

Status of EPIC operations

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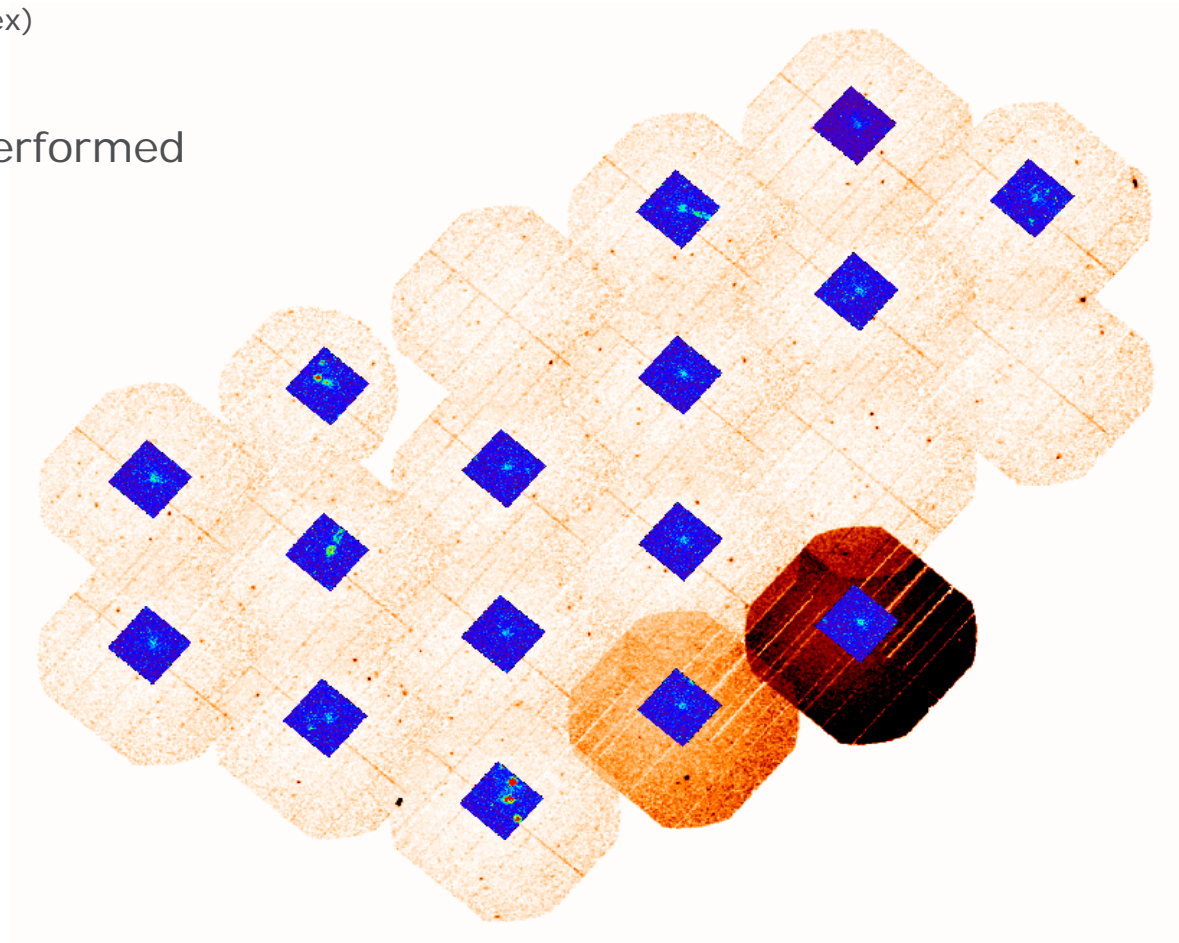
- Routine operations
- New DB items
- Special operations
- Not nominal events
- AOB's

- Nominal observations
 - See the Quarterly Status report at http://xmm.esac.esa.int/external/xmm_news/mission_status/index.php
 - No time lost due to the instruments !

- Eclipse season fully nominal.
 - 19 earth eclipses, any lunar eclipse.
 - On each the instruments are switched OFF and ON

- RBI clock resynchronization every ~194 days
 - One on July 14th 2009
 - Other on January 24th 2010.

