

# PRELIMINARY REPORT OF 070226

**last update on Mon Feb 26 16:27:20 GMT 2007**

Due to an ASAR test acquisition campaign, the daily analysis on WVS products will be based on IS4 instead of IS2 during the following periods:

From orbit 25621 (23-Jan-2007) to 25720 (30-Jan-2007) in HH polarization  
From orbit 26122 (27-Feb-2007) to 26221 (06-Mar-2007) in HH polarization  
From orbit 25721 (30-Jan-2007) to 25820 (06-Feb-2007) in VV polarization  
From orbit 26222 (06-Mar-2007) to 26321 (13-Mar-2007) in VV polarization

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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 2007-02-25 00:00:00 to 2007-02-26 16:27:20

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20070222_190441_20070204_165113_20071231_000000	37	70	15	0	25
ASA_INS_AXVIEC20070223_140724_20070226_000000_20071231_000000	14	28	3	0	12
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	37	70	15	0	25
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	37	70	15	0	25
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	23	42	12	0	13

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20070222_190441_20070204_165113_20071231_000000	41	54	50	9	42
ASA_INS_AXVIEC20070223_140724_20070226_000000_20071231_000000	14	24	13	3	21
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	41	54	50	9	42
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	41	54	50	9	42
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	27	30	37	6	21

## 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	20070224 204902
H	20070225 183649

### 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"/>
<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



#### P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1a	-15.138582	0.207491	0.956051
7	P1a	-17.406439	0.106086	-0.136010
11	P1a	-17.311235	0.351056	0.061623
15	P1a	-12.845264	0.104787	-0.131919
19	P1a	-15.089419	0.092393	-0.028312
22	P1a	-15.487612	0.471522	-0.033340
26	P1a	-15.032660	0.206835	-0.225989
30	P1a	-17.318434	0.341623	-0.233326

#### P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.637094	0.126003	-1.086201
7	P1	-3.105898	0.009253	-0.043770
11	P1	-4.127996	0.019368	-0.037138
15	P1	-6.331176	0.016215	-0.071889
19	P1	-3.711821	0.008794	-0.034481
22	P1	-4.670381	0.014158	0.005314
26	P1	-3.930515	0.012929	-0.022432
30	P1	-5.916511	0.011782	-0.021954

#### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.560398	0.230446	-1.164843
7	P2	-21.594429	0.083968	0.068710

11	P2	-15.485235	0.100861	-0.026749
15	P2	-7.012070	0.098505	-0.037428
19	P2	-9.078612	0.086349	-0.025796
22	P2	-18.101831	0.081541	-0.047272
26	P2	-16.502819	0.094592	-0.044226
30	P2	-19.330761	0.077348	-0.014429

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.198336	0.007779	-0.012660
7	P3	-8.198336	0.007779	-0.012660
11	P3	-8.198336	0.007779	-0.012660
15	P3	-8.198336	0.007779	-0.012660
19	P3	-8.198336	0.007779	-0.012660
22	P3	-8.198336	0.007779	-0.012660
26	P3	-8.198336	0.007779	-0.012660
30	P3	-8.198336	0.007779	-0.012660

**4.2.2 - Evolution for GM1**

Evolution of cal pulses for GM1

**P1a Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1a	-11.274852	0.133858	0.872662
7	P1a	-10.039424	0.064865	-0.054909
11	P1a	-10.593753	0.058194	-0.212657
15	P1a	-10.861913	0.132647	-0.105873
19	P1a	-15.739230	0.064161	0.024979
22	P1a	-20.854828	1.256740	0.283144
26	P1a	-15.409188	0.265807	0.255008
30	P1a	-18.348270	0.358350	-0.119240

**P1t Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-7.120300	3.594234	-5.537976
7	P1	-2.435204	0.005907	0.014425
11	P1	-2.889497	0.015903	-0.086147
15	P1	-3.807340	0.033247	-0.094449
19	P1	-3.551124	0.012305	-0.007604
22	P1	-5.027573	0.022768	-0.018814
26	P1	-5.986479	0.023559	0.040369
30	P1	-5.284592	0.022794	0.019399

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.538239	0.723964	-2.391500
7	P2	-21.987934	0.052999	0.130514
11	P2	-10.668340	0.030548	0.072921
15	P2	-4.822178	0.027073	0.055803
19	P2	-6.819590	0.028215	0.060152
22	P2	-8.123693	0.029753	0.081163
26	P2	-24.250713	0.032662	0.004251
30	P2	-21.768099	0.036197	0.100684

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.044141	0.003263	0.028305
7	P3	-8.044176	0.003276	0.027958
11	P3	-8.044265	0.003271	0.027674
15	P3	-8.044169	0.003279	0.027938
19	P3	-8.044197	0.003260	0.027898
22	P3	-8.044291	0.003271	0.027792
26	P3	-8.044144	0.003269	0.027968
30	P3	-8.044205	0.003278	0.027709

## 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	0.000613751
	stdev	2.33660e-07
MEAN Q	mean	0.000397785
	stdev	2.49527e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.108326
	stdev	0.00256161
STDEV Q	mean	0.108391
	stdev	0.00261119



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2007022[456]

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_IMM_1PNPDE20070225_022551_000000212055_00476_26081_1575.N1	1	0
ASA_WVS_1PNPDK20070225_151346_000000152055_00483_26088_8098.N1	0	8
ASA_WVS_1PNPDK20070225_151416_000001352055_00483_26088_8120.N1	0	8
ASA_WSM_1PNPDE20070225_141210_000000852055_00483_26088_1631.N1	0	16
ASA_WSM_1PNPDK20070224_094429_000000852055_00466_26071_6572.N1	0	19



## 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****7.4 - Unbiased Doppler Error for GM1****Evolution of unbiased Doppler error (Real - Expected)**

Acsending

Descending

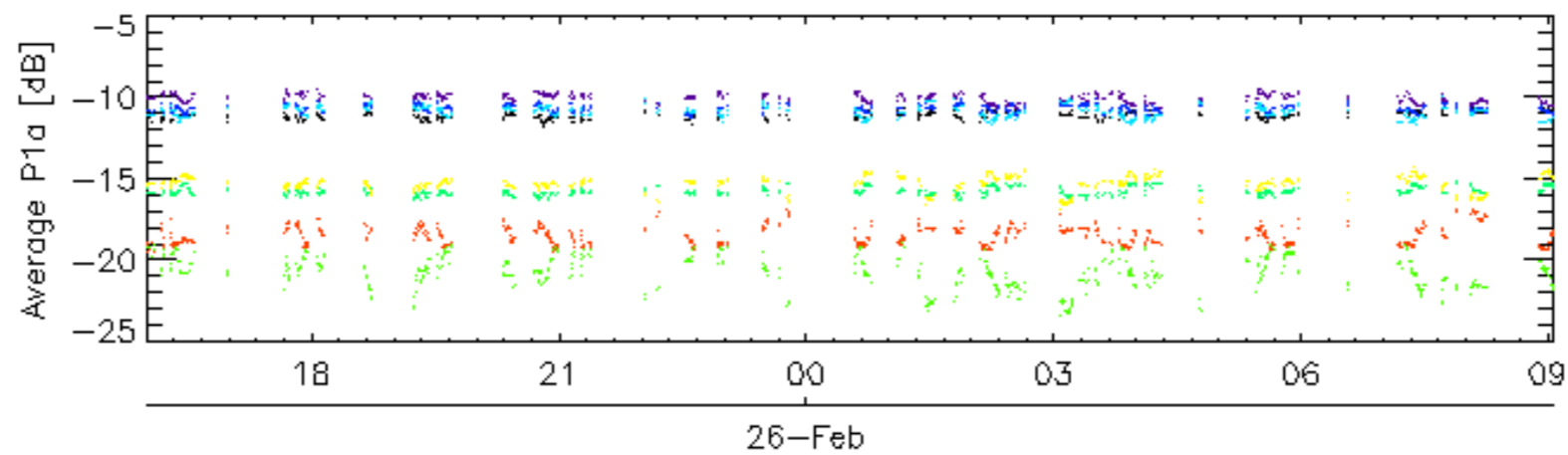
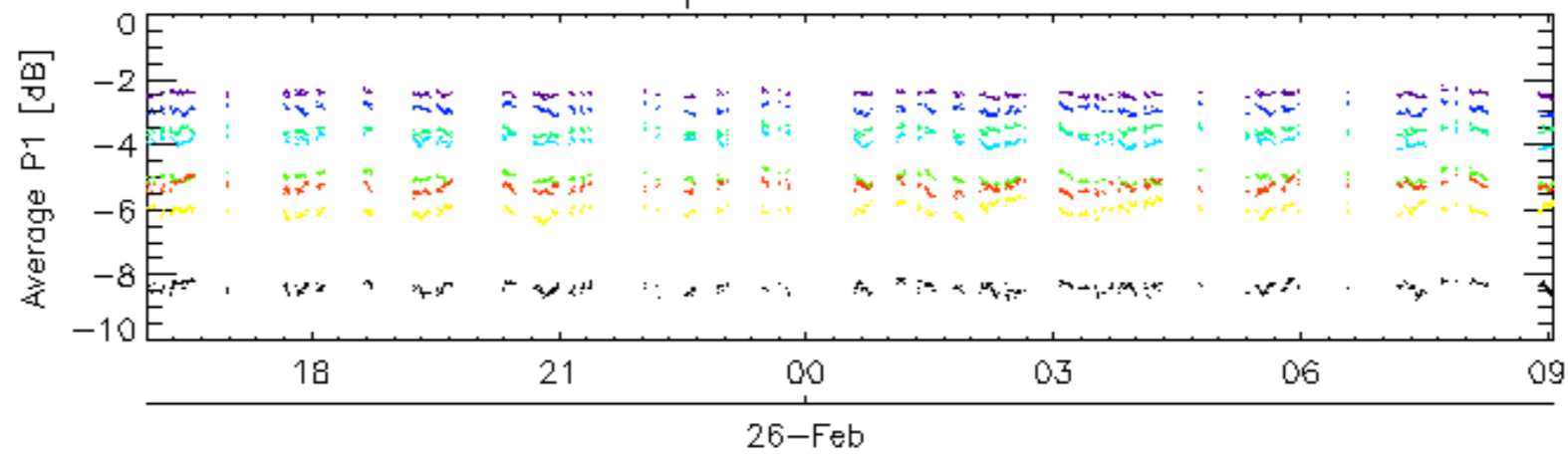
**7.5 - Absolute Doppler for GM1****Evolution of Absolute Doppler**

Acsending

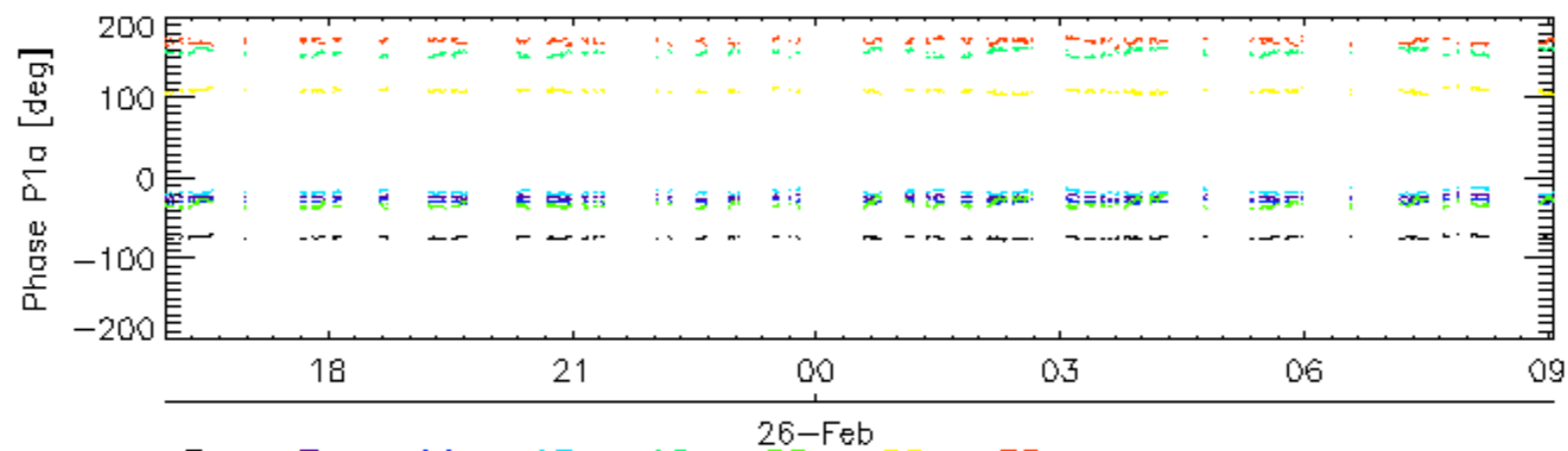
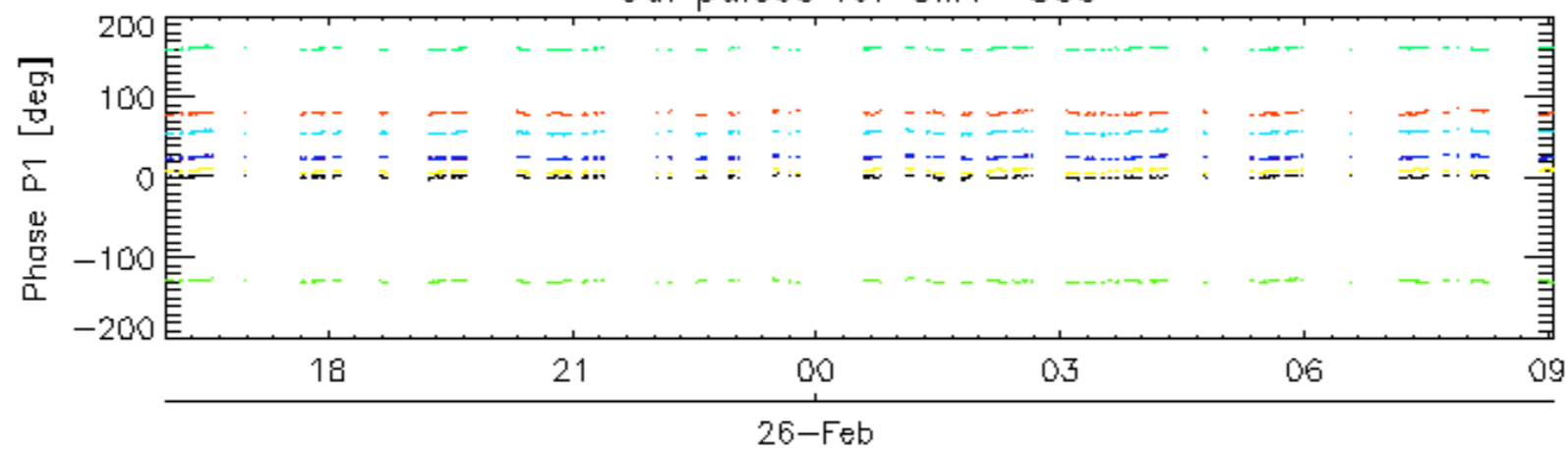
Descending

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

Cal pulses for GM1 SS3

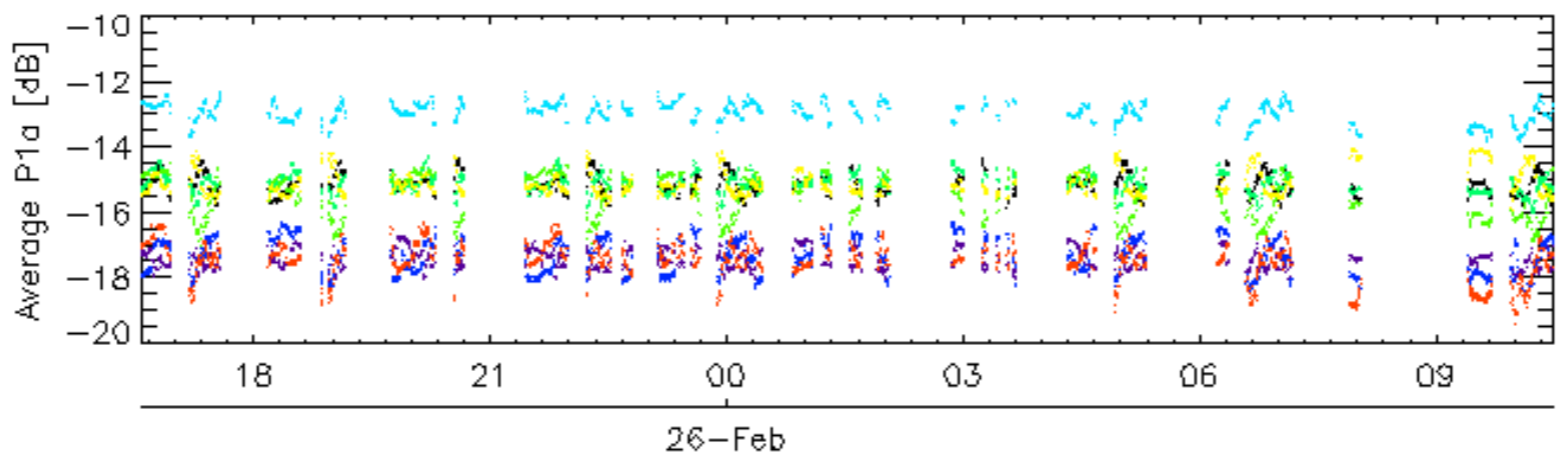
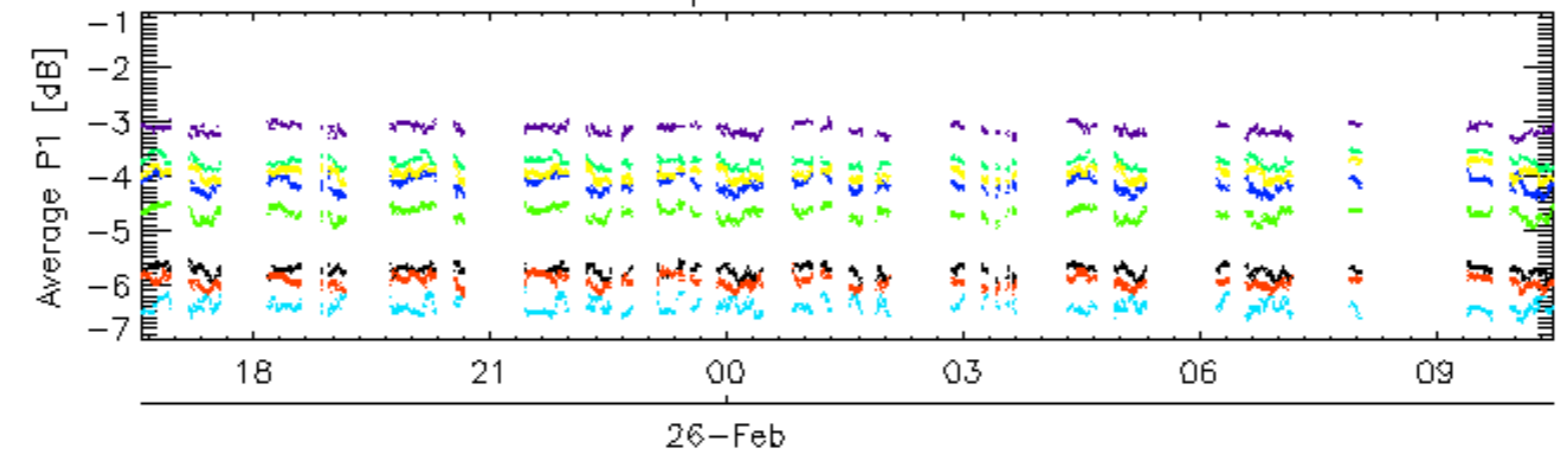


