

**INTEGRAL**  
**Mission Report**  
**INT-MOC-SYS-RP-1001-TOS-OF**  
**No. 023**  
**Week 09**  
**28.02.03**  
**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 22.02.03 until 28.02.03 (both dates inclusive) and covers the revolutions 44 & 45.

## **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 target of the revolutions was the Crab Nebula (RA 05:34:31.90; DEC +22:00:52.0). Observations consisted of staring and raster dithering observations both on-axis as well as centred at several different off-axis attitudes.

*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 fuel consumption over the last 14 days was 0.14 Kg. The remaining propellant is in the order of 179.0 Kg on the 26th of February.

*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.

A few RF link measurements have been performed in order to identify the available link margin. The analysis of the data is ongoing.

## **3.2 Payload**

### **3.2.1 SPI**

The status is nominal.

The instrument is operating in photon-by-photon mode at a temperature of 85K. Spectra telemetry is enabled.

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

### **3.2.2 IBIS**

Status Nominal, on-going last part of the CRAB calibration, off-axis.

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

### **3.2.3 JEM-X**

Near the end of the revolutions 43 and 45 and before the planned SAFE TCs in the timeline, both JEM-X units went to SAFE mode, triggered by their onboard protection when the SW trigger count rates reached the HV switch-off threshold. In both cases it was decided to leave the units in SAFE mode for the remaining part of the revolution.

At the beginning of revolution 45 on 25-Feb-2003, change request PI-OPS-0231 "Update of Onboard Event Selection Criteria" was implemented to upgrade the JEM-X DFEE S/W to version 4.4. By this updated selection criteria it is expected to achieve a better gain at energies below 8 keV.

*Note: Some more information concerning the JEM-X operations is provided in the Appendix.*

### **3.2.4 OMC**

During the reporting period, OMC operations were interrupted a few times due to different problems, which resulted in missing of slews. Each time OMC timeline driven operations resumed after recovery of the schedule.

*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.

### **4.1 Mission Operations Centre**

The performance of the MOC was good in the reporting period though there were a few problems within the MOC, e.g. on day 53 at 01:50, a D3301 command failed release, PTV failure, no impact.

This problem did not affect the execution of the Timeline nor the science related operations.

Another problem area is the Telemetry Data Retrieval System (TDRS), which is needed for the offline data evaluation. Since this tool is still not in an adequate operational state it is difficult to perform a systematic data analysis and to produce proper mission reports. However, this problem does not impact the science return of the mission.

### **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 via Redu:

- On day 054 at 12:31 the TM and TC dropped for 2 minutes, this caused 2 slews to be missed, a manual slew was necessary to recover.
- On day 056 at 15:20 there was a TM drop for a few second, no impact.
- On day 057 at 09:29 the TM dropped for 1 minute, then at 09:30 the TC dropped for 3 minutes, no impact.

The operations via Goldstone were relatively smooth. There was one TM outage on day 055 from 18:47 to 19:02.

### **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 main problem is still the frequent data gaps when receiving data from Goldstone. A suitable update of the set-up has been identified, which will be tested in week 10.

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 - 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 |

## 7 Future Milestones

The power supply will not be available at ESOC on 18<sup>th</sup> March for several hours. A complete switch-off of the control system is required and the operations from MOC have to be interrupted for about 10 hours. In order to ensure the safety of the satellite it is envisaged to man the Local Command & Telemetry Facility (LCTF) at Redu during this period. INTEGRAL will perform a staring observation during this time. The scientific data will be recorded at the station and later replayed into the data archive at ESOC.

## 8 Appendix

The appendix includes various detailed information.

### 8.1 Overview of Revolutions

#### Revolution 44

Revolution 44 consisted of raster dither patterns centered at 3 different attitudes around the Crab Nebula as follows:

- On axis raster (RA 05:34:31.90; DEC +22:00:52.0) lasting approx. 31hrs;
- 1 degree off-axis raster (RA 05:38:51.00; DEC +22:01:57.4) lasting ~17hrs;
- 0.5 degree off-axis raster (RA 05:34:38.20; DEC +21:30:54.3) lasting ~13hrs.

The TM allocation throughout these observations was 100 SPI, 81 IBIS, 4 JEM-X1, 5 JEM-X2, 5 OMC.

