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

IASI monitoring team

25/05/2026 00:00:00 - 26/05/2026 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 25/05/2026 00:00:00 - 26/05/2026 00:00:00 .

The monitoring data are extracted on PDU basis.

2 Data quantity 25/05/2026 00:00:00 - 26/05/2026 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)	7896	7926	20260525182800.079	20260525182808.079
PX1 (130)	7987	8000	20260525182825.809	20260525182828.618
PX1 (130)	8001	8003	20260525182828.837	20260525182829.270
PX1 (130)	8020	8197	20260525182834.458	20260525182921.805
PX1 (130)	8203	8217	20260525182923.106	20260525182926.130
PX2 (135)	7895	7926	20260525182759.864	20260525182808.079
PX2 (135)	7986	7999	20260525182824.079	20260525182828.403
PX2 (135)	7999	8001	20260525182828.403	20260525182828.837
PX2 (135)	8020	8022	20260525182834.458	20260525182834.891
PX2 (135)	8022	8197	20260525182834.891	20260525182921.805
PX2 (135)	8203	8216	20260525182923.106	20260525182925.915
PX3 (140)	7895	7926	20260525182759.864	20260525182808.079
PX3 (140)	7987	7989	20260525182825.809	20260525182826.243
PX3 (140)	7989	8002	20260525182826.243	20260525182829.052
PX3 (140)	8019	8197	20260525182834.239	20260525182921.805
PX3 (140)	8203	8216	20260525182923.106	20260525182925.915
PX4 (145)	7894	7896	20260525182759.649	20260525182800.079
PX4 (145)	7896	7926	20260525182800.079	20260525182808.079
PX4 (145)	7986	8000	20260525182824.079	20260525182828.618

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Table 2 – continued from previous page

APID	Seq from	Seq to	Time from	Time to
PX4 (145)	8021	8197	20260525182834.673	20260525182921.805
PX4 (145)	8203	8216	20260525182923.106	20260525182925.915
IMG (150)	891	924	20260525182759.864	20260525182807.649
IMG (150)	924	926	20260525182807.649	20260525182808.079
IMG (150)	994	996	20260525182824.079	20260525182824.727
IMG (150)	996	1011	20260525182824.727	20260525182828.403
IMG (150)	1037	1233	20260525182834.673	20260525182920.509
IMG (150)	1243	1256	20260525182923.106	20260525182925.915
VER (160)	7636	7642	20260525182752.083	20260525182808.079
VER (160)	7654	7656	20260525182824.079	20260525182824.079
VER (160)	7661	7688	20260525182832.079	20260525182834.891
AUX (180)	14632	14634	20260525182752.513	20260525182808.513
AUX (180)	14637	14643	20260525182832.513	20260525182920.509

Table 2: L0 data gaps

3 Instrument modes

Time	Transition from	Transition to
25/05/2026 00:00:06	-	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)	99.67 %	-
GQisFlagQual set (PX2)	99.74 %	-
GQisFlagQual set (PX3)	99.74 %	-
GQisFlagQual set (PX4)	99.66 %	-
GQisFlagQual set (all)	99.70 %	-

