

# PRELIMINARY REPORT OF 050208

last update on Tue Feb 8 11:00:51 GMT 2005

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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 2005-02-07 00:00:00 to 2005-02-08 11:00:52

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	13	13	4	2	2
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	13	13	4	2	2
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	13	13	4	2	2
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	13	13	4	2	2

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	9	17	6	9	5
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	9	17	6	9	5
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	9	17	6	9	5
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	9	17	6	9	5

## 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	20050129 064404
H	20050130 061227

### 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)
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**P1 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.403457	0.008183	0.046351
7	P1	-3.079501	0.008026	0.007211
11	P1	-4.656378	0.019031	-0.047601
15	P1	-5.642211	0.034199	-0.023725
19	P1	-3.663816	0.004380	0.002060
22	P1	-4.559090	0.014627	0.031581
26	P1	-4.938618	0.012743	-0.002126
30	P1	-7.143940	0.016334	-0.037106
3	P1	-15.903626	0.102357	0.022912
7	P1	-15.508857	0.070208	-0.040555
11	P1	-20.854408	0.236903	-0.156718
15	P1	-11.604707	0.062498	0.083302
19	P1	-14.177815	0.024582	-0.006734
22	P1	-15.914657	0.386165	0.258730
26	P1	-17.624369	0.218525	0.139016
30	P1	-17.914028	0.344072	-0.051757

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.233969	0.086653	0.173499
7	P2	-22.423605	0.112402	0.174125
11	P2	-14.653891	0.104575	0.207773
15	P2	-7.106222	0.098490	0.074389
19	P2	-9.692065	0.097765	0.069184
22	P2	-17.038643	0.095150	0.148023
26	P2	-16.488848	0.095286	0.069119
30	P2	-18.910921	0.081070	0.045191

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.186440	0.006144	0.037733
7	P3	-8.186440	0.006144	0.037733
11	P3	-8.186440	0.006144	0.037733
15	P3	-8.186440	0.006144	0.037733
19	P3	-8.186440	0.006144	0.037733
22	P3	-8.186440	0.006144	0.037733
26	P3	-8.186410	0.006148	0.037794
30	P3	-8.186410	0.006148	0.037794

#### 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	-2.798560	0.019490	0.069900
7	P1	-2.962684	0.077110	-0.049837
11	P1	-3.955419	0.030620	-0.025255
15	P1	-3.528050	0.028912	-0.036750
19	P1	-3.600038	0.013662	0.018725
22	P1	-5.681996	0.063361	-0.073772
26	P1	-6.999175	0.180361	-1.202076
30	P1	-6.286223	0.043492	0.073749
3	P1	-10.767413	0.092548	0.036743
7	P1	-10.151911	0.191485	-0.085938
11	P1	-12.544730	0.129220	-0.025905
15	P1	-11.764480	0.079993	-0.002823
19	P1	-15.594648	0.054078	0.077266
22	P1	-24.082359	1.637128	-0.196945
26	P1	-15.285536	0.446987	-1.171542
30	P1	-19.992678	0.827626	-0.077064

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.937403	0.048390	0.141958
7	P2	-22.474068	0.132902	0.163518
11	P2	-10.455196	0.052197	0.246523
15	P2	-5.018256	0.021790	0.060709
19	P2	-6.899290	0.032985	0.098539
22	P2	-7.212656	0.050850	0.118996
26	P2	-23.903124	0.098780	0.096908
30	P2	-21.957281	0.058041	0.049910

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.021196	0.002491	0.040331
7	P3	-8.021240	0.002499	0.040331
11	P3	-8.021297	0.002500	0.040754
15	P3	-8.021180	0.002494	0.040865
19	P3	-8.021285	0.002510	0.040665
22	P3	-8.021215	0.002491	0.040472
26	P3	-8.021178	0.002506	0.040540
30	P3	-8.021291	0.002497	0.040470

## 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	0.000472601
	stdev	2.15174e-07
MEAN Q	mean	0.000545495
	stdev	2.29196e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129191
	stdev	0.000966499
STDEV Q	mean	0.129429
	stdev	0.000977794



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005020[678]

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_1PNPDE20050207_004753_000002122034_00288_15372_1924.N1	1	0
ASA_GM1_1PNPDE20050207_194032_000004832034_00300_15384_8573.N1	0	7
ASA_GM1_1PNPDE20050207_212423_000001082034_00301_15385_8587.N1	5	22





## 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)


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Ascending


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Descending

### 7.2 - Absolute Doppler for WVS

#### Evolution of Absolute Doppler


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Ascending


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Descending

### 7.3 - Doppler evolution versus ANX for WVS

#### Evolution Doppler error versus ANX


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### 7.4 - Unbiased Doppler Error for GM1

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


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Ascending


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Descending

### 7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

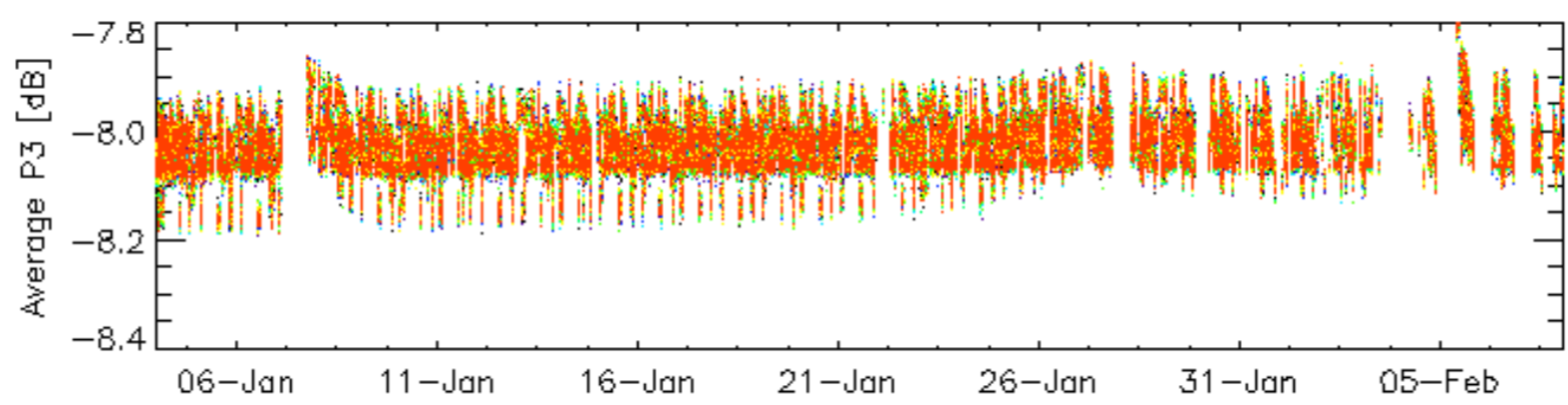
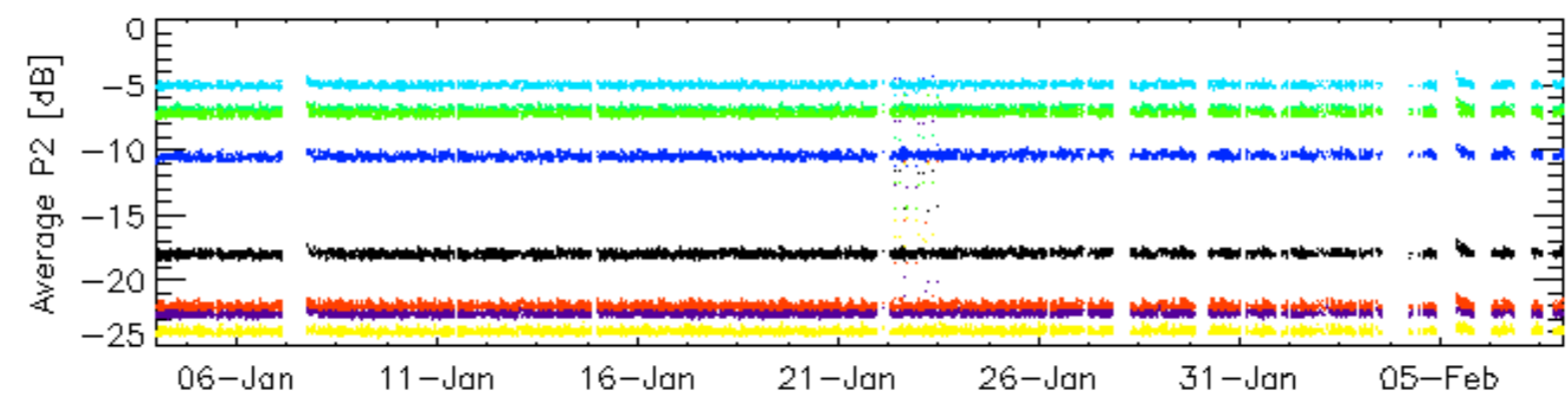
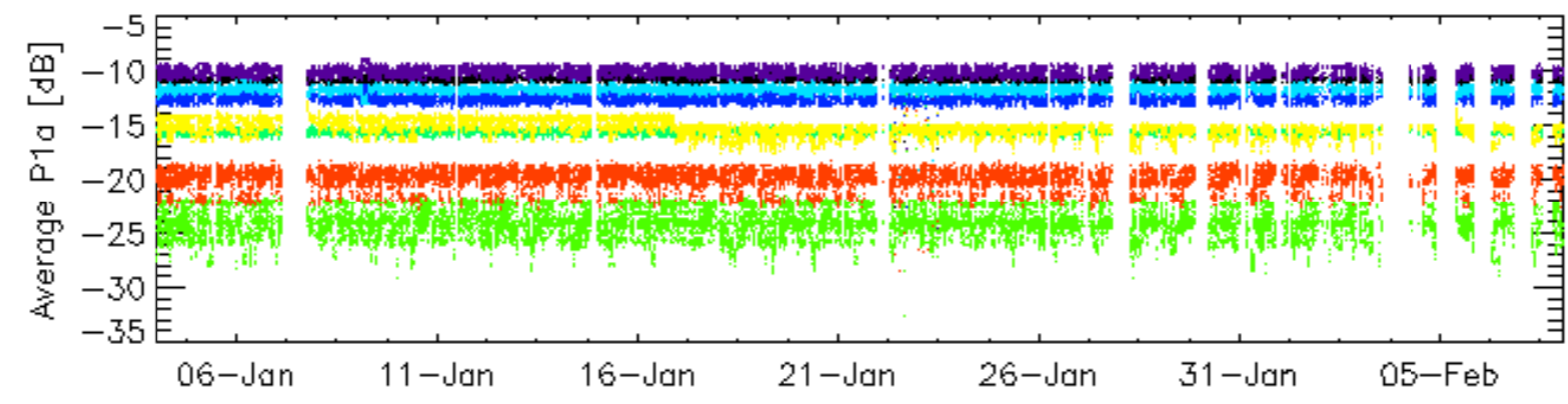
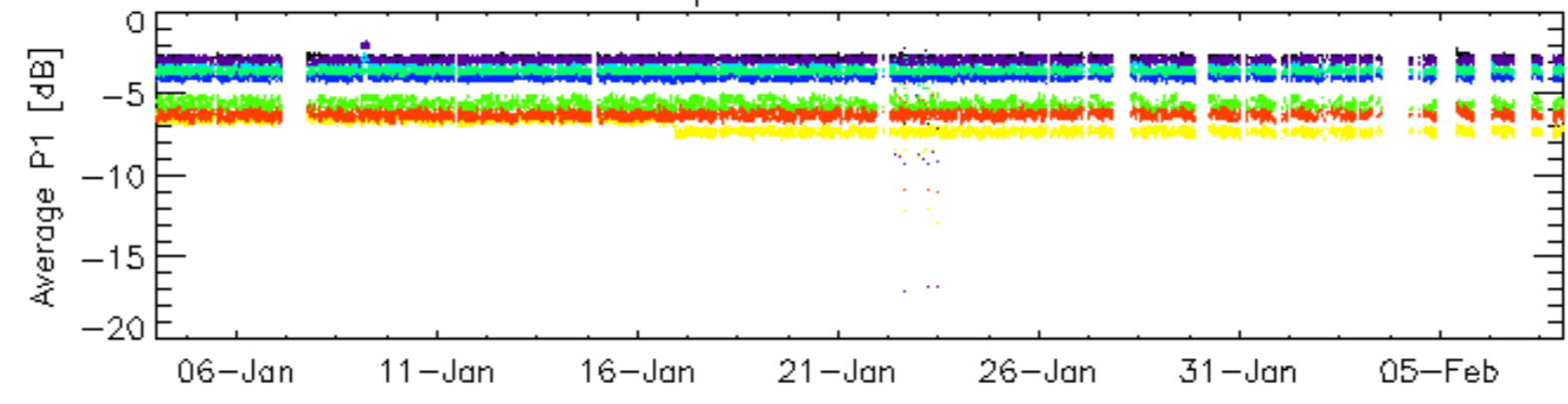
Ascending

