


P2SC-ROB-WR-052-20110314 Weekly report #052	P2SC Weekly report	
Period covered: Date: Written by: Released by:	Mon Mar 14 to Sun Mar 20 2011 Wed Mar 21 2011 Marie Dominique Anik De Groof	Royal Observatory of Belgium PROBA2 Science Center
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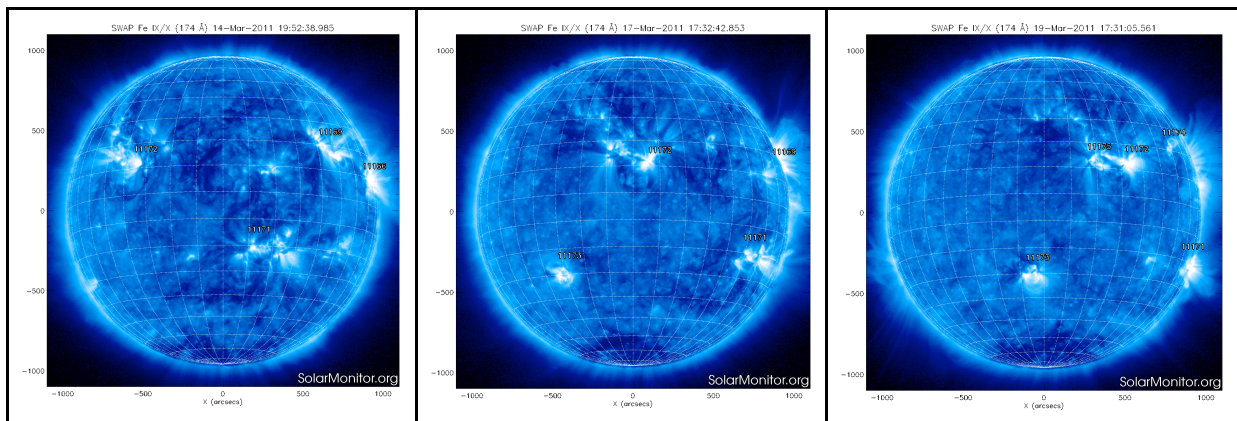
1. Science

Solar & Space weather events

After a very active week 10, the activity is progressively decreasing in week 11, with the disappearance of the most active regions behind the limb.

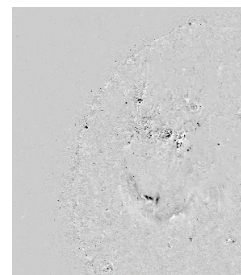
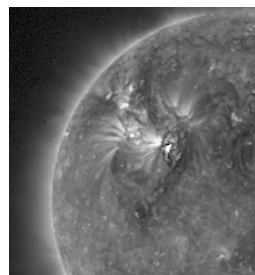
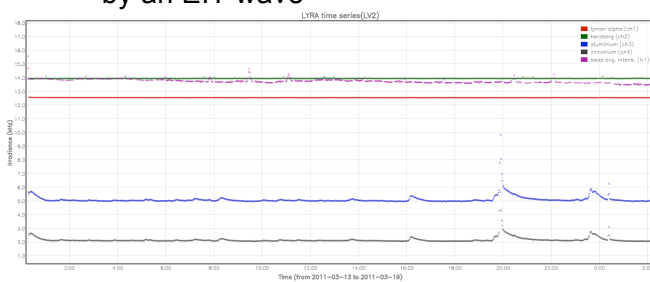
Day	B flares	C flares	M flares	X flares	CME in SWAP	global wave in SWAP	Max flare
14/03	8	5	1				M 4.2 at 20:00
15/03	7	6	1			1	M 1.0 at 00:20
16/03	2	3			1		C 3.7 from 18:00 to Mar 17 04:00
17/03	1						B 4.6 at 11:50
18/03	3						B 5.4 at 04:00
19/03	3				1		B 3.4 at 20:15
20/03	2						B 7.1 at 07:30

The following plot shows the Active Regions at the begin, mid and end of the week.

