

# PRELIMINARY REPORT OF 060927

last update on Wed Sep 27 16:53:45 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 2006-09-26 00:00:00 to 2006-09-27 16:53:45

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	44	65	5	9	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	44	65	5	9	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	44	65	5	9	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	44	65	5	9	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	15	26	21	10	12
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	15	26	21	10	12
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	15	26	21	10	12
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	15	26	21	10	12

## 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	20060927 073839
H	20060926 081016

### MSM in V/V polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
☒	☒
☒	☒
☒	☒
☒	☒

### 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	-3.943744	0.010040	-0.021246
7	P1	-3.069593	0.010547	-0.023199
11	P1	-4.065536	0.019249	-0.044419
15	P1	-6.186193	0.015653	-0.035025
19	P1	-3.536397	0.051286	-0.033601
22	P1	-4.578320	0.029281	-0.111623
26	P1	-3.957680	0.019027	-0.038738
30	P1	-5.809965	0.158395	-0.078782
3	P1	-16.607002	0.251570	0.007164
7	P1	-17.110050	0.109647	-0.050601
11	P1	-16.810635	0.340773	-0.115632
15	P1	-12.885779	0.103090	0.040820
19	P1	-14.654052	0.472255	-0.074375
22	P1	-15.687083	0.570070	-0.217335
26	P1	-15.224874	0.201894	0.011410
30	P1	-16.940504	0.396210	-0.200906

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.819000	0.085004	0.004569
7	P2	-21.841846	0.096923	0.073472
11	P2	-15.747093	0.108416	0.010843
15	P2	-7.095380	0.101580	-0.019993
19	P2	-9.124603	0.093565	-0.053335
22	P2	-18.127344	0.089701	-0.049277
26	P2	-16.417213	0.097095	-0.076467
30	P2	-19.473200	0.091406	-0.018787

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.186023	0.005625	-0.043835

7	P3	-8.186023	0.005625	-0.043835
11	P3	-8.186023	0.005625	-0.043835
15	P3	-8.186023	0.005625	-0.043835
19	P3	-8.186023	0.005625	-0.043835
22	P3	-8.186023	0.005625	-0.043835
26	P3	-8.185996	0.005624	-0.043741
30	P3	-8.185996	0.005624	-0.043741

#### 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	-3.854456	0.010154	-0.043554
7	P1	-2.543144	0.019098	0.005087
11	P1	-2.885520	0.019034	-0.015919
15	P1	-3.658418	0.029702	-0.025495
19	P1	-3.471293	0.079660	-0.001060
22	P1	-5.095702	0.036457	-0.049929
26	P1	-5.875807	0.025776	-0.044120
30	P1	-5.208366	0.079751	-0.058567
3	P1	-11.645641	0.048766	-0.030563
7	P1	-10.002378	0.056266	-0.076090
11	P1	-10.351037	0.062411	-0.048522
15	P1	-10.853637	0.148455	0.043587
19	P1	-15.702663	3.666163	0.222750
22	P1	-20.816397	1.710762	-0.584736
26	P1	-15.927481	0.380458	-0.015732
30	P1	-18.051548	0.817673	-0.277723

## P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.405285	0.053908	0.009962
7	P2	-22.185793	0.089255	0.048492
11	P2	-10.901861	0.042184	-0.025551
15	P2	-4.862062	0.036566	-0.029995
19	P2	-6.850833	0.037723	-0.043739
22	P2	-8.159845	0.032731	-0.035504
26	P2	-24.176783	0.060745	-0.064911
30	P2	-21.962650	0.047781	-0.018975

## P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.032851	0.004065	-0.054910
7	P3	-8.032691	0.004065	-0.054851
11	P3	-8.032677	0.004079	-0.055420
15	P3	-8.032622	0.004092	-0.055456
19	P3	-8.032746	0.004093	-0.055083
22	P3	-8.032858	0.004066	-0.055205
26	P3	-8.032825	0.004087	-0.055036
30	P3	-8.032756	0.004075	-0.055450

## 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	0.000554508
	stdev	1.73406e-07
MEAN Q	mean	0.000523962
	stdev	2.17696e-07



## 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.137023
	stdev	0.00114161
STDEV Q	mean	0.137384
	stdev	0.00115940



## 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006092[567]

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
ASA_IMM_1PNPDE20060925_010032_000002092051_00289_23890_6511.N1	1	0
ASA_WSM_1PNPDE20060925_141859_000000862051_00297_23898_3790.N1	0	35



## 7 - Doppler Analysis

Preliminary report. The data is not yet controlled

### 7.1 - Unbiased Doppler Error for WVS

Evolution of unbiased Doppler error (Real - Expected)	
<input type="checkbox"/>	
	Acsending
<input type="checkbox"/>	
	Descending

### 7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler	
<input type="checkbox"/>	
	Acsending
<input type="checkbox"/>	
	Descending

### 7.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX	
<input type="checkbox"/>	

### 7.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)	
<input type="checkbox"/>	
	Acsending
<input type="checkbox"/>	
	Descending



### 7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

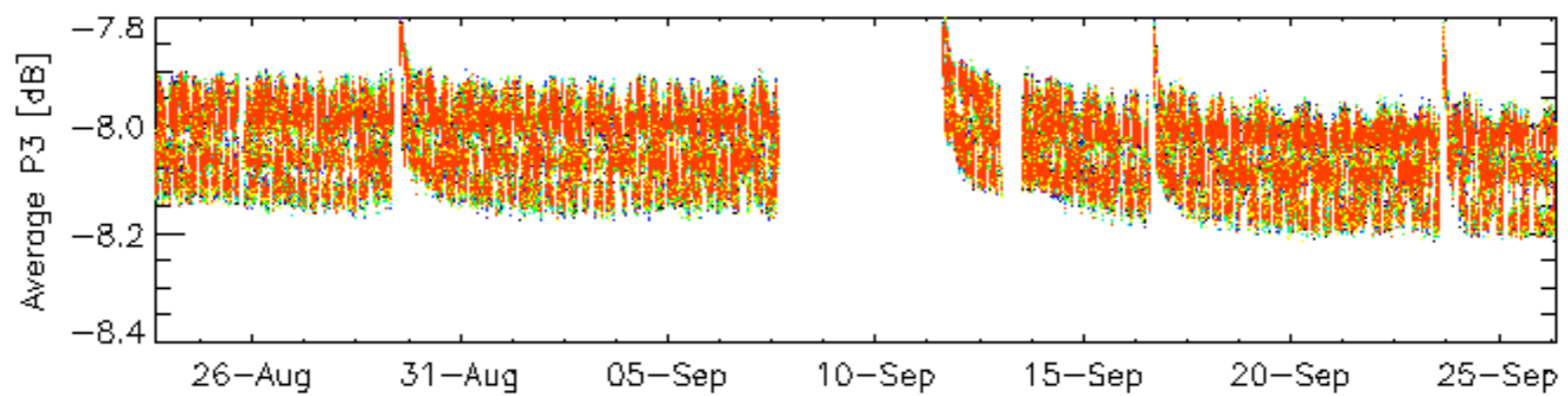
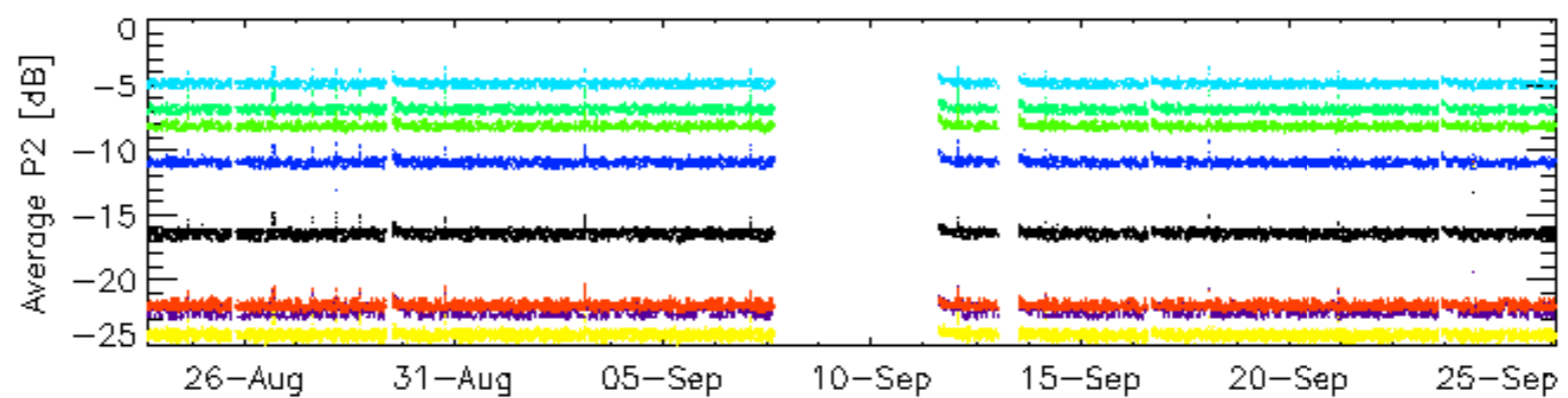
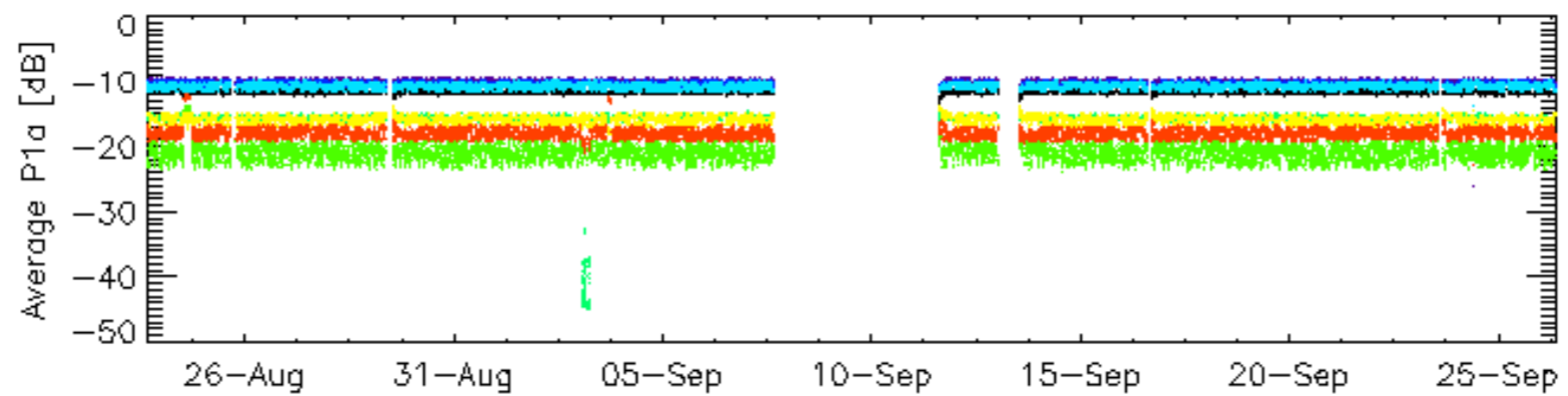
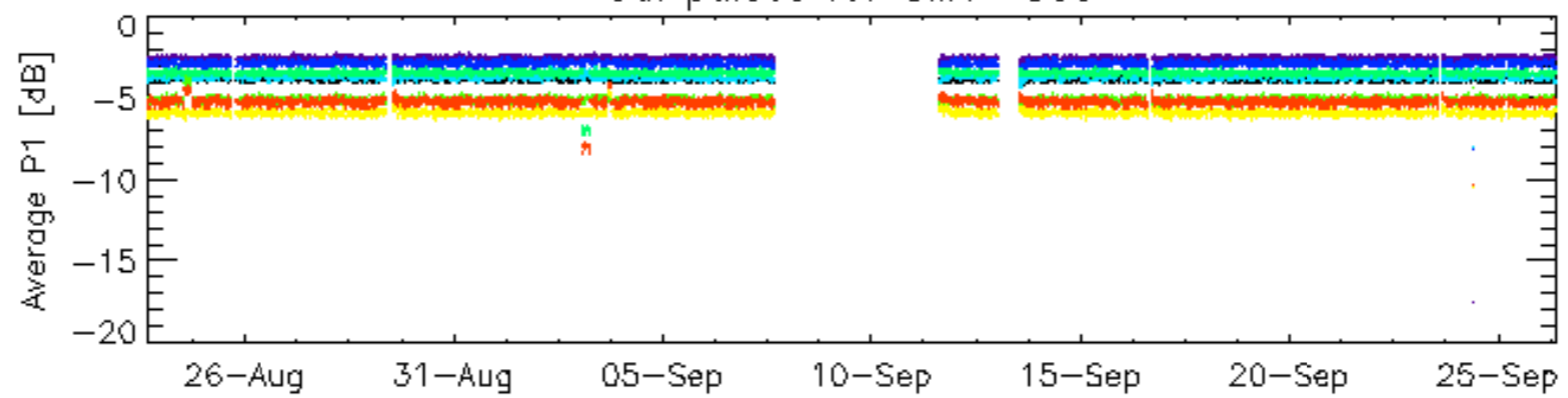
Ascending

