

PRELIMINARY REPORT OF 070426

last update on Thu Apr 26 18:06:34 GMT 2007

1. [Introduction](#)
2. [Summary](#)
 - [Instrument Unavailability](#)
 - [Auxiliary files used](#)
 - [Browse Visual Inspection](#)
 - [Module Stepping Results](#)
 - [Data Analysis](#)
3. [Module Stepping](#)
4. [Internal Calibration pulses](#)
 - [Daily statistics](#)
 - [Cyclic statistics](#)
 - [cal pulses monitoring \(all rows\)](#)
5. [Raw Data Statistics](#)
 - [raw data mean I and Q](#)
 - [raw data stdev I and Q](#)
 - [raw gain imbalance](#)
6. [TLM analysis](#)
7. [Wave Doppler analysis](#)
 - [Unbiased Doppler Error for WVS](#)
 - [Absolute Doppler for WVS](#)
 - [Doppler evolution versus ANX for WVS](#)
 - [Unbiased Doppler Error for GM1](#)
 - [Absolute Doppler for GM1](#)
 - [Doppler evolution versus ANX for GM1](#)

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 2007-04-25 00:00:00 to 2007-04-26 18:06:34

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	44	60	8	1	30
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	44	60	8	1	30
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	44	60	8	1	30
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	44	60	8	1	30

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	46	71	42	11	67
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	46	71	42	11	67
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	46	71	42	11	67
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	46	71	42	11	67

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	20070425 073837
H	20070426 070700

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	-15.078593	0.147183	-0.137890
7	P1a	-17.547468	0.106108	-0.058425
11	P1a	-17.471348	0.345733	-0.764235
15	P1a	-12.983918	0.116819	-0.330159
19	P1a	-15.325276	0.069262	-0.352531
22	P1a	-15.896741	0.417374	-0.396725
26	P1a	-15.036591	0.211570	0.478356
30	P1a	-17.674324	0.330211	-0.638392

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.765818	0.010759	-0.041399
7	P1	-3.146018	0.008959	-0.003646
11	P1	-4.208532	0.012227	-0.015991
15	P1	-6.401595	0.019245	-0.121650
19	P1	-3.785149	0.010627	0.049881
22	P1	-4.747313	0.009370	-0.034130
26	P1	-3.920621	0.019401	0.095945
30	P1	-5.967379	0.009501	0.029858

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.660896	0.090326	-0.021145
7	P2	-21.564539	0.087642	0.118304
11	P2	-15.361479	0.115686	0.221394
15	P2	-7.124504	0.088476	-0.011585
19	P2	-9.116467	0.079792	0.033657
22	P2	-18.085712	0.076867	0.023350
26	P2	-16.614651	0.081123	-0.051988
30	P2	-19.279053	0.082396	0.051533

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.244018	0.005445	-0.000578
7	P3	-8.244018	0.005445	-0.000578
11	P3	-8.244018	0.005445	-0.000578
15	P3	-8.244018	0.005445	-0.000578
19	P3	-8.244018	0.005445	-0.000578
22	P3	-8.244018	0.005445	-0.000578
26	P3	-8.244018	0.005445	-0.000578
30	P3	-8.244018	0.005445	-0.000578

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	-11.199057	0.143715	-0.118103
7	P1a	-10.069437	0.224159	-0.033945
11	P1a	-10.688341	0.108029	0.060698
15	P1a	-10.843837	0.174429	0.081033
19	P1a	-15.795932	0.092589	-0.062681
22	P1a	-21.382996	1.446766	-0.630723
26	P1a	-15.499087	0.384050	-0.318029
30	P1a	-18.310472	0.471664	0.320403

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-8.453053	0.057133	-0.008841
7	P1	-2.413433	0.125430	0.036560
11	P1	-2.891617	0.027589	0.065352
15	P1	-3.820488	0.039260	0.053969
19	P1	-3.585490	0.014836	-0.013678
22	P1	-4.973717	0.023620	0.094444
26	P1	-6.033306	0.029030	-0.028570
30	P1	-5.335694	0.034324	-0.011281

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.174004	0.066226	-0.076787
7	P2	-22.036051	0.221087	-0.021859
11	P2	-10.632729	0.046536	-0.019490
15	P2	-4.919199	0.041511	-0.090211
19	P2	-6.868247	0.040391	-0.029858
22	P2	-8.111112	0.101334	0.006271
26	P2	-24.321487	0.163461	-0.036171
30	P2	-21.713625	0.115127	0.054782

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.091172	0.004992	-0.006340
7	P3	-8.091162	0.004998	-0.005720
11	P3	-8.090966	0.004992	-0.006151
15	P3	-8.090898	0.004995	-0.006291
19	P3	-8.091063	0.005017	-0.005966
22	P3	-8.090987	0.004976	-0.005605
26	P3	-8.091038	0.004998	-0.005586
30	P3	-8.090924	0.004993	-0.005645

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	0.000543508
	stdev	2.01124e-07
MEAN Q	mean	0.000493419
	stdev	2.43772e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.135504
	stdev	0.00122542
STDEV Q	mean	0.135894
	stdev	0.00124293



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2007042[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_1PNPDK20070424_070914_000005242057_00307_26914_0654.N1	0	16
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_WSM_1PNPDE20070426_000621_000002022057_00331_26938_7094.N1	0	31
ASA_APM_1PNPDE20070424_021349_000000402057_00304_26911_4412.N1	13	0
ASA_APM_1PNPDE20070426_011026_000001332057_00332_26939_7224.N1	6	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

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"/>

7.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)

Ascending

Descending

7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

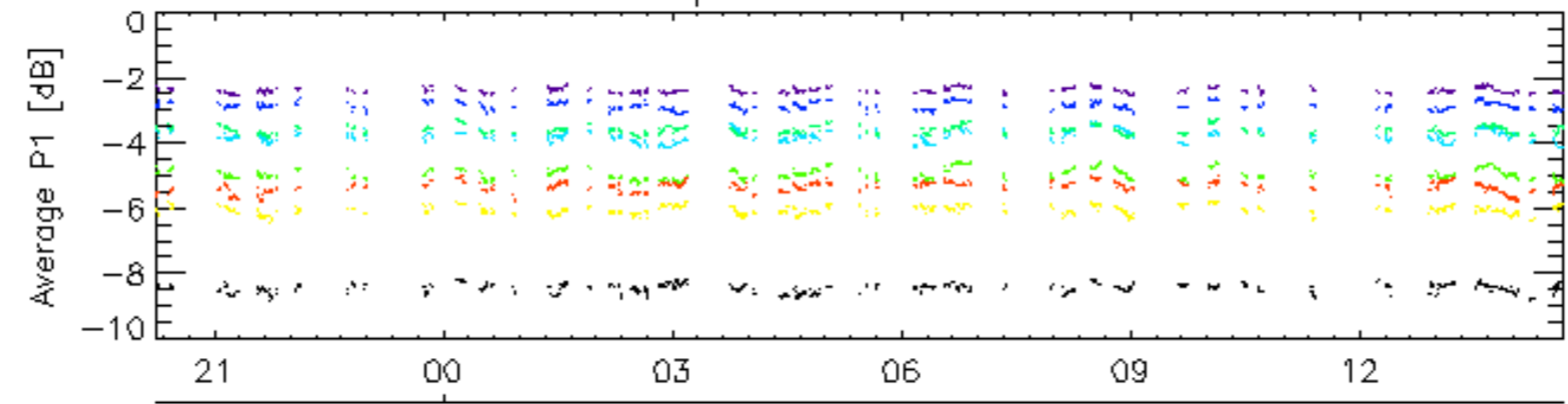
Ascending

Descending

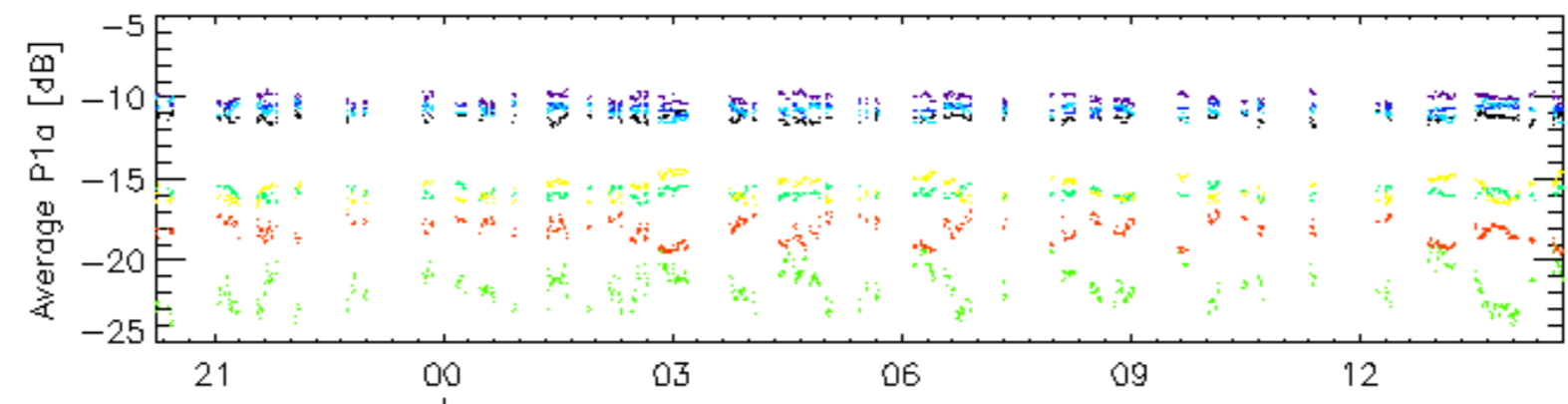
7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

