

# PRELIMINARY REPORT OF 060816

last update on Wed Aug 16 16:32:06 GMT 2006

1. [Introduction](#)
2. [Summary](#)
  - [Instrument Unavailability](#)
  - [Auxiliary files used](#)
  - [Browse Visual Inspection](#)
  - [Module Stepping Results](#)
  - [Data Analysis](#)
3. [Module Stepping](#)
4. [Internal Calibration pulses](#)
  - [Daily statistics](#)
  - [Cyclic statistics](#)
  - [cal pulses monitoring \(all rows\)](#)
5. [Raw Data Statistics](#)
  - [raw data mean I and Q](#)
  - [raw data stdev I and Q](#)
  - [raw gain imbalance](#)
6. [TLM analysis](#)
7. [Wave Doppler analysis](#)
  - [Unbiased Doppler Error for WVS](#)
  - [Absolute Doppler for WVS](#)
  - [Doppler evolution versus ANX for WVS](#)
  - [Unbiased Doppler Error for GM1](#)
  - [Absolute Doppler for GM1](#)
  - [Doppler evolution versus ANX for GM1](#)

## 1 - Introduction

This report is based on the analysis of wave mode level-1 cross spectra (ASA\_WVS\_1P), global monitoring products (ASA\_GM1\_1P), which are the available few hours after the acquisition, on the browse (BP) products and on the Module Stepping (MS) product.

## 2 - Summary

### 2.1 - Instrument Unavailability

No unavailabilities during the reported period.

### 2.2 - Auxiliary files

Summary of the auxiliary files used from 2006-08-15 00:00:00 to 2006-08-16 16:32:06

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	44	0	2	0	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	44	0	2	0	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	44	0	2	0	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	44	0	2	0	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	42	39	23	11	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	42	39	23	11	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	42	39	23	11	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	42	39	23	11	0

## 2.3 - Browse Visual Inspection

## 2.4 - Data Analysis

- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

## 3 - Module Stepping Mode

No anomalies observed on available MS products:

Polarisation	Start Time
V	20060812 064406
H	20060813 061229

### MSM in V/V polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

### MSM in H/H polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

## 4 - Internal calibration Results

No anomalies observed.

### 4.1 - Daily statistics

#### 4.1.1 - Evolution for WVS

Evolution of cal pulses for WVS

#### 4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1

### 4.2 - Cyclic statistics

#### 4.2.1 - Evolution for WVS

Evolution of cal pulses for WVS

**P1a Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
-----	-------	-----------	------------	-----------------

**P1 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.942193	0.010119	-0.007636
7	P1	-3.110158	0.051090	-0.037028
11	P1	-4.099855	0.065006	-0.062080
15	P1	-6.198249	0.097285	-0.104362
19	P1	-3.431562	0.009939	-0.068647
22	P1	-4.562326	0.010089	-0.021255
26	P1	-3.920918	0.020164	0.005188
30	P1	-5.763505	0.009891	-0.008088
3	P1	-16.533190	0.250872	-0.019074
7	P1	-17.179590	0.131936	0.062269
11	P1	-16.930126	0.281676	0.168429
15	P1	-13.036891	0.173477	0.213079
19	P1	-14.494763	0.054445	-0.055292
22	P1	-15.971498	0.447828	0.180818
26	P1	-15.117734	0.228107	-0.043180
30	P1	-17.084700	0.334551	0.103068

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.916735	0.085720	0.099975
7	P2	-21.874926	0.103145	0.078992
11	P2	-15.768952	0.119188	0.038821
15	P2	-7.116367	0.097956	0.027041
19	P2	-9.123751	0.091102	0.023036
22	P2	-18.146193	0.086350	0.012542
26	P2	-16.400864	0.092296	0.003509
30	P2	-19.500181	0.091924	0.047641

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.172839	0.003249	0.004113

7	P3	-8.172839	0.003249	0.004113
11	P3	-8.172839	0.003249	0.004113
15	P3	-8.172839	0.003249	0.004113
19	P3	-8.172839	0.003249	0.004113
22	P3	-8.172839	0.003249	0.004113
26	P3	-8.172900	0.003248	0.003794
30	P3	-8.172900	0.003248	0.003794

#### 4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1

✕
---

#### P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
-----	-------	-----------	------------	-----------------

#### P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.829404	0.022627	-0.025147
7	P1	-2.599494	0.227903	-0.201859
11	P1	-2.893144	0.144155	-0.178152
15	P1	-3.625718	0.157245	-0.211100
19	P1	-3.427448	0.026592	-0.002578
22	P1	-5.083652	0.020279	-0.003122
26	P1	-5.865940	0.023091	-0.009460
30	P1	-5.195474	0.040941	0.005403
3	P1	-11.624849	0.069106	-0.038208
7	P1	-9.982407	0.156880	-0.122465
11	P1	-10.271834	0.082488	-0.118578
15	P1	-10.771726	0.173965	-0.106771
19	P1	-15.557434	0.552933	0.044160
22	P1	-20.913910	1.313430	-0.061414
26	P1	-16.201101	0.395037	0.194813
30	P1	-17.970871	0.428110	-0.117929

## P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.528158	0.088180	0.175184
7	P2	-22.322525	0.219098	0.190943
11	P2	-11.002585	0.055891	0.124710
15	P2	-4.895640	0.044514	0.030376
19	P2	-6.863134	0.040965	0.013869
22	P2	-8.193653	0.064330	-0.009488
26	P2	-24.169012	0.133904	0.043361
30	P2	-21.987482	0.081759	0.065321

## P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.011288	0.003723	-0.002134
7	P3	-8.011205	0.003723	-0.002020
11	P3	-8.011305	0.003730	-0.002148
15	P3	-8.011375	0.003725	-0.002051
19	P3	-8.011189	0.003734	-0.002172
22	P3	-8.011431	0.003714	-0.002183
26	P3	-8.011281	0.003711	-0.001260
30	P3	-8.011275	0.003724	-0.001796

## 4.3 - cal pulses monitoring (all rows)

### 4.3.1 - Evolution for WVS

### 4.3.2 - Evolution for GM1

## 5 - RAW data statistics

No anomalies observed.

### 5.1 - Input mean I/Q

channel	stat	DSS-B
MEAN I	mean	0.000563143
	stdev	1.71370e-07
MEAN Q	mean	0.000534978
	stdev	2.14799e-07



## 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.137631
	stdev	0.00107953
STDEV Q	mean	0.137990
	stdev	0.00109648



## 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006081[456]

The assumption is taken that the SQADS num\_gaps and num\_missing\_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
----------	----------	-------------------



## 7 - Doppler Analysis

### 7.1 - Unbiased Doppler Error for WVS

#### Evolution of unbiased Doppler error (Real - Expected)

<input type="checkbox"/>	
	Ascending
<input type="checkbox"/>	
	Descending

### 7.2 - Absolute Doppler for WVS

#### Evolution of Absolute Doppler

<input type="checkbox"/>	
	Ascending
<input type="checkbox"/>	
	Descending

### 7.3 - Doppler evolution versus ANX for WVS

### 7.4 - Unbiased Doppler Error for GM1

#### Evolution of unbiased Doppler error (Real - Expected)

<input type="checkbox"/>	
	Ascending
<input type="checkbox"/>	
	Descending

### 7.5 - Absolute Doppler for GM1

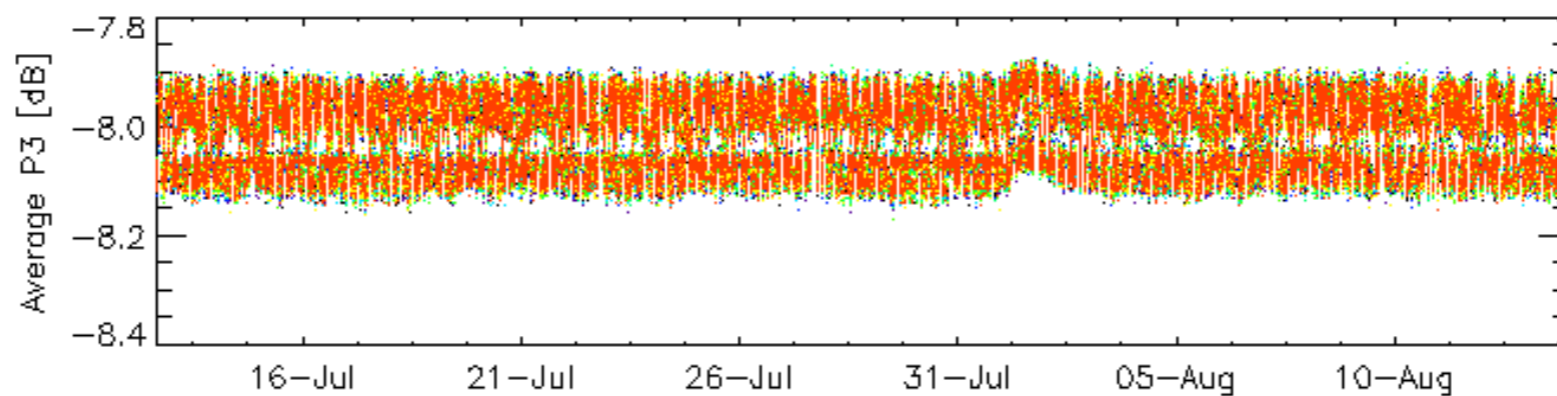
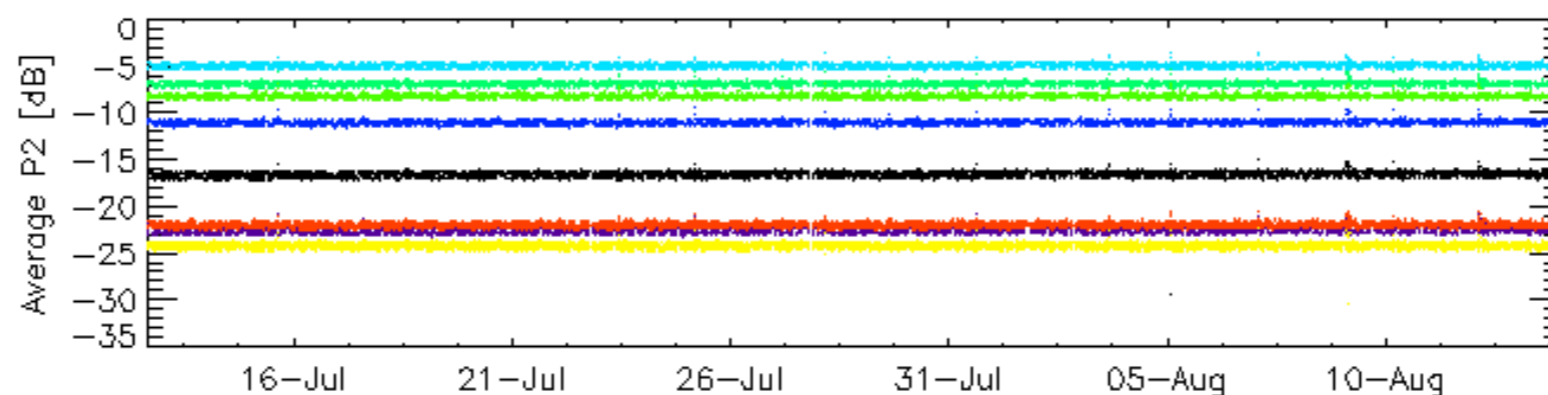
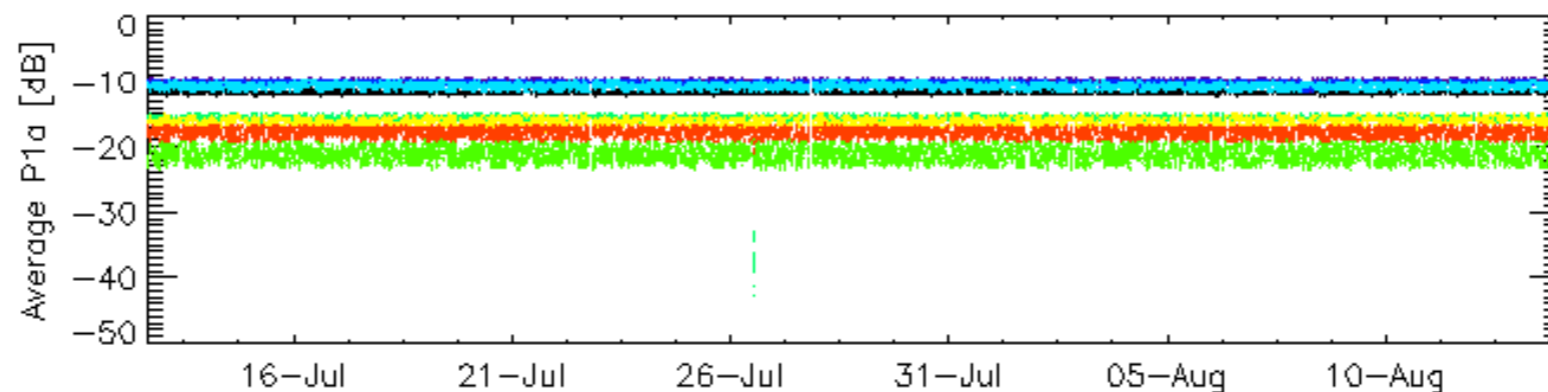
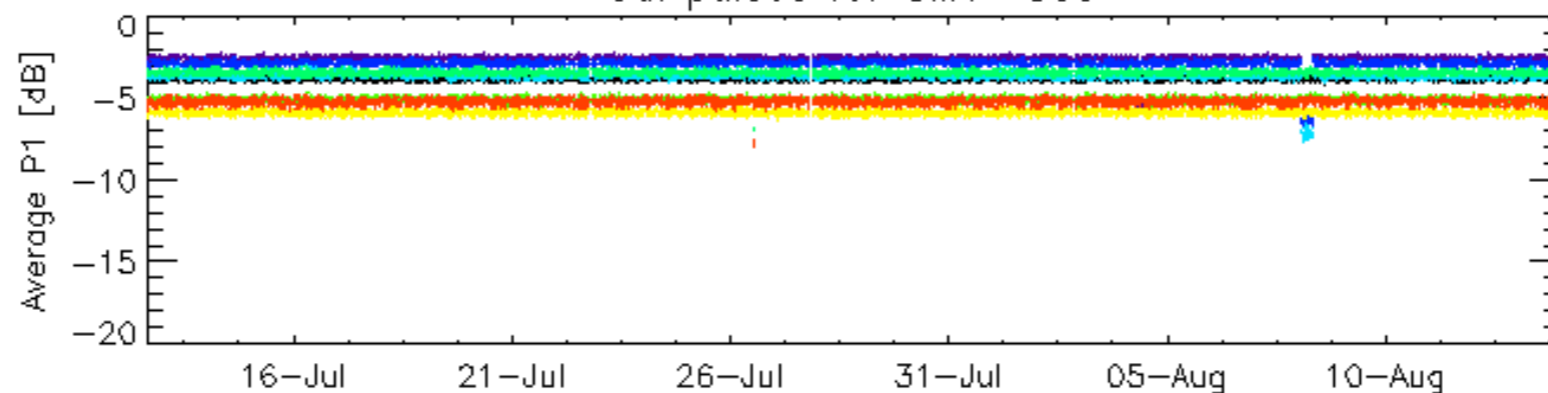
#### Evolution of Absolute Doppler



