

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

IASI monitoring team

30/05/2026 00:00:00 - 31/05/2026 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 30/05/2026 00:00:00 - 31/05/2026 00:00:00 .

The monitoring data are extracted on PDU basis.

2 Data quantity 30/05/2026 00:00:00 - 31/05/2026 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)	5412	5441	20260530182555.505	20260530182603.286
PX1 (130)	5496	5663	20260530182618.204	20260530182701.880
PX1 (130)	5701	5714	20260530182713.122	20260530182715.935
PX2 (135)	5413	5441	20260530182555.720	20260530182603.286
PX2 (135)	5494	5496	20260530182617.771	20260530182618.204
PX2 (135)	5498	5663	20260530182618.638	20260530182701.880
PX2 (135)	5701	5714	20260530182713.122	20260530182715.935
PX3 (140)	5412	5441	20260530182555.505	20260530182603.286
PX3 (140)	5494	5496	20260530182617.771	20260530182618.204
PX3 (140)	5496	5663	20260530182618.204	20260530182701.880
PX3 (140)	5701	5714	20260530182713.122	20260530182715.935
PX4 (145)	5412	5441	20260530182555.505	20260530182603.286
PX4 (145)	5493	5495	20260530182617.556	20260530182617.989
PX4 (145)	5495	5662	20260530182617.989	20260530182701.665
PX4 (145)	5701	5714	20260530182713.122	20260530182715.935
IMG (150)	1356	1389	20260530182555.505	20260530182603.286
IMG (150)	1449	1451	20260530182617.556	20260530182617.989
IMG (150)	1451	1639	20260530182617.989	20260530182701.880
IMG (150)	1684	1698	20260530182712.689	20260530182715.935

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Table 2 – continued from previous page

APID	Seq from	Seq to	Time from	Time to
VER (160)	15417	15423	20260530182551.396	20260530182607.396
VER (160)	15432	15458	20260530182615.396	20260530182703.392
AUX (180)	3081	3083	20260530182551.825	20260530182607.825
AUX (180)	3084	3090	20260530182615.829	20260530182703.825

Table 2: L0 data gaps

3 Instrument modes

Time	Transition from	Transition to
30/05/2026 00:00:05	-	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)	99.66 %	-
GQisFlagQual set (PX2)	99.73 %	-
GQisFlagQual set (PX3)	99.73 %	-
GQisFlagQual set (PX4)	99.66 %	-
GQisFlagQual set (all)	99.69 %	-

