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

IASI monitoring team

26/04/2026 00:00:00 - 27/04/2026 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 26/04/2026 00:00:00 - 27/04/2026 00:00:00 .

The monitoring data are extracted on PDU basis.

2 Data quantity 26/04/2026 00:00:00 - 27/04/2026 00:00:00

Product Type	Number	Action
L0 HKTM PDUs	481	-
L0 IASI PDUs	481	-
L1 ENG PDUs	480	-
L1 ENG distinct GEPSGranule	479	-
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)	5868	5889	20260426182634.206	20260426182640.280
PX1 (130)	5944	5946	20260426182655.198	20260426182655.632
PX1 (130)	5946	6089	20260426182655.632	20260426182734.116
PX1 (130)	6147	6151	20260426182748.171	20260426182750.550
PX2 (135)	5867	5888	20260426182633.991	20260426182640.066
PX2 (135)	5945	6089	20260426182655.413	20260426182734.116
PX2 (135)	6089	6091	20260426182734.116	20260426182734.550
PX2 (135)	6146	6152	20260426182747.952	20260426182750.765
PX3 (140)	5867	5889	20260426182633.991	20260426182640.280
PX3 (140)	5945	6088	20260426182655.413	20260426182733.898
PX3 (140)	6088	6090	20260426182733.898	20260426182734.331
PX3 (140)	6147	6151	20260426182748.171	20260426182750.550
PX4 (145)	5866	5889	20260426182633.773	20260426182640.280
PX4 (145)	5946	6089	20260426182655.632	20260426182734.116
PX4 (145)	6147	6151	20260426182748.171	20260426182750.550
IMG (150)	7731	7756	20260426182633.991	20260426182640.066
IMG (150)	7821	7984	20260426182655.413	20260426182733.898
IMG (150)	7984	7986	20260426182733.898	20260426182734.331
IMG (150)	8047	8055	20260426182748.171	20260426182750.550

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Table 2 – continued from previous page

APID	Seq from	Seq to	Time from	Time to
VER (160)	14621	14627	20260426182628.136	20260426182644.171
VER (160)	14636	14661	20260426182652.171	20260426182655.632
VER (160)	14666	14672	20260426182740.171	20260426182756.171
AUX (180)	12753	12755	20260426182628.566	20260426182644.605
AUX (180)	12756	12761	20260426182652.605	20260426182732.601
AUX (180)	12762	12764	20260426182740.605	20260426182756.601

Table 2: L0 data gaps

3 Instrument modes

Time	Transition from	Transition to
26/04/2026 00:00:10	-	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	479	-
GQisFlagQual set (PX1)	99.65 %	-
GQisFlagQual set (PX2)	99.73 %	-
GQisFlagQual set (PX3)	99.74 %	-
GQisFlagQual set (PX4)	99.65 %	-
GQisFlagQual set (all)	99.69 %	-

