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## Operations Notes

FOS Team @ ESAC

Reported by:

*J. Fauste/J.M. Castro Cerón*

Topic:

Date:

Issue:

**FOS Report for week 12, year 2021**

from 22 MAR 2021 to 29 MAR 2021

**1.0**

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### 1 General Comments

Activities scheduled for this week are those planned for the 12<sup>th</sup> calendar week of 2021:

22 MAR 2021 to 29 MAR 2021 (DoYs 081 to 088).

The following routine activities were planned this week (see Gantt chart on next page and CRF 956).

- One PMS Offset on 25 MAR 2021 (DoY 084), including three Short Calibrations at 06:36:00.0z, 06:36:34.8z, and 06:37:09.6z (orbit 59876).
- Local Oscillator Calibrations every 10 minutes.
- X band Passes over ESAC and Svalbard.

### 2 Mission Planning Deviations

None.



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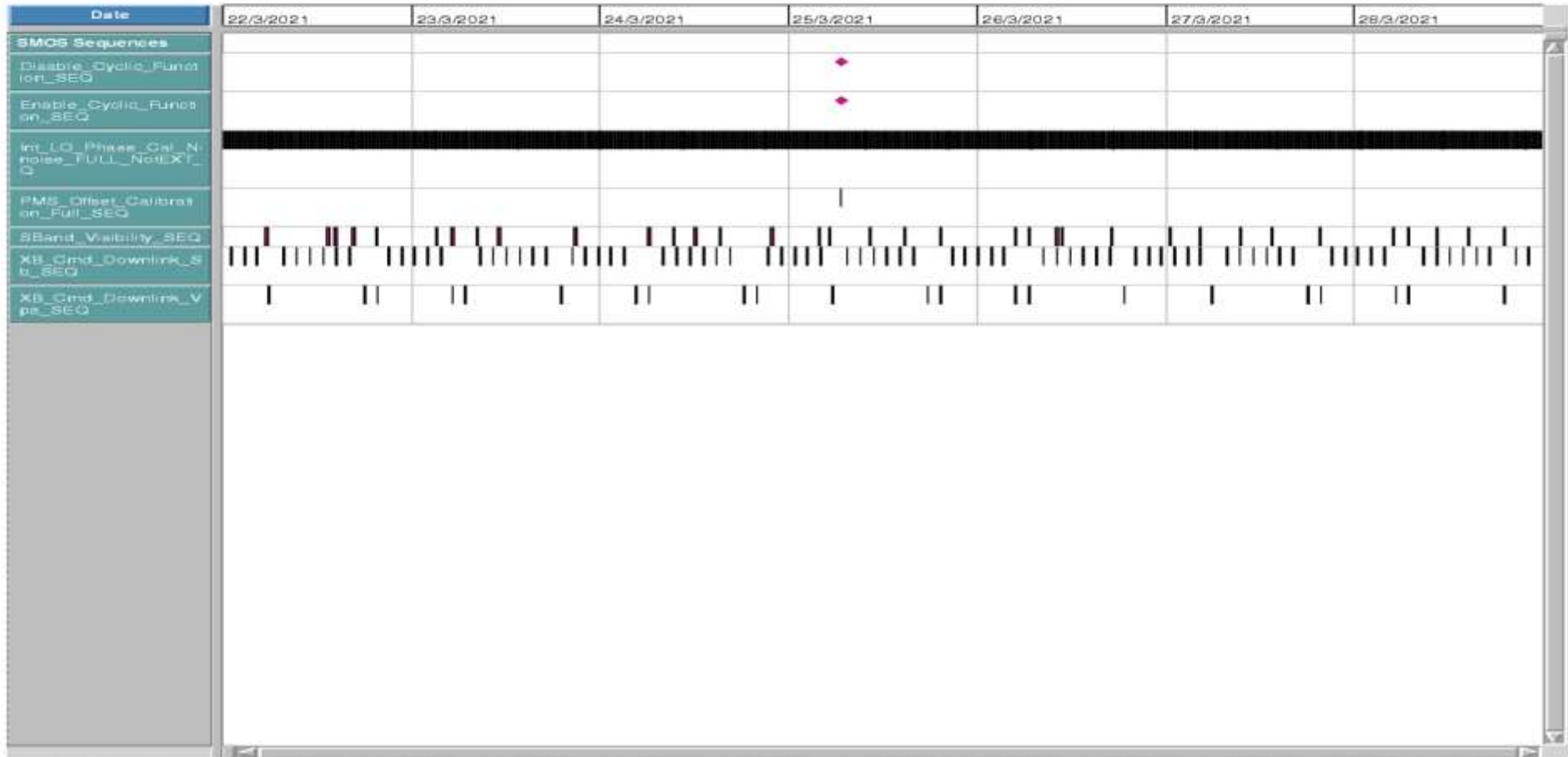
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Schedule Name: 2021\_w12\_es ### Display start: 22-03-2021 00:00:00.000 ### Display end: 29-03-2021 00:00:00.000





