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

IASI monitoring team

04/03/2026 00:00:00 - 05/03/2026 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 04/03/2026 00:00:00 - 05/03/2026 00:00:00 .

The monitoring data are extracted on PDU basis.

2 Data quantity 04/03/2026 00:00:00 - 05/03/2026 00:00:00

Product Type	Number	Action
L0 HKTM PDUs	481	-
L0 IASI PDUs	481	-
L1 ENG PDUs	479	-
L1 ENG distinct GEPSGranule	471	-
L1 DPX PDUs (RM: IASI-HIRS)	0	e
L1 DPS Files (RM: OBS-CAL NWP based)	479	-

Table 1: Data quantity

APID	Seq from	Seq to	Time from	Time to
PX1 (130)	10755	10805	20260304103218.515	20260304103232.355
PX1 (130)	10817	10819	20260304103234.948	20260304103235.382
PX1 (130)	2898	2905	20260304193957.046	20260304193958.561
PX1 (130)	3257	3288	20260304194131.315	20260304194141.045
PX1 (130)	3497	3678	20260304194235.350	20260304194325.080
PX2 (135)	10756	10808	20260304103218.734	20260304103233.003
PX2 (135)	2898	2905	20260304193957.046	20260304193958.561
PX2 (135)	3257	3288	20260304194131.315	20260304194141.045
PX2 (135)	3497	3678	20260304194235.350	20260304194325.080
PX3 (140)	10756	10805	20260304103218.734	20260304103232.355
PX3 (140)	10813	10815	20260304103234.085	20260304103234.515
PX3 (140)	10815	10818	20260304103234.515	20260304103235.163
PX3 (140)	2898	2905	20260304193957.046	20260304193958.561
PX3 (140)	3257	3288	20260304194131.315	20260304194141.045
PX3 (140)	3497	3678	20260304194235.350	20260304194325.080
PX4 (145)	10756	10805	20260304103218.734	20260304103232.355
PX4 (145)	10807	10809	20260304103232.788	20260304103233.218
PX4 (145)	10812	10814	20260304103233.866	20260304103234.300
PX4 (145)	10817	10819	20260304103234.948	20260304103235.382

Continued on next page

Table 2 – continued from previous page

APID	Seq from	Seq to	Time from	Time to
PX4 (145)	2898	2904	20260304193957.046	20260304193958.346
PX4 (145)	3257	3288	20260304194131.315	20260304194141.045
PX4 (145)	3497	3678	20260304194235.350	20260304194325.080
IMG (150)	11784	11840	20260304103218.734	20260304103232.136
IMG (150)	11848	11850	20260304103233.866	20260304103234.300
IMG (150)	3974	3980	20260304193957.046	20260304193958.346
IMG (150)	4377	4412	20260304194131.315	20260304194139.749
IMG (150)	4649	4853	20260304194235.350	20260304194323.350
VER (160)	5386	5397	20260304103211.382	20260304103235.382
VER (160)	9598	9606	20260304194131.315	20260304194131.315
VER (160)	9638	9668	20260304194235.350	20260304194323.350
AUX (180)	4352	4355	20260304103211.812	20260304103235.812
AUX (180)	8471	8473	20260304194123.749	20260304194139.749
AUX (180)	8479	8486	20260304194227.776	20260304194323.780

Table 2: L0 data gaps

3 Instrument modes

Time	Transition from	Transition to
04/03/2026 00:00:01	-	Normal operation

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	471	-
GQisFlagQual set (PX1)	99.64 %	-
GQisFlagQual set (PX2)	99.71 %	-
GQisFlagQual set (PX3)	99.73 %	-
GQisFlagQual set (PX4)	99.65 %	-
GQisFlagQual set (all)	99.68 %	-

