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

INTEGRAL
Mission Report
INT-MOC-SYS-RP-1001-TOS-OF
No. 049
Week 35
01.09.03
Routine Phase

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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 23.08.03 until 29.08.03 (both dates inclusive) and covers the revolutions 105, 106 & 107.

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 Galactic Center and SgrA* (RA 17:45:40.00; DEC -29:00:28.0) as well as an OMC Flat Field target (RA 17:12:48.00; DEC -06:24:00.0). The activities performed consisted of raster dithering and staring observations. In addition, OMC Flat Field and Dark Current Calibrations were performed.

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.

Several slews were missed due to drops in the TM/TC links from the Goldstone G/S. We were also experiencing losses of the Guide Stars due to False Events in the Star Tracker. These losses are mostly happening during the perigee passage and at lower altitudes.

The fuel consumption over the period between 22/08/2003 and 29/08/2003 was 0.12Kg. The remaining propellant is in the order of 175.227 Kg on the 29th 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 **2250W**. 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

The overall status of the instrument is nominal.

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.

The FEE57 anomaly occurred on 05/08/3003 has been further analysed and special tests for fault isolation agreed with SPI PI and ACS specialists: The main outcome of the tests is the confirmation of the unrecoverable status of the unit; the produced test data are being further processed and discussed with the SPI team. No science impacts have been, however reported by the failure.

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.

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

3.2.4 OMC

During this period 139 OMC images were acquired with two missed due an IREM anomaly, and five lost due to a ground station problems.

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

3.2.5 IREM

The status of the unit is Nominal.

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

4 Ground Facilities

The performance of the ground segment was well within the specification. The operations were executed relatively smoothly, despite some ground station related problems.

4.1 Mission Operations Centre

The upgrade to the IMCS back-up chain S/W to cope with the increased load due to the higher bit-rate was performed successfully as planned on the 26th August.

There were a couple of minor events spotted on the MCS this week:

- On DoY 237 at 11:24 the status of the limit checker toggled to NOT ALIVE, then back to ALIVE.
- Later that day at 11:51, the following error message appeared on SUN 122: Add index record error duplicate at the end of block.

After the upgrade of the H/W problems occurred frequently with the data consolidator on the IDDA machine. The problems start more or less regularly between 2000 and 2100 and finish between 2300 and 0000. The execution of the Timeline is not impacted but the VC 7 data are not stored in the Archive in this period. They have to be played back from the station, which means an extra load on the system. The investigation is ongoing. A workaround procedure is currently in place, which does not avoid the problem but limits the impacts on the archive.

4.2 Ground Stations & Network

During this week, there were the following problems relating to the ground stations:

- On DoY 235 from 02:13 to 02:15, the TC from DSS-16 dropped, there was no impact.
- On DoY 238 from 04:22 to 04:29 there was a drop in TLM from DSS-16. Later from 04:32 to 05:06, there was another loss of TM, the Goldstone Discrepancy report number is G103256. Later at 05:33 VC0 TLM dropped from DSS-16, Goldstone Swapped the RNS (*Reliable Network Server*:-), and raised another DR-G103258. At 05:56, as there was no visible TLM, the station was requested to bring the carrier down. At 06:08, the TLM returned, and after completion of the recovery actions, the TC returned at 06:23. The impact was slews 01050063, to 01050066 were missed.
- On DoY 241 at 00:14 there was a short drop in the TLM due to DSS-16 bringing the carrier up early. The 1st antenna swap command failed, but the 2nd and 3rd commands got through. DSS-16 was now late in getting TM/TC, and at 00:35 the Timeline was stopped. The schedule was recovered, but slew 01060062 was lost.
-

4.3 Science Ground Segment

4.3.1 ISOC

No ISOC Input has been provided

4.3.2 ISDC

There were several items concerning the link to the ISDC reported this week:

- On DoY 239 ISDC confirmed the VC7 data gaps from 04:28 to 04:37, again from 05:33 to 06:07 and again from 07:35 to 07:45.

5 Special Events

Nothing to report

6 Anomalies

There were no new S/C anomalies. The main problem regarding the ground segment concerns the regular stop of the data consolidator as mentioned in section 4.1.

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 - 002430	25/08/2003	Unexpected behaviour of the Command Verifier of IMCS-A	Ground	IMCS	Pending
INT - 002431	27/08/2003	Telemetry loss from DSS-16 DR G103256 and G103258	Ground	NASA Sta.	Pending

7 Future Milestones

There are no special operations foreseen in the next future. It is currently under investigation whether a battery reconditioning is to be performed.

8 Appendix

The appendix includes various detailed information.

8.1 Overview of Revolutions

Revolution 105

In revolution 105 a raster dithering observation of the Galactic Center (RA 17:45:40.00; DEC -29:00:28.0) was performed throughout the available observation time (~60 hours).