Descending

### 7.6 - Doppler evolution versus ANX for GM1

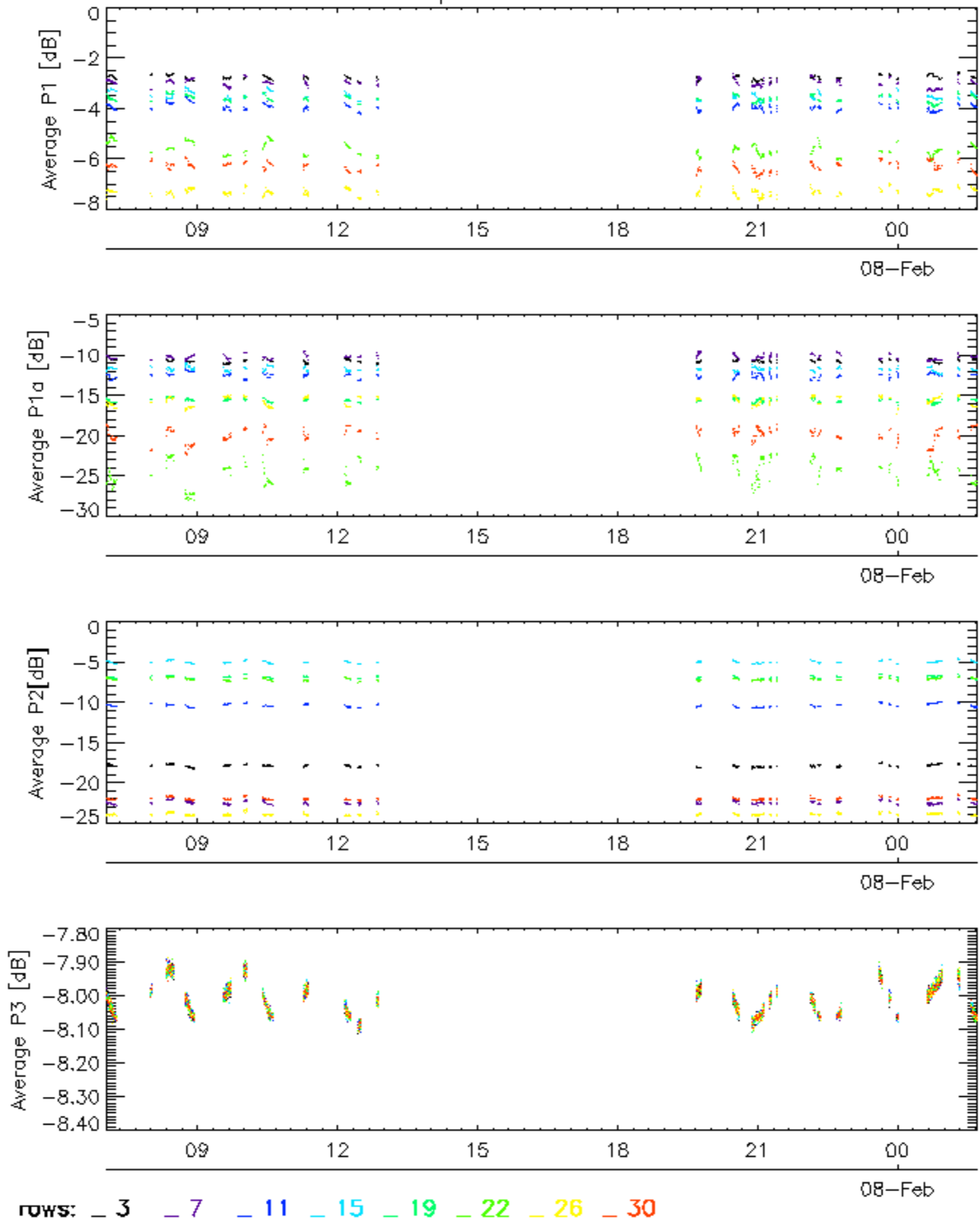
Evolution Doppler error versus ANX

### Cal pulses for GM1 SS3

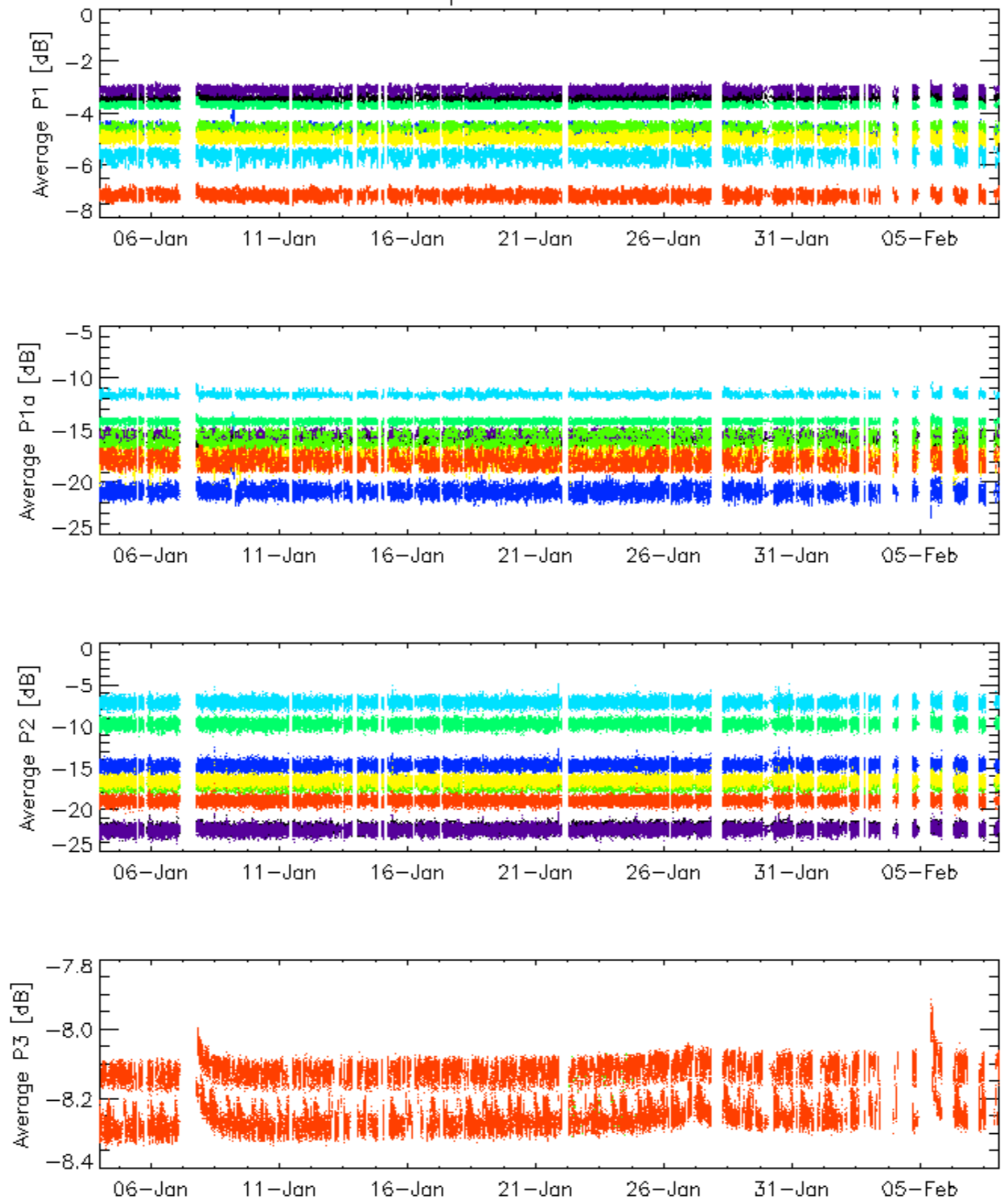


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

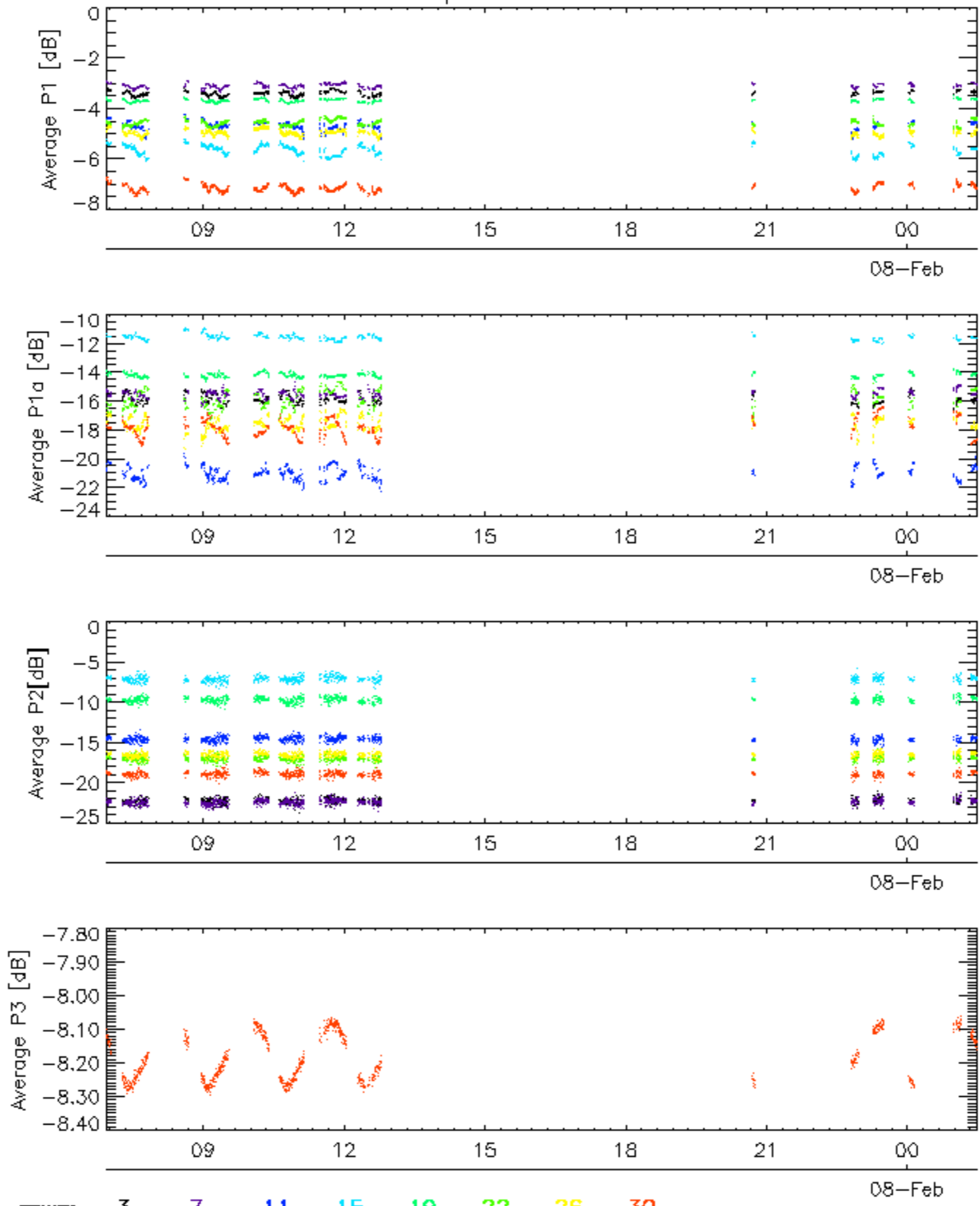


Cal pulses for WVS IS2



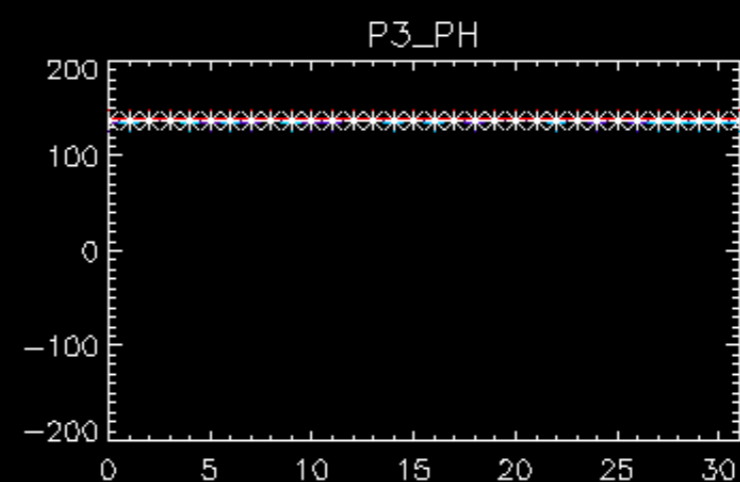
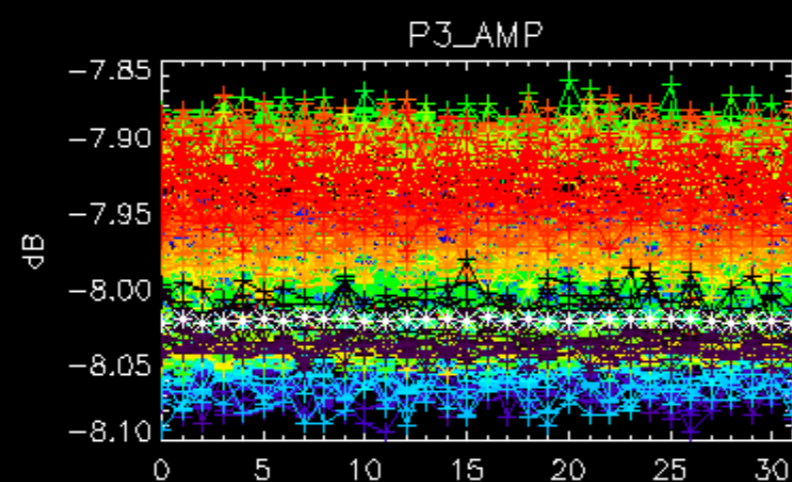
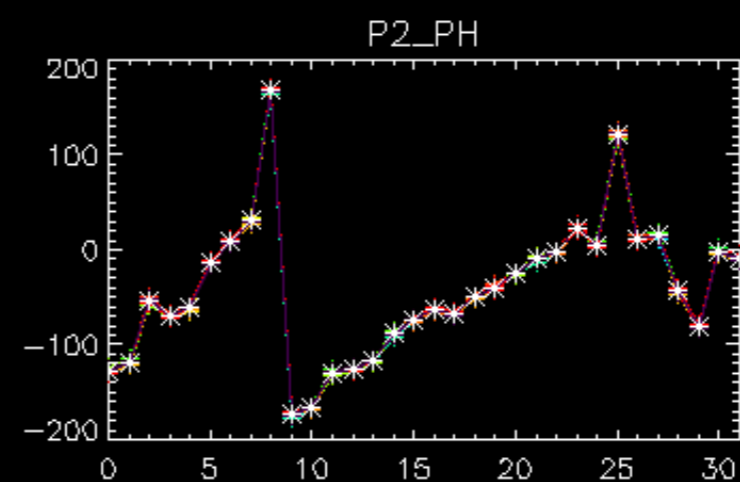
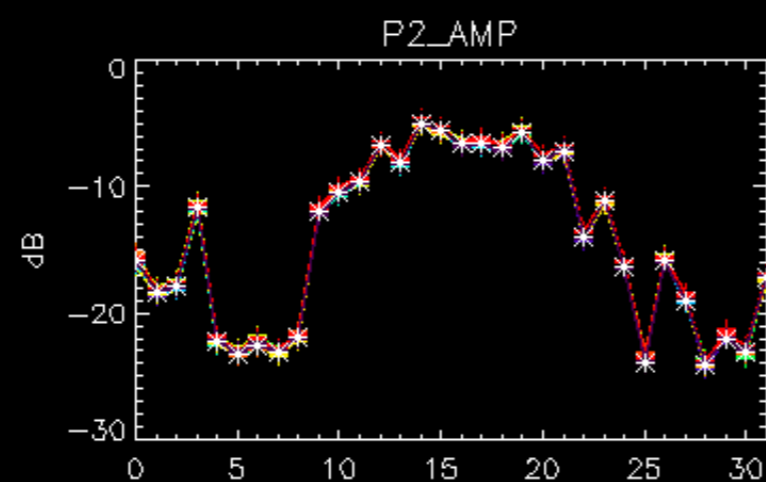
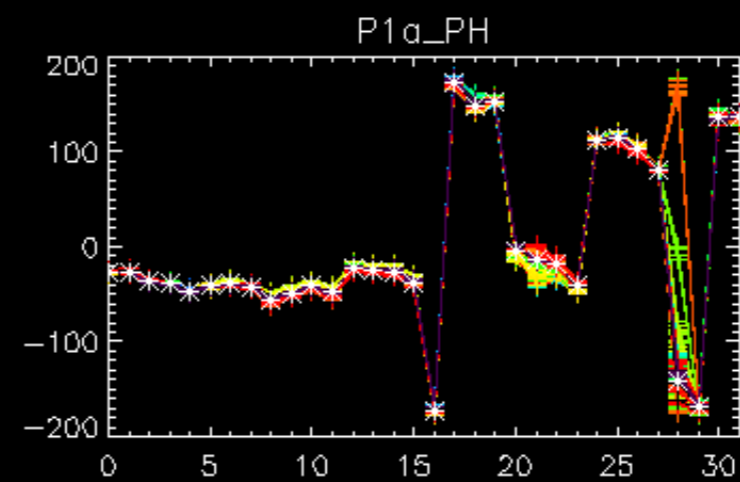
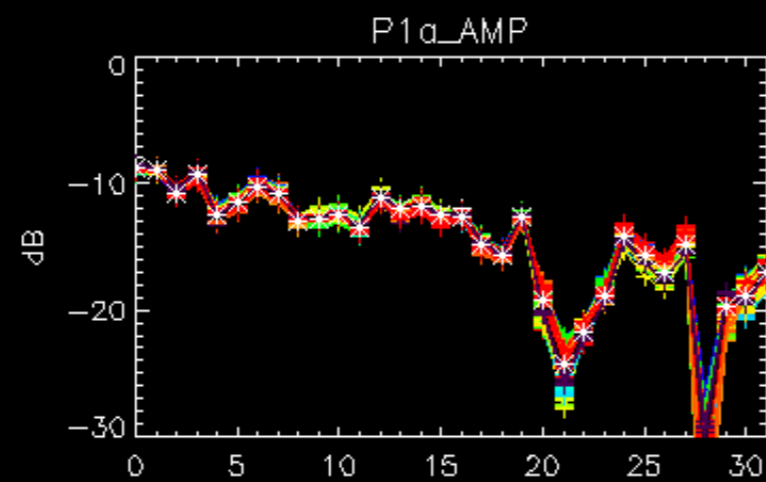
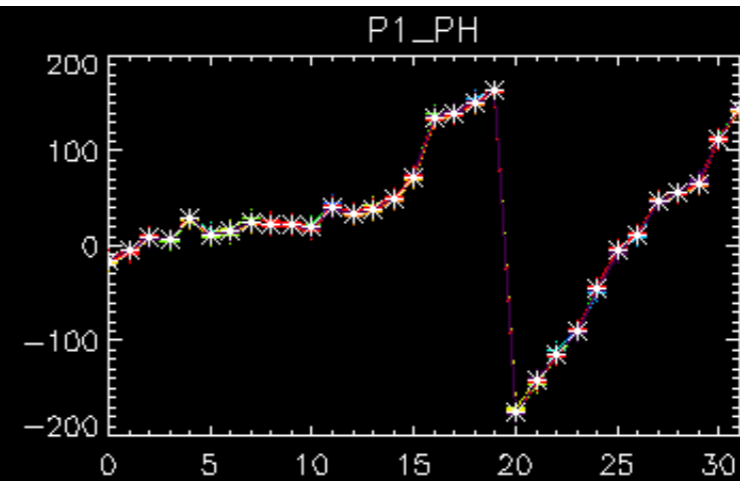
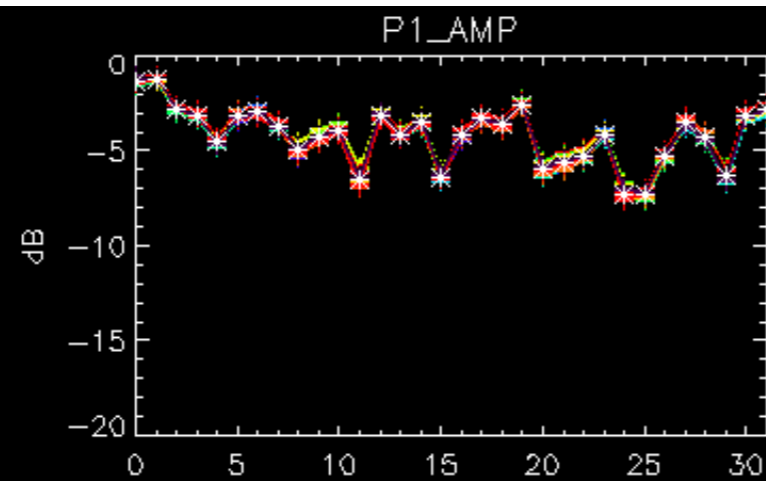
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

