

# PRELIMINARY REPORT OF 050402

last update on Sat Apr 2 10:50:01 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 2005-04-01 00:00:00 to 2005-04-02 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	31	52	4	2	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	31	52	4	2	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	31	52	4	2	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	31	52	4	2	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	36	31	4	6	3
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	36	31	4	6	3
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	36	31	4	6	3
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	36	31	4	6	3

## 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	20050401 055512
H	20050331 062649

### 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
☒	☒
☒	☒
☒	☒
☒	☒

**4 - Internal calibration Results**

No anomalies observed.

**4.1 - Daily statistics**

**4.1.1 - Evolution for WVS**

**Evolution of cal pulses for WVS**

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☒

**4.1.2 - Evolution for GM1**

**Evolution of cal pulses for GM1**

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☒

**4.2 - Cyclic statistics**

**4.2.1 - Evolution for WVS**

**Evolution of cal pulses for WVS**

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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	-3.350512	0.013497	0.029330
7	P1	-3.108573	0.008163	-0.041704
11	P1	-4.683391	0.030327	0.044654
15	P1	-5.640103	0.038284	0.057876
19	P1	-3.692013	0.003702	-0.024788
22	P1	-4.522953	0.011818	-0.033366
26	P1	-4.934745	0.017902	0.052338
30	P1	-7.197258	0.018681	-0.002008
3	P1	-15.874349	0.328896	0.252264
7	P1	-15.534901	0.069122	-0.029965
11	P1	-20.999245	0.451007	-0.124505
15	P1	-11.574165	0.047312	0.016560
19	P1	-14.309967	0.024187	-0.025707
22	P1	-15.666698	0.305283	-0.202625
26	P1	-17.623262	0.192575	-0.076823
30	P1	-17.971283	0.432396	0.020820

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.073183	0.081021	0.046807
7	P2	-22.255419	0.094332	0.066648
11	P2	-14.341946	0.109475	0.247707
15	P2	-7.044781	0.090072	-0.027172
19	P2	-9.634994	0.093145	-0.022220
22	P2	-16.904474	0.093177	0.040706
26	P2	-16.444597	0.092098	-0.008006
30	P2	-18.842375	0.083384	0.052541

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.166905	0.004656	-0.001718
7	P3	-8.166905	0.004656	-0.001718
11	P3	-8.166905	0.004656	-0.001718
15	P3	-8.166905	0.004656	-0.001718
19	P3	-8.166905	0.004656	-0.001718
22	P3	-8.166905	0.004656	-0.001718
26	P3	-8.166905	0.004656	-0.001718
30	P3	-8.166905	0.004656	-0.001718

#### 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	-2.712112	0.026196	0.025818
7	P1	-3.023433	0.048813	0.043347
11	P1	-3.984701	0.026780	0.026441
15	P1	-3.554965	0.034603	0.053306
19	P1	-3.603594	0.013685	-0.025884
22	P1	-5.739347	0.035682	0.034840
26	P1	-7.293597	0.025140	0.002732
30	P1	-6.238008	0.051026	-0.046285
3	P1	-10.706219	0.173398	0.082807
7	P1	-10.339086	0.177371	0.051185
11	P1	-12.529185	0.137094	0.056722
15	P1	-11.733489	0.102282	0.101057
19	P1	-15.576023	0.047065	-0.029955
22	P1	-24.591349	1.216412	-0.274198
26	P1	-15.497239	0.180052	-0.073193
30	P1	-20.210947	1.202183	0.039395

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.775379	0.035060	0.063799
7	P2	-22.340845	0.040435	0.072129
11	P2	-10.133275	0.053417	0.138663
15	P2	-4.987779	0.025048	-0.039281
19	P2	-6.834106	0.037739	-0.023525
22	P2	-7.083179	0.033187	0.029276
26	P2	-23.849005	0.031583	-0.003243
30	P2	-21.889656	0.036836	0.012756

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.998664	0.002859	-0.000935
7	P3	-7.998755	0.002861	-0.001142
11	P3	-7.998681	0.002869	-0.001246
15	P3	-7.998737	0.002871	-0.000840
19	P3	-7.998676	0.002879	-0.000929
22	P3	-7.998765	0.002856	-0.001239
26	P3	-7.998716	0.002868	-0.001179
30	P3	-7.998599	0.002870	-0.001114

## 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	0.000454378
	stdev	2.26676e-07
MEAN Q	mean	0.000473053
	stdev	2.36093e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.128064
	stdev	0.00105342
STDEV Q	mean	0.128315
	stdev	0.00106496



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005040[112]

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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## 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

<input type="checkbox"/>
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### 7.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)

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



### 7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

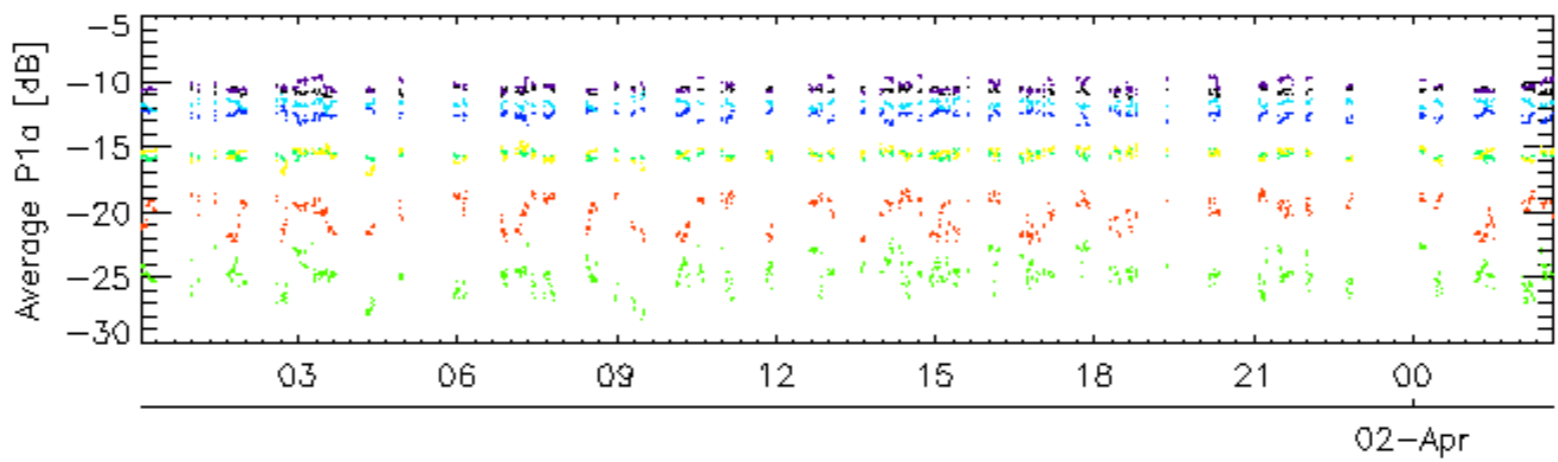
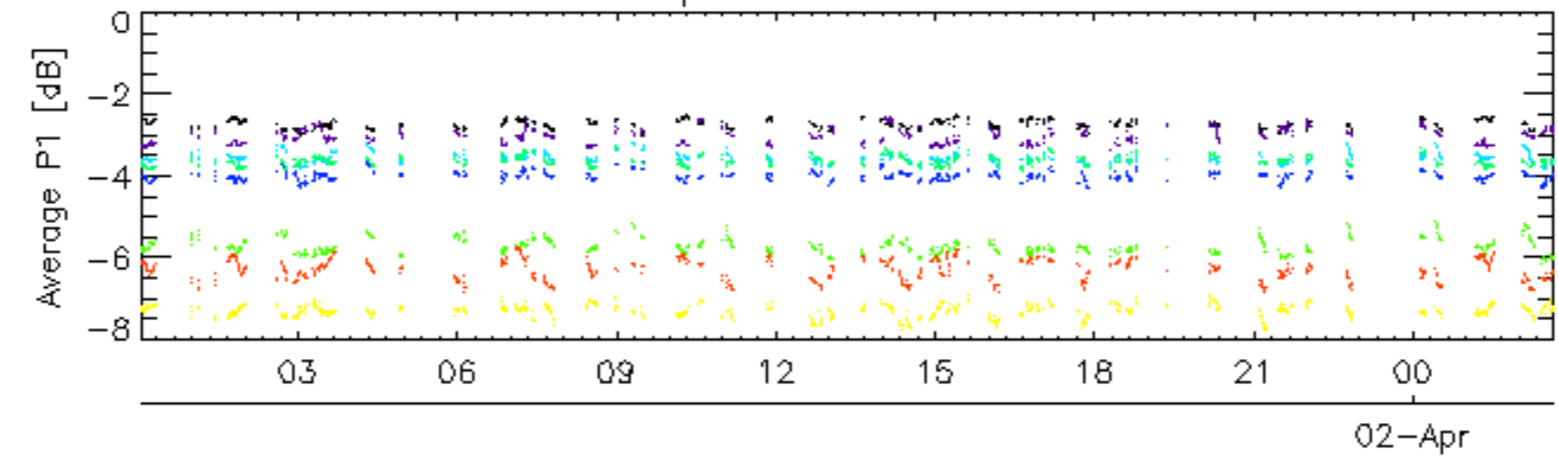
Ascending

Descending

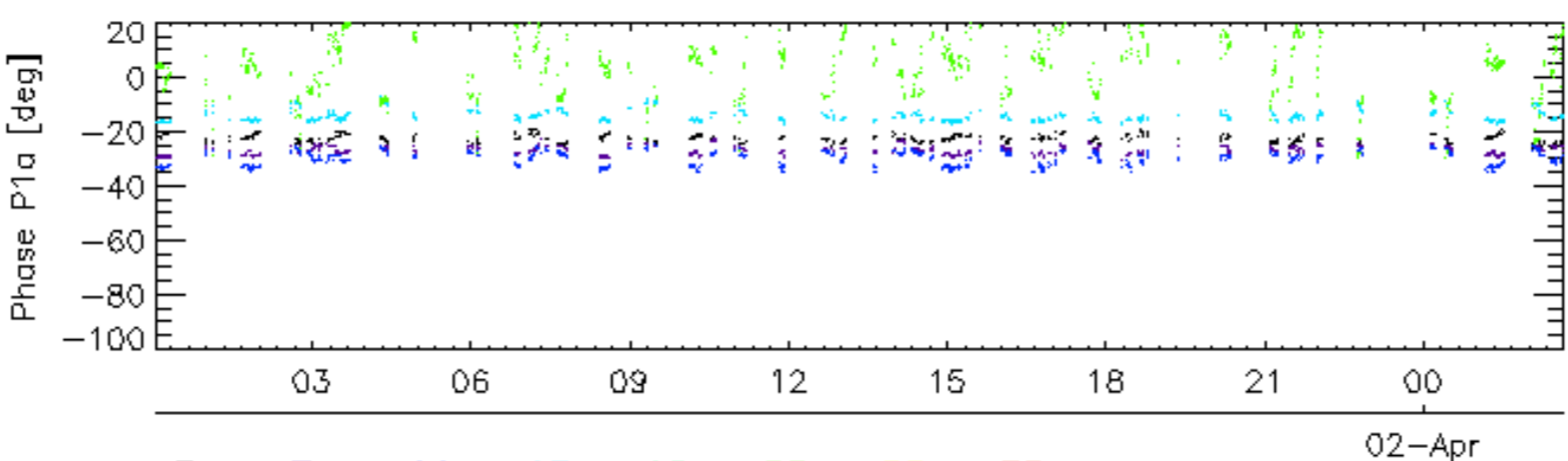
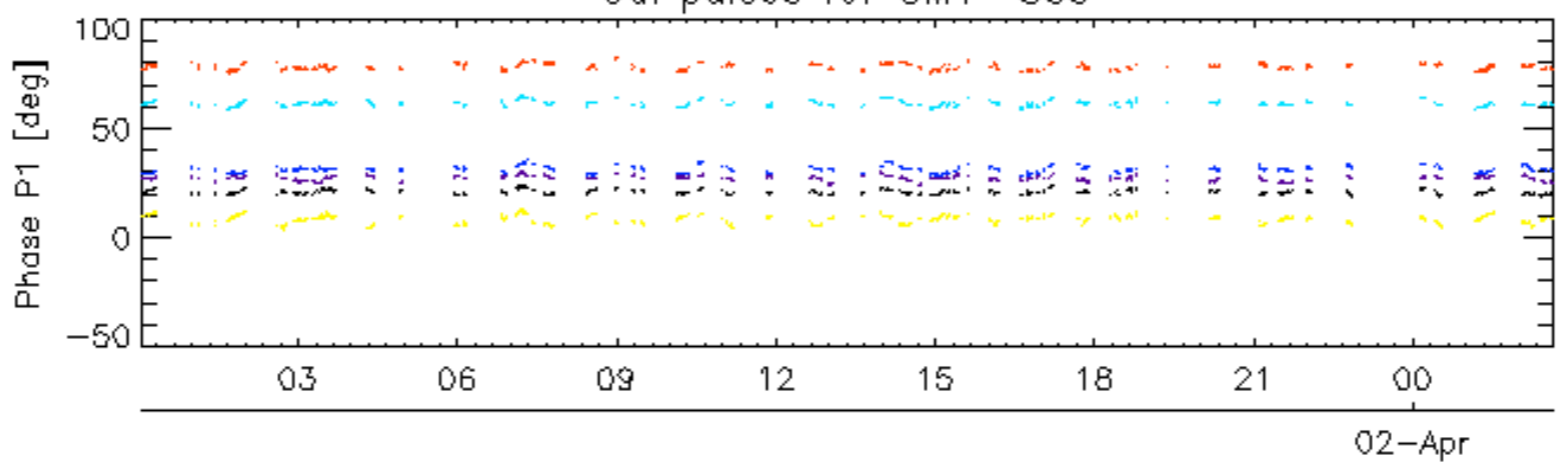
### 7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

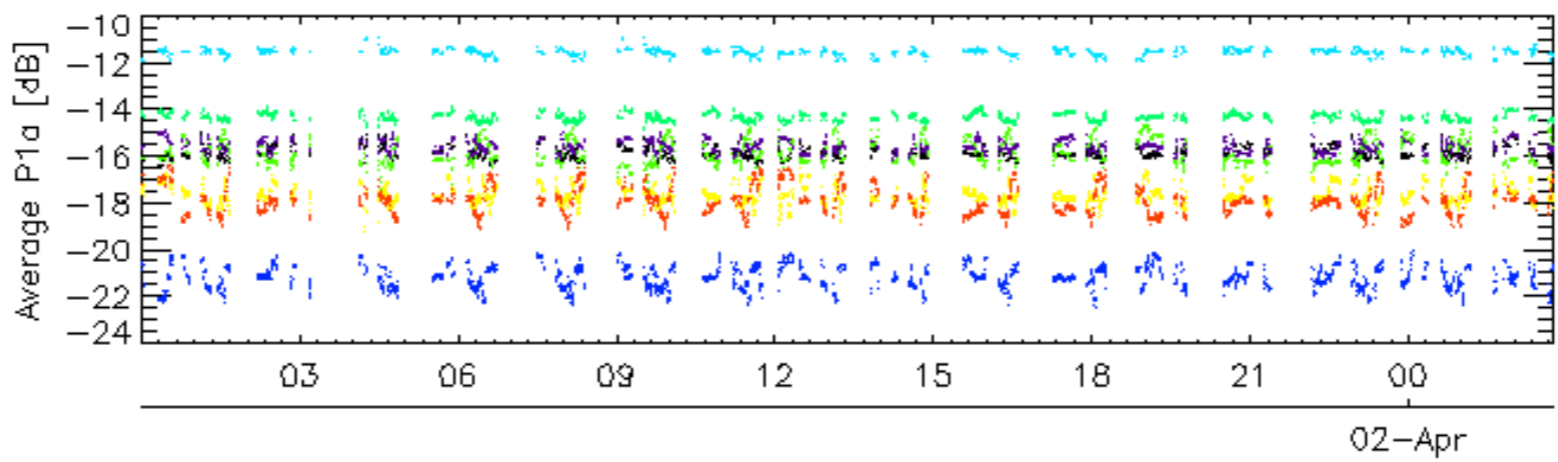
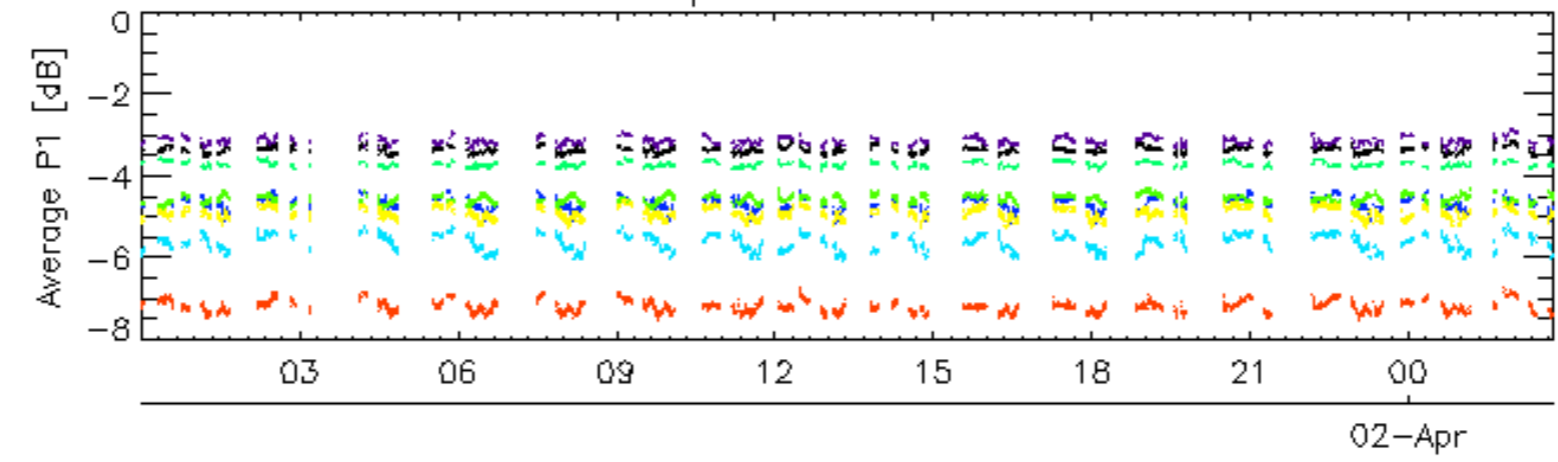


