

# PRELIMINARY REPORT OF 051216

last update on Fri Dec 16 16:44:03 GMT 2005

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 2005-12-15 00:00:00 to 2005-12-16 16:44:03

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	40	0	14	0	15
ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	40	0	14	0	15
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	40	0	14	0	15
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	40	0	14	0	15

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	41	55	28	15	49
ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	41	55	28	15	49
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	41	55	28	15	49
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	41	55	28	15	49

### 2.3 - Browse Visual Inspection

No anomalies observed on available browse products

### 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	20051214 043733
H	20051215 040556

### 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
☒	☒
☒	☒
☒	☒
☒	☒

## 4 - Internal calibration Results

No anomalies observed.

### 4.1 - Daily statistics

#### 4.1.1 - Evolution for WVS

Evolution of cal pulses for WVS
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☒

#### 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	-3.592090	0.219295	0.131854
7	P1	-2.754051	0.126073	0.487537
11	P1	-4.150939	0.031263	-0.039522
15	P1	-5.119015	1.717677	1.987110
19	P1	-3.037786	0.062418	0.334402
22	P1	-4.438493	0.021467	0.115419
26	P1	-4.397950	0.059825	-0.320643
30	P1	-5.654737	0.033728	0.224727
3	P1	-15.379463	2.337924	0.649782
7	P1	-15.313272	2.630370	2.380020
11	P1	-16.316137	0.471143	0.579719
15	P1	-12.797202	1.008115	1.525621
19	P1	-13.421290	0.345829	0.770812
22	P1	-16.042345	0.628210	0.638101
26	P1	-15.125897	1.111298	1.539662
30	P1	-15.596718	2.458350	2.271284

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.860353	0.107926	0.052491
7	P2	-22.553846	0.104575	0.022967
11	P2	-16.574554	0.122275	0.014345
15	P2	-7.280270	0.103539	-0.040231
19	P2	-9.221339	0.101354	0.030988
22	P2	-17.866499	0.110217	0.076289
26	P2	-16.364389	0.132238	-0.318752
30	P2	-19.788483	0.118522	-0.229816

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.235766	0.007374	-0.013180
7	P3	-8.235766	0.007374	-0.013180
11	P3	-8.235766	0.007374	-0.013180
15	P3	-8.235766	0.007374	-0.013180
19	P3	-8.235766	0.007374	-0.013180
22	P3	-8.235766	0.007374	-0.013180
26	P3	-8.235766	0.007374	-0.013180
30	P3	-8.235766	0.007374	-0.013180

**4.2.2 - Evolution for GM1**

Evolution of cal pulses for GM1

**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	-3.697316	0.007955	-0.018048
7	P1	-2.778728	0.011465	0.027577
11	P1	-2.878025	0.014468	-0.003861
15	P1	-3.403117	0.021480	-0.017316
19	P1	-3.385641	0.013533	-0.020558
22	P1	-5.120827	0.019531	-0.010906
26	P1	-5.833511	0.016239	-0.039516
30	P1	-5.275878	0.033264	-0.015339
3	P1	-11.469087	0.042366	-0.025704
7	P1	-9.971296	0.045652	-0.003690
11	P1	-10.053596	0.061066	-0.010476
15	P1	-10.569860	0.081653	0.047052
19	P1	-15.511714	0.073773	-0.045036
22	P1	-20.953930	0.964936	-0.123692

26	P1	-17.200304	0.305176	0.061219
30	P1	-18.308205	0.311989	0.183208

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.634472	0.030475	0.055529
7	P2	-23.056858	0.060315	-0.026011
11	P2	-11.647002	0.021640	0.110204
15	P2	-4.984461	0.021605	-0.040853
19	P2	-6.962966	0.022147	-0.037020
22	P2	-8.187528	0.023396	-0.061609
26	P2	-24.049170	0.031591	-0.035132
30	P2	-22.120514	0.019723	-0.047044

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.075684	0.002437	-0.011267
7	P3	-8.075753	0.002447	-0.011090
11	P3	-8.075767	0.002431	-0.011077
15	P3	-8.075747	0.002443	-0.011355
19	P3	-8.075820	0.002448	-0.010982
22	P3	-8.075788	0.002445	-0.011103
26	P3	-8.075676	0.002418	-0.011706
30	P3	-8.075468	0.002440	-0.010955

## 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	0.000464081
	stdev	2.16763e-07
MEAN Q	mean	0.000482579
	stdev	2.36961e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.128992
	stdev	0.00107043
STDEV Q	mean	0.129276
	stdev	0.00108229



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005121[456]

The assumptions 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_1PNPDE20051214_004627_000001012043_00217_19810_3913.N1	1	0
ASA_IMM_1PNPDE20051216_004204_000002002043_00245_19838_4039.N1	1	0
ASA_WSM_1PNPDE20051214_110145_000000672043_00223_19816_4200.N1	0	3
ASA_WSM_1PNPDE20051214_141859_000002072043_00225_19818_4318.N1	0	72
ASA_WSM_1PNPDE20051214_183928_000000672043_00228_19821_4365.N1	0	13



ASA_WSM_1PNPDE20051215_134913_000000672043_00239_19832_4387.N1	0	61
ASA_WSM_1PNPDE20051215_180902_000001032043_00242_19835_4404.N1	0	34
ASA_WSM_1PNPDE20051215_230839_000001092043_00245_19838_4458.N1	0	13





## 7 - Doppler Analysis

Preliminary report. The data is not yet controlled

### 7.1 - Unbiased Doppler Error for WVS

<b>Evolution of unbiased Doppler error (Real - Expected)</b>

Acsending

Descending

### 7.2 - Absolute Doppler for WVS

<b>Evolution of Absolute Doppler</b>

Acsending

Descending

### 7.3 - Doppler evolution versus ANX for WVS

<b>Evolution Doppler error versus ANX</b>




#### 7.4 - Unbiased Doppler Error for GM1

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

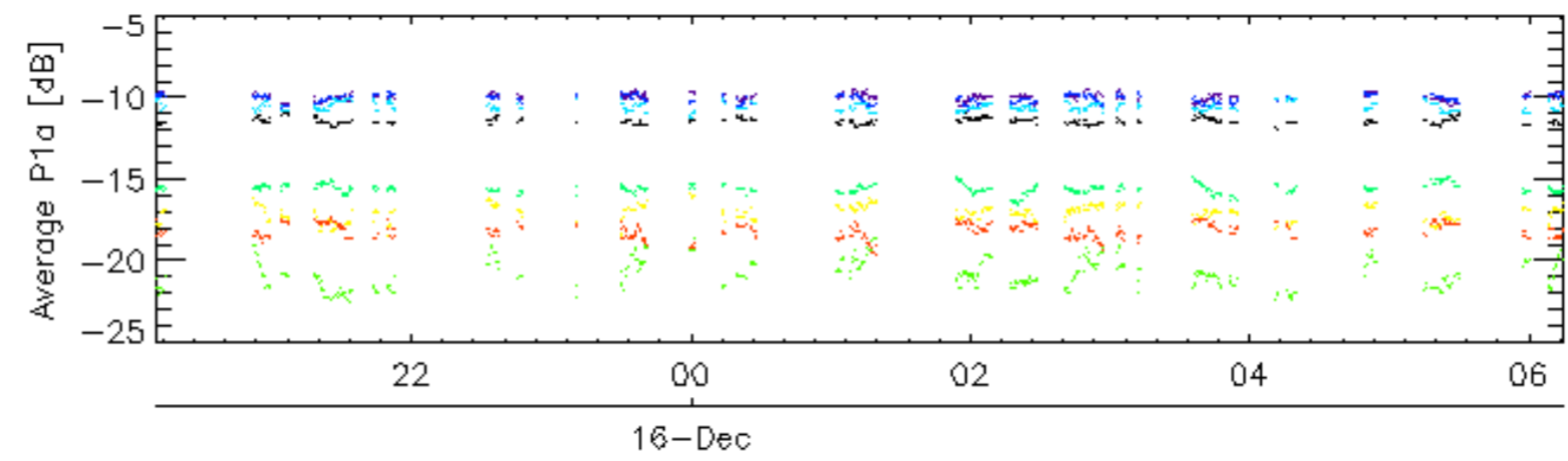
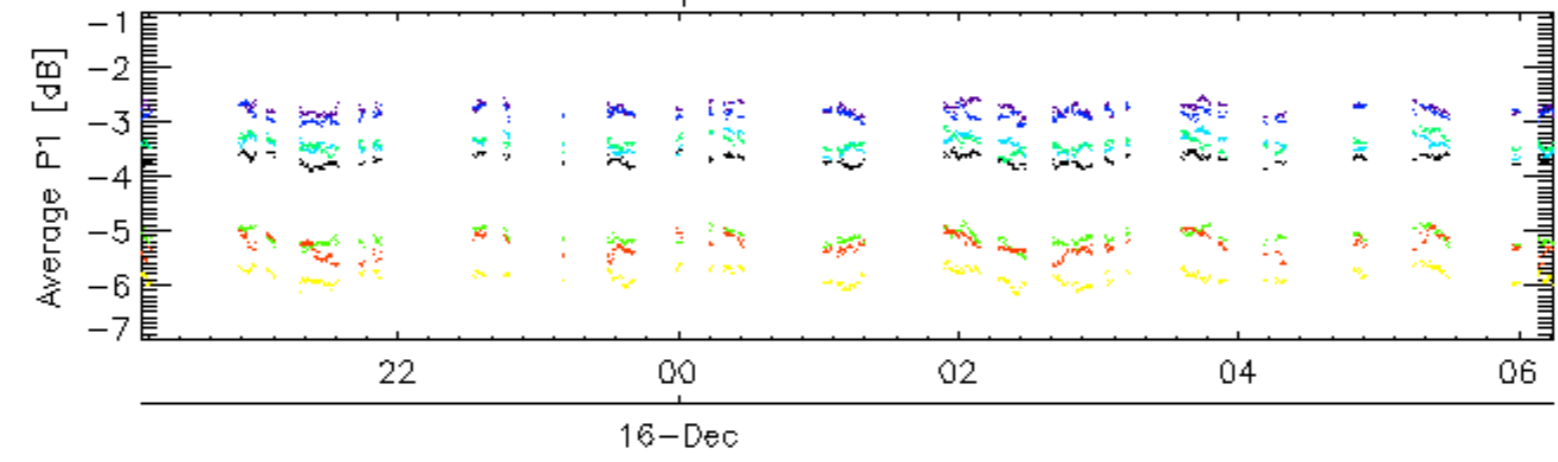
#### 7.5 - Absolute Doppler for GM1

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

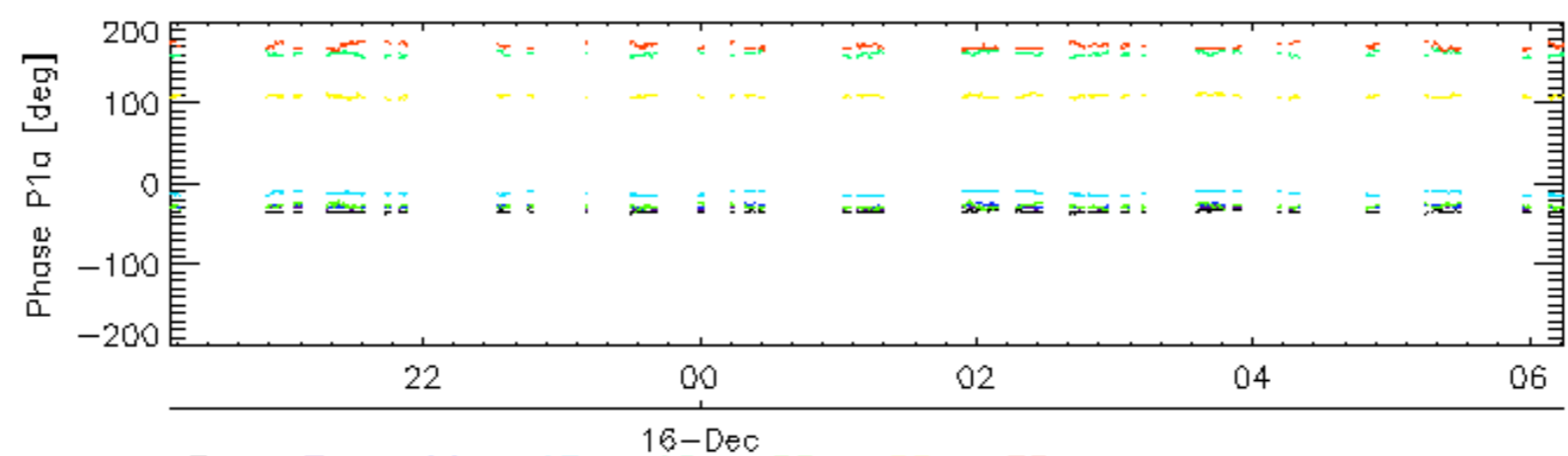
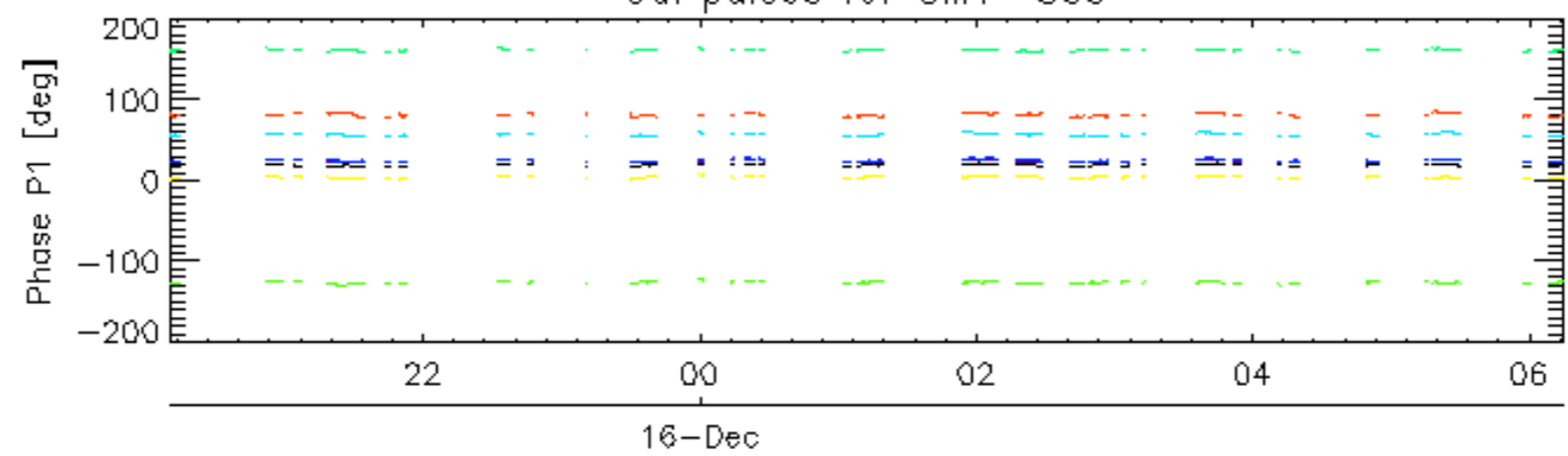
#### 7.6 - Doppler evolution versus ANX for GM1

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

Cal pulses for GM1 SS3

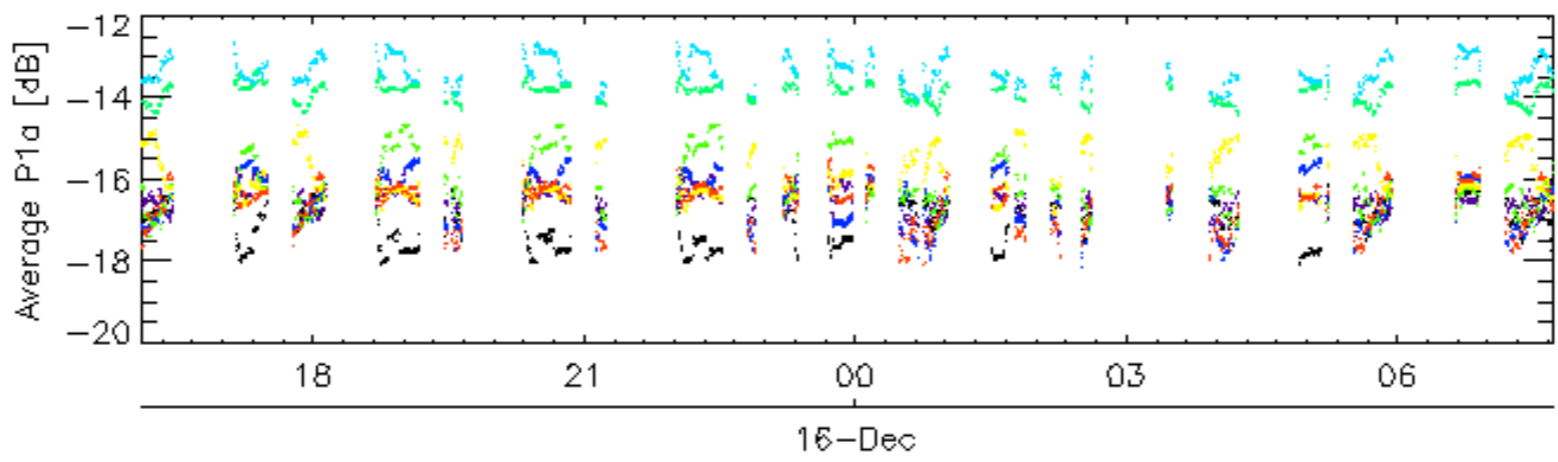
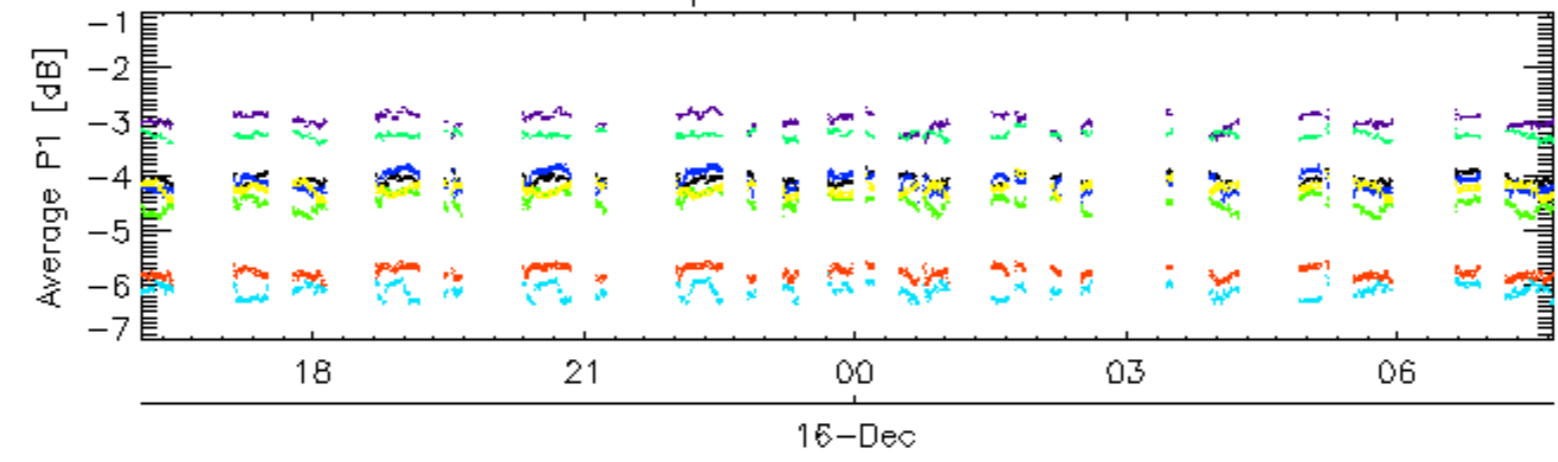


