

# PRELIMINARY REPORT OF 070306

**last update on Tue Mar 6 17:55:26 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 2007-03-05 00:00:00 to 2007-03-06 17:55:26

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20070222_190441_20070204_165113_20071231_000000	44	78	6	2	31
ASA_INS_AXVIEC20070227_105626_20070228_060000_20071231_000000	44	78	6	2	31
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	44	78	6	2	31
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	44	78	6	2	31

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20070222_190441_20070204_165113_20071231_000000	41	60	43	12	67
ASA_INS_AXVIEC20070227_105626_20070228_060000_20071231_000000	41	60	43	12	67
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	41	60	43	12	67
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	41	60	43	12	67

## 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	20070306 085028
H	20070305 170940

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	-10.867114	0.279764	-0.328959
7	P1a	-10.126787	0.247243	0.406455
11	P1a	-10.800721	0.121101	0.325973
15	P1a	-11.781859	1.565902	2.848153
19	P1a	-15.022942	1.112902	-2.389022
22	P1a	-19.348454	7.408687	-5.783556
26	P1a	-15.519258	0.507018	0.720541
30	P1a	-20.280136	7.002024	5.904136

#### P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-7.761012	2.154885	-2.661974
7	P1	-2.591645	0.056005	0.219923
11	P1	-3.272197	0.144385	0.794434
15	P1	-4.690048	1.335374	2.641412
19	P1	-3.412947	0.098771	-0.683385
22	P1	-5.367477	0.150197	0.845277
26	P1	-5.359424	0.725253	-1.958019
30	P1	-5.451327	0.068451	0.424732

#### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.779285	0.486326	-0.977944
7	P2	-21.856779	0.124859	-0.413346
11	P2	-10.793584	0.137449	-0.589227
15	P2	-5.092228	0.084223	-0.111508

19	P2	-7.226278	0.082638	-0.063748
22	P2	-8.355442	0.082846	0.158937
26	P2	-24.151312	0.133100	-0.584771
30	P2	-21.658110	0.068567	0.066727

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.221955	0.008112	-0.023415
7	P3	-8.221955	0.008112	-0.023415
11	P3	-8.221955	0.008112	-0.023415
15	P3	-8.221955	0.008112	-0.023415
19	P3	-8.221955	0.008112	-0.023415
22	P3	-8.221955	0.008112	-0.023415
26	P3	-8.221955	0.008112	-0.023415
30	P3	-8.221955	0.008112	-0.023415

### 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)
3	P1a	-11.103093	0.068698	0.219160
7	P1a	-10.051225	0.135942	-0.032088
11	P1a	-10.639876	0.066892	-0.079437
15	P1a	-10.898693	0.134439	-0.141113
19	P1a	-15.719298	0.068322	0.102246
22	P1a	-20.841978	1.181083	-0.188156
26	P1a	-15.342752	0.267529	0.222607
30	P1a	-18.374702	0.346802	-0.101334

### P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
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3	P1	-8.194858	0.659659	-1.301824
7	P1	-2.430059	0.022465	0.031348
11	P1	-2.909300	0.019656	-0.044854
15	P1	-3.826715	0.040049	-0.049772
19	P1	-3.552006	0.011739	0.002886
22	P1	-5.035521	0.023131	-0.035471
26	P1	-5.974406	0.025743	0.057984
30	P1	-5.278944	0.021822	0.022440

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.003304	0.189707	-0.625312
7	P2	-21.965857	0.055271	0.075328
11	P2	-10.653471	0.030917	0.032031
15	P2	-4.817949	0.027268	0.001630
19	P2	-6.810869	0.029306	0.018734
22	P2	-8.105312	0.034540	0.080455
26	P2	-24.261326	0.035493	-0.081586
30	P2	-21.751909	0.037352	0.068171

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.045751	0.003584	-0.018854
7	P3	-8.045803	0.003598	-0.018539
11	P3	-8.045871	0.003589	-0.019030
15	P3	-8.045743	0.003601	-0.019197
19	P3	-8.045873	0.003591	-0.019381
22	P3	-8.045880	0.003587	-0.018962
26	P3	-8.045707	0.003590	-0.019269
30	P3	-8.045804	0.003598	-0.018910

## 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	0.000625215
	stdev	2.35326e-07
MEAN Q	mean	0.000391958
	stdev	2.56641e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.110416
	stdev	0.00248828
STDEV Q	mean	0.110465
	stdev	0.00254226



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2007030[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
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ASA_GM1_1PNPDK20070305_083800_000004282056_00093_26199_6587.N1	0	7
ASA_WSM_1PNPDE20070305_003950_000002632056_00088_26194_1182.N1	0	32
ASA_WSM_1PNPDE20070305_145917_000000862056_00097_26203_1705.N1	0	12
ASA_WSM_1PNPDE20070305_163937_000001712056_00098_26204_1751.N1	0	17
ASA_WSM_1PNPDE20070306_031634_000000422056_00104_26210_2390.N1	47	7122
ASA_WSM_1PNPDE20070306_031634_000000422056_00104_26210_2498.N1	47	7122
ASA_WSM_1PNPDE20070306_031634_000000422056_00104_26210_2650.N1	47	7122





## 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)**

Acsending

Descending

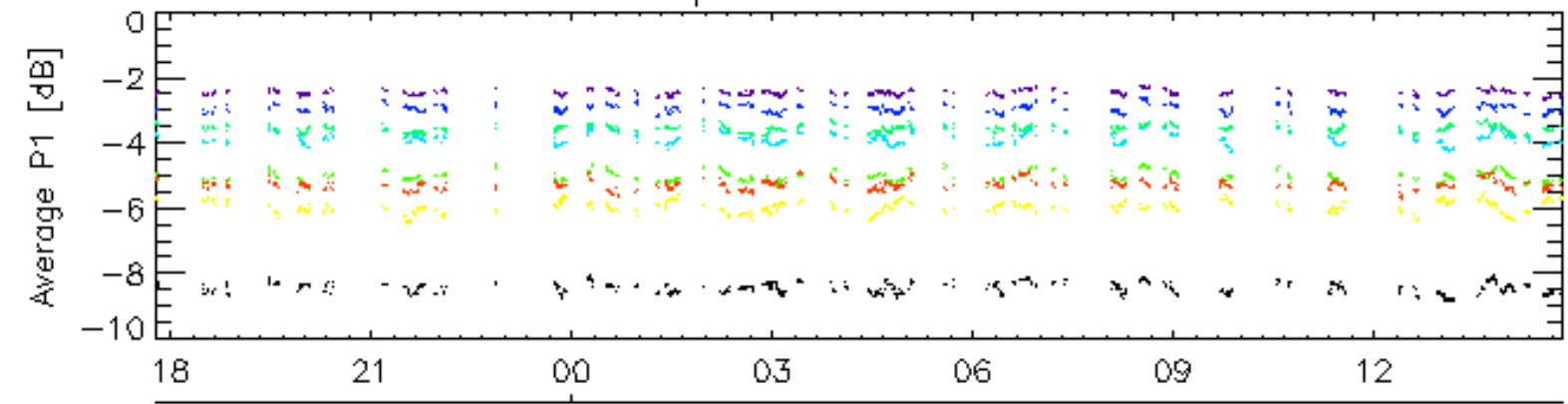
**7.5 - Absolute Doppler for GM1****Evolution of Absolute Doppler**

Acsending

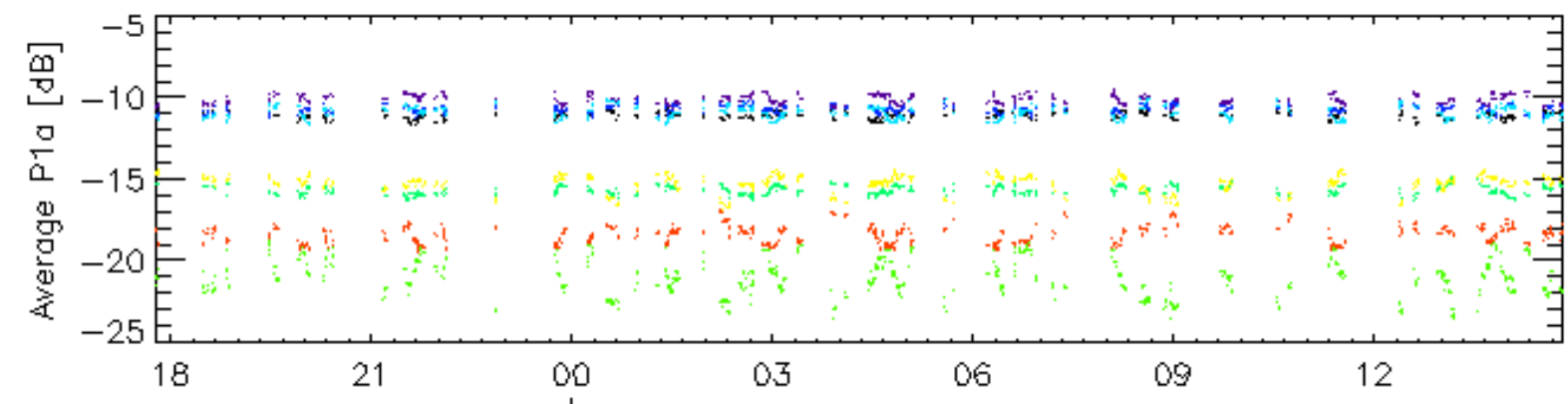
Descending

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

Cal pulses for GM1 SS3

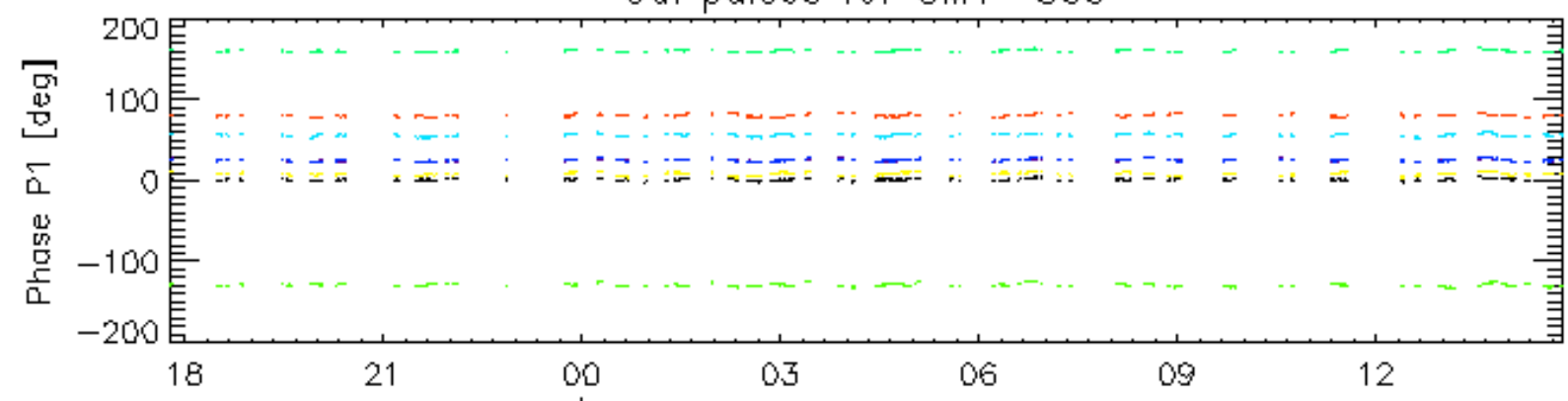


06-Mar

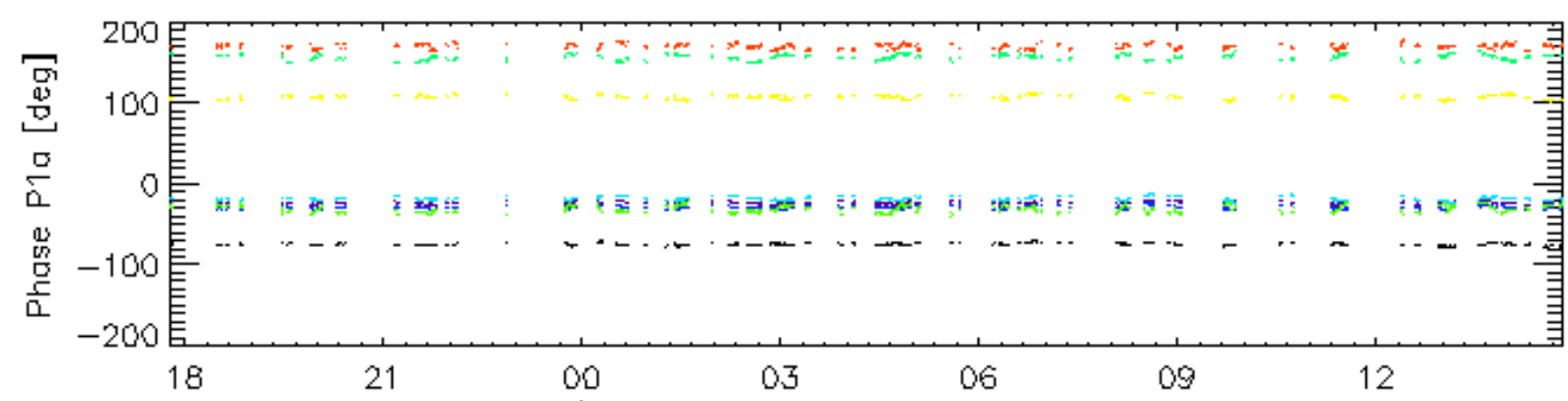


06-Mar

Cal pulses for GM1 SS3

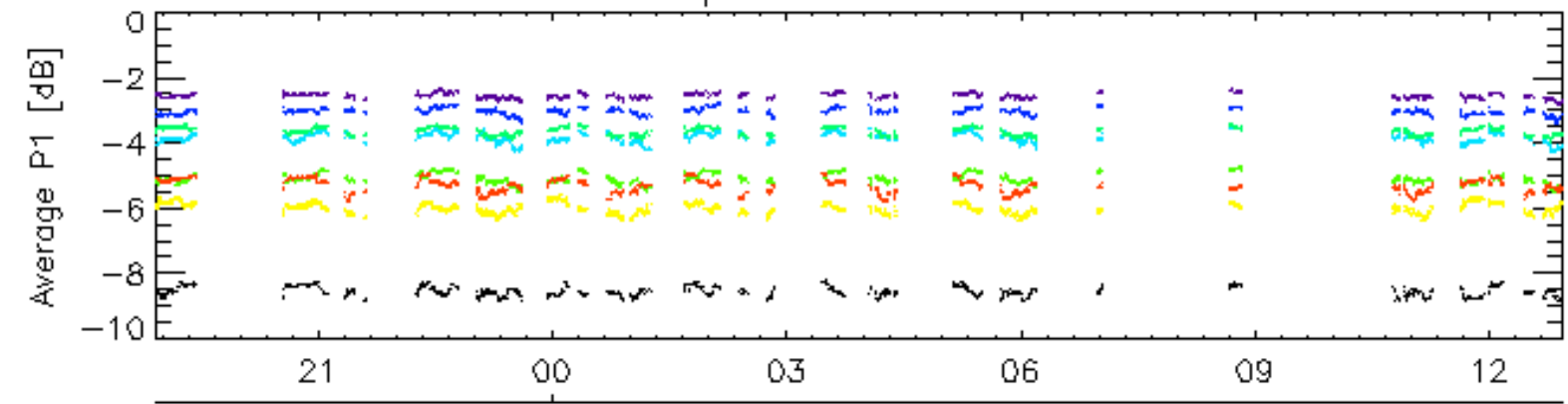


06-Mar

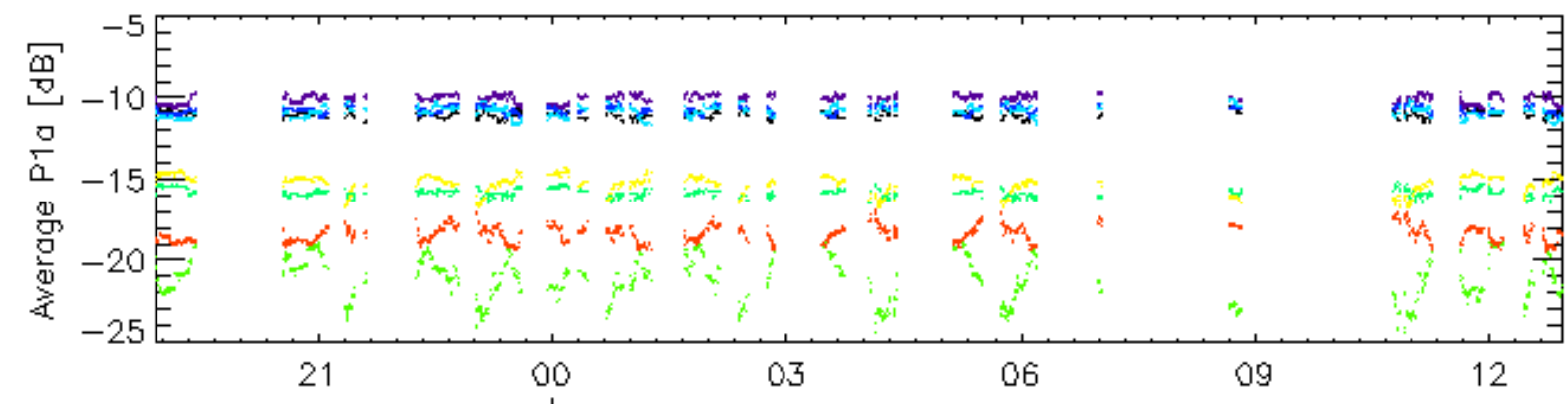


rows: 3 7 11 15 19 22 26 30

Cal pulses for WVS IS4

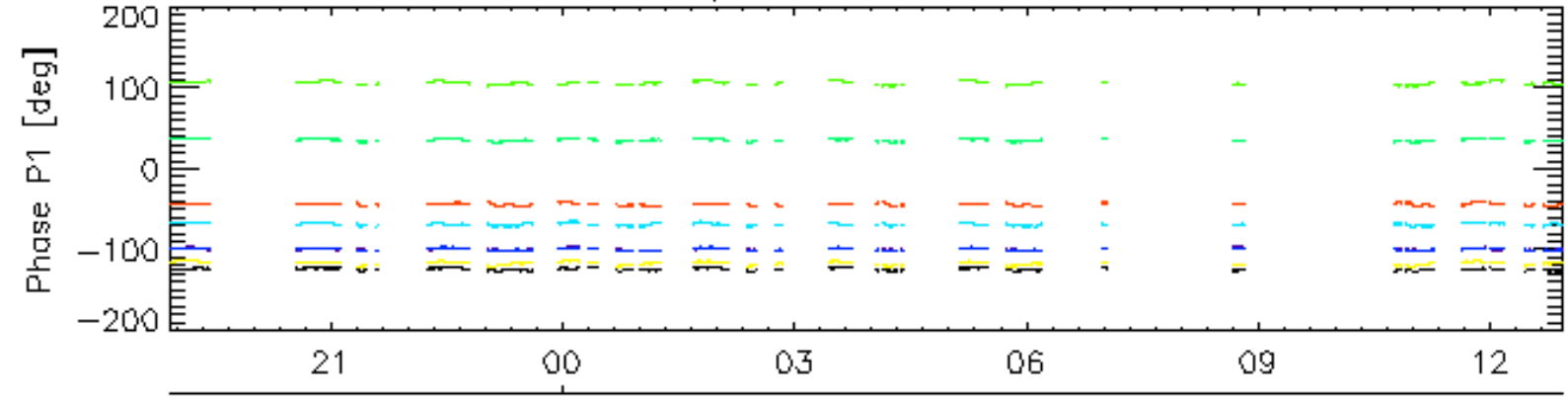


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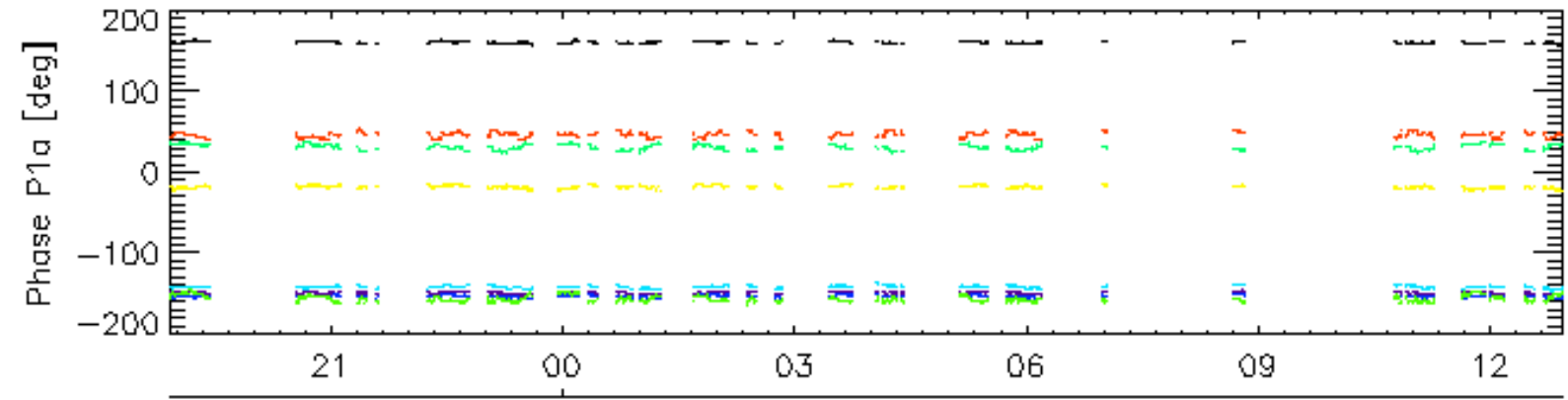


