

# PRELIMINARY REPORT OF 070416

last update on Mon Apr 16 19:30:45 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 2007-04-15 00:00:00 to 2007-04-16 19:30:46

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	48	81	6	2	36
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	48	81	6	2	36
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	48	81	6	2	36
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	48	81	6	2	36

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	43	58	38	8	66
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	43	58	38	8	66
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	43	58	38	8	66
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	43	58	38	8	66

### 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	20070416 054045
H	20070415 092008

### 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
☒
☒

#### 4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1
☒
☒

### 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	-15.056990	0.153521	0.004102
7	P1a	-17.535526	0.129518	0.004215
11	P1a	-17.359022	0.321010	-0.643365
15	P1a	-12.940326	0.100237	-0.485023
19	P1a	-15.275185	0.067478	-0.415054
22	P1a	-15.852695	0.410713	-0.872887
26	P1a	-15.106704	0.183172	0.504296
30	P1a	-17.587818	0.274309	-0.820112

**P1t Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.759878	0.010825	-0.025055
7	P1	-3.145568	0.009038	-0.012995
11	P1	-4.207652	0.012422	-0.045066
15	P1	-6.383892	0.018618	-0.129012
19	P1	-3.792272	0.009340	0.053478
22	P1	-4.743531	0.009065	-0.071554
26	P1	-3.934514	0.017874	0.110900
30	P1	-5.971075	0.009216	0.048584

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.659821	0.090186	-0.091705
7	P2	-21.582012	0.084893	0.101610
11	P2	-15.394430	0.110329	0.179748
15	P2	-7.123401	0.087016	-0.036781
19	P2	-9.121785	0.077638	0.036286
22	P2	-18.090239	0.075853	-0.014347
26	P2	-16.607866	0.078038	-0.048554
30	P2	-19.288073	0.081018	-0.017469

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.244525	0.005332	-0.027824
7	P3	-8.244525	0.005332	-0.027824
11	P3	-8.244525	0.005332	-0.027824
15	P3	-8.244525	0.005332	-0.027824
19	P3	-8.244525	0.005332	-0.027824
22	P3	-8.244525	0.005332	-0.027824
26	P3	-8.244525	0.005332	-0.027824
30	P3	-8.244525	0.005332	-0.027824

**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	-11.179006	0.048312	-0.130545
7	P1a	-10.049605	0.069591	0.170062
11	P1a	-10.689932	0.049178	0.191156
15	P1a	-10.848948	0.136890	0.126605
19	P1a	-15.792775	0.068884	-0.159717
22	P1a	-21.290390	1.400461	-0.822410
26	P1a	-15.459083	0.375278	-0.584355
30	P1a	-18.363827	0.446743	0.360590

**P1t Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-8.452471	0.019954	-0.034129
7	P1	-2.411126	0.010958	0.105898
11	P1	-2.898433	0.013321	0.106295
15	P1	-3.827399	0.028908	0.065271
19	P1	-3.585505	0.012098	-0.057431
22	P1	-4.989038	0.021448	0.078498

26	P1	-6.029677	0.021717	-0.065538
30	P1	-5.335111	0.025534	-0.062640

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.168114	0.045341	-0.191858
7	P2	-22.045319	0.073467	-0.265493
11	P2	-10.634183	0.033461	-0.139686
15	P2	-4.907108	0.037606	-0.172501
19	P2	-6.866768	0.034959	-0.157579
22	P2	-8.110179	0.031576	-0.078212
26	P2	-24.326626	0.052443	-0.208691
30	P2	-21.726677	0.060180	-0.028576

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.091242	0.004493	-0.050407
7	P3	-8.091211	0.004500	-0.048454
11	P3	-8.090950	0.004496	-0.048643
15	P3	-8.090975	0.004490	-0.049927
19	P3	-8.091174	0.004526	-0.049386
22	P3	-8.091114	0.004473	-0.048109
26	P3	-8.091139	0.004486	-0.048683
30	P3	-8.091086	0.004483	-0.049803

## 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	0.000541235
	stdev	2.06497e-07
MEAN Q	mean	0.000492033
	stdev	2.46465e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.135226
	stdev	0.00122563
STDEV Q	mean	0.135621
	stdev	0.00124345



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2007041[456]

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_1PNPDK20070415_083228_000005542057_00179_26786_9326.N1	0	16
ASA_WVS_1PNPDK20070415_155855_000009742057_00183_26790_0003.N1	0	24
ASA_GM1_1PNPDK20070414_184051_000002052057_00170_26777_8892.N1	0	17
ASA_GM1_1PNPDK20070415_133943_000008702057_00182_26789_9670.N1	0	9
ASA_GM1_1PNPDK20070415_161605_000004222057_00183_26790_9996.N1	0	8



ASA_GM1_1PNPDK20070415_181115_00000842057_00184_26791_0126.N1	0	13
ASA_GM1_1PNPDK20070416_104529_000007852057_00194_26801_0620.N1	0	9
ASA_GM1_1PNPDK20070416_113741_000003382057_00195_26802_0690.N1	0	7
ASA_GM1_1PNPDK20070416_140352_000009242057_00196_26803_0926.N1	0	14
ASA_WSM_1PNPDE20070414_112338_000001032057_00166_26773_1589.N1	0	74
ASA_WSM_1PNPDE20070414_190229_000000982057_00171_26778_1758.N1	0	40
ASA_WSM_1PNPDE20070415_151023_000002872057_00183_26790_2865.N1	0	51
ASA_WSM_1PNPDK20070414_140424_000000792057_00168_26775_8663.N1	0	53
ASA_APM_1PNPDE20070414_231454_000000422057_00173_26780_2011.N1	10	0





## 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	
	
	Ascending
	
	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"/>
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Acsending

<input type="checkbox"/>
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Descending

### 7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

<input type="checkbox"/>
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Acsending

<input type="checkbox"/>
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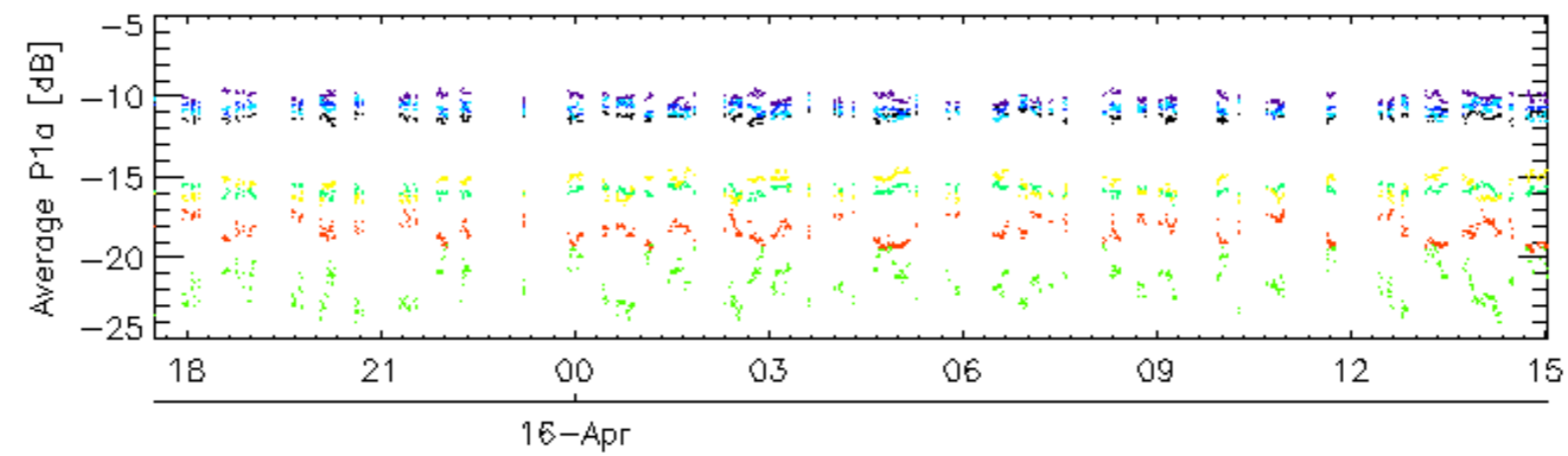
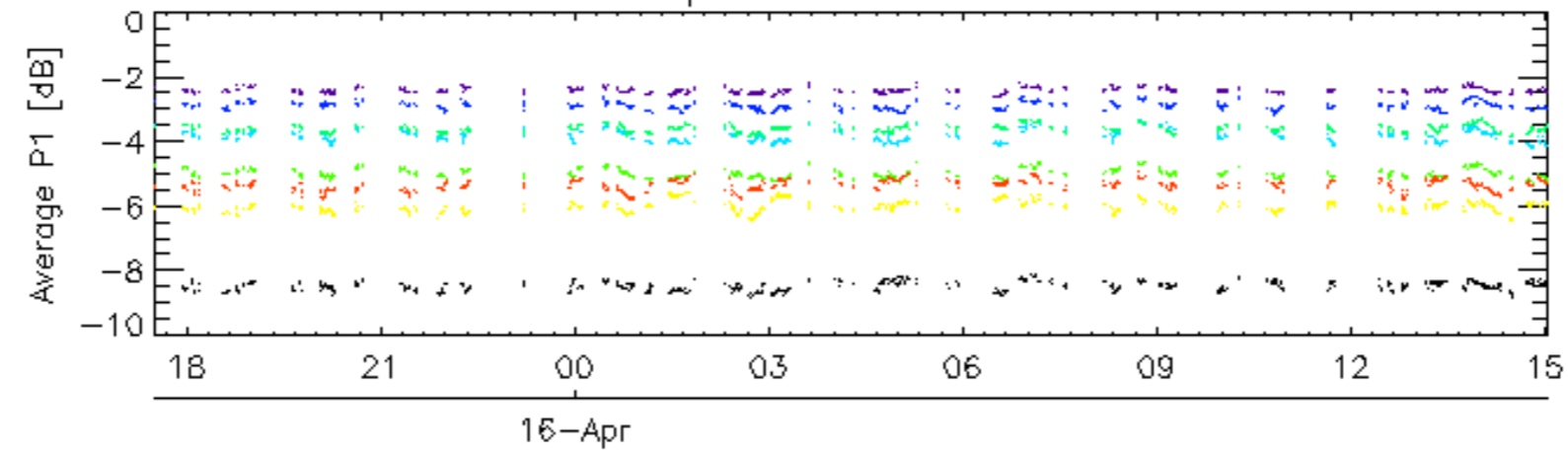
Descending

### 7.6 - Doppler evolution versus ANX for GM1

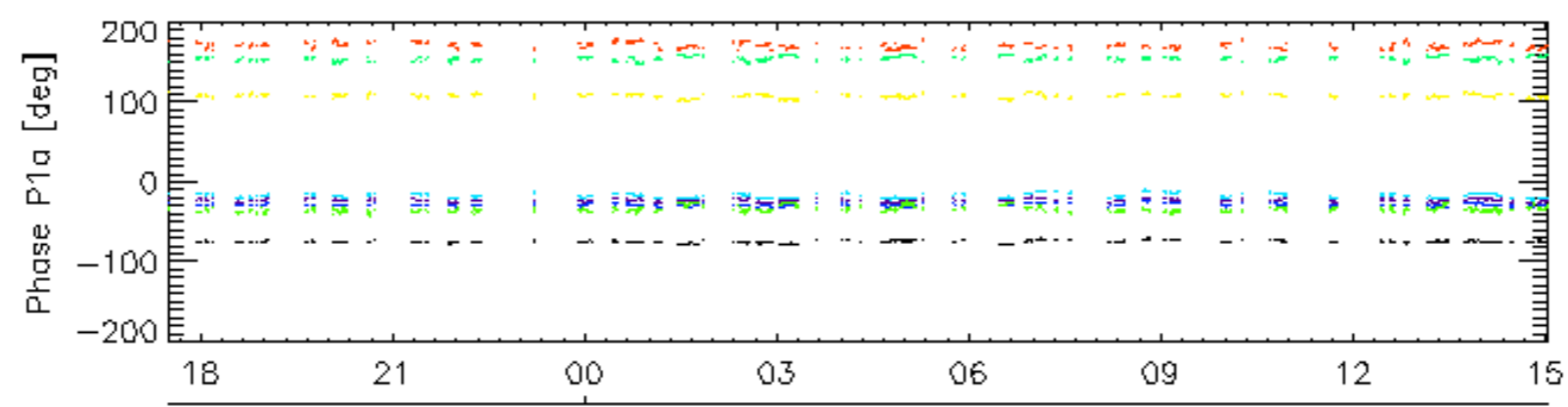
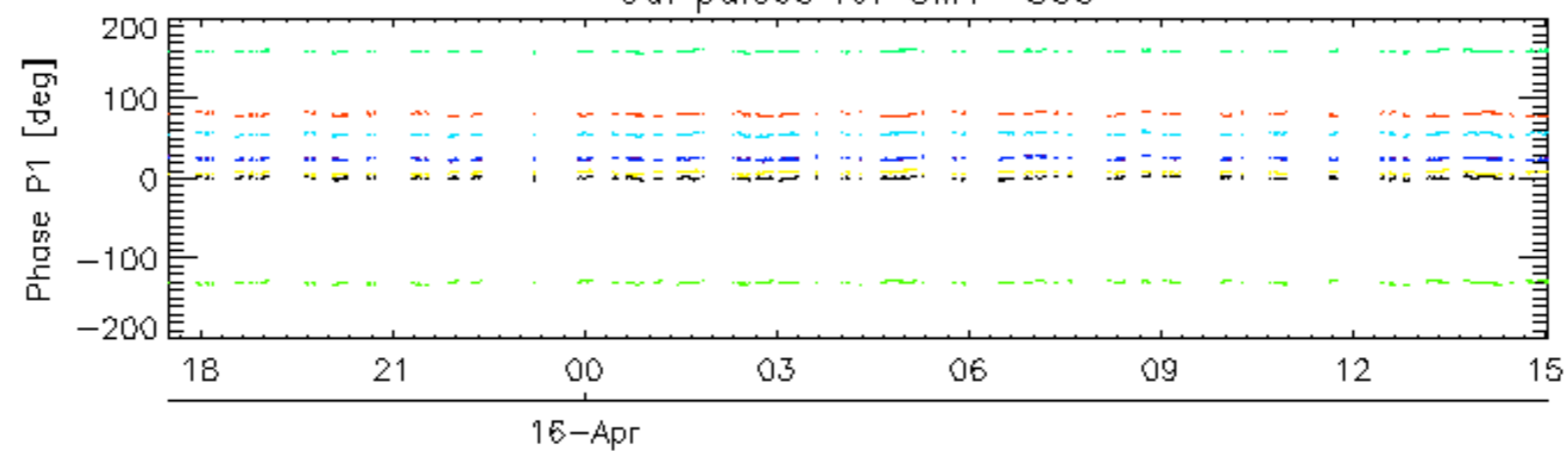
Evolution Doppler error versus ANX

<input type="checkbox"/>
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Cal pulses for GM1 SS3

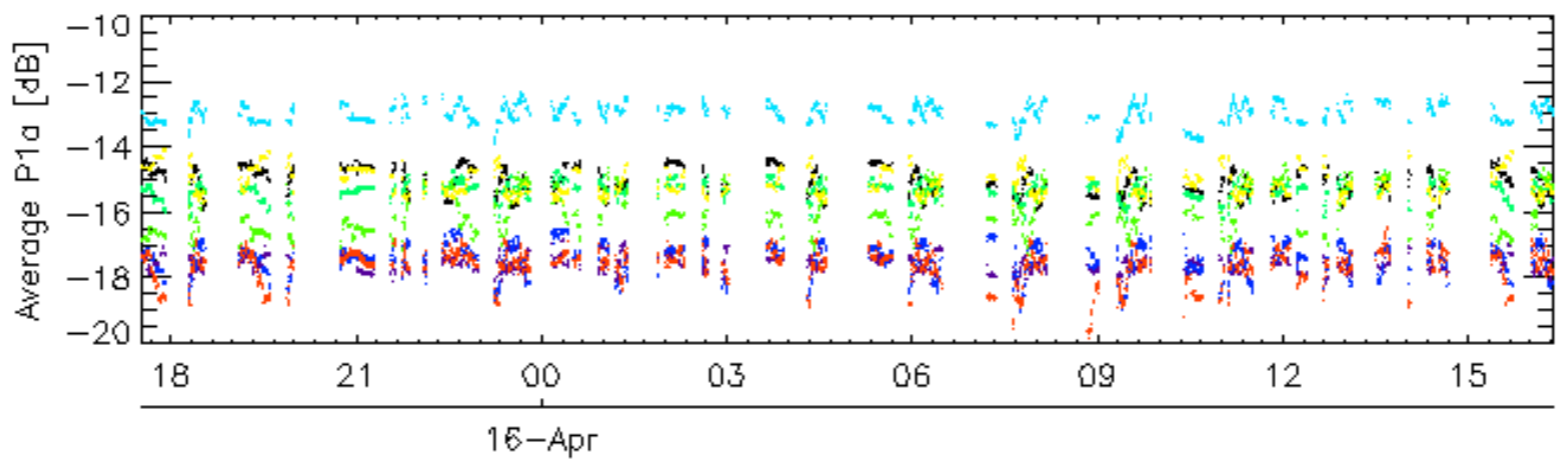
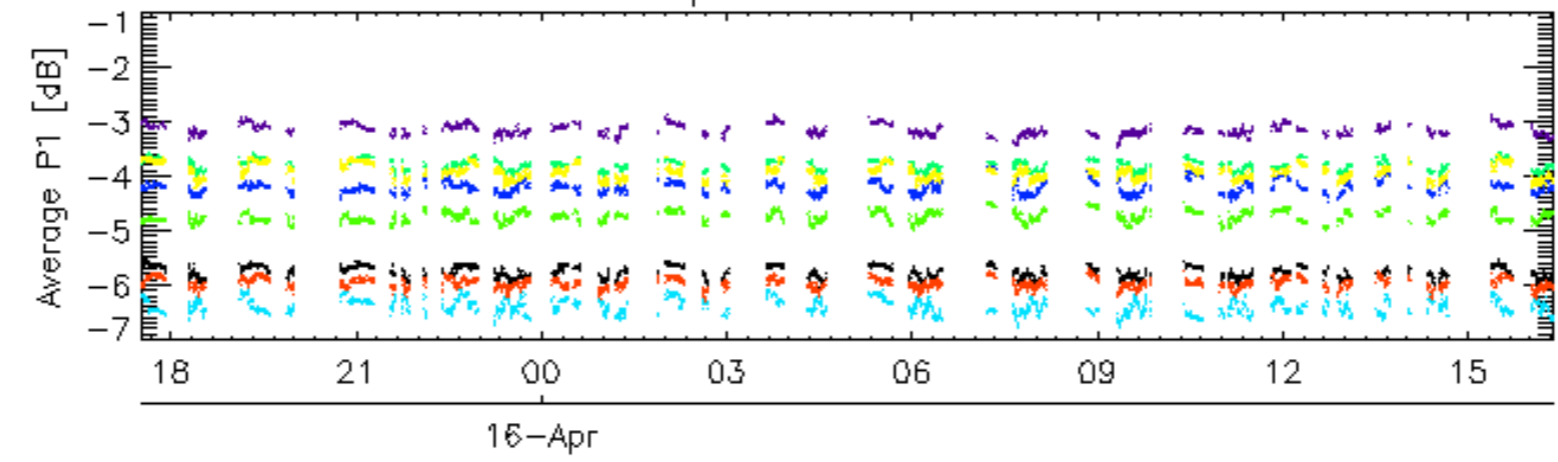


