

INTEGRAL
Mission Report
INT-MOC-SYS-RP-1001-TOS-OF
No. 046
Week 32
11.08.03
Routine Phase

Prepared by: M. Walker (TOS-OFI)

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1 General

The Flight Control Team at MOC has compiled this report with some input provided by the Flight Dynamics Team.

It addresses the activities from 02.08.03 until 08.08.03 (both dates inclusive) and covers the revolutions 98, 99 & 100.

2 Summary of Activities

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

The targets of these revolutions were the Target of Opportunity SN 2003gs type Ia (RA 02:27:38.36; DEC -01:09:35.4), GRO J0332-87 (RA 03:31:60.00; DEC -86:43:00.0) and the galactic centre. The activities performed consisted of hexagonal and raster dithering observations as well as 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 AOCS operations were performed from the timeline during this period.

There were cases of loss of Guide Star during two perigee passages due to detected False Events, the number of which exceeded the SEU Filter threshold.

The fuel consumption over the period between 01/08/2003 and 08/08/2003 was 0.071Kg. The remaining propellant is in the order of 175.586 Kg on the 8th of August.

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 from the arrays is in the order of **2230W**. This means that there is no noticeable degradation of the solar arrays since launch.

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

An anomaly occurred on FEE # 57 of the ACS s/s and is under investigation by the SPI PIs. Apart from that, the overall status of the unit is performing well.

During the reporting period the instrument was in photon-by-photon mode with spectra TM enabled and an assigned TM bandwidth in the science windows of 98 pkts/cycle.

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

3.2.2 IBIS

The Status of the unit is Nominal.

The TM bandwidth assigned to IBIS is 134 pkts/8sec.

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 executed from the Automatic Timeline and JEM-X1 was dormant. Operations were interrupted twice, once by an IREM crash, and once by high radiation readings.

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

3.2.4 OMC

During this period 142 OMC images were acquired with none missed.

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

3.2.5 IREM

An anomaly (SEU) occurred on DoY 2003.217.08.26Z (05/08/03), as in the past (see anomalies on 16/12/2002, 01/01/2003, 03/06/03, 11/07/03, 19/07/03) the status of the unit was nominal.

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

4 Ground Facilities

The ground problems reported during this week were mainly a VC7 TM problem from DSS-16, and a couple of minor breaks in the TM/TC link. None of them caused the loss of science data.

4.1 Mission Operations Centre

There was two problems concerning the performance of the MOC reported this week:

- On DoY 214 from 01:23 to 01:30, there was no TM getting through from Redu, the problem turned out to be caused by a disconnection between NCTRS and the IMCS, there was no impact.
- On DoY 217, at 12:35, NCTRS-A crashed just after AOS from Redu. Network rebooted it, and the system was recovered without impact.

4.2 Ground Stations & Network

During this week, there were two problems relating to VC7 TM from Goldstone, and a late TC link:

- On DoY 216 at 04:06, the VC7 TM from DSS-16, stayed in drop after AOS. It remained that way till the end of the pass, at 04:35, there was a 30 second drop in VC0 TM. At 04:41, Network tried to unbind & bind VC7, without success. VC7 was finally re-acquired after AOS from Redu at 09:25. The missing TM was consolidated later in playback, but its completeness is TBD.

- On DoY 217, at 02:10 occasional and very brief drops in VC7 TM were reported since the handover to DSS-16 at 01:50. GFCC reported a problem in getting VC7 TM from the station using the default Service Instances, the problem was solved, when this was switched to using the pass specific SI.
- On DoY 219, at 03:40, a TC in the sequence DEBPG200 was lost due to a late confirmation of the TC link to DSS-16. The TC was copied from the TC history and manually up-linked, there was 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

6 Anomalies

The problems related to the ground segment are already mentioned in chapter 4.

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 - 002413	01/08/2003	CMD failure caused slew to be missed.	Ground	FDS	Pending
INT - 002414	06/08/2003	B-Chain not operational after OPSLAN work.	Ground	IMCS	Pending
INT - 002415	06/08/2003	TC Fails release - Spurious PTV Failure.	Ground	IMCS	Pending
INT - 002416	06/08/2003	TC fails release	Ground	IMCS	Pending
INT - 002417	06/08/2003	TCP Crash at DSS-16	Ground	NASA Sta.	Pending
INT - 002418	06/08/2003	Possible Hardware fault on INTRB	Ground	NCTRS	Pending
INT - 002419	06/08/2003	Drop in VC7	Ground	NASA Sta.	Pending
INT - 002420	07/08/2003	SPI -ACS anomaly on FEE 57	Space	SPI	Pending

7 Future Milestones

8 Appendix

The appendix includes various detailed information.

8.1 Overview of Revolutions

Revolution 98

In revolution 98 a hexagonal dithering observation of the Target of Opportunity SN 2003gs type Ia (RA 02:27:38.36; DEC -01:09:35.4) was performed throughout the available observation time (~60 hours).

Revolution 99

Revolution 99 began with a continuation of the hexagonal dithering observation of the Target of Opportunity SN 2003gs type Ia (RA 02:27:38.36; DEC -01:09:35.4), which was performed throughout revolution 98. This lasted ~26 hours and was followed by a raster dithering observation of GRO J0332-87 (RA 03:31:60.00; DEC -86:43:00.0), performed for the remaining ~33 hours of observation time.