Table 4: Quality flags

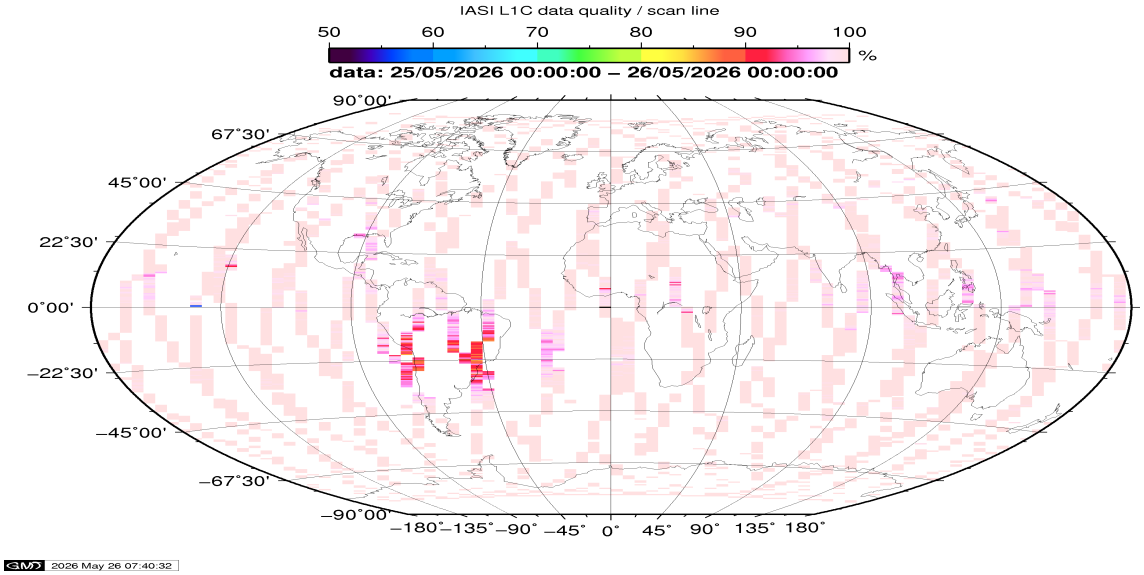

Figure 1: L1C data quality

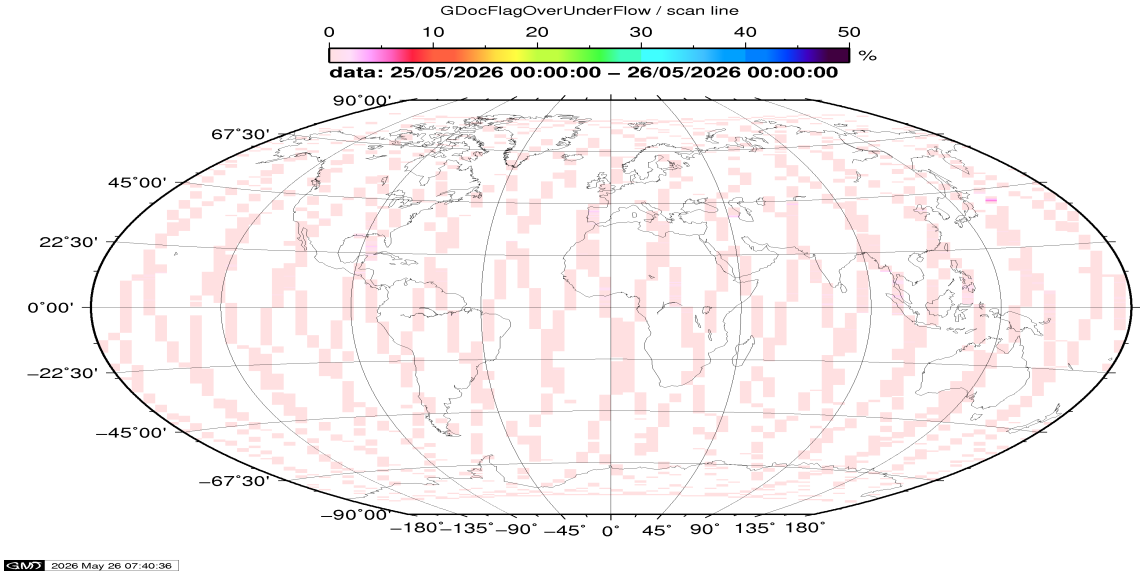

Figure 2: Flag of Over and Under Flows

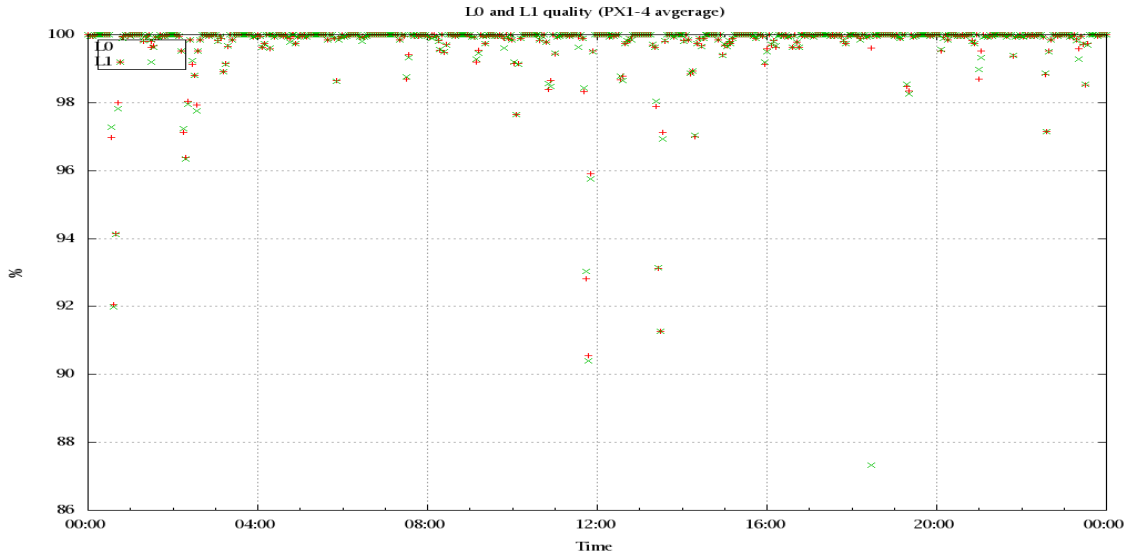

Figure 3: Level 0 and 1C overall quality

