



Operations Notes

FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic:

Date:

Issue:

FOS Report for week 1, year 2020

from 23 DEC 2019 to 06 JAN 2020

1.0

1 General Comments

Activities scheduled for this week are those planned for the 52nd calendar week of 2019:

30 DEC 2019 to 06 JAN 2020 (DoYs 365/2019 to 006/2020).

Mission Planning for this week was calculated together with that of week 52, year 2019. The current report contains only the events that occurred during week 01, 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 858).

- One Warm NIR Calibration on 01 JAN 2020 (DoY 1) with ETO 04:15:53z (orbit 53414; DESCENDING: thermally UNSTABLE) and with the following expected calibration values:

B.T.	=	3.65°
R.M.S.	=	0.05
Sun elevation	=	9.99°
Moon elevation	=	71.10°
R.A.	=	6.93°
DEC.	=	-18.78°
- One PMS Offset on 02 JAN 2020 (DoY 002), including three Short Calibrations at 05:35:00.0z, 05:35:34.8z, and 05:36:09.6z (orbit 53429).
- Local Oscillator Calibrations every 10 minutes.
- X band Passes over ESAC and Svalbard.

2 Mission Planning Deviations

None.



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3 TC Failures

None.

4 On Board Anomalies

- The MIRAS instrument MM, partition P11, latched up 2020-01-01T07:02:35,992z (DoY 001). The following parameters went out of limits in the PLPC system:

```
2020.001.07.02.35,992z    DMASME01    LU Switch P11
2020.001.07.02.35,992z    DMASME37    SDD LU Detected
```

This anomaly was geolocated over western Greenland:

```
LAT.    = 75.19°
LONG.    = 310.77°
```

There were no science data losses associated with this anomaly because it affected partition P11 (i.e. a spare partition), while the Read and Write pointers were both on partition P4.

Recovery took place 02 JAN 2020, at 14:00:00z (CRF 860).

At the time of the anomaly the position of the MM pointers were as follows:

```
READ      = 2133242    (partition P4)
WRITE     = 2167170    (partition P4)
```

- A MM double bit error impacted partition P2 2020-01-04T20:57:24,964z (DoY 004). The following parameters went out of limits in the PLPC system:

```
2020.004.20.57.24,964z    DMASME41    DB Err In P2
```

This anomaly was geolocated over the Ellsworth Land (Antarctica):

```
LAT.    = -78.26°
LONG.    = 270.70°
```

At the time of the anomaly, the position of the MM pointers were as follows:

```
READ      = 3127395    (partition P7)
WRITE     = 3255004    (partition P7)
```

There were no science data losses associated with this anomaly because it affected P2 while both, Read and Write, pointers were on P7 (i.e. the data in the affected partition had already been downloaded to ground during an earlier X band GS pass and not yet rewritten).

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	2019.364.20.56.13,561	23405EC
RAM Single Bit Error	730	WARNING	2019.365.10.11.47,680	22909F4



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RAM Single Bit Error	730	WARNING	2020.002.12.46.14,855	22BE350
RAM Single Bit Error	730	WARNING	2020.004.00.10.59,446	23B08DC

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:

- | STATION | PASS | AoS | LoS |
|---------|------|-------------------|-------------------|
| KRX | 02 | 2020.005.14.30.44 | 2020.005.14.41.40 |

contained the following gaps because of a software issue:

PUS HKTM

from 2020-01-05T11:01:57,992z to 2020-01-05T11:57:26,858z.

E HKTM

from 2020-01-05T11:01:40 z to 2020-01-05T12:04:36 z.

Gap data were recovered by CNES and delivered 07 JAN 2020 to FOS, then manually ingested into MUST. The TCO server was cold restarted. PXMF was not used.

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 OOLs befell at the time the MIRAS instrument MM, partition P11, latched up 2020-01-01T07:02:35,992z (DoY 001):

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOl Value	Check Value
2020.001.10.25.43,426	2020.001.07.02.35,992	DMASME01	LU Switch P11	OFF	ON
2020.001.10.25.43,426	2020.001.07.02.35,992	DMASME37	SDD LU Detected	FALSE	TRUE

The following OOLs befell at the time the MIRAS instrument MM, partition P2, was impacted by a double bit error 2020-01-04T20:57:24,964z (DoY 004):

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOl Value	Check Value
2020.005.01.32.29,742	2020.004.20.57.24,964	DMASME41	DB Err In P2	FALSE	TRUE