Cal pulses for GM1 SS3

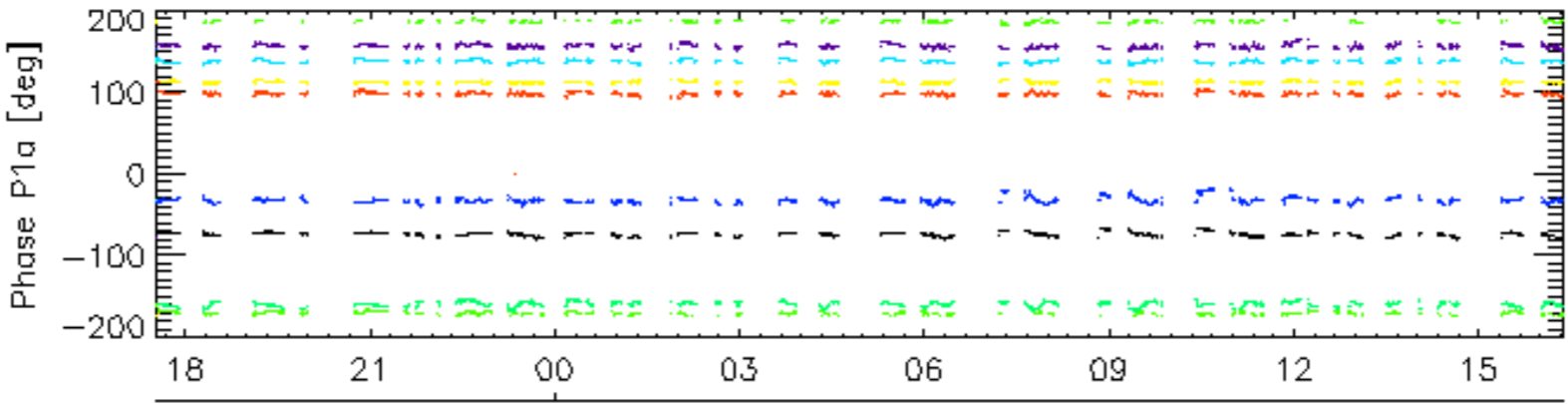
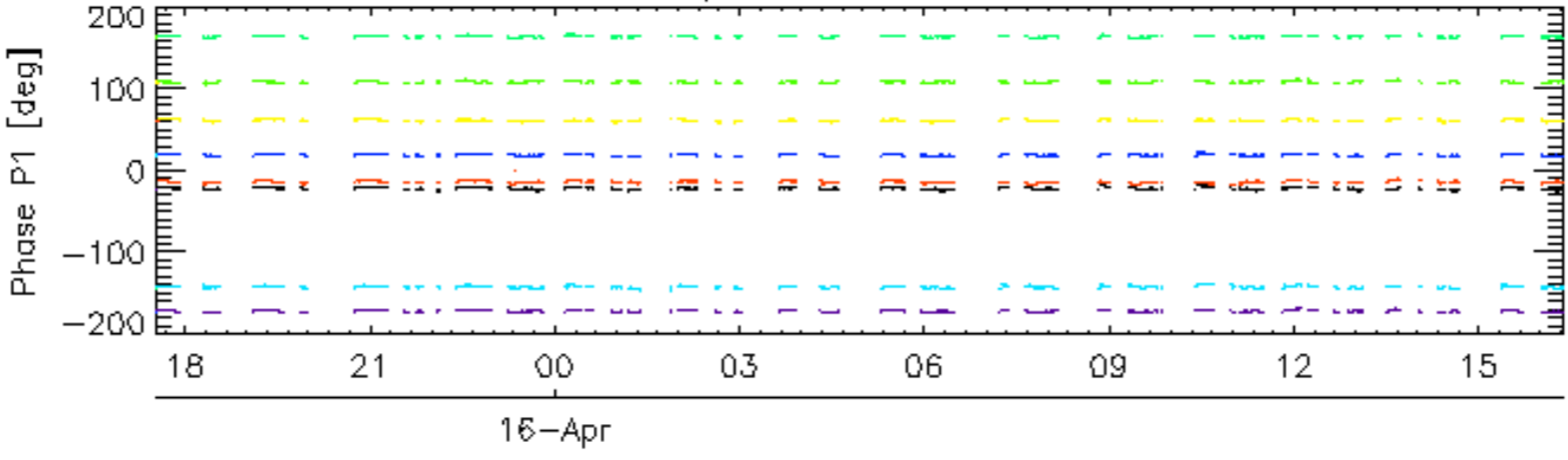


rows: 3 7 11 15 19 22 26 30

Cal pulses for WVS IS2

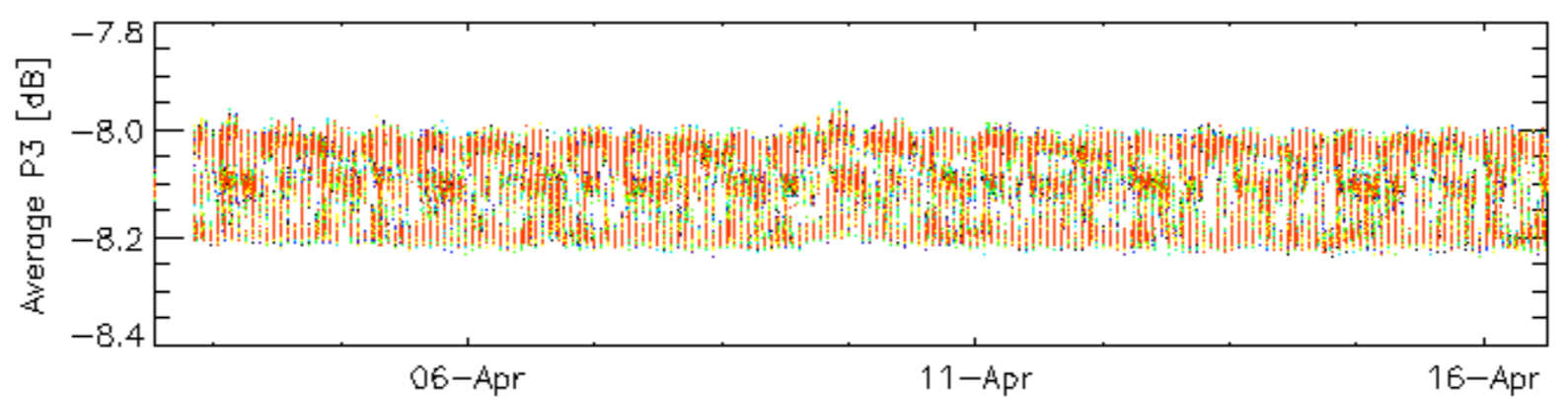
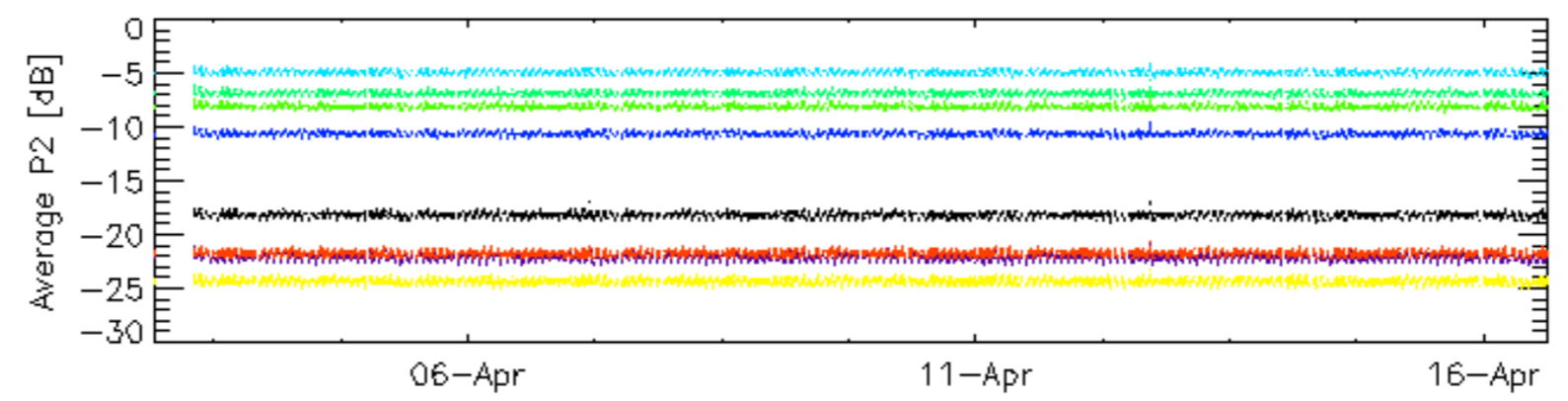
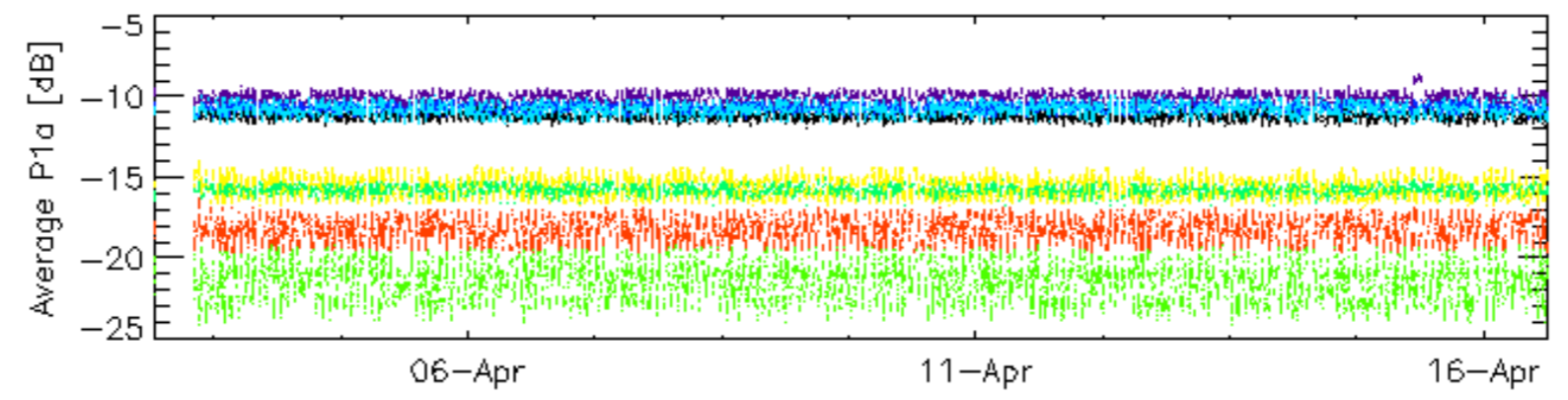
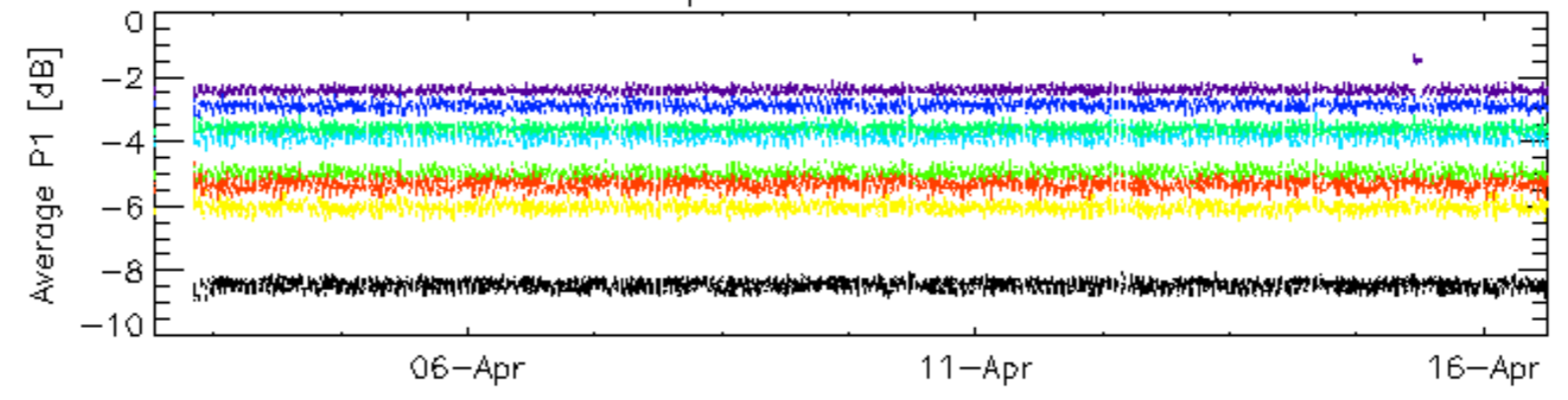


Cal pulses for WVS IS2



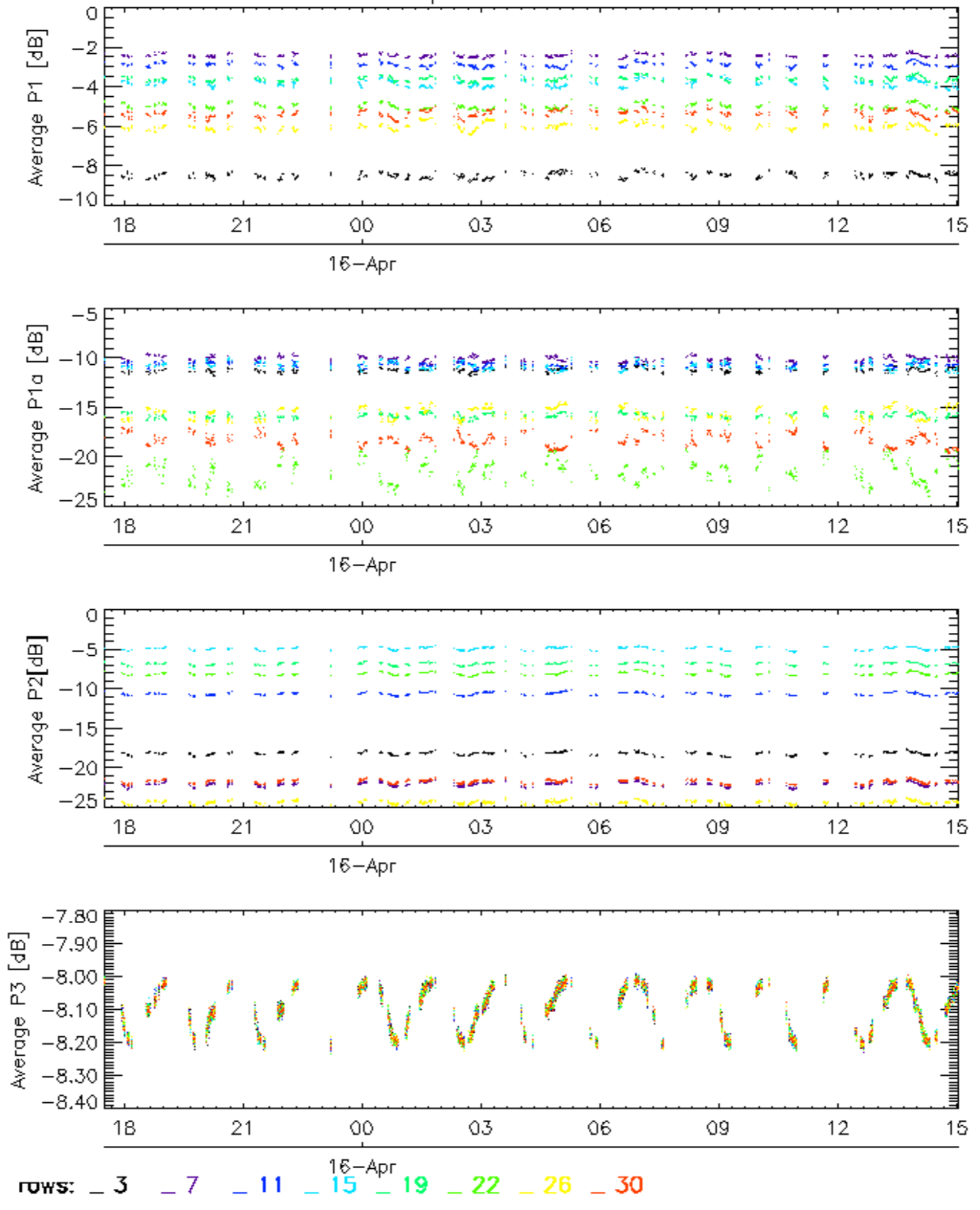
rows: 3 7 11 15 19 22 26 30

Cal pulses for GM1 SS3

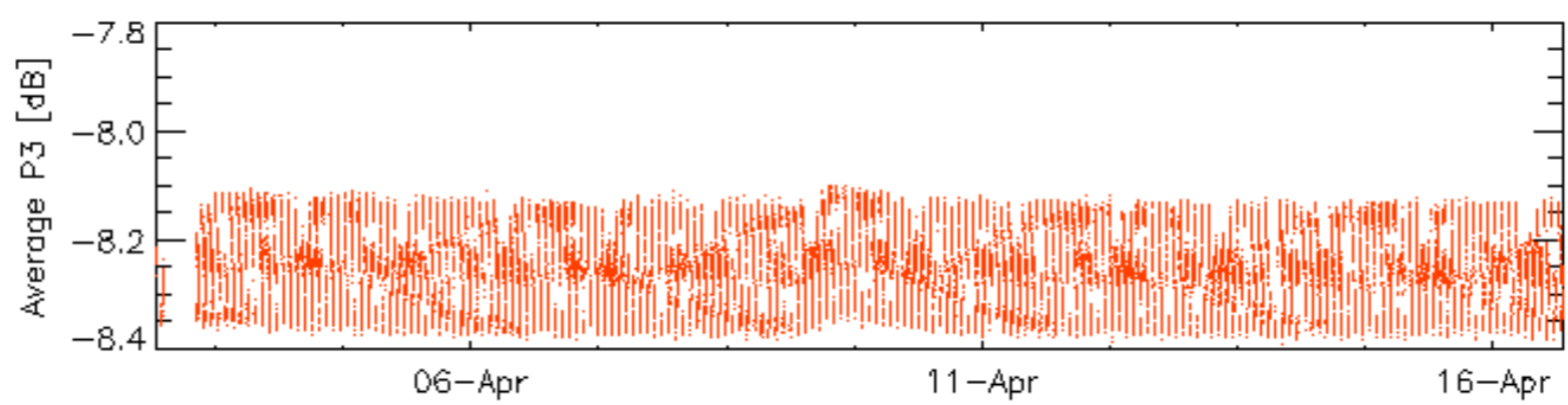
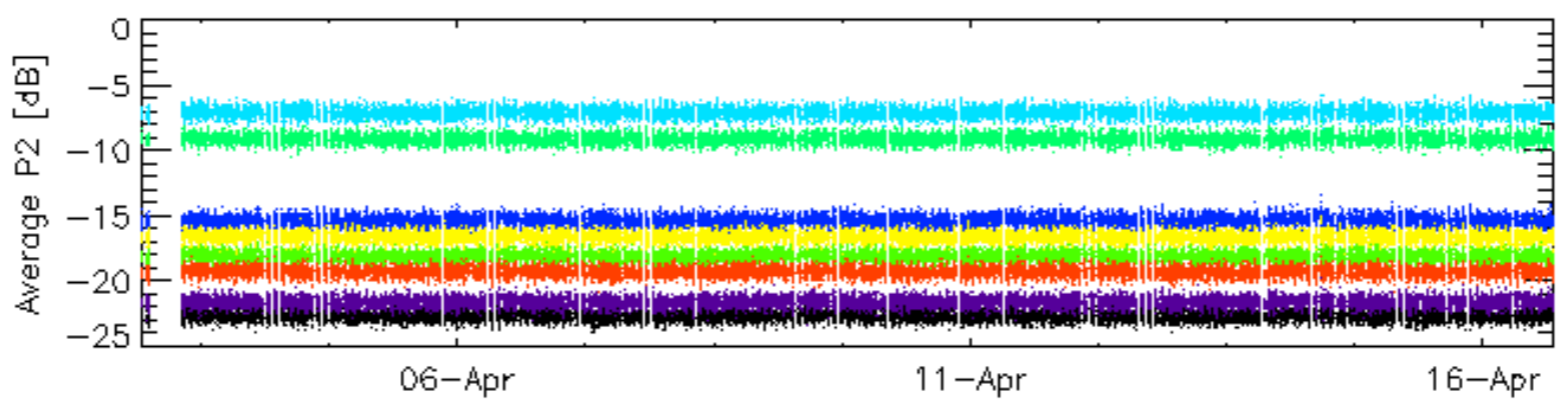
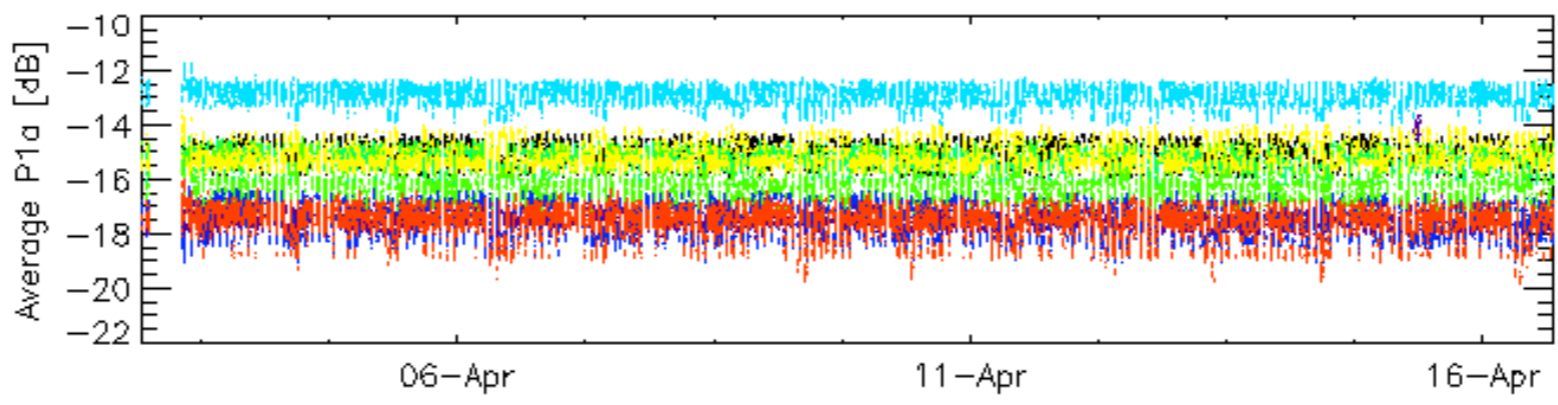
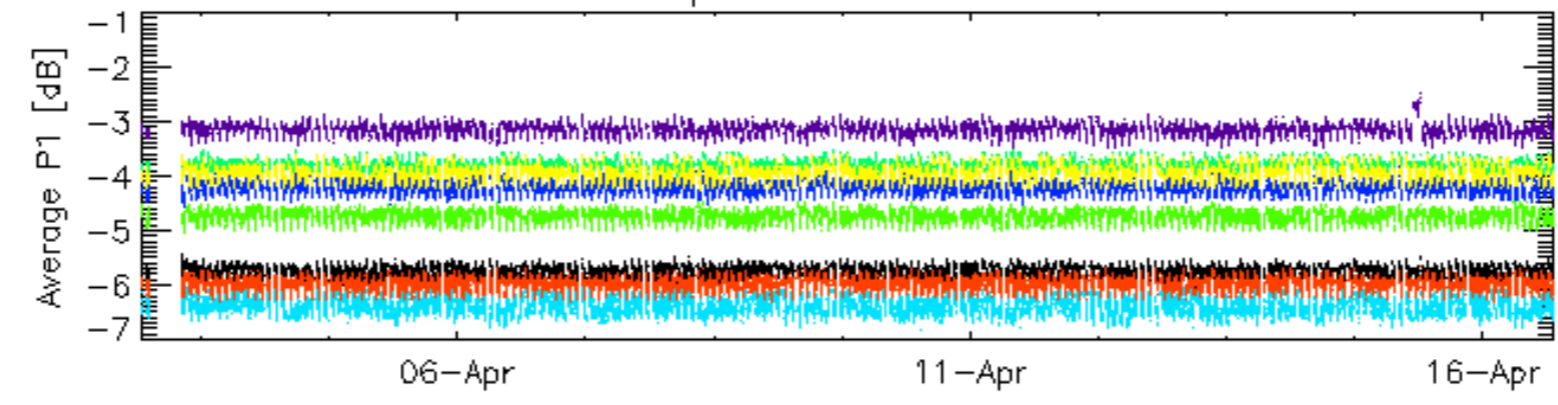


