



Operations Notes

FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic:

Date:

Issue:

FOS Report for week 39, year 2019

from 23 SEP 2019 to 30 SEP 2019

1.0

1 General Comments

Activities scheduled for this week are those planned for the 39th calendar week of 2019:

23 SEP 2019 to 30 SEP 2019 (DOYs 266 to 273).

The following routine activities were planned this week (see Gantt chart on next page and CRF 833).

- One Warm NIR Calibration on 25 SEP 2019 (DOY 268) with ETO 16:44:48z (orbit 52011; ASCENDING: thermally STABLE) and with the following expected calibration values:

B.T.	=	3.92°
R.M.S.	=	0.61
Sun elevation	=	7.92°
Moon elevation	=	19.75°
R.A.	=	101.16°
DEC.	=	-40.03°
- One PMS Offset on 26 SEP 2019 (DOY 269), including three Short Calibrations at 07:29:30.0z, 07:30:04.8z, and 07:30:39.6z (orbit 52020).
- Local Oscillator Calibrations every 10 minutes.
- X band Passes over ESAC and Svalbard.

2 Mission Planning Deviations

A SMOS collision avoidance manoeuvre was performed on the 24th SEP 2019 at 16:38:16z. The MIRAS on-board timeline was disabled and the instrument science data flagged with external APID during the whole duration of the operation from 16:28:31z to 16:48:35z. The TCs for this manoeuvre were uploaded on Tuesday 24 SEP 2019 during S band GS pass KUX-35 (AOS = 09:08:56; LOS = 09:23:29). There was no need to cancel any X band GS passes as the CAM fell entirely in between passes.



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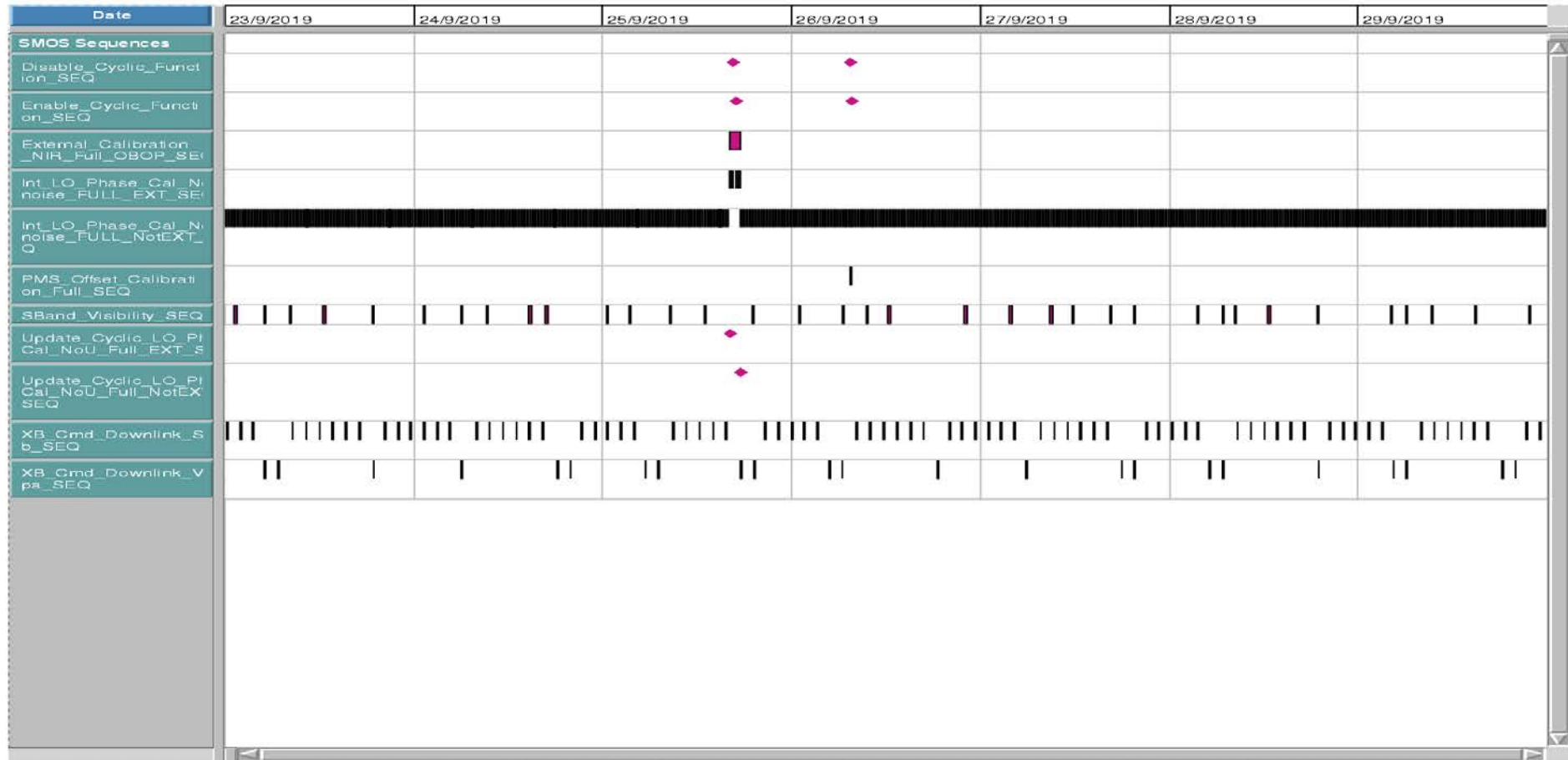
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Schedule Name: 2019_w39_cr ### Display start: 23-09-2019 00:00:00.000 ### Display end: 30-09-2019 00:00:00.000





