

# PRELIMINARY REPORT OF 070425

last update on Wed Apr 25 17:56:01 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 2007-04-24 00:00:00 to 2007-04-25 17:56:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	31	60	14	1	21
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	31	60	14	1	21
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	31	60	14	1	21
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	31	60	14	1	21

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	45	64	44	11	61
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	45	64	44	11	61
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	45	64	44	11	61
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	45	64	44	11	61

### 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	20070425 073837
H	20070424 081014

### 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
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**P1a Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1a	-15.074748	0.147431	-0.121978
7	P1a	-17.547541	0.108142	-0.068680
11	P1a	-17.463177	0.345241	-0.805324
15	P1a	-12.980499	0.115802	-0.349550
19	P1a	-15.321499	0.069196	-0.371297
22	P1a	-15.895058	0.418319	-0.443922
26	P1a	-15.038557	0.211275	0.535454
30	P1a	-17.666788	0.327039	-0.666152

**P1t Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.763852	0.010794	-0.028529
7	P1	-3.145706	0.009030	-0.001226
11	P1	-4.207974	0.012245	-0.013143
15	P1	-6.399879	0.019169	-0.124034
19	P1	-3.784942	0.010519	0.059947
22	P1	-4.746600	0.009315	-0.032686
26	P1	-3.920614	0.019427	0.111361
30	P1	-5.966886	0.009543	0.039651

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.659563	0.090334	-0.011292
7	P2	-21.566040	0.087262	0.122402
11	P2	-15.363073	0.115426	0.240847
15	P2	-7.123405	0.088343	-0.002641
19	P2	-9.115562	0.079627	0.047889
22	P2	-18.085361	0.076858	0.030585
26	P2	-16.612762	0.080924	-0.041979
30	P2	-19.278830	0.082365	0.061797

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.243566	0.005485	0.003892
7	P3	-8.243566	0.005485	0.003892
11	P3	-8.243566	0.005485	0.003892
15	P3	-8.243566	0.005485	0.003892
19	P3	-8.243566	0.005485	0.003892
22	P3	-8.243566	0.005485	0.003892
26	P3	-8.243566	0.005485	0.003892
30	P3	-8.243566	0.005485	0.003892

**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	-11.198267	0.148552	-0.128340
7	P1a	-10.070226	0.232329	-0.047683
11	P1a	-10.689147	0.111142	0.061979
15	P1a	-10.844796	0.176294	0.083902
19	P1a	-15.793885	0.093701	-0.051825
22	P1a	-21.375786	1.455243	-0.657596
26	P1a	-15.494619	0.384831	-0.323292
30	P1a	-18.312698	0.471708	0.348525

**P1t Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-8.453162	0.059024	-0.011349
7	P1	-2.414370	0.131164	0.032710
11	P1	-2.892408	0.028218	0.067496
15	P1	-3.821496	0.039554	0.052057
19	P1	-3.584710	0.014851	-0.007954
22	P1	-4.974317	0.023521	0.102952

26	P1	-6.032407	0.029625	-0.023983
30	P1	-5.335132	0.034753	-0.007510

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.171724	0.066061	-0.066406
7	P2	-22.033882	0.227877	-0.003561
11	P2	-10.631898	0.046891	-0.014431
15	P2	-4.917194	0.041377	-0.084342
19	P2	-6.867546	0.040265	-0.027815
22	P2	-8.111017	0.104375	0.008144
26	P2	-24.319160	0.167898	-0.018398
30	P2	-21.712793	0.117004	0.071283

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.090694	0.004979	-0.002593
7	P3	-8.090698	0.004989	-0.001998
11	P3	-8.090532	0.004983	-0.002755
15	P3	-8.090437	0.004985	-0.002683
19	P3	-8.090601	0.005007	-0.002279
22	P3	-8.090523	0.004968	-0.001855
26	P3	-8.090573	0.004989	-0.001886
30	P3	-8.090482	0.004985	-0.002110

## 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	0.000542653
	stdev	2.02251e-07
MEAN Q	mean	0.000491939
	stdev	2.44363e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.135430
	stdev	0.00123020
STDEV Q	mean	0.135821
	stdev	0.00124785



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2007042[345]

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_WVS_1PNPDK20070424_070914_000005242057_00307_26914_0654.N1	0	16
ASA_GM1_1PNPDK20070423_080100_000001442057_00293_26900_9584.N1	0	13
ASA_GM1_1PNPDK20070424_081833_000004652057_00307_26914_0773.N1	0	7
ASA_GM1_1PNPDK20070424_100424_000000722057_00308_26915_0914.N1	0	31
ASA_GM1_1PNPDK20070424_200057_000005732057_00314_26921_1741.N1	0	73

ASA_WSM_1PNPDE20070424_052315_000002022057_00306_26913_4879.N1	0	72
ASA_APM_1PNPDE20070424_021349_000000402057_00304_26911_4412.N1	13	0
ASA_APM_1PNPDK20070424_084924_000000402057_00308_26915_0777.N1	15	257



## 7 - Doppler Analysis

Preliminary report. The data is not yet controlled

### 7.1 - Unbiased Doppler Error for WVS

<b>Evolution of unbiased Doppler error (Real - Expected)</b>
<input type="checkbox"/>
Acsending
<input type="checkbox"/>
Descending

### 7.2 - Absolute Doppler for WVS

<b>Evolution of Absolute Doppler</b>
<input type="checkbox"/>
Acsending
<input type="checkbox"/>
Descending

### 7.3 - Doppler evolution versus ANX for WVS

<b>Evolution Doppler error versus ANX</b>
<input type="checkbox"/>



#### 7.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)	
<input type="checkbox"/>	
	Ascending
<input type="checkbox"/>	
	Descending

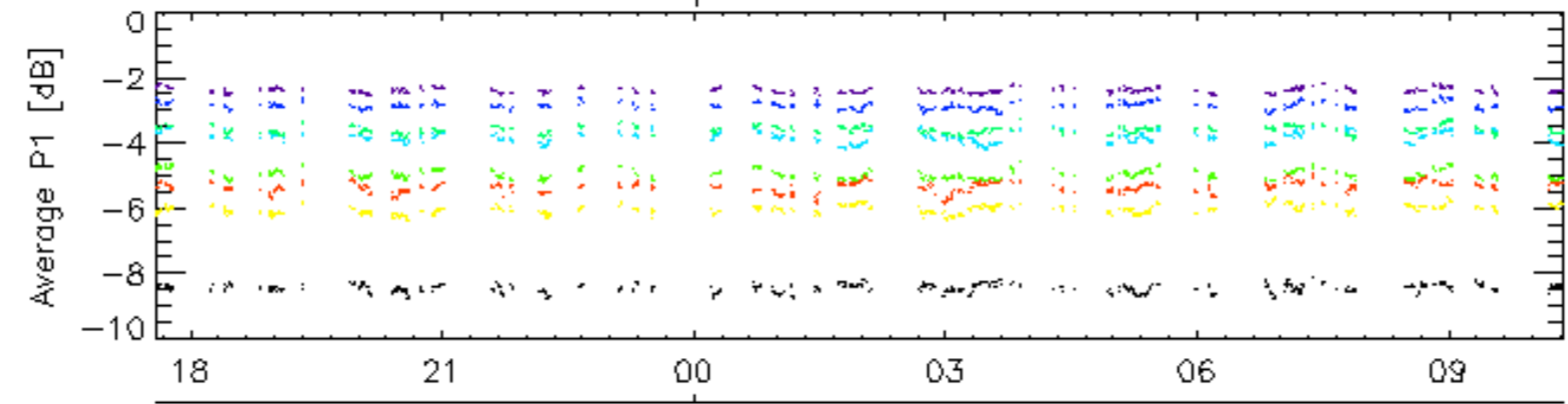
#### 7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler	
<input type="checkbox"/>	
	Ascending
<input type="checkbox"/>	
	Descending

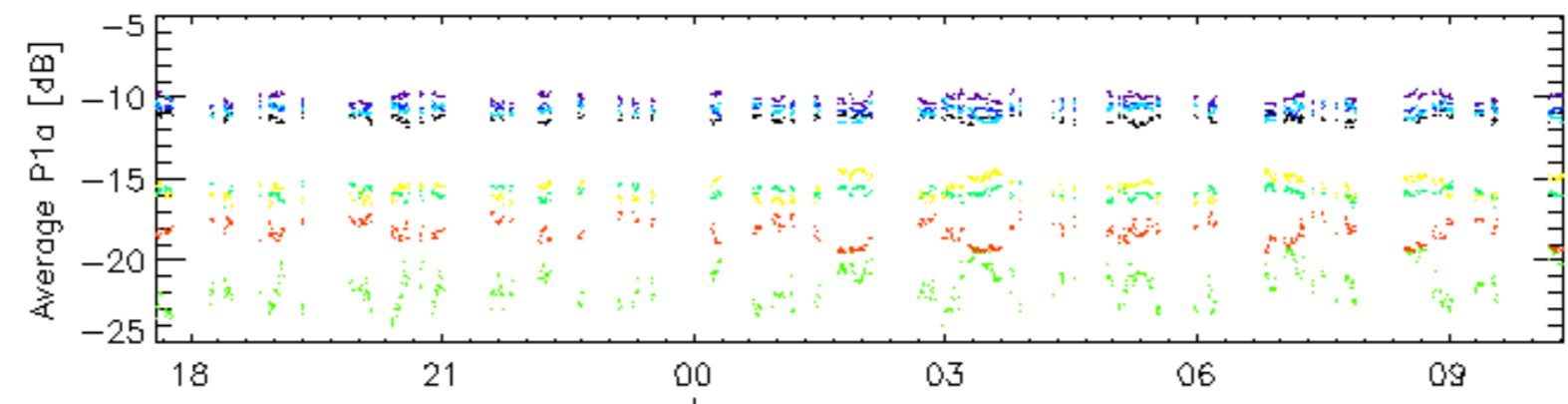
#### 7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX	
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Cal pulses for GM1 SS3

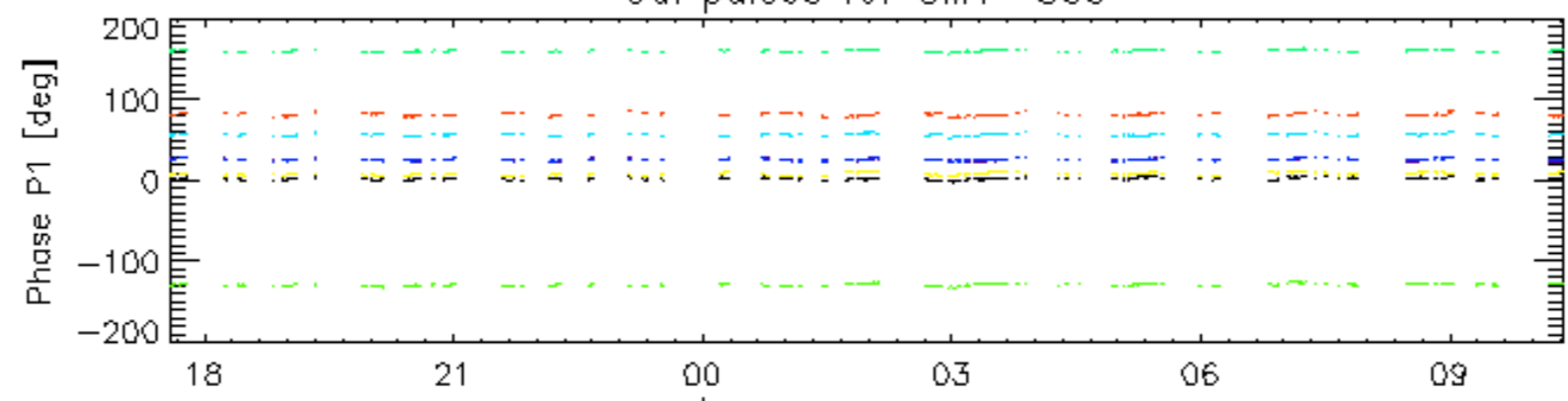


25-Apr

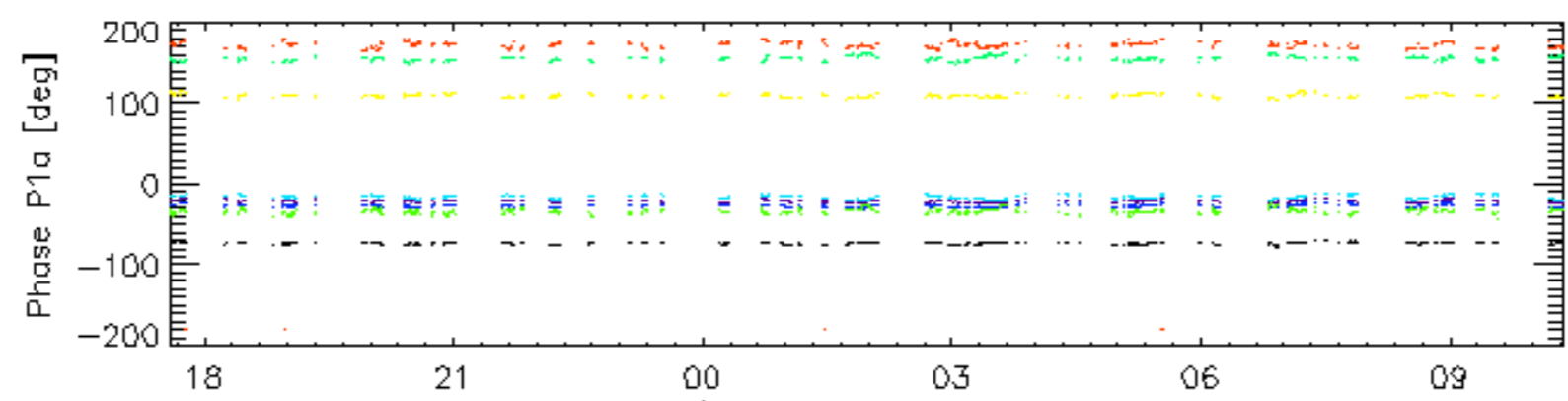


25-Apr

Cal pulses for GM1 SS3

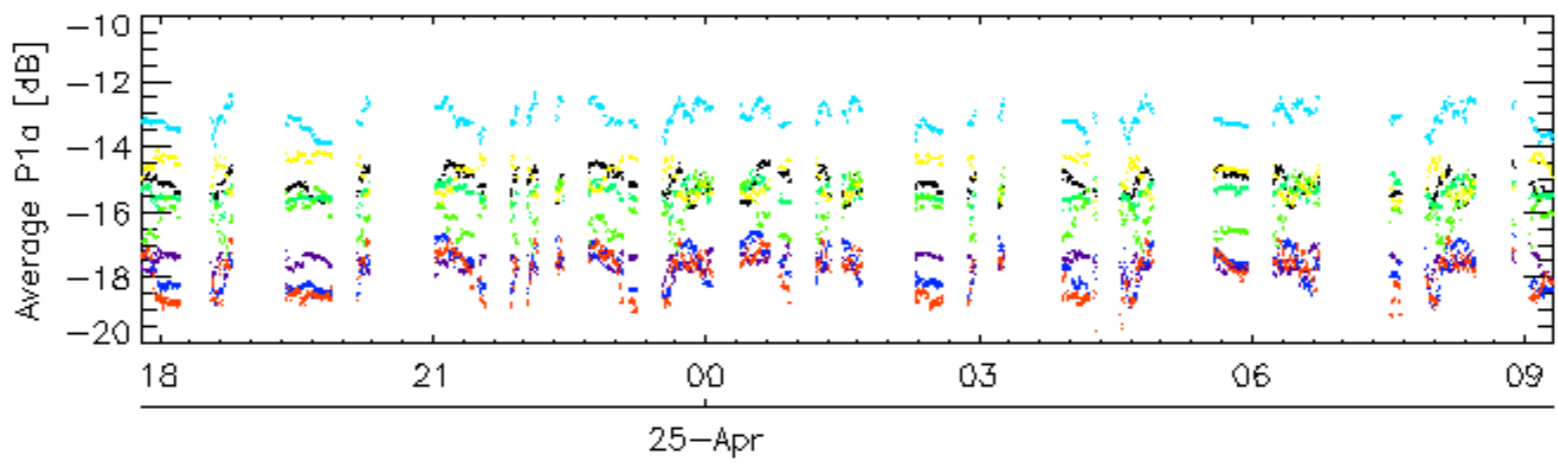
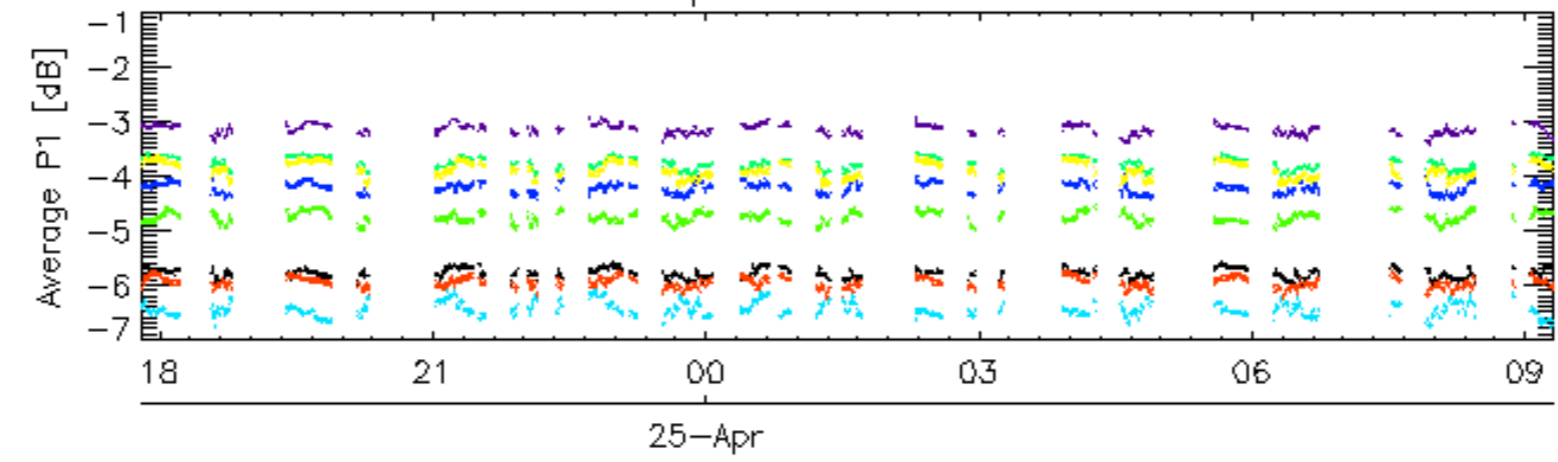


25-Apr

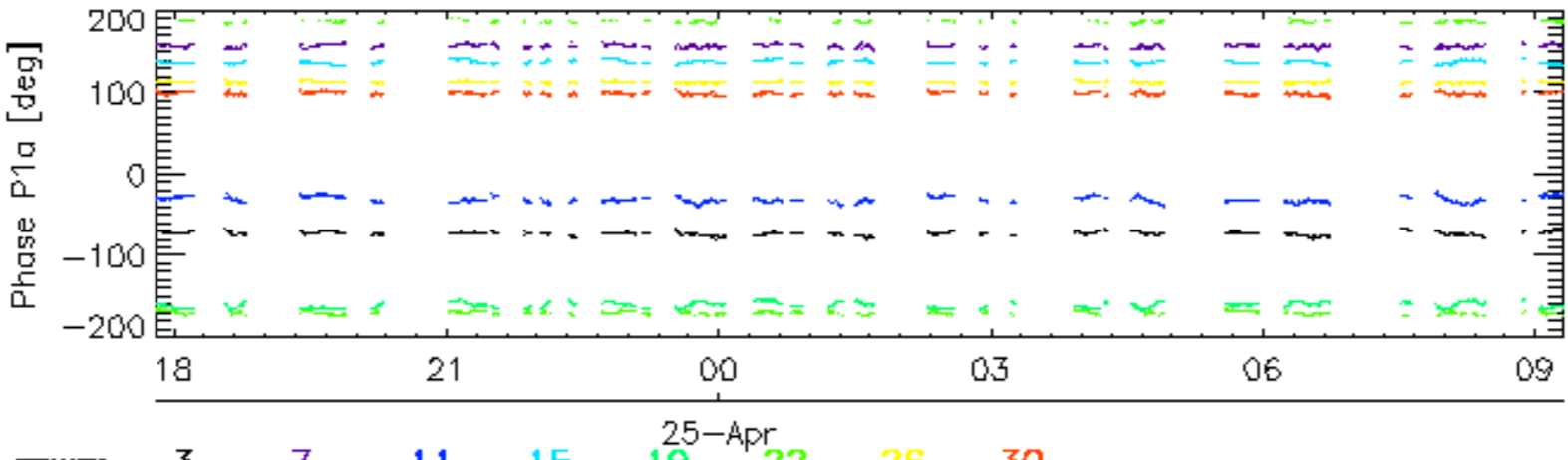
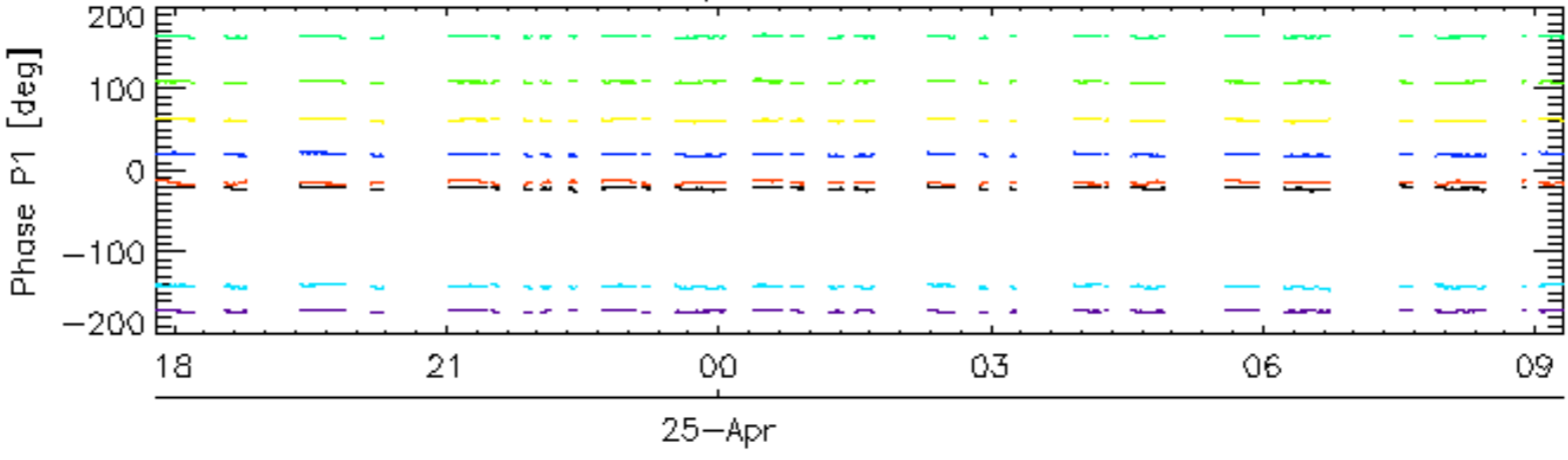


