

INTEGRAL
Mission Report
INT-MOC-SYS-RP-1001-TOS-OF
No. 025
Week 11
14.03.03
Routine Phase

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1 General

The Flight Control Team at MOC has compiled this report considering a couple of inputs provided by the Flight Dynamics Team.

It addresses the activities from 08.03.03 until 14.03.03 (both dates inclusive) and covers the revolutions 48, 49 & 50.

2 Summary of Activities

The operations were performed according to the planning inputs from ISOC combined with some manual commanding of the instruments by MOC.

The targets of the revolutions were GRS 1915+105 (RA 19:15:11.50; DEC +10:56:44.0), Centaurus A (RA 13:25:27.60; DEC -43:01:08.8), Aql X-1 (RA 19:11:16.00; DEC +00:35:06.0), an OMC Flat Field target (RA 07:05:36.00; DEC -75:12:00.0), the Galactic centre and the Galactic plane. Observations consisted of hexagonal and raster dithering observations, a staring observation, as well as GPS and GCDE observations.

Note: Some further information concerning the activities is provided in the Appendix.

3 Satellite Status

3.1 Platform

The performance of the platform was good. No unexpected behaviour / malfunction was identified.

3.1.1 AOCS

The main events from the AOCS point of view during this week were two losses of the guide star due to the SEU filter being exceeded. There was as well a sharp increase in the temperature for one hydrazine pipe thermistor (T6055), for a short period of time. This is a known behaviour (see INT-RP-AI-0267, Integral Commissioning: Thermal Subsystem), due to redistribution of hydrazine in the pipes. In this case the temperature reached was 60 °C.

There has been a correction to the fuel budget, based on the final recalibration of the LEOP manoeuvres. This correction has added 0.64 Kg to the remaining fuel estimation. The fuel consumption over the last 8 days was 0.173 Kg. The remaining propellant is in the order of 179.19 Kg on the 12th of March.

Note: Some more information concerning the AOCS operations and the fuel budget is provided in the Appendix.

3.1.2 Power

The power subsystem is working as specified. The available power is in the order of 2380 W as since the beginning of the mission, i.e. no degradation has been identified so far.

3.1.3 Thermal

The thermal control of the satellite is working well. The temperatures are currently all within the specified operational limits.

3.1.4 OBDH

The OBDH subsystem is working flawlessly. No on-board communications problem identified.

3.1.5 RF

The RF subsystem is working properly. The link margin is sufficient to ensure proper TM reception and execution of commands with the ranging channel enabled.

3.2 Payload

3.2.1 SPI

The status is nominal.

The instrument is operating in photon by photon mode at 85K. The TM bandwidth assigned to SPI has 69 pkts for all the period with Spectra telemetry disabled.

The Cryo-cooler stroke has been further tuned and is working nominally.

Note: Some more information concerning the SPI operations is provided in the Appendix.

3.2.2 IBIS

Status Nominal, on-going routine phase.

Note: Some more information concerning the IBIS operations is provided in the Appendix.

3.2.3 JEM-X

During the reporting period, JEM-X2 operations were performed nominally as planned in the timeline and JEM-X1 was dormant.

3.2.4 OMC

During this period, nominal OMC operations were interrupted a few times because of different problems, which resulted in missing of slews.

OMC Flat-Field calibration operations were performed during revolution 50.

Note: Some more information concerning the OMC operations is provided in the Appendix.

3.2.5 IREM

The status of the unit is nominal.

4 Ground Facilities

The overall performance of the ground segment was good, well above the required 95 %. This concerns the number of executed pointings with respect to the planned pointings and the provision of real-time data to ISDC.

Revolution 48: Pass Report

DOY	VIRTUAL CANNEL	STATION	TOTAL EFFECTIVE COVERAGE
065	0	Redu	99.98%
065	7	Redu	99.96%
066	0	GS	99.85%
066	0	Redu	99.70%
066	7	GS	99.82%
066	7	Redu	99.62%
067	0	GS	99.85%
067	0	Redu	100%
067	7	GS	99.86%
067	7	Redu	99.99%

Revolution 49: Pass Report

DOY	VIRTUAL CANNEL	STATION	TOTAL EFFECTIVE COVERAGE
068	0	Redu	99.98%
068	7	Redu	99.94%
069	0	GS	96.43%
069	0	Redu	99.82%
069	7	GS	98.33%
069	7	Redu	99.84%
070	0	GS	99.93%
070	0	Redu	100%
070	7	GS	99.90%
070	7	Redu	100%

Note:

The above tables indicate the real-time data provision by the ground stations before the playback of the data. It is emphasized that this does not directly provide an indication of the science return because a small outage could cause a loss of a couple of pointings.

