

# Status of EPIC operations

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Leicester BOC meeting  
6-8 March 2012

- Nominal observations
  - See the Quarterly Status report at [http://xmm.esac.esa.int/external/xmm\\_news/mission\\_status/index.php](http://xmm.esac.esa.int/external/xmm_news/mission_status/index.php)
  
- Eclipse season; nominal.
  - 21 earth eclipses, one earth + moon.
  - Some planning and ground station complications lead one day to PN CCD at -72 °C (nominal -90), and MOS 1&2 CCD at -80 °C (nominal -120) another day. Its still within limits.
  
- RBI clock resynchronization every ~194 days
  - One on August 30<sup>th</sup> 2011
  - Other on March 11<sup>th</sup> 2012.
  
- MOS1 CCD6 periodic check: no changes

## ➤ PN new bad pixels

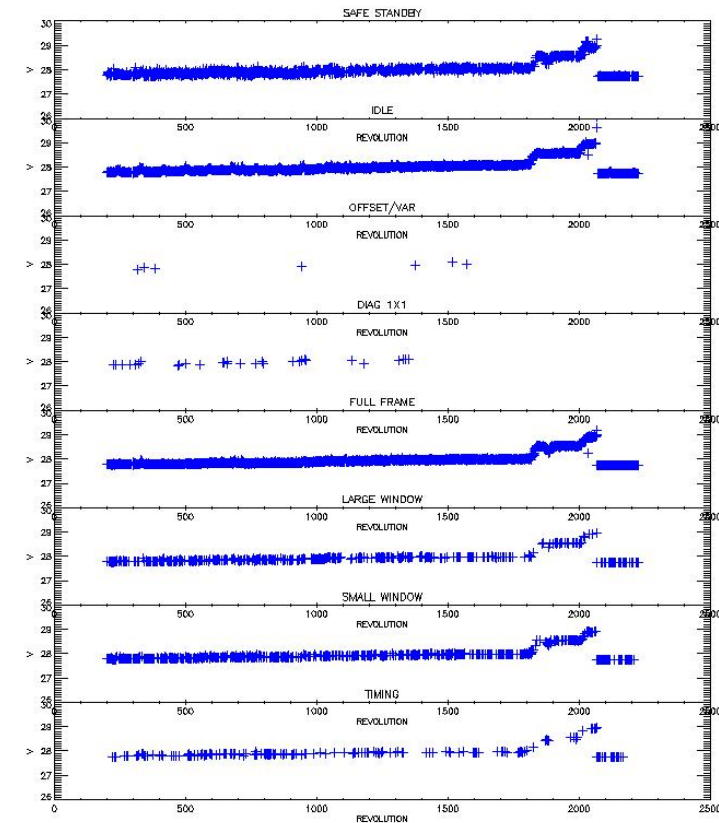
- In CCD 5 at (13,25) and (13,26), in [1..64, 1..200] RAW coordinate convention.
- First detected in May 2011, second on August.
- Set as bad on-board since revolution 2149 (2<sup>nd</sup> Sep)
- Tested on and after eclipse season on FF and ExtFF modes. See Cal\_Close at the beginning of revolutions 2203, 2206, 2216, 2217.

## ➤ PN Timing OC and Burst OC

- Is being tested a different way of do Timing and Burst. The difference is that the Offset is calculated with the filter wheel in Close (OC).
- Timing OC tested manually on Crab (obs id 0611181001) and Mkn 421 (0658800801).
- Timing OC and Burst OC semi automated (super ED) test on Cal\_Close on 4<sup>th</sup> Jan, rev 2211, Obs ID 9999993007 003 & 005.
- Full automated tests on rev 2228 (Timing OC, Cal\_Close), rev 2236 (Burst OC, Crab). More on rev 2239, 2243 (NRCO# 86, 87).

