

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

IASI monitoring team

07/06/2026 00:00:00 - 08/06/2026 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 07/06/2026 00:00:00 - 08/06/2026 00:00:00 .

The monitoring data are extracted on PDU basis.

2 Data quantity 07/06/2026 00:00:00 - 08/06/2026 00:00:00

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

Table 1: Data quantity

APID	Seq from	Seq to	Time from	Time to
PX1 (130)	11895	11898	20260607161417.717	20260607161418.365
PX1 (130)	11901	11907	20260607161419.014	20260607161420.311
PX1 (130)	11907	12032	20260607161420.311	20260607161453.389
PX1 (130)	12032	12037	20260607161453.389	20260607161455.986
PX2 (135)	11895	11898	20260607161417.717	20260607161418.365
PX2 (135)	11901	12037	20260607161419.014	20260607161455.986
PX3 (140)	11896	11898	20260607161417.932	20260607161418.365
PX3 (140)	11900	11906	20260607161418.795	20260607161420.092
PX3 (140)	11907	12031	20260607161420.311	20260607161453.174
PX3 (140)	12032	12037	20260607161453.389	20260607161455.986
PX3 (140)	12037	12039	20260607161455.986	20260607161456.416
PX4 (145)	11895	11898	20260607161417.717	20260607161418.365
PX4 (145)	11901	12038	20260607161419.014	20260607161456.201
PX4 (145)	12040	12042	20260607161456.635	20260607161457.068
IMG (150)	5428	5430	20260607161417.932	20260607161418.365
IMG (150)	5433	5439	20260607161419.014	20260607161420.311
IMG (150)	5439	5579	20260607161420.311	20260607161453.174
IMG (150)	5579	5585	20260607161453.174	20260607161454.686
IMG (150)	5586	5588	20260607161454.904	20260607161455.553
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Table 2 – continued from previous page

APID	Seq from	Seq to	Time from	Time to
IMG (150)	5588	5591	20260607161455.553	20260607161456.416
VER (160)	114	140	20260607161414.256	20260607161502.256
AUX (180)	6574	6579	20260607161414.689	20260607161454.686

Table 2: L0 data gaps

3 Instrument modes

Time	Transition from	Transition to
07/06/2026 00:00:04	-	Normal operation

Table 3: Instrument modes

4 L0 and L1 Data Quality

Flag	Value	Action
L0 IASI PDUs	481	-
L1 ENG PDUs	481	-
L1 ENG distinct GEPSGranule	478	-
GQisFlagQual set (PX1)	99.64 %	-
GQisFlagQual set (PX2)	99.75 %	-
GQisFlagQual set (PX3)	99.75 %	-
GQisFlagQual set (PX4)	99.62 %	-
GQisFlagQual set (all)	99.69 %	-

