

# PRELIMINARY REPORT OF 070111

last update on Thu Jan 11 16:28:27 GMT 2007

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 2007-01-10 00:00:00 to 2007-01-11 16:28:27

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	25	49	5	0	0
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	25	49	5	0	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	25	49	5	0	0
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	25	49	5	0	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	46	56	33	16	72
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	46	56	33	16	72
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	46	56	33	16	72
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	46	56	33	16	72

### 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	20070110 073836
H	20070109 081014

### 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	-3.964900	0.007645	-0.001253
7	P1	-3.149425	0.050615	0.025787
11	P1	-4.123171	0.025214	0.013705
15	P1	-6.335543	0.015938	0.008724
19	P1	-3.678440	0.005700	-0.035519
22	P1	-4.675506	0.015536	-0.032497
26	P1	-3.957271	0.009738	0.014400
30	P1	-5.915897	0.008576	-0.021798
3	P1	-16.521034	0.258501	0.015965
7	P1	-17.287903	0.195369	0.113161
11	P1	-17.265406	0.467358	-0.077559
15	P1	-13.053703	0.130213	0.072040
19	P1	-15.067114	0.110046	-0.111389
22	P1	-15.843154	0.549612	0.110098
26	P1	-15.032249	0.188513	0.051011
30	P1	-17.561033	0.500286	0.062415

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.802357	0.091323	0.037139
7	P2	-21.686401	0.090353	0.072552
11	P2	-15.545542	0.101008	0.038016
15	P2	-7.105291	0.105521	0.048017
19	P2	-9.188136	0.099311	0.058546
22	P2	-18.236818	0.093108	0.038104
26	P2	-16.605127	0.104462	0.034048
30	P2	-19.446886	0.086997	0.049904

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.241943	0.008665	0.009177
7	P3	-8.241943	0.008665	0.009177
11	P3	-8.241943	0.008665	0.009177
15	P3	-8.241943	0.008665	0.009177
19	P3	-8.241943	0.008665	0.009177
22	P3	-8.241943	0.008665	0.009177
26	P3	-8.241970	0.008664	0.009204
30	P3	-8.241970	0.008664	0.009204

**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	-3.921824	0.014249	0.018969
7	P1	-2.481039	0.081421	0.008136
11	P1	-2.834713	0.017414	0.066053
15	P1	-3.703755	0.032679	0.012305
19	P1	-3.550137	0.019433	0.012134
22	P1	-5.007982	0.023806	0.071686
26	P1	-6.042045	0.026509	-0.010038
30	P1	-5.351230	0.037620	-0.012791
3	P1	-11.729105	0.087712	0.062949
7	P1	-10.049430	0.100280	0.078974
11	P1	-10.356487	0.092079	0.039296
15	P1	-10.732594	0.158425	0.034881
19	P1	-15.738865	0.120051	-0.025471
22	P1	-21.589622	1.414582	-0.048277

26	P1	-16.014555	0.318502	0.071814
30	P1	-17.892063	0.367030	0.016823

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.445887	0.108259	0.059084
7	P2	-22.201859	0.263920	0.030772
11	P2	-10.847957	0.105330	0.053117
15	P2	-4.973742	0.218133	0.045412
19	P2	-6.956585	0.240593	0.075476
22	P2	-8.240339	0.117876	0.055447
26	P2	-24.348085	0.174533	-0.022595
30	P2	-21.920044	0.141010	0.074955

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.090725	0.003558	0.005099
7	P3	-8.090485	0.003545	0.005892
11	P3	-8.090690	0.003563	0.005390
15	P3	-8.090413	0.003554	0.004833
19	P3	-8.090579	0.003569	0.005364
22	P3	-8.090360	0.003576	0.005290
26	P3	-8.090726	0.003562	0.005363
30	P3	-8.090537	0.003544	0.005828

## 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	0.000569404
	stdev	1.63047e-07
MEAN Q	mean	0.000504434
	stdev	2.12559e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.140743
	stdev	0.00120602
STDEV Q	mean	0.141149
	stdev	0.00122689



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2007011[901]

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_GM1_1PNPDK20070110_150643_000007062054_00326_25430_2010.N1	0	17
ASA_WSM_1PNPDE20070110_163701_000001582054_00327_25431_1812.N1	0	14
ASA_WSM_1PNPDE20070111_042351_000000672054_00334_25438_2884.N1	0	45
ASA_WSM_1PNPDE20070111_042351_000001842054_00334_25438_3099.N1	0	45



## 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)



Ascending



Descending

### 7.2 - Absolute Doppler for WVS

#### Evolution of Absolute Doppler



Ascending



Descending

### 7.3 - Doppler evolution versus ANX for WVS

#### Evolution Doppler error versus ANX



### 7.4 - Unbiased Doppler Error for GM1



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

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

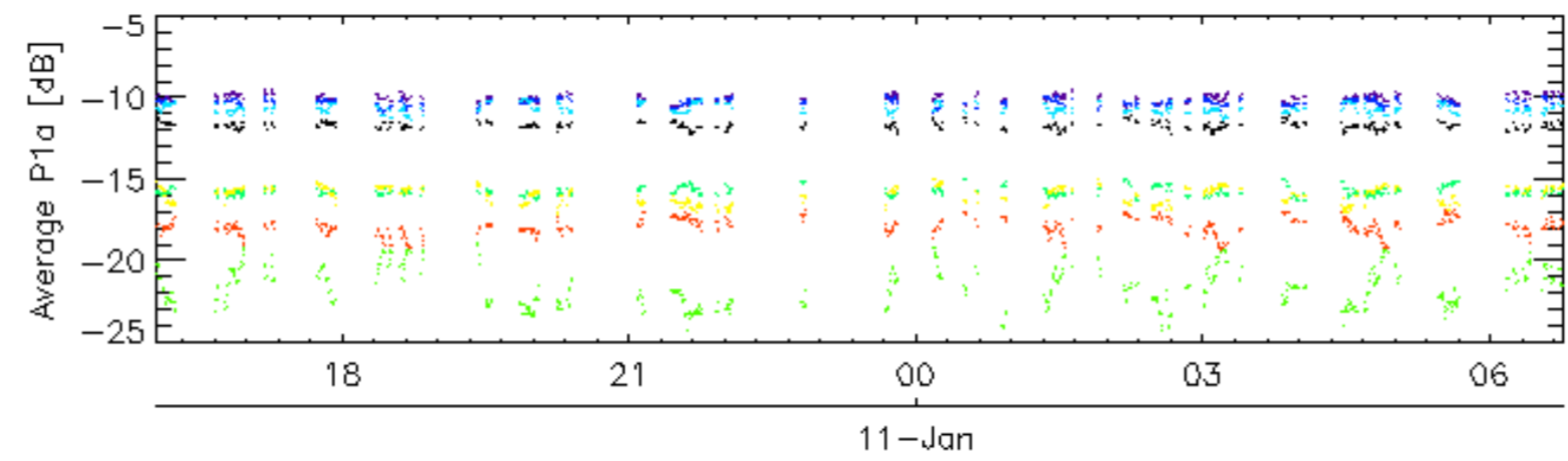
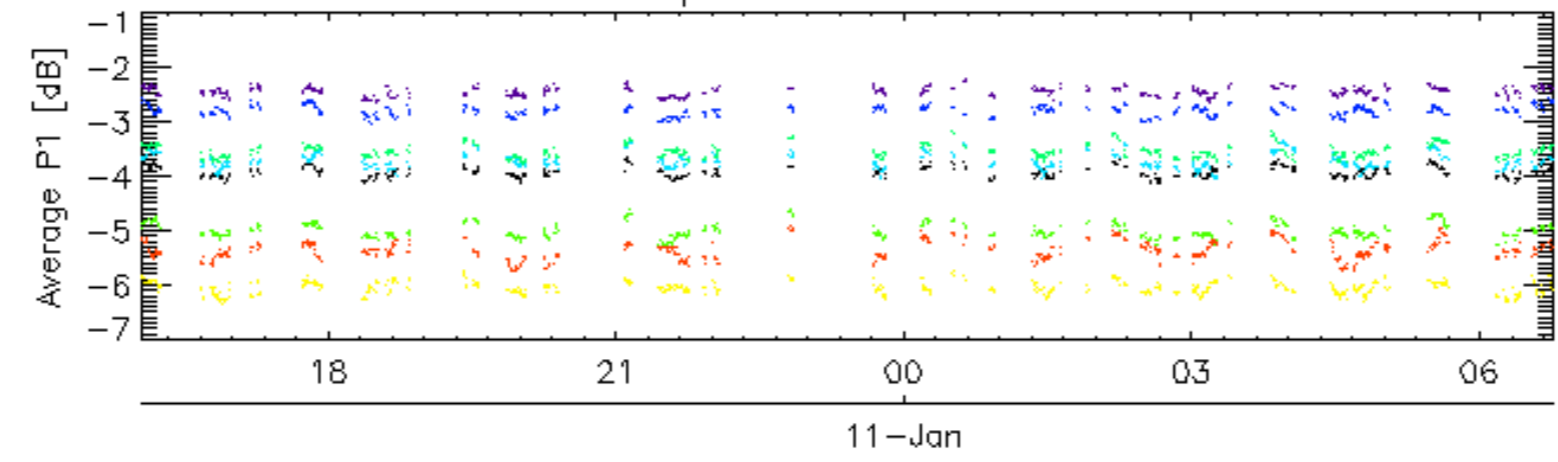
**7.5 - Absolute Doppler for GM1****Evolution of Absolute Doppler**

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

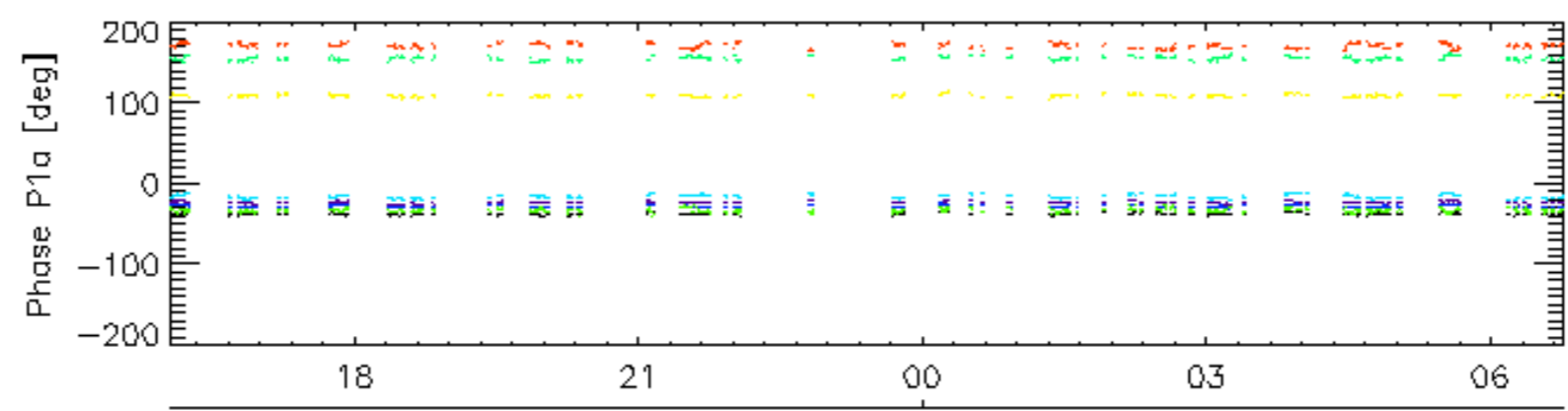
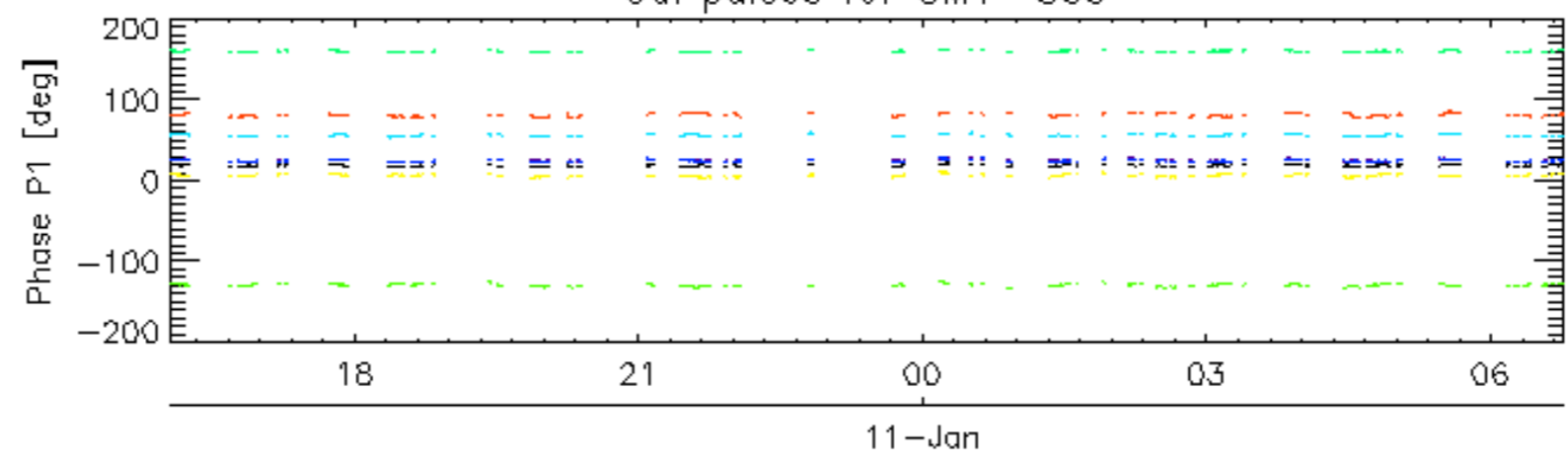
**7.6 - Doppler evolution versus ANX for GM1****Evolution Doppler error versus ANX**

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

Cal pulses for GM1 SS3

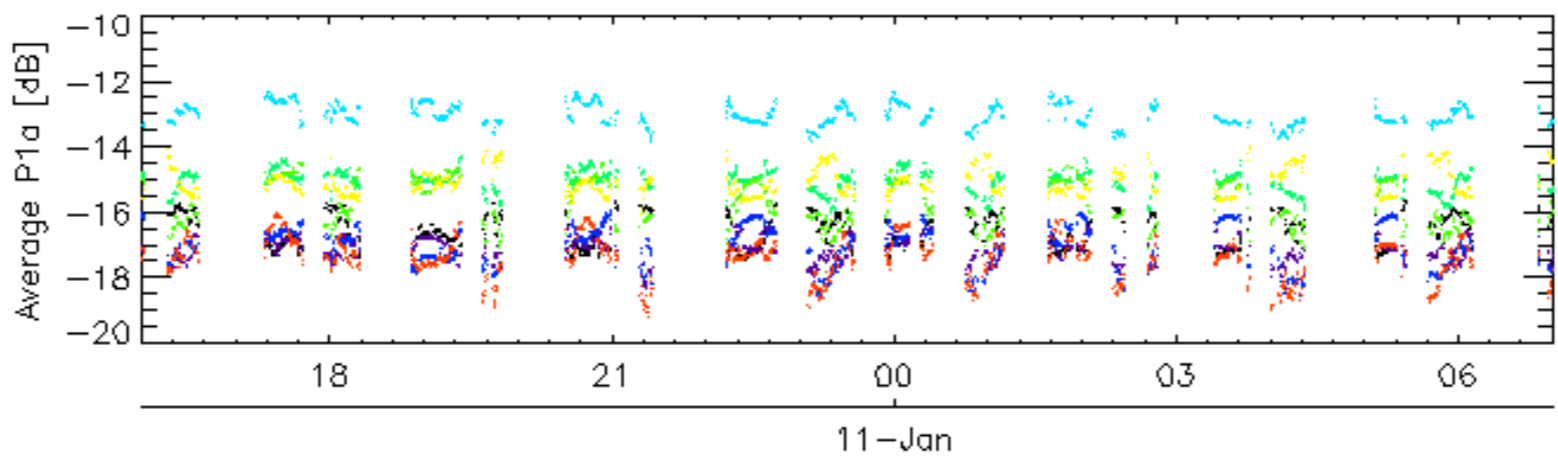
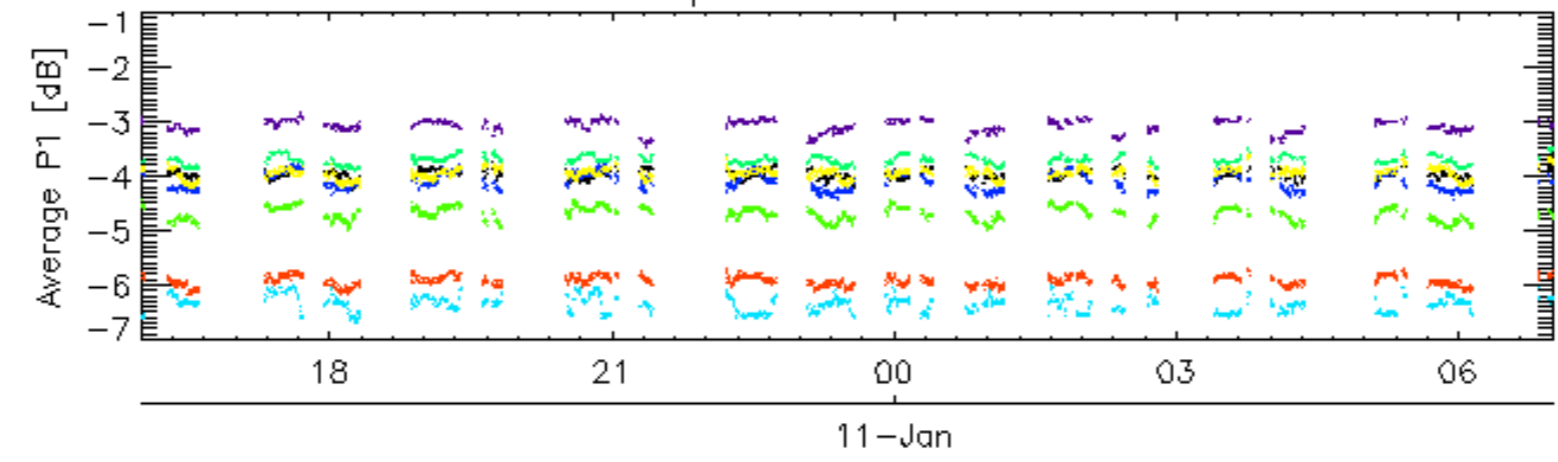