Cal pulses for GM1 SS3

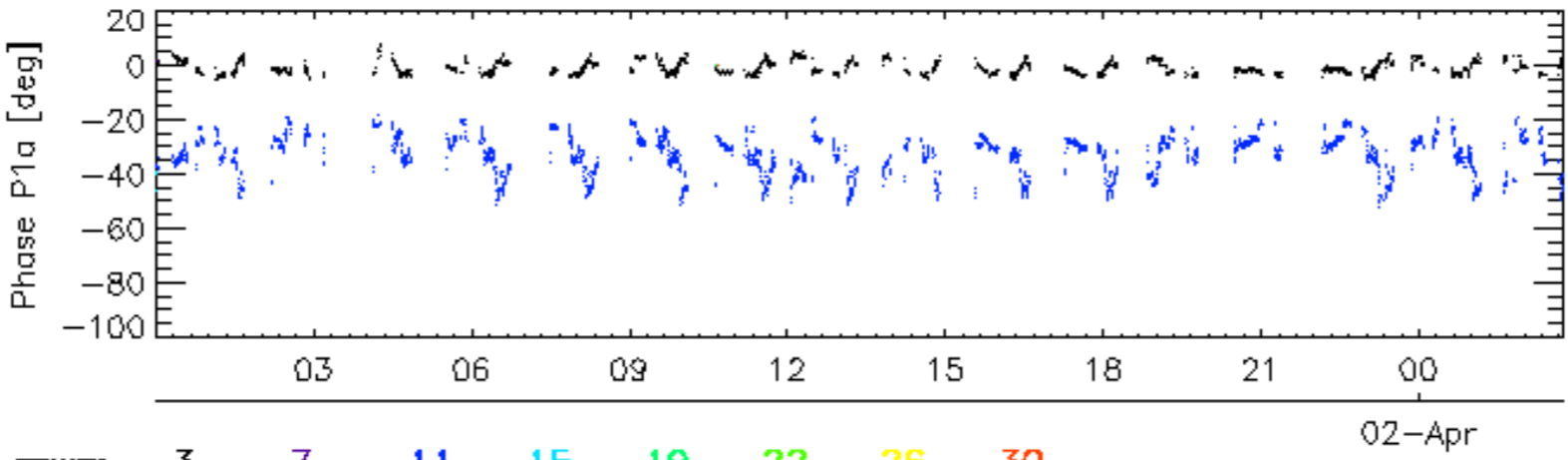
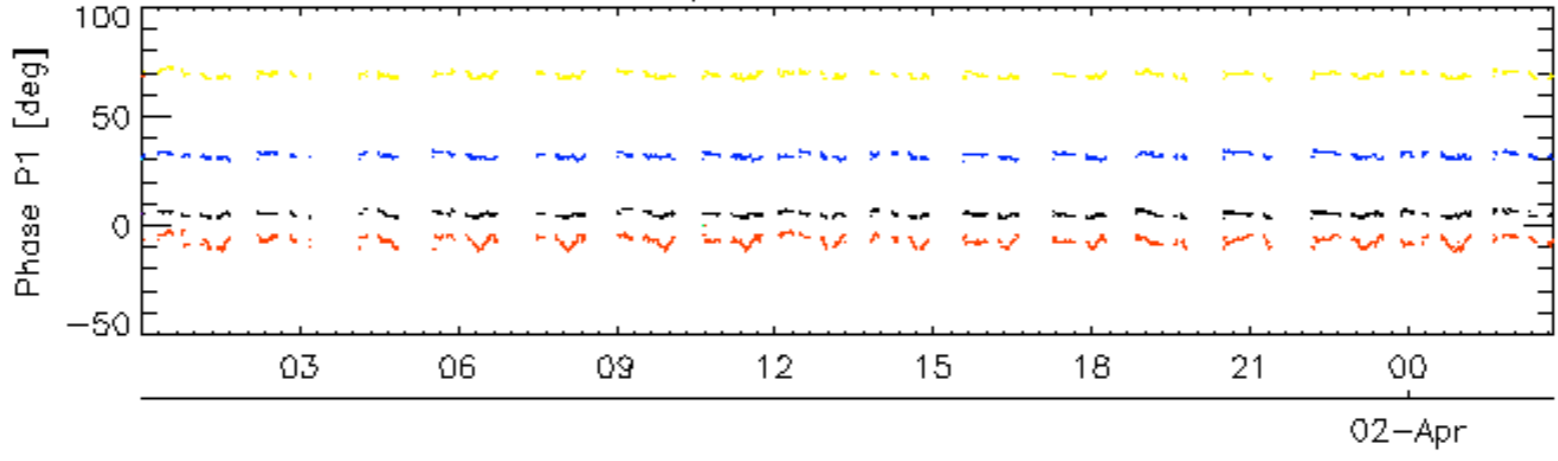


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

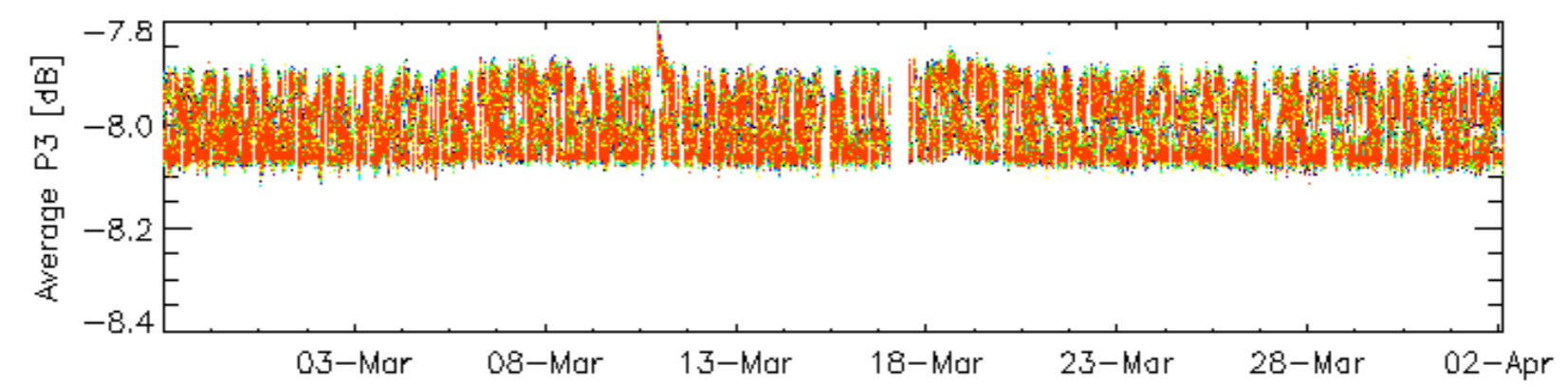
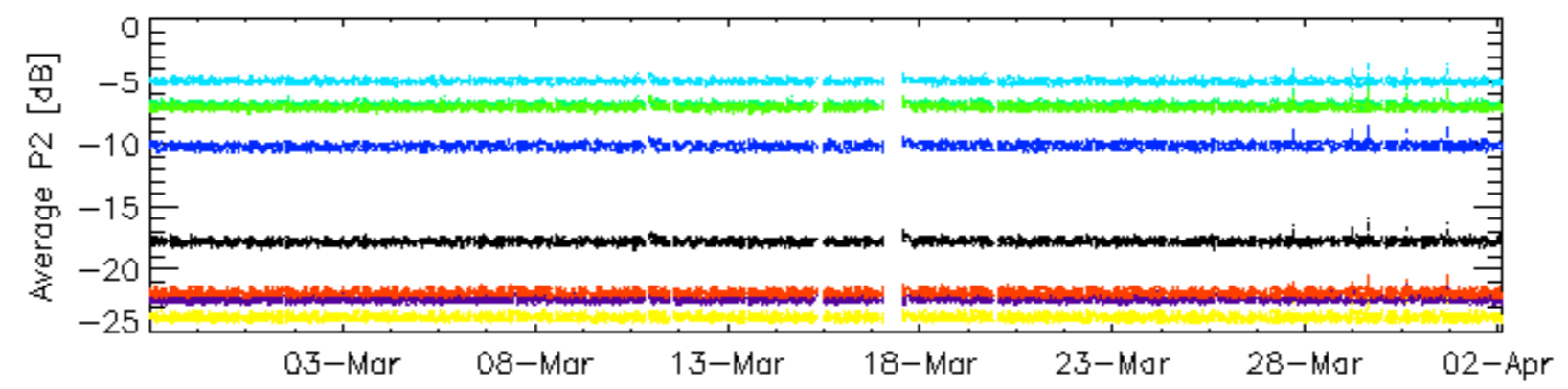
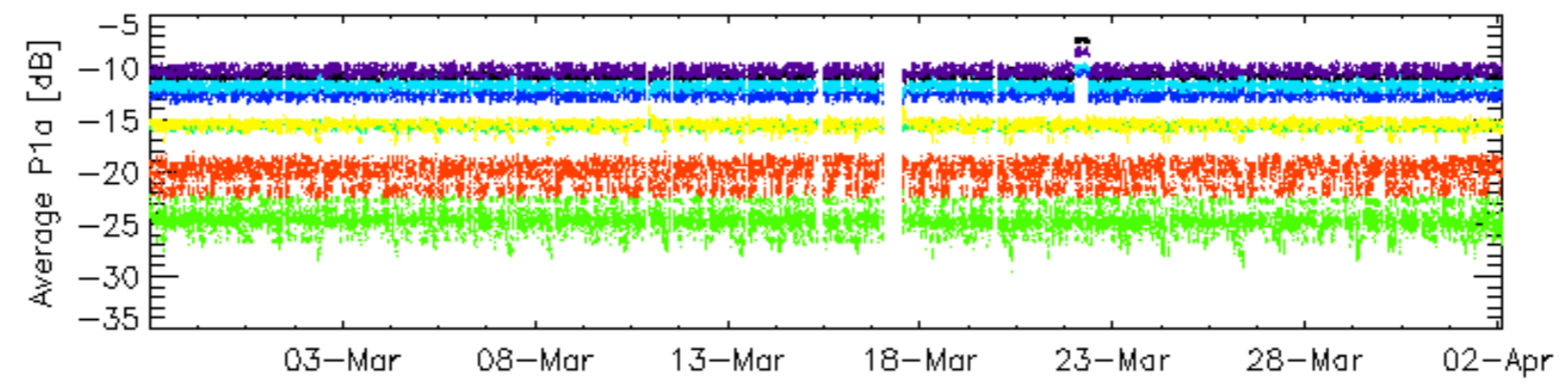
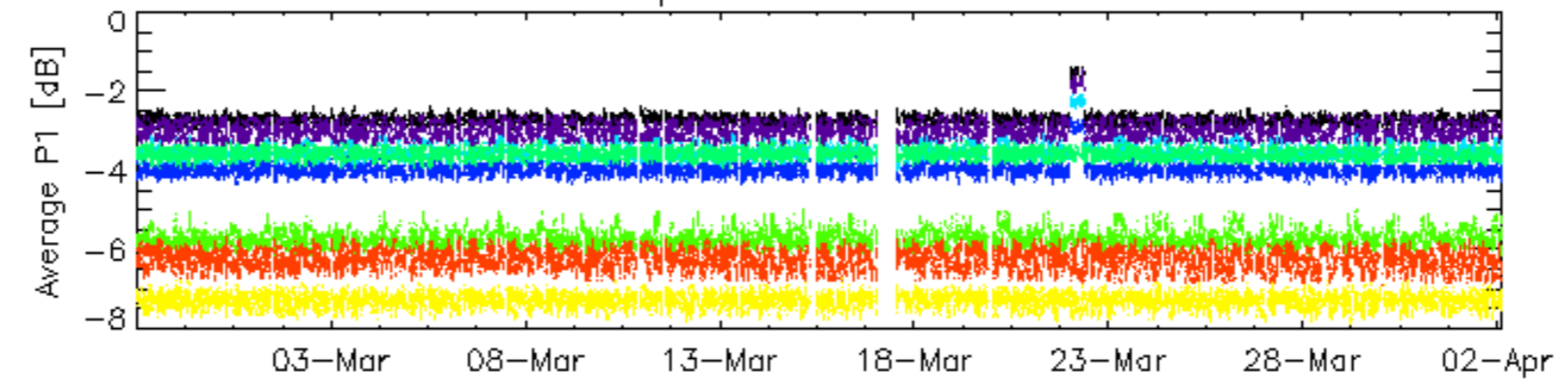


Cal pulses for WVS IS2



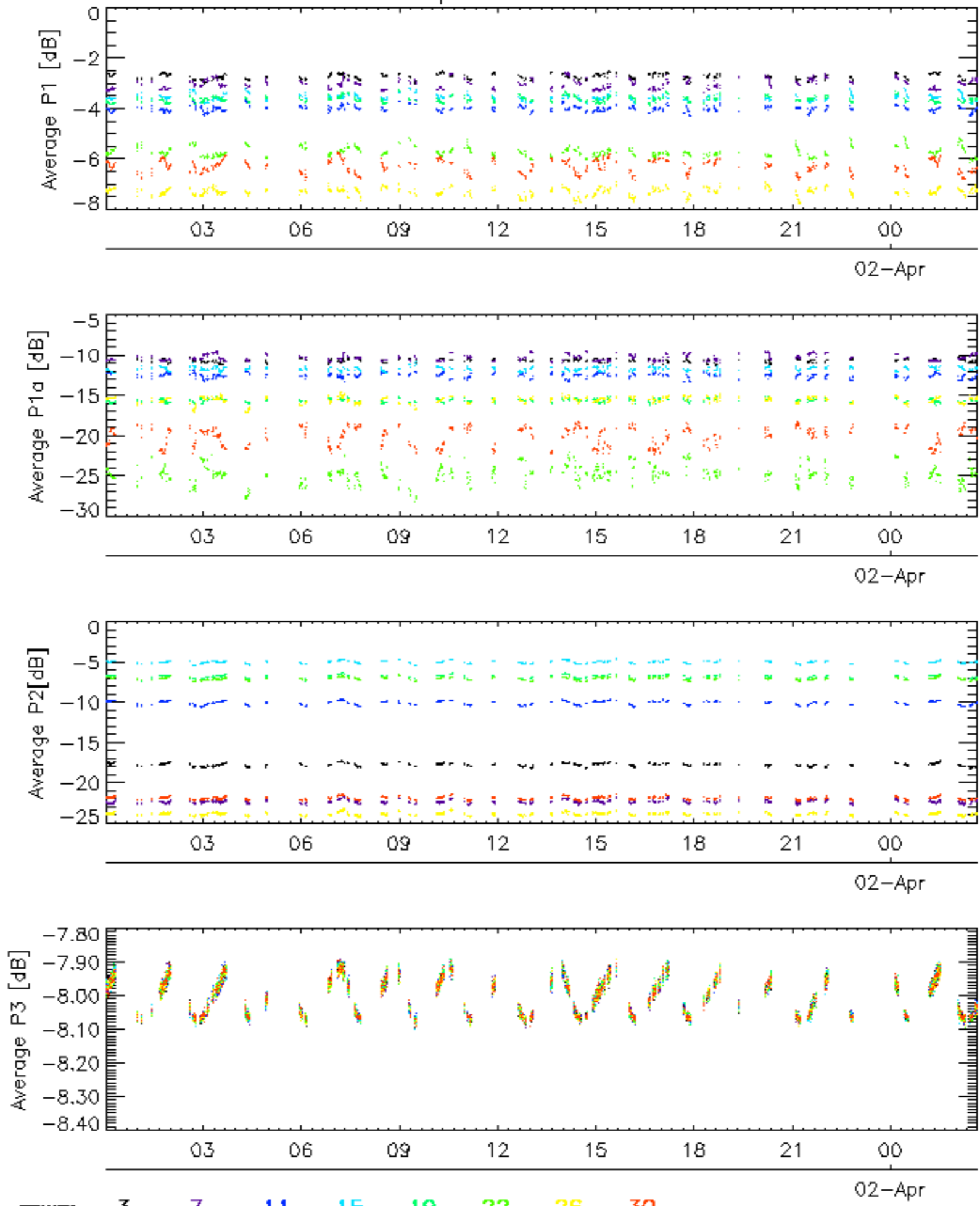
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