Table 4: Quality flags

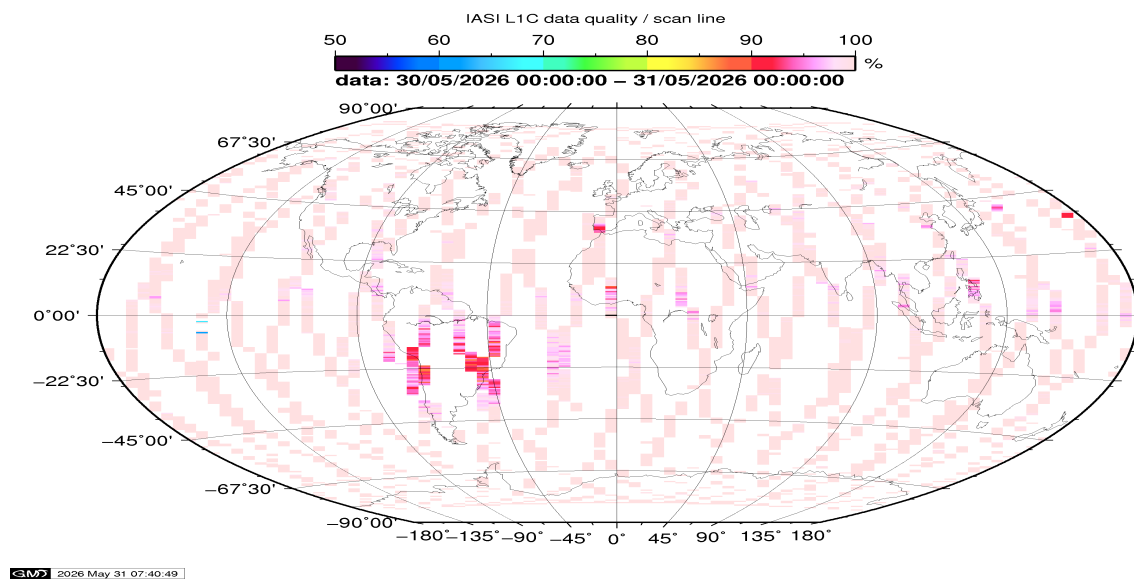


Figure 1: L1C data quality

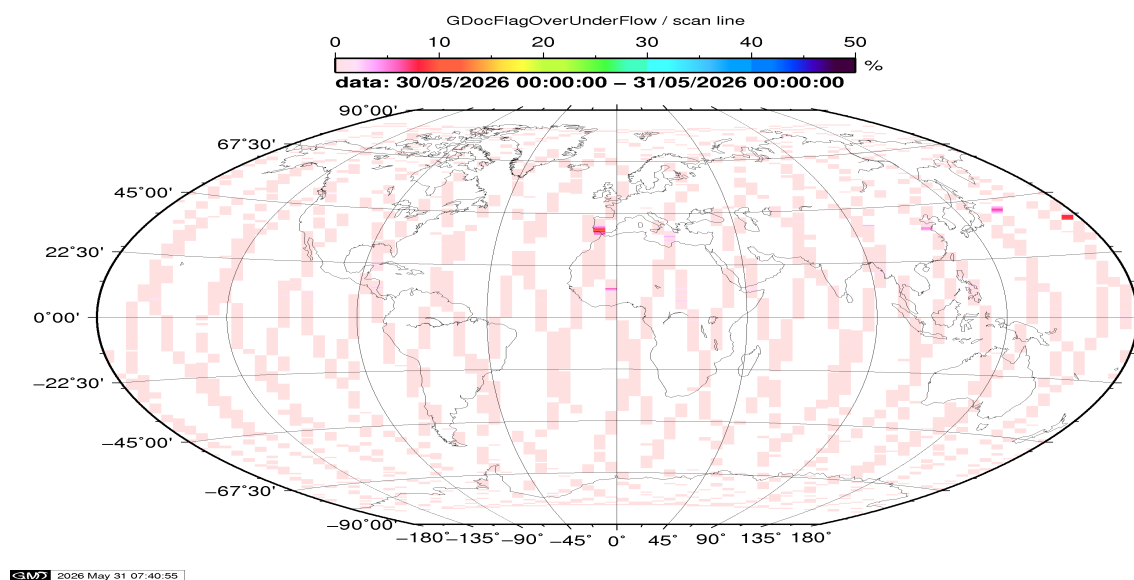


Figure 2: Flag of Over and Under Flows

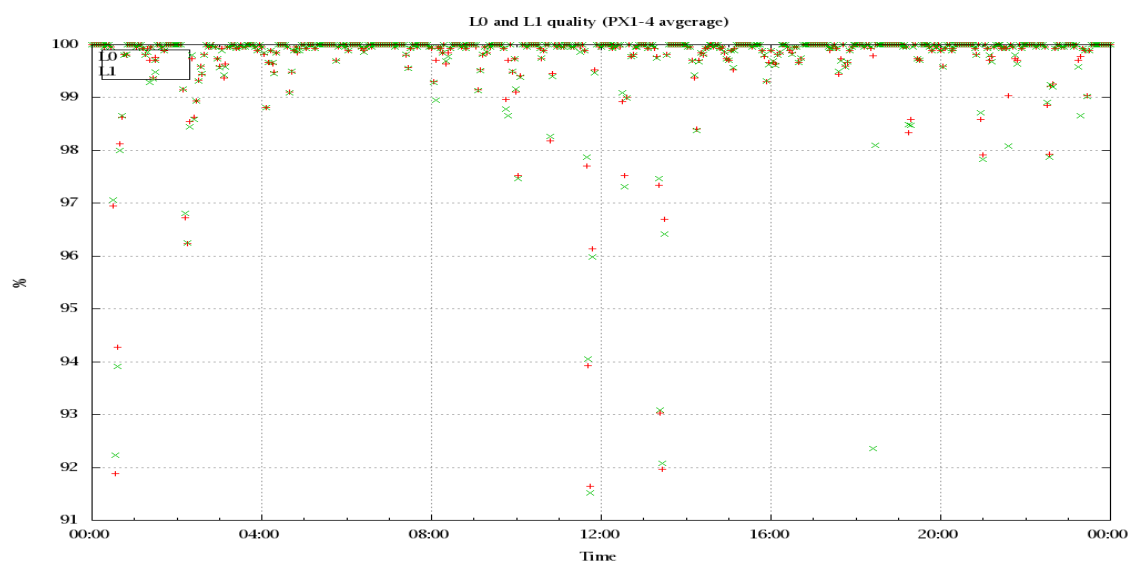


Figure 3: Level 0 and 1C overall quality