Cal pulses for GM1 SS3

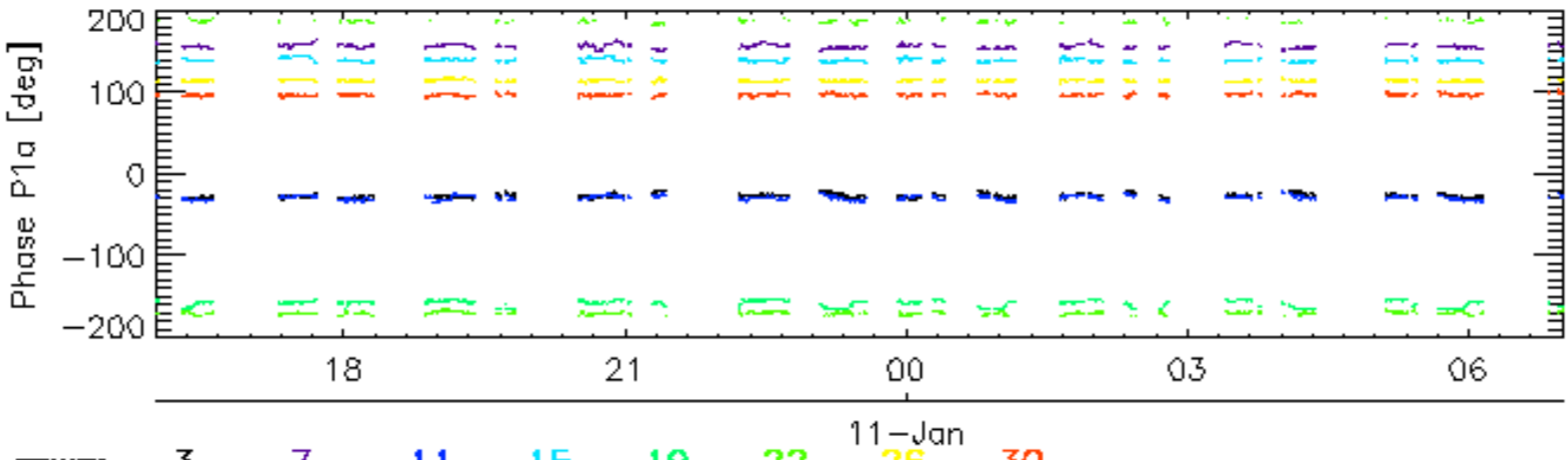
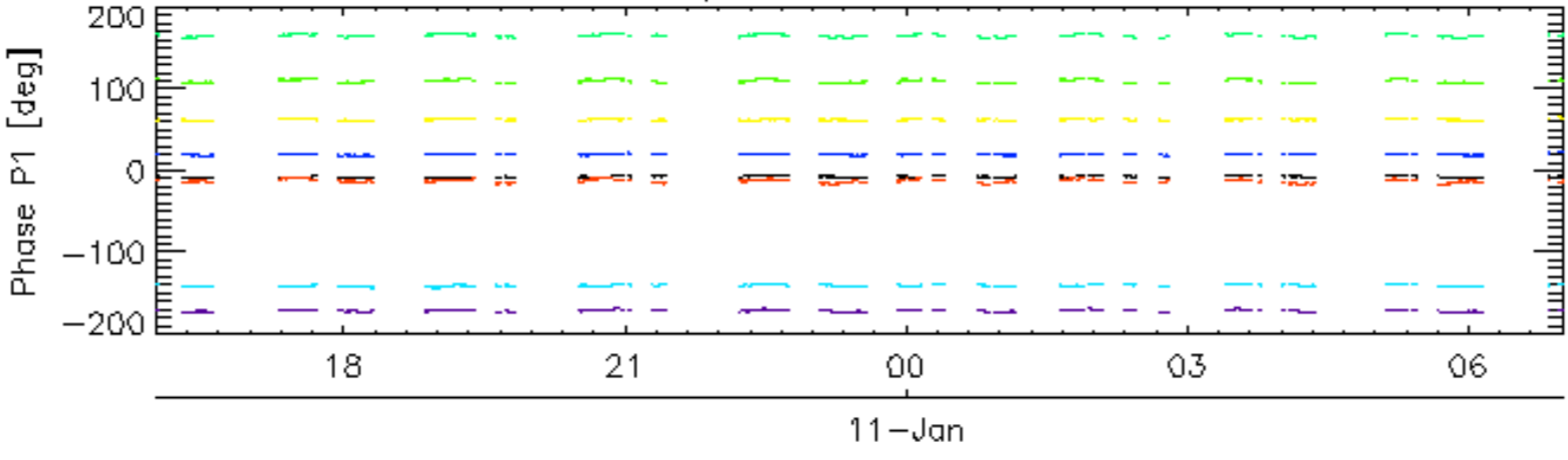


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

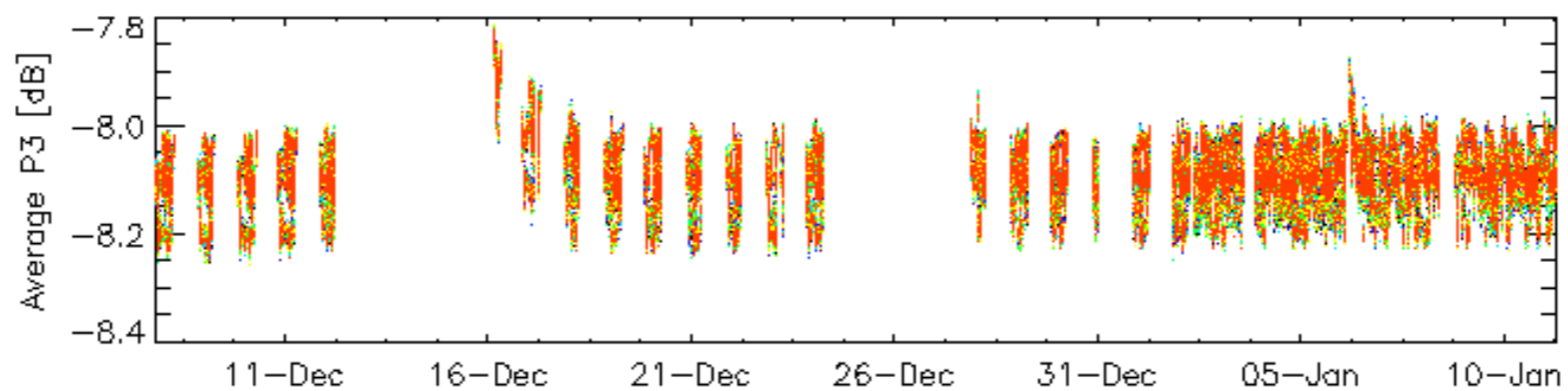
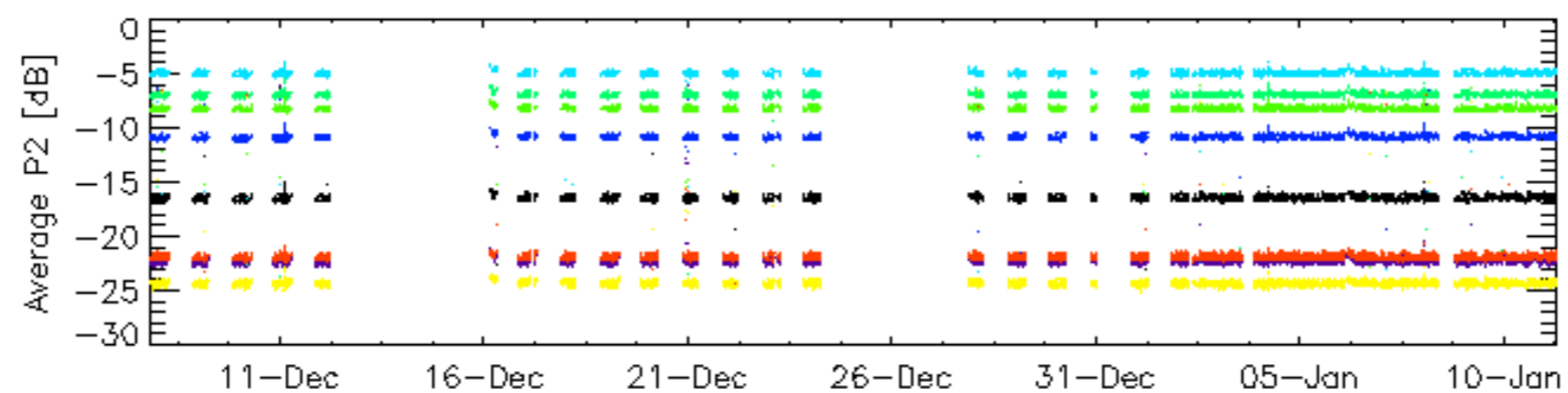
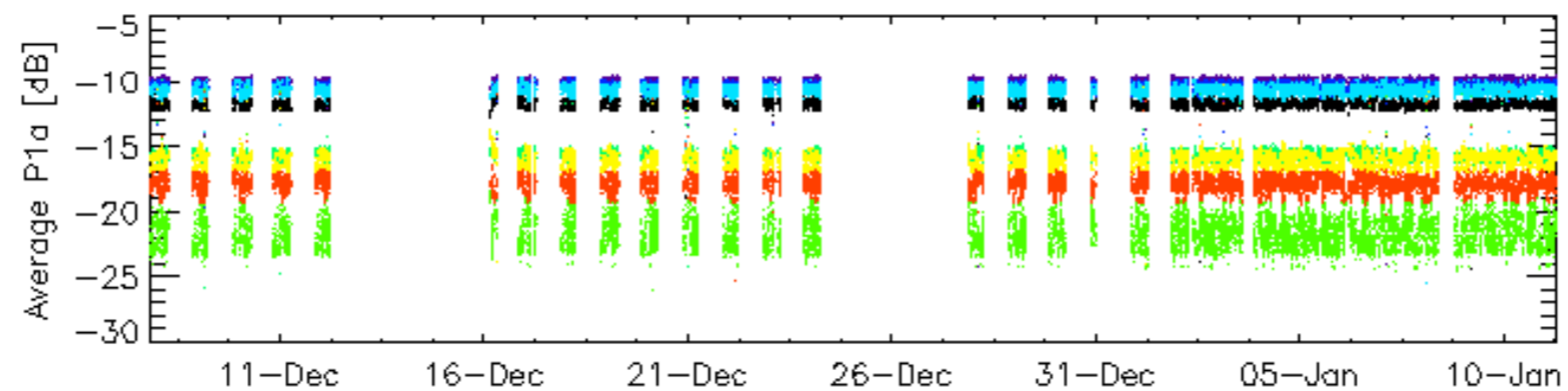
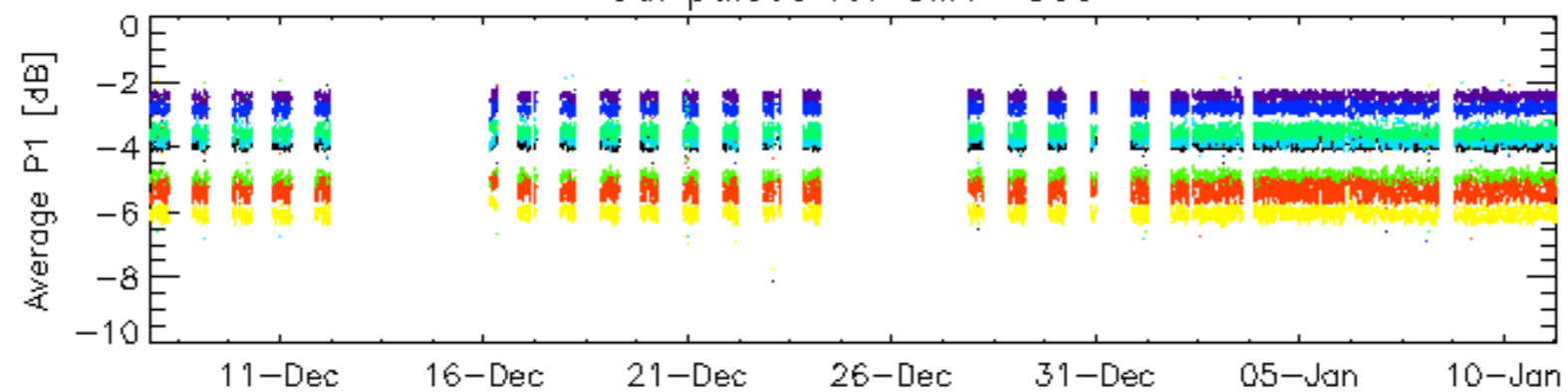


Cal pulses for WVS IS2



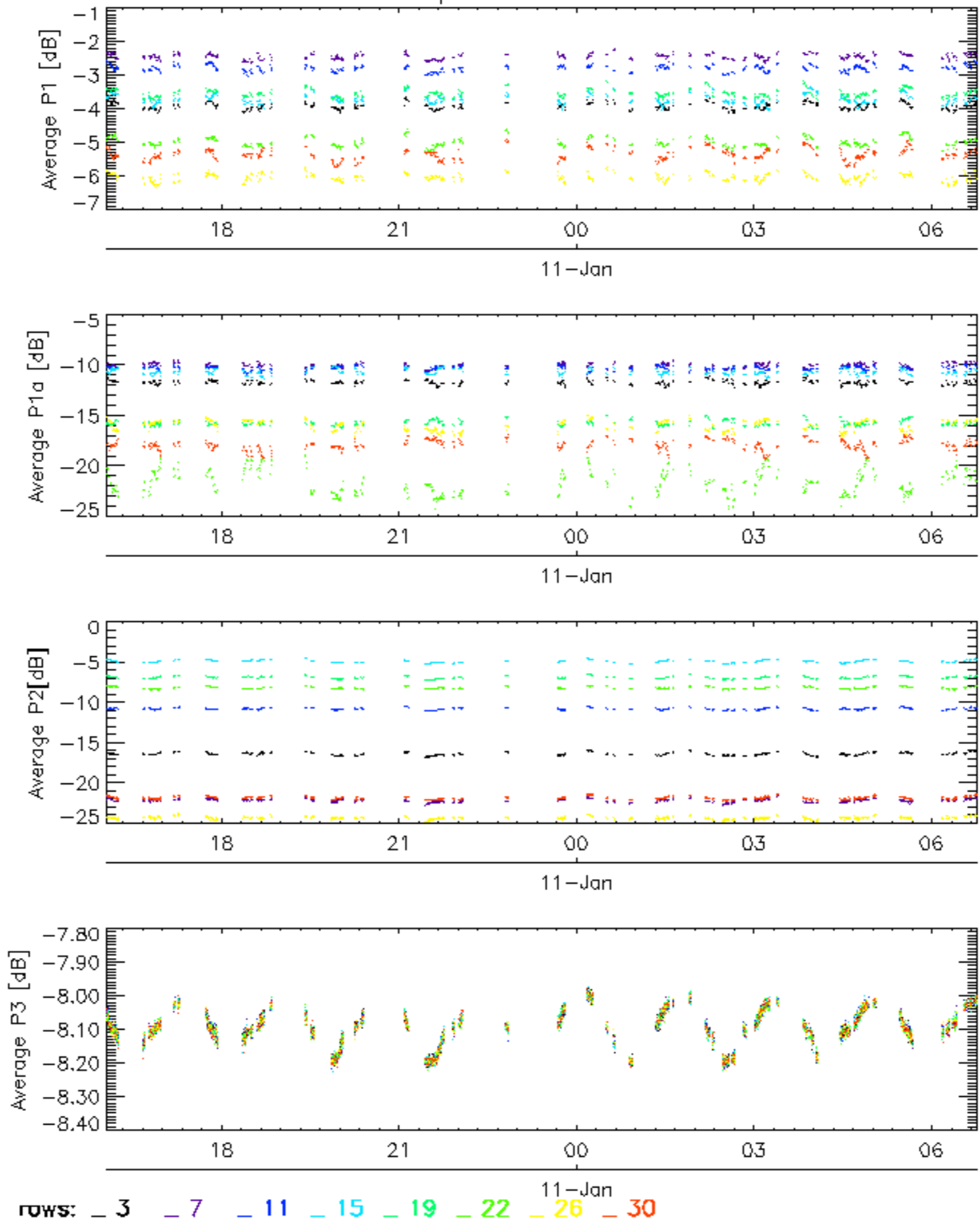
rows: 3 7 11 15 19 22 26 30

Cal pulses for GM1 SS3

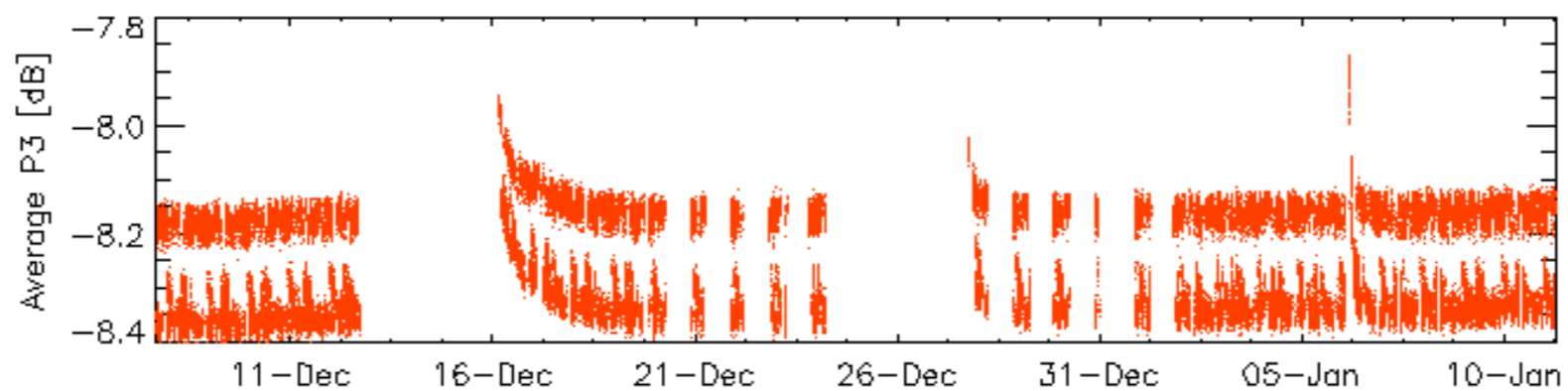
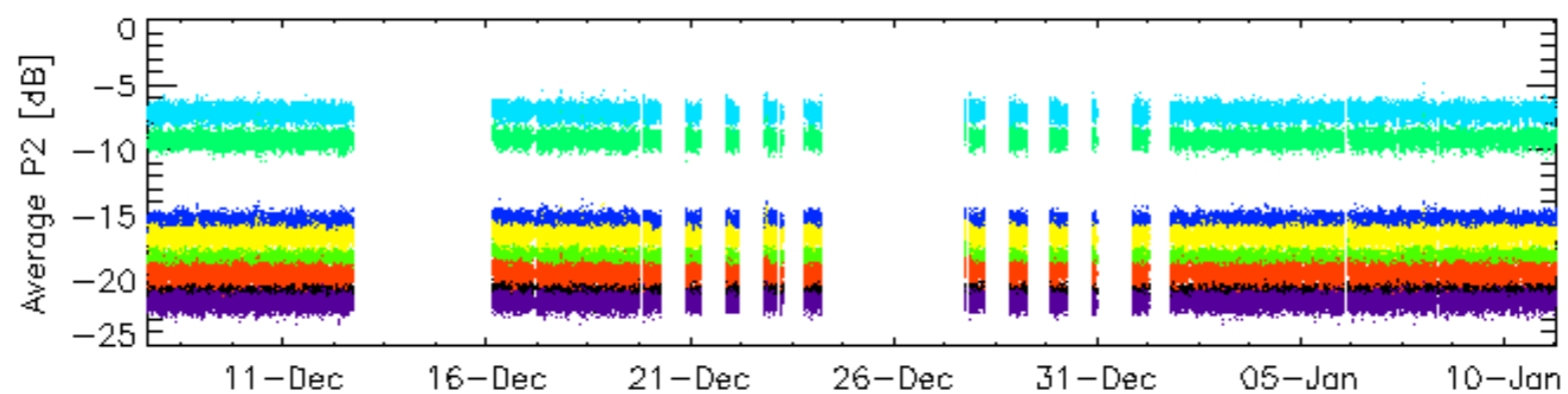
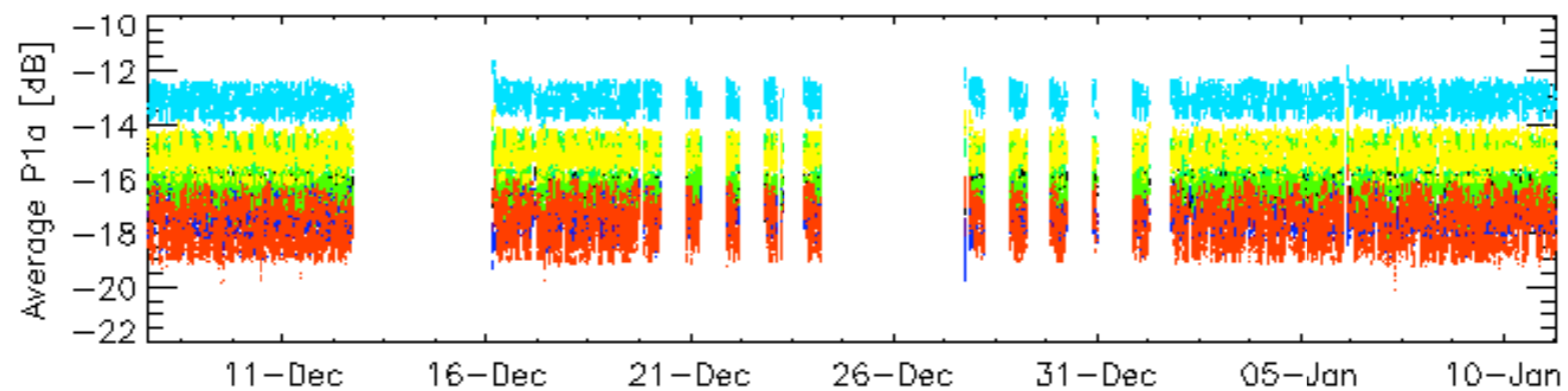
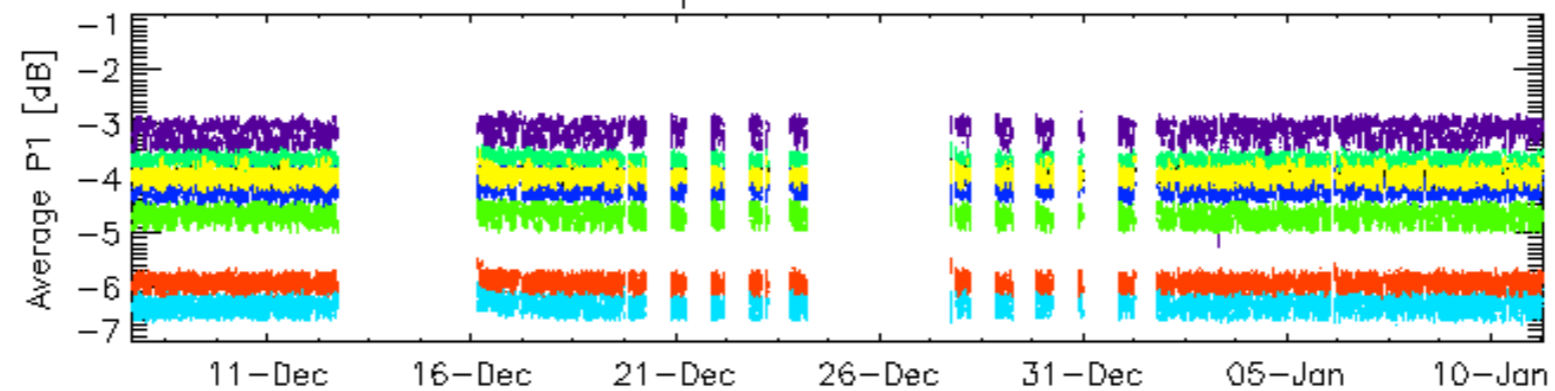


