

# PRELIMINARY REPORT OF 061204

last update on Mon Dec 4 18:46:33 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 2006-12-03 00:00:00 to 2006-12-04 18:46:34

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	38	57	12	5	20
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	38	57	12	5	20
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	38	57	12	5	20
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	38	57	12	5	20

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	45	52	70	12	37
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	45	52	70	12	37
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	45	52	70	12	37
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	45	52	70	12	37

## 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	20061204 084156
H	20061204 015931

### 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
<input type="checkbox"/>
<input type="checkbox"/>

#### 4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1
<input type="checkbox"/>
<input type="checkbox"/>

### 4.2 - Cyclic statistics

#### 4.2.1 - Evolution for WVS

Evolution of cal pulses for WVS
<input type="checkbox"/>

**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	-3.957958	0.008431	-0.006616
7	P1	-3.151512	0.024036	0.004294
11	P1	-4.128859	0.025333	0.014411
15	P1	-6.299047	0.014762	-0.030840
19	P1	-3.616024	0.006287	-0.047885
22	P1	-4.647749	0.012944	-0.013345
26	P1	-3.948687	0.010579	0.004390
30	P1	-5.869413	0.009597	-0.045013
3	P1	-16.511854	0.236427	-0.035948
7	P1	-17.288607	0.179820	-0.038420
11	P1	-17.188318	0.453547	-0.112171
15	P1	-13.063350	0.137067	-0.004848
19	P1	-14.925902	0.091308	-0.149810
22	P1	-15.855538	0.527756	0.082436
26	P1	-15.050816	0.196588	0.024063
30	P1	-17.486097	0.476150	-0.085378

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.833122	0.091711	0.073503
7	P2	-21.731106	0.093995	0.001922
11	P2	-15.637068	0.102923	0.101733
15	P2	-7.120648	0.107348	0.013845
19	P2	-9.189713	0.104881	0.012741
22	P2	-18.233135	0.097477	-0.007851
26	P2	-16.557068	0.112013	-0.044679
30	P2	-19.469496	0.088531	0.030143

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.240144	0.008719	-0.010455
7	P3	-8.240144	0.008719	-0.010455
11	P3	-8.240144	0.008719	-0.010455
15	P3	-8.240144	0.008719	-0.010455
19	P3	-8.240144	0.008719	-0.010455
22	P3	-8.240144	0.008719	-0.010455
26	P3	-8.240067	0.008728	-0.010789
30	P3	-8.240067	0.008728	-0.010789

#### 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	-3.908225	0.024344	-0.003138
7	P1	-2.499371	0.115661	0.060827
11	P1	-2.854305	0.026727	0.033280
15	P1	-3.681587	0.040194	0.014994
19	P1	-3.525700	0.017346	-0.026404
22	P1	-5.035249	0.022339	0.048907
26	P1	-6.002079	0.027671	-0.036238
30	P1	-5.321545	0.038372	-0.048875
3	P1	-11.723534	0.085659	-0.032873
7	P1	-10.052872	0.193889	0.003556
11	P1	-10.324376	0.127554	0.013334
15	P1	-10.733978	0.156423	0.123587
19	P1	-15.697593	0.104677	-0.083925
22	P1	-21.474047	1.447175	-0.379968
26	P1	-16.053617	0.324460	-0.041898
30	P1	-17.894566	0.388235	0.072527

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.460644	0.102942	0.003574
7	P2	-22.225237	0.265361	0.003507
11	P2	-10.930711	0.114664	0.072097
15	P2	-4.969637	0.210205	-0.025918
19	P2	-6.952245	0.245297	0.004517
22	P2	-8.252804	0.168679	0.021501
26	P2	-24.322657	0.179222	0.041658
30	P2	-21.949654	0.142306	0.026382

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.086469	0.003800	-0.003681
7	P3	-8.086488	0.003789	-0.003551
11	P3	-8.086524	0.003800	-0.003432
15	P3	-8.086429	0.003795	-0.003575
19	P3	-8.086497	0.003799	-0.003405
22	P3	-8.086419	0.003796	-0.003799
26	P3	-8.086404	0.003805	-0.003591
30	P3	-8.086461	0.003808	-0.003025

## 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	0.000547703
	stdev	1.78664e-07
MEAN Q	mean	0.000518854
	stdev	2.20321e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.136840
	stdev	0.00114204
STDEV Q	mean	0.137208
	stdev	0.00116004



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006120[234]

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_WSM_1PNPDE20061202_010155_000000672053_00260_24863_5042.N1	0	35
ASA_WSM_1PNPDE20061202_010155_000001402053_00260_24863_5534.N1	0	35
ASA_WSM_1PNPDE20061202_170159_000000792053_00270_24873_5632.N1	0	11
ASA_WSM_1PNPDE20061203_003118_000001832053_00274_24877_6506.N1	0	34
ASA_WSM_1PNPDE20061203_003118_000001832053_00274_24877_6579.N1	0	34
ASA_WSM_1PNPDE20061203_003118_000001832053_00274_24877_6802.N1	0	34
ASA_WSM_1PNPDE20061203_003118_000001832053_00274_24877_6989.N1	0	34
ASA_WSM_1PNPDE20061203_003118_000001832053_00274_24877_7194.N1	0	34
ASA_WSM_1PNPDE20061203_231436_000000982053_00288_24891_7851.N1	0	57



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

#### 7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

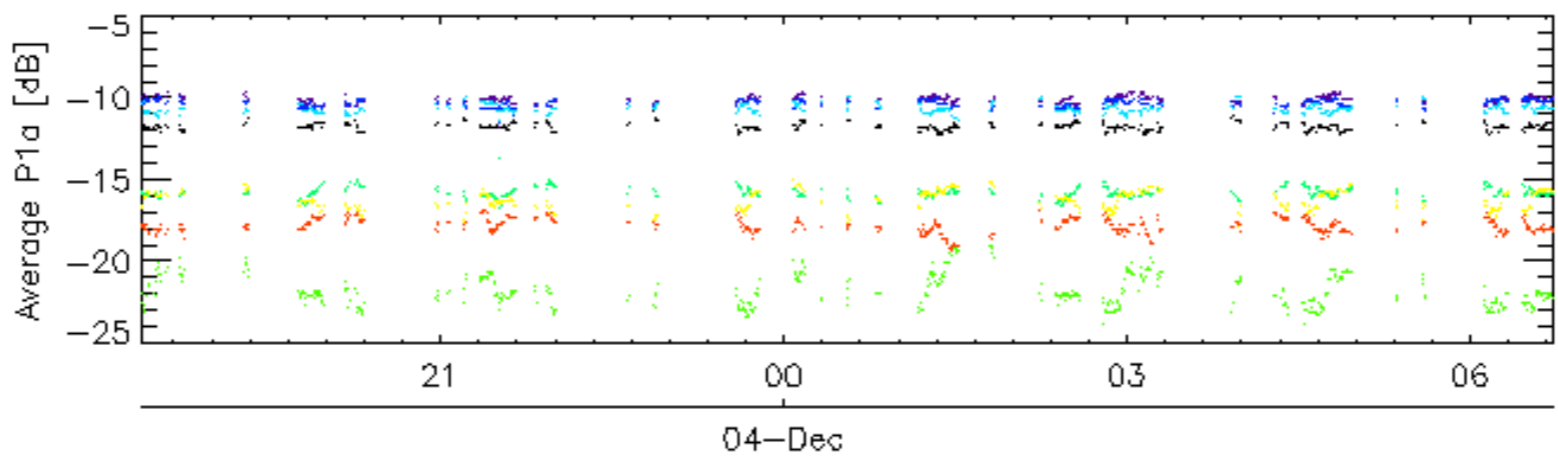
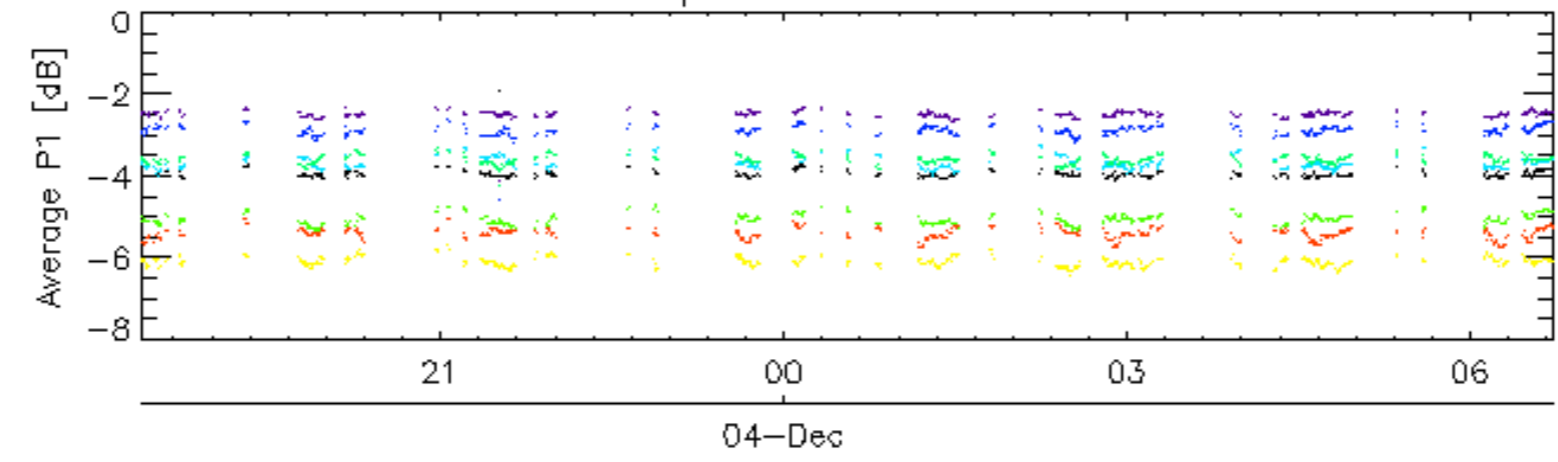
<input type="checkbox"/>	
	Ascending
<input type="checkbox"/>	
	Descending

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

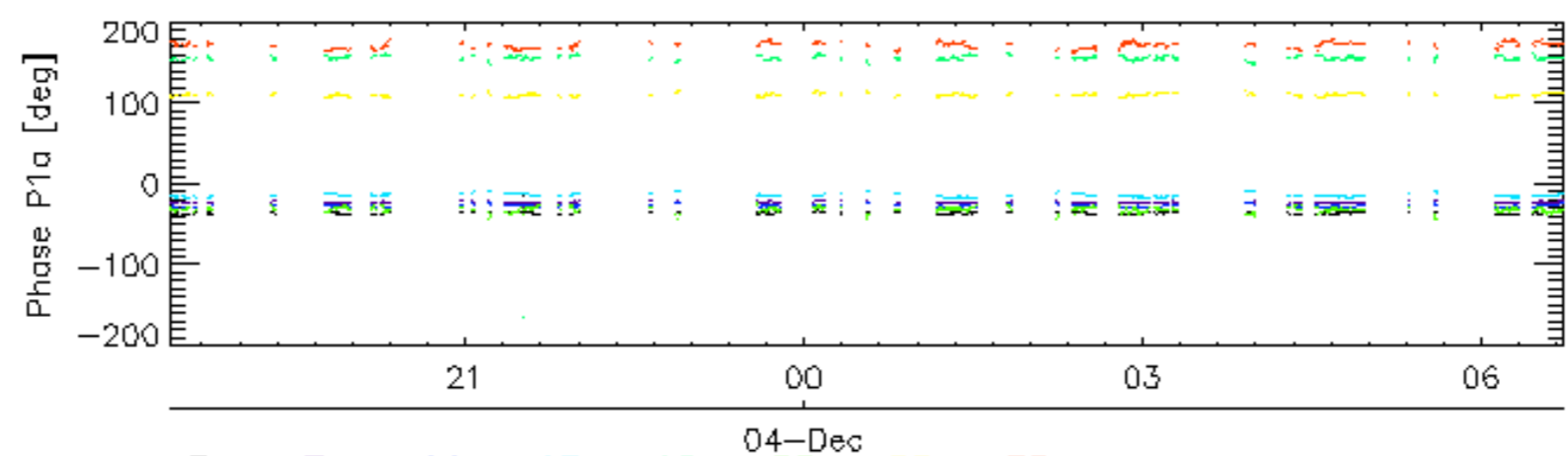
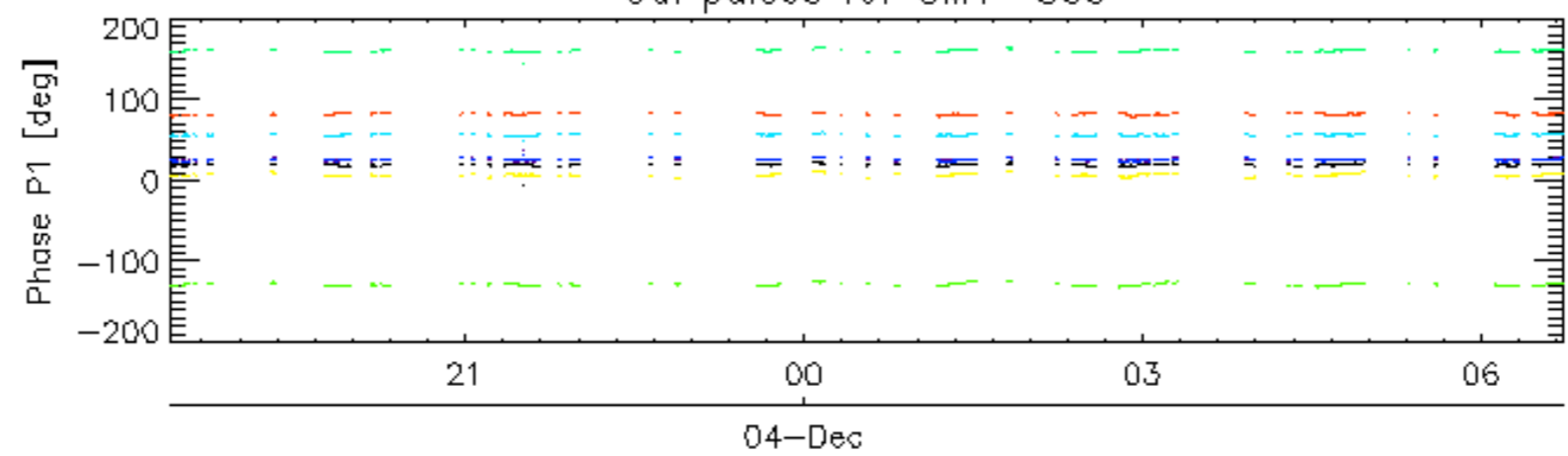
Evolution Doppler error versus ANX

