

# PRELIMINARY REPORT OF 050329

last update on Tue Mar 29 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 2005-03-28 00:00:00 to 2005-03-29 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	21	19	0	0	1
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	21	19	0	0	1
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	21	19	0	0	1
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	21	19	0	0	1

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	41	39	4	8	5
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	41	39	4	8	5
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	41	39	4	8	5
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	41	39	4	8	5

### 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	20050326 204905
H	20050325 143818

### 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

**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	-3.352016	0.013623	0.051657
7	P1	-3.103562	0.008118	-0.032295
11	P1	-4.685896	0.029946	0.061090
15	P1	-5.644993	0.037369	0.070209
19	P1	-3.688753	0.003661	-0.021689
22	P1	-4.518109	0.012003	-0.018299
26	P1	-4.940337	0.017440	0.052807
30	P1	-7.196517	0.018365	-0.001400
3	P1	-15.890396	0.328821	0.332106
7	P1	-15.529431	0.066586	0.002506
11	P1	-20.976574	0.449091	-0.013932
15	P1	-11.580683	0.047071	0.001154
19	P1	-14.307039	0.023417	-0.032021
22	P1	-15.642973	0.305191	-0.114135
26	P1	-17.611948	0.200220	-0.069764
30	P1	-17.980530	0.444898	0.027789

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.079763	0.081468	0.054649
7	P2	-22.263119	0.093495	0.065272
11	P2	-14.365151	0.107646	0.238717
15	P2	-7.042460	0.090145	-0.009911
19	P2	-9.632300	0.092862	-0.002662
22	P2	-16.909397	0.092535	0.043919
26	P2	-16.444601	0.091515	0.009903
30	P2	-18.848686	0.082790	0.068998

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.166294	0.004755	0.005260
7	P3	-8.166294	0.004755	0.005260
11	P3	-8.166294	0.004755	0.005260
15	P3	-8.166294	0.004755	0.005260
19	P3	-8.166294	0.004755	0.005260
22	P3	-8.166294	0.004755	0.005260
26	P3	-8.166294	0.004755	0.005260
30	P3	-8.166294	0.004755	0.005260

**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	-2.713426	0.026230	0.058117
7	P1	-3.021189	0.048593	0.051758
11	P1	-3.983554	0.026831	0.049807
15	P1	-3.556405	0.034681	0.095667
19	P1	-3.598949	0.013401	-0.027284
22	P1	-5.742098	0.035334	0.055580
26	P1	-7.294686	0.025503	0.001932
30	P1	-6.236229	0.048255	-0.031021
3	P1	-10.708876	0.176780	0.169993
7	P1	-10.332206	0.175976	0.040512
11	P1	-12.533967	0.136624	0.122782
15	P1	-11.741354	0.103422	0.175263
19	P1	-15.569438	0.044959	-0.026717
22	P1	-24.564264	1.191230	-0.429275

26	P1	-15.489375	0.172011	-0.097377
30	P1	-20.197485	1.179394	-0.029025

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.786551	0.033233	0.068001
7	P2	-22.351612	0.038288	0.074757
11	P2	-10.152976	0.050708	0.151388
15	P2	-4.985956	0.022801	-0.036964
19	P2	-6.834105	0.034223	-0.022063
22	P2	-7.091844	0.031117	0.040794
26	P2	-23.851112	0.028854	-0.000025
30	P2	-21.895988	0.034008	0.012872

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.999446	0.002803	0.006676
7	P3	-7.999565	0.002802	0.006328
11	P3	-7.999418	0.002818	0.006296
15	P3	-7.999525	0.002814	0.006681
19	P3	-7.999471	0.002821	0.006591
22	P3	-7.999475	0.002803	0.006278
26	P3	-7.999443	0.002811	0.006522
30	P3	-7.999366	0.002818	0.006665

## 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	0.000448967
	stdev	2.30301e-07
MEAN Q	mean	0.000472878
	stdev	2.37587e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127622
	stdev	0.00105175
STDEV Q	mean	0.127872
	stdev	0.00106303



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005032[789]

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_WSM_1PNPDE20050327_012931_000003672035_00475_16060_3322.N1	0	55







## 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)


Acsending

Descending

### 7.2 - Absolute Doppler for WVS

#### Evolution of Absolute Doppler


Acsending

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)


Acsending



<input type="checkbox"/>
Descending

### 7.5 - Absolute Doppler for GM1

#### Evolution of Absolute Doppler

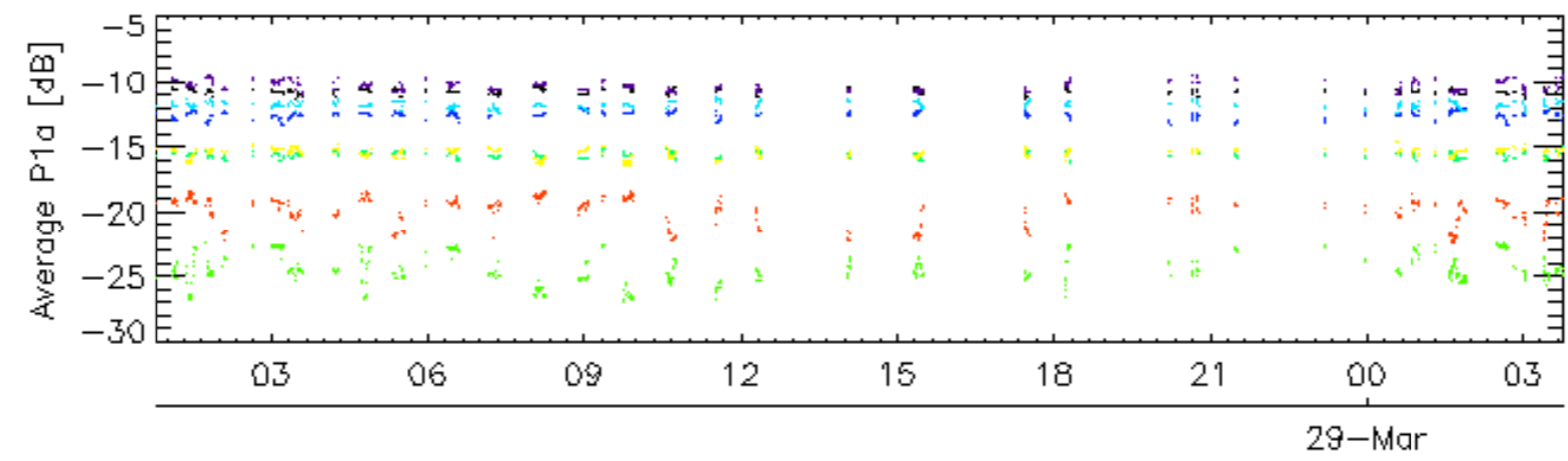
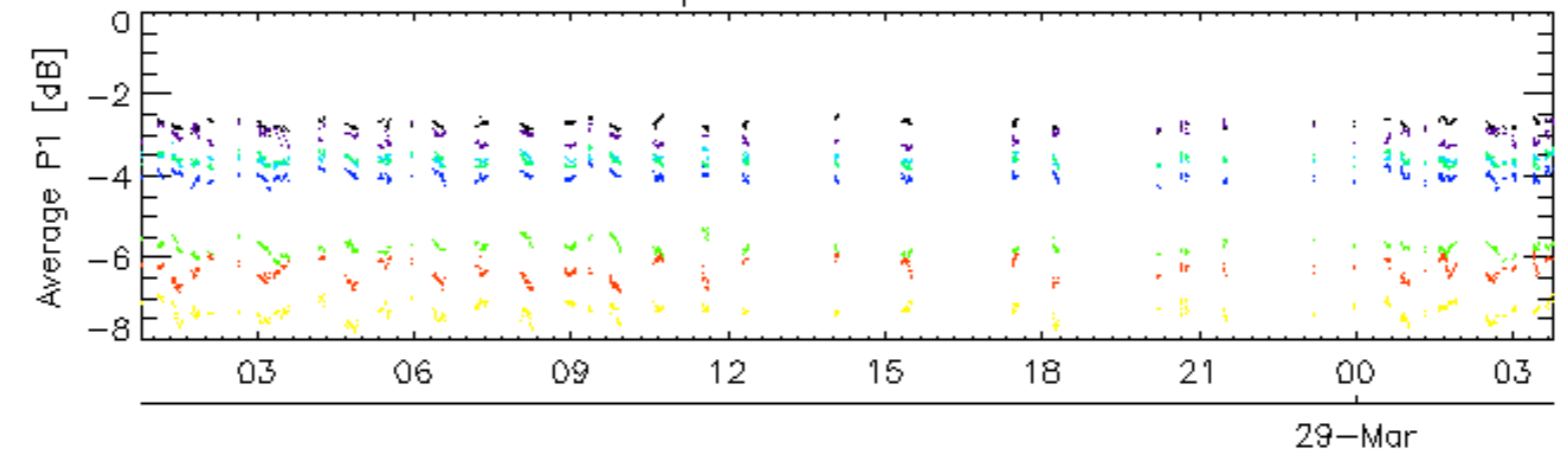
<input type="checkbox"/>
Ascending
<input type="checkbox"/>
Descending

### 7.6 - Doppler evolution versus ANX for GM1

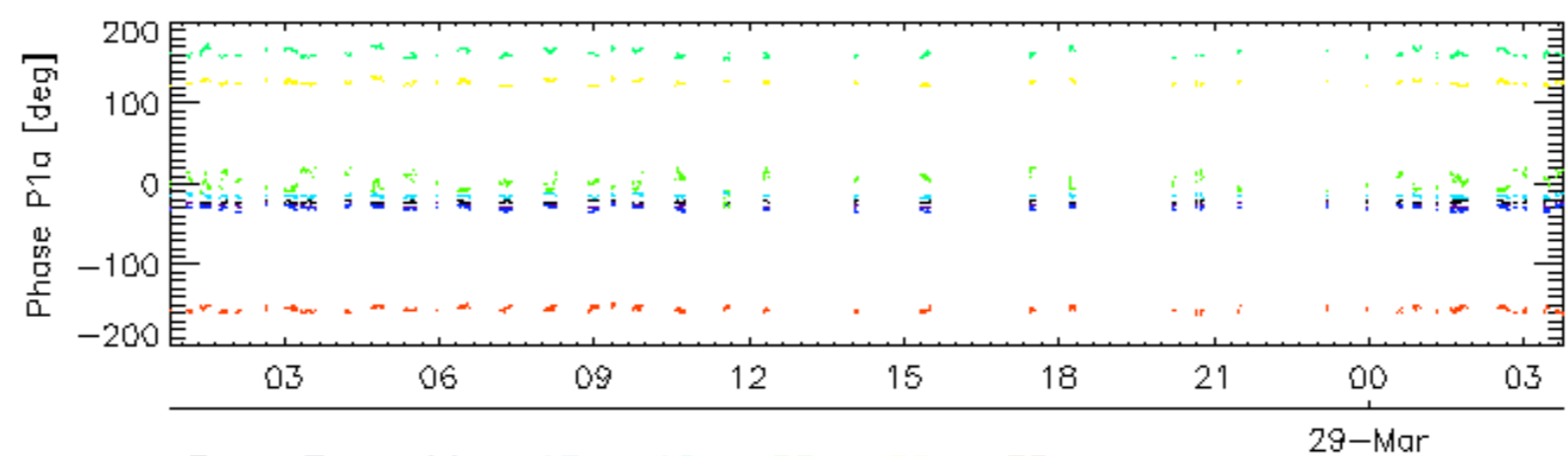
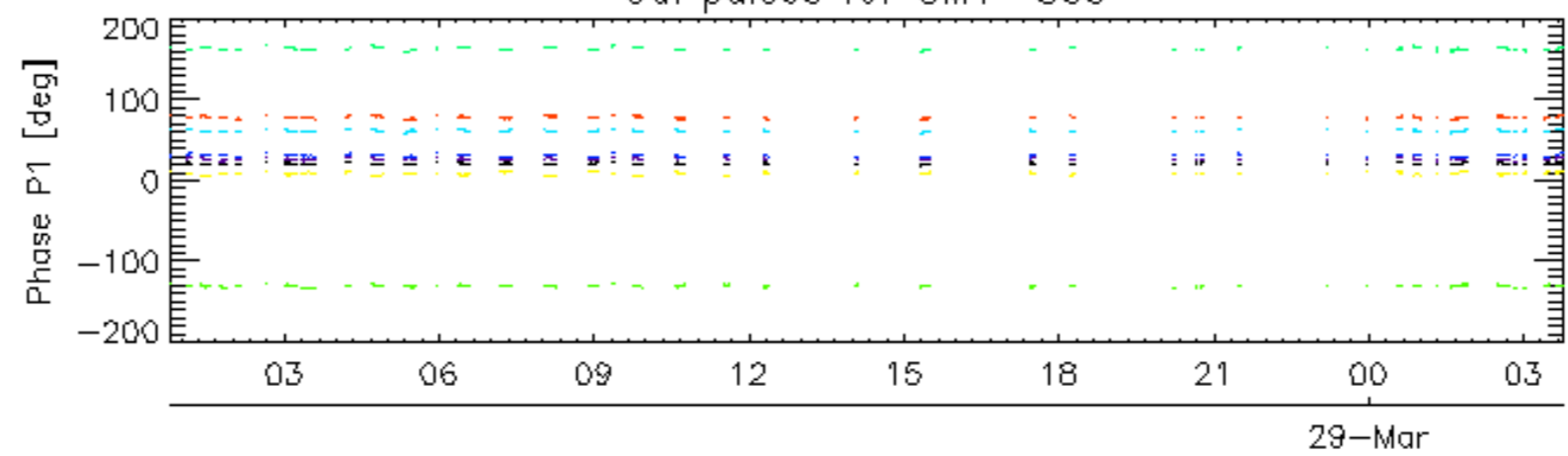
#### Evolution Doppler error versus ANX

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Cal pulses for GM1 SS3

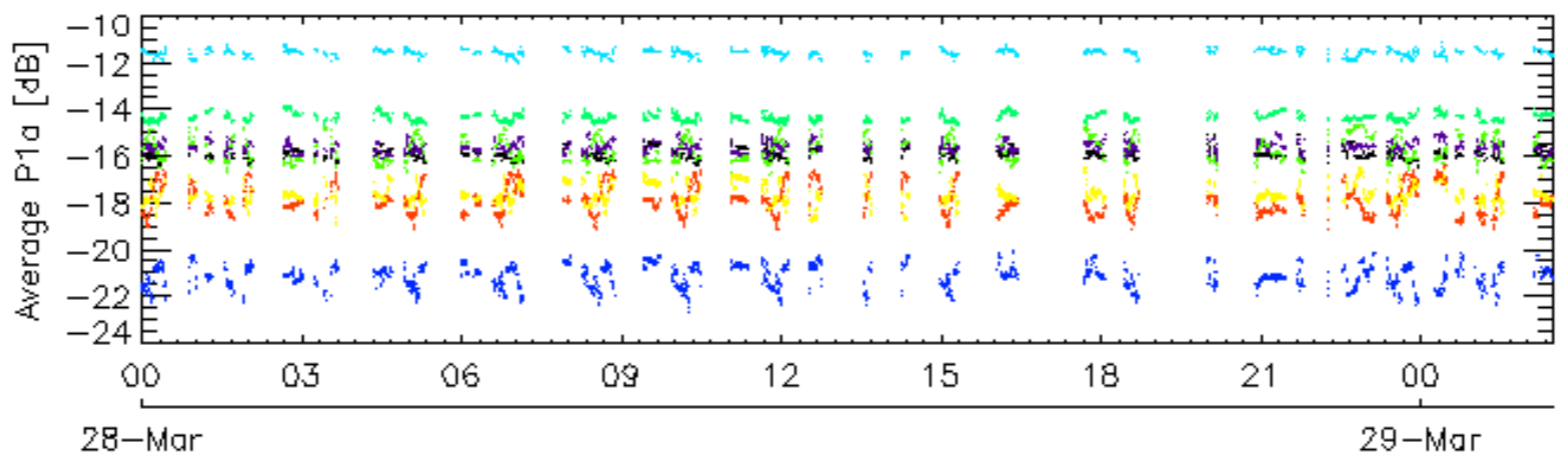
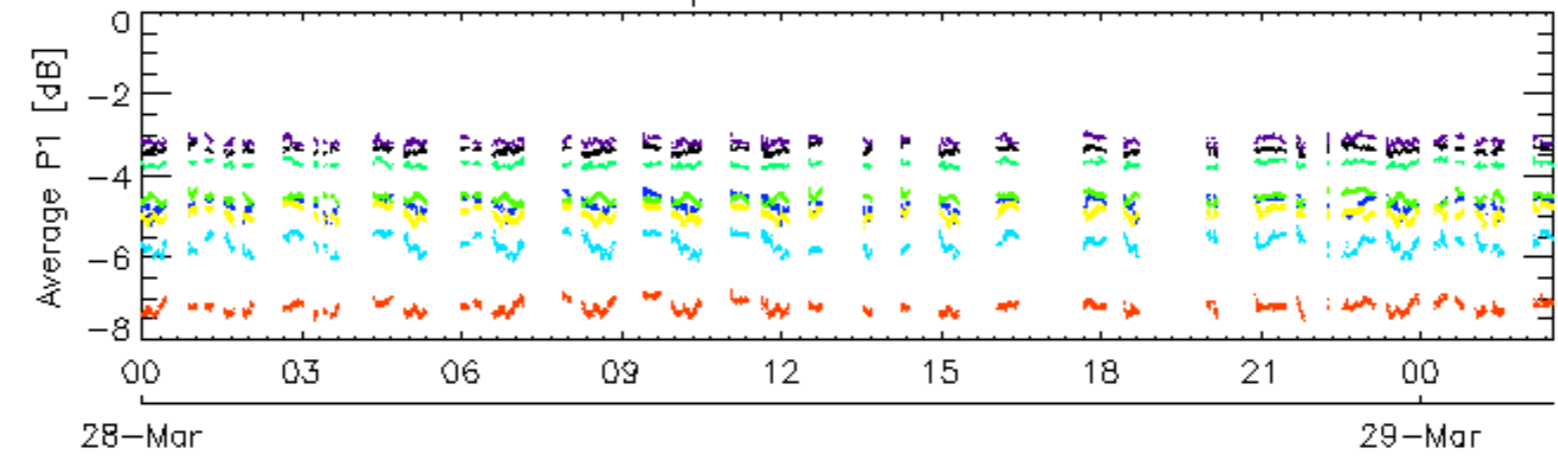


