

# PRELIMINARY REPORT OF 070307

**last update on Wed Mar 7 17:56:17 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 2007-03-06 00:00:00 to 2007-03-07 17:56:17

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	19	31	4	4	12
ASA_CON_AXVIEC20070222_190441_20070204_165113_20071231_000000	41	76	10	7	31
ASA_INS_AXVIEC20070227_105626_20070228_060000_20071231_000000	22	45	6	3	19
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	41	76	10	7	31
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	41	76	10	7	31

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	1	2	4	1	12
ASA_CON_AXVIEC20070222_190441_20070204_165113_20071231_000000	48	66	38	10	80
ASA_INS_AXVIEC20070227_105626_20070228_060000_20071231_000000	47	64	34	9	68
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	48	66	38	10	80
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	48	66	38	10	80

## 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	20070307 081851

### 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	-10.777267	0.264181	-0.566578
7	P1a	-10.133643	0.243108	0.400253
11	P1a	-10.812427	0.119471	0.319911
15	P1a	-11.756919	1.551629	2.700252
19	P1a	-15.043696	1.102292	-2.301031
22	P1a	-19.365986	7.392347	-5.590731
26	P1a	-15.504696	0.494076	0.664262
30	P1a	-20.240131	6.934761	5.598476

#### P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-8.113190	1.169831	-1.799270
7	P1	-2.596895	0.055688	0.200179
11	P1	-3.274909	0.147722	0.772622
15	P1	-4.683523	1.352379	2.543884
19	P1	-3.420878	0.097269	-0.671282
22	P1	-5.362207	0.152081	0.795770
26	P1	-5.373278	0.723458	-1.896992
30	P1	-5.448982	0.067747	0.417433

#### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.943958	0.284680	-0.569167
7	P2	-21.854952	0.125777	-0.401436

11	P2	-10.801186	0.136663	-0.584362
15	P2	-5.096540	0.084641	-0.125703
19	P2	-7.225130	0.083359	-0.085559
22	P2	-8.354629	0.083341	0.135465
26	P2	-24.160597	0.131068	-0.597817
30	P2	-21.654507	0.069320	0.058951

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.225706	0.008154	-0.036660
7	P3	-8.225706	0.008154	-0.036660
11	P3	-8.225706	0.008154	-0.036660
15	P3	-8.225706	0.008154	-0.036660
19	P3	-8.225706	0.008154	-0.036660
22	P3	-8.225706	0.008154	-0.036660
26	P3	-8.225706	0.008154	-0.036660
30	P3	-8.225706	0.008154	-0.036660

**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	-11.088246	0.059571	0.102630
7	P1a	-10.055603	0.136422	-0.028558
11	P1a	-10.646918	0.066078	-0.069749
15	P1a	-10.903735	0.134418	-0.158706
19	P1a	-15.717066	0.068746	0.096325
22	P1a	-20.842403	1.180990	-0.161695
26	P1a	-15.335783	0.267894	0.224442
30	P1a	-18.378435	0.347162	-0.126652

**P1t Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-8.289898	0.348945	-0.676721
7	P1	-2.430705	0.022327	0.025797
11	P1	-2.913028	0.019548	-0.041754
15	P1	-3.829396	0.039950	-0.049315
19	P1	-3.552532	0.011746	-0.003450
22	P1	-5.036884	0.023232	-0.038390
26	P1	-5.972895	0.025844	0.050612
30	P1	-5.278013	0.021715	0.022387

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.050533	0.111238	-0.307057
7	P2	-21.963621	0.055681	0.056982
11	P2	-10.651457	0.031087	0.025488
15	P2	-4.818132	0.027570	-0.008757
19	P2	-6.809882	0.029618	0.011413
22	P2	-8.103060	0.034544	0.068857
26	P2	-24.263077	0.036017	-0.092021
30	P2	-21.750856	0.037740	0.059278

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.046583	0.003627	-0.027864
7	P3	-8.046628	0.003636	-0.027527
11	P3	-8.046725	0.003635	-0.028002
15	P3	-8.046588	0.003643	-0.028204
19	P3	-8.046698	0.003632	-0.028398
22	P3	-8.046718	0.003628	-0.027956
26	P3	-8.046544	0.003630	-0.028026
30	P3	-8.046651	0.003642	-0.027794

## 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	0.000625895
	stdev	2.38800e-07
MEAN Q	mean	0.000385969
	stdev	2.61787e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.110624
	stdev	0.00246083
STDEV Q	mean	0.110673
	stdev	0.00251509



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2007030[567]

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_1PNPDE20070306_231002_000001182056_00116_26222_3547.N1	0	64
ASA_WVS_1PNPDK20070306_153323_000000152056_00111_26217_8526.N1	0	8
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
ASA_WSM_1PNPDE20070306_142925_000000852056_00111_26217_3012.N1	0	16
ASA_WSM_1PNPDE20070306_231712_000000922056_00116_26222_3567.N1	0	68
ASA_WSM_1PNPDE20070306_232132_000001842056_00116_26222_3574.N1	0	67
ASA_WSM_1PNPDE20070307_055614_000000672056_00120_26226_4215.N1	5	157
ASA_WSM_1PNPDE20070307_111810_000000852056_00123_26229_4255.N1	0	72
ASA_WSM_1PNPDK20070307_135748_000000852056_00125_26231_9424.N1	0	15





## 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



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

### 7.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX

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

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

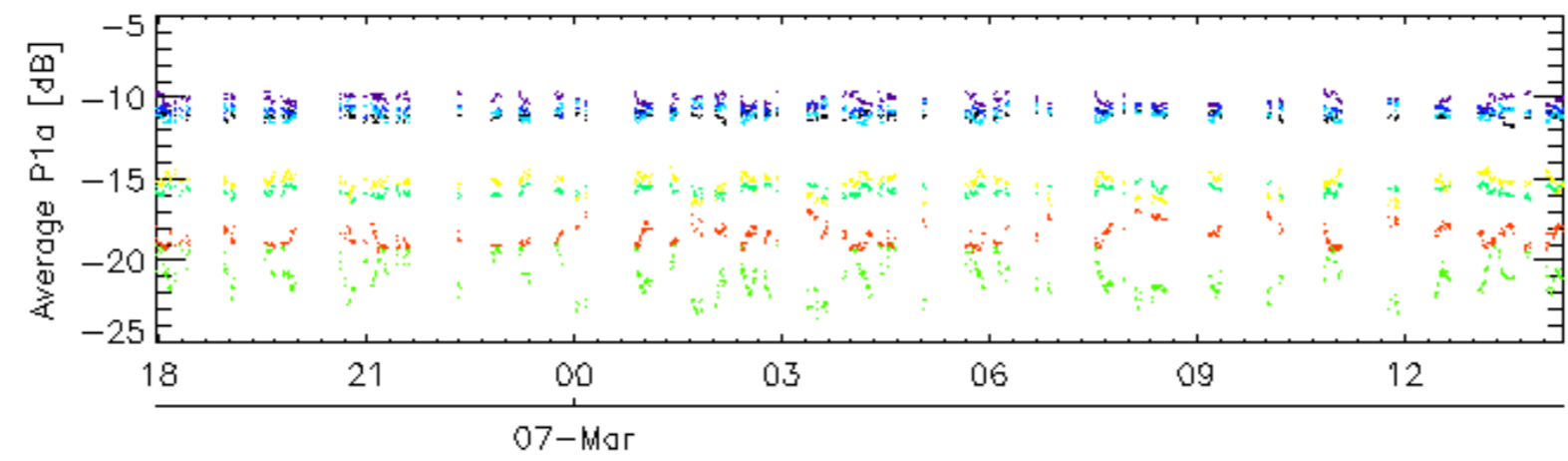
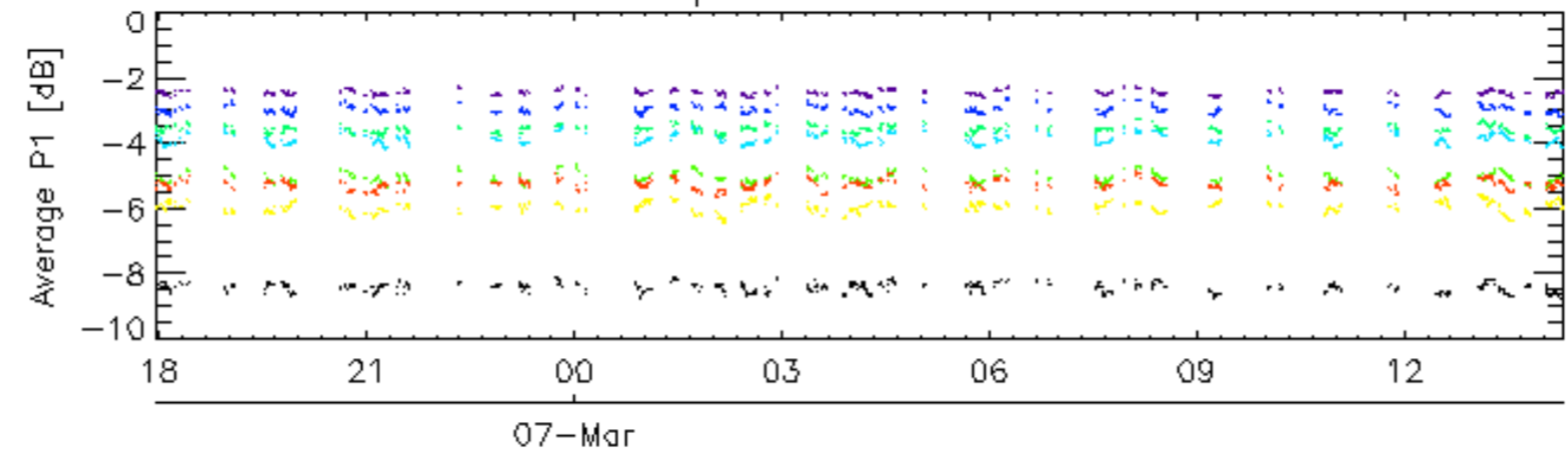
### 7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

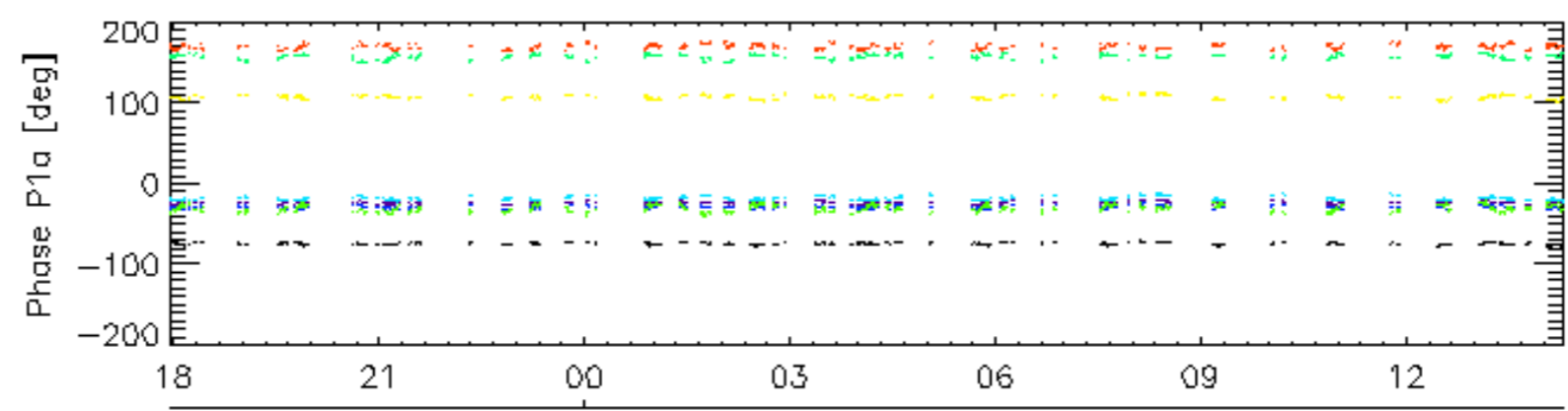
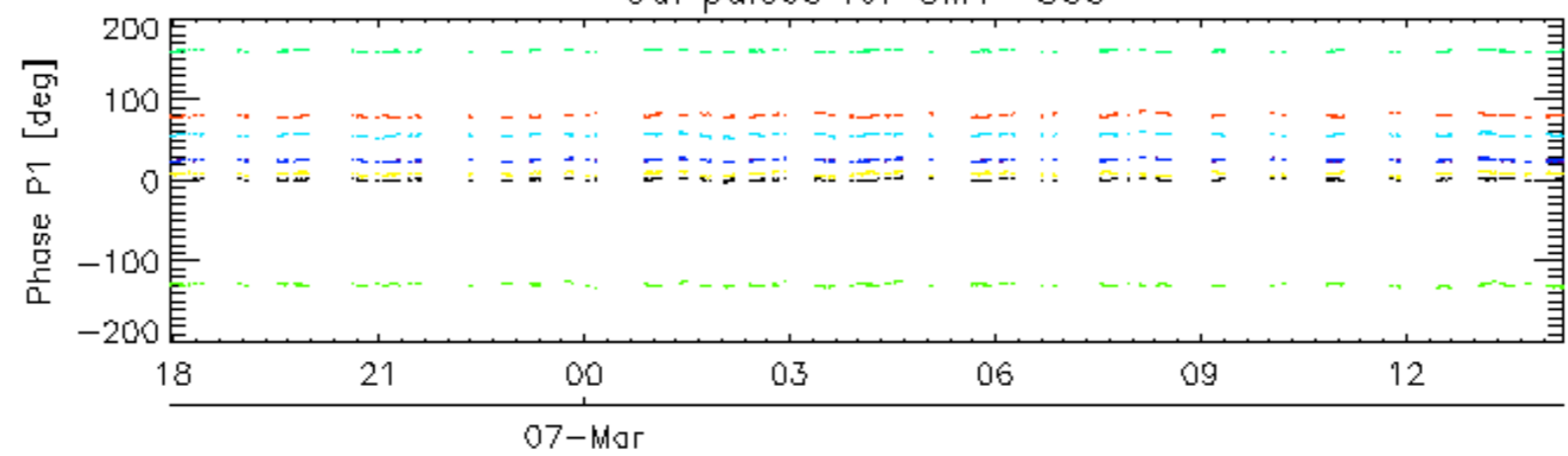
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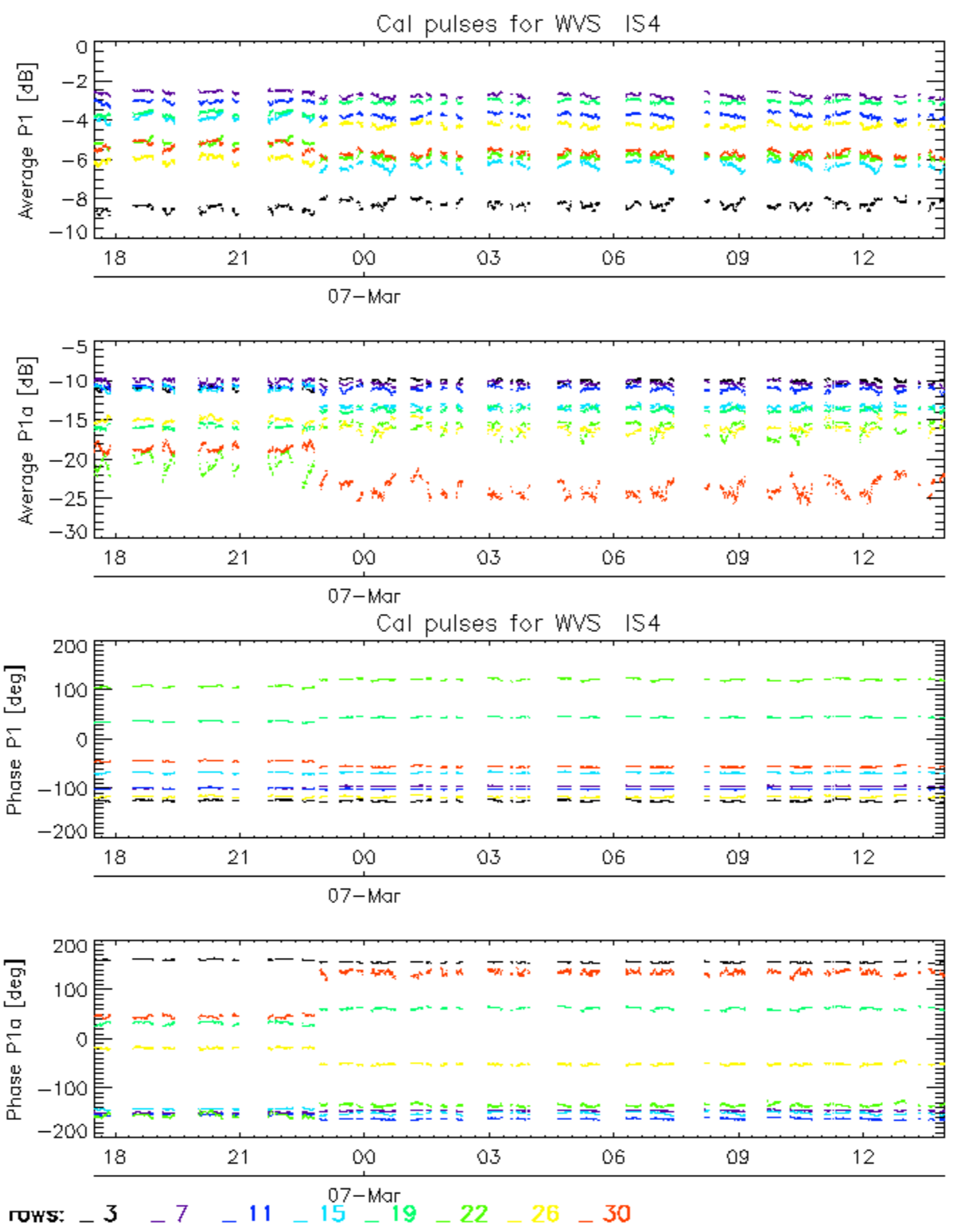
Cal pulses for GM1 SS3