IBIS EDs were disabled from the Timeline during the instrument window and IBIS was manually commanded into Standard mode with the configuration set according to PI Change Requests. SPI was in its nominal science mode with spectra TM enabled (SPI transition to science mode is now automatic, therefore no SPI mode-change EDs were present in the Timeline). Both JEM-X units were in Data Taking (Full Imaging) mode and OMC was in normal science mode for all observations.

#### Revolution 45

Revolution 45 began with the following series of off-axis raster dithering observations of the Crab Nebula:

- 0.5 degree off-axis raster (RA 05:34:38.20; DEC +21:30:54.3) lasting 3hrs (this was a continuation of the last observation in revolution 44);
- 5 degree off-axis raster (RA 05:35:34.60; DEC +17:01:14.4) lasting ~16hrs;
- 7 degree off-axis raster (RA 05:35:59.40; DEC +15:01:26.3) lasting ~16hrs;
- 10 degree off-axis raster (RA 05:36:36.20; DEC +12:01:35.8) lasting ~16hrs.

The TM allocation throughout these observations was 100 SPI, 81 IBIS, 4 JEM-X1, 5 JEM-X2, 5 OMC.

This was followed by a Crab on-axis staring observation (RA 05:34:31.90; DEC +22:00:52.0) for 33 minutes with a TM allocation of 59 S 101 I, 15 J1, 15 J2, 5 O. Lastly, a Crab off-axis staring observation at (RA 06:06:13.50; DEC +14:50:05.2) was performed for 6 hours with a TM allocation of 59 S 122 I, 4 J1, 5 J2, 5 O.

IBIS EDs were disabled from the Timeline during the instrument window and IBIS was manually commanded into Standard mode with the configuration set according to PI Change Requests. SPI, both JEM-X units and OMC were all in their nominal science modes for all observations.

### 8.2 Consumables

#### 8.2.1 Detailed Fuel Book-keeping

|                          |          |   |                          |
|--------------------------|----------|---|--------------------------|
| 2003-02-11T13:01:45.000Z | 179.1423 | F | Automatic TM processing. |
| 2003-02-13T02:49:57.000Z | 179.1268 | F | Automatic TM processing. |
| 2003-02-14T12:51:53.000Z | 179.1193 | F | Automatic TM processing. |
| 2003-02-16T02:35:33.000Z | 179.1069 | F | Automatic TM processing. |
| 2003-02-17T12:33:05.000Z | 179.0817 | F | Automatic TM processing. |
| 2003-02-19T02:20:05.000Z | 179.0614 | F | Automatic TM processing. |
| 2003-02-20T12:23:12.000Z | 179.0473 | F | Automatic TM processing. |
| 2003-02-22T02:06:12.000Z | 179.0274 | F | Automatic TM processing. |
| 2003-02-23T12:33:12.000Z | 179.0155 | F | Automatic TM processing. |
| 2003-02-25T01:52:12.000Z | 179.0027 | F | Automatic TM processing. |

This report was generated at Wed Feb 26 08:00:06 GMT 2003

Note: The 4.24kg pressurant has now been removed from the fuel-book - the above list shows ONLY the remaining propellant

### 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 21/02/2003-27/02/2003

AOCS operations were executed from the Automatic Timeline.

During this period, 43 Open Loop Slews, 174 Closed Loop Slews and 5 Momentum Bias were executed. 8 slews were missed due to non-AOCS problems, this is around 4% of the total.

##### 21/02/03 (Day of Year 052, Revolution 43)

Nothing to report.

##### 22/02/03 (Day of Year 053, Revolution 44)

**Guide Star Loss:** During pointing 00440007 the guide star was suddenly lost from one cycle to the next. The most likely reason is that the star was too close to the edge of the FoV.

The details are:

```
2003.053.07.34.06.895 VALID FULL VALID MAG 7.55 -4707 21855
2003.053.07.34.07.395 FREE INVALID MAG 8.60 -1 -1
```

This was shortly after the end of an Open Loop Slew, but the mapping was already completed. There was no Bright Object in the FoV. The altitude was 72000 Km. There was no other star being tracked by the STR. The impact of this problem was that the OTF was "false" for the remaining of this pointing 00440007.