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

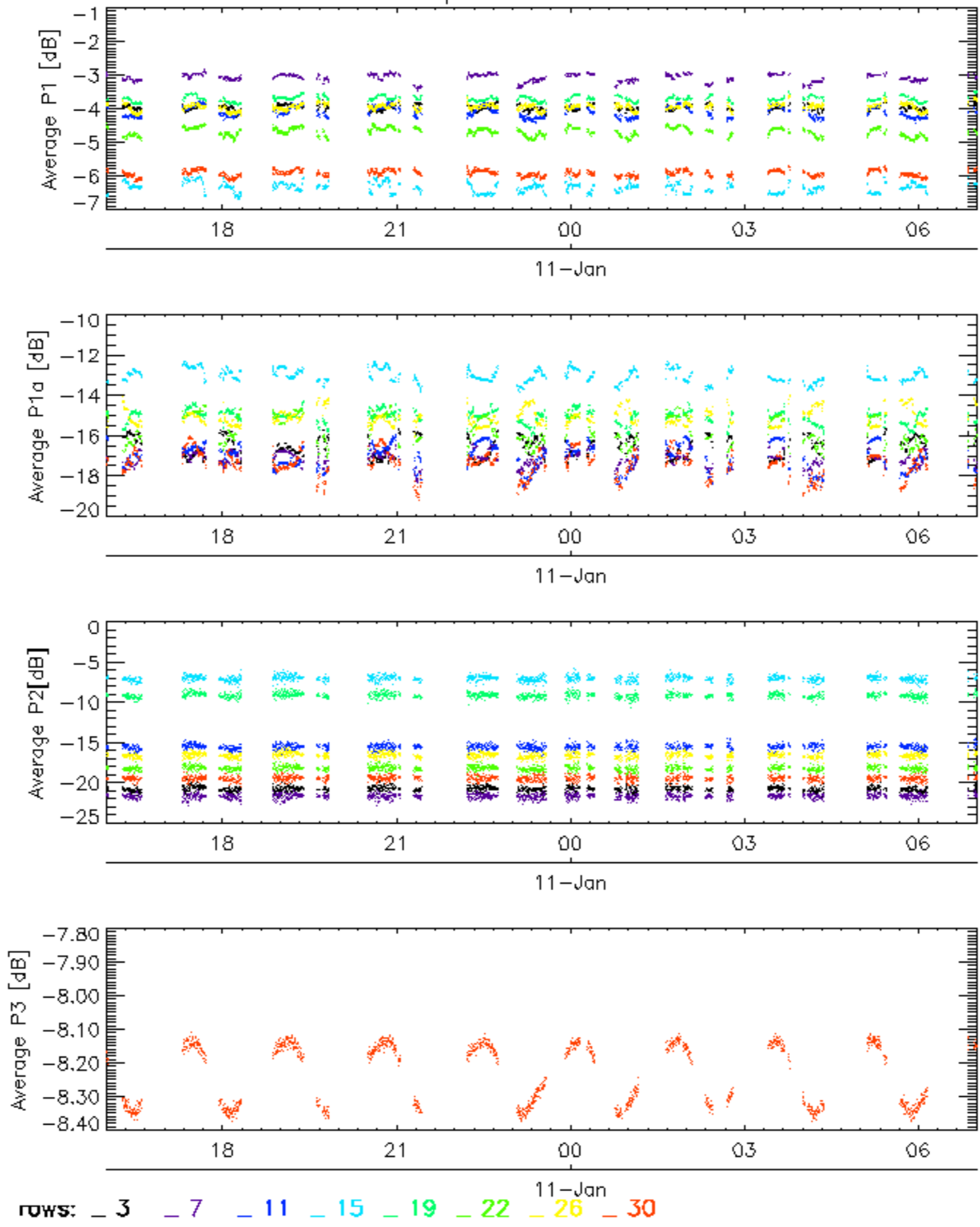


Cal pulses for WVS IS2



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

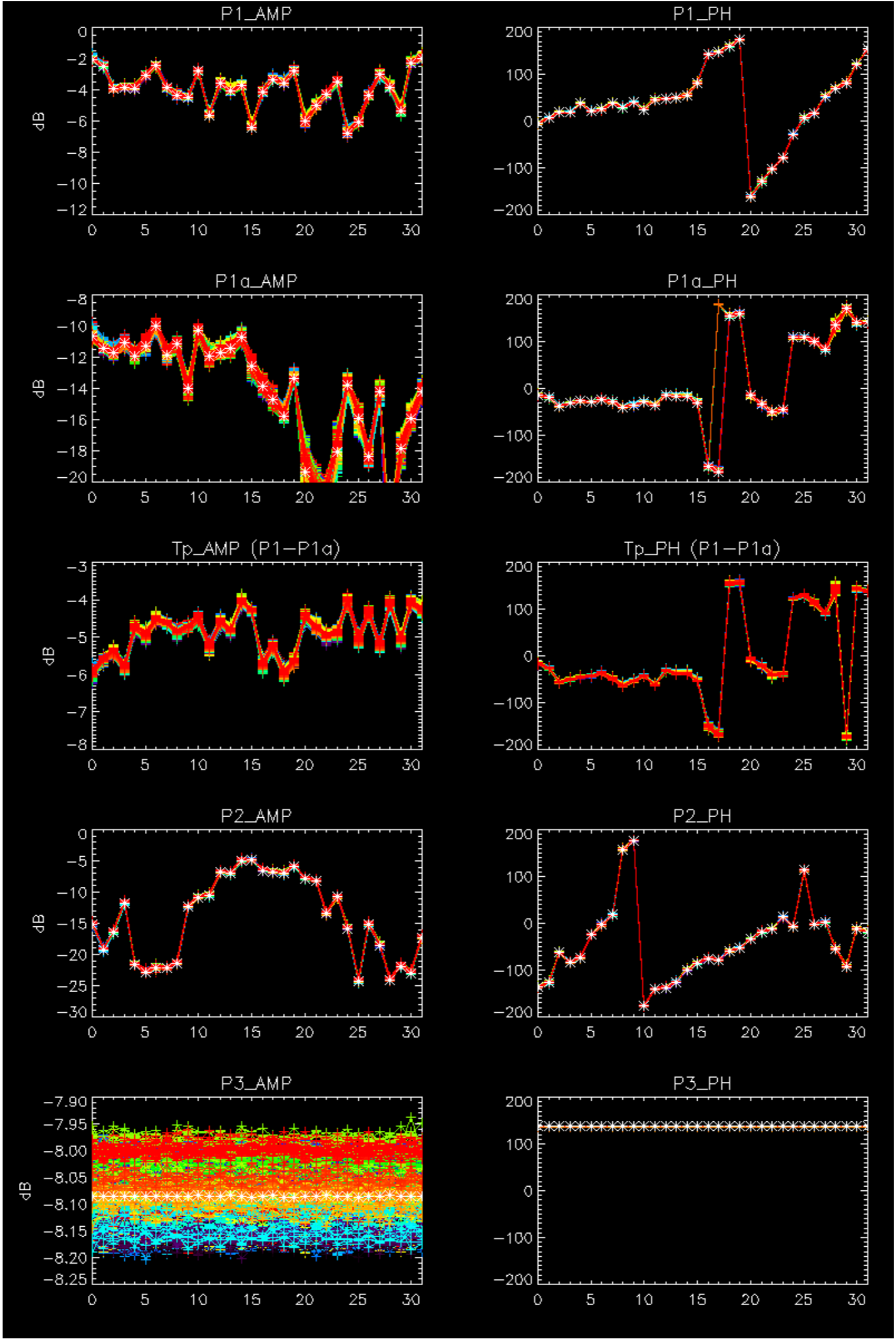
Cal pulses for WVS IS2

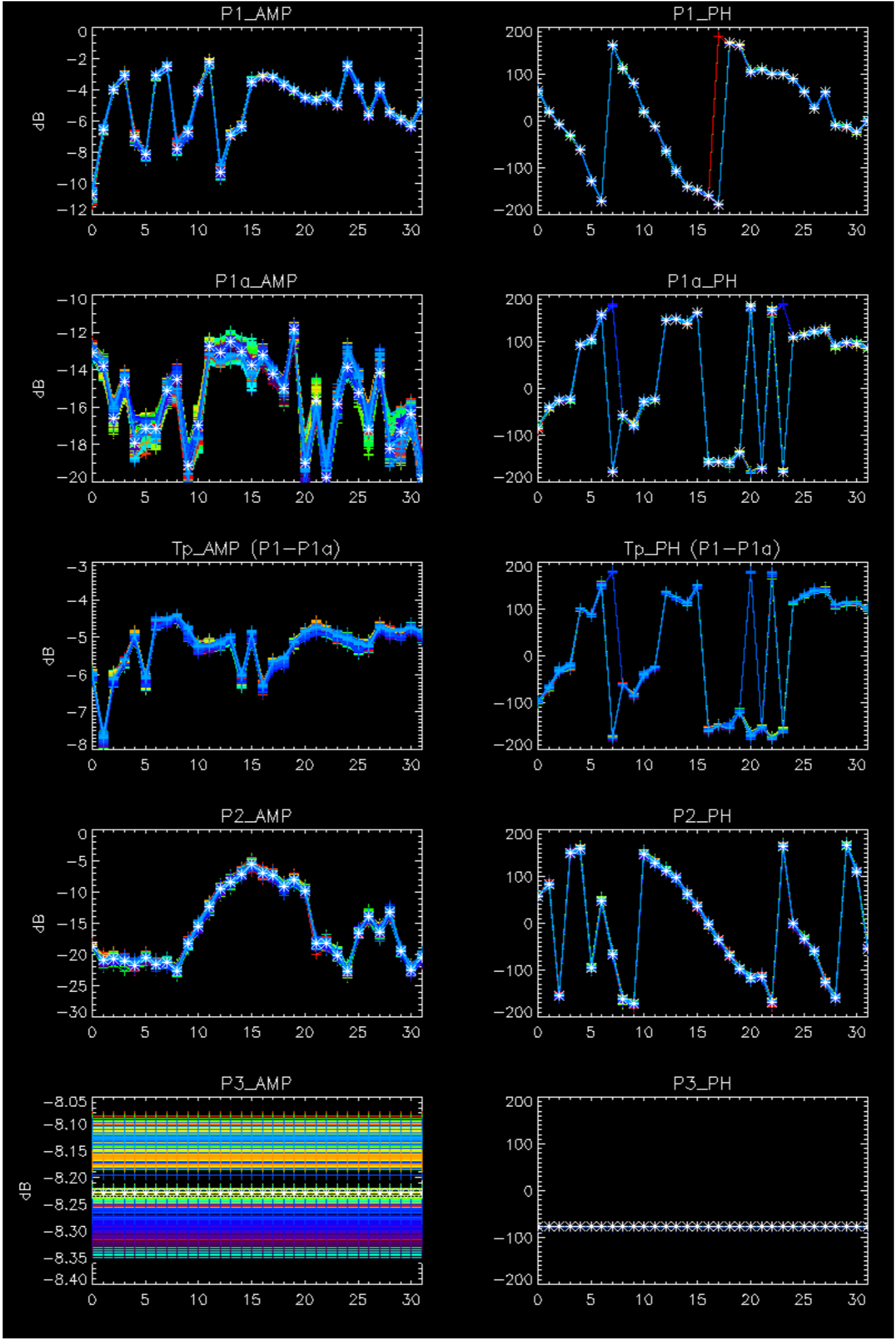


No anomalies observed on available browse products



No anomalies observed.

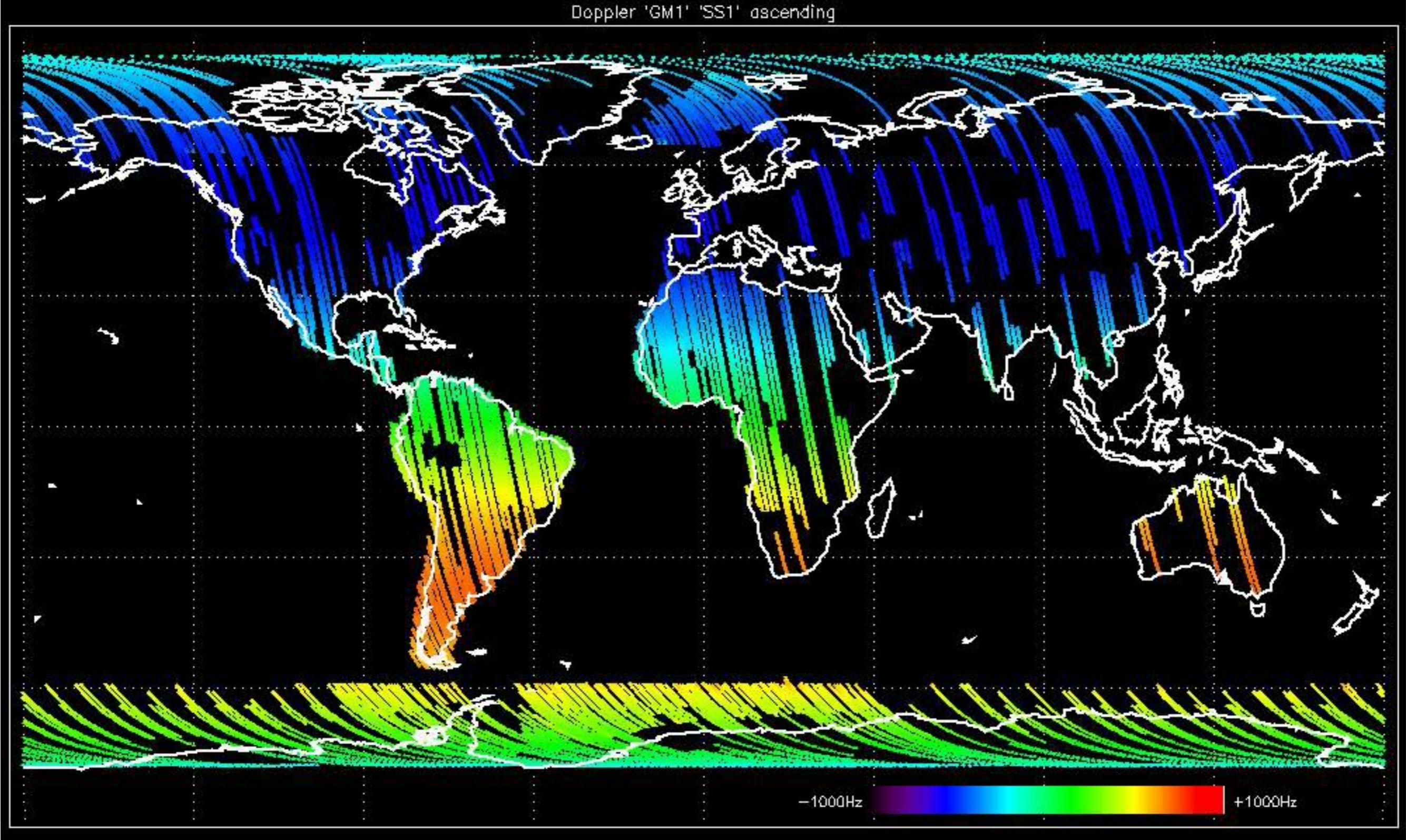




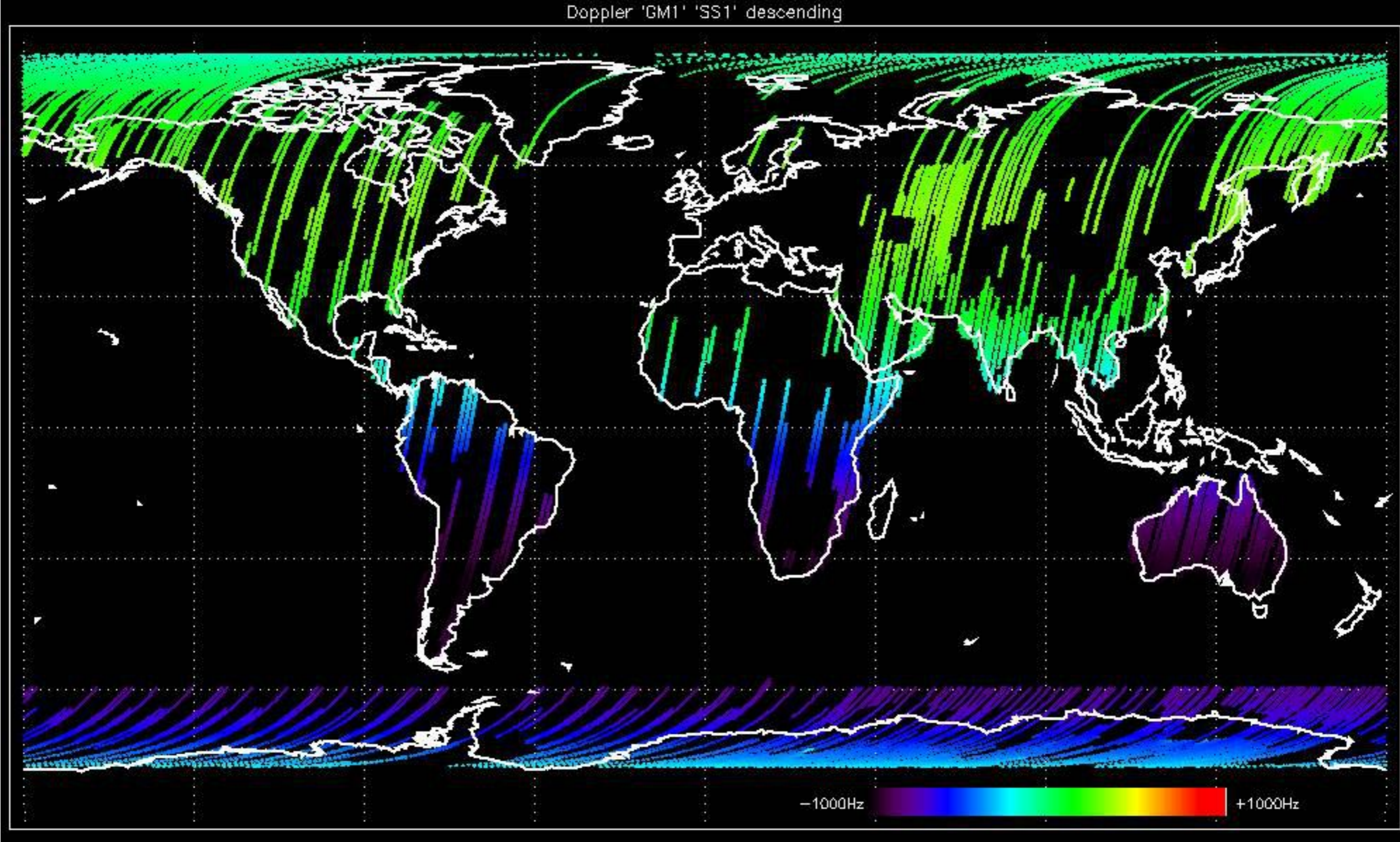
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