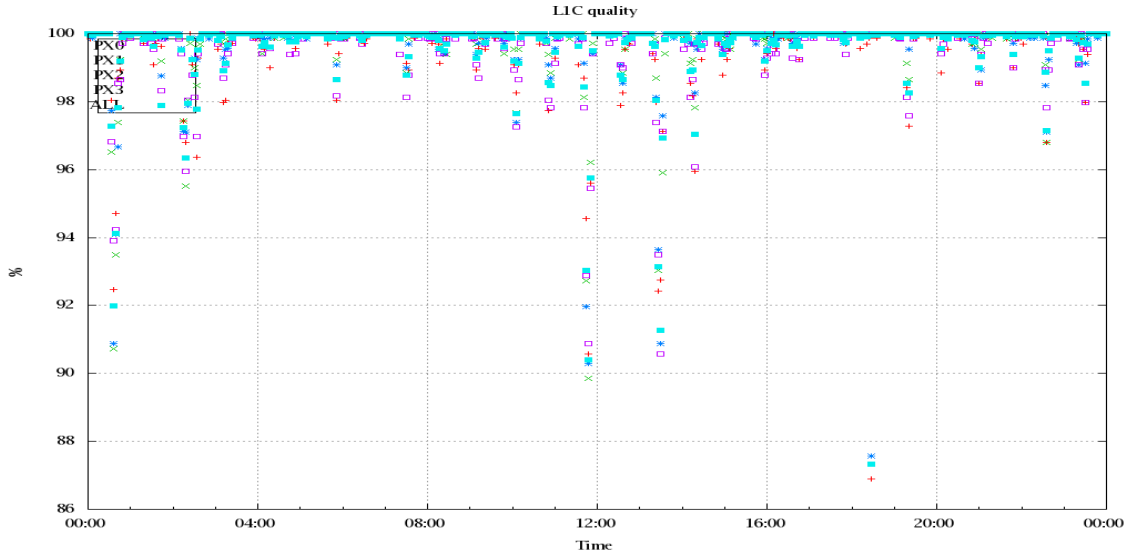

Figure 4: Level 1C quality

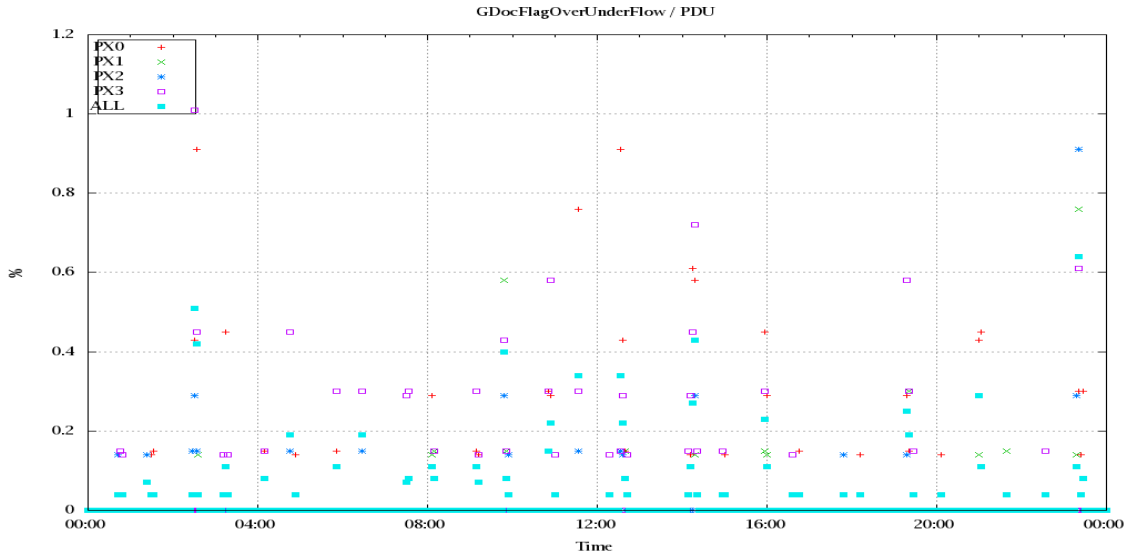

Figure 5: Timeseries of flag of Over and Under Flows

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.