4.1 Mission Operations Centre

There were no problems reported within the MOC that impacted the execution of the Timeline..

4.2 Ground Stations & Network

The performance of the operational network was in general good though there were a few problems related to the ground stations at Redu and at Goldstone.

There were three occasions when there were link problems from both Redu and Goldstone:

- On day 069 at 09:32 the TM from Redu dropped for about 10 secs, and the TC was down for about 5 minutes, the impact of this was some lost data.
- On day 069 from 13:42 to 16:00 Goldstone DSS-24 TC was intermittent, the impact was lost pointings, after recovery of a stable TC link, the attitude had to be manually recovered..
- On day 073 from 12:26 to 13:37, acquiring the TC link for Goldstone DSS-16 after the handover from Redu was delayed, resulting in some missed pointings, which had to be manually recovered.

4.3 Science Ground Segment

4.3.1 ISOC

No ISOC Input has been provided

4.3.2 ISDC

No ISDC Input has been provided

5 Special Events

No special events this week.

6 Anomalies

The problems related to the ground segments are already mentioned in chapter 4. The I/F to Goldstone that is causing still problems has not yet been upgraded. Some coordination with JPL is ongoing to discuss possible improvements. A meeting at ESOC is planned for 19th and 20th of March.

A list of the pending anomalies since Launch is presented in the Appendix. New anomalies raised during the past week are listed below:

ARid	Date Occurrence	Subject	Segment	Element	Status
INT - 002248	2003/03/08	Loss of Guide Star	Space	Spacecraft	Pending
INT - 002250	2003/03/09	FD System Crashed	Ground	IMCS	Pending

INT - 002251	2003/03/10	Loss of Guide Star	Space	Spacecraft	Pending
INT - 002252	2003/03/10	CDS out of Lock at Redu - TM&TC Loss	Ground	ESA Sta.	Pending
INT - 002253	2003/03/10	RX1 and RX2 Locked at the same time	Ground	NASA Sta.	Pending

7 Future Milestones

There will be an ESOC power outage on 18th March, operations will be conducted from Redu.

8 Appendix

The appendix includes various detailed information.

8.1 Overview of Revolutions

Revolution 48

Revolution 48 consisted of a hexagonal dithering observation centered on GRS 1915+105 (RA 19:15:11.50; DEC +10:56:44.0) lasting approximately 29 hours followed by a raster dithering observation centered on Centaurus A (RA 13:25:27.60; DEC -43:01:08.8) lasting ~30 hours.

The TM allocation throughout all observations was 69 SPI, 112 IBIS, 1 JEM-X1, 8 JEM-X2, 5 OMC. All instruments were in their nominal science modes for both observations, except for JEM-X1, which remained in SAFE mode for the entire revolution.

Revolution 49

Revolution 49 began with a continuation of the raster dithering observation centered on Centaurus A (RA 13:25:27.60; DEC -43:01:08.8), which was started in revolution 48. This observation lasted ~15 hours and was followed by a GCDE lasting ~14 hours. A raster dithering observation of the source Aql X-1 (RA 19:11:16.00; DEC +00:35:06.0) was then performed for about 18 hours. A GCDE was performed for the remainder of the revolution (9 hours).

The TM allocation throughout all observations was 69 SPI, 112 IBIS, 1 JEM-X1, 8 JEM-X2, 5 OMC. All instruments were in their nominal science modes for all observations, except for JEM-X1, which remained in SAFE mode for the entire revolution.

Revolution 50

Revolution 50 started with a GPS lasting ~18 hours with a TM allocation of 69 SPI; 112 IBIS; 1 JEM-X1; 8 JEM-X2; 5 OMC. This was followed by a staring observation at an OMC Flat Field target (RA 07:05:36.00; DEC -75:12:00.0) during which an OMC Flat Field Calibration was performed. The TM allocation during this observation was 69 SPI; 77 IBIS; 1 JEM-X1; 8 JEM-X2; 40 OMC. This observation lasted about 4 hours and was followed by a GCDE which was performed for the remainder of the observation time (~39 hours). The TM allocation reverted back to 69 SPI; 112 IBIS; 1 JEM-X1; 8 JEM-X2; 5 OMC for this GCDE observation.

