

# PRELIMINARY REPORT OF 050223

last update on Wed Feb 23 10:50:01 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 2005-02-22 00:00:00 to 2005-02-23 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	17	0	2	1	1
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	17	0	2	1	1
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	17	0	2	1	1
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	17	0	2	1	1

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	50	48	7	9	1
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	50	48	7	9	1
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	50	48	7	9	1
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	50	48	7	9	1

## 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	20050221 180515
H	20050222 173338

### 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"/>
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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	-3.381688	0.008566	0.043176
7	P1	-3.081801	0.007818	-0.007017
11	P1	-4.677383	0.019785	-0.034251
15	P1	-5.650846	0.030637	0.000529
19	P1	-3.666480	0.004177	-0.006432
22	P1	-4.538952	0.013605	0.048167
26	P1	-4.943210	0.014200	-0.013021
30	P1	-7.163292	0.017678	-0.034326
3	P1	-15.935260	0.086742	-0.124680
7	P1	-15.514199	0.058988	0.013305
11	P1	-20.909000	0.255245	-0.094201
15	P1	-11.583147	0.028953	0.033376
19	P1	-14.212805	0.025797	-0.111419
22	P1	-15.796385	0.346313	0.245346
26	P1	-17.598764	0.226491	-0.002977
30	P1	-17.932394	0.410764	-0.039067

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.159153	0.085391	0.139491
7	P2	-22.353622	0.104141	0.136884
11	P2	-14.561213	0.102472	0.191397
15	P2	-7.075639	0.094774	0.057585
19	P2	-9.666164	0.094100	0.059500
22	P2	-16.978008	0.094523	0.110169
26	P2	-16.464188	0.091696	0.051088
30	P2	-18.895555	0.079514	0.041856

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.172962	0.005716	0.028521
7	P3	-8.172962	0.005716	0.028521
11	P3	-8.172962	0.005716	0.028521
15	P3	-8.172962	0.005716	0.028521
19	P3	-8.172962	0.005716	0.028521
22	P3	-8.172962	0.005716	0.028521
26	P3	-8.172846	0.005715	0.028252
30	P3	-8.172846	0.005715	0.028252

#### 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	-2.763243	0.019893	0.079053
7	P1	-2.988988	0.079870	-0.030117
11	P1	-3.970855	0.023650	-0.036276
15	P1	-3.546245	0.022773	-0.040205
19	P1	-3.591681	0.014278	0.015861
22	P1	-5.716307	0.052416	-0.065188
26	P1	-7.308463	0.031753	0.062852
30	P1	-6.247870	0.041980	0.063984
3	P1	-10.756727	0.094730	0.021454
7	P1	-10.218249	0.196771	-0.137666
11	P1	-12.562113	0.128828	-0.037628
15	P1	-11.756391	0.083348	0.023461
19	P1	-15.574929	0.054987	0.011759
22	P1	-24.242304	1.384335	-0.392362
26	P1	-15.567030	0.228743	0.199053
30	P1	-20.117479	0.948222	-0.255198

## P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.872009	0.047396	0.127183
7	P2	-22.416151	0.132849	0.053702
11	P2	-10.336391	0.056425	0.238536
15	P2	-4.993396	0.020952	0.039404
19	P2	-6.856856	0.031368	0.075320
22	P2	-7.159102	0.052263	0.112482
26	P2	-23.867830	0.101134	0.030953
30	P2	-21.932108	0.061212	0.044897

## P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.005906	0.002594	0.027040
7	P3	-8.005951	0.002608	0.027360
11	P3	-8.005919	0.002616	0.027182
15	P3	-8.005920	0.002606	0.026908
19	P3	-8.005936	0.002623	0.027453
22	P3	-8.005938	0.002608	0.027395
26	P3	-8.005816	0.002609	0.026955
30	P3	-8.005968	0.002611	0.026846

## 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	0.000467976
	stdev	2.17223e-07
MEAN Q	mean	0.000537912
	stdev	2.29851e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.128763
	stdev	0.000970652
STDEV Q	mean	0.129004
	stdev	0.000981065



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005022[123]

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_1PNPDK20050221_063357_000000962034_00492_15576_2899.N1	0	8



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

### 7.2 - Absolute Doppler for WVS

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

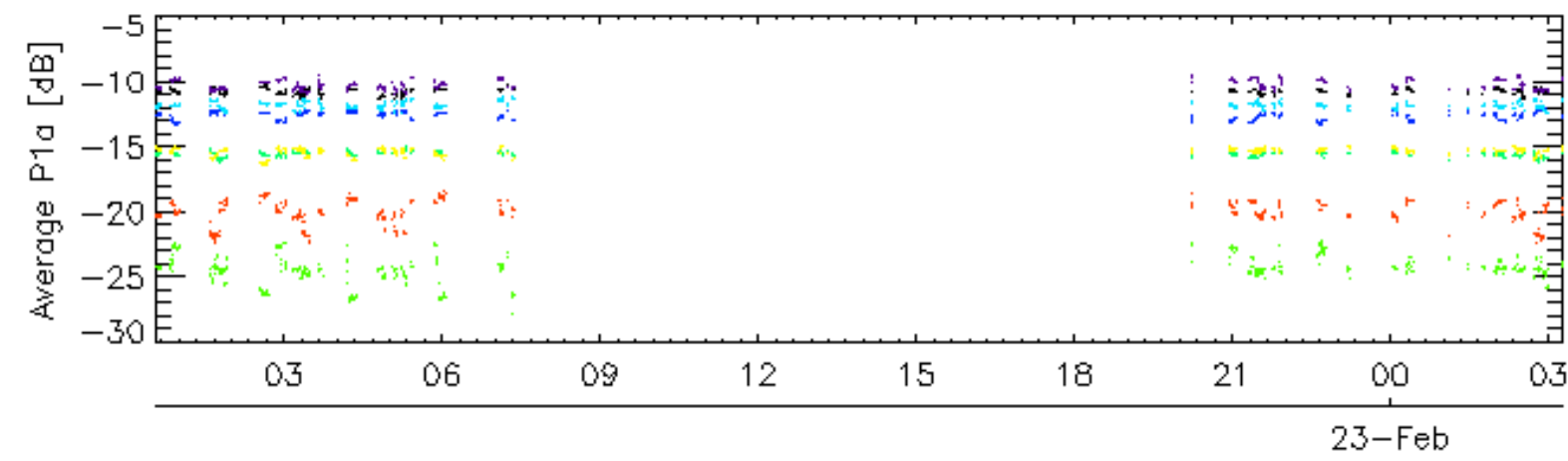
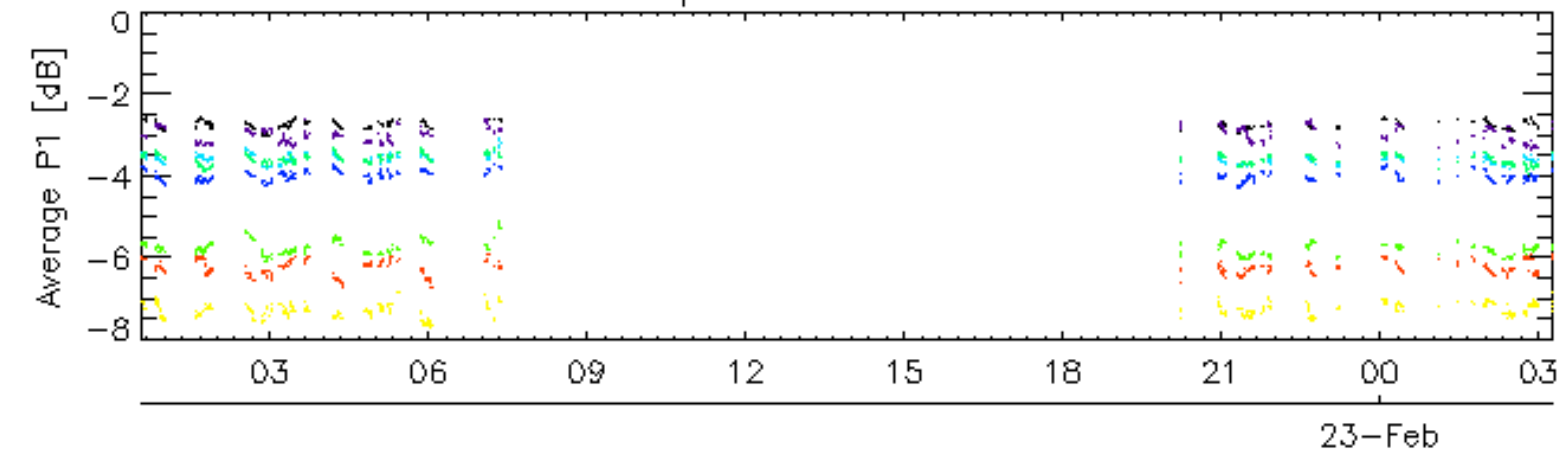
Ascending

Descending

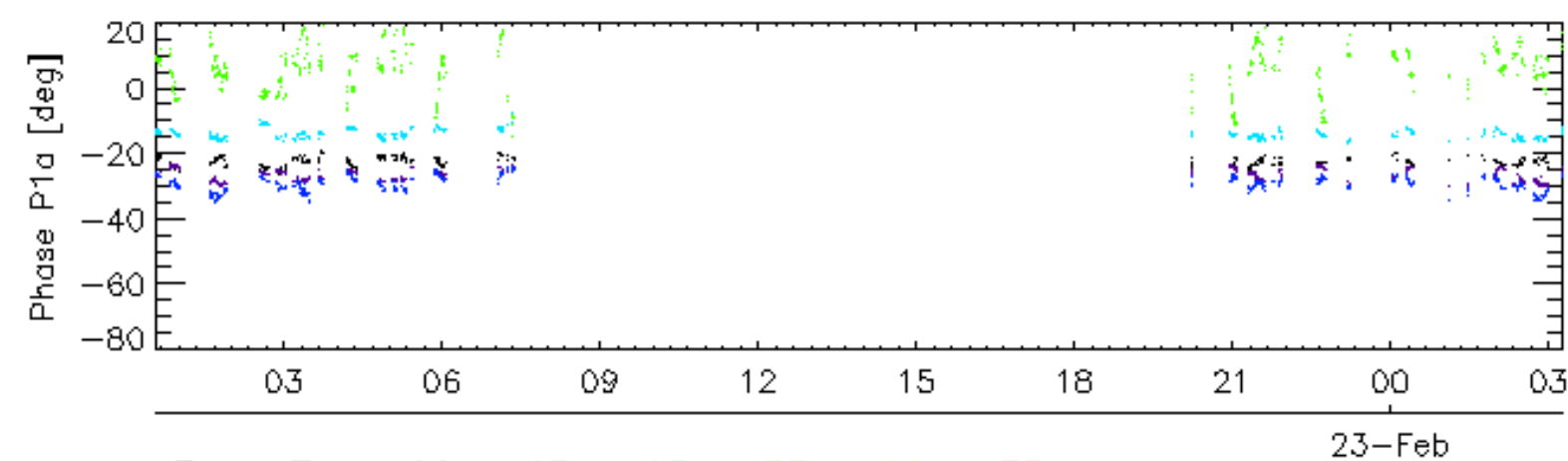
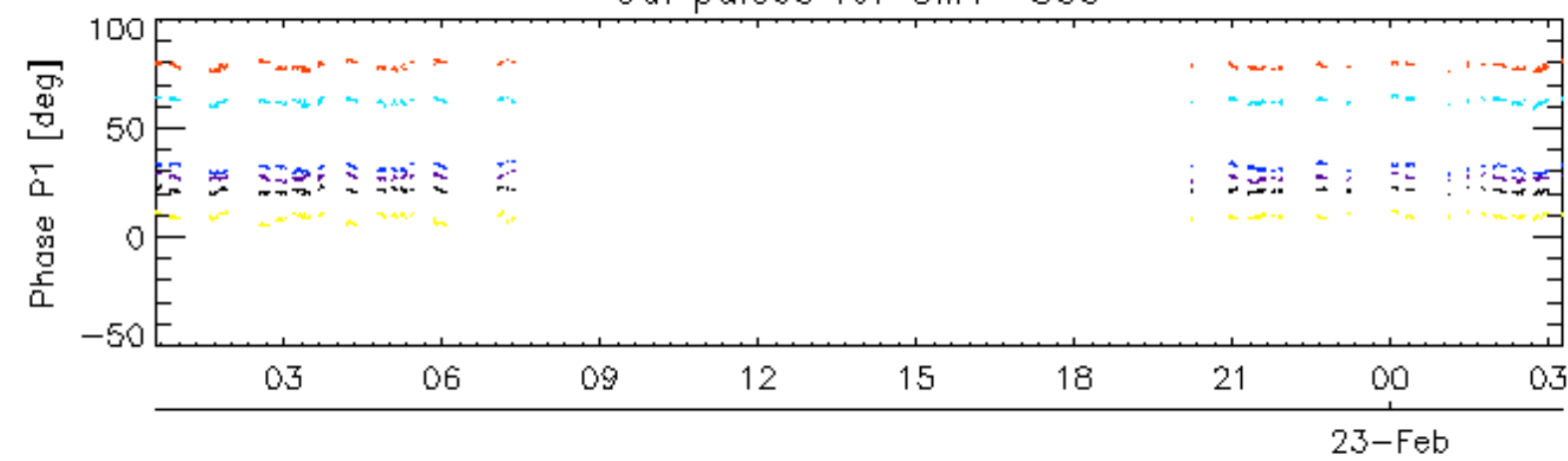
### 7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

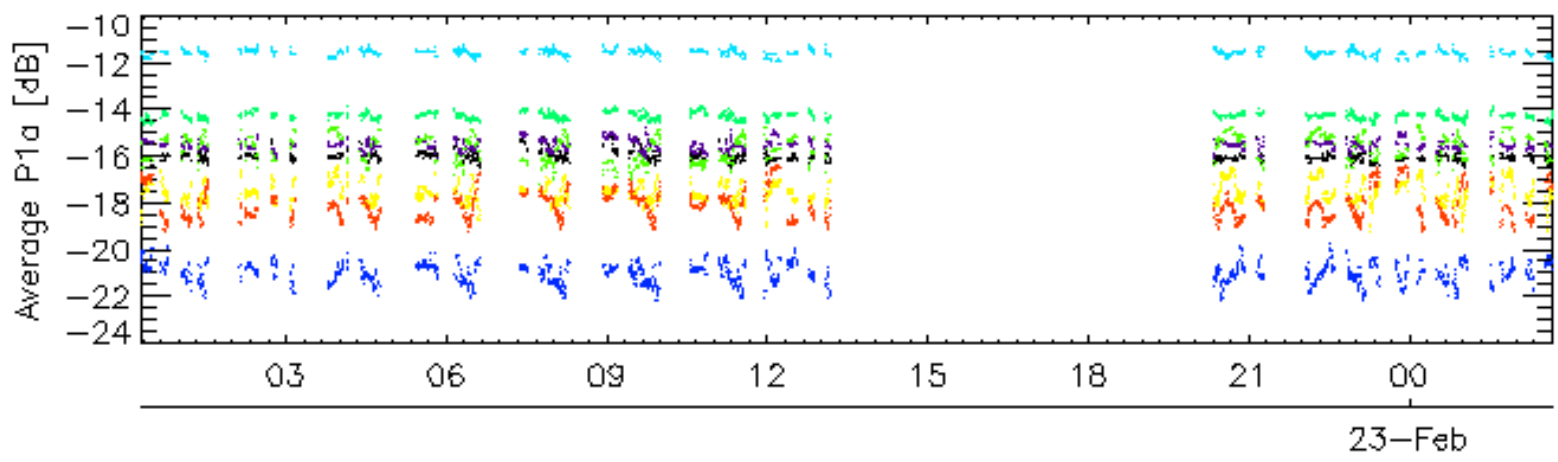
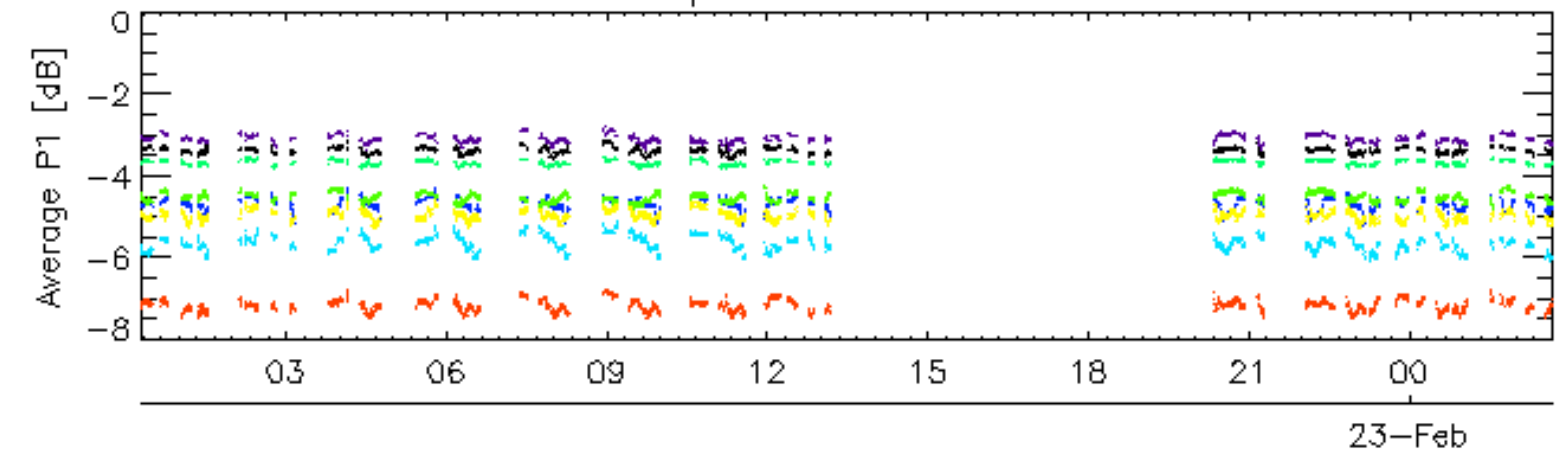


