



Operations Notes

FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic:

Date:

Issue:

FOS Report for week 46, year 2019

from 11 NOV 2019 to 18 NOV 2019

1.0

1 General Comments

Activities scheduled for this week are those planned for the 46th calendar week of 2019:

11 NOV 2019 to 18 NOV 2019 (DOYs 315 to 322).

The following routine activities were planned this week (see Gantt chart on next page and CRF 845).

- One PMS Offset on 14 NOV 2019 (DOY 318), including three Short Calibrations at 07:22:30.0z, 07:23:04.8z, and 07:23:39.6z (orbit 52725).
- A special nadir OTT observation over the south-east side of the Pacific Ocean was scheduled on the 14th of November 2019. On that day and for one half ascending semi-orbit, from 13:50:00z to 15:08:00z, the spacecraft will be at nadir pointing. During that time, science data will be marked with external APID although instrument configuration will remain nominal. Details for this observation are as follows:
 - 2019-11-14T13:50:00z, SC slew start (science data marked with external APID via CRF 847, execution of procedure PRO-CRP-600)
 - 2019-11-14T14:04:00z, SC at nadir pointing at the start of the ascending semi-orbit
 - 2019-11-14T14:54:00z, end of nadir pointing at the end of the ascending semi-orbit and start of the SC returning slew. (Svalbard pass around that time has been cancelled by FOS)
 - 2019-11-14T15:08:00z SC slew end (science data marked with nominal APID via CRF 847, execution of procedure PRO-CRP-700)
- Local Oscillator Calibrations every 10 minutes.
- X band Passes over ESAC and Svalbard.

2 Mission Planning Deviations



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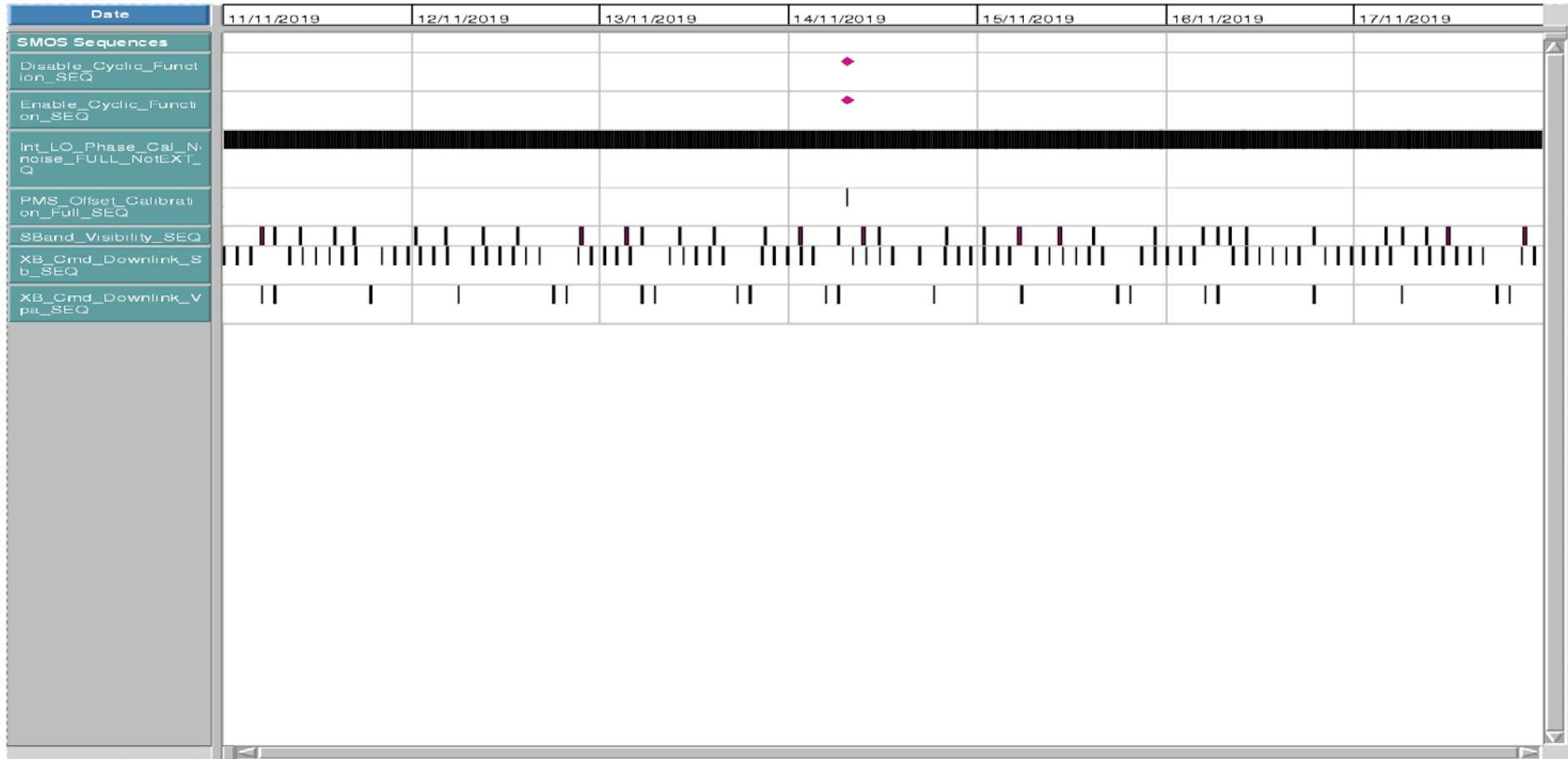
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Schedule Name: 2019_w46_cr ### Display start: 11-11-2019 00:00:00.000 ### Display end: 18-11-2019 00:00:00.000