Revolution 100

In revolution 100, GCDE observations were performed throughout the available observation time (~60 hours).

Throughout these observations in revolutions 98, 99 and 100, all instruments were in their nominal science modes, except for JEM-X1, which remained in Safe mode, and the TM allocation was 134 IBIS, 98 SPI, 1 JEM-X1, 8 JEM-X2, 5 OMC.

8.2 Consumables

8.2.1 Detailed Fuel Book-keeping

2003-07-18T15:03:26.000Z	175.9290	F	Automatic TM processing.
2003-07-20T00:58:01.000Z	175.9240	F	Automatic TM processing.
2003-07-21T14:26:45.000Z	175.8879	F	Automatic TM processing.
2003-07-23T13:58:10.000Z	175.8573	F	Automatic TM processing.
2003-07-24T06:36:03.000Z	175.8060	F	Automatic TM processing.
2003-07-24T14:20:44.000Z	175.7966	F	Automatic TM processing.
2003-07-25T20:38:39.000Z	175.7564	F	Automatic TM processing.
2003-07-27T07:18:59.000Z	175.7354	F	Automatic TM processing.
2003-07-27T14:00:59.000Z	175.7008	F	Automatic TM processing.
2003-07-30T13:44:59.000Z	175.6756	F	Automatic TM processing.
2003-08-01T00:51:34.000Z	175.6575	F	Automatic TM processing.
2003-08-02T13:28:18.000Z	175.6279	F	Automatic TM processing.
2003-08-04T00:33:42.000Z	175.6208	F	Automatic TM processing.
2003-08-05T13:11:53.000Z	175.6087	F	Automatic TM processing.
2003-08-07T00:06:29.000Z	175.5861	F	Automatic TM processing.

8.3 Detailed Satellite Information

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

8.3.1 AOCS Operations

AOCS operations were executed from the Automatic Timeline.

During this period, 59 Open Loop Slews, 95 Closed Loop Slews and 5 Momentum Bias were executed. No slews were missed or executed manually.

02/08/03 (Day of Year 214, Revolution 97-98)

Loss of Guide Star during perigee passage: At 12:03:59, the guide star was released because the STR SEU Filter threshold was exceeded. This was during the no-coverage period. At LOS the guide star had CCD coordinates (-3352, -60) and magnitude 6.45. An automatic mapping was done and a new Guide Star was found. At AOS, this star of magnitude 8.25 was located at CCD coordinates (7532, -4885). This star was also released at 13:04:11 due to the SEU Filter threshold being exceeded. After the automatic mapping, the first star was picked again as the Guide: (-3356, -40), 6.45Mi.

03/08/03 (Day of Year 215, Revolution 98)

Nothing to report.

04/08/03 (Day of Year 216, Revolution 98)

Nothing to report.

05/08/03 (Day of Year 217, Revolution 98-99)

Loss of Guide Star during perigee passage: At 11:41:23 and during the no-coverage period, the Guide Star was released when the number of successive detected False Events exceeded the STR SEU Filter threshold. At LOS the Guide had CCD coordinates (-11062, -4925) and magnitude 6.8. Mira (Omicron Ceti) was in the STR FoV with an instrumental magnitude of 3.0 and was picked by the ACC as the new Guide Star. The reason that Mira had not been selected in the first place by the Flights Dynamics System as the Guide for perigee passage is that it is a variable star and the FDS does not select variable stars as guide stars. (Mira is a variable binary system with a visual magnitude varying between 2.0 and 10.1 and a period of 331.96 days.)

06/08/03 (Day of Year 218, Revolution 99)

Nothing to report

07/08/03 (Day of Year 219, Revolution 99)

Nothing to report

08/08/03 (Day of Year 220, Revolution 99-100)

Nothing to report

8.3.2 SPI Operations

Cryocooler

Reported on DoY 217 at 03.06, the TM_para E0392 showed OOL (Warning Level). The Temperature of the Cold Plate L2 reached the value 85.915 deg K and the H-BUS temperature (E0398) was =82.144 deg K. According to OR-0090, an increasing of the stroke of CDE1 A and B by one lsb, from 36 to 37 was performed. The new value set for CD1 A & B was 37. The CD2 cryo-coolers C+D stayed at the value 36.

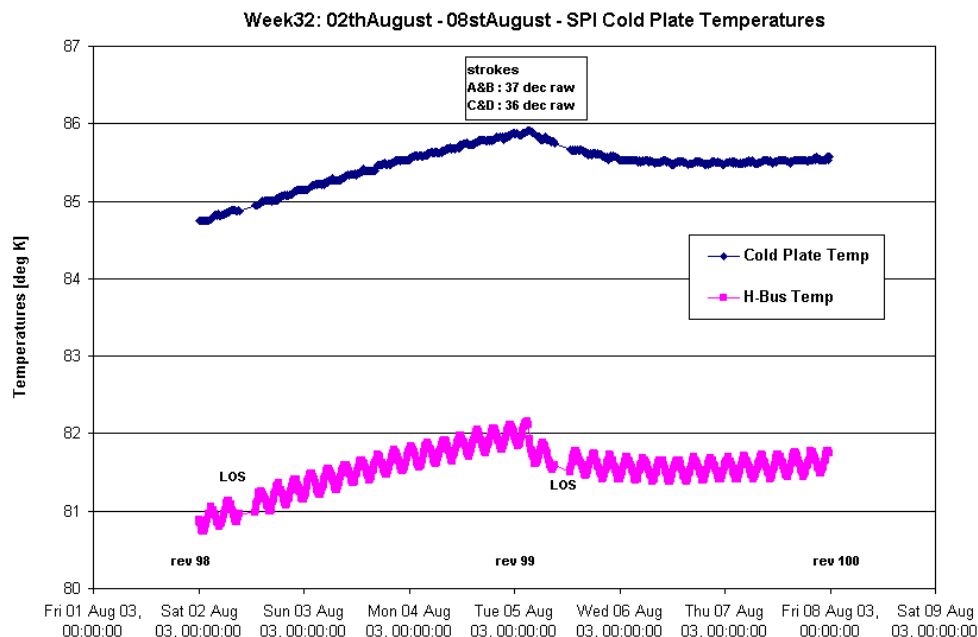
CDE1 A = 37

CDE1 B = 37

CDE2 C = 36

CDE2 D = 36

The following plot shows the evolution of the cold plate and H bus temperatures during the reporting period:



IASW/DPE

Nothing to report

DFEE

Nothing to report

PSD

Nothing to report

AFEE

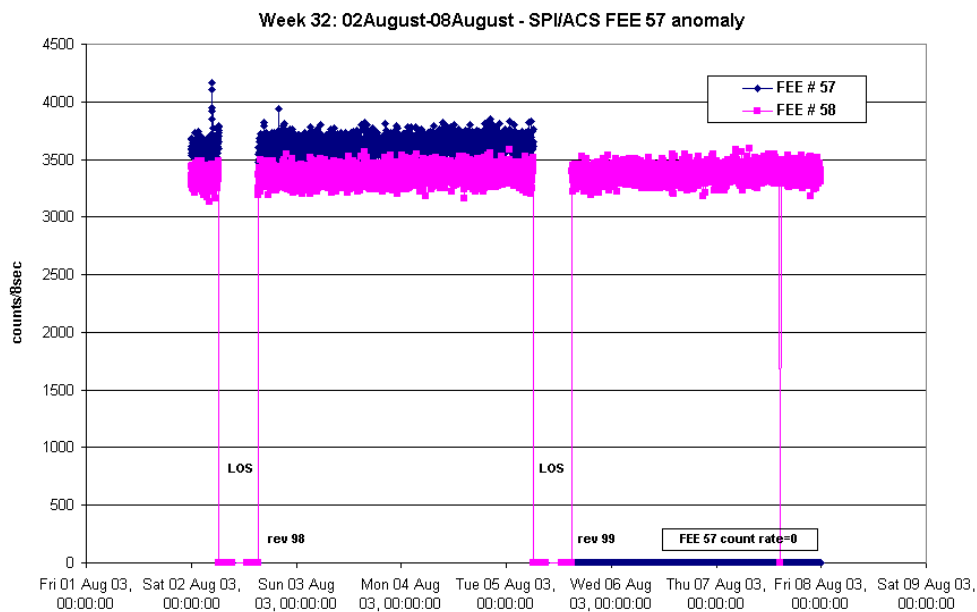
Nothing to report

ACS

An anomaly occurred on DoY 217 at 15.30Z with the FEE #57. On 6/08/03 ISDC reported that no count-rate had been produced by FEE 57.

SPI team confirmed that the FEE 57 was in "WatchDog Reset" since the 5/08/03 17.30 local time after the perigee passage for revolution 98. No alarm/OEM was raised when the problem occurred.

The following plot shows the evolution of the count rate for FEE 57 and 58 during the reporting period:



The first attempt to recover the FEE 57 (proposed by SPI PI, mail from R. Gonzalez on 06/08/03), consisted of an ACS reconfiguration by using the sequence provided by SPI PIs.

The activity was performed on 2003-08-07, in the window between 09:05Z and 09:40Z. This was after the end of exposure 00990004, and before the start of the handover window.

The reconfiguration foresaw:

- | | |
|---|----------|
| 1) transition PHOTON ->CONF mode | TC E0502 |
| 2) send all configuration commands already loaded | TC E0556 |
| 3) wait about 3 minutes | |
| 4) request FEE alert status | TC E0288 |
| | TC E0289 |
| | TC E0290 |
| 5) transition CONF->PHOTON mode | TC E0501 |

This first attempt to recover the FEE 57 was unsuccessful.

The second attempt (proposed by SPI PIs, mail from R.Gonzalez on 7/08/03) consisted of a reset of the ACS s/s by using the procedure ECP7 reported in the SPI UM issue 5 rev 0 Volume II page 513.

A temporary procedure was produced in foggen to expand ECP7 into the level of details adequate for the FCT to run it. The recovery was executed on 7/08/03 at 14:25Z. The pointing 00990047 was lost for SPI for science. The execution was supported and monitored by SPI PIs from CESR connected via the ECOE resident in MOC.