##### 23/02/03 (Day of Year 054, Revolution 44)

**Slews missed due to ground station problem (Redu):** At 12:31 both TM and TC were lost. The full functionality was only recovered at 12:51. Due to this the RWB operation started at 12:27:28 was not completed by the timeline, and the slews 00440052 and 00440053 were missed. The recovery was performed by commanding a manual transition to IPS (missing part of the RWB), slewing with Recover Schedule to the attitude of 00440053 and updating the parameters for 00440054.

##### 24/02/03 (Day of Year 055, Revolution 44)

**Slews missed due to Control System problem:** At 13:38 the Verifier task on the IMCA crashed. Due to this the AOCS subsystem had to be disabled (no command verification was possible anymore). The task was restarted, and the Recover Schedule was performed. The impact of this problem was the loss of slews 00440090 and 00440091 (the attitude for 00440091 was acquired manually).

##### 25/02/03 (Day of Year 056, Revolution 45)

Nothing to report.

#### **26/02/03 (Day of Year 057, Revolution 45)**

**Slews missed due to TM drop (Goldstone DSS-16):** At 19:03 the command to report the pending parameters for the next slew failed verification, due to a TM drop. This made the uplink of the TC's for slew 00450063 fail. Recover Schedule was used to acquire manually the attitude of pointing 00450064, and update the parameters of slew 00450064.

**Slews missed due to the FDS not updating the slew parameters:** At 23:27 the automatic update of slew 00450070 failed, due to the FDS not being able to reconstruct the attitude. A manual attempt initially failed as well. As a result of this problem the slews 00450070 and 00450071 were missed from the timeline, and the attitude of 00450071 was acquired manually. The problem has been traced to be in a new version of the Star Catalogue used in the FDS. The old Catalogue has been restored while the problem is investigated.

#### **27/02/03 (Day of Year 058, Revolution 45)**

Nothing to report.

### **8.3.2 SPI Operations**

Saturday 22<sup>th</sup> February the stroke of the cryo-cooler compressors C&D has been increased by 1LSB to 2x38LSB, since the Germanium Detector temperature hit the upper warning limit at 85.5K. The compressors are therefore currently running at 4x38LSB. The temperature, phase and current are nominal. A slight positive drift has appeared mid-week, after the stabilisation following the stroke update. This is currently being analysed.

CNES has sent the database update of command parameter default values and this is currently being processed by the Analysts.

The Flight Operations Plan (FOP) has been updated for what concerns the Flight Control Procedures (book 2 vol 7) and the Contingency and Recovery Procedures (book 2 vol 9), in order to include all the procedural changes and tunings so far accumulated. Further tuning is expected to include the "lessons learnt" from the 1st annealing operations and a second update of contingency procedures.

### **8.3.3 IBIS Operations**

On DOY 2003.052.16.51Z the following VETO real time counters were OOLs HIGH:

TM para G6062-63

due to an earlier entry in Radiation belt, before the Critical Altitude Ascending ( rad belt entry at 18:46Z)

Reported on DOY 2003. 52.16.58Z

the OEM ID 179 Class 2 <<IBIS1 VETO COUNTER BOTTOM EXCEEDS ALERT VALUE>> due to an earlier entry in 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.

On DOY 2003.053.03.50Z IBIS s/s disabled and performed the configuration manually (CR PI-OPS-230)

On DOY 2003.056.03.30Z IBIS s/s disabled and performed the configuration manually (CR PI-OPS-228 Crab OFF-axis configuration with TM allocation 70-90)

Reported on DOY 2003. 56.06.13Z and 2003. 56.07.14Z  
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. 57.13.02Z  
the OEM ID 179 Class 2 <<IBIS1 VETO COUNTER BOTTOM EXCEEDS ALERT VALUE>>.  
The relevant TM\_para G6062 reported values inside limits and therefore the problem has been disregarded, as suggested by the nominal reaction to this OEM.

Reported on DOY 2003. 57.14.19Z  
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. 56.07.43Z  
the OEM ID 179 Class 2 <<IBIS1 VETO COUNTER BOTTOM EXCEEDS ALERT VALUE>>.  
The relevant TM\_para G6062 reported values inside limits and therefore the problem has been disregarded, as suggested by the nominal reaction to this OEM.