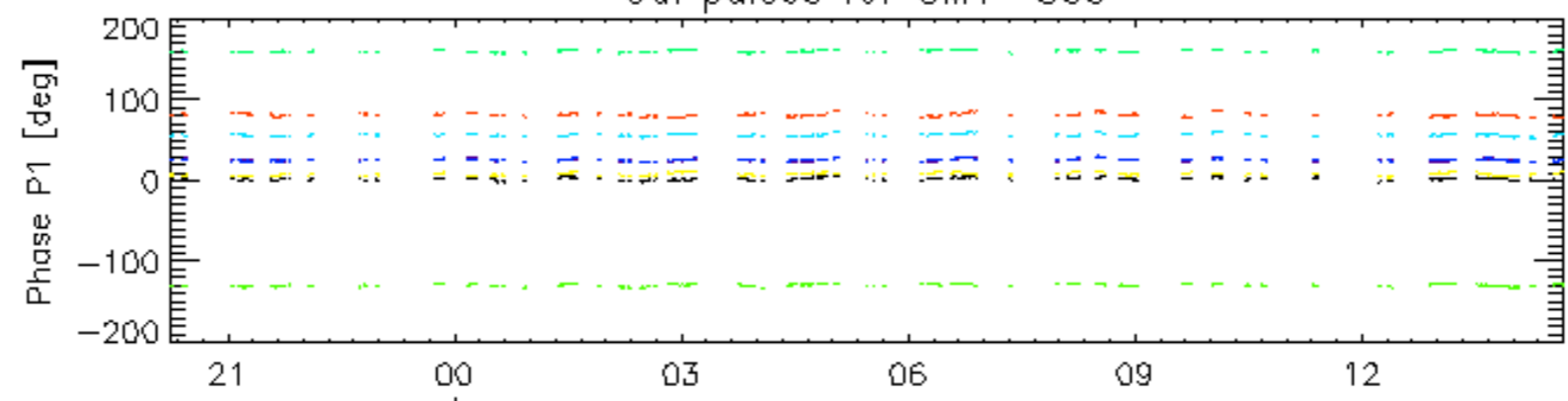


26-Apr

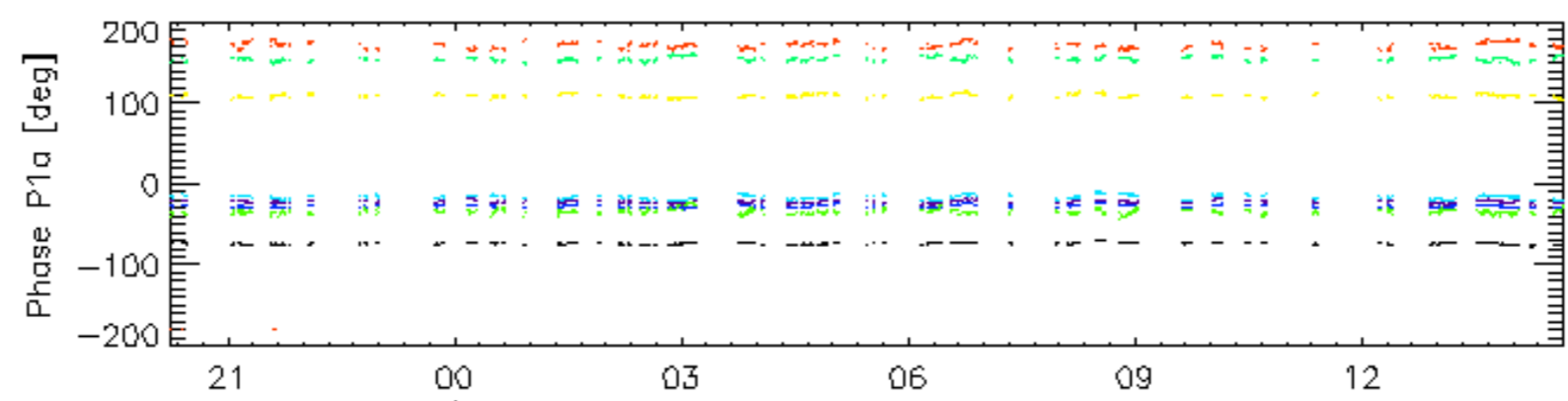


26-Apr

Cal pulses for GM1 SS3

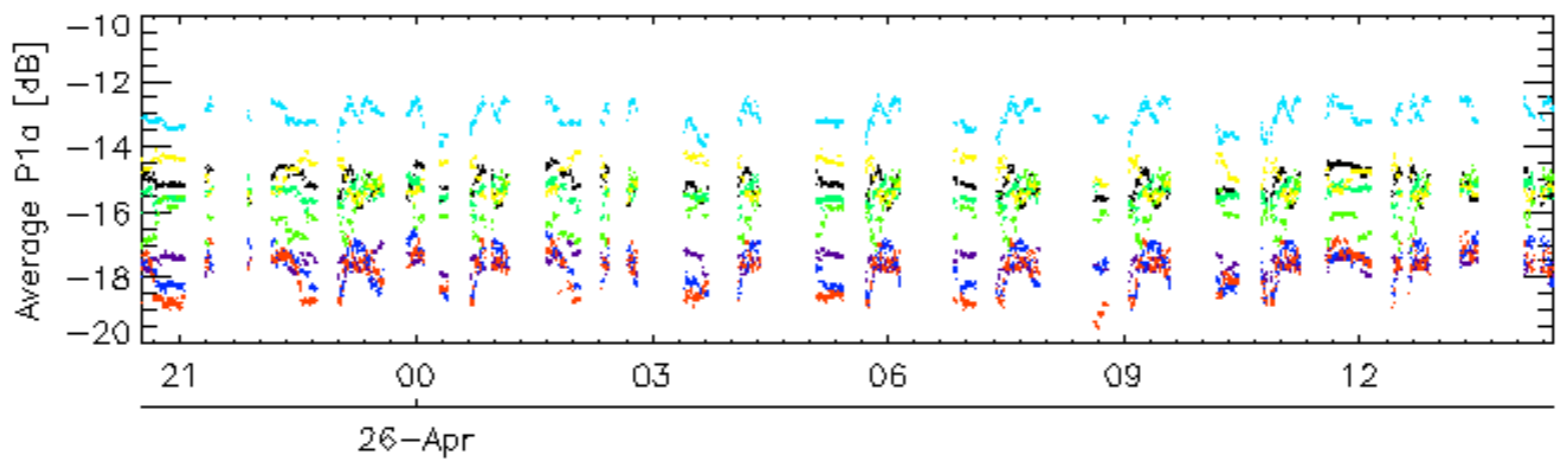
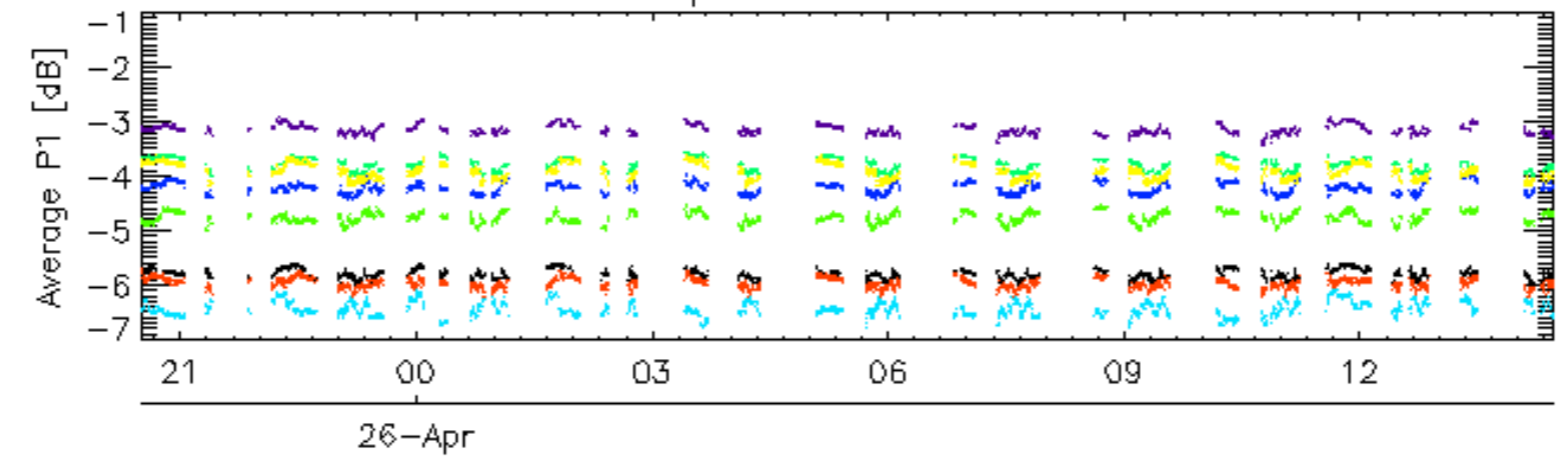


26-Apr

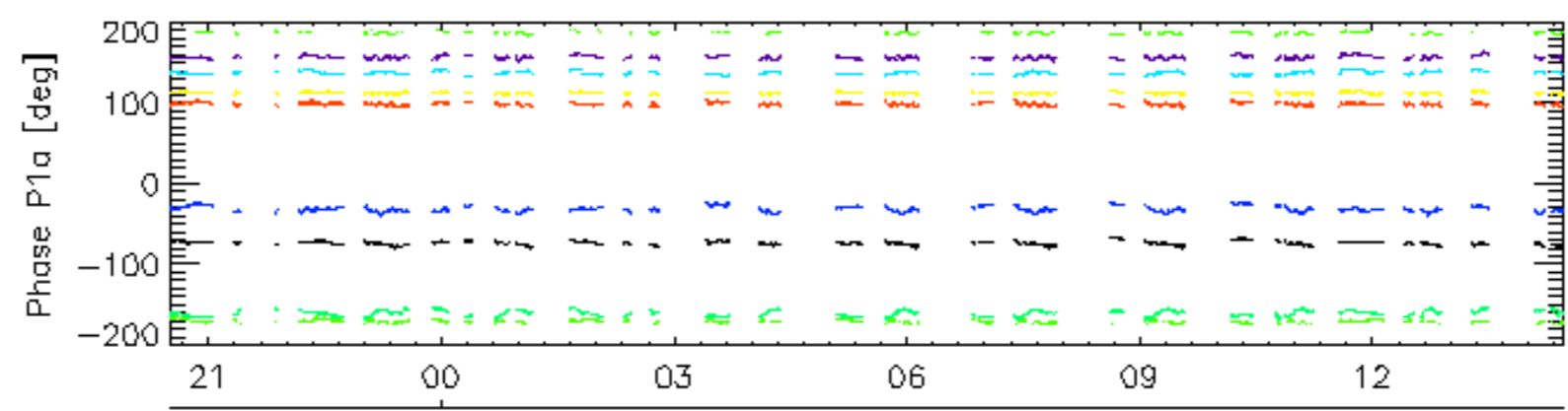
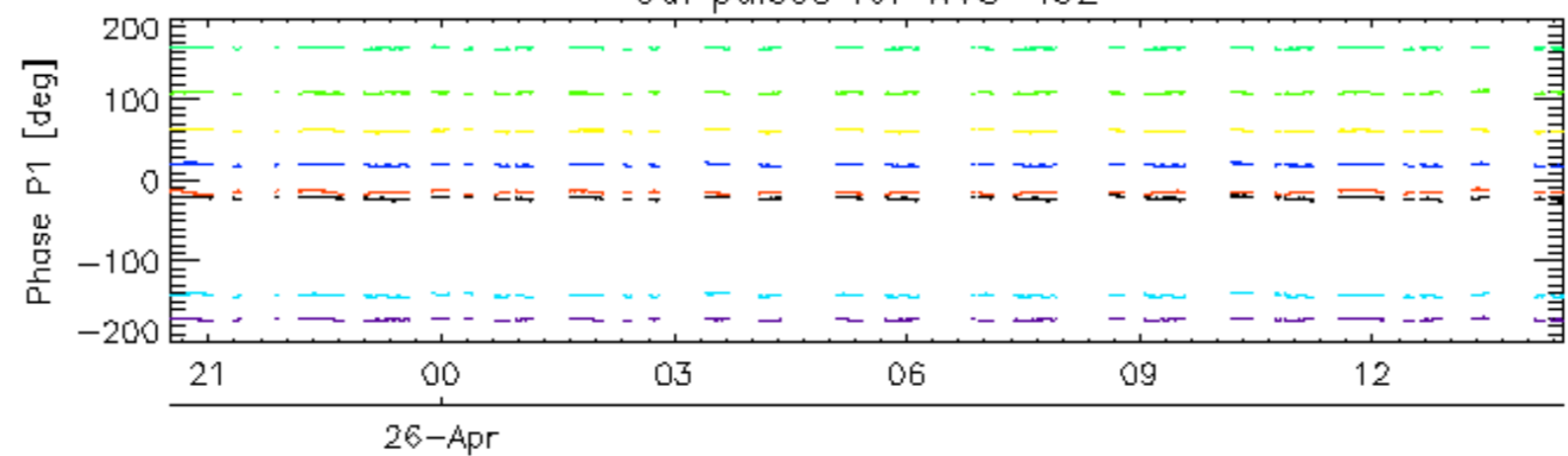


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

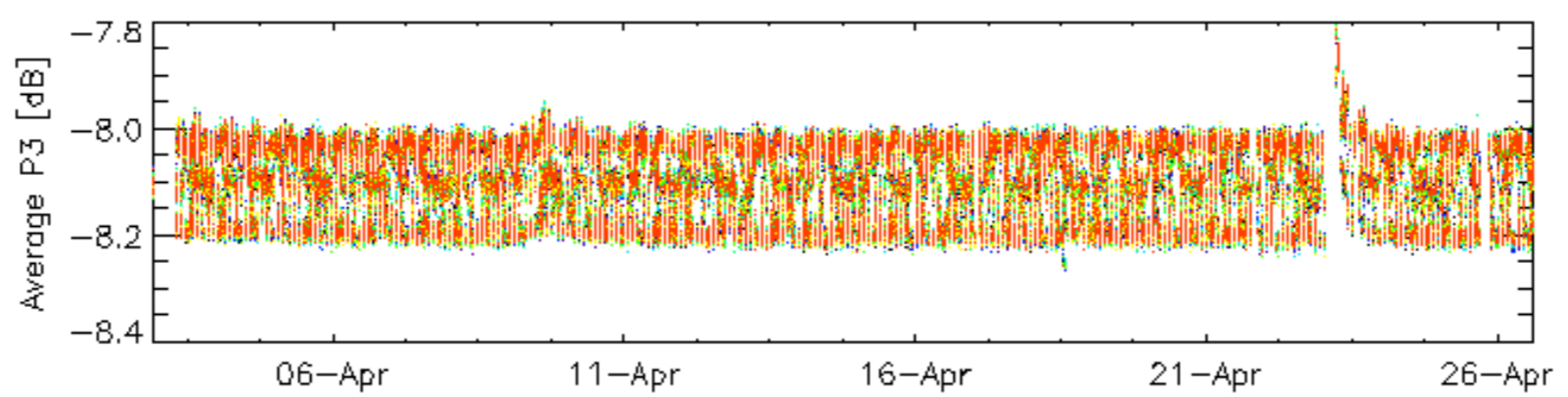
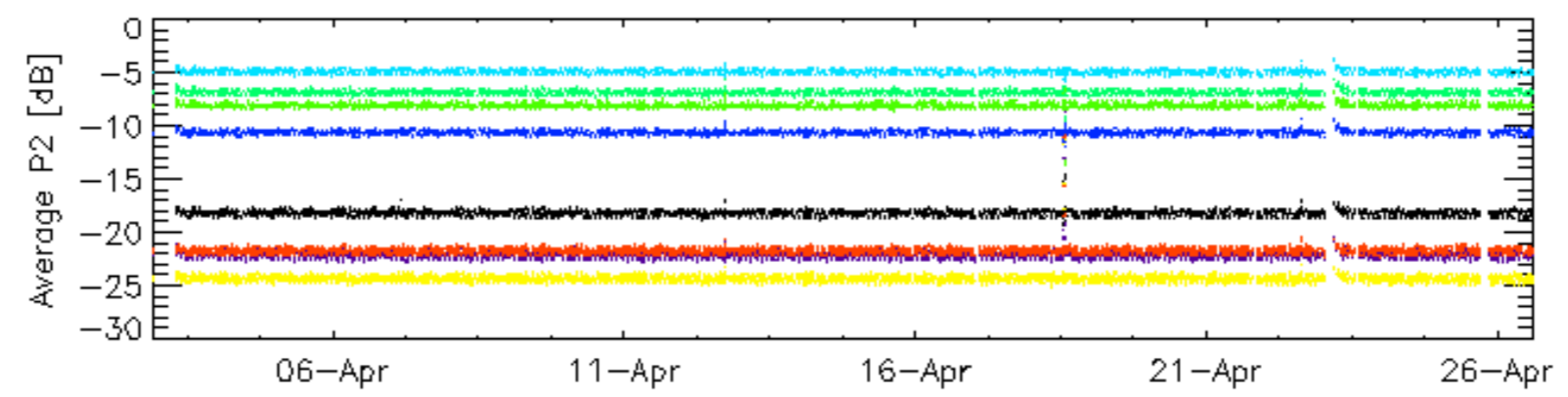
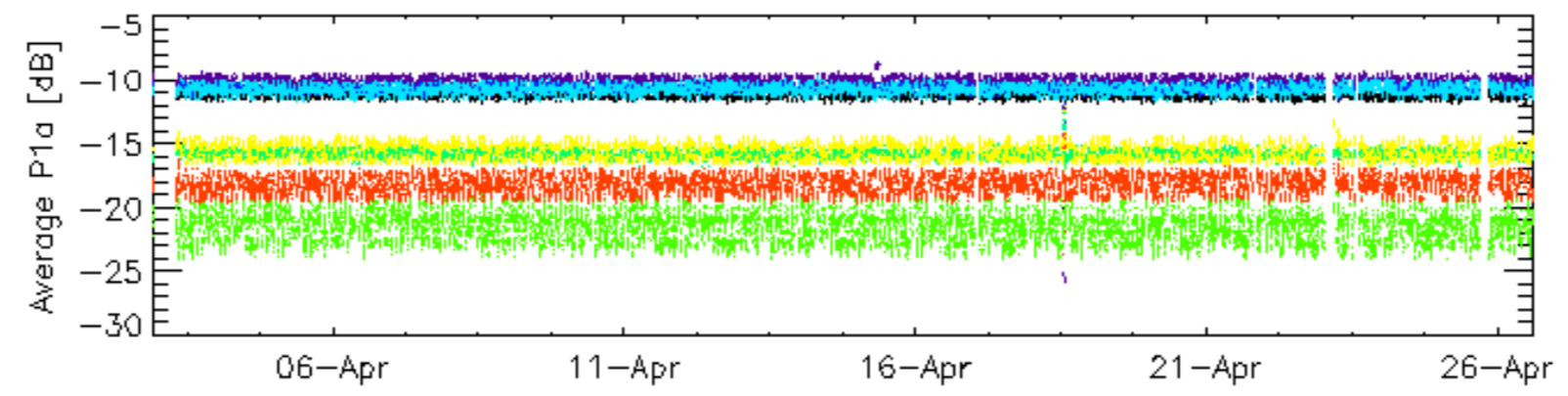
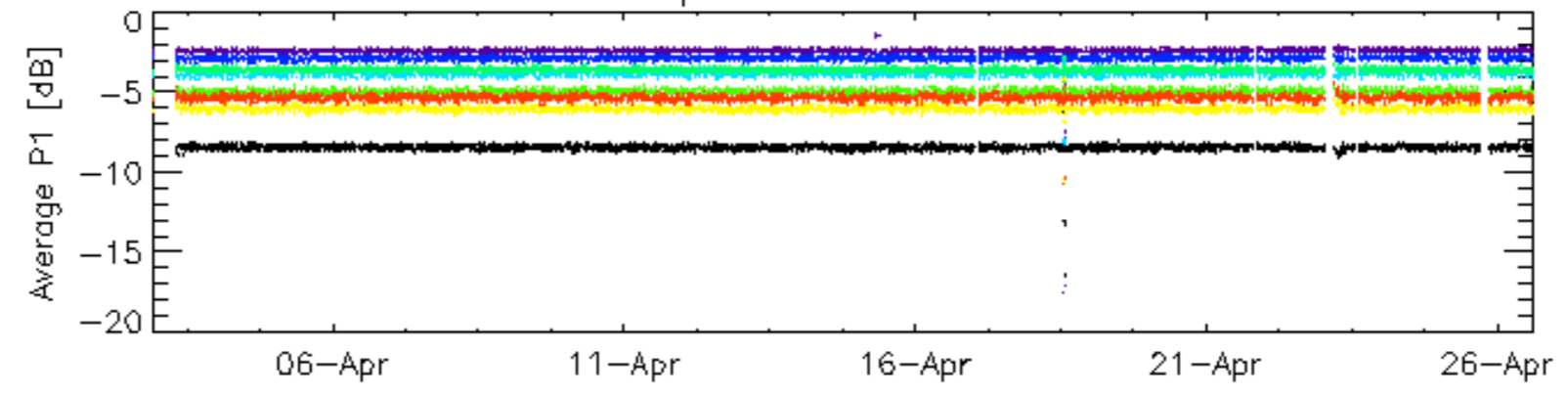