## 3 TC Failures

None.

## 4 On Board Anomalies

- MIRAS instrument MM, partition P0, latched up 2021-03-25T21:19:49.787z (DOY 084).

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

```
2021.084.21.19.49.787z  DMASME12  LU Switch P0
2021.084.21.19.49.787z  DMASME37  SDD LU Detected
```

This anomaly was geolocated over Matto Grosso south state (Brazil):

```
Latitude    = -20.92°
Longitude   = 307.24°
```

The anomaly created data losses because both read and write pointers, were located at the time of the anomaly over partition P0. Also the recovery will create some data losses.

Recovery took place on 26 MAR 2021, at 11:52:00z (CRF 958).

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

```
READ       = 42722 (partition P0)
WRITE      = 129197 (partition P0)
```

- MIRAS instrument MM, partition P2, latched up 2021-03-26T10:52:03,647z (DoY 085).

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

```
2021.085.10.52.03,647z  DMASME10  LU Switch P2
2021.085.10.52.03,647z  DMASME37  SDD LU Detected
```

This anomaly was geolocated over the coast of Antarctica, due south of the Indian Ocean:

```
Latitude    = -63.24°
Longitude   = 90.28°
```

This was a rather short lived latch-up (12 s). It occurred in the middle of PRO-CRP-800 execution to recover previously latched up P0. The sequence of events was as follows:

```
2021.084.21.19.49,787z: P0 latched up
2021.085.11.52.00,000z: PRO-CRP-800 started
2021.085.11.52.03,647z: P2 latched up
2021.085.11.52.12,048z: P0 cleared
2021.085.11.52.15,648z: P2 cleared
```

MM scrubbing had been disabled during recovery (NMASME47). An elevated number of SB errors afterwards suggested a real occurrence. Similar ones took place earlier in the mission. As in those occasions, no clear conclusions could be drawn as to the causes of this anomaly.



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There were no science data losses associated with this short lived anomaly because it affected partition P2, while the Read and Write pointers were both on partition P5.

Recovery took place within the already on-going PRO-CRP-800 (CRF 958, started 26 MAR 2021, 11:52:00z).

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

READ = 2279928 (partition P5)  
WRITE = 2346319 (partition P5)

## 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	2021.085.09.15.32,821	20E9B00
RAM Single Bit Error	730	WARNING	2021.086.21.49.45,245	2132A40
RAM Single Bit Error	730	WARNING	2021.087.22.24.12,744	22DD830

## 6 FOS Systems Status

- Back-up line was reported down by CNES 26 MAR 2021. This is currently under investigation with IT.

## 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 OOLs befell at the time the MIRAS instrument MM, partition P0, latched up 2021-03-25T21:19:49,787z (DOY 084):

<b>GS_TIME</b>	<b>OB_TIME</b>	<b>PARAMETER</b>	<b>DESCRIPTION</b>	<b>OOl Value</b>	<b>Check Value</b>
2021.085.05.19.57,684	2021.084.21.19.50,987	DMASME12	LU Switch P0	OFF	ON
2021.085.05.19.57,668	2021.084.21.19.49,787	DMASME37	SDD LU Detected	FALSE	TRUE

The following OOLs befell at the time the MIRAS instrument MM, partition P2, latched up 2021-03-26T10:52:03,647z (DoY 085):

<b>GS_TIME</b>	<b>OB_TIME</b>	<b>PARAMETER</b>	<b>DESCRIPTION</b>	<b>OOl Value</b>	<b>Check Value</b>
2021.085.17.22.03,161	2021.085.11.52.03,647	DMASME10	LU Switch P2	OFF	ON
2021.085.17.22.03,161	2021.085.11.52.03,647	DMASME37	SDD LU Detected	FALSE	TRUE