



## Operations Notes

FOS Team @ ESAC

Reported by:

*J. Fauste/J.M. Castro Cerón*

Topic:

Date:

Issue:

**FOS Report for week 44, year 2016**

from 31 OCT 2016 to 07 NOV 2016

**1.0**

## 1 General Comments

Activities scheduled for this week are those planned for the 44<sup>th</sup> calendar week of 2016:

31 OCT 2016 to 07 NOV 2016 (DOYs 305 to 312).

The following routine activities were planned this week (see Gantt chart on next page and CRF 617):

- One Warm NIR Calibration on 02 NOV 2016 (DOY 307) with ETO 17:35:27z (orbit 36802) and with the following expected calibration values:

B.T.	=	3.8197°
R.M.S.	=	0.6397
Sun Elevation	=	9.9833°
Moon elevation	=	-21.4162°
R.A.	=	134.48°
DEC.	=	-14.94°
- One PMS Offset on 03 NOV 2016 (DOY 308), including three Short Calibrations at 06:33:00.0z, 06:33:34.8z, and 06:34:09.6z (orbit 36810).
- Local Oscillator Calibrations every 10 minutes.
- X band Passes over ESAC and Svalbard.

## 2 Mission Planning Deviations

None.



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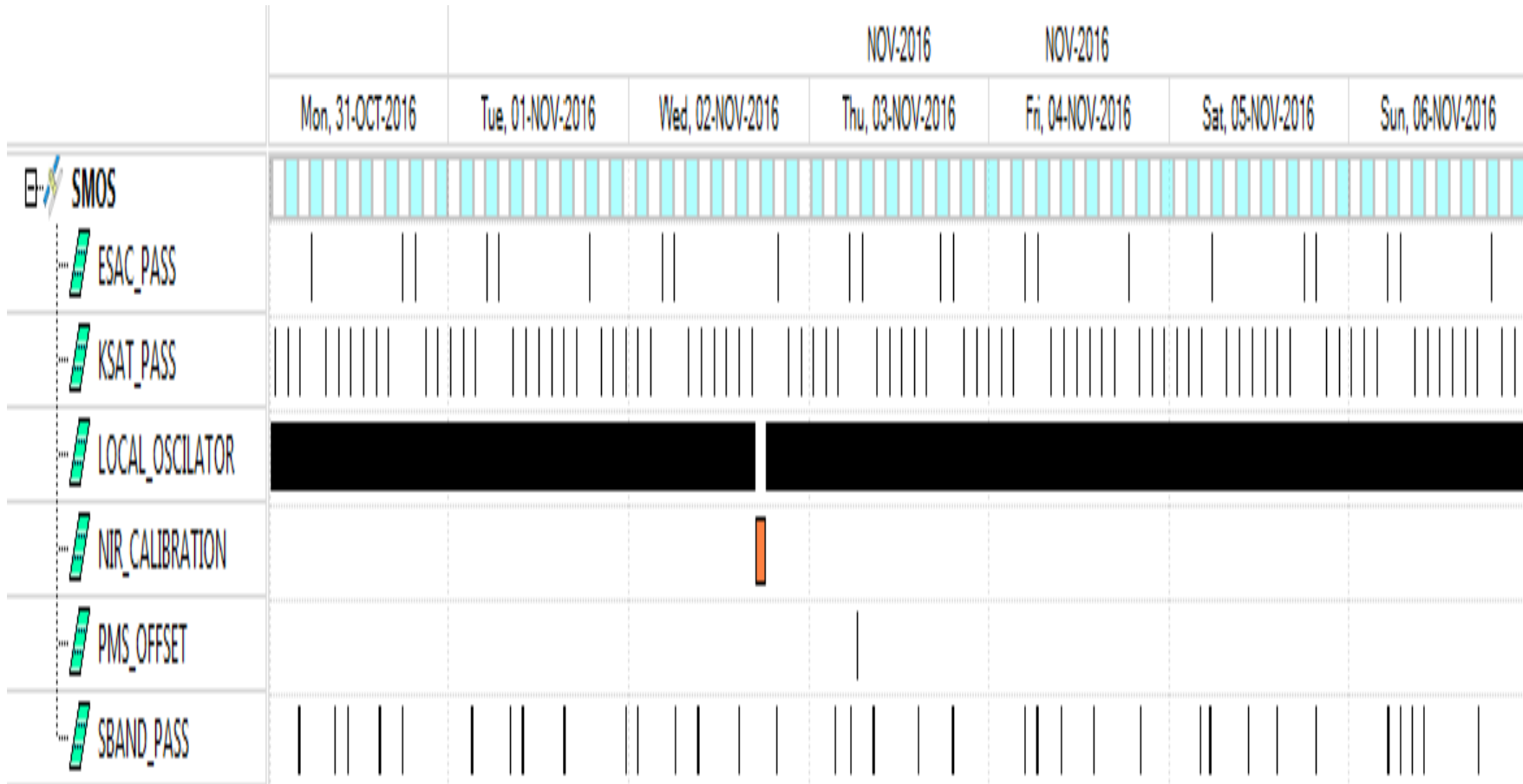
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### 3 TC Failures

None.