rows: 3 7 11 15 19 22 26 30

Cal pulses for WVS IS2

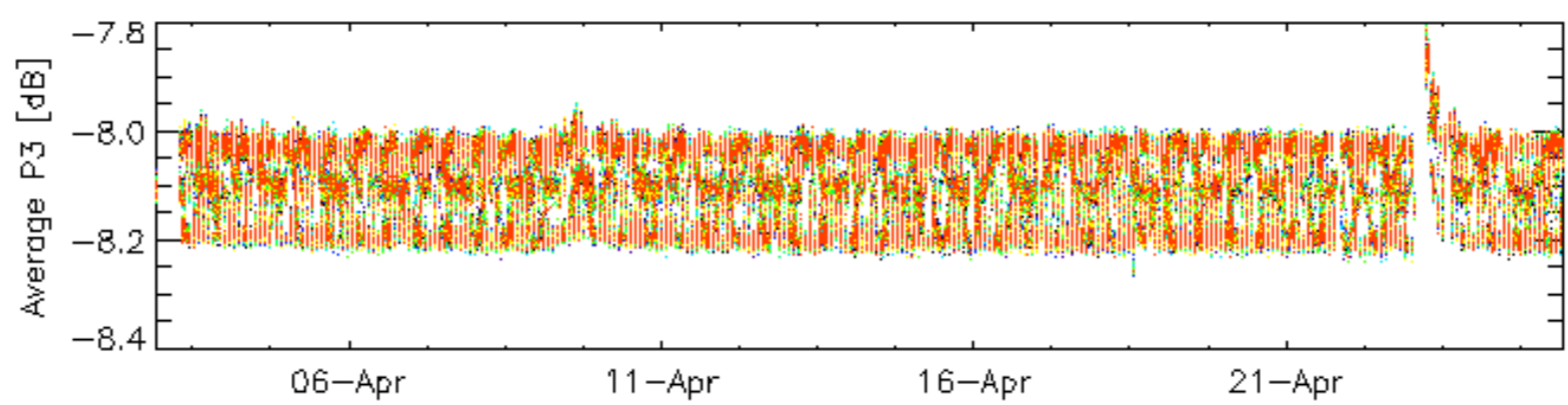
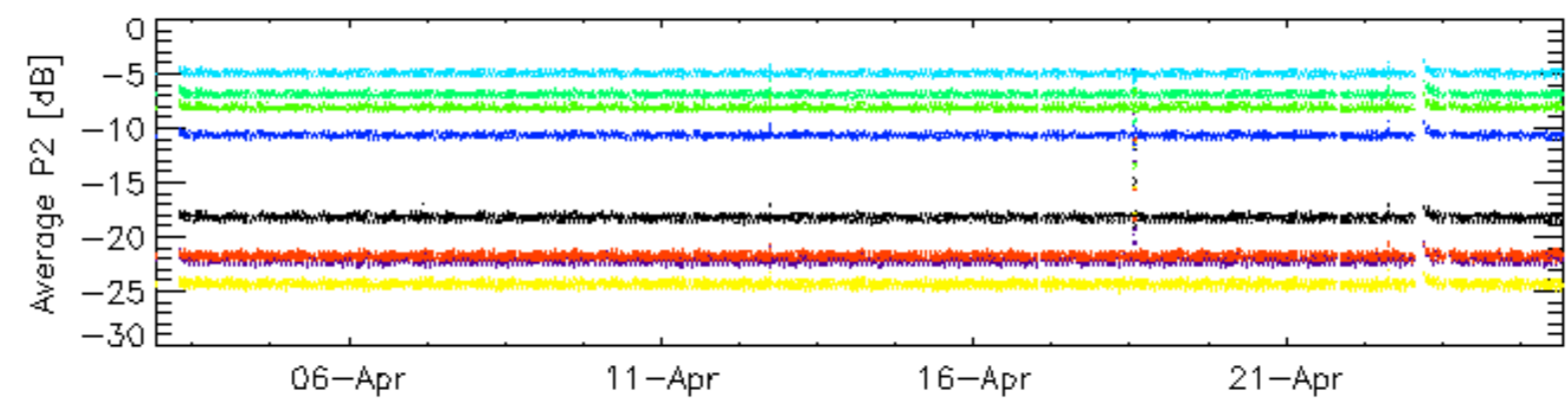
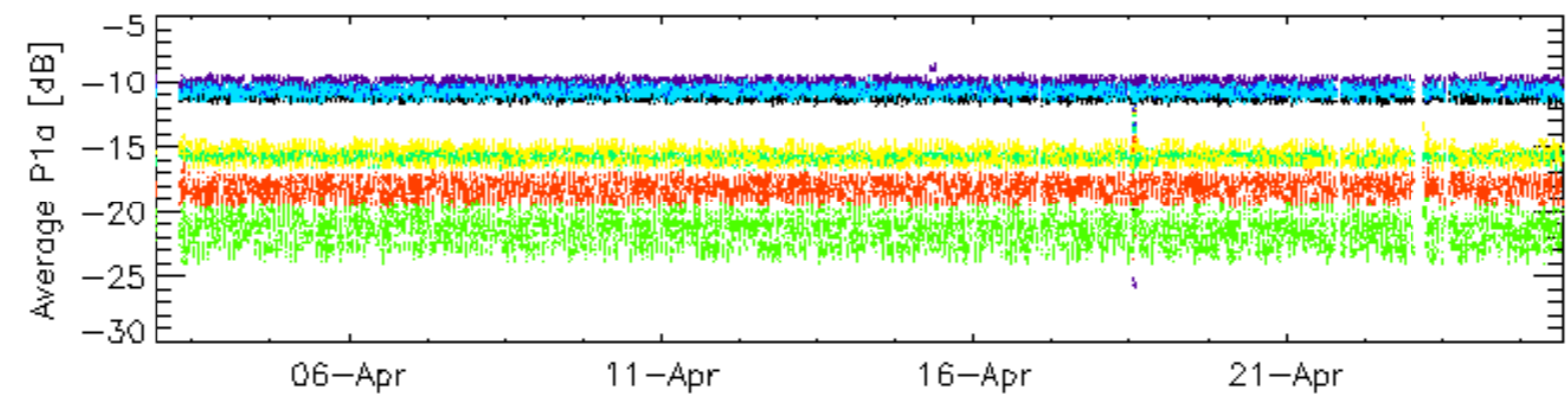
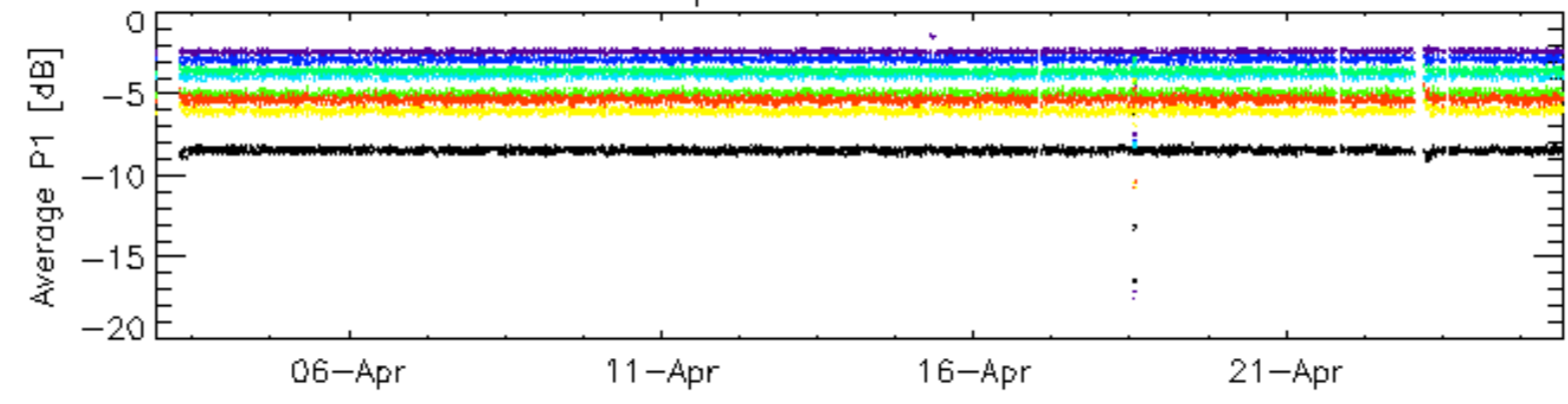


Cal pulses for WVS IS2



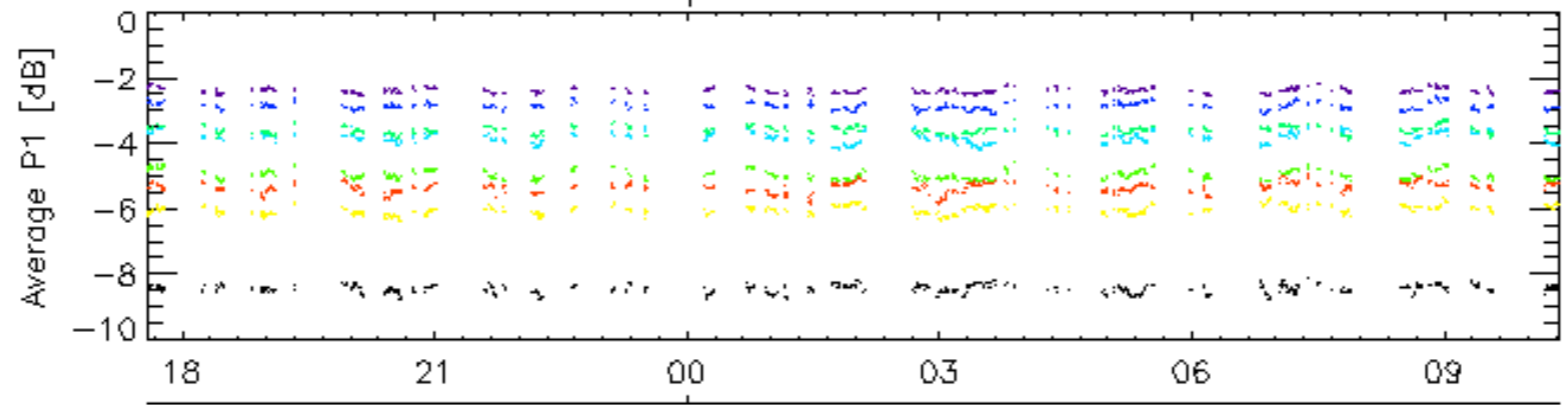
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

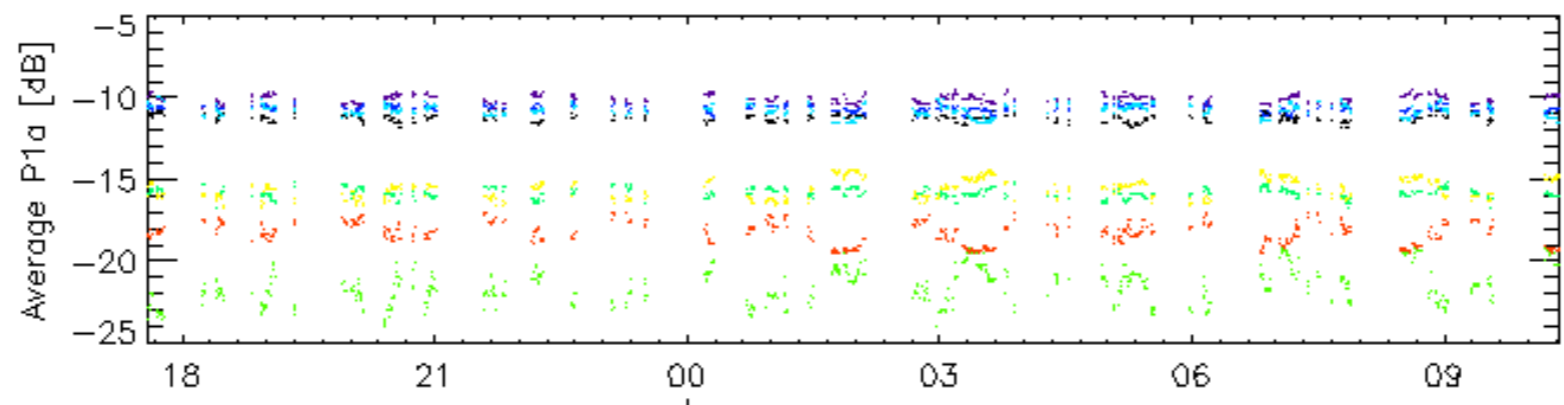


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

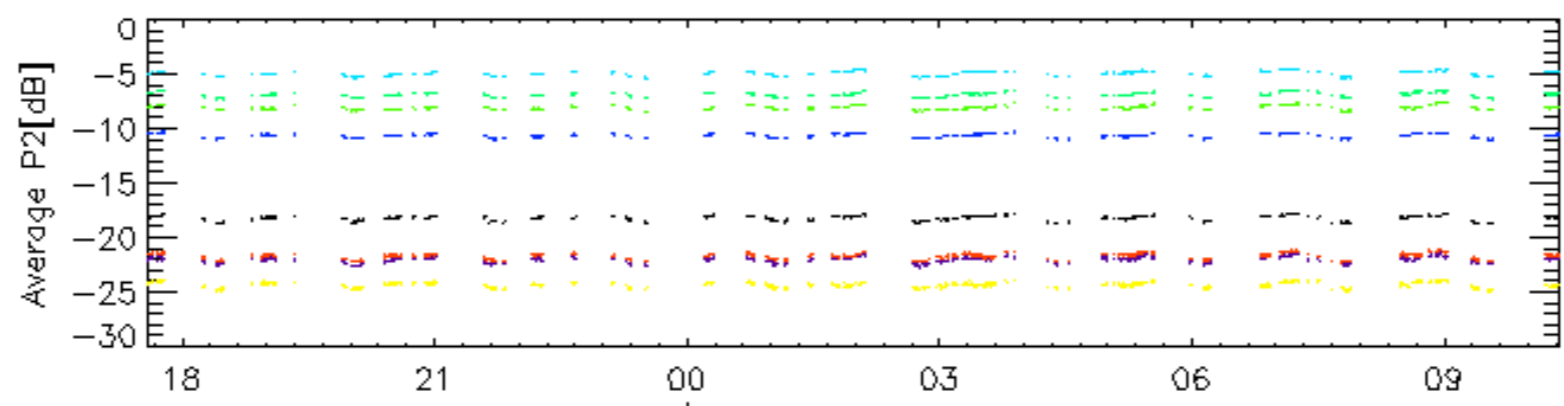
### Cal pulses for GM1 SS3



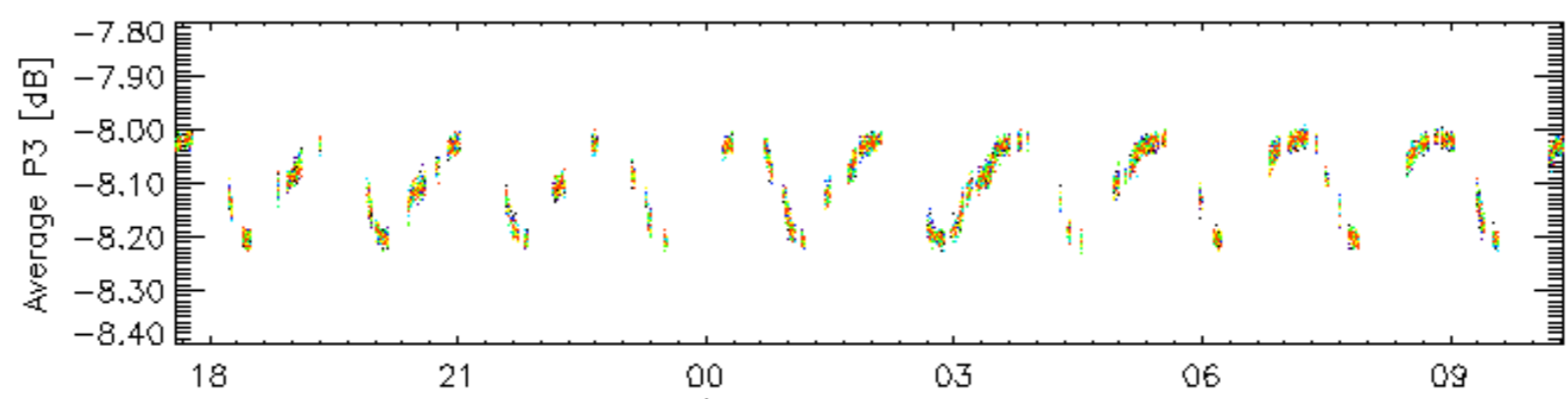
25-Apr



25-Apr



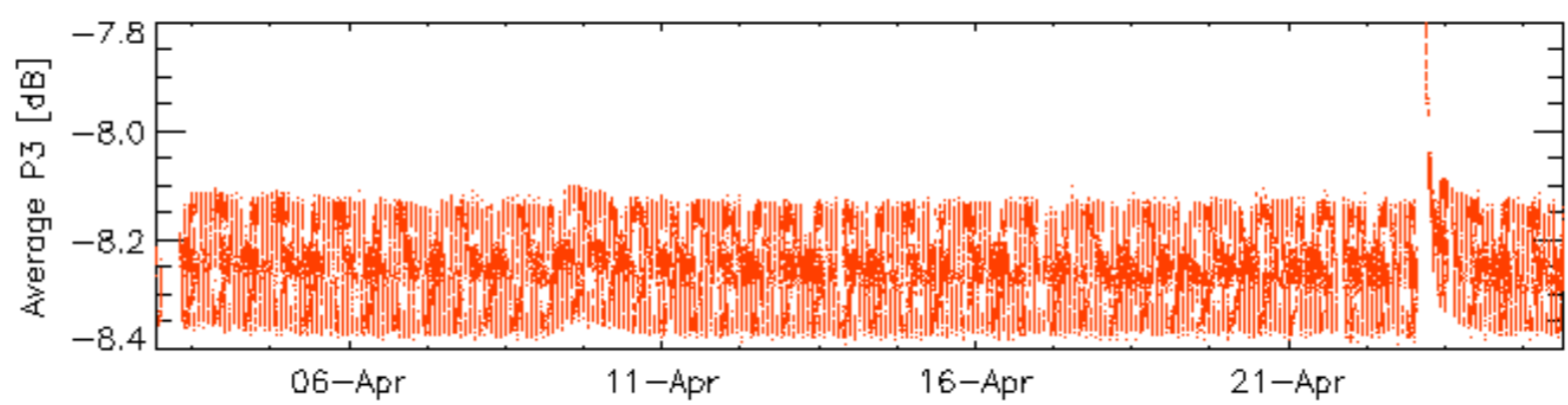
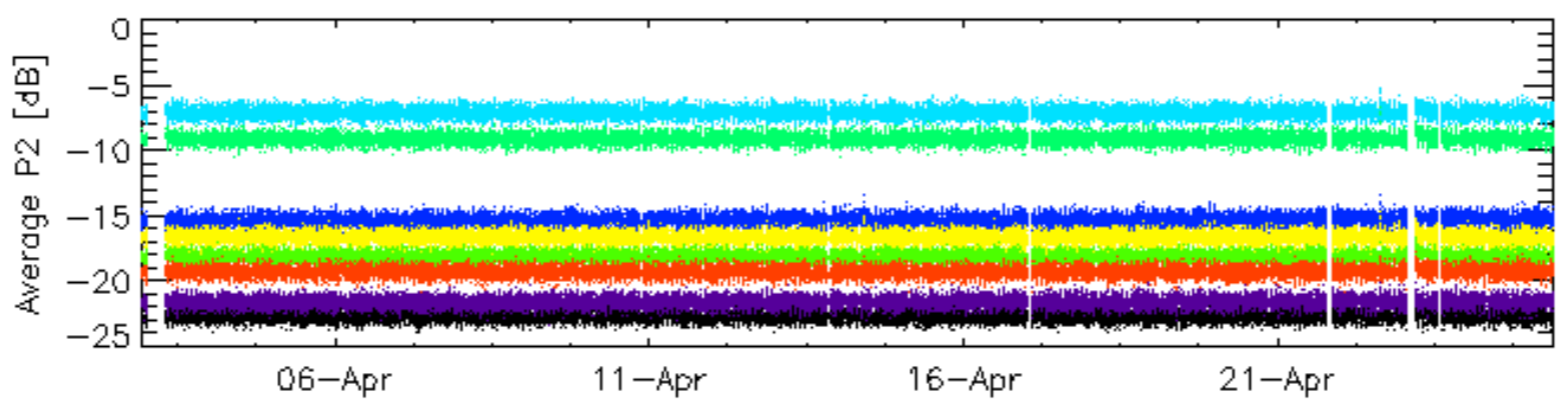
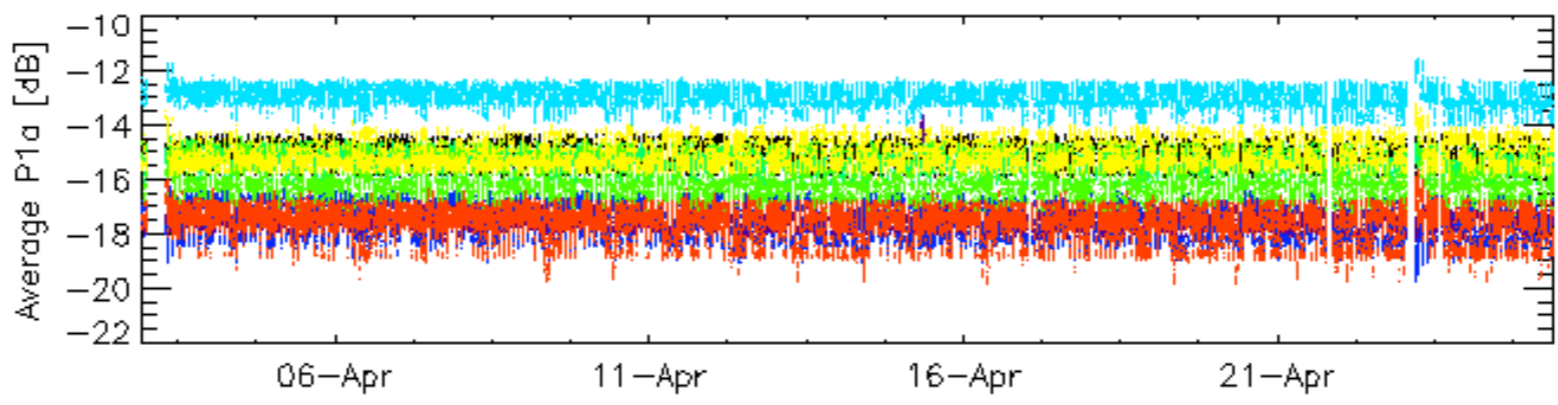
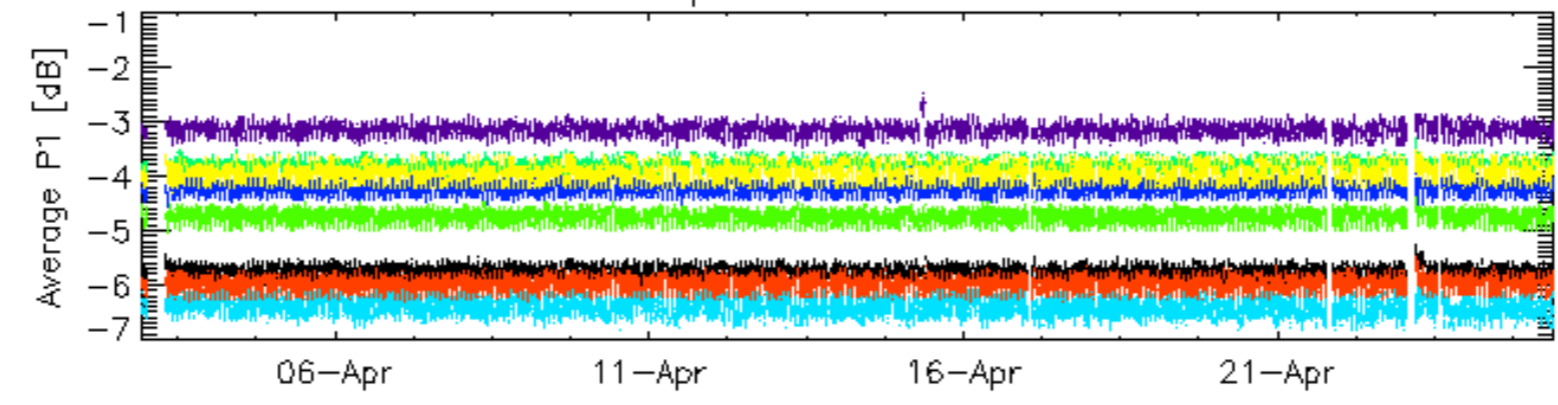
25-Apr



