Operations Notes

FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic:

Date:

Issue:

FOS Report for week 42 year 2017

from 16 OCT 2017 to 23 OCT 2017

1.0

1 General Comments

Activities scheduled for this week are those planned for the 42nd calendar week of 2017:

```
16 OCT 2017 to 23 OCT 2017 (DOYs 289 to 296).
```

The following routine activities were planned this week (see Gantt chart on next page and CRF 691):

- Two LONG Calibrations on 19 OCT 2017 (DOY 292), which encompassed two semi-orbital periods starting at 12:27:30z (orbit 41850) and 14:18:00z (orbit 41851).
- Local Oscillator Calibrations every 10 minutes.
- A routine Orbit Correction Manoeuvre (OCM) was scheduled for 19 OCT 2017 at 02:17:02z, with an expected correction of ~115 m. The affected period for the manoeuvre went from 2017-10-19T02:07:32z to 2017-10-19T02:27:33z being the MIRAS science data for that period flagged with an external APID.
- *X* band Passes over ESAC and Svalbard.

2 Mission Planning Deviations

None.

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Reported by:
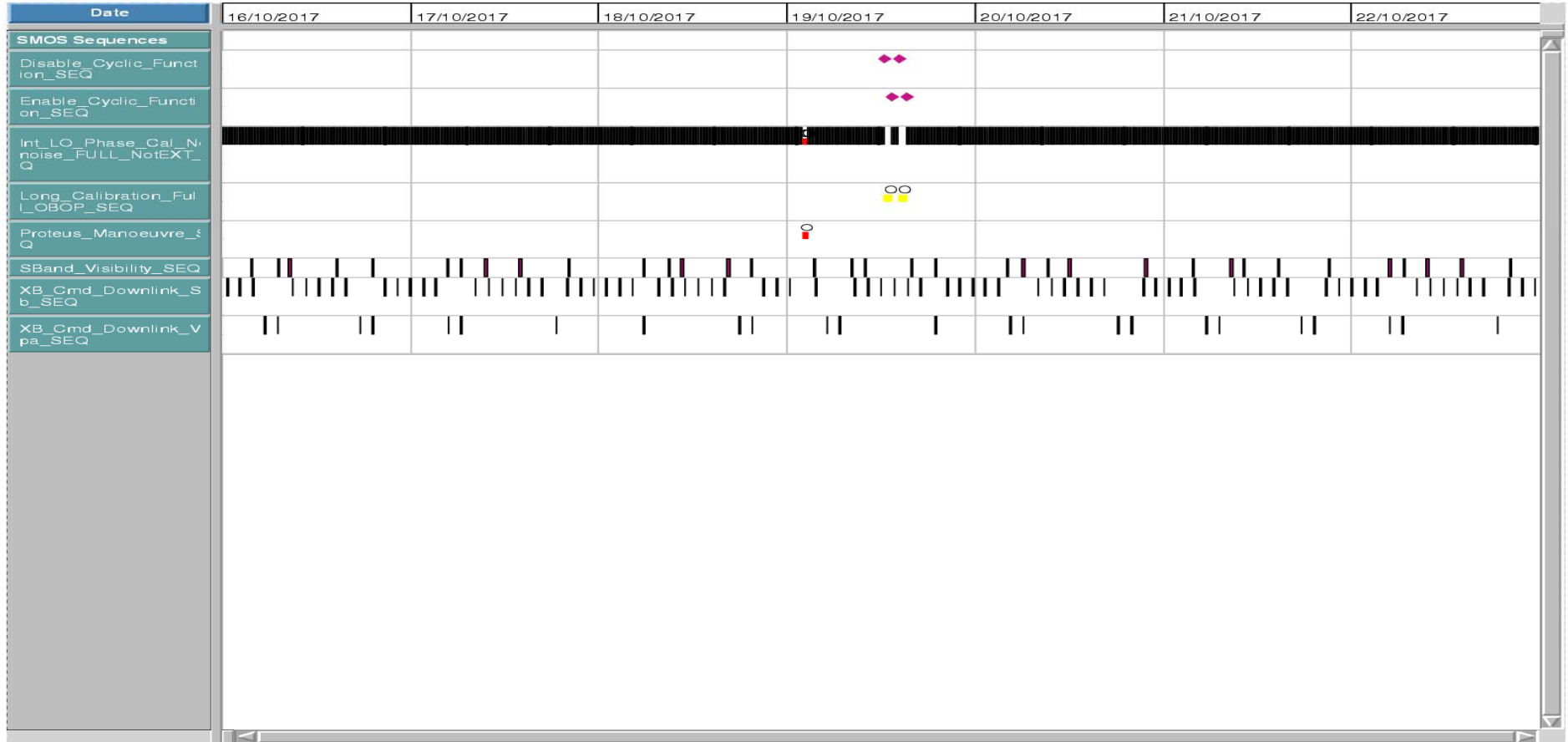
J. Fauste/J.M. Castro Cerón