<input type="checkbox"/>	
--------------------------	--

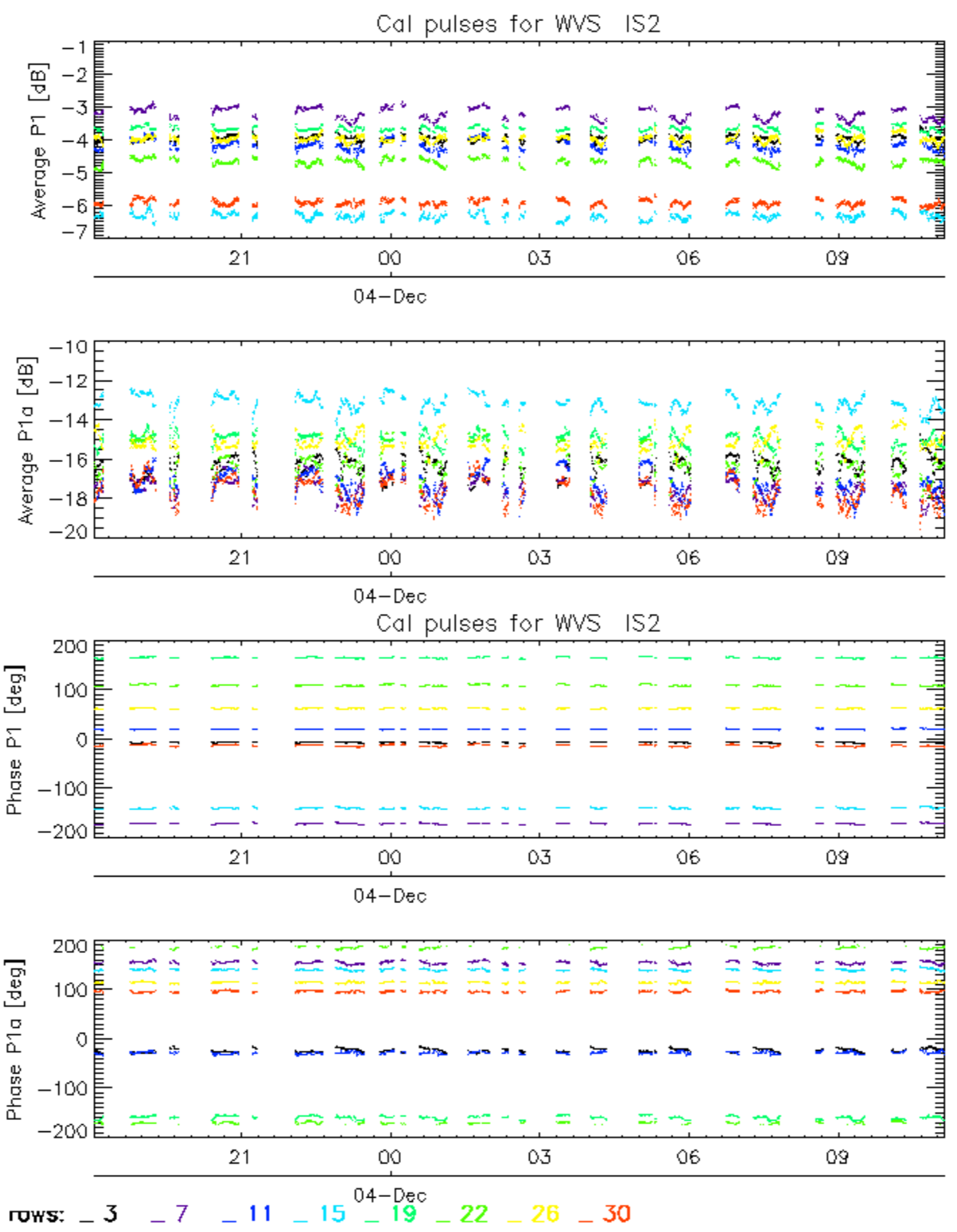
Cal pulses for GM1 SS3



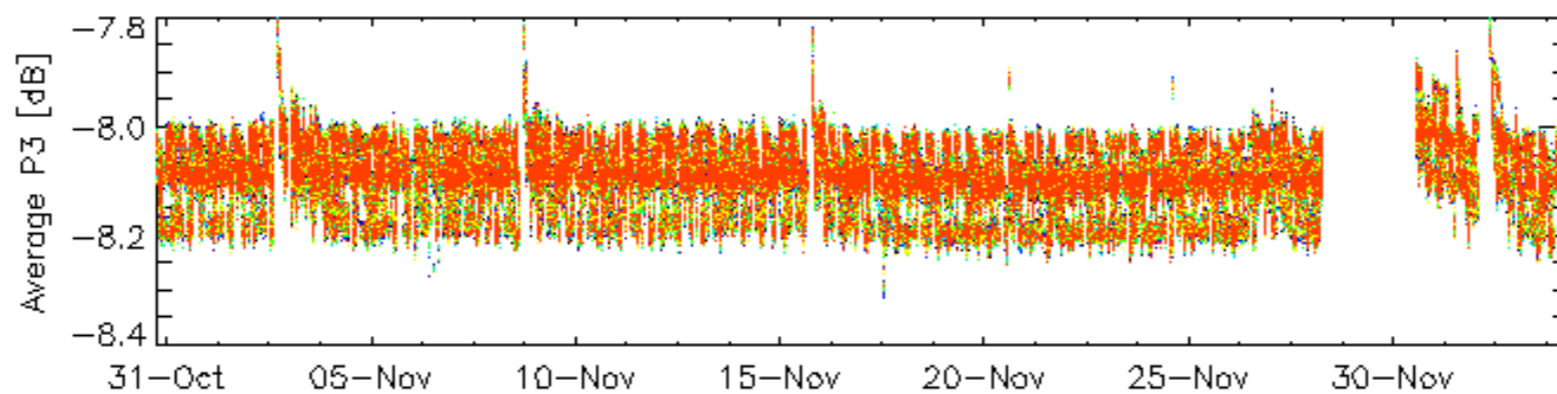
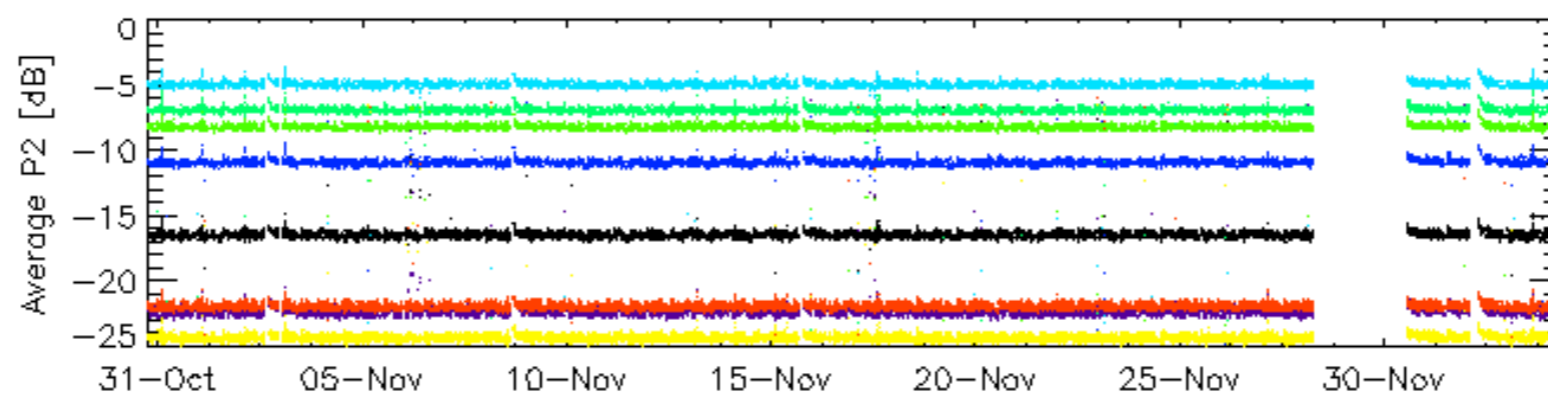
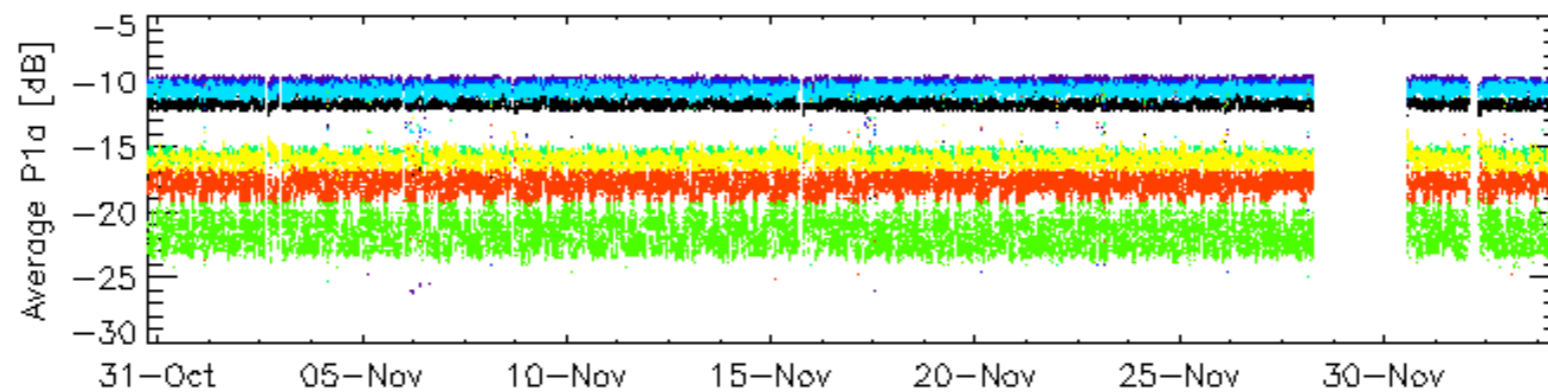
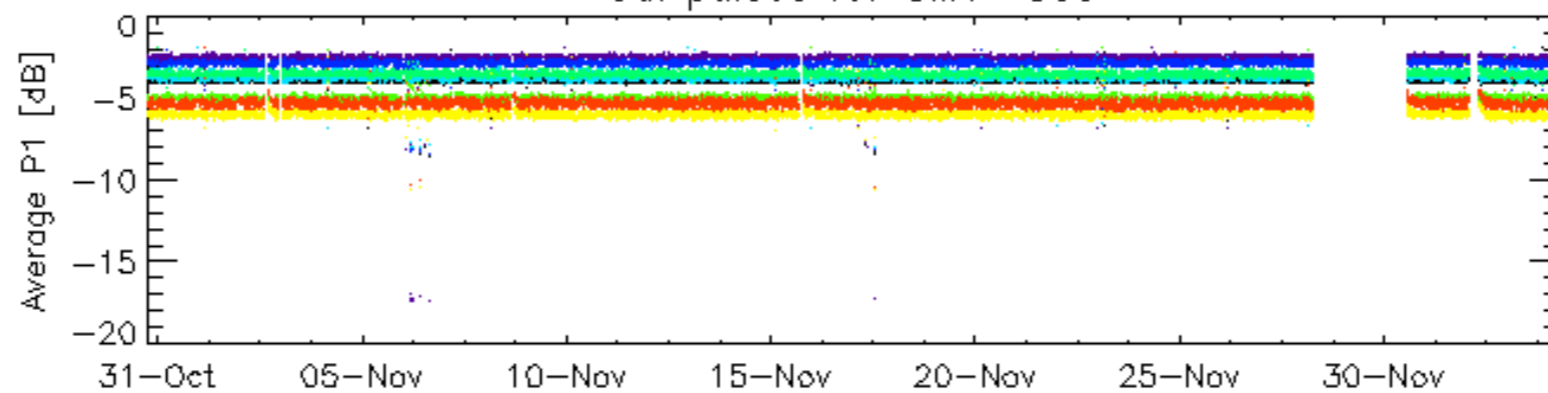
Cal pulses for GM1 SS3



rows: 3 7 11 15 19 22 26 30

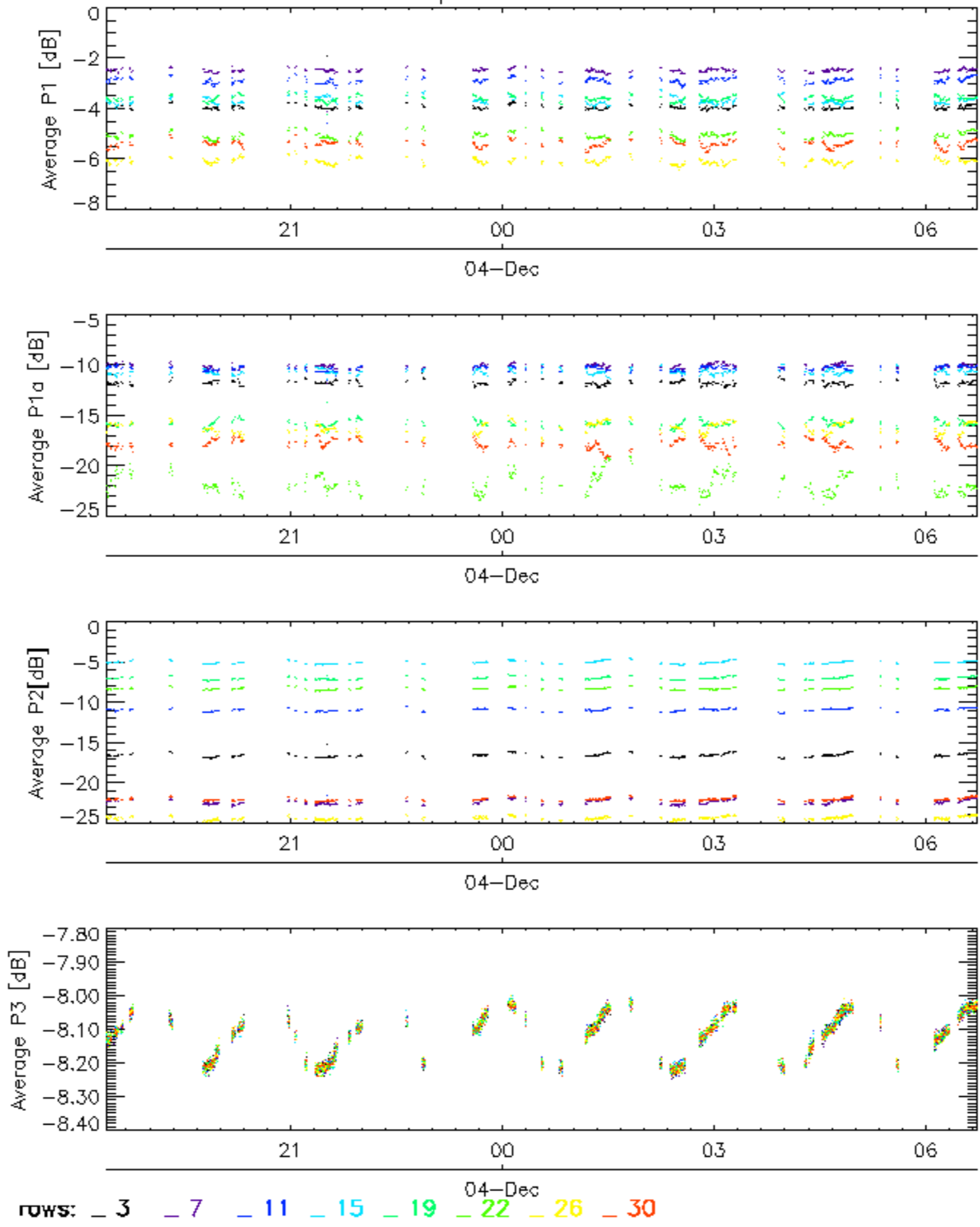


Cal pulses for GM1 SS3

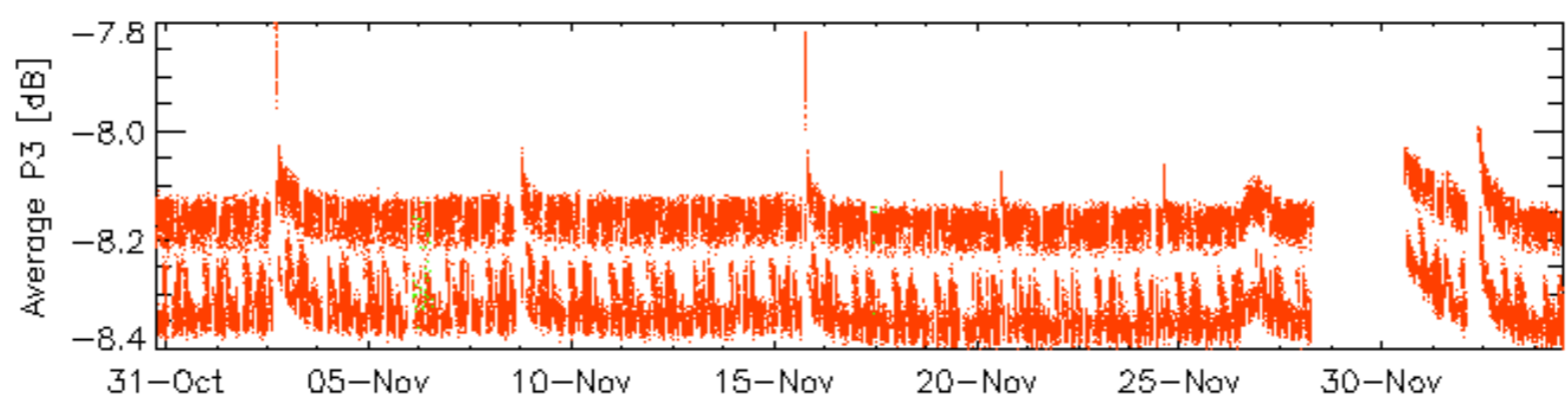
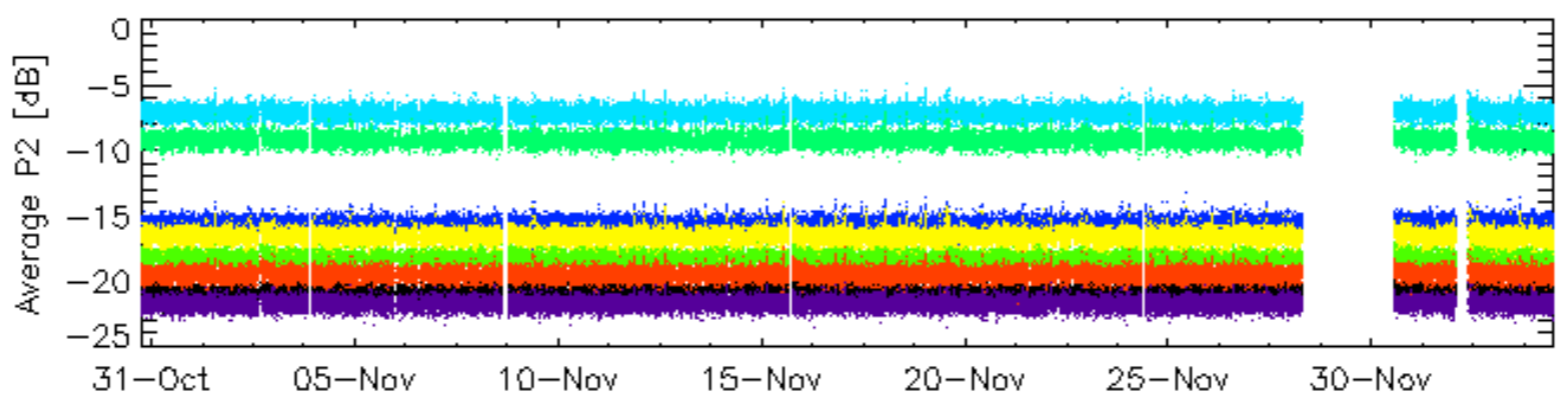
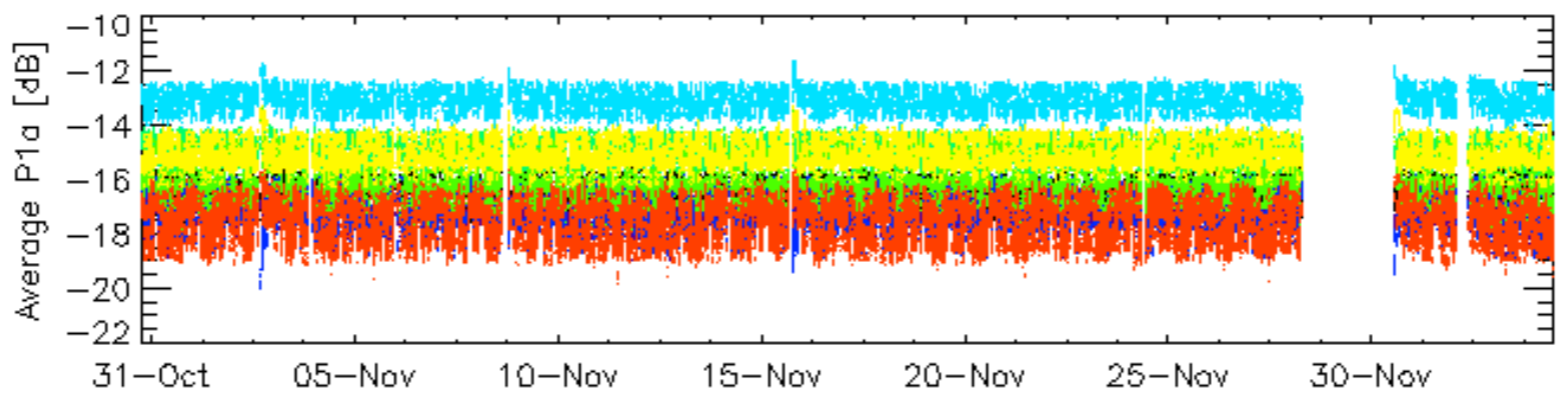
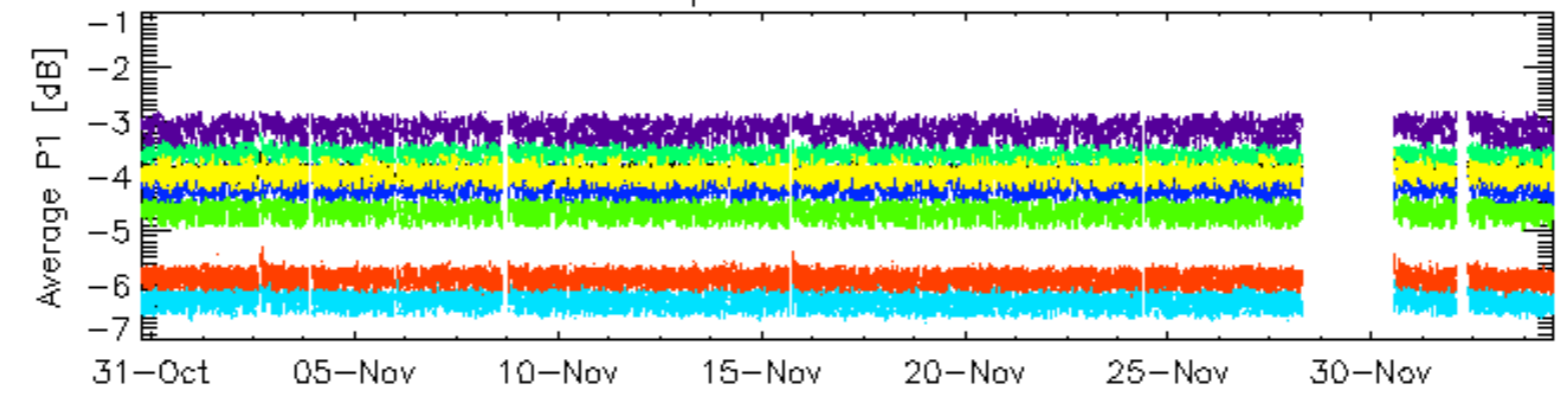