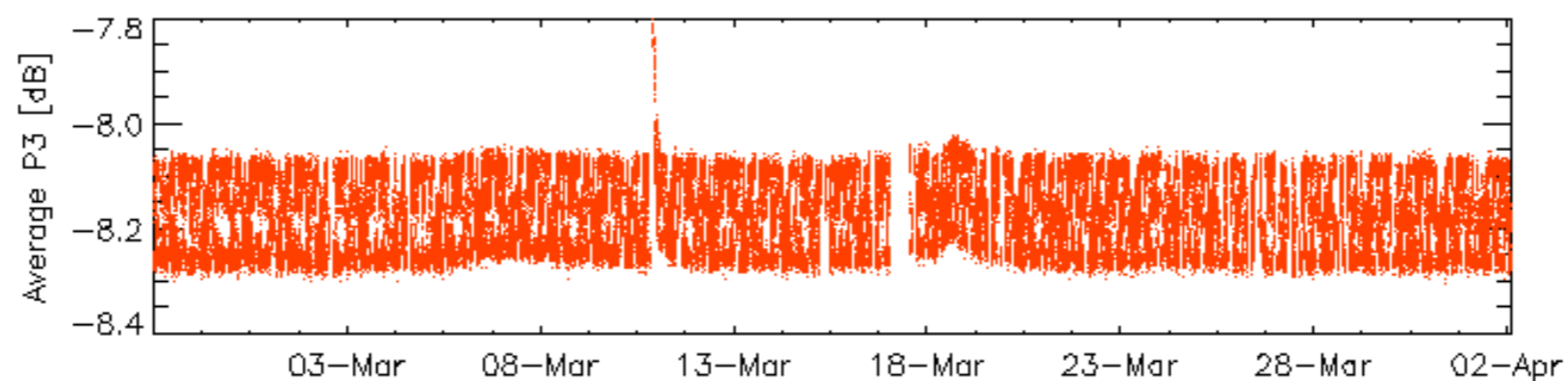
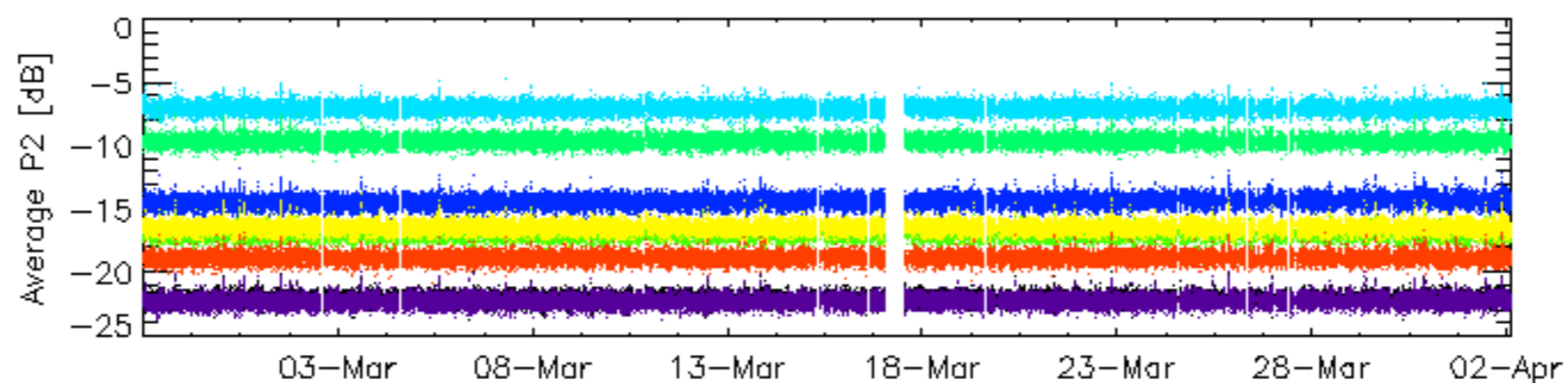
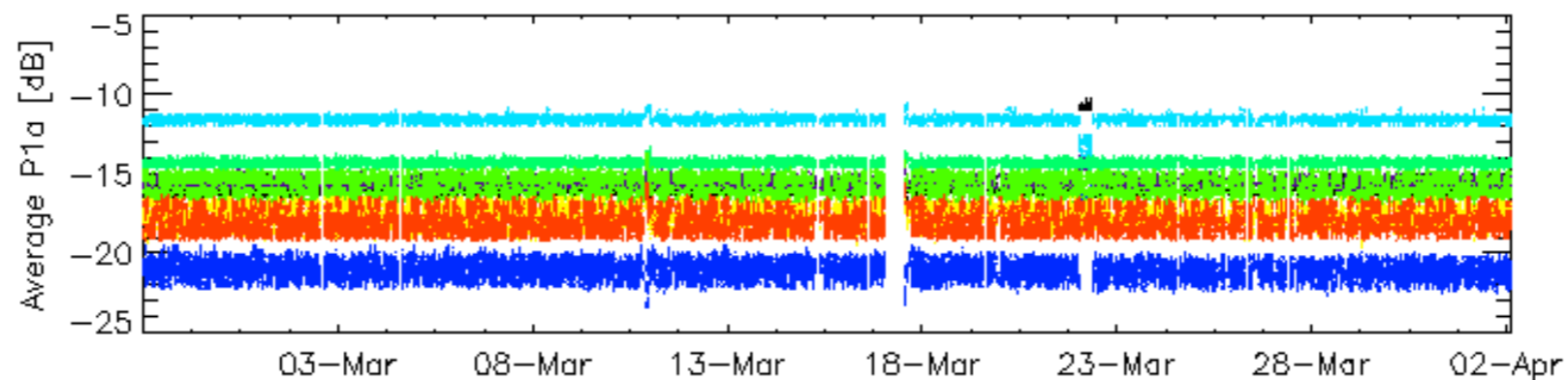
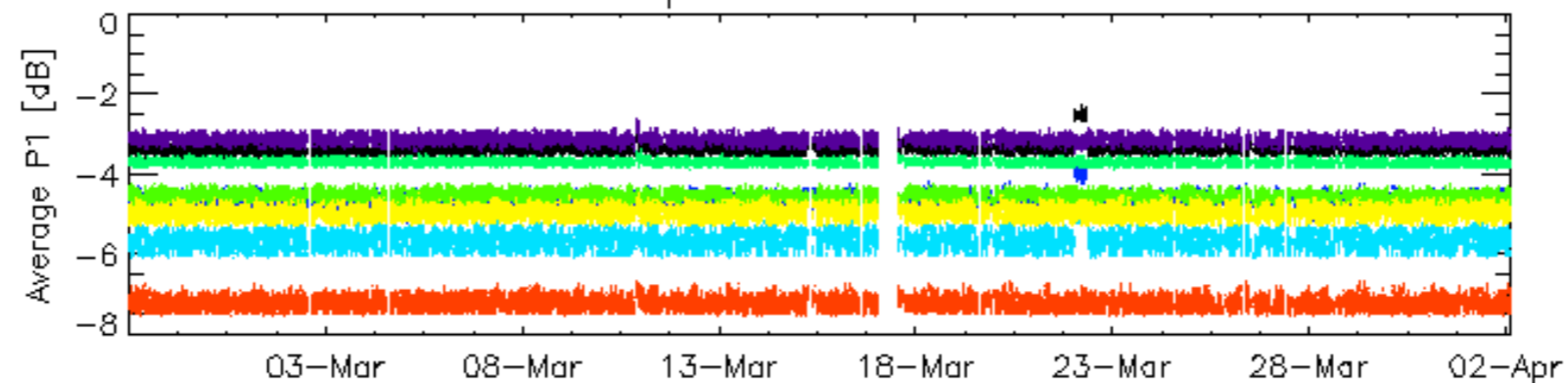


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

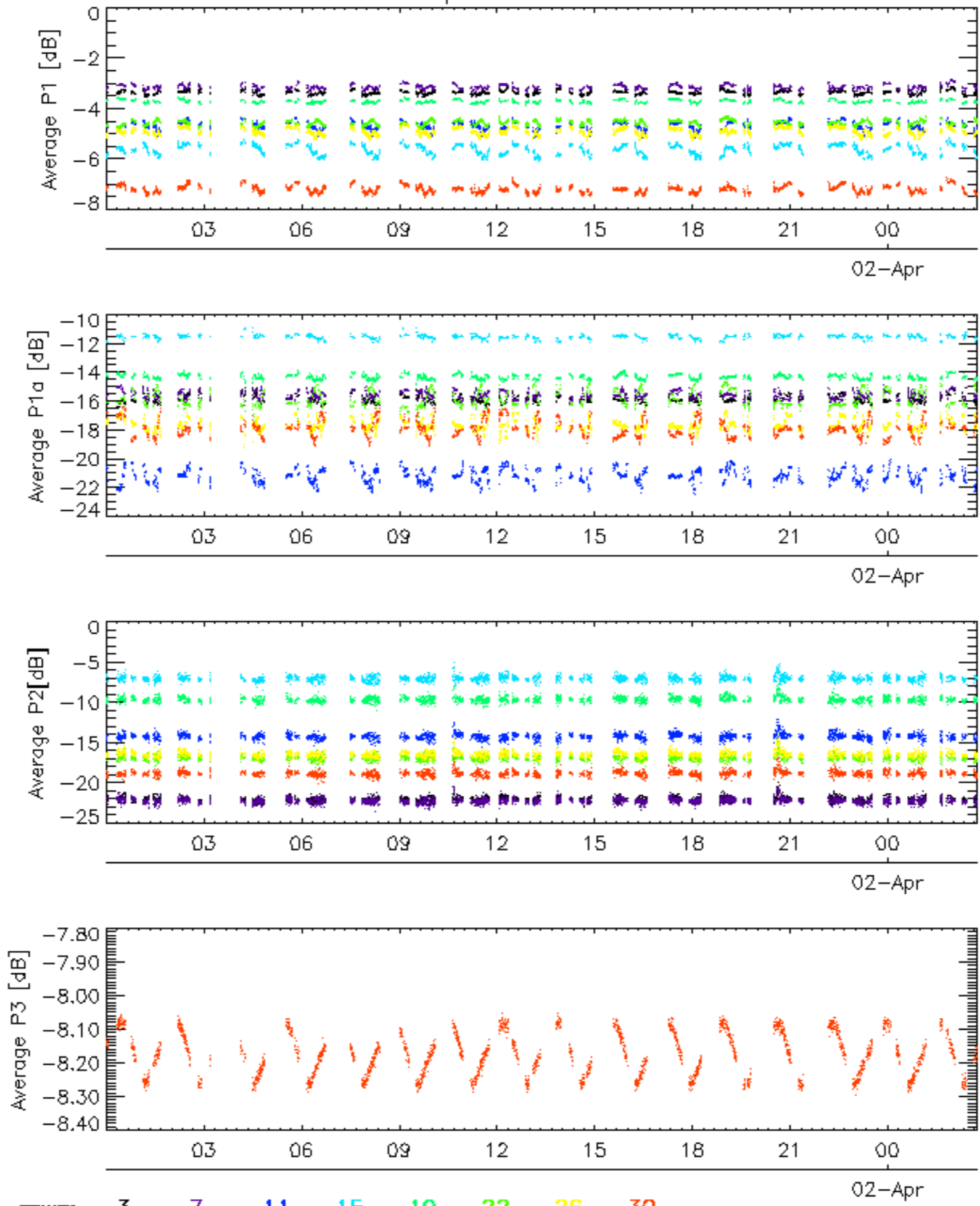


Cal pulses for WVS IS2



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

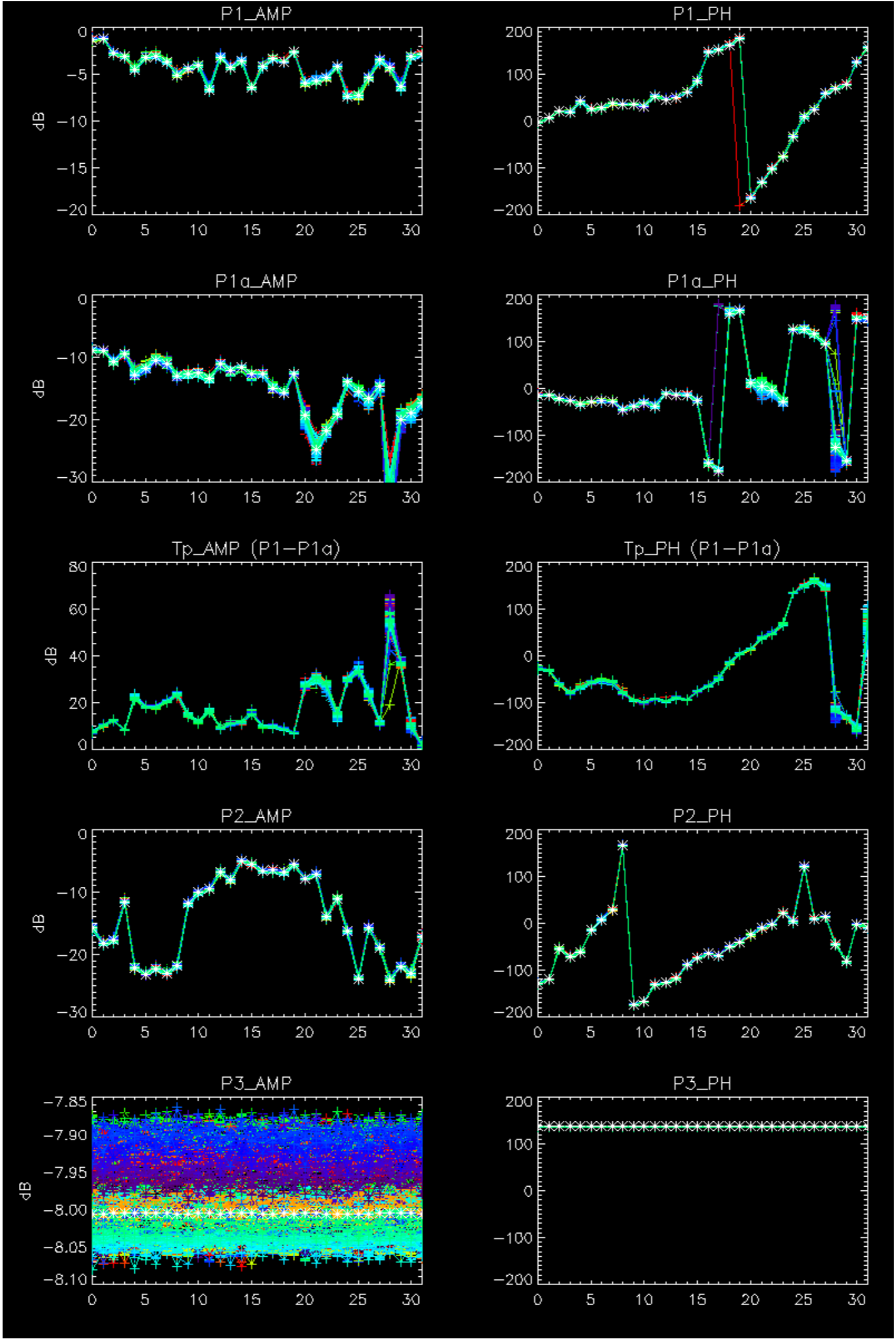
Cal pulses for WVS IS2

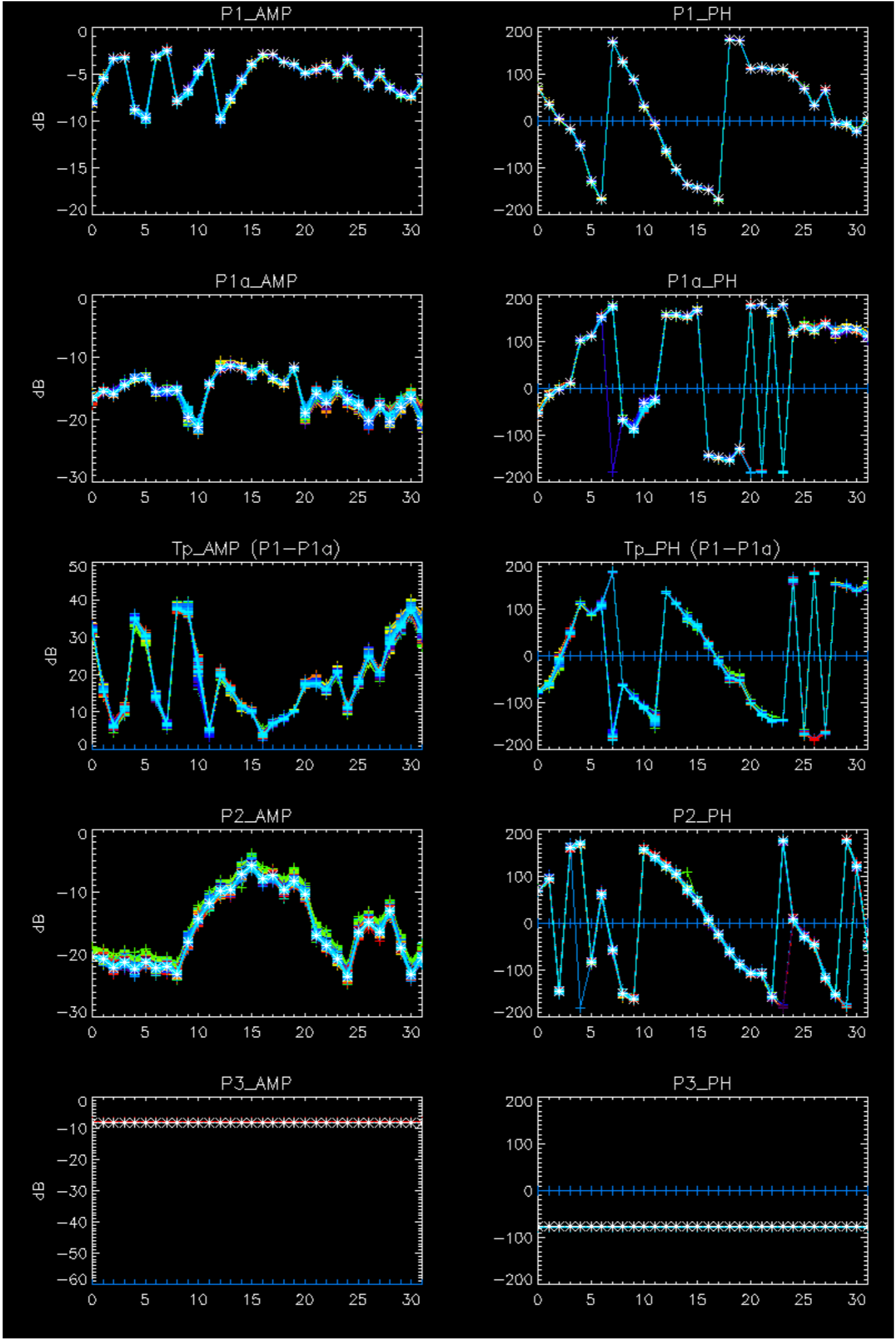


rows: 3 7 11 15 19 22 26 30

No anomalies observed.



