

---

# ***European Space Agency***

---

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

**XMM-INT-WOPS-13\_06**

**Issue 1**

**Date: 18 February 2013**

Marcus Kirsch  
HSO-OAX

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

Document No :XMM-INT-WOPS-13\_06  
Issue/Rev. No : 1  
Date 18/02/2013  
Page : 2

**Distribution List**

<b>ESOC</b>	Thomas Reiter		Danielle Heinzer
	Tatiana Gabel-Ly	Frank Dreger	Phil Brabbin
	Andreas Rudolph	<a href="mailto:xmmintfd@esa.int">xmmintfd@esa.int</a>	Federico Cordero
	XMMINTFCT	Alastair McDonald	Felicity Sheasby
	Marcus Kirsch		Gianluca Gaudenzi
	Jim Martin	Kenneth Scott	
	Marko Butkovic	Martin Unal	Klaudia Reich
	Frank Albrecht		
	EILSservices@esa.int		
	Juergen Fertig	Justin Howard	
	Richard Southworth	Erik Soerensen	
	Jutta Huebner		
	Paolo Ferri		
<b>ESAC</b>	Alvaro Gimenez	Ramón Muñoz	Peter Kretschmar
	Martin Kessler	Maria Santos Lleo	Erik Kuulkers
		Mauro Casale	isocsci@sciops.esa.int
		Pedro Calderon	
		Ricardo Perez	
<b>ESA HQ</b>			
<b>ESTEC</b>	Fred Jansen		Christoph Winkler
			Guisepe Sarri
<b>ESA Redu</b>	Benoit Demelenne		
<b>Astrium</b>		Tommy Strandberg	
<b>Alenia</b>	Franco Ravera	Mario.Montagna	
<b>Logica</b>	COMCS_Helpdesk.de@log icacmg.com		
<b>ISDC</b>	Roland Walter		Carlo Ferrigno
<b>INT-PI</b>	Francois Lebrun	J.P. Roques	Giovanni Larosa
	Pietro Ubertini	Wojte Hajdas	Miguel Mas Hesse
	Søren Brandt		
	A. Bazzano		

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

Document No :XMM-INT-WOPS-13\_06  
Issue/Rev. No : 1  
Date 18/02/2013  
Page : 3

**1. Weekly report**

	<b>XMM</b>	<b>Integral</b>
Main activities	<ul style="list-style-type: none"> <li>▪ Nominal Operations</li> <li>▪ MCS migration</li> <li>▪ 4WD implementation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Nominal Science Operations</li> <li>▪ Installation of new software release IMCS E3.6.0</li> <li>▪ KIR1 cortex1, 2 and 6 TCO test (long test with cortex6)</li> <li>▪</li> </ul>
Status and performance of S/C	<ul style="list-style-type: none"> <li>▪ Nominal for platform and all instruments.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Nominal for platform and payload.</li> </ul>
Status and performance of Ground segment	<ul style="list-style-type: none"> <li>▪ Nominal</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ongoing occasional RFI at Kiruna</li> <li>▪ Low signal from VIL2</li> <li>▪ Interruptions to ISDS-ISDC link</li> </ul>
S/C Anomalies	<ul style="list-style-type: none"> <li>▪ None</li> </ul>	<ul style="list-style-type: none"> <li>▪ None</li> </ul>
G/S Anomalies	<p>Scheduled Dongara pass for DOY 038 was cancelled with &lt;24 hours notice, due to LEOP activities. Real-time scheduling requests were made to move XMM to AGO and NNO, but gaps in coverage totalling &gt; 4 hours could not be avoided. This interrupted a coordinated observation with NuStar and it is border-line whether the observation period was long enough to be considered complete.</p>	<ul style="list-style-type: none"> <li>▪ INT-3347 VIL2 support: Very low signal level</li> <li>▪ INT-3346 Problems with automatic switchover to other FD server</li> <li>▪ INT-3345 IFTS problems after GTPs restart</li> <li>▪ INT-3344 KIR1: Problem configuring IFMS-1</li> <li>▪ INT-3343 Slew End time MOUTS do not agree with FD values.</li> <li>▪ INT-3342 Error sending data to ISDS on DOY 38 and 40</li> <li>▪ INT-3341 No ASF sent to on idda/MADDS/aux</li> <li>▪ INT-3340 TC failure after start of Maneuver Timer</li> <li>▪ INT-3339 Installation of E3.6.0 failed on sun129</li> <li>▪ INT-3338 'MCS Shutdown &amp; Logout w/s' Spacon menu option not working</li> <li>▪ INT-3337 Frozen autostack and manual stack on clients on A and B chain</li> <li>▪ INT-3336 Yellow start-up window is not disappearing anymore automatically</li> <li>▪ INT-3335 2013-02-01 GEISCL03 ED found inside a ground-station handover.</li> </ul>