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Schedule Name: 2017_w42_cr   ###   Display start: 16-10-2017 00:00:00.000   ###   Display end: 23-10-2017 00:00:00.000

Date	16/10/2017	17/10/2017	18/10/2017	19/10/2017	20/10/2017	21/10/2017	22/10/2017

SMOS Sequences

- Disable_Cyclic_Function_SEQ
- Enable_Cyclic_Function_SEQ
- Int_LO_Phase_Cal_Noise_FULL_NotEXT_Q
- Long_Calibration_Full_OBOP_SEQ
- Proteus_Manoeuvre_SEQ
- SBand_Visibility_SEQ
- XB_Cmd_Downlink_Sb_SEQ
- XB_Cmd_Downlink_Vpa_SEQ

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3 TC Failures

None.

4 Unforeseen Out of Limits (OOLs)

The only unexpected OOLs received this week were the ones linked with the CMN Unlock on H3 unit that took place on the 21st of October. Further details on this anomaly can be found in section 5 and Appendix-A of this document.

5 On Board Anomalies

- The MIRAS instrument CMN, unit H3, unlocked on 2017-10-21T07:19:06.078z (DOY 294). This anomaly was geolocated over Greenland:

  Latitude   = 69°.26
  Longitude   = 317°.54

  Both parameters locking status parameter SPM13167 and power output SPM13162 went out of limits in the FOS PLPC system. The anomaly recovered in five Epochs.

6 On Board Events Telemetry

The following RAM Single Bit errors befell this week:

Event Description	Packet ID	Severity	Event Time	Parameters
RAM single Bit Error	730	WARN	2017-10-19T21:27:04	2268A78
RAM single Bit Error	730	WARN	2017-10-19T21:16:28	220B610

7 FOS Systems Status

- A new SMTA machine was installed on the 16 of October 2017 as replacement of the current one already out of the warranty period. As part of this installation, both machines old and new one were connected through an internal cable in order to copy the MySQL binary files. During that time the MySQL service of both machines was down. The copy of these files took approximately 12 hours. The new machine was up and running on the 17 of October around 14:00z.

8 Data Reception from CNES

All *S* band passes were correctly received from CNES and successfully processed by the FOS PLPC system.

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9 *X* Band Data Reception in PXMF

None, all *S* band passes successfully received and processed.

10 Exceptional Activities

None.

11 AOB

None.

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APPENDIX A: OOLs

The following Out of Limits were issued by the FOS PLPC system at the time of the CMN H3 unlock on the 21 of October.

GS_TIME	OBTIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2017-10-21T09:16:09	2017-10-21T07:19:06	SPM13167	H3 LO_Locking	UNLOCK	LOCK
2017-10-21T09:16:09	2017-10-21T07:19:06	SPM13162	H3 LO_Out_Power	NOT-OK	OK

At the time of the Orbit Correction manoeuvre and as part of the nominal procedure, the MIRAS ITL was made disabled from 2017-10-19T02:07:32z to 2017-10-19T02:27:33z. Between those times the following parameter went out of limits on the PLPC system:

GS_TIME	OBTIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2017-10-19T04:10:45	2017-10-19T02:07:34	NTLHK022	ITL Ena State	Disabled	Enabled