### 4 Unforeseen Out of Limits (OOLs)

Two PLPC Out of Limits were issued at the time of the Mass Memory Latch-up of partition P10 on the 2<sup>nd</sup> of November 2016. Further details can be found in section 5 and Appendix-A of this report.

### 5 On Board Anomalies

- The MIRAS instrument MM, partition P10, latched up on 2016-11-02T20:17:55,879z (DOBT; DOY 307). The anomaly was geolocated over the South Atlantic Ocean at the following geographical coordinates:

Latitude = -29.008373

Longitude = 320.823177

There were no science data losses associated with this anomaly because it affected one of the spare partitions (P10), while the Read and Write pointers were on partition P7. Recovery took place on 2016-11-04T14:30:00z (CRF 620). At the time of the anomaly the position of the MM pointers were as follows:

Read = 3281552 (partition P7)

Write = 3393501 (partition P7)

- PROTEUS GPS Telemetry showed some divergences from 2016-11-02T04:08:02z to 2016-11-02T04:22:58z. This had some side effects on the FOS Flight dynamics parameters since of these parameters show anomalous values in that time interval.

### 6 On Board Events Telemetry

The following RAM Single Bit errors befell this week:

Event Description	Severity	Event Time	Parameters
RAM single Bit Error	WARN	2016.308.23.14.21.356	2250998

### 7 FOS Systems Status

All FOS systems behaved nominally during this reporting period.



## 8 Data Reception from CNES

All S band passes were correctly received from CNES and successfully processed by the FOS PLPC system, with the following exception:

- Because an issue with the receiving station, S band GS pass AUS-1 (AOS = 2016-11-03T19:11:49z; LOS = 2016-11-03T19:25:37z) contained 12 PUS TM gaps. The gaps went:

*from 2016-11-03T14:36:14z to 2016-11-03T14:55:54z  
from 2016-11-03T14:59:31z to 2016-11-03T15:12:00z  
from 2016-11-03T15:16:28z to 2016-11-03T15:17:15z  
from 2016-11-03T15:18:08z to 2016-11-03T15:26:33z  
from 2016-11-03T15:26:52z to 2016-11-03T15:27:43z  
from 2016-11-03T15:31:27z to 2016-11-03T15:37:40z  
from 2016-11-03T15:39:04z to 2016-11-03T15:47:51z  
from 2016-11-03T15:48:30z to 2016-11-03T15:48:46z  
from 2016-11-03T15:48:48z to 2016-11-03T15:49:37z  
from 2016-11-03T15:49:38z to 2016-11-03T15:50:30z  
from 2016-11-03T15:51:00z to 2016-11-03T15:51:07z  
from 2016-11-03T15:52:03z to 2016-11-03T15:52:12z*

To achieve completion MIRAS PUS TM was recovered from the X band PXMF system and ingested into the MUST-SMTA system on 07 NOV 2016. The corresponding E\_HKTM was lost:

*from 2016-11-03T14:36:12z to 2016-11-03T14:58:20z  
from 2016-11-03T15:02:28z to 2016-11-03T15:16:28z  
from 2016-11-03T15:21:08z to 2016-11-03T15:22:20z  
from 2016-11-03T15:23:16z to 2016-11-03T15:32:28z  
from 2016-11-03T15:32:52z to 2016-11-03T15:33:40z  
from 2016-11-03T15:38:12z to 2016-11-03T15:45:16z  
from 2016-11-03T15:46:44z to 2016-11-03T15:56:28z  
from 2016-11-03T15:56:52z to 2016-11-03T15:59:40z*

## 9 X Band Data Reception in PXMF

Due to the SBand pass problem reported in section eight, the list of PUS Telemetry gaps were filled using the PXMF BKP system.

## 10 Exceptional Activities

None.

## 11 AOB

None.



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### APPENDIX A: OOLs

The following telemetry parameters went Out of Limit on PLPC system at the time of the Mass Memory Latch up on the 2<sup>nd</sup> of November 2016.

GS_TIME	OBTIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2016.308.04.00.43.630	2016.307.20.17.55.879	DMASME37	SDD LU Detected	FALSE	TRUE
2016.308.04.00.43.630	2016.307.20.17.55.879	DMASME02	LU Switch P10	OFF	ON