<input type="checkbox"/>
Ascending
<input type="checkbox"/>
Descending

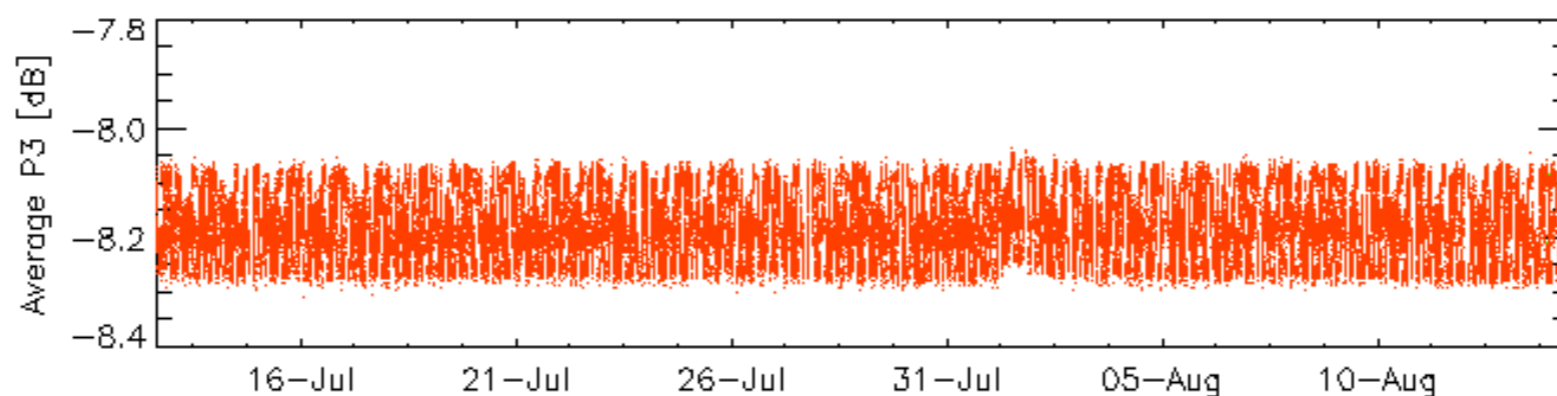
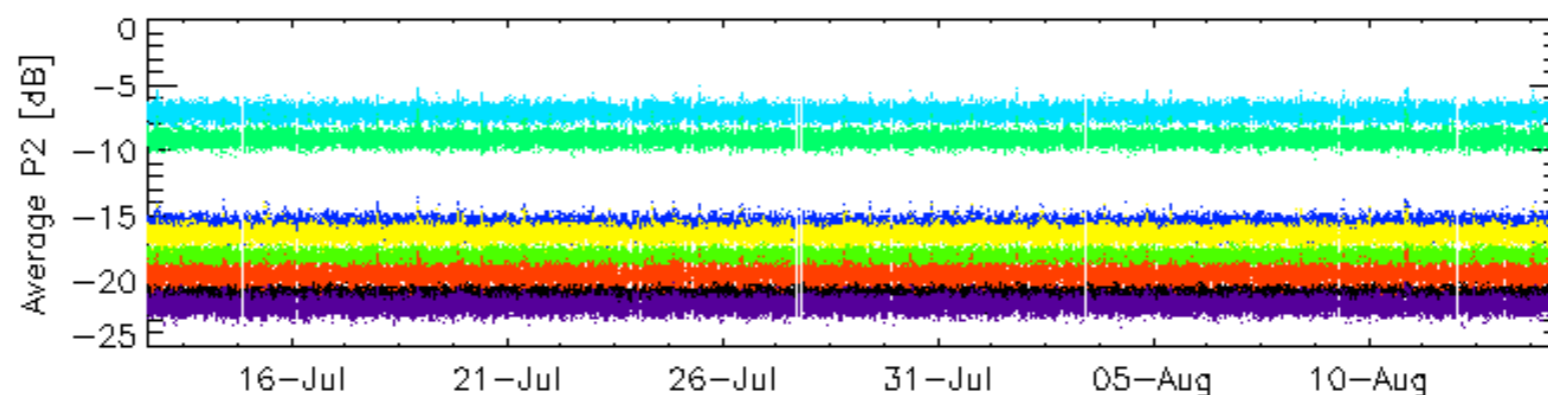
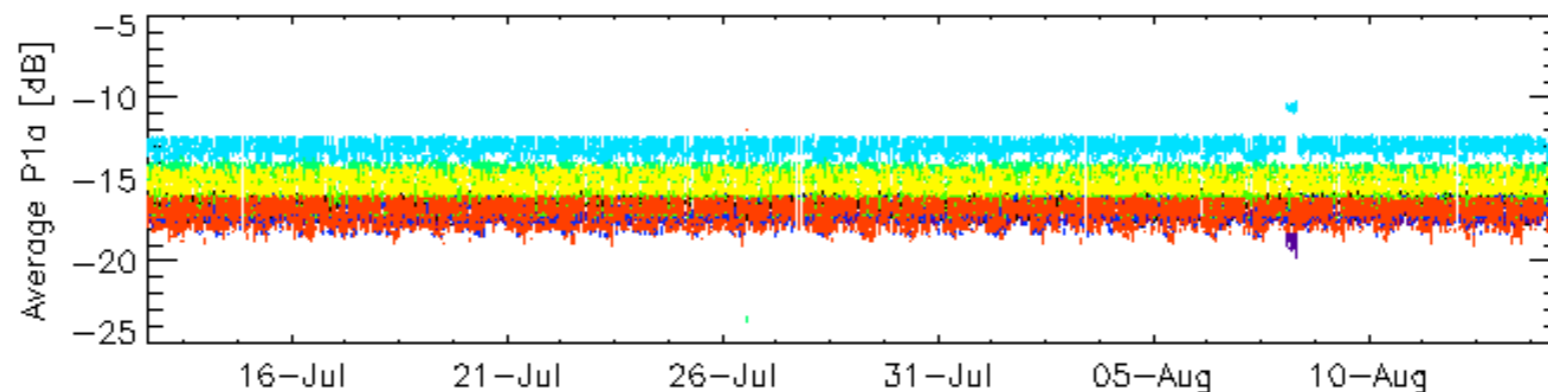
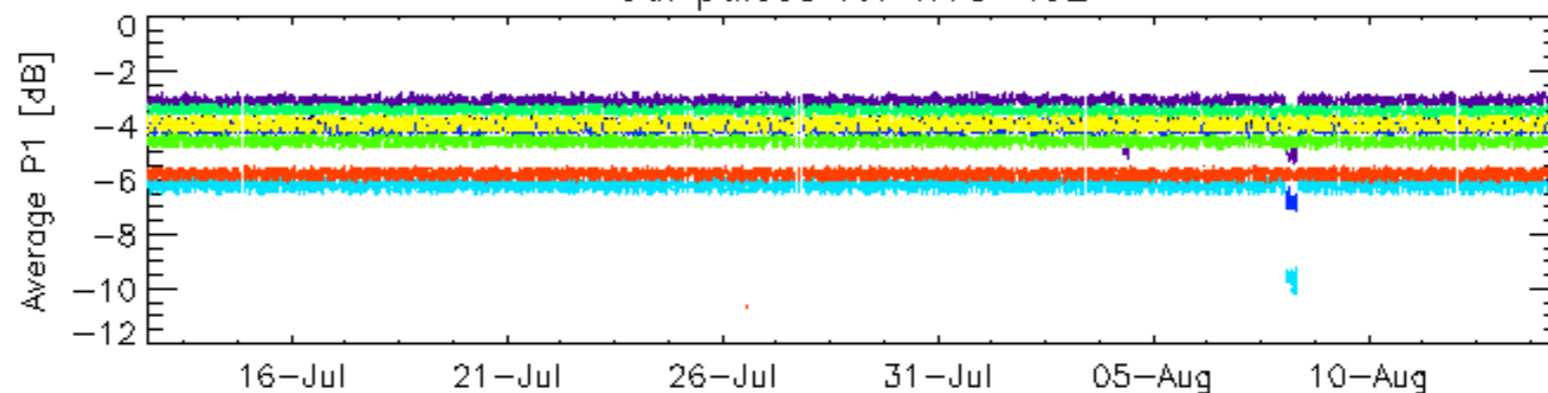
## 7.6 - Doppler evolution versus ANX for GM1

