



## Operations Notes

FOS Team @ ESAC

Reported by:

*J. Fauste/J.M. Castro Cerón*

Topic:

Date:

Issue:

**FOS Report for week 19, year 2022**

from 09 MAY 2022 to 16 MAY 2022

**1.0**

## 1 General Comments

Activities scheduled for this week are those planned for the 19<sup>th</sup> calendar week of 2022:

09 MAY 2022 to 16 MAY 2022 (DoYs 129 to 136).

The following routine activities were planned this week (see Gantt chart on next page and CRF 1045).

- One Warm NIR Calibration on 11 MAY 2022 (DoY 131) with ETO 05:26:20z (orbit 65804; DESCENDING: thermally UNSTABLE) and with the following expected calibration values:

B.T.	=	3.56°
R.M.S.	=	0.13
Sun elevation	=	4.00°
Moon elevation	=	57.94°
R.A.	=	143.45°
DEC.	=	31.89°
- One PMS Offset on 12 MAY 2022 (DoY 132), including three Short Calibrations at 06:59:30.0z, 07:00:04.8z, and 07:00:39.6z (orbit 65819).
- Local Oscillator Calibrations every 10 minutes.
- X band Passes over ESAC and Svalbard.
- A routine Orbit Correction Manoeuvre (OCM) was scheduled for 12 MAY 2022 at 22:29:12z. With an SMA change aimed for 161.38 m, achieved 162.11 m (efficiency 100.45%). The affected time period went from 2022-05-12T22:18:43z to 2022-05-12T22:39:07z. Science data for that period was flagged with an external APID. No regular X band GS passes conflicted with this OCM.

## 2 Mission Planning Deviations

None.



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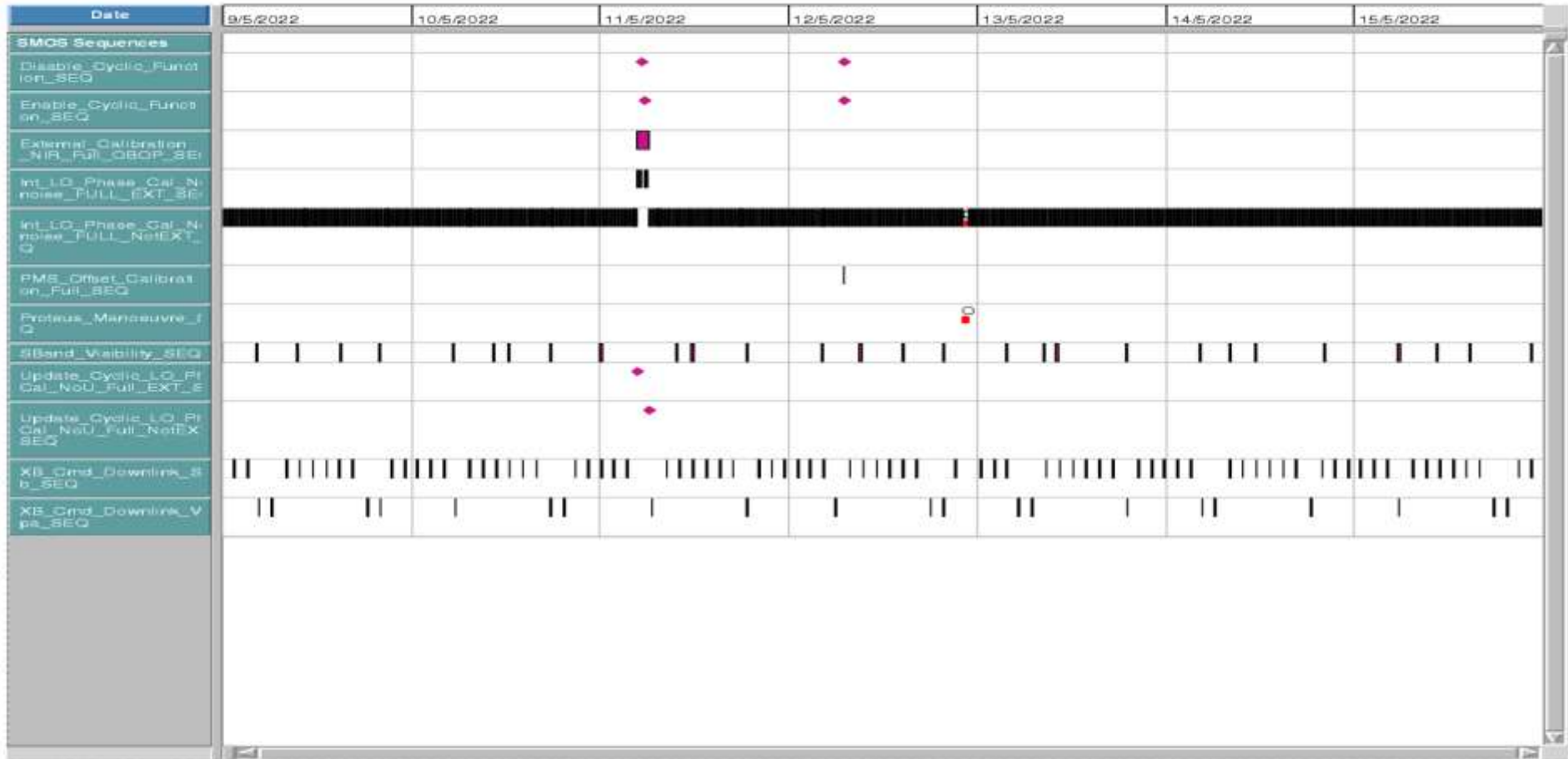
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Schedule Name: 2022\_w19\_or ### Display start: 09-05-2022 00:00:00.000 ### Display end: 16-05-2022 00:00:00.000





