

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

IASI monitoring team

05/04/2026 00:00:00 - 06/04/2026 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 05/04/2026 00:00:00 - 06/04/2026 00:00:00 .

The monitoring data are extracted on PDU basis.

2 Data quantity 05/04/2026 00:00:00 - 06/04/2026 00:00:00

Product Type	Number	Action
L0 HKTМ PDUs	481	-
L0 IASI PDUs	481	-
L1 ENG PDUs	480	-
L1 ENG distinct GEPSSGranule	478	-
L1 DPX PDUs (RM: IASI-HIRS)	0	e
L1 DPS Files (RM: OBS-CAL NWP based)	480	-

Table 1: Data quantity

APID	Seq from	Seq to	Time from	Time to
PX1 (130)	6152	6234	20260405161350.173	20260405161412.443
PX1 (130)	6237	6240	20260405161413.091	20260405161413.740
PX1 (130)	6245	6247	20260405161414.822	20260405161416.767
PX1 (130)	6366	6415	20260405161447.037	20260405161500.658
PX1 (130)	6415	6417	20260405161500.658	20260405161501.091
PX2 (135)	6153	6237	20260405161350.388	20260405161413.091
PX2 (135)	6367	6419	20260405161448.763	20260405161501.521
PX3 (140)	6151	6153	20260405161349.955	20260405161350.388
PX3 (140)	6153	6239	20260405161350.388	20260405161413.525
PX3 (140)	6245	6247	20260405161414.822	20260405161416.767
PX3 (140)	6366	6418	20260405161447.037	20260405161501.306
PX4 (145)	6151	6234	20260405161349.955	20260405161412.443
PX4 (145)	6234	6239	20260405161412.443	20260405161413.525
PX4 (145)	6366	6417	20260405161447.037	20260405161501.091
PX4 (145)	6417	6419	20260405161501.091	20260405161501.521
IMG (150)	15304	15398	20260405161350.173	20260405161412.443
IMG (150)	15401	15403	20260405161413.091	20260405161413.525
IMG (150)	15549	15552	20260405161448.119	20260405161448.982
IMG (150)	15552	15602	20260405161448.982	20260405161500.439

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Table 2 – continued from previous page

APID	Seq from	Seq to	Time from	Time to
IMG (150)	15602	15604	20260405161500.439	20260405161500.872
IMG (150)	15605	15607	20260405161501.091	20260405161501.521
VER (160)	7349	7365	20260405161343.037	20260405161415.037
VER (160)	7385	7389	20260405161447.037	20260405161447.037
VER (160)	7389	7395	20260405161447.037	20260405161503.033
AUX (180)	14575	14579	20260405161343.470	20260405161415.466
AUX (180)	14583	14585	20260405161447.466	20260405161503.466

Table 2: L0 data gaps

3 Instrument modes

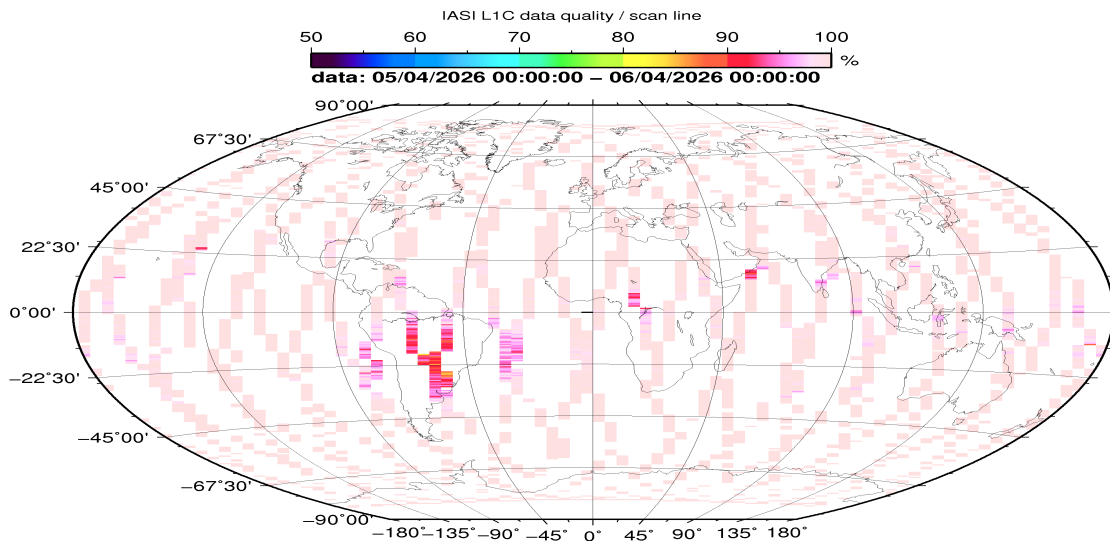
Time	Transition from	Transition to
05/04/2026 00:00:13	-	Normal operation

Table 3: Instrument modes

4 L0 and L1 Data Quality

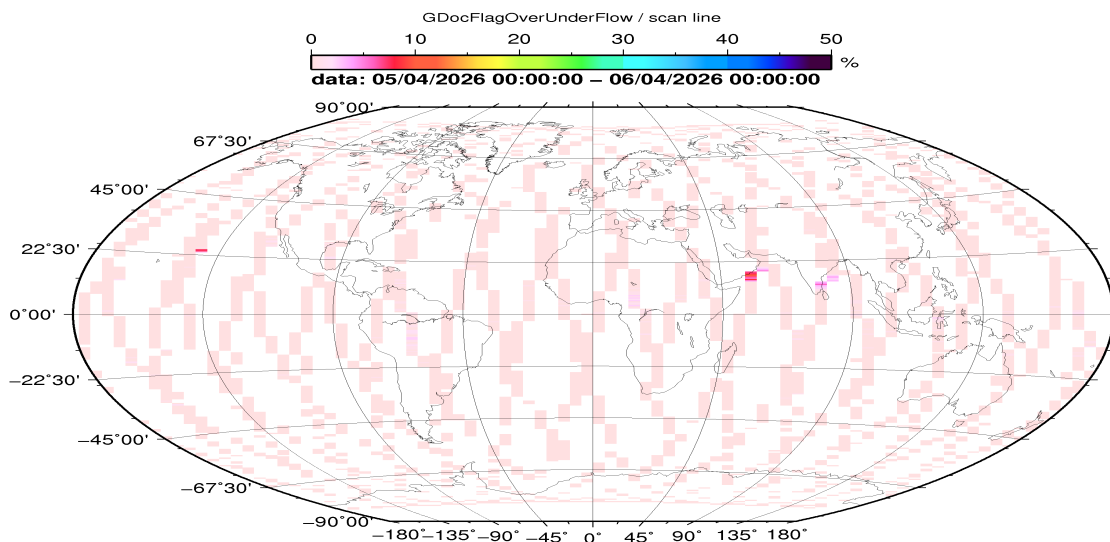
Flag	Value	Action
L0 IASI PDUs	481	-
L1 ENG PDUs	480	-
L1 ENG distinct GEPSGranule	478	-
GQisFlagQual set (PX1)	99.69 %	-
GQisFlagQual set (PX2)	99.75 %	-
GQisFlagQual set (PX3)	99.76 %	-
GQisFlagQual set (PX4)	99.68 %	-
GQisFlagQual set (all)	99.72 %	-