SPI and JEM-X2 were in their nominal science modes for all observations. OMC was in normal science mode for the GPS and GCDE observations and in Calibration mode for the Flat Field Calibration. IBIS was commanded in Standard mode by the automatic Timeline for the GPS observation, however after the end of the GPS, IBIS commanding was disabled from the Timeline and IBIS was configured manually according to PI Change Requests for the remainder of the revolution. JEM-X1 was in SAFE mode for the entire revolution.

8.2 Consumables

8.2.1 Detailed Fuel Book-keeping

2003-03-06T02:09:05.000Z	179.3490	F	After 0048_0051_M.RWB
2003-03-07T09:10:44.000Z	179.3243	F	Automatic TM
processing.			
2003-03-07T10:28:13.000Z	179.3062	F	Automatic TM
processing.			
2003-03-07T12:17:57.000Z	179.2845	F	Automatic TM
processing.			
2003-03-09T00:51:37.000Z	179.2648	F	Automatic TM
processing.			

2003-03-10T09:21:17.000Z	179.2421	F	Automatic TM processing.
2003-03-10T11:12:53.000Z	179.2157	F	Automatic TM processing.
2003-03-11T04:21:51.000Z	179.2020	F	Automatic TM processing.
2003-03-12T00:39:37.000Z	179.1907	F	Automatic TM processing.
2003-03-12T09:43:38.000Z	179.1853	F	Automatic TM processing.

This report was generated at Wed Mar 12 16:56:37 GMT 2003

Note: An increment of +0.6360kg has been added to the fuelbook following the final recalibration of the LEOP orbit manoeuvres. Details to be found in the ADC volume of the Flight Dynamics LEOP report (INT-FDOS-ADC-FDR-0001-TOS-GFO ... in preparation)

8.3 Detailed Satellite Information

This section contains some detailed information concerning the various subsystems of the satellite and instruments.

8.3.1 AOCS SUMMARY OPERATIONS REPORT 07/03/2003-13/03/2003

AOCS operations were executed from the Automatic Timeline.
During this period, 63 Open Loop Slews, 169 Closed Loop Slews and 11 Momentum Bias were executed. 6 slews were missed, and one was executed to the wrong attitude. This is around 3% of the total.

07/03/03 (Day of Year 066, Revolution 48)

Temperature of T6055 reached 60 degC: At 22:37 the temperature of T6055 started to increase from a value of 38 °C, reaching a maximum of 60 °C at 22:45, and dropping back to 33 °C at 23:00. For an explanation of this phenomenon, refer to INT-RP-AI-0267, Integral Commissioning: Thermal Subsystem.

08/03/03 (Day of Year 067, Revolution 48)

Guide Star Released by SEU Filter: During pointing 00480072, at 01:54:08, the guide star was released due to the SEU Filter threshold being exceeded. This happened immediately after the change of guide star prior to a close loop slew. An autonomous mapping was commanded by the ACC and a new star acquired. Unfortunately the Spacon was not in the control room in this precise moment, and the close loop slew was performed using this new, wrong, star. As a result the attitude of 00480073 was wrong. At this point the Spacon disabled AOCS commanding from the timeline, and performed the manual recovery to the correct attitude. The first slew that was nominally performed again by the timeline was 00480075.

The details of the lost star are: magnitude 7.65, CCD coordinates (7098, -15762). The altitude at this point of the orbit was of 135000 Km.

09/03/03 (Day of Year 068 Revolution 49)

Slew lost due to control system problem: At 06:56 the command to swap the guide star before close loop slew 00490007 failed PTV. The precondition was in fact OK, but it was wrongly evaluated by the Autostack. This is a known occasional problem, which is under investigation. The slew was manually performed and the timeline resumed before 00490008.

10/03/03 (Day of Year 069, Revolution 49)

Guide Star Released by SEU Filter: During pointing 00490053 the guide star was released due to the SEU Filter threshold being exceeded. An autonomous mapping was commanded by the ACC and a new star acquired. The problem had no impact apart from the OTF staying low for the rest of this pointing.

The details of the lost star are: magnitude 8.5, CCD coordinates (-4286, 17267). The altitude at this point of the orbit was of 153000 Km.

Slews lost due to ground station problems (Goldstone, DSS-24): After the H/O from Redu to Goldstone there were problems with the station, both in TM (drops) and TC (both transponders in lock, TC failing). This problem lasted for about 2 hours (a replacement of some hardware was needed at the station). The impact of the problem was that slews 00490059 to 00490062 were lost.

11/03/03 (Day of Year 070, Revolution 49)

Nothing to report.