Descending

### 7.6 - Doppler evolution versus ANX for GM1

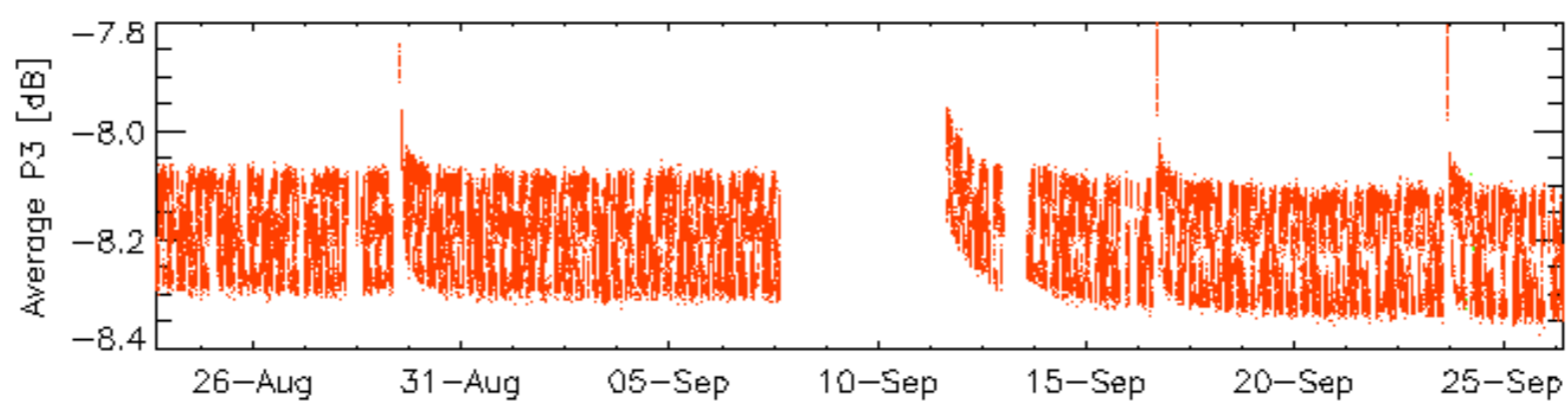
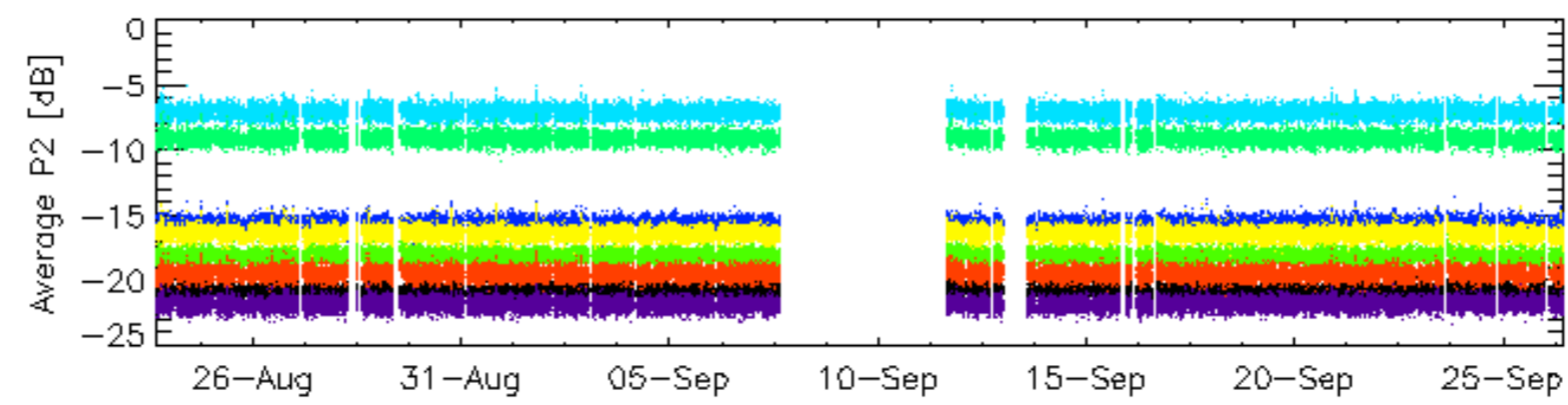
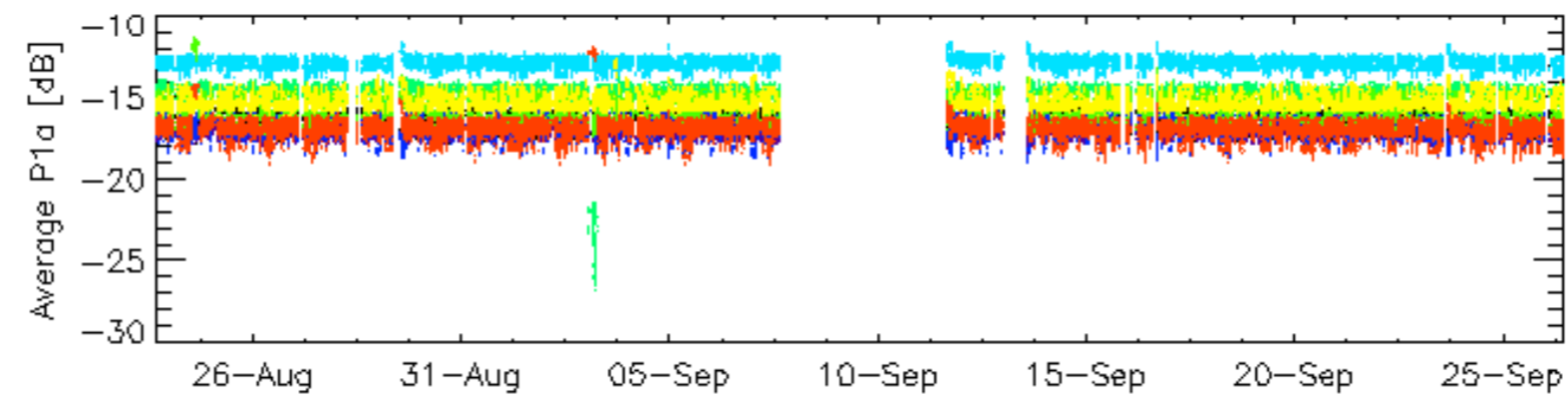
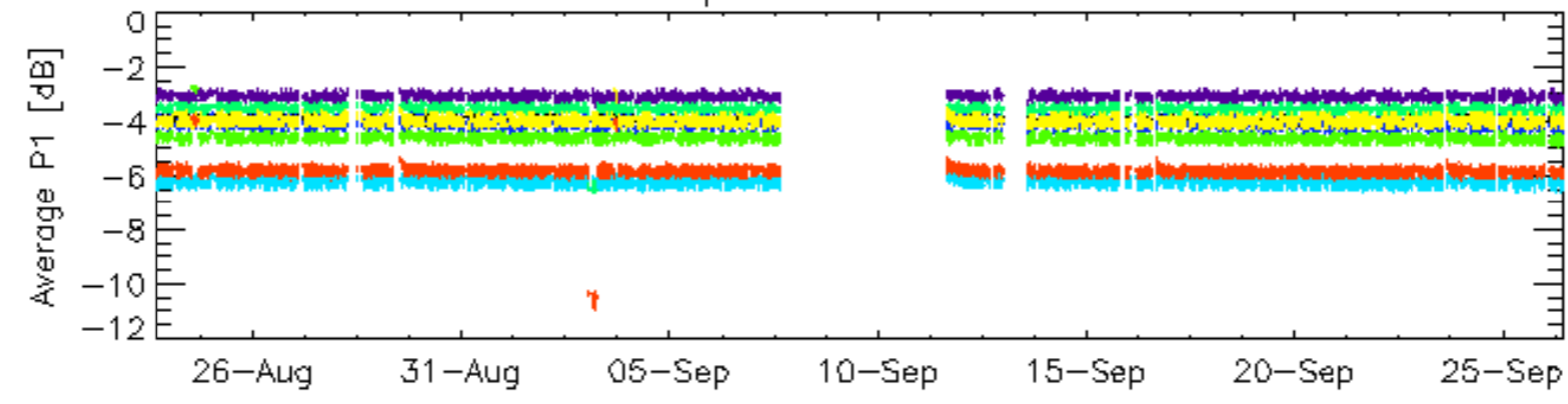
Evolution Doppler error versus ANX

Cal pulses for GM1 SS3



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

Cal pulses for WVS IS2



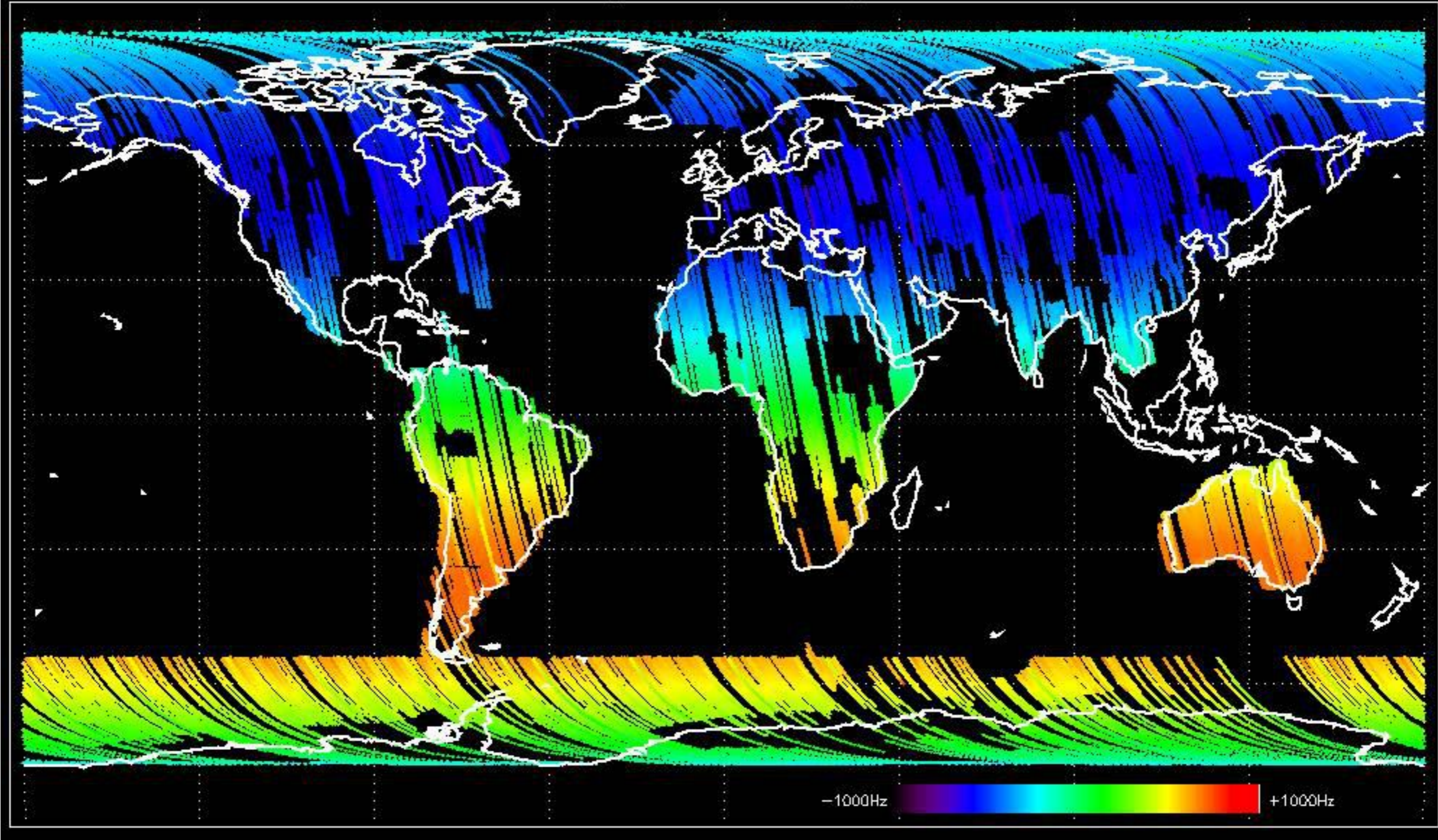
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

No anomalies observed.

