

# PRELIMINARY REPORT OF 070428

last update on Sat Apr 28 20:08:17 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 2007-04-27 00:00:00 to 2007-04-28 20:08:17

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	28	54	11	1	37
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	28	54	11	1	37
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	28	54	11	1	37
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	28	54	11	1	37

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	36	43	22	10	37
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	36	43	22	10	37
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	36	43	22	10	37
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	36	43	22	10	37

## 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	20070427 063523
H	20070428 060346

### 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	-15.083118	0.147173	-0.150592
7	P1a	-17.549809	0.103819	-0.066560
11	P1a	-17.482264	0.347540	-0.718228
15	P1a	-12.992001	0.119825	-0.336888
19	P1a	-15.330709	0.069405	-0.334647
22	P1a	-15.902883	0.416553	-0.376486
26	P1a	-15.031068	0.212865	0.439333
30	P1a	-17.685144	0.333093	-0.614024

**P1t Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.766961	0.010725	-0.043430
7	P1	-3.146199	0.008867	-0.004604
11	P1	-4.208555	0.012257	-0.013246
15	P1	-6.404510	0.019439	-0.123709
19	P1	-3.784582	0.010735	0.045723
22	P1	-4.748015	0.009435	-0.033667
26	P1	-3.919324	0.019442	0.089637
30	P1	-5.967487	0.009438	0.023929

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.661118	0.090148	-0.019901
7	P2	-21.562473	0.087921	0.114295
11	P2	-15.357841	0.116048	0.211952
15	P2	-7.125330	0.088451	-0.016120
19	P2	-9.116276	0.079911	0.029512
22	P2	-18.085611	0.076806	0.020276
26	P2	-16.616117	0.081341	-0.054797
30	P2	-19.277868	0.082201	0.052065

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.244213	0.005412	-0.001885
7	P3	-8.244213	0.005412	-0.001885
11	P3	-8.244213	0.005412	-0.001885
15	P3	-8.244213	0.005412	-0.001885
19	P3	-8.244213	0.005412	-0.001885
22	P3	-8.244213	0.005412	-0.001885
26	P3	-8.244213	0.005412	-0.001885
30	P3	-8.244213	0.005412	-0.001885

#### 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)
3	P1a	-11.200523	0.138368	-0.109922
7	P1a	-10.067894	0.214648	-0.015985
11	P1a	-10.687353	0.104399	0.058347
15	P1a	-10.841063	0.170762	0.089533
19	P1a	-15.799449	0.091433	-0.081024
22	P1a	-21.389568	1.442538	-0.577117
26	P1a	-15.504419	0.380911	-0.307838
30	P1a	-18.306339	0.469530	0.299638

#### P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-8.453743	0.055006	-0.012705
7	P1	-2.412277	0.118631	0.039867
11	P1	-2.890559	0.026785	0.062832
15	P1	-3.819676	0.038587	0.051464
19	P1	-3.586567	0.014764	-0.020256
22	P1	-4.973106	0.023656	0.083371
26	P1	-6.035008	0.028334	-0.037426
30	P1	-5.336866	0.033515	-0.018934

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.177736	0.066125	-0.094488
7	P2	-22.038921	0.212754	-0.041084
11	P2	-10.634849	0.045880	-0.033547
15	P2	-4.921494	0.041537	-0.093783
19	P2	-6.869963	0.040278	-0.038937
22	P2	-8.111298	0.097459	0.003662
26	P2	-24.323467	0.157965	-0.046839
30	P2	-21.714172	0.112837	0.041035

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.091780	0.004990	-0.010222
7	P3	-8.091760	0.004993	-0.009670
11	P3	-8.091566	0.004990	-0.009942
15	P3	-8.091474	0.004992	-0.010032
19	P3	-8.091671	0.005012	-0.009926
22	P3	-8.091608	0.004975	-0.009759
26	P3	-8.091625	0.004994	-0.009484
30	P3	-8.091538	0.004988	-0.009611

## 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	0.000544565
	stdev	2.00069e-07
MEAN Q	mean	0.000495178
	stdev	2.42785e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.135493
	stdev	0.00122045
STDEV Q	mean	0.135882
	stdev	0.00123784



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2007042[678]

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_1PNPDE20070426_000621_000002022057_00331_26938_7094.N1	0	31
ASA_WSM_1PNPDE20070426_233444_000002632057_00345_26952_8526.N1	0	31
ASA_WSM_1PNPDK20070427_135549_000000852057_00354_26961_5249.N1	0	52
ASA_WSM_1PNPDK20070427_191220_000000852057_00357_26964_5559.N1	0	1
ASA_APM_1PNPDE20070426_011026_000001332057_00332_26939_7224.N1	6	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)


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)


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Ascending
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Descending
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### 7.5 - Absolute Doppler for GM1

<b>Evolution of Absolute Doppler</b>
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Ascending
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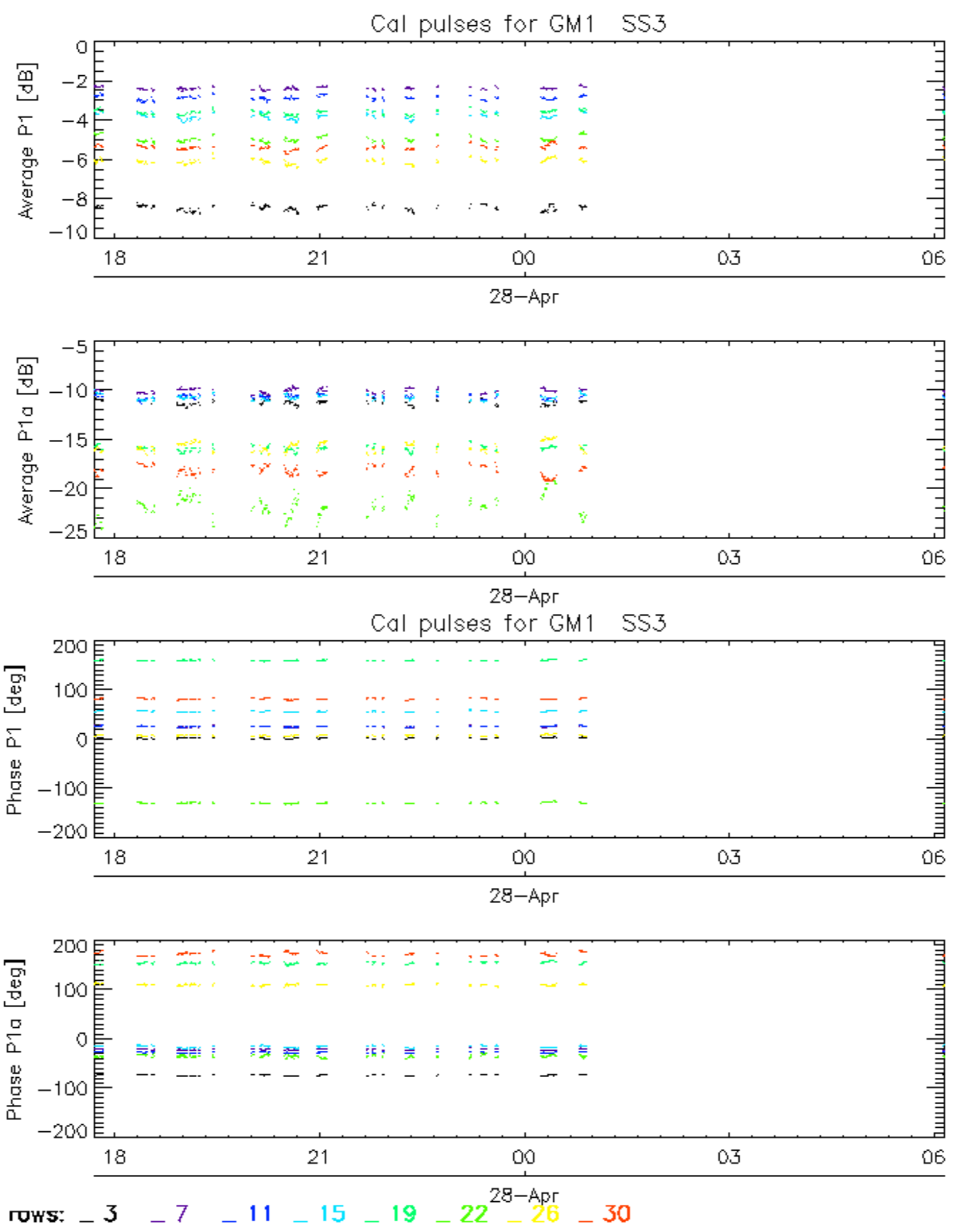


Descending
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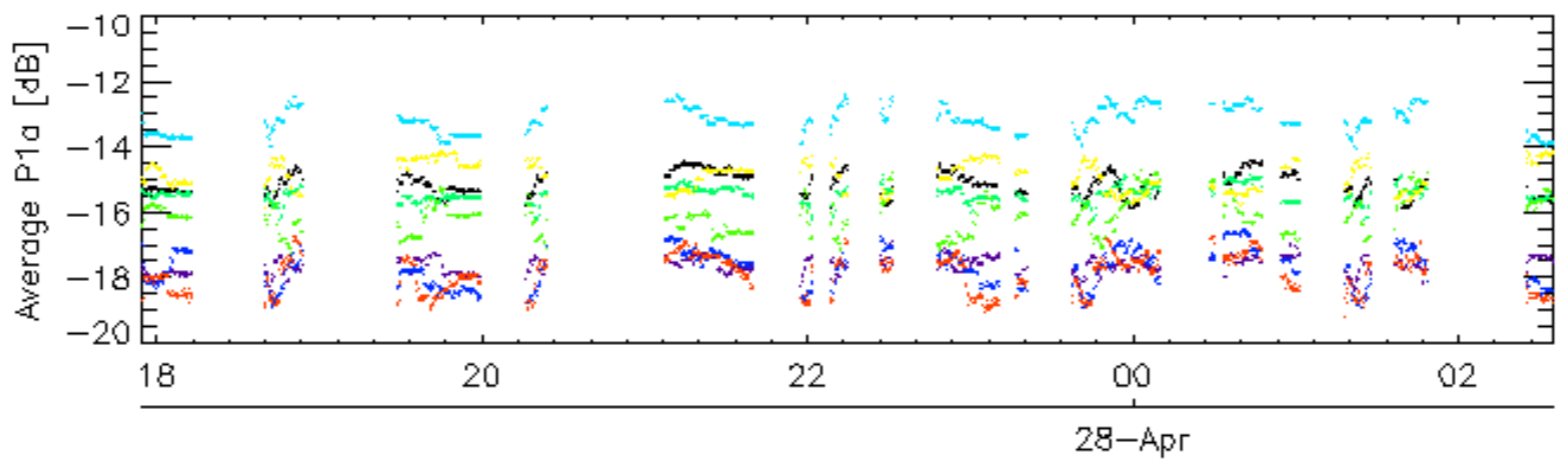
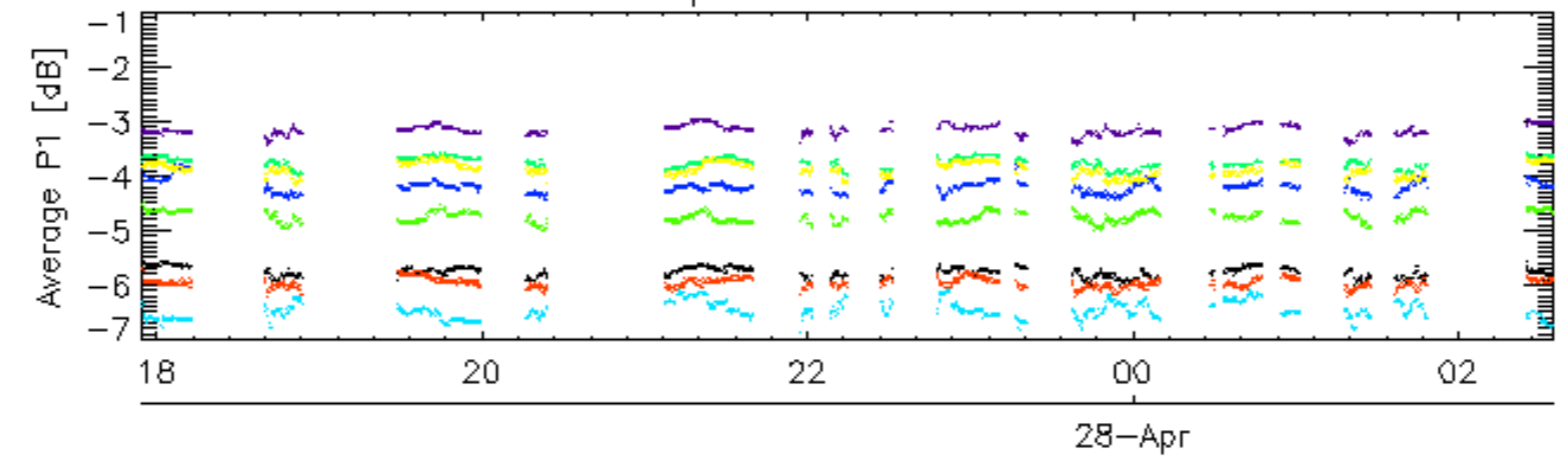
### 7.6 - Doppler evolution versus ANX for GM1

<b>Evolution Doppler error versus ANX</b>
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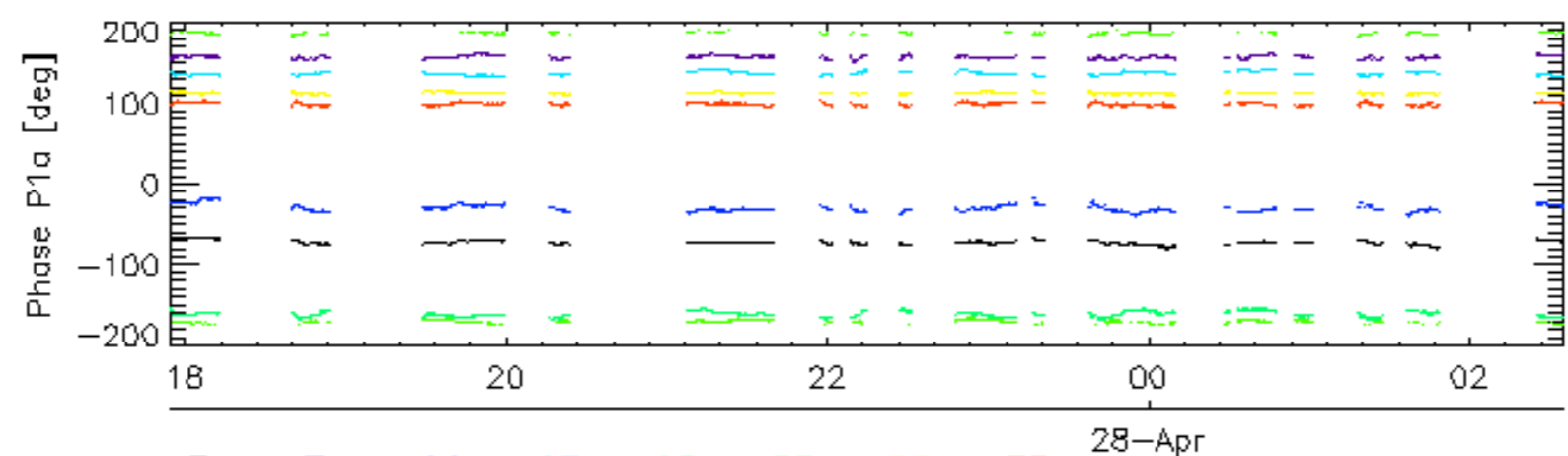
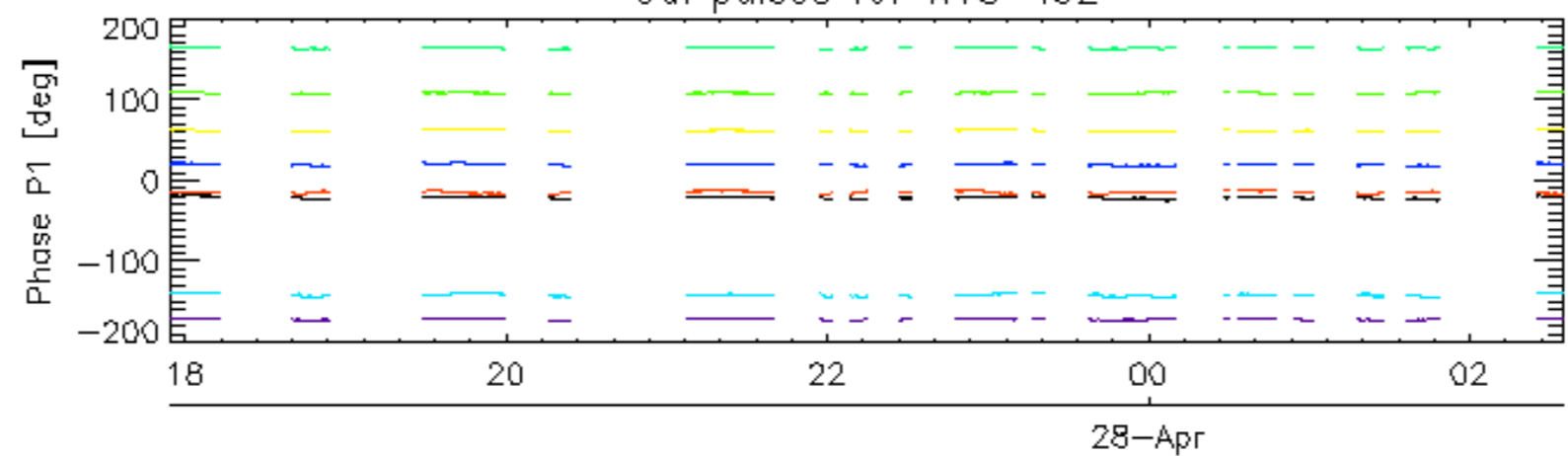