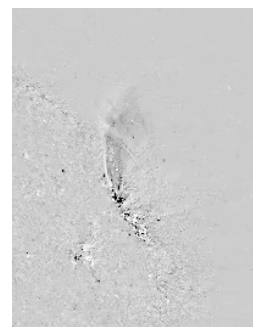
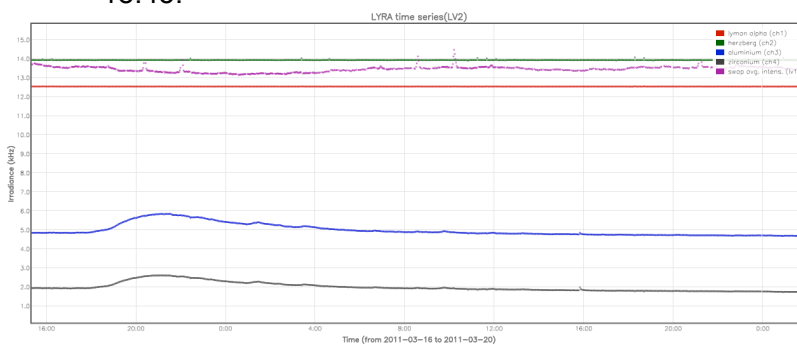


Some events of the week (attention, to fit on the same plot, Lyra channels have been multiplied by 2000, 20, 2000, 2000 respectively):

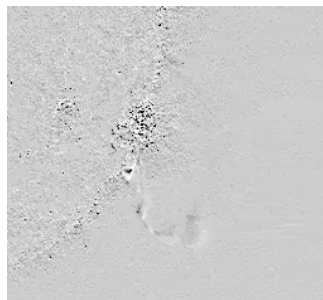
- Mar 15, 07:30, AR 1172: on SWAP we see a flare, which is not seen by LYRA, followed by an EIT wave



- Mar 16, starting around 18:30, AR 1169, C3.7 flare. This flare was very long (still visible on LYRA data till Mar 17 04:00). On SWAP, we also slightly see an associated CME at 18:43.



- Mar 19, 11:50, AR 1171, we observe an eruption associated to a CME in SWAP (nothing visible on LYRA)



Outreach, papers, presentations, etc.

- Claire Raftery submitted a paper on "Temperature response of EUV imagers on SOHO, STEREO, SDO and PROBA-2" to Astronomy and Astrophysics

