

# PRELIMINARY REPORT OF 070510

last update on Thu May 10 23:11:46 GMT 2007

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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 2007-05-09 00:00:00 to 2007-05-10 23:11:46

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	43	96	13	4	35
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	43	96	13	4	35
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	43	96	13	4	35
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	43	96	13	4	35

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	36	52	27	12	89
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	36	52	27	12	89
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	36	52	27	12	89
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	36	52	27	12	89

## 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	20070509 170159
H	20070510 062646

### 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)
3	P1a	-15.151371	0.144836	-0.302073
7	P1a	-17.573475	0.094163	-0.099281
11	P1a	-17.604813	0.361930	-0.573525
15	P1a	-13.080453	0.140863	-0.348795
19	P1a	-15.385603	0.070928	-0.234429
22	P1a	-15.964303	0.382132	-0.210330
26	P1a	-14.984076	0.218674	0.212028
30	P1a	-17.831852	0.381404	-0.592259

**P1t Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.776000	0.010247	-0.038778
7	P1	-3.155122	0.009098	-0.035481
11	P1	-4.205464	0.014075	0.019425
15	P1	-6.435026	0.020408	-0.129217
19	P1	-3.779744	0.011573	0.022937
22	P1	-4.747403	0.009912	0.007696
26	P1	-3.912795	0.019328	0.031416
30	P1	-5.965715	0.009263	0.005061

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.655308	0.091383	0.027690
7	P2	-21.539944	0.090657	0.106247
11	P2	-15.321705	0.119396	0.164233
15	P2	-7.131864	0.088628	-0.022388
19	P2	-9.122099	0.080934	-0.021719
22	P2	-18.089130	0.077364	-0.006628
26	P2	-16.635803	0.082459	-0.083975
30	P2	-19.268187	0.082418	0.055096

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.246029	0.005040	-0.003603
7	P3	-8.246029	0.005040	-0.003603
11	P3	-8.246029	0.005040	-0.003603
15	P3	-8.246029	0.005040	-0.003603
19	P3	-8.246029	0.005040	-0.003603
22	P3	-8.246029	0.005040	-0.003603
26	P3	-8.246029	0.005040	-0.003603
30	P3	-8.246029	0.005040	-0.003603

#### 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	-11.292725	0.148063	-0.458211
7	P1a	-10.042665	0.167521	0.089006
11	P1a	-10.683991	0.086943	0.008102
15	P1a	-10.813612	0.154685	0.147341
19	P1a	-15.826498	0.088605	-0.112295
22	P1a	-21.425459	1.453267	-0.229762
26	P1a	-15.529417	0.355142	-0.118838
30	P1a	-18.300194	0.452165	0.068780

#### P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-8.306332	0.190005	0.769371
7	P1	-2.393690	0.086807	0.079350
11	P1	-2.880026	0.022368	0.042035
15	P1	-3.809235	0.035699	0.050088
19	P1	-3.594586	0.014892	-0.035035
22	P1	-4.960154	0.023199	0.055096
26	P1	-6.045571	0.024157	-0.049227
30	P1	-5.344760	0.031561	-0.041906

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.191807	0.067573	-0.060485
7	P2	-22.051924	0.169761	-0.034038
11	P2	-10.647394	0.044273	-0.047931
15	P2	-4.936289	0.042283	-0.068635
19	P2	-6.876019	0.040234	-0.017721
22	P2	-8.108953	0.080196	0.021323
26	P2	-24.332493	0.131268	-0.032676
30	P2	-21.707695	0.103364	0.022142

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.092010	0.004976	0.001693
7	P3	-8.091948	0.004986	0.001705
11	P3	-8.091837	0.004977	0.001588
15	P3	-8.091750	0.004985	0.001622
19	P3	-8.091905	0.004998	0.001675
22	P3	-8.091747	0.004976	0.001827
26	P3	-8.091826	0.004985	0.001728
30	P3	-8.091858	0.004978	0.001418

## 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	0.000548959
	stdev	1.95417e-07
MEAN Q	mean	0.000502742
	stdev	2.39788e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.135994
	stdev	0.00119908
STDEV Q	mean	0.136382
	stdev	0.00121645



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2007050[890]

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_1PNPDE20070509_113620_000002452058_00023_27131_4750.N1	0	61
ASA_WSM_1PNPDE20070509_160018_000001832058_00026_27134_4892.N1	0	10



## 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

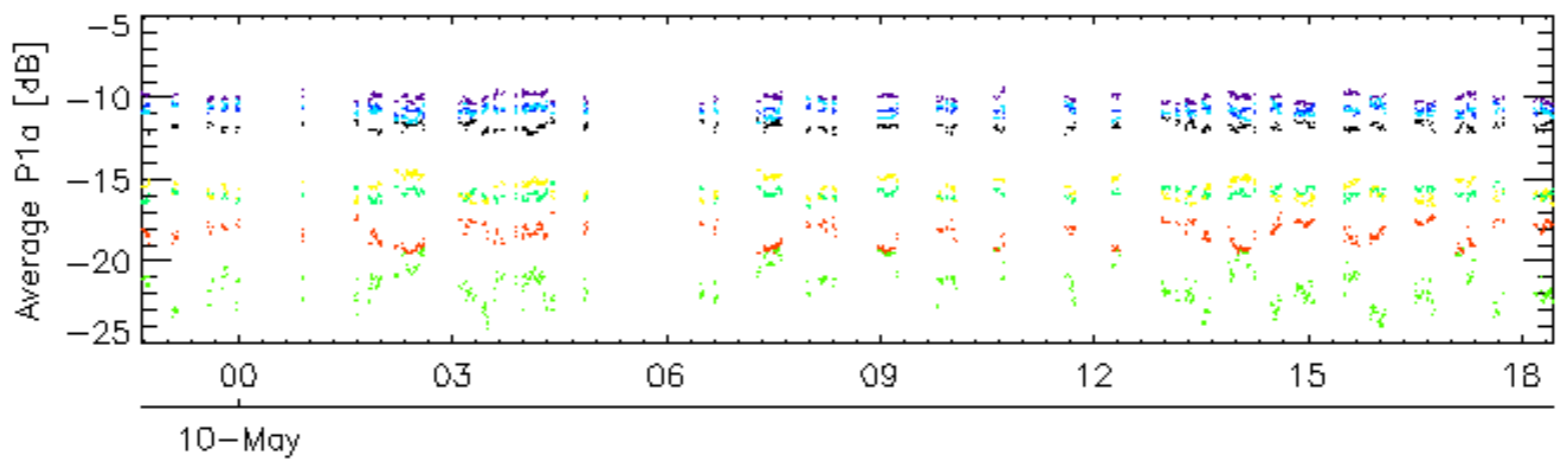
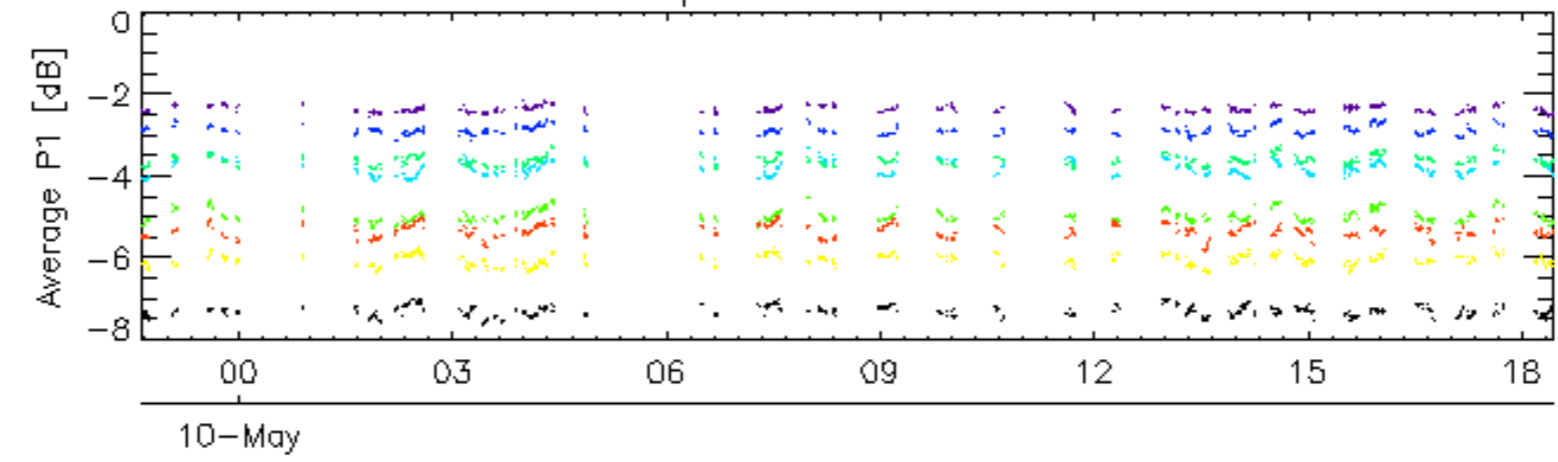
Ascending

Descending

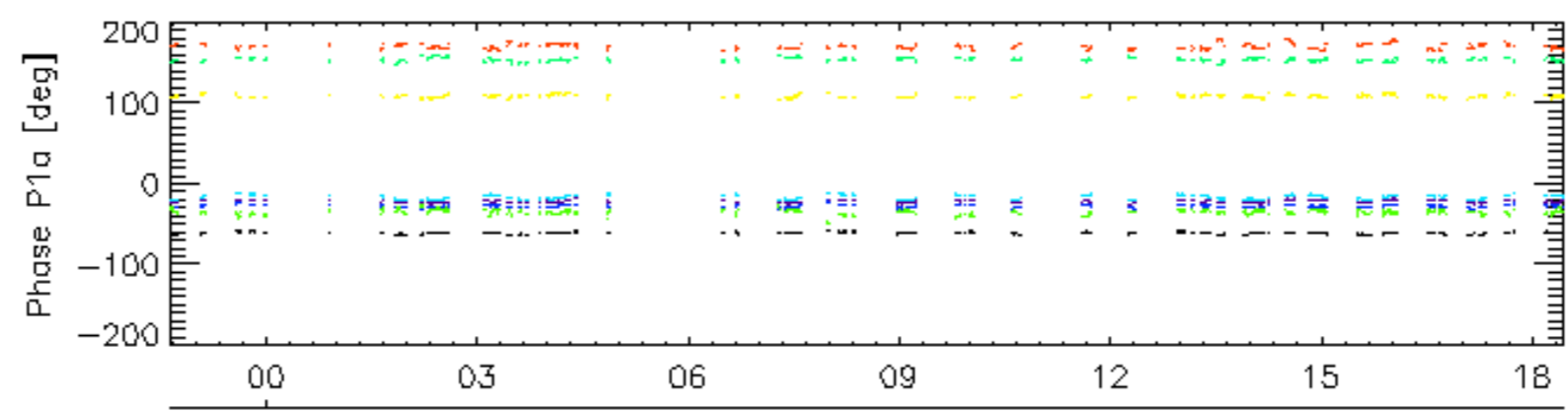
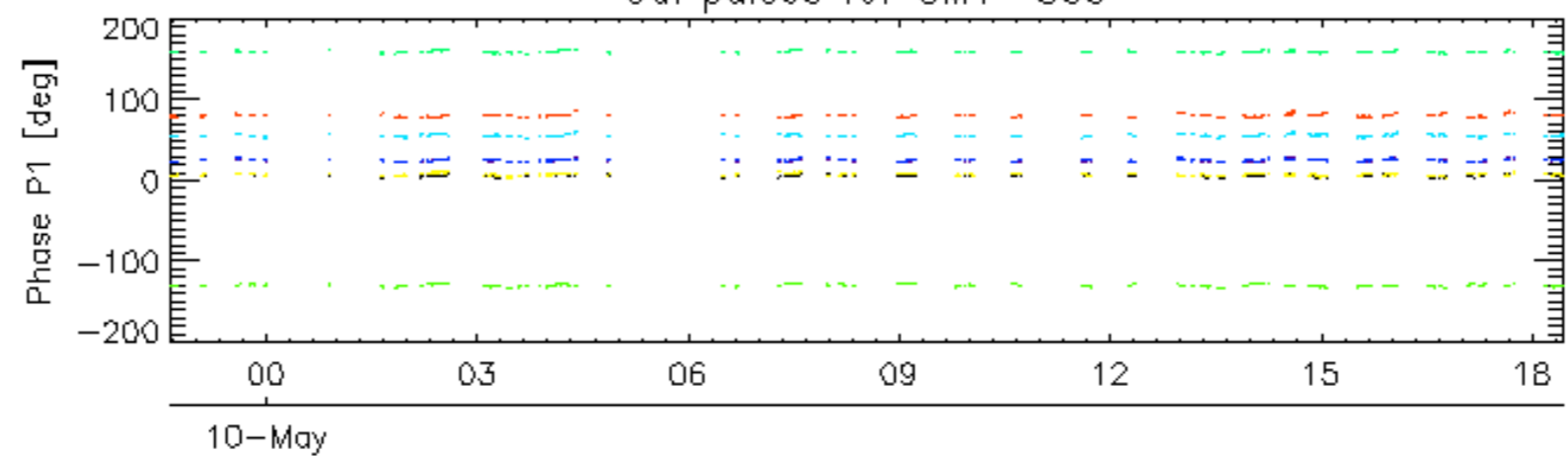
### 7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

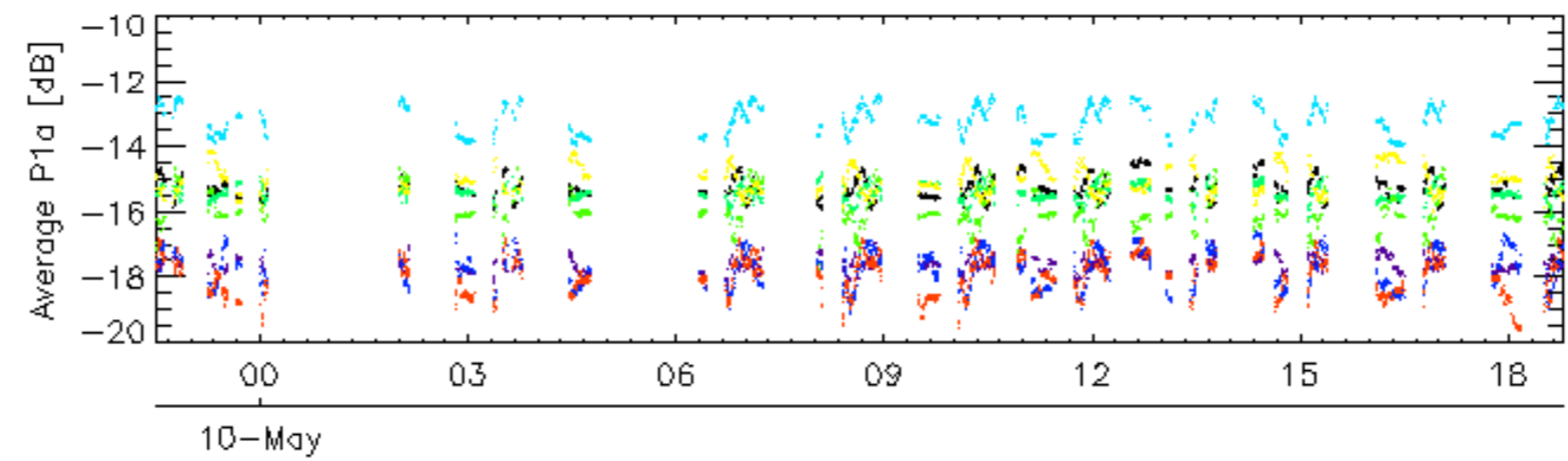
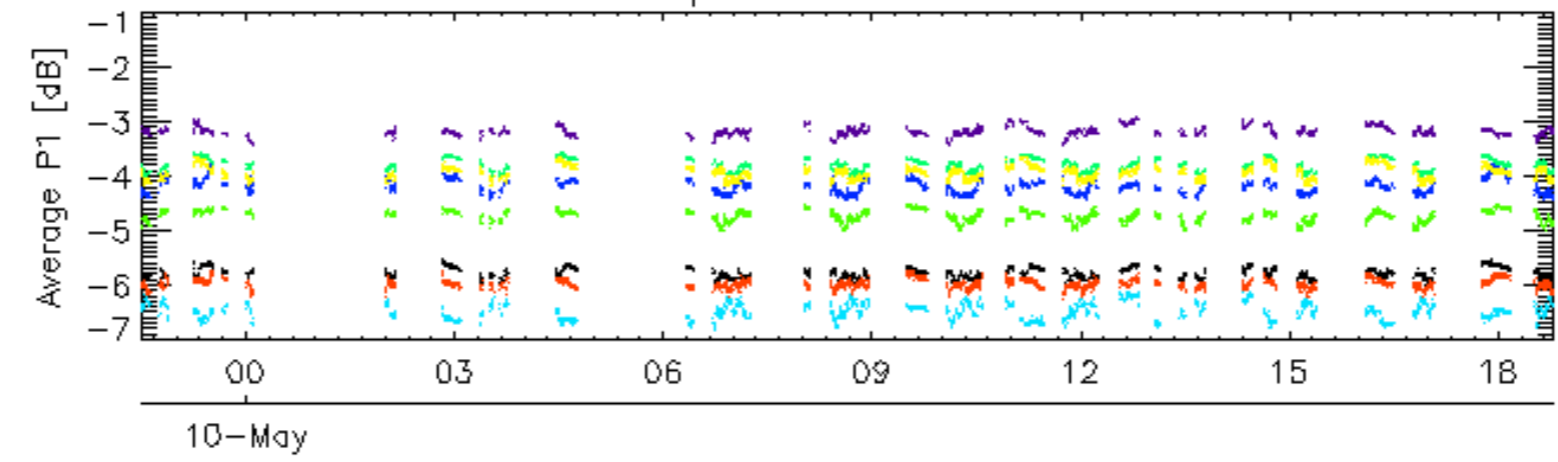


