



Operations Notes

FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic:

Date:

Issue:

FOS Report for week 39, year 2018

from 24 SEP 2018 to 01 OCT 2018

1.0

1 General Comments

Activities scheduled for this week are those planned for the 39th calendar week of 2018:

24 SEP 2018 to 01 OCT 2018 (DOYs 267 to 274).

The following routine activities were planned this week (see Gantt chart on next page and CRF 767).

- One PMS Offset on 27 SEP 2018 (DOY 270), including three Short Calibrations at 05:18:30.0z, 05:19:04.8z, and 05:19:39.6z (orbit 46781).
- Local Oscillator Calibrations every 10 minutes.
- X band Passes over ESAC and Svalbard.

2 Mission Planning Deviations

A SMOS collision alert was notified by CNES on the 26th of September with an estimated collision probability of 1.1e-02. The time of the closest approach was forecast for Friday 28 SEP 2018 at 07:07:33z. The collision avoidance manoeuvre was finally required and scheduled for Friday 28 SEP 2018 at 04:27:17z.

The MIRAS on-board timeline was disabled and the instrument science data flagged with external APID during the whole duration of the manoeuvre, about 3 hours and 46 minutes, from 04:27:17z to 08:13:39z. The TCs for this special manoeuvre were uploaded on Thursday 27 SEP 2018 during the following S band GS passes:

KER-22 (AOS = 13:22:33z; LOS = 13:36:54z) <== nominal

IVK-15 (AOS = 14:17:58z; LOS = 14:32:34z) <== backup

The two following X band GS passes over ESAC were cancelled since the MIRAS ITL had been disabled:

AOS=2018-09-28T05:14:37z, LOS=2018-09-28T05:22:27z

AOS=2018-09-28T06:54:56z, LOS=2018-09-28T07:00:19z



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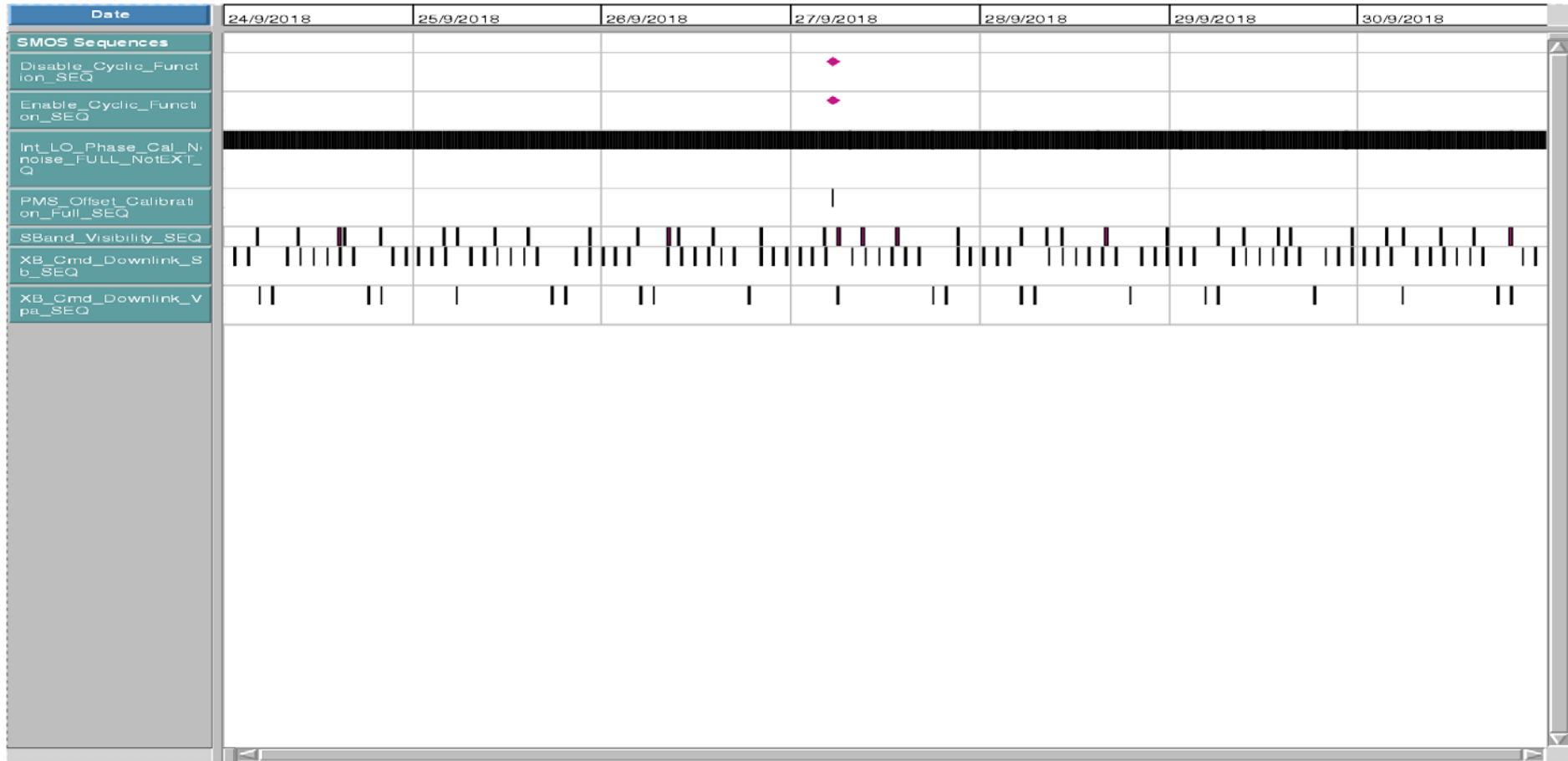
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Schedule Name: 2018_w39_cr ### Display start: 24-09-2018 00:00:00.000 ### Display end: 01-10-2018 00:00:00.000