06-Mar

Cal pulses for WVS IS4



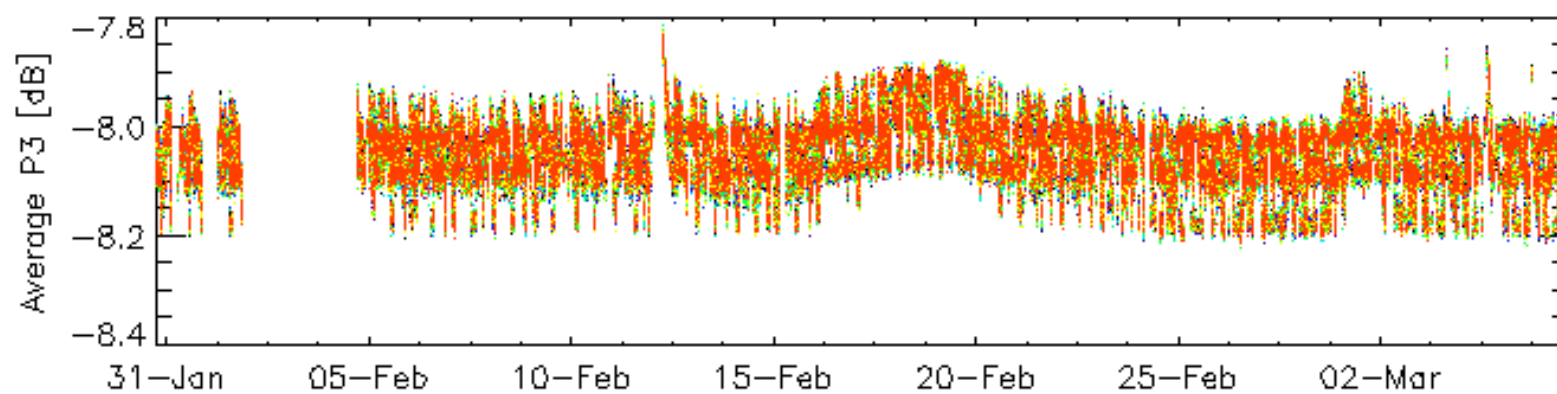
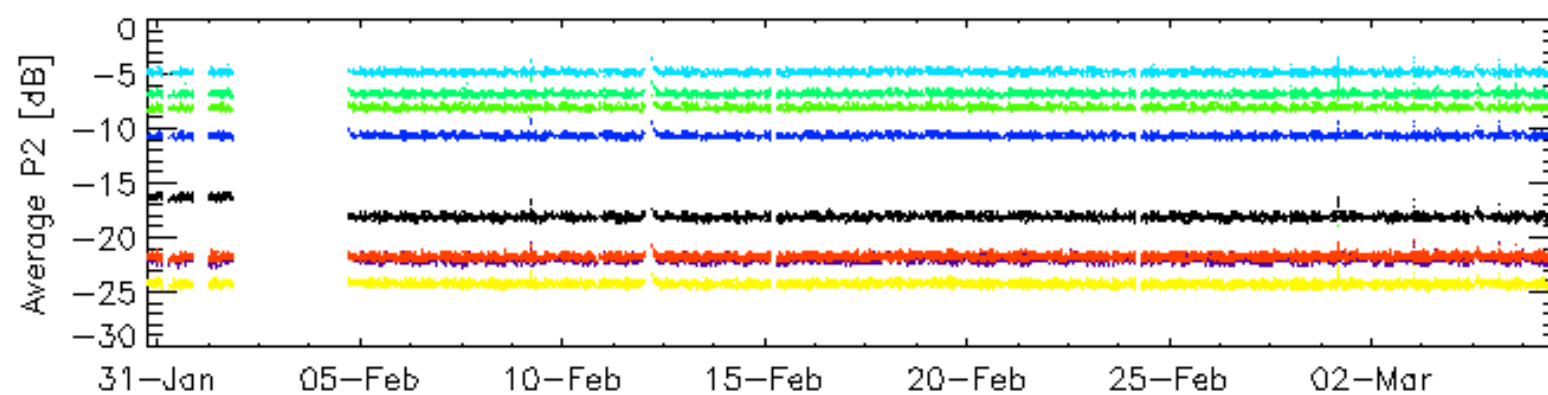
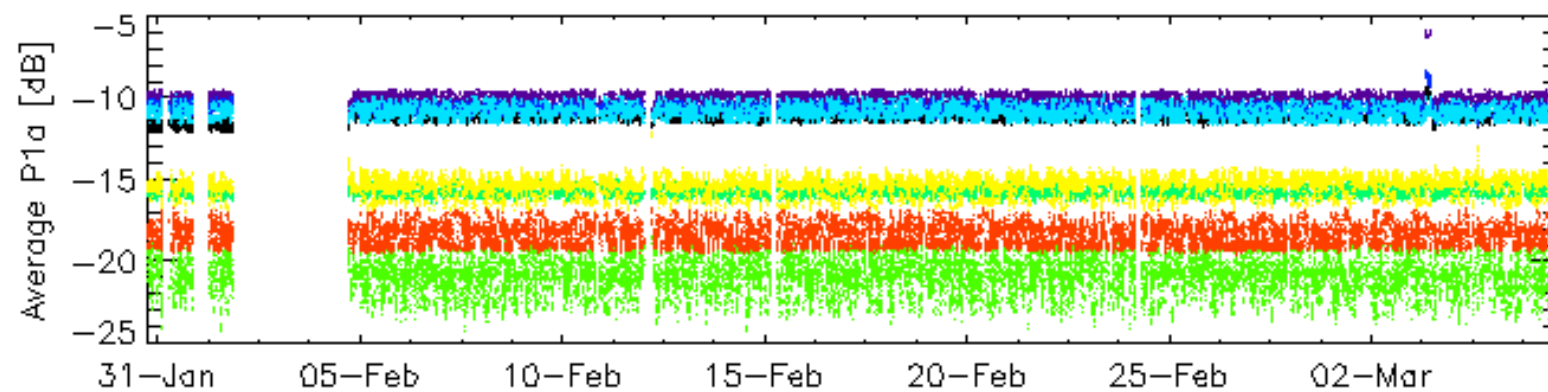
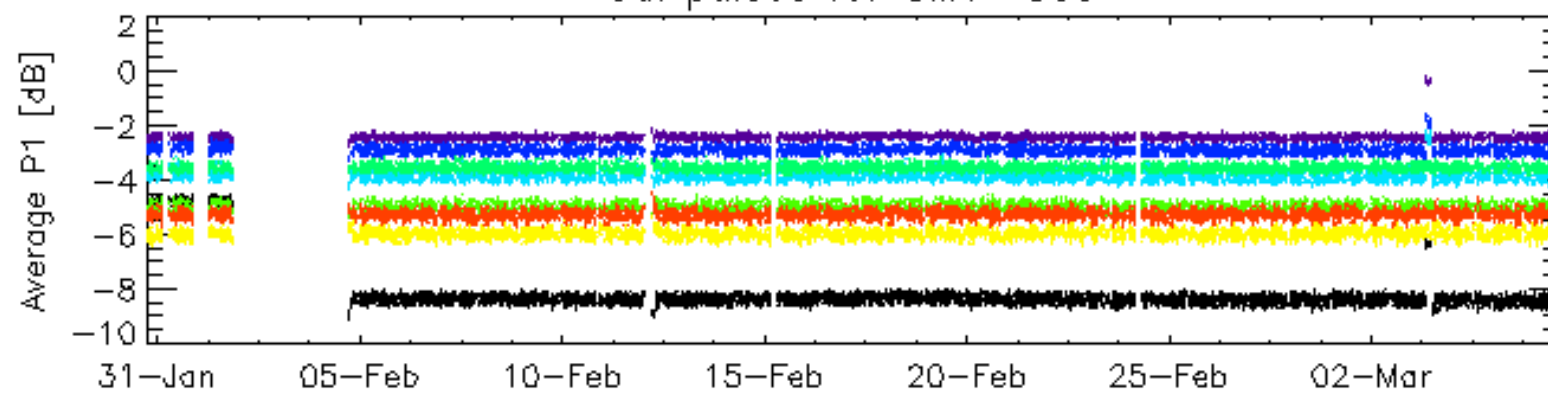
06-Mar



06-Mar

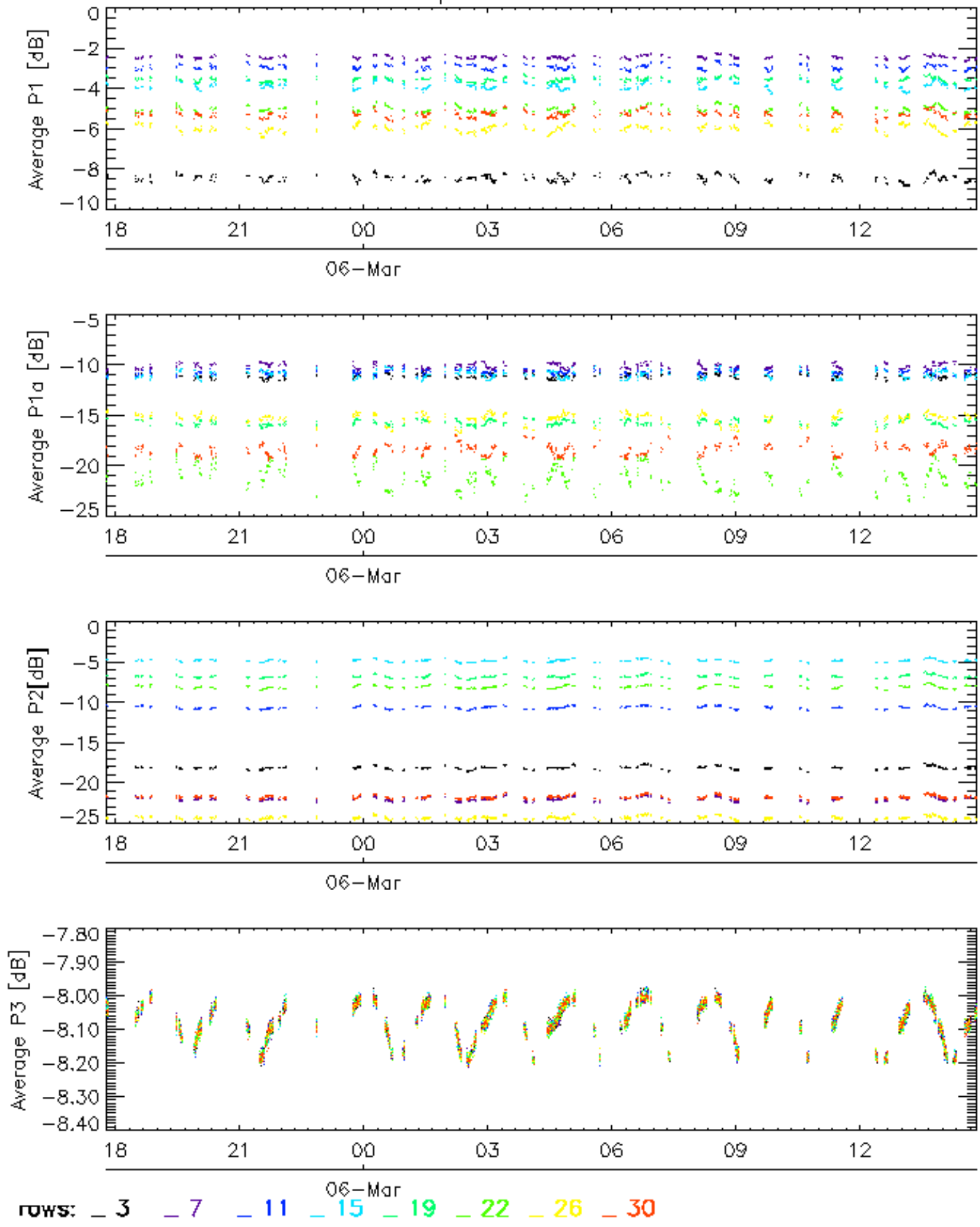
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

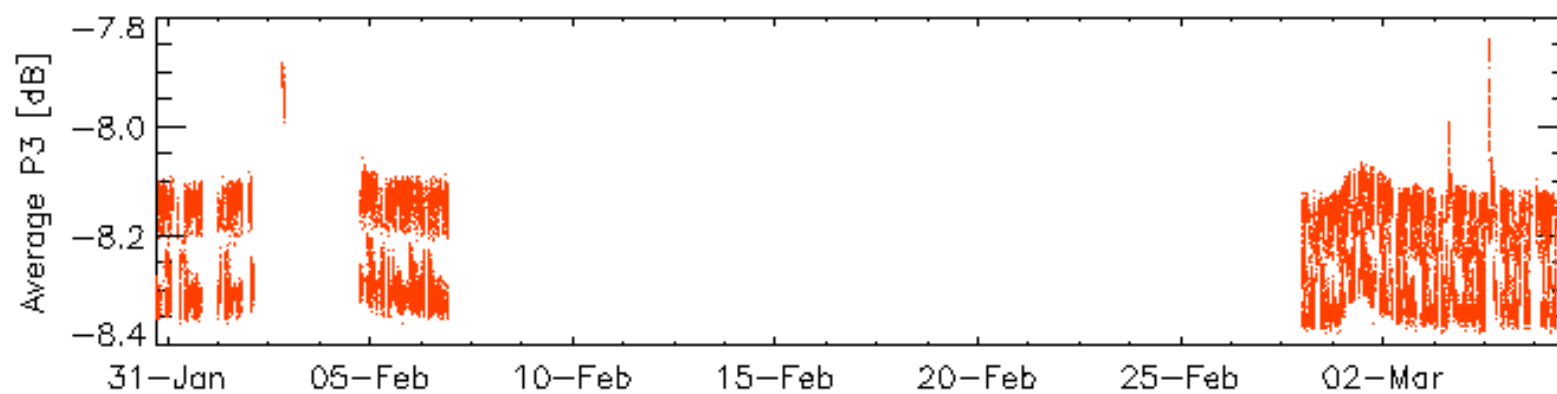
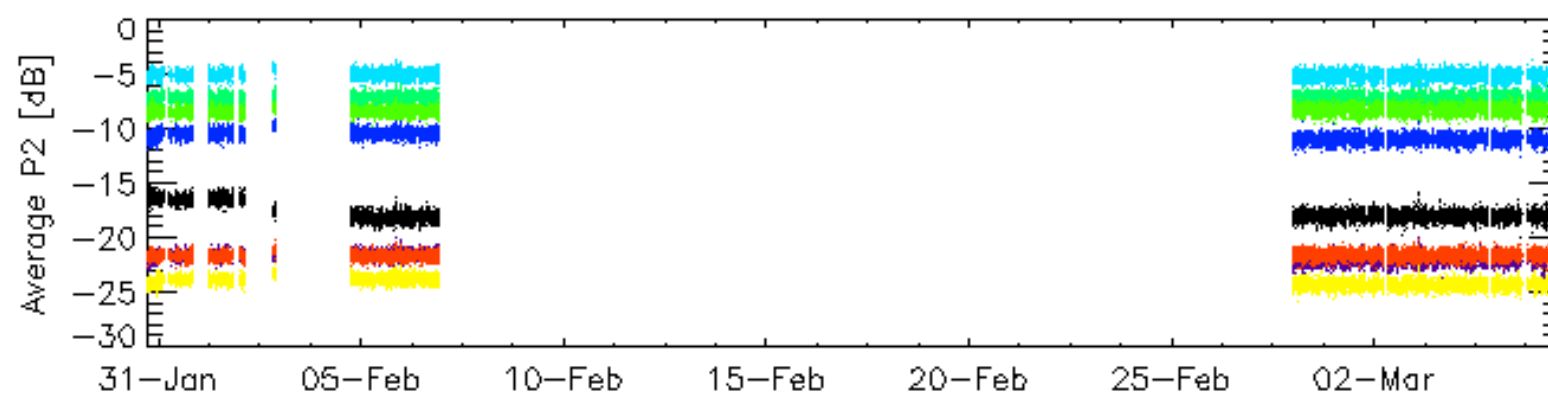
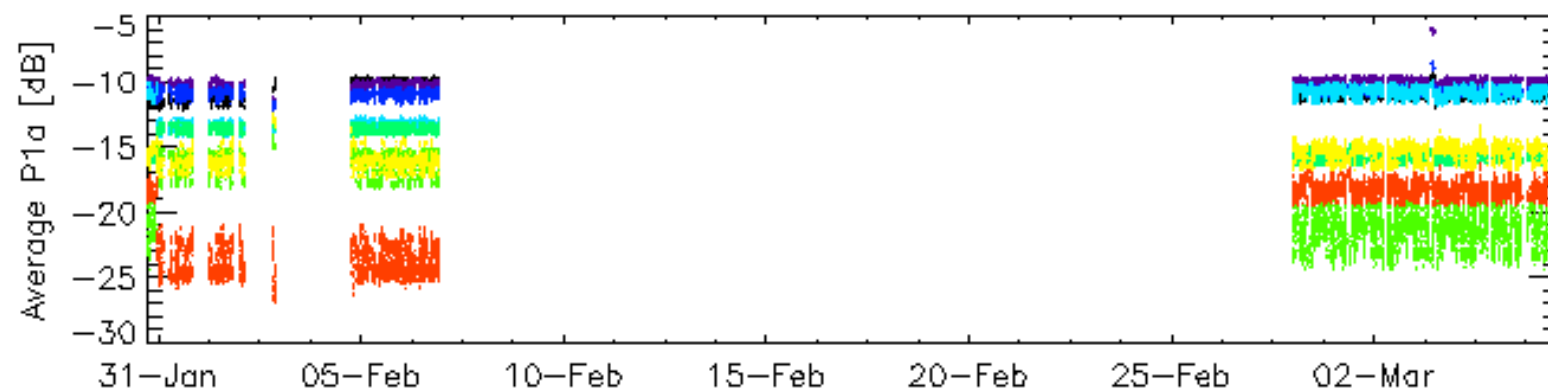
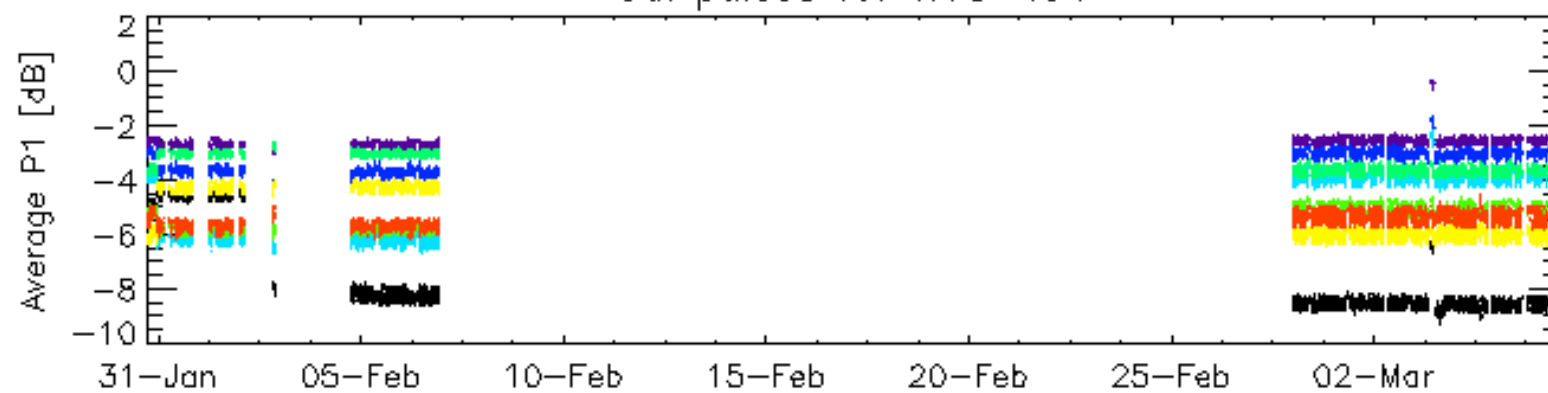


