

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

Document No :XMM-INT-WOPS-23_16-17
Issue/Rev. No : 1
Date 10/05/2023
Page : 1

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

XMM-INT-WOPS-23_16-17

Issue 1

Date: 10 May 2023

Marcus Kirsch
OPS-OAX

ESA UNCLASSIFIED – For Official Use

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

Document No :XMM-INT-WOPS-23_16-17
Issue/Rev. No : 1
Date 10/05/2023
Page : 2

Distribution List

ESOC	Rolf Densing	Frank Dreger	Danielle Heinzer
	Dhivya Kishore	xmmintfd@esa.int	Andrzej Olchawa
	Andreas Rudolph	Alastair McDonald	Federico Cordero
	XMMINTFCT		Diana Dragostinova
	Marcus Kirsch		Gianluca Gaudenzi
	Jim Martin		
	Marko Butkovic	Martin Unal	
	Stefano Scaglioni		
	EILSservices@esa.int		
		Duncan Warren	
	Richard Southworth	Muhammad Shoaib Malik	
	Jutta Huebner	Elena Garcia Tomas	
	Simon Plum		
ESAC	Carole Mundell	Peter Kretschmar	Matthias Ehle
	Markus Kissler-Patig	Maria Santos Lleo	
	Elsa Montagnon	Pedro Calderon	isocsci@sciops.esa.int
		Ricardo Perez	
		Anthony Marston	
ESTEC	Erik Kuulkers		
	Guiseppe Sarri		
Airbus	Tommy Strandberg		
	Susanne Fugger		
Alenia			
	Franco Ravera	Mario Montagna	
Logica			
	COMCS_Helpdesk.de@logica cmg.com		
ISDC			
	Roland Walter		Carlo Ferrigno
NASA			
	DSN.Mission_XMM		
INT-PI			
	Philippe Laurent	J.P. Roques	Giovanni Larosa
	Pietro Ubertini	Wojte Hajdas	Miguel Mas Hesse
	Søren Brandt	Jochen Greiner	
	A. Bazzano		

XMM-Newton and INTEGRAL weekly Mission Operations Report

Document No :XMM-INT-WOPS-23_16-17
 Issue/Rev. No : 1
 Date 10/05/2023
 Page : 3

1. Weekly report

	XMM	Integral
Main activities	<ul style="list-style-type: none"> ▪ Nominal Operations ▪ Full end to end instrument radiation protection and rejoin ▪ MCS 12.7.0 testing ▪ OA OPS tools servers S/W and H/W migration ▪ MCS migration ▪ DABYS D/B prototype ▪ Tolhuin station consolidation ▪ G/S ops automation (part2/ NIS) ▪ Lela final migration to MCS ▪ Replenishment automation ▪ MCS 12.7.0 week 24-28 April 	<ul style="list-style-type: none"> ▪ Routine science operations ▪ CORTEX Validation on KIR ▪ Start of eclipse season on April 18th
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 	<ul style="list-style-type: none"> ▪ Nominal
S/C Anomalies	<ul style="list-style-type: none"> ▪ None 	<ul style="list-style-type: none"> ▪ INT_SC-729 SPI DPE Crash
G/S Anomalies	<ul style="list-style-type: none"> ▪ XMM-1524 Autocomander not sending next sequence after loss of TC link during CMD_INJECTING 	<ul style="list-style-type: none"> ▪ INT-3894 TM for Belt Start/End and Eclipse Start/End times inconsistently displayed in A-Chain ANDs and B-Chain ANDs
Future activities planned	<ul style="list-style-type: none"> ▪ Manual spacecraft recovery without propellant procedures ▪ CDMU recovery automation ▪ Webserver migration ▪ ODB 7.17 weeks 1-12 May ▪ 3rd Tank Replenishing 22-26 May 	<ul style="list-style-type: none"> ▪ Automation of Transponder swap operations ▪ Science Mission extension until 2024

XMM-Newton and INTEGRAL weekly Mission Operations Report

Document No :XMM-INT-WOPS-23_16-17
Issue/Rev. No : 1
Date 10/05/2023
Page : 4

2. Detailed weekly operational events

note: all times are Zulu (in brackets DOY)

2.1. XMM

- 21/04/2023 (111) 06:51:18 during calibration on new Cortex @ YAT: TM drop from YAT shortly after AOS. TM did not return after they are finished.
 - o 07:15:00 SSC unable to achieve on-board lock over YAT
 - o 07:19:00 Uplink at AGO re-established to give SSC opportunity to re-configure YAT from scratch
 - o 07:28:00 G/S handover from AGO to YAT second attempt.
- 26/04/2023 (116) 07:13:13 Human error after manual handover (OCR 4537): Lost the onboard Lock from AGO since AGO hasn't stopped the EVFM automation even though they have been informed at 06:50Z as per OCR 4537. QDUMPS for RG1&2 Interrupted. *(ticket number on SSC side: #11082)*
- 26/04/2023 (116) 09:15:18 MOS 1 went to SSB with FW Closed (reason: watchdog triggered). No commanding can be seen in the TC history. CRP_EM1_0000 Recovery from SAFE STANDBY and CRP_EM1_1500 MOS1 TIMELINE RE-JOIN, Step 15 executed
 - o **See AR XMM-1524 Autocomander not sending next sequence after loss of TC link during CMD_INJECTING**
- 26/04/2023 (116) 10:31:26 TCO Initialising needed
- 26/04/2023 (116) 11:27:00 Successful installation of SW Release 12.7.0 and related chain swaps (OCR #4538)
- 28/04/2023 (118) 12:20:10 Full CDMU Dump starts (OI#4541)
- 01/05/2023 (121) 09:45:00 Battery 1 reconditioning (OI#4542)