3 TC Failures

None.

4 On Board Anomalies

- The MIRAS instrument CMN, unit H1, unlocked on 2018-09-29T09:21:17.541z (DOY 272). This anomaly was geolocated over the State of Sao Paulo (Brazil; South Atlantic Anomaly):

Latitude = -24.11°

Longitude = 313.78°

Both parameters, output power SPM11162 and locking status SPM11167, went out of limits in the FOS PLPC system. The anomaly recovered by itself in few seconds.

- MIRAS instrument MM, partition P1, latched up 2018-09-24T09:20:48,993z (DOY 267). The following parameters went out of limits in the PLPC system:

2018.267.09.20.48,993z DMASME11 LU Switch P1

2018.267.09.20.48,993z DMASME37 SDD LU Detected

This anomaly was geolocated over the state of Parana (Brazil; South Atlantic Anomaly):

Latitude = -6.58°

Longitude = 311.09°

There were no science data losses associated with this anomaly because it affected partition P1, while the Read and Write pointers were respectively on partitions P5 and P6. Recovery took place on 25 SEP 2018, at 21:30:00z (CRF 768).

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

READ = 2617518 (partition P5)

WRITE = 2816386 (partition P6)

5 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	2018-09-30T20:19:37.353	2237498

6 FOS Systems Status

All FOS systems nominal.



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7 Data Reception from CNES

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

8 X Band Data Reception in PXMF

None, all S band passes successfully received and processed.

9 Exceptional Activities

The ones related with the CAM on the 28th of September.

10 AOB

None.



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APPENDIX A: OOLs

At the time of the CMN Unlock on H1 unit, the two temporary Out fo Limits were issued by the FOS PLPC system.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOl Value	Check Value
2018-09-29T10:06:27	2018-09-29T09:21:17	SPM11162	H1 LO_Out_Power	NOT-OK	OK
2018-09-29T10:06:27	2018-09-29T09:21:24	SPM11167	H1 LO_Locking	UNLOCK	LOCK

During the execution of the SMOS Collision Avoidance Manoeuvre, and for the time when the MIRAS ITL was made disabled, the following parameter remain in OOL state on the FOS PLPC system.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOl Value	Check Value
2018-09-28T06:04:46	2018-09-28T04:27:09	NTLHK022	ITL Ena State	Disabled	Enabled

The two following TM parameters went out of limits on the FOS PLPC system on the 24th of September at the time of the Mass Memory Latch up of partition P1.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOl Value	Check Value
2018-09-24T15:05:25	2018-09-24T09:20:48	DMASME37	SDD LU Detected	FALSE	TRUE
2018-09-24T15:05:25	2018-09-24T09:20:48	DMASME11	LU Switch P1	OFF	ON