Cal pulses for GM1 SS3

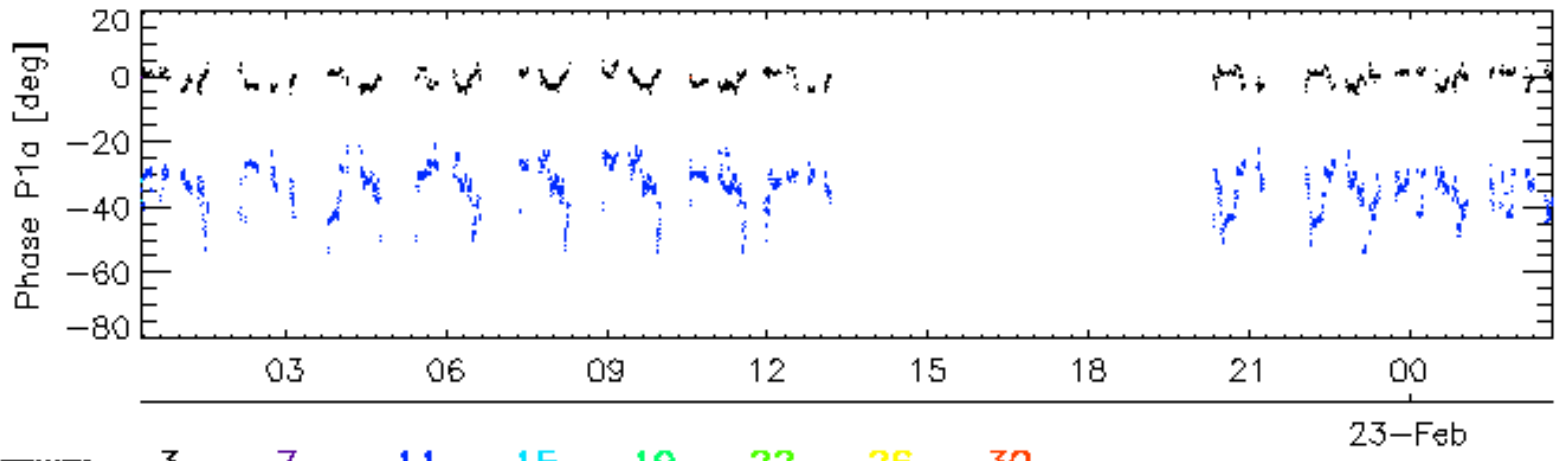
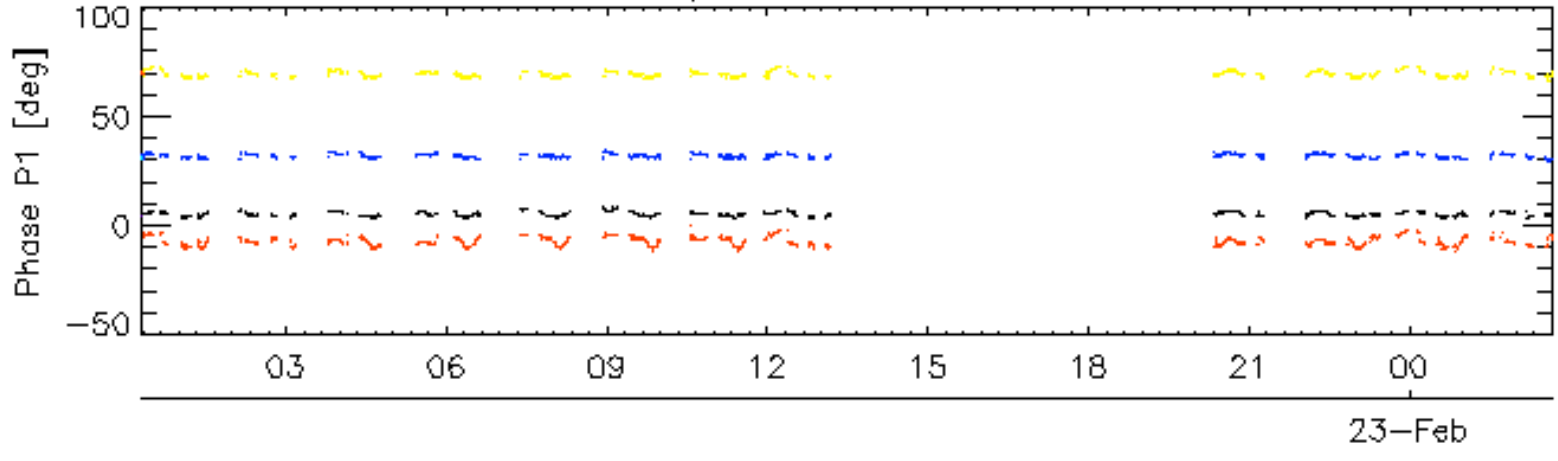


rows: **- 3** **- 7** **- 11** **- 15** **- 19** **- 22** **- 26** **- 30**

Cal pulses for WVS IS2

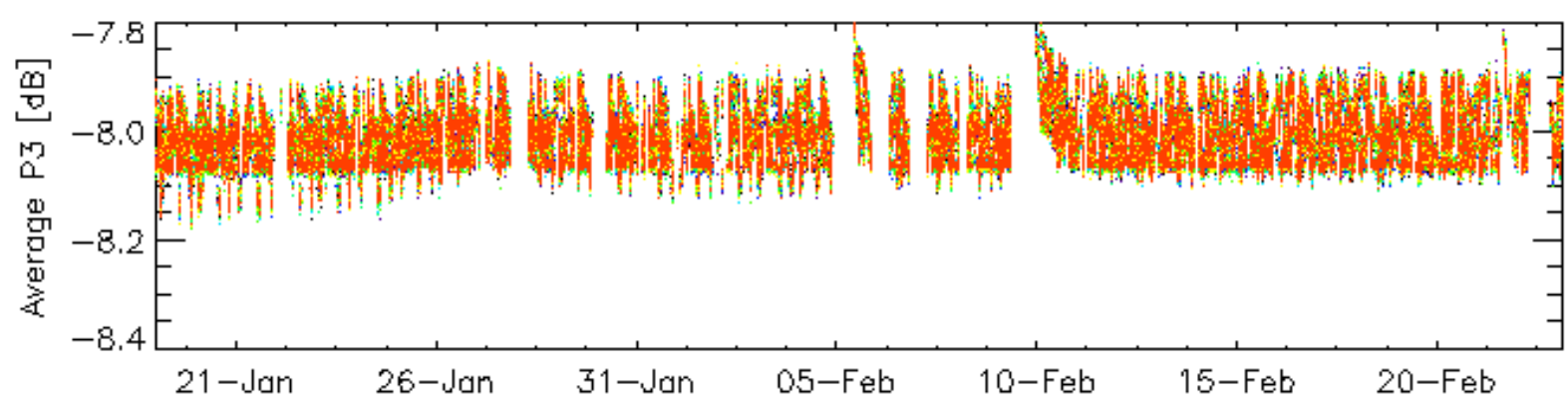
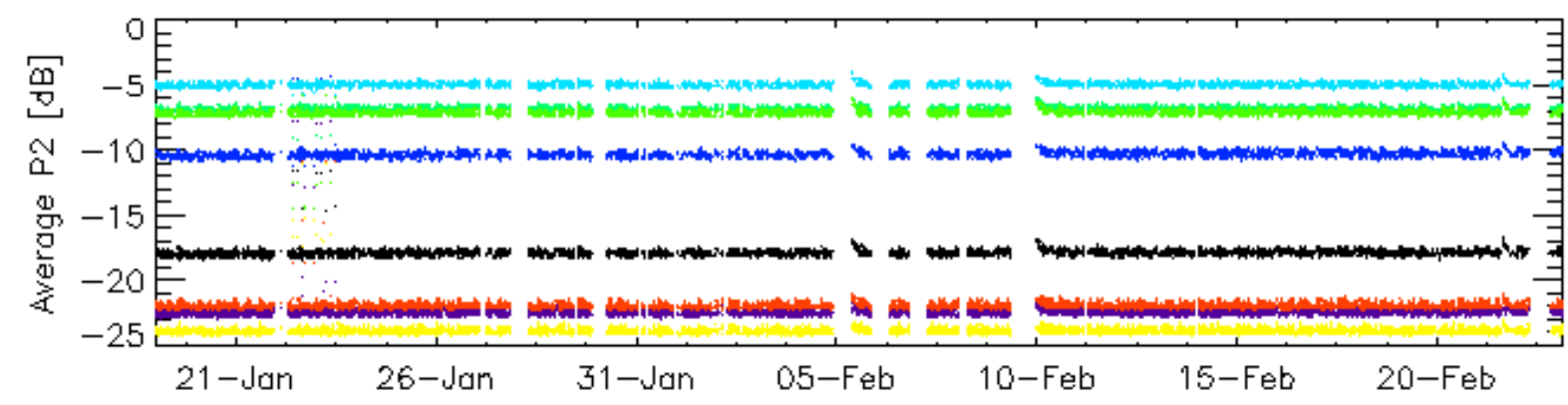
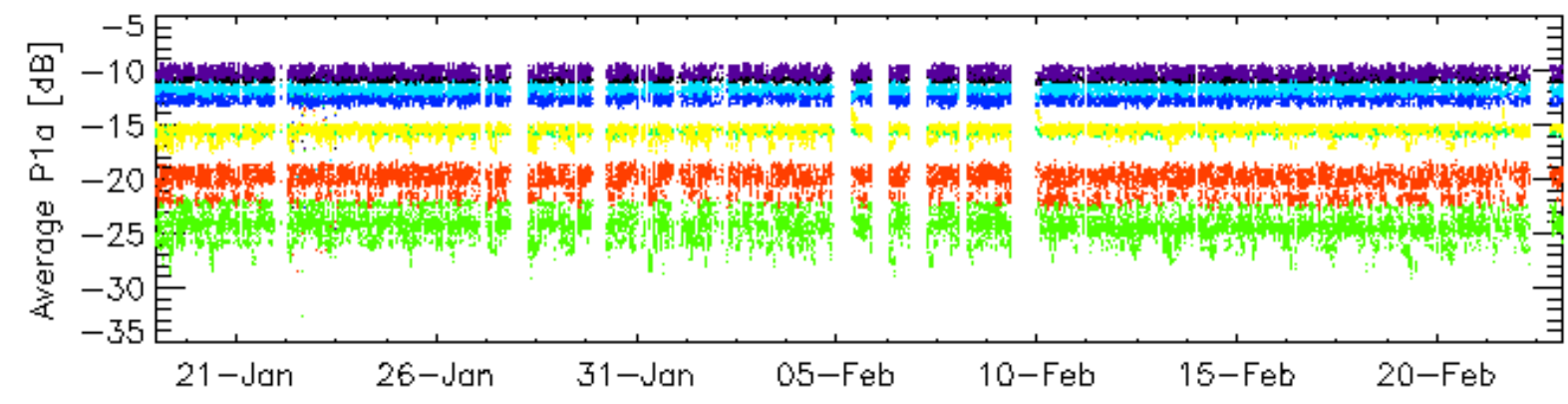
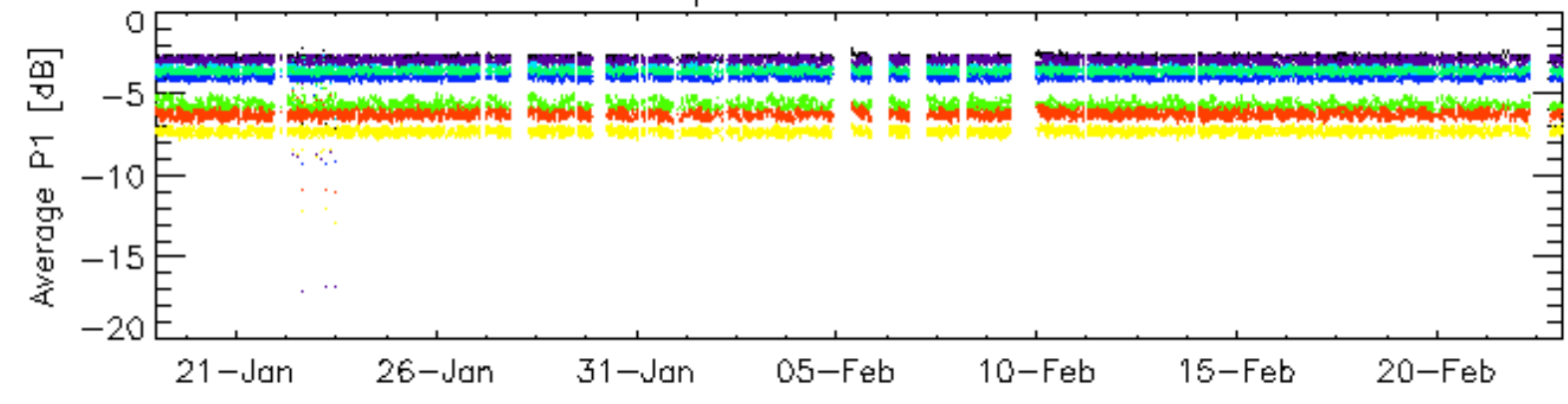


Cal pulses for WVS IS2



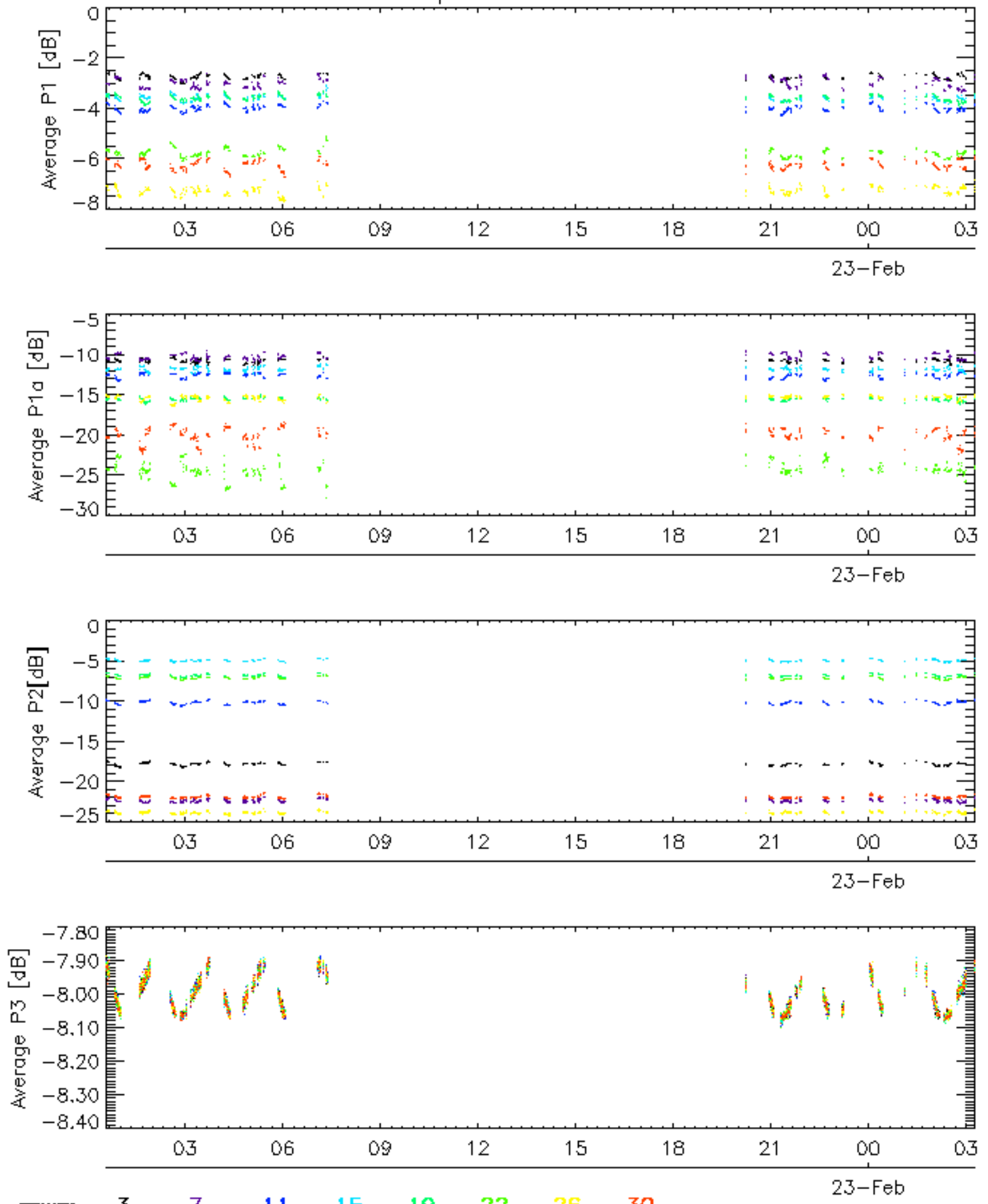
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