Cal pulses for GM1 SS3

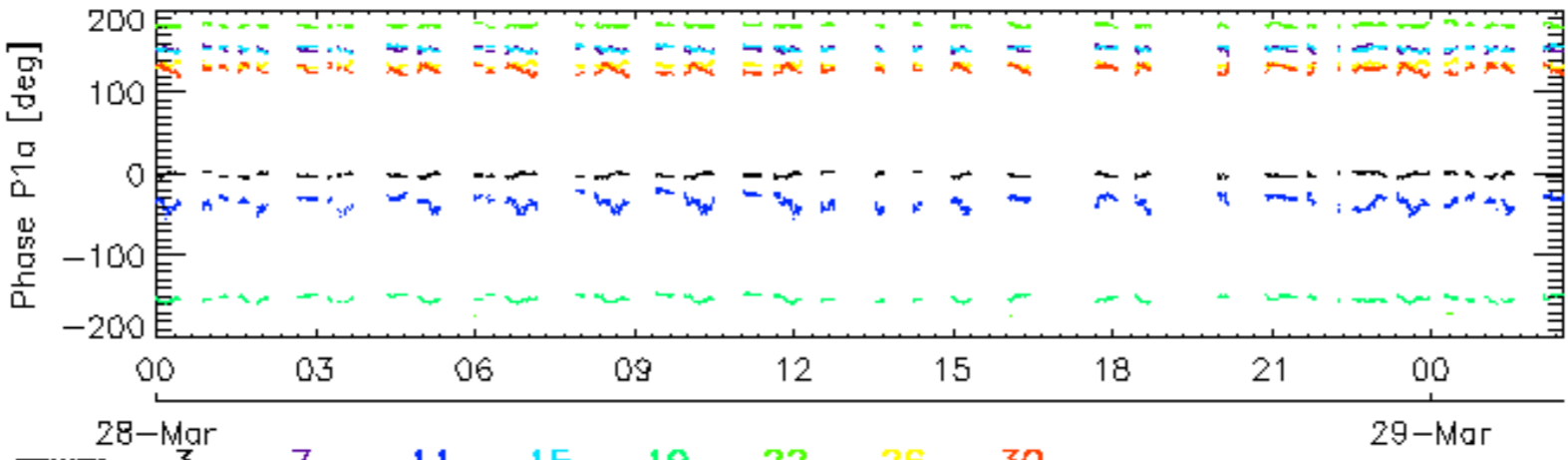
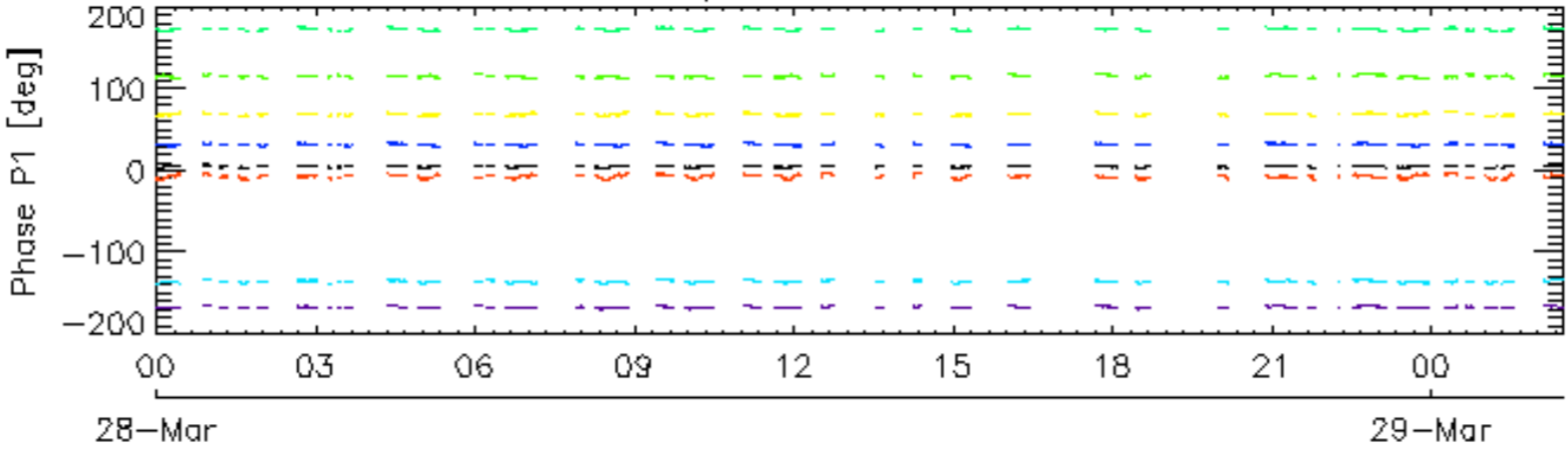


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

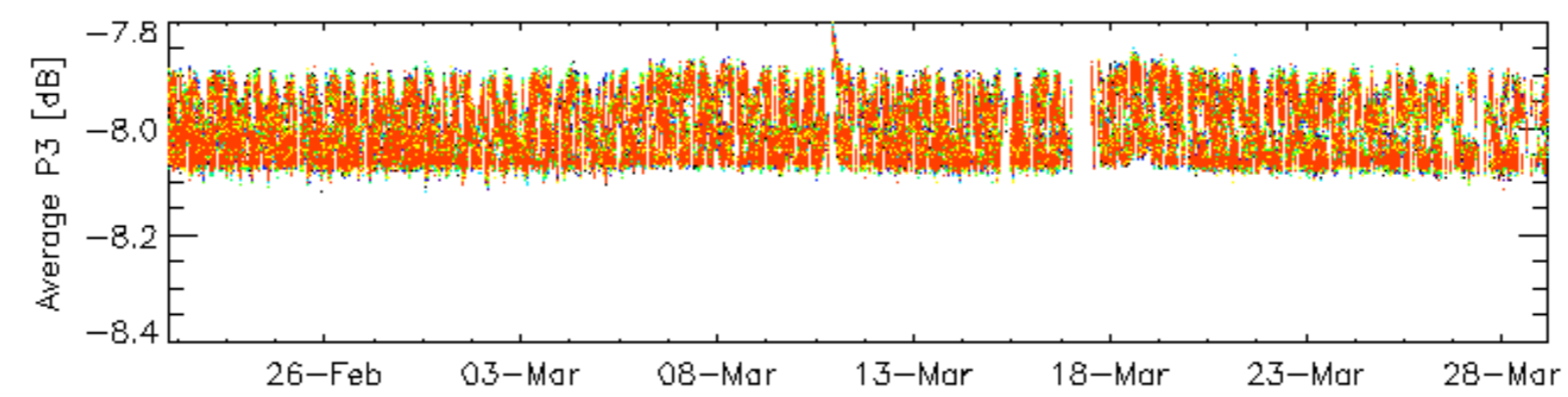
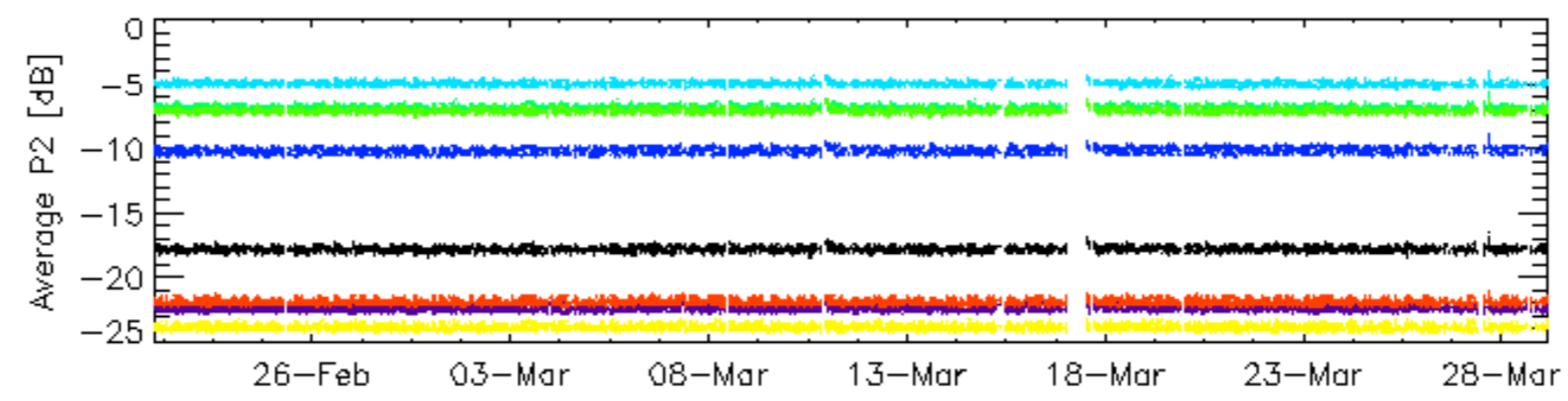
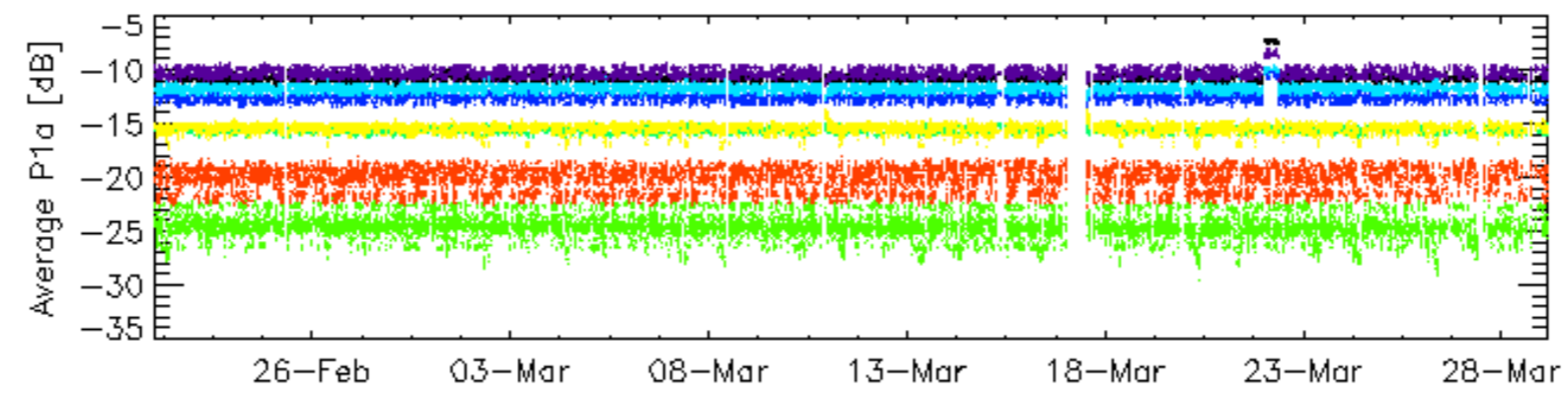
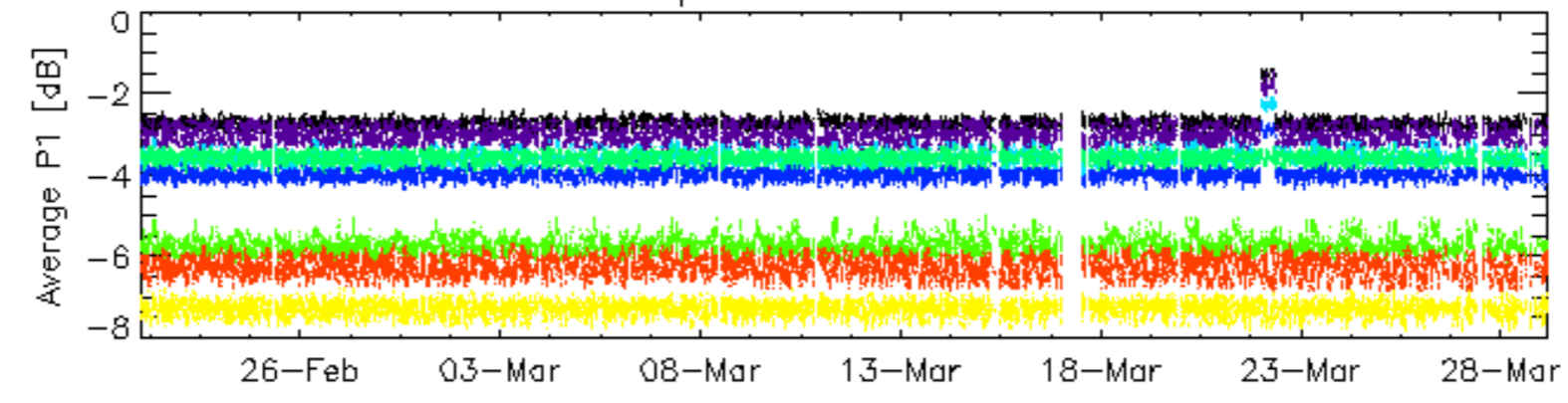


Cal pulses for WVS IS2



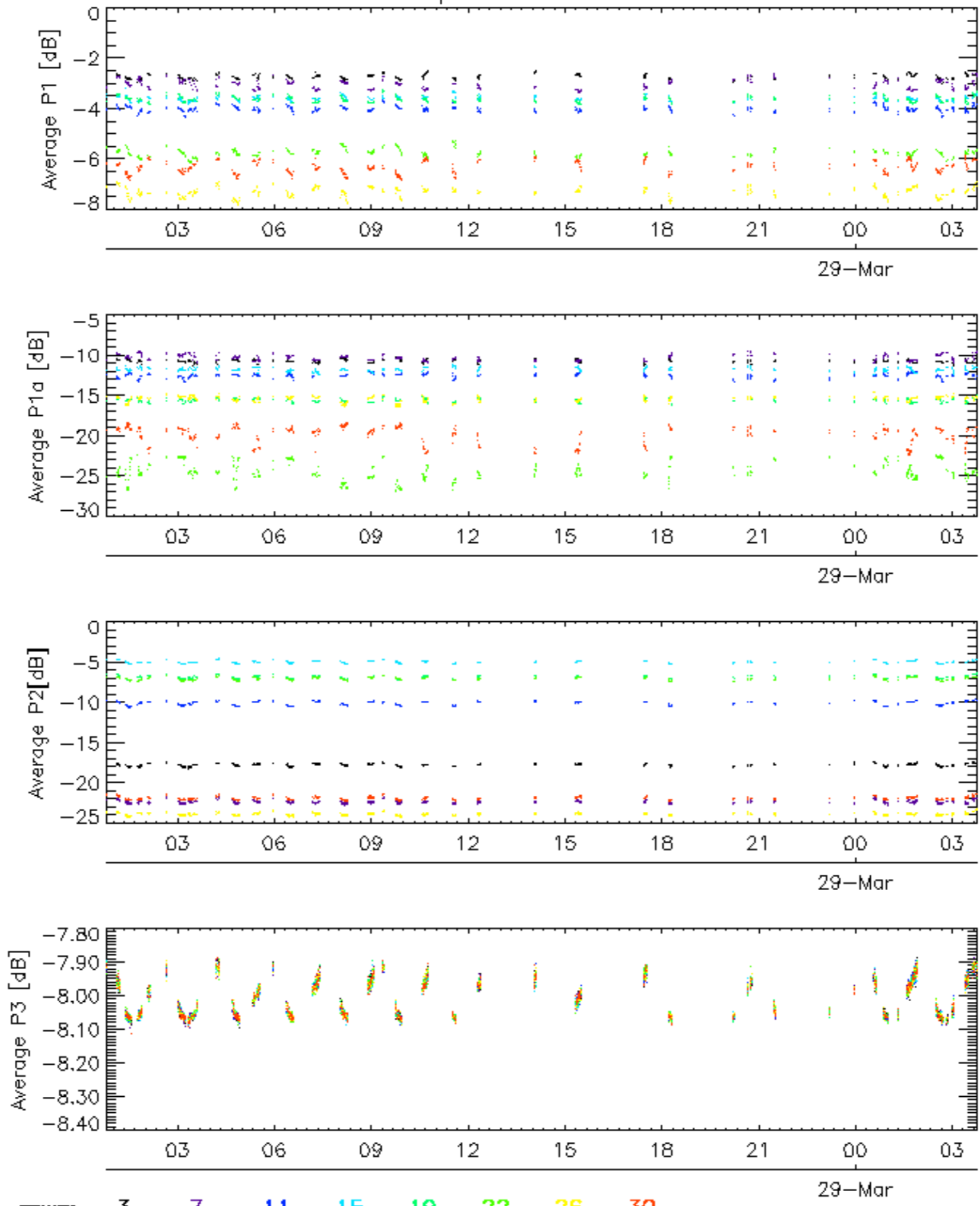
rows: - 3 - 7 - 11 - 15 - 19 - 22 - 26 - 30

