

FOS Team @ ESAC Reported by:

Date:

Topic:

FOS Report for week 28, year 2020 from 06 JUL 2020 to 13 JUL 2020

1.0

J. Fauste/J.M. Castro Cerón

1 General Comments

Activities scheduled for this week are those planned for the 28th calendar week of 2020:

```
06 JUL 2020 to 13 JUL 2020 (DoYs 188 to 195).
```

The following routine activities were planned this week (see Gantt chart on next page and CRF 899).

• One Warm NIR Calibration on 08 JUL 2020 (DoY 190) with ETO 04:45:40z (orbit 56134; DESCENDING: thermally STABLE) and with the following expected calibration values:

```
B.T. = 3.57°

R.M.S. = 0.17

Sun elevation = 7.50°

Moon elevation = -39.66°

R.A. = 200.82°

DEC. = 29.16°
```

- One PMS Offset on 09 JUL 2020 (DoY 191), including three Short Calibrations at 07:58:00.0z, 07:58:34.8z, and 07:59:09.6z (orbit 56150).
- Local Oscillator Calibrations every 10 minutes.
- X band Passes over ESAC and Svalbard.

2 Mission Planning Deviations

None.



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SMOS E

Operations Notes

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3 TC Failures

None.

4 On Board Anomalies

• The MIRAS instrument CMN, unit H3, unlocked 2020-07-06T22:54:51,124z (DoY 188). This anomaly was geolocated over Departamento de Ucayali (Perú):

Topic:

Date:

Issue:

 $LAT. = -9.05^{\circ}$ $LONG. = 285.27^{\circ}$

Both parameters, output power SPM13162 and locking status SPM13167, went out of limits in the FOS PLPC system. The anomaly recovered in 3 epochs.

• The MIRAS instrument CMN, unit H1, unlocked 2020-07-07T07:55:21,503z (DoY 189). This anomaly was geolocated over the southern Atlantic Ocean, midway between Brazil and Namibia:

 $LAT. = -26.61^{\circ}$ $LONG. = 335.74^{\circ}$

Both parameters, output power SPM11162 and locking status SPM11167, went out of limits in the FOS PLPC system. The anomaly recovered in 4 epochs.

• The MIRAS instrument CMN, unit H3, unlocked 2020-07-07T20:37:16,032z (DoY 189). This anomaly was geolocated over Estado da Bahia (Brazil):

 $LAT. = -14.22^{\circ}$ $LONG. = 318.87^{\circ}$

Both parameters, output power SPM13162 and locking status SPM13167, went out of limits in the FOS PLPC system. The anomaly recovered in 12 epochs.

• The MIRAS instrument CMN, unit B2, unlocked 2020-07-10T19:09:08,146z (DoY 192). This anomaly was geolocated midway between Antarctica and New Zealand:

 $LAT. = -61.51^{\circ}$ $LONG. = 178.84^{\circ}$

Both parameters, output power SPM18162 and locking status SPM18167, went out of limits in the FOS PLPC system. The anomaly recovered by itself after few seconds.

5 On Board Events Telemetry

The following RAM Single Bit errors befell this week:



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Event Description	Packet ID	Severity	Event Time	Parameters
RAM Single Bit Error	730	WARNING	2020.193.23.07.44,598	21F7048

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:

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 following OOL befell at the time the MIRAS instrument CMN, unit H3, unlocked 2020-07-06T22:54:51,124z (DoY 188):

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2020.189.02.13.50,095	2020.188.22:54:51,124	SPM13162	H3 LO_Out_Power	NOT-OK	OK
2020.189.02.13.50,222	2020.188.22:54:52,324	SPM13167	H3 LO_Locking	UNLOCK	LOCK

The following OOL befell at the time the MIRAS instrument CMN, unit H1, unlocked 2020-07-07T07:55:21,503z (DoY 189):

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2020.189.12.26.58,074	2020.189.07:55:21,503	SPM11162	H1 LO_Out_Power	NOT-OK	OK
2020.189.12.26.58,074	2020.189.07:55:21,503	SPM11167	H1 LO_Locking	UNLOCK	LOCK

The following OOL befell at the time the MIRAS instrument CMN, unit H3, unlocked 2020-07-07T20:37:16,032z (DoY 189):

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2020.190.00.01.31,629	2020.189.20:37:16,032	SPM13162	H3 LO_Out_Power	NOT-OK	OK
2020.190.00.01.31,855	2020.189.20:37:20,822	SPM13167	H3 LO_Locking	UNLOCK	LOCK

The following OOL befell at the time the MIRAS instrument CMN, unit H3, unlocked 2020-07-10T19:09:08,146z (DoY 192):



FOS Team @ ESAC

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GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2020.192.20.33.04,526	2020.192.19:09:08,146	SPM18162	B2 LO_Out_Power	NOT-OK	OK
2020.192.20.33.04,859	2020.192.19:09:14,146	SPM18167	B2 LO_Locking	UNLOCK	LOCK

Topic:

Date: