

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

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Issue 1

Date: 19 July 2022

Marcus Kirsch
OPS-OAX

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1. Weekly report

	XMM	Integral
Main activities	<ul style="list-style-type: none"> ▪ Nominal Operations ▪ MOIS automation migration ▪ MUST to ARES migration ▪ MCS migration ▪ DABYS D/B prototype ▪ Tolhuin station consolidation ▪ Webserver migration 	<ul style="list-style-type: none"> ▪ Routine science operations ▪ Eclipse season and reconfiguration post eclipse
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-710 Battery discharge ECD1/2 UNEVEN during lunar eclipse on 29/06/2022 (DoY 180) ▪ INT_SC-711 Drop in solar array wing 1 current over perigee ▪ INT_SC-712 VETO reset during the execution of ED GEVESP01 (VETO S/W patch...)
G/S Anomalies	<ul style="list-style-type: none"> ▪ XMM-1491: Eclipse Mirror EDs missing from Timeline 	<ul style="list-style-type: none"> ▪ INT-3855 Wrong Timeline version loaded for revolution 2520 ▪ INT-3856 Wrong Kourou TM links Used ▪ INT-3857 Frequent drops on backup VC-0 link whilst B- and F-chain connected in parallel
Future activities planned	<ul style="list-style-type: none"> ▪ Eclipse Season 09/07-25/07 ▪ G/S ops automation (part2/ NIS) ▪ Lela final migration to MCS installation at MOC planned for end June ▪ DCR reconfiguration to welcome Euclid after its launch 	<ul style="list-style-type: none"> ▪ Design and deployment of an alternative wheel based safe mode on ground and on-board ▪ Automation of Transponder swap operations

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2. Detailed weekly operational events

note: all times are Zulu (in brackets DOY)

2.1. XMM

- 01/07/2022 (182) 15:57:41: OOL. P3114. SA-Y CUR 1. S/LOW. WARNING. Val 9.935A. Limit 10A. X-ref: CRP_EPS_3115. Monitored AND P028. SA Delivered and available (PD004 & PD022) both > bus load (PD001). Sun aspect angle: 17.9°, FSS Roll: -0.68°. FSS Pitch: -17.9°. Informed On-cal SOE.
- 06/07/2022 (187) 06:45:56: Update of IMU drift parameters using procedure FCP_AOC_0400 Step 7 to end (OPS-4476)

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2.2. INTEGRAL

- 27/06/2022 (DoY 178)
 - o 06:26:19 OSL #0006 failed (TC A8119 "MANOEUVRE TIME") due to PTV failure
 - 06:41:18 Manual slew 2519_0500_M.CSL from PID #0005 to #0006
 - 06:57:48 TPF 2519_0501_A.OSL applied on A/S to update slew #0007

- 29/06/2022 (DoY 180)
 - o 18:18:16 During the lunar eclipse at 12:22Z the battery discharge was uneven, i.e., OOL on DU511D ECD1/2 UNEVEN at 8.6%, due to short duration
See AR INT_SC-710 Battery discharge ECD1/2 UNEVEN during lunar eclipse on 29/06/2022 (DoY 180)
 - o 19:03:00 Spacon noticed that the update of first OSL was unsuccessful at 17:58Z: Task referenced in TPF: /home/imcsops/CHI/TPF/2520_0001_A.OSL not existing on source
 - 19:07:00 Man. TPF update failed MCS validation for SlewID #0001
 - 19:13:00 Loaded correct version of T/L 2520 (v. 04 instead of 02)
See AR INT-3855 Wrong Timeline version loaded for revolution 2520
 - o 19:41:06 SYS: Lost connection to TM CPD for 24s. This caused
 - 19:41:31 TC EU0252D failed release (reason: previous TC was unverified on completion due to loss of connection to TM CPD)
 - 20:07:13 Manual slew 2520_0502_M.OSL from PID #0001 to #0002
 - 20:18:59 TPF 2520_0503_A.OSL applied on A/S to update slew #0003
 - 20:25:12 OSL #0003 missed from T/L (forgot to re-enable AOCS)
 - 20:34:55 Manual slew 2520_0504_M.OSL from PID #0002 to #0003
 - 20:46:12 TPF 2520_0505_A.OSL applied on A/S to update slew #0004

- 01/07/2022 (DoY 182)
 - o 22:56:48 TPF update failed for SlewID #0086
 - 23:11:31 Recovery tool failed to update due to 'not enough stars' (Bright Object). FD informed that it is OK to let the slew execute.

- 02/07/2022 (DoY 183)
 - o 03:20:48 Wrong Kourou TM links used causing the following actions
 - 03:20:48 ESTRACK reconfigured KOU
 - 03:30:13 KOU Chain 1 VC7 remains in drop. Chain 2 VC0 in drop.
 - 03:55:34 G/S handover KIR to KOU. Chain 1 VC7 remains in drop.
 - 04:23:58 Stopped and restarted NIS. Now both VC7 and VC0 are in drop. Requested ESTRACK to reconfigure the G/S again
 - 04:26:05 Slew #0088 failed due to no G/S
 - 04:26:49 TPF update failed for SlewID #0089
 - 04:28:20 OSL #0089 missed from T/L due to no TM

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- 04:31:17 KRUILinks misconfigured wrt functional groups. Links rebound. AOS KRU
- 04:43:59 Manual slew 2520_0506_M.OSL from PID #0087 to #0089
- 04:59:51 FD confirms GS & attitude are good for perigee.
See AR INT-3856 Wrong Kourou TM links Used
- o 08:02:35 OOL P3114 "SA WING 1 CUR 1" H/L until 08:10Z. Value: 8.99A. Limit: 9A. Alpha: 0°, Beta: 12°, TMs P3115-9 SA WING 1/2 CUR 1-3 show similar values (9.35A - 10.59A).
See AR INT_SC-711 Drop in solar array wing 1 current over perigee
- 10/07/2022 (DoY 191)
 - o 09:16:16 VETO reset during GEVESP01 execution (VETO reactivation OI 2224). Recovered as per missed ED Xref (recovery until 09:55Z)
See AR INT_SC-712 VETO reset during the execution of ED GEVESP01
 - o 12:40:52 G/S handover VIL1 to KIR delayed by 2 hrs (14:40Z) due to power problems caused by storms/bad weather at KIR: the BU power source was triggered but there was a problem with the synchronization and therefore the antenna was not tracking. Synchronisation issue sorted out during call-out.
 - o 15:21:50 VC0 link on Chain 2 is unstable on both VIL1 and KIR. Reason: F chain was connected in parallel to B chain (MCS side problem).
 - 16:16:25 B chain restarted. VC0 on chain 2 at KIR stable
See AR INT-3857 Frequent drops on backup VC-0 link whilst B- and F-chain connected in parallel
 - o 22:05:31 Slew #0015: updateslew failed to determine input for IPF generation
 - 22:12:43 TPF 2524_0500_A.OSL applied on A/S to update slew #0015