Cal pulses for GM1 SS3

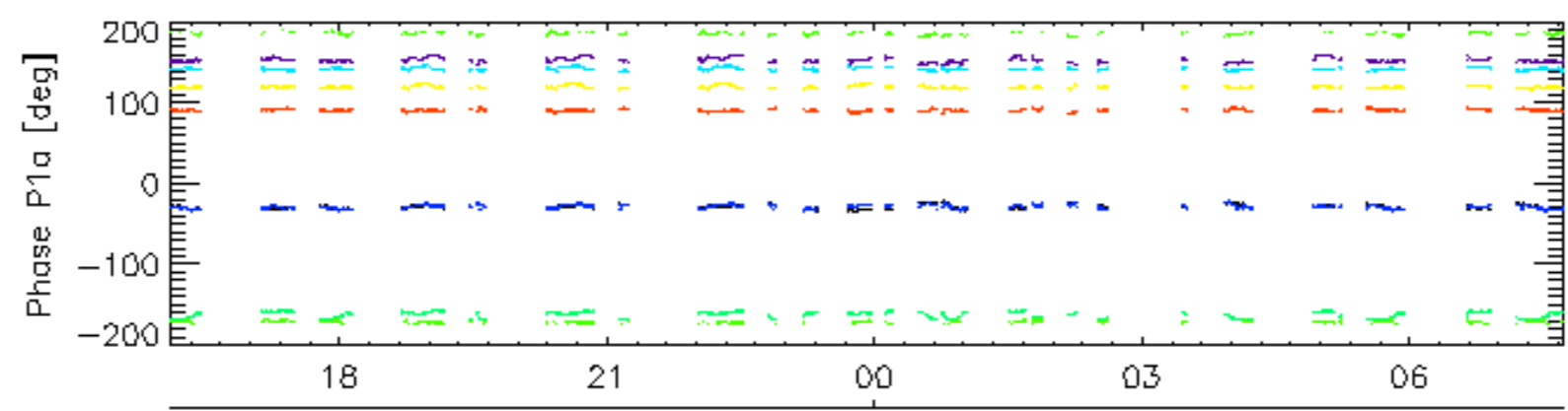
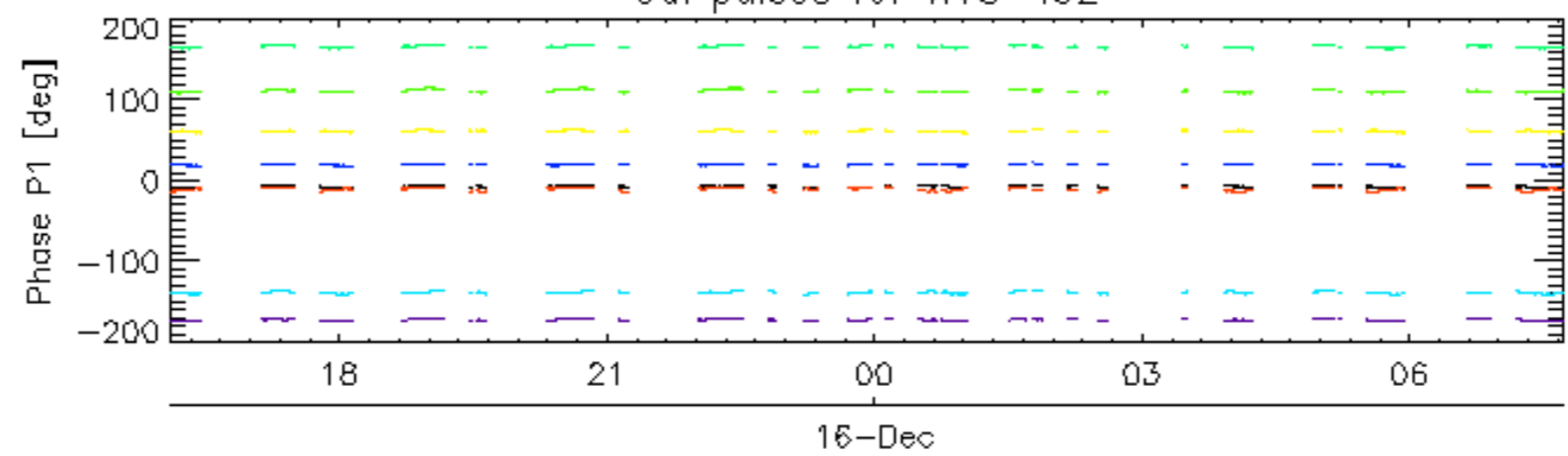


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

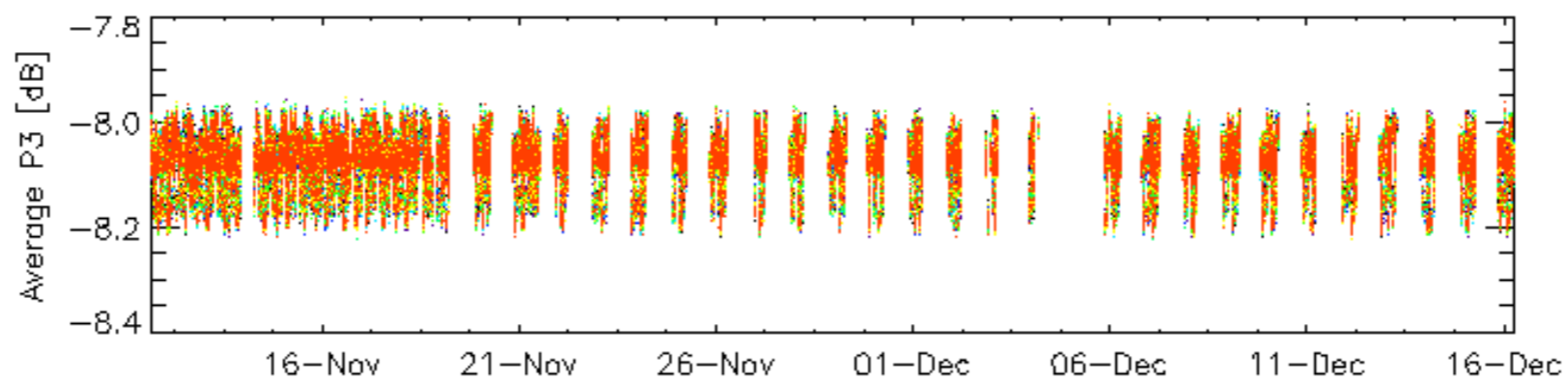
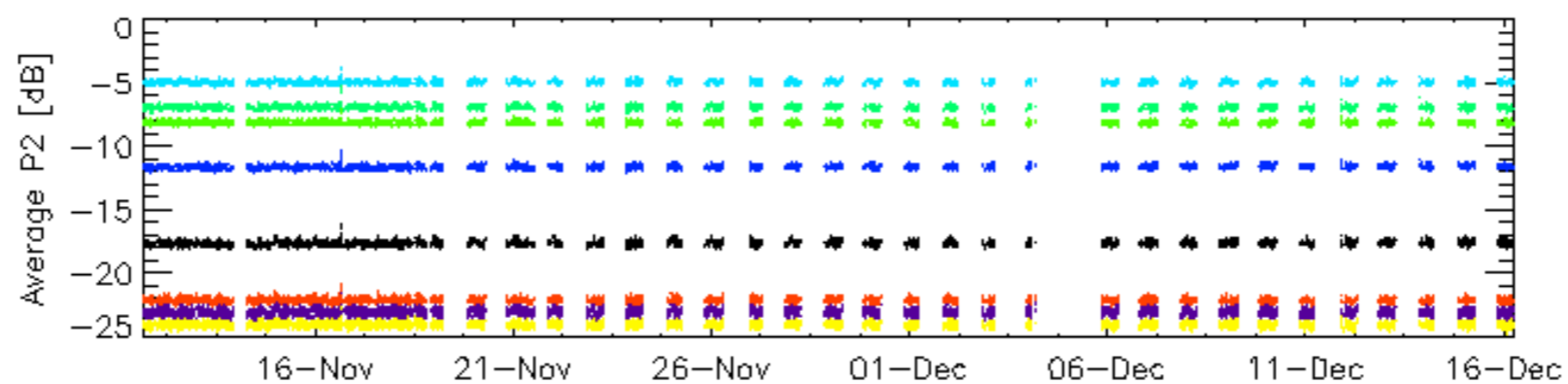
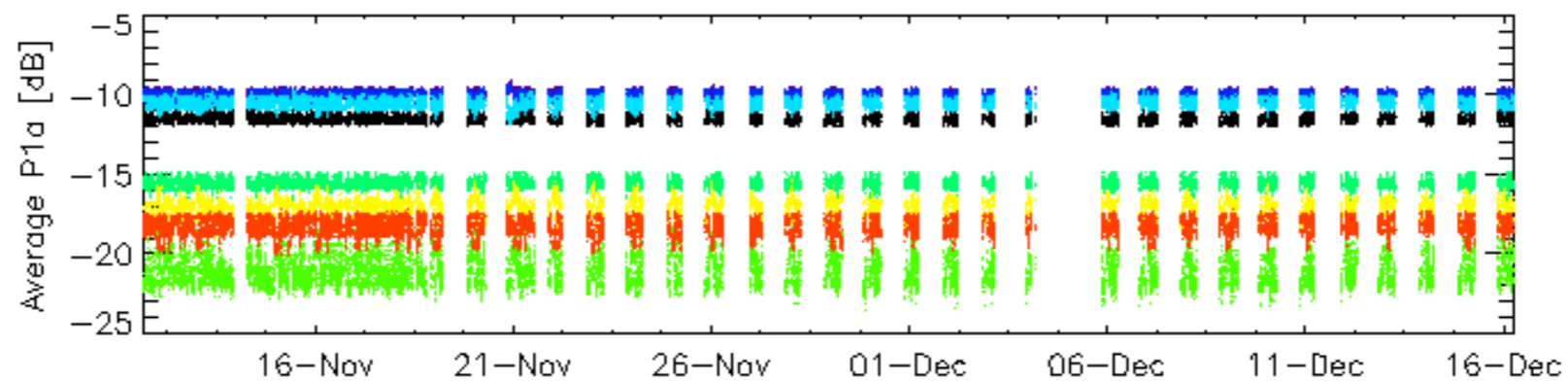
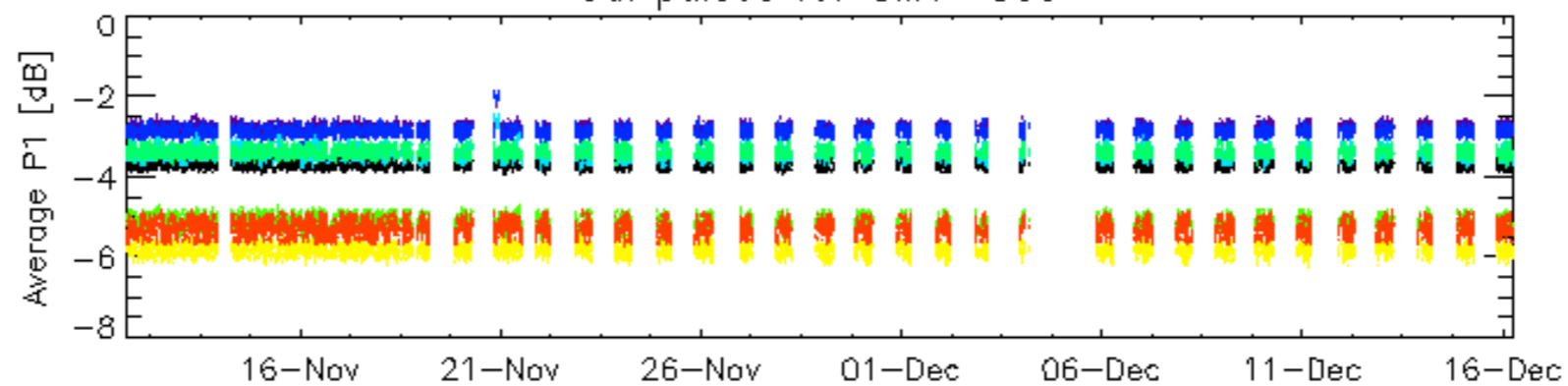


Cal pulses for WVS IS2



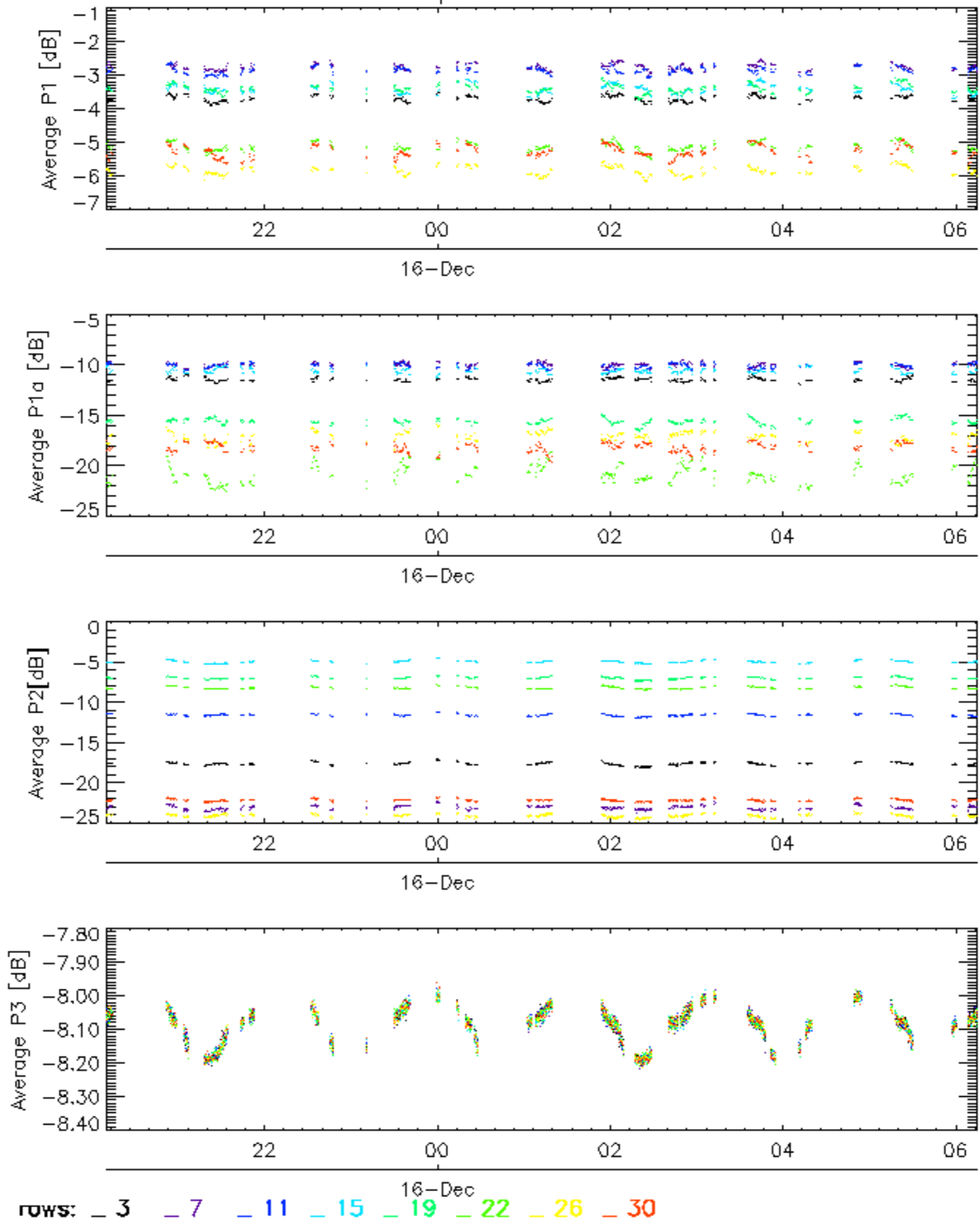
rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for GM1 SS3

