

# PRELIMINARY REPORT OF 060102

last update on Mon Jan 2 16:36:32 GMT 2006

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## 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 2006-01-01 00:00:00 to 2006-01-02 16:36:32

PDHS-K
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AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
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PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	4	2	7	0	13
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	4	2	7	0	13
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	4	2	7	0	13
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	4	2	7	0	13

## 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	20051231 204859
H	20051230 143812

### 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"/>

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## 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

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#### P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
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**P1 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.694343	0.257795	-1.471402
7	P1	-2.738970	0.131081	-1.023069
11	P1	-4.138470	0.036118	0.094713
15	P1	-5.043254	1.770199	-4.049624
19	P1	-3.038130	0.069843	-0.765030
22	P1	-4.434166	0.024252	-0.233223
26	P1	-4.401937	0.063881	0.688728
30	P1	-5.649691	0.036102	-0.476023
3	P1	-15.722038	2.877768	-5.060424
7	P1	-15.264186	2.805500	-5.044608
11	P1	-16.302753	0.472938	-1.163422
15	P1	-12.660988	0.903167	-2.546066
19	P1	-13.420828	0.389203	-1.763608
22	P1	-15.893006	0.641264	-0.585459
26	P1	-15.035406	1.074467	-2.848304
30	P1	-15.498882	2.514752	-4.500444

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.788610	0.116704	0.389364
7	P2	-22.537645	0.106915	0.044665
11	P2	-16.491810	0.136193	0.504782
15	P2	-7.274172	0.106888	0.103118
19	P2	-9.208099	0.104699	0.000109
22	P2	-17.877836	0.113291	-0.275584
26	P2	-16.383581	0.133320	0.552899
30	P2	-19.794674	0.120408	0.449676

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.234370	0.007667	0.021392
7	P3	-8.234370	0.007667	0.021392
11	P3	-8.234370	0.007667	0.021392
15	P3	-8.234370	0.007667	0.021392
19	P3	-8.234370	0.007667	0.021392
22	P3	-8.234370	0.007667	0.021392

26	P3	-8.234370	0.007667	0.021392
30	P3	-8.234370	0.007667	0.021392

#### 4.2.2 - Evolution for GM1

##### Evolution of cal pulses for GM1

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#### P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
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#### P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.711206	0.008570	-0.035359
7	P1	-2.769623	0.007647	0.004864
11	P1	-2.877778	0.009362	0.003051
15	P1	-3.421233	0.016643	-0.058665
19	P1	-3.393300	0.014462	-0.009015
22	P1	-5.124931	0.019075	-0.022433
26	P1	-5.853848	0.016316	-0.017856
30	P1	-5.279135	0.033093	0.005226
3	P1	-11.491252	0.040739	-0.033326
7	P1	-9.967957	0.047136	0.041461
11	P1	-10.055048	0.056588	-0.023738
15	P1	-10.565296	0.070766	-0.069199
19	P1	-15.520726	0.074753	0.021433
22	P1	-20.952953	0.935129	0.376164
26	P1	-17.131660	0.290007	0.308903
30	P1	-18.191730	0.281852	0.182483

#### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.588396	0.029208	0.132150
7	P2	-23.042149	0.055188	0.141675

11	P2	-11.571221	0.019765	0.175816
15	P2	-4.992311	0.021180	0.049736
19	P2	-6.974898	0.021459	0.008005
22	P2	-8.213372	0.022633	-0.013481
26	P2	-24.049747	0.030171	0.055764
30	P2	-22.136333	0.017276	0.001659

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.078107	0.002445	0.004834
7	P3	-8.078313	0.002442	0.004225
11	P3	-8.078362	0.002428	0.004060
15	P3	-8.078251	0.002424	0.004748
19	P3	-8.078316	0.002446	0.004690
22	P3	-8.078220	0.002432	0.004919
26	P3	-8.078218	0.002418	0.005250
30	P3	-8.078074	0.002436	0.004205

## 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	0.000451987
	stdev	2.22189e-07
MEAN Q	mean	0.000460464
	stdev	2.37650e-07



## 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.128876
	stdev	0.00113946
STDEV Q	mean	0.129163
	stdev	0.00115216



## 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006010[112]

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_WSM_1PNPDE20060101_012925_000004582043_00475_20068_6595.N1	0	49



## 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"/>
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**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**

<input type="checkbox"/>
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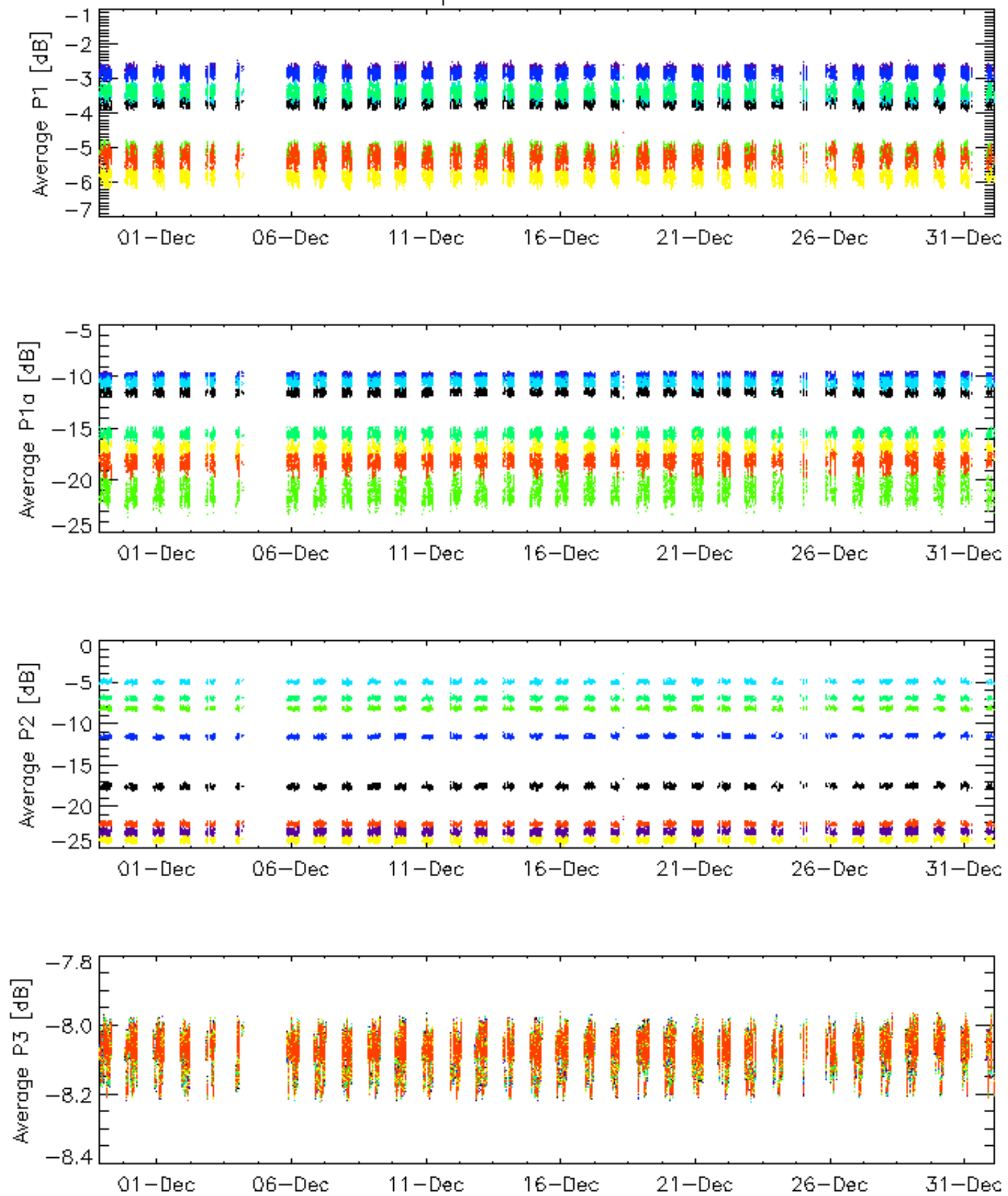
Ascending
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Descending

## 7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

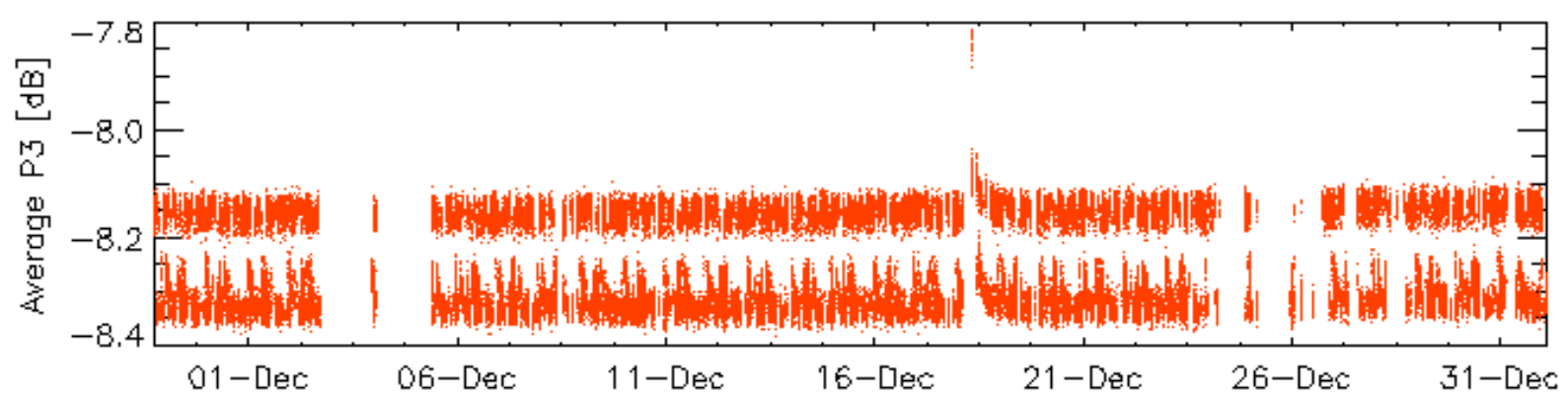
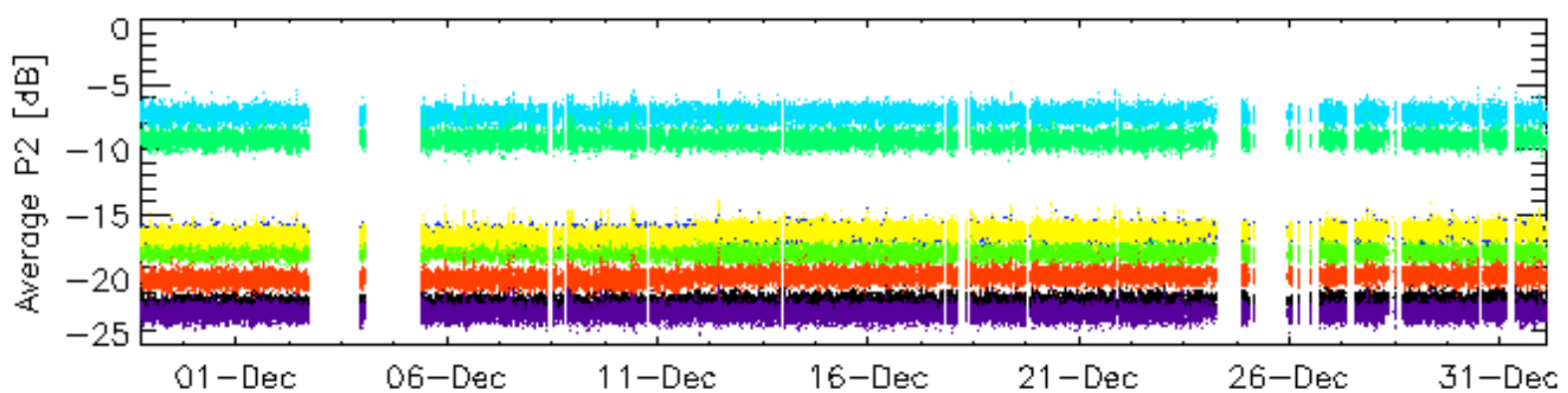
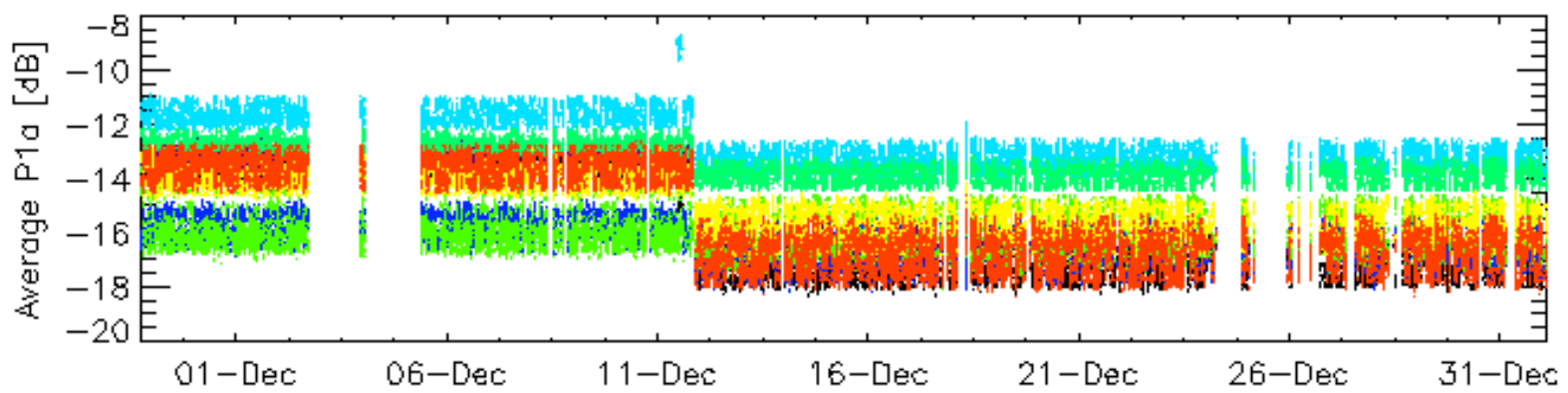
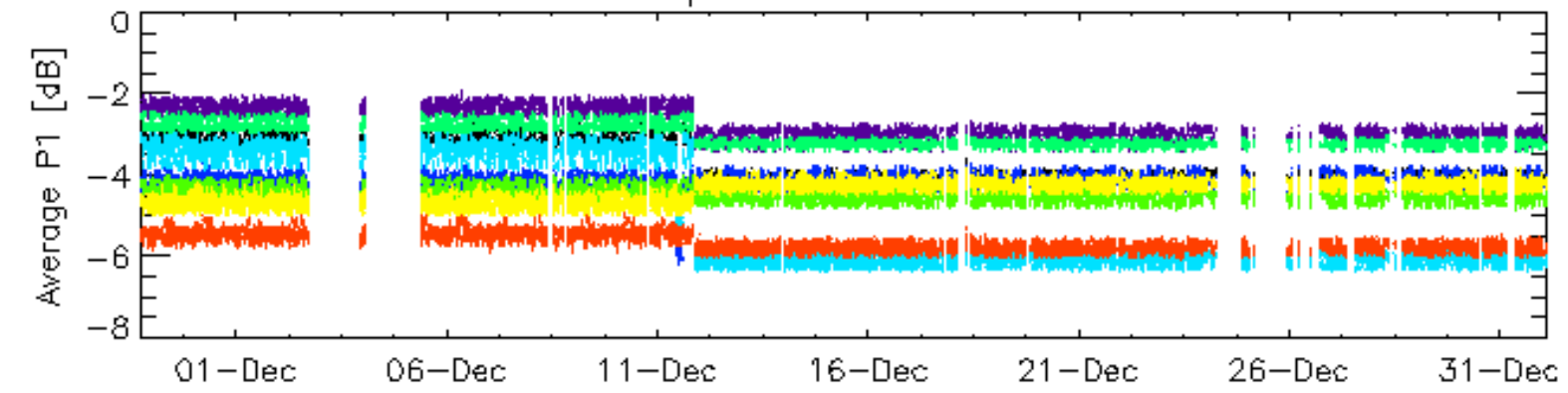
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Cal pulses for GM1 SS3



