

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

Document No :XMM-INT-WOPS-24_17-18
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Page : 1

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Issue 1

Date: 10 May 2024

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OPS-OAX

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Document No :XMM-INT-WOPS-24_17-18
Issue/Rev. No : 1
Date 10/05/2024
Page : 2

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XMM-Newton and INTEGRAL weekly Mission Operations Report

Document No :XMM-INT-WOPS-24_17-18
 Issue/Rev. No : 1
 Date : 10/05/2024
 Page : 3

1. Weekly report

	XMM	Integral
Main activities	<ul style="list-style-type: none"> ▪ Nominal Operations ▪ Lela tests on S7 ▪ Manual spacecraft recovery without propellant procedures ▪ CDMU recovery automation ▪ Automation of Replenishment 	<ul style="list-style-type: none"> ▪ Routine science operations Eclipse season 31st March to 8th May (16 eclipses). ▪ 24th April Deployment of MCS IMCS D5.4.2
Status and performance of S/C	<ul style="list-style-type: none"> ▪ Nominal for platform and all instruments 	<ul style="list-style-type: none"> ▪ Manual transponder swaps following RF switch anomaly
Status and performance of Ground segment	<ul style="list-style-type: none"> ▪ Nominal apart from some issues with Tolhuin/KSAT general support. 	<ul style="list-style-type: none"> ▪ Nominal
S/C Anomalies	<ul style="list-style-type: none"> ▪ None 	<ul style="list-style-type: none"> ▪ None
G/S Anomalies	<ul style="list-style-type: none"> ▪ XMM-1551 Tolhuin/KSAT General Support Issues ▪ XMM-1568 Thin Client close themselves 	<ul style="list-style-type: none"> ▪ None
Future activities planned	<ul style="list-style-type: none"> ▪ NSM via MOIS ▪ Cebreros migration ▪ Webserver and NRT Analysis/Monitoring migration 	<ul style="list-style-type: none"> ▪ FOP Release 5.0 ▪ Automation of Transponder swap operations ▪ Automation of ground station operations (EVFM) ▪ SPI annealing #42: May 10th – 28th

XMM-Newton and INTEGRAL weekly Mission Operations Report

Document No :XMM-INT-WOPS-24_17-18
Issue/Rev. No : 1
Date 10/05/2024
Page : 4

2. Detailed weekly operational events

note: all times are Zulu (in brackets DOY)

2.1. XMM

- 22/04/2024 (113) 02:55:18 G/S handover from KRU to TOL. X_GS_HANDOVER: Procedure fail - both RX locked. 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.
- 22/04/2024 (113) 11:20:45 Station changes to replace Yatharaga. TOH extended to 15:05. AGO pass requested for 14:27 to 02:48 (DOY114)
 - o 13:03:45 Nominal EOT TOH. TOH to reconfigure TM/TC. Major TM/TC loss on TOH. Impact: missed two slews (OSL0002 and CSL0002).
 - o 13:45:14 TM back
 - o 13:49:33 TC back
 - o 14:02:31 TOH carrier down
 - o 14:13:14 TOH TM back
 - o 14:17:28 request TOH carrier up
 - o 14:30:03 G/S handover from TOH to AGO.
 - o 14:52:25 Recovery of attitude
 - o 16:32:41 S/C on target.
 - o 19:25:43 All instruments recovered.
- 23/04/2024 (114) 02:50:00 G/S handover from AGO to KOU. AGO has taken down U/L too late. MOIS has stopped that process and it had to be completed manually.
- 24/04/2024 (115) 02:33:08 G/S handover from KOU to **TOL**. TOH issue with uplink for 1.5 hours
 - o 03:57:49 After many attempts: U/L carrier up & carrier & bit lock on warm receiver
 - o 05:51:25 All instruments recovered
- 24/04/2024 (115) 14:25:33 OI 4693 Very late replan: G/S HO from TOH to AGO instead of YAT
 - o 14:50:07 AGO: TM drops due to low elevation and signal
 - o 15:23:15 RF carrier drops. No TC. Ask Estrack to bring down carrier and bring it back up on the warm transponder
 - o 15:43:28 RF and TC back.
- 25/04/2024 (116) Thin Client close themselves (also see **AR XMM-1568**)
 - o 14:16:12 THC-E41-12, THC-E41-26 (Both Halley) xclas2 2nd spacon workstation and Mois closed themselves for unknown reason – Report issue to Estrack the same time as Bepi Colombo + Cryosat report thin client problems on voiceloop
 - o 15:02:21 Estrack say problem may be connected with too many sessions open including simulations that are going on. Oncall informed
 - o 17:55:34 Switch to deneb for xclas2 but not Mois (reason: unable to connect to socket). MOIS remains working ok
- 16:02:04 Call Estrack to cancel Tolhuin pass DOY117 02.25 and automation (**Tolhuin has been declared red**) and to book Santiago pass for the same time
- 26/04/2024 (117) 08:10:04 Loss of TM from DSS-36. AGC level indicates de-pointing of GS antenna (duration: 8min, impact: none).
 - o 08:21:57 Loss of TM from DSS-36. DSN suspect they loss 2-way lock after GS issue - request resweep/relock (duration: 8min, impact: none; DSN DR #C117872)
- 28/04/2024 (119) 02:30:28 G/S handover from KOU to TOH. No TM and TC from TOH. Requested ESTRACK to search for an alternate G/S. Problem in TOH is unknow.
 - o 02:43:21 SSC can provide AGO support until 14:00Z and are configuring it. TNOC have no information from TOH.