Table 4: Quality flags

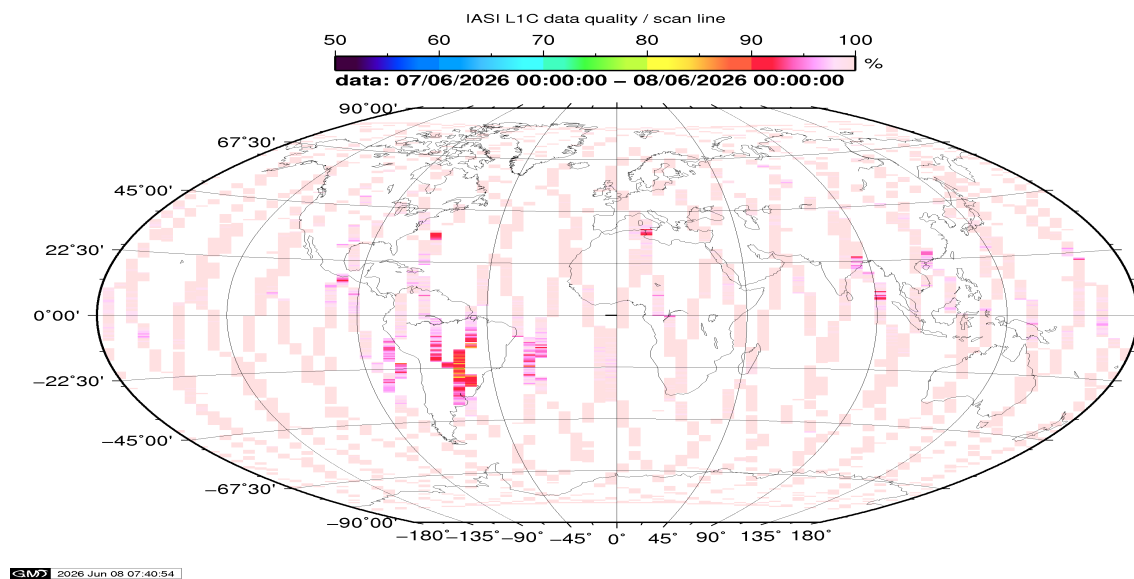


Figure 1: L1C data quality

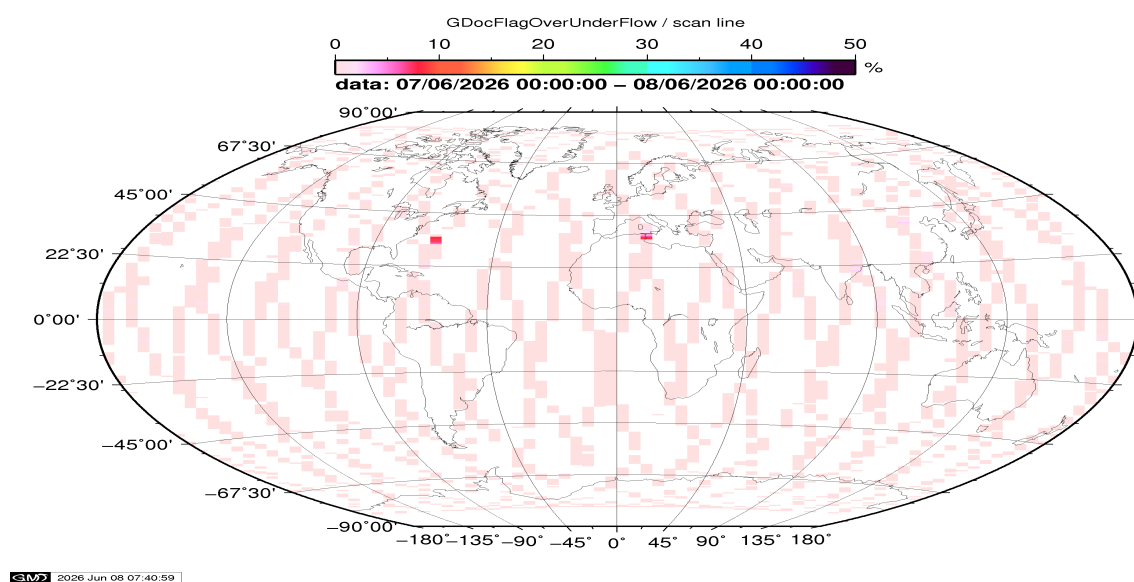


Figure 2: Flag of Over and Under Flows

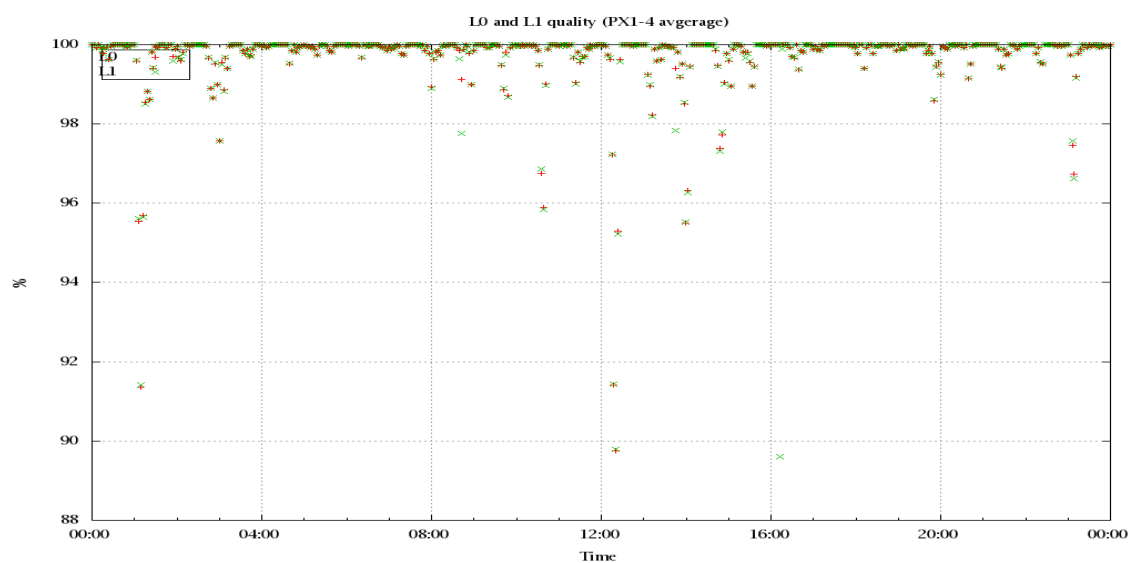


Figure 3: Level 0 and 1C overall quality

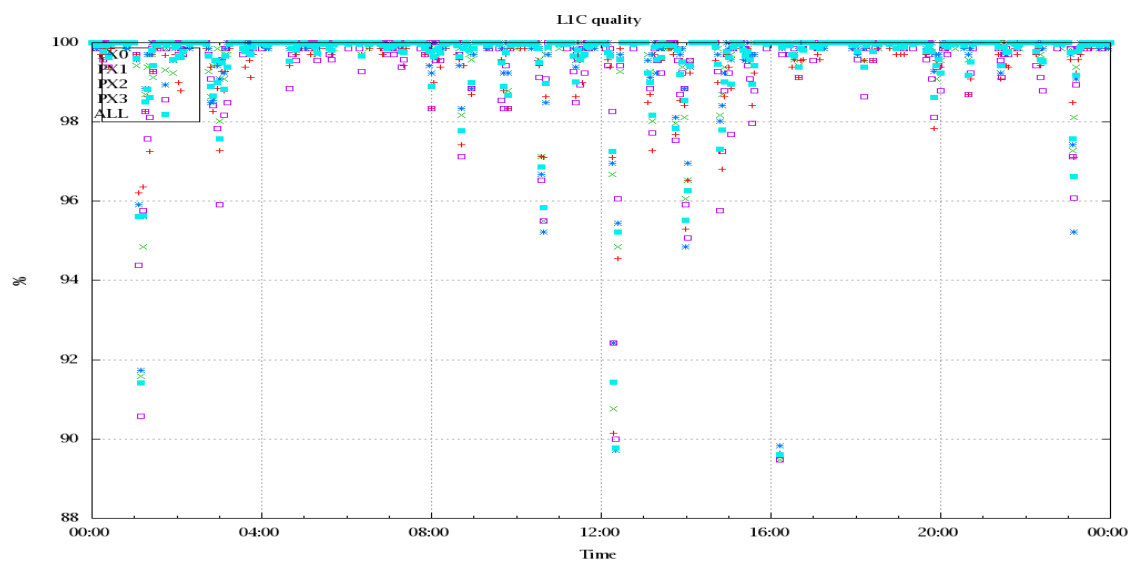