Cal pulses for GM1 SS3

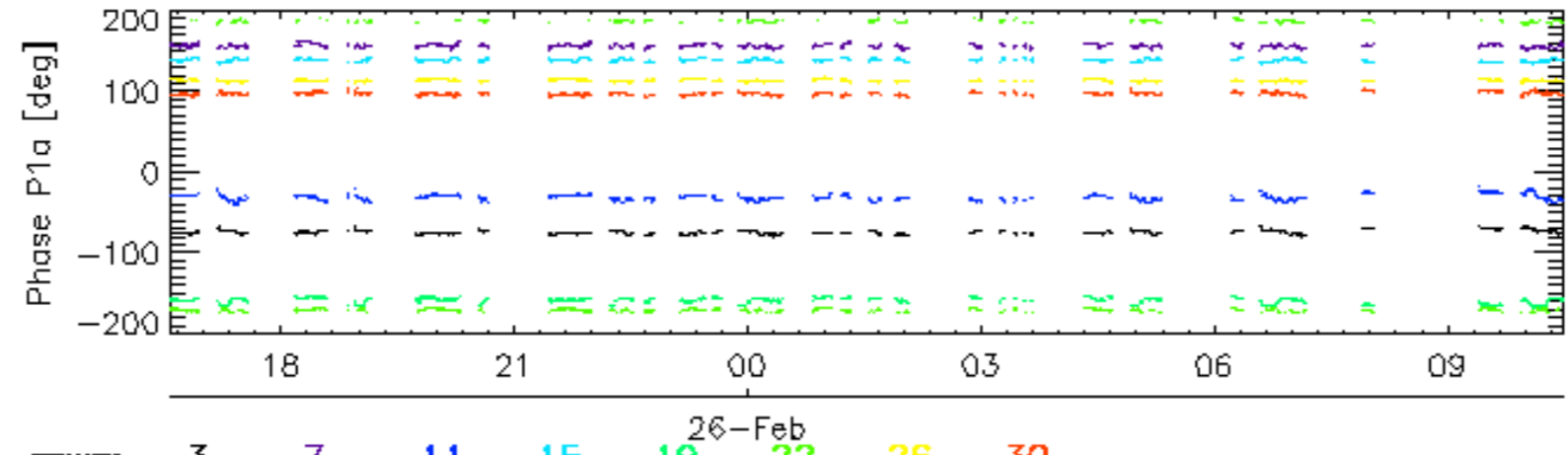
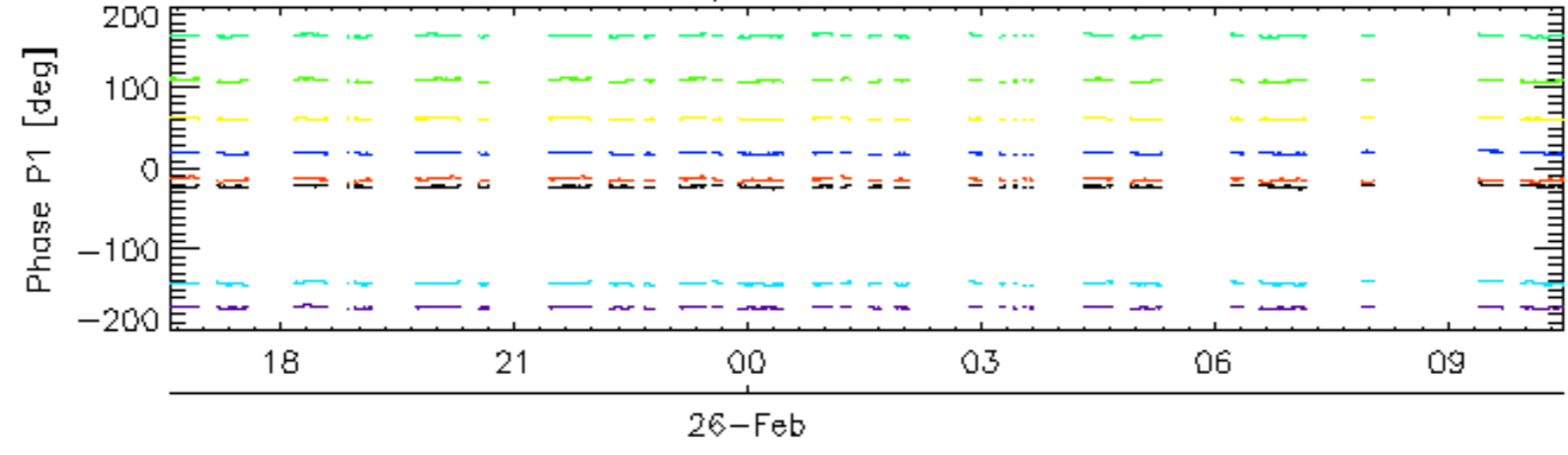


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

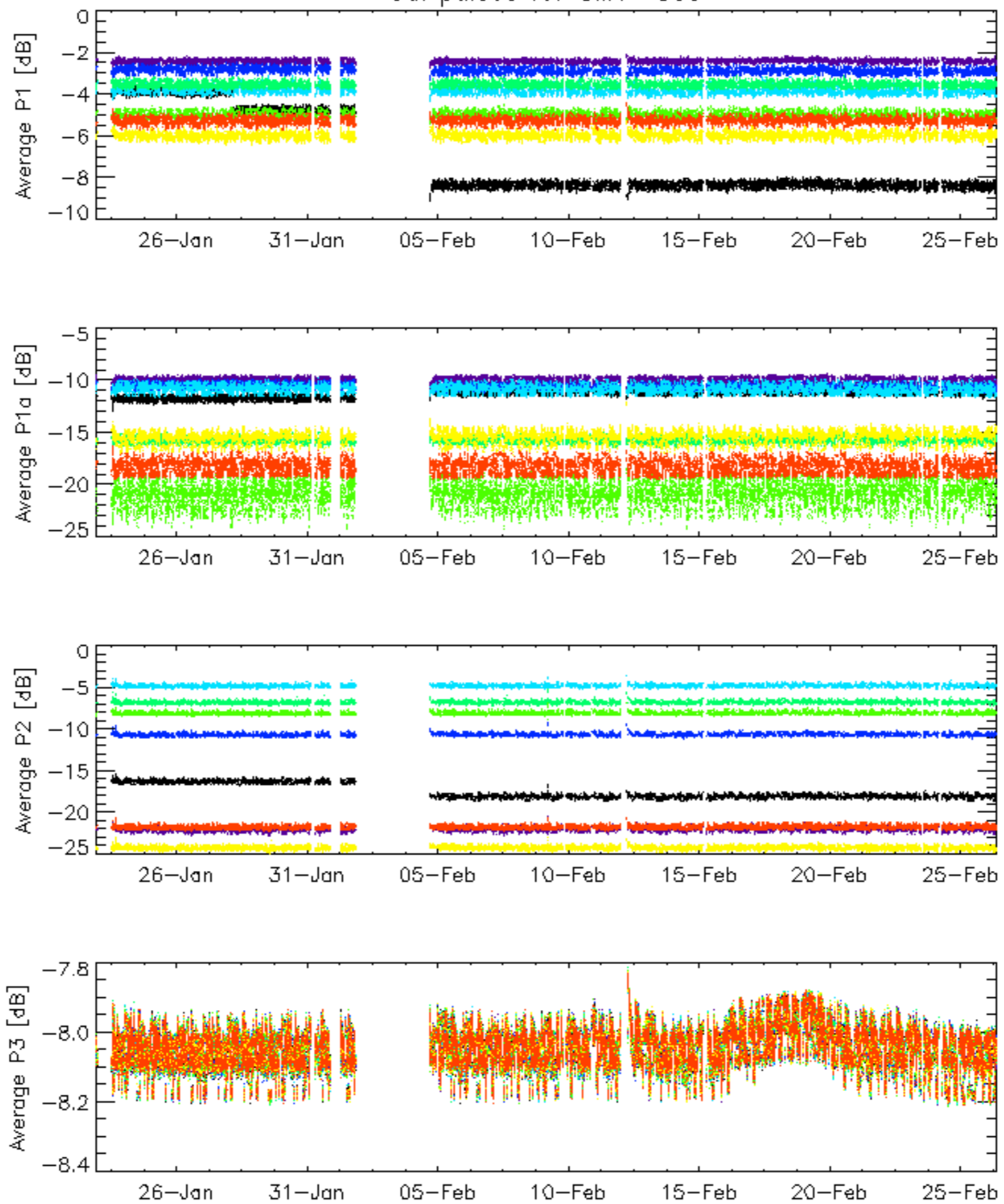


Cal pulses for WVS IS2



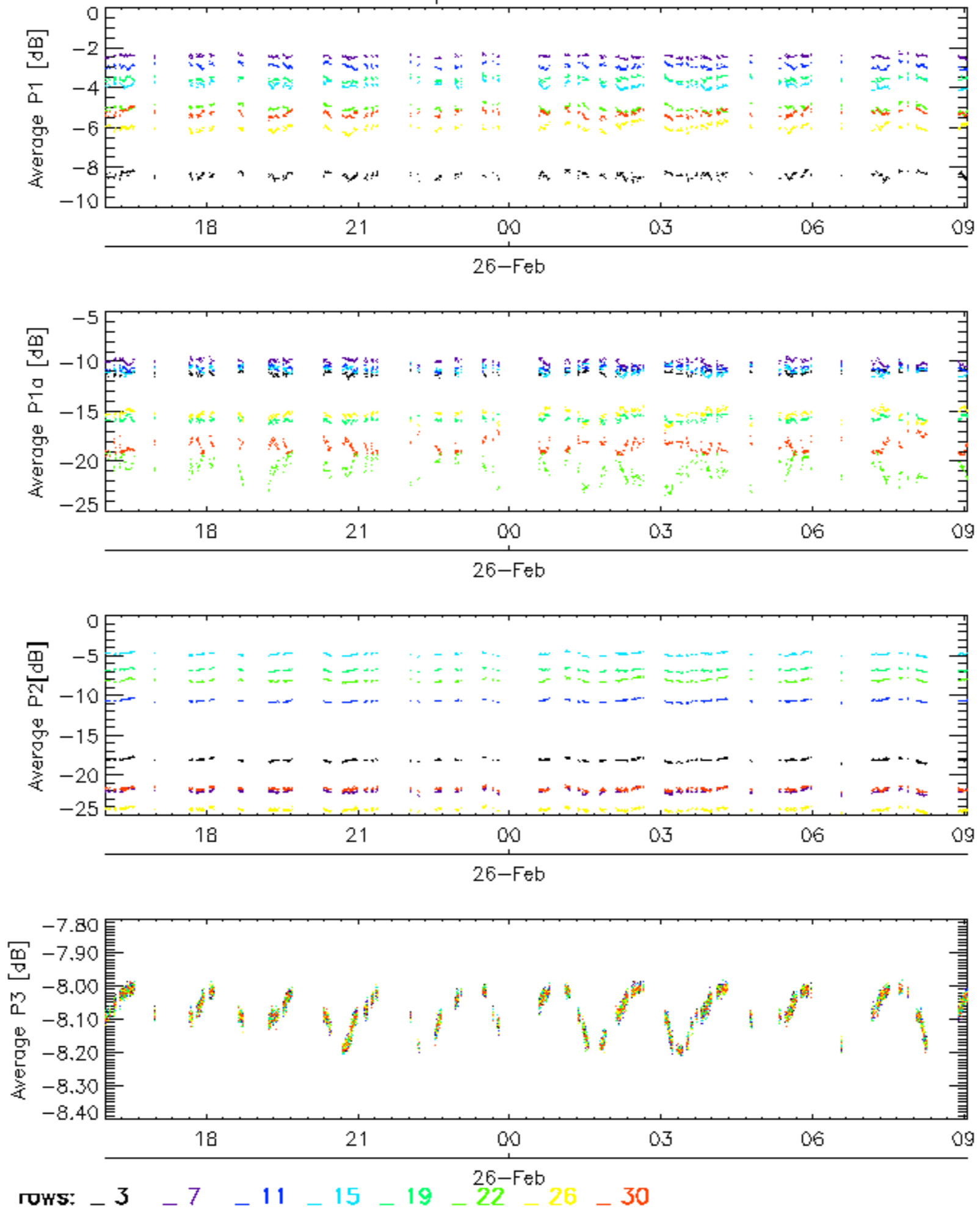
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Cal pulses for GM1 SS3

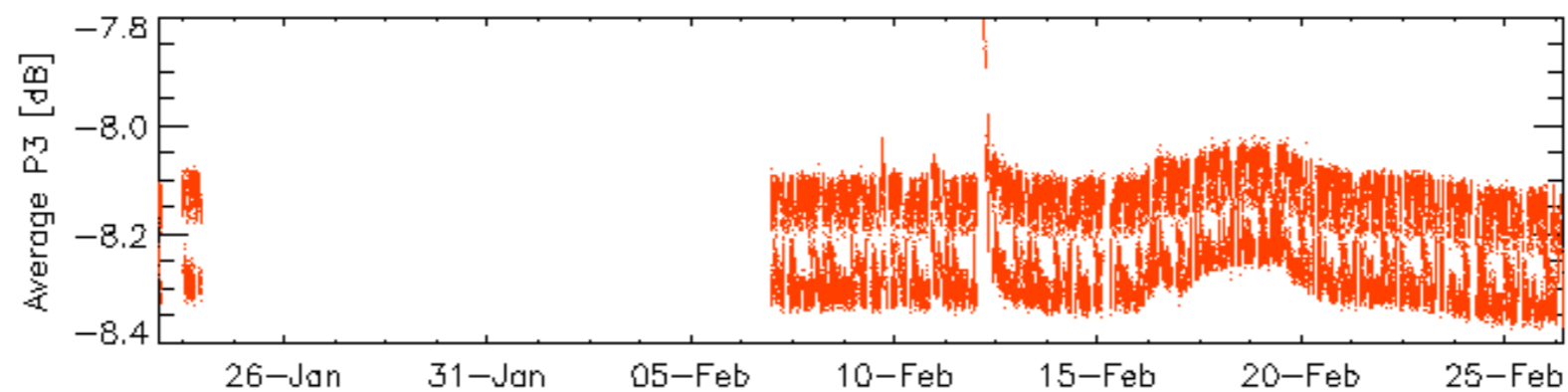
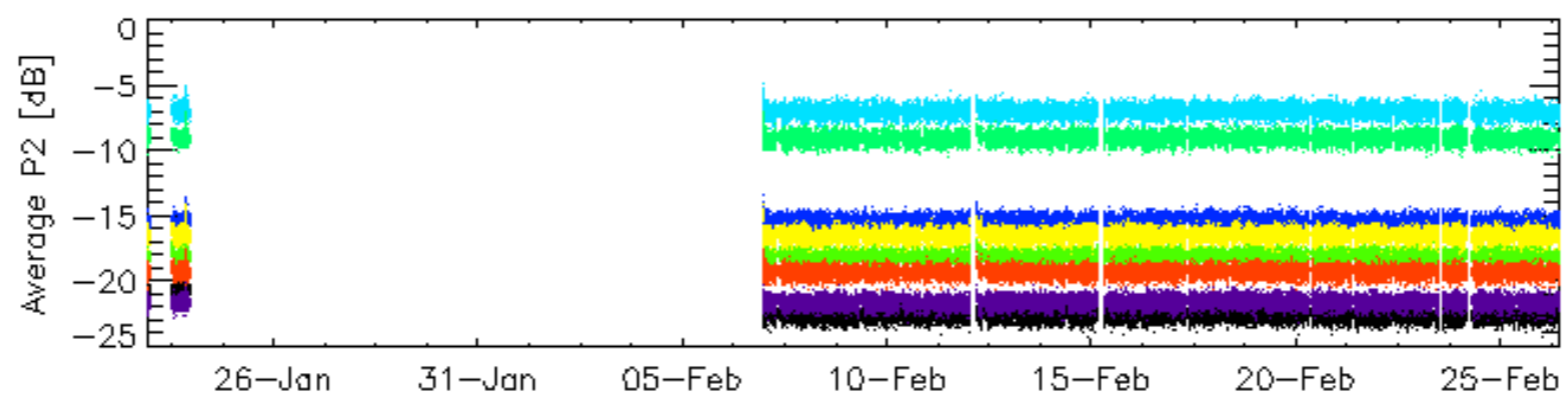
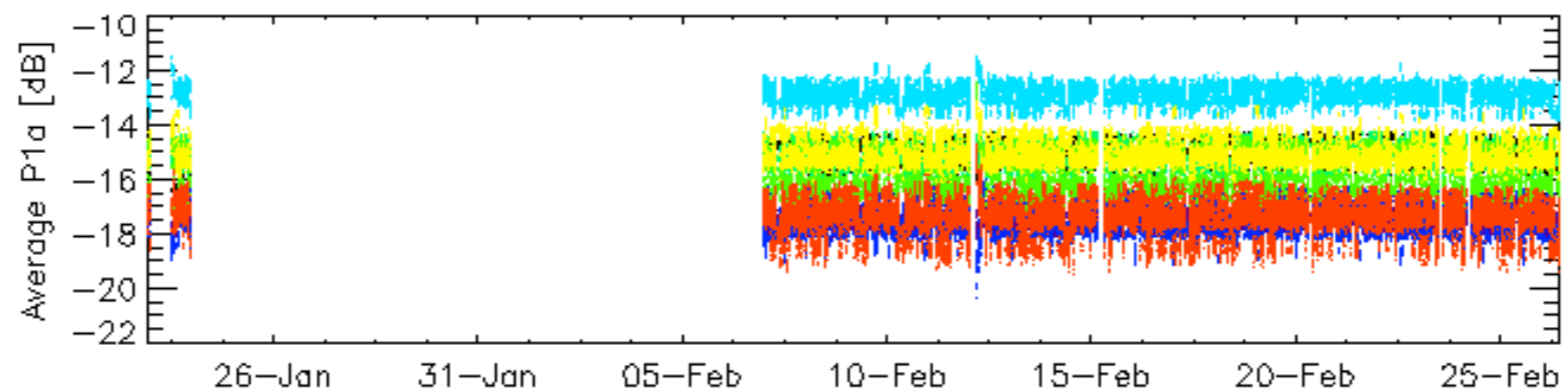
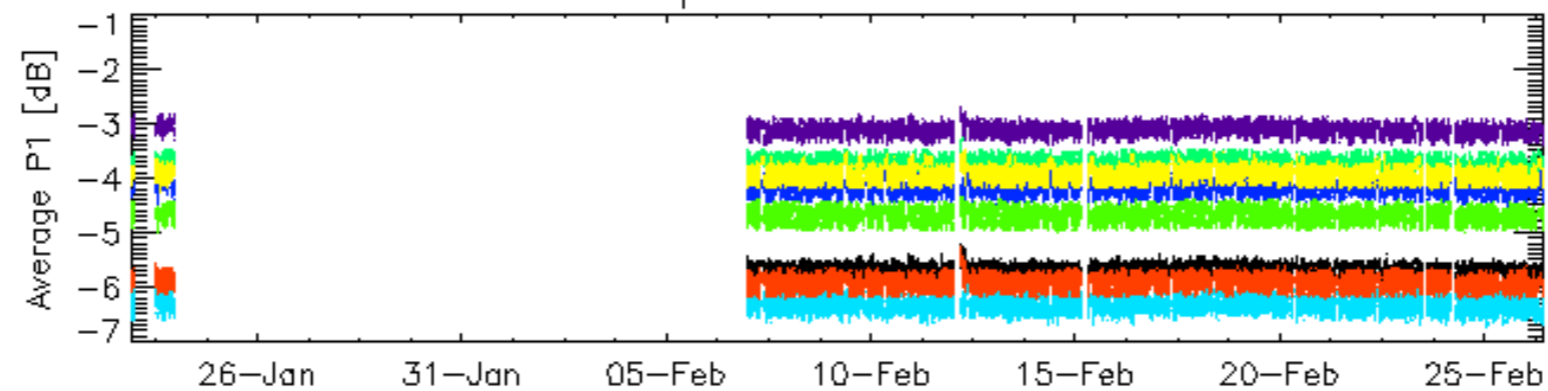