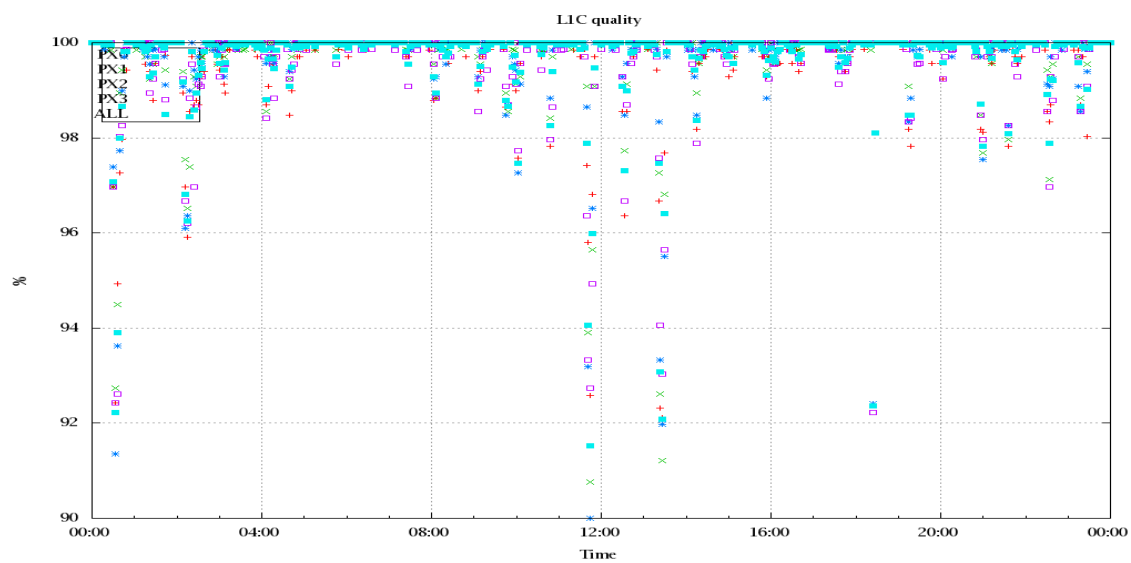


Figure 4: Level 1C quality

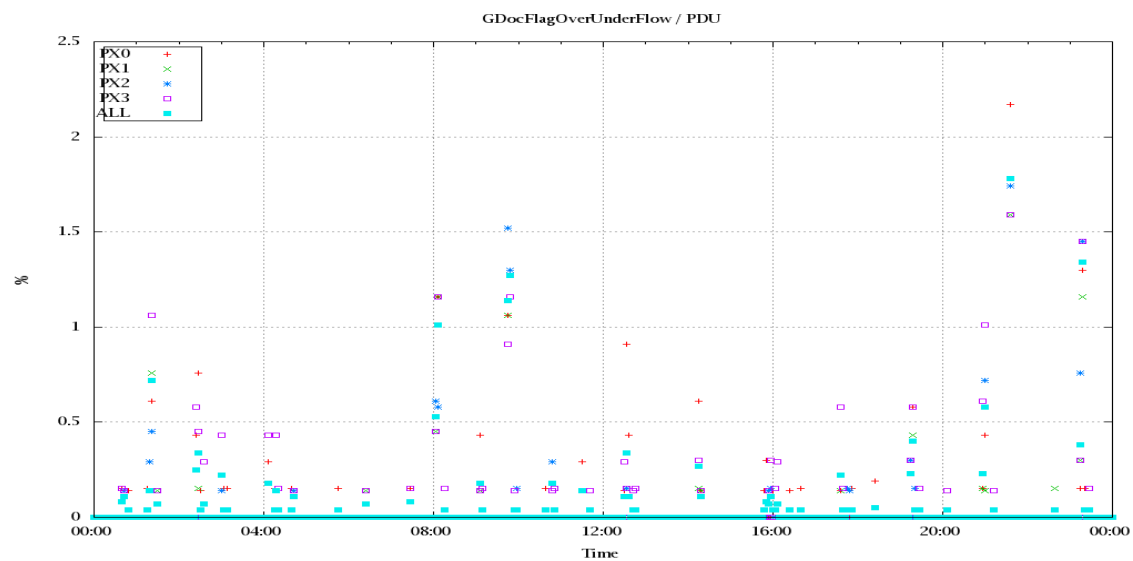


Figure 5: Timeseries of flag of Over and Under Flows

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.