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

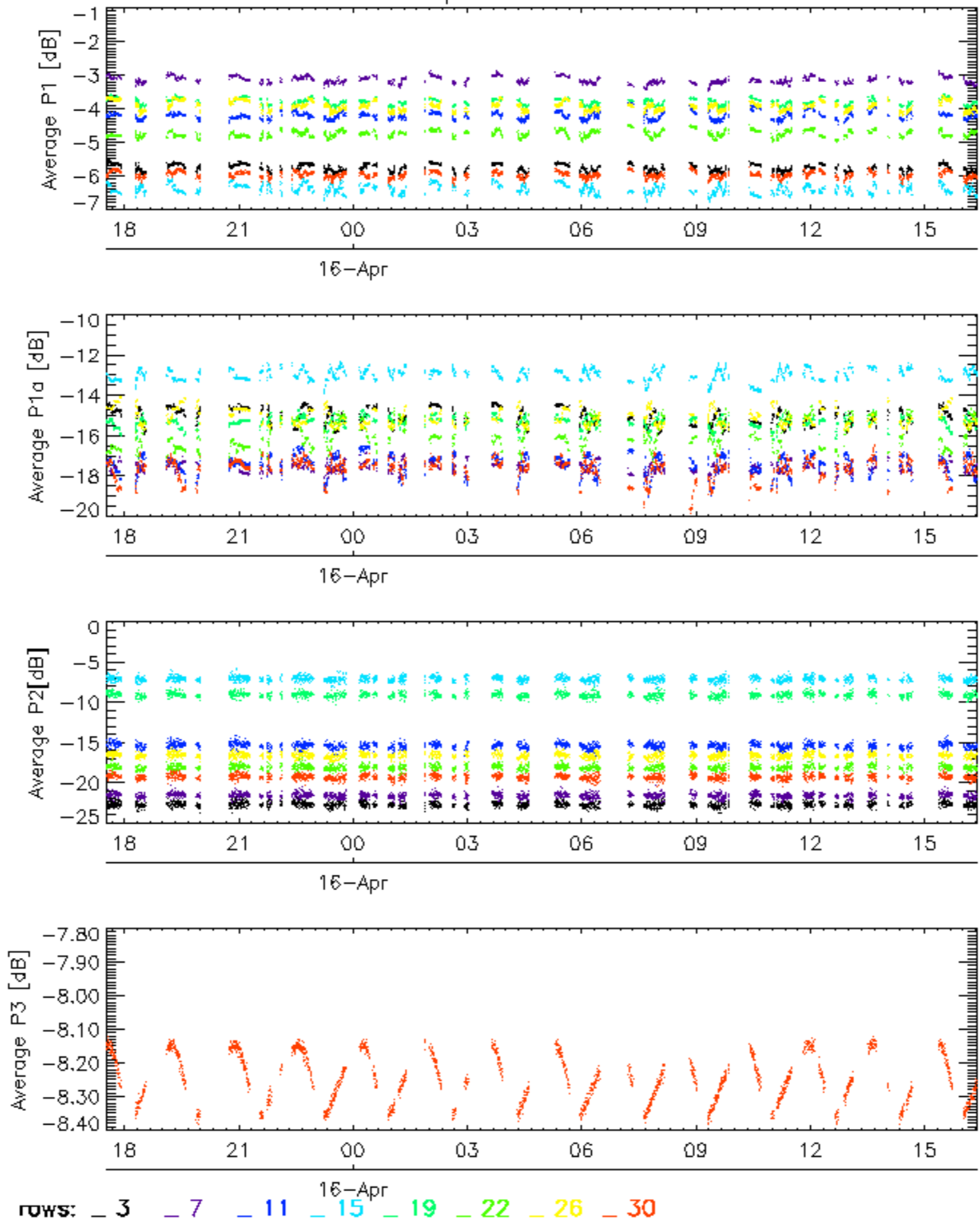


Cal pulses for WVS IS2



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

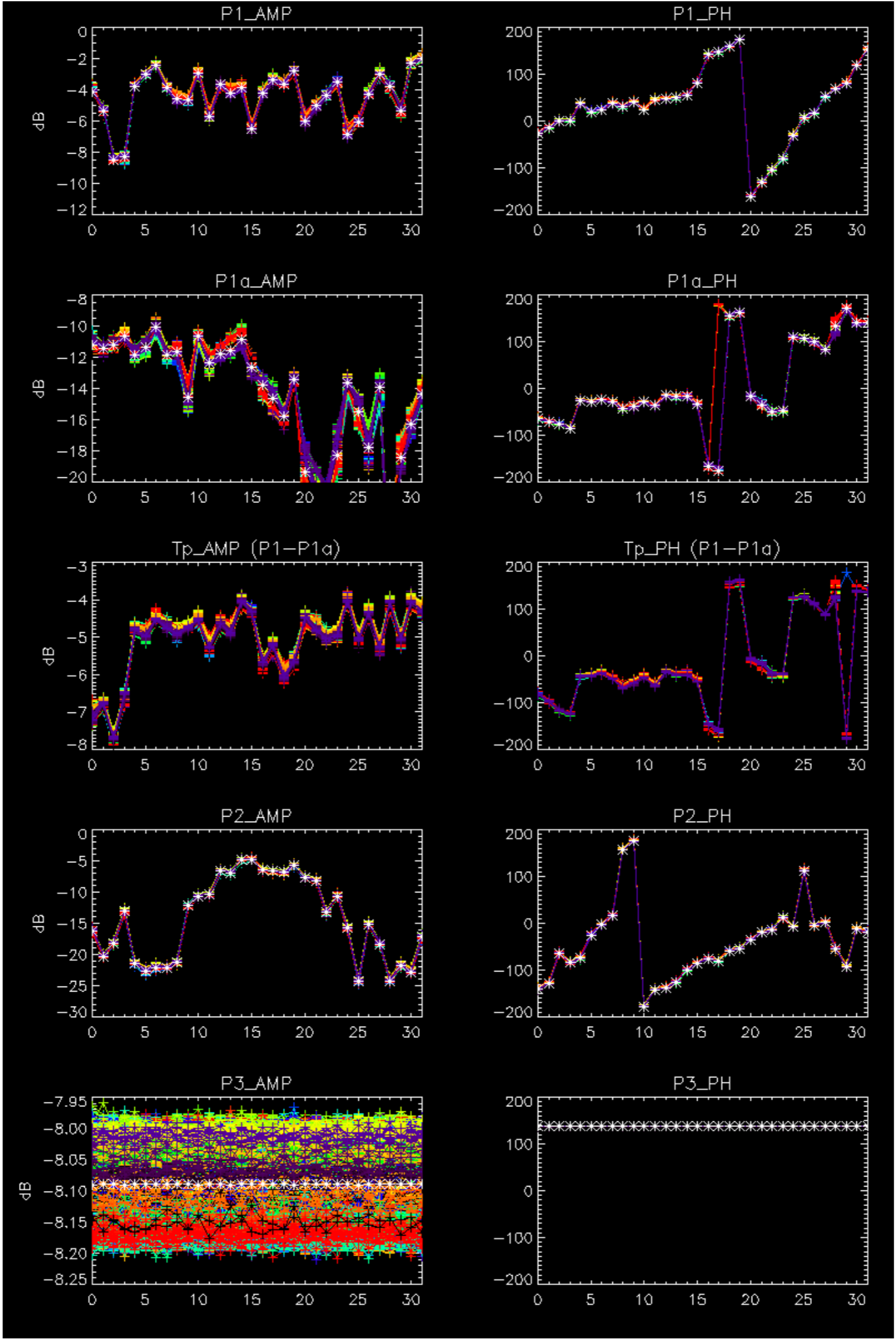
Cal pulses for WVS IS2

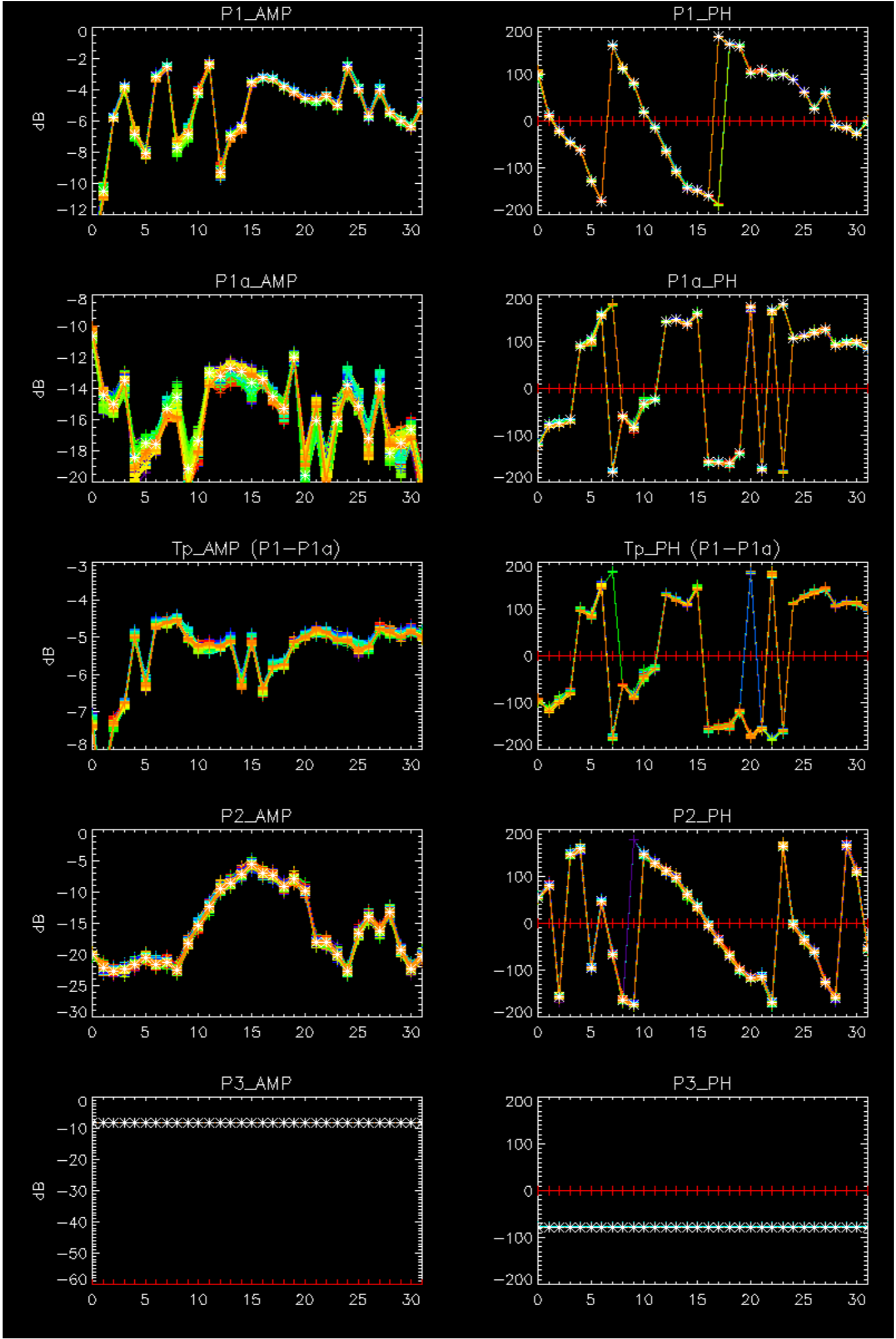


No anomalies observed on available browse products



No anomalies observed.

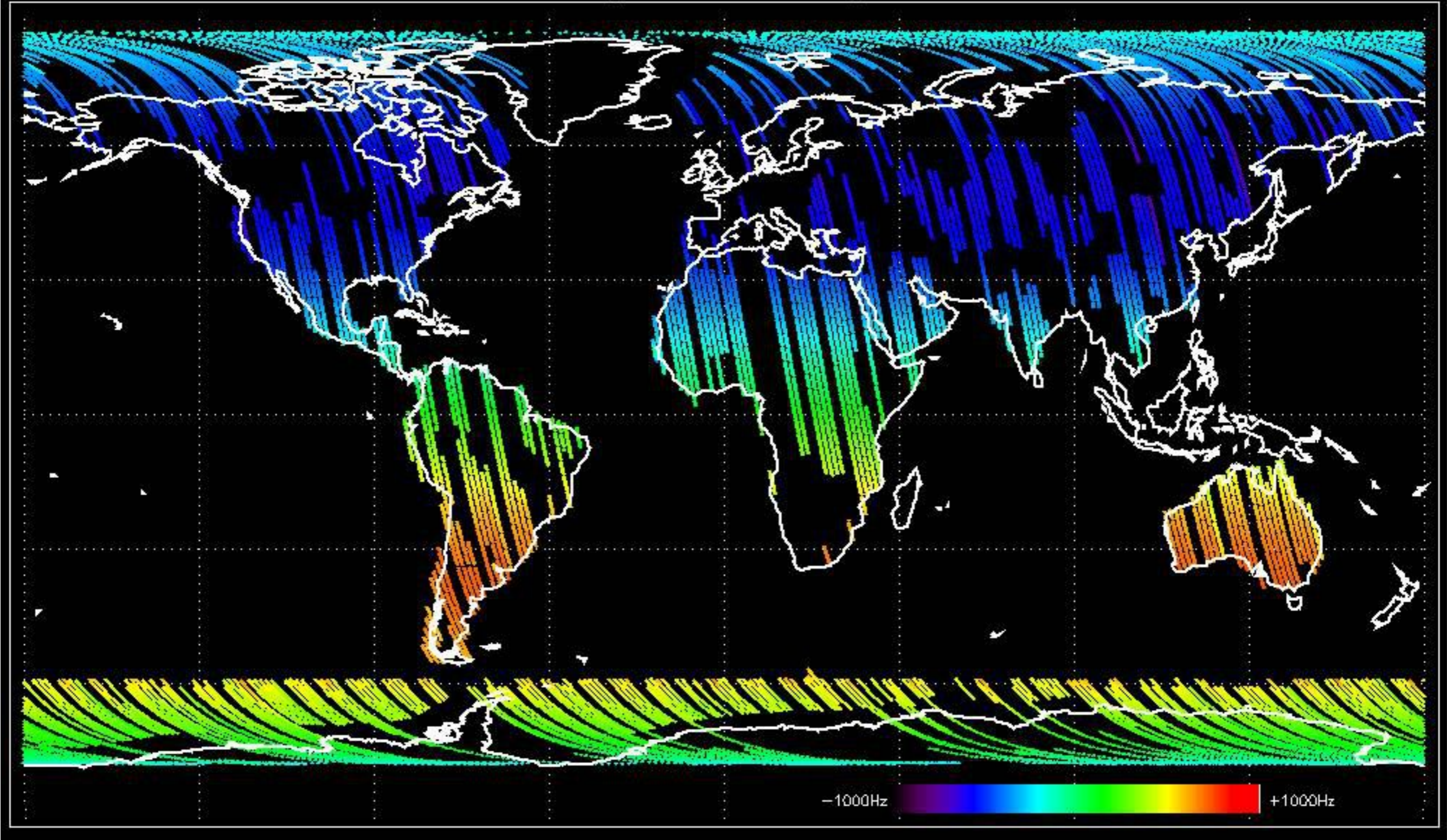




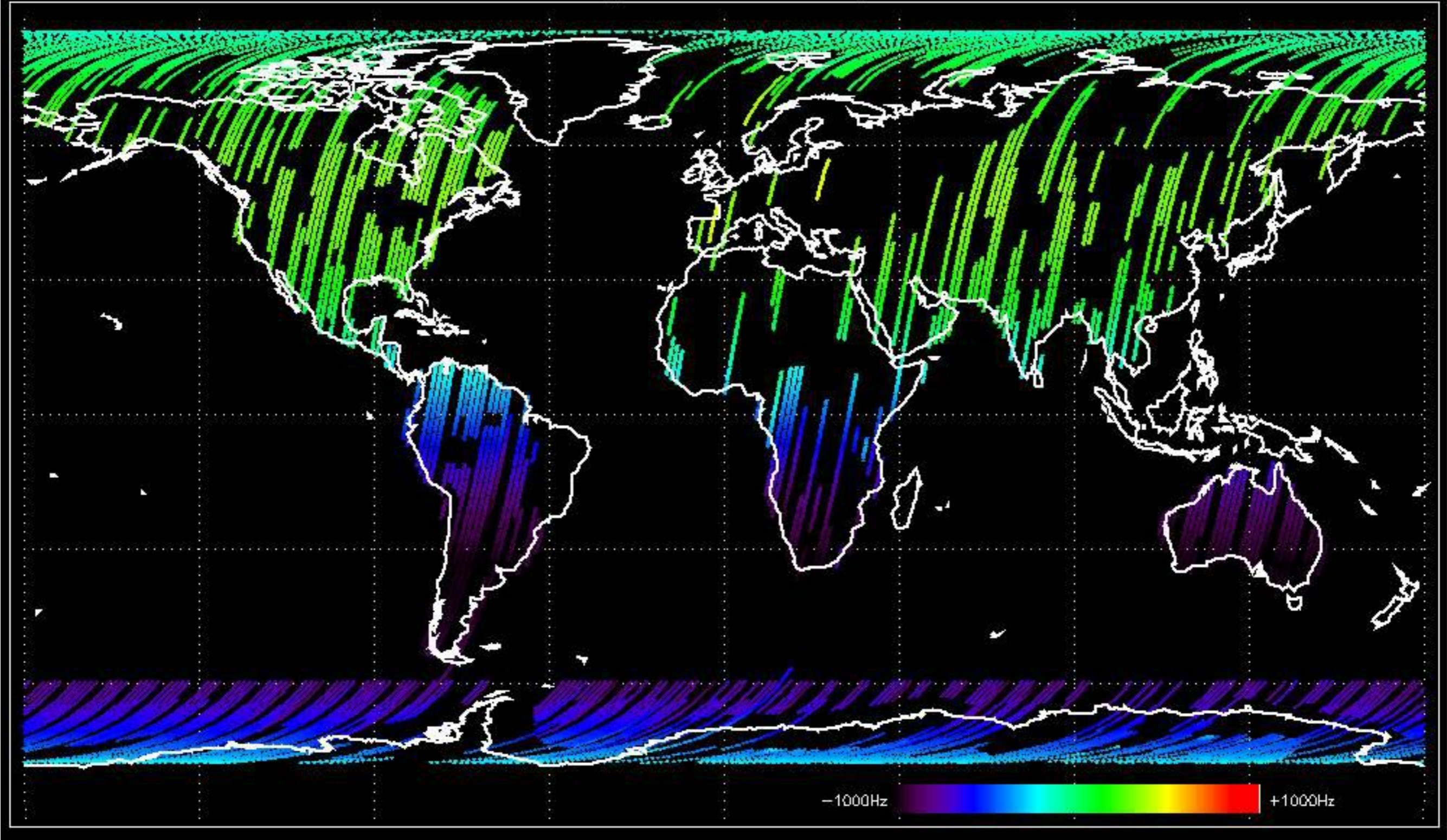
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