Table 4: Quality flags



CSMP 2026 Apr 06 07:40:39

Figure 1: L1C data quality



CSMP 2026 Apr 06 07:40:43

Figure 2: Flag of Over and Under Flows

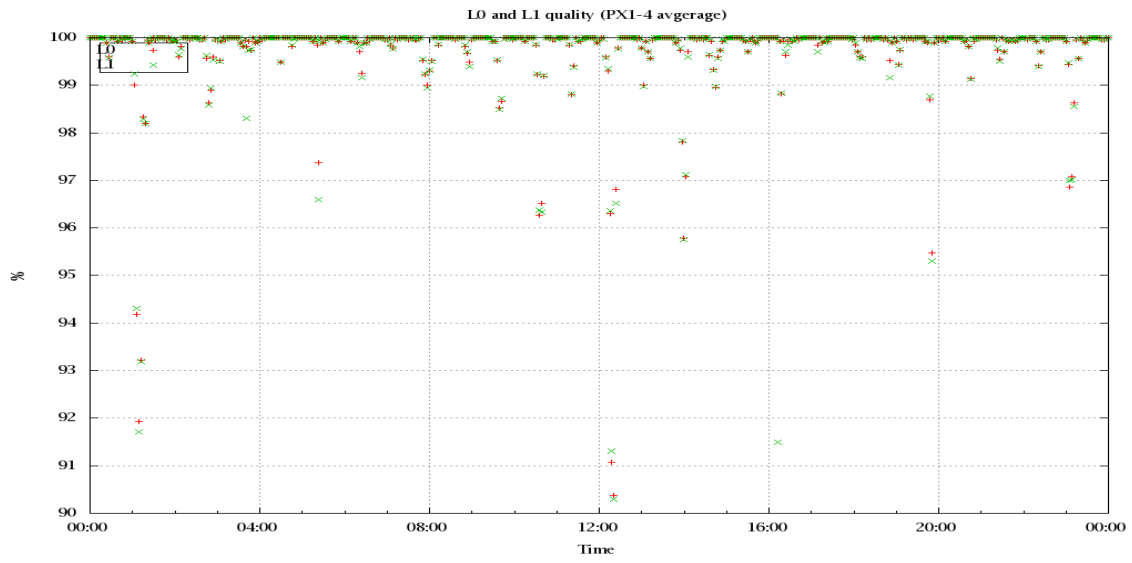


Figure 3: Level 0 and 1C overall quality

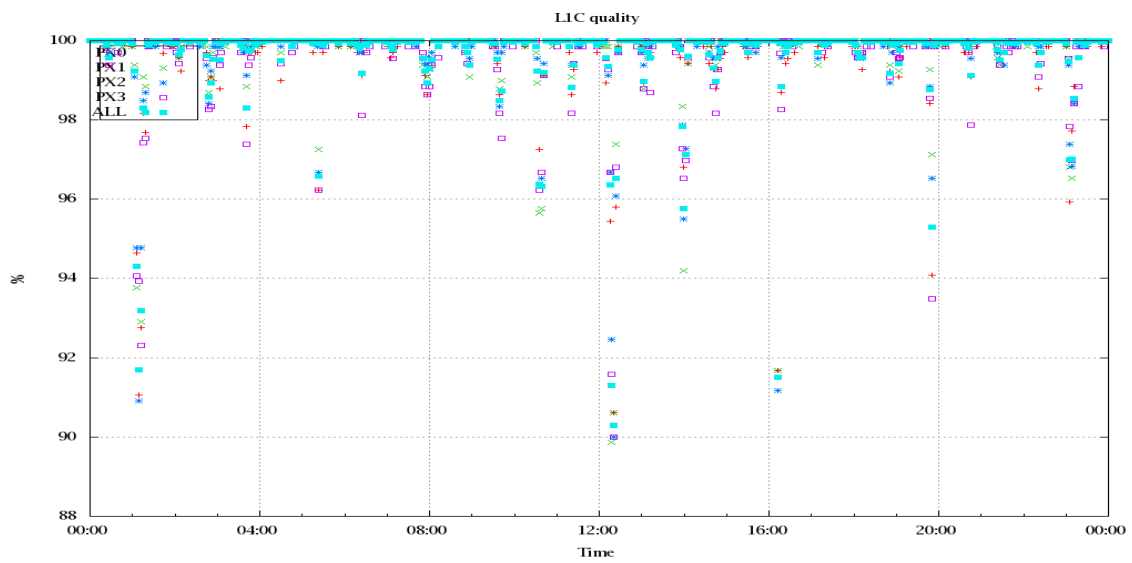


Figure 4: Level 1C quality

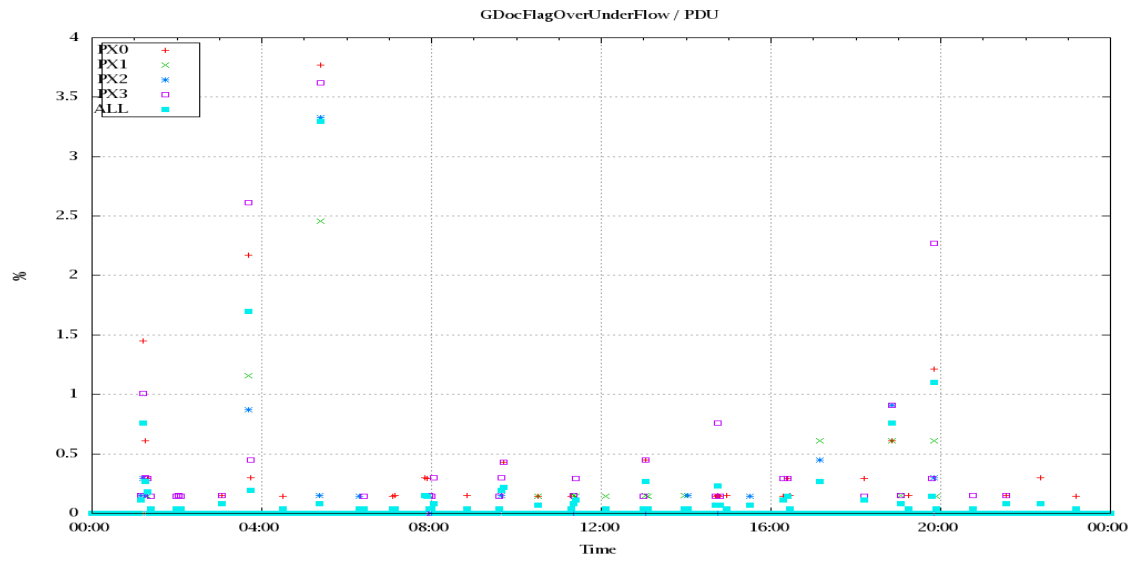


Figure 5: Timeseries of flag of Over and Under Flows

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.