Cal pulses for GM1 SS3

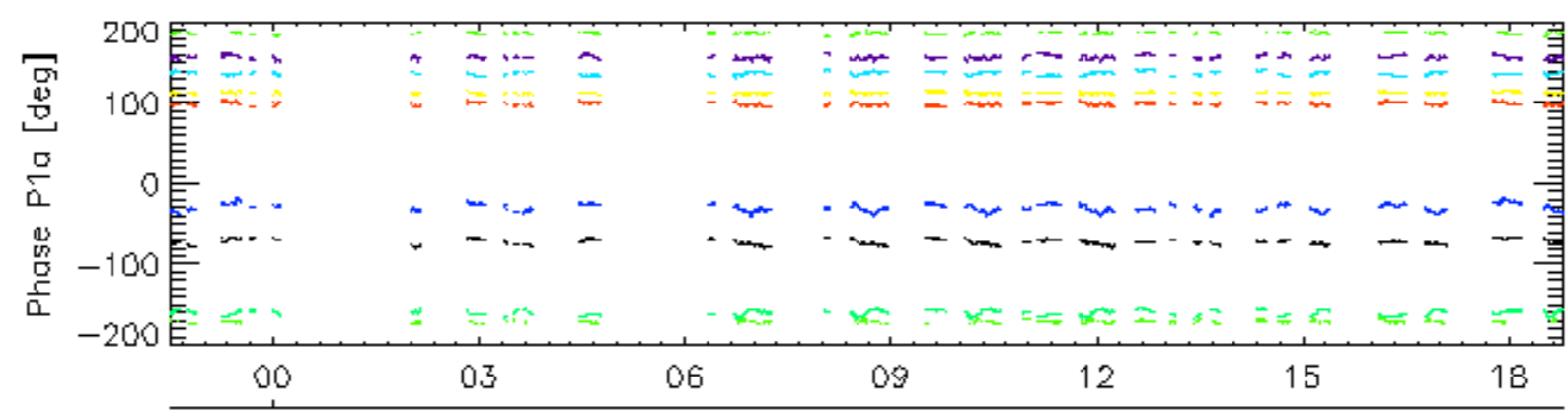
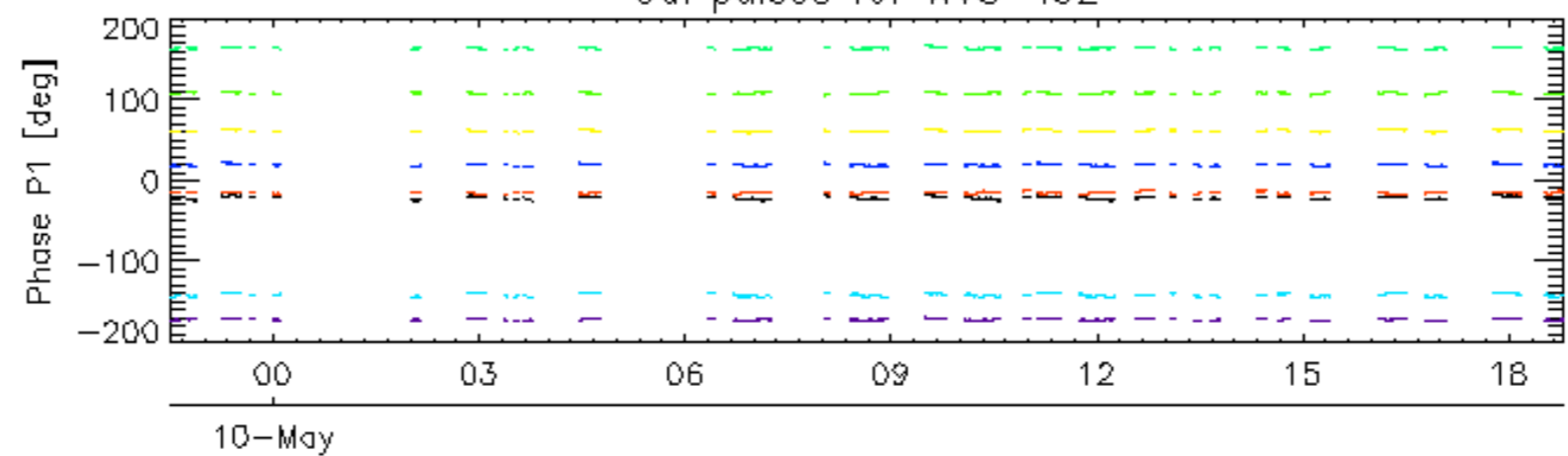


rows: 3 7 11 15 19 22 26 30

Cal pulses for WVS IS2

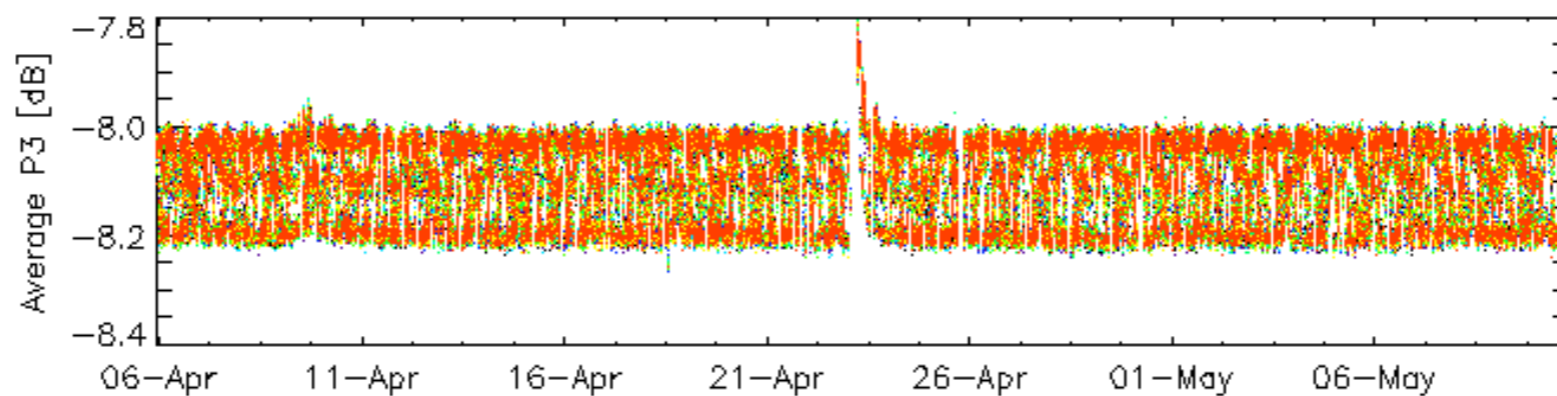
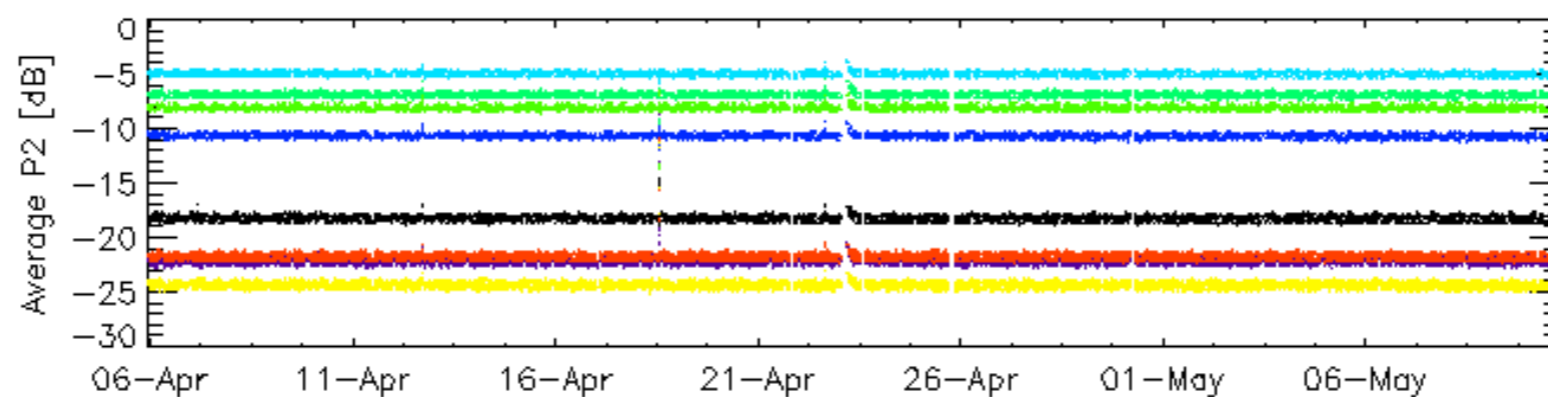
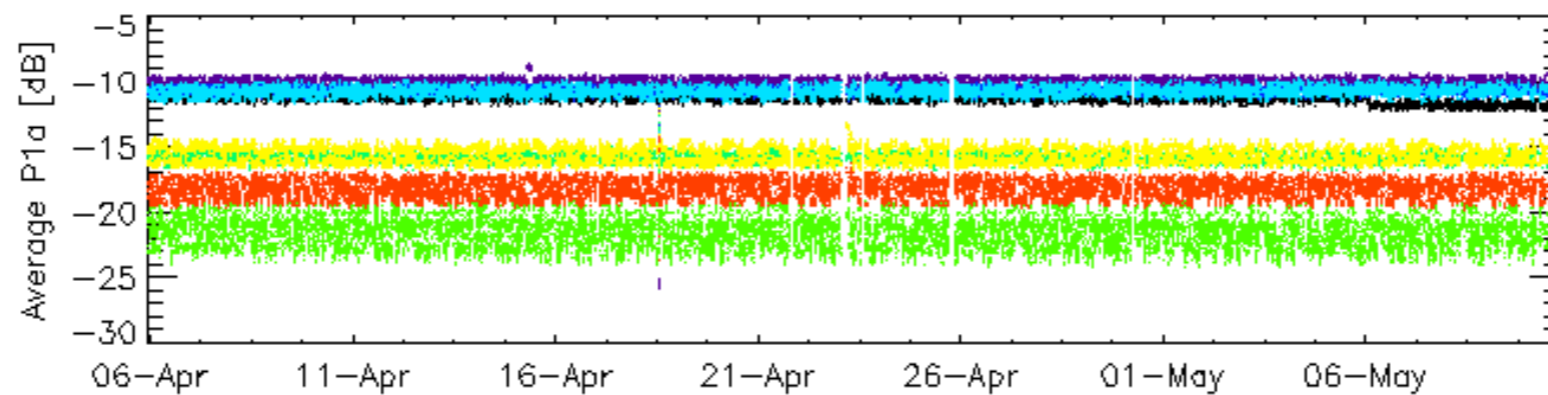
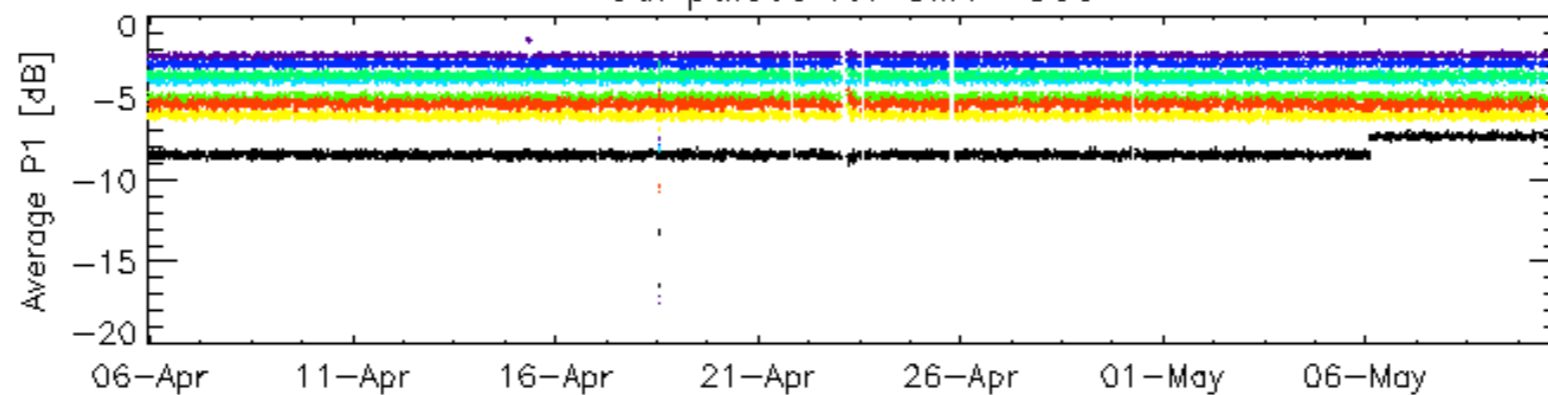


Cal pulses for WVS IS2



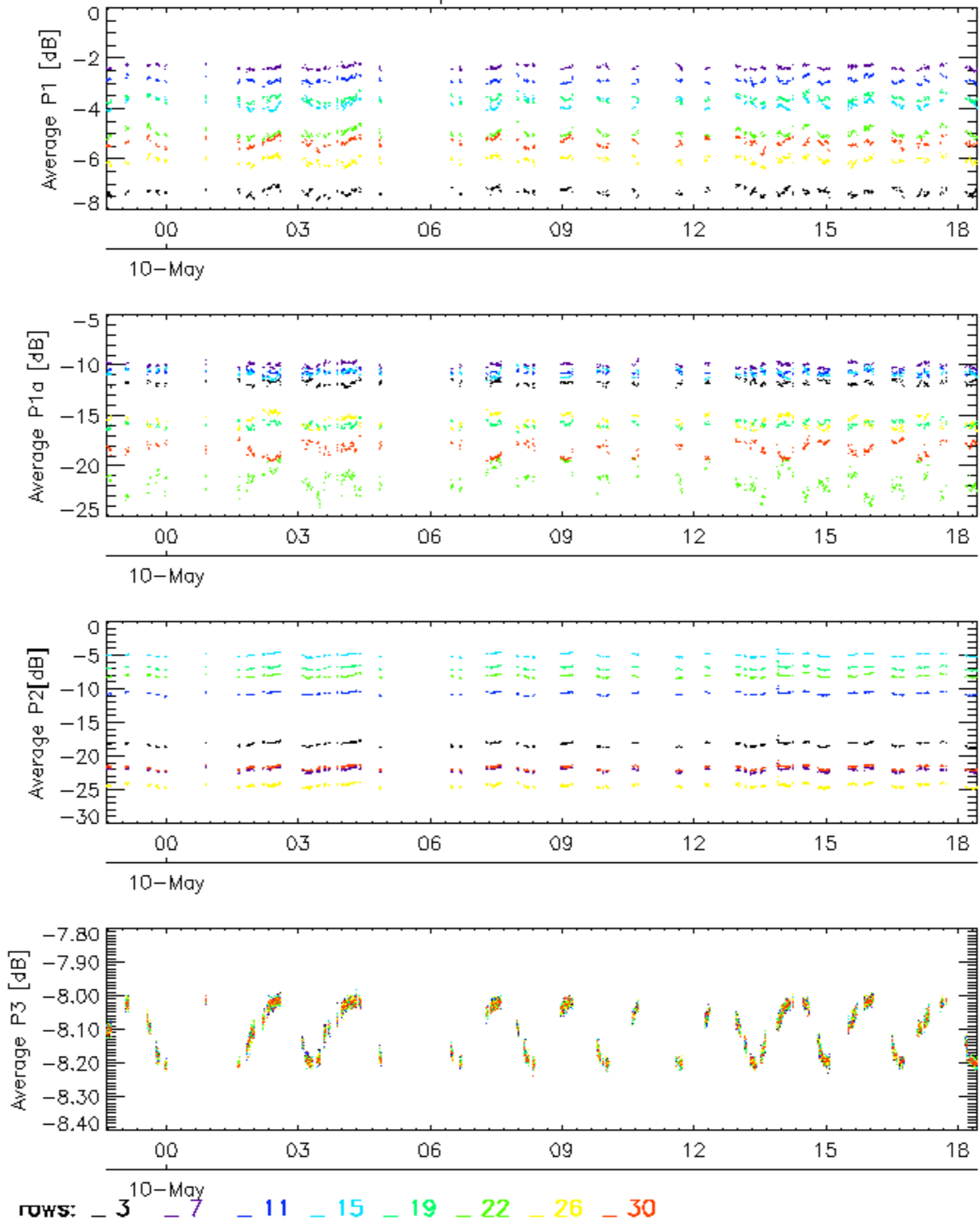
rows: 3 7 11 15 19 22 26 30

### Cal pulses for GM1 SS3

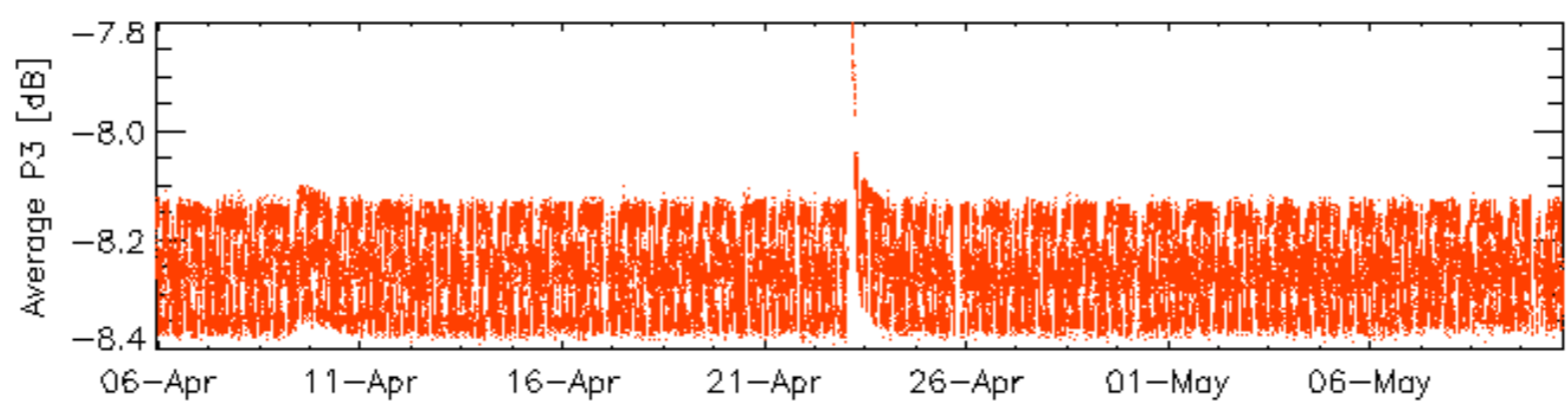
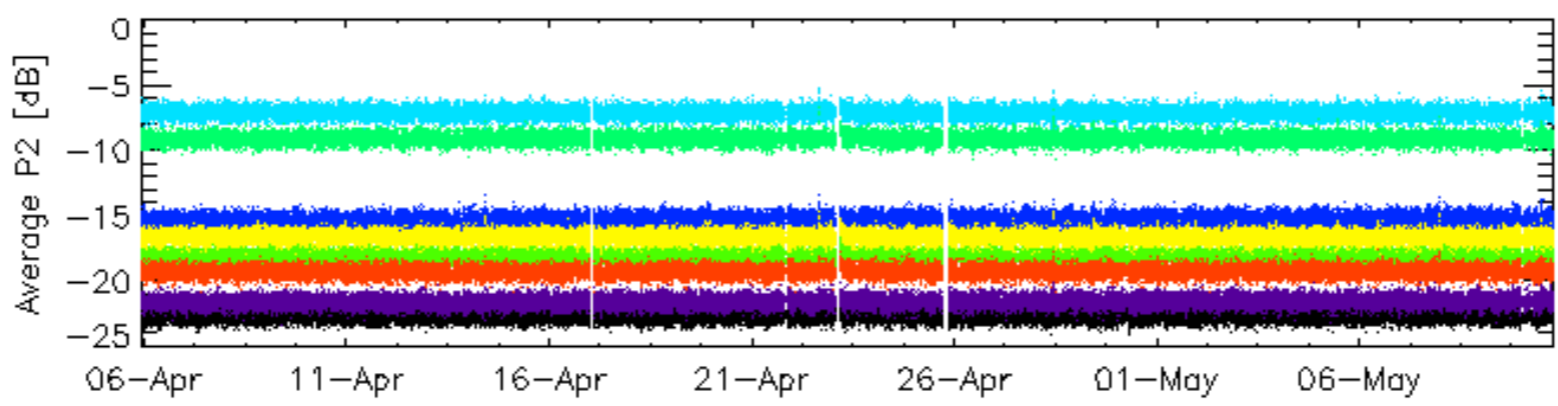
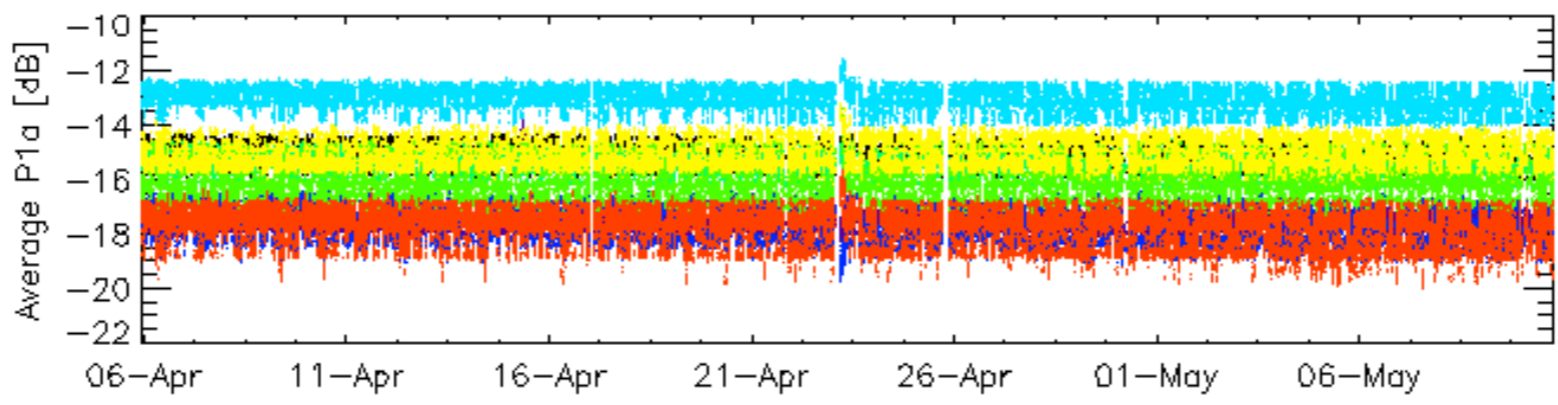
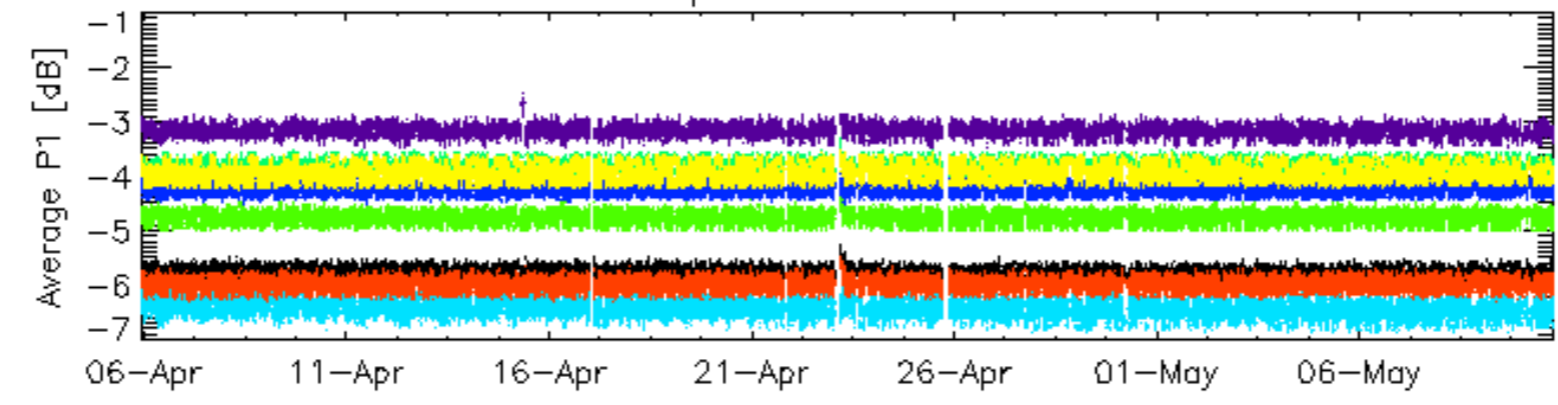