Cal pulses for WVS IS2

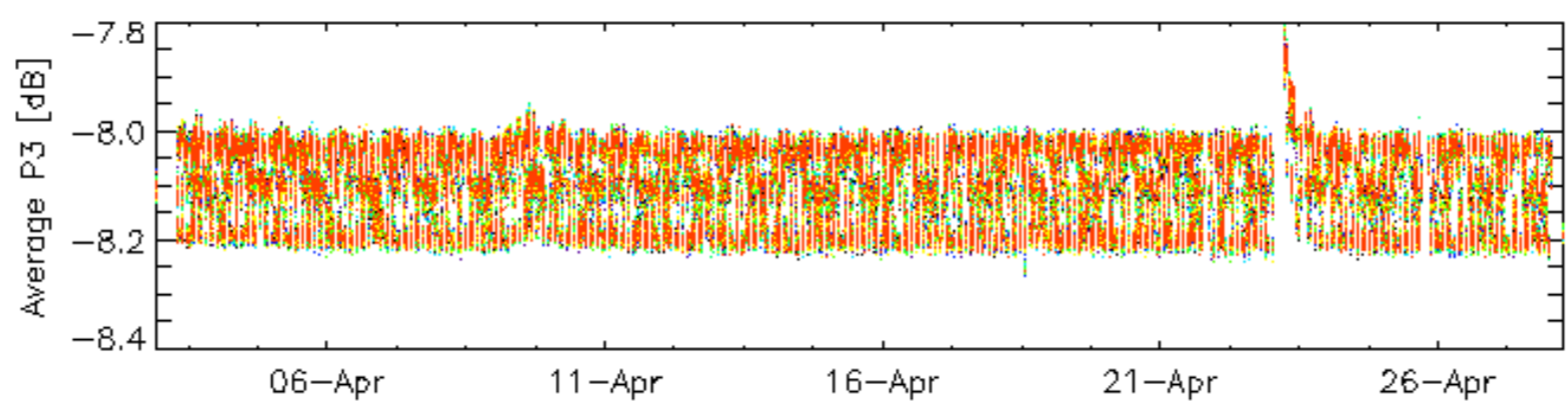
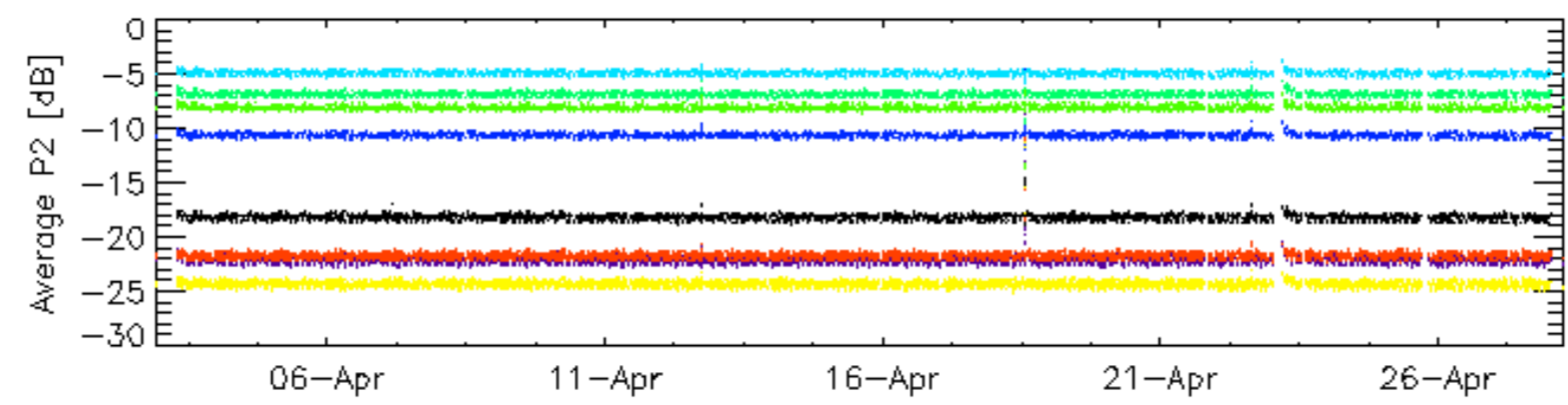
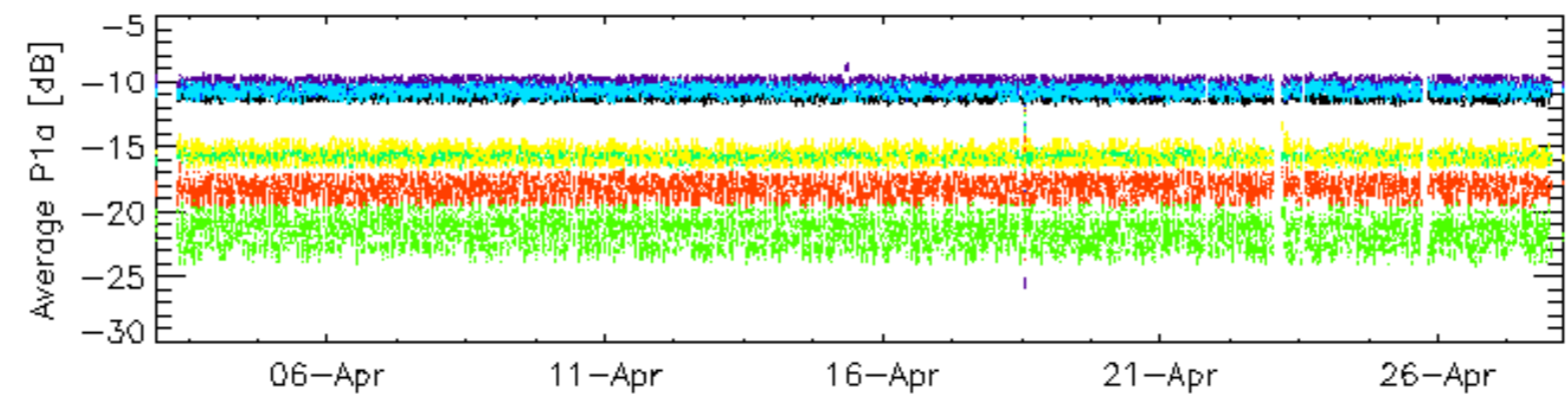
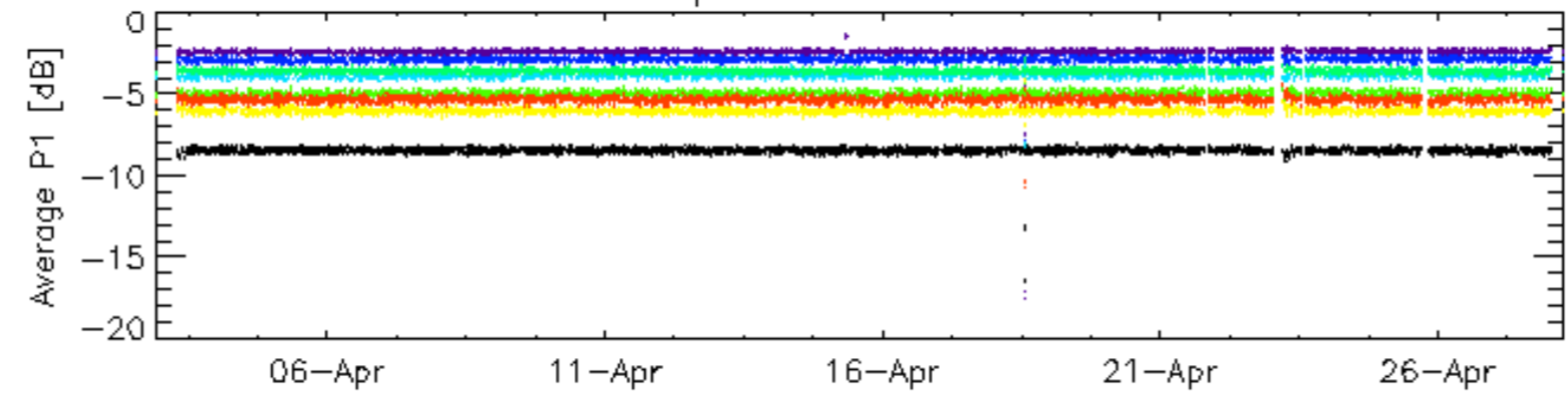


Cal pulses for WVS IS2



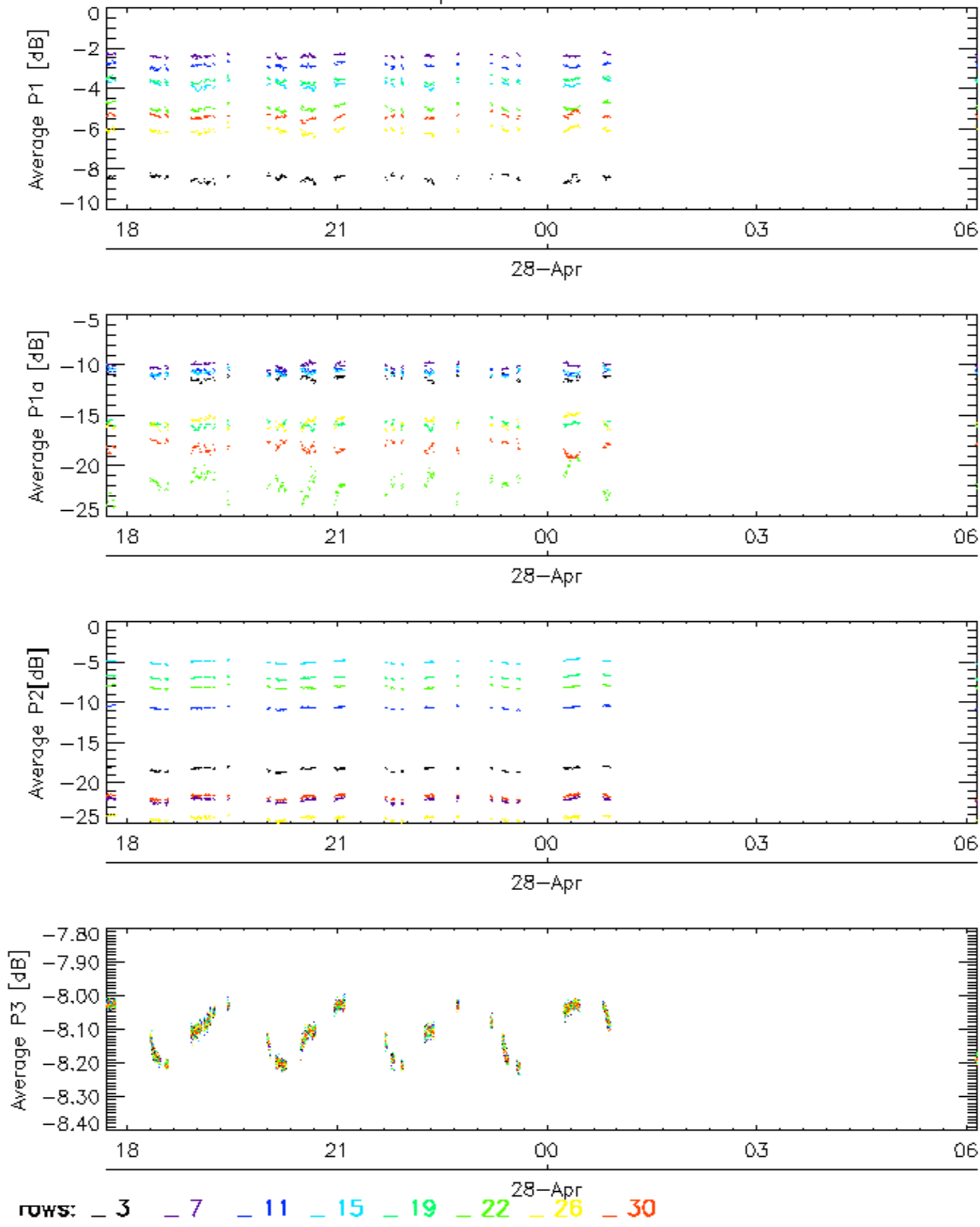
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

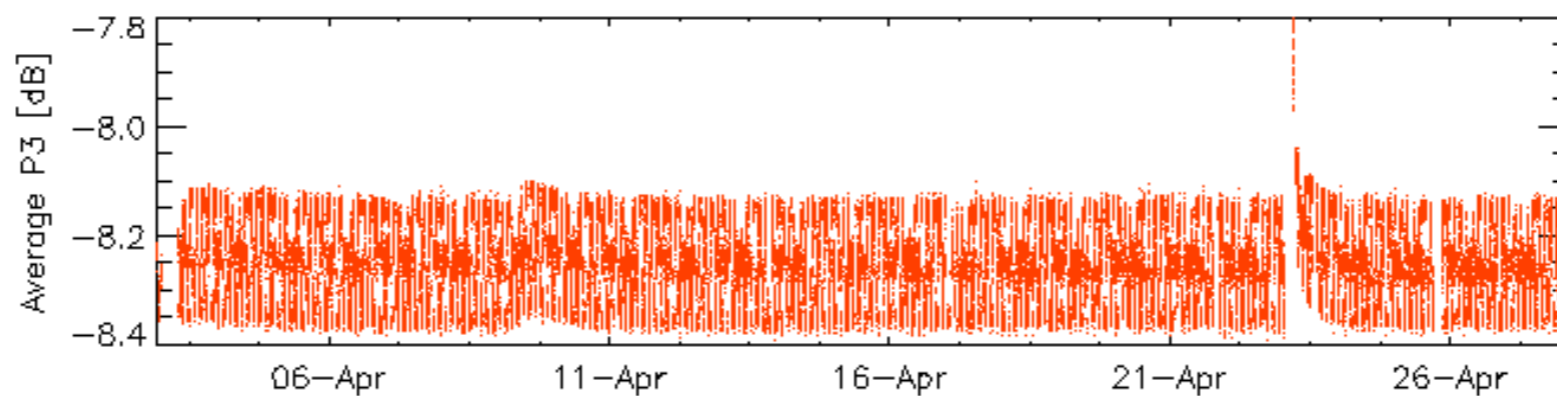
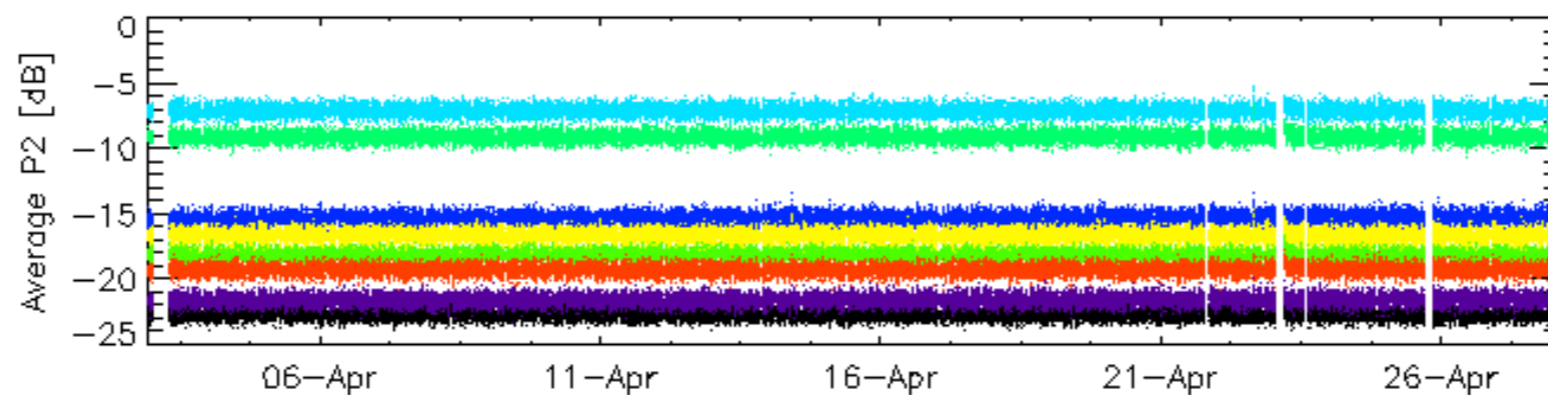
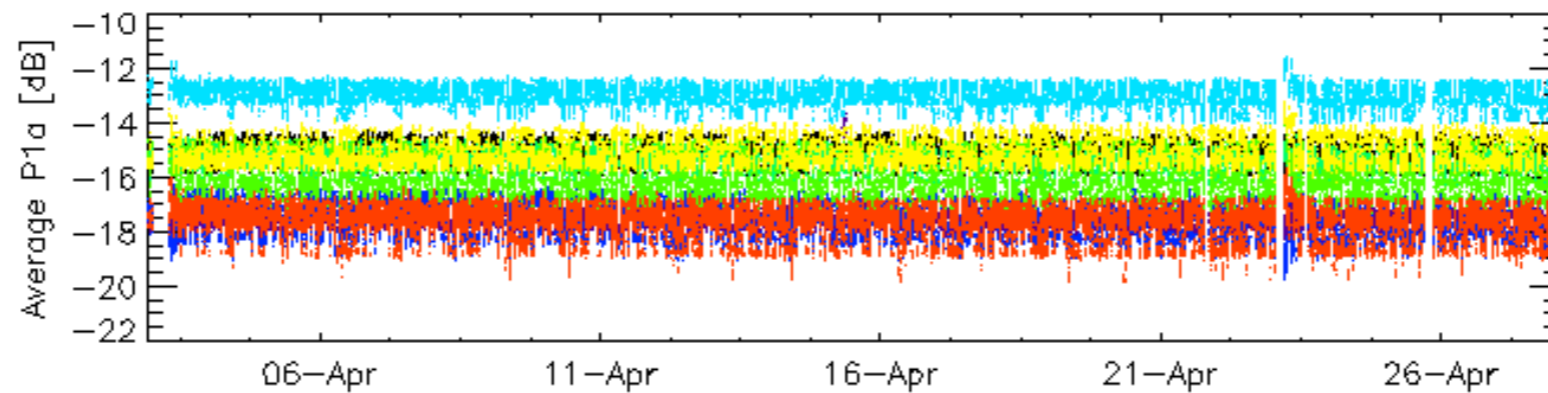
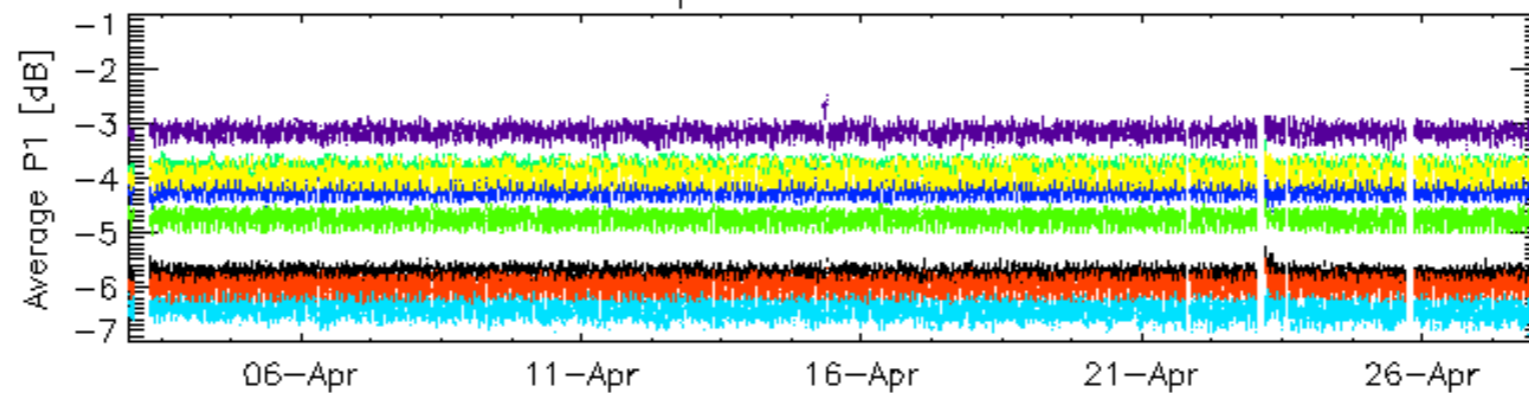