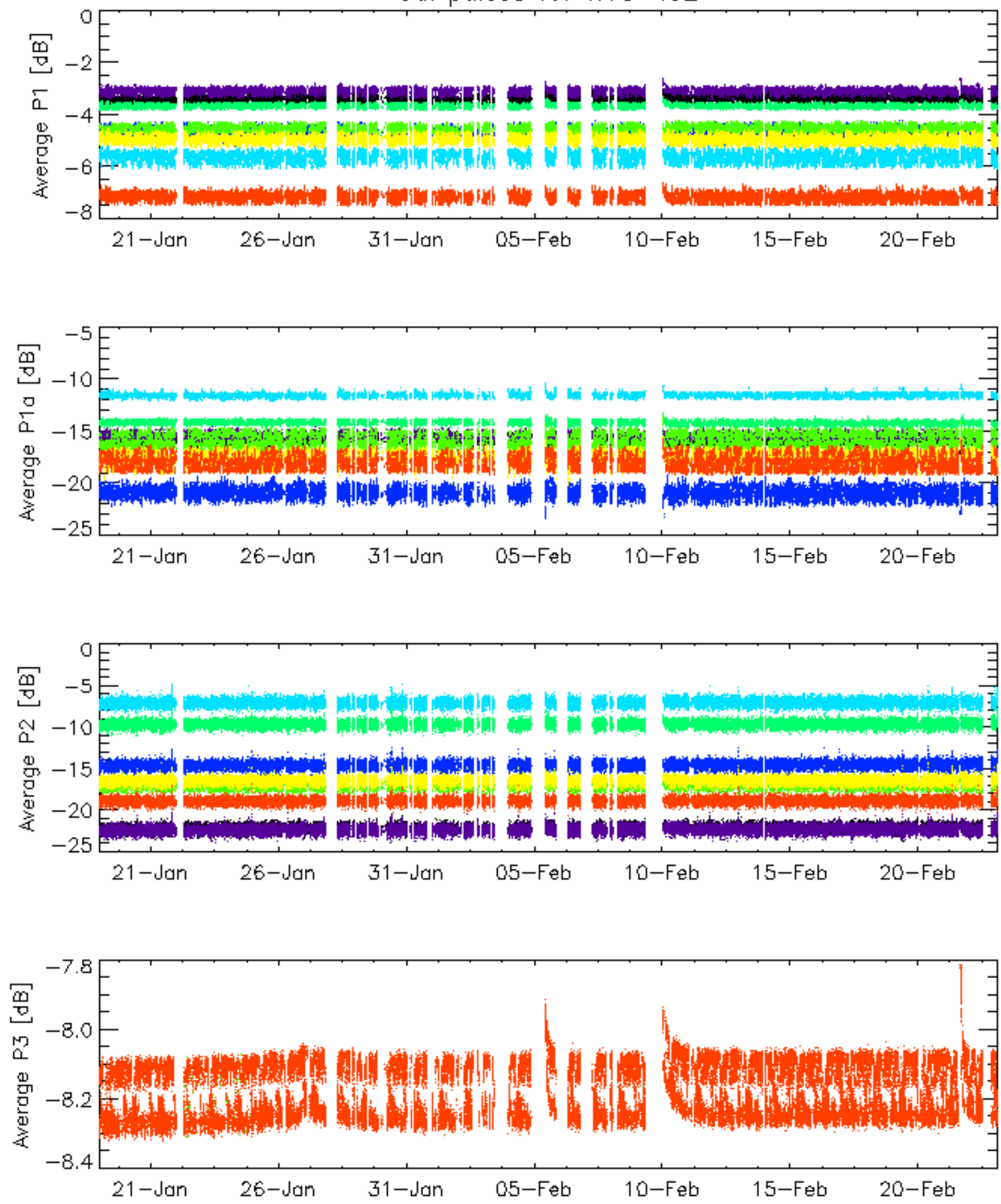


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

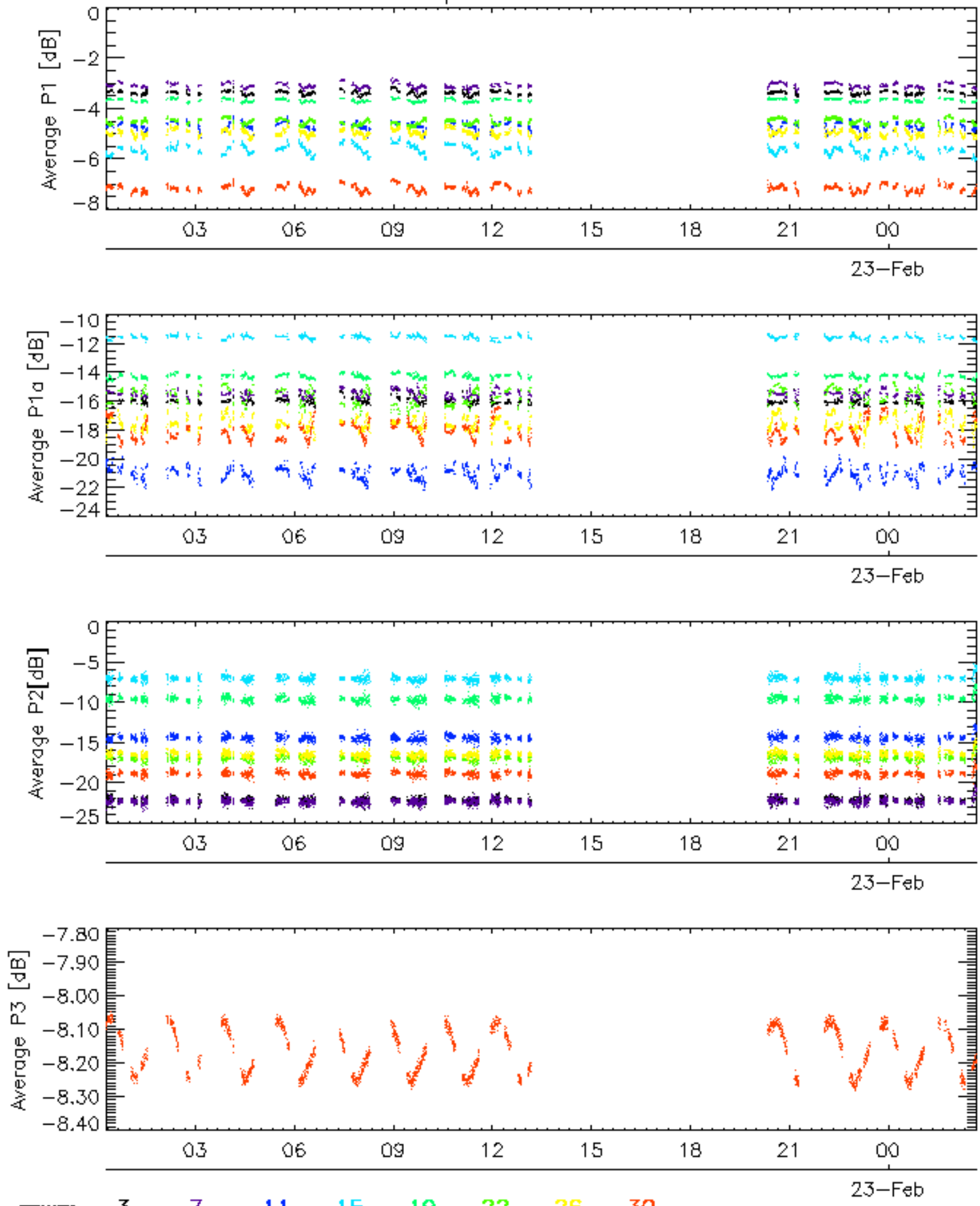


Cal pulses for WVS IS2



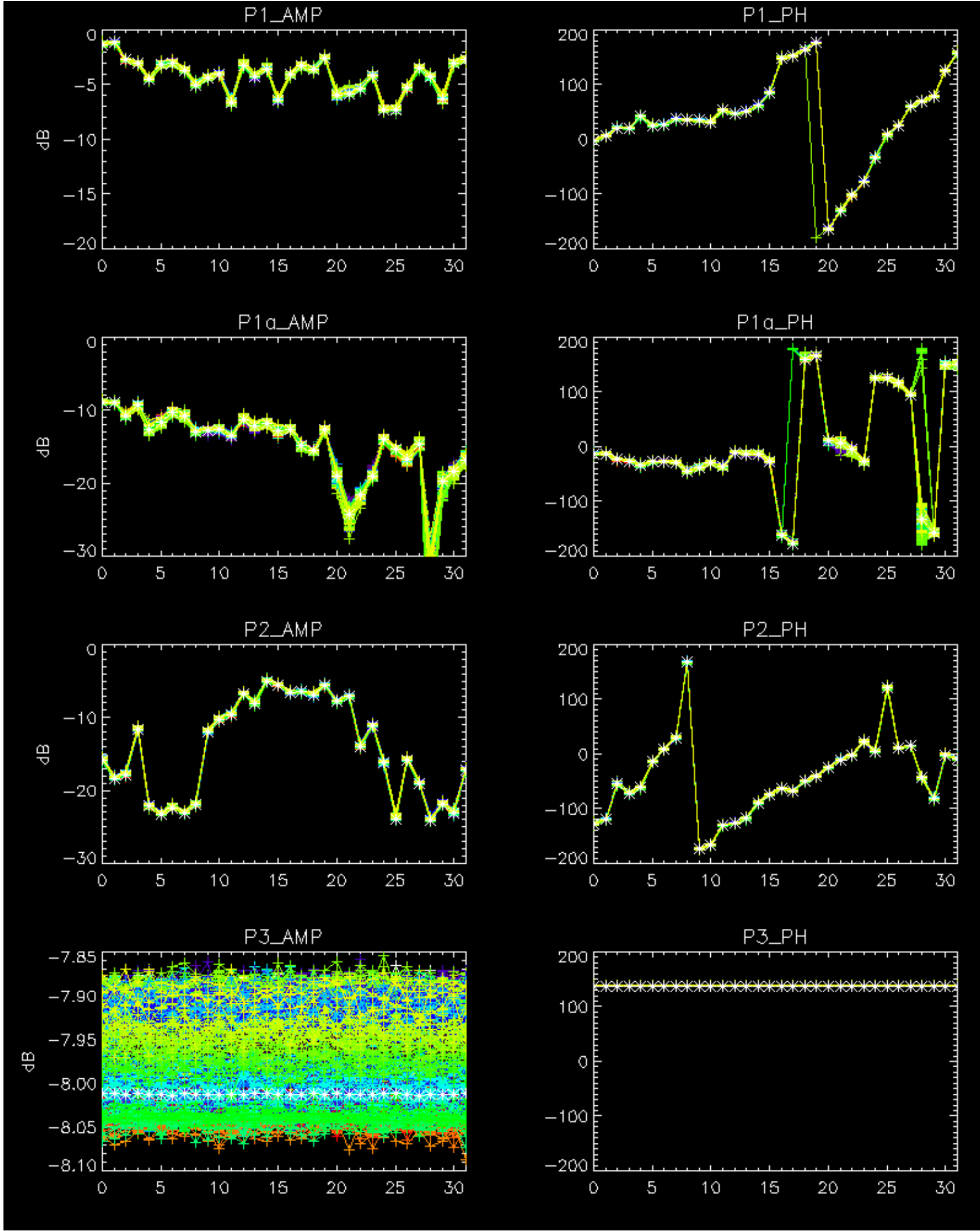
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

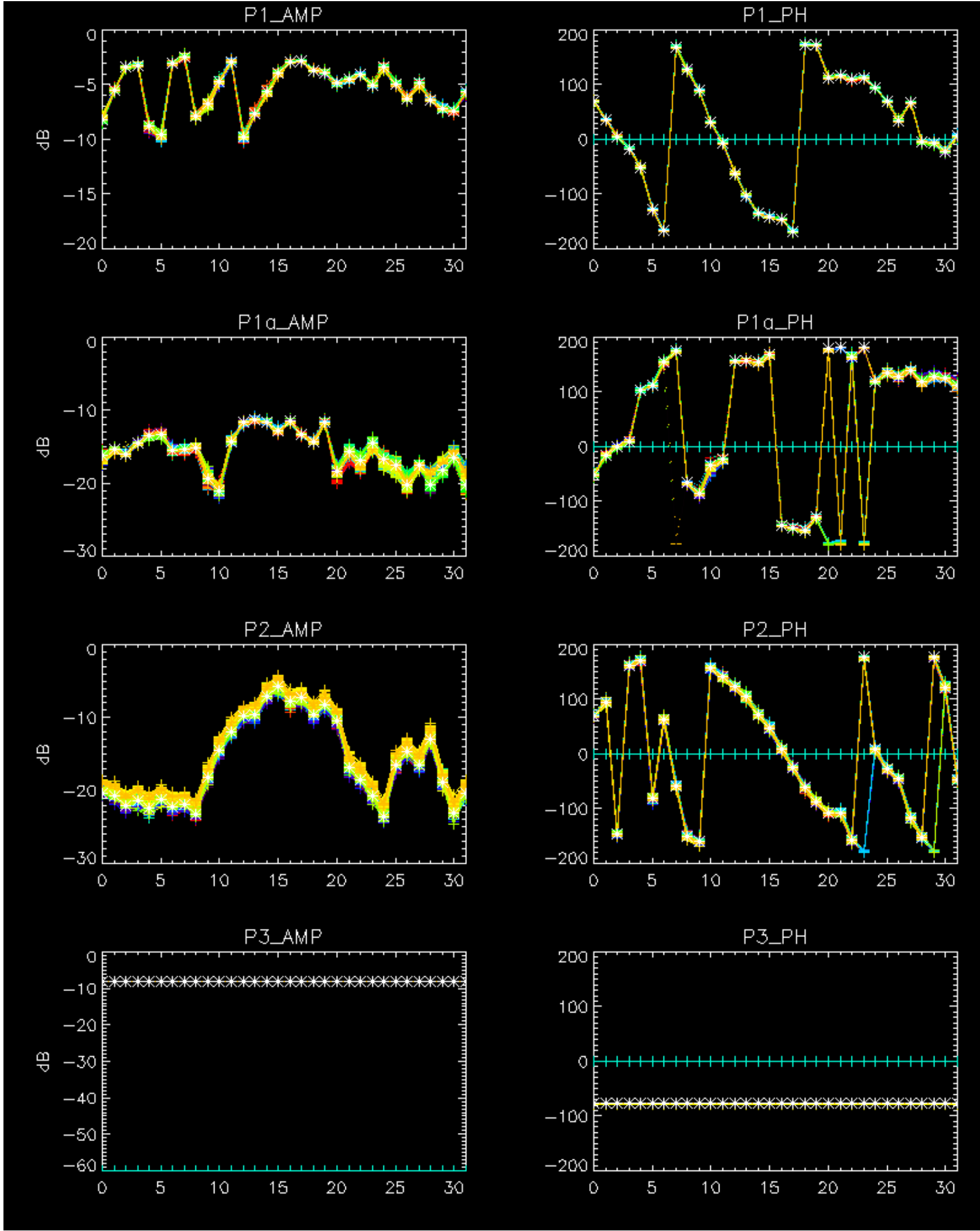
Cal pulses for WVS IS2



No anomalies observed.