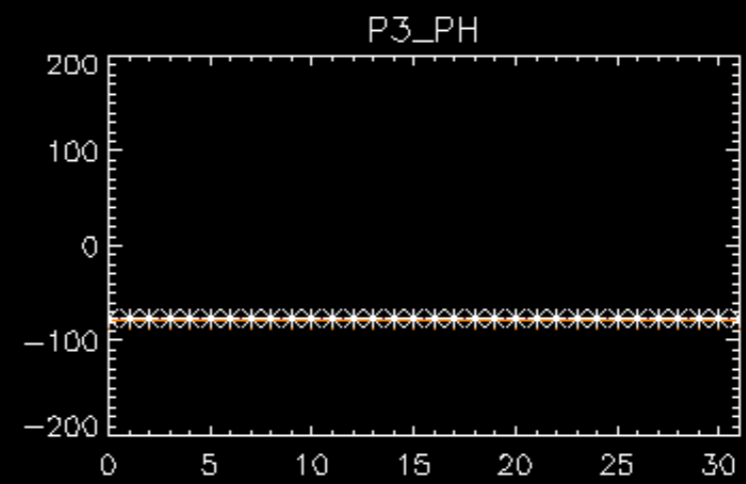
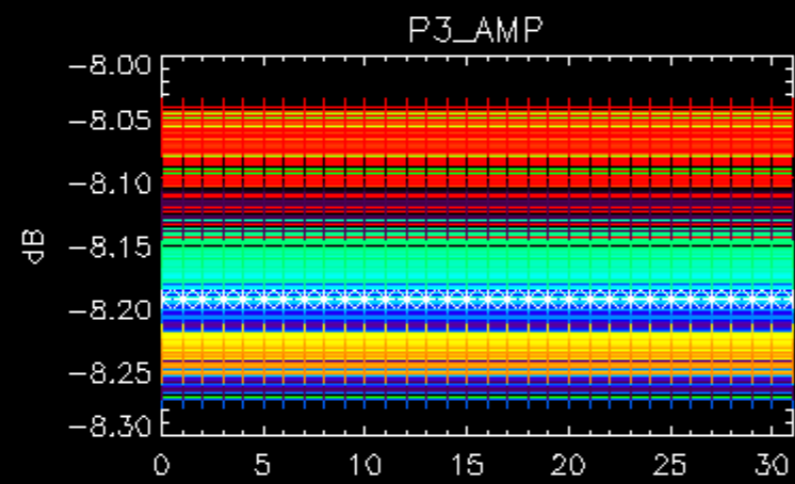
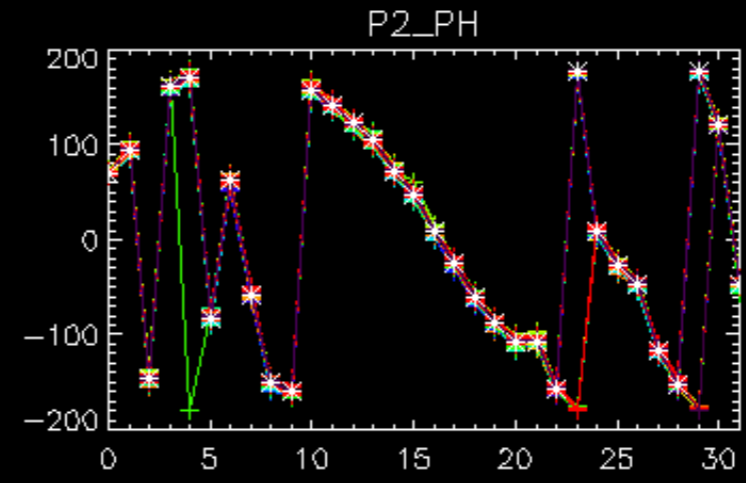
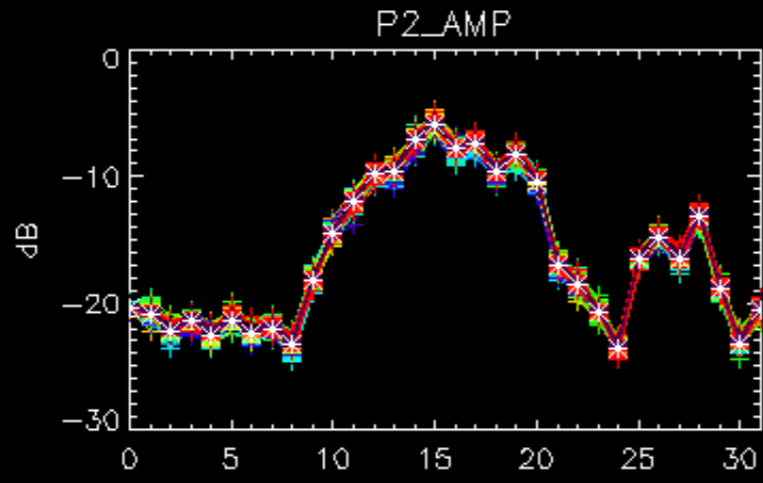
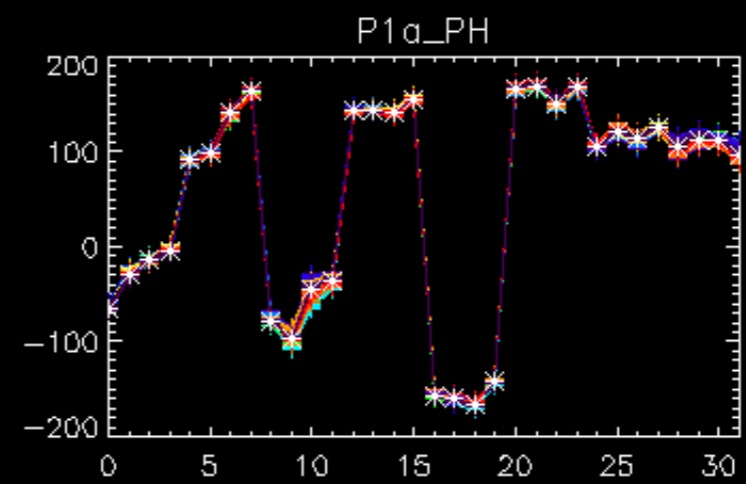
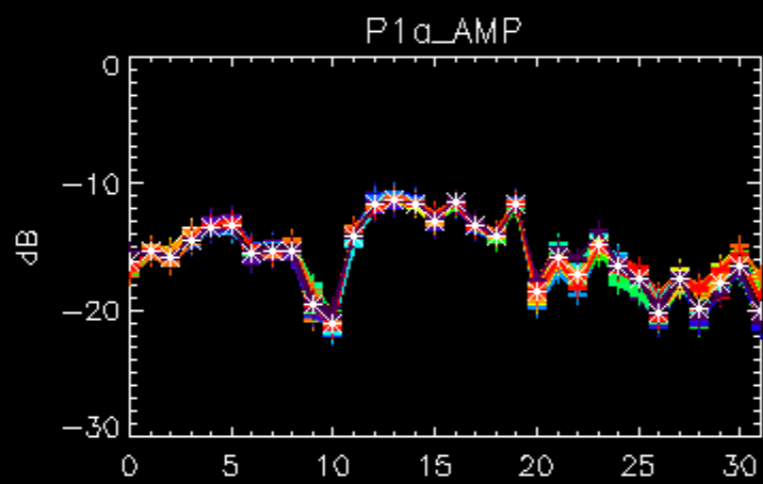
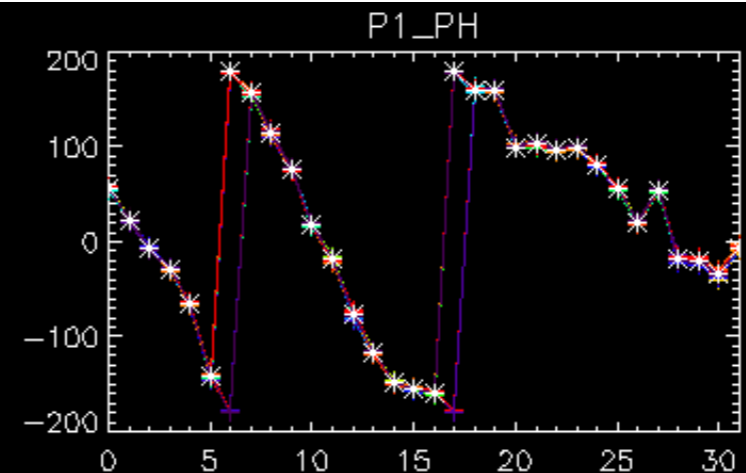
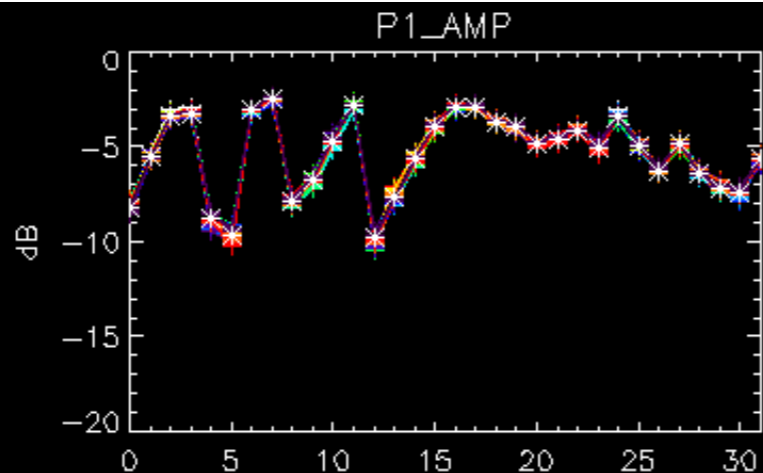
Cal pulses for WVS IS2



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

No anomalies observed.



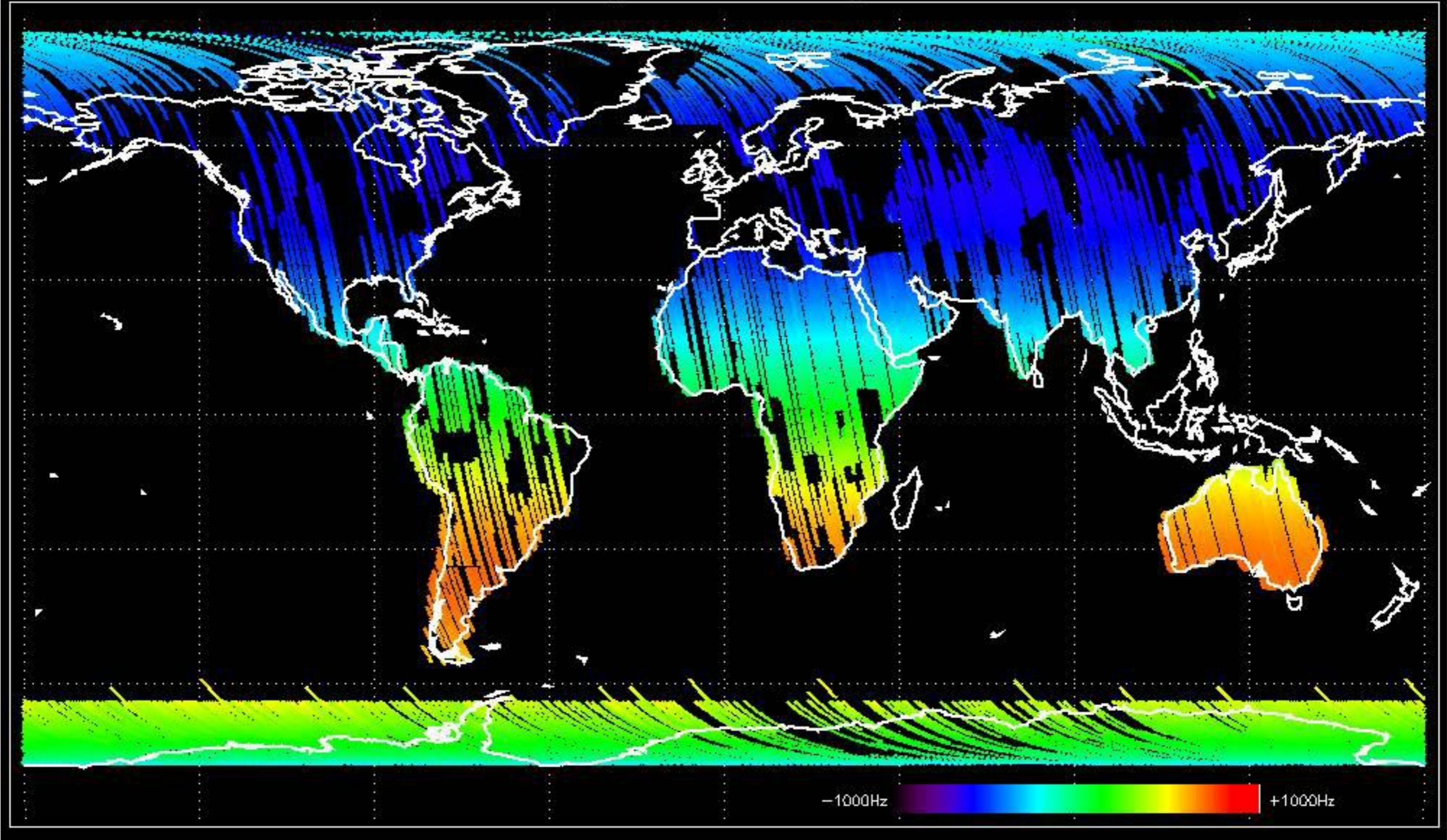




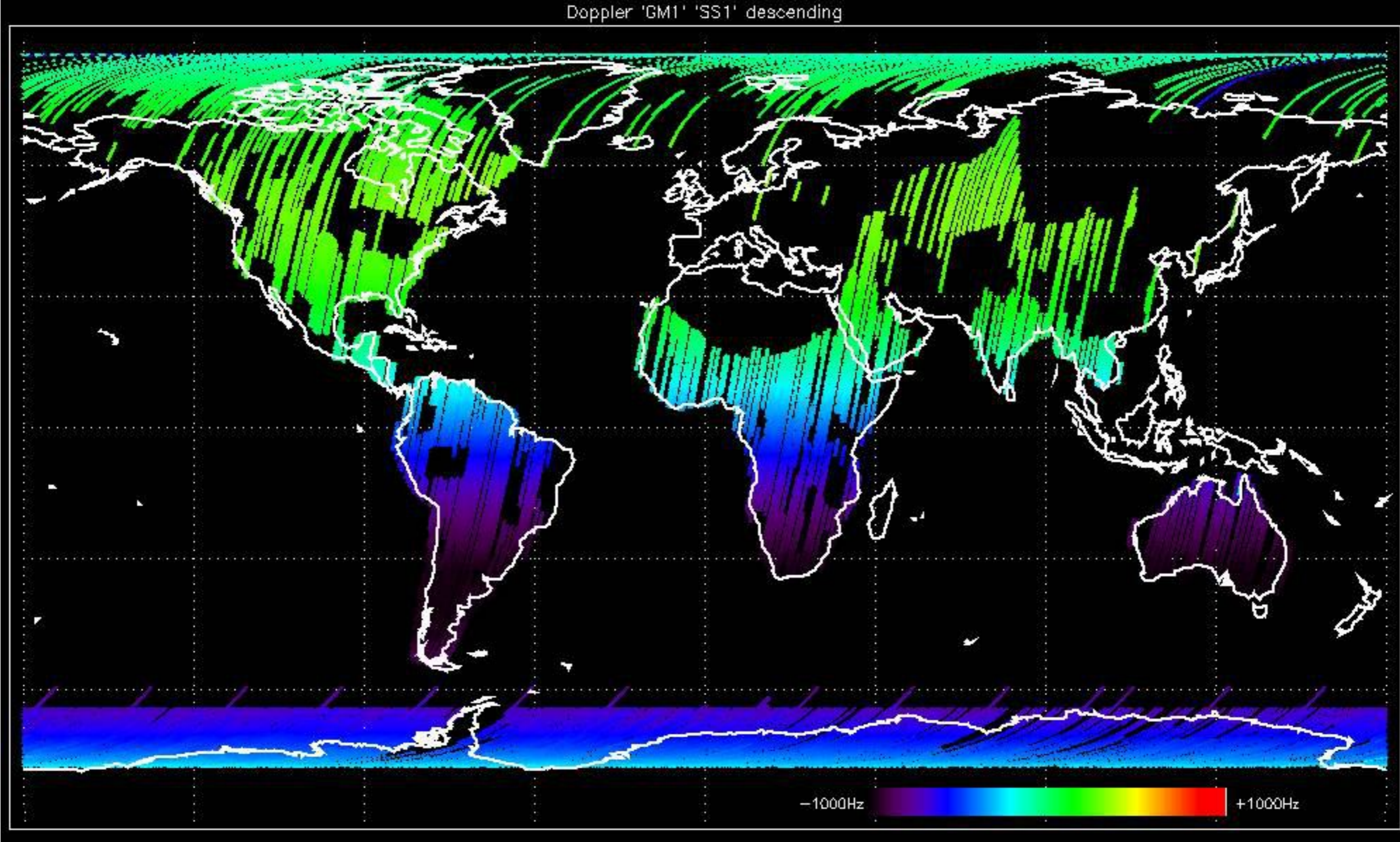
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