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

Document No :XMM-INT-WOPS-13\_06  
Issue/Rev. No : 1  
Date 18/02/2013  
Page : 4

---

Future activities planned	<ul style="list-style-type: none"><li>▪ Maspalomas test passes</li><li>▪ RW spike filter patch to be uploaded in February</li><li>▪ MOS Spare chain test exercise 27<sup>th</sup> February – 1<sup>st</sup> March</li><li>▪ 4WD DDR#2 7<sup>th</sup> March</li></ul>	<ul style="list-style-type: none"><li>▪ Virtualised Solaris environments</li><li>▪ MCS development</li><li>▪ Testing IMCS on Solaris 10</li><li>▪ Kiruna G/S: Cortex validation for Integral should be completed soon</li><li>▪ Lowering of AMD thresholds end of February</li><li>▪ Implementation of all slews as OSLs from rev. 1266 onwards</li></ul>
---------------------------	--	---

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

Document No :XMM-INT-WOPS-13\_06  
Issue/Rev. No : 1  
Date 18/02/2013  
Page : 5

---

## **2. Detailed weekly operational events**

note: all times are Zulu

### **2.1. XMM**

2013-02-04 11:50:00 (035)	A 3189 Failed - T/L Stopped
2013-02-04 11:50:01 (035)	CSL failed; reason: Dim Guide star; impacts / recovery actions: Called FD support
2013-02-04 11:58:00 (035)	S/S 1 in T/L DISABLED
2013-02-04 12:14:57 (035)	CSL failed; reason: Due to dim guide star; impacts / recovery actions: FD support is asked to look for another guide star and send the CSL IPF again
2013-02-04 12:21:00 (035)	S/S 1 RE-ENABLED Globally
2013-02-04 22:29:00 (035)	Loss of uplink from AGO
2013-02-04 22:37:00 (035)	Loss of uplink due to AGO swapping to larger antenna as AGC level is on the limit
2013-02-04 22:48:00 (035)	AGO have gone back to 7m ant as the bigger one does not work
2013-02-05 00:16:00 (036)	short drop in TM fromAGO
2013-02-05 01:54:00 (036)	Loss of uplink from AGO, spacon requests that they switch to a larger antenna.
2013-02-05 02:06:00 (036)	Since now AGO are using the larger ant signal strength has increased by 2db,possible scheduling of the larger antenna might be advantageous for future passes
2013-02-06 10:36:00 (037)	G/S: Drop VC-0 & VC-7 from G/S: KRU, duration: a few sec, reason: prime line down to KRU
2013-02-06 22:20:00 (037)	Regarding the upcoming AGO LOS (initially anticipated by SOC OCR 3106 at 2013.038.04:26), ESTRACK notified that due to masking we are going to have an LOS at 2013.038.04:05. Figured out that total time it would take to put OM in INTERSAFE was exceeding 1.30 minutes than the suggested LOS. Due to this contingency called SOE on call and then SOC On call (Ricardo Perez) and with the authority from him has moved up the execution of OCR (OM related steps only) to 2013.038.00:54.
2013-02-07 00:02:00 (038)	On MCCM Tool error indication x2kmca discrepancy_found.csh x2kmca button has gone RED.
2013-02-07 00:05:00 (038)	Called CCC and asked about the health condition of x2kmca. After examination CCC reported that health of all server and applications are fine.

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

Document No :XMM-INT-WOPS-13\_06  
Issue/Rev. No : 1  
Date 18/02/2013  
Page : 6

---

2013-02-07 00:10:00 (038) On MCCM Tool sun202 and sun 204 also gone RED. discrepancy\_found.csh running 1 expected 0

2013-02-07 00:30:00 (038) Asked CCC about a status update of x2kmca health. CCC reported everything fine.