Table 4: Quality flags

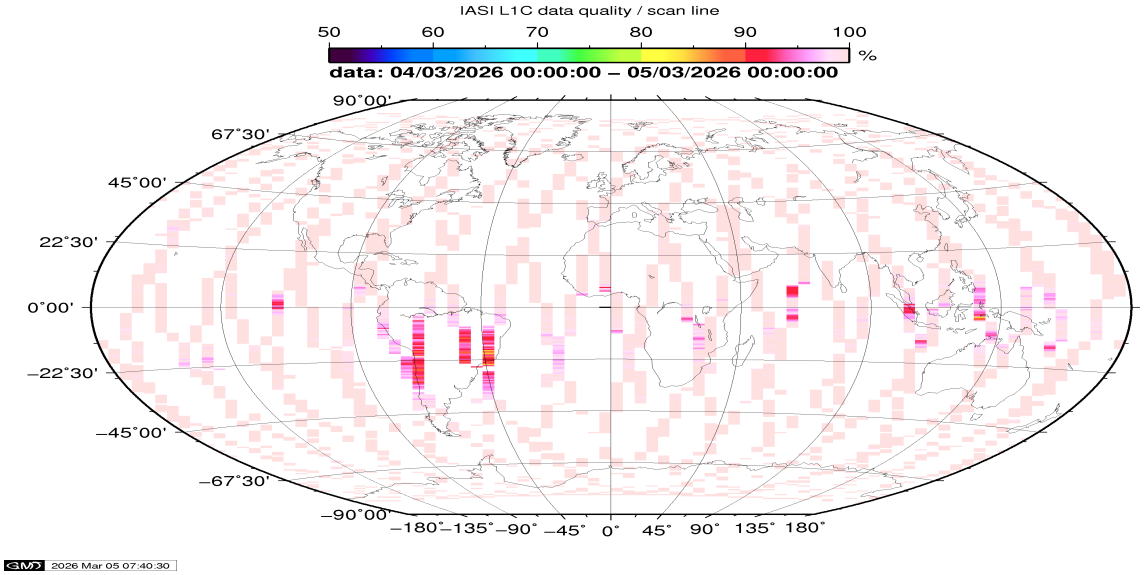

Figure 1: L1C data quality

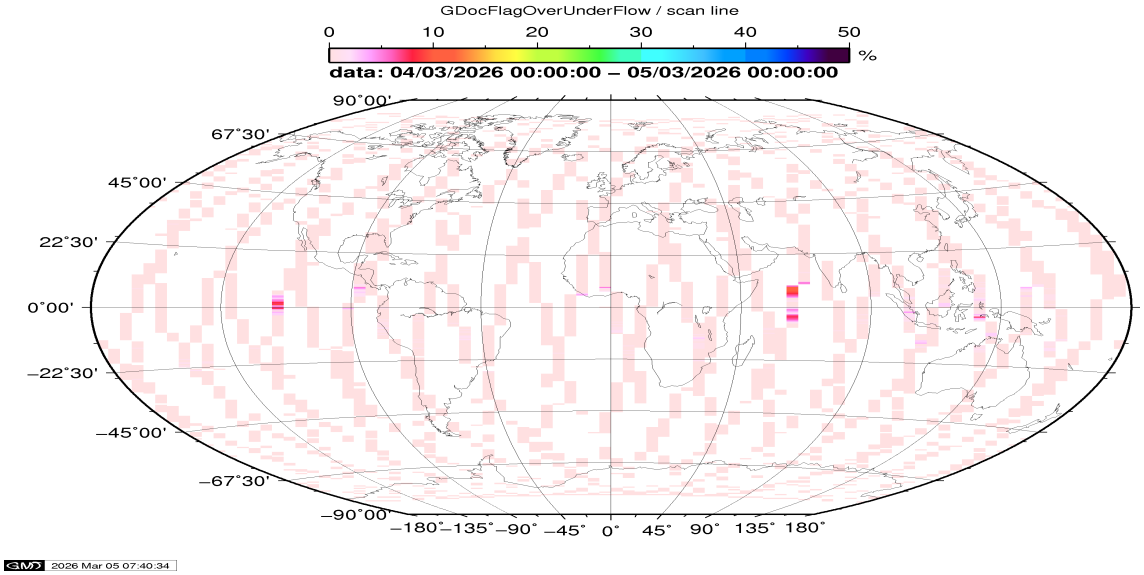

Figure 2: Flag of Over and Under Flows

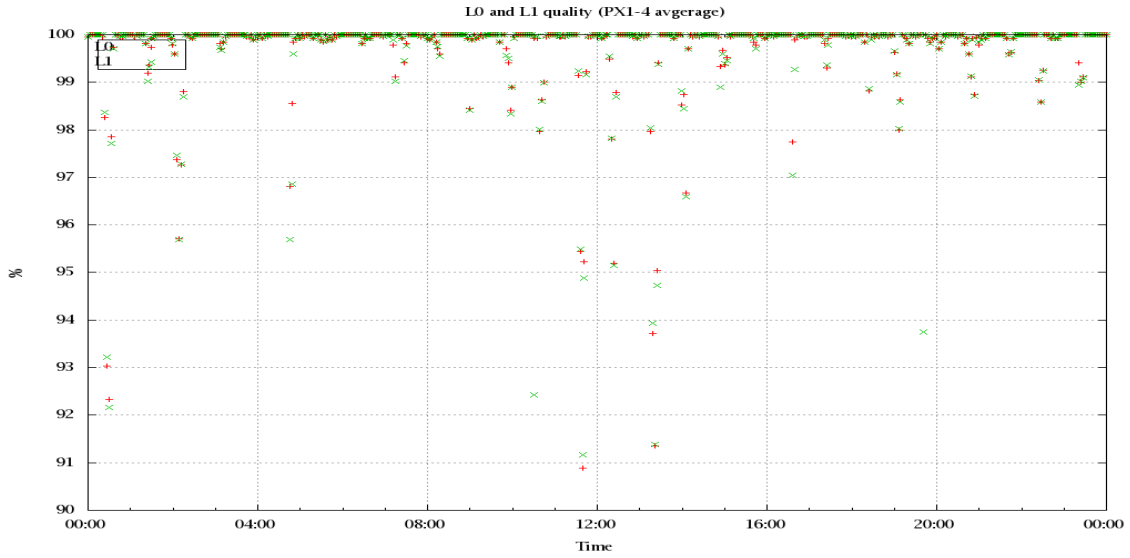

Figure 3: Level 0 and 1C overall quality

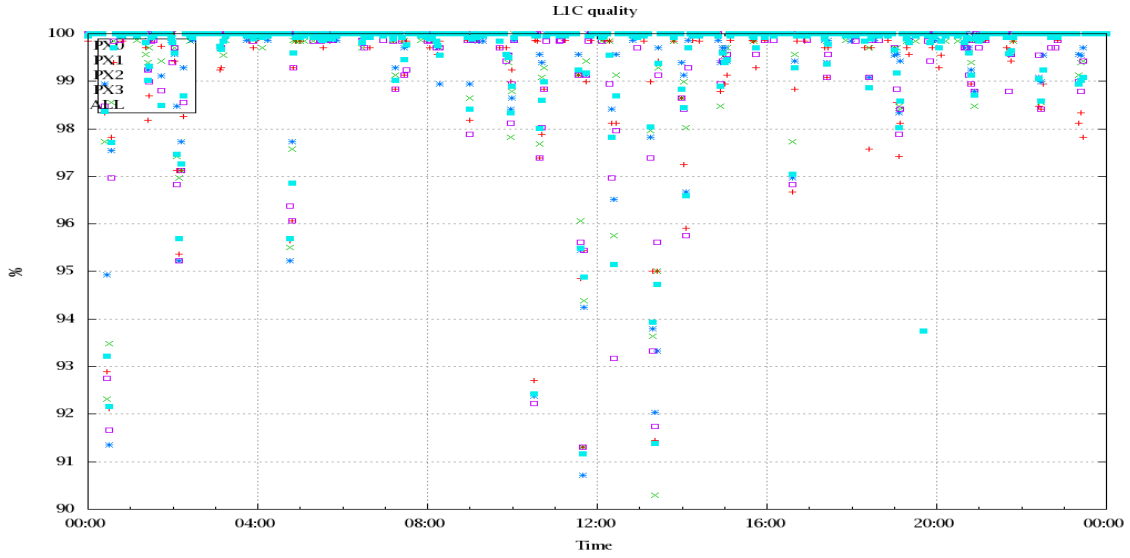

Figure 4: Level 1C quality

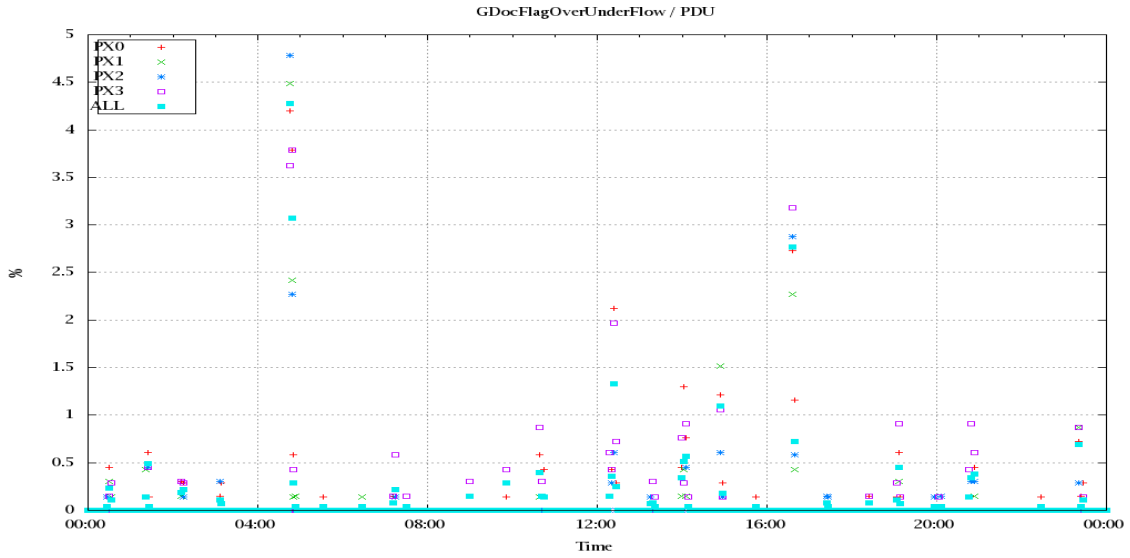

Figure 5: Timeseries of flag of Over and Under Flows

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 indentification 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.