Cal pulses for GM1 SS3



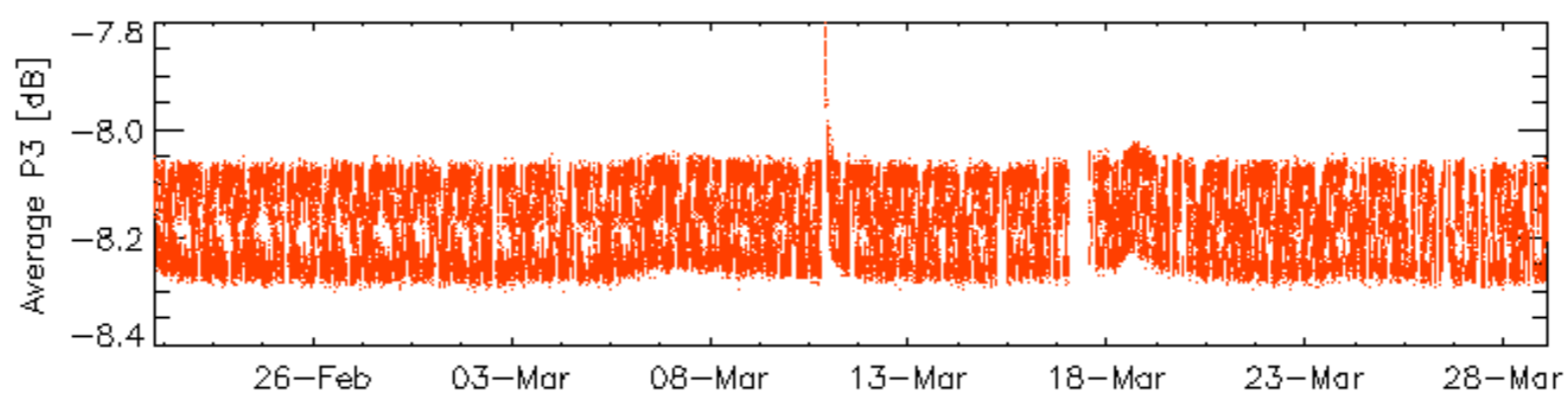
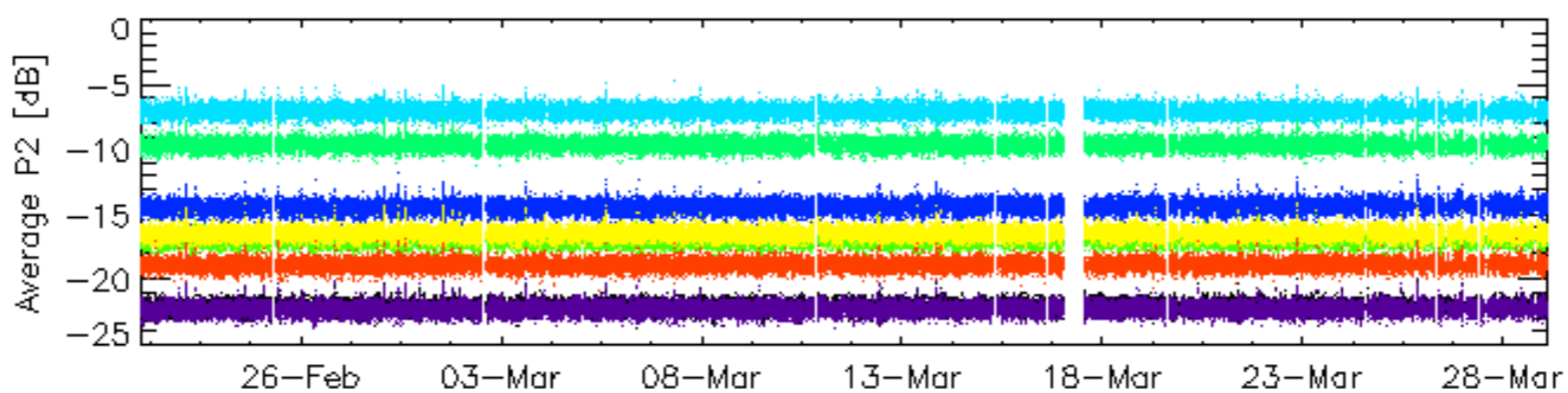
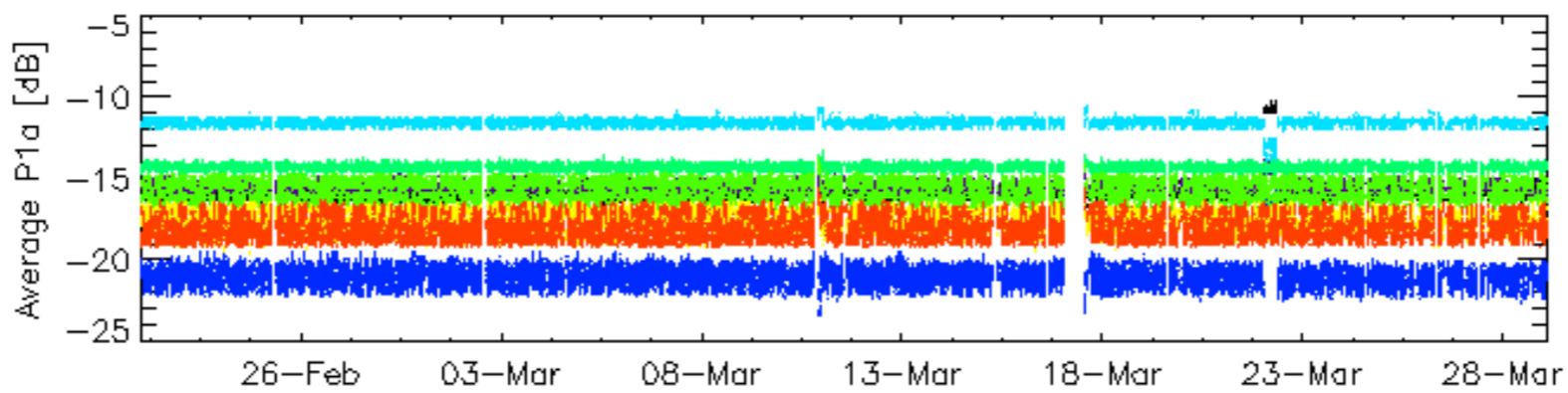
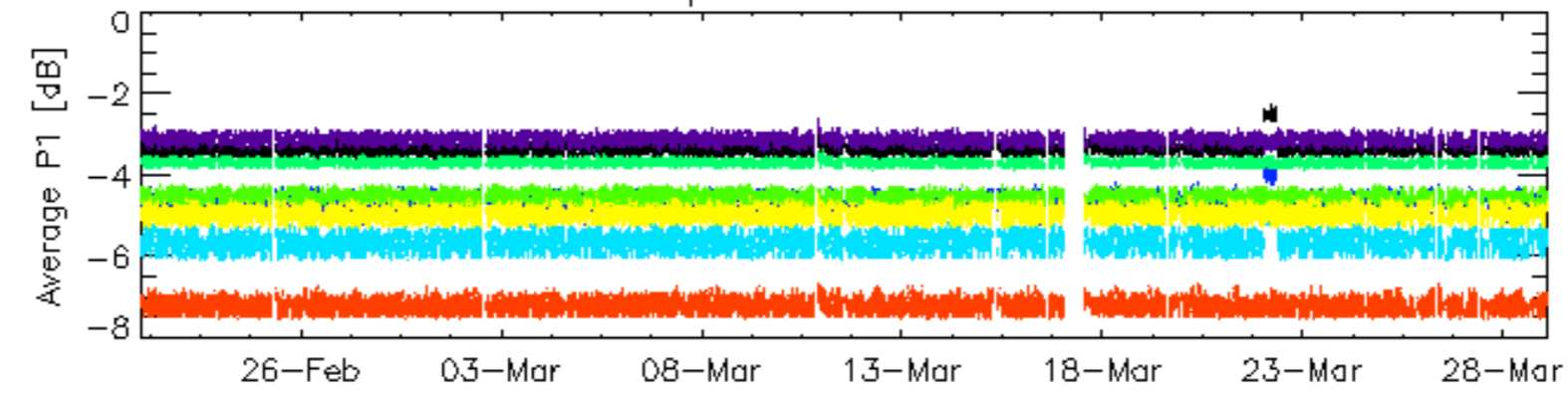
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3



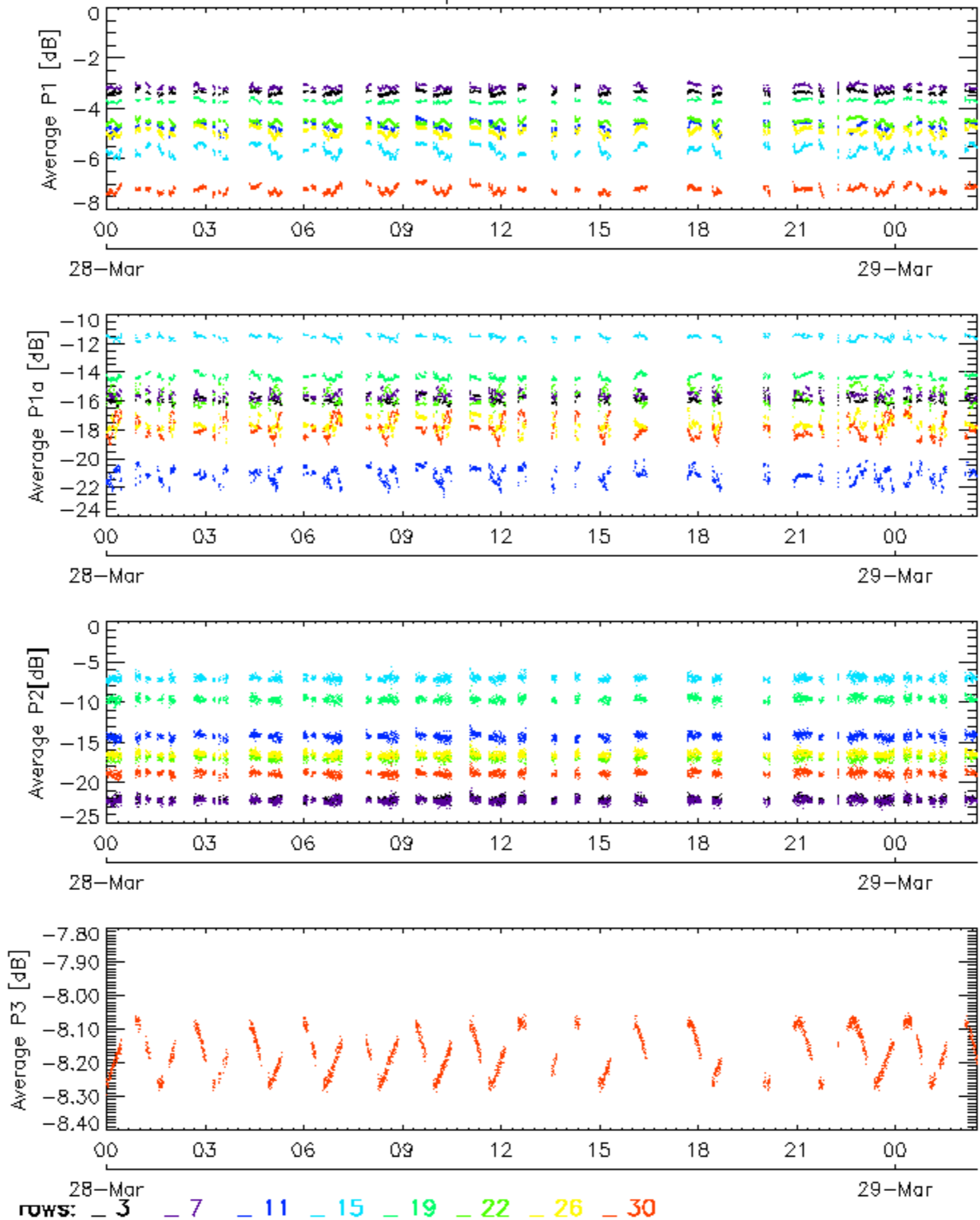
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2



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

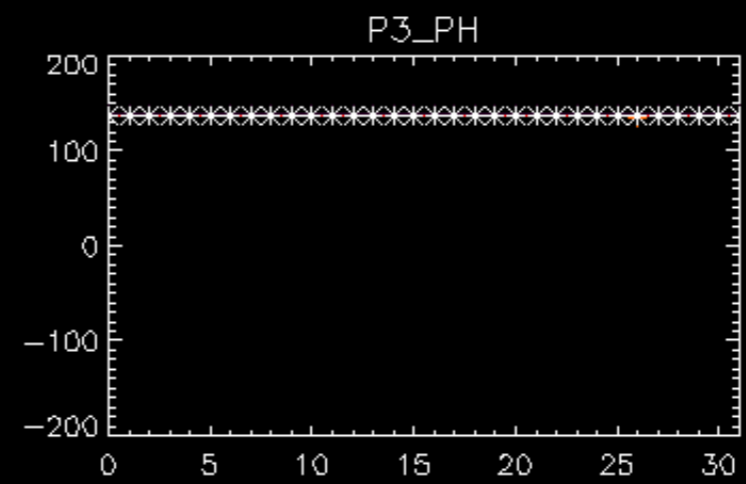
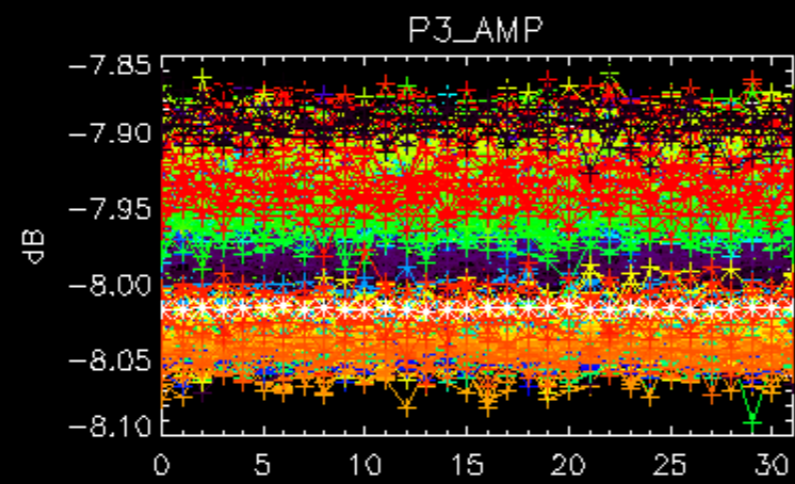
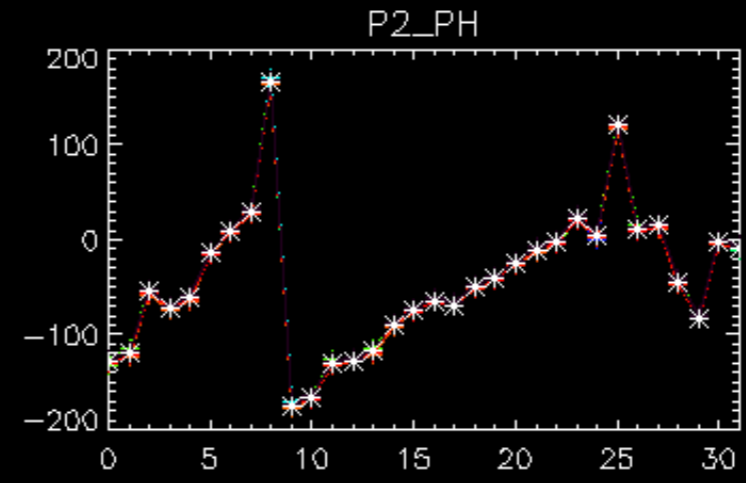
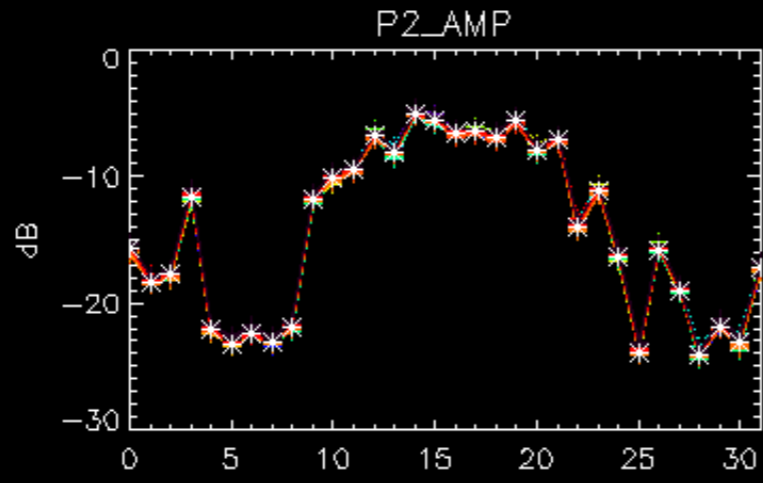
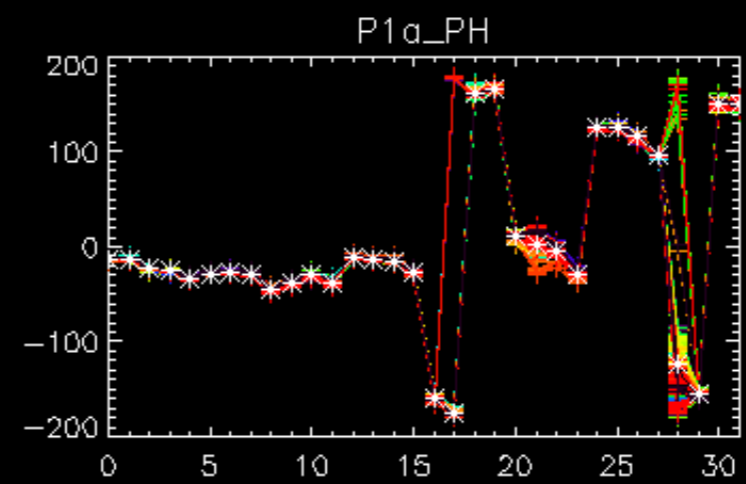
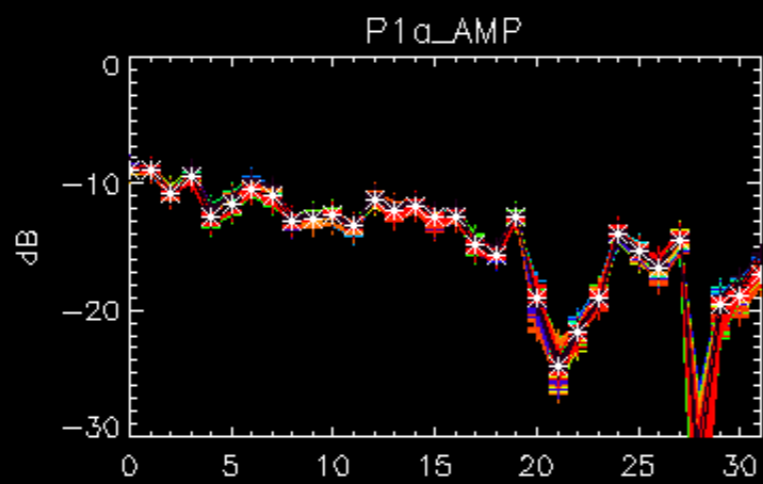
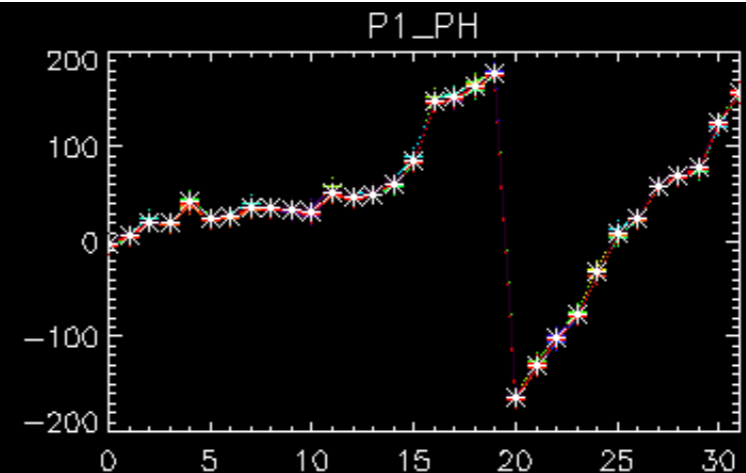
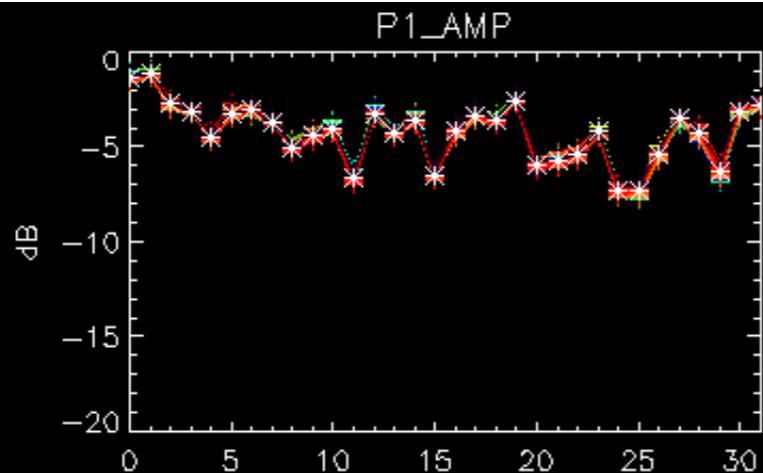
Cal pulses for WVS IS2

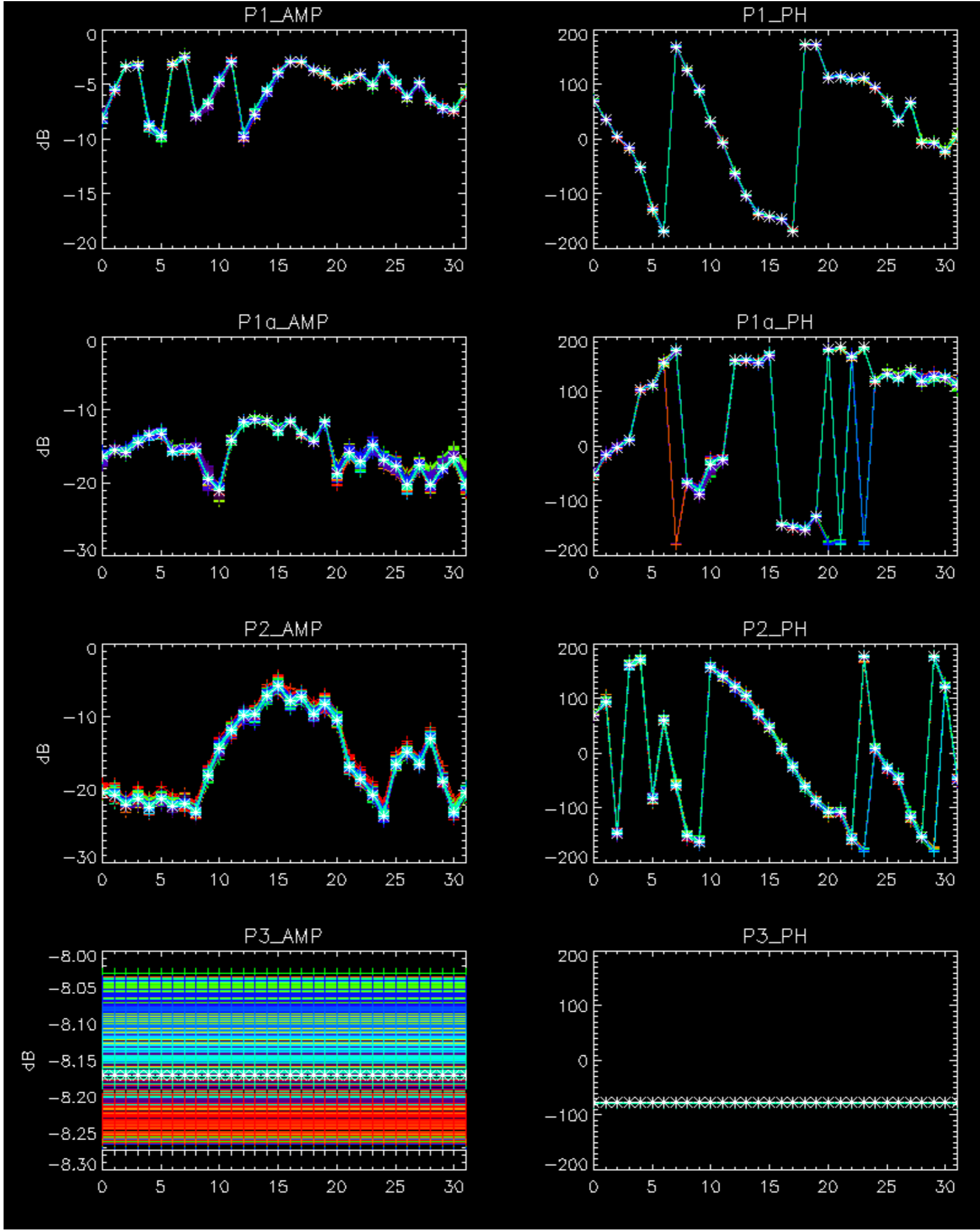


No anomalies observed on available browse products



No anomalies observed.