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

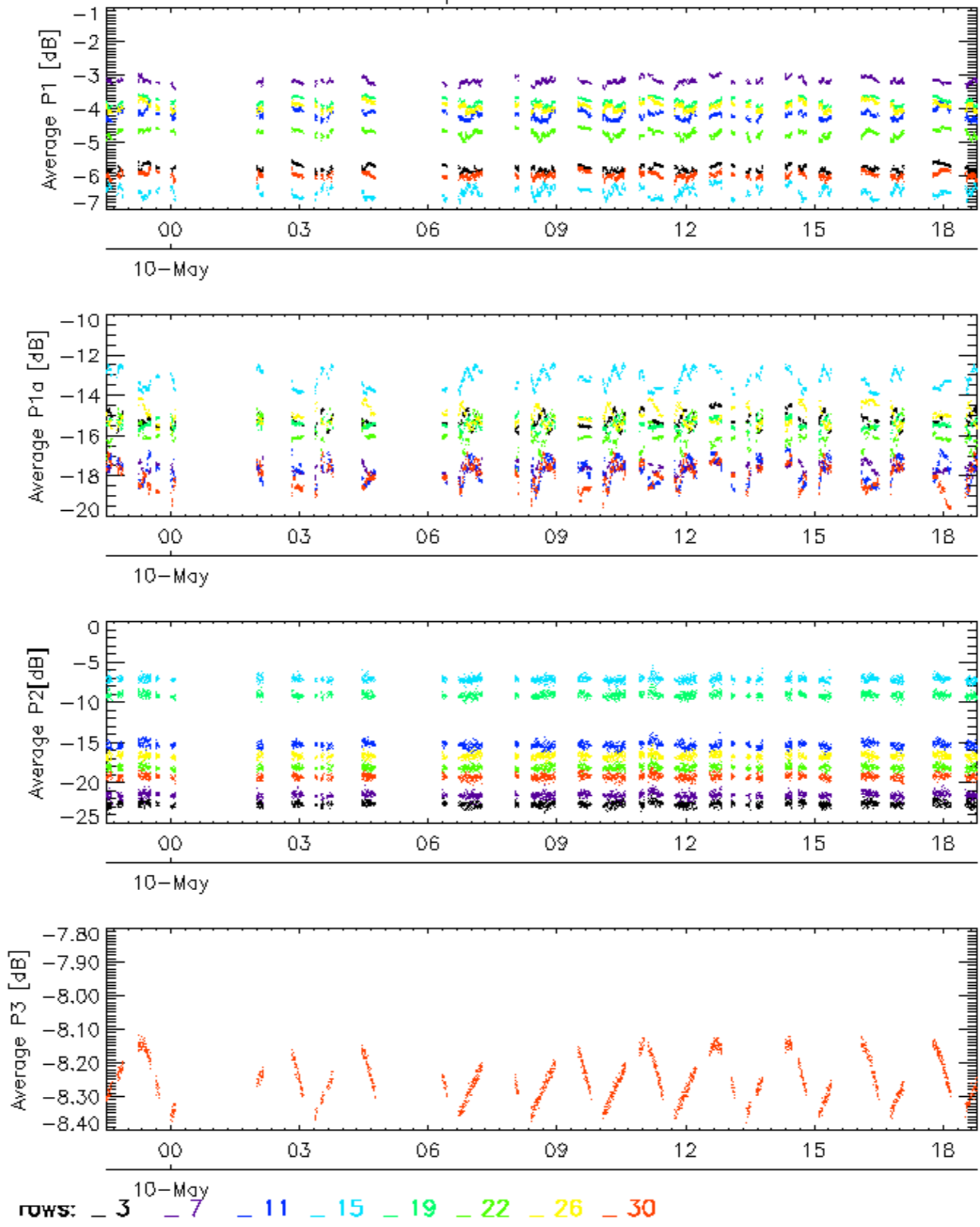


Cal pulses for WVS IS2



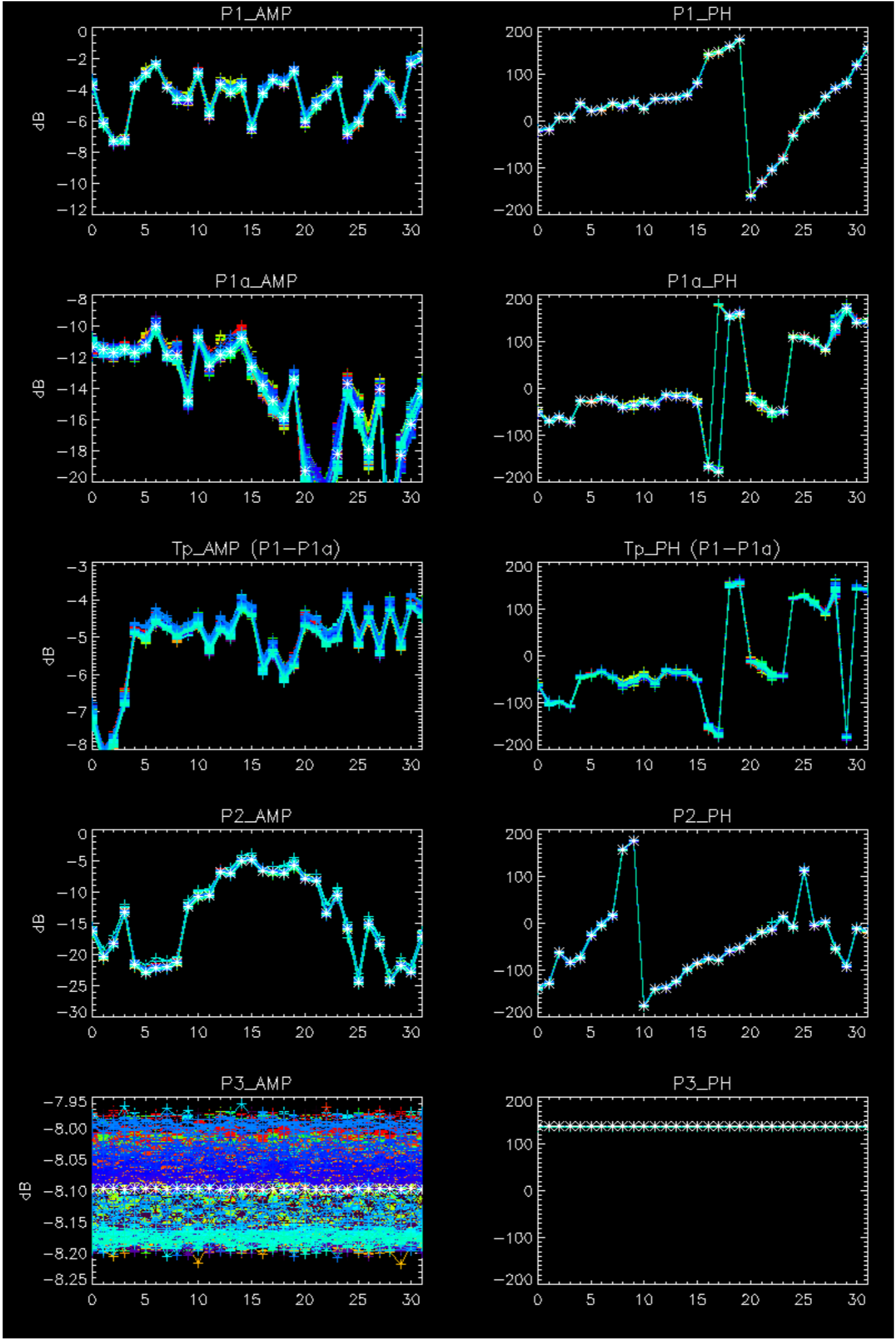
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

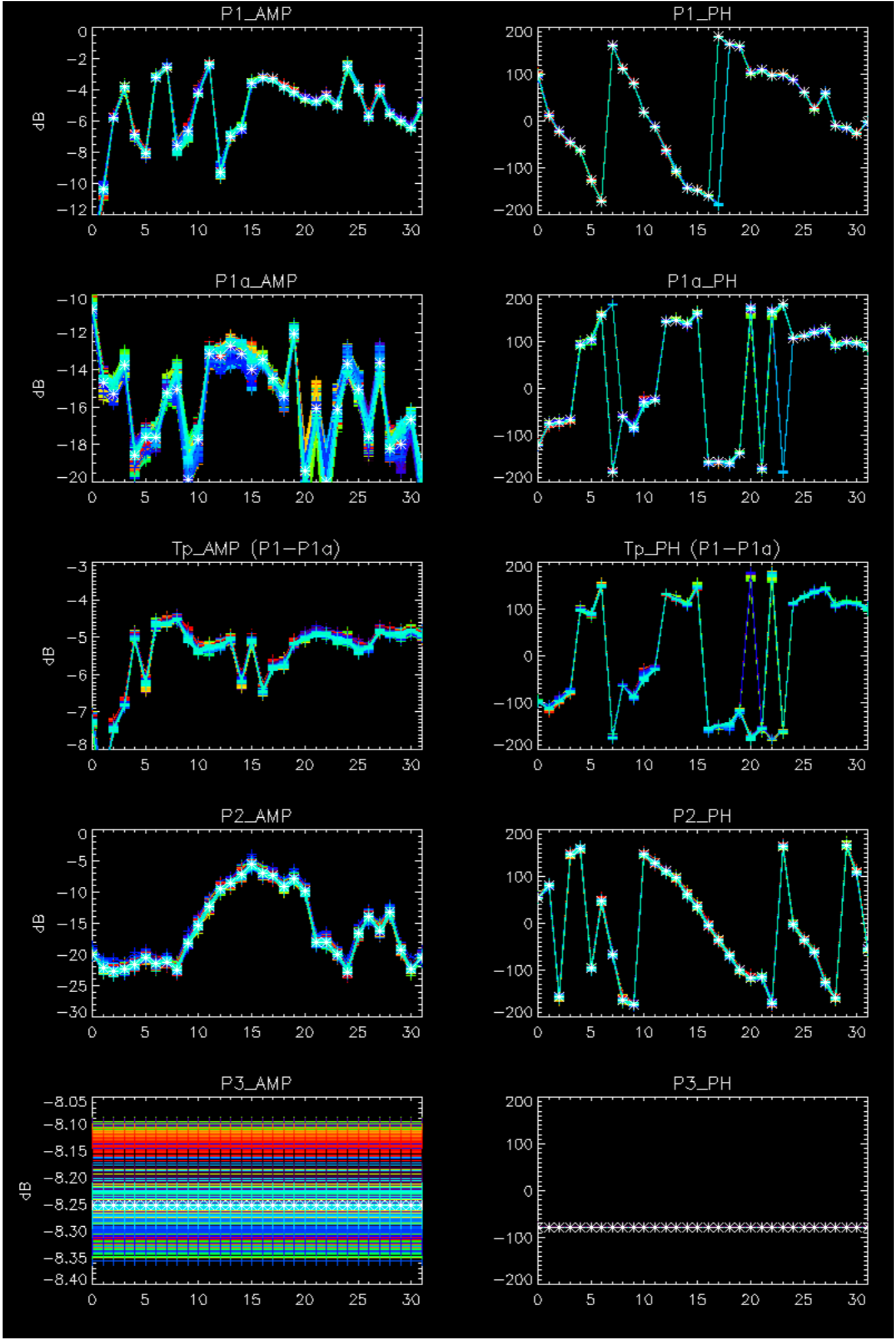
Cal pulses for WVS IS2



No anomalies observed.



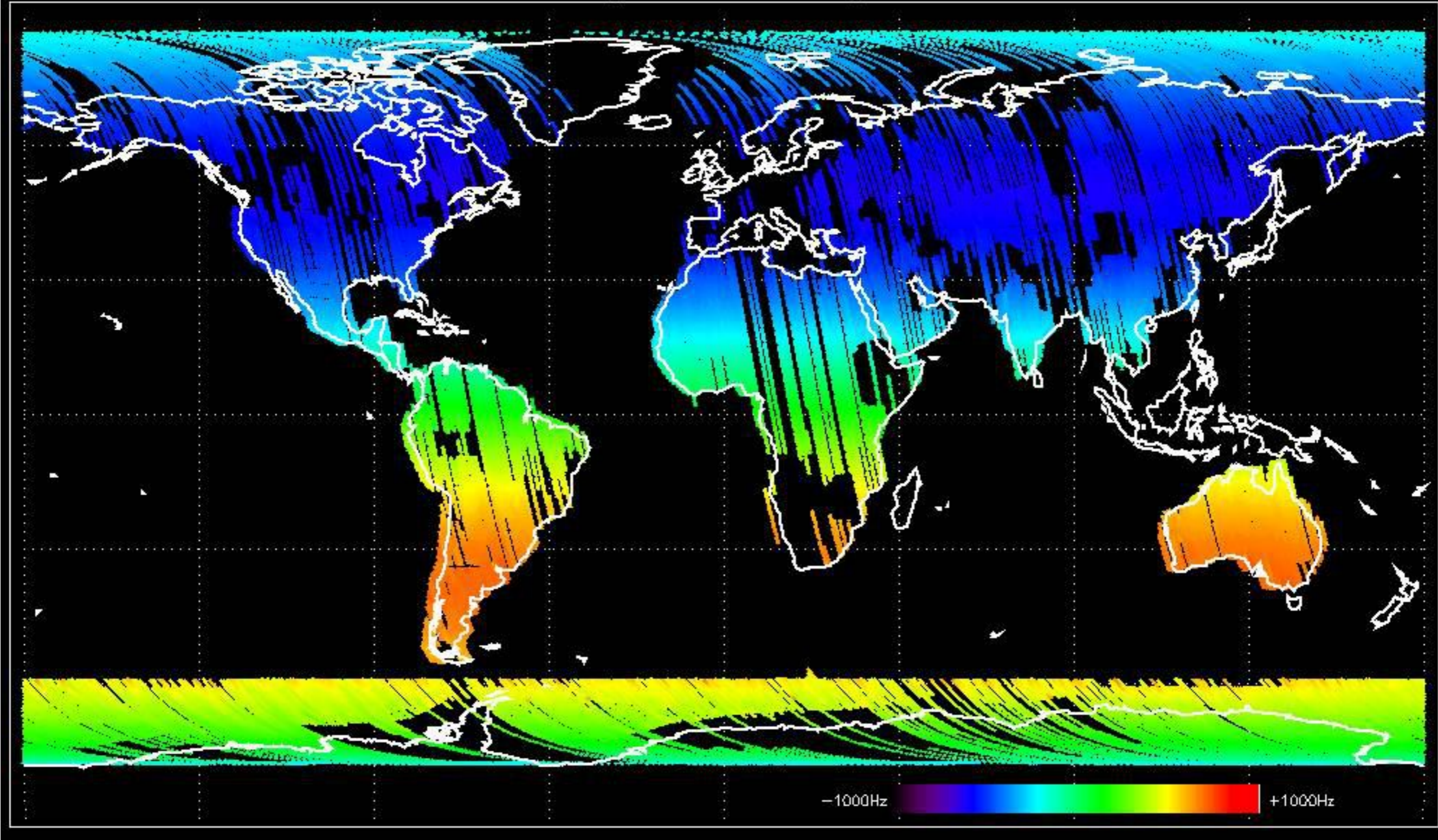




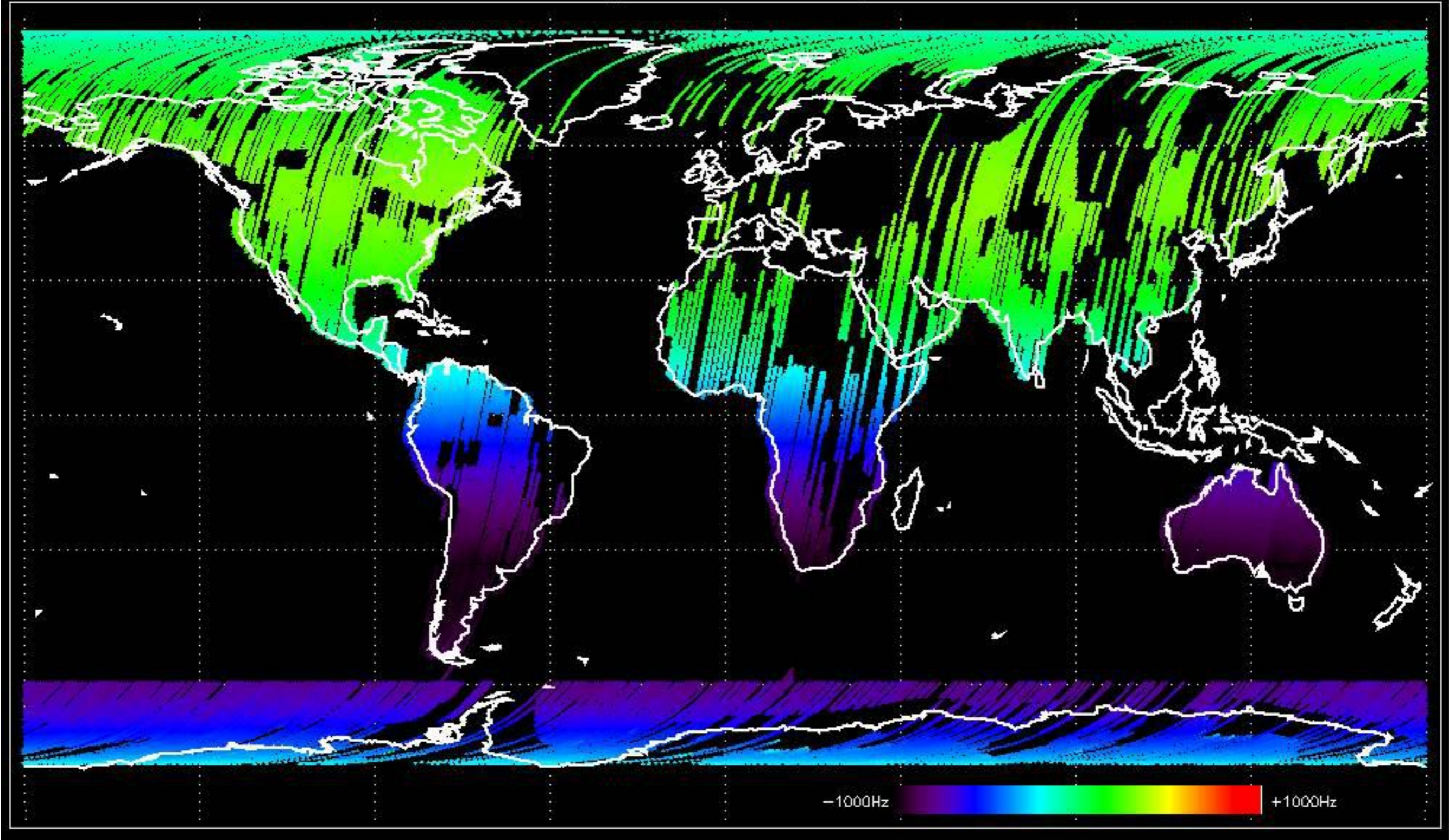
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



