

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

IASI monitoring team

24/04/2026 00:00:00 - 25/04/2026 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 24/04/2026 00:00:00 - 25/04/2026 00:00:00 .

The monitoring data are extracted on PDU basis.

2 Data quantity 24/04/2026 00:00:00 - 25/04/2026 00:00:00

Product Type	Number	Action
L0 HKTМ PDUs	481	-
L0 IASI PDUs	481	-
L1 ENG PDUs	480	-
L1 ENG distinct GEPSGranule	480	-
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)	14528	14577	20260424122816.372	20260424122828.478
PX1 (130)	14686	14689	20260424122858.099	20260424122858.747
PX1 (130)	14689	14764	20260424122858.747	20260424122919.505
PX1 (130)	14764	14766	20260424122919.505	20260424122919.935
PX1 (130)	14766	14768	20260424122919.935	20260424122920.368
PX1 (130)	14817	14832	20260424122932.478	20260424122937.232
PX2 (135)	14528	14577	20260424122816.372	20260424122828.478
PX2 (135)	14684	14686	20260424122857.665	20260424122858.099
PX2 (135)	14686	14764	20260424122858.099	20260424122919.505
PX2 (135)	14764	14766	20260424122919.505	20260424122919.935
PX2 (135)	14766	14768	20260424122919.935	20260424122920.368
PX2 (135)	14817	14831	20260424122932.478	20260424122937.017
PX3 (140)	14527	14577	20260424122816.154	20260424122828.478
PX3 (140)	14685	14764	20260424122857.884	20260424122919.505
PX3 (140)	14817	14831	20260424122932.478	20260424122937.017
PX4 (145)	14527	14578	20260424122816.154	20260424122830.208
PX4 (145)	14683	14685	20260424122857.451	20260424122857.884
PX4 (145)	14686	14689	20260424122858.099	20260424122858.747
PX4 (145)	14689	14759	20260424122858.747	20260424122918.423

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Table 2 – continued from previous page

APID	Seq from	Seq to	Time from	Time to
PX4 (145)	14759	14761	20260424122918.423	20260424122918.853
PX4 (145)	14761	14765	20260424122918.853	20260424122919.720
PX4 (145)	14766	14768	20260424122919.935	20260424122920.368
PX4 (145)	14817	14831	20260424122932.478	20260424122937.017
IMG (150)	1163	1217	20260424122816.154	20260424122828.478
IMG (150)	1342	1345	20260424122858.099	20260424122858.747
IMG (150)	1345	1432	20260424122858.747	20260424122919.505
IMG (150)	1489	1507	20260424122932.478	20260424122937.017
VER (160)	7874	7882	20260424122812.478	20260424122828.478
VER (160)	7899	7915	20260424122852.478	20260424122924.478
VER (160)	7922	7925	20260424122932.478	20260424122940.474
AUX (180)	4850	4852	20260424122812.912	20260424122828.912
AUX (180)	4855	4859	20260424122852.908	20260424122924.908
AUX (180)	4859	4861	20260424122924.908	20260424122940.908

Table 2: L0 data gaps

3 Instrument modes

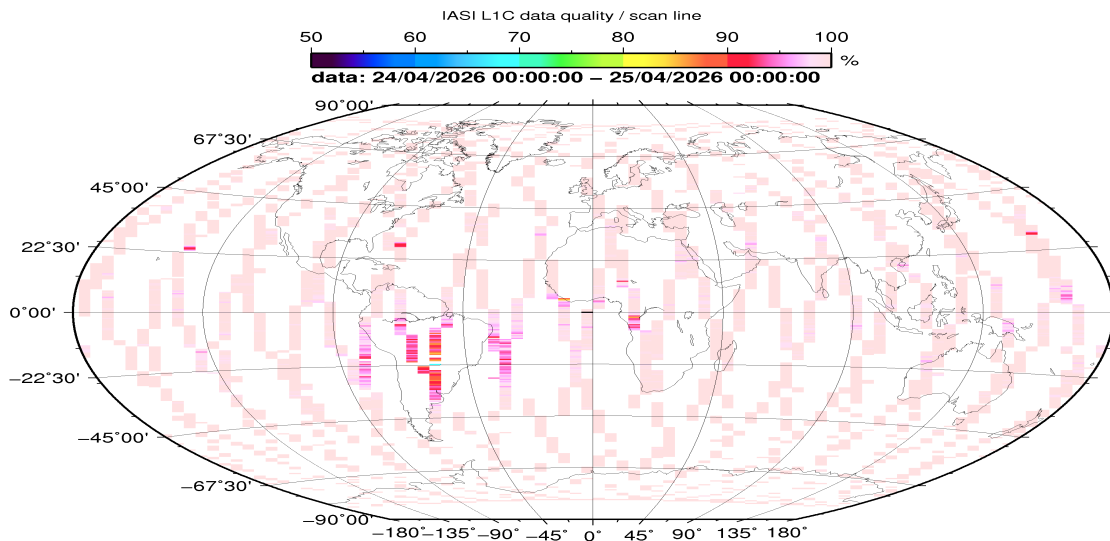
Time	Transition from	Transition to
24/04/2026 00:00:11	-	Normal operation

Table 3: Instrument modes

4 L0 and L1 Data Quality

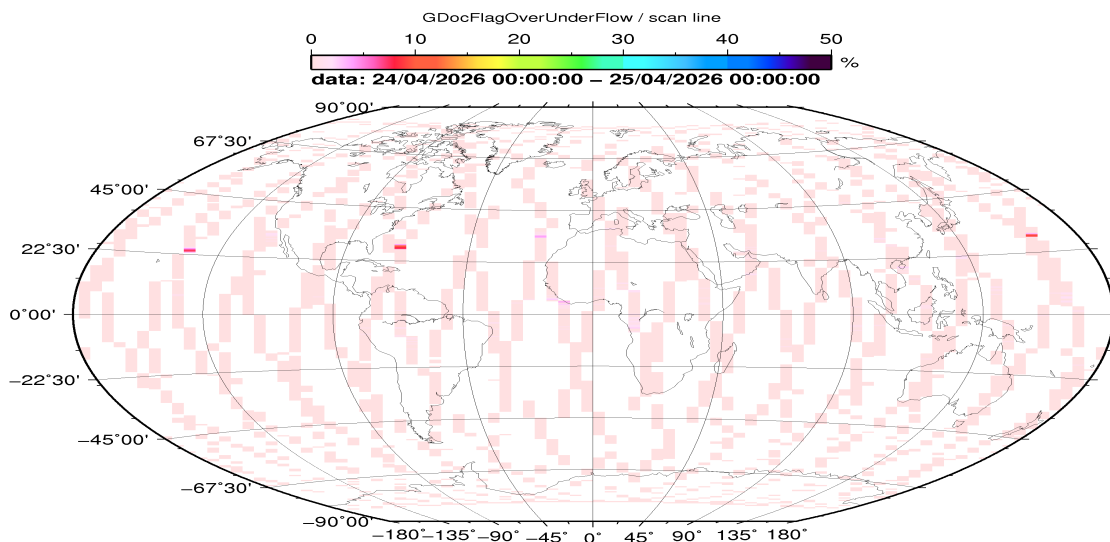
Flag	Value	Action
L0 IASI PDUs	481	-
L1 ENG PDUs	480	-
L1 ENG distinct GEPSGranule	480	-
GQisFlagQual set (PX1)	99.66 %	-
GQisFlagQual set (PX2)	99.73 %	-
GQisFlagQual set (PX3)	99.76 %	-
GQisFlagQual set (PX4)	99.67 %	-
GQisFlagQual set (all)	99.70 %	-