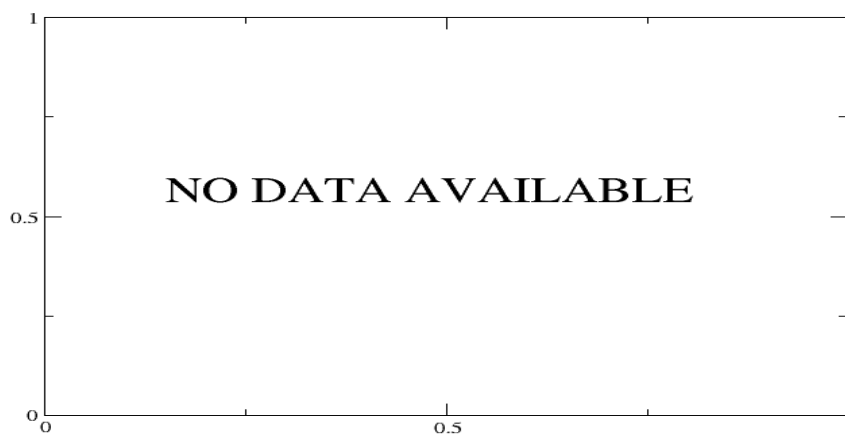


Figure 6: Average Radiance differences: OBS-CAL

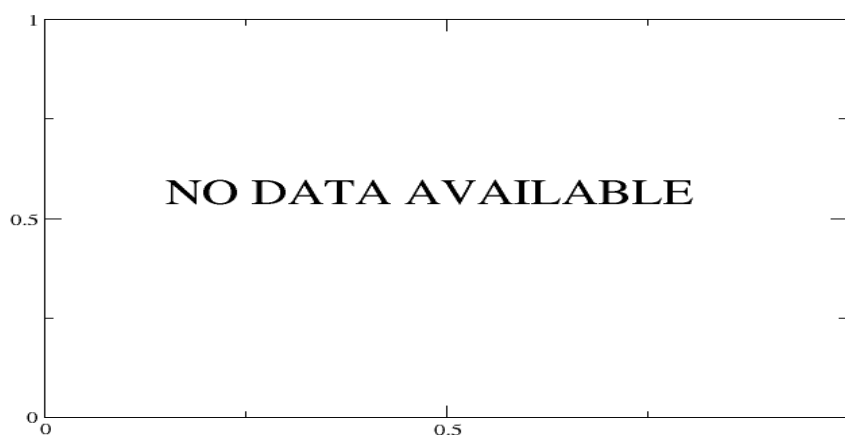


Figure 7: Standard Deviation of Radiance differences



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

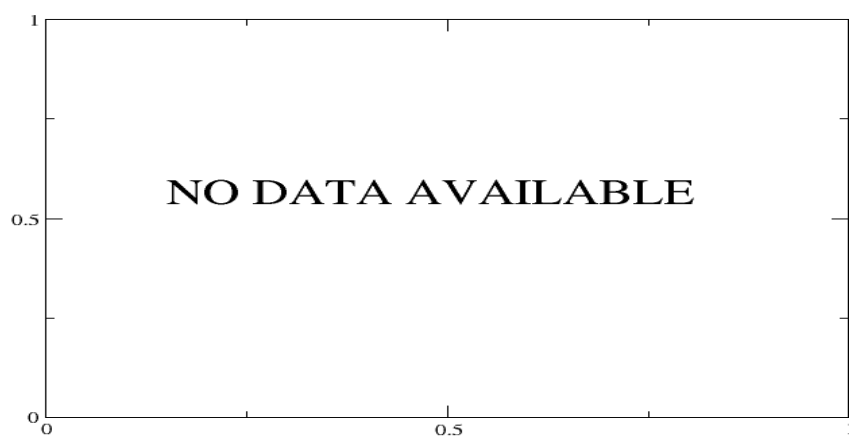


Figure 14: Radiance Anomaly in BT: CO2 14



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.