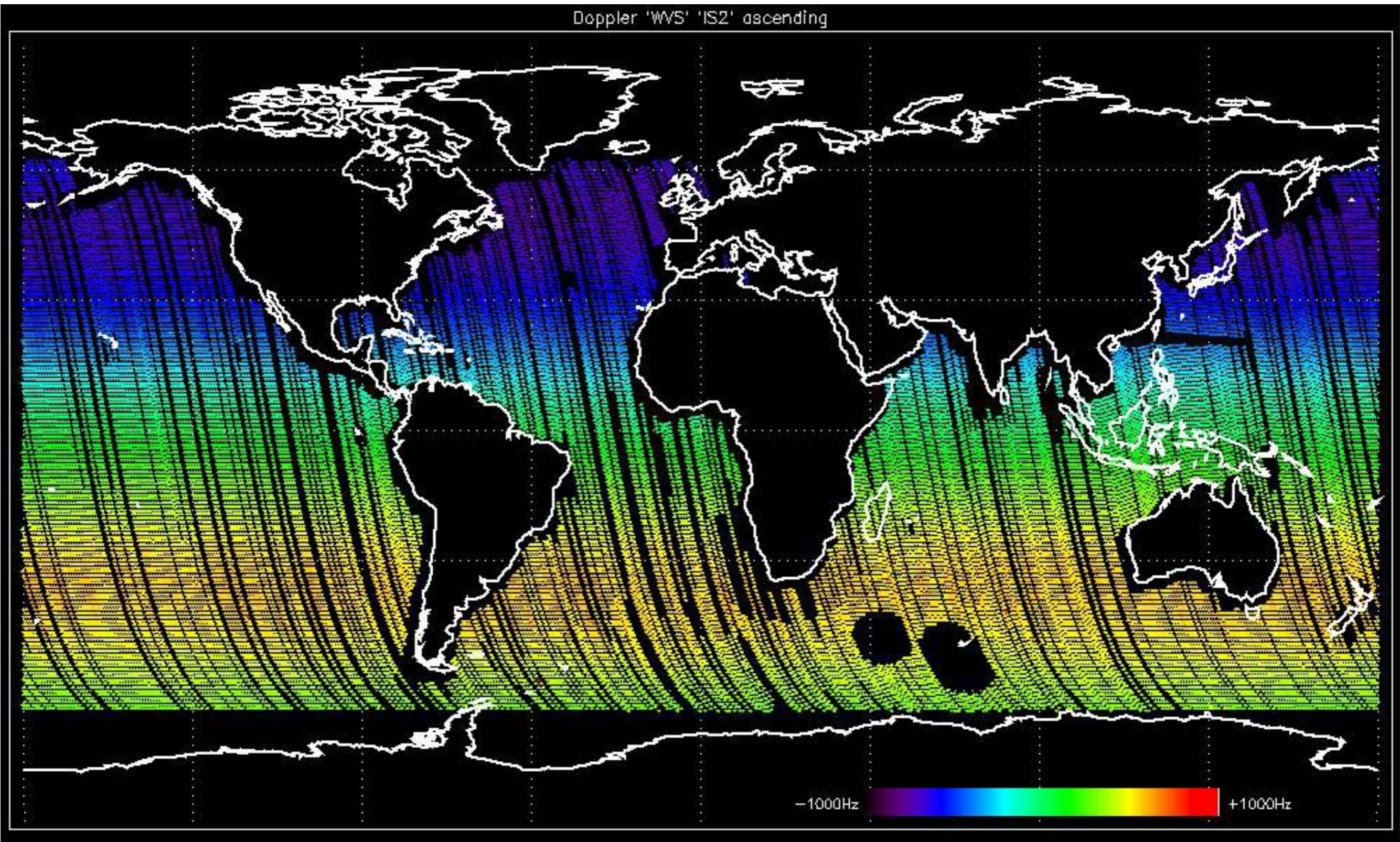
Doppler 'GM1' 'SS1' ascending



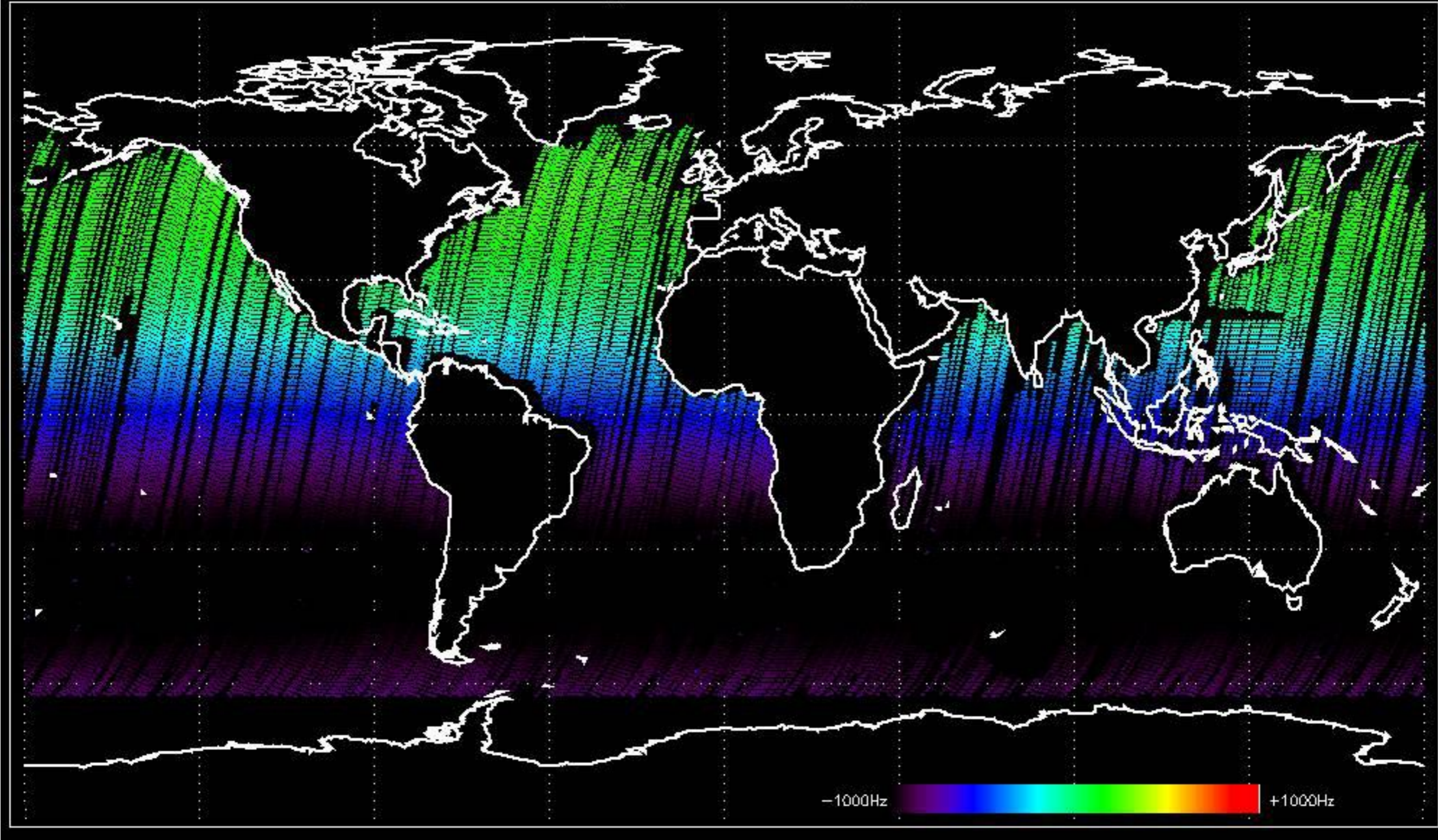
Doppler 'GM1' 'SS1' descending



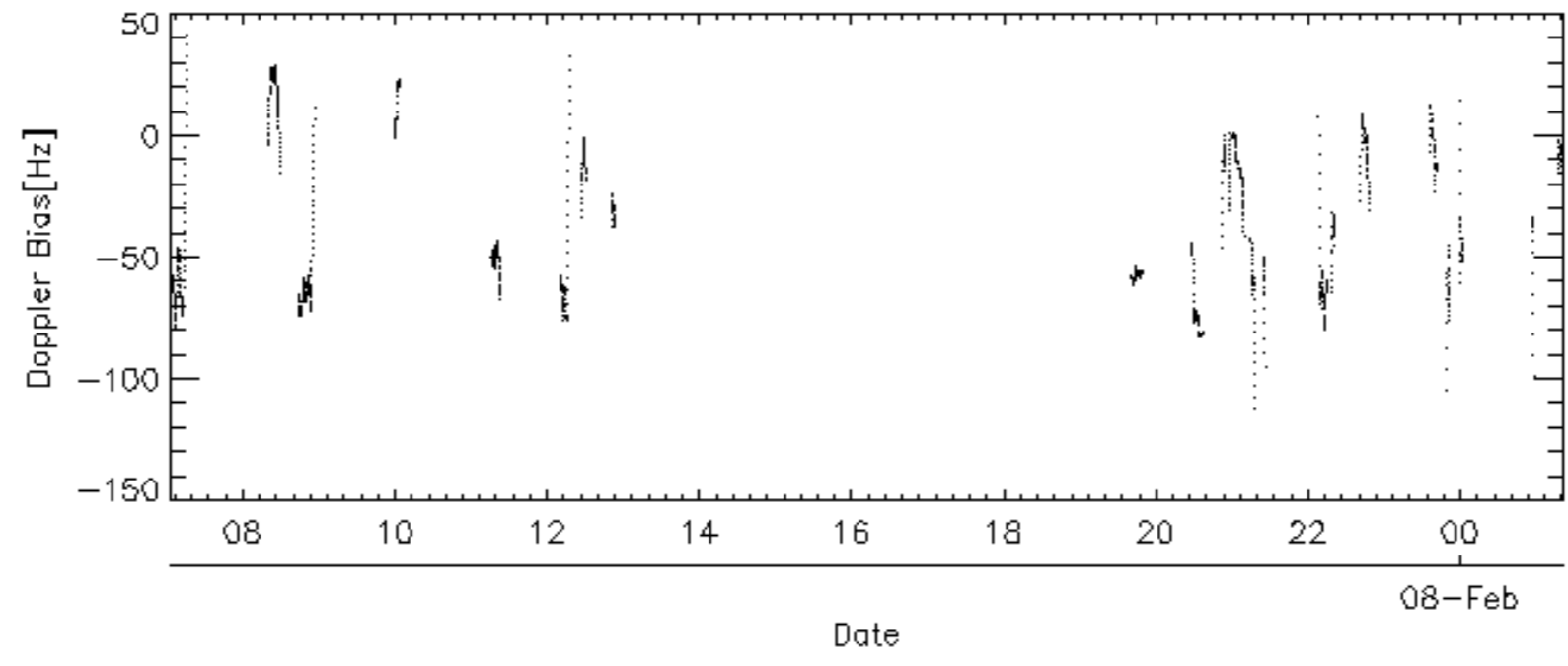
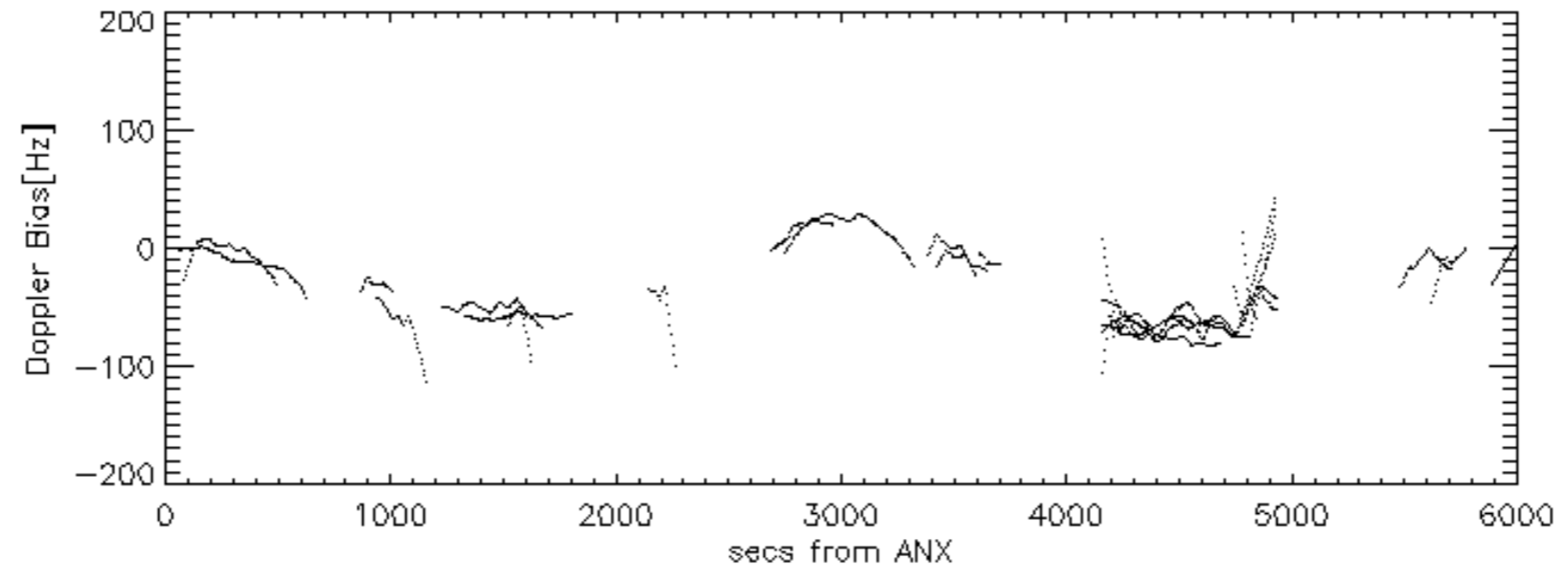
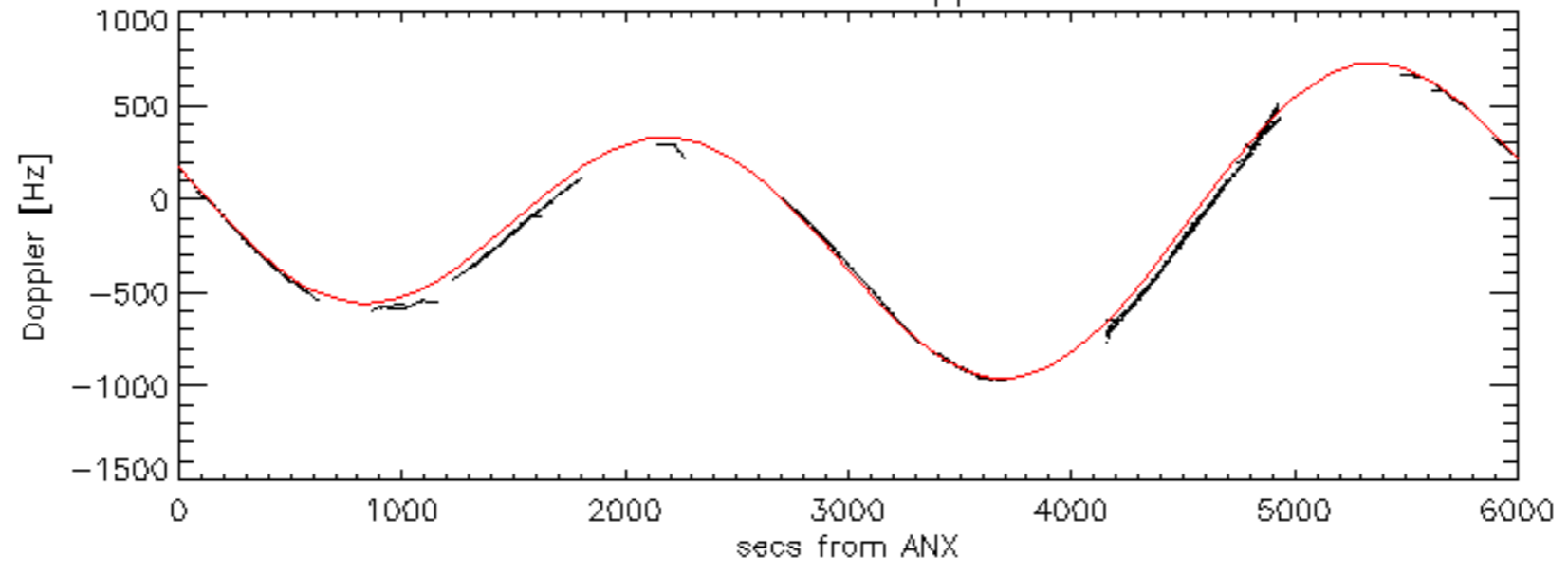
Doppler 'WVS' 'IS2' ascending

