

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

IASI monitoring team

27/06/2025 00:00:00 - 28/06/2025 00:00:00

1 Introduction

This report provides summary monitoring plots and figures from IASI instrument on the Metop-C satellite retrieved from the IASI L0 and L1 ENG product (3 minutes data packet) for 27/06/2025 00:00:00 - 28/06/2025 00:00:00 .

The monitoring data are extracted on PDU basis.

2 Data quantity 27/06/2025 00:00:00 - 28/06/2025 00:00:00

Product Type	Number	Action
L0 HKTM PDUs	481	-
L0 IASI PDUs	481	-
L1 ENG PDUs	479	-
L1 ENG distinct GEPSGranule	479	-
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)	4465	4467	20250627001400.165	20250627001402.110
PX1 (130)	8379	8381	20250627014413.540	20250627014413.974
PX1 (130)	10946	10948	20250627015538.750	20250627015539.180
PX2 (135)	9042	9044	20250627003421.324	20250627003421.757
PX3 (140)	-	-	-	-
PX4 (145)	10210	10212	20250627015221.782	20250627015222.215
IMG (150)	14872	14874	20250627001359.950	20250627001400.384
IMG (150)	13840	13842	20250627011412.469	20250627011412.902
IMG (150)	8021	8023	20250627015538.532	20250627015538.965
VER (160)	9120	10823	20250627020632.355	20250627025238.195
VER (160)	16382	0	20250627052008.346	20250627052016.346
VER (160)	3	16383	20250627052016.346	20250627052016.346
VER (160)	-1	4	20250627052016.346	20250627052024.346
VER (160)	16379	0	20250627195352.273	20250627195400.273
VER (160)	0	16380	20250627195400.273	20250627195400.273
VER (160)	-1	1	20250627195400.273	20250627195408.273
AUX (180)	-	-	-	-

Table 2: L0 data gaps

3 Instrument modes

Time	Transition from	Transition to
27/06/2025 00:00:13	-	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	479	-
GQisFlagQual set (PX1)	99.65 %	-
GQisFlagQual set (PX2)	99.66 %	-
GQisFlagQual set (PX3)	99.68 %	-
GQisFlagQual set (PX4)	99.61 %	-
GQisFlagQual set (all)	99.65 %	-