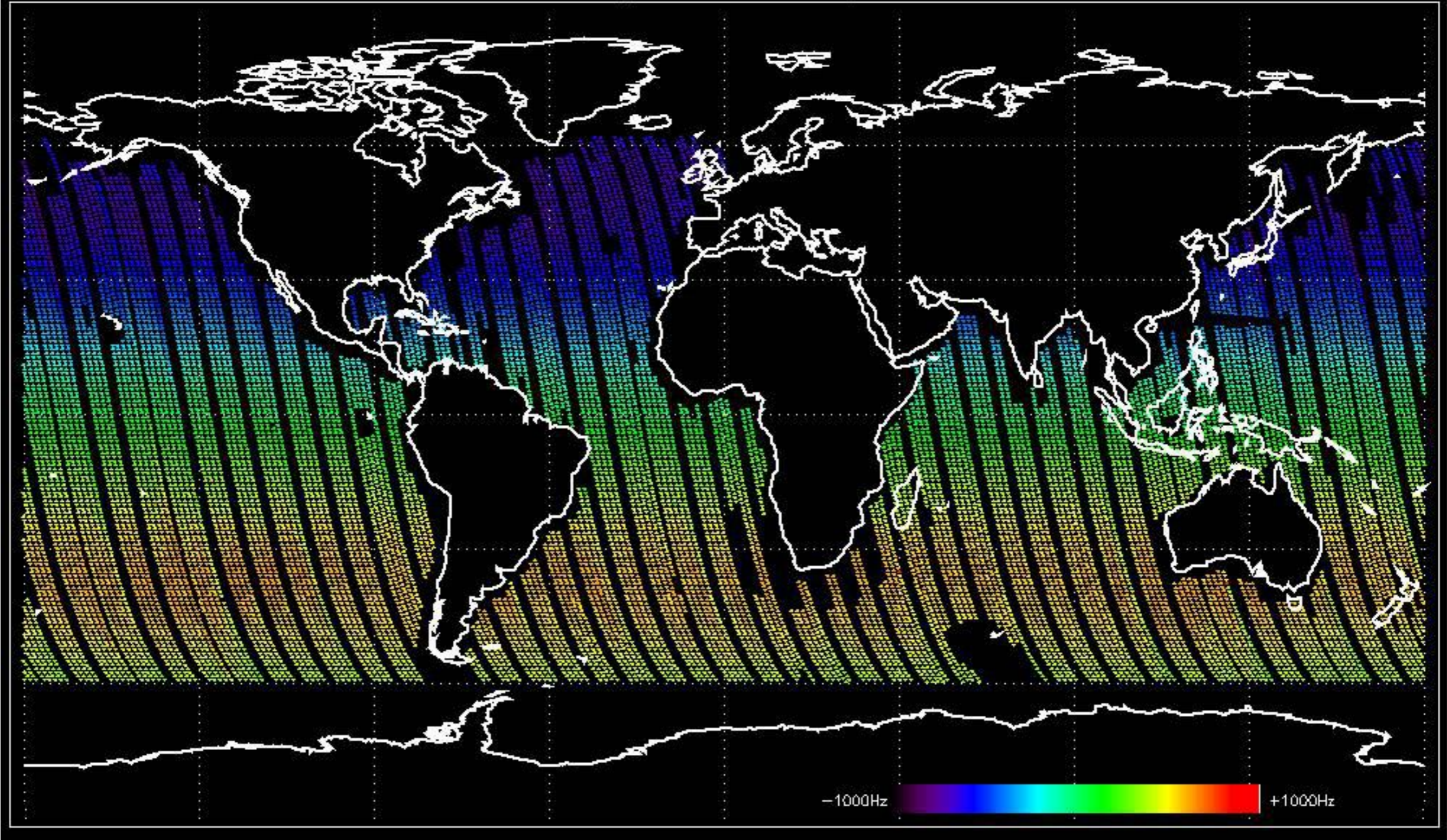
Doppler 'GM1' 'SS1' ascending



Doppler 'GM1' 'SS1' descending

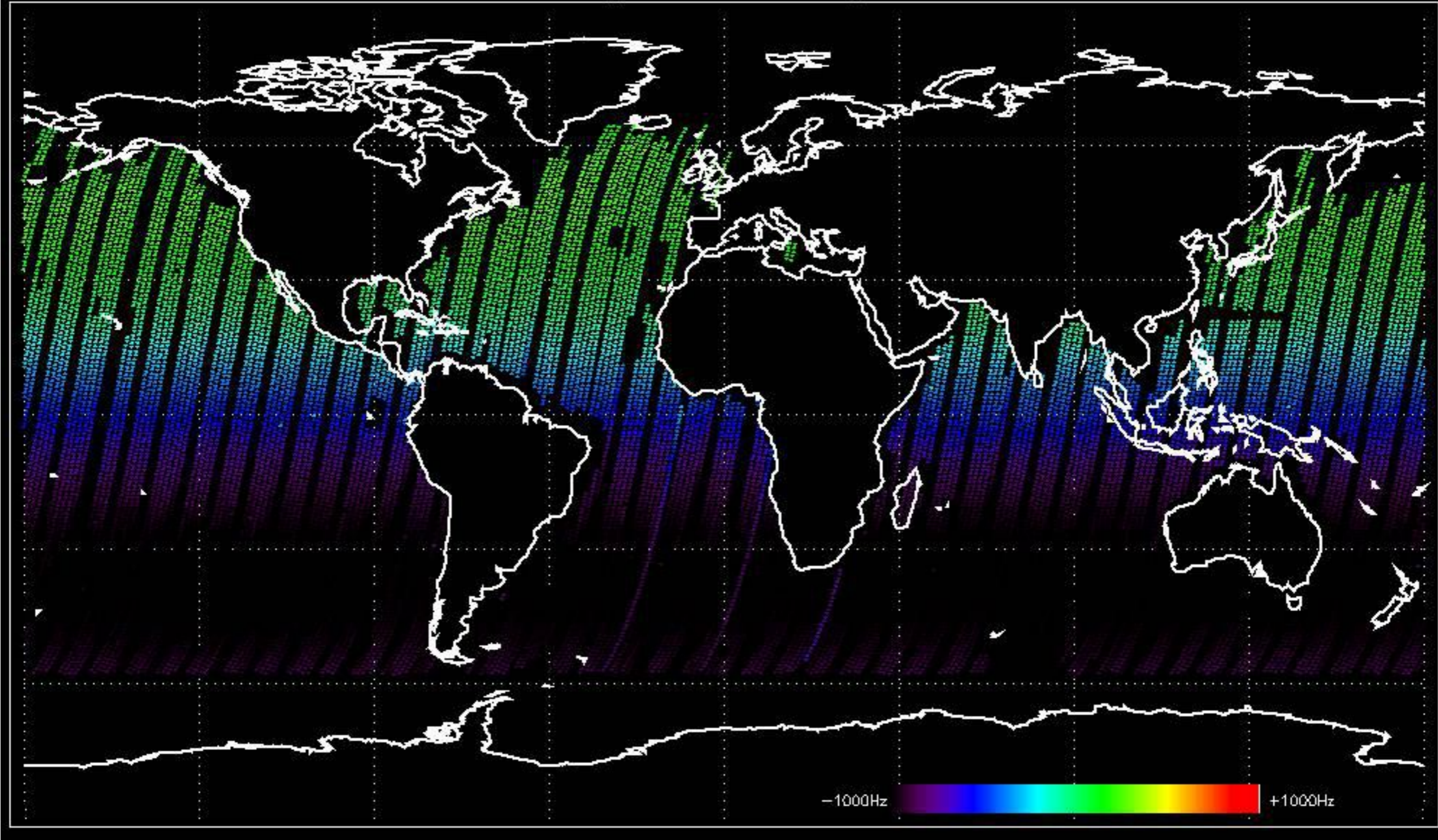


Doppler 'WVS' 'IS2' ascending

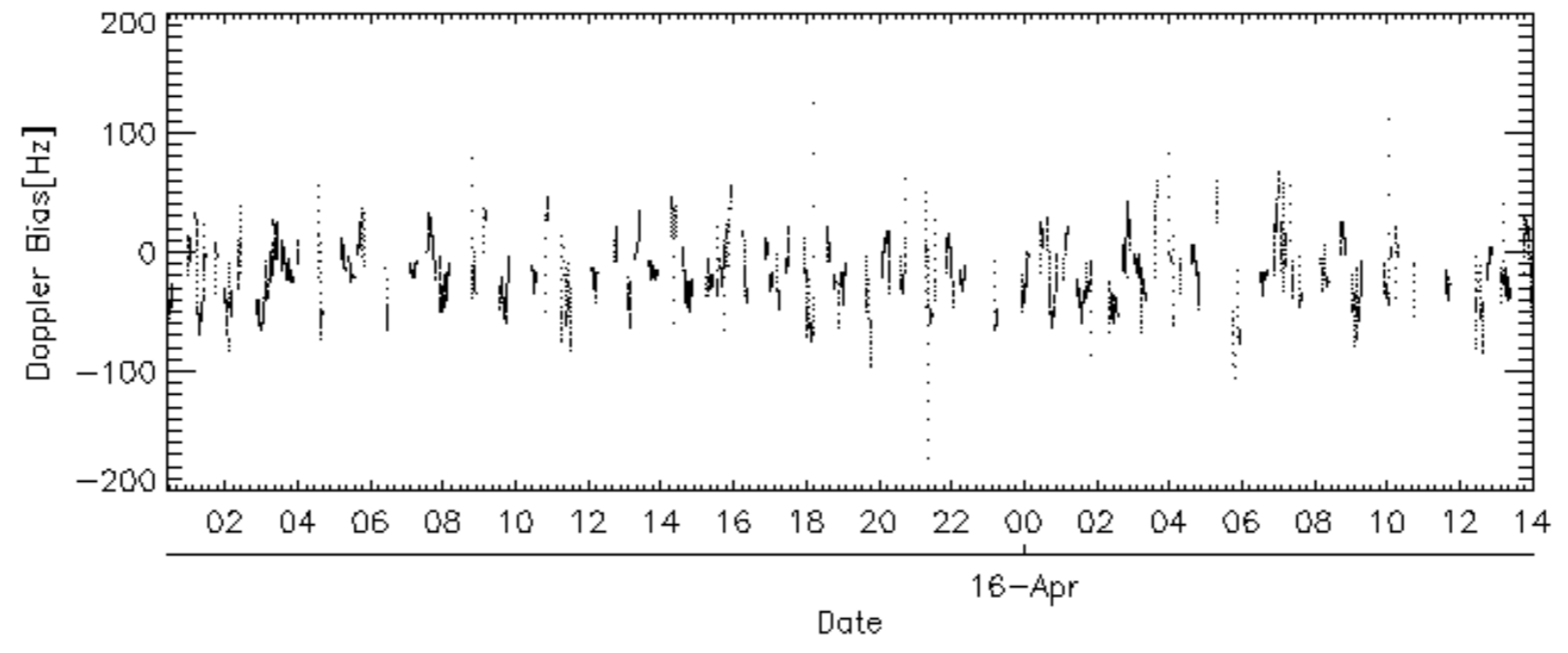
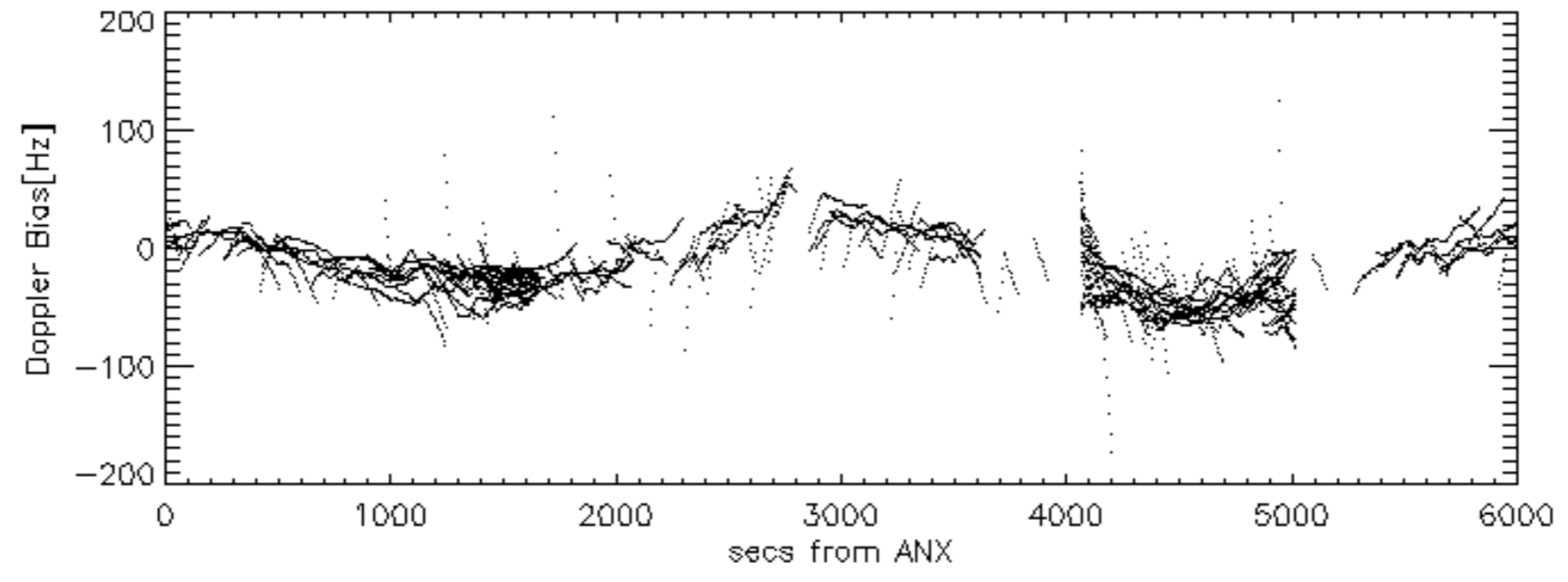
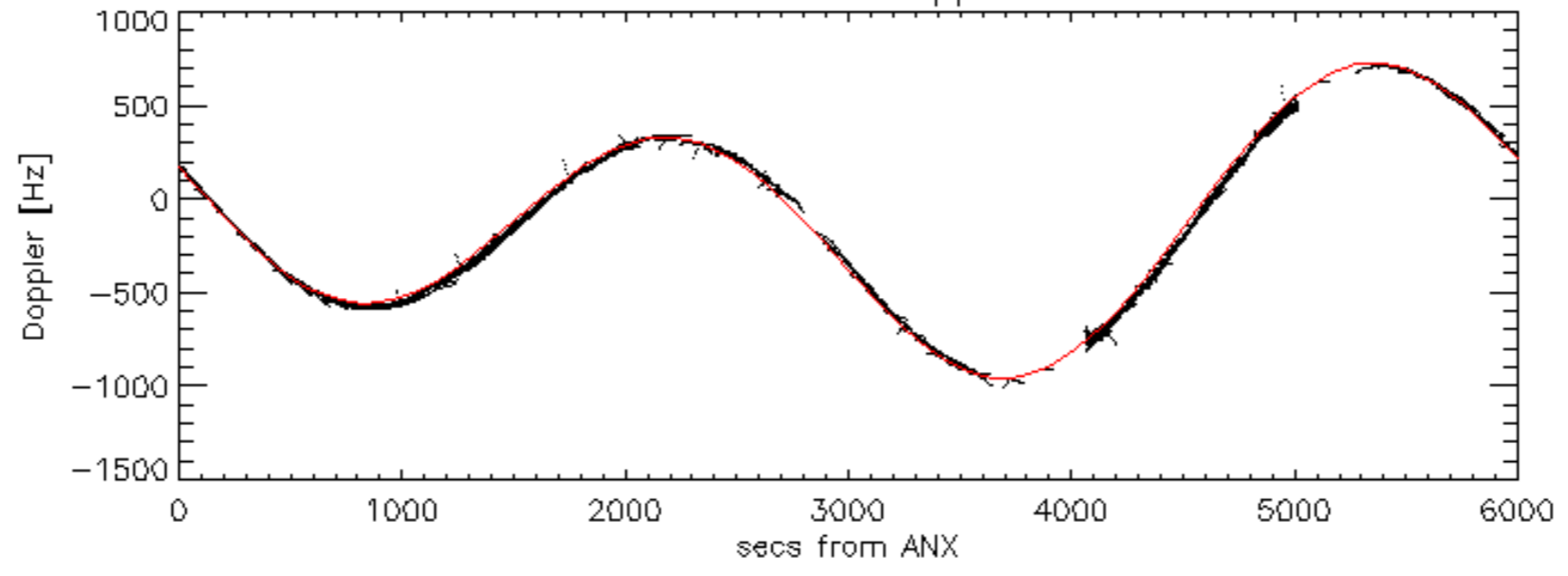


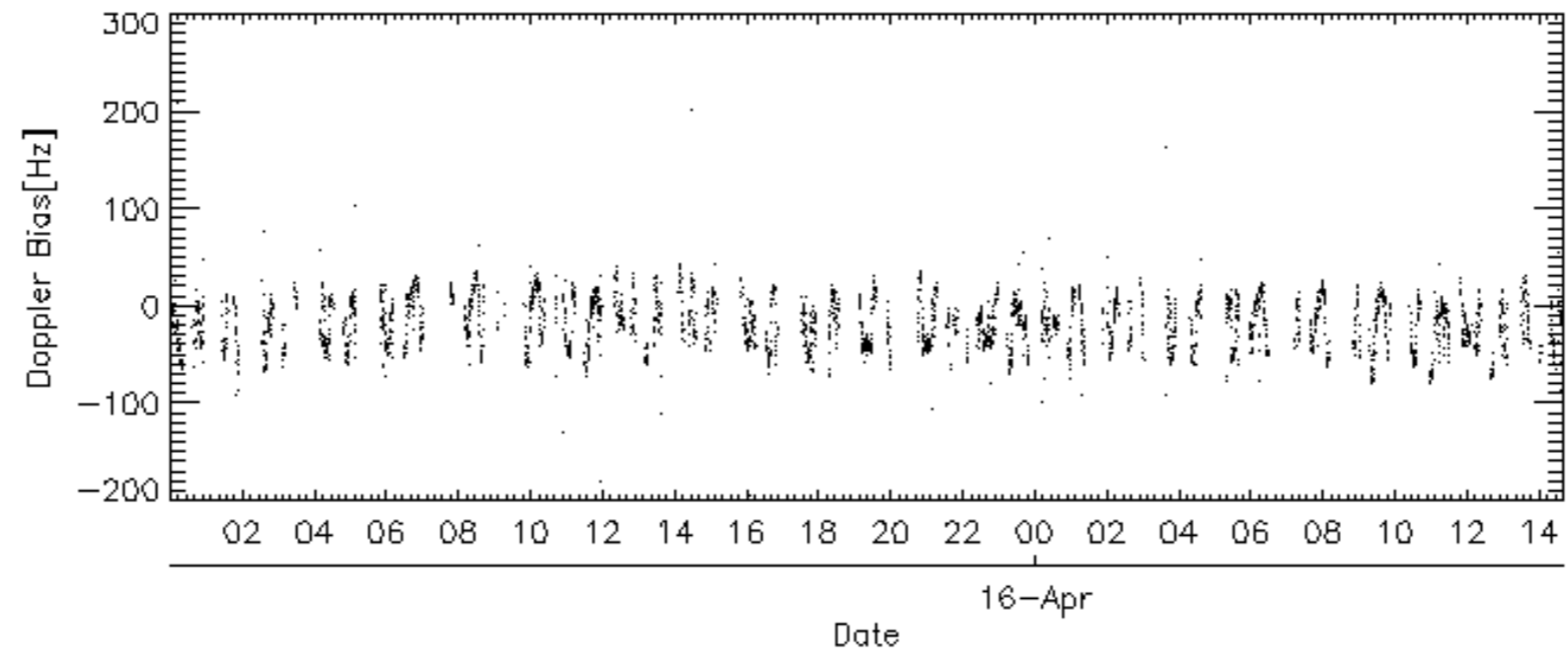
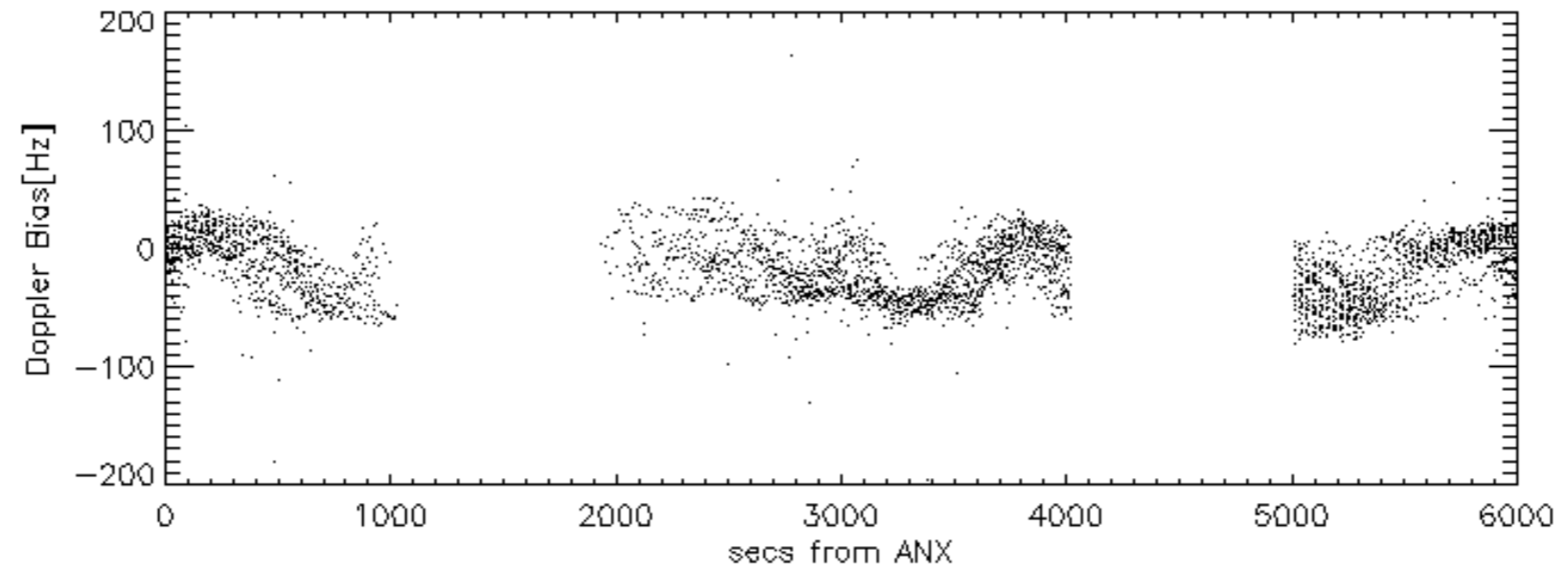
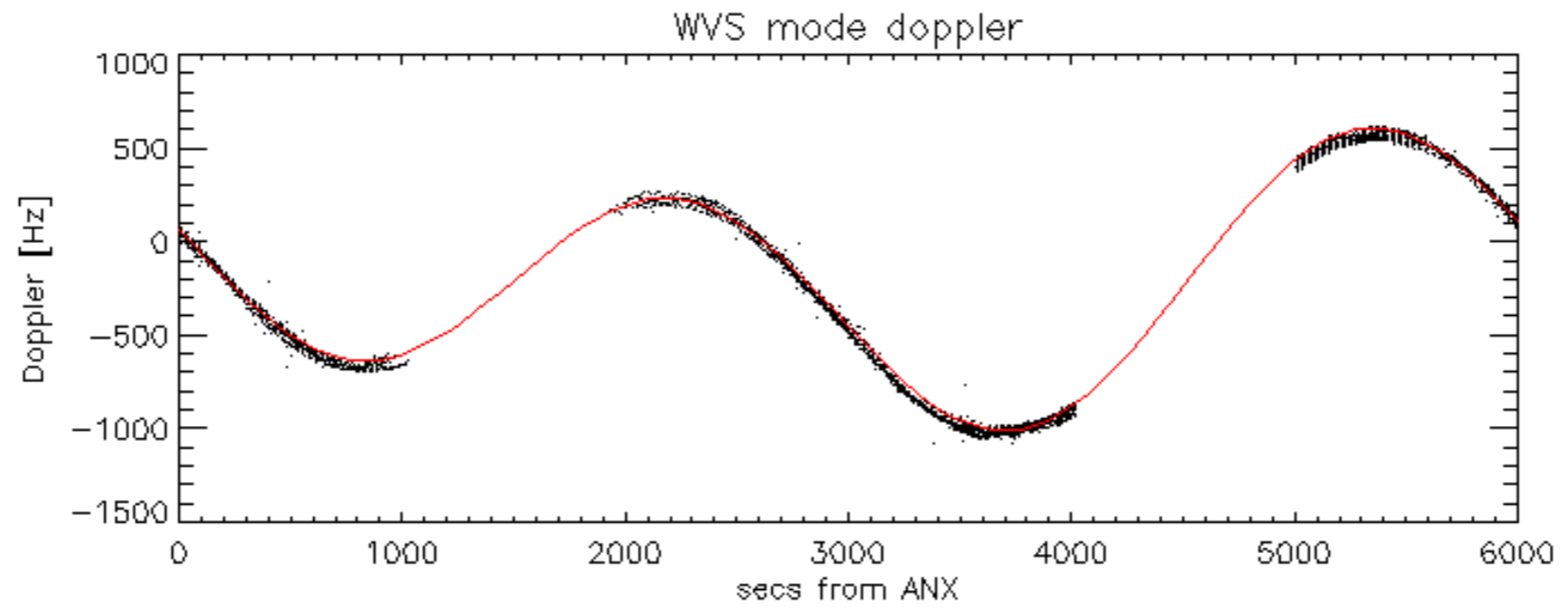