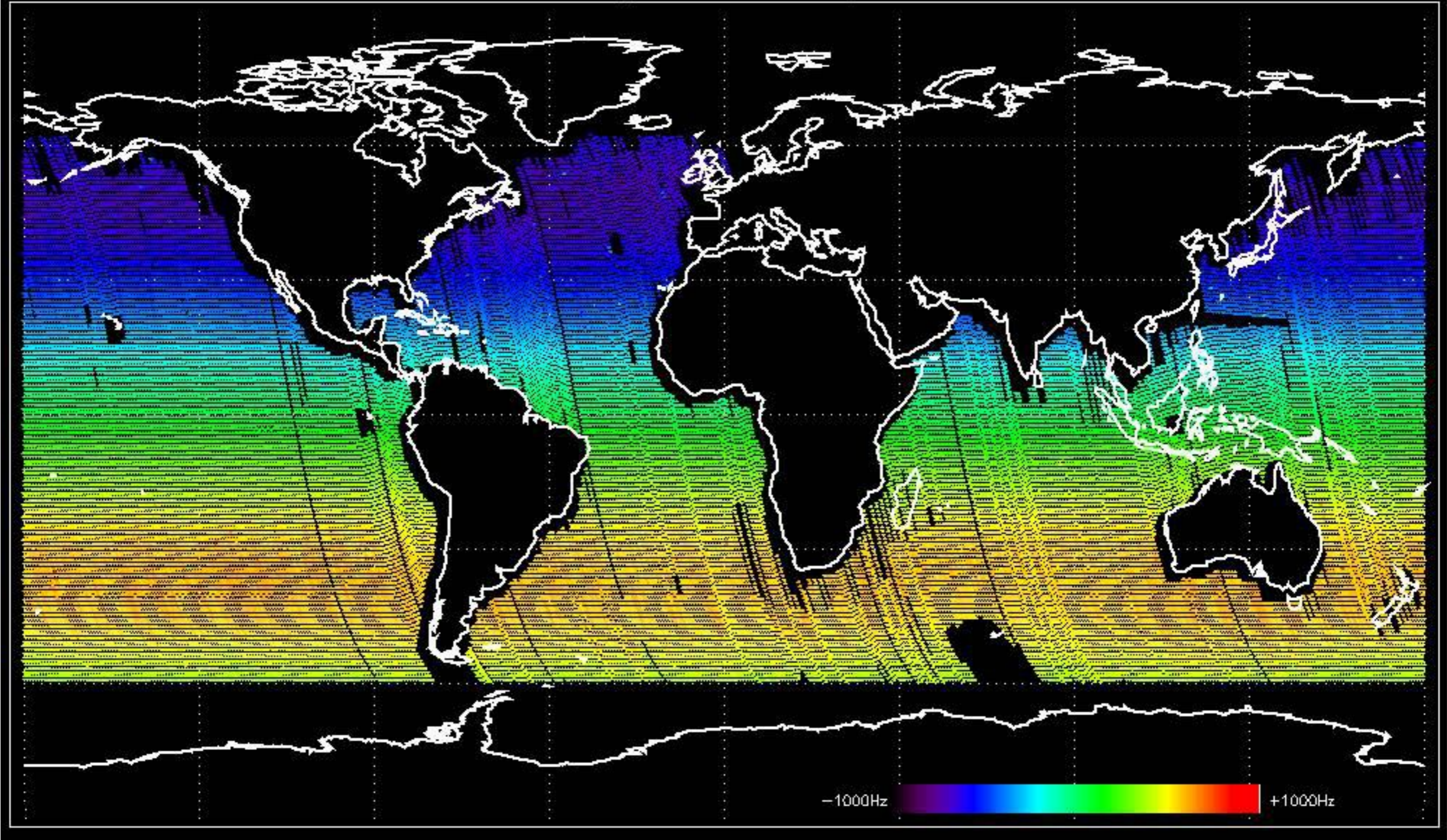
Doppler 'GM1' 'SS1' ascending



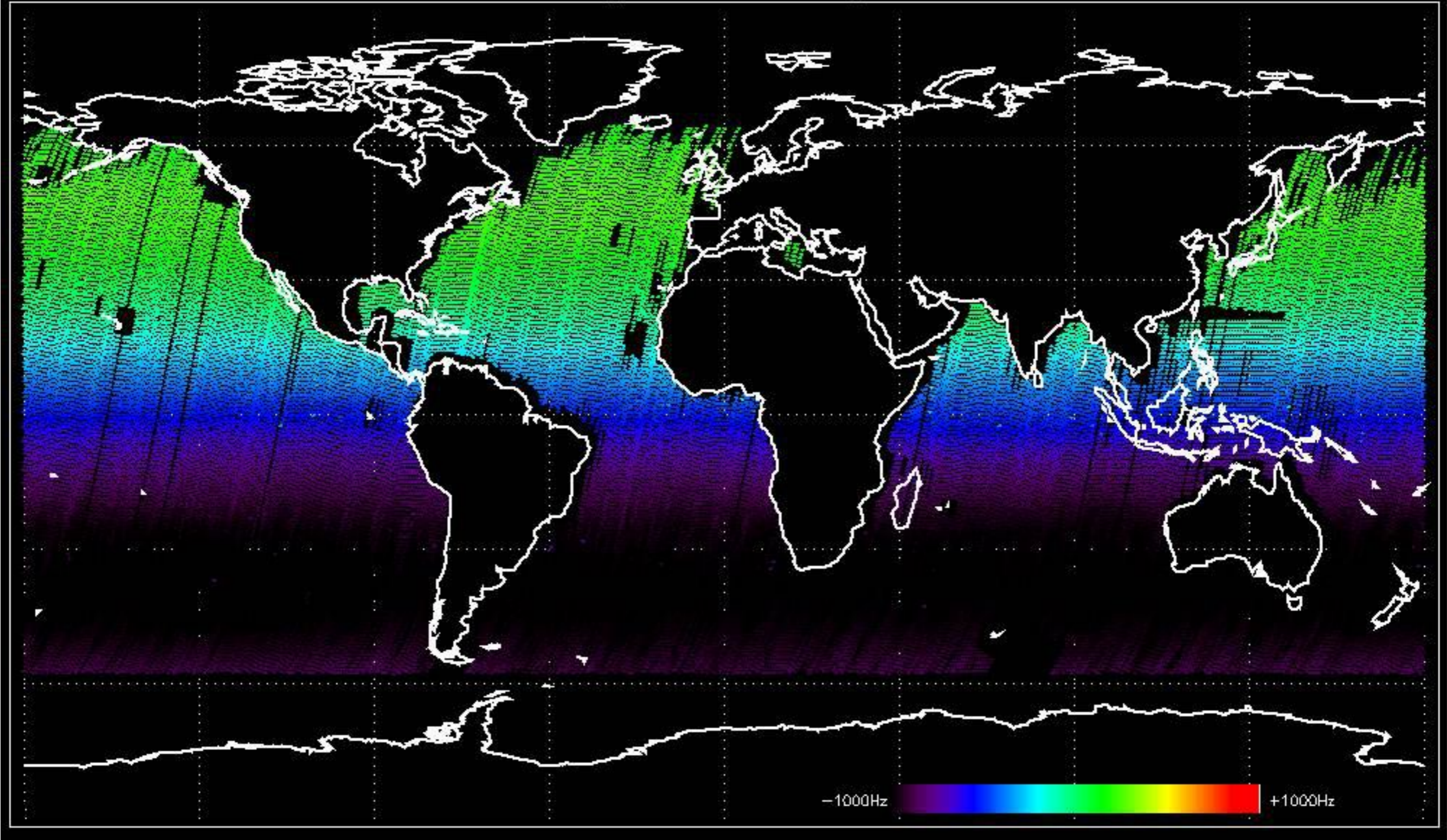
Doppler 'GM1' 'SS1' descending



Doppler 'WVS' 'IS2' ascending

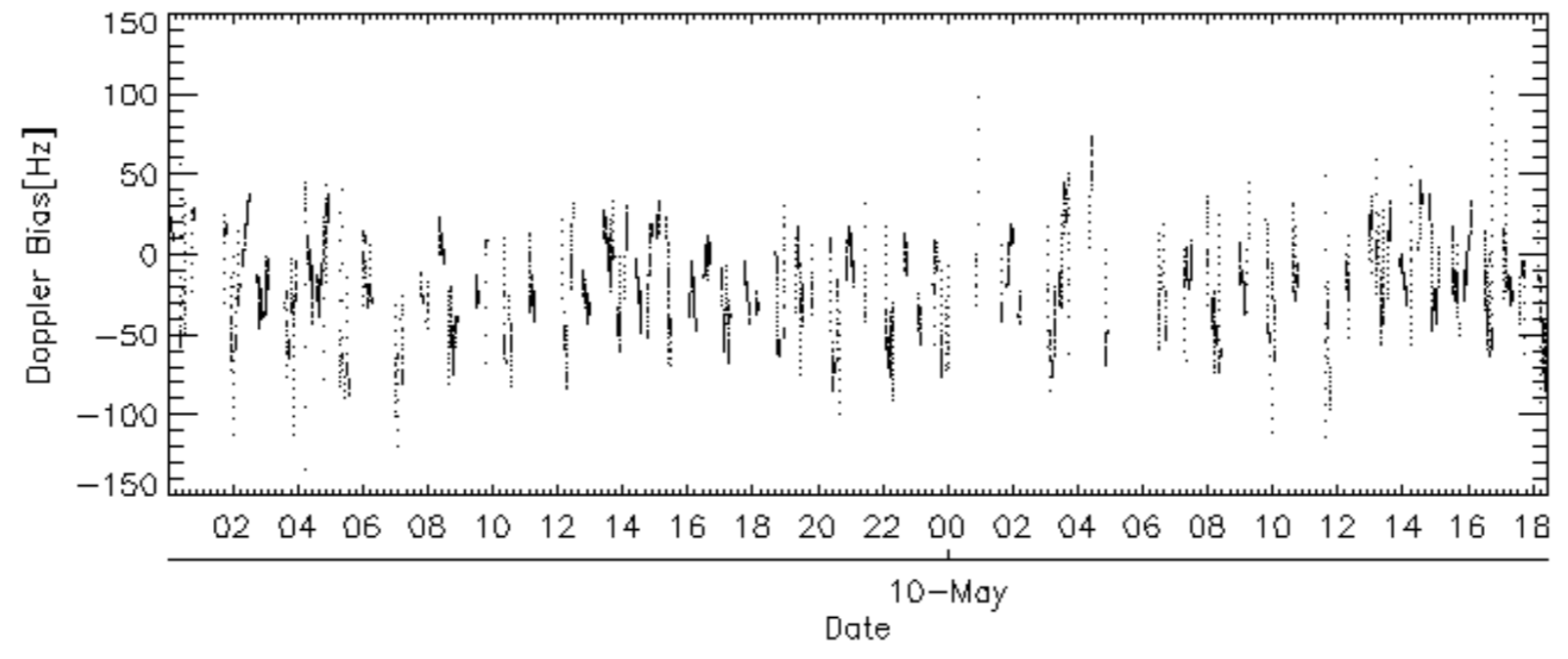
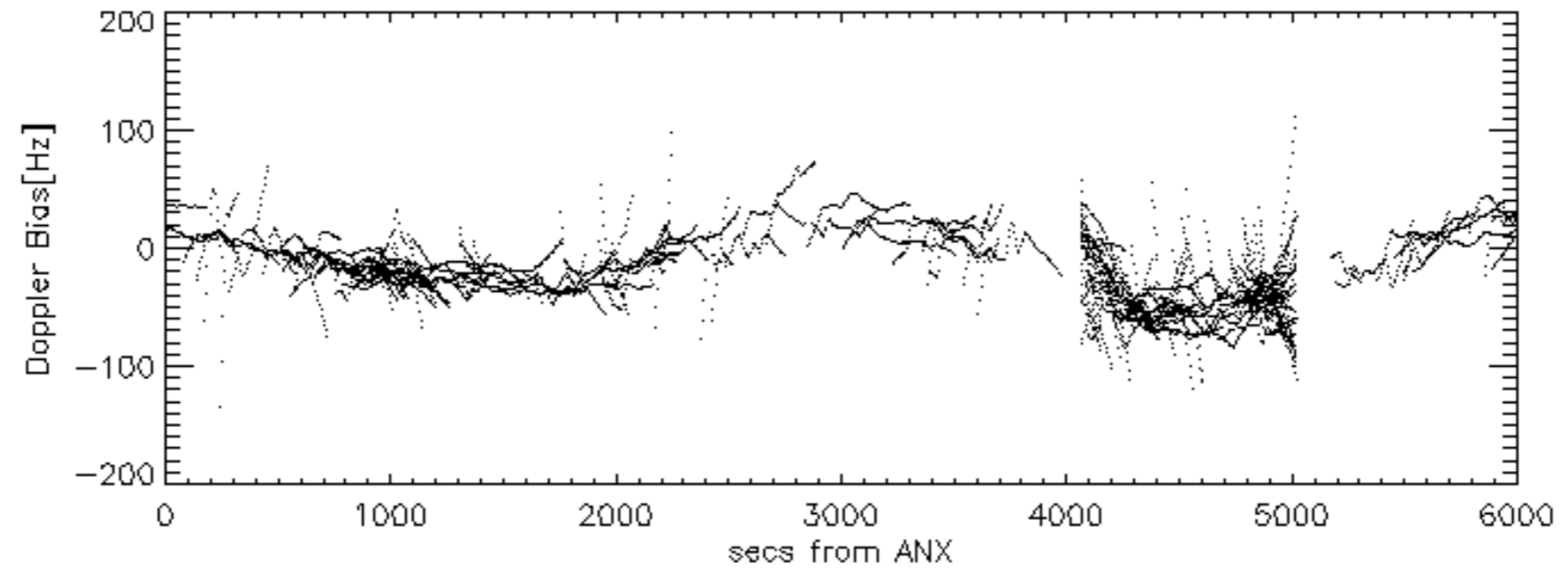
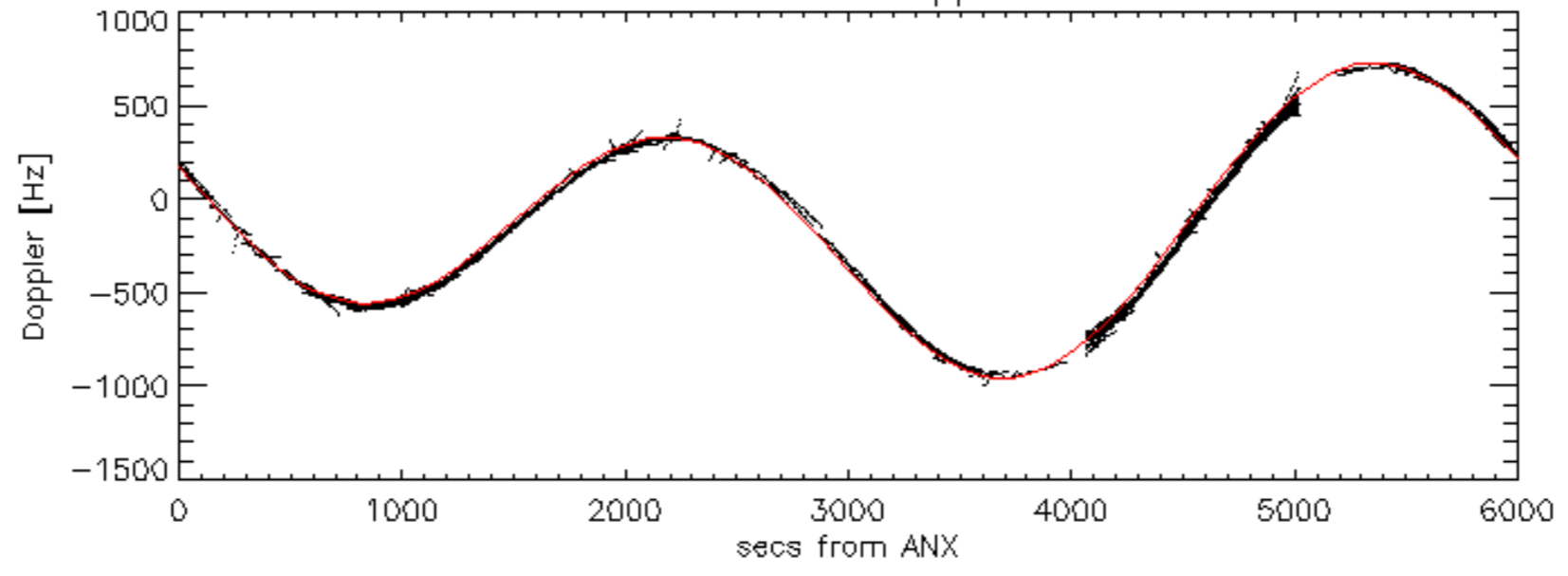