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

Cal pulses for WVS IS2



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

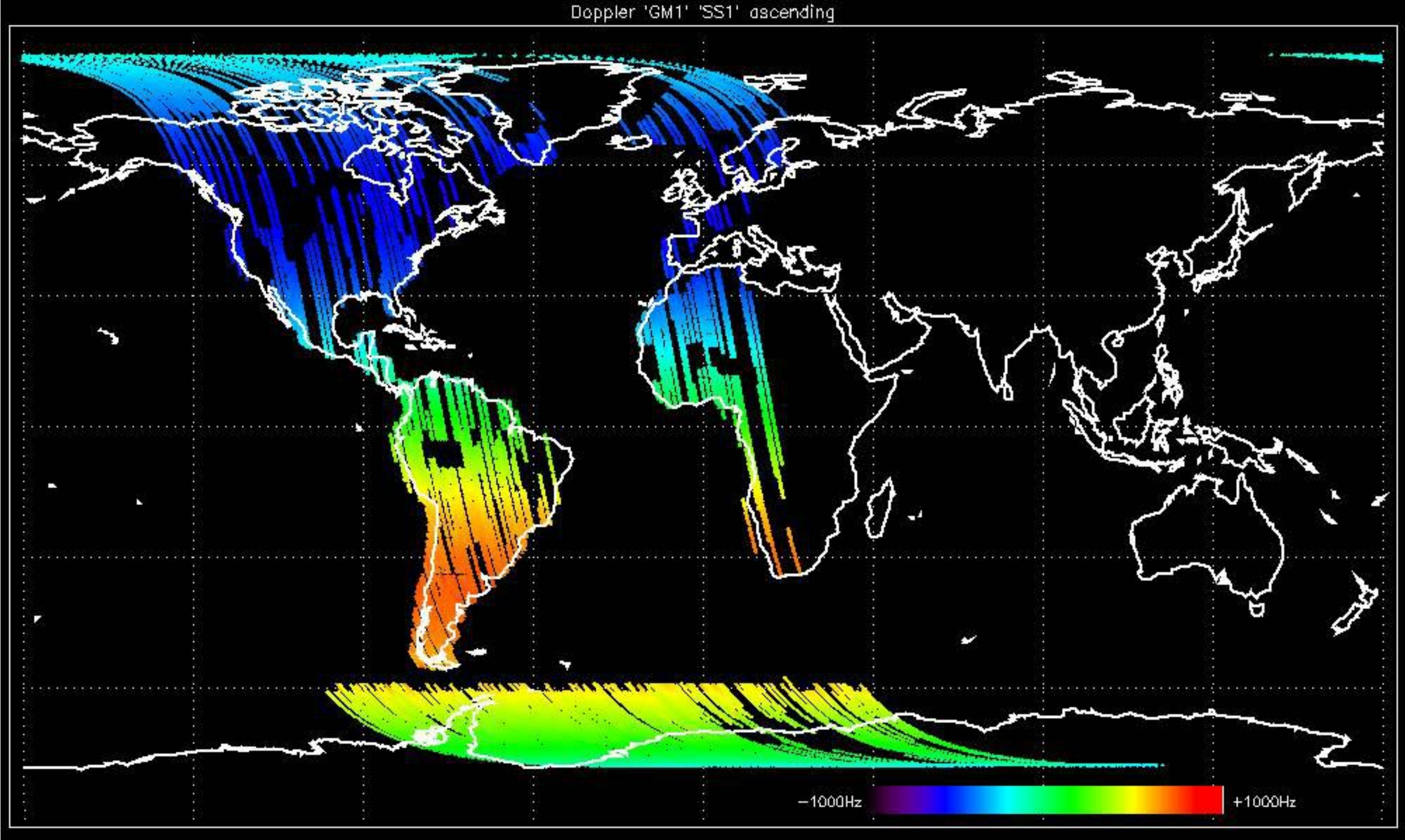
No anomalies observed.