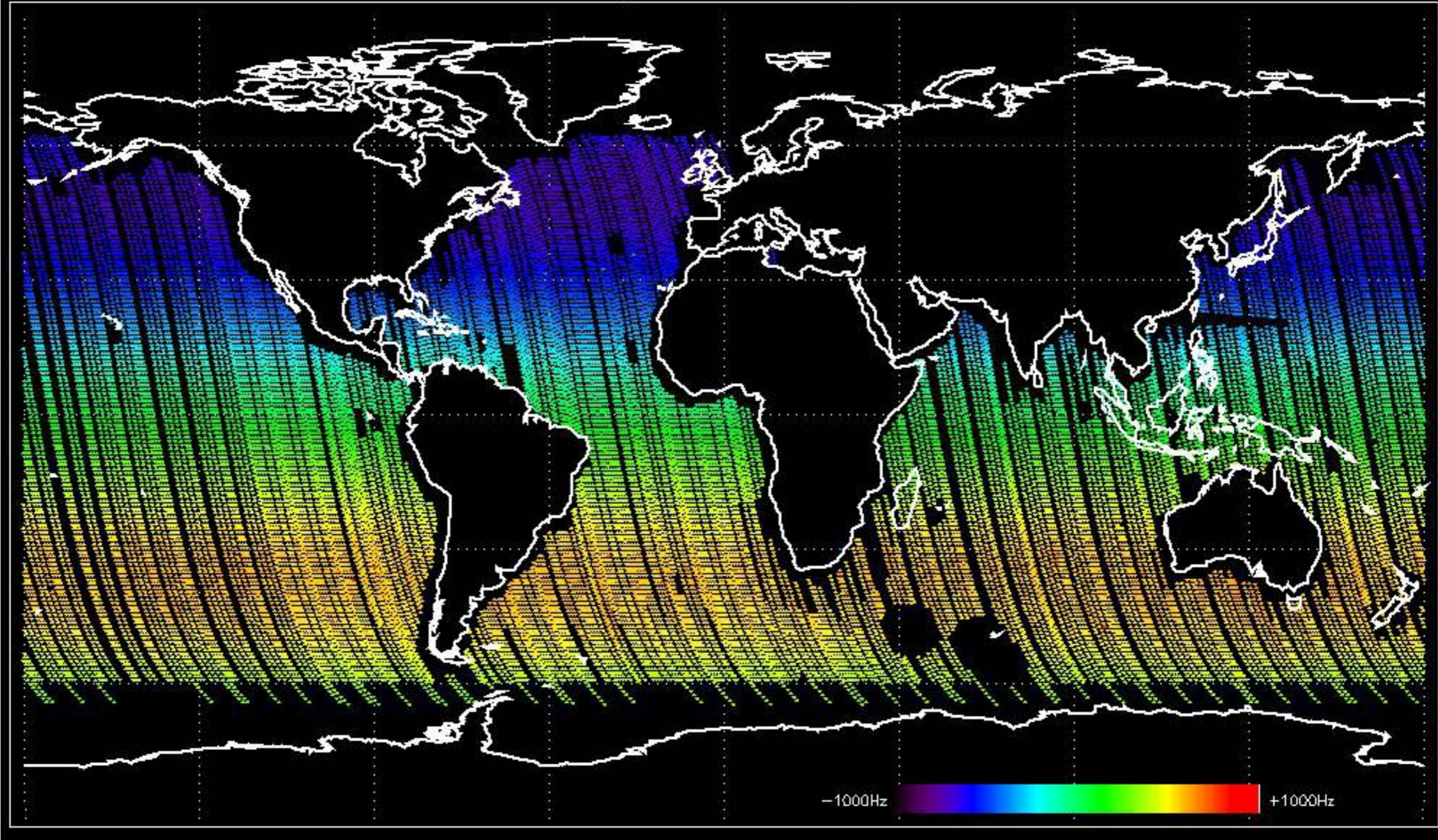
Doppler 'GM1' 'SS1' ascending



Doppler 'GM1' 'SS1' descending

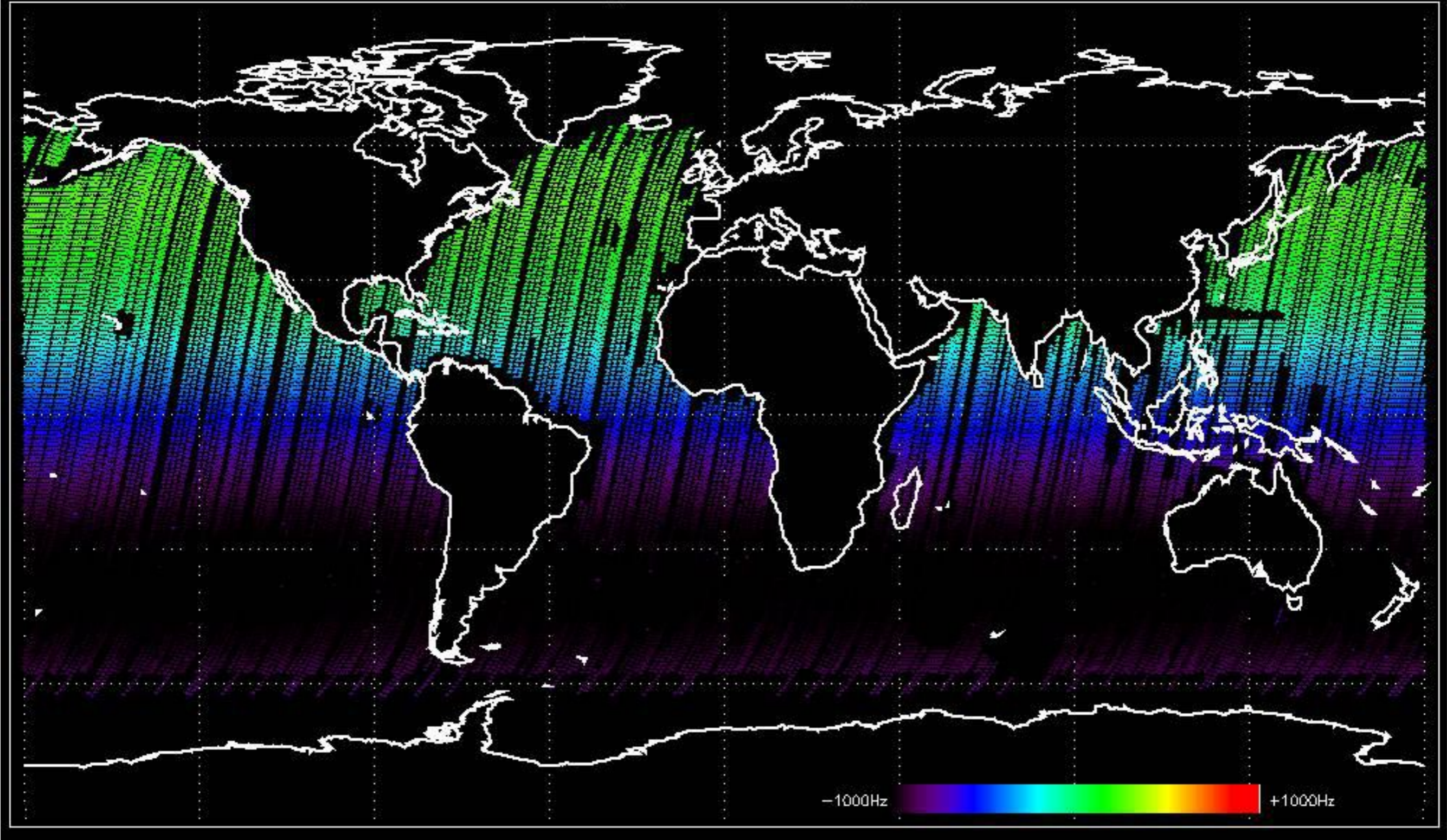


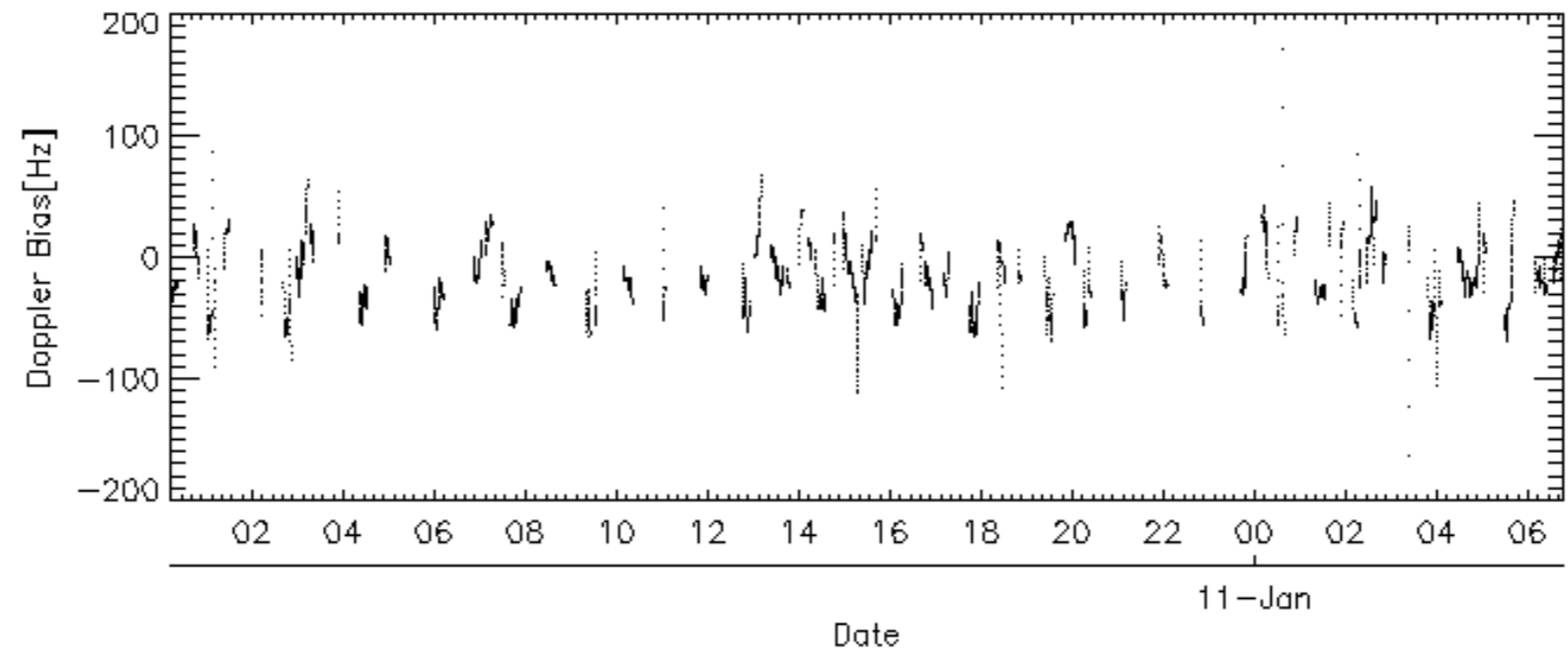
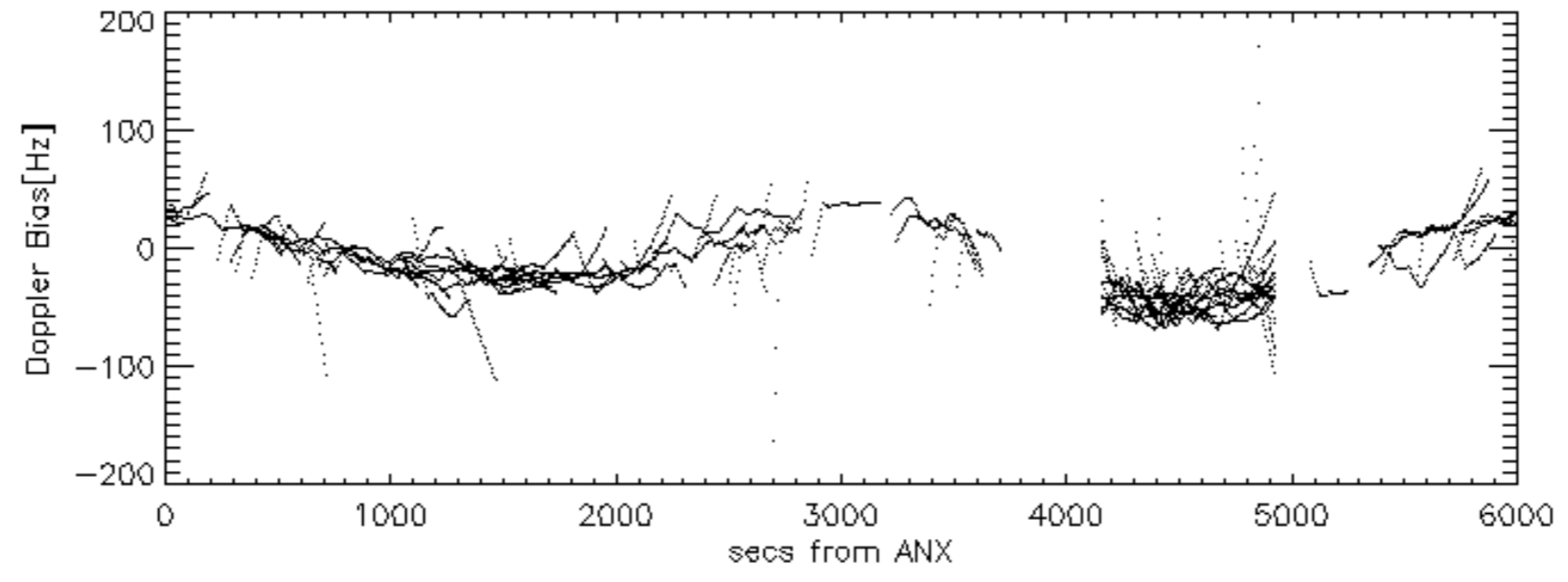
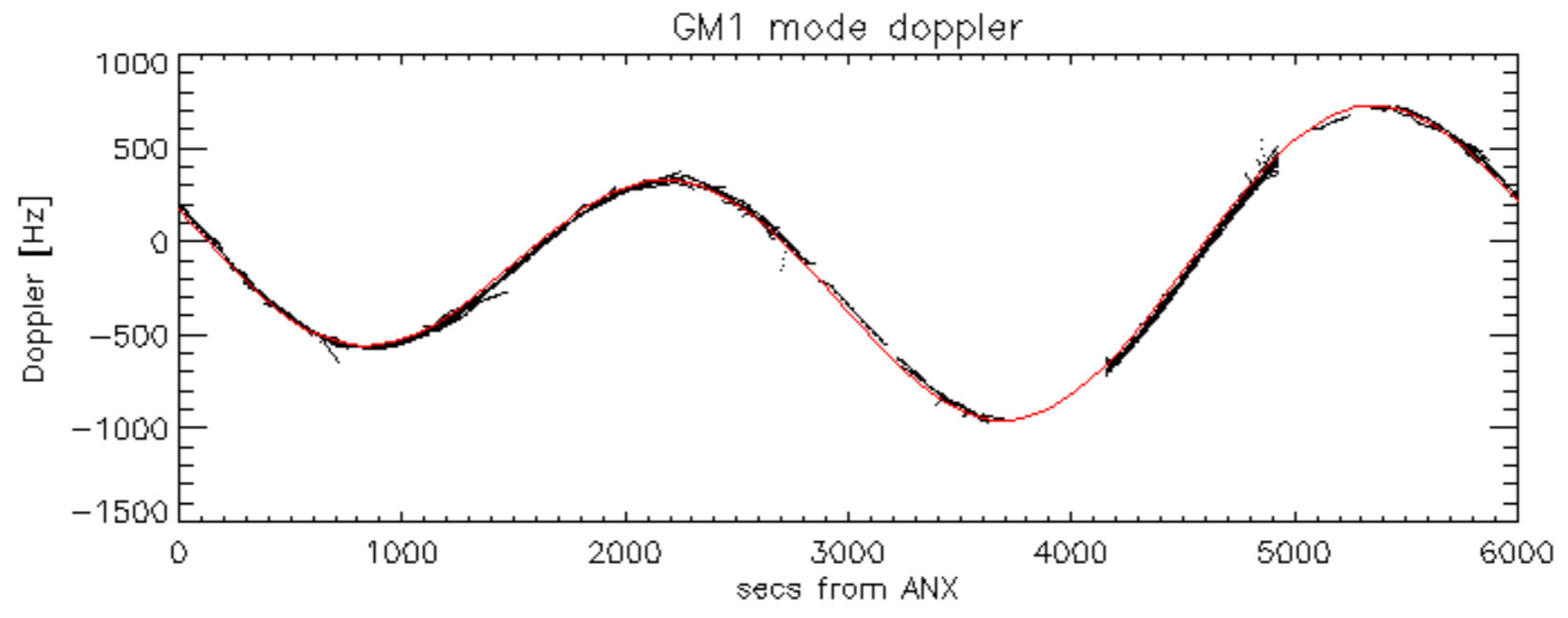
Doppler 'WVS' 'IS2' ascending

