

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

IASI monitoring team

19/01/2026 00:00:00 - 20/01/2026 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 19/01/2026 00:00:00 - 20/01/2026 00:00:00 .

The monitoring data are extracted on PDU basis.

## 2 Data quantity 19/01/2026 00:00:00 - 20/01/2026 00:00:00

Product Type	Number	Action
L0 HKTМ PDUs	481	-
L0 IASI PDUs	481	-
L1 ENG PDUs	479	-
L1 ENG distinct GEPSGranule	478	-
<b>L1 DPX PDUs (RM: IASI-HIRS)</b>	<b>0</b>	<b>e</b>
L1 DPS Files (RM: OBS-CAL NWP based)	479	-

Table 1: Data quantity

APID	Seq from	Seq to	Time from	Time to
PX1 (130)	1131	1163	20260119182753.145	20260119182803.091
PX1 (130)	1249	1375	20260119182824.712	20260119182859.559
PX1 (130)	1416	1428	20260119182909.938	20260119182912.532
PX2 (135)	1131	1162	20260119182753.145	20260119182802.876
PX2 (135)	1249	1374	20260119182824.712	20260119182859.344
PX2 (135)	1375	1377	20260119182859.559	20260119182859.993
PX2 (135)	1415	1428	20260119182909.723	20260119182912.532
PX3 (140)	1131	1162	20260119182753.145	20260119182802.876
PX3 (140)	1249	1375	20260119182824.712	20260119182859.559
PX3 (140)	1375	1377	20260119182859.559	20260119182859.993
PX3 (140)	1415	1428	20260119182909.723	20260119182912.532
PX4 (145)	1131	1162	20260119182753.145	20260119182802.876
PX4 (145)	1250	1375	20260119182824.926	20260119182859.559
PX4 (145)	1414	1427	20260119182909.505	20260119182912.317
IMG (150)	16167	16202	20260119182753.145	20260119182801.579
IMG (150)	16202	16206	20260119182801.579	20260119182802.876
IMG (150)	16301	16303	20260119182824.712	20260119182825.145
IMG (150)	16303	61	20260119182825.145	20260119182859.126
IMG (150)	61	63	20260119182859.126	20260119182859.559

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**Table 2 – continued from previous page**

<b>APID</b>	<b>Seq from</b>	<b>Seq to</b>	<b>Time from</b>	<b>Time to</b>
IMG (150)	107	119	20260119182909.723	20260119182912.317
VER (160)	6514	6523	20260119182753.145	20260119182809.145
VER (160)	6532	6558	20260119182817.145	20260119182905.180
AUX (180)	7858	7864	20260119182817.575	20260119182905.614

Table 2: L0 data gaps

### 3 Instrument modes

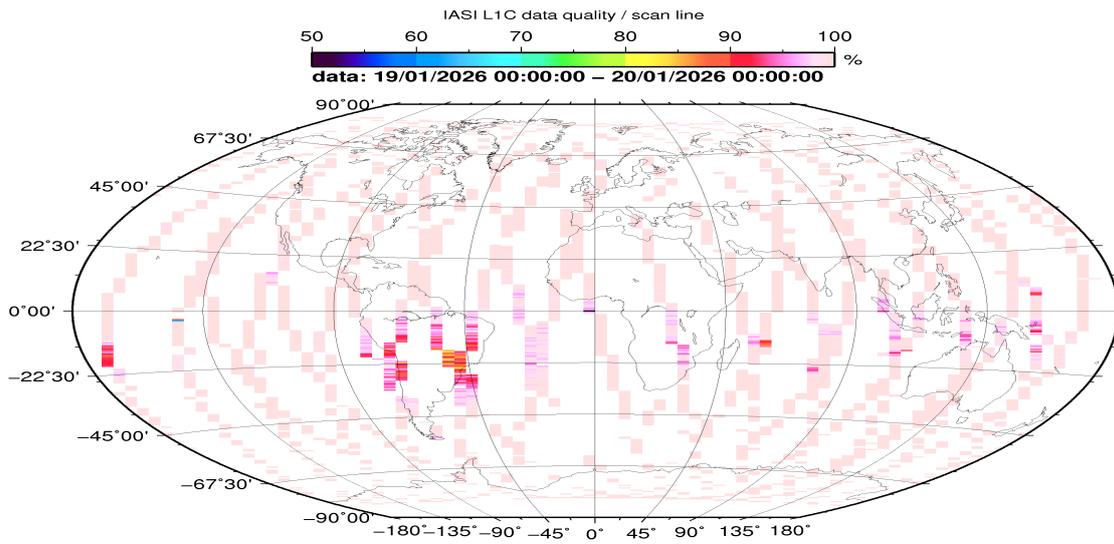
Time	Transition from	Transition to
19/01/2026 00:00:07	-	Normal operation
19/01/2026 05:27:35	Normal operation	Auxiliary ASE synchronised
19/01/2026 05:29:43	Auxiliary ASE synchronised	External calibration
19/01/2026 09:23:35	External calibration	Auxiliary ASE synchronised

Table 3: Instrument modes

### 4 L0 and L1 Data Quality

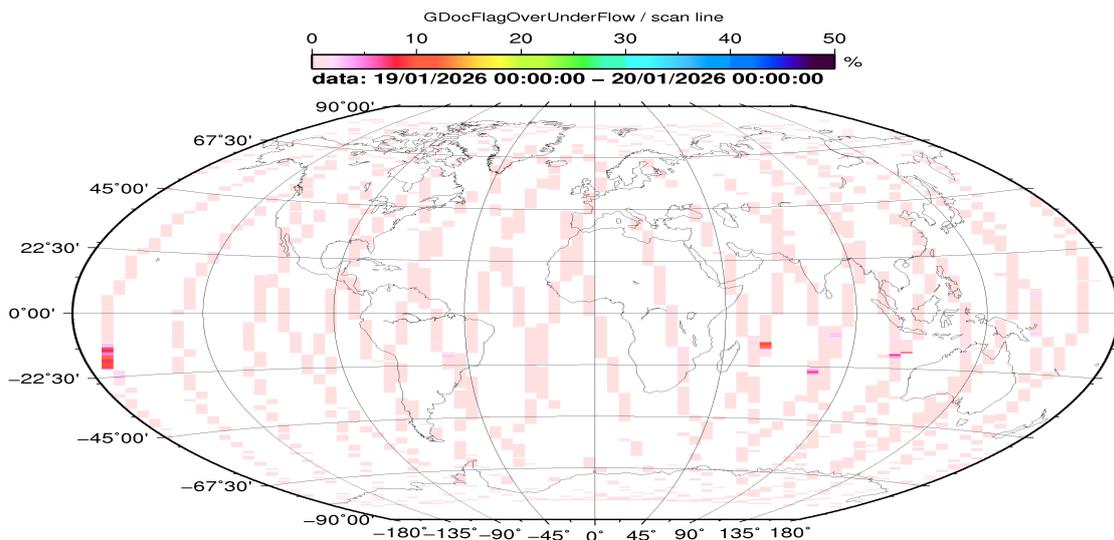
Flag	Value	Action
L0 IASI PDUs	481	-
L1 ENG PDUs	479	-
L1 ENG distinct GEPSGranule	478	-
GQisFlagQual set (PX1)	99.64 %	-
GQisFlagQual set (PX2)	99.71 %	-
GQisFlagQual set (PX3)	99.72 %	-
GQisFlagQual set (PX4)	99.66 %	-
GQisFlagQual set (all)	99.68 %	-