Cal pulses for WVS IS2



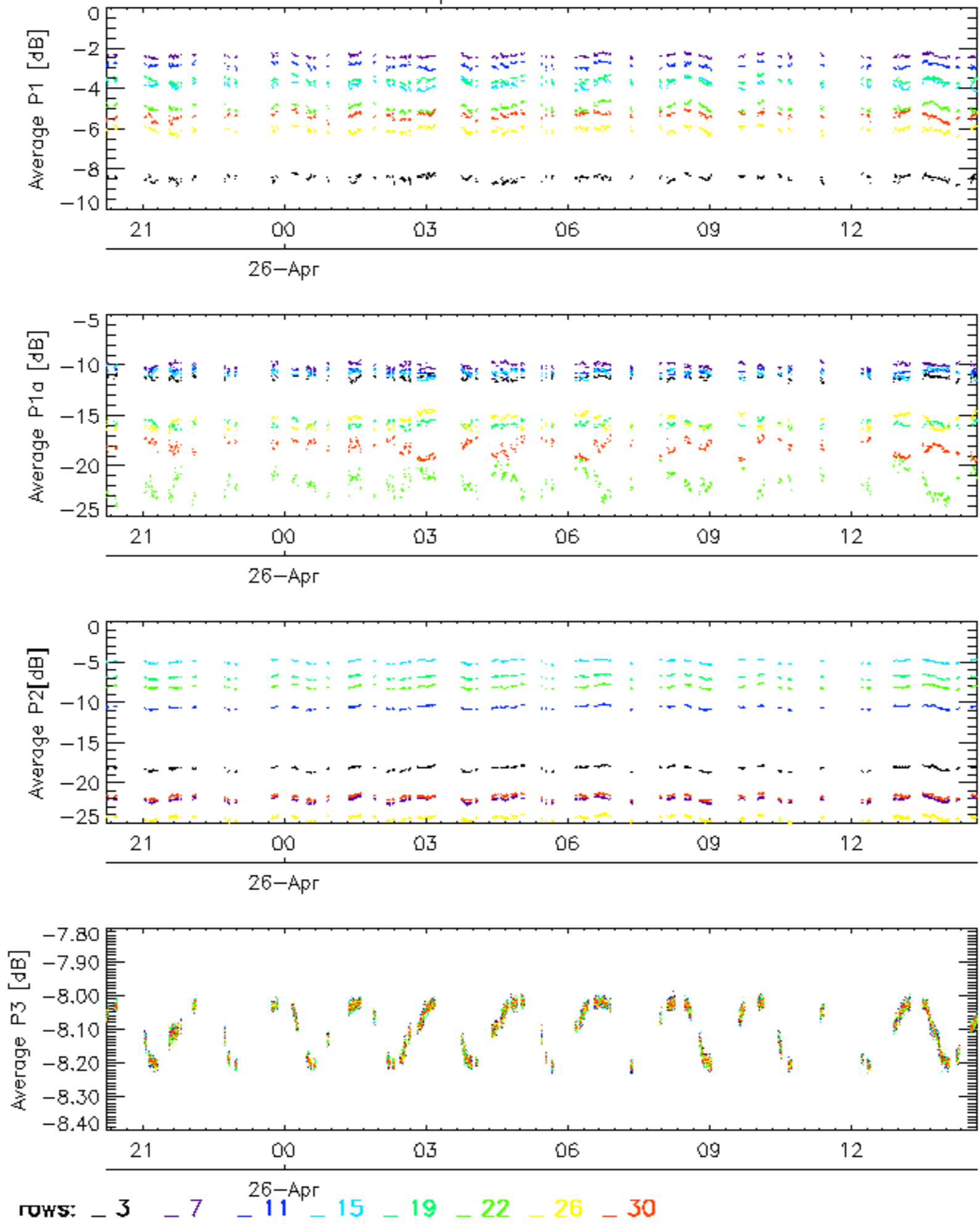
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

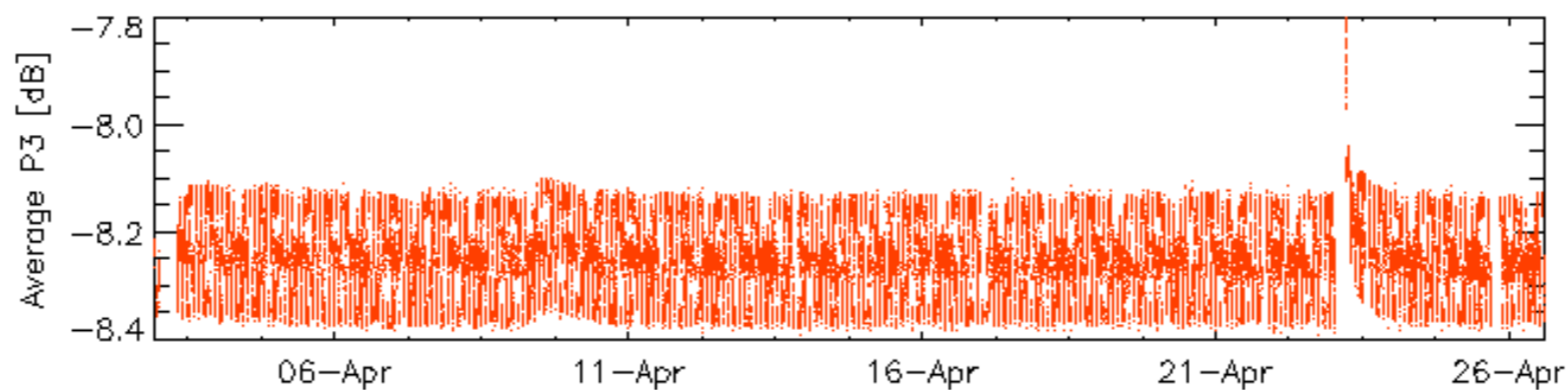
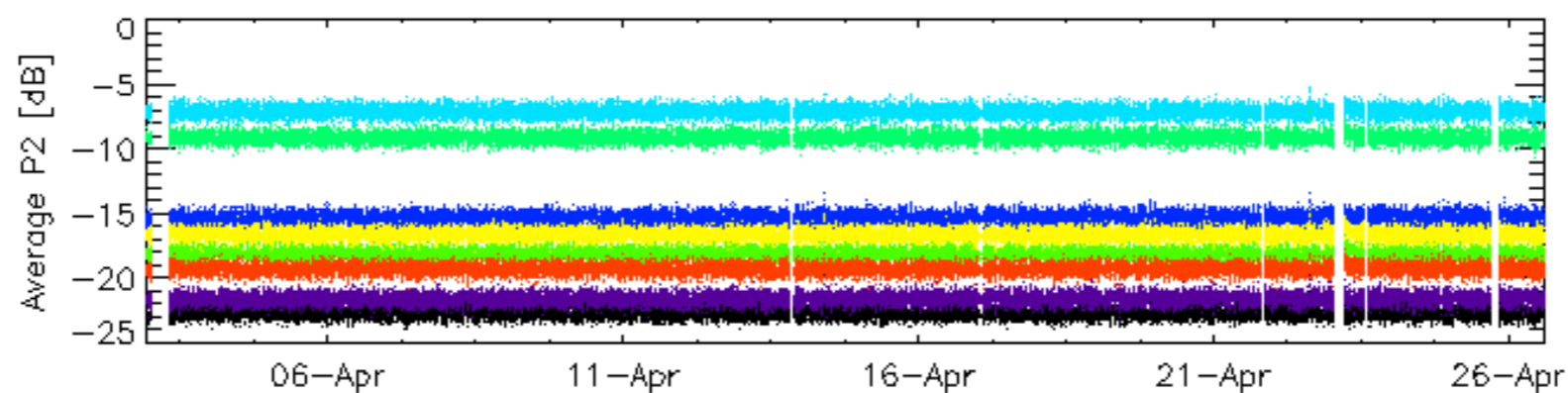
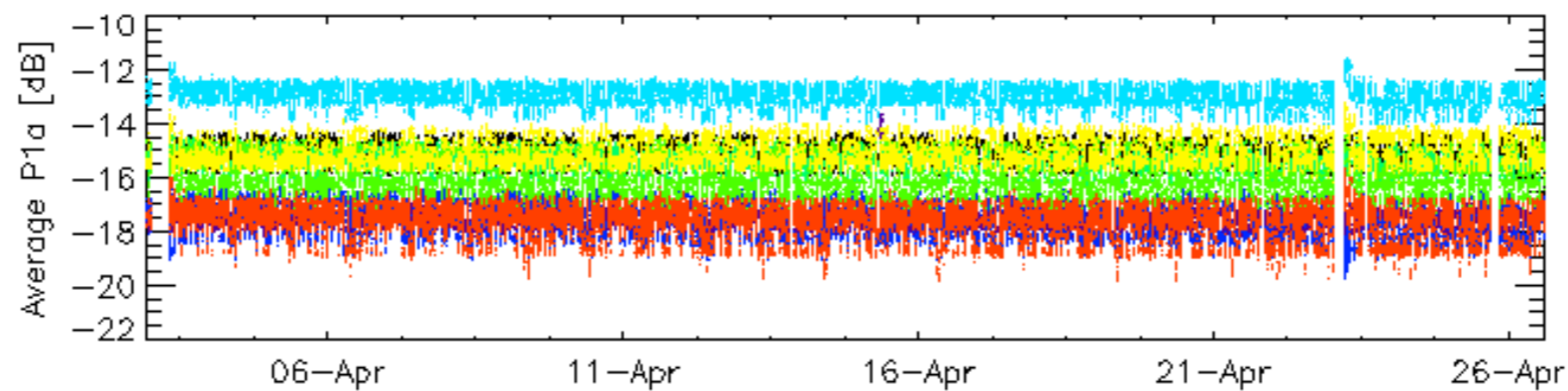
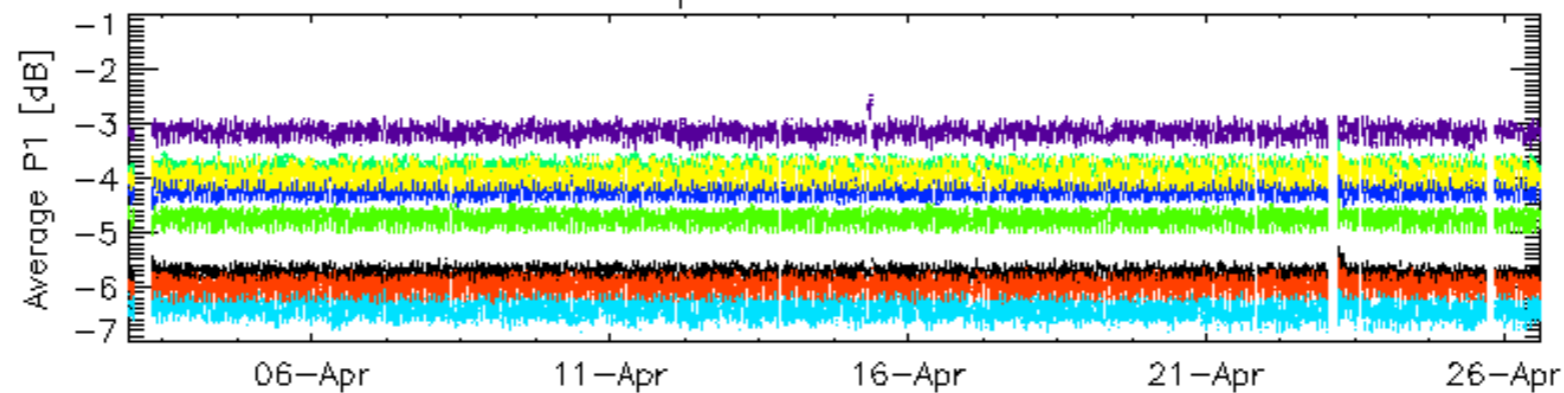