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



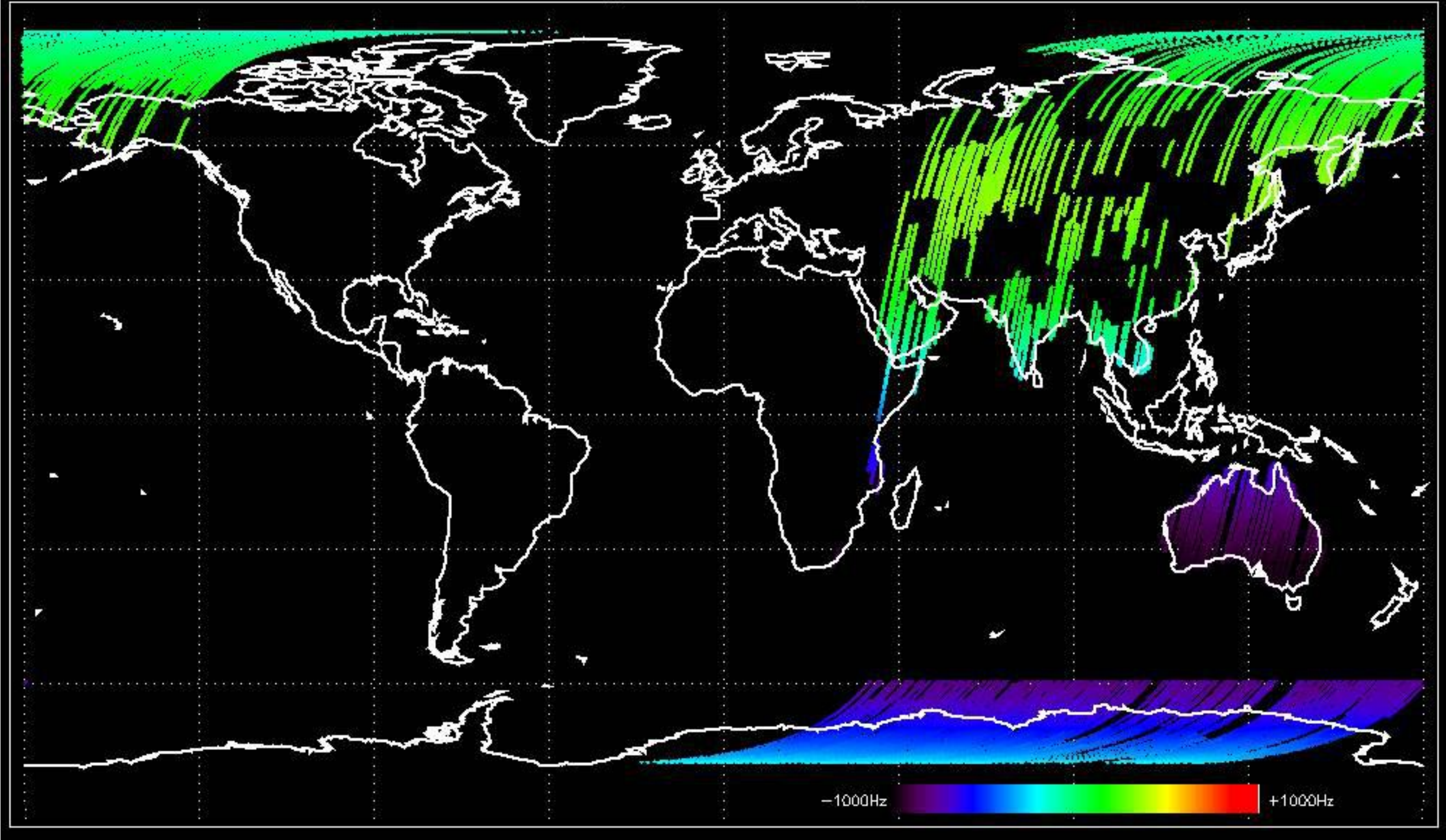


Doppler 'GM1' 'SS1' ascending



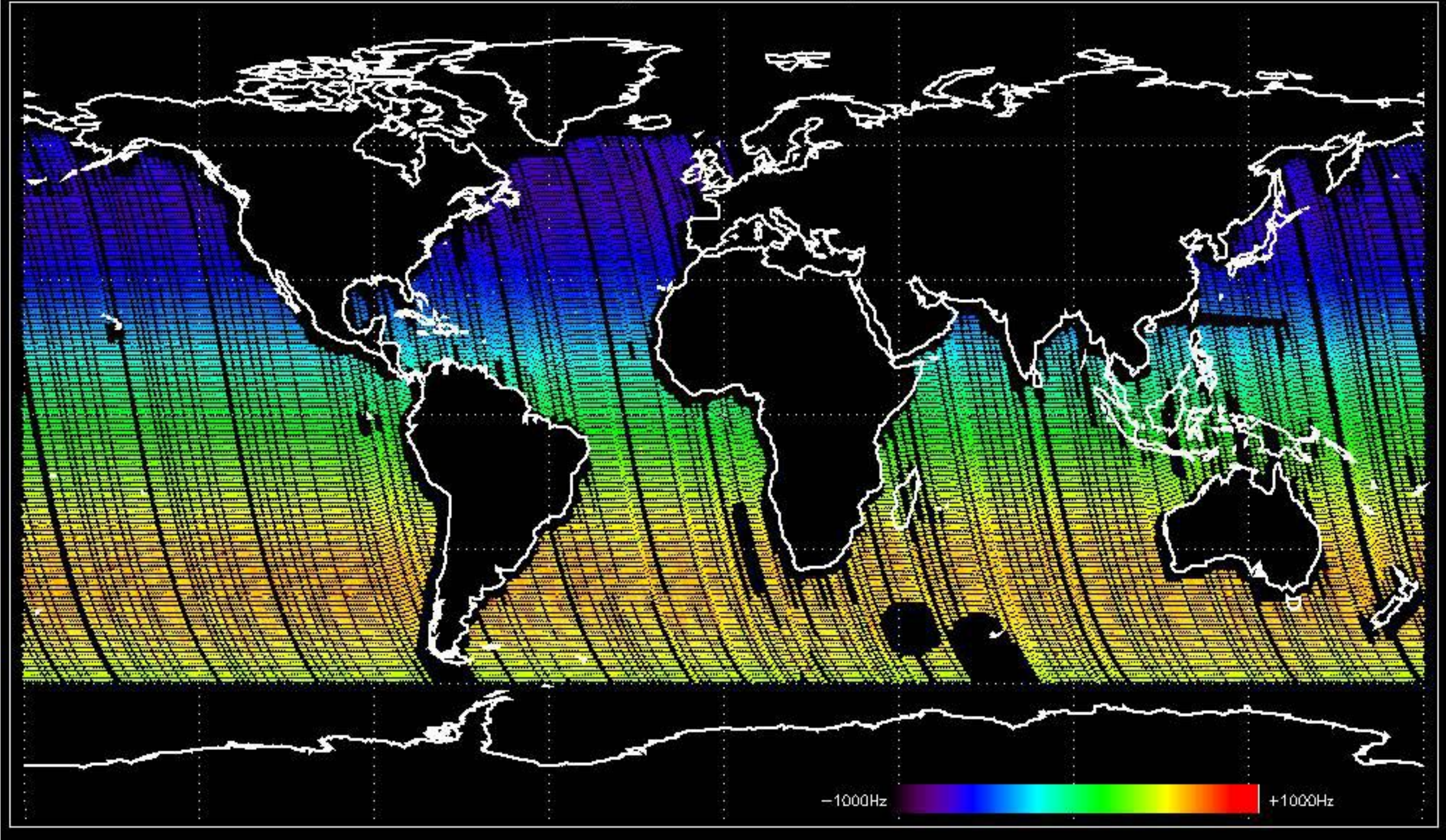


Doppler 'GM1' 'SS1' descending



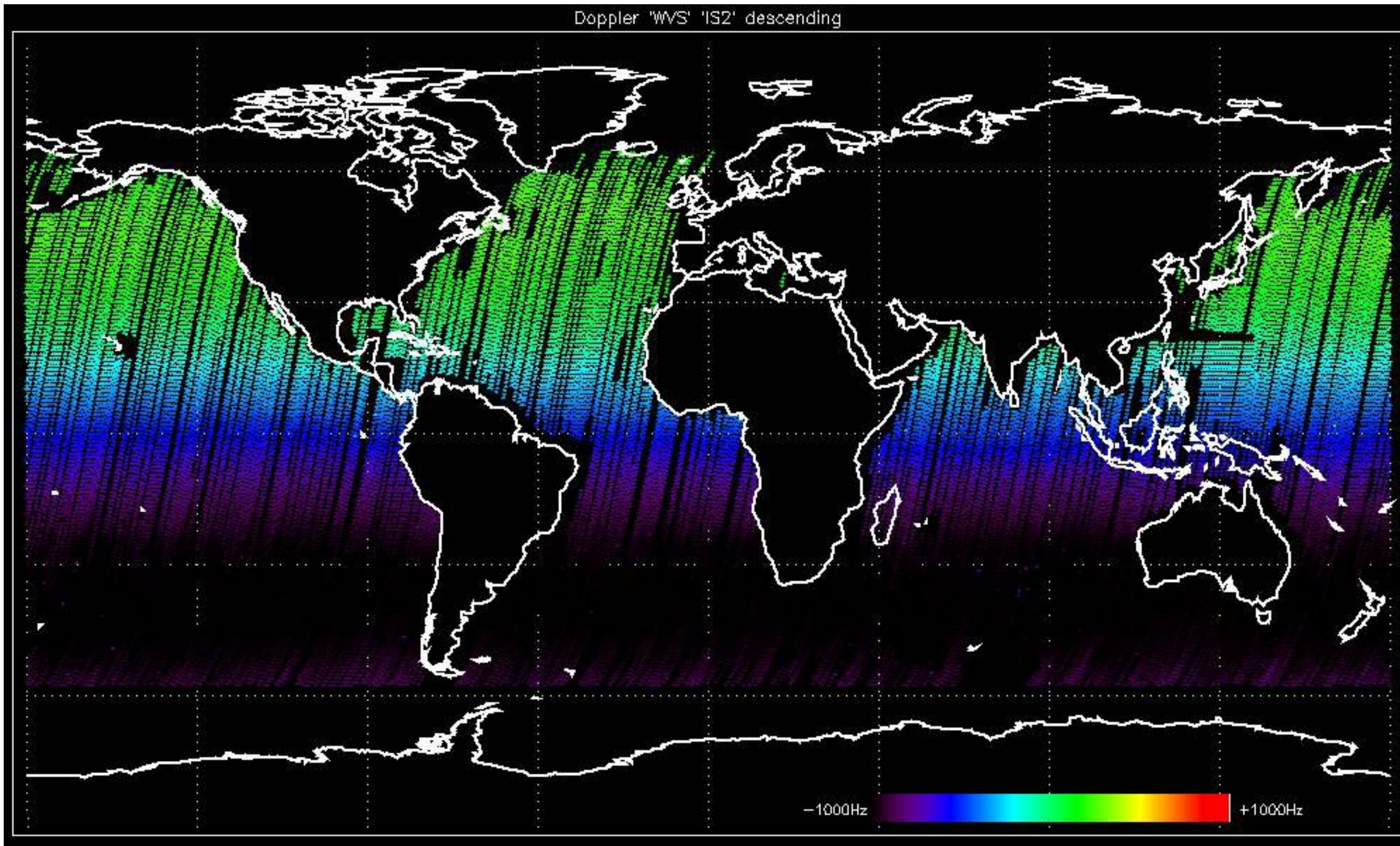


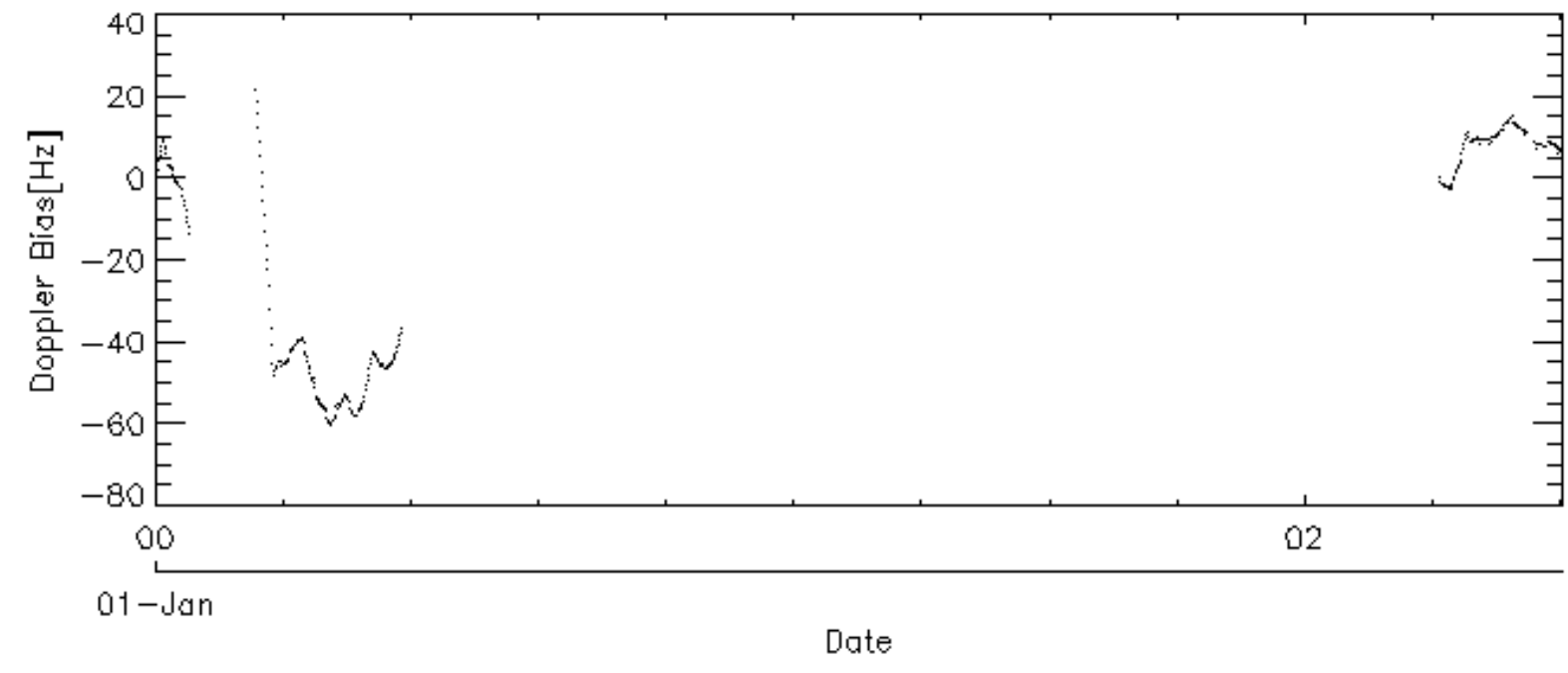
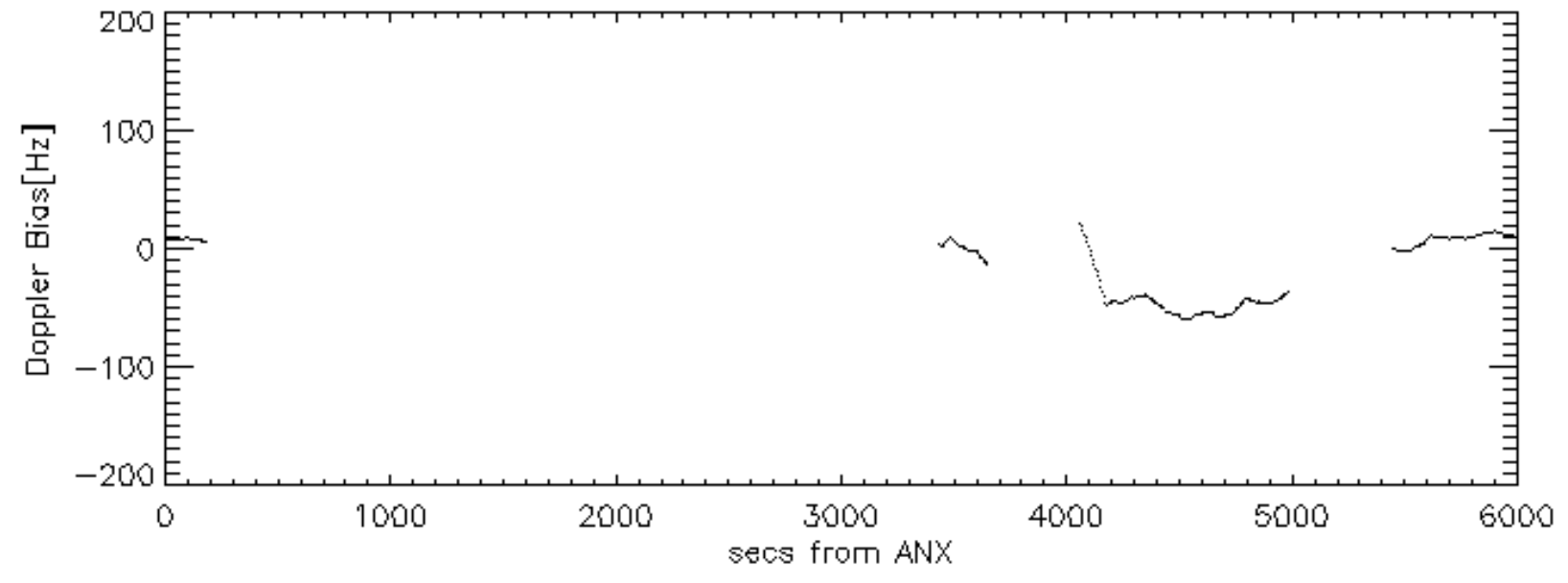
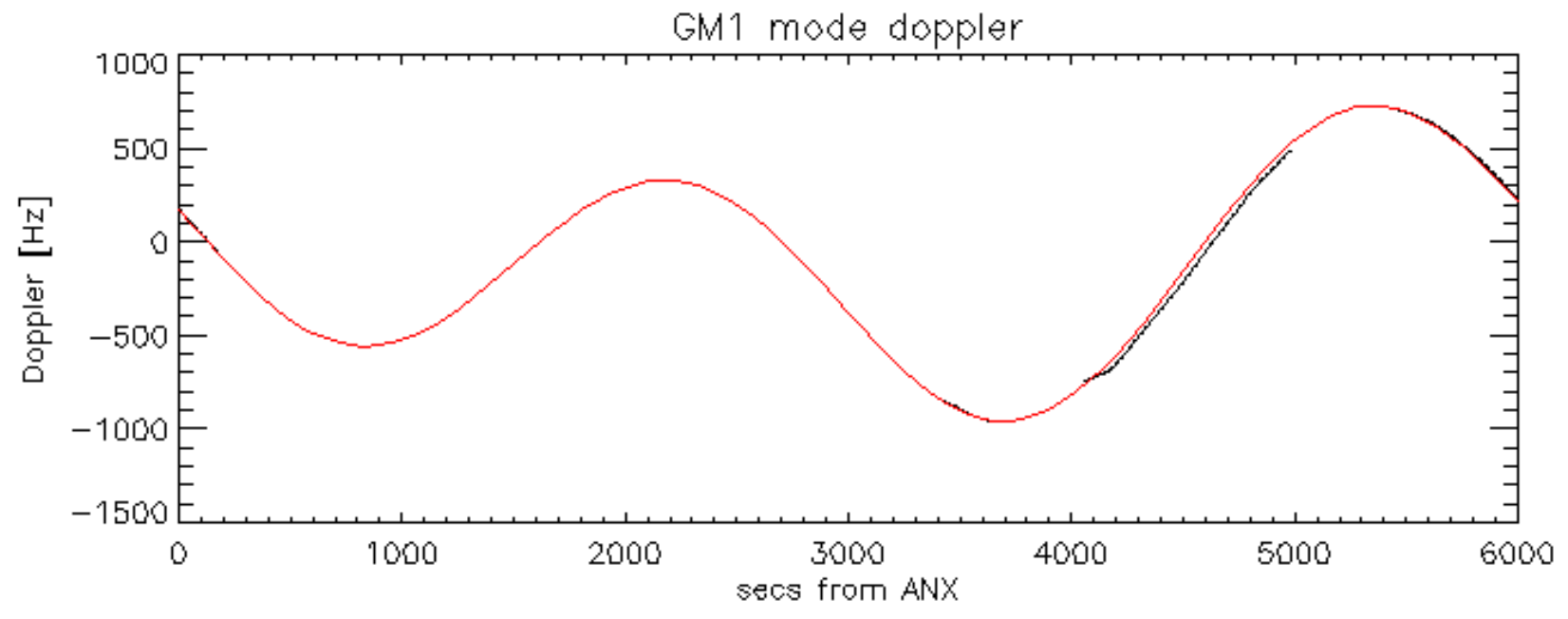
Doppler 'WVS' 'IS2' ascending