Table 4: Quality flags

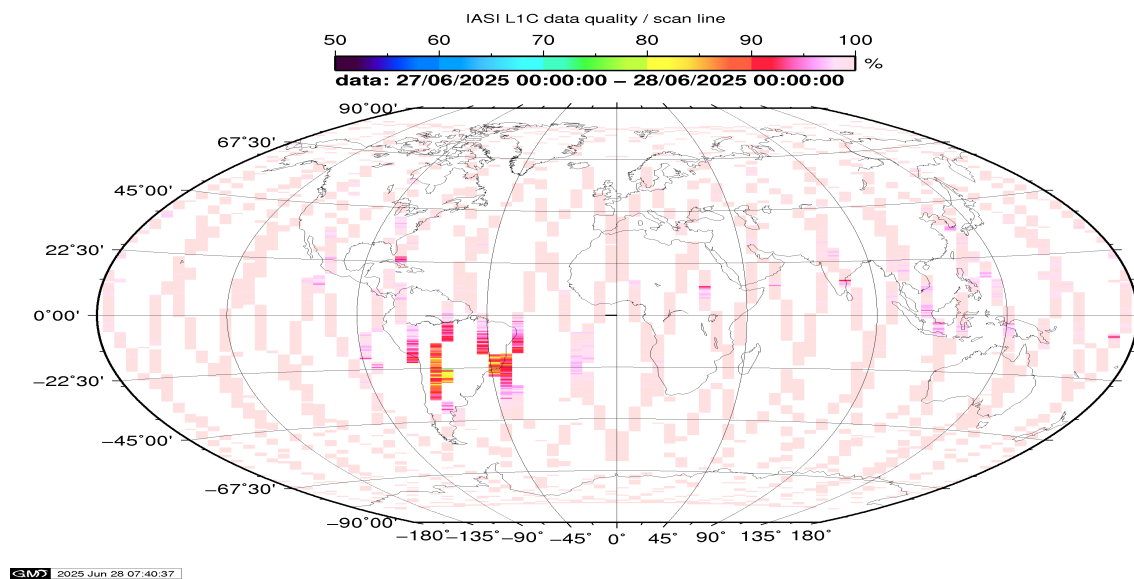


Figure 1: L1C data quality

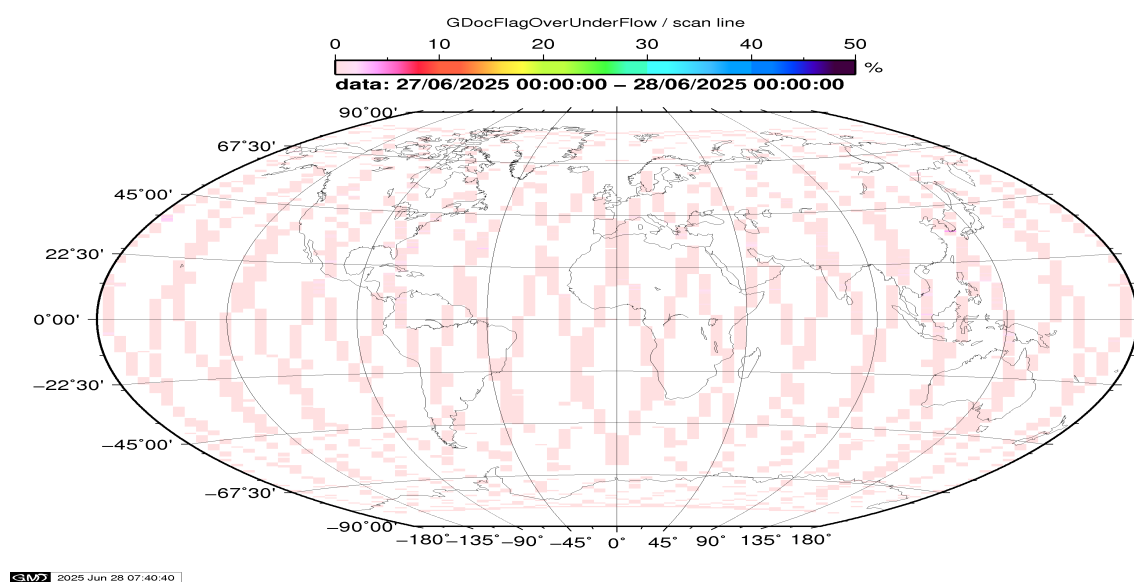


Figure 2: Flag of Over and Under Flows

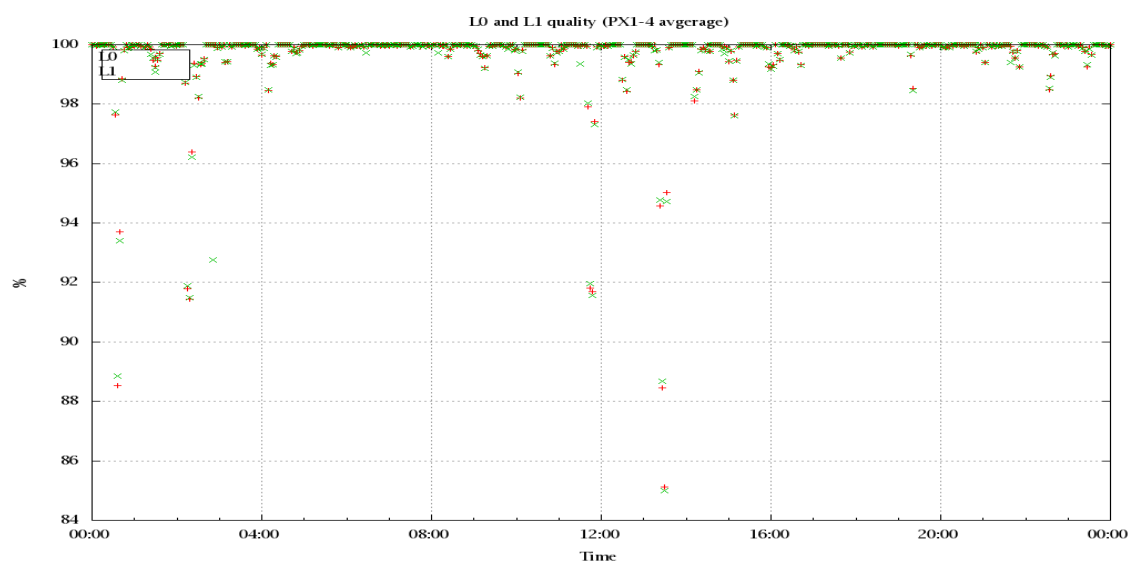


Figure 3: Level 0 and 1C overall quality