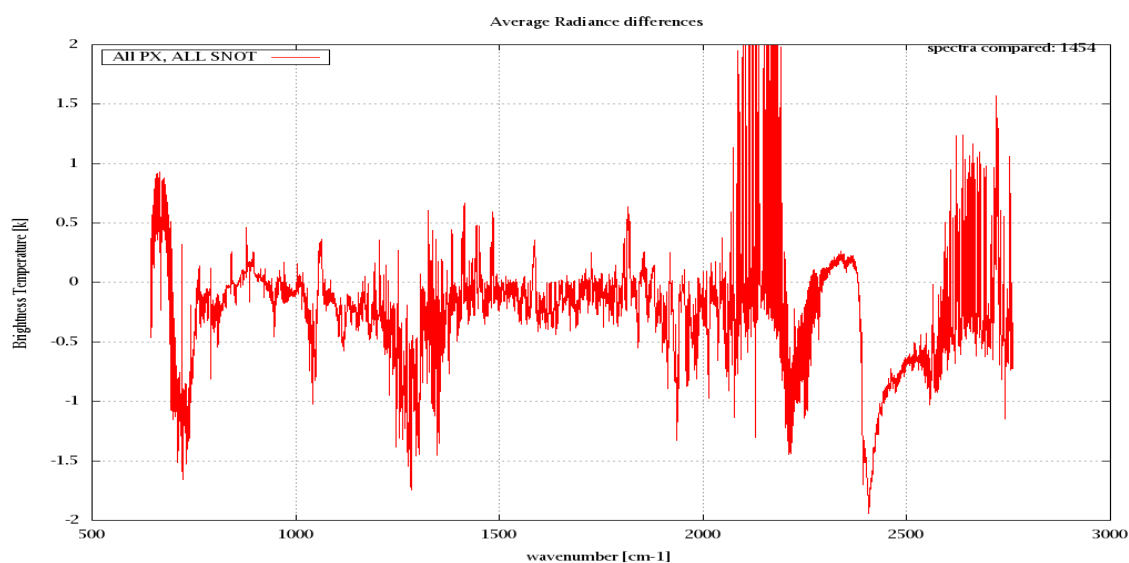


Figure 6: Average Radiance differences: OBS-CAL

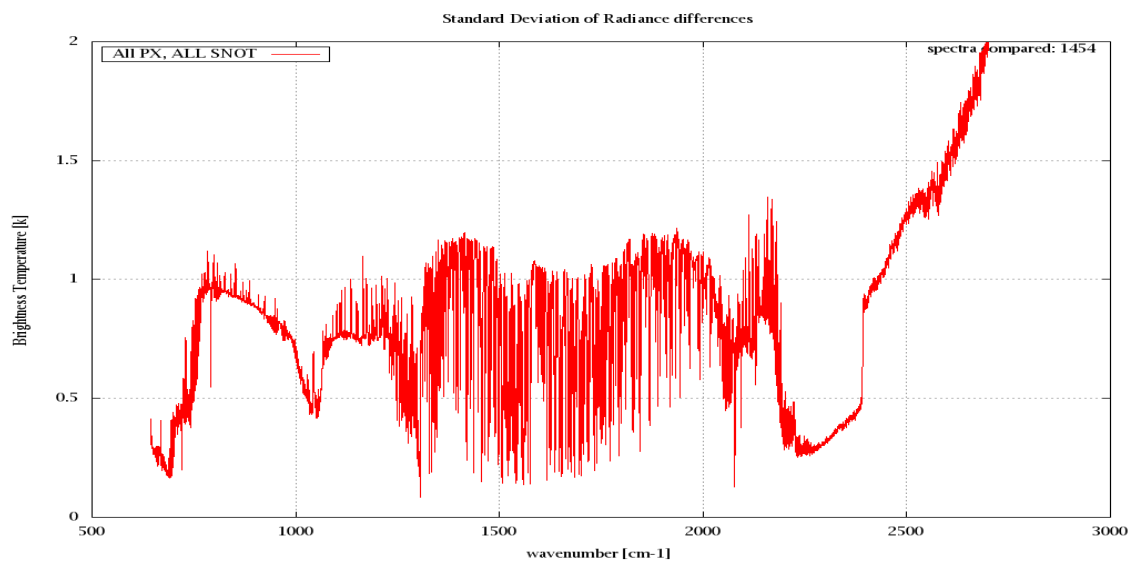


Figure 7: Standard Deviation of Radiance differences

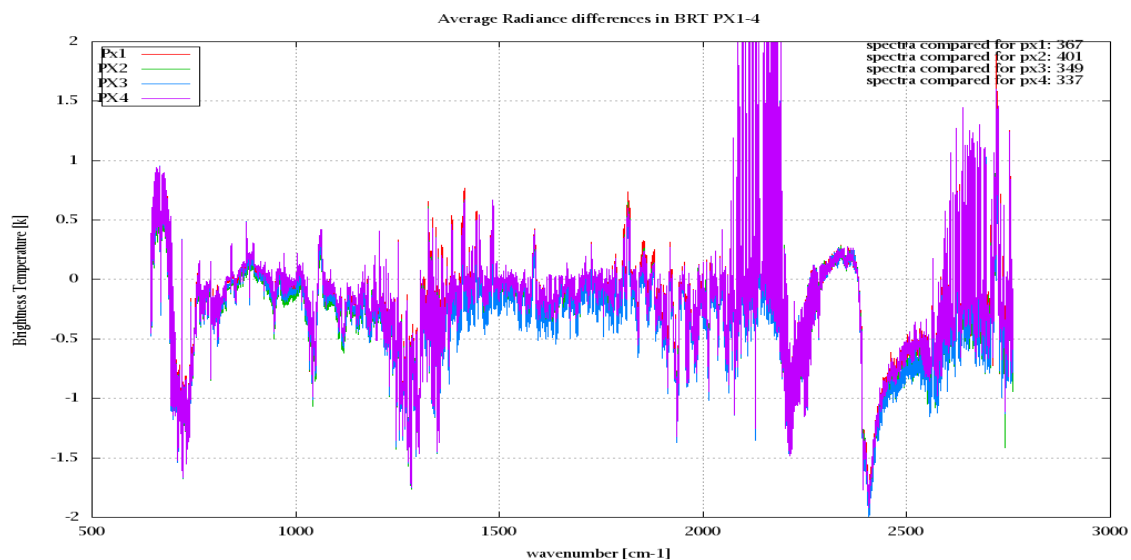


Figure 8: Average Radiance differences: OBS-CAL

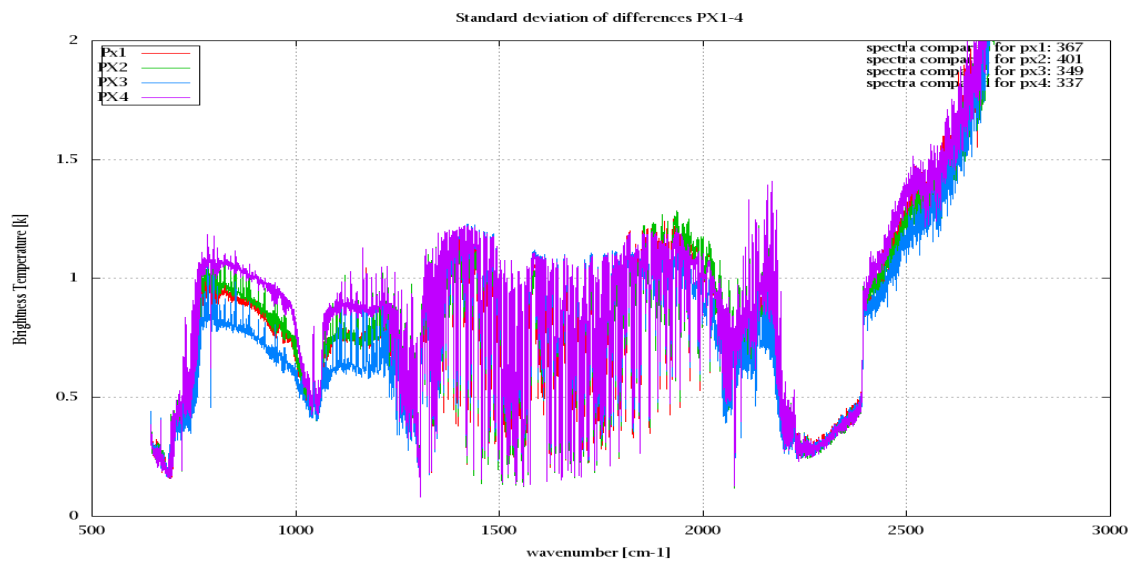


Figure 9: Standard Deviation of Radiance differences