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

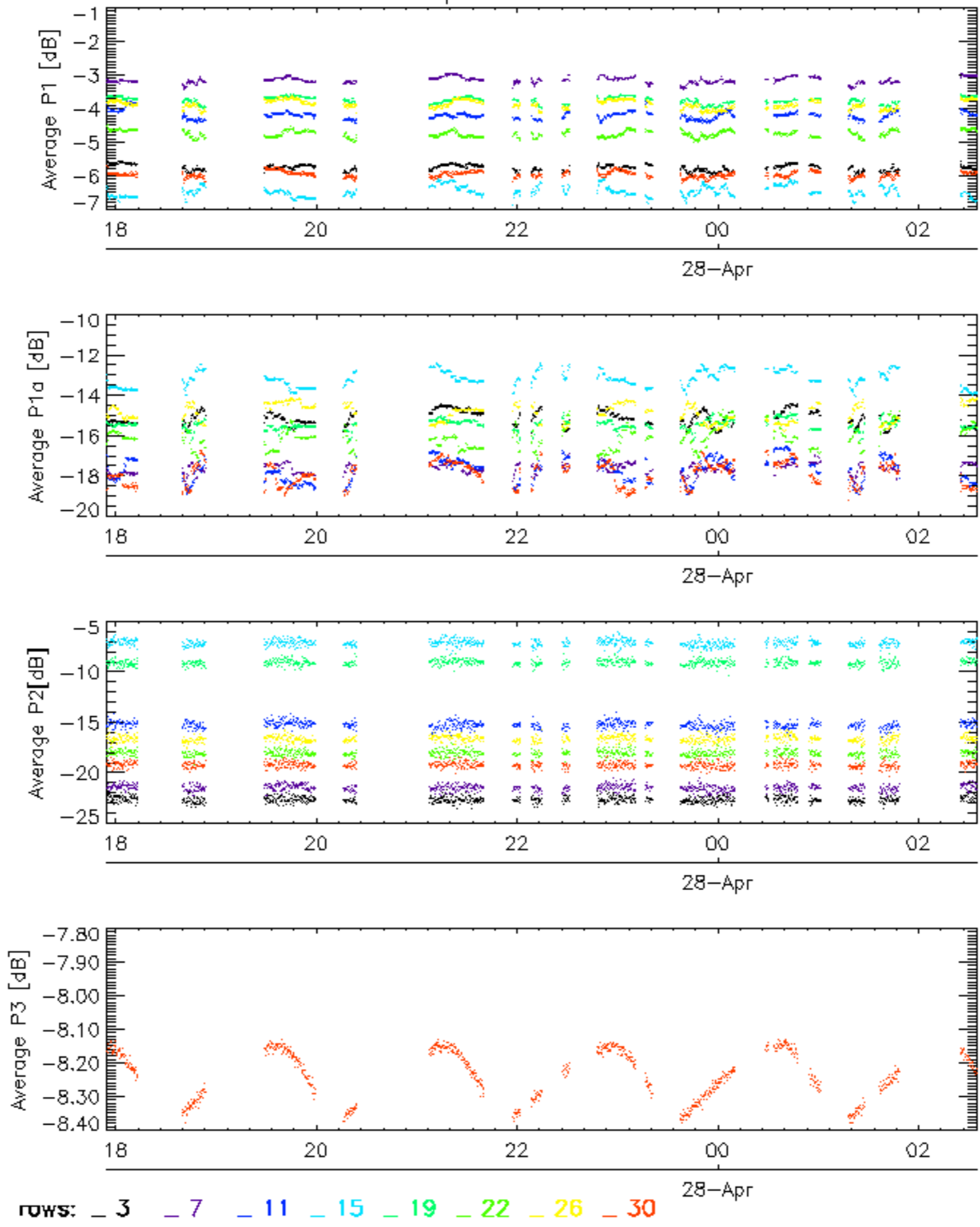


Cal pulses for WVS IS2



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

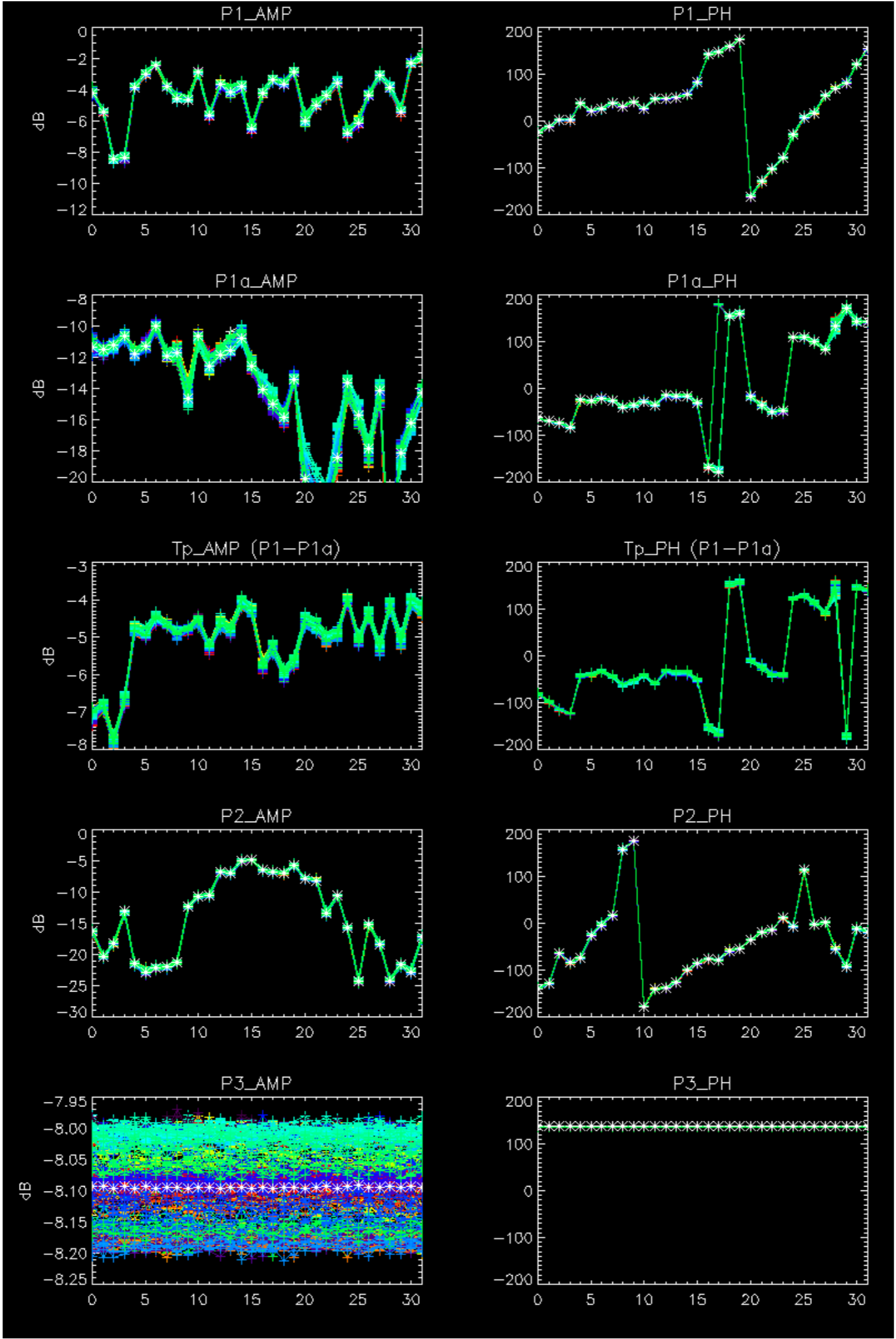
Cal pulses for WVS IS2

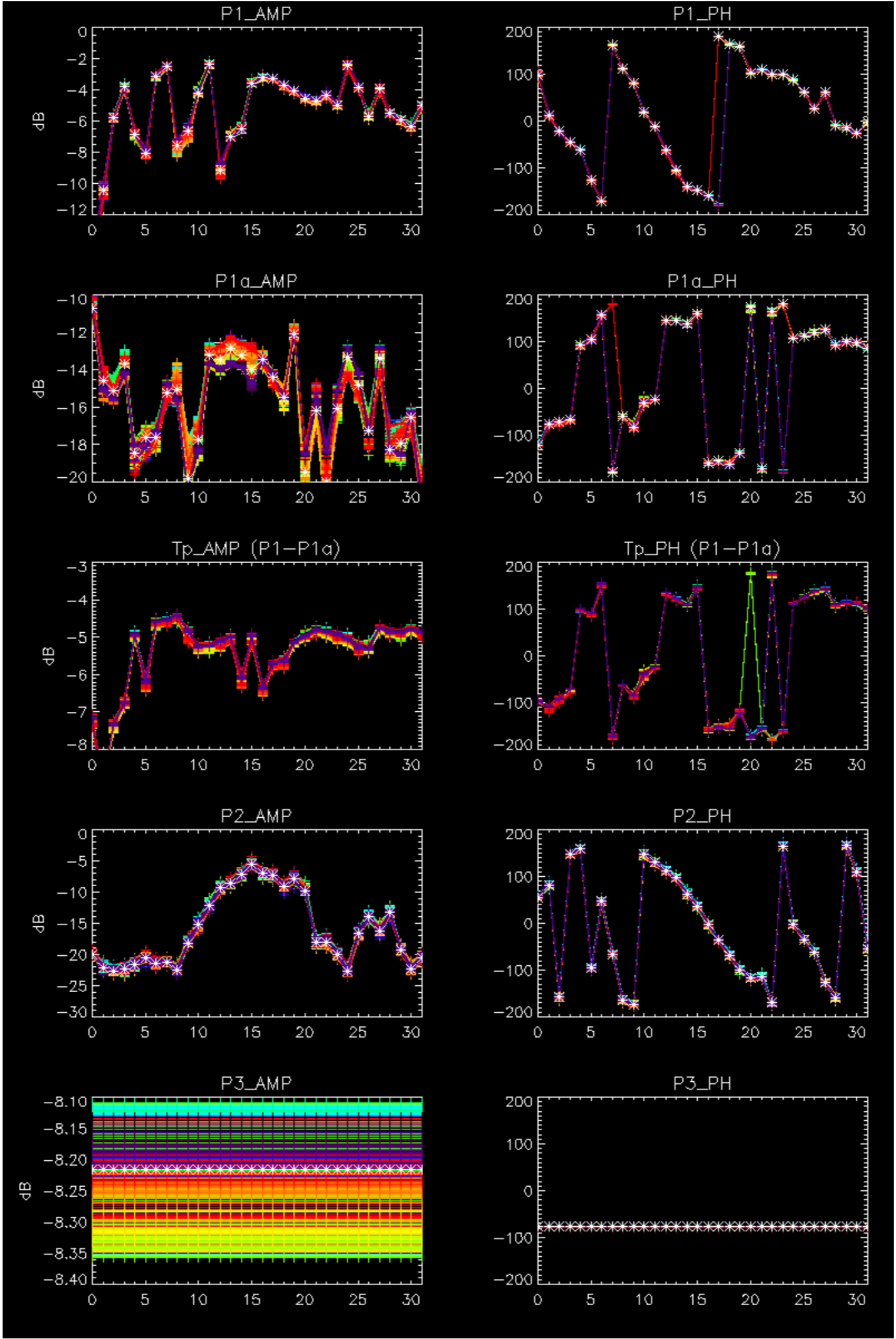




No anomalies observed.