Cal pulses for GM1 SS3



rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2



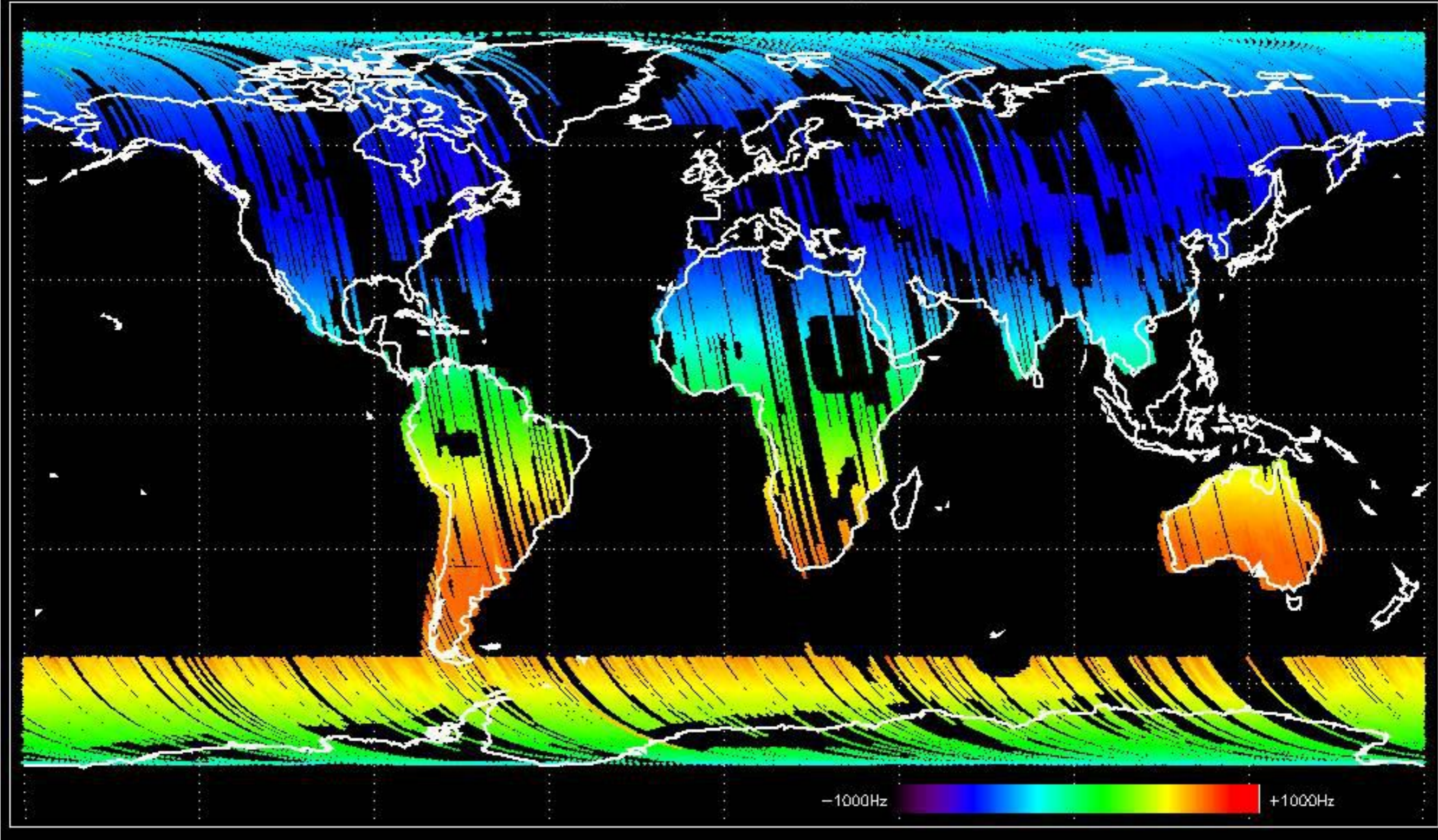
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

No anomalies observed.

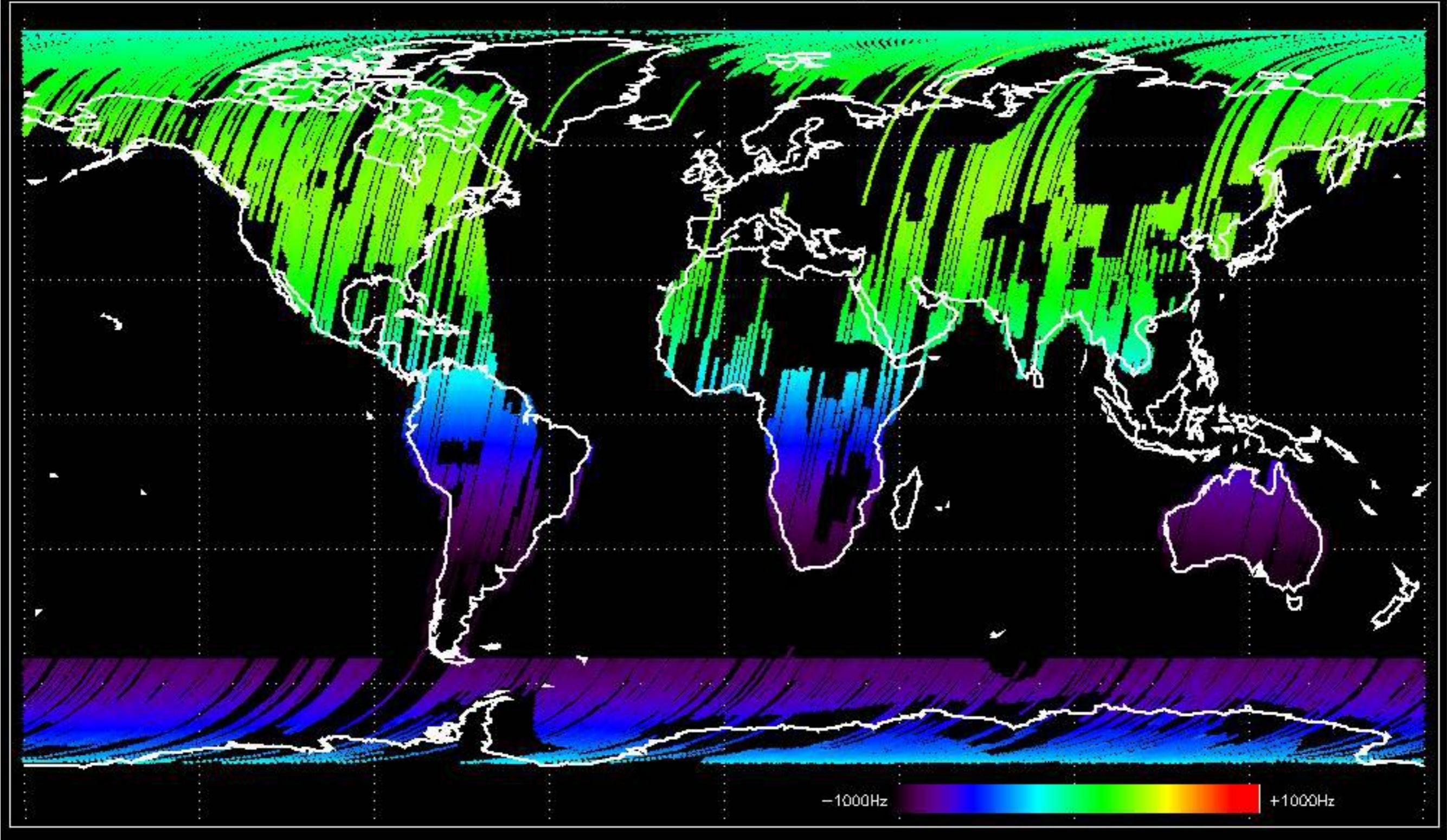
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