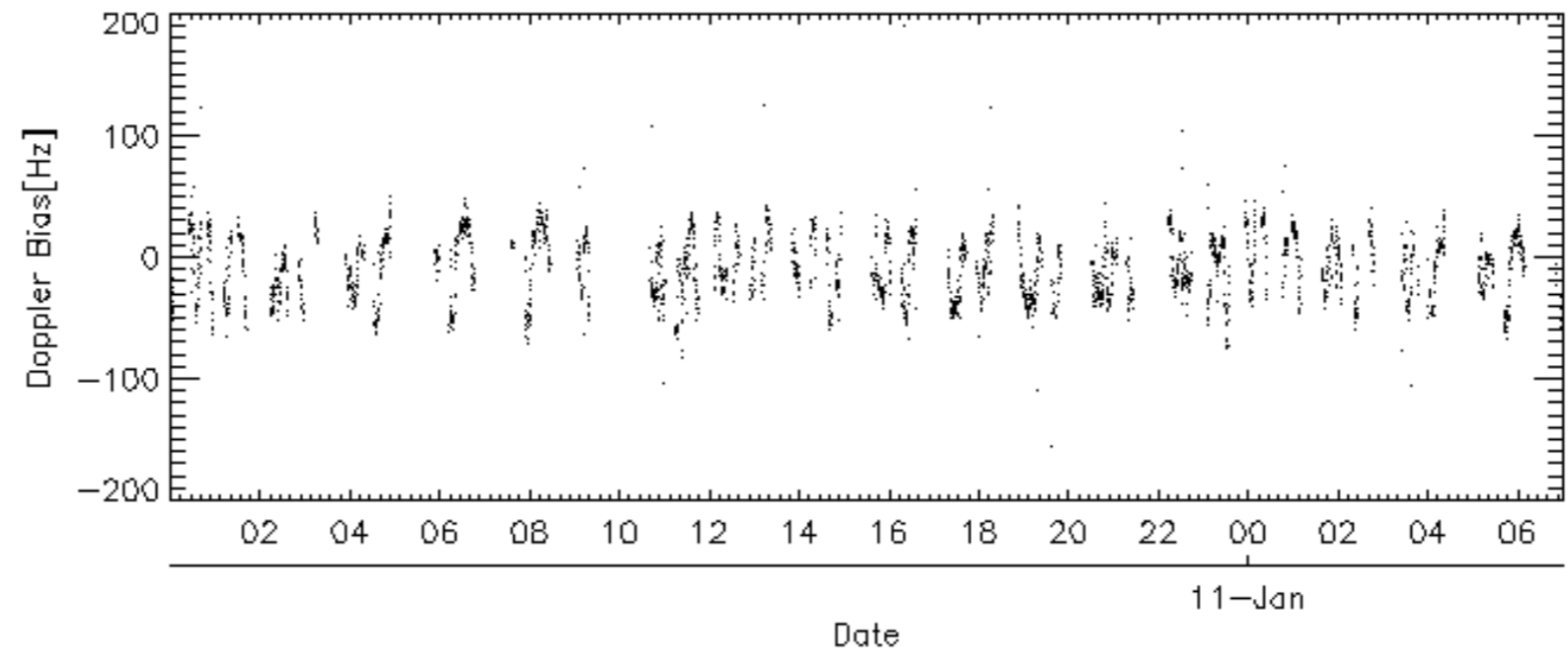
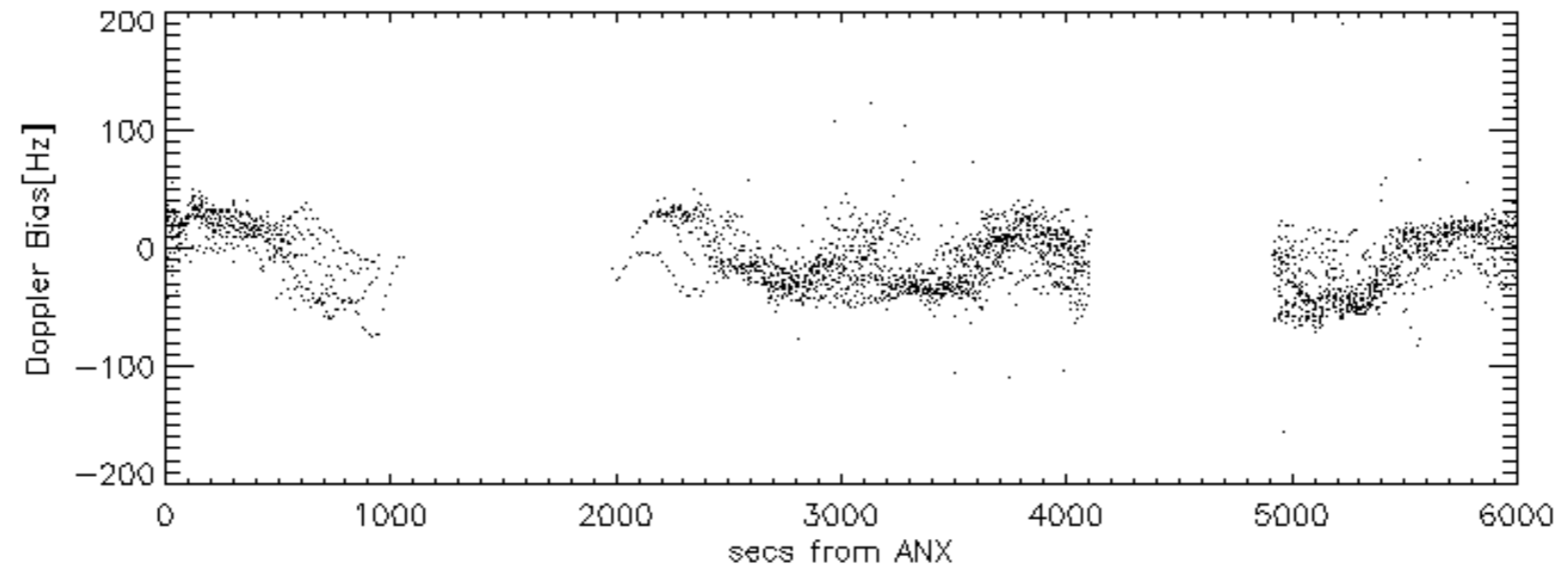
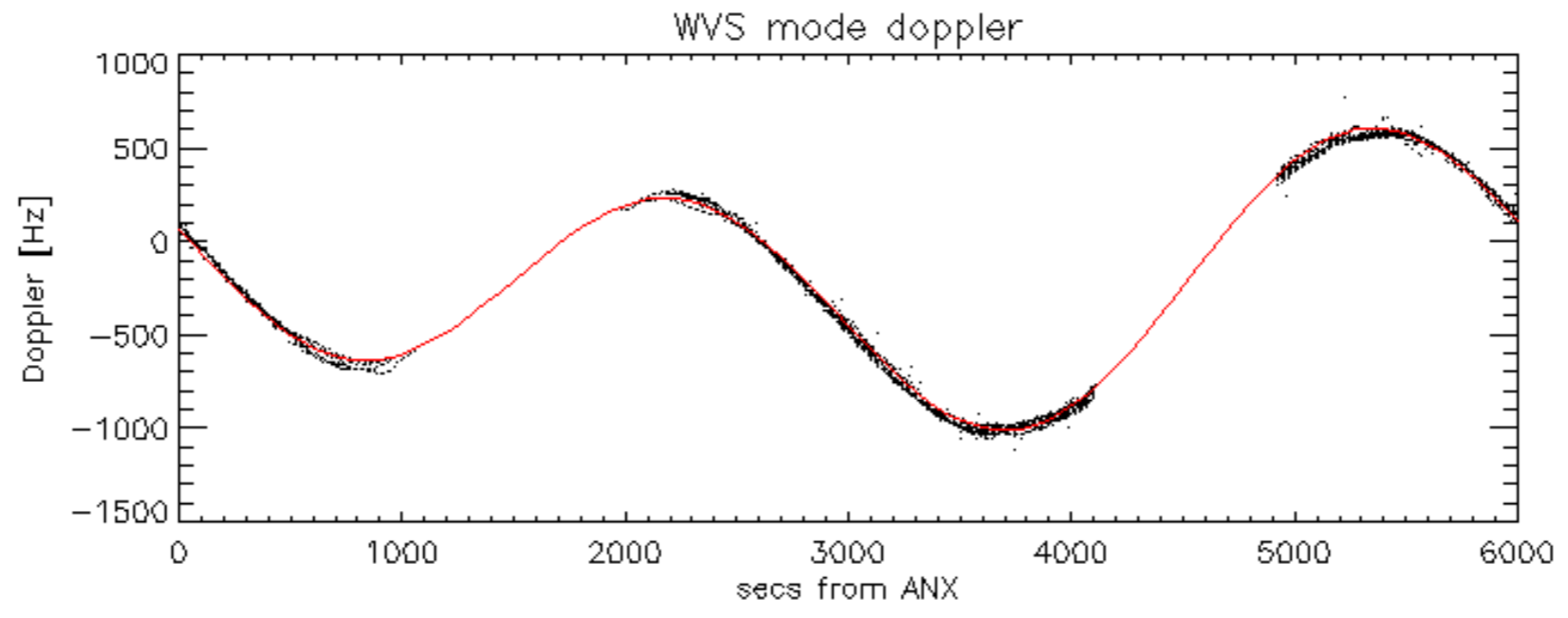




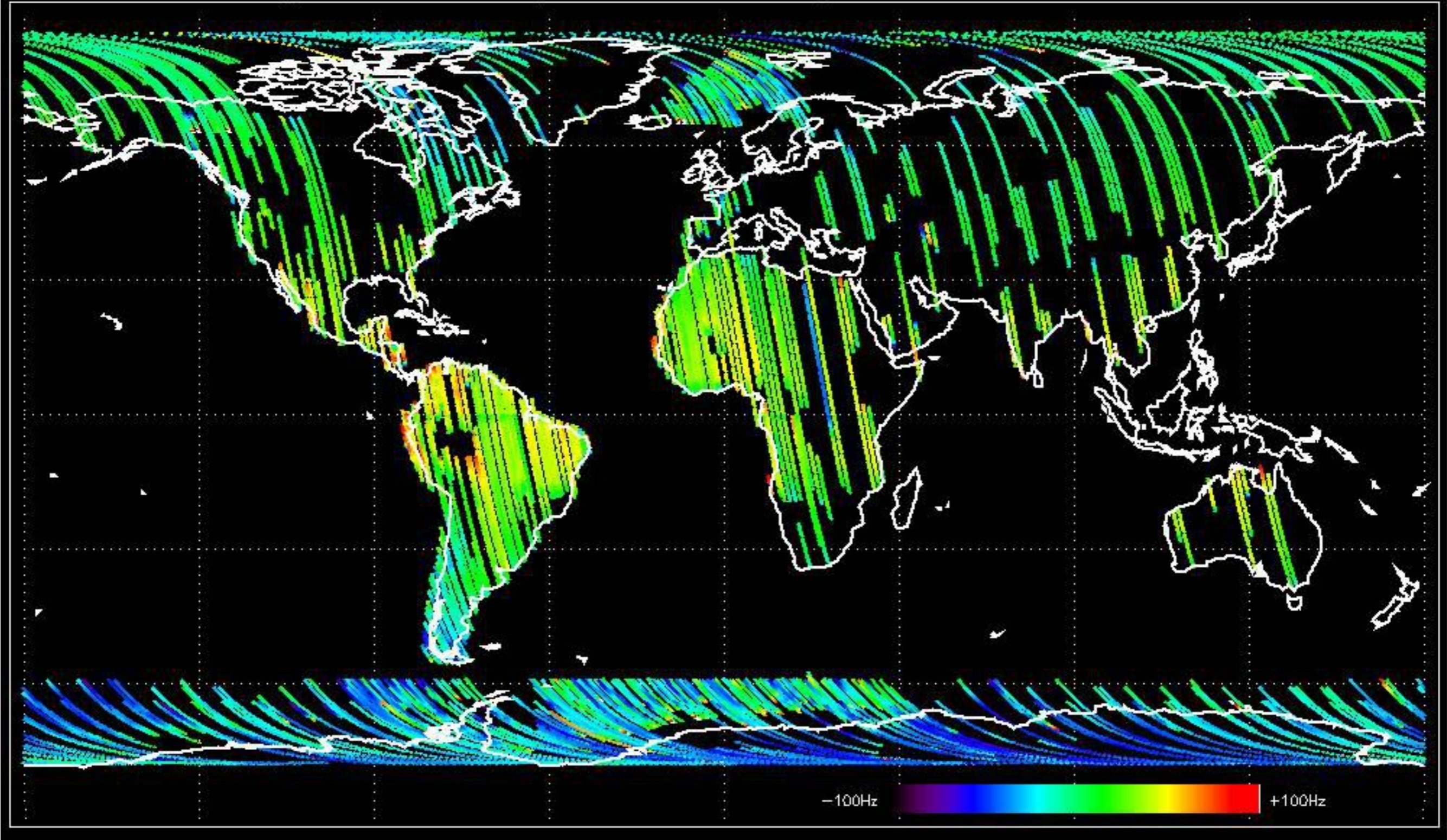
Doppler 'WVS' 'IS2' descending



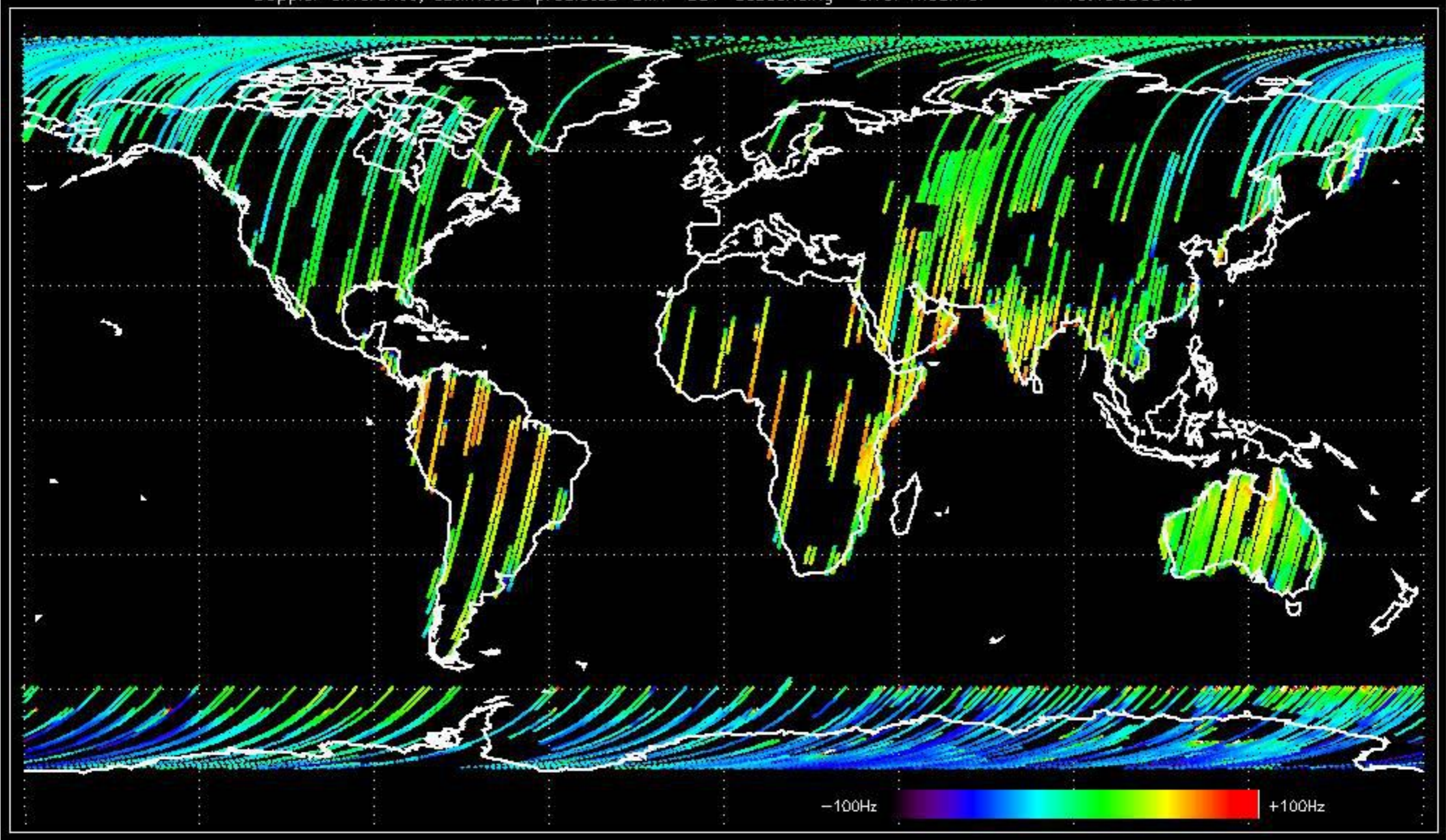




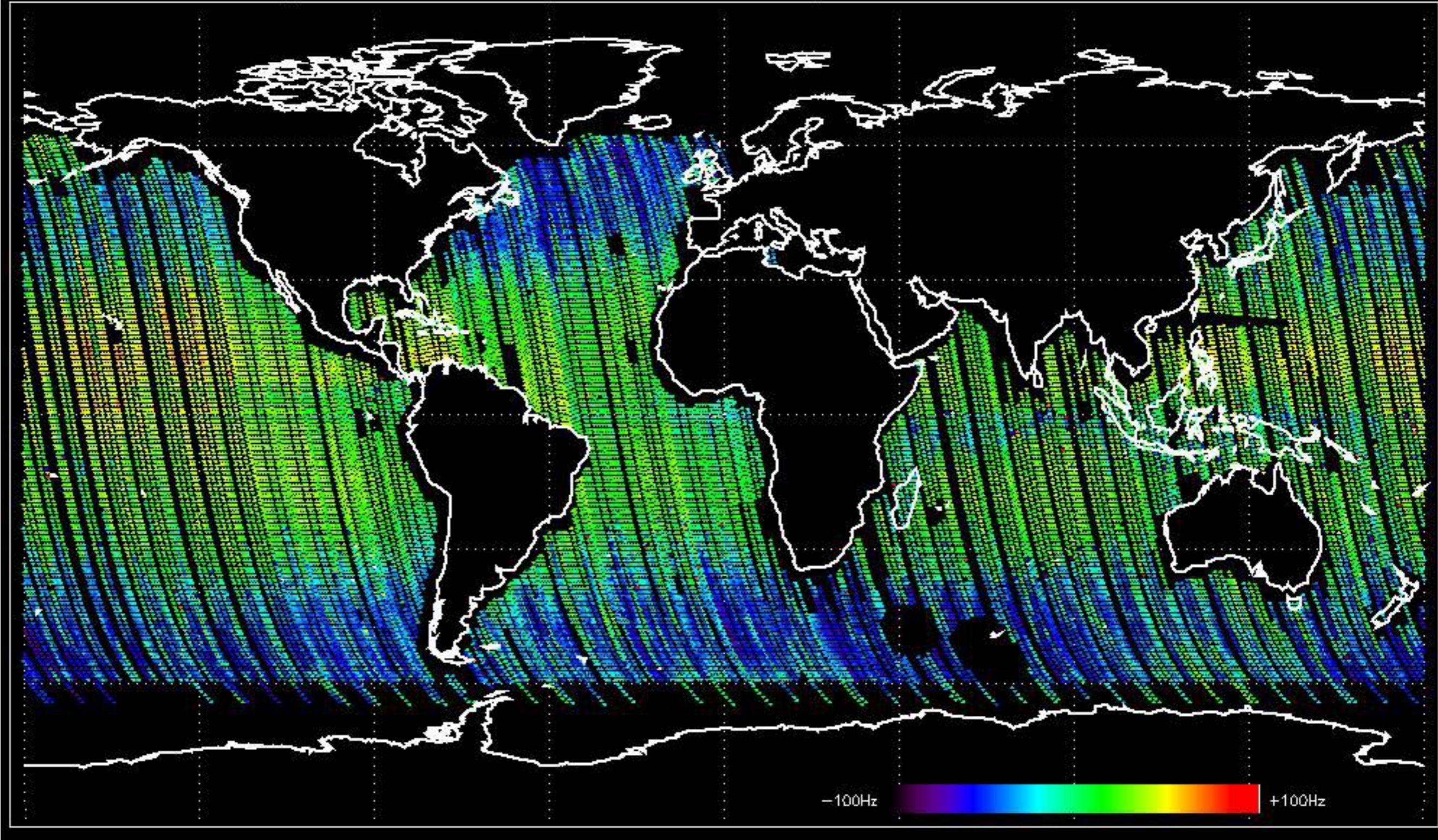
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -19.469010 Hz