Table 4: Quality flags



CM 2026 Jan 20 07:40:31

Figure 1: L1C data quality



CM 2026 Jan 20 07:40:35

Figure 2: Flag of Over and Under Flows

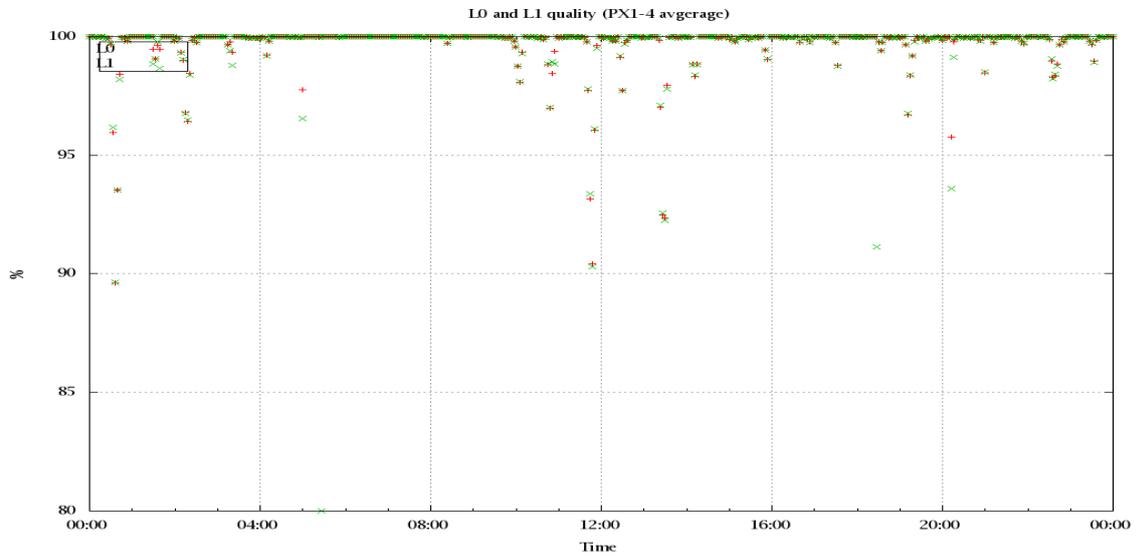


Figure 3: Level 0 and 1C overall quality

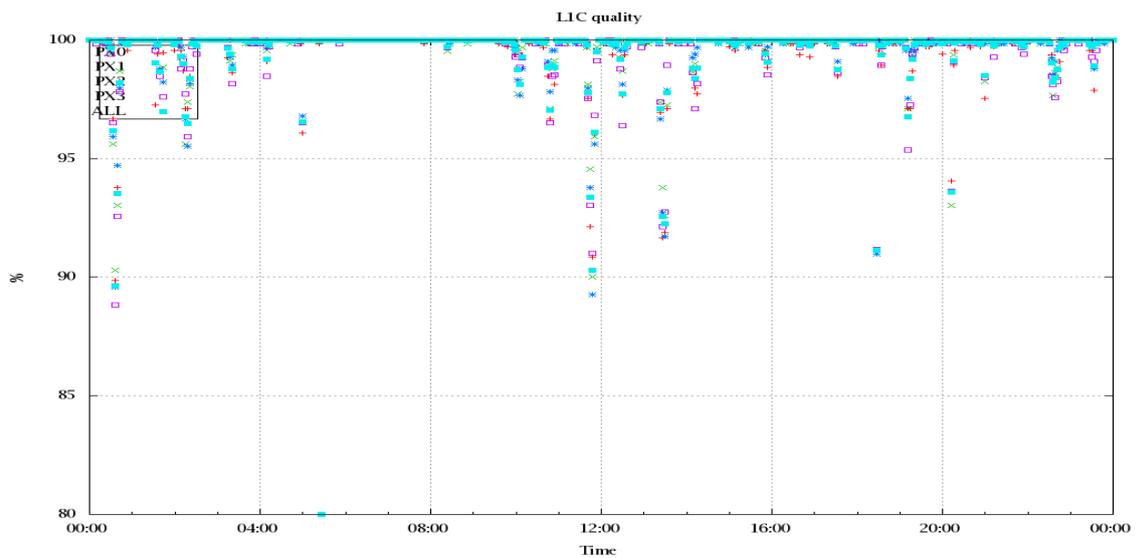