Doppler 'GM1' 'SS1' ascending

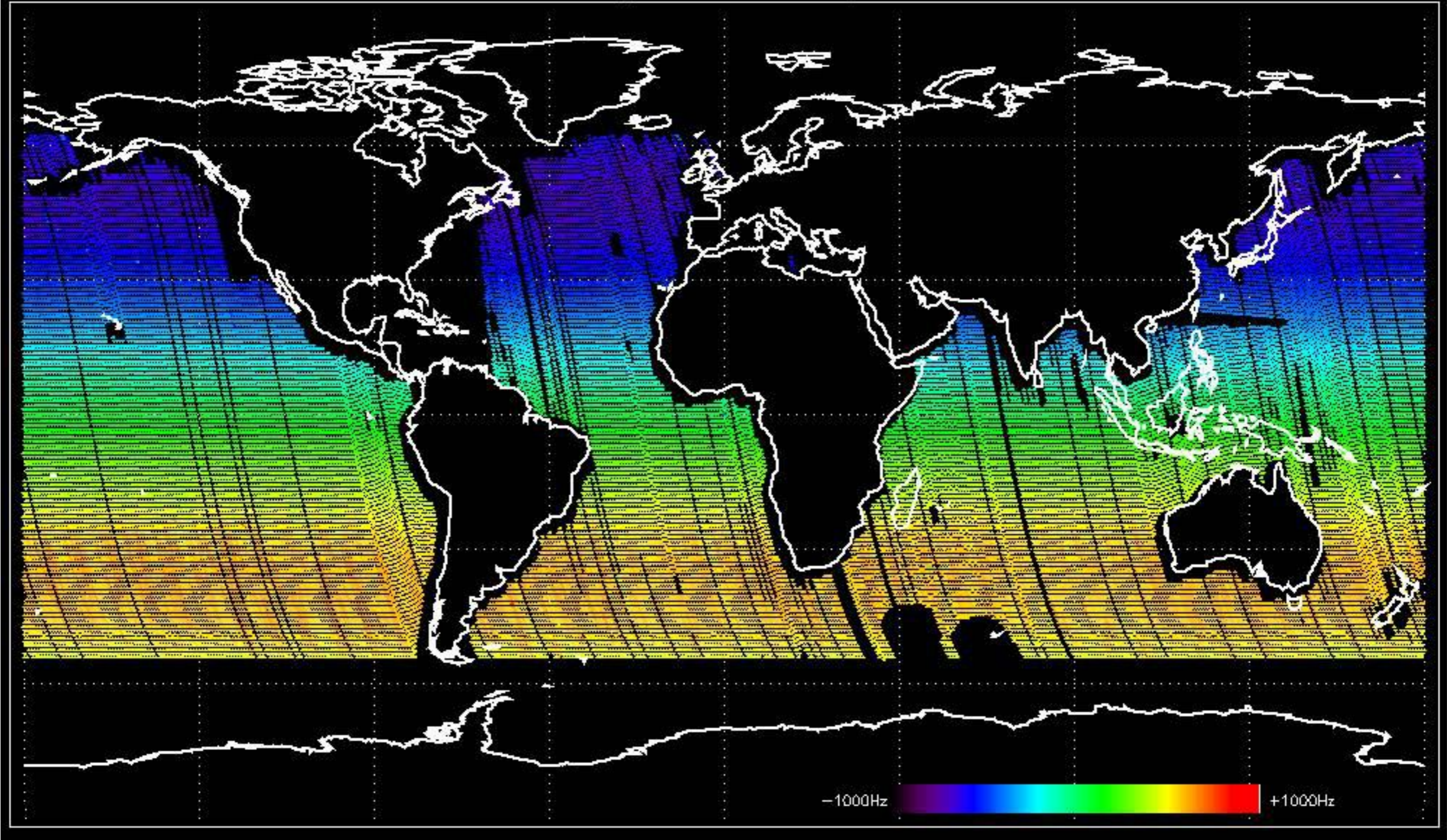


Doppler 'GM1' 'SS1' descending

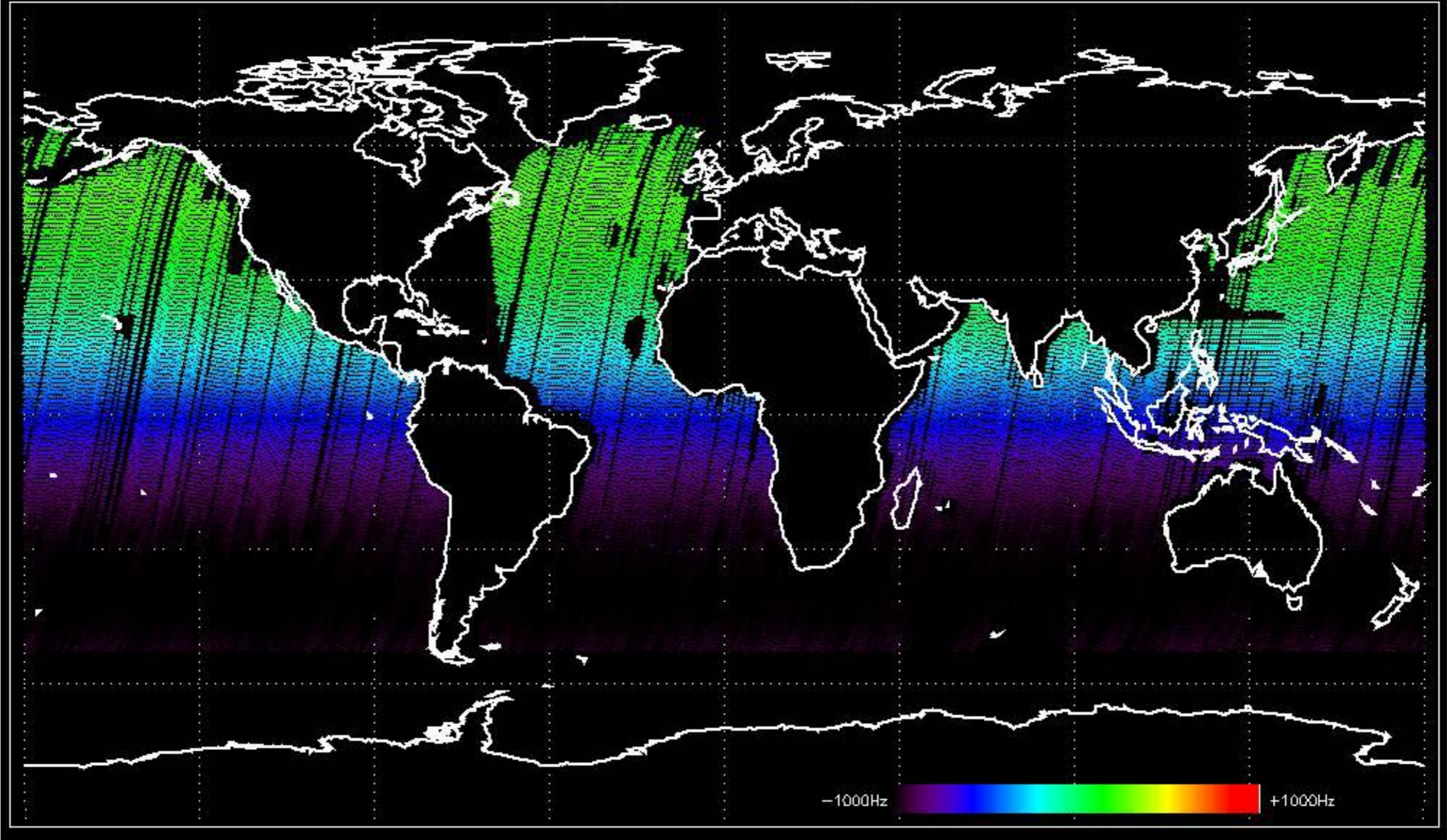




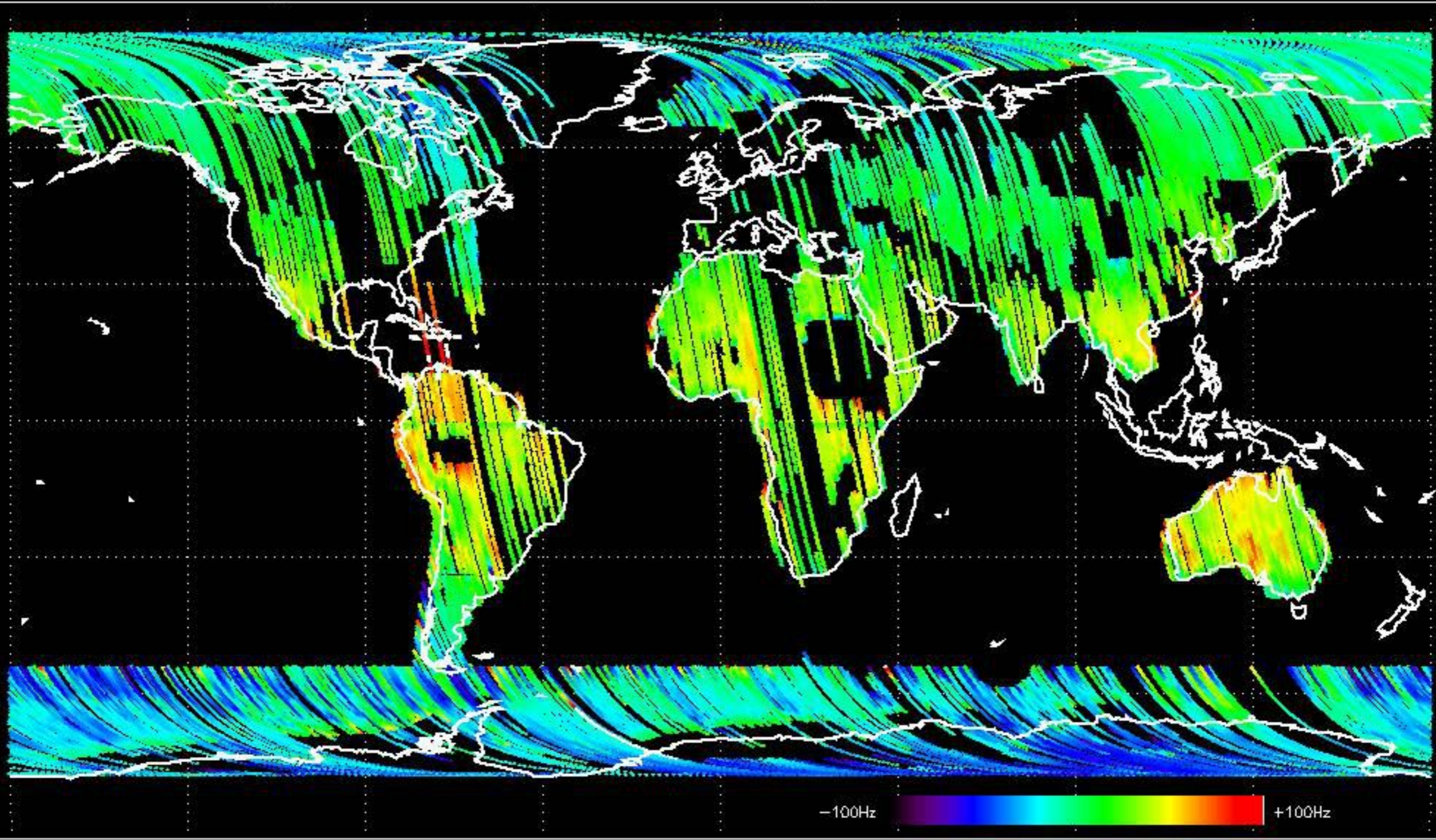
Doppler 'WVS' 'IS2' ascending



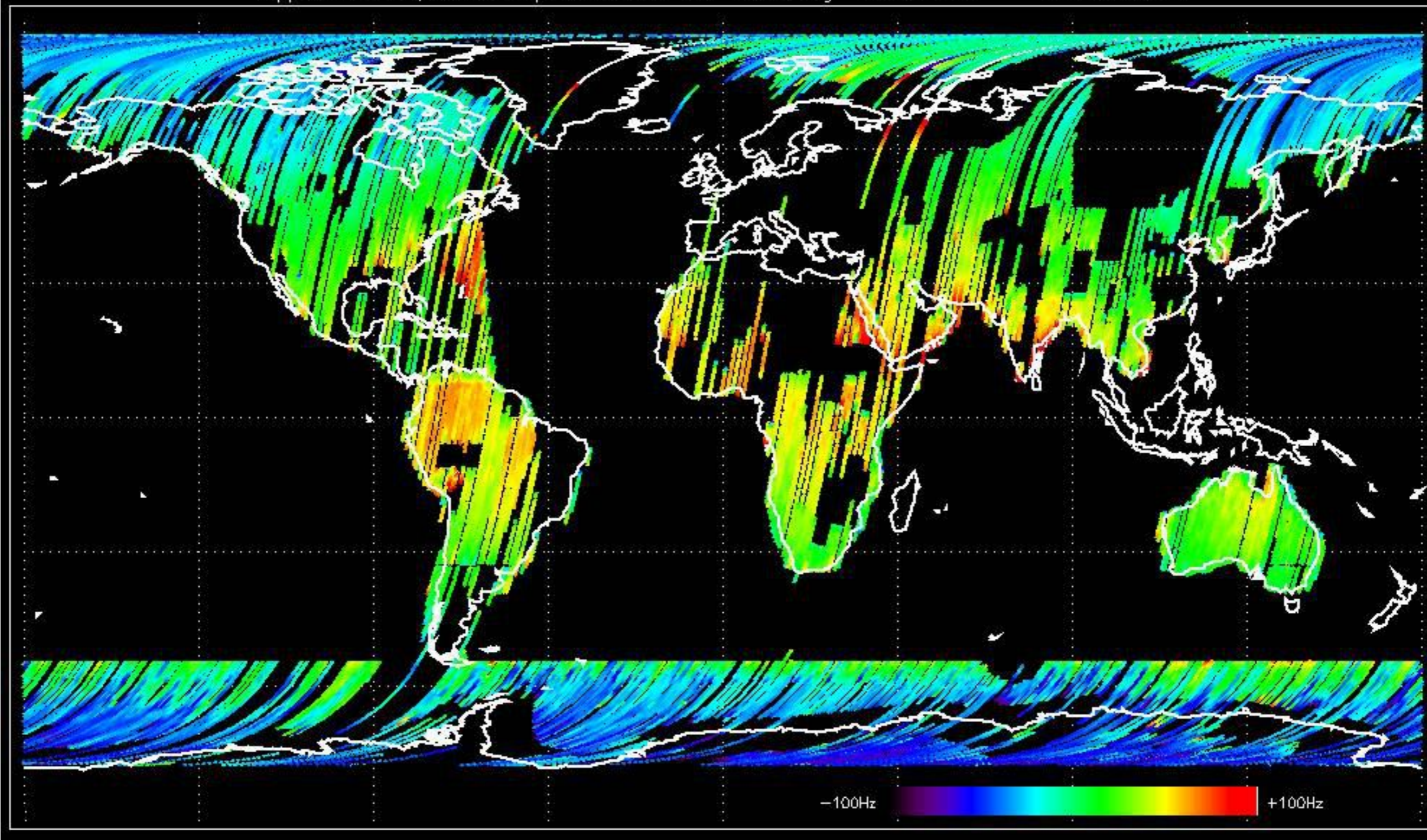
Doppler 'WVS' 'IS2' descending



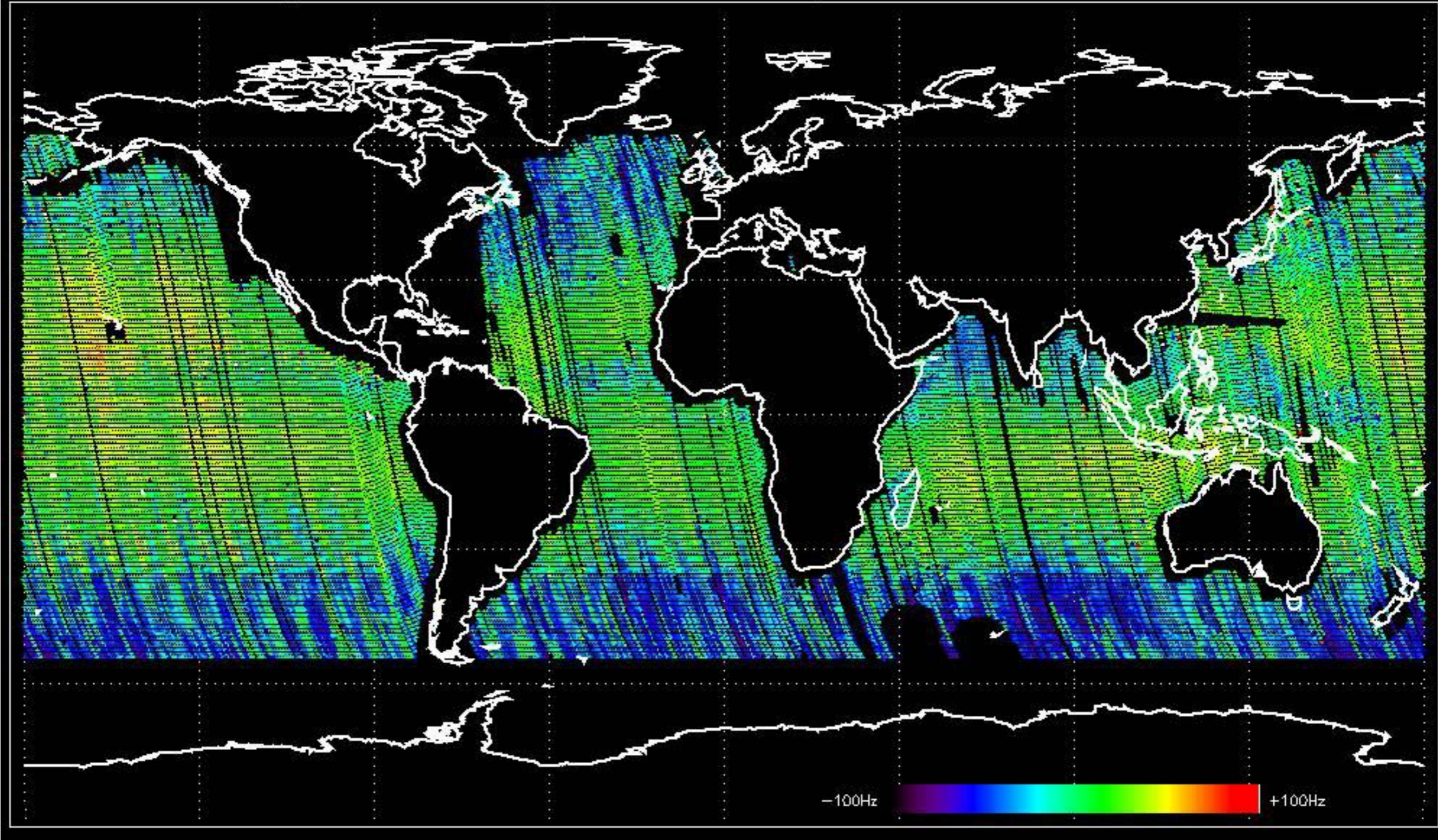