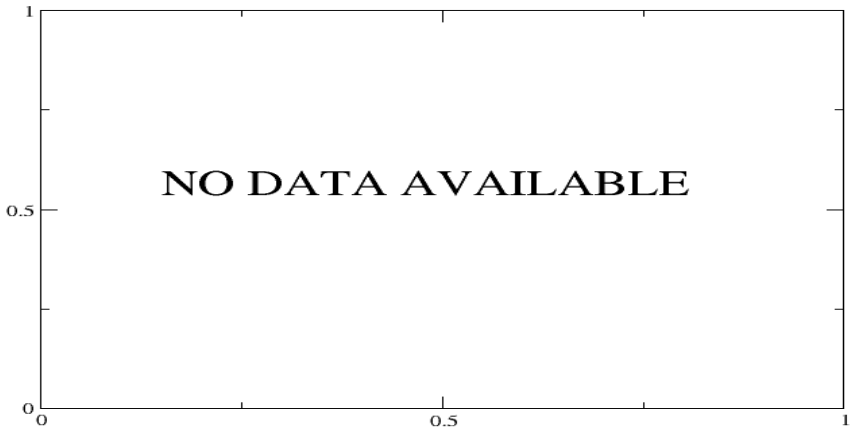

Figure 6: Average Radiance differences: OBS-CAL

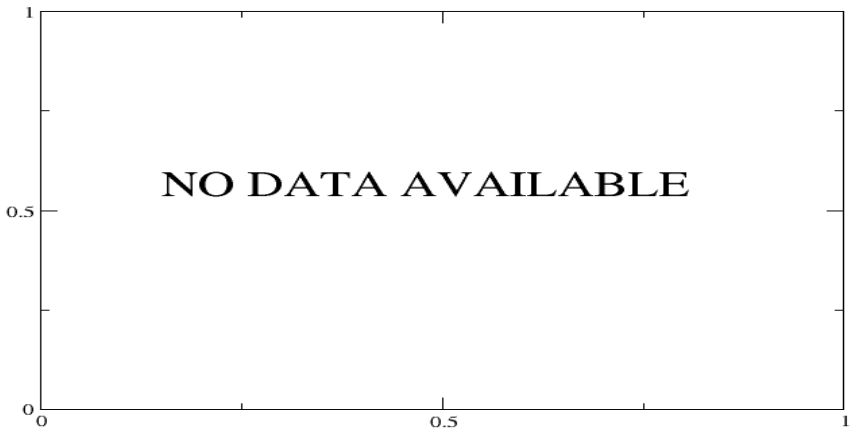

Figure 7: Standard Deviation of Radiance differences

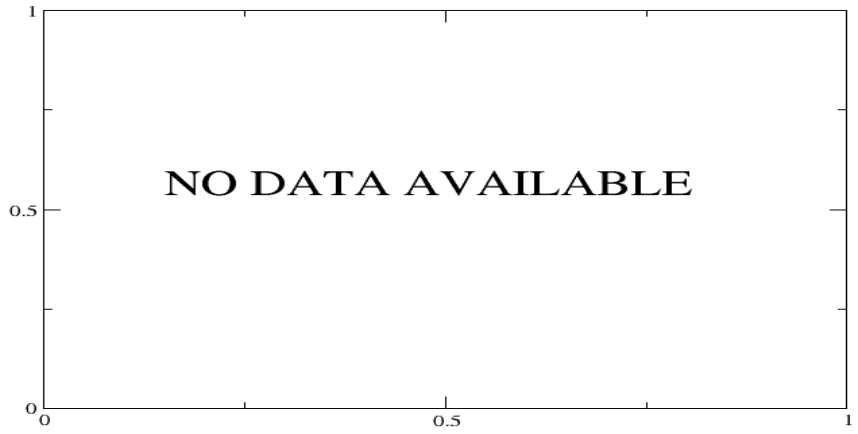

Figure 8: Average Radiance differences: OBS-CAL

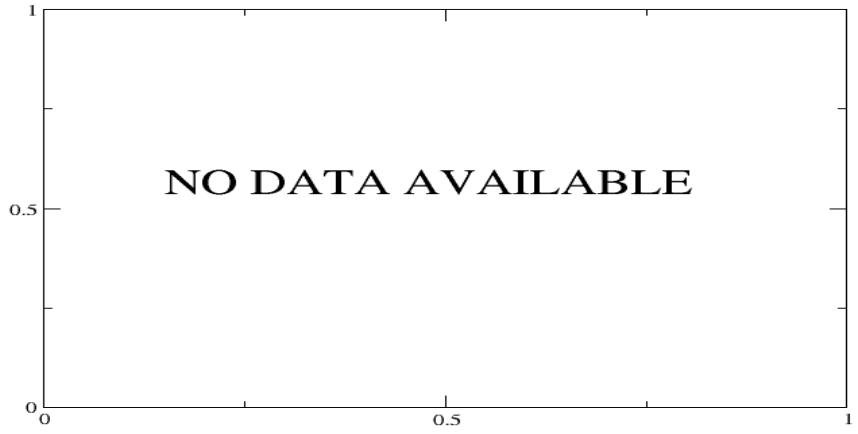

Figure 9: Standard Deviation of Radiance differences

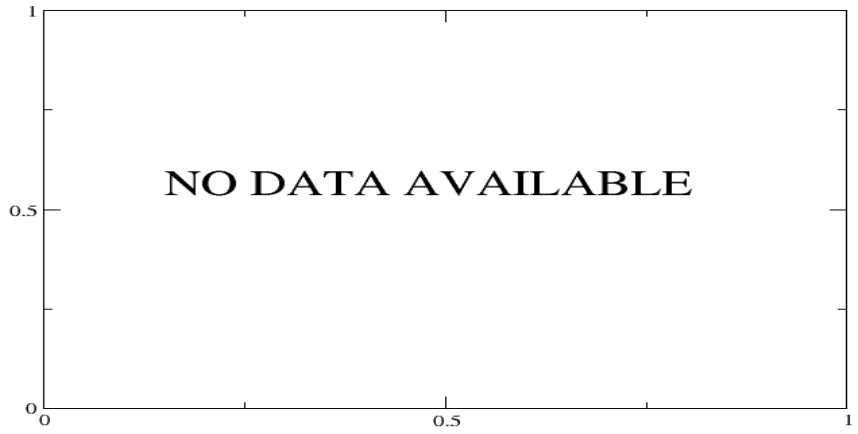

Figure 10: Radiance Anomaly in BT: All Channels

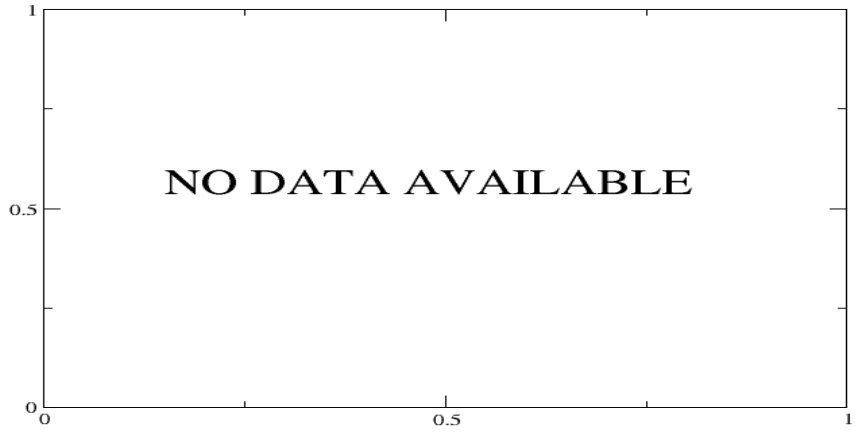