Figure 4: Level 1C quality

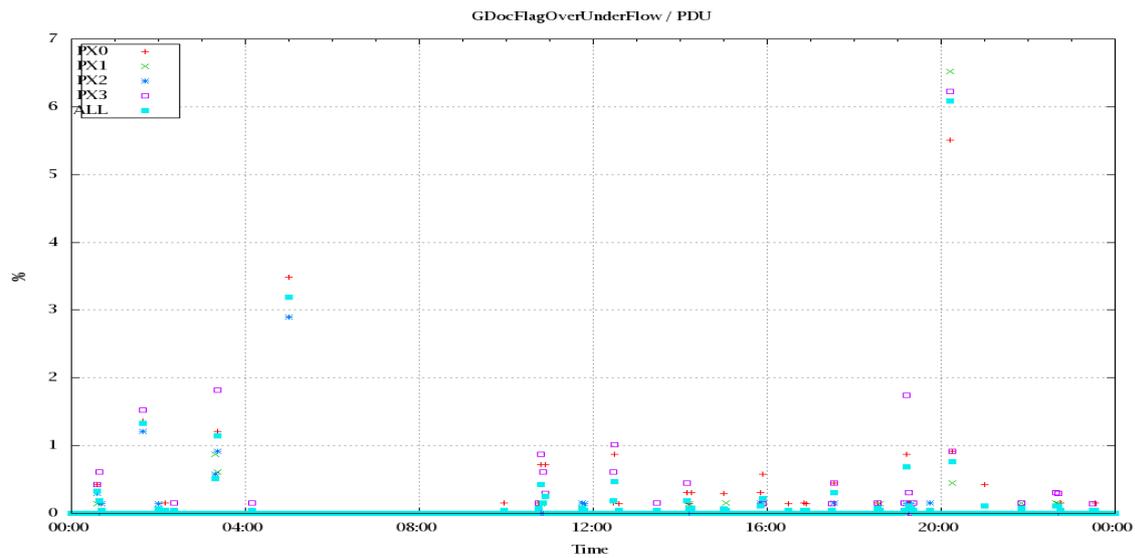


Figure 5: Timeseries of flag of Over and Under Flows

## 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.

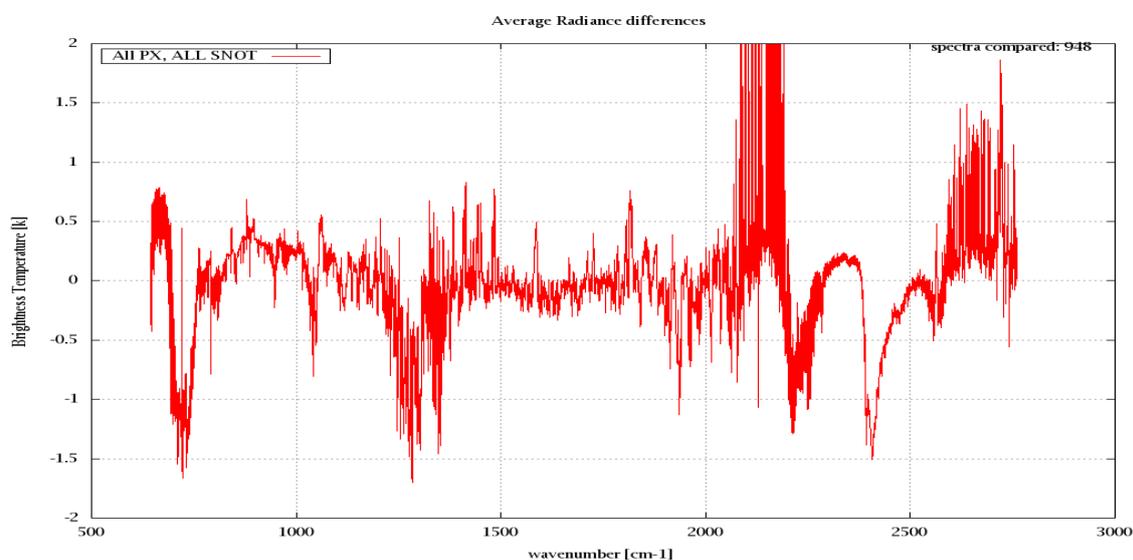


Figure 6: Average Radiance differences: OBS-CAL