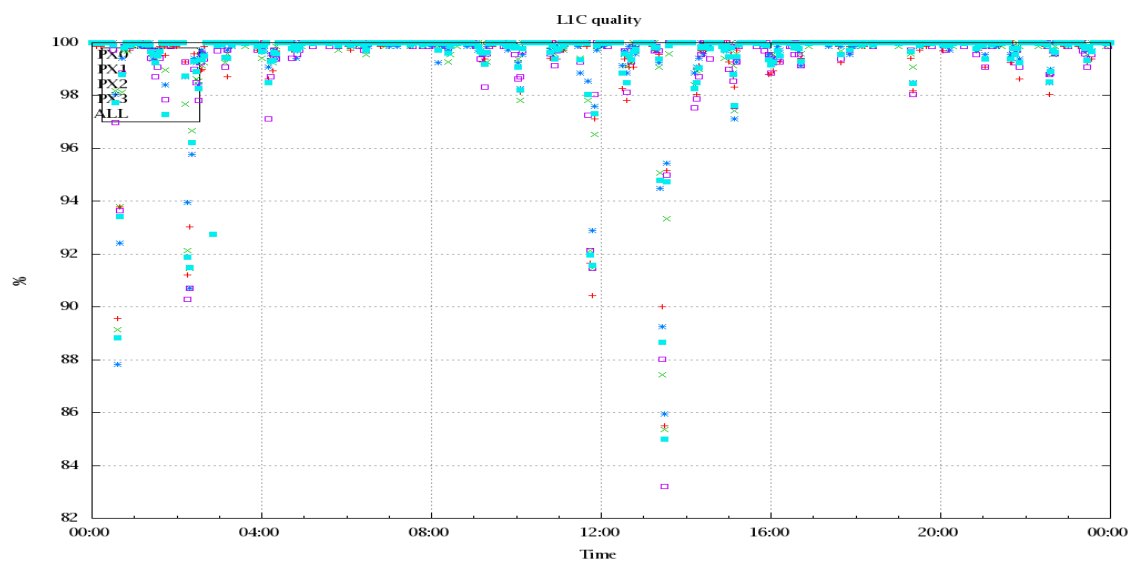


Figure 4: Level 1C quality

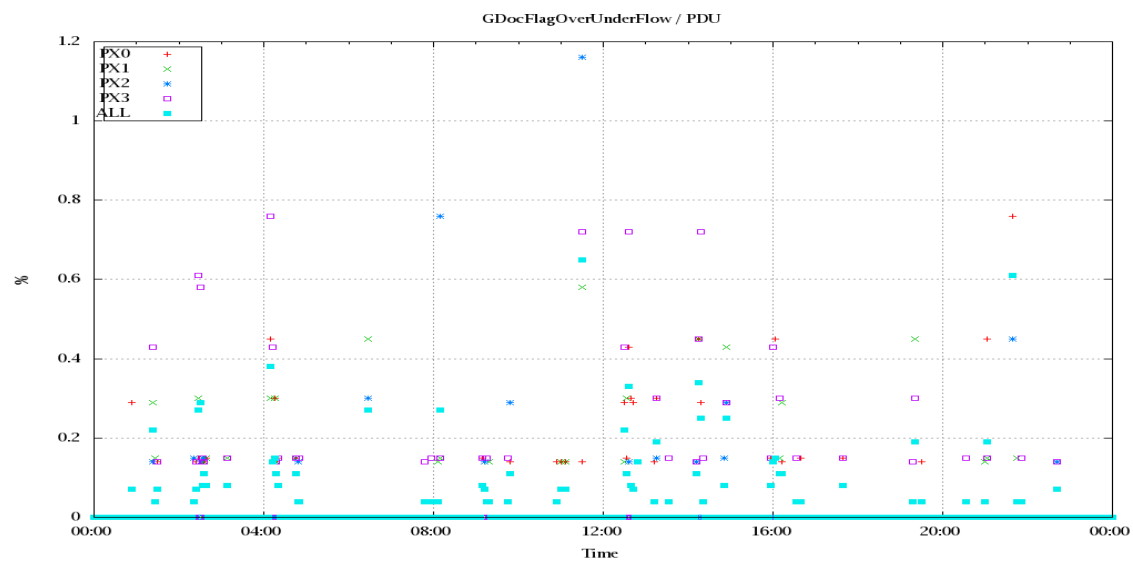


Figure 5: Timeseries of flag of Over and Under Flows

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.