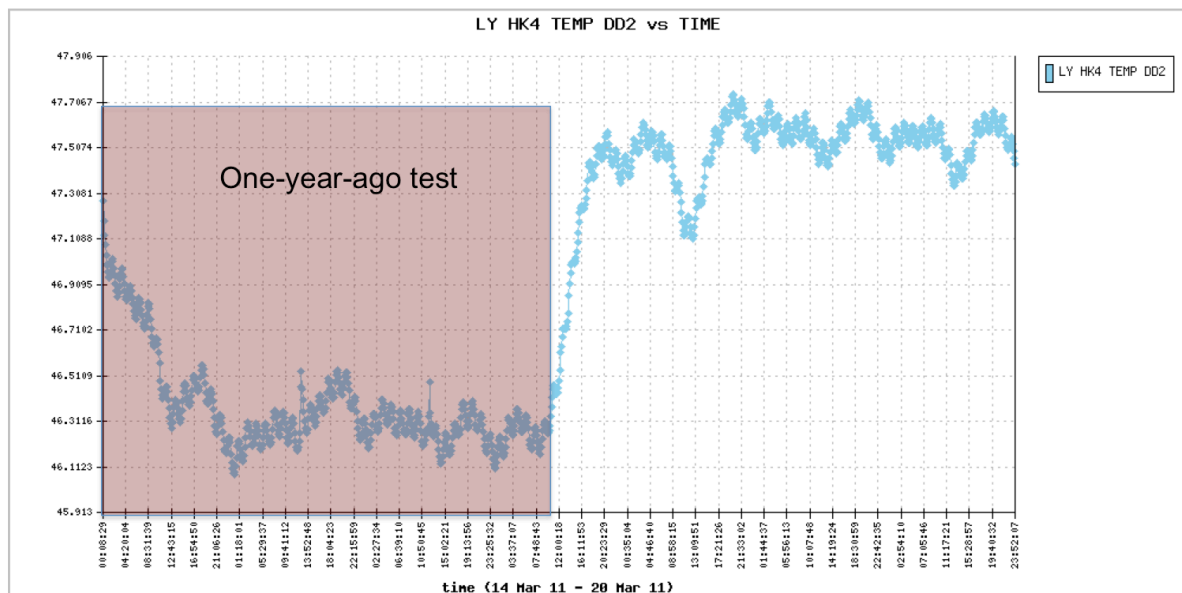
To be explored

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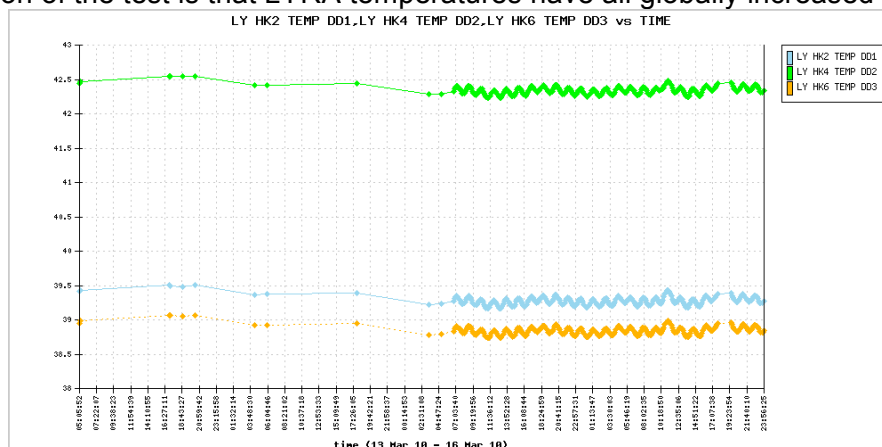
2. LYRA instrument status

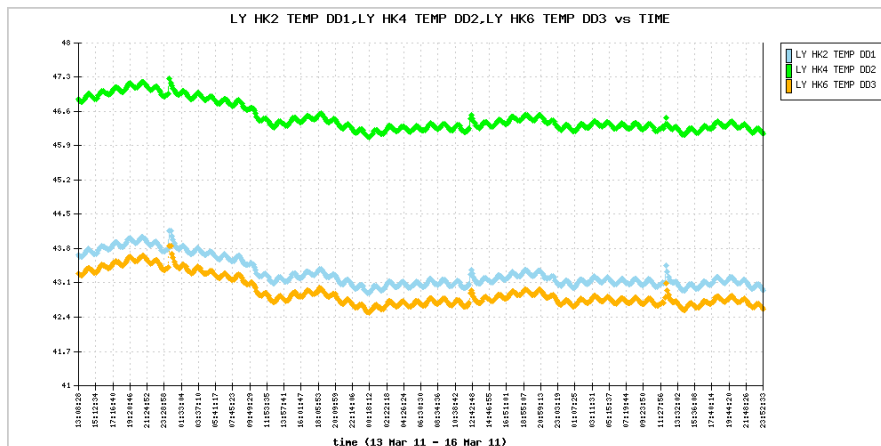
Temperature evolution

From Monday 12:00 (actually, LYRA activities started at 00:00) to Wednesday 12:00, a campaign was scheduled with the whole spacecraft operated as it was one year ago. During this test, LYRA was acquiring at 100Hz, and TDM, CCM, BCST, DSLP, and TPMU were off. This explains the difference of 1.5 °C with respect to the end of the week.



The conclusion of the test is that LYRA temperatures have all globally increased by 3.5 - 4 °C



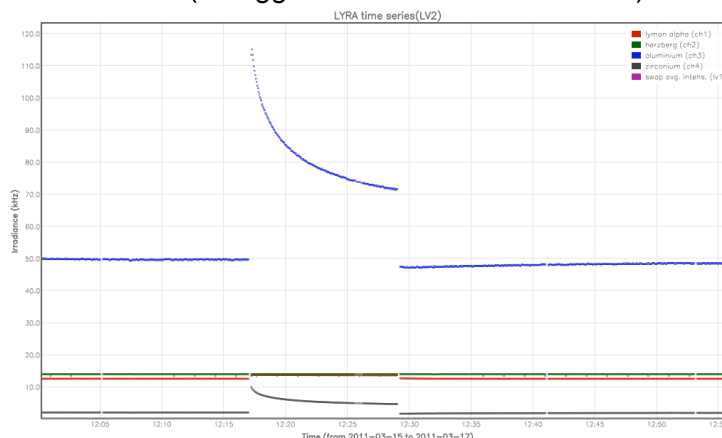


Calibration

No calibration this week.

IOS & operations

LYIOS00150 covered the one-year-ago campaign. During this campaign, from 2011-03-15T12:17:31.000Z to 2011-03-15T12:29:31.000Z, VIS LED unexpectedly switched on when coming back to nominal acquisition after a 5V VFC calibration. The problem was automatically fixed when the next TC was sent (to trigger the next VFC calibration).