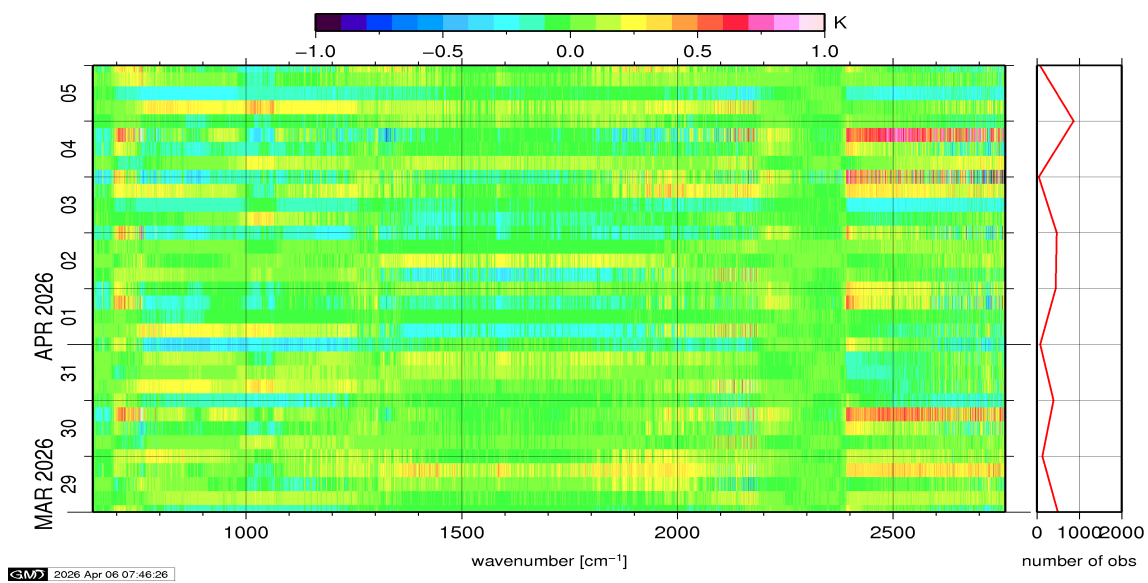


Figure 10: Radiance Anomaly in BT: All Channels

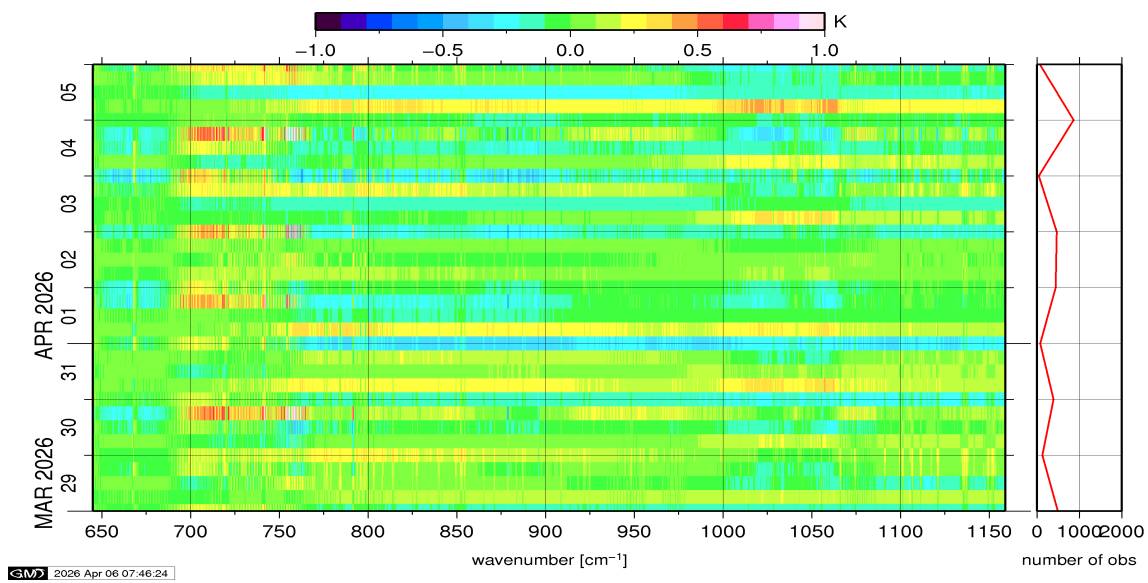


Figure 11: Radiance Anomaly in BT: IASI Band 1

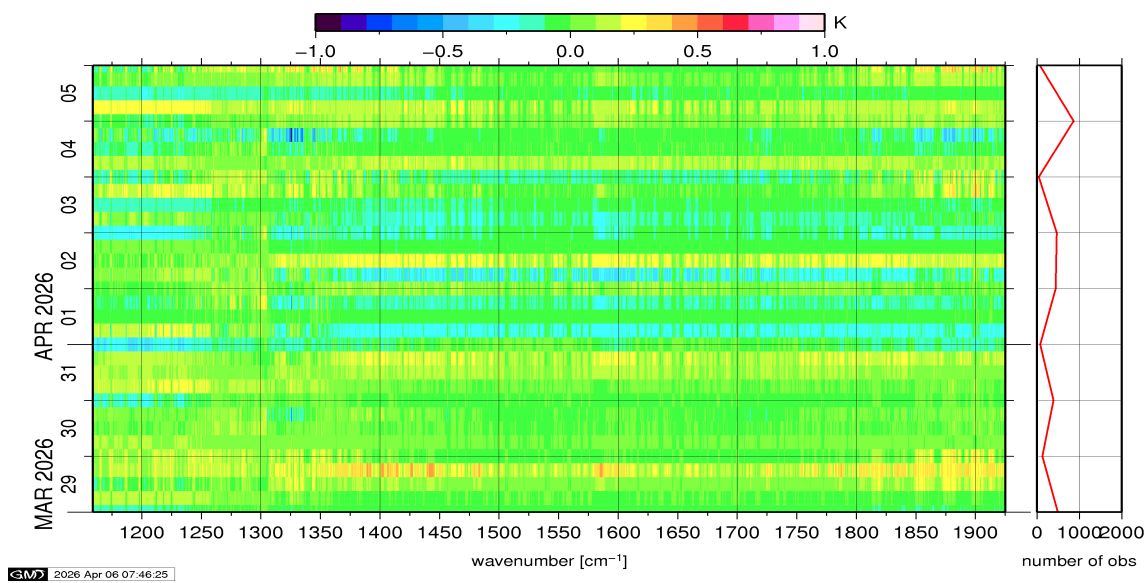


Figure 12: Radiance Anomaly in BT: IASI Band 2

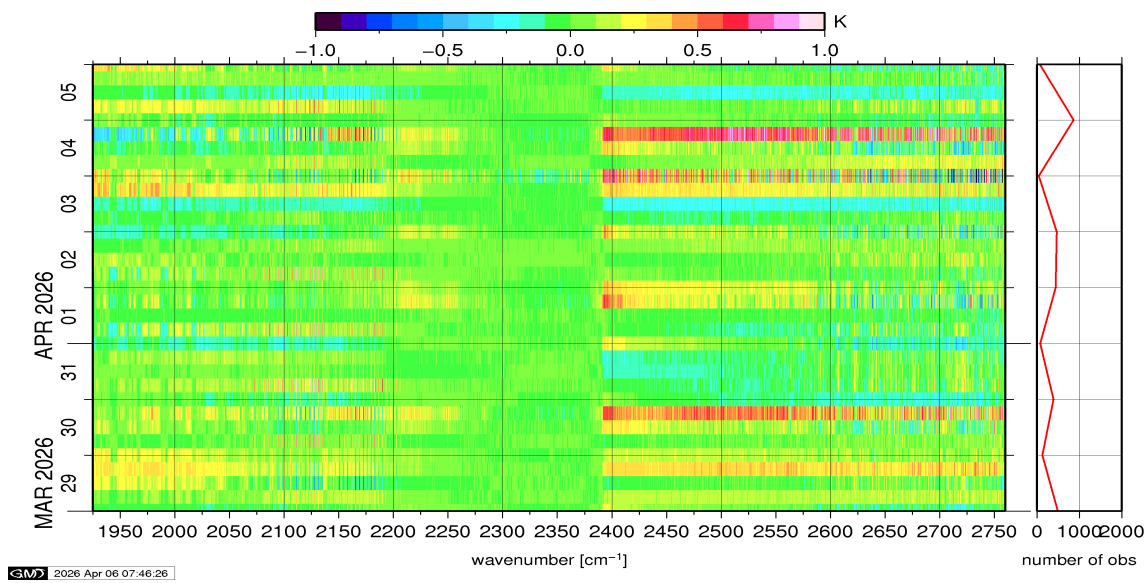


