
EUROPEAN SPACE AGENCY
DIRECTORATE OF TECHNICAL & OPERATIONAL SUPPORT
MISSION OPERATIONS DEPARTMENT

INTEGRAL
Mission Report
INT-MOC-SYS-RP-1001-TOS-OF
No. 032
Week 18
05.05.03
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 26.04.03 until 02.05.03 (both dates inclusive) and covers the revolutions 65, 66 and 67.

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.

Revolution 65 was devoted to GCDE observations. Revolution 66 was shared between a GPS, GCDE and a raster dither of source: XT 1916-053 (RA 19:18:48.01 DEC 05:14:08.6). Revolution 67 was divided between a GCDE, broad band observations of Z sources and spectral observation of S9433.

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

During this period, the AOCS operations were executed smoothly from the timeline.

We had two cases of loss of guide star. In both cases the guide stars were selected by the ACC after an Open Loop Slew. There was also a decrease in the temperature of the thermocouple of thruster assembly 4B (T0107) to 128.6 °C.

The fuel consumption over the period between 22/04/2003 to 29/04/2003 was 0.175 Kg. The remaining propellant is in the order of 177.86 Kg on the 29th of April.

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 with Spectra telemetry disabled. The TM bandwidth assigned to SPI was 74 pkts for all the period.

The Cryo-cooler is working nominally : Adjustment of the strokes was necessary to maintain 85K temperature in the detector cold plate.

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

3.2.2 IBIS

Status Nominal.

The TM bandwidth assigned to IBIS was 107 (- 5 pkts given to SPI from the nominal 112) pkts for the all science windows.

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, the OMC operations were performed smoothly by the automatic timeline. All of the 248 originally planned OMC pointings were performed.

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 %. The real-time data return from the stations was well above the 99 % and none of the planned slews failed the nominal execution.

4.1 Mission Operations Centre

During this week, there was only one minor problem relating to the MOC.

- On DoY 116 at 14:08, the flight dynamics TPF did not arrive, this was traced to IFTS problems, which was then re-started, this caused manoeuvres 00650027, 00650028 and 00650029 to be performed with default values, fortunately there was no impact to the science return.

4.2 Ground Stations & Network

During this week, there was only one minor problem related to the ground stations:

- On DoY 122 at 14:42 some frames were dropped from Redu due to Reed-Solomon errors, no impact.

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

An I/F – test has been performed with the EM at ALENIA to verify the configuration for the SVT G that is planned for 07 May. The purpose of the SVT G is to verify the system modifications relevant to the planned increase of the TM data rate.

6 Anomalies

There were no major system anomalies that impacted the execution of the operations in the reporting period. The upgrade of the communications set-up regarding the I/F to Goldstone is planned for 06 May.

The two losses of the Guide Star did not impact the execution of the Timeline.

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 - 002306	2003/04/23	OSC IMCS Start-up Procedure	Ground	IMCS	Pending
INT - 002302	2003/04/24	Telemetry loss via DSS-16 due to RFI	Ground	NASA Sta.	Pending
INT - 002303	2003/04/25	Loss of Packets during OMC FF Calibration with 90 pkts/cycle TM bandwidth	Space	Spacecraft.	Pending
INT - 002304	2003/04/26	IFTS MCS instance not working	Ground	IMCS	Pending

7 Future Milestones

The SVT for the increased TM data rate is planned for the first week of May.

8 Appendix

The appendix includes various detailed information.

8.1 Overview of Revolutions

Revolution 65

The observations in revolution 65 consisted exclusively of 112 pointings of GCDEs lasting approximately 56 hours.

Revolution 66

The observations in revolution 66 consisted of 16 pointings of a GPS lasting ~10 hours, followed by 78 pointings of GCDEs lasting ~39 hours, after which 7 pointings were allocated to raster dithering observation of XT 1916-053 (RA 19:18:48.01 DEC 05:14:08.6) lasting about 5 hours of the remaining observation time.

Revolution 67

The observations in revolution 67 consisted of 14 pointings of GCDEs lasting approximately 8 hours followed by 114 pointing of simultaneous Broad Band from Radio to Gamma-Ray observations of Z sources and 114 pointing of Spectral observations of SS433 lasting approximately 69 hours.