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

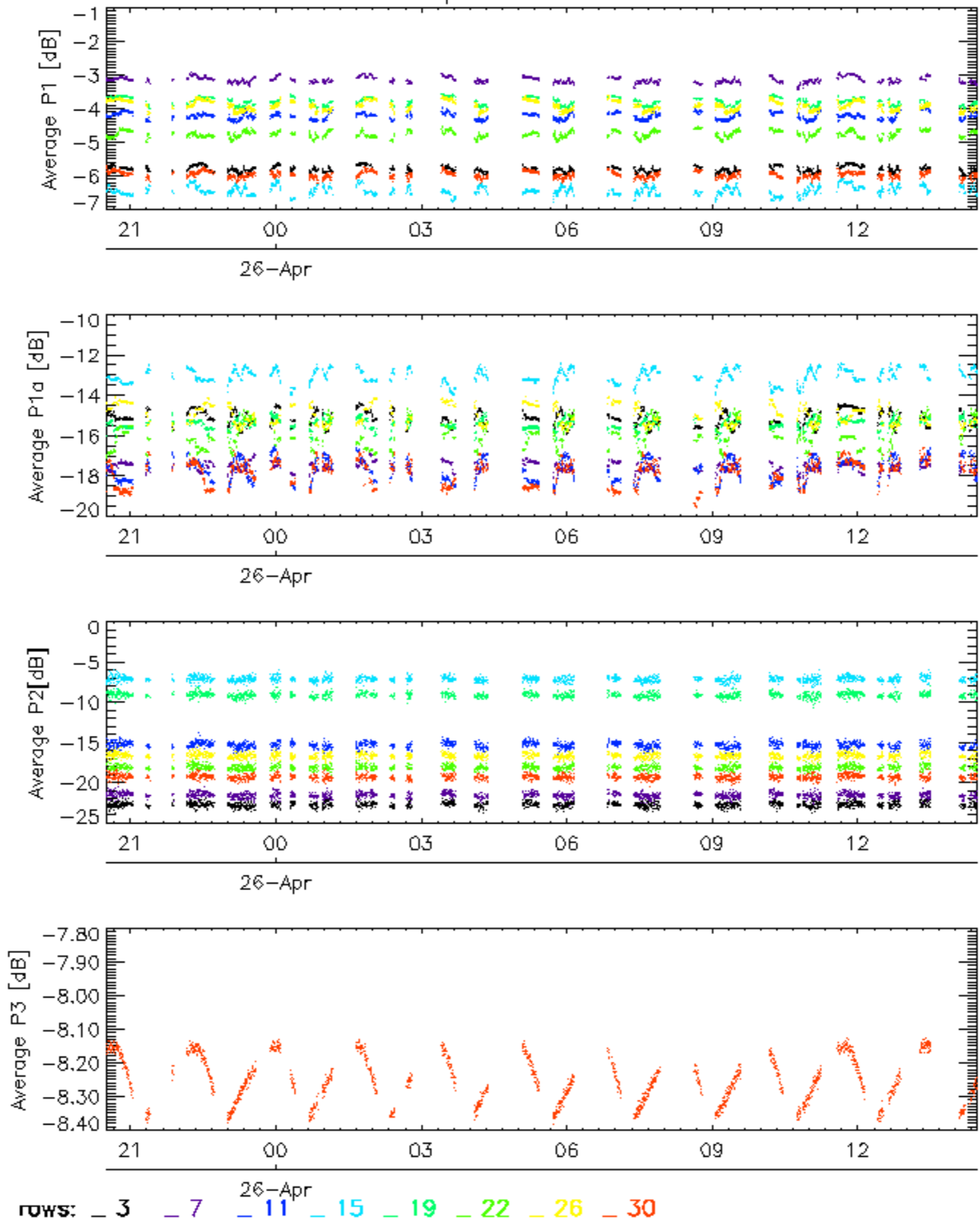


Cal pulses for WVS IS2

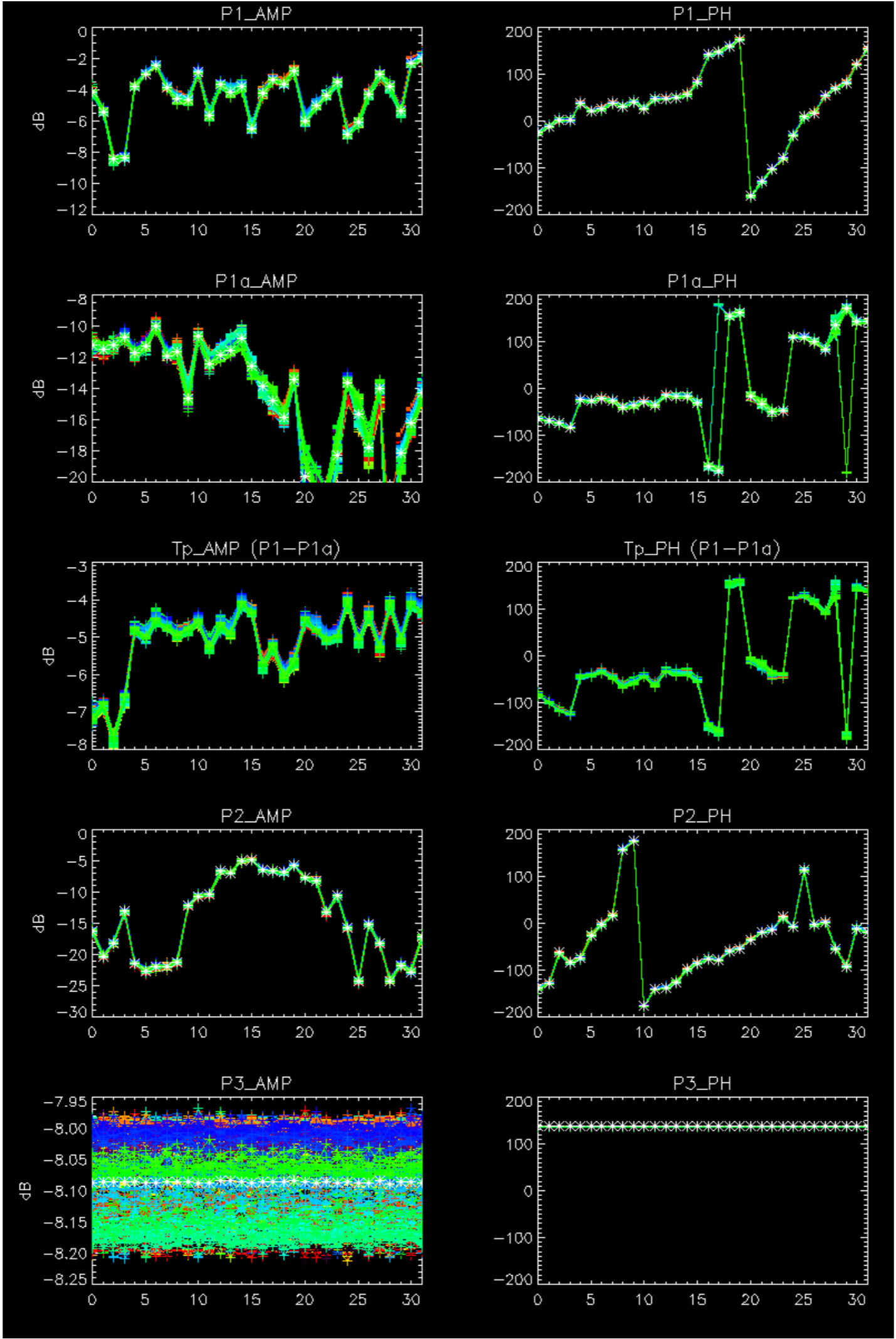


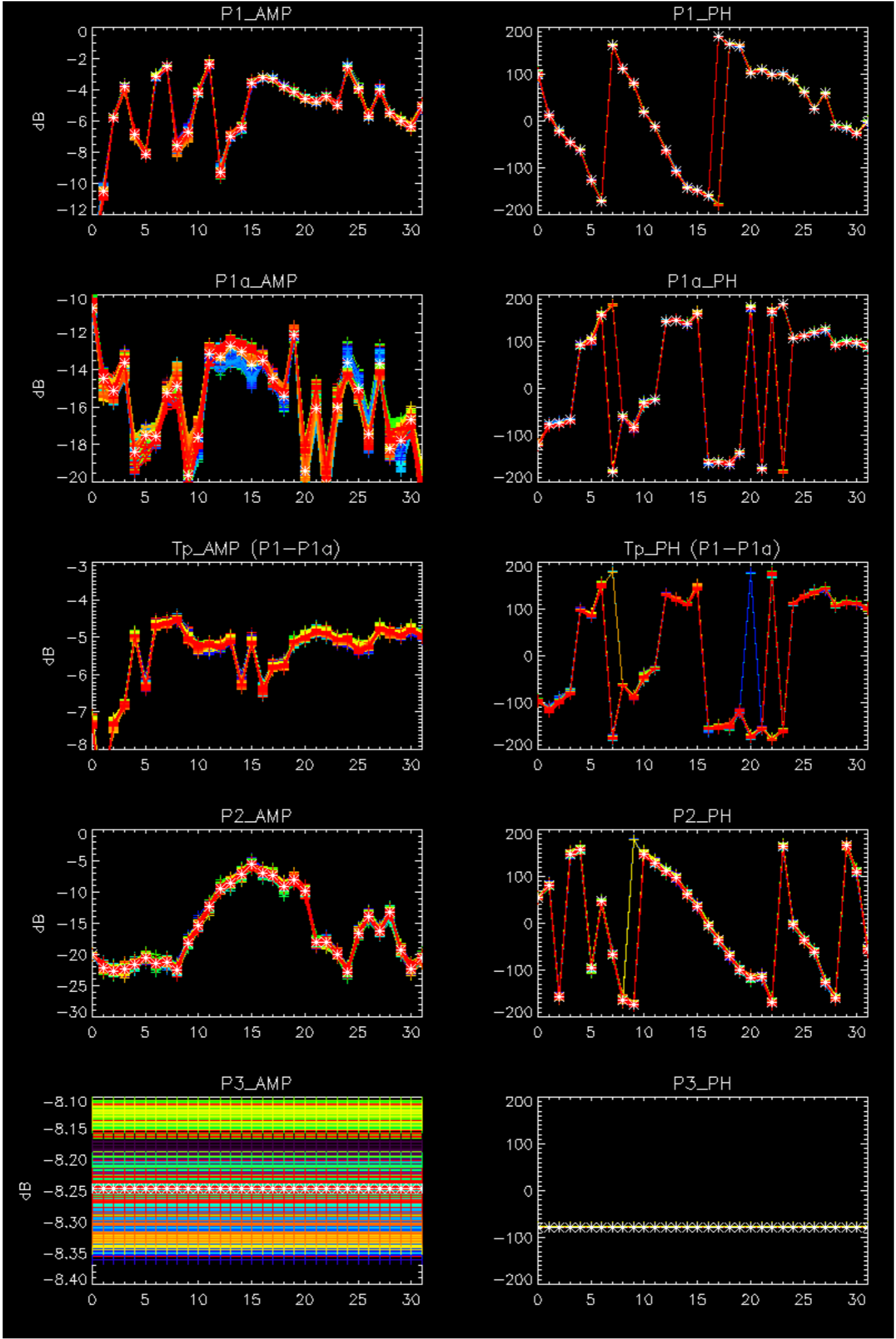
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



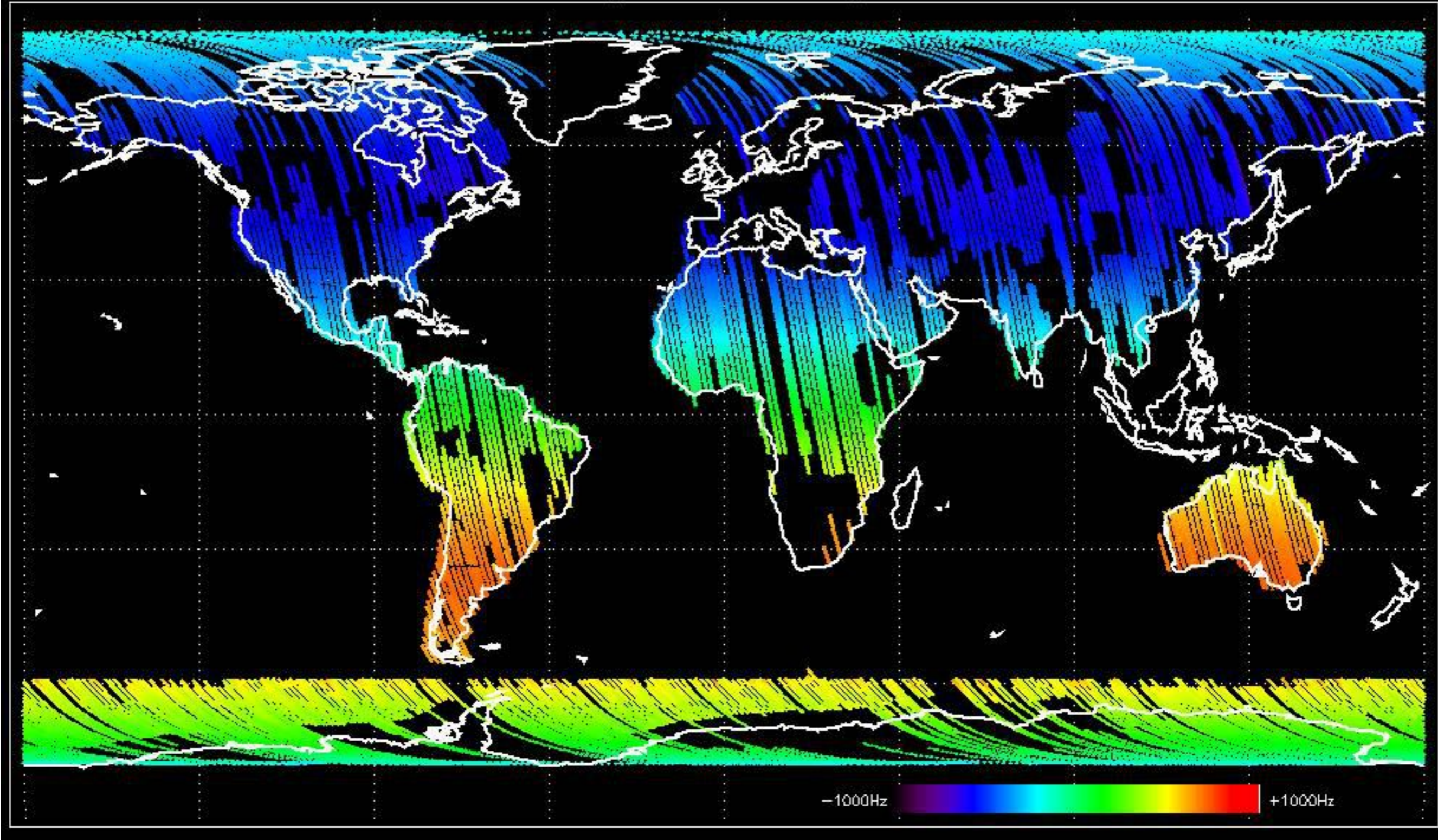
No anomalies observed.