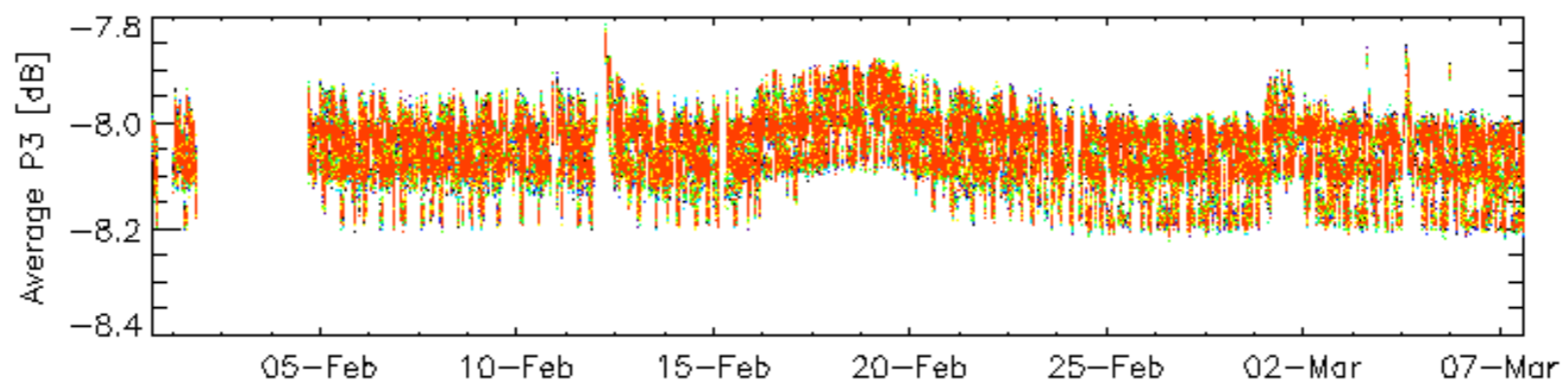
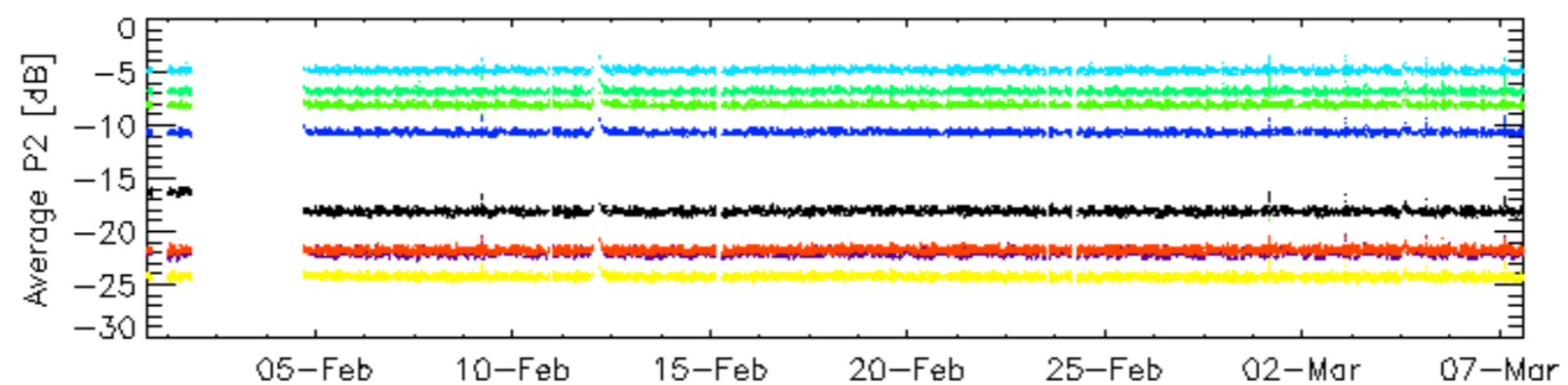
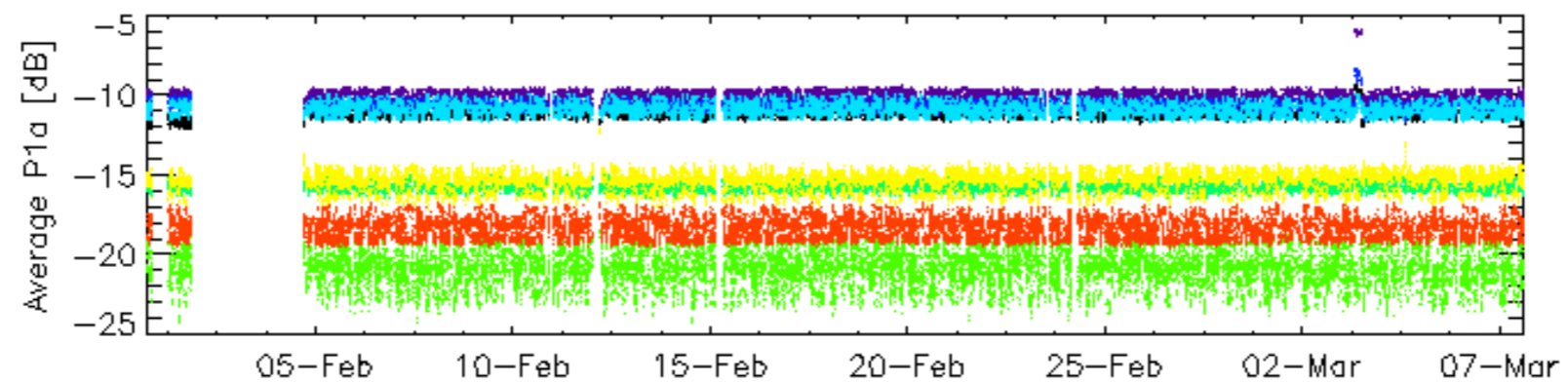
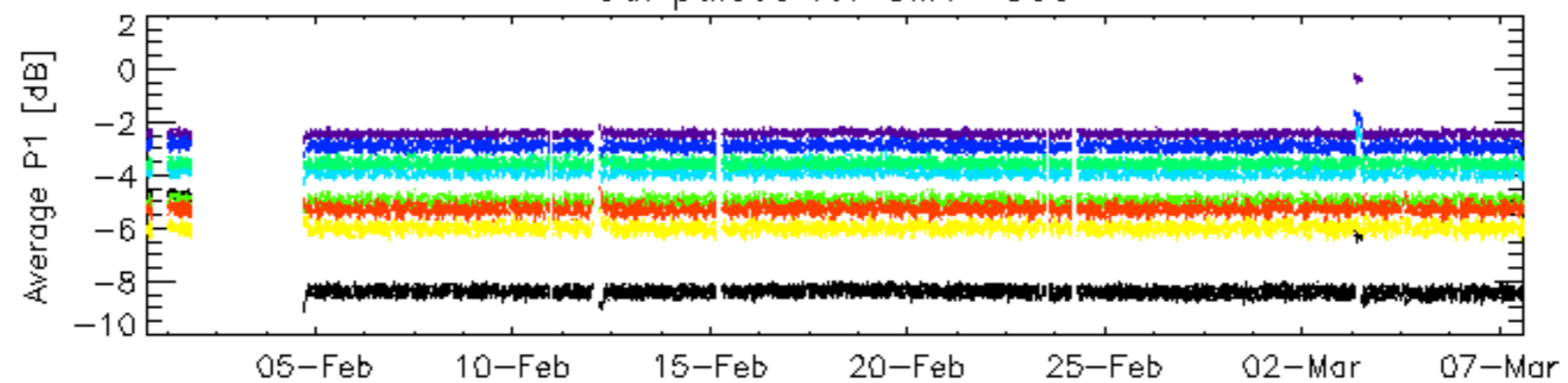
Cal pulses for GM1 SS3



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

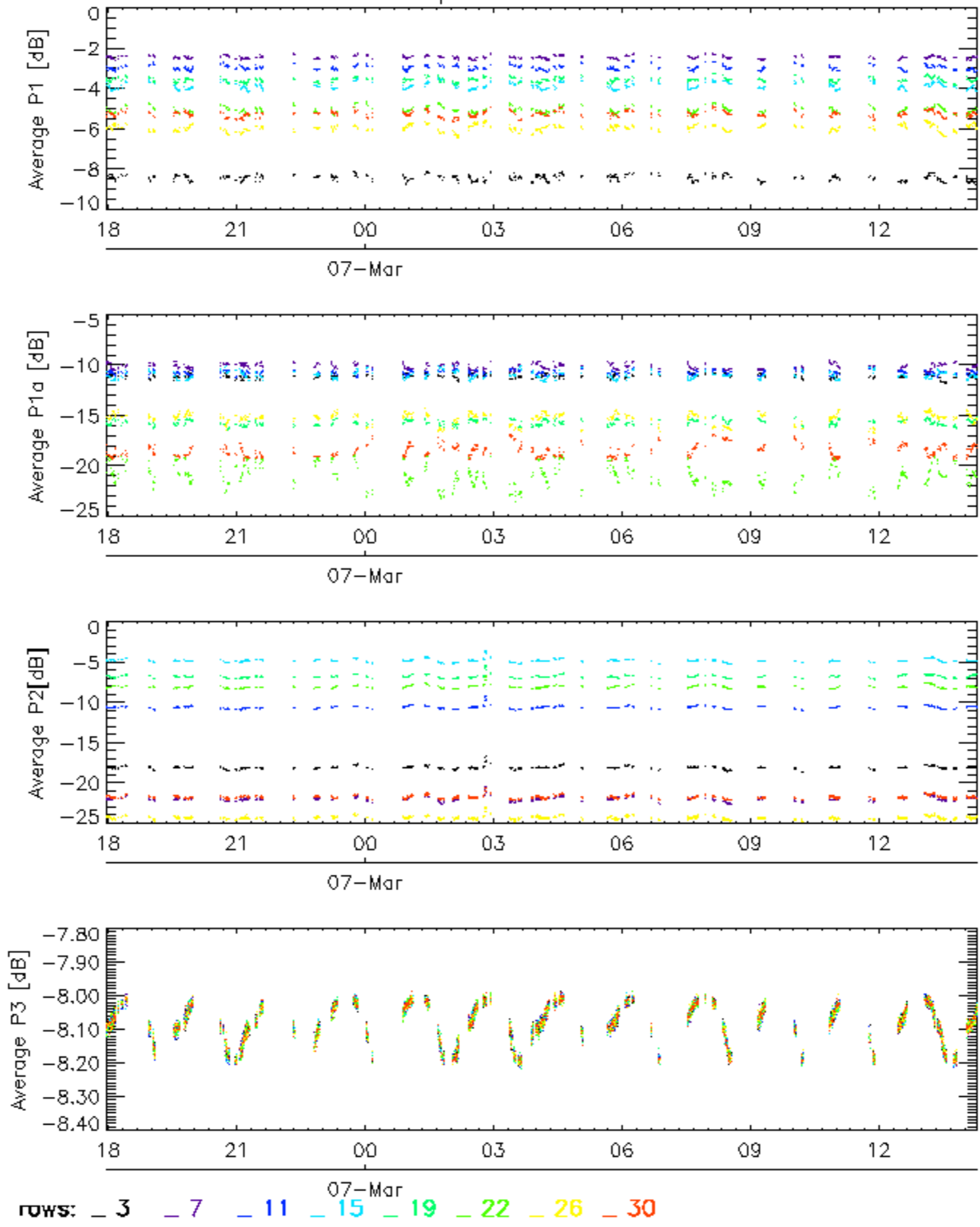


### Cal pulses for GM1 SS3

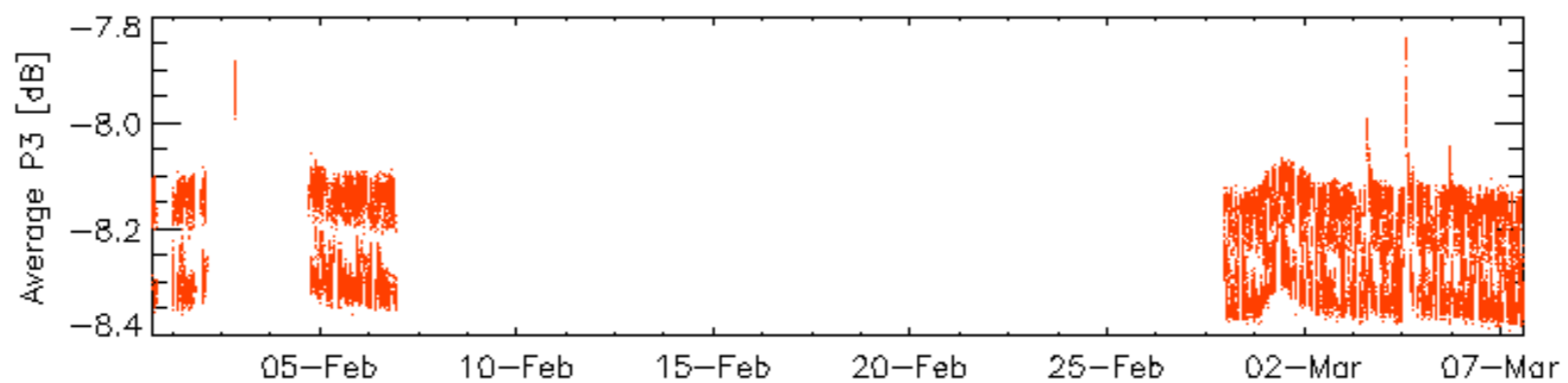
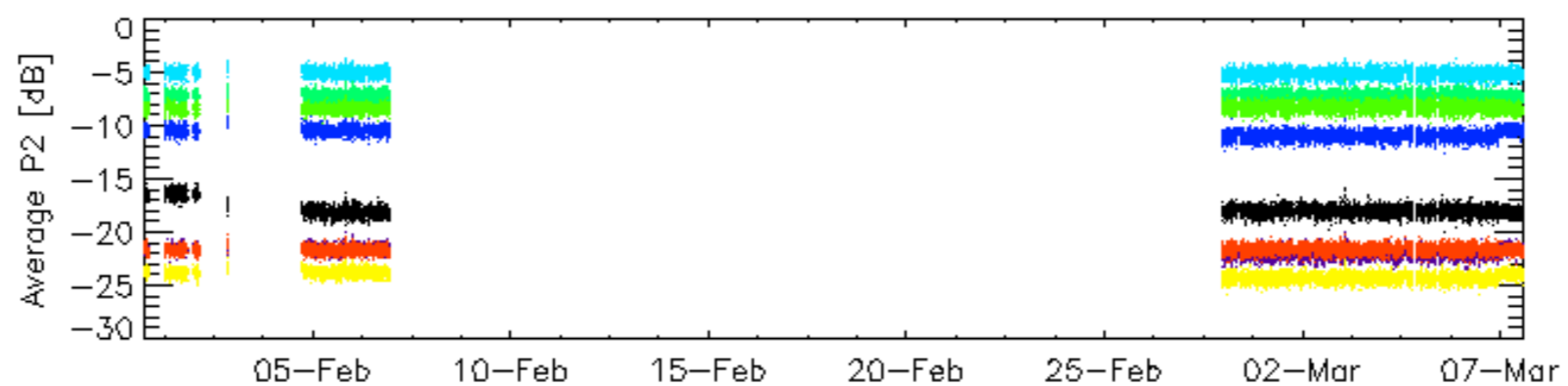
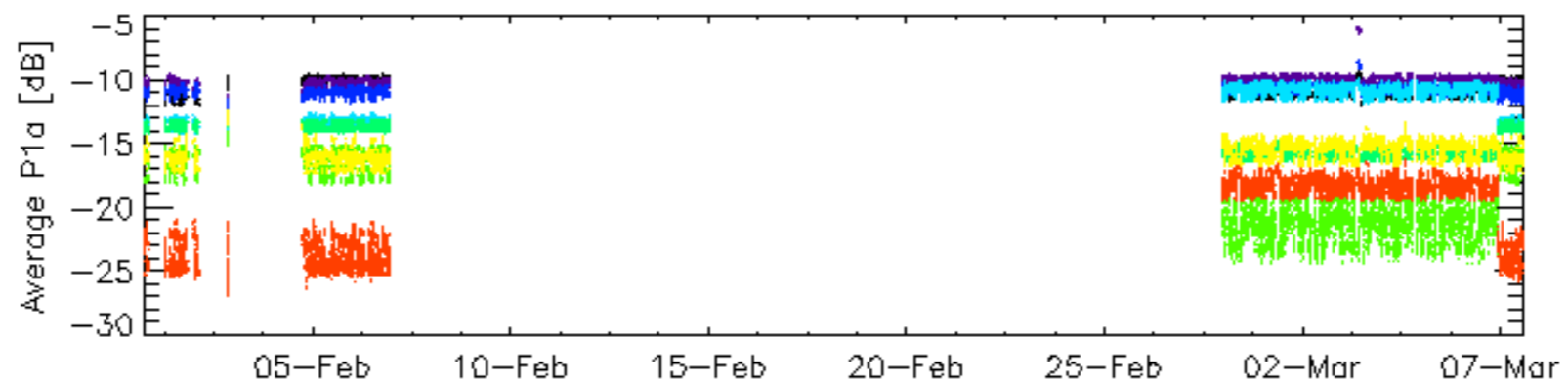
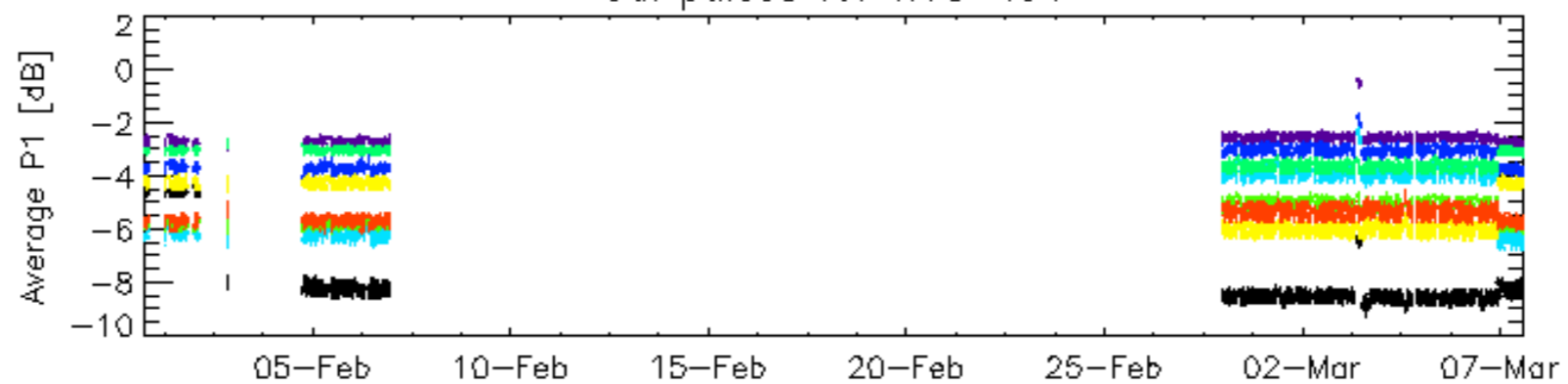