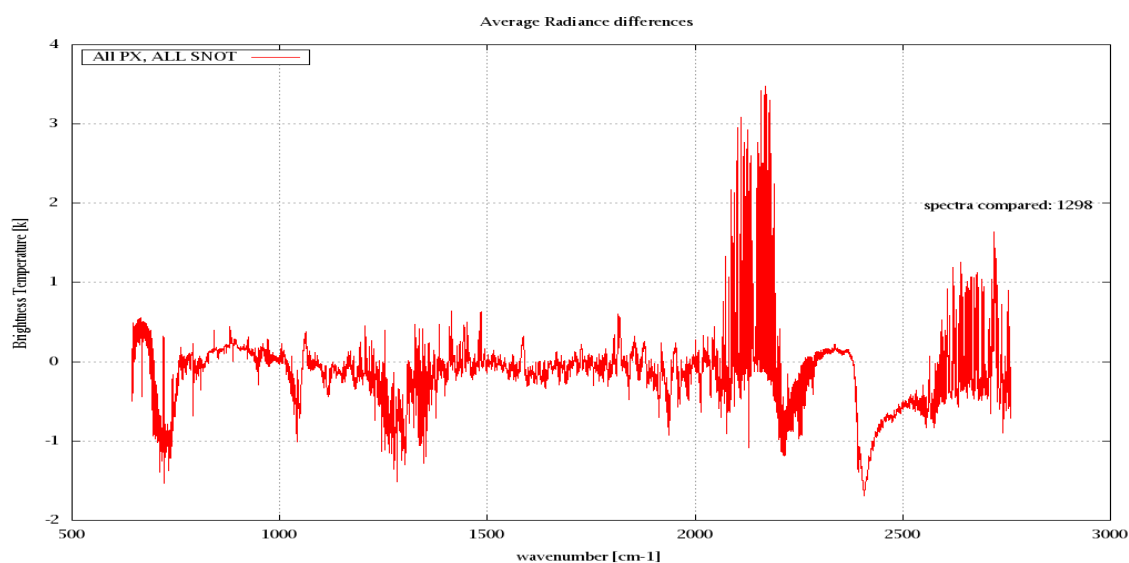


Figure 6: Average Radiance differences: OBS-CAL

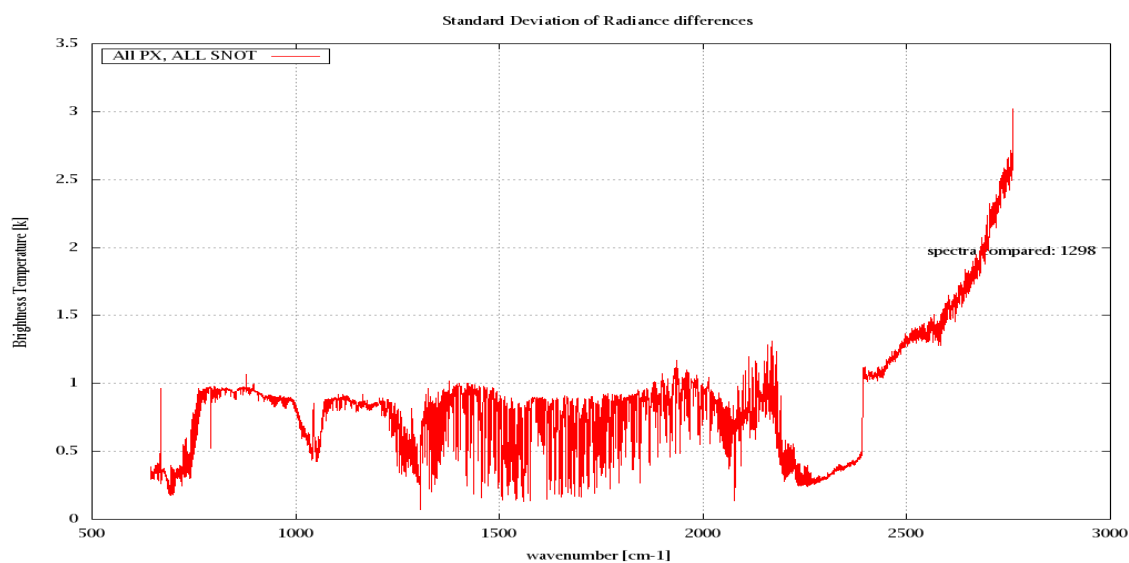


Figure 7: Standard Deviation of Radiance differences