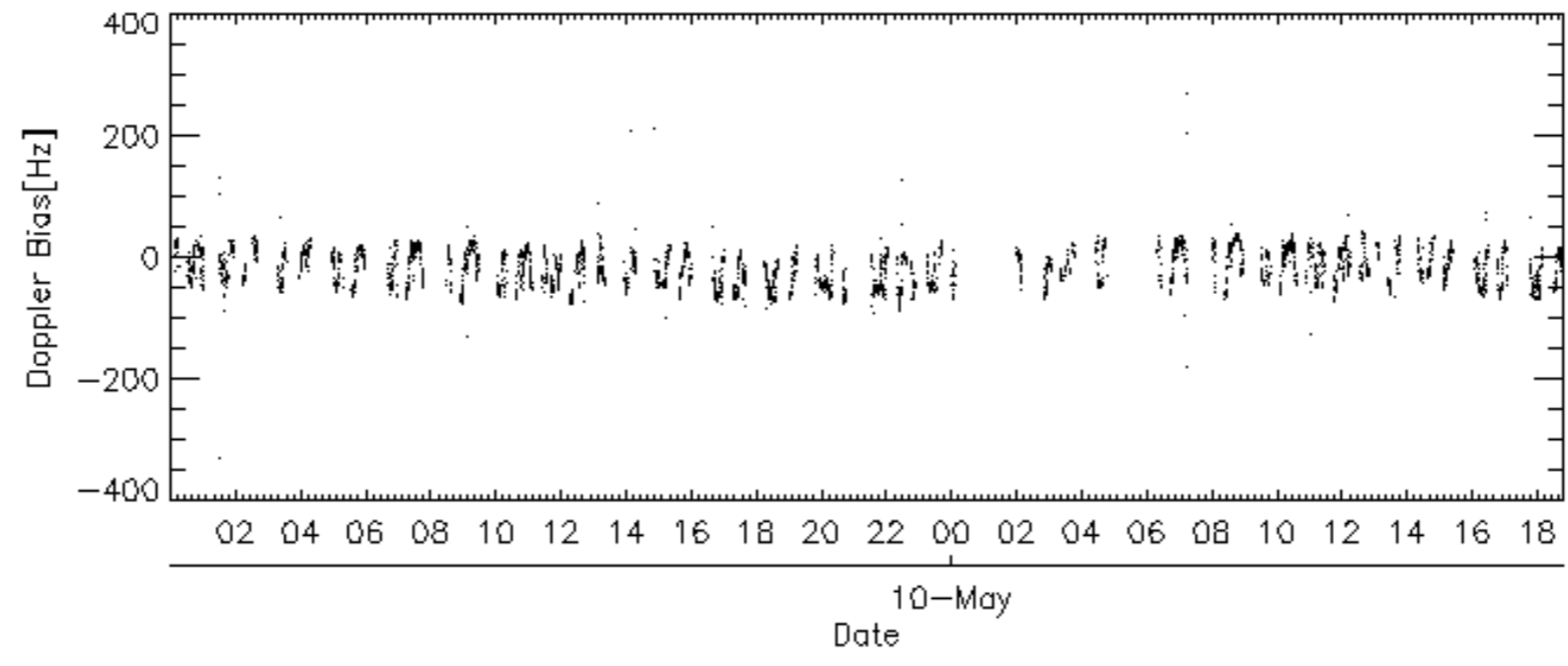
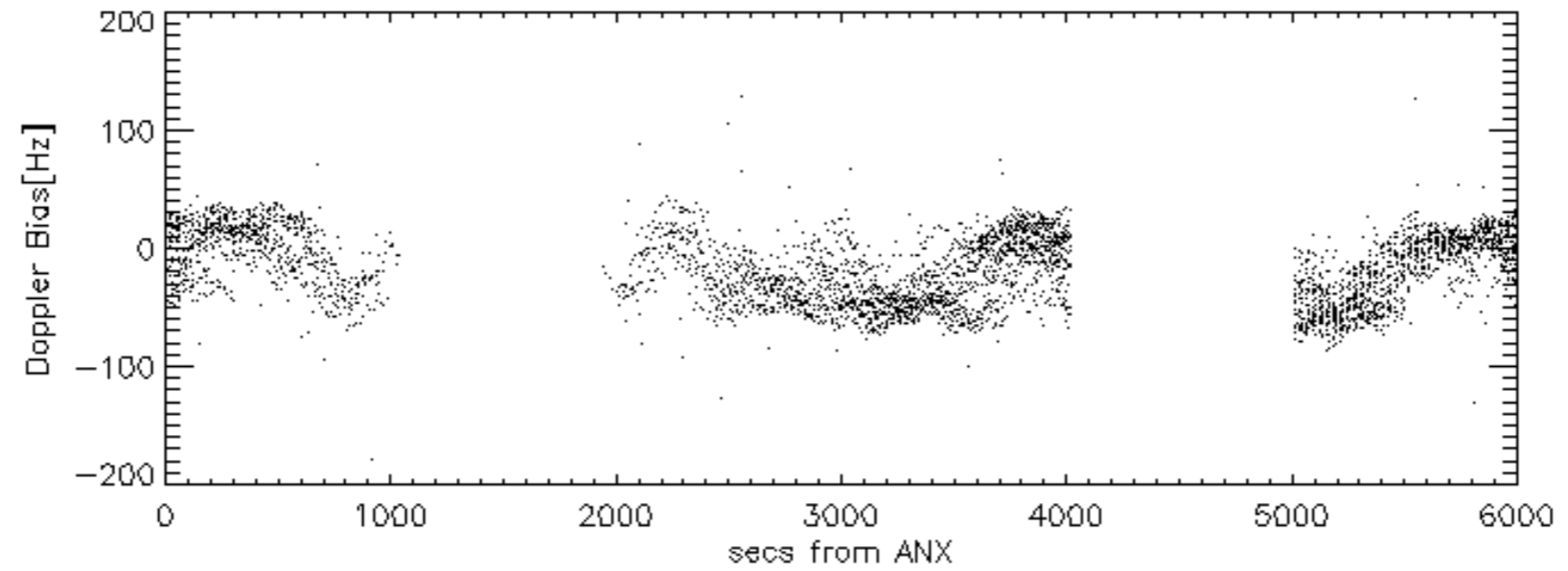
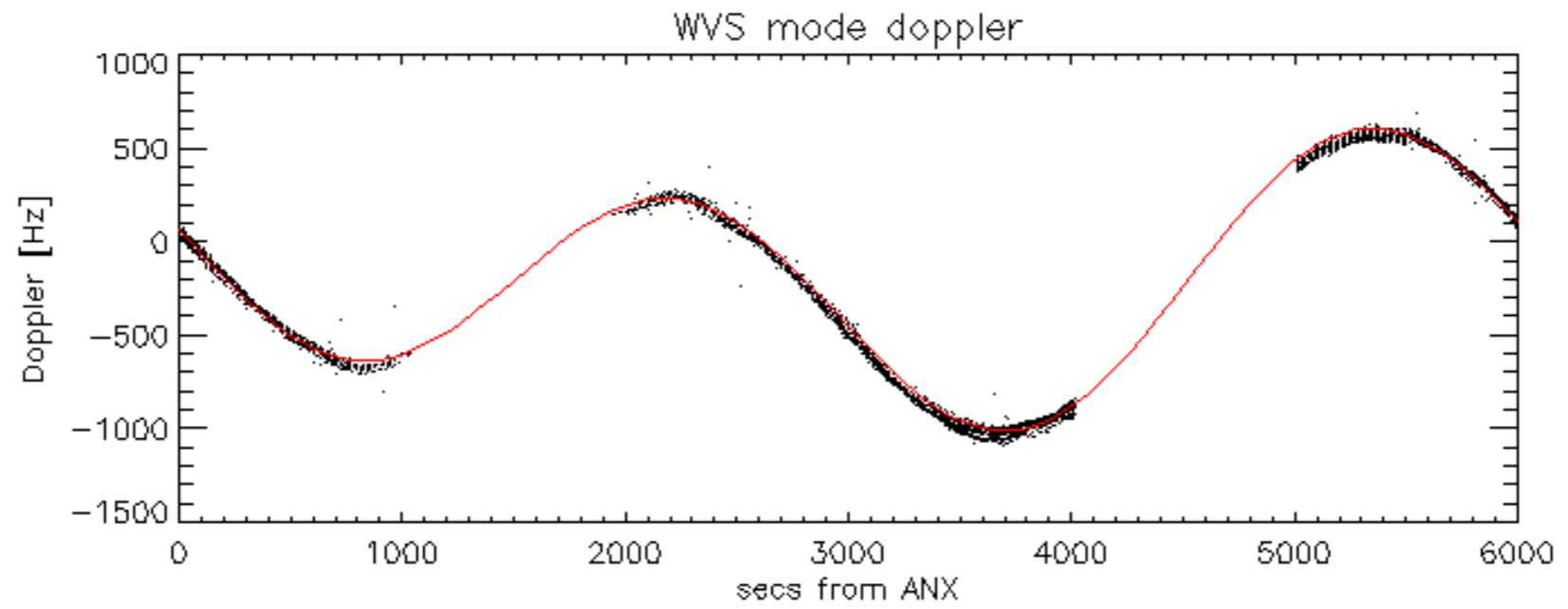
Doppler 'WVS' 'IS2' descending



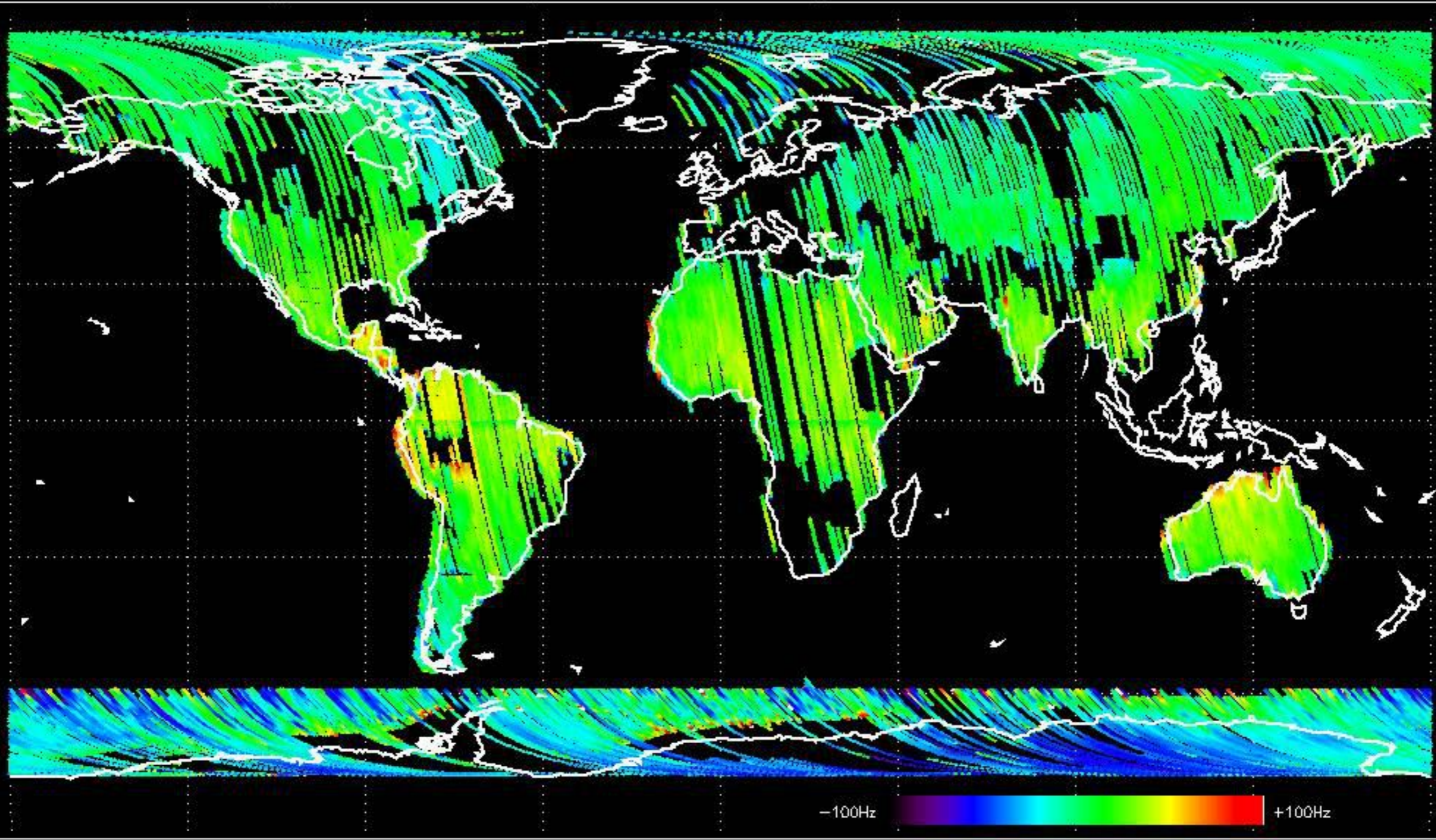


GM1 mode doppler

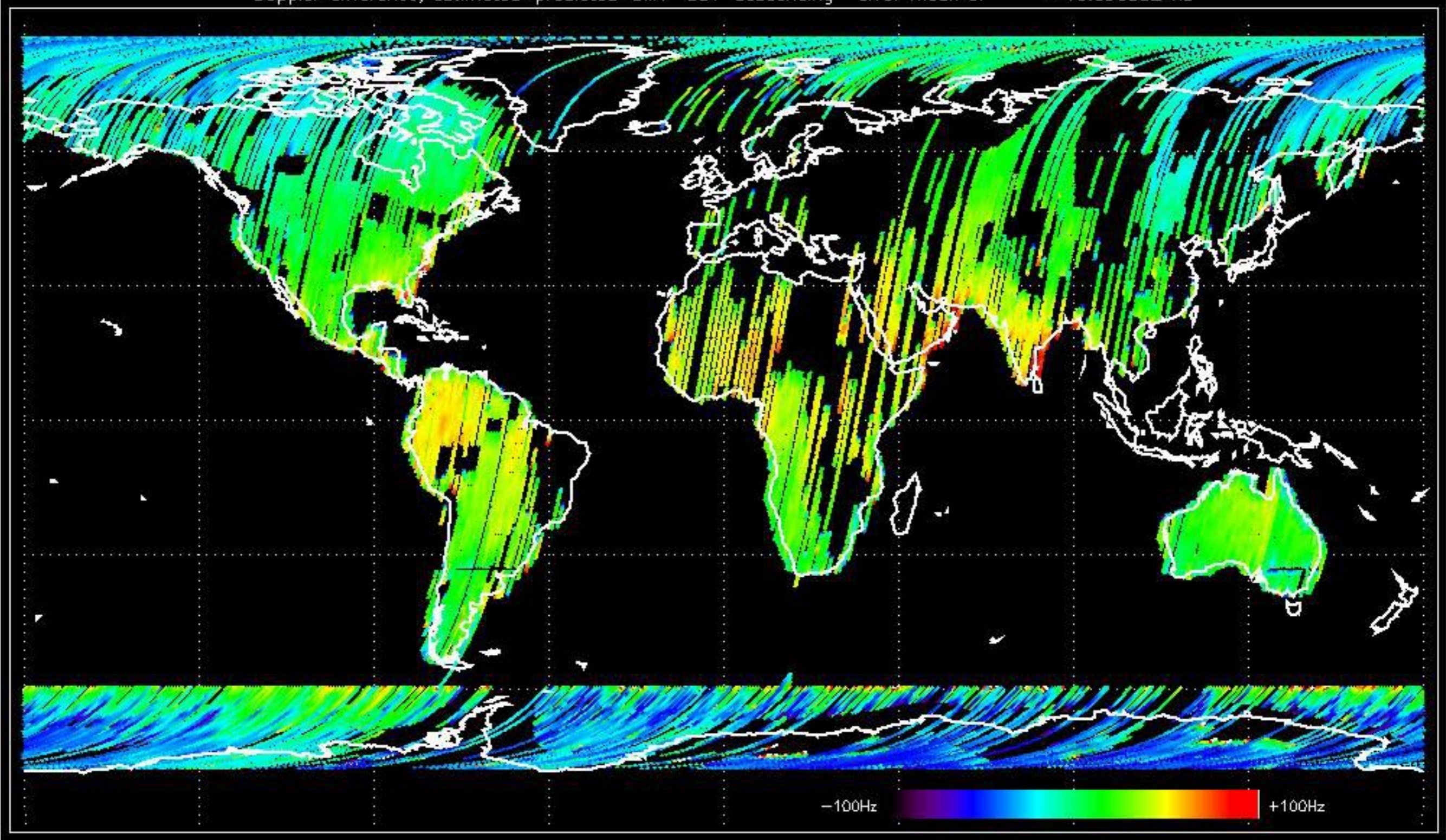




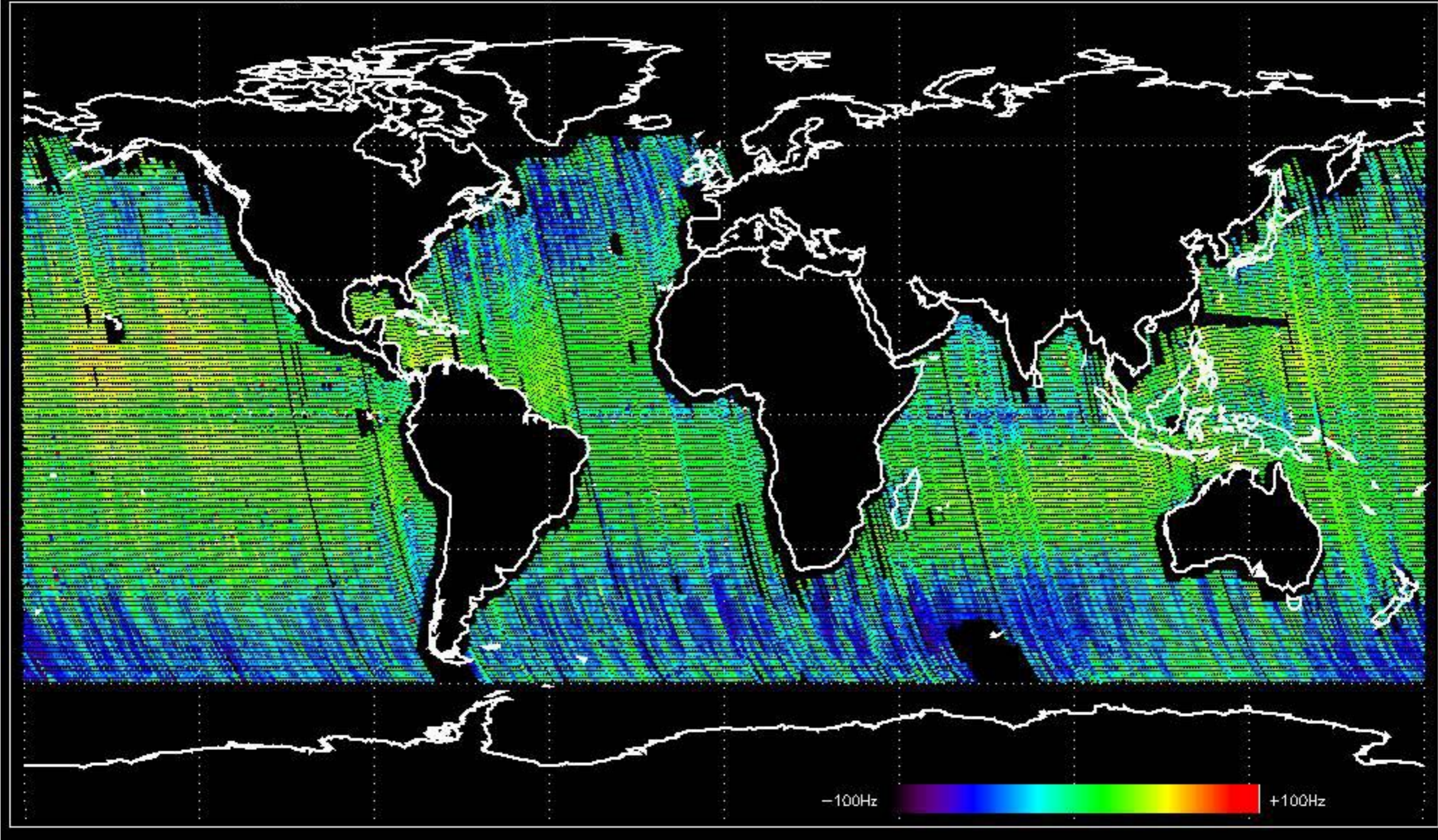
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -22.475919 Hz



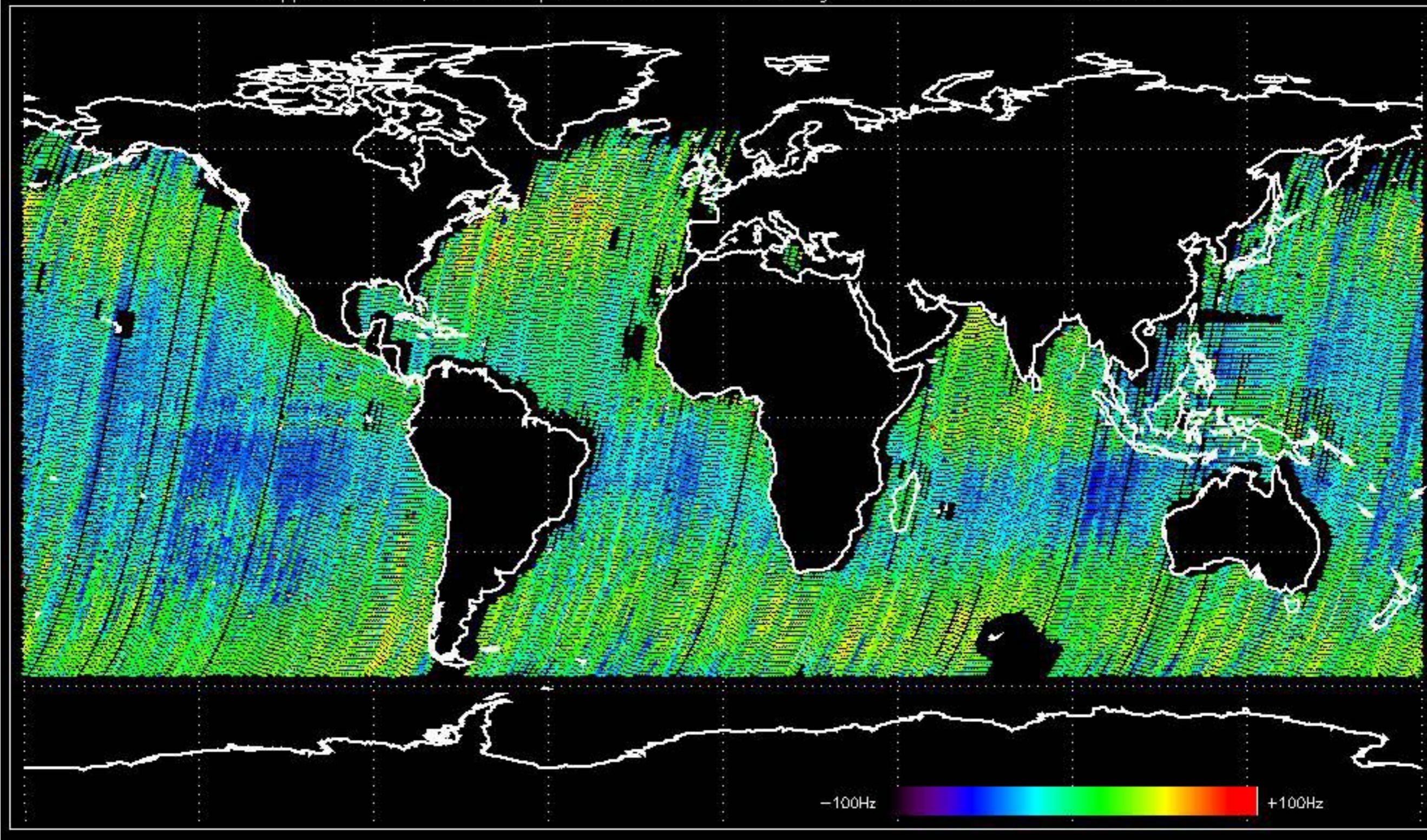
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -15.090382 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -16.303478 Hz