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3



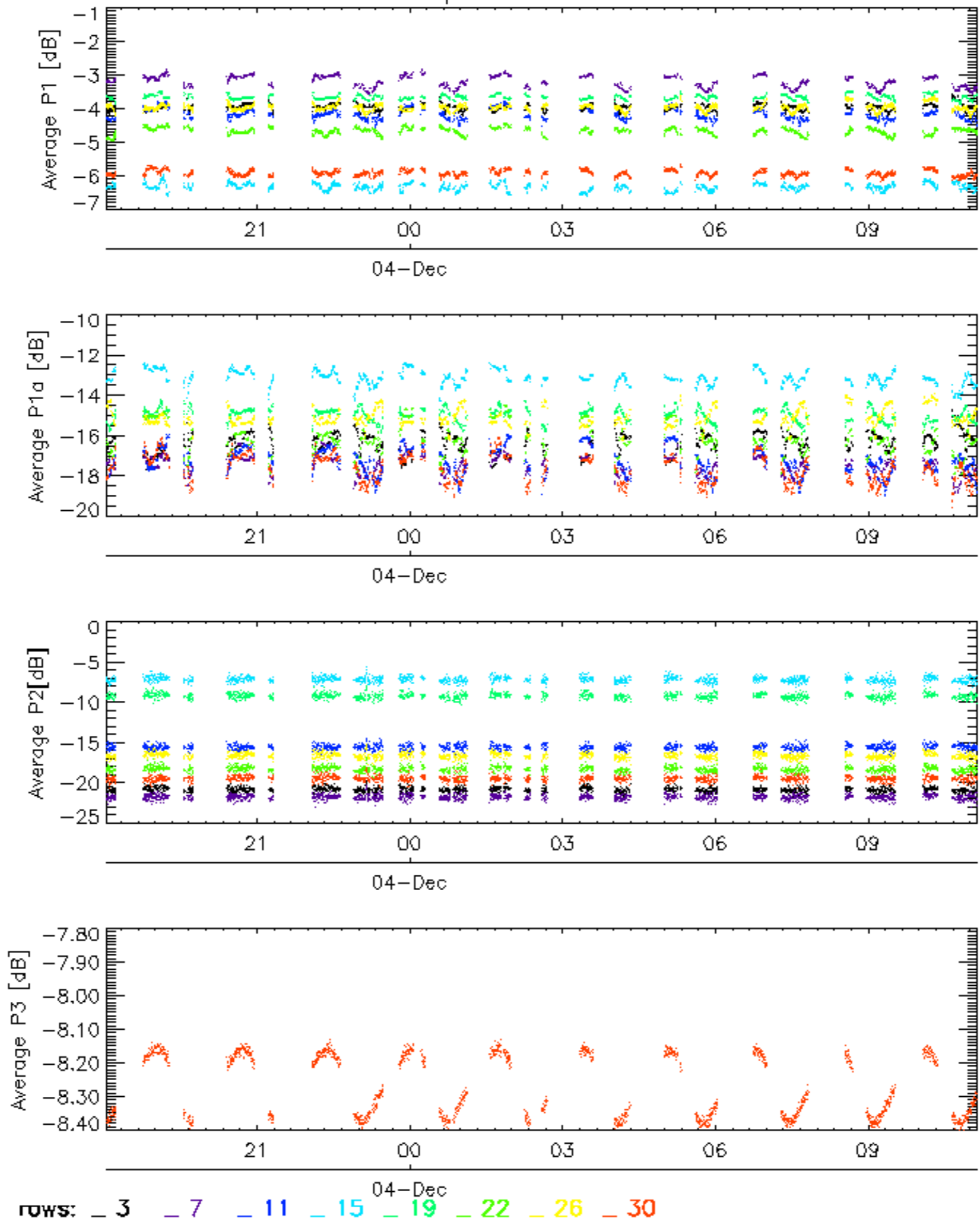
Cal pulses for WVS IS2



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

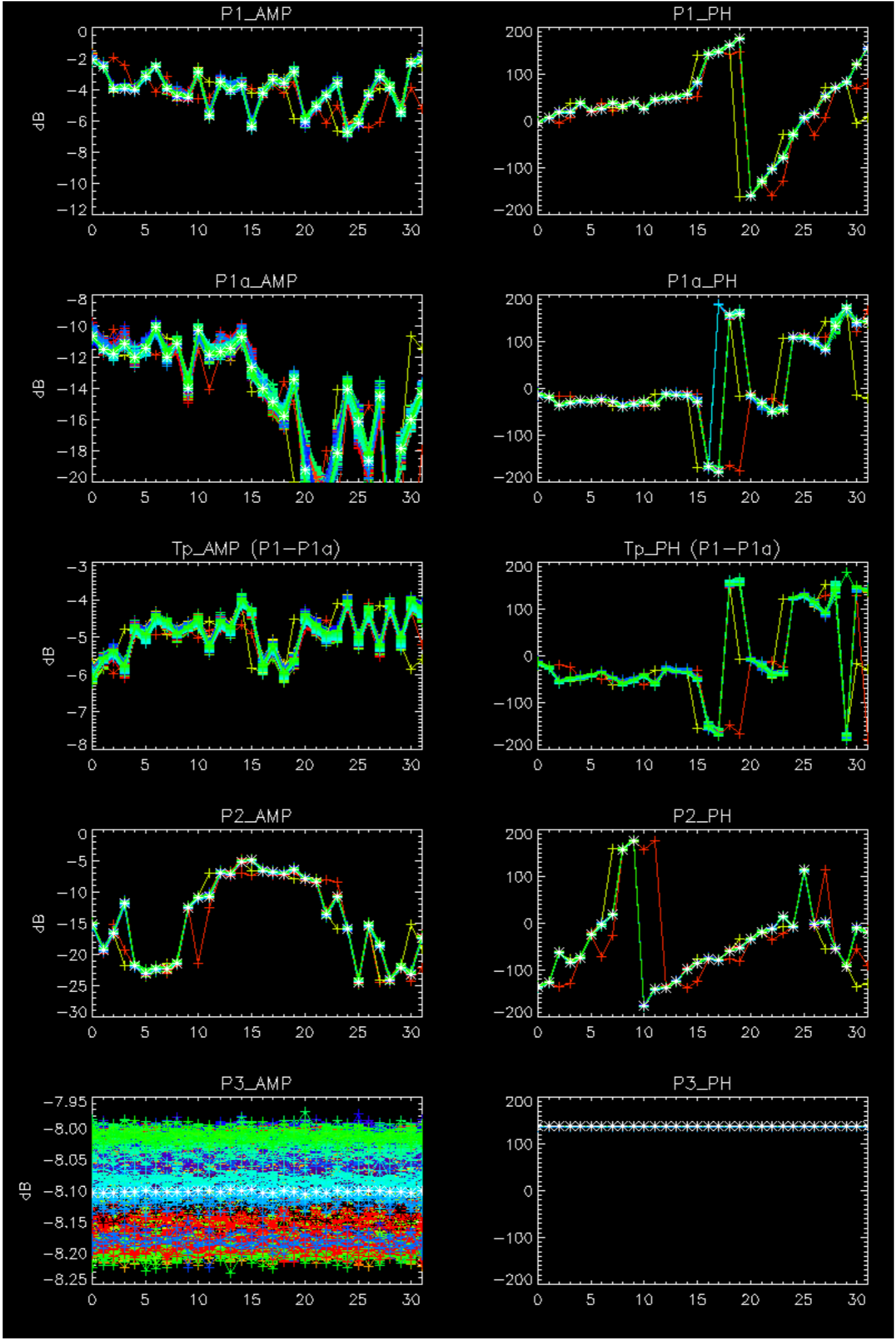


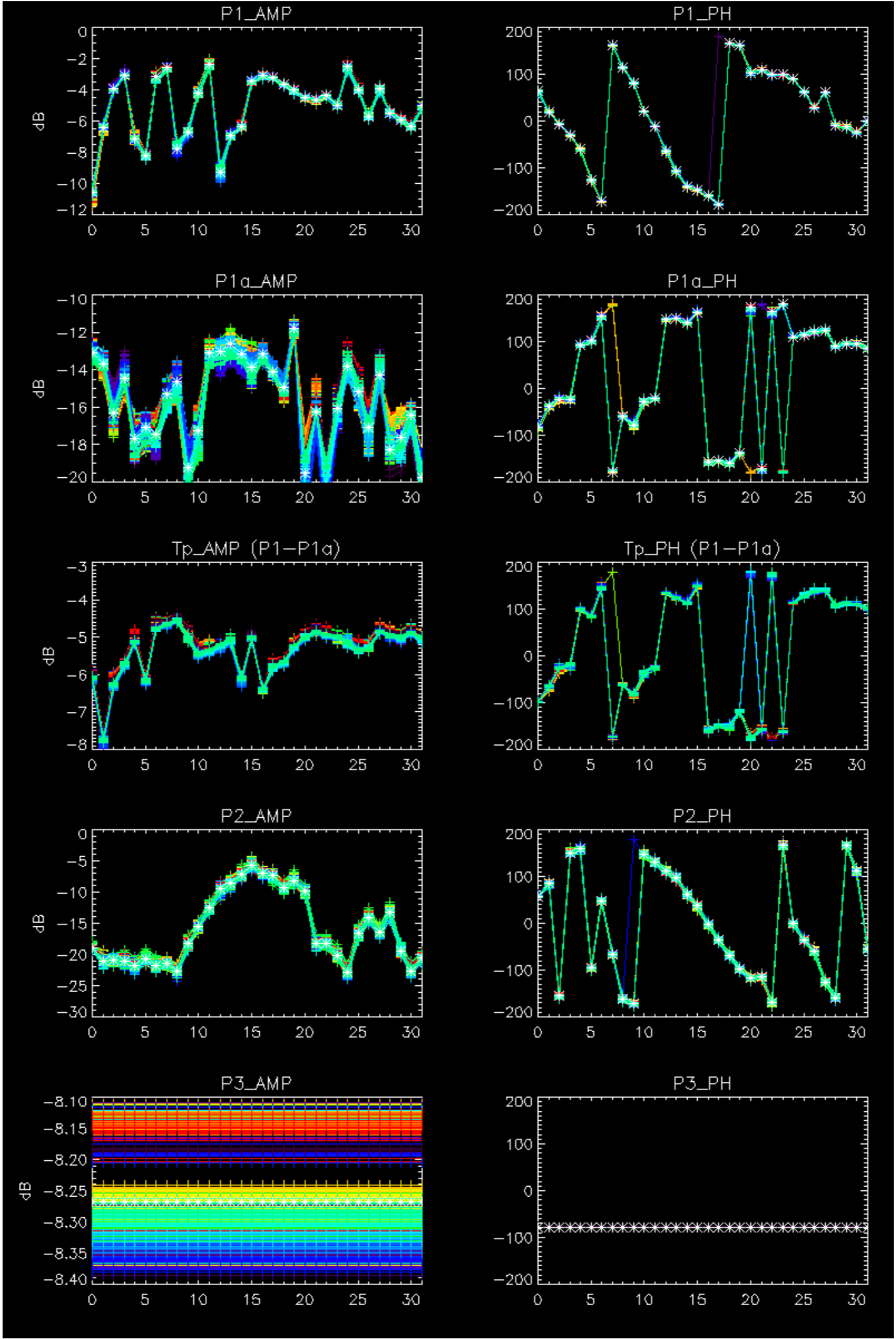
Cal pulses for WVS IS2



No anomalies observed.