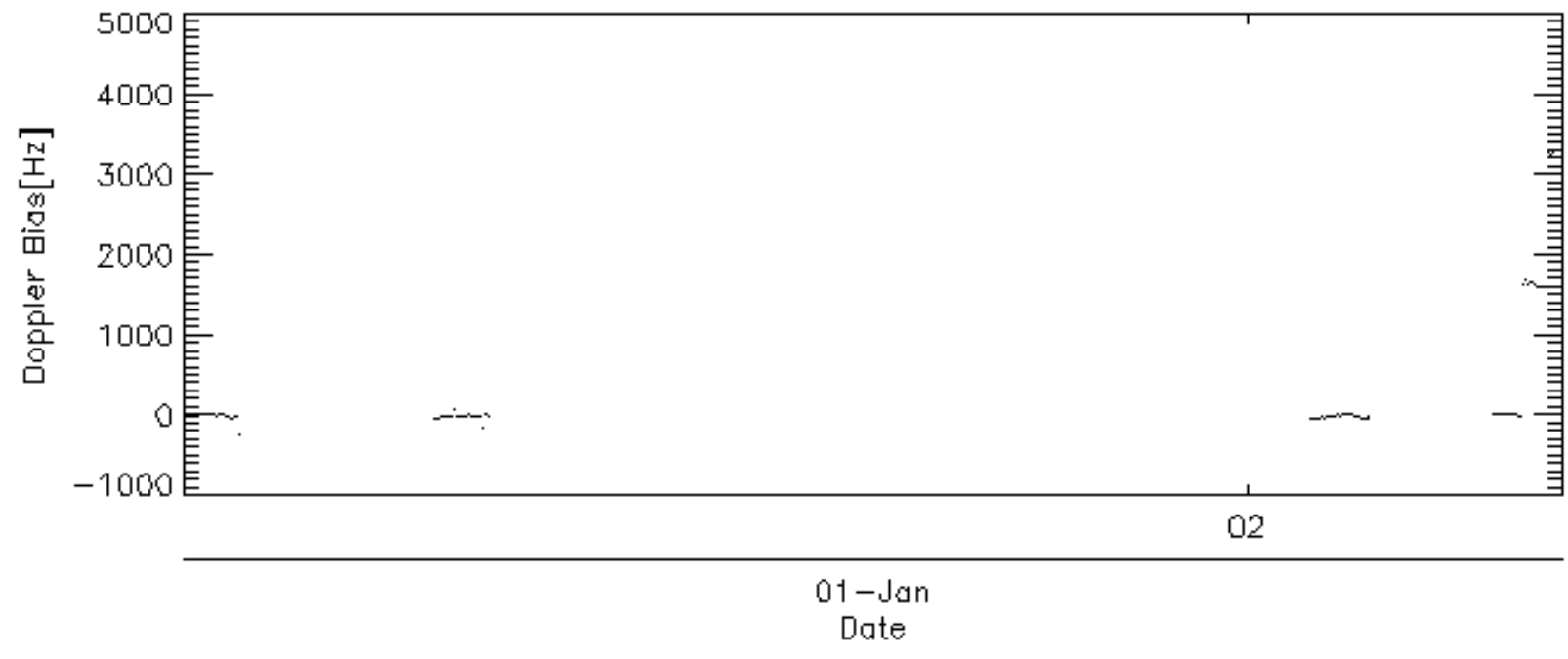
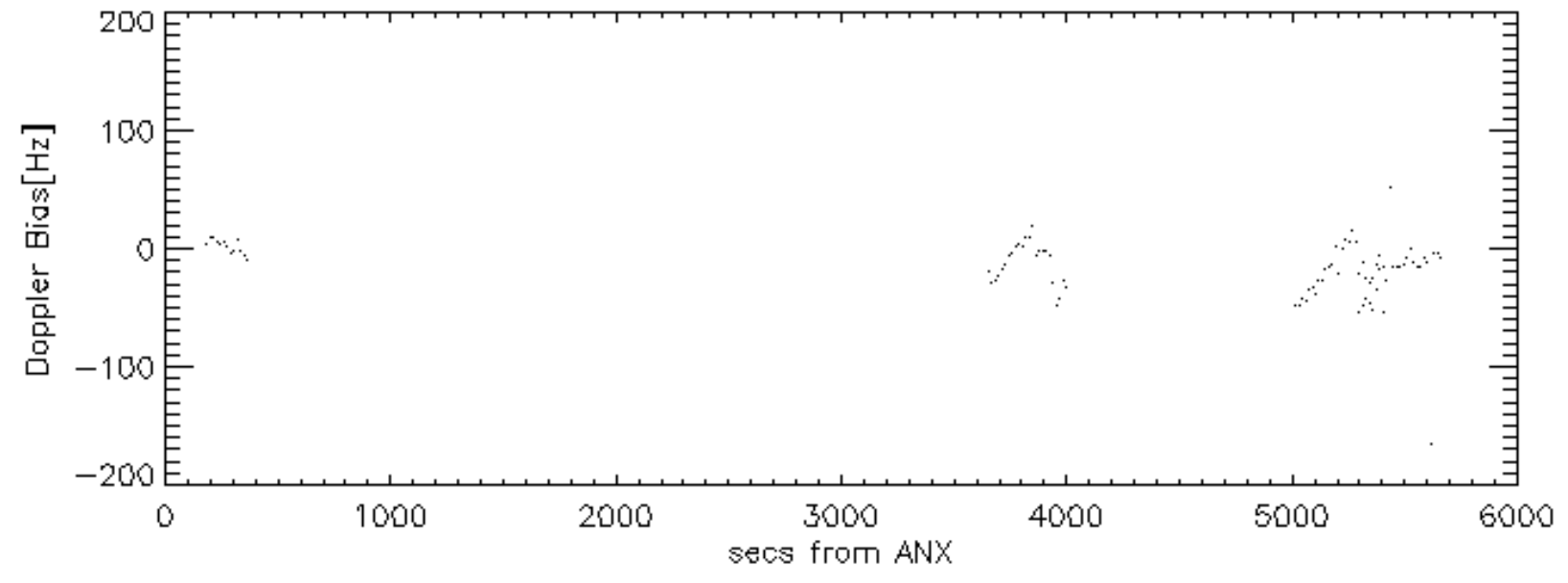
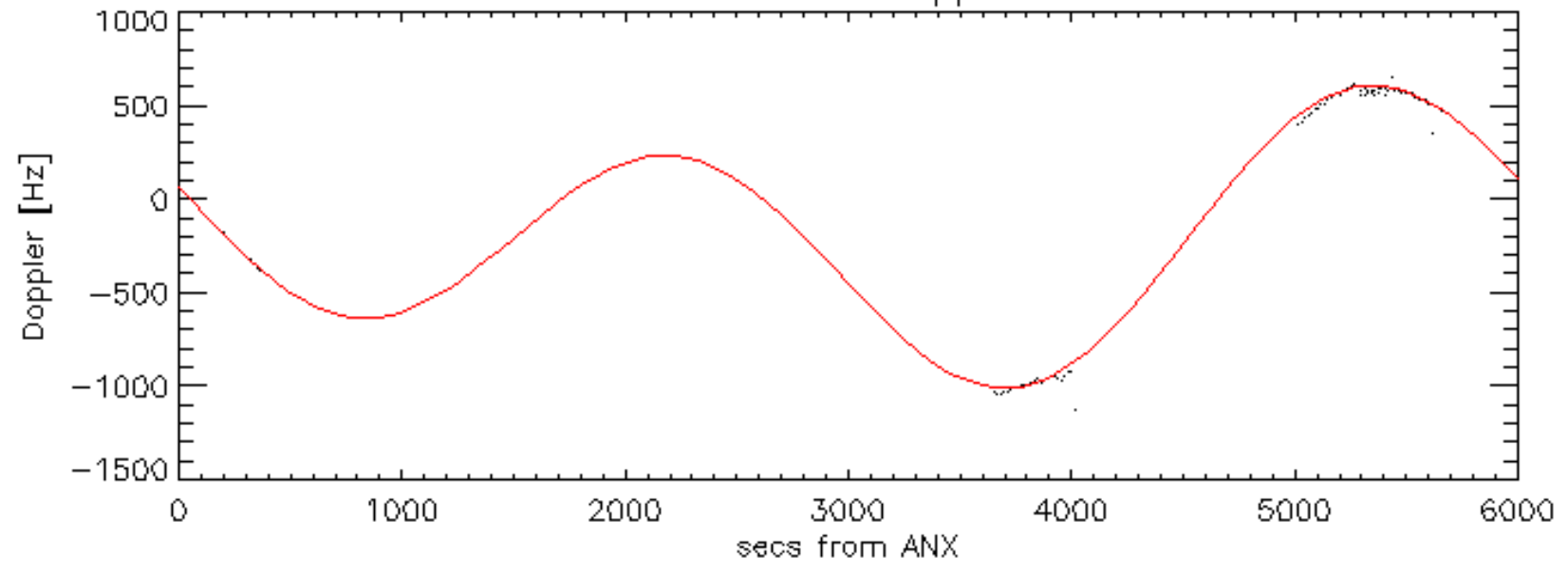