Table 4: Quality flags

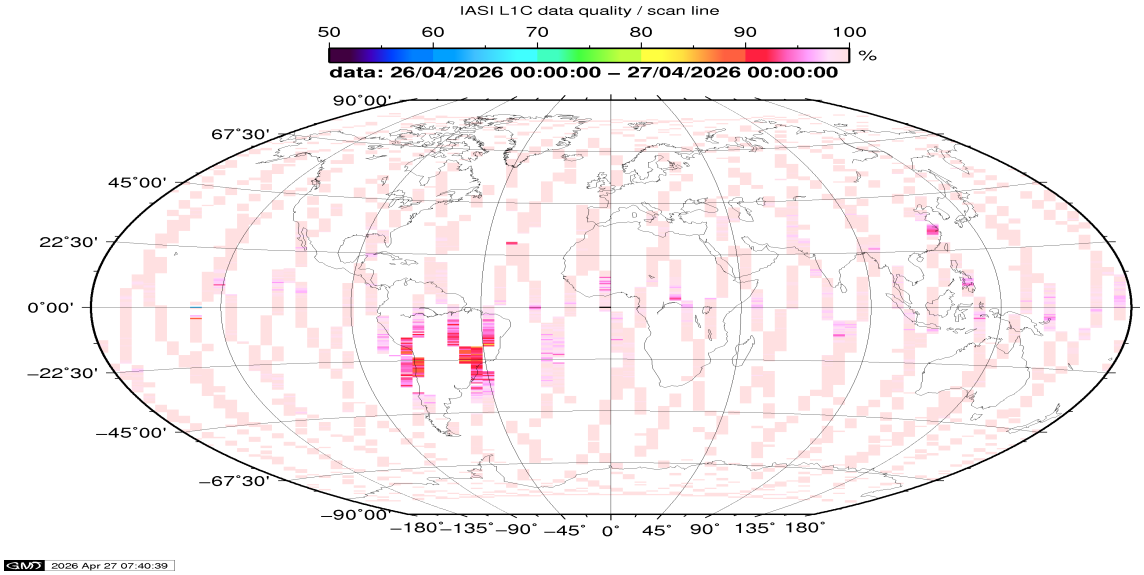

Figure 1: L1C data quality

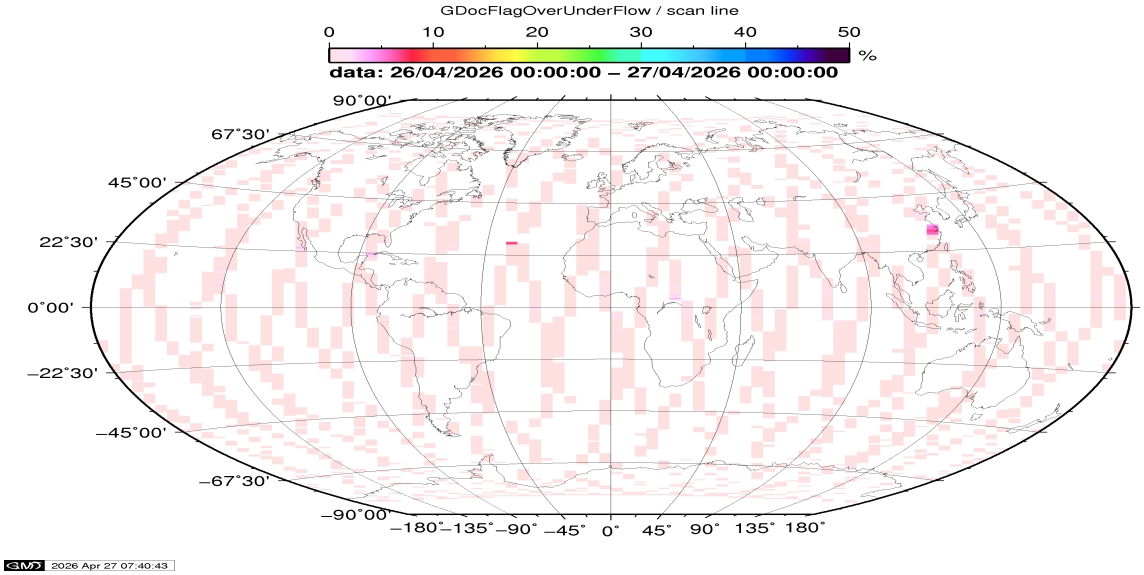

Figure 2: Flag of Over and Under Flows

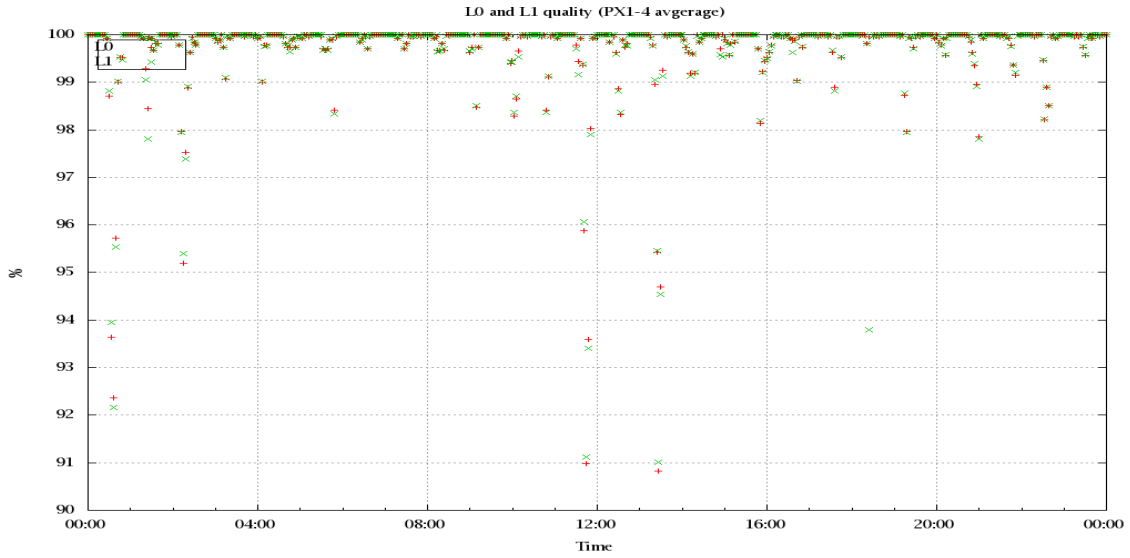

Figure 3: Level 0 and 1C overall quality

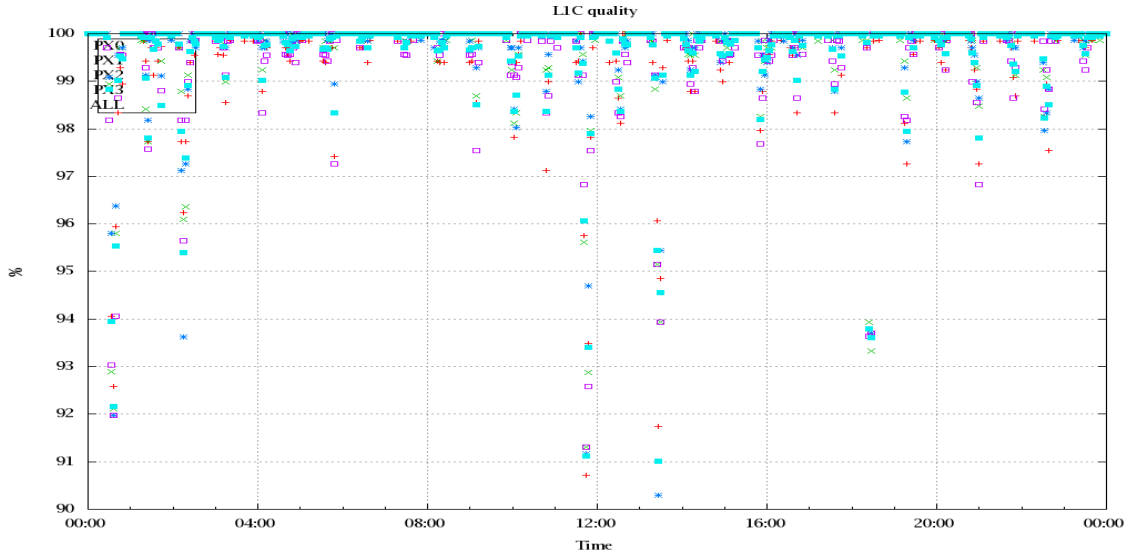

Figure 4: Level 1C quality

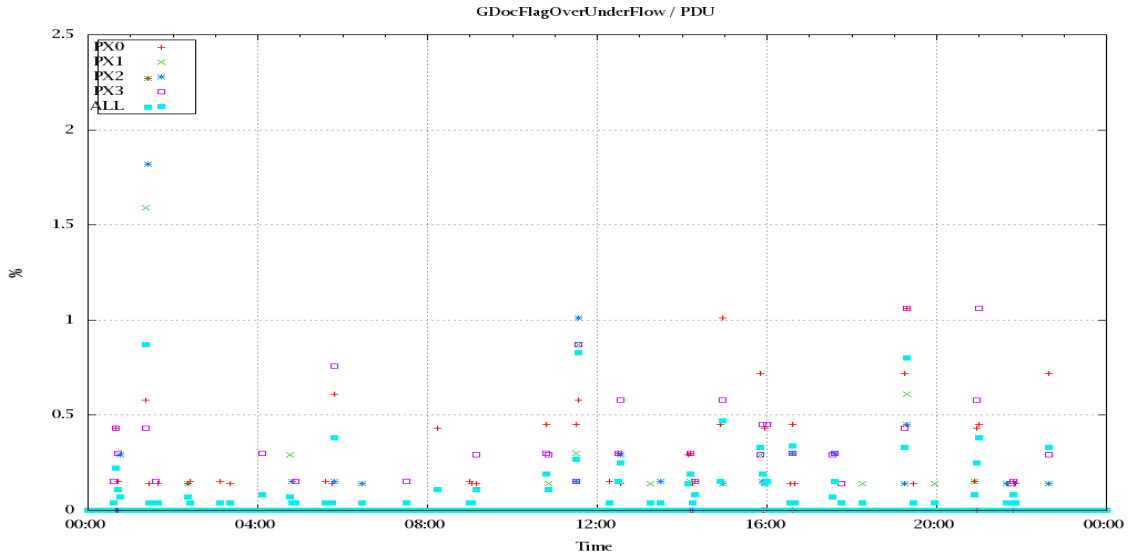

Figure 5: Timeseries of flag of Over and Under Flows

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.

