



Operations Notes

FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic:

Date:

Issue:

FOS Report for week 20, year 2021

from 17 MAY 2021 to 24 MAY 2021

1.0

1 General Comments

Activities scheduled for this week are those planned for the 20th calendar week of 2021:

17 MAY 2021 to 24 MAY 2021 (DOYs 137 to 144).

The following routine activities were planned this week (see Gantt chart on next page and CRF 967).

- One PMS Offset on 20 MAY 2021 (DOY 140), including three Short Calibrations at 06:56:00.0z, 06:56:34.8z, and 06:57:09.6z (orbit 60682).
- Local Oscillator Calibrations every 10 minutes.
- X band Passes over ESAC and Svalbard.

2 Mission Planning Deviations

None.



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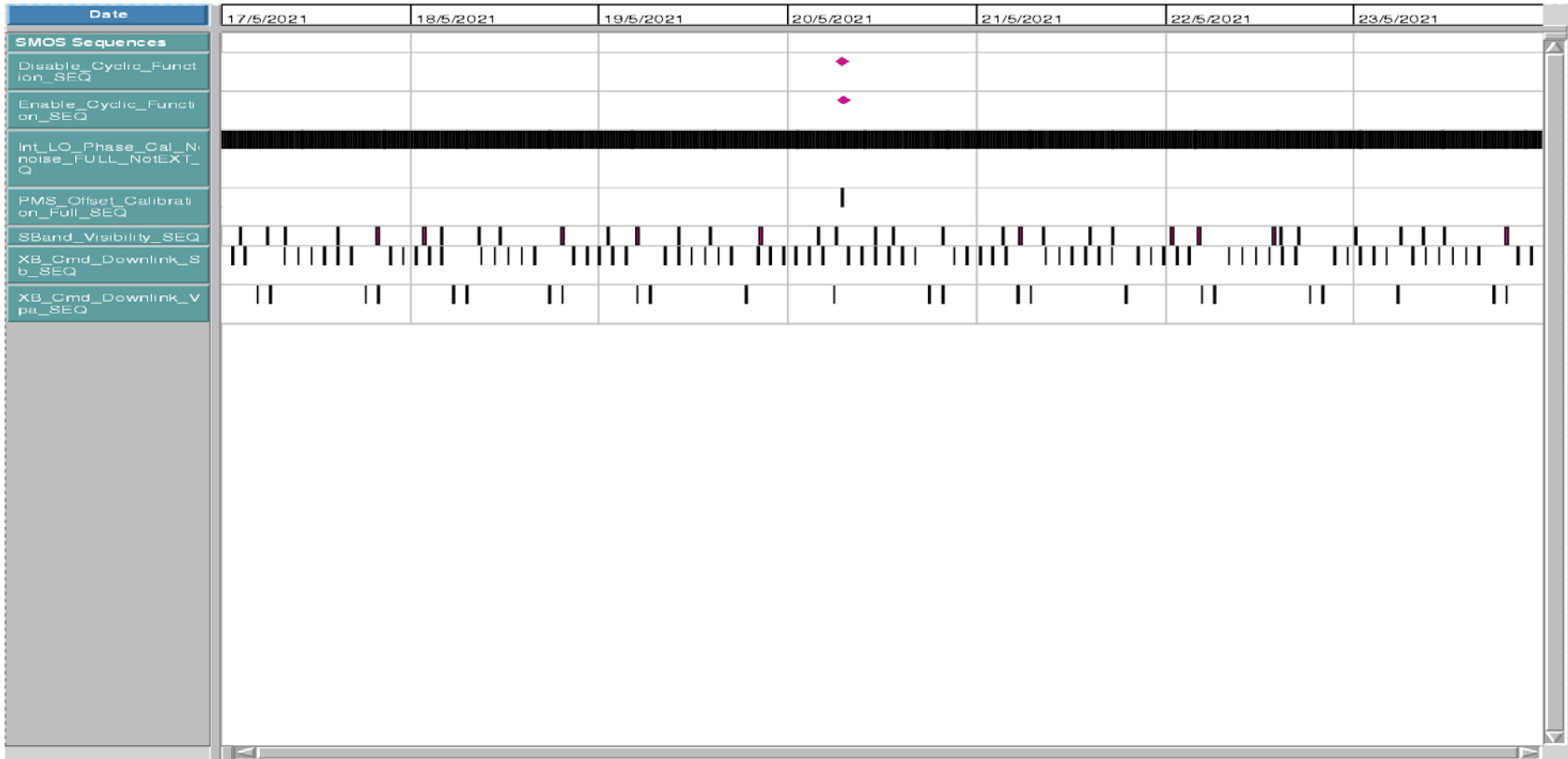
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Schedule Name: 2021_w20_cr ### Display start: 17-05-2021 00:00:00.000 ### Display end: 24-05-2021 00:00:00.000