Doppler 'WVS' 'IS2' descending



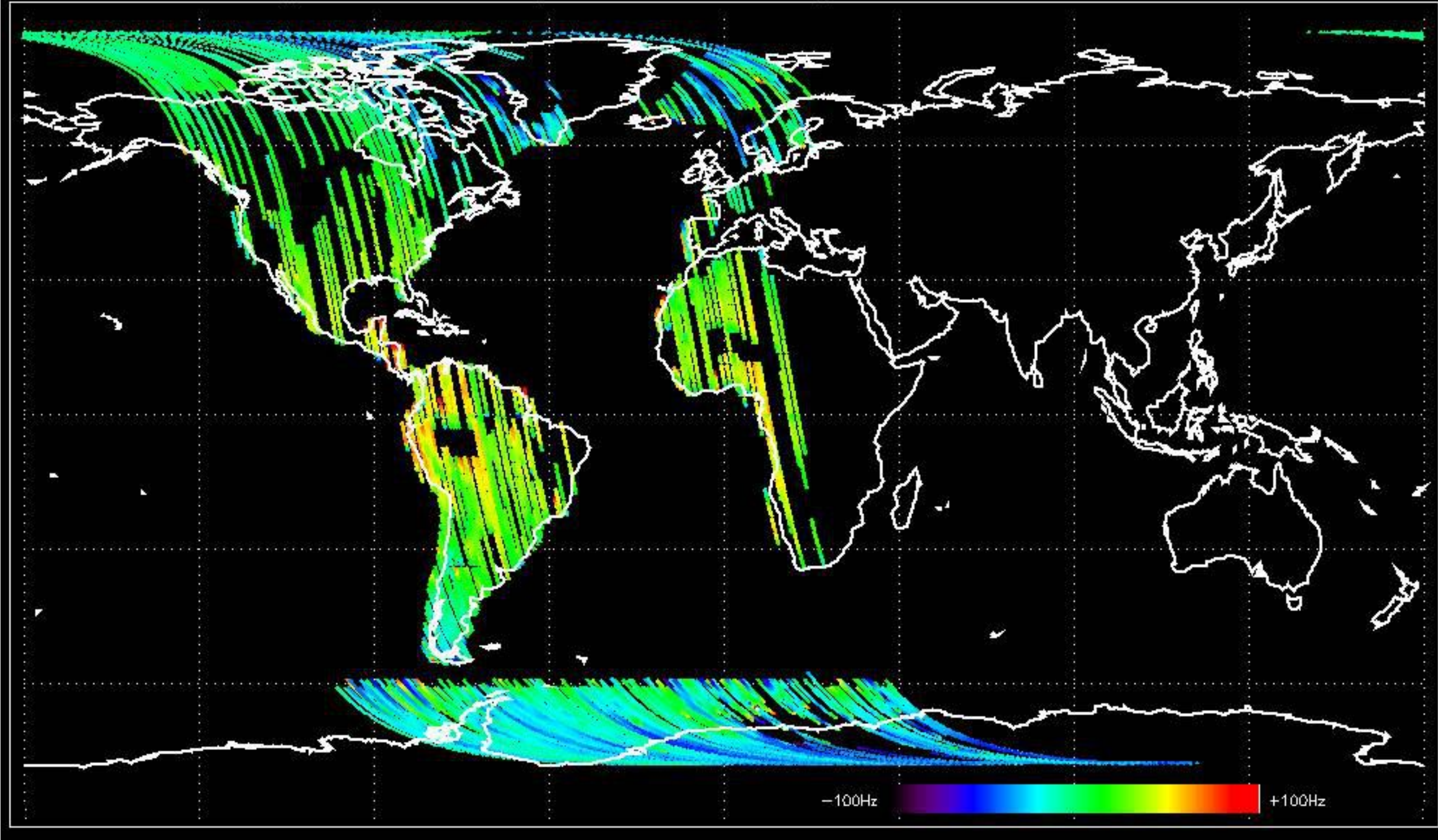


WVS mode doppler



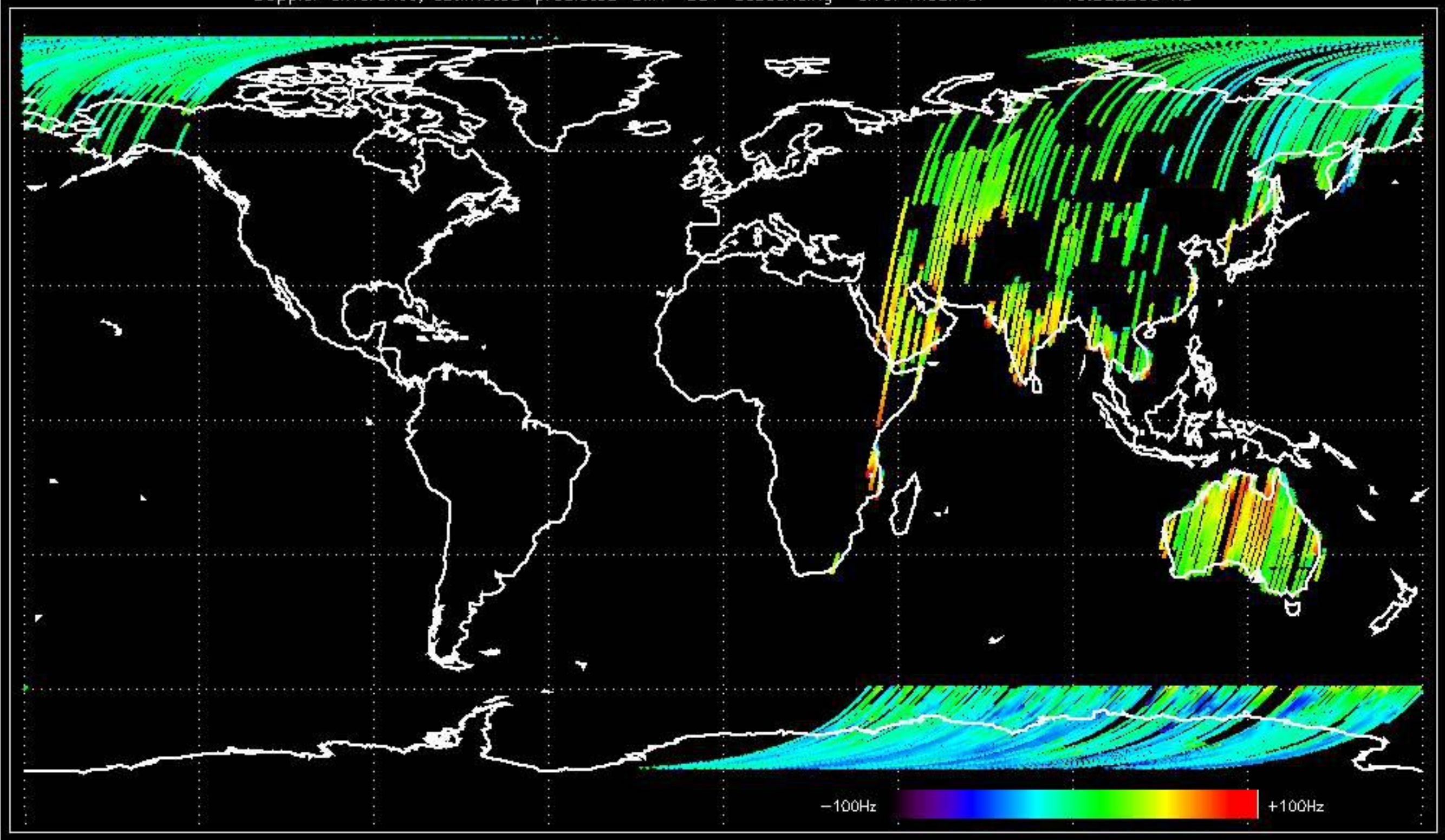


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -14.179851 Hz



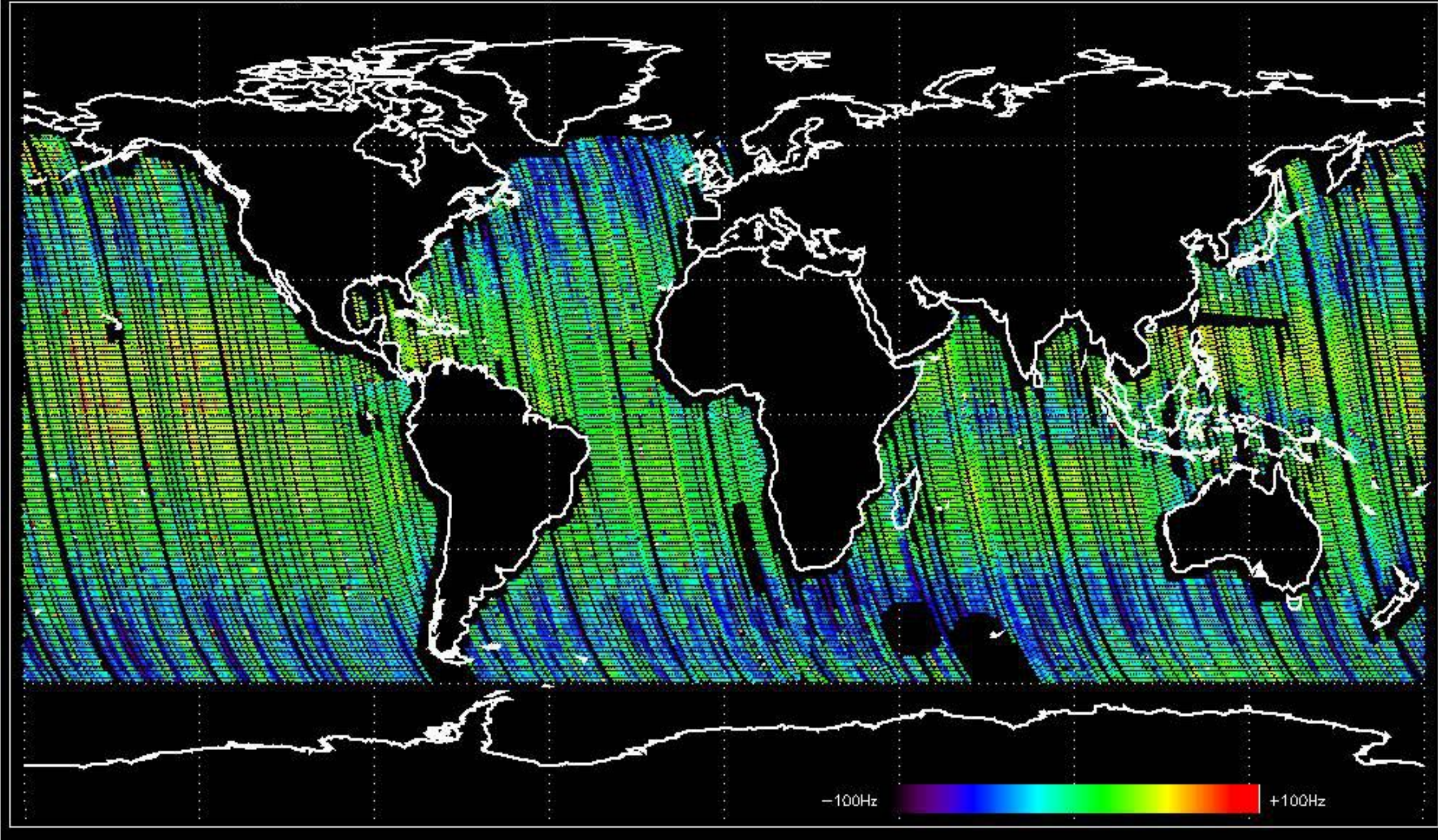


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -18.852599 Hz



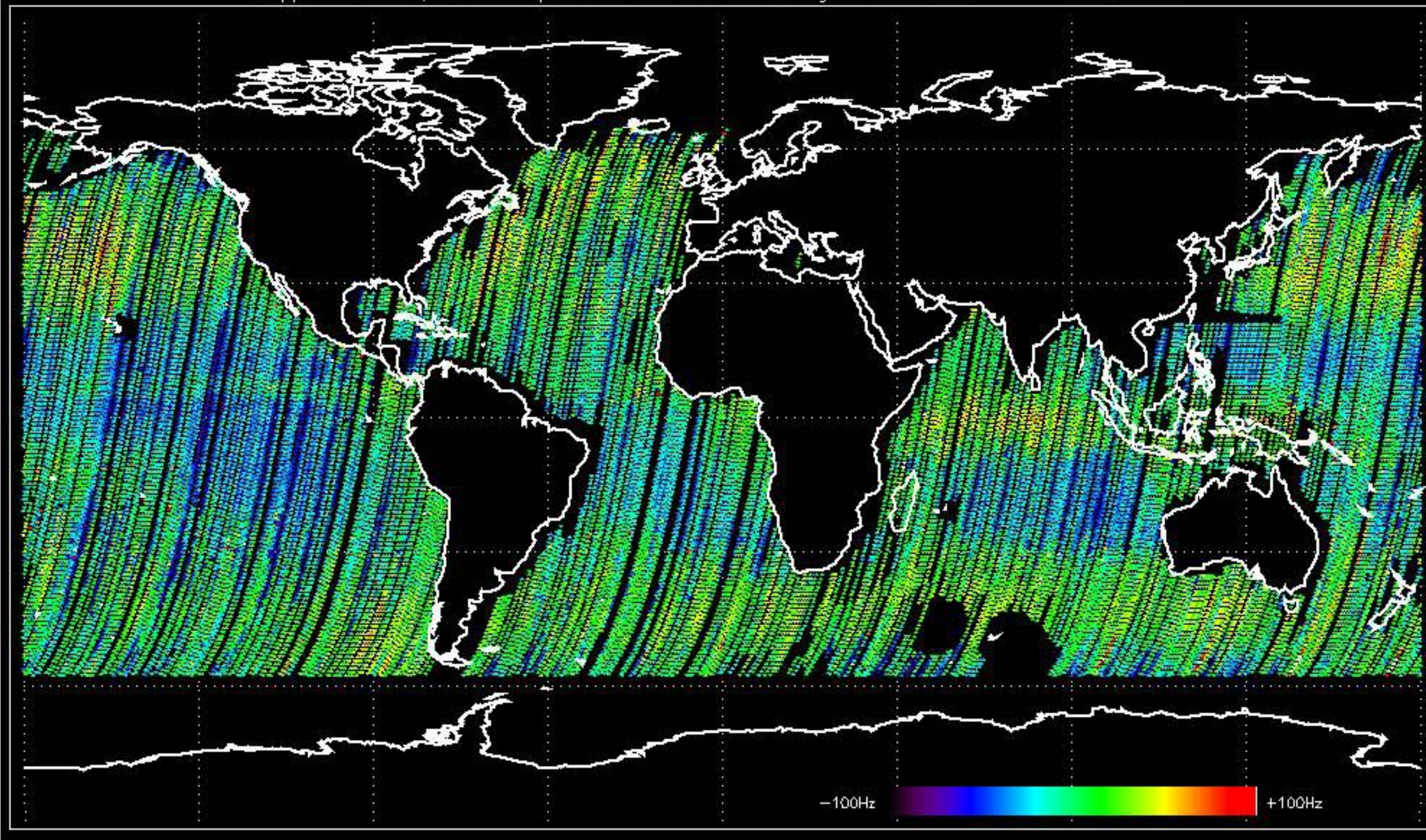


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -11.655159 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -15.175341 Hz





No anomalies observed on available MS products:

No anomalies observed.