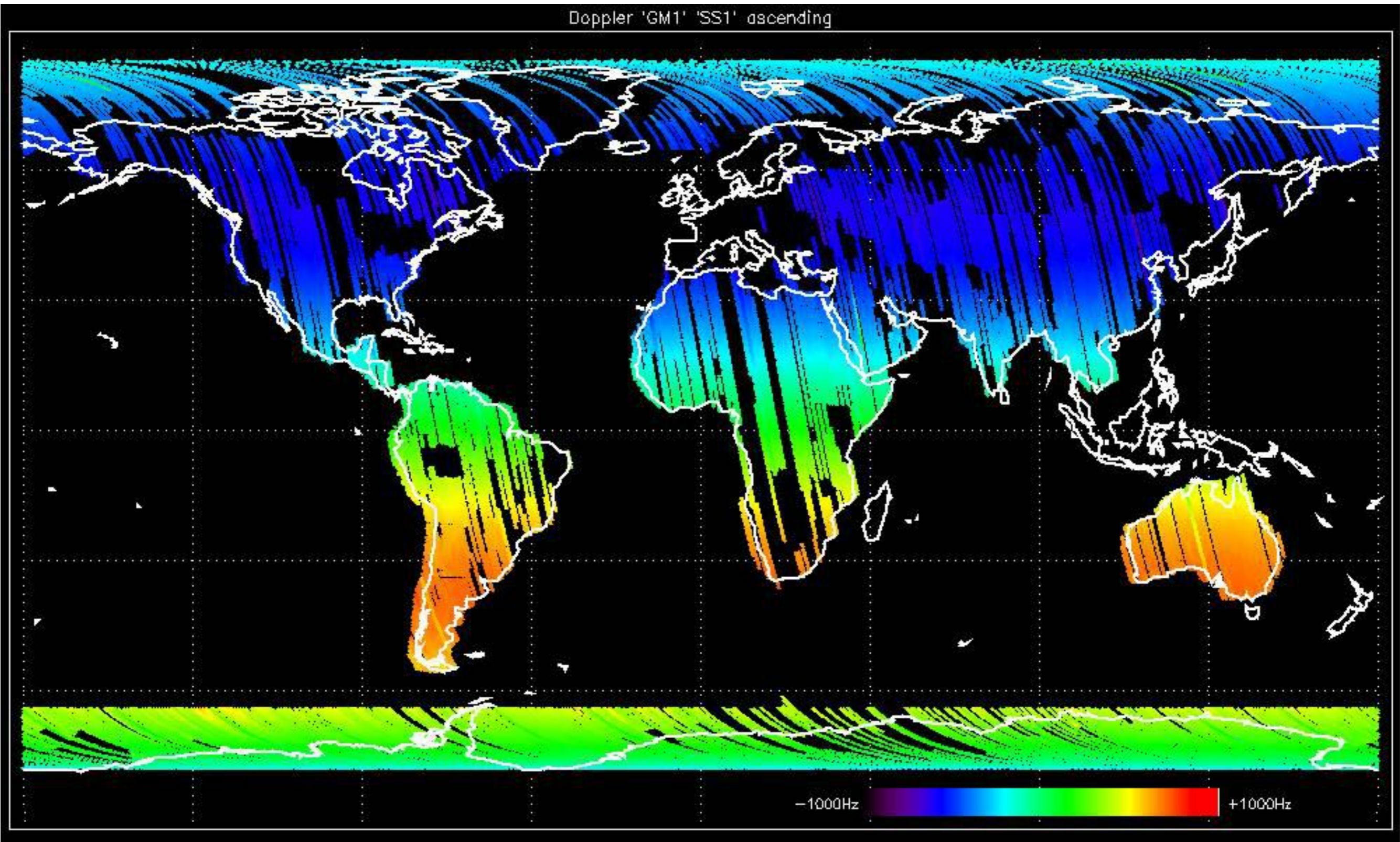




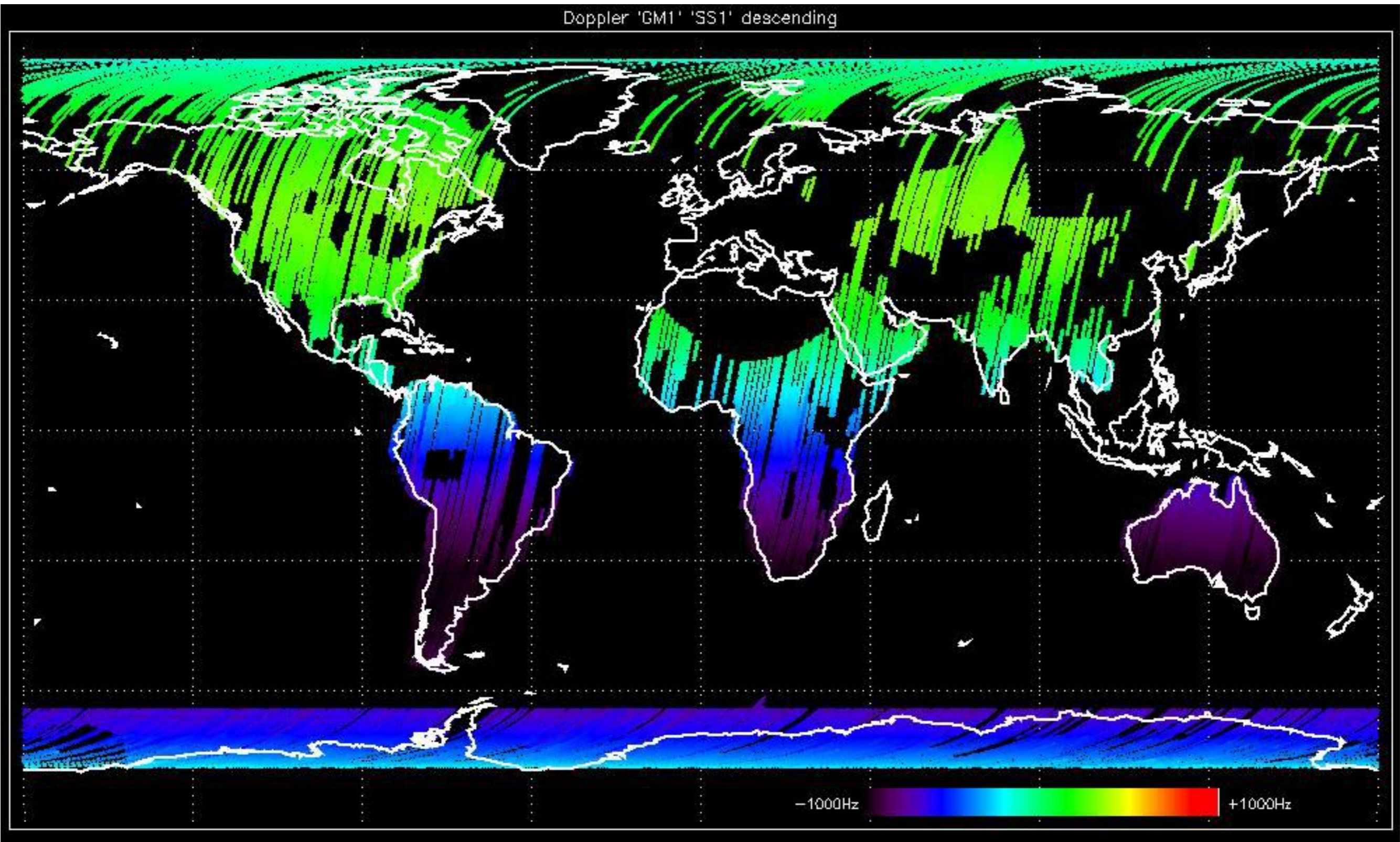
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