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -18.640706 Hz



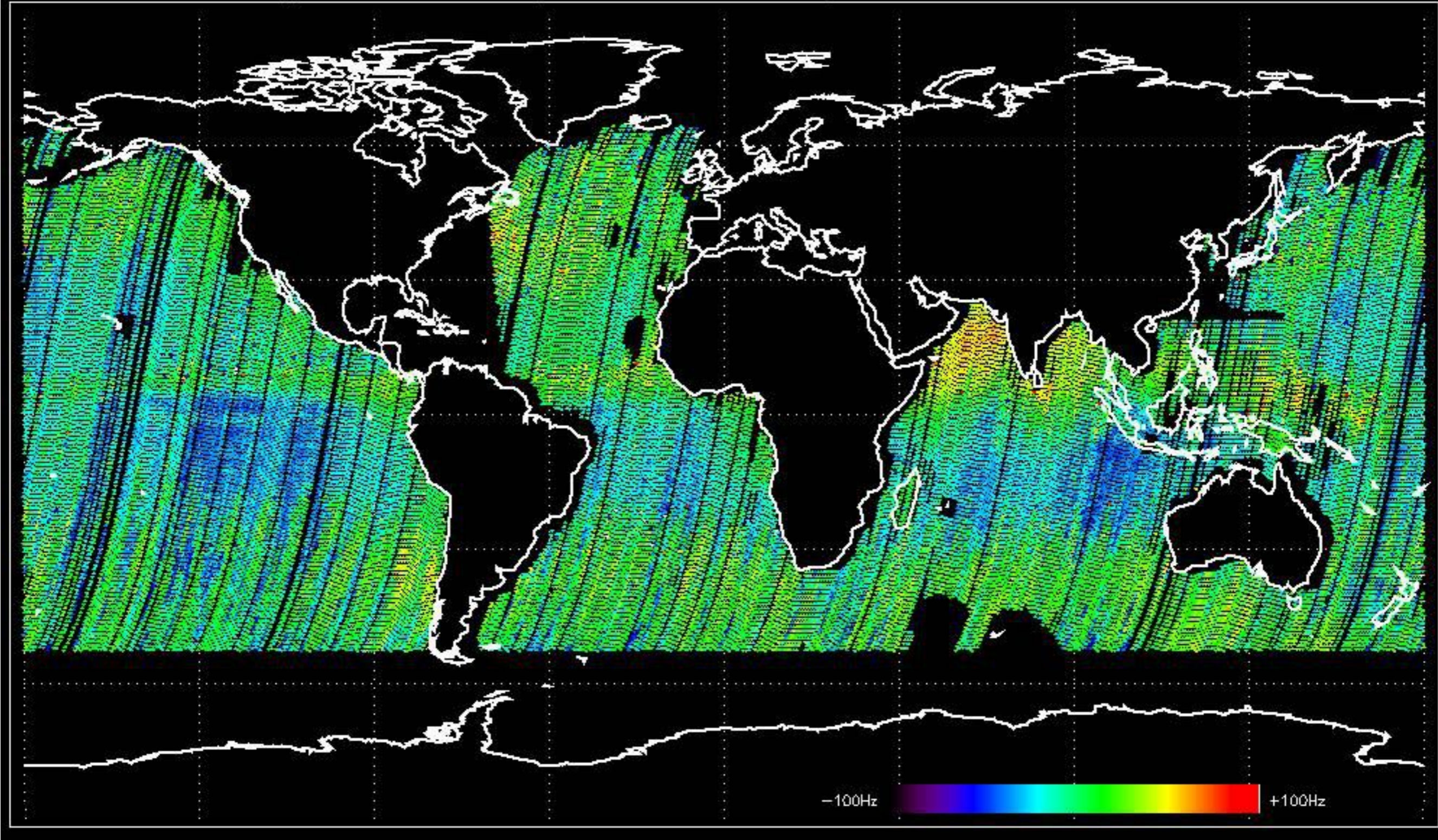
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -8.7196435 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -2.2929600 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -8.5021447 Hz



No anomalies observed on available MS products:

No anomalies observed.