Figure 13: Radiance Anomaly in BT: IASI Band 3

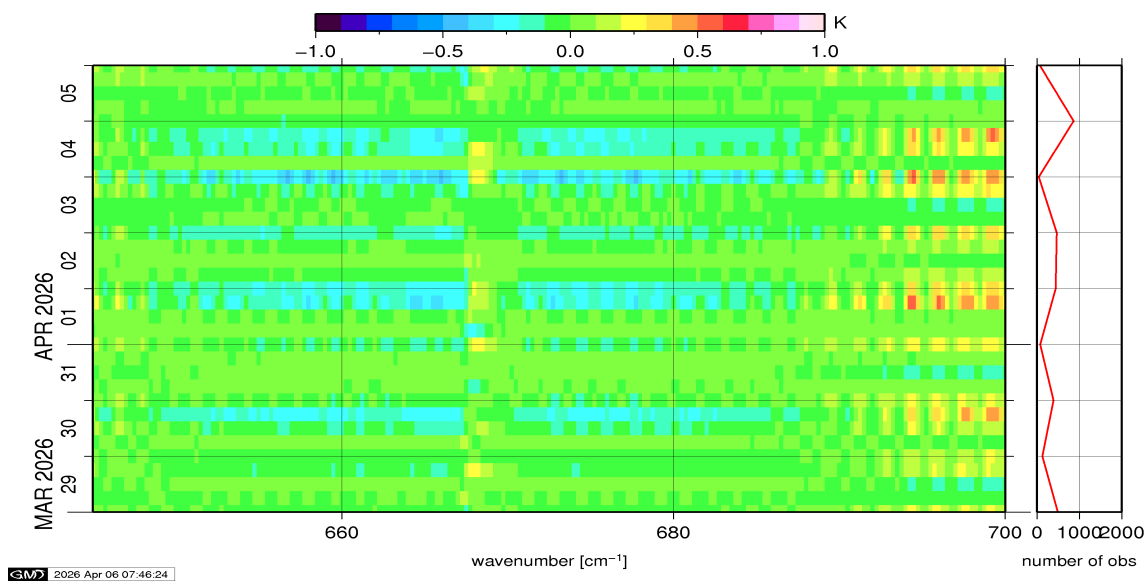


Figure 14: Radiance Anomaly in BT: CO2 14

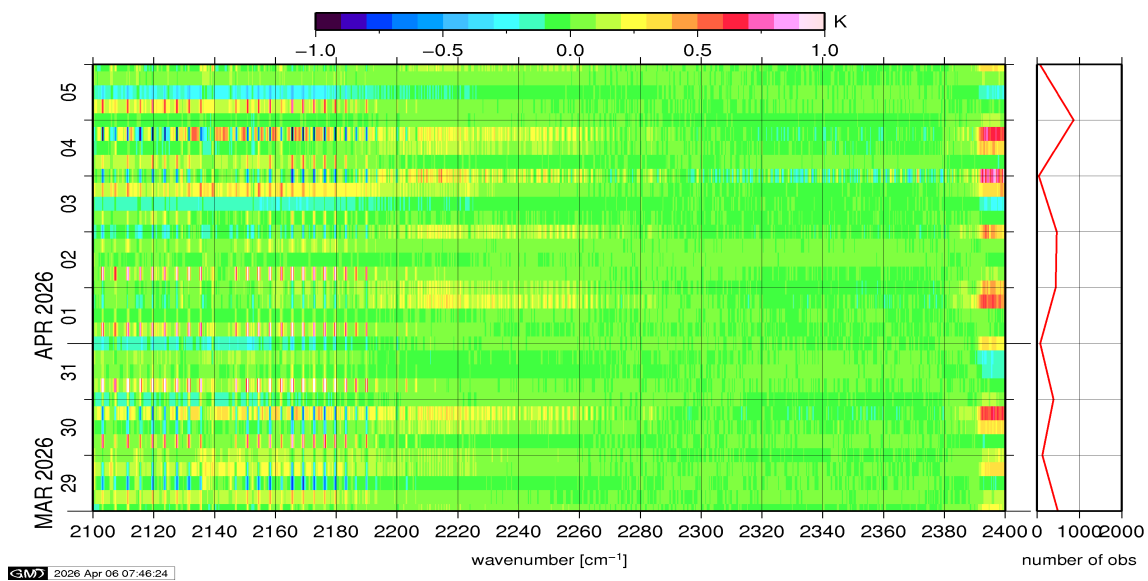


Figure 15: Radiance Anomaly in BT: CO2 4.3

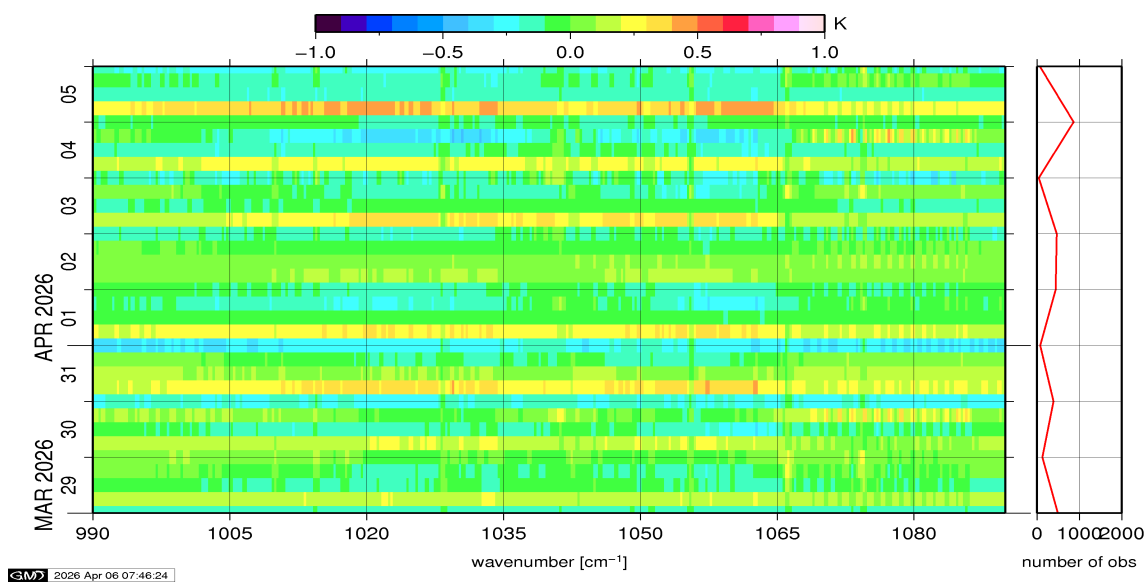


Figure 16: Radiance Anomaly in BT: O3

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.