12/03/03 (Day of Year 071, Revolution 50)

OTF jitter: At 18:45:28.329 the OTF went to False for one cycle due to an undetected False Event in the STR. This is the second occurrence since the change in the OTF thresholds. The jitter was not reflected in the Broadcast Packet. The detailed data are:

18:45:27.636	8.45	-4273	17288
18:45:28.136	8.35	-4164	17063
18:45:28.636	8.50	-4290	17253

The jump in the yaw coordinates was in this case of 225 CCD units, or 55". This is more than the current threshold (36"). The altitude in the orbit was 130000 Km.

13/03/03 (Day of Year 071, Revolution 50)

Nothing to report.

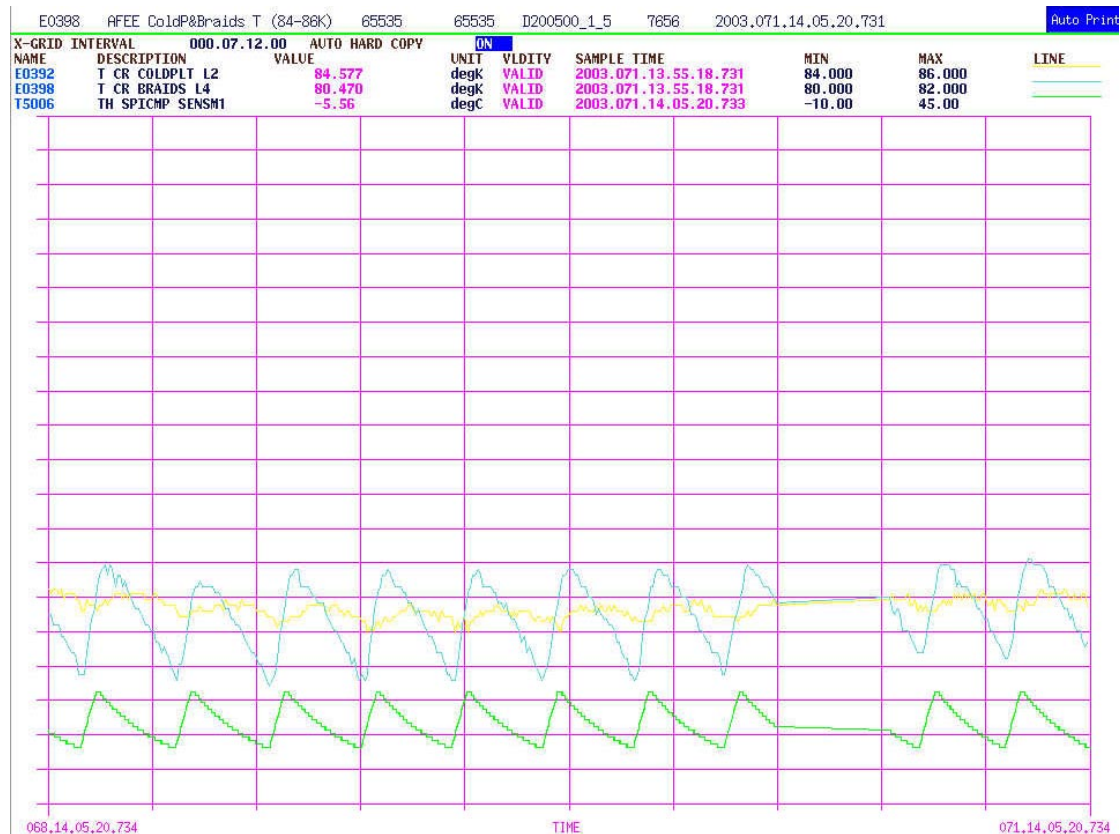
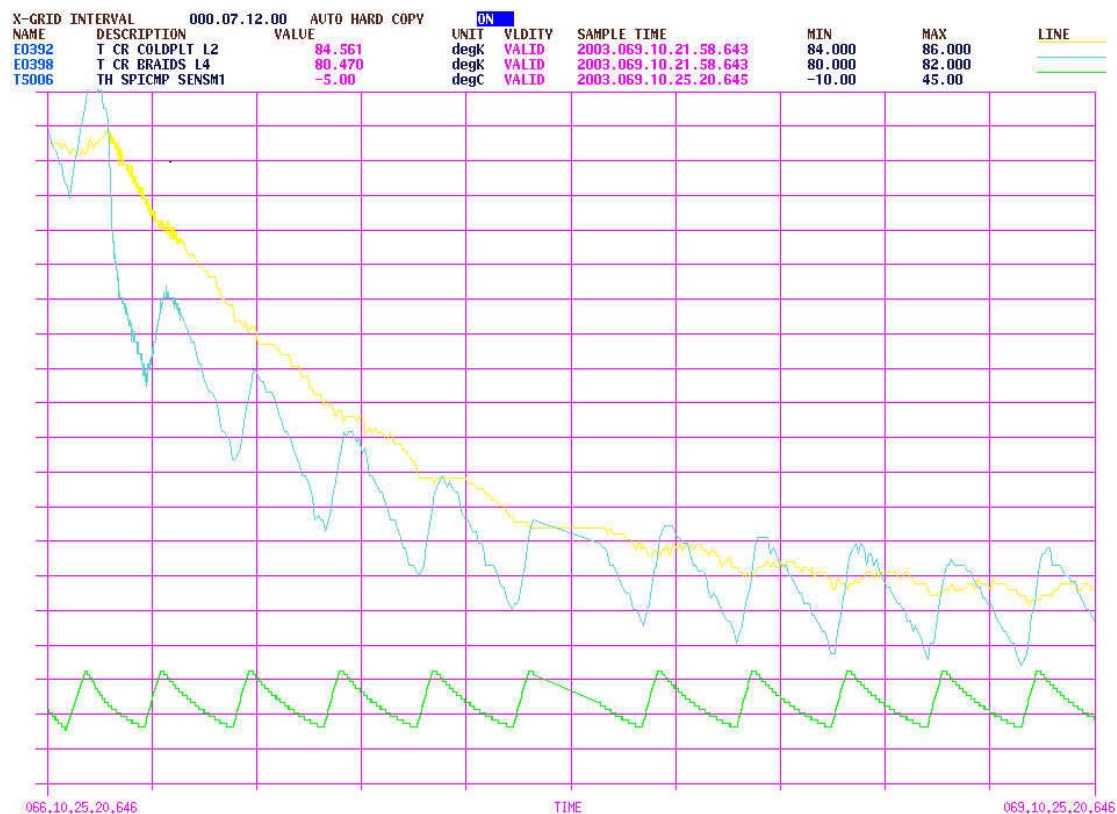
8.3.2 SPI Operations