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

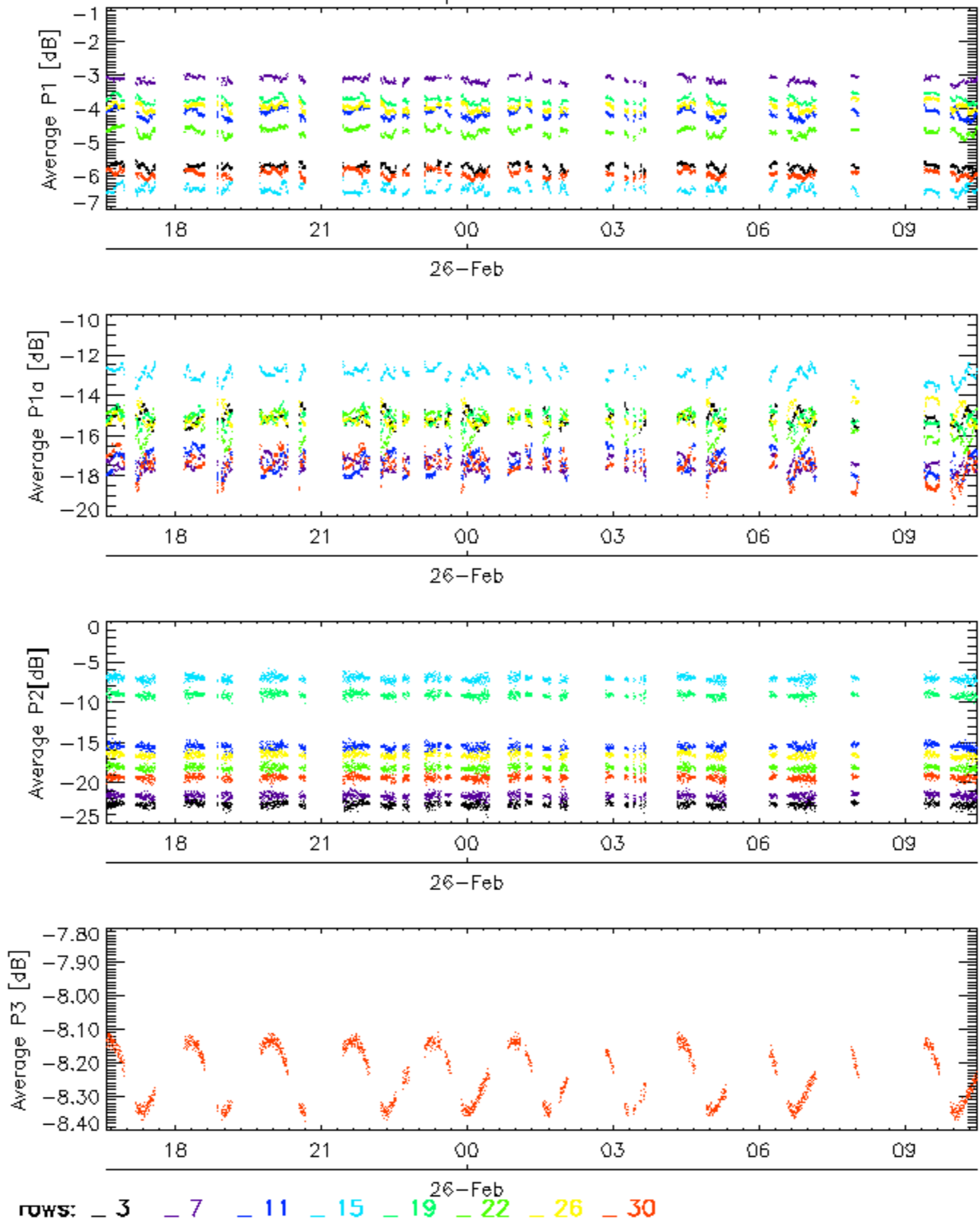


Cal pulses for WVS IS2



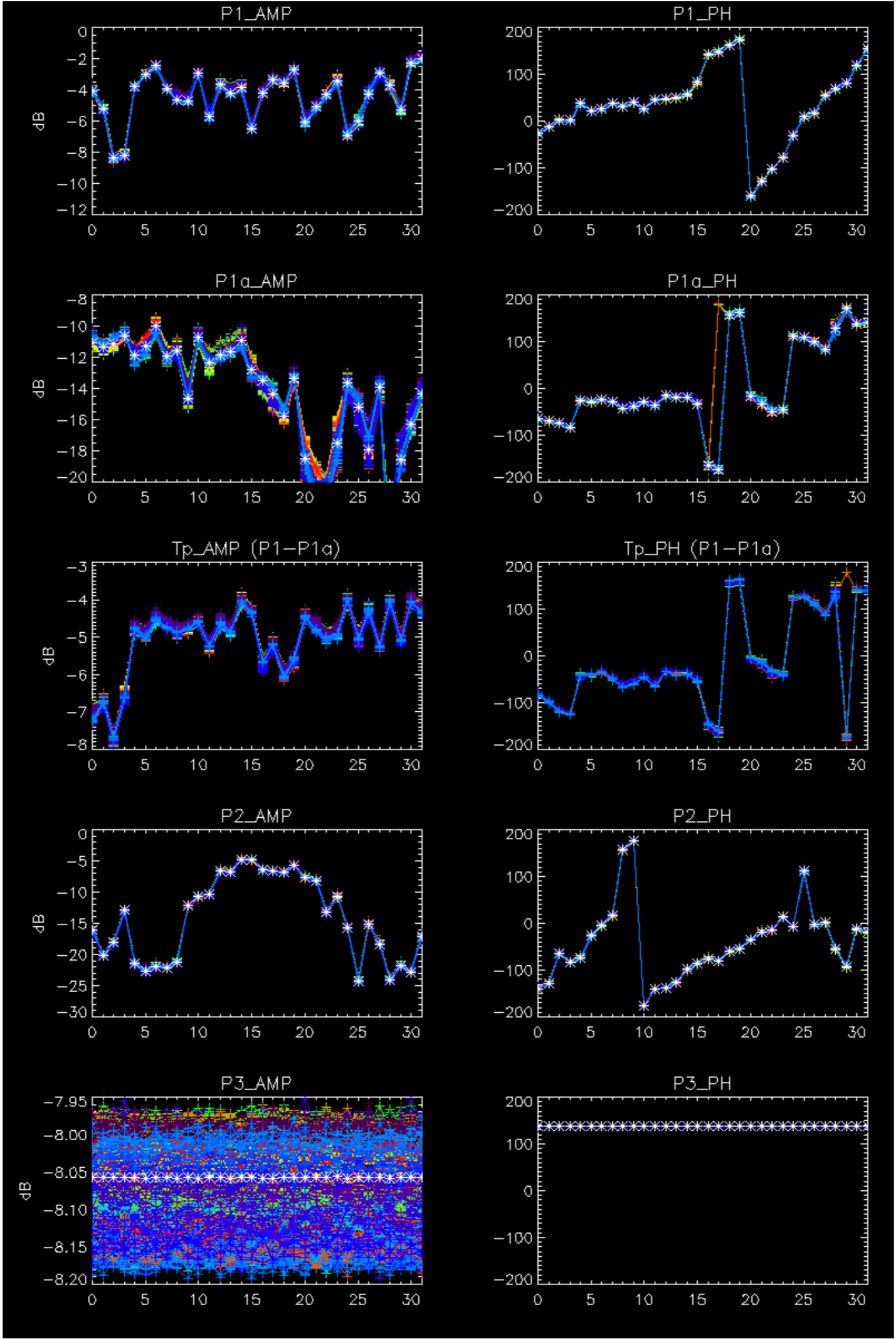
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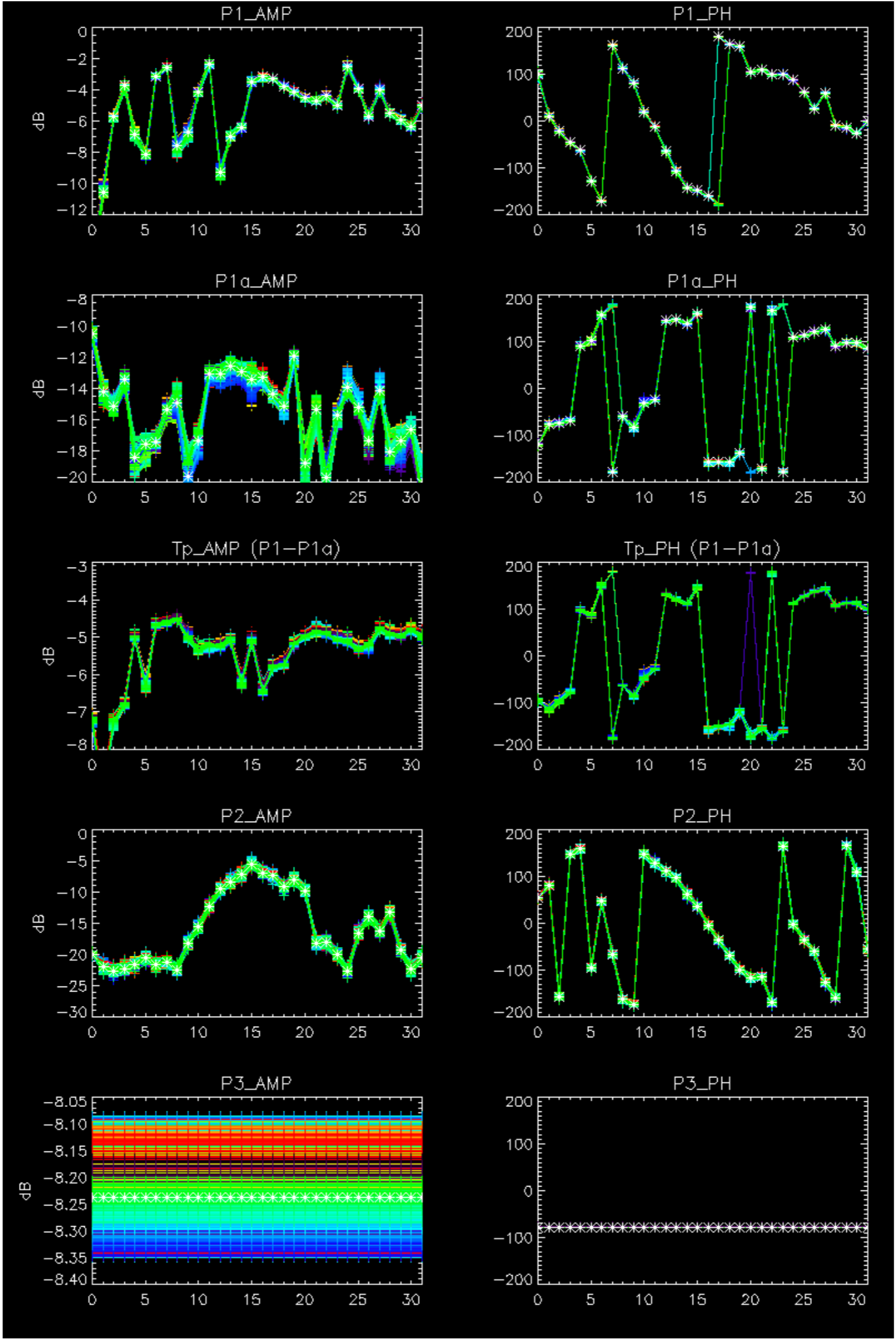
Cal pulses for WVS IS2



No anomalies observed.



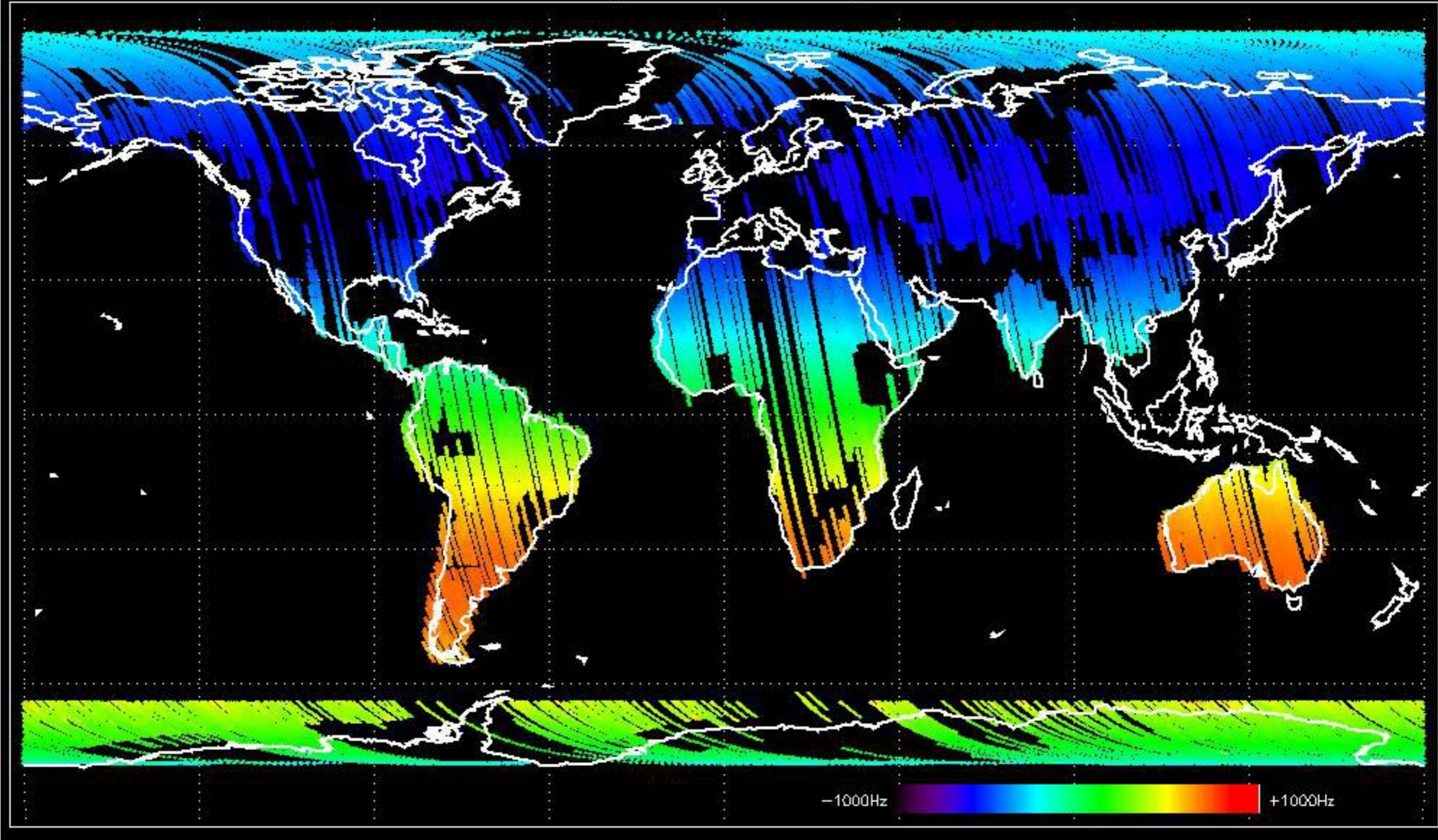




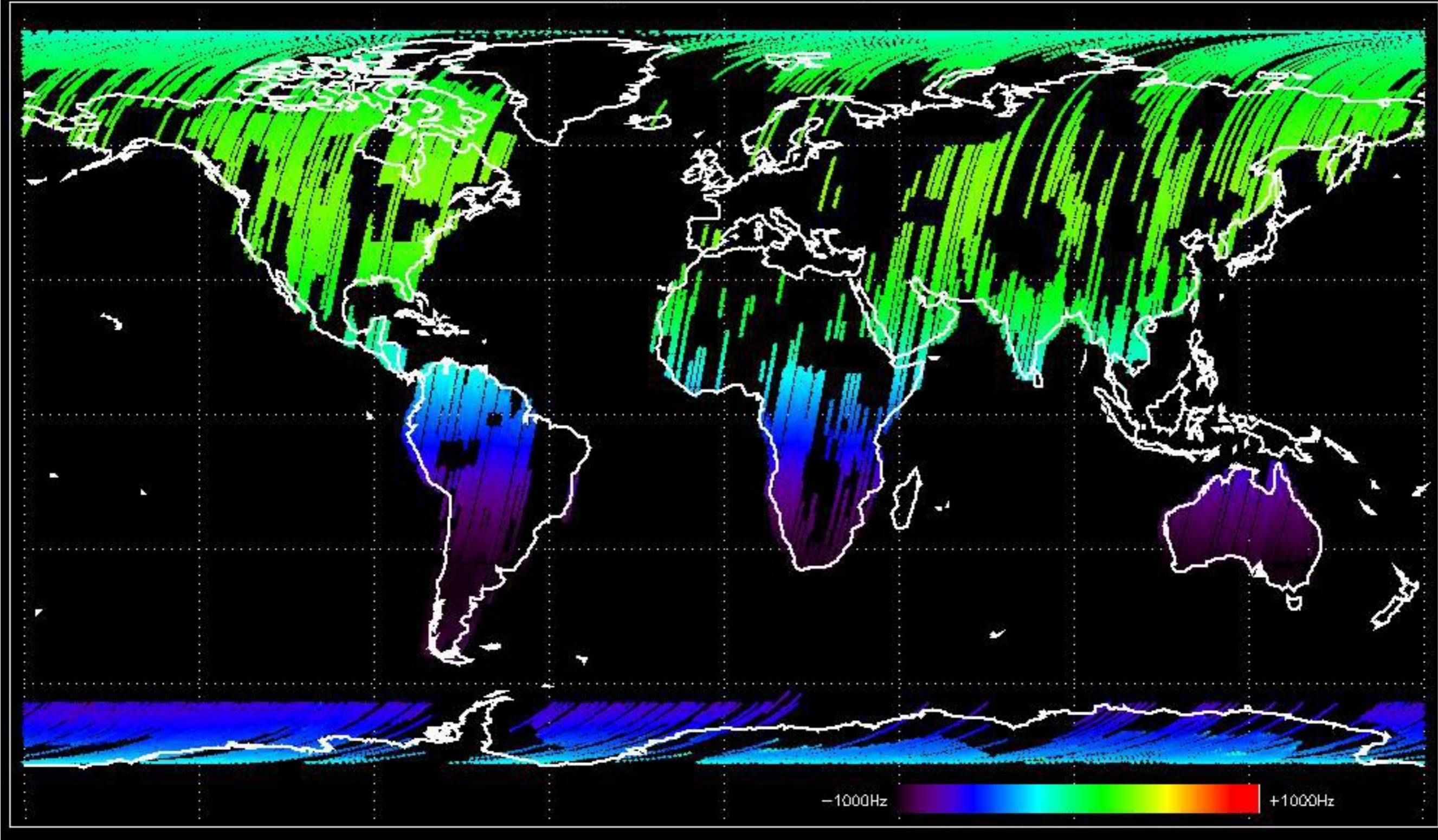
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



