



Operations Notes

FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic:

Date:

Issue:

FOS Report for week 18, year 2019

from 29 APR 2019 to 06 MAY 2019

1.0

1 General Comments

Activities scheduled for this week are those planned for the 18th calendar week of 2019:

29 APR 2019 to 06 MAY 2019 (DoYs 119 to 126).

The following routine activities were planned this week (see Gantt chart on next page and CRF 808).

- One PMS Offset on 02 MAY 2019 (DoY 122), including three Short Calibrations at 06:11:30.0z, 06:12:04.8z, and 06:12:39.6z (orbit 49904).
- Local Oscillator Calibrations every 10 minutes.
- X band Passes over ESAC and Svalbard.

2 Mission Planning Deviations

Because of the CCU reset of 02 MAY 2019, and the unavailability of the auto-downlink function, the following X band GS passes were not acquired:

Station	AoS	LoS	Duration
Xband_SVAL	2019-05-02T03:35:20	2019-05-02T03:45:38	617
Xband_ESAC	2019-05-02T05:06:52	2019-05-02T05:14:24	451
Xband_ESAC	2019-05-02T06:46:32	2019-05-02T06:52:41	368
Xband_SVAL	2019-05-02T08:39:02	2019-05-02T08:44:38	335
Xband_SVAL	2019-05-02T10:21:31	2019-05-02T10:25:11	220

Further, the PMS OffSet calibration scheduled on 2019-05-02T06:11:30 was not executed (see Sect. 4).



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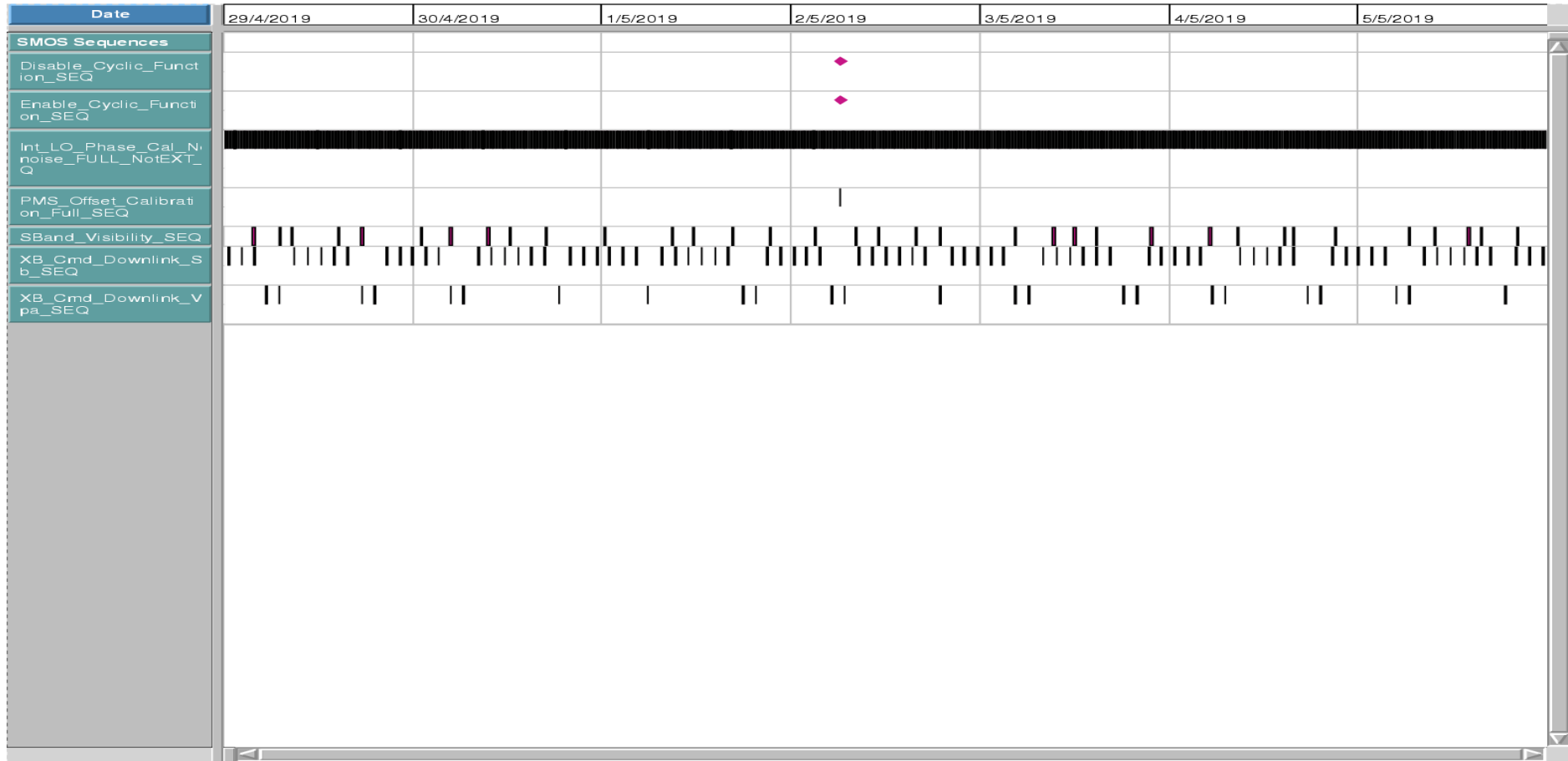
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Schedule Name: 2019_w18_cr ### Display start: 29-04-2019 00:00:00.000 ### Display end: 06-05-2019 00:00:00.000





3 TC Failures

None.