Revolution 106

In revolution 106 a raster dithering observation of the Galactic Center (RA 17:45:40.00; DEC -29:00:28.0) was performed throughout the available observation time (~60 hours).

During both these revolutions, 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.

Revolution 107

Revolution 107 began with a raster dithering observation of the Galactic Center (RA 17:45:40.00; DEC -29:00:28.0) lasting about ~25 hours. This was followed by a 4 hour staring observation at the OMC Flat Field target (RA 17:12:48.00; DEC -06:24:00.0), during which OMC Flat Field and Dark Current Calibrations were performed. An amalgamated raster dithering observation of SgrA* and the Galactic Center (RA 17:45:40.00; DEC -29:00:28.0) was then performed for the remaining ~31 hours of observation time.

During these observations, SPI, IBIS and JEM-X2 were in their nominal science modes and JEM-X1 remained in Safe mode. OMC was in FFCalibration / DCCalibration modes for the Flat Field and Dark Current Calibrations respectively and in Normal Science mode for the other observations. The TM allocation was 90 IBIS, 87 SPI, 1 JEM-X1, 8 JEM-X2, 60 OMC during the OMC FF staring observation and 134 IBIS, 98 SPI, 1 JEM-X1, 8 JEM-X2, 5 OMC for the other observations.

8.2 Consumables

8.2.1 Detailed Fuel Book-keeping

2003-08-07T00:06:29.000Z	175.5861	F	Automatic TM processing.
2003-08-08T12:56:57.000Z	175.5673	F	Automatic TM processing.
2003-08-09T23:13:33.000Z	175.5512	F	Automatic TM processing.
2003-08-11T12:39:29.000Z	175.5395	F	Automatic TM processing.
2003-08-12T23:54:05.000Z	175.4991	F	Automatic TM processing.
2003-08-14T12:26:16.000Z	175.4772	F	Automatic TM processing.
2003-08-17T12:16:39.000Z	175.4594	F	Automatic TM processing.
2003-08-17T22:19:28.000Z	175.4286	F	Automatic TM processing.
2003-08-18T22:43:31.000Z	175.3969	F	Automatic TM processing.
2003-08-20T12:02:23.000Z	175.3712	F	Automatic TM processing.
2003-08-21T22:30:18.000Z	175.3476	F	Automatic TM processing.
2003-08-23T11:47:42.000Z	175.3353	F	Automatic TM processing.
2003-08-24T22:54:49.000Z	175.3184	F	Automatic TM processing.
2003-08-26T11:35:33.000Z	175.2518	F	Automatic TM processing.
2003-08-27T22:41:45.000Z	175.2272	F	Automatic TM processing.

This report was generated Fri Aug 29 08:00:11 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 Operations

AOCS operations were executed from the Automatic Timeline.

During this period, 64 Open Loop Slews, 91 Closed Loop Slews and 5 Momentum Bias were executed. 5 slews were missed or executed manually. This is equivalent to 3%.

23/08/03 (Day of Year 235, Revolution 104-105)

Nothing to report.

24/08/03 (Day of Year 236, Revolution 105)

Nothing to report.

25/08/03 (Day of Year 237, Revolution 105)

Nothing to report.

26/08/03 (Day of Year 238, Revolution 105-106)

Loss of Guide Star due to detected False Events: Open Loop Slew 01050059 started at 00:43:18 and completed at 00:45:14. Near the end of the slew, the Guide Star had CCD coordinates (9397, 8363) and magnitude 7.75. Three ACC cycles before the end of the slew, the Star Tracker started continuous reporting of False Events on the status of the Guide Star. This went on until 00:46:20 when the ACC finally released the guide star and a new guide was picked during the commanded mapping. It should be noted that in the first 60 seconds after the end of a slew, the ACC does not release the guide star with an Invalid status.

After the loss of the guide star, the On-Target Flag went down and to save the pointing, the SPACON performed a manual close-loop slew to the same attitude using the FD tool. This sets the OTF high. The slew was generated and performed successfully. When attempting to update the next slew (01050060), the FD tool failed to generate the update. This appeared to be due to a S/W problem in the tool. Slew 01050060 was an open-loop slew and it went without being updated. The operational impact was that at the beginning of pointing 01050059 the OTF was lost and it went high again at 01:17:01, at the end of the manual Close Loop slew.

Slews missed due to ground station problem (Goldstone, DSS-16): At 05:33 the VC0 telemetry was lost due to a problem at Goldstone (DR# G103258). The timeline was stopped and slews 01050063 to and including 01050066 were missed. The missed slews were the corrective Open Loop and Close Loop slews after slew 01050062 and the last slews to put the S/C in the Perigee Pass attitude. After re-establishment of the TM line, an Open Loop slew and a corrective Close Loop slew were performed manually to the Perigee Pass attitude. This had no operational impact since it was below the science operations altitude.