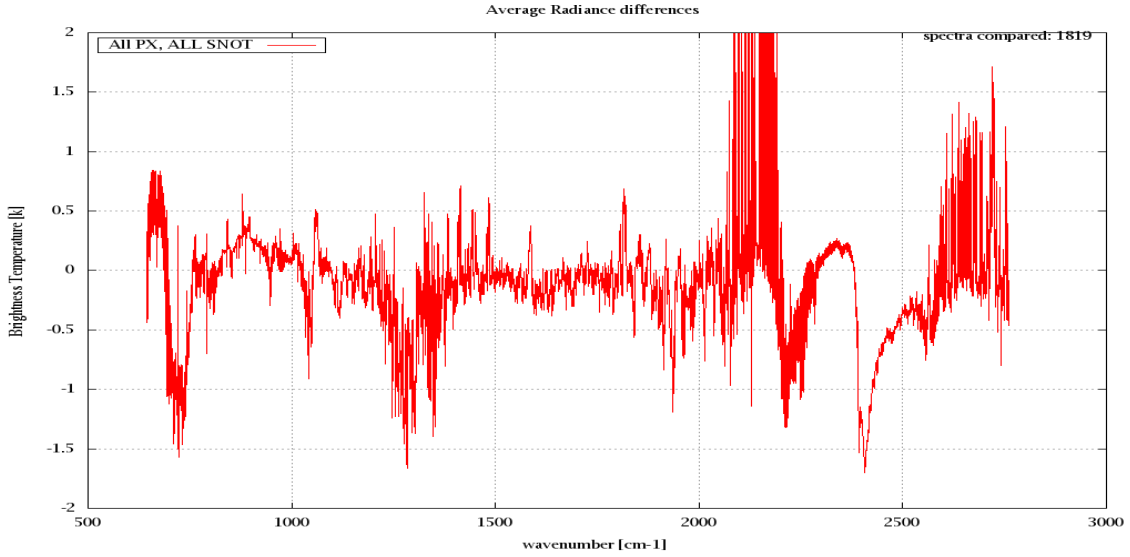

Figure 6: Average Radiance differences: OBS-CAL

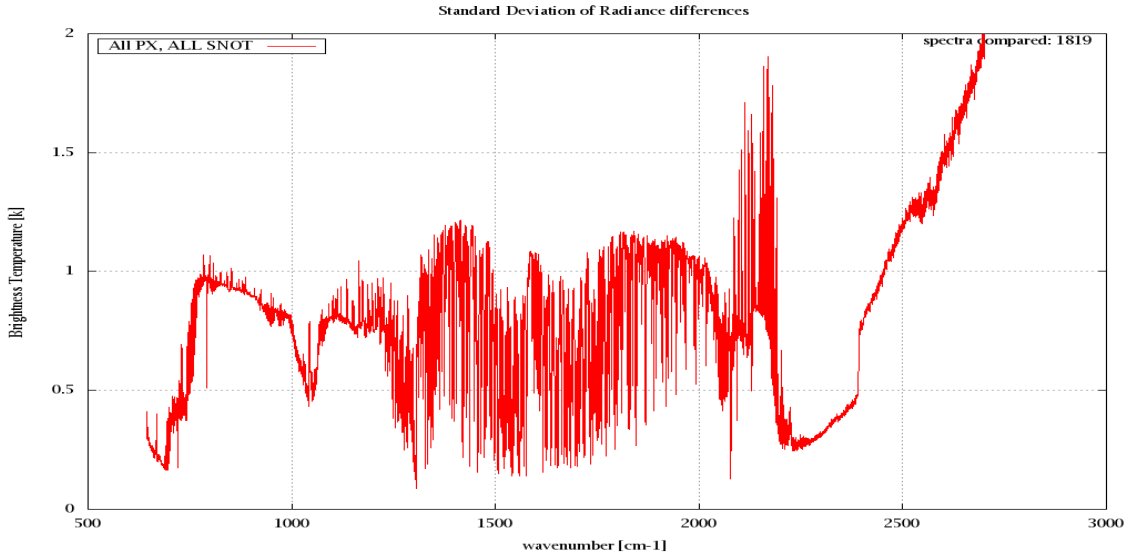

Figure 7: Standard Deviation of Radiance differences

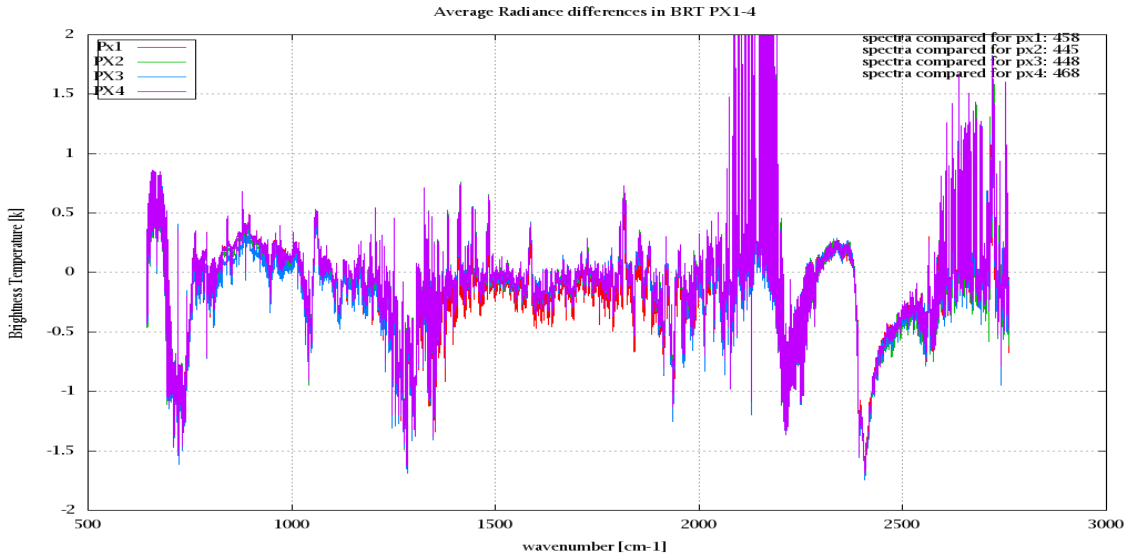

Figure 8: Average Radiance differences: OBS-CAL

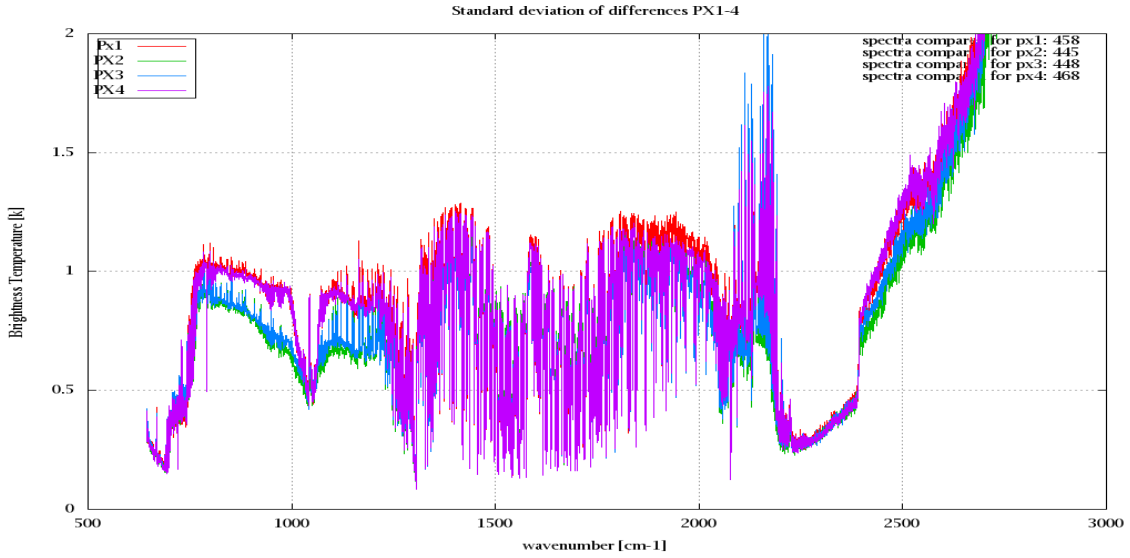

Figure 9: Standard Deviation of Radiance differences