4 On Board Anomalies

- The MIRAS instrument CMN, unit H3, unlocked on 2019-05-01T20:56:04,454z (DoY 121). This anomaly was geolocated over the Republic of Saja (Russia):

LAT. = 62.43°

LONG. = 119.89°

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 CCU reset on 2019-04-02T01:59:17,842z (DoY 122). The reset was detected by the CNES on-call team upon reception of S band pass HBX-2 with AoS at 03:05:56z. CNES triggered the FOS hotline at 05:13z.

The reset befell at the end of Svalbard X band GS pass with AoS 01:55:40z (transponder ON). Said GS pass was scheduled for a duration of 627 seconds. The reset occurred 217 seconds after AoS, and before the switch off of the X band antenna, scheduled for 2019-05-02T02:06:25z. The last TM packet received before the reset was time stamped at 2019-05-02T01:59:17,032z. As detailed on the instrument Boot Report TM packet, the reset was triggered by the standard Task Overrun error (Boot Report).

A suitable re-planning for this CCU reset had been prepared in advance by FOS as part of week 19 activities (i.e. 02 MAY 2019 was a public holiday; CRF 809). The execution of the recovery procedure, PRO-CRP-100, and uploading of the re-planning, was performed during S band GS passes KUX-3 (AoS = 2019-05-02T08:15z) and KER-3 (AoS = 2019-05-02T 10:58z) . Nominal MIRAS X band GS dumps resumed on 2019-05-02T12:02:40z.

Because of this reset, 231 seconds of science data were lost (from 2019-05-02T01:56:04z to 2019-05-02T01:59:55z), and several X band GS passes were not acquired (see Sect. 2). Further, the PMS OffSet calibration scheduled on 2019-05-02T06:11:30 was not executed (see Sect. 2).

The sequence of events leading to/following the CCU reset was as follows:

2019.122.01.55.40	725	NORM	XBand Powered On
2019.122.01.56.04	695	NORM	MM Full Dump Star
2019.122.01.59.16	689	ALARM	MM_Error_Counters_Acquisition_Failure
2019.122.01.59.16	690	ALARM	MM_Scrub_Frequency_Acquisition_Failure
2019.122.01.59.17	682	NORM	MM Dump Ended



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2019.122.01.59.17	692	ALARM	MM_Science_Write_Failure (3 packets)
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No alarms were issued prior to the reset. See Appendix A for a list of OOLs displayed in the FOS PLPC system immediately after the reset.

The values of the READ and WRITE pointers at the time of the reset were:

Read = 579308, *MM Partition P1*

Write = 838651, *MM Partition P1*

The anomaly was geolocated due north of the Scandinavian Peninsula, over the Barents Sea:

LAT. = 72.62°

LONG. = 32.34°

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	WARNING	2019.122.01.59.51,401	2116CEC

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.

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 befall at the time the MIRAS instrument CMN, unit H3, unlocked 2019-05-01T20:56:04,454z (DoY 121):

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2019.121.22.42.09,347	2019.121.20.56.04,454	SPM13162	H3 LO_Out_Power	NOT-OK	OK
2019.121.22.42.09,564	2019.121.20.56.09,255	SPM13167	H3 LO_Locking	UNLOCK	LOCK

The following OOLs befall at the time the MIRAS instrument CCU reset on 2019-05-02T01:59:17,842z (DOY 122):

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2019.122.04.25.20,798	2019.122.01.59.50,901	XNIRABST	NIR AB VALID ST	NOT-OK	OK
2019.122.04.25.20,798	2019.122.01.59.50,901	XNIRBCST	NIR BC VALID ST	NOT-OK	OK
2019.122.04.25.20,798	2019.122.01.59.50,901	XNIRCAST	NIR CA VALID ST	NOT-OK	OK
2019.122.04.25.20,798	2019.122.01.59.50,901	SPC02106	Instrument_Mode	Inst Init	Any Mode
2019.122.04.25.20,798	2019.122.01.59.50,901	SPM11167	H1 LO_Locking	UNLOCK	LOCK
2019.122.04.25.20,798	2019.122.01.59.50,901	SPM12172	H2 LO_locking	UNLOCK	LOCK
2019.122.04.25.20,798	2019.122.01.59.50,901	SPM13167	H3 LO_Locking	UNLOCK	LOCK
2019.122.04.25.20,798	2019.122.01.59.50,901	SPM14167	A1 LO_Locking	UNLOCK	LOCK
2019.122.04.25.20,798	2019.122.01.59.50,901	SPM15167	A2 LO_Locking	UNLOCK	LOCK
2019.122.04.25.20,798	2019.122.01.59.50,901	SPM16167	A3 LO_Locking	UNLOCK	LOCK
2019.122.04.25.20,798	2019.122.01.59.50,901	SPM17167	B1 LO_Locking	UNLOCK	LOCK
2019.122.04.25.20,798	2019.122.01.59.50,901	SPM18167	B2 LO_Locking	UNLOCK	LOCK



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2019.122.04.25.20,798	2019.122.01.59.50,901	SPM19167	B3 LO_Locking	UNLOCK	LOCK
2019.122.04.25.20,798	2019.122.01.59.50,901	SPM20167	C1 LO_Locking	UNLOCK	LOCK
2019.122.04.25.20,798	2019.122.01.59.50,901	SPM21167	C2 LO_Locking	UNLOCK	LOCK
2019.122.04.25.20,798	2019.122.01.59.50,901	SPM22167	C3 LO_Locking	UNLOCK	LOCK
2019.122.04.25.20,798	2019.122.01.59.50,901	NTLHK022	ITL Ena State	Disabled	Enabled