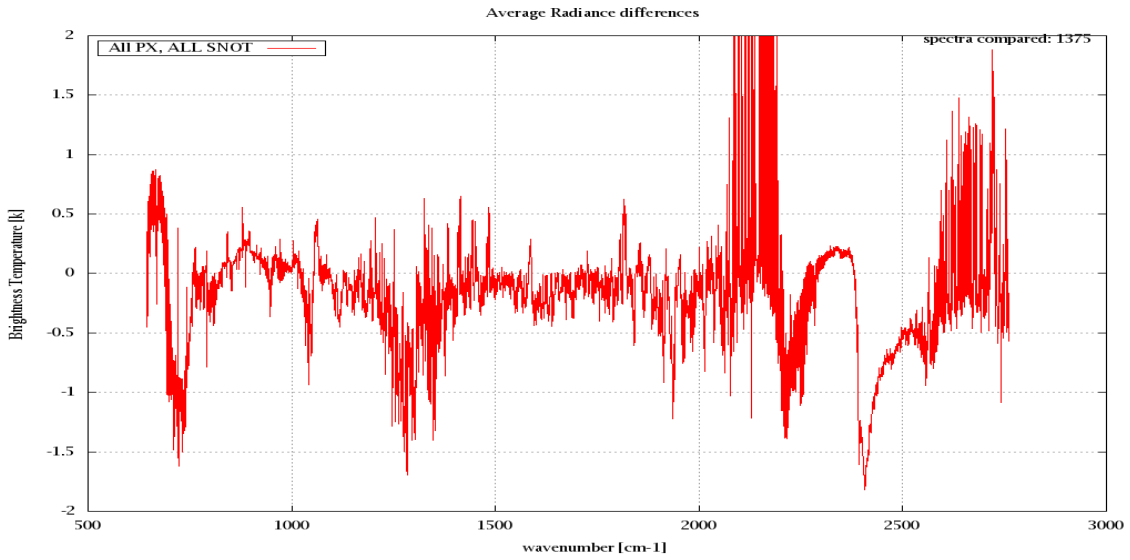

Figure 6: Average Radiance differences: OBS-CAL

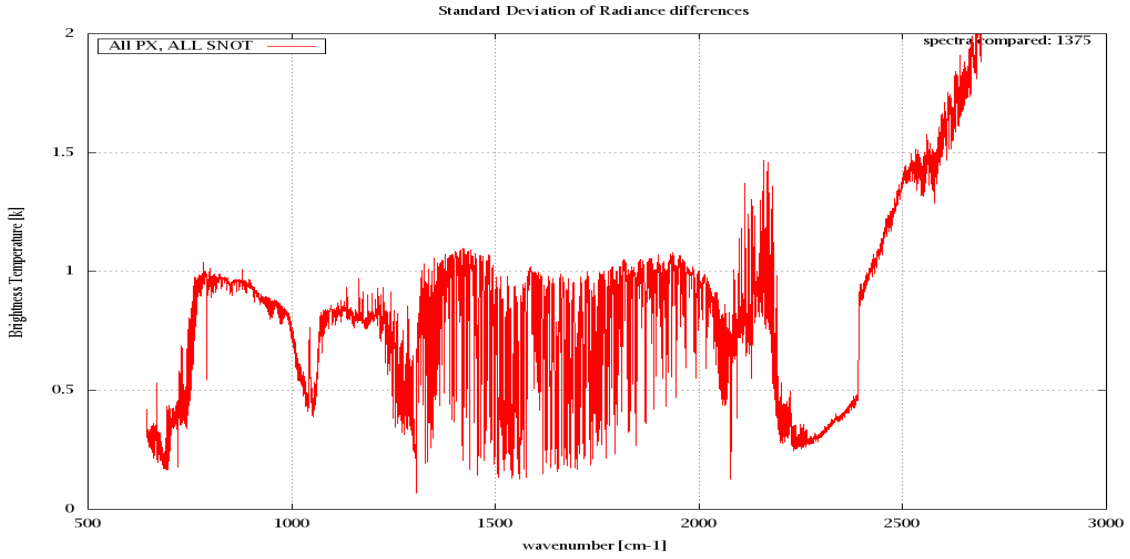

Figure 7: Standard Deviation of Radiance differences

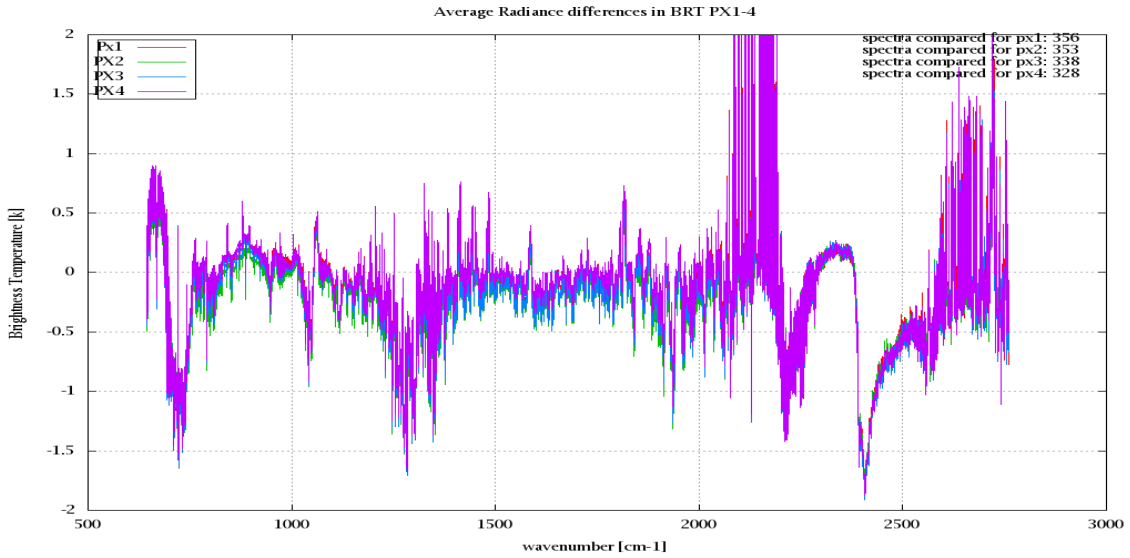

Figure 8: Average Radiance differences: OBS-CAL

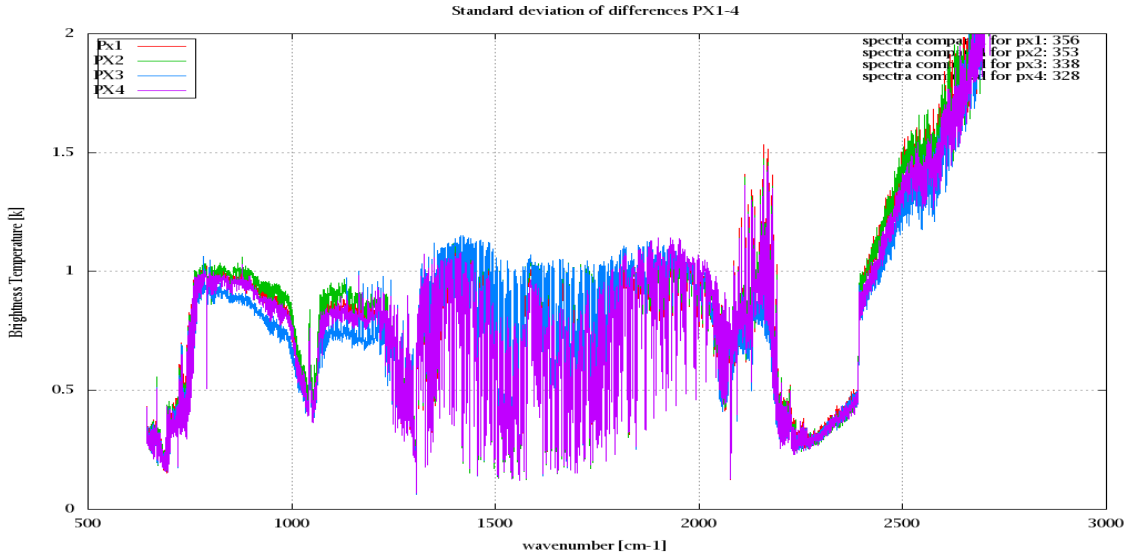

Figure 9: Standard Deviation of Radiance differences