Pitch Error during the perigee passage: At 10:53:08, during the no-coverage period, the ACC had generated a Pitch Error OOL message. This was probably due to an undetected False Event.

Guide Star released by the ACC STR SEU Filter: At 11:02, right after AOS and at the beginning of revolution 106, the Guide Star was released when the number of detected False Events exceeded the ACC STR SEU Filter threshold. The guide was located at CCD coordinates (24395, 15284) with 7.4 Mi. The number of reported False Events were rather high during this time and the SEU Filter threshold was exceeded three times. Finally during the second automatic mapping, the STR picked a new guide star: (9106, -8566), 7.75Mi. This was below the science operations altitude and had no impact on observations.

27/08/03 (Day of Year 239 Revolution 106)

Nothing to report.

28/08/03 (Day of Year 240, Revolution 106)

Nothing to report.

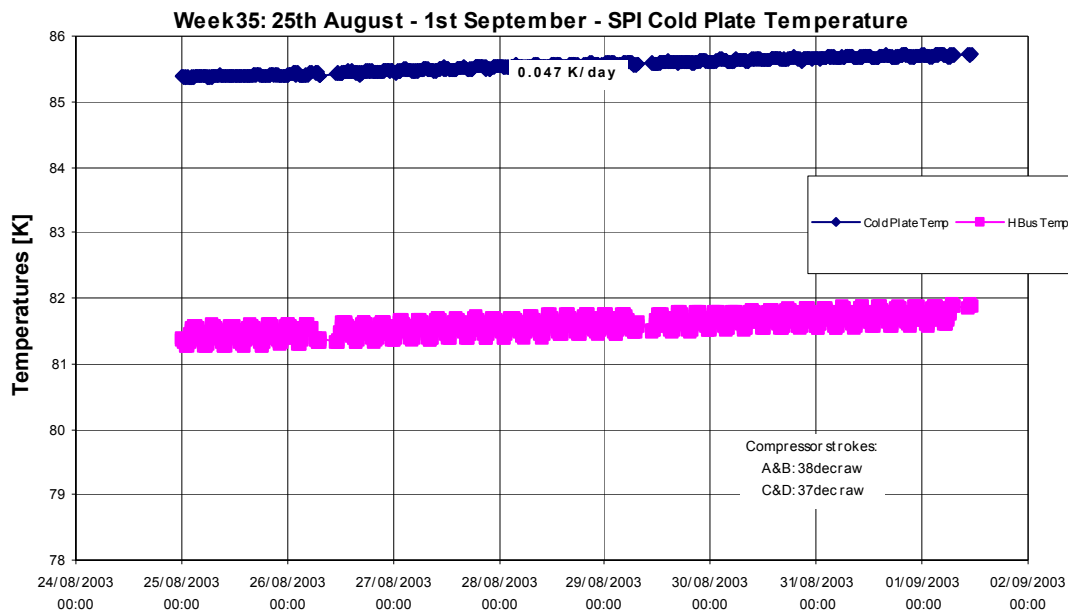
29/08/03 (Day of Year 241, Revolution 106-107)

Slew missed due to late establishment of TM/TC link (Goldstone, DSS-16): Late establishment of the TM/TC link after station handover from Redu to Goldstone caused the stopping of the Timeline at 00:35 and missing of slew 01060062. After establishment of the links, the Timeline Recovery tool was used to manually slew to the attitude of pointing 01060062 and then to update the next slew.

8.3.2 SPI Operations

Cryo-cooler:

After the stroke adjustments in week 33 the cold plate temperature returned to the operational limits, stabilized and then started again drifting high. The current drift rate is about 0.047 K/day, with a trend for further reduction.



IASW/DPE:

DPE S/W exceptions (AR INT_SC-63): On DoY 242 (30th August 2003) between 20:15:30z and 20:16:20z the following exception OEMs from SPI DPE S/W were down-linked repeatedly every 8s:

OEM 7 SPI1 CONSTRAINT DPE CULPR
 OEM 224 SPI1 SW ERROR

The exception occurred between the start and stop of a spectra compression. Prior, during and after the anomaly, the instrument was in photon-by-photon science mode with 98 TM pkts/cycle allocated. Retrieving the photon buffer and the VC7 TM buffer occupancy and the DPE CPU load indicators, nothing special was observed, except an unusual filling of the photon buffer, that was however released about 15 min before the exception reporting started.

Further investigations by SPI team in Toulouse should be performed.

