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

XMM-INT-WOPS-24_15-16

Issue 1

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1. Weekly report

	XMM	Integral
Main activities	- Nominal Operations - YAT uplink test (16.04.2024) - Lela tests on S7 - Manual spacecraft recovery without propellant procedures - CDMU recovery automation - Automation of Replenishment	Routine science operations Eclipse season 31st March to 8th May (16 eclipses).
Status and performance of S/C	Nominal for platform and all instruments	Manual transponder swaps following RF switch anomaly
Status and performance of Ground segment	Nominal apart from some issues with Tolhuin/KSAT general support.	Nominal
S/C Anomalies	None	None
G/S Anomalies	- XMM-1551 Tolhuin/KSAT General Support Issues - XMM-1558 MOIS system crash - XMM-1564 Low signal level during YAT passes, TM/TC unstable or no TM/TC - XMM-1566 MOIS procedure commanding clash - XMM-1567 MOIS procedure X_PN_DL_download fails	- INT-3942 oaopstool1 and oaopstool2 simultaneous unavailability during cloud maintainance - INT-3943 Errors in Battery Management Derived Parameters
Future activities planned	- NSM via MOIS - Cebreros migration - Webserver and NRT Analysis/Monitoring migration	24th April Deployment of MCS IMCS D5.4.2 - FOP Release 5.0 - Automation of Transponder swap operations - Automation of ground station operations (EVFM)

2. Detailed weekly operational events

note: all times are Zulu (in brackets DOY)

2.1. XMM

YAT issue with uplink – on top of geometry

- 08/04/2024 (099) 10:40:56 SPACON Shift H/O RK/MD OFF - EC ON; Notes: Audible Soft/Warning alarm is not working. – same on 9th, 10th, 11th
- 09/04/2024 (100) 07:17:02 TPF's for next rev sent by FD but did not arrive on xmm mcs due to authentication issues to FDS; XMM_XMC_0022 GFTS1,2 restarted at 10:09:48
- 09/04/2024 (100) 19:53:25 FDS error message: updateslew failed to determine a good attitude.
    - o 20:04:26 FCP_AOC_2006 Perform Close Loop Slew: 4457_50_M.CSL
    - o 20:15:30 S/C on target
- 15/04/2024 (106) 23:35:59 MOIS procedure commanding clash during the recovery from high radiation (see **AR XMM-1566**)
- 17/04/2024 (108) 17:39:00 OI#4690: XMM Evacuation Instructions (Instruments in perigee config.)
- 18/04/2024 (109) 03:11:10 G/S handover from KOU to TOH; MOIS failed to bind TC; TOH locked on both transponders.
    - o 03:26:41 ESTRACK to resweep during the commanding gap at 04:07
    - o 04:14:38 Multiple resweeps were unsuccessful (still locked on both). SOE will attempt another resweep later this morning
    - o 10:30:40 TNOC report slowly improving signal strength. Bad Frames and TM from TOL.
    - o 10:39:47 SPACON again on site; Checks carried out as per XMM_FOR_0007
    - o 11:07:35 Resweep requested at TOL. Correct RX locked.
    - o 11:30:28 Signal further degrading. YAT to support until 110.03.33.00 (entire TOL pass)
    - o 13:39:17 G/S handover from YAT to TOL as the signal has improved. Problems with locking only 1 RX. Multiple resweeps needed - correct RX lock by 13:58.
        - ▪ AD Service established, D3831 Link Test CMD successful
        - ▪ FCP_RFS_0007: Ranging switched back on. YAT is released.
    - o 18:08:52 Bad TM/Frames at TOL. FCP_RFS_0007: **Ranging turned off**. Slight improvement, but TM stil degraded.
    - o 18:30:45 TOL TM is further degrading. Move to **AGO** with TOL shadow tracking.
    - o 19/04/2024 (110) 11:25:43 Ranging measurements have failed since ranging is still off from DOY 109 GS issue. Ranging switched back on.
    - ⇨ **Similar issues seen at YAT last week – now on TOL ⇨ low S/N probably due to geometry (attitude/elevation)**
- 19/04/2024 (110) 22:58:19 MOIS scheduler stopped. 'Failed to initialise Run Mode' after re-start.
    - o 23:01:00 XMM_MOI_0001 Automation System Re-start
- 20/04/2024 (111) 07:53:43 MOC-SOC link not incrementing due to ESAC data center migration
- 21/04/2024 (112) 21:02:11 During execution of MOIS procedure X_PN_DL_download, TC FU855 "SENDSCIENCETTABLE" failed PTV release. End of procedure with error. (see **AR XMM-1567**)
- 22/04/2024 (113) 02:55:18 G/S handover from KRU to TOL. AD Service established, D3831 Link Test CMD successful. X_GS_HANDOVER: **Procedure fail - both RX locked**.
    - o Many resweep attempted - all without lock
- 22/04/2024 (113) 06:00:00 Alarms from application PDSserTM indicating Store of Packet failed and Error on writing TM record. Audible alarm cannot be disabled.
    - o 07:02:33 Stopped and restarted the PDSser task on XMCA.