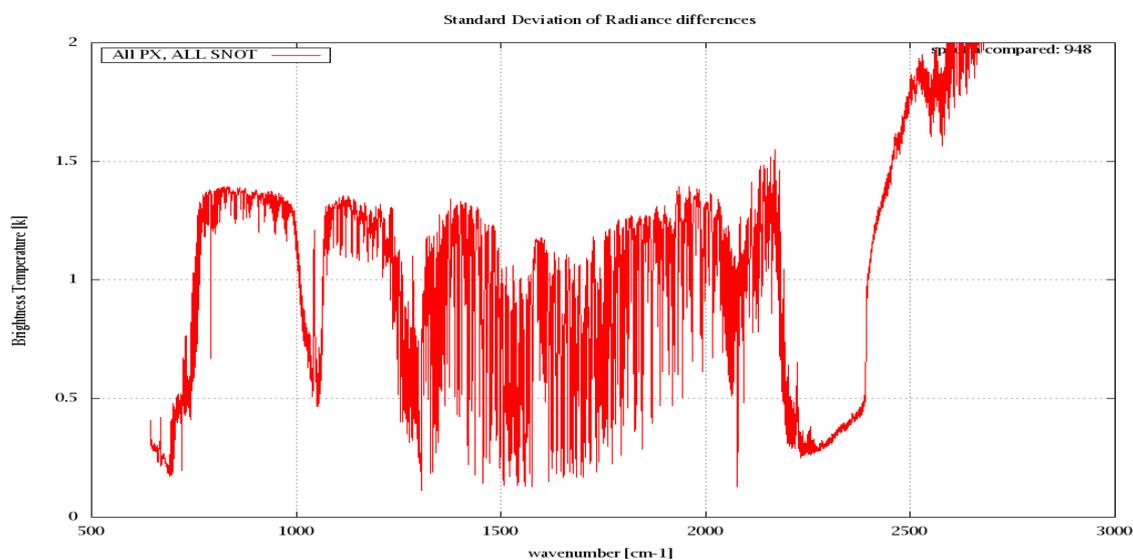


Figure 7: Standard Deviation of Radiance differences

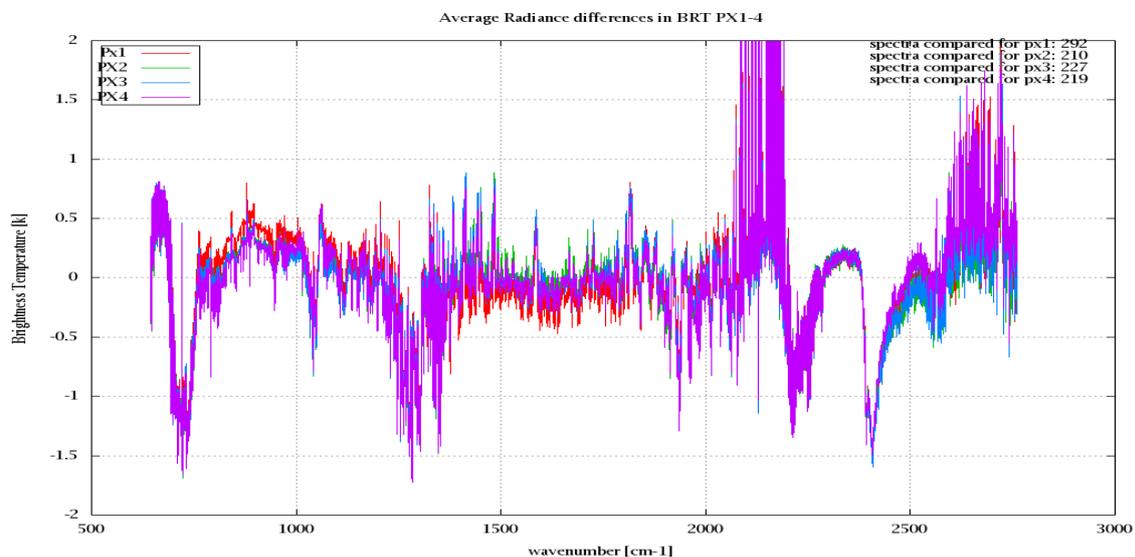


Figure 8: Average Radiance differences: OBS-CAL

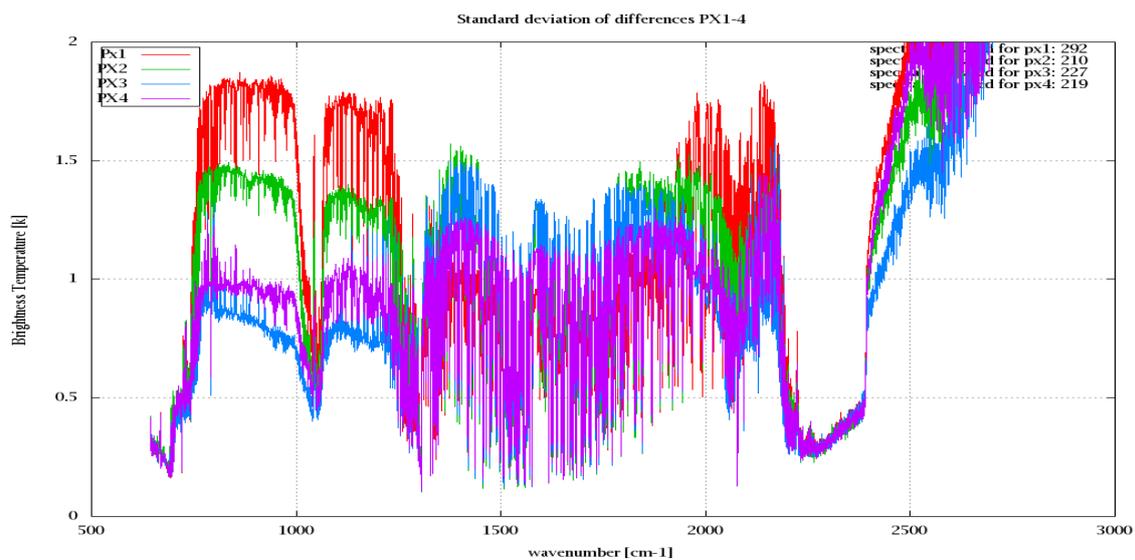


Figure 9: Standard Deviation of Radiance differences