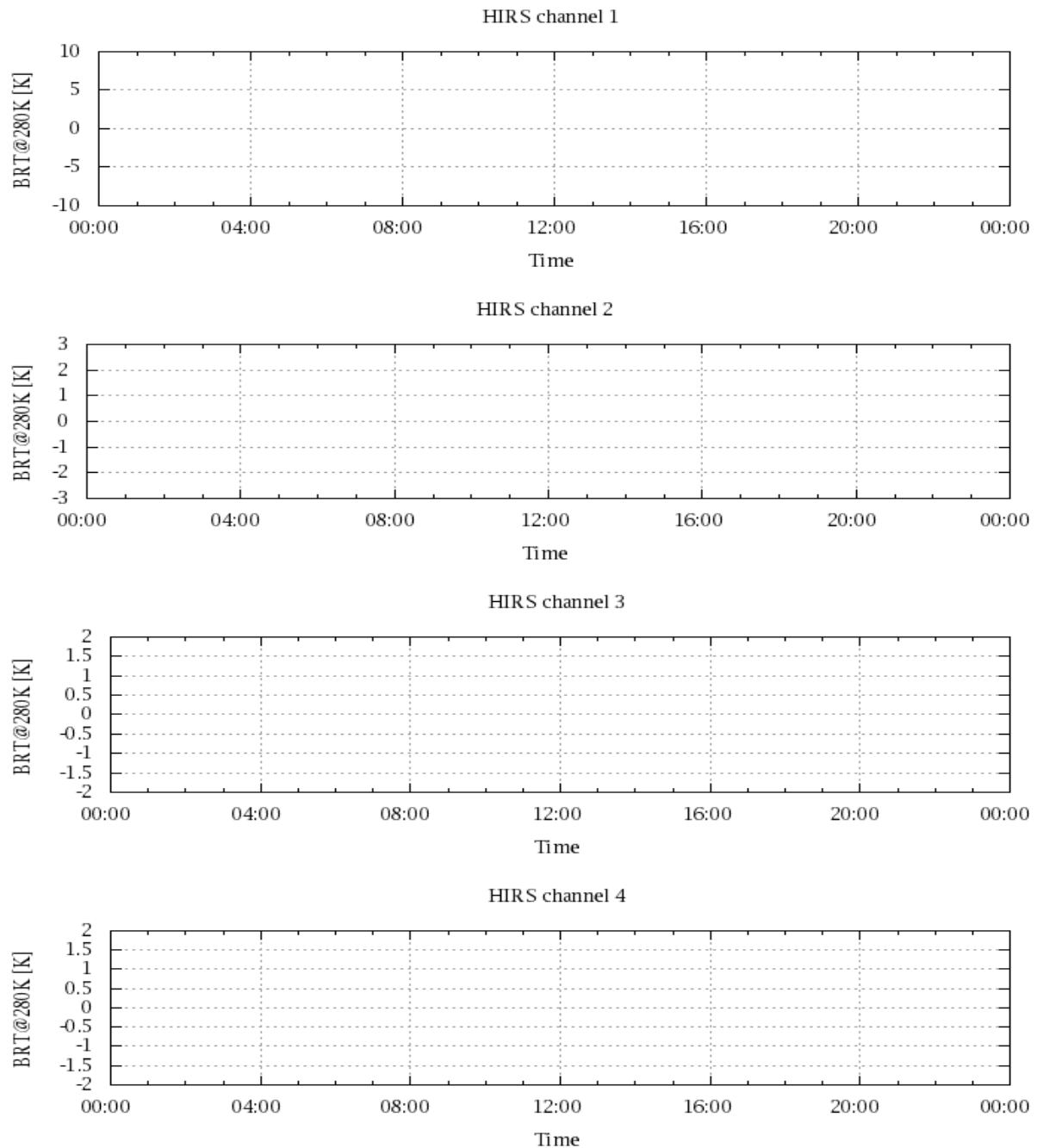


Figure 17: Radiance Differences in BT



Figure 18: Radiance Differences in BT



Figure 19: Radiance Differences in BT



Figure 20: Radiance Differences in BT



Figure 21: Radinace Differences in BT