), June 4, by D. Berghmans (ROB)

- Public talk to Department Werktuigkunde (KULeuven), June 3, by F. Preud'homme (Qinetiq)

To be explored

SWAP daily movies are now available at <http://proba2.oma.be/swap/data/mpg/movies/>
It was discovered that the high energy LYRA signal are disturbed when crossing the auroral ovals.

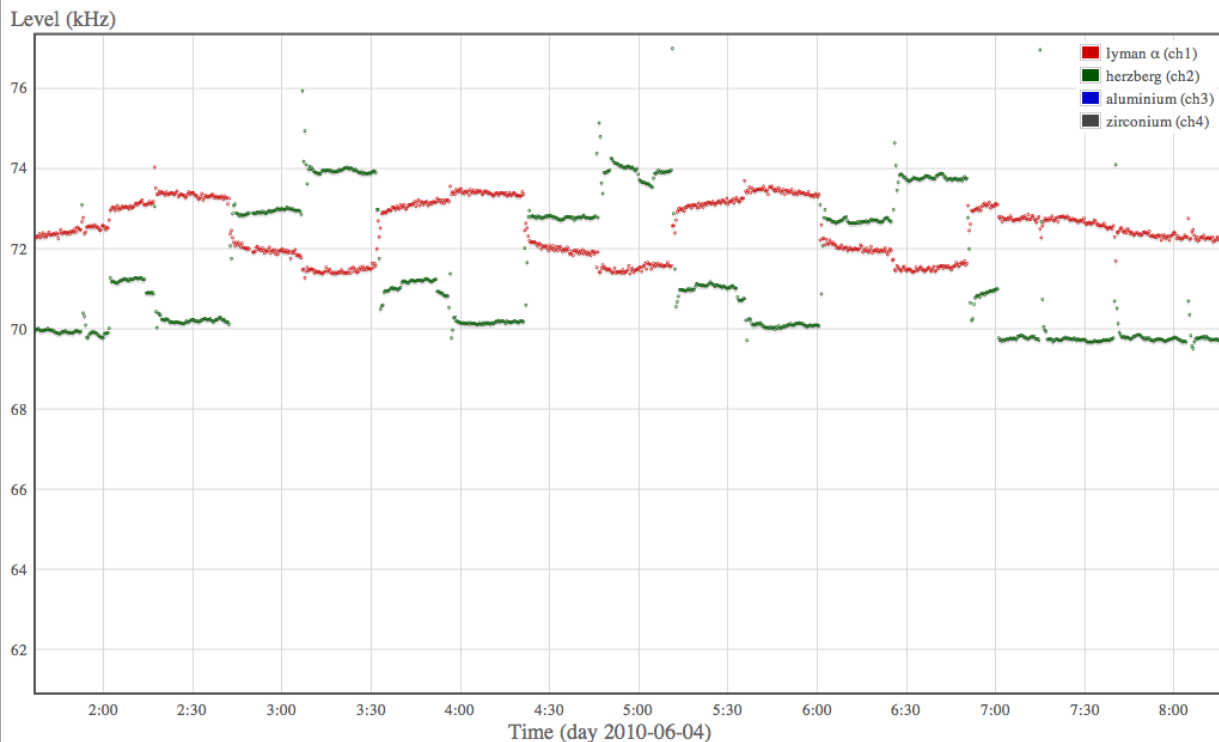
2. LYRA instrument status

Calibration

The planned LYRA calibration sequence was not commanded (P2SC operator overlooking).

IOS & operations

Funny jumps were seen in the LYRA signals at the time of the SWAP off-pointing. The observed pattern was interpreted as an assymetry in the pixel response.



3. SWAP instrument status

MCPM recoverable errors

The MCPM recoverable errors (MCPM NB RECOV ER) increased from 165 to 166 on 2010-06-01T09:20:30.

IOS & operations

SWAP was commanded in off-pointing (see below) between June 4 02:00 and 07:00 to catch an expected eruption. It seems the eruption happened at June 3 ~ 21:00, well before the start of the above sequence.

