

IASI L0 and L1 Daily Monitoring Report **Metop-B**

IASI monitoring team

31/07/2026 00:00:00 - 01/08/2026 00:00:00

1 Introduction

This report provides summary monitoring plots and figures from IASI instrument on the Metop-B satellite retrieved from the IASI L0 and L1 ENG product (3 minutes data packet) for 31/07/2026 00:00:00 - 01/08/2026 00:00:00 .

The monitoring data are extracted on PDU basis.

2 Data quantity 31/07/2026 00:00:00 - 01/08/2026 00:00:00

Product Type	Number	Action
L0 HKTM PDUs	464	-
L0 IASI PDUs	465	-
L1 ENG PDUs	465	-
L1 ENG distinct GEPSGranule	458	a
L1 DPX PDUs (RM: IASI-HIRS)	0	e
L1 DPS Files (RM: OBS-CAL NWP based)	465	-

Table 1: Data quantity

APID	Seq from	Seq to	Time from	Time to
PX1 (130)	12738	13099	20260731055934.585	20260731060112.311
PX1 (130)	15593	10860	20260731072506.006	20260731081652.407
PX1 (130)	8234	8247	20260731152206.068	20260731152210.393
PX1 (130)	8296	8316	20260731152222.498	20260731152228.338
PX1 (130)	8316	8327	20260731152228.338	20260731152232.229
PX2 (135)	12738	13099	20260731055934.585	20260731060112.311
PX2 (135)	15593	10859	20260731072506.006	20260731081652.192
PX2 (135)	8234	8246	20260731152206.068	20260731152210.174
PX2 (135)	8296	8327	20260731152222.498	20260731152232.229
PX3 (140)	12738	13099	20260731055934.585	20260731060112.311
PX3 (140)	15592	10859	20260731072505.791	20260731081652.192
PX3 (140)	8234	8246	20260731152206.068	20260731152210.174
PX3 (140)	8296	8315	20260731152222.498	20260731152228.123
PX3 (140)	8315	8327	20260731152228.123	20260731152232.229
PX4 (145)	12738	13099	20260731055934.585	20260731060112.311
PX4 (145)	15592	10859	20260731072505.791	20260731081652.192
PX4 (145)	8234	8246	20260731152206.068	20260731152210.174
PX4 (145)	8296	8315	20260731152222.498	20260731152228.123
PX4 (145)	8315	8327	20260731152228.123	20260731152232.229

Continued on next page

Table 2 – continued from previous page

APID	Seq from	Seq to	Time from	Time to
IMG (150)	10350	10759	20260731055934.585	20260731060111.014
IMG (150)	15772	12591	20260731072505.791	20260731081652.192
IMG (150)	6337	6354	20260731152205.850	20260731152210.174
IMG (150)	6408	6431	20260731152222.498	20260731152228.123
IMG (150)	6431	6443	20260731152228.123	20260731152230.932
VER (160)	9314	9379	20260731055926.585	20260731055934.585
VER (160)	12524	14465	20260731072502.549	20260731081654.567
VER (160)	14025	14031	20260731152158.498	20260731152214.498
VER (160)	14036	14044	20260731152222.498	20260731152228.338
AUX (180)	11690	11703	20260731055927.018	20260731060111.014
AUX (180)	12332	12721	20260731072502.982	20260731081655.001
AUX (180)	15909	15911	20260731152158.932	20260731152214.932
AUX (180)	15911	15913	20260731152214.932	20260731152230.932

Table 2: L0 data gaps

3 Instrument modes

Time	Transition from	Transition to
31/07/2026 00:00:13	-	Normal operation

Table 3: Instrument modes

4 L0 and L1 Data Quality

Flag	Value	Action
L0 IASI PDUs	465	-
L1 ENG PDUs	465	-
L1 ENG distinct GEPSGranule	458	a
GQisFlagQual set (PX1)	99.59 %	-
GQisFlagQual set (PX2)	99.69 %	-
GQisFlagQual set (PX3)	99.71 %	-
GQisFlagQual set (PX4)	99.59 %	-
GQisFlagQual set (all)	99.65 %	-