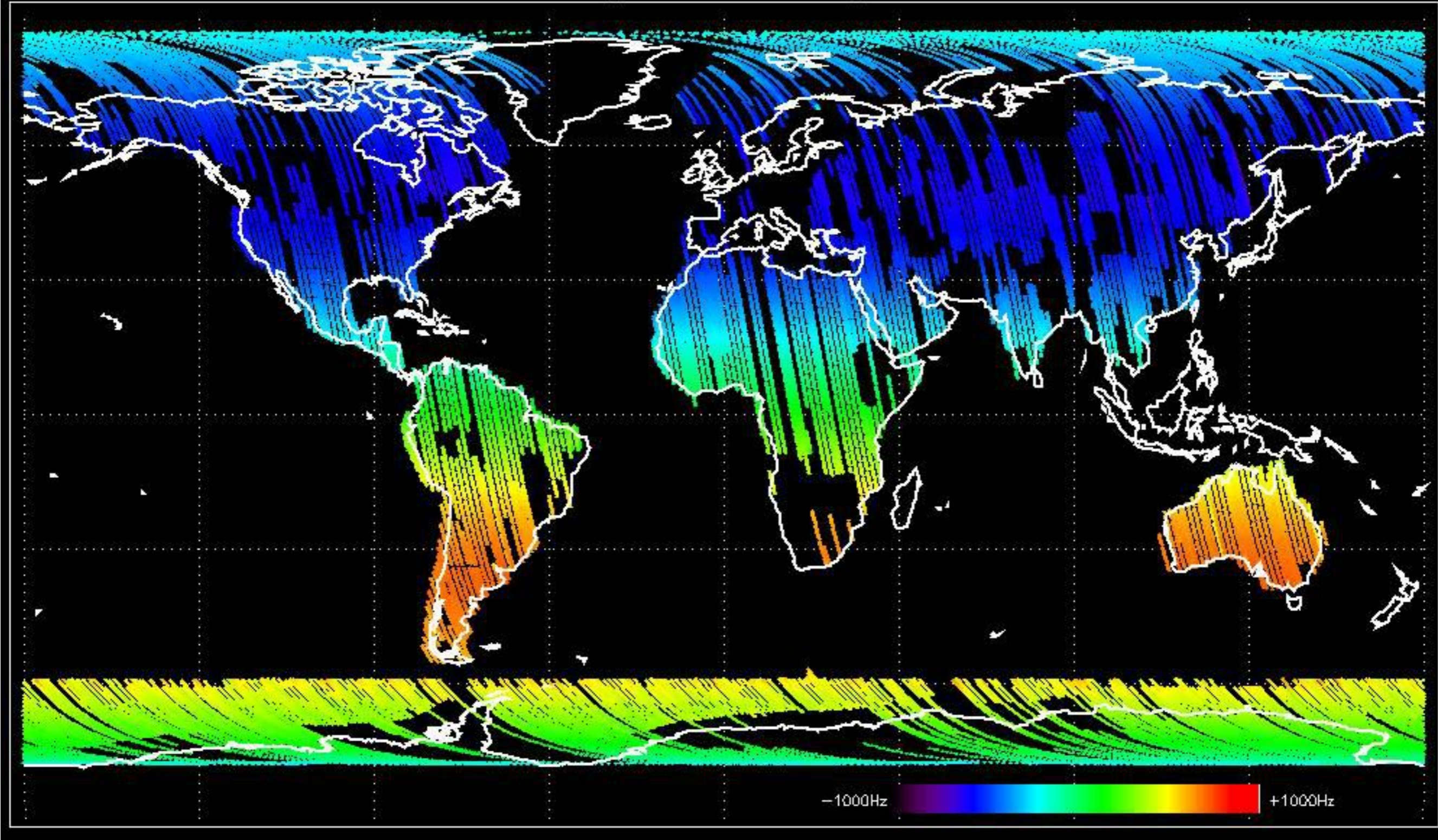


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



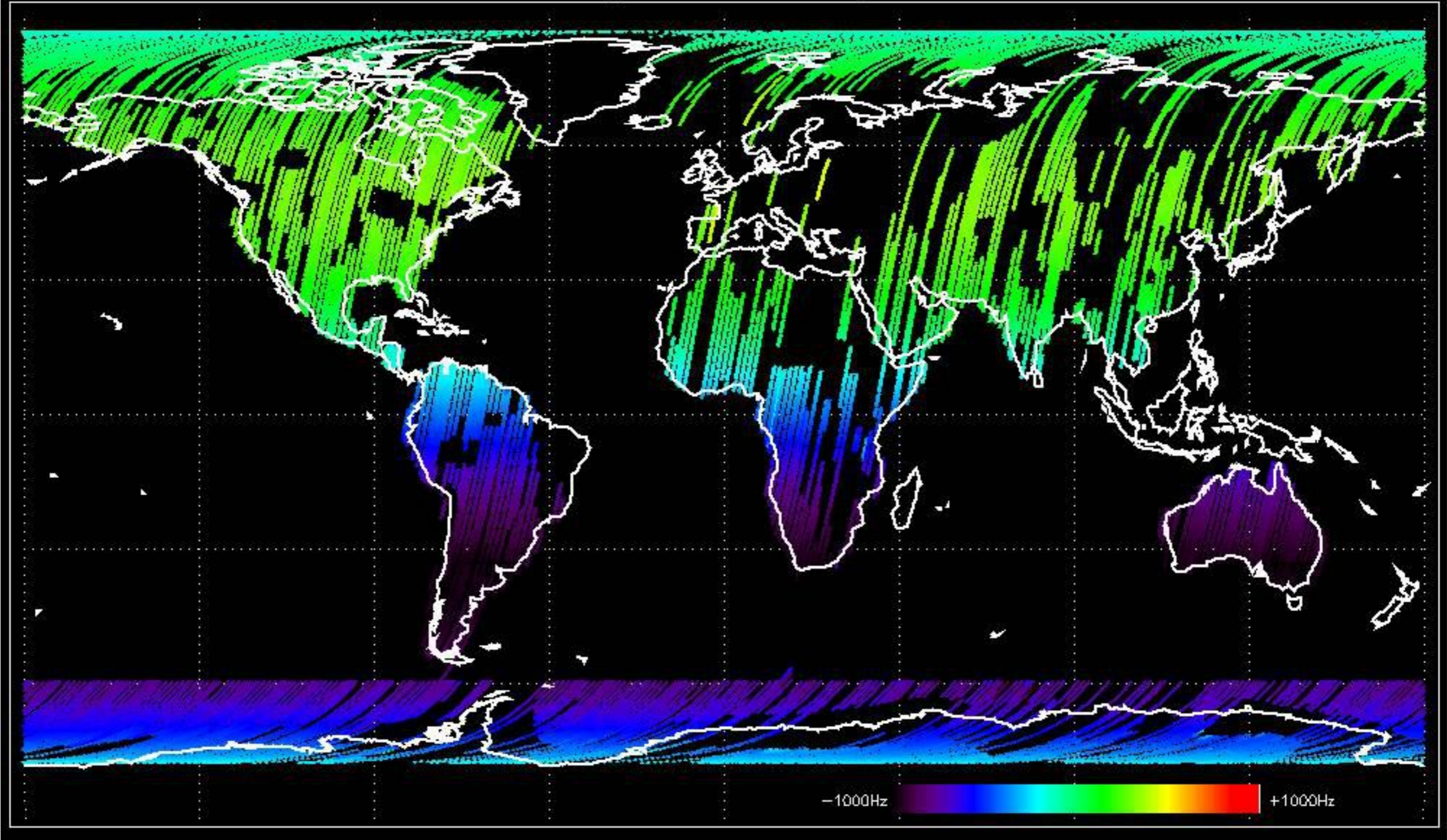


Doppler 'GM1' 'SS1' ascending



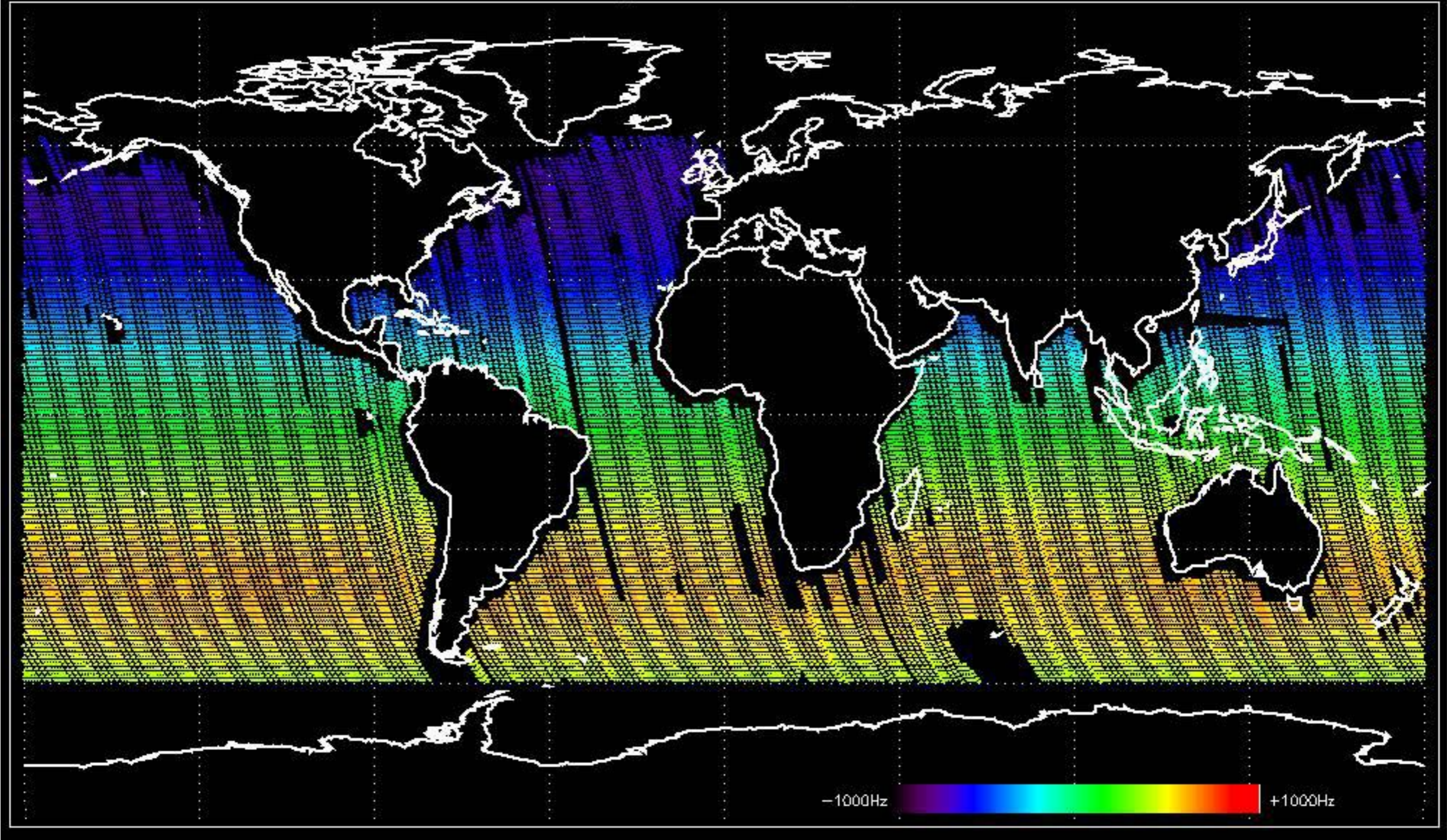


Doppler 'GM1' 'SS1' descending



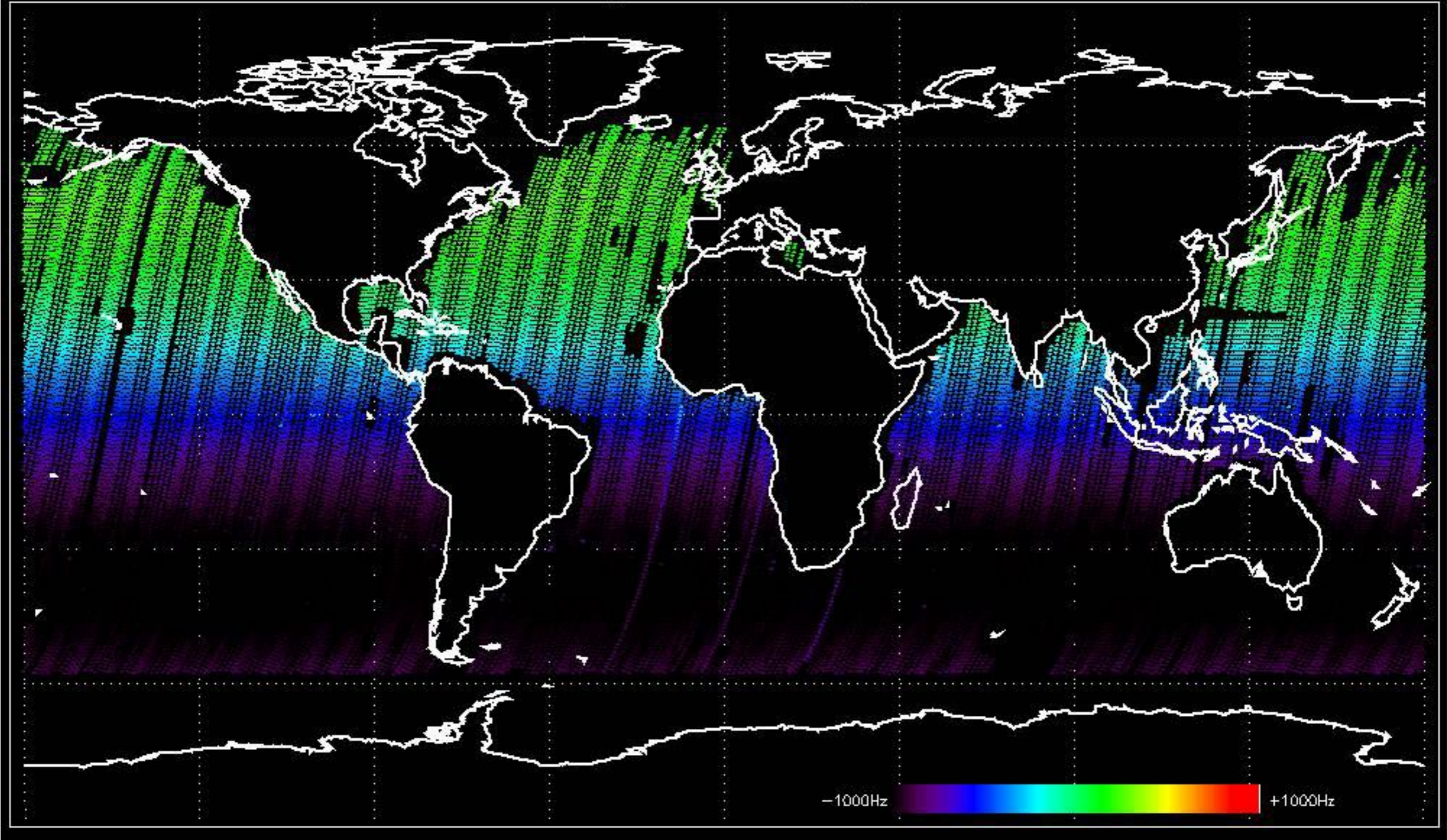


Doppler 'WVS' 'IS2' ascending

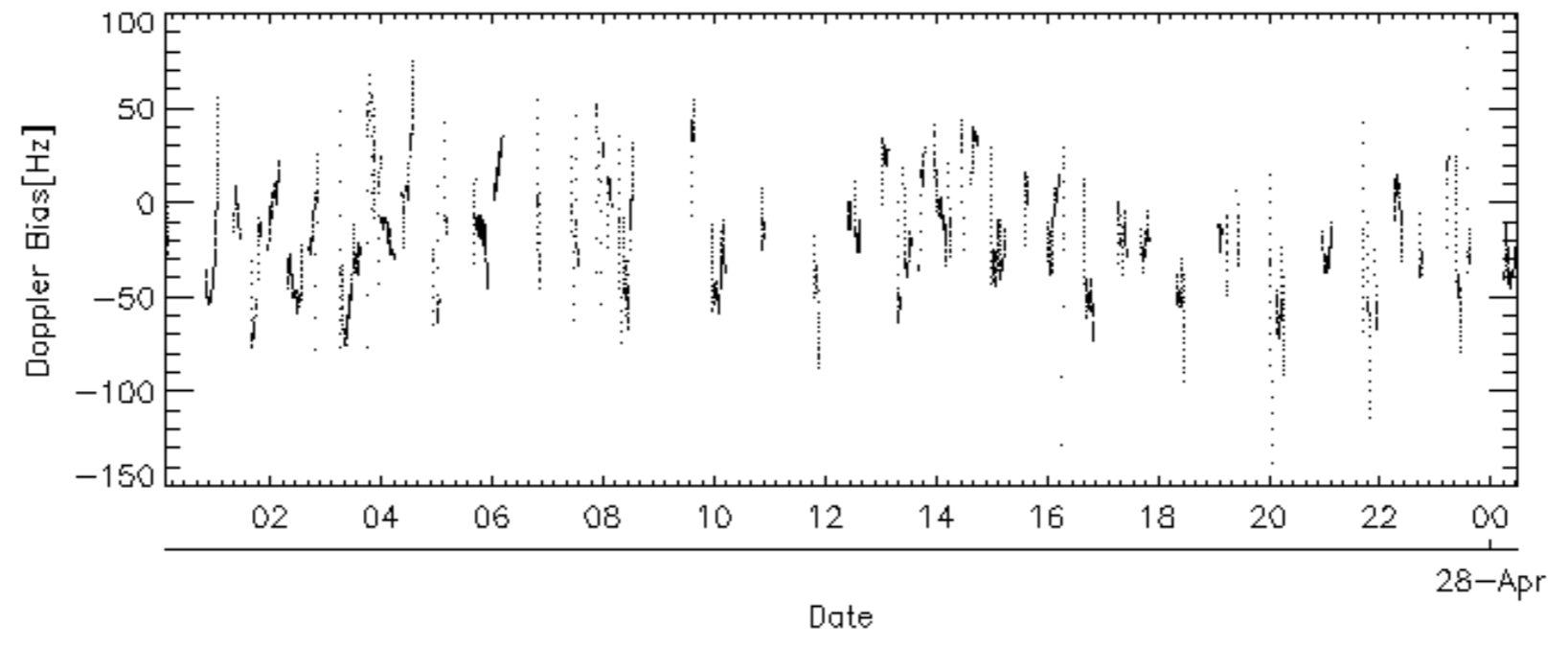
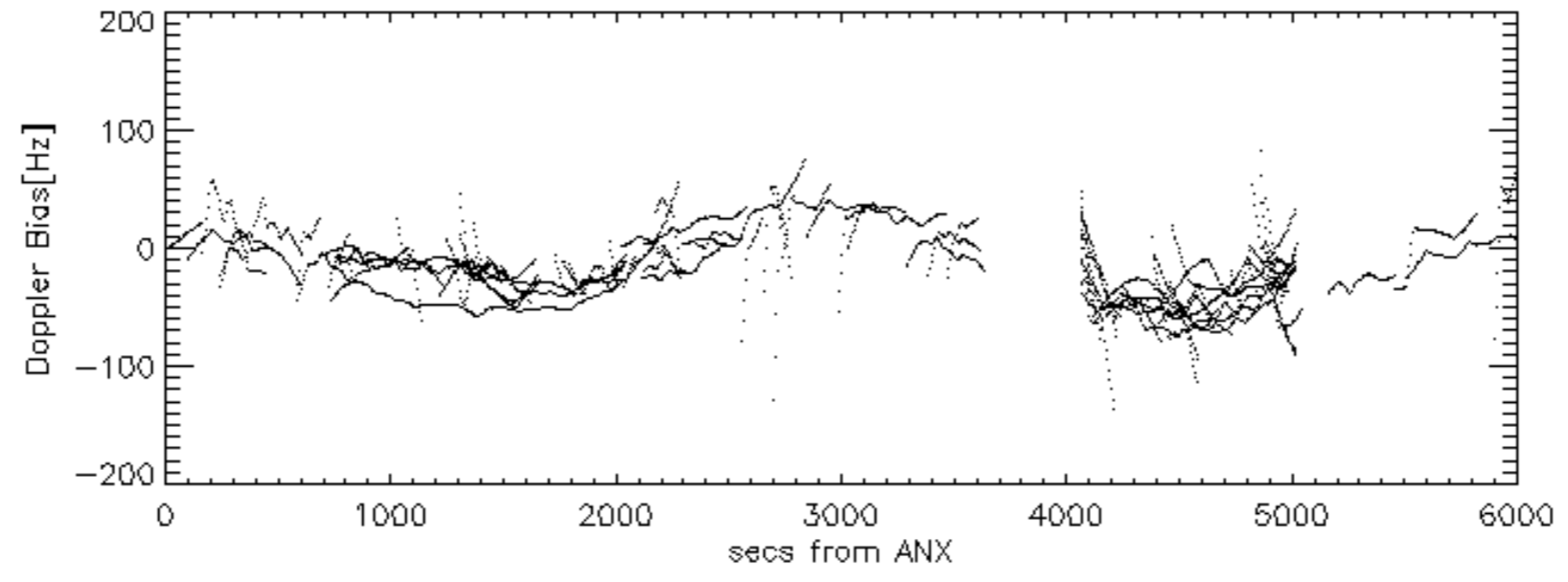
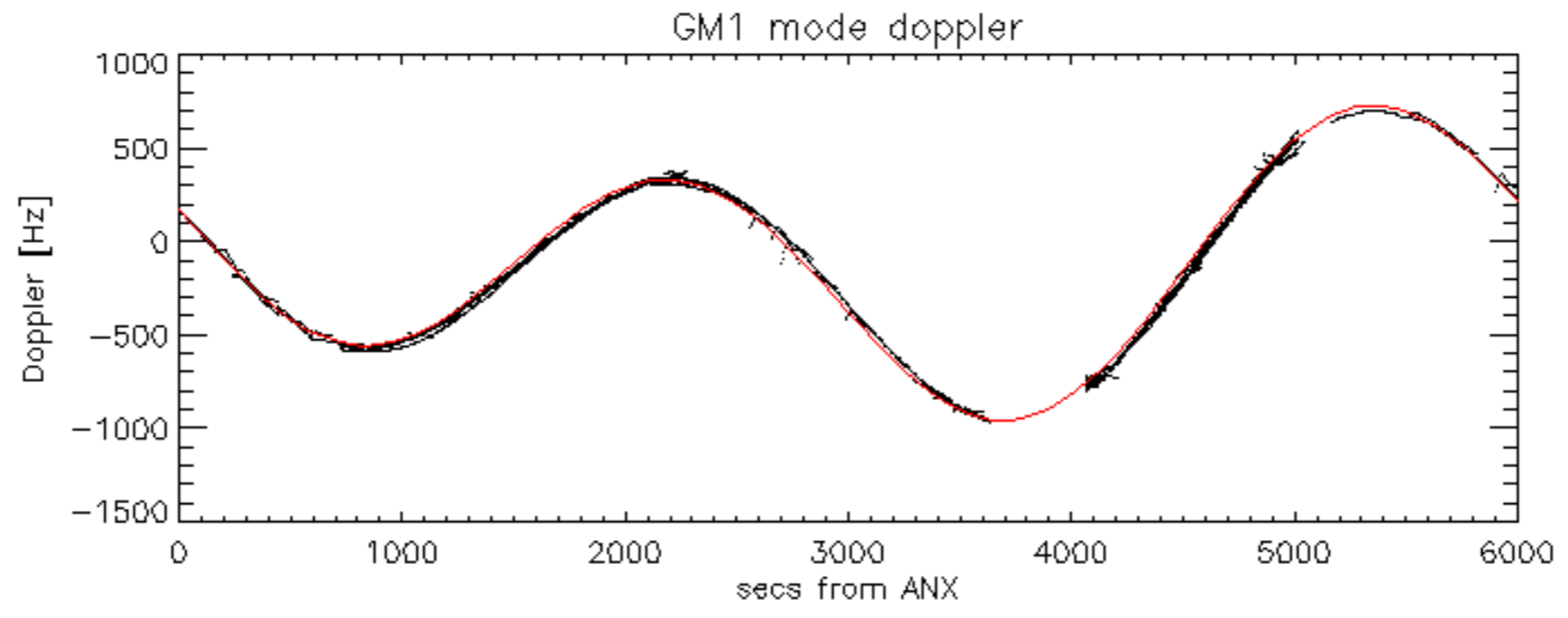


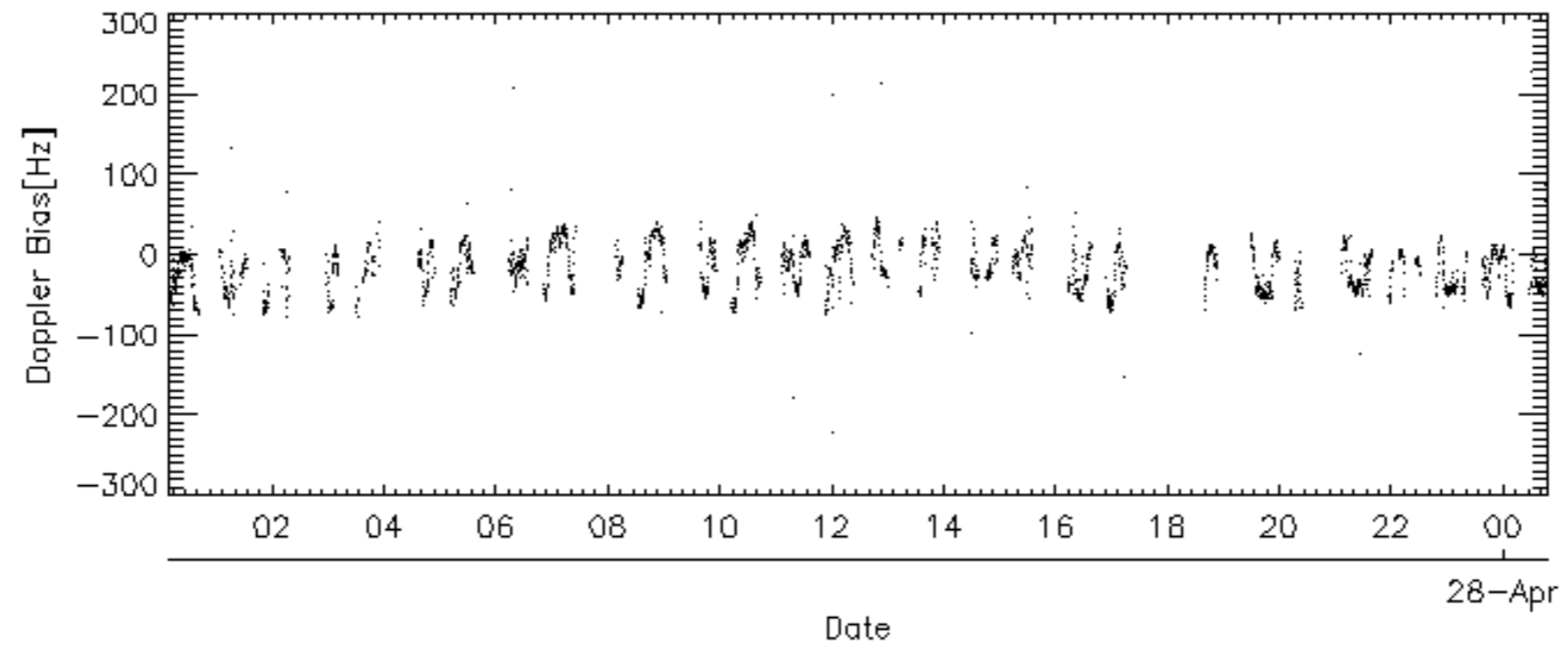
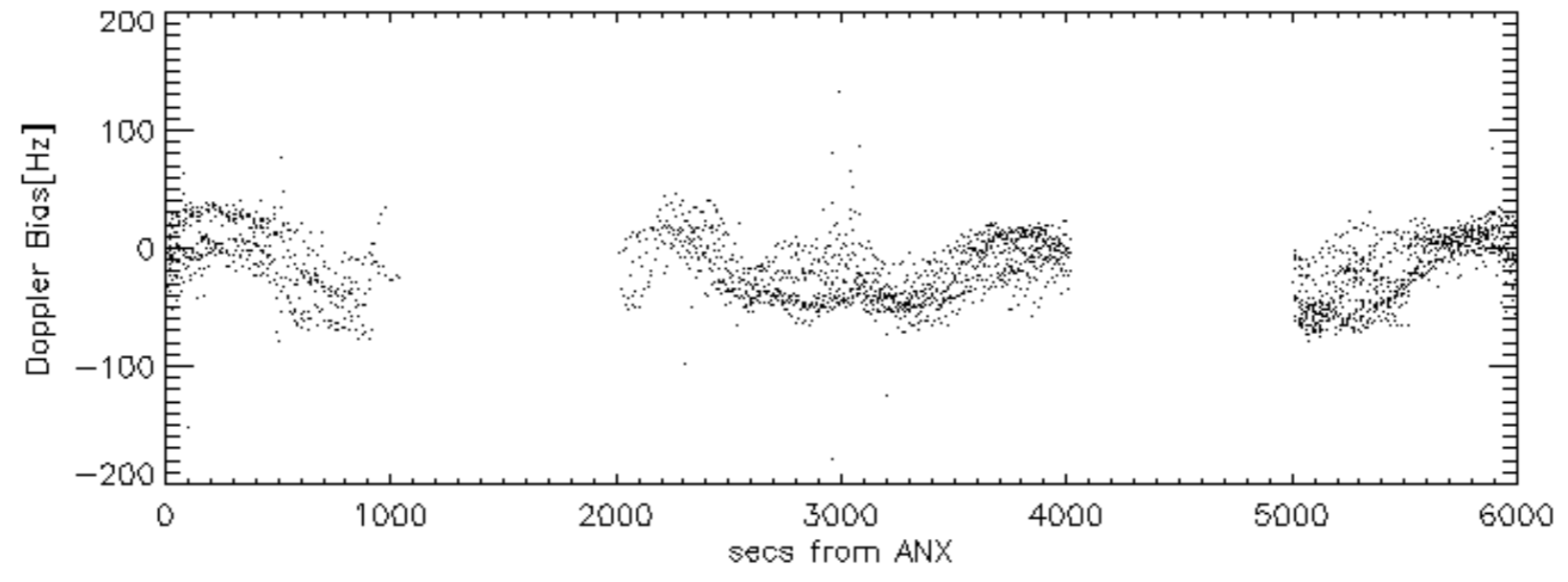
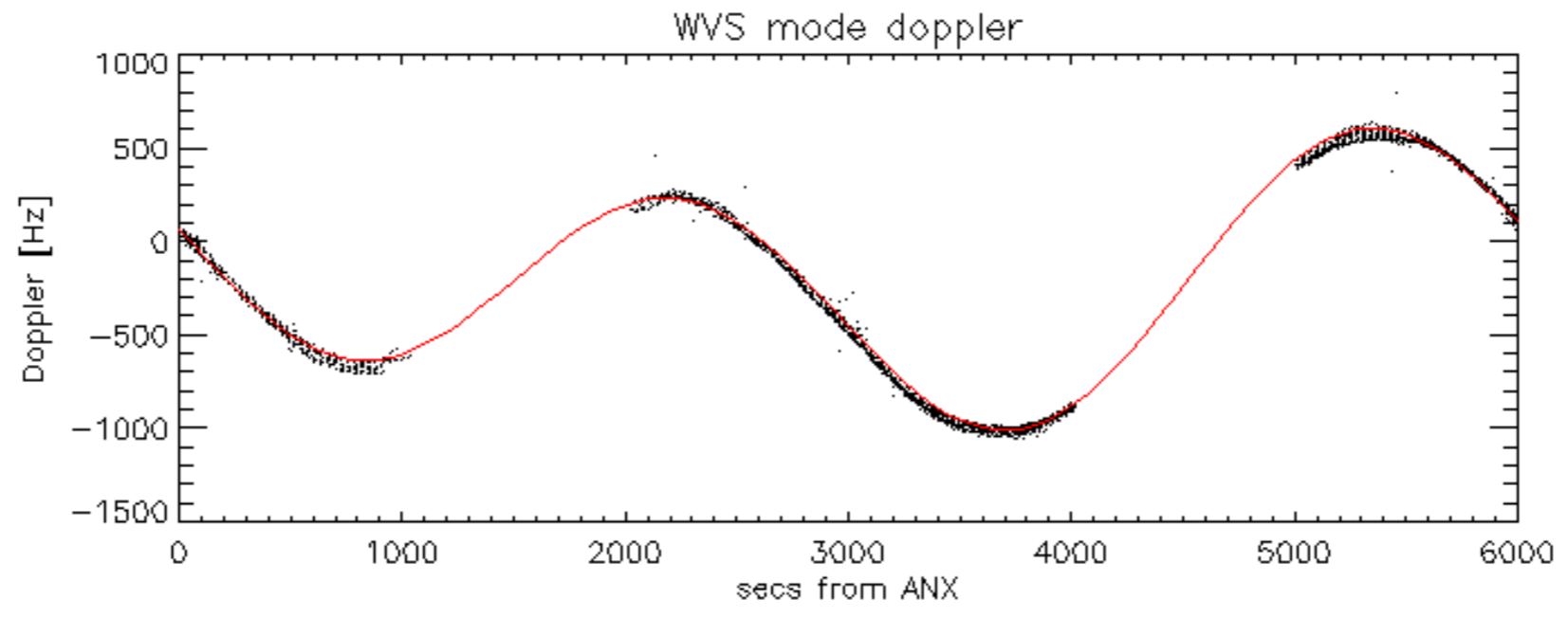