Figure 11: Radiance Anomaly in BT: IASI Band 1

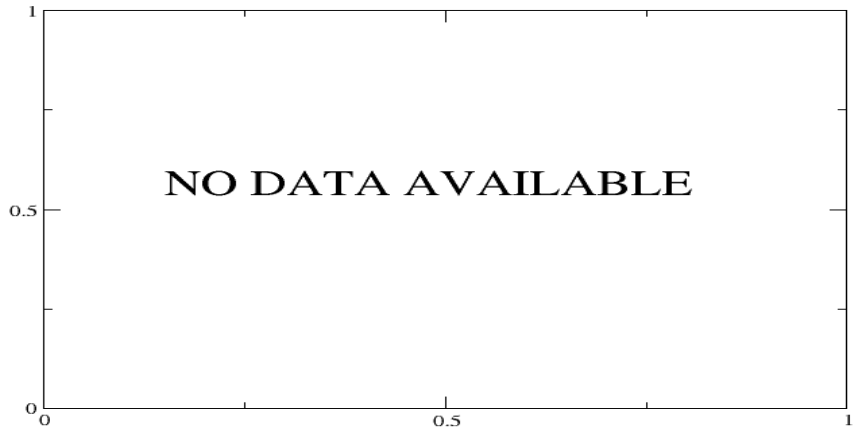

Figure 12: Radiance Anomaly in BT: IASI Band 2

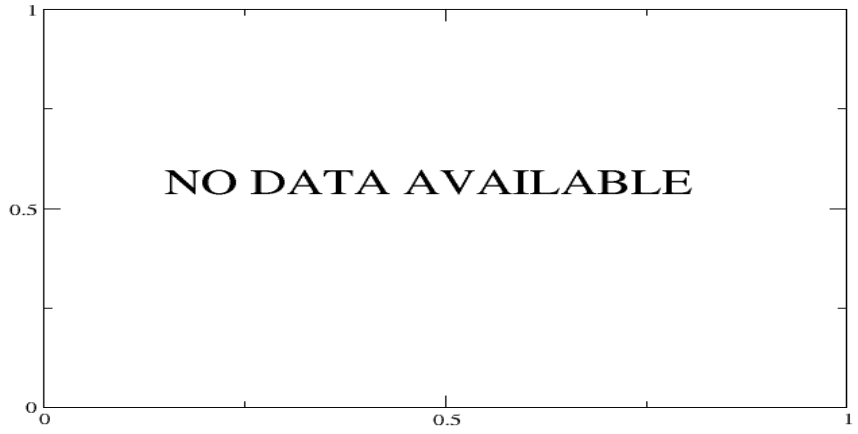

Figure 13: Radiance Anomaly in BT: IASI Band 3

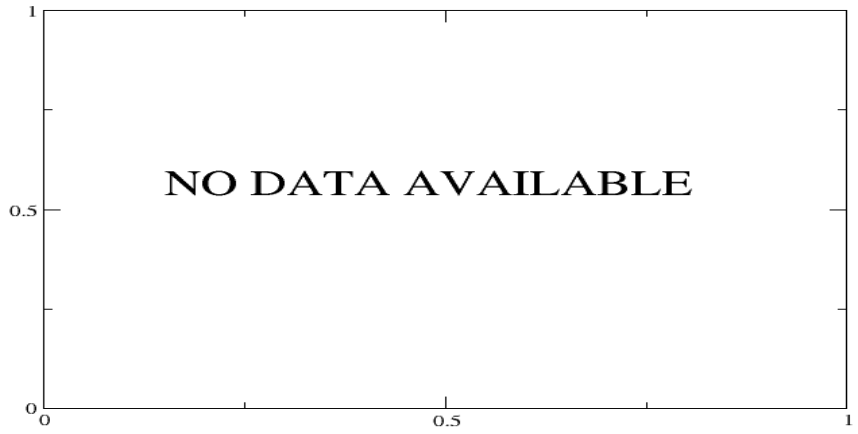

Figure 14: Radiance Anomaly in BT: CO2 14

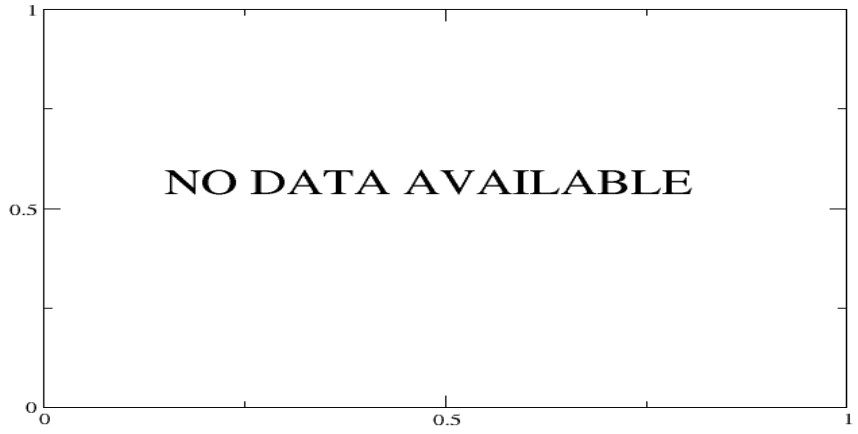

Figure 15: Radiance Anomaly in BT: CO2 4.3

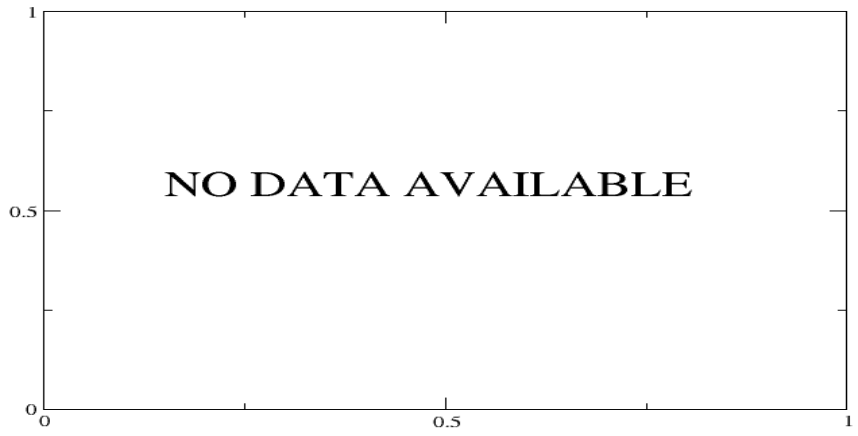

Figure 16: Radiance Anomaly in BT: O3

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.