The second attempt to recover the FEE 57 was also unsuccessful.

Currently the FEE 57 is not producing data. A complete report on the status of the FEE 57 is expected from the SPI PIs in the next few days.

8.3.3 IBIS Operations

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

On **DOY 214 (02/08)** at 05.35Z the OEM ID 179 Class 2 <<IBIS1 VETO COUNTER BOTTOM EXCEEDS ALERT VALUE>> was reported. The relevant TM_para G6062 showed values inside limits, therefore the problem was disregarded, as suggested by the nominal reaction to this OEM.

On **DOY 219 (07/08)** at 06.16Z the OEM ID 183 Class 2 <<IBIS1 VETO +5V VECU VOLTAGE OUT OF RANGE>> was reported. The relevant TM_para G6106 showed a value inside limits, therefore the problem was disregarded, as suggested by the nominal reaction to this OEM.

On **DOY 220 (08/08)** at 14.31Z and 14.43Z the following TM parameter G2014 (MCE1 overflow of the noisy pixel address register) was reported to be OOL (SCC fail). As indicated in the FDIR doc, the parameter was monitored for few minutes until back in limits. No further action was taken.

8.3.4 JEM-X Operations

During this week there were two incidents worth reporting, one where an IREM crash one where high IREM counts caused JEMX-2 to go to SAFE mode.

02/08/2003, DOY 214, Revolution 97-98

As part of the diagnostic data dump of the previous day, at 0053, JEMX1&2 were disabled, while the HV switch OFF threshold was set back to the nominal value. At 01:13, JEMX-2 was re-enabled, (JEMX-1 being left in SAFE mode).

03/08/2003, DOY 215, Revolution 98

Nothing to report

04/08/2003, DOY 216, Revolution 98

Nothing to report

05/08/2003, DOY 217, Revolution 98-99

At 08:26, there was an IREM crash, but as this occurred below the belts, JEMX-2 was already in SAFE mode. As part of the recovery procedure, at 17:30, the procedure FCP_JEM2_0120 was executed, to inhibit the internal reaction to the RMCR flags, and at 18:06, was executed again to reset the unit. There was no loss of science data due to this incident.

06/08/2003, DOY 218, Revolution 99

Nothing to report

07/08/2003, DOY 219, Revolution 99

Nothing to report

08/08/2003, DOY 220, Revolution 99-100

At 14:57, JEMX-2 went to SAFE mode, triggered when the RMCR3 counter from IREM exceeded the JEM-X Safe threshold. The unit was finally recovered at 15:59, when it was returned to Data-Taking.

8.3.5 OMC Operations

Nothing additional to report.

8.3.6 IREM Operations

An anomaly (SEU) occurred on DoY 217 at 08.26Z (05/08/03), as in the past (see anomalies on 16/12/2002 ,01/01/2003, 03/06/03, 11/07/03, 19/07/03) the status of the unit was nominal, here is a brief summary:

- 1) The temperatures were nominal;
- 2) LCL current nominal;
- 3) The last HK before the anomaly reported HV , 5V, 6V voltages inside limits;
- 4) The anomaly occurred **inside Radiation Belts** ~half hour before the LOS and the unit performed an automatic transition to Standard Mode (i.e. no block counter increasing, all the TM words= FFFF hex);
The radiation counters reported the following values (few secs before the anomaly):

U9919 (proton counter)=2
U9920 (dose counter) =6
U9921 (electron counter) =29601

- 5) the first dump of the status word after the anomaly reported the value '**B8C0**' hex=

```
'1    Ground Link On
0
1    Accumulation ON
1    Counting ON
1    Integral Mode
0    Command Invalid
0
0
1    HV ON
1    Checksum failure ON
0
0
0
0
0
0'
```

i.e. the unit was reporting a status word as in Integral mode with counting ON, accumulation ON and the checksum failure flag ON.

The flag Command Invalid was due just after the anomaly, the TC GND LINK OFF (U4921) was sent by the automatic timeline and failed the execution (on board rejection) because accepted only in Integral Mode.

- 6) Dumping the complete register bank, it reported, as in the past, a different value of the status word: '**BC80**' hex=

```
'1
0
1
1
1
```

1
0
0
1
0
0
0
0
0
0
0'

Checksum Failure OFF

i.e. still the unit was reporting the status word as in Integral mode BUT with the checksum failure flag OFF . Looking at the checksum failure counter in the register bank # 3, it incremented of 1 unit (the past value was 5 due to the previous five SEUs).

The IREM automatic transition to Standard Mode (reset of the CSCI S/W) did not affect the instruments status via BCP because the S/C was already inside the Belts and the instruments already configured in Safe Mode.

The cause of this S/W reset was "probably" due to a SEU, as in the past. An external single ionising radiation (probably an heavy ion/cosmic radiation) produced a burst of hole-electron pair large enough to cause a bit status change in the IREM memory: this event was detected by the checksum control logic that triggered the reset of the CSCI S/W.