Table 4: Quality flags



CM 2026 Apr 25 07:40:41

Figure 1: L1C data quality



CM 2026 Apr 25 07:40:46

Figure 2: Flag of Over and Under Flows

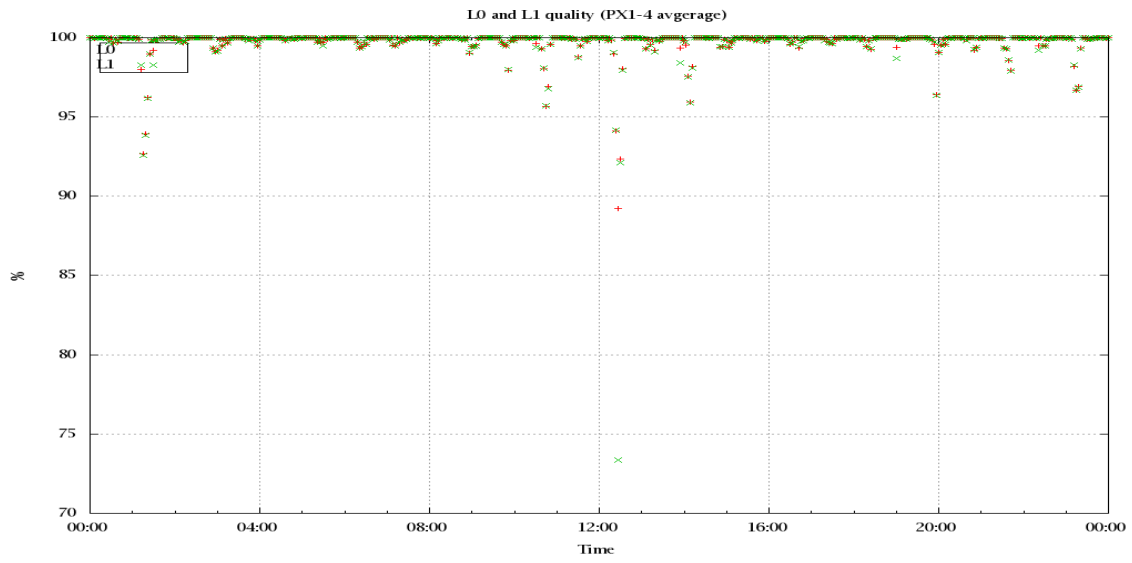


Figure 3: Level 0 and 1C overall quality

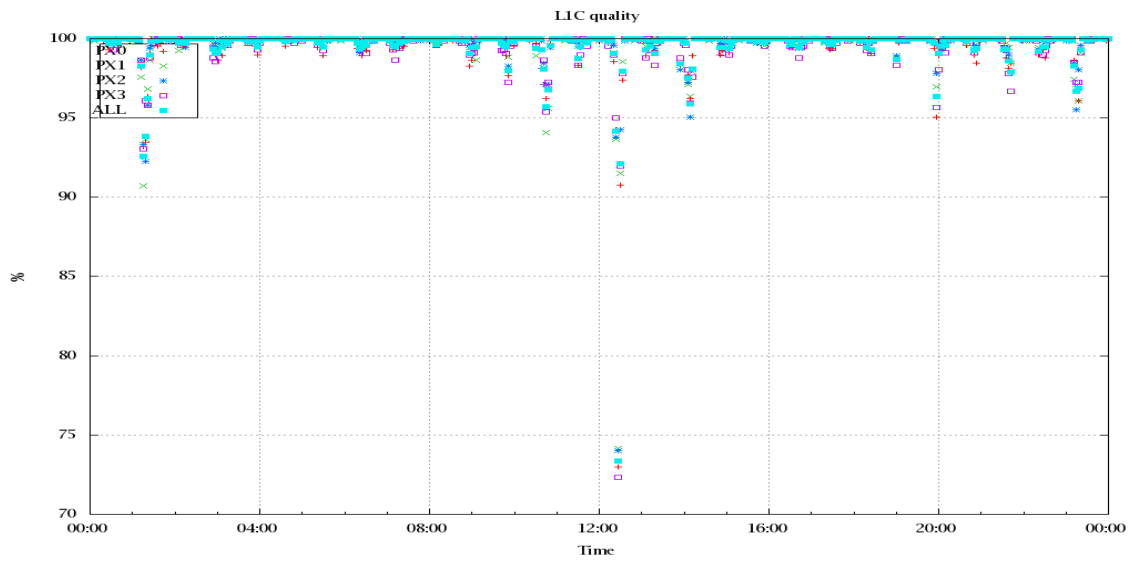


Figure 4: Level 1C quality

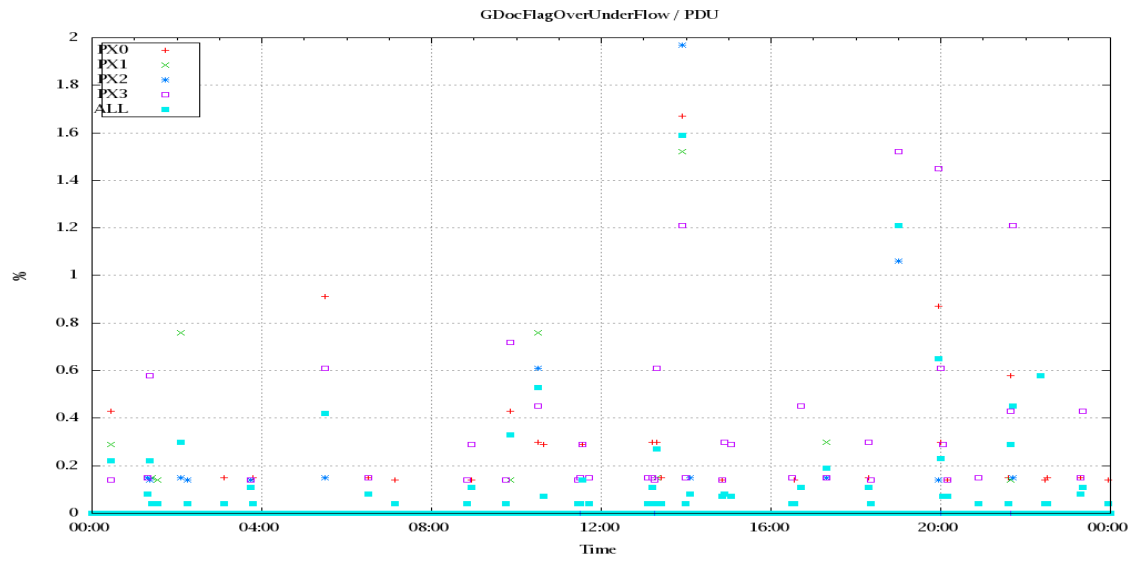


Figure 5: Timeseries of flag of Over and Under Flows

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.