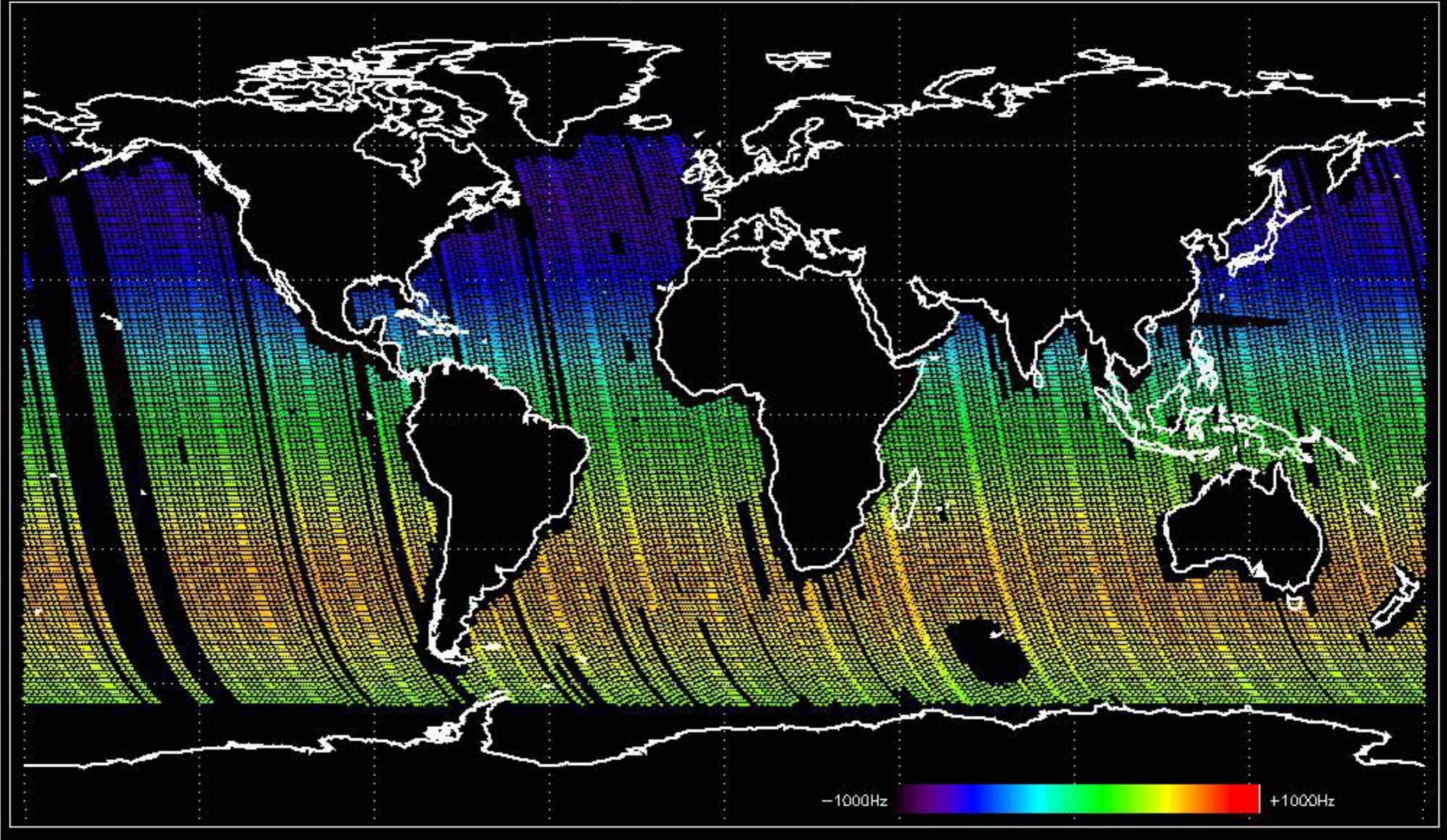
Doppler 'GM1' 'SS1' ascending



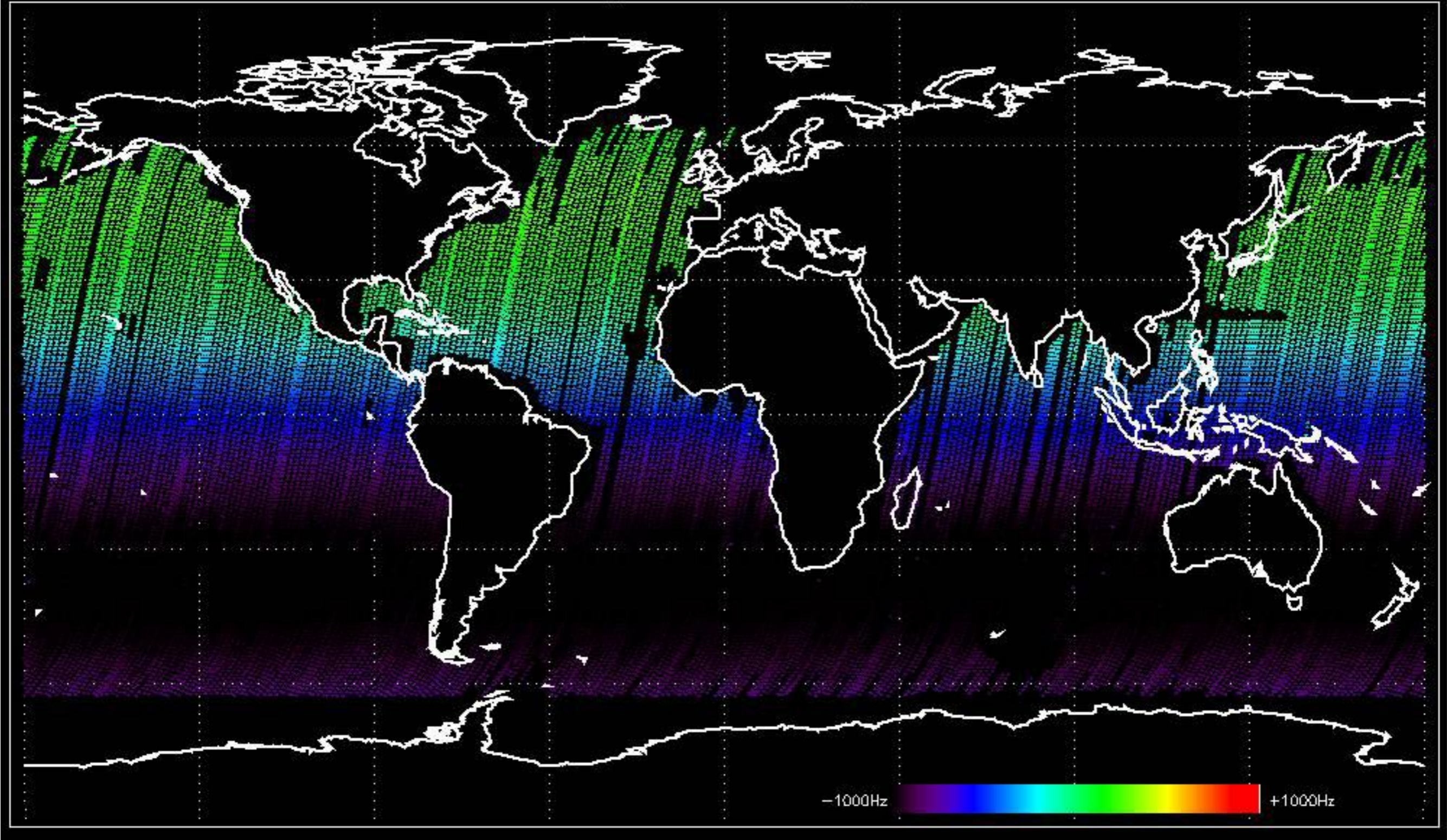
Doppler 'GM1' 'SS1' descending



Doppler 'WVS' 'IS2' ascending

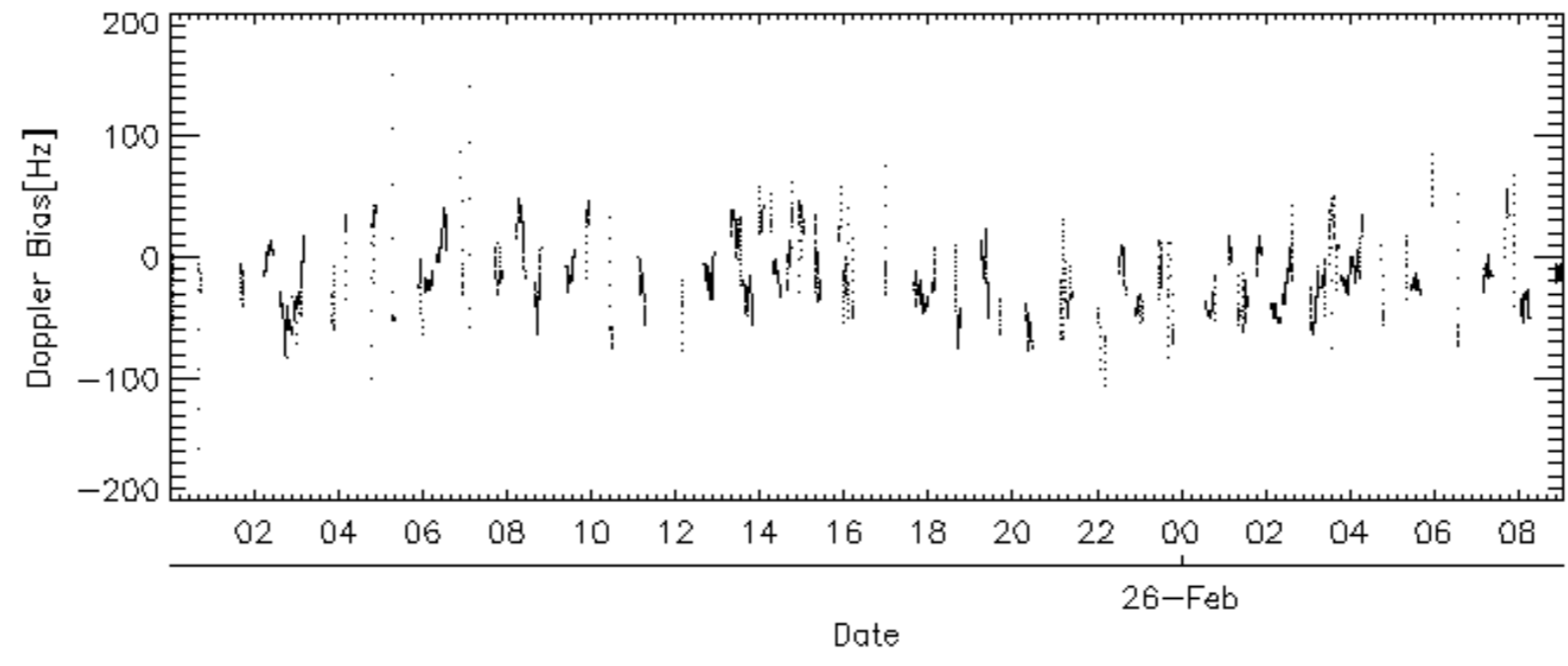
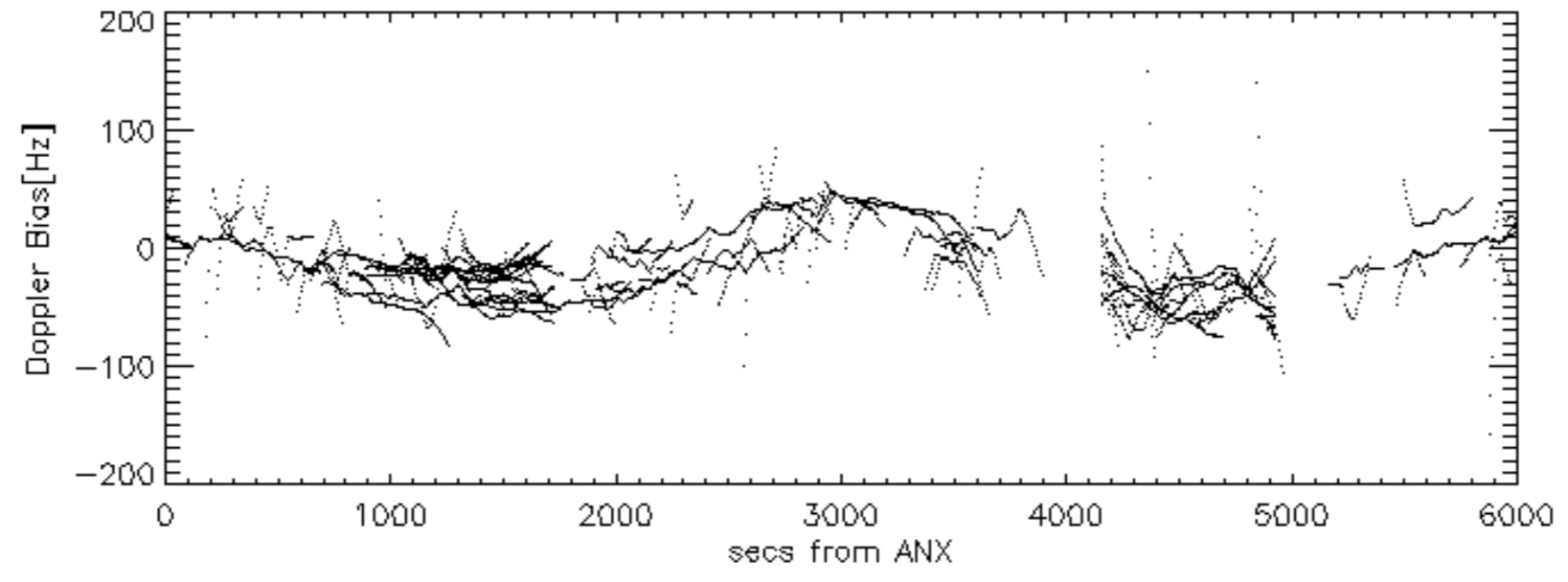
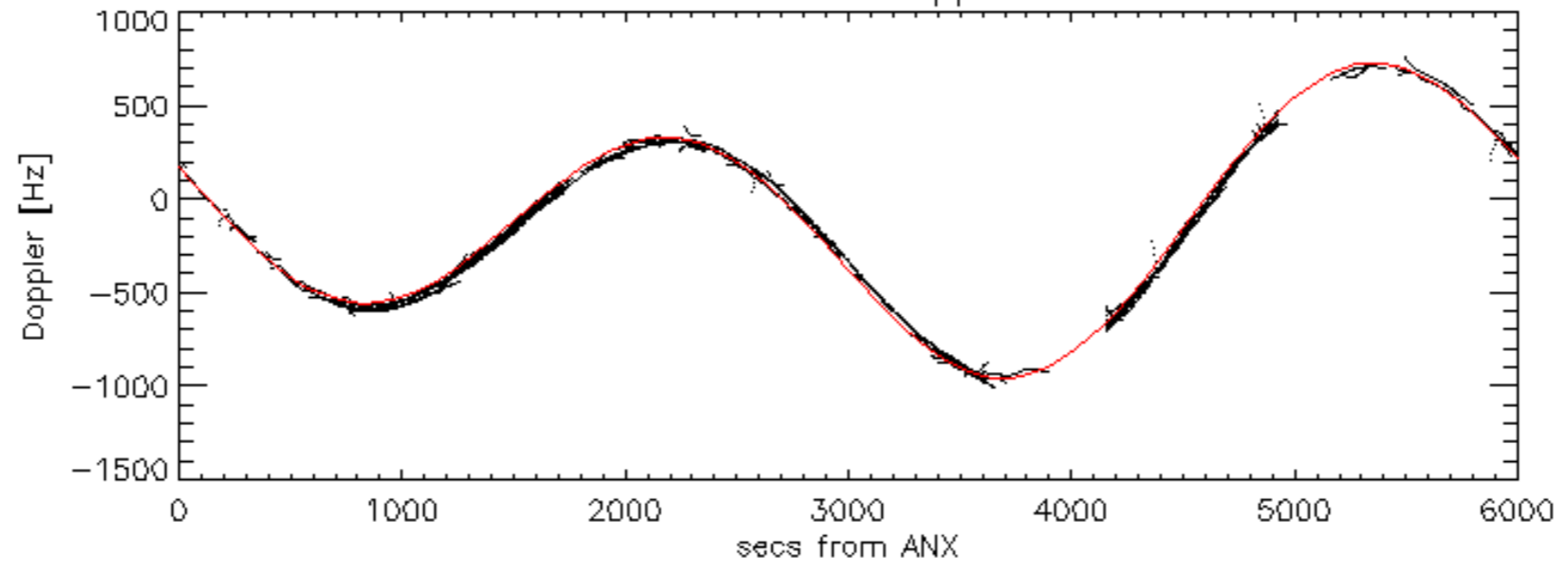


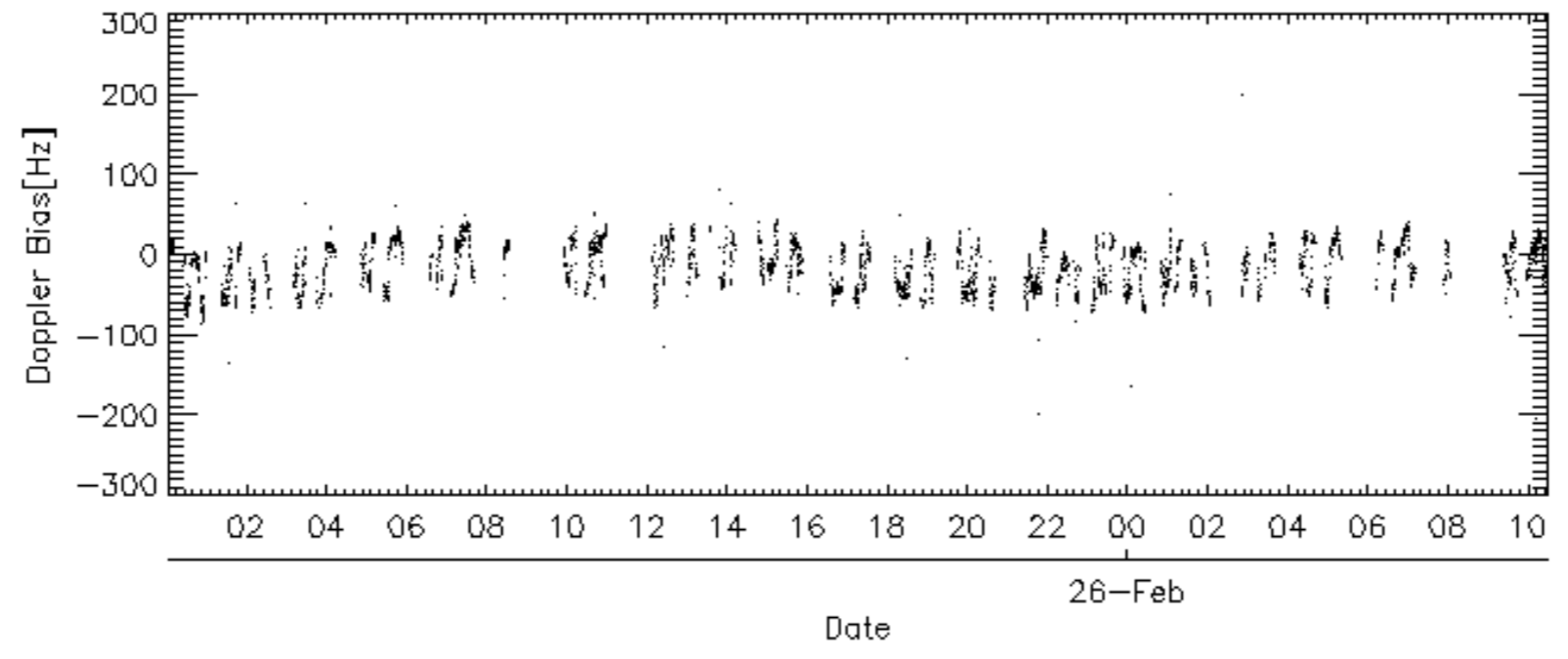
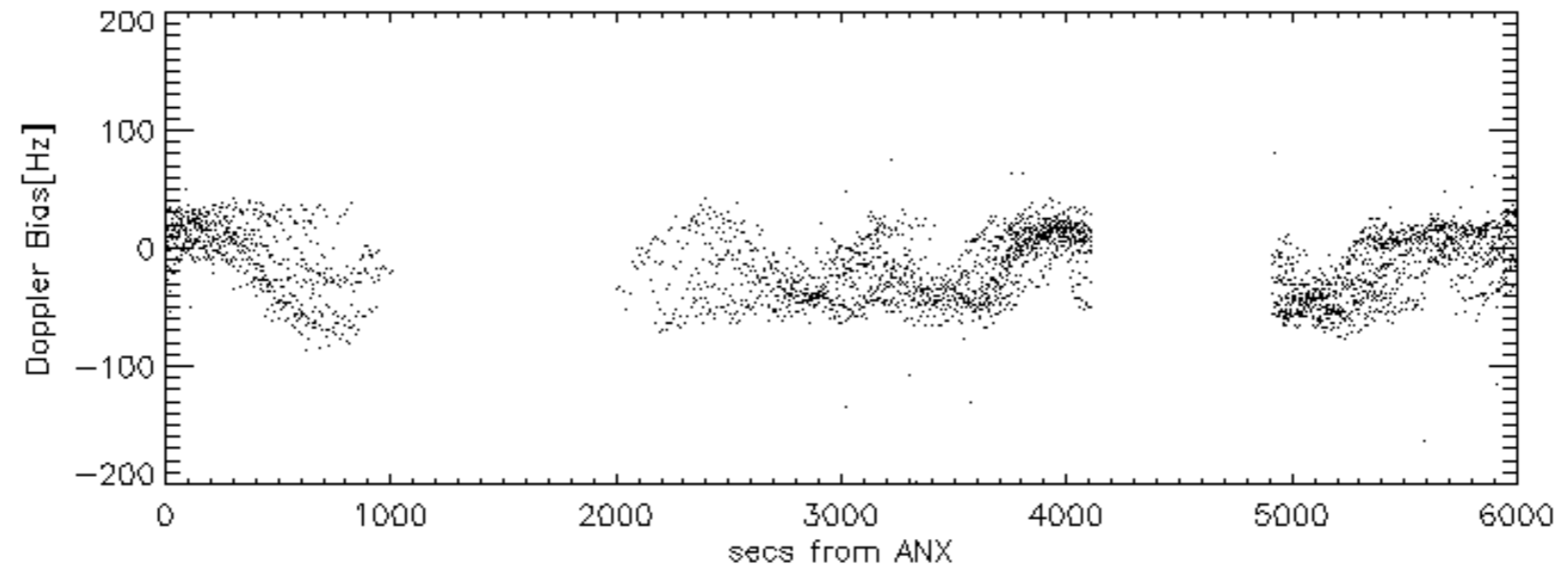
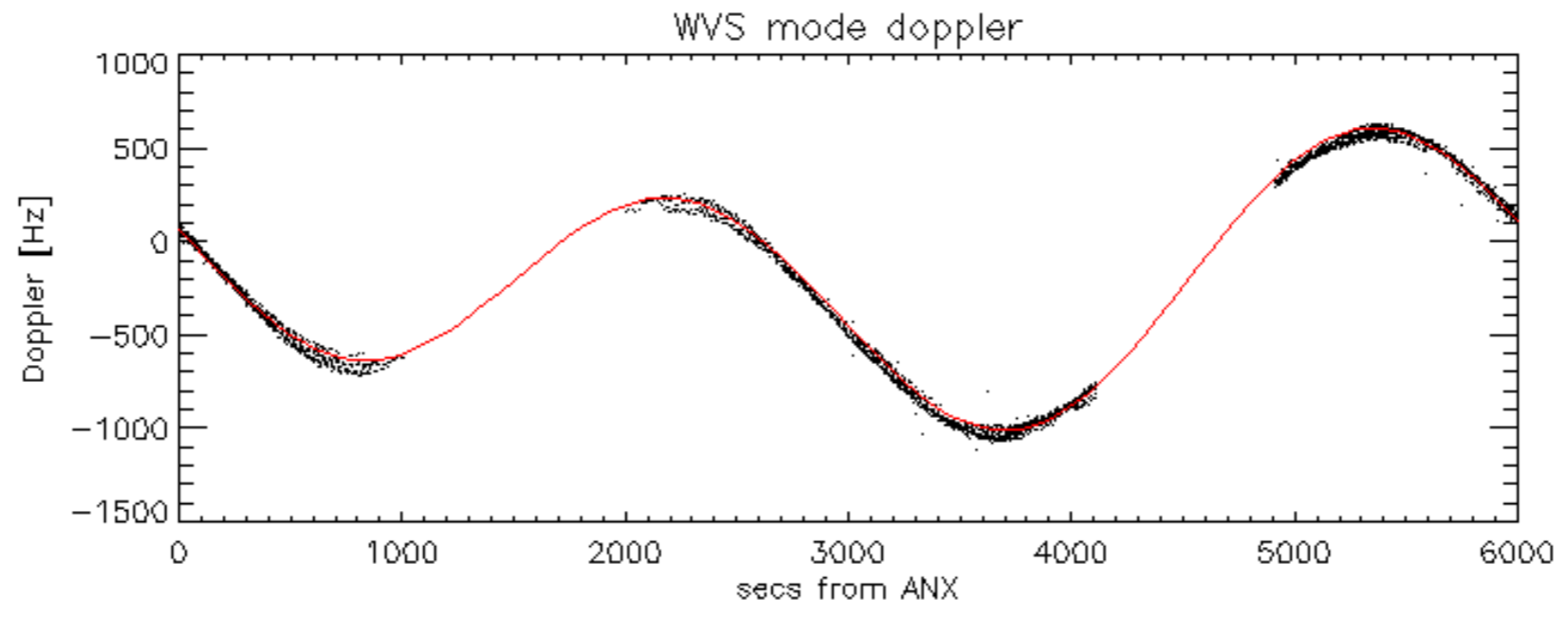
Doppler 'WVS' 'IS2' descending