3 TC Failures

None.

4 On Board Anomalies

- MIRAS instrument MM, partition P1, latched up 2019-08-29T21:53:38.241z (DOY 272). The following parameters went out of limits in the PLPC system:

2019.272.21.53.38.241z DMASME11 LU Switch P10

2019.272.21.53.38.241z DMASME37 SDD LU Detected

This anomaly was geolocated over Mato Grosso state (Brazil) :

Latitude = -10.72°

Longitude = 300.35°

There were no science data losses associated with this anomaly because it affected partition P1 and the Read and Write pointers were both on partition P2 respectively. Recovery took place the following day, Monday 30 SEP 2019, at 18:15:00z (CRF 835). At the time of the anomaly the position of the MM pointers were as follows:

READ = 1153372 (partition P2)

WRITE = 1233731 (partition P2)

- The MIRAS CMN, unit H1, unlocked 2019-09-24T10:47:03.040z (DOY 267). This anomaly was geolocated over north-west of Argentina:

Latitude = -27.86°

Longitude = 293.07°

Both, CMN locking status, TM SPM1116, and output power, TM SPM11162 went out of limits in the FOS PLPC system. The anomaly recovered in few seconds.

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	2019-09-27T12:37:30	224FD64
RAM single Bit Error	730	WARN	2019-09-27T10:37:24	22305A8
RAM single Bit Error	730	WARN	2019-09-26T21:35:26	2357B50
RAM single Bit Error	730	WARN	2019-09-26T05:58:58	205AD80
RAM single Bit Error	730	WARN	2019-09-24T10:34:04	21C2BB8



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6 FOS Systems Status

- On the 25th of September and while FOS was performing the planning for week40 on SPGF3 machine, the FlexPlan planning SW issued an ORACLE DB error indicating that a "value was larger than specified precision for this column". The error appeared immediately after the generation and transfer of the APID and HLPLAN files to DPGS and PLPC systems. This error did not affect the planning itself since the TC files were correctly generated. The SW problem was immediately communicate to GMV for its further analysis. GMV reported that the problem was related with the SCHEDULE table that saves the EXEC_ORDER field which is incremented per each executable schedule in the timeline. This table had a limit in size of 3 digits. The last value in the table, before the error, was 999, so the 1000 value was too large to be included in this field and produced the SW error. A quick patch to increase the size of that table was installed on the FOS backup machine SPGF4 for its further testing on the 26th of September. Once tested, it would be installed on the operational machine SPGF3.

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

At the time of the MM Latch-up of partition P1, the following two parameters went Out of Limits on the FOS PLPC system

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2019-09-29T21:53:38	2019-09-30T05:54:58	DMASME37	SDD LU Detected	False	True
2019-09-29T21:53:38	2019-09-30T05:54:58	DMASME11	LU Switch P1	OFF	ON

During the execution of the Collision Avoidance Manoeuvre, the following parameter went temporary out of limits on the FOS PLPC system indicating that the on-board ITL was on hold.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2019-09-24T17:20:03	2019-09-24T16:28:22	NTLHK022	ITL Ena State	Disabled	Enabled

The CMN unlock of unit H1 generated the two following temporary out of limits on the FOS PLPC system.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2019-09-24T15:11:08	2019-09-24T10:47:03	SPM11167	H1 LO_Locking	UNLOCK	LOCK
2019-09-24T15:11:08	2019-09-24T10:47:03	SPM11162	H1 LO_Out_Power	NOT-OK	OK