SWAP detector and IIU temperature

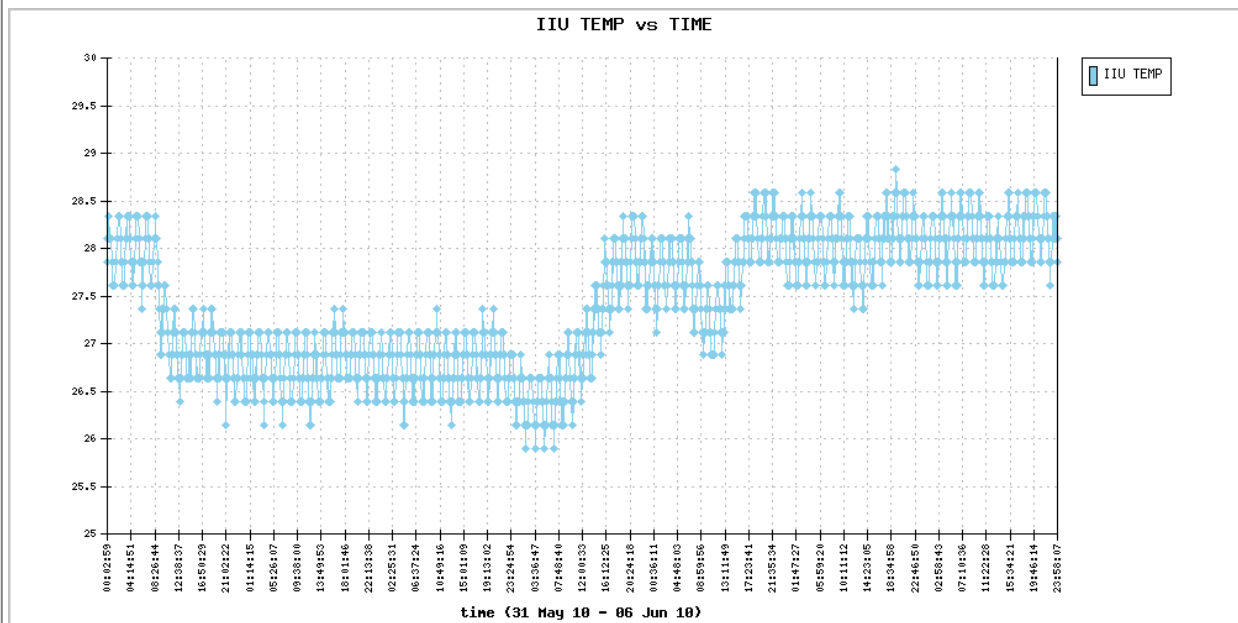
The IIU temperature showed jumps during the week which we cannot explain from the SWAP and LYRA operations. As already pointed out in the previous weekly report, this temperature rise seems to be related to

the DSLP and TPMU operations (extract from PROBA2_WR#10_2010.22.pdf):

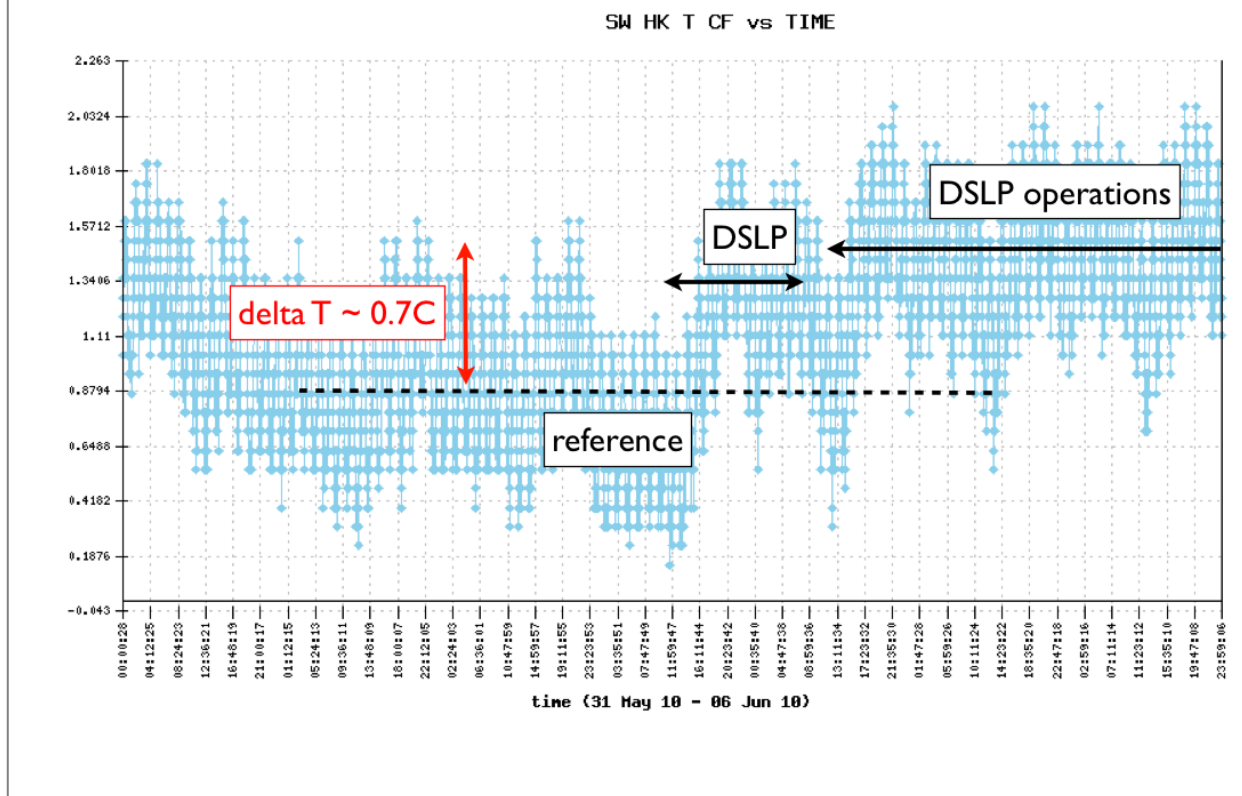
"