ASIC reload on 2011-03-17T15:48:49.

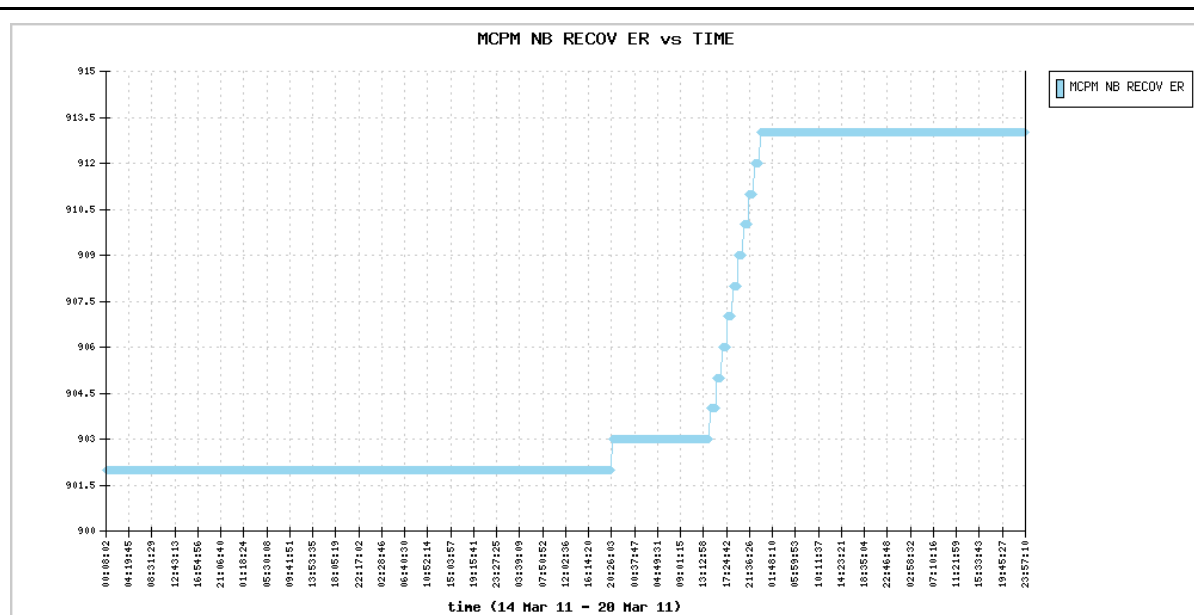
To be explored

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3. SWAP instrument status

MCPM errors

The MCPM recoverable errors increased during the week from 902 to 913. The number of MCPM unrecoverable errors is still 0.