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3 TC Failures

None.

4 On Board Anomalies

- MIRAS instrument MM, partition P1, latched up 2019-11-16T11:26:18.841z (DOY 320).

The following parameters went out of limits in the PLPC system:

2019.320.11.26.18.841z DMASME11 LU Switch P1

2019.320.11.26.48.841z DMASME37 SDD LU Detected

This anomaly was geolocated over the north west coast of Antofagasta (Chile)

Latitude = -19.72°

Longitude = 281.83°

There were no science data losses associated with this anomaly because it affected partition P1, while the Read and Write pointers were both on partitions P8 and P7 respectively. Recovery took place the following day, 18 NOV 2019, at 19:30:00z (CRF 849).

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

READ = 3452856 (partition P7)

WRITE = 3691716 (partition P8)

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	2019-11-16T21:55:17	2083D70
RAM single Bit Error	730	WARN	2019-11-13T01:08:12	21631A0

6 FOS Systems Status

All FOS systems nominal.

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.

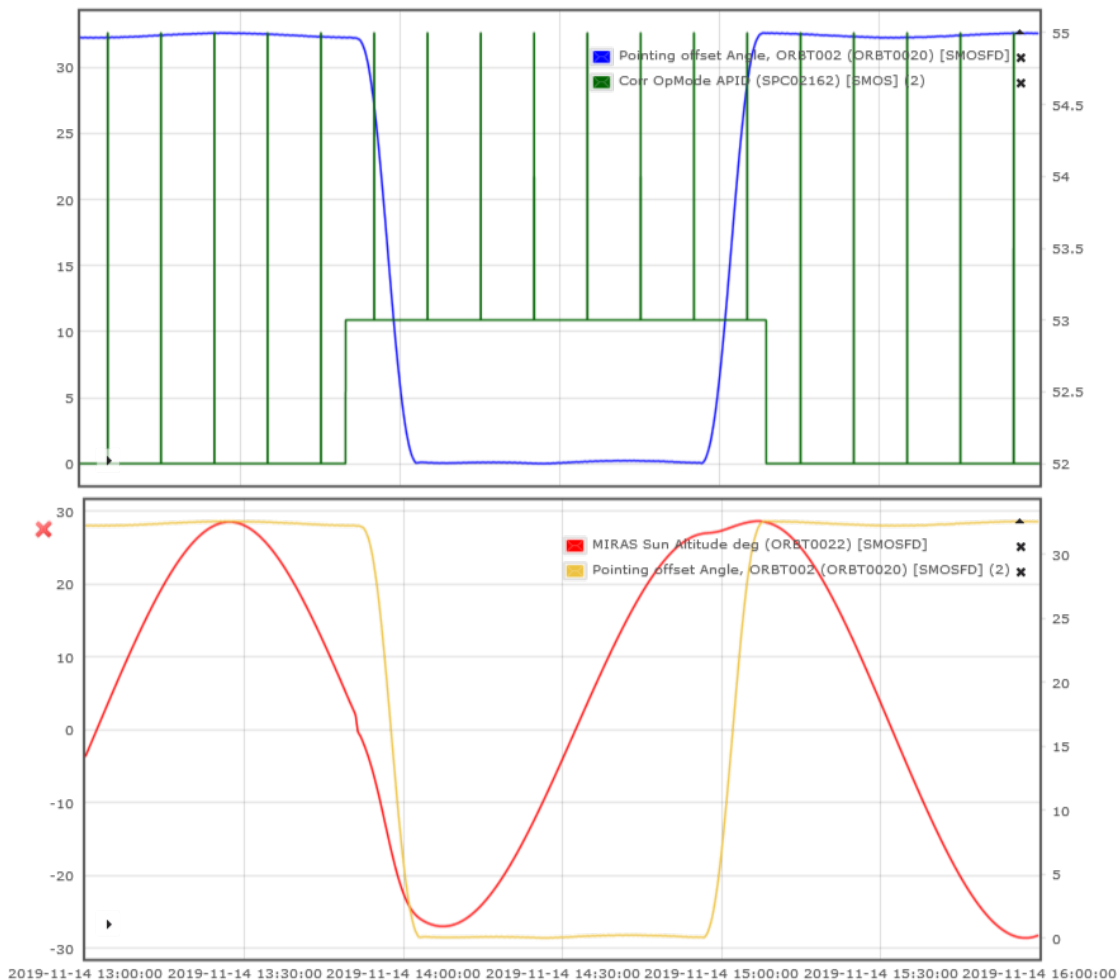
9 Exceptional Activities

None.

10 AOB

Execution of nadir OTT observation on 14th pf November:

The execution results of the nadir OTT observation performed on the 14th of November are here below displayed. The first graphic at the top, shows in green the APID operational mode and in blue the spacecraft pointing offset angle. The graphic at the bottom shows in red the Sun elevation over the antenna plane and in orange the Sun elevation.