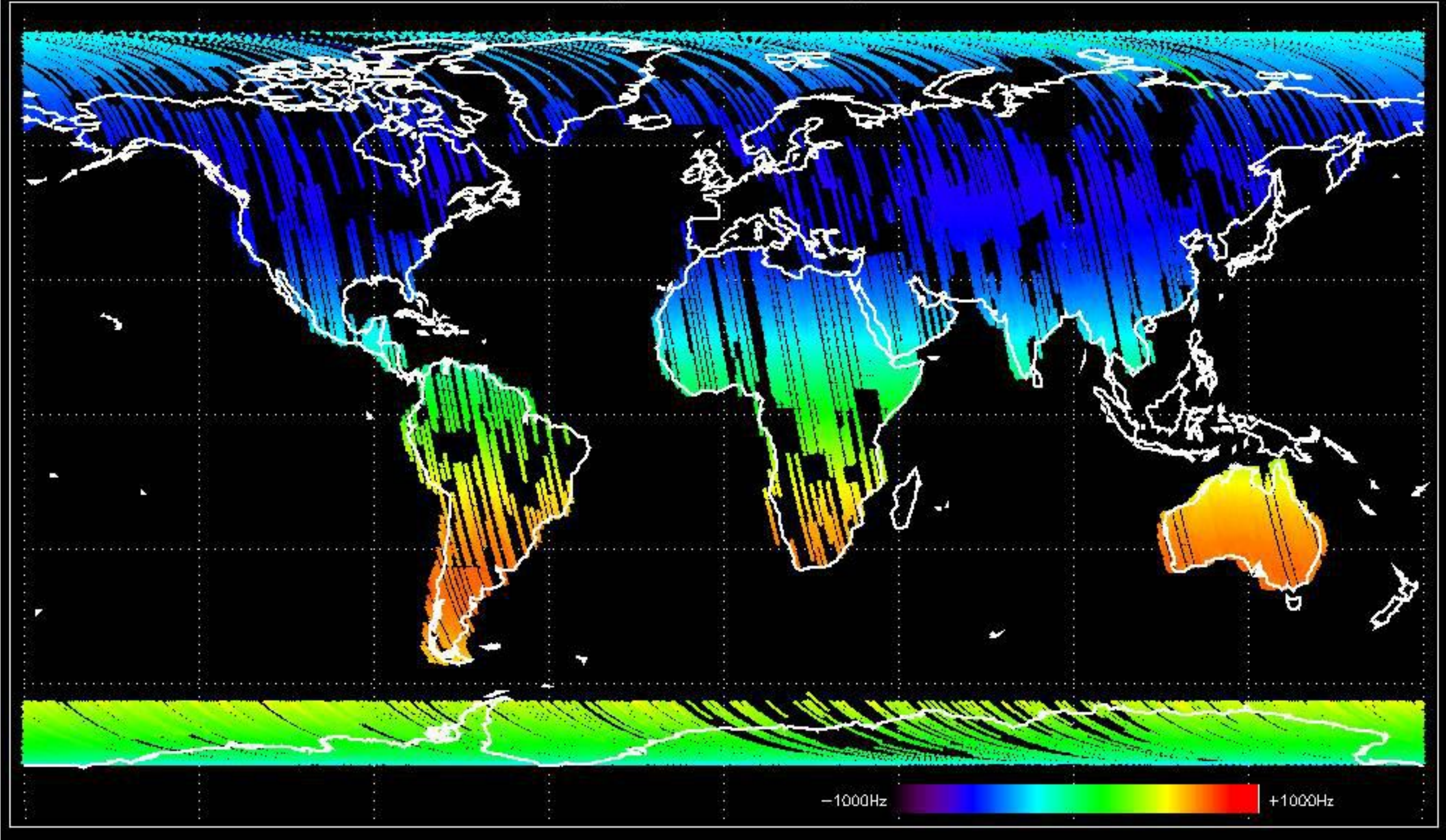


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



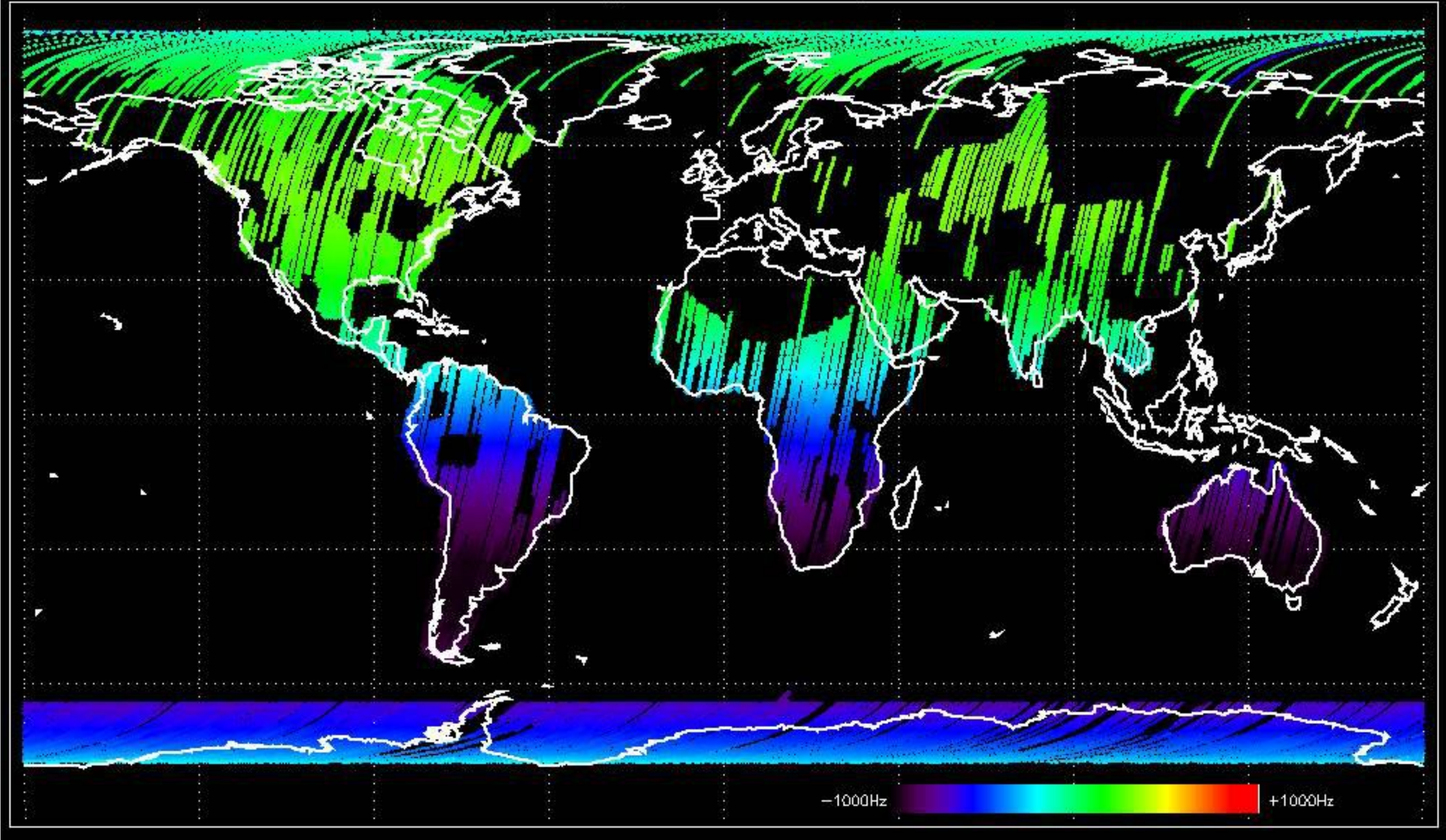


Doppler 'GM1' 'SS1' ascending



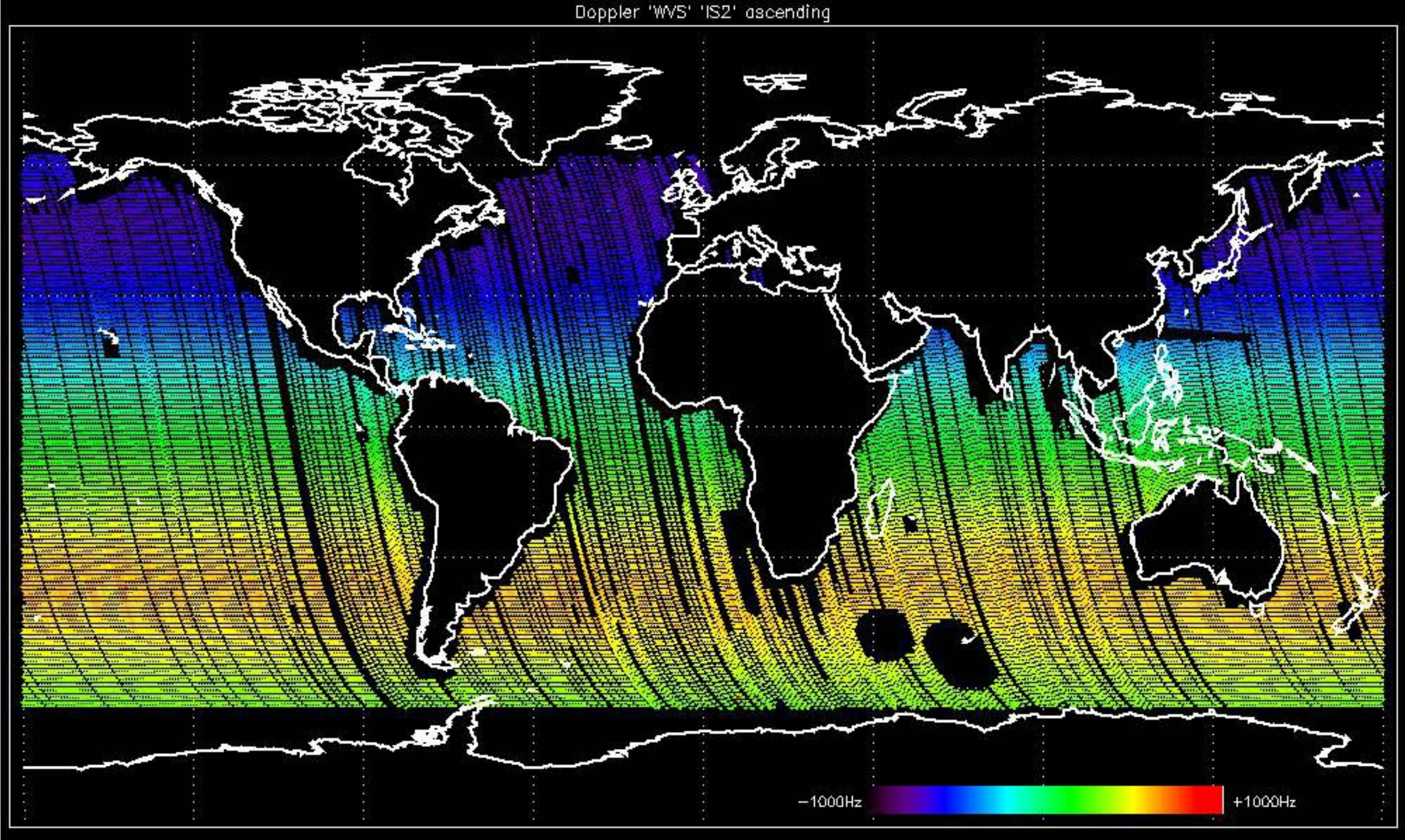


Doppler 'GM1' 'SS1' descending



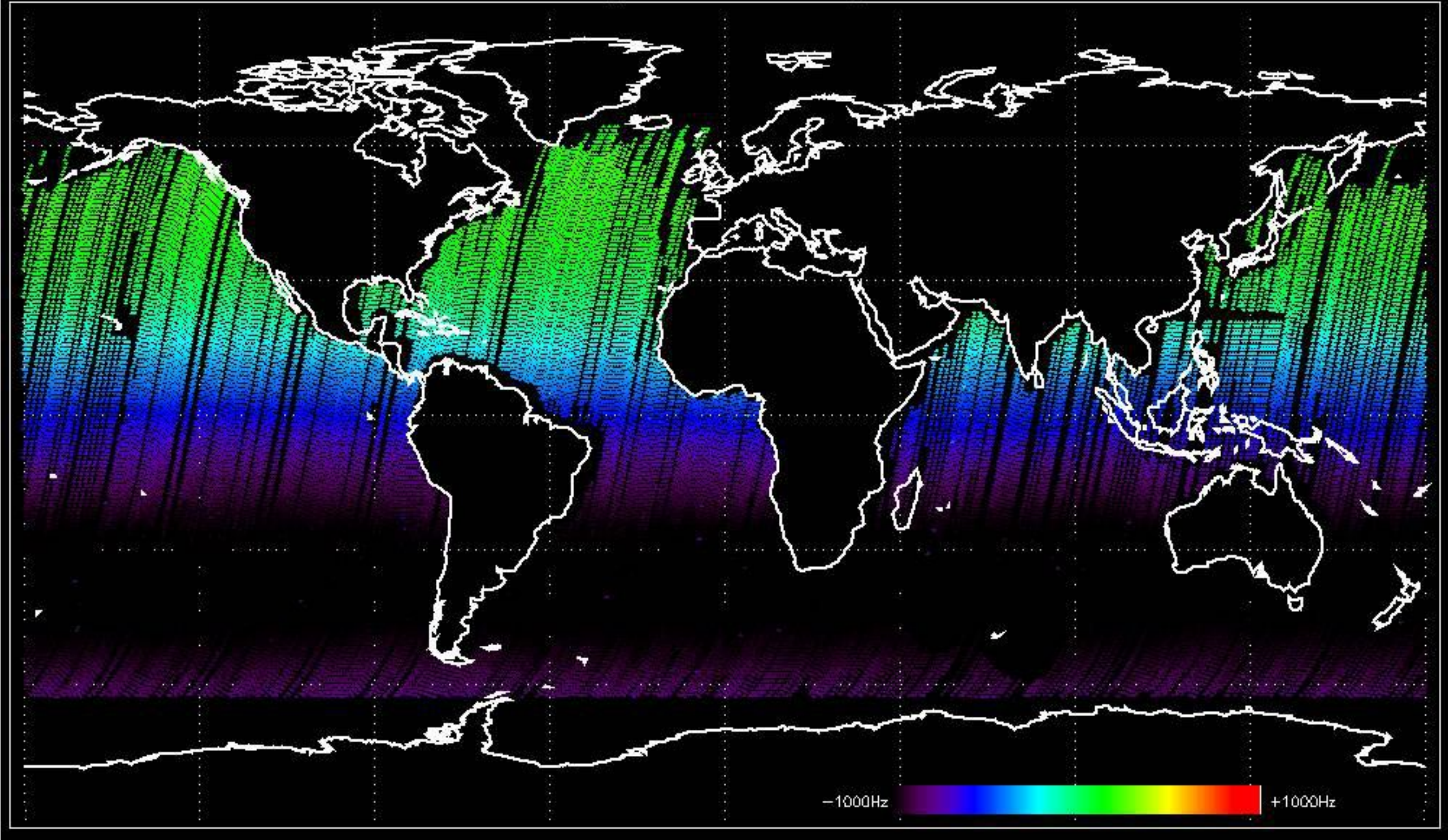


Doppler 'WVS' 'IS2' ascending



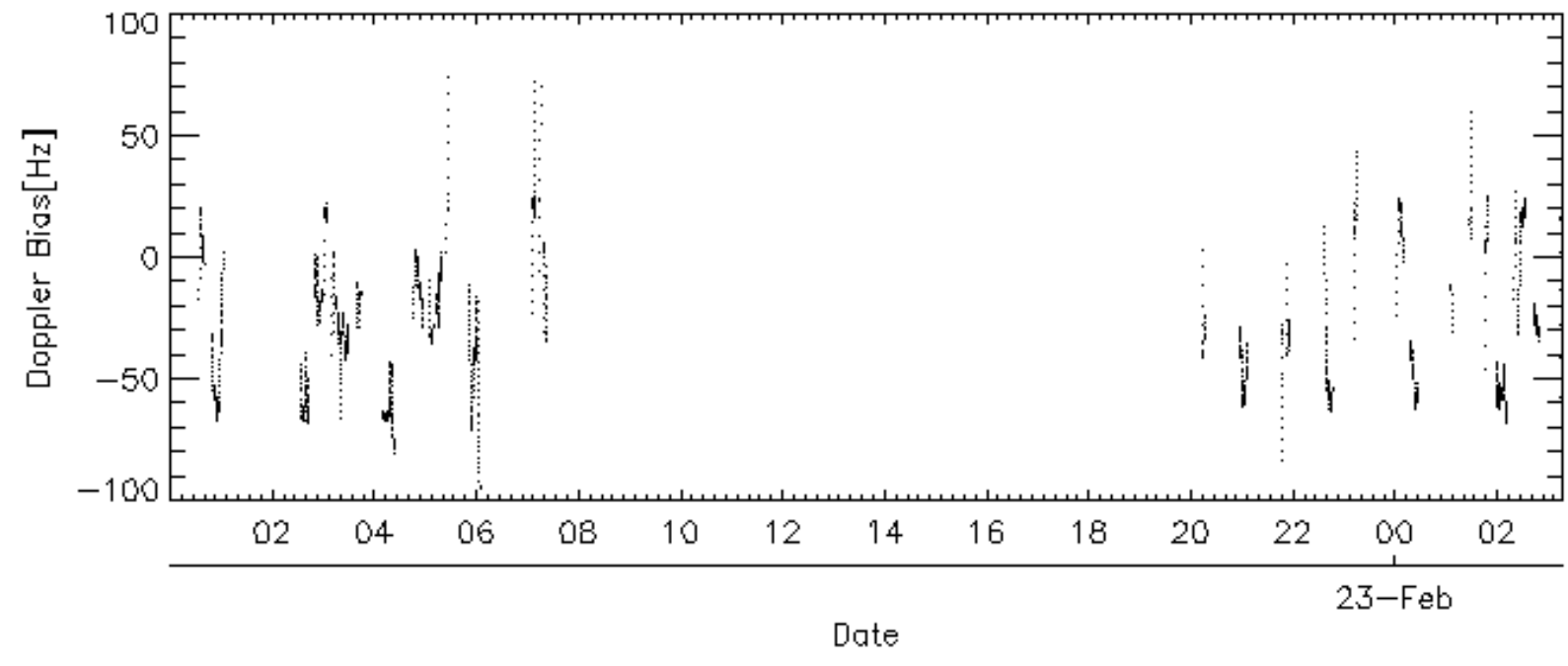
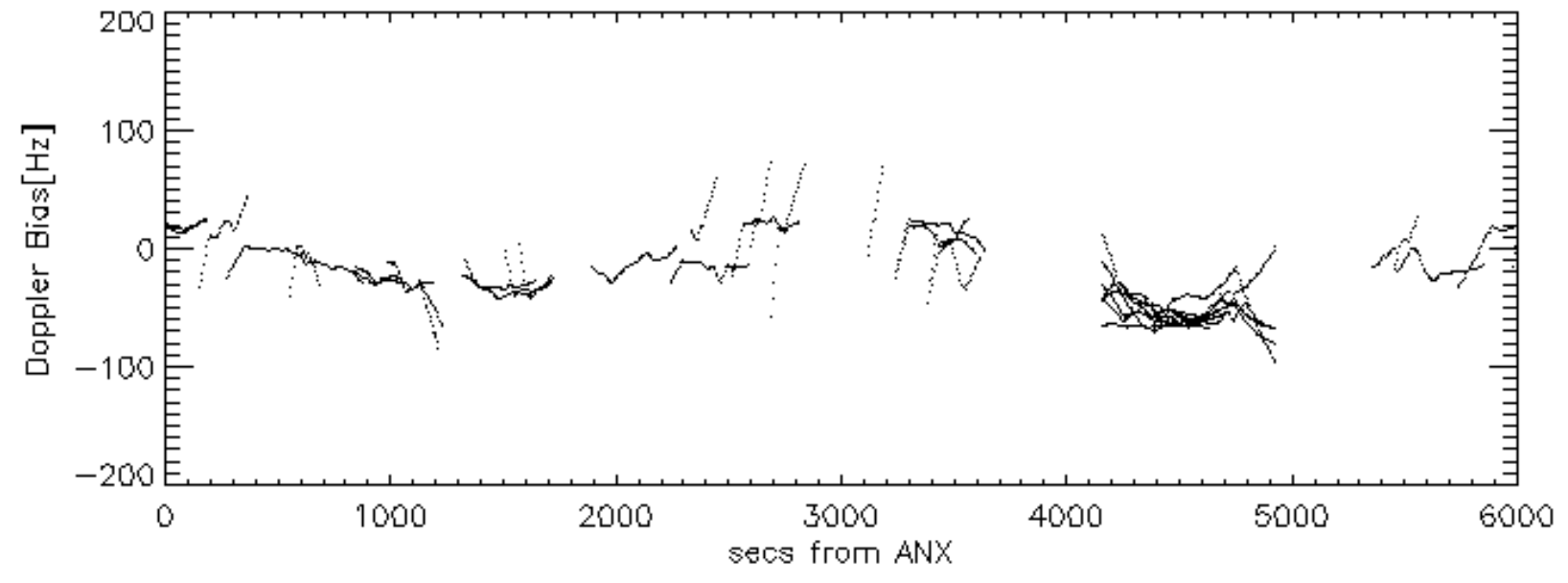
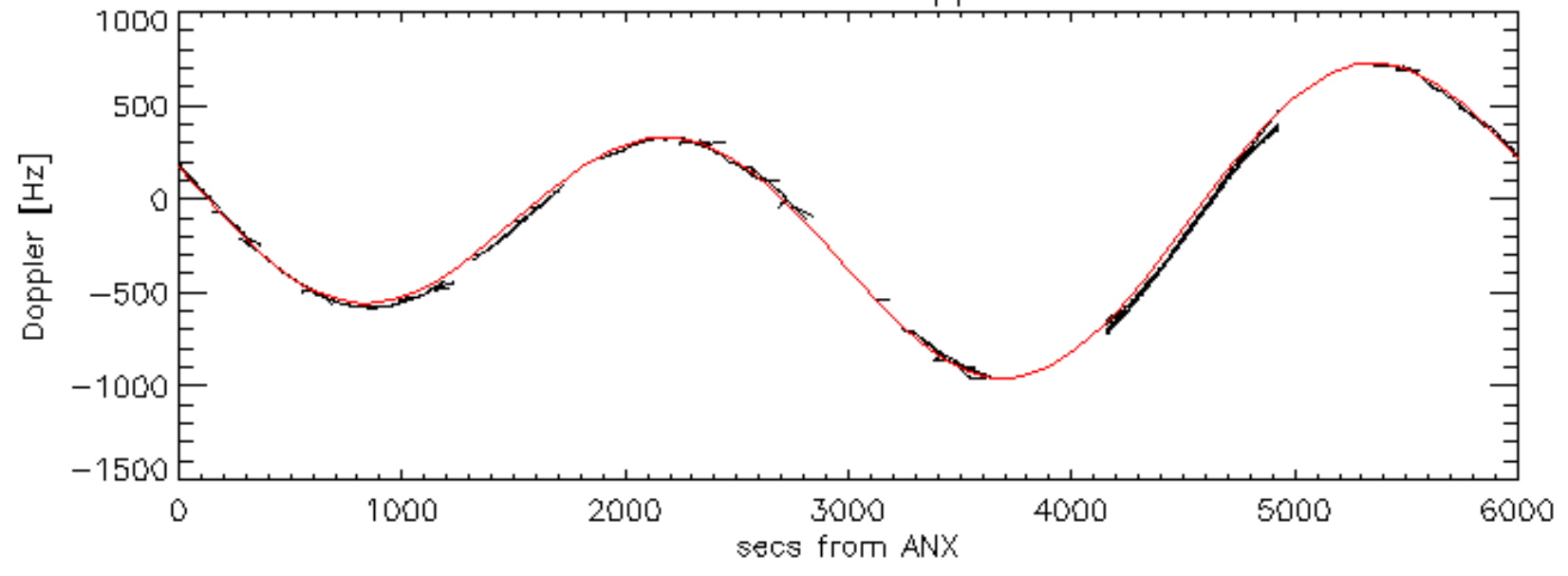