- MOS1 CCD6 periodic check: no changes
 - CCD still full of AFFA (hex)
- First Mosaic observations performed



- No significant changes for EPICs

- Includes :
 - Automated MOS SW & LW Diagnostics (see later)
 - First items for automate the Eclipse time tagged commands preparation
 - Some preparation for use the redundant instruments if needed (imminent ecl case)
 - Correction of 1 bug
 - Simplification of spacon work ...

- Routine calibration, one per year

- A lot of manual work
 - Configure for Diagnostic
 - Configure for Small Window
 - 10 Diag exp in CCD 1
 - A Diag exp per peripheral CCD (FF)
 - Configure for Large Window
 - 5 Diag exp in CCD 1
 - A Diag exp per peripheral CCD (FF)
 - Restore nominal configuration

- Automatised as an Activity

- **NRCO#81:** CTI calibration using internal CAL source and SNR.
 - Purpose: assess whether an extended SNR can be used together with the internal calibration source for CTI evaluation
 - Executed in the period from 24th to 26th October 2009 (rev 1809).

- **NRCO#82:** Monitoring of MOS1 CCD1 column offset induced by meteorite.
 - Executed in rev 1802 (11th October).

- **OCR#2000:** Test of noise reduction technique, requested by Instrument team.
 - Consisted in repetitive start and stop of MOS 1&2 exposure every 10 minutes.
 - Executed manually in Rev 1732, on 25th May 2009

- **EPIC-MOS slew exposures:** every four revolutions all slews are executed with FW in Closed position as opposed to Close_cal (no changes for PN).
 - This implied a duplication of RCF's; swap between the two RCF's still to be automated
 - In place since 29/05/09, first rev 1750

- MOS 1 current limiter alarm in not used circuit => SEU
 - The instrument was switched OFF as per procedure
 - Later was switched on without any anomaly
 - 11 Feb 2010, NCR#133, no science time lost.

- MOS 2 science telemetry stop being generated => sequencers hung up
 - Solved by procedure via exposure stop and restart
 - 4 Dec 2009, lost about 5½ hours of science time.

- PN to Safe Standby due to safety time tagged command not deleted on time.
 - 14 Oct 2009, no science time lost.

- Any of this have further consequences.

- All EMAE and EMCR voltages go up 1 Less Significant Bit (LSB), i.e. the minimum that is possible measure in the telemetry.
 - K1076 C EMAE -6V LINE
 - K1079 C EMAE +14V LINE
 - K1082 C SIGNAL GROUND
 - K1086 C EMCR +5V LINE
 - K1089 C EMCR +13V LINE...

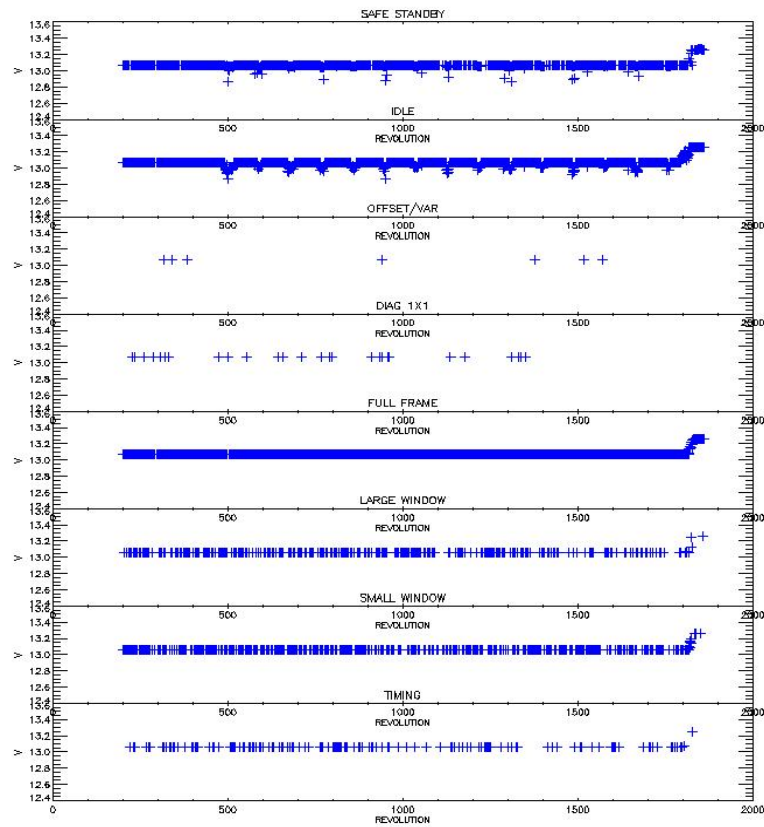
- No change in EMDH values

- Values still far away from the limits.