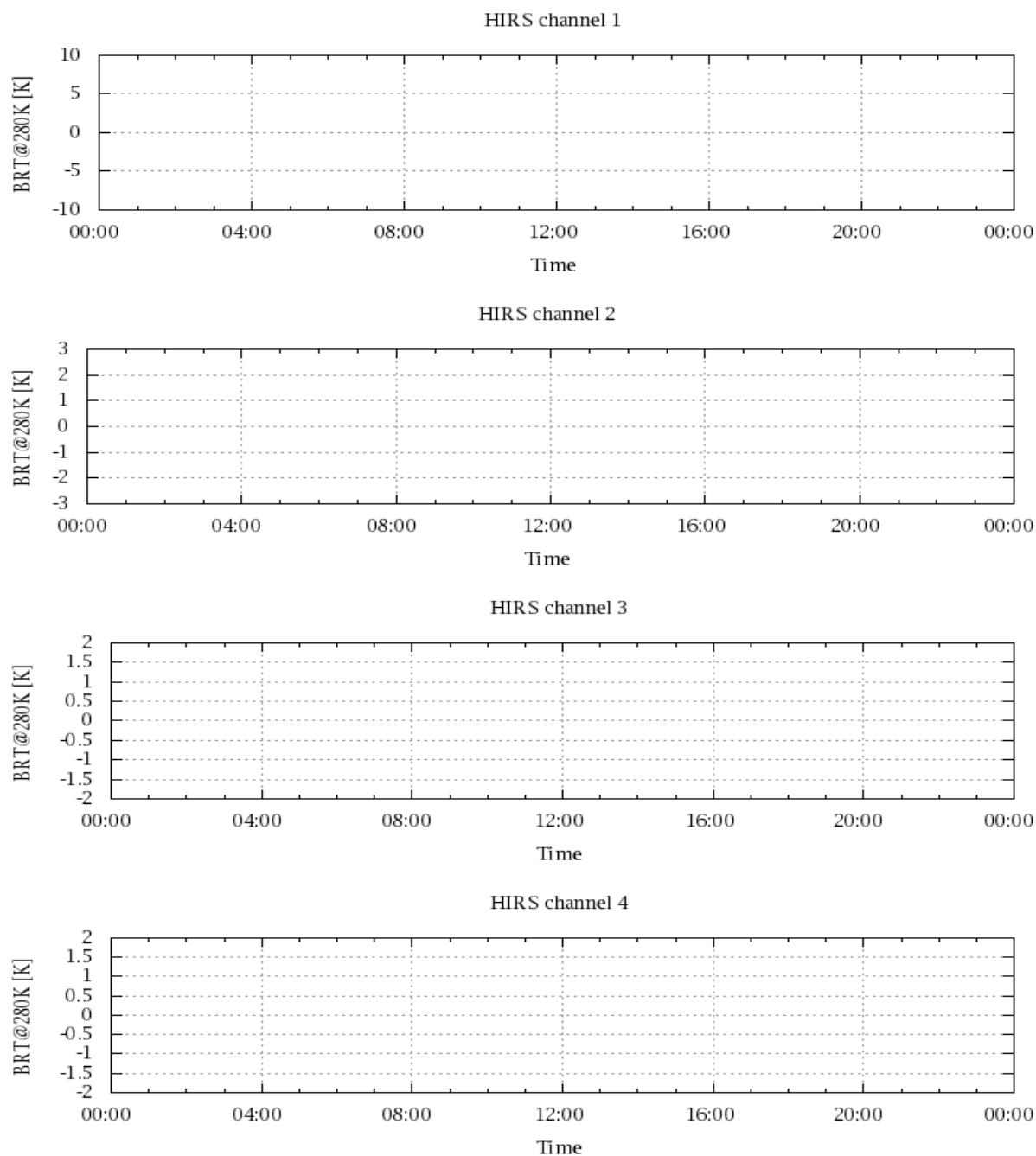


Figure 17: Radiance Differences in BT

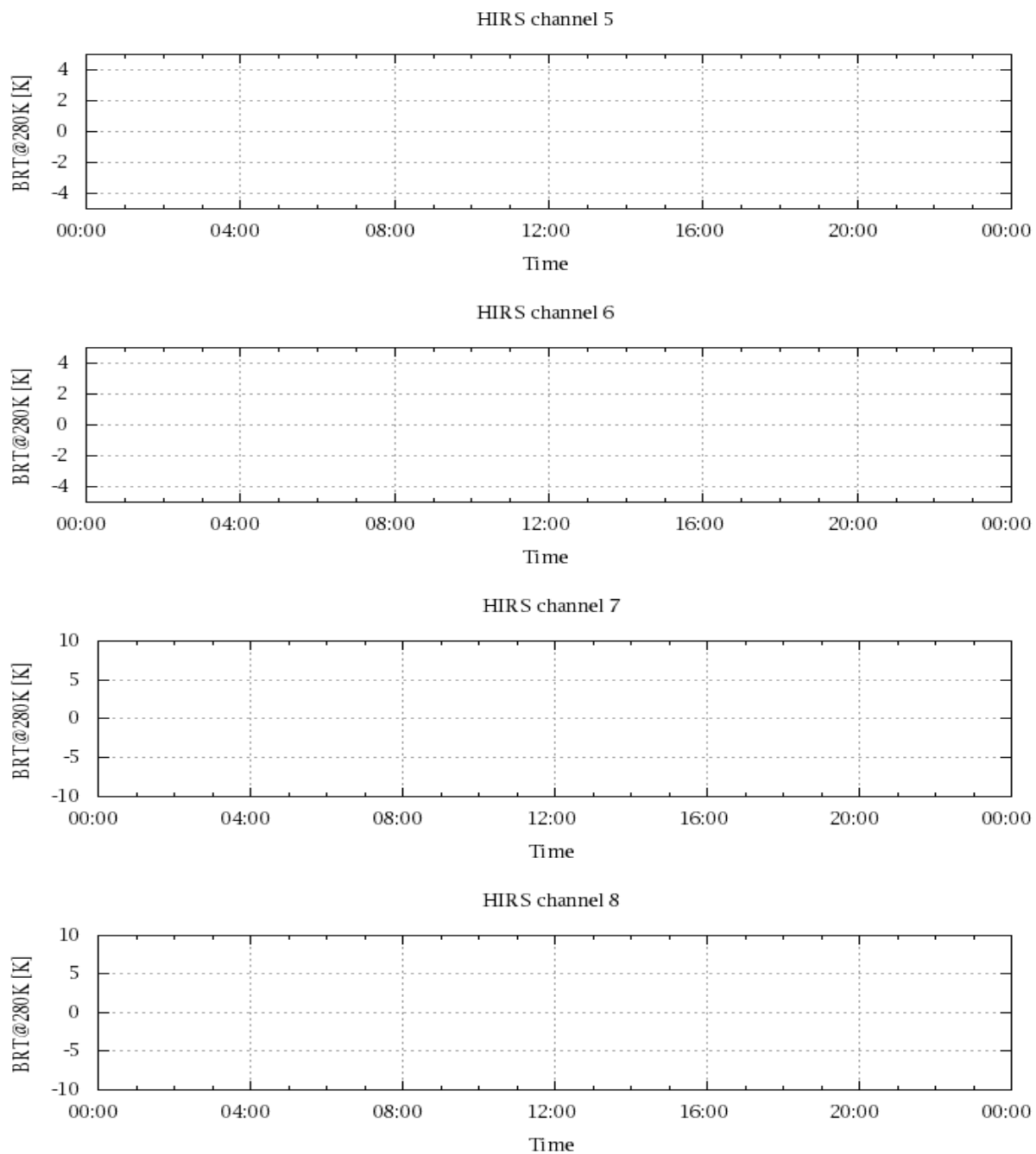