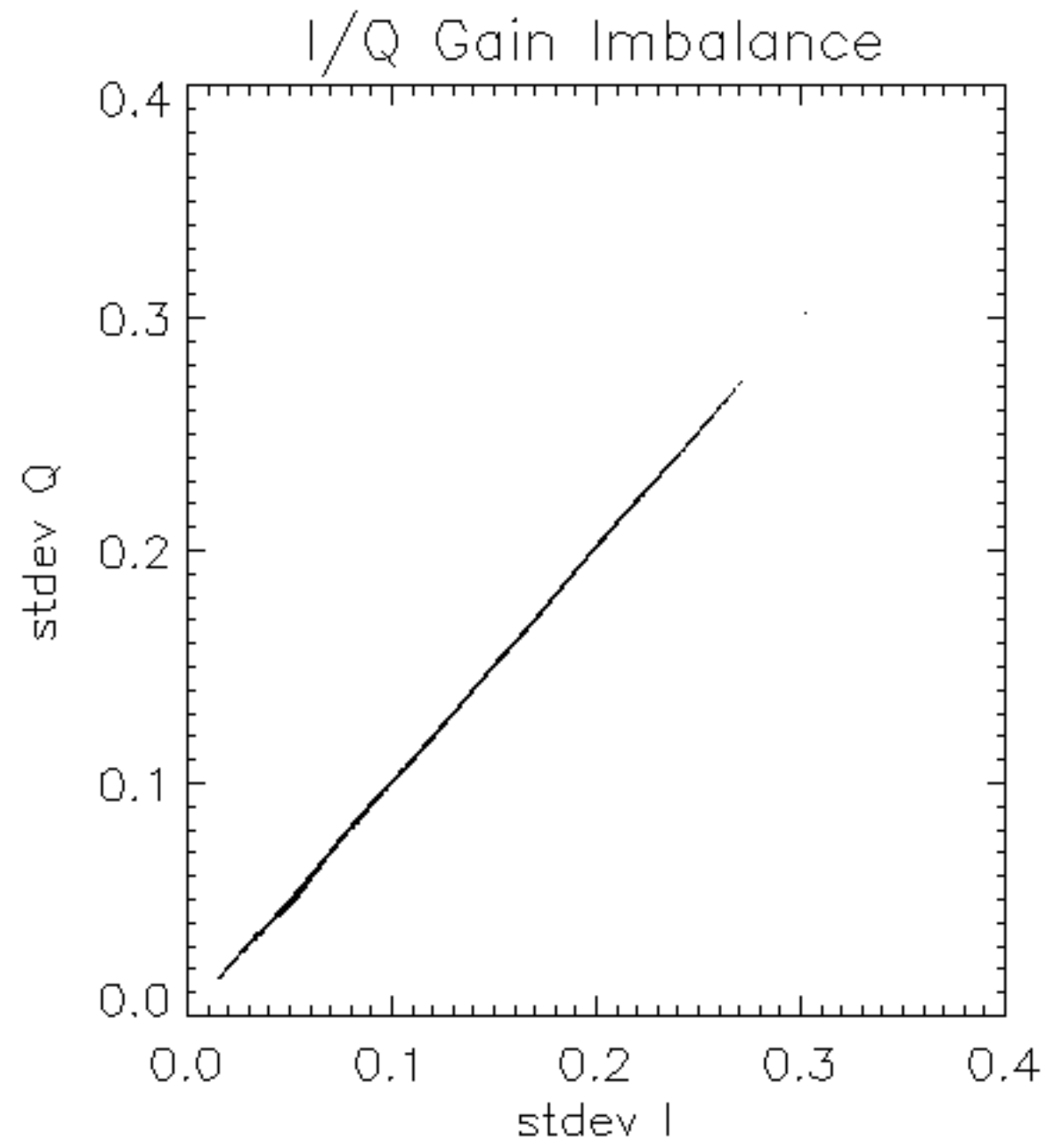


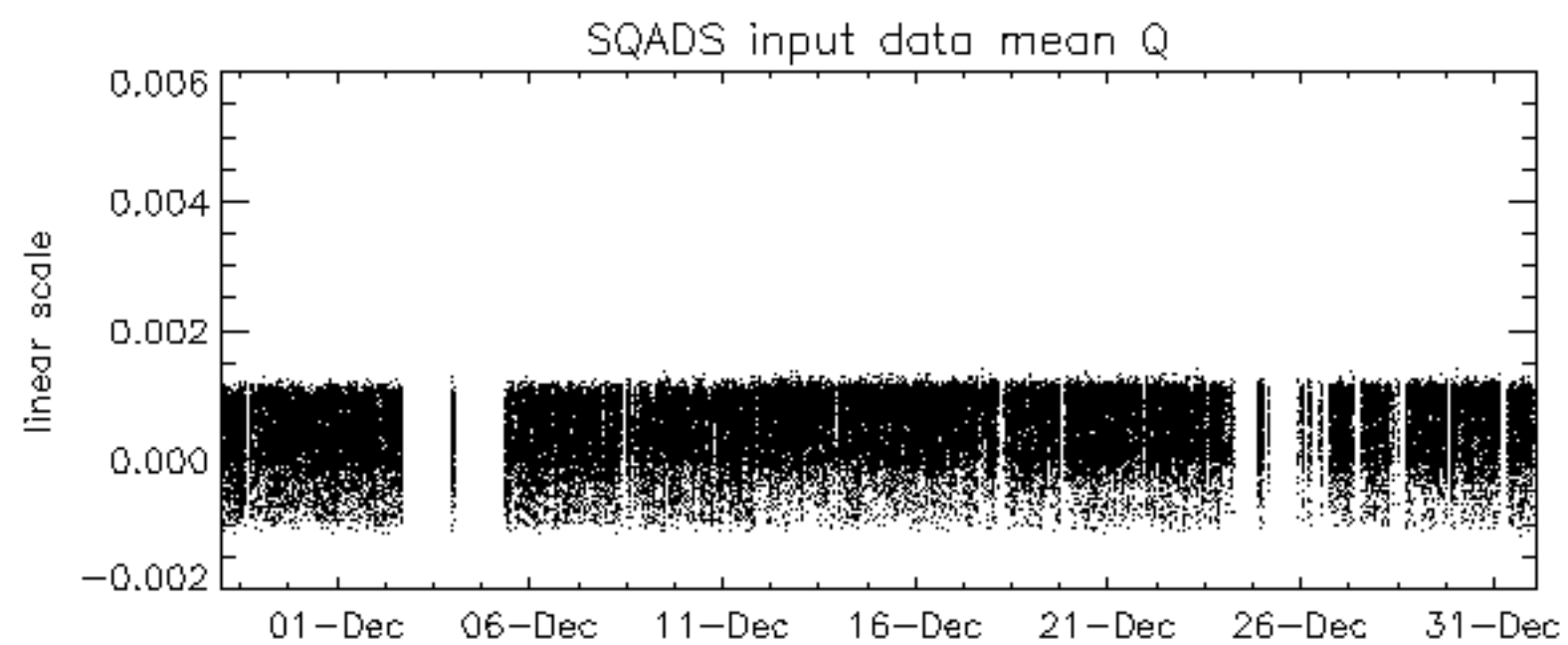
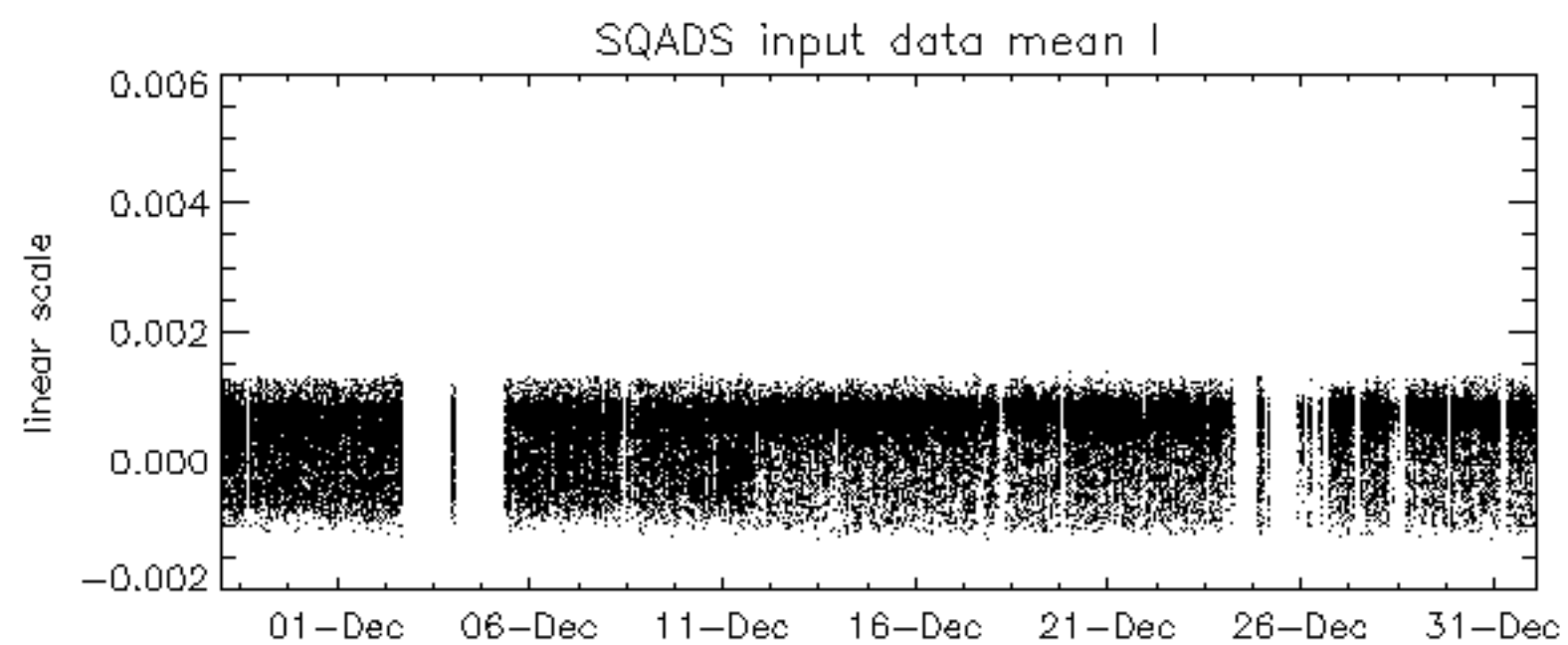
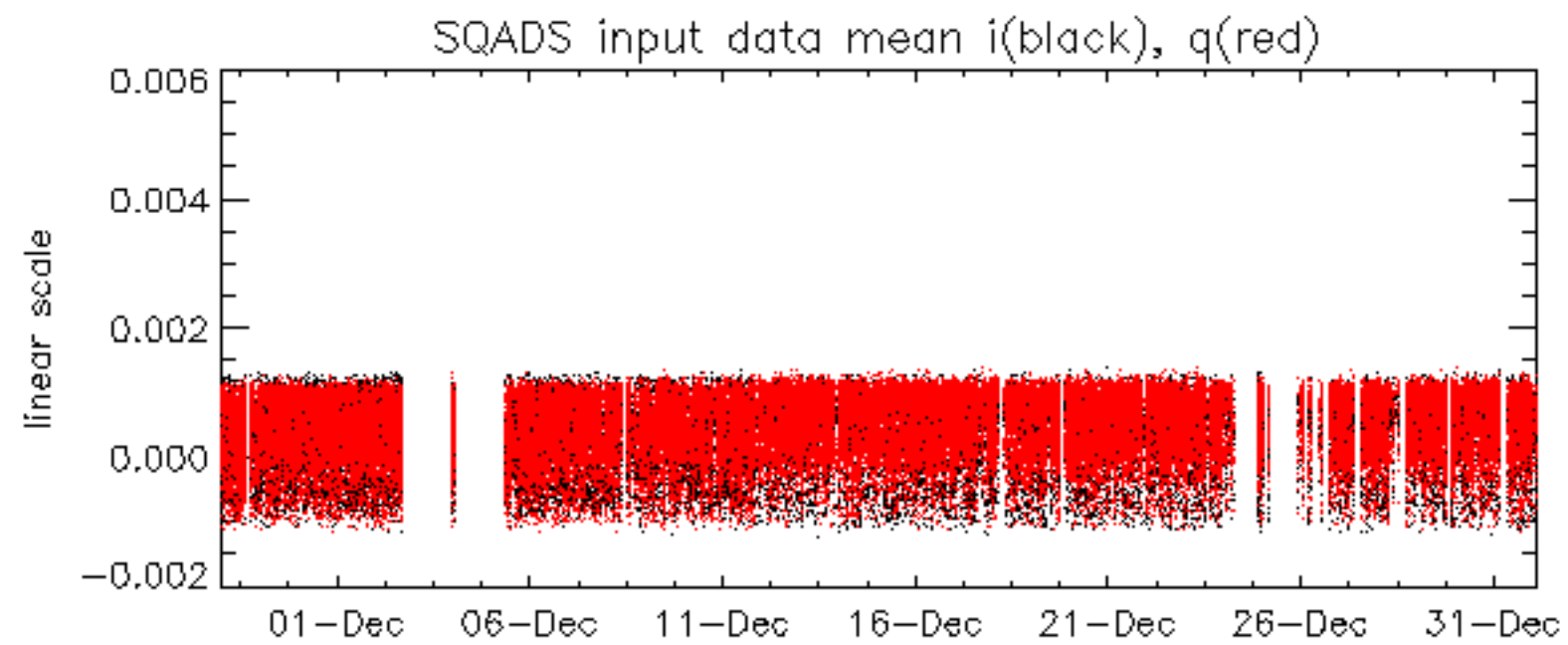