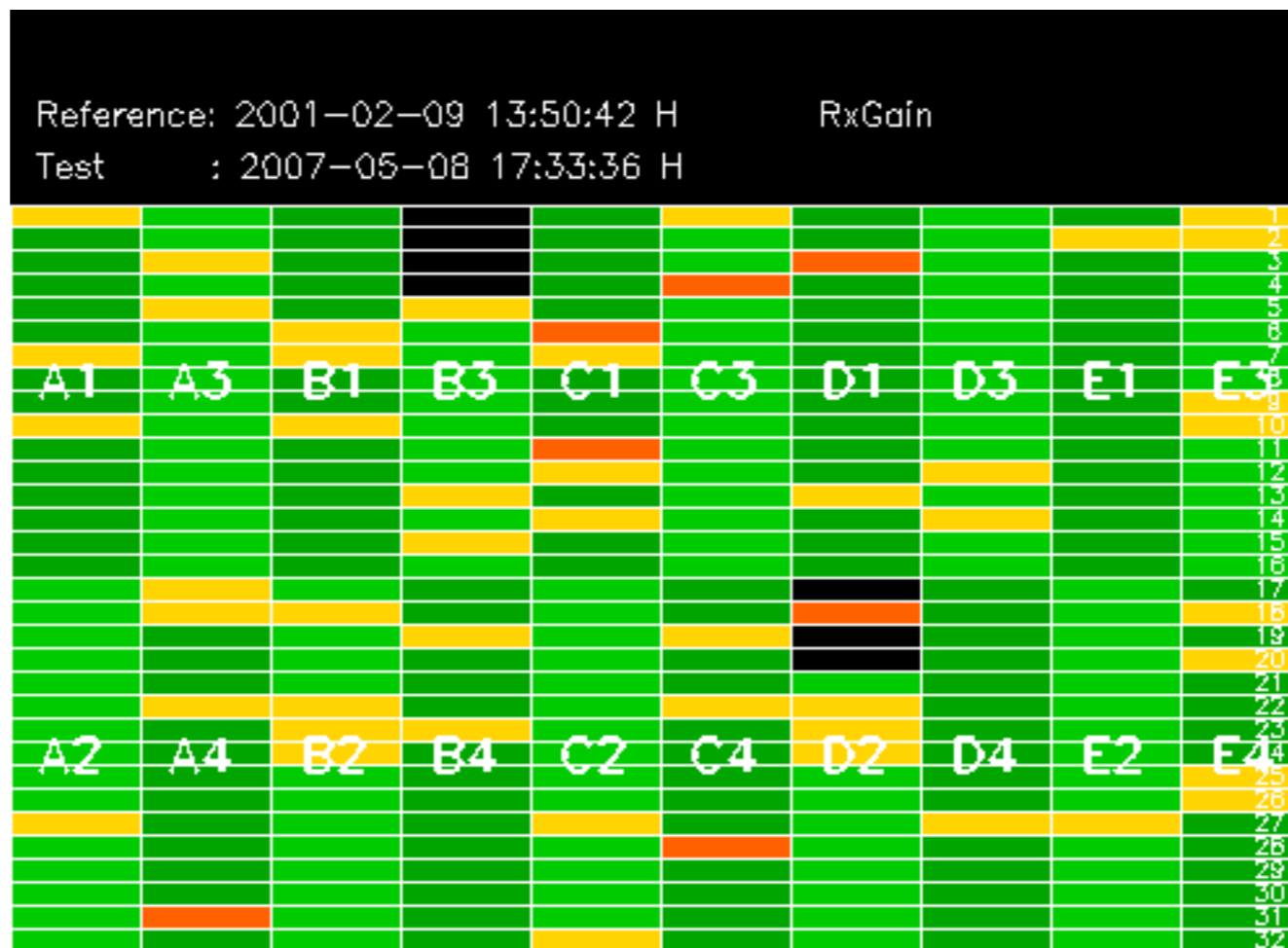
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -20.359653 Hz



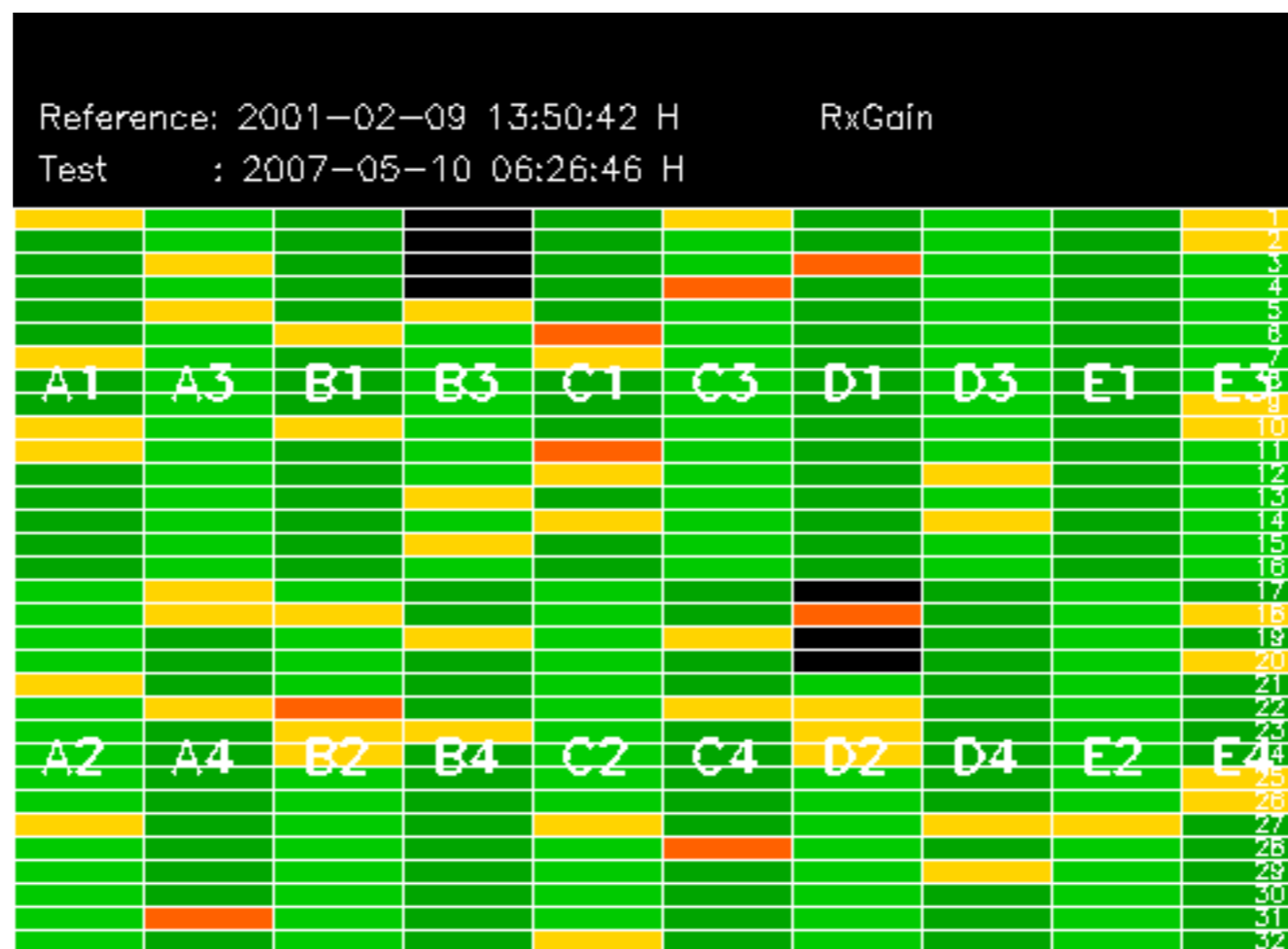
No anomalies observed on available MS products:

No anomalies observed.