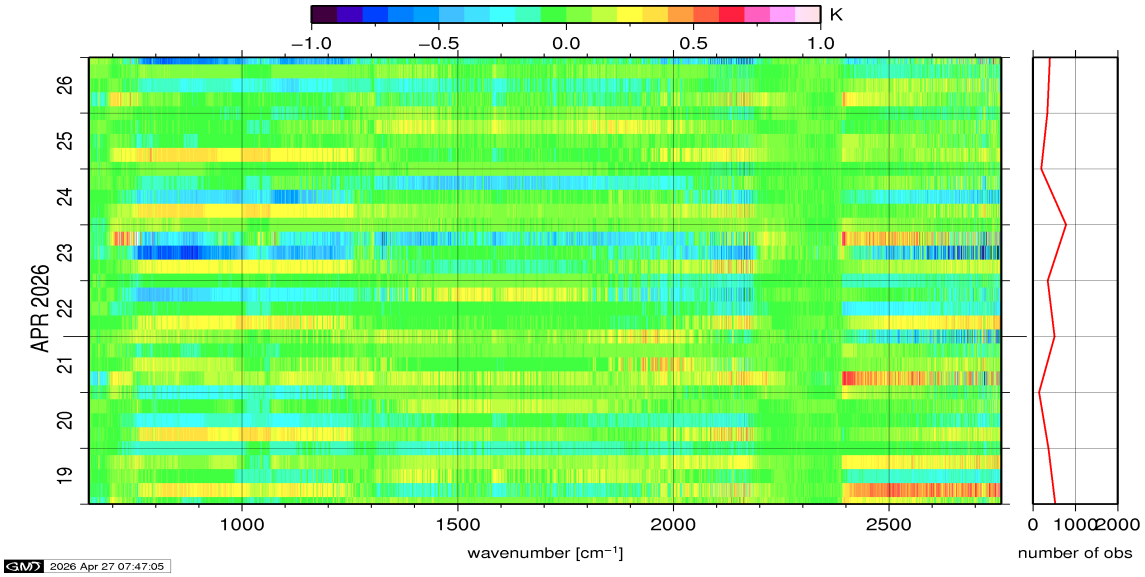

Figure 10: Radiance Anomaly in BT: All Channels

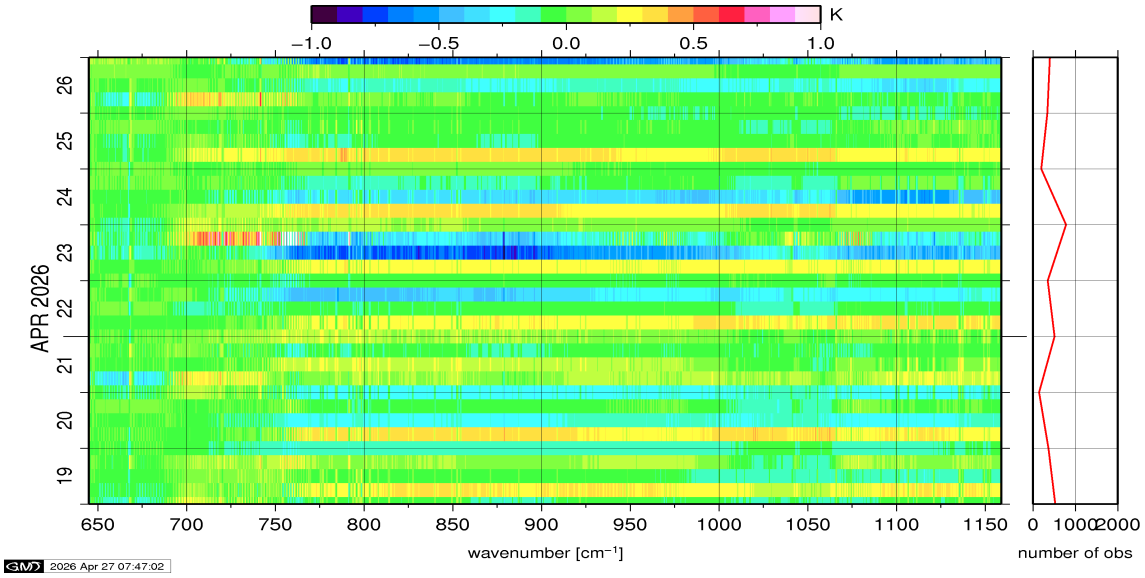

Figure 11: Radiance Anomaly in BT: IASI Band 1

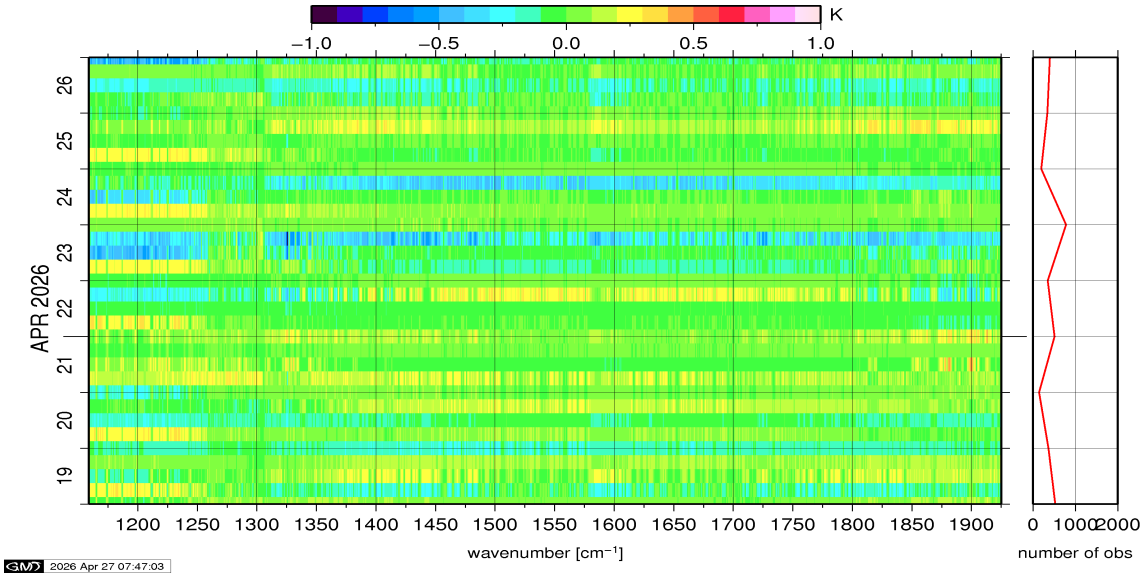

Figure 12: Radiance Anomaly in BT: IASI Band 2

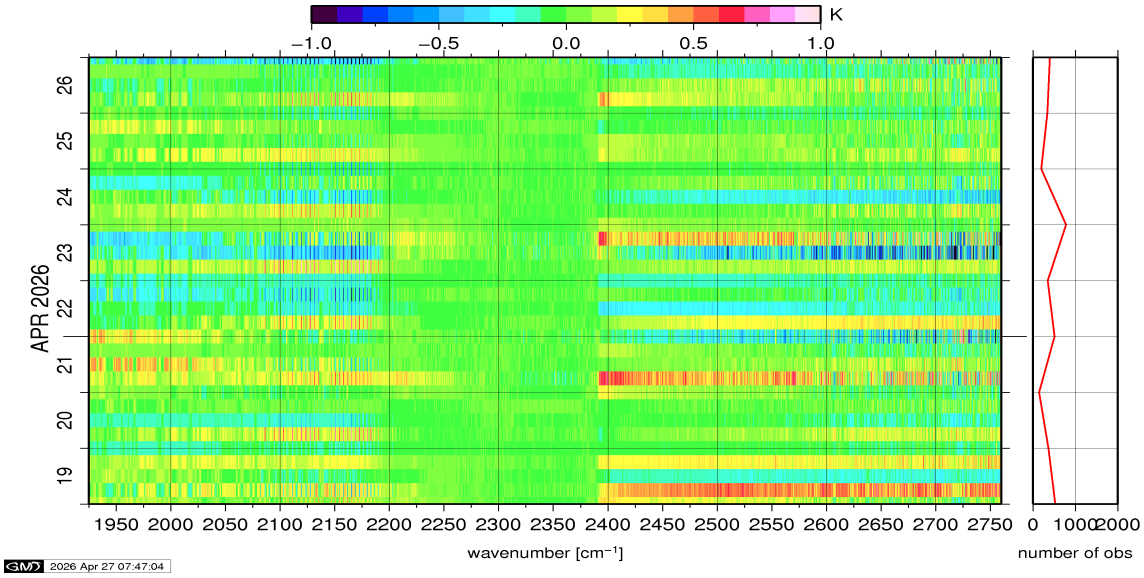