During the reporting period the following main events occurred:

1- On 07.03.03 at 14:50Z, as the detector cold plate temperature was going to hit the upper limit (85.9K), the cryocooler strokes have been increased by 1 LSB on the 4 compressors. The stroke setting is currently 4x39raw.

After the stroke tuning, the cold plate temperature dropped until ~84.5K and then started again to drift high, still confirming the on-board materials outgassing, which affects the cooling performances.

The drift of the cold plate temperature is estimated at about 0.03K/day, i.e. half the value of last week with strokes at 4x38raw. See attached plots, showing the cooling transient and drift phenomena after stroke change.



2- On 14.03.03 at 08.30Z an investigation on possible alternative PST lay-outs has been conducted with SPI allocation of 69pkts/cycle (CR FCT-OPS-078). The test has been carried out using the same IMCS algorithm distributing the PST windows over the 8 sec cycle but using a different processing order of the PSTREQ numbers. Nominally the processing order is SPI, IBIS, JEMX1, JEMX2, OMC, i.e SPI windows are distributed 1st, then IBIS, JEMX1, JEMX2 and OMC when the algorithm composes the PST programming commands (let's call this PST lay-out A).

We built 2 alternative PSTs : Lay-out B: IBIS 1st , then SPI, JEMX1, JEMX2, OMC; Lay-out C: IBIS 1st , then JEMX1, JEMX2, OMC and SPI last.

The results are the following:

Lay-out A: 3 unused TM slots out of 69 (commanded by EPOS)

Lay-out B: 1 unused TM slots out of 69

Lay-out C: 2 unused TM slots out of 69

At the end of the test we left on-board the lay-out B. We are trying to understand by induction what is the PST distribution causing this unexpected behaviour.

3- The CR FCT-OPS-077 for new cryogenic limits and cryo-cooler tuning procedures has been submitted and approved by all parties. With this CR we expect to reduce to about once per month or even longer the interval for stroke tuning. Procedures FCP_SPI1/2_0075/0076 START ACTIVE COOLING for 85K OPS will be updated as a consequence.

4- New EDs EEORTM01 and EECLEX02 are available for next database export. (the EDs contain 4 more instances of the same report commands, see also previous weekly report).