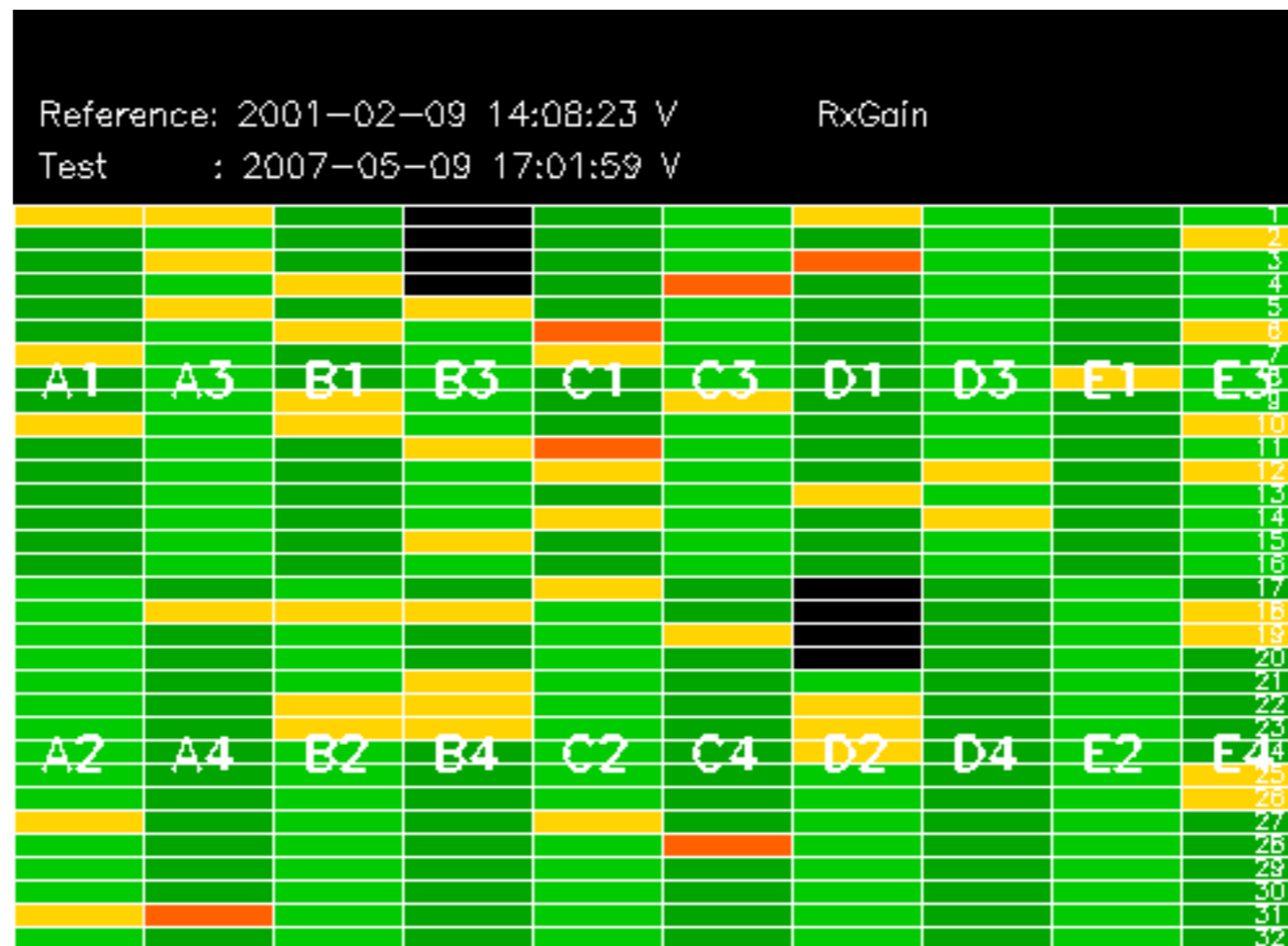


















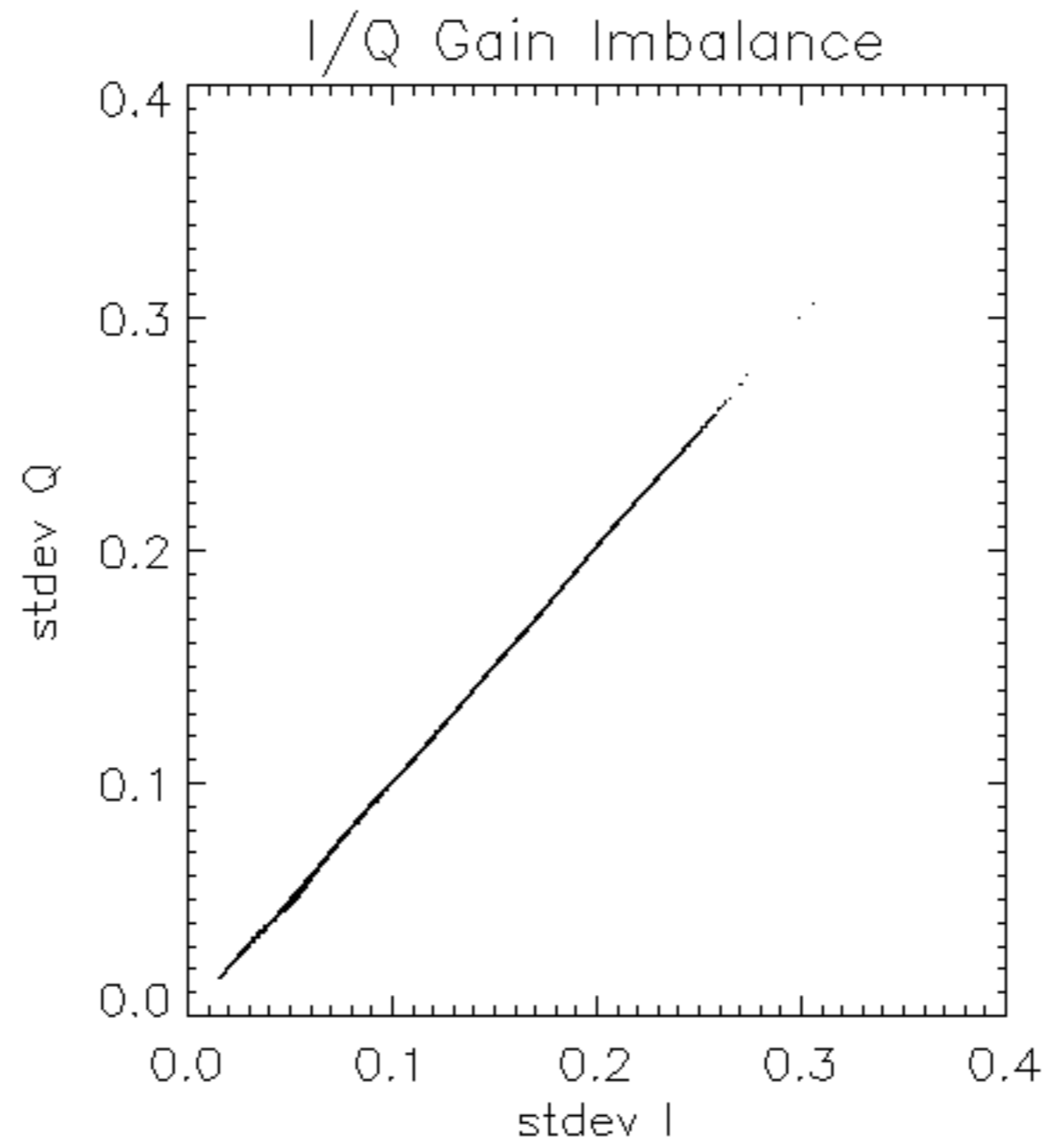


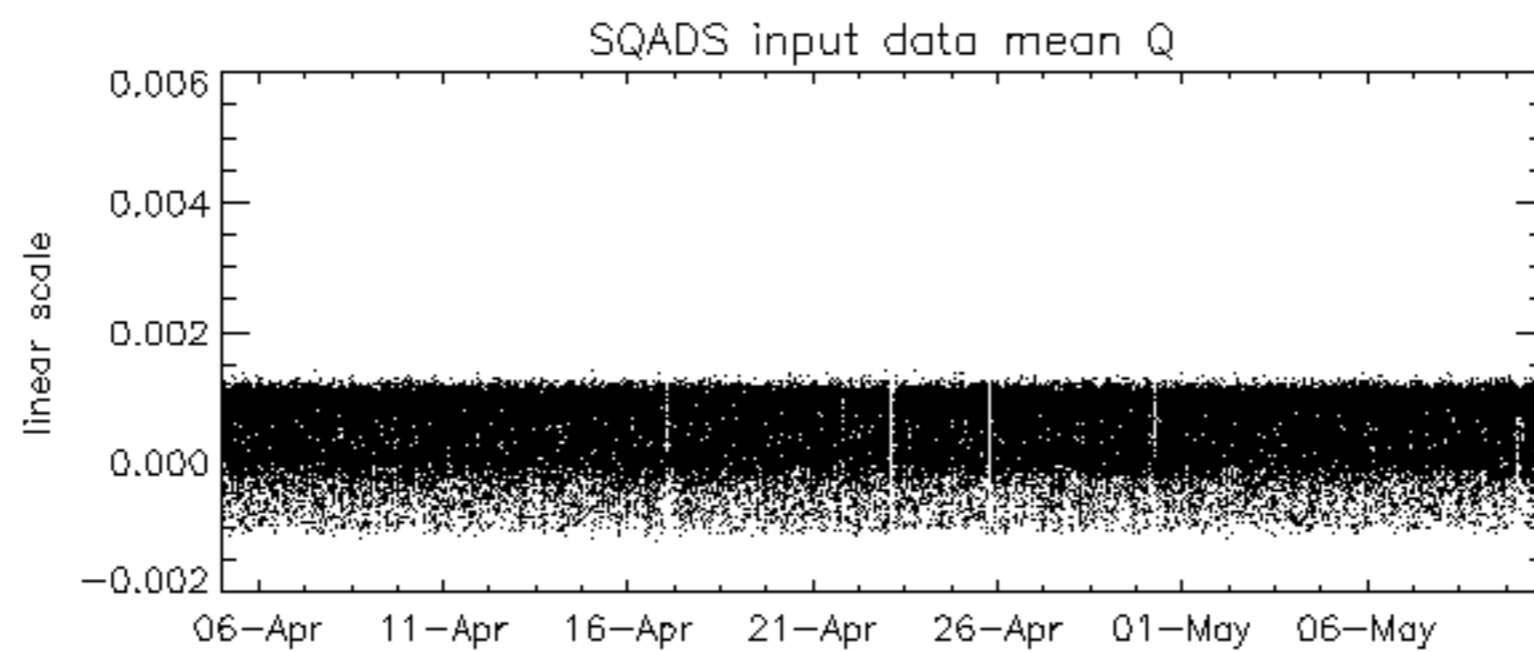
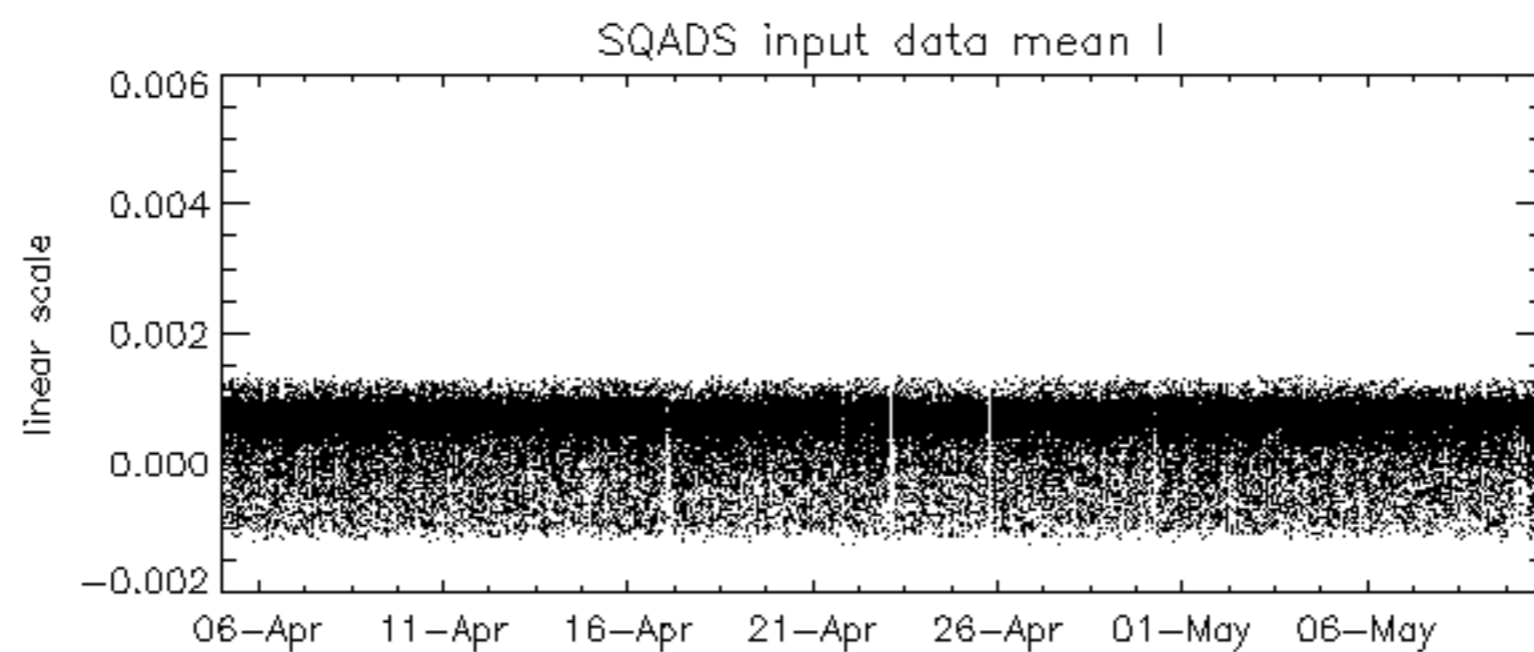
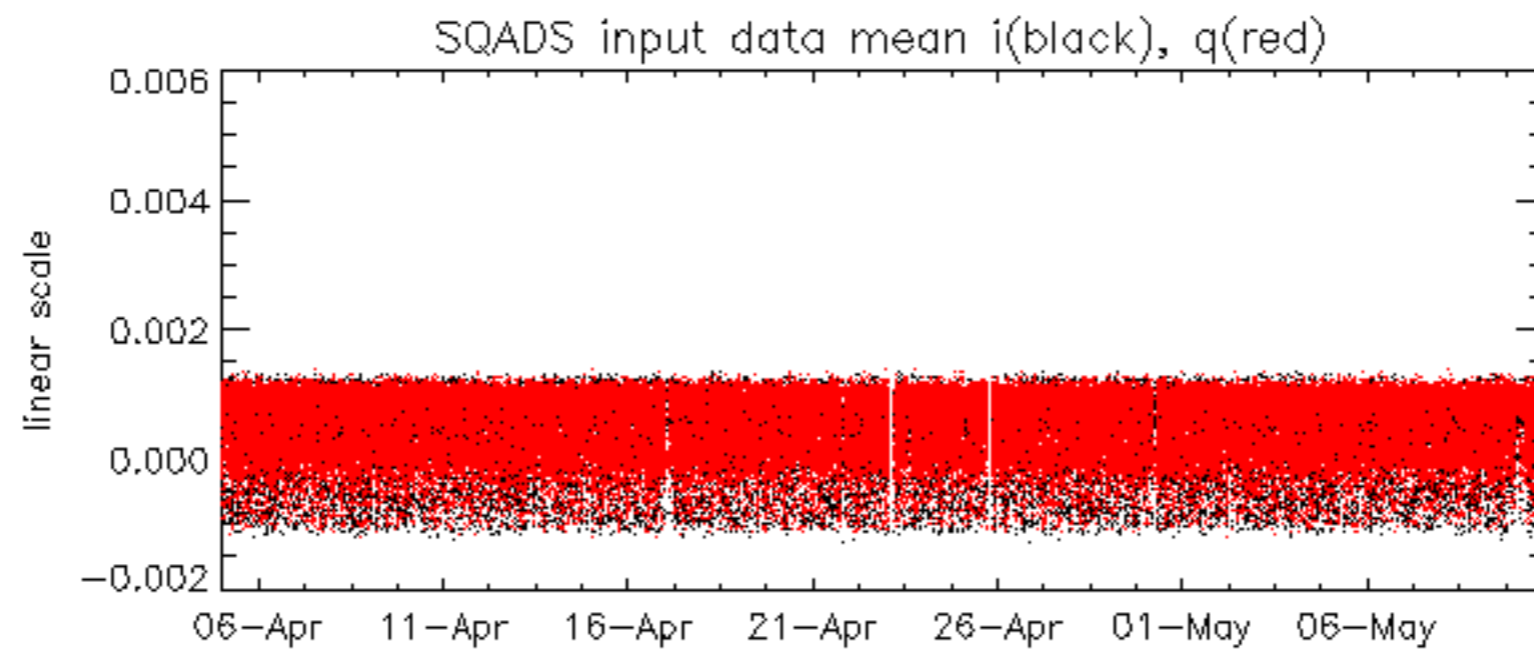


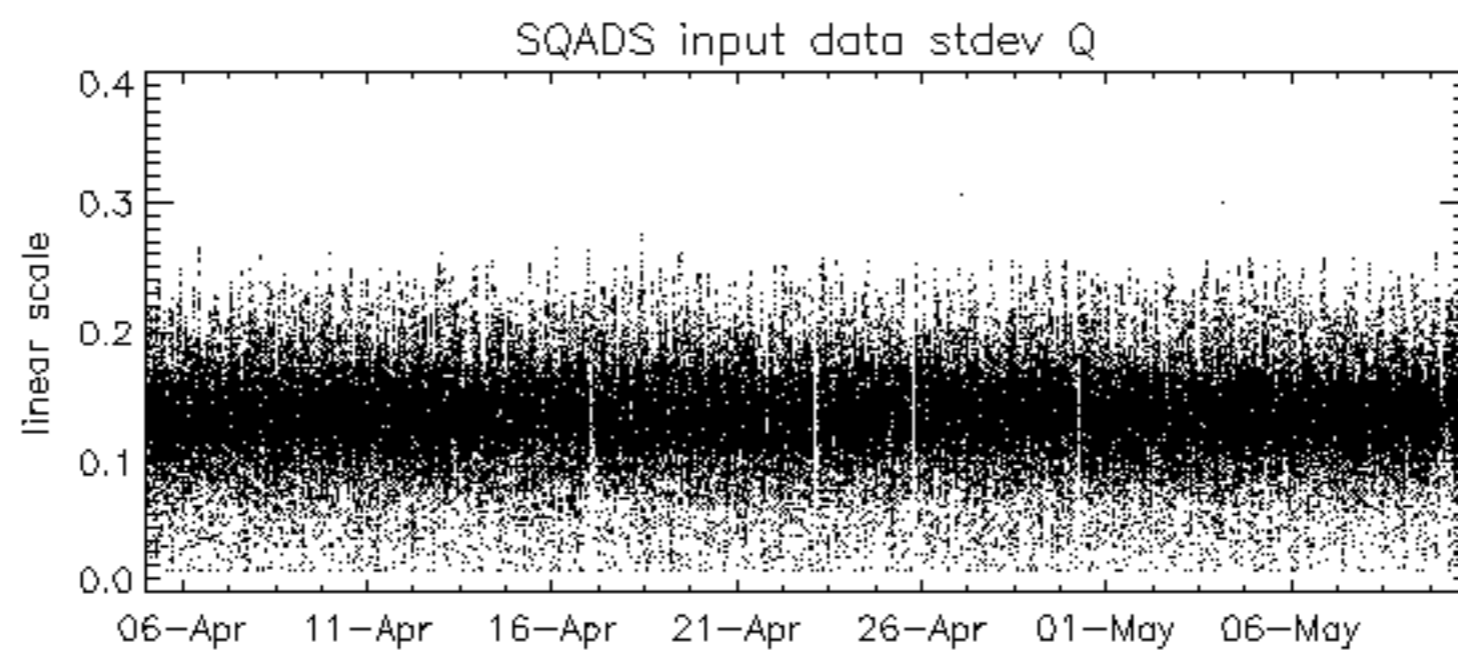
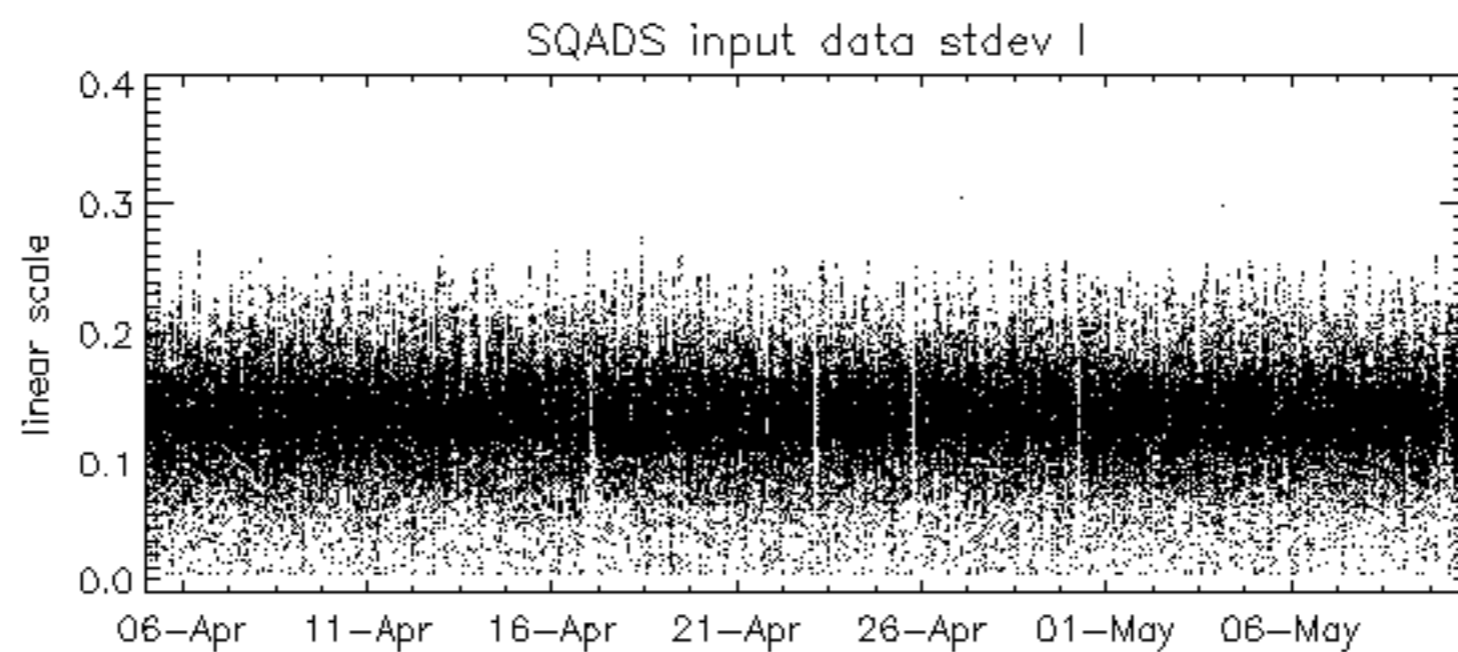
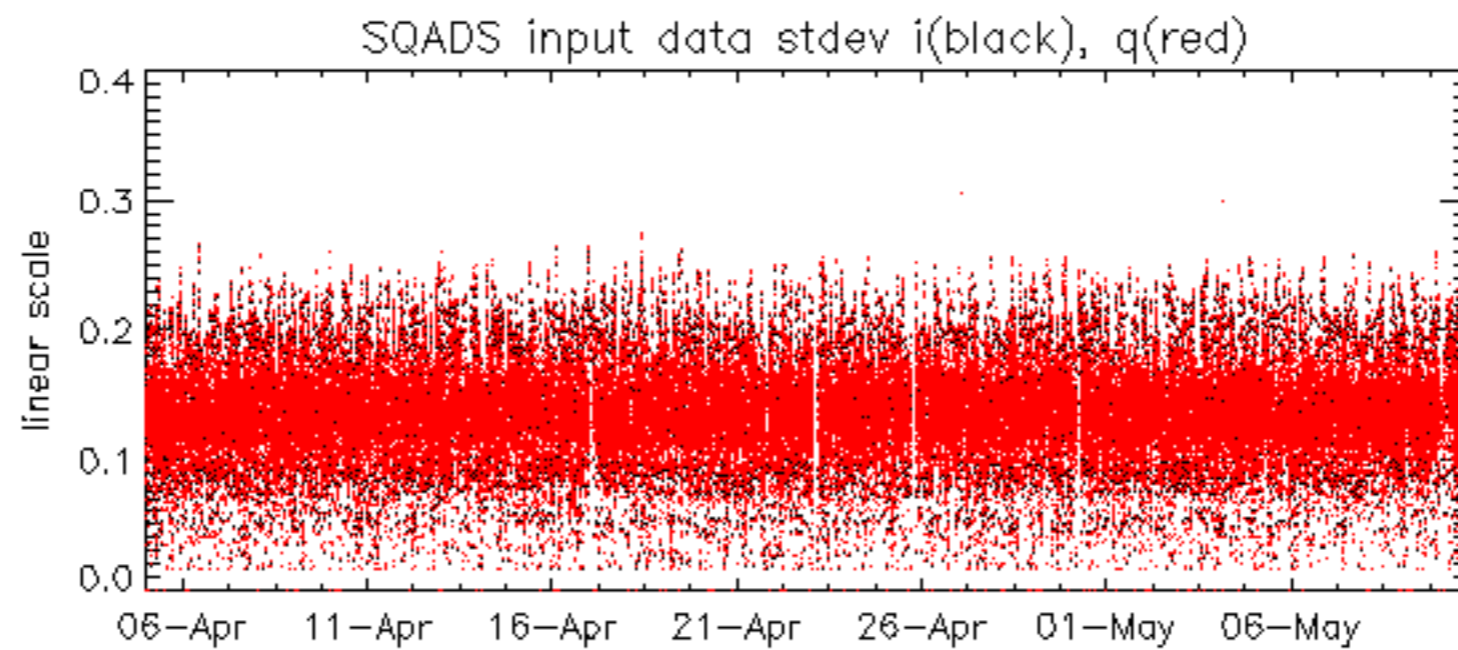






















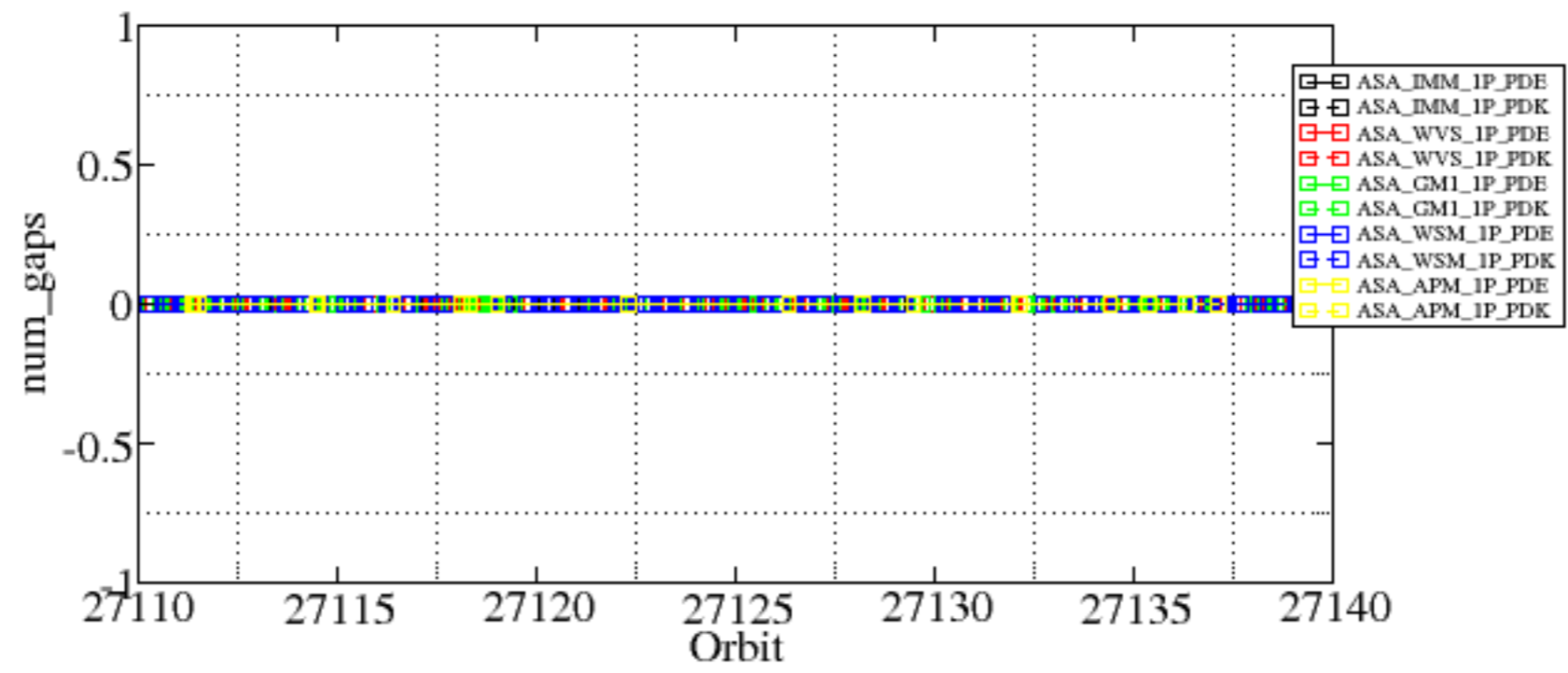




Summary of analysis for the last 3 days 2007050[890]

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_1PNPDE20070509_113620_000002452058_00023_27131_4750.N1	0	61
ASA_WSM_1PNPDE20070509_160018_000001832058_00026_27134_4892.N1	0	10