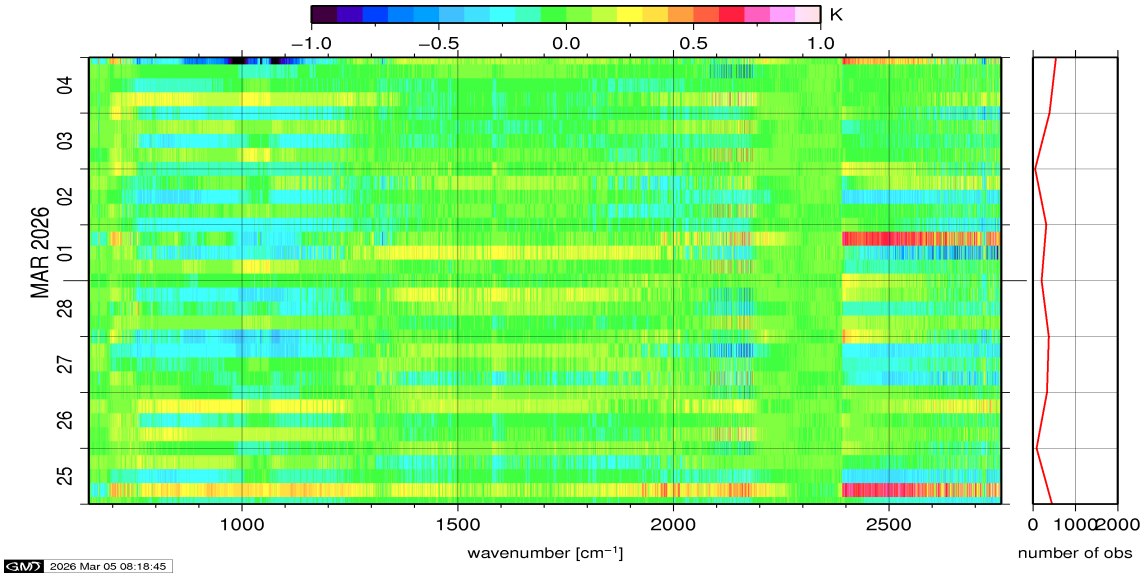

Figure 10: Radiance Anomaly in BT: All Channels

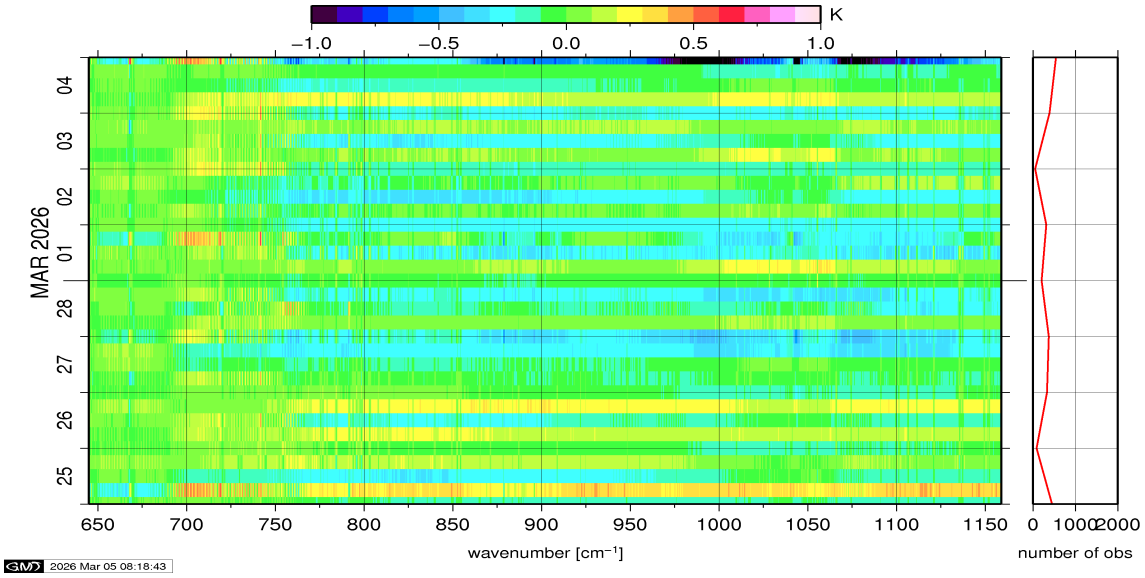

Figure 11: Radiance Anomaly in BT: IASI Band 1

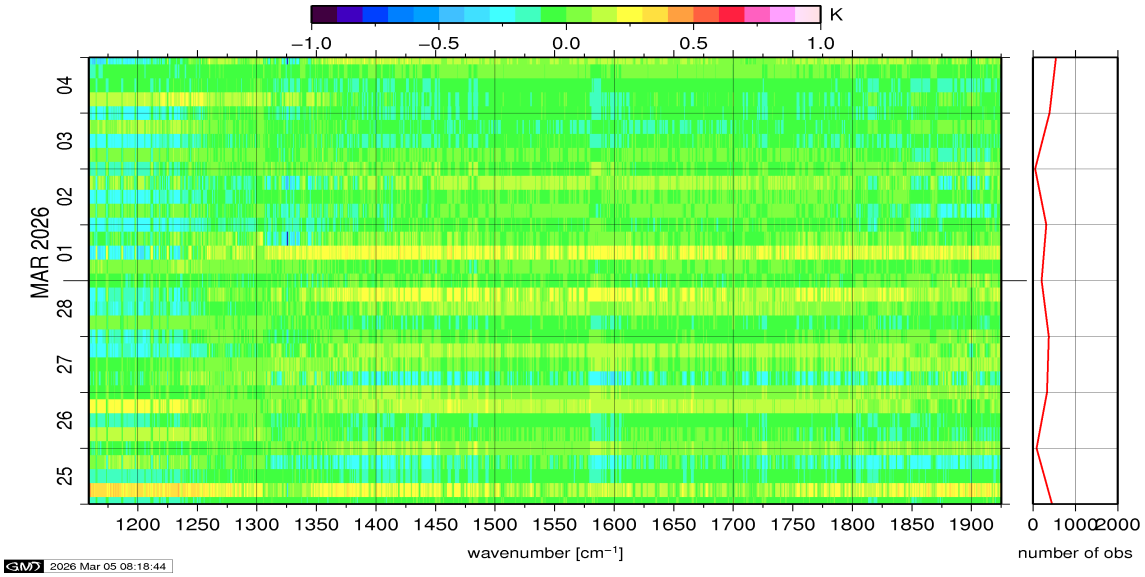

Figure 12: Radiance Anomaly in BT: IASI Band 2

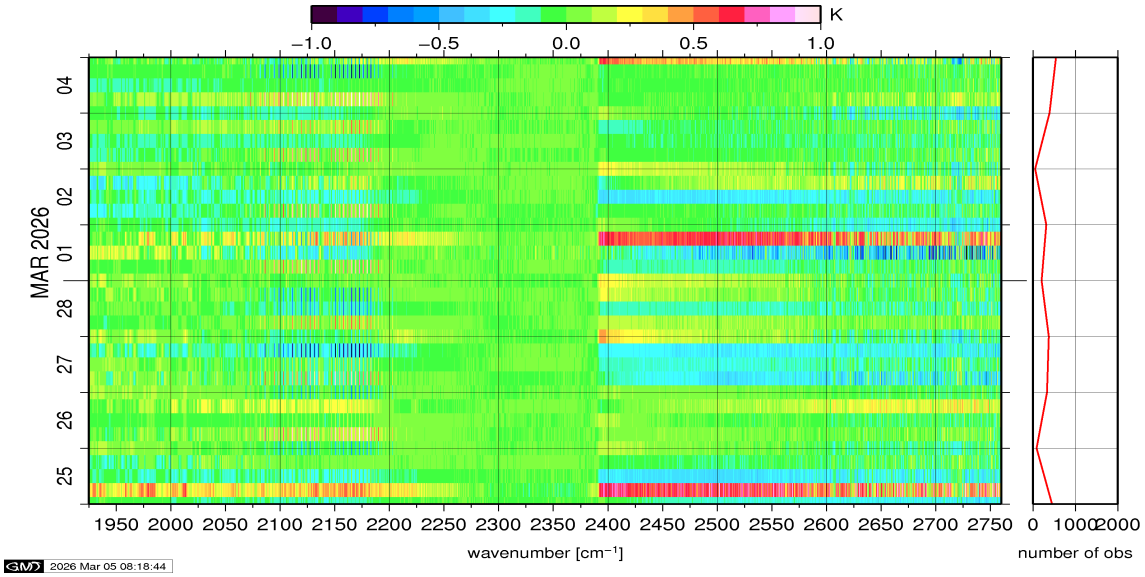