Throughout the observations, the TM allocation was 69 SPI; 97 IBIS; 0 JEM-X1; 7 JEM-X2; 1 OMC and all instruments were in their nominal science modes, except for JEM-X1, which remained in Safe mode for the entire revolution.

8.2 Consumables

8.2.1 Detailed Fuel Book-keeping

2003-04-15T08:27:01.000Z	178.2199	F	Automatic TM processing.
2003-04-16T21:54:17.000Z	178.1967	F	Automatic TM processing.
2003-04-18T08:31:01.000Z	178.1780	F	Automatic TM processing.
2003-04-19T14:10:16.000Z	178.1451	F	Automatic TM processing.
2003-04-19T21:39:44.000Z	178.1259	F	Automatic TM processing.
2003-04-20T06:49:45.000Z	178.0994	F	Automatic TM processing.
2003-04-20T12:37:46.000Z	178.0688	F	Automatic TM processing.
2003-04-21T07:50:04.000Z	178.0524	F	Automatic TM processing.
2003-04-22T21:24:25.000Z	178.0303	F	Automatic TM processing.
2003-04-25T21:03:52.000Z	178.0178	F	Automatic TM processing.
2003-04-27T07:26:27.000Z	177.9942	F	Automatic TM processing.
2003-04-28T14:12:39.000Z	177.9593	F	Automatic TM processing.
2003-04-28T20:52:55.000Z	177.9135	F	Automatic TM processing.
2003-04-29T06:01:44.000Z	177.9051	F	Automatic TM processing.
2003-04-29T10:31:45.000Z	177.8556	F	Automatic TM processing.

This report was generated Wed Apr 30 08:00:09 GMT 2003

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 19/04/2003-25/04/2003

AOCS operations were executed from the Automatic Timeline.

During this period, 112 Open Loop Slews, 157 Closed Loop Slews and 6 Momentum Bias were executed. No slews were missed.

26/04/03 (Day of Year 116, Revolution 65)

Slews performed with the timeline-default parameter values: At 13:40, the SPACON realized that the Integral File Transfer System (IFTS_MCS Service) was not working and that the last slew updated by the Flight Dynamics system was slew 00650026. The control system had not received the TPFs for slews 27, 28 and 29 and the slews were performed without being updated by the FDS. The timeline-default parameters were used for these slews. The requested target attitudes (as in timeline PREQs) and the actually achieved target attitudes of these slews were:

00650027:

Requested Attitude: RA 19:01:17.09, DEC -08:24:03.80, POS 078:40:05.30

Achieved Attitude: RA 19:01:19.27, DEC -08:24:17.40, POS 078:39:38.80

00650028:

Requested Attitude: RA 18:52:28.93, DEC -07:24:14.60, POS 078:26:38.30

Achieved Attitude: RA 18:52:30.73, DEC -07:24:37.10, POS 078:26:26.10

00650029:

Requested Attitude: RA 18:43:47.17, DEC -06:21:16.20, POS 078:05:58.00

Achieved Attitude: RA 18:43:47.03, DEC -06:21:13.50, POS 078:05:59.90

At 14:08 the IFTS Service was restarted, which cured the problem. The IMCS received the TPF for slew 30 and the slew parameters were updated.

27/04/03 (Day of Year 117, Revolution 65)

Loss of Guide Star due to proximity to the STR FOV: After Open Loop Slew 00650087, the ACC picked a guide star that was very close to the STR field-of-view. The details of this star, as reported in TM, were:

Magnitude: 8.3 CCD Coordinates: (23784, 21988).