2013-02-07 00:59:00 (038) x2kita and sun205 buttons gone RED as well.

2013-02-07 02:15:00 (038) Configured B chain (x2kmcb) in case of a possible swap of servers.

2013-02-07 02:30:00 (038) Called to update SOE about the condition of x2kmca.

2013-02-07 04:07:00 (038) LOS G/S AGO – ca. 3hours 30 min without coverage

2013-02-07 07:34:00 (038) AOS G/S NNO

2013-02-07 09:09:00 (038) Network glitch affecting Deneb servers and clients. Halley server (A-chain) and clients not affected.

2013-02-07 11:23:00 (038) Spacon missed to disable S/S 9 at 11:14:00 ( OCR #3106 )  
CRP\_OPM\_0002 (GO TO SAFE) S/S 9 disabled

2013-02-07 11:41:00 (038) LOS G/S NNO – ca. 40 minutes without coverage

2013-02-07 12:18:00 (038) AOS G/S AGO

2013-02-07 23:37:00 (038) TM glitch / drop from G/S KRU, reason: ESTRACK reported it as a COMs issue, duration: 31 seconds, impacts: No major impacts, sent a successful link test command.

2013-02-07 23:56:00 (038) TM glitch / drop from G/S KRU, reason: COMs, duration: 15 seconds, impacts: none,

2013-02-08 00:36:00 (039) CMD PENDING in Auto Commanding . Time:  
2013.038.09.10.38.072 Release: KE8510 Restarting the TC  
SPACON resolved the issue. Related to incident at 09:09z

2013-02-08 02:23:00 (039) TM T6078 toggled for a few times but settled quickly so  
implementation of CRP\_TCS\_6075 was not required.

2013-02-08 11:51:54 (039) CSL update failed. FDS error message: updateslew failed to  
determine a good attitude

2013-02-08 11:52:00 (039) S/S 1 disabled

2013-02-08 12:05:00 (039) Start CSL 2412\_50

2013-02-08 12:15:00 (039) ON Target

2013-02-10 07:01:00 (041) Same FD library problem (See Integral event 041T06:28z) found  
on XMM which means that no IPF can be generated. FD try again  
to call their SWS but still no answer. Spacon will therefore disable  
s/s 1 to prevent the slews from being uplinked and therefore  
remain at perigee attitude.

2013-02-10 07:22:00 (041) FD inform that their on call SWS are on the way and a workaround  
has been found which would enable the planned slews to be  
executed. The first OSL will go from the timeline and the rest will  
be performed manually.

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

Document No :XMM-INT-WOPS-13\_06  
Issue/Rev. No : 1  
Date 18/02/2013  
Page : 7

---

### **2.2. Integral**

- 04/02/2013 (035)
  - o 04:45:00 Data gaps on VC-0, VC-7 & BF from Vilspa (RFI)
  - o 14:47:00 GOCE Emergency support until 18:30: H/O KIR to VIL2 for this period
  - o 19:02:00 Connected backup links (KI11) on inctrb (before needed by GOCE)
  
- 05/02/2013 (036)
  - o Nothing to report
  
- 06/02/2013 (037)
  - o 07:54:00 PID #0001 lost
  - o 07:57:58 CMD A3129 (START SLEW MAN) failed release due to STAT PTV NO GO
  - o 08:07:00 Recovery tool started
  - o 08:15:00 PID #0002 lost
  - o 08:19:04 Manual slew 1260\_0500\_M.OSL from PID #0073 to #0001
  - o 08:36:00 Recovery tool started
  - o 08:43:00 Manual slew 1260\_0501\_M.OSL from PID #0001 to #0002
  - o 08:50:00 Recovery tool started
  - o 08:55:00 FDS: TPF 1260\_0502\_A.CSL applied on A/S to update slew #0003
  - o 09:00:00 FCP\_MCS\_0010 - Operations Swap IMCA to IMCB for new Software Release E3.6.0 on the Integral A-Chain until 13:36Z (Ops. Instr. #790)
  - o 09:23:00 IFTS problems on FD side after GTPs restart; GTPs had to be re-started several times. Therefore, the system did not receive the update slew #0004. No TPF generated for update slew #0004. AOCS disabled
    - 09:37:00 Recovery tool started
    - 09:43:00 TPF generation OK but update not applied on A/S due to IFTS problem
    - 10:01:00 SOE send TPF update manually. TPF 1260\_0503\_A.OSL applied on A/S to update slew #0004
  - o 13:54:00 Cluster required VIL2 for contingency operations (ECC) to REDU
  - o 19:32:00 Test of Kiruna Cortex-6 on c-chain (TCO test) until 05:22Z (Ops. Instr. #793). Short TCO test of LIR1 Cortex-1, 2, 6 on c-chain in afternoon
  - o 19:44:00 KI11 links on inctrb show DROP, problems configuring IFMS-1 as back-up chain for remaining part of Integral support. Only chain 2 (prime) available for support. ECC procedure to be updated.
  