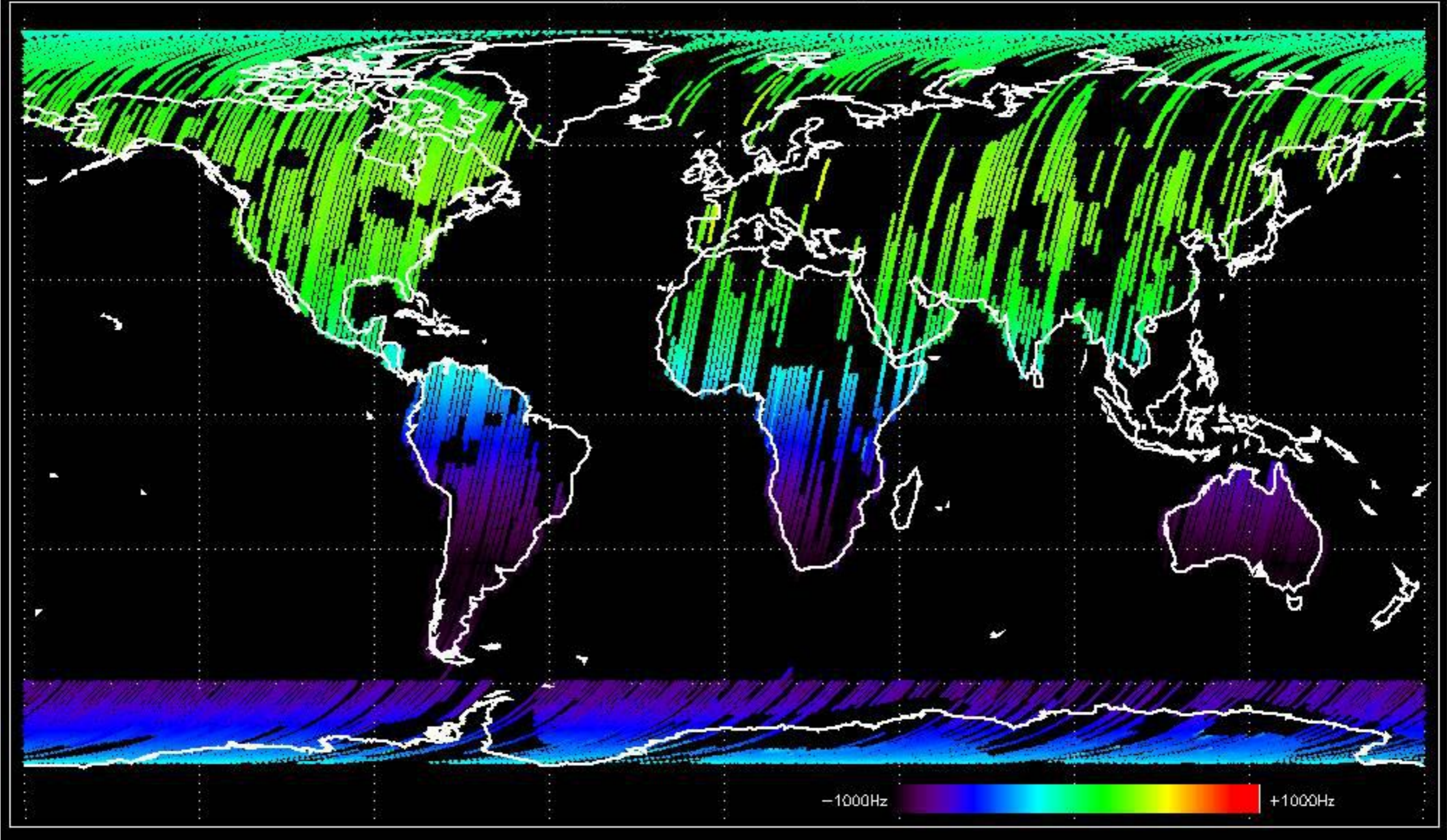


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

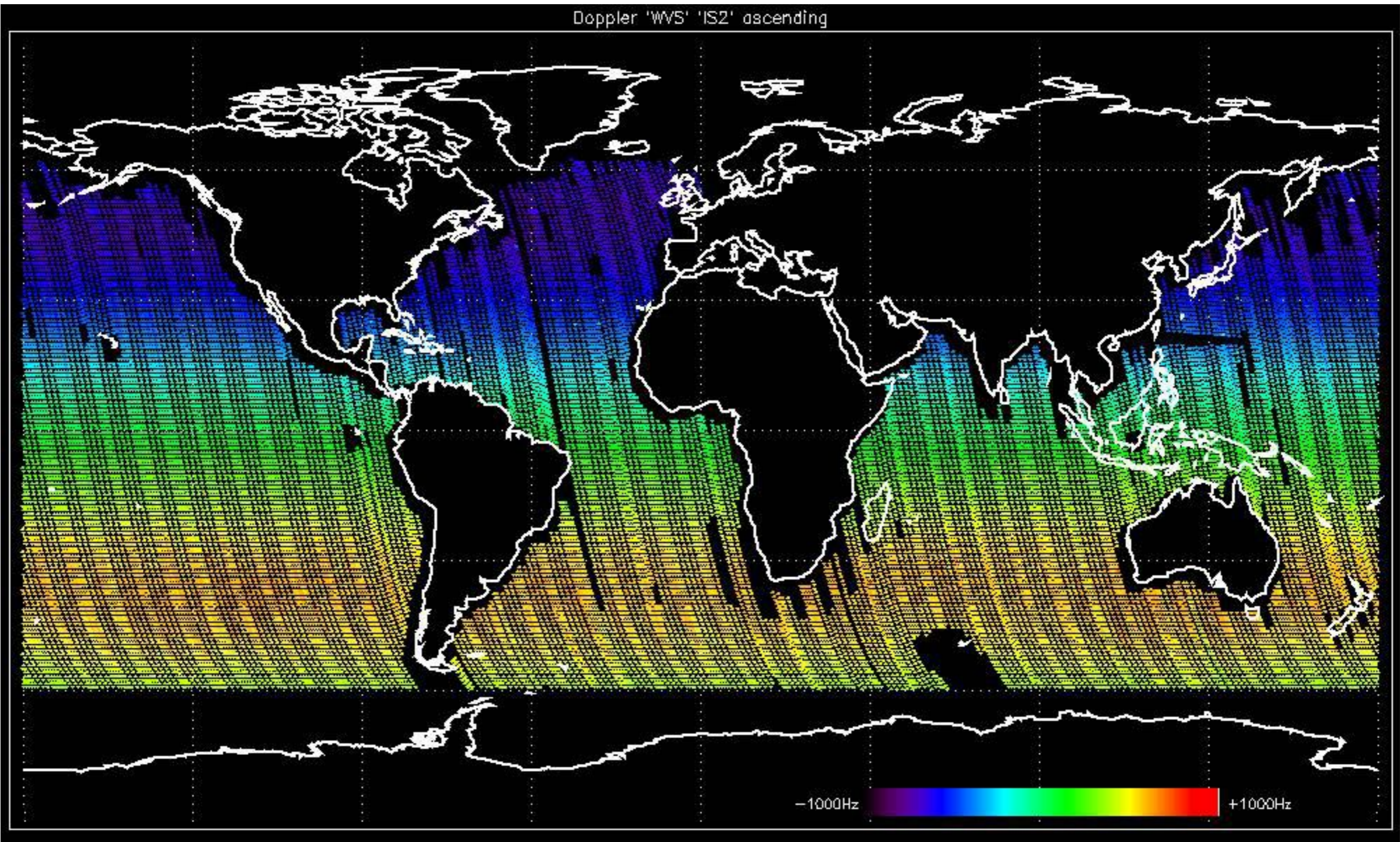
Doppler 'GM1' 'SS1' ascending



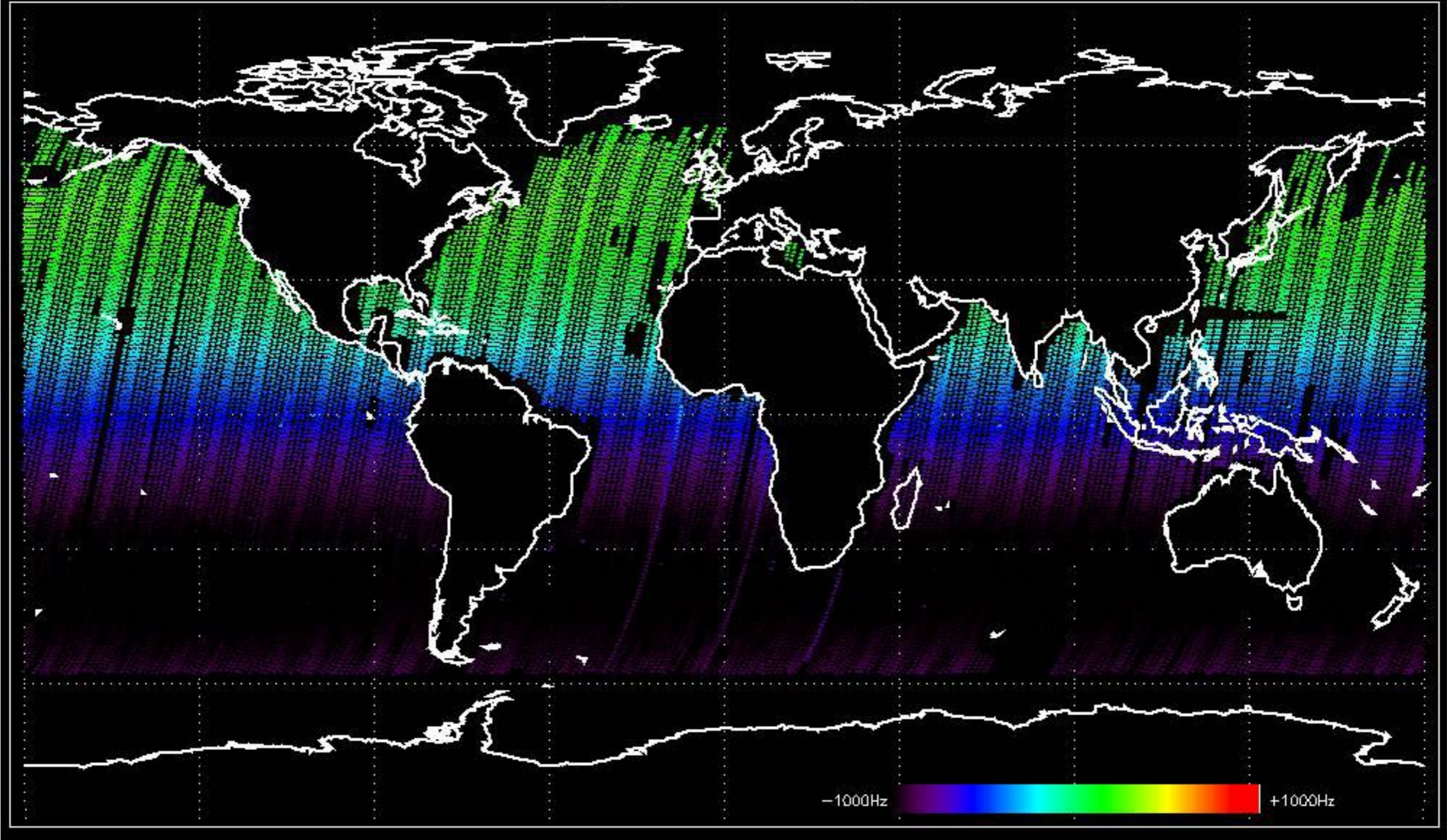
Doppler 'GM1' 'SS1' descending



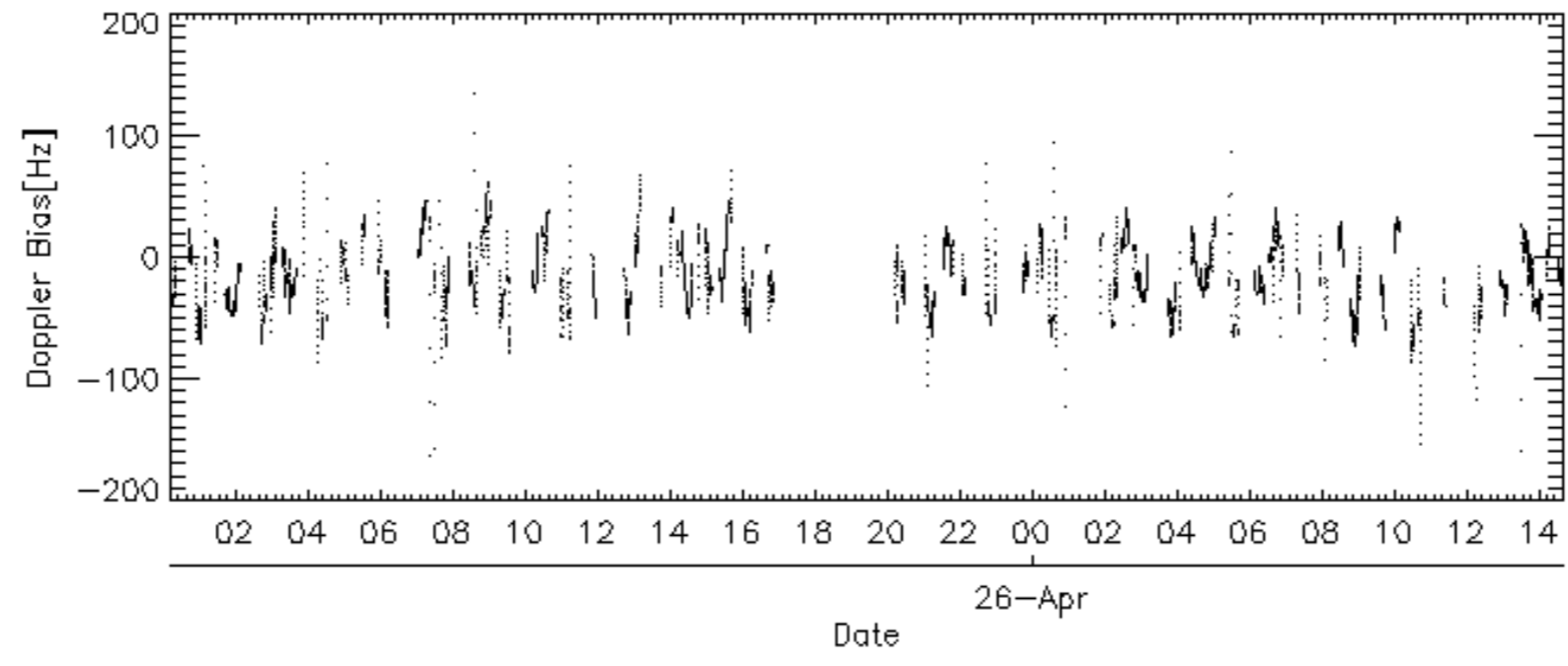
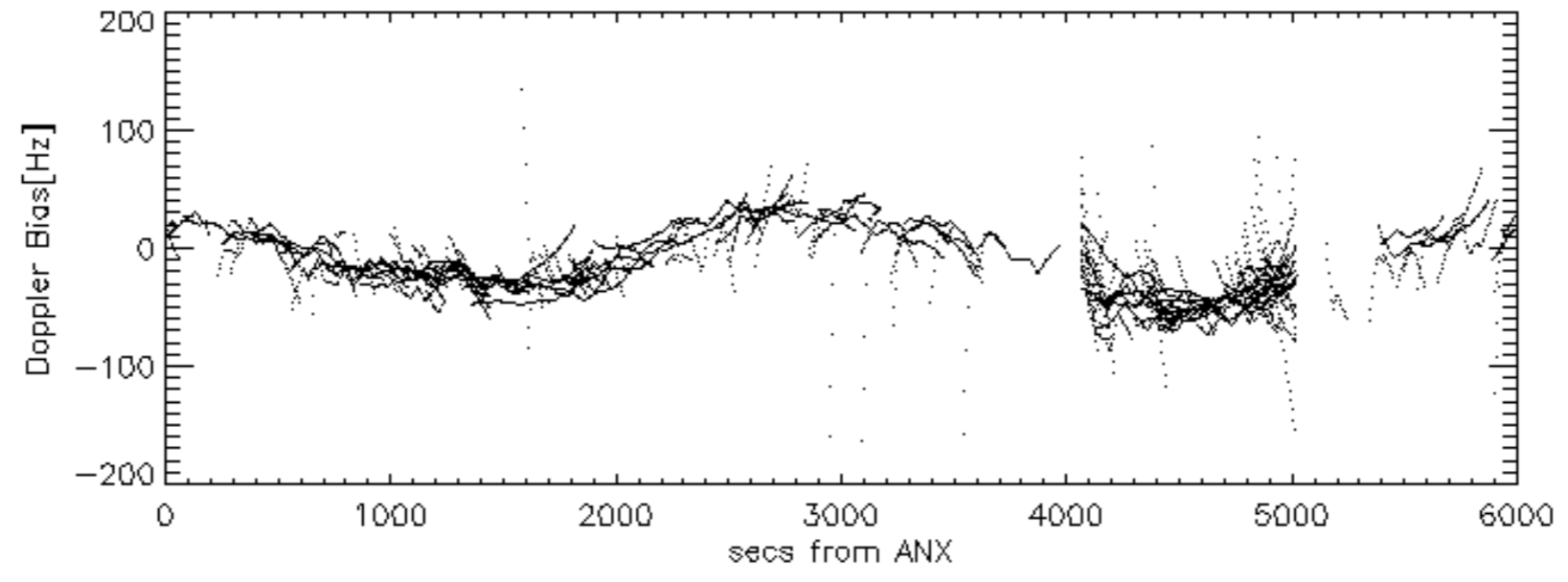
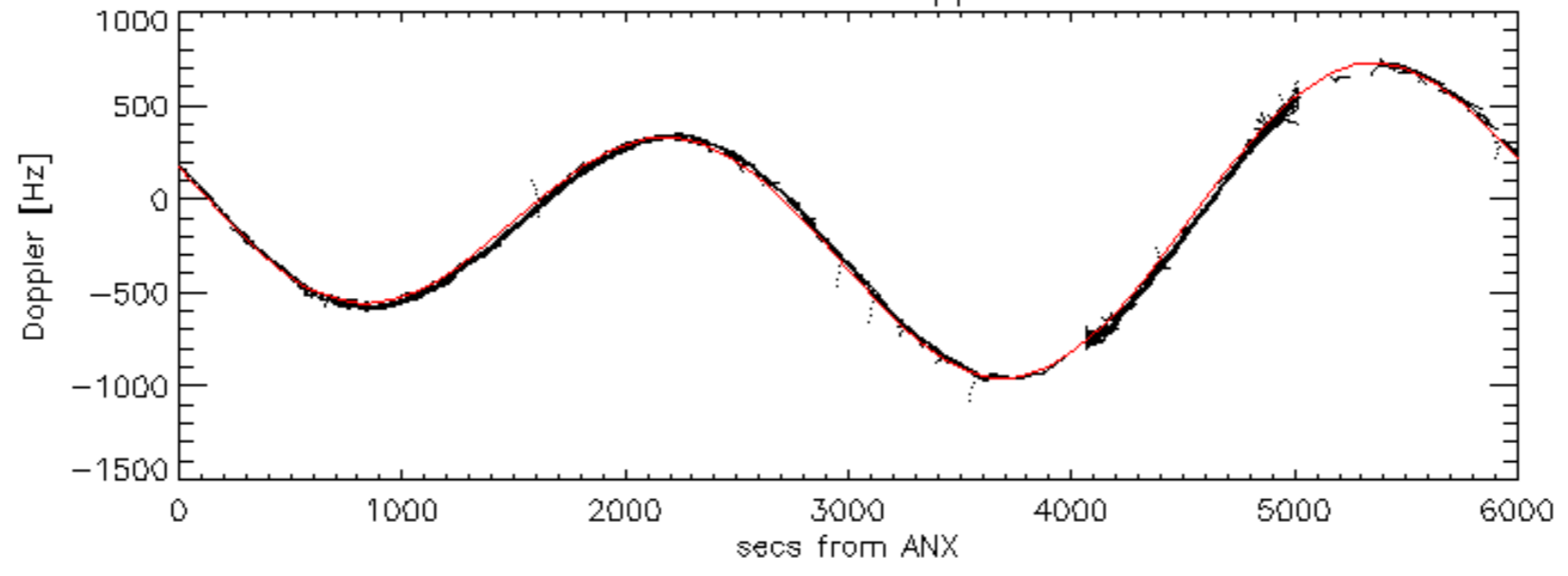
Doppler 'WVS' 'IS2' ascending