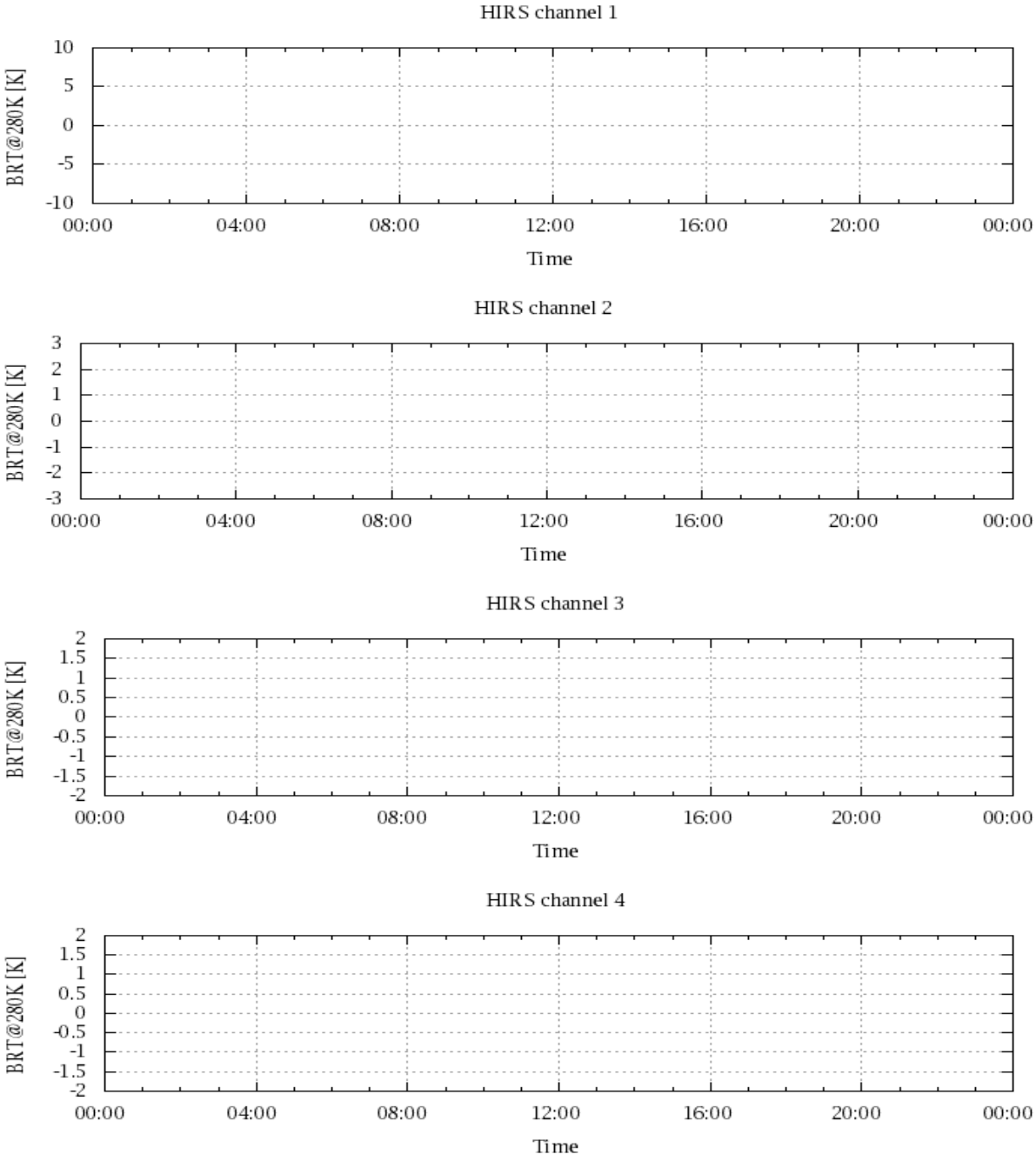

Figure 17: Radiance Differences in BT

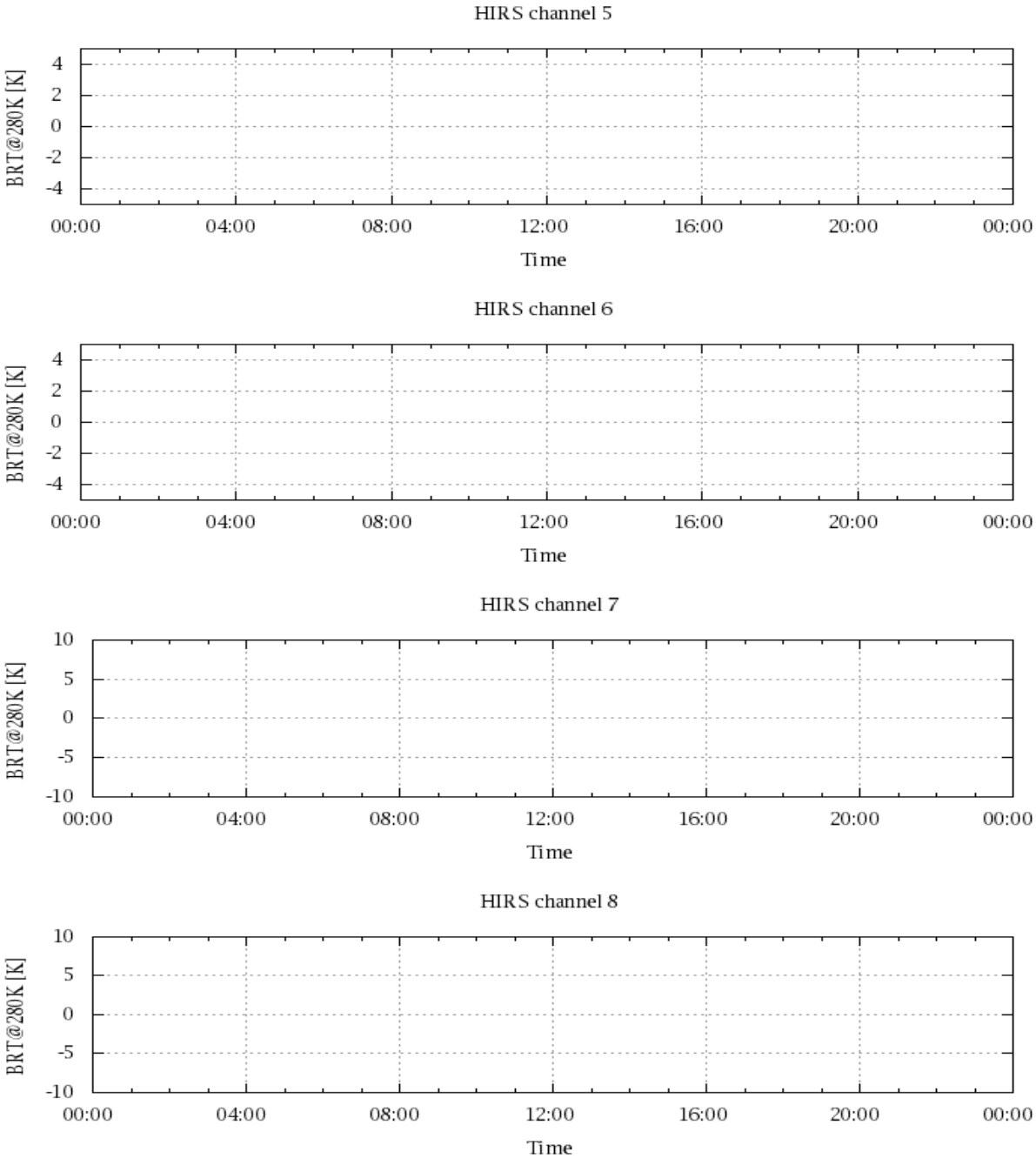