Doppler 'WVS' 'IS2' descending



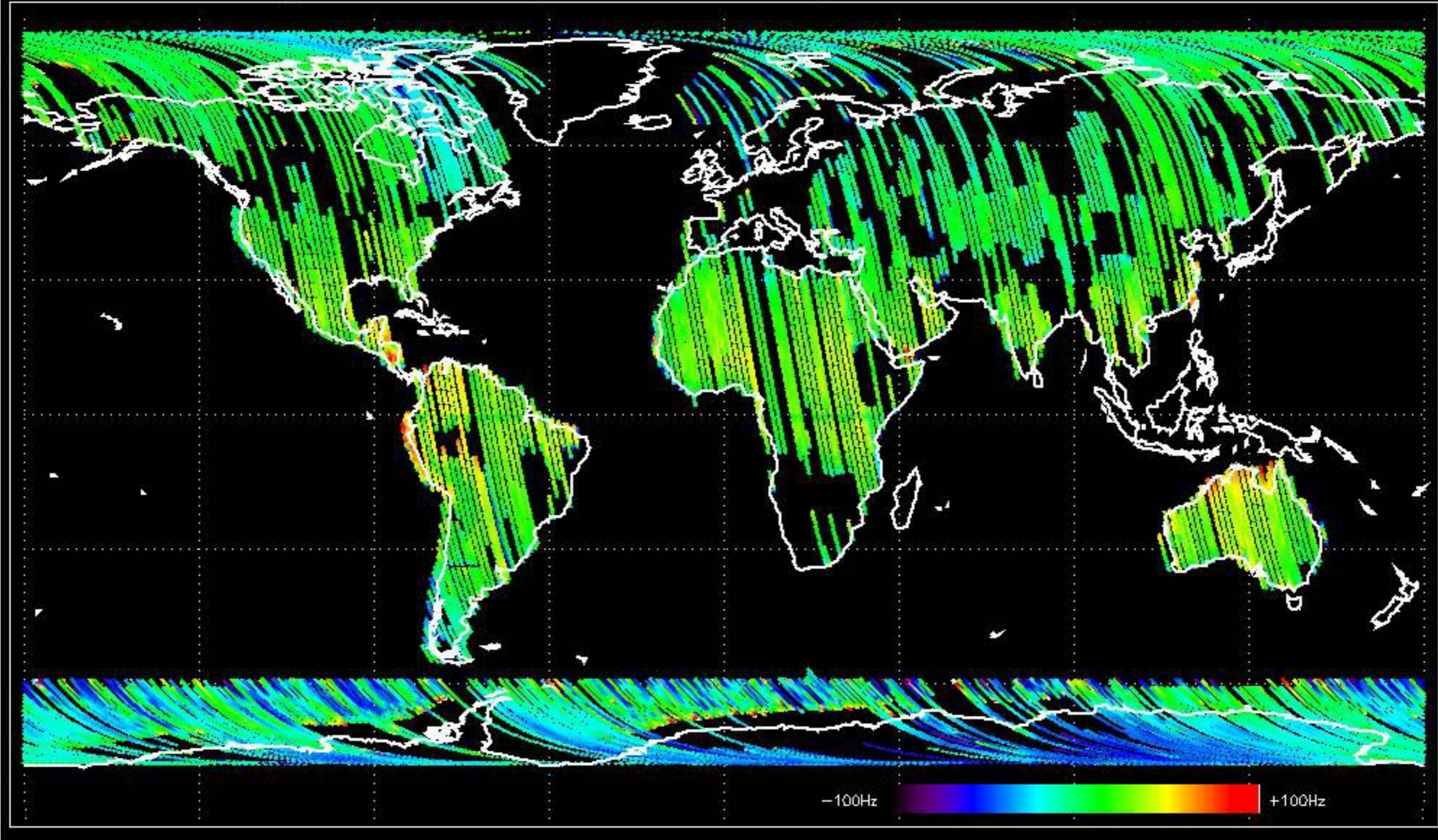






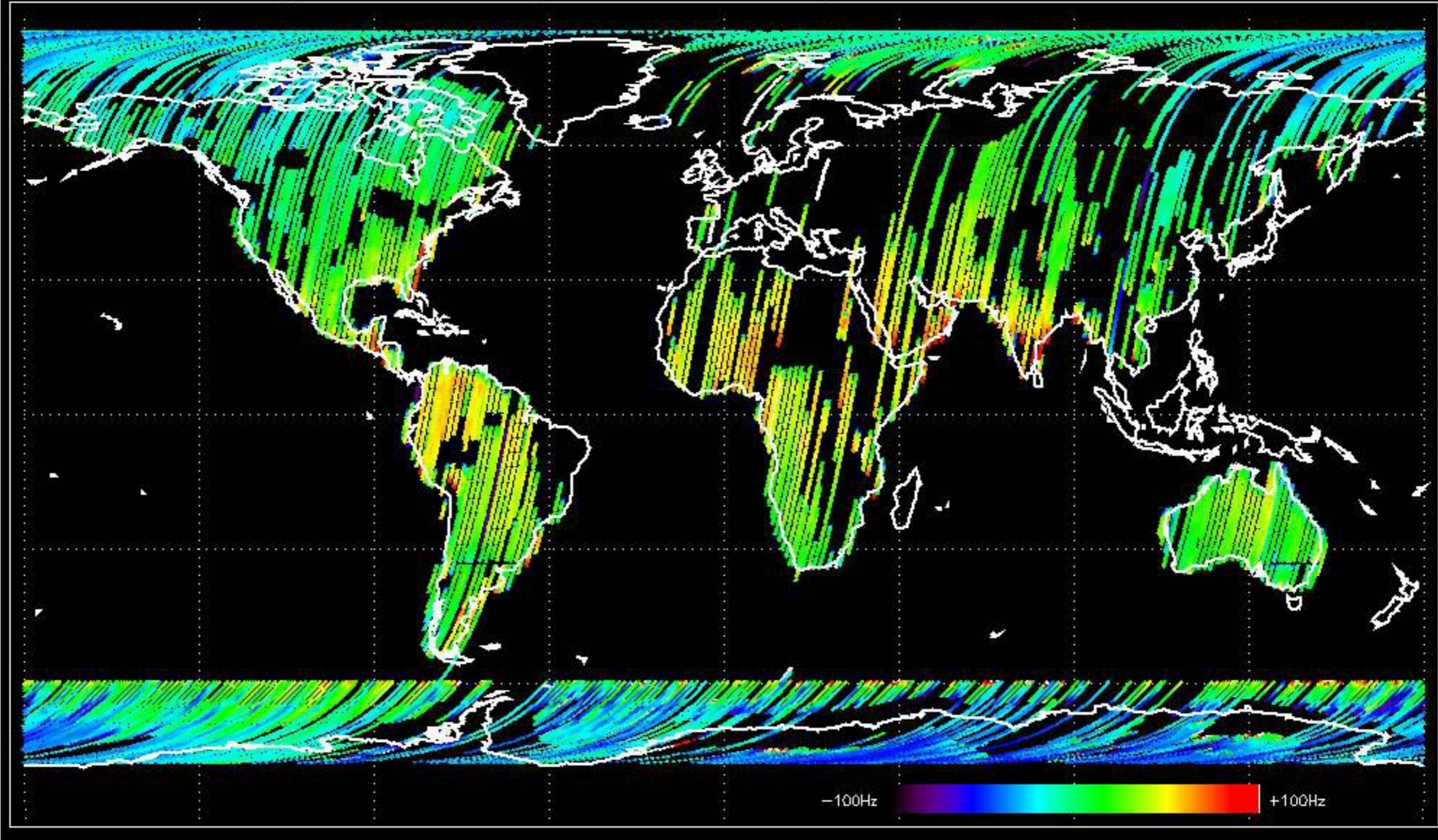


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -26.271211 Hz



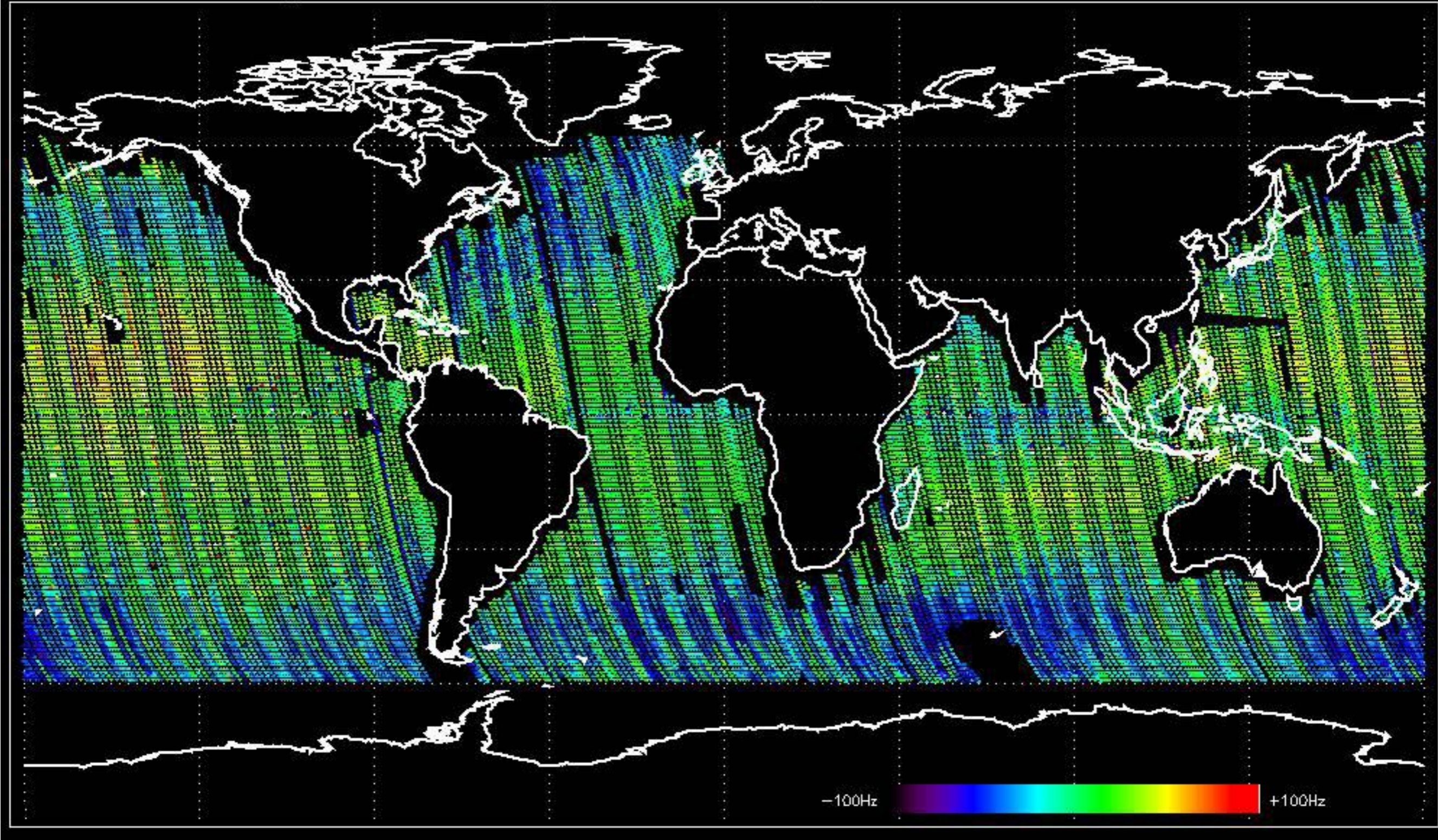


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -16.983614 Hz



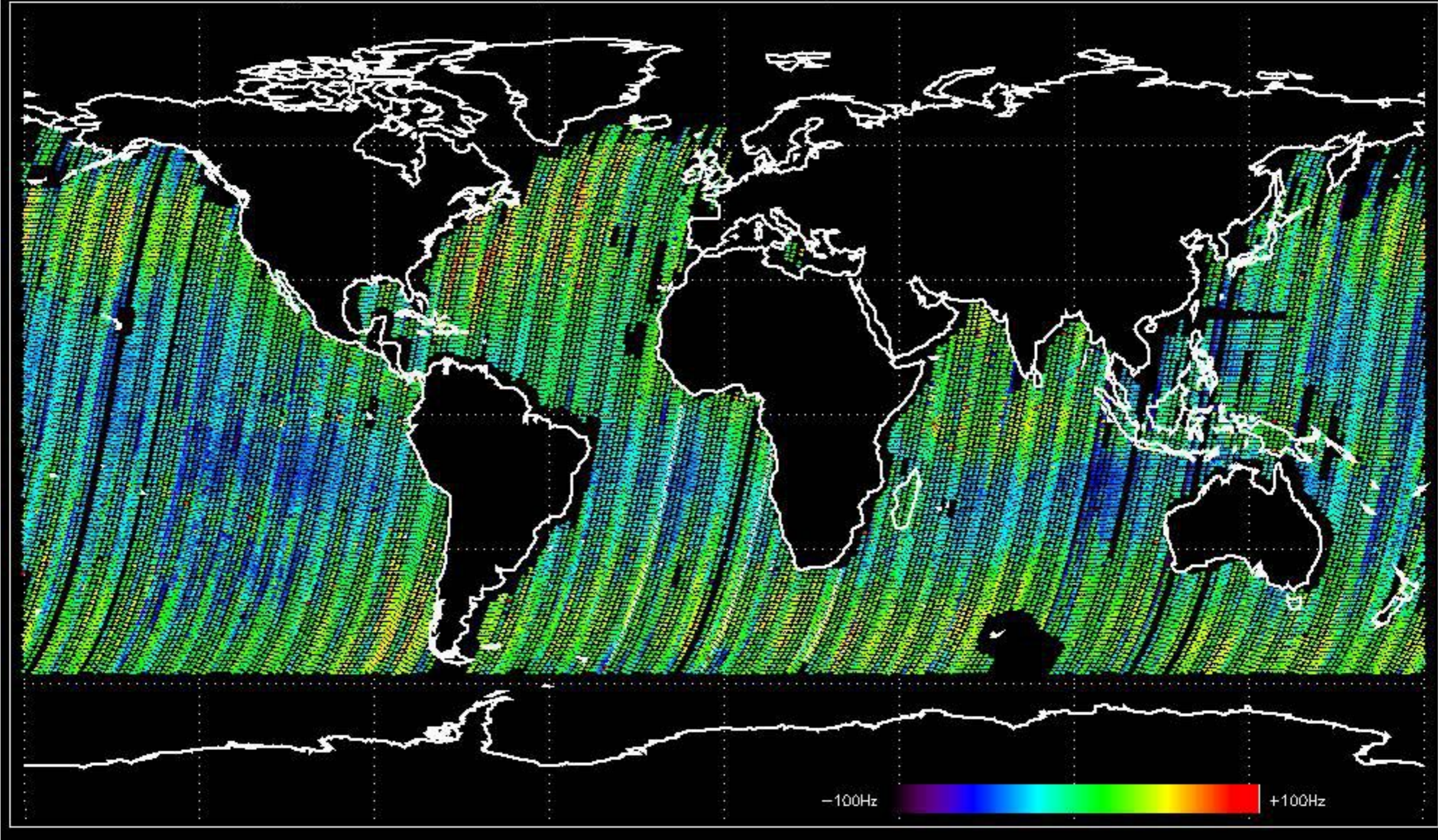


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -20.354402 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -21.354590 Hz