At 21:58:07, the STR lost this guide star:

2003.117.21.58.06.032	G	VALID/FULL	VALID MAG	8.3	23783	21988
2003.117.21.58.06.532	G	VALID/FULL	VALID MAG	8.3	23783	21989
2003.117.21.58.07.032	G	FREE	INVALID MAG	8.6	-1	-1

An automatic mapping was commanded by the ACC and another guide star was selected. The only effect was that the OTF went low. This was near the end of the pointing

Loss of Guide Star: After Open Loop Slew 00650088, the ACC picked a guide star with the following details:

Magnitude: 8.45 CCD Coordinates: (23390, 21800)

The magnitude of this star was fluctuating between 8.4, 8.45 and 8.5, close to the STR threshold. The STR lost this star at 22:09:57,

2003.117.22.09.56.552	G	VALID/FULL	VALID MAG	8.5	23386	21822
2003.117.22.09.57.052	G	VALID/FULL	VALID MAG	8.4	23390	21800
2003.117.22.09.57.552	G	STAR LOST	INVALID MAG	8.6	-1	-1
2003.117.22.09.58.052	G	FREE	INVALID MAG	8.6	-1	-1

The star was reported in the Mission Star Catalogue Extract as a B8 class star with instrumental magnitude 8.76. The rather large difference between the measured magnitude and the catalogue magnitude could be due to a calibration problem associated with this type of stars (TBC by Flight Dynamics).

After the loss of guide star, the ACC commanded a mapping and another guide star was found. The OTF remained low for the remaining of pointing 00650088.

28/04/03 (Day of Year 118, Revolution 65-66)

Nothing to report.

29/04/03 (Day of Year 119, Revolution 66)

Nothing to report.

30/04/03 (Day of Year 120, Revolution 66)

Nothing to report.

01/05/03 (Day of Year 121, Revolution 66-67)

Nothing to report.

02/05/03 (Day of Year 122, Revolution 67)

Temperature of TCP_4B reached 128.6 Deg C: At 00:15, the temperature of the thermocouple of thruster assembly 4B (T0107) started gradually decreasing from 145 °C and reached 128.6 °C around 02:20. This temperature remained around 131 °C for some time and then started gradually increasing and reached 134 °C at around 06:00.

8.3.2 SPI Operations

During this week the cryo-cooler stroke was adjusted as follows to maintain the cold plate temperature (E0392) at 85+/-1K :

On 29th April at 15:30Z : Compressors A,B,C,D stroke was increased of 1 LSB (4x40raw). This was necessary as the cold plate temperature was going to hit the upper warning limit at 85.9K.

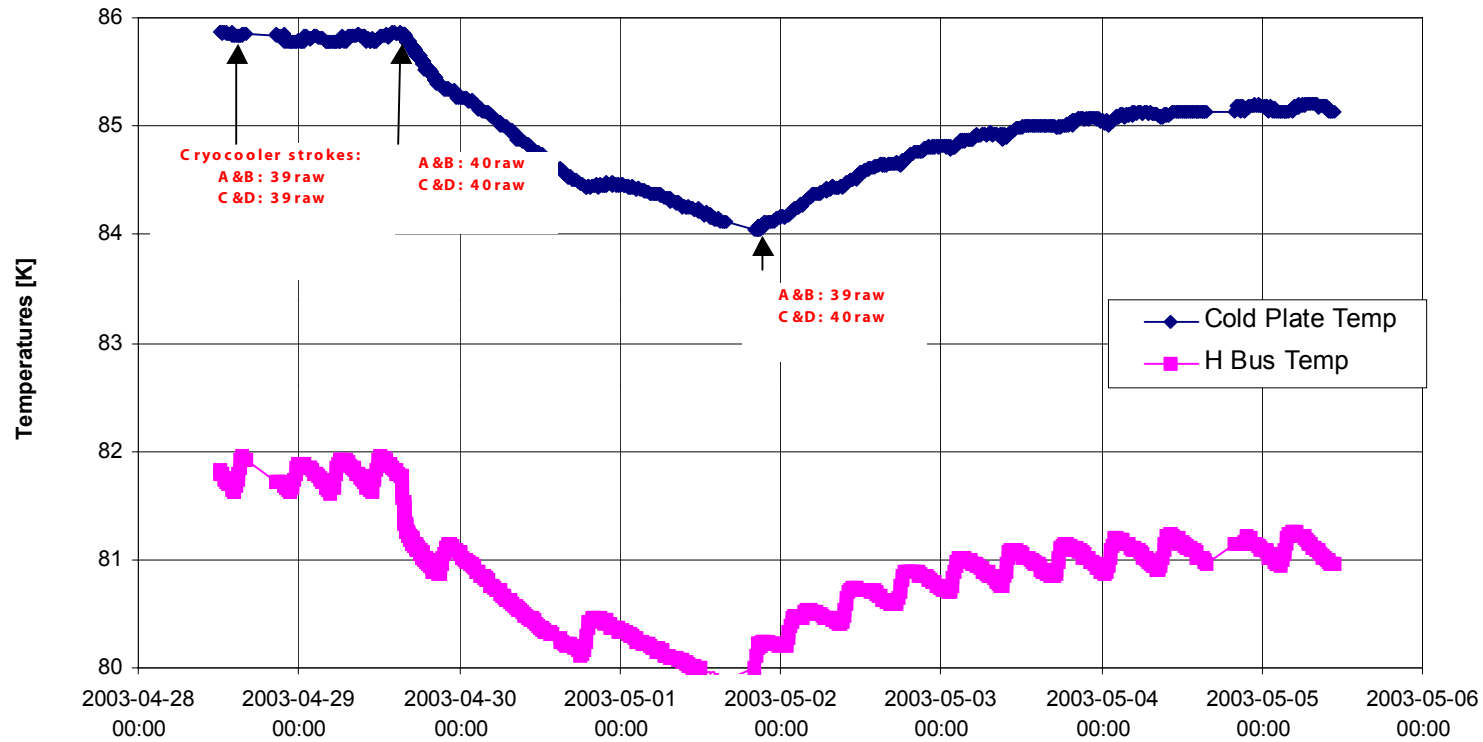
On 1st May at 20:22Z : Compressors A,B stroke was decreased of 1LSB (2x39 + 2x40raw). This was necessary as the cold plate temperature exceeded the lower warning limit at 84.1K and the trend was clearly such to exceed also the alarm limit at 84K in a few hours.