The recovery of the unit started around 13.00Z including the uplink of the IREM patch (counters rescaling factor):

1) The first attempt to patch the unit failed, probably due to a delay in the transmission of TCs setting /enabling the new checksum on board (constrained in time). Dumping the register bank the following values were observed:

checksum_switch=FFFF hex against an expected value =0(enabling checksum)
checksum= D430 hex (old checksum) against an expected value =C099 hex (new checksum)
S/W version=202 hex
status word=480 hex

2) after consultation with the IREM PIs it was decided to repeat the patch. This time the uplink of the patch was successful, and reported the following values

checksum_switch=0(enabling checksum)
checksum=C099 hex (new checksum)
S/W version=202 hex
status word=480 hex

Due to the need to recover the unit as soon as possible, with the agreement of IREM
 PI, the dump of the complete memory was not executed.

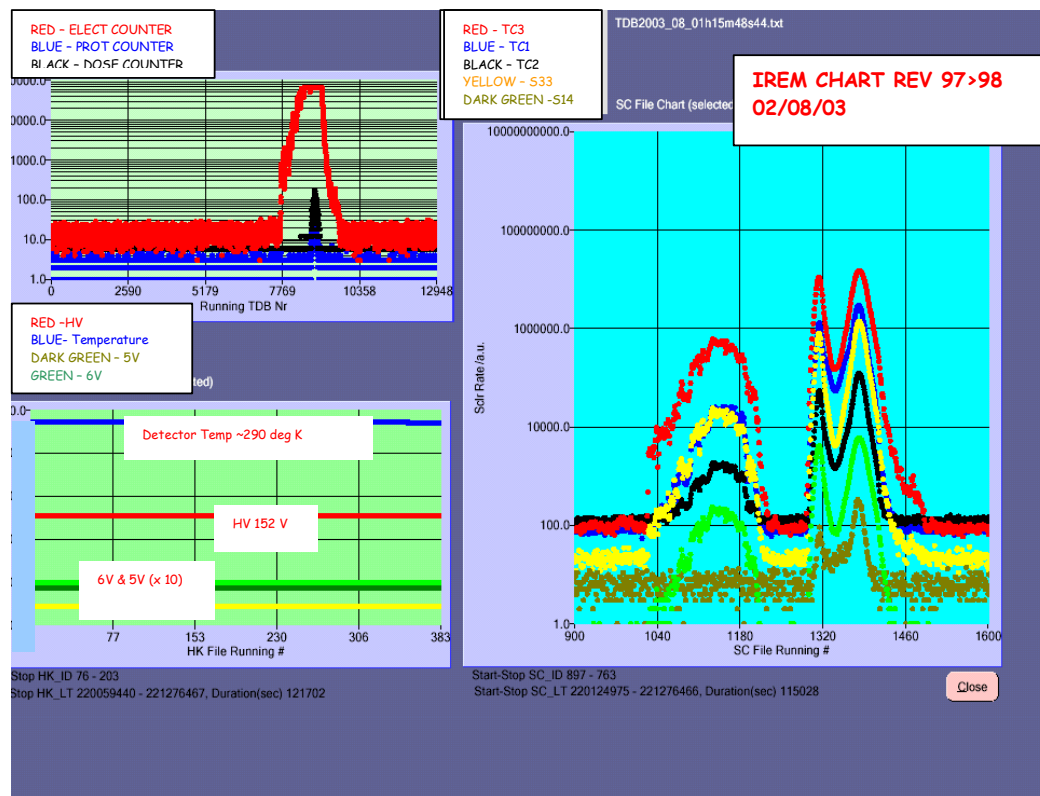
IREM was configured in Integral Mode at 16.06Z successfully.