Figure 4: Level 1C quality

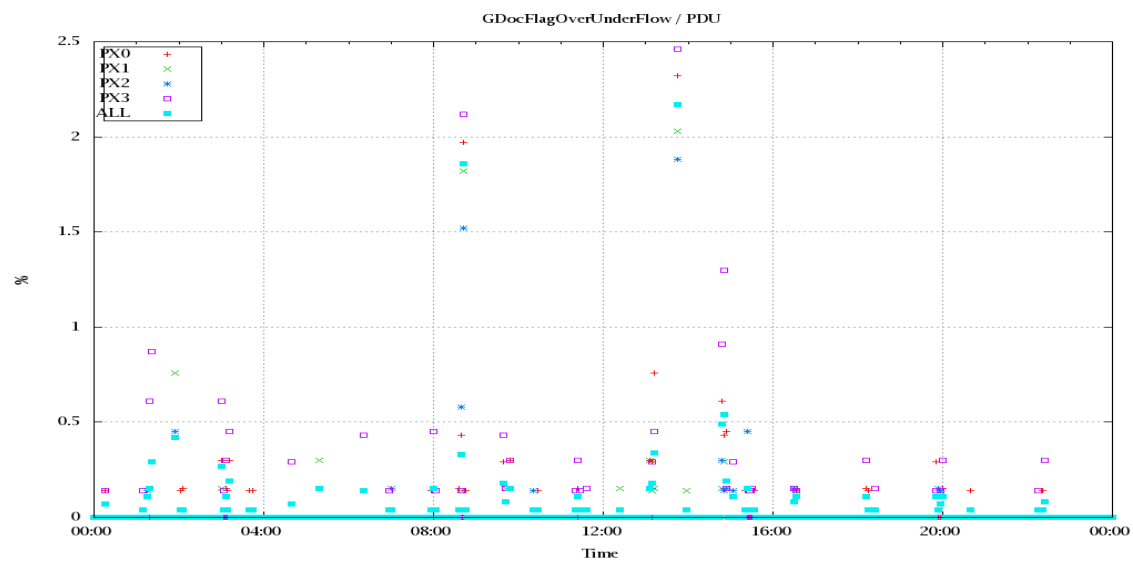


Figure 5: Timeseries of flag of Over and Under Flows

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 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.

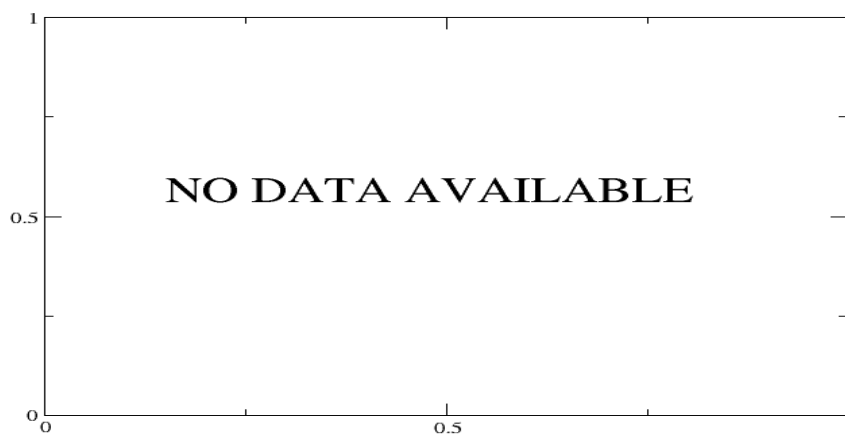


Figure 6: Average Radiance differences: OBS-CAL

