



Operations Notes

FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic:

Date:

Issue:

FOS Report for week 26, year 2021

from 28 JUN 2021 to 05 JUL 2021

1.0

1 General Comments

Activities scheduled for this week are those planned for the 26th calendar week of 2021:

28 JUN 2021 to 05 JUL 2021 (DOYs 179 to 186).

The following routine activities were planned this week (see Gantt chart on next page and CRF 977).

- One Warm NIR Calibration on 03 JUL 2021 (DOY 184) with ETO 04:30:53z (orbit 61314; DESCENDING: thermally STABLE; associated to the Summer Solstice Flat Target Calibration) and with the following expected calibration values:

B.T.	=	3.53°
R.M.S.	=	0.15
Sun elevation	=	8.52°
Moon elevation	=	-50.09°
R.A.	=	196.48°
DEC.	=	33.54°
- Two LONG Calibrations on 03 JUL 2021 (DOY 184), which encompassed two ascending semi-orbital periods starting at 14:51:00z (orbit 61320) and 16:31:00z (orbit 61321). [Associated to the Summer Solstice Flat Target Calibration]
- One PMS Offset on 01 JUL 2021 (DOY 182), including three Short Calibrations at 06:21:00.0z, 06:21:34.8z, and 06:22:09.6z (orbit 61286).
- Local Oscillator Calibrations every 10 minutes.
- X band Passes over ESAC and Svalbard.
- A routine Orbit Correction Maneuver (OCM) was scheduled for 28 JUN 2021 at 22:59:38z. With an SMA change aimed for 114.182 m, achieved 115.491 m (efficiency 101.15%). The affected time period went from 2021-06-28T22:42:29z to 2021-06-28T23:19:41z. 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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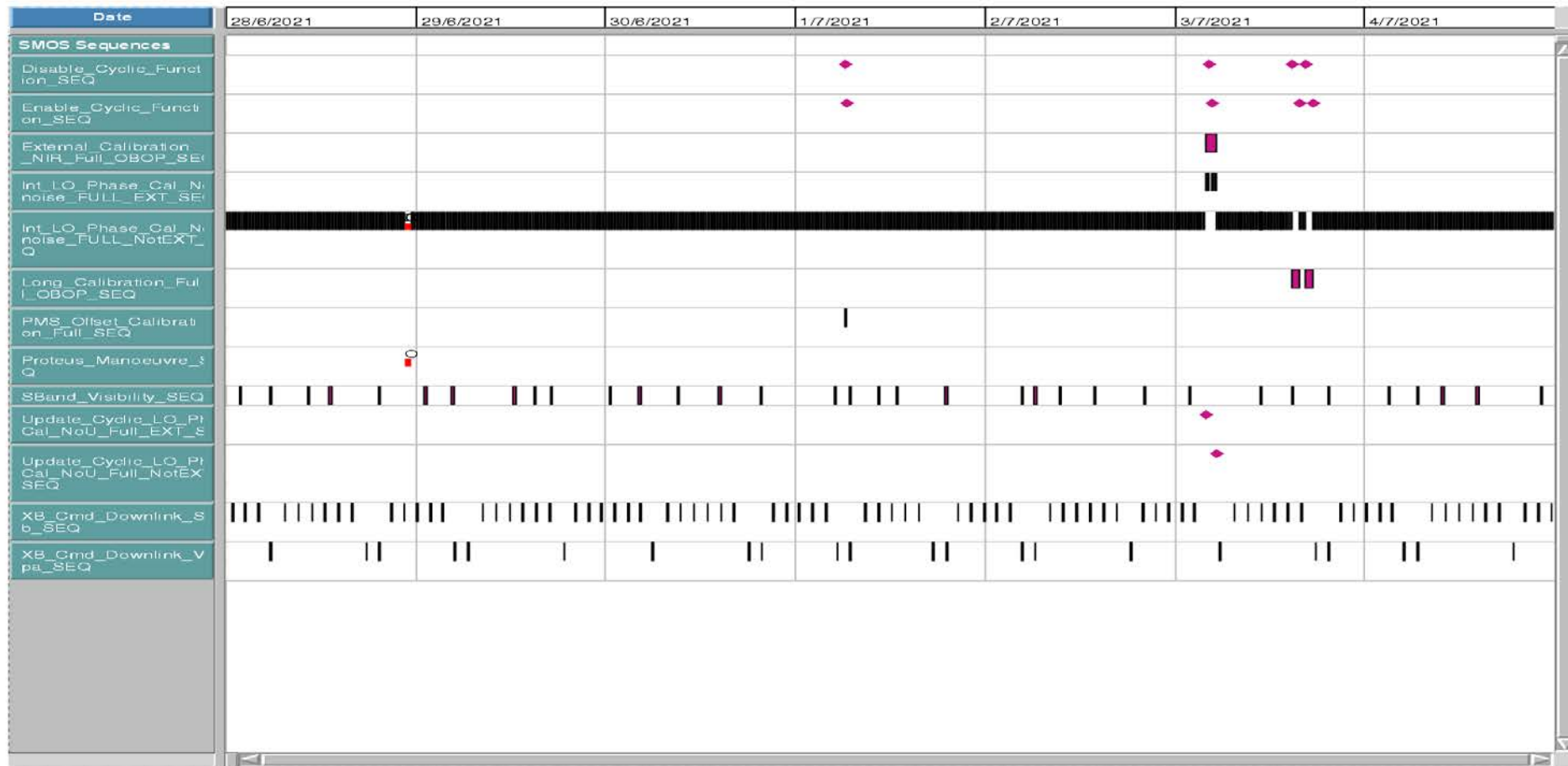
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Schedule Name: 2021_w26_cr ### Display start: 28-06-2021 00:00:00.000 ### Display end: 05-07-2021 00:00:00.000