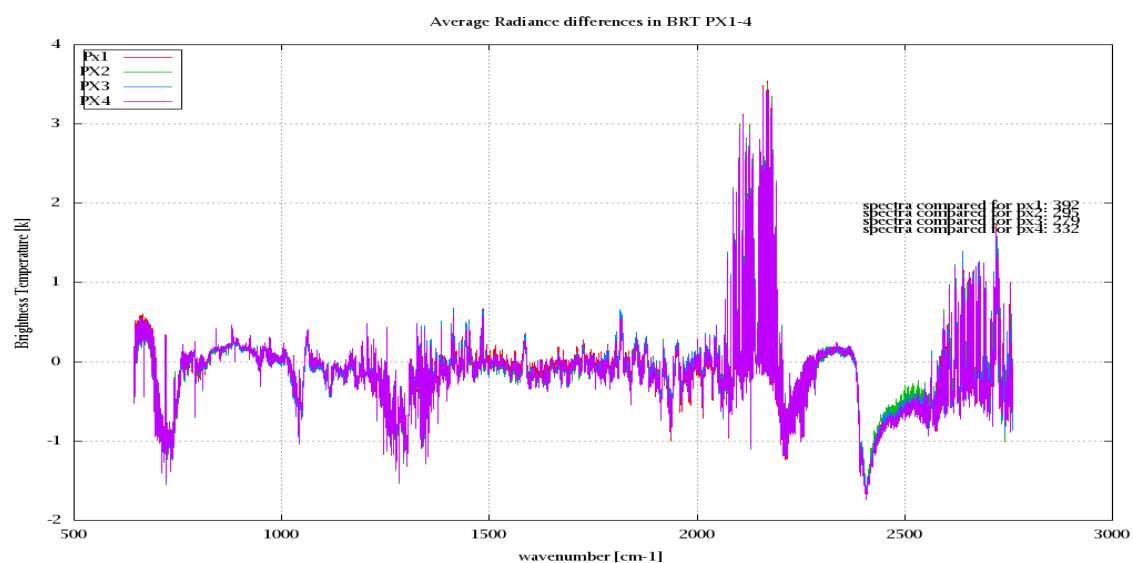


Figure 8: Average Radiance differences: OBS-CAL

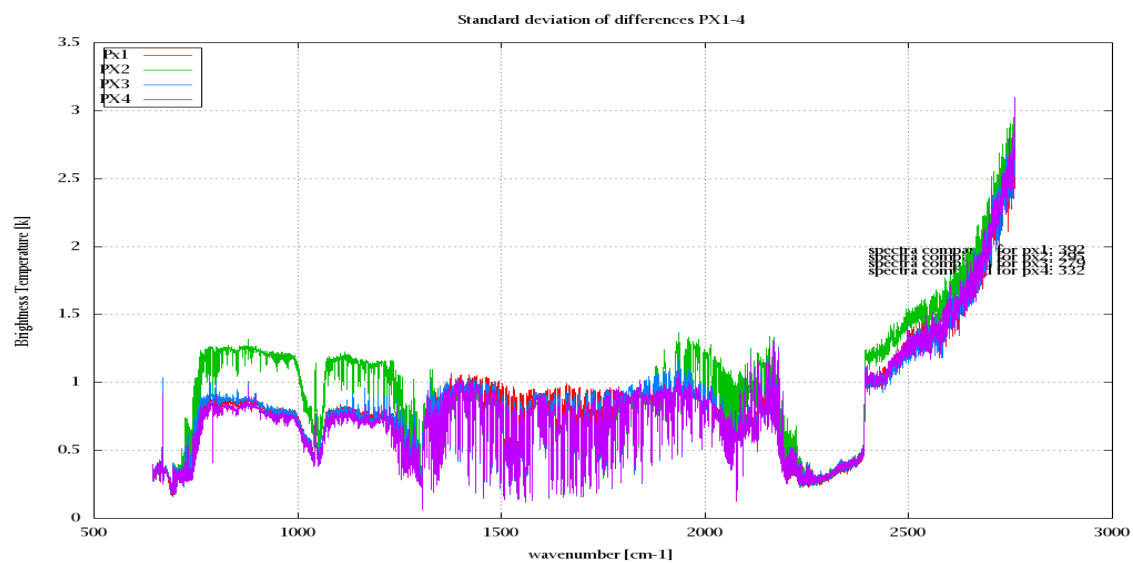


Figure 9: Standard Deviation of Radiance differences