Figure 18: Radiance Differences in BT

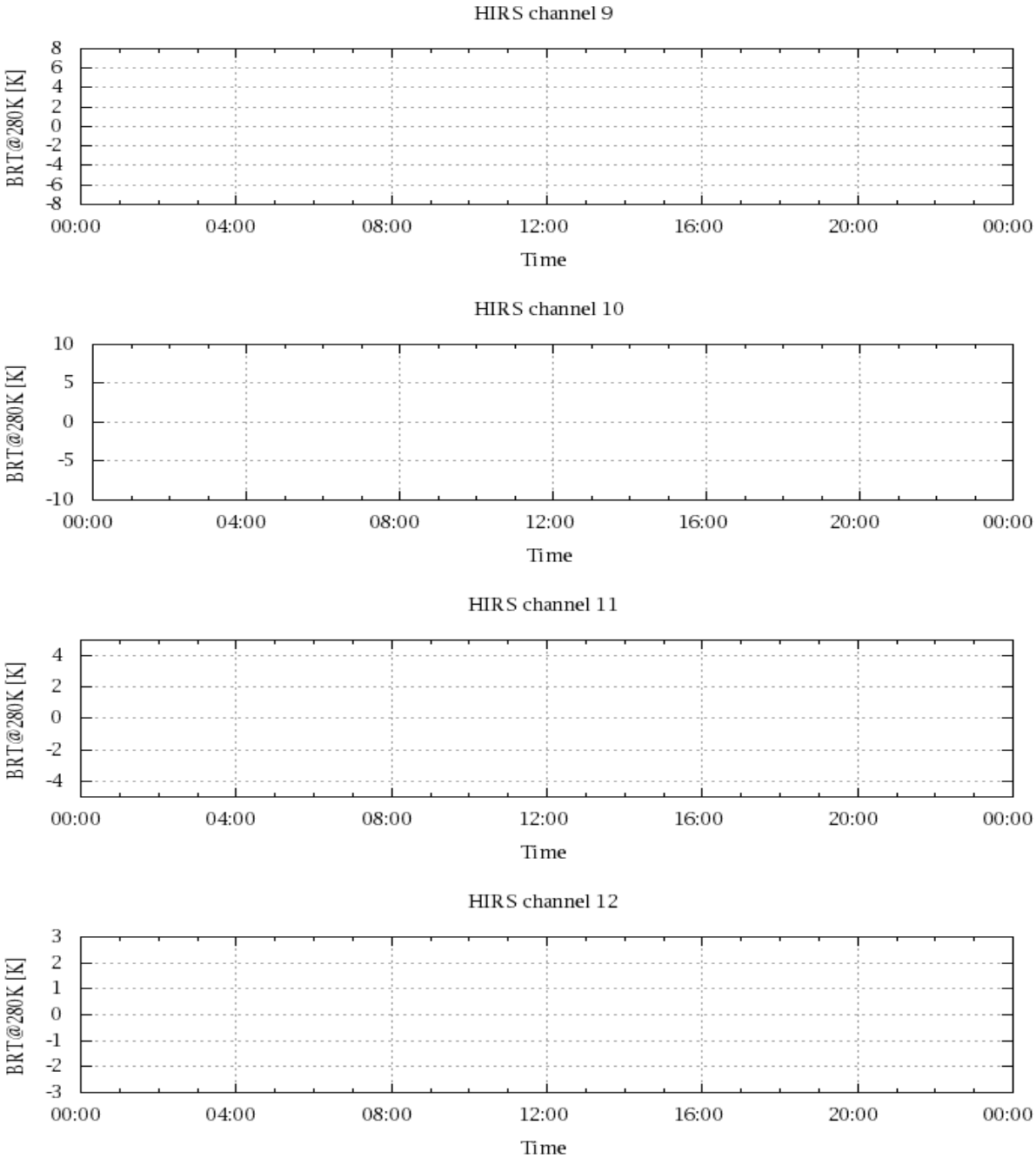

Figure 19: Radiance Differences in BT

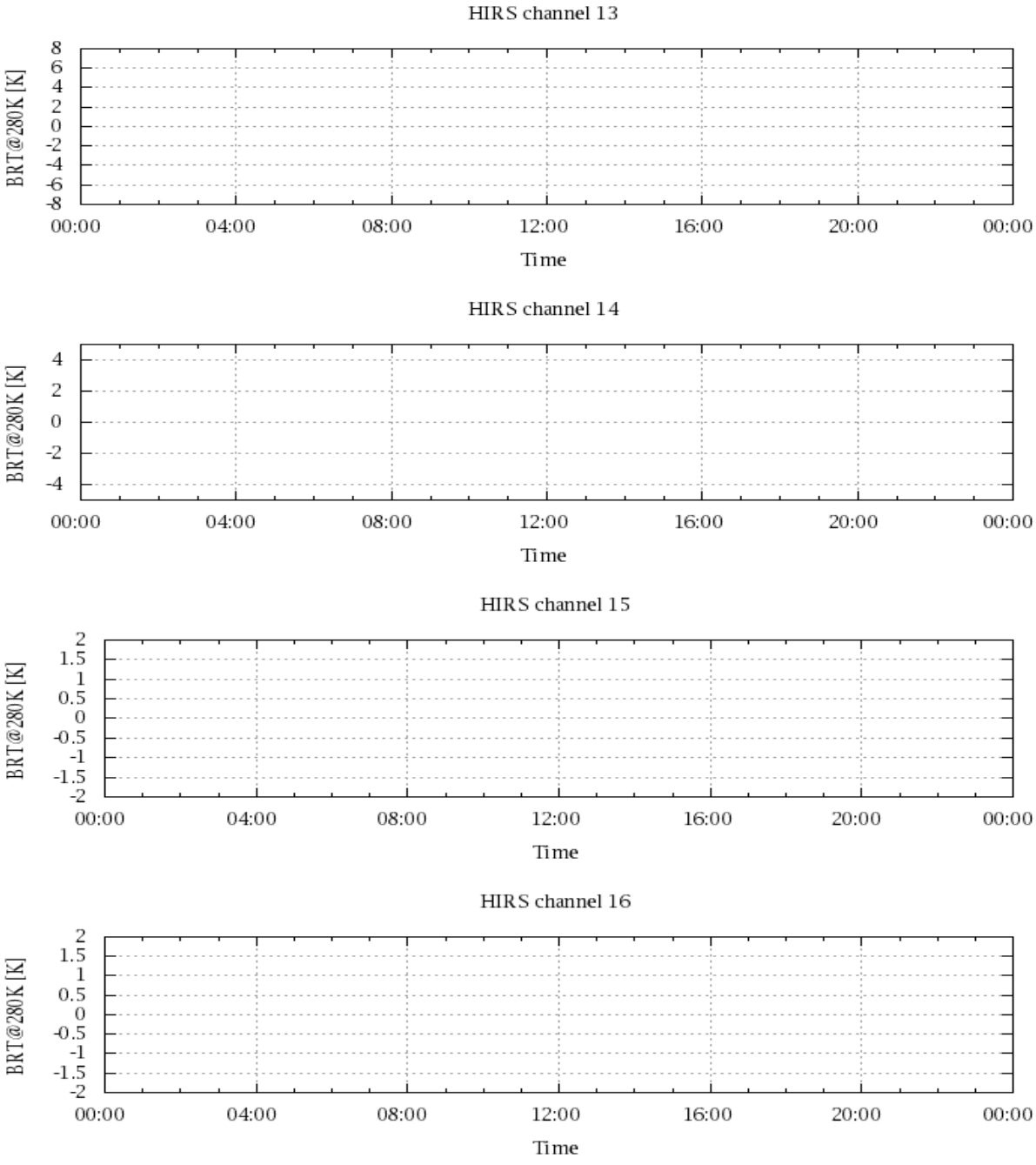