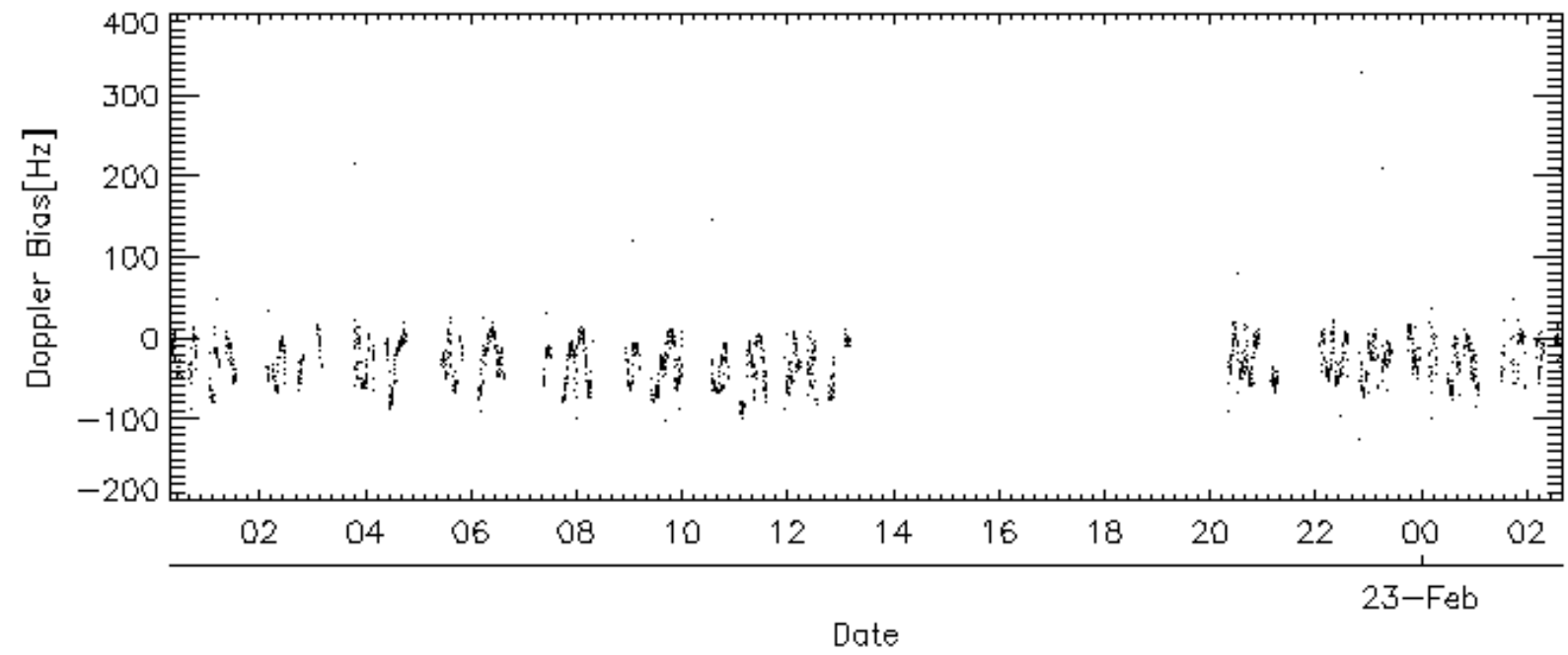
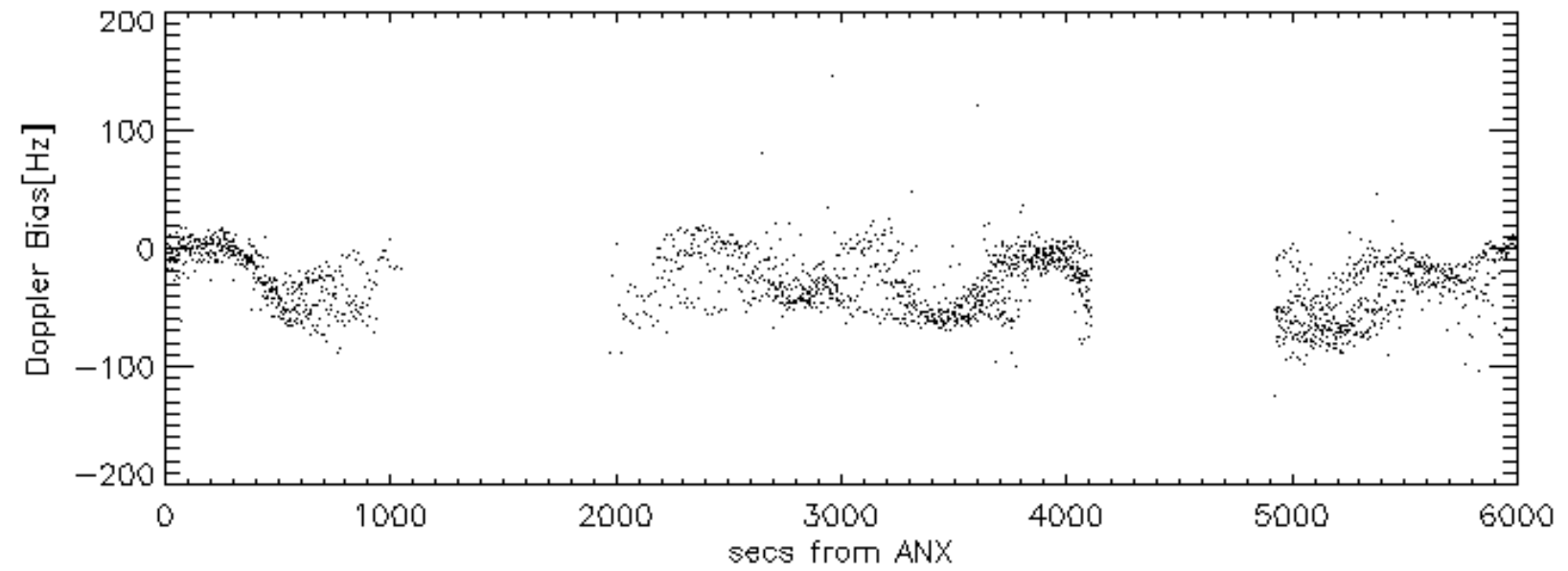
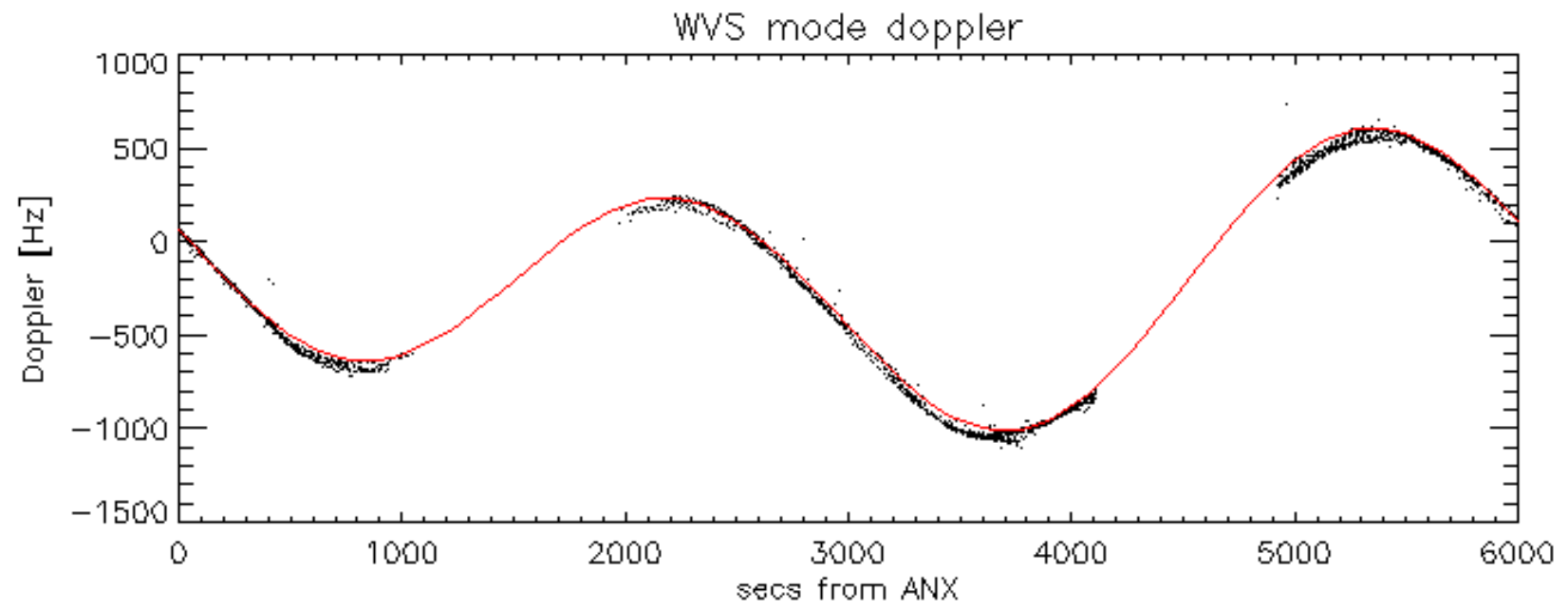
Doppler 'WVS' 'IS2' descending