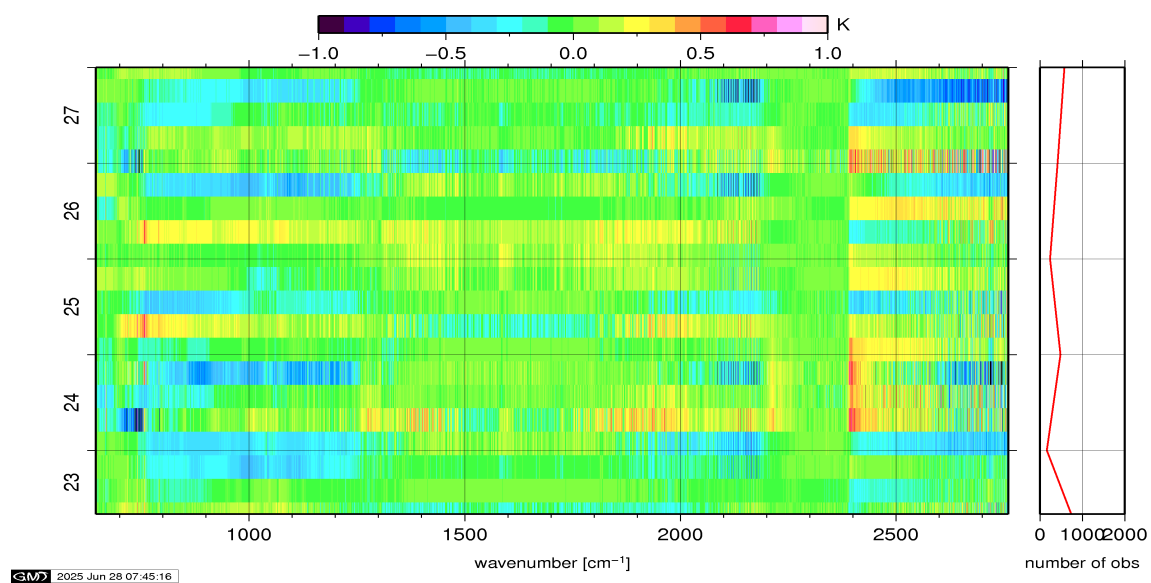


Figure 10: Radiance Anomaly in BT: All Channels

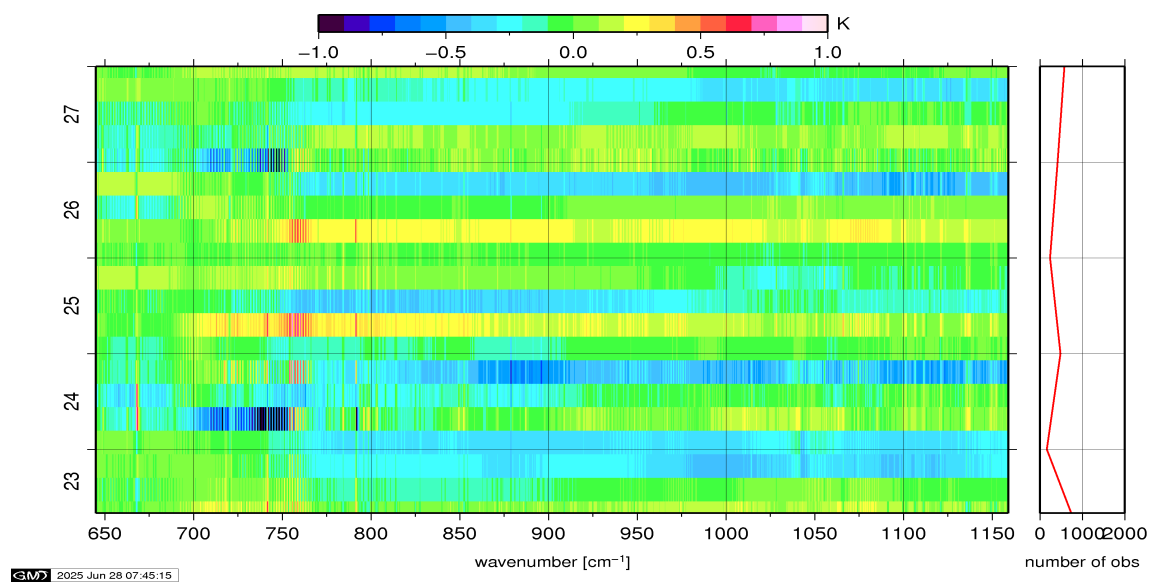


Figure 11: Radiance Anomaly in BT: IASI Band 1

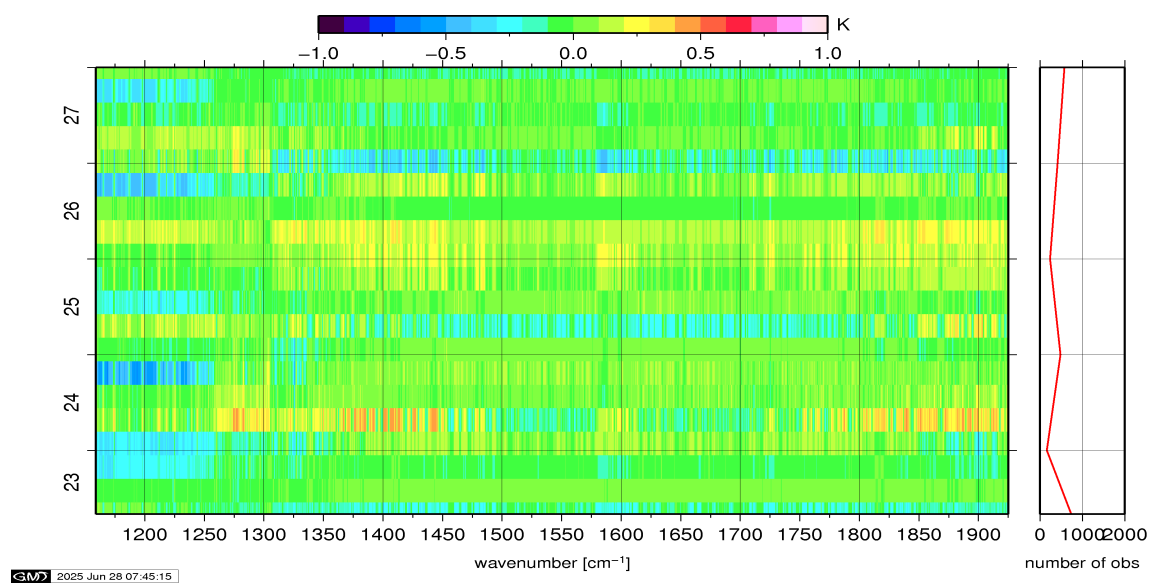


