XMM-Newton and INTEGRAL weekly Mission Operations Report

XMM-INT-WOPS-23_34-35

Issue 1

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1. Weekly report

	XMM	**Integral**
Main activities	▪ Nominal Operations ▪ MUST recovery ▪ G/S ops automation (part2/ NIS) finished ▪ OA OPS tools servers S/W and H/W migration ▪ DABYS D/B prototype ▪ Tolhuin station consolidation ▪ Lela final migration to MCS ▪ Manual spacecraft recovery without propellant procedures ▪ CDMU recovery automation	▪ Routine science operations ▪ Re-build of IMCA complete and operational
Status and performance of S/C	▪ Nominal for platform and all instruments	▪ Manual transponder swaps following RF switch anomaly ▪ JEMX2 DPE Off since 1st September
Status and performance of Ground segment	▪ Nominal	▪ Nominal
S/C Anomalies	▪ XMM_IOPS-55 MD deletion failure and EPIC instruments in Safe StandBy mode goes unnoticed	▪ INT_SC-740 JEMX2 DPE Crash
G/S Anomalies	▪ None	▪ None
Future activities planned	▪ Phase in of new service contract for SOEs (October-December) ▪ NSM via MOIS ▪ NSM on board ▪ Webserver and NRT Analysis/Monitoring migration	▪ Automation of Transponder swap operations ▪ Automation of ground station operations (EVFM) ▪ Disposal optimisation manoeuvre preparation ▪ SPI annealing #41 (13.-30.09.2023)

2. Detailed weekly operational events

note: all times are Zulu (in brackets DOY)

2.1. XMM

- 24/08/2023 (DoY 236)
  - 11:58:28 Loss of TM from GS KRU for 20min since STC session lost connection to TTCP. Impact: Interruption to CSL, PN, MOS1, MOS2.
  - 14:54:38 X_GS_HANDOVER: End of procedure with errors since second equipment was used.
- 25/08/2023 (DoY 237)
  - 18:35:10 OM RBI error (OOL HD014: "RBI STATUS" with value FAILED) and issues with the recovery since previous OM RBI reset was successful despite TM check error (***see AR XMM_IOPS-55***)
- 26/08/2023 (DoY 238)
  - 22:00:00 First time a spacon takes control of all four missions as a test of Euclid's ability to integrate with the three existing missions. Second Spacon is available as a backup if there is a need.
- 27/08/2023 (DoY 239)
  - 06:19:45 RM crash (OOLs on TM M5026, MD030, M5021, M5027)
- 28/08/2023 (DoY 239)
  - 07:22:09 Received call from SOC on-call to advise that EPICs are in Safe STBY since the safety TT TCs were executed; missed activities in MOIS that were not noticed until after shift handover
- 30/08/2023 (DoY 241)
  - 15:53:54 replanned revolution due to TOO: OOL L7005. READ-OUT FULL. Hard/High. It was noted that the exposure configuration Small Window was required but the event log shows the transition to this failed. This also caused the abort of procedure X_CRP_RG2_1500.
  - 17:15:58 BRAT change within a ToO that provide maximum bandwidth to PN & RGS1
- 03/09/2023 (DoY 246)
  - 01:45:00 Automated G/S handover failed due to lock on both receivers; solved by re-sweep

2.2. INTEGRAL

- 21/08/2023 (DoY 233)
  - 06:59:28 OI #2391 - New A-Chain configured and to be used as operational backup chain FCP_MCS_1011: Operations Swap B- to A-chain FCP_MOI_0001: MOIS Automation System Restart. Connect to IMCA-NEW

- 24/08/2023 (DoY 236)
  - 07:57:45 ISDC called to report no TM their side and that they have not been made aware of the chain swap back to A chain done on Monday. Attempting now to gather information concerning this before calling back

- 25/08/2023 (DoY 237)
  - 11:06:08 RPOS 2678_0003.INT received. Oncall and Mission Planner informed
    - 12:21:33 FCP_MPS_0003 TL 2678 stopped TL2678_02 loaded and despatched
    - 12:27:17 call FD to request new wheel plot
    - 12:28:35 MOIS TL regenerated. IB
    - 14:30:30 New wheel plot loaded TL 2678_02
  - 17:25:48 G6061 VIS-CAL-COUNT, LOW, 448 (limit 450). Toggling (IBIS Veto Cal Unit)