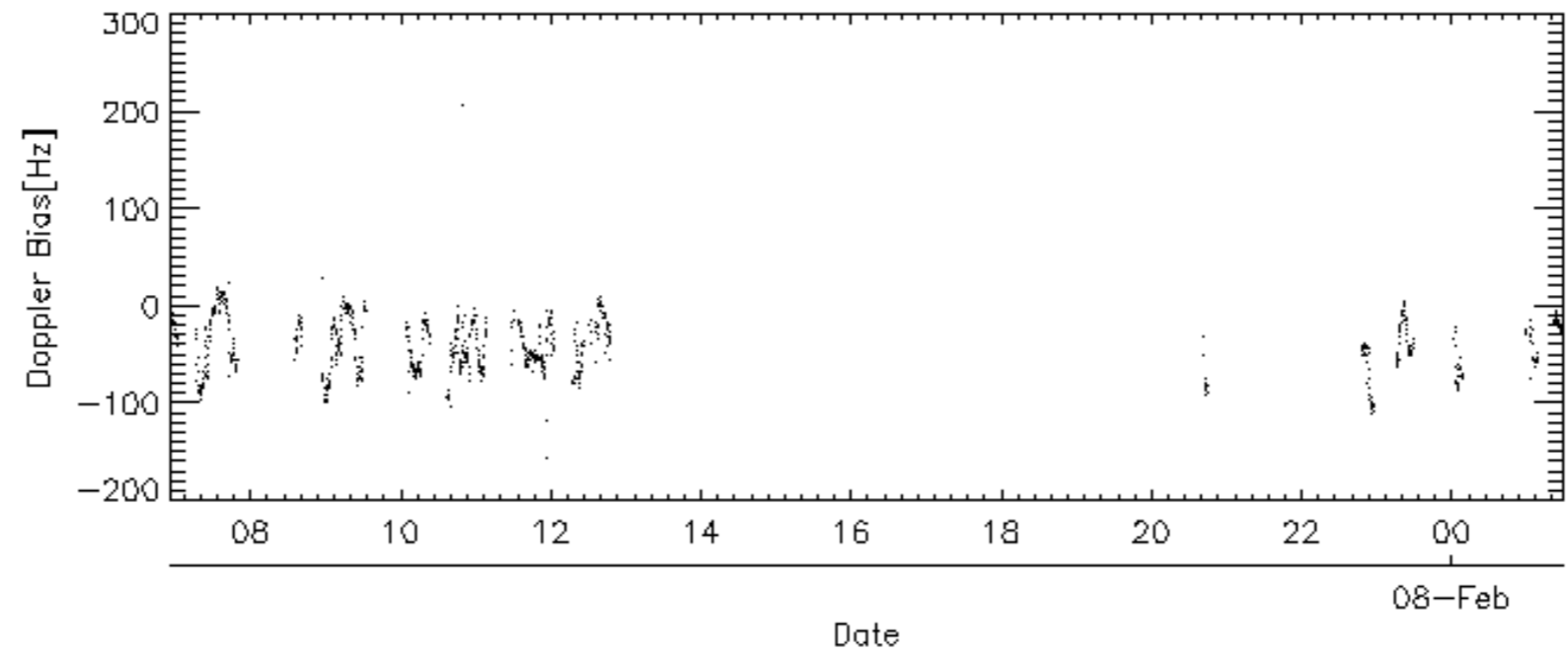
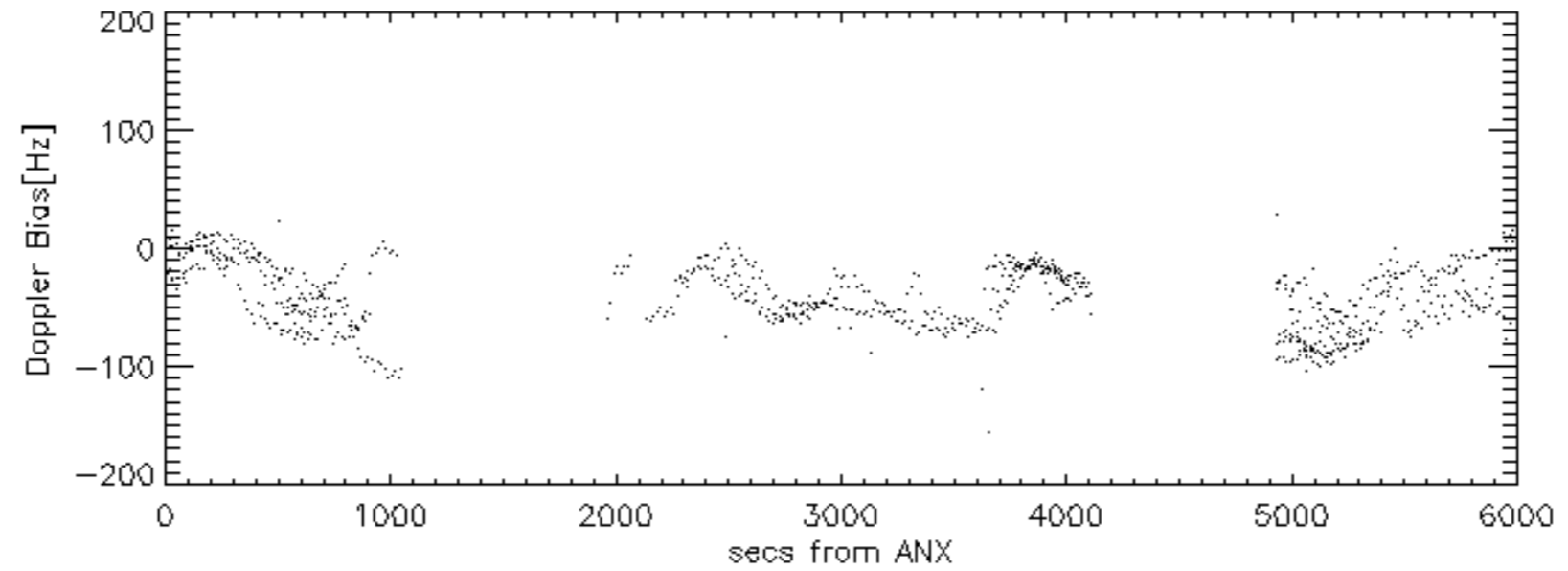
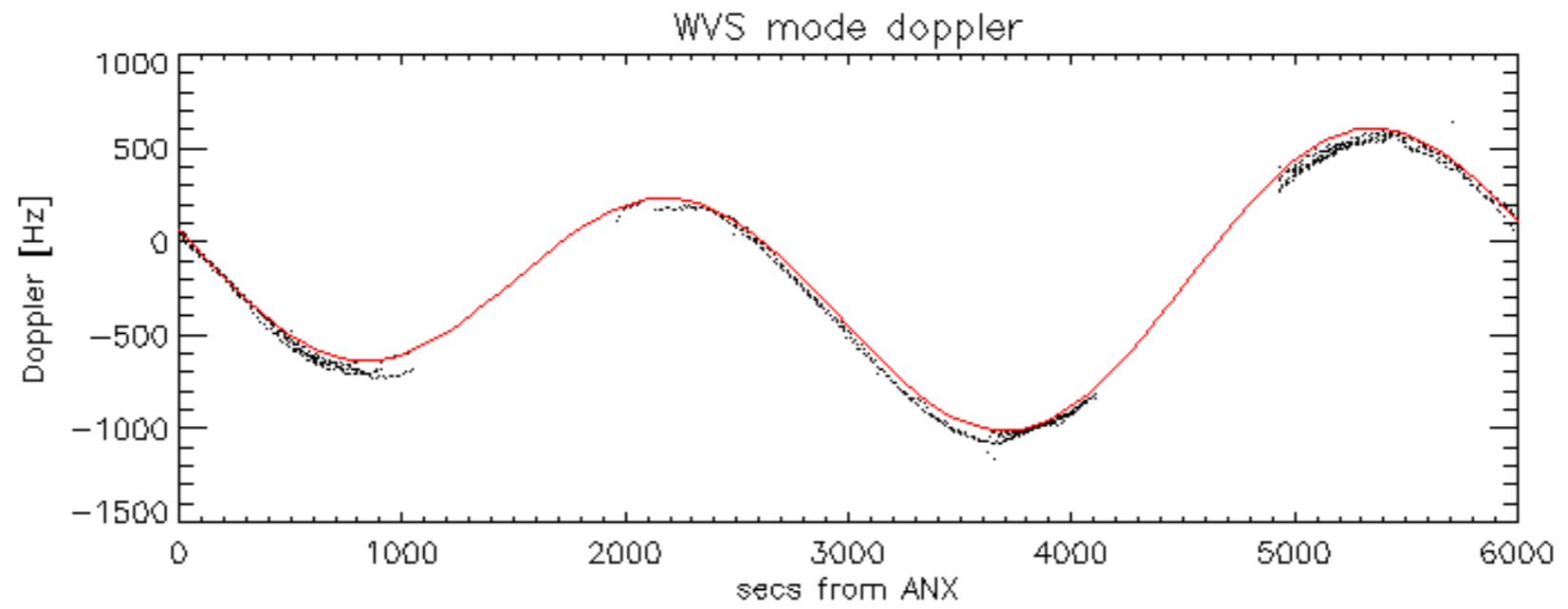


Doppler 'WVS' 'IS2' descending



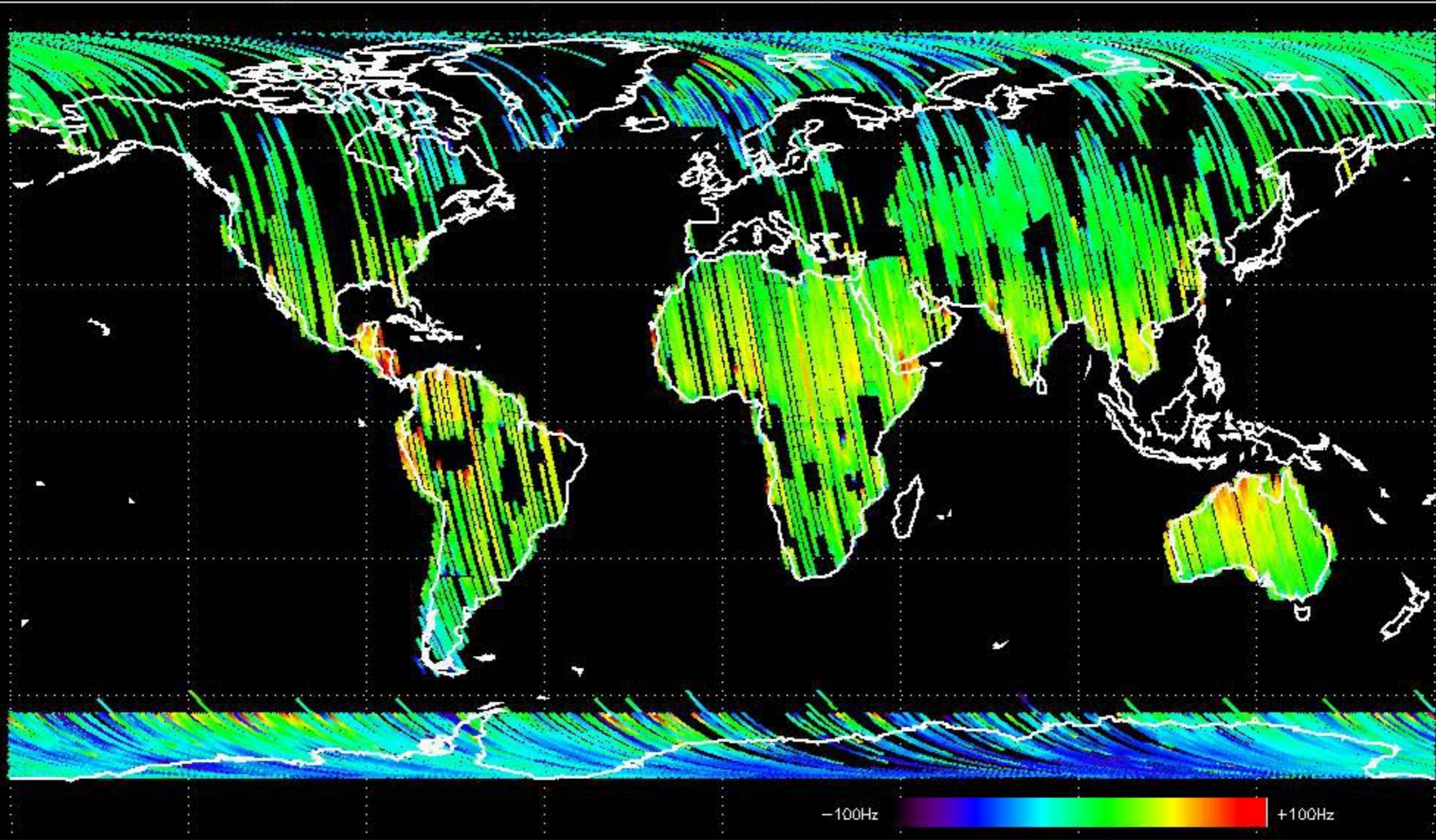
GM1 mode doppler



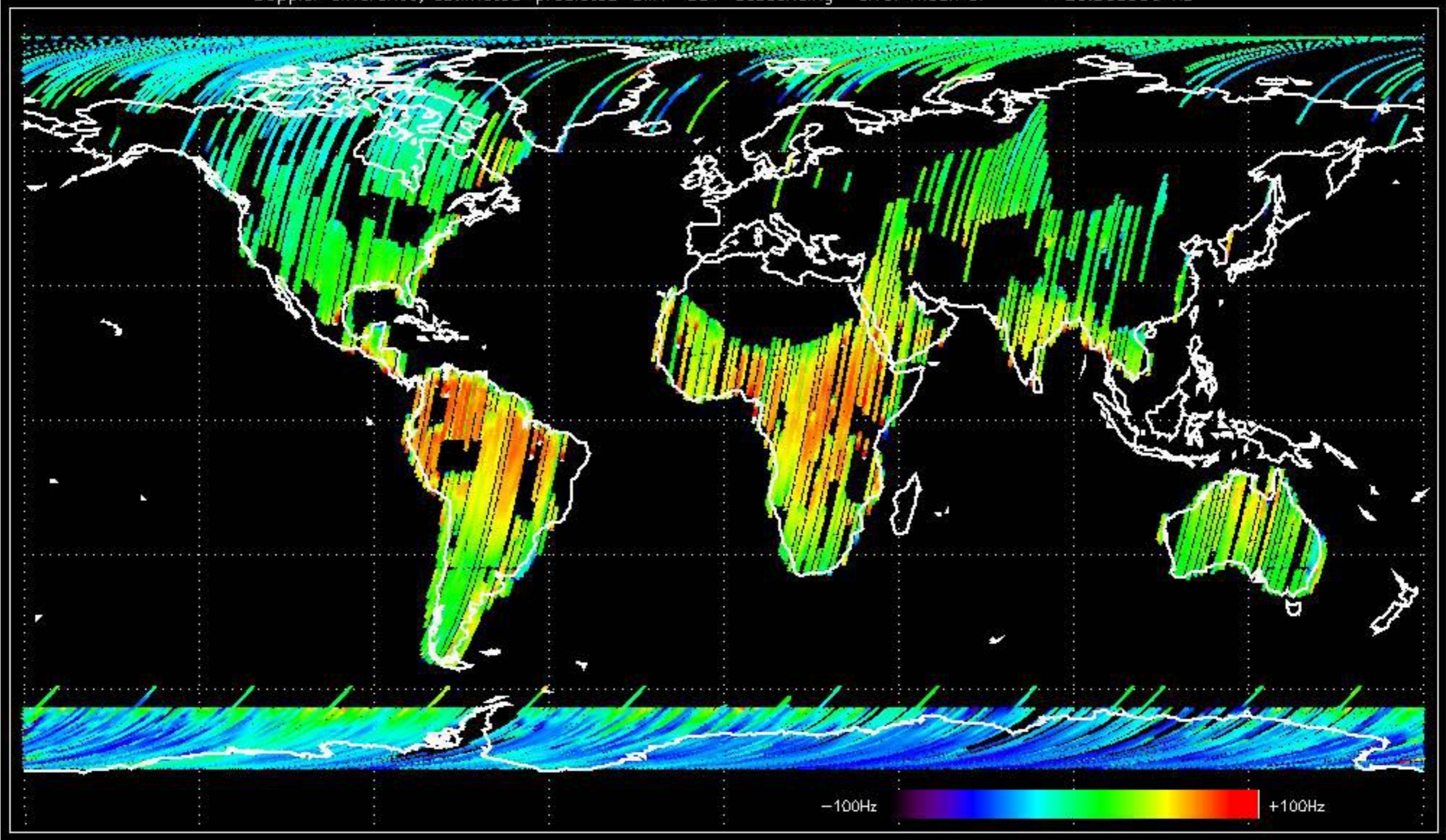




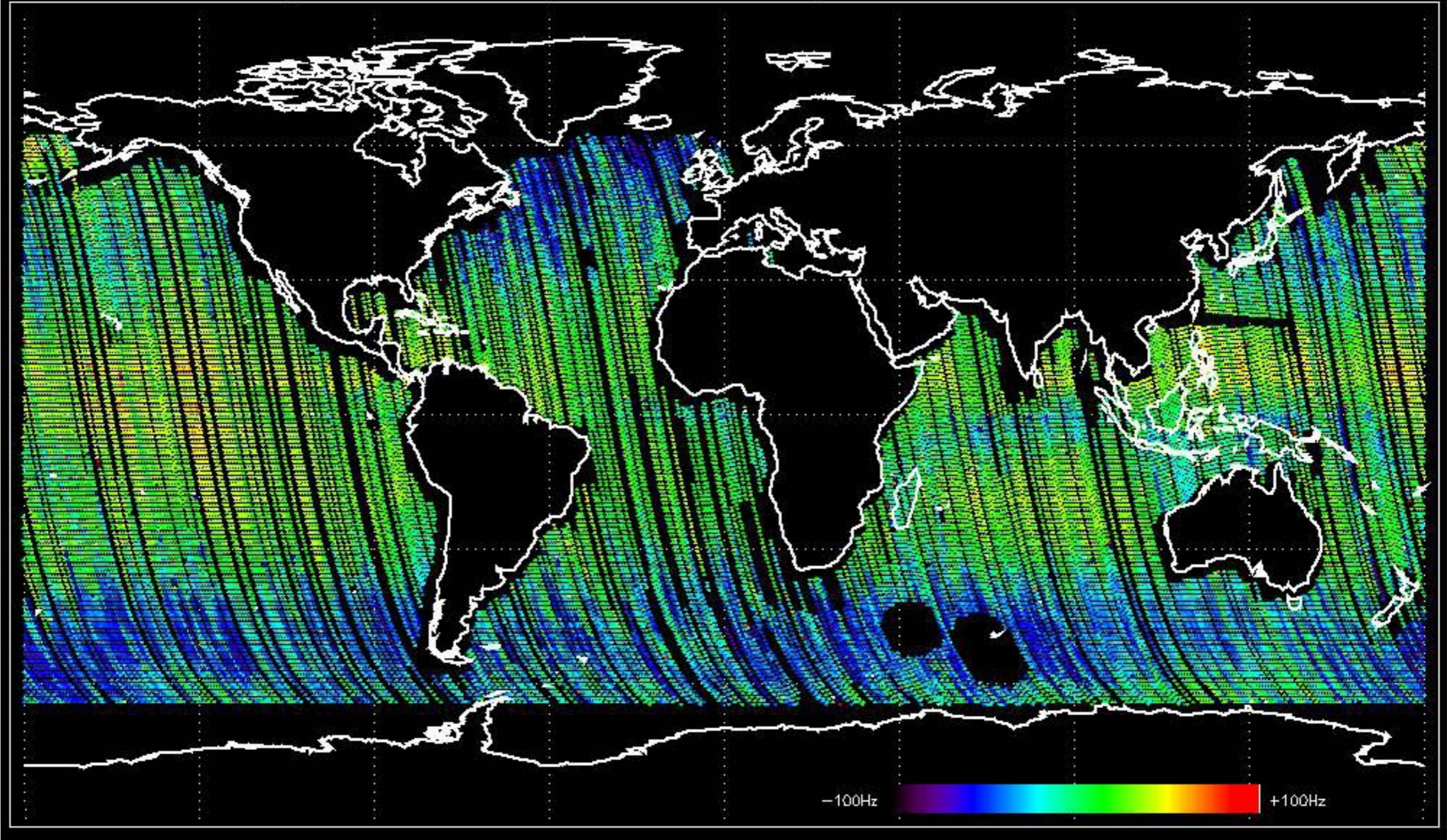
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -31.691559 Hz