Figure 18: Radiance Differences in BT

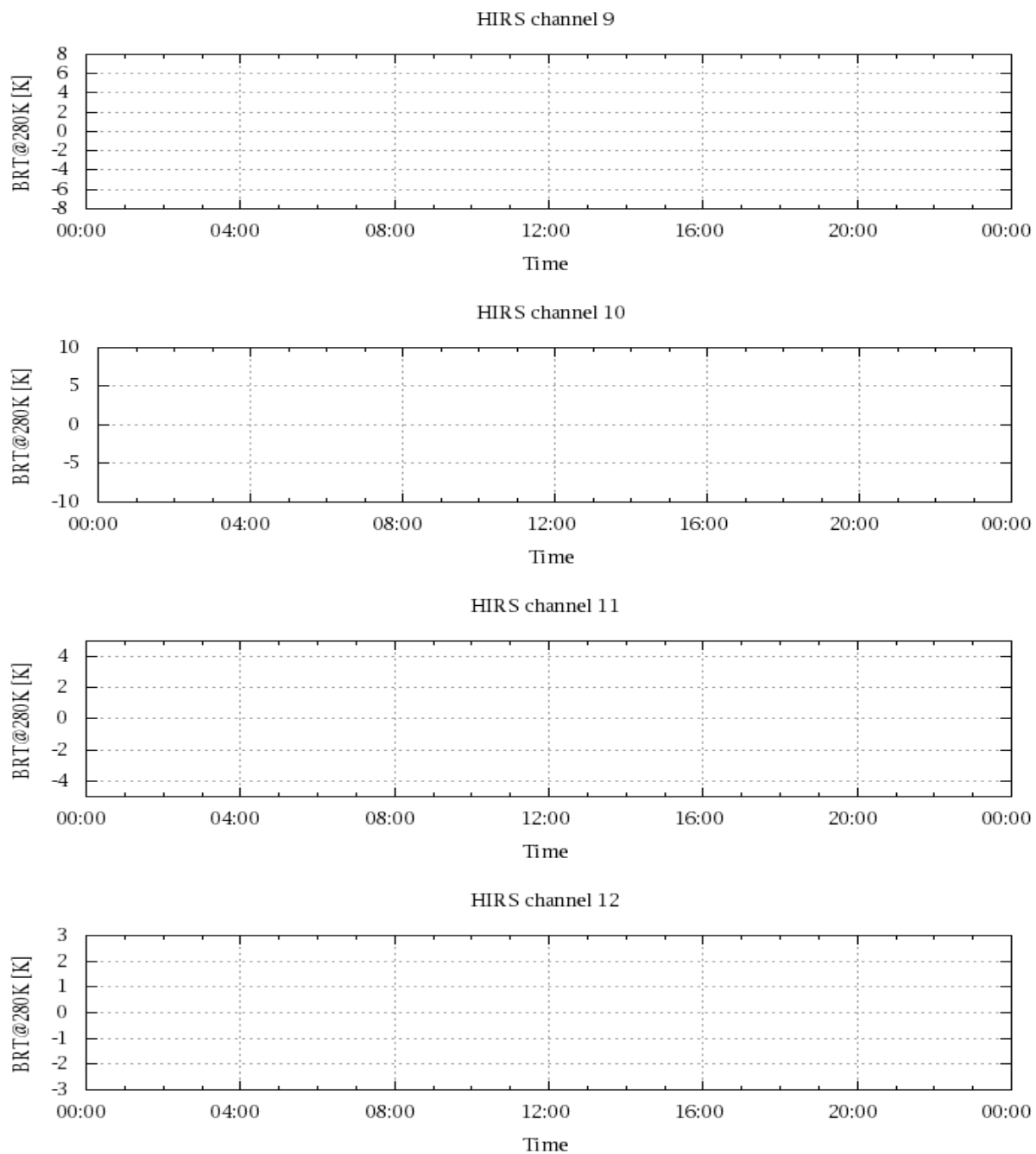


Figure 19: Radiance Differences in BT

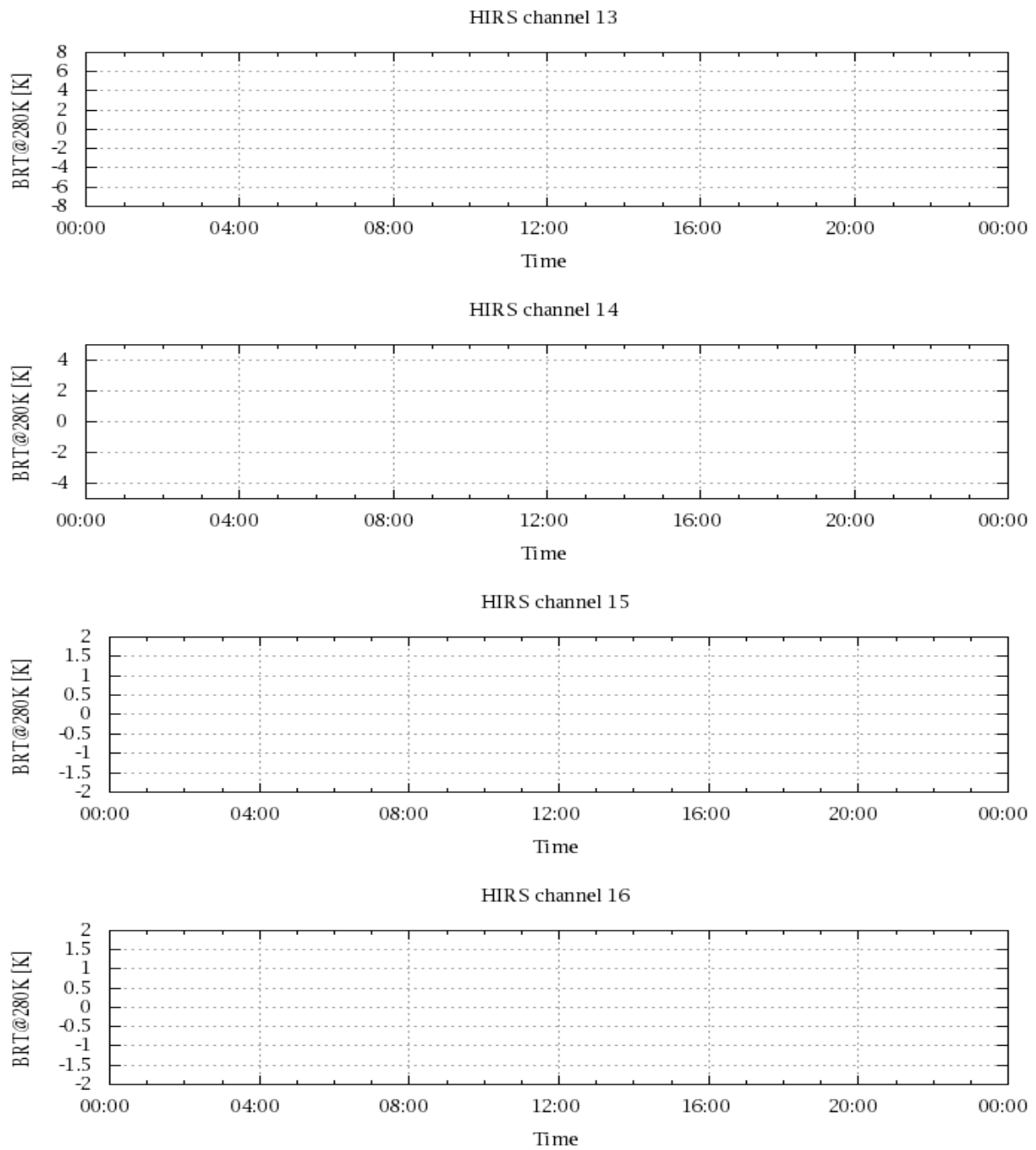