Special activities planned in the next revolutions:

1- Next week, on 18th March at ~04:00Z, a power supply outage of ~10hrs is expected at MOC. In case the back-up commanding chain (at Redu) is not available, the instrument will be commanded into a safe configuration and science interrupted for the period. ~1 hrs before, we will uplink the commands to perform the transition to config mode and turn off the ACS high voltage power supplies. We will resume the nominal configuration and photon by photon mode within 1 hr after the outage.

2- On best effort basis, as a temporary solution, the PST will be changed manually to get the PST Lay-out B here above mentioned (1 unused SPI TM slots out of 69, instead of 3)

8.3.3 IBIS Operations

Reported (few) during Belt passage the OEM ID 167 Class 2 <<IBIS1 PICsIT NOISY SEMIMODULE>> due also to the fact that the PICsIT detectors are ON without the VETO anticoincidence system, as it was required by PIs.

Reported on DOY 2003. 066.10.21Z

the OEM ID 183 Class 2 <<IBIS1 VETO +5V VECU VOLTAGE OUT OF RANGE>>. The relevant TM_para G6106 reported a value inside limits and therefore the problem has been disregarded, as suggested by the nominal reaction to this OEM.

Reported on DOY 2003. 069.08.48Z and DOY 2003. 070.10.28Z

the OEM ID 180 Class 2 <<IBIS1 VETO COUNTER LATERAL EXCEEDS ALERT VALUE>>. The relevant TM_para G6063 reported a value inside limits and therefore the problem has been disregarded, as suggested by the nominal reaction to this OEM.

Reported on DOY 2003. 071.03.01Z

the OEM ID 179 Class 2 <<IBIS1 VETO COUNTER BOTTOM EXCEEDS ALERT VALUE>> due to a later exit from the Radiation belt. The relevant TM_para G6062 reported values inside limits after few TM cycles and therefore the problem has been disregarded, as suggested by the nominal reaction to this OEM.

IBIS s/s disabled on 2003.071.20.40Z in order to perform the special configuration requested by IBIS team in coincidence with OMC FF calibration (TM allocation 77 for FF and 112 for GCDE+GPS). The manual configuration of the unit will continue until Rev 51.

On DOY 2003.072.07.30 no histograms were produced during Standard pointing. The problem was due to a not correct setting of the Histograms integration time set by the automatic timeline (2150 instead of 1750 sec). The problem has been cured setting the proper integration time to 1750 sec and manually downloading the last Histogram on-board.

The last configuration of the unit foresees to have the TM allocation to 112 pkt/sec and the Histograms integration time to 1750 sec.

8.3.4 JEM-X Operations

JEM-X2 operating nominally, JEM-X1 was dormant.

8.3.5 OMC Operations

08-Mar-2003, DOY 067, Revolution 48

- 01:56:00, Loss of guide star and the consequent automatic star tracker mapping caused the selection of the wrong guide-star just before close-loop slew 00480073. Therefore slew 00480073 went to a different attitude (RA: 13:43:24.73, Dec: -39:27:35.3, PA: 132:54:55.4) than the planned one. Because of the error in the attitude, the flight dynamics system failed to update slew 00480074 and this slew was missed. Slew 00480075 was manually updated and from pointing 00480075 nominal operations resumed.

09-Mar-2003, DOY 068, Revolution 49

- 06:56:00, Because of hardware problems, the flight dynamics workstation shut down. The timeline was stopped and slew 00490007 was missed.

10-Mar-2003, DOY 069, Revolution 49

- 13:40:00, due to problems with the Goldstone ground station, slews 00490059 to 00490062 were missed. After recovery, manual slew was performed to the attitude of pointing 00490062 and slew 00490063 was manually updated. Nominal operations resumed at pointing 00490063

12-Mar-2003, DOY 071, Revolution 50

- OMC Flat-Field calibration was performed from 20:56:00 to 00:27:00

8.3.6 IREM Operations

The status of the unit is nominal.

8.4 List of Anomalies since Launch

The following table presents the list of all identified anomalies that have been registered since Launch and that are still pending. Though these Anomaly Reports still have a pending status most of the problems have been analysed and solutions or at least workarounds are already in place.