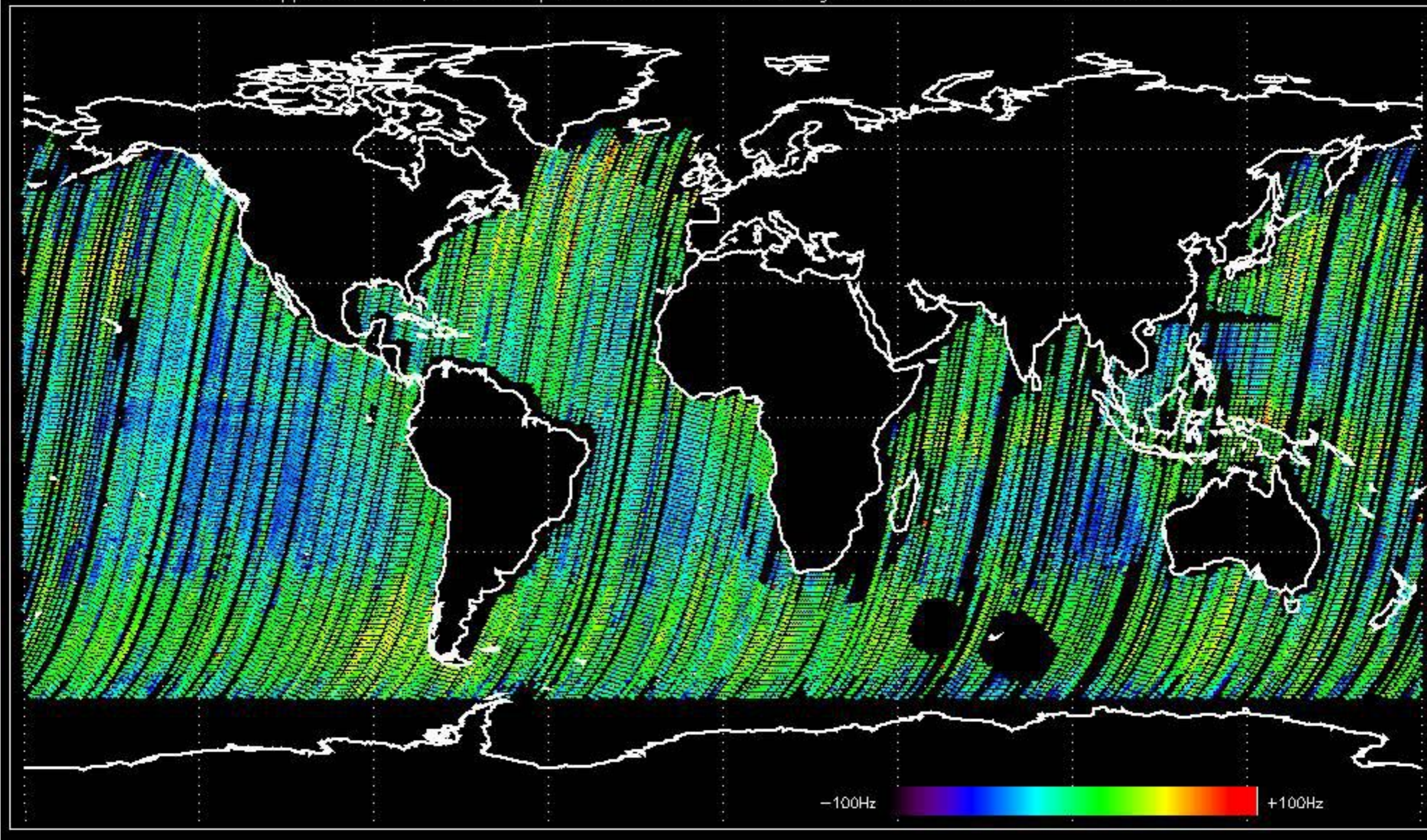
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -28.905996 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -35.375514 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -36.779143 Hz



No anomalies observed on available MS products:

No anomalies observed.









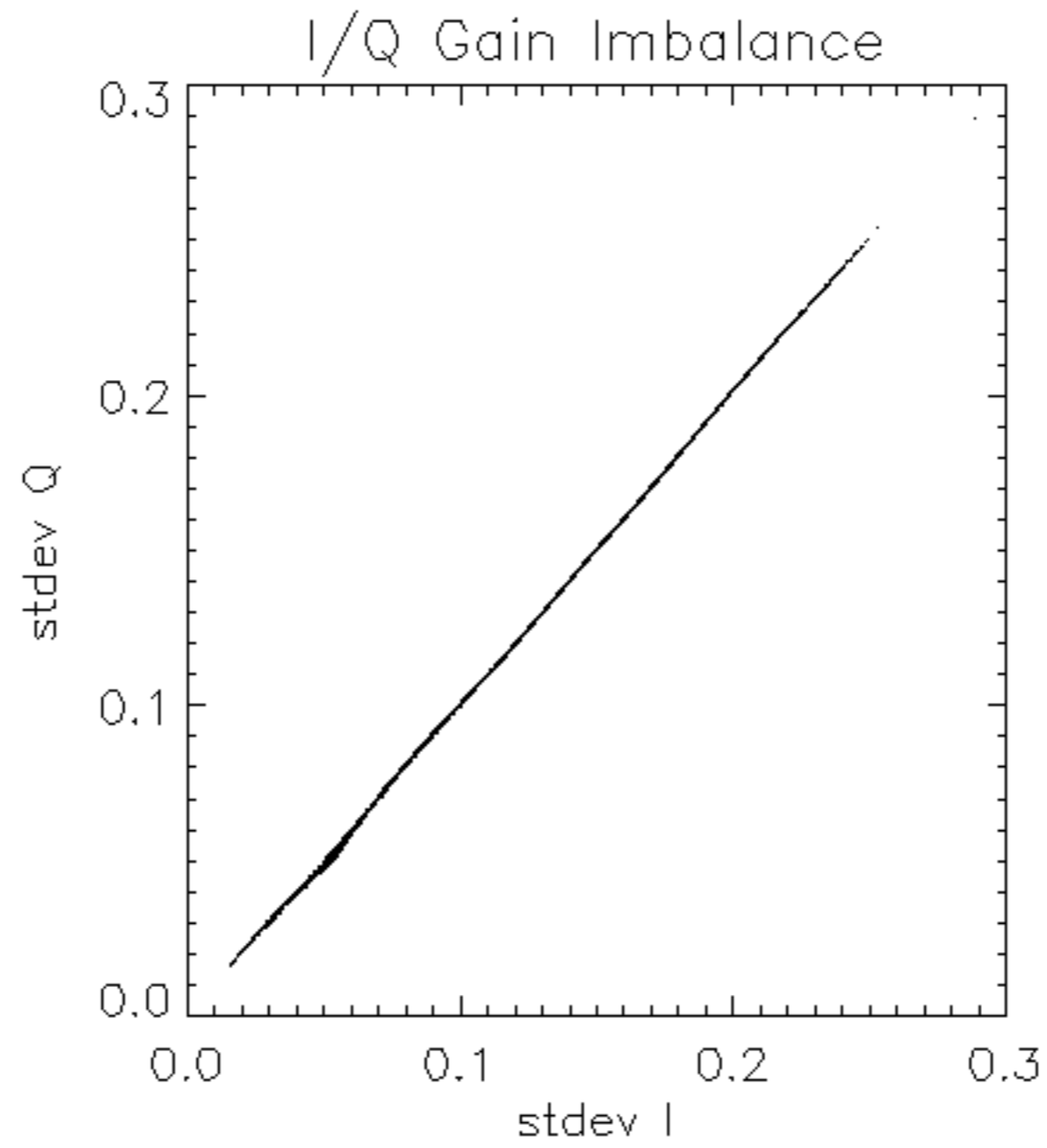


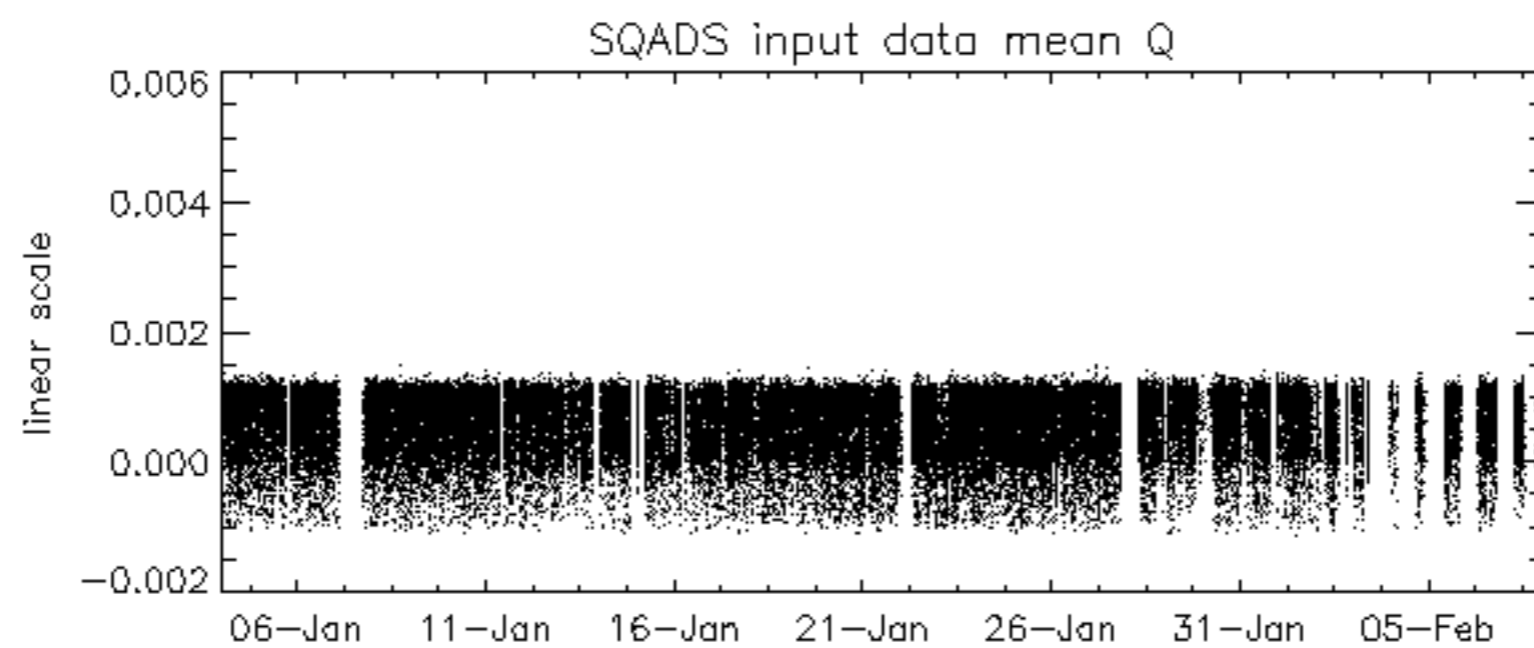
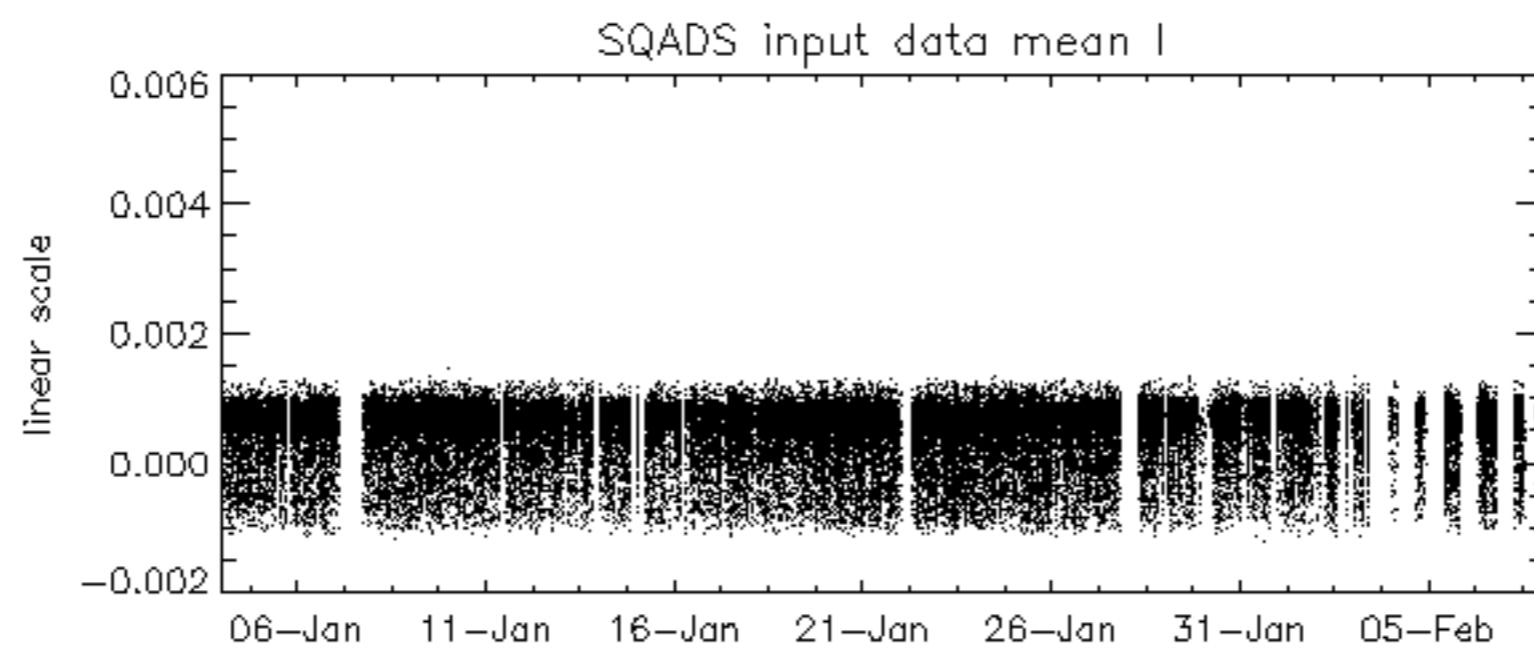
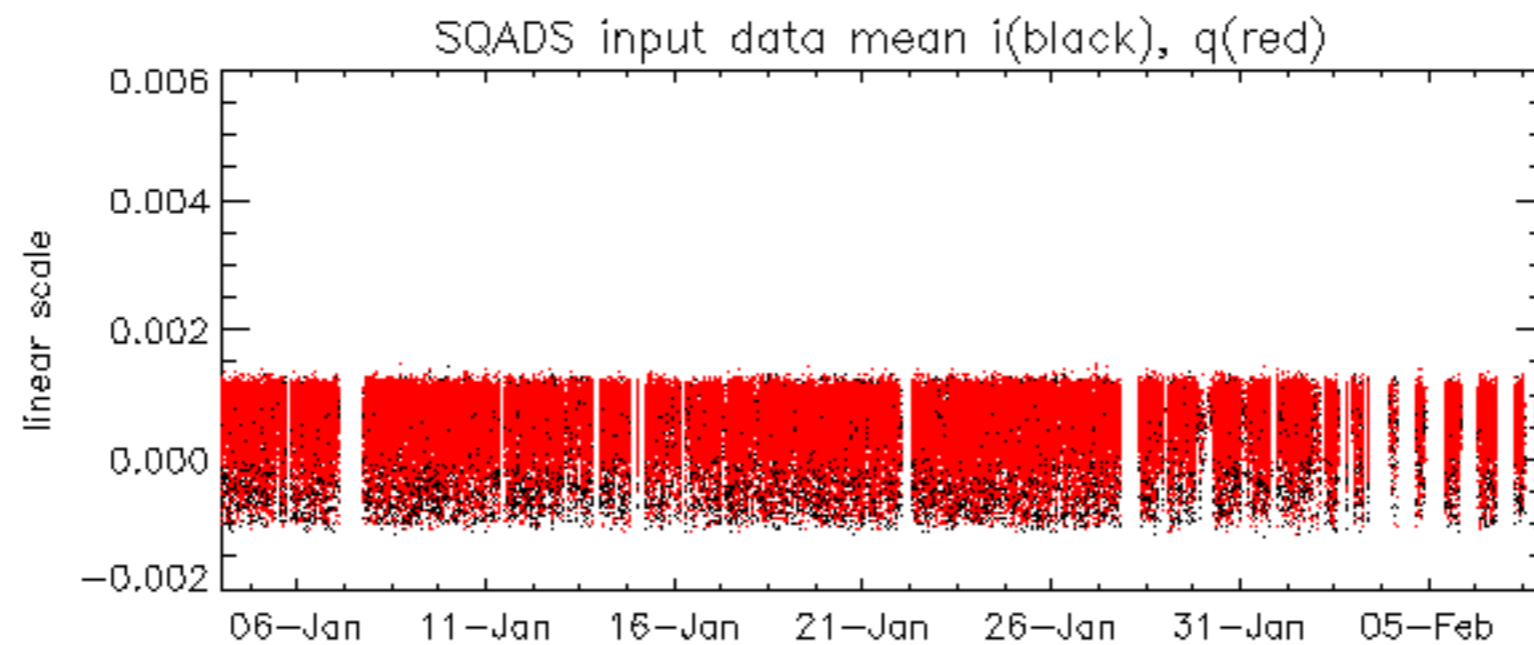