2.2. INTEGRAL

- 17/04/2023 (107) 12:49:18 OI#2349:Eclipse Season #44, AOCS, EPS (and no OBDH Operations required) Change the Constant value of ACD9179 "ENA AD7179D from 0 to 1 on both chains. The spreadsheet was updated too.
 - o Eclipse Season #44
- 20/04/2023 (110) 06:39:17 FDS: TPF update failed for SlewID #26300051.
 - o 11:49:53 FDS: TPF update failed for SlewID #26300056 (failed to determine attitude)
 - o 11:55:03 FDS: TPF update failed for SlewID #26300058.
 - o All recovered with SPACON tool and Manual slew
- 20/04/2023 (110) 16:38:04 OOL. ED9423. SDPE1 NO HK TM X-ref actions; Inform on-call SOE. Apply CRP_SPI1_3090
 - o **See AR SPI DPE crash. INT_SC-729**
- 20/04/2023 (110) 19:30:35 During the handover checks, it was noticed that BCPK Group1 showing incorrect values(BELT ST/EX and ECL ST./EX). Checked the backup chain(ESA UNCLASSIFIED – For Official Use

XMM-Newton and INTEGRAL weekly Mission Operations Report

Document No :XMM-INT-WOPS-23_16-17
Issue/Rev. No : 1
Date : 10/05/2023
Page : 5

IMCA-NEW) and found BCPK Group1 values are correct. TM Para, D5201,D5202,D5203 & DD5231 are showing the current time Informed SOE On Call. Note: The instruments are correctly transition to SAFE (OMC/IBIS) reacting to BCPK.

- **See AR INT-3894**
- 22/04/2023 (112) 18:48:05 FDS: TPF update failed for SlewID #23610042
 - Recovered with SPACON tool and Manual slew
- 24/04/2023 (114) 04:18:32 SPI E0392 81.0175deg K E0391 80.937deg K E0393 80.9531deg K
 - 09:08:49 OOLs Soft/High, E0391, E0392, E0393 "T CR COLDPLATE L1/L2/L3". Under SOE (TF) guidance... FCP_SPI1_0074 - "COMPRESSOR STROKE MANAGEMENT AT 80K - STABLE OPS" FCP_SPI1_2504 - "SPICO: STROKE INCREASE" from 37 to 38 TC E9966 with param E9960= 38 and E9961= 38 TC E9987 with param E9980= 38 and E9981= 38 TM Constants on A/B Chains and Stroke Management folder updated
 - Normal Stroke Increase
- 28/04/2023 (118) 19:09:40 VC7 drop at Kiruna. IMCA only. CORTEX2 only. When rebinding VC7 link, VC0 CORTEX2 link also drops. IFMS2 is ok (but in DATAFLOW). When promoting IFMS2 links to PROCESS these links also drop. All NISA/IMCA links drop after 1 Data unit when rebinding in PROCESS. (CORTEX2/IFMS2). Estrack see no issues with lines/station. Restart NISA. All links now green and stable. But no updated TM recieved on IMCA. Call SOE-oncall who suggests complete MCS/NIS restart (A-Chain)
 - 20:10:00 FCP_MCS_1100 - Restart entire A-chain
 - FCP_MCS_1205 NIS Shutdown (NISA)
 - FCP_MCS_1002 Stop SCOS on Client (ICLA1/2/3)
 - FCP_MCS_1201 Stop SCOS on Server (IMCA)
 - FCP_MCS_1200 - Start SCOS on Server (IMCA)
 - FCP_MCS_1001 Start SCOS on Client (ICLA1)
 - FCP_MCS_1204 NIS Start-Up (NISA)
 - FCP_MCS_1004 - System Configuration & Status Check (IMCA)
 - FCP_MCS_1003 - Workstation configuration (ICLA1) After SCOS restart and reconnection of IMCA/INISA/TM links. Many "TM Backlog" messages recieved. Entire A-chain is slow and completely unresponsive.
 - Call SOE-oncall who suggest another restart (including ILTA) during perigee.
 - 21:37:00 FCP_MCS_1100 - Restart entire A-chain (again as above)
 - MCS seems nominal. No unexpected EvL messages/Alarms.
- 29/04/2023 (119) 00:27:41 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.
 - 00:40:43 I_CRP_JEM1_5011 started. S/S JEM-X1 enabled in T/L.
- 30/04/2023 (120) 09:01:58 Lost TM over KIR, IMCB, NIS-B
 - 09:18:11 OSL #26340054 missed from timeline S/S 1 (AOCS) in T/L DISABLED
 - 10:44:00 Carrier up, VIL2

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

Document No :XMM-INT-WOPS-23_16-17
Issue/Rev. No : 1
Date 10/05/2023
Page : 6

- 10:55:00 FD recovery tool failed with error message and instruction call FD on-call. Called FD on-call.
- 11:12:00 Update from ESTRACK. KIR on-call engineer is on site and reports very heavy snowfall over the weekend. Antenna is tracking but full of snow. Starting operations to remove snow from antenna.
- 12:20:35 Manual slew 2634_0502_M.OSL from PID #26340054 to #26340058
- 12:47:22 Manual slew 2634_0503_M.CSL from PID #26340054 to #26340058
- 13:00:56 FDS: TPF 2634_0504_A.OSL applied on A/S to update slew 26340059
- 13:01:44 SYS: S/S AOCs enabled in TL