ACS:

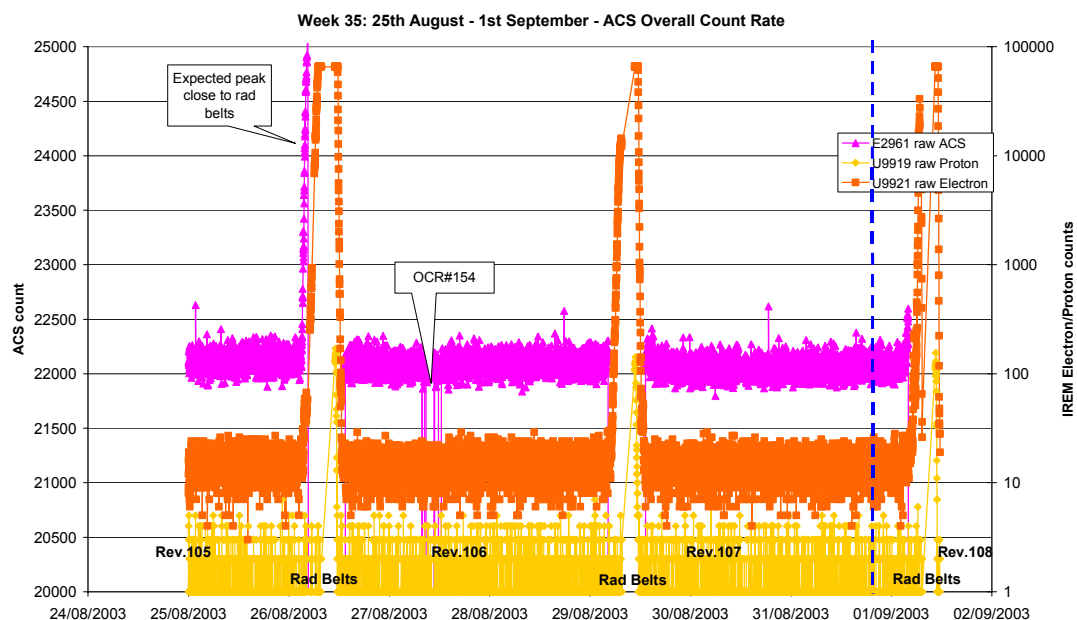
The FEE57 is in a watchdog-reset state since rad belt exit of rev.99 (05/08/2003 at 15.30Z) in week 32. Further tests have discussed and prepared in cooperation with the SPI team in CNES/CSER Toulouse and ACS specialists in MPE Garching, with the purpose to isolate the fault inside the FEE57 (see OCR#154). The main outcome of the tests is that FEE57 is not generating any veto pulse, neither normal nor extended, to the VCU and thus to the DFEE for GeD events vetoing. This was initially unclear as the FEE HK TM was indicating that at least the extended veto function could have been still working.

This means that FEE57 seems at present unrecoverable.

The collected test data will be however more thoroughly analysed by the SPI team and ACS specialists. The FEE manufacturer (Astrium-Dornier) should also be involved. The fact that not even the extended veto pulses were generated is believed to be an indication to exclude in the fault identification process some functional blocks of the FEE (TBC by FEE specialists however). In fact the HK TM is showing that the FEE controller is still able to detect the over-range events, which should generate the extended veto pulses. Offline analysis of collected diagnostic data should help to understand if the FEE processor is still able to detect also the normal events thus allowing further progress in the fault identification.

The time period of the test was between 07:43 and 12:33 DoY 239 (27 August 2003). At the end the FEE57 was left enabled with high voltage on and watchdog disabled. A decision is to be taken whether or not to disable FEE57 and turn off the high voltage, at least until the next tests are decided.

The following graph shows the overall ACS count rate during the reporting period.



AFEE :
Nothing to report.

DFEE, PSD:
Nothing to report

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.

The following OEM ID 179 Class 2 <<IBIS1 VETO COUNTER BOTTOM EXCEEDS ALERT VALUE>> was reported on many occasions. The relevant TM_para G6062 showed values inside limits therefore the problem was disregarded, as suggested by the nominal reaction to this OEM. The times when the OEM was observed were: DoY 235 at 14.19, 17.34, DoY 236 at 02.06, 02.15, 11.15, 19.57, DoY 237 at 03.25, DoY 238 at 15.08, 21.57, DoY 239 at 17.12, 22.43, DoY 240 at 09.09, 11.56, 12.55, 13.41, 16.46 and 23.57.

The following OEM ID 180 Class 2 <<IBIS1 VETO COUNTER LATERAL EXCEEDS ALERT VALUE >> was also reported on many occasions. The relevant TM_para G6063 showed values inside limits therefore the problem was disregarded, as suggested by the nominal reaction to this OEM. The times when the OEM was observed were: DoY 235 at 21.15, DoY 236 at 00.38, DoY 237 at 01.24, DoY 239 at 17.35, 17.57, DoY 240 at 07.45, 07.50, 12.36 and 13.56.