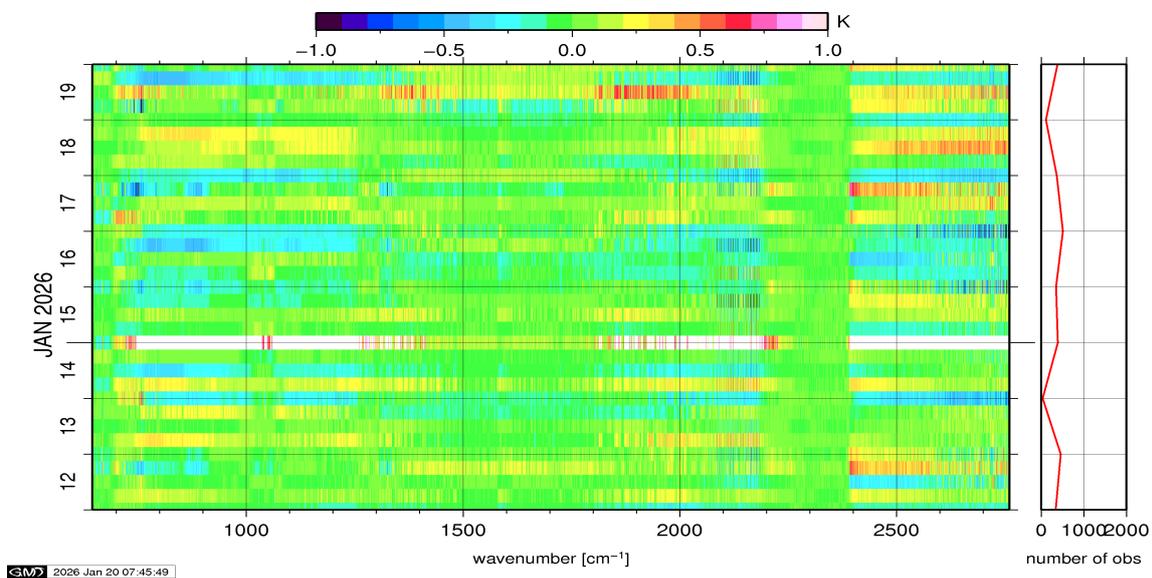


Figure 10: Radiance Anomaly in BT: All Channels

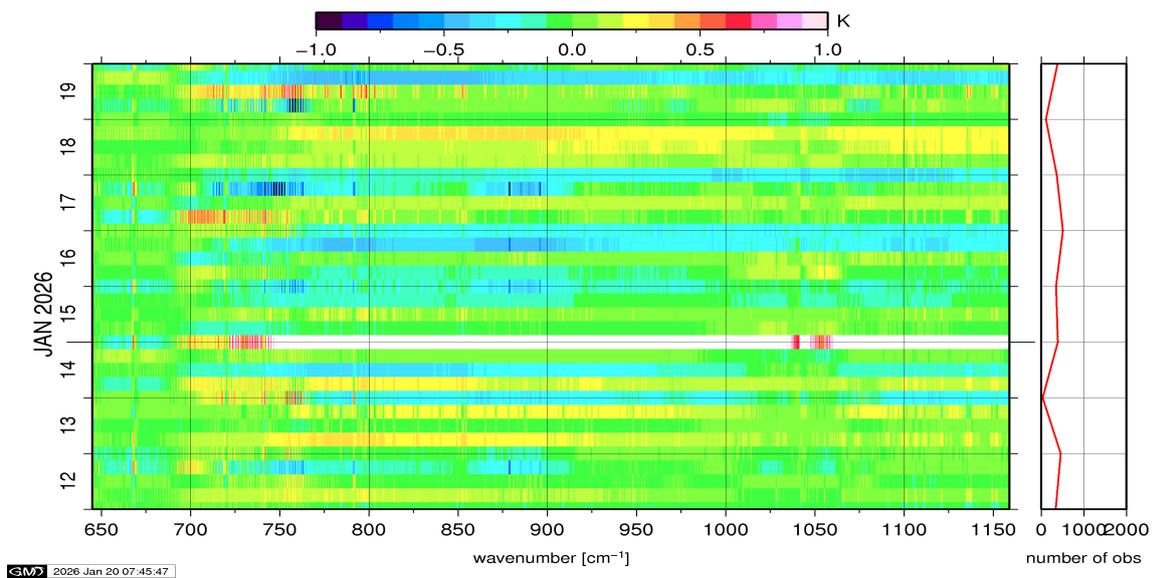


Figure 11: Radiance Anomaly in BT: IASI Band 1

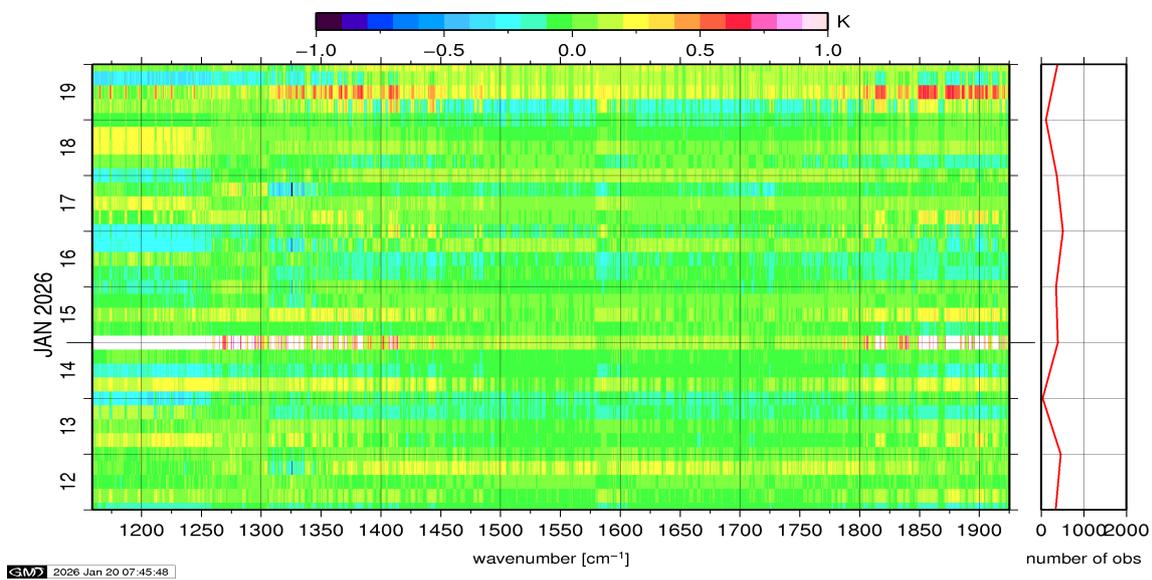


Figure 12: Radiance Anomaly in BT: IASI Band 2