25-Apr

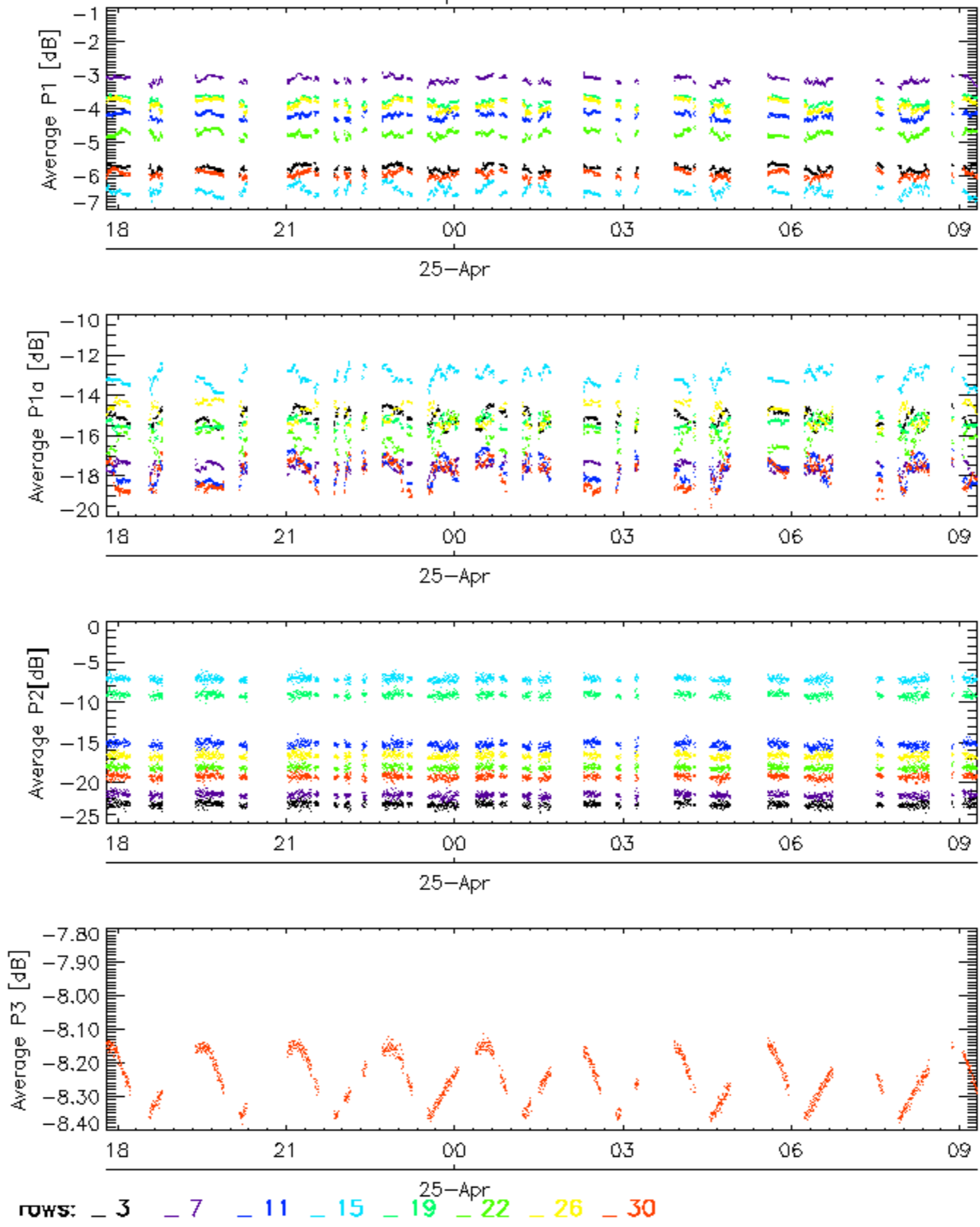
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2



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

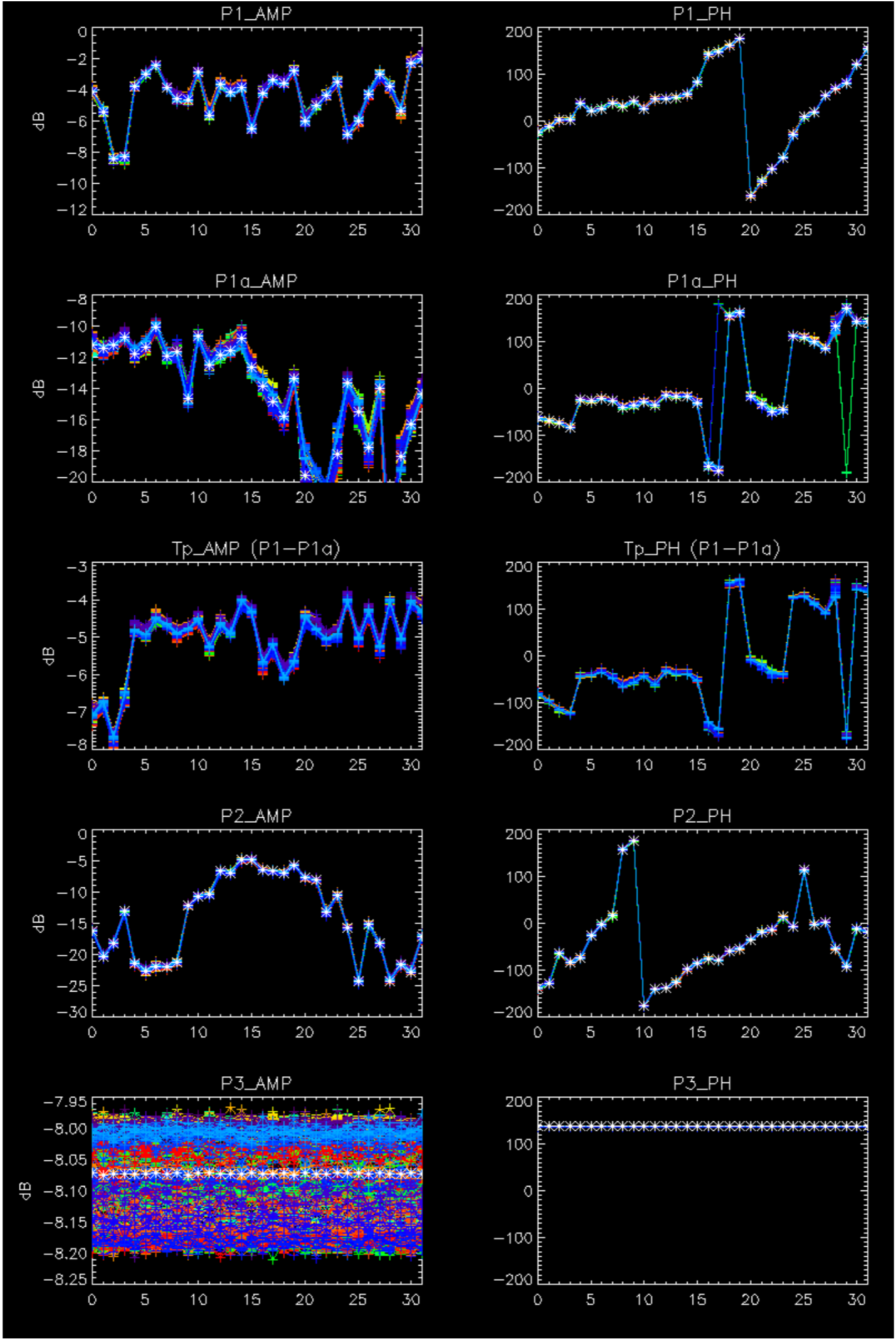
Cal pulses for WVS IS2

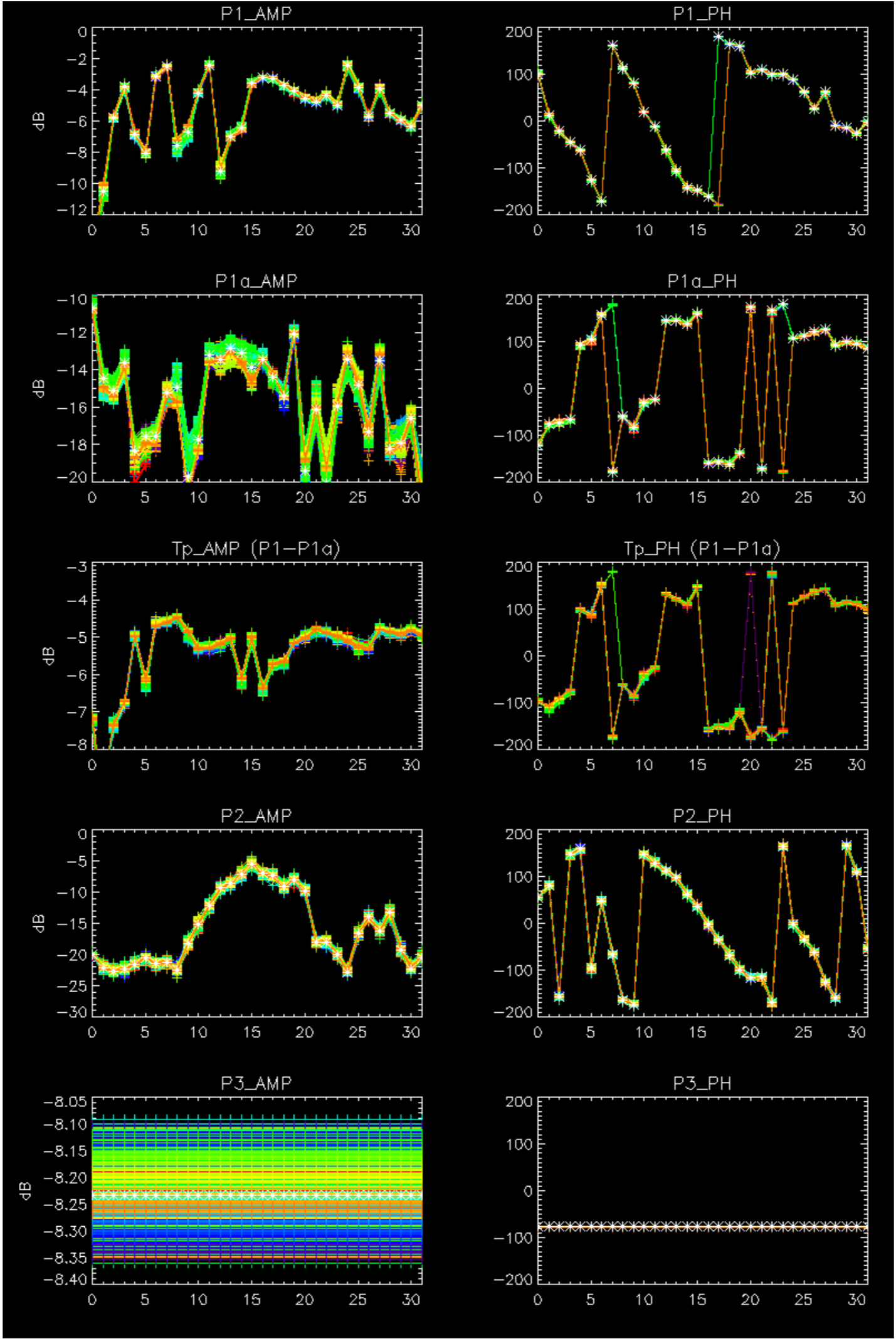


No anomalies observed on available browse products



No anomalies observed.

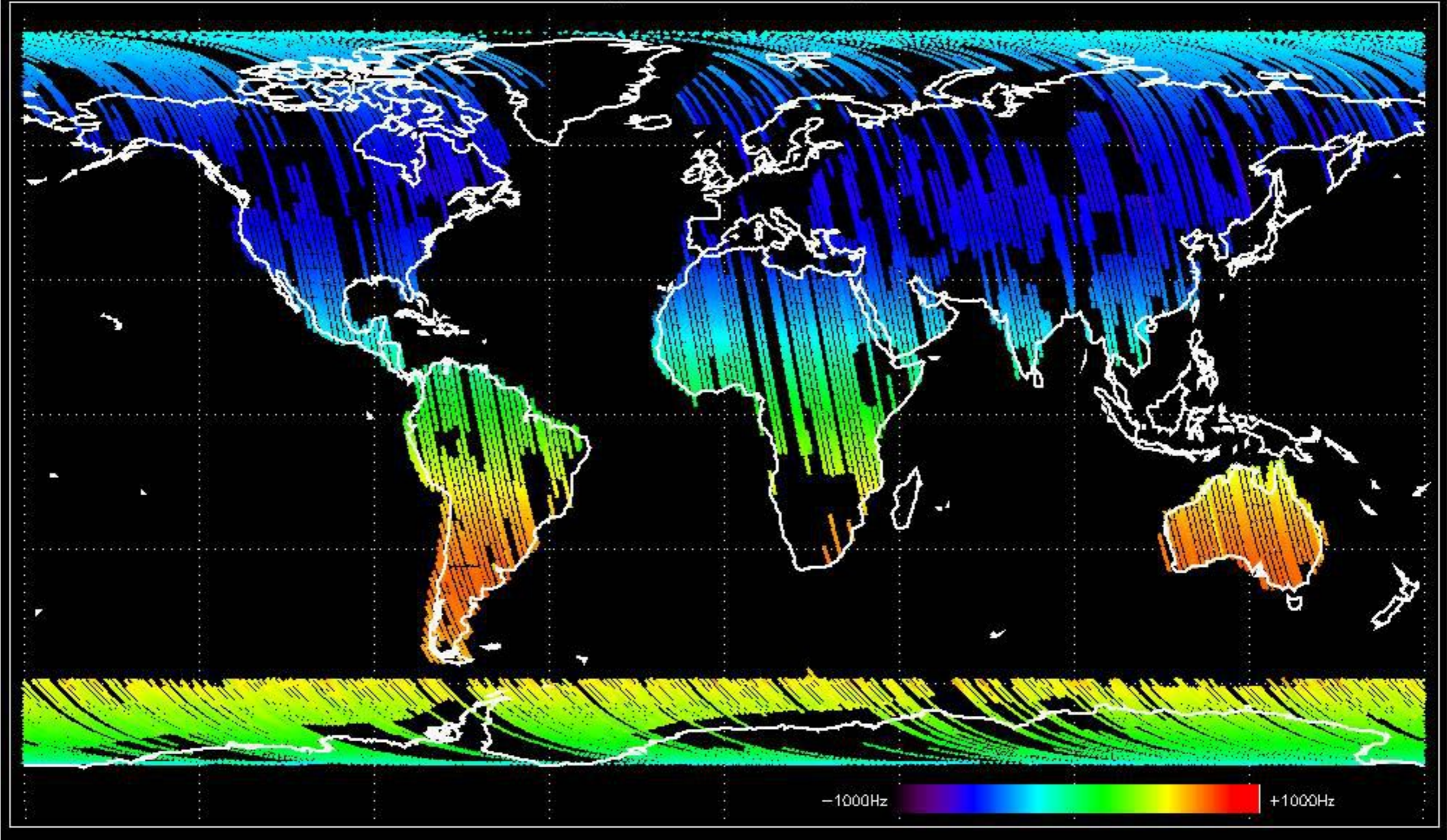




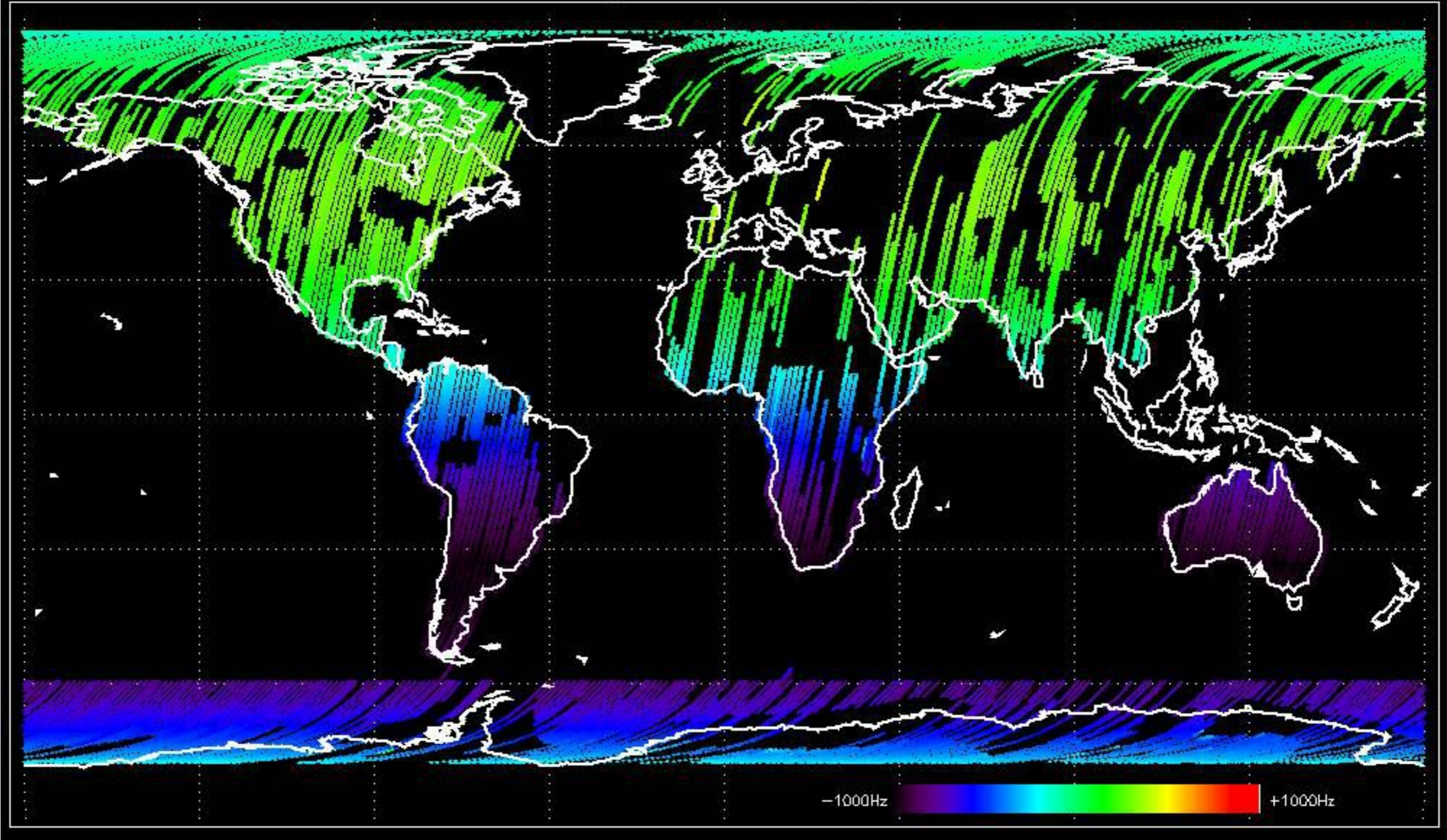
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