ARid	Date Occurrence	Subject	Segment	Element	Status
INT - 002003	2002/10/19	Command failure from TCE2 at Redu1.	Ground	ESA Sta.	Pending
INT - 002010	2002/10/22	Time correlation not applied correctly to time parameters in TM type 8 reports.	Ground	IMCS	Pending
INT - 002018	2002/10/22	Loss of TM and TC with Goldstone.	Ground	NASA Sta.	Pending
INT - 002024	2002/10/28	OEM: SPI1 Fixed print overflow	Space	SPI	Pending
INT - 002048	2002/11/08	TM Data Retrieval Jobs not executed	Ground	IMCS	Pending
INT - 002055	2002/11/09	IBIS VETO anomalous count rates.	Space	IBIS	Pending
INT - 002061	2002/11/12	TM Desktop performance collapses when de-selecting supercommutated procesing.	Ground	IMCS	Pending
INT - 002066	2002/11/13	Data routing to ISDS	Ground	I/F to SGS	Pending
INT - 002082	2002/11/13	TM packet production lower than allocation.	Space	SPI	Pending
INT - 002070	2002/11/14	TDRS: data Rerievals cancelled	Ground	IMCS	Pending
INT - 002079	2002/11/14	Timing Problem with Telecommands	Ground	ESA Sta.	Pending
INT - 002083	2002/11/16	SPI DPE Crash	Space	SPI	Pending
INT - 002091	2002/11/18	A-Chain Frozen	Ground	IMCS	Pending
INT - 002092	2002/11/19	Load-Dump comparison uses also non-released load commands	Ground	IMCS	Pending
INT - 002094	2002/11/19	TDRS does not work with supercommutated parameters	Ground	IMCS	Pending
INT - 002096	2002/11/19	Retrieval from the stations	Ground	IMCS	Pending
INT - 002097	2002/11/19	Unexpected dithering process when SPI spectra accumulation = 0	Space	SPI	Pending
INT - 002121	2002/11/26	ISGRI countrates increase up to 8000 counts/sec in one module	Space	IBIS	Pending
INT - 002125	2002/11/29	Data loss between IMCS and ISDC	Ground	I/F to SGS	Pending

INT - 002122	2002/12/02	IBIS VDM4 HV broke down	Space	IBIS	Pending
INT - 002131	2002/12/04	Lost TC capability via GoldStone(Dss-16)	Ground	NASA Sta.	Pending
INT - 002132	2002/12/05	TM/TC loss via REDU	Ground	ESA Sta.	Pending
INT - 002137	2002/12/08	Handover to DSS-16 delayed due to hardware problems	Ground	NASA Sta.	Pending
INT - 002138	2002/12/09	Command failure	Ground	IMCS	Pending
INT - 002142	2002/12/11	TDRS Time Interval Setting	Ground	IMCS	Pending
INT - 002145	2002/12/15	Commands failing PTV for no reason	Ground	IMCS	Pending
INT - 002152	2002/12/18	NCTRS-A required resetting	Ground	NCTRS	Pending
INT - 002157	2002/12/20	Lost VC-7 from NCTRS	Ground	NCTRS	Pending
INT - 002174	2002/12/29	Wrong GuideStar selected.	Space	Spacecraft	Pending
INT - 002183	2003/01/01	Dyn PTV failure	Ground	IMCS	Pending
INT - 002169	2003/01/03	IREM sw local resets due to SEU (twice)	Space	IREM	Pending
INT - 002191	2003/01/11	FDS not able to update slew parameters	Ground	FDS	Pending
INT - 002194	2003/01/16	Wrong handling of the OTF after Open Loop Slew	Space	Spacecraft	Pending
INT - 002199	2003/01/17	Incorrect handling of CLCW wraparound in CLTU mode	Ground	ESA Sta.	Pending
INT - 002197	2003/01/20	Lost Telecommanding via REDU	Ground	IMCS	Pending
INT - 002200	2003/01/20	TM/TC Link lost via REDU	Ground	ESA Sta.	Pending
INT - 002203	2003/01/21	Telemetry Drops from GoldStone	Ground	NASA Sta.	Pending
INT - 002202	2003/01/22	NCTRS log file writing takes all the CPU making the application fail.	Ground	NCTRS	Pending
INT - 002205	2003/01/24	Telemetry Drops from GoldStone	Ground	NASA Sta.	Pending
INT - 002206	2003/01/25	Link lost to ISDC.	Ground	I/F to SGS	Pending
INT - 002207	2003/01/27	TM and TC lost due to COMMS problems	Ground	COMMS	Pending
INT - 002208	2003/01/27	Autostack: Commands that fail release do not apply any further interlock.	Ground	IMCS	Pending
INT - 002209	2003/01/27	Loss of TM/TC via DSS-24	Ground	NASA Sta.	Pending
INT - 002210	2003/01/27	Telemetry loss via DSS-24	Ground	NASA Sta.	Pending
INT - 002211	2003/01/28	Manual Stack crashed on SUN-123	Ground	IMCS	Pending
INT - 002212	2003/01/29	TDRS Interval-by-Interval TM Retrieval Problem	Ground	IMCS	Pending
INT - 002213	2003/01/29	SCOS 2000 Interval-by-Interval TM Retrieval Problem	Ground	IMCS	Pending
INT - 002214	2003/01/29	Drop in telemetry from REDU	Ground	ESA Sta.	Pending