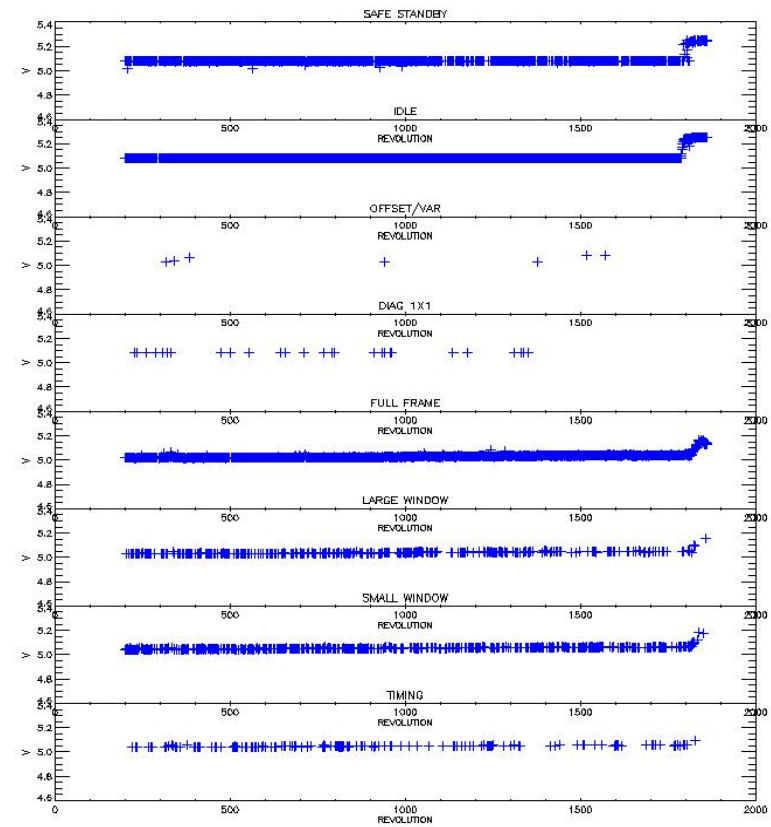
MOS 2 voltages change



K1079 C EMAE +14V LINE (Rev: 200-1859)

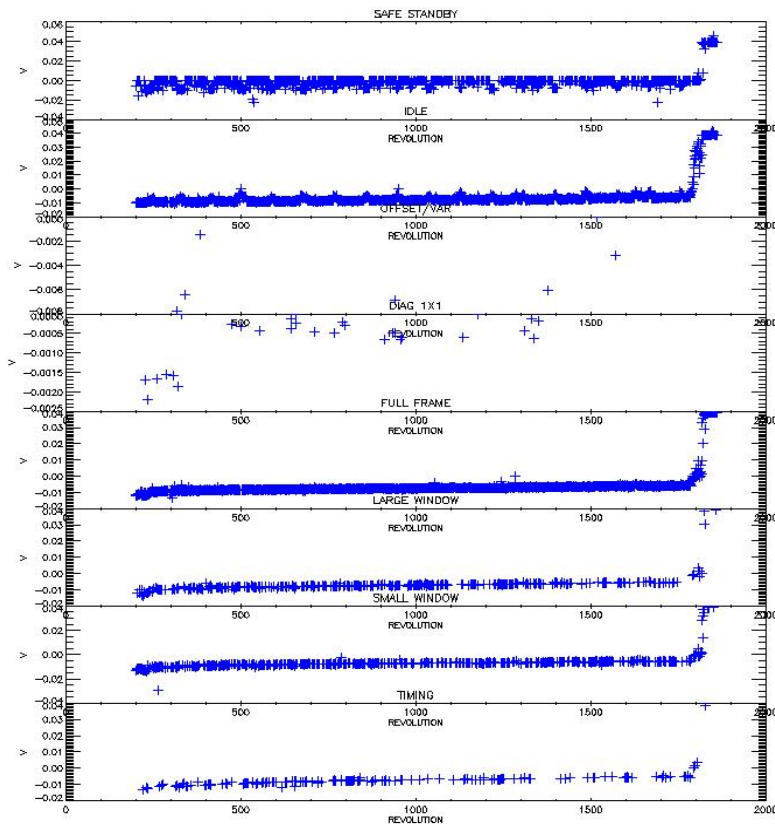


K1086 C EMCR +5V LINE (Rev: 200-1859)