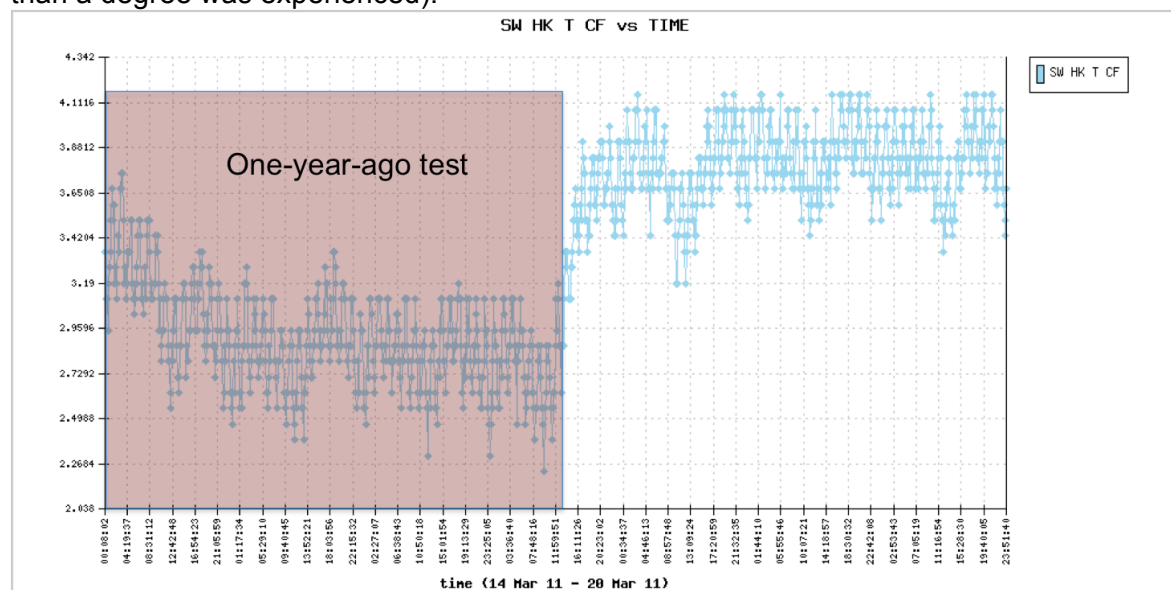


IOS & operations

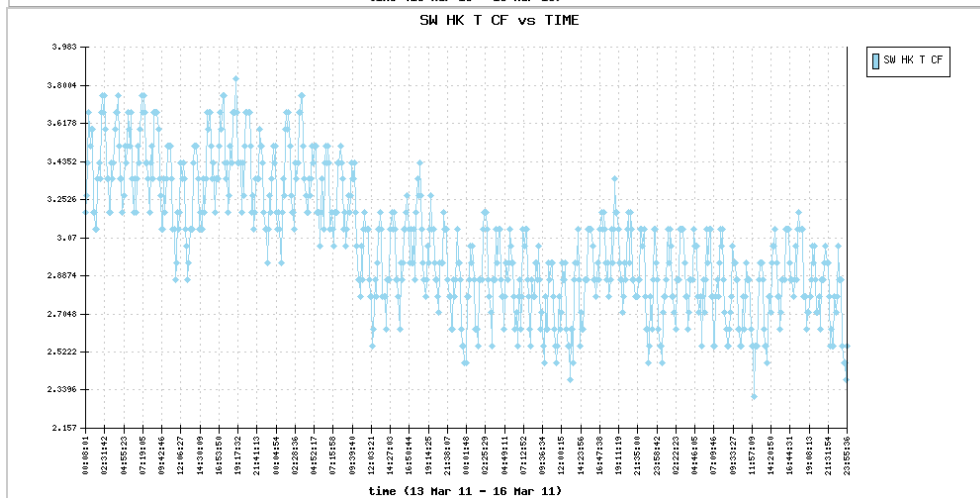
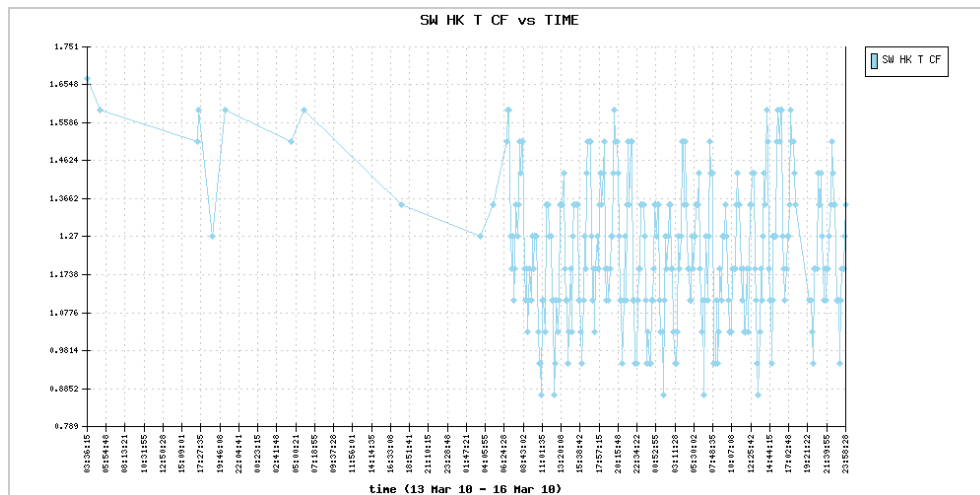
SWAP also participated to the one-year-ago campaign, which was commanded via IOS00267. It started on Sun 13, one day before LYRA, to be able to react in case a problem would have happened.