Table 4: Quality flags

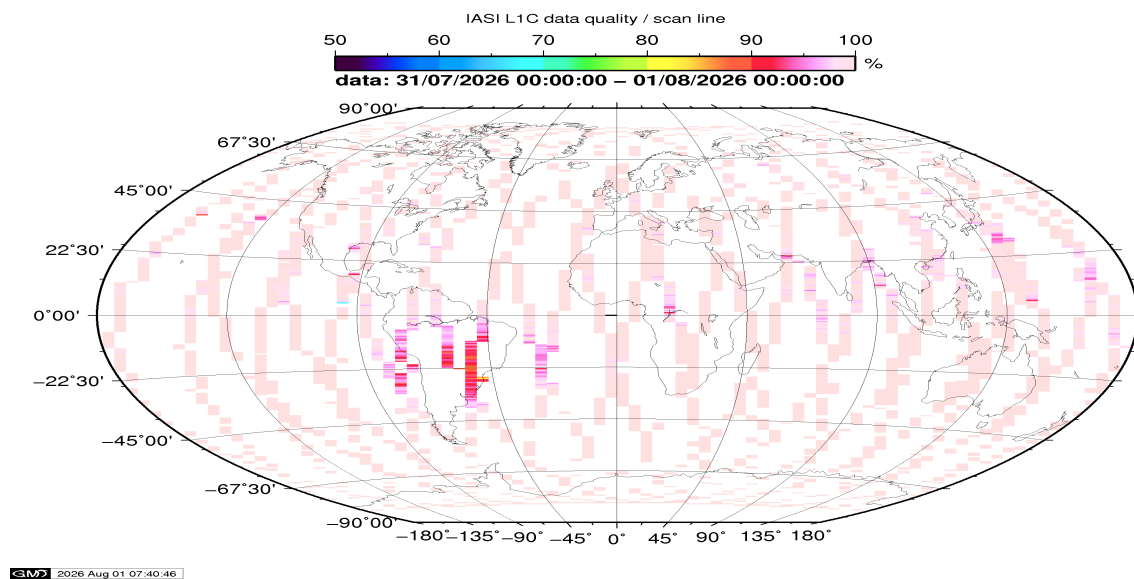


Figure 1: L1C data quality

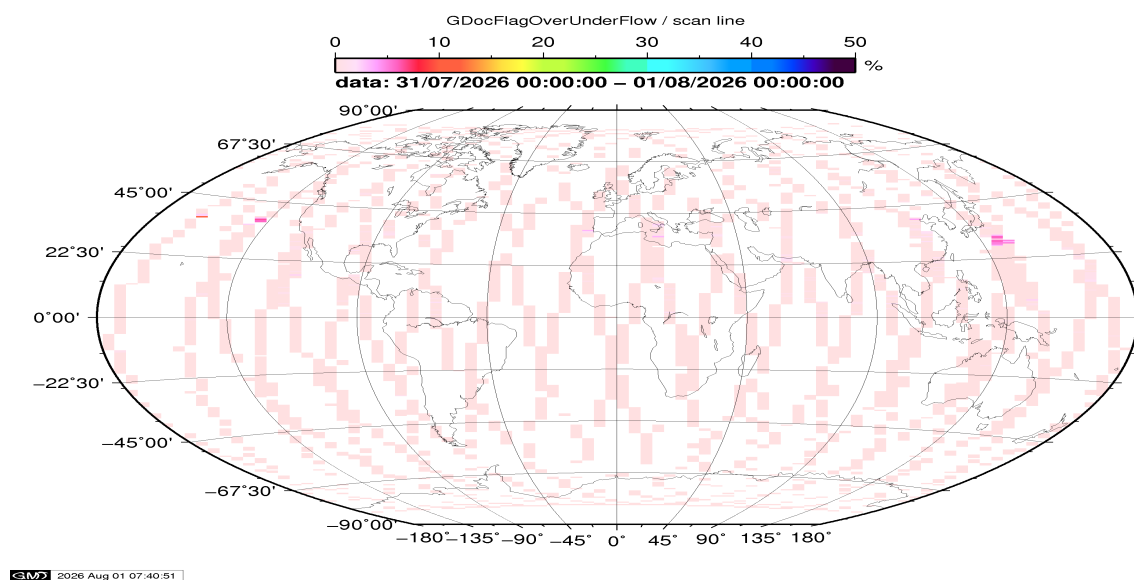


Figure 2: Flag of Over and Under Flows

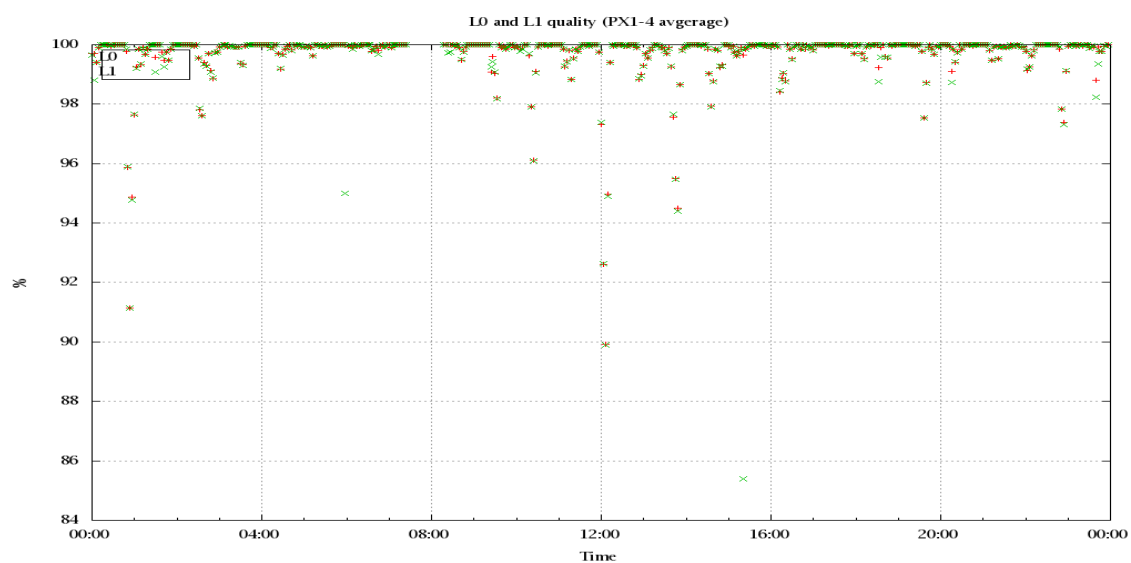


Figure 3: Level 0 and 1C overall quality

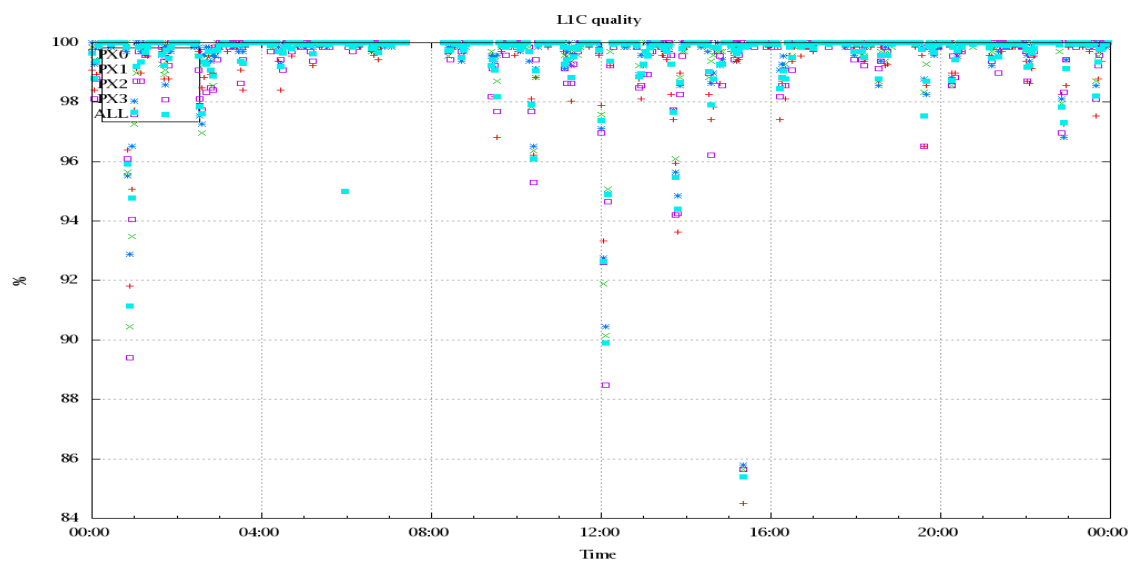


Figure 4: Level 1C quality

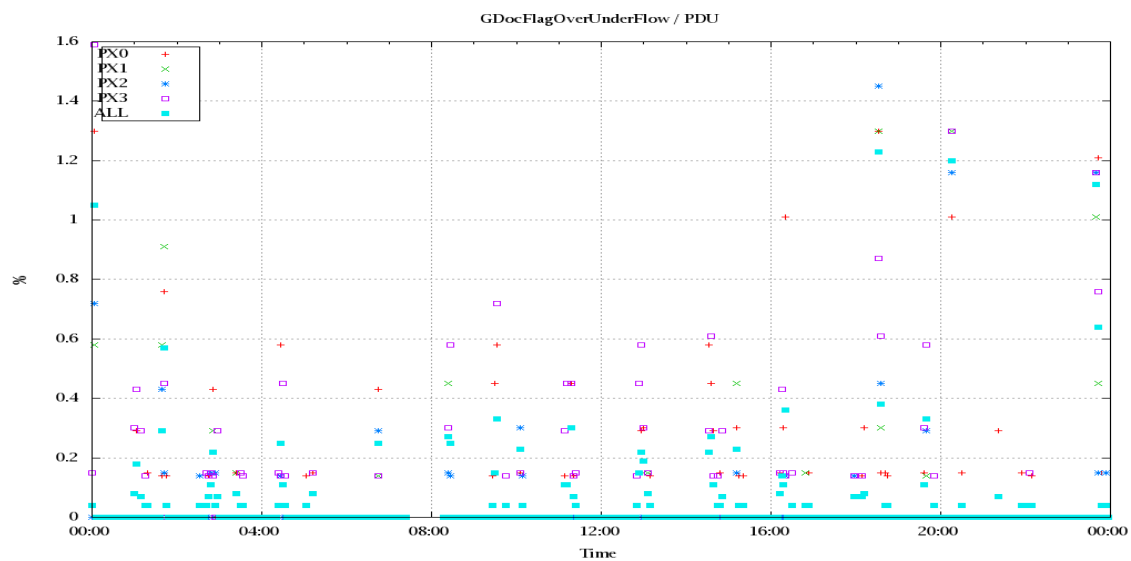


Figure 5: Timeseries of flag of Over and Under Flows

5 Radiance monitoring based on NWP

The radiance monitoring compares the IASI measurements (L1C-eps-products) obtained under clear sky situation over sea with modeled radiances. Cloud identification is based on cloud flag of co-located AVHRR L1B data in addition to information from the IASI L1C clustering analysis here only homogenous situations are taken into account (99.0 percent in first class).

A radiative transfer model (RTM) is feed with co-located ECMWF profiles of T, water vapor and Ozone. Between March 2007 and the 18th of May 2010 RTIASI in Version 4.0 is used. After that date the RTTOV model in V9.3 is used.

Information about the SST is obtained from the AVHRR L1B or taken from AVHRR scenes analysis (CGS only). In the following figures 28 to 34, the so-called radiance anomaly is shown. The radiance anomaly is defined as the difference between the quarter daily radiance average OBS-CAL (over all pixels and scan positions 10 to 20) and the average bias OBS-CAL (over all pixels and scan positions 10 to 20) of the last 30 days.