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

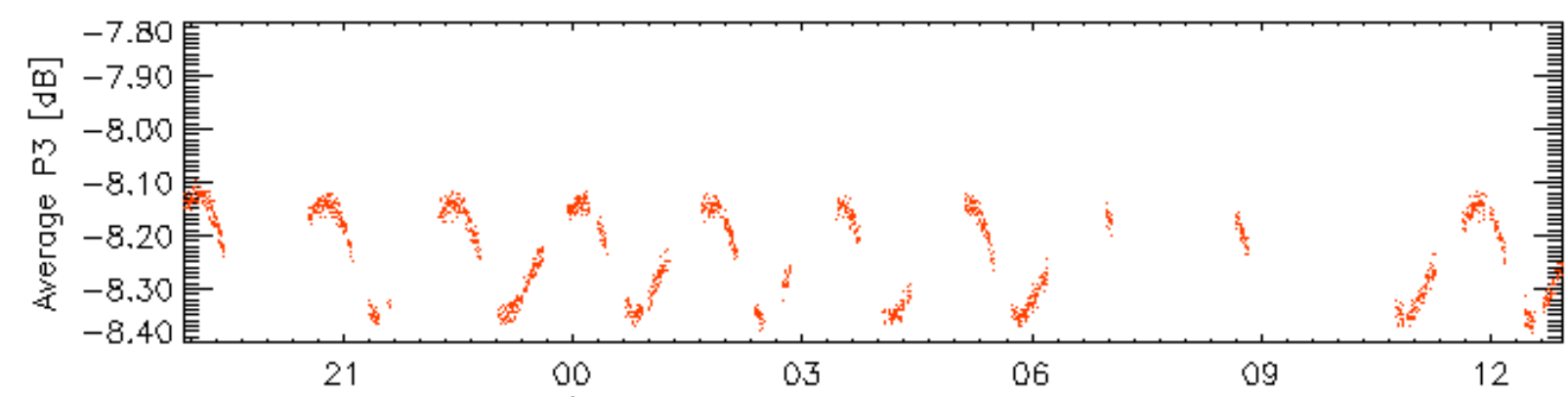
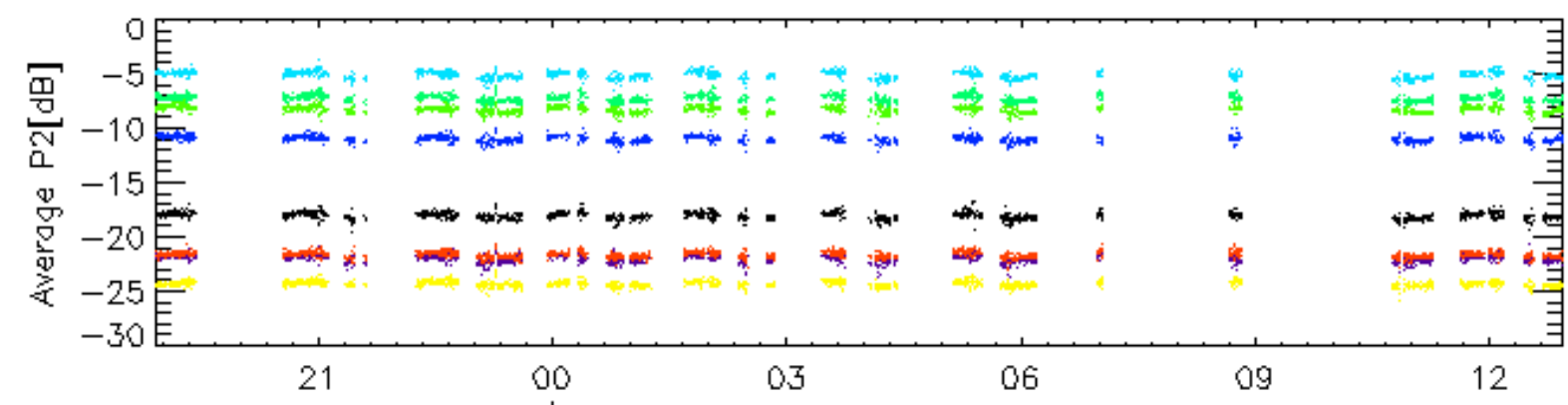
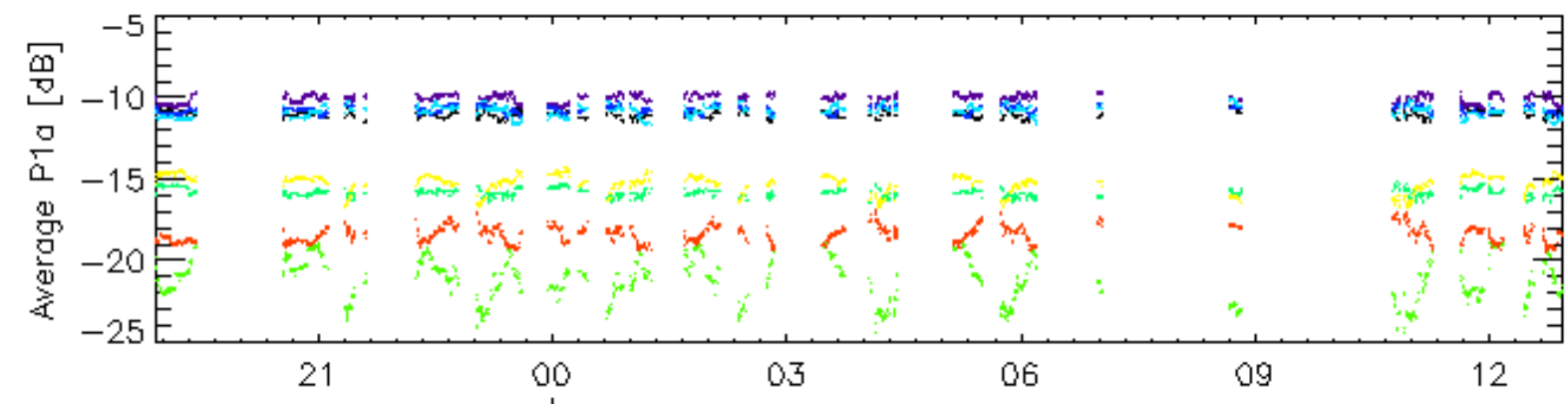
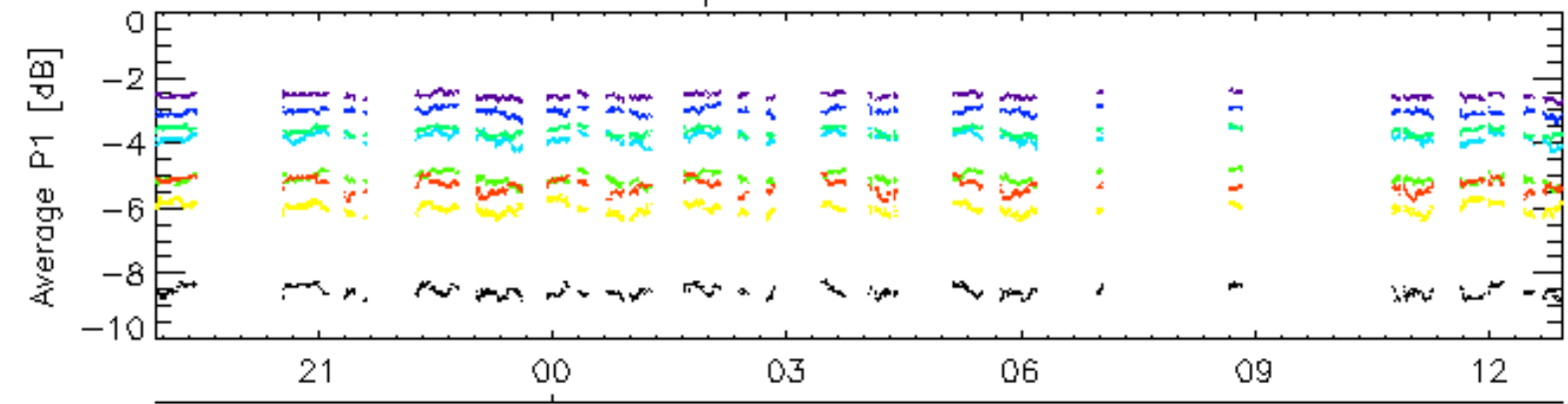


Cal pulses for WVS IS4



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

Cal pulses for WVS IS4

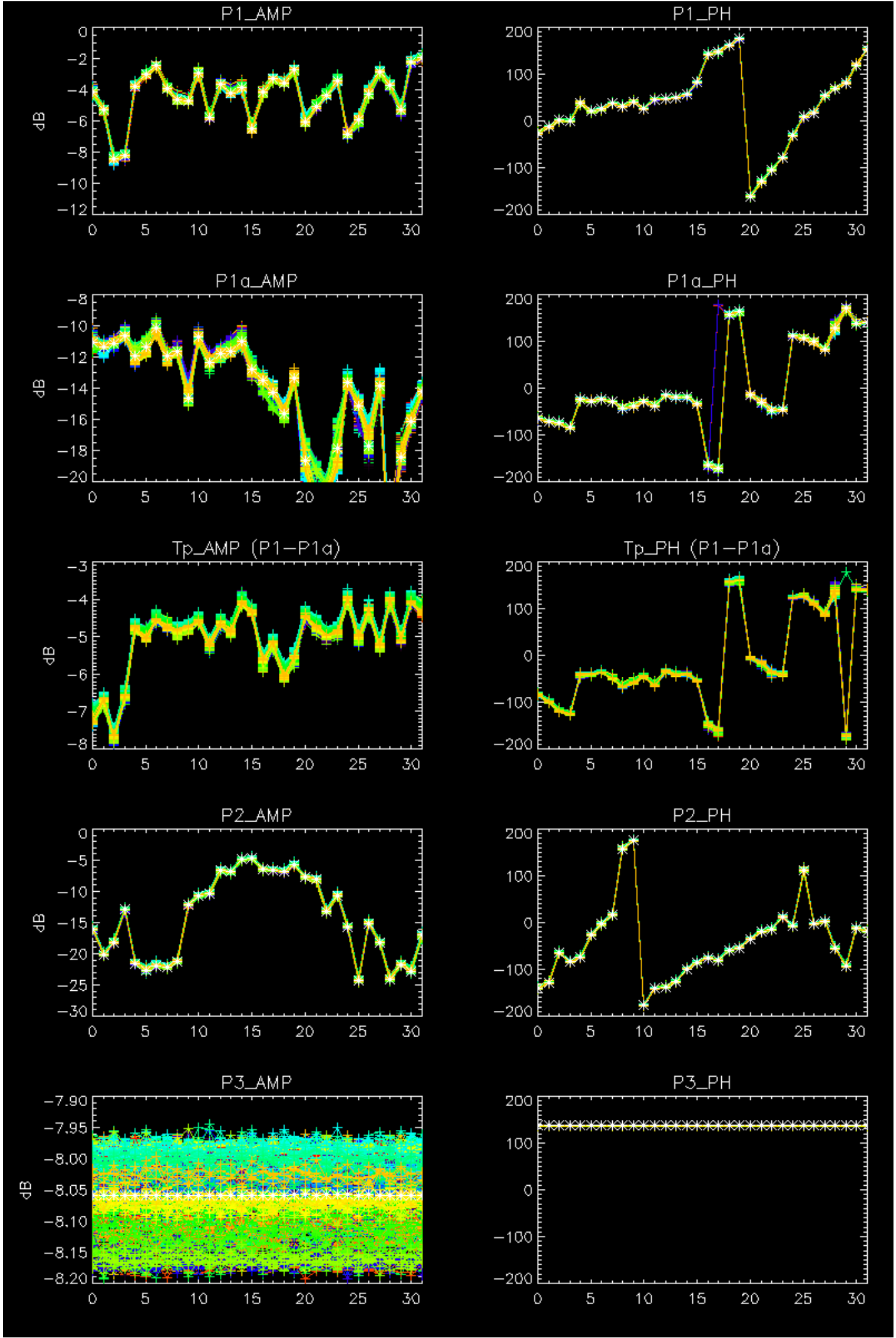


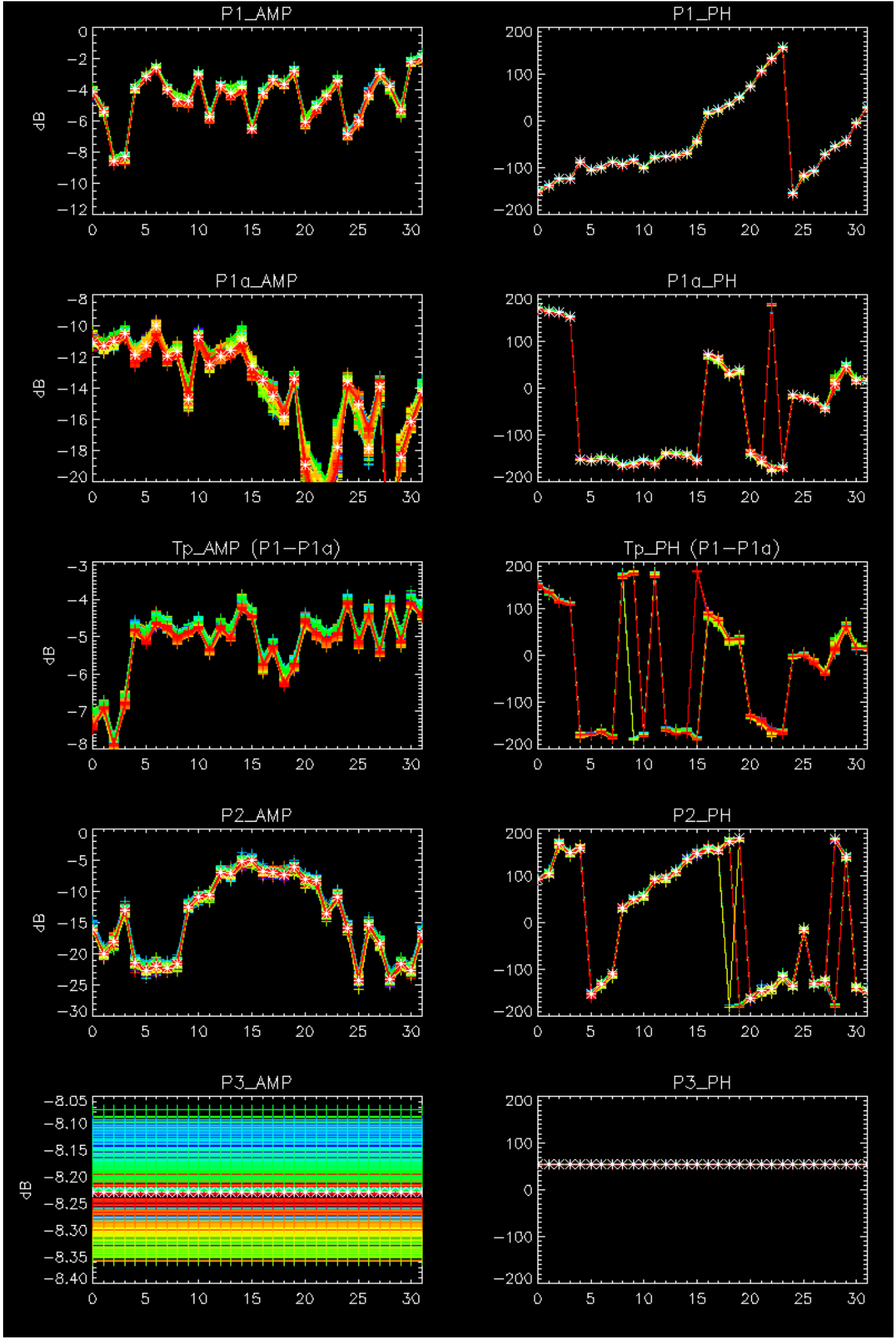
rows: **3** **7** **11** **15** **19** **22** **26** **30**

No anomalies observed on available browse products



No anomalies observed.