On DOY 240 at 15.36Z, the OEM ID 183 Class 2 <<IBIS1 VETO +5V VECU VOLTAGE OUT OF RANGE >> was reported. The relevant TM_para G6106 showed values inside limits therefore the problem was disregarded, as suggested by the nominal reaction to this OEM.

On DOY 236 at 07.53, there was an IBIS automatic transition to Stand-By Mode, due to an IREM anomaly (CSCI S/W reset), See IREM report for more details. The unit was recovered at 09.37.

8.3.4 JEM-X Operations

On DoY 236, at 07:53, JEMX-2 slipped into SAFE mode triggered by the IREM anomaly, the normal recovery procedure was followed and the unit was up and running again at 10:30.

8.3.5 OMC Operations

On DoY 236 at 07:56 2 Tele-commands were rejected. This was due to OMC being in SAFE mode due to the IREM anomaly, which occurred 07:53. A further pointing was lost before OMC was recovered at 09:30.

On DoY 238, pointings 01050063, to 01050066 were lost due to ground station problems.

On DoY 241, pointing 01060062 was lost, again due to ground station problems.

8.3.6 IREM Operations

On DoY 236, an anomaly occurred (SEU #7). The unit performed an automatic S/W reset, apparently due to a SEU, as has happened on 6 previous occasions. An external single ionising radiation caused a bit status change in the IREM memory: this event, detected by the checksum control logic, triggered the reset of the CSCI S/W. The status of the unit after the recovery is Nominal.

On oY 236 at 07.53, a local reset of the IREM CSCI sw was reported. As previously (see anomalies on 16/12/2002 ,01/01/2003, 03/06/03, 11/07/03, 19/07/03 and 5/08/03) the status of the unit, before the occurrence of the anomaly, was nominal, here is the summary:

- 1) temperatures nominal;
- 2) LCL current nominal;
- 3) last HK before the anomaly reported HV , 5V, 6V voltages inside limits;
- 4) the anomaly occurred outside the Belts 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)=1
U9920 (dose counter) =0
U9921 (electron counter) =16