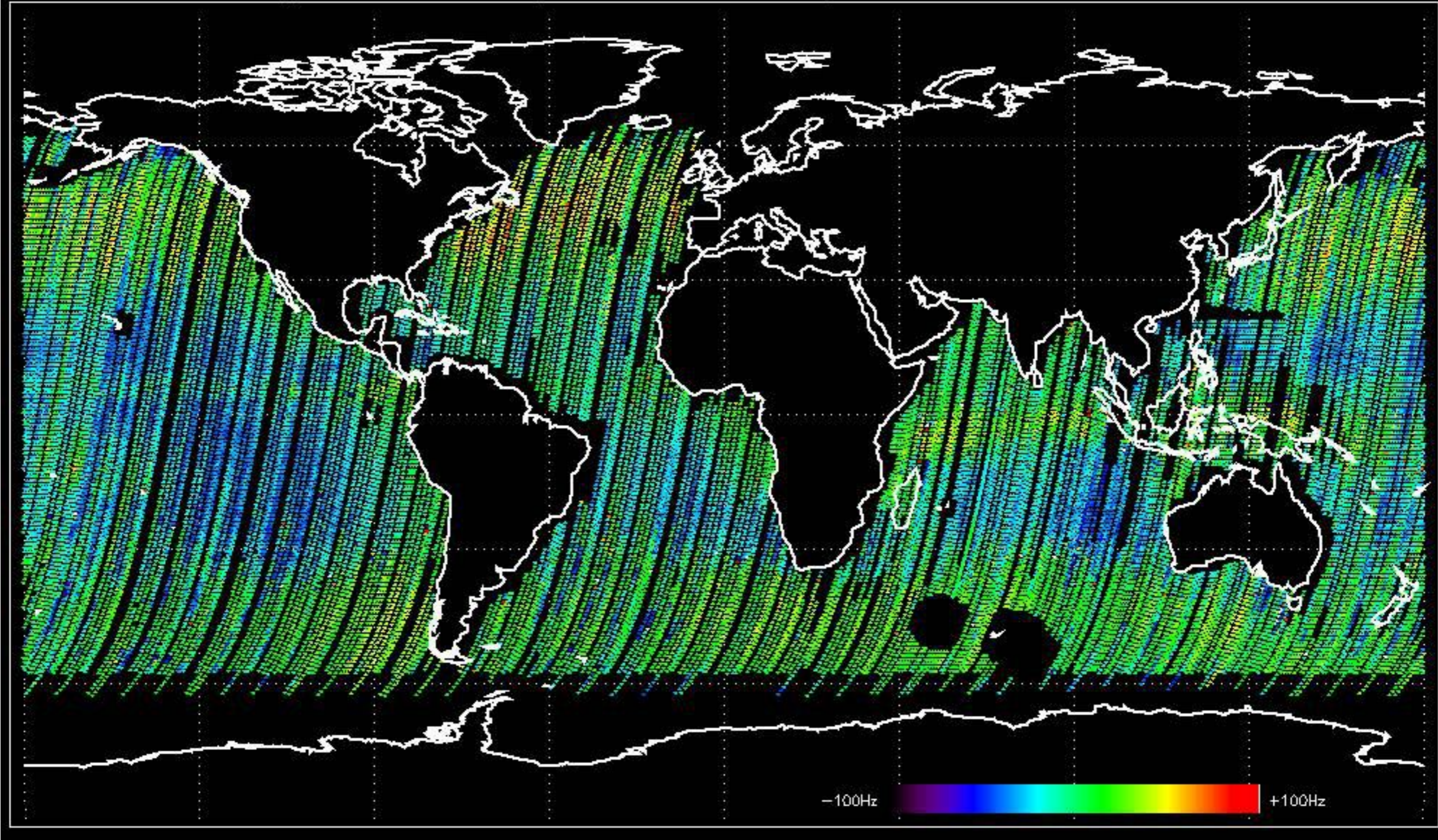
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -18.190368 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -11.538018 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -11.089565 Hz



No anomalies observed on available MS products:



No anomalies observed.









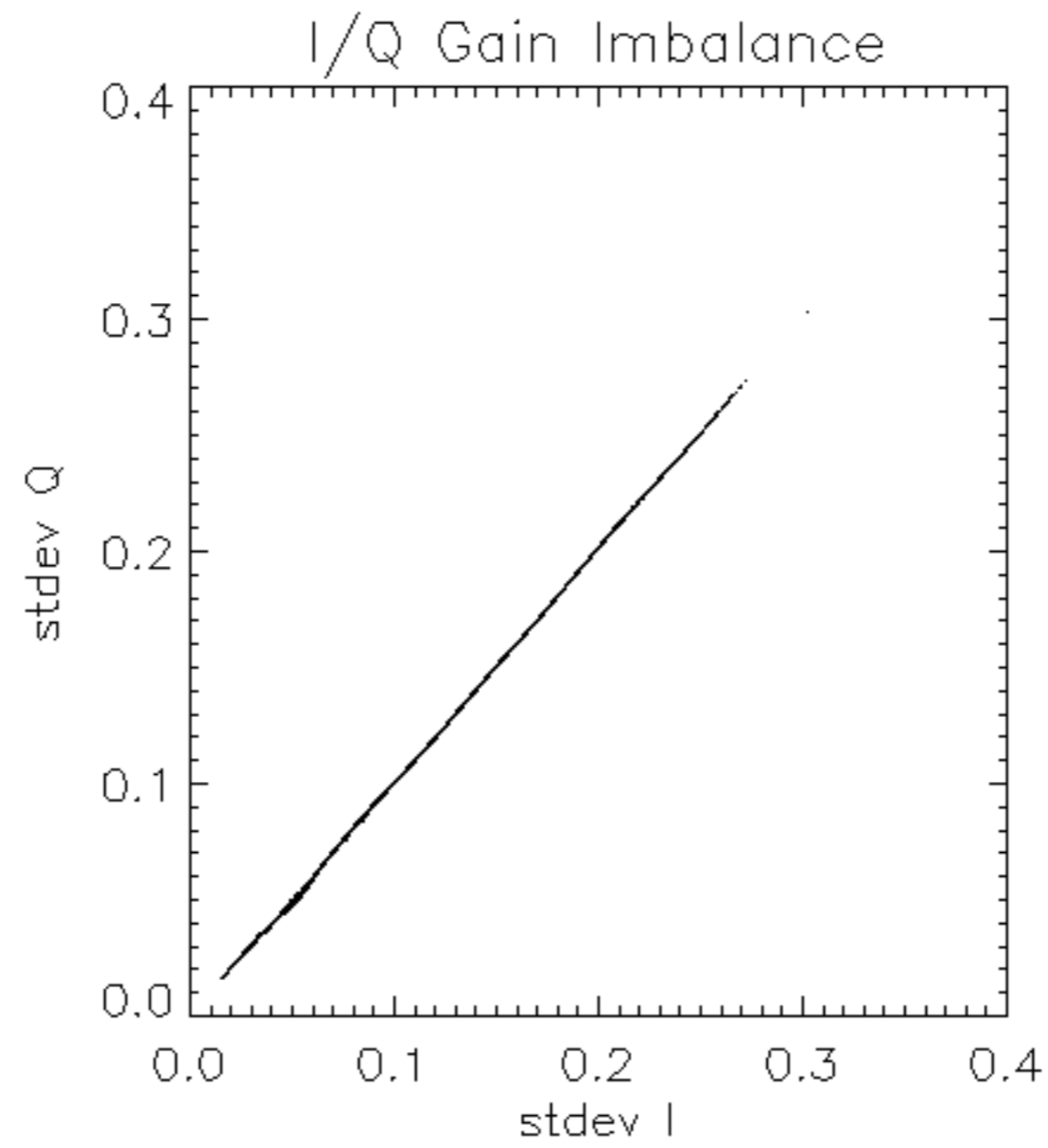


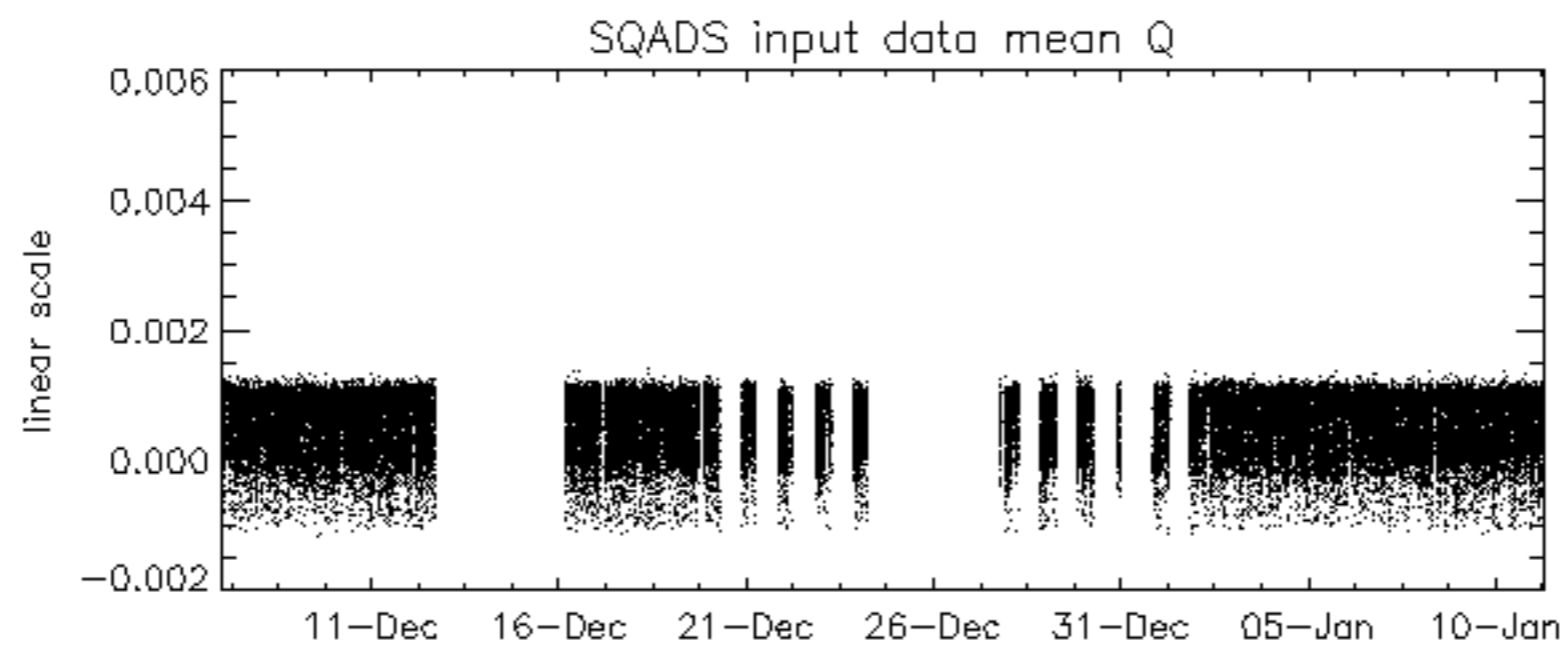
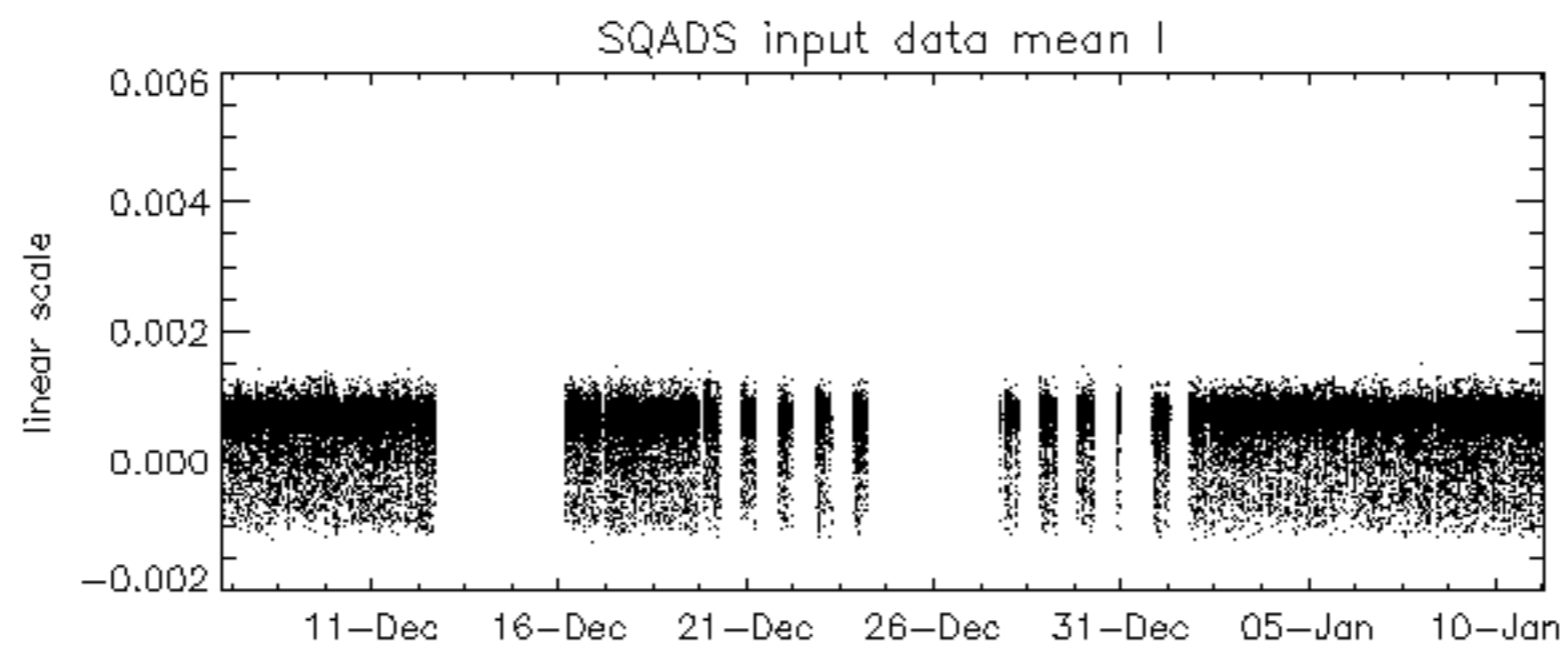
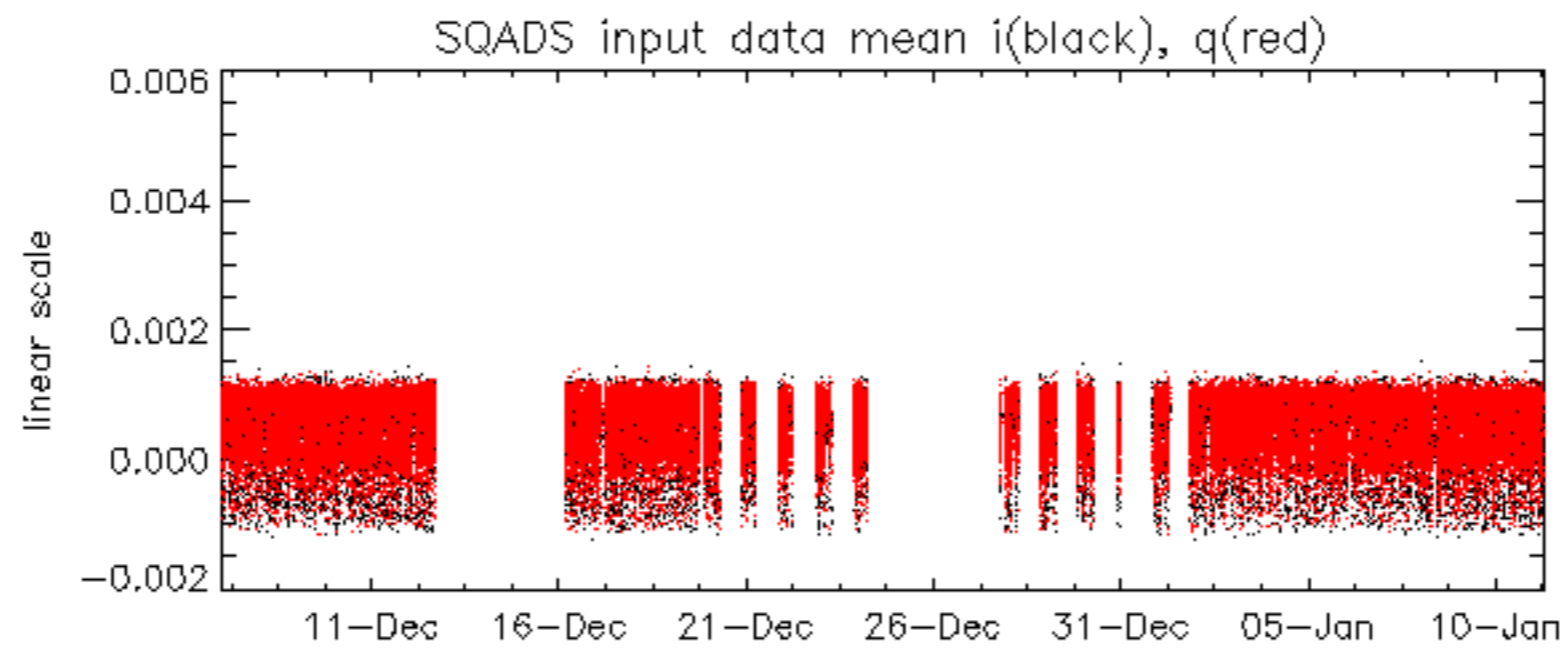