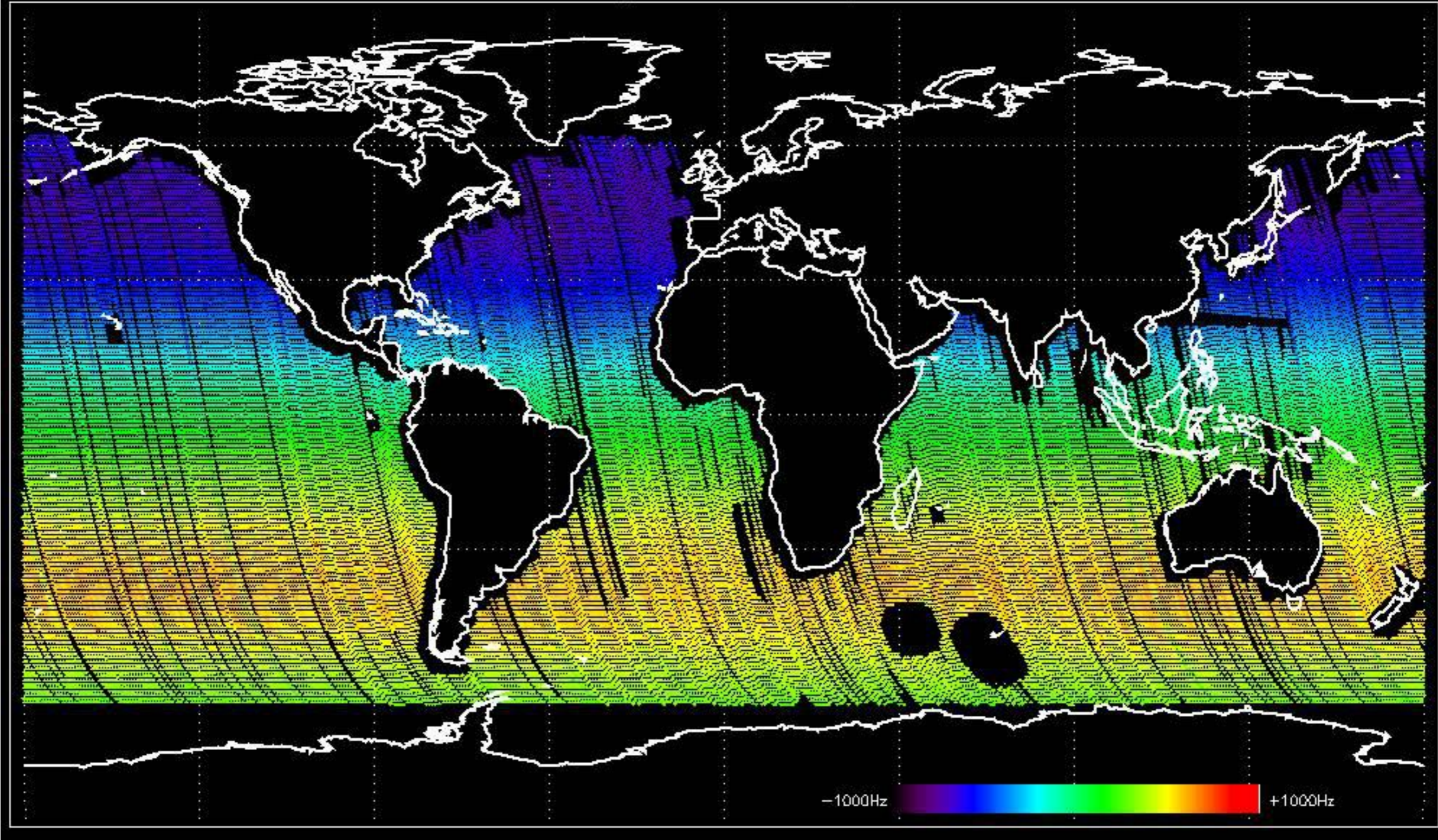
Doppler 'GM1' 'SS1' ascending



Doppler 'GM1' 'SS1' descending

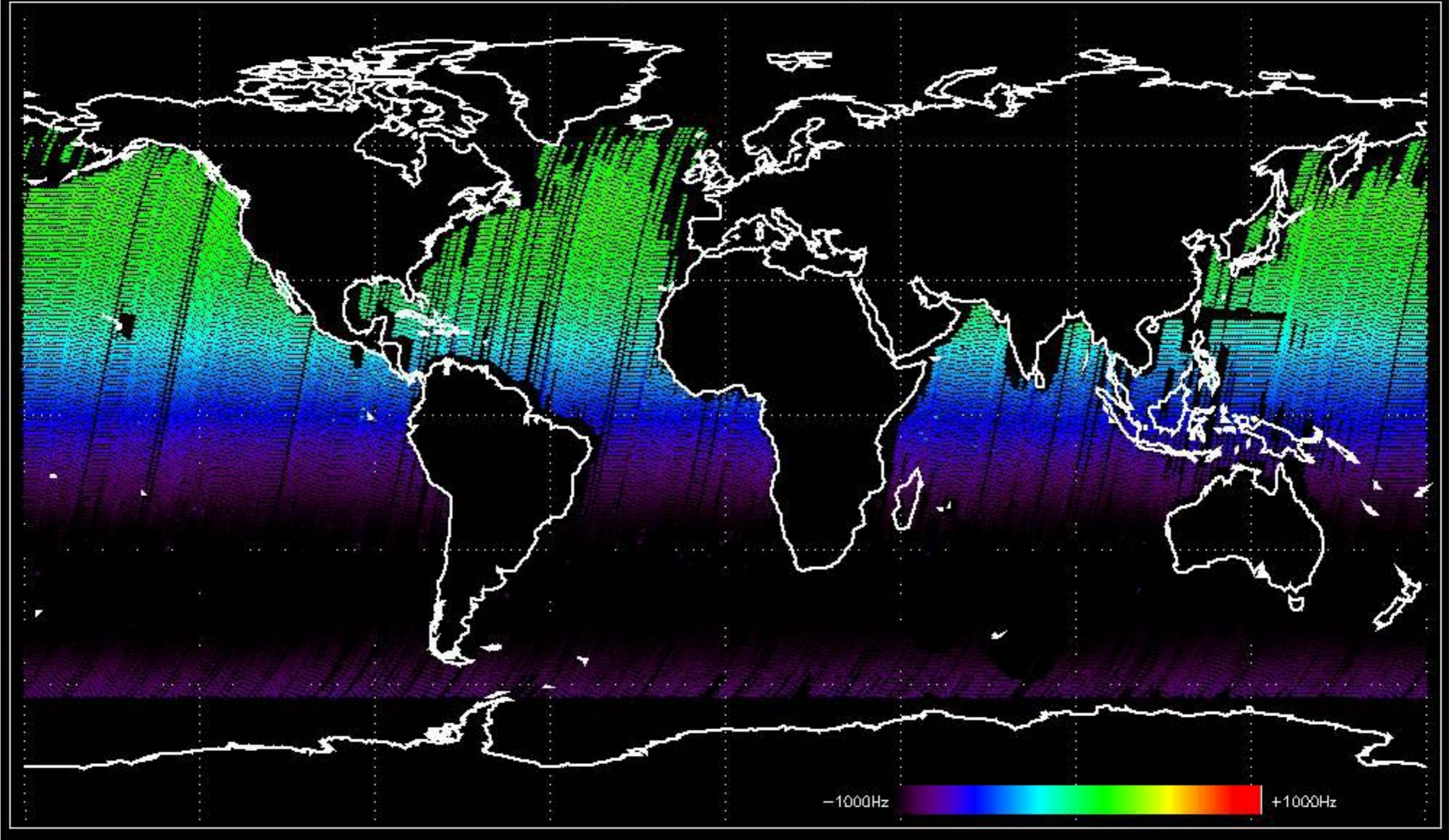


Doppler 'WVS' 'IS2' ascending

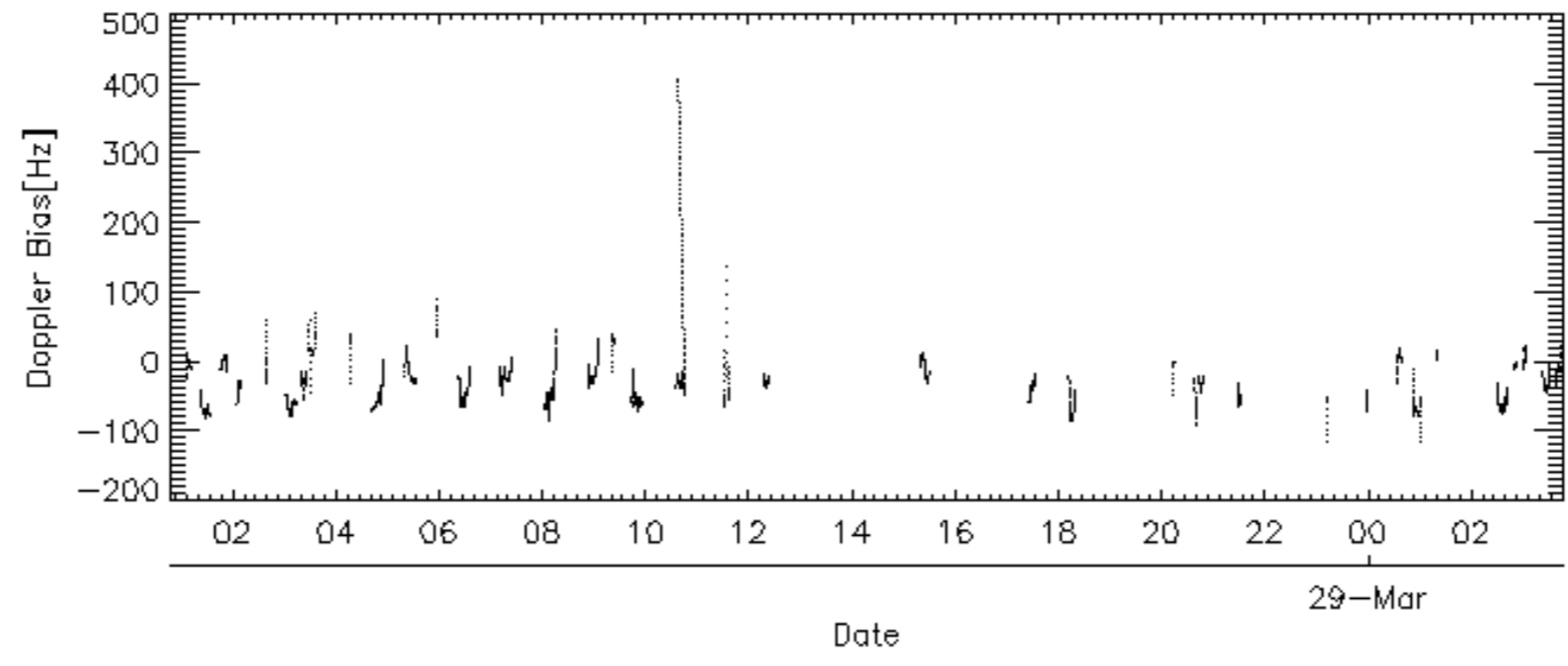
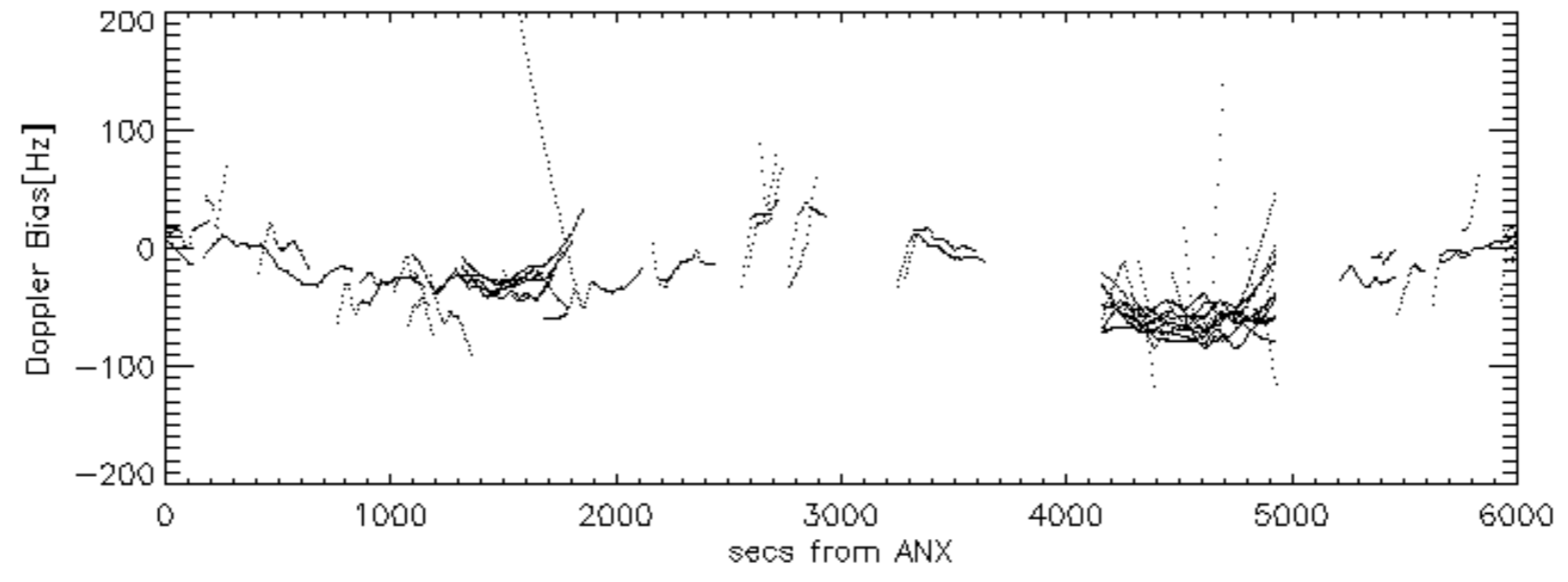
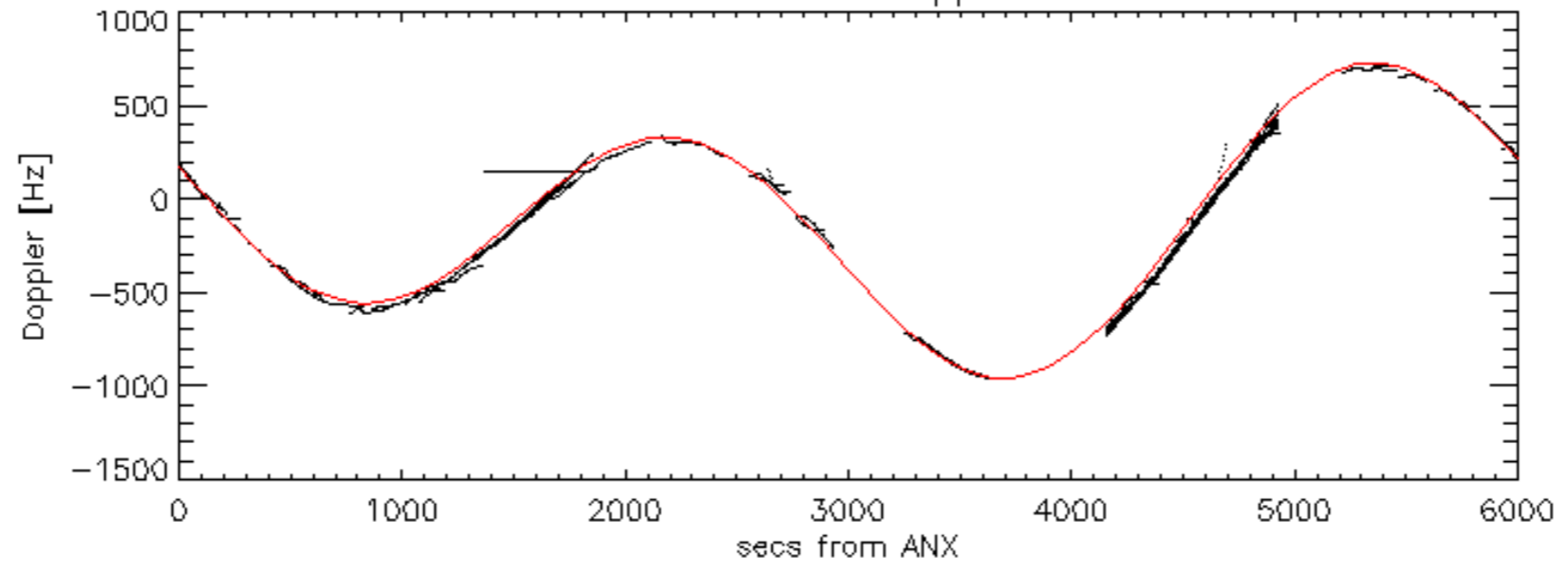


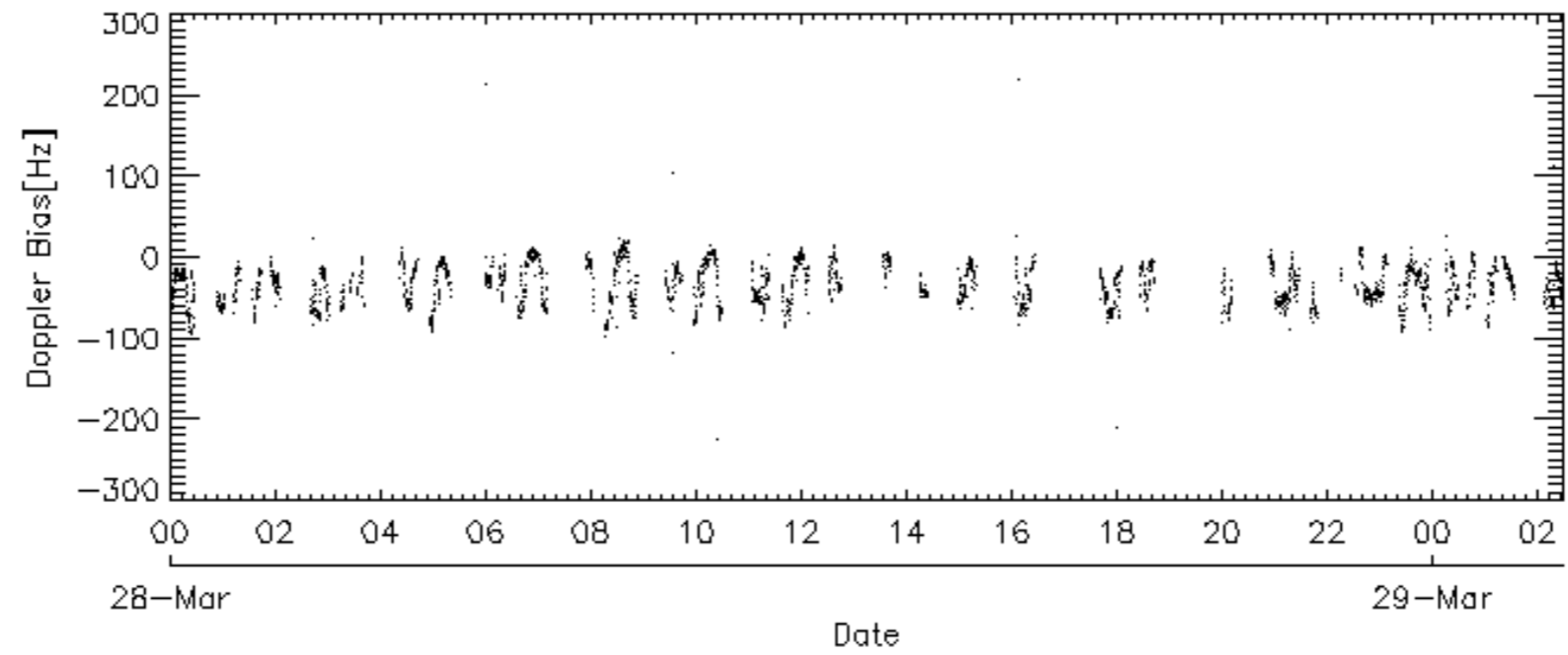
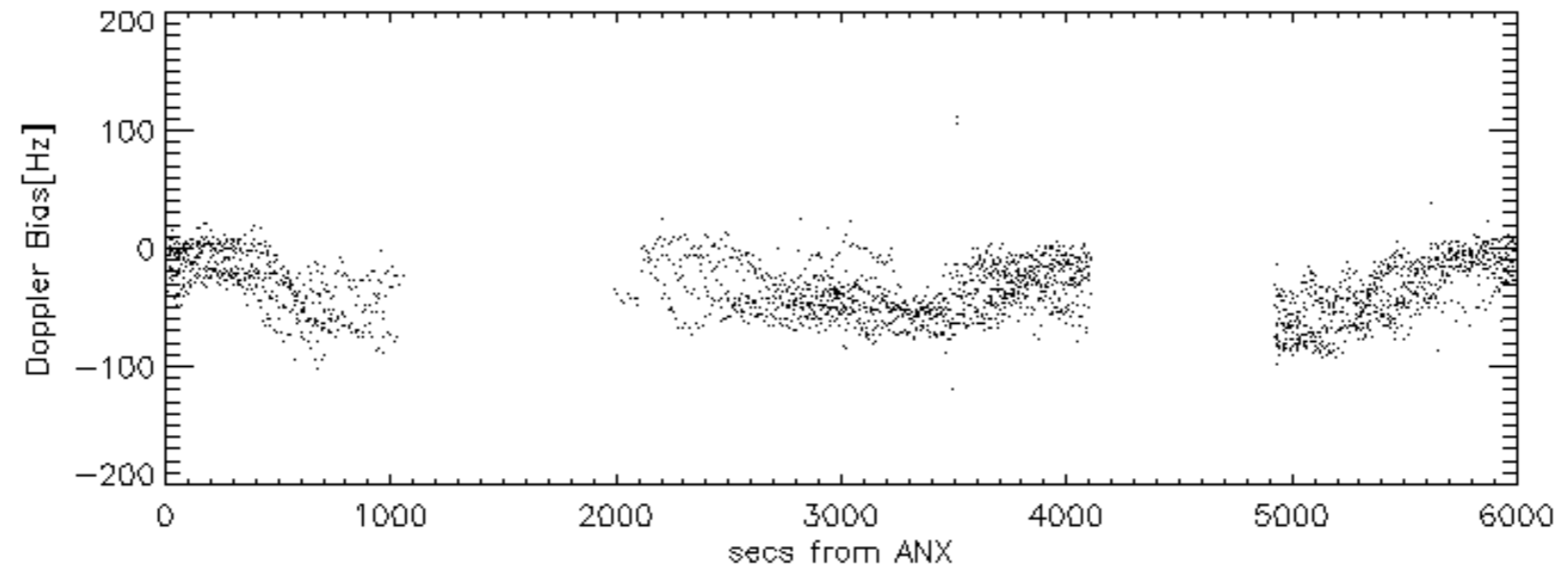
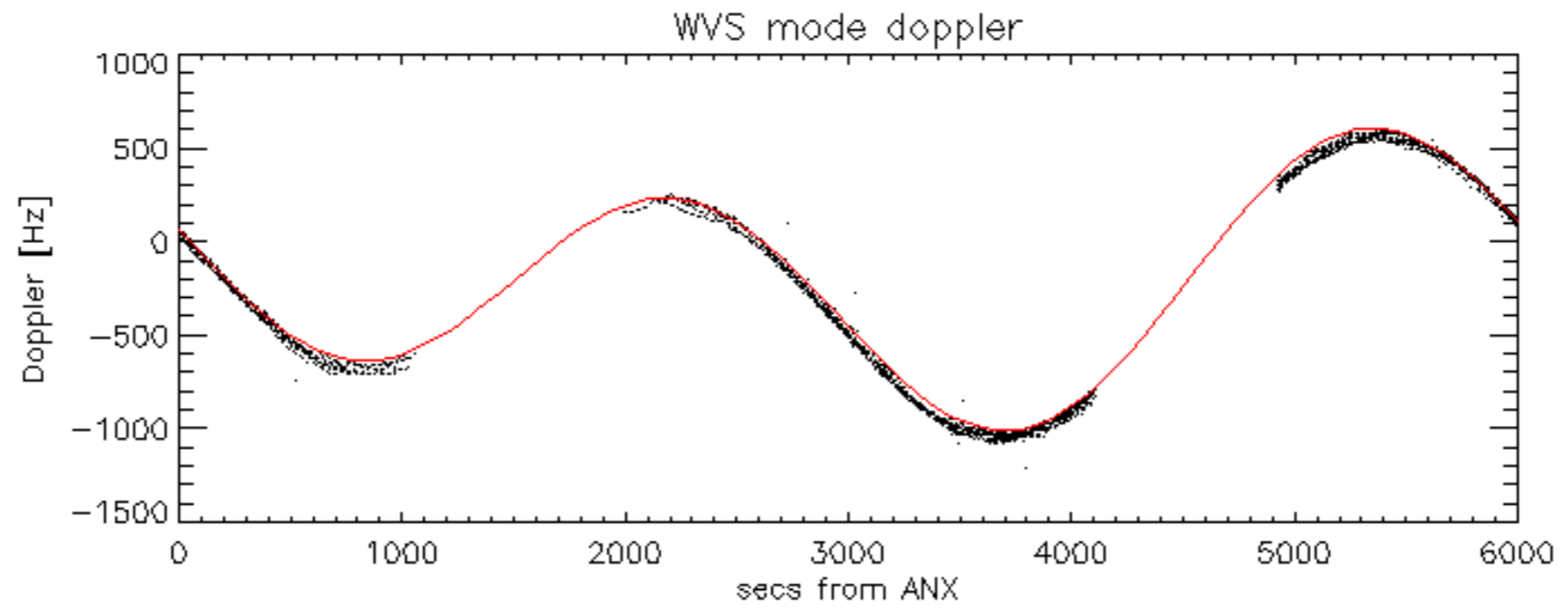