Figure 13: Radiance Anomaly in BT: IASI Band 3

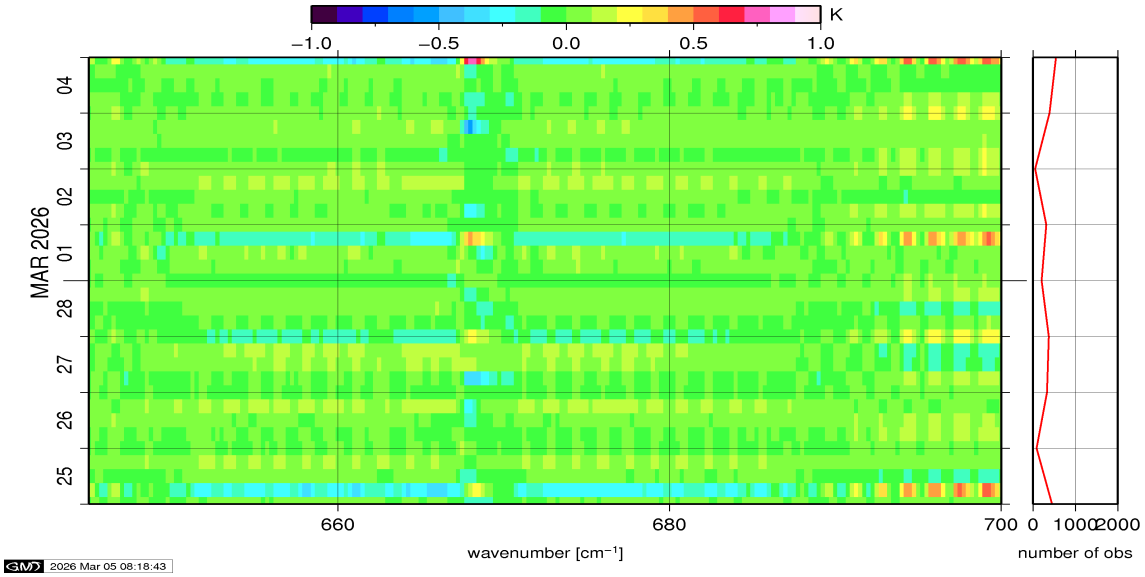

Figure 14: Radiance Anomaly in BT: CO2 14

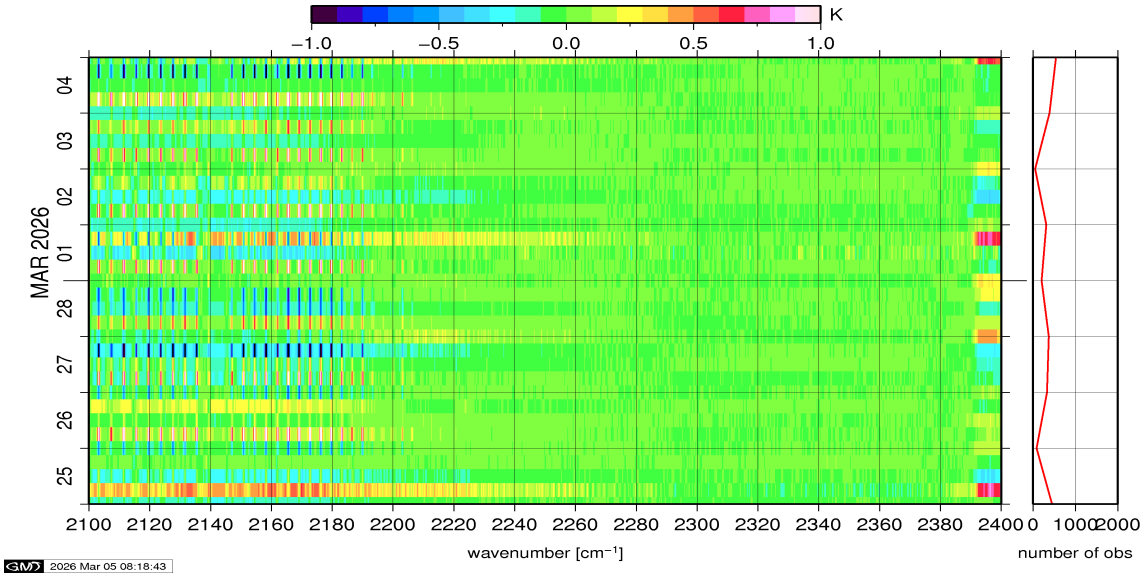

Figure 15: Radiance Anomaly in BT: CO2 4.3

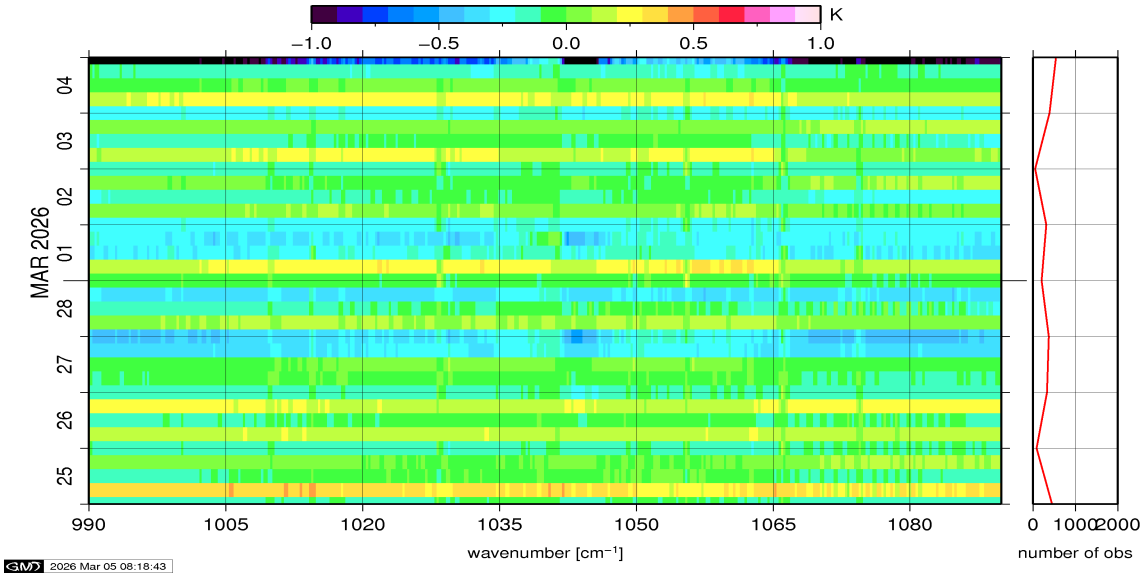

Figure 16: Radiance Anomaly in BT: O3

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.

