



Operations Notes

FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic:

Date:

Issue:

FOS Report for week 42, year 2020

from 12 OCT 2020 to 19 OCT 2020

1.0

1 General Comments

Activities scheduled for this week are those planned for the 42nd calendar week of 2020:

12 OCT 2020 to 19 OCT 2020 (DOYs 286 to 293).

The following routine activities were planned this week (see Gantt chart on next page and CRF 920).

- One Warm NIR Calibration on 14 OCT 2020 (DOY 288) with ETO 17:03:13z (orbit 57551; ASCENDING: thermally STABLE) and with the following expected calibration values:

B.T.	=	3.89°
R.M.S.	=	0.63
Sun elevation	=	9.97°
Moon elevation	=	25.43°
R.A.	=	116.76°
DEC.	=	-22.16°
- Two LONG Calibrations on 15 OCT 2020 (DOY 289), which encompassed two ascending semi-orbital periods starting at 14:10:00z (orbit 57564) and 15:52:00z (orbit 57565).
- Local Oscillator Calibrations every 10 minutes.
- X band Passes over ESAC and Svalbard.

2 Mission Planning Deviations

None.



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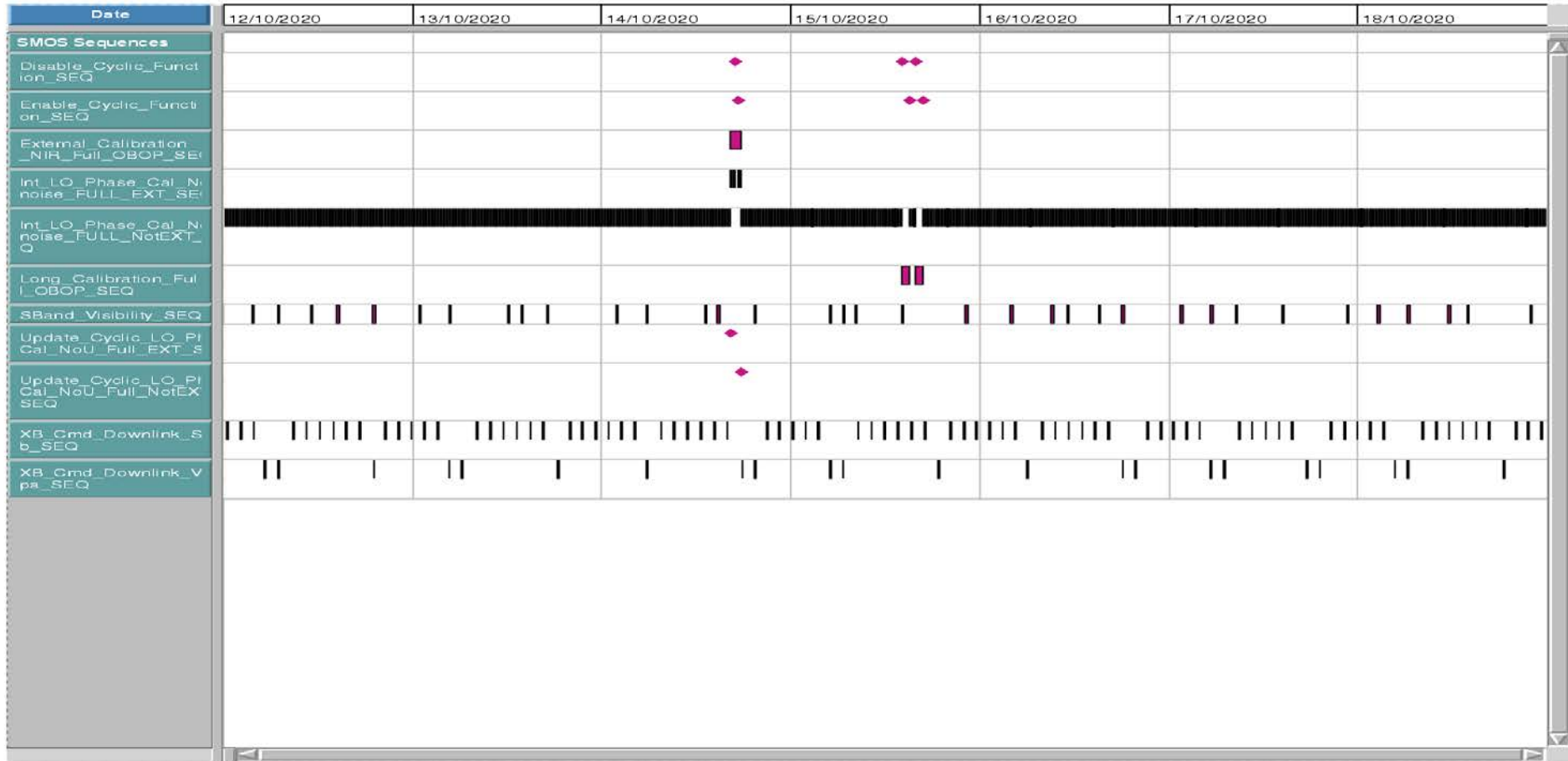
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Schedule Name: 2020_w42_cr ### Display start: 12-10-2020 00:00:00.000 ### Display end: 19-10-2020 00:00:00.000