INT - 002215	2003/01/30	Occasional TM drops on DSS-16	Ground	NASA Sta.	Pending
INT - 002216	2003/01/31	TPF generation failed	Ground	FDS	Pending
INT - 002217	2003/02/06	TC link drop	Ground	NASA Sta.	Pending
INT - 002218	2003/02/08	Loss of lock at DSS-16	Ground	NASA Sta.	Pending
INT - 002219	2003/02/10	IBIS: PICsIT PDMs counters SET to 0 (twice) during nominal operation	Space	IBIS	Pending
INT - 002220	2003/02/10	Wrong Scrolling Display definitions on IMCS following Import	Ground	IMCS	Pending
INT - 002221	2003/02/10	IBIS: SCI submode table loaded only if forcing the submode	Space	IBIS	Pending
INT - 002224	2003/02/12	Uplink problems via DSS-16	Ground	NASA Sta.	Pending
INT - 002225	2003/02/13	Drop in TM via REDU	Ground	ESA Sta.	Pending
INT - 002226	2003/02/13	Drop in telemetry from REDU	Ground	ESA Sta.	Pending
INT - 002227	2003/02/16	IDDA/IDDB crash	Ground	IMCS	Pending
INT - 002229	2003/02/18	Autostack hangs when loading timeline	Ground	IMCS	Pending
INT - 002230	2003/02/19	TC link outage via REDU	Ground	ESA Sta.	Pending
INT - 002231	2003/02/19	HFA task crashed	Ground	IMCS	Pending
INT - 002228	2003/02/21	STR 1750 Processor Fault in the presence of Saturn in the FoV	Space	Spacecraft	Pending
INT - 002232	2003/02/23	TC outage via REDU	Ground	ESA Sta.	Pending
INT - 002233	2003/02/24	Time Calibration not Coherent among Ground Stations	Ground		Pending
INT - 002234	2003/02/24	S2K unable to access READ ONLY disk in IDDA.	Ground	IMCS	Pending
INT - 002237	2003/02/24	Telemetry loss from DSS-24	Ground	NASA Sta.	Pending
INT - 002235	2003/02/25	Too narrow window for RMU cal in PSF of rev 49	Ground	I/F to SGS	Pending
INT - 002238	2003/02/25	Time Correlator at REDU	Ground	ESA Sta.	Pending
INT - 002239	2003/02/26	Attitude Determination Failed	Ground	FDS	Pending
INT - 002236	2003/02/27	Wrong ERT in the TM frames	Ground	ESA Sta.	Pending
INT - 002240	2003/02/27	Update of slew failed on FDS	Ground	FDS	Pending
INT - 002241	2003/03/01	No possibility to establish TC & TM link during handover to Redu	Ground	IMCS	Pending
INT - 002242	2003/03/02	TM & TC Drop on DSS 16	Ground	NASA Sta.	Pending
INT - 002243	2003/03/04	CDS Failed to Lock at Redu - H/O Postponed	Ground	ESA Sta.	Pending
INT - 002244	2003/03/05	Loss of guide star immediately prior to slew	Space	Spacecraft	Pending
INT - 002246	2003/03/05	Loss of Telemetry from DSS16	Ground	NASA Sta.	Pending
INT - 002245	2003/03/06	TDRS: Retrieval of packet 60602 or contained parameters does not	Ground	IMCS	Pending

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INT - 002247	2003/03/06	Reaction Wheel Bias Failed	Ground	IMCS	Pending
INT - 002248	2003/03/08	Loss of Guide Star	Space	Spacecraft	Pending
INT - 002250	2003/03/09	FD System Crashed	Ground	IMCS	Pending
INT - 002251	2003/03/10	Loss of Guide Star	Space	Spacecraft	Pending
INT - 002252	2003/03/10	CDS out of Lock at Redu - TM&TC Loss	Ground	ESA Sta.	Pending
INT - 002253	2003/03/10	RX1 and RX2 Locked at the same time	Ground	NASA Sta.	Pending