European Space Agency

XMM-Newton and INTEGRAL weekly Mission Operations Report

XMM-INT-WOPS-14_41

Issue 1

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1. Weekly report

	XMM	**Integral**
Main activities	▪ Nominal operations ▪ STR blemish pixel table uplinked 6th October. ▪ CDMU patch activities: Uplink and activation completed 9th October. ▪ Goldstone testing and preparation ▪ Eclipse preparation ▪ AGO MRB (XMM-1222) held 8th October. ▪ CDMU halted (XMM_SC-94) MRB held 10th October	▪ Nominal Science Operations ▪ Kiruna ground station maintenance ▪ DB release on A chain: 6.10.
Status and performance of S/C	▪ Nominal for platform and all instruments ▪ CCD safety function is re-validated with new CDMU patch (J3) loaded and activated.	▪ Nominal for platform and payload
Status and performance of Ground segment	▪ Numerous problems with uplink bit-lock during AGO support (back-up station during Kourou maintenance). Investigations on-going following MRB. ▪ FD have identified a SW change required to handle the case where the STR declares a pixel as a “blemish”.	▪ Ongoing occasional RFI at all stations, some sources identified ▪
S/C Anomalies	▪ None. ▪ Since CDMU halted 3rd October there have been no further problems and MRB recommendation is to remain on CDMU-A.	▪ None
G/S Anomalies	▪ XMM-1222 Santiago Station RED DOY 280-281 ▪ XMM-1221 General Problems During Santiago Support ▪ XMM-1224 An error is generated when filing packet SPID 64405	▪ INT-3476 Telemetry Problems from Kiruna after Cable Wrap

Future activities planned	▪ CDMU patch (J3) TDC/TCL function testing postponed to after MCS SW 11.2.0 release. ▪ MCS SW 11.2.0 release to devlan 14th October ▪ Cebreros (LCTF) final acceptance 15-17/10 ▪ Goldstone validation ▪ AGO validation of cortex-2 ▪ Eclipse season starts 6th November ▪ Automation test 18th November	▪ Automation of some repetitive tasks ▪ Development of detailed proposal for Integral disposal. ▪ DB release on B chain: 13.10. ▪ Battery reconditioning ▪ Cebreros (LCTF) final acceptance 15-17/10 ▪ CLCW adjustment & antenna ED change (21.10.) ▪ Autumn Eclipse Season (24.10 – 17.11) ▪ NNO validation in second half of November (after ROSETTA Philae landing)

2. Detailed weekly operational events

note: all times are Zulu

2.1. XMM

2014-10-06 10:31:00 (279)	Start of STR blemish pixel upload as per operational instruction #3379
2014-10-06 11:25:00 (279)	STR blemish pixel table upload finished. 32 blemish pixels were uploaded according to operational instruction #3379
2014-10-07 00:01:00 (280)	Data gaps on VC7 from AGO. Problems continued until 04:44 – see ***AR XMM-1221 "General Problems During Santiago Support"***
2014-10-07 07:20:00 (280)	Start OPS Ins 3385 (SOC ID: 2272) Re-synchronisation of Instrument RBI clock in Rev 2715 after CDMU crash
2014-10-07 12:11:00 (280)	Start Ops Instruction 3383 CDMU Patch Upload Rev 2716 - FCP_DHS_9034 Rollback to CDMU SW J.1 from CDMU SW J.2 build F (CSF)
2014-10-07 14:00:00 (280)	End of FCP_DHS_9112 CSF Test. End of Ops Inst. 3383
2014-10-07 18:26:00 (280)	G/S: Lost TM from AGO
2014-10-07 18:27:00 (280)	G/S: Lost TC from AGO. See ***XMM-1222 "Santiago Station RED DOY 280-281"***
2014-10-07 18:49:00 (280)	From this moment on, all commands failed release due to loss of TC capability. TM reception continues through MSP for as long as possible.
2014-10-07 19:31:19 (280)	WD triggered: MOS-1/2 to SAFE STANDBY, PN to EXT FF with FW CLOSED
2014-10-07 19:59:00 (280)	Lost TM from MSP
2014-10-07 20:59:00 (280)	ESTRACK informs that due to CISCO router power failure in AGO, there will be no support from the G/S before AOS in PER.
2014-10-08 00:57:00 (281)	AOS G/S PER
2014-10-08 18:31:00 (281)	G/S: open VC-0 & VC-7 TM-Links from AGO satellite was tracked and a small test over 5 minutes was performed in DATAFLOW, at 23:00z the track will be started until 10:36z tomorrow, during these 5 minutes continuous drop and data gaps were monitored
2014-10-08 21:43:00 (281)	OCR #3387 AOS G/S KRU Links connected in DATAFLOW on ESTRACK request, for monitoring. S/C tracked.
2014-10-08 22:46:41 (281)	OCR #3387 - G/S handover from PER to KRU
2014-10-08 23:37:00 (281)	OCR #3387 - TM links connected to AGO in DATAFLOW, SPACON observes good data rates at this time (identical to KRU)
2014-10-09 07:50:00 (282)	G/S handover from KRU to AGO