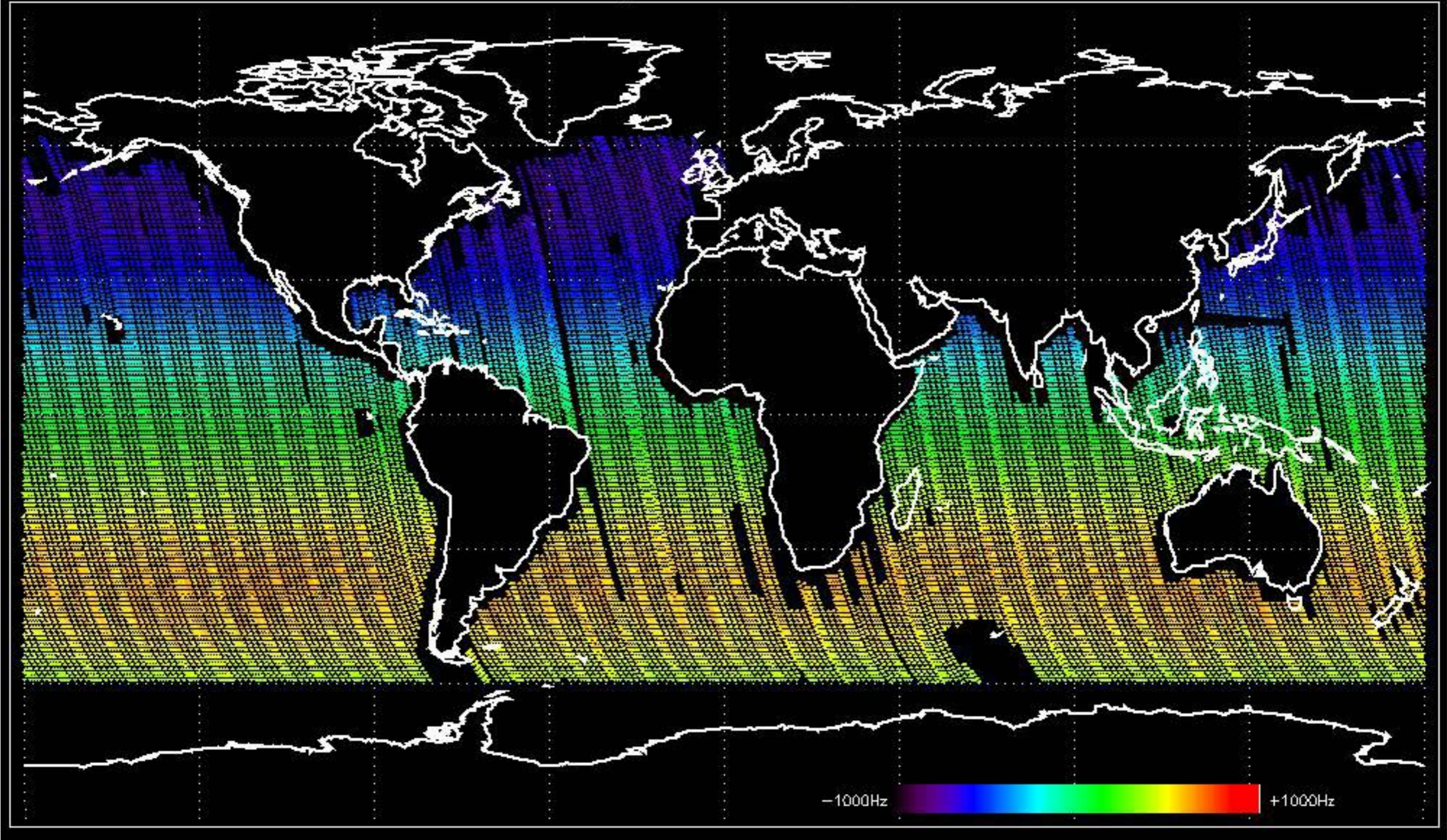
Doppler 'GM1' 'SS1' ascending



Doppler 'GM1' 'SS1' descending

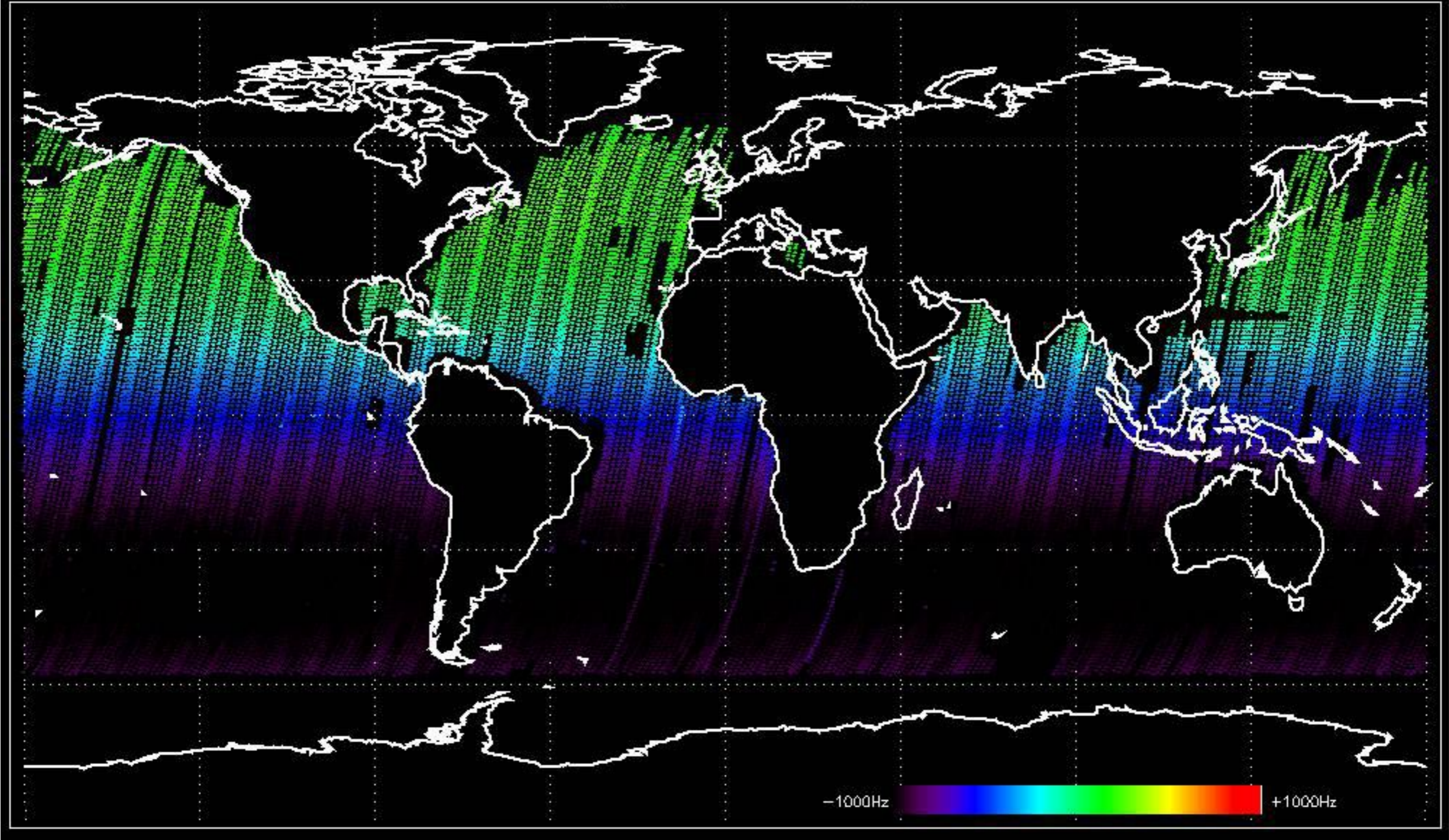


Doppler 'WVS' 'IS2' ascending

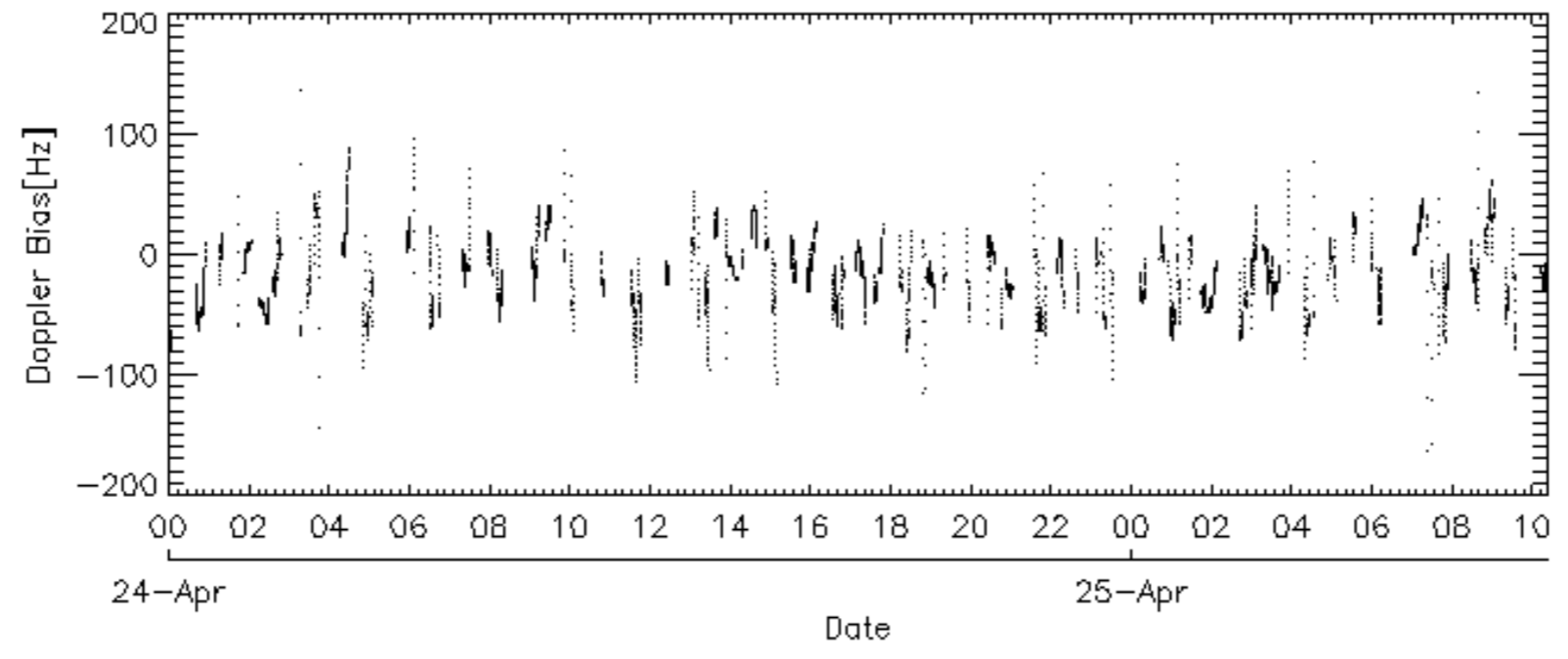
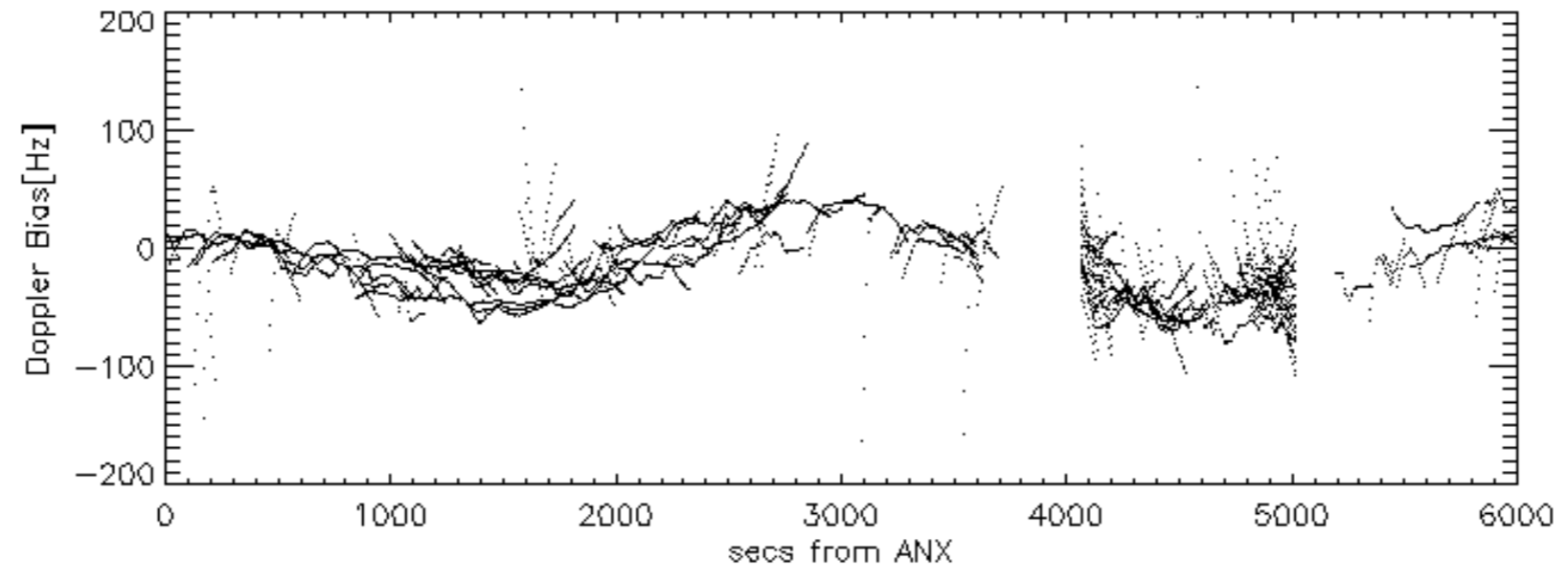
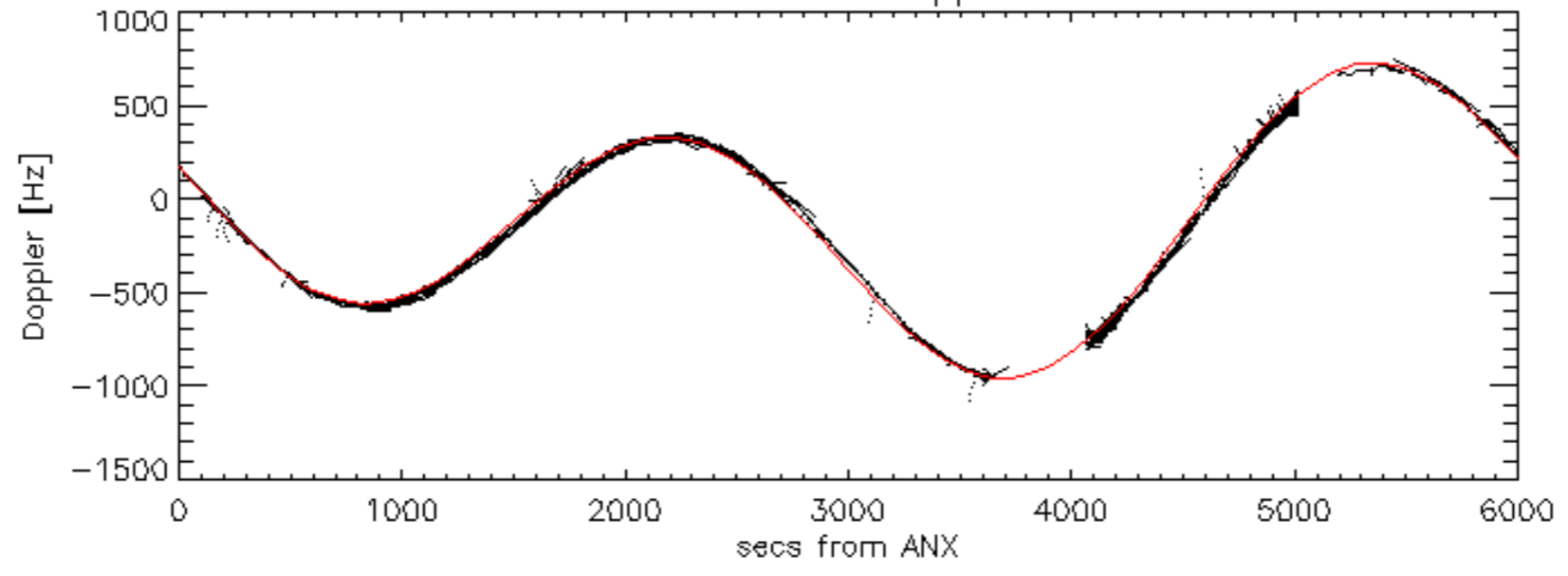


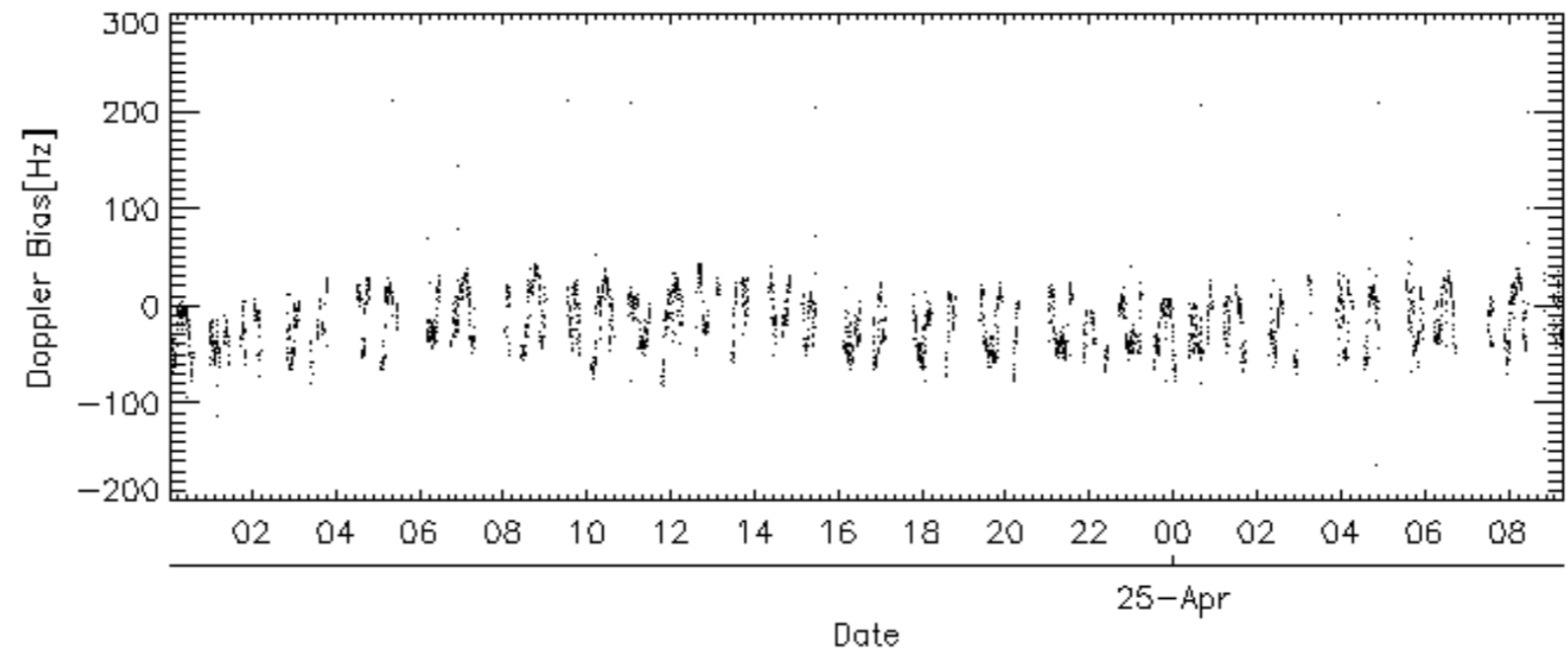
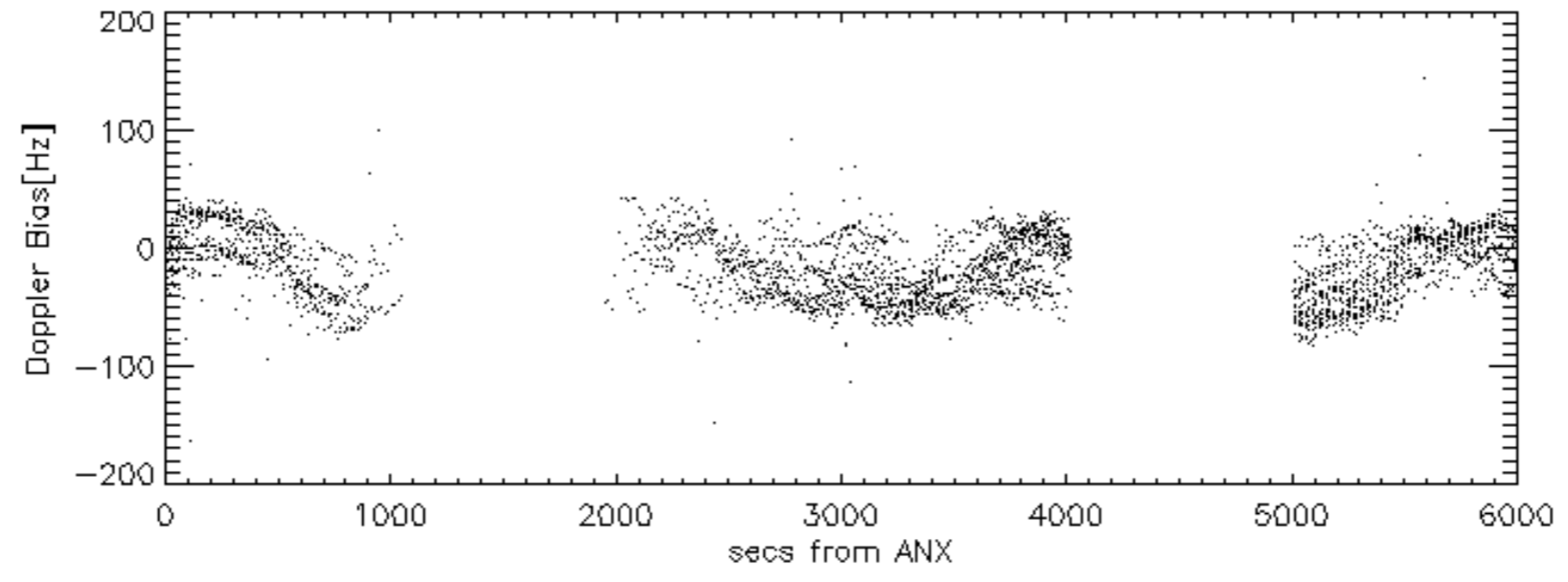
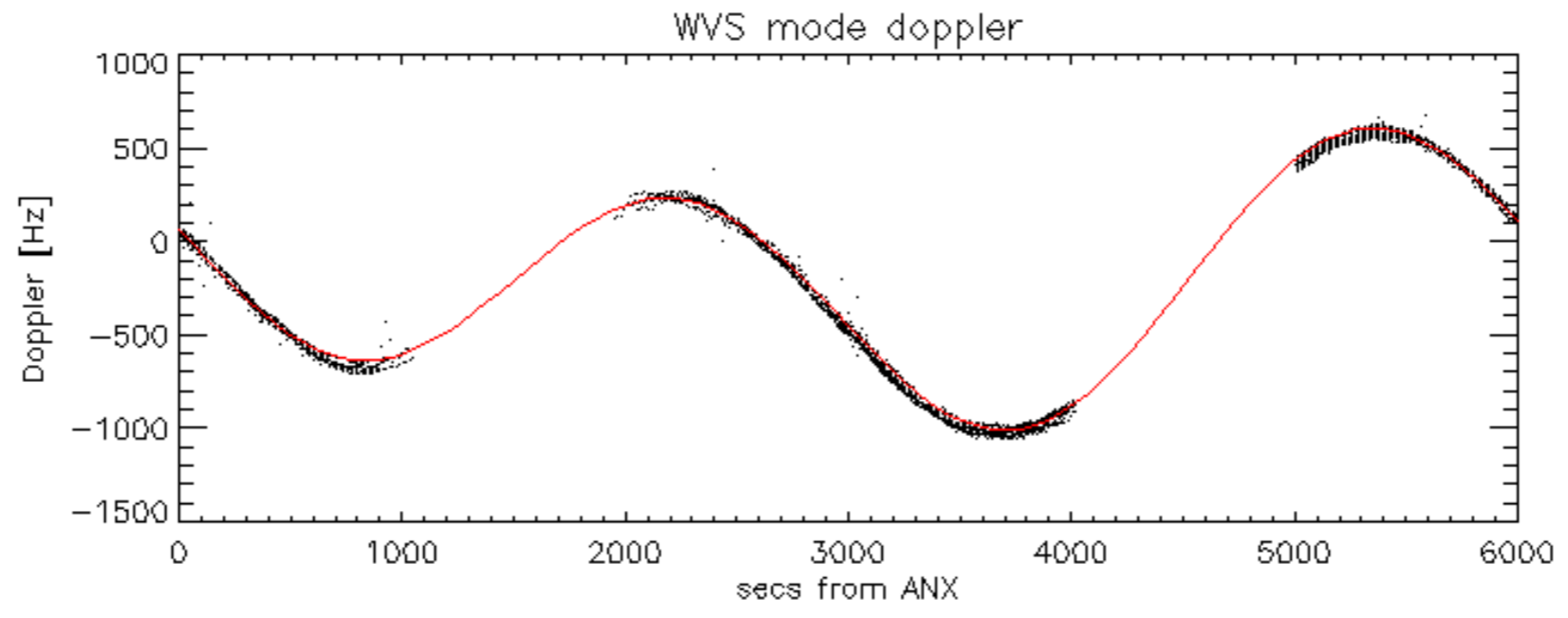