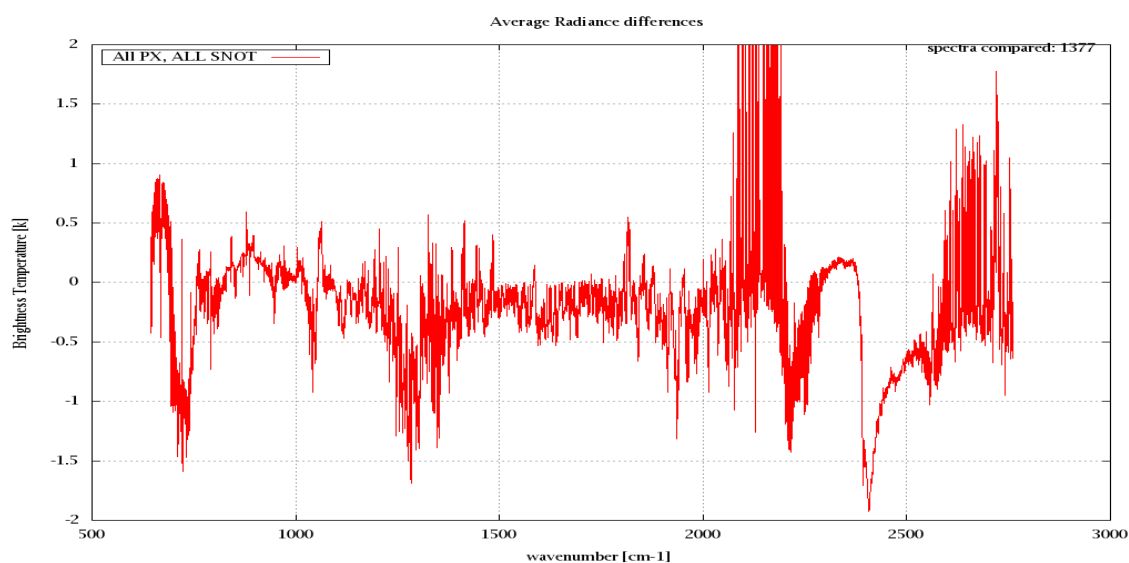


Figure 6: Average Radiance differences: OBS-CAL

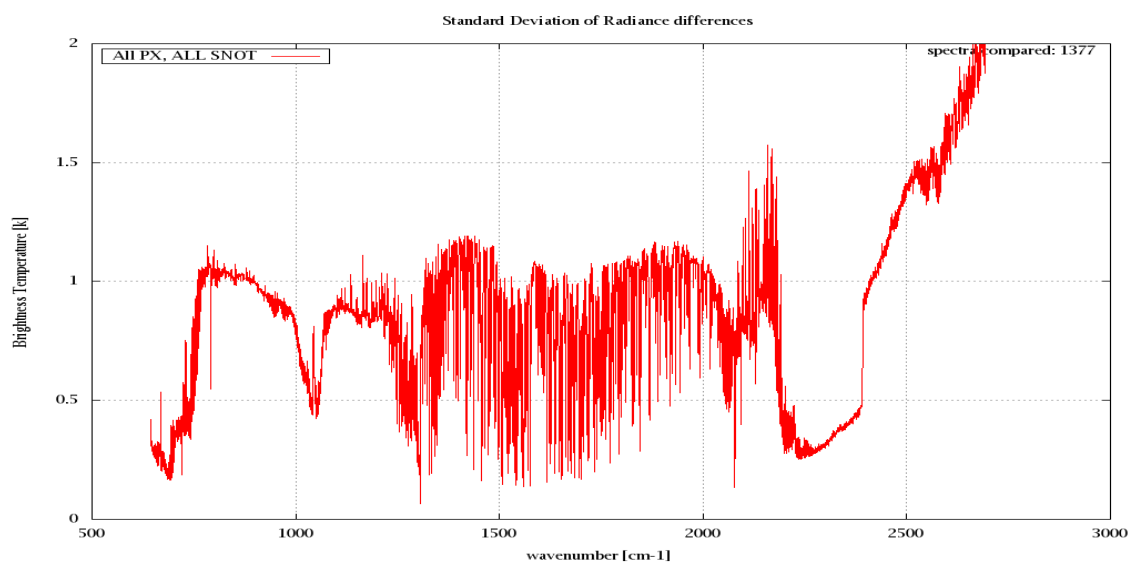


Figure 7: Standard Deviation of Radiance differences

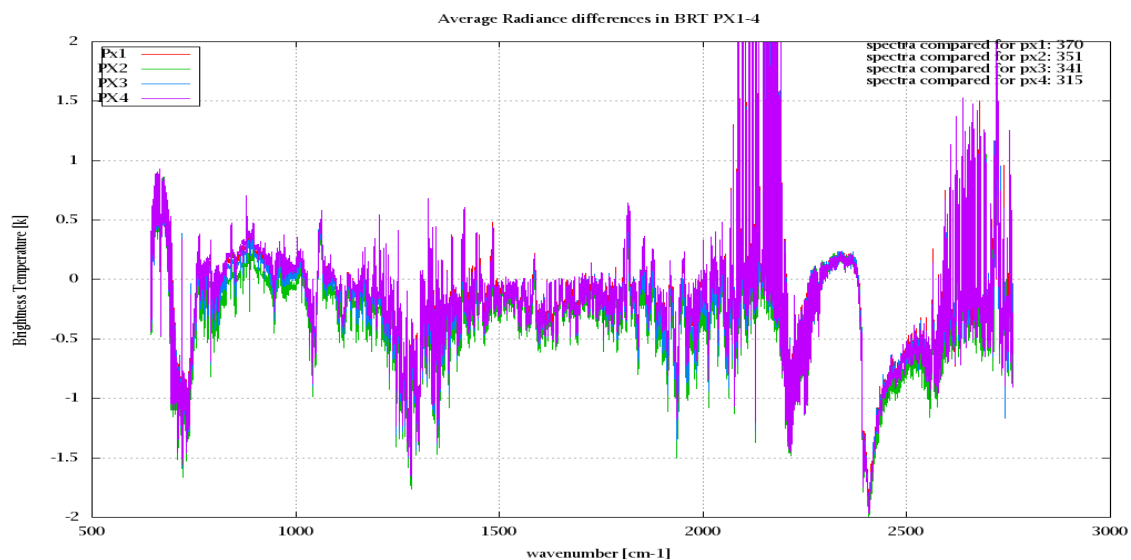


Figure 8: Average Radiance differences: OBS-CAL

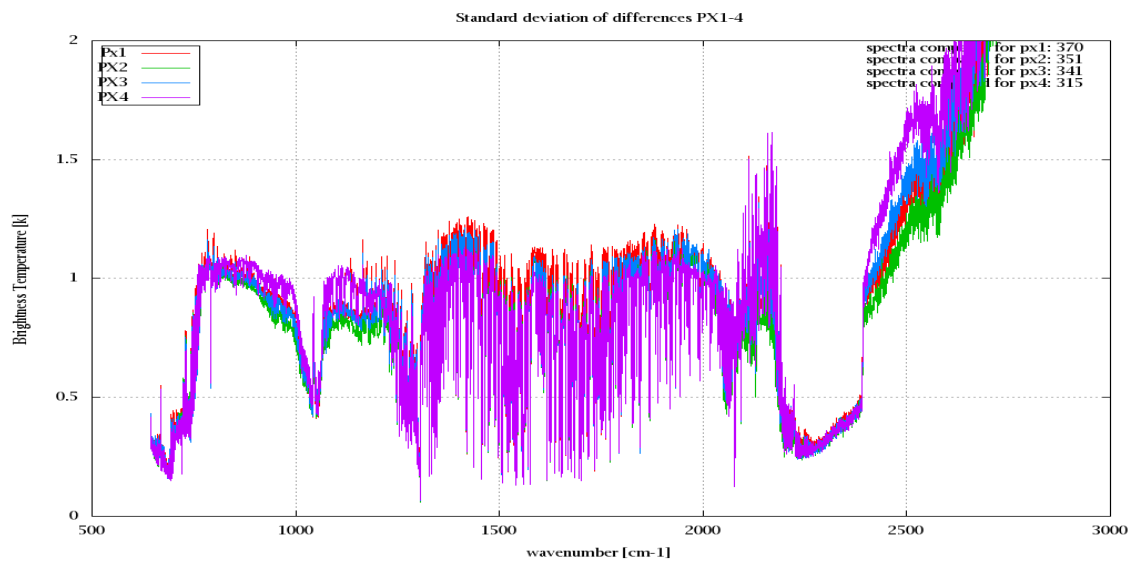


Figure 9: Standard Deviation of Radiance differences