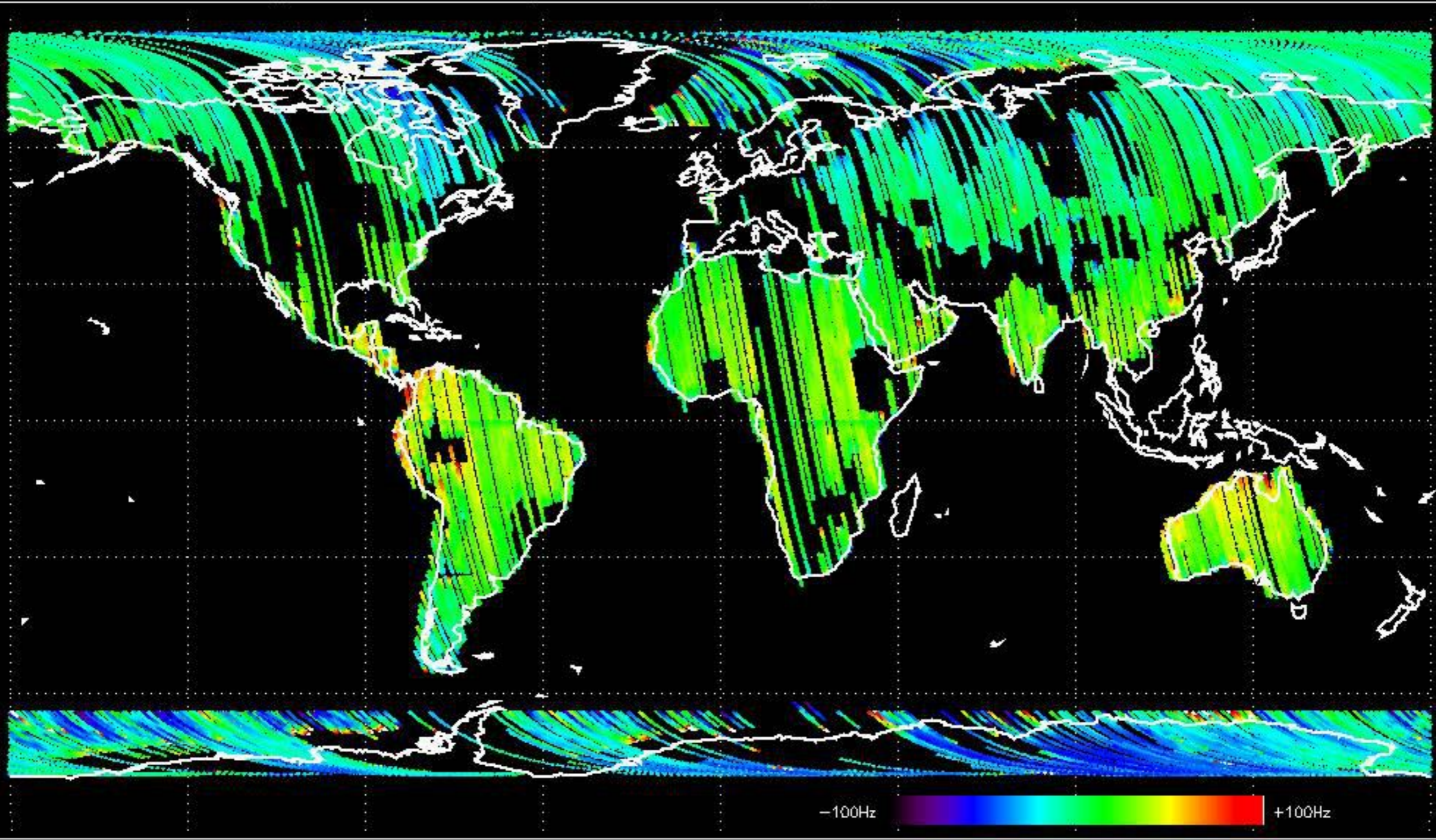


GM1 mode doppler

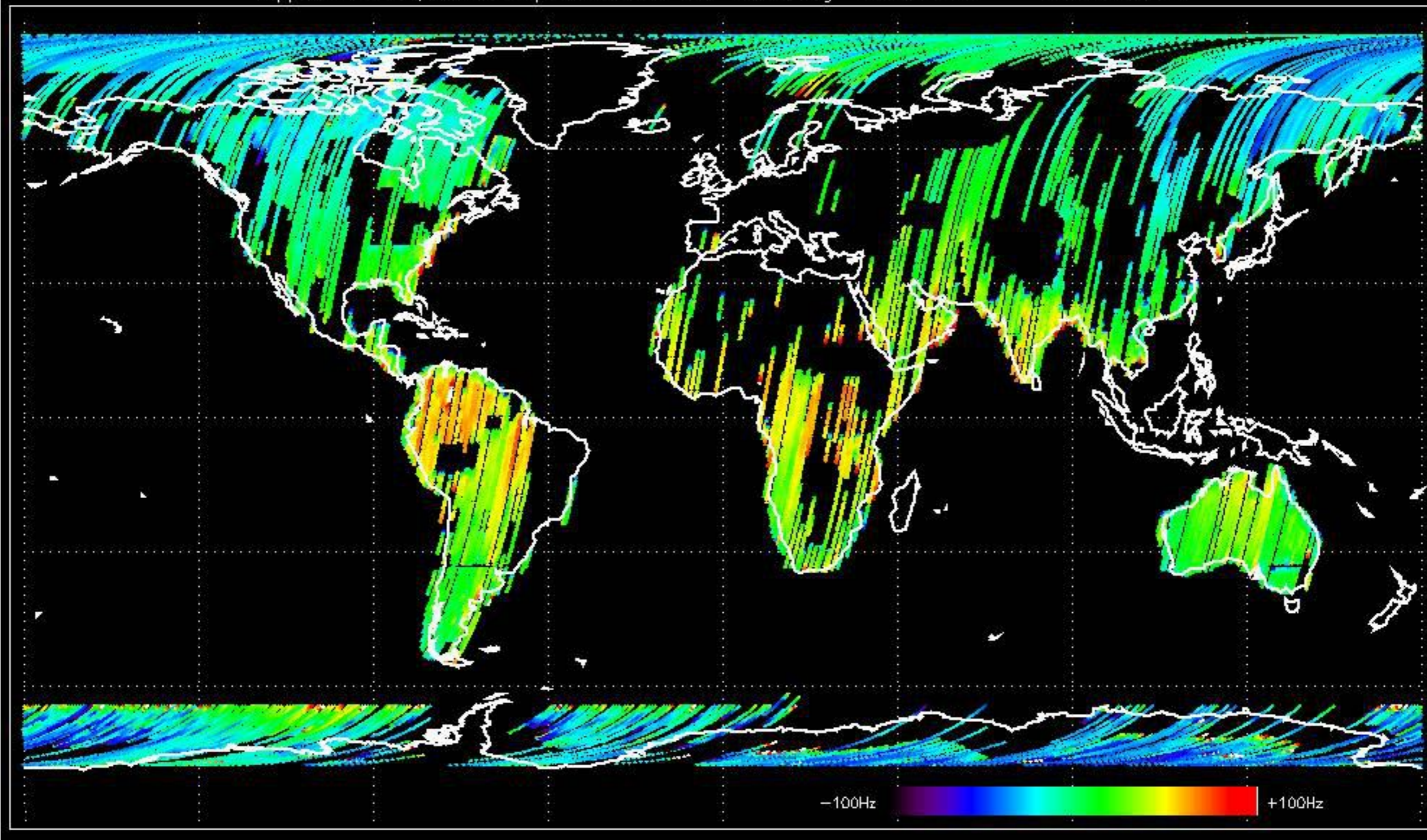




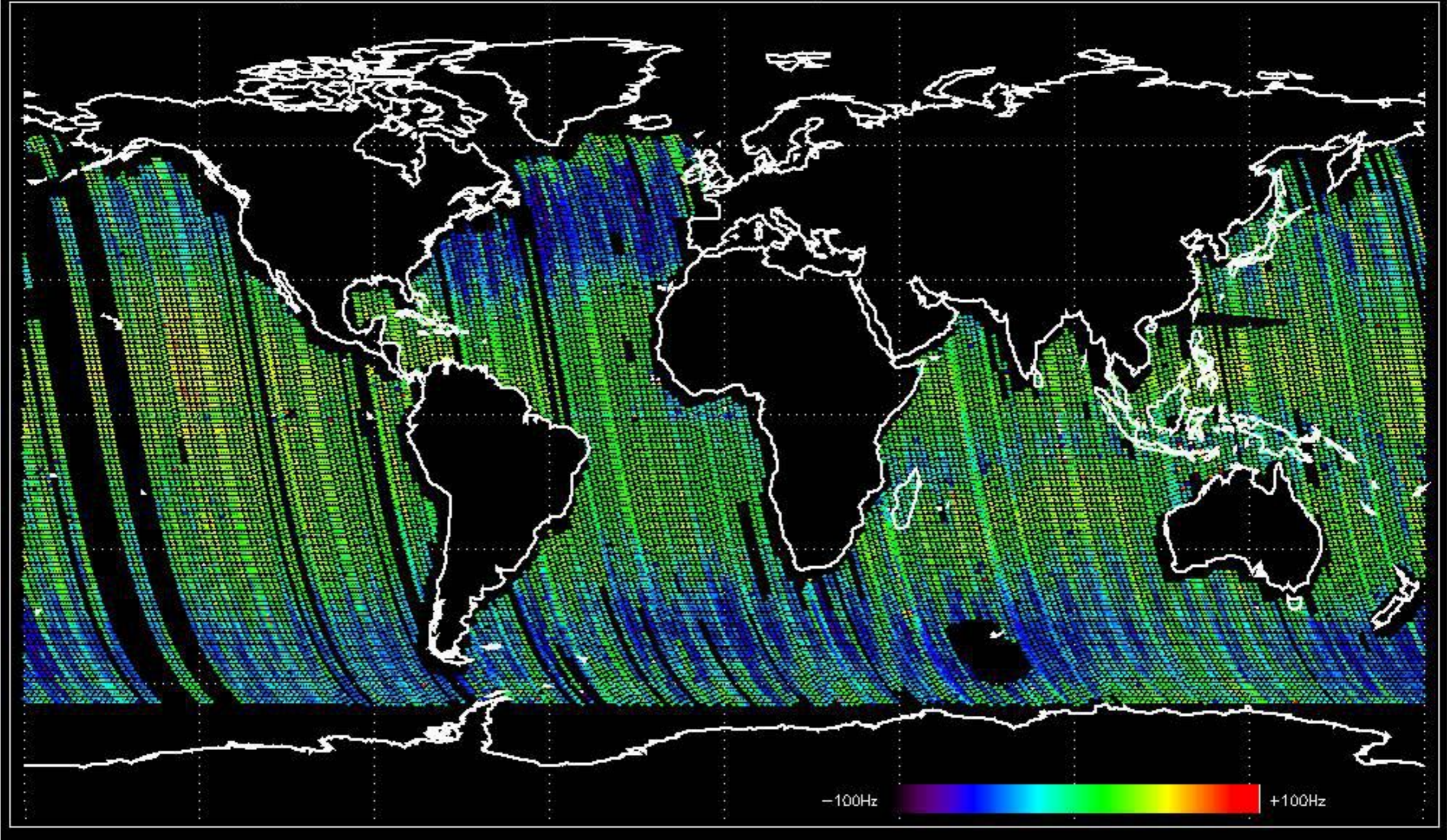
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -18.659825 Hz



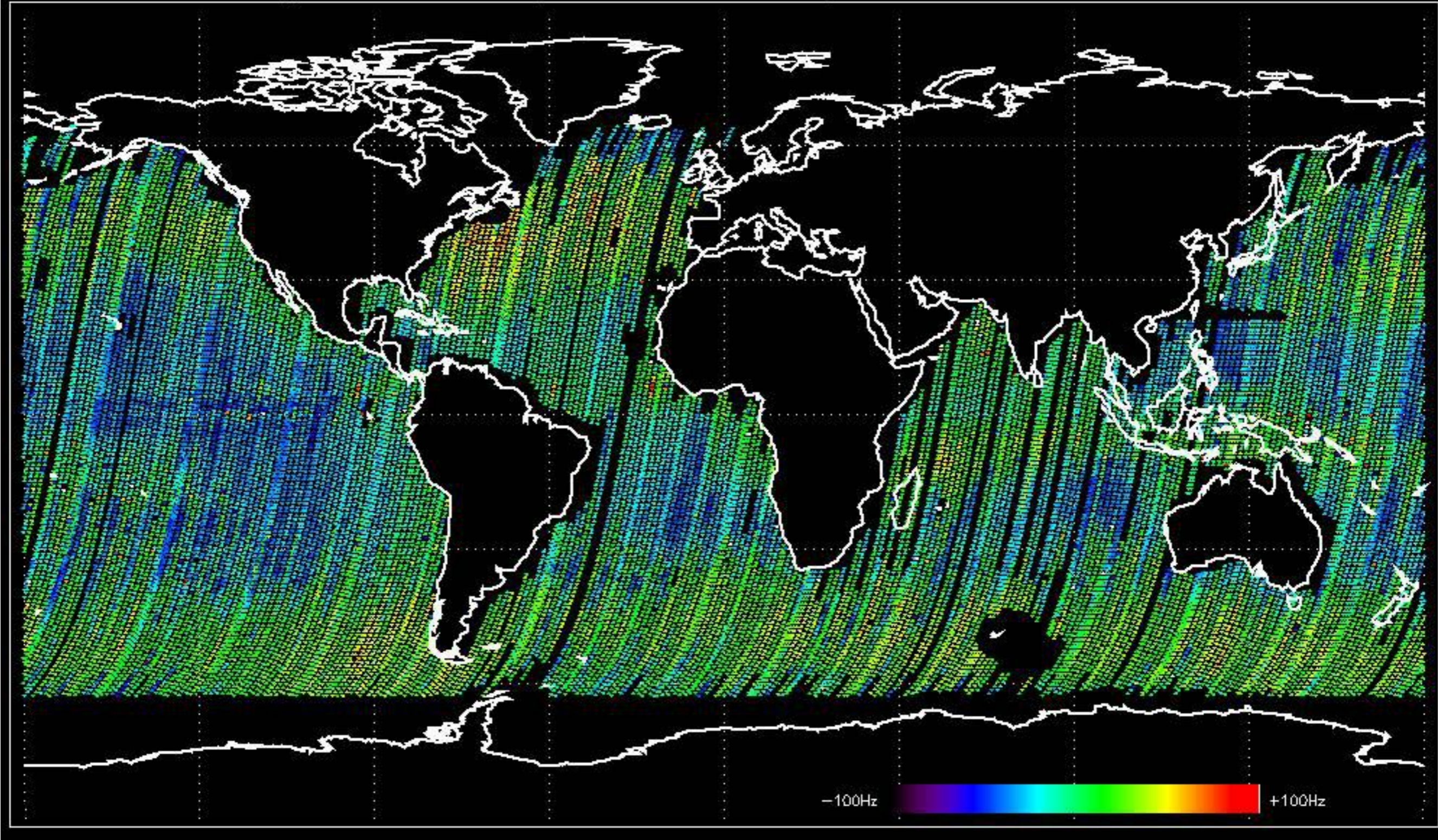
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -17.459722 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -15.589766 Hz



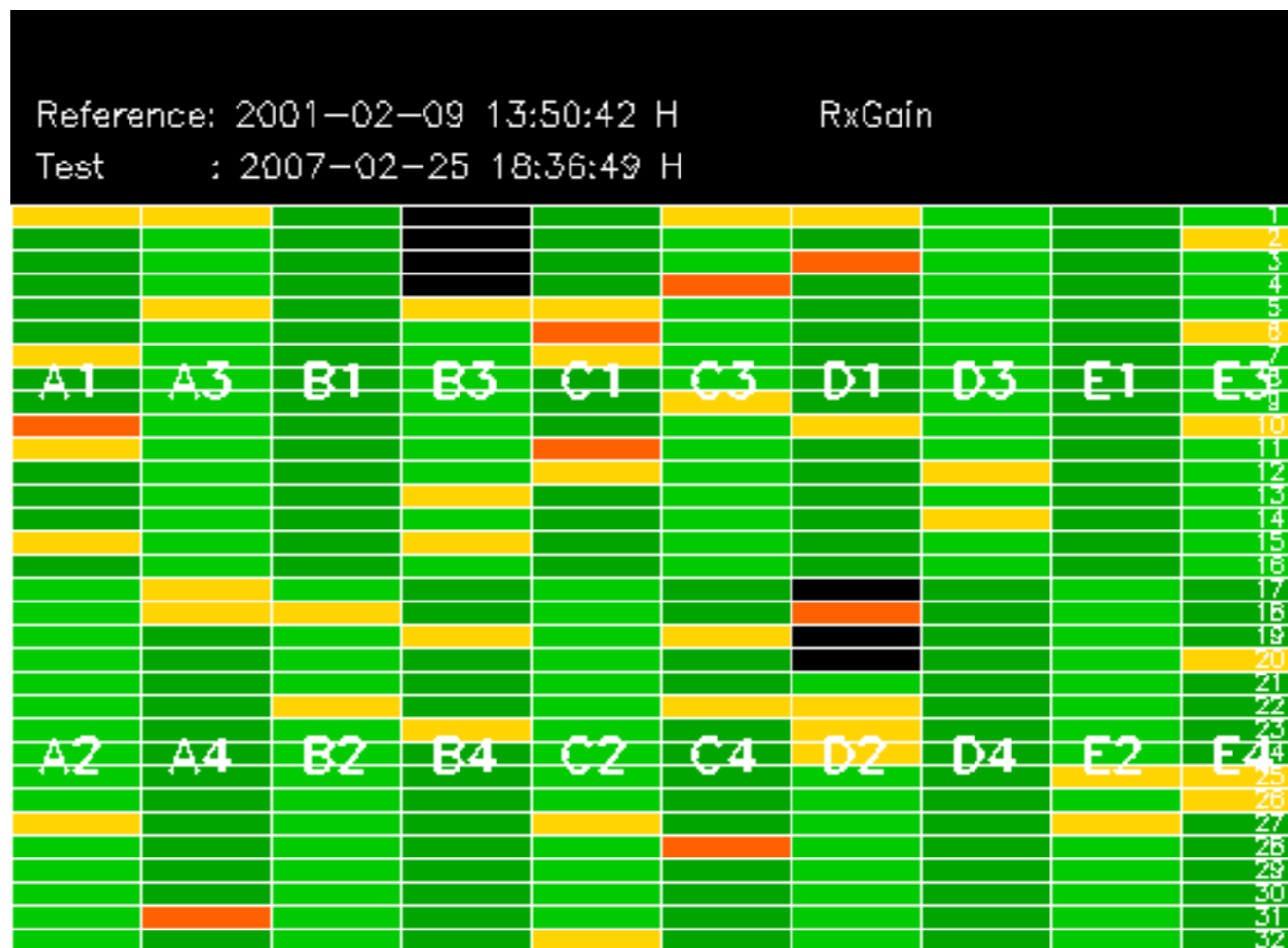
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -16.887708 Hz



No anomalies observed on available MS products:

No anomalies observed.