Figure 13: Radiance Anomaly in BT: IASI Band 3

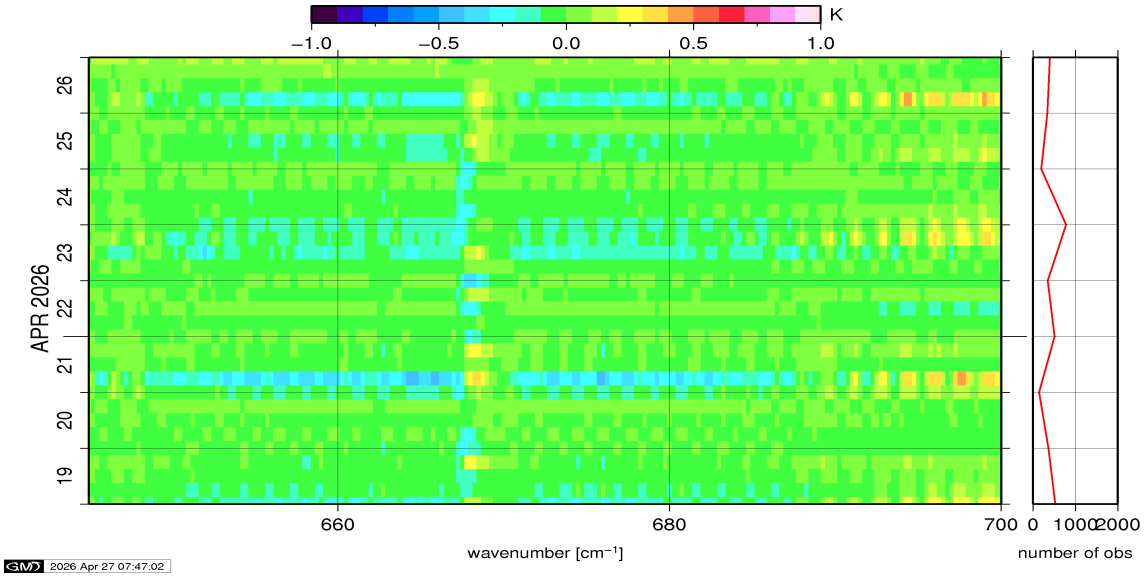

Figure 14: Radiance Anomaly in BT: CO2 14

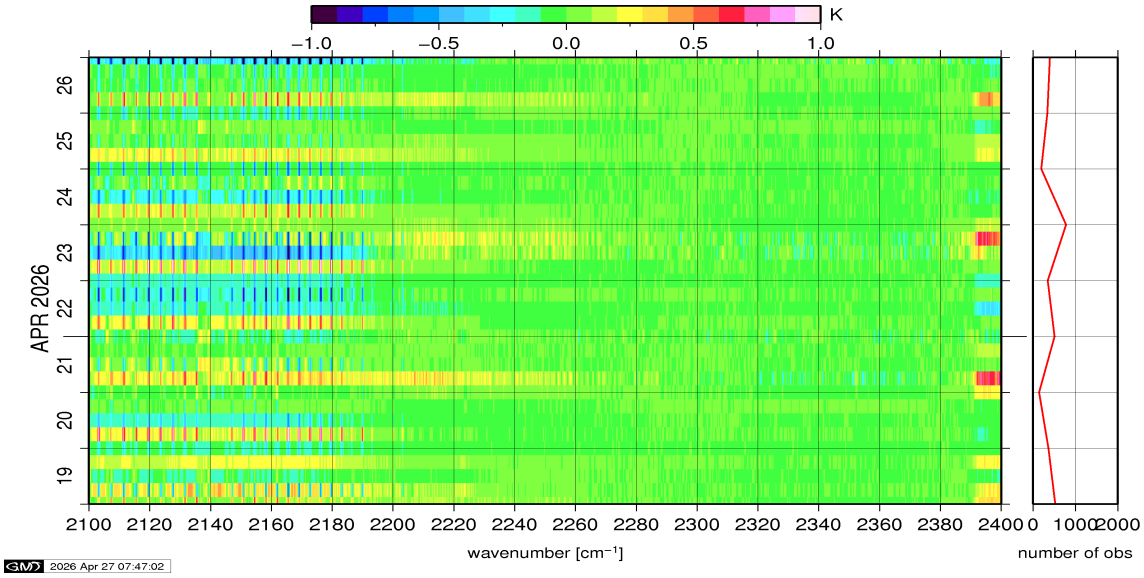

Figure 15: Radiance Anomaly in BT: CO2 4.3

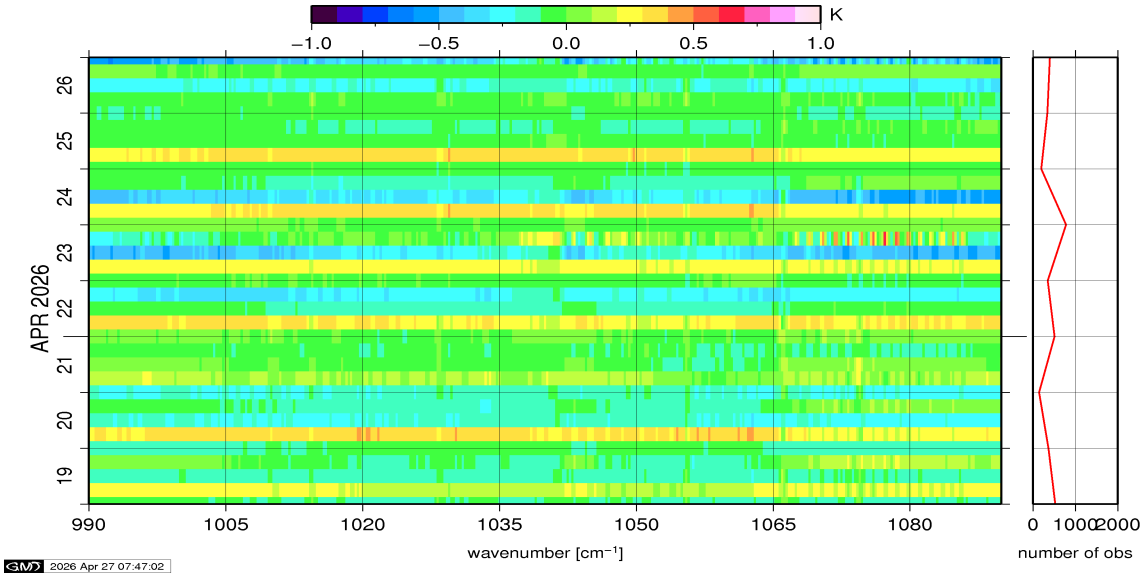

Figure 16: Radiance Anomaly in BT: O3

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.