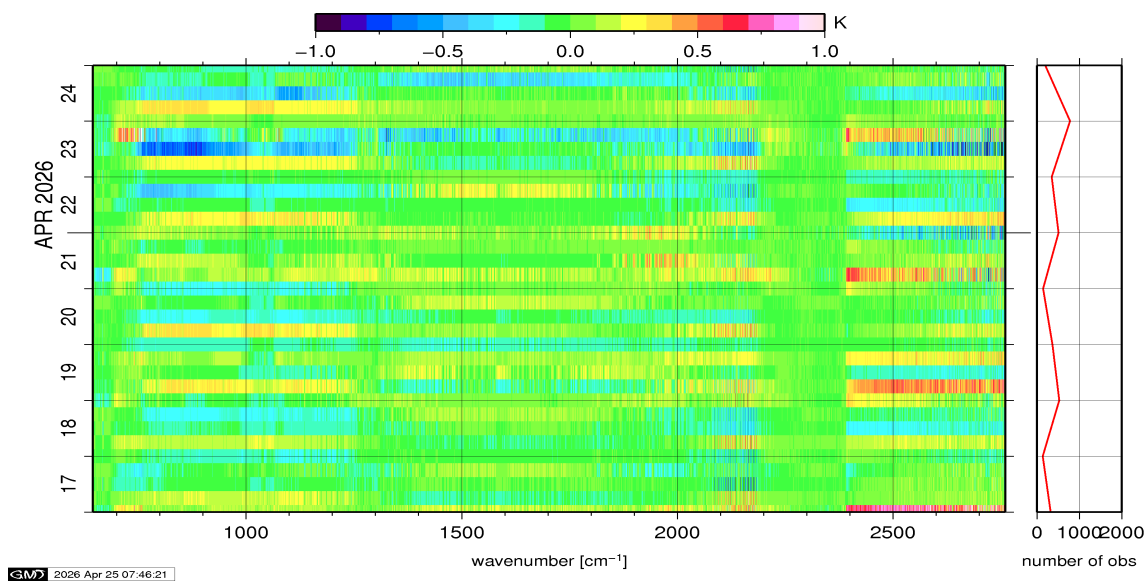


Figure 10: Radiance Anomaly in BT: All Channels

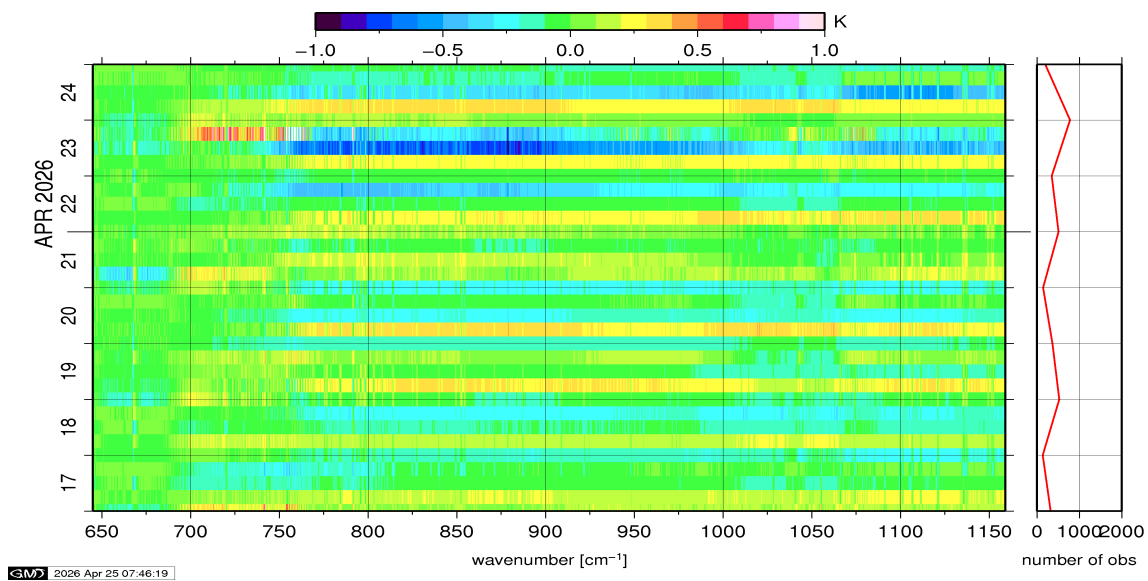


Figure 11: Radiance Anomaly in BT: IASI Band 1

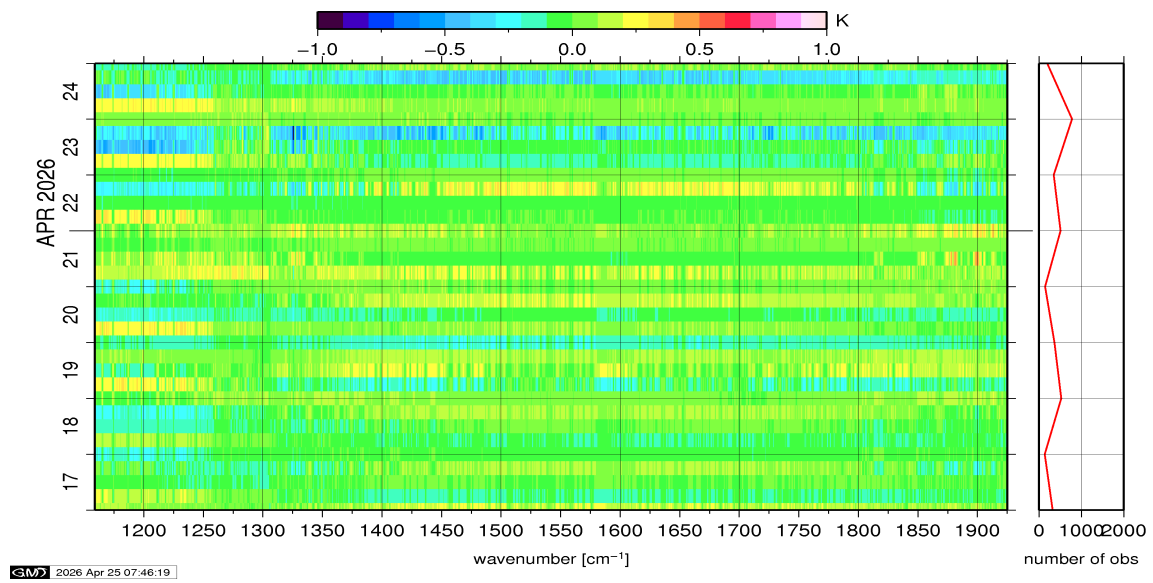


Figure 12: Radiance Anomaly in BT: IASI Band 2

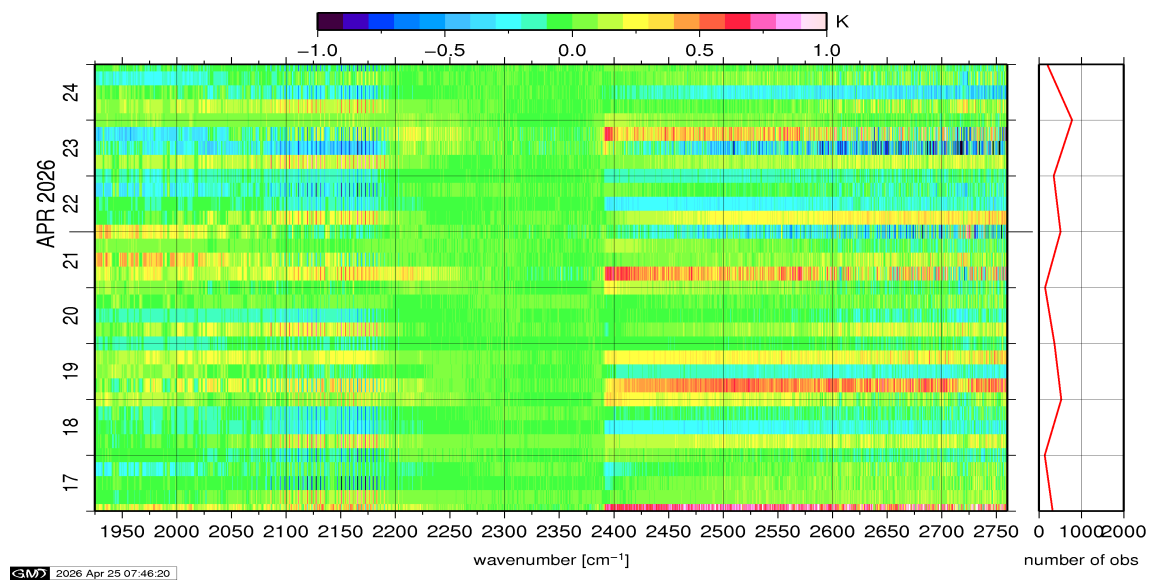