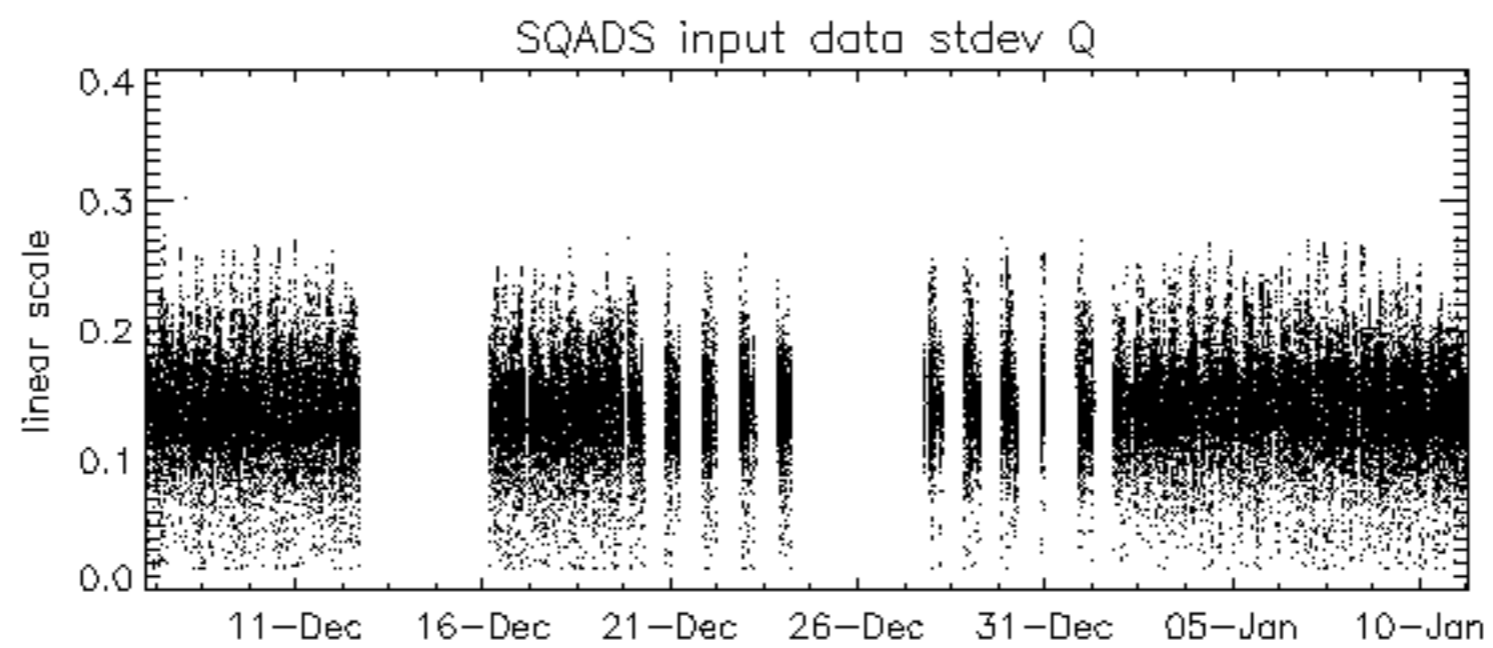
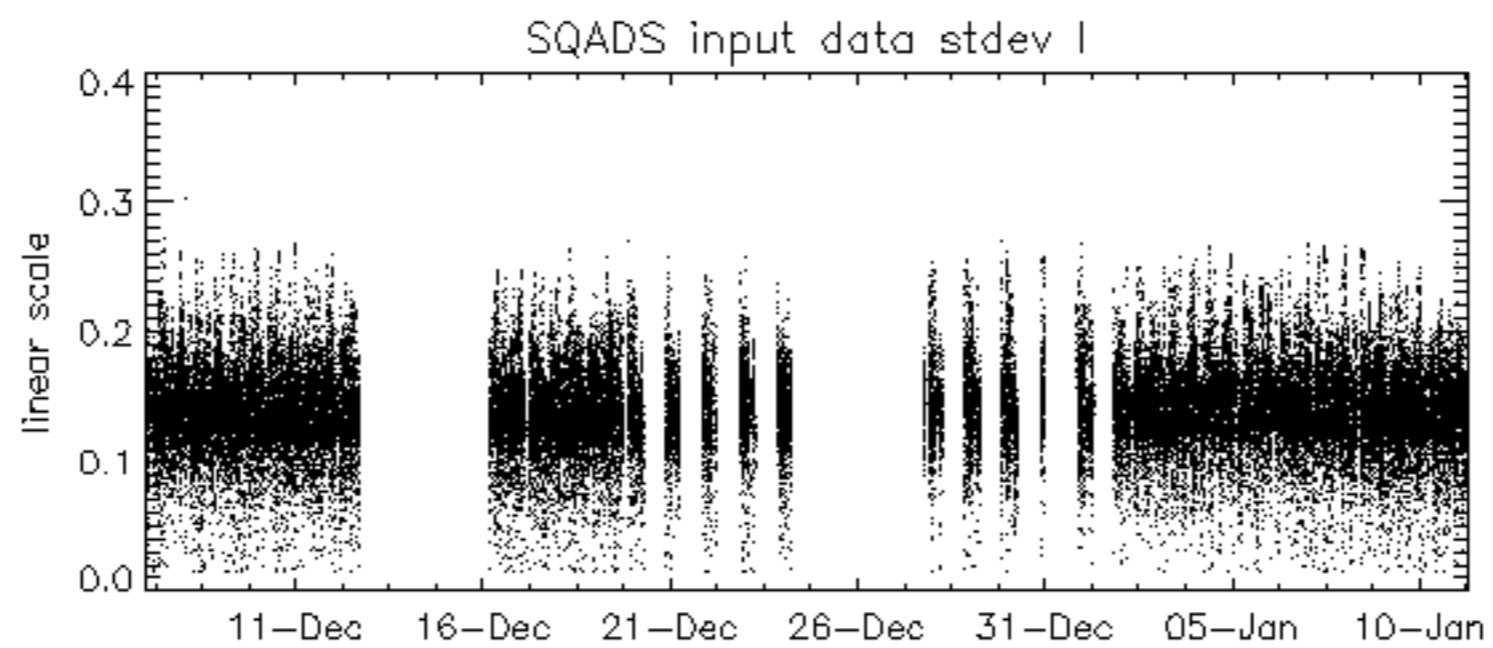
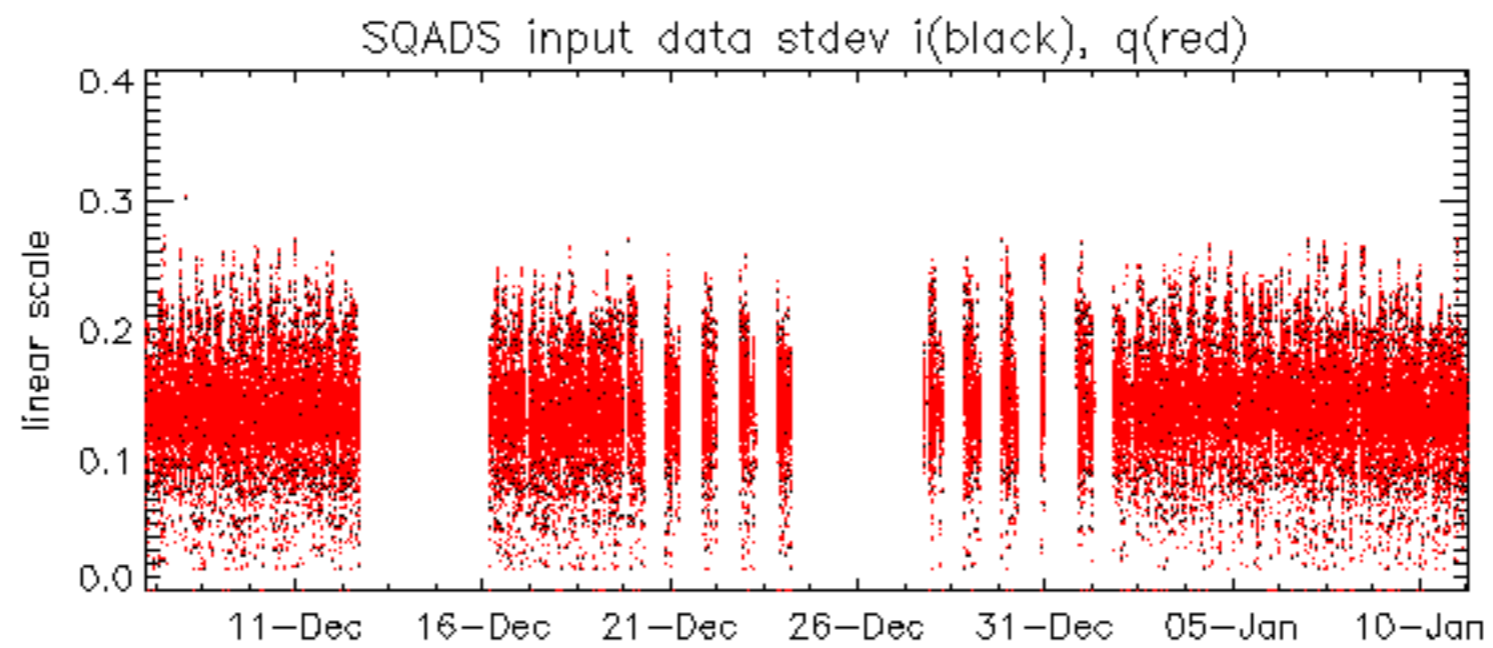




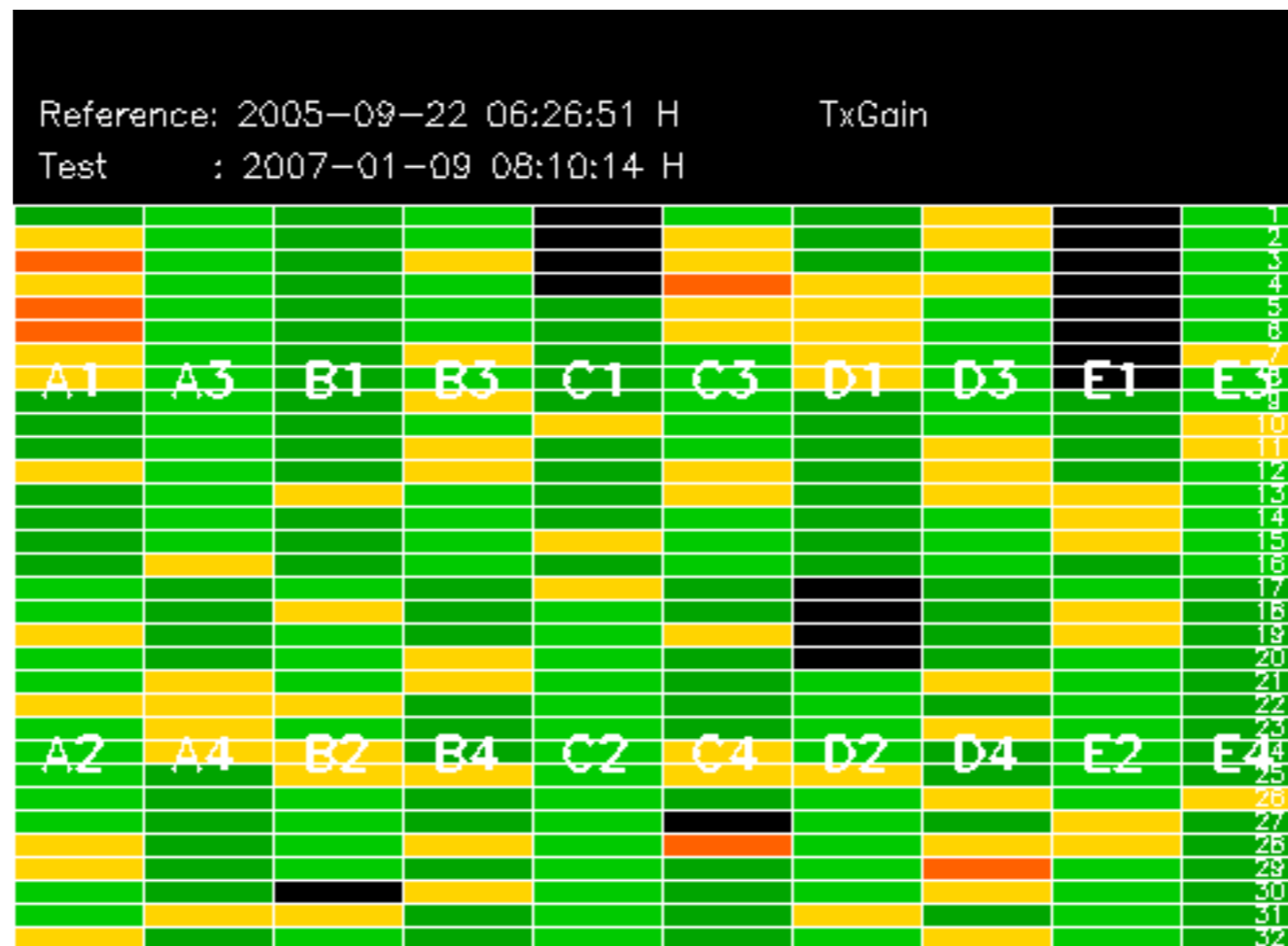














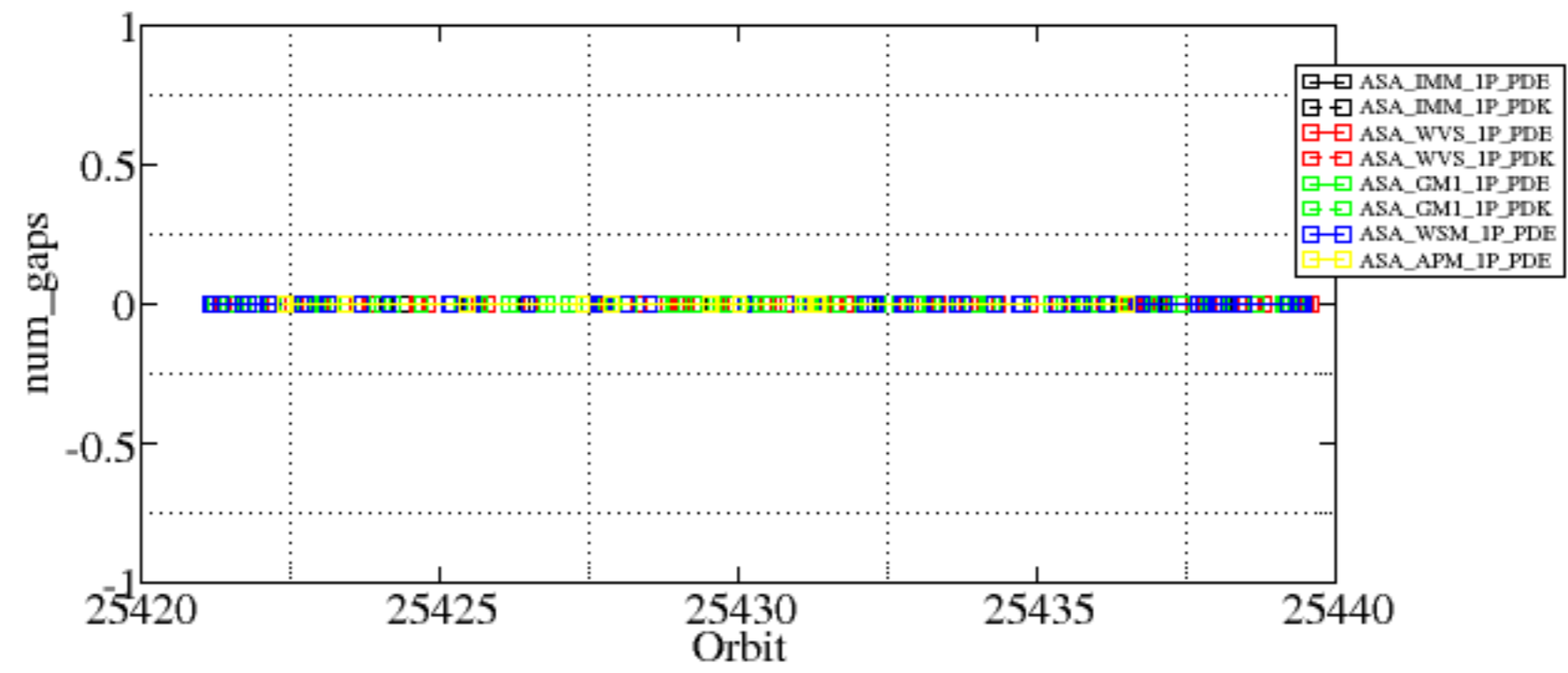




Summary of analysis for the last 3 days 2007011[901]

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_GM1_1PNPDK20070110_150643_000007062054_00326_25430_2010.N1	0	17
ASA_WSM_1PNPDE20070110_163701_000001582054_00327_25431_1812.N1	0	14
ASA_WSM_1PNPDE20070111_042351_000000672054_00334_25438_2884.N1	0	45
ASA_WSM_1PNPDE20070111_042351_000001842054_00334_25438_3099.N1	0	45