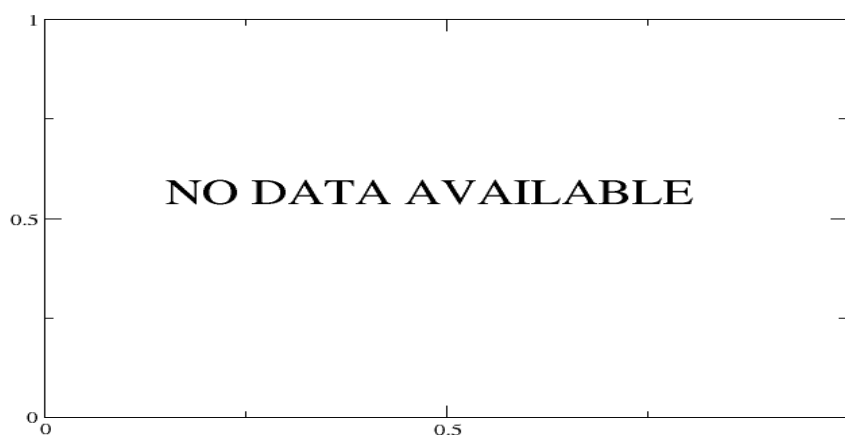


Figure 7: Standard Deviation of Radiance differences



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

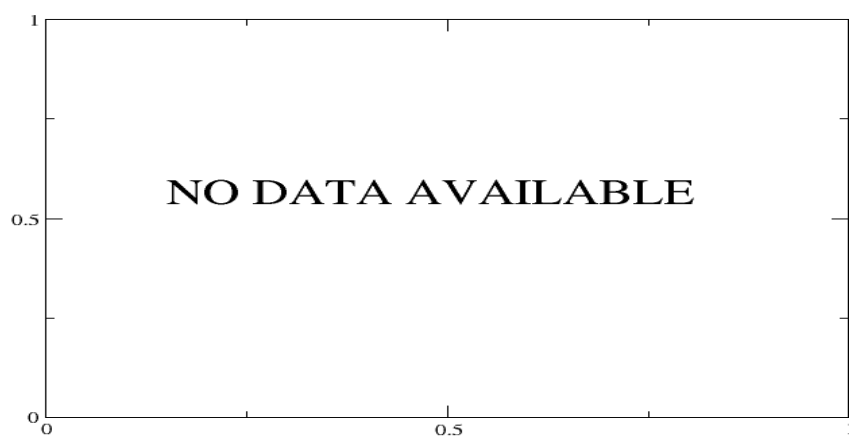


Figure 14: Radiance Anomaly in BT: CO2 14



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.