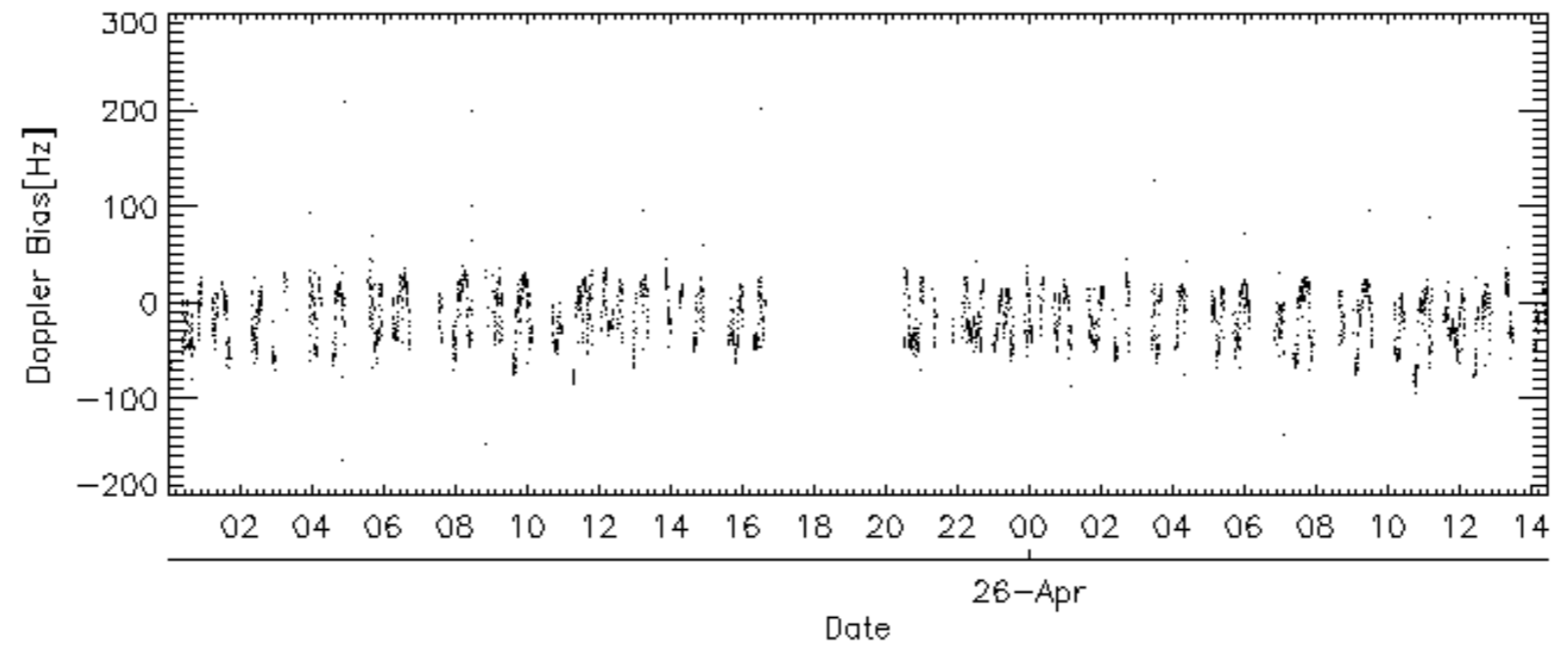
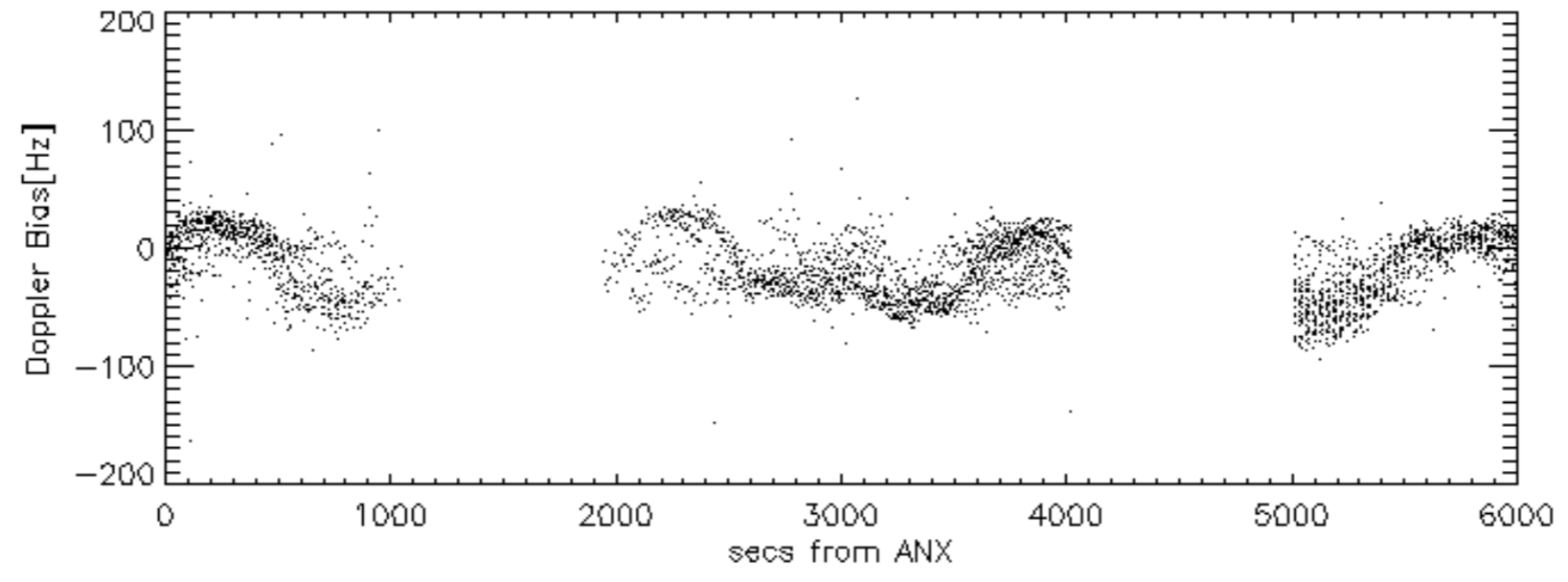
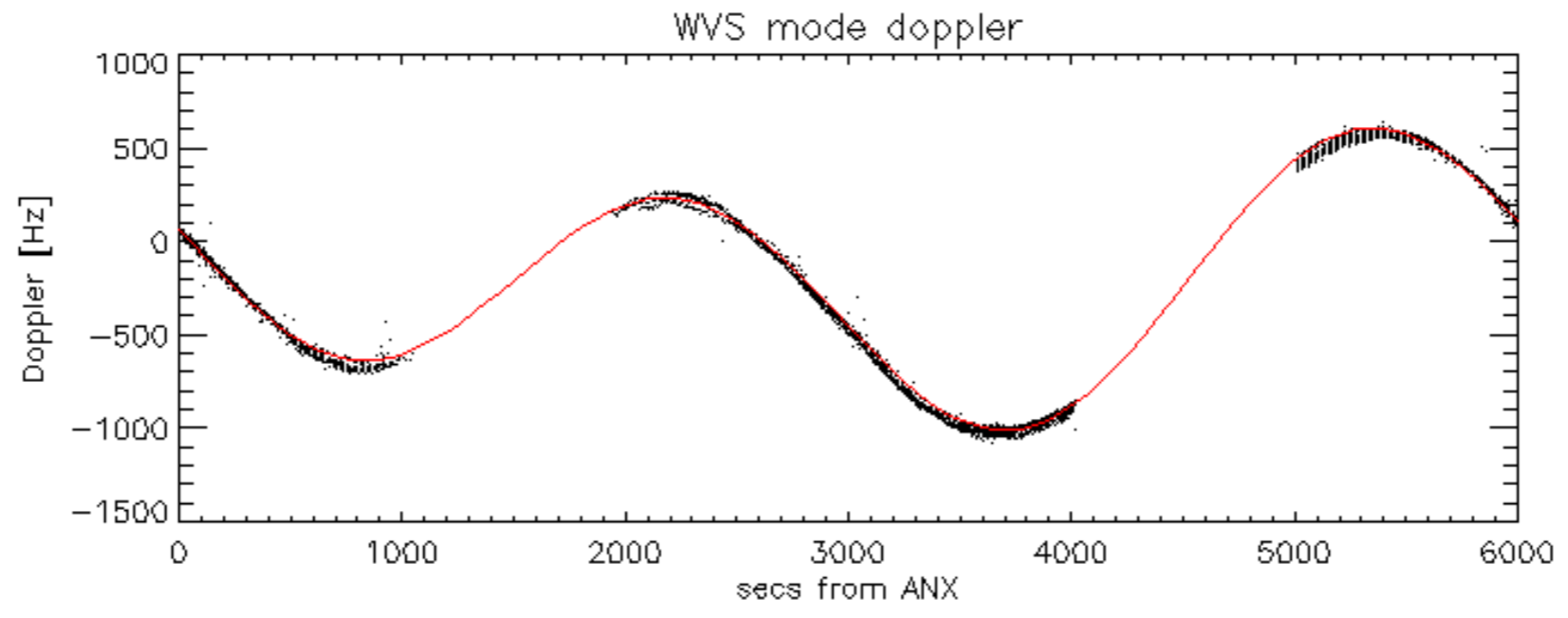