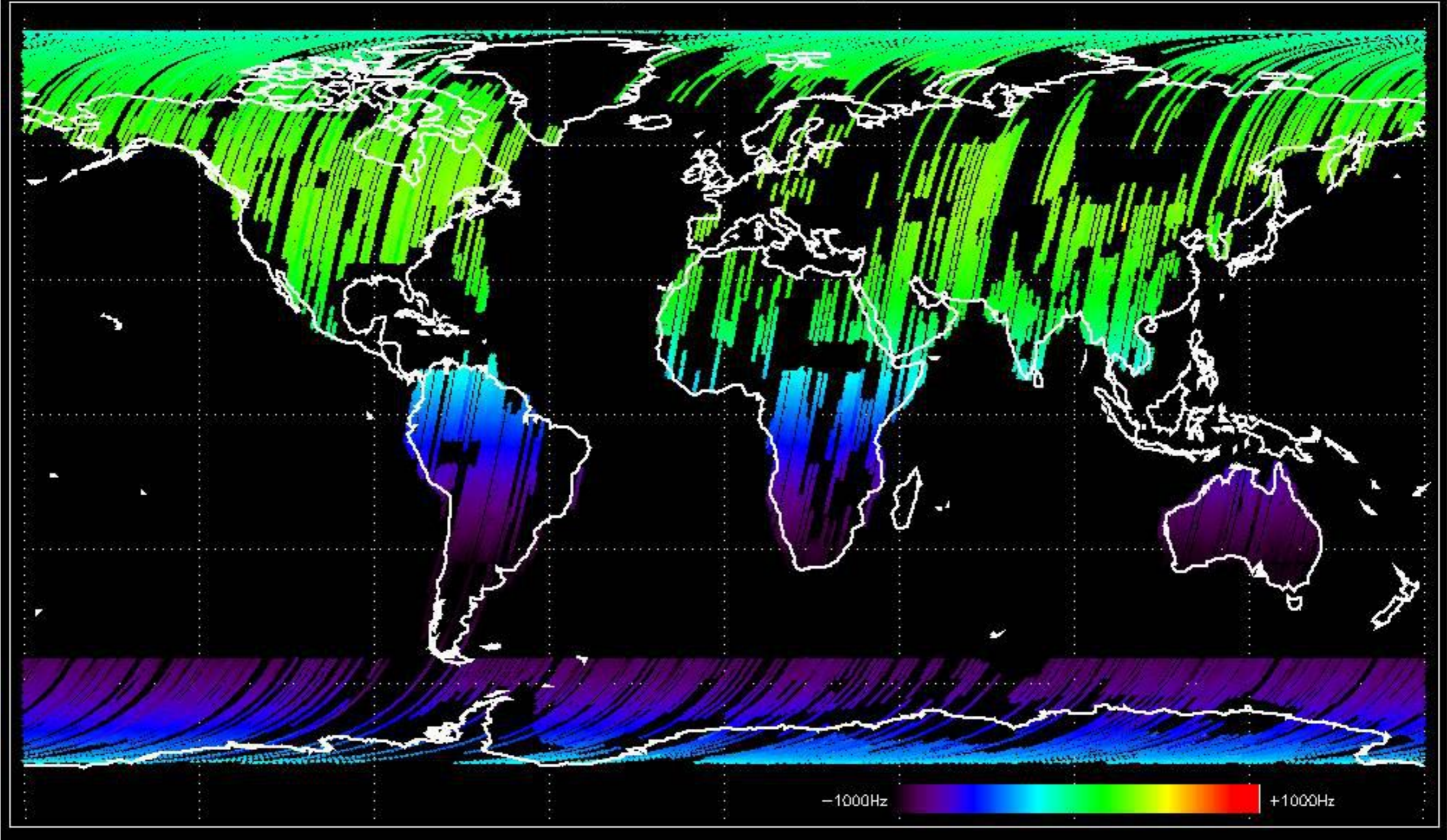
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