The cold plate temperature is foreseen to stabilise at around 85.2K in the course of this week. See attached plot.

The instrument DPE still does not exploit 3 out 74 allocated TM packets.

On 29th April at 19:03Z E2293 went out of limit (PARAM>SPEC). No recovery procedure was executed as the parameter went back to nominal after 10min (i.e. at the next packet).

28th April - 5th May 2003 - SPI Cold Plate Temperatures



8.3.3 IBIS Operations

There were a few reports during the radiation belt passage of the OEM ID 167 Class 2 <<IBIS1 PICsIT NOISY SEMIMODULE>>. This was due to the PICsIT detectors being ON without the VETO anticoincidence system, as it required by PIs.

On DoY 2003. 117 at 08.04-11.00-14.54Z the OEM ID 179 Class 2 <<IBIS1 VETO COUNTER BOTTOM EXCEEDS ALERT VALUE>> was reported. 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.

On the same day at 08.04-11.18-16.33Z the OEM ID 180 Class 2 <<IBIS1 VETO COUNTER LATERAL EXCEEDS ALERT VALUE>> was reported. 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.

Later still at 15.13 Z the G5002 family (PDMs semimodules counters) reported OOL Alarm Low (=0). At 15.16 Z all the counters were back in limits (the OEM flagging the resynch of HEPI has been reported). Action P-CNT-1 has been taken following the P/L FDIR doc; an AR has been already raised in the Commissioning phase.

On DoY 2003. 118 at 07.25-11.58 Z the OEM ID 179 Class 2 <<IBIS1 VETO COUNTER BOTTOM EXCEEDS ALERT VALUE>> was reported. 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.

On the same day at 12.14Z the OEM ID 180 Class 2 <<IBIS1 VETO COUNTER LATERAL EXCEEDS ALERT VALUE>> was reported. 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.

The CCCF was enabled to recover the IBIS Histogram downloading.

On DoY 2003. 119 at 01.46-11.17 Z the OEM ID 179 Class 2 <<IBIS1 VETO COUNTER BOTTOM EXCEEDS ALERT VALUE>> was reported. 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.

Later, at 12.13Z the OEM ID 180 Class 2 <<IBIS1 VETO COUNTER LATERAL EXCEEDS ALERT VALUE>> was reported. 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.