Doppler 'WVS' 'IS2' descending

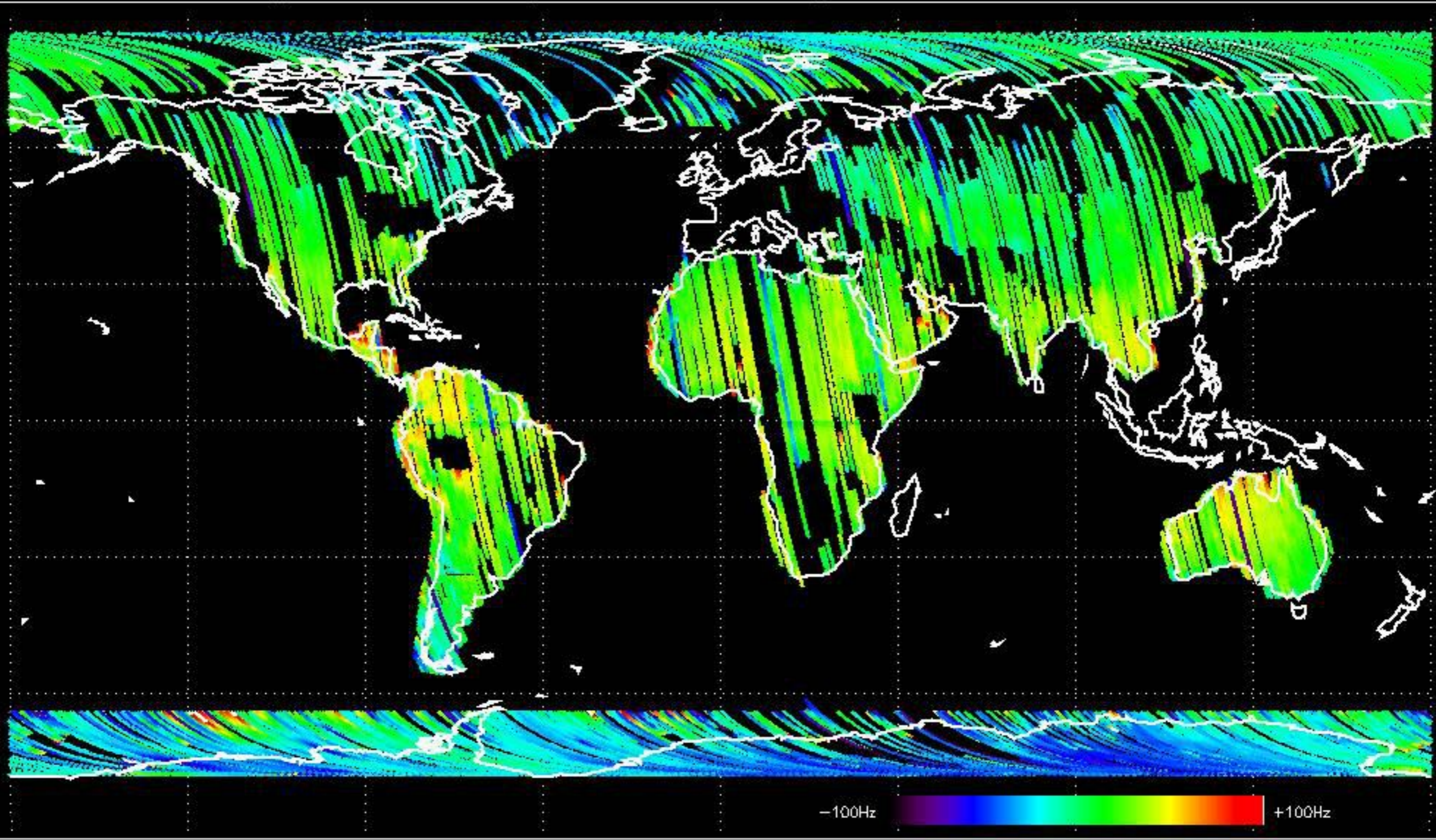


GM1 mode doppler

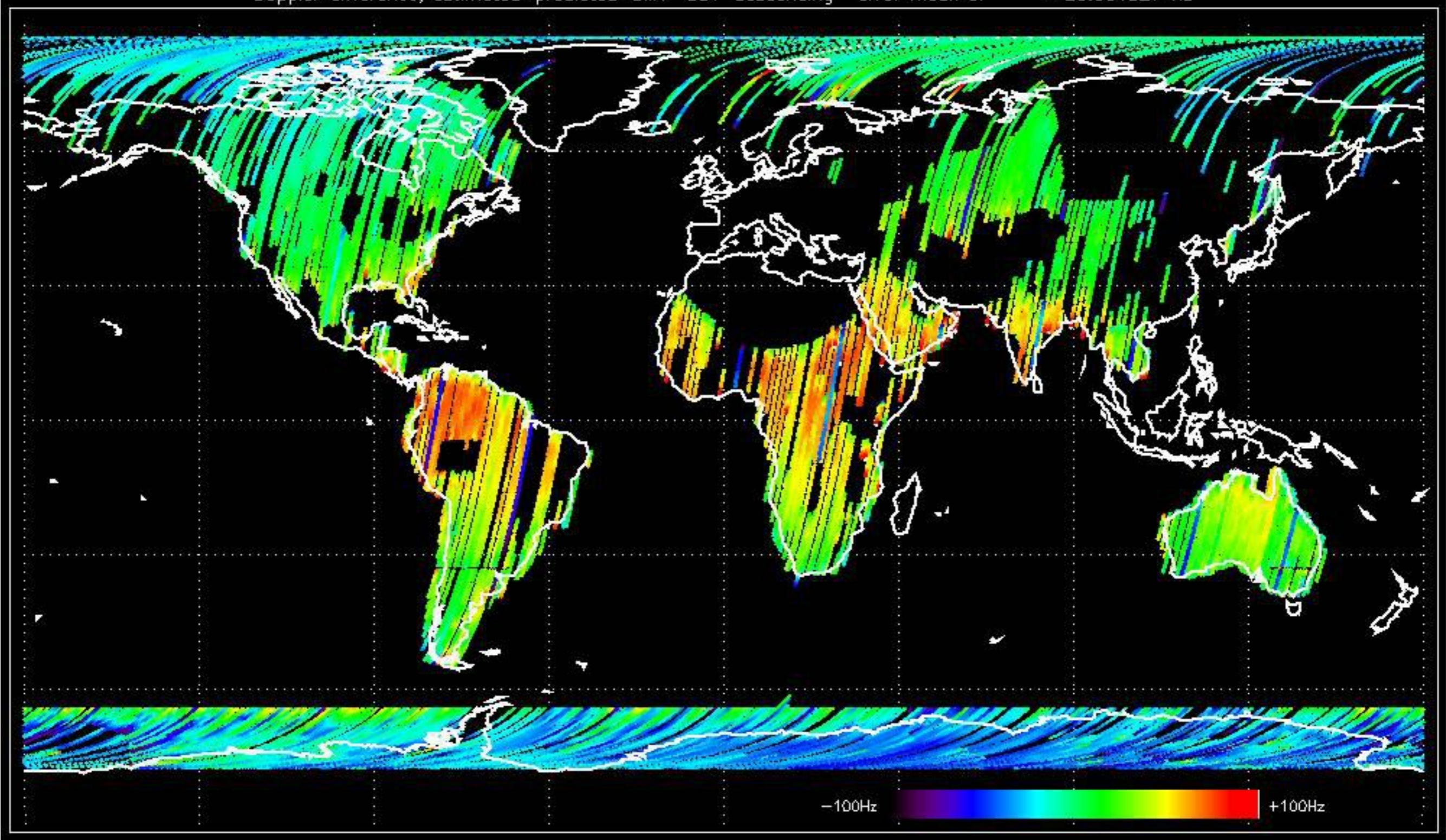




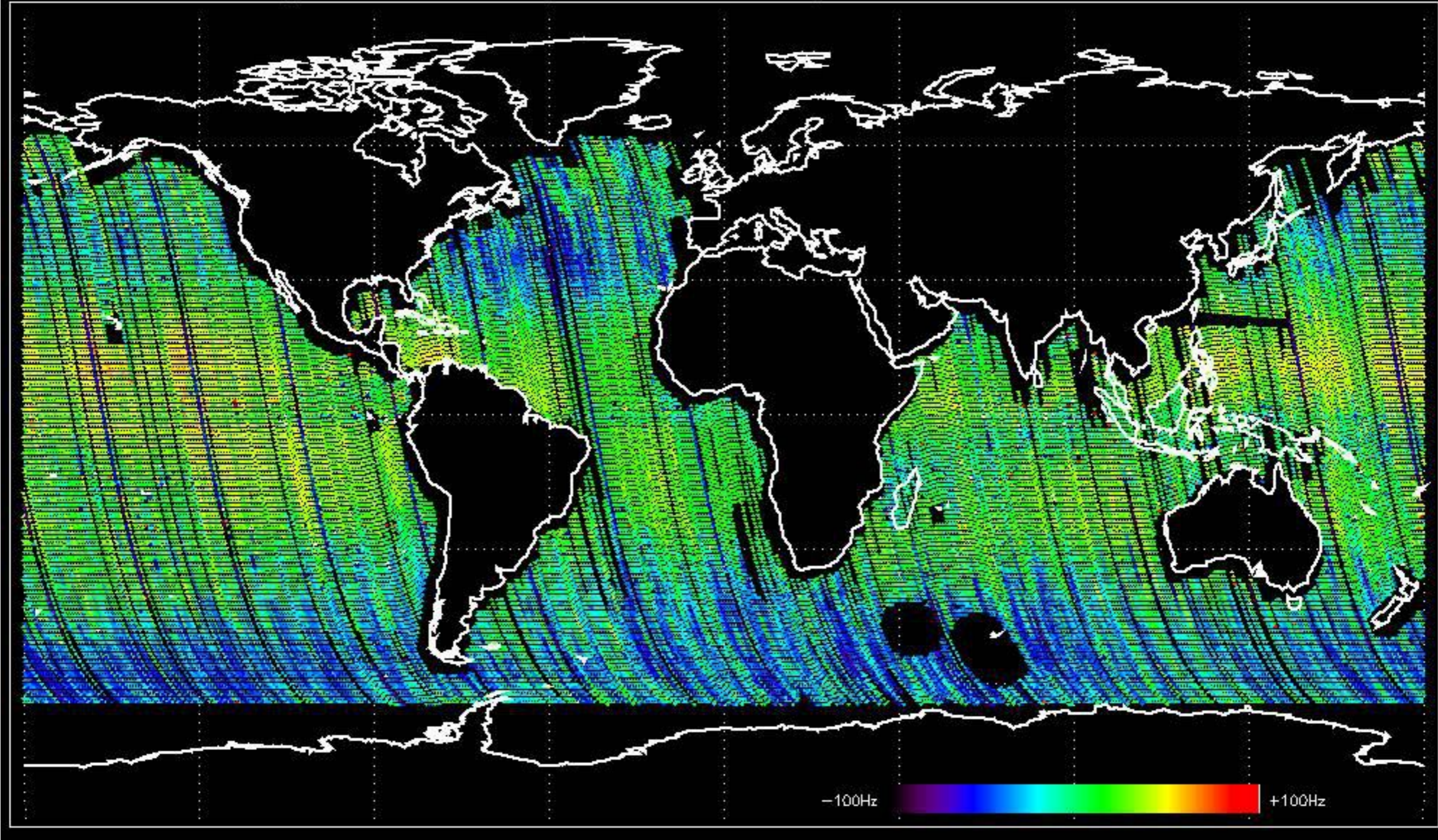
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -33.212220 Hz



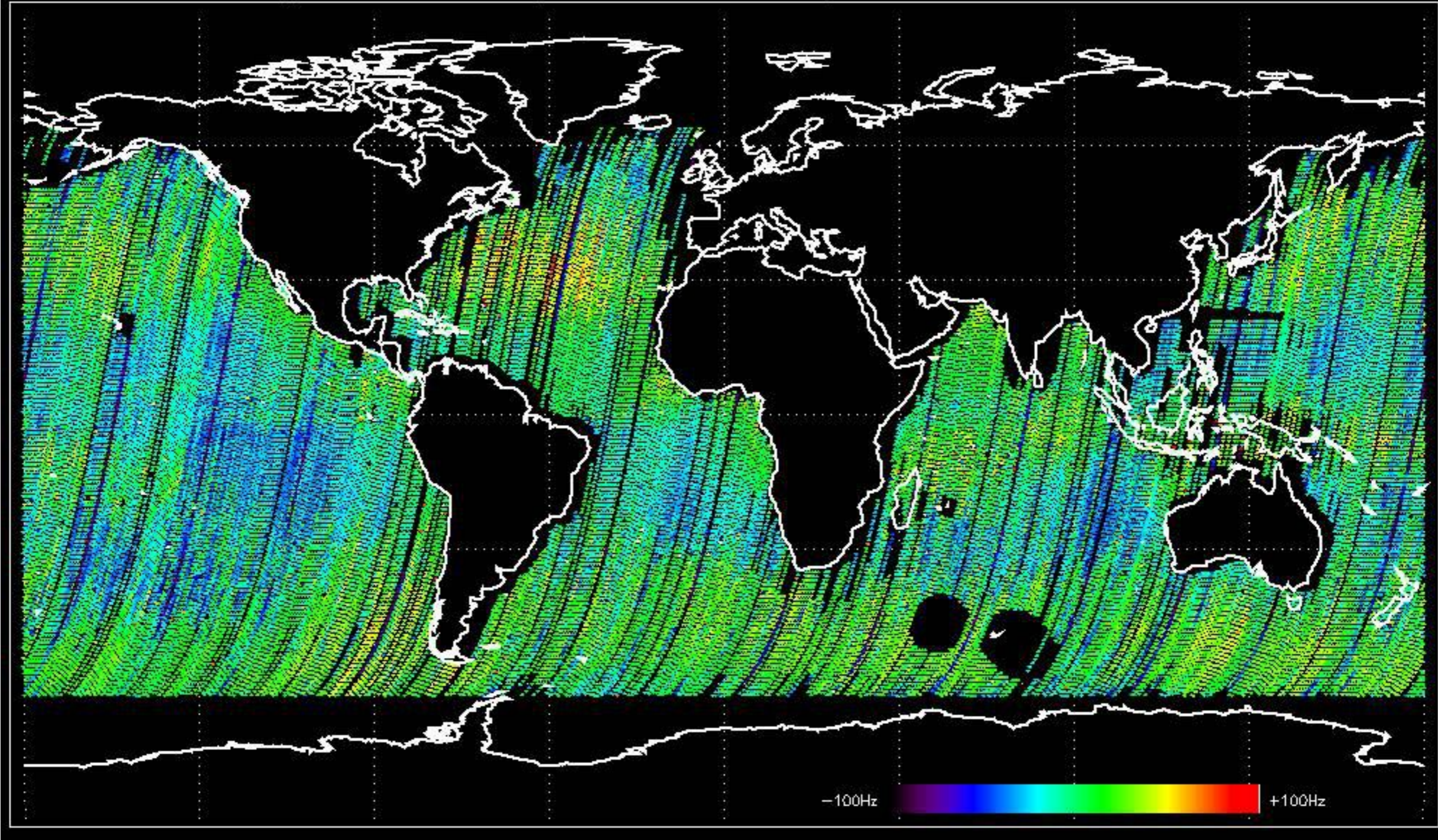
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -29.064027 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -38.452299 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -36.439464 Hz



No anomalies observed on available MS products:



No anomalies observed.