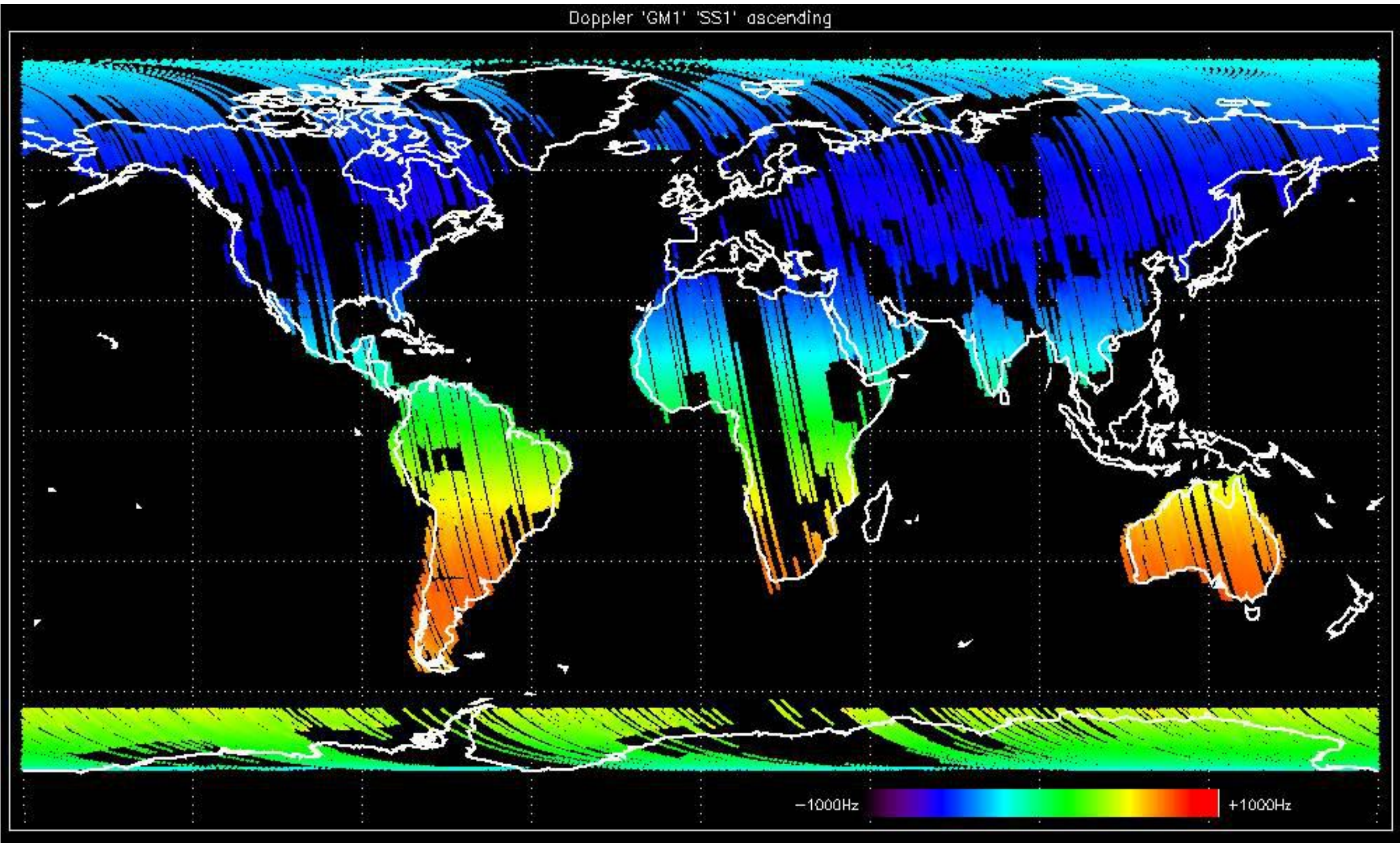


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



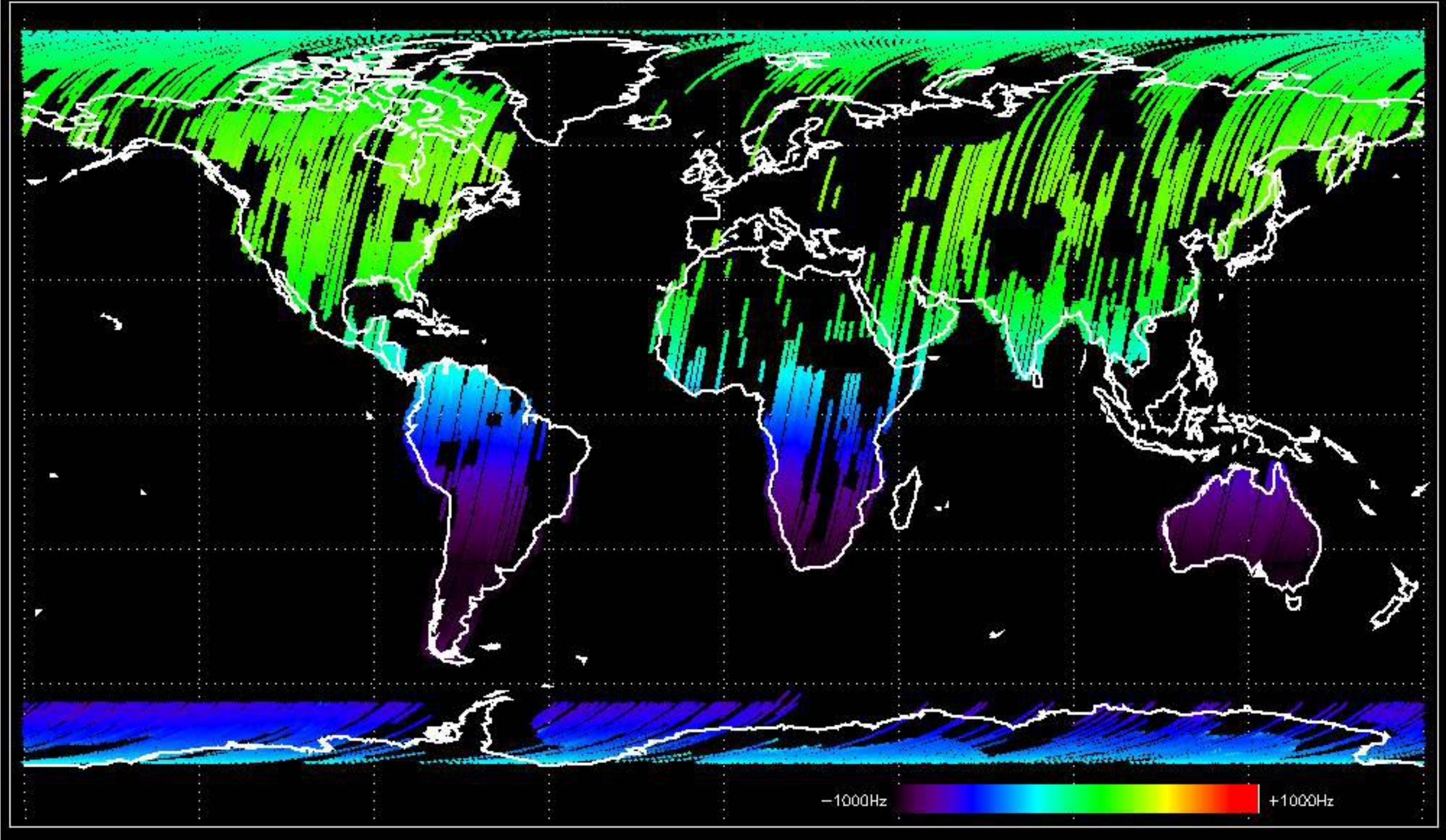


Doppler 'GM1' 'SS1' ascending



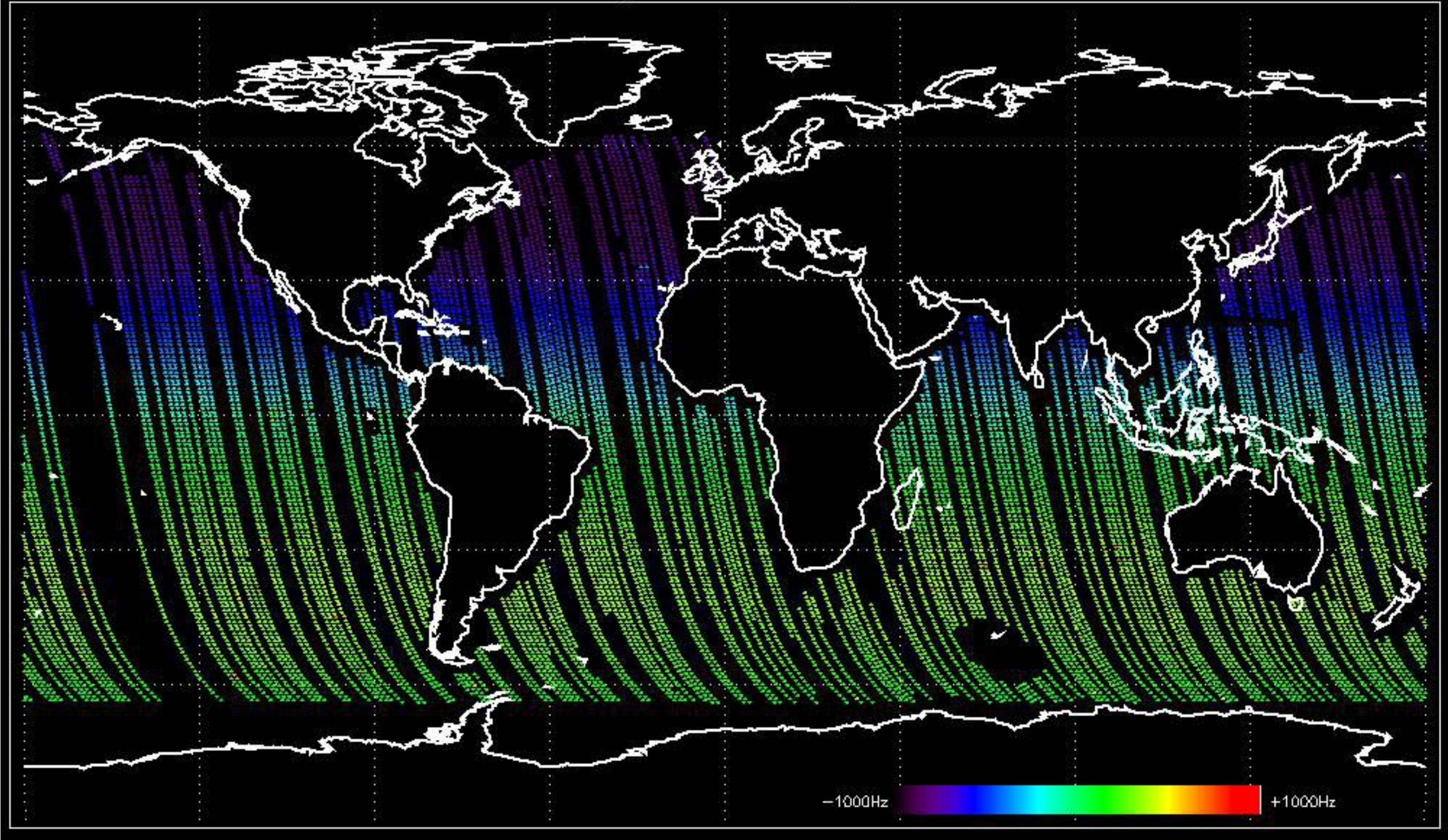


Doppler 'GM1' 'SS1' descending



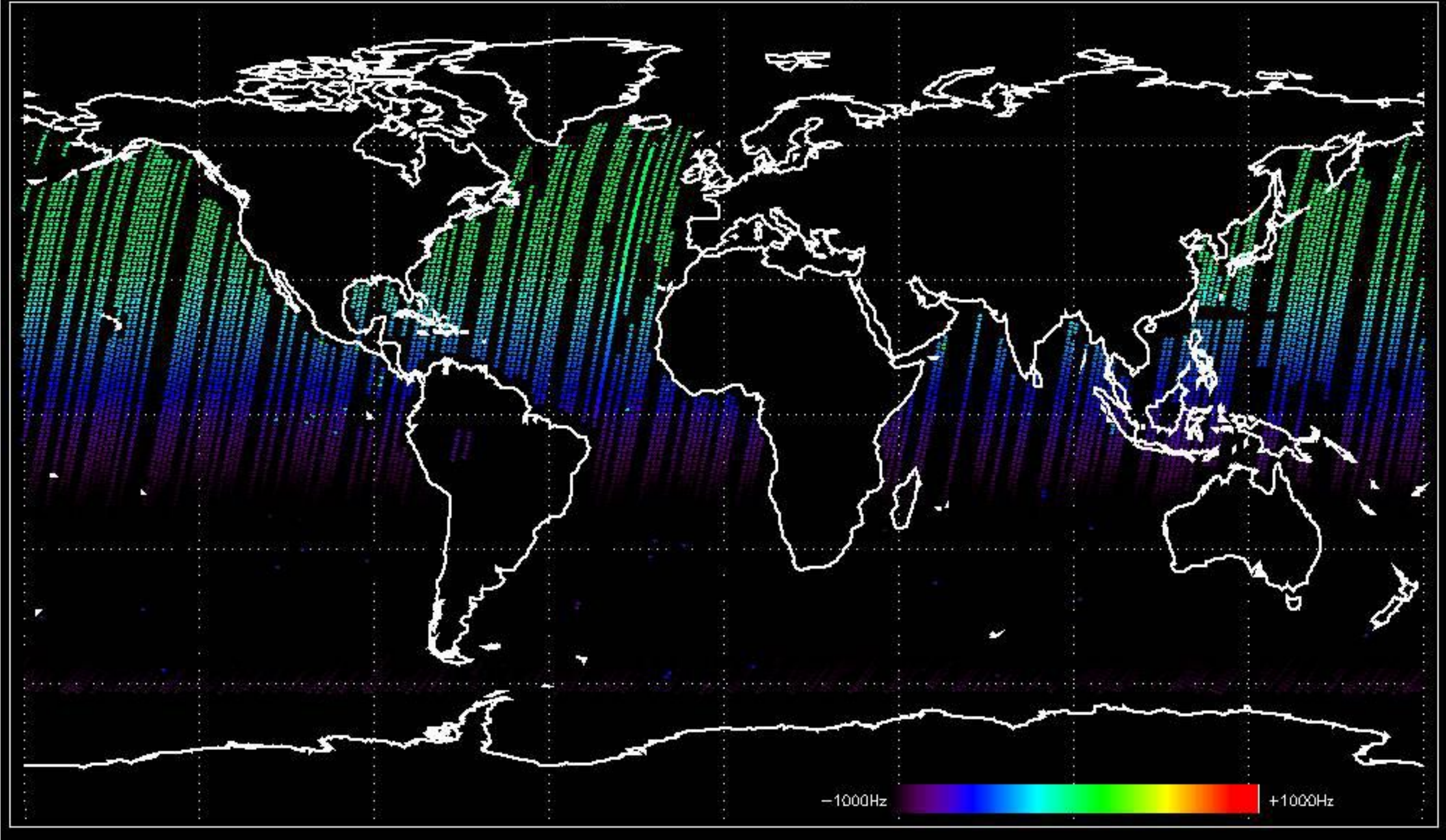


Doppler 'WVS' 'IS4' ascending

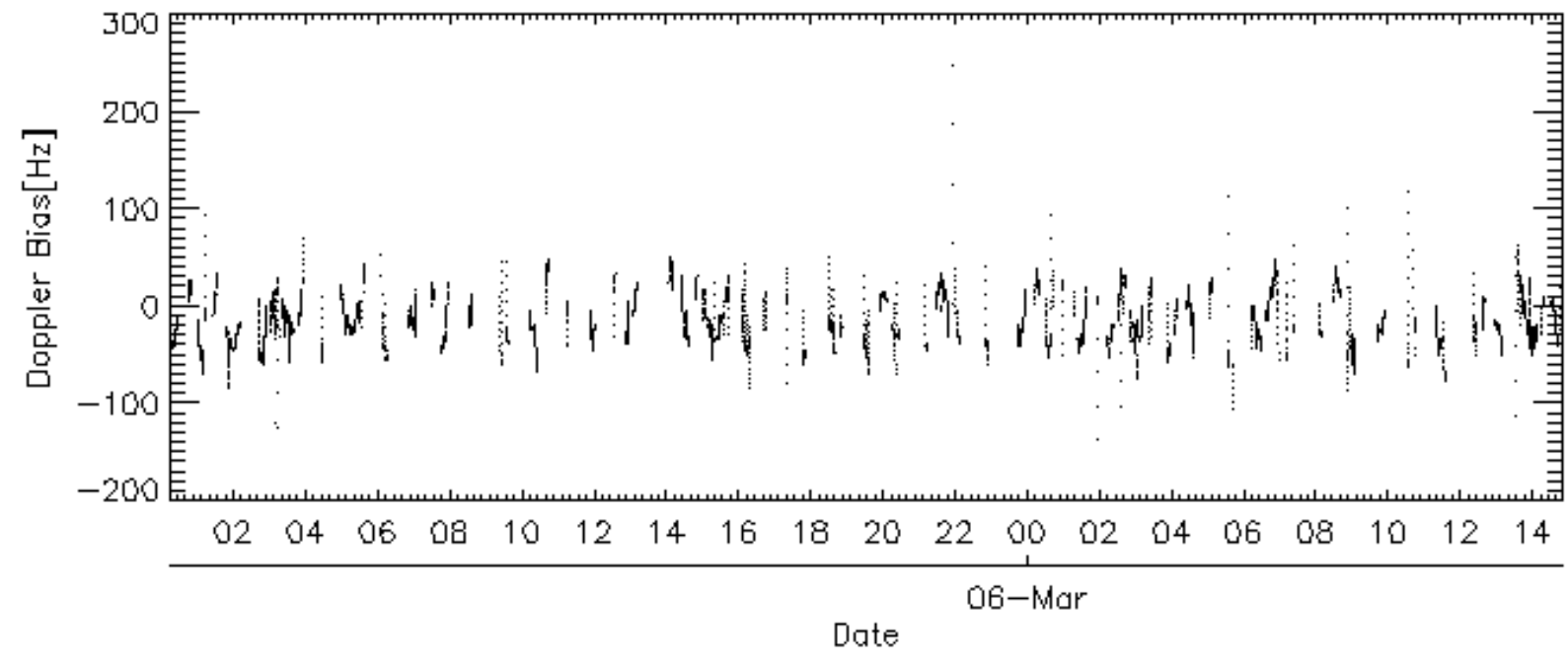
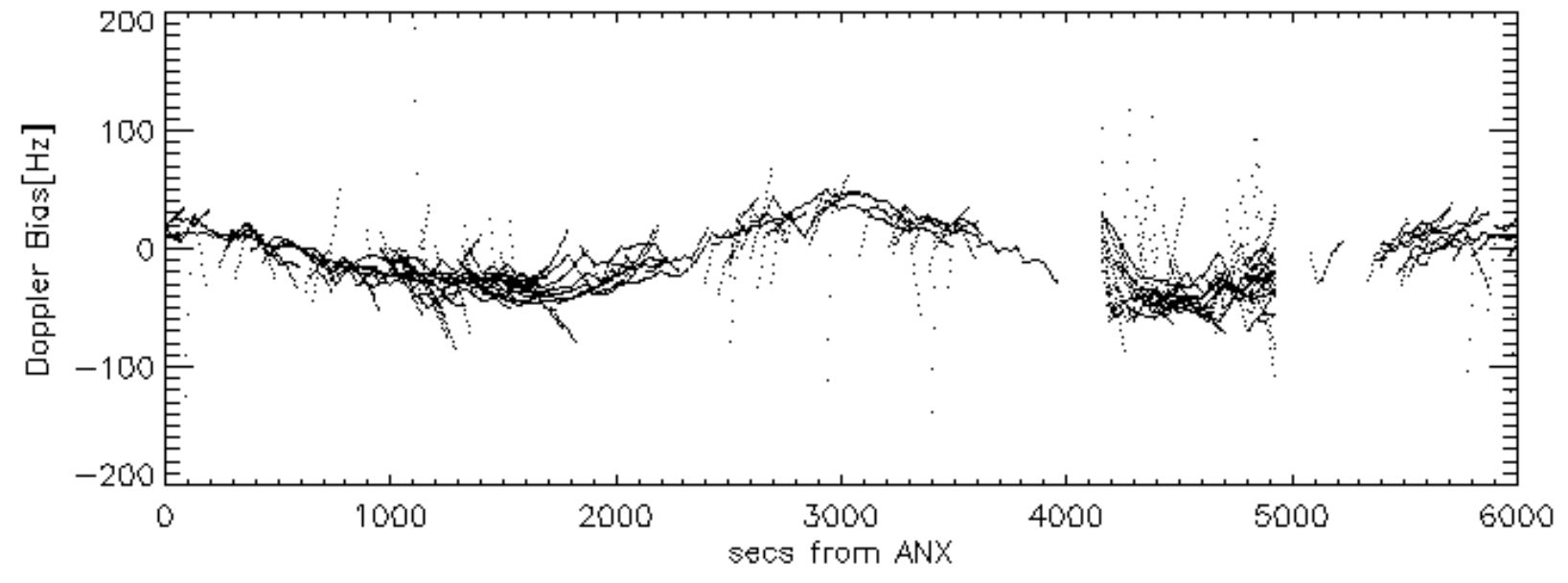
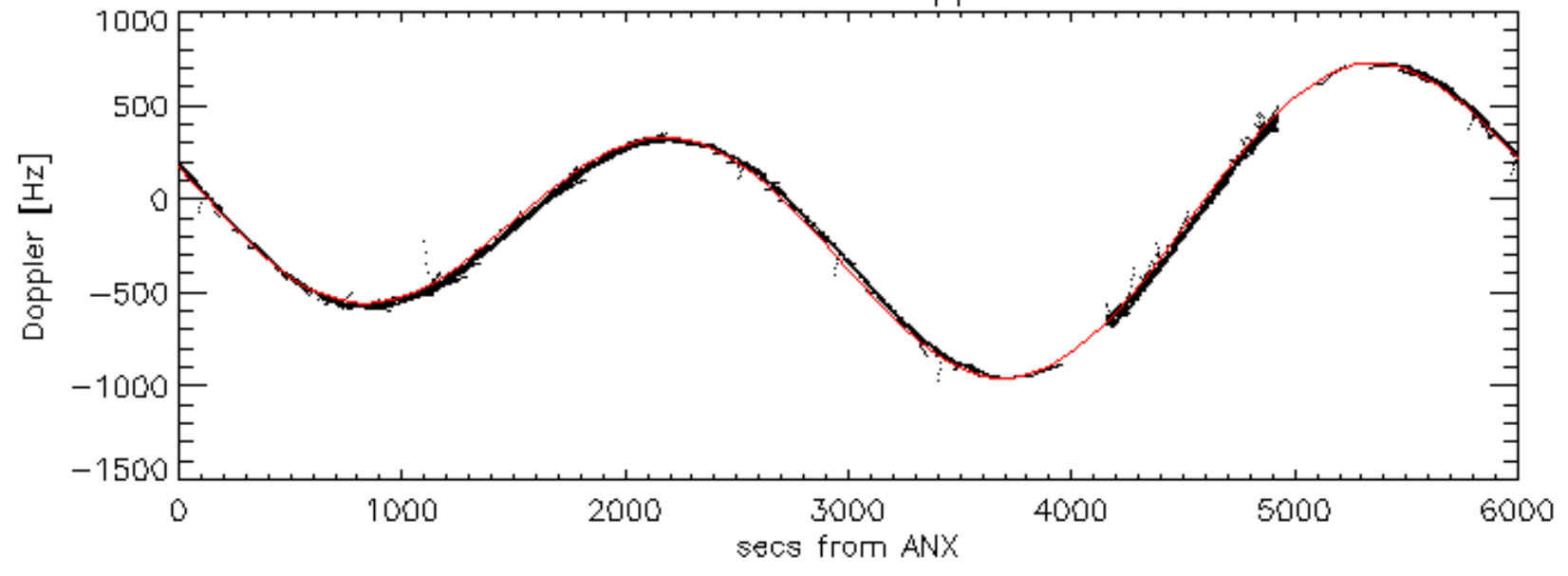