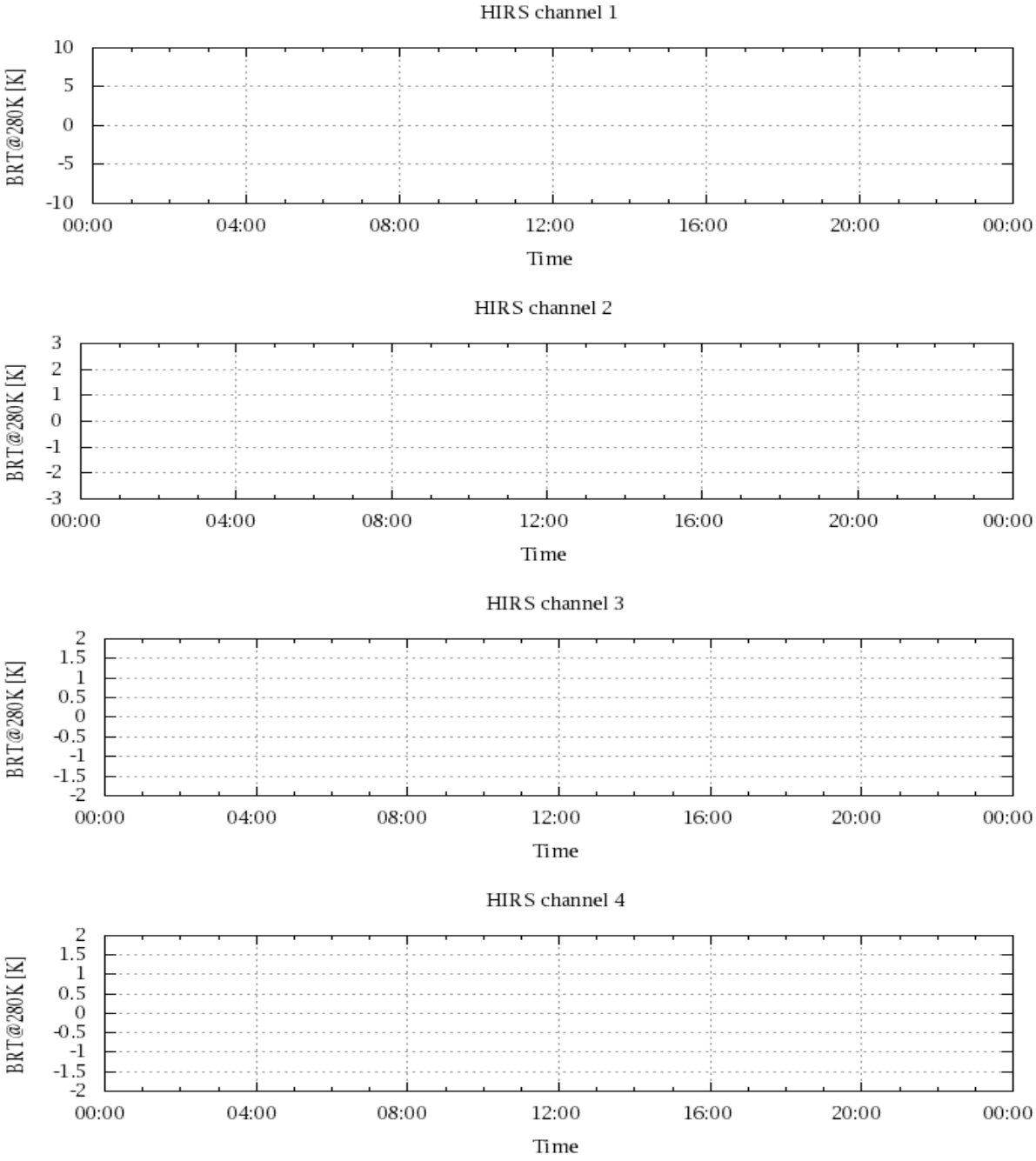

Figure 17: Radiance Differences in BT

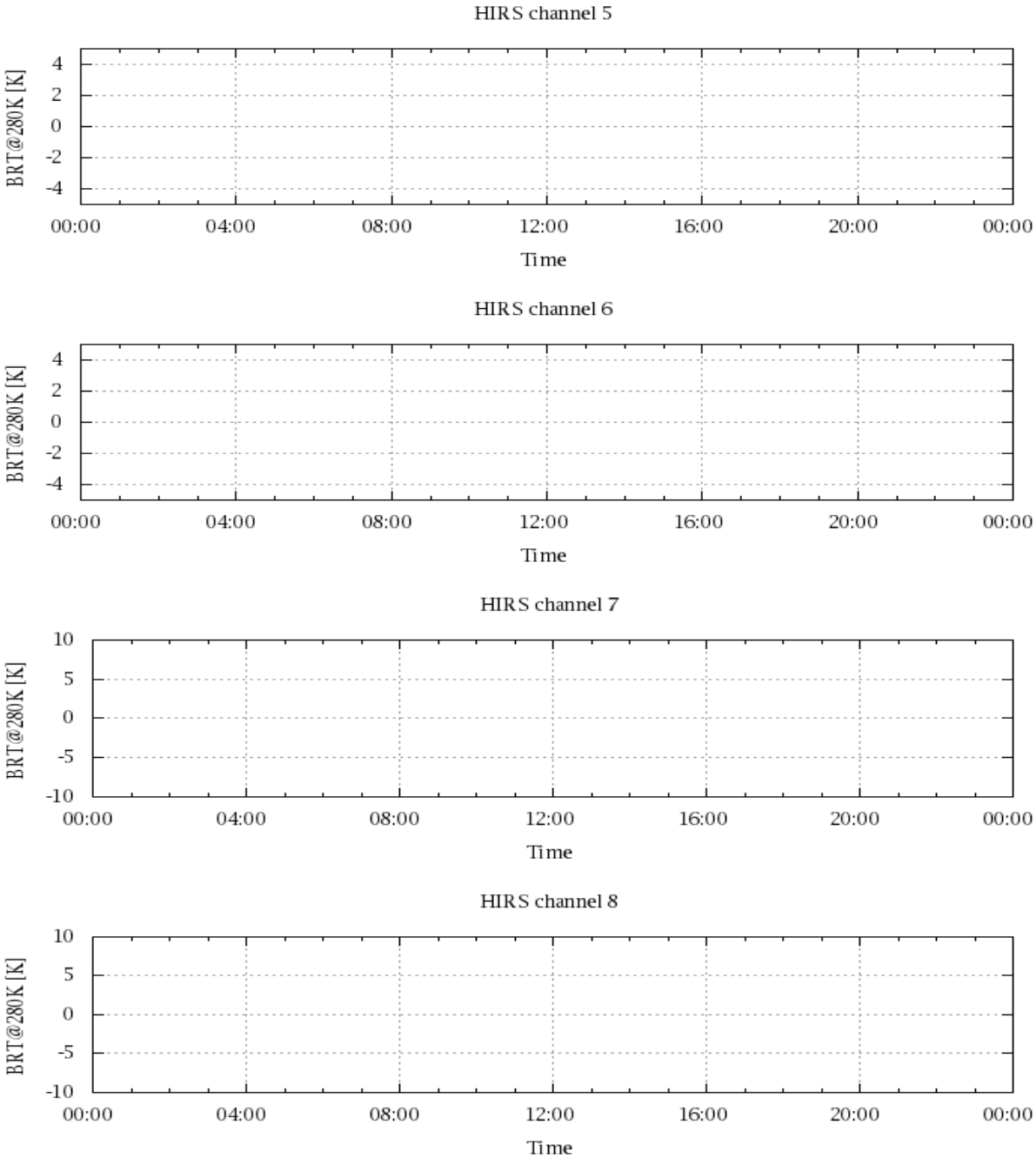