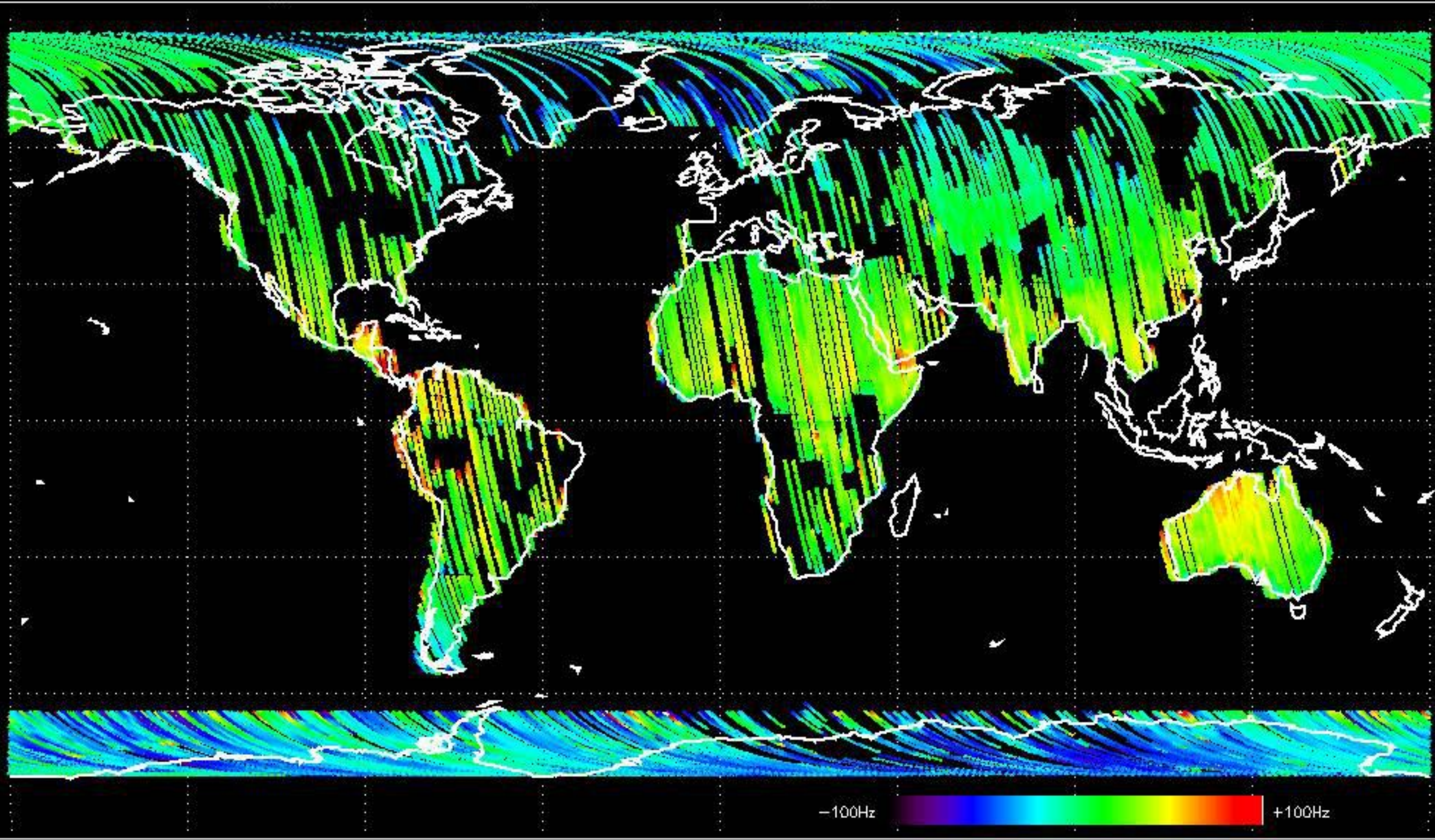
GM1 mode doppler





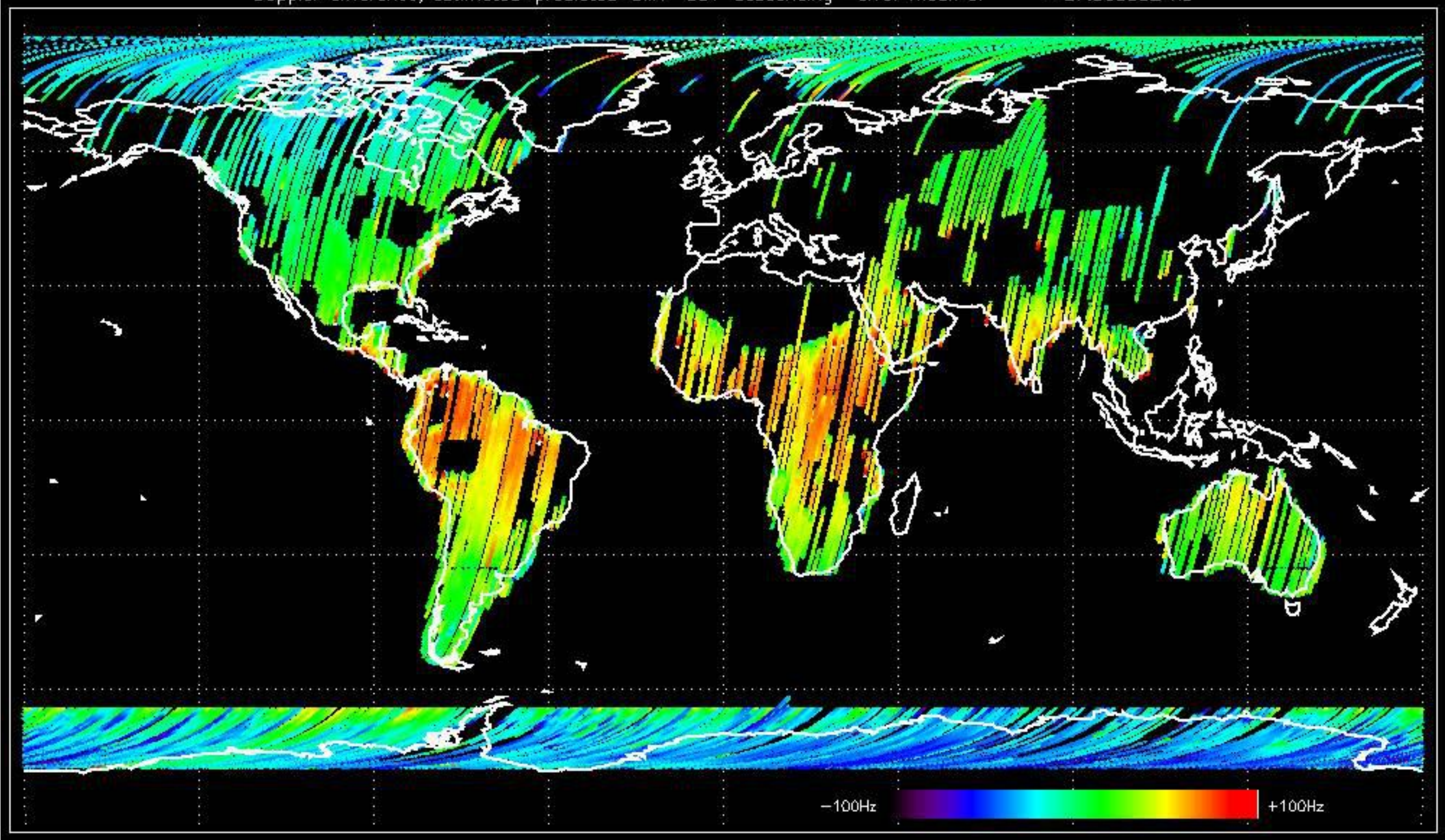


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -31.225774 Hz



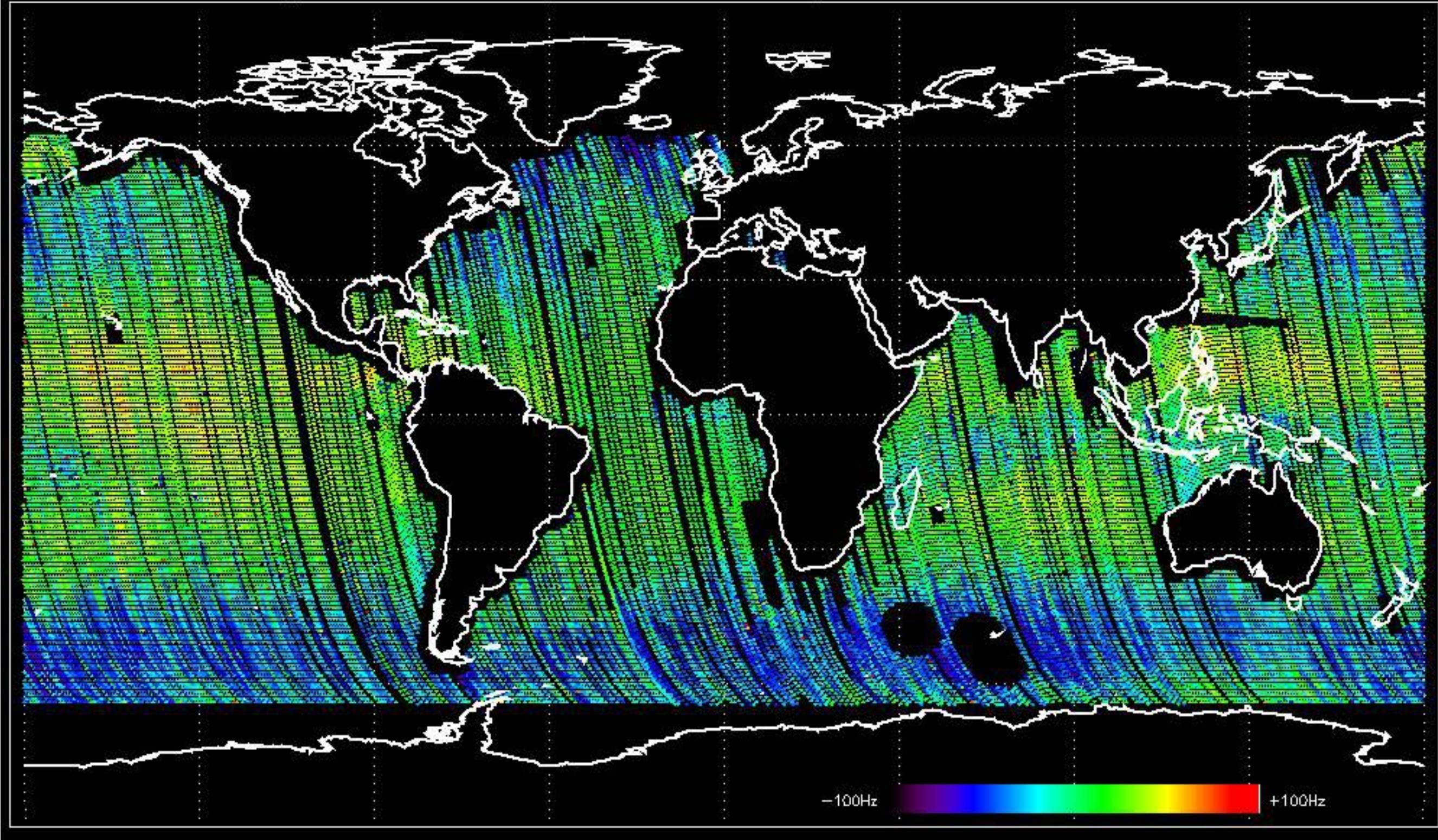


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -27.905802 Hz



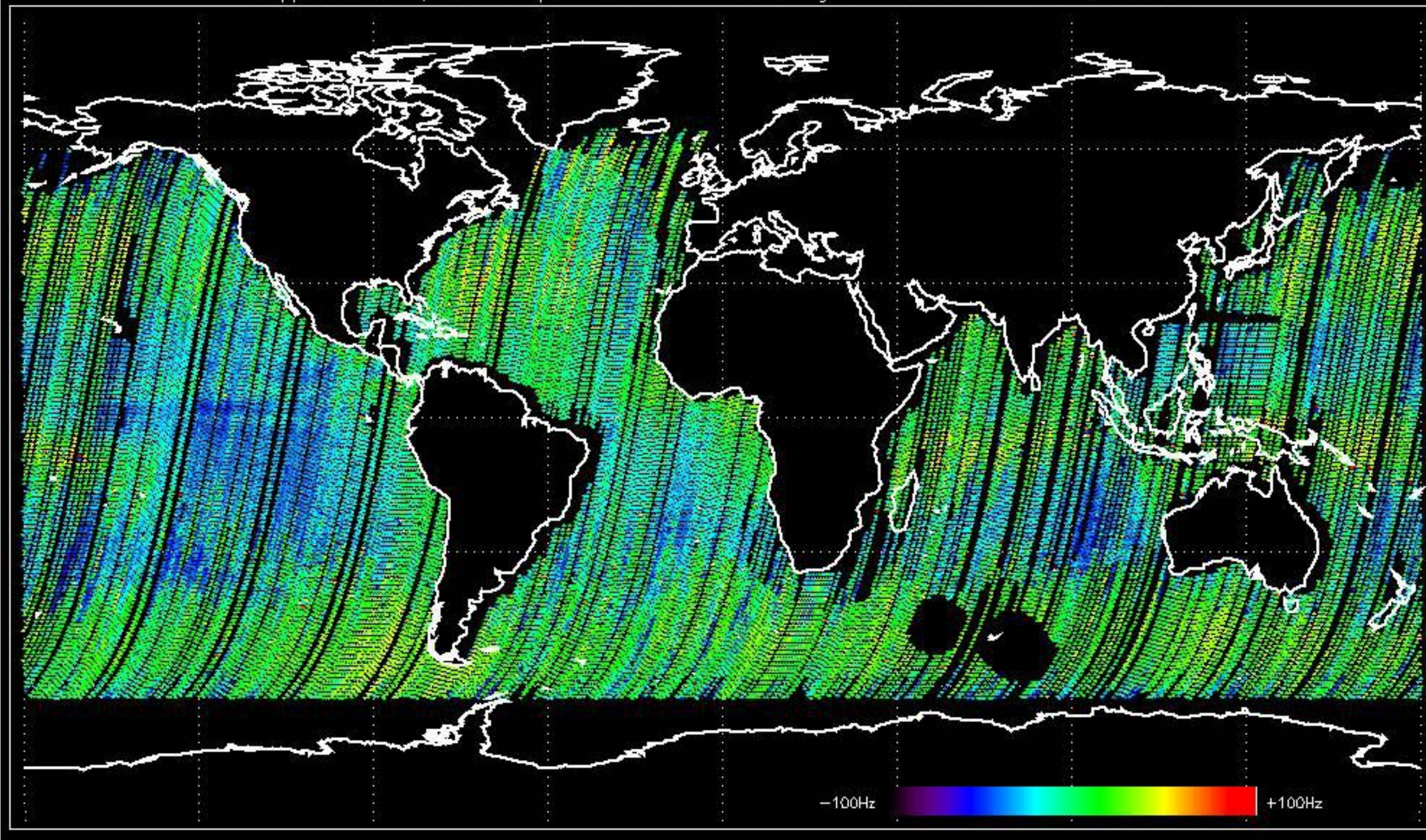


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -32.846170 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -33.391291 Hz





No anomalies observed on available MS products:

No anomalies observed.











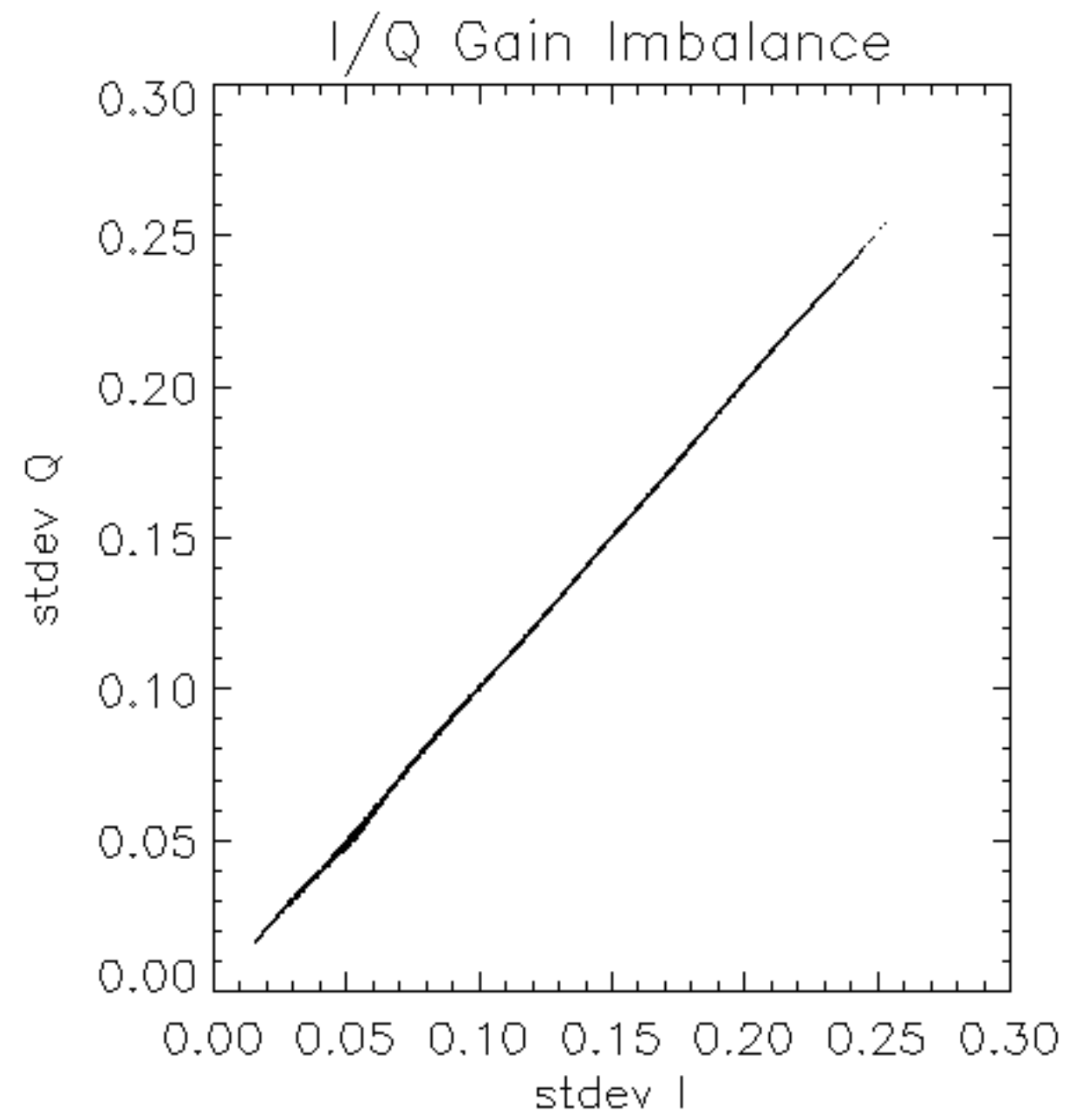


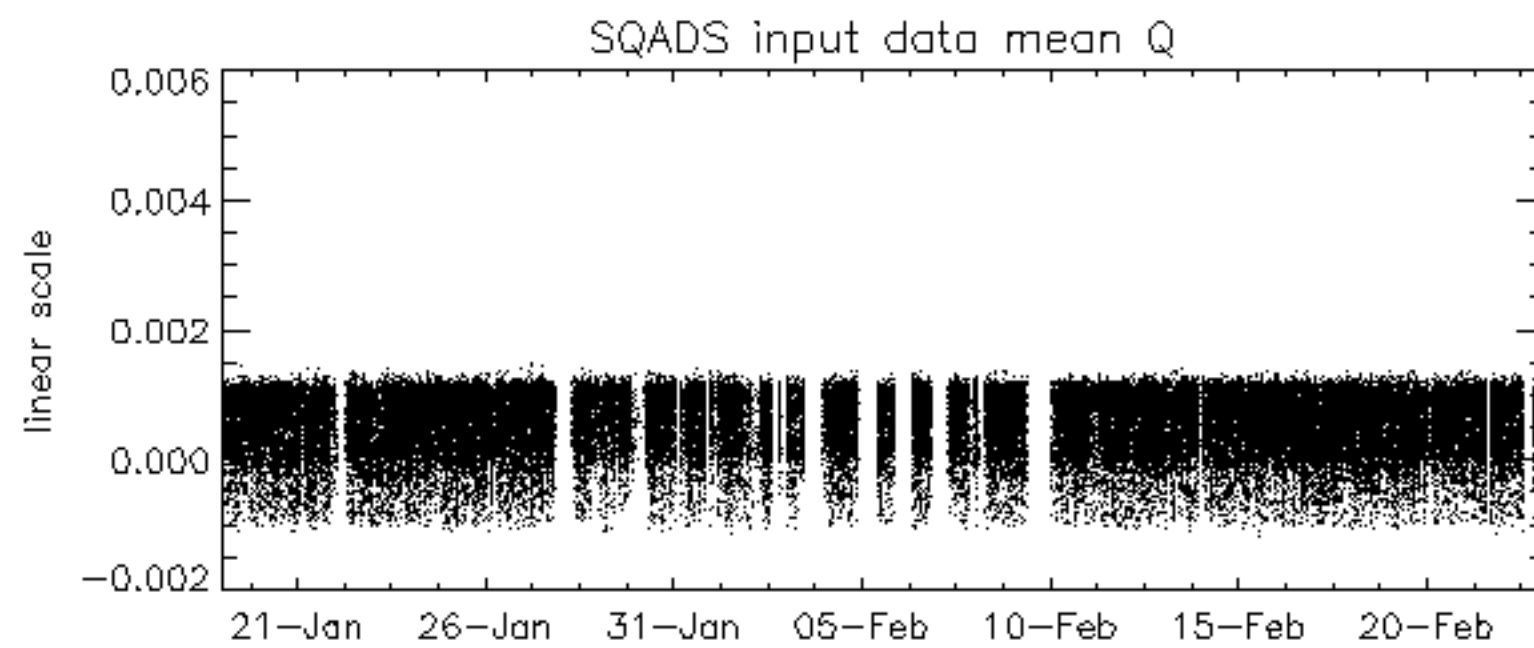
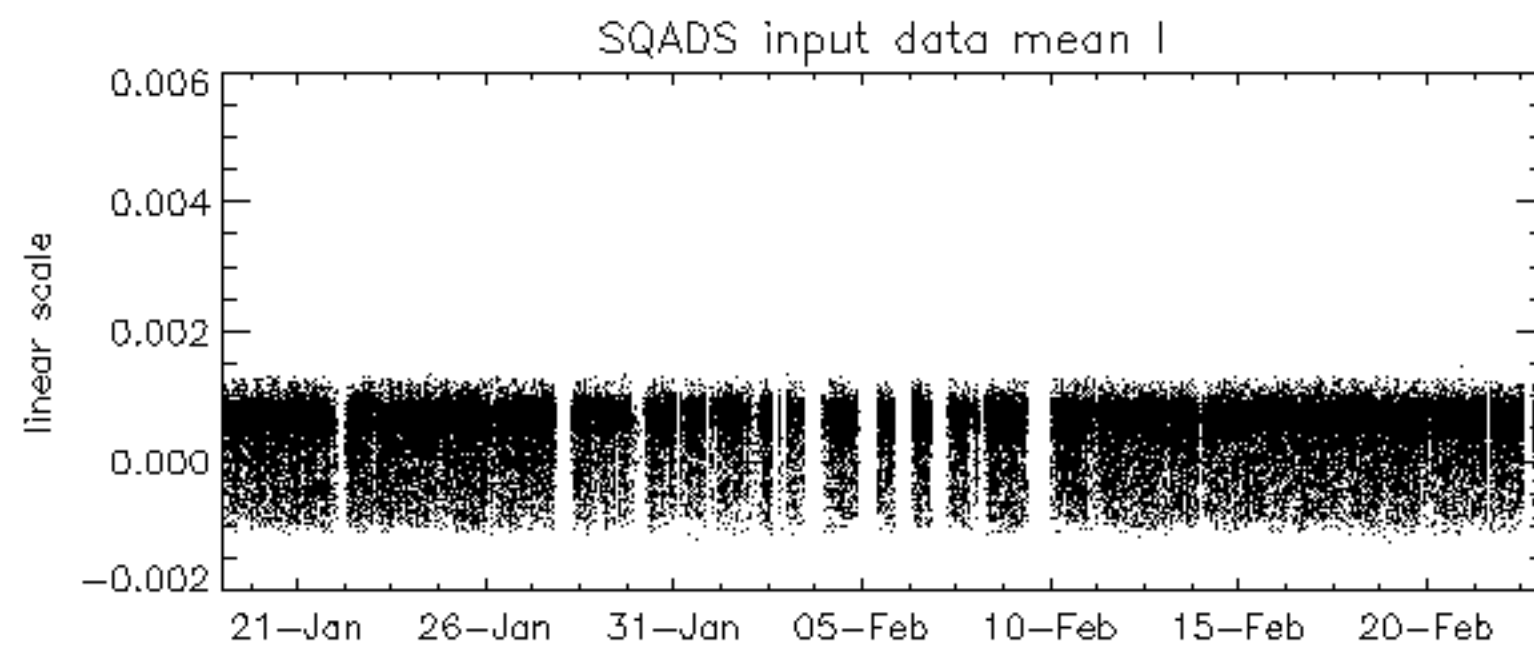
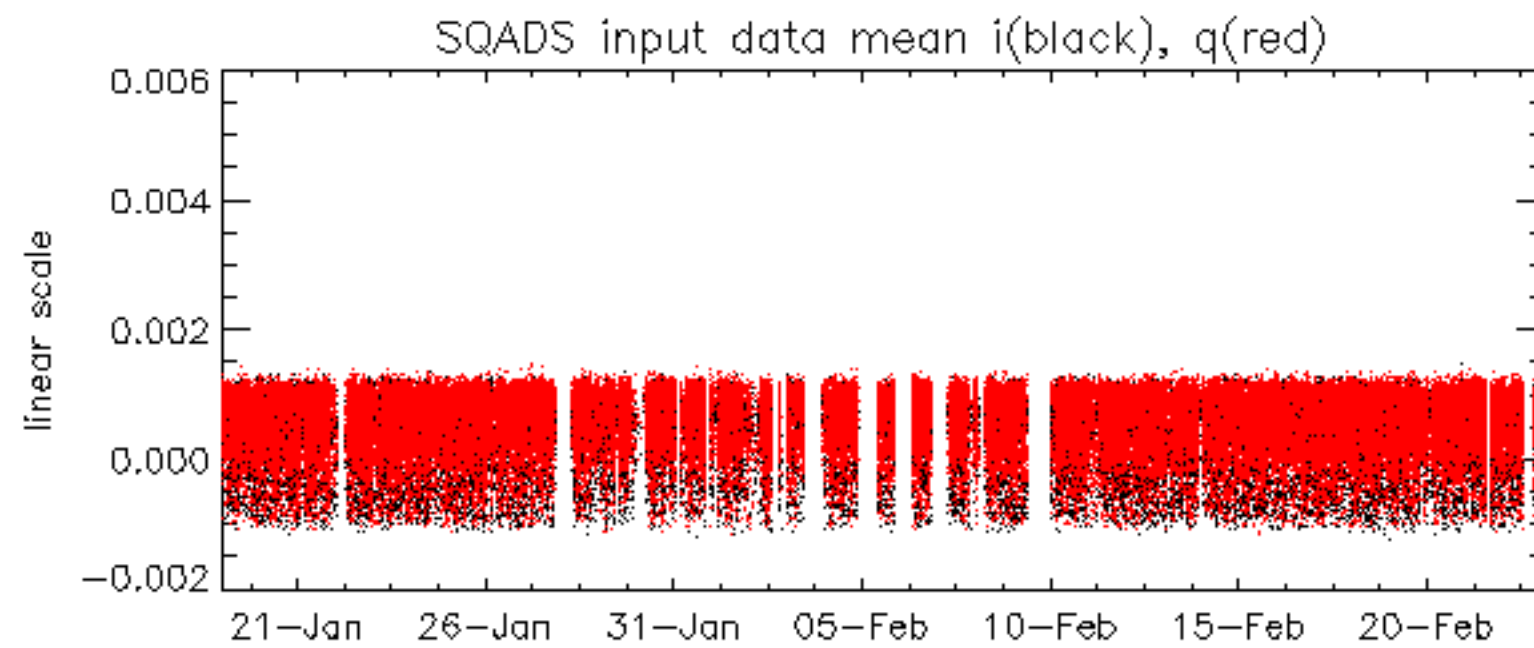