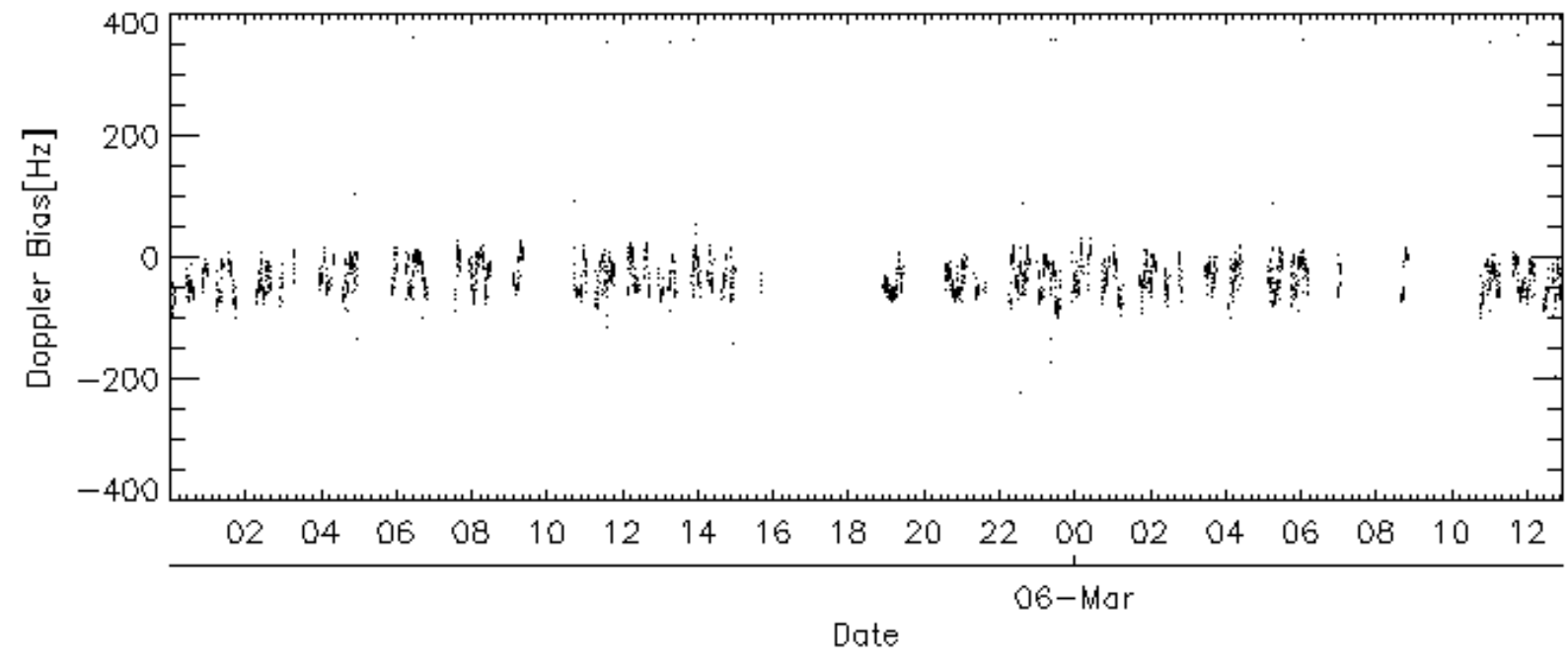
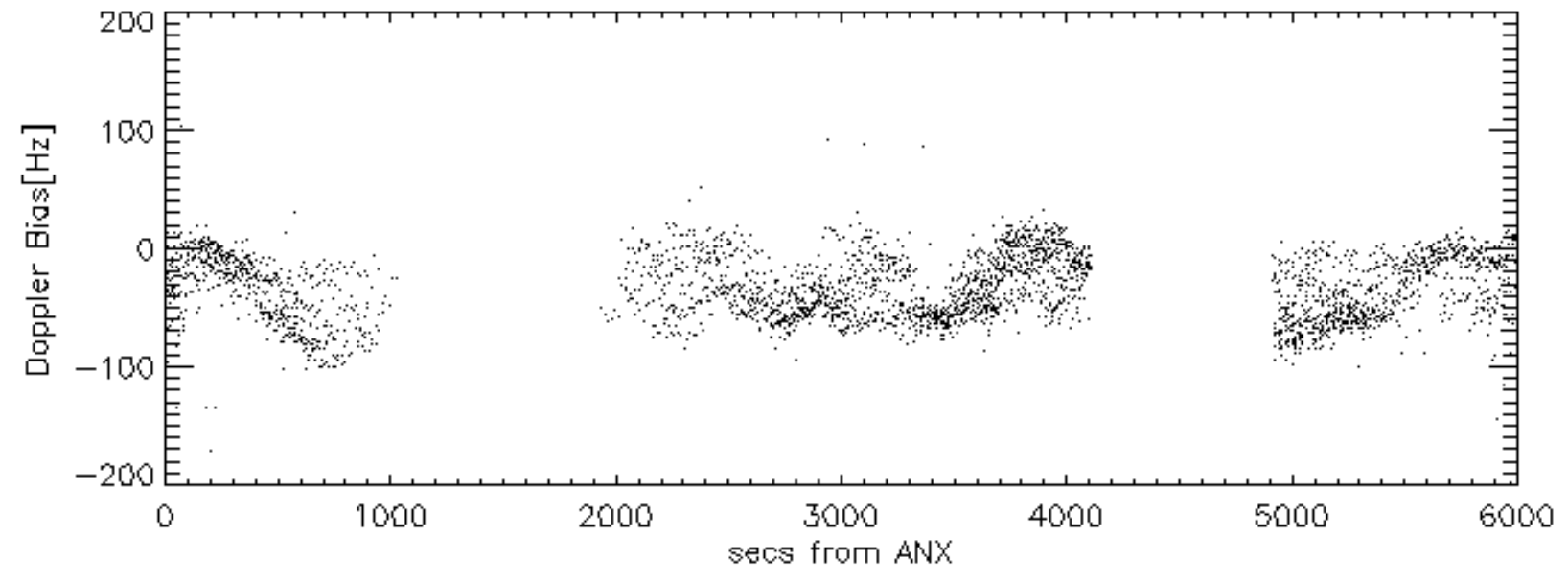
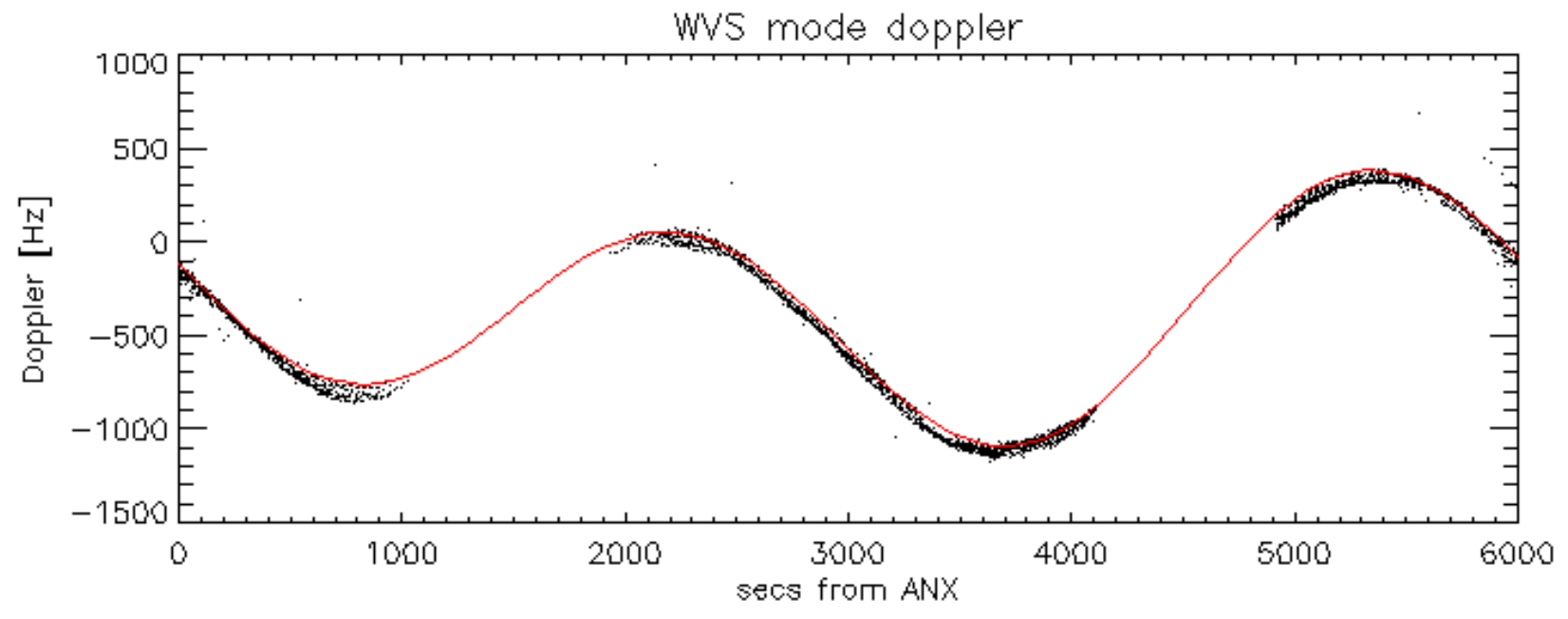