Doppler 'WVS' 'IS2' descending

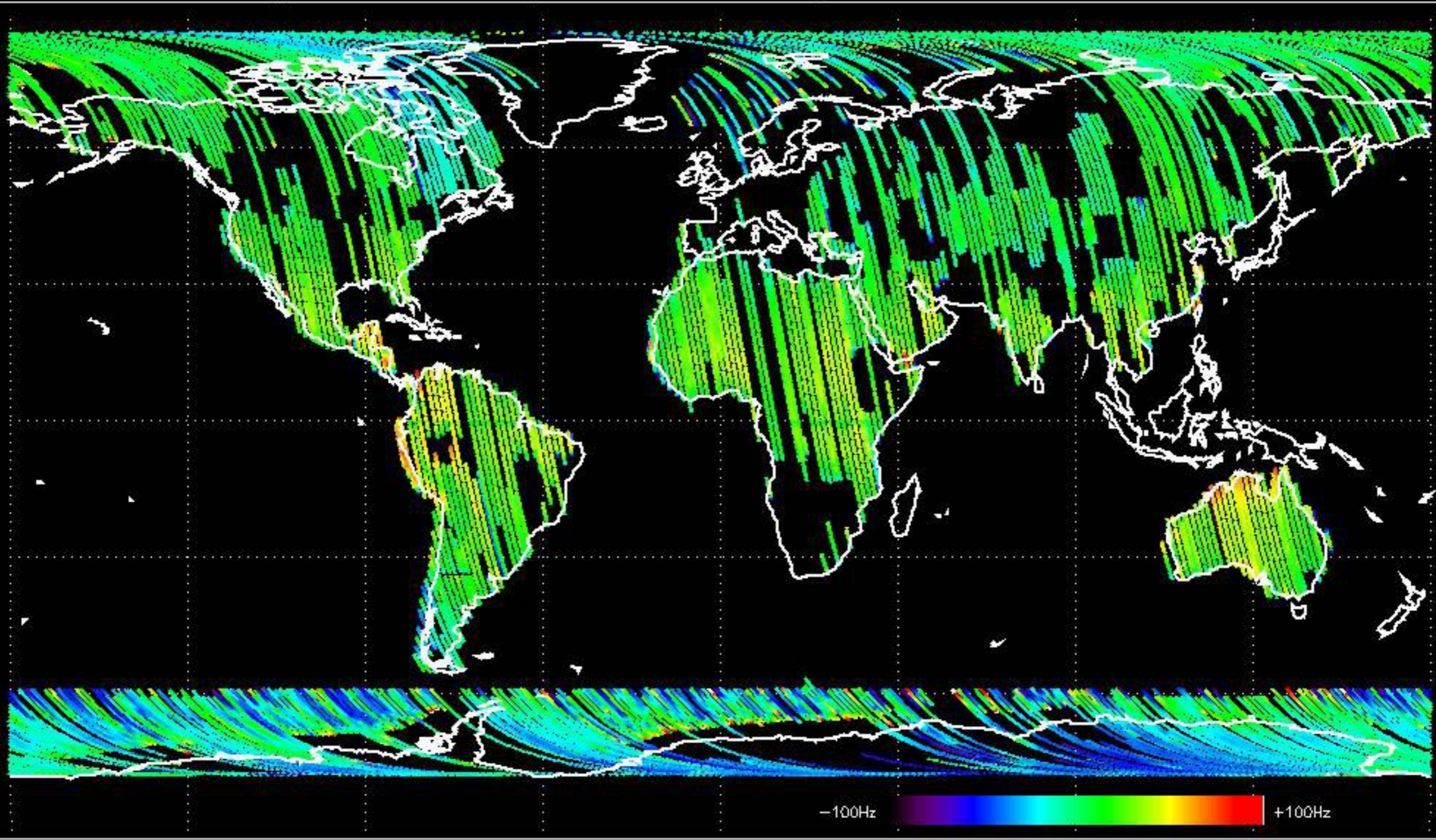


GM1 mode doppler

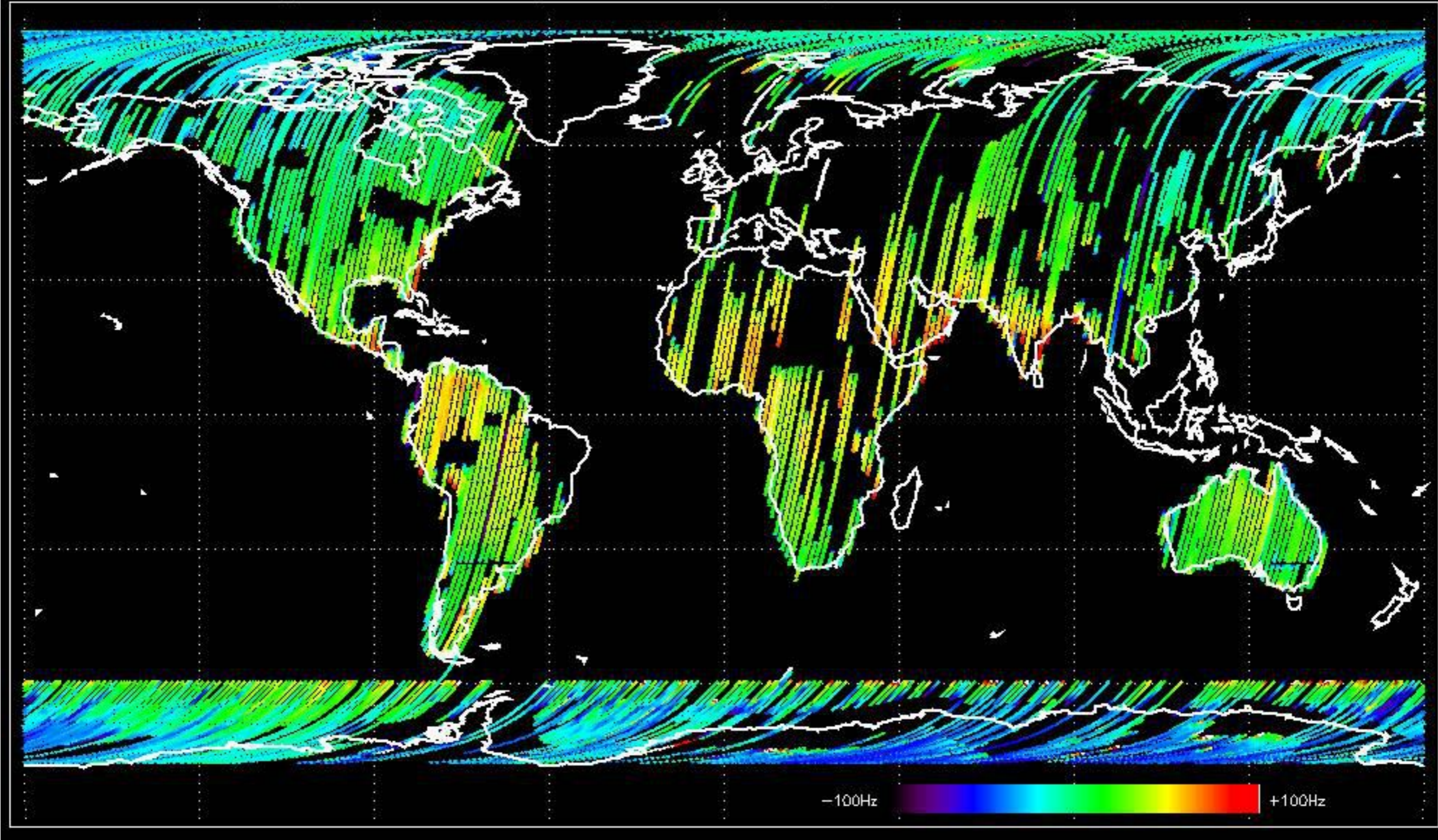




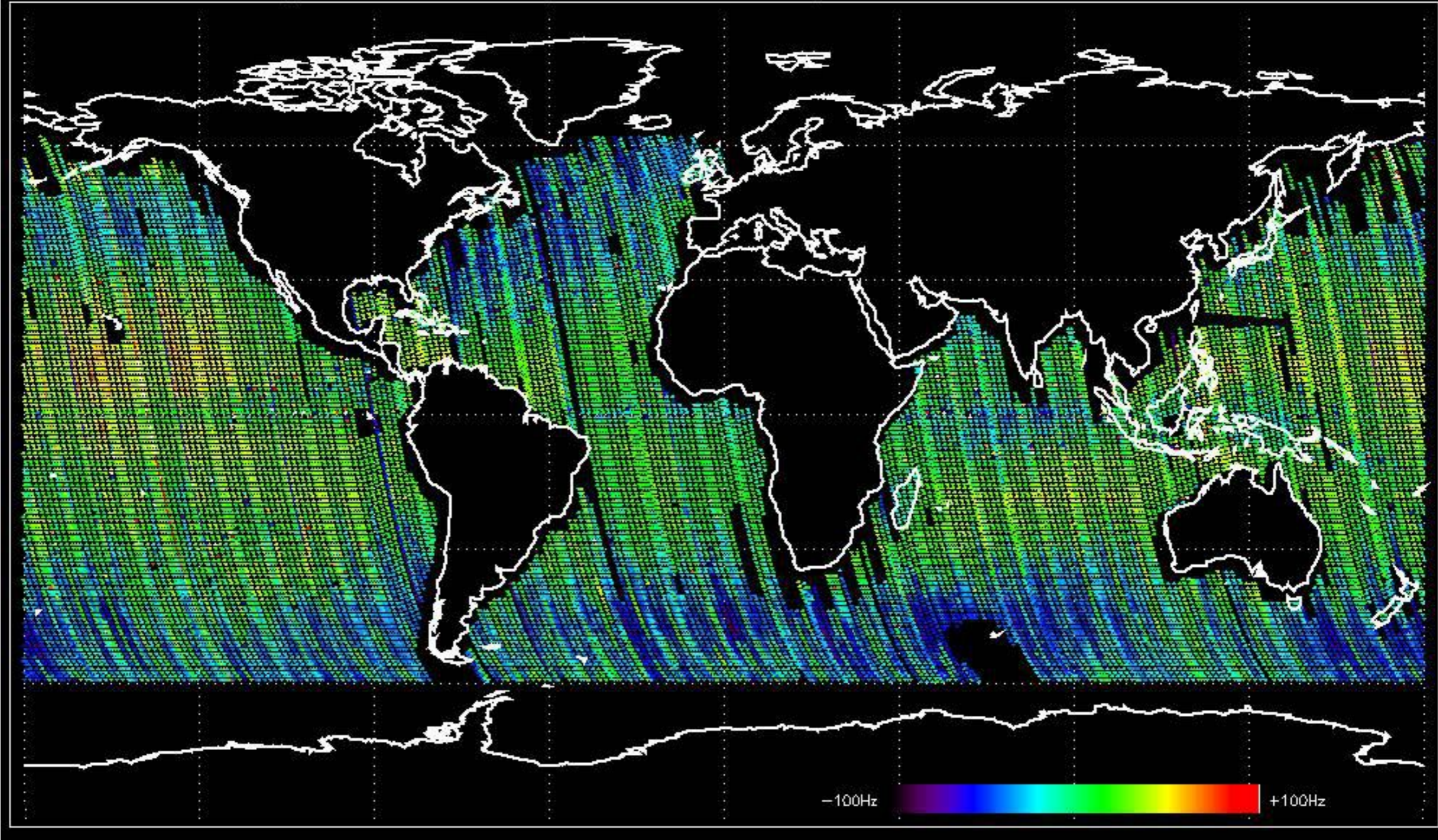
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -26.697785 Hz



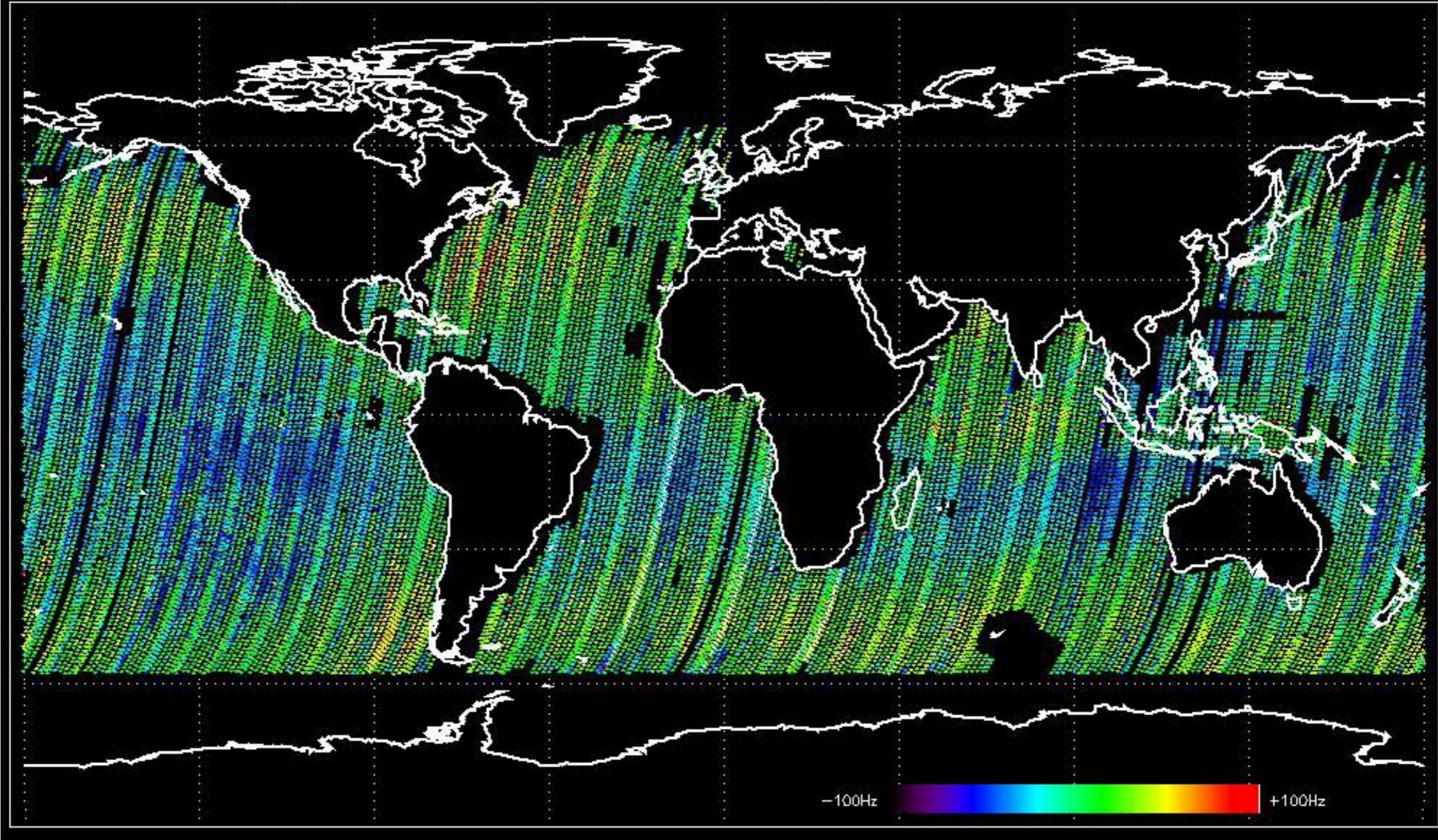
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -16.953298 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -20.937052 Hz



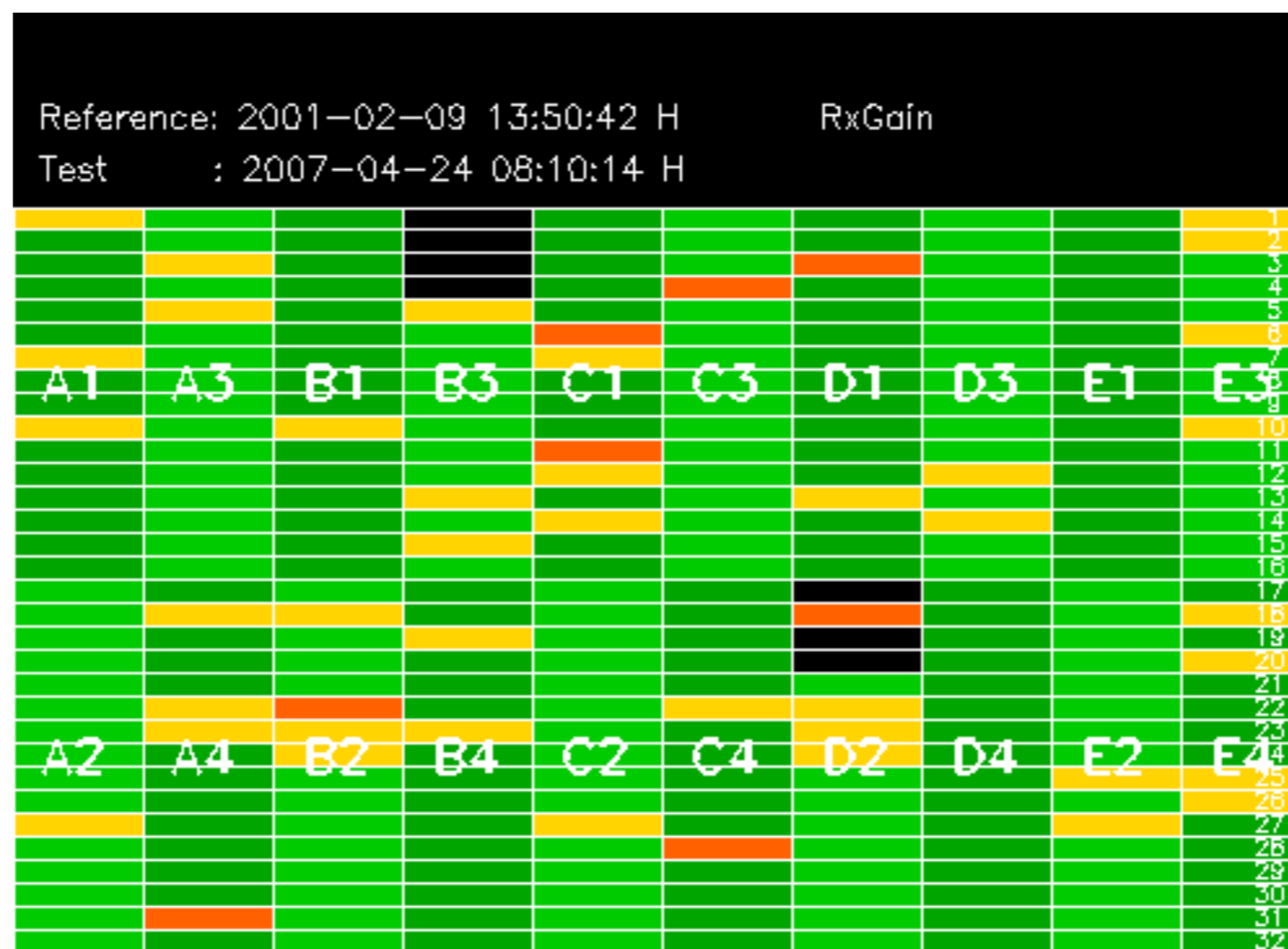
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -21.459205 Hz



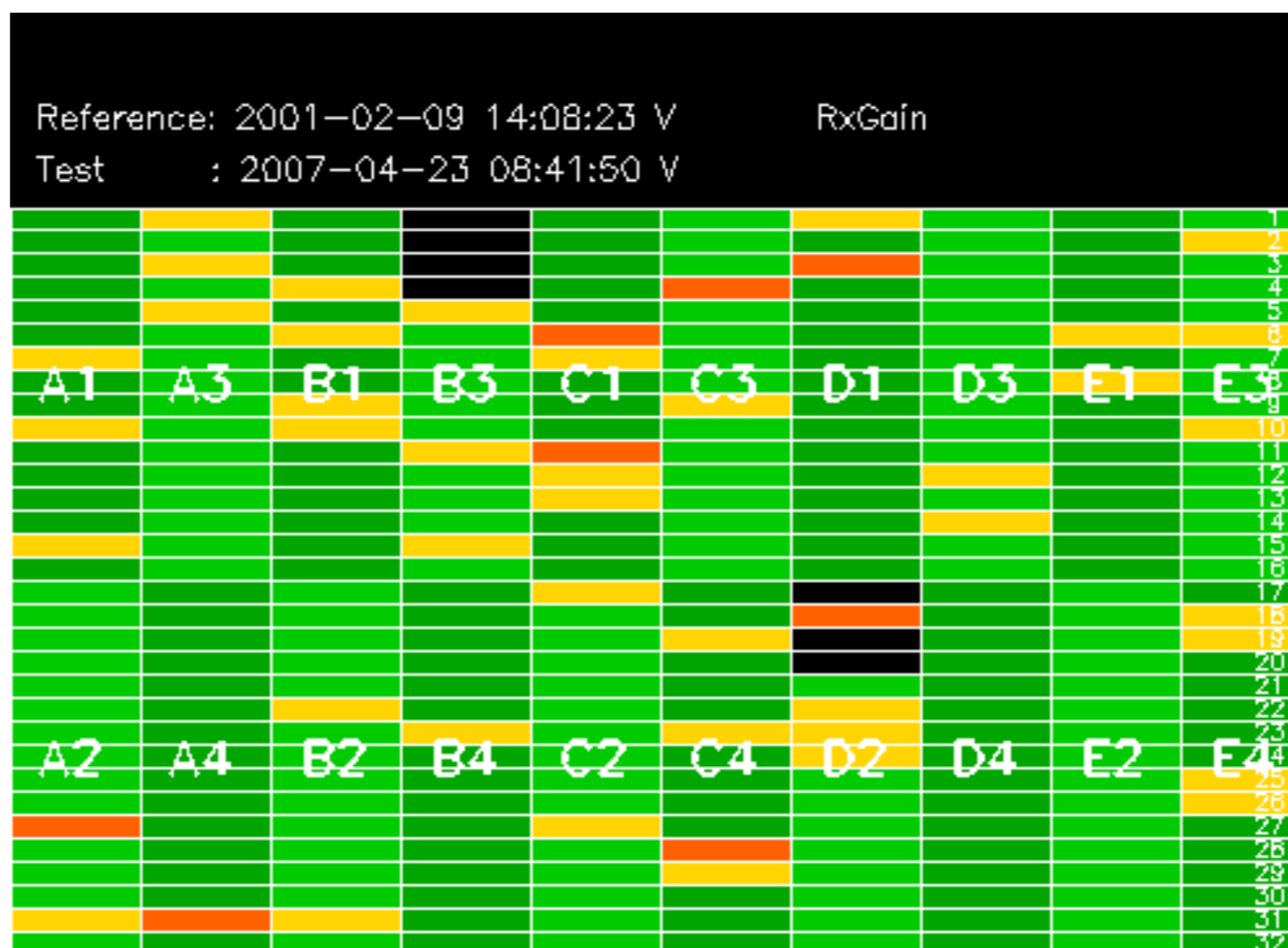
No anomalies observed on available MS products:



No anomalies observed.