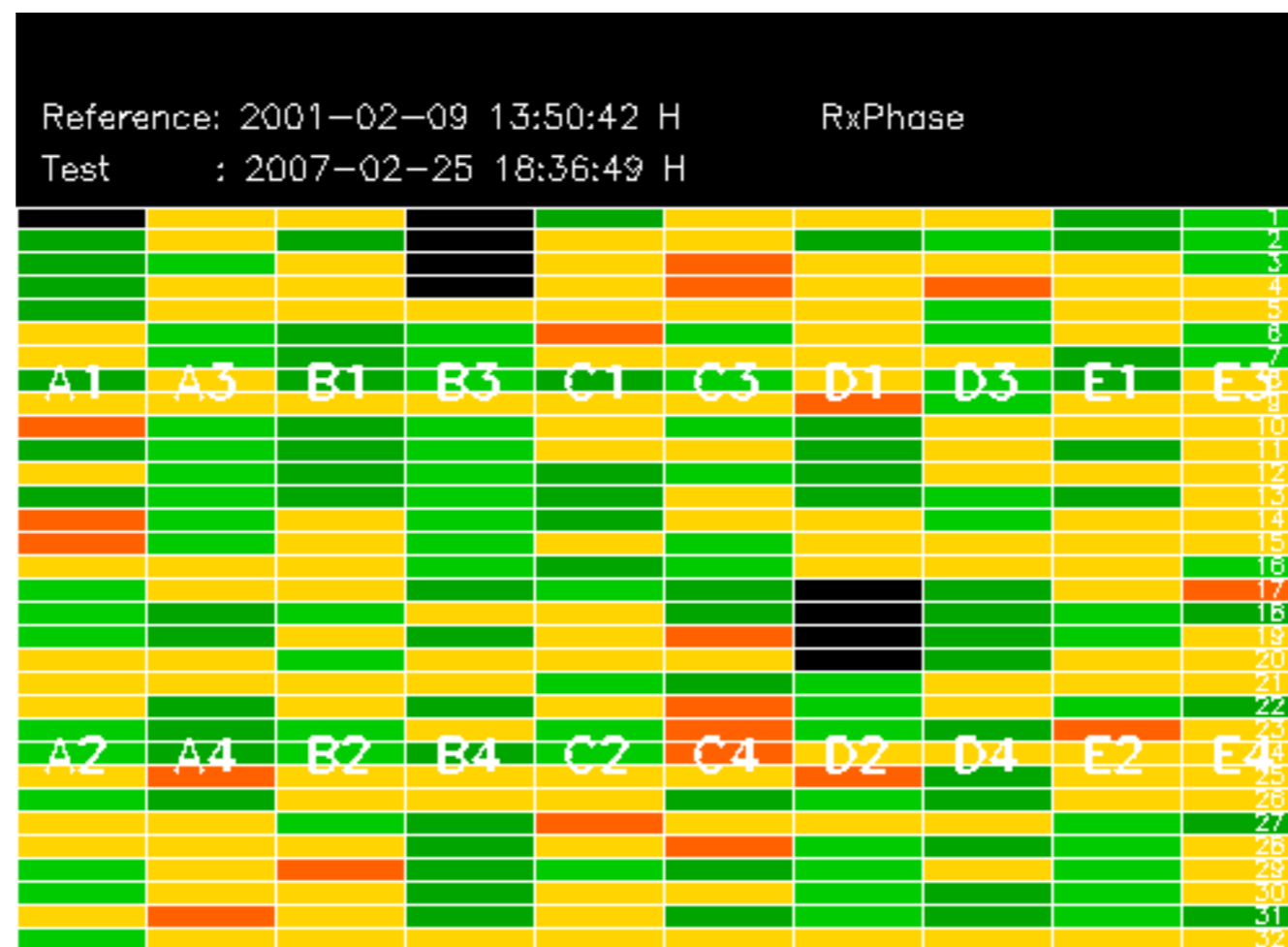


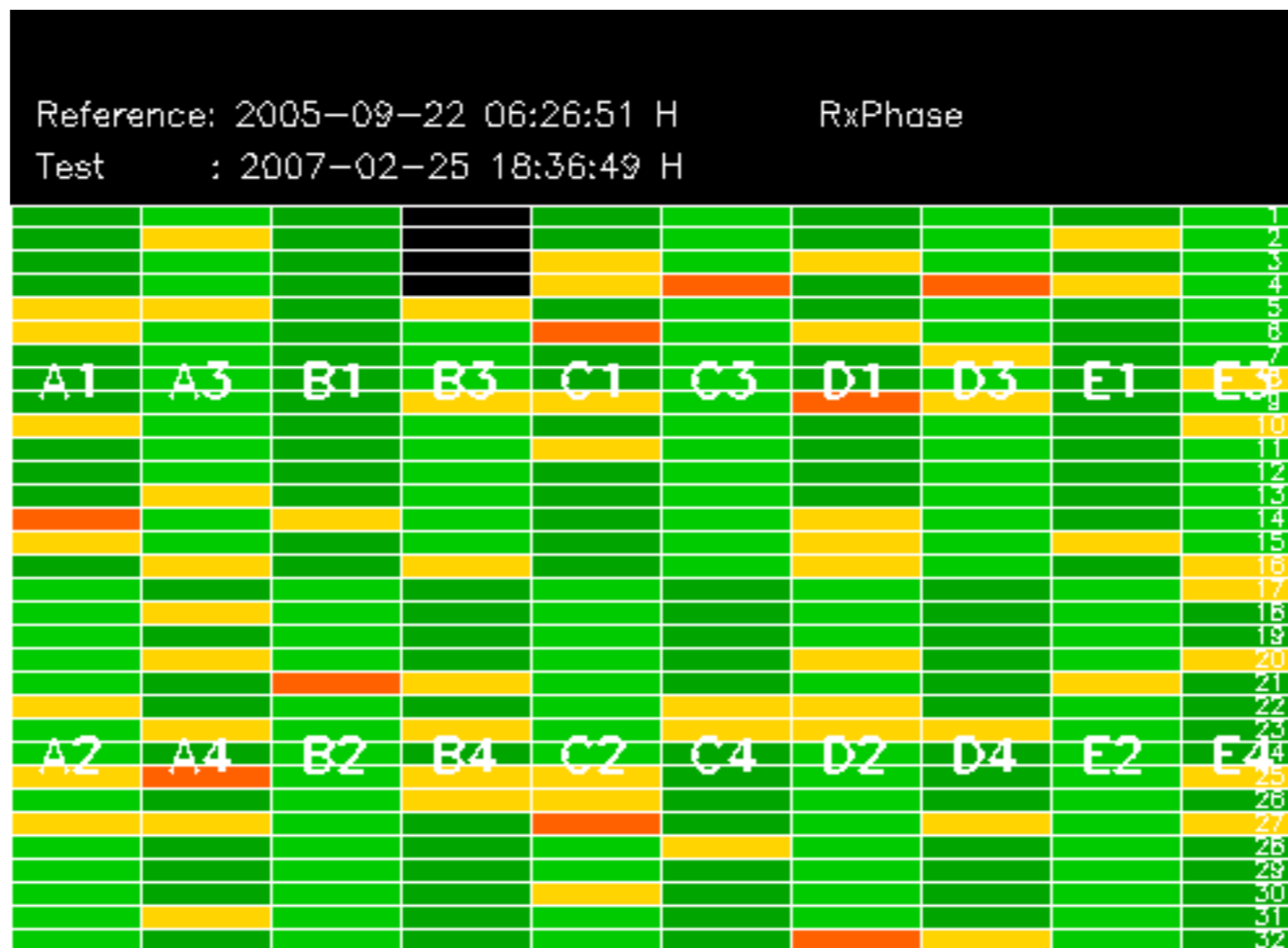








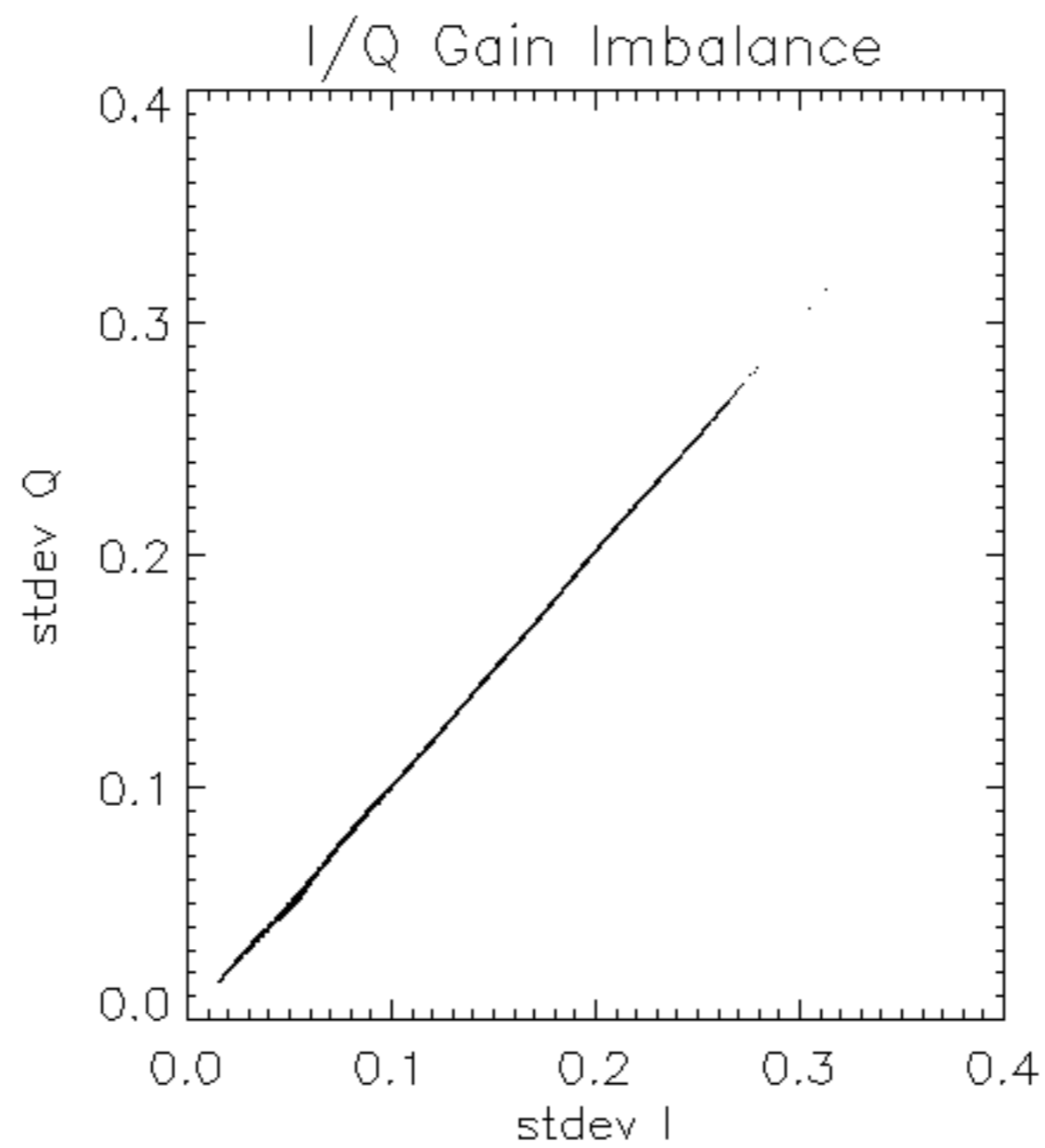


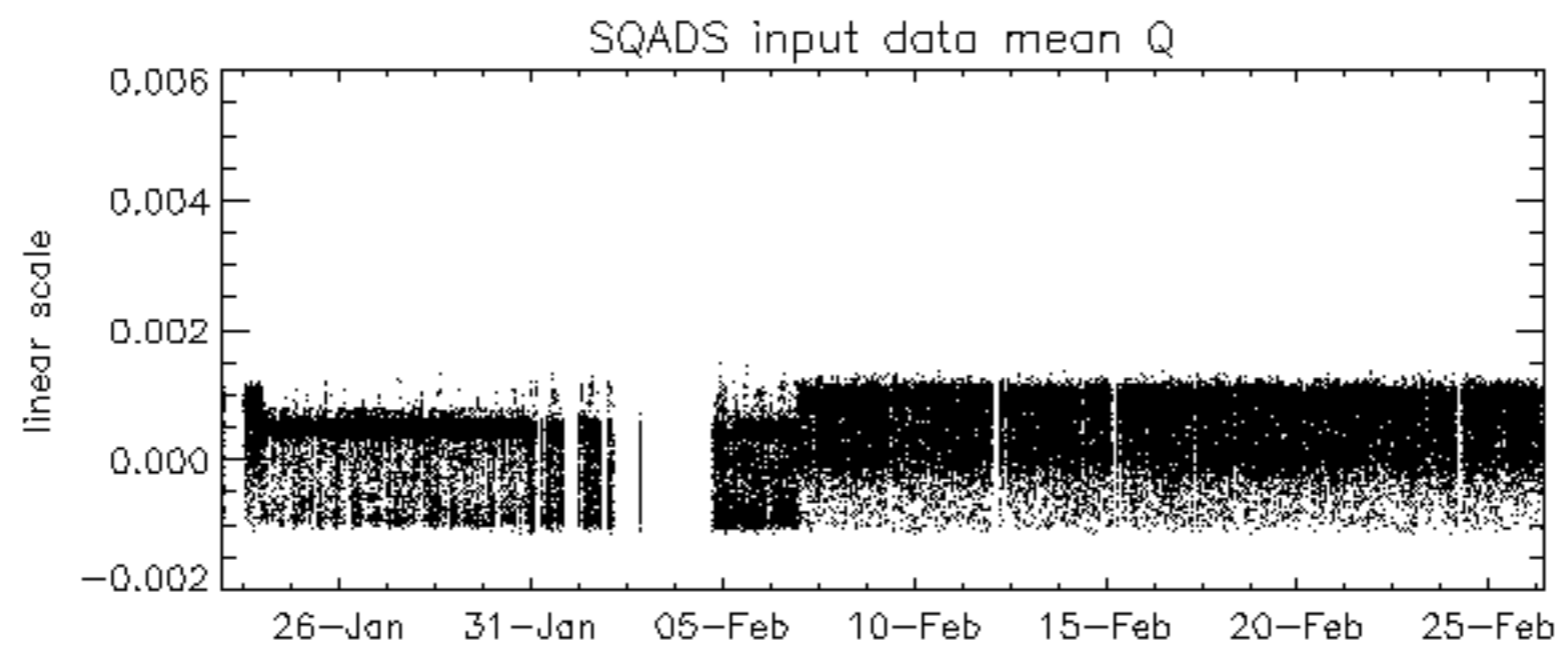
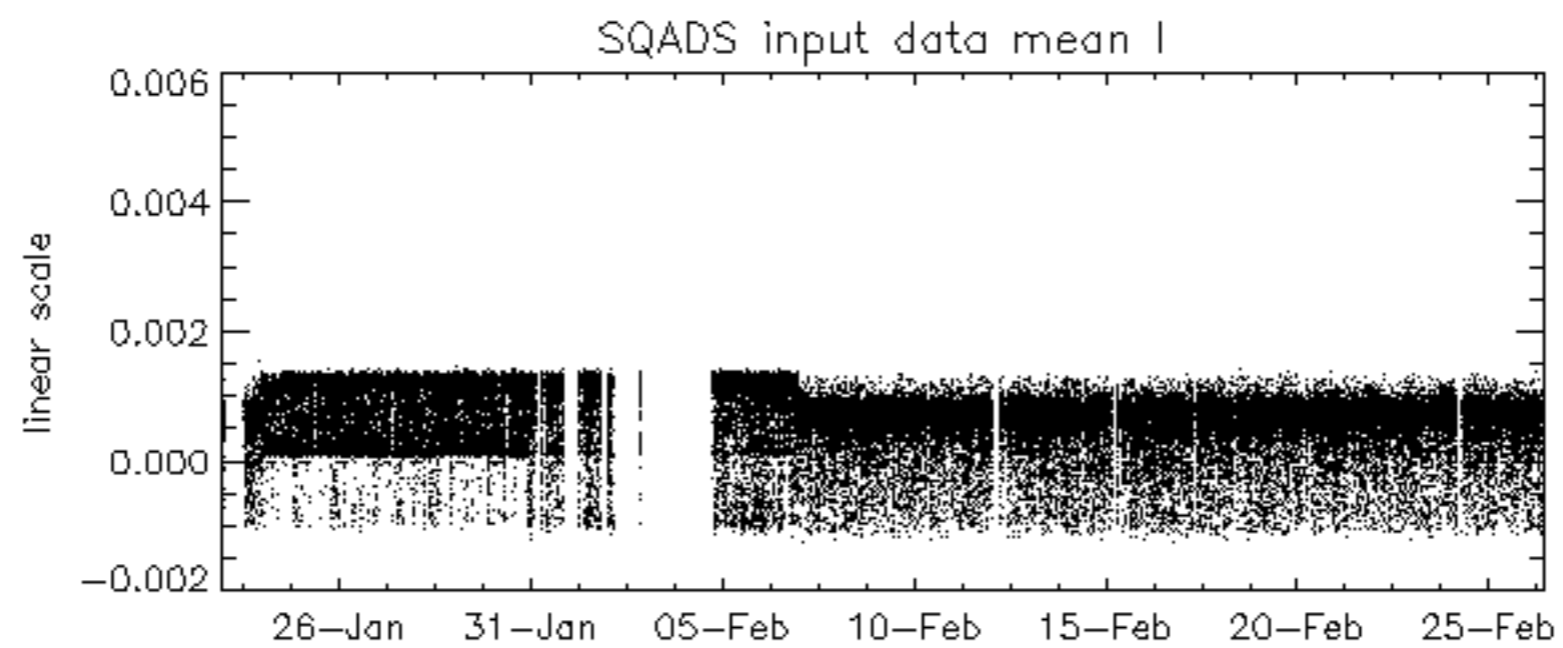
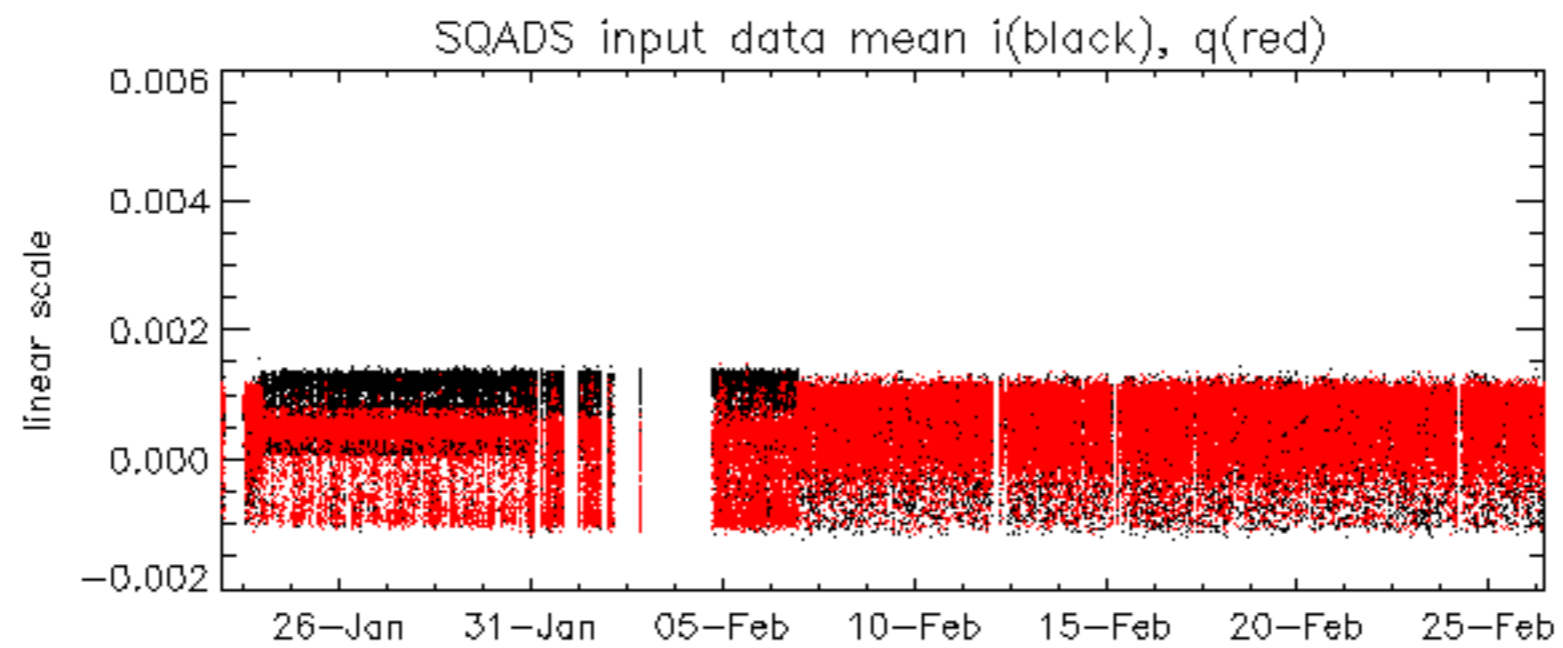