Doppler 'WVS' 'IS4' descending



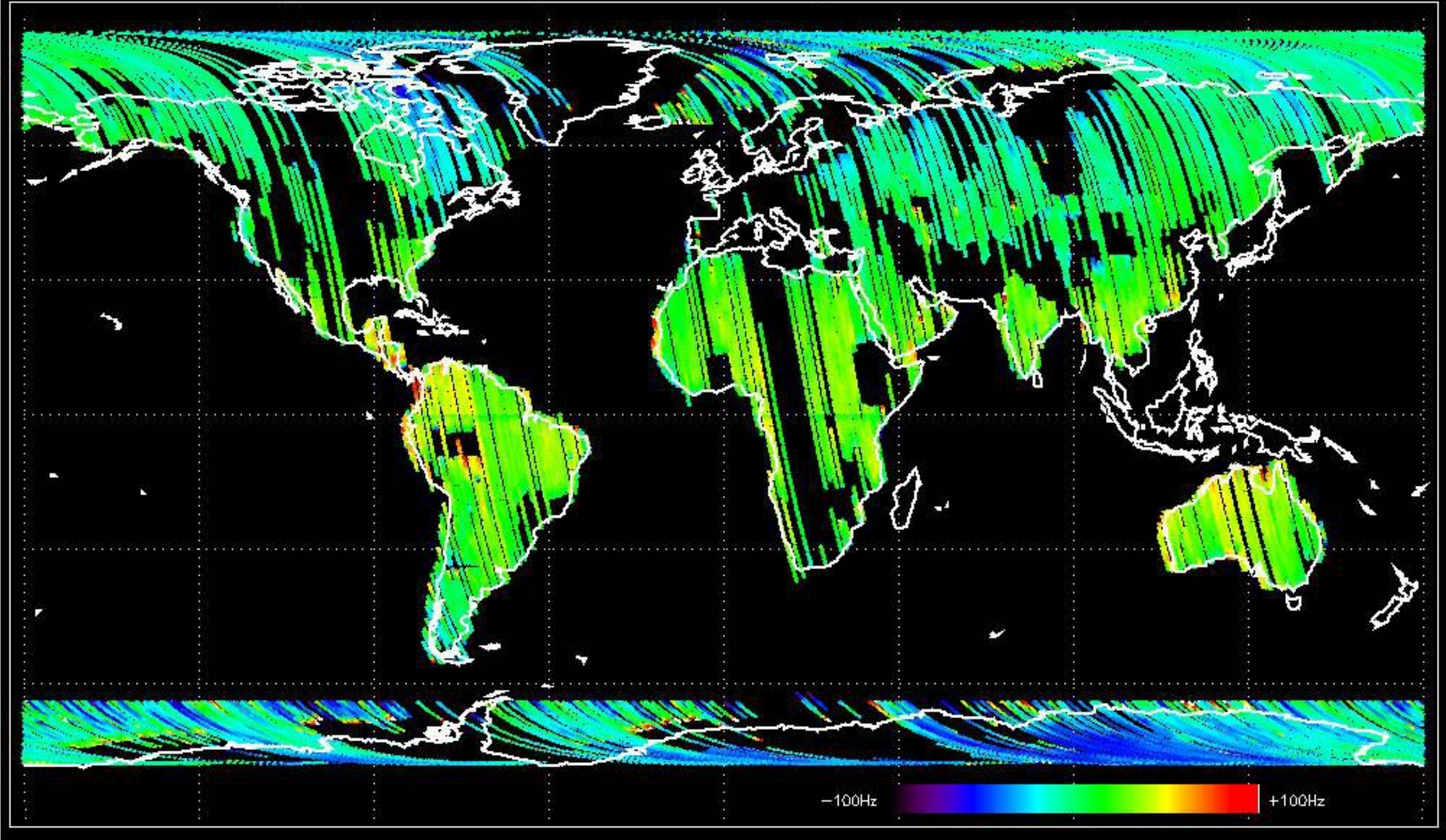
GM1 mode doppler





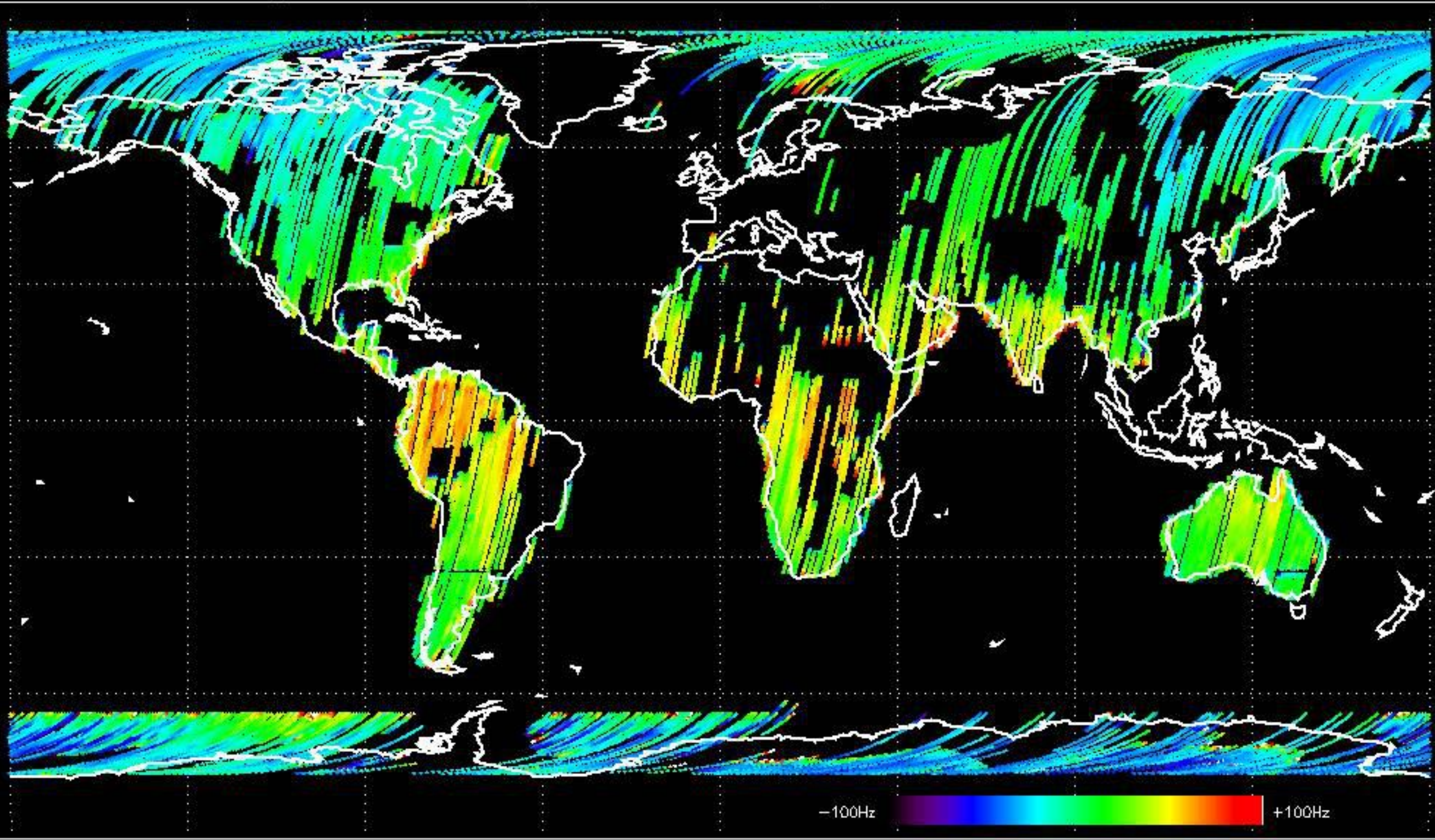


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -19.208694 Hz



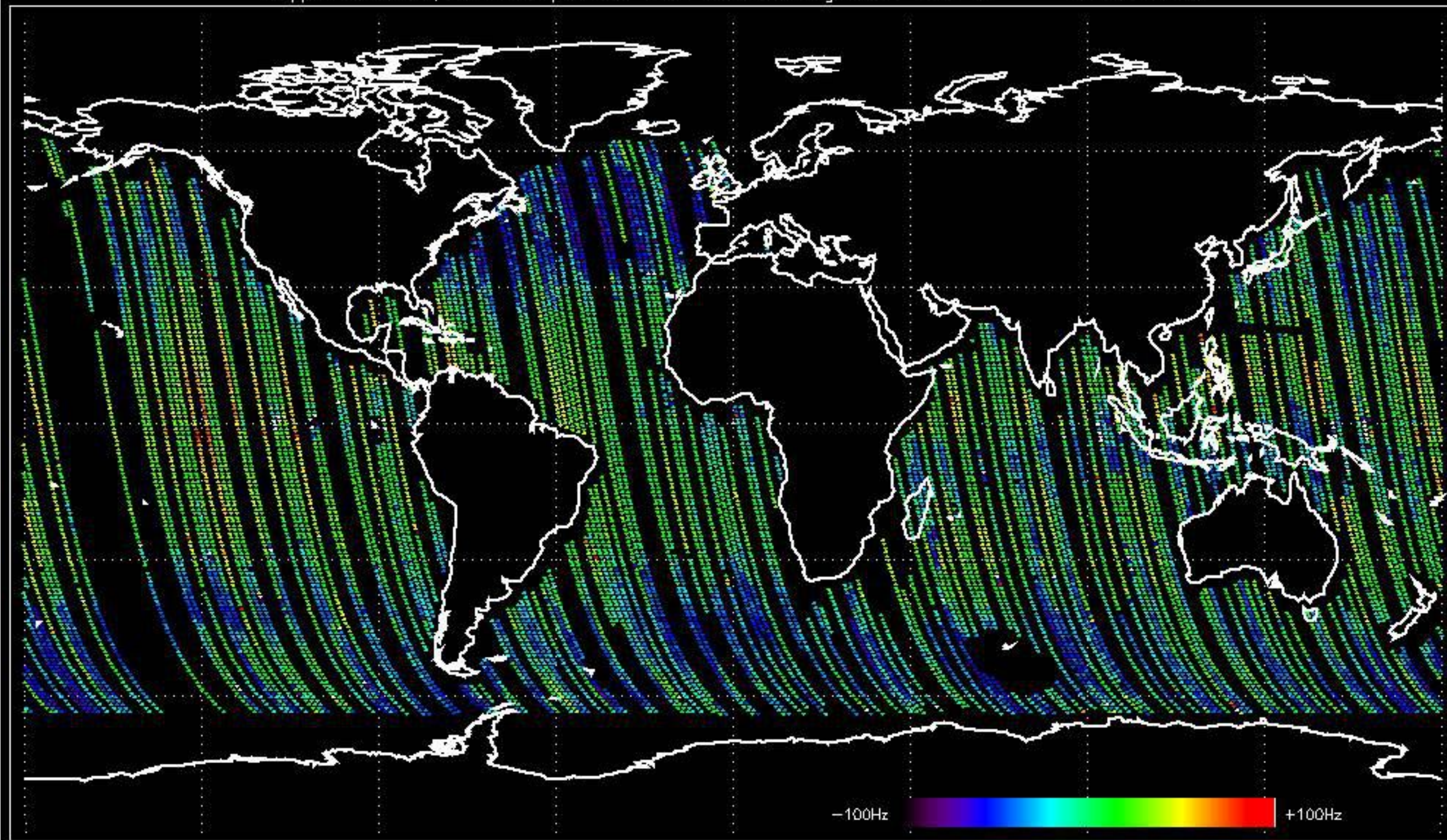


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -16.309364 Hz



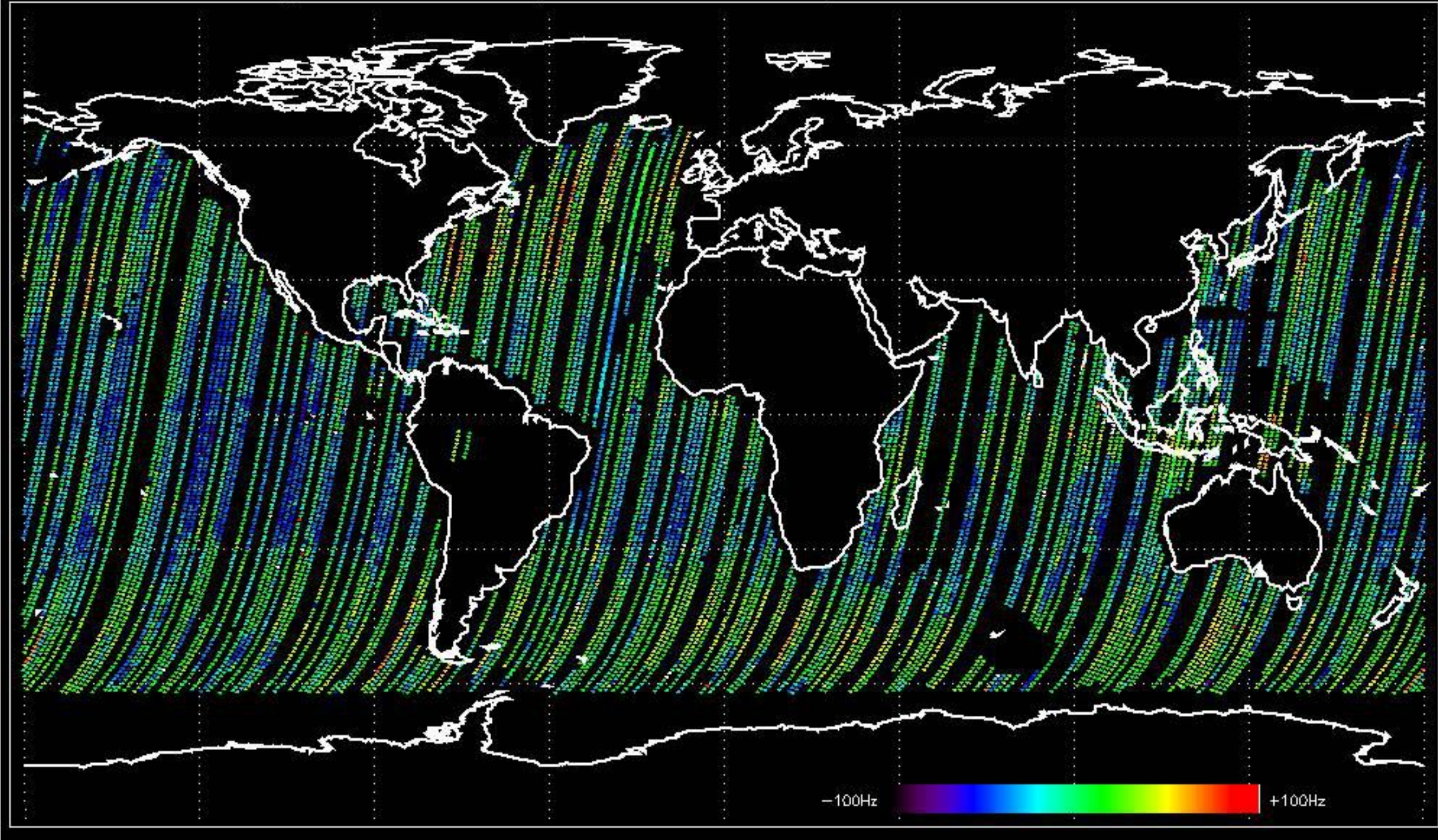


Doppler difference, estimated-predicted 'WVS' 'IS4' ascending -error mean of -24.698471 Hz





Doppler difference, estimated-predicted 'WVS' 'IS4' descending -error mean of -28.684991 Hz





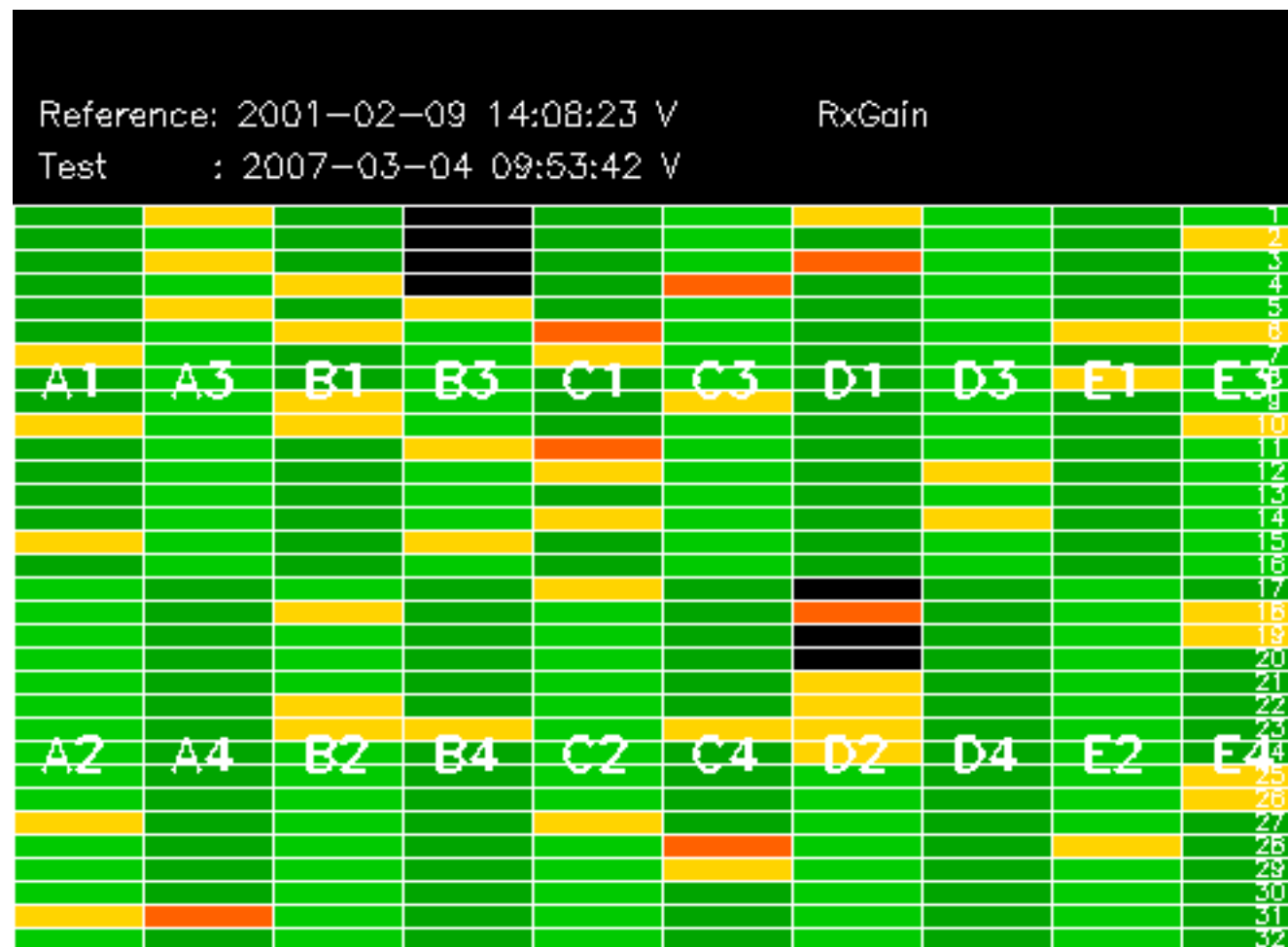
No anomalies observed on available MS products:



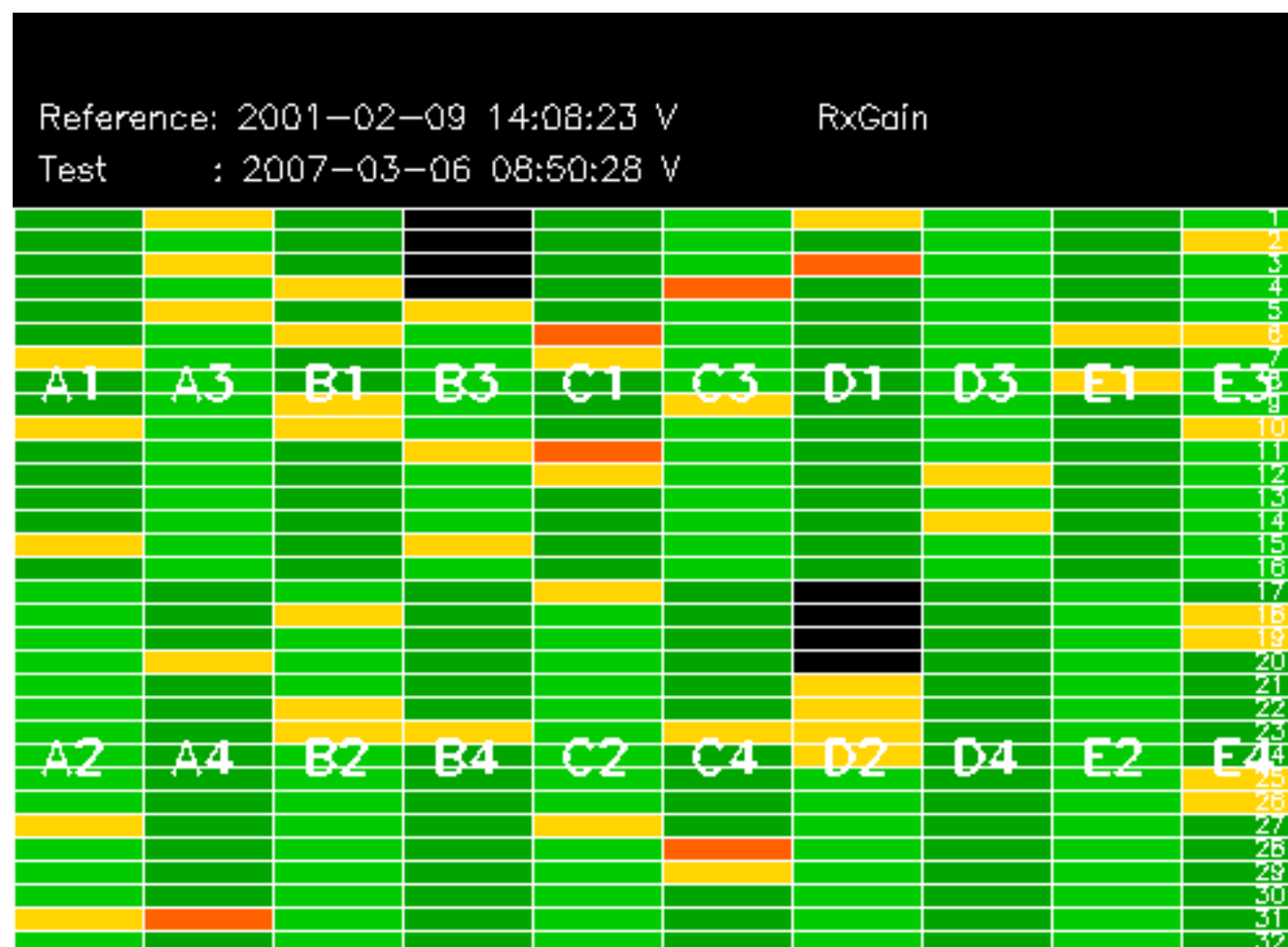
No anomalies observed.

