Doppler 'GM1' 'SS1' ascending

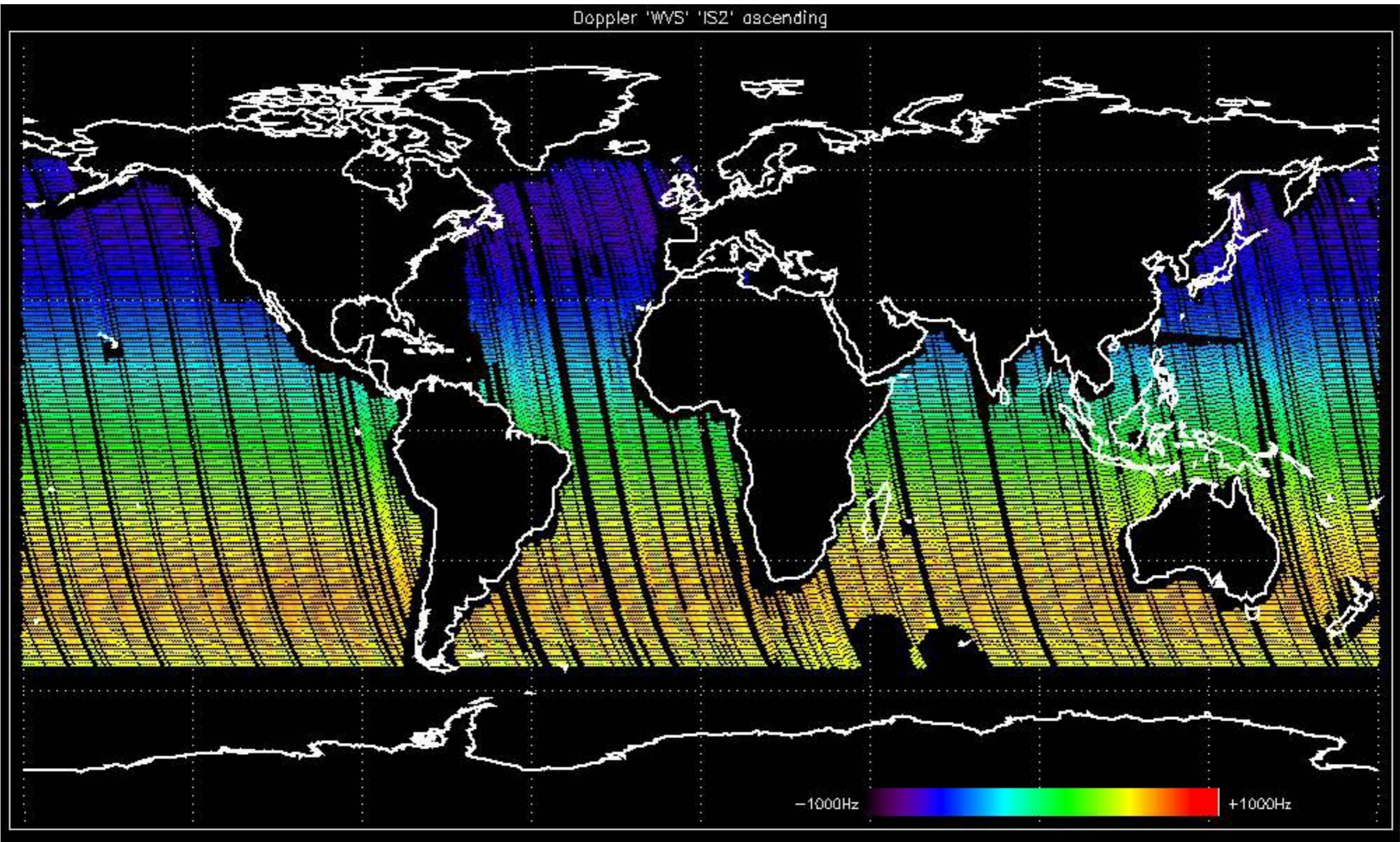


Doppler 'GM1' 'SS1' descending

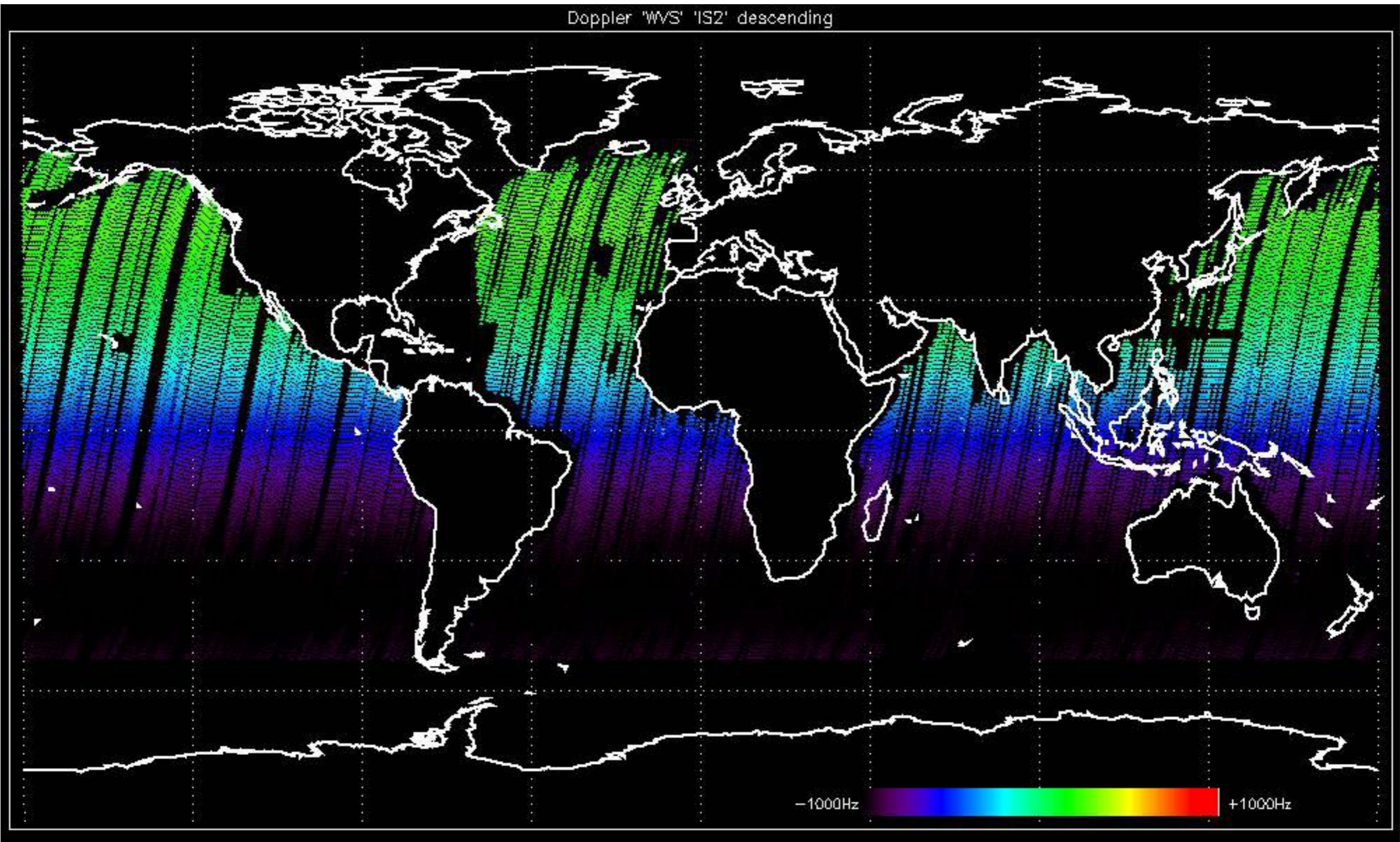




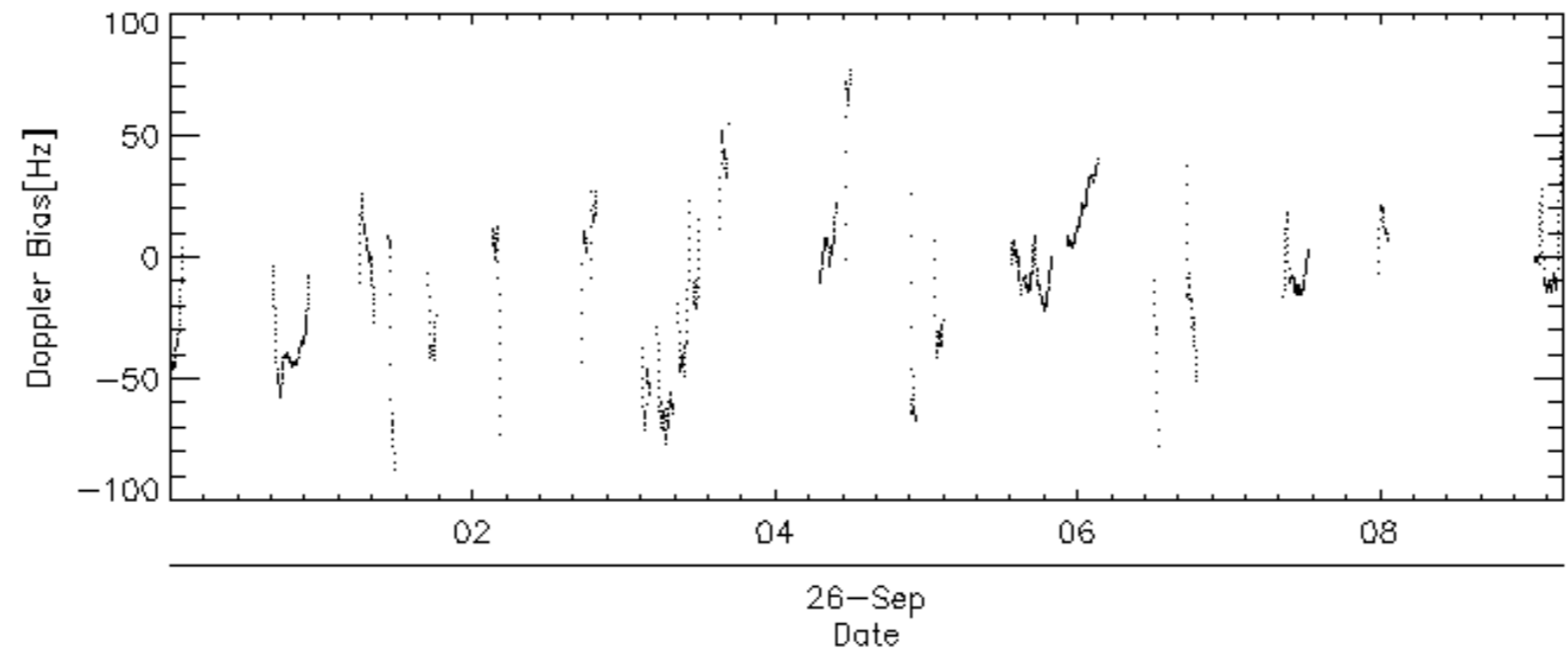
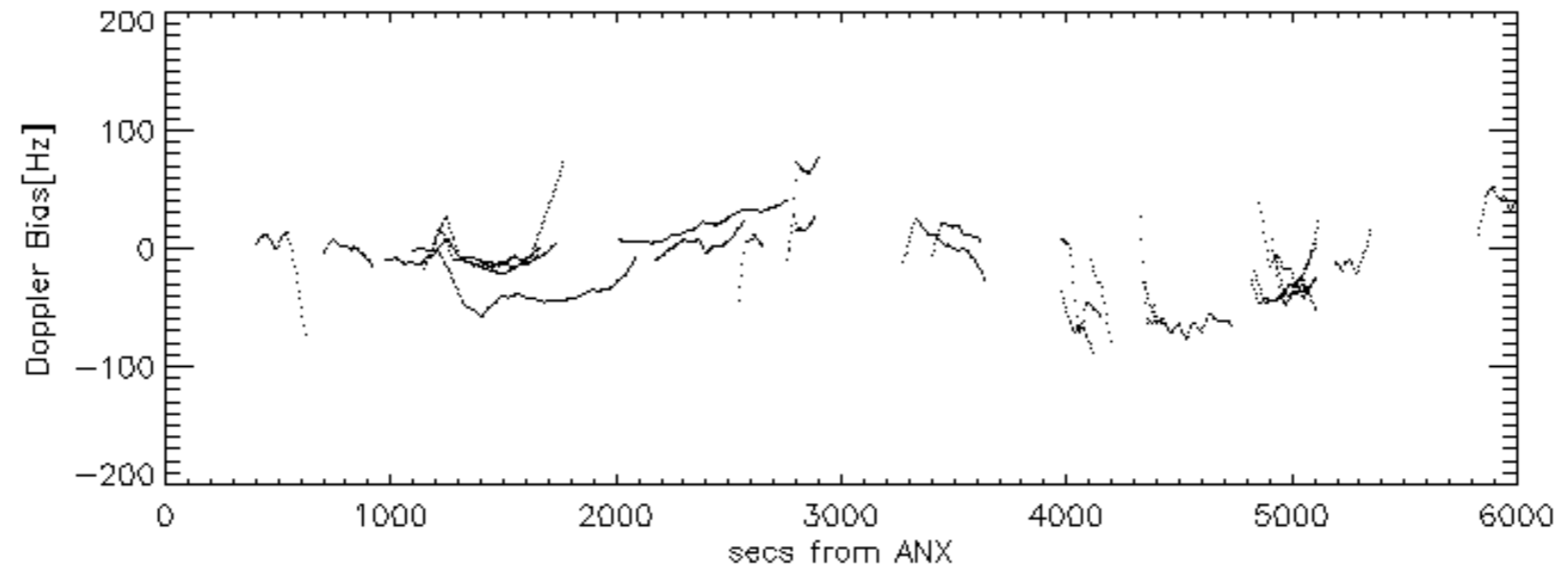
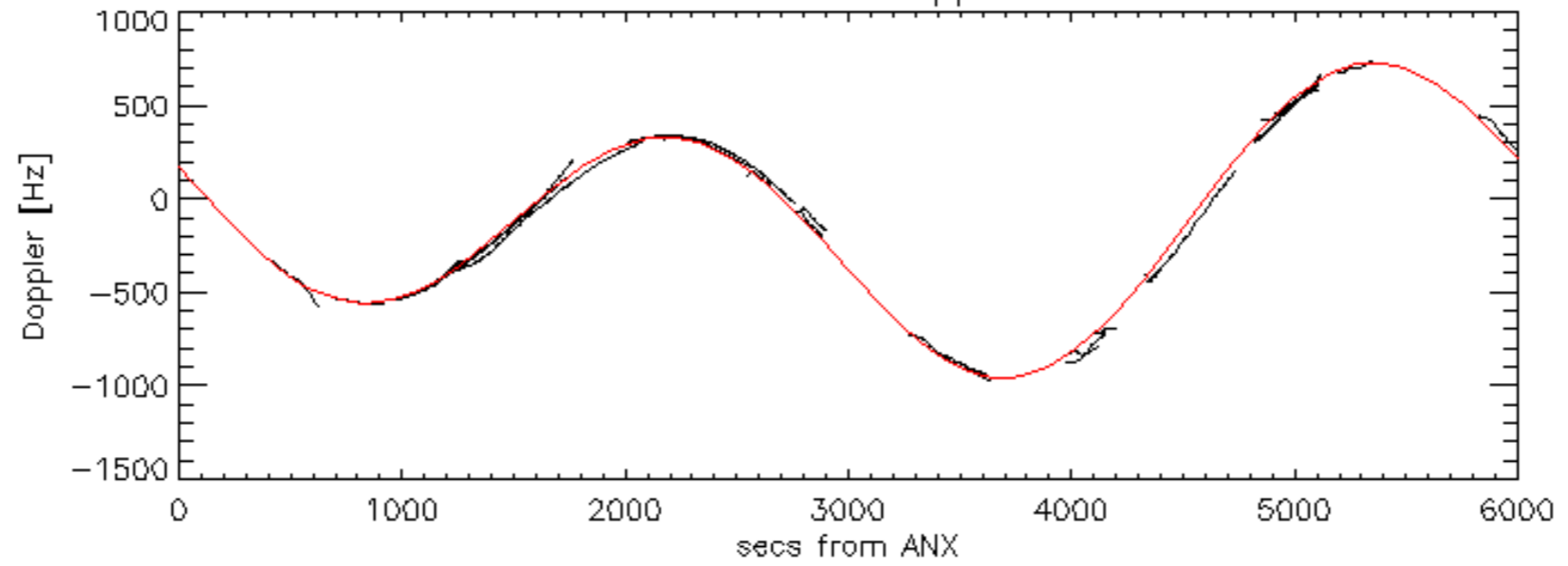
Doppler 'WVS' 'IS2' ascending

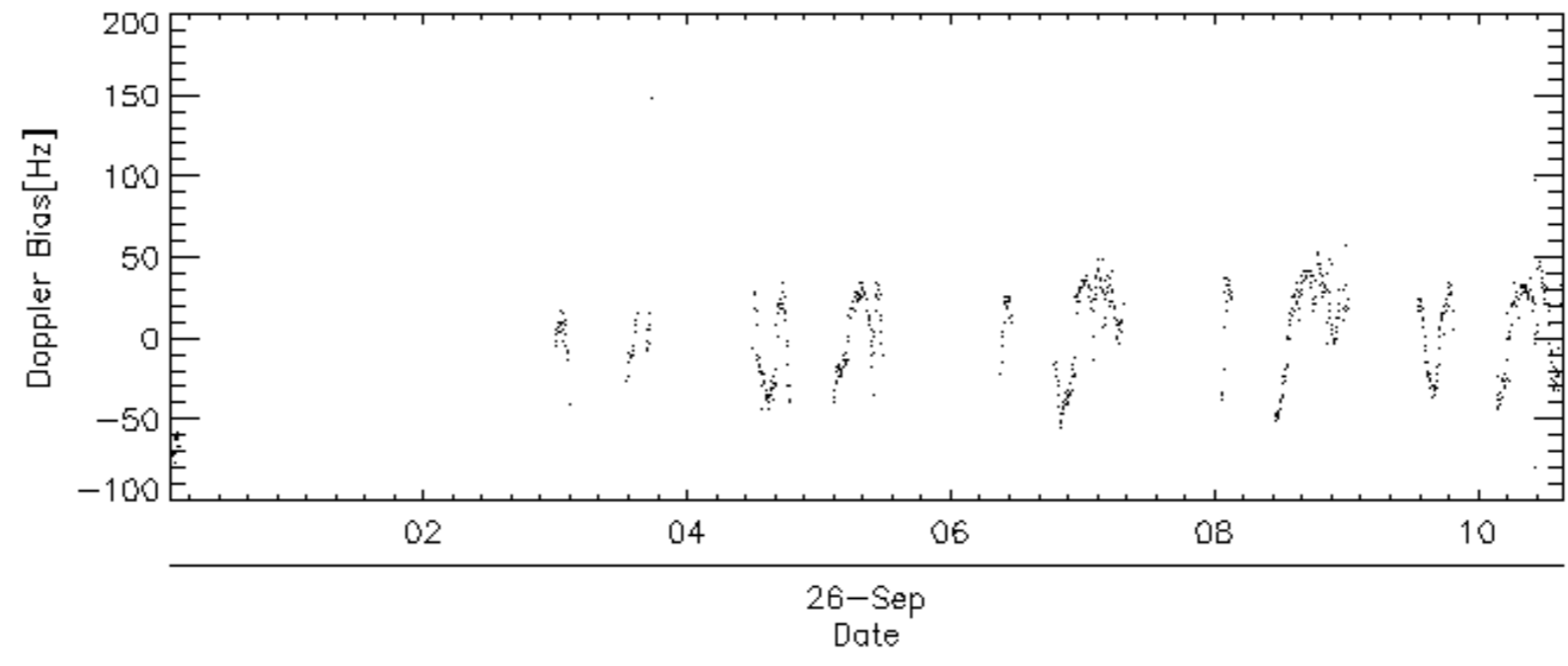
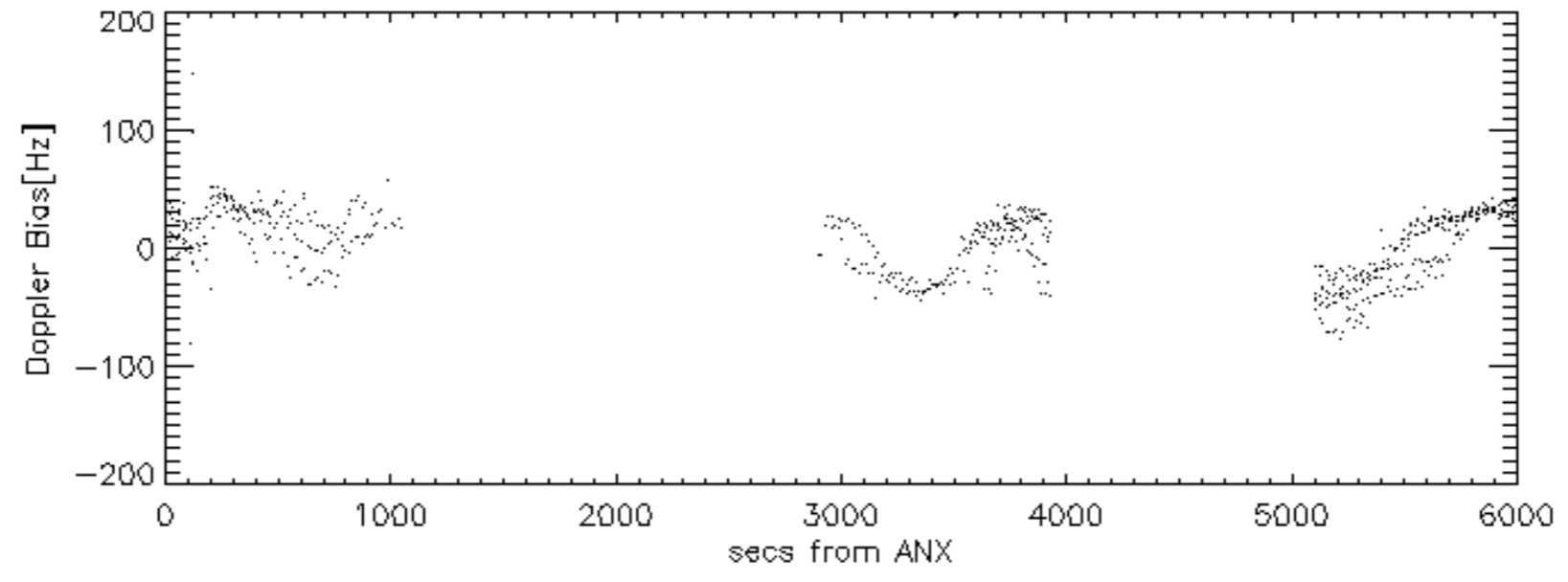
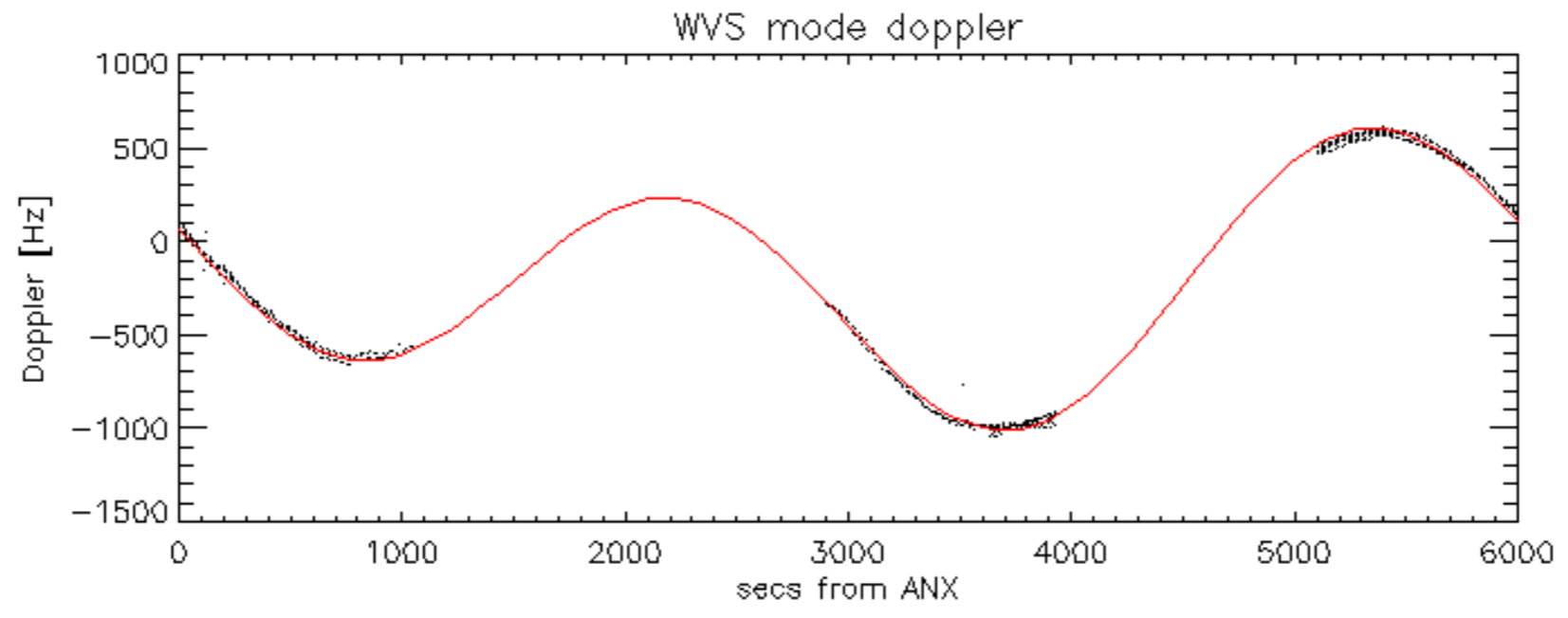


