



Operations Notes

FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic:

Date:

Issue:

FOS Report for week 50 year 2017

from 11 DEC 2017 to 18 DEC 2017

1.0

1 General Comments

Activities scheduled for this week are those planned for the 50th calendar week of 2017:

11 DEC 2017 to 18 DEC 2017 (DOYs 345 to 352).

The following routine activities were planned this week (see Gantt chart on next page and CRF 701):

- Two LONG Calibrations on 14 DEC 2017 (DoY 348), which encompassed two semi-orbital periods starting at 14:37:00z (orbit 42657) and 16:19:00z (orbit 42658).
- An Orbit Correction Manoeuvre (OCM), consequence of the Collision Avoidance Manoeuvre (CAM) executed 19 NOV 2017, was scheduled for 11 DEC 2017 at 22:51:34z, with an expected correction of ~131 m. The affected period for the manoeuvre went from 2017-12-11T22:41:38z to 2017-12-11T23:01:28z being the MIRAS science data for that period flagged with an external APID.
- Local Oscillator Calibrations every 10 minutes.
- X band Passes over ESAC and Svalbard.

2 Mission Planning Deviations

None.



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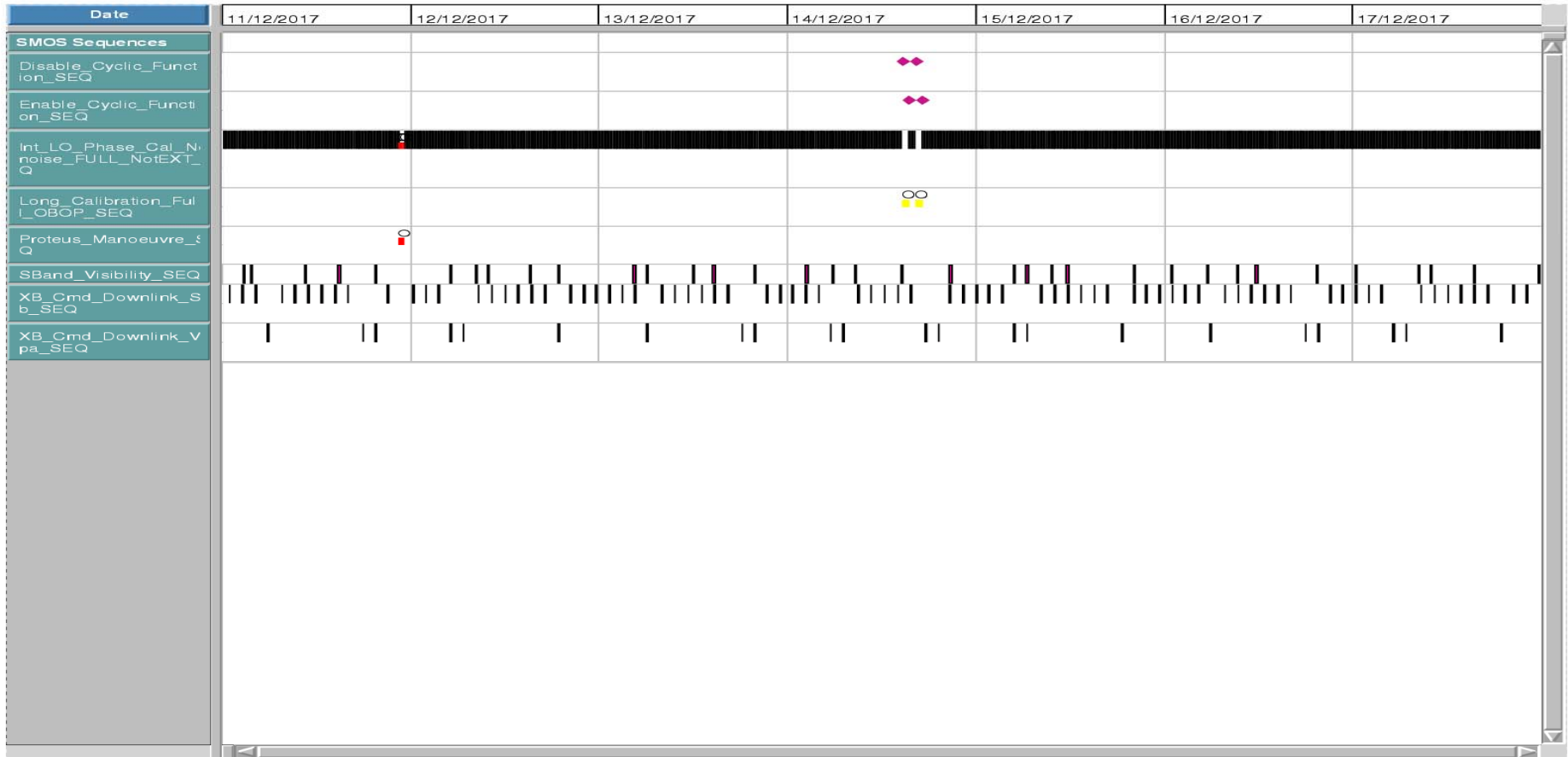
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Schedule Name: 2017_w50_cr ### Display start: 11-12-2017 00:00:00.000 ### Display end: 18-12-2017 00:00:00.000