On DoY 2003. 121 at 00.20Z the OEM ID 183 Class 2 <<IBIS1 VETO +5V VECU VOLTAGE OUT OF RANGE>> was reported. 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.

At 22.33Z the TC link was lost, which failed the release of ED GEBENT02 setting the IBIS safe configuration for the following radiation belt entry. The ED has been re-uplinked on DoY 2003.122.01.24Z.

8.3.4 JEM-X Operations

Nothing to report

8.3.5 OMC Operations

Nothing to report

8.3.6 IREM Operations

On DoY 2003. 121, the IREM patch was performed successfully. The interested memory segments were 250-251-252 and 503. During the uplink of the patch only minor problems were noticed, requiring an update of the patch procedure. The duration of the IREM dump lasted ~ 1h 12min. The verification of the uplinked memory patch was performed by using the IREM EGSE in ESOC. At the end of the patch different combination of scalers were used to verify the effect of the rescaling factor on the proton & electron counters. The final combination of scalers was TC3 for the electron counter and S14 for the proton counter. The monitoring of the unit continued until the End of the revolution 67.

The status of the unit after the patch is Nominal. More details about the first Radiation Belt passage with the new patch can be found in the next report.

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 - 002024	2002/10/28	OEM: SPI1 Fixed print overflow	Space	SPI	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 super-commutated processing.	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 Retrievals cancelled	Ground	IMCS	Pending
INT - 002079	2002/11/14	Timing Problem with Tele-commands	Ground	ESA Sta.	Pending
INT - 002083	2002/11/16	SPI DPE Crash	Space	SPI	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 super-commutated parameters	Ground	IMCS	Pending
INT - 002121	2002/11/26	ISGRI count-rates increase up to 8000 counts/sec in one module	Space	IBIS	Pending
INT - 002122	2002/12/02	IBIS VDM4 HV broke down	Space	IBIS	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 - 002169	2003/01/03	IREM S/W local resets due to SEU (twice)	Space	IREM	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 wrap-around in CLTU mode	Ground	ESA Sta.	Pending
INT - 002197	2003/01/20	Lost Tele-commanding via REDU	Ground	IMCS	Pending

INT - 002202	2003/01/22	NCTRS log file writing takes all the CPU making the application fail.	Ground	NCTRS	Pending
INT - 002208	2003/01/27	Autostack: Commands that fail release do not apply any further interlock.	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 - 002217	2003/02/06	TC link drop	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 sub-mode table loaded only if forcing the sub-mode	Space	IBIS	Pending
INT - 002228	2003/02/21	STR 1750 Processor Fault in the presence of Saturn in the FoV	Space	Spacecraft	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 - 002235	2003/02/25	Too narrow window for RMU cal in PSF of rev 49	Ground	I/F to SGS	Pending
INT - 002240	2003/02/27	Update of slew failed on FDS	Ground	FDS	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 - 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 work	Ground	IMCS	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
INT - 002255	2003/03/10	Late AOS at DSS-24	Ground	NASA Sta.	Pending
INT - 002256	2003/03/14	Late AOS at DSS-16	Ground	NASA Sta.	Pending
INT - 002257	2003/03/17	Late AOS at DSS-24	Ground	NASA Sta.	Pending
INT - 002258	2003/03/20	IBIS: stop downloading HIST during GCDE	Space	IBIS	Pending
INT - 002259	2003/03/21	TDRS: Retrieval log is Meaningless.	Ground	IMCS	Pending
INT - 002260	2003/03/21	Monitoring task Printout, sample time	Ground	IMCS	Pending
INT - 002262	2003/03/21	TDRS: FEN Retrievals containing status parameters always fail.	Ground	IMCS	Pending
INT - 002264	2003/03/23	Loss of bit-lock + TLM problems on DSS-16	Ground	NASA Sta.	Pending