Doppler 'WVS' 'IS2' descending

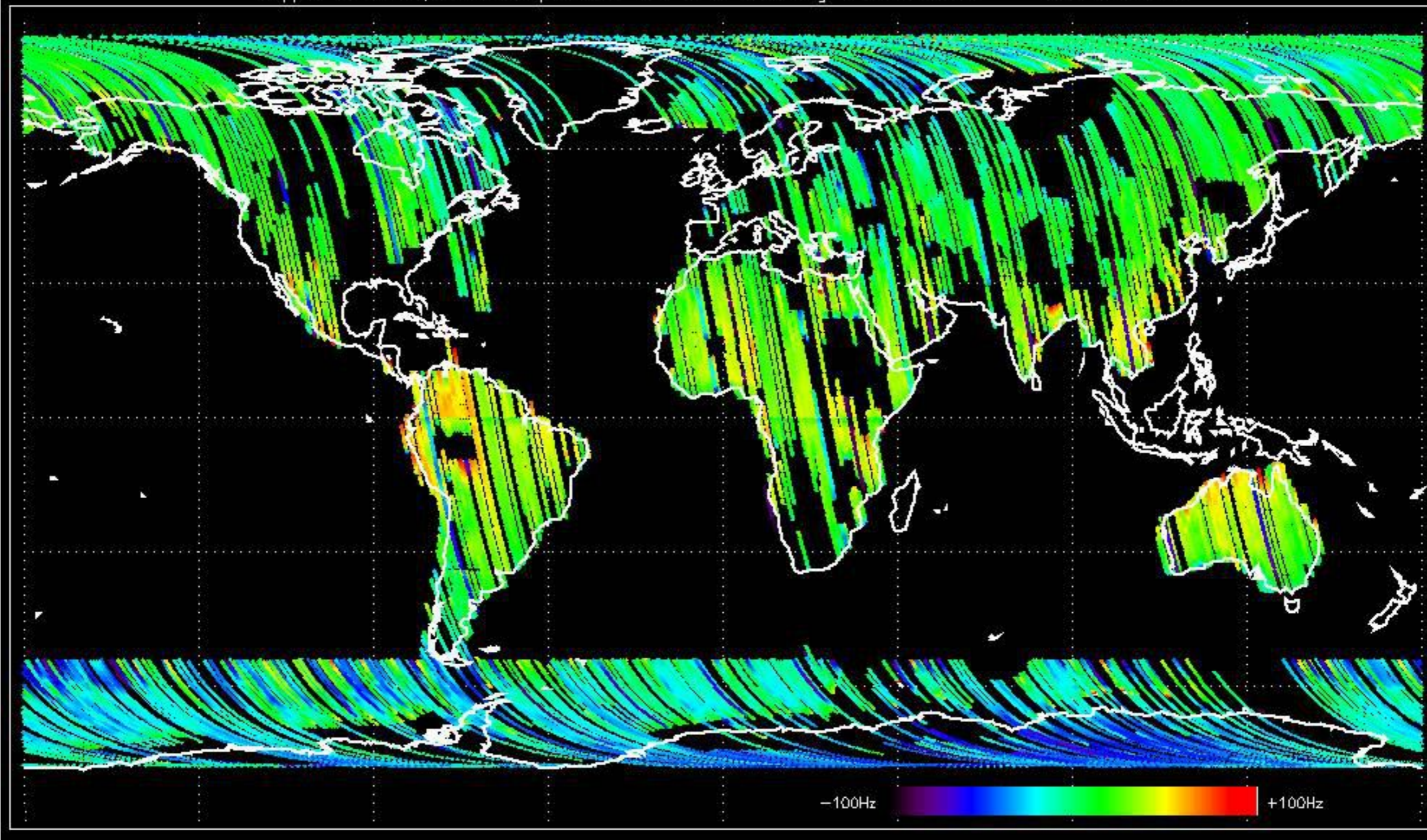


GM1 mode doppler

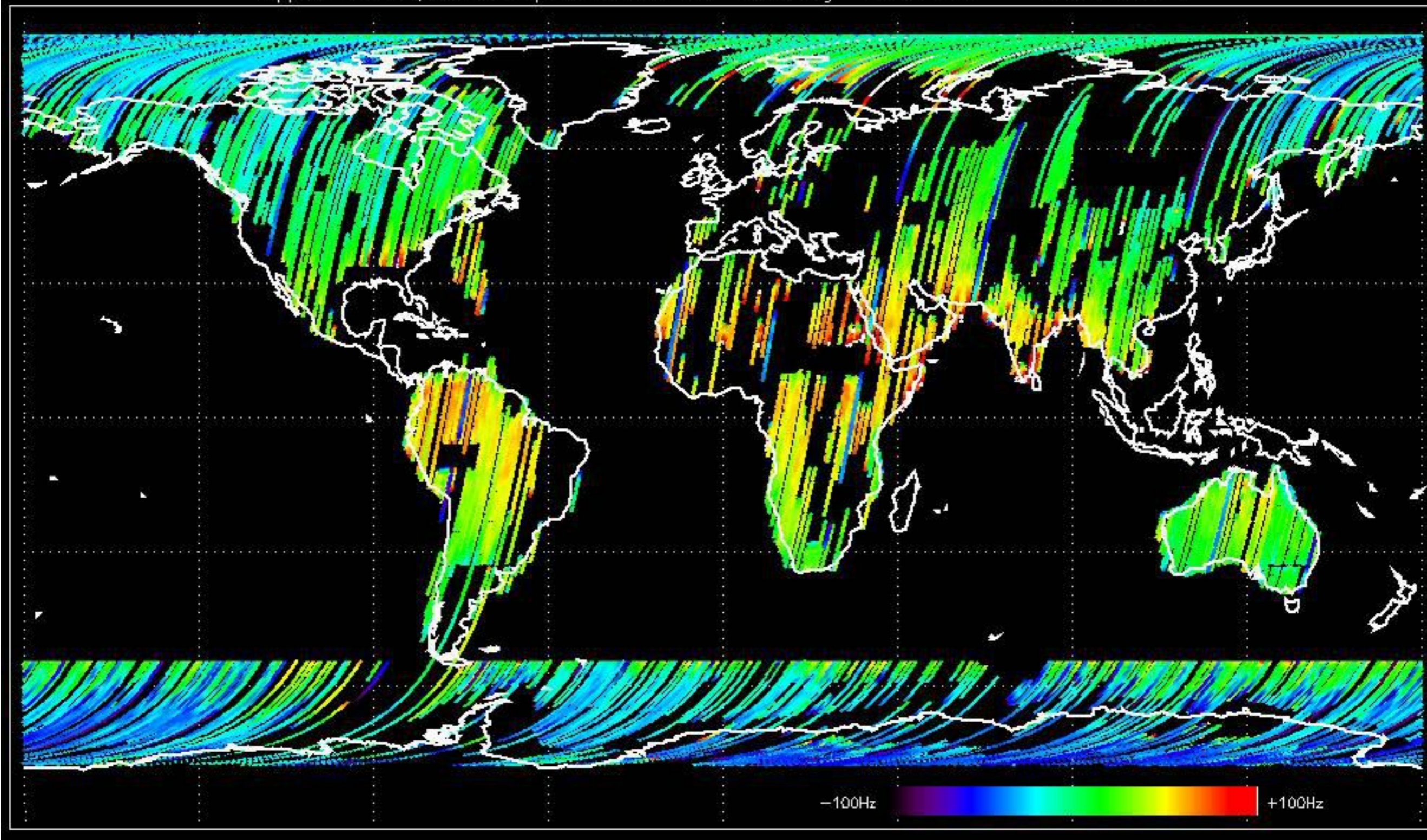




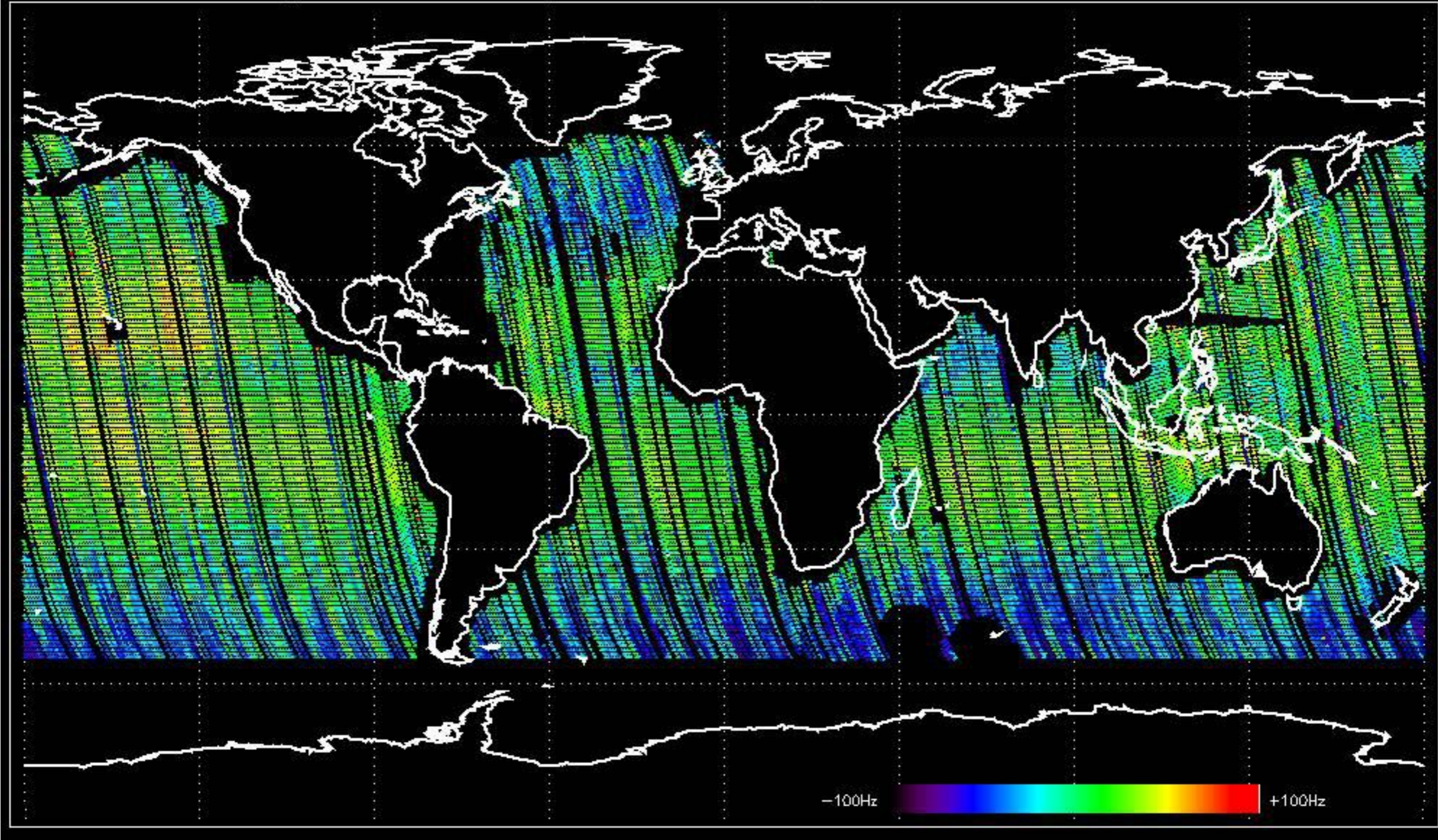
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -22.218382 Hz