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3 TC Failures

None.

4 Unforeseen Out of Limits (OOLs)

The only relevant Out of Limits this week, were the ones linked with the Mass Memory Latch up of partition P4 that happened on the 16th of December (Further details can be found in section 4 and Appendix-A of this report)

5 On Board Anomalies

- The MIRAS instrument MM, partition P4, latched up on 2017-12-16T21:32:29.791z (DOY 350). The following parameters went out of limits in the PLPC system:

2017.350.21.32.29.791z DMASME08 LU Switch P4

2017.350.21.32.29.791z DMASME37 SDD LU Detected

This anomaly was geolocated over central part of Brazil:

Latitude = -8.30°

Longitude = 305.92°

There were no science data losses associated with this anomaly (thanks to the overlap) because it affected partition P4, while the Read and Write pointers were both on partition P6. Recovery took place on 19 DEC 2017, after the CCU reset that happened on that day.

At the time of the anomaly the position of the MM pointers were as follows:

READ = 2884255 (partition P6)

WRITE = 2962673 (partition P6)

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	2017-12-15T21:39:34	210FE3C

7 FOS Systems Status

All FOS systems nominal.



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8 Data Reception from CNES

All S-Band passes were correctly received from CNES and successfully processed by the FOS PLPC system, with the following exceptions:

- For S band GS pass KUX-15 (AOS = 10:28:38z; LOS = 10:40:25z) the following PUS TM gaps was detected in the PLPC system:

from 2017-12-11T08:59:14.173z to 2017-12-11T09:06:14.167z

To achieve completion MIRAS PUS TM was recovered from the X band PXMF system and ingested into the MUST-SMTA system on 11 NOV 2017. The corresponding E_HKTM was lost:

from 2017-12-11T09:21:53z to 2017-12-11T09:30:25z

9 X Band Data Reception in PXMF

Due to the S-Band pass problem reported in previous section, the PXMF X-Band system was used on the 11th of November to fill the corresponding PUS TM gap.

10 Exceptional Activities

None.

11 AOB

None.



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APPENDIX A: OOLs

The following OOLs were issued by the FOS PLPC system at the time of the Mass Memory Latch-up on the 16 of December 2017:

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2017-12-17T00:51:14	2017-12-16T21:32:29	DMASME08	LU Switch P4	OFF	ON
2017-12-17T00:51:14	2017-12-16T21:32:29	DMASME37	SDD LU Detected	FALSE	TRUE

At the time of the Orbit correction manoeuvre on the 11th of December, the following OOL was issued on the FOS PLPC system indicating that the MIRAS ITL was disabled:

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2017-12-12T05:43:14	2017-12-11T22:41:39	NTLHK022	ITL Ena State	Disabled	Enabled