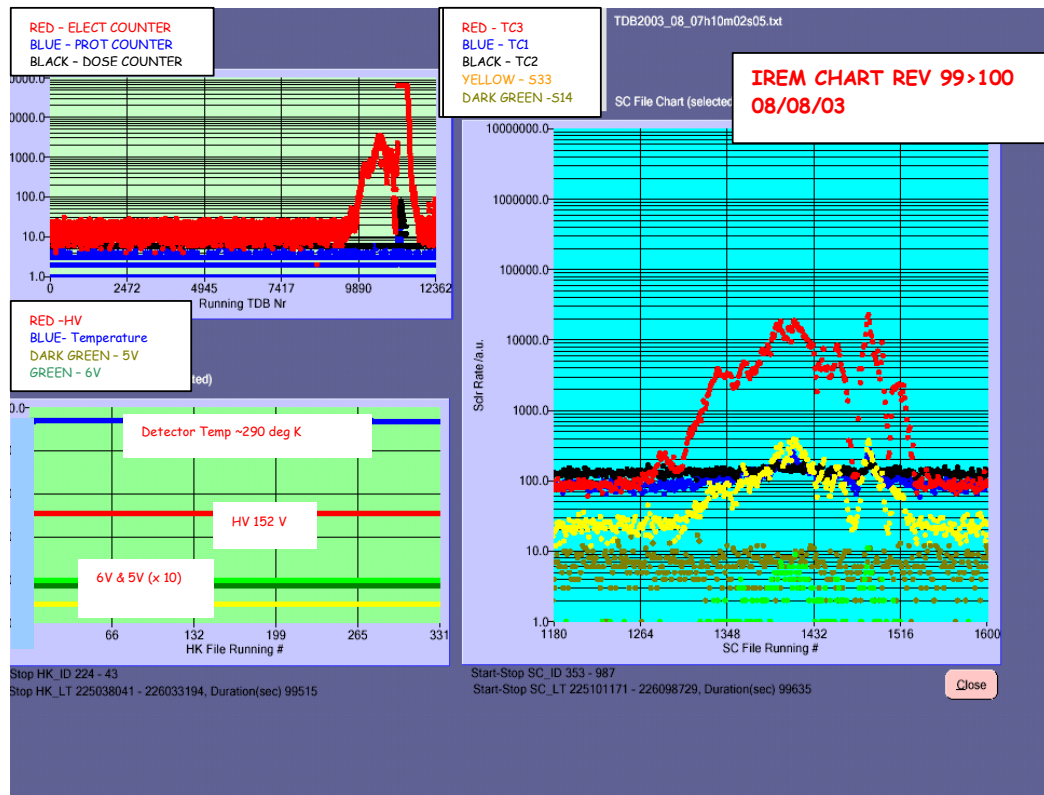
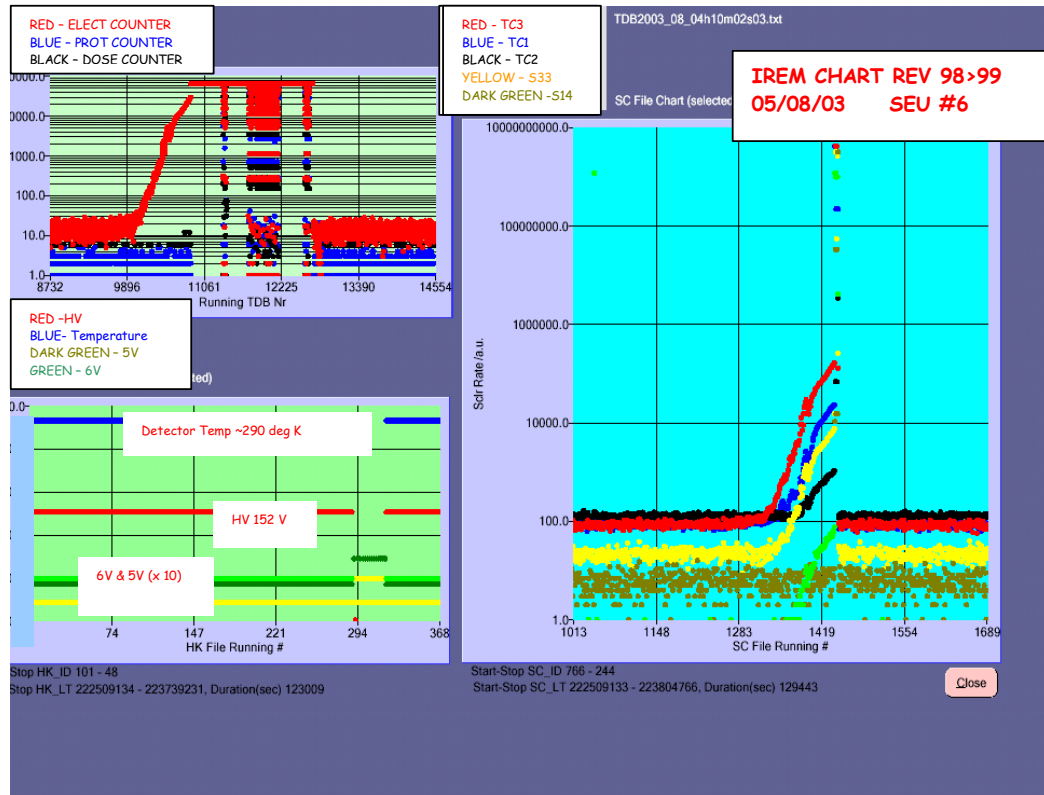
After the patch, IREM was verified with different scalers and with the Ground Link
 ON/OFF function (see Transfer Data Blocks attached). The final settings of the unit
 were:

- accumulation time 60 sec
- HK files every 5 SCI files
- TC3 scaler for the electron counter
- S14 scaler for the proton counter

The unit was monitored for 2.5 hrs and the DRMC flag in the BCP re-enabled at
 19.30Z.

The following plots show the IREM count rates for the Belts passage in rev 98, 99
 and 100