Doppler 'WVS' 'IS2' descending

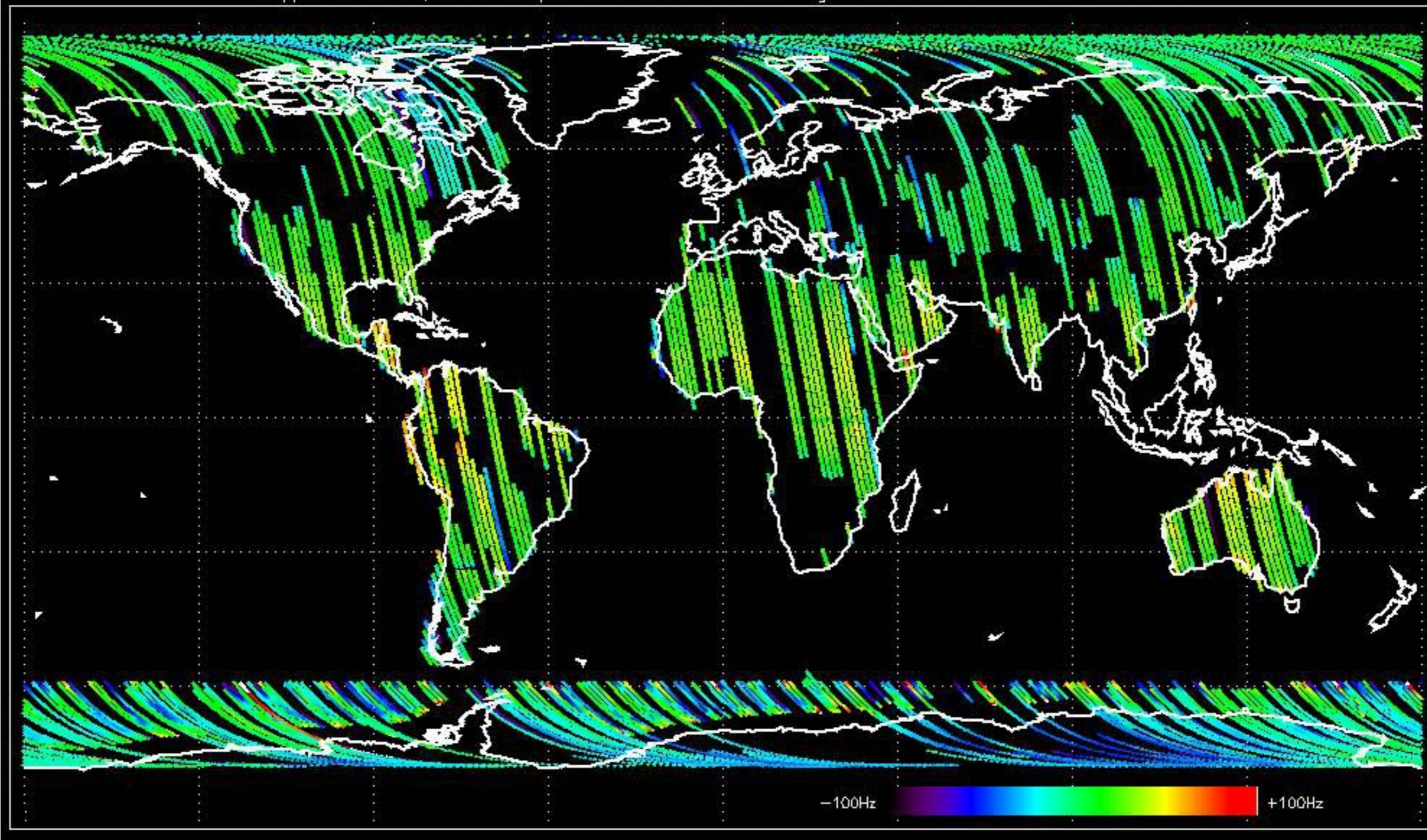


GM1 mode doppler

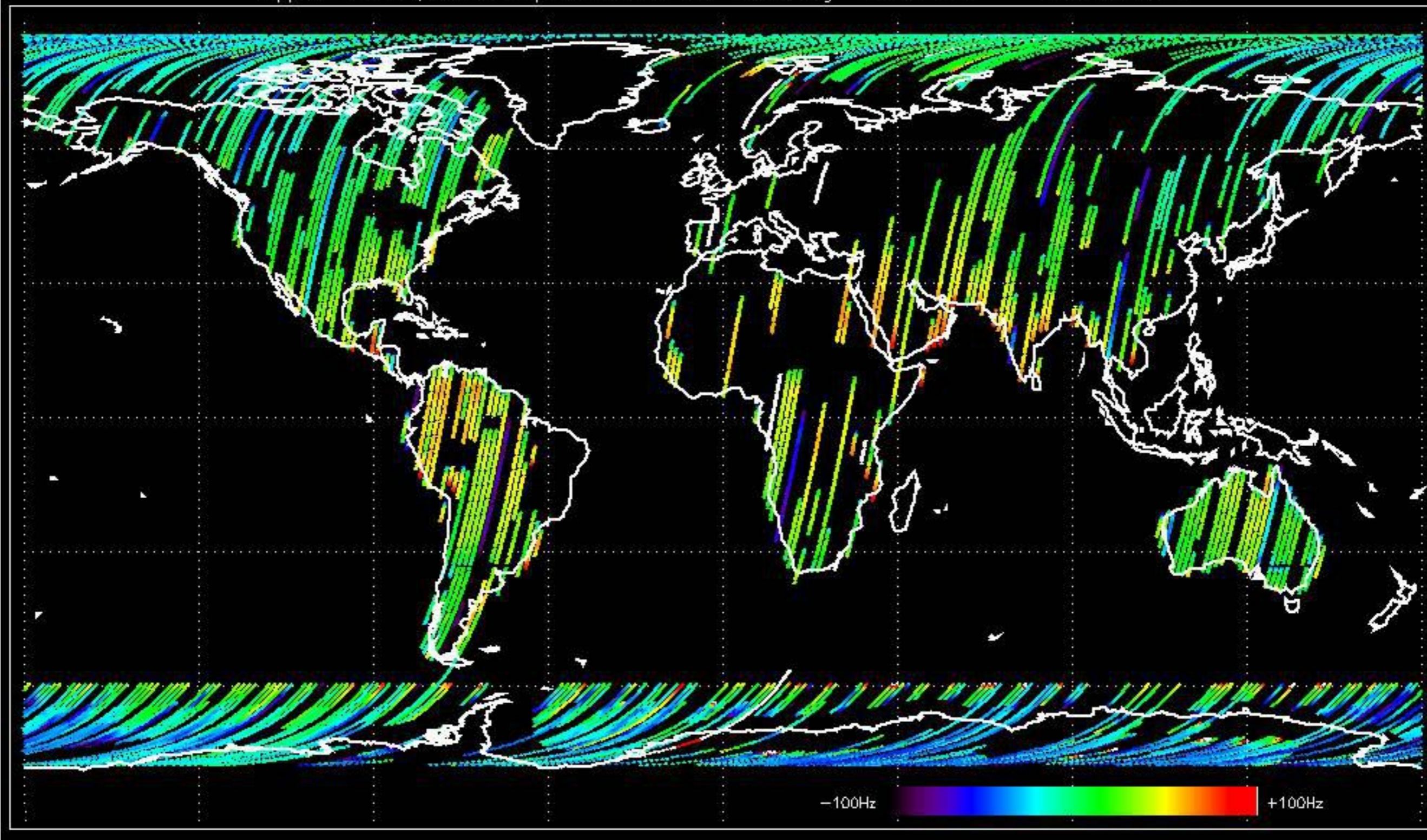




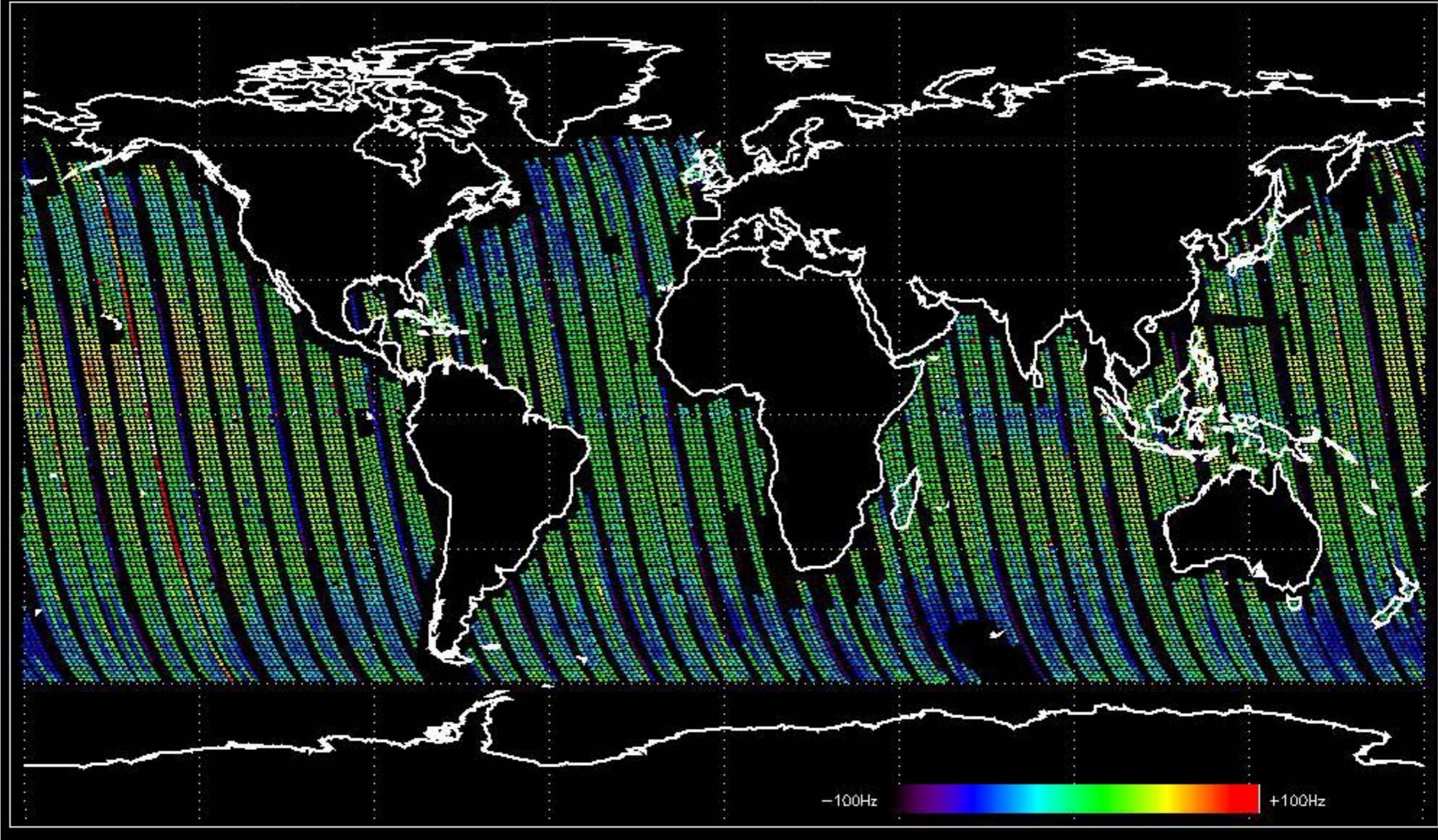
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -27.210154 Hz



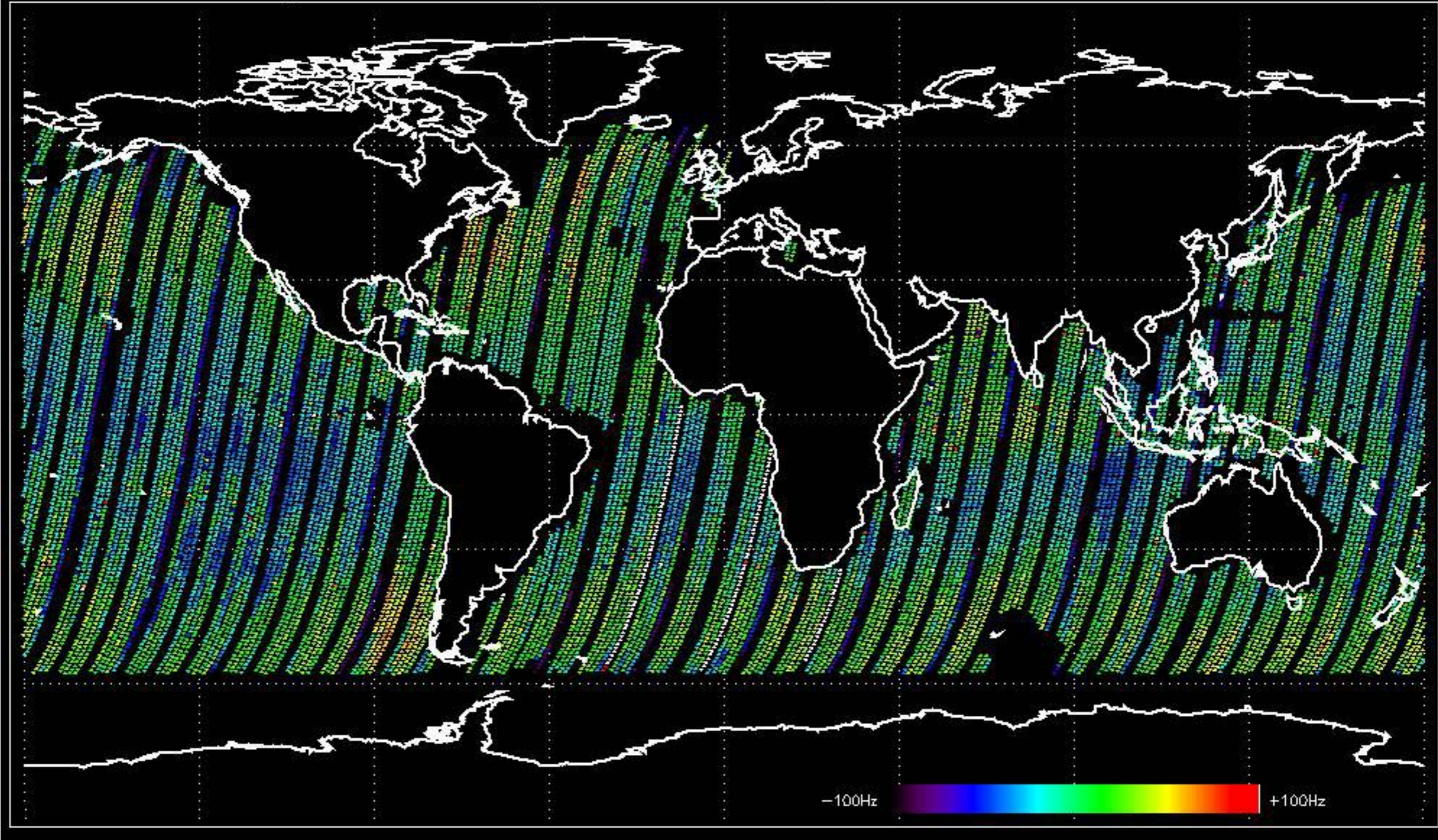
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -19.443302 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -23.663218 Hz



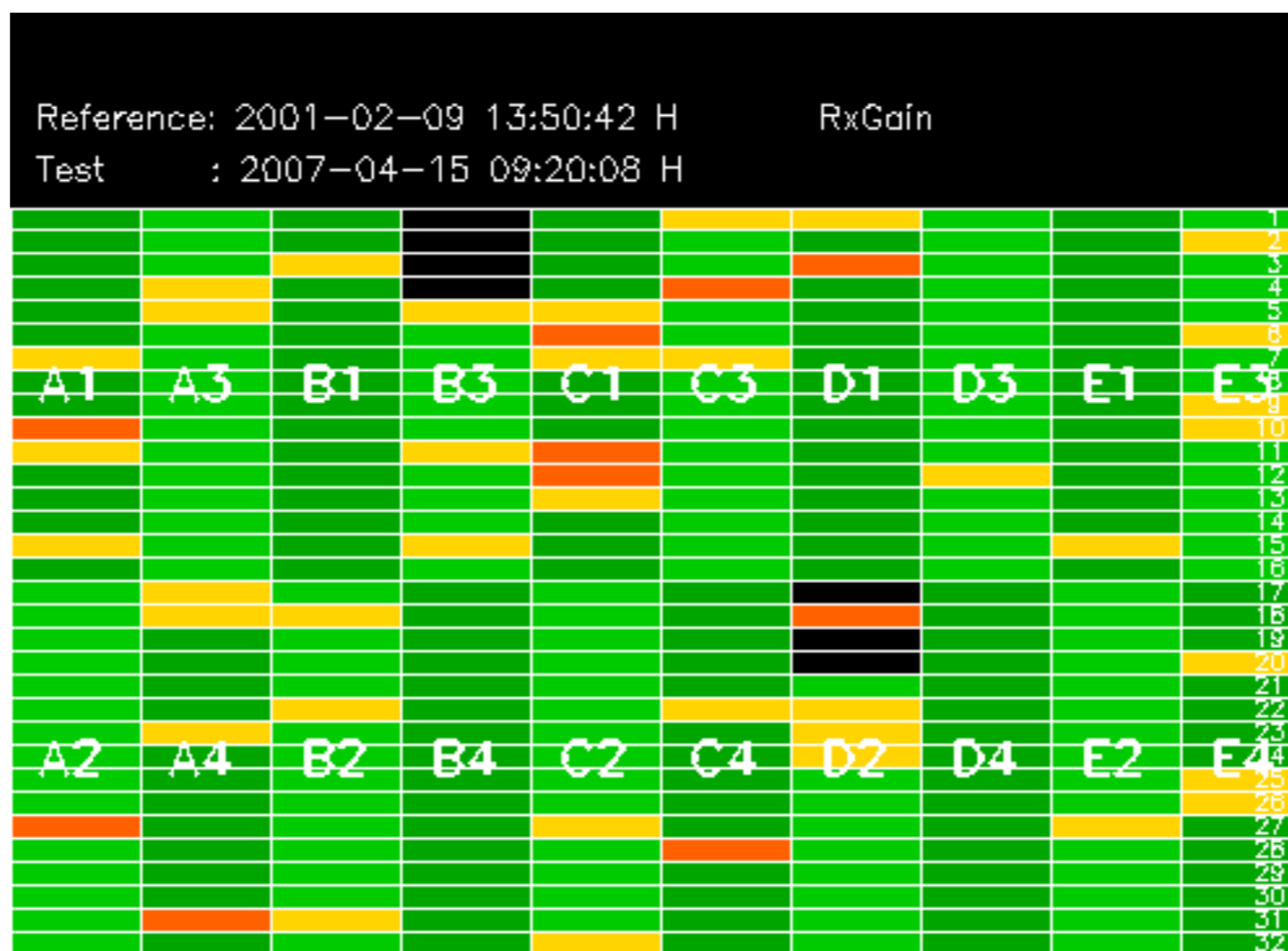
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -22.018061 Hz