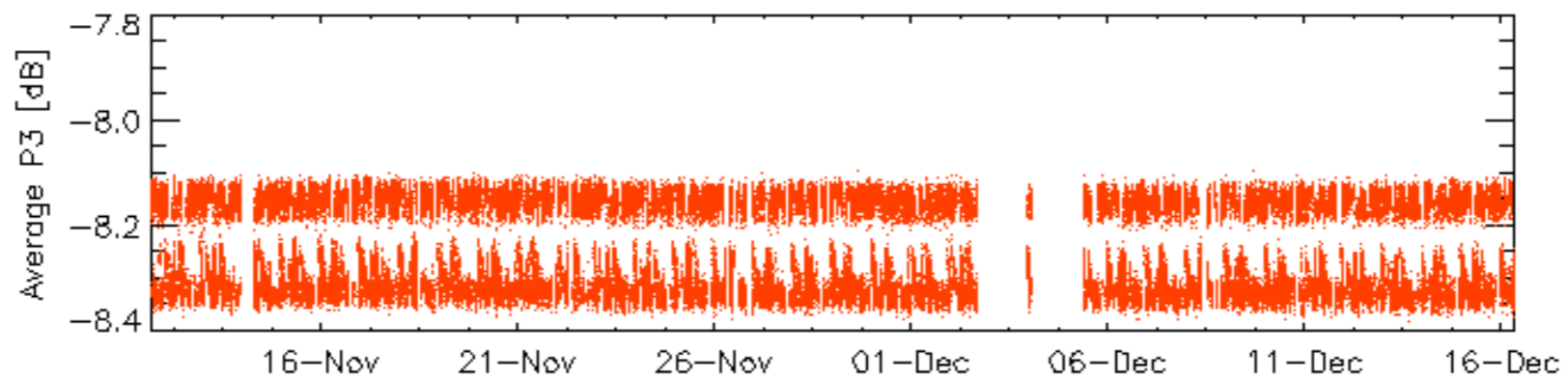
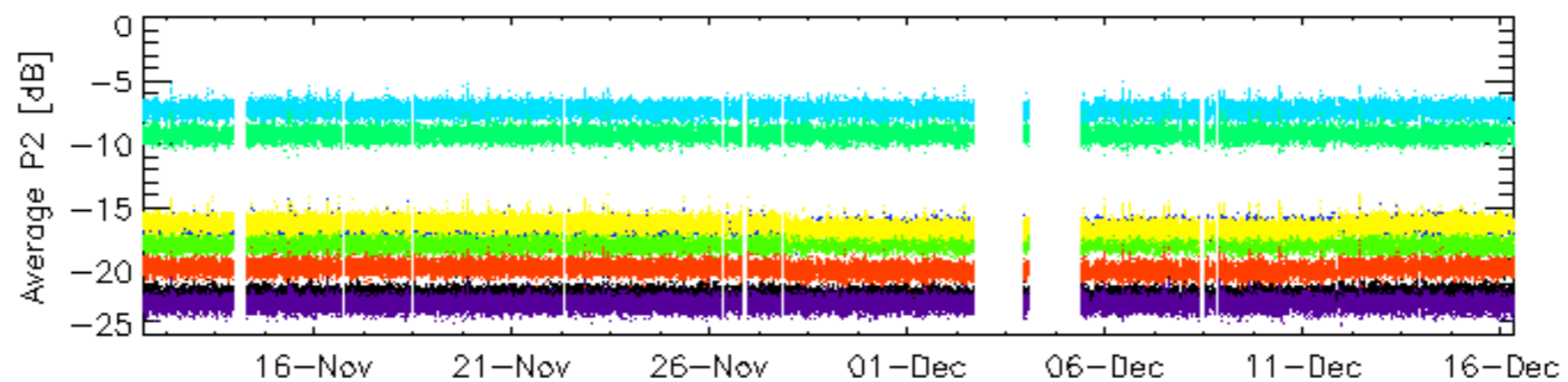
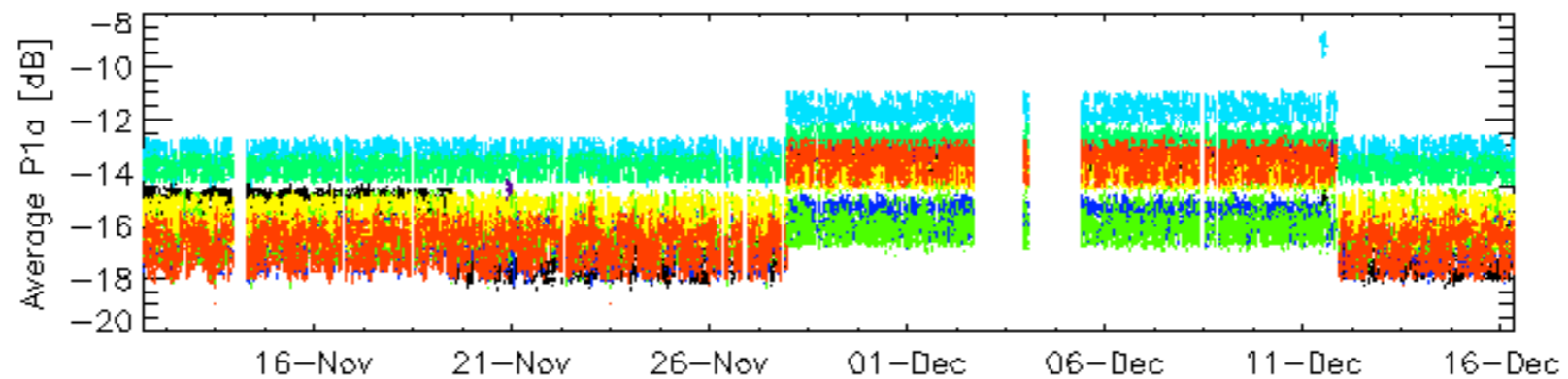
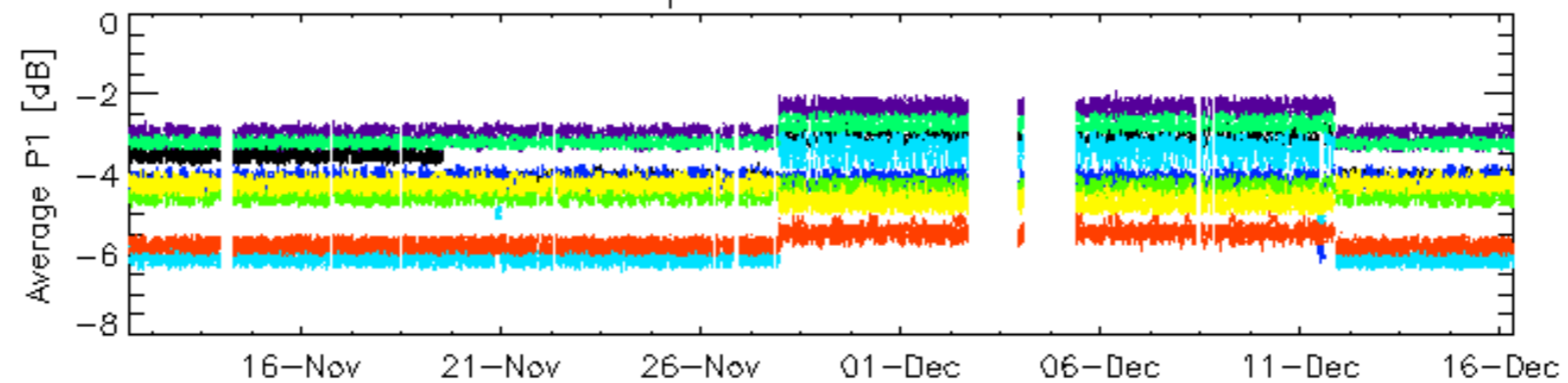


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

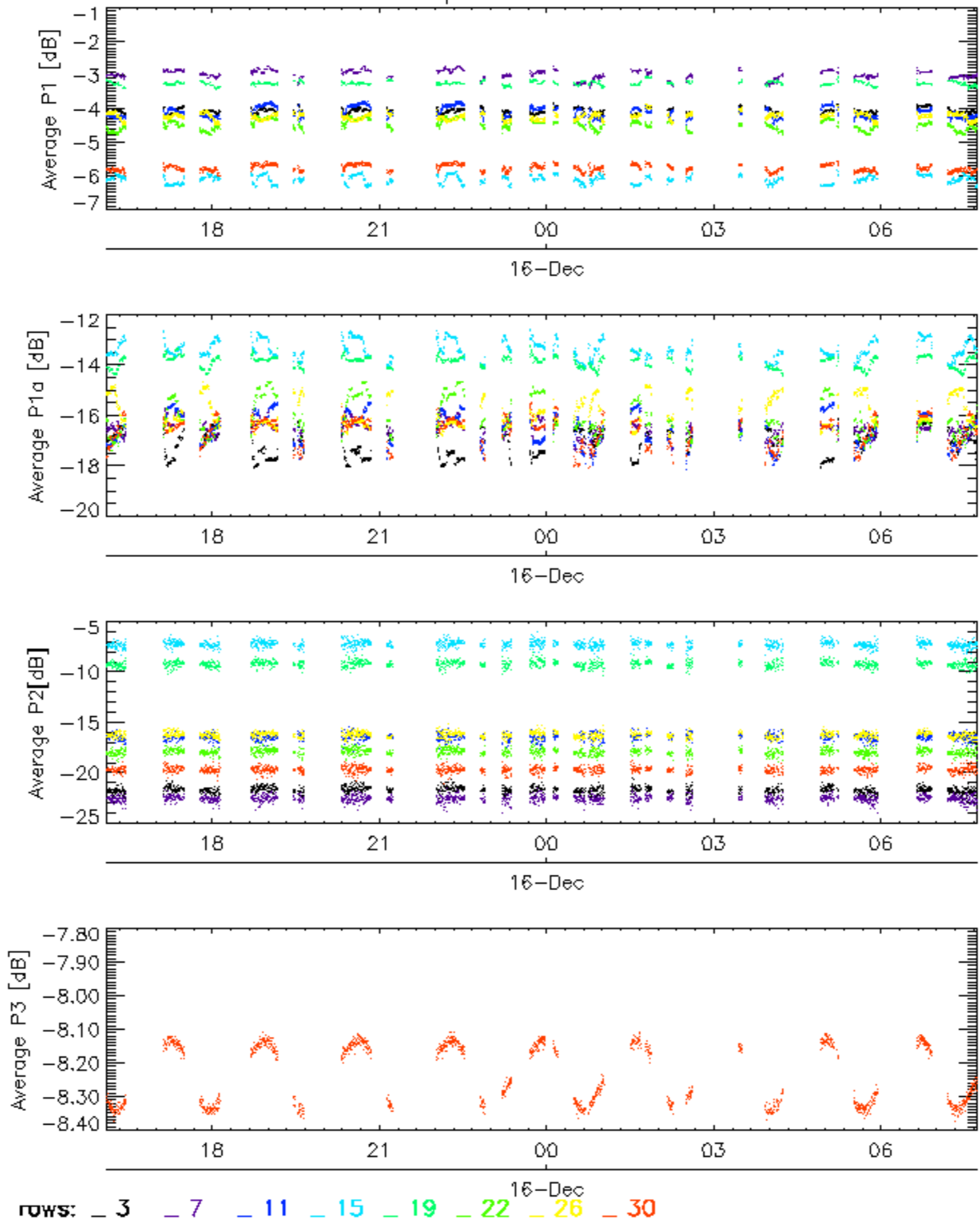


Cal pulses for WVS IS2



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

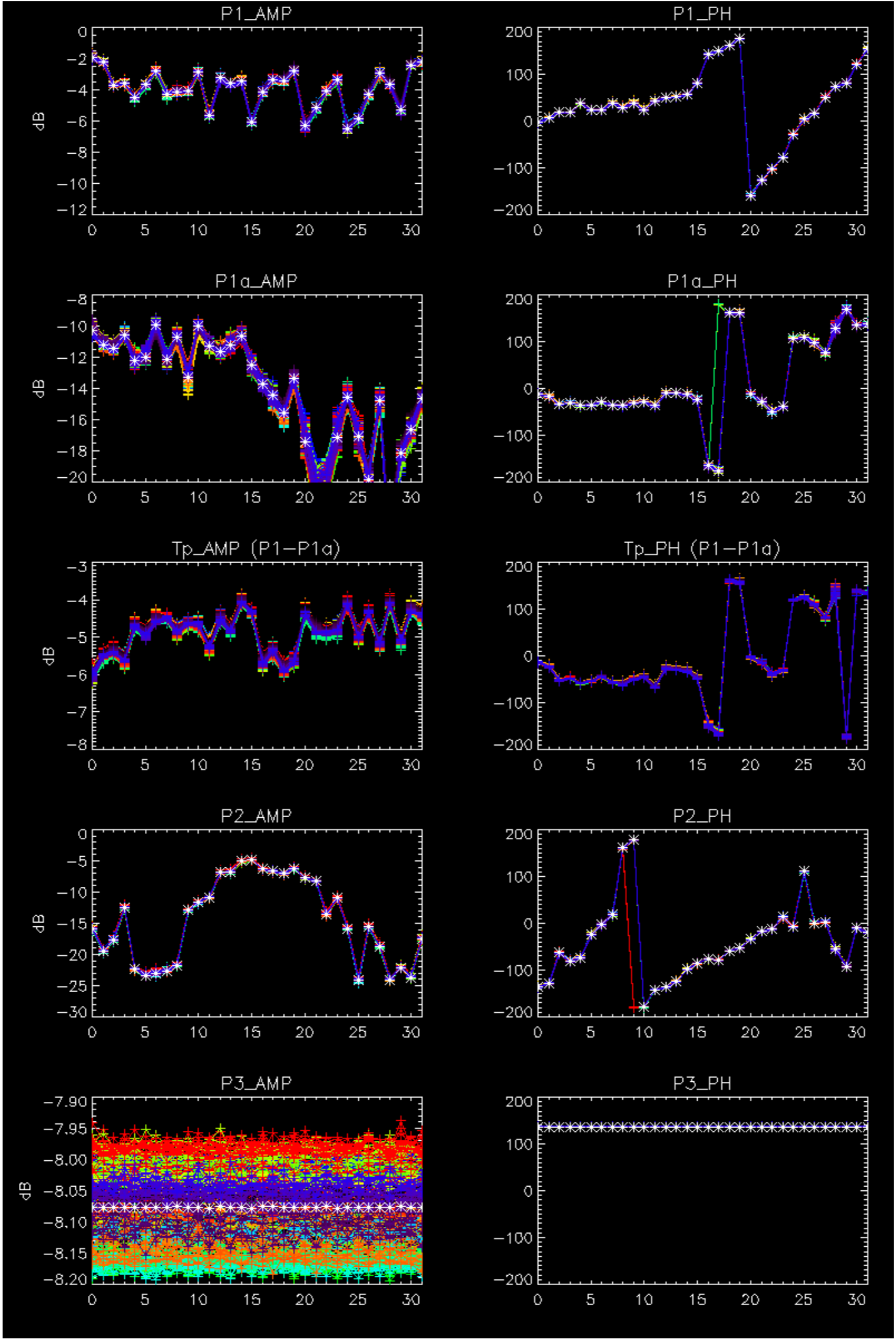
Cal pulses for WVS IS2

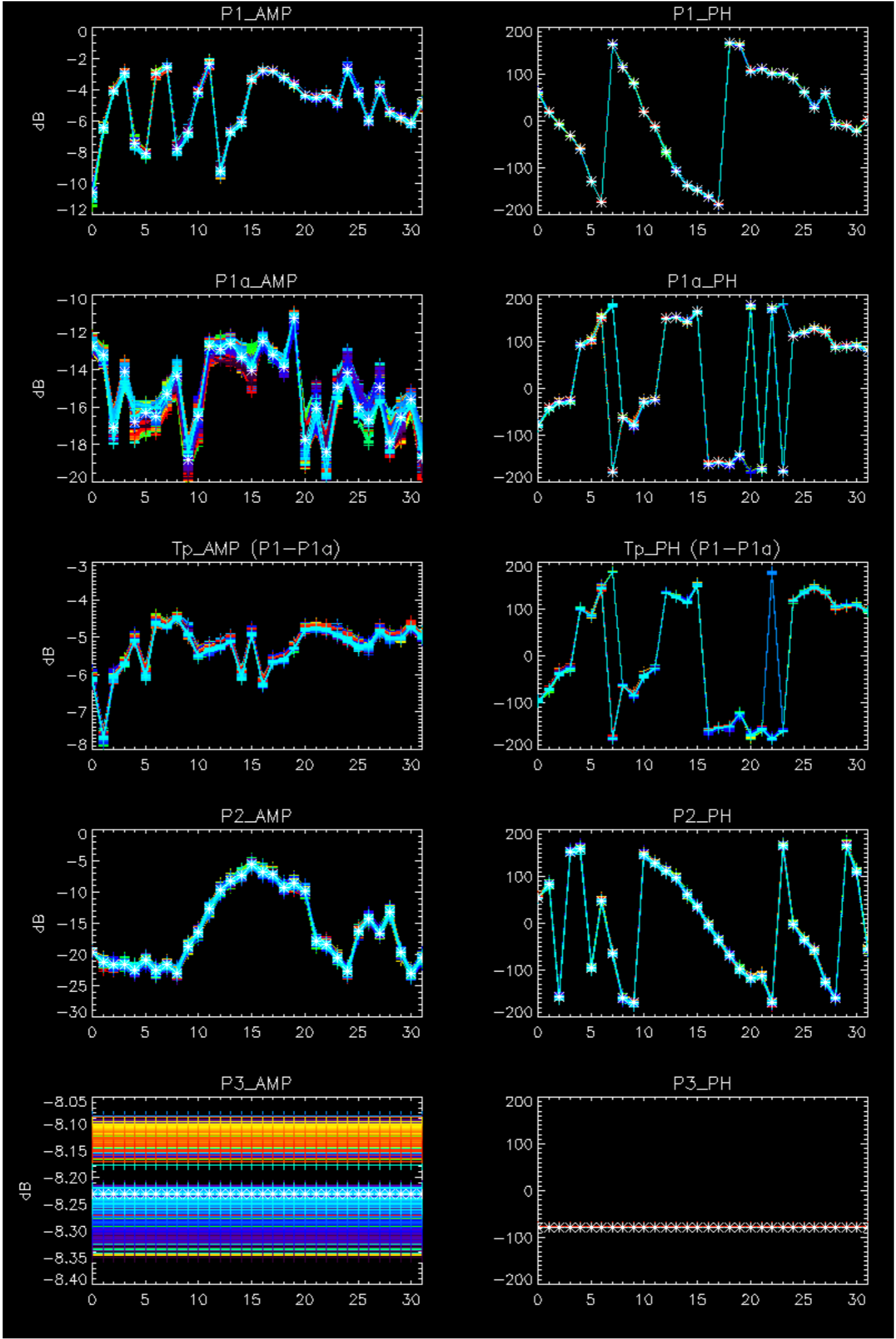


No anomalies observed on available browse products



No anomalies observed.