Figure 18: Radiance Differences in BT

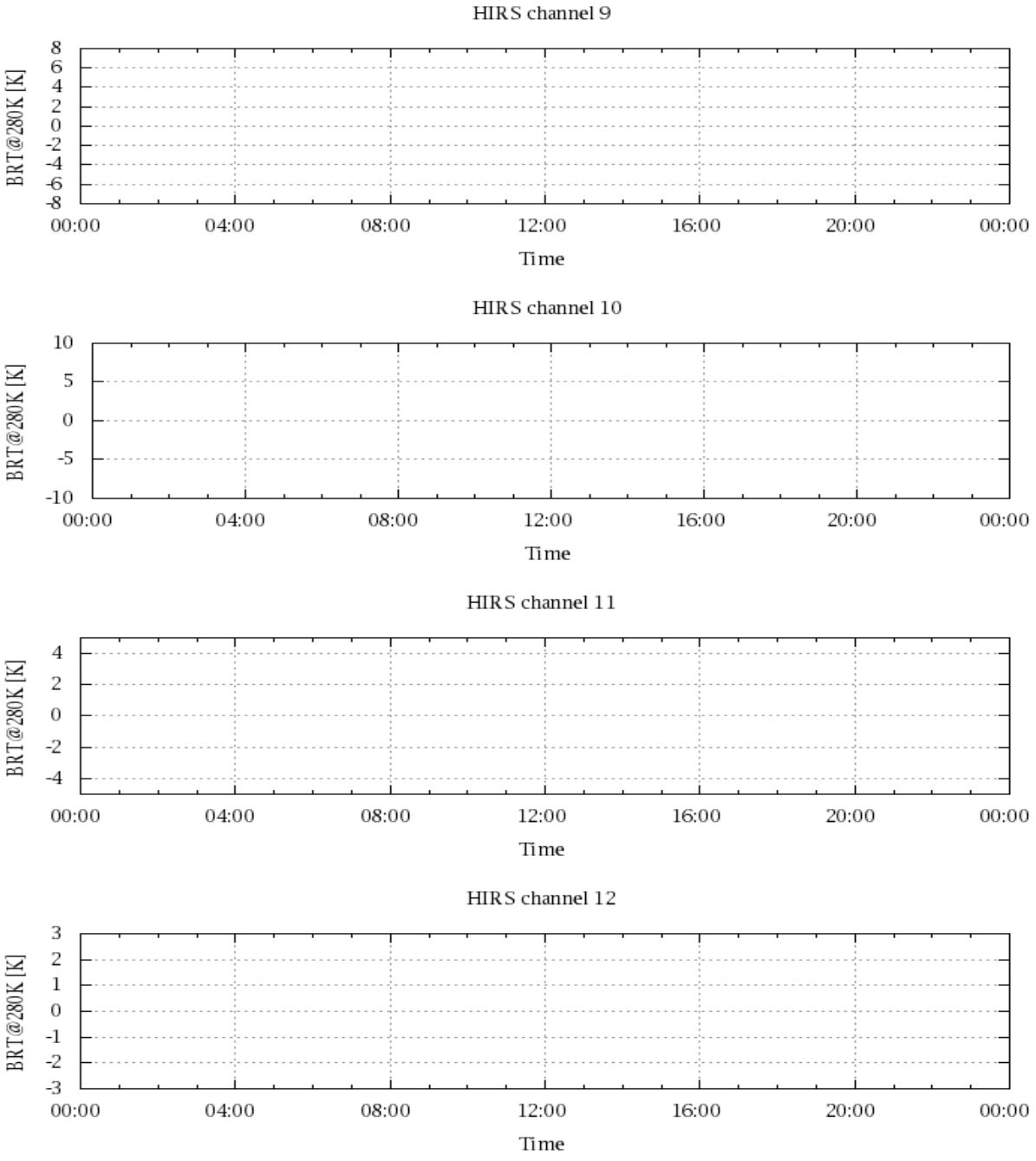

Figure 19: Radiance Differences in BT

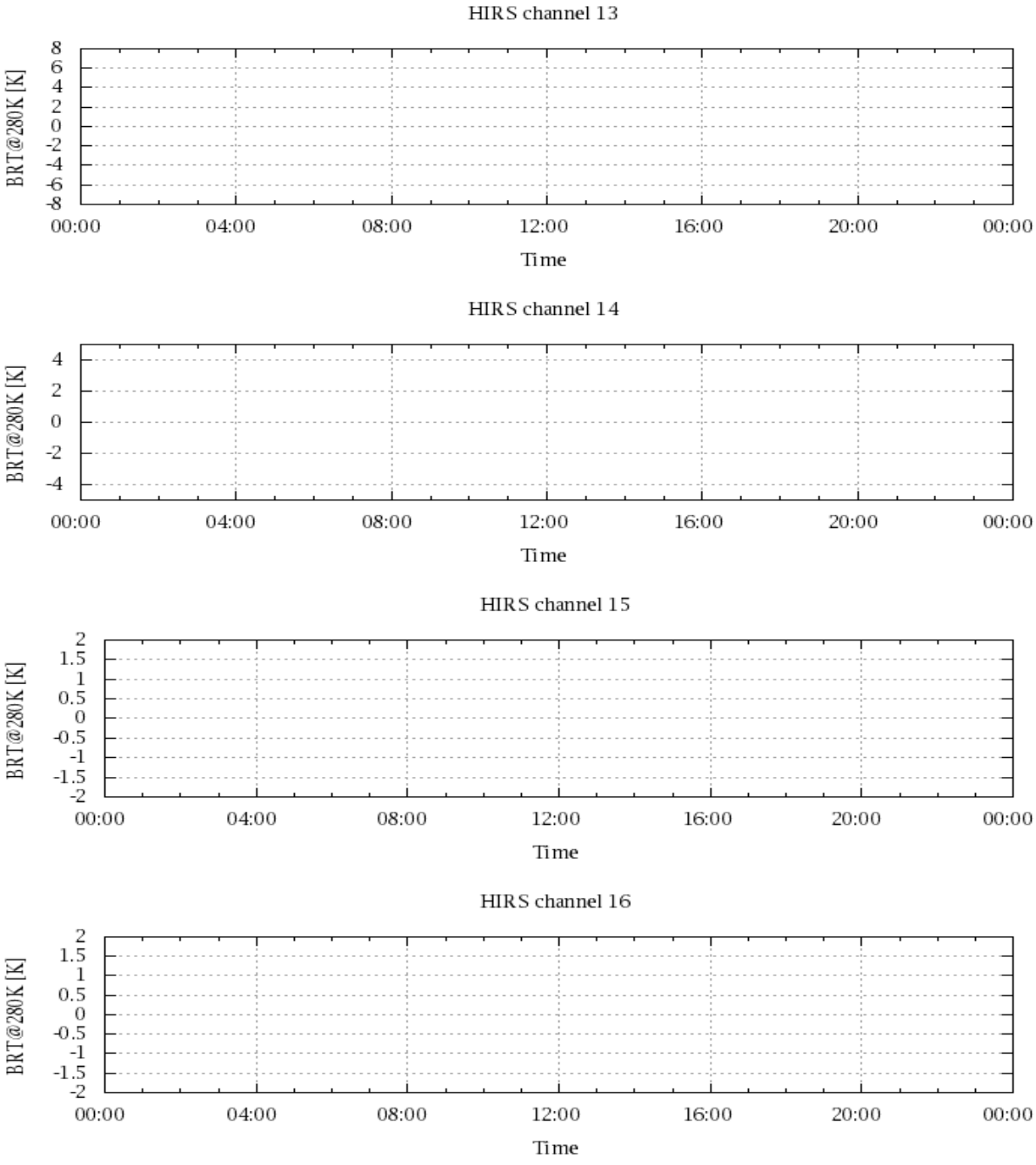