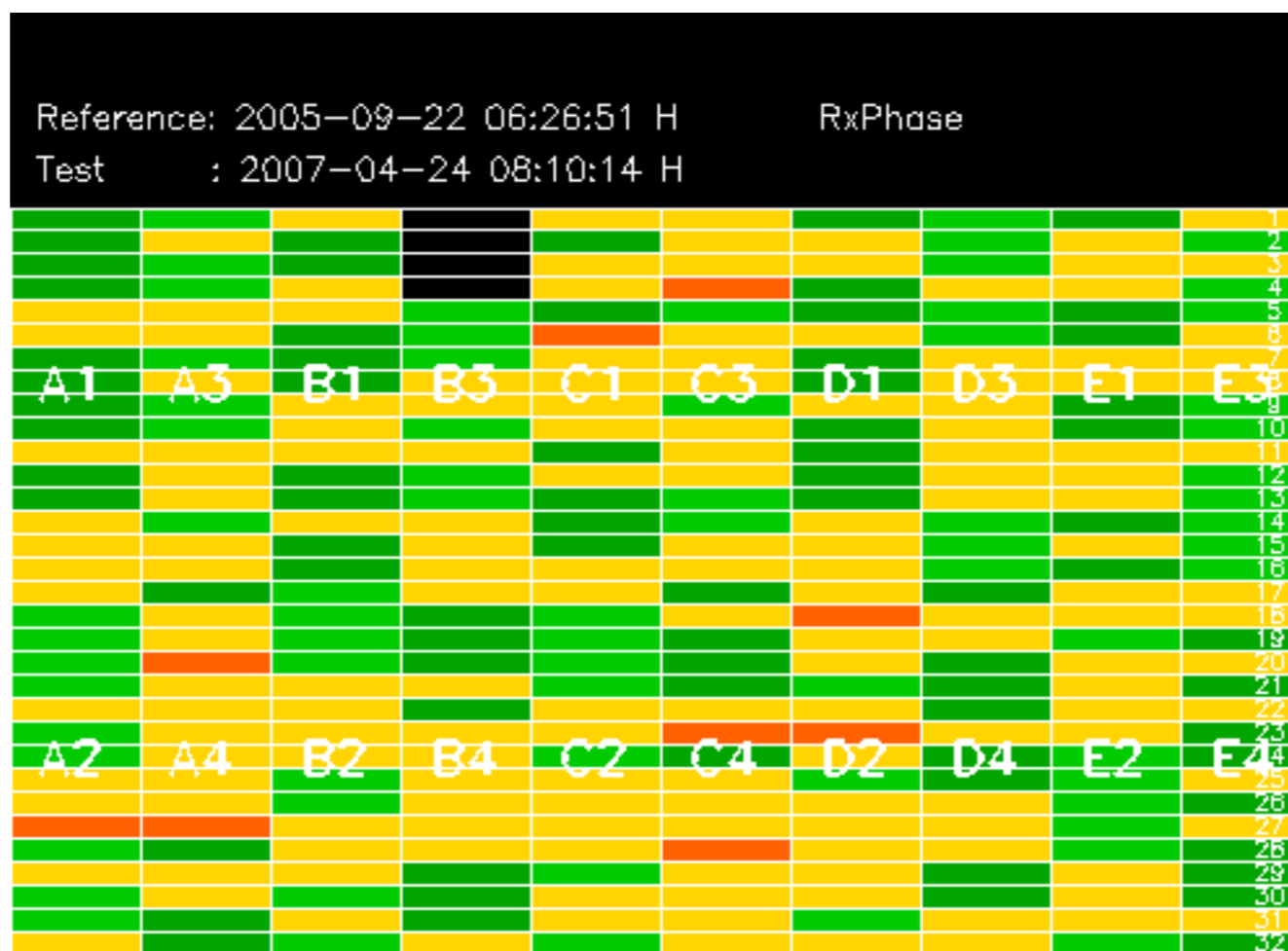


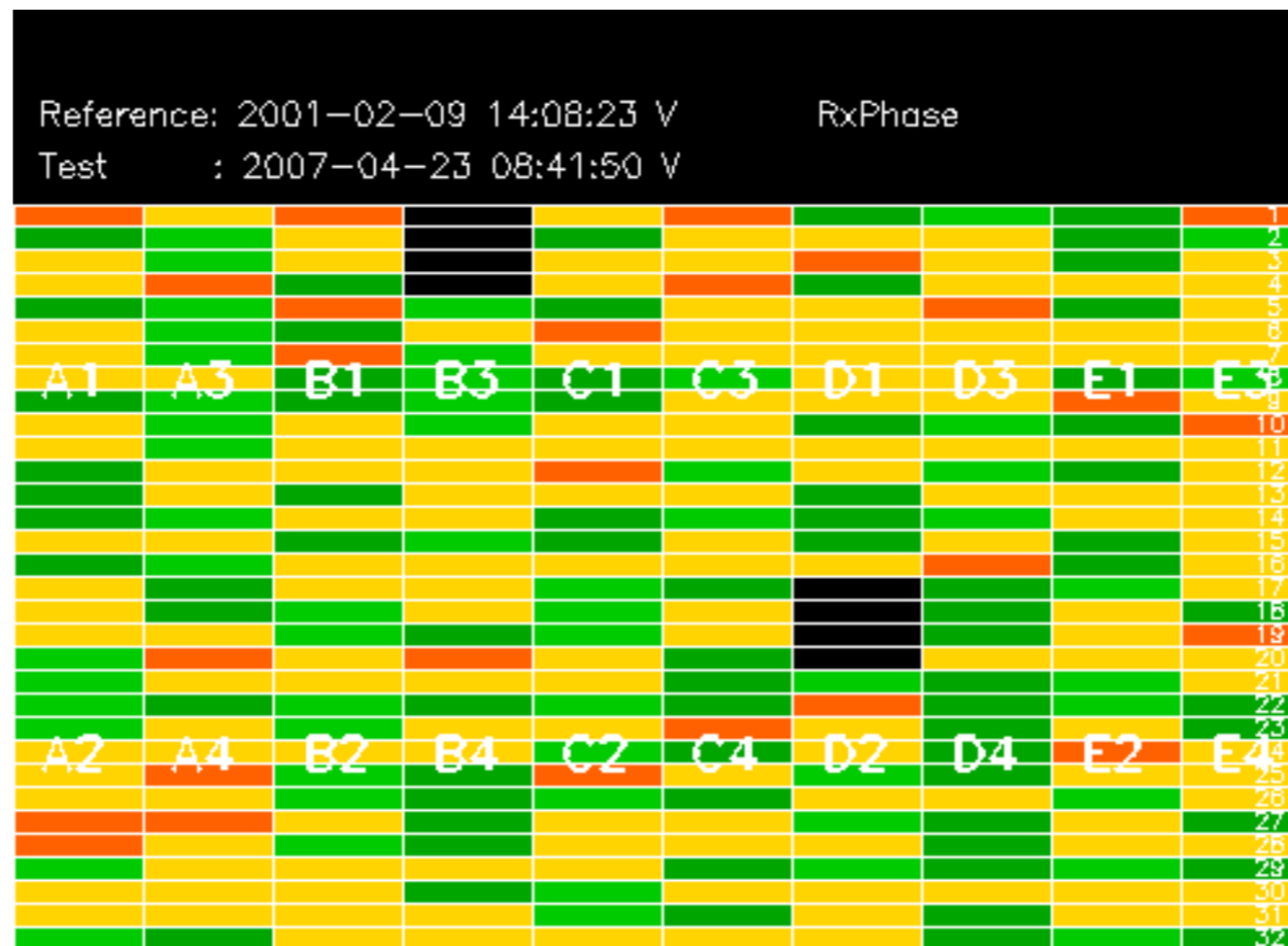








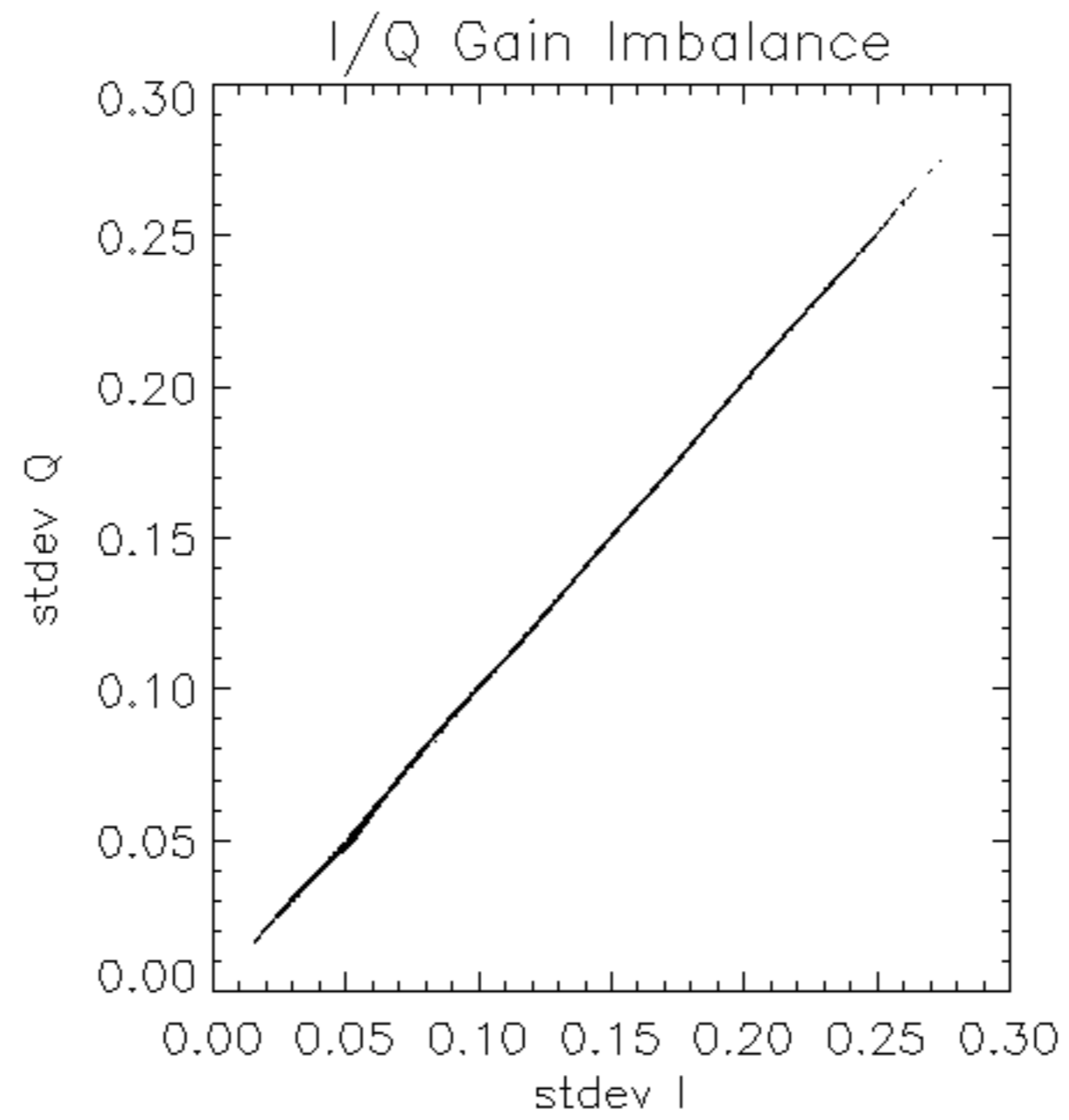


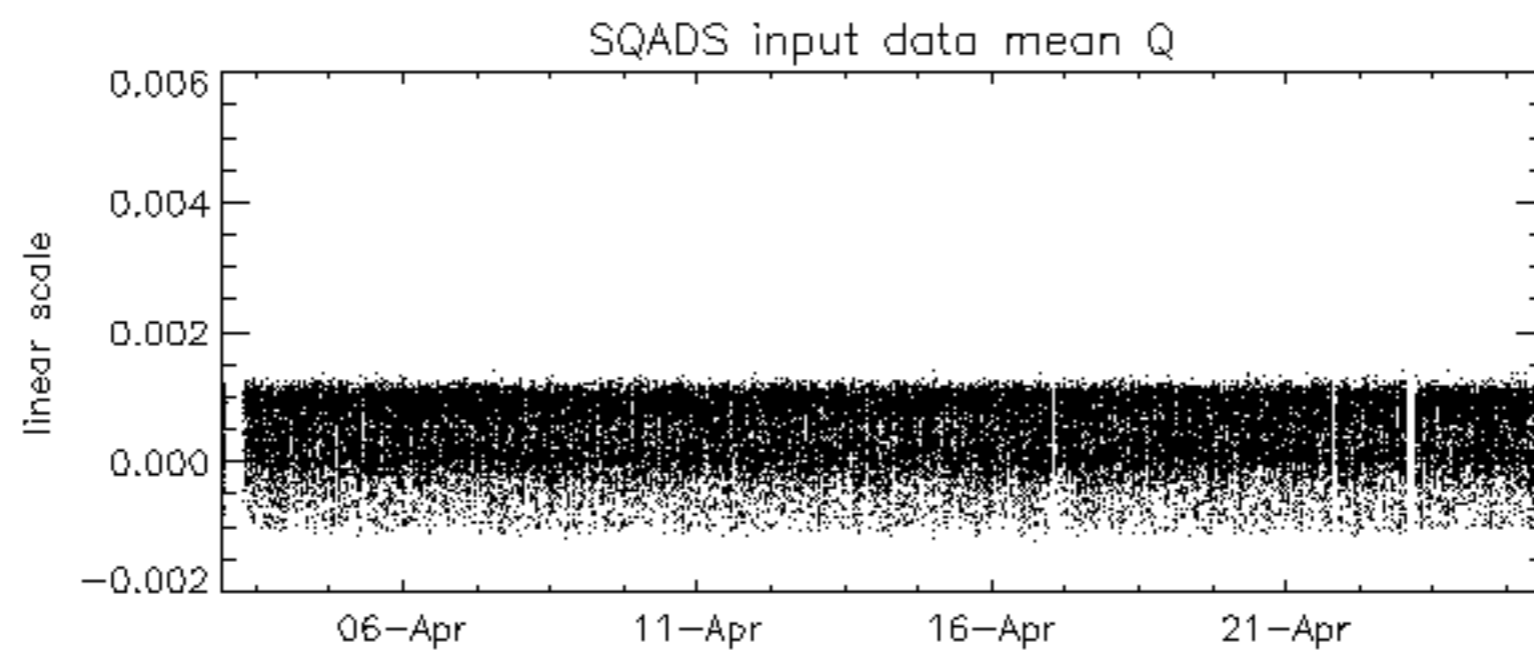
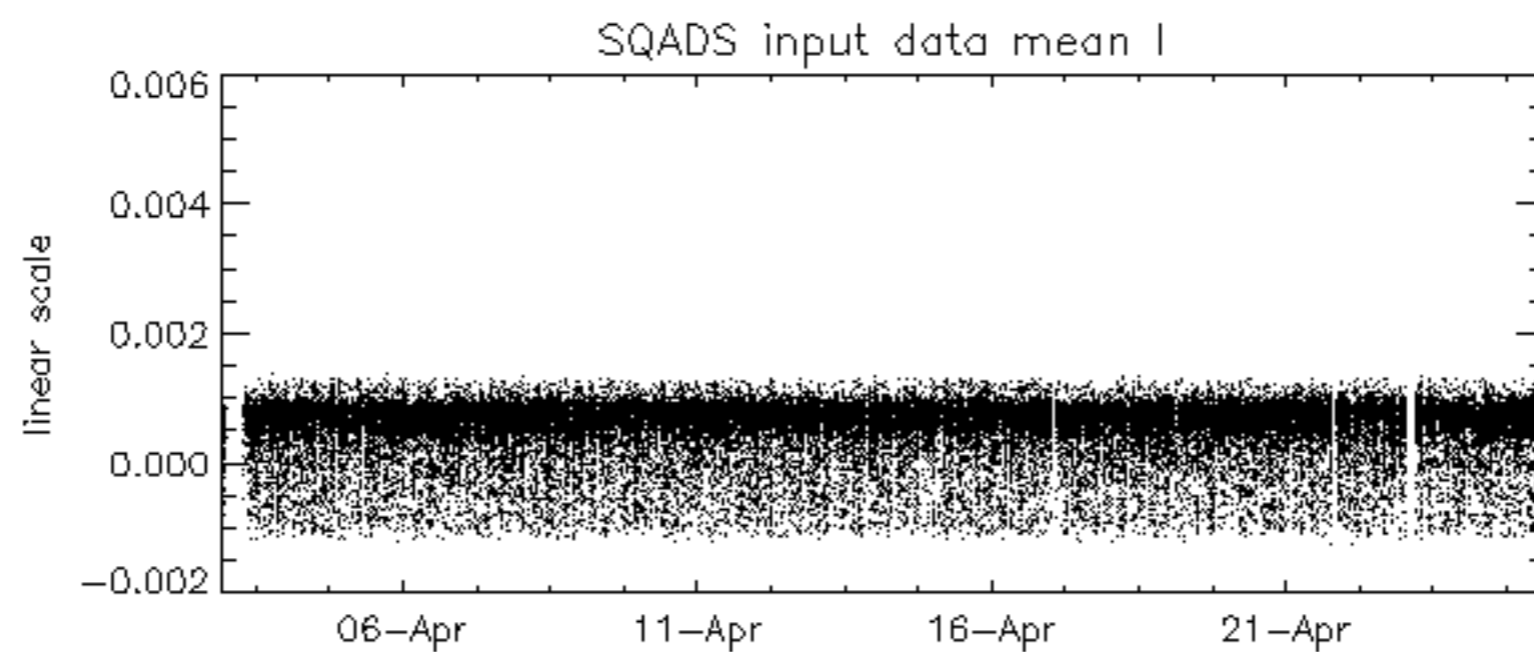
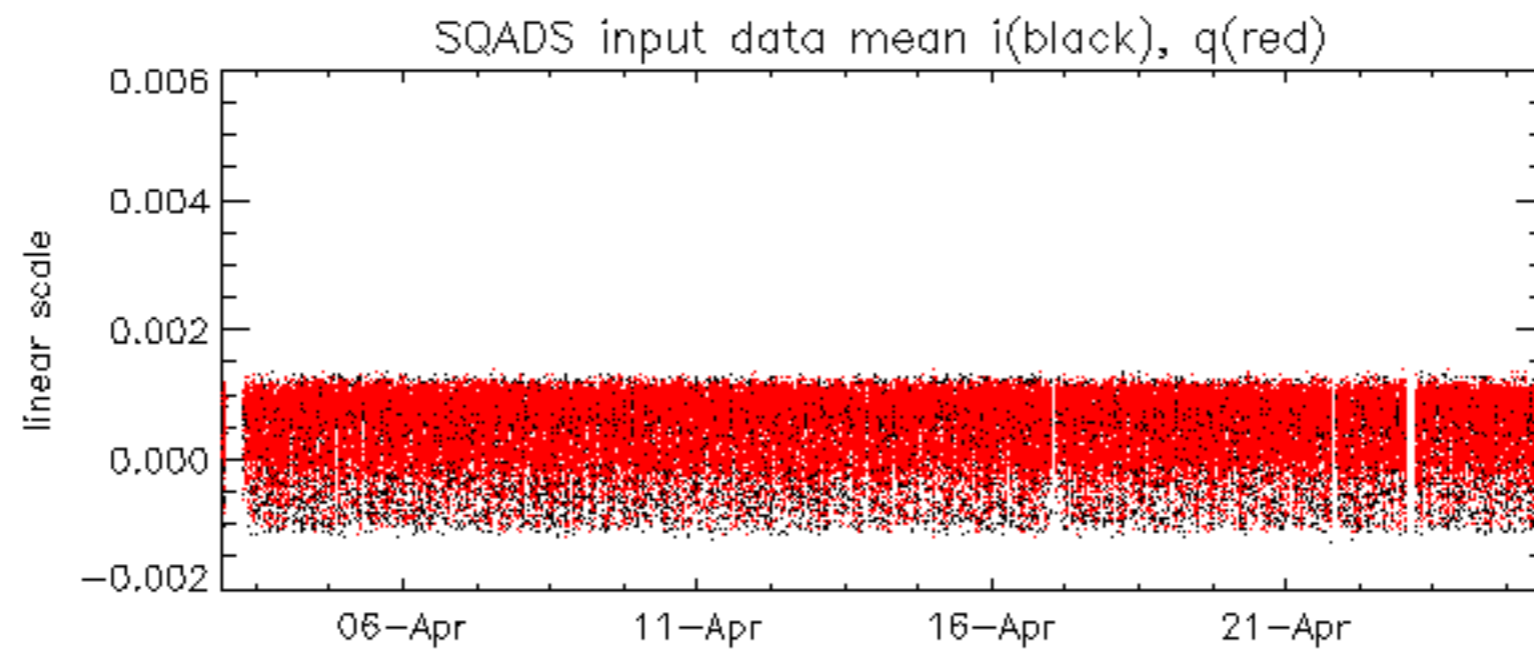