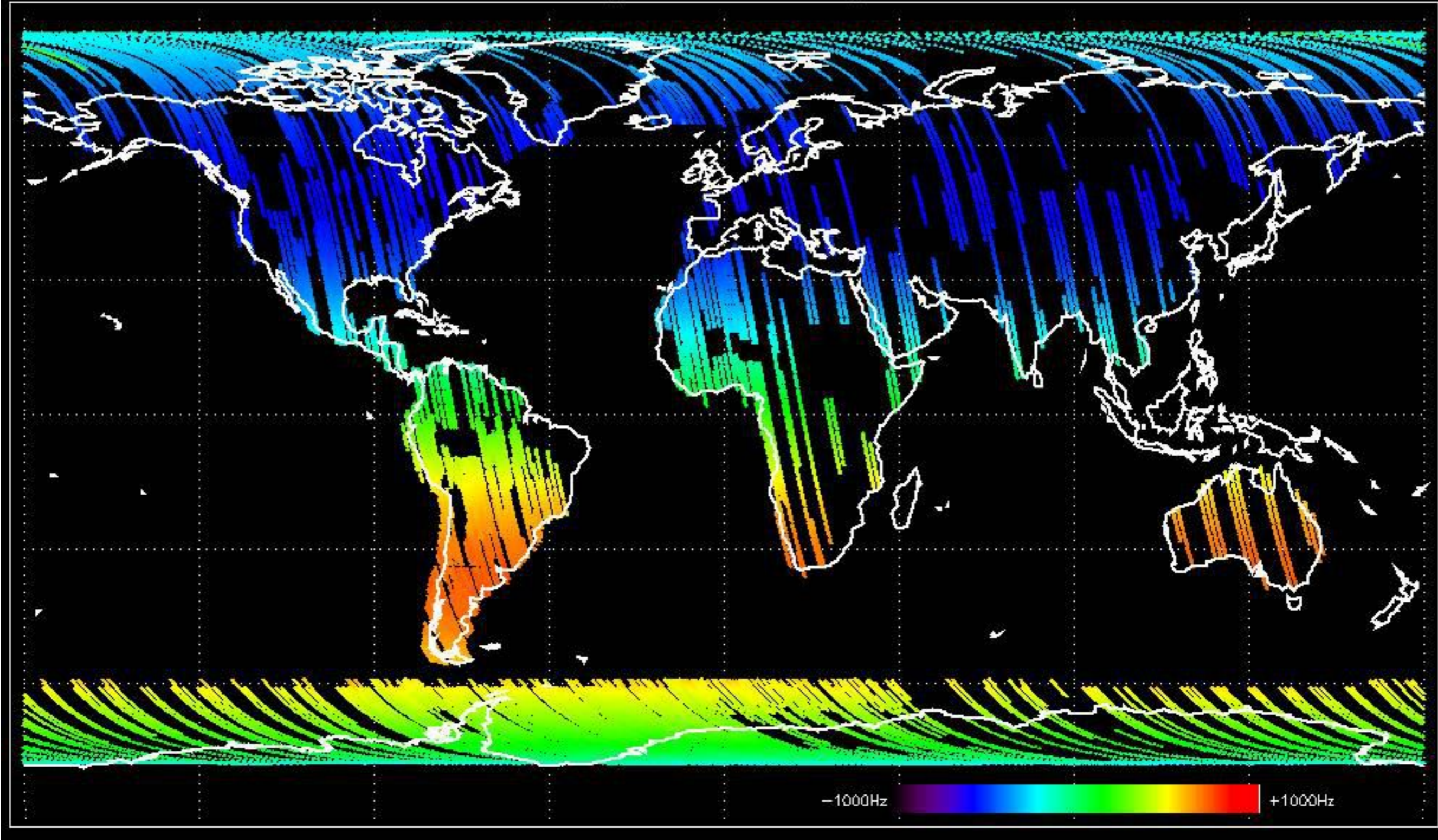


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



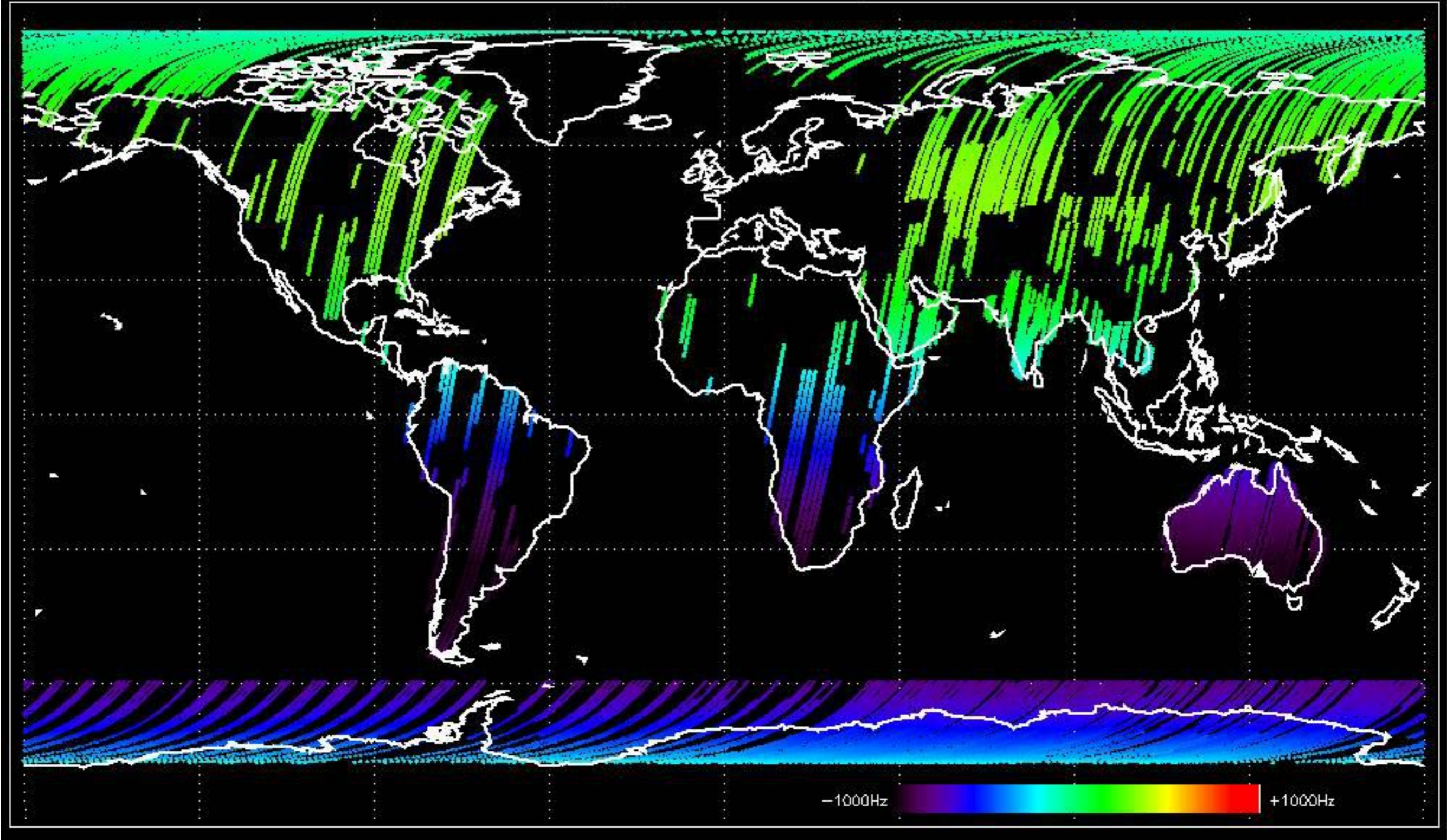


Doppler 'GM1' 'SS1' ascending



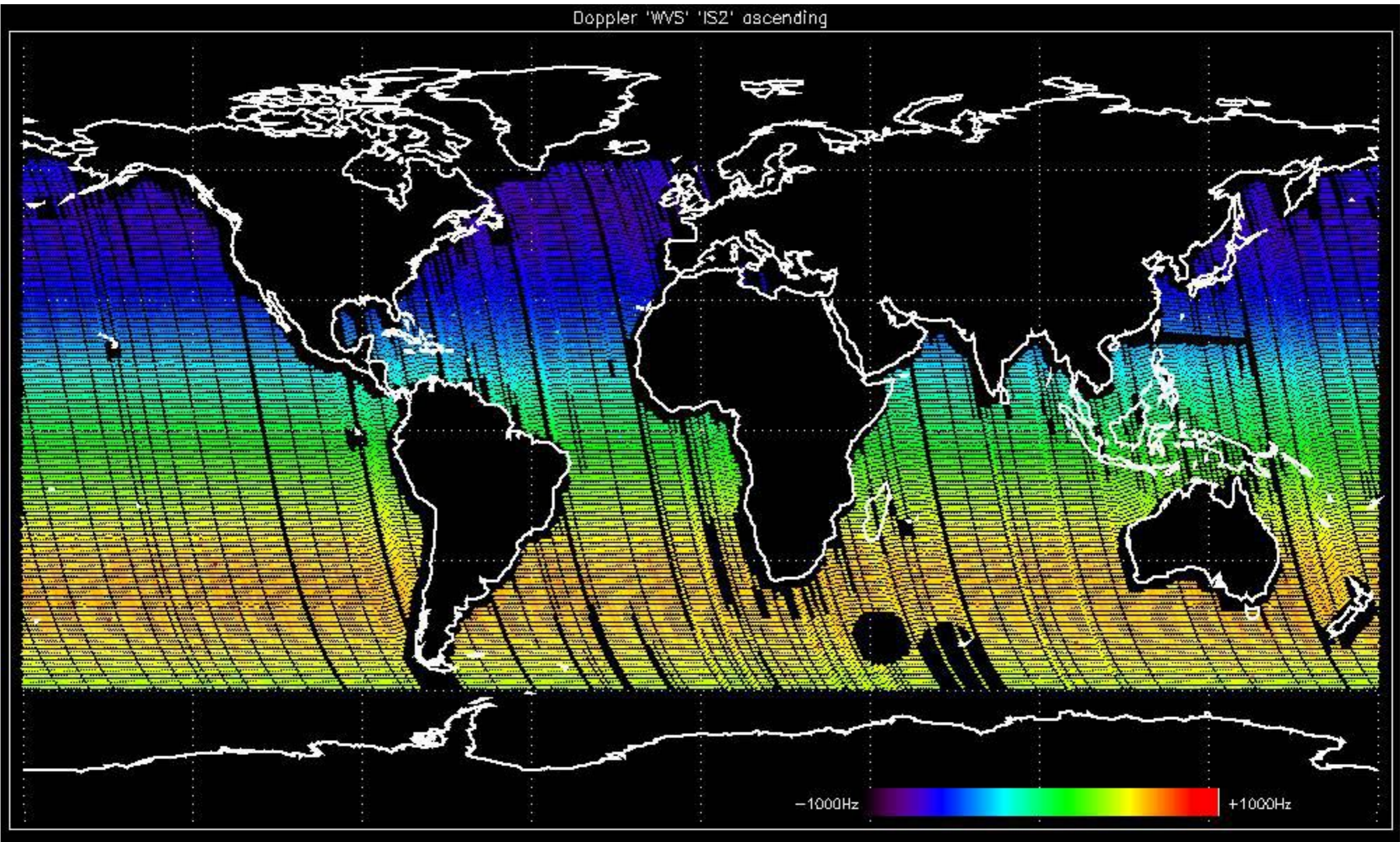


Doppler 'GM1' 'SS1' descending



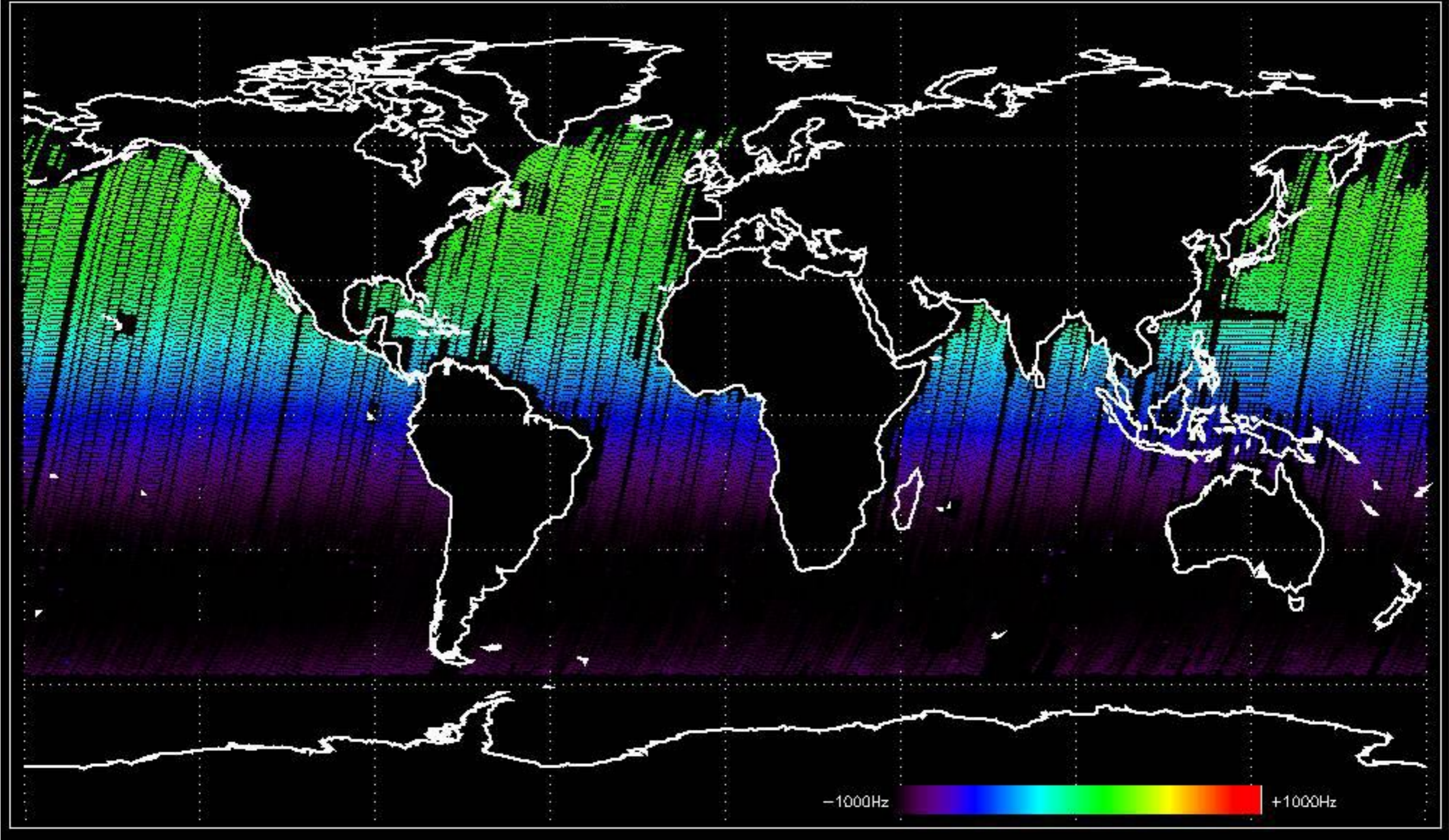


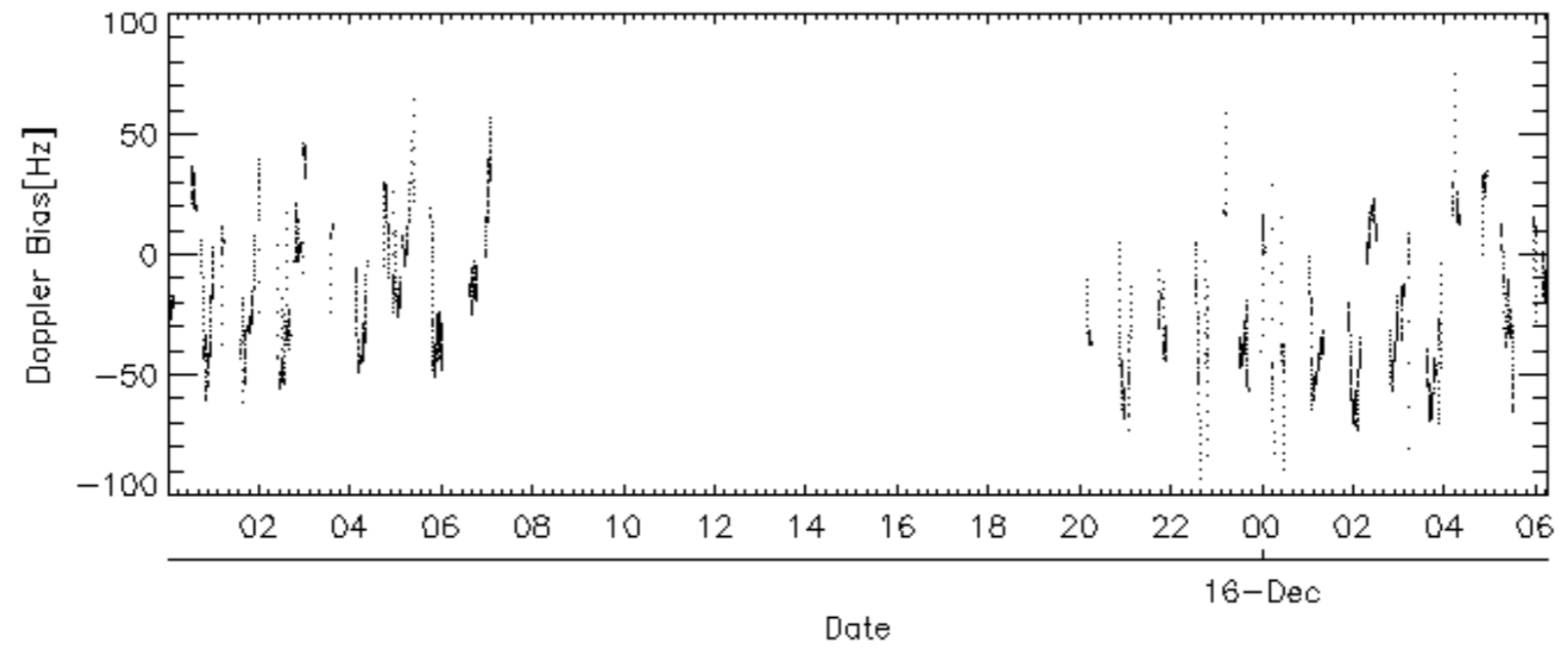
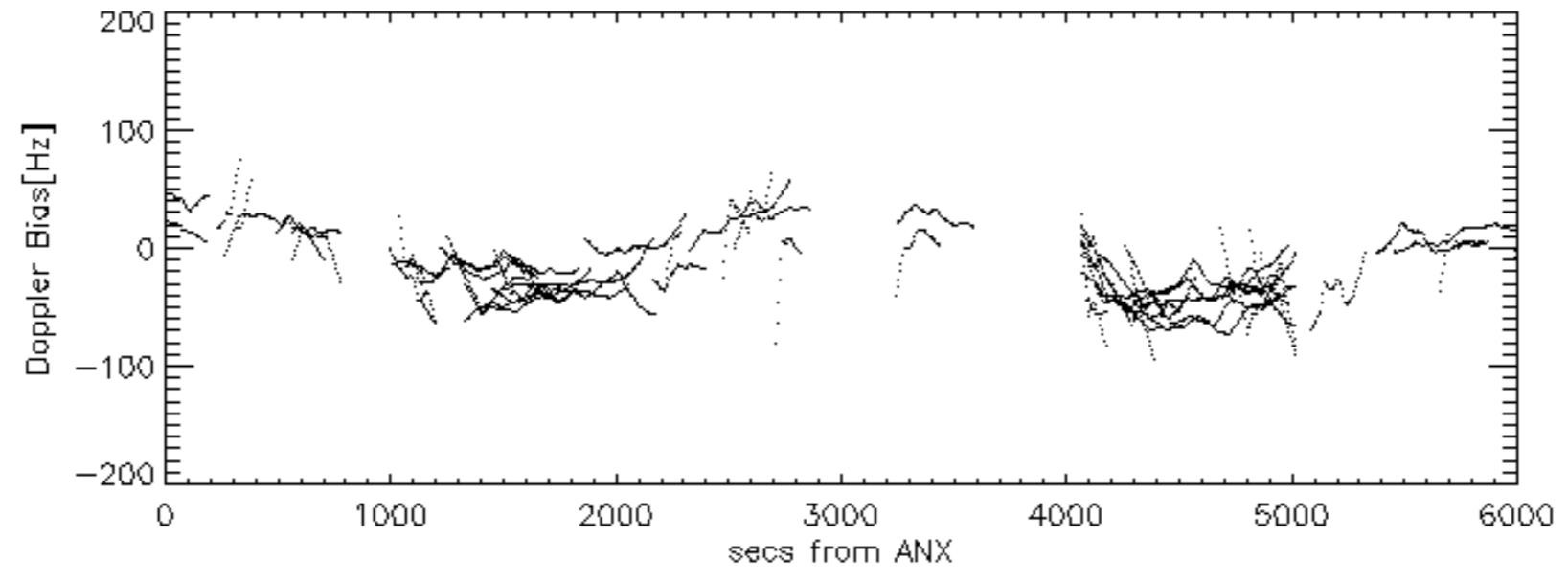
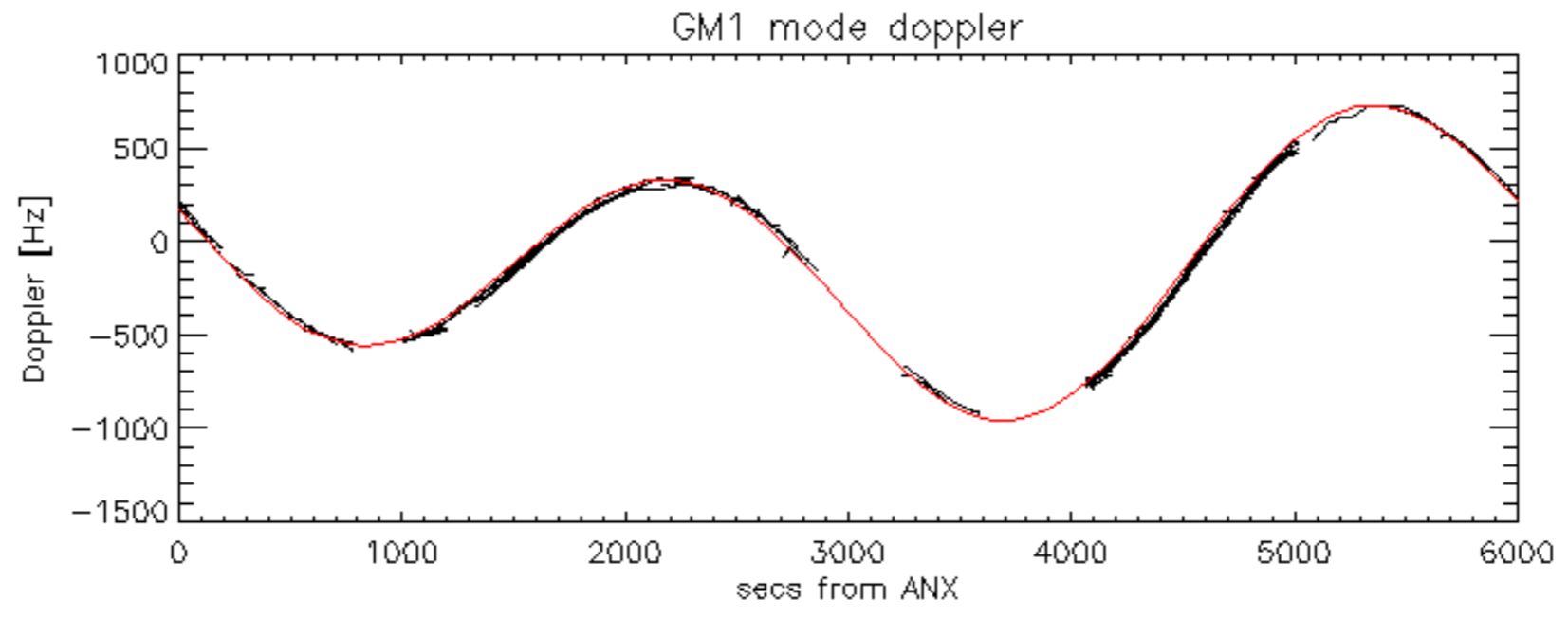
Doppler 'WVS' 'IS2' ascending