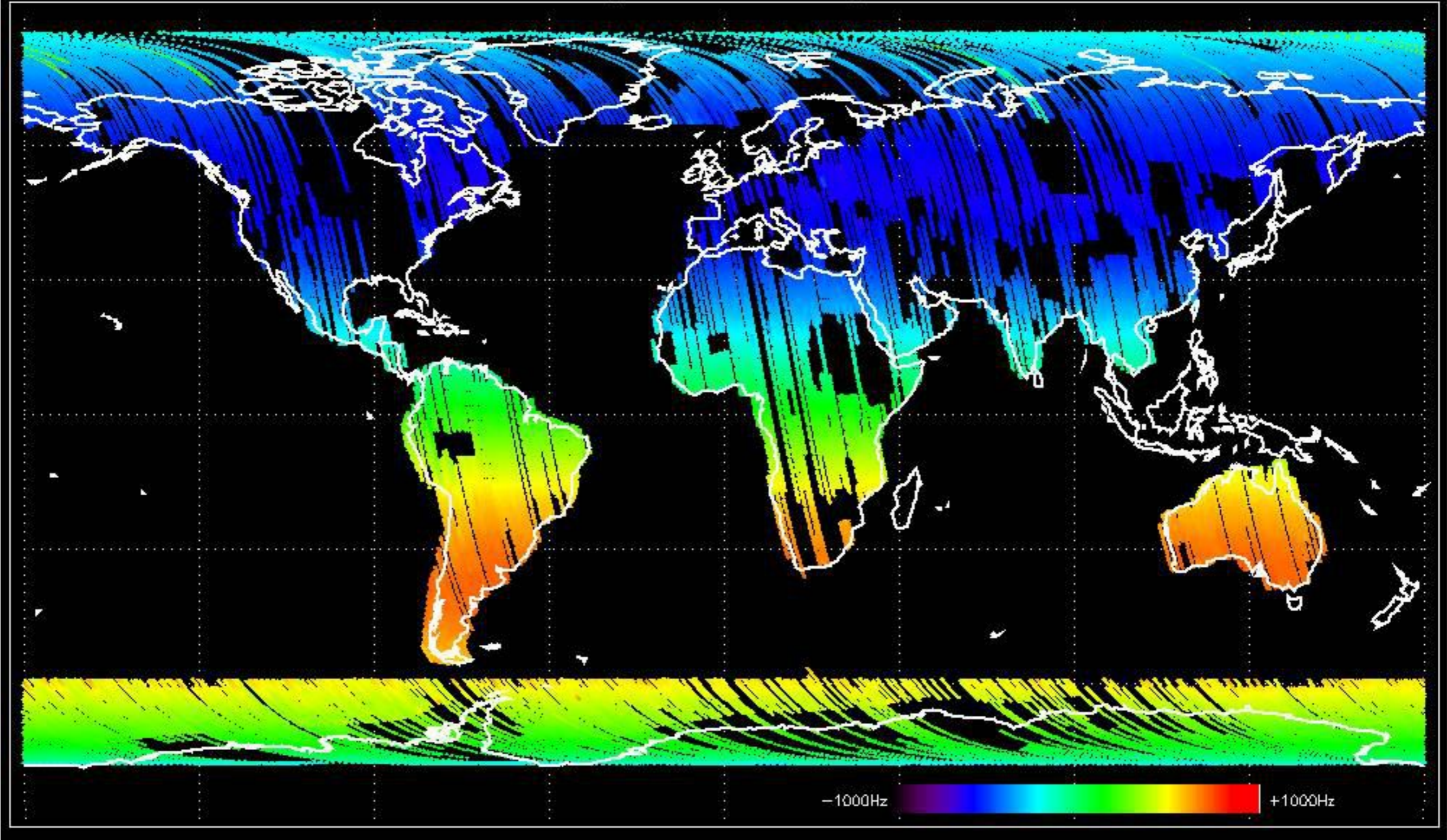


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



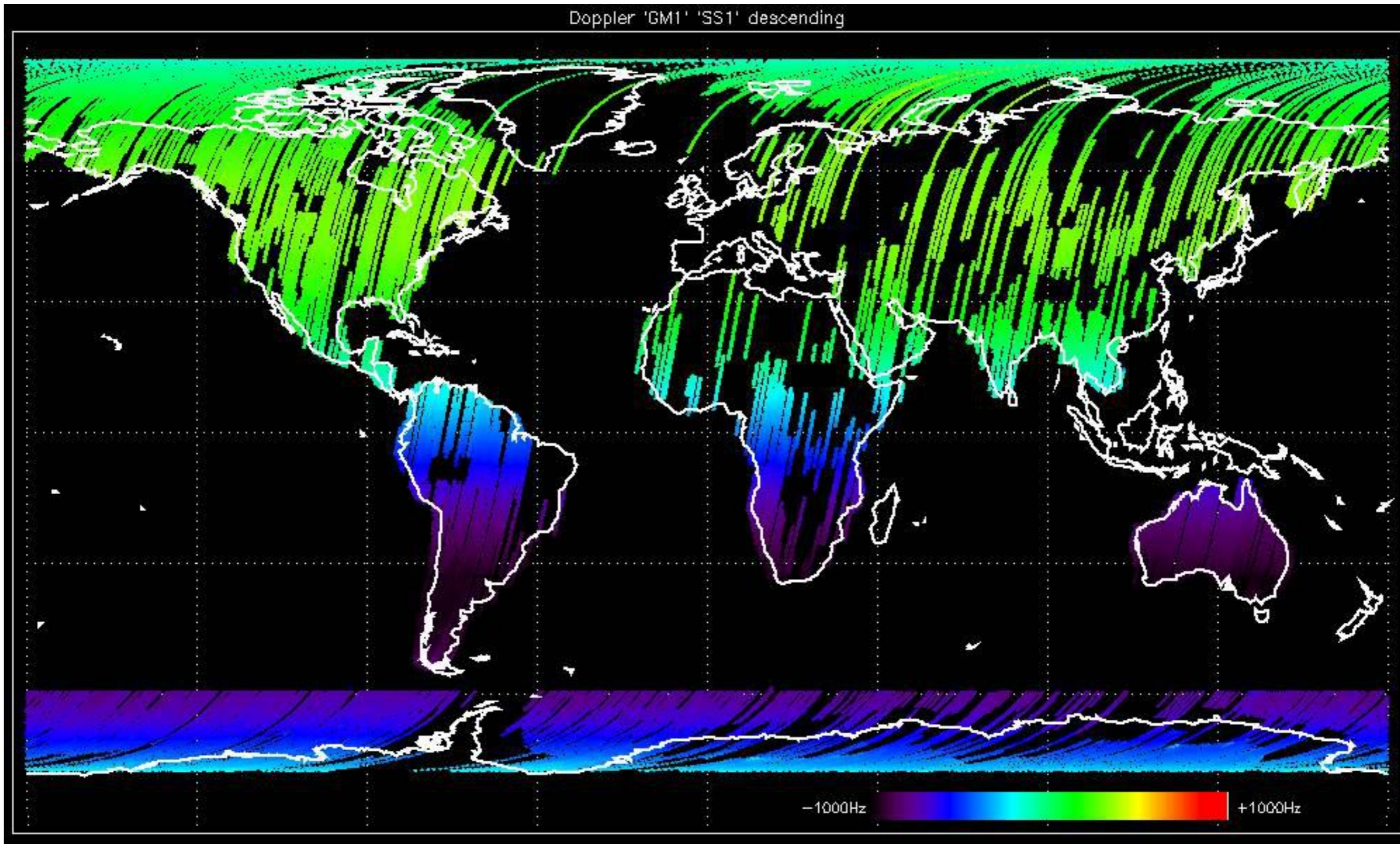


Doppler 'GM1' 'SS1' ascending



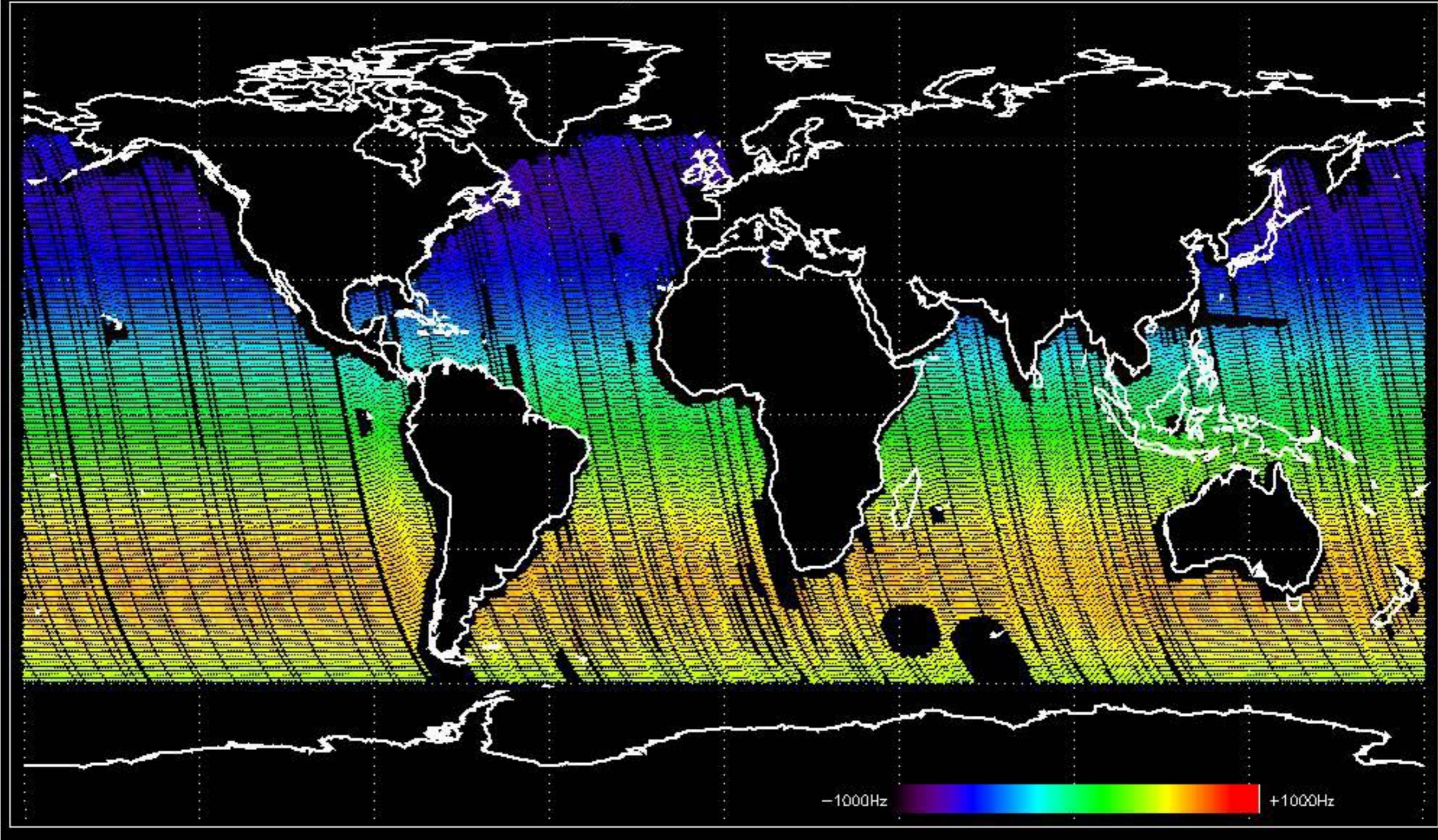


Doppler 'GM1' 'SS1' descending



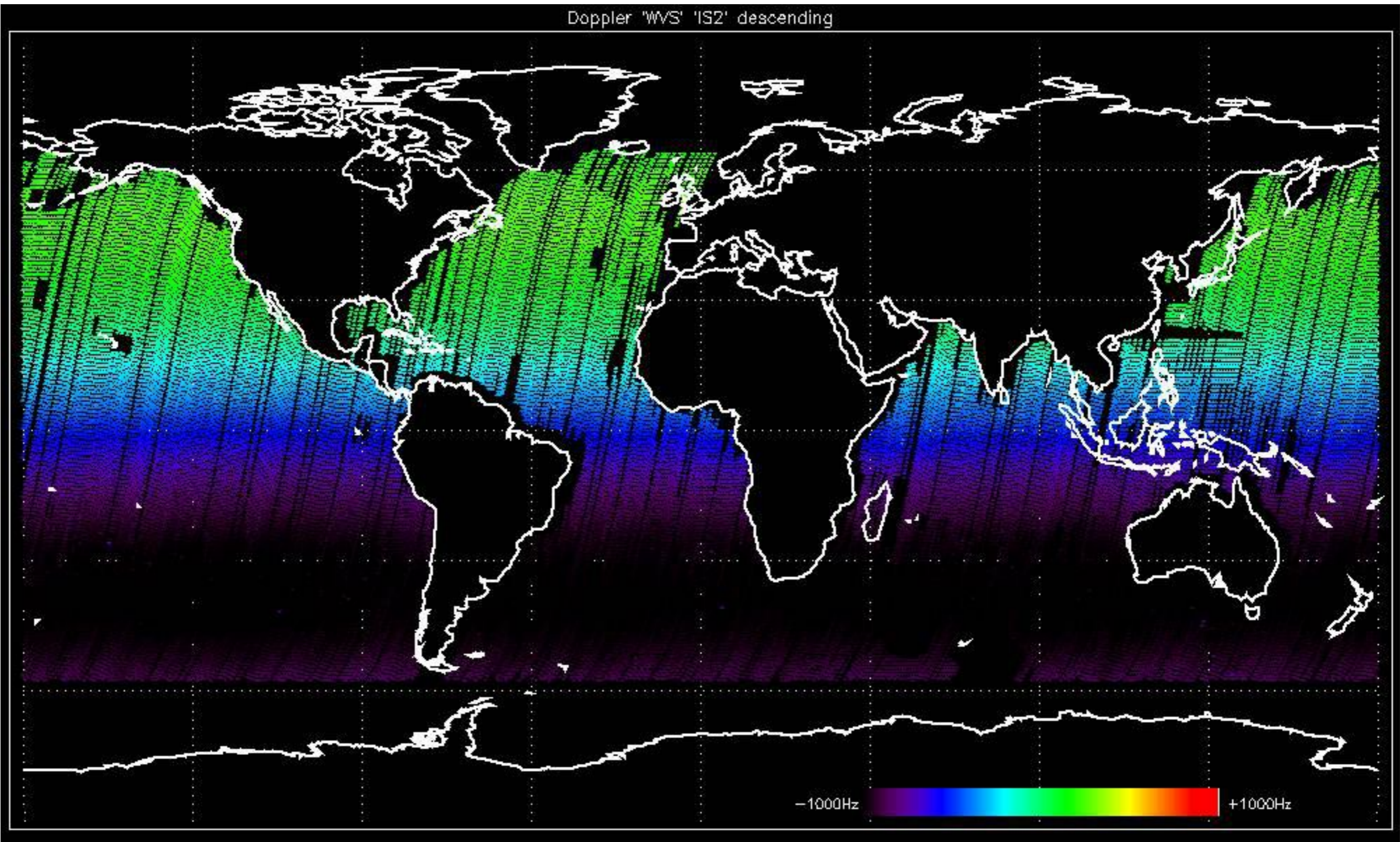


Doppler 'WVS' 'IS2' ascending

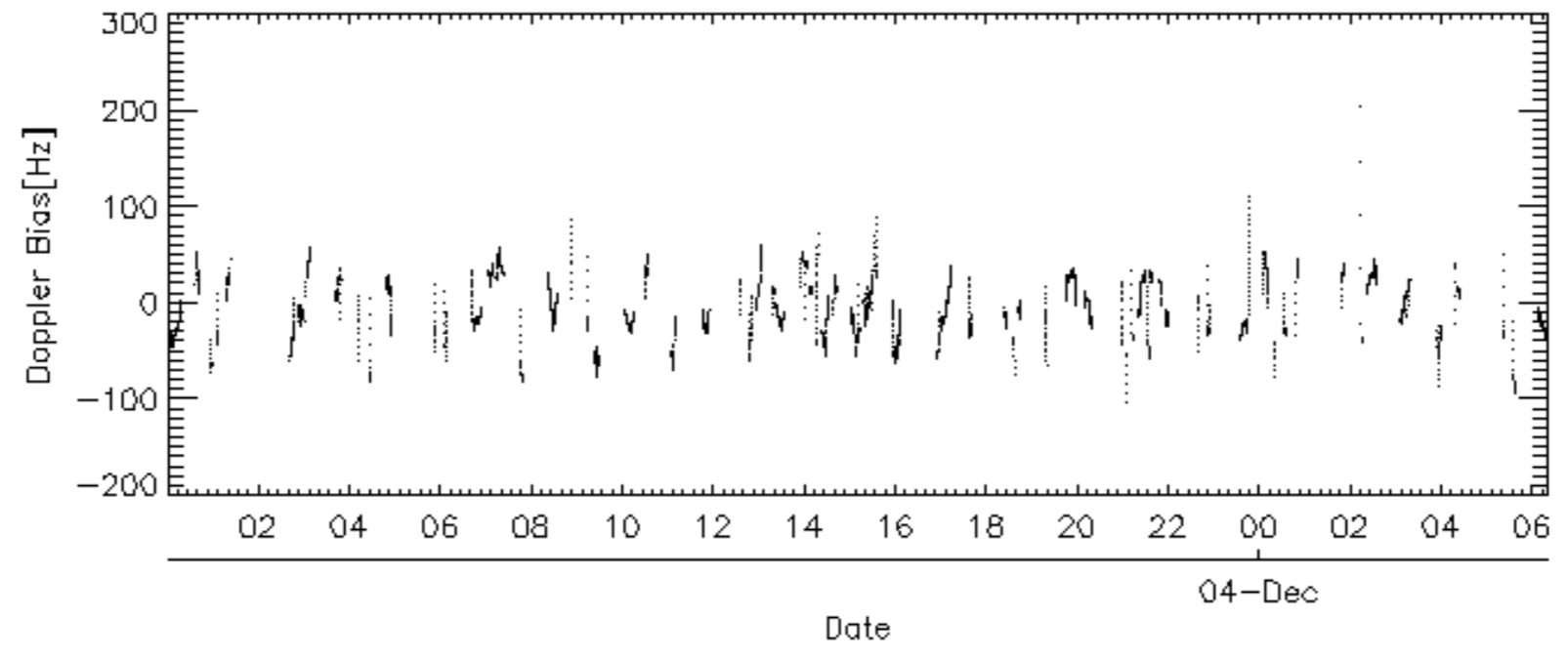
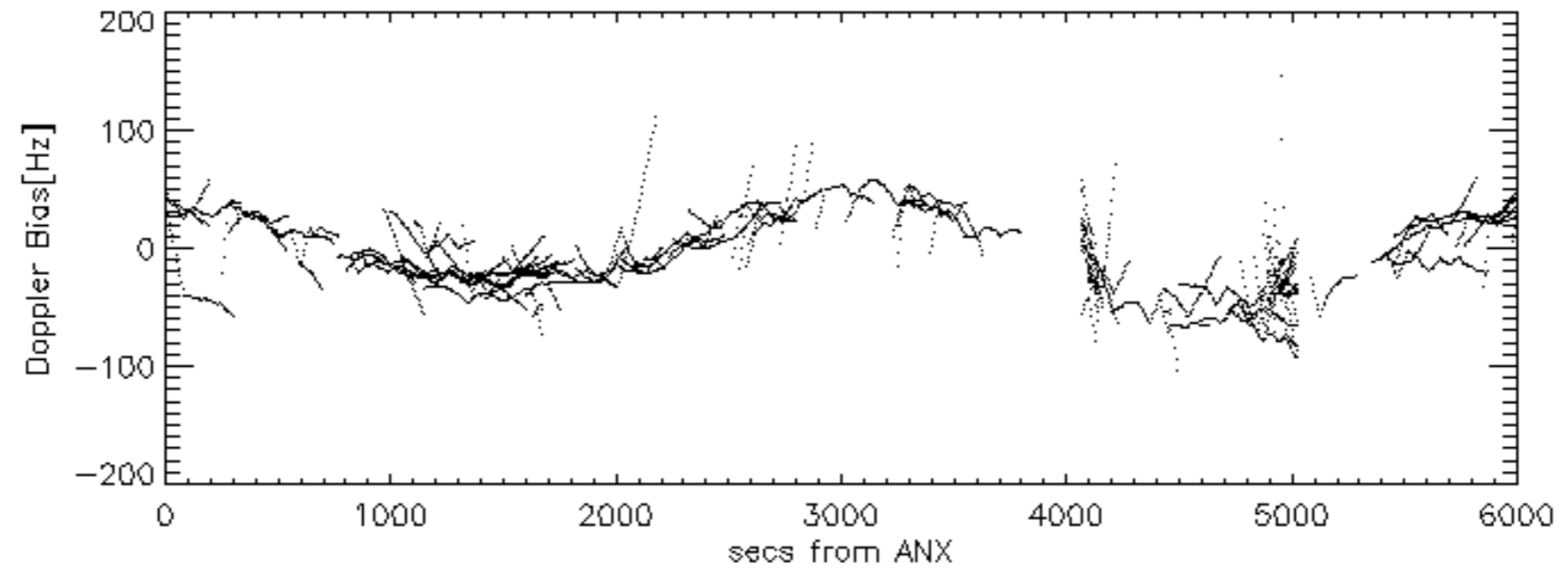
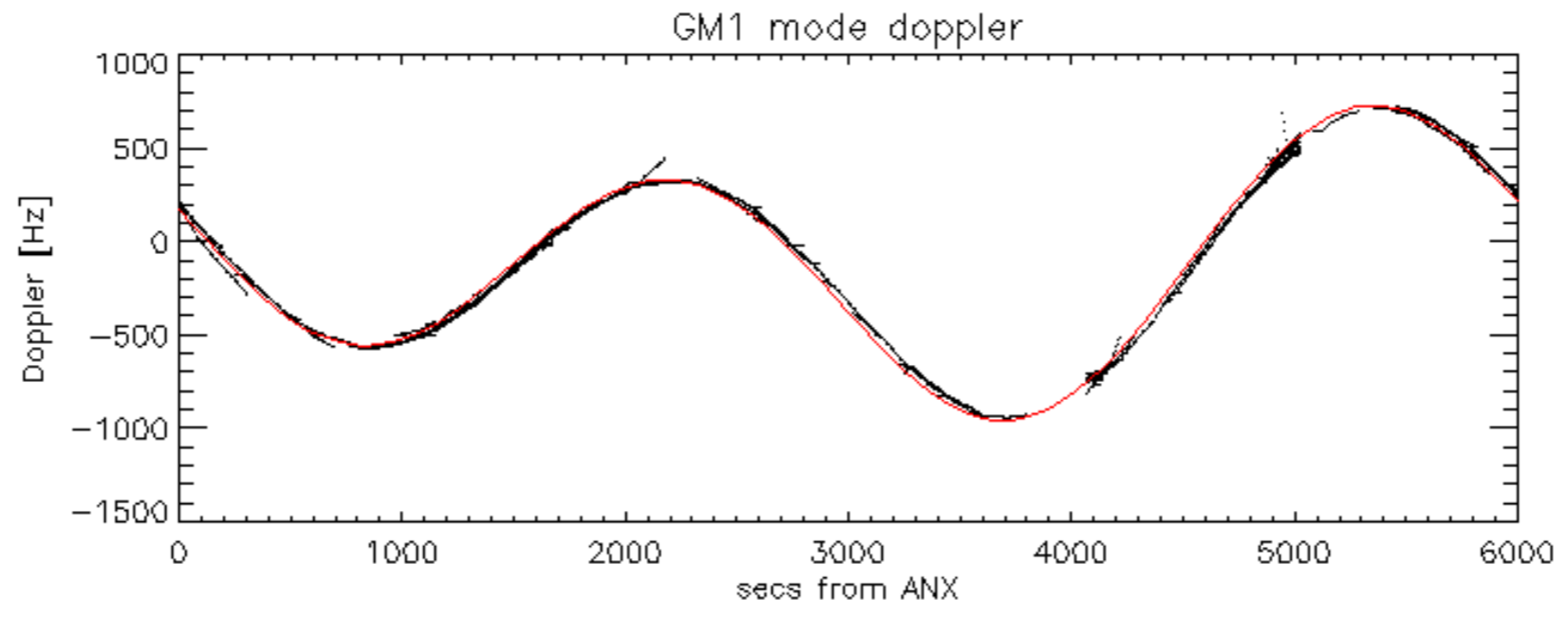


