Operations Notes

FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic: **FOS Report for week 17, year 2020**
Date: from 20 APR 2020 to 04 MAY 2020
Issue: **1.0**

SMOS

1   General Comments

Activities scheduled for this week are those planned for the 18th calendar week of 2020:

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27 APR 2020 to 04 MAY 2020 (DOYs 118 to 125).
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Mission Planning for this week was calculated together with that of week 17, year 2020. The current report contains only the events that occurred during week 18, year 2020. The Gantt chart included in this report is the one containing the two weeks combined.

The following routine activities were planned this week (see Gantt chart on next page and CRF 879).

- Two LONG Calibrations on 30 APR 2020 (DOY 121), which encompassed two ascending semi-orbital periods starting at 14:50:00z (orbit 55147) and 16:32:00z (orbit 55148).
- Local Oscillator Calibrations every 10 minutes.
- *X* band Passes over ESAC and Svalbard.

2   Mission Planning Deviations

As per ESA-CNES management agreement reached 16 MAR 2020 —in view of limited operations because of the ongoing COVID-19 pandemic— CRF 878 spanned —exceptionally— a two-week period and included no ECM (**i.e. the NIR of 29 APR 2020 was cancelled/removed**).

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Schedule Name: 2020_w17_w18_cr   ###   Display start: 20-04-2020 00:00:00.000   ###   Display end: 21-04-2020 09:36:00.000

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3 TC Failures

None.

4 On Board Anomalies

- The MIRAS CMN, unit H3, unlocked 2020-05-02T09:04:46.007z (DOY 123). This anomaly was geolocated just off the coast of the State of Sao Paulo (Brazil):

    Latitude   = -25.75°
    Longitude = 318.2°2

    Both parameters, output power SPM13162 and locking status SPM13167, went out of limits in the FOS PLPC system. The anomaly recovered in few seconds.

- MIRAS instrument MM, partition P10, latched up 2020-04-28T18:57:01.623z (DOY 119). The following parameters went out of limits in the PLPC system:
    2020.120.18.57.01.623z   DMASME02   LU Switch P10
    2020.120.18.57.01.623z   DMASME37   SDD LU Detected

    This anomaly was geolocated over the Bear island near Svalbard:

    Latitude   = 74.28°
    Longitude   = 17.78°

    There were no science data losses associated with this anomaly because it affected spare partition P10. Recovery took place on Wednesday 29 APR 2020, at 13:00:00z (CRF 882). At the time of the anomaly the position of the MM pointers were as follows:

    READ   = 3193469 (partition P7)
    WRITE = 3459552 (partition P7)

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	2020-05-03T03:56:46	224A7F4
RAM single Bit Error	730	WARN	2020-05-01T21:49:01	203A36C
RAM single Bit Error	730	WARN	2020-05-01T11:23:50	22C3950

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6 FOS Systems Status

- After several *Zabbix* alerts for PLCNAS SSH access, it was checked that the response of the PLPCPRM it was really slow. GMV was contacted for the problem but they could not reach the machine remotely although they confirmed that they were executing a process to investigate the issue on the *FTPlog* file and PLCPRM disk space (they were executing a *fgrep*). Before to reboot the machine it was checked that the system was having a process that was eating most of the machine resources. As consequence of that the SCOS system was shutdown and then the machine reboot. After the reboot the machine was behaving nominal.

- New *WebMUST* version 1.4.13 was installed on SMTA machine on the 29th of April.

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 CMN Unlock of H3 unit, the two following temporary out of limits were received on the FOS PLPC system.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2020-05-02T11:44:07	2020-05-02T09:04:46	SPM13162	H3 LO_Out_Power	NOT-OK	OK
2020-05-02T11:44:07	2020-05-02T09:04:50	SPM13167	H3 LO_Locking	UNLOCK	LOCK

The mass memory latch-up of partition P10 generated the two following out of limits on PLPC system.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2020-04-28T21:06:05	2020-04-28T18:57:01	DMASME37	SDD LU Detected	FALSE	TRUE
2020-04-28T21:06:05	2020-04-28T18:57:01	DMASME02	LU Switch P10	OFF	ON