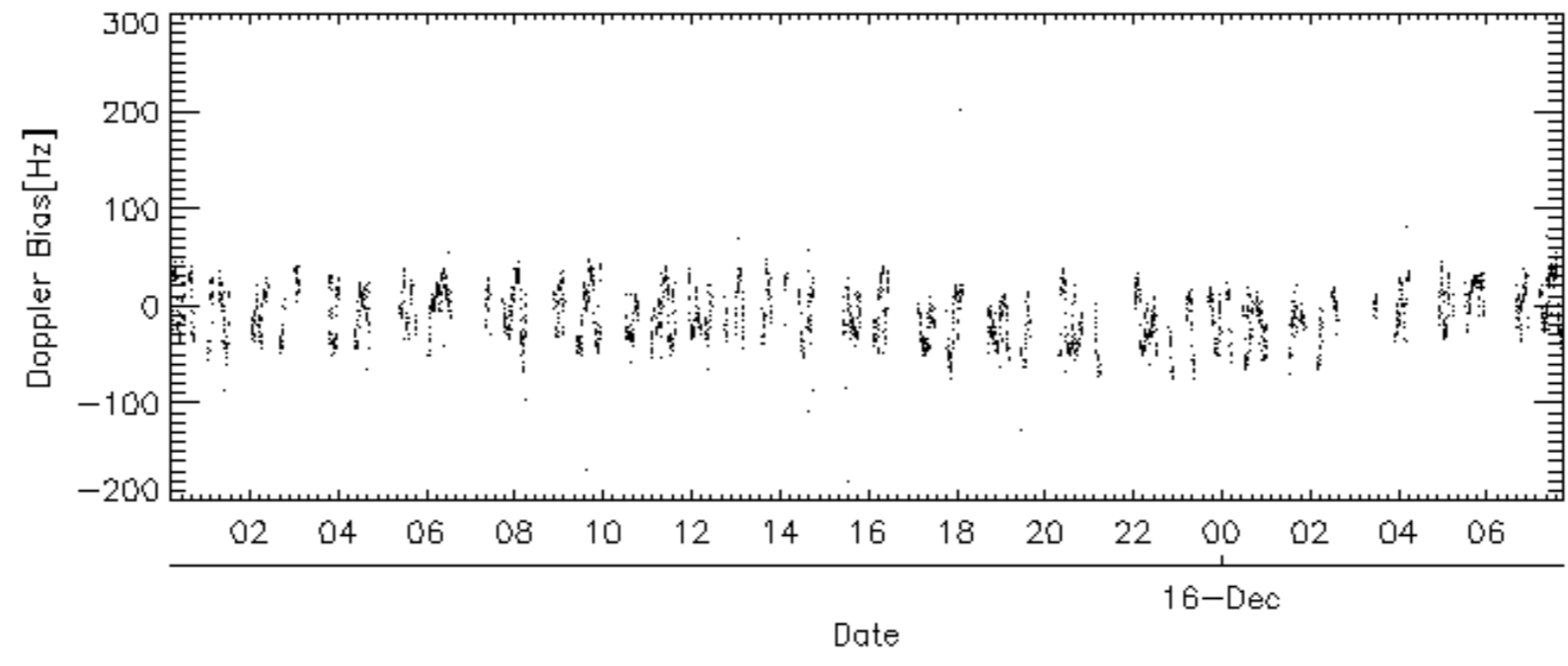
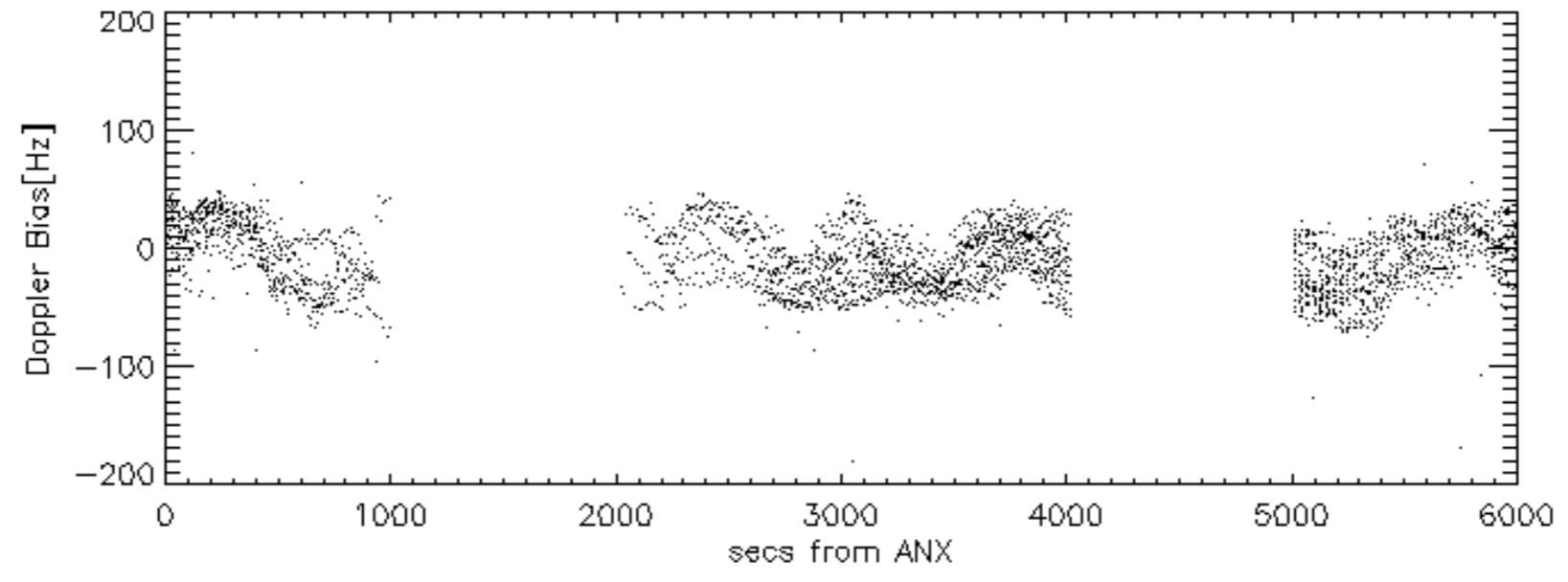
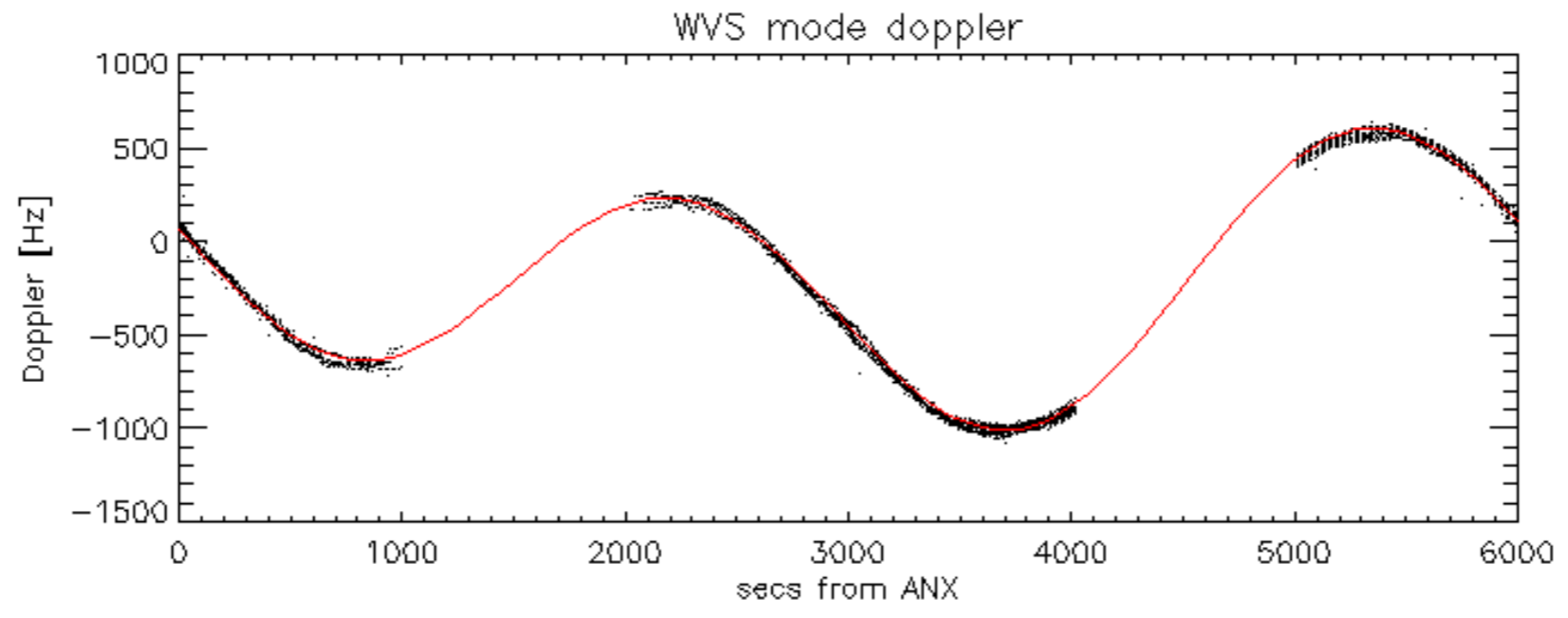