Figure 20: Radiance Differences in BT

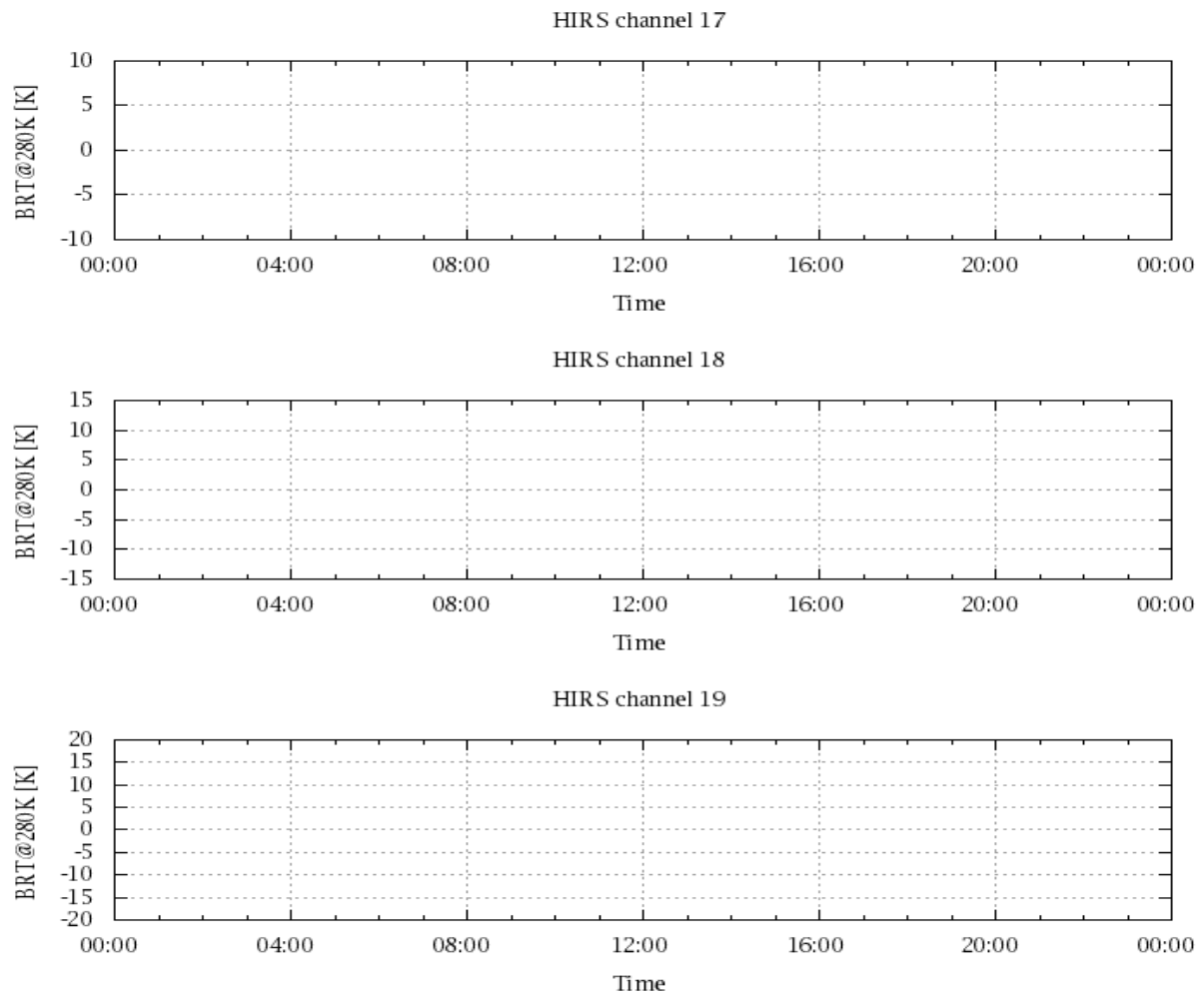


Figure 21: Radinace Differences in BT