- 5) the first dump of the status word after the anomaly reported the value '**BCC0**' hex=

```
'1    Ground Link On
0
1    Accumulation ON
1    Counting ON
1    Integral Mode
1    Command Valid
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.

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
1
0
0
1
0
0
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 resulted incremented of 1 unit (the past value was 6 due to the previous six SEUs).

The IREM automatic transition to Standard Mode (reset of the CSCI sw) did affect the instruments status via BCP because the S/C was in observation and forced the automatic transition of the payloads to "SAFE" configuration, with the exception of SPI (automatism disabled, upon request of SPI PIs)

The cause of this sw reset was "probably" due to a SEU, as on the previous occasions. 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 sw.

The recovery of the unit started around 09.10Z (CRP_SYS_2570 Payloads Recovery after IREM anomaly) including the uplink of the IREM patch (FCP_RM_0080 IREM patch for counters rescaling factors):

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

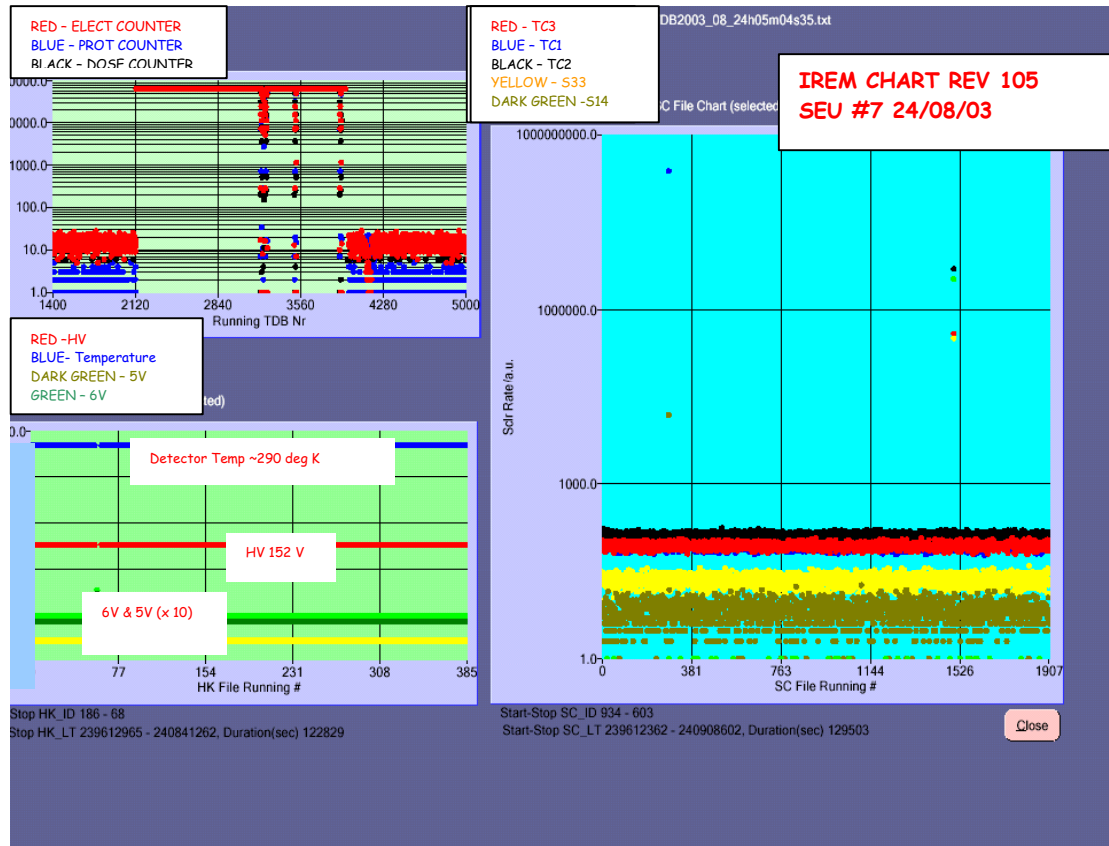
IREM was successfully configured in Integral Mode at 12.36Z.

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

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

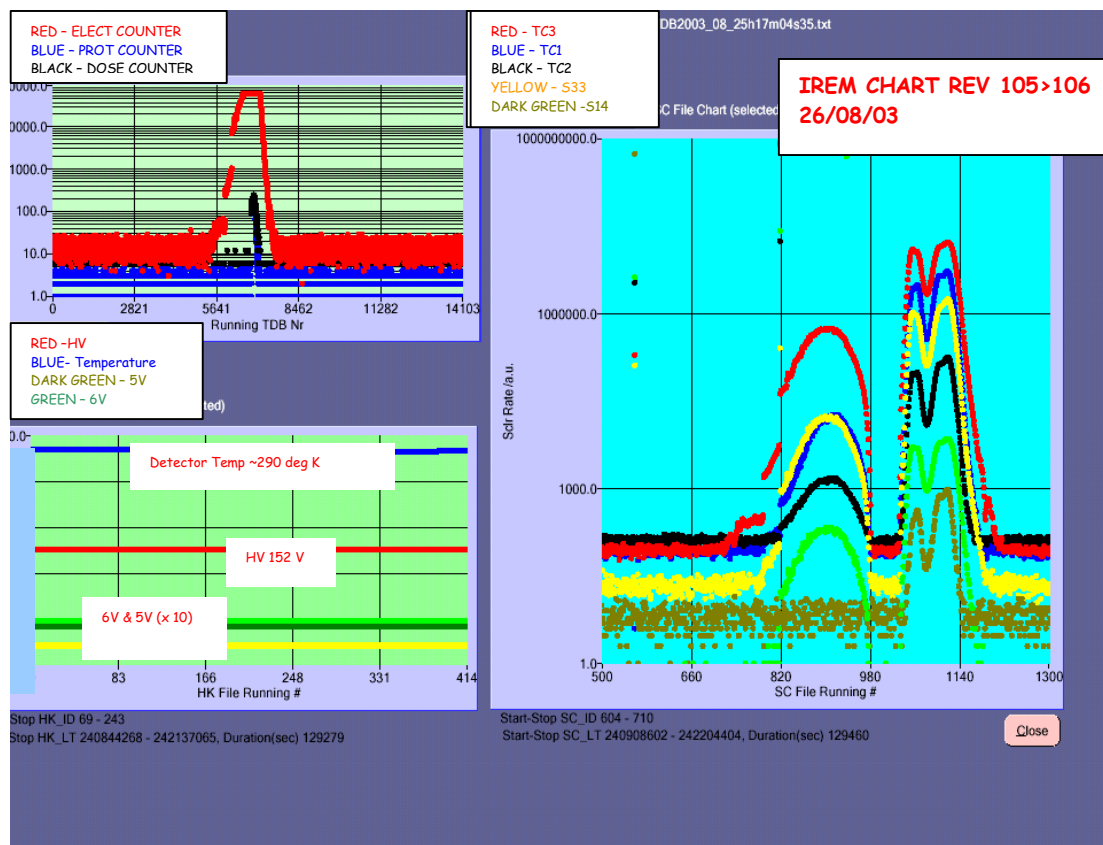
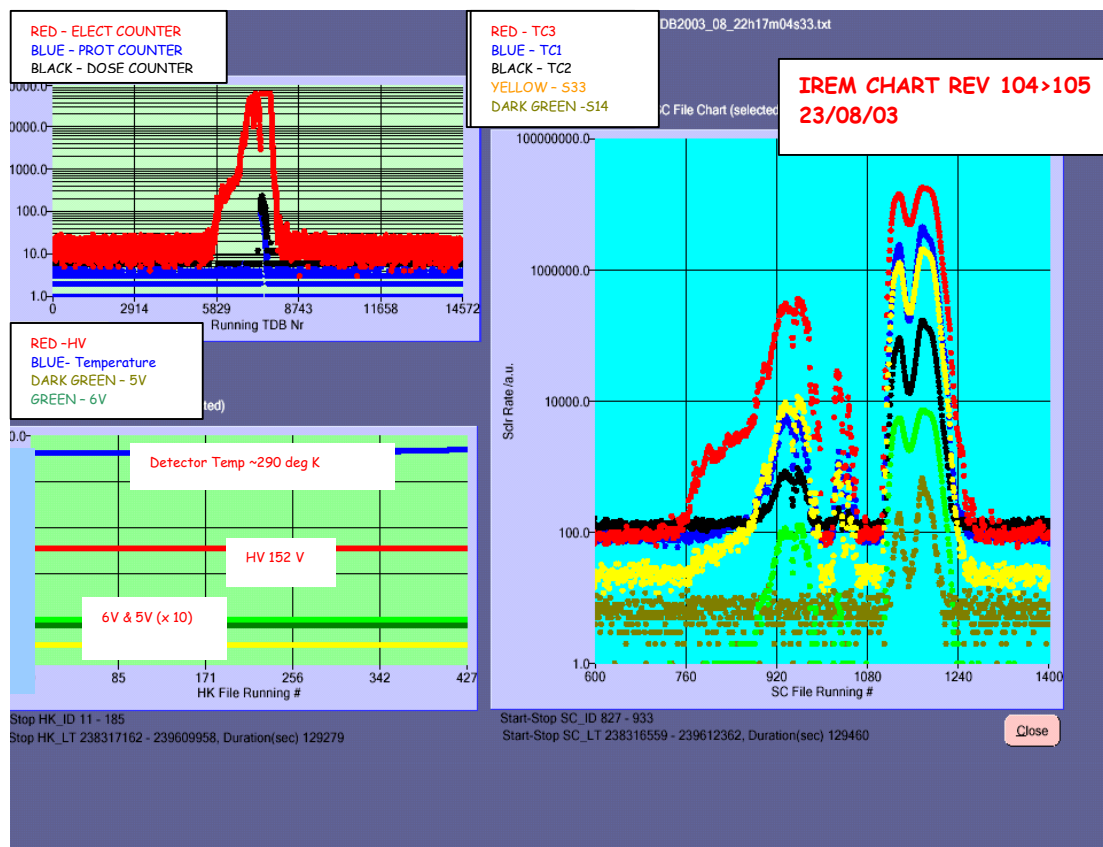
The unit was monitored for ~1.5 hrs and the DRMC flag in the BCP re-enabled at 14.03Z.

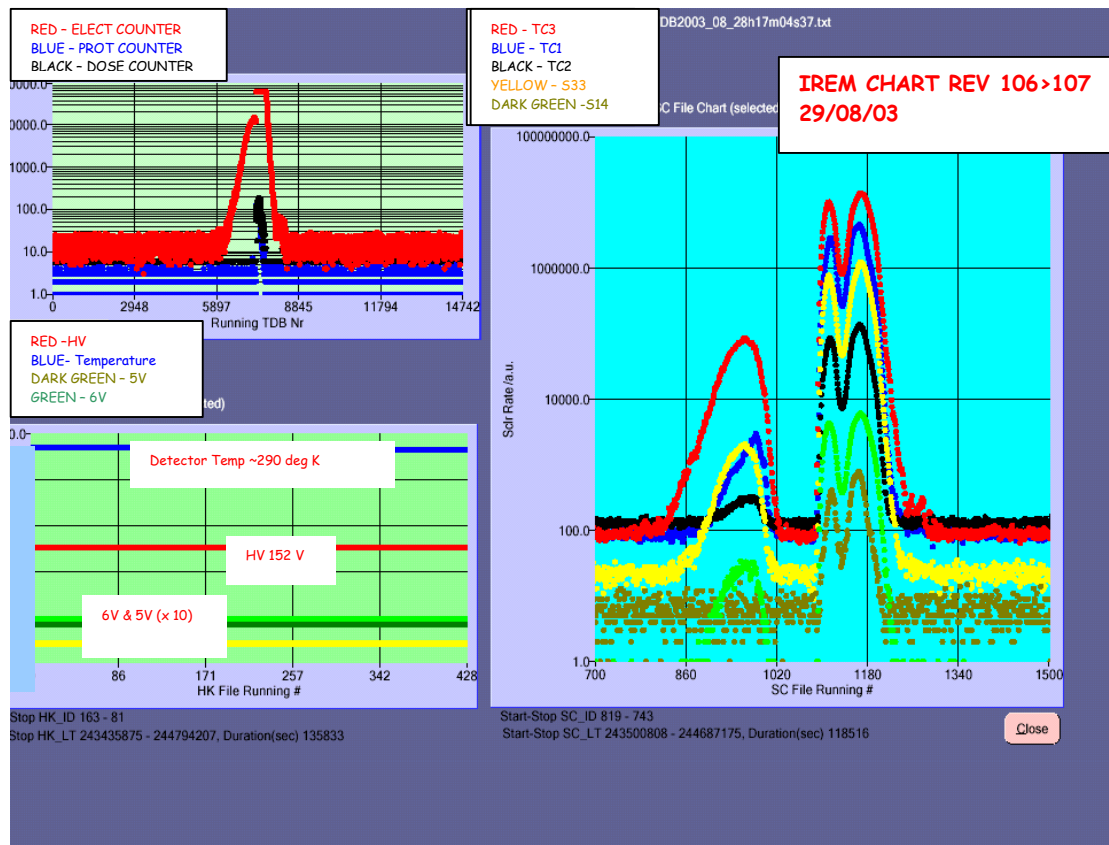
Hereafter are reported the plots of IREM HK in the occurrence of the anomaly # 7.