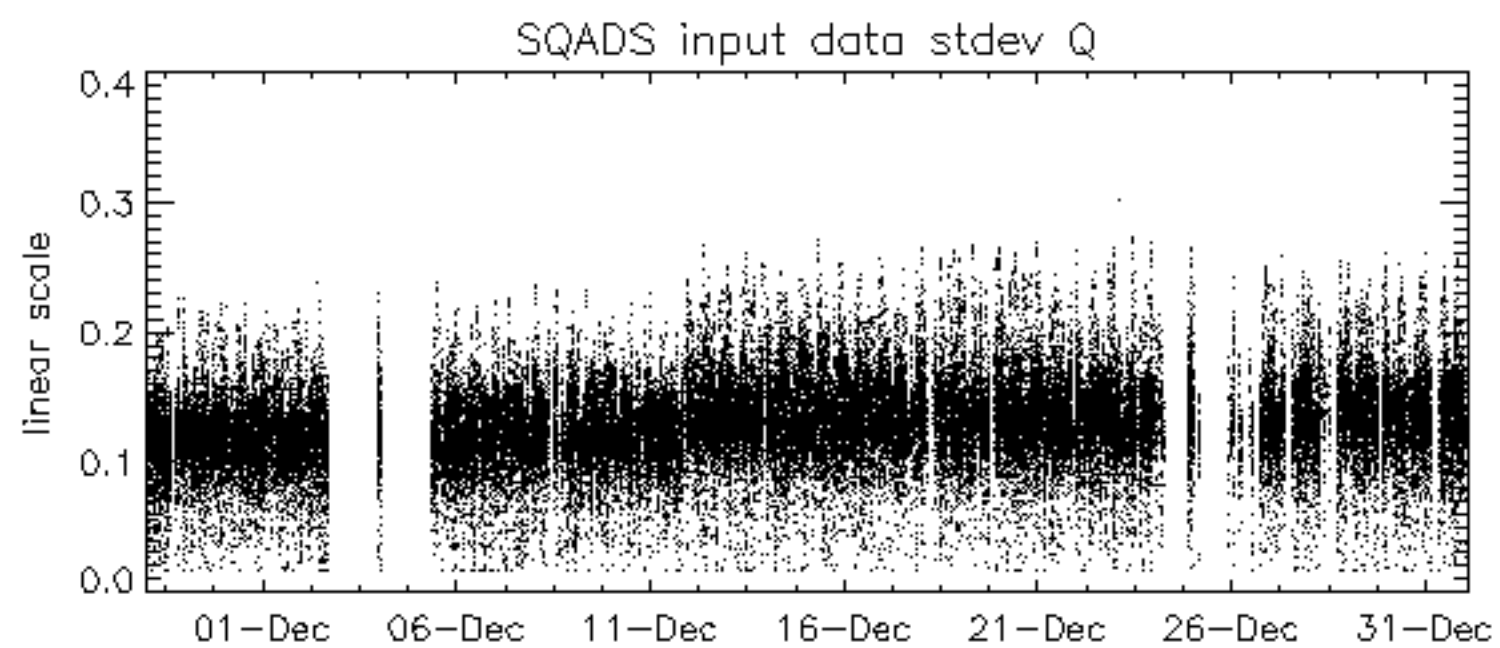
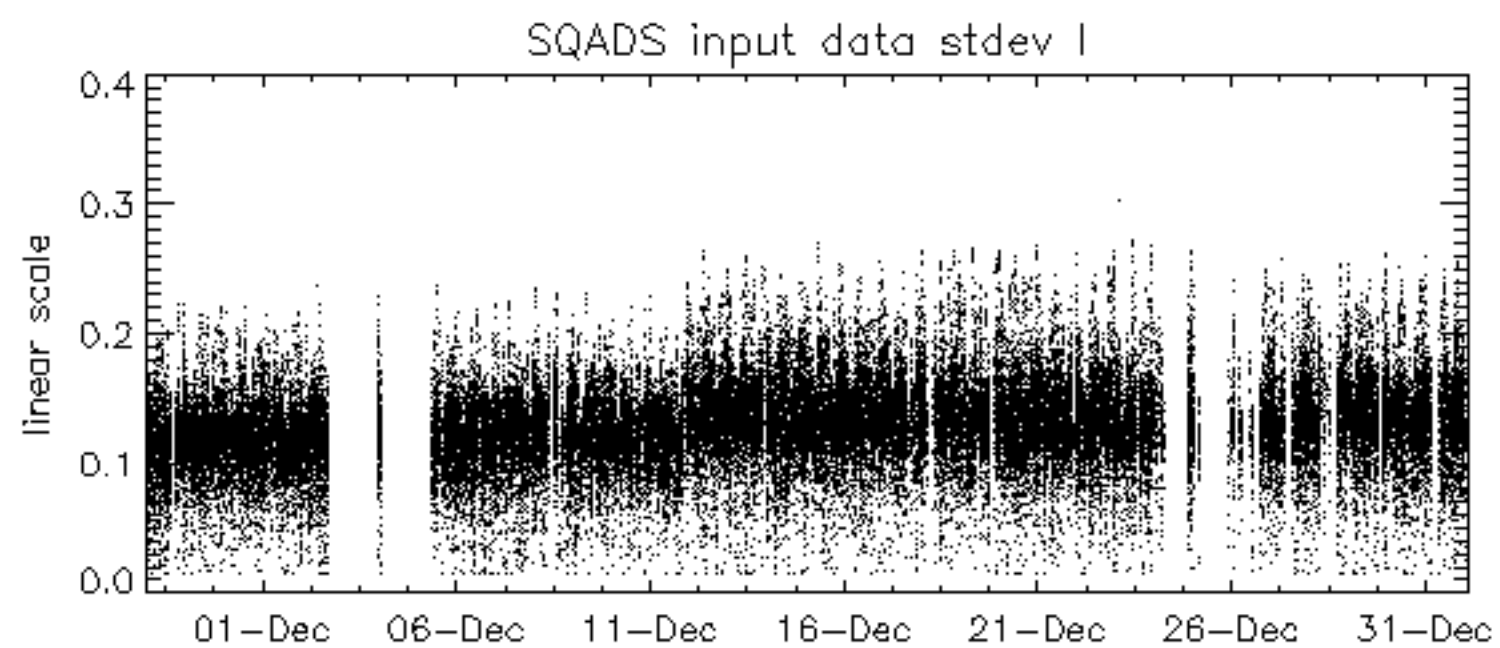
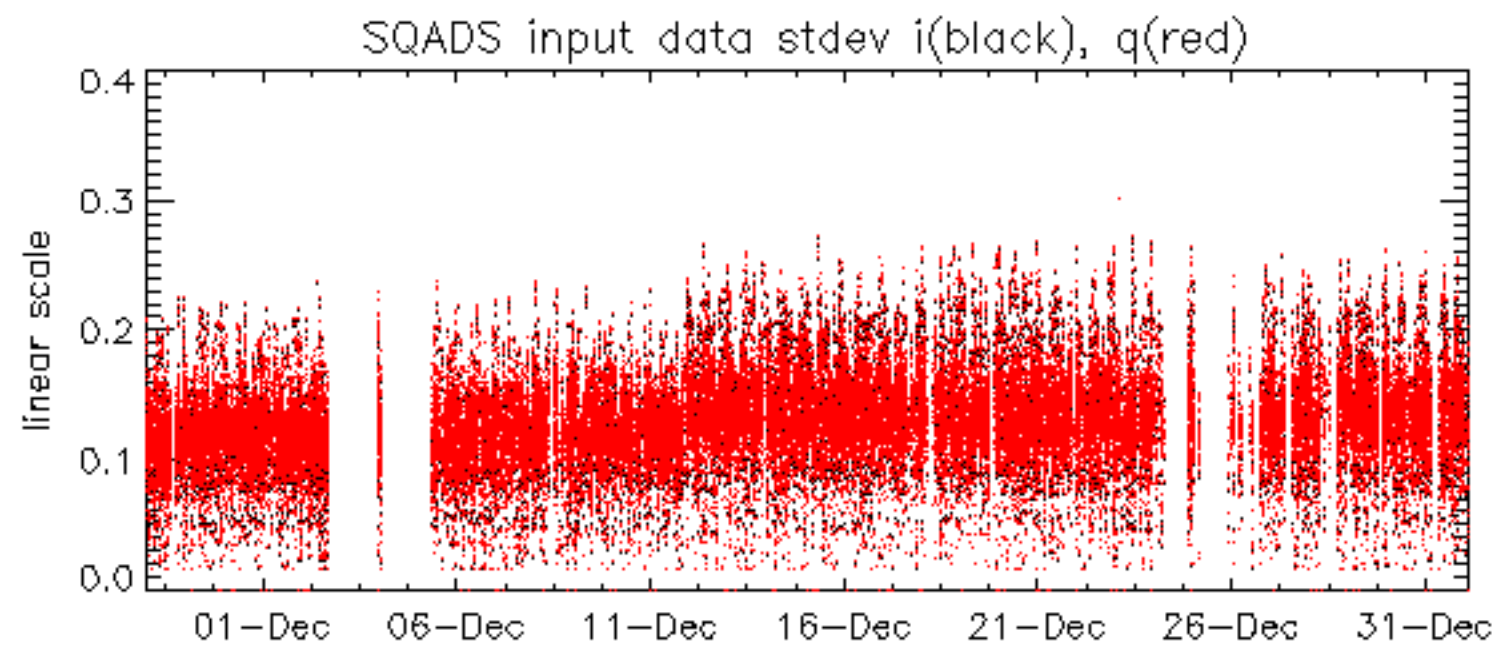


