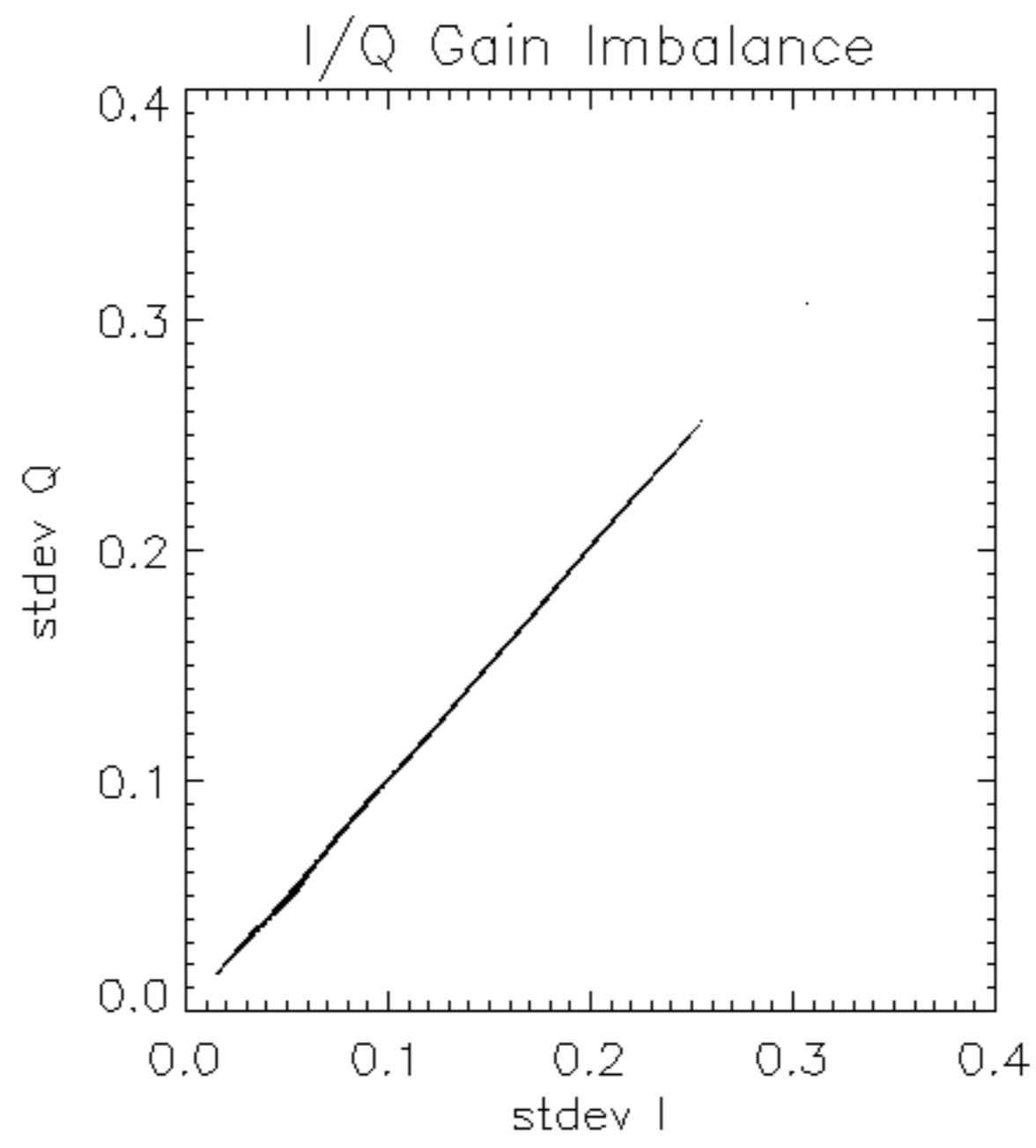


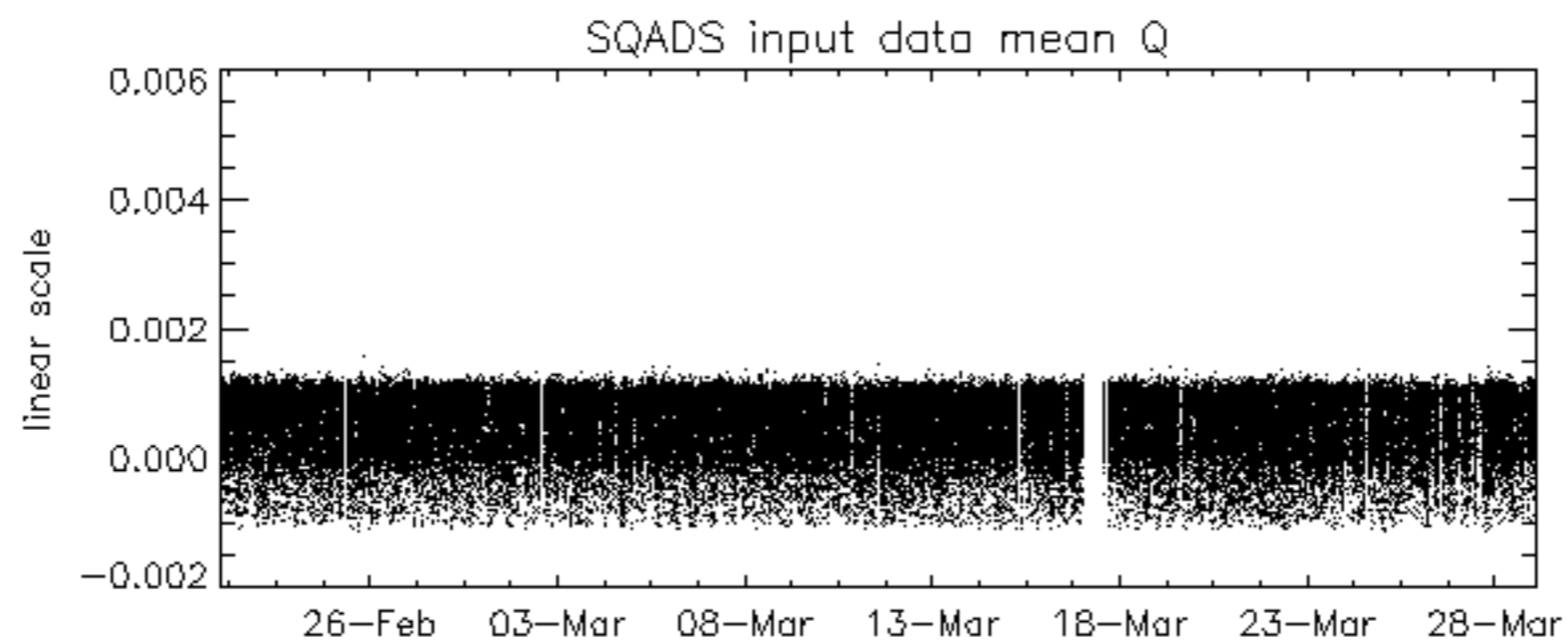
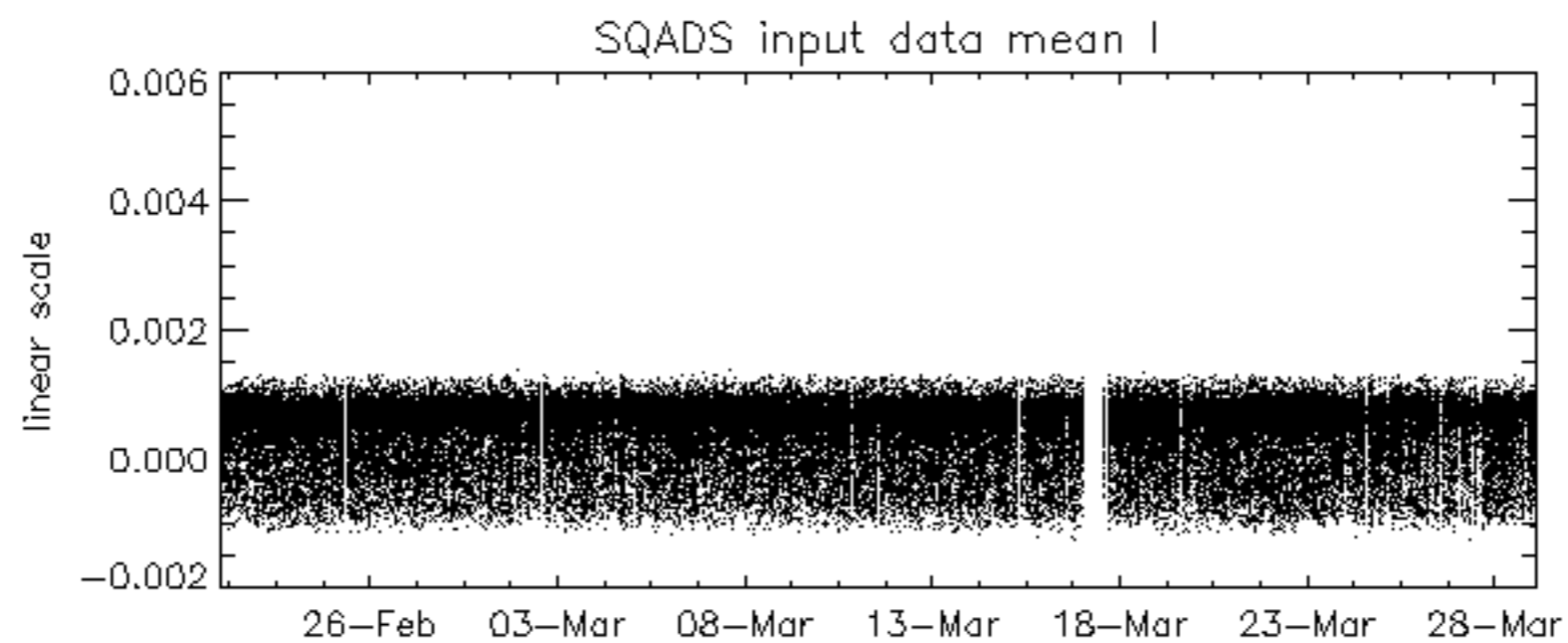
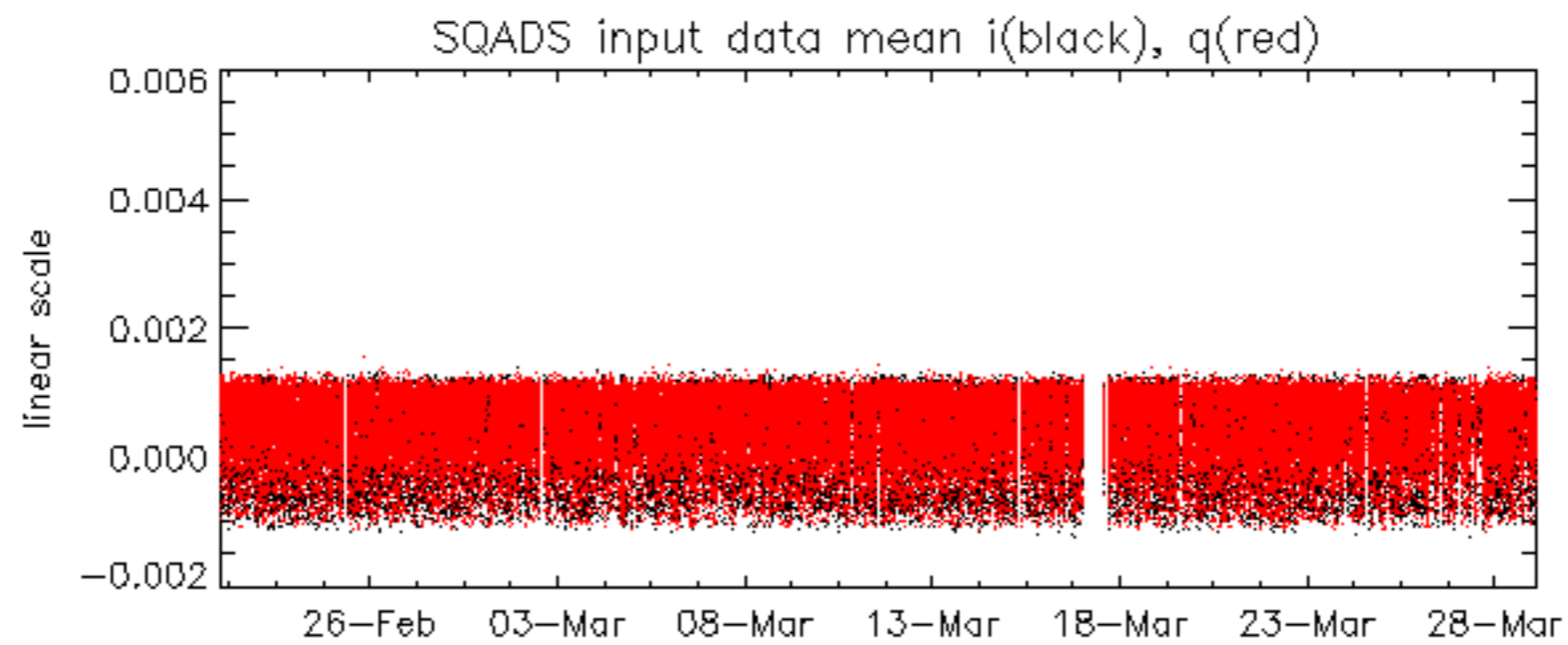


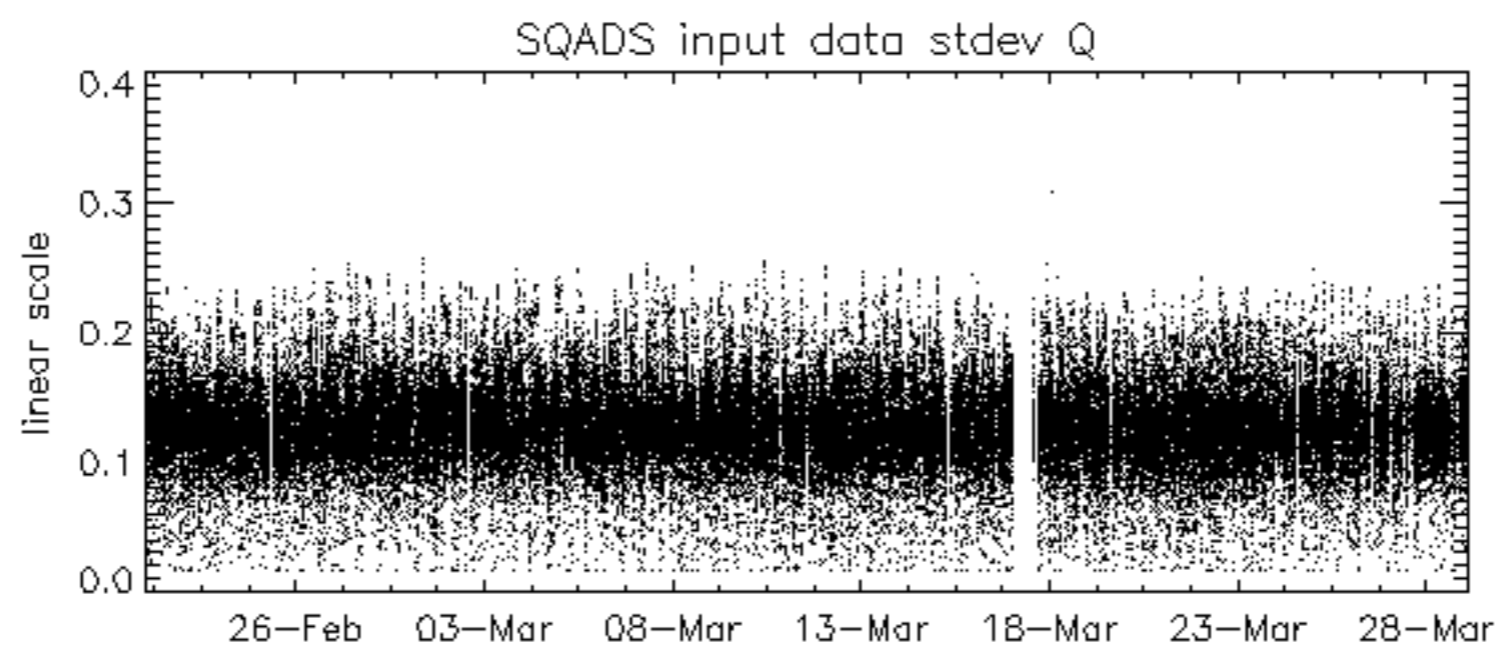
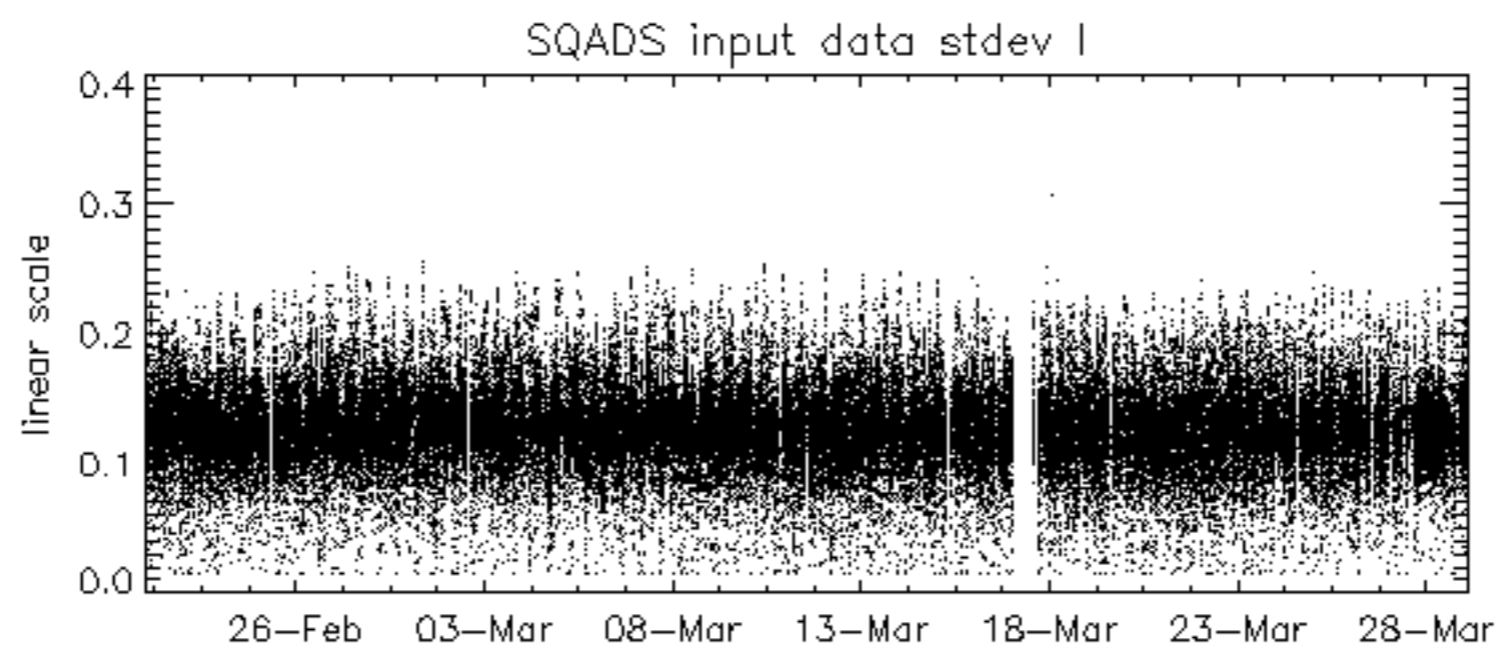
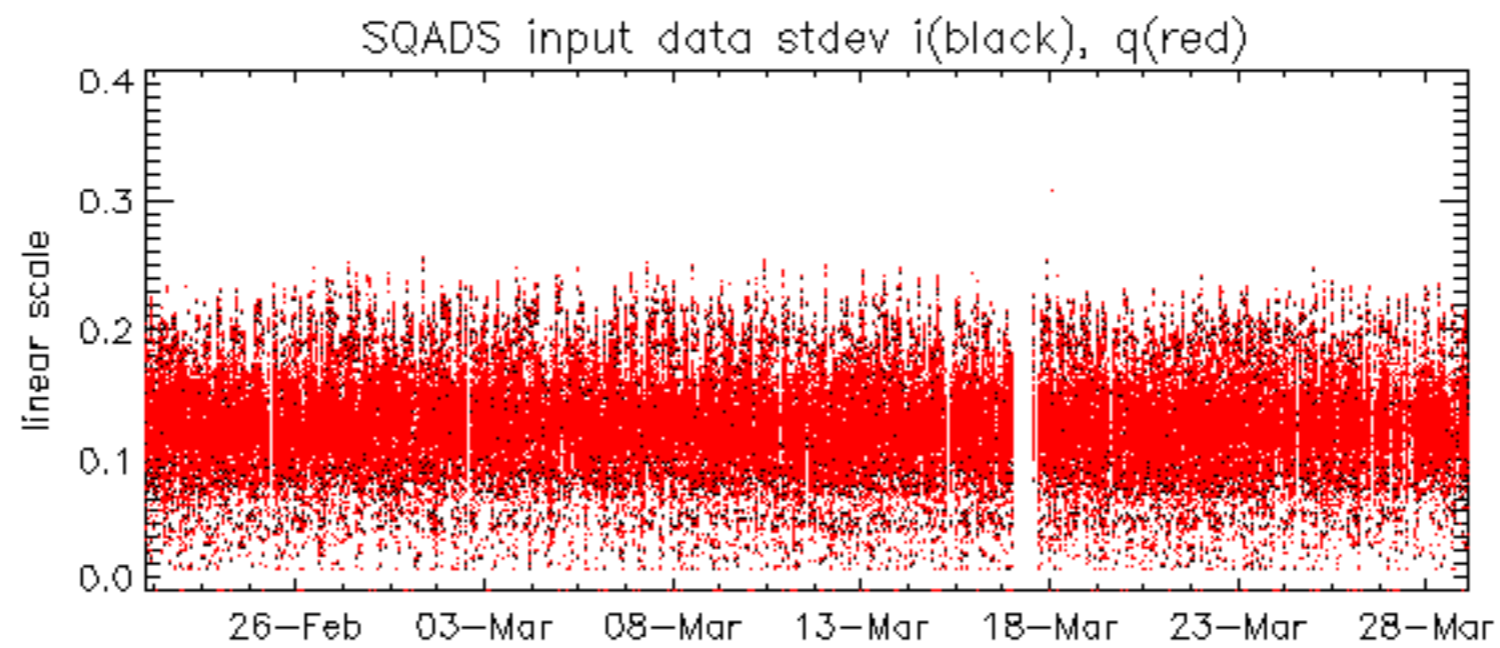


