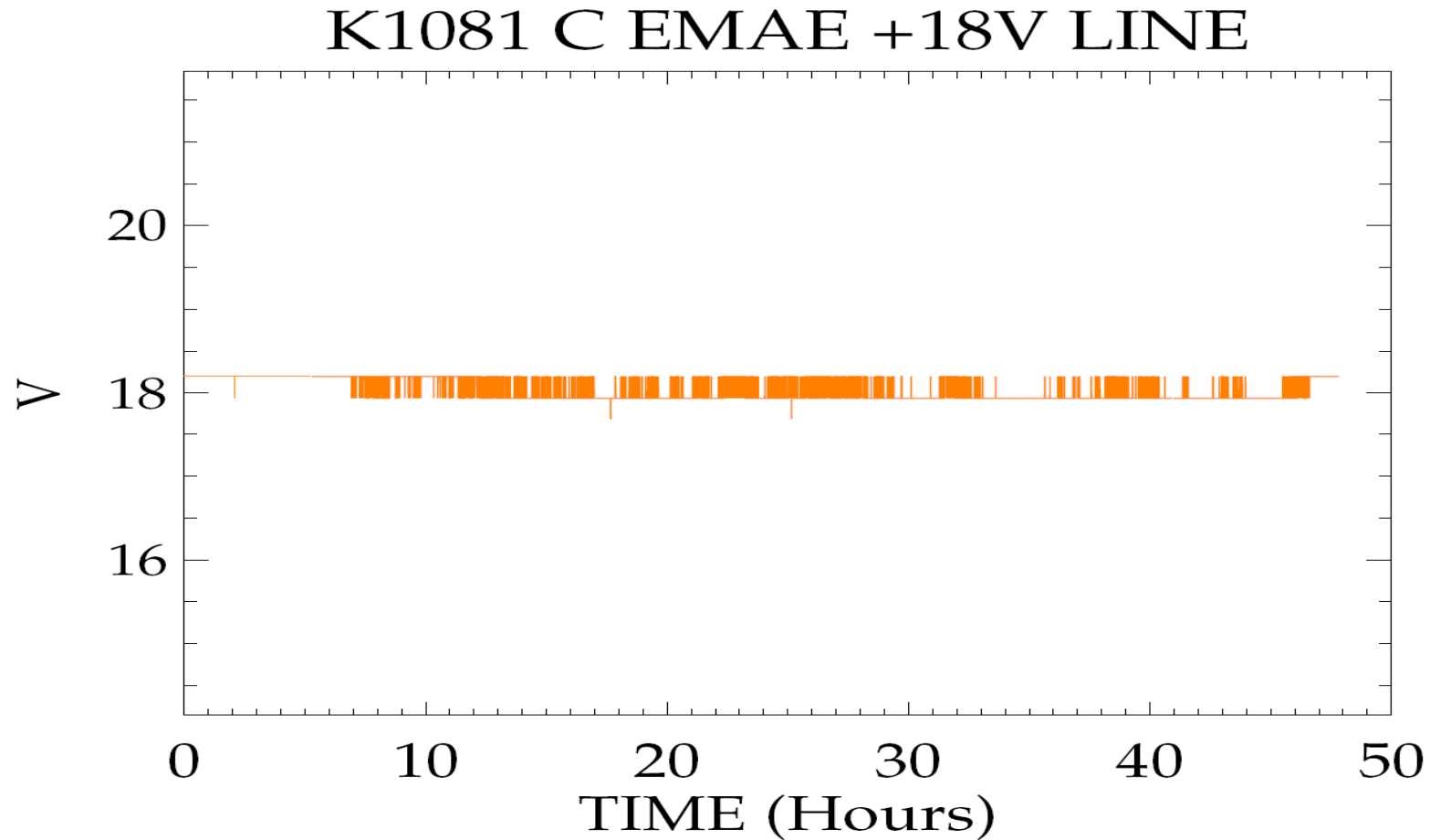
MOS 2 voltages change

K1082 C SIGNAL GROUND (Rev: 200-1859)



- Not so bad as appear
- Scale
 - Up +0.04V
 - Down -0.02V
 - Span: all the mission (10 years)
- caution, show statistical effects

