**XMM-Newton and INTEGRAL weekly
Mission Operations Report**

**XMM-INT-WOPS-24_21-22**

**Issue 1**

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## 1. Weekly report

| | XMM | Integral |
|---|---|---|
| Main activities | <ul><li>Nominal Operations</li><li>Automation of Replenishment</li><li>CDMU patch testing</li><li>Automation System 3.4.1 release (16. & 22.5.)</li></ul> | <ul><li>Routine science operations</li><li>SPI annealing completed with Camera On 28th May</li></ul> |
| Status and performance of S/C | <ul><li>Nominal</li></ul> | <ul><li>Manual transponder swaps following RF switch anomaly</li></ul> |
| Status and performance of Ground segment | <ul><li>MOIS performance issues are under review</li></ul> | <ul><li>Cumulative issues with ISDC</li></ul> |
| S/C Anomalies | <ul><li>None</li></ul> | <ul><li>INT_SC-752 SPI PSD Autonomously Transitions to Standby during SPI annealing</li></ul> |
| G/S Anomalies | <ul><li>XMM-1570 Double start of X_CRP_EM1_1500 during automated recovery after radiation</li><li>XMM-1571 ESOC Wide General Comms Problem</li></ul> | <ul><li>INT-3937 Cumulative issues with ISDC – analysis/discussions ongoing</li><li>INT-3945 ESOC Wide General Comms Problem</li></ul> |
| Future activities planned | <ul><li>NSM via MOIS and CDMU patch</li><li>Cebreros migration</li><li>Webserver and NRT Analysis/Monitoring migration</li></ul> | <ul><li>FOP Release 5.0</li><li>Automation of Transponder swap operations</li><li>Automation of ground station operations (EVFM)</li><li>Automation of IREM recovery</li></ul> |

## 2. Detailed weekly operational events

note: all times are Zulu (in brackets DOY)

### 2.1. XMM

- 20/05/2024 (141) 04:42:30   SPACON Shift H/O checks have been carried out (XMM_FOR_0007): notes: Warning "Beep" not working; same on 21/05/2024 (142) at 04:42:21
- 20/05/2024 (141) 08:43:06   XMCSA:TCOserver: "TEDV_SET_OVERFLOW" multiple instances; Re-started TCOserver on XMCSA
- 20/05/2024 (141) 11:42:20   MOIS memory utilisation 3.2GB; Restart MOIS as per OI#4642
- 22/05/2024 (143) 15:05:00   MOIS machine swap from IXAUTO-D to IXAUTO-H, with both having now installed AS 3.4.1
- 23/05/2024 (144) 23:07 Double start of MOIS procedure X_CRP_EM1_1500 during automated recovery after radiation after 4 cycles of recovery -> radiation trigger -> recovery with no issues (s*ee **AR XMM-1570**)
- 01/06/2024 (153) 16:50:00   ESOC Wide General Comms Problem: Phones, Internet & MOC-SOC link down. Issue has been escalated.
    - o 02/06/2024 (154) 05:08 Phones & MOC-SOC link still down. Internet working again.
    - o 02/06/2024 (154) 13:35 Nominal service was resumed
    - o s*ee **AR XMM-1571**

### 2.2. INTEGRAL

- 23/05/2024 (144) 08:19:54 SPI Annealing #42:
    - o Start of active cooling phase with 80K target:
    - o 08:19:54 FCP_SPI1_0160 - SPI to CONF mode
    - o 08:25:12 FCP_SPI1_0070 steps 1-4.6
    - o 08:45:16 FCP_SPI1_0071: Compressors increase to full stroke
    - o 10:00:45 FCP_SPI1_0072: Safety TT TCs uploaded to reduce Compressor Stroke to 37 for execution on DOY 148 at 18:45Z
    - o 10:03:44 FCP_SPI1_0130 - SPI to PHOTON mode
- 24/05/2024 (145) 11:40:16 FCP_MCS_0010 Operations Swap IMCA to IMCB requested by analyst. This action was carried out in order to mitigate any further problems connected to OLF delivery to ISDC, until a detailed investigation by SWS has been carried out. *(see AR INT-3937)*
- 26/05/2024 (147)  04:56:44 OEM: multiple 1024, 242 Exception, Spi Failure in Analysing HSL Data. 6 times per sec. *See INT_SC-752 SPI PSD Autonomously Transitions to Standby during SPI annealing*
    - o 05:25:21 After reading cross ref and performing checks, which show psd went to standby, call oncall who advises to speak with s/s engineer as SPI is in annealing
    - o 06:03:55 FCP_SPI1_0160 to send SPI to CONF mode. FCP_SPI1_0171 to load PSD nominal configuration. FCP_SPI1_0130 to send SPI back to PHOTON. Performed with s/s engineer. PSD back on, OEMs stop.
    - o 18:56:50  TPF:  ES1710_AF-CH-OO_def-grnd_0001.TPF as per OI #2509 failed "ACCEPTANCE" due to being still inside RAD BELT; OEM: TC REJECTED "SPI1 TC NOT EXECUTED"
    - o 19:34:23 OI #2509: TPFs successfully uplinked by Spacon when EU0392A<127K
- 28/05/2024 (149) 07:11:24 SPI annealing #42: switch on of GeD
    - o 07:11 FCP_SPI1_0160: SPI back to CONF mode
    - o 07:15 FCP_SPI1_1700: Enable IASW reaction to cold plate (at 105K)

- o 07:17 ED EEXIT-04: commands 2-4 to enable the events (SE, PE, ME) and spectra acquisition (VETO ONLY) by the DFEE
- o 07:20 FCP_SPI1_0179: prepare switch on of camera HV
- o 07:31 FCP_SPI1_0179: GeD HV to 0.5kV
- o 07:38 FCP_SPI1_0179: GED HV to 1.0kV
- o 07:44 FCP_SPI1_0179: GED HV to 1.5kV
- o 07:50 FCP_SPI1_0130: SPI to photon
- o 08:06 FCP_SPI1_0160: SPI to conf
- o 08:07 FCP_SPI1_0179: GED HV to 2.0kV
- o 08:14 FCP_SPI1_0130: SPI to photon
- o 08:38 FCP_SPI1_0160: SPI to conf
- o 08:39 FCP_SPI1_0179: GED HV to 2.5kV
- o 08:44 FCP_SPI1_0130: SPI to photon
- o 15:35 FCP_SPI1_0070: Step 6.3 set 80K ACTIVE (EC0399) on TM spacon after stroke decrease to 37.
- 30/05/2024 (151) 15:19:00 OI #2512 SPI annealing FCP_SPI1_0090 step 17.5: FCP_SPI1_0160, FCP_SPI1_1700, FCP_SPI1_0130 with oncall
- 01/06/2024 (153) 16:47:31 Loss of TM from KIR. TM (IMCA/B) links go unbound. TC link ok. Estrack reports hit on the MPLS lines. They suggest rebinding. Unable to close or abort links on NIS-B (Prime). Reason: "action failed". Good rebind/TM on IMCS/NIS-A. FCP_MCS_1205/4 - NIS Shutdown/Start-Up. Good TM/TC by 17:02 Impact: OSL #27840027 missed from timeline.
  - o 16:50:00 Phones/Internet down at ESOC. Issue has been escalated. On-call Forwarding is off. ON-Call: TF. FD: AM. ***See AR INT-3945 ESOC Wide General Comms Problem***
  - o 17:40:28 Manual slew 2784_0501_M.CSL from PID #27840027 to #27840029
  - o 17:59:11 FDS: TPF 2784_0502_A.OSL applied on A/S to update slew 27840030. ACOS re-enabled.