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

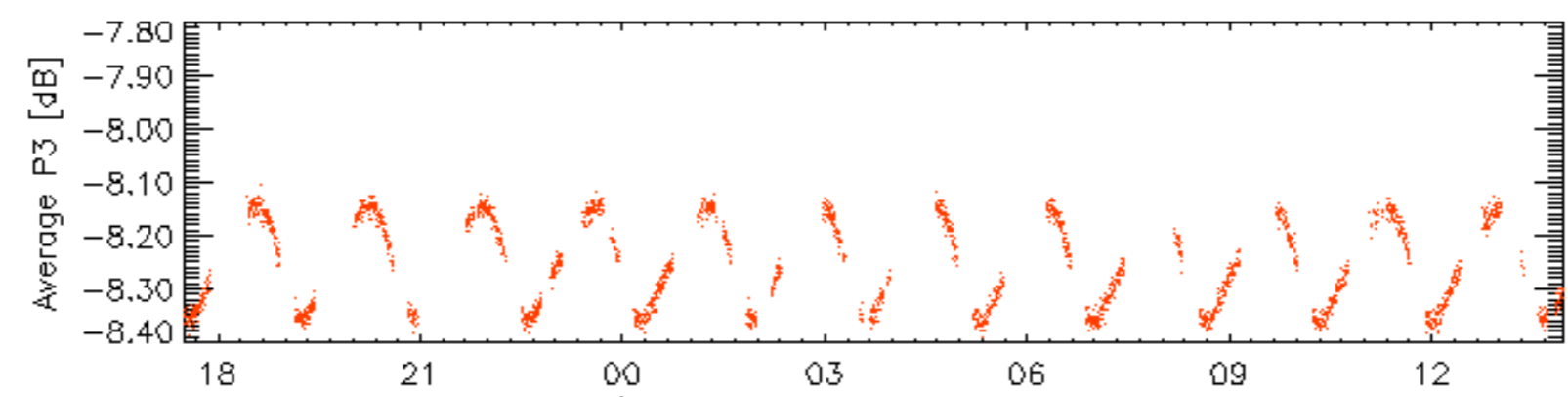
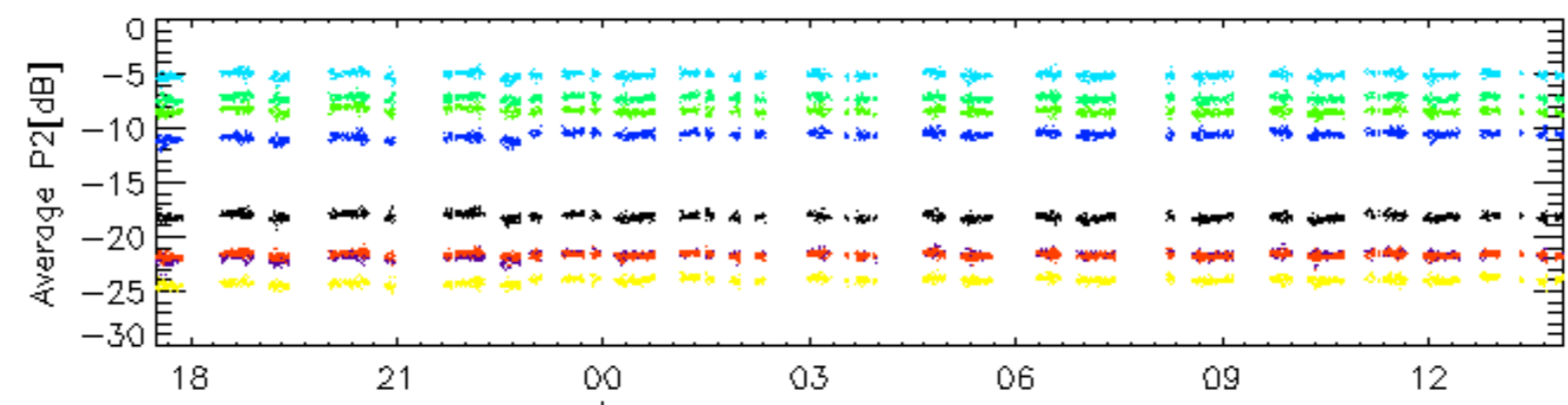
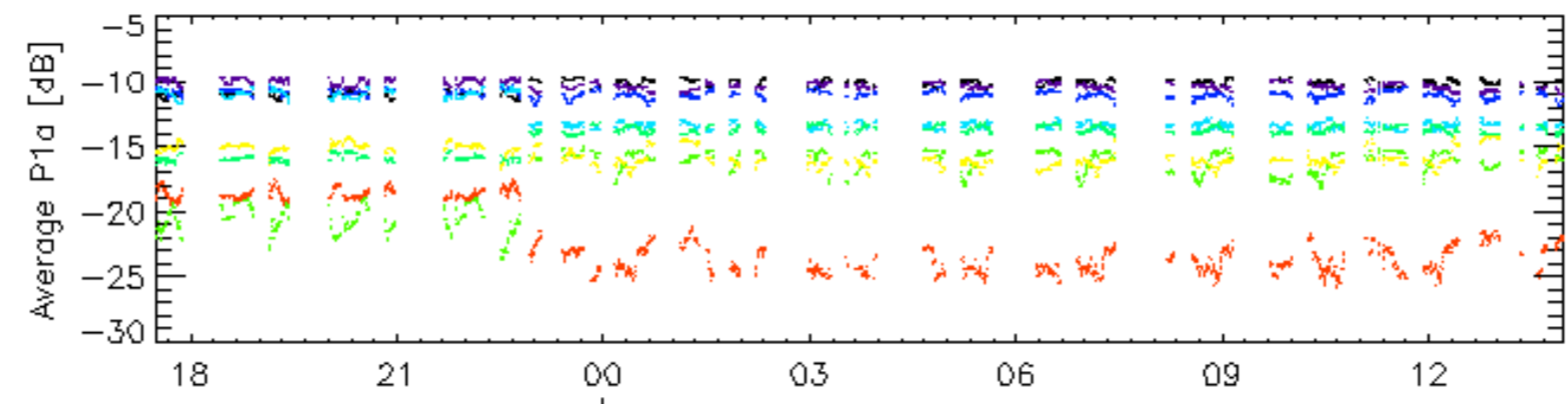
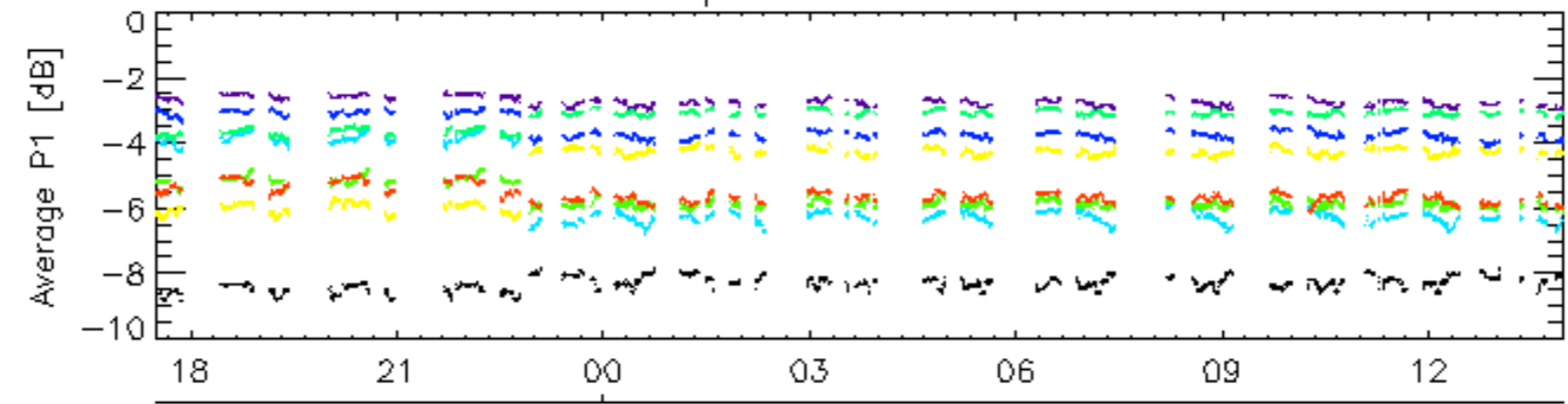


Cal pulses for WVS IS4



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

Cal pulses for WVS IS4

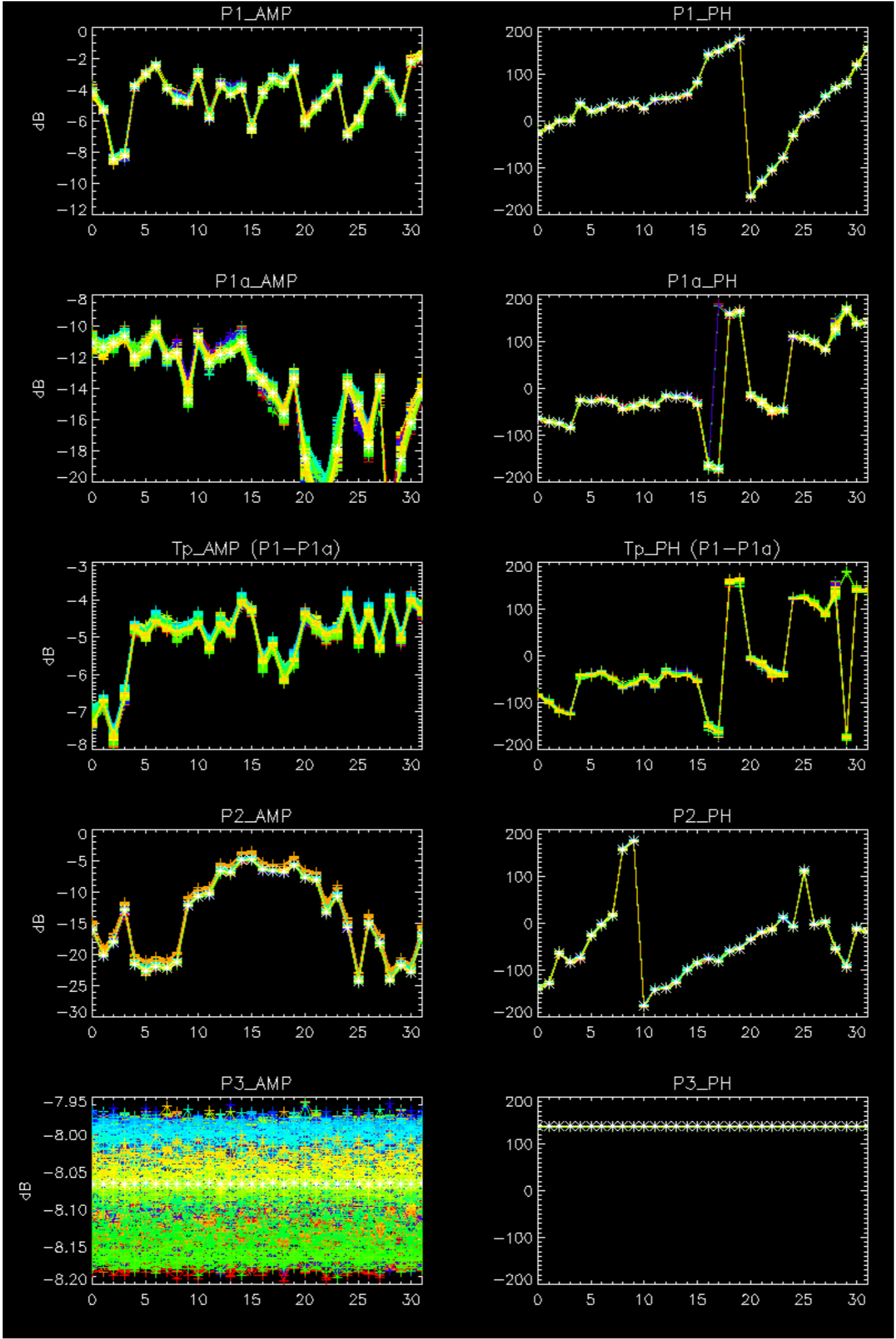


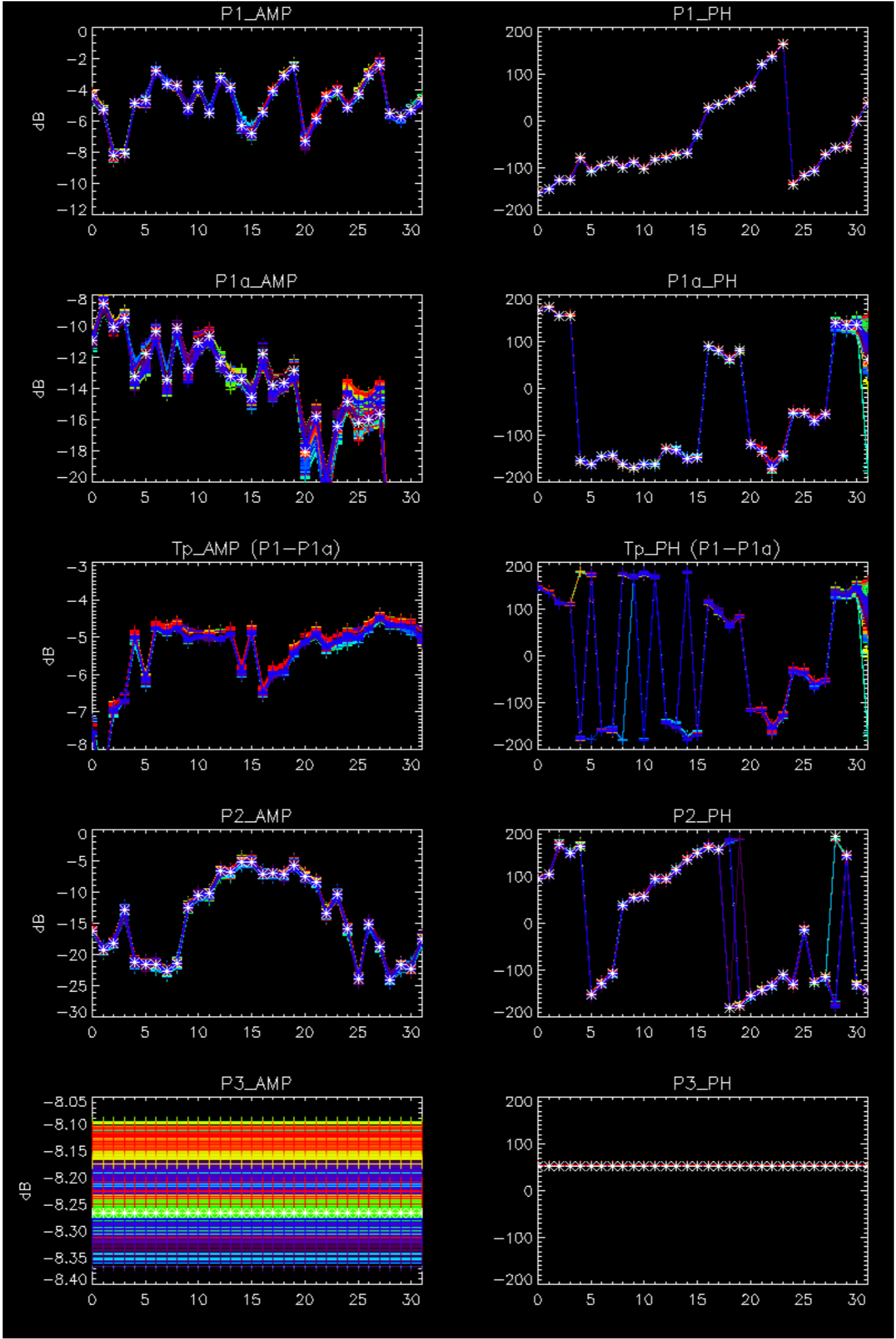
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



No anomalies observed on available browse products

No anomalies observed.

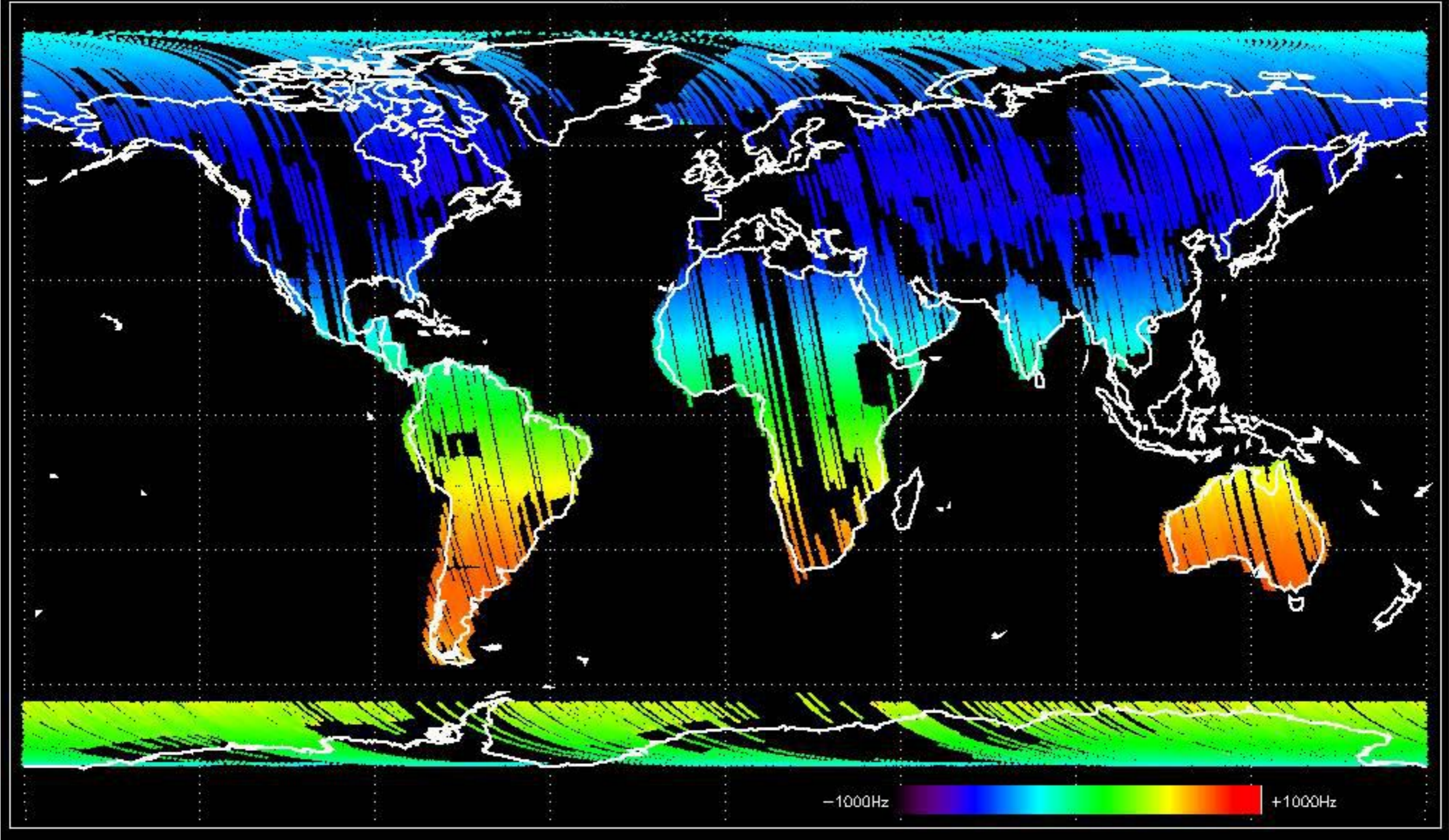




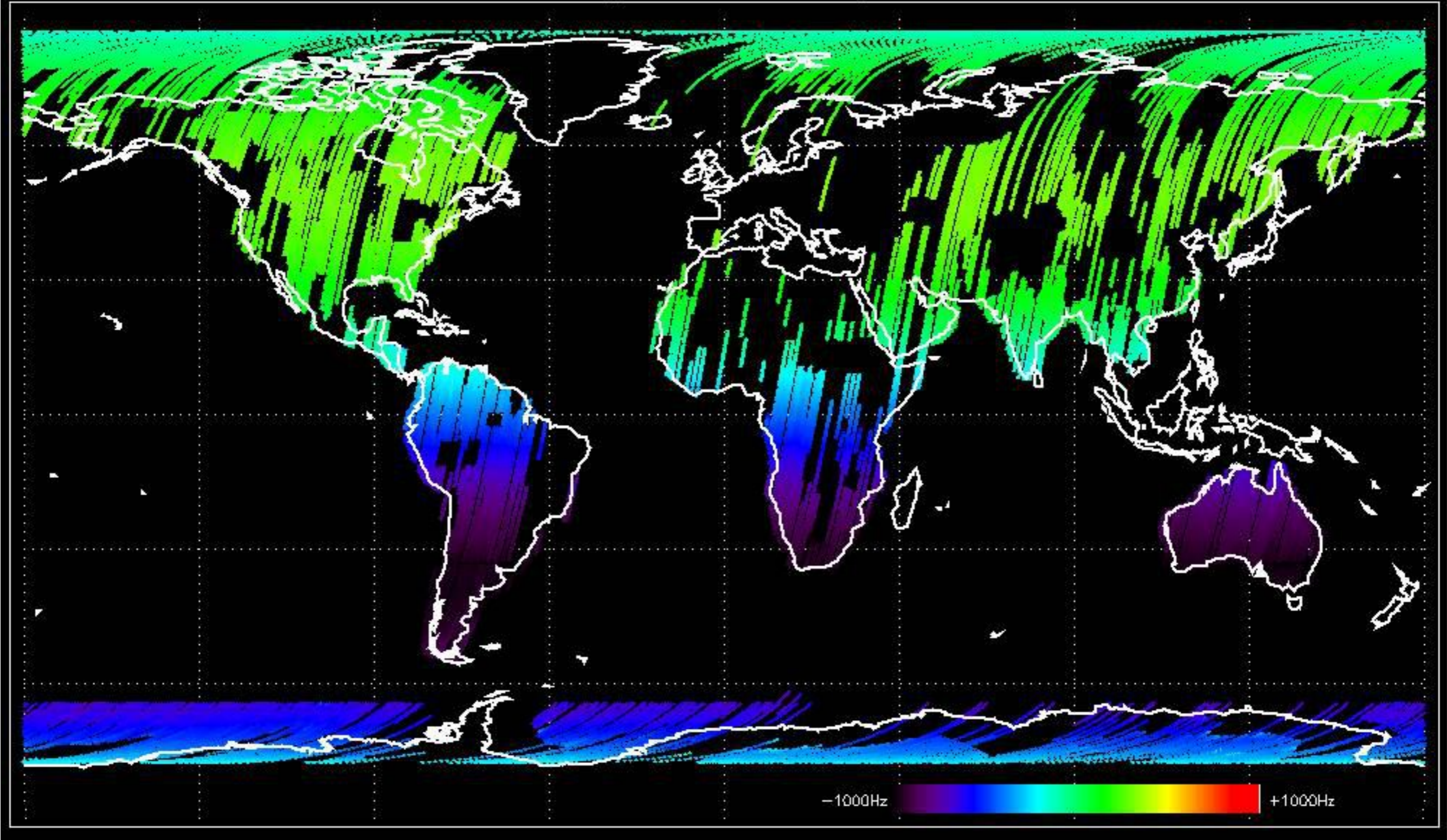
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