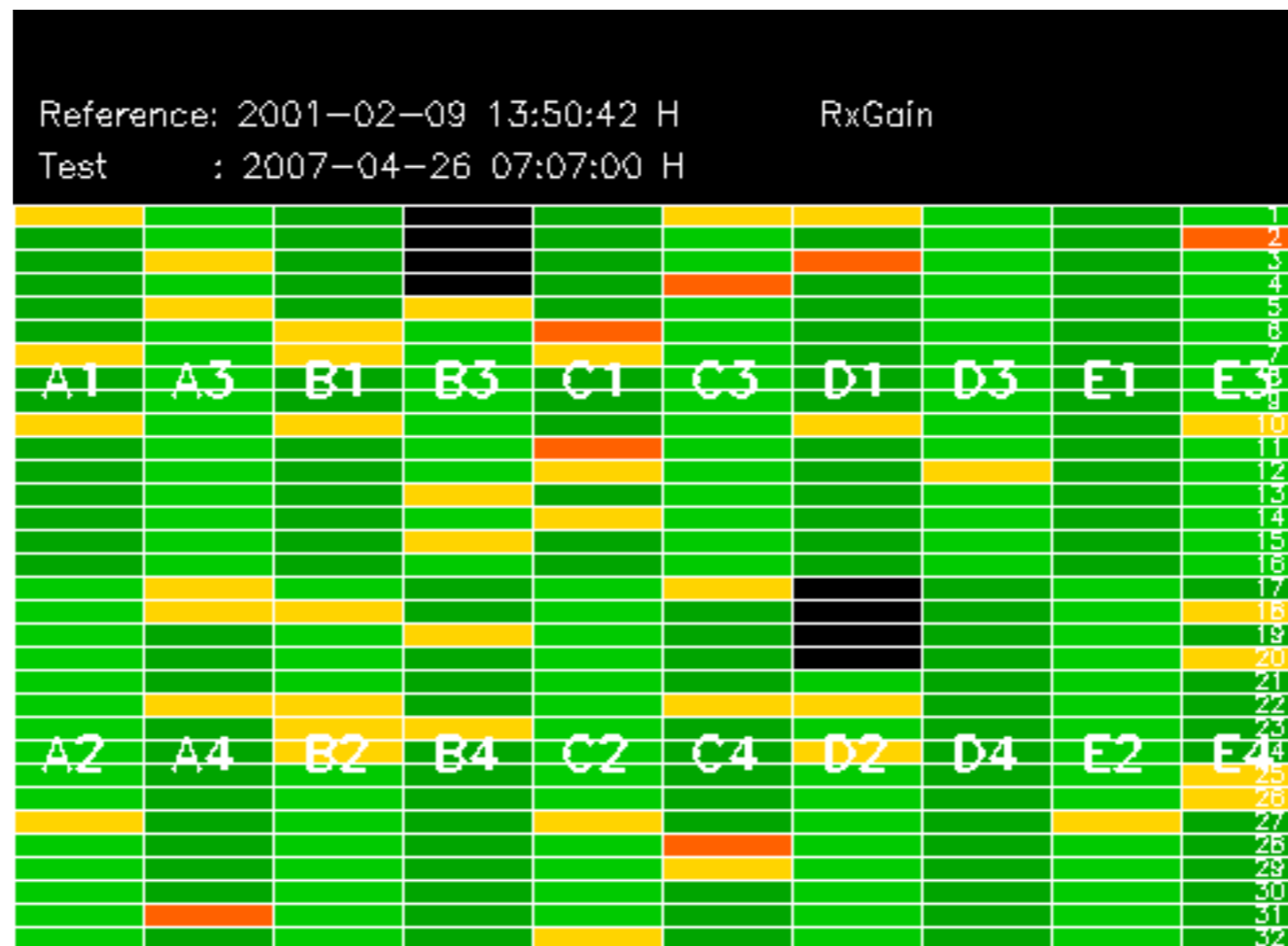


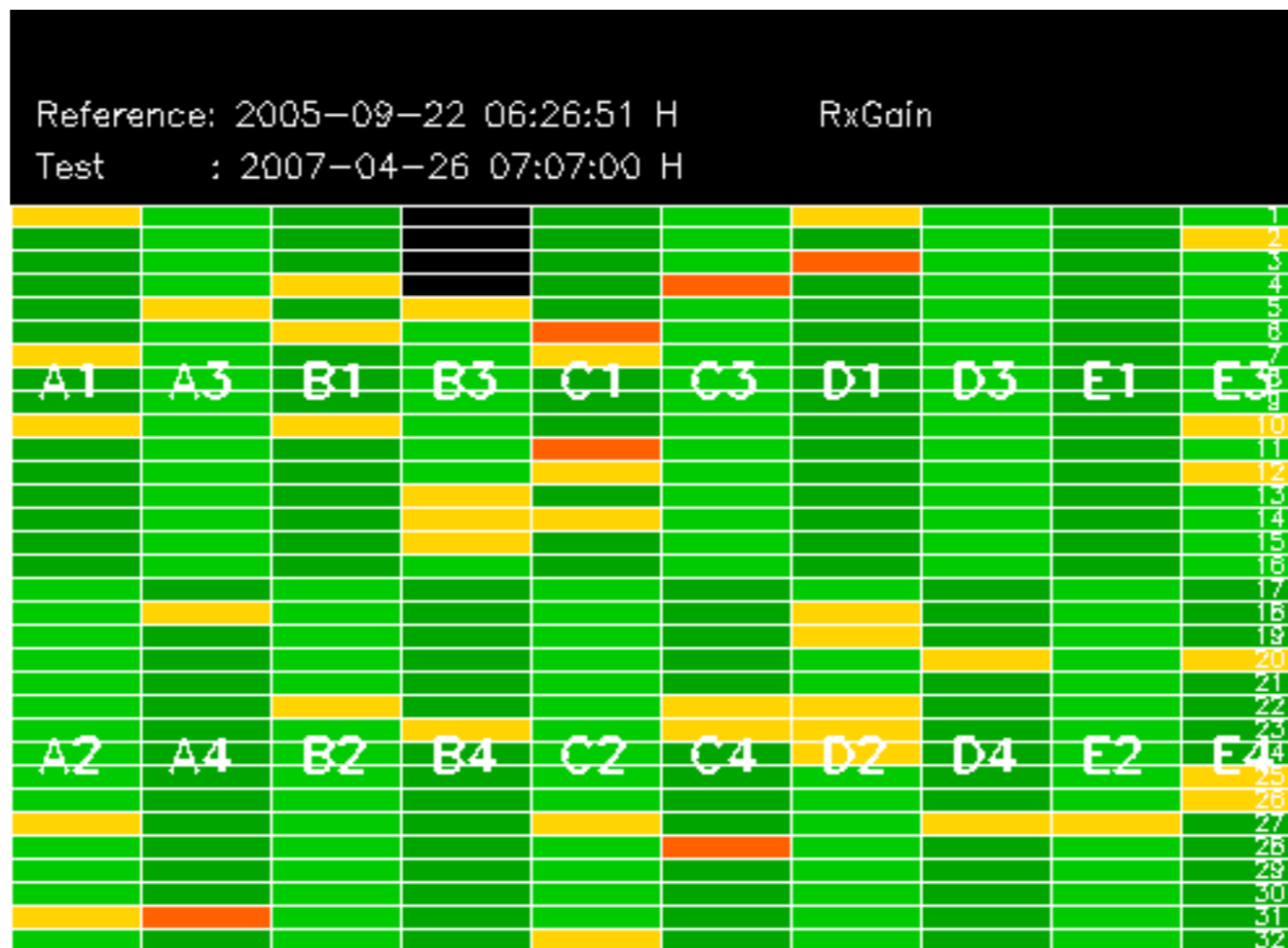


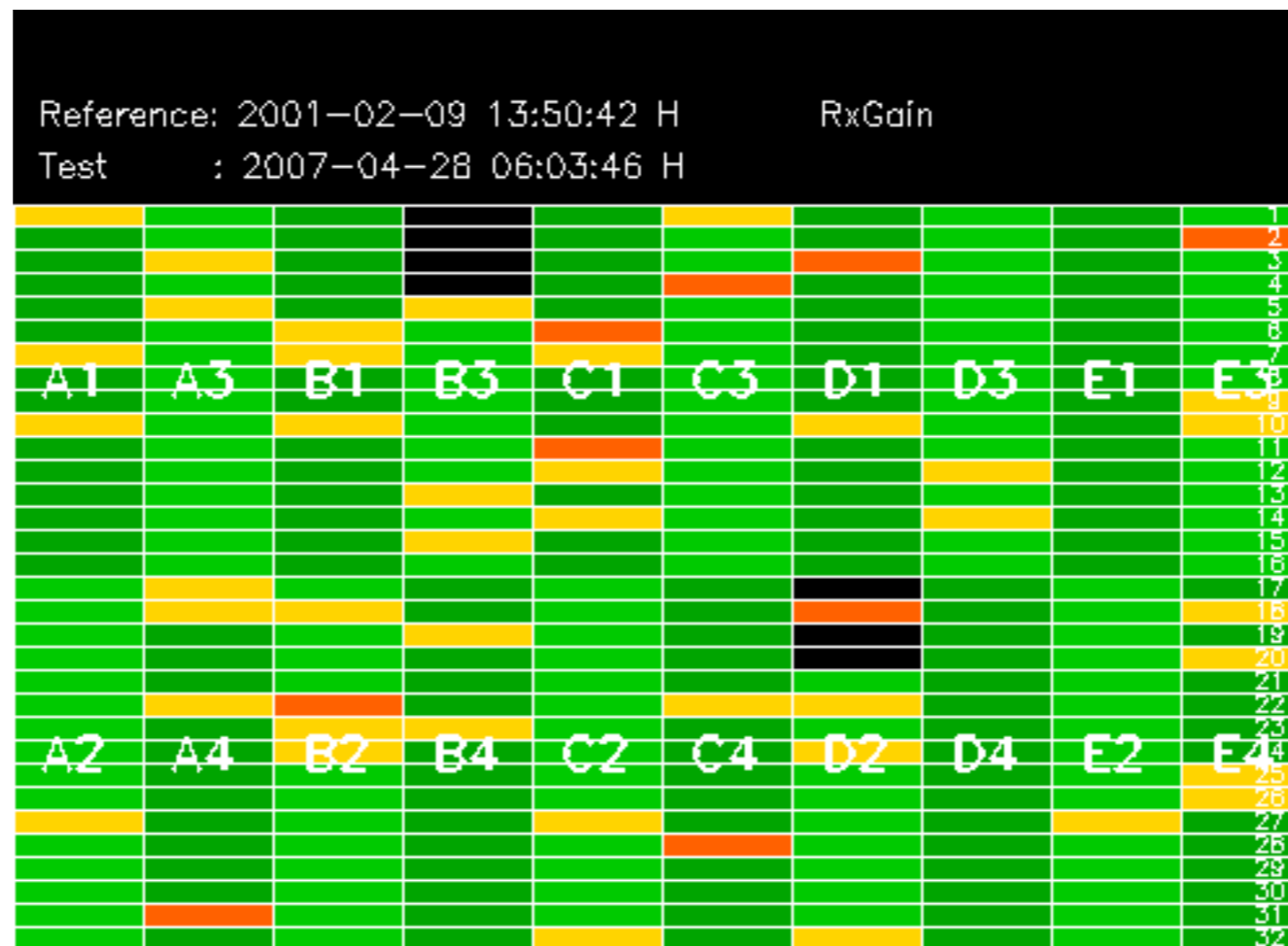
No anomalies observed on available MS products:

No anomalies observed.