- 07/02/2013 (038)
  - o 05:46:00 TM: E0392 'T CR COLDPL' S/H-OOL (value= 80.9209K) - Toggling
  - o 08:01:00 No ASF files received for some hours - Analyst informed. Note: ISDC actually received all ASF files, though.
  - o 09:09:22 ESOC wide network glitch on Deneb (other missions affected: XMM, Cryosat, GOCE, Herschel, Planck): network spanning tree reconfiguration (54sec.) → Corba connections among SCOS tasks

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

Document No :XMM-INT-WOPS-13\_06  
Issue/Rev. No : 1  
Date 18/02/2013  
Page : 8

---

- reported synchronisation errors mainly affecting multiplexer application on imca. Disconnection of M/S and A/S reported (tasks running on the client sun122 & 129) → MRB on 13/02/2013
- 09:09:22 imca error message:Exception raised during request for 'relese NextRequest' for src ID:200 imca error message:CORBA Sync Error, CMD Stack with src ID:200 has been disconnected from CMD Multiplexer, stop and restart the Stack Task! The 'stop and restart the Stack Task!' part of the error message was not in the visual side part of Event logger so the Spacon did not see it and the M/S and A/S were green with no indication of any problem! This was the cause of the problem from 09:43:15 when the next CMD from the A/S was never dispatched. In the same time at 09:09:37 we had some error messages on x2kmca: Lost connection to src ID: 2 while still connected so that this is a clear indication of a network problem.
  - 09:43:05 PID #0027 lost
  - 09:43:15 CMD A2541 (STR SRCH/TRK) failed release window check
  - 09:45:59 Src ID: 1 tried to setSourceStatus(), but was never connected
  - 09:46:38 Src ID: 200 tried to setSourceStatus, but was never connected
  - 09:50:31 FCP\_MCS\_0010 – Operations Swap IMCA to IMCB (since not sure about the reason for the A/S and M/S not possible to dispatch commands anymore → since new IMCS S/W version since yesterday). It looks like there was a network problem in ESOC due to imca error messages from 09:09:22 and x2kmca error messages at 09:09:37. At that time no error messages were observed on imcb so the decision was taken to move operations to B-Chain. We realised later that even without any indication of an error message around 09:09:37 we had the same problem with the A/S from B-Chain at 10:40:19. Test CMD on B-chain OK.
  - 09:57:47 Recovery tool started (B-Chain)
  - 10:10:03 Manual slew 1260\_0504\_M.CSL from PID #026 to #0027
  - 10:22:40 Recovery tool started (B-Chain)
  - 10:28:44 TPF 1260\_0505\_A.CSL applied on A/S to update slew #0028
  - 10:40:19 sun127 error message (B-Chain): Source: 200. Command: A2541 failed release window check. We have the same problem like on the A-Chain. The A/S is indicating dispatched and the CMD's are never dispatched! The decision is taken to move back to A-Chain after the restart of all clients on the A-chain. Commanding problem not connected to new IMCS E3.6 release, but to network issue.
  - 10:41:00 PID #10028 lost
  - 10:49:00 FCP\_MCS\_0011 – Operations Swap IMCB to IMCA
  - 11:05:02 Manual slew 1260\_0506\_M.CSL from PID #0027 to #0028
  - 11:14:46 Recovery tool started
  - 11:35:54 TPF 1260\_0507\_A.CSL applied on A/S to update slew #0029
  - 11:00:00 Problems with the DB installation on client sun129 (synthetic folder empty). SWS to re-import DB again. This did not fix the problem. Re-installation of S/W on sun129 again. Still same problem. sun129 not operational until further notice
  - 16:05:11 FCP\_SPI1\_2504 - SPICO: STROKE INCREASE, increased stroke of all 4 compressors by 1 LSB to a value of 38 (TM: EC9960 = 38, EC9980 = 38, EC9961 = 38, EC9981 = 38)