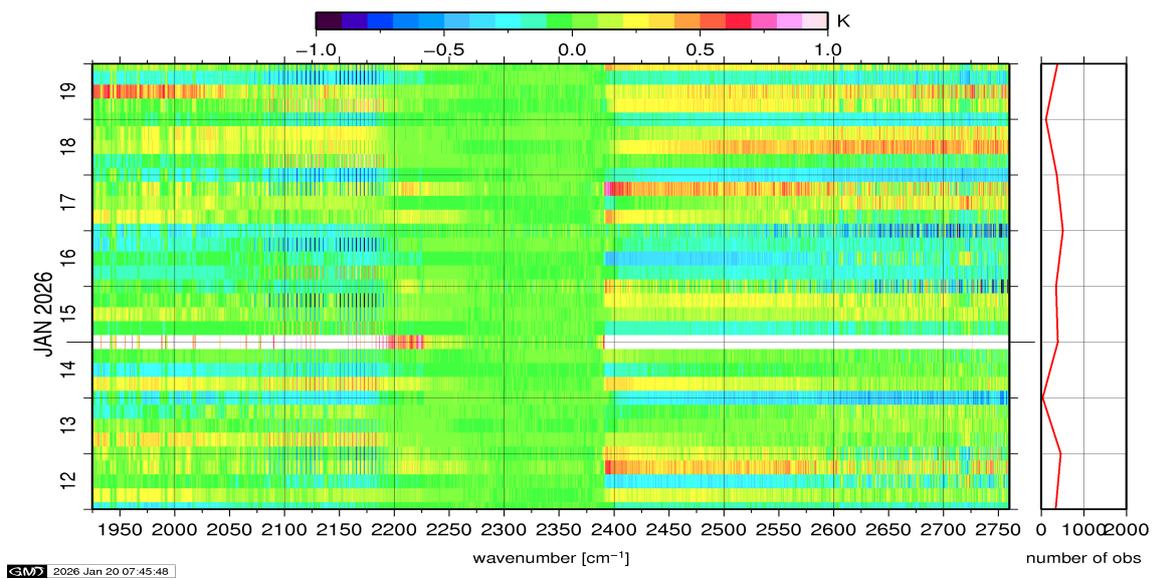


Figure 13: Radiance Anomaly in BT: IASI Band 3

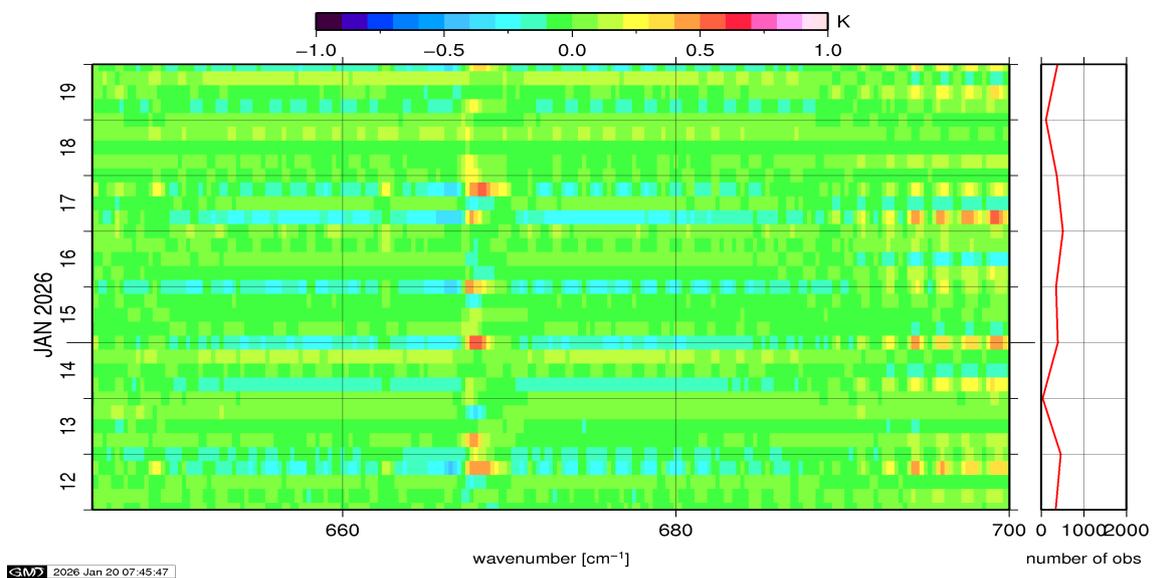


Figure 14: Radiance Anomaly in BT: CO2 14

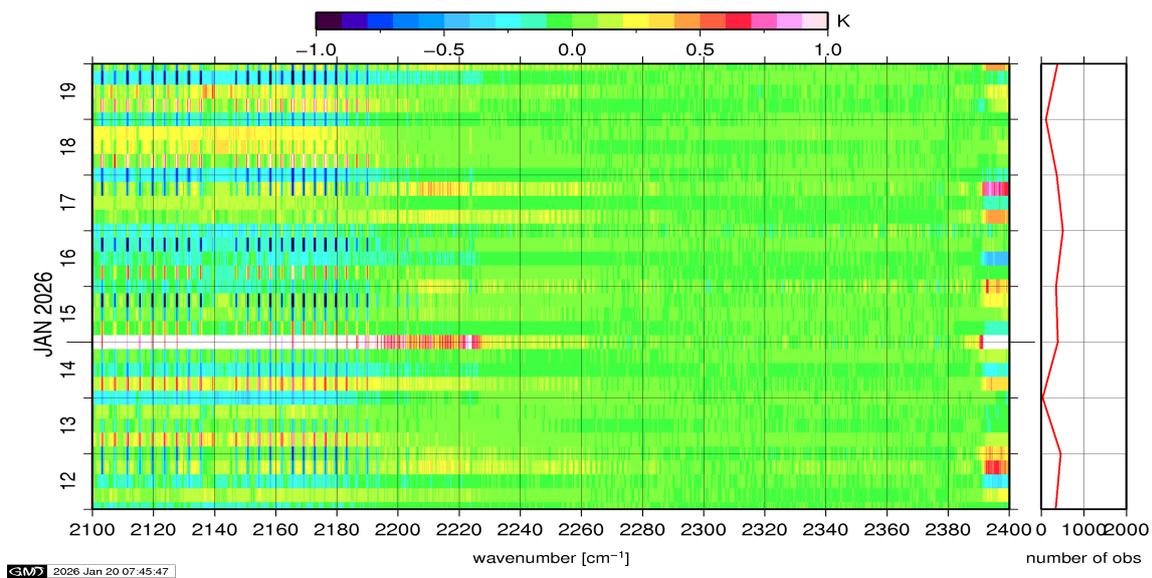


Figure 15: Radiance Anomaly in BT: CO2 4.3