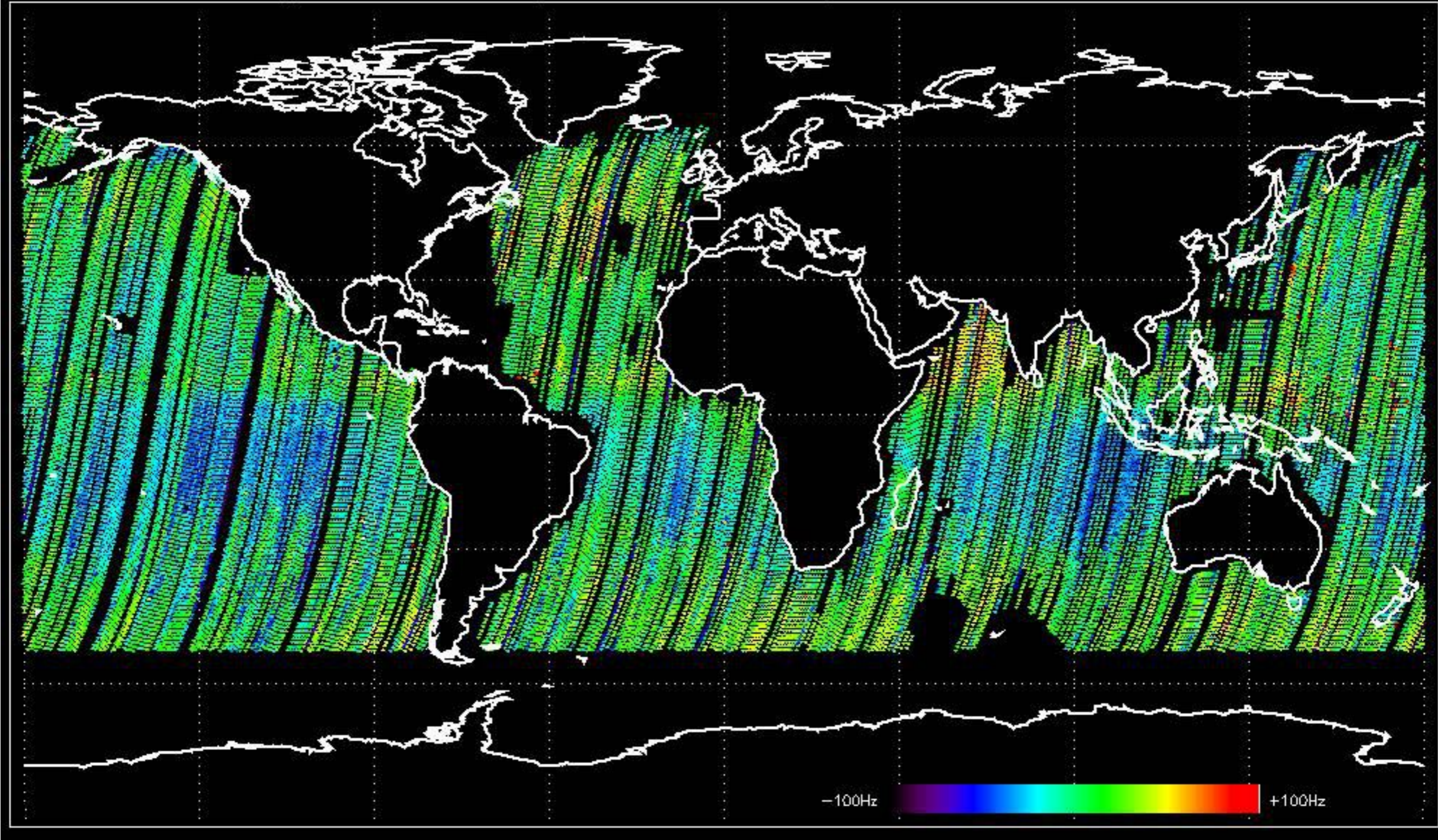
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -13.674045 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -10.556136 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -14.672372 Hz





No anomalies observed on available MS products:

No anomalies observed.