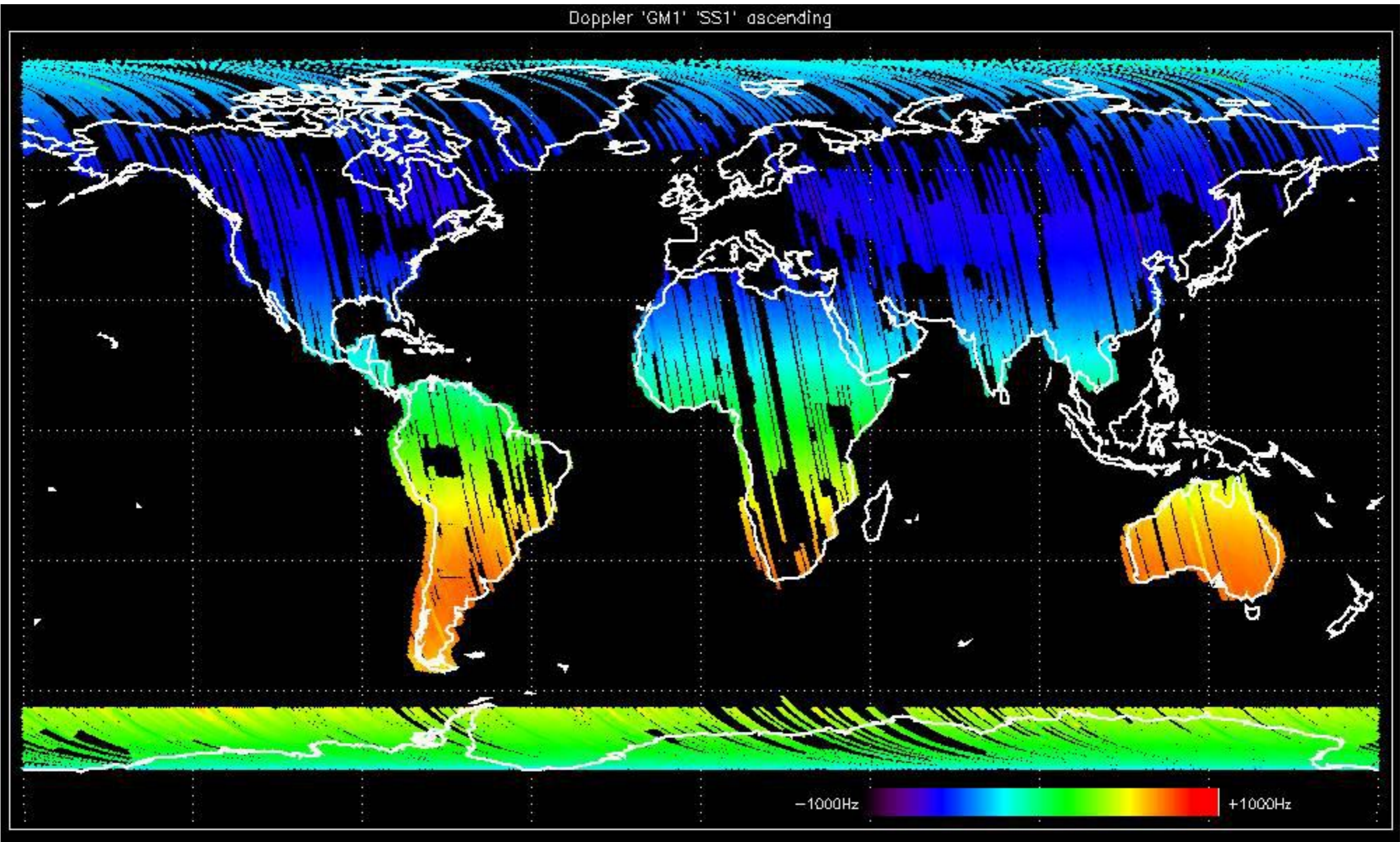




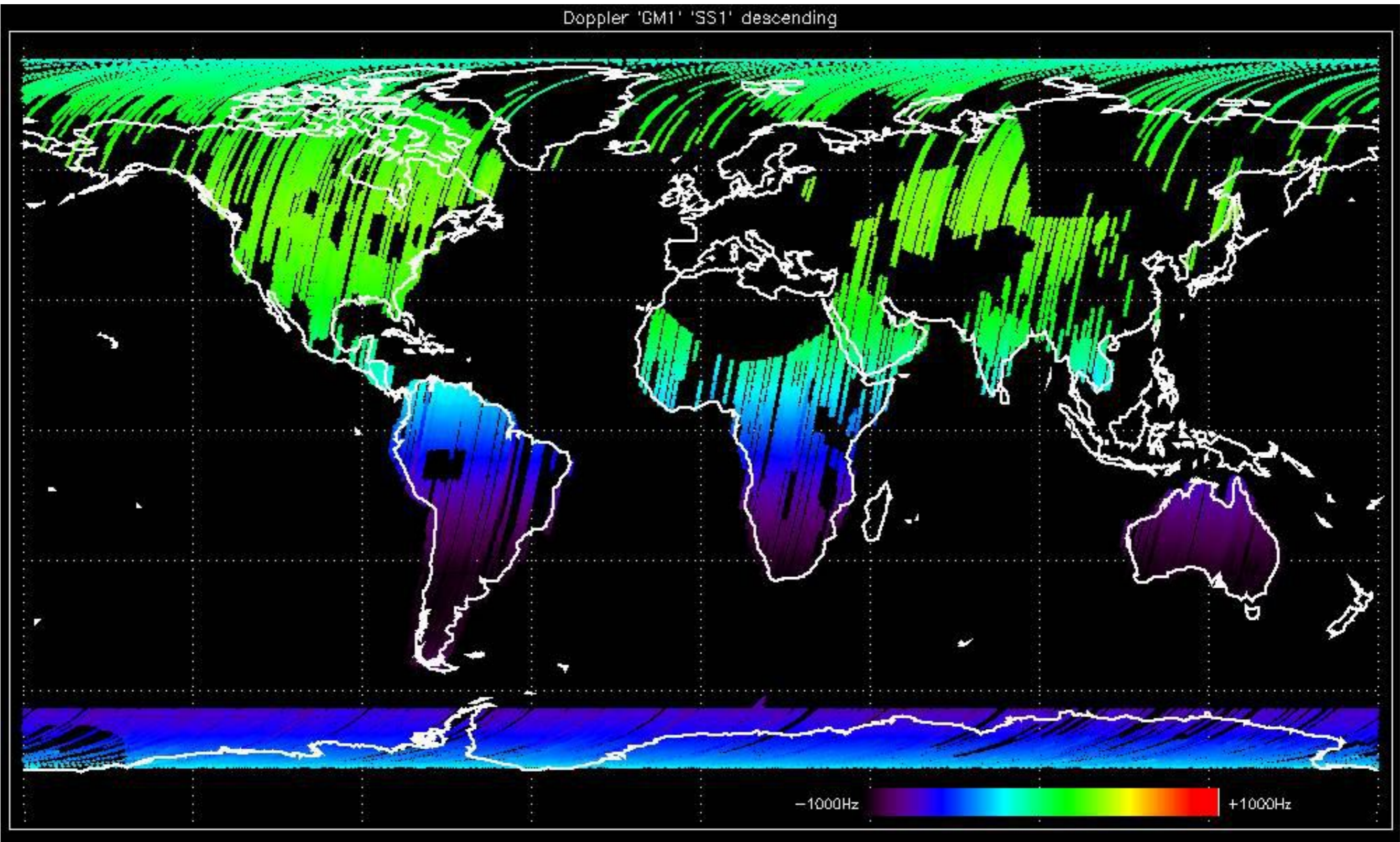
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



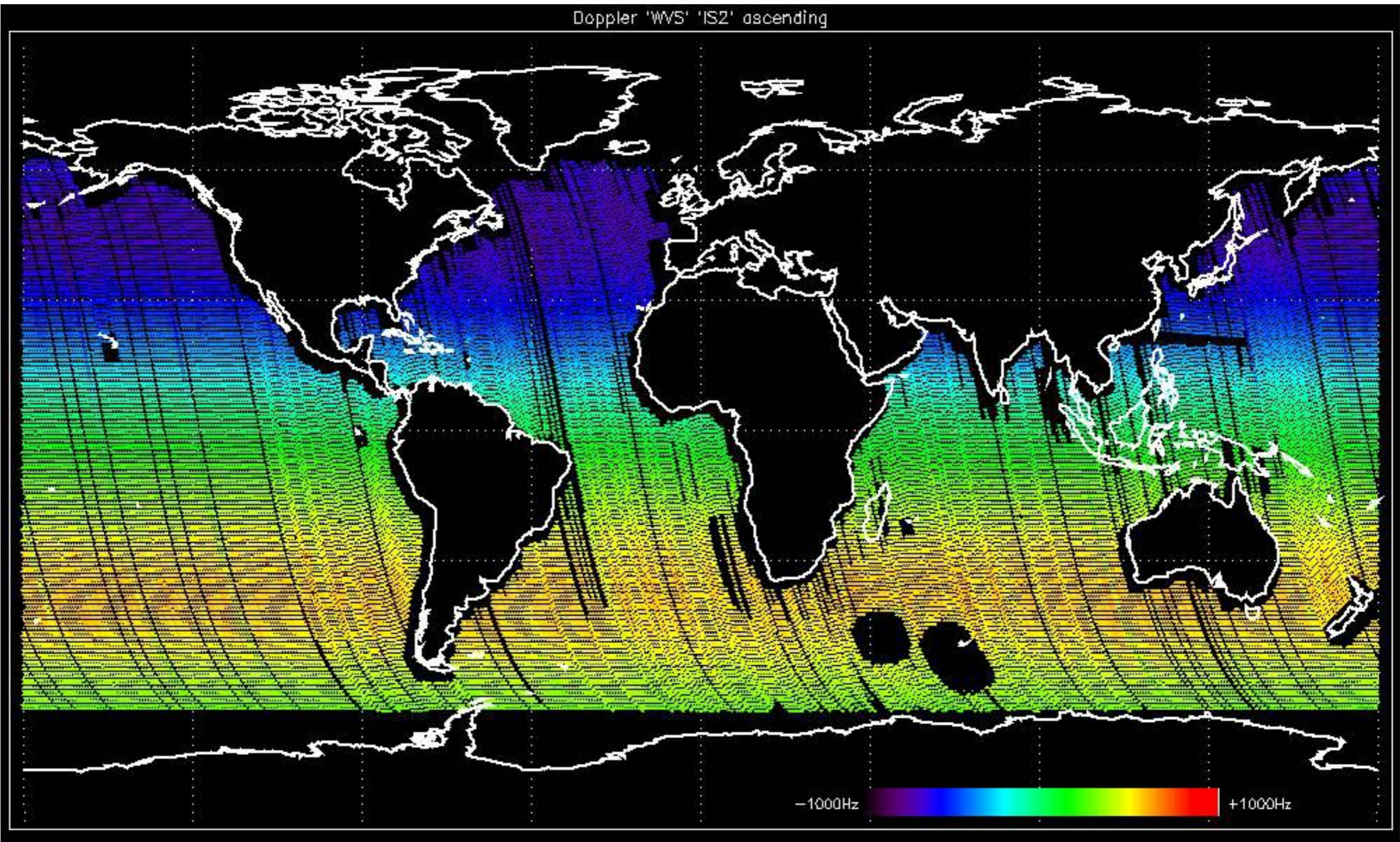
Doppler 'GM1' 'SS1' ascending



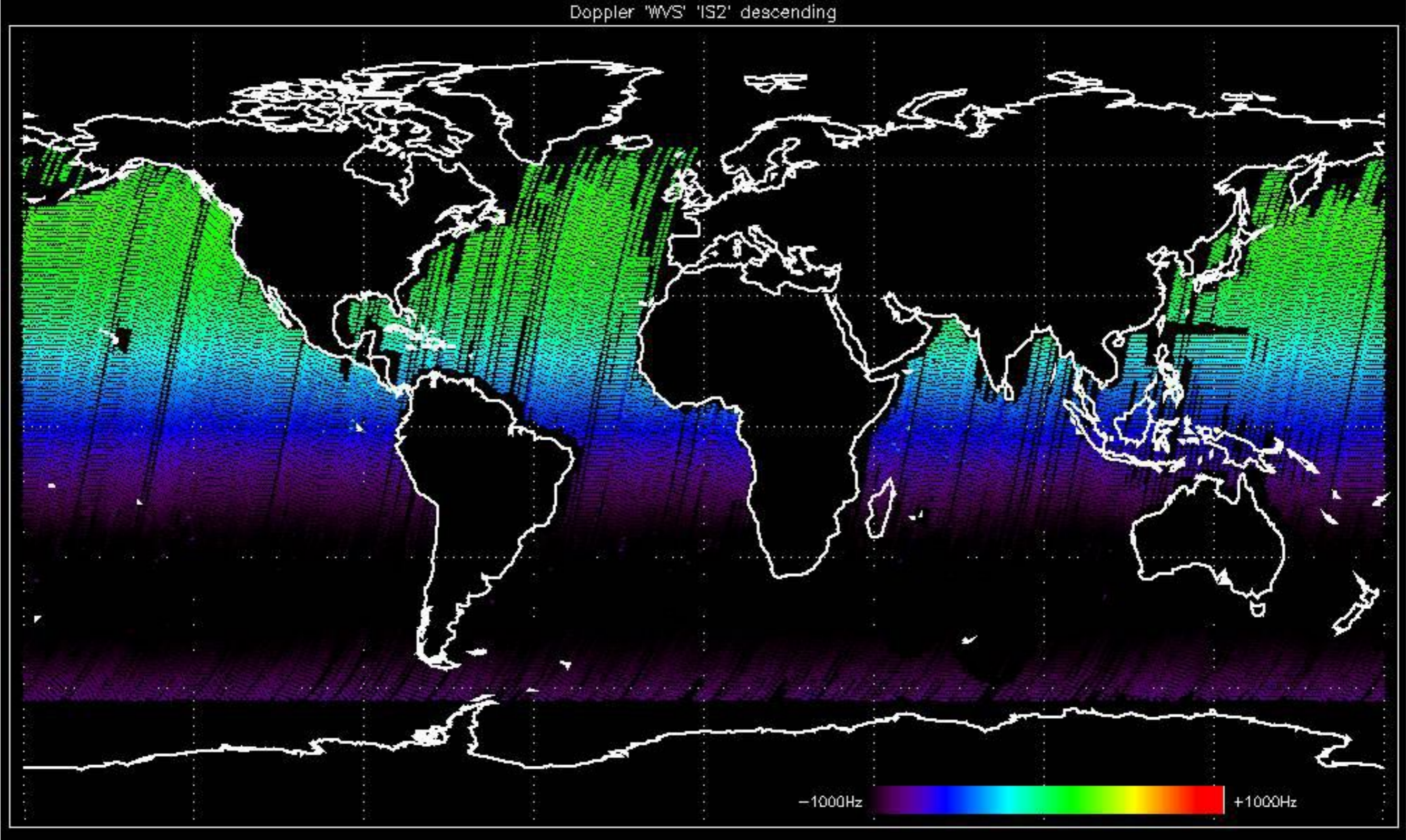
Doppler 'GM1' 'SS1' descending



Doppler 'WVS' 'IS2' ascending

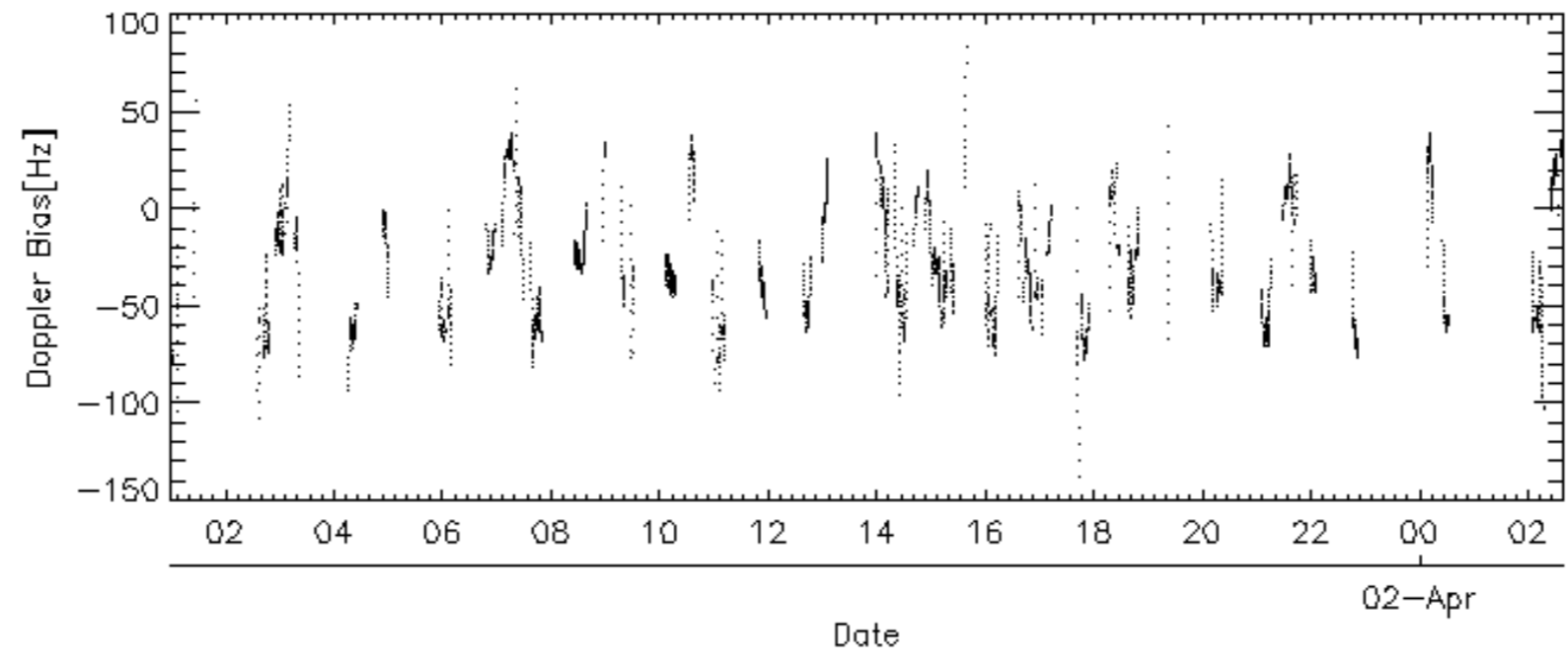
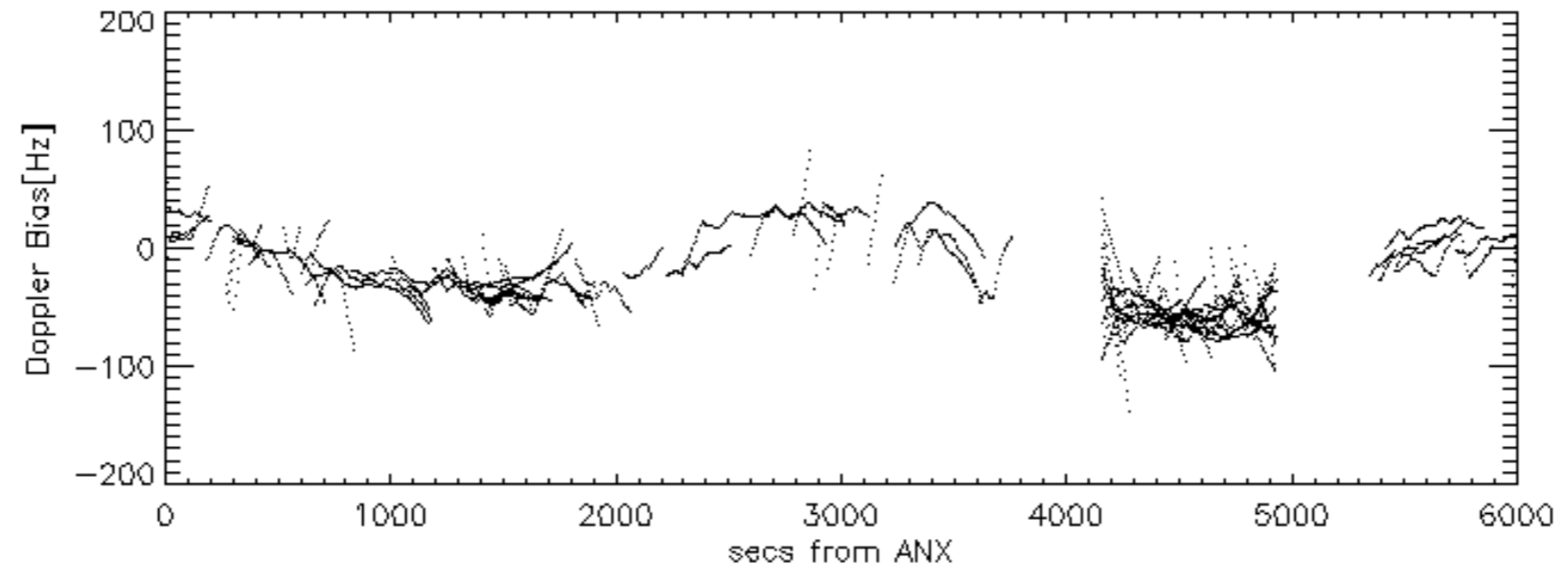
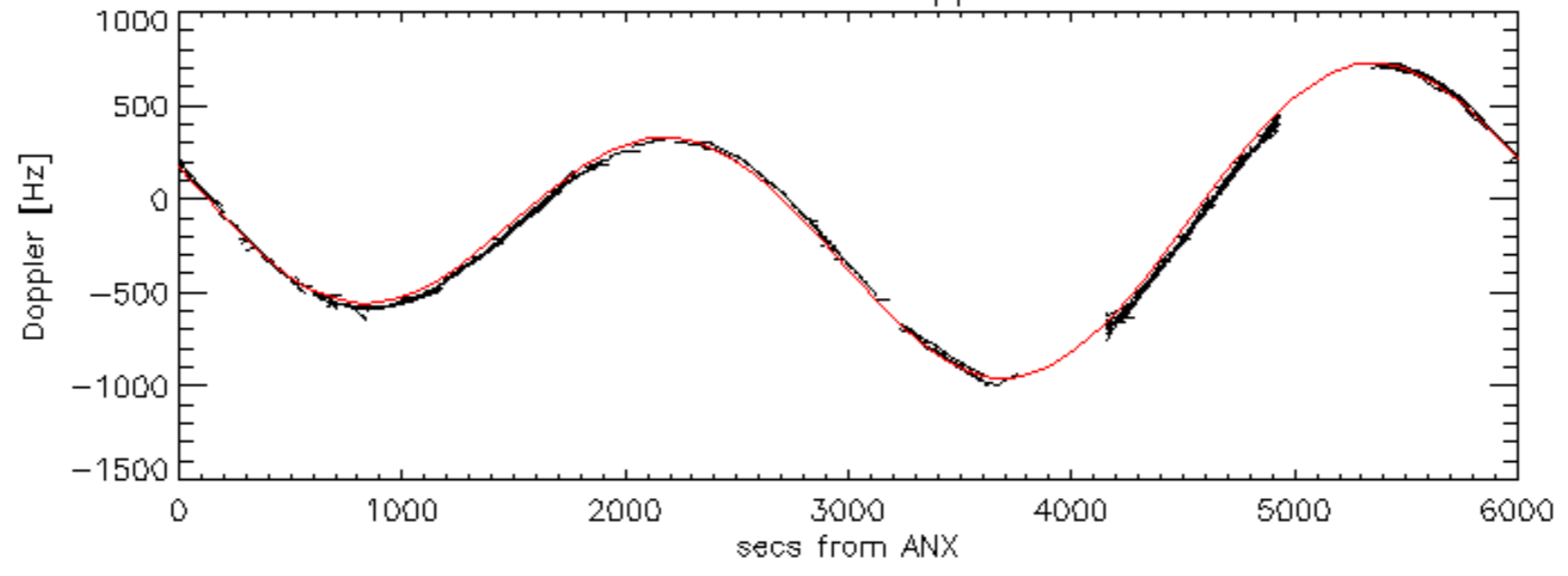