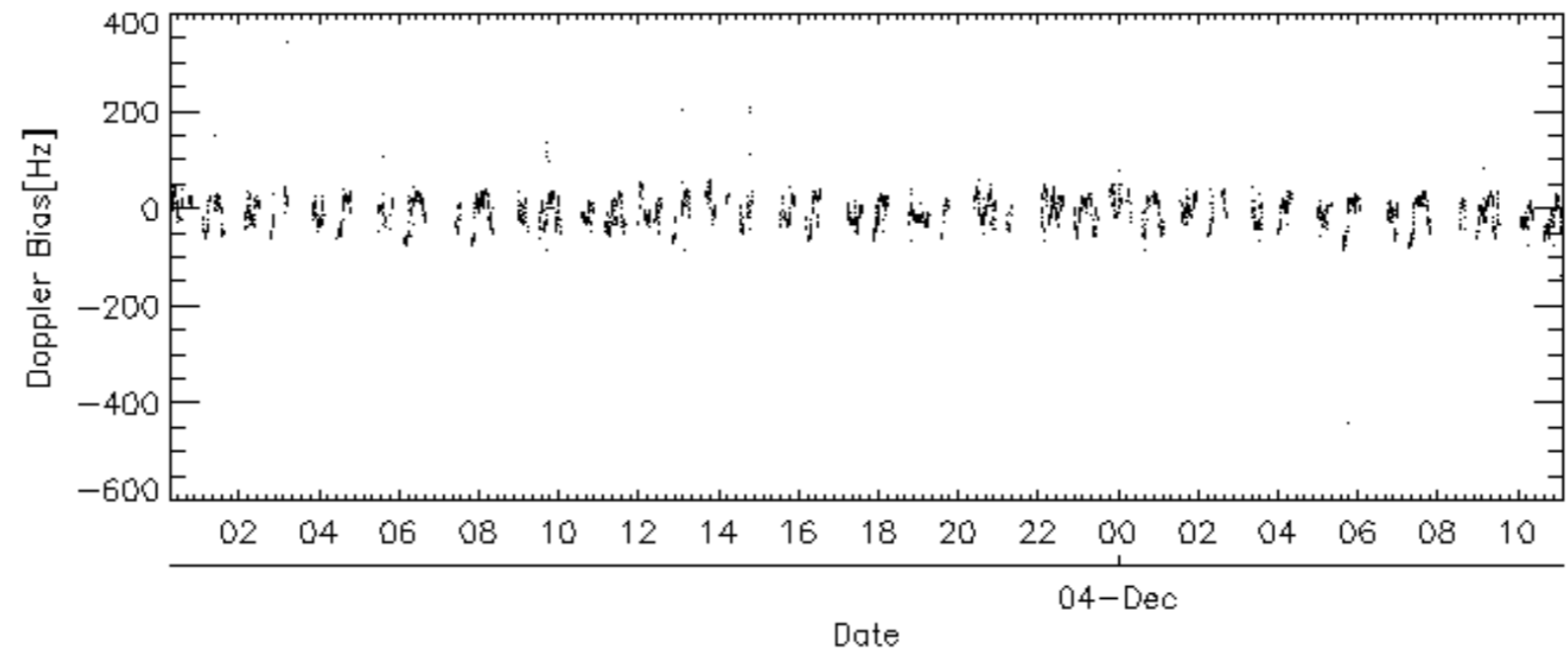
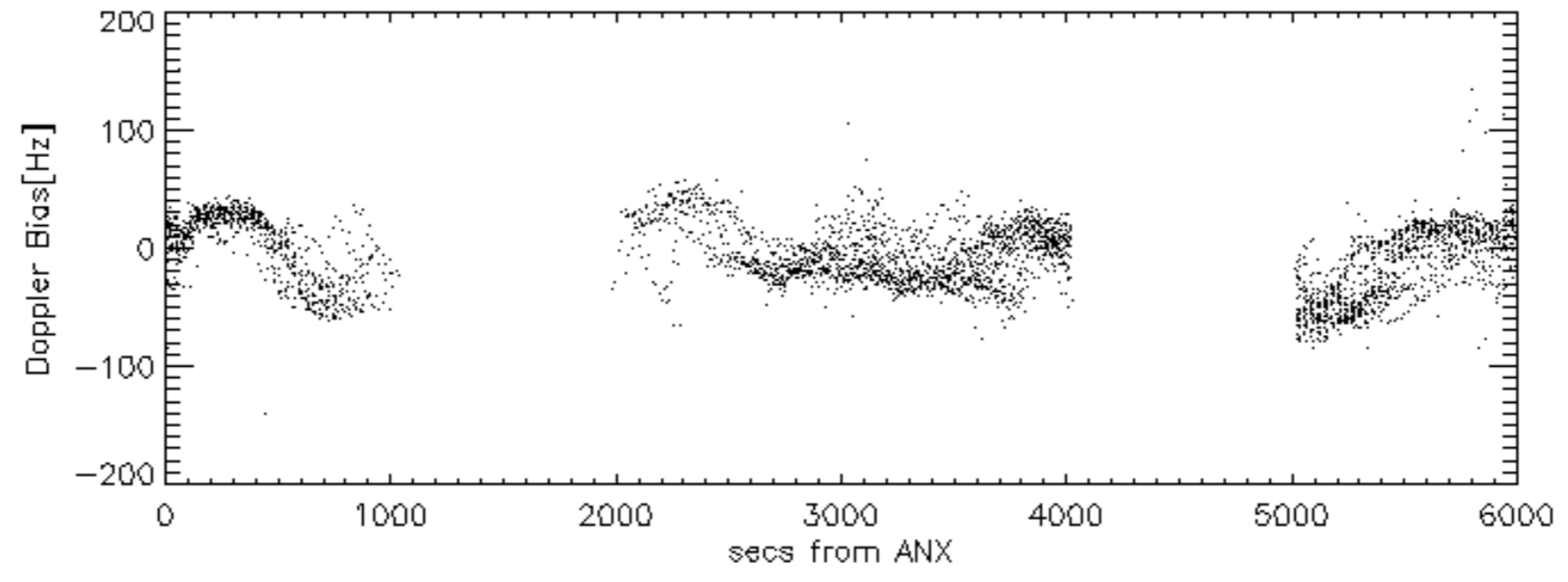
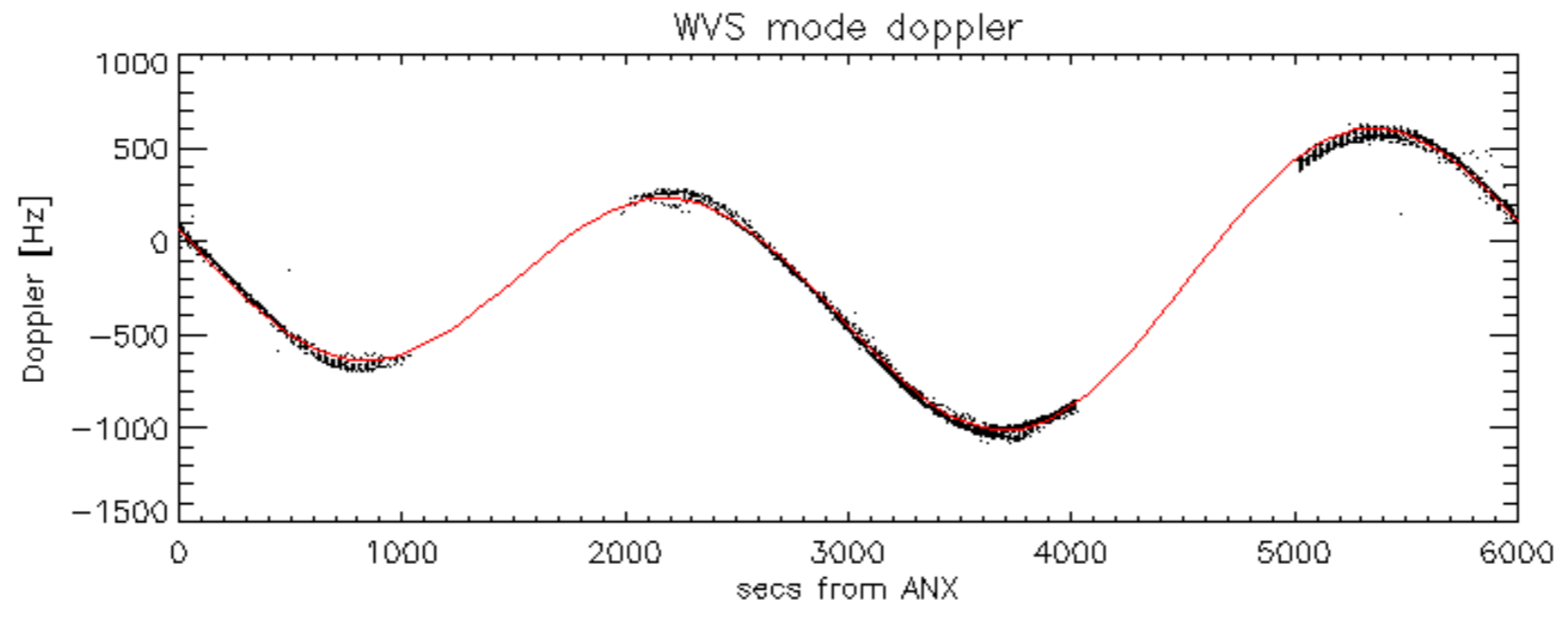