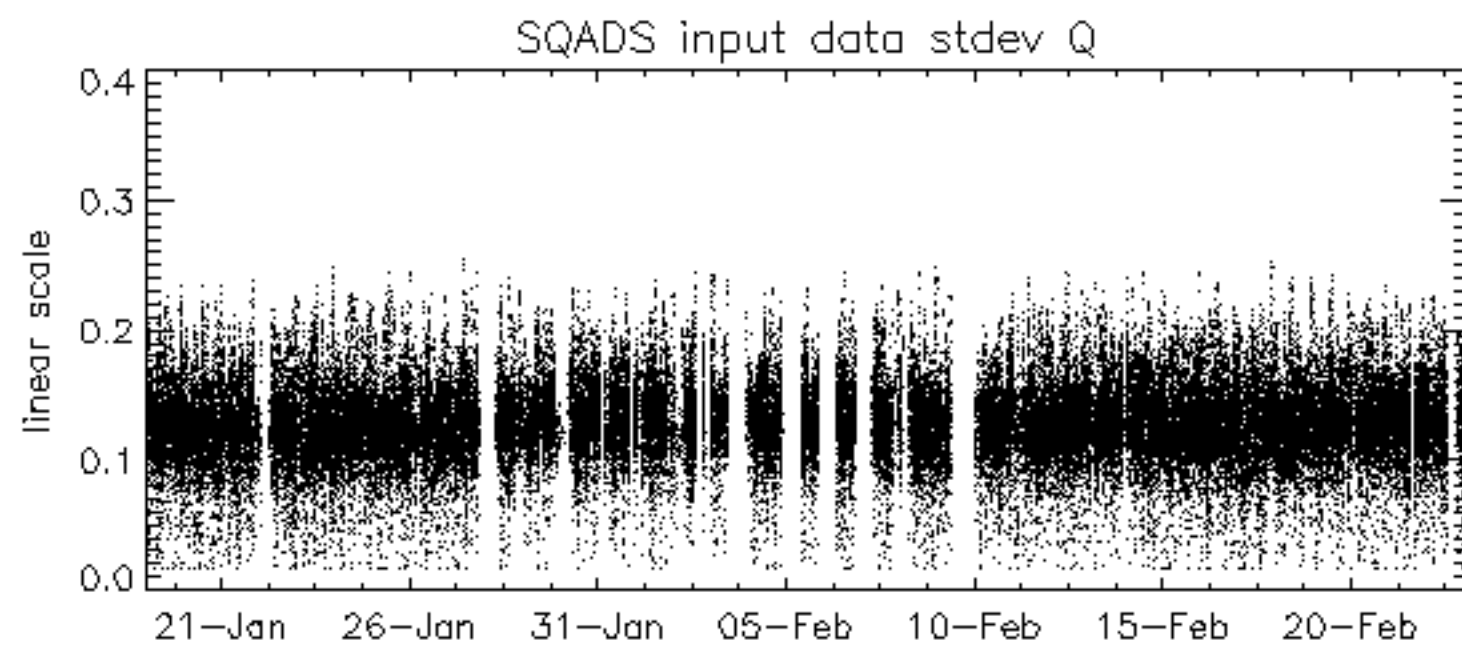
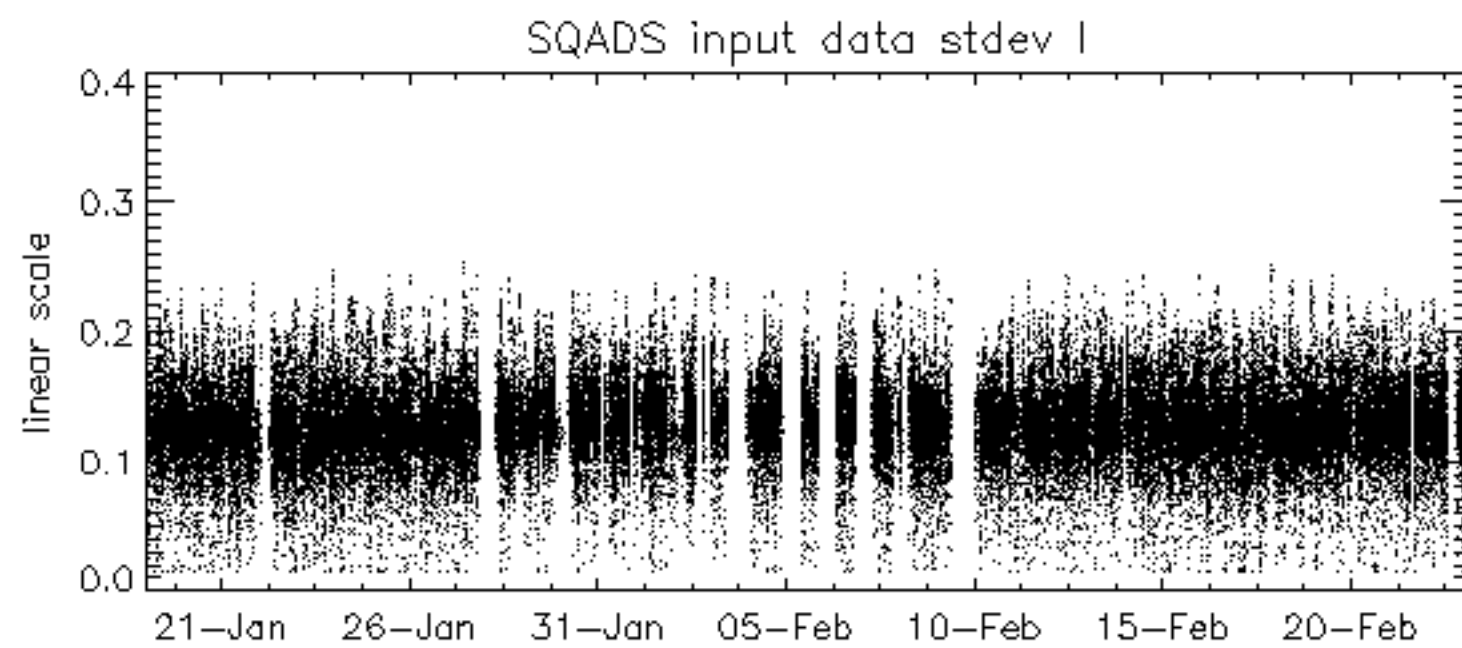
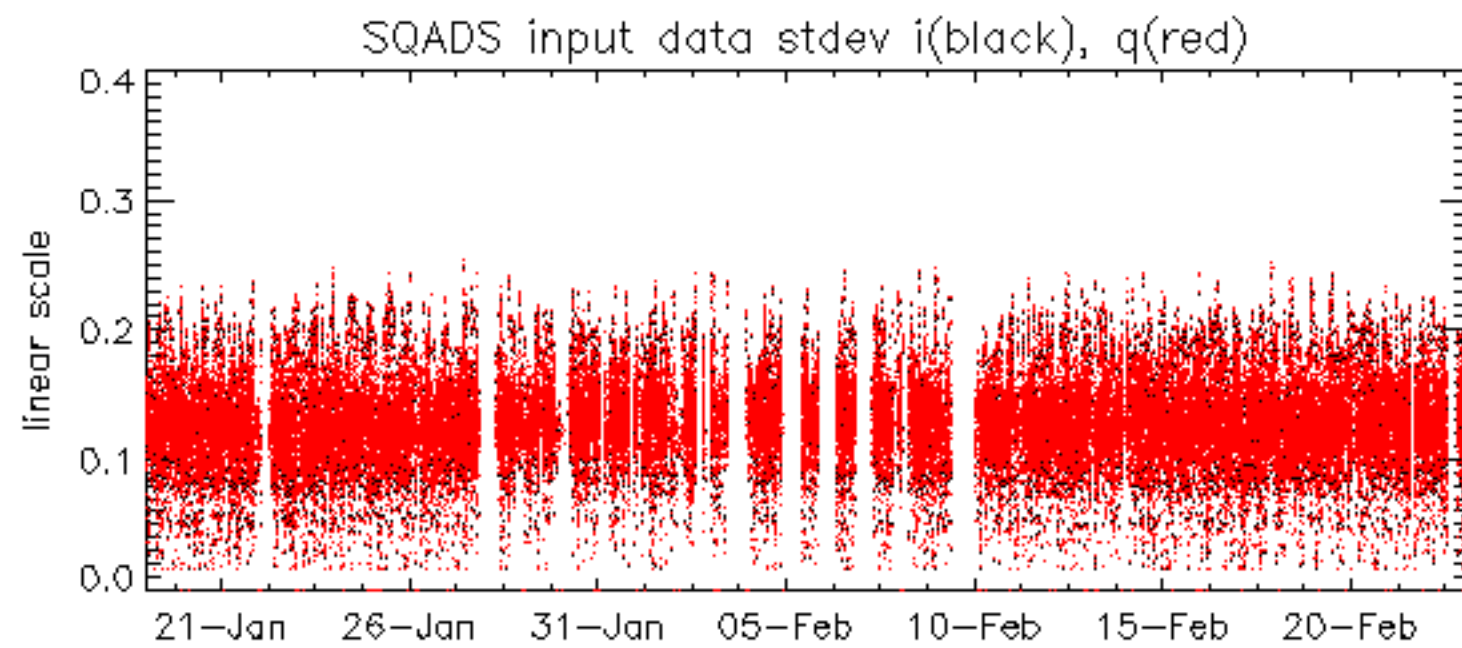




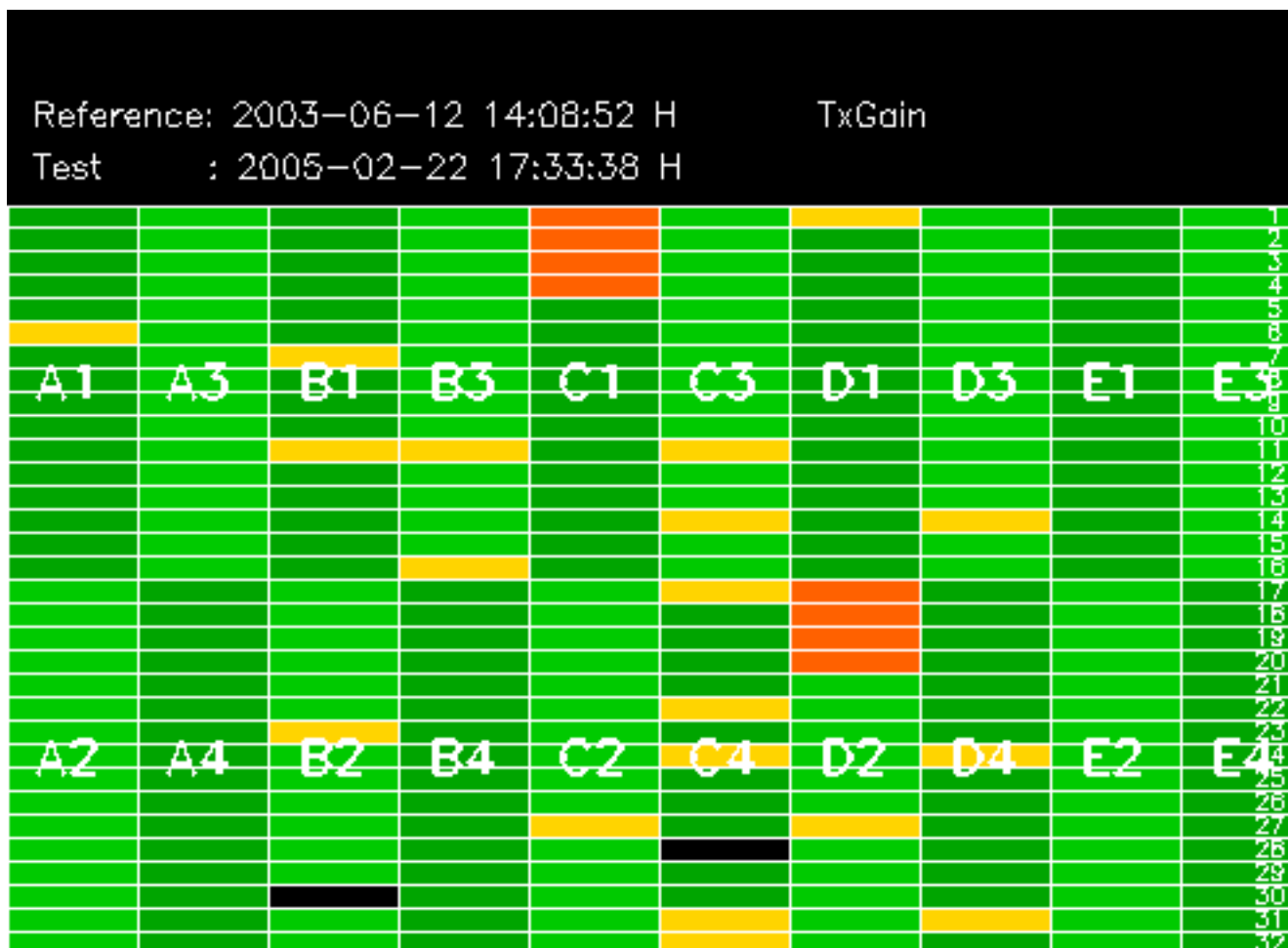














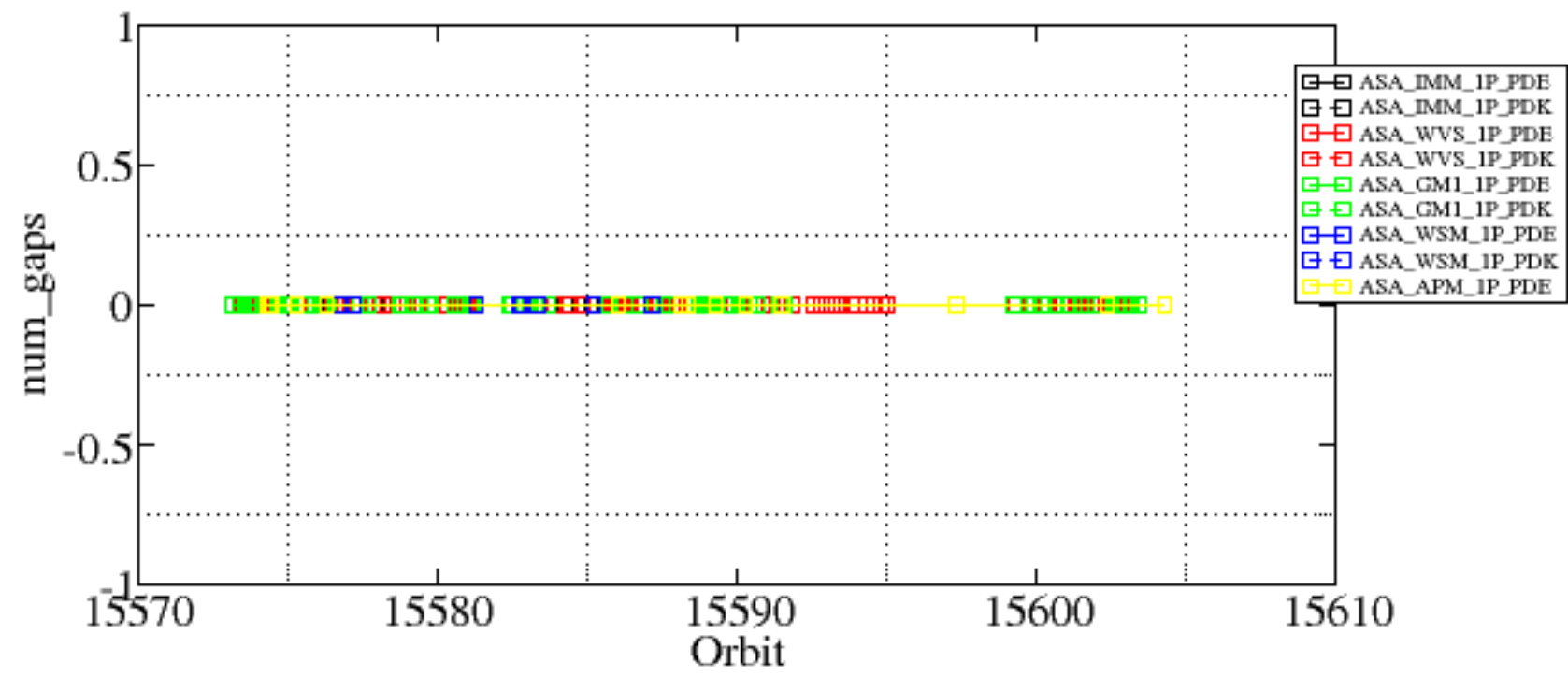


Summary of analysis for the last 3 days 2005022[123]