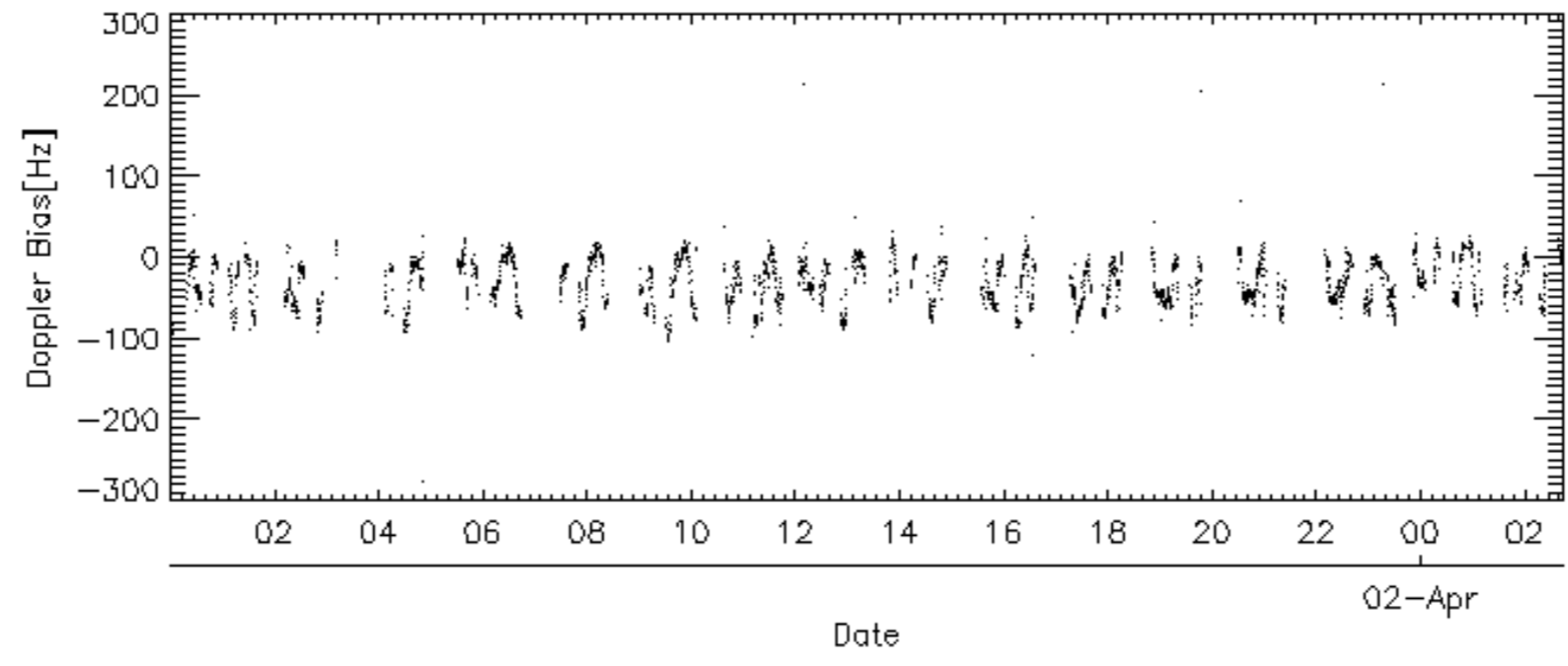
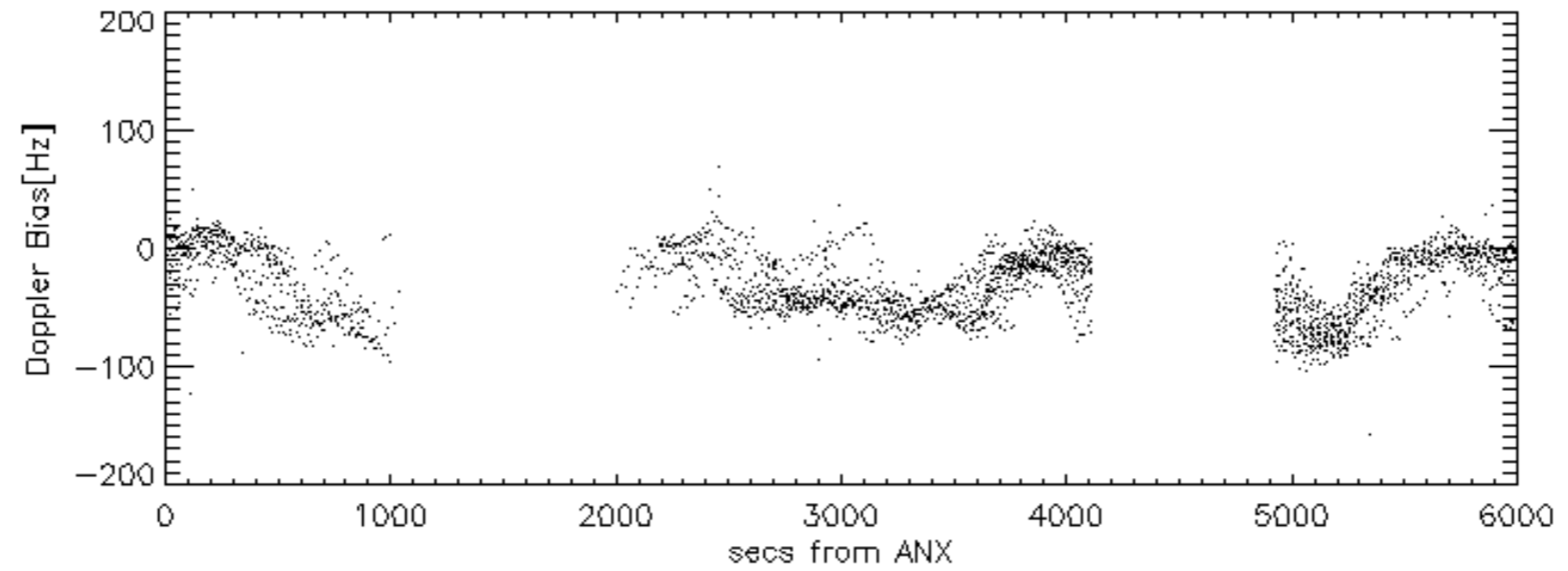
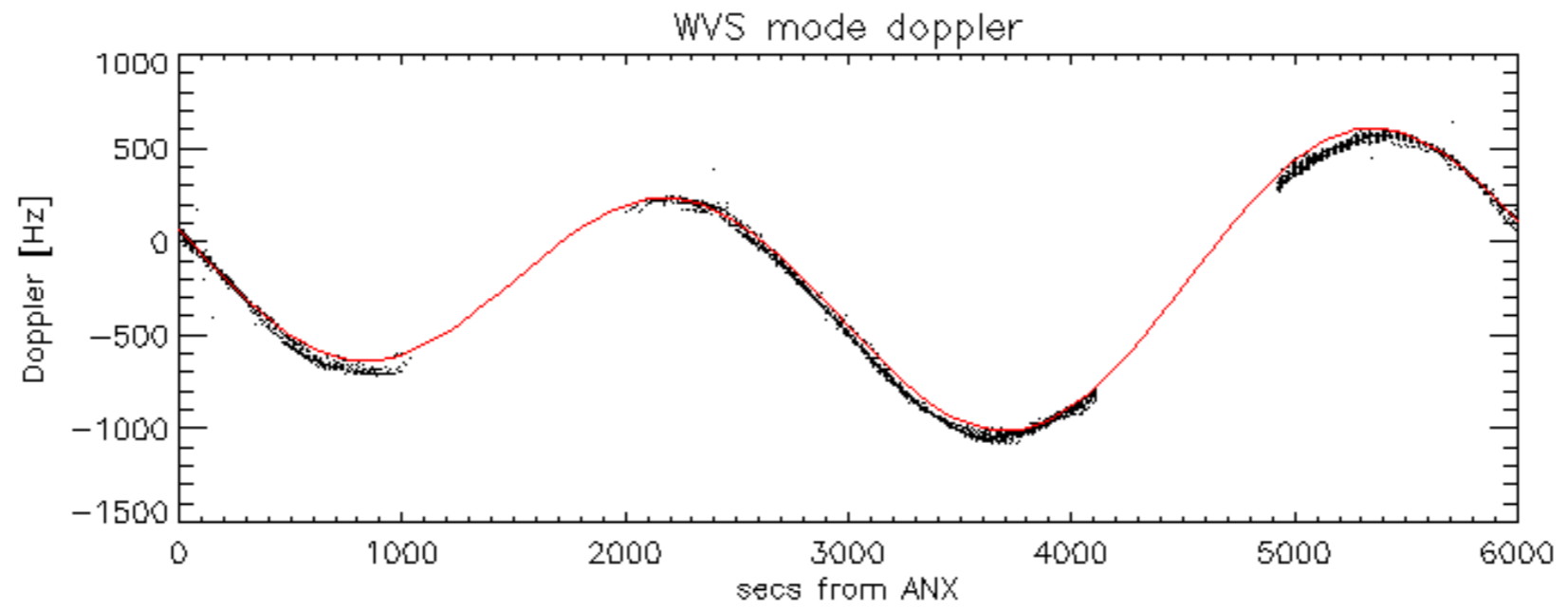
Doppler 'WVS' 'IS2' descending