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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 - 002010	22/10/2002	Time correlation not applied correctly to time parameters in TM type 8 reports.	Ground	IMCS	Pending
INT - 002066	13/11/2002	Data routing to ISDS	Ground	I/F to SGS	Pending
INT - 002082	13/11/2002	TM packet production lower than allocation.	Space	SPI	Pending
INT - 002094	19/11/2002	TDRS does not work with super-commutated parameters	Ground	IMCS	Pending
INT - 002142	11/12/2002	TDRS Time Interval Setting	Ground	IMCS	Pending
INT - 002145	15/12/2002	Commands failing PTV for no reason	Ground	IMCS	Pending
INT - 002212	29/01/2003	TDRS Interval-by-Interval TM Retrieval Problem	Ground	IMCS	Pending
INT - 002213	29/01/2003	SCOS 2000 Interval-by-Interval TM Retrieval Problem	Ground	IMCS	Pending
INT - 002217	06/02/2003	TC link drop	Ground	NASA Sta.	Pending
INT - 002219	10/02/2003	IBIS: PICsIT PDMs counters SET to 0 (twice) during nominal operation	Space	IBIS	Pending
INT - 002233	24/02/2003	Time Calibration not Coherent among Ground Stations	Ground		Pending
INT - 002234	24/02/2003	S2K unable to access READ ONLY disk in IDDA.	Ground	IMCS	Pending
INT - 002235	25/02/2003	Too narrow window for RMU cal in PSF of rev 49	Ground	I/F to SGS	Pending
INT - 002242	02/03/2003	TM & TC Drop on DSS 16	Ground	NASA Sta.	Pending
INT - 002246	05/03/2003	Loss of Telemetry from DSS16	Ground	NASA Sta.	Pending
INT - 002253	10/03/2003	RX1 and RX2 Locked at the same time	Ground	NASA Sta.	Pending
INT - 002255	10/03/2003	Late AOS at DSS-24	Ground	NASA Sta.	Pending
INT - 002256	14/03/2003	Late AOS at DSS-16	Ground	NASA Sta.	Pending
INT - 002257	17/03/2003	Late AOS at DSS-24	Ground	NASA Sta.	Pending
INT - 002259	21/03/2003	TDRS: Retrieval log is Meaningless.	Ground	IMCS	Pending

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ARid	Date Occurrence	Subject	Segment	Element	Status
INT - 002260	21/03/2003	Monitoring task Printout, sample time	Ground	IMCS	Pending
INT - 002262	21/03/2003	TDRS: FEN Retrievals containing status parameters always fail.	Ground	IMCS	Pending
INT - 002267	25/03/2003	Drop in link from ISDS to ISDC	Ground	I/F to SGS	Pending
INT - 002273	27/03/2003	Drop in VC7 via REDU	Ground	ESA Sta.	Pending
INT - 002279	29/03/2003	Telemetry lost from DSS-16. DR N109197	Ground	NASA Sta.	Pending
INT - 002295	15/04/2003	Telemetry Drops from Goldstone	Ground	NASA Sta.	Pending
INT - 002298	20/04/2003	ISDS - ISDC link outage	Ground	I/F to SGS	Pending
INT - 002299	21/04/2003	Telemetry loss from DSS-24	Ground	NASA Sta.	Pending
INT - 002304	26/04/2003	IFTS MCS instance not working	Ground	IMCS	Pending
INT - 002305	04/05/2003	Telemetry Drops from Goldstone. DR GI02720	Ground	NASA Sta.	Pending
INT - 002308	05/05/2003	Loss of TM/TC link due to hit on line	Ground	COMMS	Pending
INT - 002307	06/05/2003	Wrong sign applied in the S/C delay in the correlator.	Ground	IMCS	Pending
INT - 002309	06/05/2003	Command release delayed	Ground	ESA Sta.	Pending
INT - 002311	06/05/2003	Drop in TM on MADDS-ISDSA link	Ground	ESA Sta.	Pending
INT - 002312	06/05/2003	Static PTV in "No Go" State for command A3189	Ground	IMCS	Pending
INT - 002318	09/05/2003	SUN workstation 128 rebooted itself.	Ground	IMCS	Pending
INT - 002314	12/05/2003	Wrong file displayed for Timeline Summary File	Ground	IMCS	Pending
INT - 002323	19/05/2003	Telemetry Drops from Goldstone (DR 109346)	Ground	NASA Sta.	Pending
INT - 002324	19/05/2003	Command A3084 not verified	Ground	IMCS	Pending
INT - 002326	21/05/2003	Hardware failure at DSS-16 during handover DR: GI02772	Ground	NASA Sta.	Pending
INT - 002327	26/05/2003	CLCW: change in ratio of the number of VC-0 / VC-7 CLCWs in VC-0 TM Frames	Space	Platform	Pending
INT - 002328	27/05/2003	TDRS queries for some SPI parameters fail before DOY 2003.034	Ground	IMCS	Pending
INT - 002330	27/05/2003	NCTRS CPU goes to 85% for a problem related with tracking data	Ground	NCTRS	Pending
INT - 002331	27/05/2003	Monitoring Task ASCII Printout, not in ASCII format	Ground	IMCS	Pending
INT - 002334	30/05/2003	Bad telemetry from Goldstone - DSS-16	Ground	NASA Sta.	Pending
INT - 002336	02/06/2003	VC-0 telemetry not being received from Goldstone	Ground	NASA Sta.	Pending
INT - 002337	03/06/2003	Late handover to DSS-16 due to uplink bind problem	Ground	NCTRS	Pending
INT - 002338	03/06/2003	Error sending data to consolidator (VC-7)	Ground	IMCS	Pending