Doppler 'WVS' 'IS2' descending



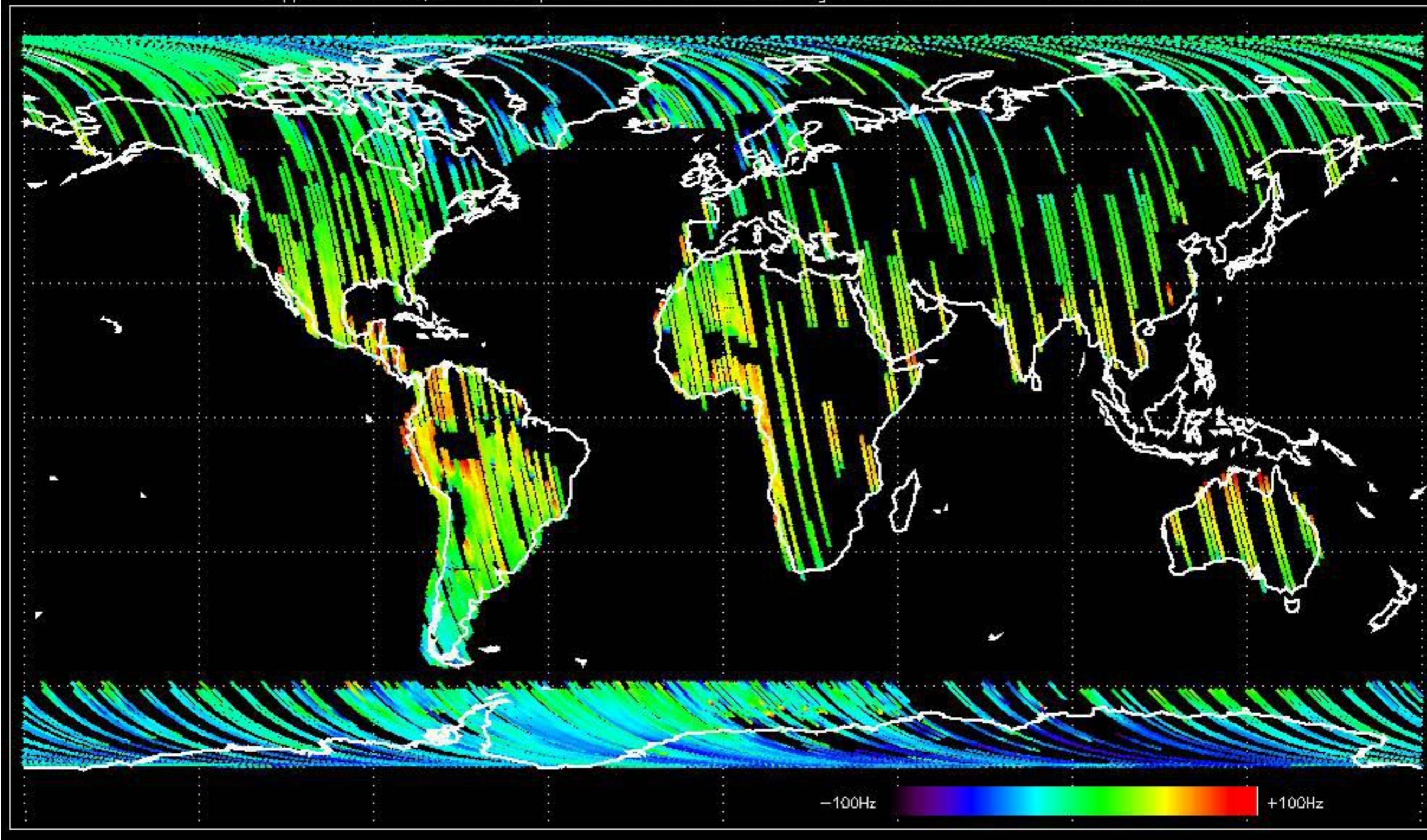






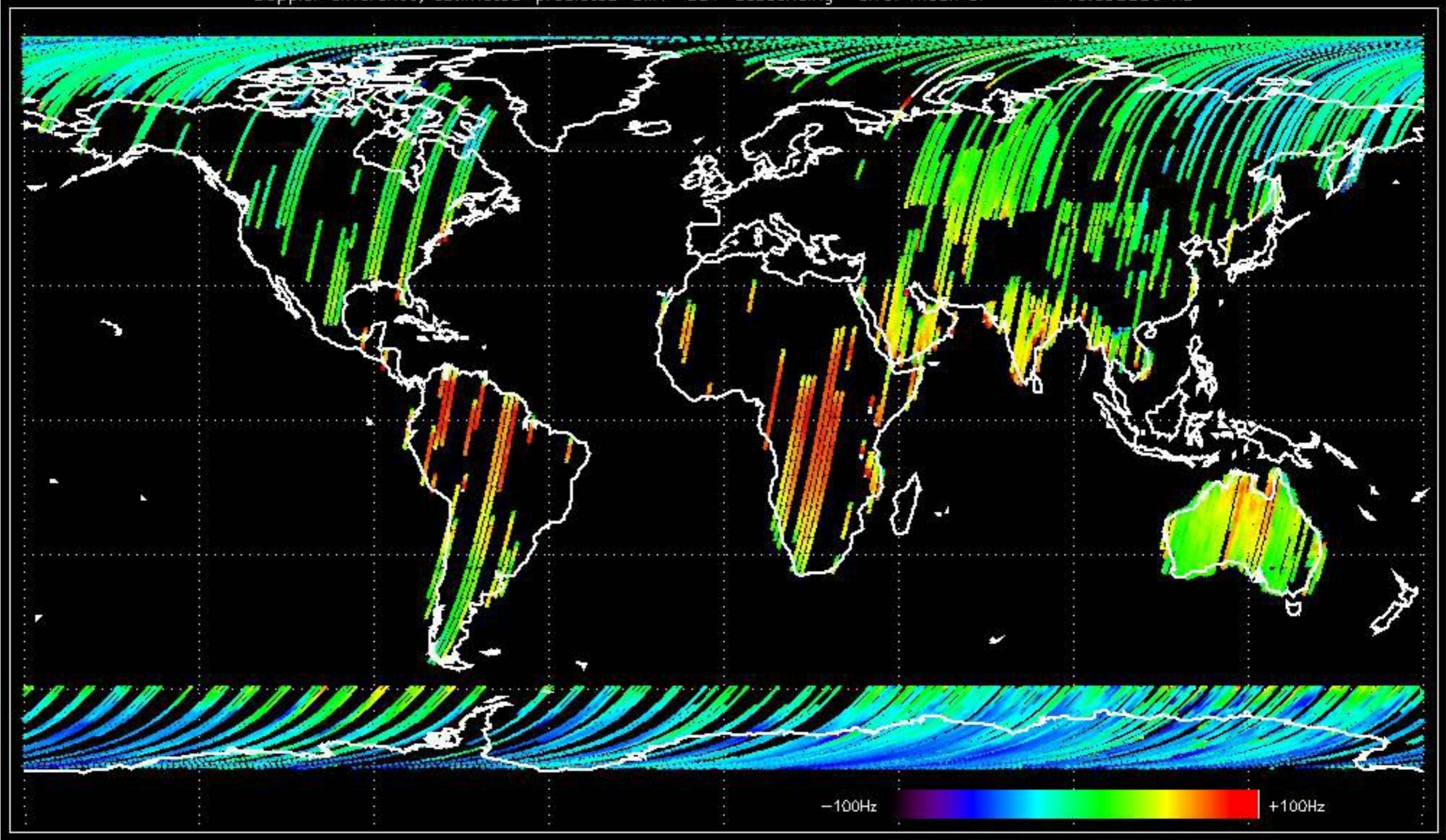


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -15.984991 Hz



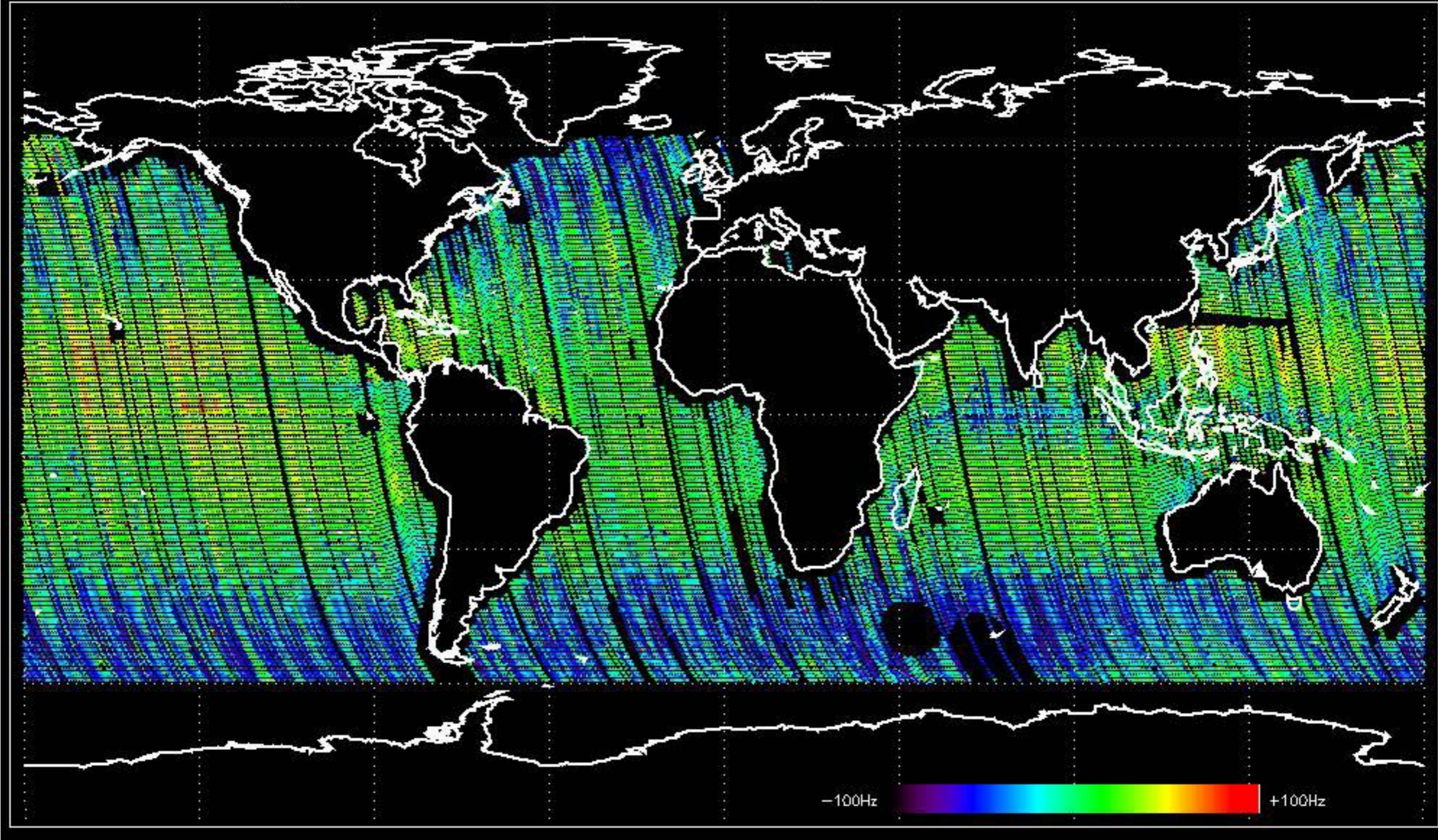


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -15.098306 Hz



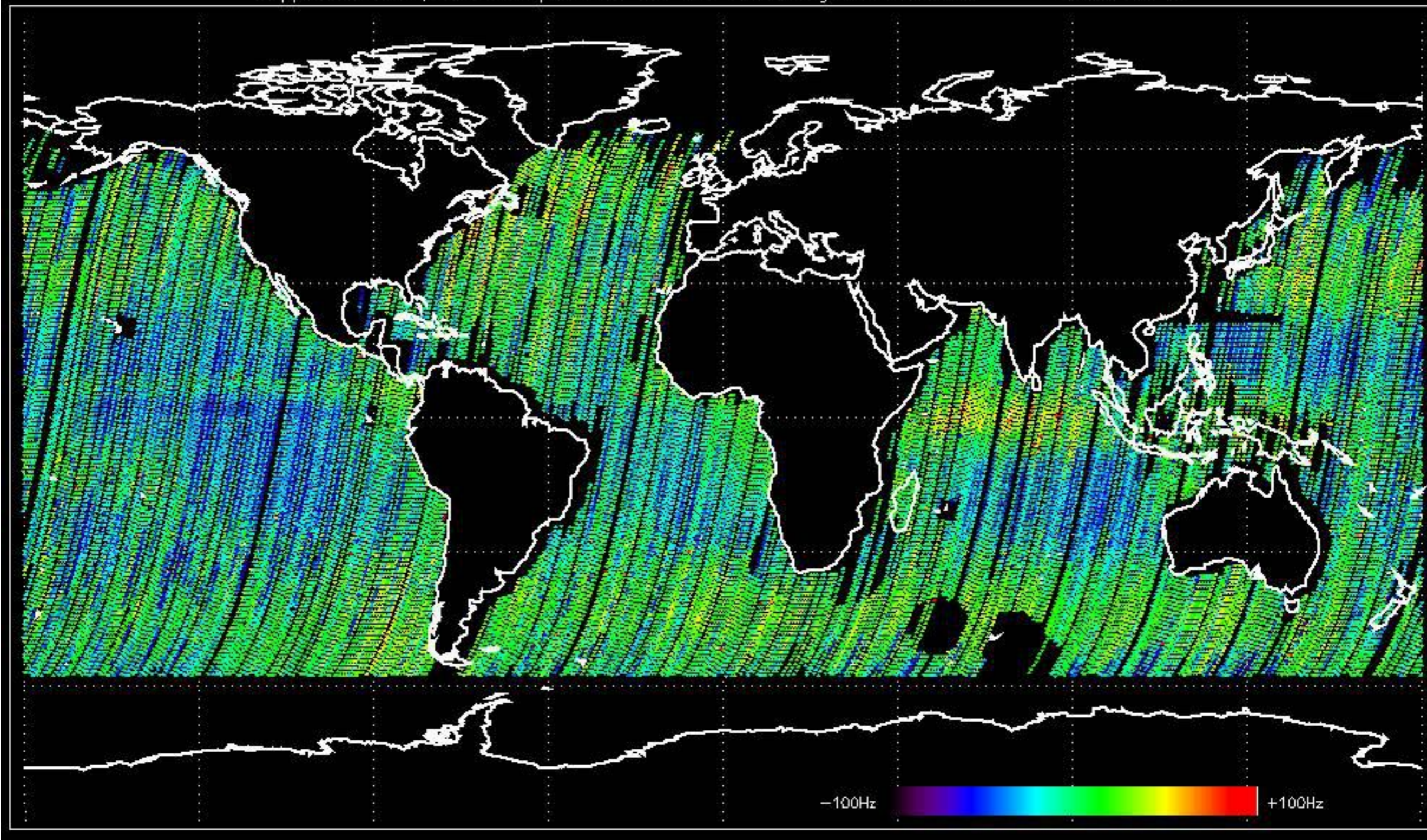


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -9.7150720 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -13.385097 Hz





No anomalies observed on available MS products:



No anomalies observed.









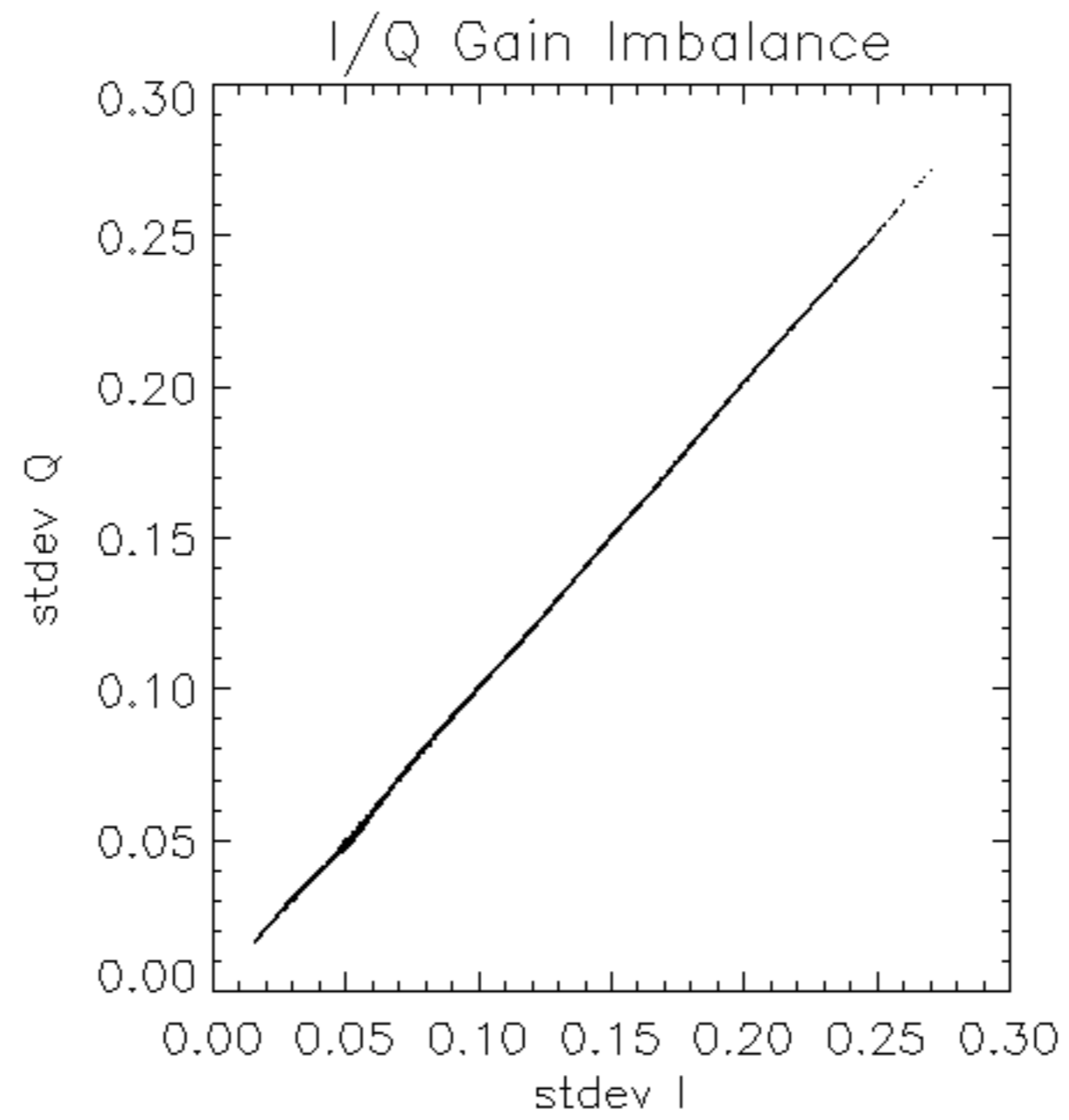


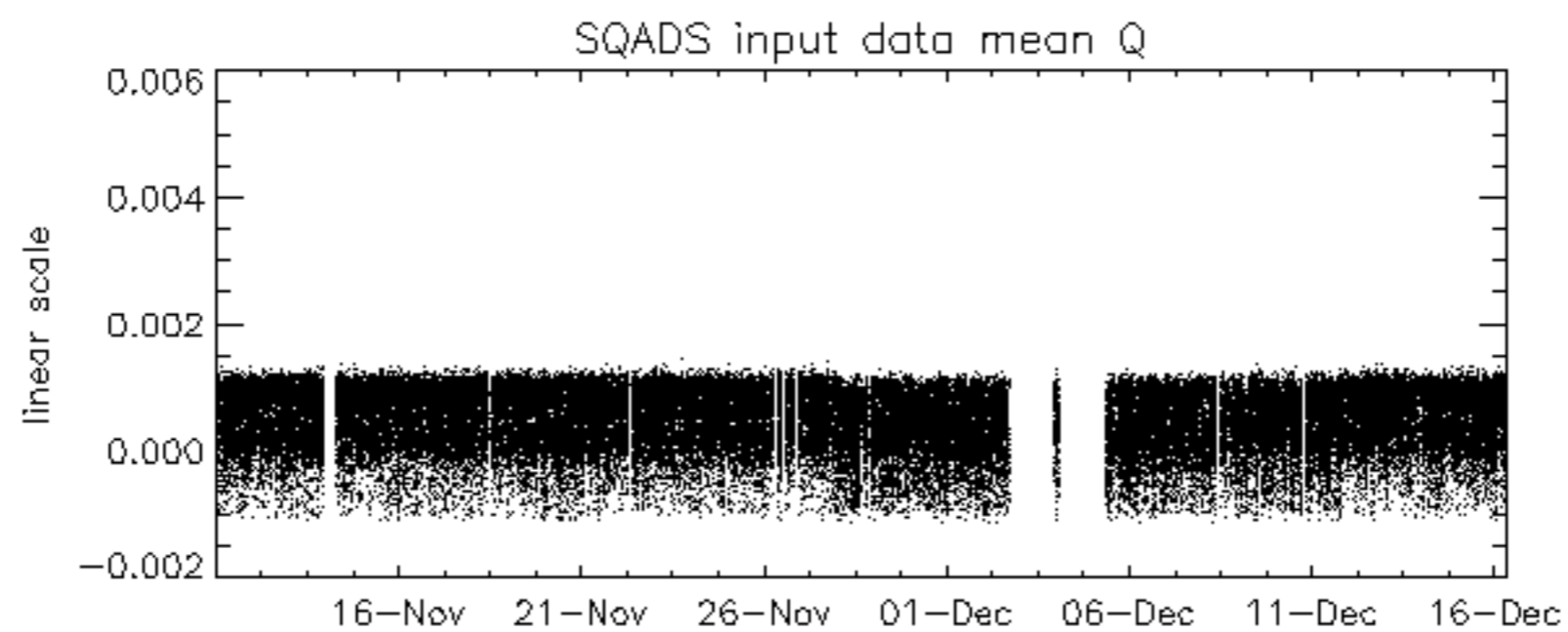
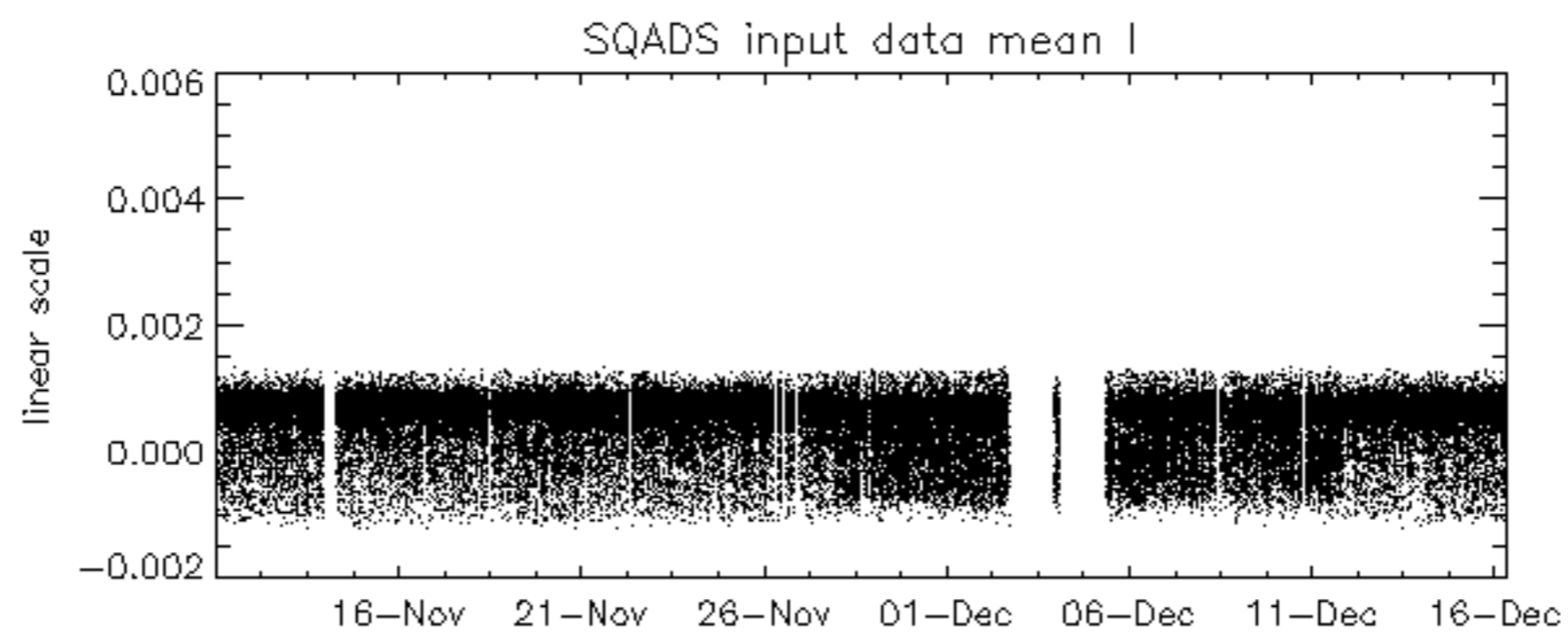
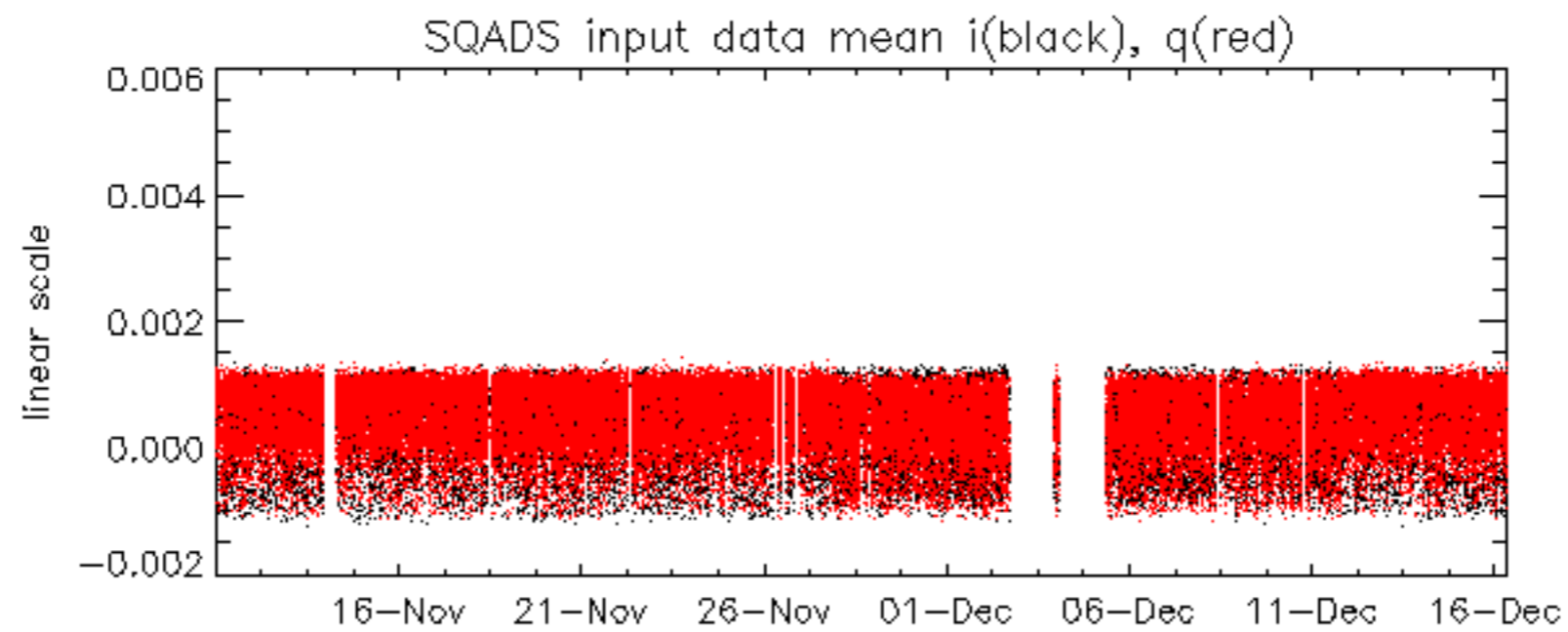