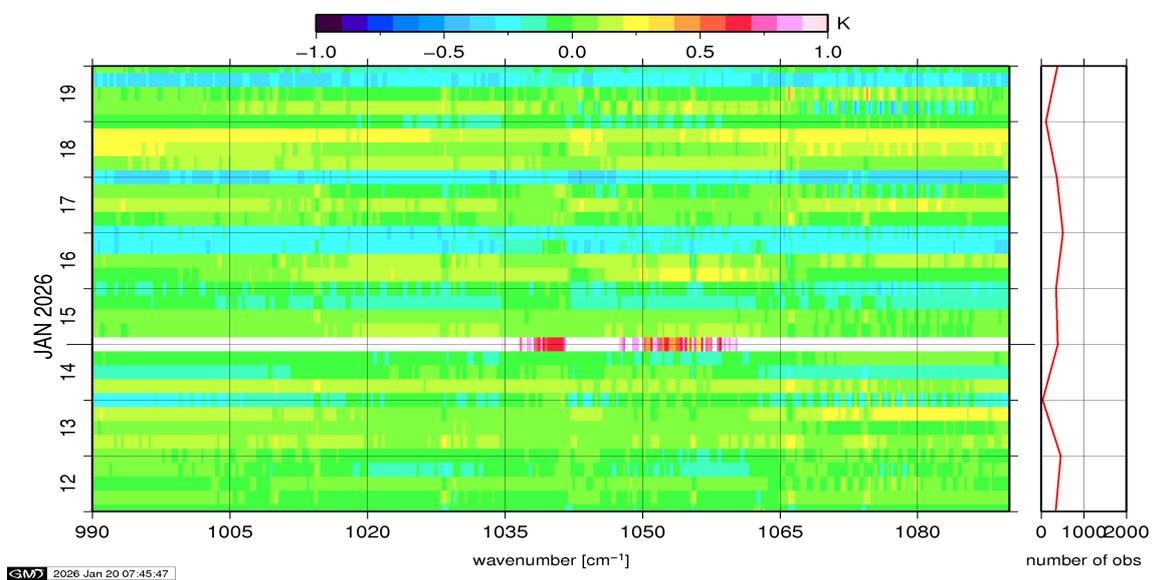


Figure 16: Radiance Anomaly in BT: O3

## 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.

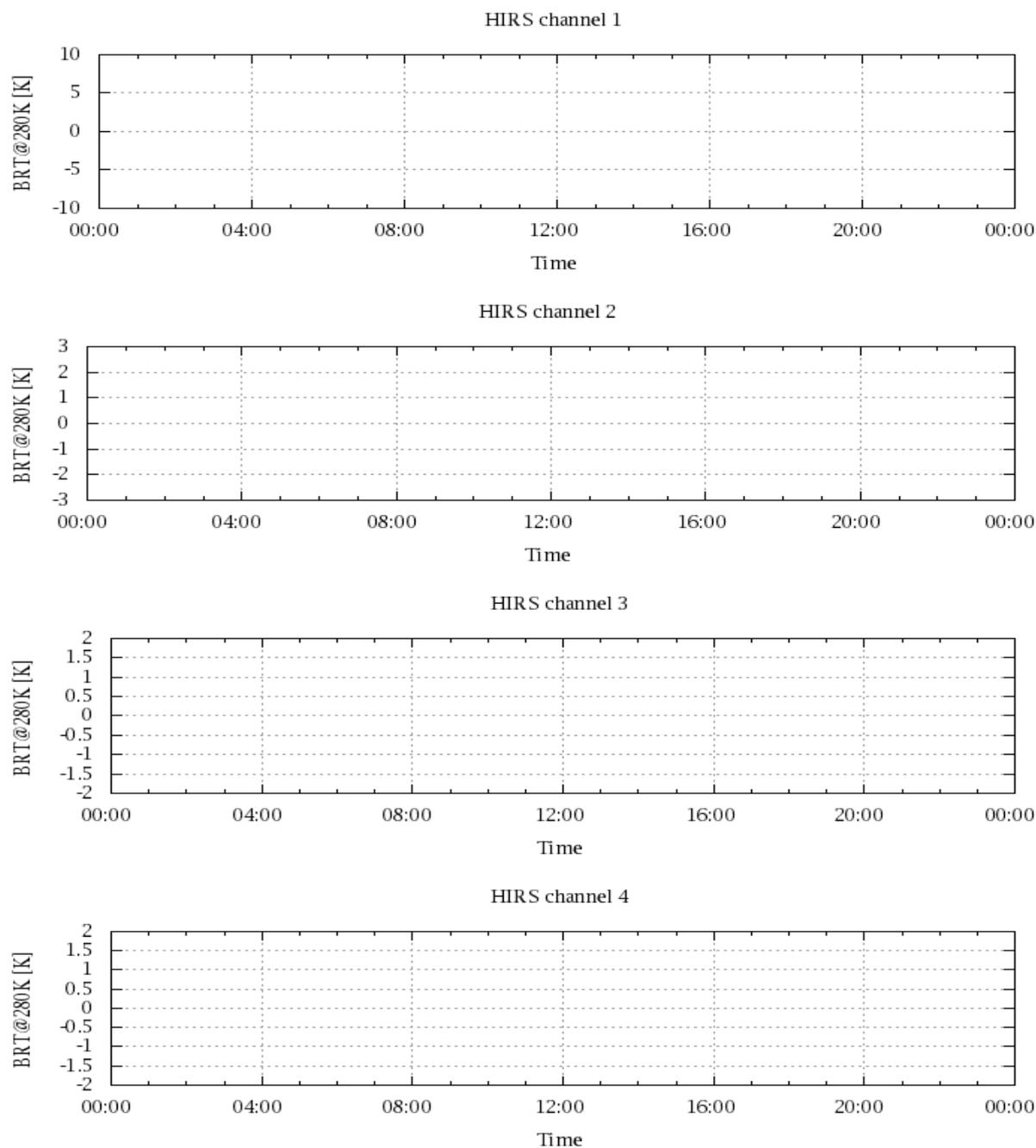


Figure 17: Radiance Differences in BT

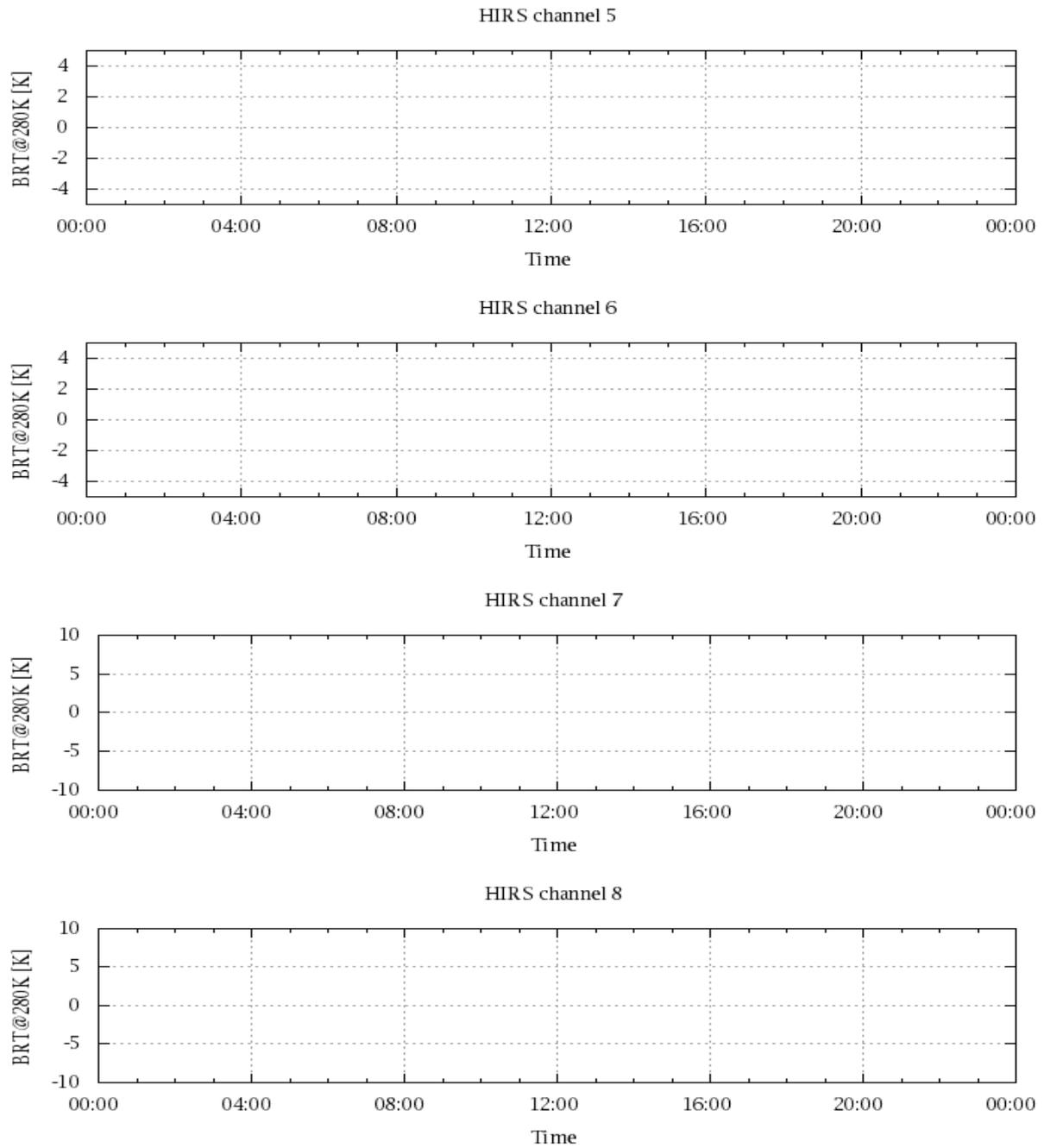