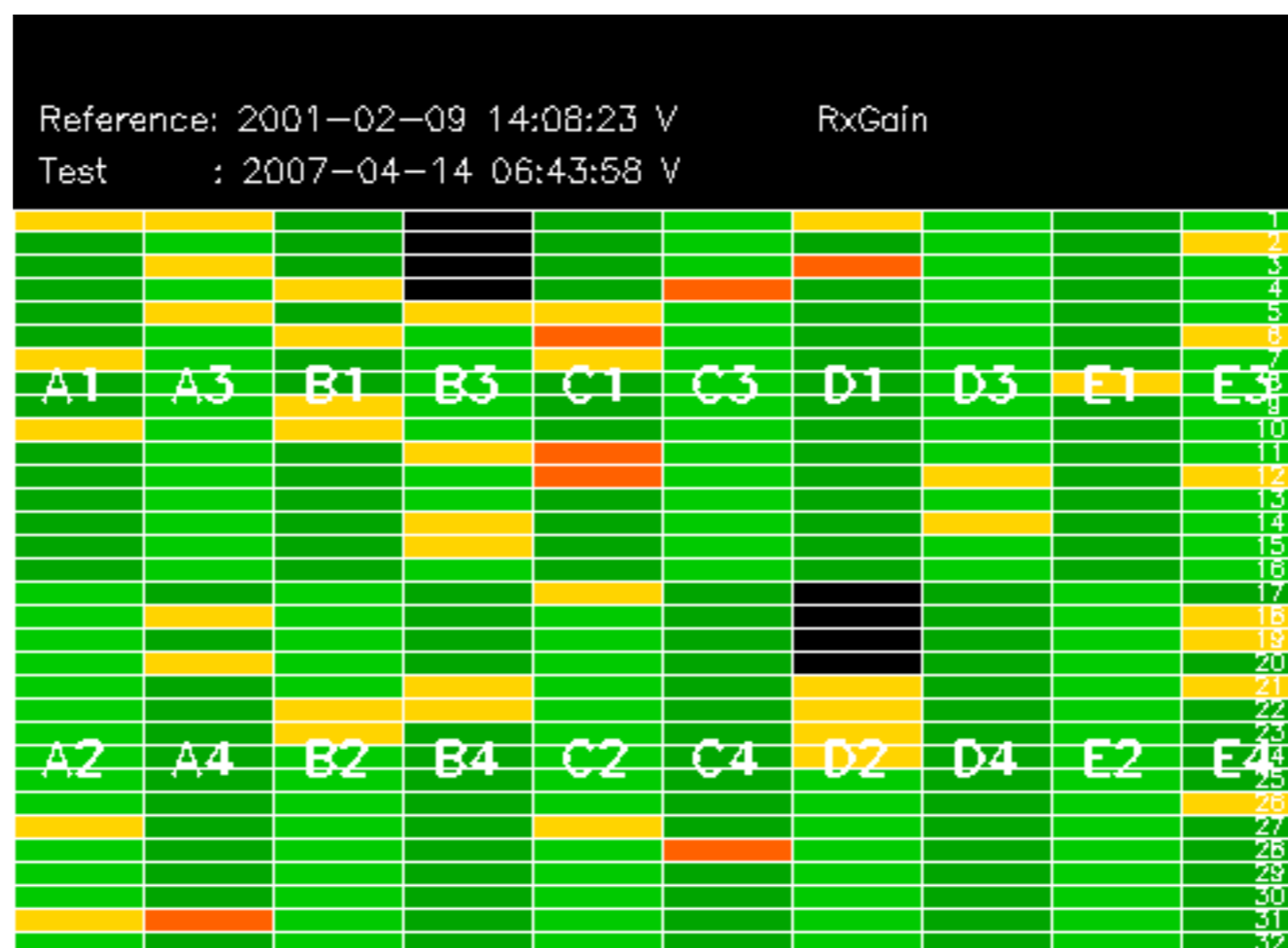
No anomalies observed on available MS products:



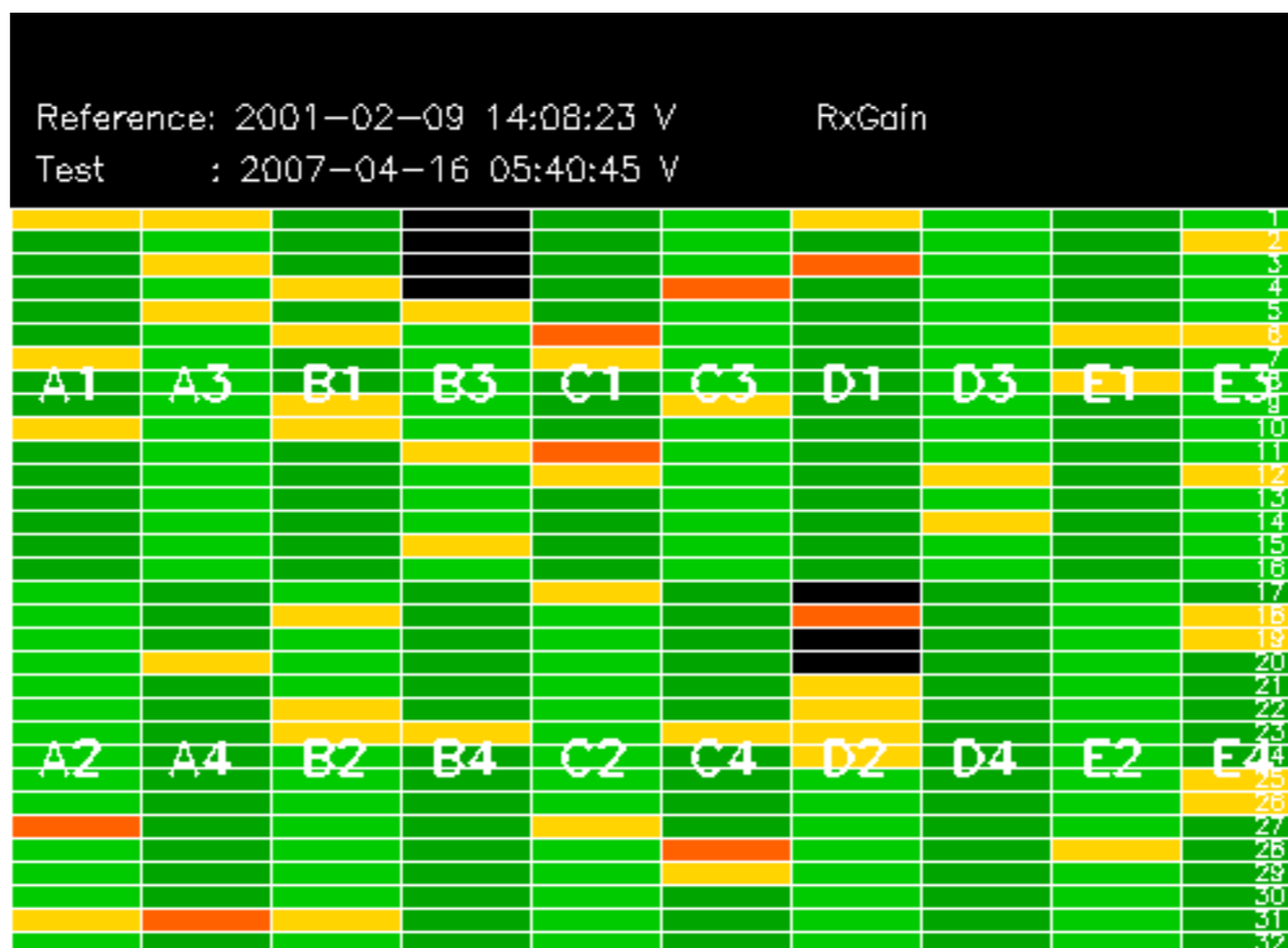
No anomalies observed.