Doppler 'GM1' 'SS1' ascending

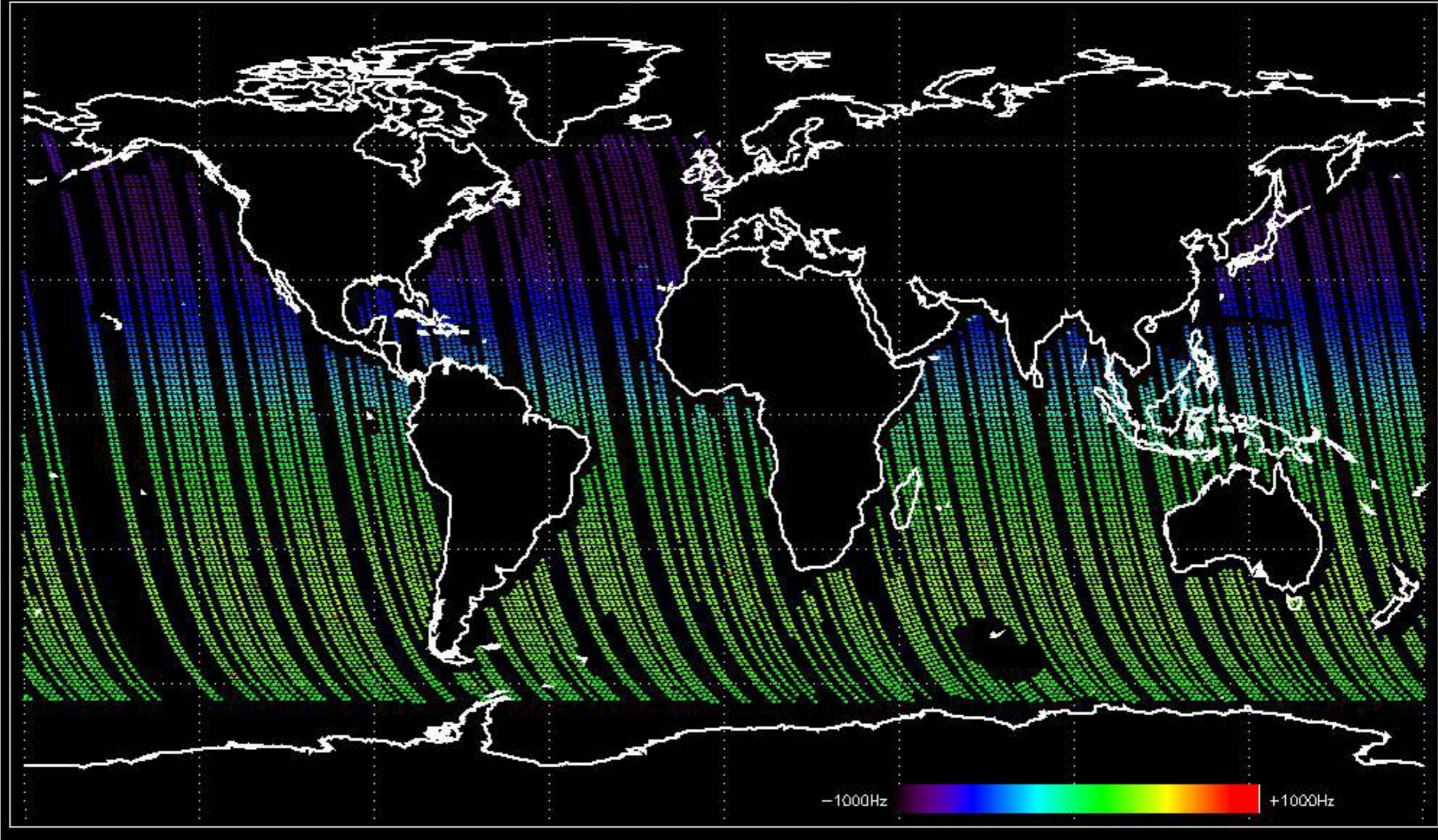


Doppler 'GM1' 'SS1' descending

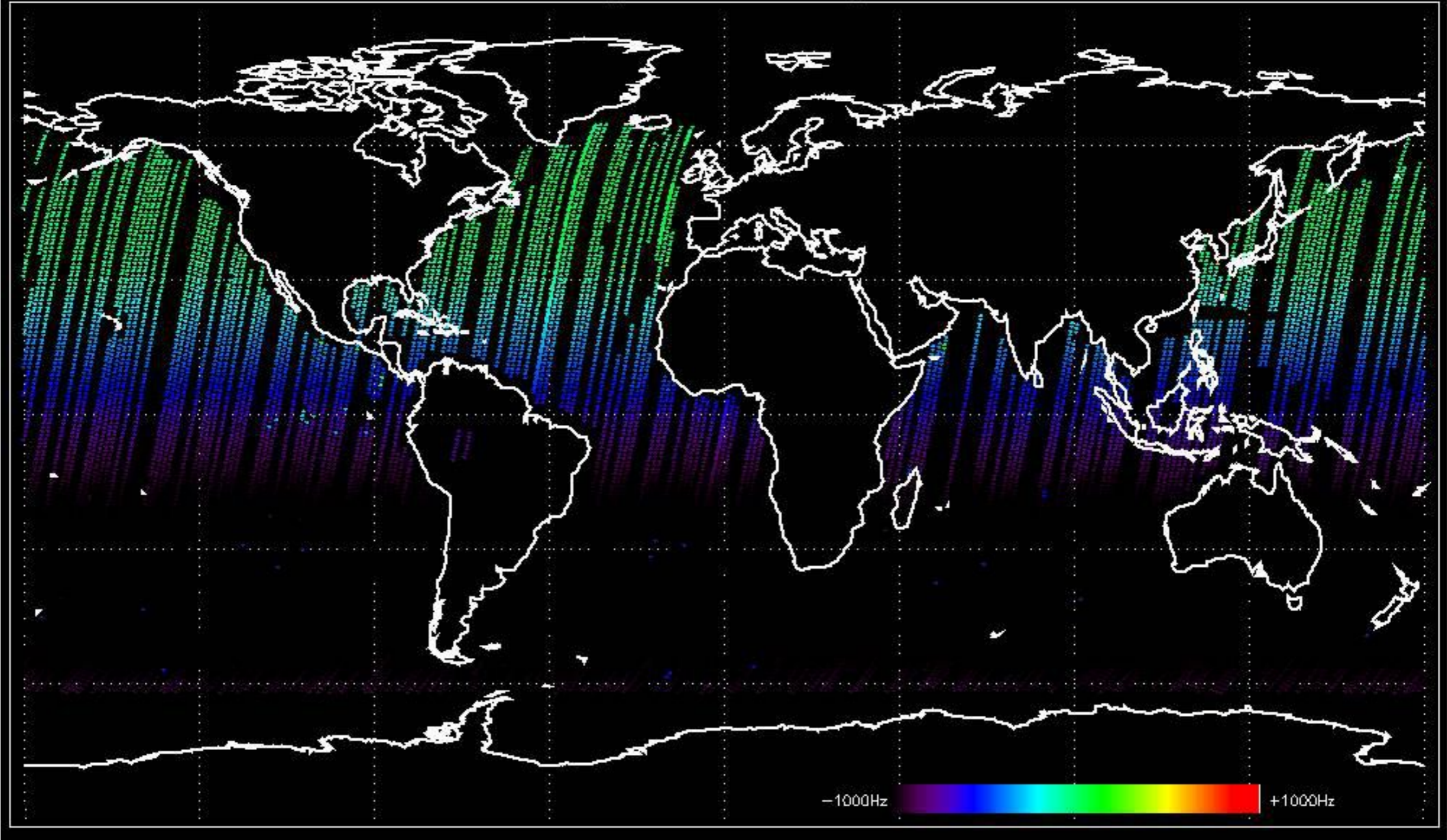




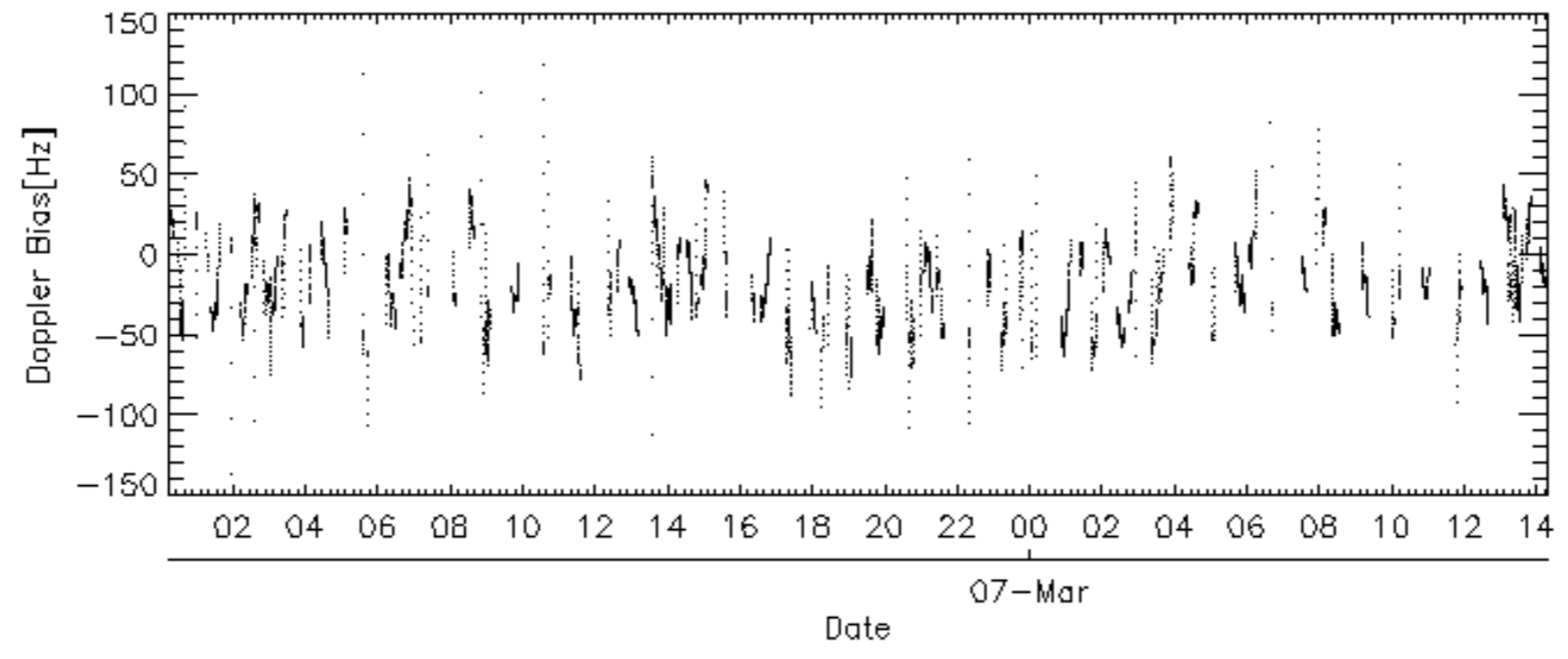
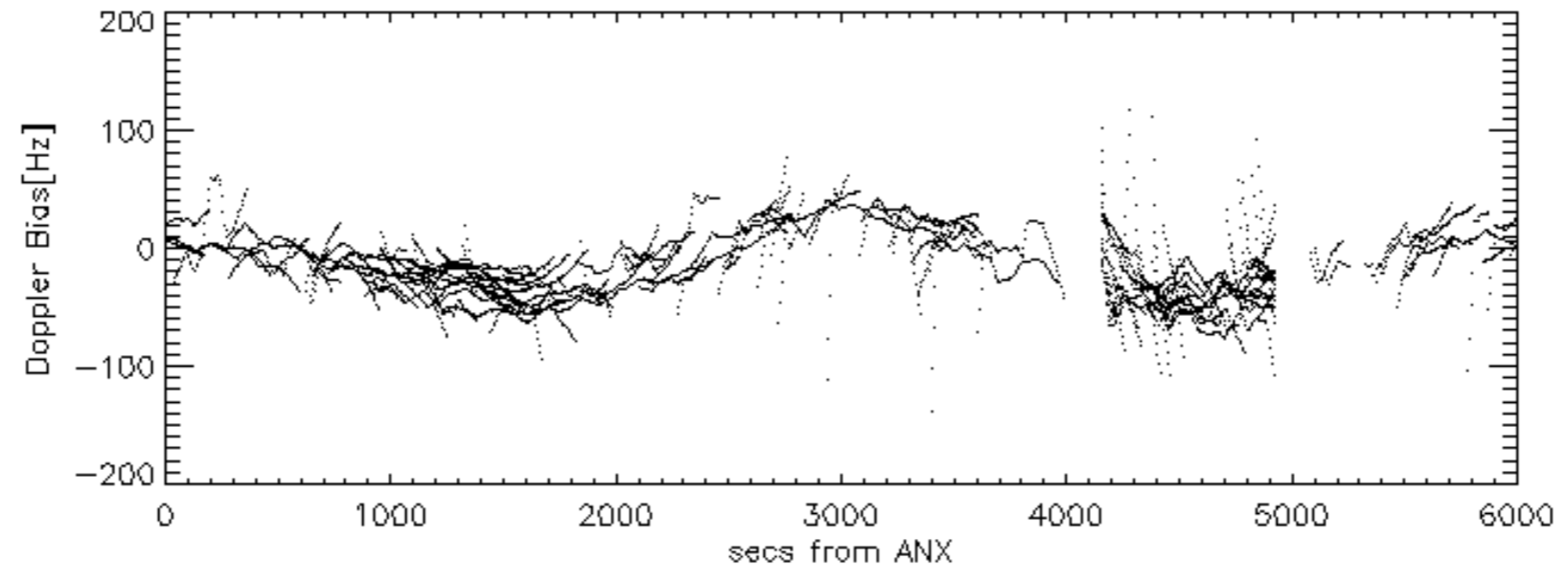
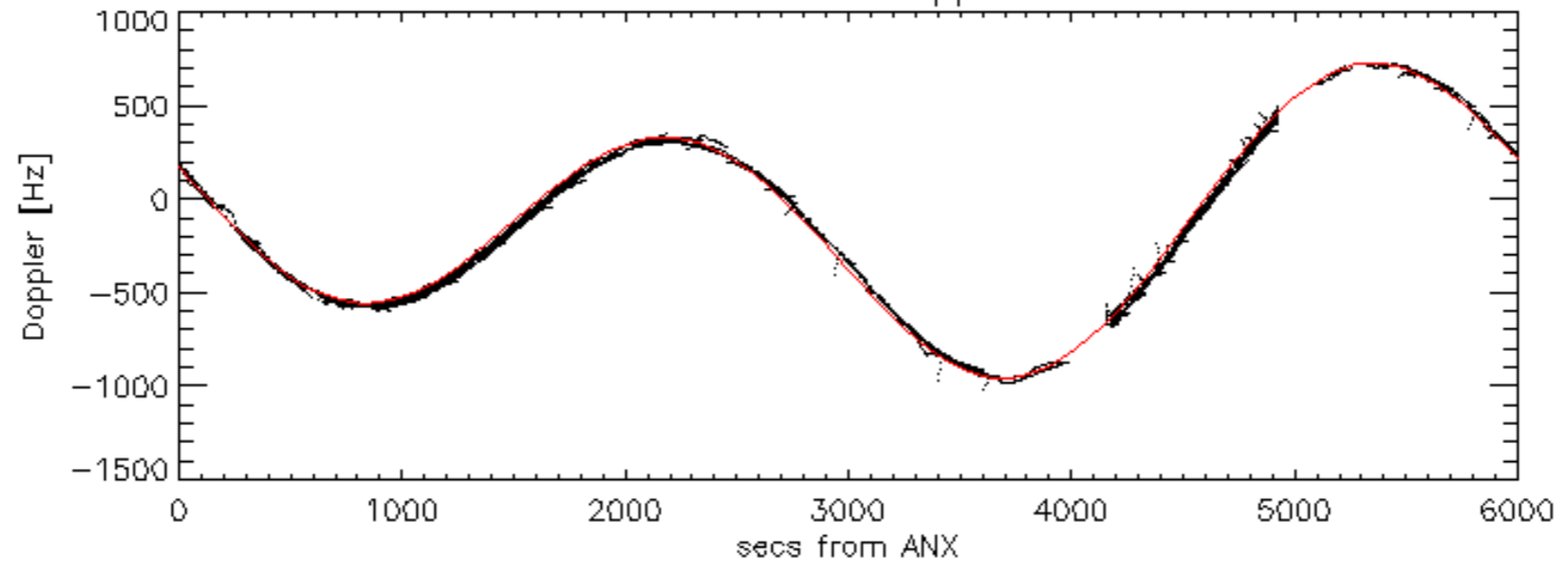
Doppler 'WVS' 'IS4' ascending