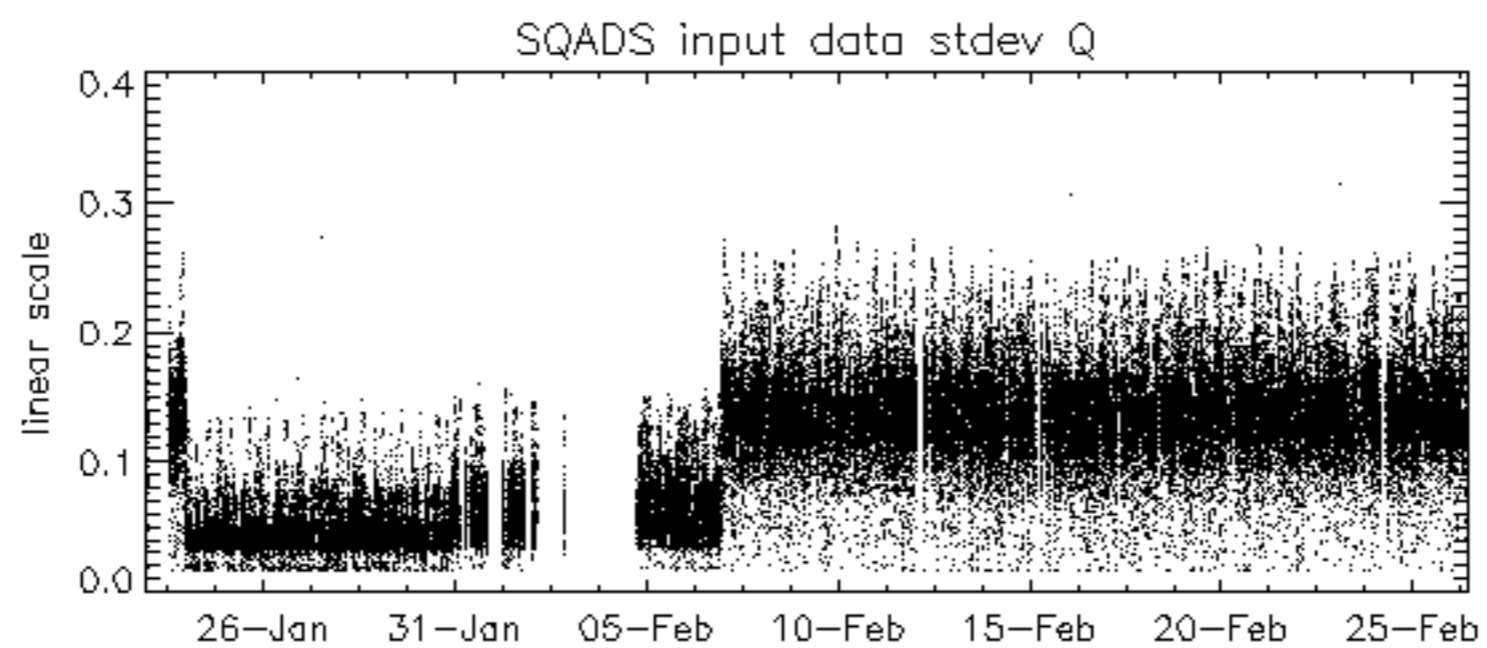
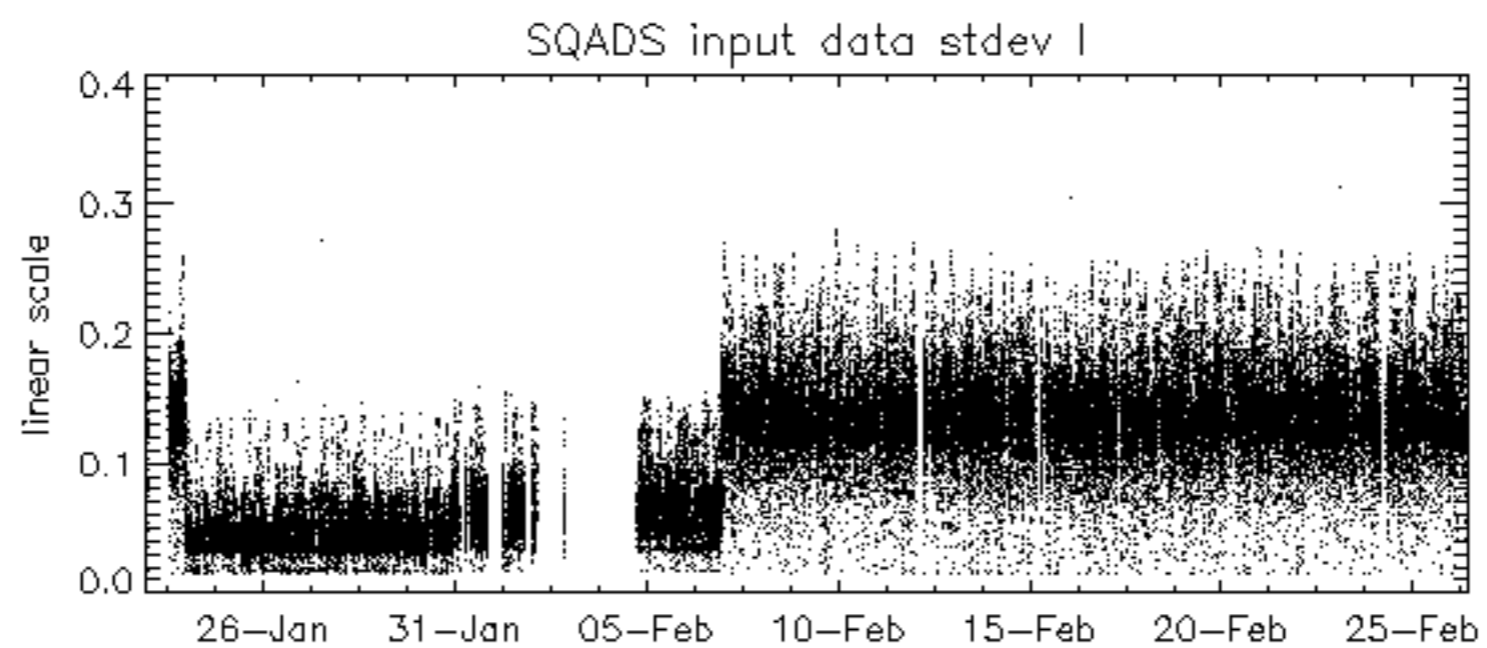
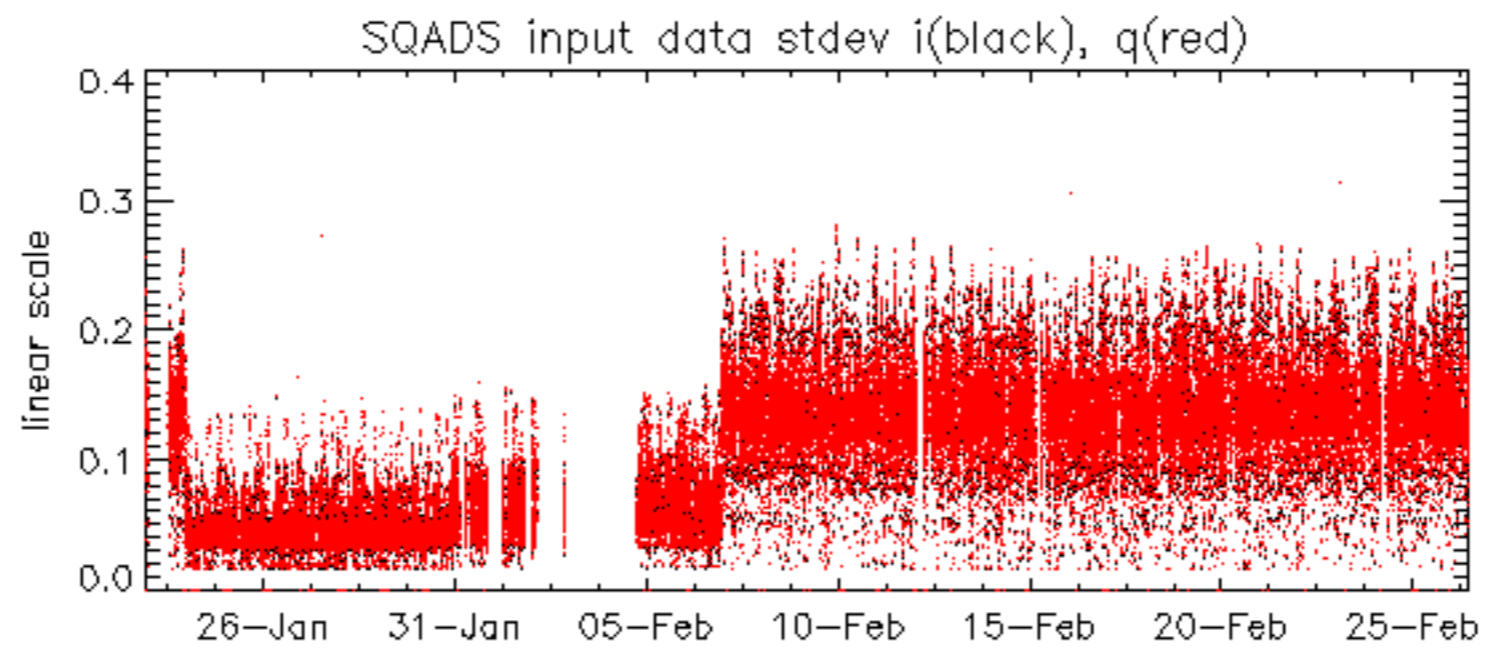


















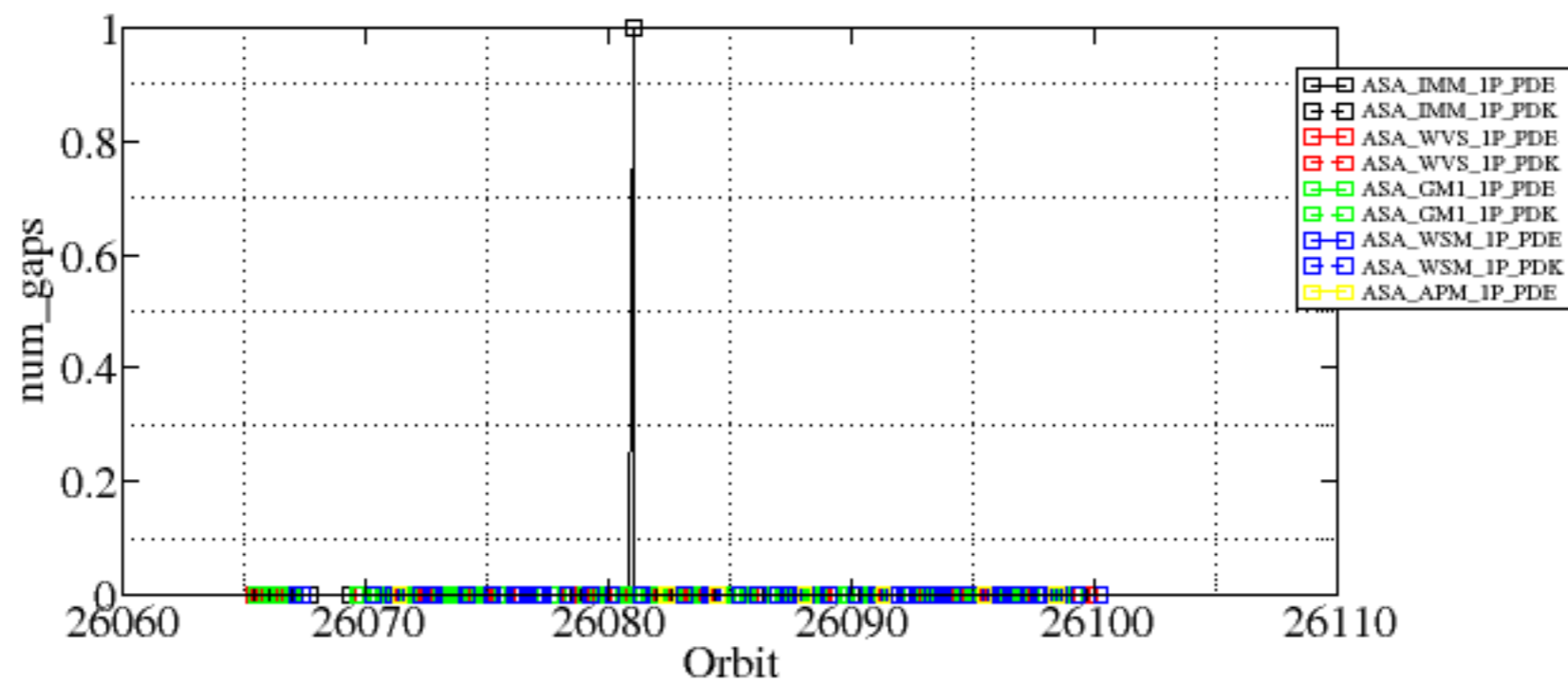


Summary of analysis for the last 3 days 2007022[456]

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_1PNPDE20070225_022551_00000212055_00476_26081_1575.N1	1	0
ASA_WVS_1PNPDK20070225_151346_00000152055_00483_26088_8098.N1	0	8
ASA_WVS_1PNPDK20070225_151416_000001352055_00483_26088_8120.N1	0	8
ASA_WSM_1PNPDE20070225_141210_000000852055_00483_26088_1631.N1	0	16
ASA_WSM_1PNPDK20070224_094429_000000852055_00466_26071_6572.N1	0	19