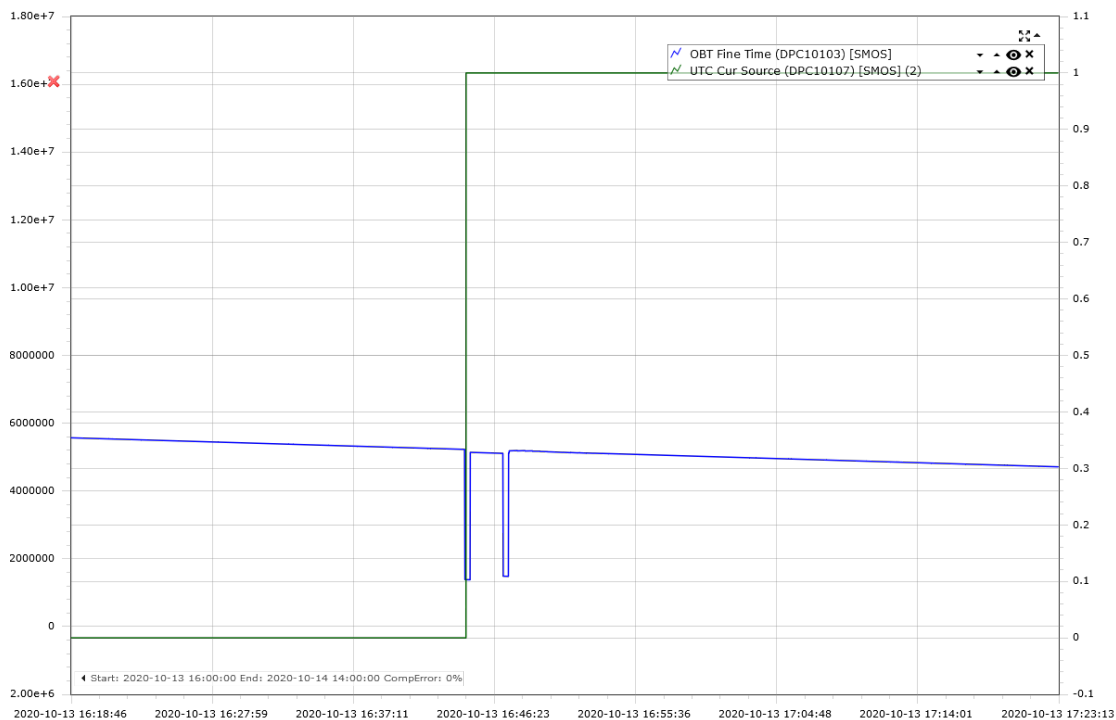


3 TC Failures

None.

4 On Board Anomalies

- A PROTEUS FDIR on GPS subsystem, triggered on 13th of October at 16:44:32z. The anomaly was seen as PLPC out of limits on parameter *DPC10107 UTC Cur Source*, reading PROTEUS instead of GPS as it is nominal conditions. The FDIR was triggered because of an unexpected jump of the GPS time of around 53742 seconds at 16:44:30.105z followed by a second jump at 16:47:10.105z. The FDIR was triggered on the first peak (see graphic below) GPS time source went back nominally into the spacecraft time control loop on the 14th of October at 13.08.58z.



- MIRAS instrument MM, partition P8, latched up 2020-10-18T22:12:10.757z (DOY 292). The following parameters went out of limits in the PLPC system:
2020.292.22.12.10.757z DMASME04 LU Switch P8
2020.292.22.12.10.757z DMASME37 SDD LU Detected

This anomaly was geolocated over Catamarca province (Argentina)

Latitude = -28.24°

Longitude = 292.82°



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There were no data losses because the anomaly affected P8 and, at the time of the anomaly, the Read and Write pointers were both on partition P3. Recovery took place Monday 19 OCT 2020, at 20:00:00z (CRF 923).

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

READ = 1444287 (partition P3)

WRITE = 1537761 (partition P3)

- The MIRAS CMN, unit B2, unlocked 2020-10-13T16:27:44.895z (DOY 287). This anomaly was geolocated over Iultinsky District, Chukotka, Rusia:

Latitude = 67.16°

Longitude = 182.95°

Both parameters, output power SPM18162 and locking status SPM18167, went out of limits in the FOS PLPC system. The anomaly recovered in 4 Epochs.

- The MIRAS CMN, unit H1, unlocked 2020-10-12T06:18:38.630z (DOY 286). This anomaly was geolocated over Antarctic regions:

Latitude = -74.94°

Longitude = 142.45°

Both parameters, output power SPM11162 and locking status SPM11167, went out of limits in the FOS PLPC system. The anomaly recovered in 11 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	2020-10-13T21:21:06	2012EE8
RAM single Bit Error	730	WARN	2020-10-13T11:36:34	20013EC

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.



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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 MIRAS Mass Memory Latch-up of partition P8 generated the two following out of limits on the FOS PLPC system.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2020.293.04.09.44.292	2020.292.22.12.10.757	DMASME37	SDD LU Detected	True	False
2020.293.04.09.44.292	2020.292.22.12.10.757	DMASME04	LU Switch P8	OFF	ON

The following PLPC parameter went out of limits at the time the PROTEUS GPS FDIR was triggered and it remained in that condition until the 14th of October at 16:47:10z

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2020-10-13T17:30:28	2020-10-13T16:44:32	DPC10107	UTC Cur Source	PROTEUS	GPS

The B2 CMN unlock on the 13th of October generated the two following PLPC out of limits.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2020-10-13T17:29:38	2020-10-13T16:27:44	SPM18167	B2 LO_Locking	UNLOCK	LOCK
2020-10-13T17:29:38	2020-10-13T16:27:44	SPM18162	B2 LO_Out_Power	NOT-OK	OK

The H1 CMN unlock on the 12th of October generated the two following PLPC out of limits.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2020-10-12T07:25:30	2020-10-12T06:18:38	SPM11162	H1 LO_Out_Power	NOT-OK	OK
2020-10-12T07:25:31	2020-10-12T06:18:45	SPM11167	H1 LO_Locking	UNLOCK	LOCK