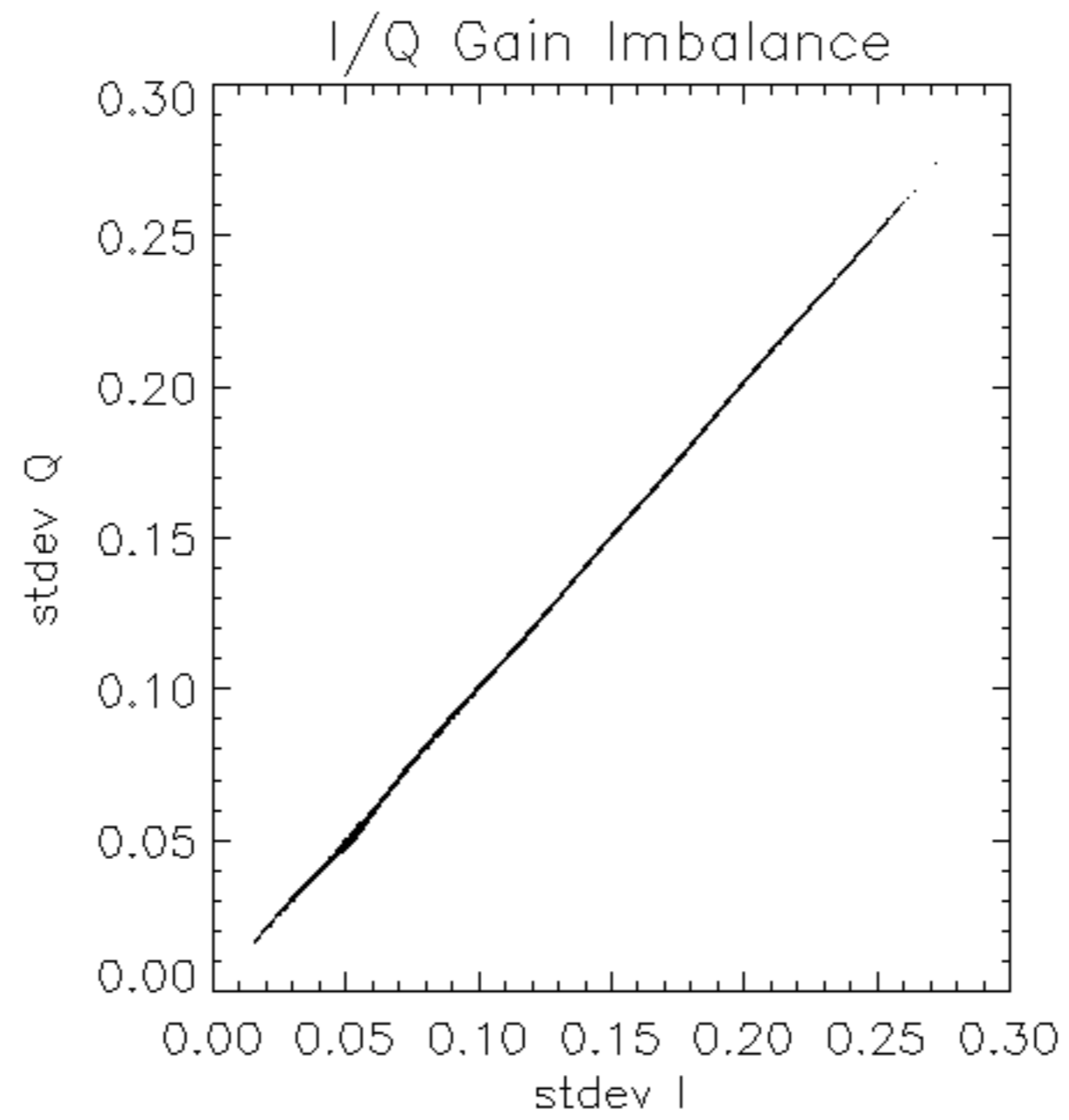


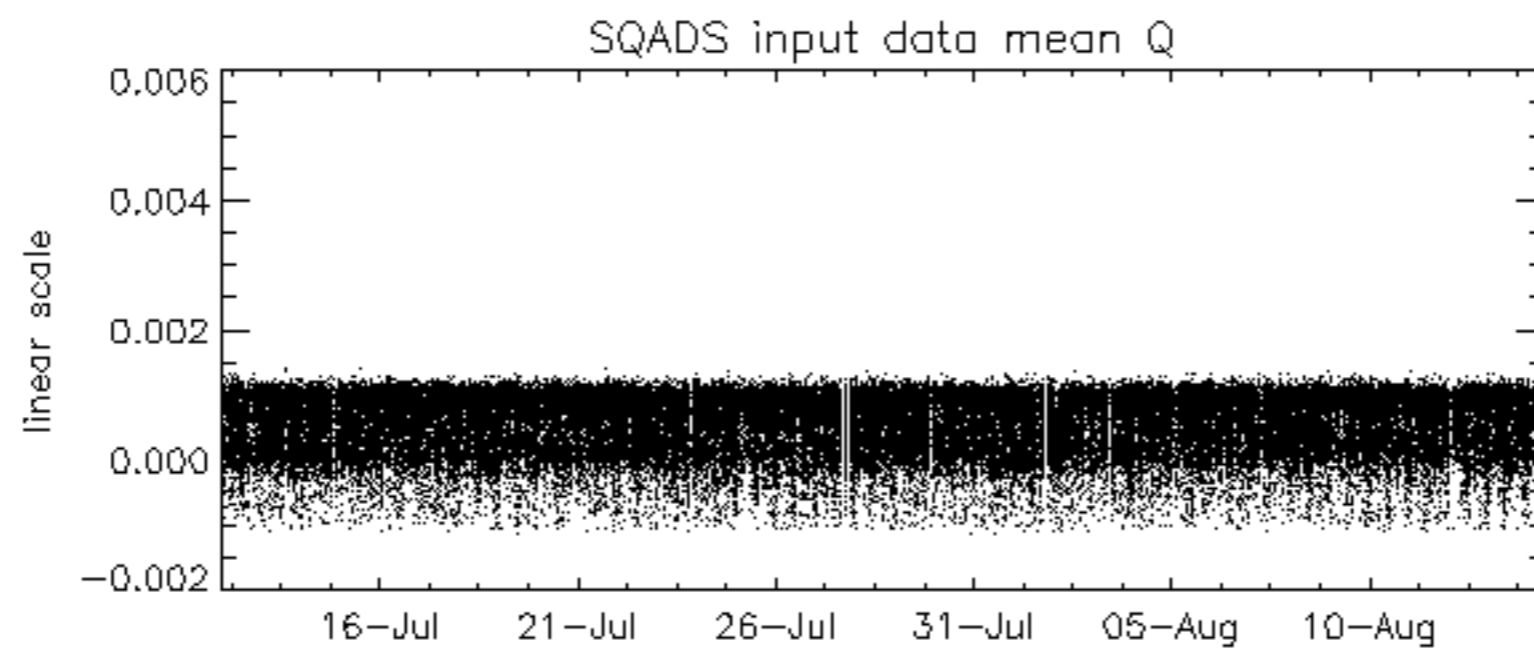
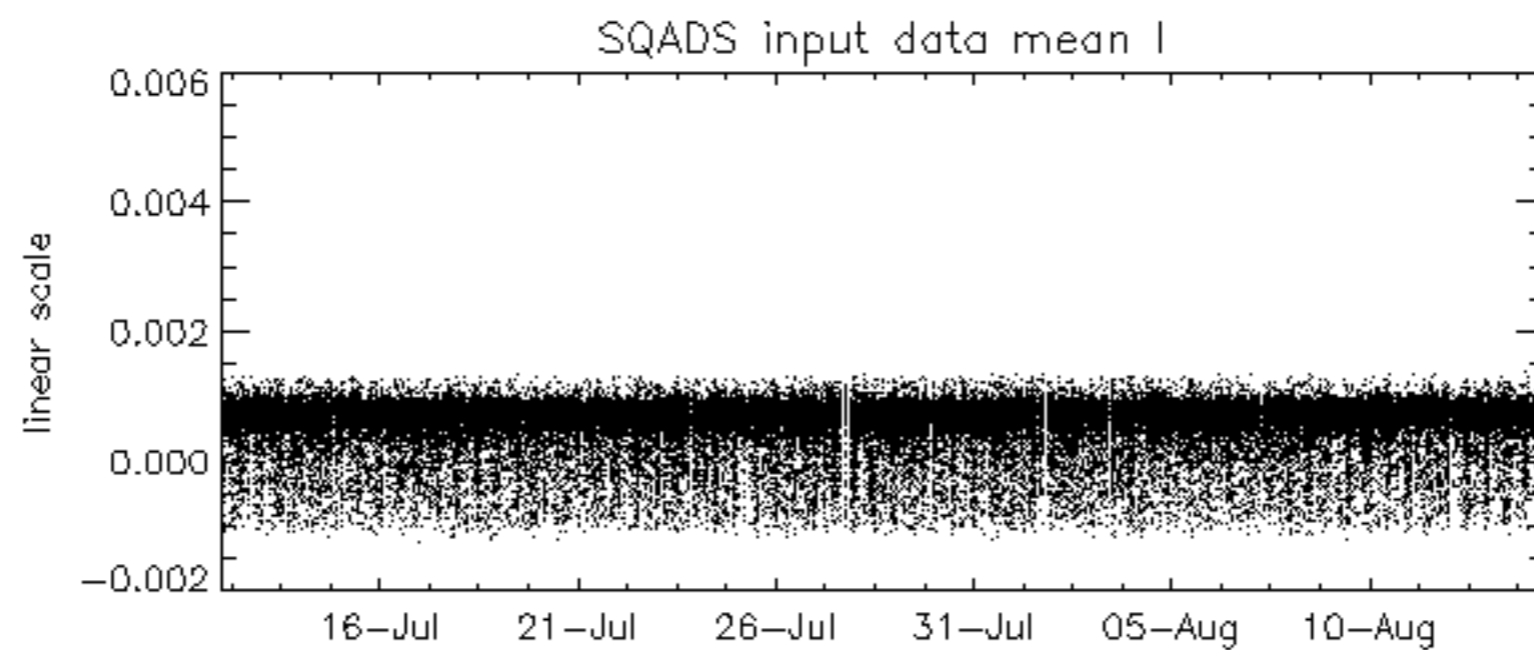
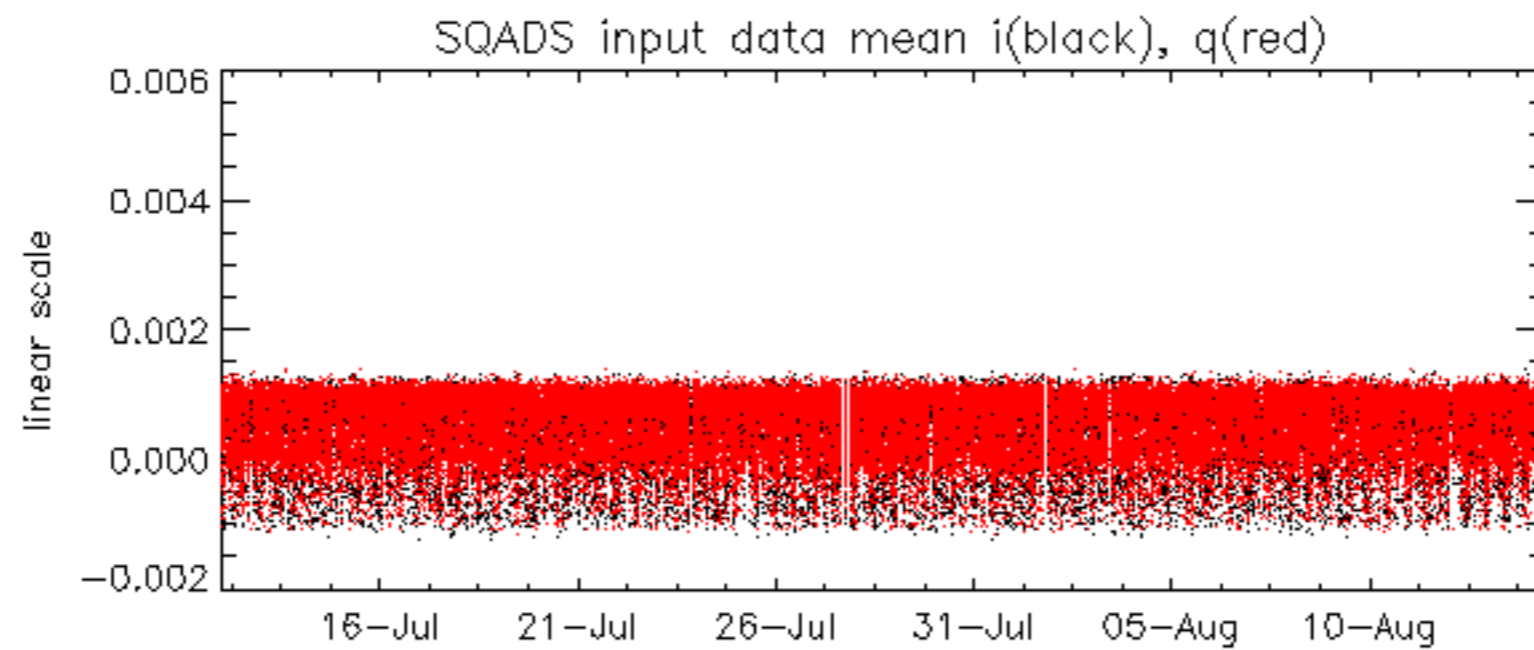