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

Document No :XMM-INT-WOPS-13\_06  
Issue/Rev. No : 1  
Date 18/02/2013  
Page : 9

---

- 23:34:25 A3089 START SUN STEER failed CEV, AOCS interlock triggered; Background: star was lost in first minute after OSL → IMU will not go on → the CEV did not see the expected RGA value of 6 because the loss of guide star changed it back to 5 before the HK TM packet could report it (RGA6 was reached though as seen in the OEM) → 1.5
- 23:51:00 PID #41,42,43 lost, called SOE & FD
- 23:52:00 RMU Calibration missed due to AOCS disabled on T/L
  
- 08/02/2013 (039)
  - 00:45:00 FD came in & recovery tool started
  - 00:57:00 Manual slew 1260\_0508\_M.OSL from PID #0040 to #0043
  - 01:07:00 FDS: TPF 1260\_0509\_A.OSL applied on A/S to update slew #0044
  - 01:28:00 FCP\_AOC\_0550 RMU Null Bias calibration
  - 01:45:00 FCP\_AOC\_1905 - RMU Calibration (Roll = -69.12 / Pitch = 40.32 / Yaw = -104.40)
  - 08:00:00 No ASF files received for some hours - Analyst informed
  
- 09/02/2013 (040)
  - 06:02:00 OEM: "ACC AIMU ON" - stored event from 02:50z OEM: "ACC AIMU OFF" - stored event from 03:00z Loss of G/S during perigee passage → same guide star tracked after IMU on, no action taken
  - 07:15:00 Error sending data to isds(a) - appears every 30 min for 1min
  - 08:09:00 TC: A3085 'RC SUN STEER INI' CEV unverified → IPS 1/6
  - 08:13:00 High rad.: E3500 'P\_DF\_CNVT-BW\_L,1' H/H-OOL (value= 171611) for 25min
  - 08:21:00 OEM: "IBIS1 IASW HEPI DATA INCLUDES TIME OVERRUN" – several & OEM: "IBIS1 HEPI RESYNCHRONIZED" at 08:21:01Z
  
- 10/02/2013 (041)
  - 04:33:00 TPF update failed for SlewID #0036. Not enough stars
  - 04:36:00 Recovery tool started
  - 04:48:00 Recoverschedule failed: not enough stars
  - 04:49:00 Recovery tool started
  - 04:52:00 Recoverschedule failed again (same error), FD called
  - 05:00:00 OSL #0036 missed from T/L
  - 05:10:00 FD support on site
  - 05:13:00 FCP\_AOC\_0531 STR mapping keeping guide star
  - 06:28:00 It seems that there is a problem with the FD library → FD to move operations to another server. The problem is that there are some GTPs from cluster which are using very high CPU.
  - 06:29:00 Man mapping
  - 06:55:00 AOCS enabled in order to let cmd Reset rate int be released for the RMU calibration & AOCS disabled afterwards
  - 08:57:00 man mapping+ spacon tool
  - 09:08:00 Manual slew 1261\_0500\_M.OSL from PID #0035 to #0044
  - 09:35:00 FDS: TPF 1261\_0501\_A.OSL applied on A/S to update slew #0045
  - 21:46:53 OEM: "ACC STR THR EX", OEM: "ACC AIMU ON"
  - 21:48:00 PID #0063 interrupted & PID #0064 lost (21:50)
  - 21:56:53 OEM: "ACC AIMU OFF"
  - 21:57:00 Recovery tool started

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

Document No :XMM-INT-WOPS-13\_06  
Issue/Rev. No : 1  
Date 18/02/2013  
Page : 10

---

- 22:05:00 Manual slew 1261\_0502\_M.CSL from PID #0063 to #0064
- 22:18:46 TPF 1262\_0503\_A.OSL applied on A/S to update slew #0065
  
- 2013-02-11 (042)
  - 03:34:00 Bad Frames from VIL2 for a few sec., signal level very low
  - 08:00:00 No ASF files received for some hours