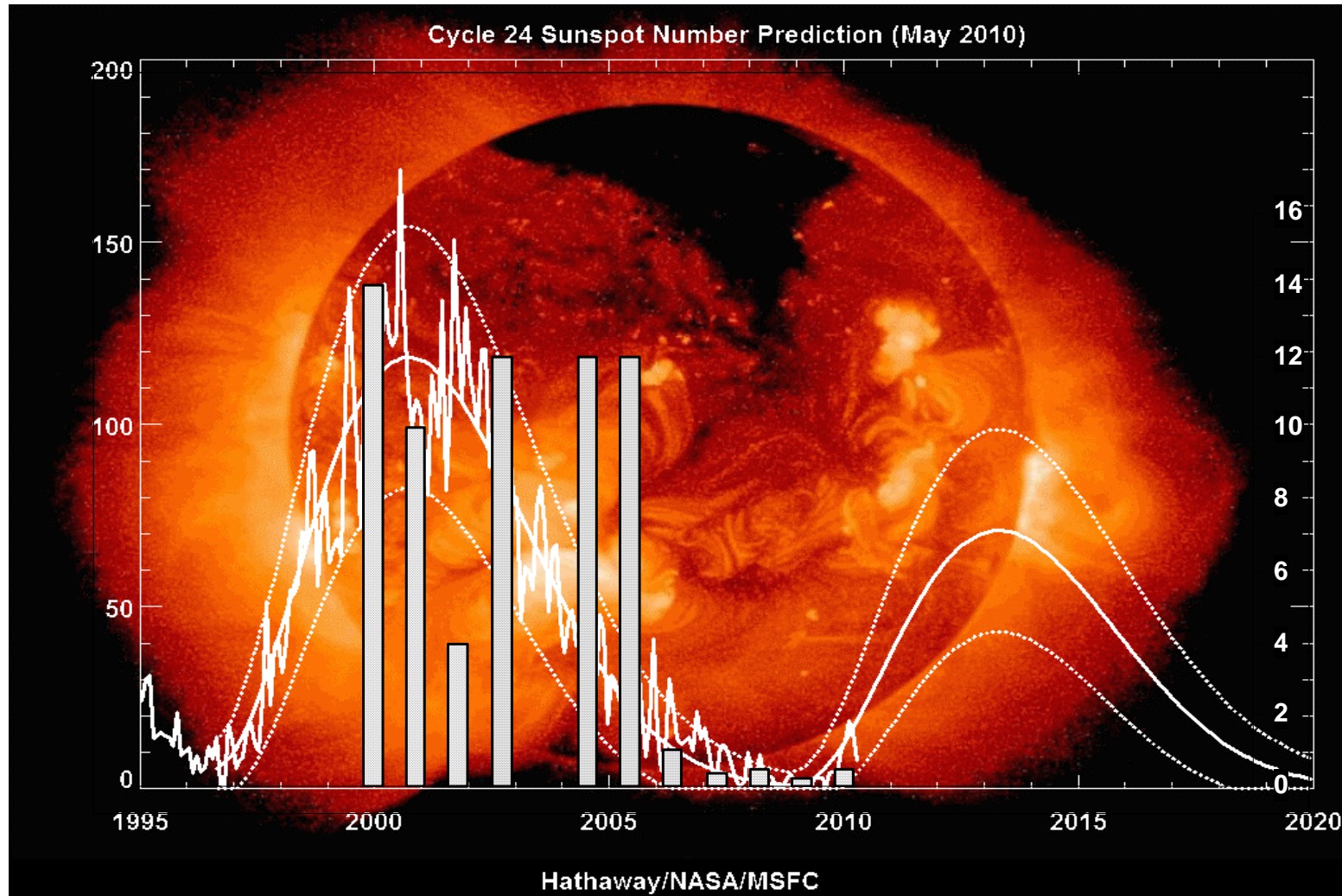
- New ODB 6.12
  - Released on 5<sup>th</sup> December 2011
  - PN new bad pixels now are nominal configuration.
  - PN Timing OC & Burst OC Activities and Super EDs. Ready to be use operationally when requested.
- MOS 2 using the B branch;
  - Every thing nominal.

K1080 C EMAE +28V LINE (Rev: 200-2226)