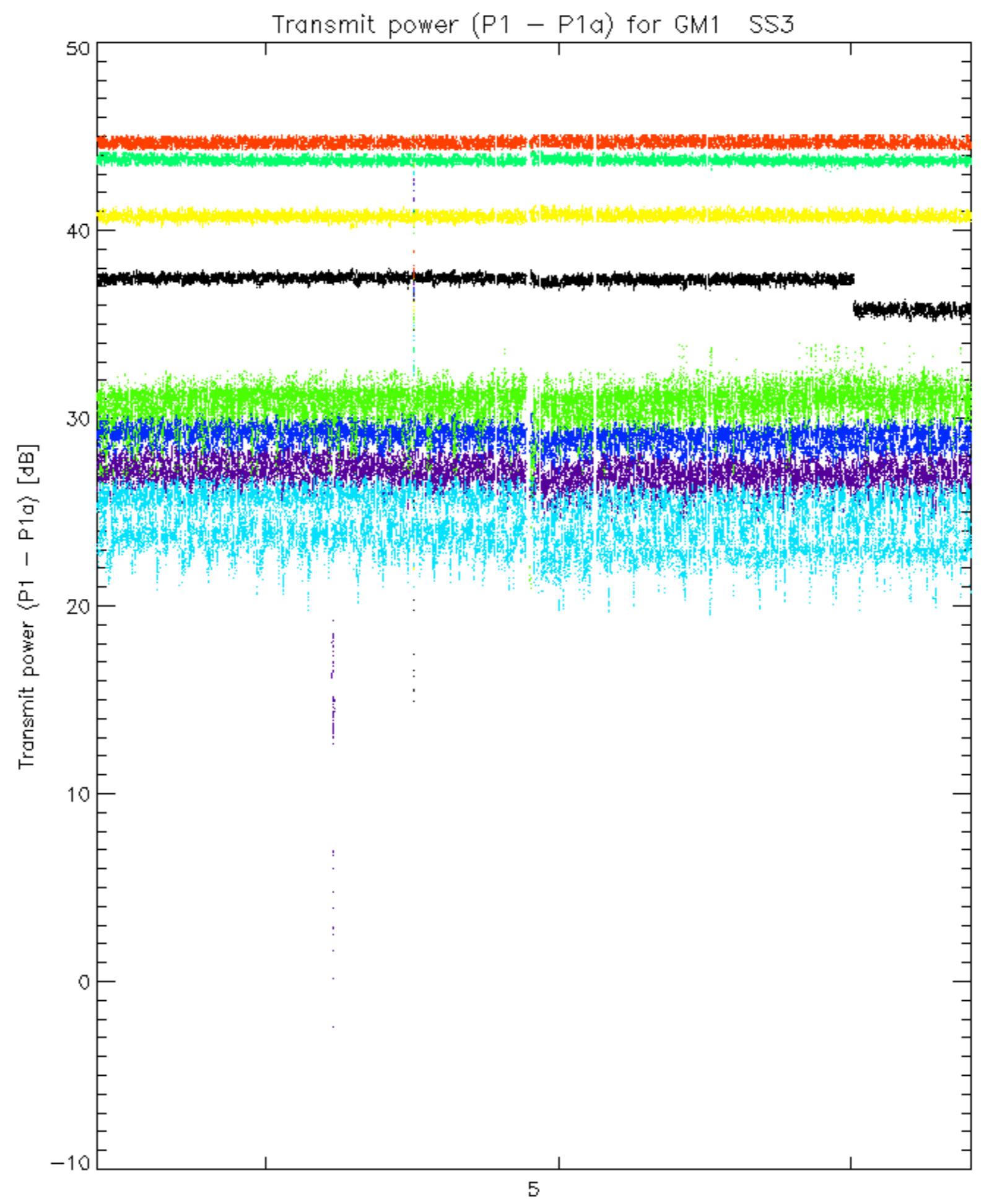




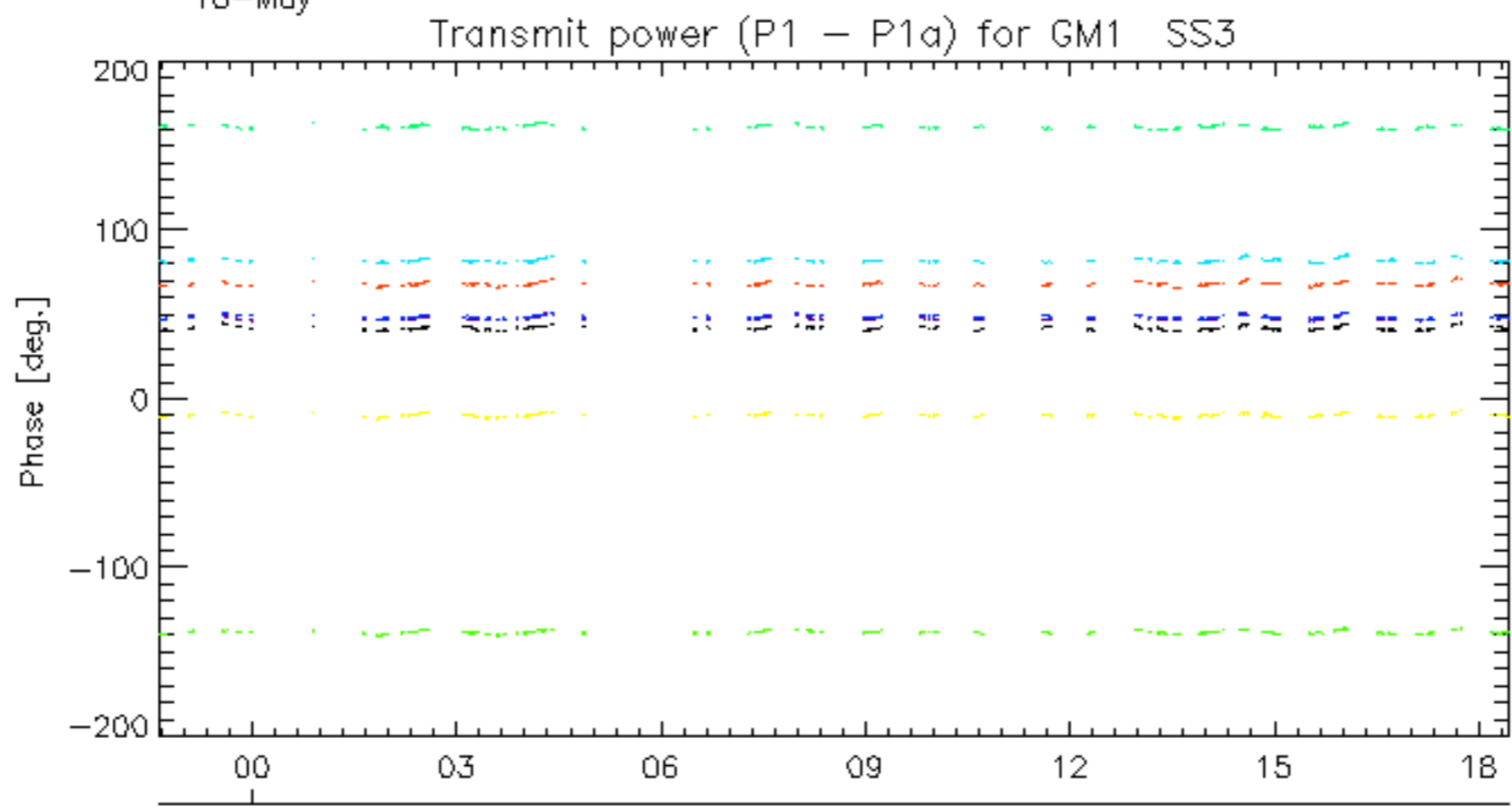
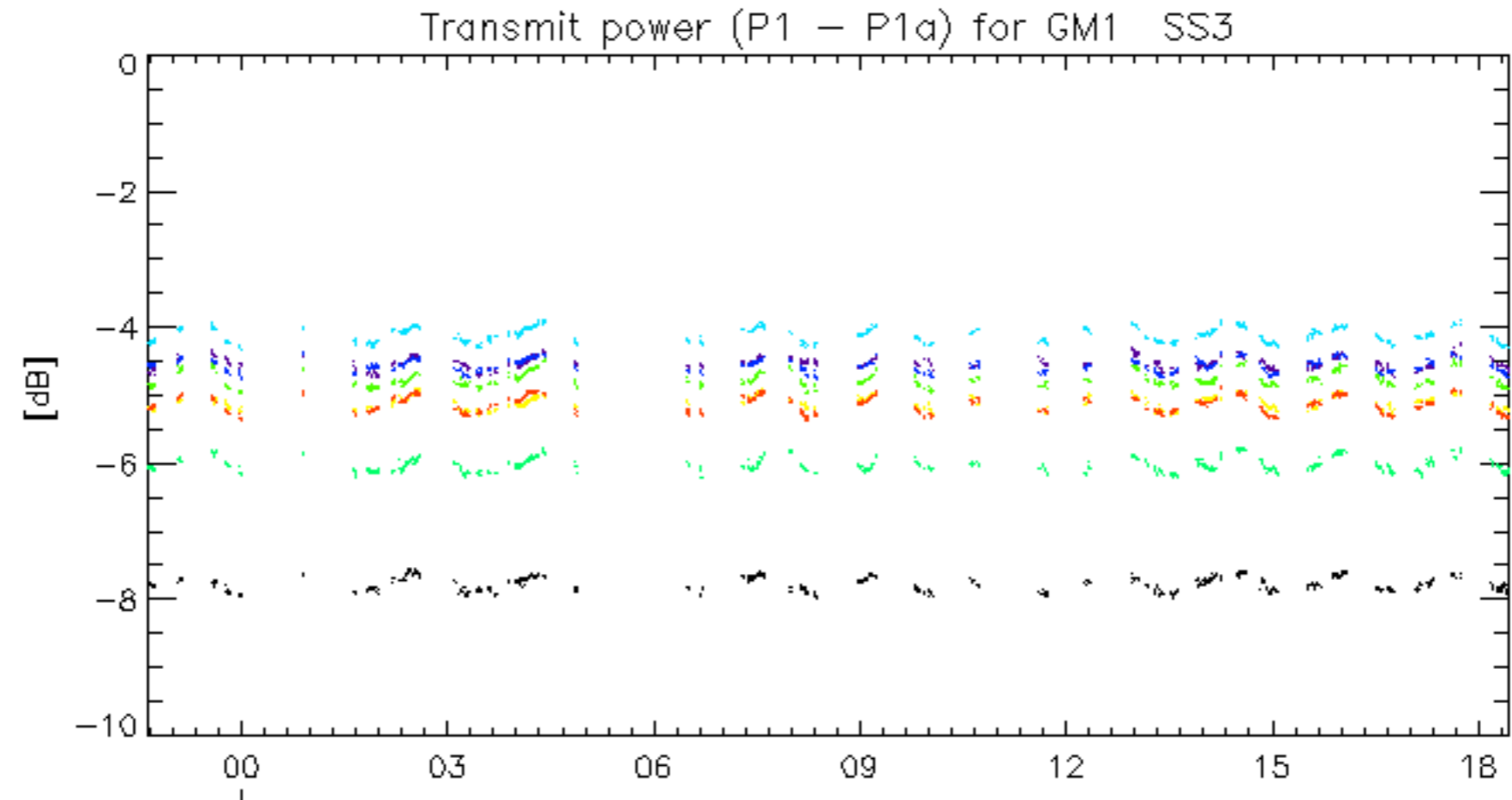






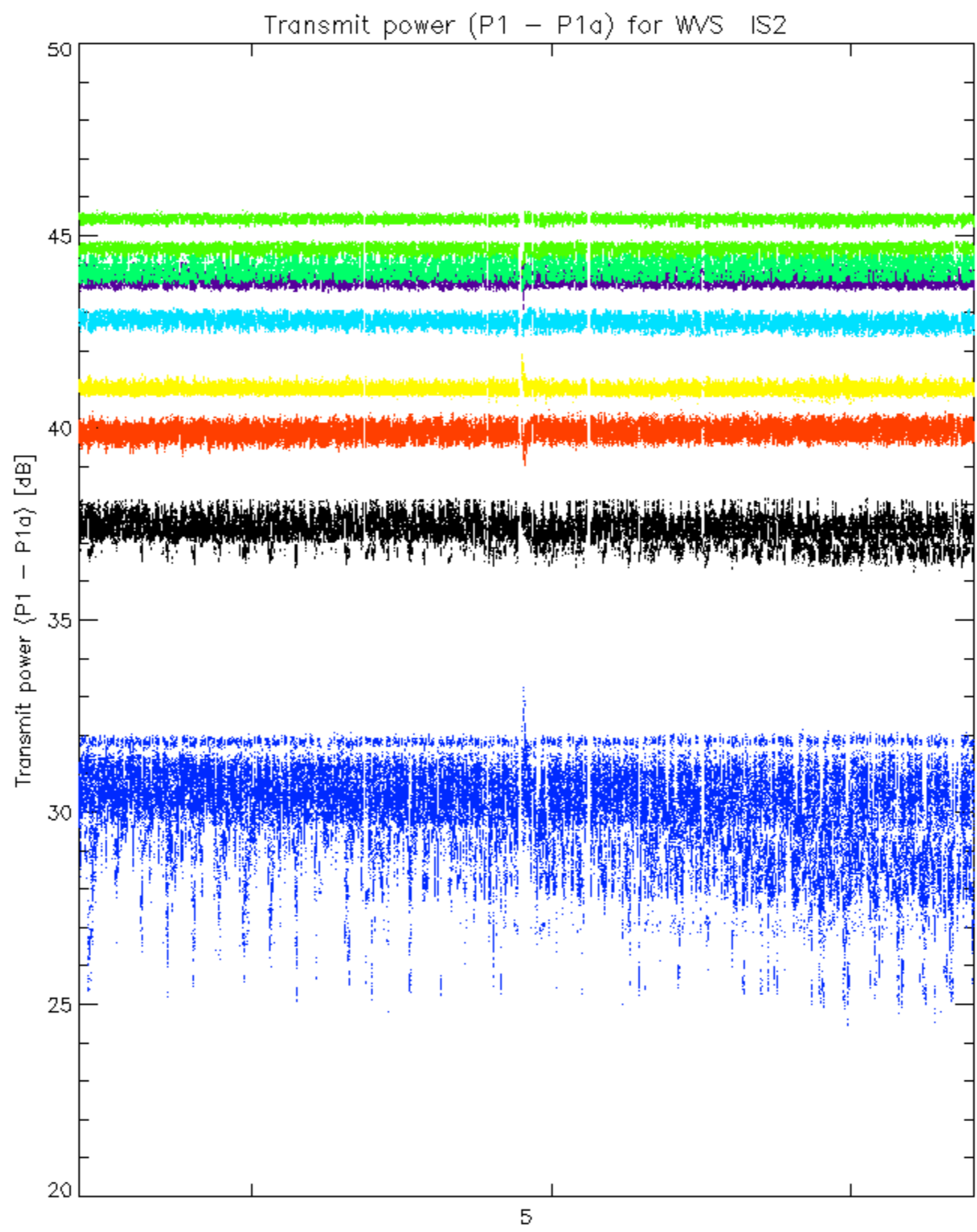


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

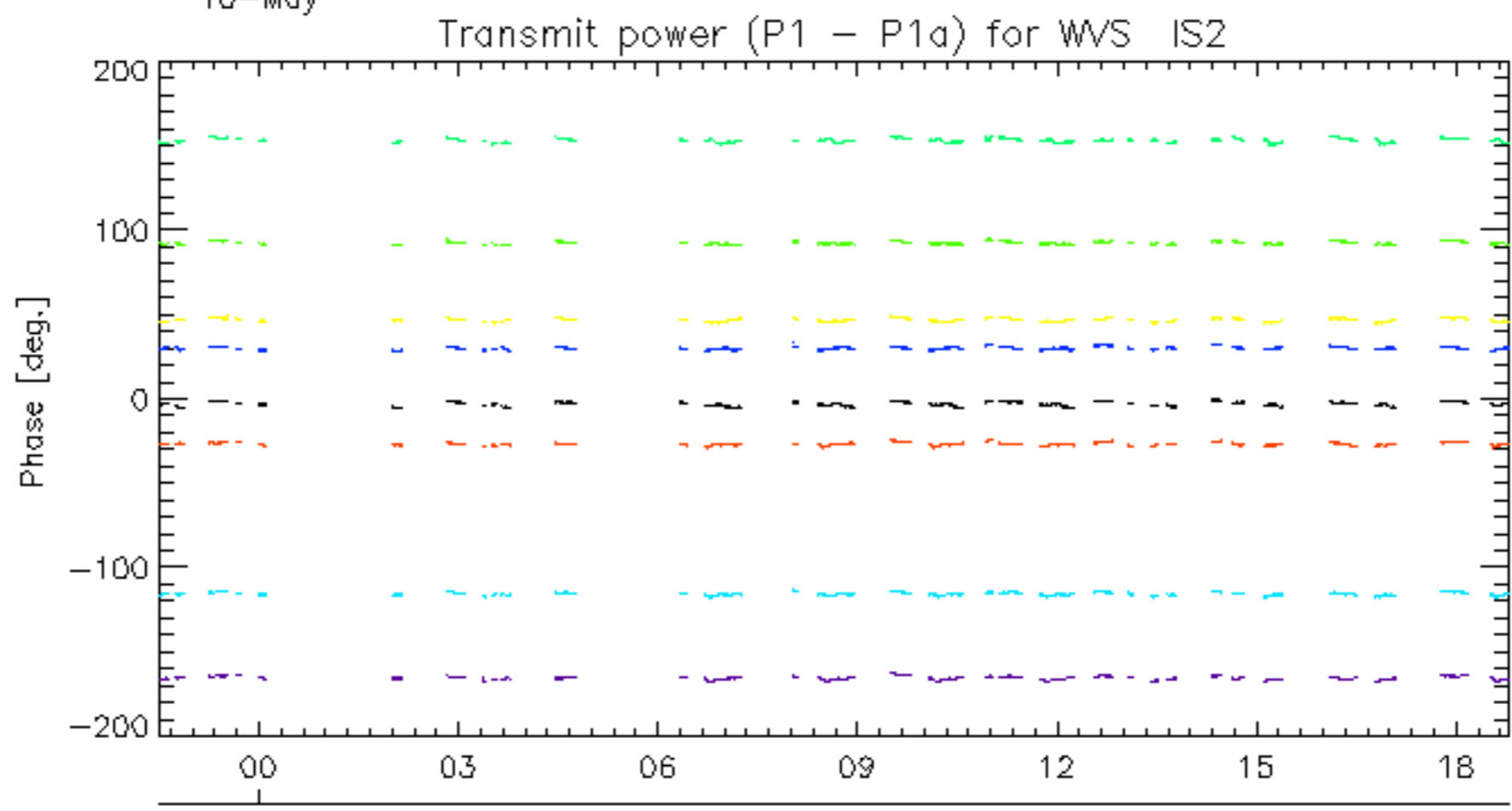
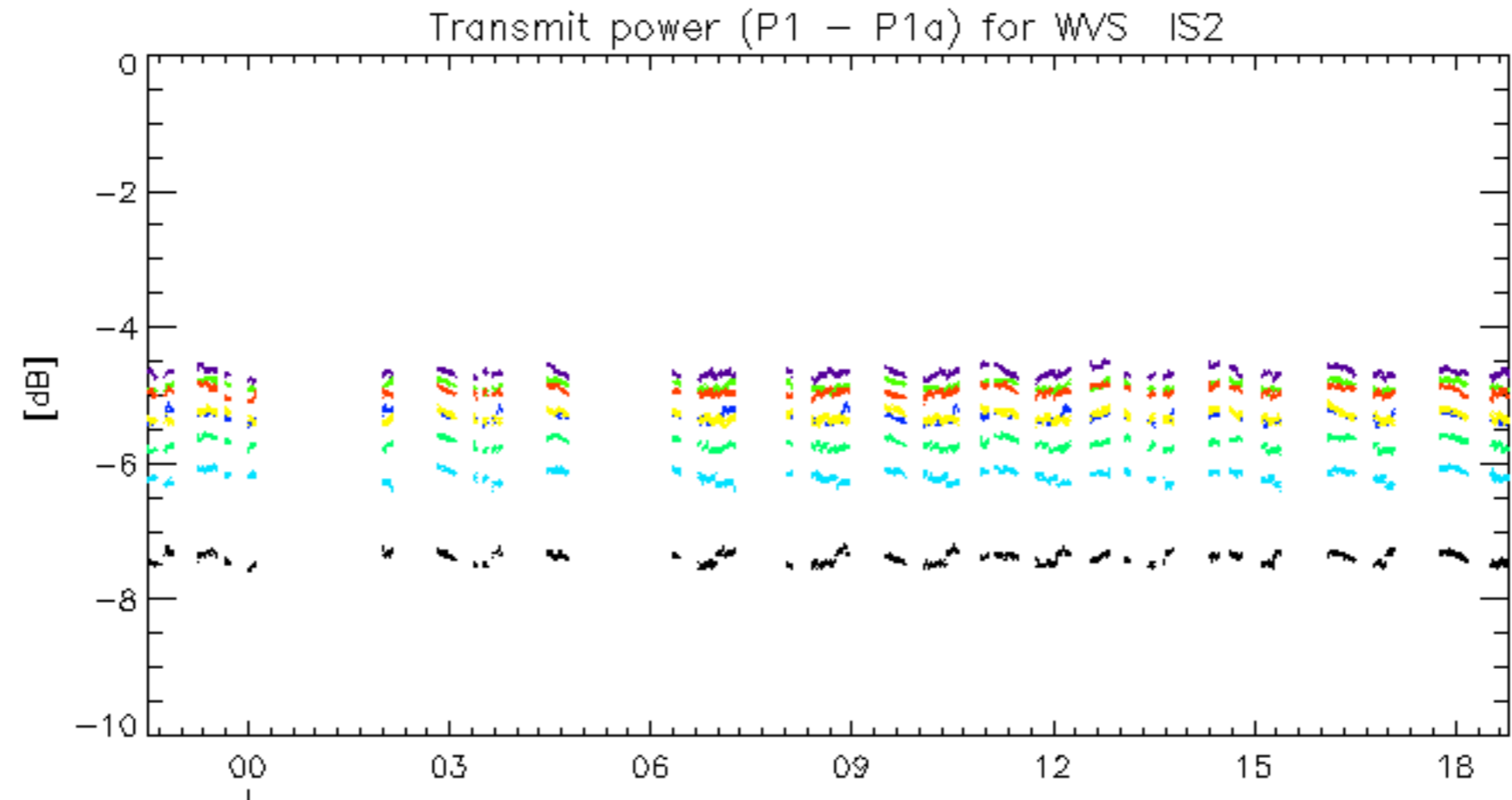


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rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.