INT - 002265	2003/03/24	Loss of TC & TM Link	Ground	ESA Sta.	Pending
INT - 002267	2003/03/25	Drop in link from ISDS to ISDC	Ground	I/F to SGS	Pending
INT - 002268	2003/03/25	No bit lock via DSS-16	Ground	NASA Sta.	Pending
INT - 002269	2003/03/25	Telemetry lost from DSS-16	Ground	NASA Sta.	Pending
INT - 002270	2003/03/26	Late uplink via DSS-16	Ground	NASA Sta.	Pending
INT - 002271	2003/03/26	Drops in telemetry from DSS-16	Ground	NASA Sta.	Pending
INT - 002272	2003/03/26	TC link via DSS-16 lost	Ground	NASA Sta.	Pending
INT - 002273	2003/03/27	Drop in VC7 via REDU	Ground	ESA Sta.	Pending
INT - 002274	2003/03/28	IFTS MCS instance not working	Ground	IMCS	Pending
INT - 002275	2003/03/28	Constraint Error Exception in the OMCAS on DOY081	Space	OMC	Pending
INT - 002276	2003/03/28	Crash of OMCAS on DOY083	Space	OMC	Pending
INT - 002277	2003/03/28	Telemetry lost from DSS-16. DR N100888	Ground	NASA Sta.	Pending
INT - 002278	2003/03/28	FEC failure in REDU	Ground	ESA Sta.	Pending
INT - 002279	2003/03/29	Telemetry lost from DSS-16. DR N109197	Ground	NASA Sta.	Pending
INT - 002280	2003/03/30	Telemetry lost from REDU	Ground	ESA Sta.	Pending
INT - 002281	2003/03/31	TC outage via REDU	Ground	ESA Sta.	Pending
INT - 002282	2003/03/31	Bad data being received from DSS-16	Ground	NASA Sta.	Pending
INT - 002283	2003/04/01	ISDS-A and IDDA services stopped	Ground	IMCS	Pending
INT - 002284	2003/04/01	Reed Solomon alarms from REDU	Ground	ESA Sta.	Pending
INT - 002285	2003/04/02	Redu Antenna Uplink switch goes off bus	Ground	ESA Sta.	Pending
INT - 002286	2003/04/02	Reboot of ESOC Firewall	Ground	I/F to SGS	Pending
INT - 002288	2003/04/03	TM/TC lost via REDU	Ground	ESA Sta.	Pending
INT - 002289	2003/04/03	Delayed handover to DSS-16	Ground	NASA Sta.	Pending
INT - 002290	2003/04/03	Bad frames and TLM drop from DSS-16. Possible RFI	Ground	NASA Sta.	Pending
INT - 002291	2003/04/08	Archiving lost on A chain	Ground	IMCS	Pending
INT - 002292	2003/04/09	Telemetry Drops from Goldstone (DR 6102621)	Ground	NASA Sta.	Pending
INT - 002293	2003/04/13	Science data CDs produced with no TM inside.	Ground	IMCS	Pending
INT - 002294	2003/04/15	DSS-16 missed coverage period	Ground	NASA Sta.	Pending
INT - 002295	2003/04/15	Telemetry Drops from Goldstone	Ground	NASA Sta.	Pending
INT - 002296	2003/04/16	No guide star found	Ground	FDS	Pending

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INT - 002298	2003/04/20	ISDS - ISDC link outage	Ground	I/F to SGS	Pending
INT - 002299	2003/04/21	Telemetry loss from DSS-24	Ground	NASA Sta.	Pending
INT - 002297	2003/04/23	Star Tracker 1750 Processor Fault on 21/04/2003 (DoY 111)	Space	Spacecraft	Pending
INT - 002300	2003/04/23	ISDC not receiving ASF files.	Ground	IMCS	Pending
INT - 002301	2003/04/23	Telemetry loss via DSS-16 due to RFI	Ground	NCTRS	Pending
INT - 002306	2003/04/23	OSC IMCS Start-up Procedure	Ground	IMCS	Pending
INT - 002302	2003/04/24	Telemetry loss via DSS-16 due to RFI	Ground	NASA Sta.	Pending
INT - 002303	2003/04/25	Loss of Packets during OMC FF Calibration with 90 pkts/cycle TM bandwidth	Space	Spacecraft.	Pending
INT - 002304	2003/04/26	IFTS MCS instance not working	Ground	IMCS	Pending