



Operations Notes

FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic:

Date:

Issue:

FOS Report for week 43, year 2021

from 25 OCT 2021 to 01 NOV 2021

1.0

1 General Comments

Activities scheduled for this week are those planned for the 43rd calendar week of 2021:

25 OCT 2021 to 01 NOV 2021 (DOYs 298 to 305).

The following routine activities were planned this week (see Gantt chart on next page and CRF 1003).

- One Warm NIR Calibration on 27 OCT 2021 (DOY 300) with ETO 21:26:22z (orbit 62993; DESCENDING: thermally UNSTABLE) and with the following expected calibration values:

B.T.	=	4.51°
R.M.S.	=	1.74
Sun elevation	=	19.56°
Moon elevation	=	-42.21°
R.A.	=	275.83°
DEC.	=	-72.88°
- One PMS Offset on 28 OCT 2021 (DOY 301), including three Short Calibrations at 07:30:00.0z, 07:30:34.8z, and 07:31:09.6z (orbit 62999).
- Local Oscillator Calibrations every 10 minutes.
- X band Passes over ESAC and Svalbard.

2 Mission Planning Deviations

None.



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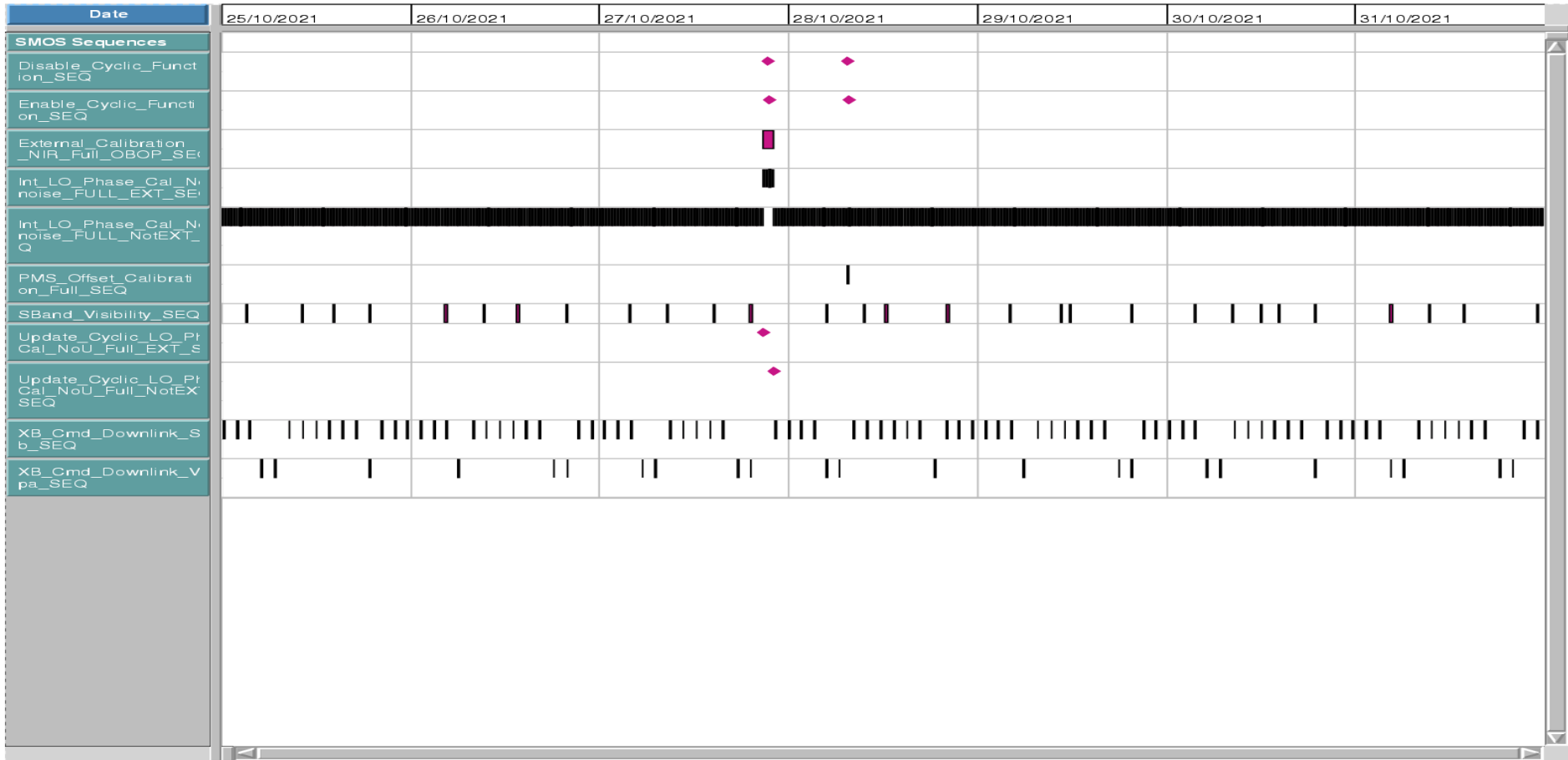
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Schedule Name: 2021_w43_cr ### Display start: 25-10-2021 00:00:00.000 ### Display end: 01-11-2021 00:00:00.000