DSLP/TPMU : - The following combined DSLP/TPMU activity was scheduled:
DSLP TC sequence 37 from 2010-06-03T10:00:00z to 2010-06-04T06:12:03z
DSLP TC sequence 36 from 2010-06-04T10:00:00z to 2010-06-07T07:41:44z

"



This effect is also seen in the SWAP detector temperature (SW HK T CF): it seems that the SWAP detector temperature increases (and thus the image quality degrades) when DSLP operates.



4. PROBA2 Science Center Status

David Berghmans was operator during this week.

The LYRA EDG was operated manually. The reprocessing of all SWAP data since the beginning of the mission was prepared on a separate server.

The following tools were updated on the operational server:

Software name	Update	Date	Comment
OPSWEB	r3329	June 3 2010	upgrade of operator home page
libp2sc	r3337	June 3 2010	use g_strsignal
DCVC	r3333	June 3 2010	DCVC cleaning up + add message with all parameters checked (ADG)
PPT	r3322	June 2 2010	PPT: ppt_adp - make attitude kernel public

SWMPG	r3319	01/06/10 13:53:11	SWMPG: list2png - update; to be improved
UI/jobsTL	r3310	May 31 2010	change of display colors

5. Data reception & discussions with MOC

Passes

Pass 1406 (May 31): hick-ups (see SWAP and LYRA data coverage below)

Pass 1419 (June 1): all files were received twice. The BINLYRA and LYRA_AD files were identical, the second BINSWAP file was much bigger. The P2SC system handled the duplication and overwriting correctly.

In preparation of the reprocessing of SWAP data, Redu re-extracted data that was missing on our side. This concerned passes 183, 184, 185 and 999 (AD) and 178 and 999 (BINSWAP). Some of the received data was corrupted, but most could be processed successfully to fill our gaps.

Pass 1455 (June 5): hick-ups (see SWAP data coverage below)

Data coverage HK

No data gaps in the housekeeping data were observed.

Data coverage SWAP

5318 images were successfully received and processed during the period. An average image cadence of 114s was reached.

In BINSWAP_1406_RED3_2010.05.31T04.59.22.tar,
BINSWAP201005310240060000077290PROCESSED - Packet CRC does not validate

In BINSWAP_1455_SVA1_2010.06.05T16.00.54.tar,
BINSWAP201006051232030000081312PROCESSED - Packet CRC does not validate

Data coverage LYRA

All daily level 1 LYRA FITS files of the period are generated and complete except lyra_20100531-00000_lev1_std.fits which has a data gap between 01:30 and 04:30 because of the failed processing of BINLYRA_1406. (ERROR(/p2sc/bin/LY-TMR/lytmr.py@Line:229 pid 17321) size of this packet is 1726, but the expected value given in the header is 154)

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
DSLPL	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
SA	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