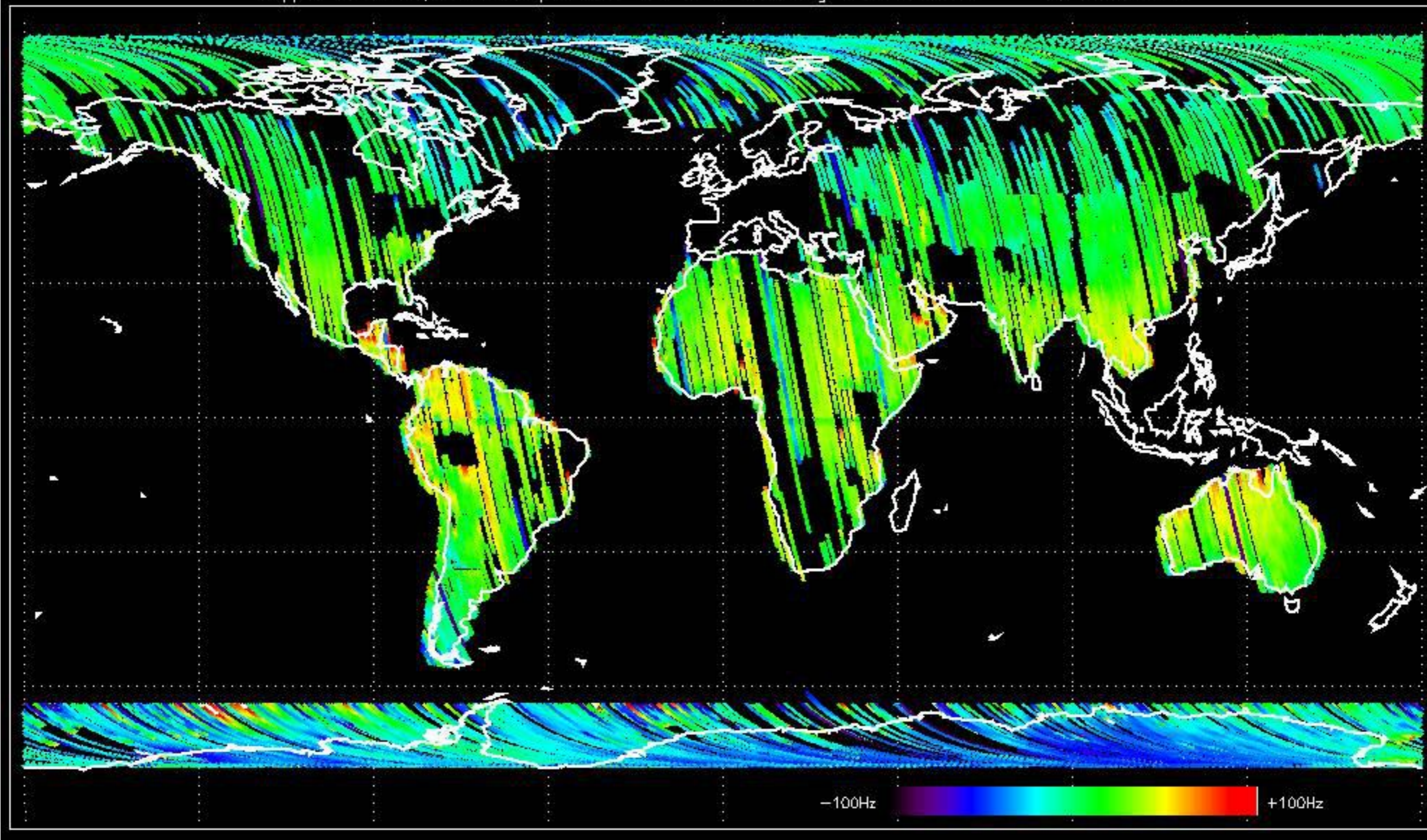


GM1 mode doppler

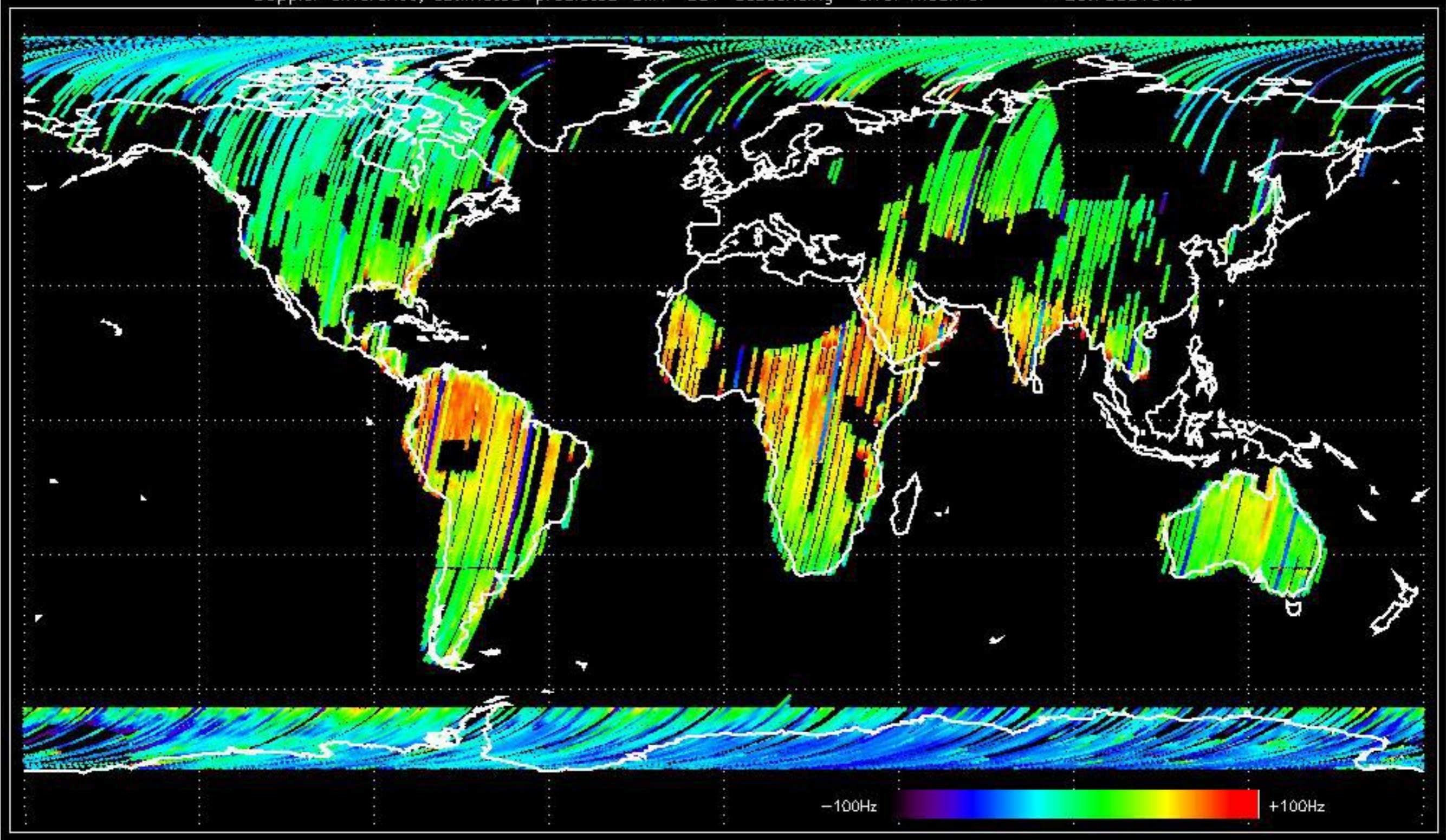




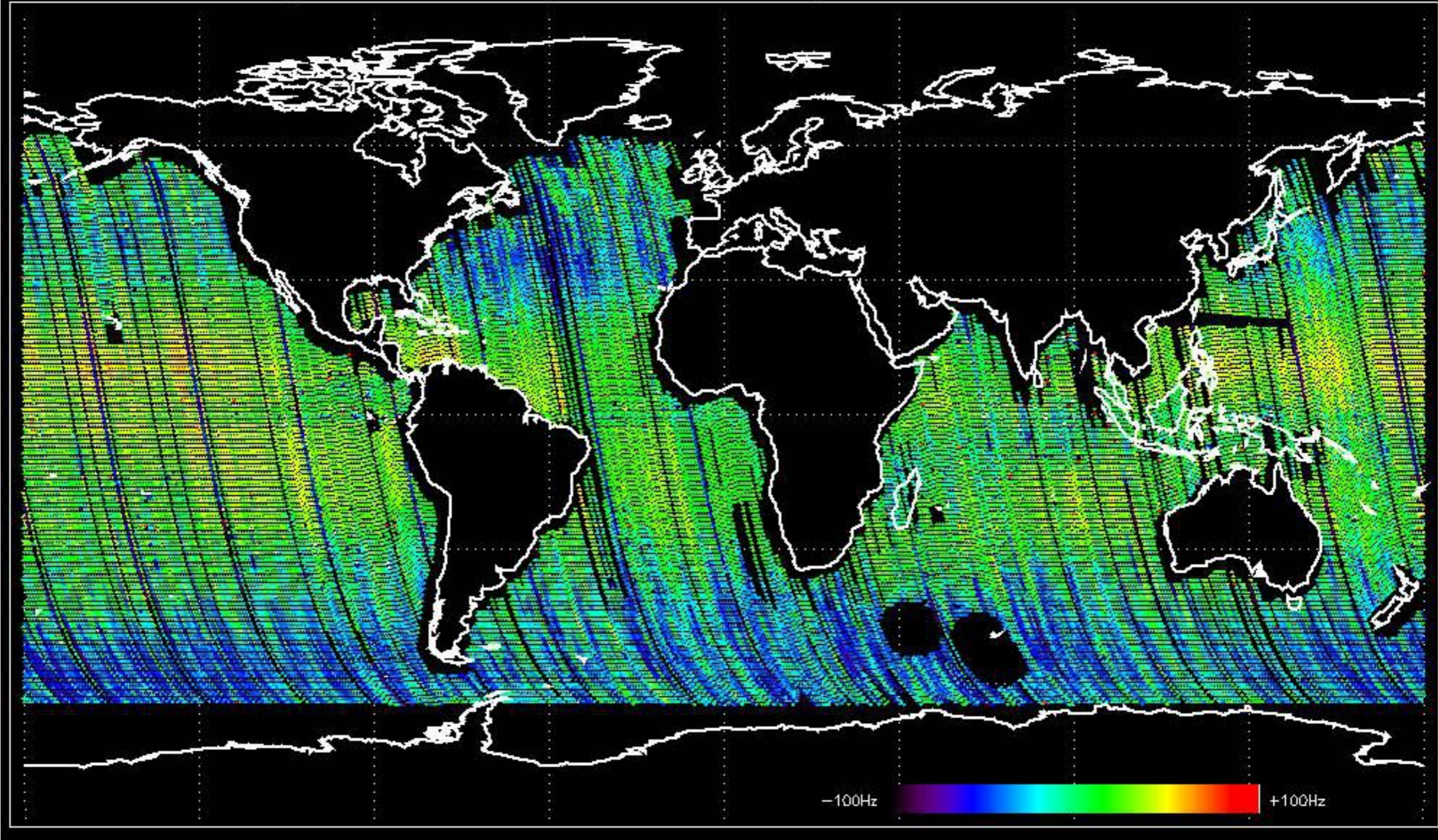
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -33.511277 Hz



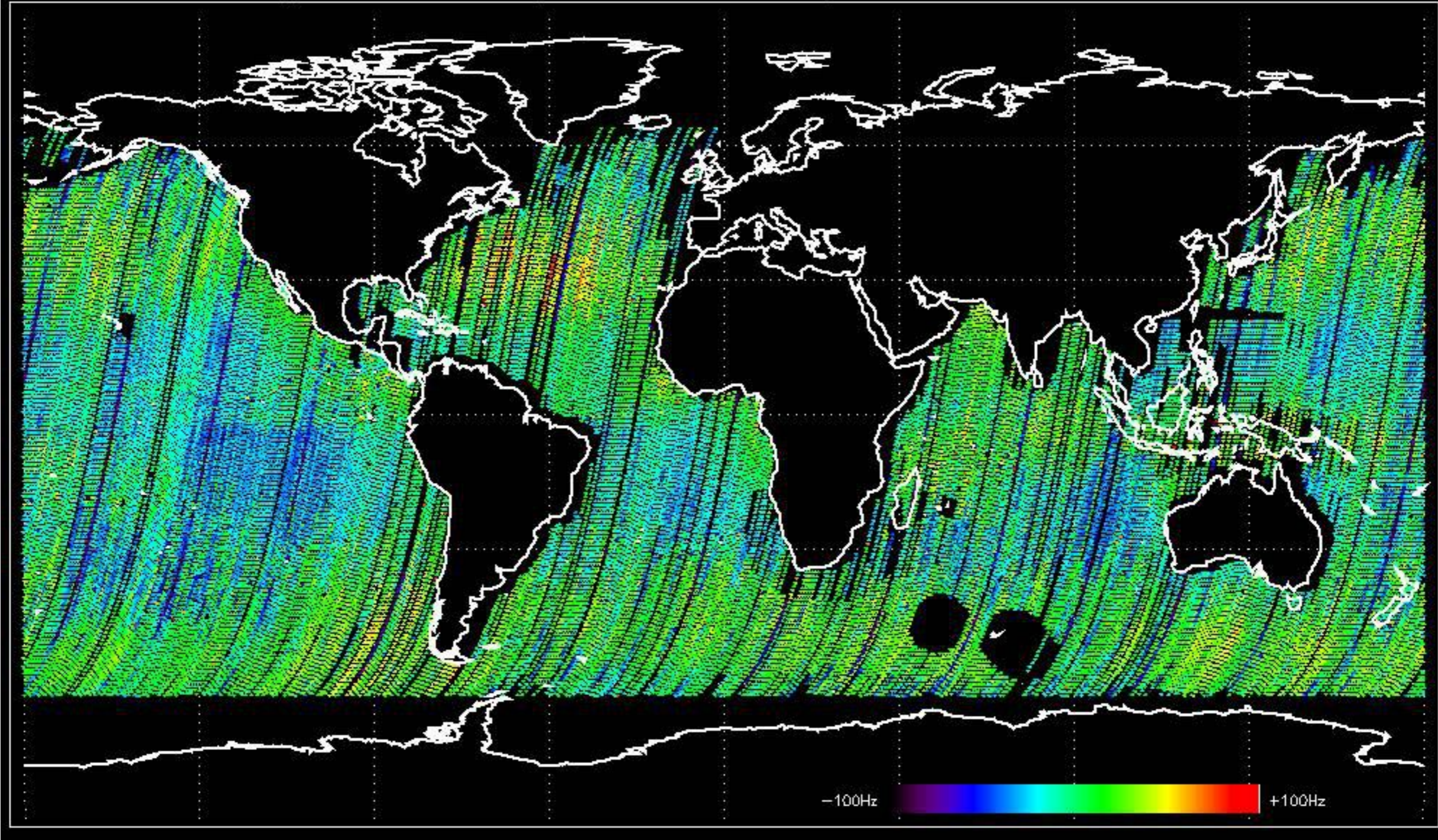
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -28.758519 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -38.874047 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -36.939281 Hz



No anomalies observed on available MS products:

No anomalies observed.











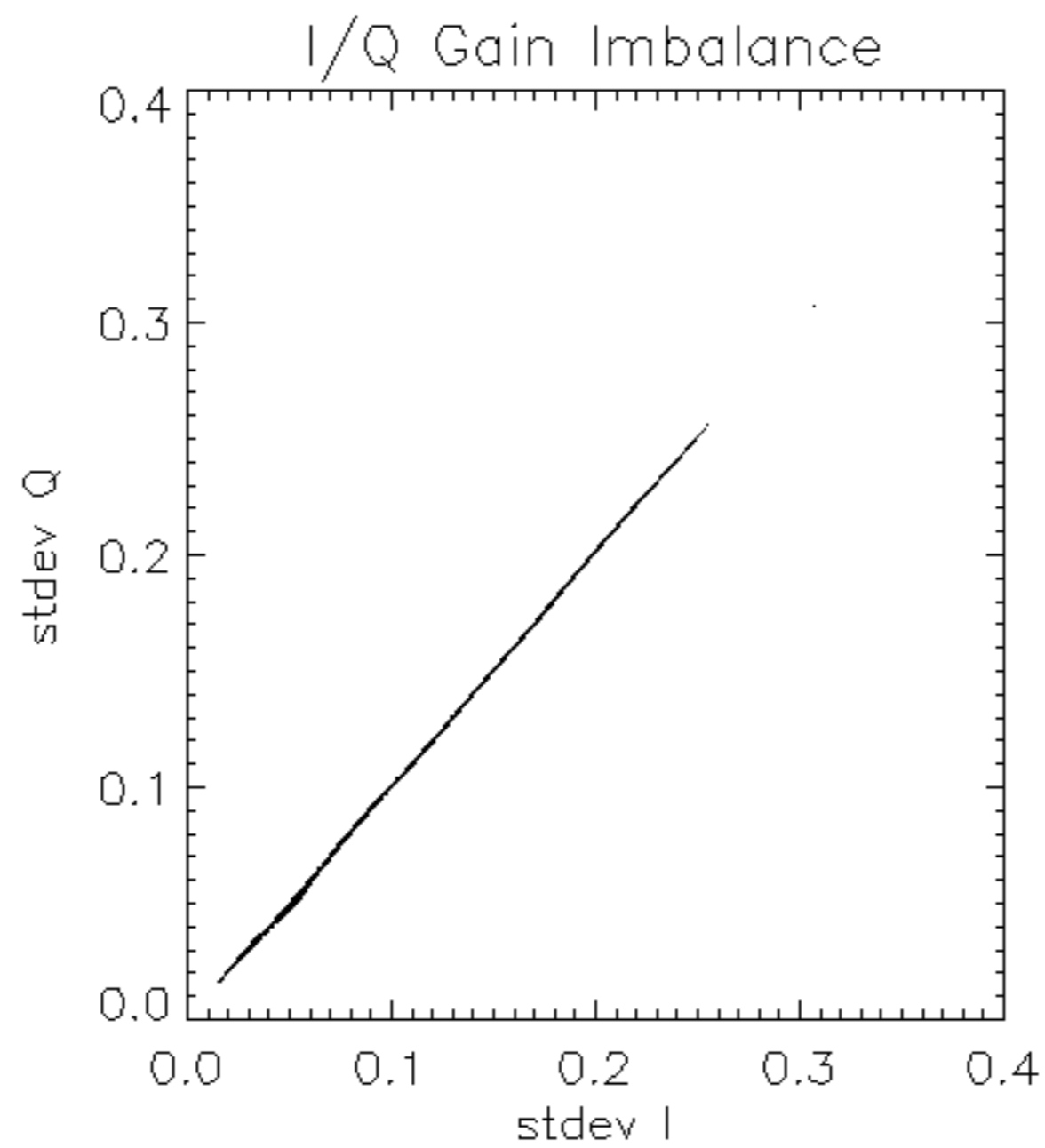


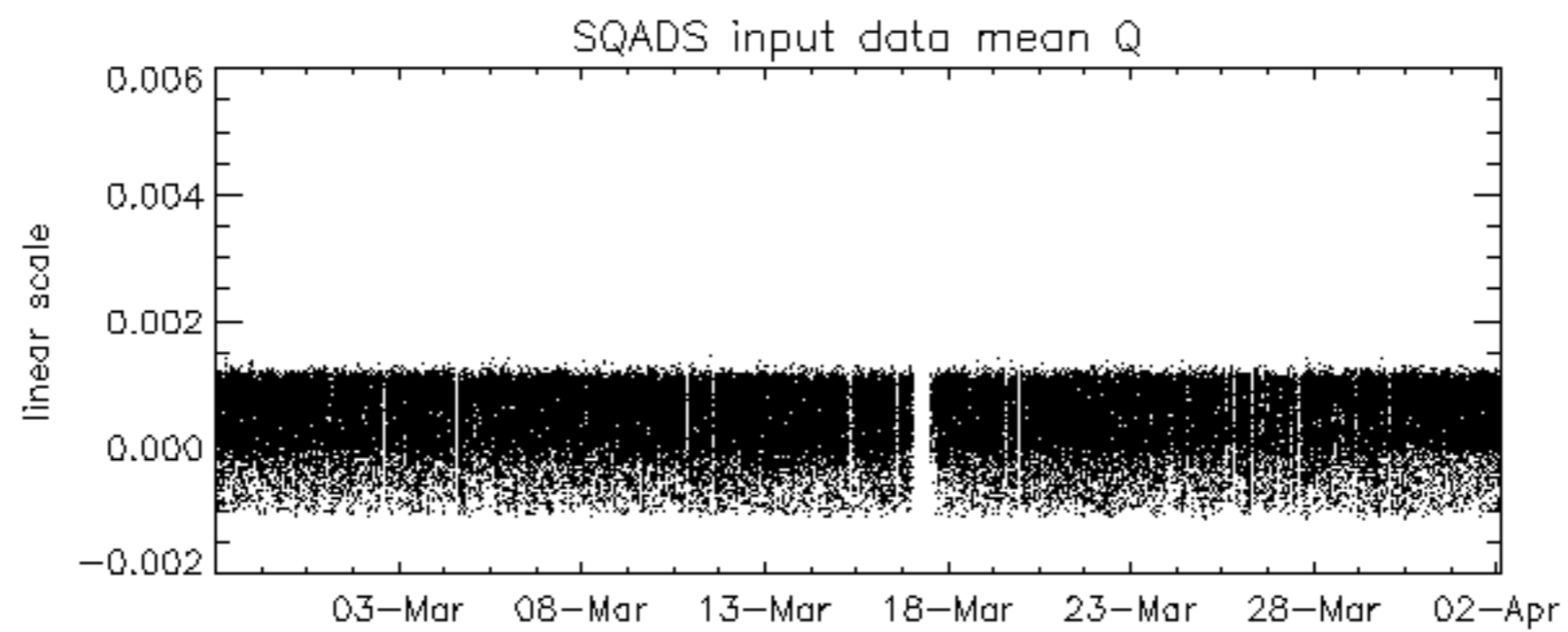
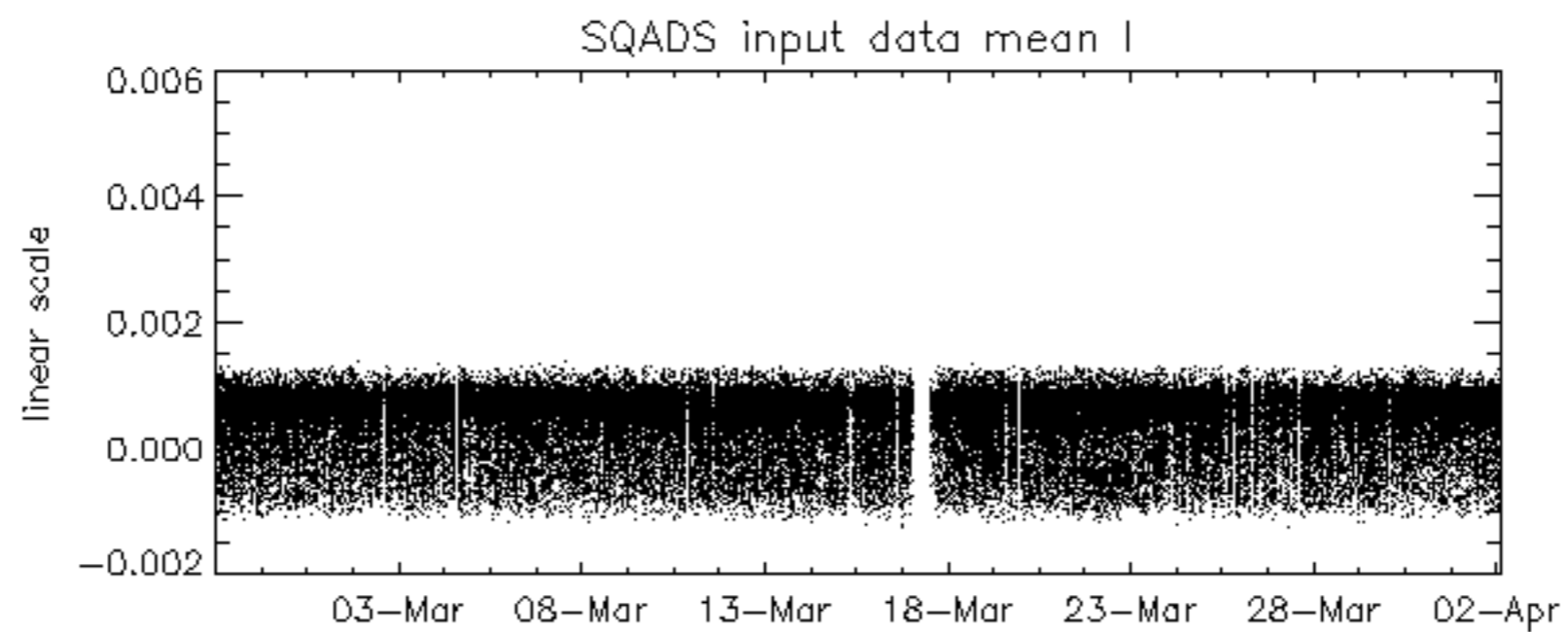
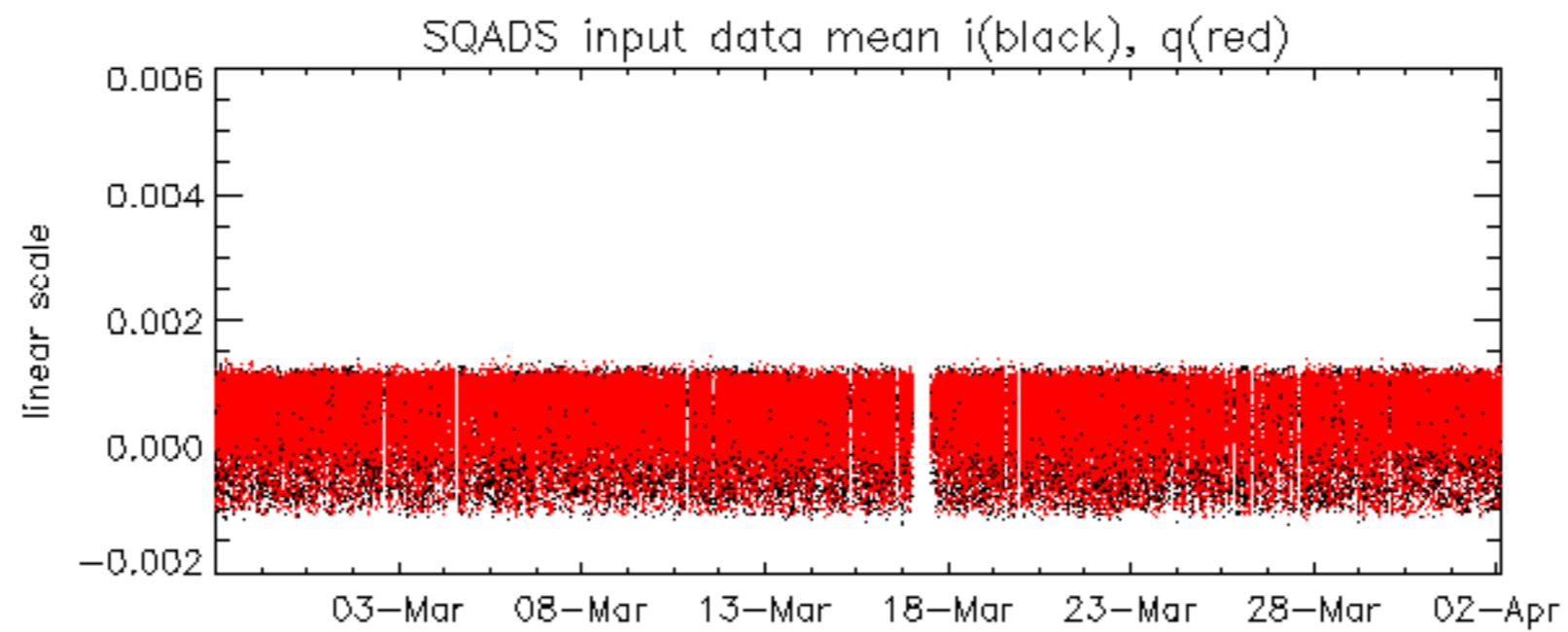