Doppler 'WVS' 'IS2' descending



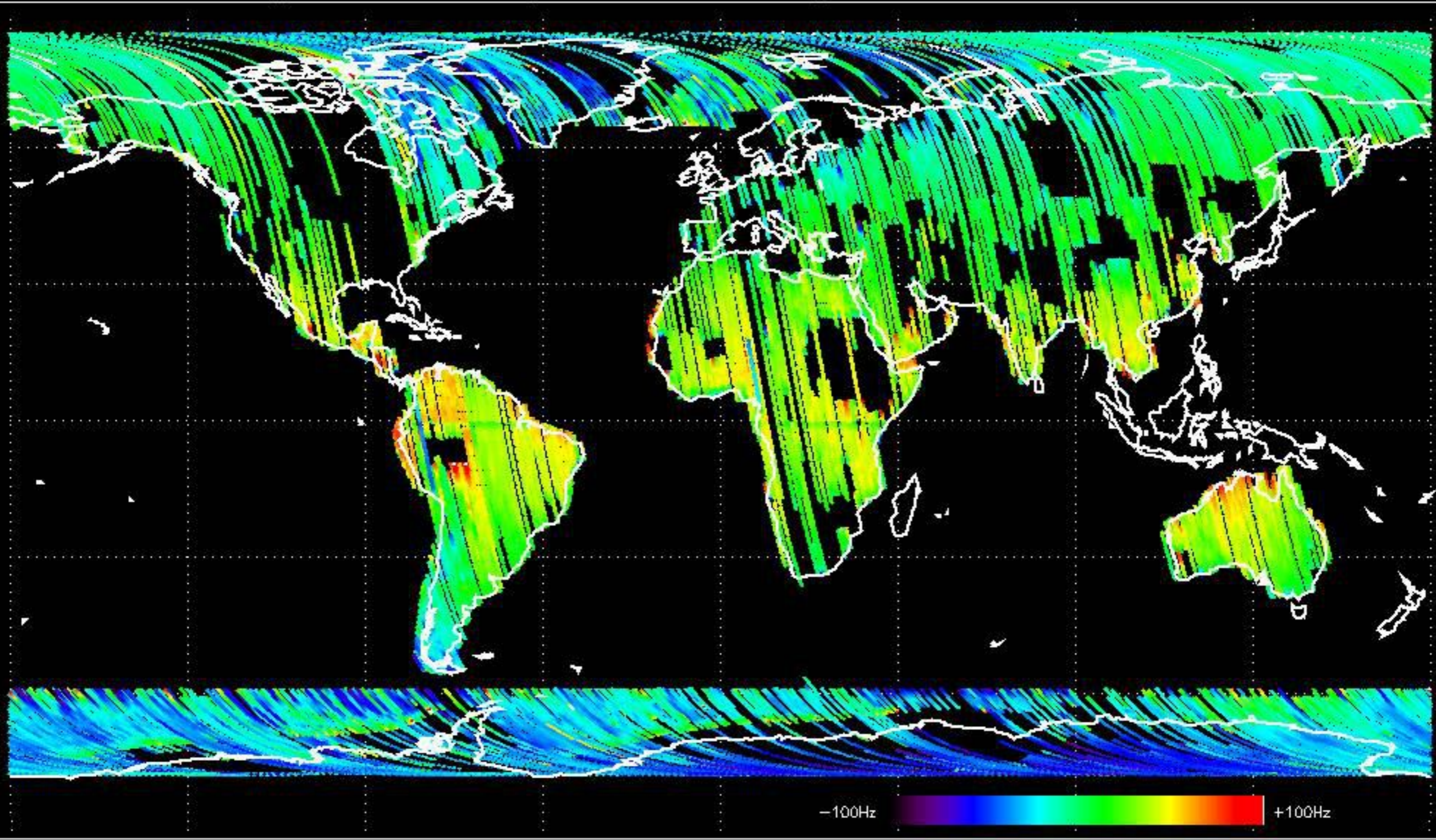






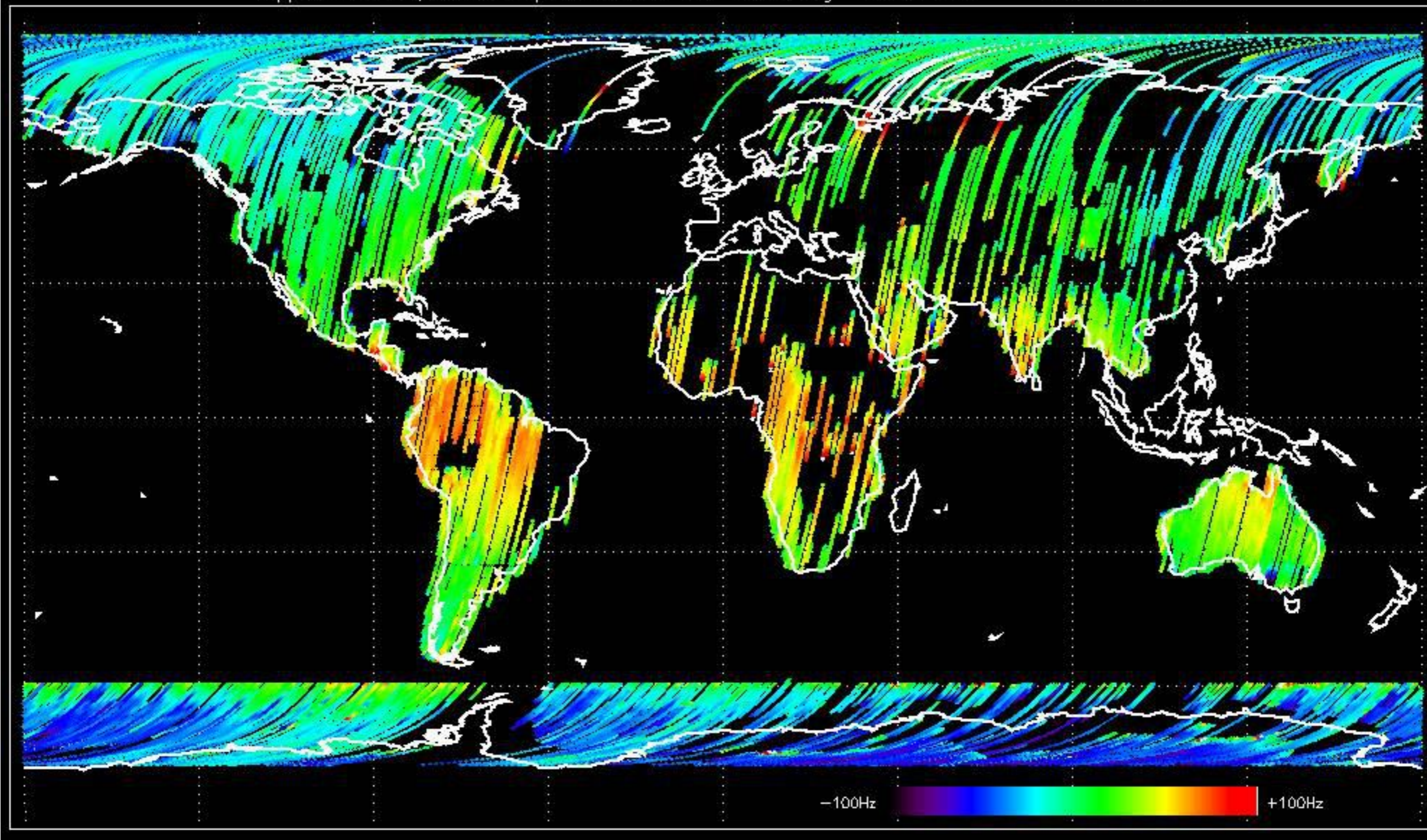


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -19.252913 Hz



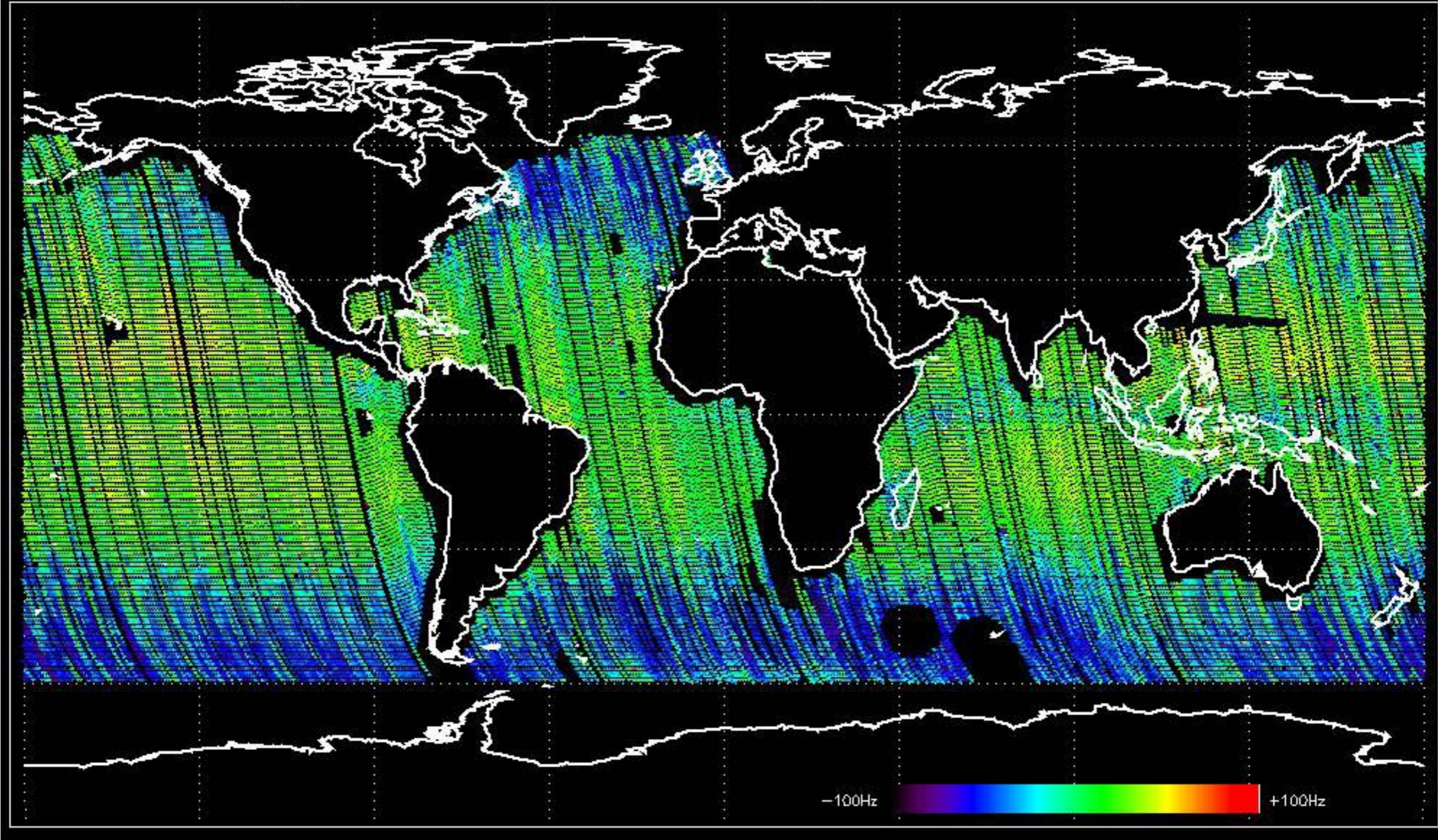


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -12.516326 Hz



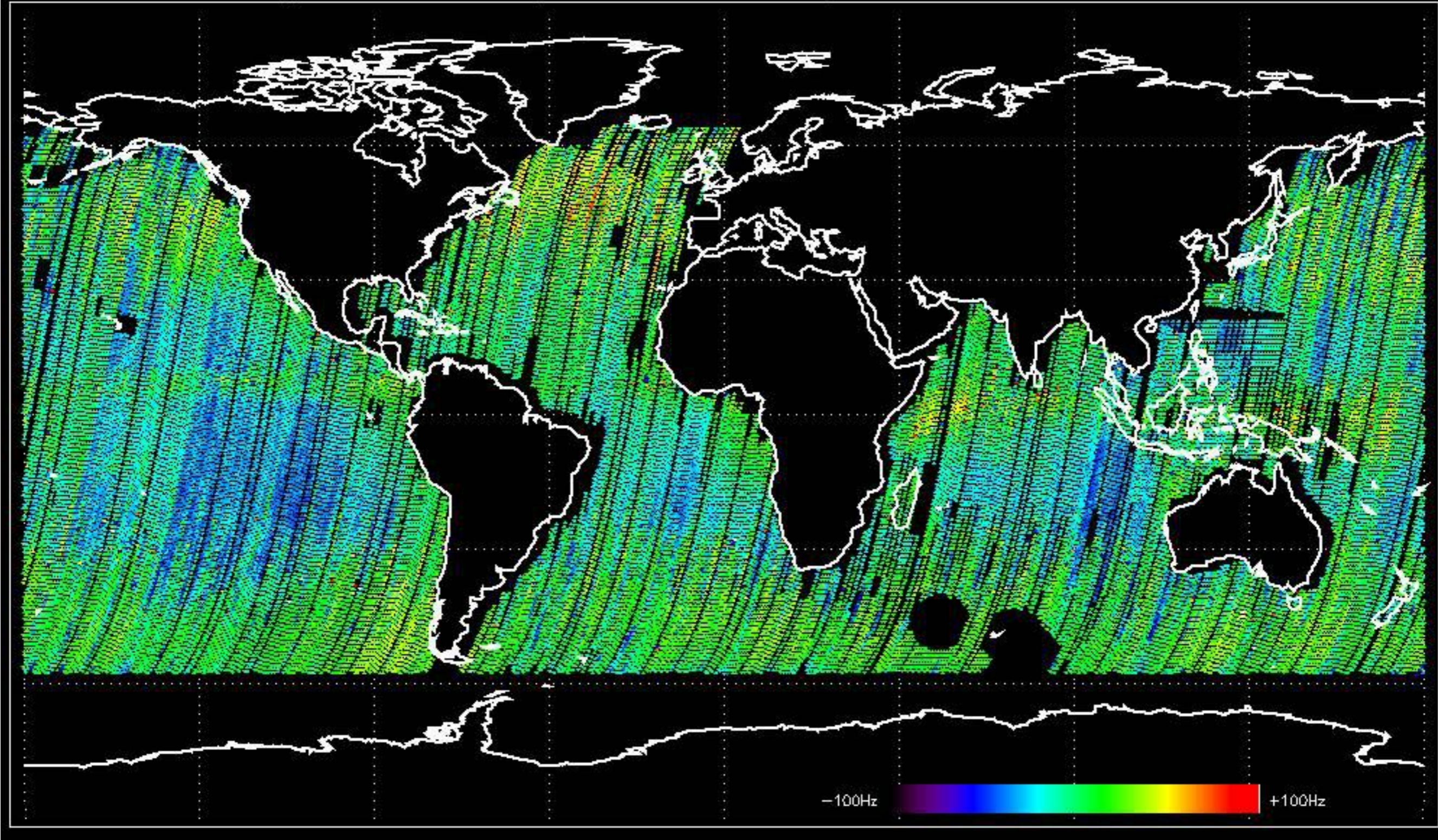


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -8.5350925 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -8.3516361 Hz





No anomalies observed on available MS products:

No anomalies observed.