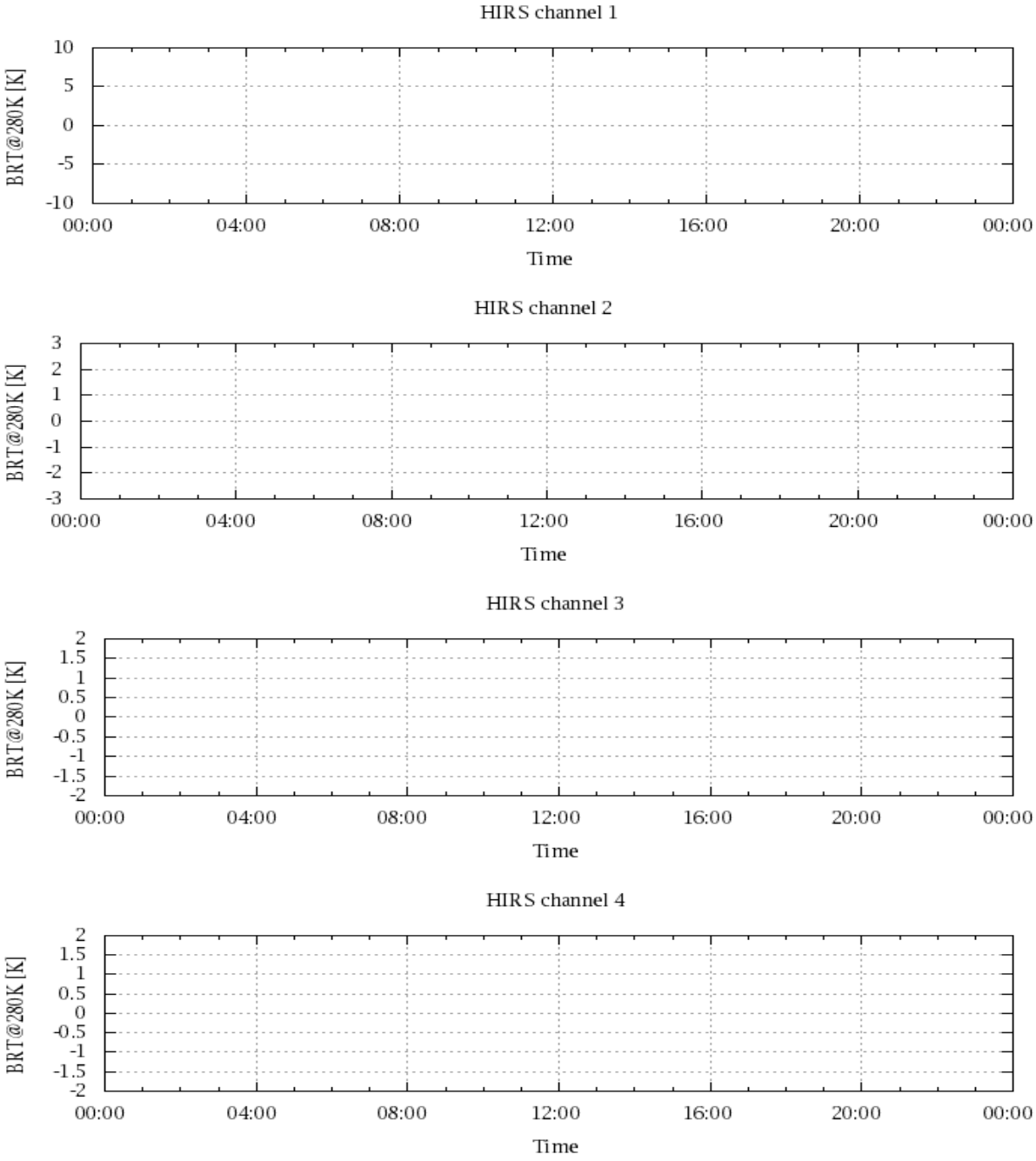

Figure 17: Radiance Differences in BT

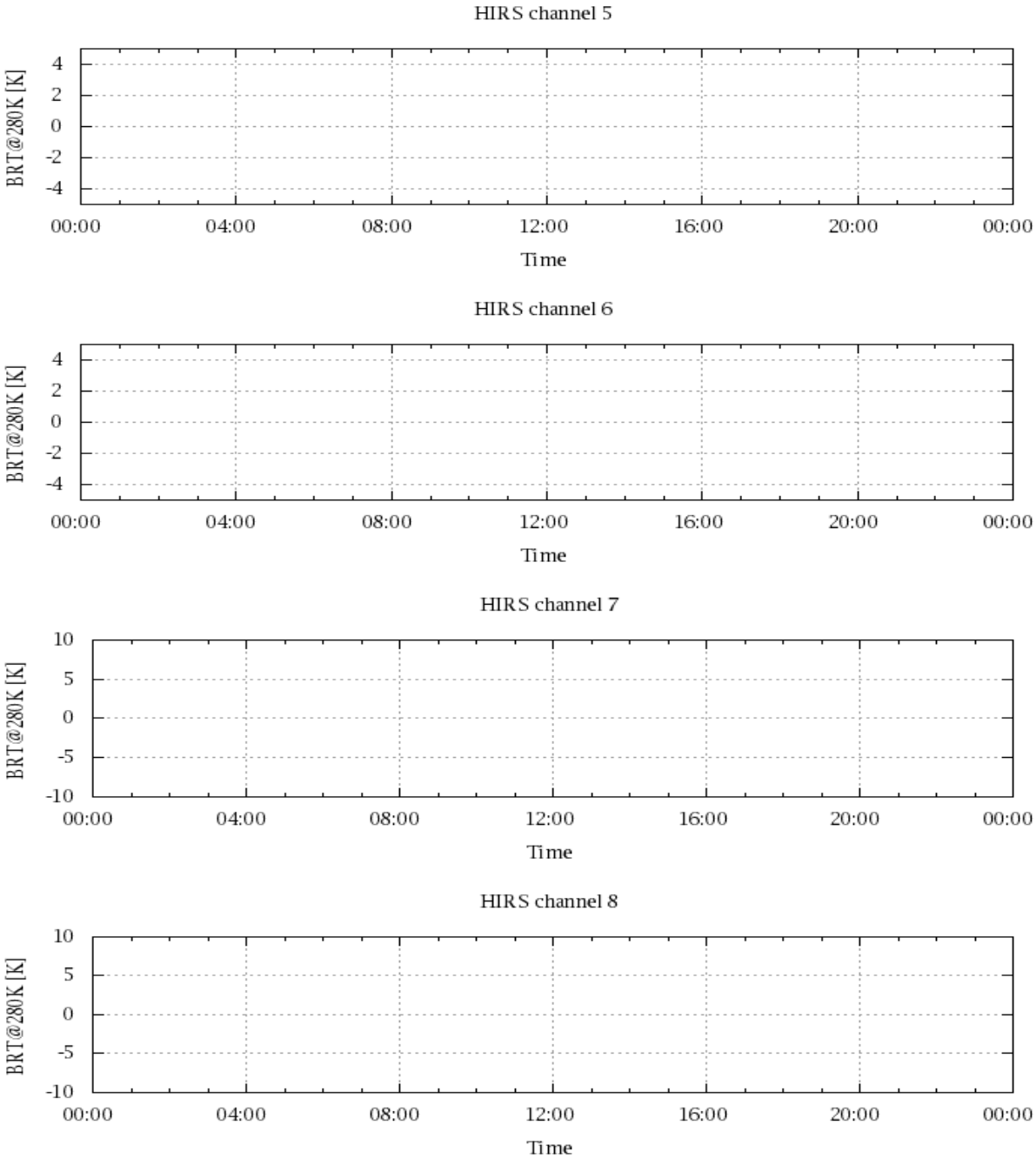