On DoY 241 at 07.08 the TC U4921 failed the command execution verification due a late update of the relevant TM_para. No action has been taken because the TM confirmed the successful execution of the TC.

The figures below show the IREM count rates for the Belts passage in rev 105, 106 and 107.





Doc. Title : INTEGRAL Mission Report # 49
 Doc. Ref. : INT-MOC-SYS-RP-1001-TOS-OF
 Date : 01/09/03

Issue : 1
 Rev. : 0
 Page : 19

8.4 List of Anomalies since Launch

The following tables presents the list of all identified anomalies for the Space and Ground segments, 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 - 002082	13/11/2002	TM packet production lower than allocation.	Space	SPI	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 - 002367	25/06/2003	SPI: Spikes in GeD count rates after HV switch on following 1st annealing	Space	SPI	Pending
INT - 002389	16/07/2003	IBIS: PICsIT PDMs counters SET to 0 during nominal operation (#3-4)	Space	IBIS	Pending
INT - 002412	31/07/2003	OMC (OMCAS) IASW Crashed	Space	OMC	Pending
INT - 002420	07/08/2003	SPI -ACS anomaly on FEE 57	Space	SPI	Pending
INT - 002421	12/08/2003	IREM anomaly : SEU #6	Space	IREM	Pending

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 - 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

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INT - 002234	24/02/2003	S2K unable to access READ ONLY disk in IDDA.	Ground	IMCS	Pending
INT - 002259	21/03/2003	TDRS: Retrieval log is Meaningless.	Ground	IMCS	Pending