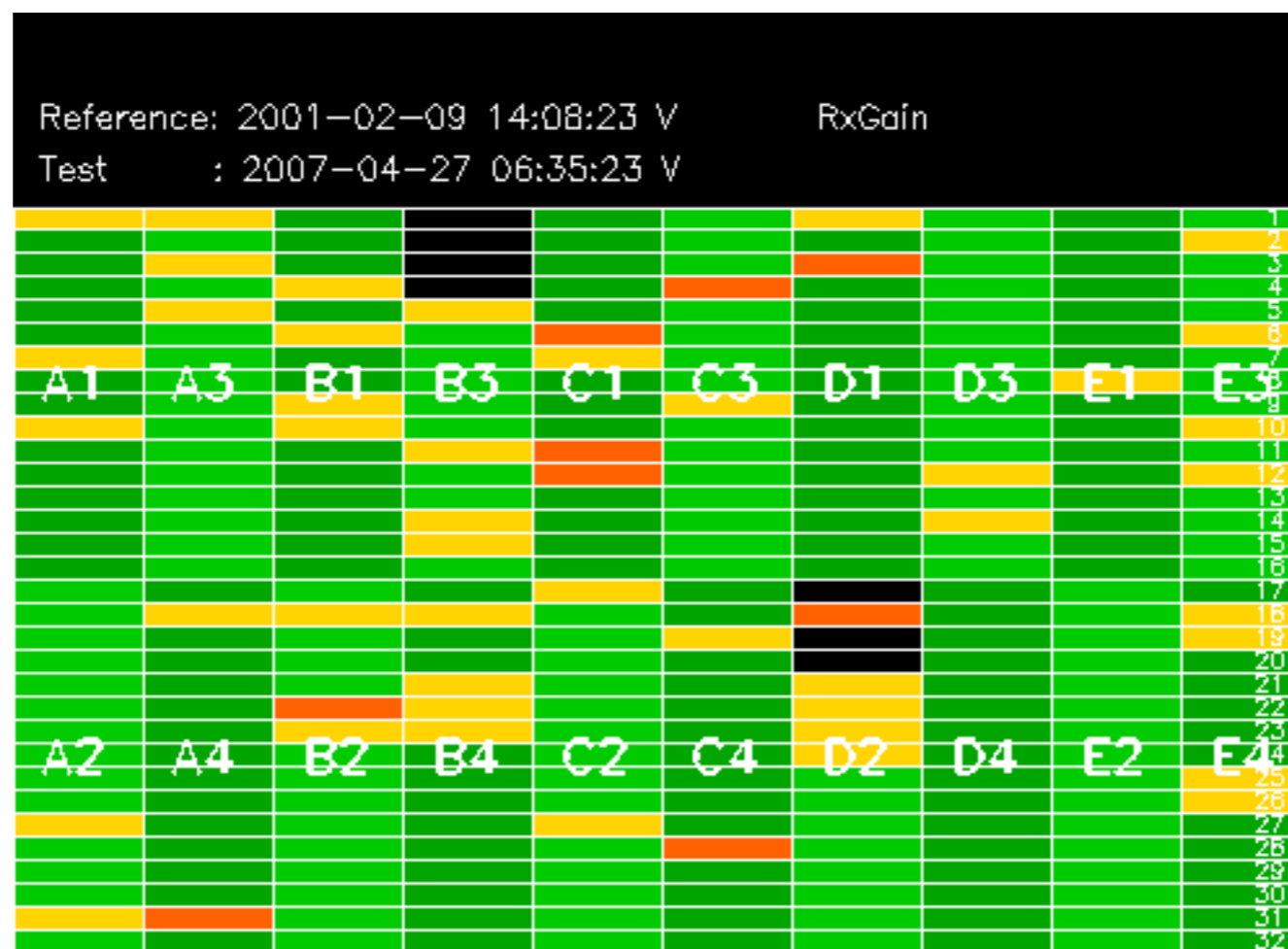














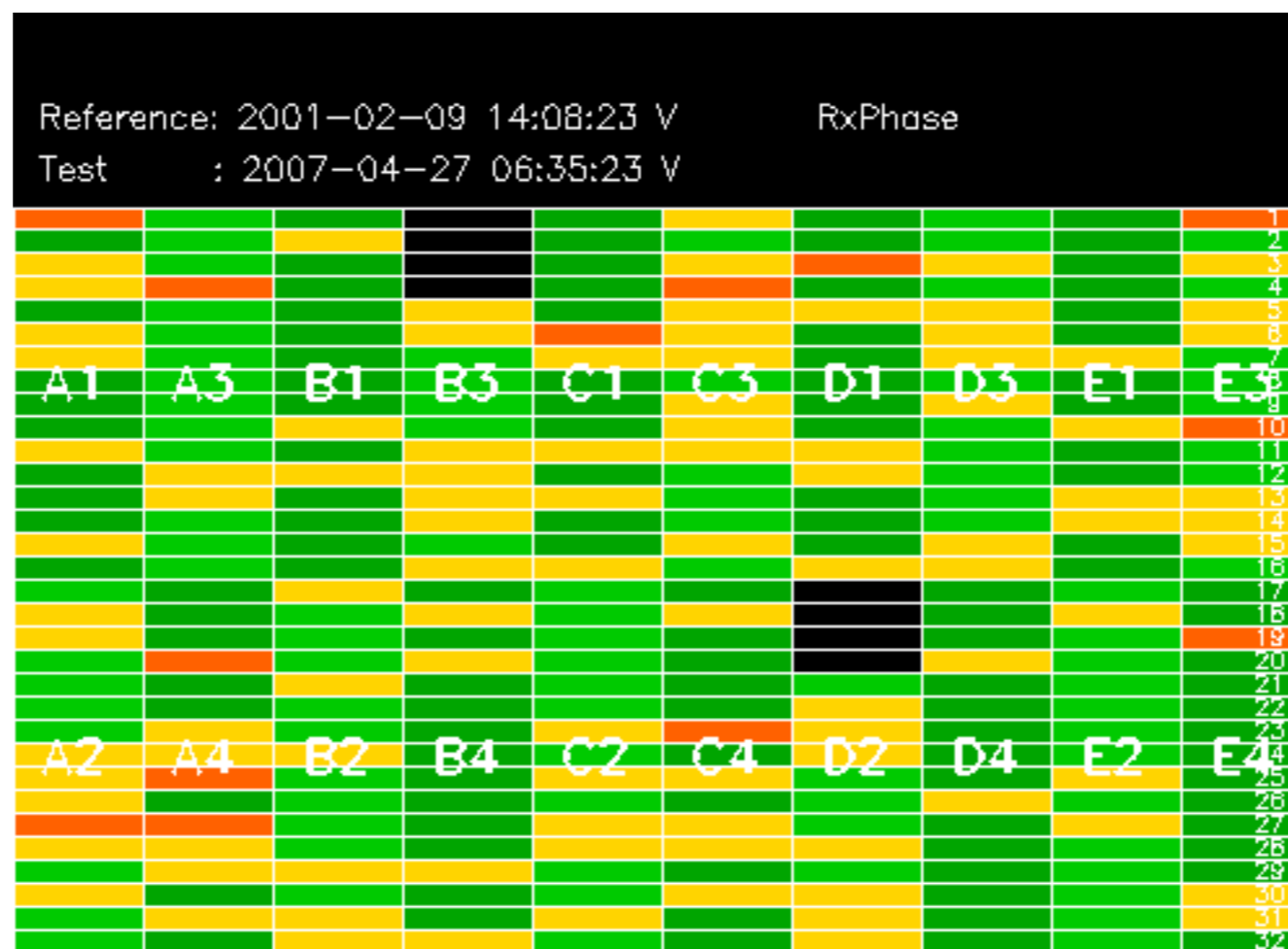






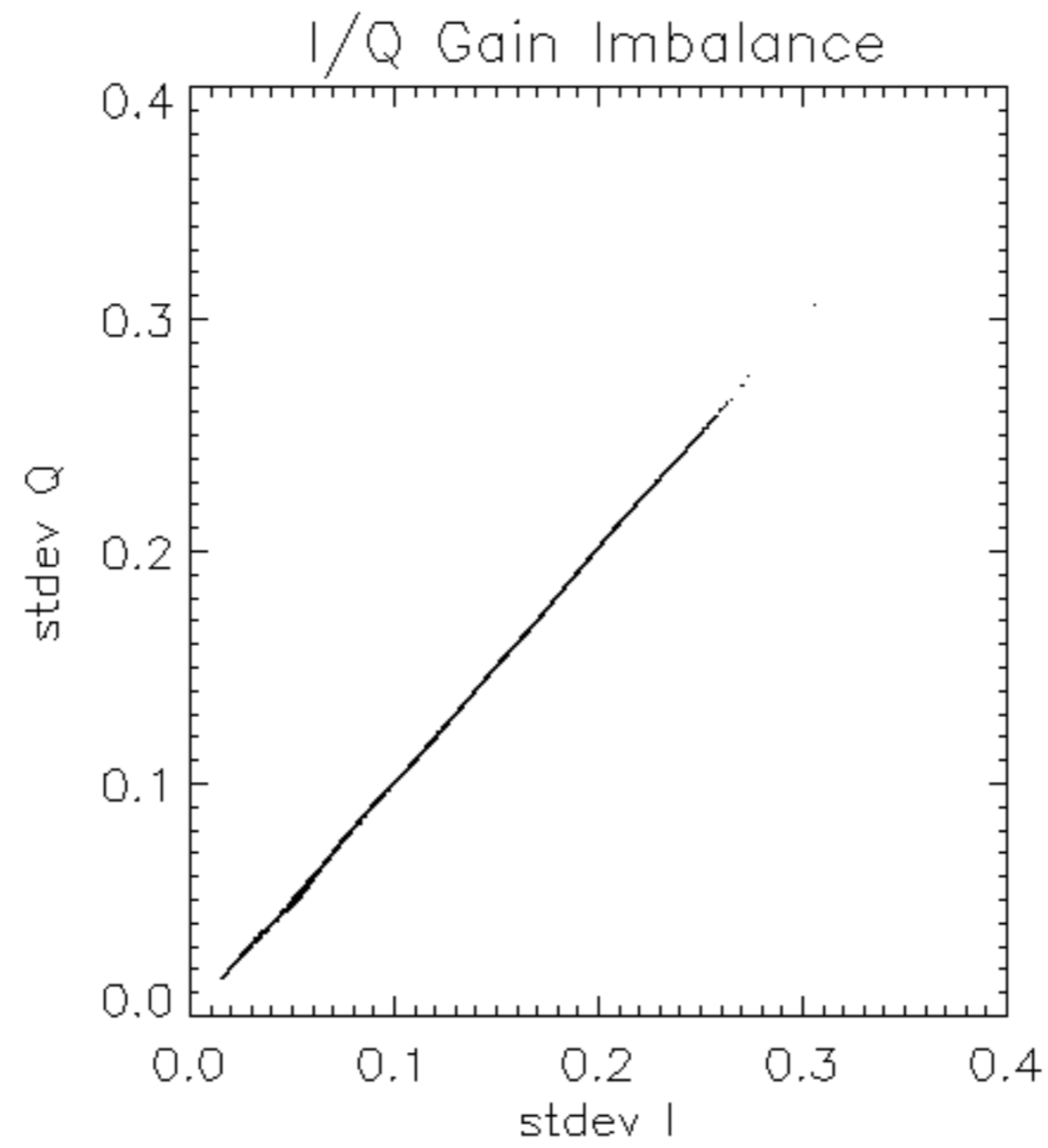


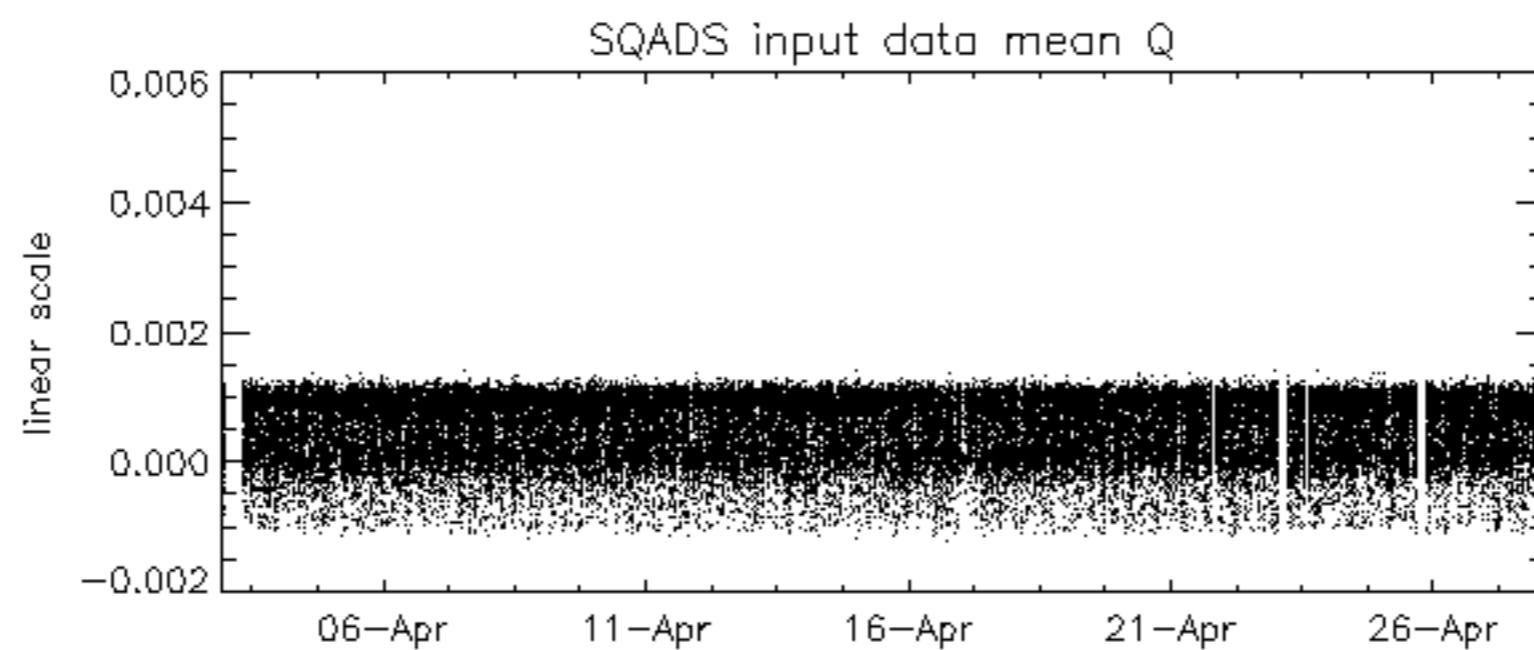
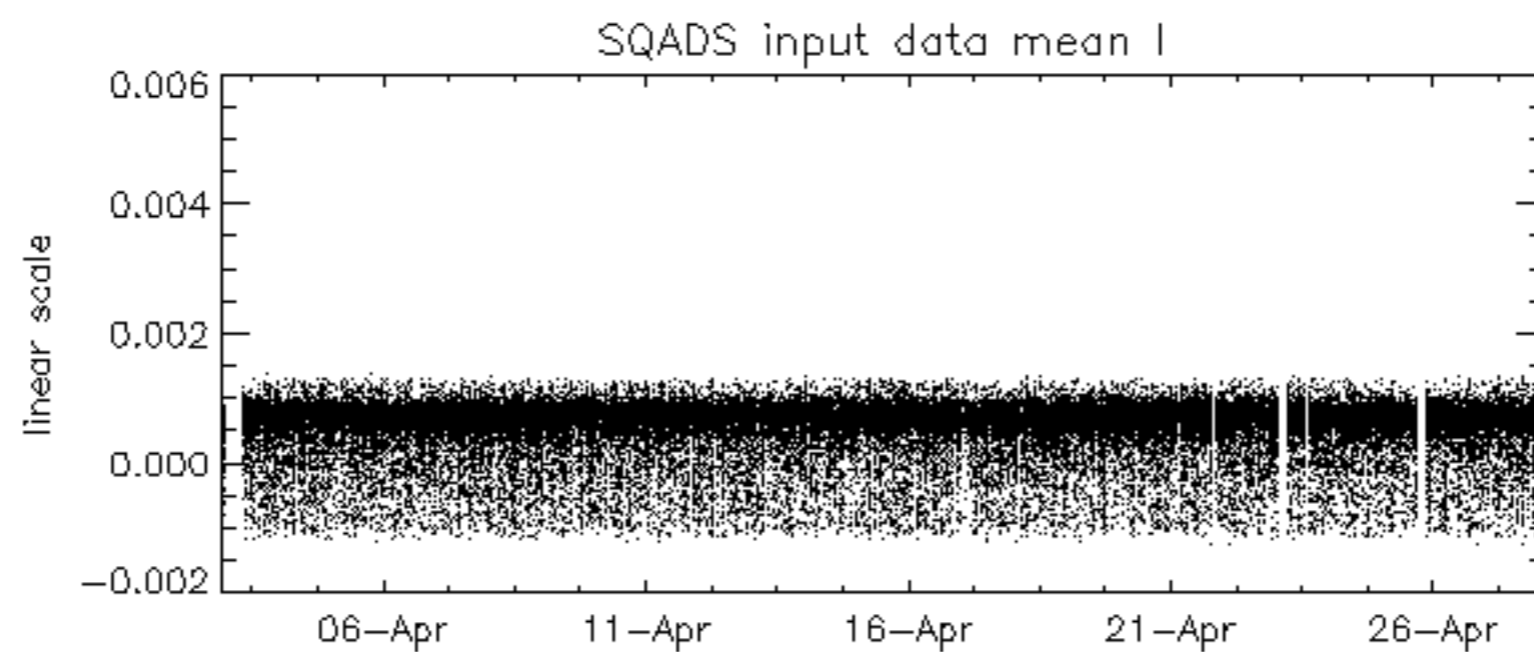
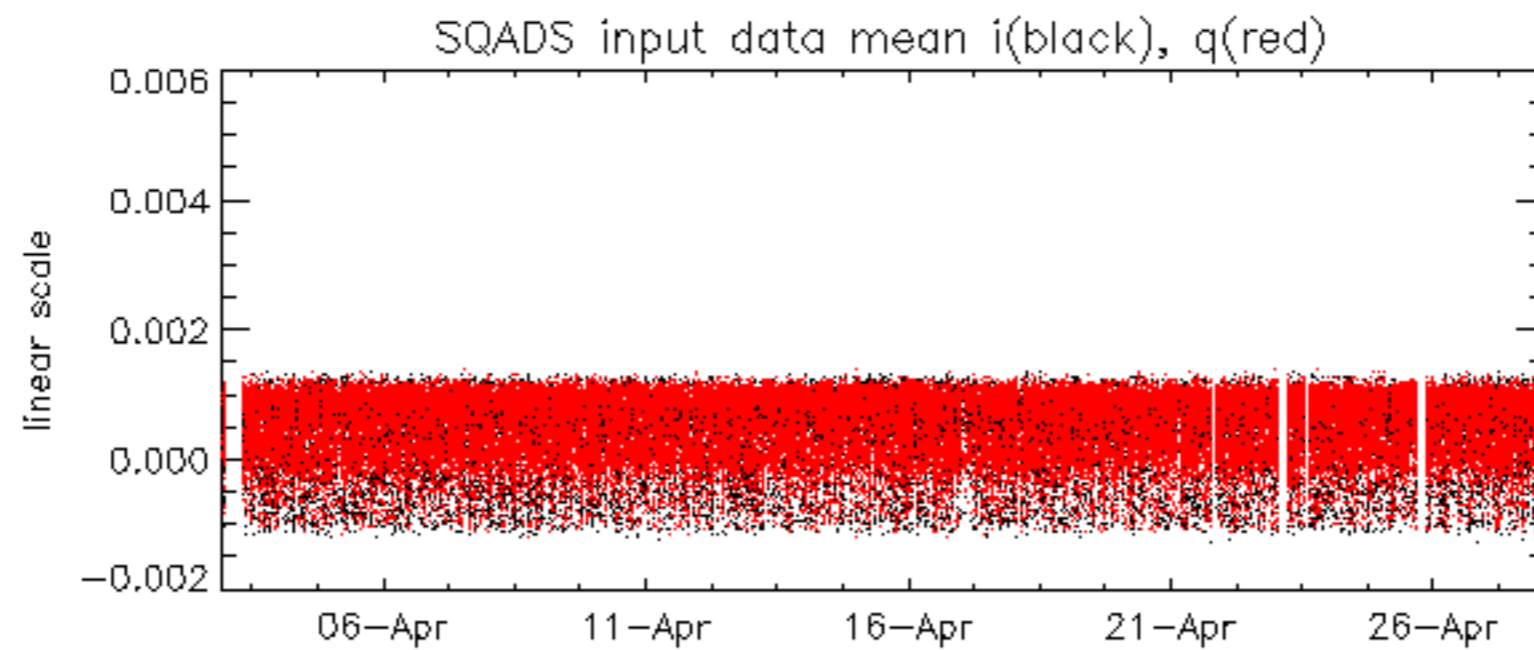




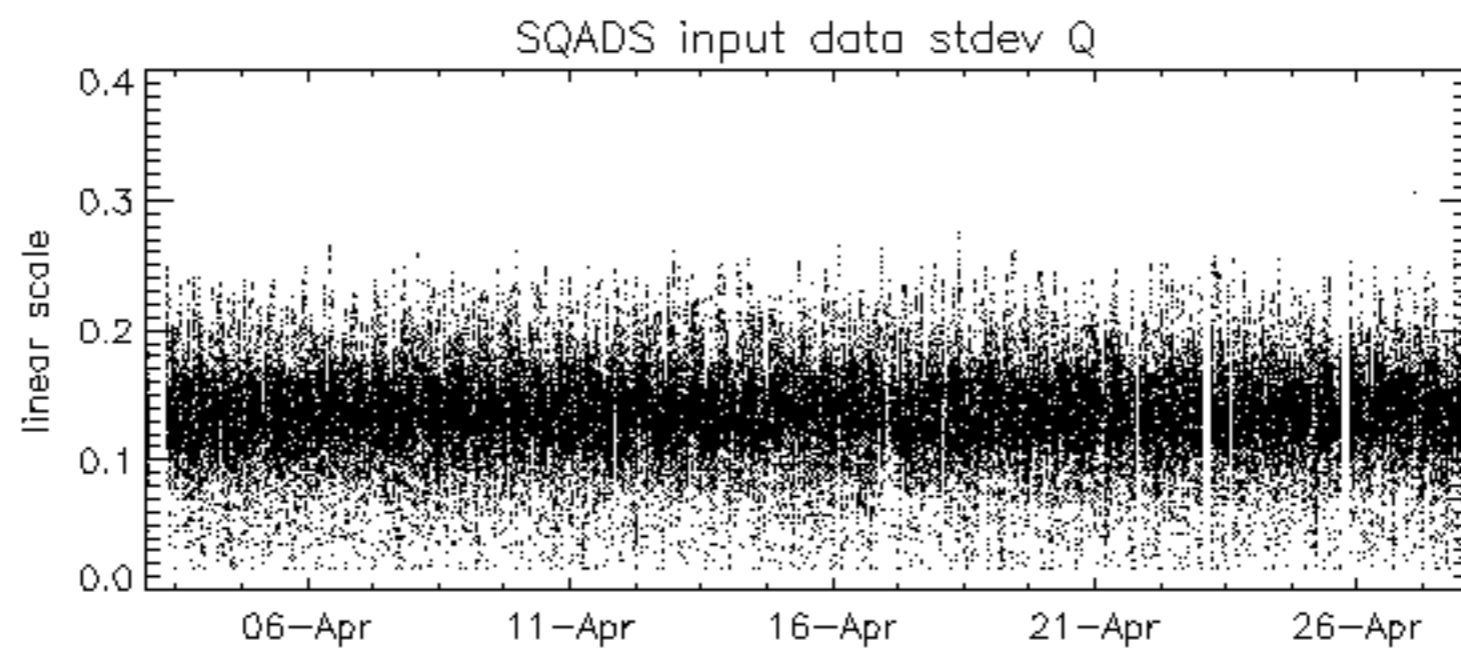
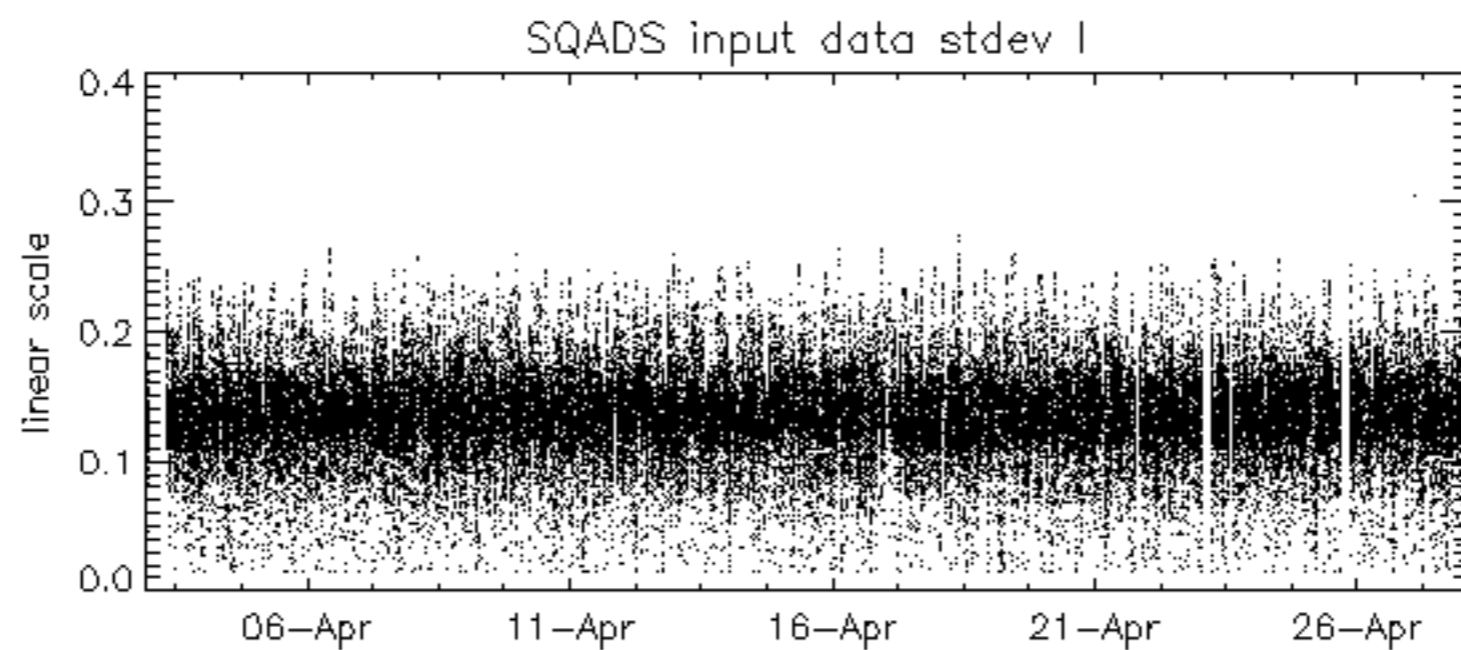
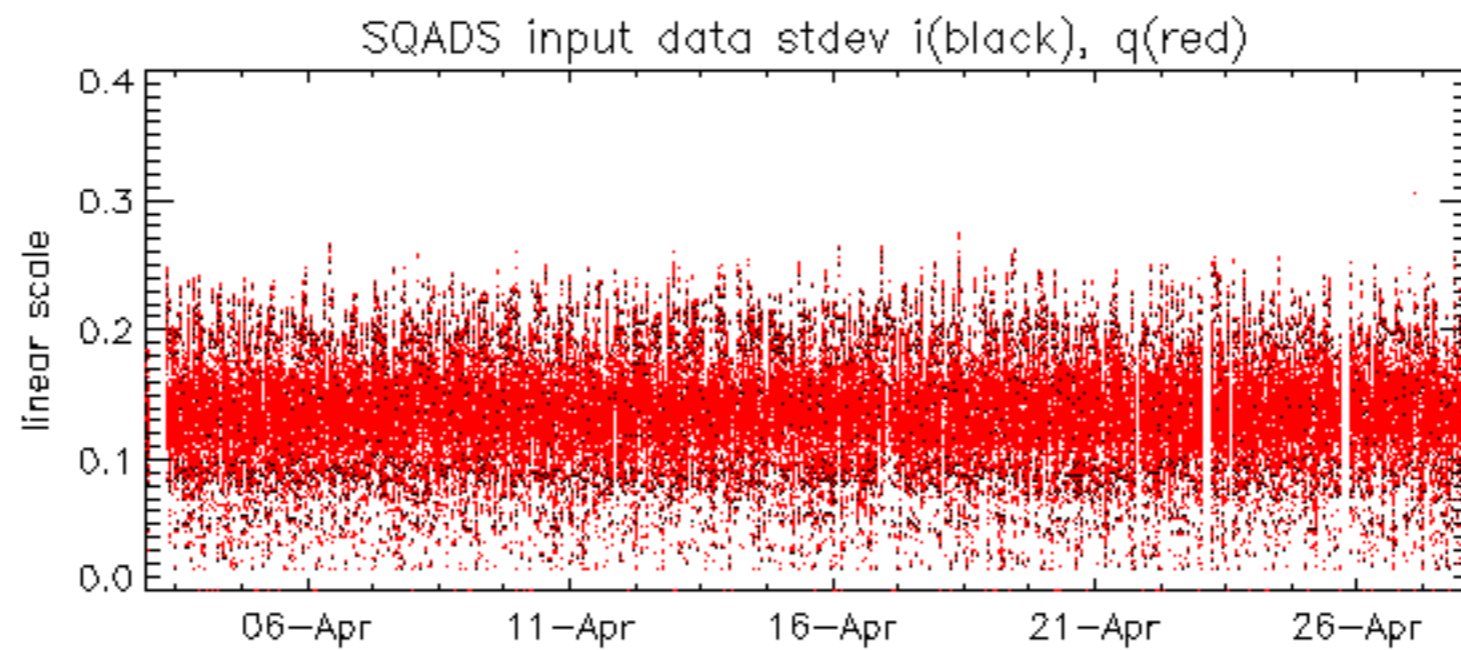
























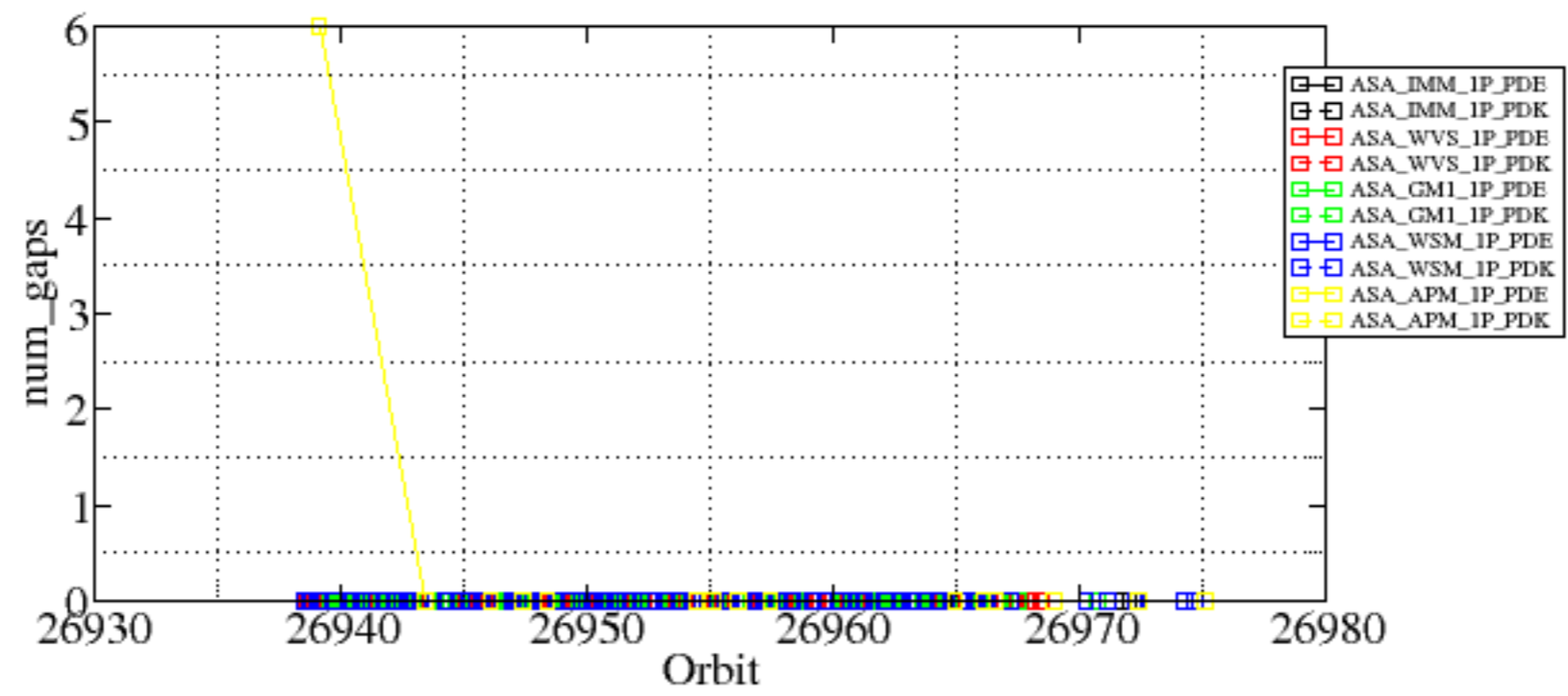




Summary of analysis for the last 3 days 2007042[678]

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_1PNPDE20070426_000621_000002022057_00331_26938_7094.N1	0	31
ASA_WSM_1PNPDE20070426_233444_000002632057_00345_26952_8526.N1	0	31
ASA_WSM_1PNPDK20070427_135549_000000852057_00354_26961_5249.N1	0	52
ASA_WSM_1PNPDK20070427_191220_000000852057_00357_26964_5559.N1	0	1
ASA_APM_1PNPDE20070426_011026_000001332057_00332_26939_7224.N1	6	0