SWAP detector and IIU temperature

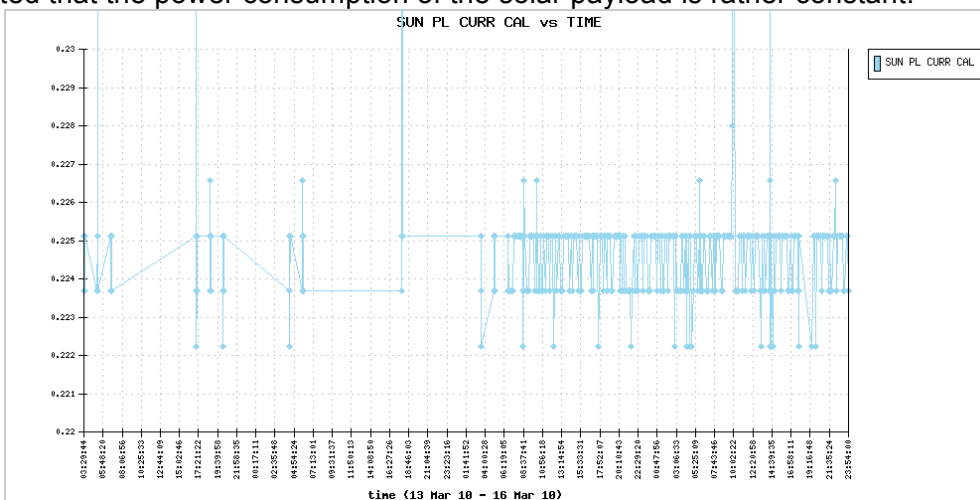
The SWAP Cold Finger Temperature was influenced by the campaign (a decrease of more than a degree was experienced).

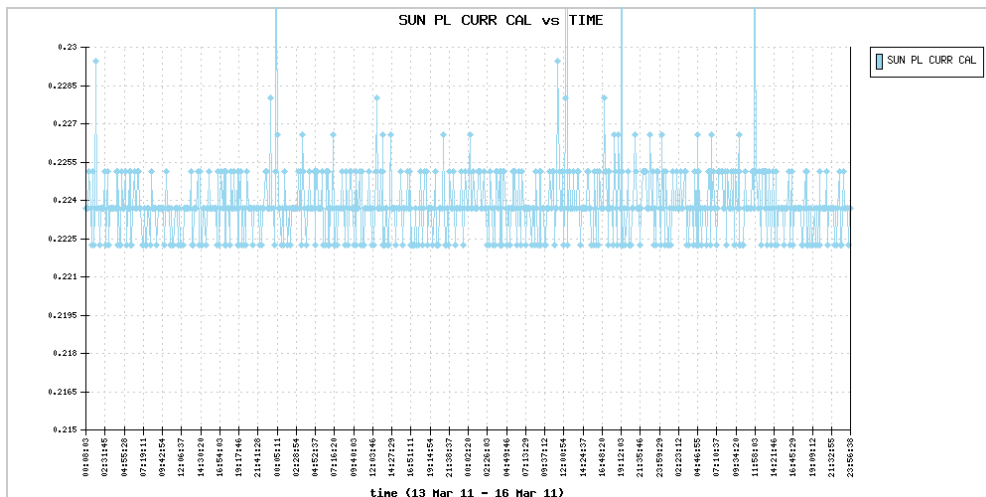


The conclusion of the campaign is that SWAP temperatures have globally increased by approx. 1.6°C as compared to last year.



To be noted that the power consumption of the solar payload is rather constant.





4. PROBA2 Science Center Status

Marie Dominique was operator this week.

- MCPM NB RECOV ER re-started to increase periodically.
- LYBSDG got updated to version 3931 on Mar 16 to change some paths and images formats. From now on Level 4 quicklook data are automatically produced by the LYRA pipeline. These PNG files are available from <http://proba2.sidc.be/lyra/data/3DayQuicklook/> and <http://proba2.sidc.be/lyra/data/Level4calibrated/>
- From Mar 16, LYTMR stores its ascii files in a temp directory (no update of the software, this was performed by a modification of the configuration file).

5. Data reception & discussions with MOC

Passes

No pass failed.

Data coverage HK

complete

Data coverage SWAP

Pass	Nb. images missing	Nb. images corrupted
4055		1
4060		1

4067	1	1
4076	1	1

At the end of the one-year-ago campaign, there was a gap of 28.33 min in SWAP data. The reason is that the priority number of the images acquired during the campaign was lower than nominally. Images from after the campaign have therefore been downloaded first, and a gap remained.

Statistics for complete week:

Total number of images between 2011 Mar 14 OUT and 2011 Mar 21 OUT: 4614
Highest cadence in this period: 50 seconds
Average cadence in this period: 131.06 seconds
Number of image gaps larger than 300 seconds: 57
Largest data gap: 28.33 minutes

56 gaps larger than 300 seconds were commanded during the one-year-ago campaign.

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
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
IU	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