XMM-Newton and INTEGRAL weekly Mission Operations Report

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Date 10/05/2024
Page : 5

- 02:50:02 Bound links to AGO.
- 03:02:13 Receiving TM from TOH. However, remain on AGO because it's more reliable.
- 03:15:37 UPDATE from AGO: The station can only provide support until 09:25. Then GS handover from AGO to TOH.
- 08:56:06 G/S handover from AGO to TOH OK
- 13:59:36 Bad Frames/Missing packets from TOH. Low Eb/N0 (1.4). FCP_RFS_0007 step 7. RNG switched off TRSP1. TM quality improved.
- 15:06:29 FCP_RFS_0007 step 5 RNG switched on TRSP1.
- 17:06:26 Loss of onboard lock at TOH. AGC indicates carrier still up. Request resweep.
- 01/05/2024 (122) 13:09:55 FCP_RFS_0151 Change from TRSPTX A /ANT1 to TRSPTX B /ANT2
 - 13:20:00 Lock on both receivers. Adviced ESTRECK to not bring down the carrier as there is a need of some commanding. Issue to be solved afterwards
 - 13:36:30 ESTRECK to resweep for the cold receiver
 - 13:53:25 Temperature difference is too low, again lock on both receiver, staying like this until the temperature difference is higher to resweep for the warm receiver
 - 01/05/2024 (122) 15:21:59 ESTRECK to resweep for the warm receiver
- 03/05/2024 (124) 07:39:06 SWS reported one of the disks on XMCSLTB is full and the system is unresponsive. They are investigating and will need to stop the system and create free space
 - SWS reported that problem was resolved: cron job for historical export was filling the disk and old XLTb was monitored. Disk has free space & cron job is stopped for the weekend.
- 03/05/2024 (124) 11:00:13 G/S handover from TOH to VIL. Automation failed. both receivers locked. Ask for resweep. 4th sweep ok.

2.2. INTEGRAL

- 24/04/2024 (115) 15:13:26 OI 2493 FD reconfigure for B chain (no TM to check). AH Step 8.0 no IGMMA GUI. JM and AH to check with SWS if this should be visible in the background at all times
 - 15:44:41 OEM: "ACC ECLIPSE START" (stored)
 - 16:55:49 OEM: "ACC ECLIPSE END" (stored)
- 25/04/2024 (116) 17:12:51 CSL #27700021 missed from timeline
 - 17:26:35 Manual slew 2770_0500_M.CSL from PID #27700020 to #27700021
 - 17:42:21 FDS: TPF 2770_0501_A.OSL applied on A/S to update slew 27700022
- 27/04/2024 (118) 07:40:14 Eclipse START
 - 08:46:53 Eclipse END
- 29/04/2024 (120) 23:54:46 Eclipse START
 - 00:28:41 Eclipse END
- 30/04/2024 (121) 06:13:25 Short DROP of TM/TC from G/S KIR from 06.11.21 to 06.12.44 Informed ESTRACK. Reason unknown. Suspect RFI.
- 02/05/2024 (123) 15:30:48 OI# 2495 : Installation and swap to IMCS E5.4.2 on A-chain (DOY 123) FCP_MCS_1011 Operations Swap IMCB to IMCA
 - 15:52:25 Eclipse START
 - 16:19:26 Eclipse END
- 05/05/2024 (126) 07:50:15 Eclipse START
 - 08:07:53 Eclipse END