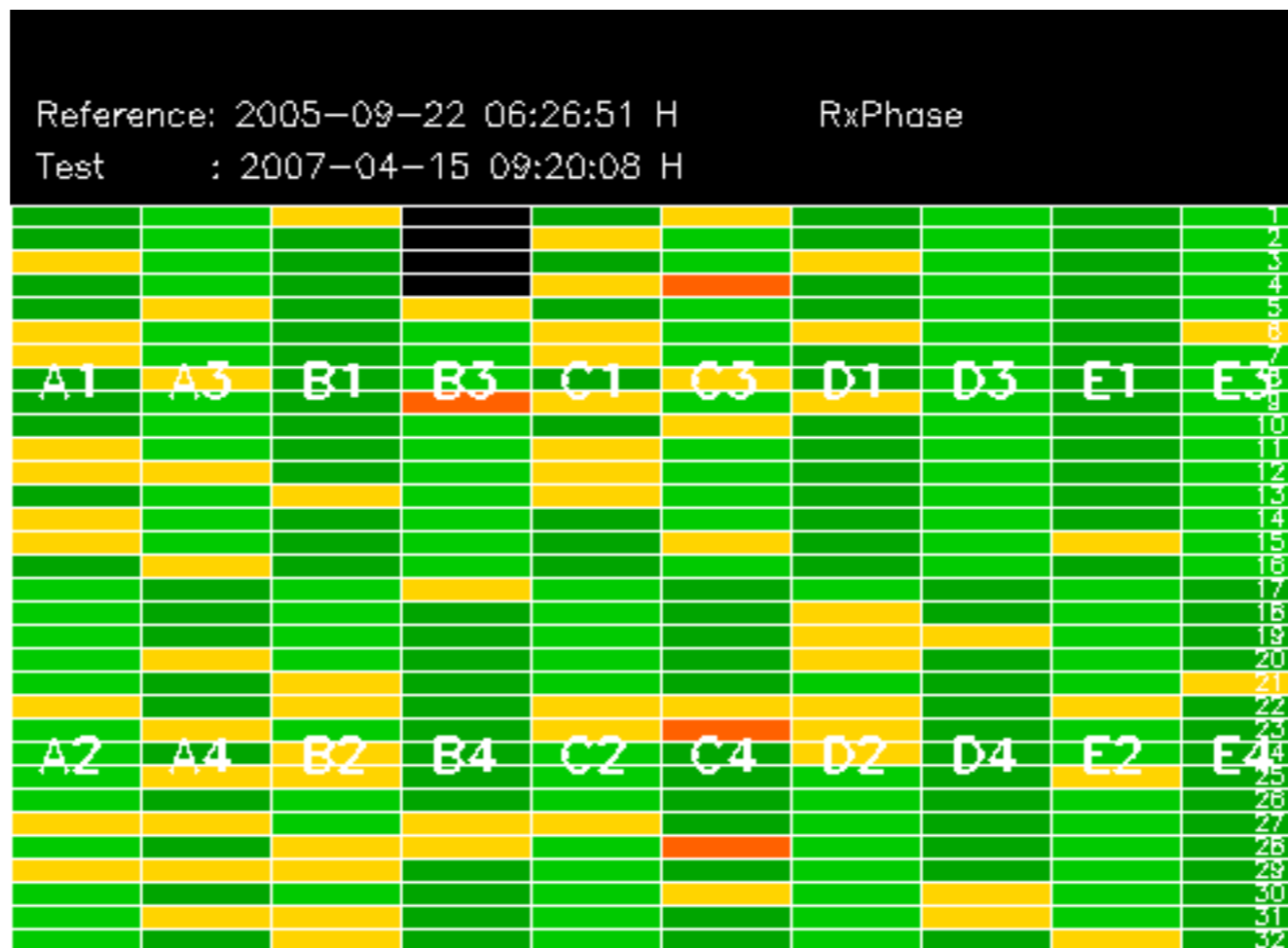










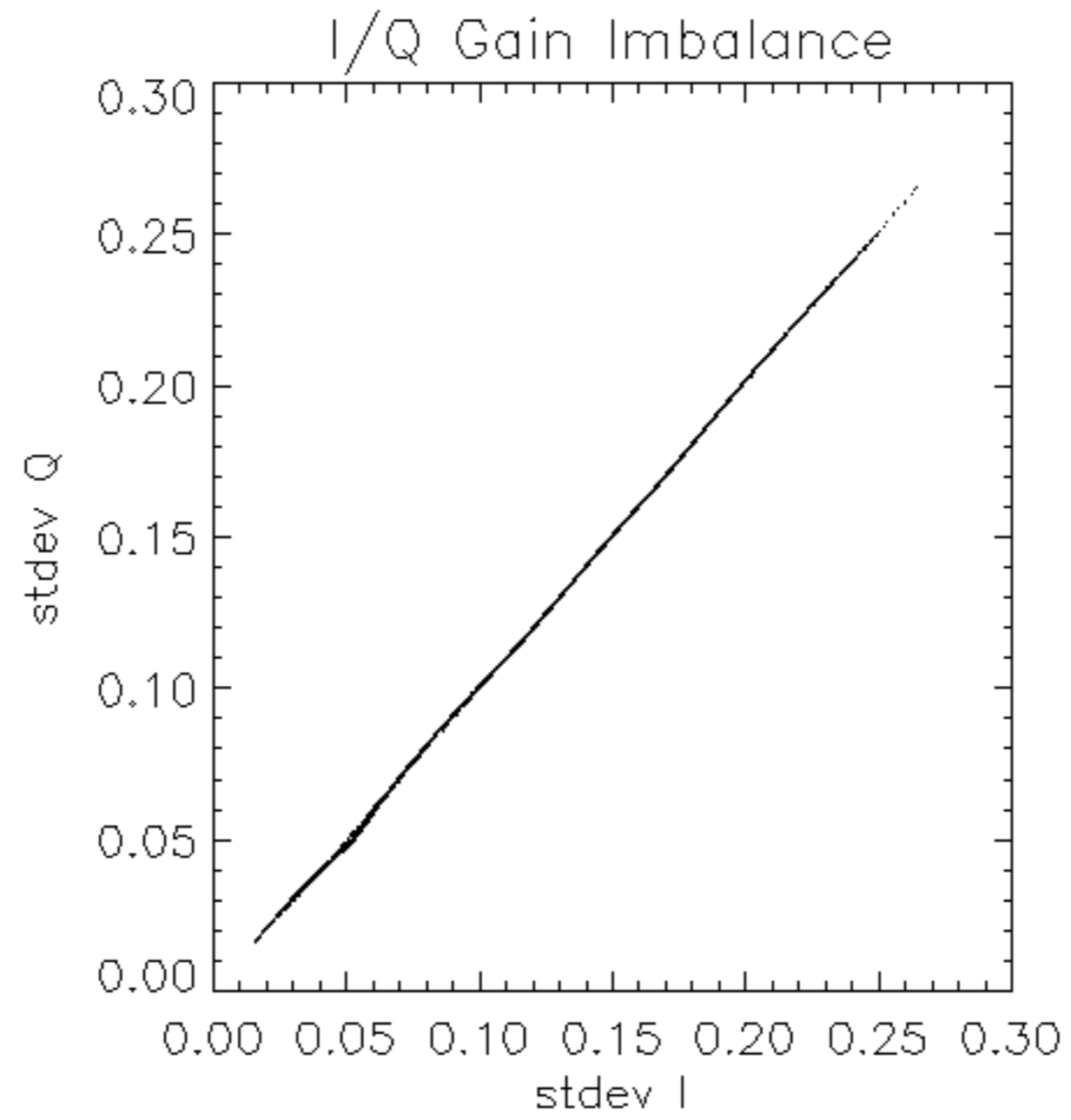


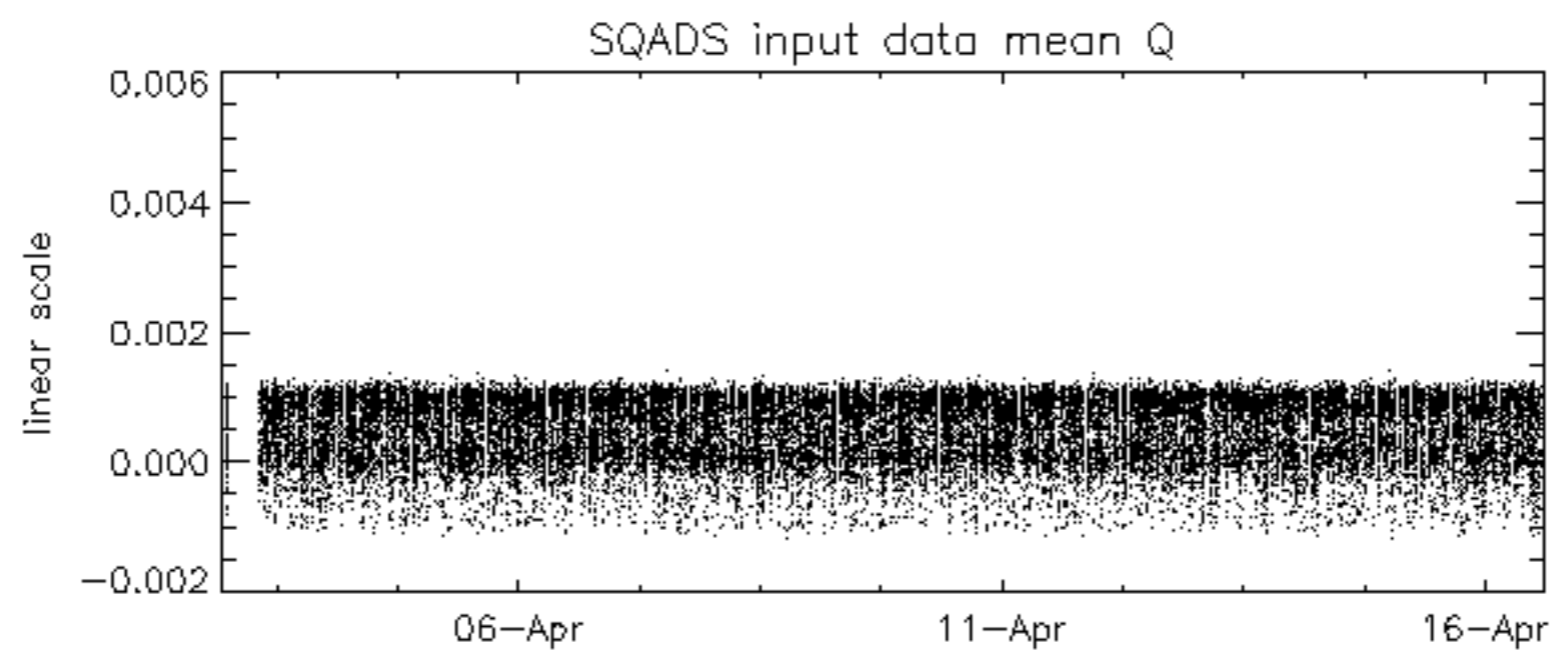
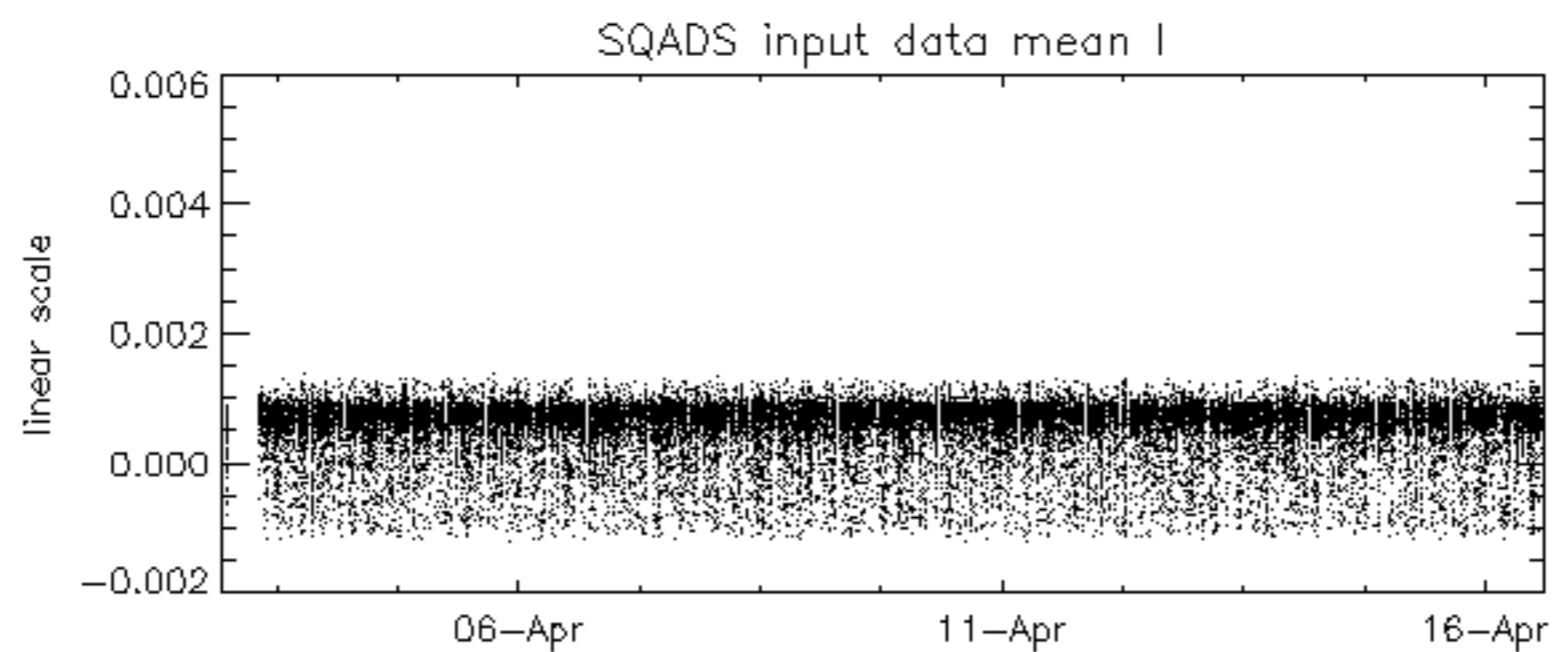
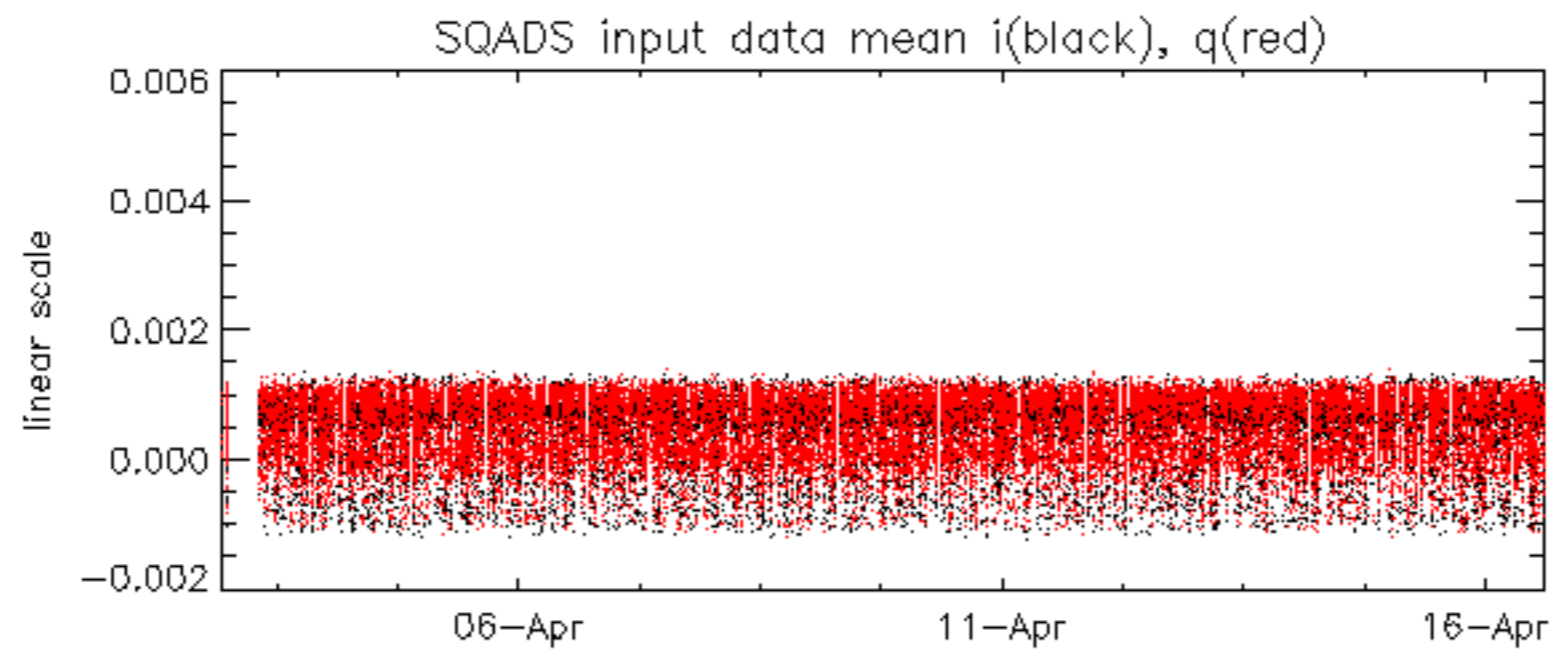


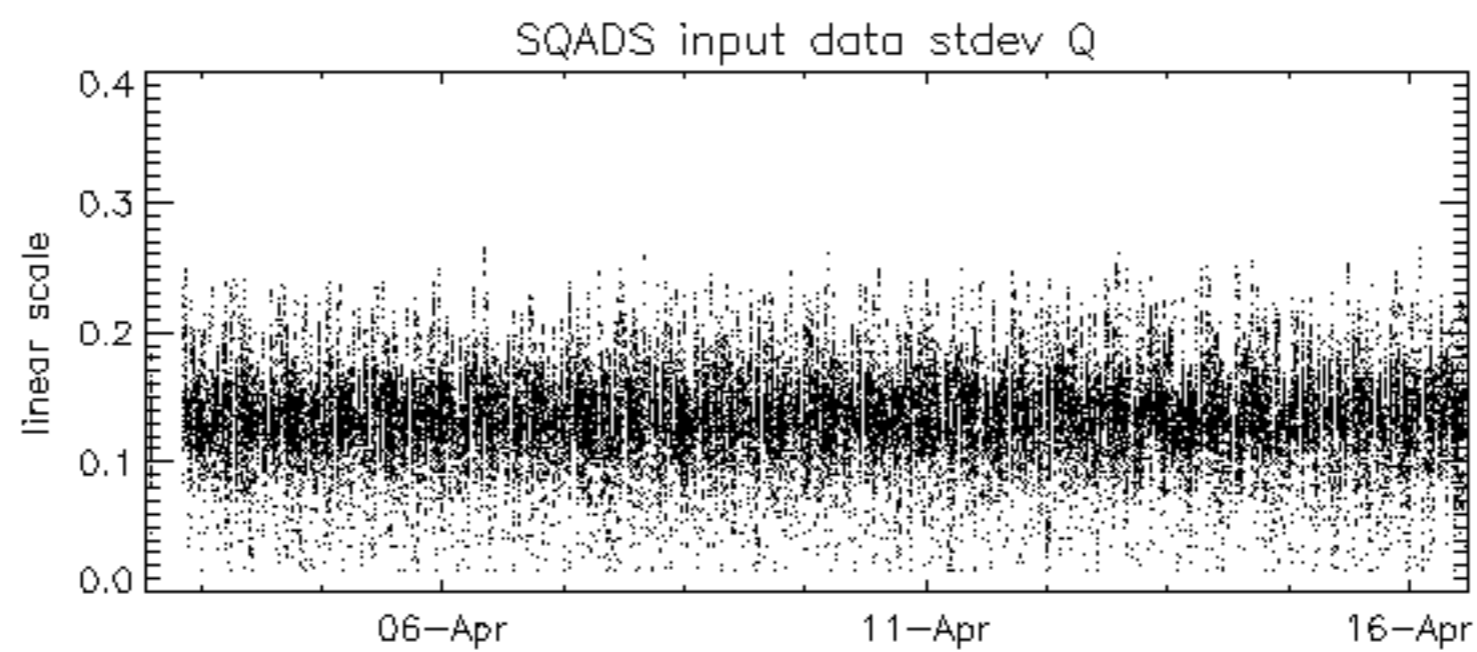
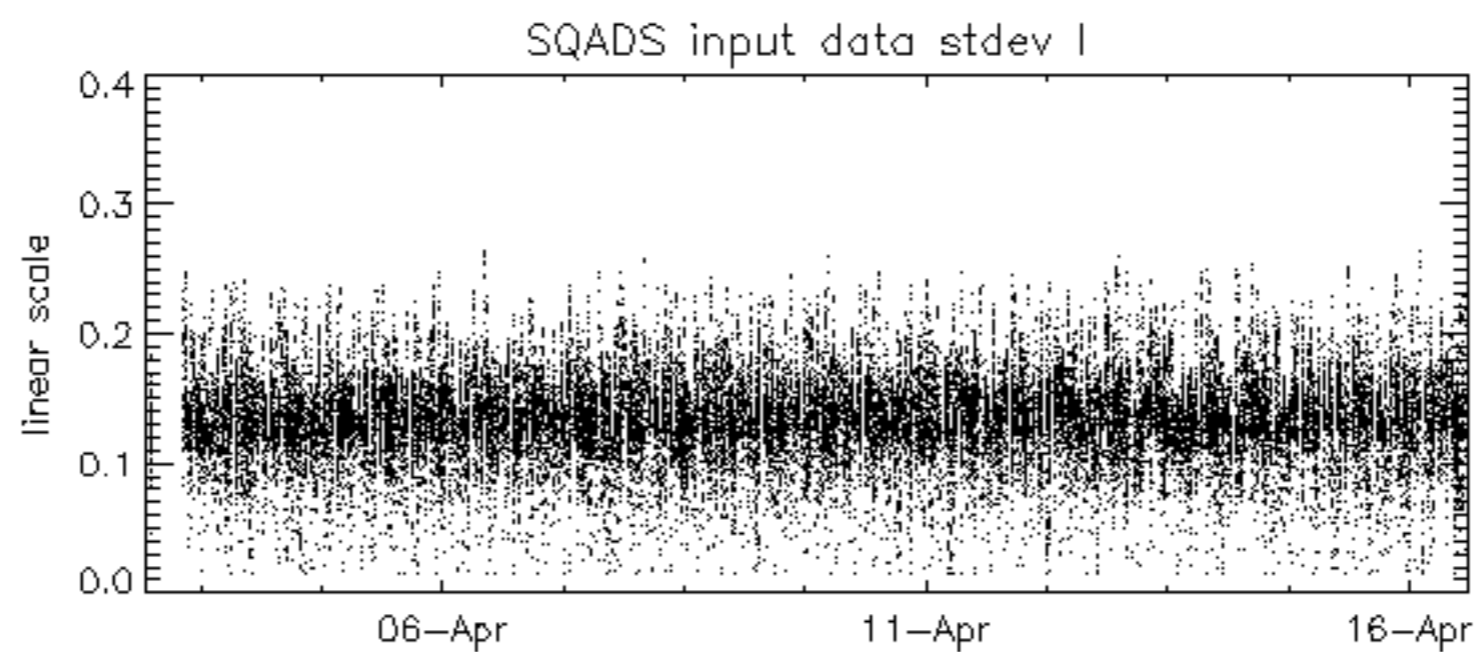
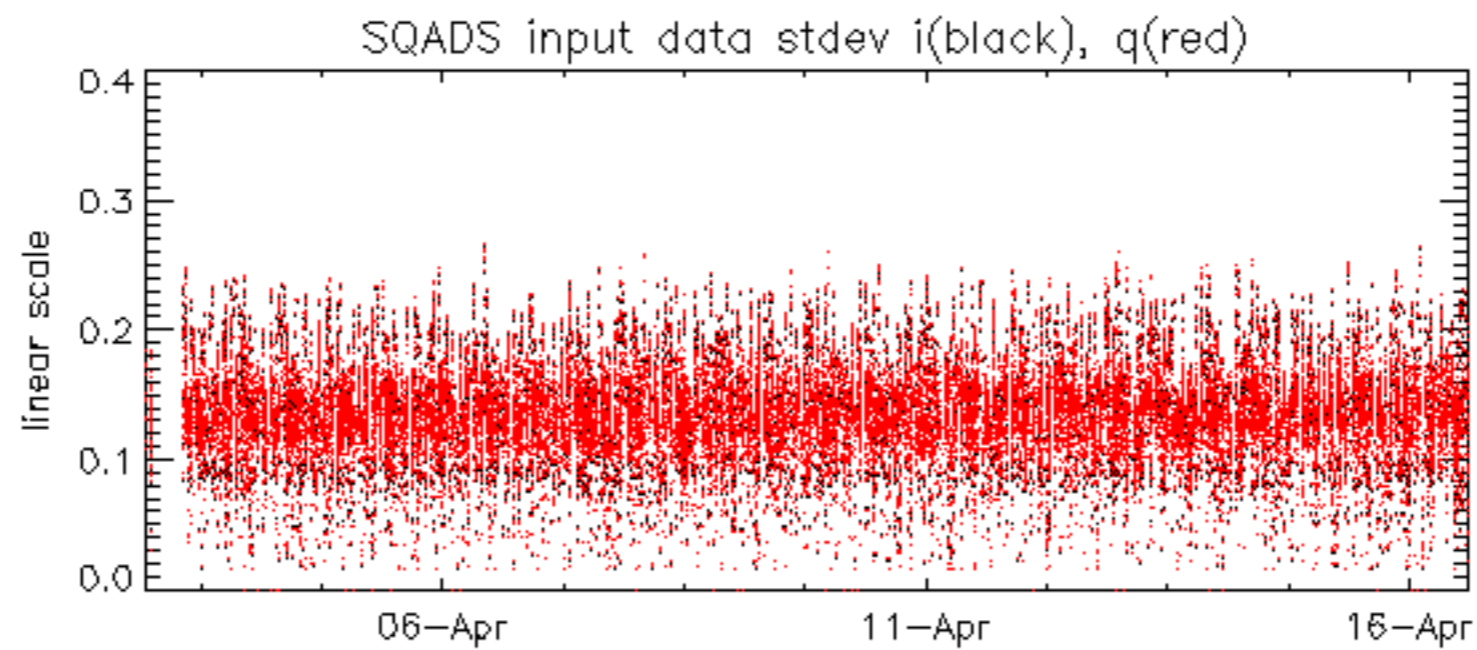


























Summary of analysis for the last 3 days 2007041[456]

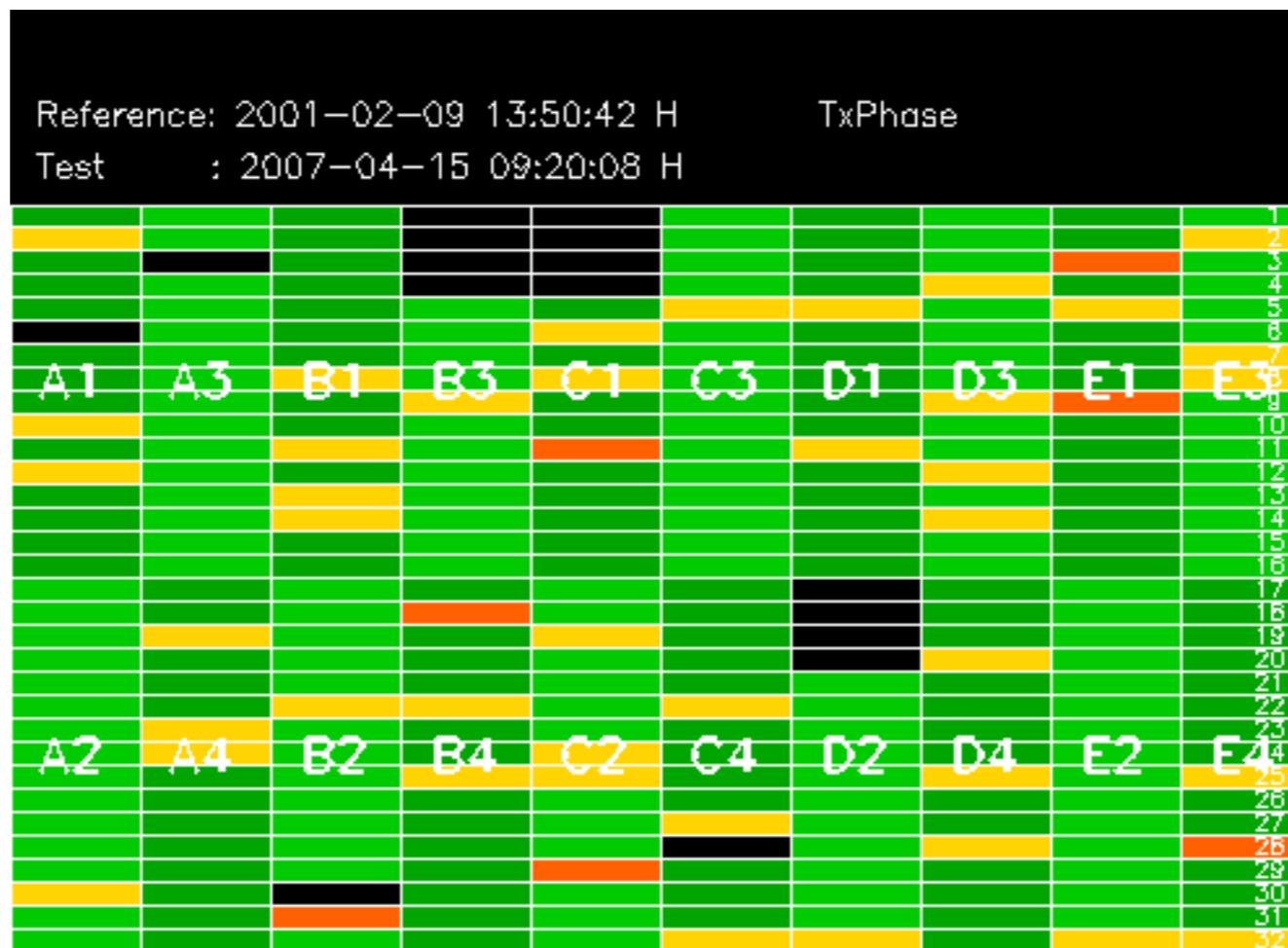
The assumption is taken that the SQADS num\_gaps and num\_missing\_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_WVS_1PNPDK20070415_083228_000005542057_00179_26786_9326.N1	0	16
ASA_WVS_1PNPDK20070415_155855_000009742057_00183_26790_0003.N1	0	24
ASA_GM1_1PNPDK20070414_184051_000002052057_00170_26777_8892.N1	0	17
ASA_GM1_1PNPDK20070415_133943_000008702057_00182_26789_9670.N1	0	9
ASA_GM1_1PNPDK20070415_161605_000004222057_00183_26790_9996.N1	0	8
ASA_GM1_1PNPDK20070415_181115_000000842057_00184_26791_0126.N1	0	13
ASA_GM1_1PNPDK20070416_104529_000007852057_00194_26801_0620.N1	0	9
ASA_GM1_1PNPDK20070416_113741_000003382057_00195_26802_0690.N1	0	7
ASA_GM1_1PNPDK20070416_140352_000009242057_00196_26803_0926.N1	0	14
ASA_WSM_1PNPDE20070414_112338_000001032057_00166_26773_1589.N1	0	74
ASA_WSM_1PNPDE20070414_190229_000000982057_00171_26778_1758.N1	0	40
ASA_WSM_1PNPDE20070415_151023_000002872057_00183_26790_2865.N1	0	51
ASA_WSM_1PNPDK20070414_140424_000000792057_00168_26775_8663.N1	0	53
ASA_APM_1PNPDE20070414_231454_000000422057_00173_26780_2011.N1	10	0