Figure 20: Radiance Differences in BT

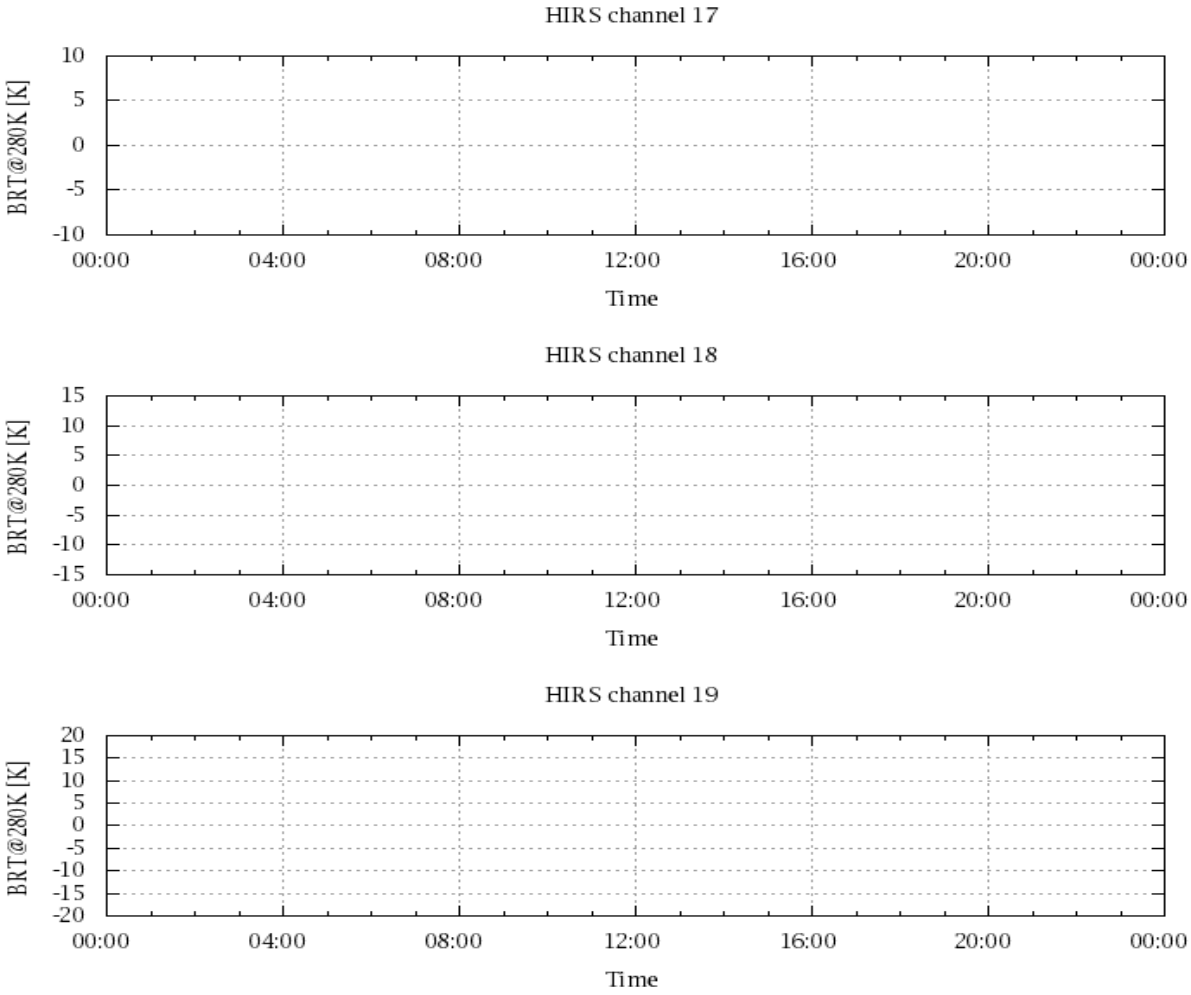

Figure 21: Radinace Differences in BT