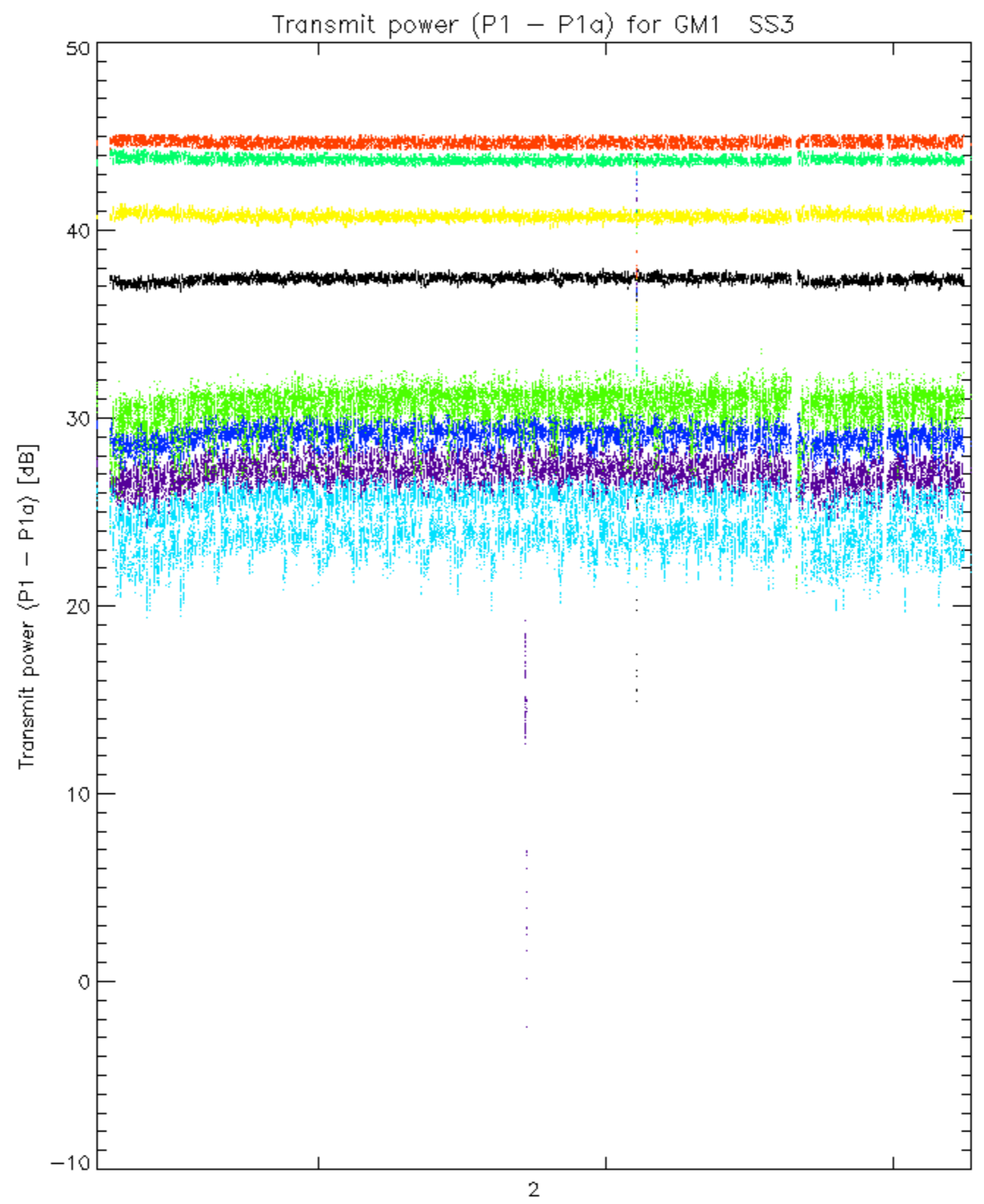




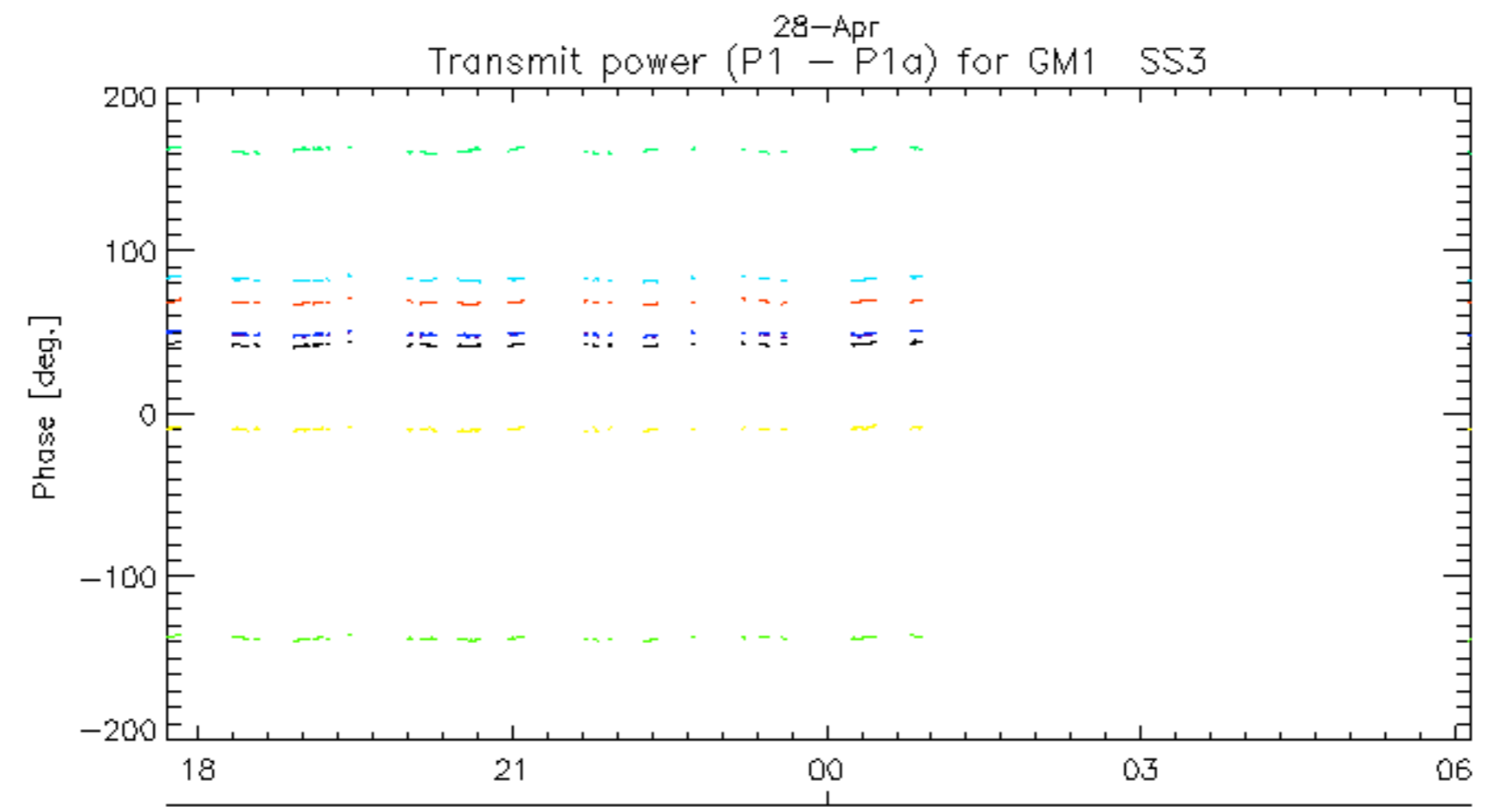
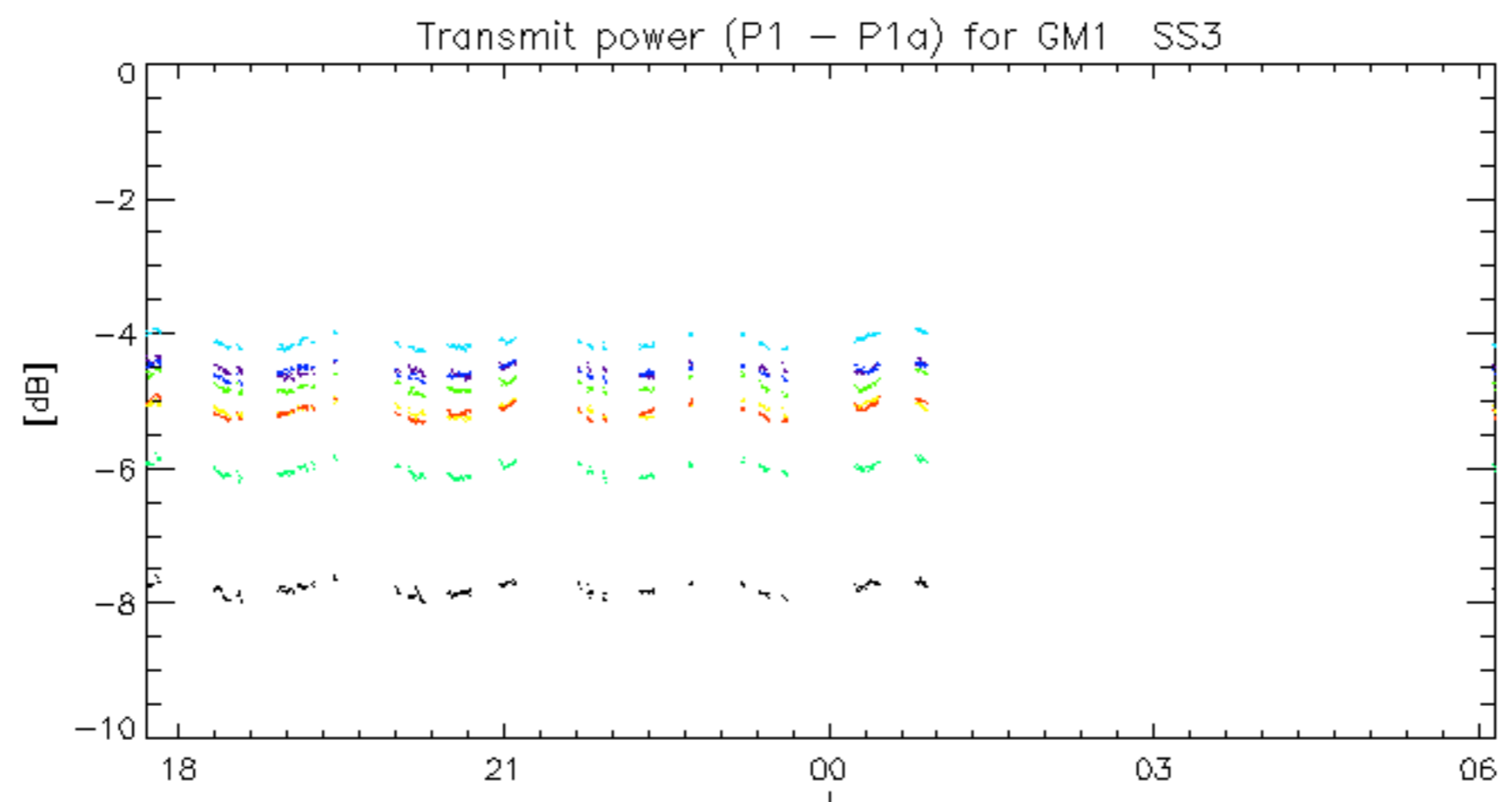






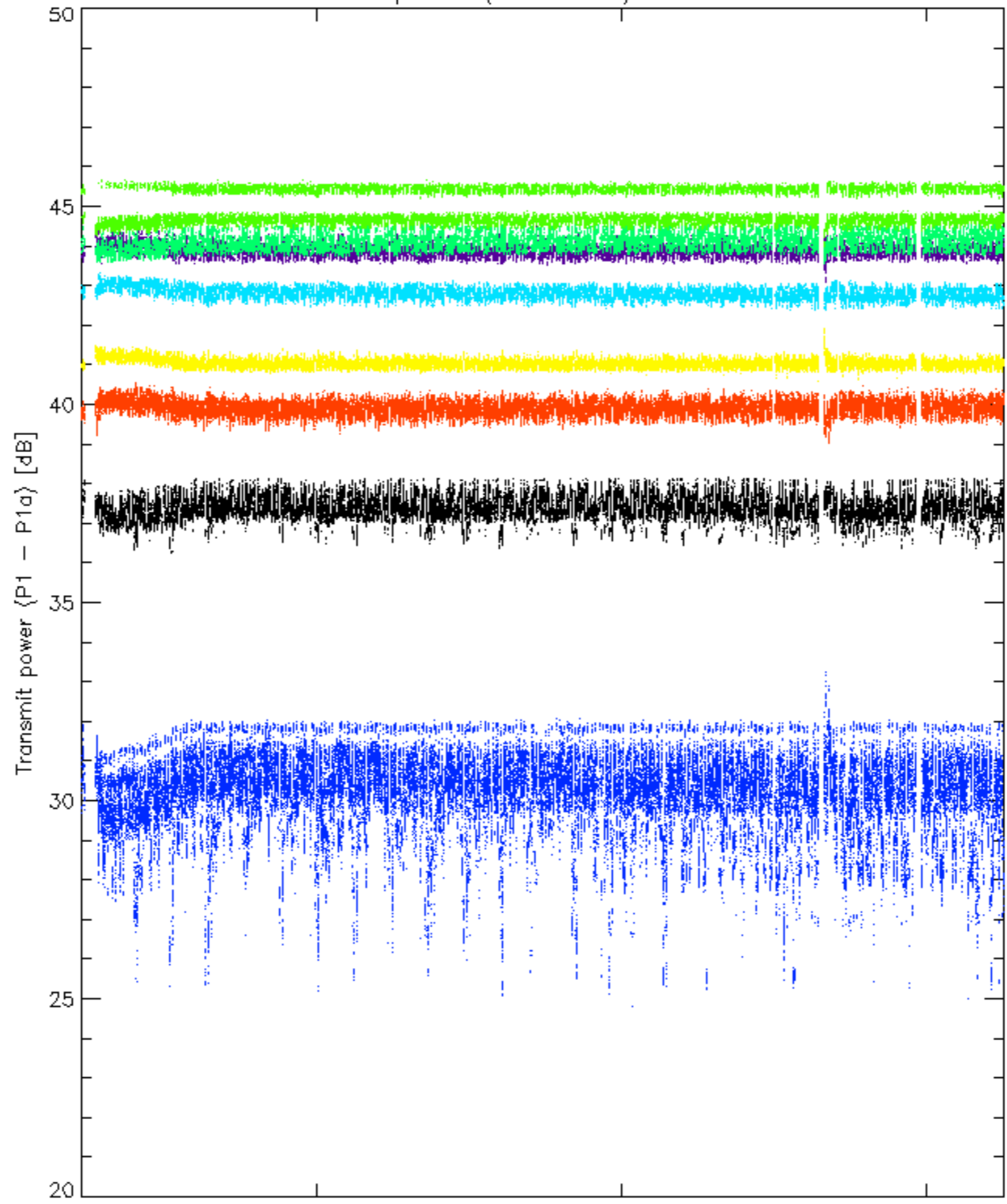


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

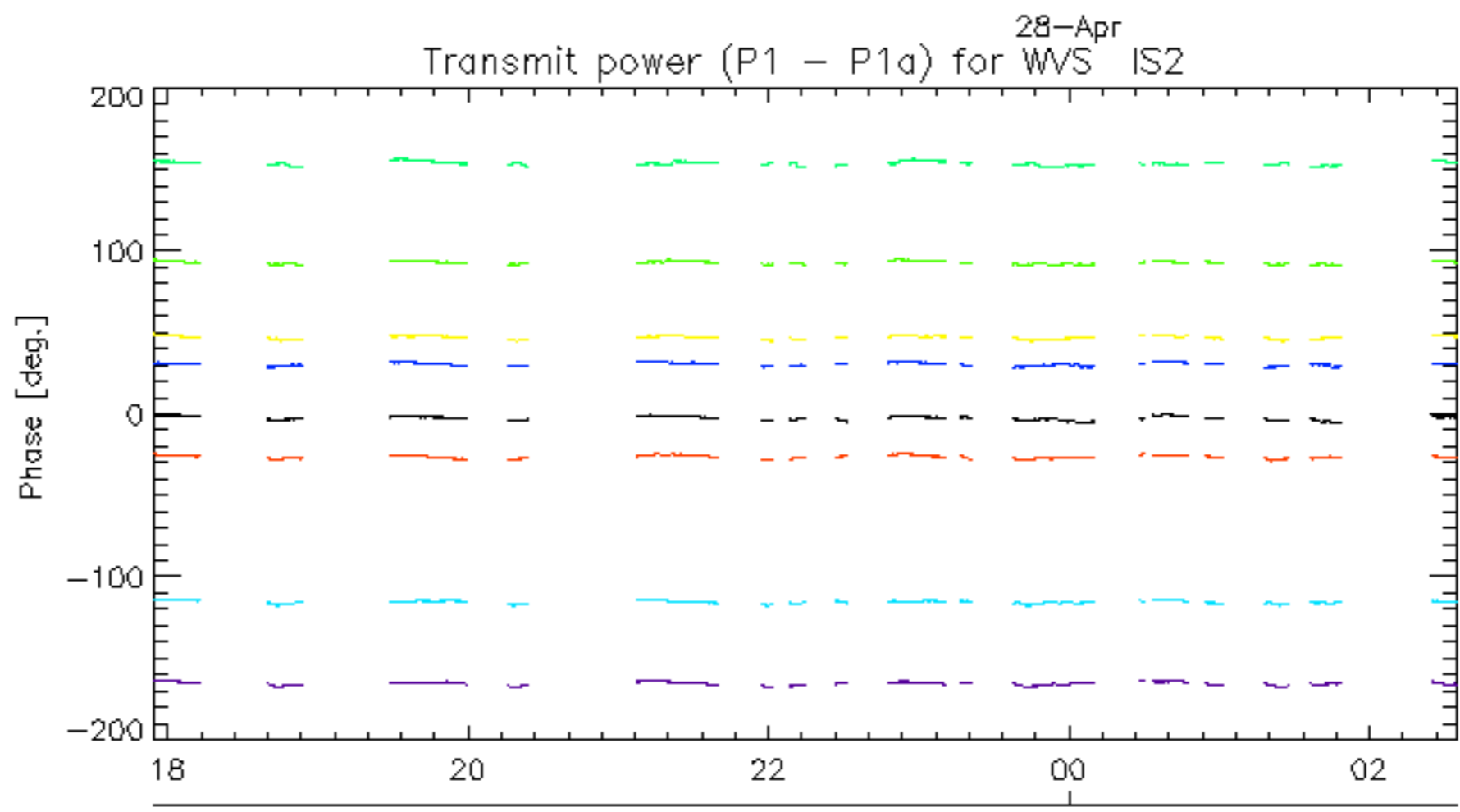
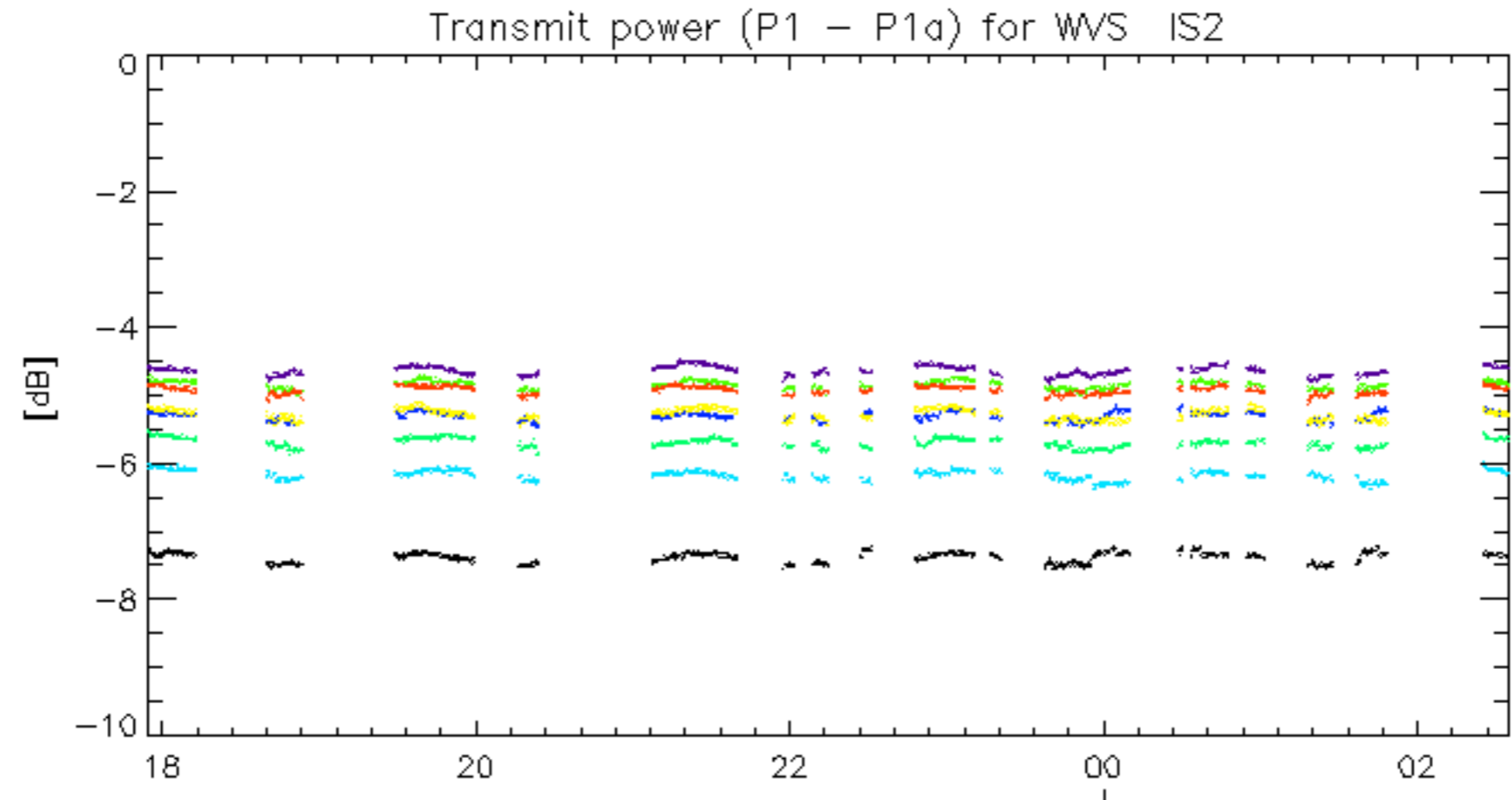


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Transmit power (P1 - P1a) for WVS IS2







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

28-Apr

No unavailabilities during the reported period.