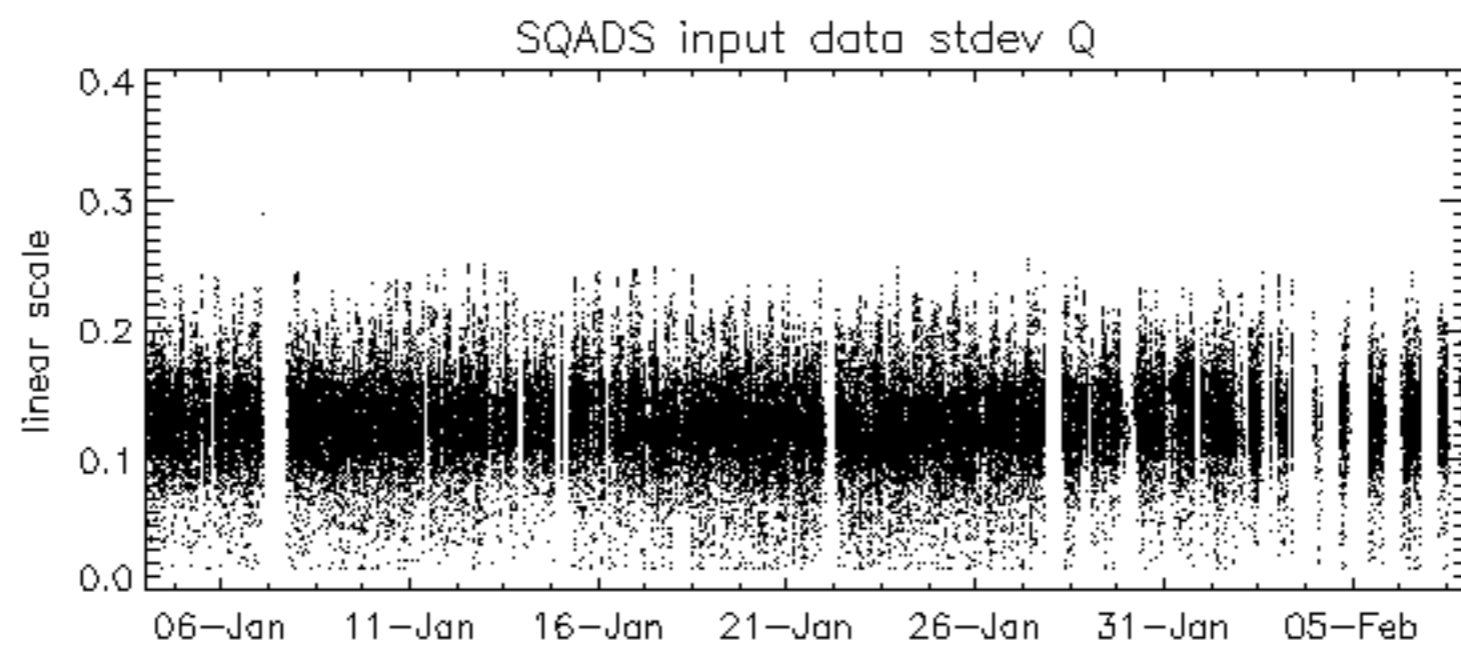
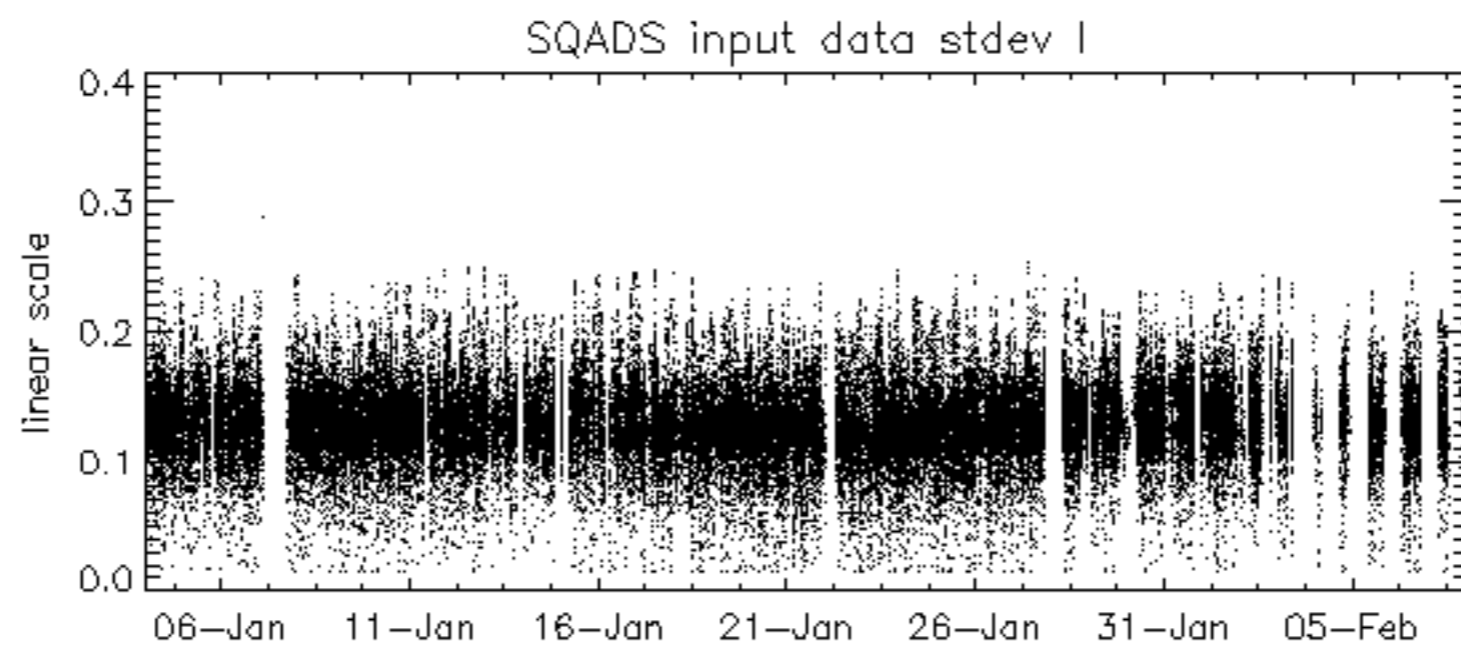
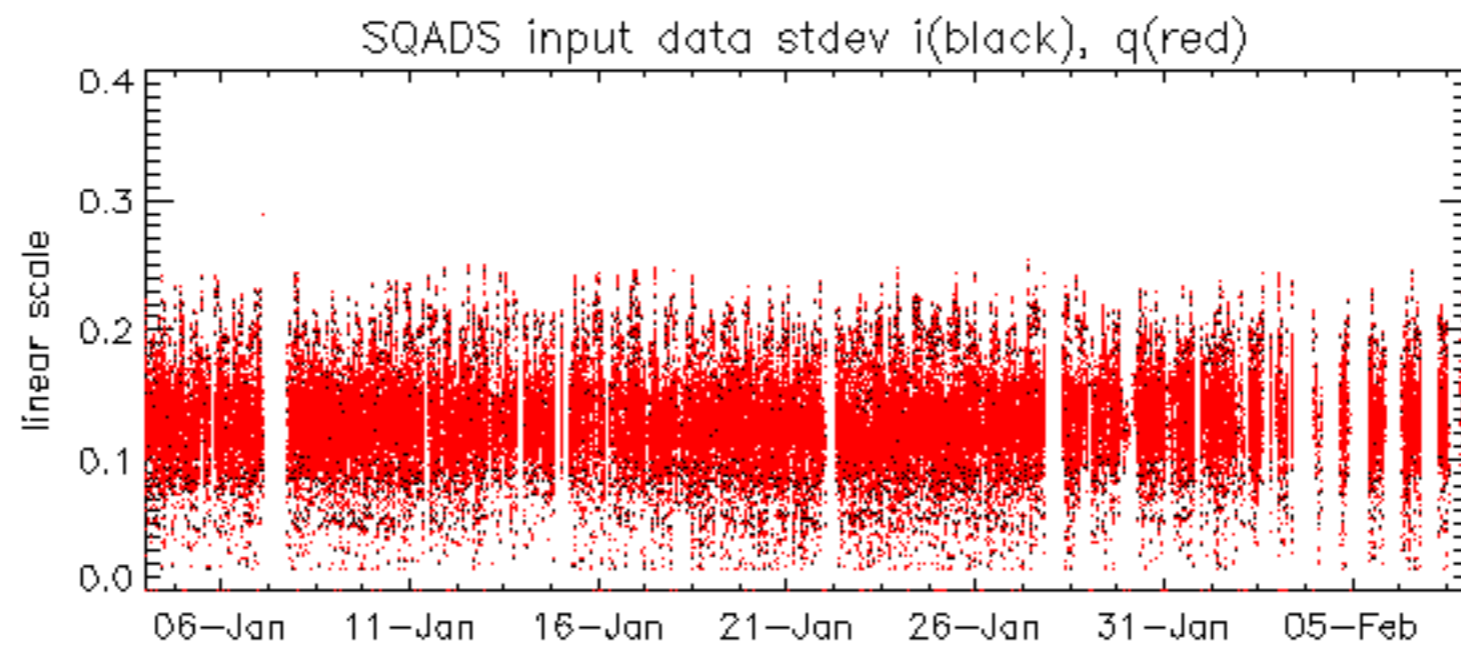




















Summary of analysis for the last 3 days 2005020[678]

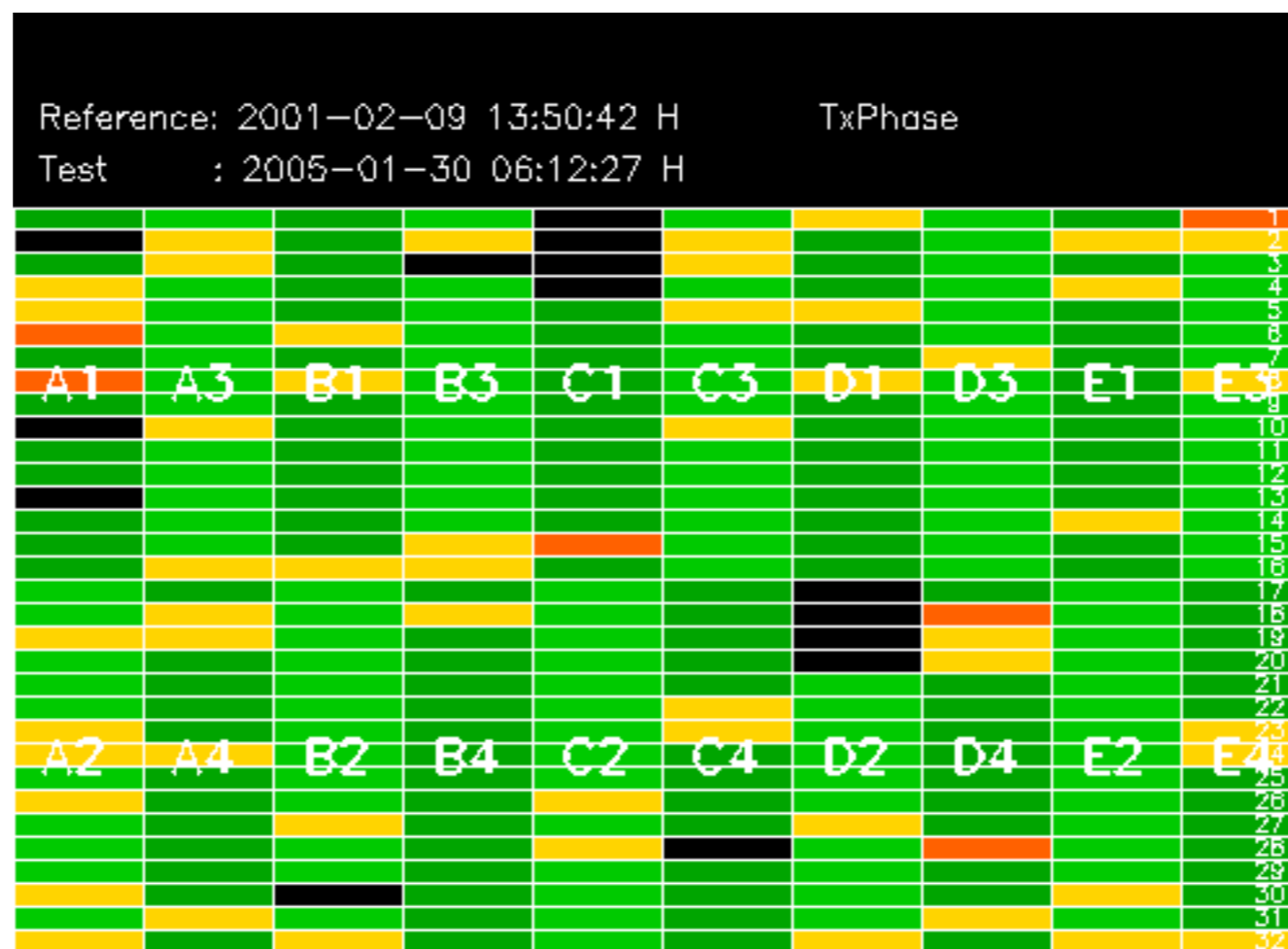
The assumption is taken that the SQADS num\_gaps and num\_missing\_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20050207_004753_000002122034_00288_15372_1924.N1	1	0
ASA_GM1_1PNPDE20050207_194032_000004832034_00300_15384_8573.N1	0	7
ASA_GM1_1PNPDE20050207_212423_000001082034_00301_15385_8587.N1	5	22