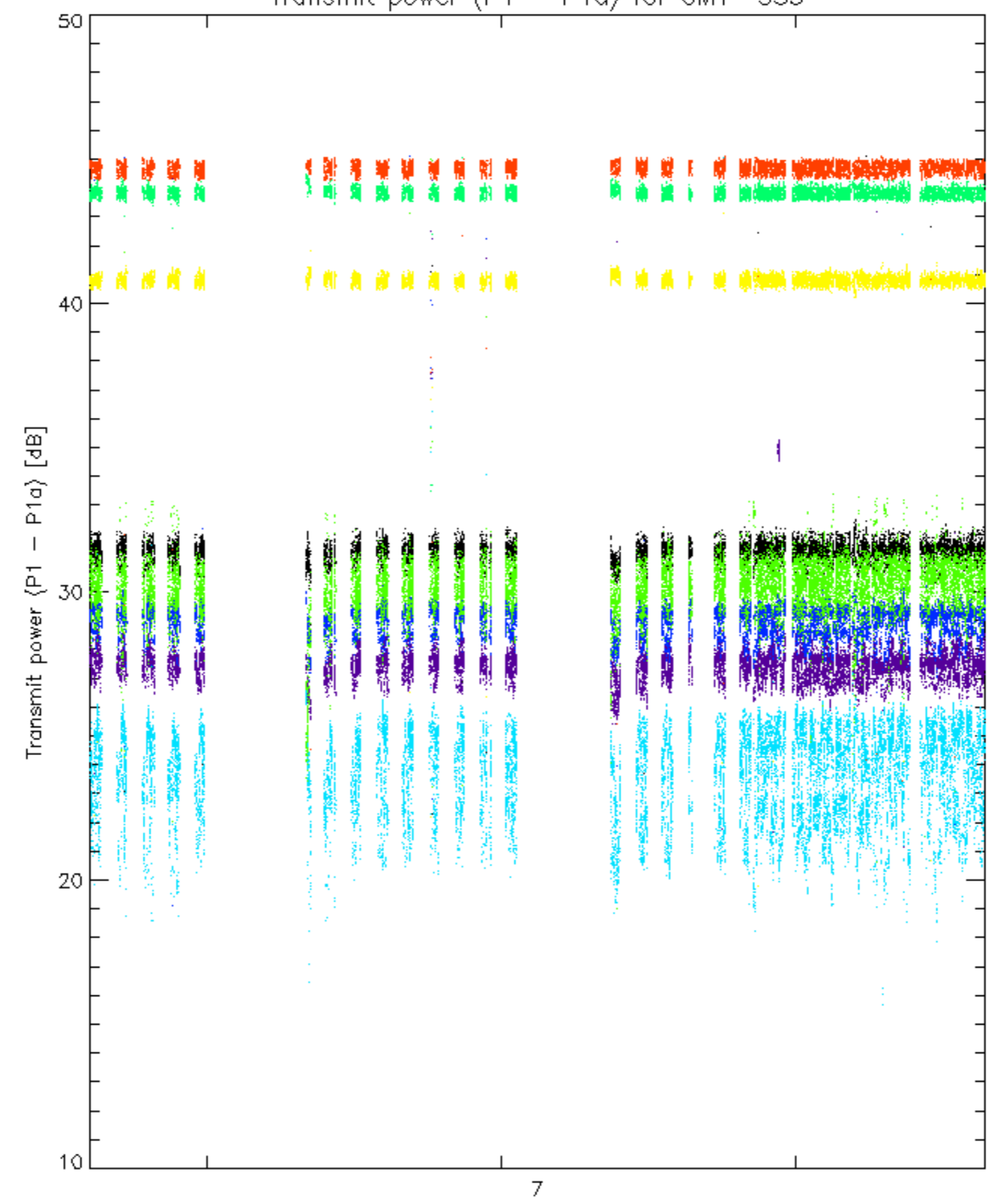






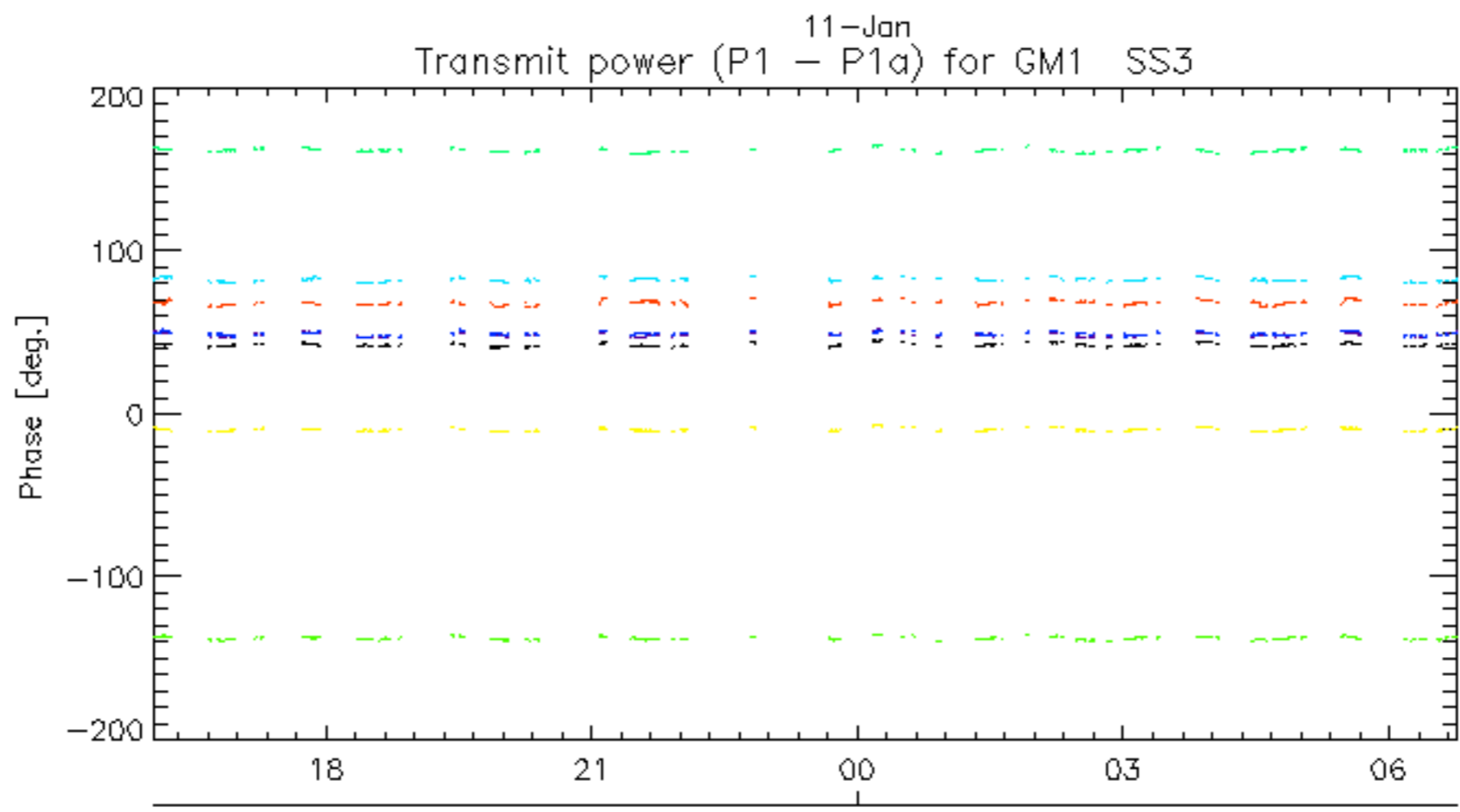
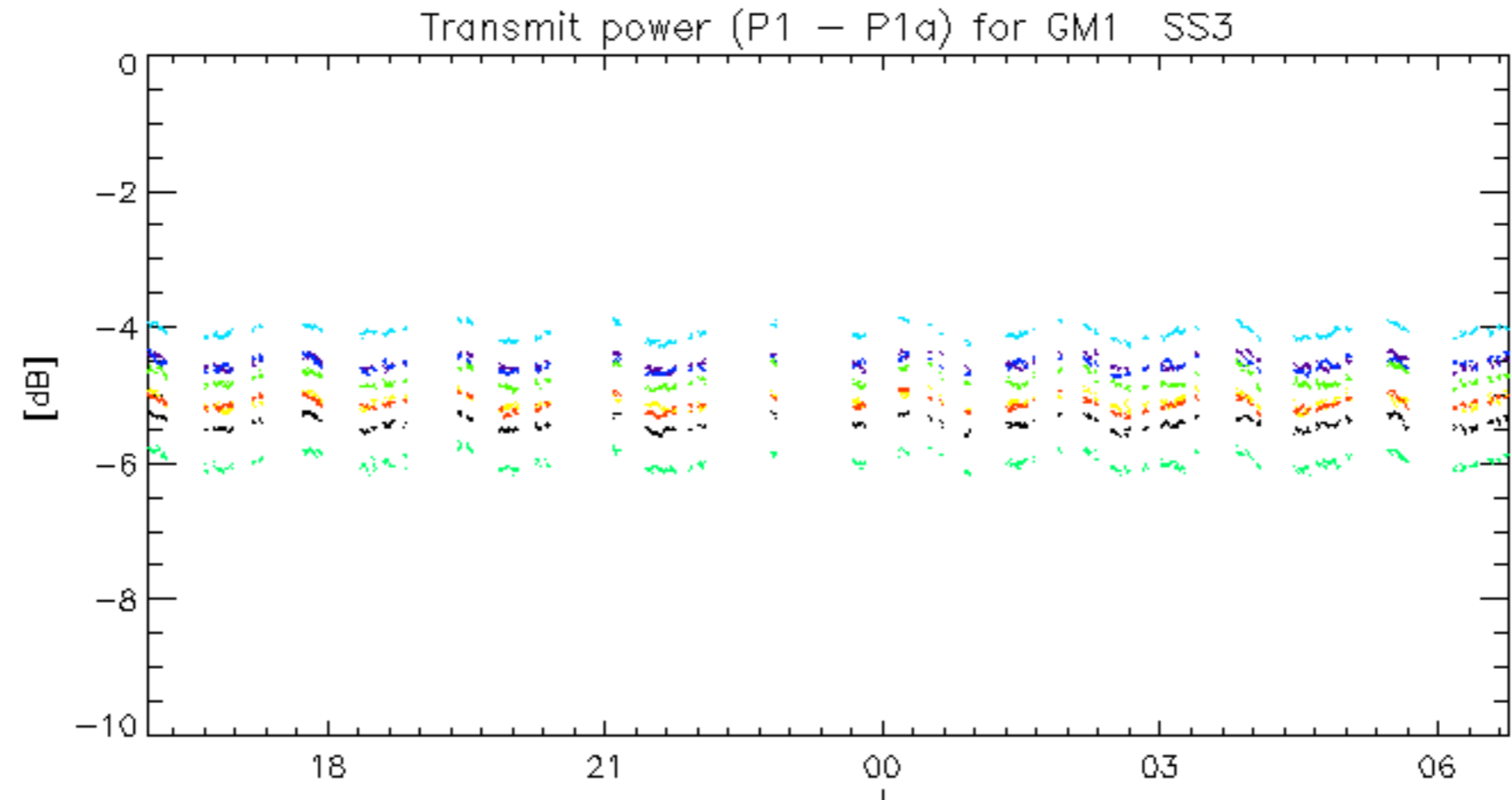


Transmit power (P1 - P1a) for GM1 SS3

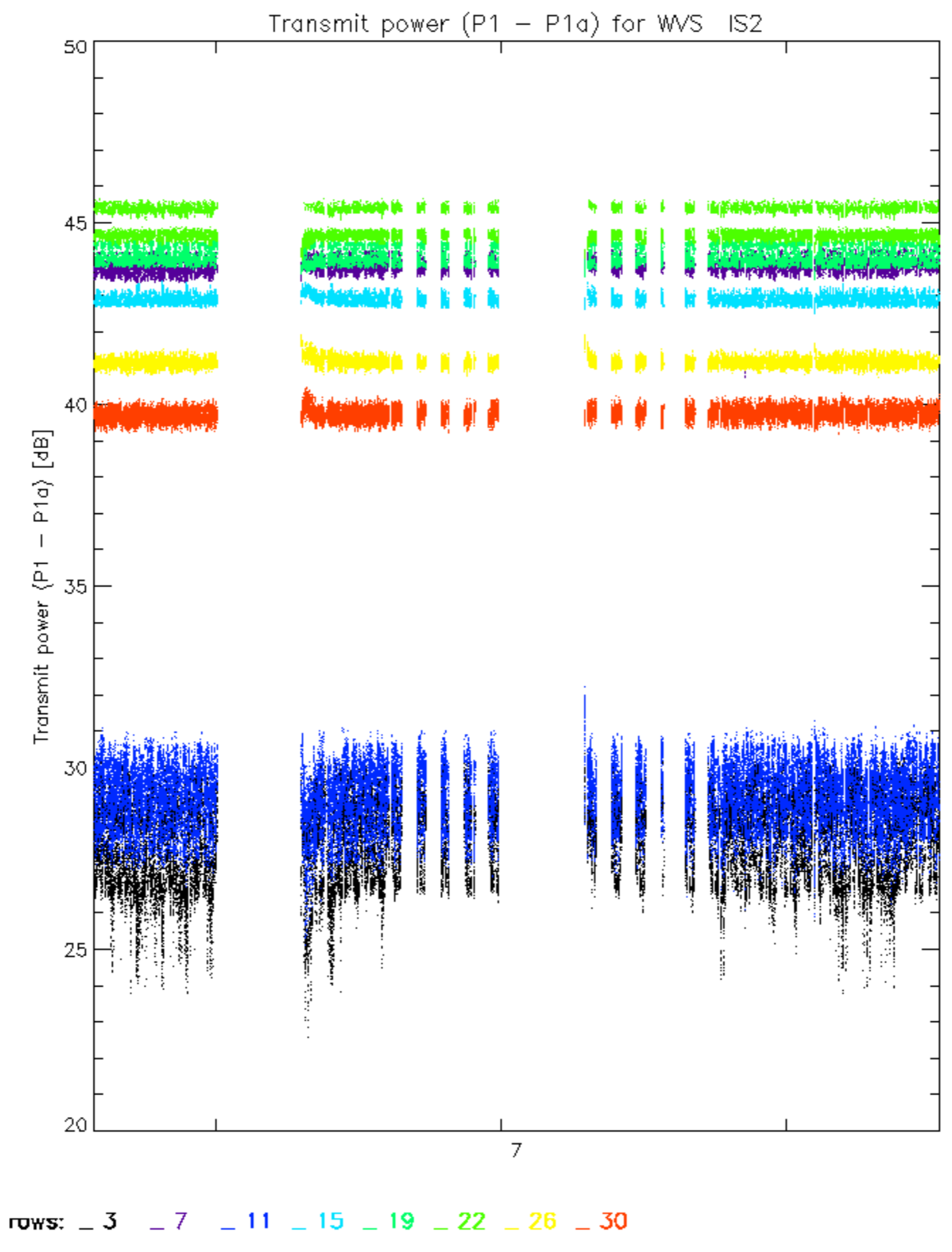


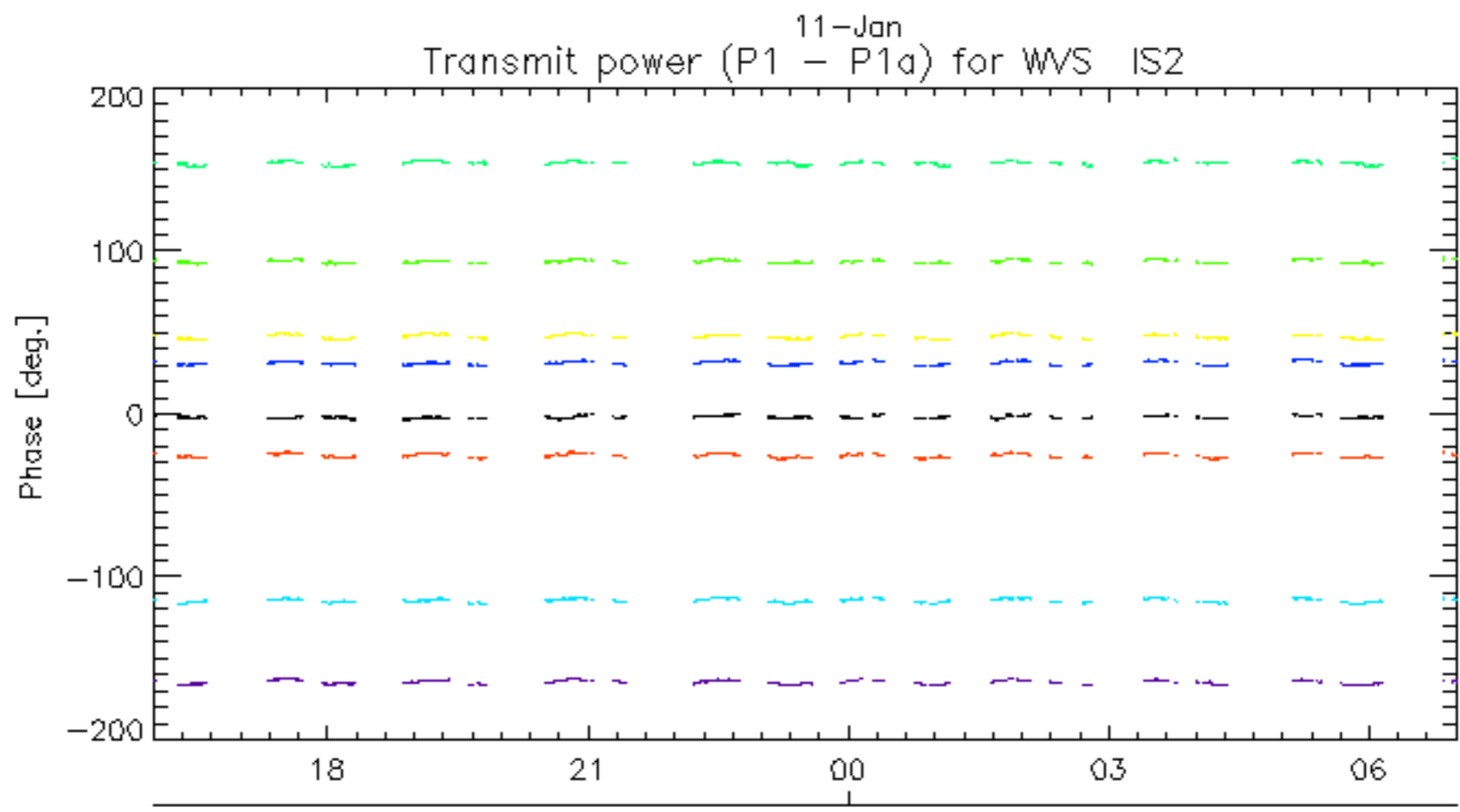
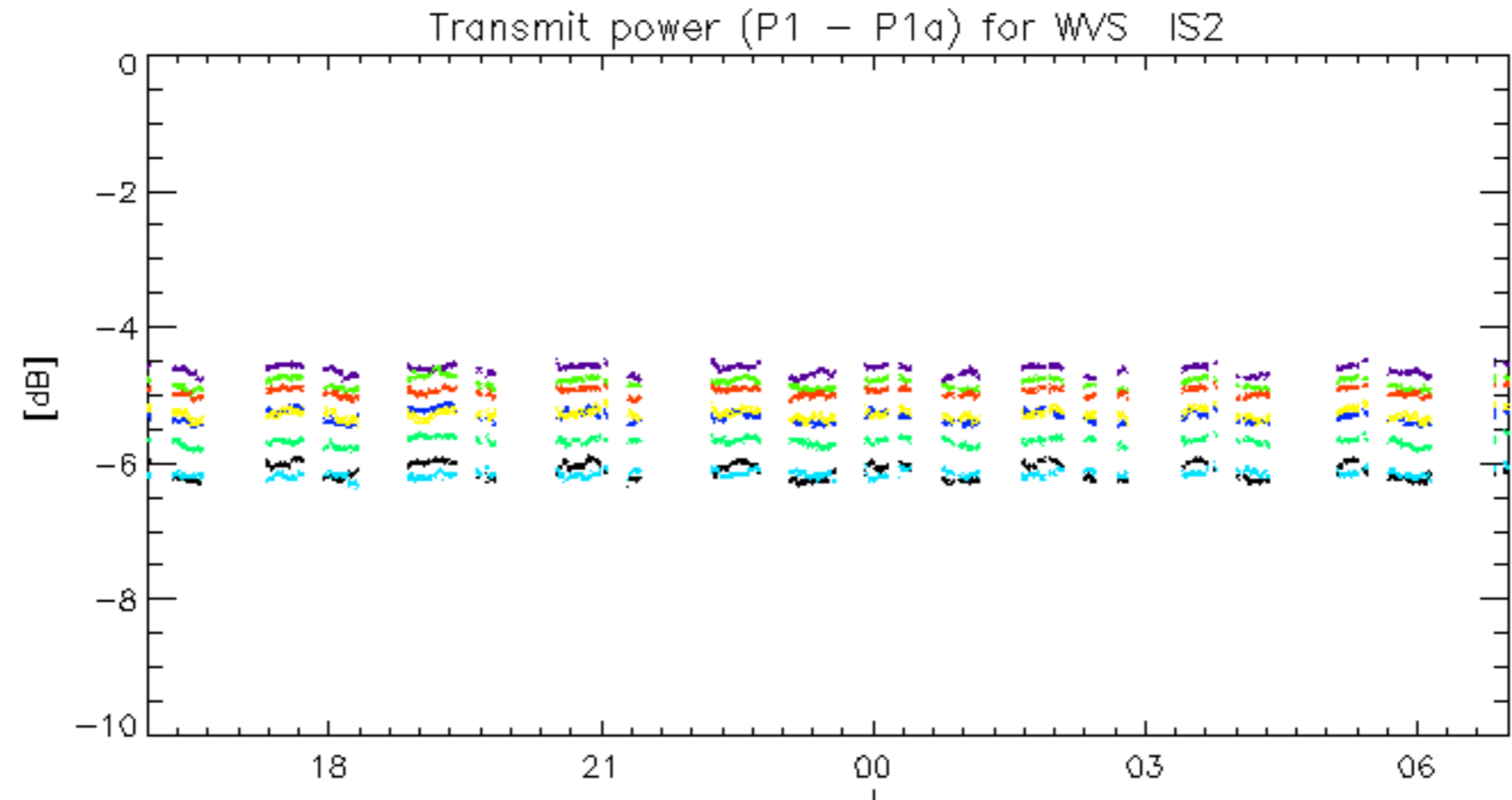
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30





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





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

No unavailabilities during the reported period.