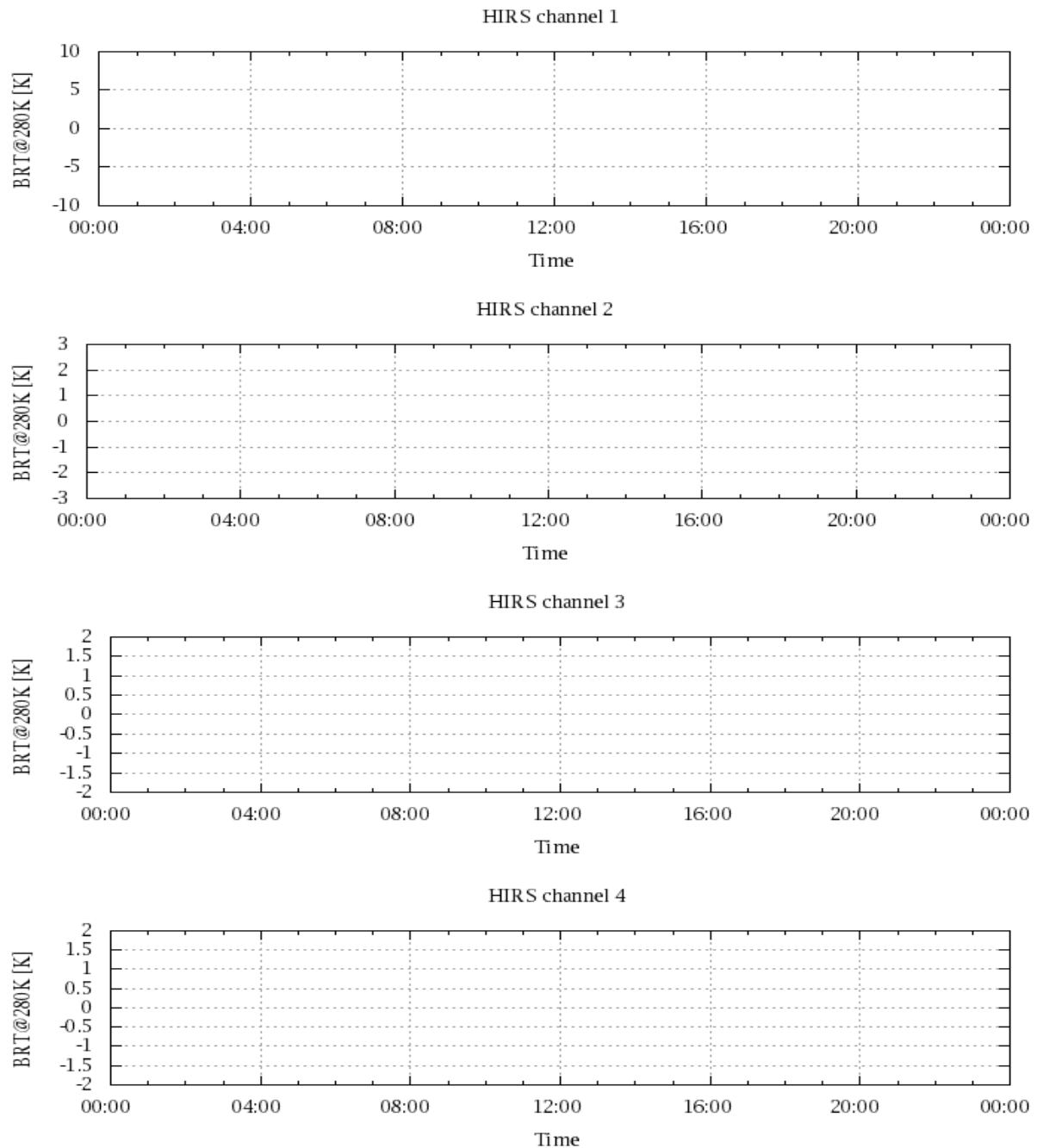


Figure 17: Radiance Differences in BT



Figure 18: Radiance Differences in BT



Figure 19: Radiance Differences in BT



Figure 20: Radiance Differences in BT



Figure 21: Radinace Differences in BT