3 TC Failures

None.

4 On Board Anomalies

- MIRAS instrument MM, partition P9, latched up 2021-05-20T21:40:41,923z (DOY 140). The following parameters went out of limits in the PLPC system:

2021.140.21.40.41,923z DMASME03 LU Switch P9
2021.140.21.40.41,923z DMASME37 SDD LU Detected

This anomaly was geolocated over the Argentina-Paraguay border:

Latitude = -25.01°
Longitude = 301.20°

There were no science data losses associated with this anomaly because it affected partition P9 (i.e. a spare partition), while the Read and Write pointers were both in partition P1. Recovery took place Friday 21 MAY 2021, at 15:00:00z (CRF 970). At the time of the anomaly the position of the MM pointers were as follows:

READ = 799992 (partition P1)
WRITE = 888954 (partition P1)

- The MIRAS CMN, unit H1, unlocked 2021-05-18T19:37:28.919z (DOY 138). This anomaly was geolocated over the South Atlantic Ocean, just eastward of Estado do Spirito Santo (Brazil):

Latitude = -21.53°
Longitude = 332.61°

Both parameters, output power SPM11162 and locking status SPM11167, went out of limits in the FOS PLPC system. The anomaly recovered in 4 epochs.

5 On Board Events Telemetry

No relevant event packets were received this week.

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, with the following exceptions:



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- On the 22 of May and because of an issue with the receiving station, for S band GS pass HBX-20 (AOS = 04:10:47z; LOS = 04:25:30z) the following PUS TM gap was detected in the PLPC system:

from 2021-05-22T00:46:33,499z to 2021-05-22T04:12:22,695z; 6174 packets lost.

To achieve completion MIRAS PUS HKTm was recovered from the X band PXMF system and ingested into the MUST-SMTA system on 24 MAY 2021. The corresponding E_HKTm was lost:

from 2021-05-20T03:50:40z to 2021-05-20T04:09:52z.

- On the 20th of May and because an issue with the receiving station, for S band GS pass IVK-14 (AOS = 06:05:07z; LOS = 06:19:07z) the following PUS TM gap was detected in the PLPC system:

from 2021-05-20T03:50:43.544z to 2021-05-20T04:07:51.756z; 1894 packets lost.

To achieve completion MIRAS PUS HKTm was recovered from the X band PXMF system and ingested into the MUST-SMTA system on 20 MAY 2021. The corresponding E_HKTm was lost:

from 2021-05-20T03:50:40z to 2021-05-20T04:09:52z.

8 X Band Data Reception in PXMF

Because of the two S-band failures reported on previous section, the FOS X-band system was used to fill the PUS TM gaps created by these two failures.

9 Exceptional Activities

None.

10 AOB

None.



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APPENDIX A: OOLs

The two following temporary out of limits were received on the FOS PLPC system at the time of the CMN unlock anomaly on the 18th of May.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2021-05-19T01:25:48	2021-05-18T19:37:28	SPM11162	H1 LO_Out_Power	NOT-OK	OK
2021-05-19T01:25:48	2021-05-18T19:37:30	SPM11167	H1 LO_Locking	UNLOCK	LOCK

The MM latch-up anomaly on the 21st of March generated the two following out of limits on the FOS PLPC system.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2021-05-21T03:38:56	2021-05-20T21:40:41	DMASME37	SDD LU Detected	FALSE	TRUE
2021-05-21T03:38:56	2021-05-20T21:40:41	DMASME03	LU Switch P9	OFF	ON