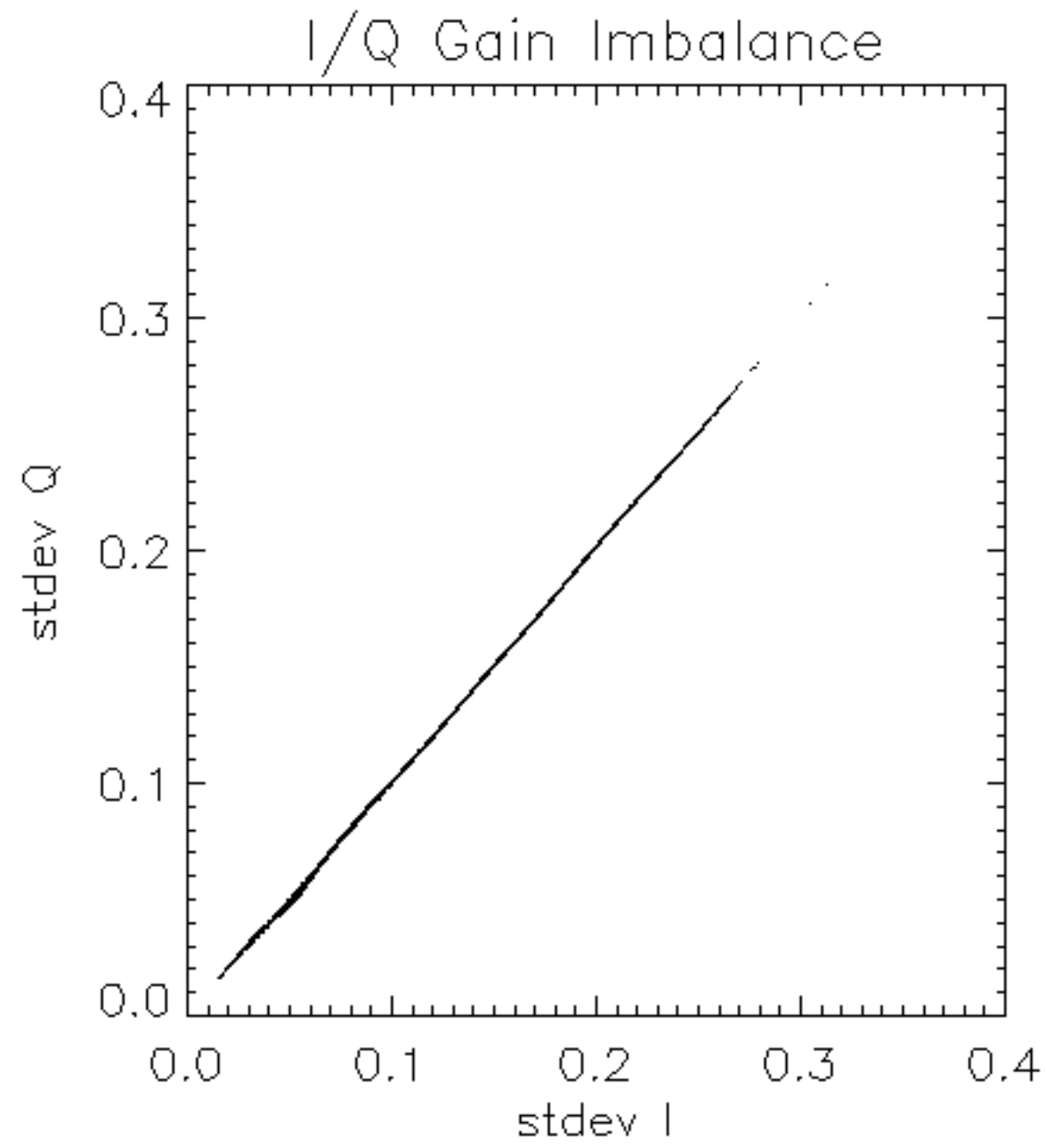


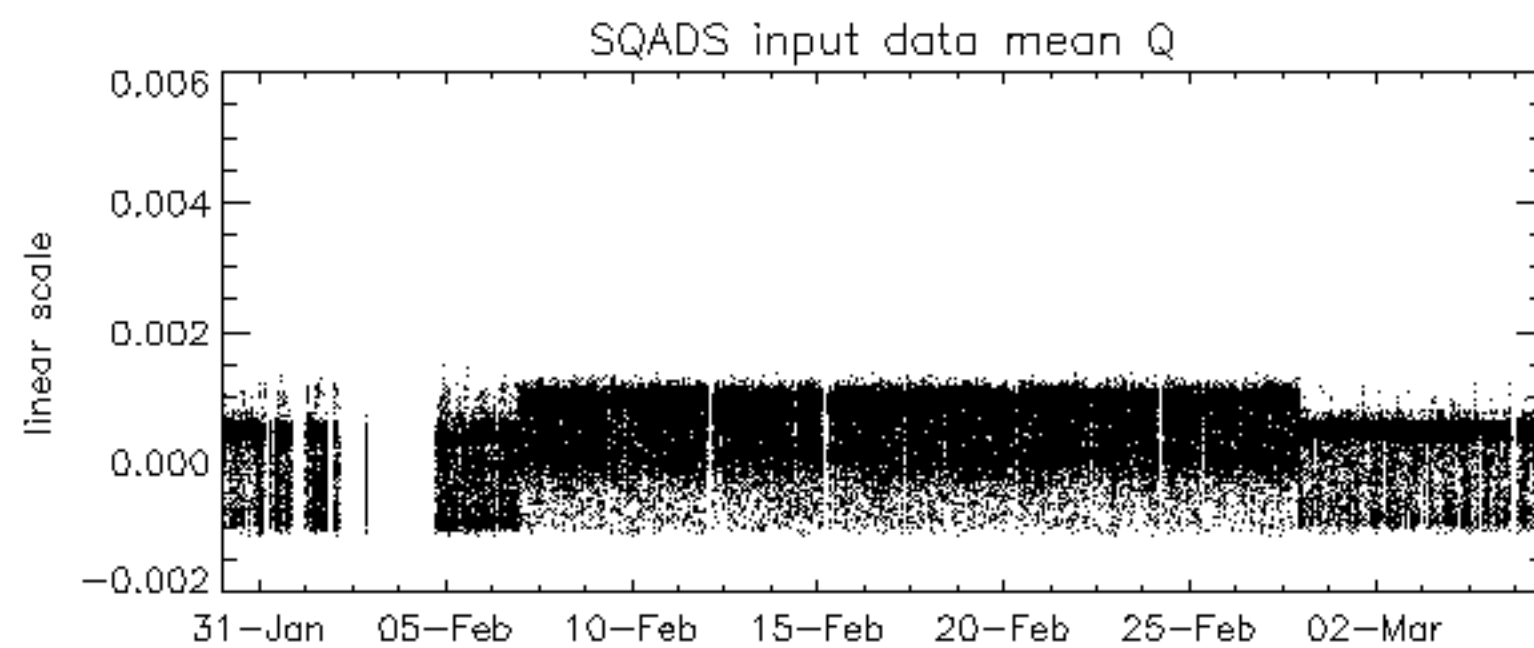
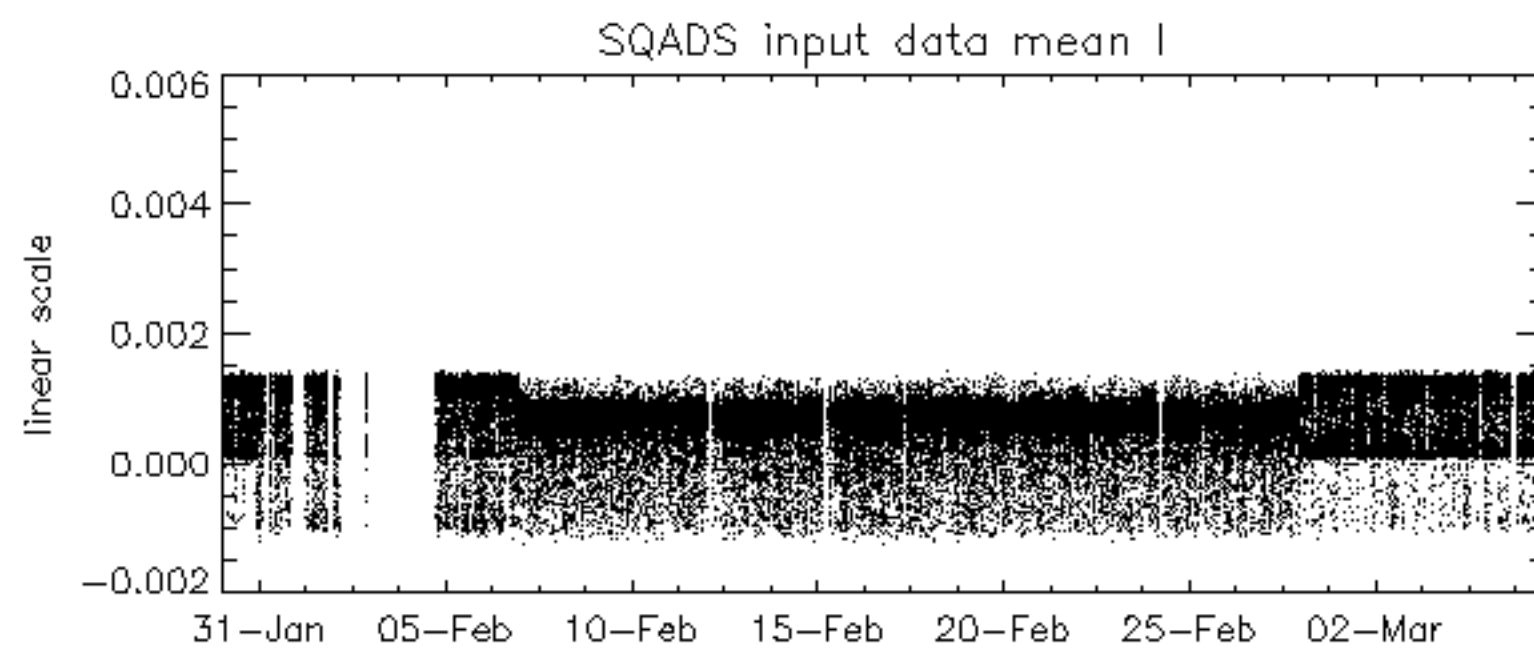
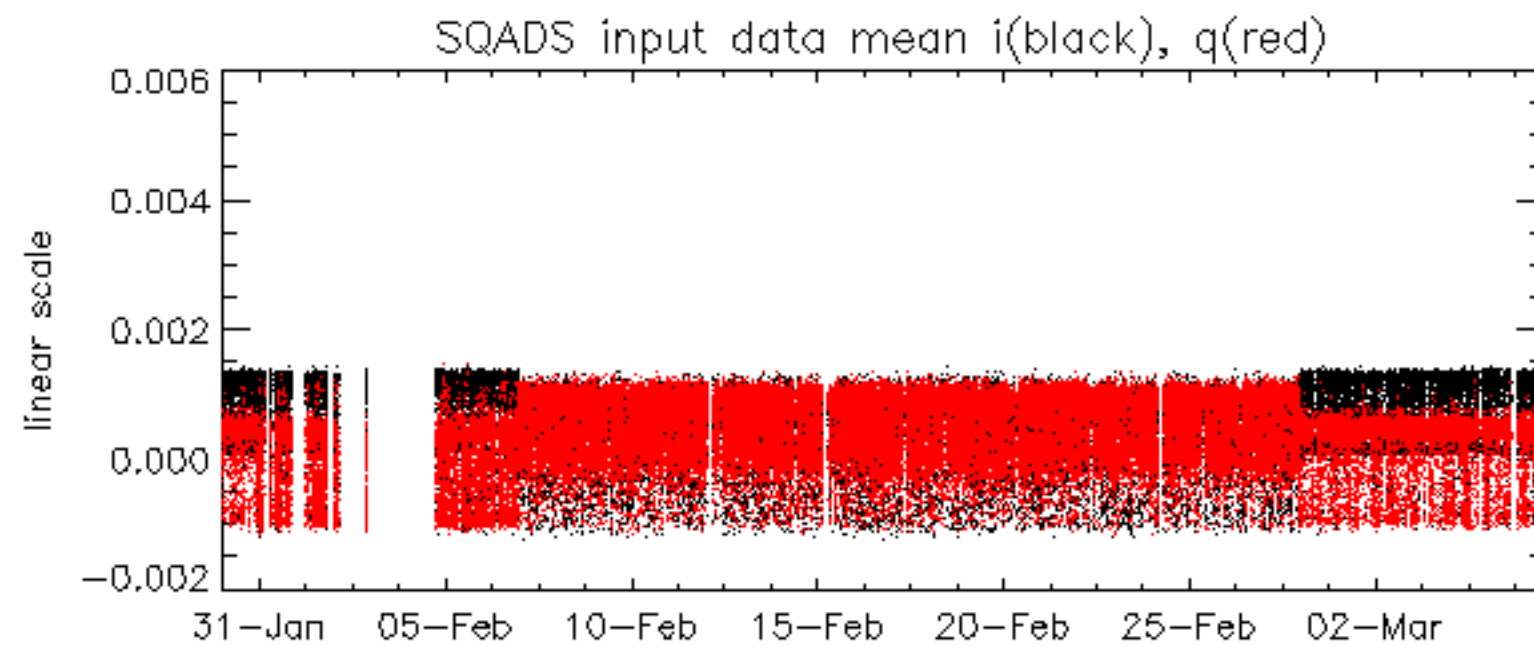


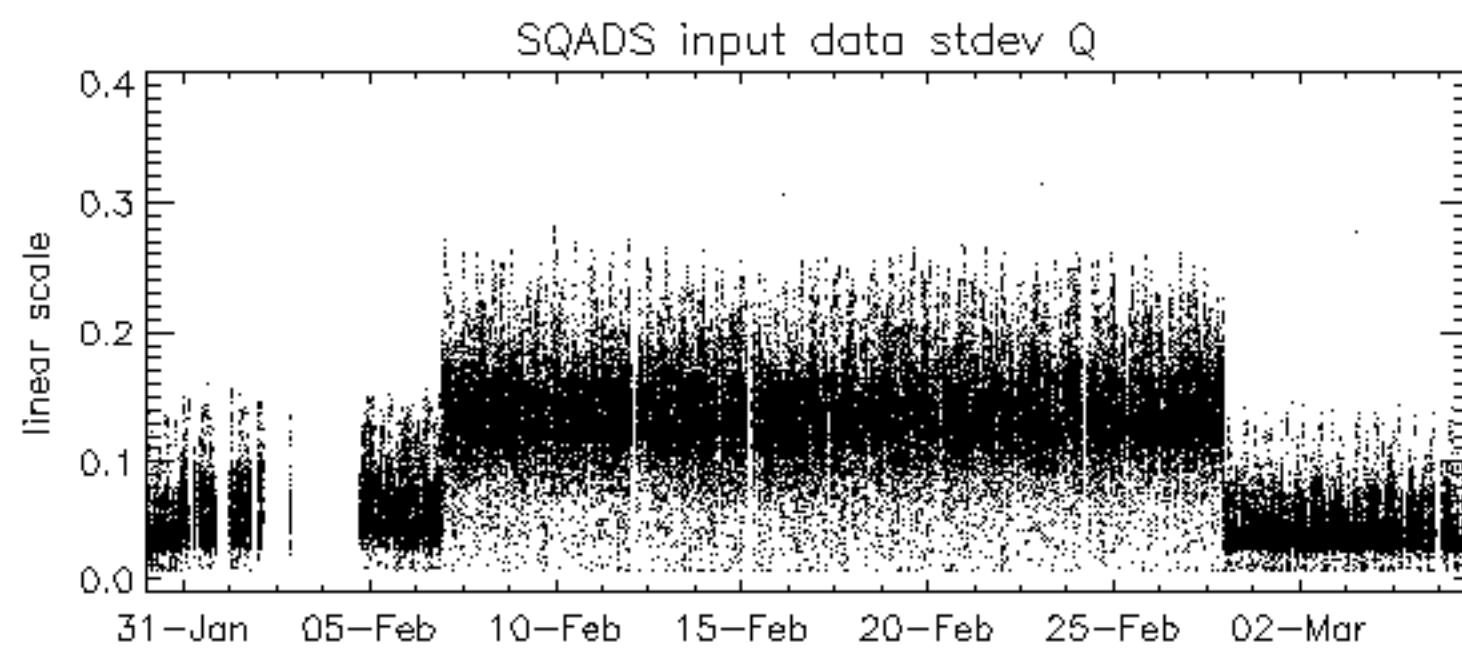
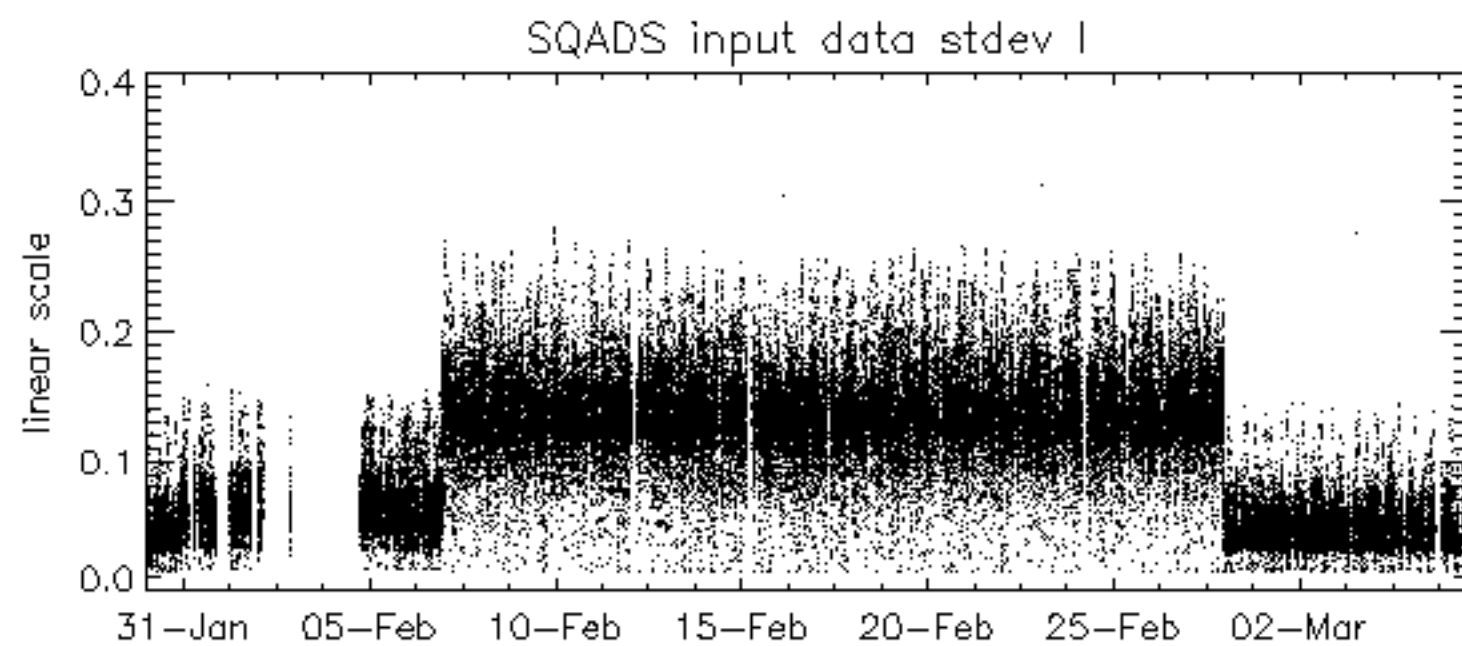
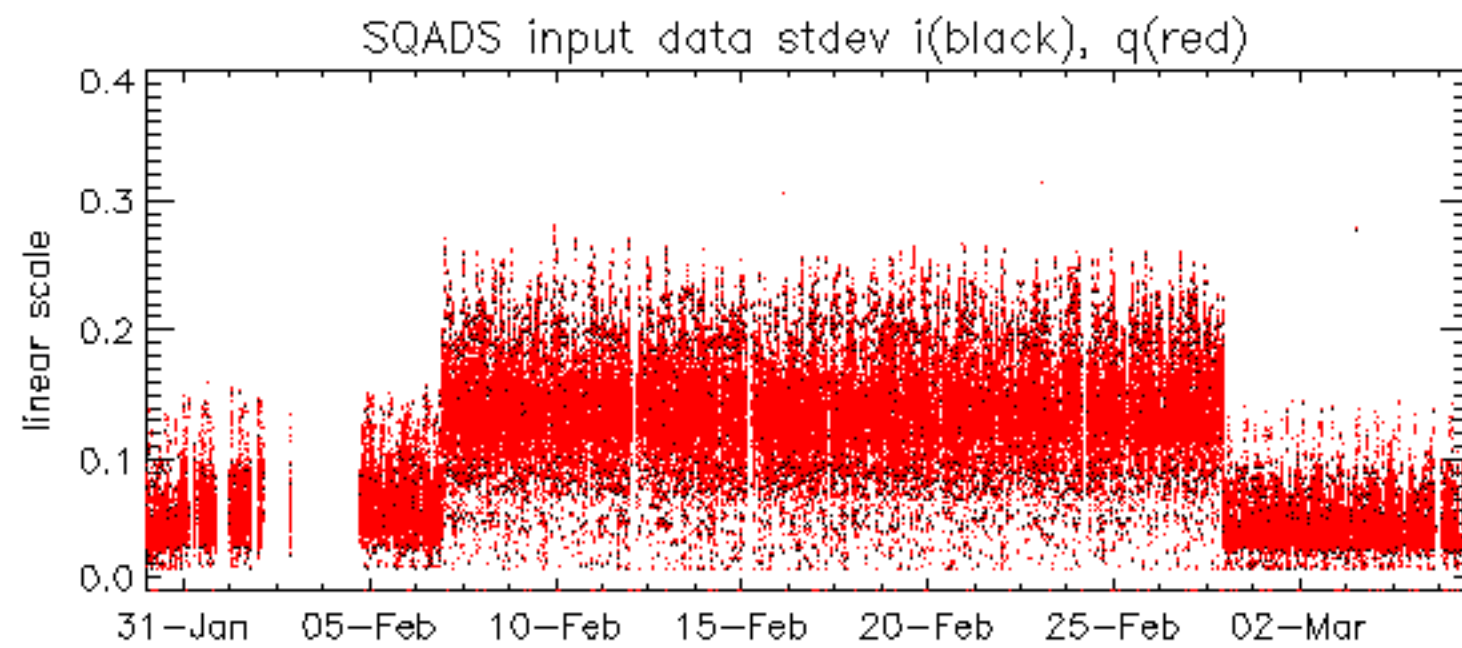


























Summary of analysis for the last 3 days 2007030[456]

The assumption 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_GM1_1PNPDK20070305_083800_000004282056_00093_26199_6587.N1	0	7
ASA_WSM_1PNPDE20070305_003950_000002632056_00088_26194_1182.N1	0	32
ASA_WSM_1PNPDE20070305_145917_000000862056_00097_26203_1705.N1	0	12
ASA_WSM_1PNPDE20070305_163937_000001712056_00098_26204_1751.N1	0	17
ASA_WSM_1PNPDE20070306_031634_000000422056_00104_26210_2390.N1	47	7122
ASA_WSM_1PNPDE20070306_031634_000000422056_00104_26210_2498.N1	47	7122
ASA_WSM_1PNPDE20070306_031634_000000422056_00104_26210_2650.N1	47	7122