2014-10-09 08:06:00 (282)	Missing frames from ago. Problems continue to 08:55 see ***AR XMM-1221***
2014-10-09 11:49:00 (282)	Start Ops Instruction 3388 CDMU Patch TDC/TCL Test Rev 2717 - FCP_DHS_9042 Activate (already loaded) CDMU SW J.3 build S (TDC)
2014-10-09 12:11:00 (282)	During FCP_DHS_9113 TDC Test an error is generated when filing packet SPID 64405 (TDC Report Current). ***See AR XMM-1224.***
2014-10-09 13:30:00 (282)	CSL update failed. FDS error message: failed to determine good attitude
2014-10-09 13:31:00 (282)	FCP_AOC_0106 STR-A Mapping
2014-10-09 13:55:00 (282)	FCP_DHS_9043 Activate (already loaded) CDMU SW J.3 build S (TCL)
2014-10-09 14:04:00 (282)	TC link transferred to XMCB
2014-10-09 14:14:00 (282)	XMCA stopped and re-started. ***See AR XMM-1224.***
2014-10-09 15:13:00 (282)	FCP_DHS_9112 CSF Test
2014-10-09 15:24:00 (282)	End of Ops Inst. 3388 TDC/TCL Successfully activated. CSF re-tested. TDC/TCL testing to be completed another date
2014-10-09 15:56:00 (282)	Stop and re-start of applications on XMCA. ***See AR XMM-1224.***
2014-10-09 16:09:00 (282)	XMM_XMC_0004 Transfer TM & TC from Backup to Prime XMCS
2014-10-09 19:04:01 (282)	TC: GE1605 + LE9161 'RGS QDump' failed release due to G/S: AGO. See ***AR XMM-1221***
2014-10-09 19:39:00 (282)	TC: HU238 "SET EXPOSURE ID' failed release, commanding for OM interrupted. See ***AR XMM-1221***
2014-10-09 20:46:01 (282)	CRP_EPN_1500 Rejoin Timeline from step # 3 SPACON not possible to start recovery due to flickering BITLOCK, unstable TC-Link from G/S: AGO. See ***AR XMM-1221***
2014-10-09 21:15:01 (282)	TC: H5600 'MOVE FW' failed at G/S-level, commanding for OM interrupted. See ***AR XMM-1221***
2014-10-09 21:28:00 (282)	ED: AE4002 failed release from TL (2717_02_A.NSO). See ***AR XMM-1221***
2014-10-09 22:26:00 (282)	G/S: again unstable signal TM/TC from AGO. Continues to 23:27. See ***AR XMM-1221***
2014-10-09 23:37:00 (282)	TC: AD-Service terminated + carrier down @ G/S: AGO
2014-10-09 23:45:00 (282)	CRP_SYS_5004 Top level procedure for contingency cases during Timeline execution S/S # 3, 4 + 5 in T/L RE-ENABLED
2014-10-09 23:46:00 (282)	FCP_AOC_2002 Perform Open Loop Slew: 2717_51_M.OSL
2014-10-09 23:58:00 (282)	G/S: TM/TC stable from AGO
2014-10-10 00:04:00 (283)	Start of OBS id 0742820101
2014-10-10 00:07:00 (283)	XMM_SPA_0010 XMM-Newton SPACON recover-schedule tool using STR-Mapping from OSL
2014-10-10 00:14:00 (283)	FCP_AOC_2006 Perform Close Loop Slew: 2717_52_M.CSL

2014-10-10 00:30:00 (283)	S/C on target
2014-10-10 23:29:00 (283)	G/S handover from PER to AGO
2014-10-10 23:46:00 (283)	EV: Command link status set to: TC: NO BITLOCK, TM: GREEN - 1s
2014-10-11 00:05:00 (284)	G/S: staring at this time the signal TM/TC is very unstable several drops, data gaps and frames out of sequence were noticed in TM BITLOCK flickers continuously
2014-10-11 00:22:00 (284)	G/S: carrier down at AGO
2014-10-11 00:33:00 (284)	G/S: carrier up @ AGO + stable signal for TM/TC
2014-10-11 01:02:00 (284)	G/S: staring at this time the signal TM/TC is very unstable again. Problems continue to 06:45. See ***AR XMM-1221***
2014-10-11 04:52:00 (284)	S/S 7, 8 in T/L DISABLED TC for RGS1 and 2 failed
2014-10-11 22:49:00 (284)	G/S: lost on-board lock over AGO. Commanding for OM. Problems continue to 07:03 (285) See ***AR XMM-1221***
2014-10-13 00:14:00 (286)	TC GE1609 failed release due to G/S problem
2014-10-13 02:04:00 (286)	ACI unable to send EPIC-WD reset commands
2014-10-13 07:03:00 (286)	Loss of on-board lock from AGO. SPACON asks for a re-sweep.

2.2. INTEGRAL

2014-10-06 (279)

08:30:00	Installation of new Database (IODB_3.1_0074) on A-Chain

2014-10-07 (280)

17:33:00	After the Kiruna cable umwrap it was not possible to receive TM from VC-7(TMTCS1)
17:44:01	Data gaps on VC-7 from G/S: KIR, RFI, source unknowm

2014-10-08 (281)

01:29:19	Drop VC-0 & VC-7 from KIR, duration: ~10 sec., RFI, source unknown
03:29:00	Data Gaps VC-0 & VC-7 from KIR, duration: ~30 sec, RFI, source unknown
10:00:00	Data Gaps VC-0 & VC-7 from KIR, duration: ~30 sec, RFI, source COSMOS 2458
11:13:00	IMU1 ON, PID # 14630048 lost
11:20:00	FDS: TPF 1463_0500_A.OSL applied on A/S to update slew PID # 14630049
11:36:00	Restart TMTCS1. The VC-7 Link from TMTCS1 was in drop since the cable unwrap yesterday afternoon
12:27:00	PID # 14630050 lost, OTF NOT REACHED
17:00:00	IMU1 ON, PID # 14630054 lost
17:08:00	FDS: TPF 1463_0501_A.OSL applied on A/S to update slew PID # 14630055

2014-10-09 (282)

22:18:01	TM: D5217 'OTF' (value= NOT REACHED) - PID # 14640020 lost

2014-10-10 (283)

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