Doppler 'WVS' 'IS2' descending

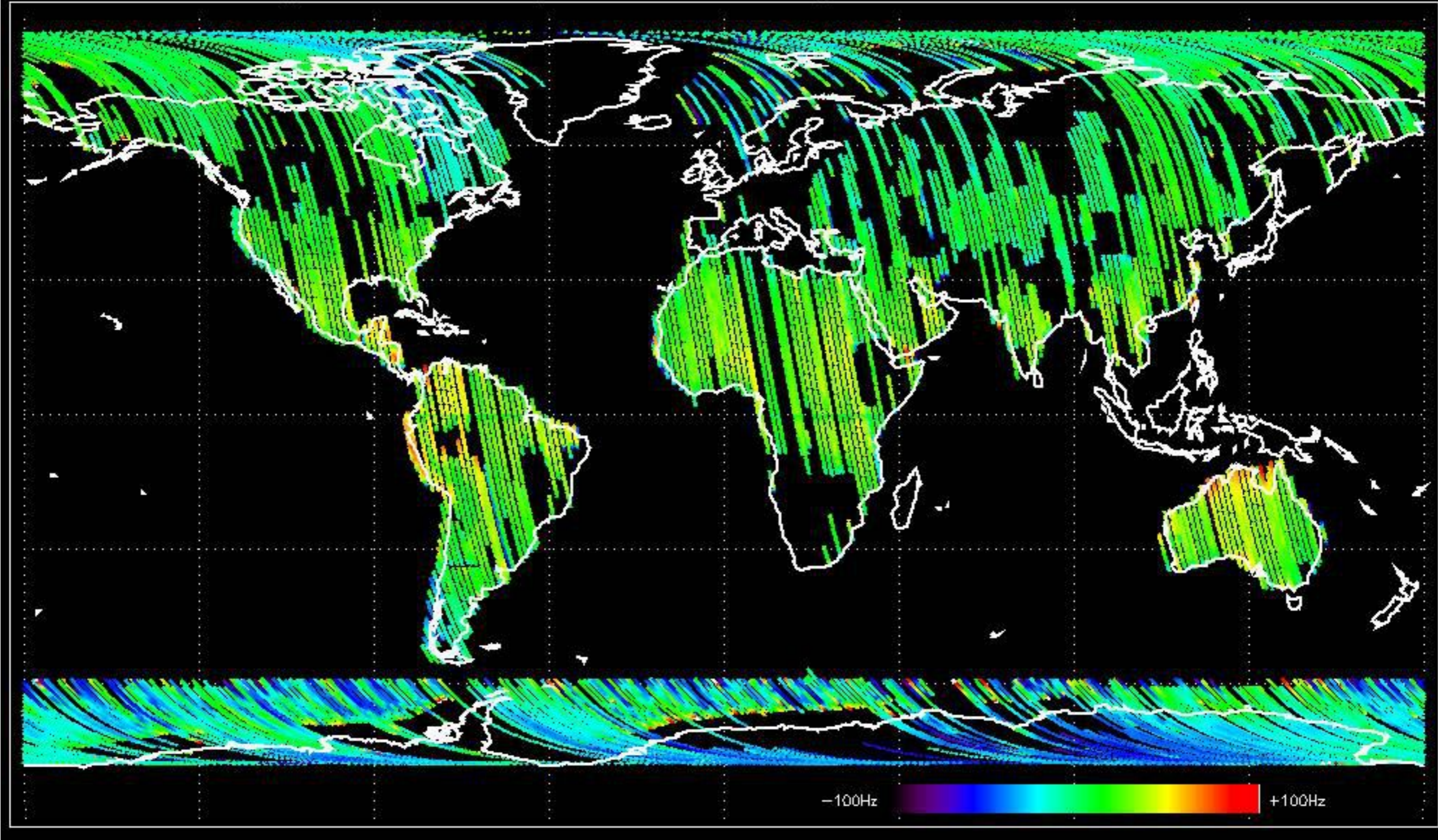


GM1 mode doppler

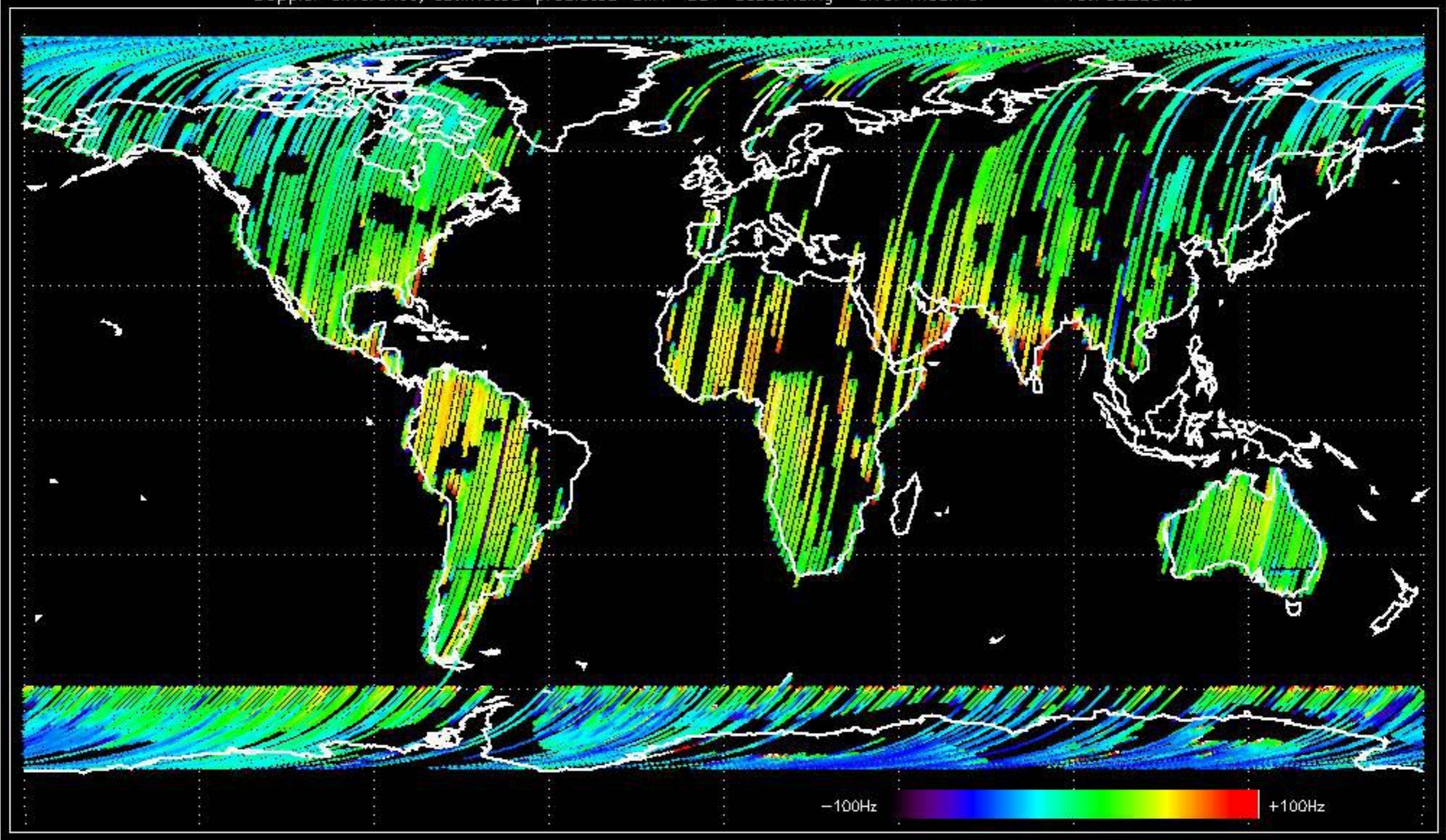




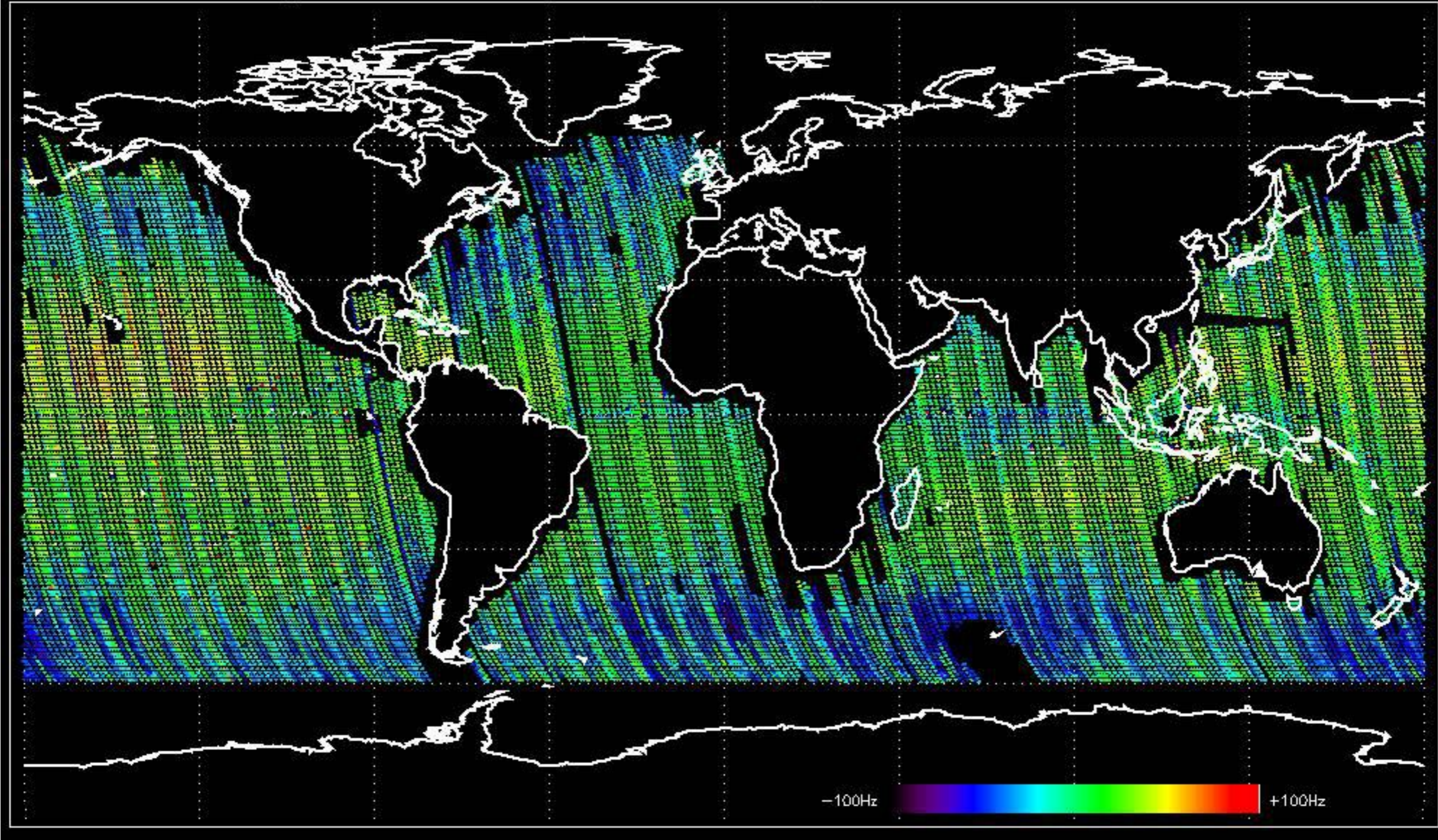
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -26.440405 Hz



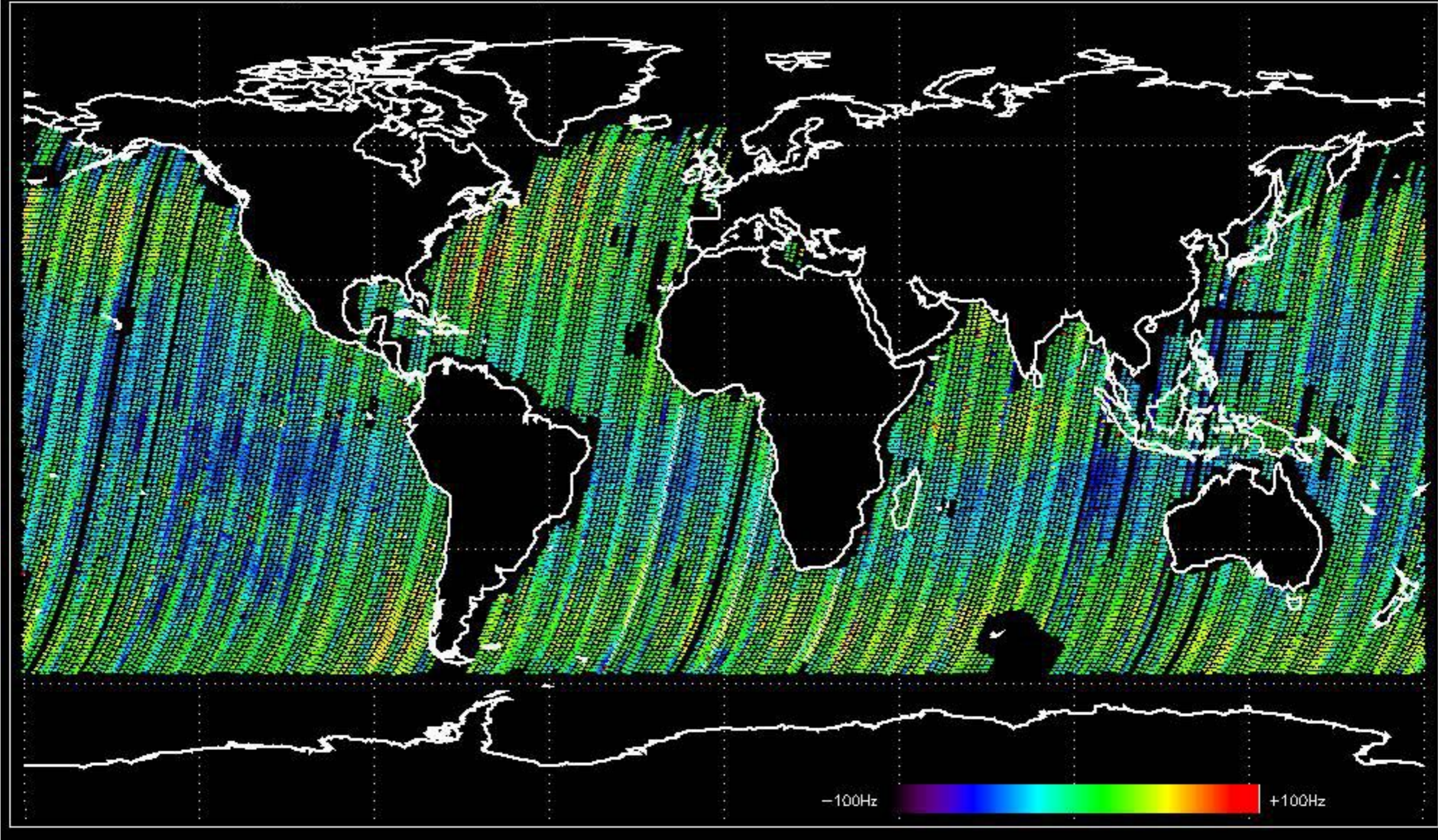
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -16.708235 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -20.548406 Hz