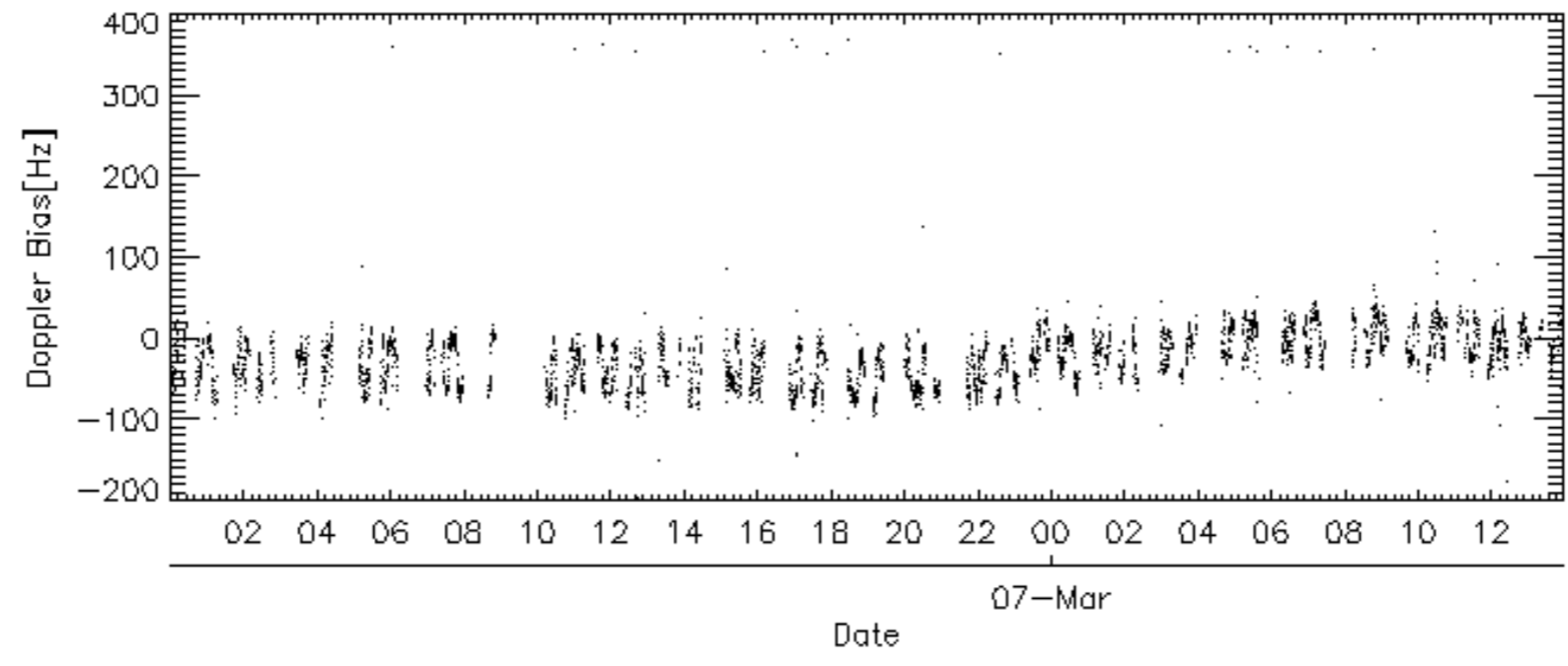
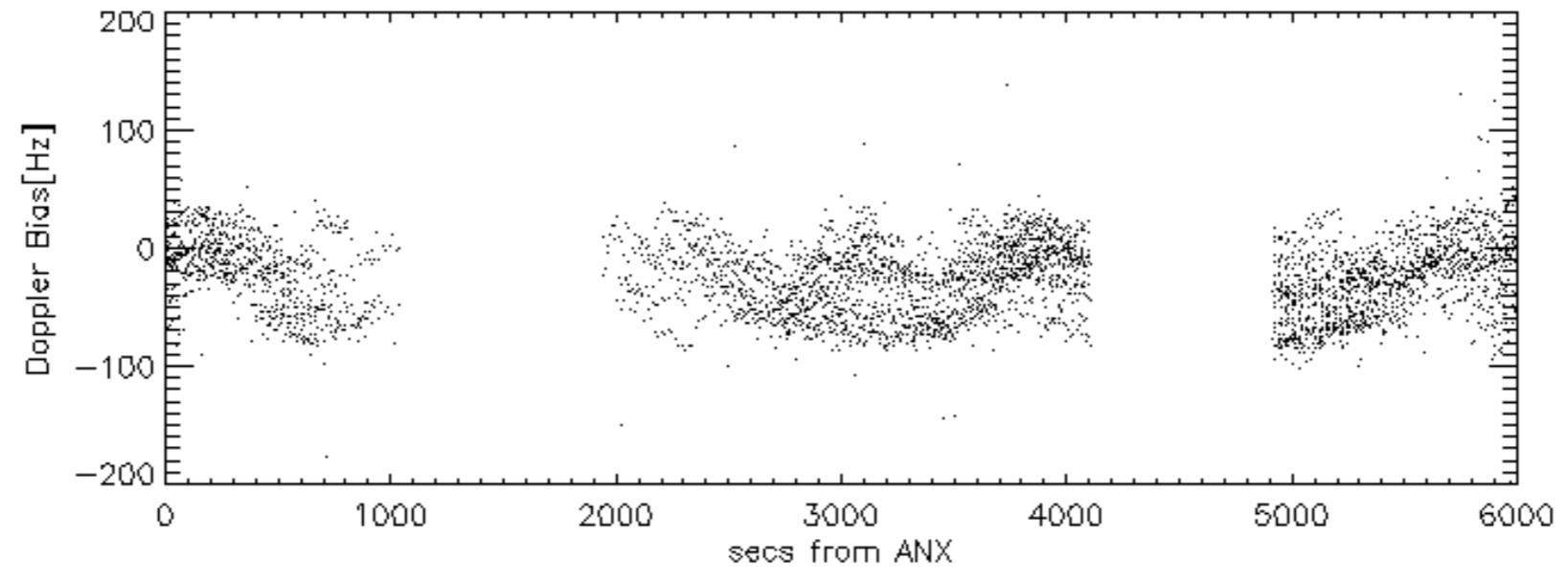
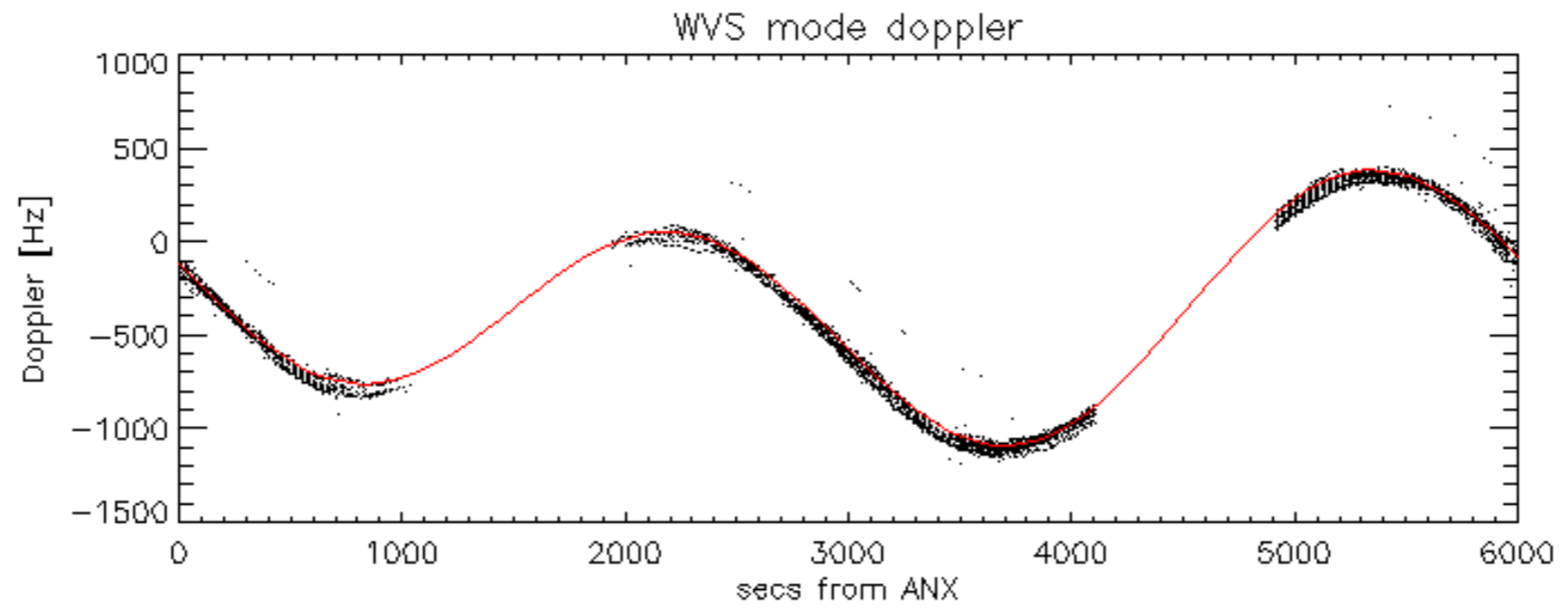


Doppler 'WVS' 'IS4' descending

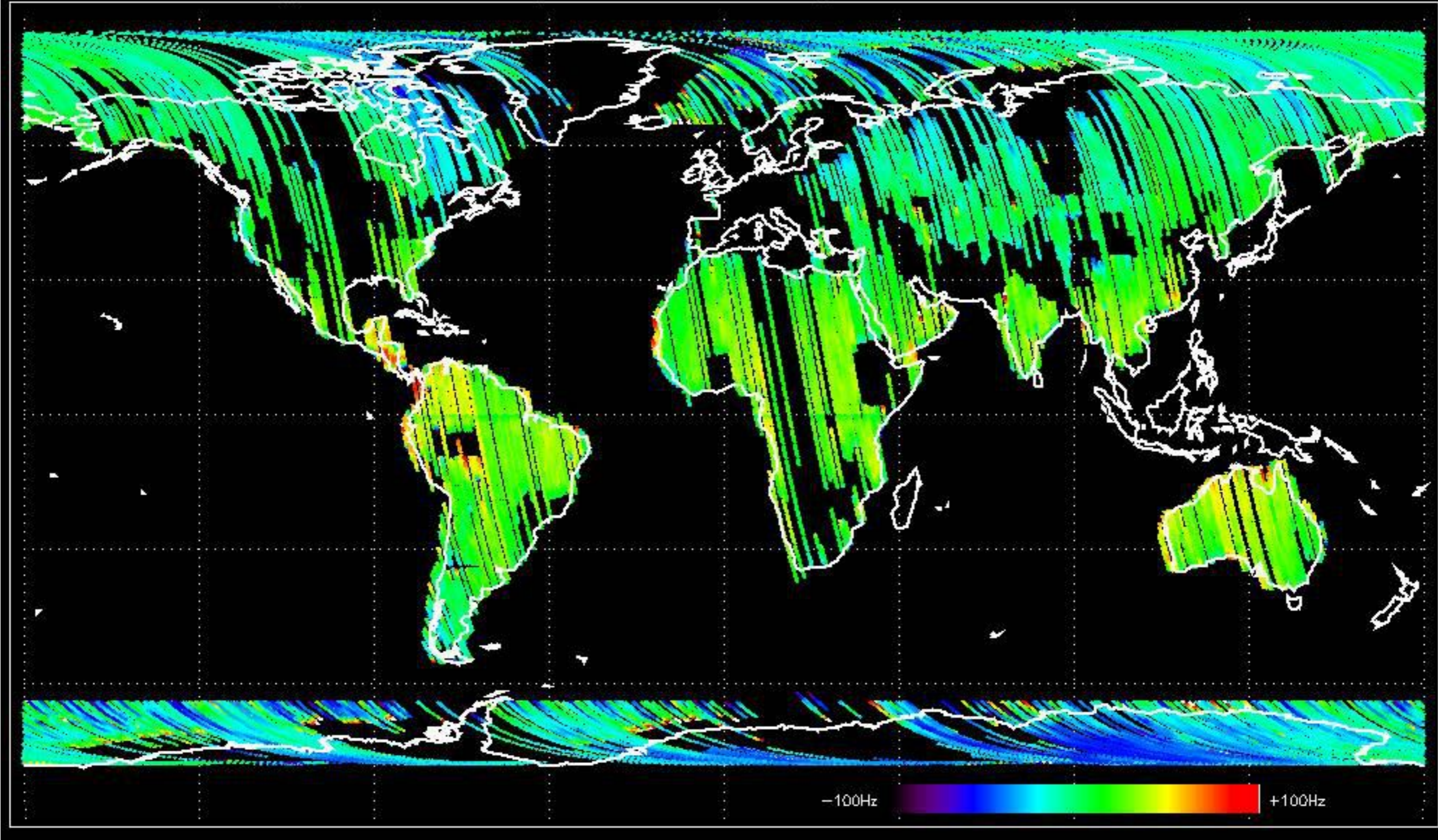


GM1 mode doppler

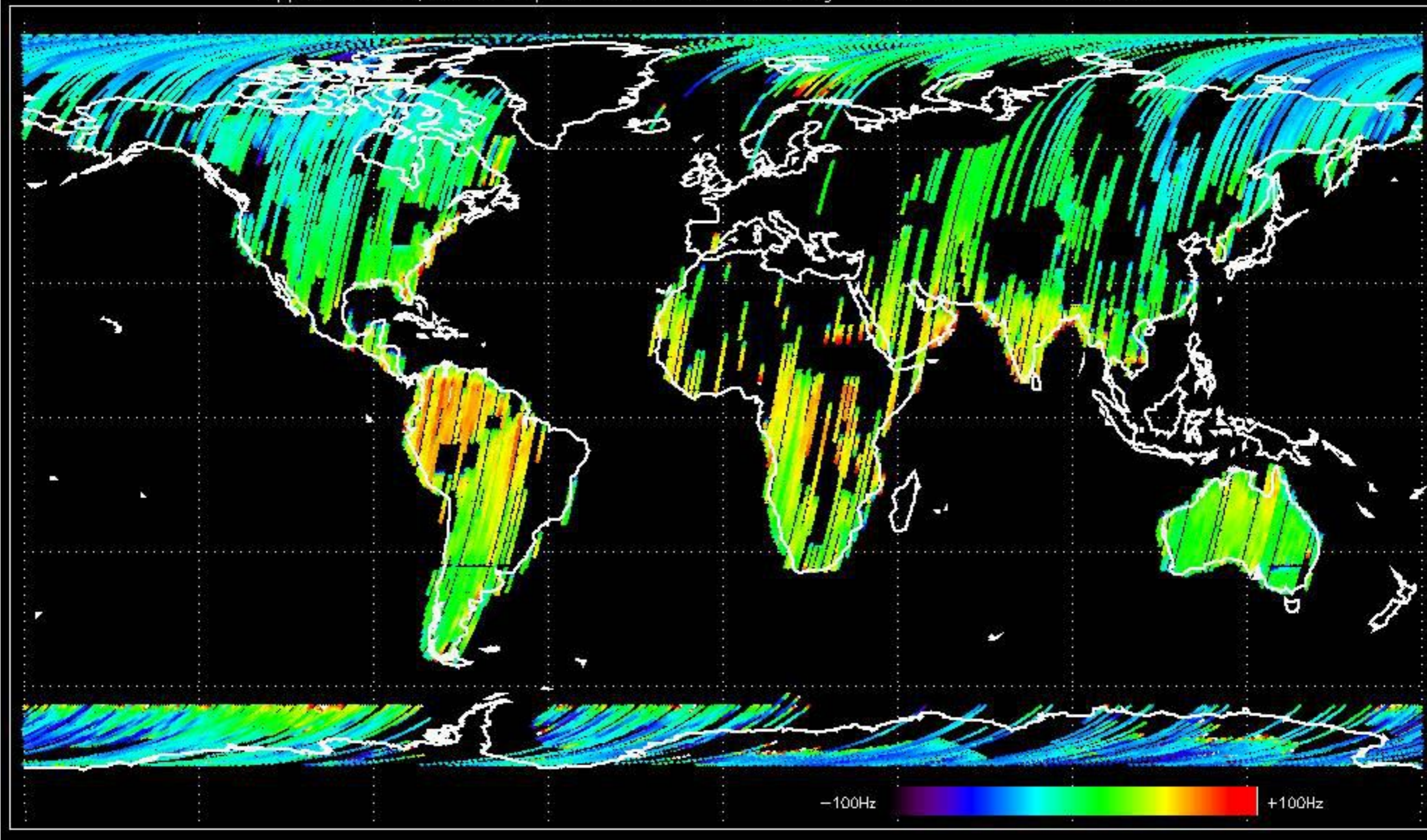




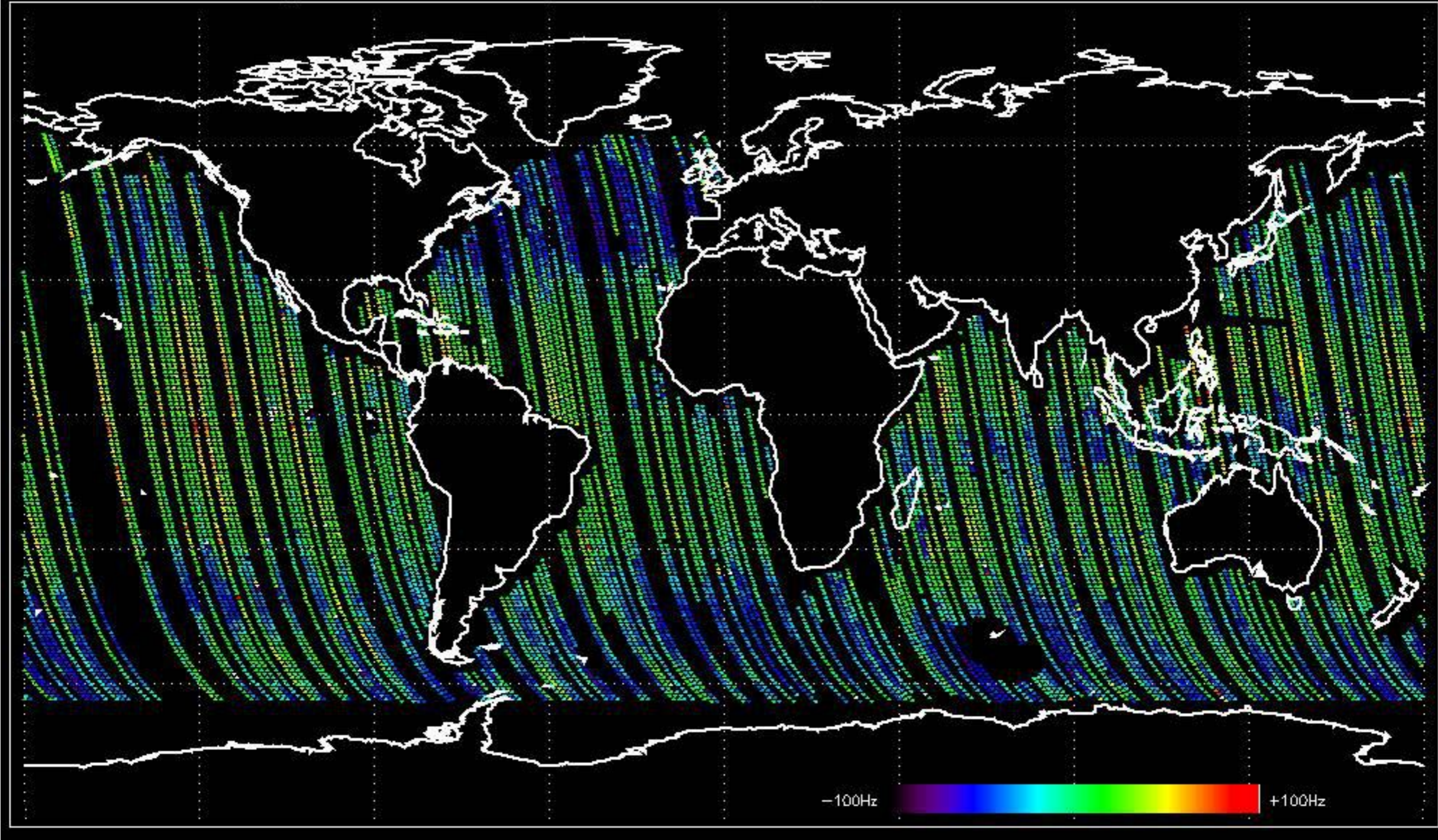
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -19.171994 Hz