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3 TC Failures

None.

4 On Board Anomalies

- MIRAS instrument MM, partition P9, latched up 2021-07-04T17:39:54,989z (DOY 185). The following parameters went out of limits in the PLPC system:

2021.185.17.39.54,989z DMASME03 LU Switch P9

2021.185.17.39.54,989z DMASME37 SDD LU Detected

This anomaly was geolocated entering the South Atlantic Ocean from Antarctica:

Latitude = -63.81°

Longitude = 347.87°

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 in partitions P0 and P1 respectively. Recovery took place Monday 04 JUL 2021, at 14:00:00z (CRF 980).

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

READ = 347817 (partition P0)

WRITE = 460976 (partition P1)

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	2021-06-28T23:18:43	2105438
RAM single Bit Error	730	WARN	2021-06-30T11:03:32	22A7EFC
RAM single Bit Error	730	WARN	2021-07-01T11:24:21	20CF258
RAM single Bit Error	730	WARN	2021-07-02T20:31:31	21083B8
RAM single Bit Error	730	WARN	2021-07-04T11:12:28	20B6DFC

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:

- Because an issue with the receiving station, S band GS pass IVK-16 (AOS = 2021-07-01T10:24:00z; LOS = 2021-07-01T10:37:17z) contained 37 HKTМ gaps. The gaps occurred:

from 2021-07-01T06:59:32z to 2021-07-01T10:23:26z.

A total of 1765 packets were lost. To achieve completion MIRAS PUS HKTМ was recovered from the X band PXMF system and ingested into the MUST-SMTA system on 01 JUL 2021. The corresponding E_HKTМ was lost.

- Because an issue with the receiving station, S band GS pass IVK-15 (AOS = 2021-06-30T14:18:48z; LOS = 2021-06-30T14:33:24z) contained 28 HKTМ gaps. The gaps occurred:

from 2021-06-30T09:06:04z to 2021-06-30T12:46:22z.

A total of 1050 packets were lost. To achieve completion MIRAS PUS HKTМ was recovered from the X band PXMF system and ingested into the MUST-SMTA system on 01 JUL 2021. The corresponding E_HKTМ was lost.

- Because an issue with the receiving station, S band GS pass IVK-14 (AOS = 2021-06-29T14:57:50z; LOS = 2021-06-29T15:12:00z) contained 7 HKTМ gaps. The gaps occurred:

from 2021-06-29T12:31:58z to 2021-06-29T14:04:29z.

A total of 70 packets were lost. To achieve completion MIRAS PUS HKTМ was recovered from the X band PXMF system and ingested into the MUST-SMTA system on 30 JUN 2021. The corresponding E_HKTМ was lost.

8 X Band Data Reception in PXMF

Because of the S-Band problems reported in section 7 of this report, PXMF system was used three times during the week to fill the missing PUS telemetry.



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9 Exceptional Activities

None.

10 AOB

None.



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APPENDIX A: OOLs

The Mass Memory latch of partition P9 that happened on the 4th of July generated the following out of limits on the FOS PLPC system.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2021-07-04T22:46:16	2021-07-04T17:39:54	DMASME37	SDD LU Detected	FALSE	TRUE
2021-07-04T22:46:16	2021-07-04T17:39:54	DMASME03	LU Switch P9	OFF	ON

The OCM executed on the 28th of June generated a temporary out of limit at the time the onboard ITL was made disabled.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2021-06-29T01:41:32	2021-06-28T22:49:07	NTLHK022	ITL Ena State	Disabled	Enabled