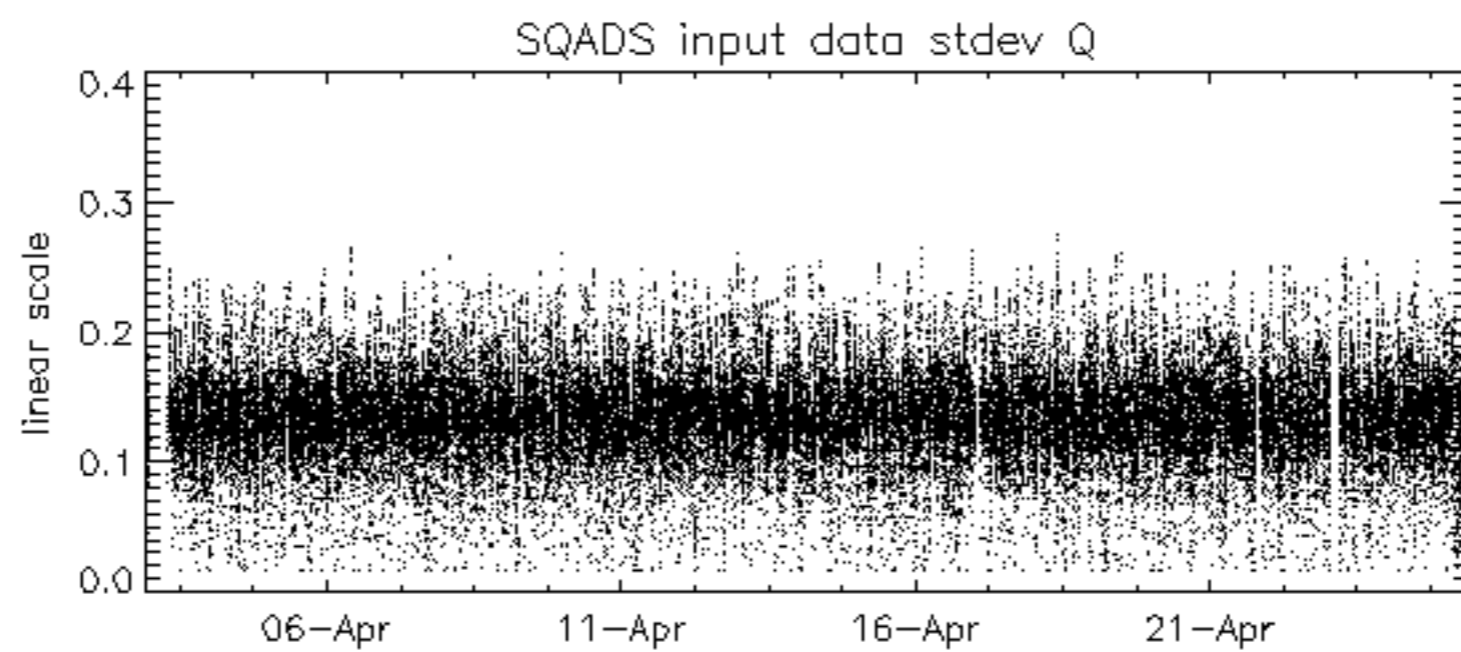
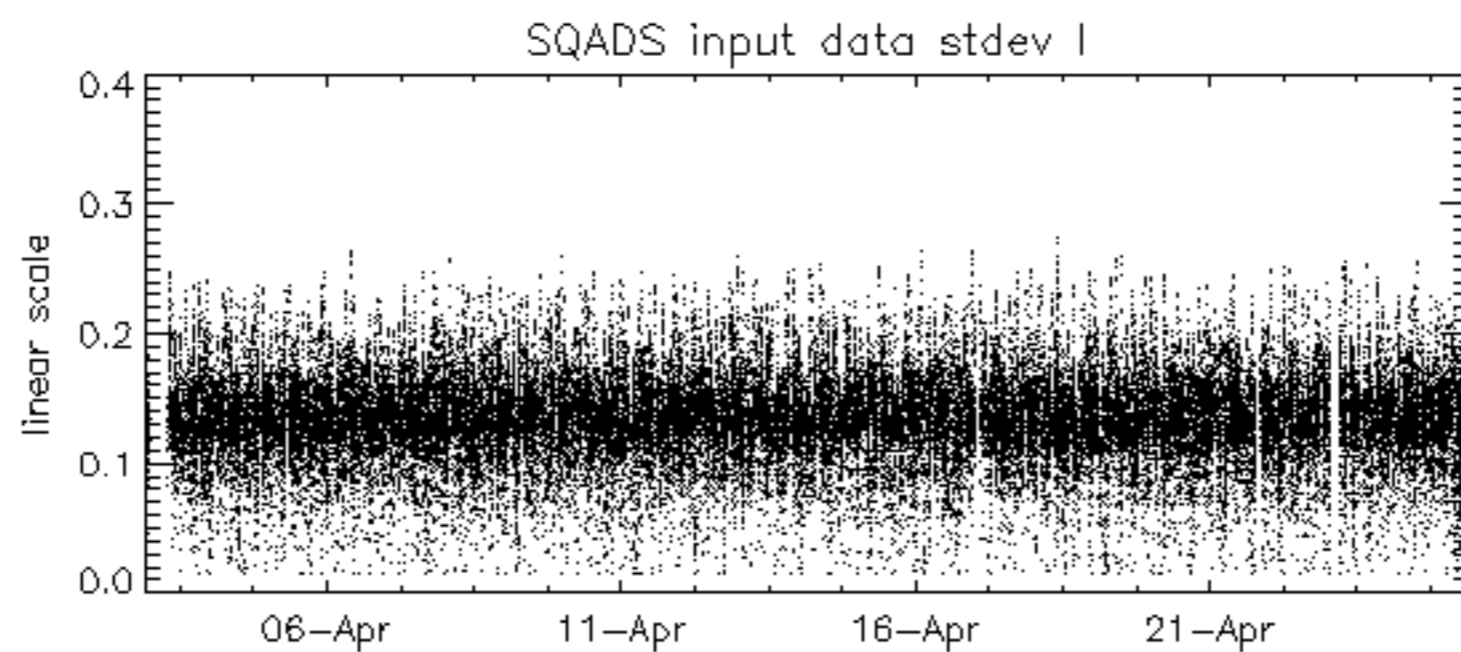
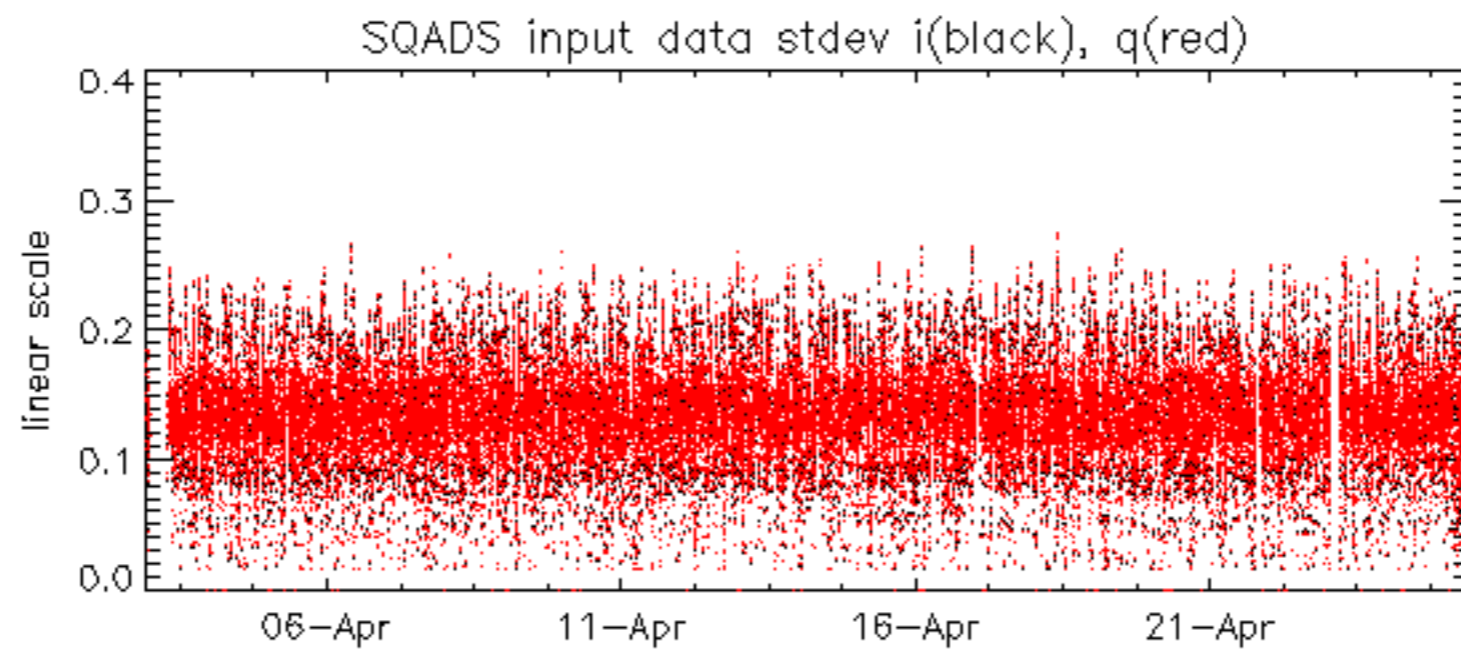
















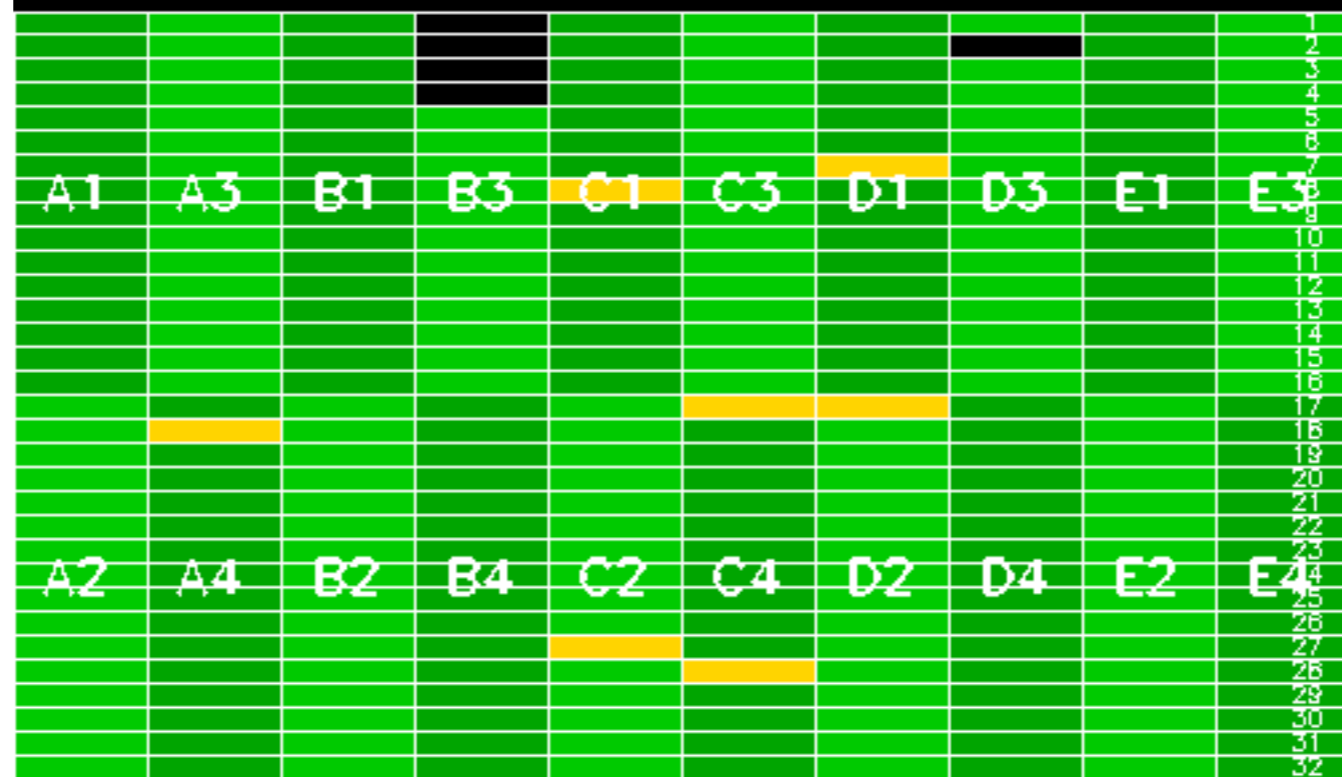








Reference: 2005-09-23 05:55:14 V TxGain  
 Test : 2007-04-25 07:38:37 V



Summary of analysis for the last 3 days 2007042[345]

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_WVS_1PNPDK20070424_070914_000005242057_00307_26914_0654.N1	0	16
ASA_GM1_1PNPDK20070423_080100_000001442057_00293_26900_9584.N1	0	13
ASA_GM1_1PNPDK20070424_081833_000004652057_00307_26914_0773.N1	0	7
ASA_GM1_1PNPDK20070424_100424_000000722057_00308_26915_0914.N1	0	31
ASA_GM1_1PNPDK20070424_200057_000005732057_00314_26921_1741.N1	0	73
ASA_WSM_1PNPDE20070424_052315_000002022057_00306_26913_4879.N1	0	72
ASA_APM_1PNPDE20070424_021349_000000402057_00304_26911_4412.N1	13	0
ASA_APM_1PNPDK20070424_084924_000000402057_00308_26915_0777.N1	15	257