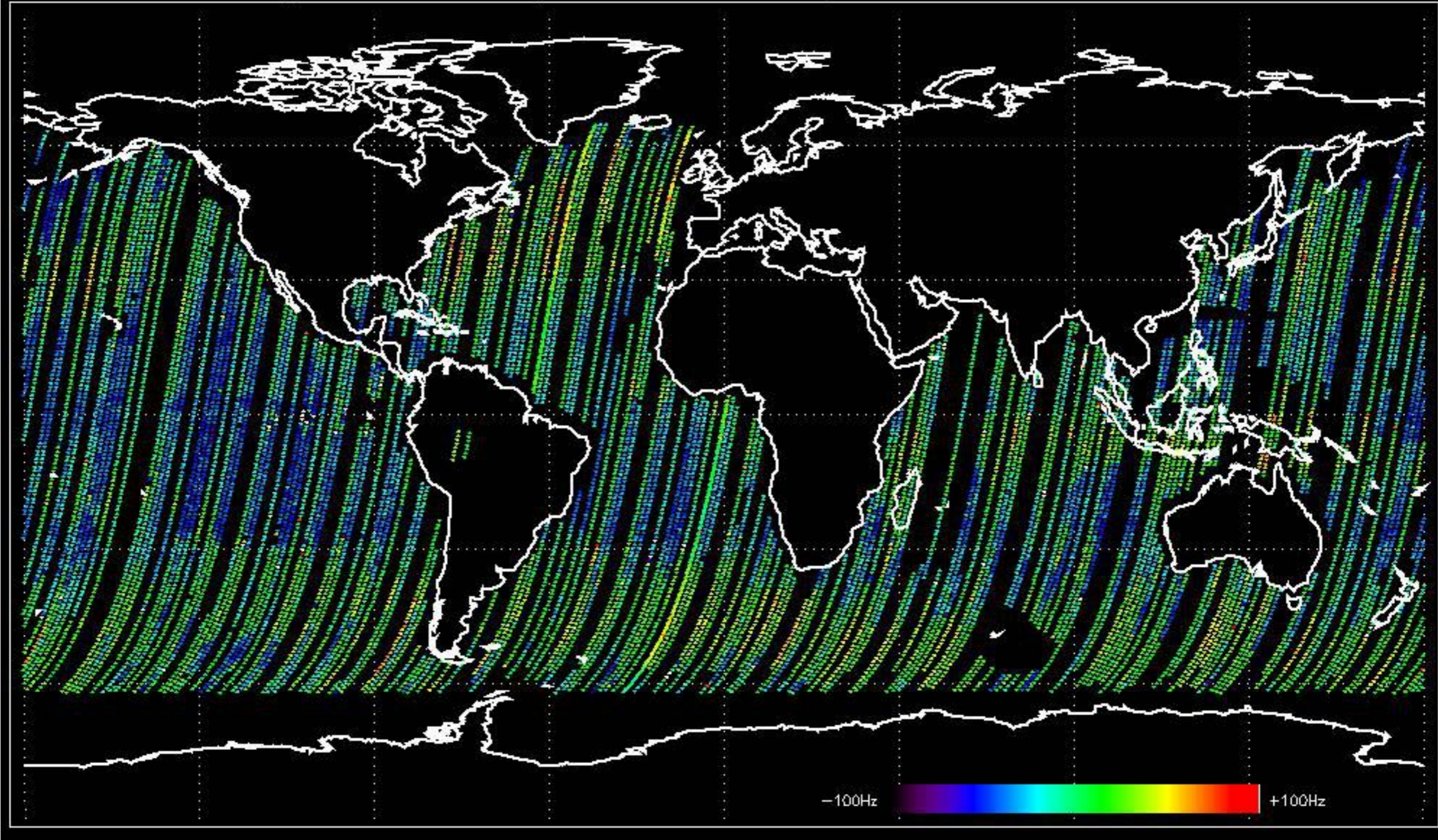
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -16.381366 Hz



Doppler difference, estimated-predicted 'WVS' 'IS4' ascending -error mean of -23.311329 Hz



Doppler difference, estimated-predicted 'WVS' 'IS4' descending -error mean of -26.463339 Hz





No anomalies observed on available MS products:

No anomalies observed.











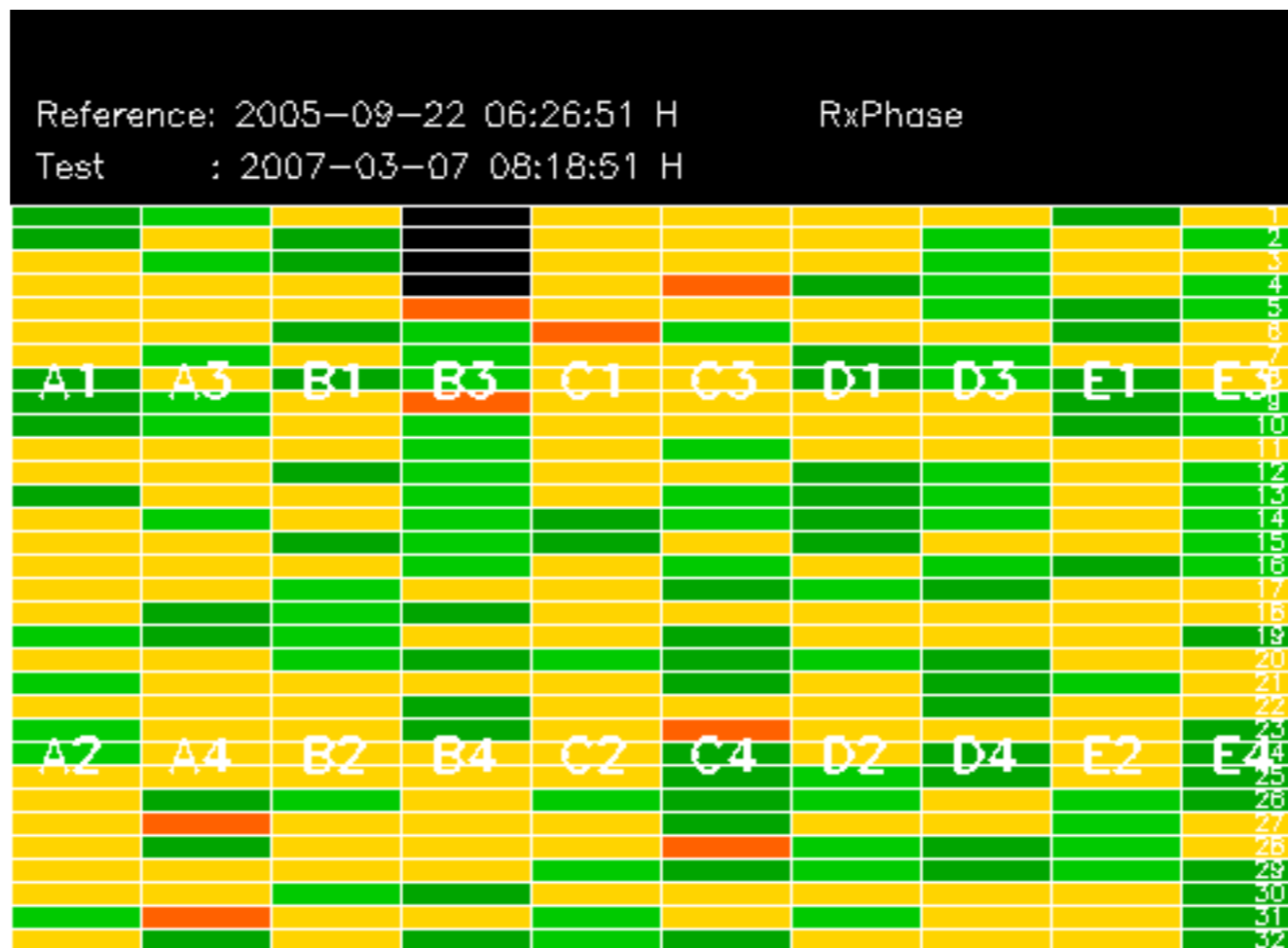






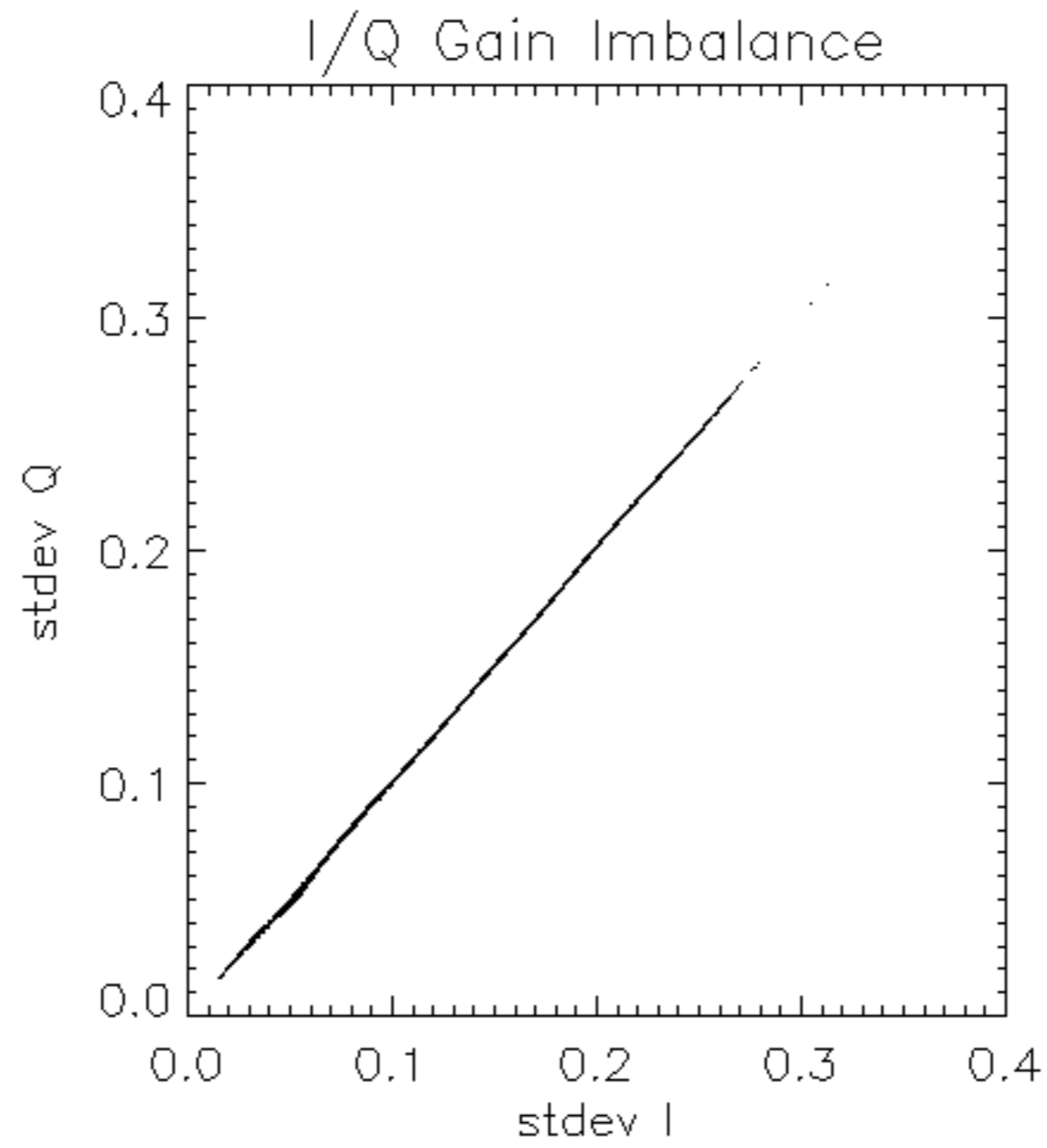


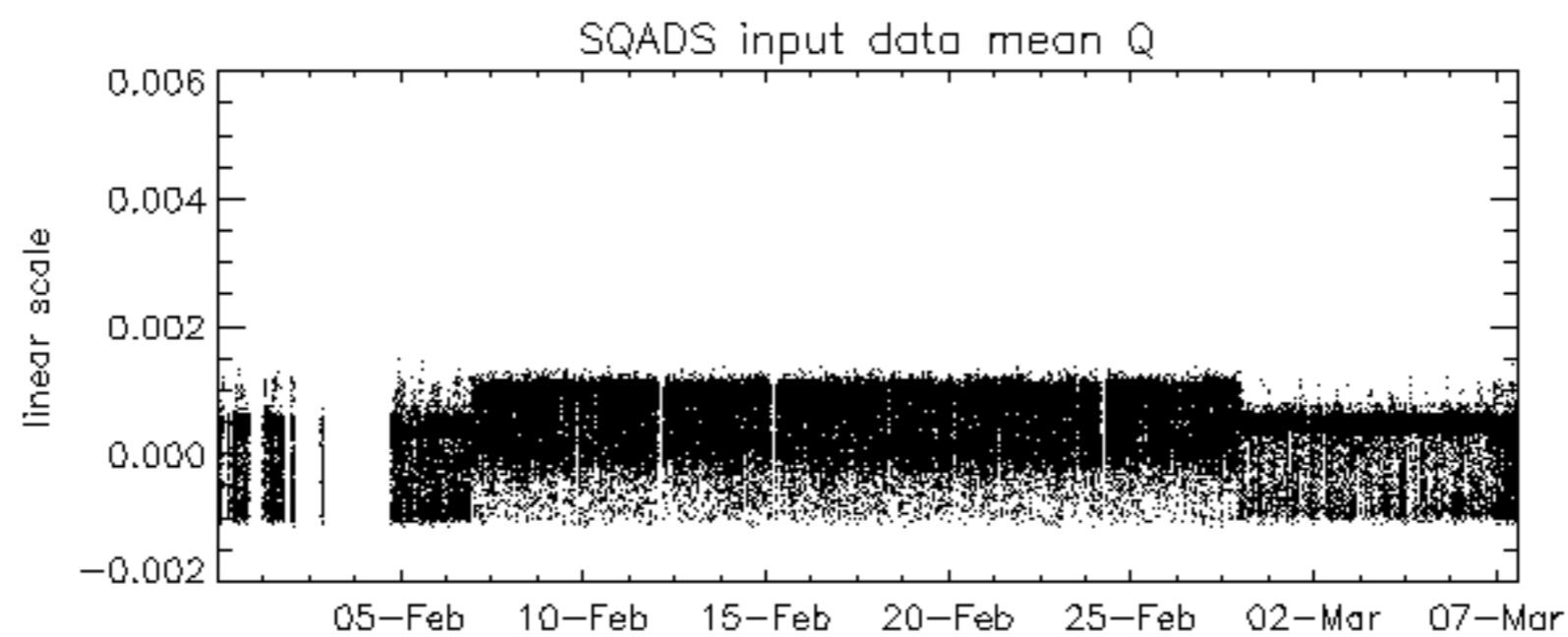
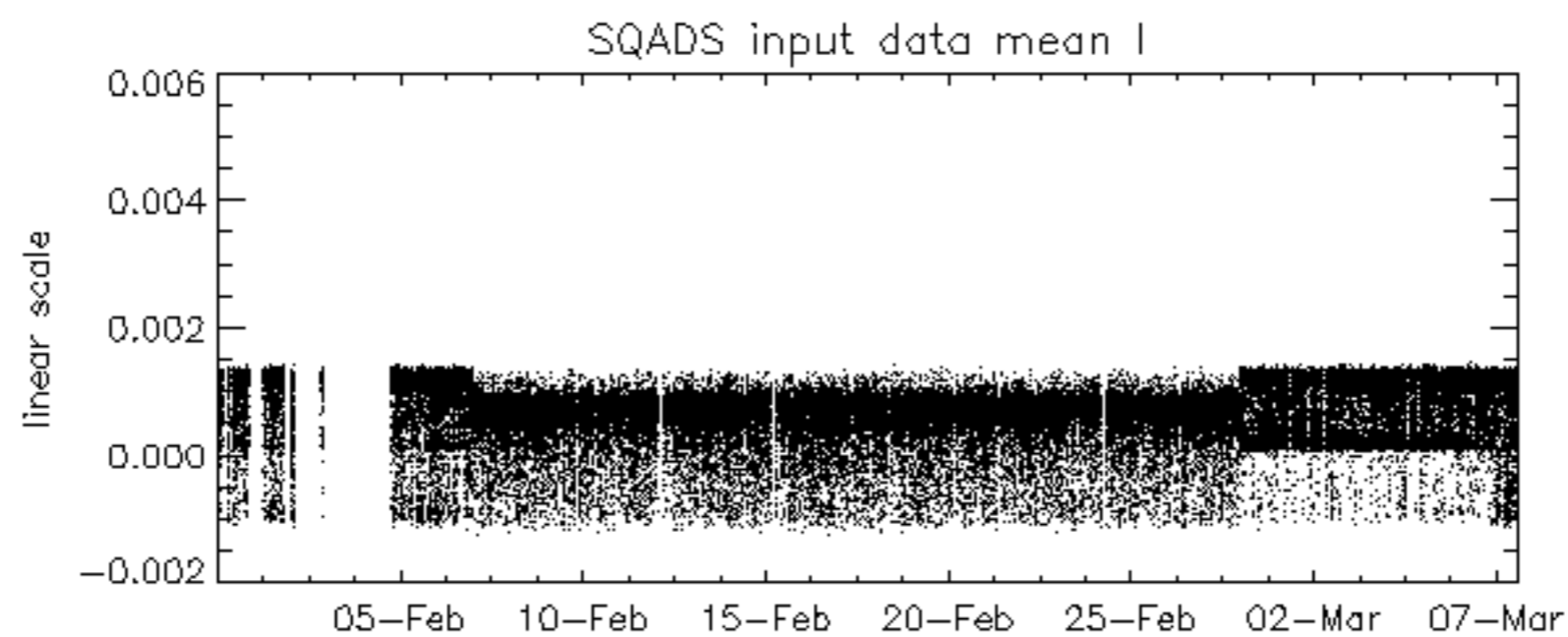
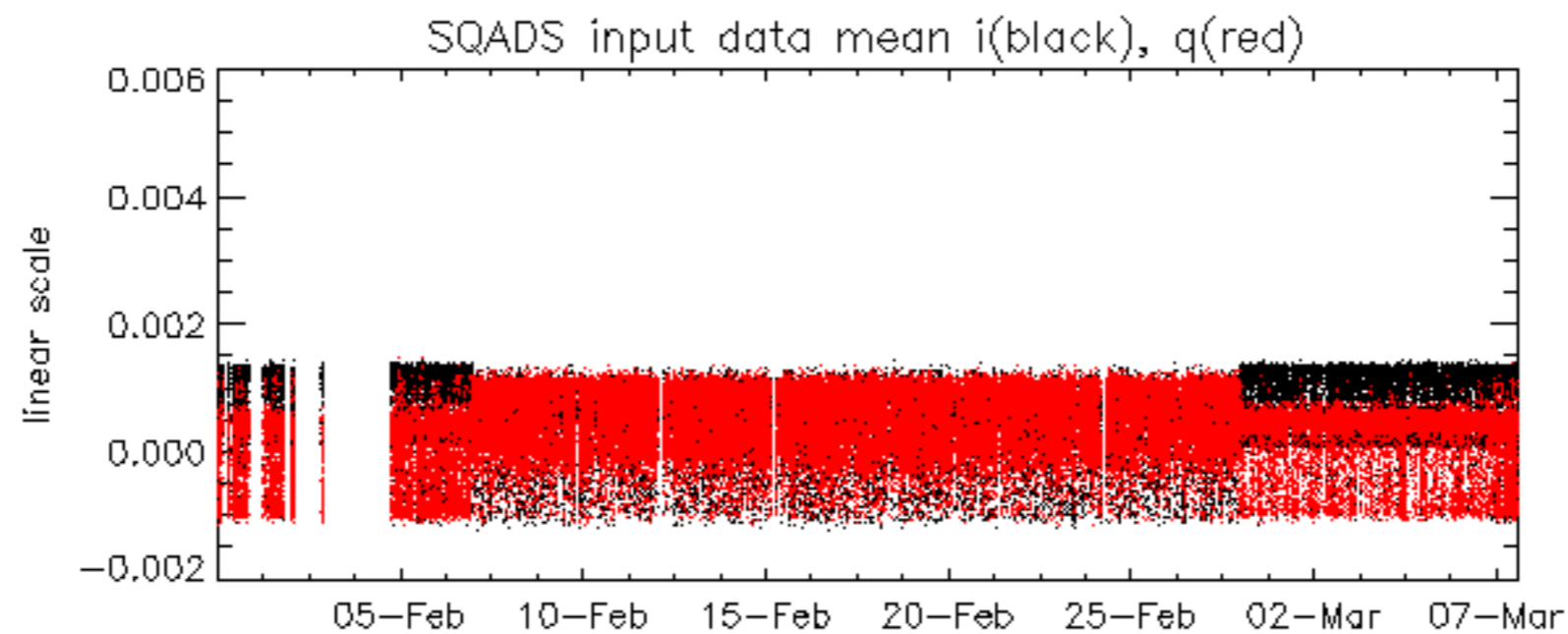