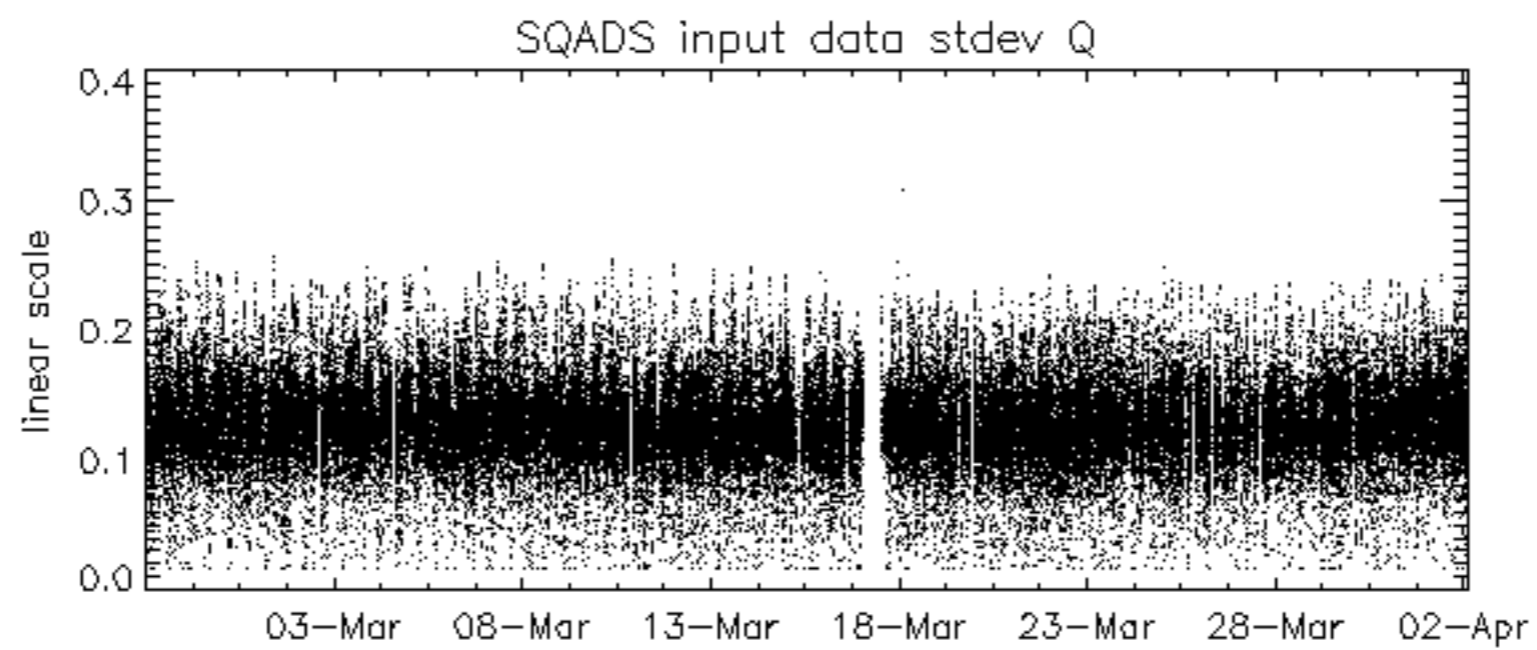
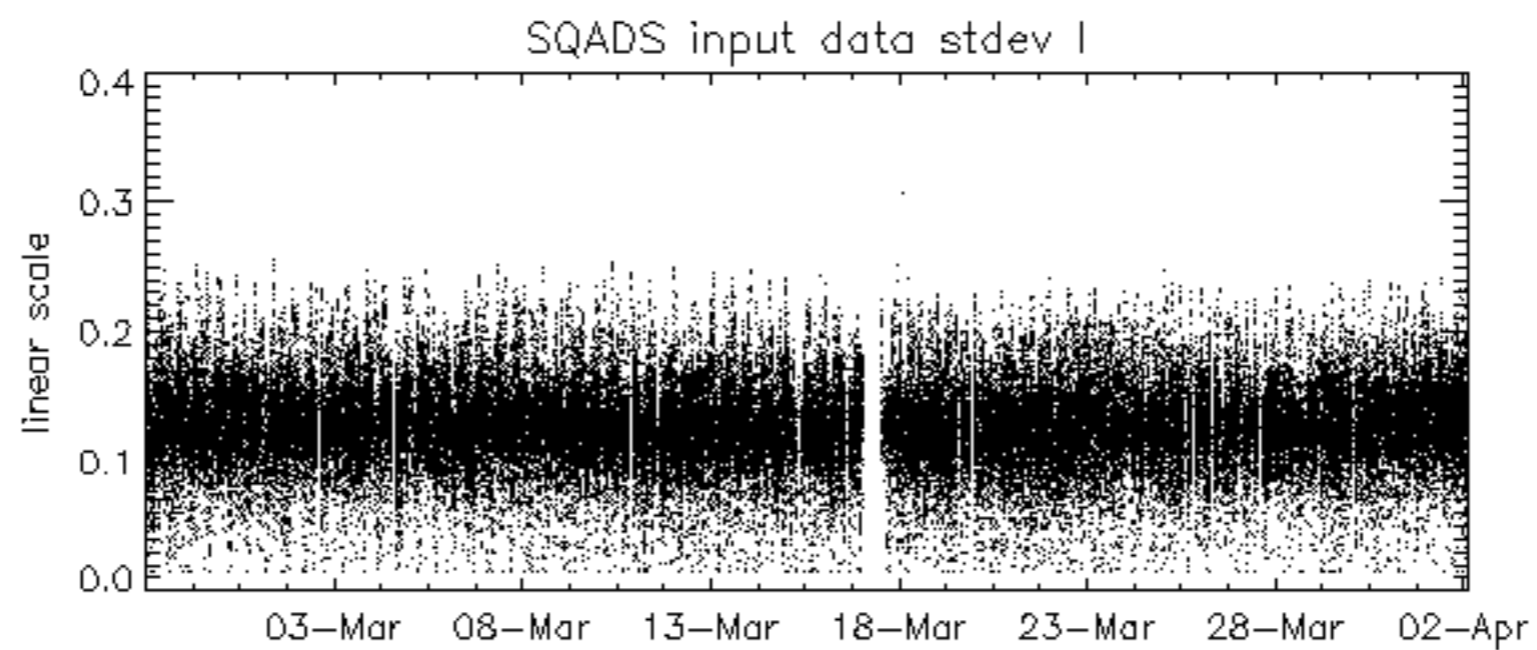
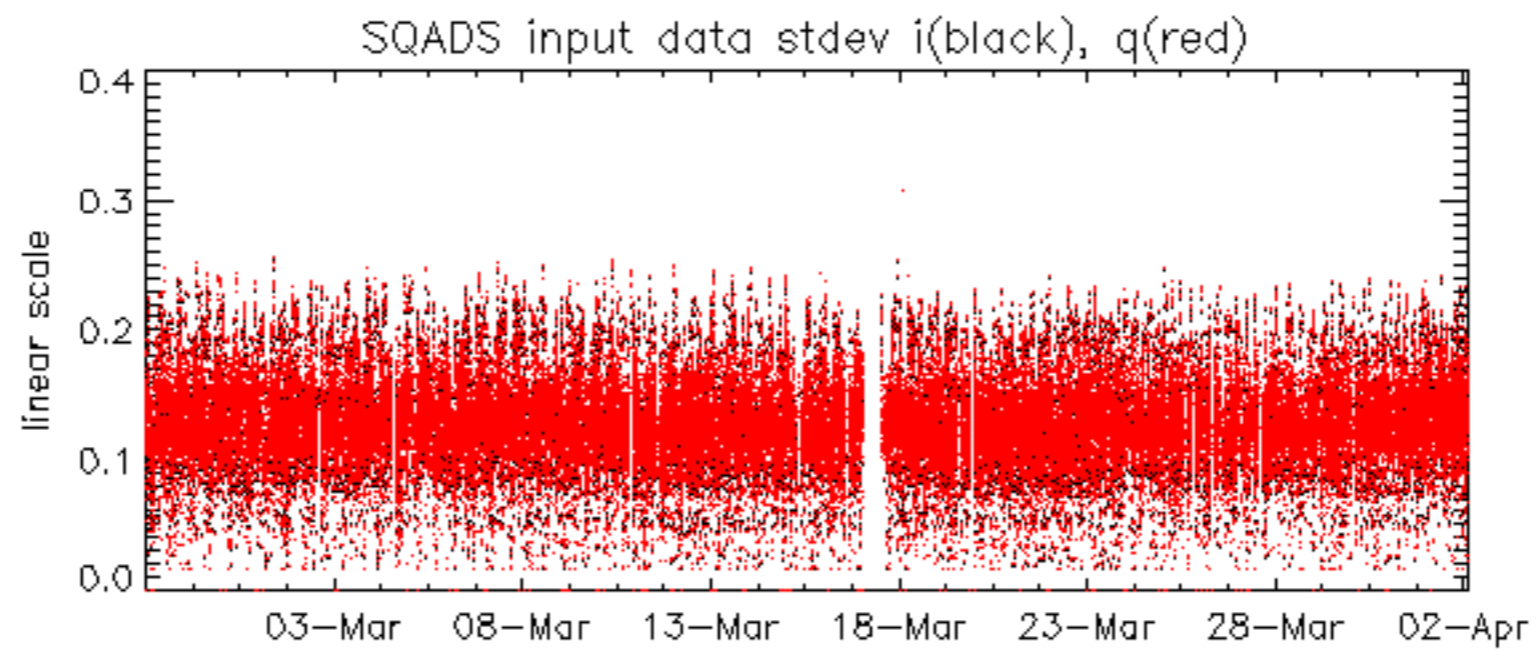


















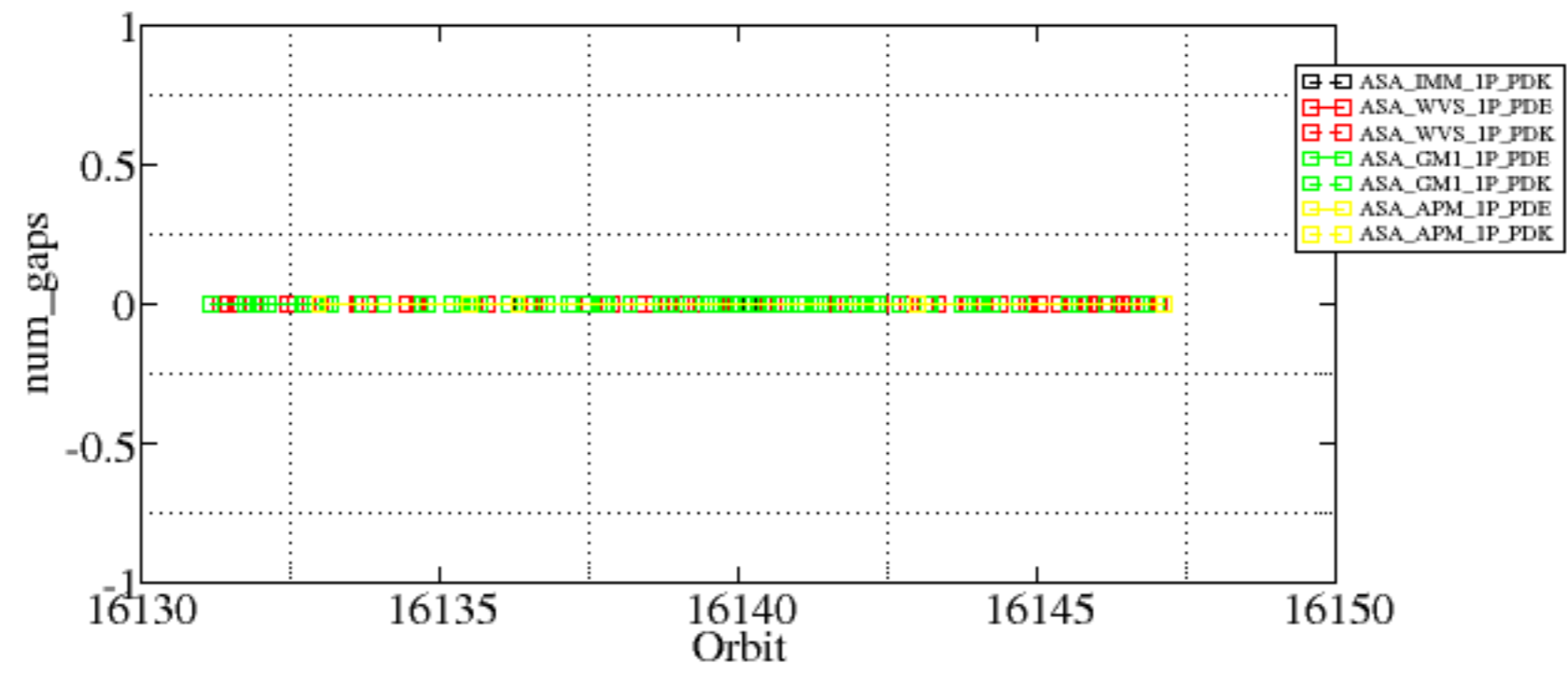


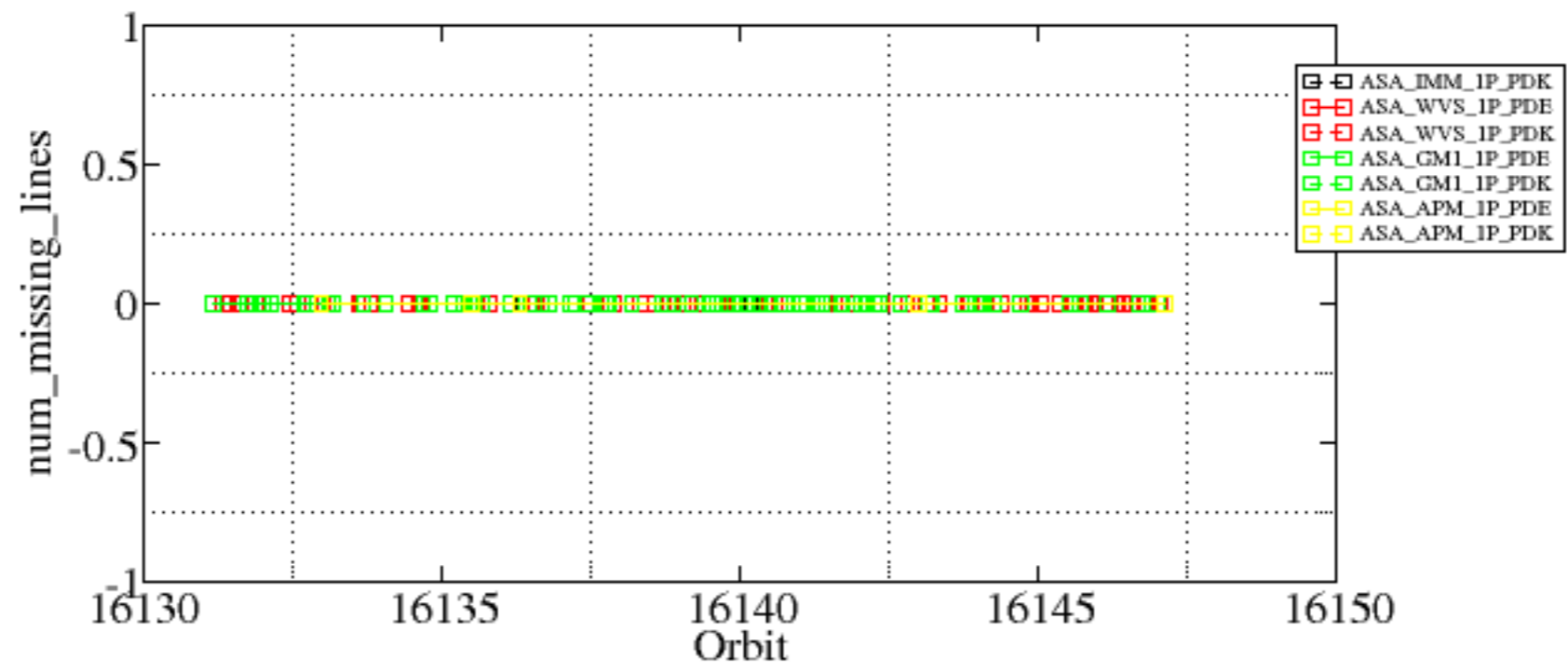
Summary of analysis for the last 3 days 2005040[112]