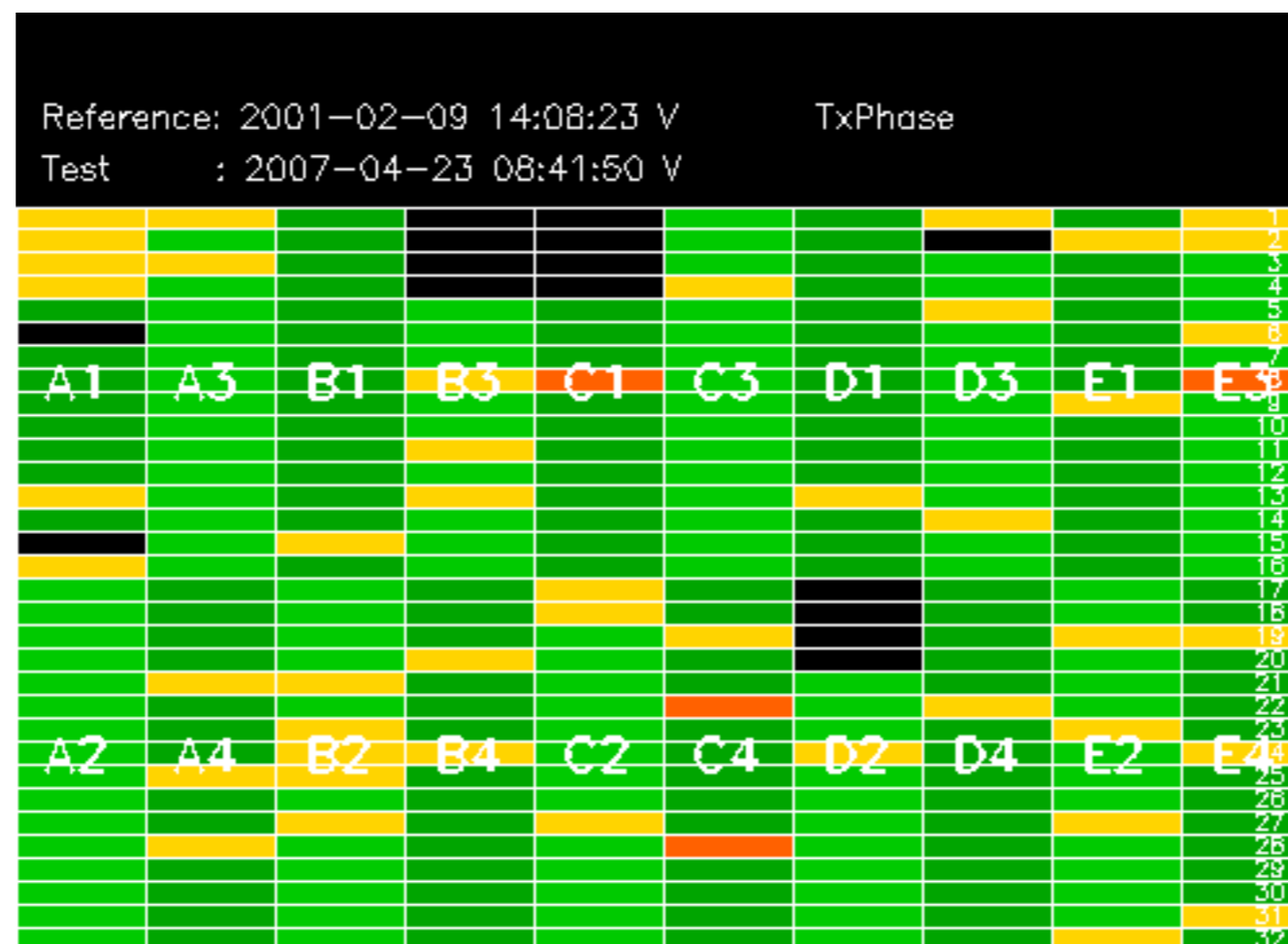




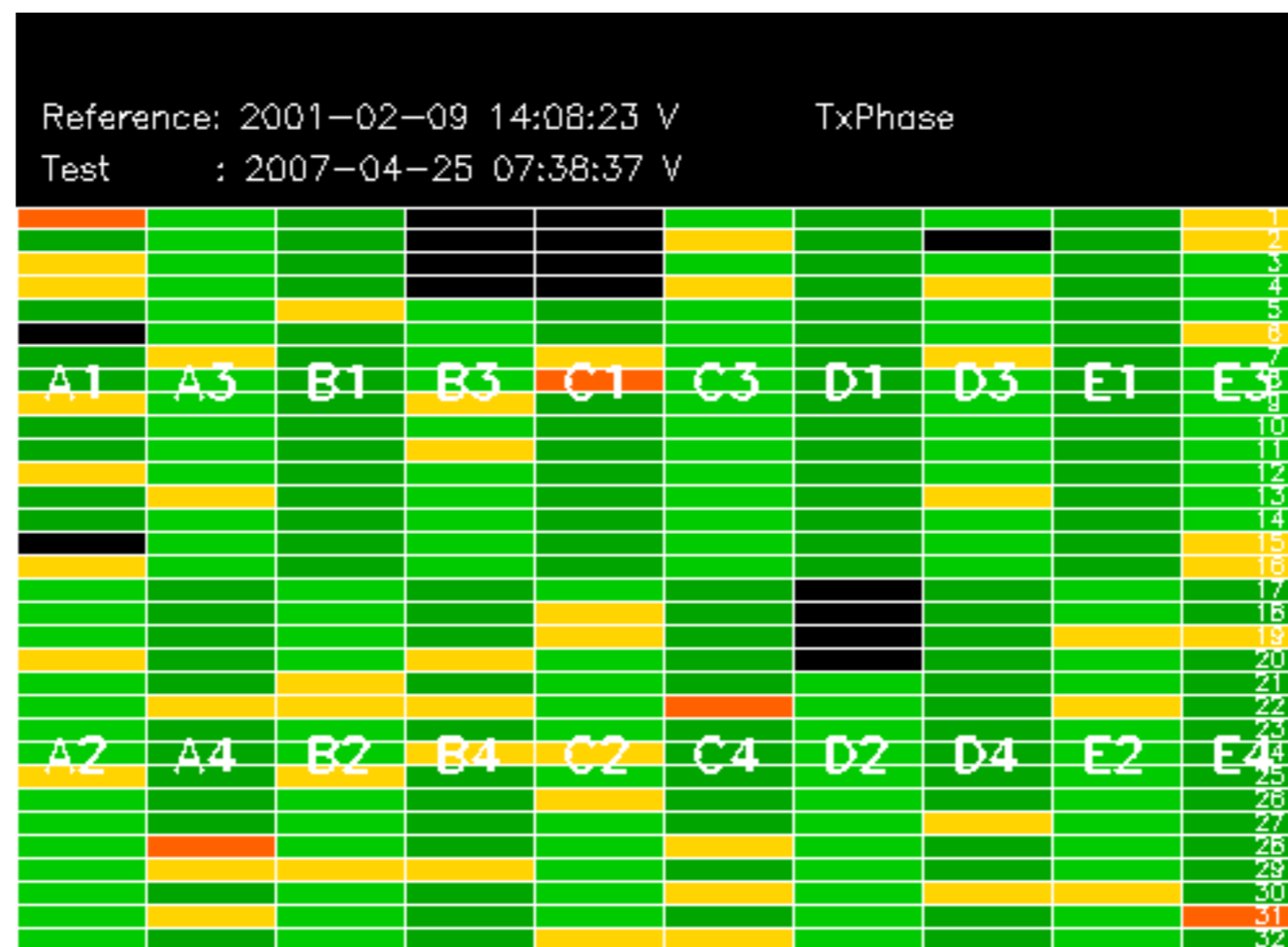


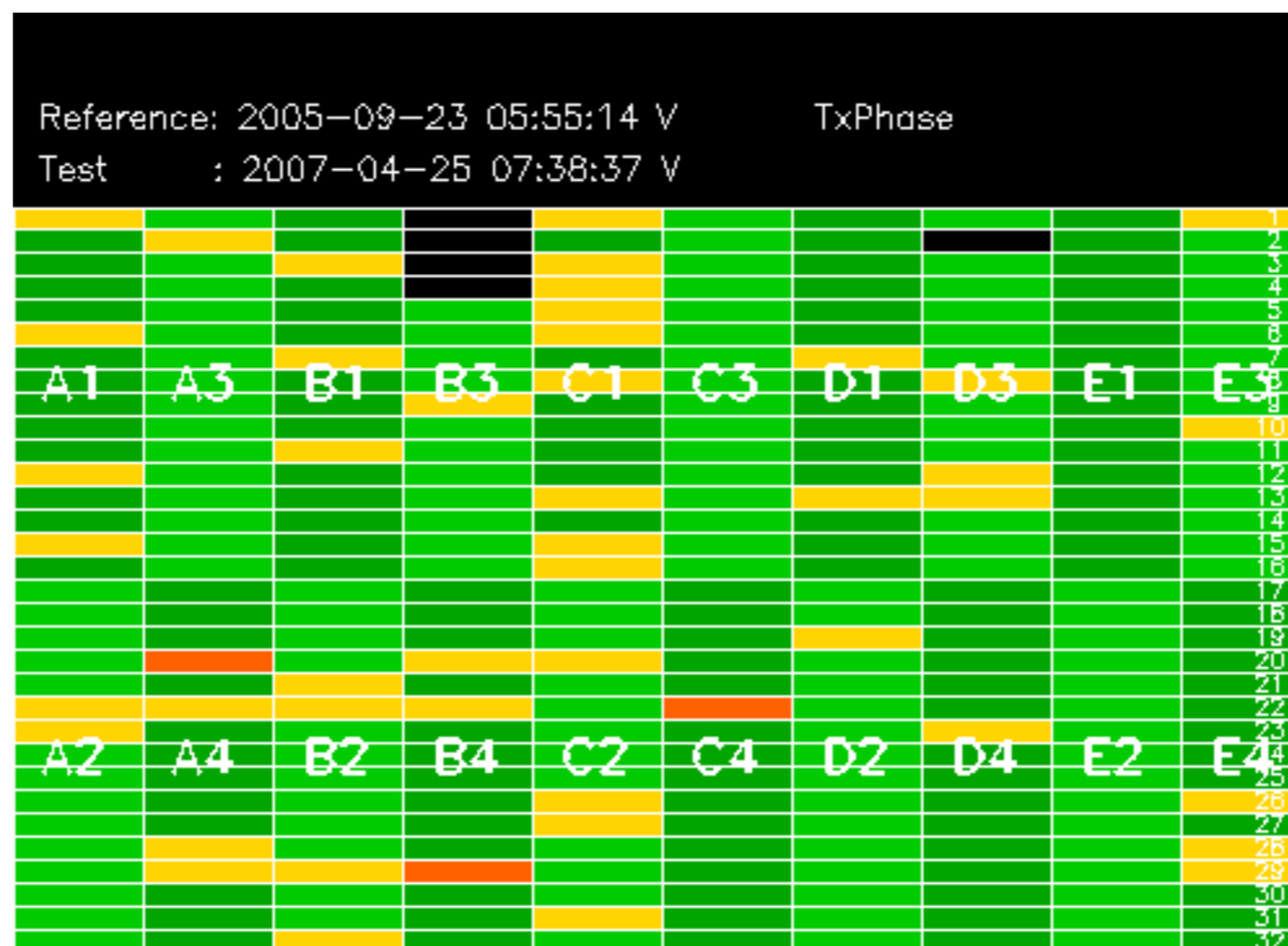




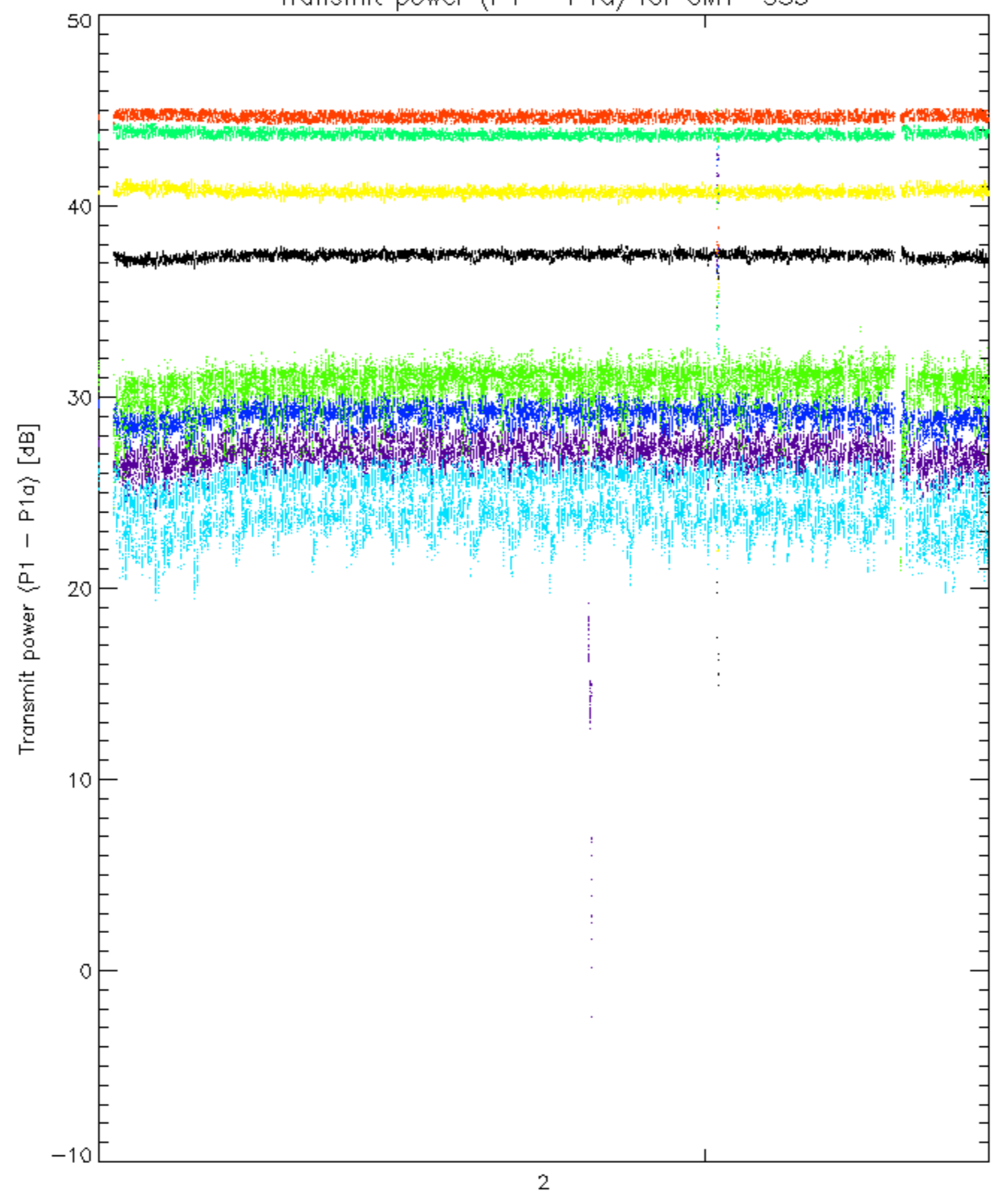






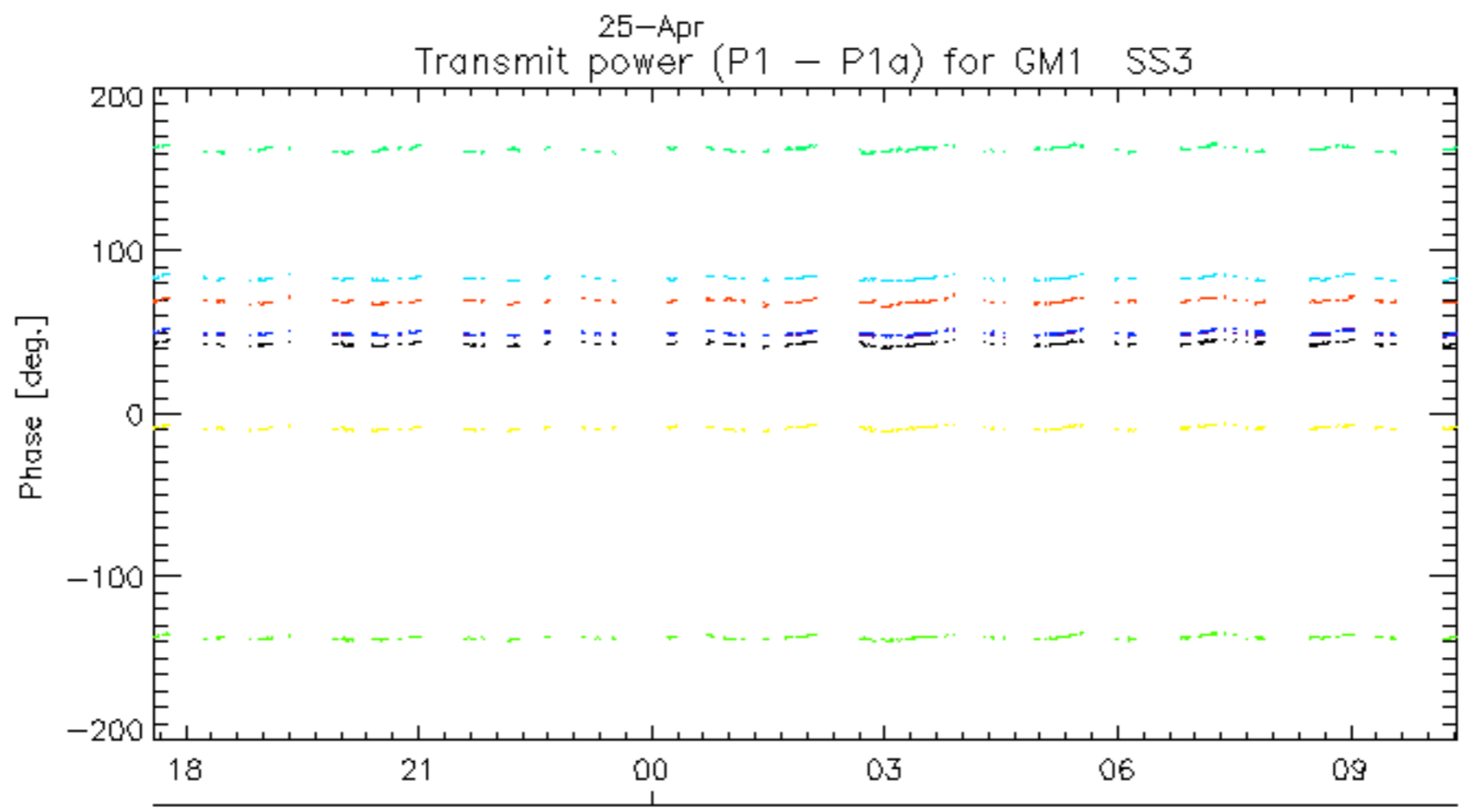
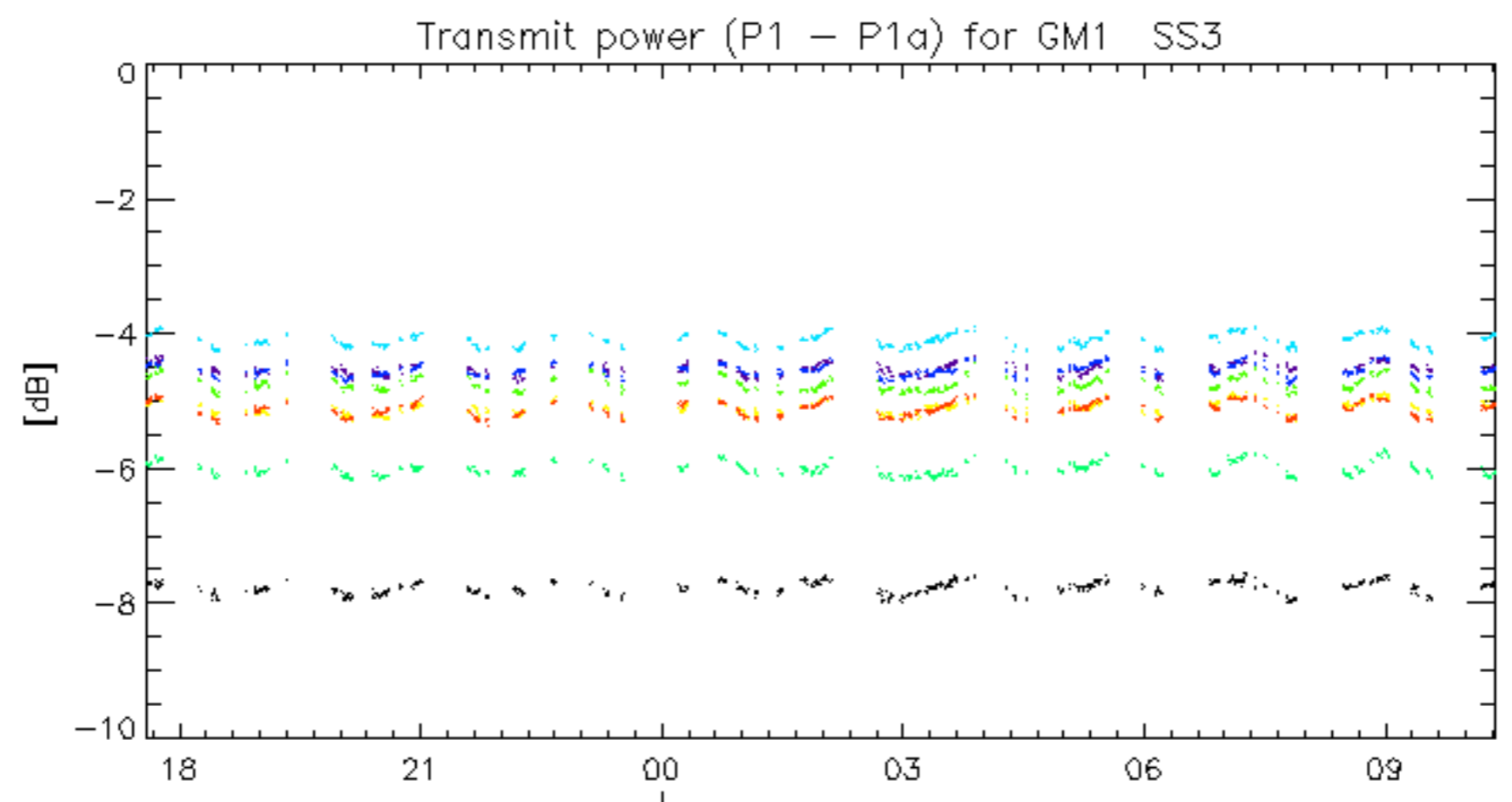


Transmit power (P1 - P1a) for GM1 SS3



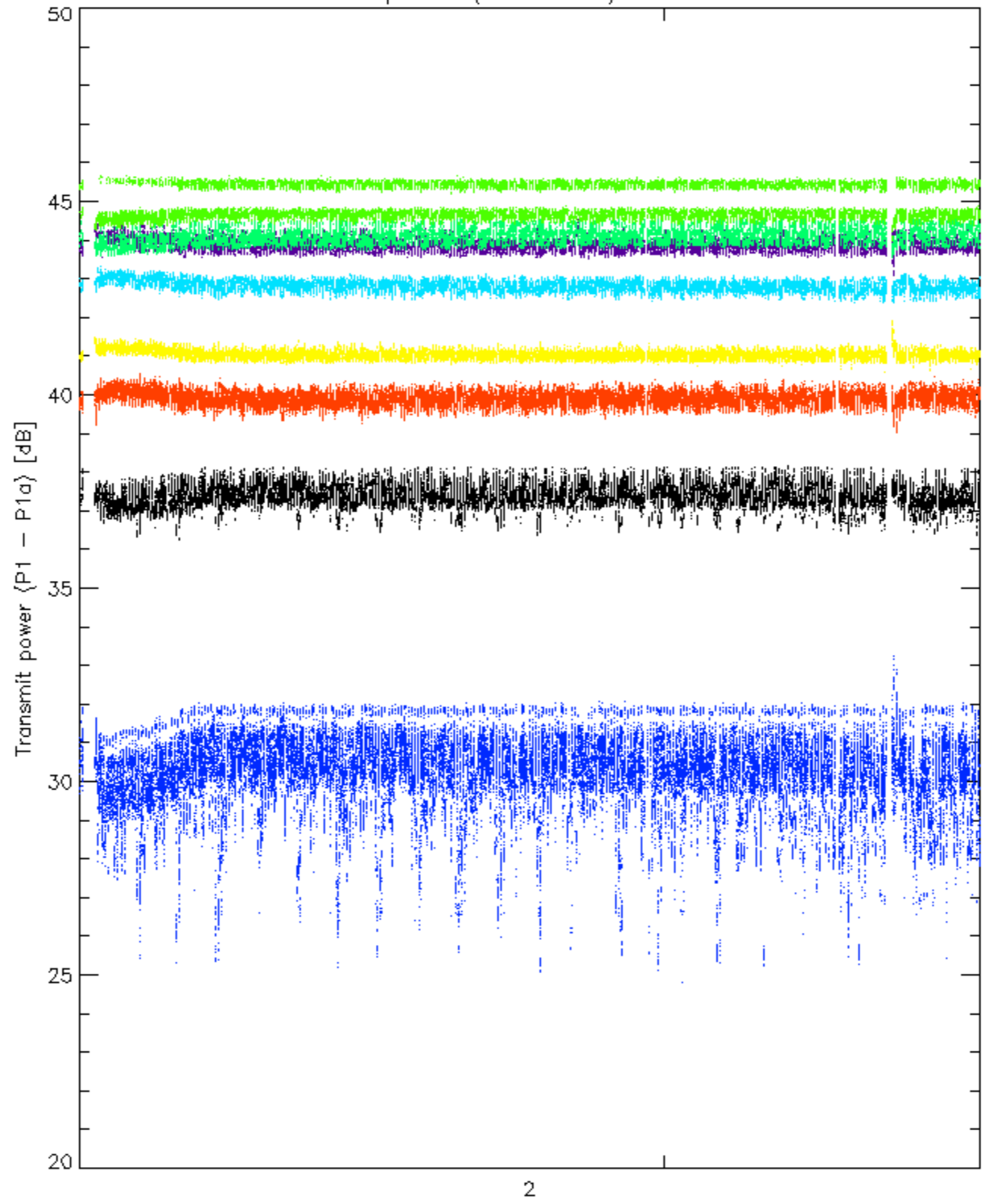
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



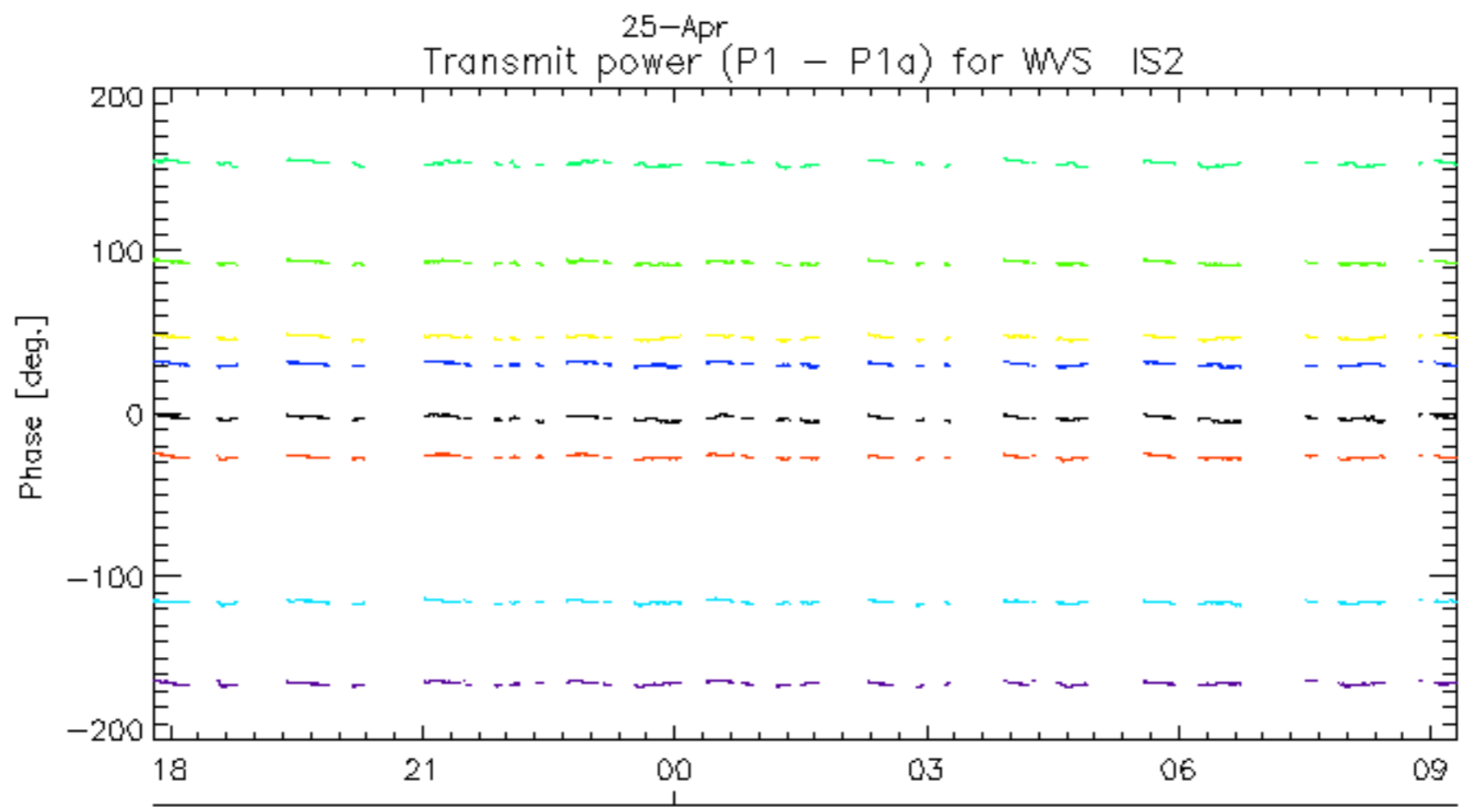
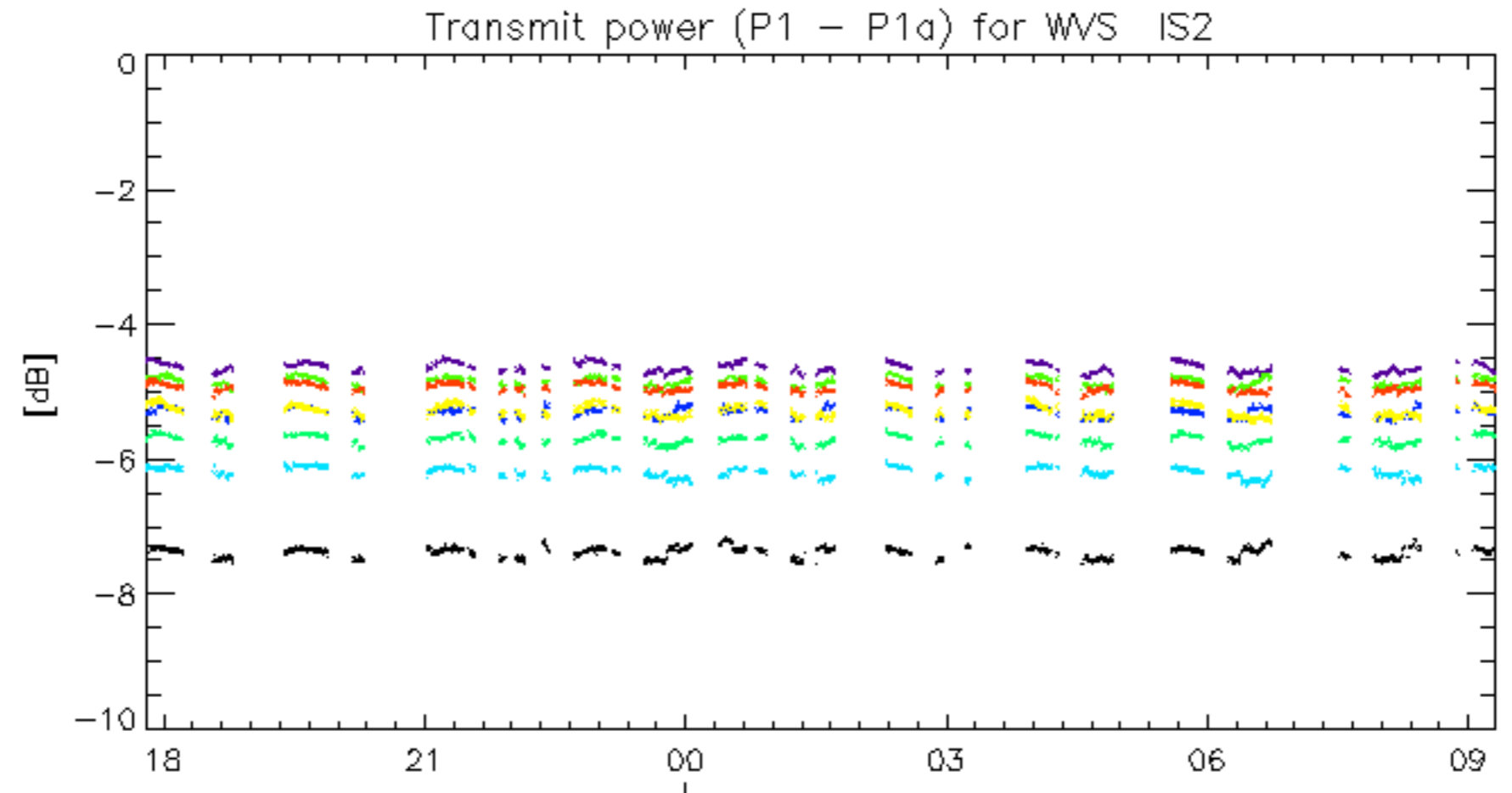


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Transmit power (P1 - P1a) for WVS IS2



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



rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.