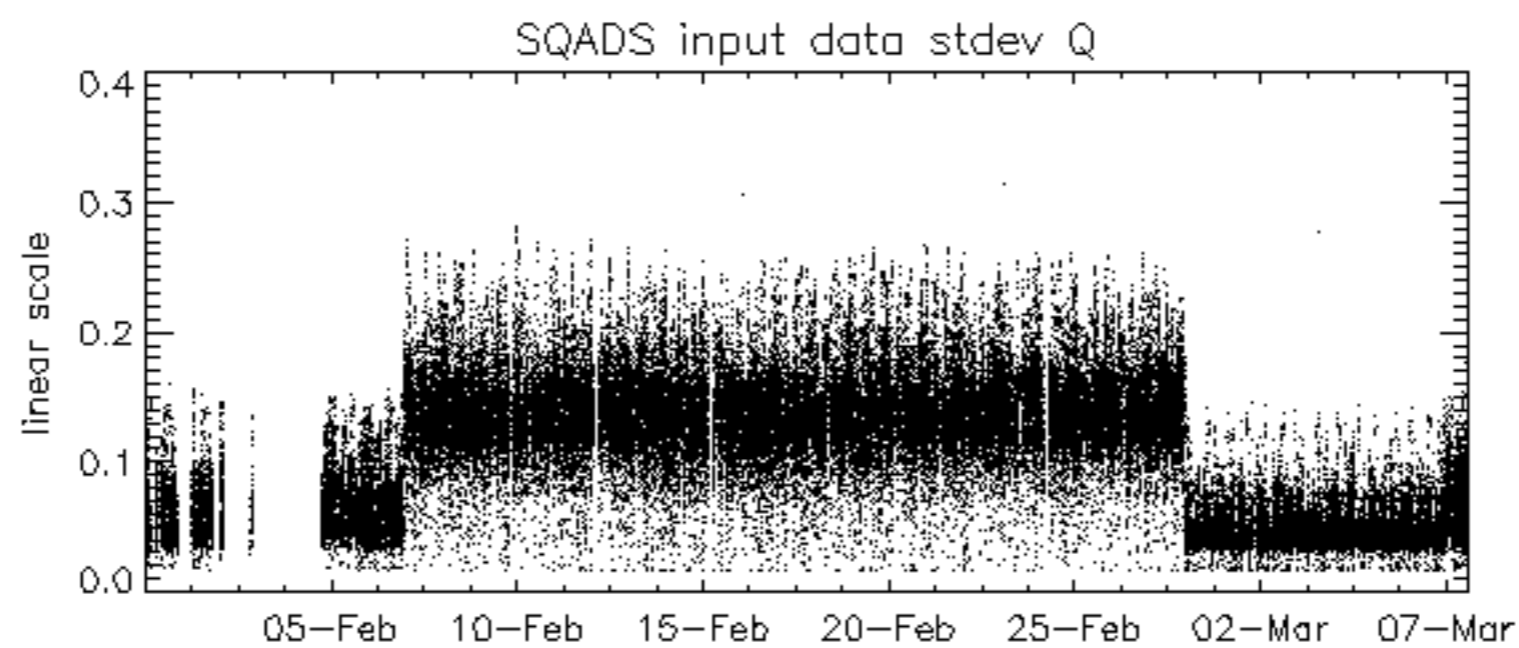
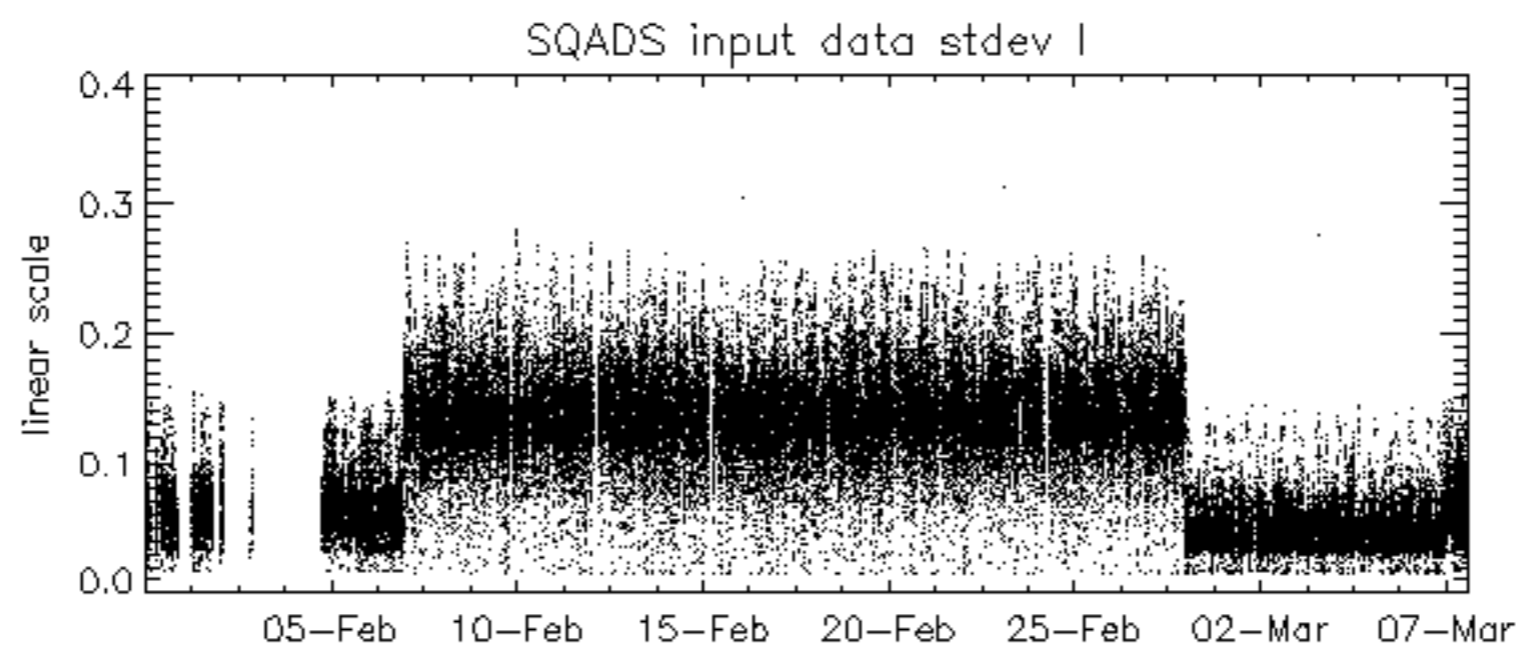
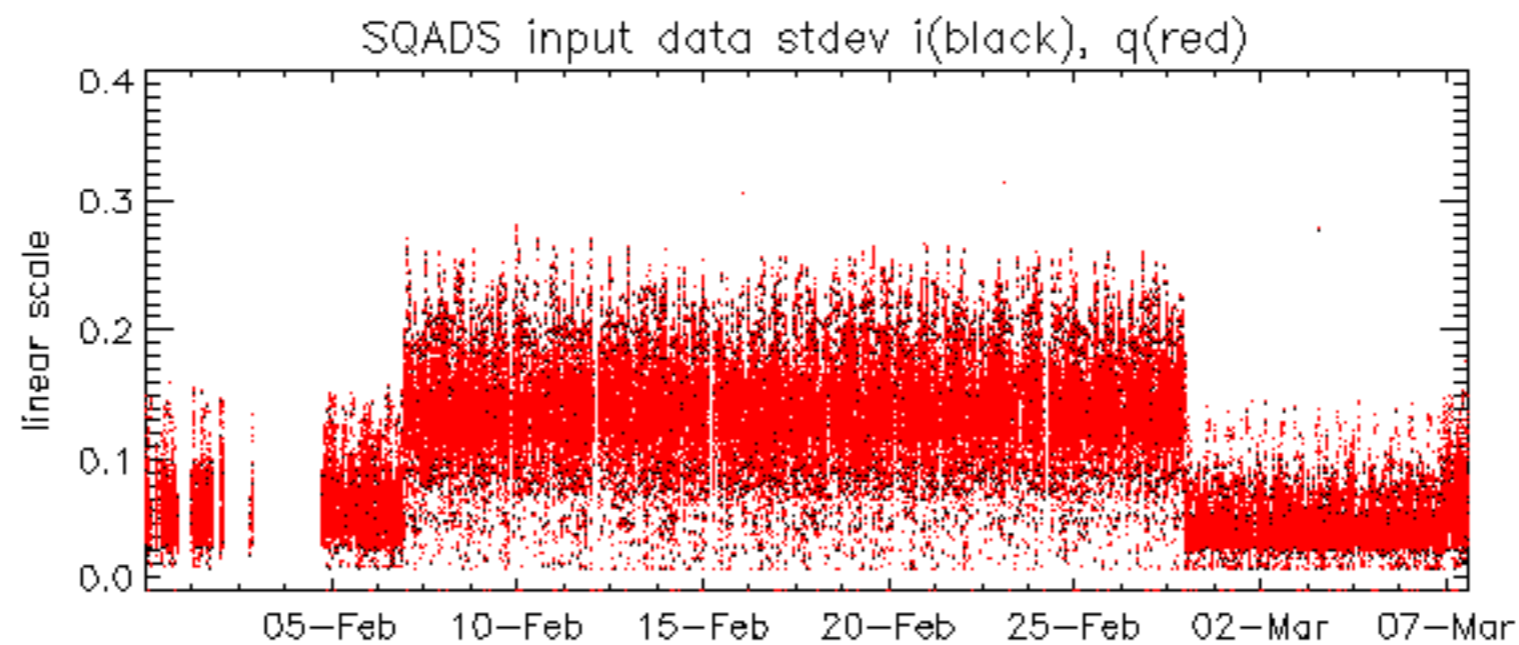
























Summary of analysis for the last 3 days 2007030[567]

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_1PNPDE20070306_231002_000001182056_00116_26222_3547.N1	0	64
ASA_WVS_1PNPDK20070306_153323_00000152056_00111_26217_8526.N1	0	8
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
ASA_WSM_1PNPDE20070306_142925_000000852056_00111_26217_3012.N1	0	16
ASA_WSM_1PNPDE20070306_231712_000000922056_00116_26222_3567.N1	0	68
ASA_WSM_1PNPDE20070306_232132_000001842056_00116_26222_3574.N1	0	67
ASA_WSM_1PNPDE20070307_055614_000000672056_00120_26226_4215.N1	5	157
ASA_WSM_1PNPDE20070307_111810_000000852056_00123_26229_4255.N1	0	72
ASA_WSM_1PNPDK20070307_135748_000000852056_00125_26231_9424.N1	0	15