Thermal control of MIRAS A1 segment:

Due to the continuous thermal degradation of MIRAS A1 segment and because of the progressive and seasonal increase of the Sun elevation



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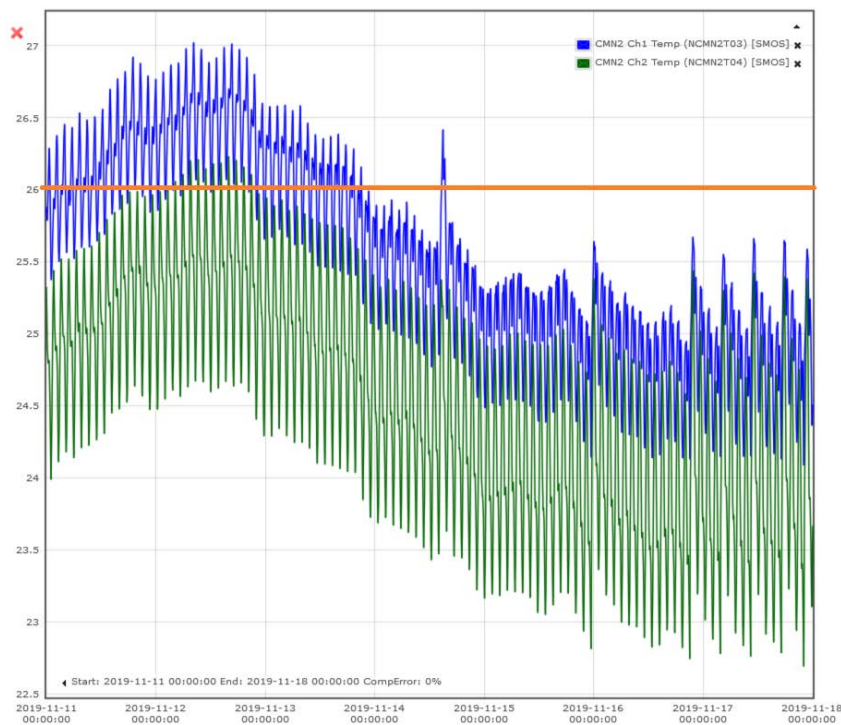
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over the MIRAS antenna plane at this time of the year, the thermal duty cycle for CMN A1 was not anymore activated from the 4th of November 2019 at 22:11:07z up to the 15th of NOV at 23:25:49z. During this week, two different temperature sensors, located in LICEFs A4 and A5, TM parameters NCMN2T03 and NCMN2T04, went several times out of soft limits (soft limit is located at 26 degrees orange line below)





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APPENDIX A: OOLs

During the period of time that the instrument ITL was made disabled, the following expected Out of Limit was issued by the PLPC system.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOl Value	Check Value
2019-11-14T20:32:58	2019-11-14T13:49:36	NTLHK022	ITL Ena State	Disabled	Enabled

The Mass Memory latch-up on the 16th of March generated the two following Out of Limits on the FOS PLPC system.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOl Value	Check Value
2019-11-16T19:17:11	2019-11-16T11:26:18	DMASME37	SDD LU Detected	FALSE	TRUE
2019-11-16T19:17:11	2019-11-16T11:26:18	DMASME11	LU Switch P1	OFF	ON