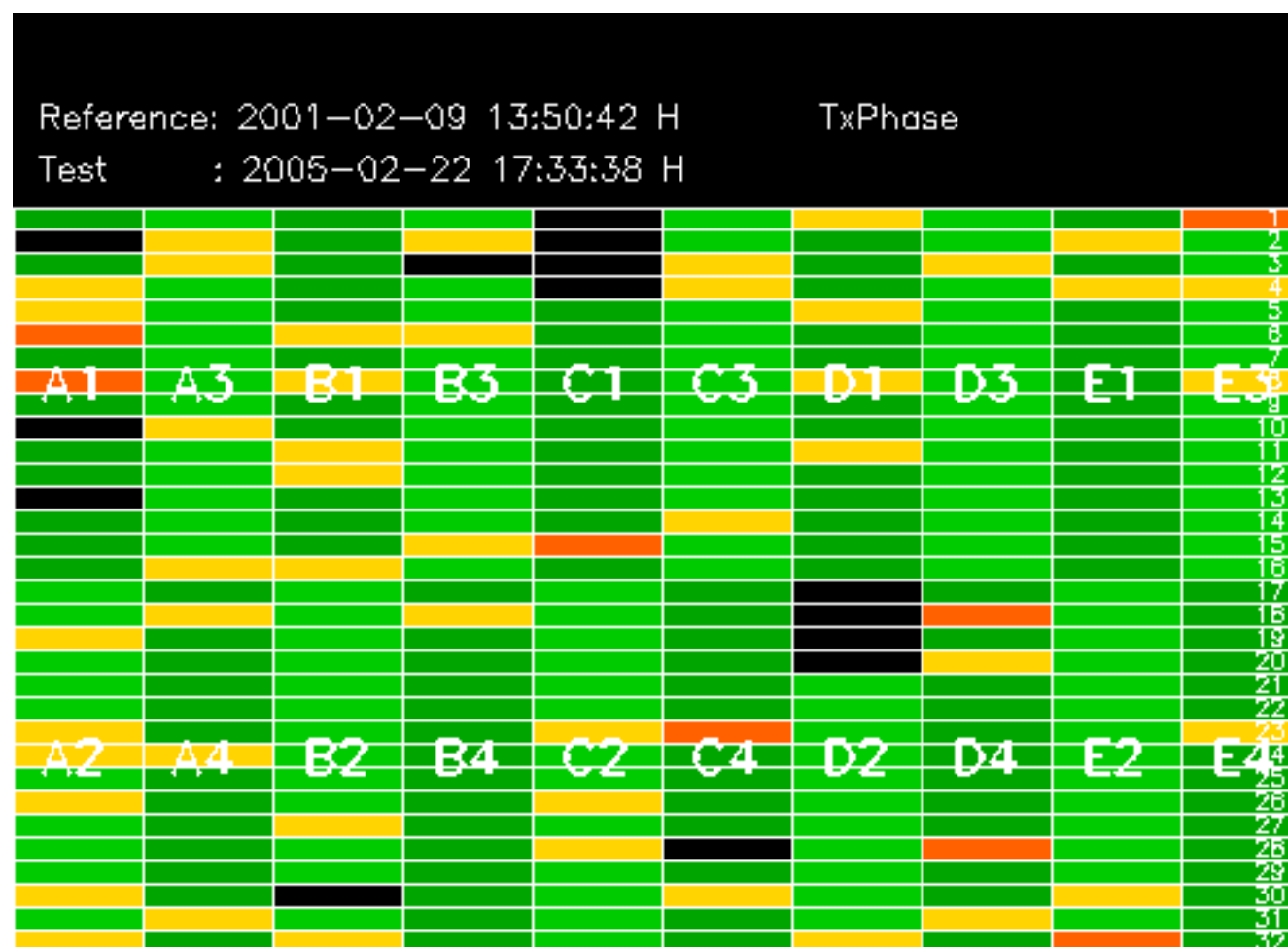
The assumptions is taken that the SQADS num\_gaps and num\_missing\_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_GM1_1PNPDK20050221_063357_00000962034_00492_15576_2899.N1	0	8







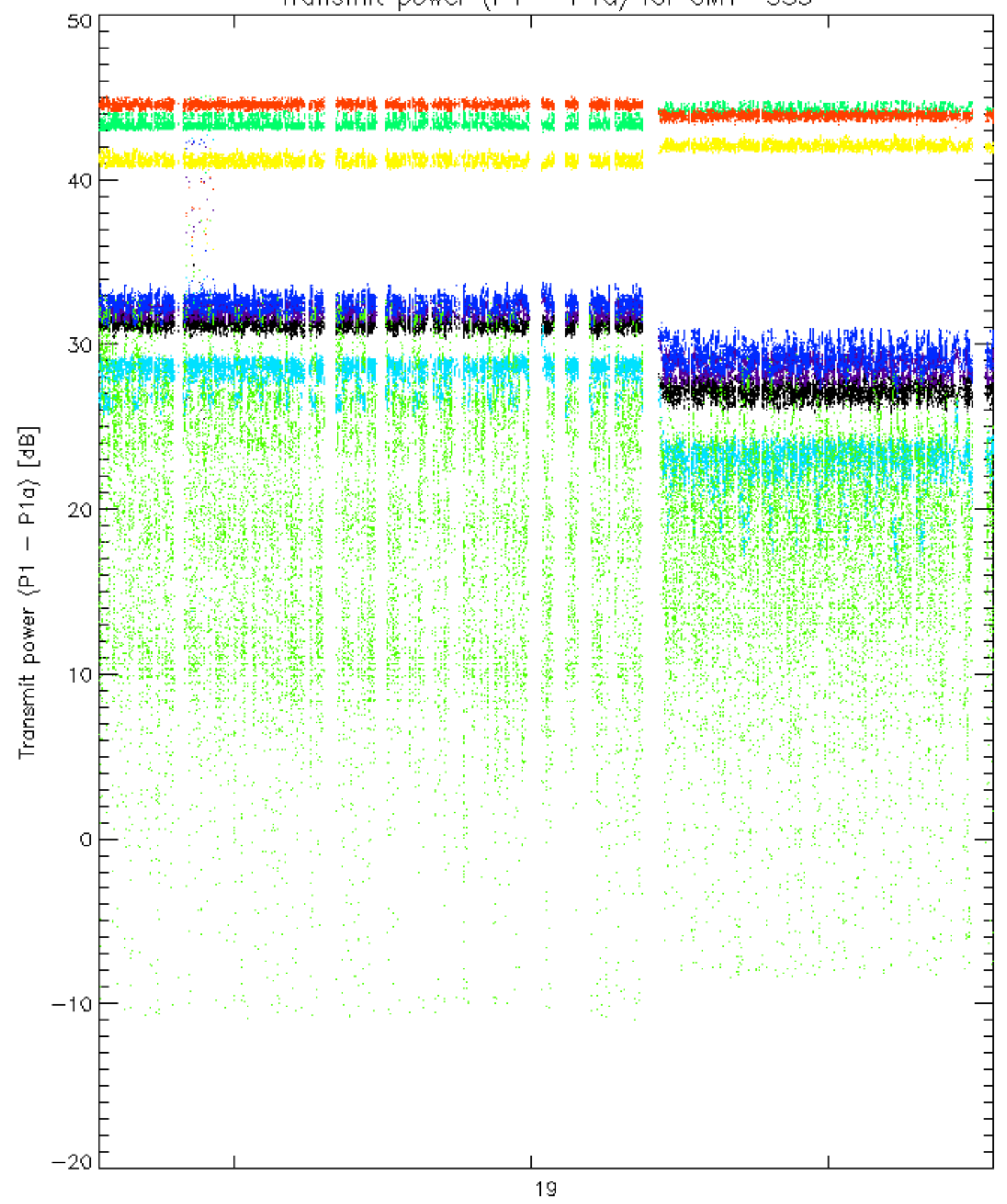




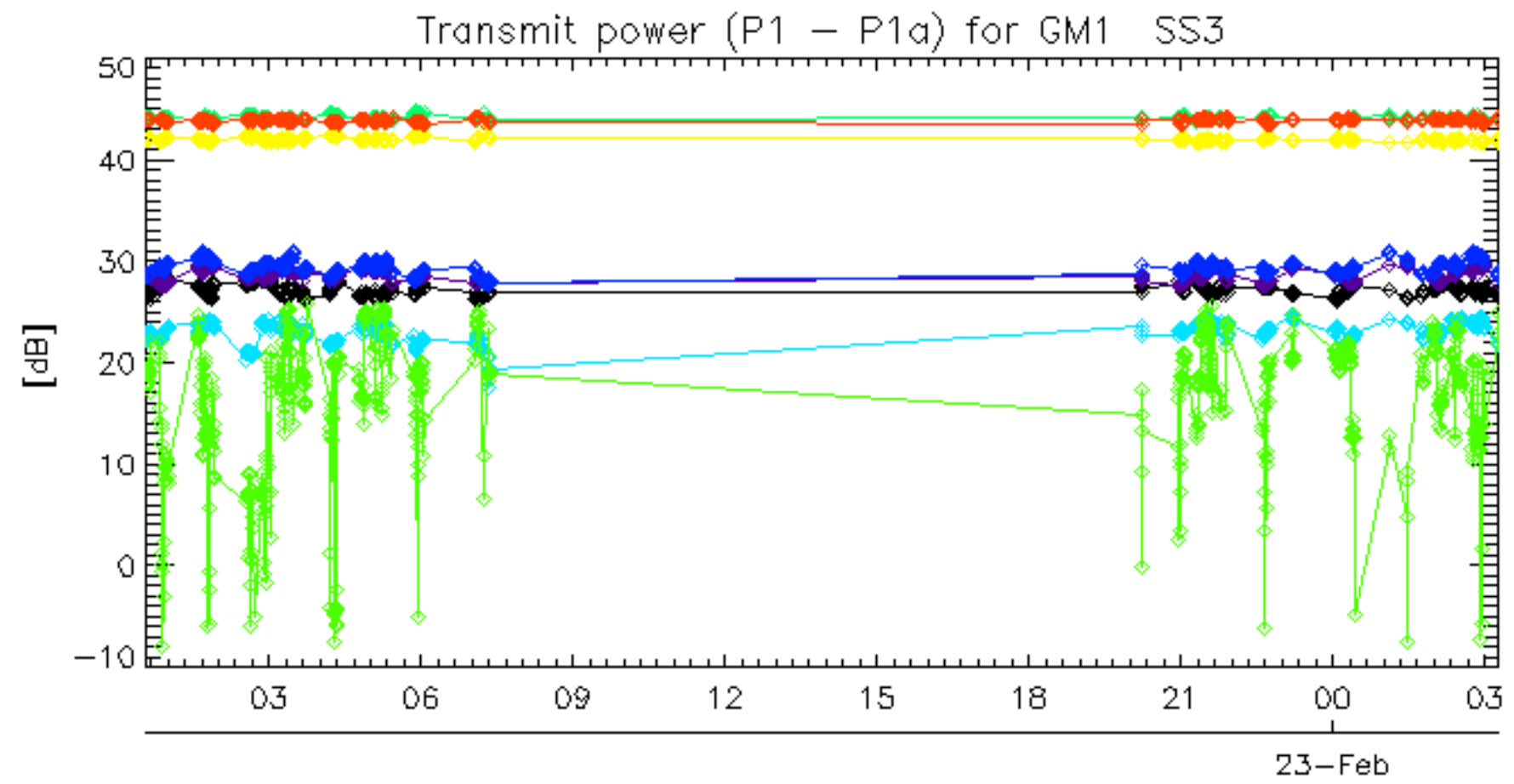




Transmit power (P1 - P1a) for GM1 SS3

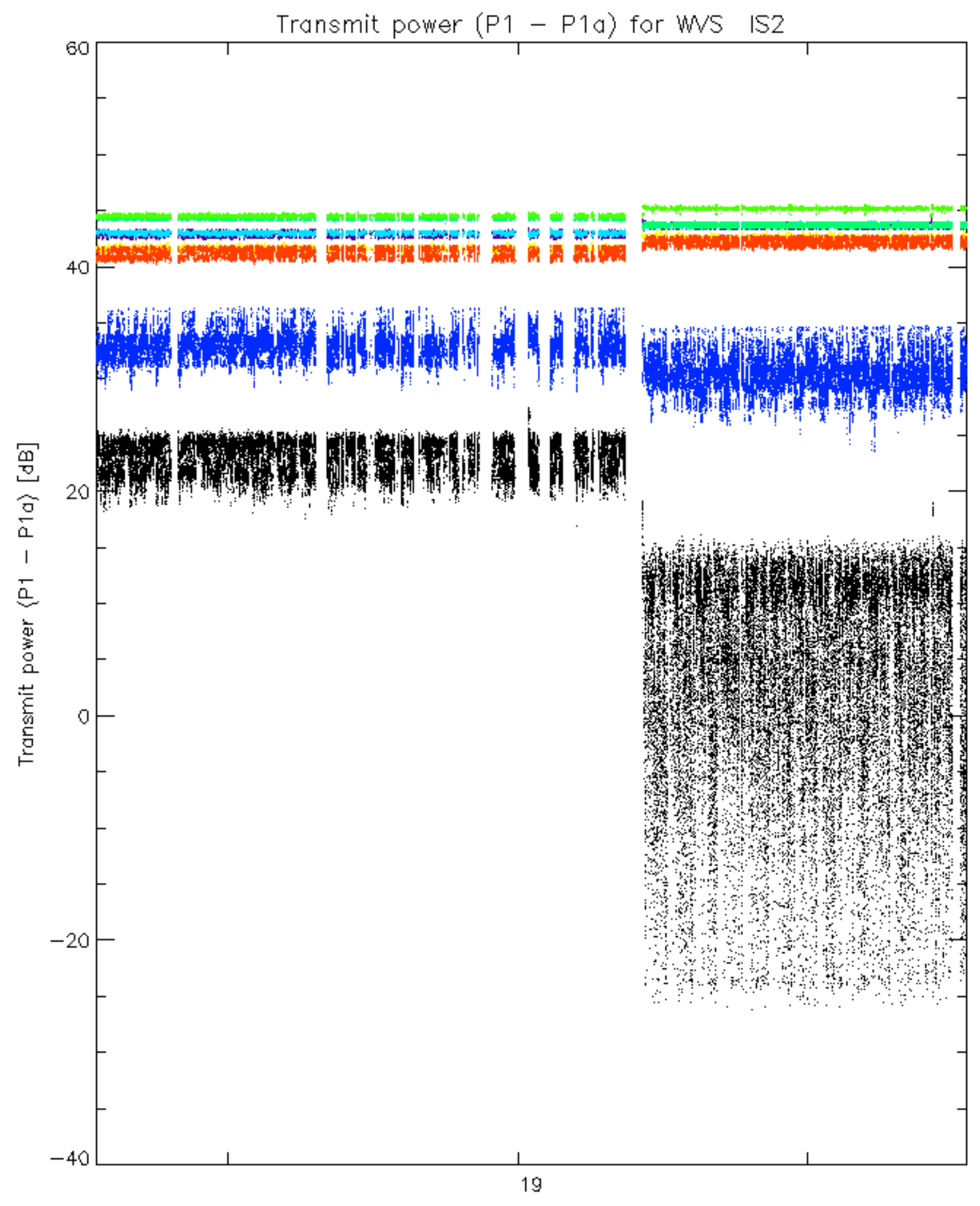


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

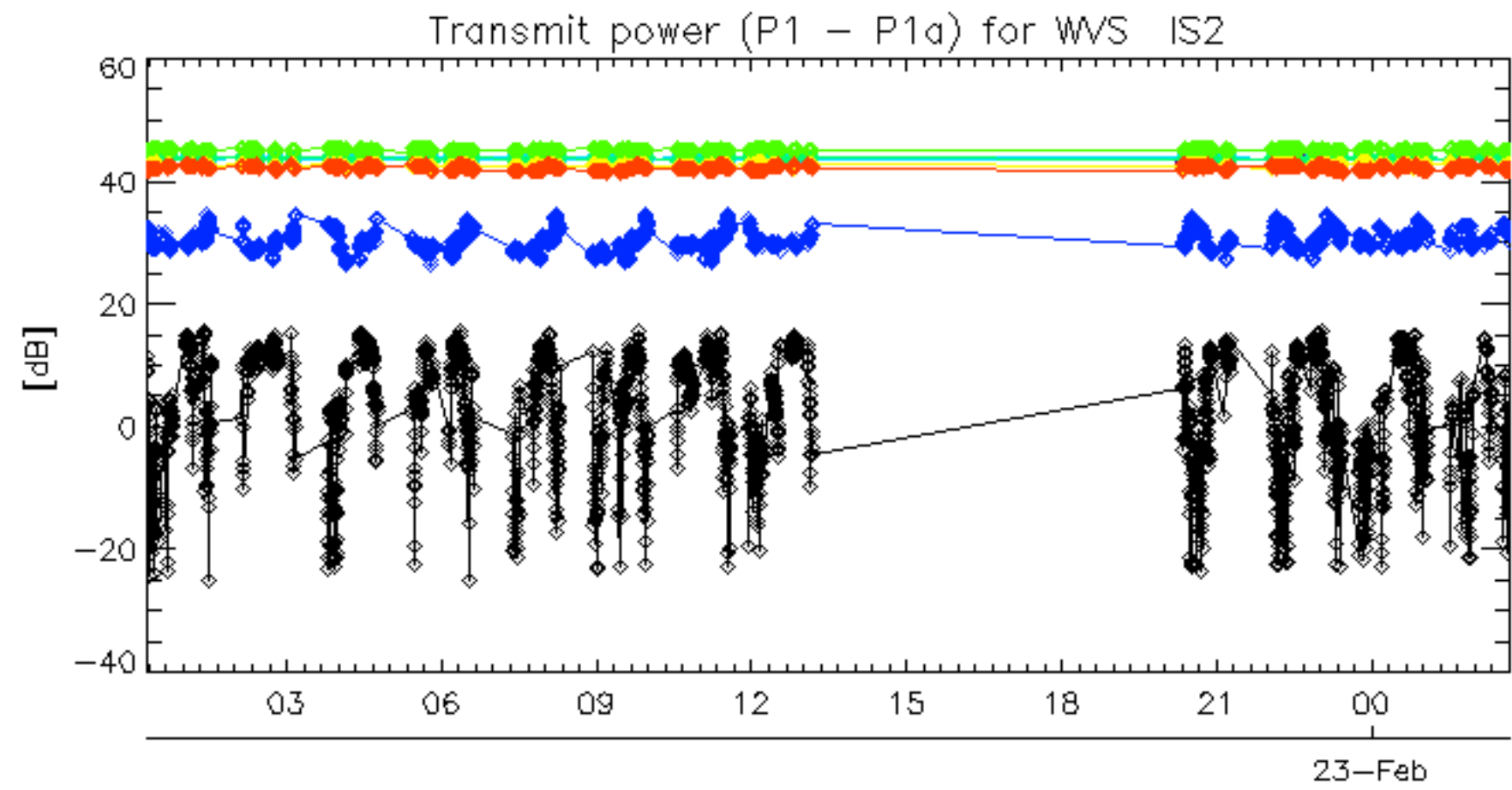


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30





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



No unavailabilities during the reported period.