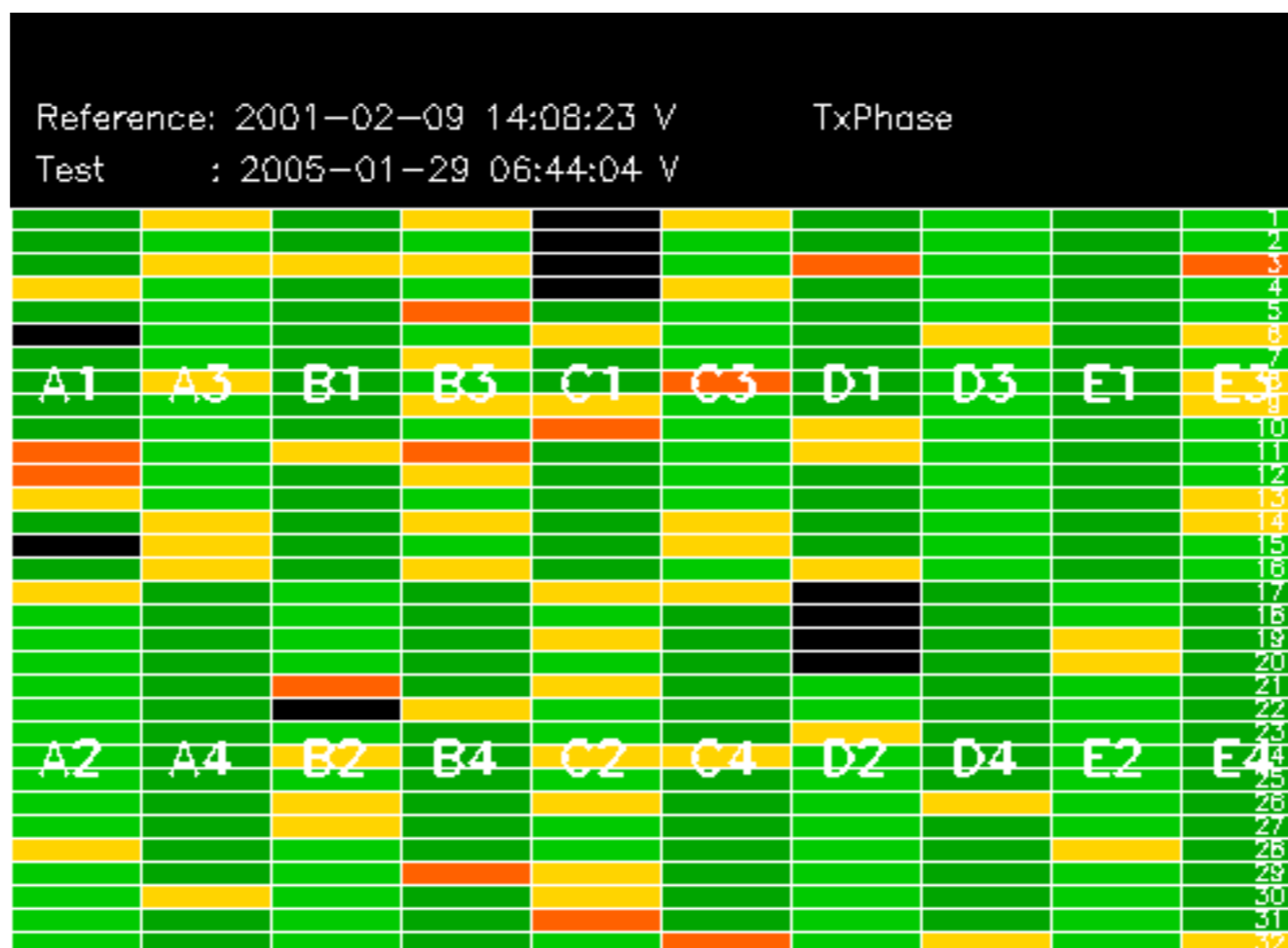


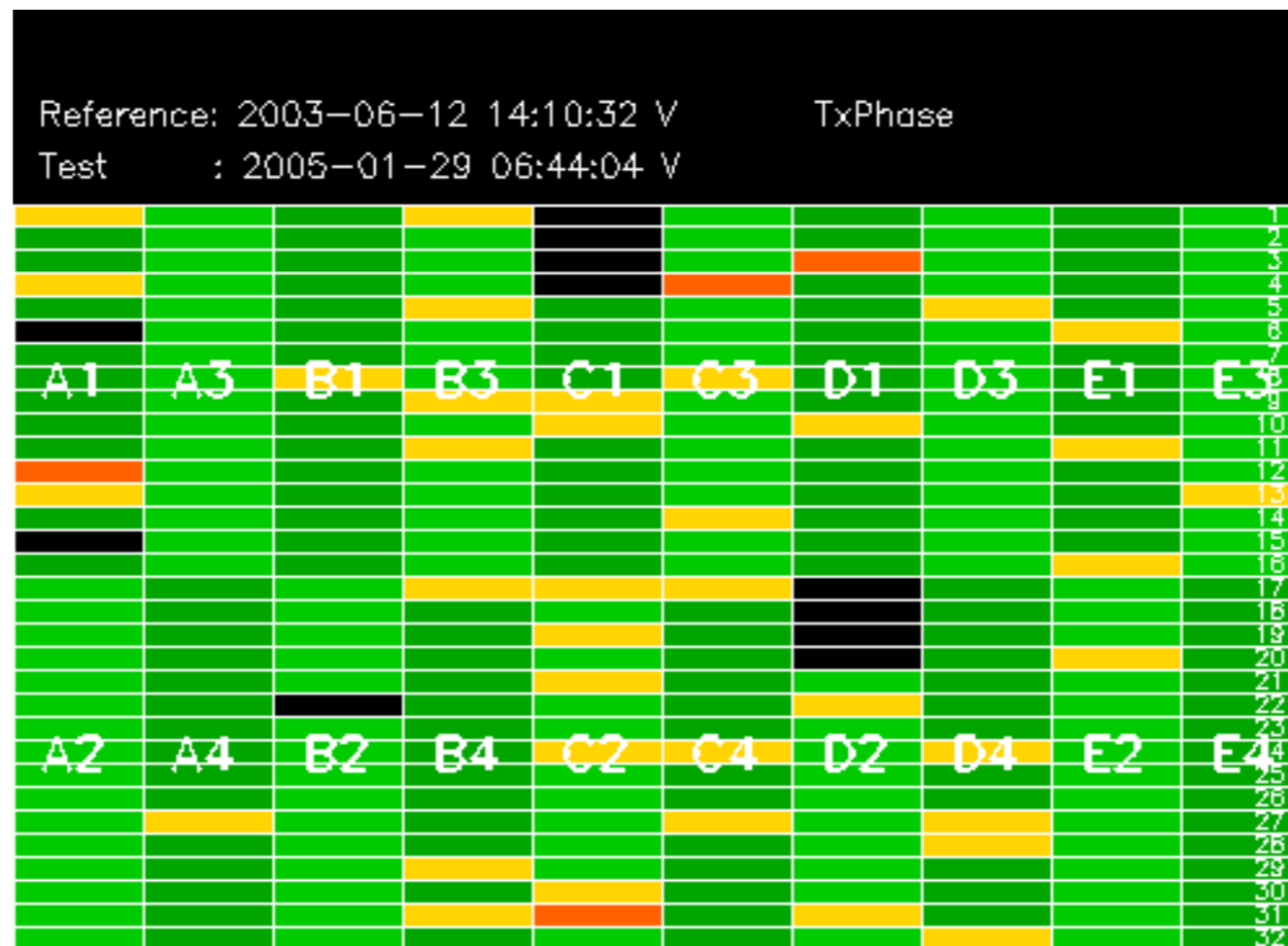


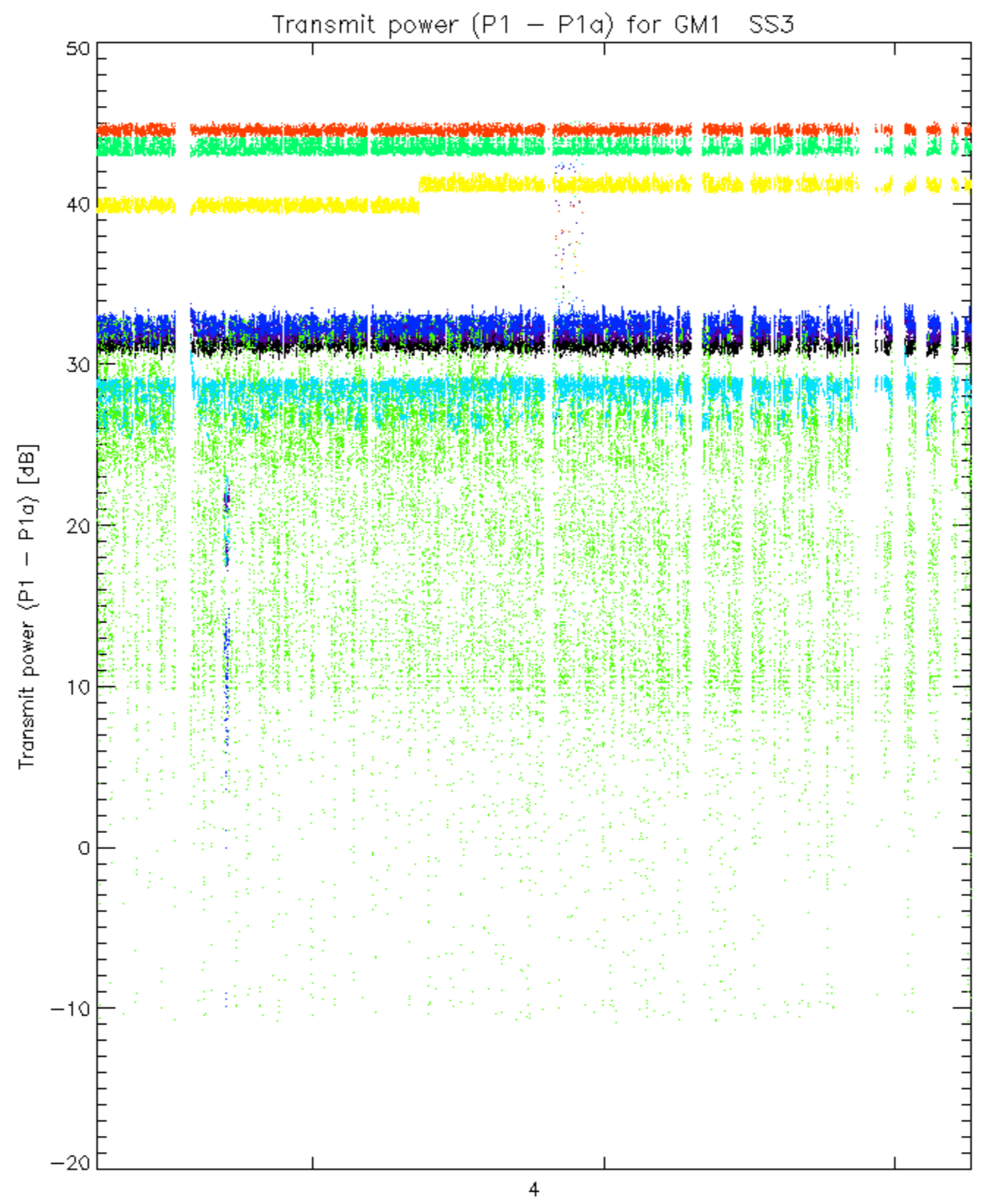




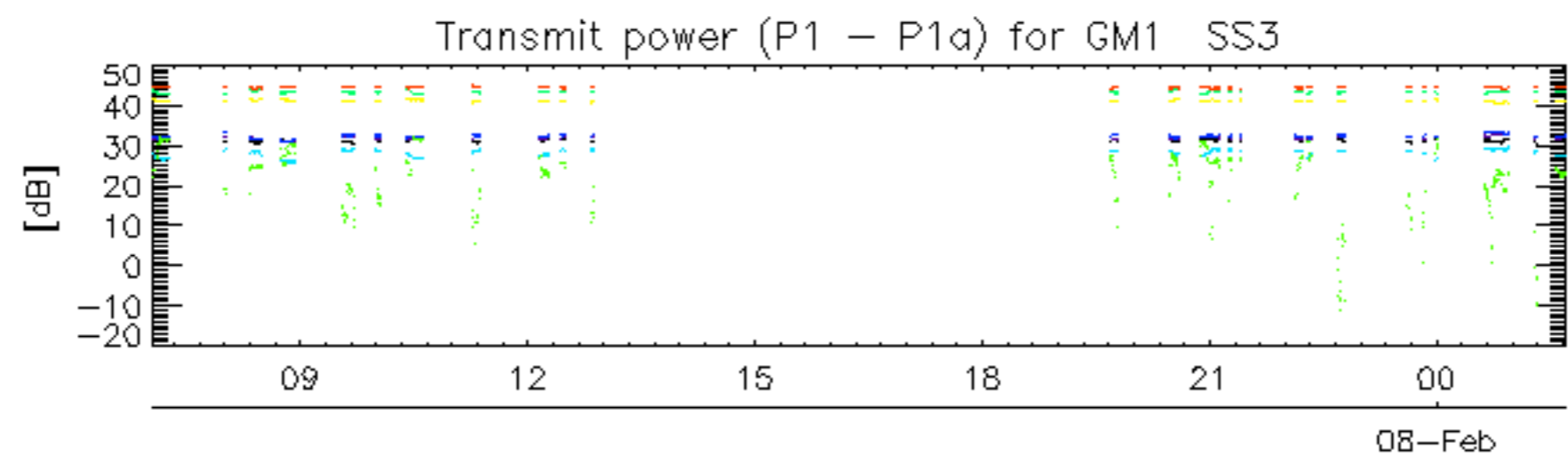




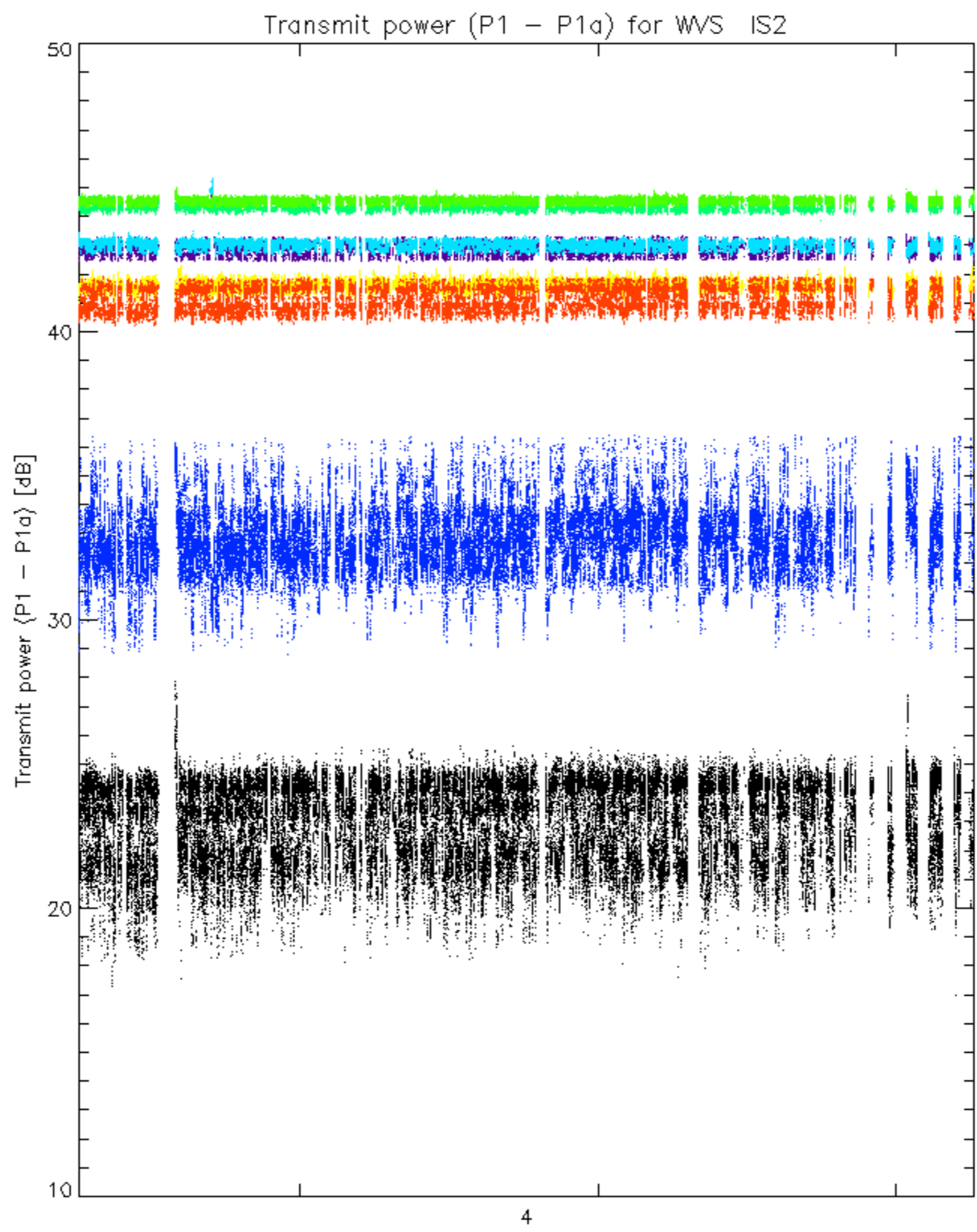




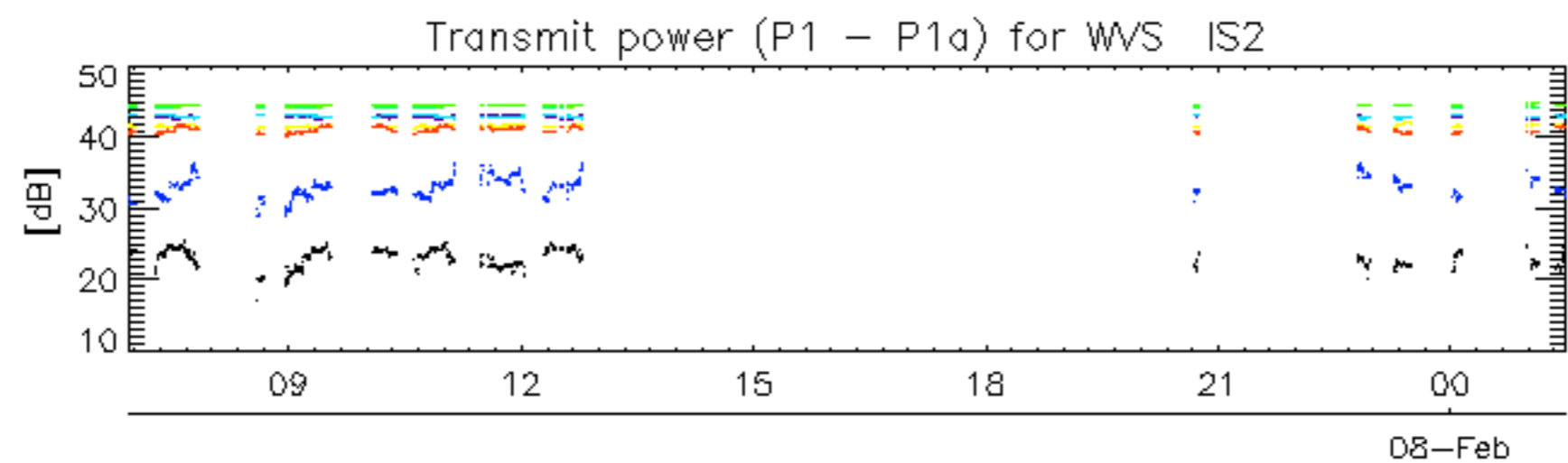
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08-Feb



No unavailabilities during the reported period.