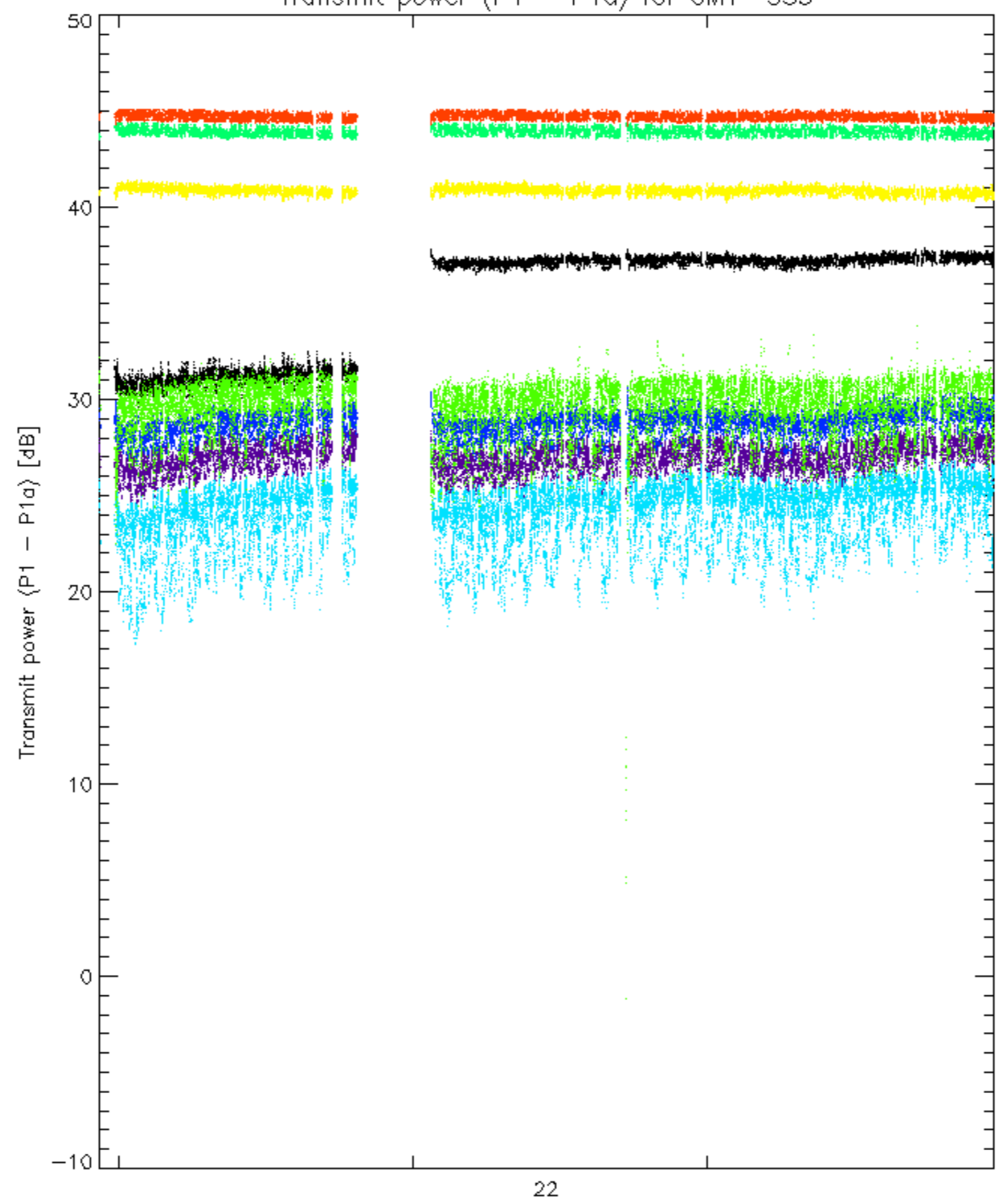




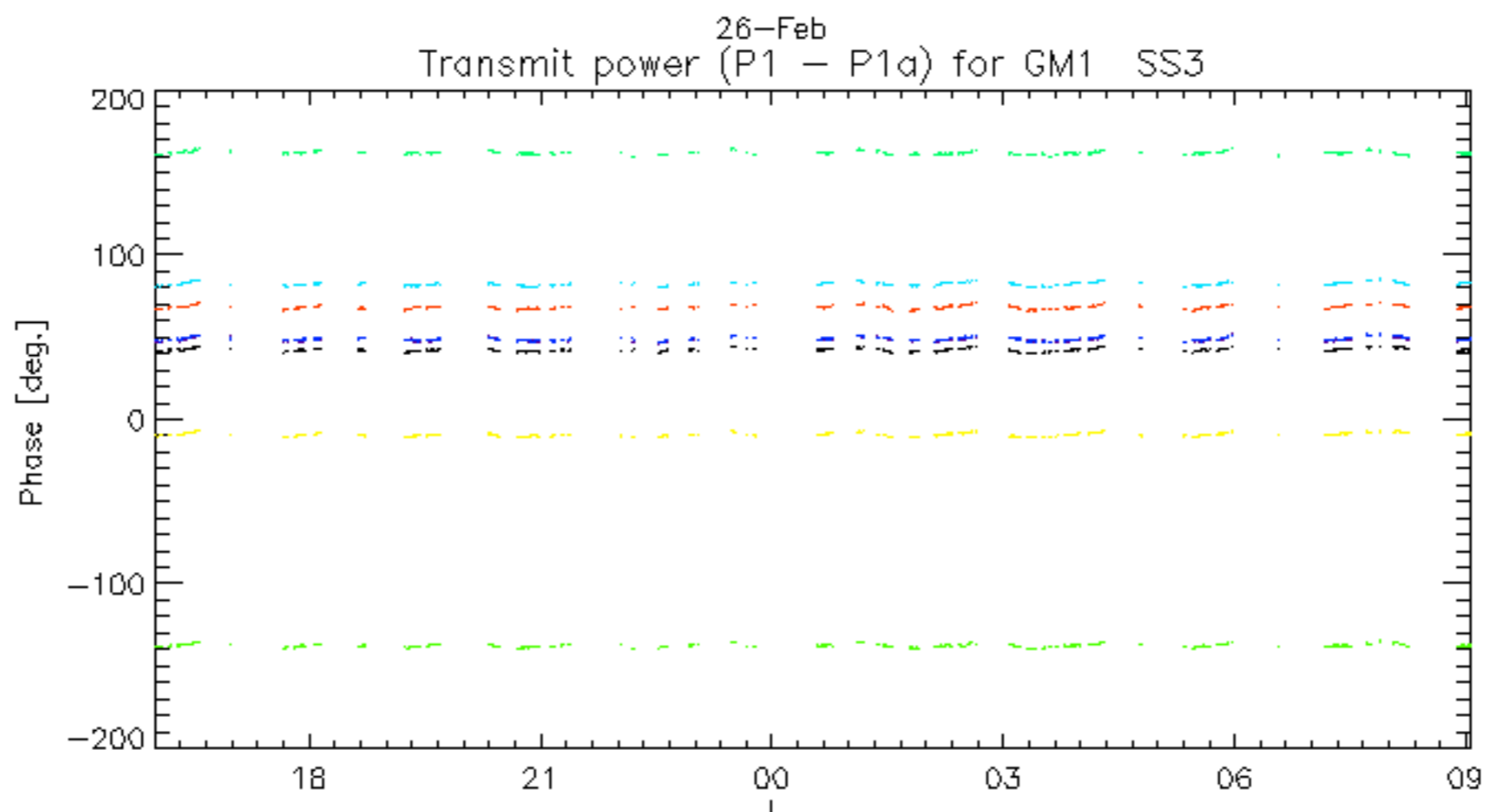
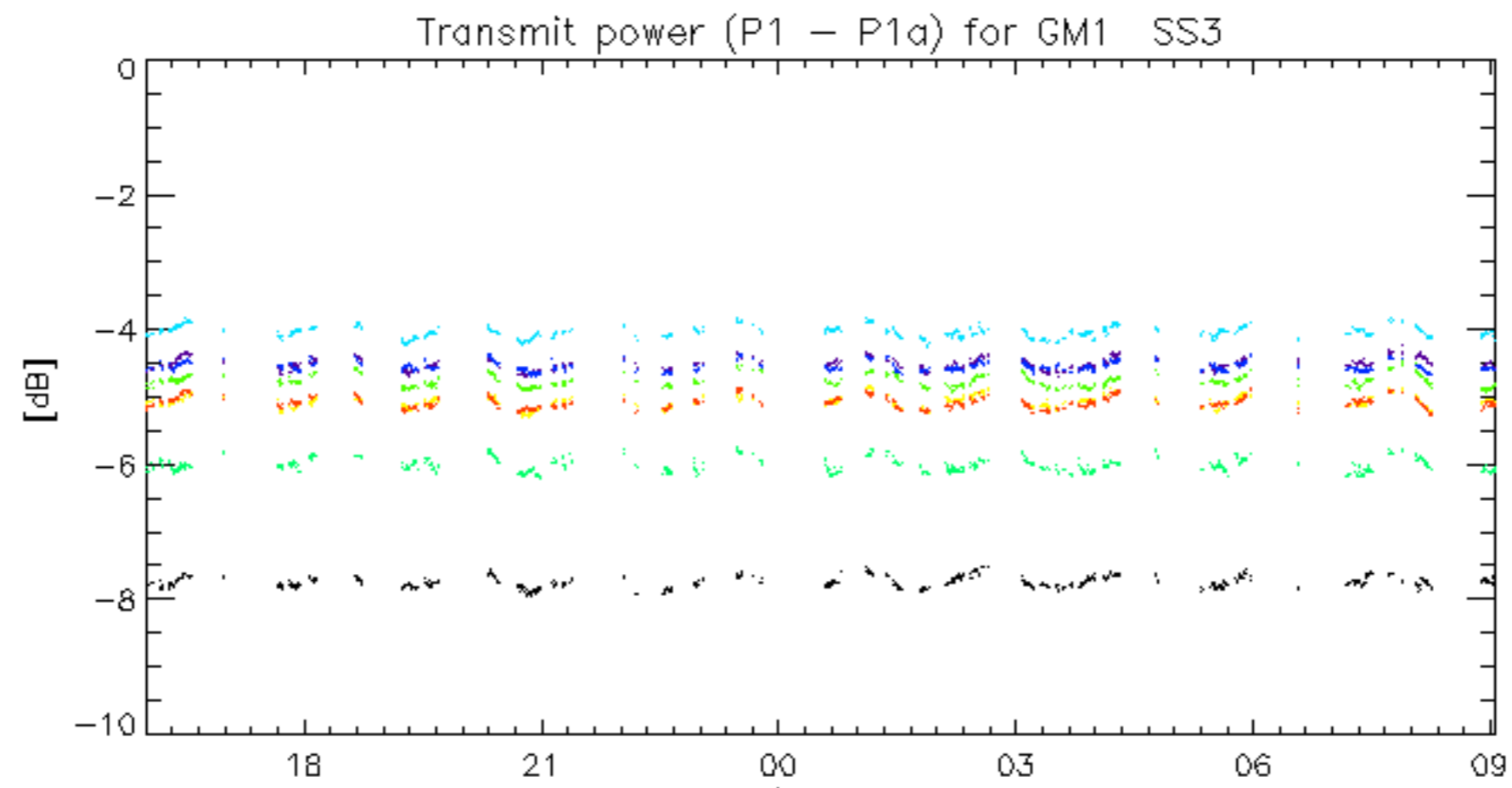




Transmit power (P1 - P1a) for GM1 SS3



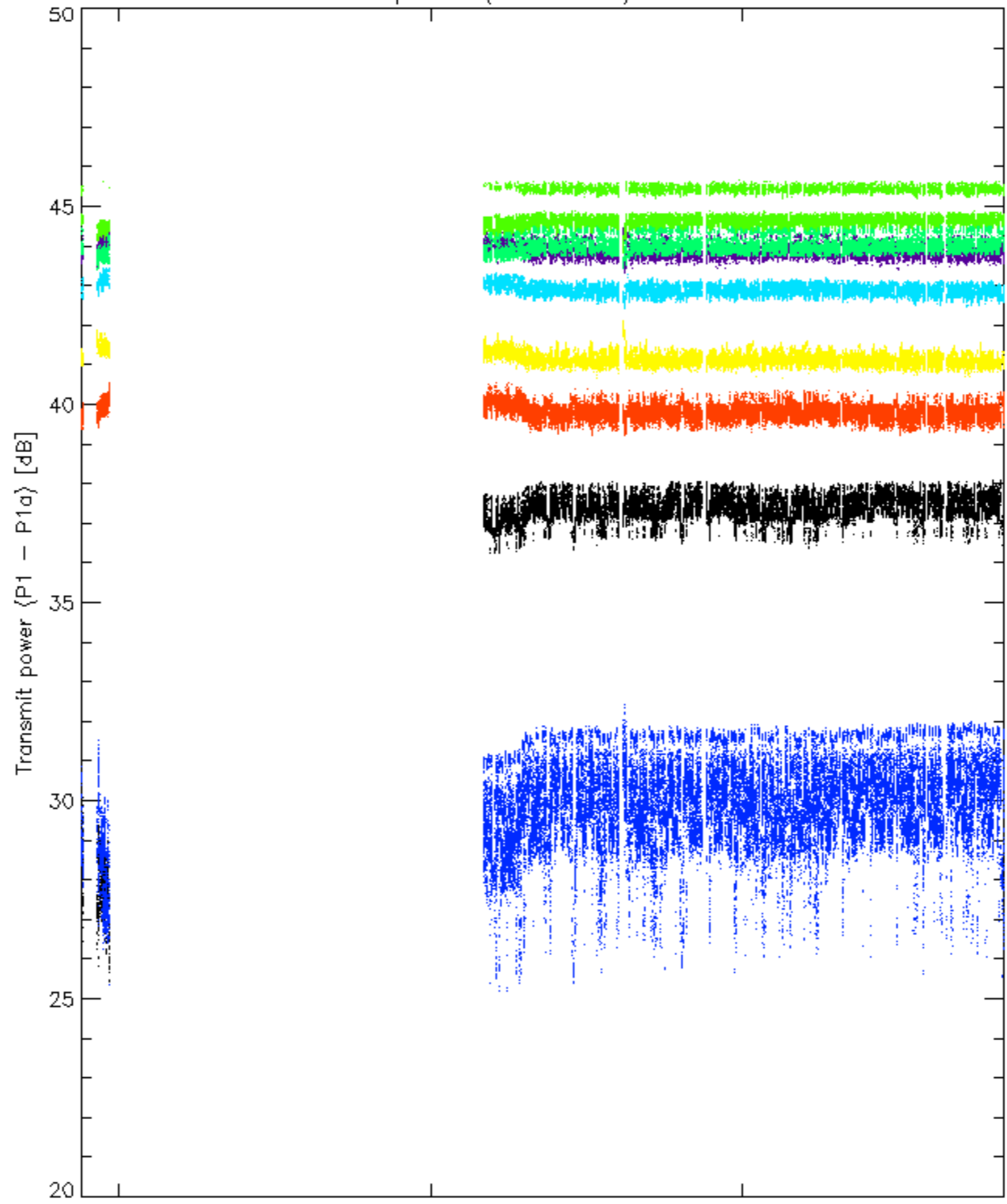
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



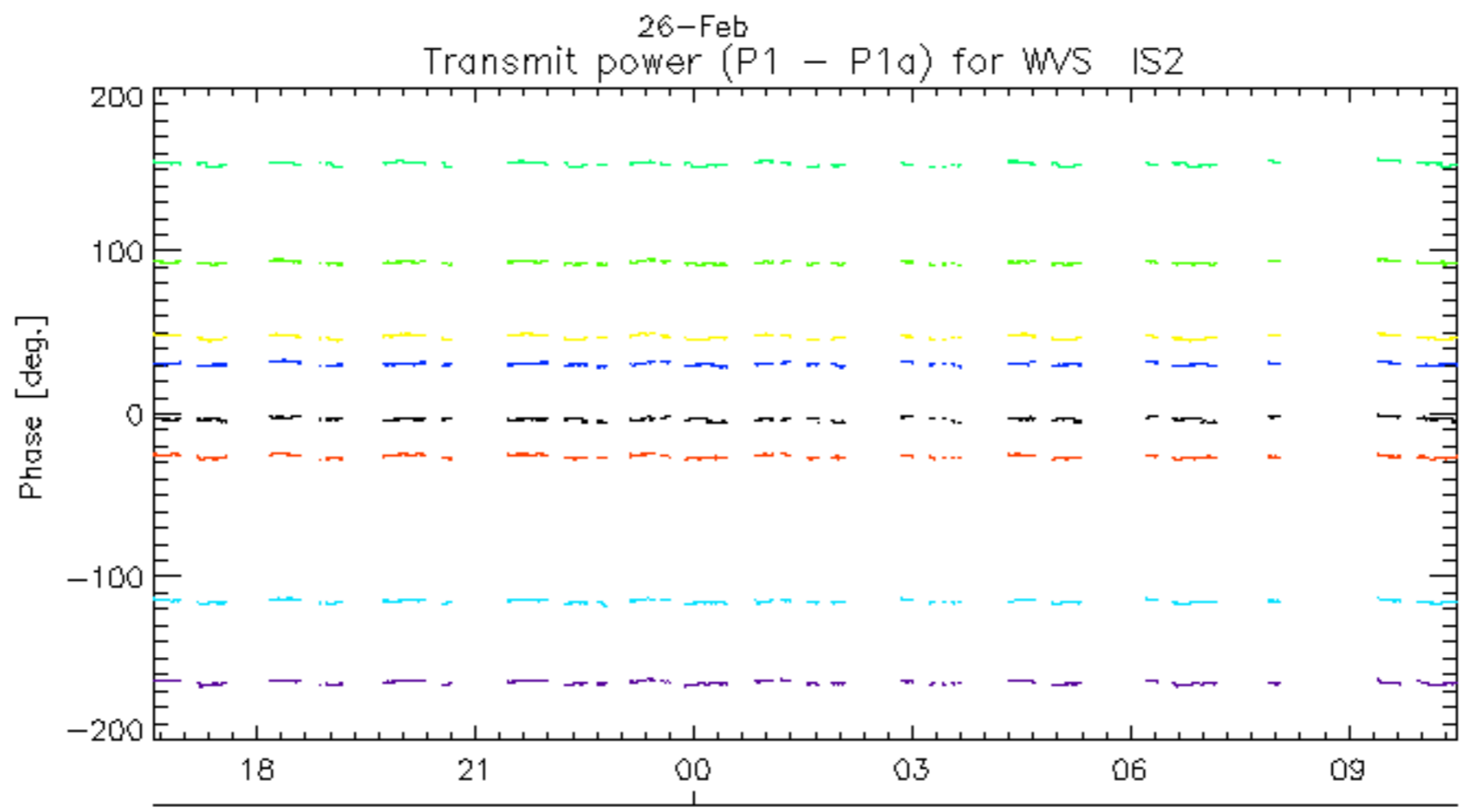
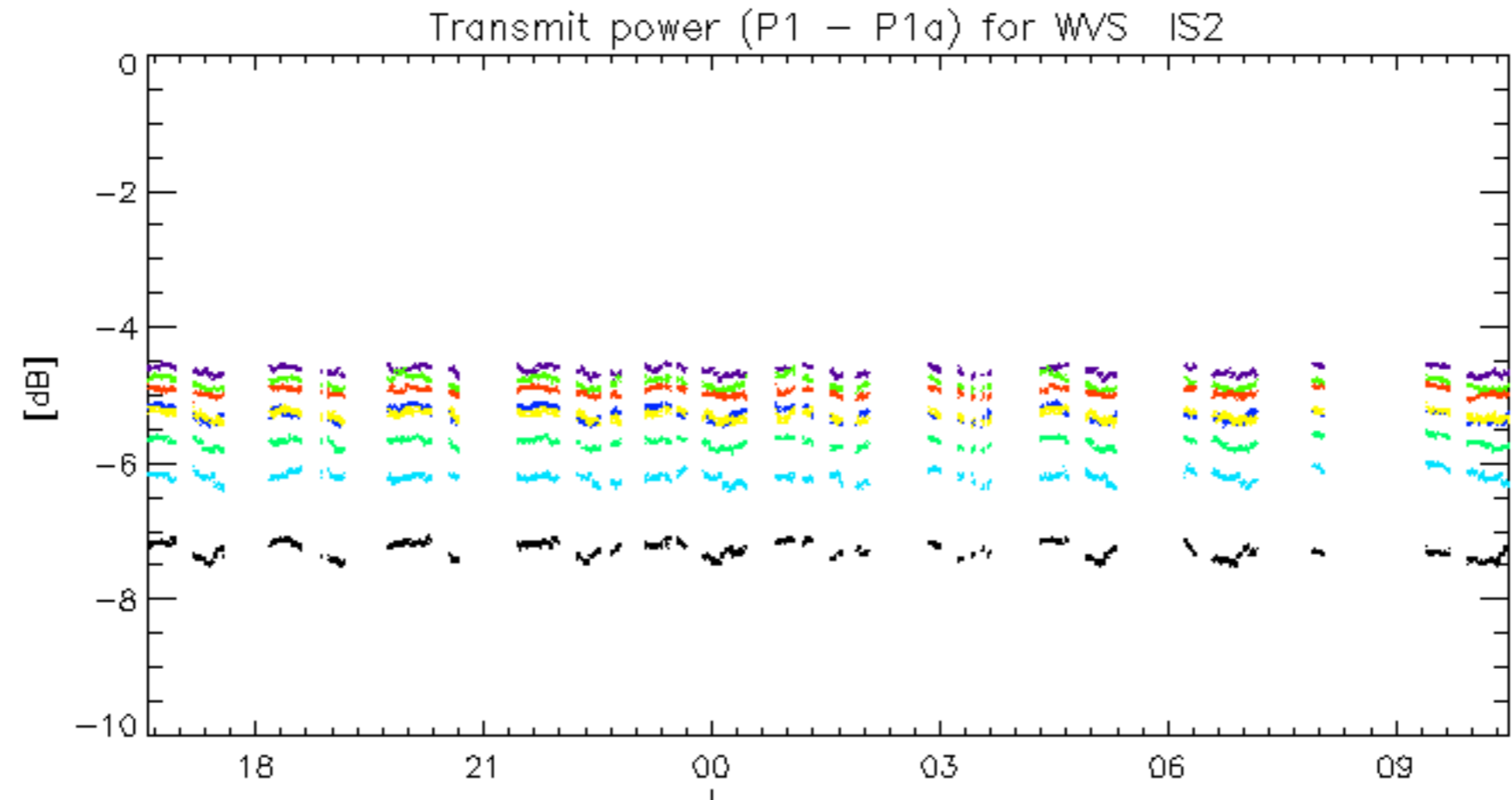
rows: **3** **7** **11** **15** **19** **22** **26** **30**



Transmit power (P1 - P1a) for WVS IS2



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



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

No unavailabilities during the reported period.