Figure 13: Radiance Anomaly in BT: IASI Band 3

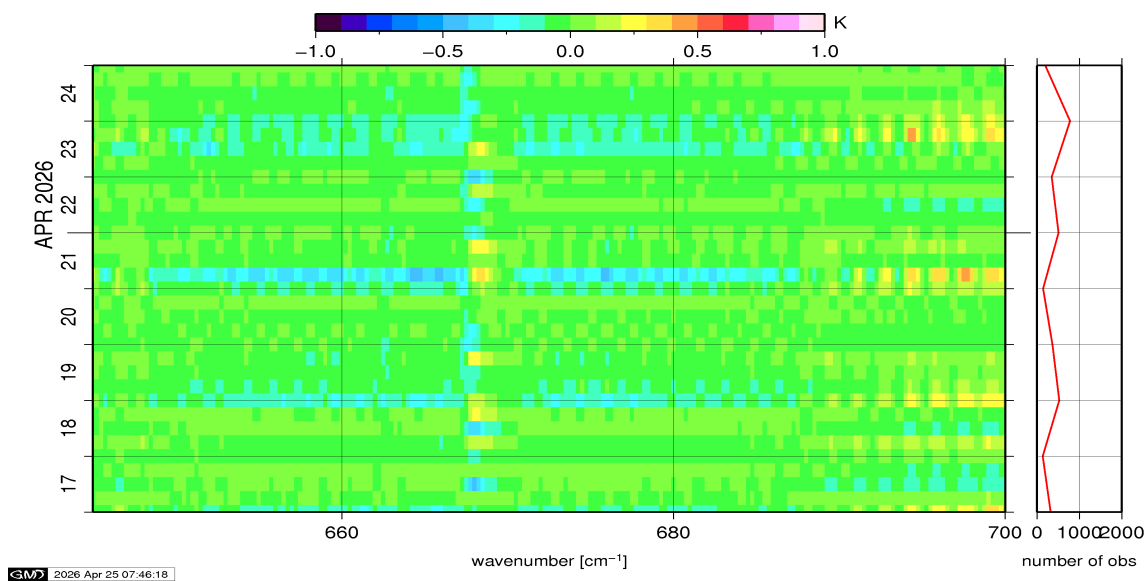


Figure 14: Radiance Anomaly in BT: CO2 14

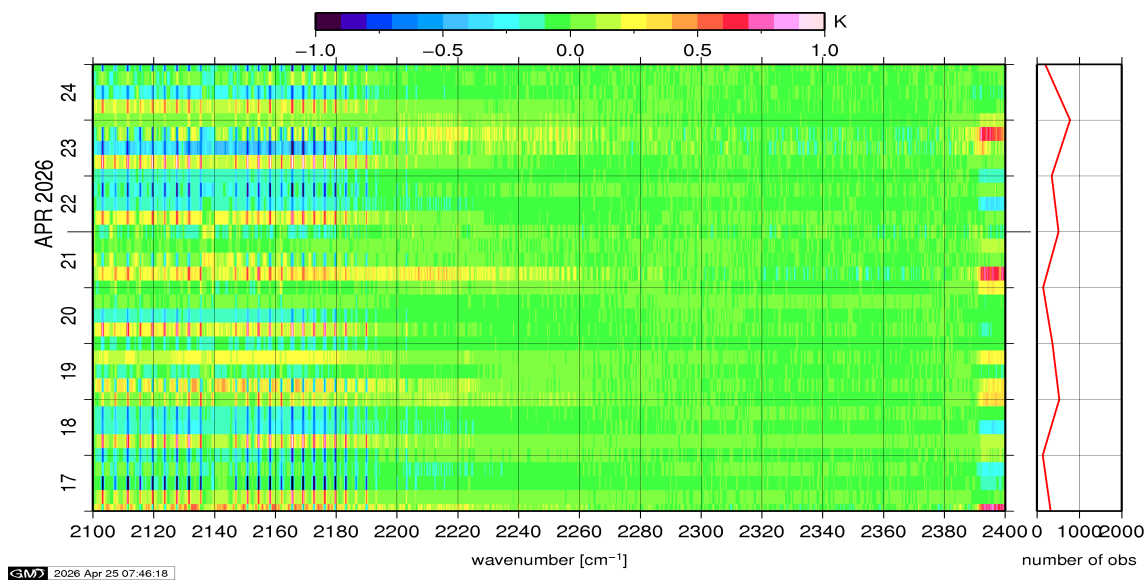


Figure 15: Radiance Anomaly in BT: CO2 4.3

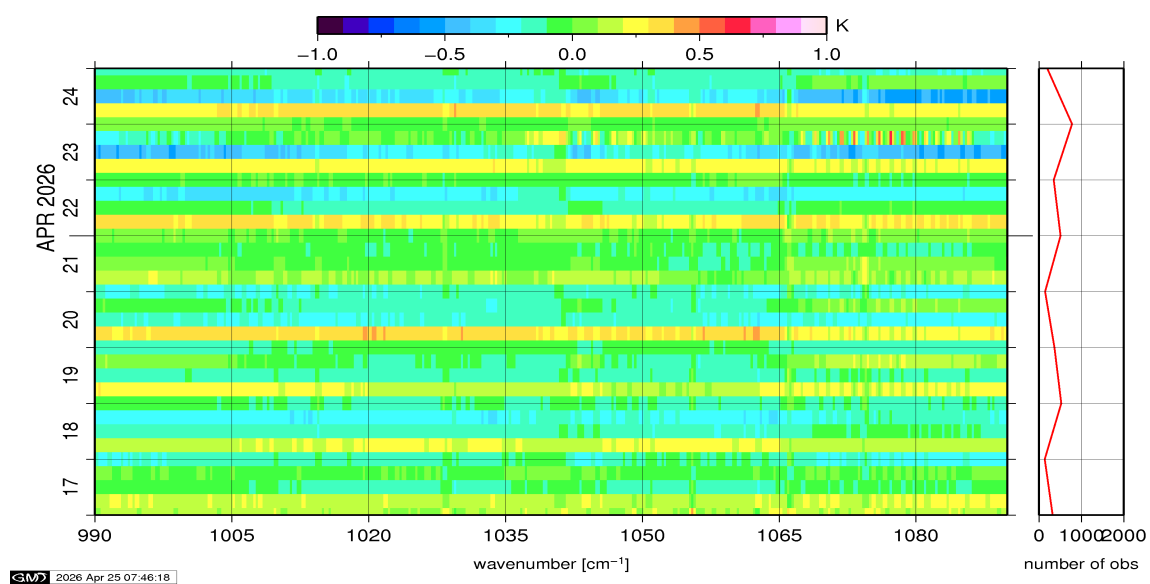


Figure 16: Radiance Anomaly in BT: O3

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.