3 TC Failures

None.

4 On Board Anomalies

- The MIRAS CMN, unit H3, unlocked 2021-10-28T22:10:49.241z (DOY 301). This anomaly was geolocated over north-east part of Chile:

Latitude = -15.05°

Longitude = 295.34°

Both parameters, output power SPM13162 and locking status SPM13167, went out of limits in the FOS PLPC system. The anomaly recovered in 9 epochs.

- MIRAS instrument MM, partition P8, latched up 2021-10-27T22:49:15z (DOY 300). The following parameters went out of limits in the PLPC system:

2021.300.22:49:15z DMASME04 LU Switch P8

2021.300.22:49:15z DMASME37 SDD LU Detected

This anomaly was geolocated over South of Peru:

Latitude = -12.82°

Longitude = 286.10°

There were no science data losses associated with this anomaly because it affected partition P8 while the Read and Write pointers were in partition P2 and P2, respectively. Recovery took place on 28 OCT 2021 at 22:00:00z (CRF 1007). At the time of the anomaly the position of the MM pointers were as follows:

READ = 1041560 (*partition P2*)

WRITE = 1123552 (*partition P2*)

- MIRAS instrument MM, partition P10, latched up 2021-10-26T09:10:37z (DOY 299). The following parameters went out of limits in the PLPC system:

2021.299.09:10:37z DMASME02 LU Switch P10

2021.299.09:10:37z DMASME37 SDD LU Detected

This anomaly was geolocated over Brazil:

Latitude = -12.32°

Longitude = 314.54°



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There were no science data losses associated with this anomaly because it affected partition P10 while the Read and Write pointers were in partition P7 and P7, respectively. Recovery took place on 27 OCT 2021 at 13:30:00z (CRF 1005).

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

READ = 3217746 (partition P7)

WRITE = 3412726 (partition P7)

- The MIRAS CMN, unit H3, unlocked 2021-10-25T05:15:13.873z (DOY 298). This anomaly was geolocated over Greenland:

Latitude = 77.85°

Longitude = 328.19°

Both parameters, output power SPM13162 and locking status SPM13167, went out of limits in the FOS PLPC system. The anomaly recovered in 3 epochs.

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	2021-10-29T11:34:32	21FC5FC

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

Thermal control segment A1:

Consequence of MIRAS A1 segment thermal degradation, and because of the seasonal Sun elevation over the antenna plane, CMN A1 duty cycle ceased activation 28 OCT 2020 at 22:33:22z