## 3 TC Failures

None.

## 4 On Board Anomalies

- The MIRAS instrument CMN, unit H1, unlocked 2022-05-10T00:49:23z (DoY 130). This anomaly was geolocated over the north-eastern coast of Grenland:

*LAT.* = 81.46°

*LONG.* = 337.40°

Both parameters, output power SPM11162 and locking status SPM11167, went out of limits in the FOS PLPC system. The anomaly recovered by itself in 12 epochs.

- MIRAS instrument MM, partition P8, latched up 2022-05-10T10:13:22z (DoY 130). The following parameters went out of limits in the PLPC system:

2022.130.10.13.22z DMASME04 LU Switch P8

2022.130.10.13.22z DMASME37 SDD LU Detected

This anomaly was geolocated over the Southern Atlantic Ocean, just off the coast of Mar del Plata (Argentina):

*LAT.* = -39.35°

*LONG.* = 303.92°

There were no science data losses associated with this anomaly because it affected partition P8, while the Read and Write pointers were both in partition P3. Recovery took place Wednesday 11 MAY 2022, at 12:00:00z (CRF No. 1047).

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

*READ* = 1537670 (partition P3)

*WRITE* = 1710505 (partition P3)

- MIRAS instrument MM, partition P10, latched up 2022-05-14T20:19:38z (DoY 134). The following parameters went out of limits in the PLPC system:

2022.134.20.19.38z DMASME02 LU Switch P10

2022.134.20.19.38z DMASME37 SDD LU Detected

This anomaly was geolocated over the Southern Atlantic Ocean, off the coast of Estado de Ceará (Brazil):

*LAT.* = -01.99°

*LONG.* = 325.10°

There were no science data losses associated with this anomaly because it affected partition P10 (i.e. a spare partition), while the Read



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and Write pointers were both in partition P4. Recovery took place Monday 16 MAY 2022, at 10:30:00z (CRF No. 1049).

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

```
READ      = 1786845    (partition P4)
WRITE     = 1858489    (partition P4)
```

## 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	WARNING	2022.129.21.30.28,894	2391358
RAM Single Bit Error	730	WARNING	2022.130.22.52.45,699	23D470C
RAM Single Bit Error	730	WARNING	2022.132.17.57.57,345	2095A1C
RAM Single Bit Error	730	WARNING	2022.134.23.48.05,895	237B254

## 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

None.



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### APPENDIX A: OOLs

The following OOL befell at the time the MIRAS instrument CMN, unit H1, unlocked 2022-05-10T00:49:23z (DoY 130):

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2022.130.05.47.08	2022.130.00.49.23.558	SPM11162	H1 LO_Out_Power	NOT-OK	OK
2022.130.05.47.09	2022.130.00.49.29.558	SPM11167	H1 LO_Locking	UNLOCK	LOCK

The following OOLs befell at the time the MIRAS instrument MM, partition P8, latched up 2022-05-10T10:13:22z (DoY 130):

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2022.130.10.54.32	2022.130.10.13.22	DMASME04	LU Switch P8	OFF	ON
2022.130.10.54.32	2022.130.10.13.22	DMASME37	SDD LU Detected	FALSE	TRUE

The following OOLs befell at the time the MIRAS instrument MM, partition P10, latched up 2022-05-14T20:19:38z (DoY 134):

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2022.135.05.59.27	2022.134.20.19.38	DMASME02	LU Switch P10	OFF	ON
2022.135.05.59.27	2022.134.20.19.38	DMASME37	SDD LU Detected	FALSE	TRUE