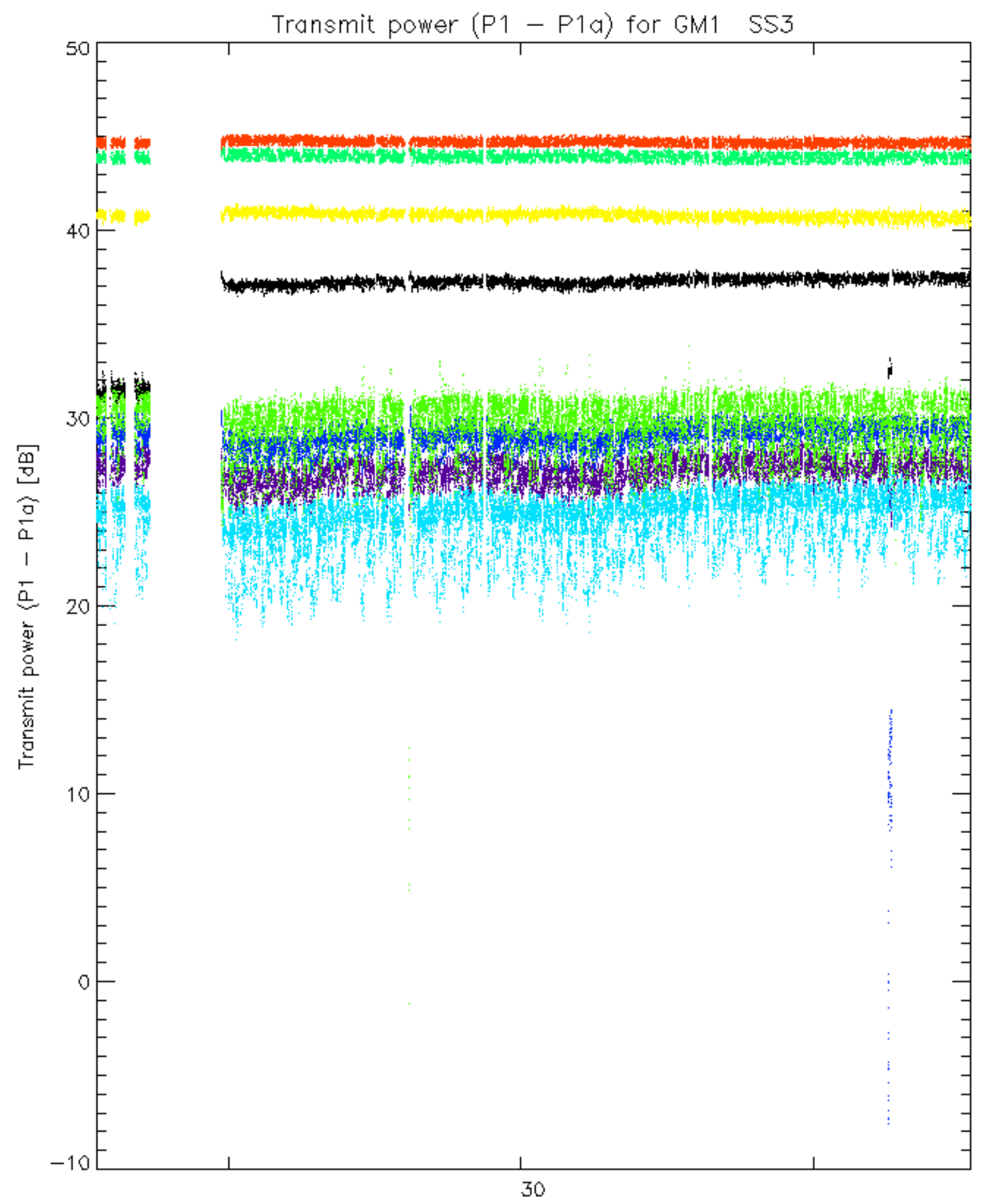




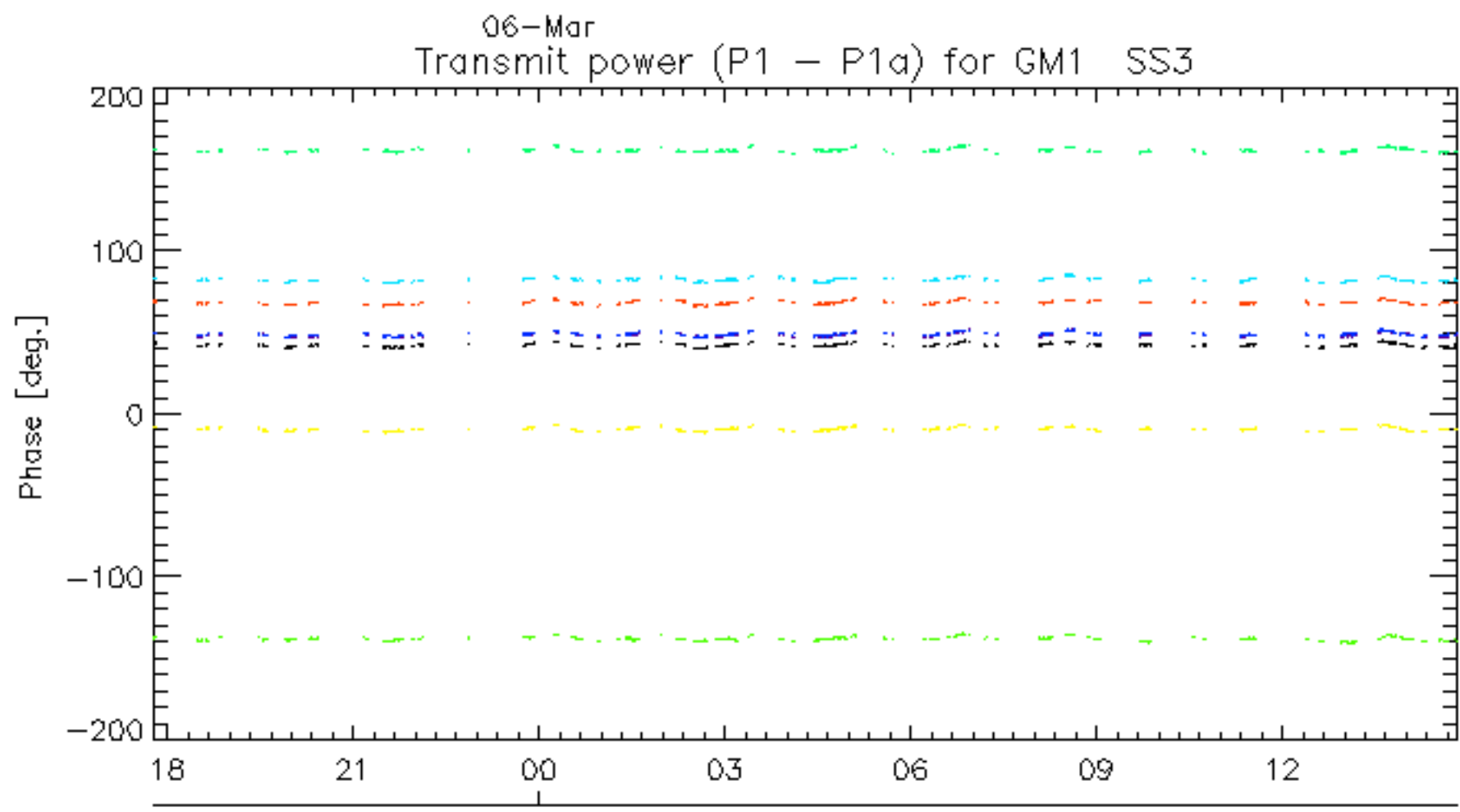
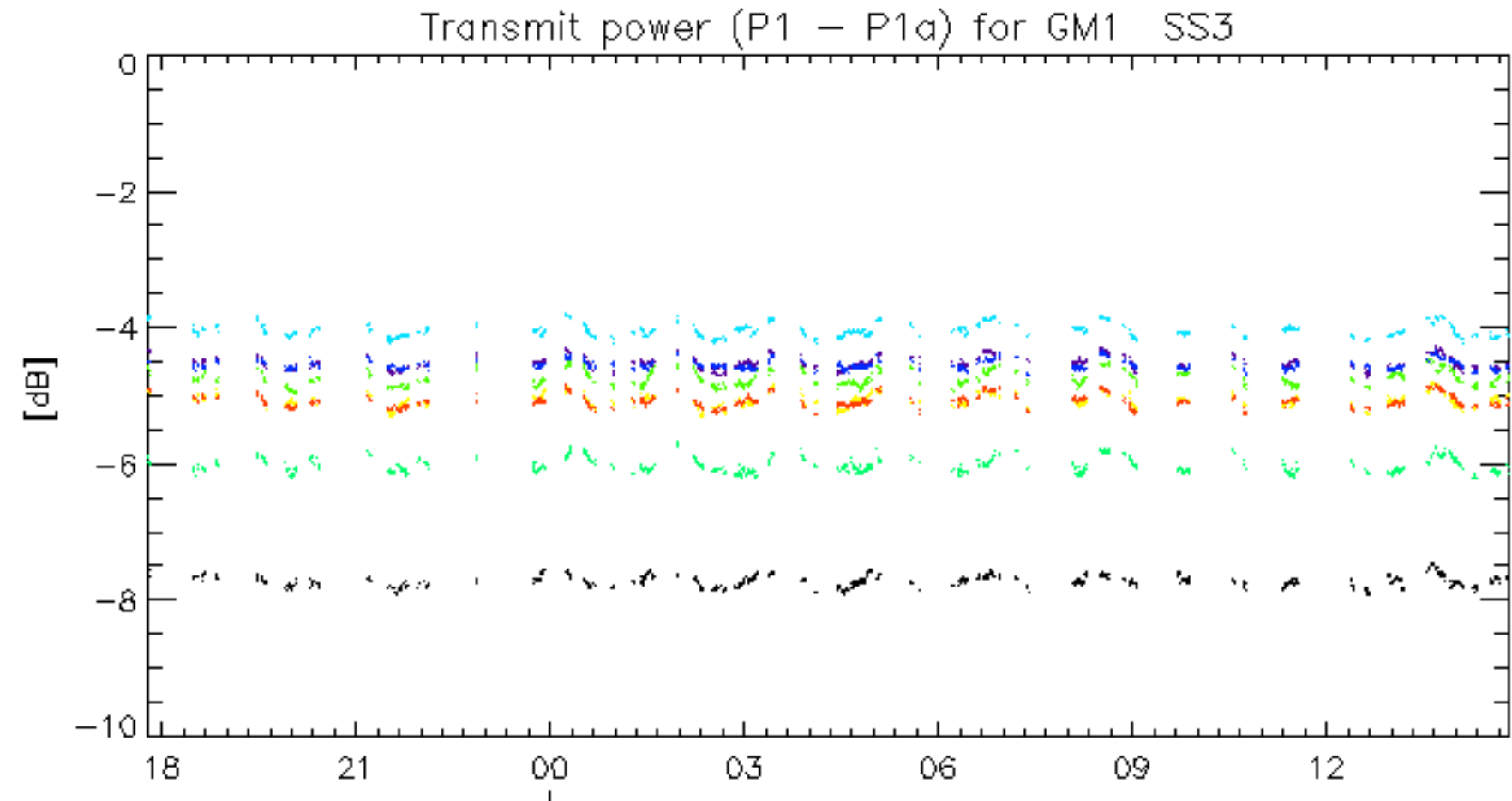






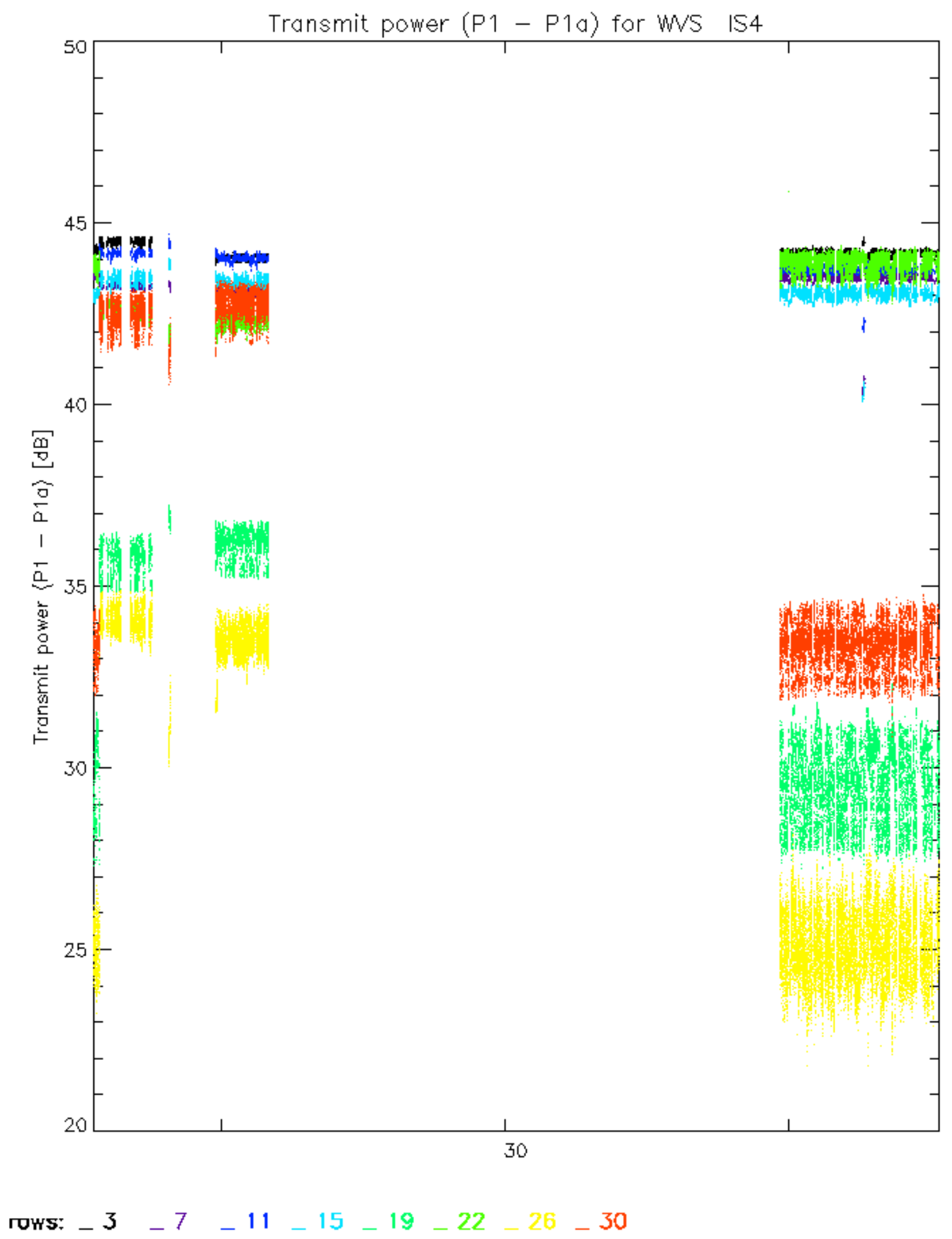


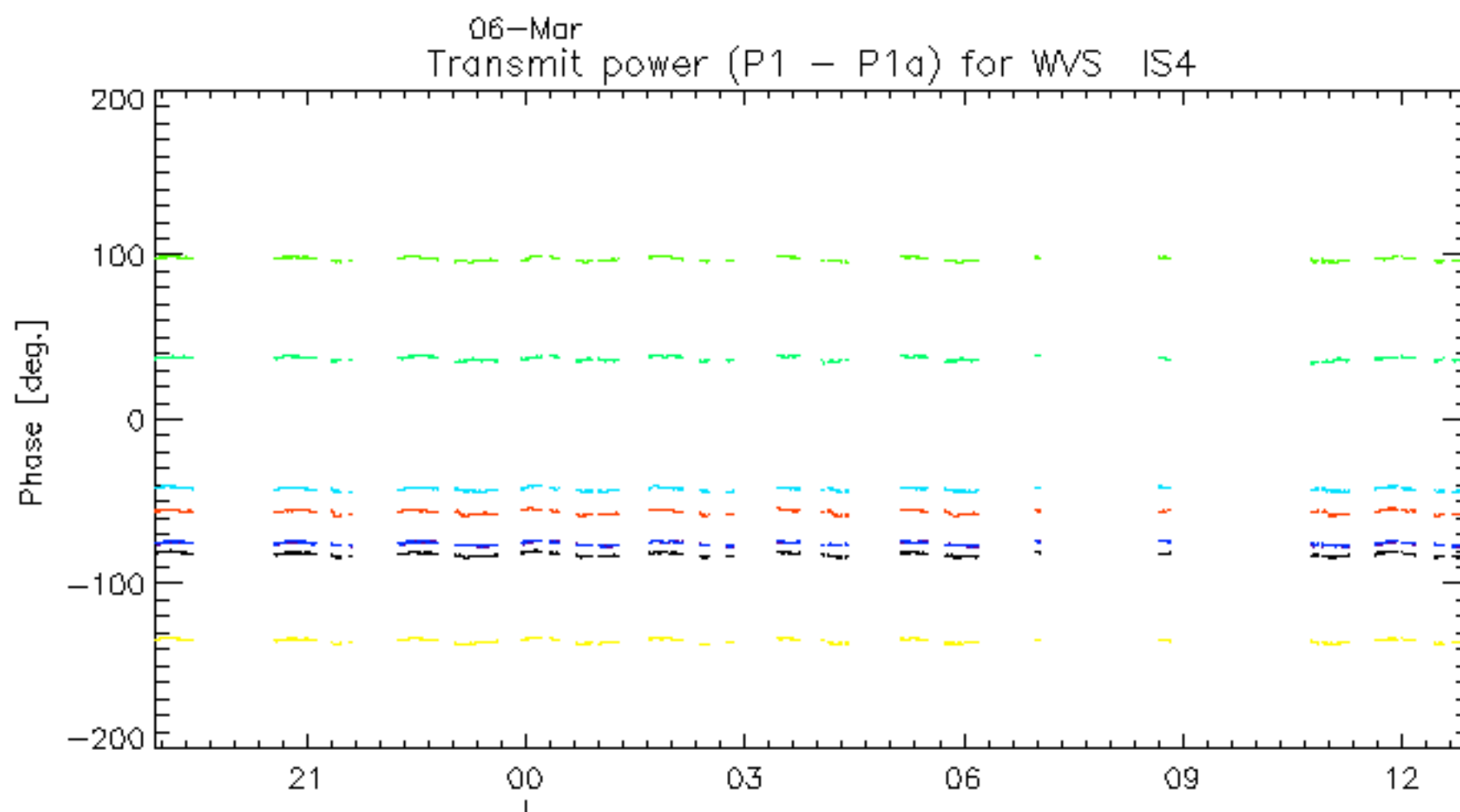
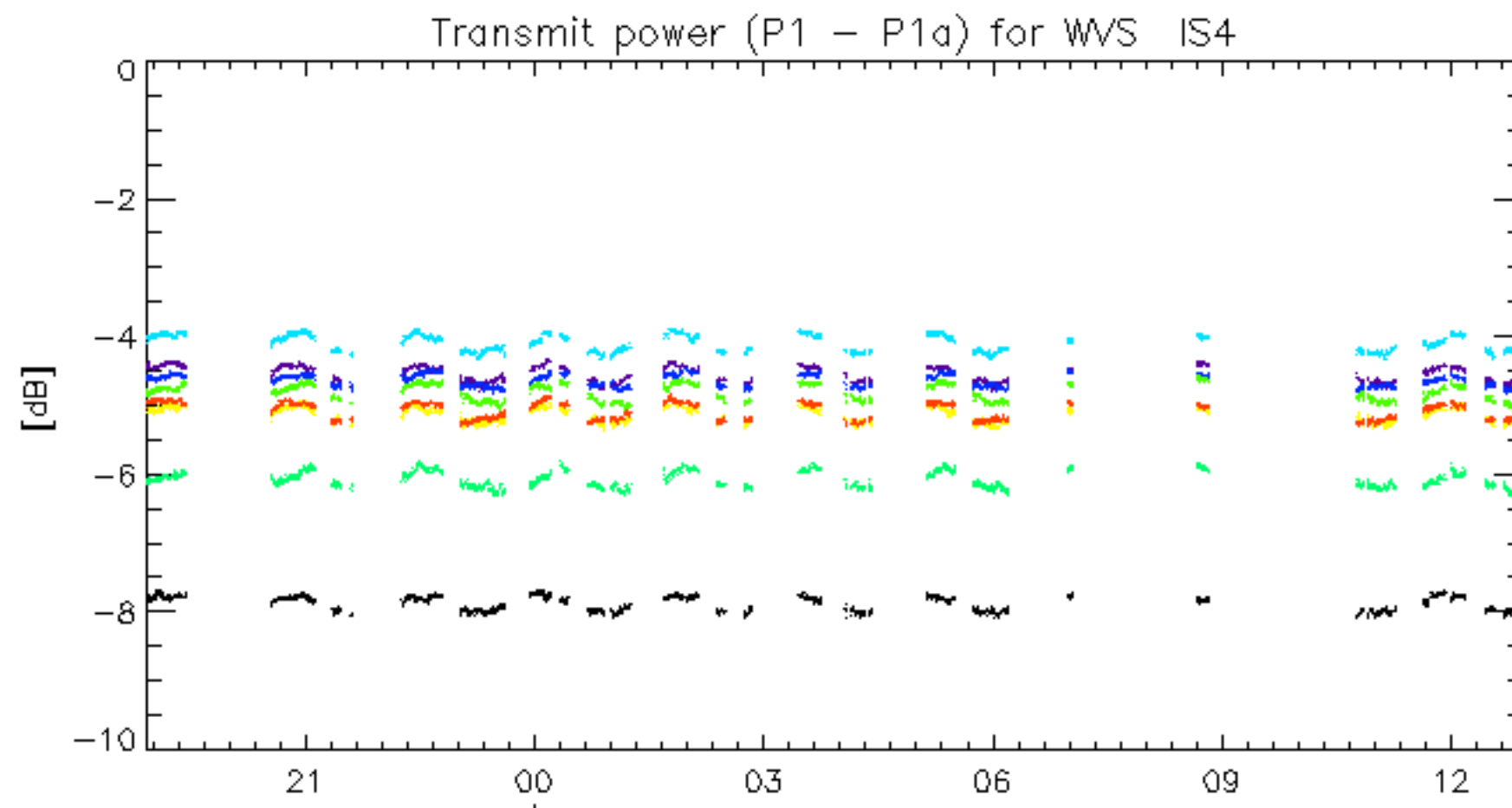
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



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







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

No unavailabilities during the reported period.