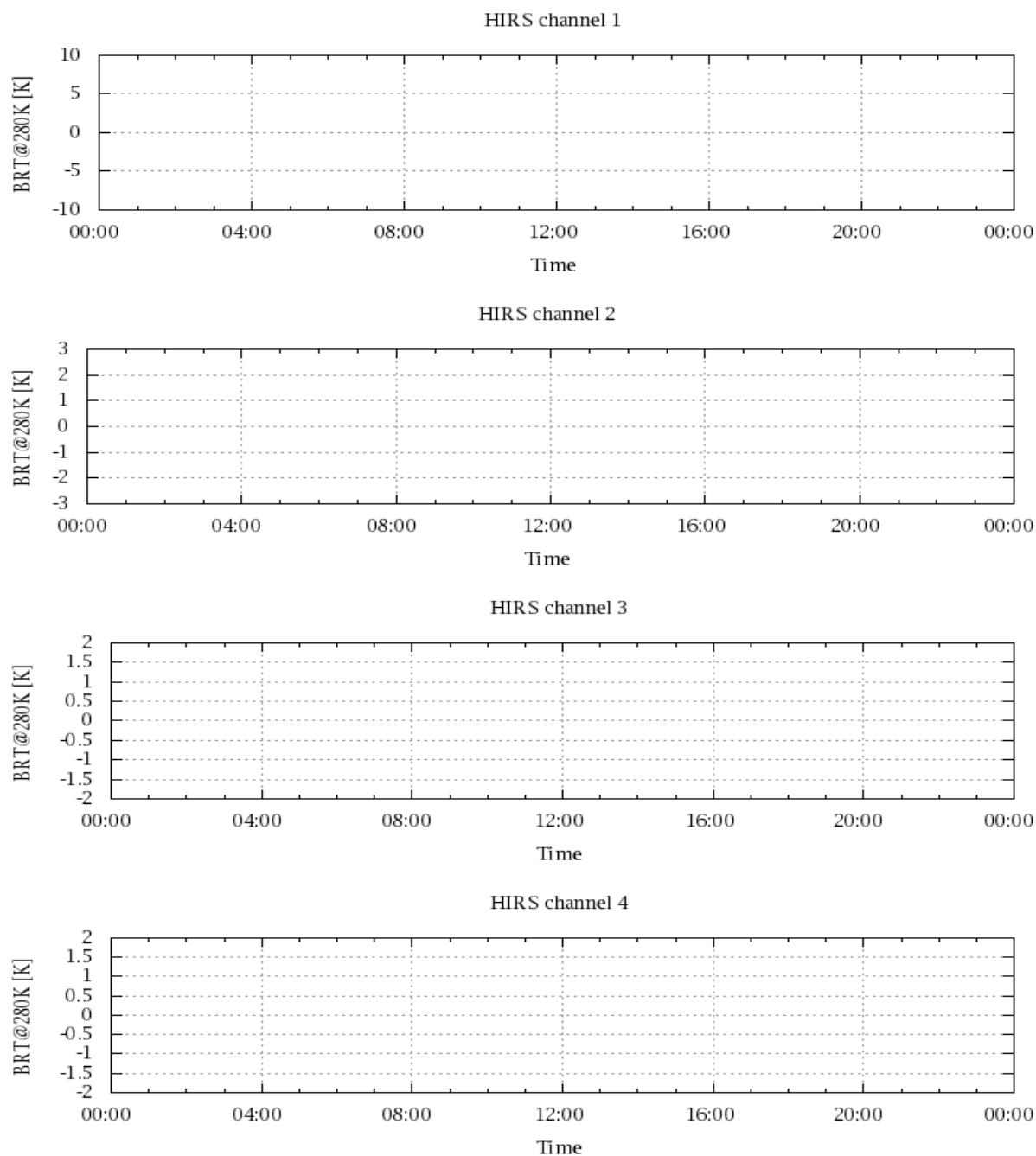


Figure 17: Radiance Differences in BT

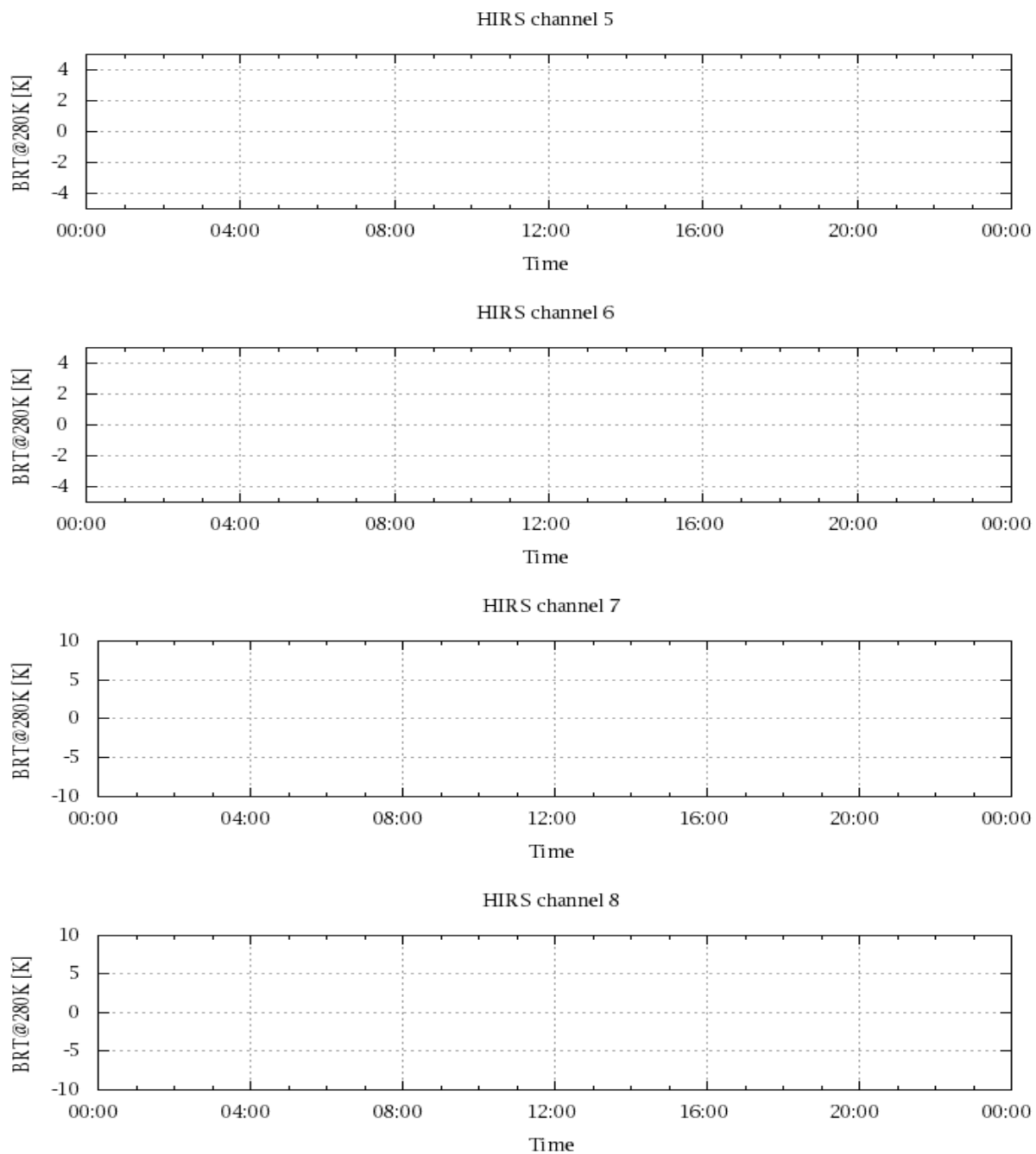