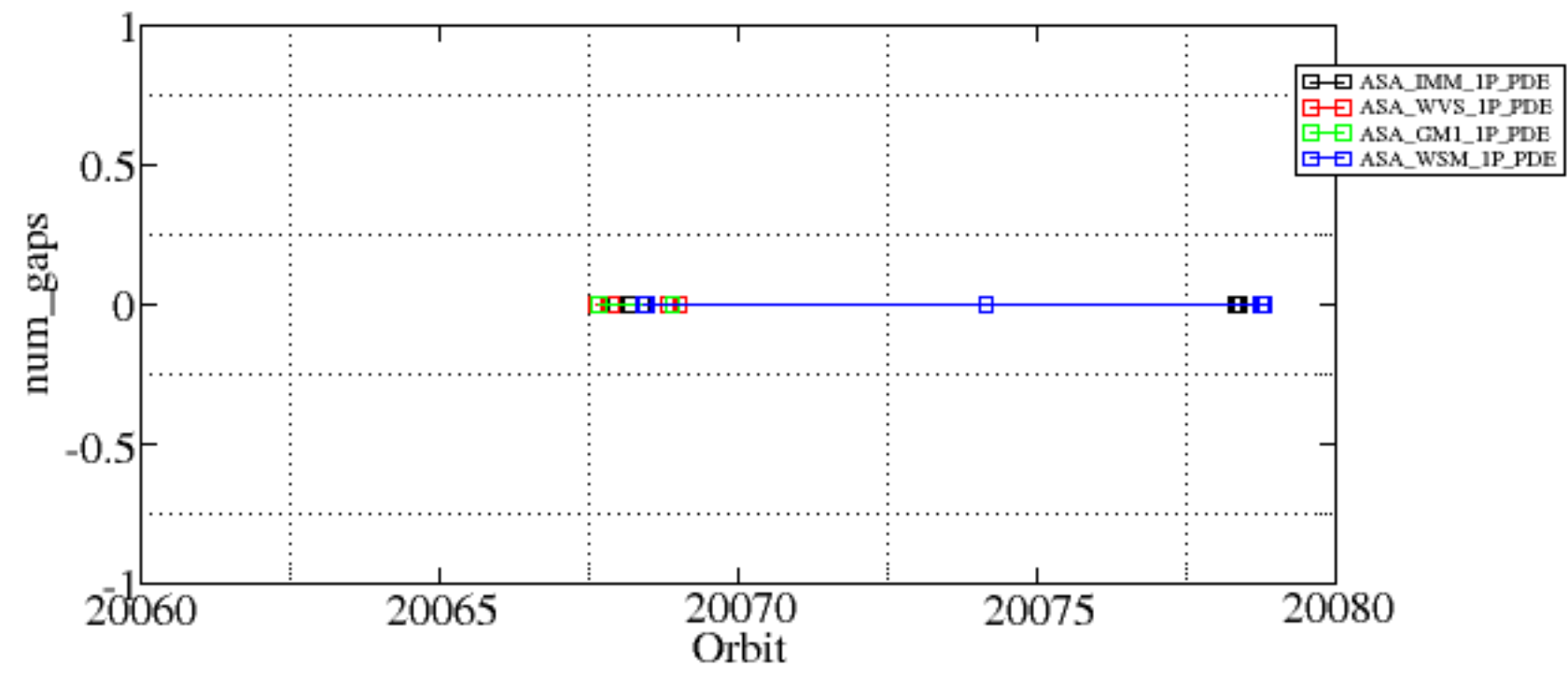


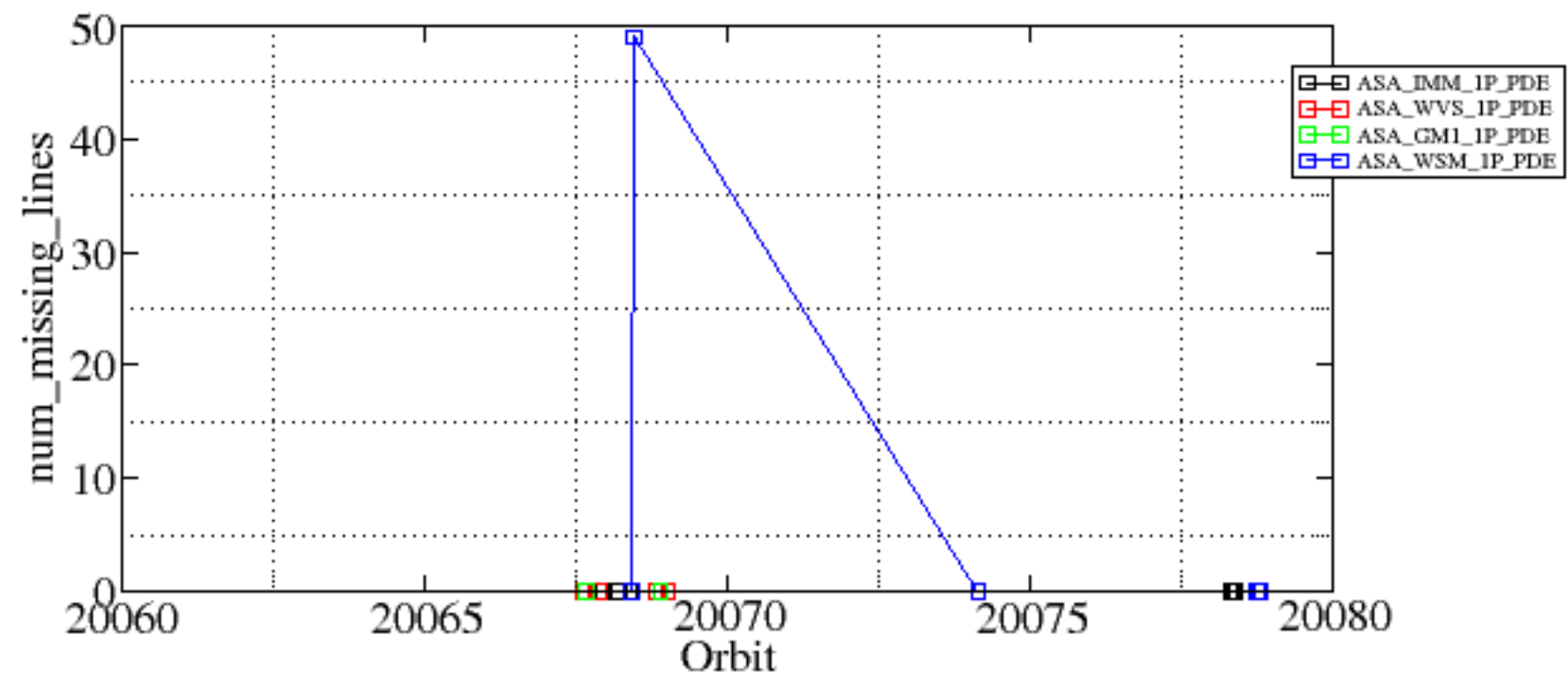


Summary of analysis for the last 3 days 2006010[112]

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_WSM_1PNPDE20060101_012925_000004582043_00475_20068_6595.N1	0	49







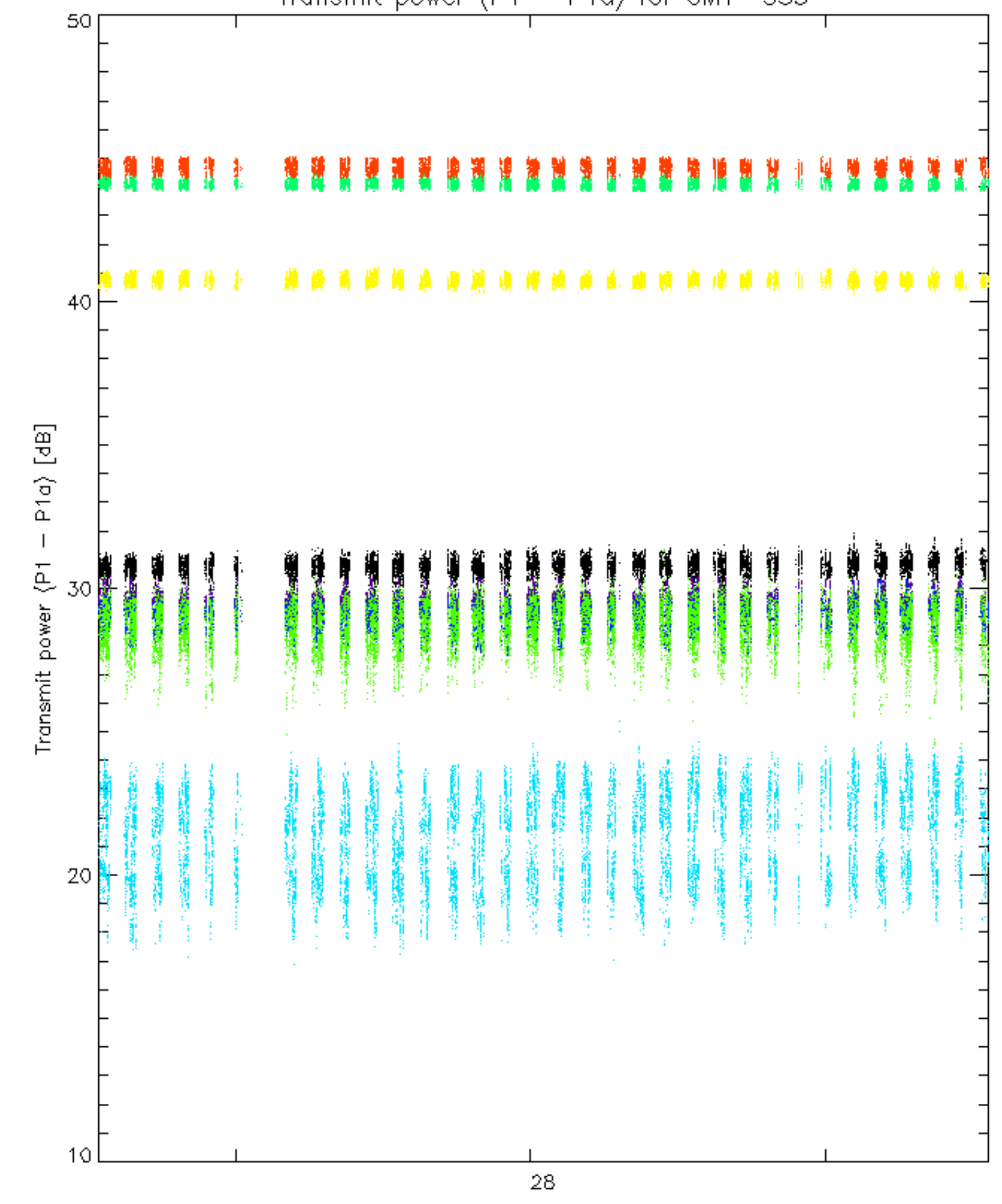






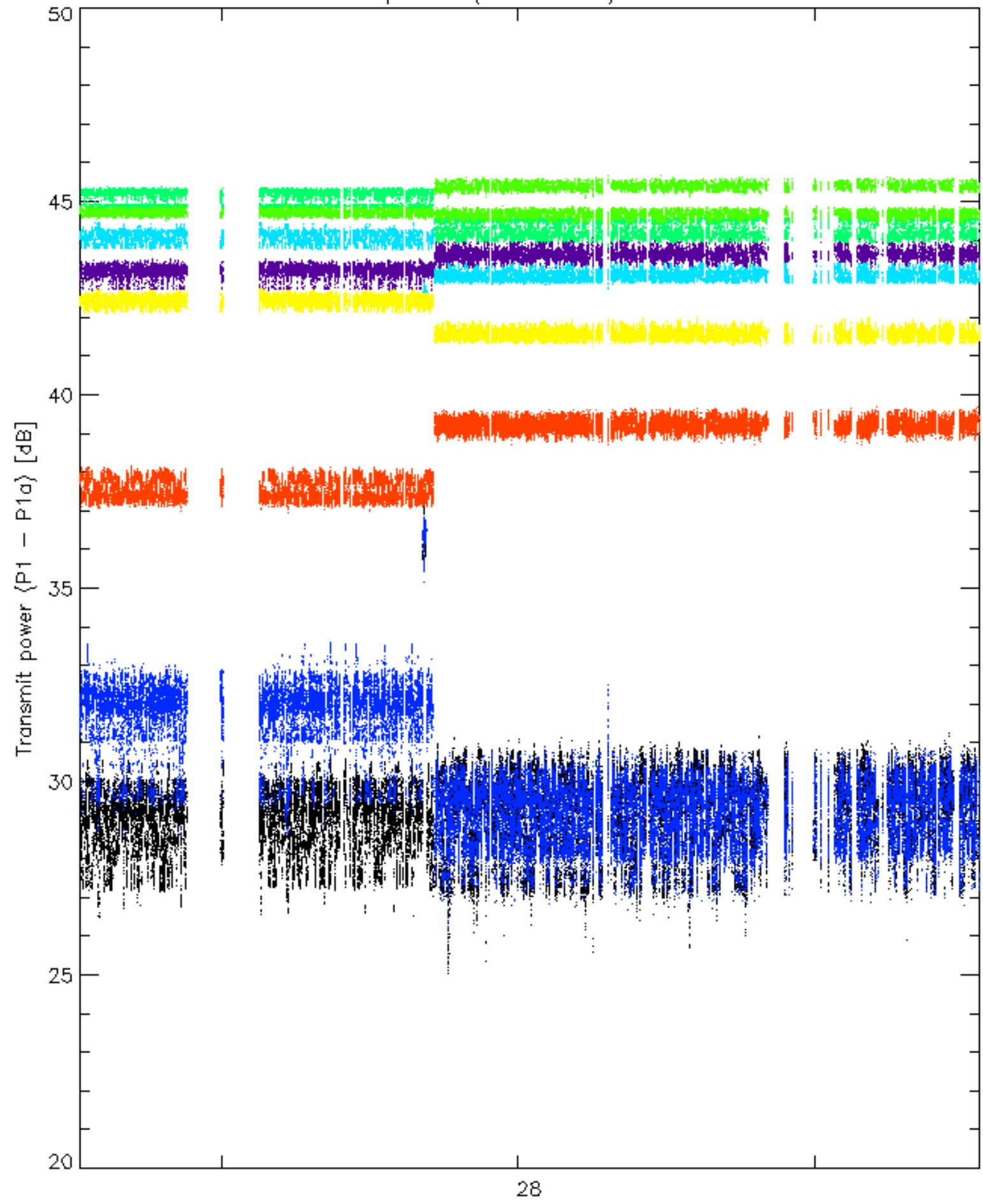


Transmit power (P1 - P1a) for GM1 SS3



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

Transmit power (P1 - P1a) for WVS IS2



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

No unavailabilities during the reported period.