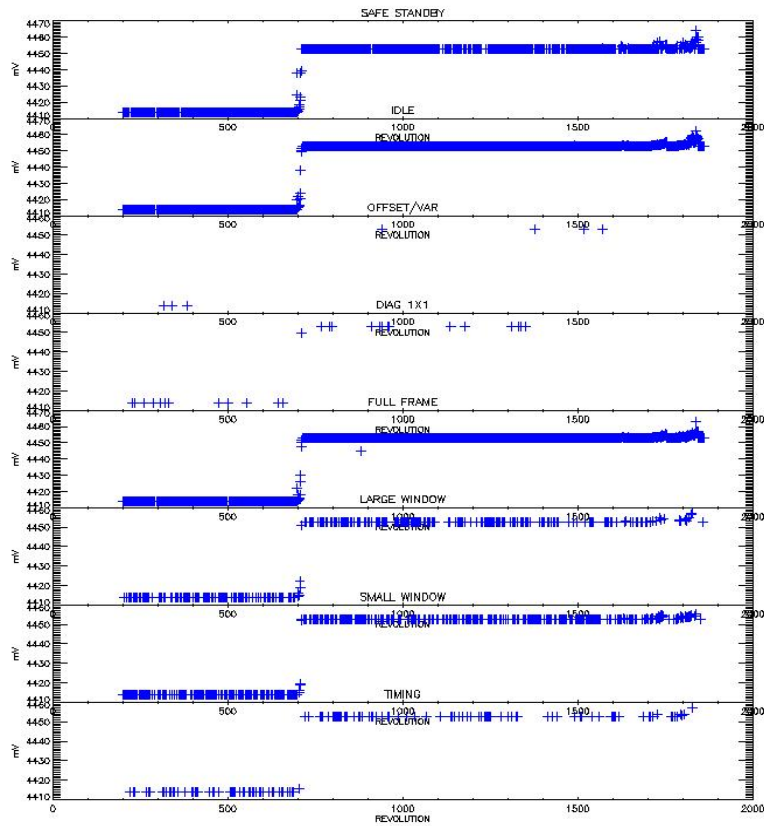
- Only 1 revolution (48 hours)



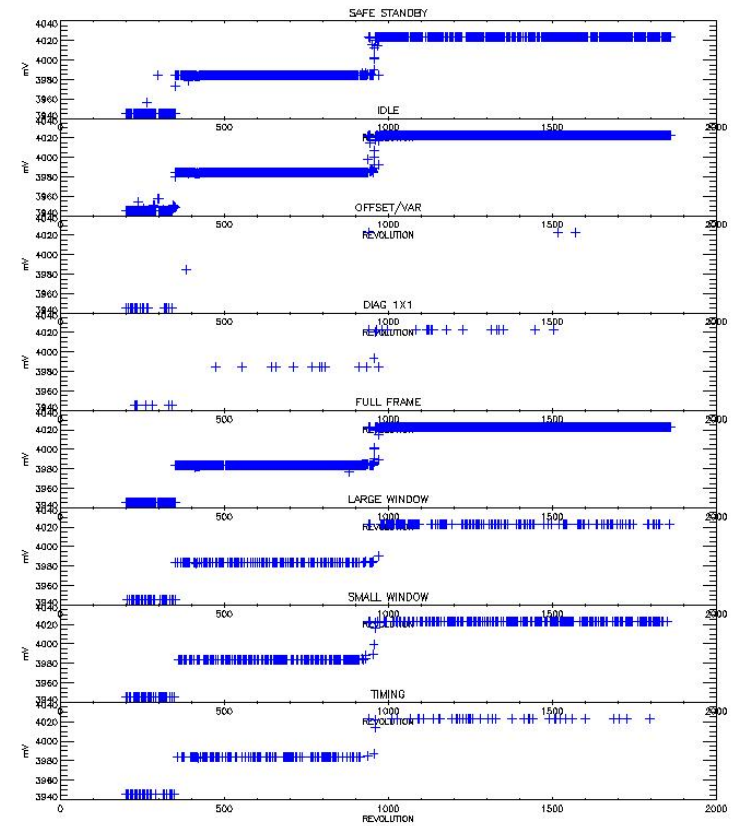
Other cases from the pass



K1313 A RAD MON FET2 (Rev: 200-1859)



E1313 A RAD MON FET2 (Rev: 200-1859)



- Still alive and doing well
- And that after 10 years of almost continuous work!