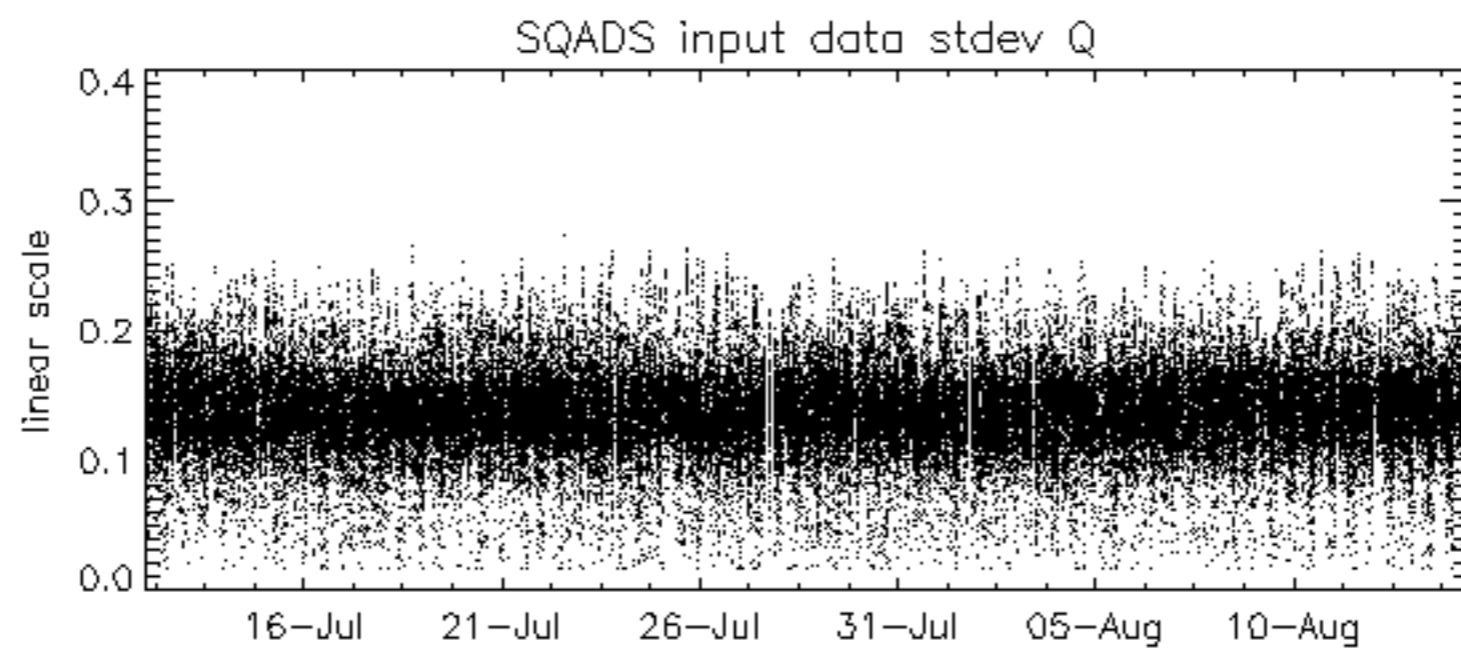
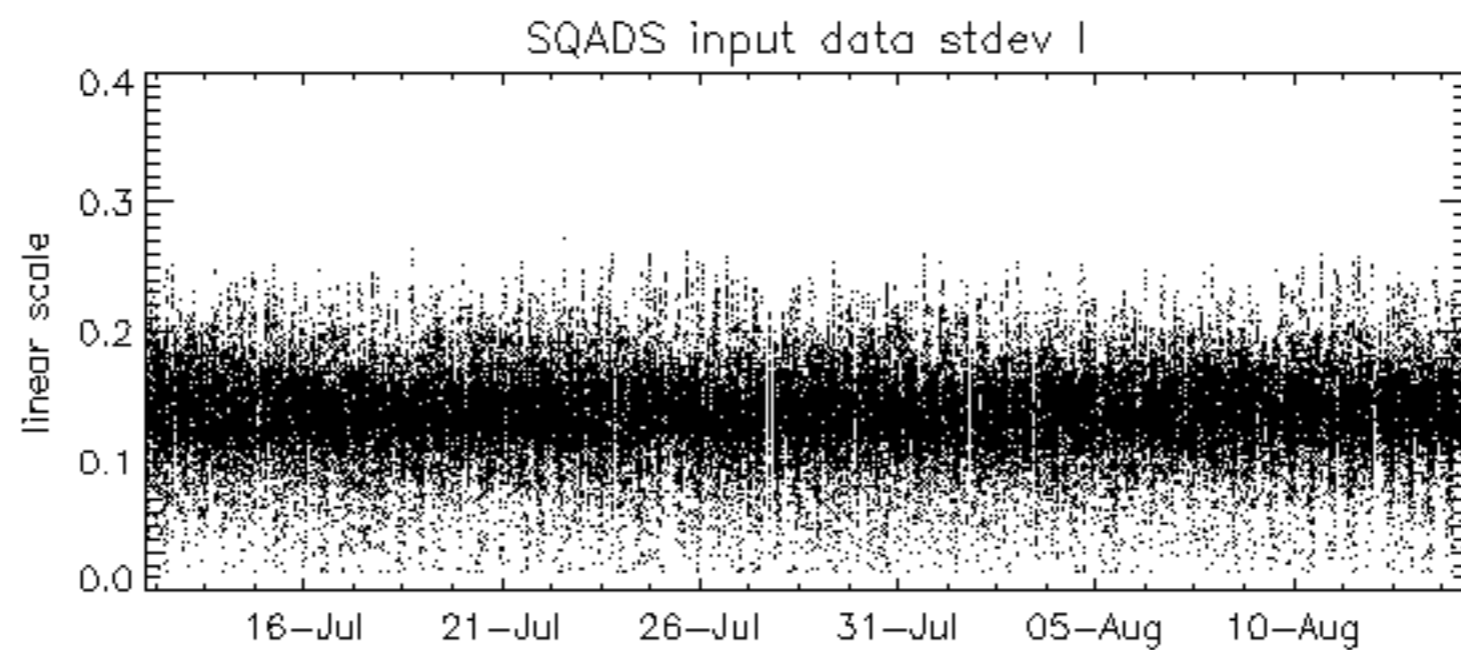
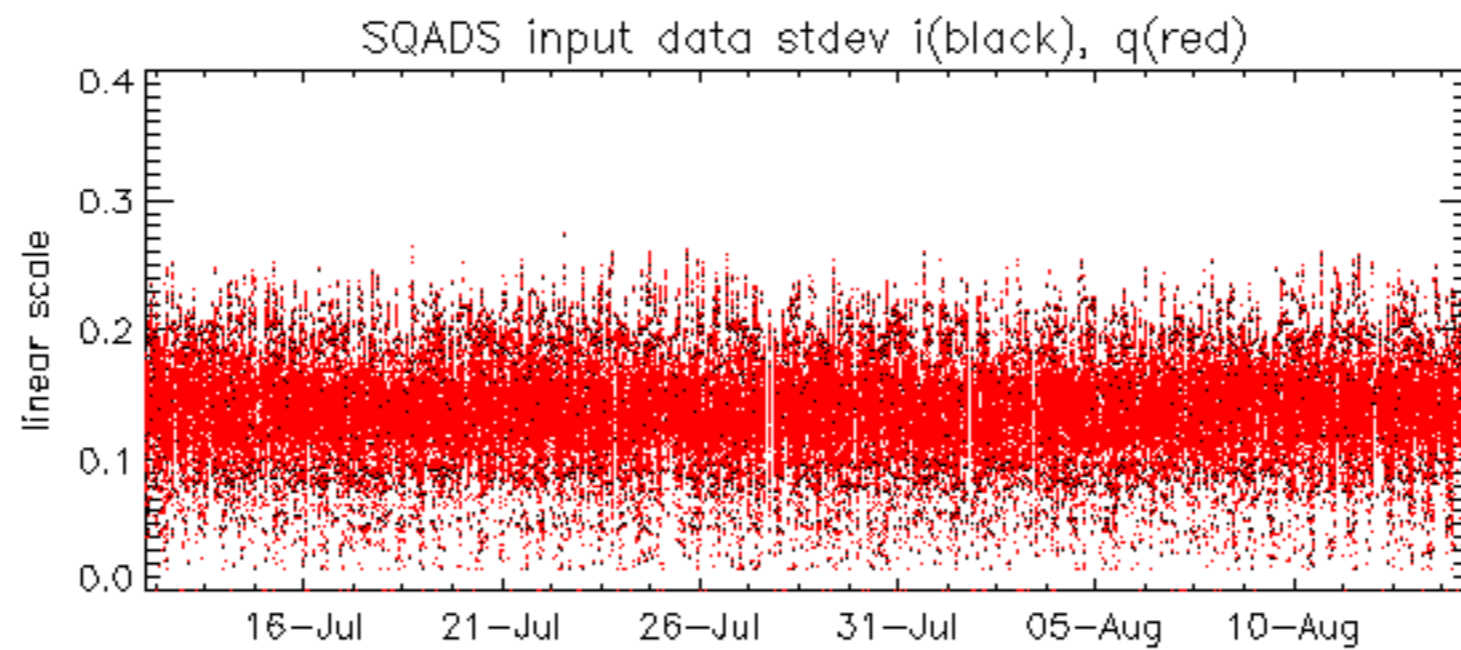


