2.2. INTEGRAL

- 08/04/2024 (099) 07:50:18   EPS preparation for the double eclipse started
- 08/04/2024 (099) 10:40:23 SPACON Shift H/O RK/MD OFF - EC ON; Notes: Audible Soft/Warning alarm is not working.
- 08/04/2024 (099) 14:46:30   CGS TPF 2763_0059_A.CGS was not received at the MCS. It was later found that the previous OSL 27630058 had also not been received.
    o   2763_0500_M.CGS generated (with old mapping) and released at scheduled CGS time.
    o   CGS failed. TC A2551: "RP SRCH/TRK" failed on-board completion.
    o   FD informed.
    o   KIR pass extended by 20min to allow FD to investigate.
    o   2763_0502_M.CGS was generated by FD
    o   Uplink successful.
- 08/04/2024 (099) 19:14:18   P3062 'ECL STAT R' = P3061 'ECL STAT ' = ECLIPSE
- 08/04/2024 (099) 19:41:15   OOL: L5583, CPU MODE, 8MHZ WAIT
- 08/04/2024 (099) 21:21:00   FDS: TPF update failed for SlewID #27640001. Update was generated but not transferred. Recovery tool started.
    o   08/04/2024 (099) 21:24:12   TPF 2764_0500_A.OSL applied on A/S to update slew #0001
    o   08/04/2024 (099) 22:48:03   Same for SlewID #0002.
    o   08/04/2024 (099) 22:50:40   OSL #27640002 missed from timeline, update arrived too late
    o   08/04/2024 (099) 22:54:29   Manual slew 2764_0502_M.CSL from PID #0001 to #0002
    o   08/04/2024 (099) 23:04:55   TPF 2764_0503_A.OSL applied on A/S to update slew #0003
    o   08/04/2024 (099) 22:48:03   Same for SlewID #0004.
- 09/04/2024 (100) 09:34:33   Check with oncall. Use right click stop/start GFTS (CRP_MCS_1007) All tpf's in queue are transfered to MCS ok
    o   08/04/2024 (099) 21:24:12   TPF 2764_0500_A.OSL applied on A/S to update slew #0001
- 11/04/2024 (102) 08:39:15   Eclipse START
    o   09:32:07 Eclipse END
- 14/04/2024 (105) 00:30:14   Eclipse START
    o   01:23:25 Eclipse END
    o   03:43:44 OOL L5583 "CPU MODE". Value = 8MHZ. I_CRP_JEM2_5011 started.
- 16/04/2024 (107) 16:22:30 Eclipse START
    o   17:14:36 Eclipse END
- 17/04/2024 (108) 15:20:00Z Special Operations / Event   Disable s/s 6 & 7 as per OI#2490
    o   15:25:00 EENTRY03 Sent as Per OI#2490
    o   15:51:00 DEBWHI02 sent as per OI#2490
    o   15:53:00 TTAGS uplinked as per OI#2490 UEGROF01 DOY110 at 06:20Z RETOF00 DOY110 at 06:25Z
    o   16:00:00 Disable s/s 2 as per OI#2490
- 18/04/2024 (109) 04:38:47 SPACON off console
    o   04:40:48 JM (SOE) Acknowledges Handover email
    o   06:00:00 SOE GDM takes over. INTEGRAL mission shared on WebEx (link here) OOL G6107 - Expected in Belts Test command sent D3831
    o   10:39:01 SPACON on site Checks have been carried out in accordance with FCP_SPA_0001 Notes: OI #2490 Subsystems OBDH & SPI disabled in Timeline
- 19/04/2024 (110) 08:15:17 Eclipse START
    o   10:49:10 OL L5583": "CPU MODE" = "8 MHZ WAIT". TM L5022: "DFEE STATUS" = "MEMORY" I_CRP_JEM2_5011 started. S/S JEM-X2 disabled in T/L.
- 21/04/2024 (112) 23:50:36 OEM: "ACC ECLIPSE START"
- 22/04/2024 (113) 03:05:31 OOL K5583": "CPU MODE" = "8 MHZ WAIT". TM K5022: "DFEE STATUS" = "MEMORY" I_CRP_JEM1_5011 started. S/S JEM-X1 disabled in T/L.