Reported on DOY 2003. 58.08.41Z and 2003. 58.10.47Z and 2003. 58.15.07Z  
the OEM ID 179 Class 2 <<IBIS1 VETO COUNTER BOTTOM EXCEEDS ALERT VALUE>>.  
The relevant TM\_para G6062 reported values inside limits and therefore the problem has been disregarded, as suggested by the nominal reaction to this OEM.

On DOY 2003. 58.08.40Z a GRB have been registered in the FOV of the instrument during the Crab calibration. The position of the event out of the FOV of the OMC has not allowed the automatic reprogramming of the OMC windows triggered by the IBAS system resident in ISDC. The event was also registered by the Spectrometer SPI.

On DOY 2003.14.40.00Z a possible solar flare have been reported by the detectors on board Integral. No impact on the safety of the instruments with the exception of JEM-X camera that, due to the high count rate, went in safe mode by the automatism. No reaction from the radiation monitor has been reported.

### **8.3.4 JEM-X Operations**

#### **21-Feb-2003, DOY 052, Revolution 43**

- 16:50:58, Both JEM-X units went to SAFE mode by their on-board protection when the S/W trigger rates reached the threshold of 20000 cnts/8sec. This happened at a descending altitude of ~74000 km and about 36 minutes before the execution of JEM-X SAFE TCs, planned in the timeline. Both JEM-X units remained in SAFE mode for the rest of revolution 43.

#### **25-Feb-2003, DOY 056, Revolution 45**

- Change Request PI-OPS-0231 was implemented to update the on-board event selection criteria for JEM-X1 and JEM-X2. Operations started at 06:50:00 by disabling JEM-X commanding from the Autostack and commanding the units to SAFE mode. Six JEM-X DFEE patch TCs (K/L1715 to K/L1720), with updated parameters, were uplinked to each JEM-X to upgrade the DFEE SW to version 4.4.0. After the operations, both units were

activated to their nominal operational configuration and set to DATA TAKING. At 10:02:00, JEM-X resumed their nominal operations.

#### **27-Feb-2003, DOY 058, Revolution 45**

- 14:49:28, Both JEM-X units went to SAFE mode by their on-board protection when the S/W trigger rates reached the threshold of 20000 cnts/8sec. This happened at a descending altitude of ~83000 km and about 2 hours before the execution of JEM-X SAFE TCs, planned in the timeline. It was decided to leave both JEM-X units in SAFE mode for the rest of revolution 45.

### **8.3.5 OMC Operations**

#### **23-Feb-2003, DOY 054, Revolution 44**

- 12:43:00, Problems at Redu G/S caused loss of TC link. AOCS commanding was disabled and slews 00440052 and 00440053 were missed. Manual slew to the attitude of pointing 00440053 was performed and the OMC operations resumed from pointing 00440054.

#### **24-Feb-2003, DOY 055, Revolution 44**

- 13:52:00, Command verifier on IDDA failed, which resulted in stopping of the timeline and missing of slews 00440090 and 00440091. Manual slew was performed to the attitude of pointing 00440091 and normal OMC operations resumed from pointing 00440092.

#### **26-Feb-2003, DOY 057, Revolution 45**

- 19:03:00, Losses in TM packets caused failure of AOCS TCs. AOCS commanding was disabled and slews 00450063 and 00450064 were missed. Manual slew to the attitude of pointing 00450064 was performed and nominal OMC operations resumed from pointing 00450065.
- 23:27:00, the Flight Dynamics system failed to update slew 00450070. To recover the schedule, AOCS commanding was disabled and slews 00450070 and 00450071 were missed. Manual slew to the attitude of pointing 00450071 was performed and timeline driven OMC operations resumed at pointing 00450072.

### **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 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 - 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 super-commutated 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 count-rates 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 |

|              |            |                                                                           |        |            |         |
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| INT - 002128 | 2002/12/01 | Wheel Speed monitor crashed                                               | Ground | FDS        | 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 - 002139 | 2002/12/09 | Attitude determination Failed                                             | Ground | FDS        | 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 Tele-commanding 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 sub-mode table loaded only if forcing the sub-mode         | 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 |