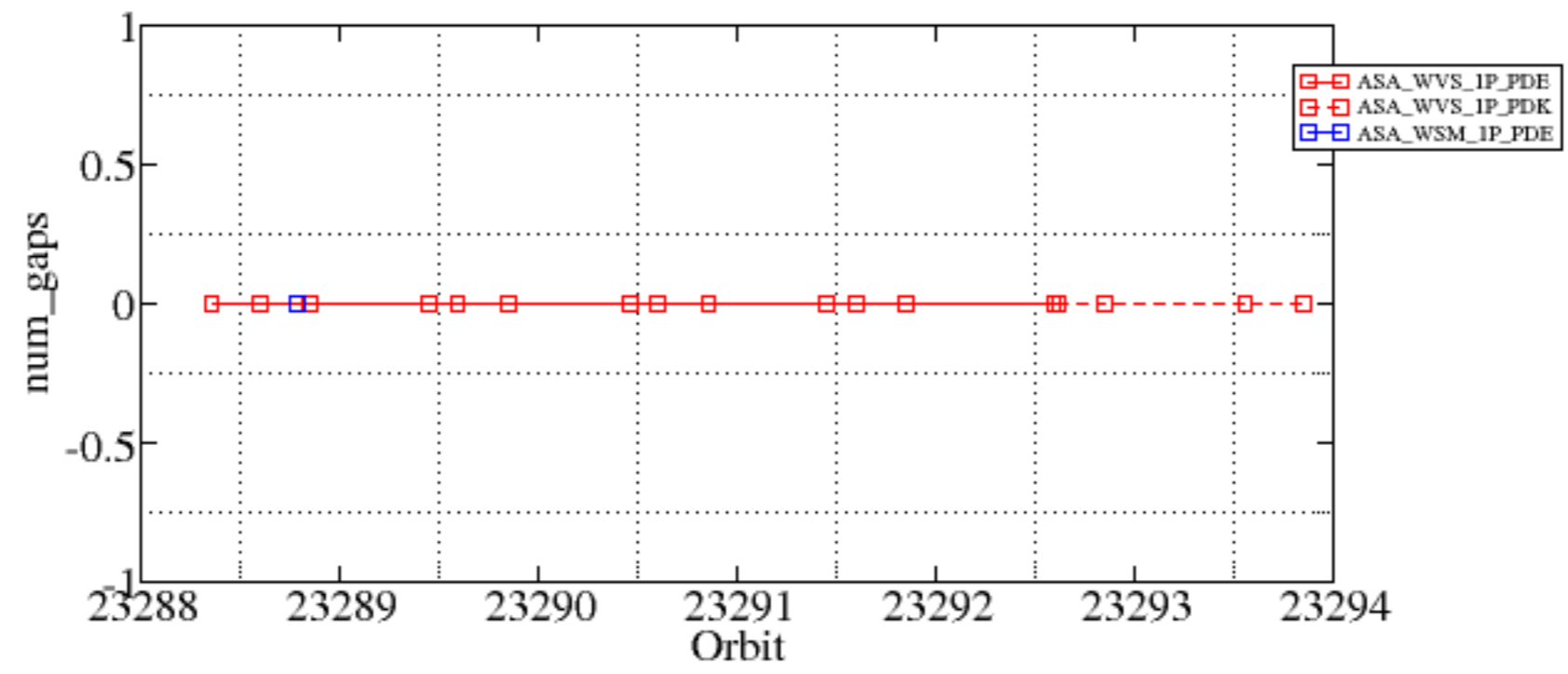


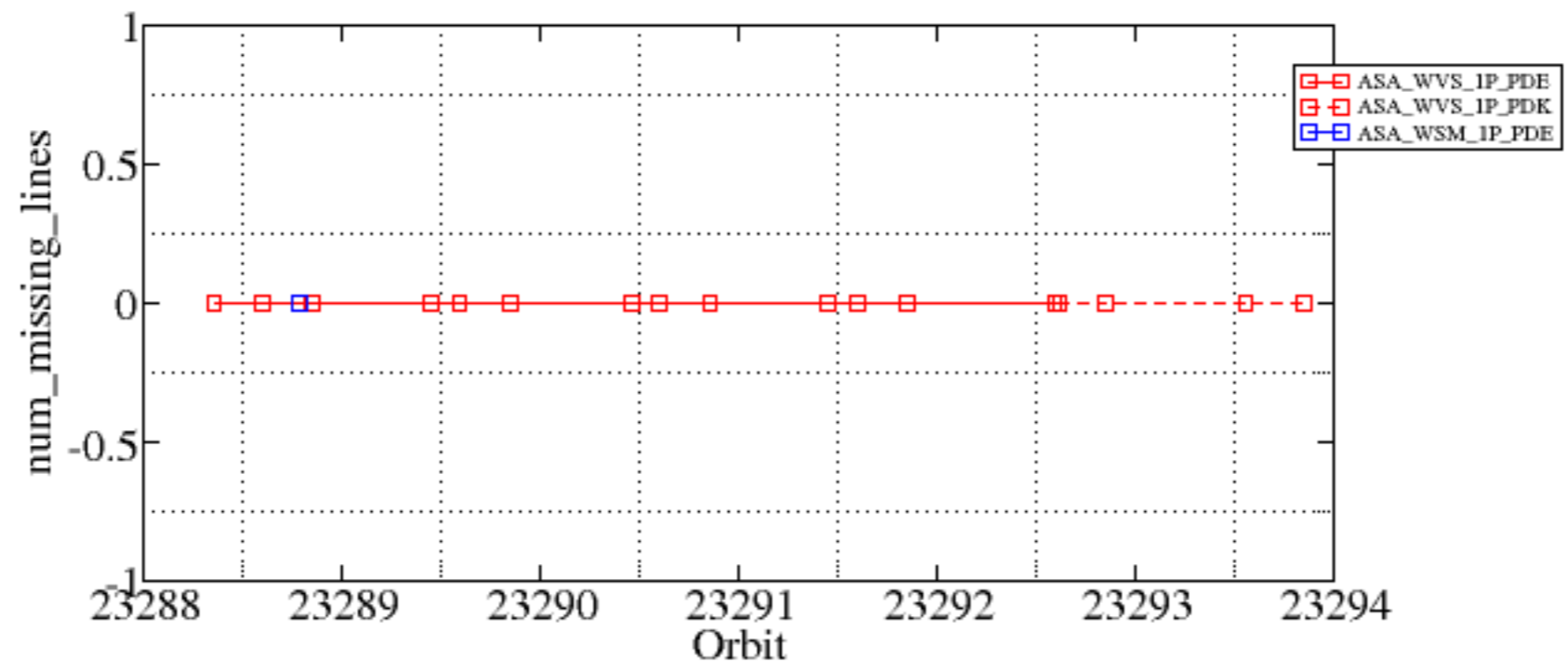
Summary of analysis for the last 3 days 2006081[456]

The assumption is taken that the SQADS num\_gaps and num\_missing\_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines







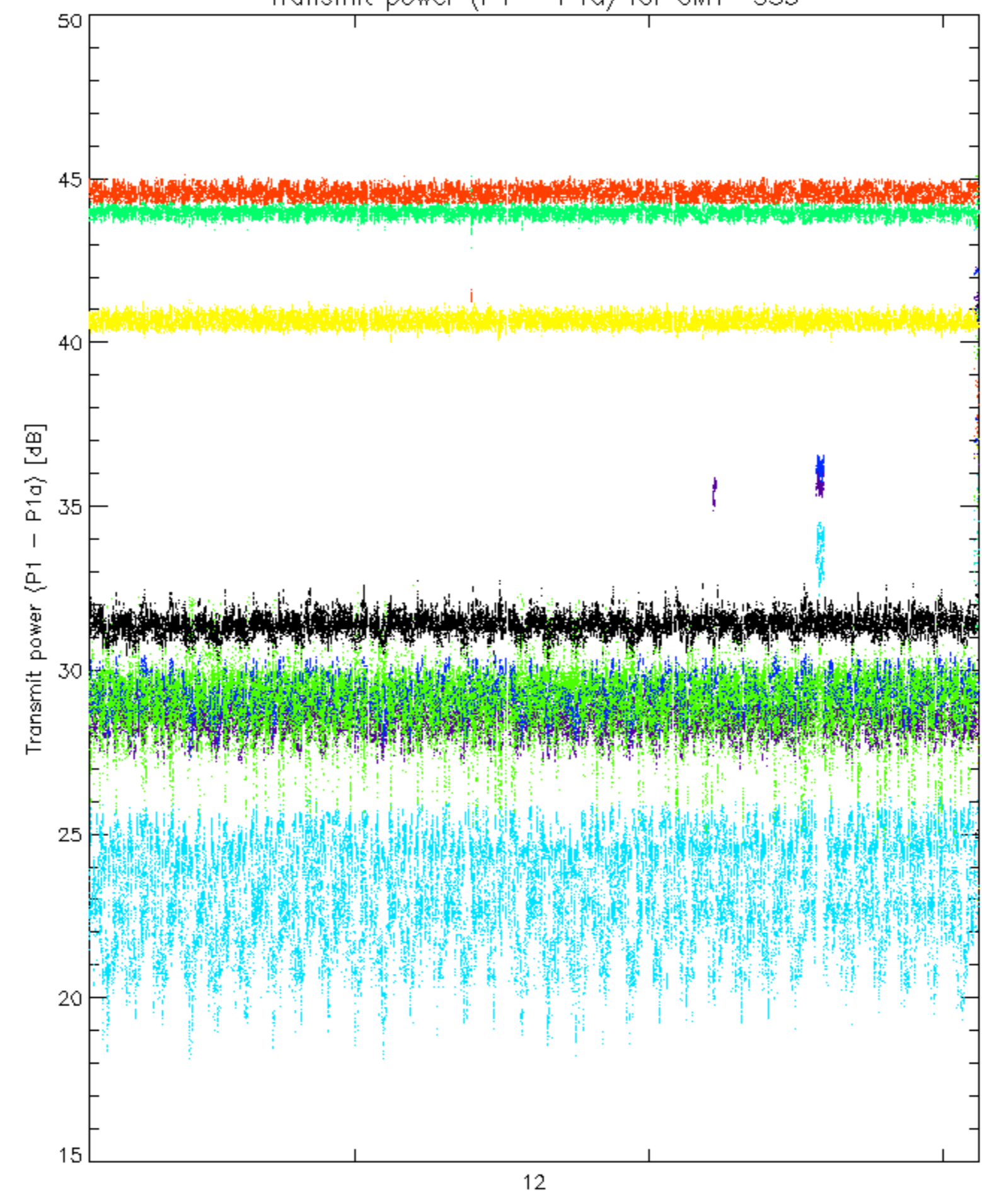




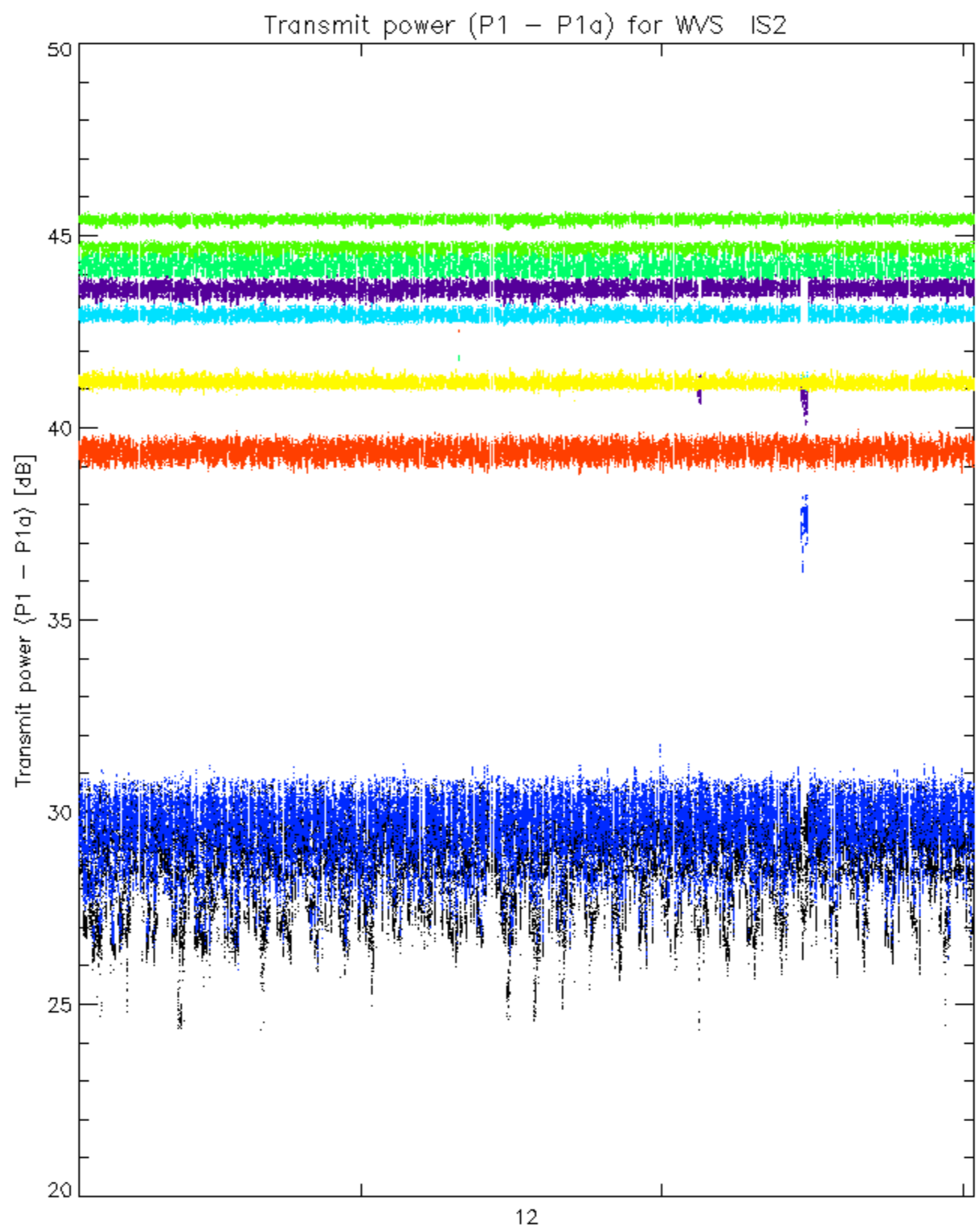




Transmit power (P1 - P1a) for GM1 SS3



rows: 3 7 11 15 19 22 26 30





No unavailabilities during the reported period.