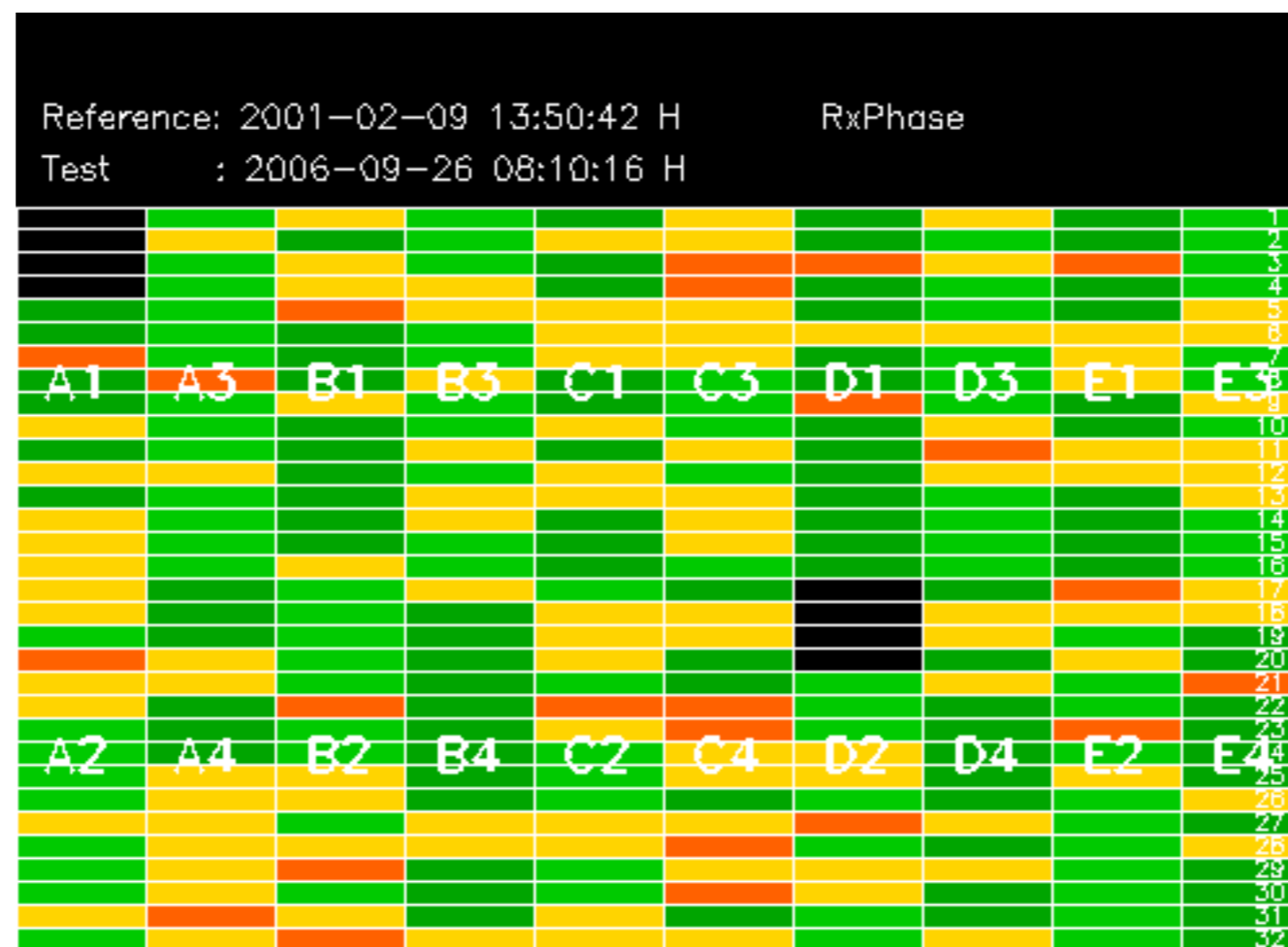




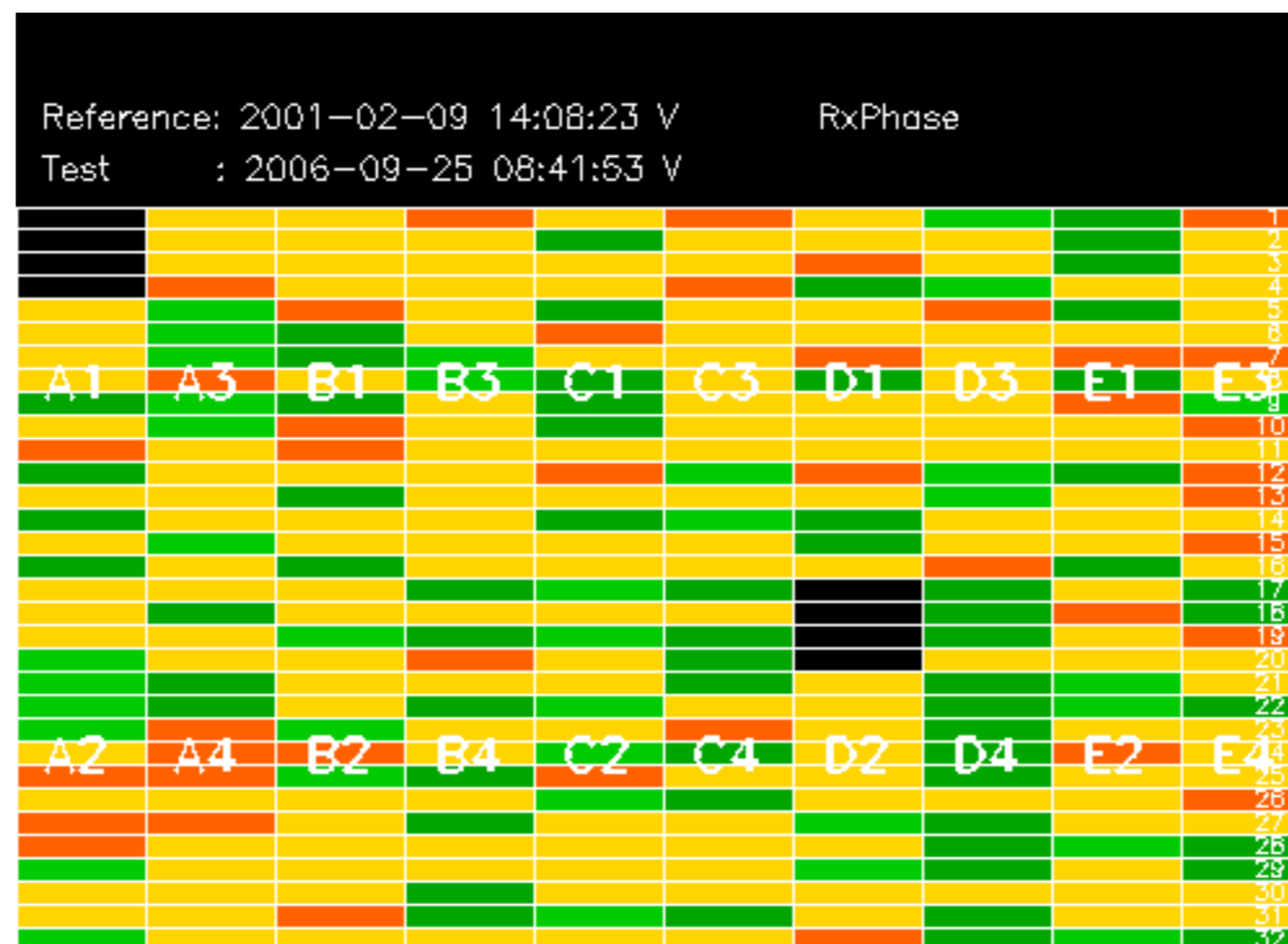








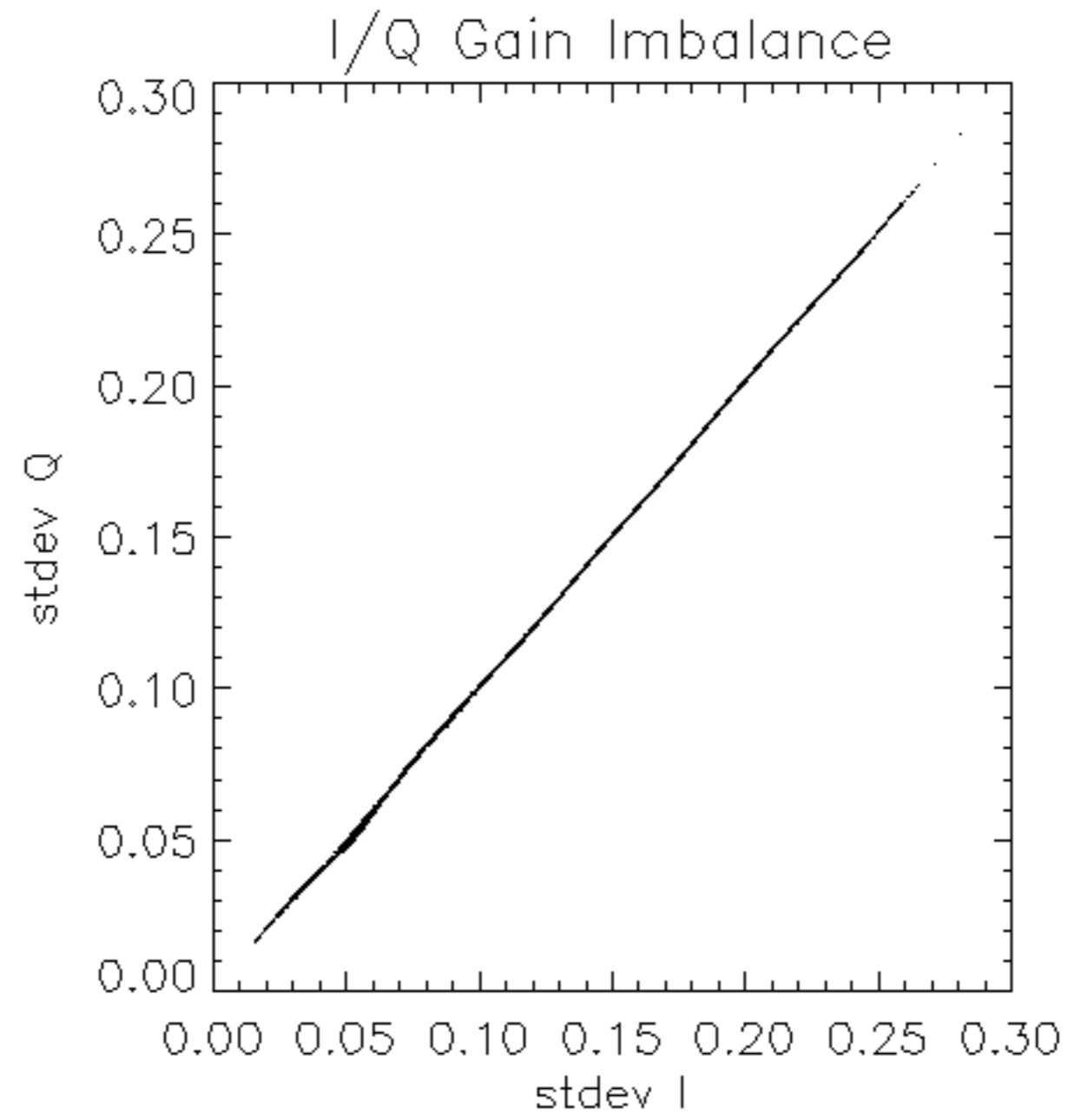


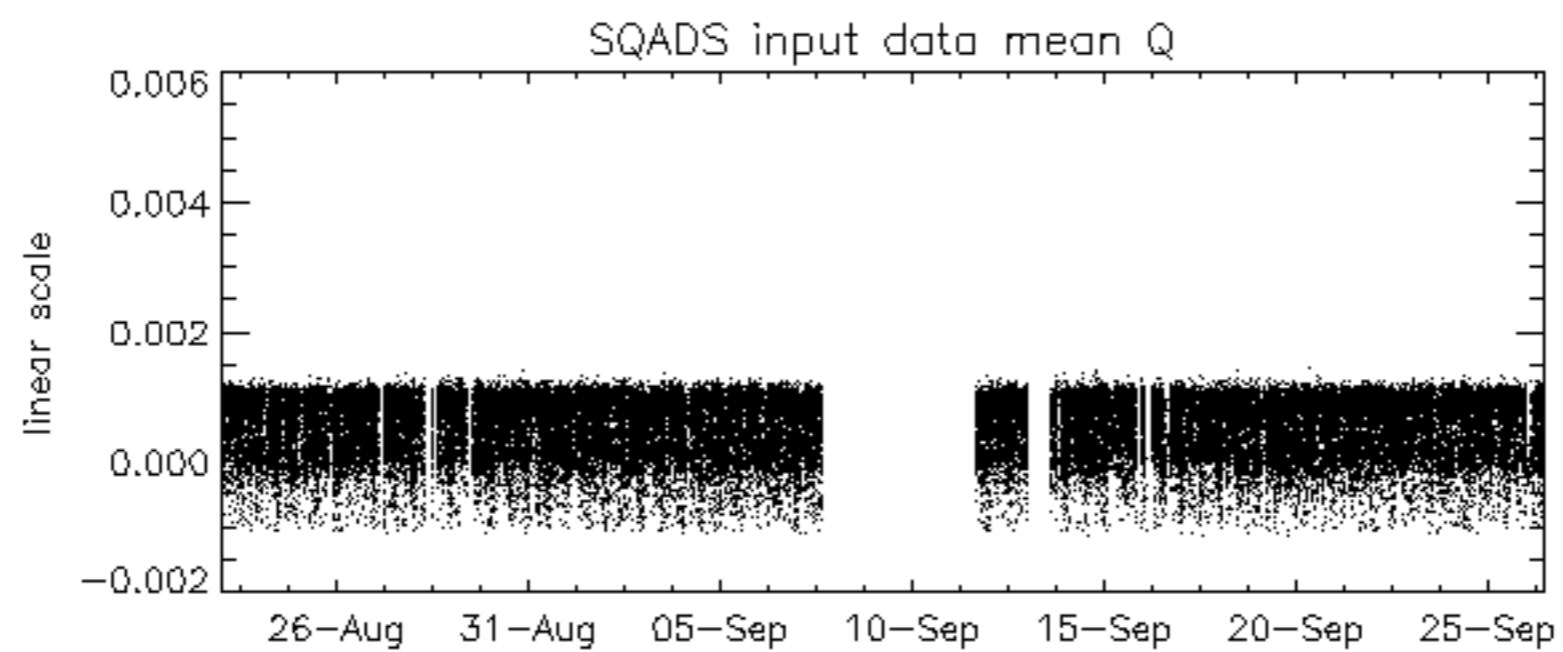
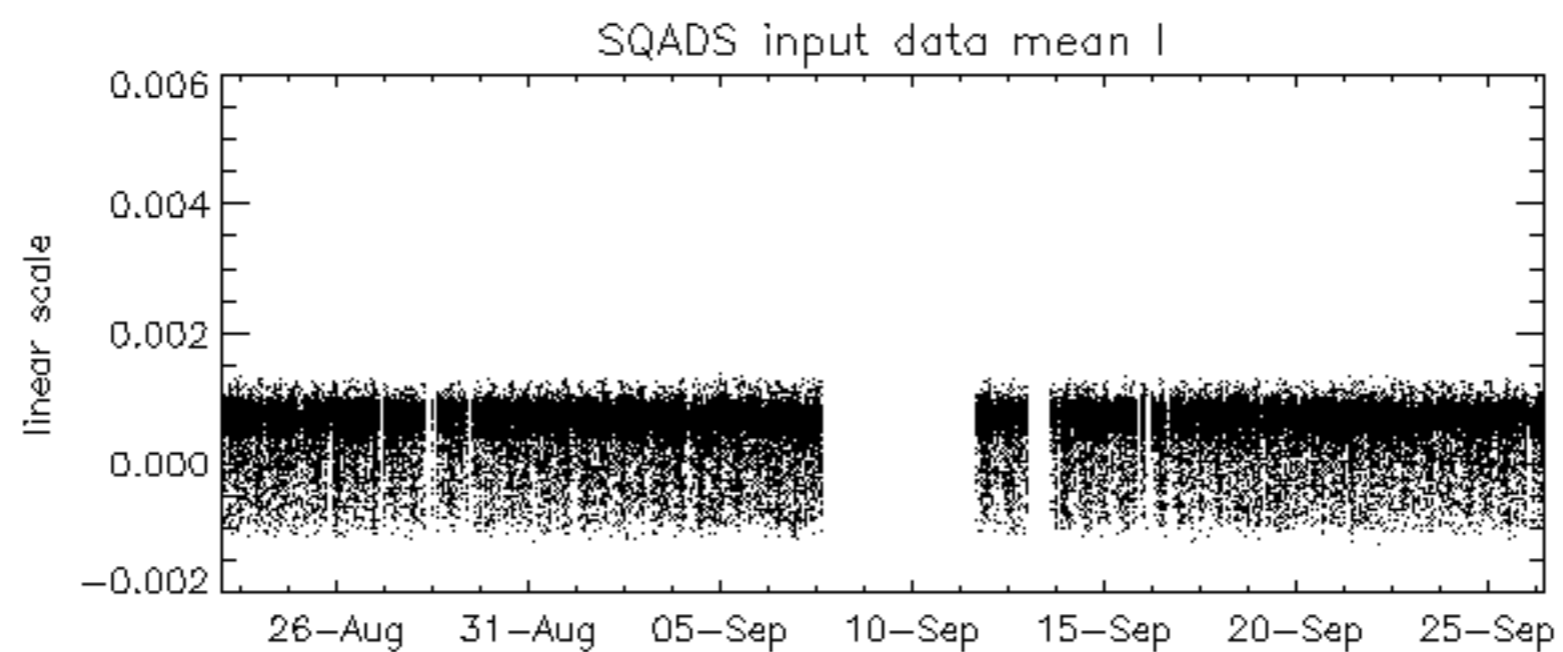
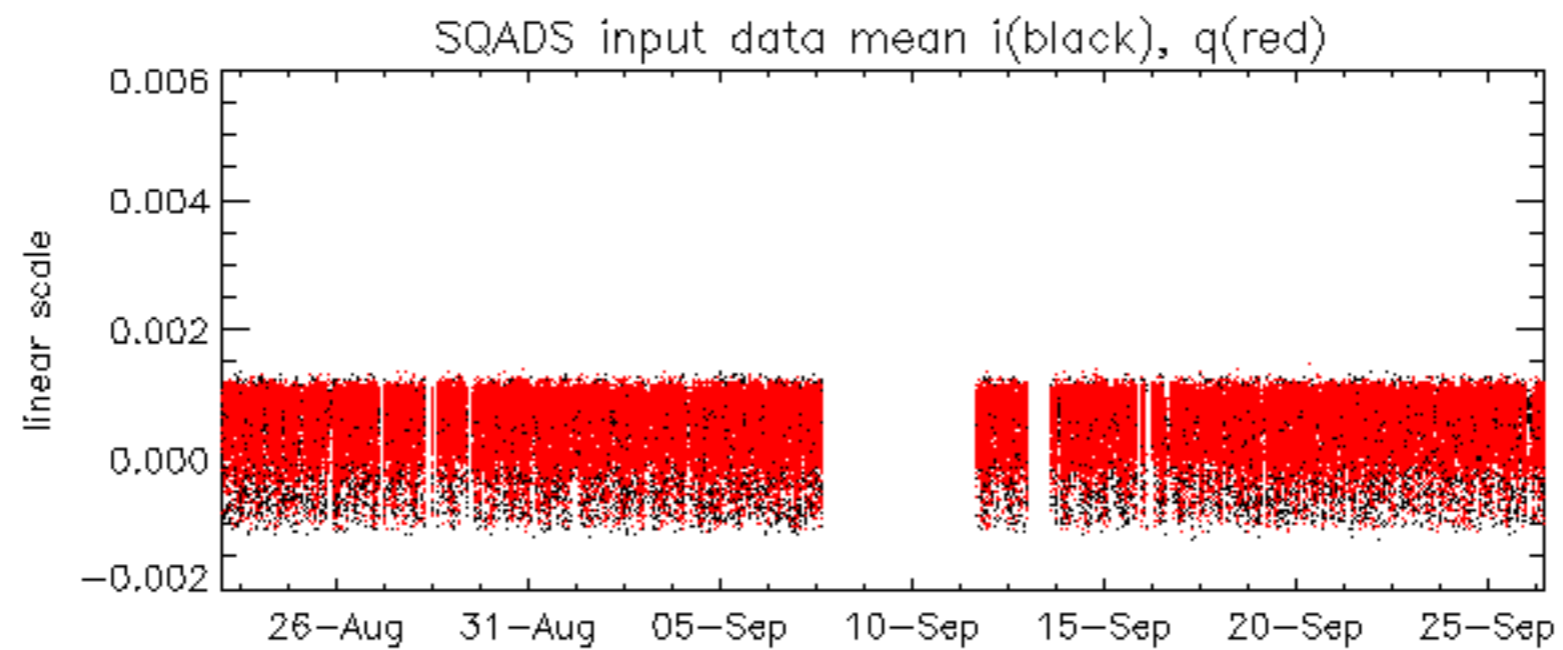