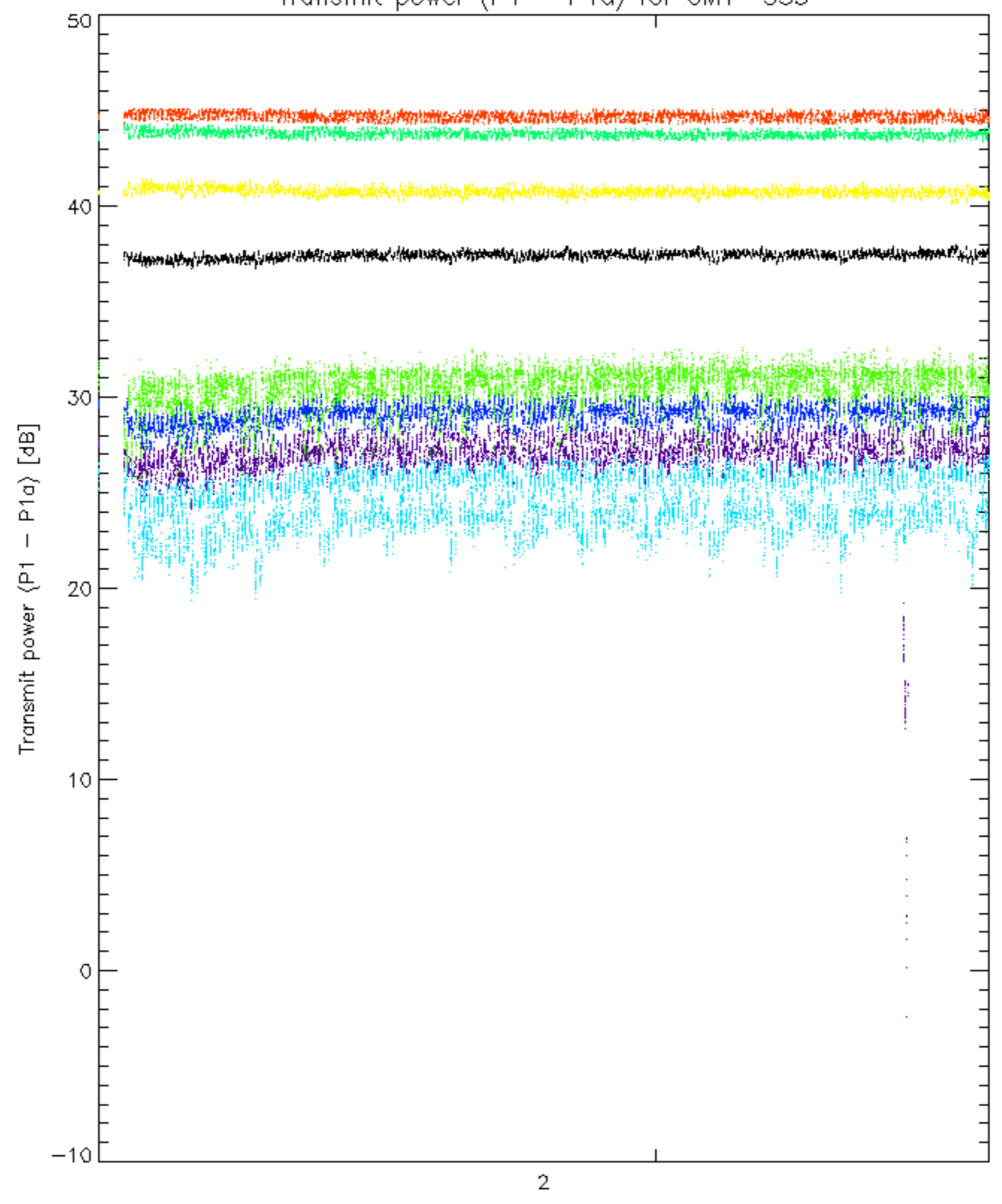






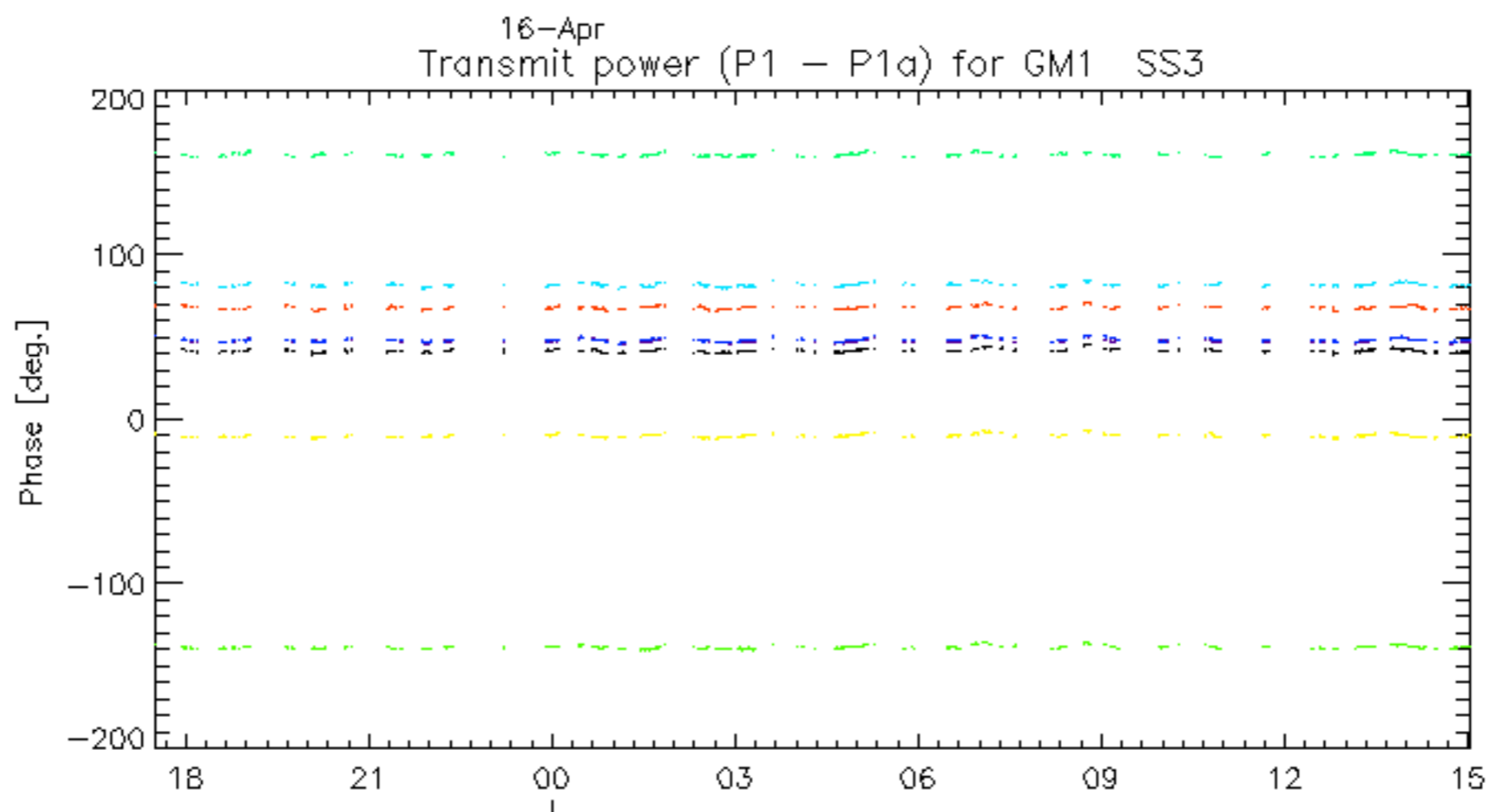
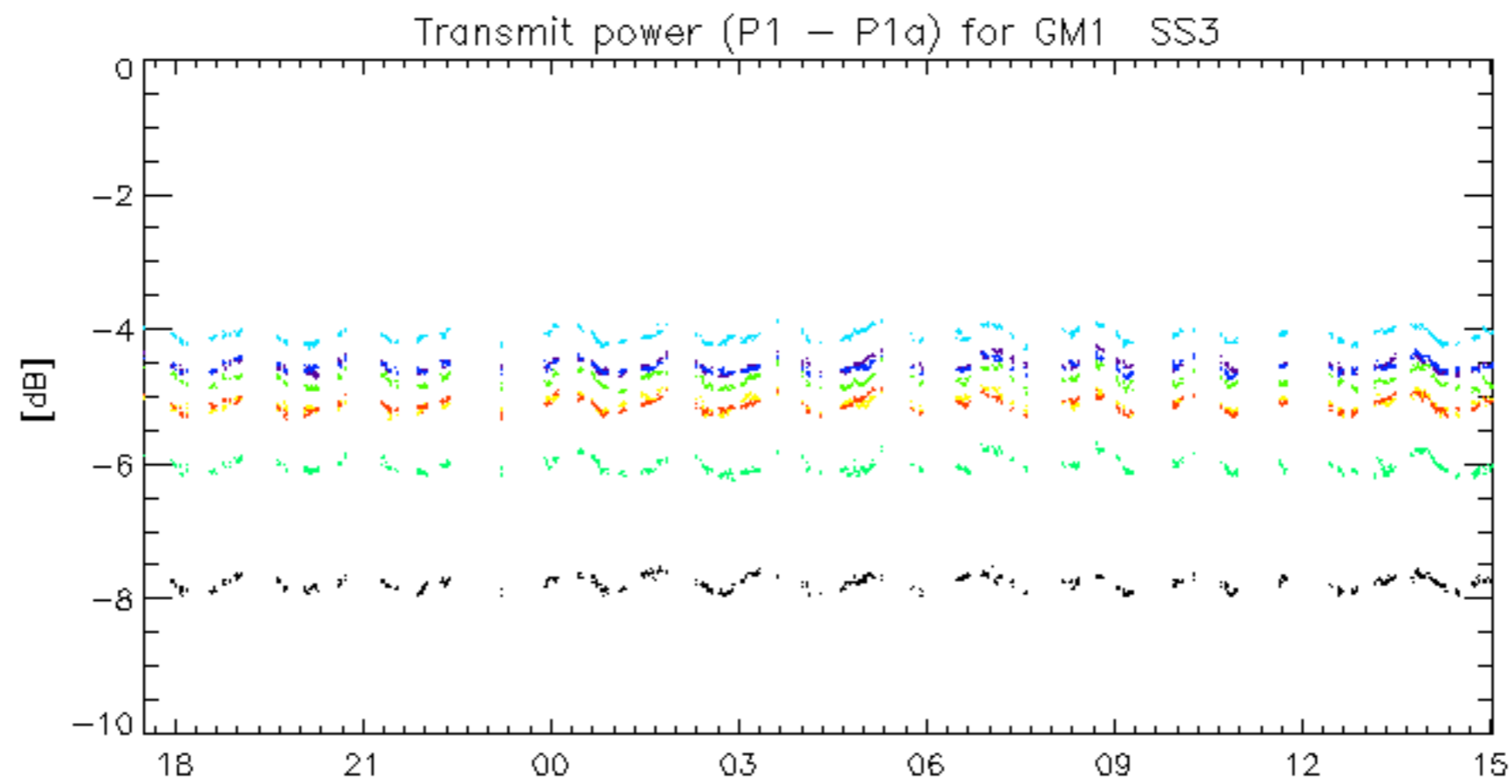


Transmit power (P1 - P1a) for GM1 SS3



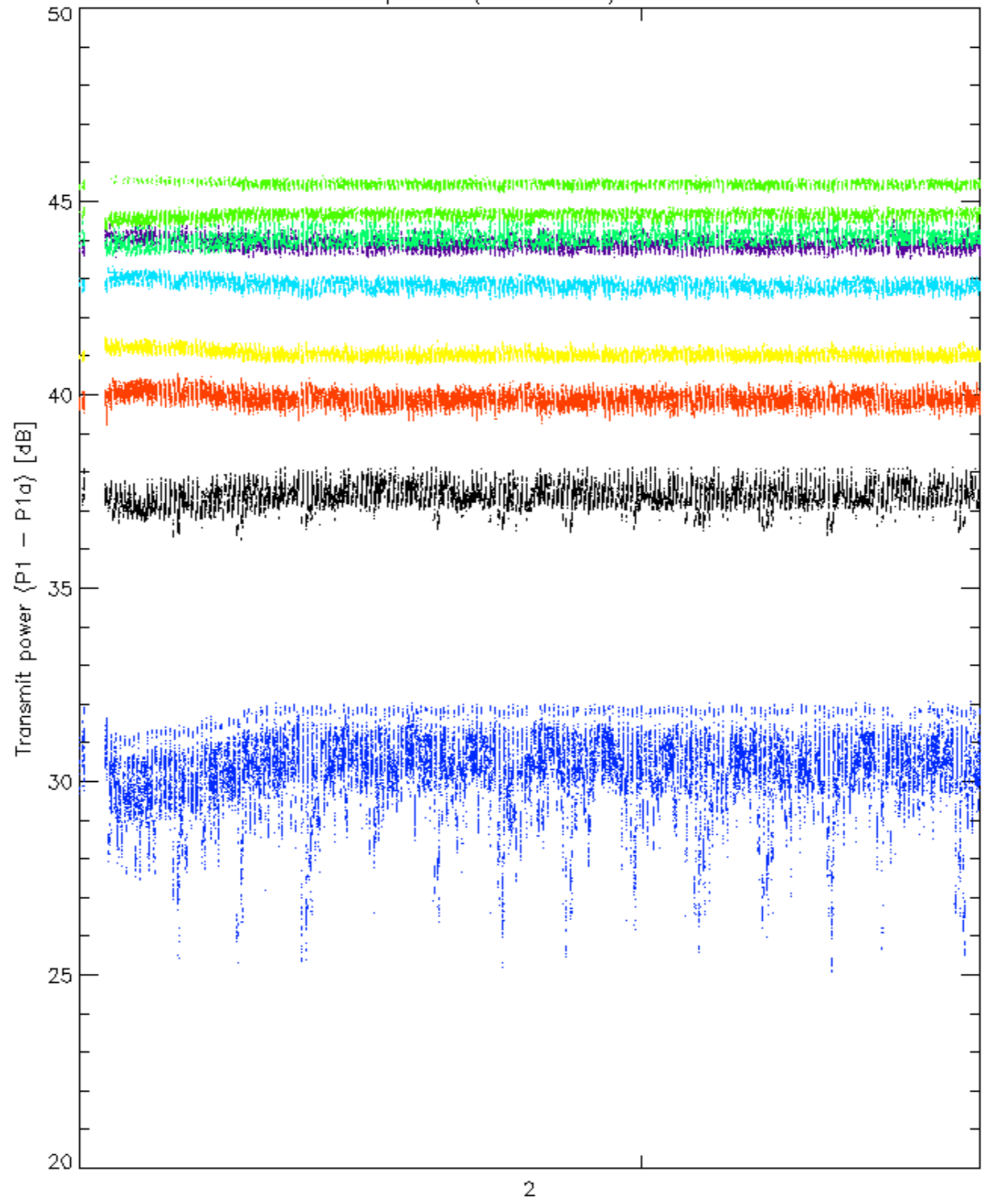
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



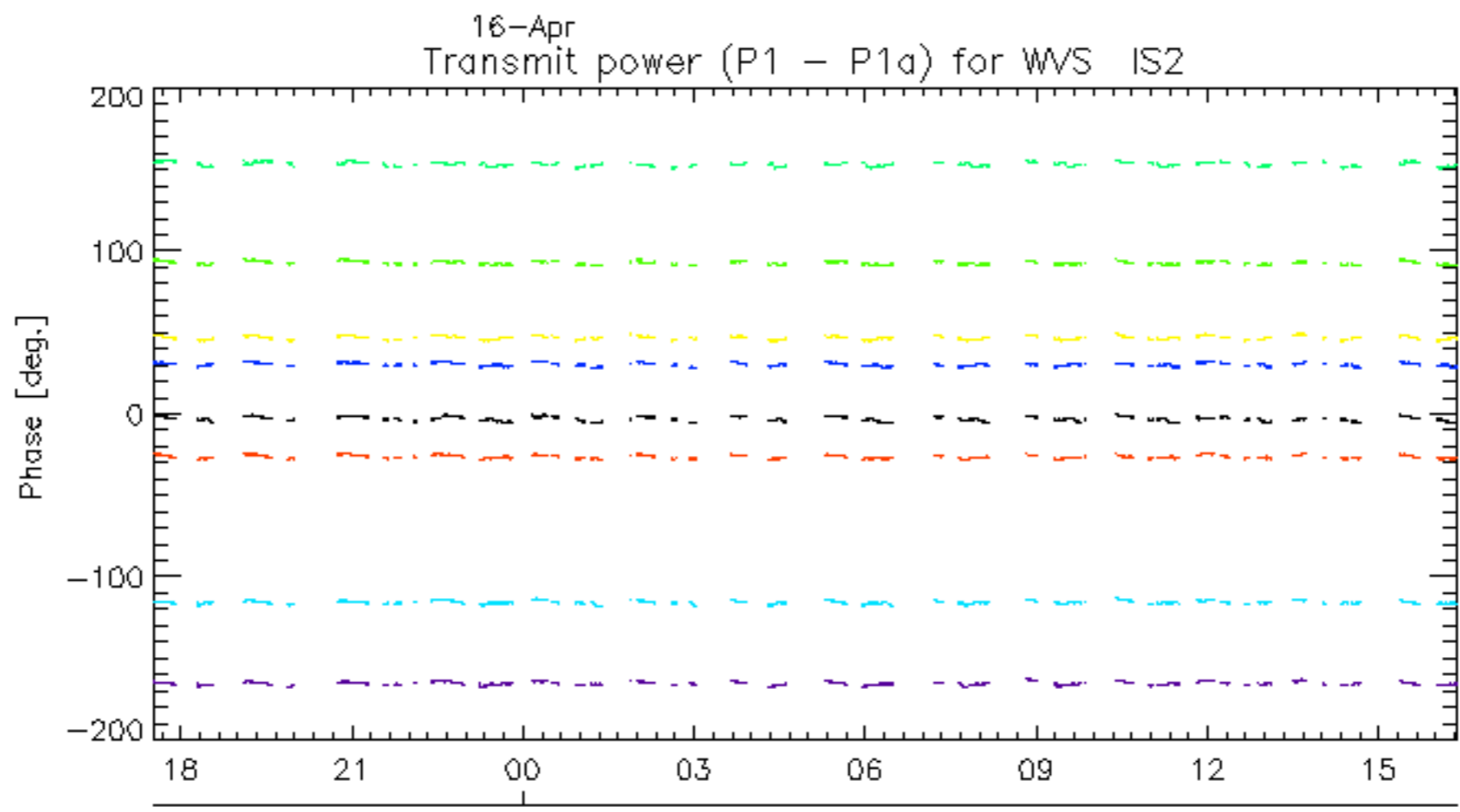
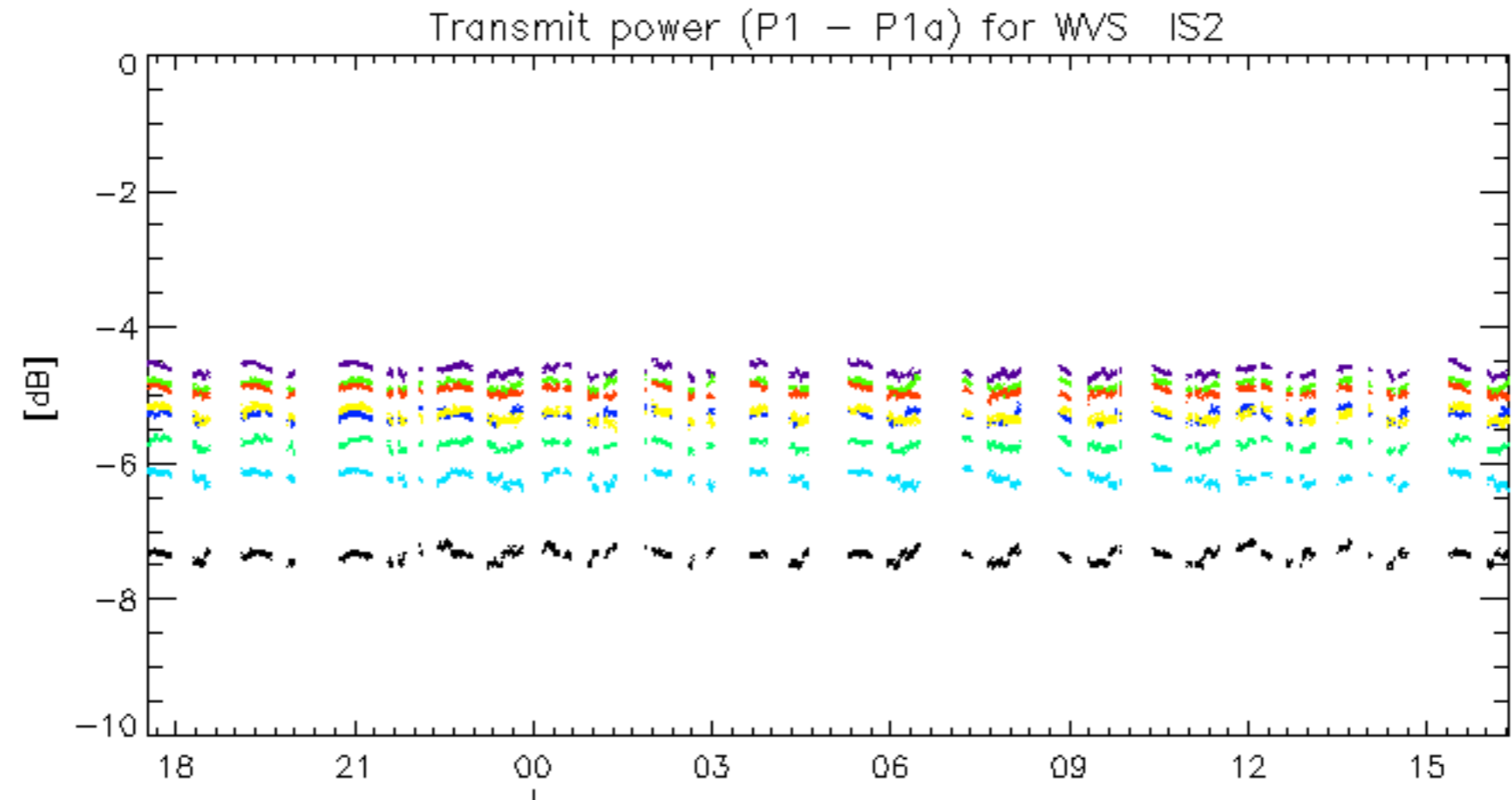


rows: **3** **7** **11** **15** **19** **22** **26** **30**

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.