Figure 12: Radiance Anomaly in BT: IASI Band 2

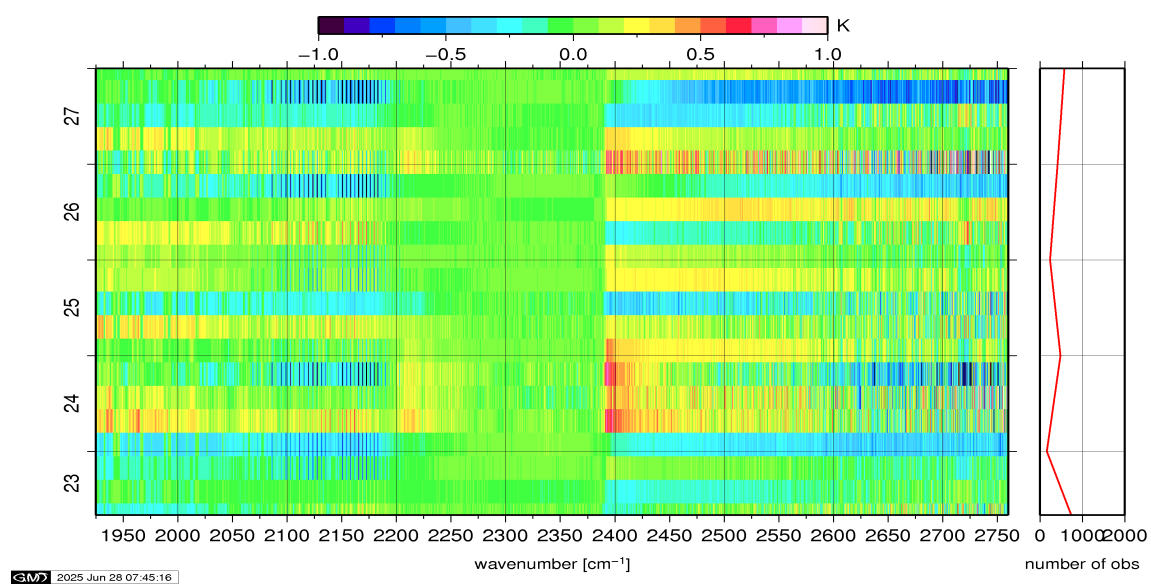


Figure 13: Radiance Anomaly in BT: IASI Band 3

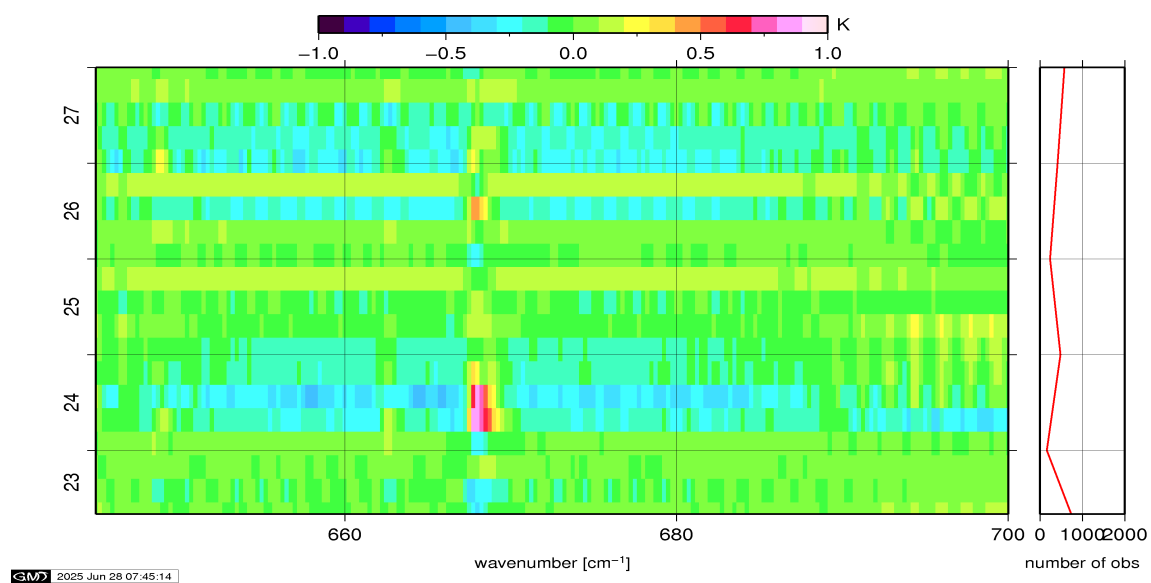