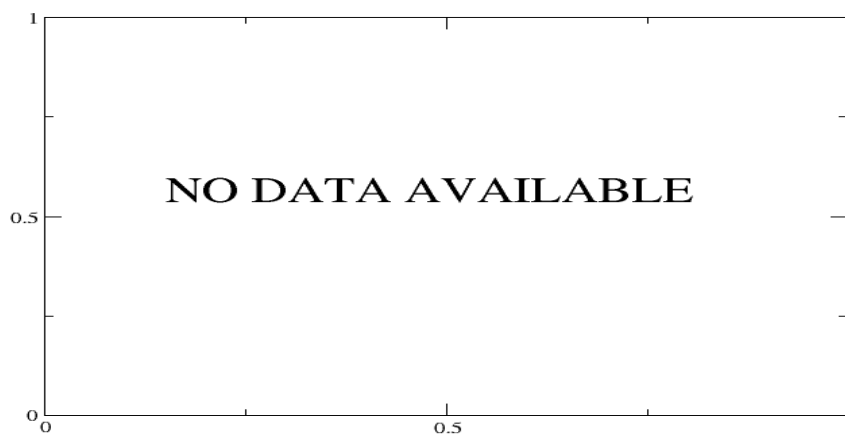


Figure 6: Average Radiance differences: OBS-CAL

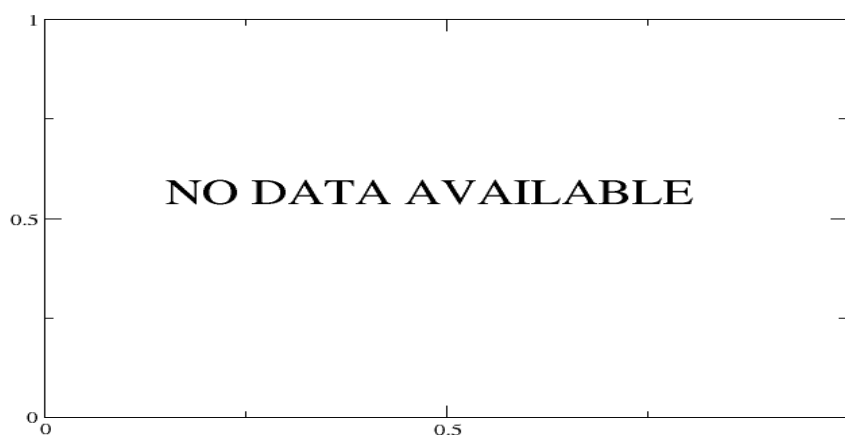


Figure 7: Standard Deviation of Radiance differences



Figure 8: Average Radiance differences: OBS-CAL



Figure 9: Standard Deviation of Radiance differences



Figure 10: Radiance Anomaly in BT: All Channels



Figure 11: Radiance Anomaly in BT: IASI Band 1



Figure 12: Radiance Anomaly in BT: IASI Band 2



Figure 13: Radiance Anomaly in BT: IASI Band 3

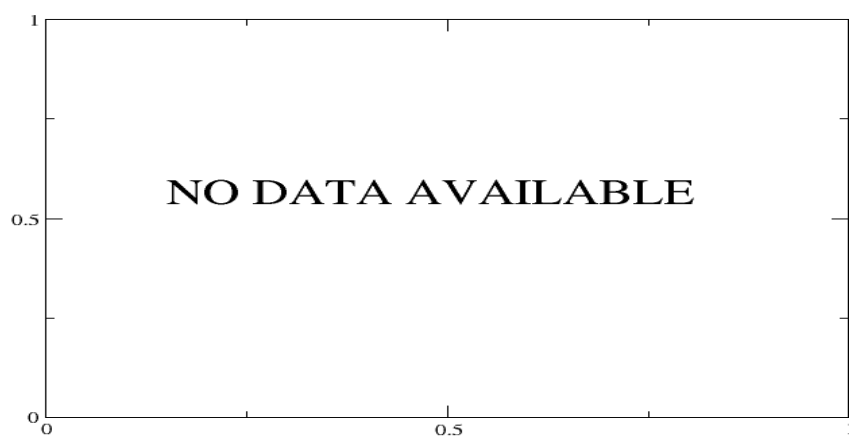


Figure 14: Radiance Anomaly in BT: CO2 14



Figure 15: Radiance Anomaly in BT: CO2 4.3



Figure 16: Radiance Anomaly in BT: O3

6 IASI-HIRS radiance comparison Channel 1-19

The radiance comparison of IASI and HIRS/4 on-board Metop is performed on all pixels with distances smaller than 3 km between IASI and HIRS. All sky conditions are covered. The radiance differences IASI - HIRS are given in brightness temperatures at 280K reference NeDT. All conditions (clear, cloudy, day and night) are given in red in the following figures. The clear sky conditions at night are given in green and the clear sky cases during daylight are displayed in blue.