Figure 18: Radiance Differences in BT

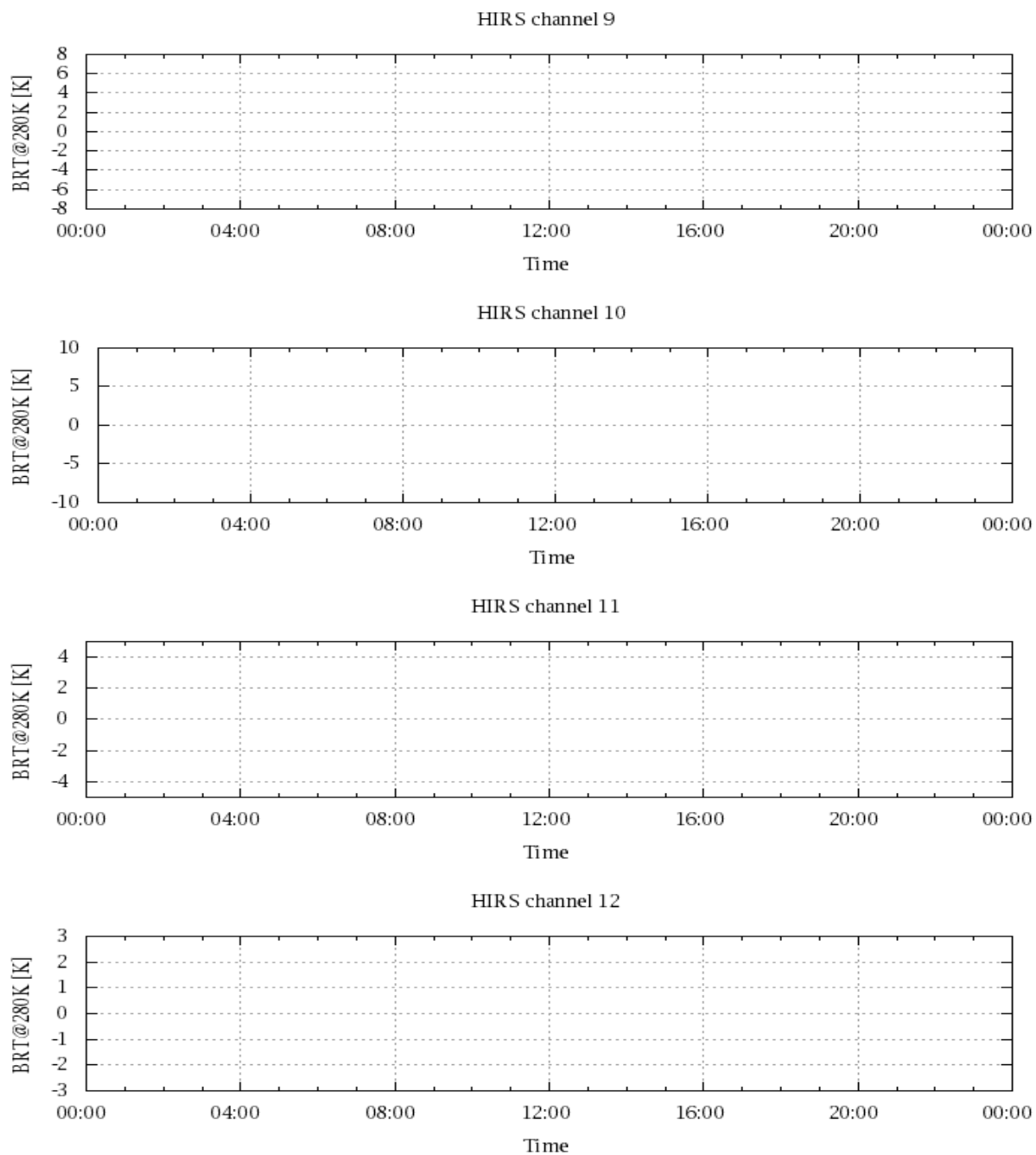


Figure 19: Radiance Differences in BT

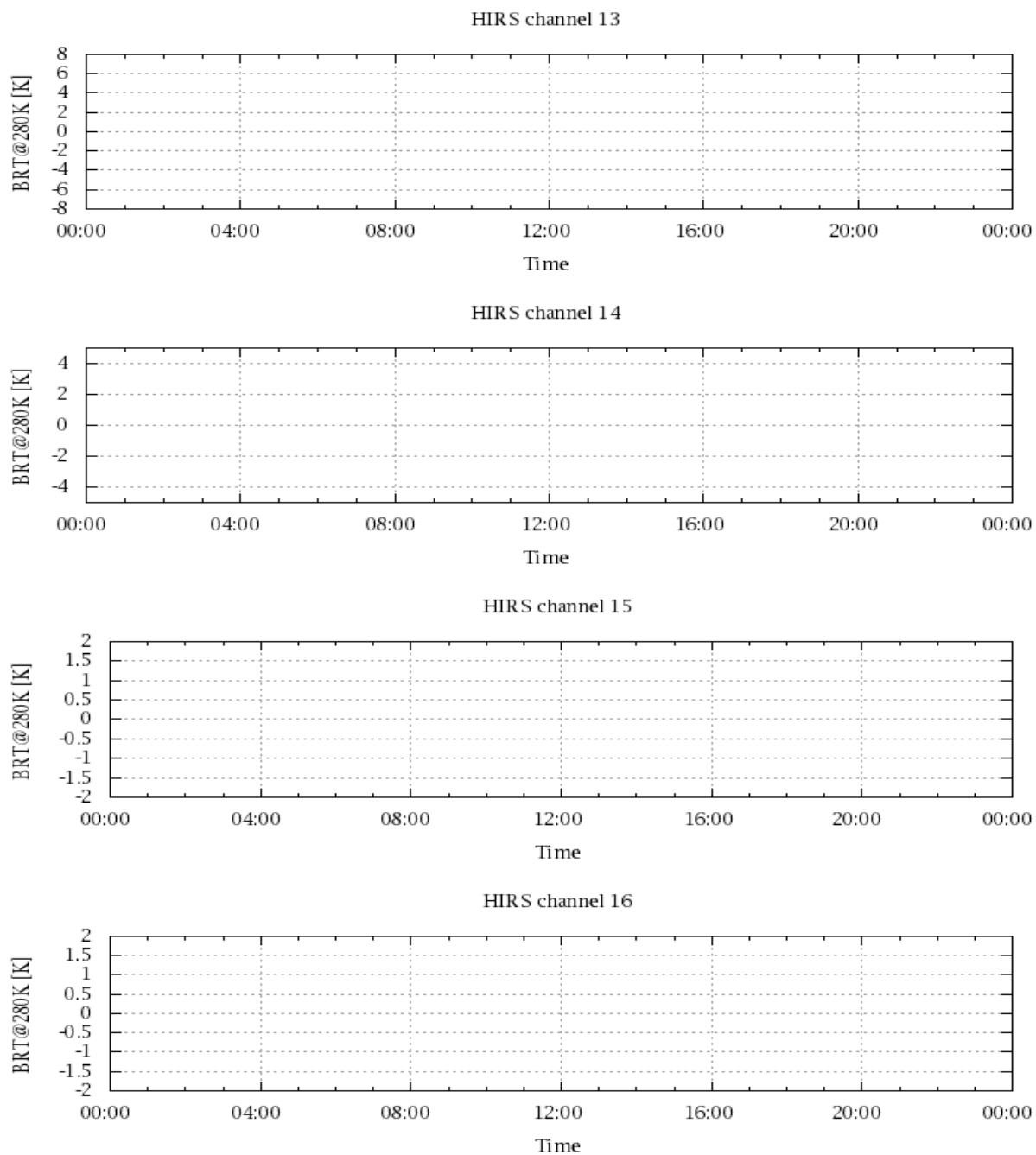