Figure 14: Radiance Anomaly in BT: CO2 14

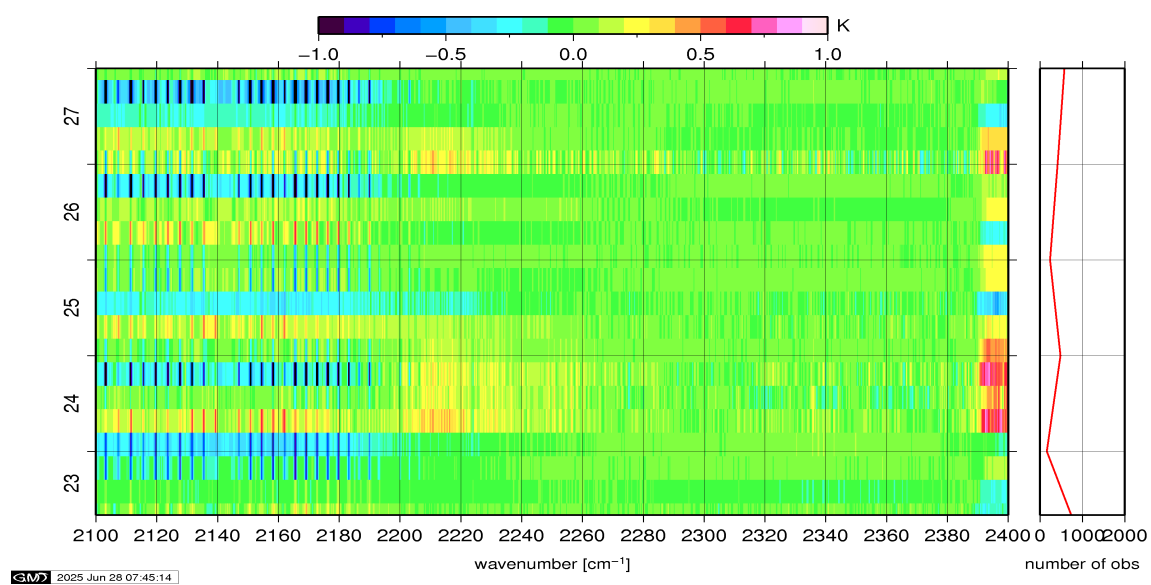


Figure 15: Radiance Anomaly in BT: CO2 4.3

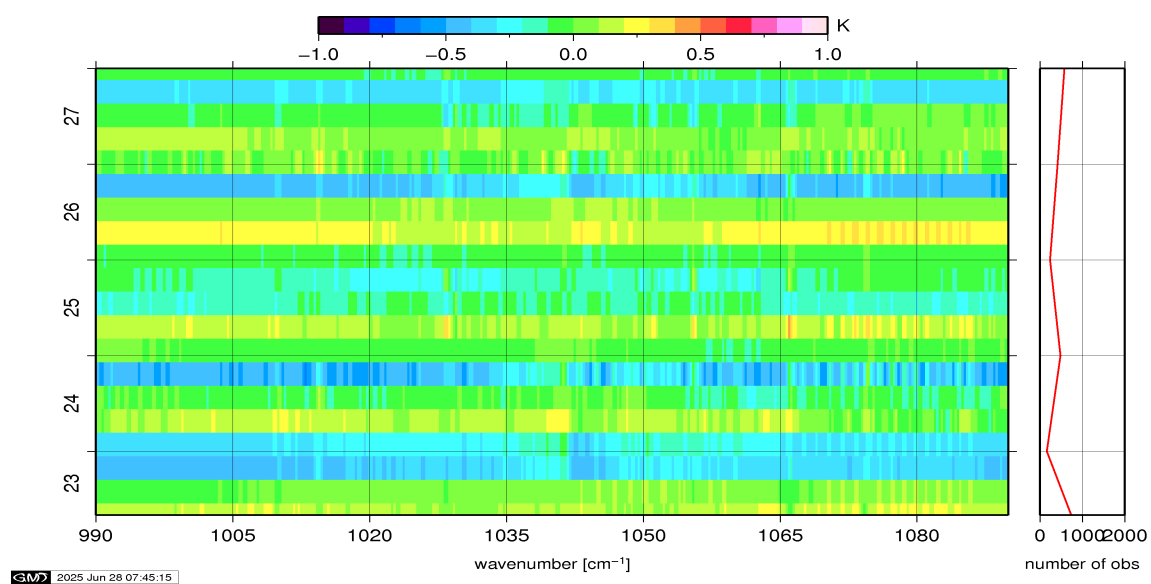


Figure 16: Radiance Anomaly in BT: O3