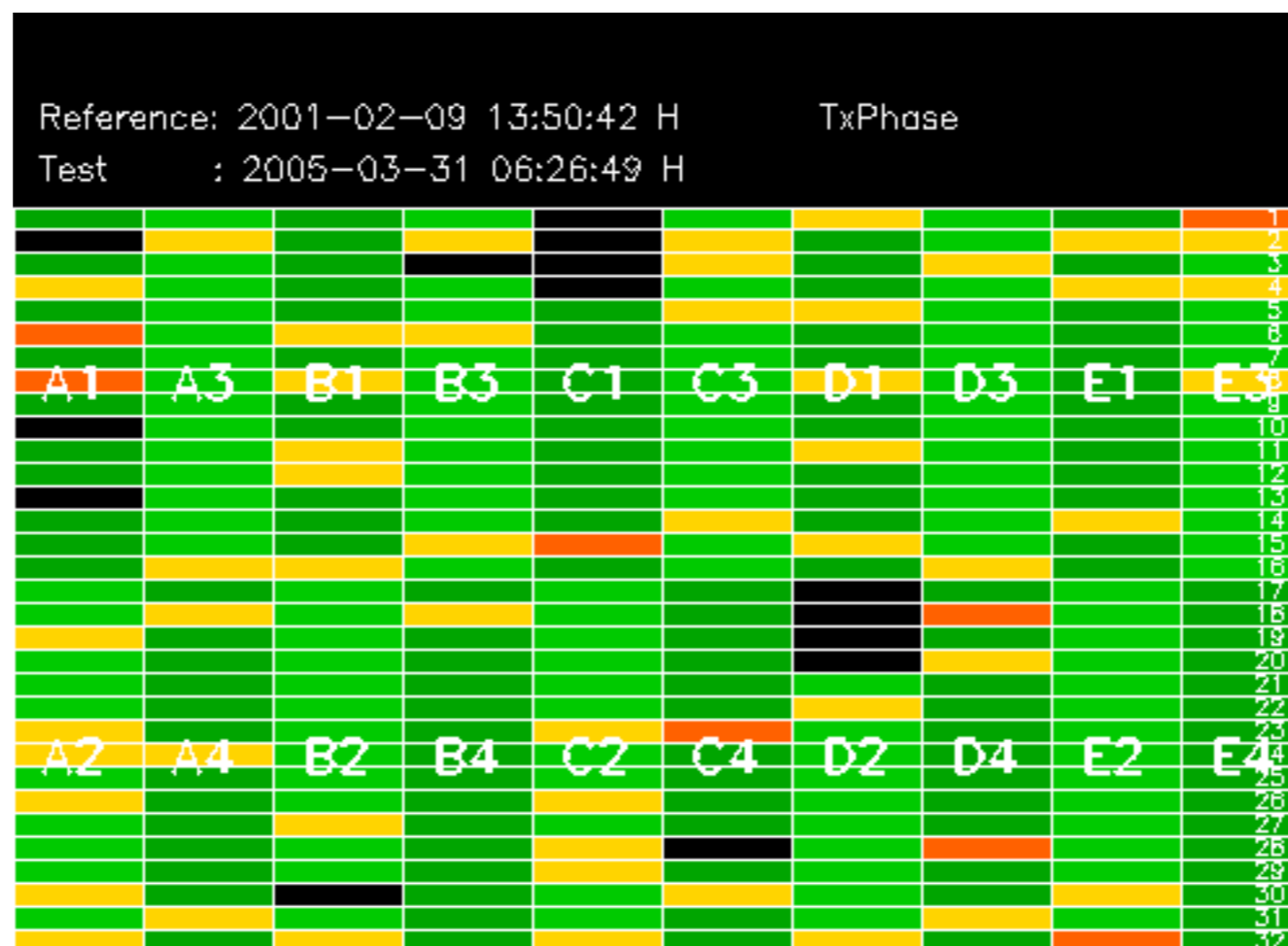
The assumption is taken that the SQADS num\_gaps and num\_missing\_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines





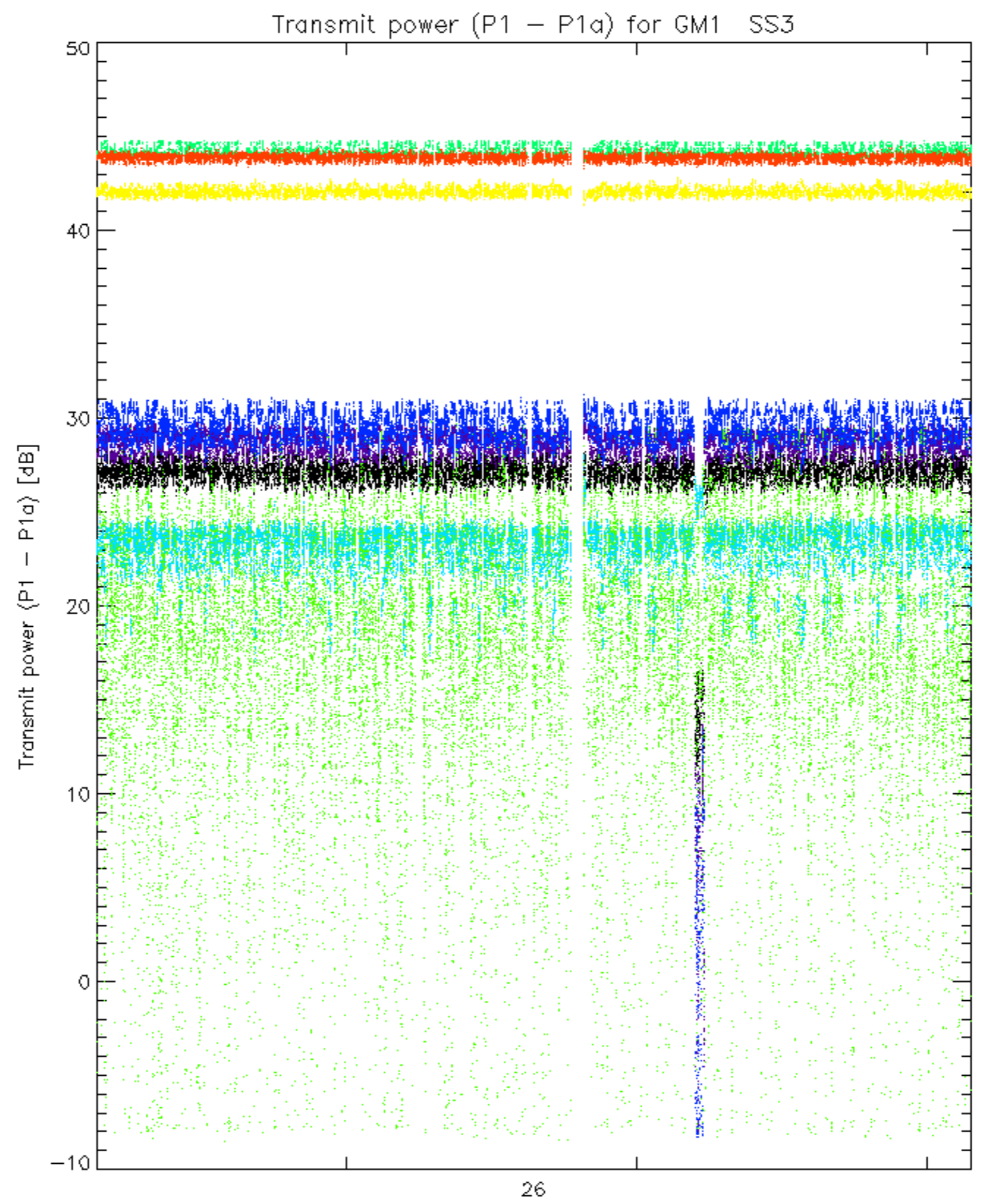




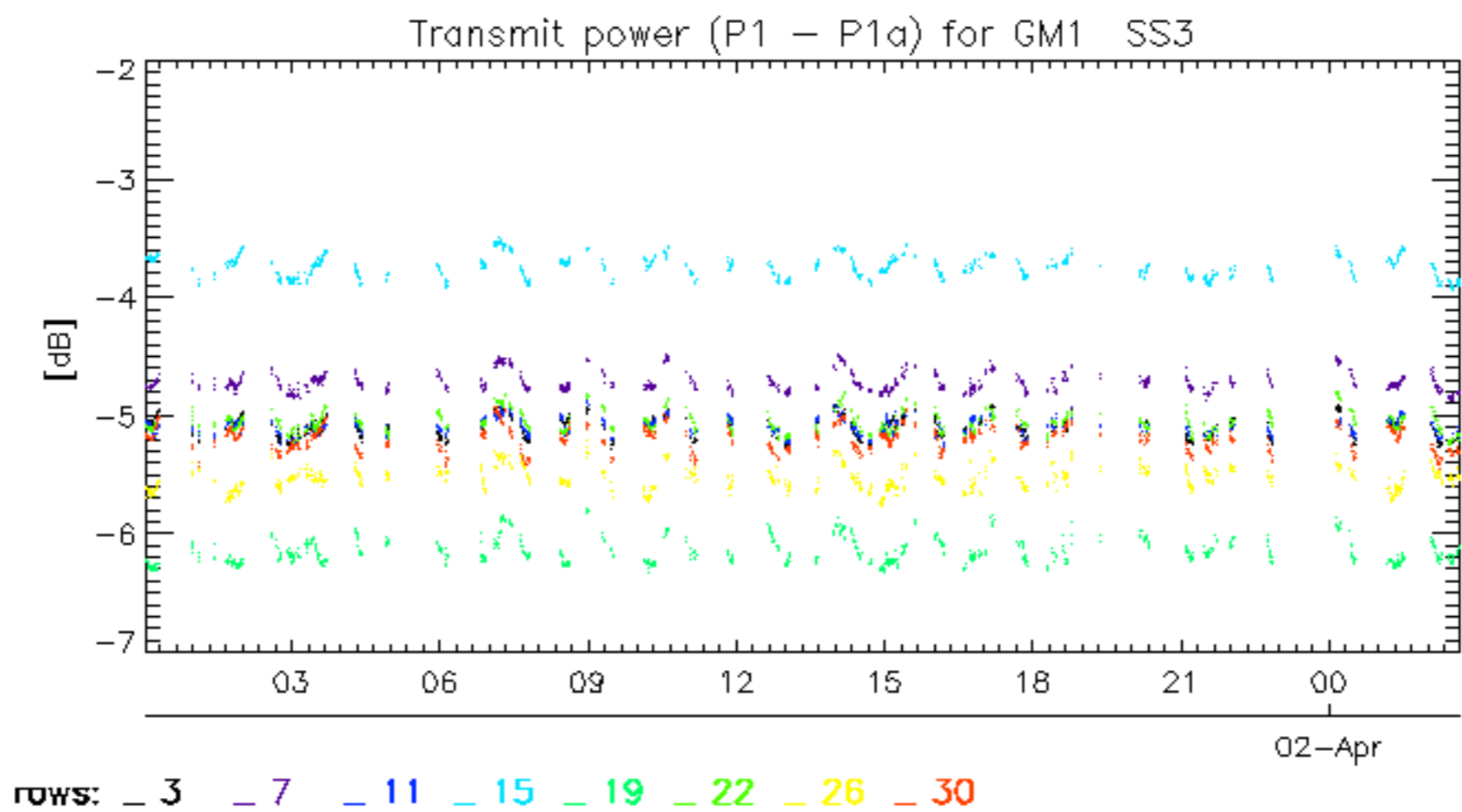




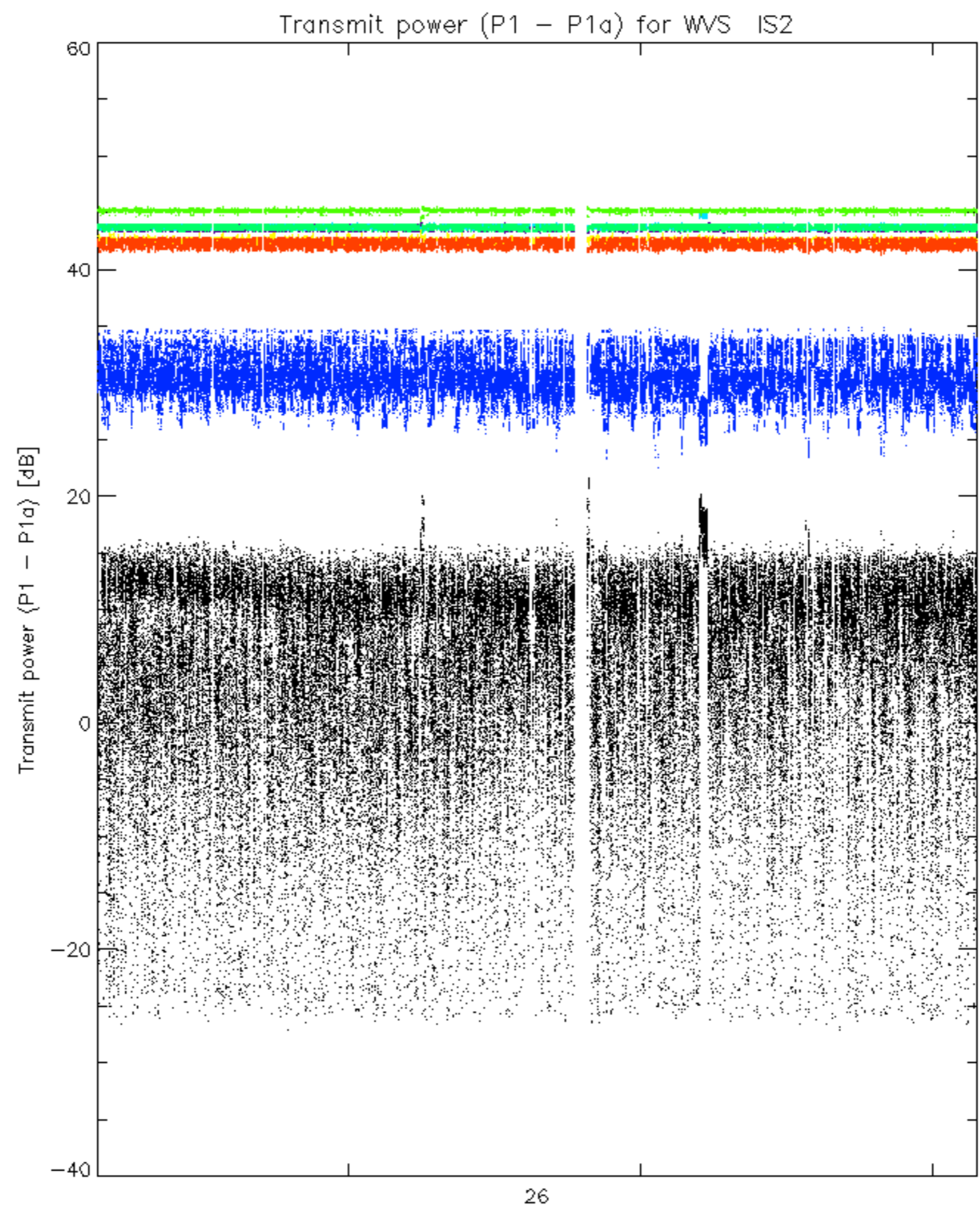




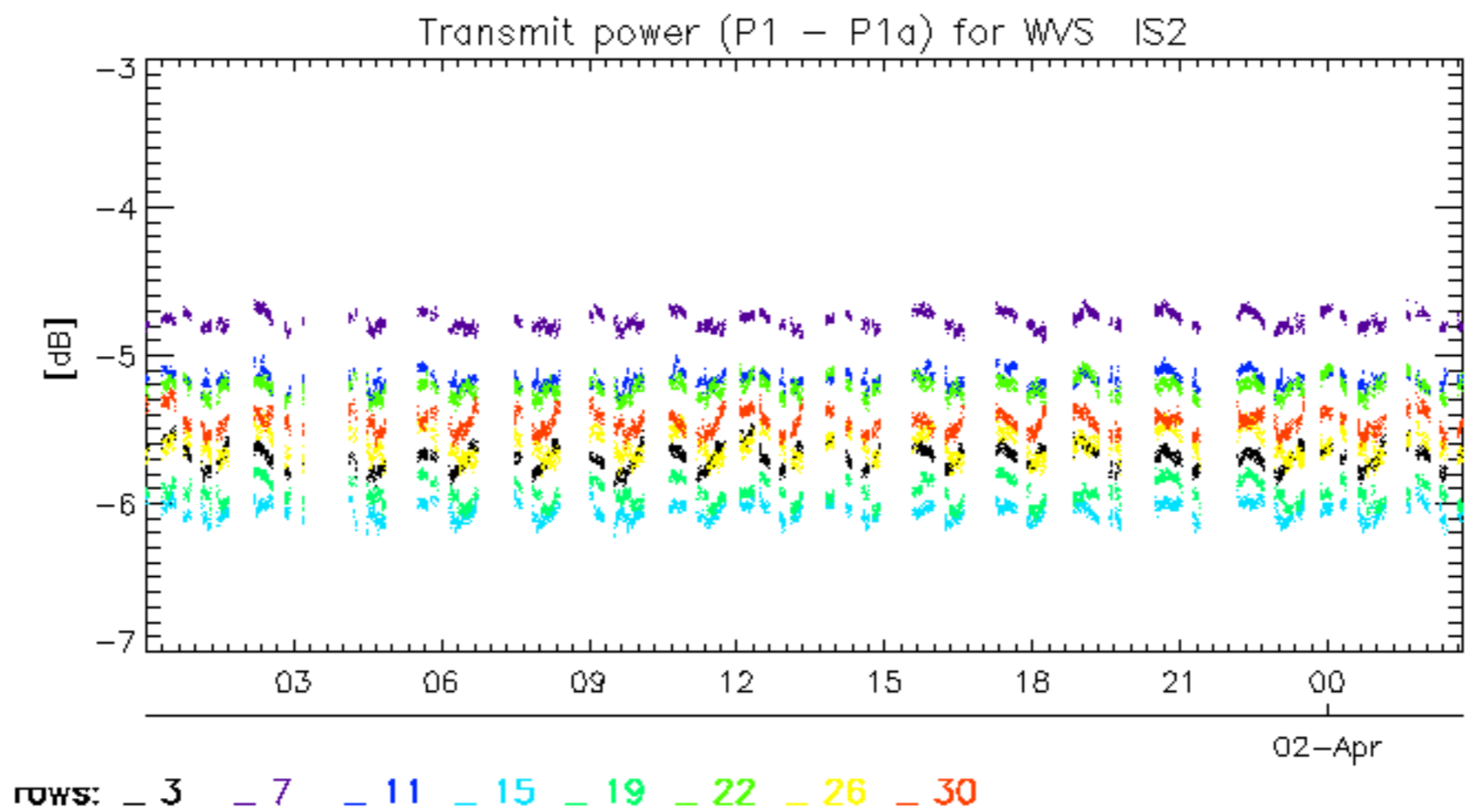
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30







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



No unavailabilities during the reported period.