Figure 18: Radiance Differences in BT

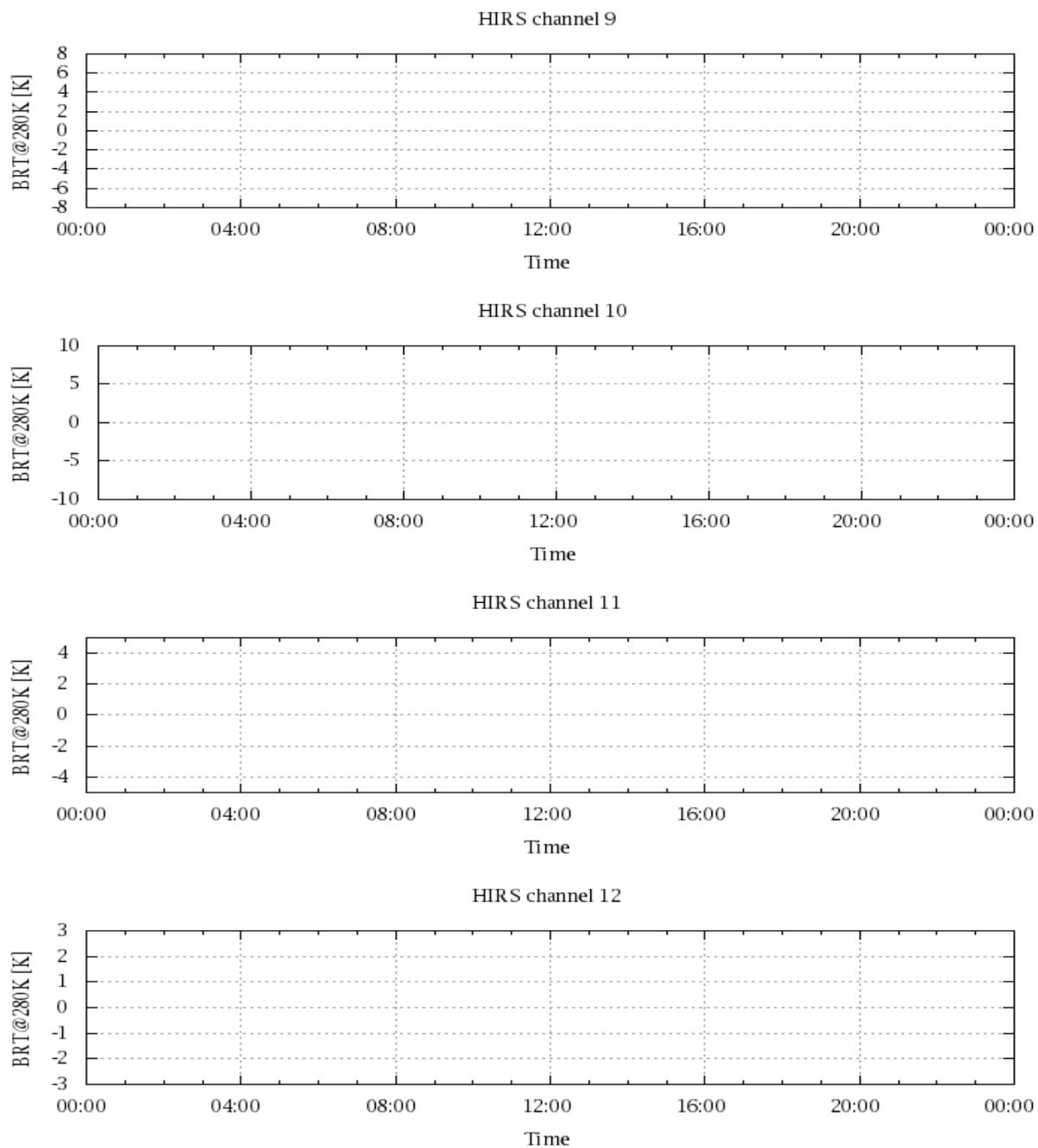


Figure 19: Radiance Differences in BT

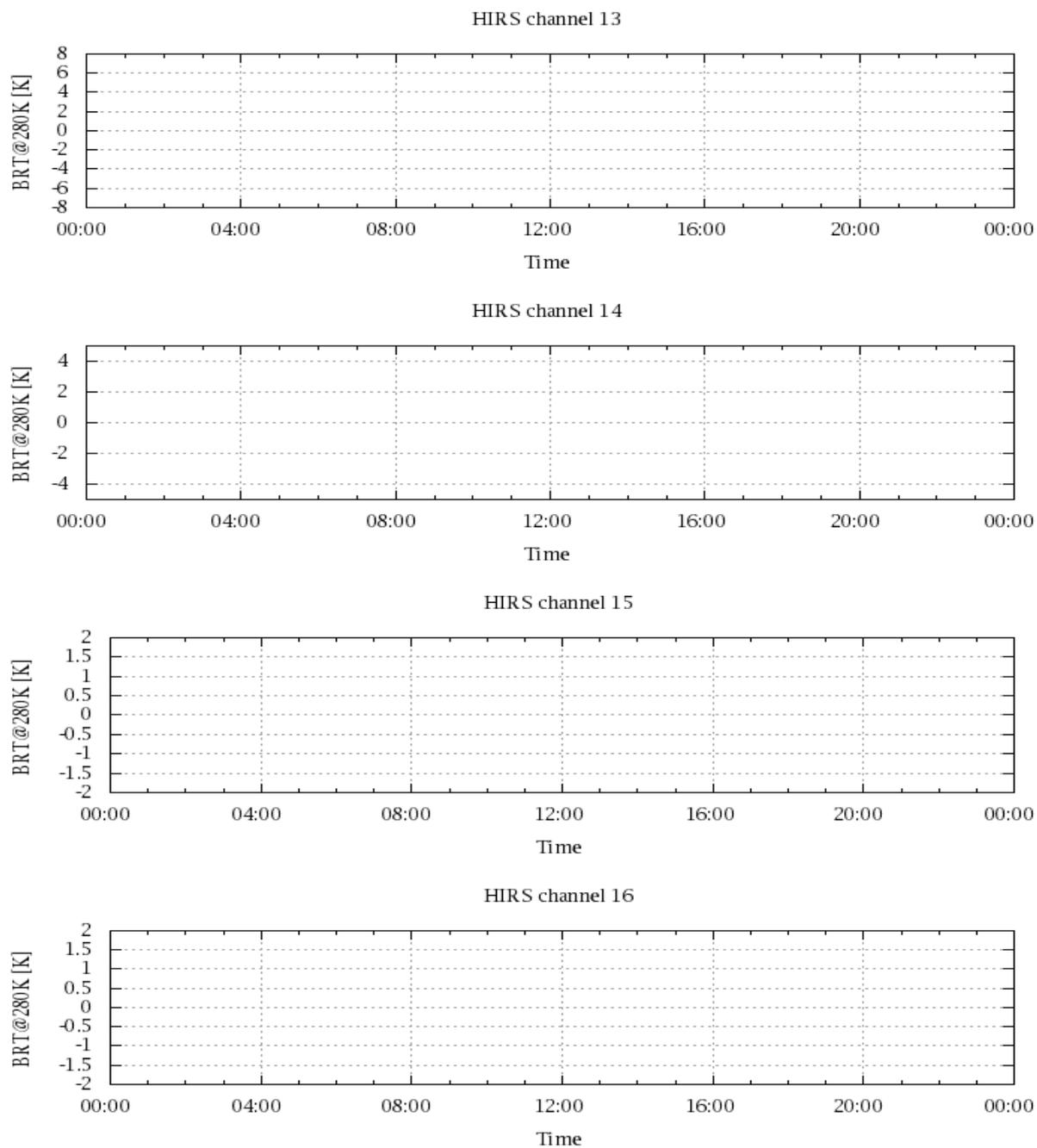


Figure 20: Radiance Differences in BT

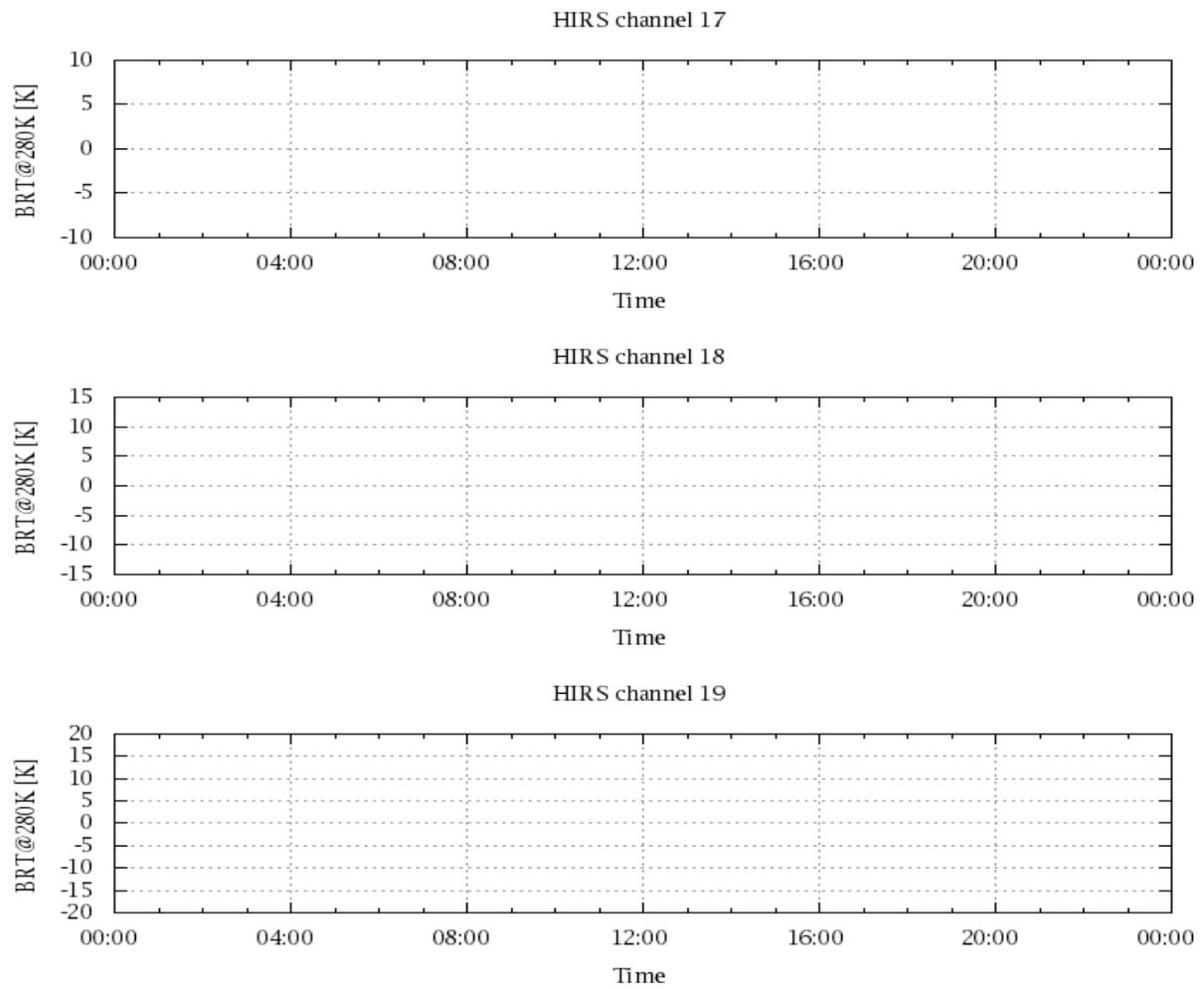


Figure 21: Radinace Differences in BT