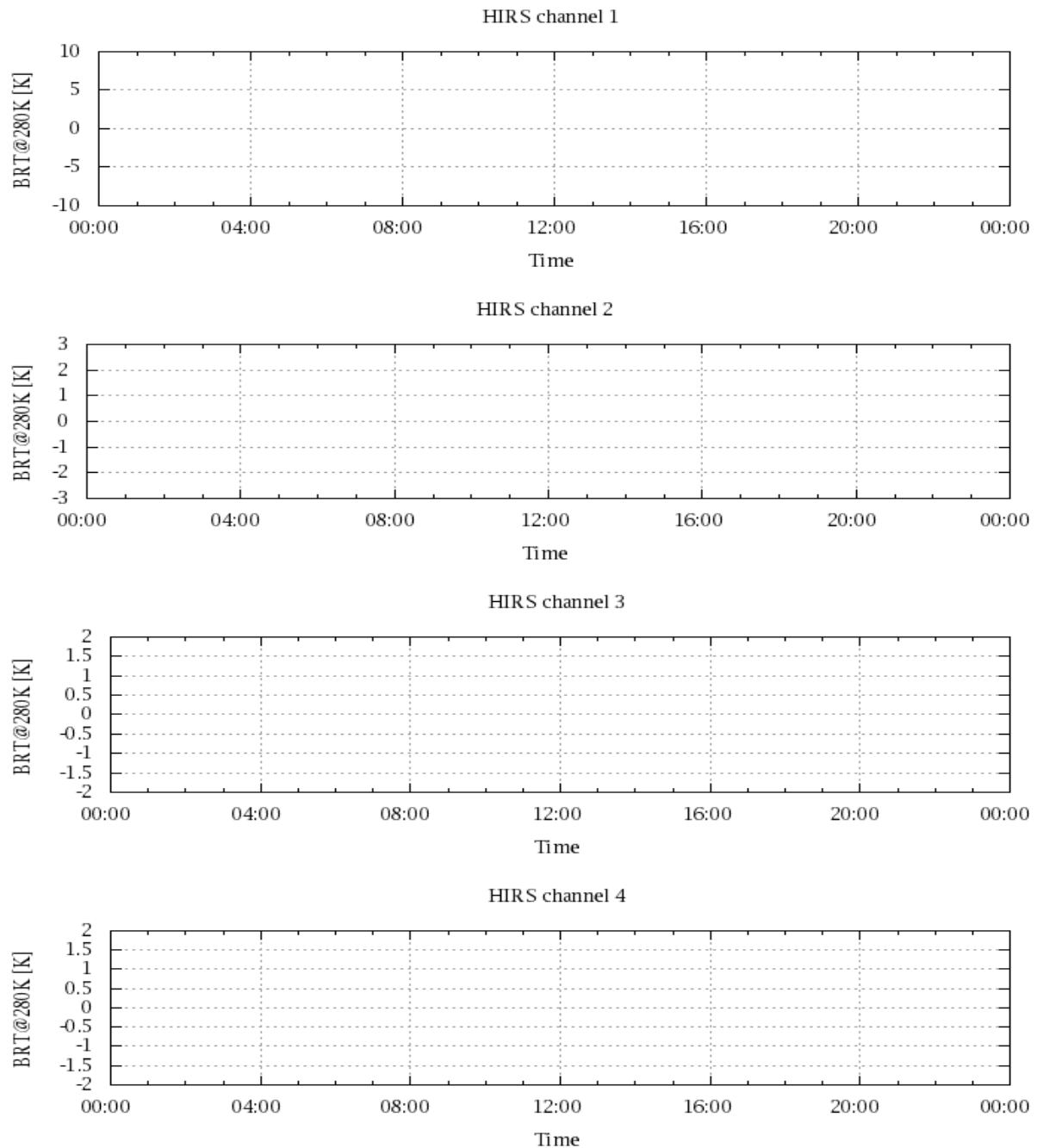


Figure 17: Radiance Differences in BT



Figure 18: Radiance Differences in BT



Figure 19: Radiance Differences in BT



Figure 20: Radiance Differences in BT



Figure 21: Radinace Differences in BT