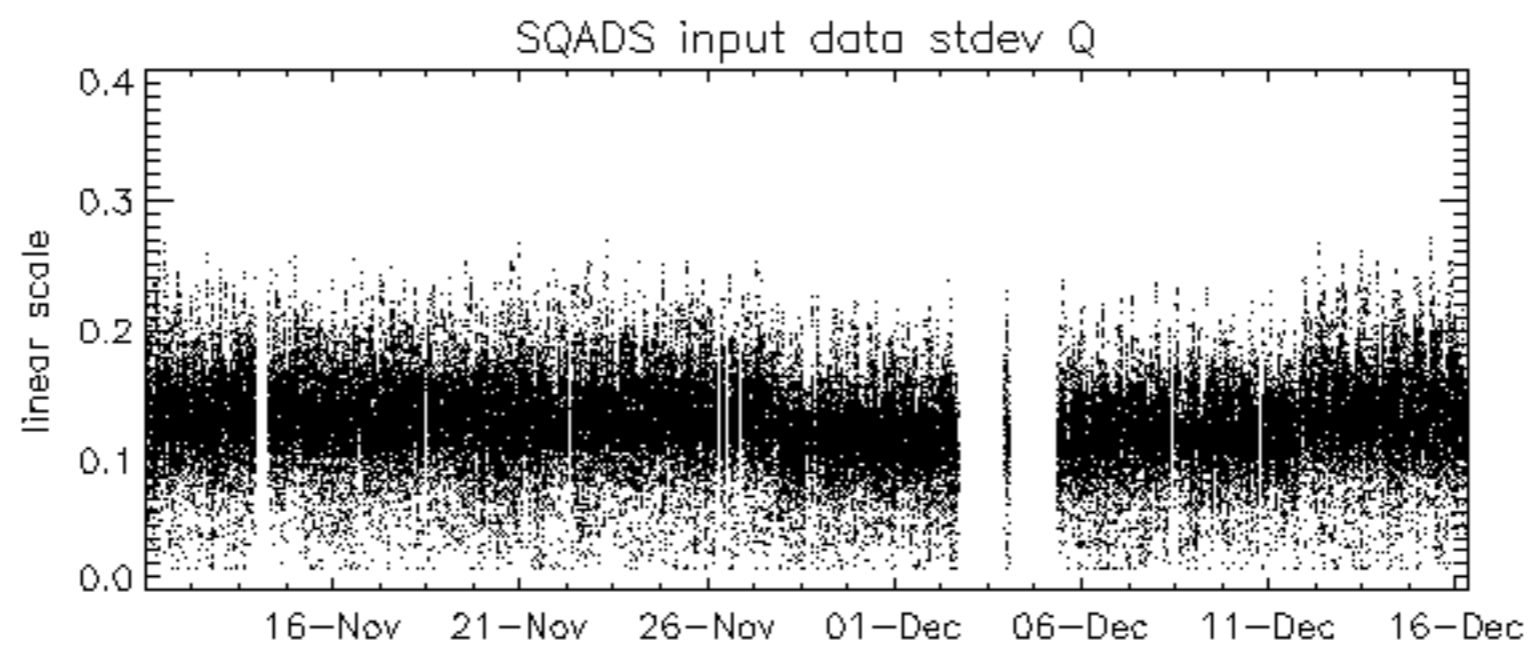
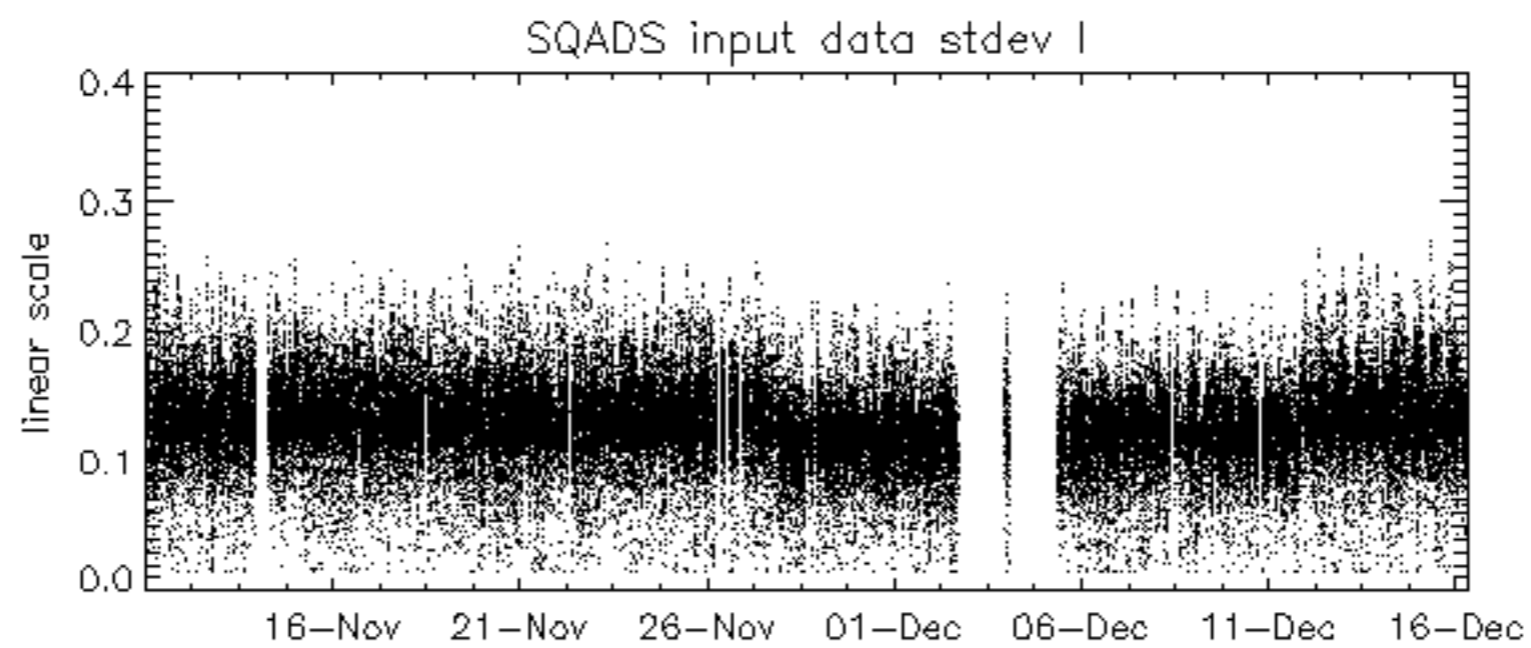
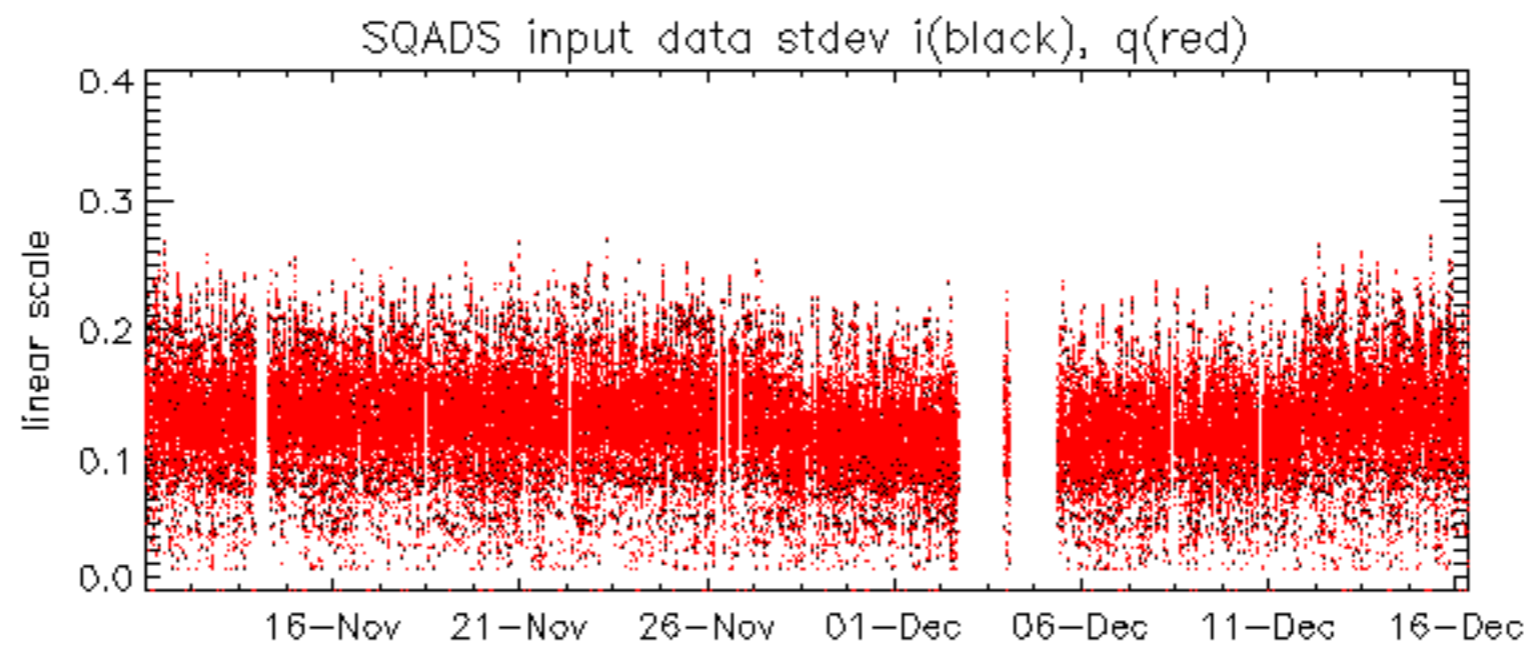


















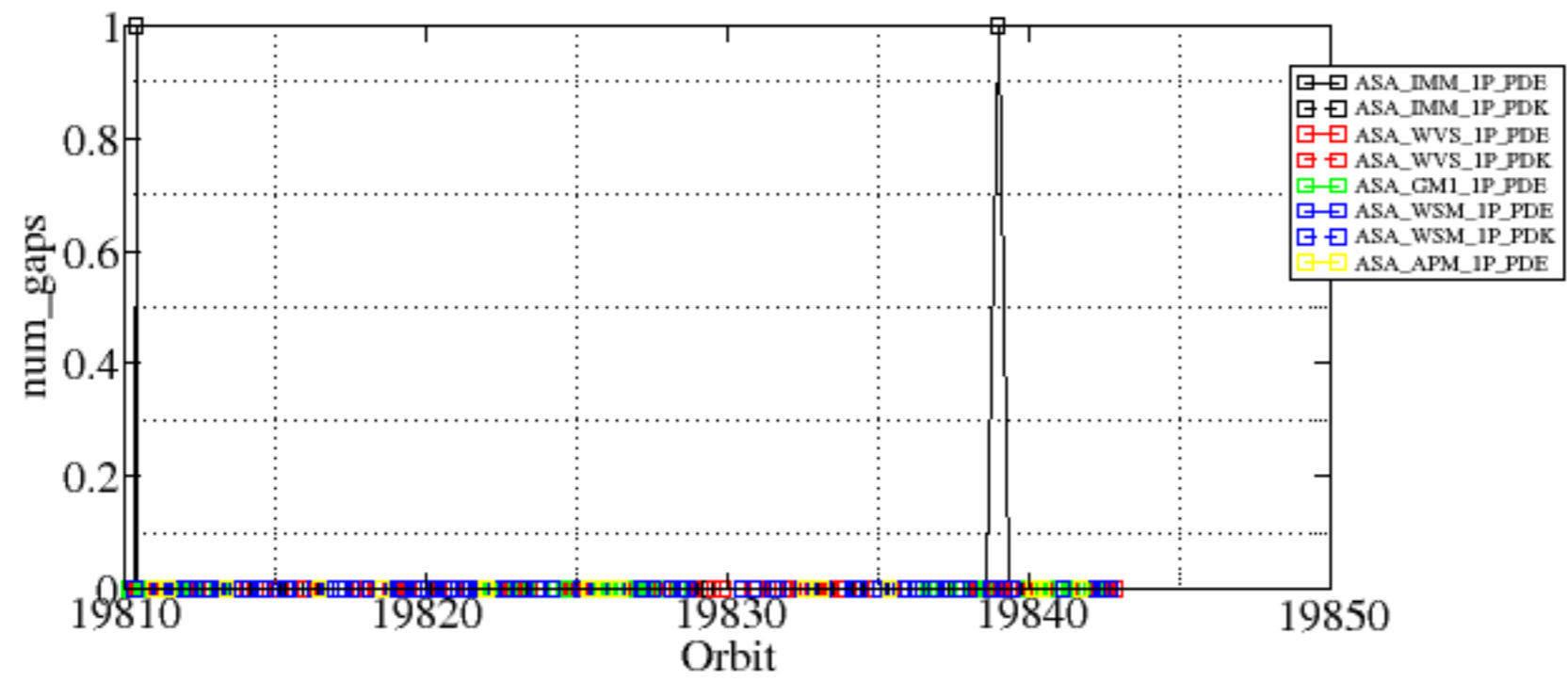




Summary of analysis for the last 3 days 2005121[456]

The assumptions 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_1PNPDE20051214_004627_000001012043_00217_19810_3913.N1	1	0
ASA_IMM_1PNPDE20051216_004204_000002002043_00245_19838_4039.N1	1	0
ASA_WSM_1PNPDE20051214_110145_000000672043_00223_19816_4200.N1	0	3
ASA_WSM_1PNPDE20051214_141859_000002072043_00225_19818_4318.N1	0	72
ASA_WSM_1PNPDE20051214_183928_000000672043_00228_19821_4365.N1	0	13
ASA_WSM_1PNPDE20051215_134913_000000672043_00239_19832_4387.N1	0	61
ASA_WSM_1PNPDE20051215_180902_000001032043_00242_19835_4404.N1	0	34
ASA_WSM_1PNPDE20051215_230839_000001092043_00245_19838_4458.N1	0	13