Figure 20: Radiance Differences in BT

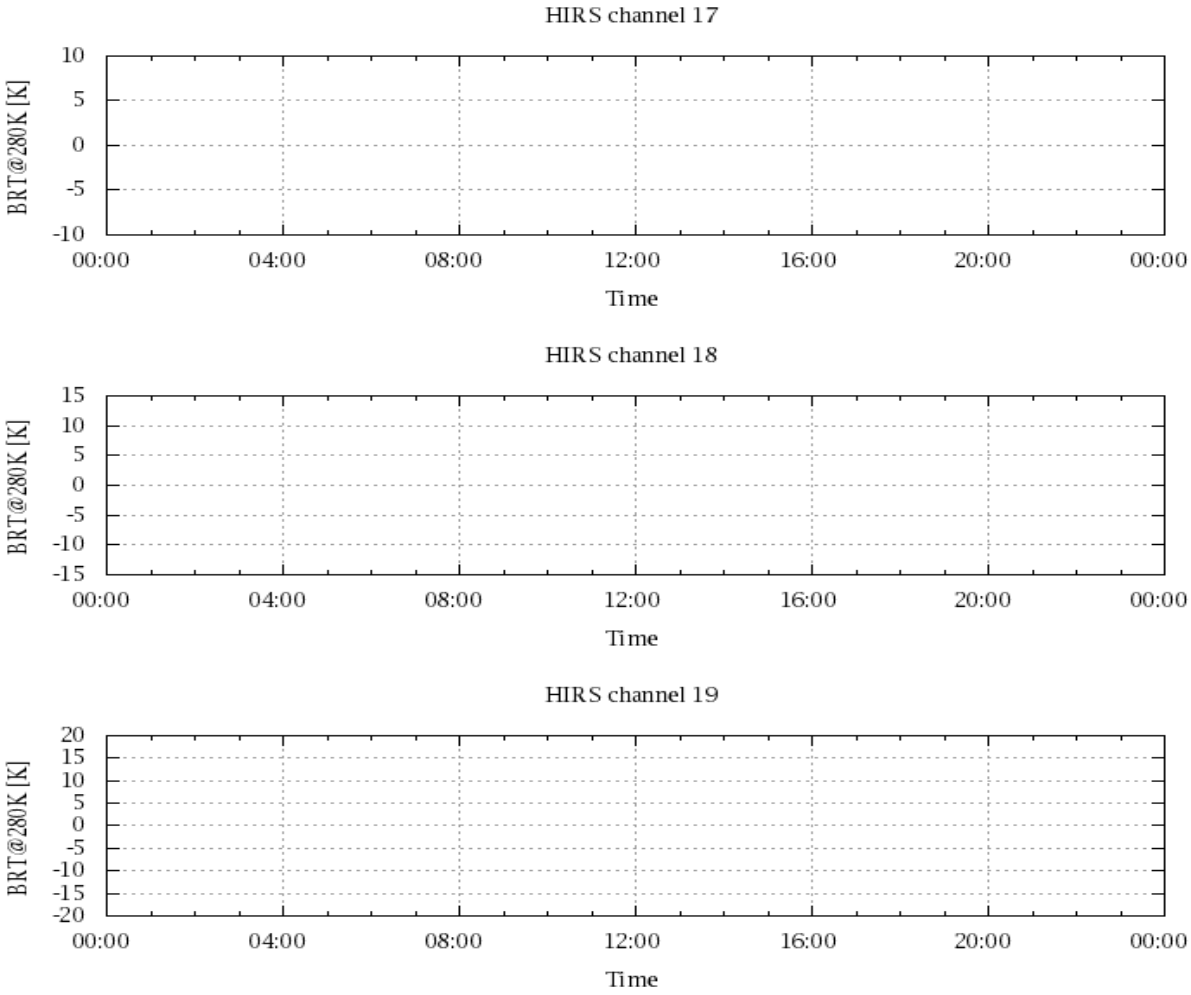

Figure 21: Radinace Differences in BT