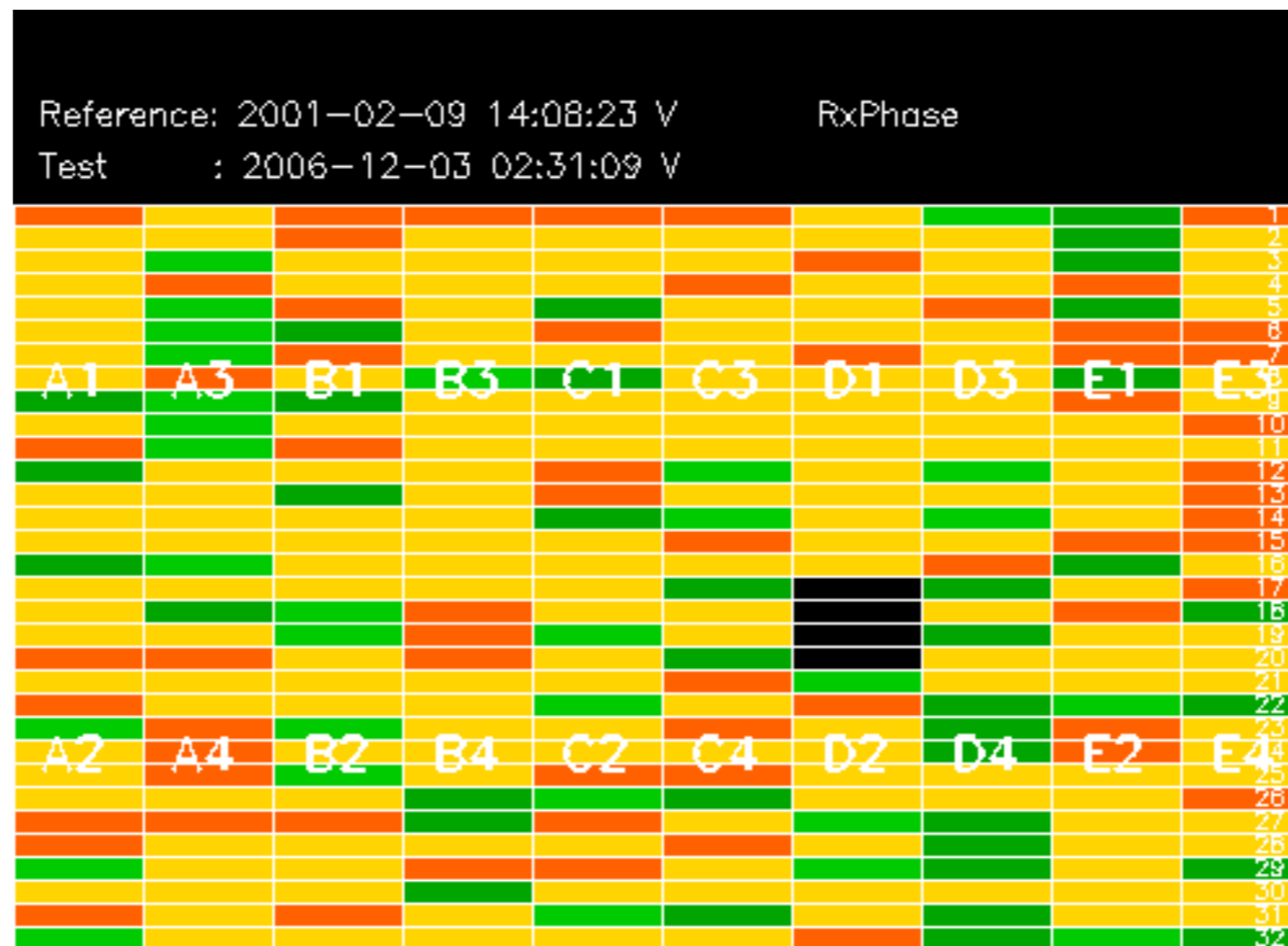




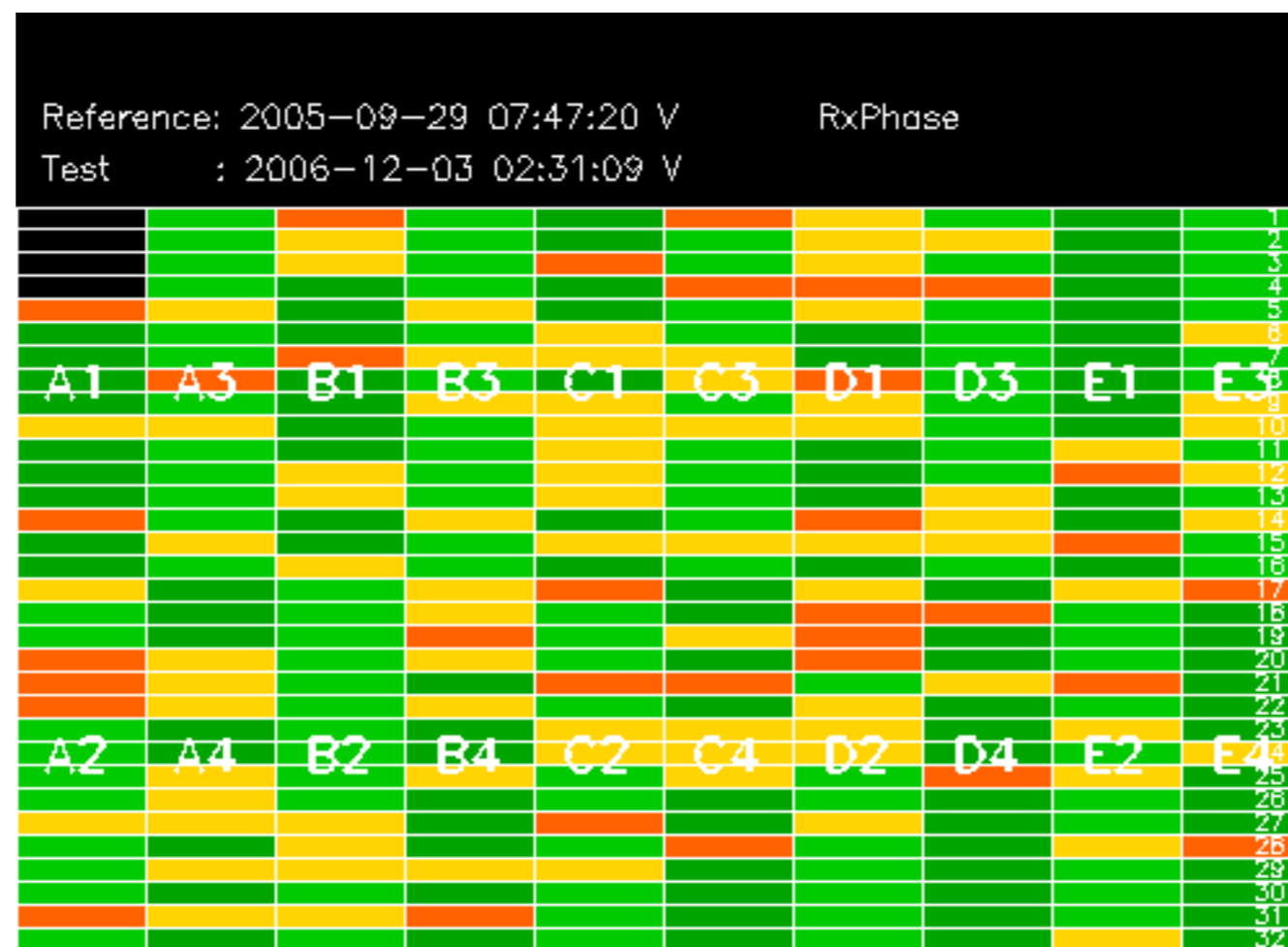








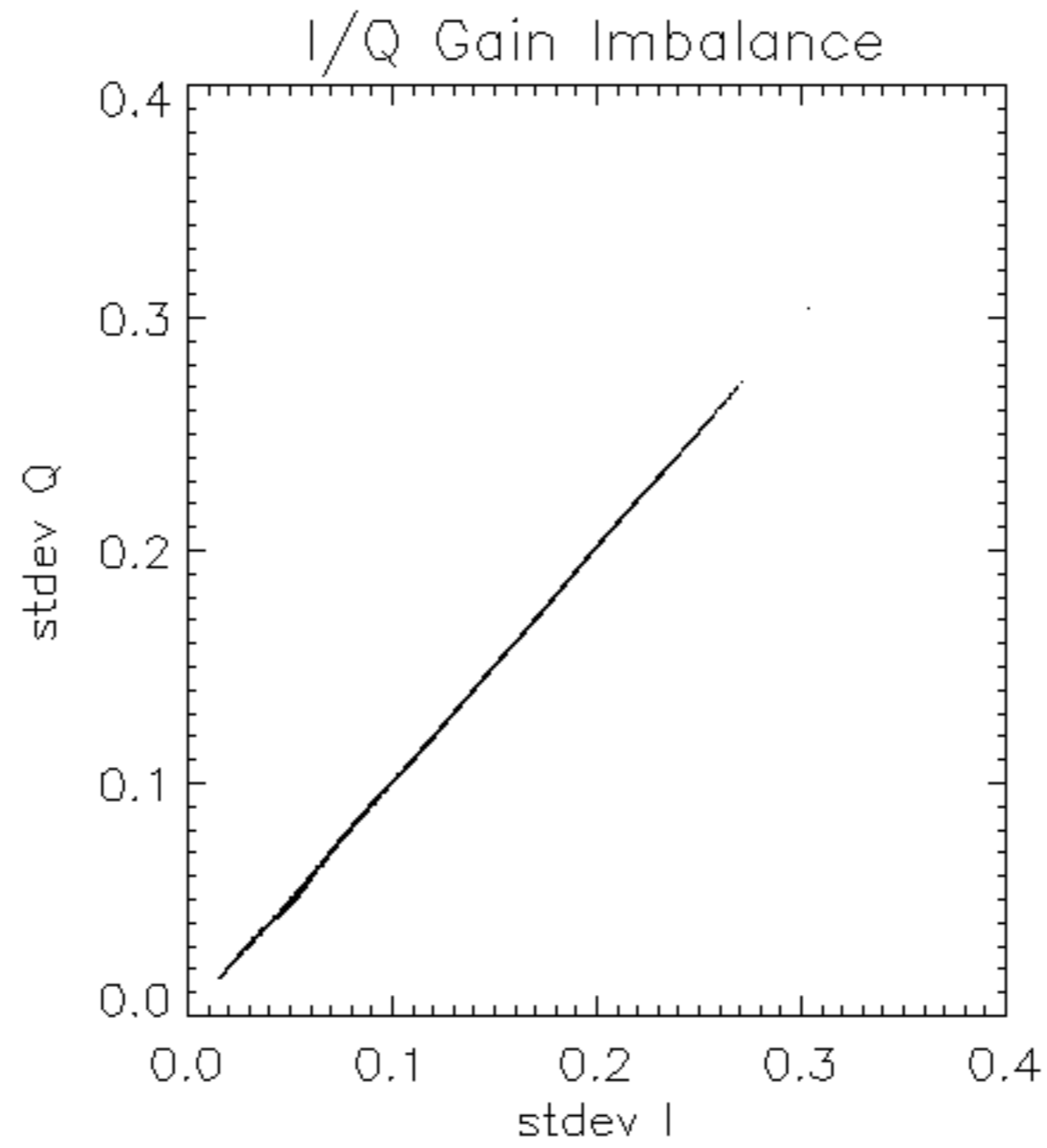


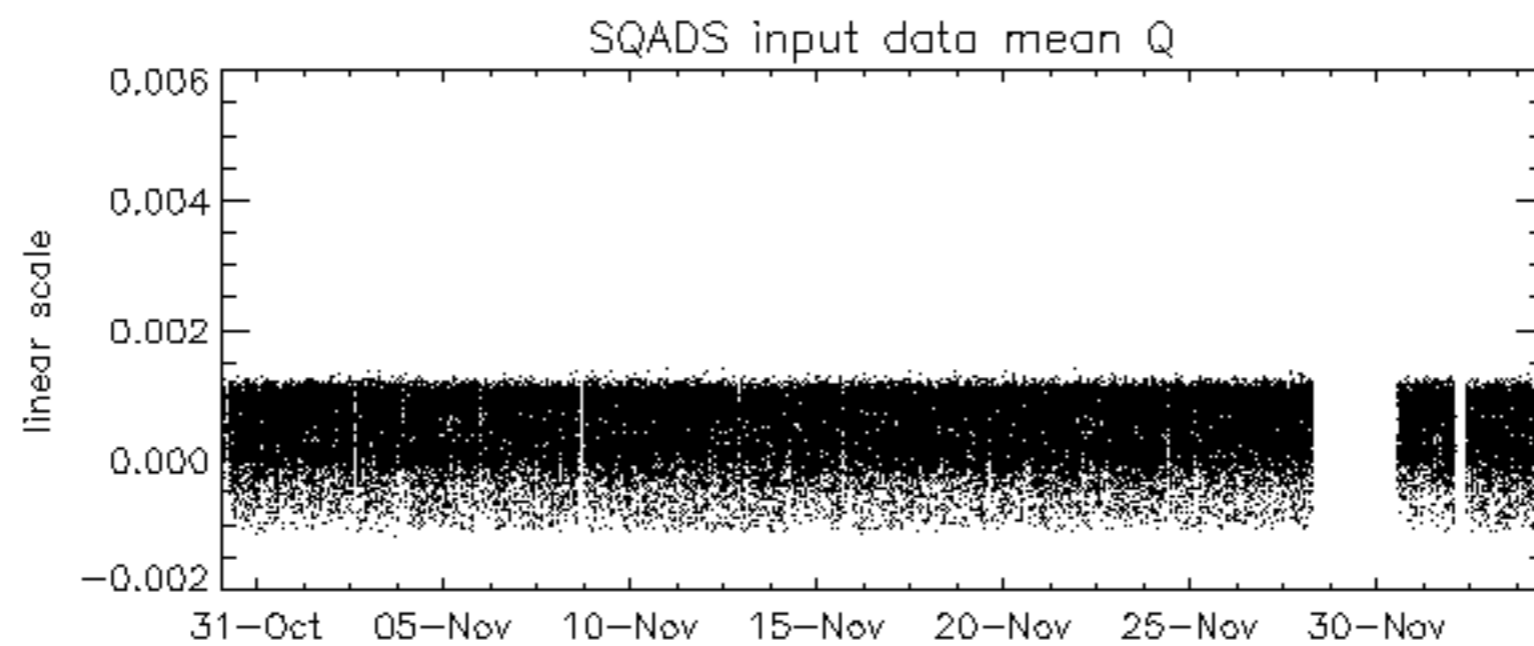
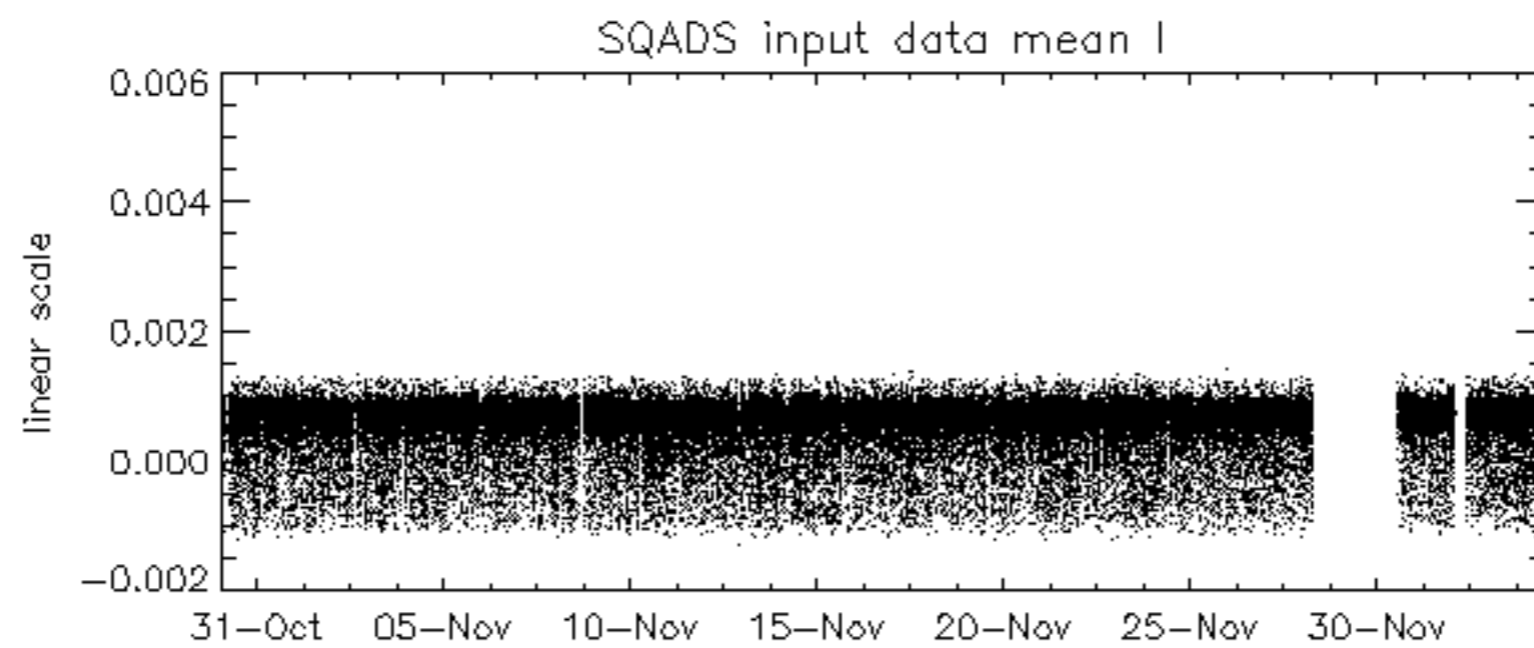
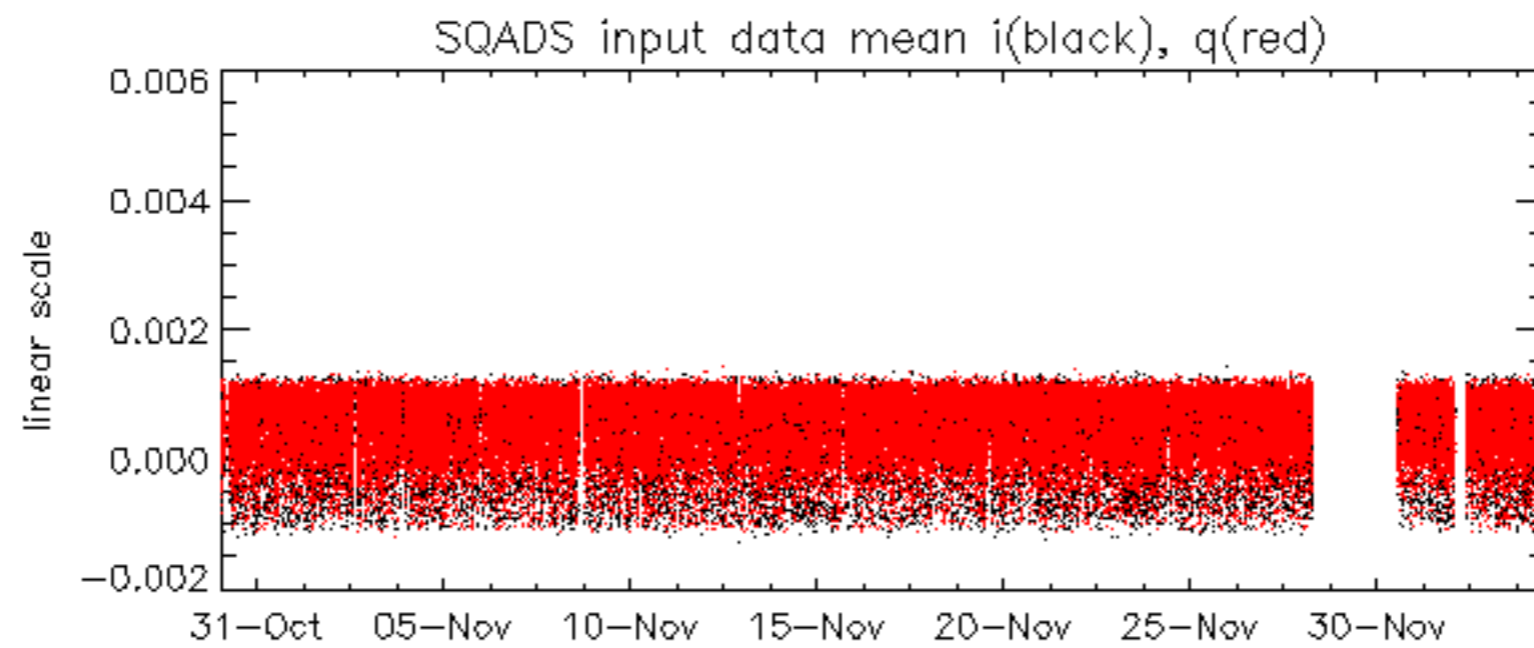


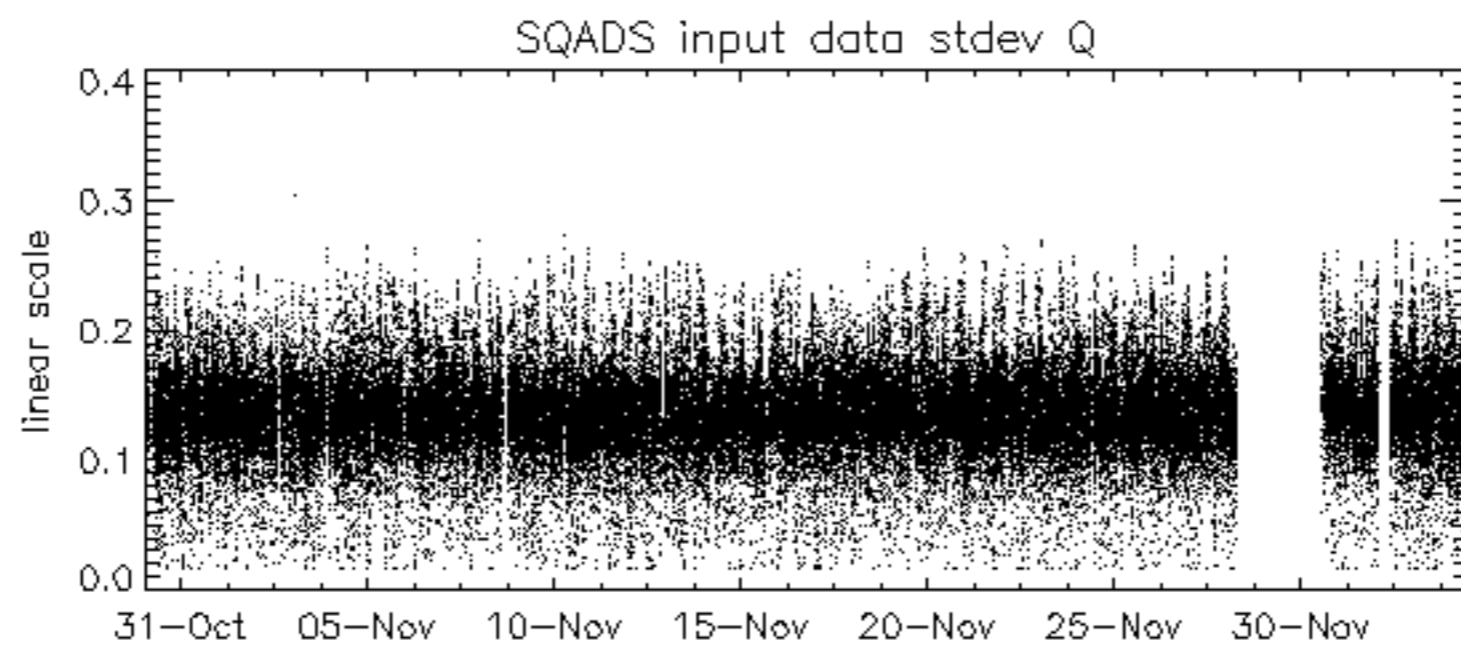
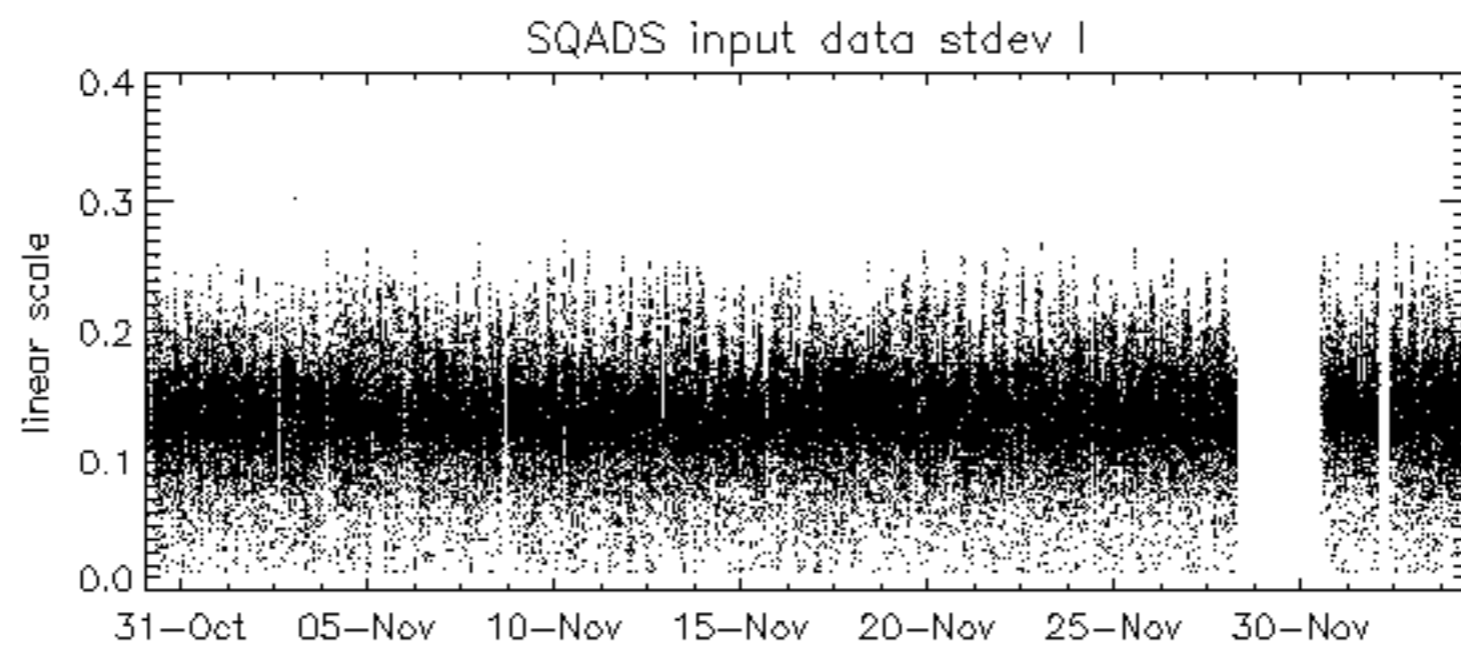
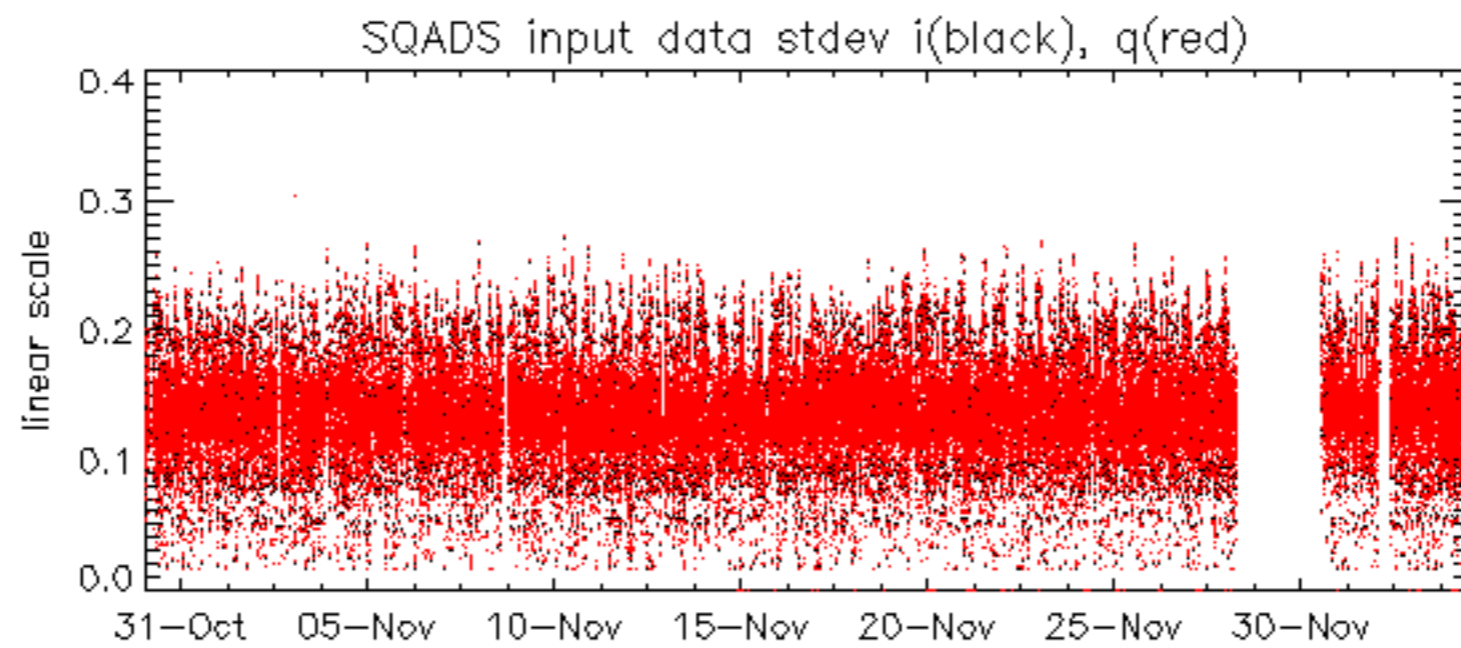
































Summary of analysis for the last 3 days 2006120[234]

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

Filename	num_gaps	num_missing_lines
ASA_WSM_1PNPDE20061202_010155_000000672053_00260_24863_5042.N1	0	35
ASA_WSM_1PNPDE20061202_010155_000001402053_00260_24863_5534.N1	0	35
ASA_WSM_1PNPDE20061202_170159_000000792053_00270_24873_5632.N1	0	11
ASA_WSM_1PNPDE20061203_003118_000001832053_00274_24877_6506.N1	0	34
ASA_WSM_1PNPDE20061203_003118_000001832053_00274_24877_6579.N1	0	34
ASA_WSM_1PNPDE20061203_003118_000001832053_00274_24877_6802.N1	0	34
ASA_WSM_1PNPDE20061203_003118_000001832053_00274_24877_6989.N1	0	34
ASA_WSM_1PNPDE20061203_003118_000001832053_00274_24877_7194.N1	0	34
ASA_WSM_1PNPDE20061203_231436_000000982053_00288_24891_7851.N1	0	57
ASA_APM_1PNPDE20061202_153639_000000892053_00269_24872_5526.N1	0	57