- 26/08/2023 (DoY 238)
  - 13:31:04 G5002, 08, 32, POS-M1RTC2, High, 4001 (limit 4000) (ok inside rad belts)
  - 13:37:54 G8015 S1E-A2 PMT V, High, 31.78 (limit 31.7) toggling and alarming alot

- 28/08/2023 (DoY 240)
  - 09:56:24 VC7 link on NISA went to UNBOUND state. Infromed Estrack. Pending Estrack initial investigation, closed and successfully reconnected VC7 link. Interruption duration ~90s. Reported this to Estrack, they will investigate further. (MPLS line was down)
  - 15:38:20 G6061 VIS-CAL-COUNT, LOW, 448 (limit 450). Toggling and alarming

- 01/09/2023 (DoY 244)
  - 03:49:09 OOL LD9243. JDPE2 NO HK TM. Val, DETECTED. Limit NOT DETECTED. X-ref action; inform on-call SOE. Spacon to apply various procedures. Disabled JEMX-2 commanding from t/l***.(See AR INT_SC-740 JEMX2 DPE Crash)***
    - 04:05:38 Applied FCP_JEM2_9001 as per x-ref.
    - 04:08:41 OOL E3500. P_DF_CNVT-BW_L,1. X-ref action. Log if within +2hrs of belt exit. Noted radiation count levels rising.
    - 04:13:39 Applied CRP_JEM2_9010, as per x-ref.
    - 04:19:51 Applied FCP_JEM2_9000 as per x-ref.
    - 04:26:44 OOL. M5042. CCD OFF. High radiation counts noted. **(OMC safe – high radiation)**
    - 05:11:01 OOL K5317 ('RAD MONITOR 3') value above 75 for 20 consecutive packets. FCP_JEM1_0040 JEMX1 TRANSITION TO SAFE. S/S JEMX1 disabled in T/L **(JEMX1 Safe – high radiation)**
    - 07:31:39 CRP_JEM2_5020(JEMX2 DPE AND DFEE POWER CYCLE) During the recovery some TM checks were not verified and was realised later that this is caused by the 0 TM allocation for JEMX2 PI advise(Soeren): to leave the DPE OFF if no allocation for JEMX2
    - 09:19:00 Execution of FCP_JEM2_9000(JEMX2 DPE SWITCH OFF)
    - 11:00:00 After some discutions with SOC and PI the decision was taken to leave the JEMX2 with DPE off and wait a couple of revolution(after the TOO) before the recovery will start, in the moment when TM allocation will be nominal

- 14:56:00 CRP_OMC_5120 OMC RECOVERY FROM HIGH RADIATION
  - 14:58:21 FCP_OMC_0041 OMC EXIT FROM SAFE MODE
- 16:53:15 FCP_JEM1_0041 JEMX1 TRANSITION TO SETUP
  - 16:54:00 FCP_JEM1_1010 JEMX1 CONFIGURATION SETTING FOR SCIENCE OPS
  - 17:23:38 FCP_JEM1_0044 JEMX1 DATA TAKING

- 03/09/2023 (DoY 246)
  - 22:11:58 TM links to KIR aborted for unknown reasan. Links re-connected at 22:16:14z Broth chains were affected. At around the same time XMM was also experiencing coms problems with AGO.
    - 22:15:46 OSL #26820007missed from timeline
    - 22:28:42 Manual slew 2682_0500_M.OSL from PID #26820006 to #26820007
    - 22:46:43 FDS: TPF 2682_0501_A.OSL applied on A/S to update slew 26820008
    - 22:46:51 SYS: S/S AOCS enabled

- 04/09/2023 (DoY 247)
  - 04:30:36 OOL: D5538 Status Entry 38, SCC Dis. Expected. **JEMX2 disabled in T/L. DPE off**. OI #2394