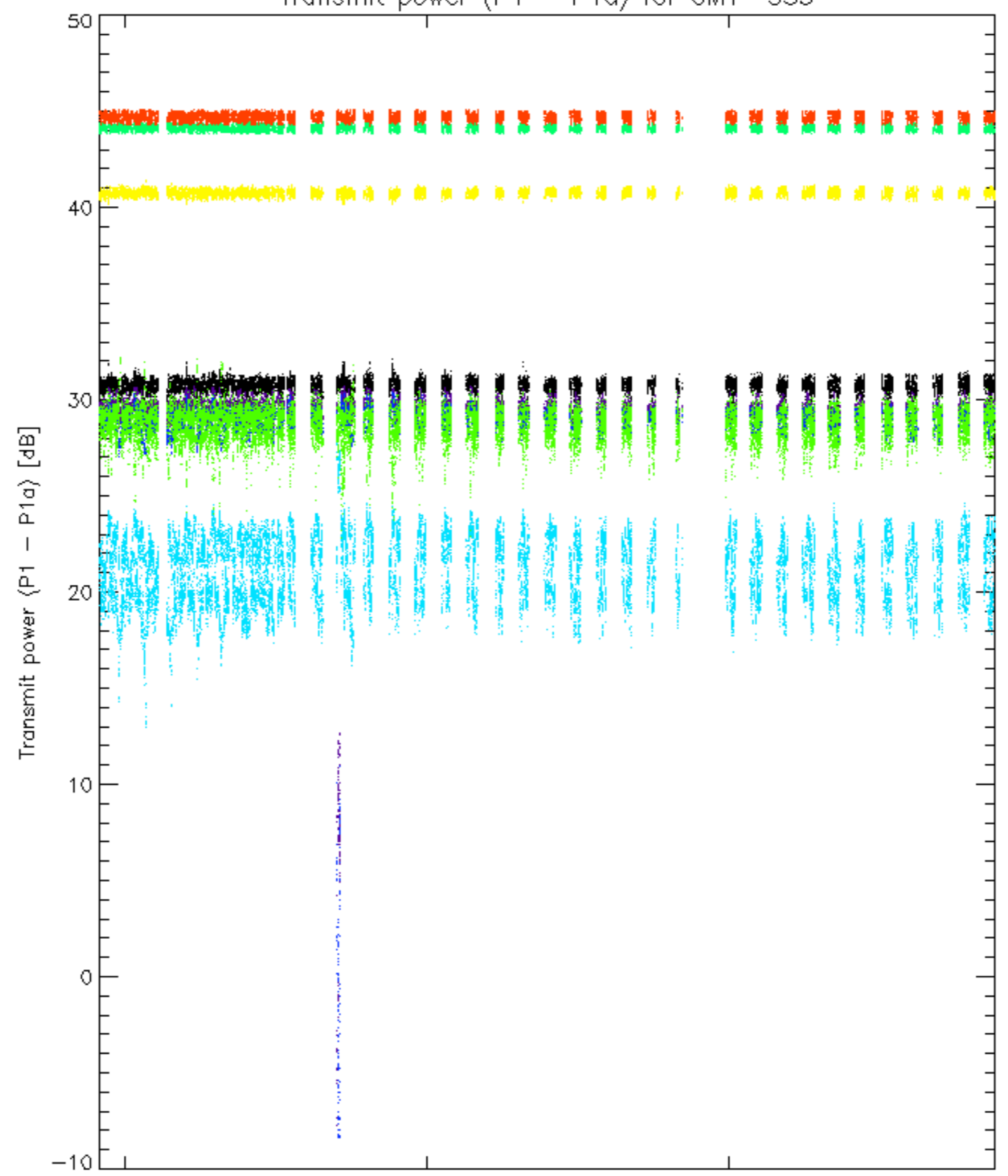


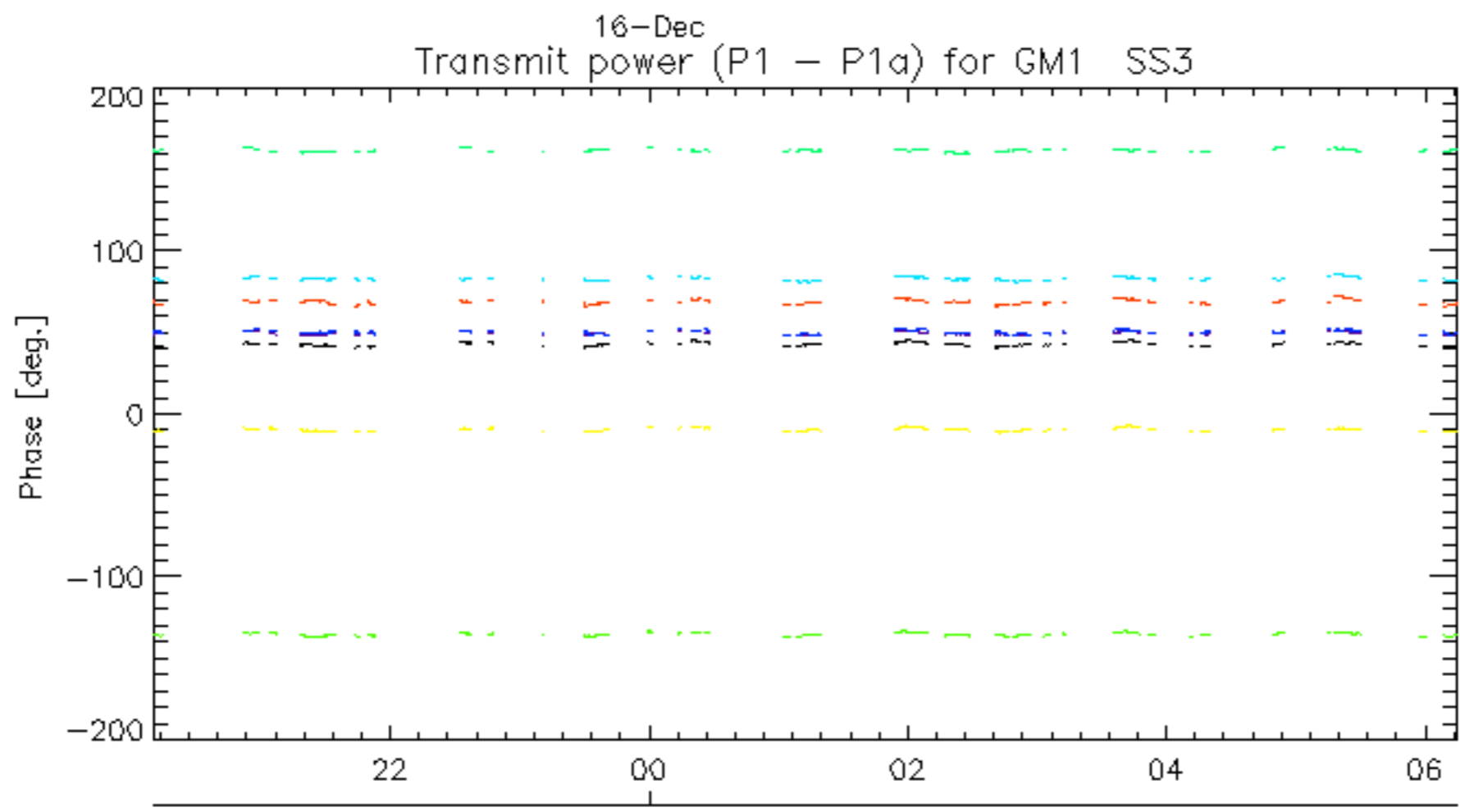
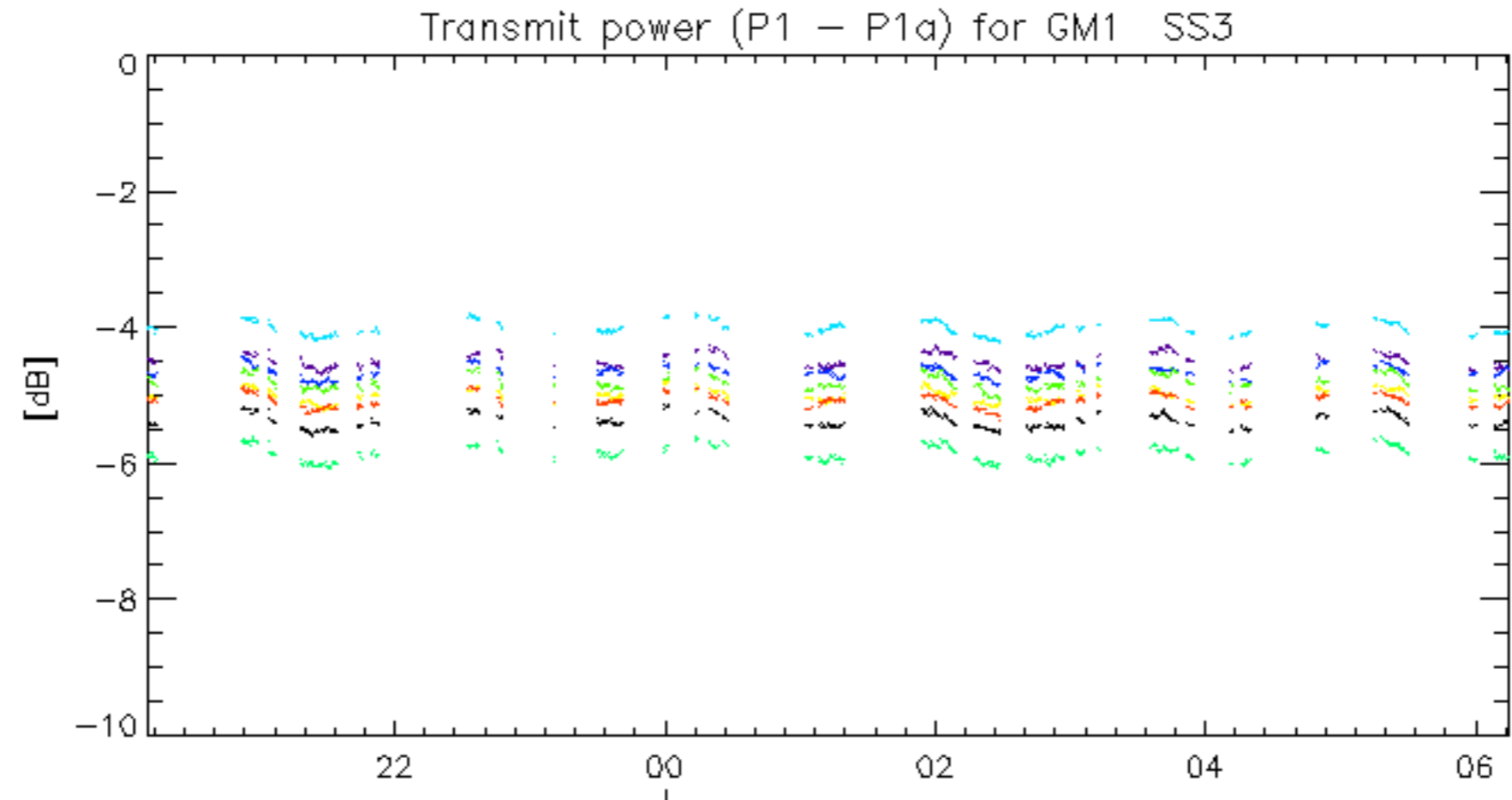




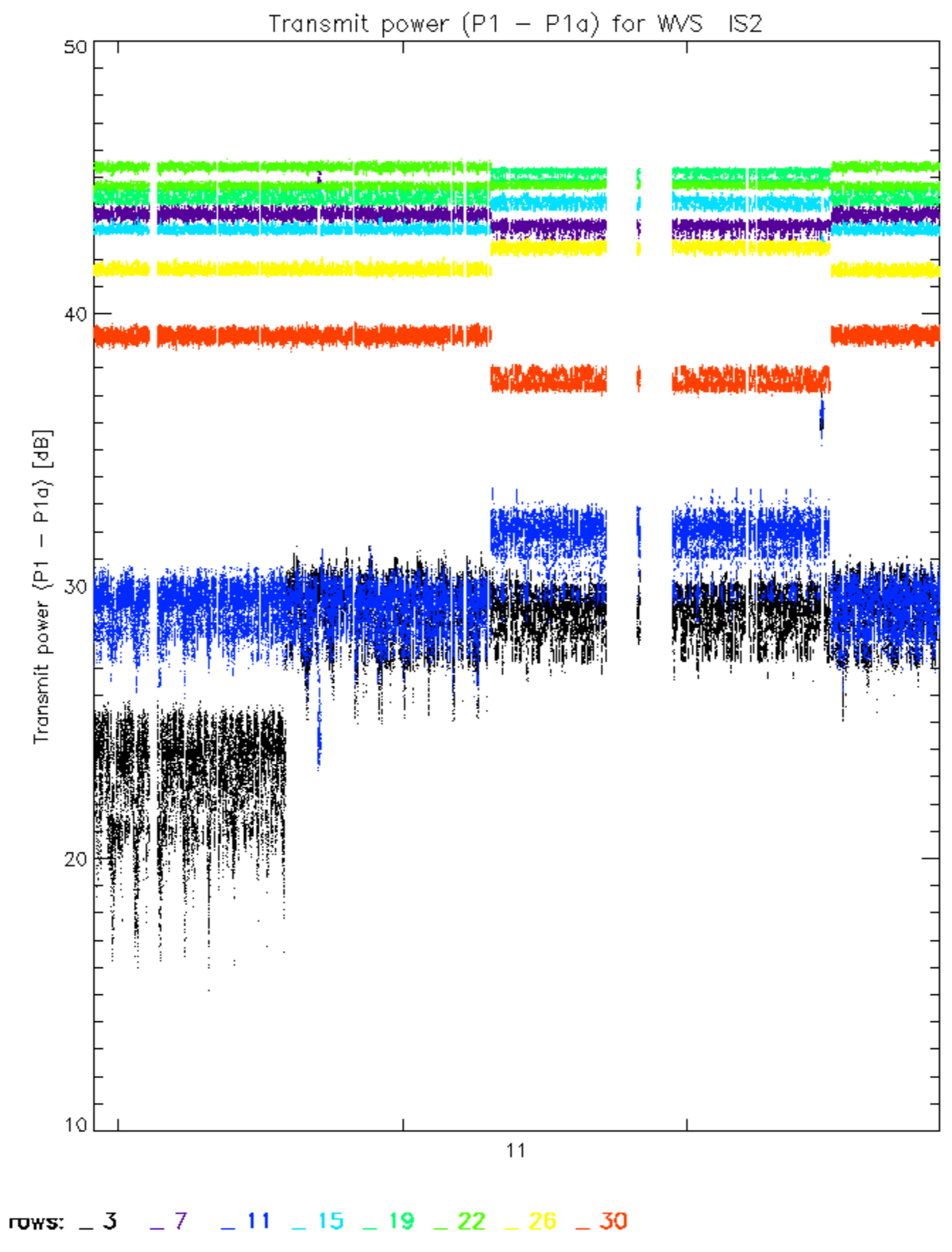


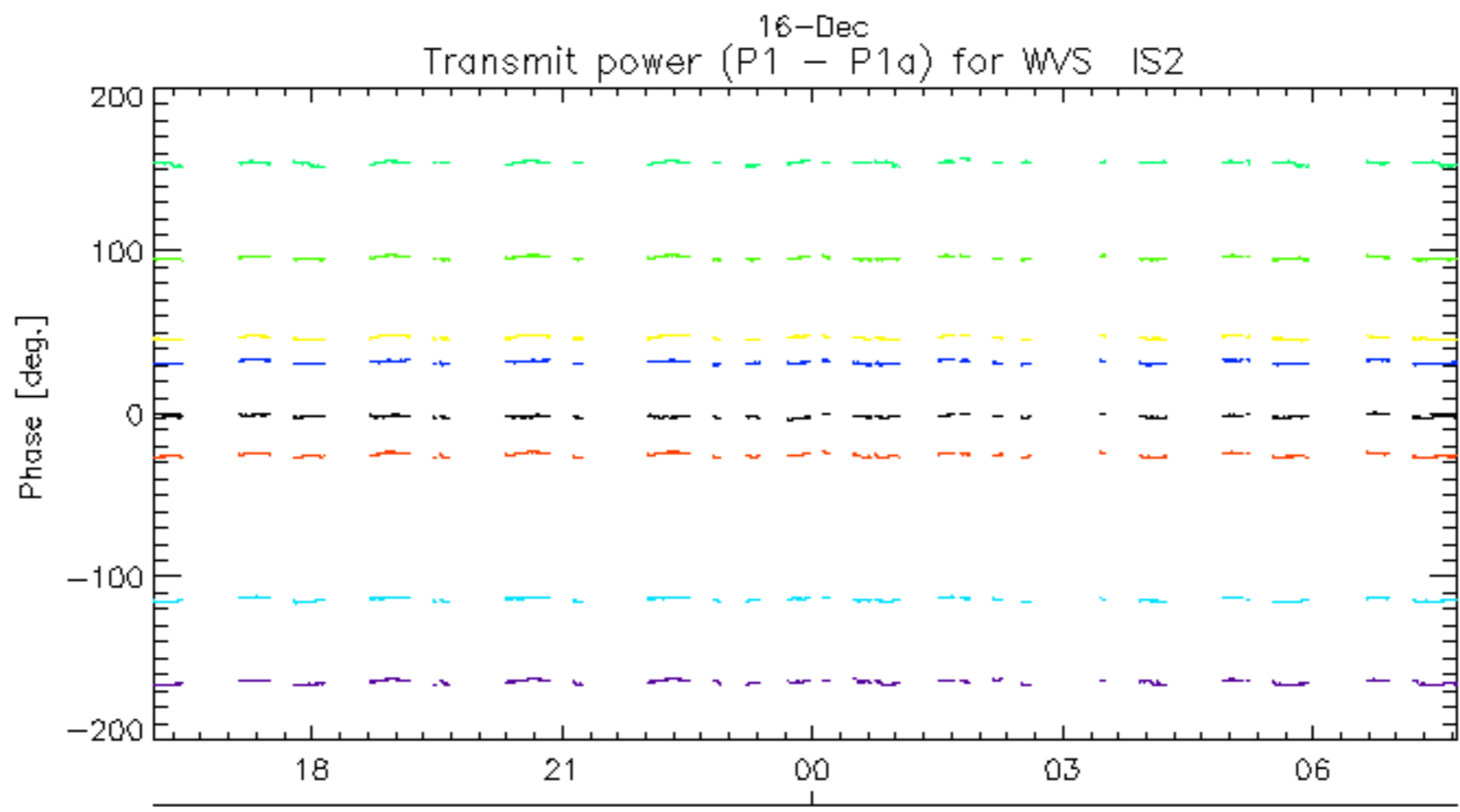
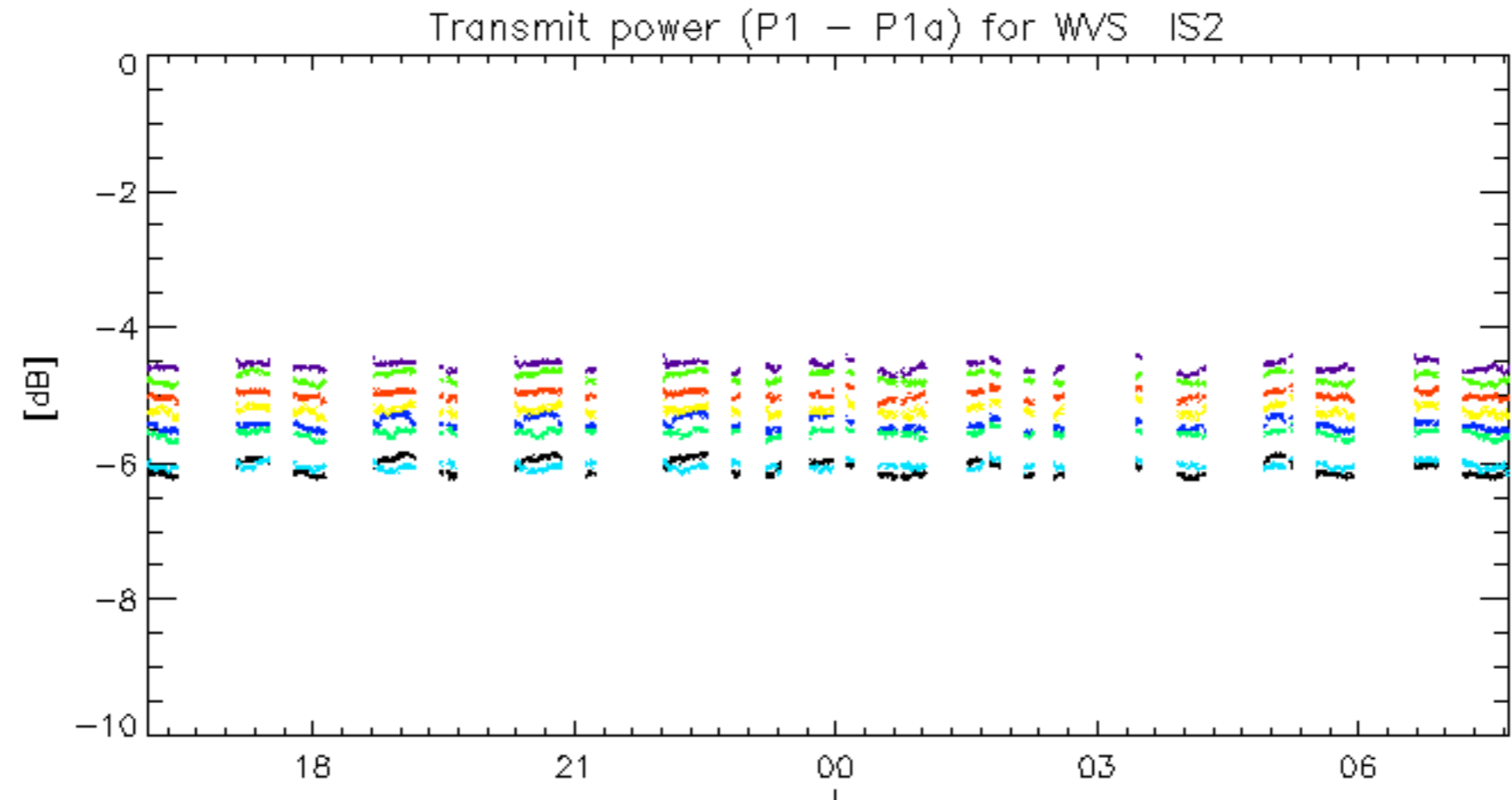
Transmit power (P1 - P1a) for GM1 SS3





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





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



No unavailabilities during the reported period.