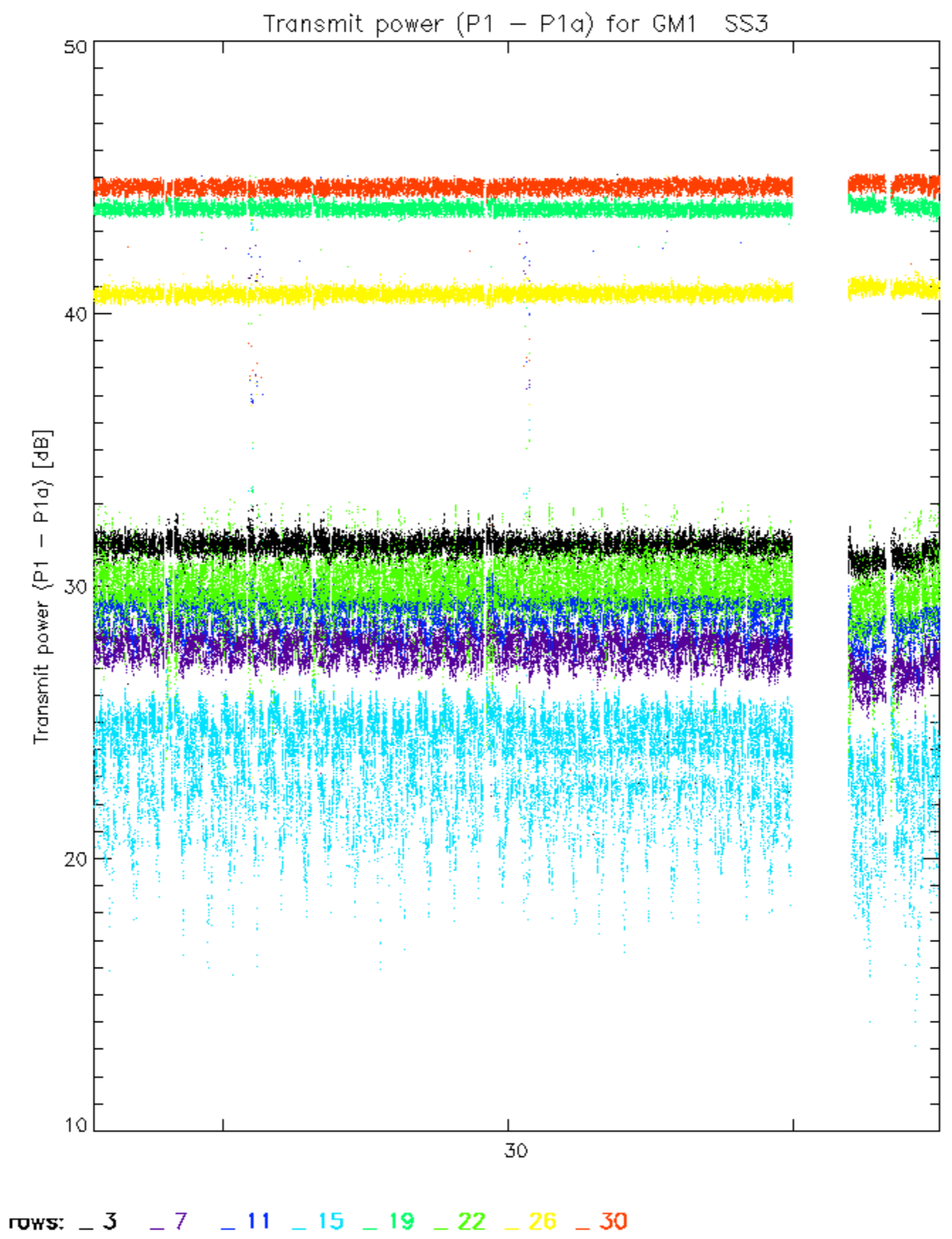


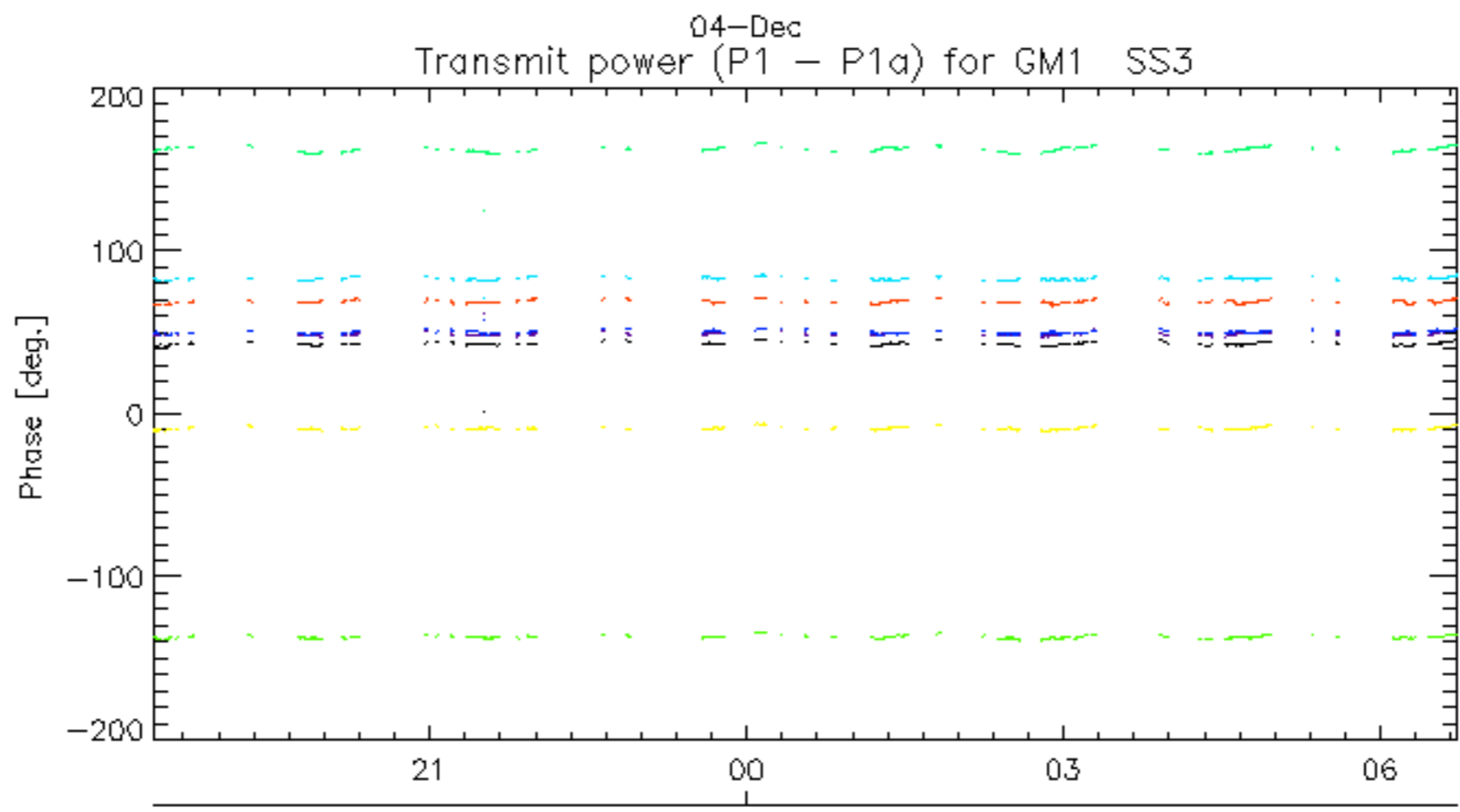
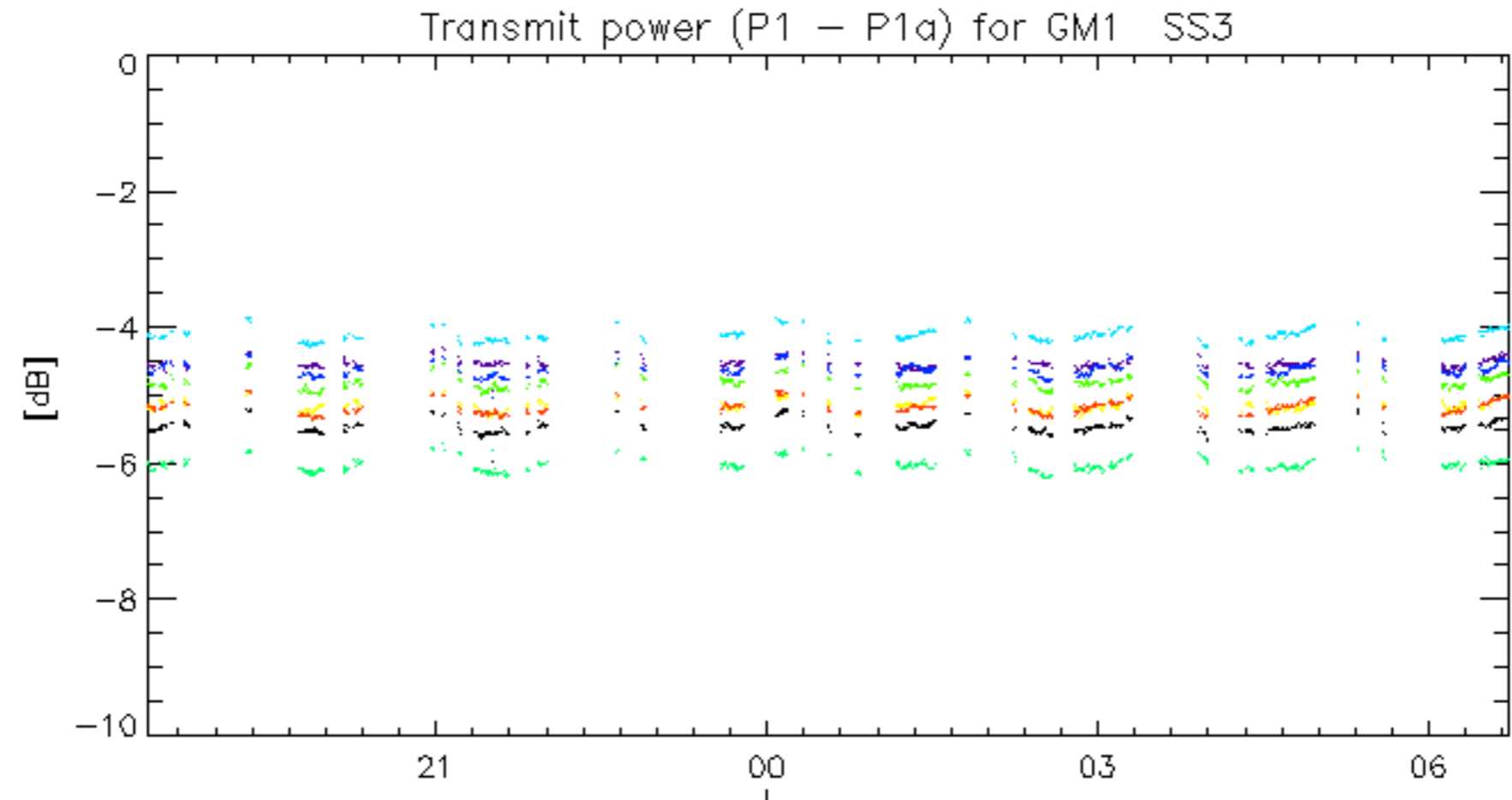






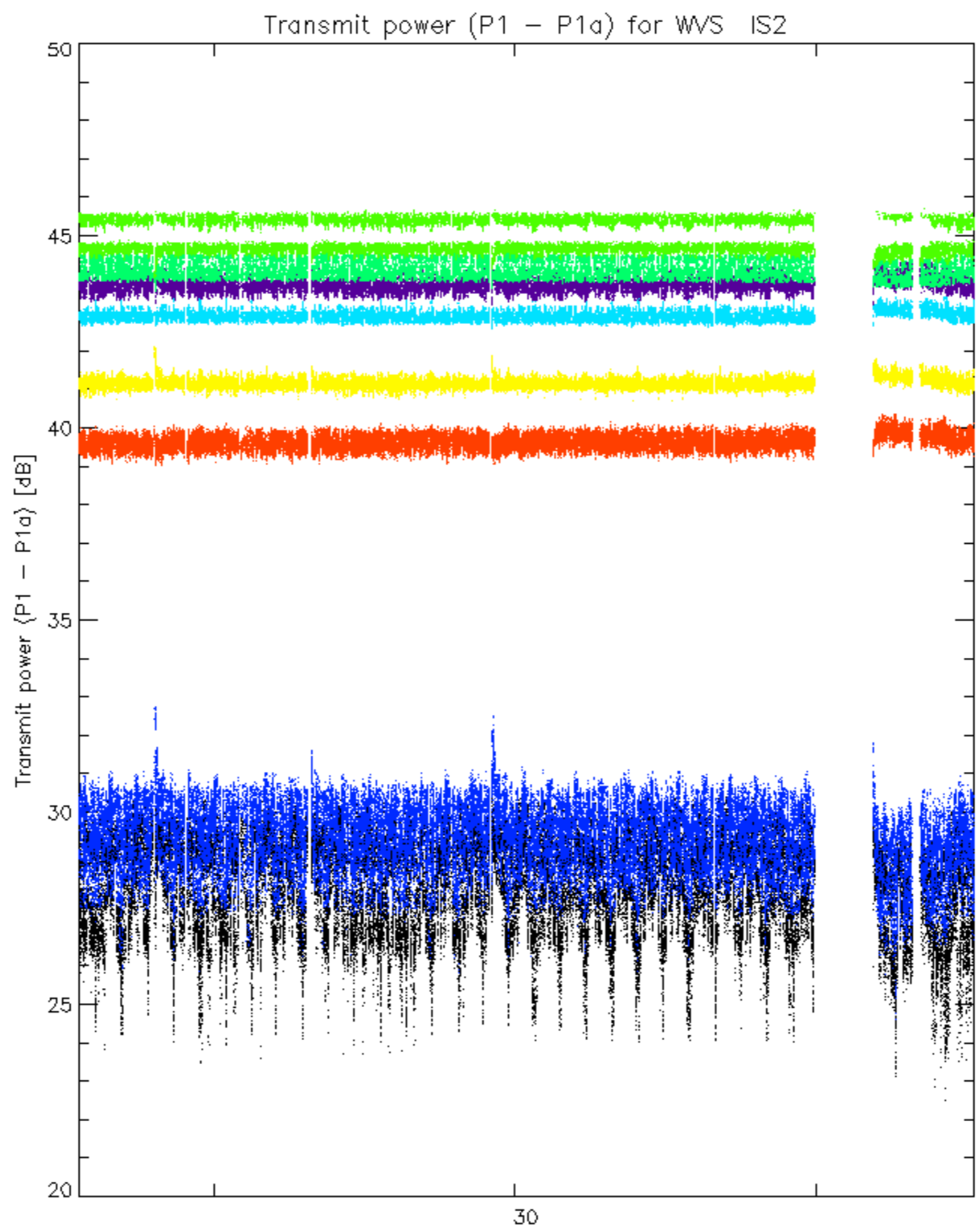




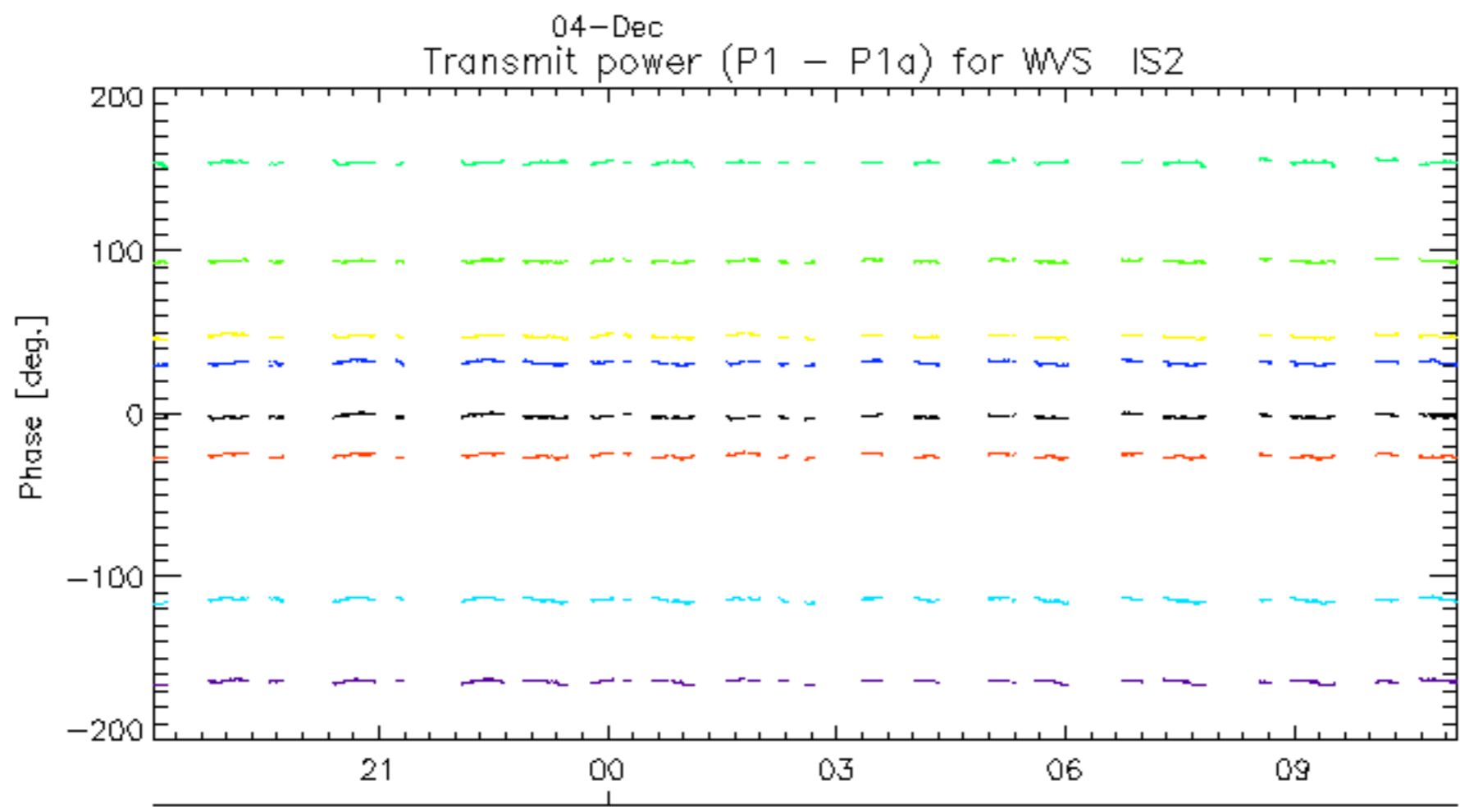
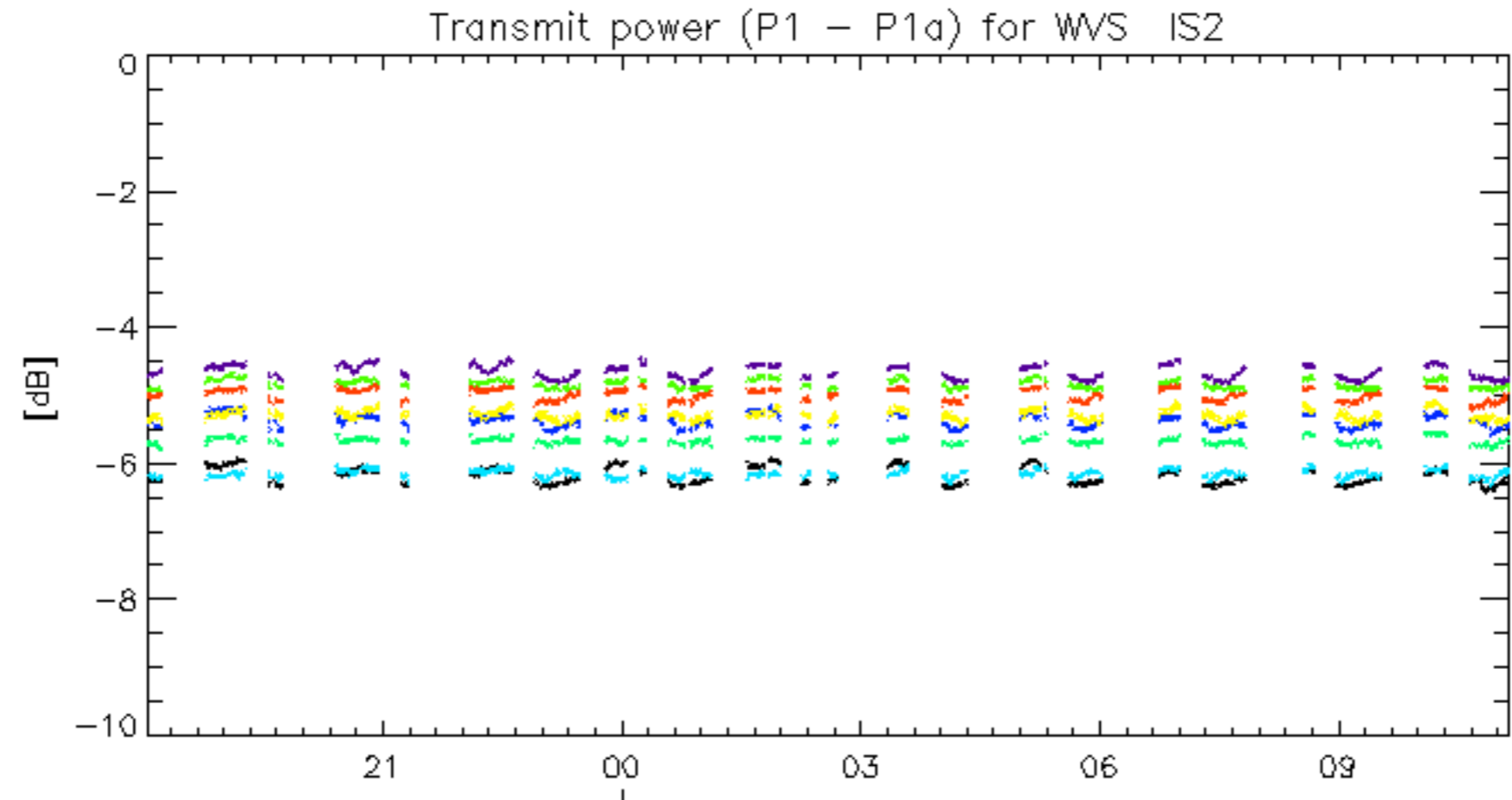


04-Dec  
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30





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



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

No unavailabilities during the reported period.