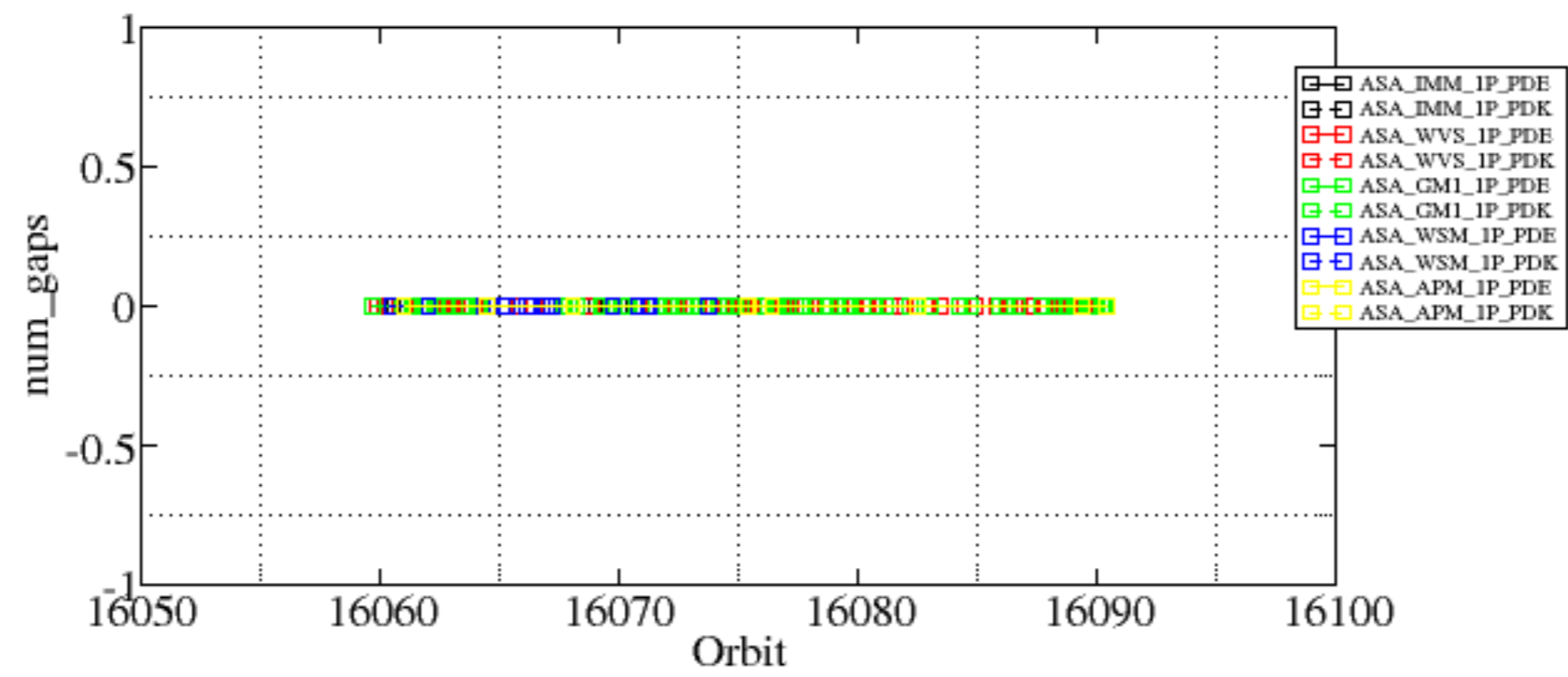




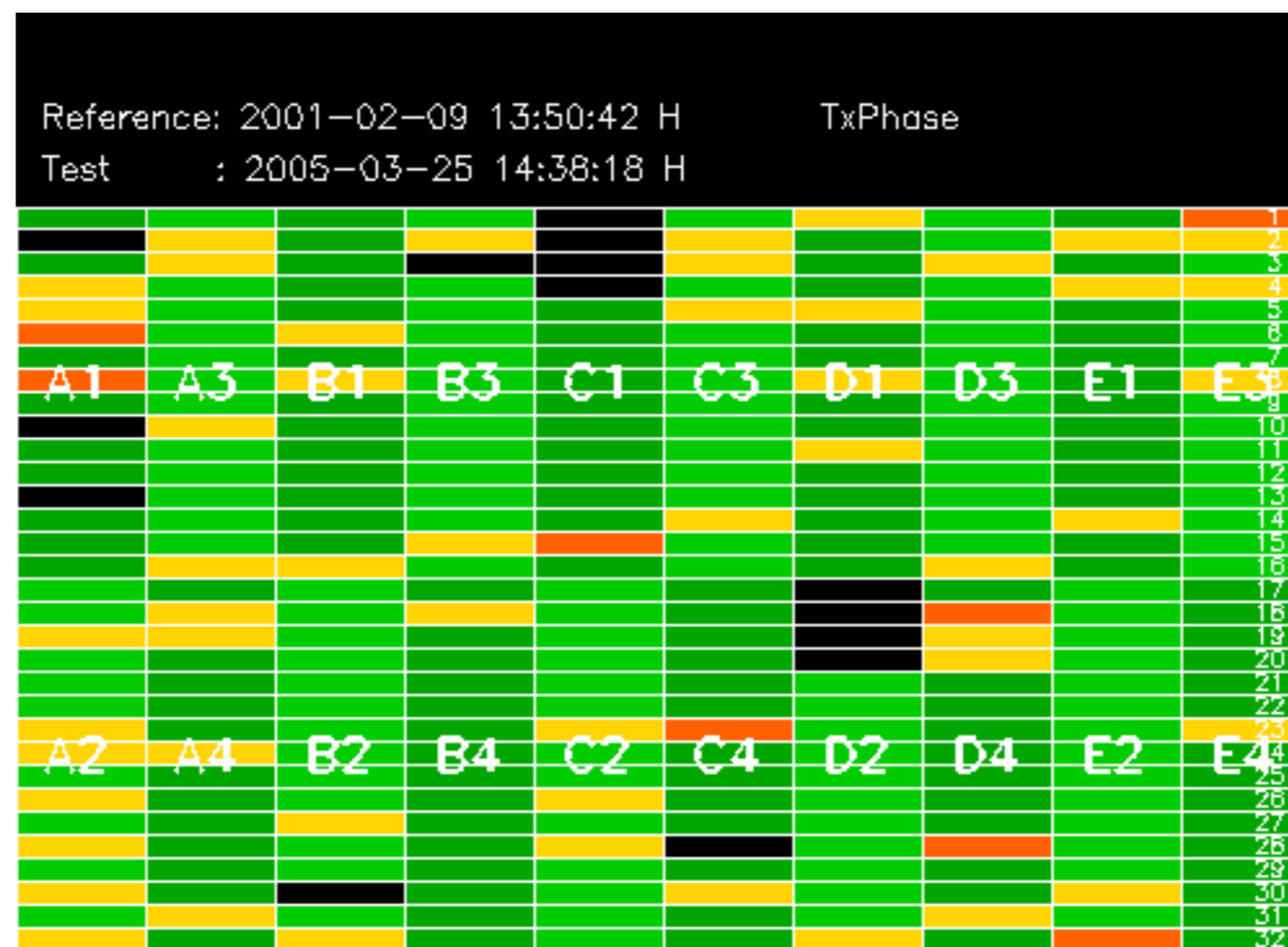
Summary of analysis for the last 3 days 2005032[789]

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

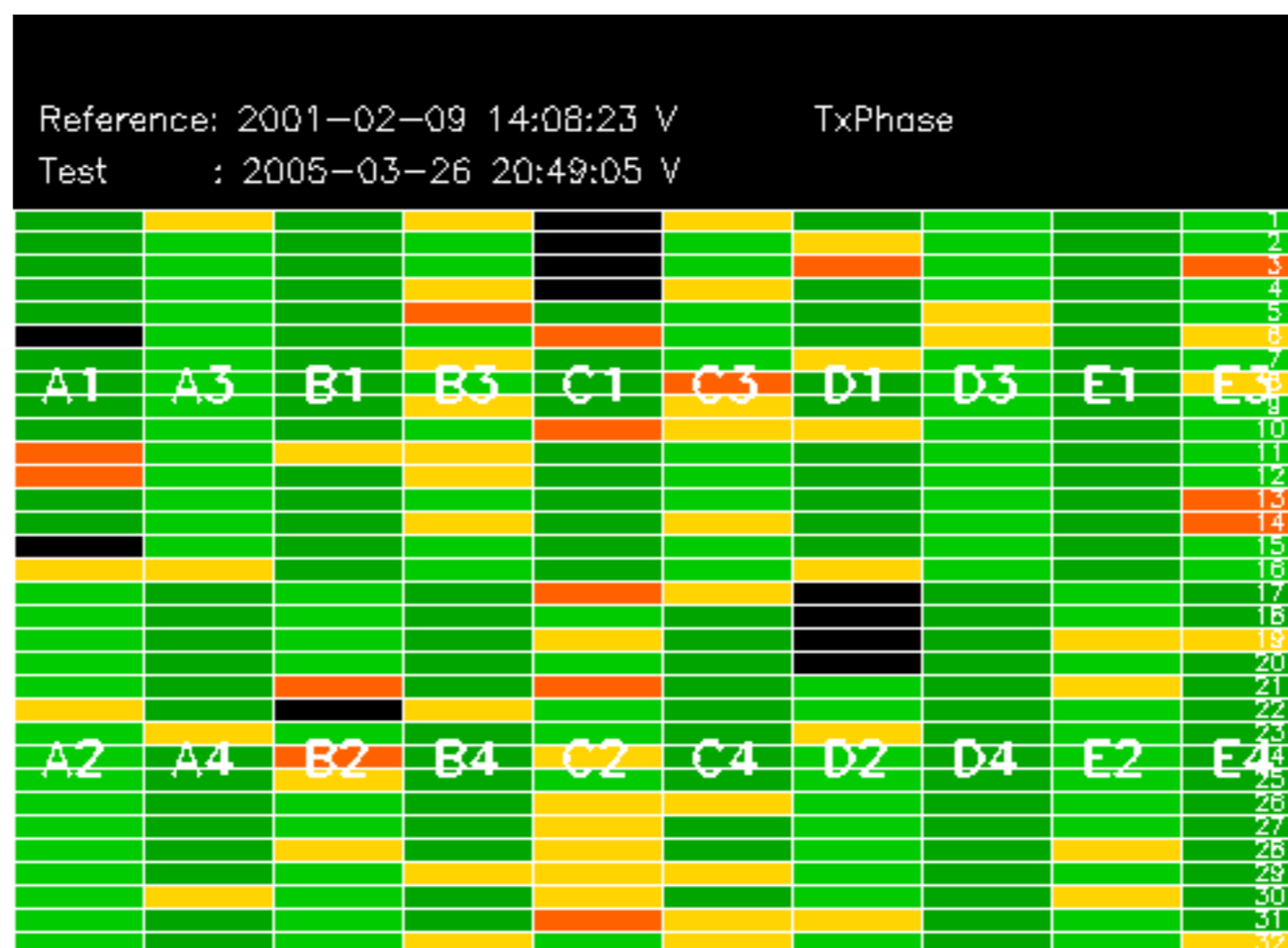
Filename	num_gaps	num_missing_lines
ASA_WSM_1PNPDE20050327_012931_000003672035_00475_16060_3322.N1	0	55



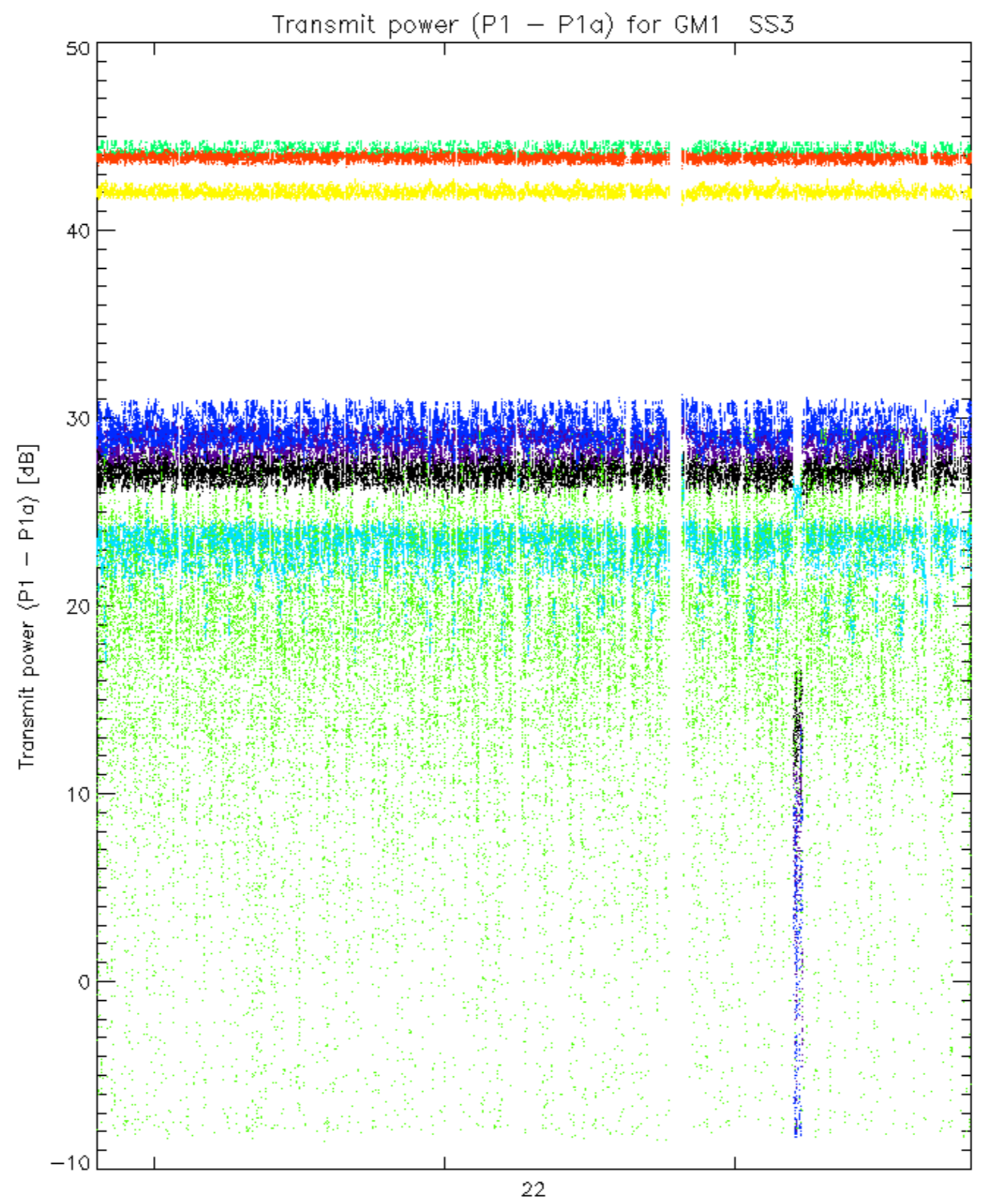






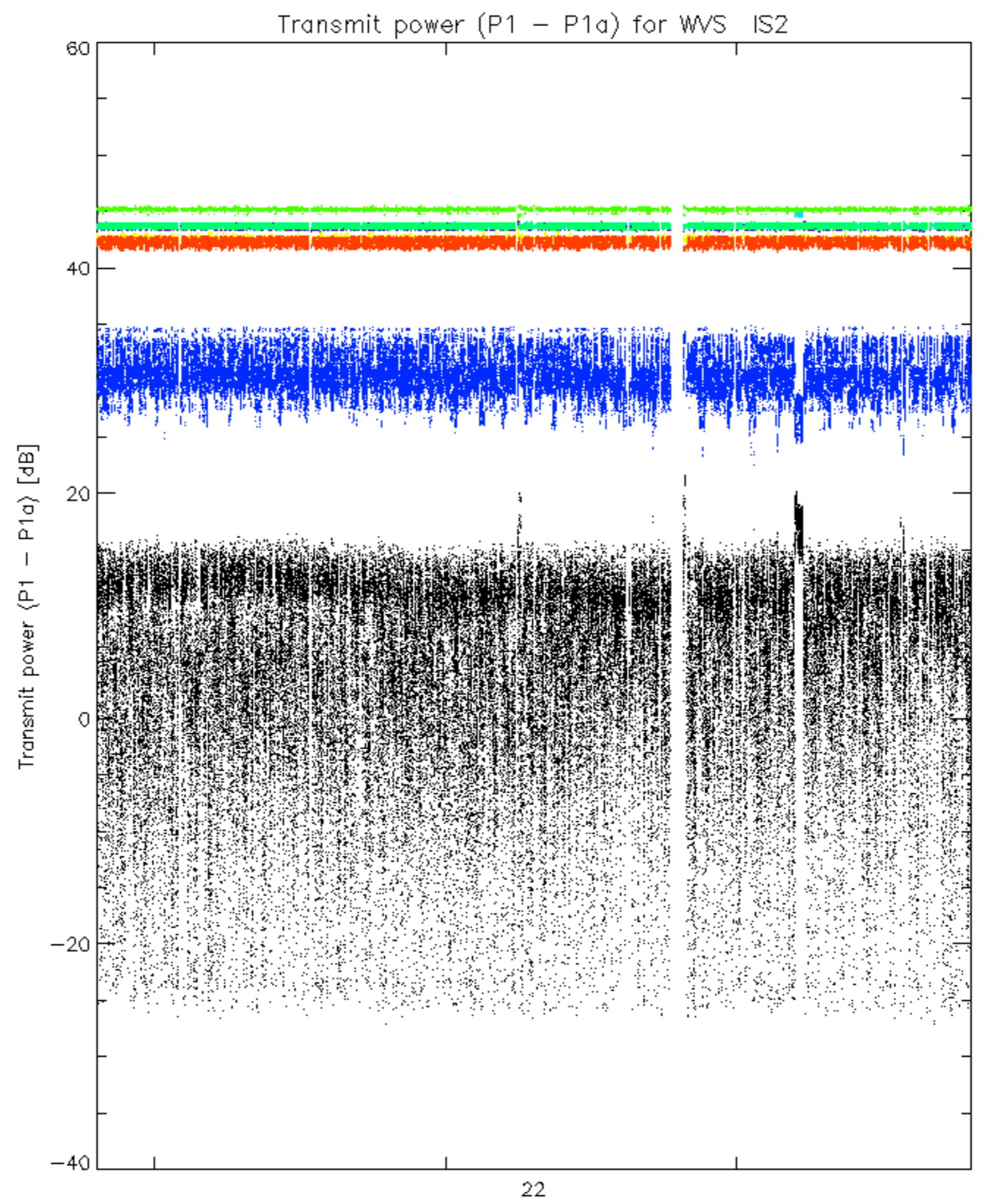




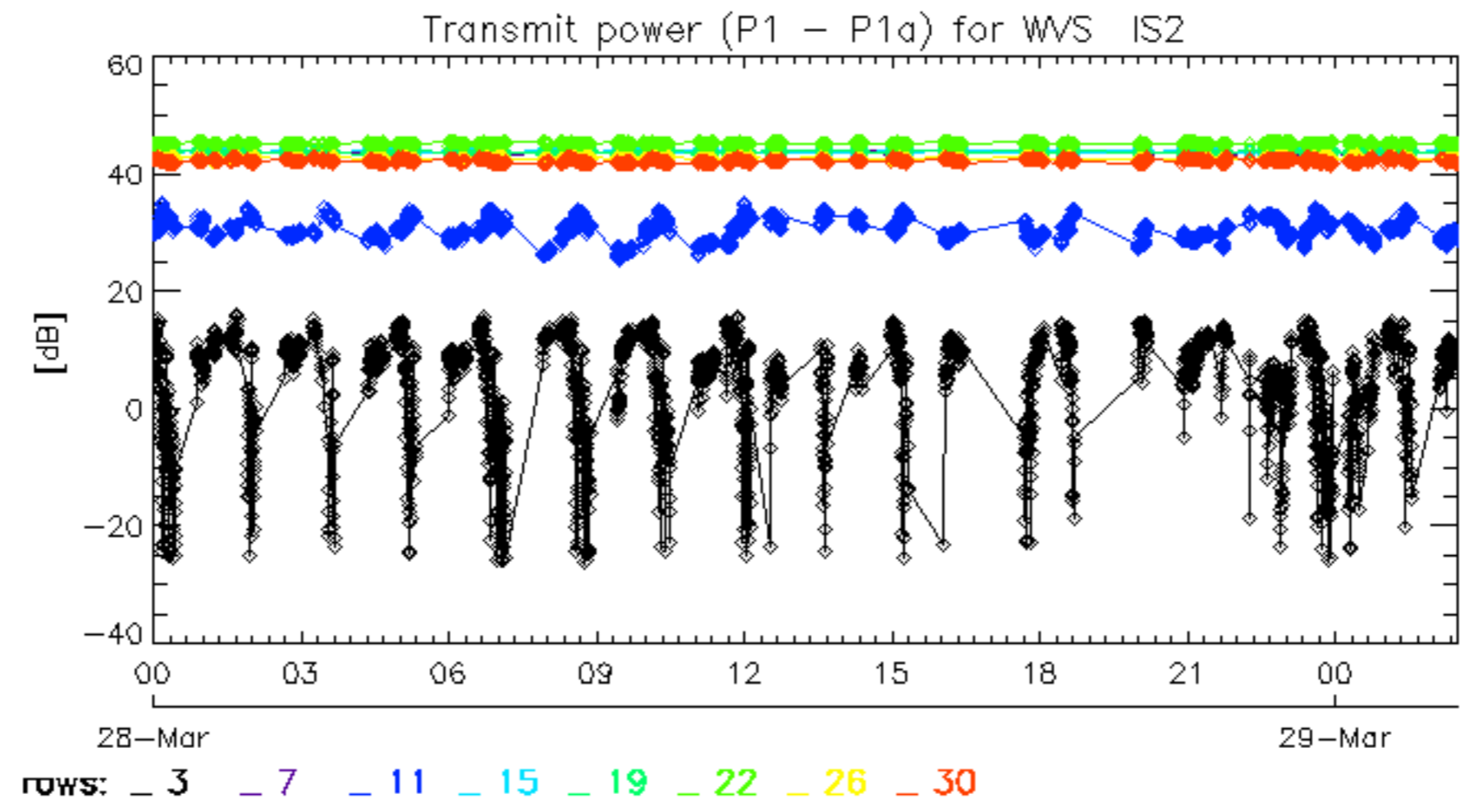








rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



No unavailabilities during the reported period.