

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

Document No :XMM-INT-WOPS-20_25-26
Issue/Rev. No : 1
Date 01/07/2020
Page : 1

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

XMM-INT-WOPS-20_25-26

Issue 1

Date: 01 July 2020

Marcus Kirsch
OPS-OAX

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

Document No :XMM-INT-WOPS-20_25-26
Issue/Rev. No : 1
Date 01/07/2020
Page : 2

Distribution List

ESOC	Rolf Densing		Danielle Heinzer
	Andrea Kerruish	Frank Dreger	Andrzej Olchawa
	Andreas Rudolph	xmmintfd@esa.int	Federico Cordero
	XMMINTFACT	Alastair McDonald	Diana Dragostinova
	Marcus Kirsch		Gianluca Gaudenzi
	Jim Martin		
	Marko Butkovic	Martin Unal	
	Stefano Scaglioni		
	EILSservices@esa.int		
		Duncan Warren	
	Richard Southworth		
	Jutta Huebner	Elena Garcia Tomas	
	Paolo Ferri		
ESAC	Günther Hasinger	Peter Kretschmar	Matthias Ehle
	Martin Kessler	Maria Santos Lleo	Erik Kuulkers
	Markus Kissler-Patig	Eva Verdugo	isocsci@sciops.esa.int
	Rune Floberghagen	Pedro Calderon	
		Ricardo Perez	
		Anthony Marston	
ESTEC			
			Guiseppe Sarri
Airbus		Tommy Strandberg	
		Susanne Fugger	
Alenia			
	Franco Ravera	Mario Montagna	
Logica			
	COMCS_Helpdesk.de@log icacmg.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	Roland Diehl	
	A. Bazzano		

XMM-Newton and INTEGRAL weekly Mission Operations Report

Document No :XMM-INT-WOPS-20_25-26
 Issue/Rev. No : 1
 Date 01/07/2020
 Page : 3

1. Weekly report

	XMM	Integral
Main activities	<ul style="list-style-type: none"> ▪ Nominal operations ▪ Replenishment operations ▪ Corona Virus Business Continuity ▪ OICM #48 ▪ Lela migration ▪ DABYS D/B prototype ▪ G/S handover automation ▪ Instrument SOE retraining 	<ul style="list-style-type: none"> ▪ Characterisation of RCS failure ▪ Wheel speed control via wheel bias and selection of suitable attitudes ▪ 22 – 25/6/2020 Z-flip test
Status and performance of S/C	<ul style="list-style-type: none"> ▪ Nominal for platform and all instruments 	<ul style="list-style-type: none"> ▪ Wheel speed offloading done by manual procedure automated procedure until 20/6/2020. ▪ Wheel speed offloading done by Z-flip after 20/6/2020
Status and performance of Ground segment	<ul style="list-style-type: none"> ▪ Nominal 	<ul style="list-style-type: none"> ▪ Nominal, but FCT teleworking due to COVID-19 virus. Only controllers are on site.
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-1410: Kourou TC Failure ▪ XMM-1411: VC7 Connectivity Issues 	<ul style="list-style-type: none"> ▪ INT- Kiruna Unable To Configure for TRSP2
Future activities planned	<ul style="list-style-type: none"> ▪ S/C inertia calibration ▪ Eclipse season starts 25.07. ▪ MCS migration study ▪ ToO reaction time improvement ▪ Battery re-evaluation ▪ Webserver migration 	<ul style="list-style-type: none"> ▪ Design, testing and deployment of routine biasing operations. ▪ Design, testing and deployment of tool to plan wheel speed control via slew pattern (Z-flip). ▪ Identification of root cause of RCS anomaly and assessment of remaining propellant mass. ▪ Mission Key point review on 30/6/2020 ▪ Continued science operations with MOC-SOC combined planning assessment ▪ Eclipse season starts 3/7/2020

XMM-Newton and INTEGRAL weekly Mission Operations Report

Document No :XMM-INT-WOPS-20_25-26
Issue/Rev. No : 1
Date 01/07/2020
Page : 4

2. Detailed weekly operational events

note: all times are Zulu (in brackets DOY)

2.1. XMM

- 17/06/2020 (169) 01:02:00: Problems with TC connection to S/C after G/S H/O. Commands do not appear to be reaching S/C. (→ AR, human error due to testing setup the day before)
- 28/06/2020 (180) 23:14:12: Since the VC7 outage in AGO Lela was complaining of receiving no updates. Lela was also showing disconnected. Even after the GS switch to Yatharaga still showed disconnected. I stopped and restarted Lela using XMM_USE_0001. Went through the stop and restart process to no avail. Finally the Lela PC was restarted together with the on-call. In the meantime the VC7 from Yatharaga had gone to drop. I switched the VC7 back to AGO and this worked. The current configuration is TC and VC0 from Yatharaga and VC7 from AGO. ESTRACK/SCC have been made aware of the situation and I have requested they leave it as it is currently. Lela was disconnected from 2020.180.20.47 until 2020.180 22.56

XMM-Newton and INTEGRAL weekly Mission Operations Report

Document No :XMM-INT-WOPS-20_25-26
Issue/Rev. No : 1
Date 01/07/2020
Page : 5

2.2. INTEGRAL

15/06/2020 (167)