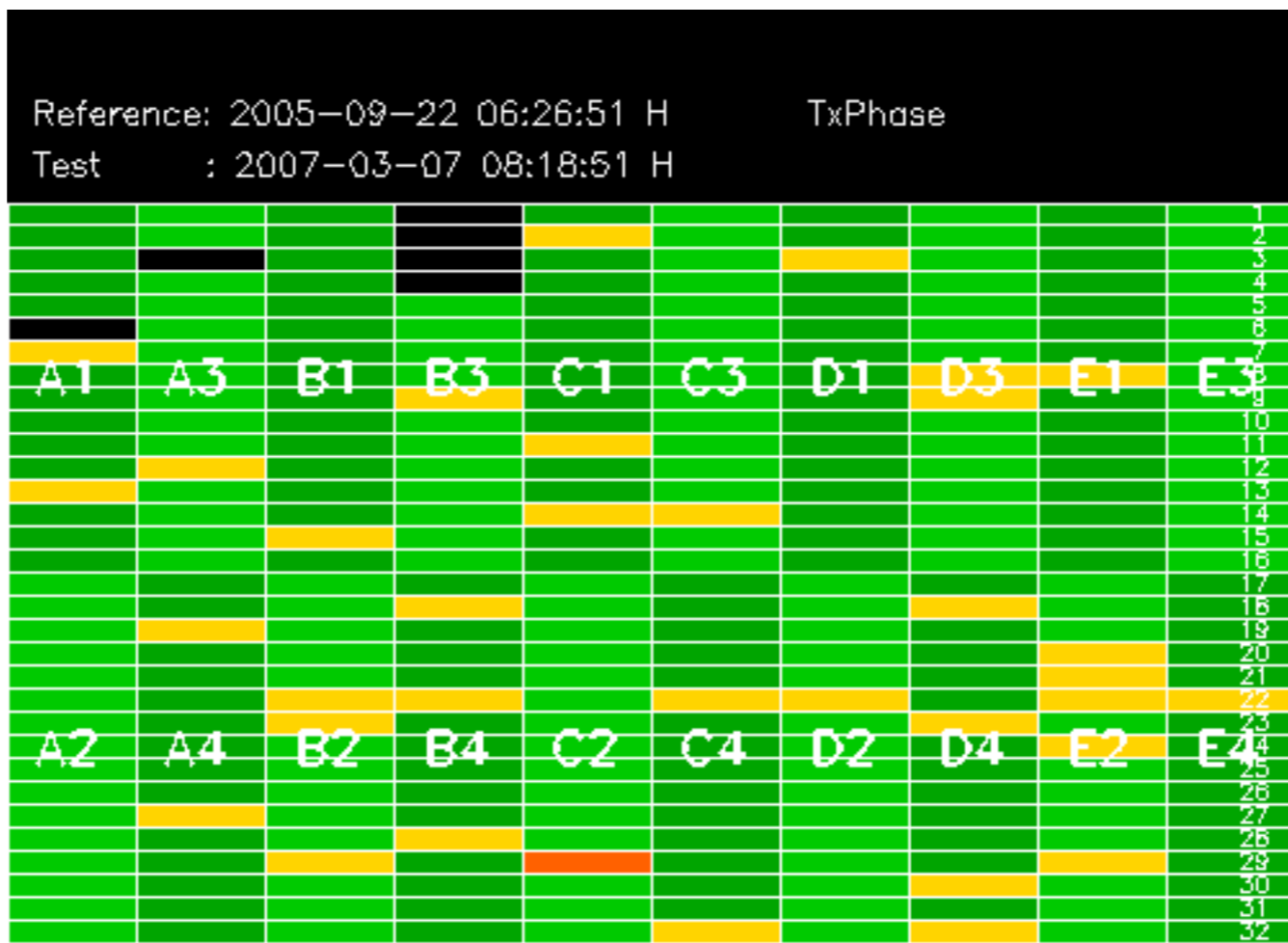








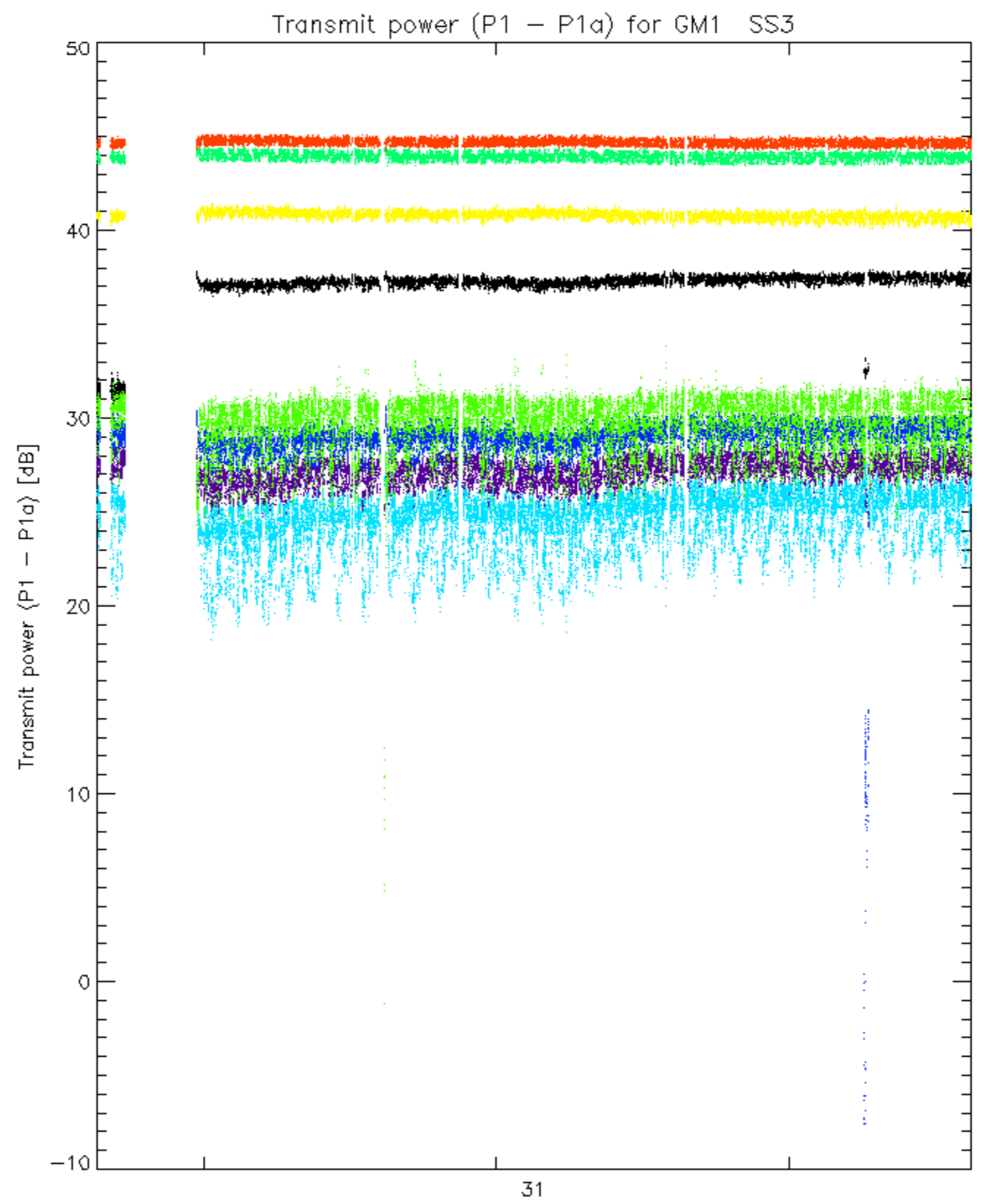




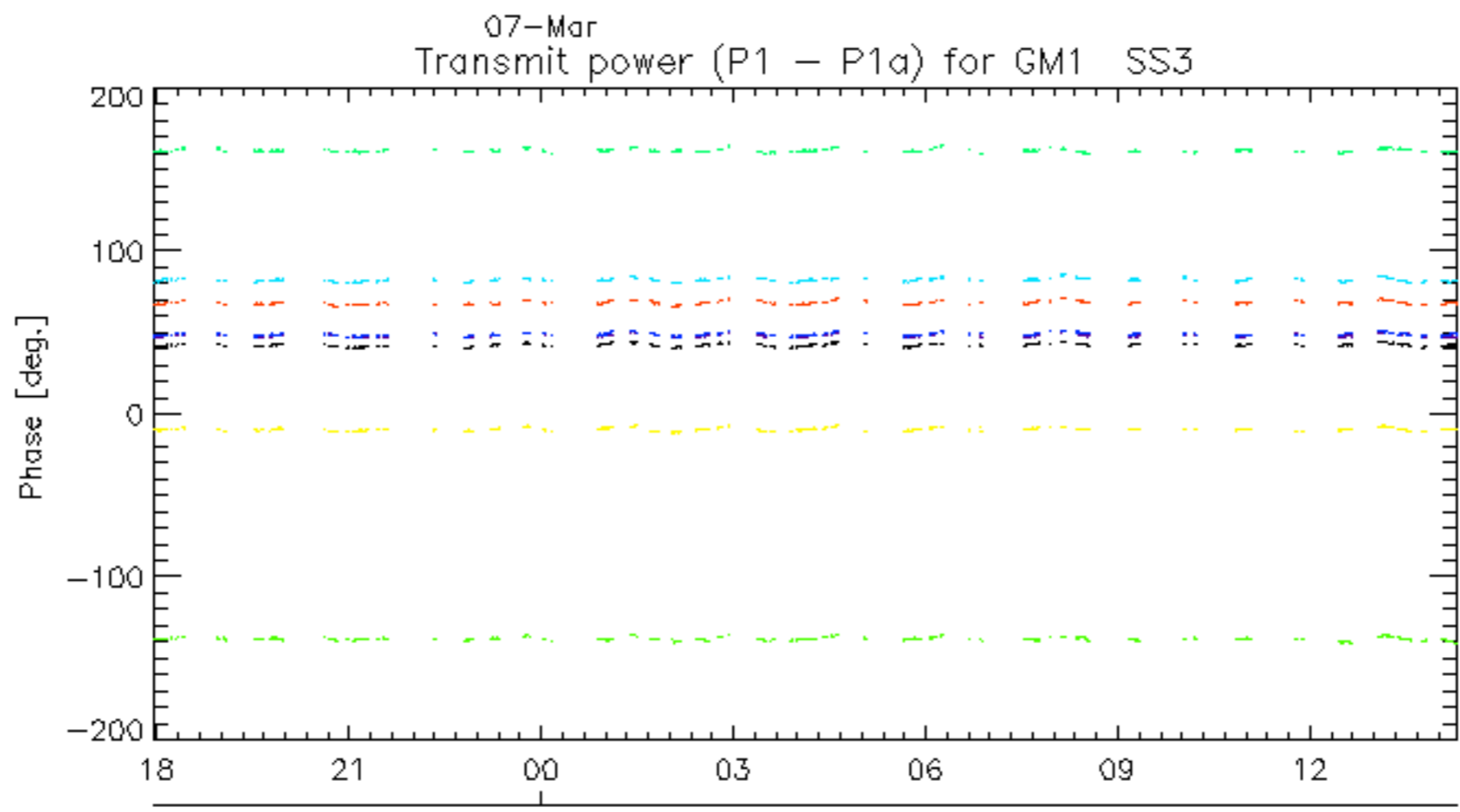
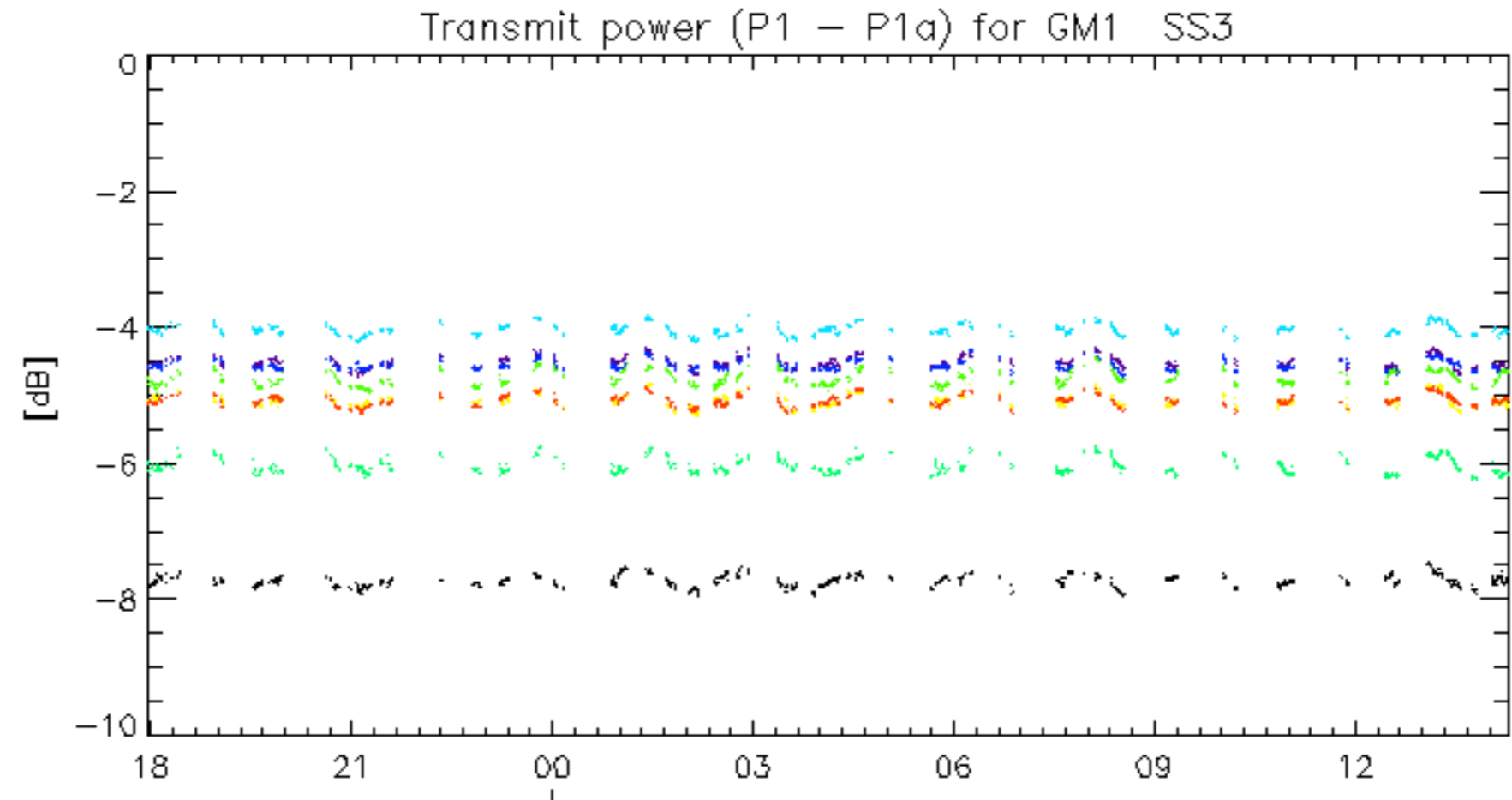






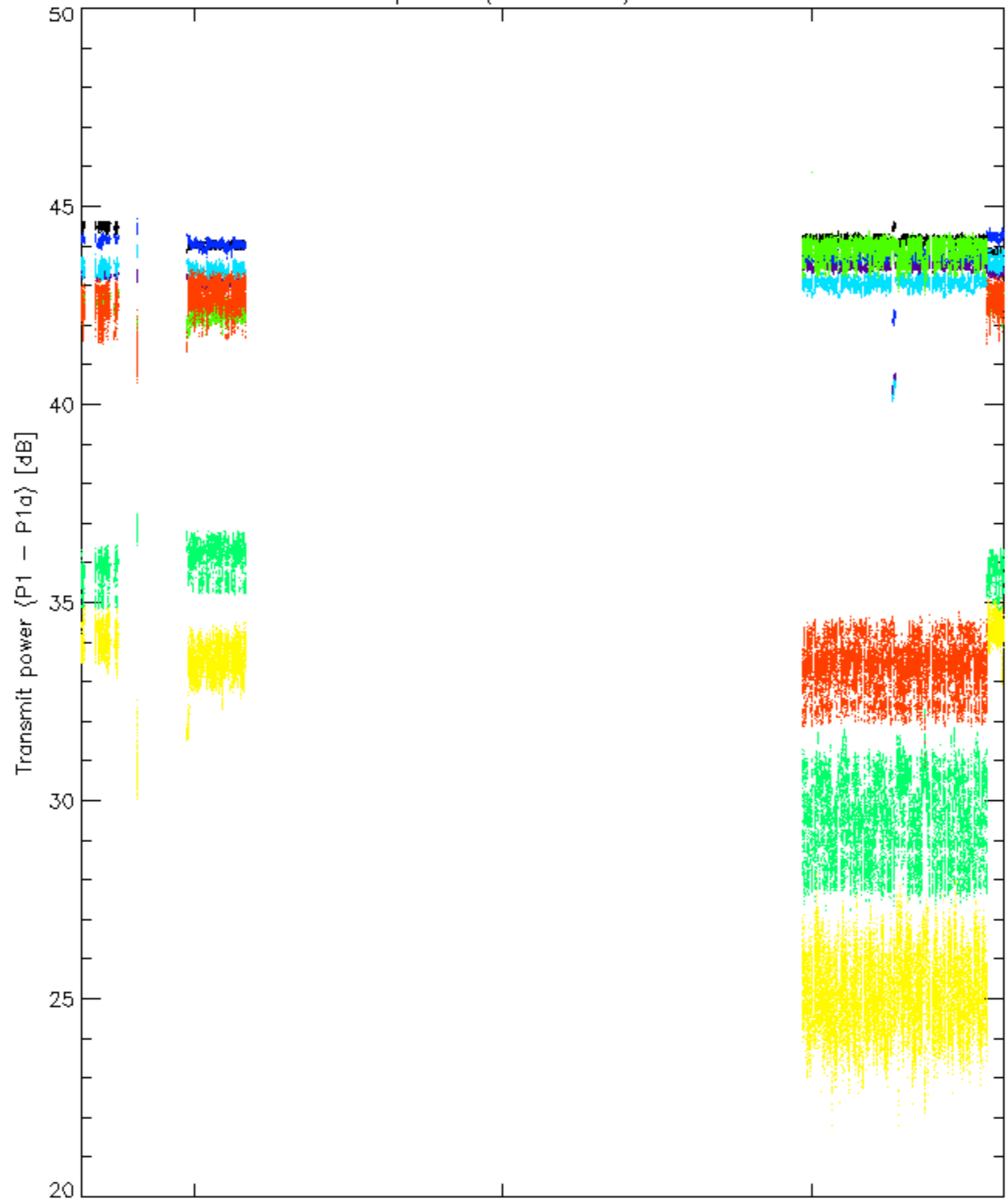


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

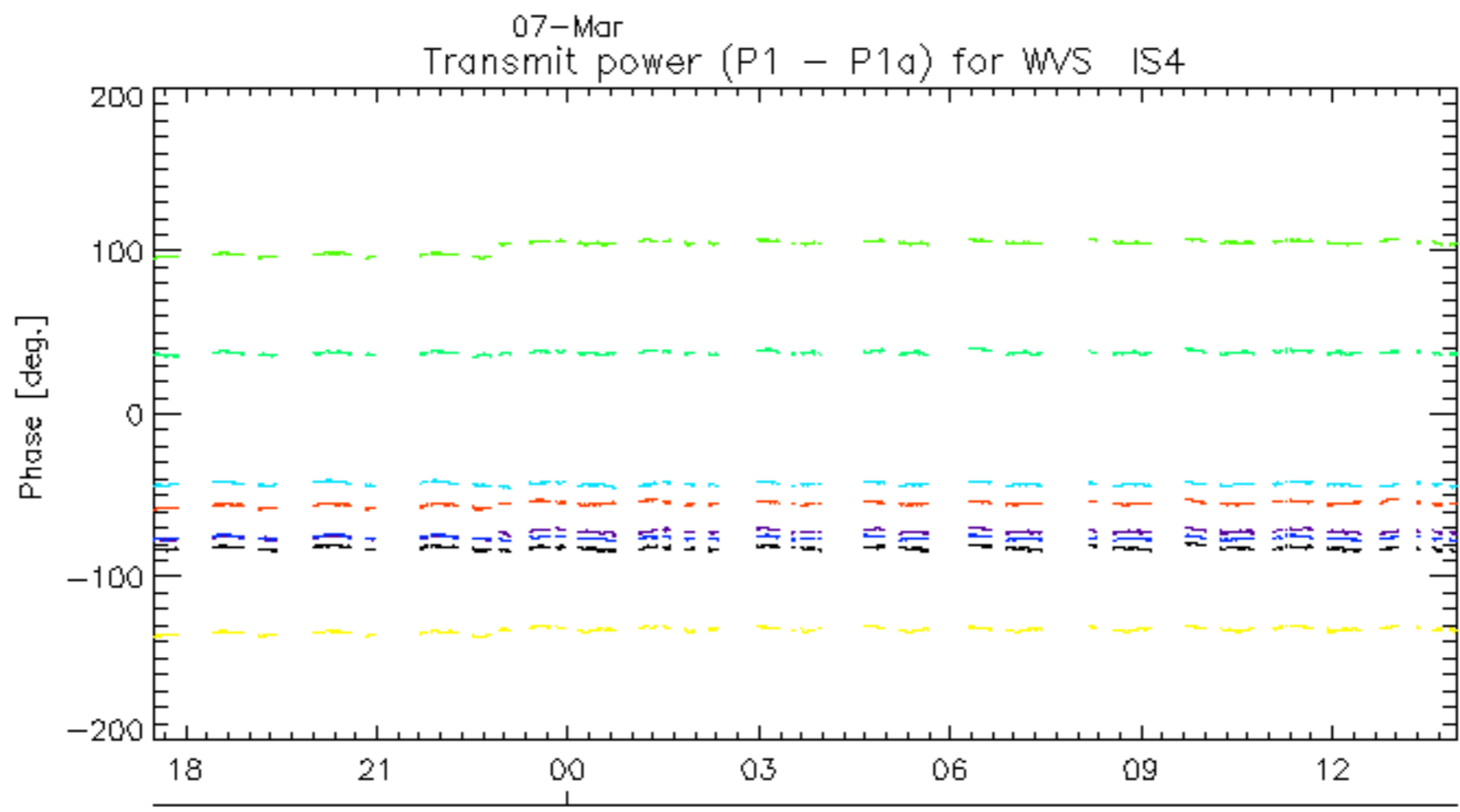
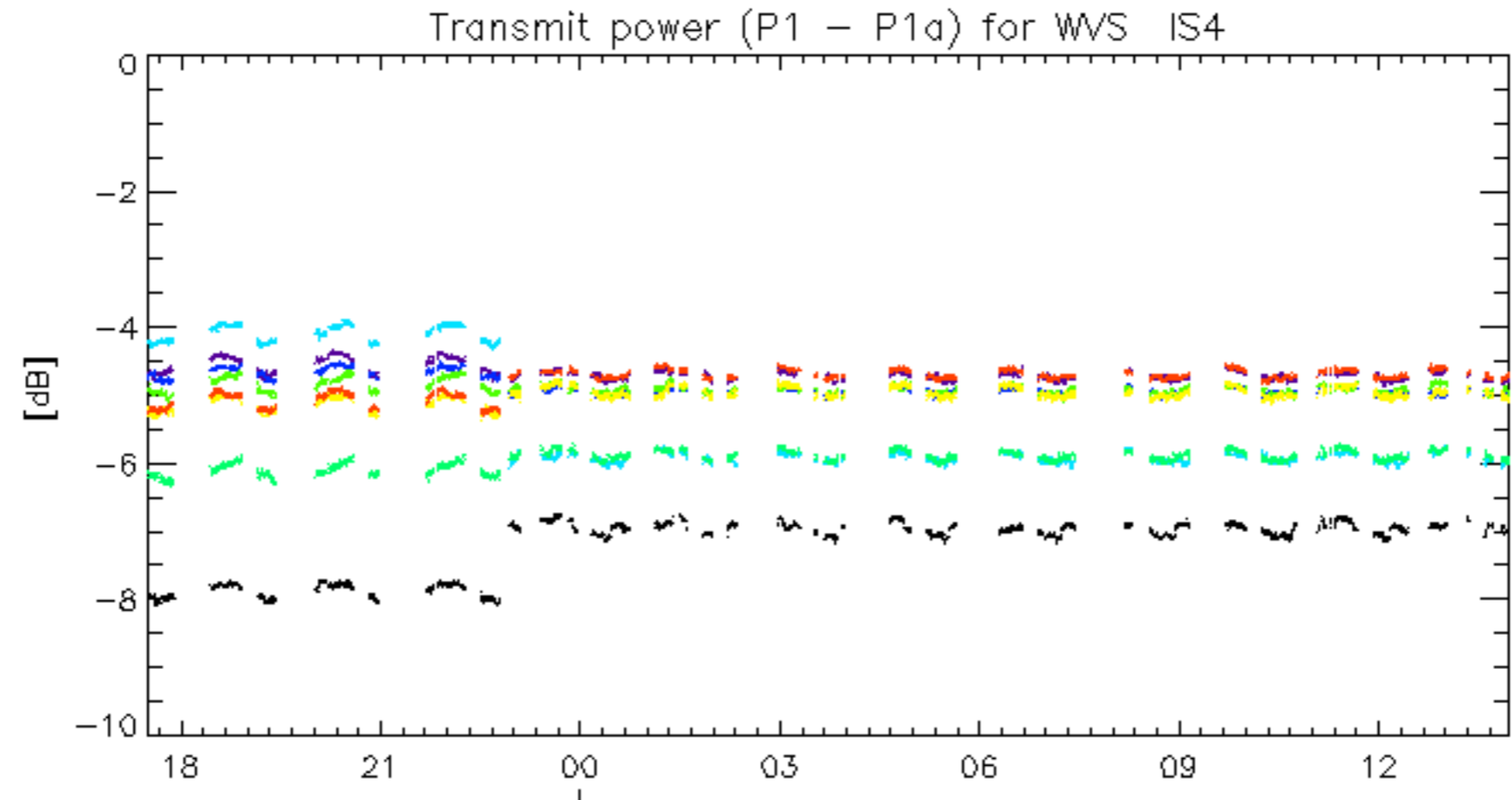


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Transmit power (P1 - P1a) for WVS IS4



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



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

No unavailabilities during the reported period.