Figure 18: Radiance Differences in BT

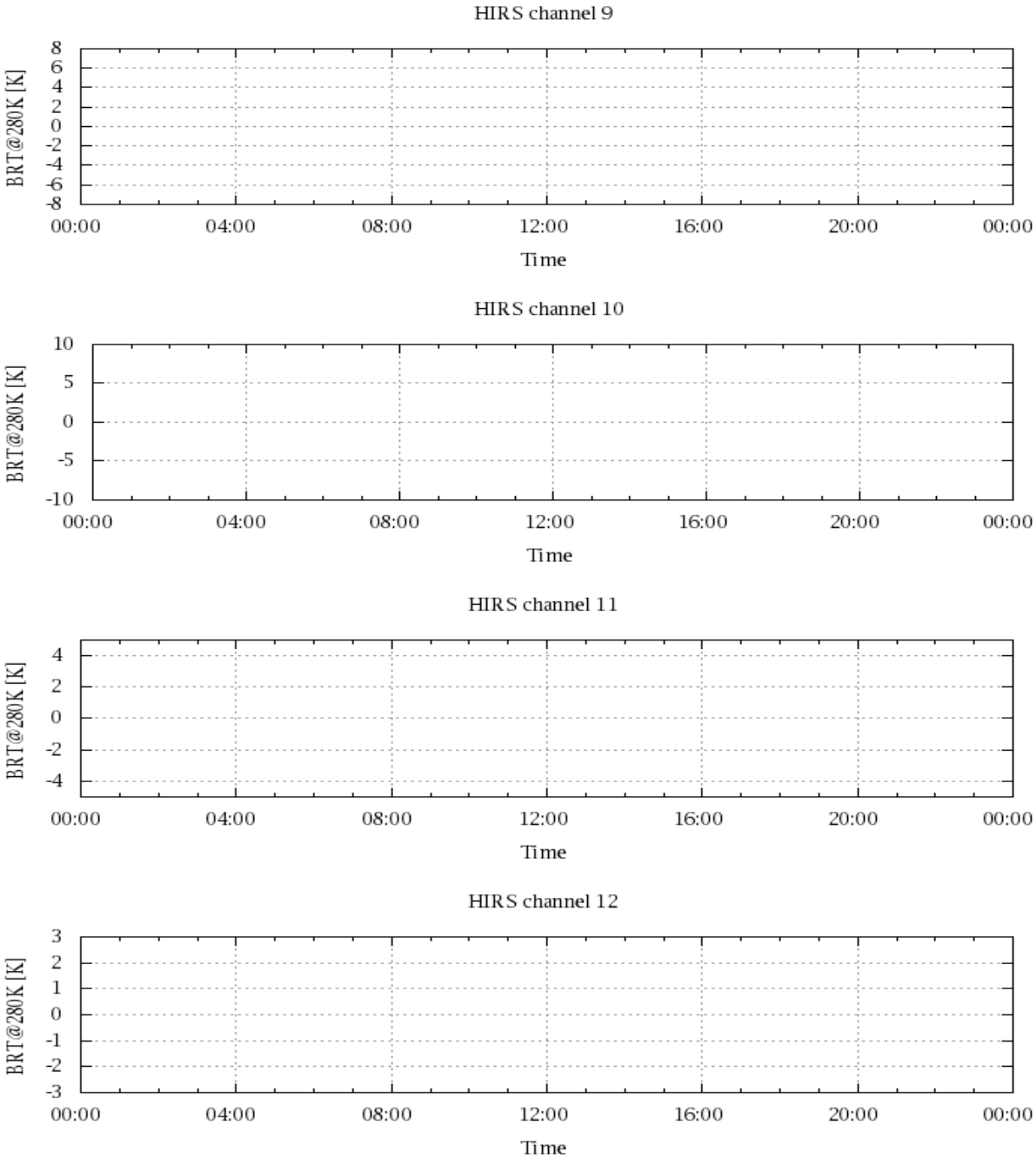

Figure 19: Radiance Differences in BT

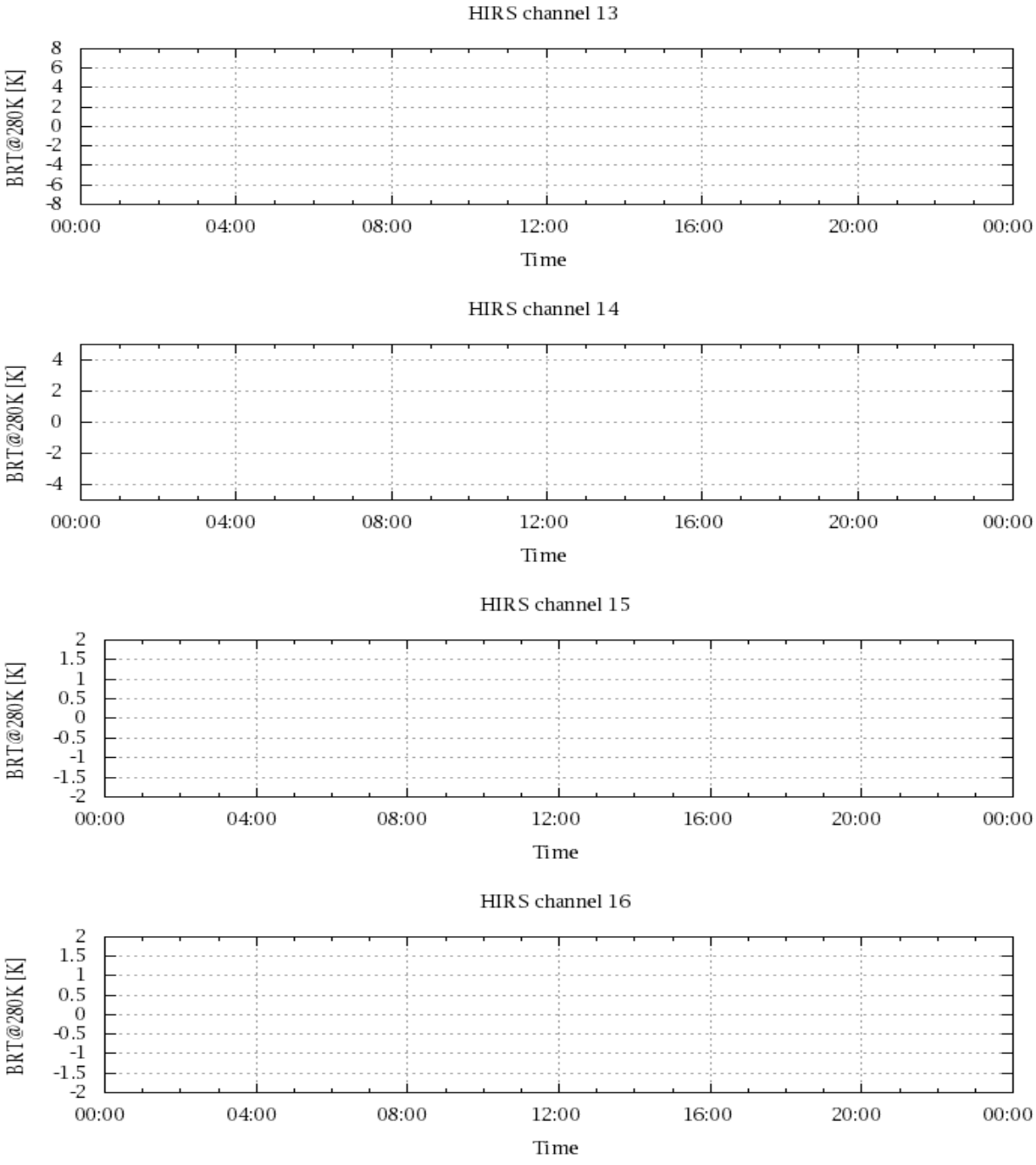