07:00:07 RWB: MOIS procedure T_FCP_AOC_1350 with monitoring actions disabled. ED AERWB_01 executed from timeline. Loss of pressure observed on PT1 from 4.508bar to 4.390bar
08:14:52 Pressure recovery observed on PT1 from 4.390565bar back to 4.508282bar but toggling
17:12:27 OEM: "ACC AIMU ON", no time to perform recovery, next slew executed without update
22:24:41 OEM: "ACC AIMU ON" PID # 22400015 interrupted due to IMU on

16/06/2020 (168)

12:27:20 TM drop on VC0 for 1sec, no impact
14:57:21 TM drop on VC0 for >1sec, no impact

17/06/2020 (169)

13:33:16 RWB: MOIS procedure T_FCP_AOC_1350 with monitoring actions disabled. ED AERWB_01 executed from timeline. Loss of pressure observed on PT1 from 4.625bar to 4.390bar
15:02:12 Pressure recovery observed on PT1 from 4.39056bar back to 4.50821bar but toggling
15:13:40 [CRIT_INST_ALT_ASC] Critical Instrument Altitude Ascending – Rev 2241 (science)

18/06/2020 (170)

-

19/06/2020 (171)

20:10:31 TPF update failed for Slew #22410054. TPF 2241_0500_A.OSL applied on A/S.

20/06/2020 (172)

07:00:31 RWB: MOIS execution of procedure T_FCP_AOC_1350 with Monitoring level 1 enabled and ED AERWB_01 run from the timeline.
07:04:56 [CRIT_INST_ALT_ASC] Critical Instrument Altitude Ascending – Rev 2242 (science)
07:06:57 OI#1821 :SPI engineering test of HV settings
07:23:29 RWB: Monitoring Level 1 triggered extension of Stage 4 time from 100 sec to 600sec - pitch rate threshold exceeded. Loss of pressure observed on PT1 from 4.625bar to 4.155bar
07:48:58 RWB ended successfully after I_FCP_AOC_1350 (post-bias option) completes execution.
07:56:03 FDS: TPF 2242_0500_A.OSL applied on A/S to update slew 22420001
18:53:23 OEM: "ACC AIMU ON", TPF 2242_0501_A.OSL applied on A/S to update slew 22420013

21/06/2020 (173)

19:05:05 Drop on VC7 from KIR. ESTRACK informed, RFI. The drop lasted until 2020.173.19.09

22/06/2020

17:45:44 OCR # 1829 (Installation of new Database on A-Chain) carried out and closed.
21:16:51 Lost the guide star during perigee. Uplinked 2243_0500_M.CGS
22:55:18 [CRIT_INST_ALT_ASC] Critical Instrument Altitude Ascending – Rev 2243 (Z-flip test)

23/06/2020

03:19:19 Multiple outages on VC7 over KIR. Beginning 2020.175.03.04.57. ESTRACK informed
09:54:47 IMU1 & IMU3 switched ON by SOE, received OOL P1012 & P1051
10:06:26 Manual slew 2243_0501_M.OSL sent – Z-flip part 1
10:40:00 Loss of TM/TC during slew. The Wrong Antenna is selected On-board.
10:44:57 CRP_RFS_2110: R1311 (RFDU SWA POSX) sent twice. Still no AOS. --> step 3.2.2
Attempt uplink with RX-2. ECC report they could not find a procedure for this. VIL1 was requested to configure for RX2. VIL1 was also misconfigured twice for RX2.

ESA UNCLASSIFIED – For Official Use

XMM-Newton and INTEGRAL weekly Mission Operations Report

Document No :XMM-INT-WOPS-20_25-26
Issue/Rev. No : 1
Date 01/07/2020
Page : 6

11:22:11 CRP_RFS_2110 step 3.2.2. RX2 sweep complete over VIL1. TC R1311 sent. AOS KIR/VIL1
12:52:37 OSL 2243_0502_M.OSL uplinked – Z-flip part 2
13:48:48 IMU1 & IMU3 switched off by SOE

24/06/2020

07:39:10 TM Drop on VC0 for >1sec. & VC7 for 3sec, no impact

25/06/2020

11:44:19 Manual slew 2244_0500_M.OSL sent – Z-flip for science part 1
12:32:14 Manual slew 2244_0501_M.OSL sent– Z-flip for science part 2
14:44:35 [CRIT_INST_ALT_ASC] Critical Instrument Altitude Ascending – Rev 2244 (science)
15:17:29 Test of RWB Safety Level 2: fast RCS swap, MOIS I_FCP_AOC_1350
18:47:57 IMU ON PID # 22440005 interrupted, TPF 2244_0504_A.OSL applied on A/S to update slew

26/06/2020

15:19:30 OEM: "ACC AIMU ON"

27/06/2020

-

28/06/2020

06:33:27 [CRIT_INST_ALT_ASC] Critical Instrument Altitude Ascending – Rev 2245 (science, Z-flip from TL)
07:00:18 OI 1834 mapping, FDS: TPF 2245_0500_A.OSL applied on A/S to update slew 22450001

29/06/2020

-