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INT - 002339	05/06/2003	IREM anomaly: SEU (#3)	Space	IREM	Pending
INT - 002340	05/06/2003	IBIS anomaly: Histogram production stopped due to coincidence of GSHF=1 with the start of S5 process	Space	IBIS	Pending
INT - 002341	05/06/2003	IBIS anomaly: Histogram production stopped due to the combination of PDUR setting with IASW observation duration calculation during long staring	Space	IBIS	Pending
INT - 002342	05/06/2003	Telemetry Drops from Goldstone DR: AR109393	Ground	NASA Sta.	Pending
INT - 002343	07/06/2003	Error sending data to ISDC	Ground	IMCS	Pending
INT - 002350	12/06/2003	Telemetry Drop from Goldstone DR: G102867	Ground	NASA Sta.	Pending
INT - 002355	17/06/2003	VC7 Frames received with a wrong order by ISDC	Ground	ESA Sta.	Pending
INT - 002357	20/06/2003	Error sending data to ISDS	Ground	IMCS	Pending
INT - 002358	22/06/2003	Error sending data to ISDC	Ground	IMCS	Pending
INT - 002359	22/06/2003	NCTRSA application restart	Ground	NCTRS	Pending
INT - 002360	22/06/2003	Loss of telemetry due to NCTRSA and IMCSA errors	Ground	NCTRS	Pending
INT - 002362	23/06/2003	NCTRSA application restart	Ground	NCTRS	Pending
INT - 002363	23/06/2003	Error sending data to ISDC	Ground	IMCS	Pending
INT - 002364	24/06/2003	NCTRSA application restart	Ground	NCTRS	Pending
INT - 002367	25/06/2003	SPI: Spikes in GeD count rates after HV switch on following 1st annealing	Space	SPI	Pending
INT - 002368	25/06/2003	IFTS Transfer on IMCS-A Failed	Ground	IMCS	Pending
INT - 002369	26/06/2003	Problems to establish VC0 and VC7 links on NCTRS-A	Ground	NCTRS	Pending
INT - 002370	01/07/2003	Static PTV conditions handled incorrectly.	Ground	IMCS	Pending
INT - 002371	02/07/2003	PSS data mixed with S/C telemetry on DOY 2003.090.17.26.01	Ground	Procedure	Pending
INT - 002375	02/07/2003	Error sending data to ISDS	Ground	IMCS	Pending
INT - 002376	03/07/2003	Unexpected behaviour of IMCA	Ground	IMCS	Pending
INT - 002378	03/07/2003	VC0 drop when adding bad-frames on NCTRS-A	Ground	NCTRS	Pending
INT - 002379	03/07/2003	ISDS to ISDC link drop messages	Ground	IMCS	Pending
INT - 002381	04/07/2003	All TLM links on NCTRS-A dropped out	Ground	NCTRS	Pending
INT - 002383	09/07/2003	Antenna stopped at REDU	Ground	ESA Sta.	Pending
INT - 002387	16/07/2003	IREM anomaly: SEU (#4)	Space	IREM	Pending
INT - 002388	16/07/2003	FDS failed to create TPF	Ground	FDS	Pending

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INT - 002389	16/07/2003	IBIS: PICsIT PDMs counters SET to 0 during nominal operation (#3-4)	Space	IBIS	Pending
INT - 002391	18/07/2003	TC problems following the TMP swap on DOY 197	Ground	ESA Sta.	Pending
INT - 002392	18/07/2003	Broadcast Packet Eclipse Entry/Exit Times Incorrect	Ground	FDS	Pending
INT - 002393	23/07/2003	Auto-stack crash on sun128	Ground	IMCS	Pending
INT - 002399	25/07/2003	IFRD: the CSM-IFRD task crashed on isdsa after new IMCS SW release (8.8).	Ground	IMCS	Pending
INT - 002401	31/07/2003	Link MADDS - ISDS toggled between connected and TM flow.	Ground	IMCS	Pending
INT - 002402	31/07/2003	IREM Failure	Space	IREM	Pending
INT - 002404	31/07/2003	NCTRS-A Application restart to clear Ghost link	Ground	NCTRS	Pending
INT - 002405	31/07/2003	ISDC not Receiving Auxiliary Files	Ground	I/F to SGS	Pending
INT - 002406	31/07/2003	Link MADDS/ISDS Disconnected	Ground	IMCS	Pending
INT - 002408	31/07/2003	Late TC Link from DSS-16	Ground	NASA Sta.	Pending
INT - 002409	31/07/2003	Drop of VC0 & VC7 Telemetry.	Ground	NCTRS	Pending
INT - 002410	31/07/2003	Strange Disconnection Messages.	Ground	NCTRS	Pending
INT - 002412	31/07/2003	OMC (OMCAS) IASW Crashed	Space	OMC	Pending
INT - 002413	01/08/2003	CMD failure caused slew to be missed.	Ground	FDS	Pending
INT - 002414	06/08/2003	B-Chain not operational after OPSLAN work.	Ground	IMCS	Pending
INT - 002415	06/08/2003	TC Fails release - Spurious PTV Failure.	Ground	IMCS	Pending
INT - 002416	06/08/2003	TC fails release	Ground	IMCS	Pending
INT - 002417	06/08/2003	TCP Crash at DSS-16	Ground	NASA Sta.	Pending
INT - 002418	06/08/2003	Possible Hardware fault on INTRB	Ground	NCTRS	Pending
INT - 002419	06/08/2003	Drop in VC7	Ground	NASA Sta.	Pending
INT - 002420	07/08/2003	SPI -ACS anomaly on FEE 57	Space	SPI	Pending