Figure 20: Radiance Differences in BT

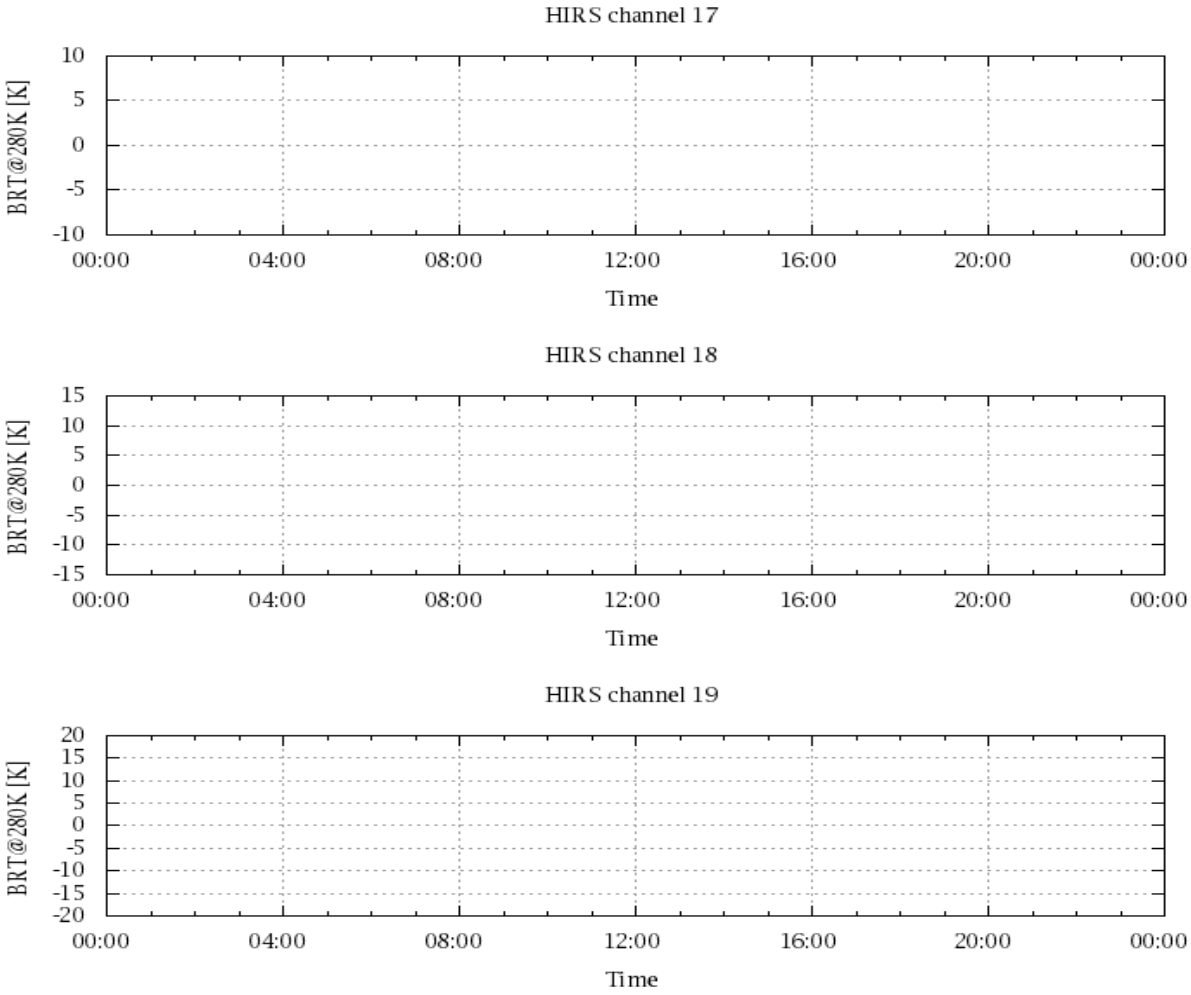

Figure 21: Radinace Differences in BT