Figure 20: Radiance Differences in BT

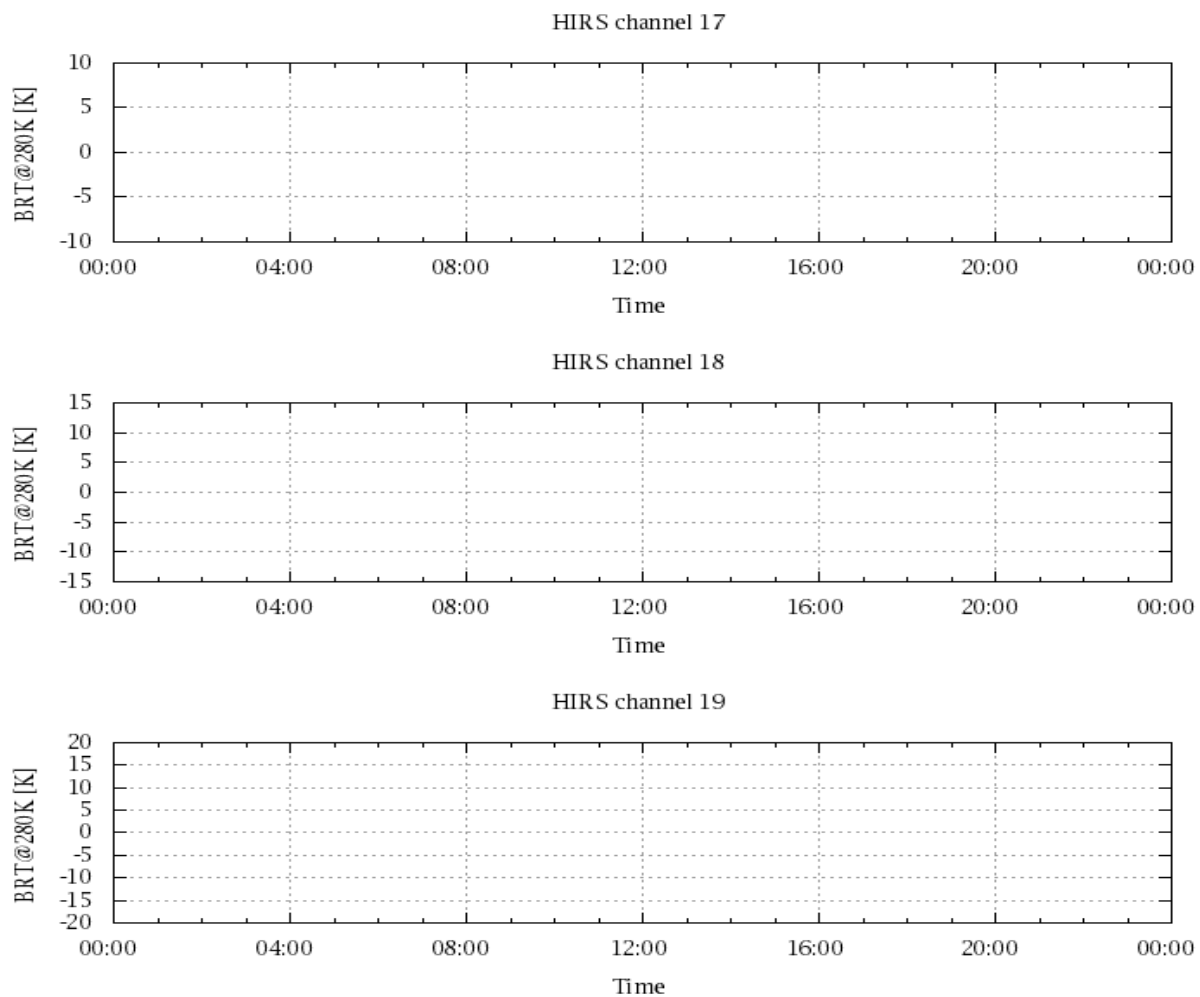


Figure 21: Radinace Differences in BT