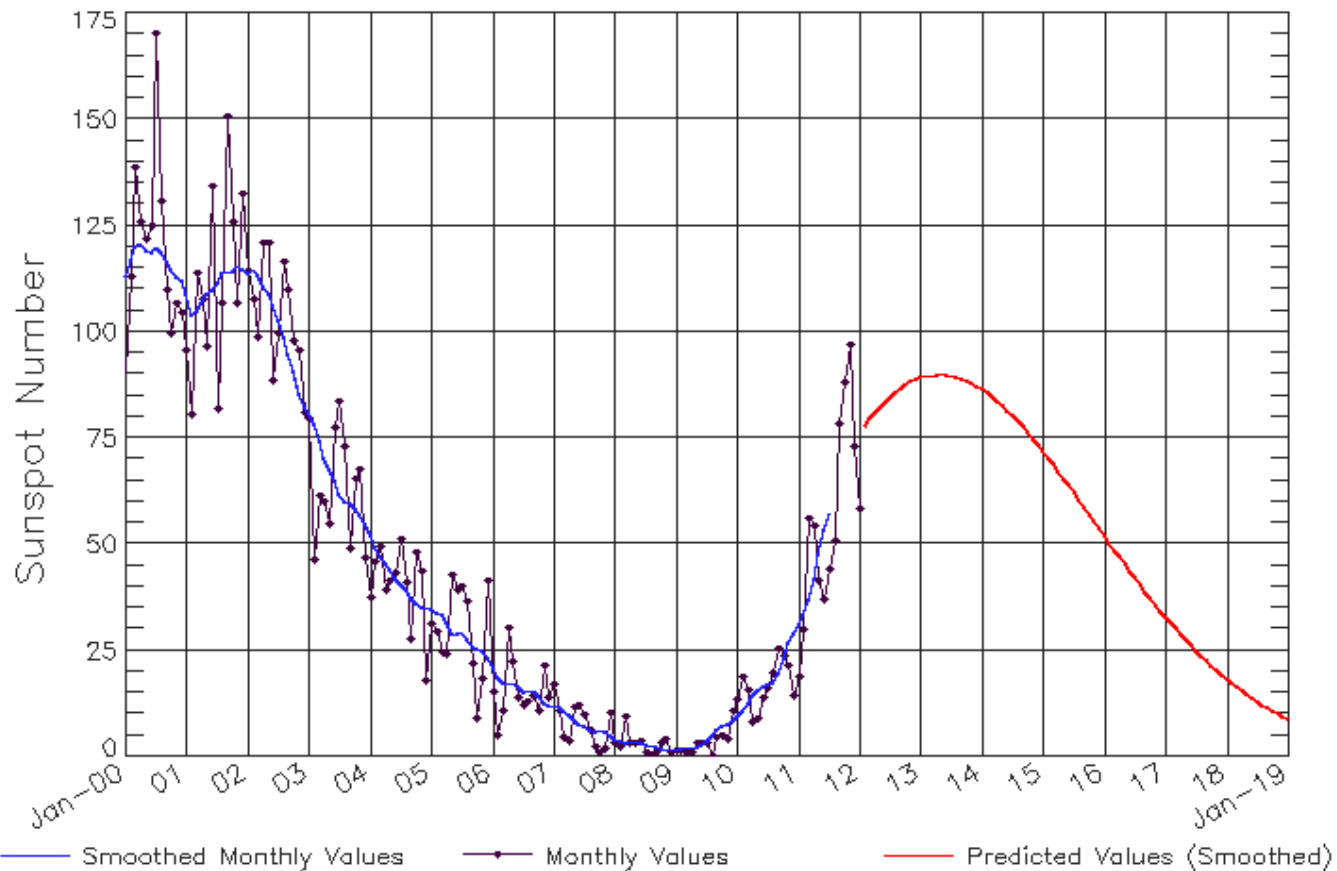


- Another false alarm REPEX saying CURRENTLIMITERSACTIVE in a not powered circuit, on 19<sup>th</sup> April 2011 (see NCR#133).
  - This time was on the DOOR HOP circuit into PN EPDH.
  - This is the first time that happen in PN. So far happened 2 times in MOS1 and 1 on MOS2A, ever in circuits not powered at that time.
  - No impact, as per procedure.
  
- On 19<sup>th</sup> May 2011 PN LOST HBR DATA SYNCHR.
  - HBR 4 lost the synchronization with reason 0 (no fifo full), i.e. with unknown reason.
  - No scientific telemetry was received from that quadrant since them, and until the next observation, that was OK.
  - Any action was required.

- MOS 1 voltage drop to 0 (24<sup>th</sup> Oct 2011)
  - EMAE +28V power line. The internal heater was unpowered and the temperature start decreasing, but the instrument continue observing some minutes until was powered OFF (safety manual procedure).
  - Recovered at switch ON.
  - 3<sup>rd</sup> time that something similar happen on the 12 years of mission.
  
- ESAM#7, on 10<sup>th</sup> December 2011
  - Caused by incorrect configuration at ground sw. The instruments were safe.
  - PN electronic substitution heater switch had a SEU trip OFF along the manual recovery operation. No impact thank to IOE intervention.
  - Eclipse special monitoring for prevent a repetition, but didn't happen.



ISES Solar Cycle Sunspot Number Progression  
Observed data through Jan 2012



Updated 2012 Feb 7

NOAA/SWPC Boulder, CO USA



- The Solar Storms (flares, CMEs, high radiation in general) are returning
  - June 2011, days 7<sup>th</sup> and 8<sup>th</sup>
  - January 2012, days 23<sup>rd</sup> to 26<sup>th</sup> and 27<sup>th</sup> to 30<sup>th</sup>
  - Another 5 events with lower impact along 2011
  - And more are expected.
  
- Each time the instruments need to be safe until the storm calm down.
- Also are expected more SEUs (LCL trip off, memory corruptions, etc)
  
- The procedures are ready (we were already here on the last solar maximum! 😊 )
- And the time not usable for science is tried to be used for calibration.

- Really well, being older than designed
- And event testing new instrument modes.



# xmm-newton