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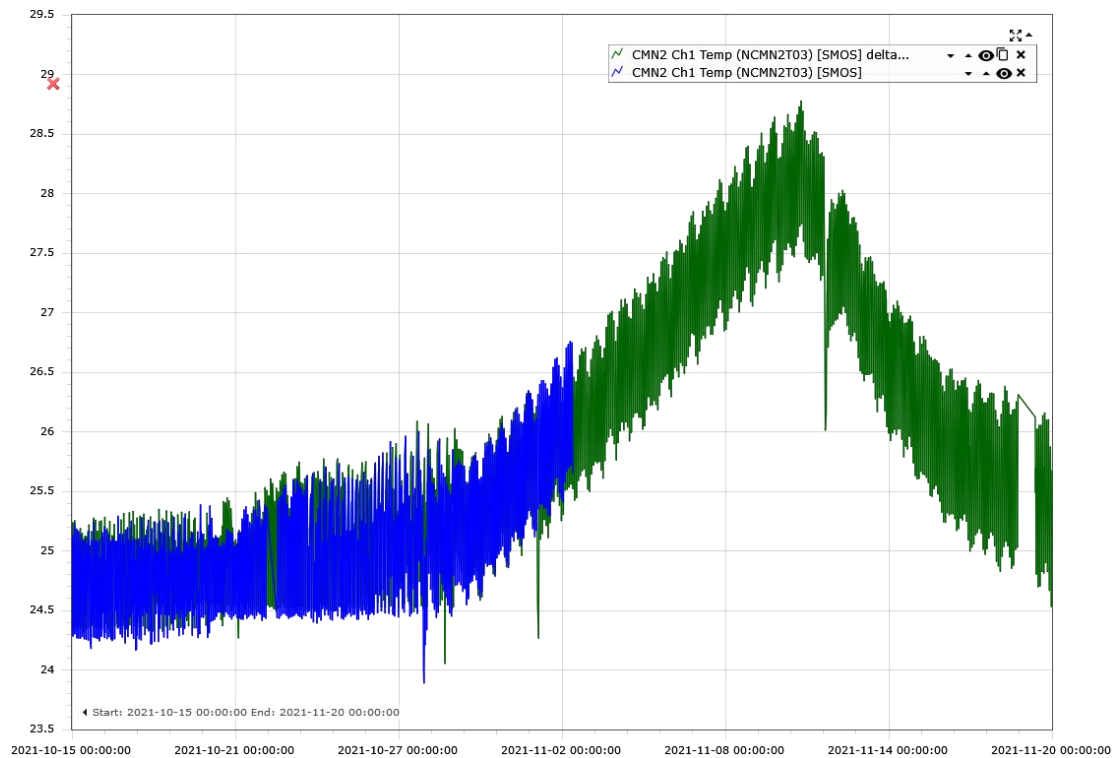
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CMN2 temperatures remained within limits, though they increased slowly in the following few days, reaching a first relative maximum immediately before commencement of the annual eclipse season, 12 NOV 2021. First soft high OOL on parameter NCMN2T03 appeared on 31/10/2021 at 17:27:02z

Graphic evolution of LICEF A4 temperature and it comparison with the same period of previous year can be seen here below.





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APPENDIX A: OOLs

CMN unlock of H3 on the 25th of October generated the two following temporary OOL on the FOS PLPC system.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOl Value	Check Value
2021-10-25T10:38:49	2021-10-25T05:15:13	SPM13167	H3 LO_Locking	UNLOCK	LOCK
2021-10-25T10:38:49	2021-10-25T05:15:13	SPM13162	H3 LO_Out_Power	NOT-OK	OK

Mass memory latch-up of P10 partition generated the two following OOL on the FOS PLPC system.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOl Value	Check Value
2021-10-26T12:31:30	2021-10-26T09:10:37	DMASME37	SDD LU Detected	FALSE	TRUE
2021-10-26T12:31:30	2021-10-26T09:10:37	DMASME02	LU Switch P10	OFF	ON

Mass memory latch-up of P8 partition on the 28th of October generated the two following OOL on the FOS PLPC system.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOl Value	Check Value
2021-10-28T05:16:44	2021-10-27T22:49:15	DMASME37	SDD LU Detected	FALSE	TRUE
2021-10-28T05:16:44	2021-10-27T22:49:15	DMASME04	LU Switch P8	OFF	ON

CMN unlock of H3 on the 29th of October generated the two following temporary OOL on the FOS PLPC system.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOl Value	Check Value
2021-10-29T04:32:13	2021-10-28T22:10:49	SPM13162	H3 LO_Out_Power	NOT-OK	OK
2021-10-29T04:32:13	2021-10-28T22:10:54	SPM13167	H3 LO_Locking	UNLOCK	LOCK