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 - 002304	26/04/2003	IFTS MCS instance not working	Ground	IMCS	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 - 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 - 002338	03/06/2003	Error sending data to consolidator (VC-7)	Ground	IMCS	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 - 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 - 002363	23/06/2003	Error sending data to ISDC	Ground	IMCS	Pending
INT - 002368	25/06/2003	IFTS Transfer on IMCS-A Failed	Ground	IMCS	Pending
INT - 002370	01/07/2003	Static PTV conditions handled incorrectly.	Ground	IMCS	Pending
INT - 002375	02/07/2003	Error sending data to ISDS	Ground	IMCS	Pending

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INT - 002376	03/07/2003	Unexpected behaviour of IMCA	Ground	IMCS	Pending
INT - 002379	03/07/2003	ISDS to ISDC link drop messages	Ground	IMCS	Pending
INT - 002388	16/07/2003	FDS failed to create TPF	Ground	FDS	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 - 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 - 002410	31/07/2003	Strange Disconnection Messages.	Ground	NCTRS	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 - 002422	18/08/2003	IMCS OOL display frozen	Ground	IMCS	Pending
INT - 002423	18/08/2003	Drop in VC-7 from DSS-16	Ground	NASA Sta.	Pending
INT - 002424	18/08/2003	NCTRS-A restart	Ground	NCTRS	Pending
INT - 002426	18/08/2003	TM drop due to non-scheduled line switch at JPL - DR:101291	Ground	NASA Sta.	Pending
INT - 002427	18/08/2003	Auto-stack crashed on SUN-122	Ground	IMCS	Pending
INT - 002429	21/08/2003	Telemetry loss to IMCS	Ground	NCTRS	Pending
INT - 002430	25/08/2003	Unexpected behaviour of the Command Verifier of IMCS-A	Ground	IMCS	Pending
INT - 002431	27/08/2003	Telemetry loss from DSS-16 DR G103256 and G103258	Ground	NASA Sta.	Pending