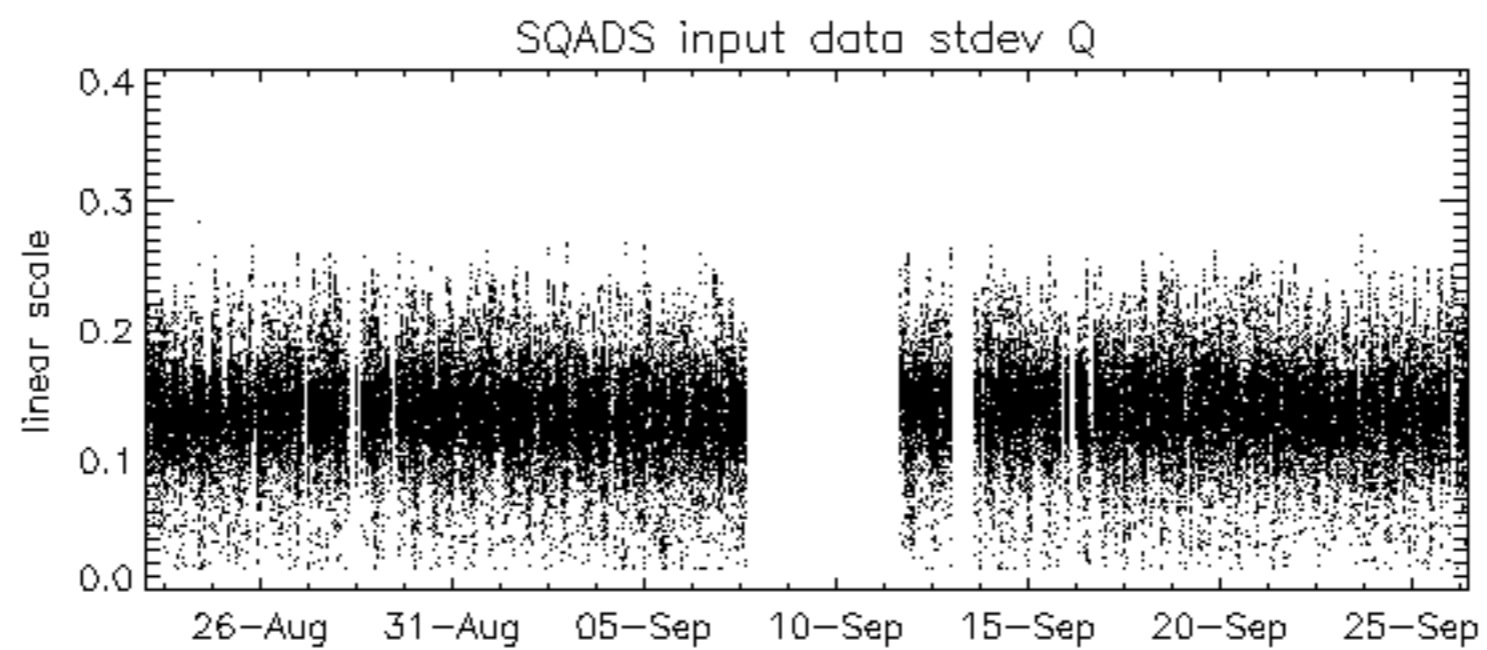
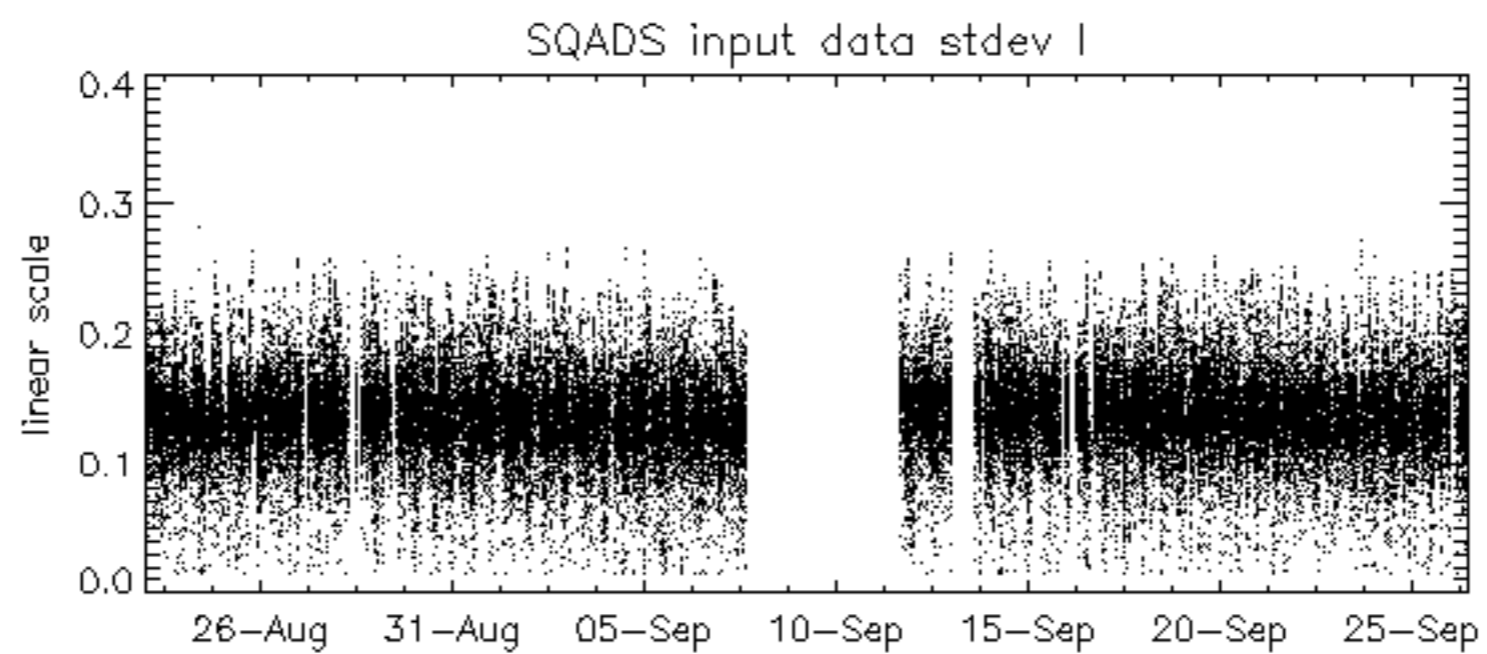
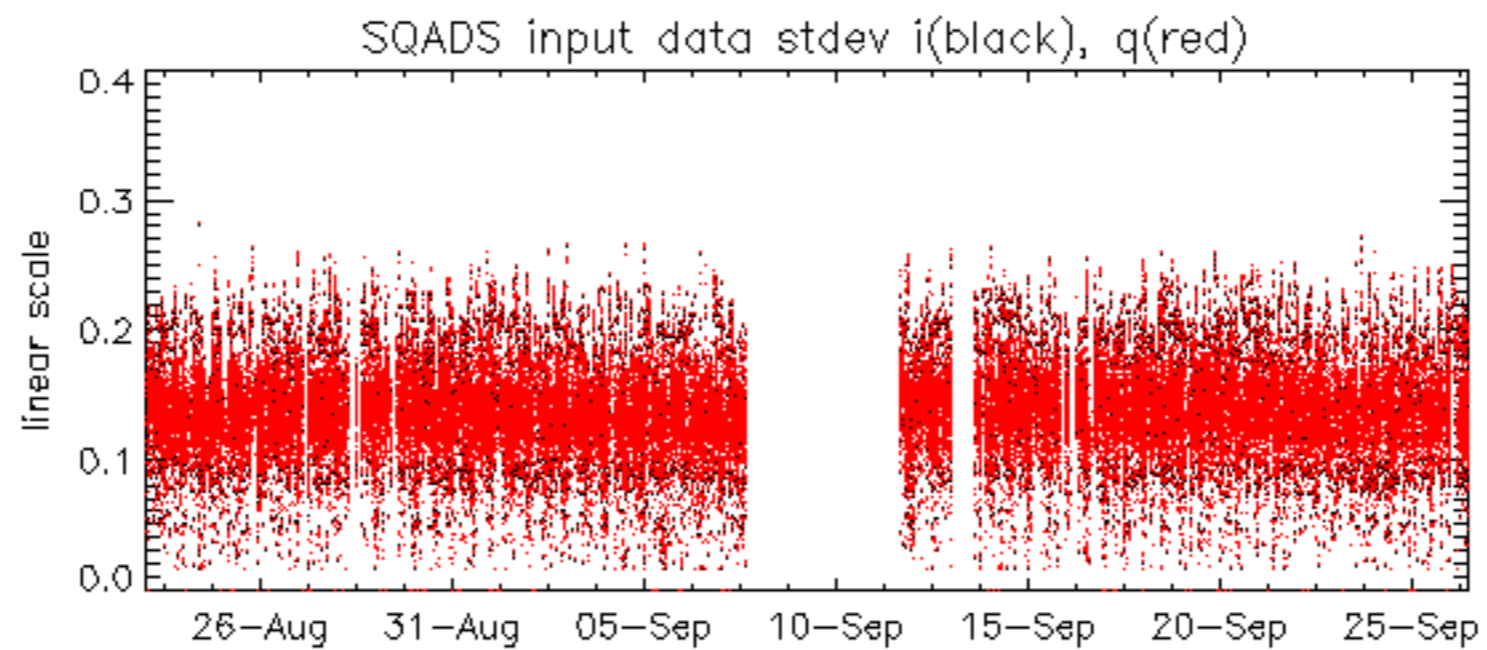
























Summary of analysis for the last 3 days 2006092[567]

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
ASA_IMM_1PNPDE20060925_010032_000002092051_00289_23890_6511.N1	1	0
ASA_WSM_1PNPDE20060925_141859_00000862051_00297_23898_3790.N1	0	35











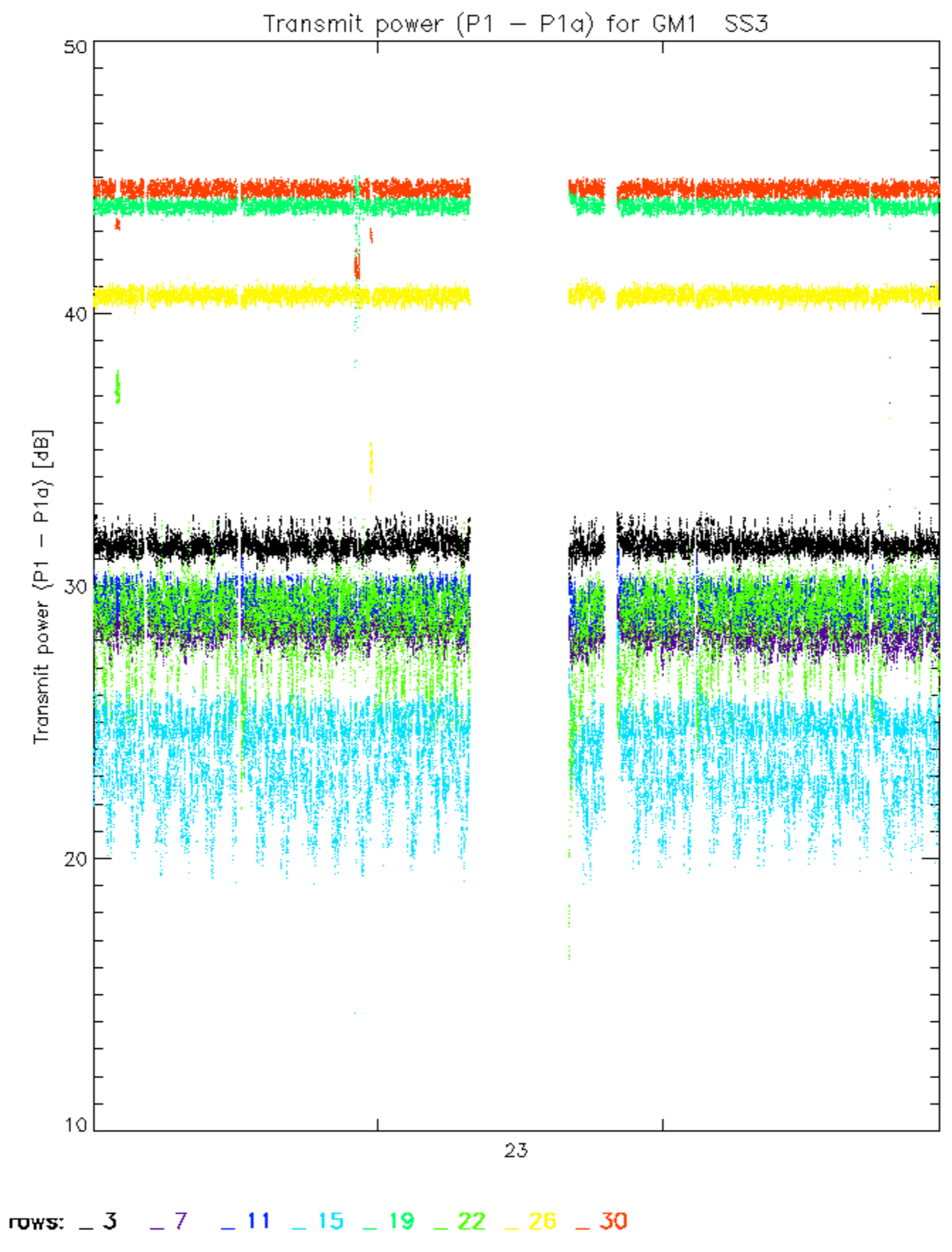




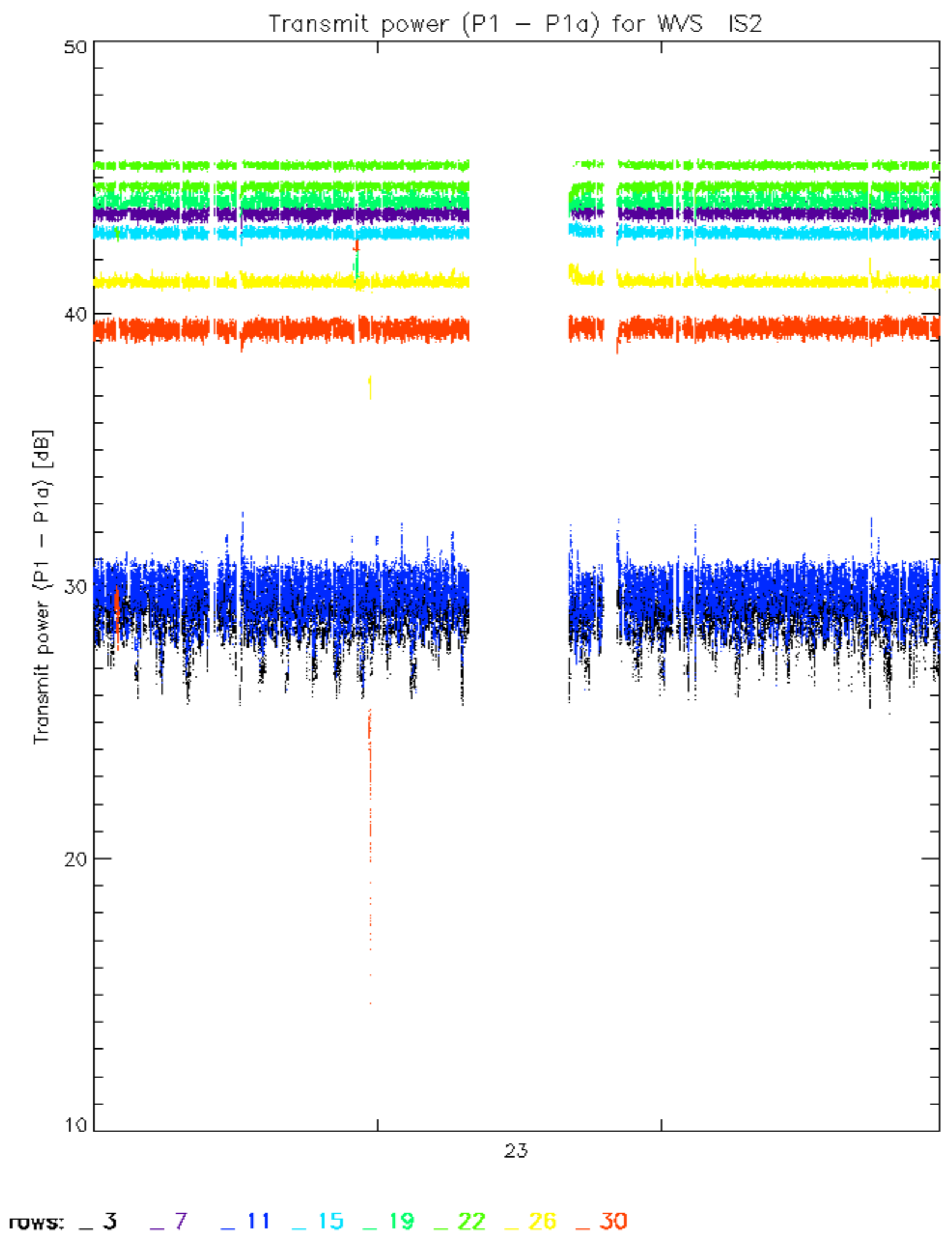








rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



No unavailabilities during the reported period.