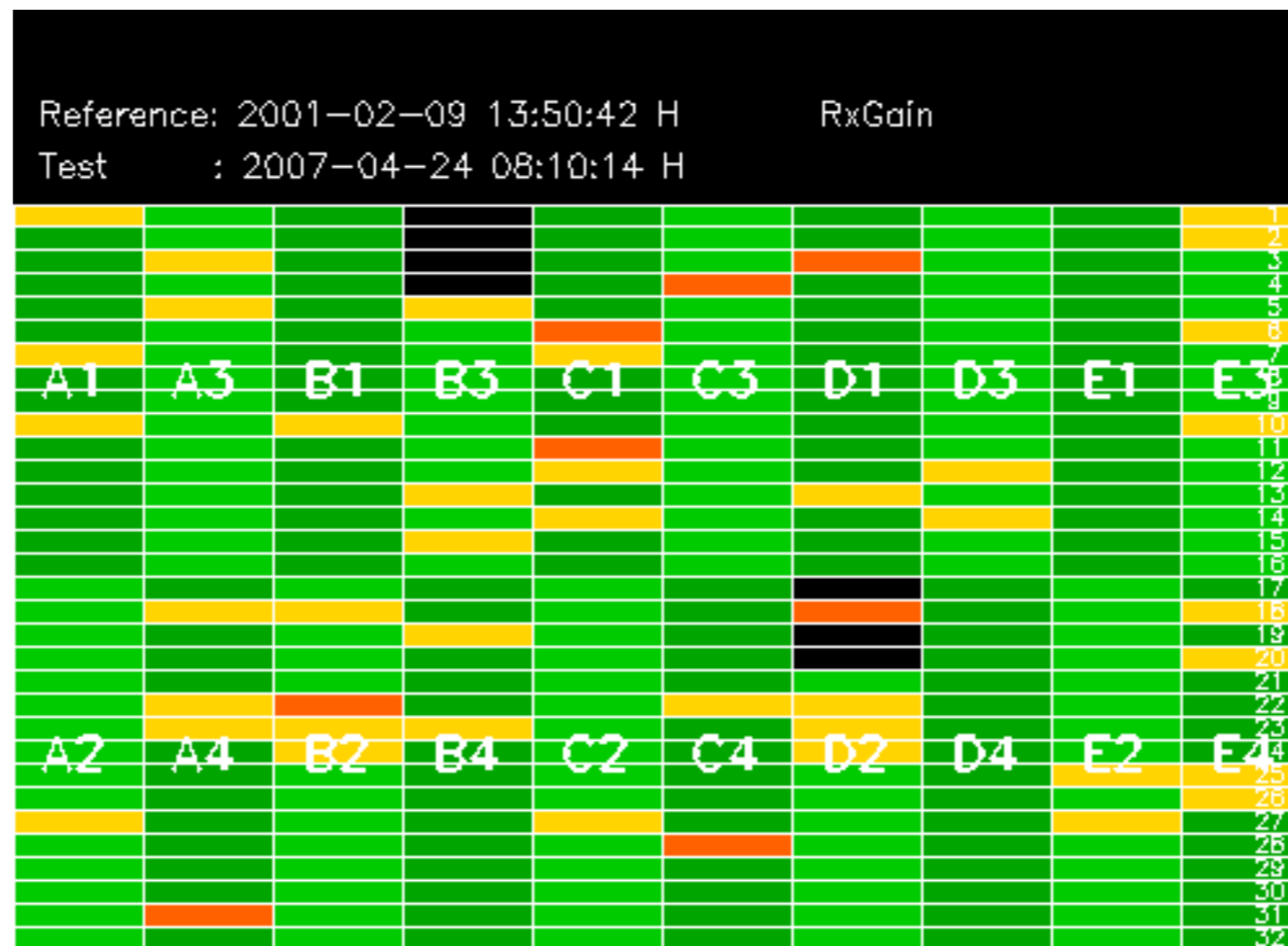


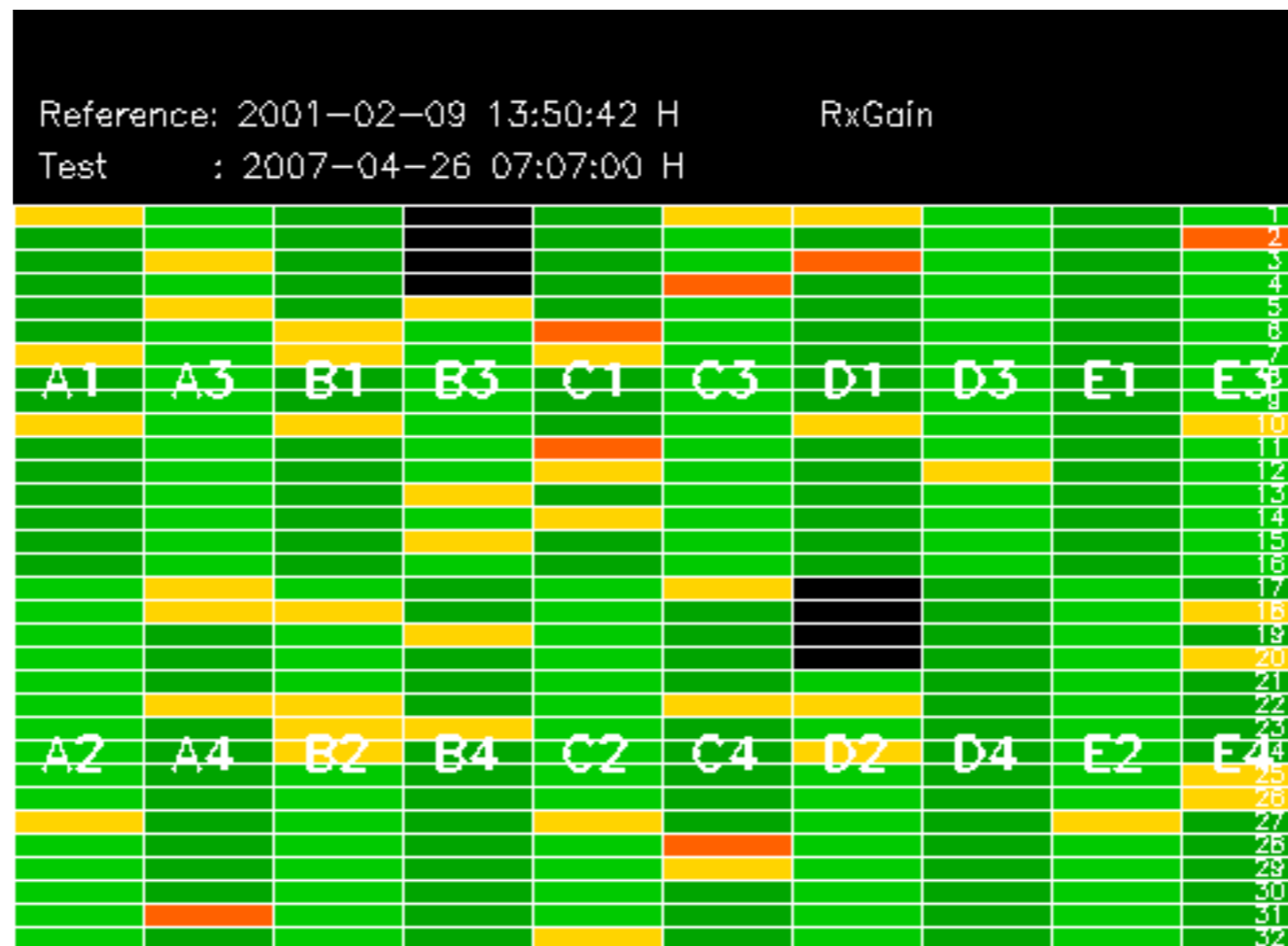
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -21.263931 Hz

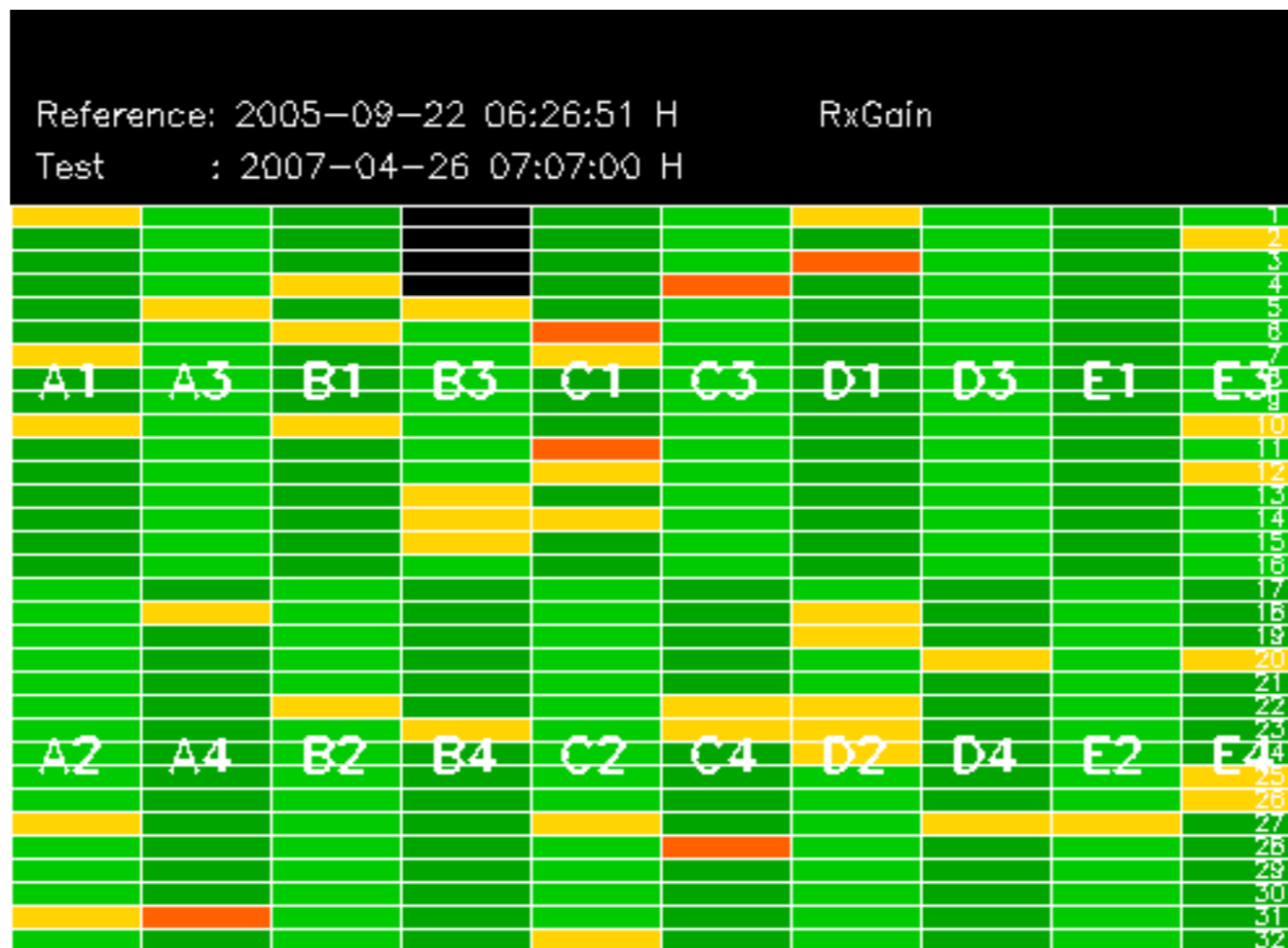


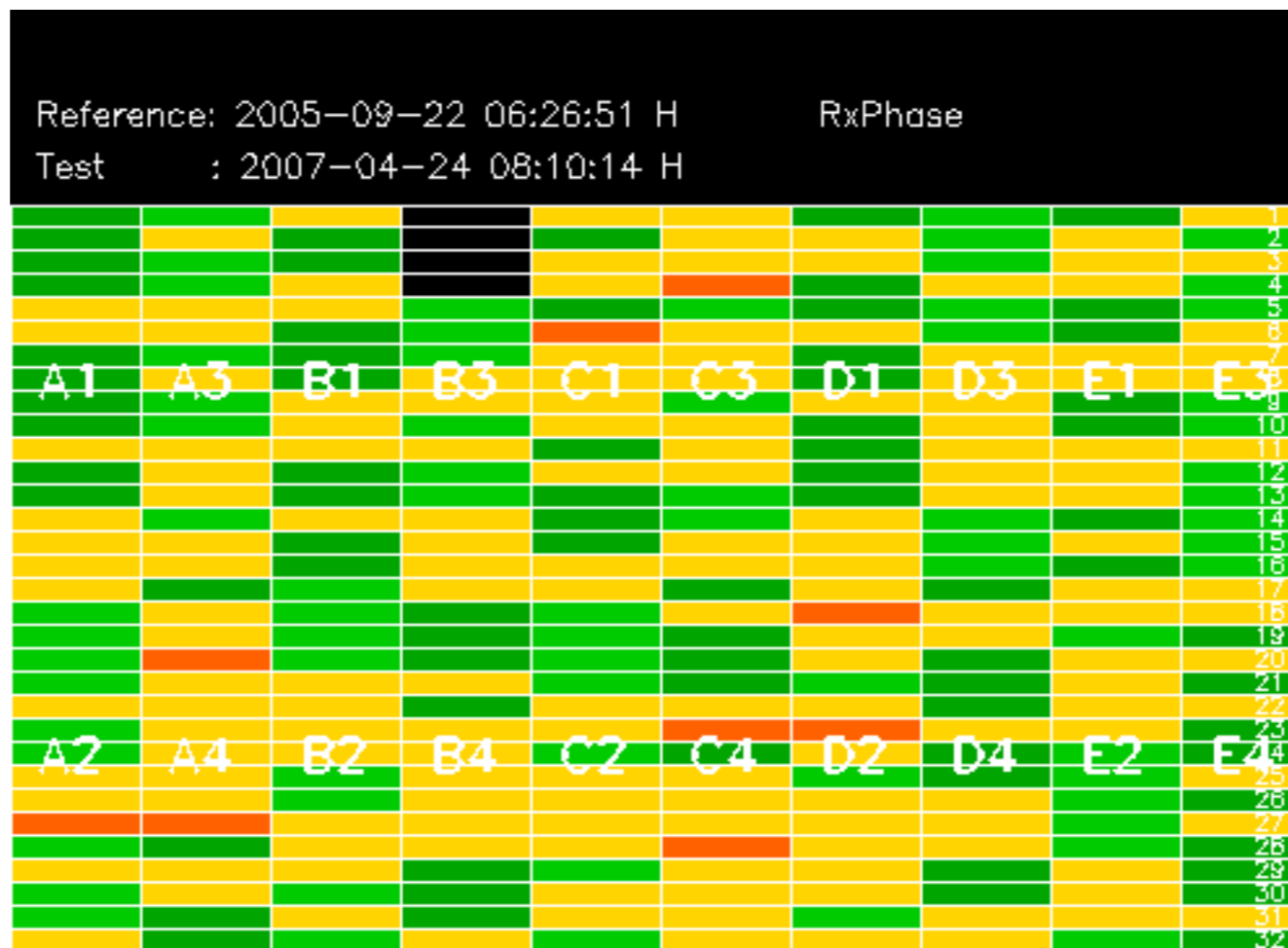
No anomalies observed on available MS products:

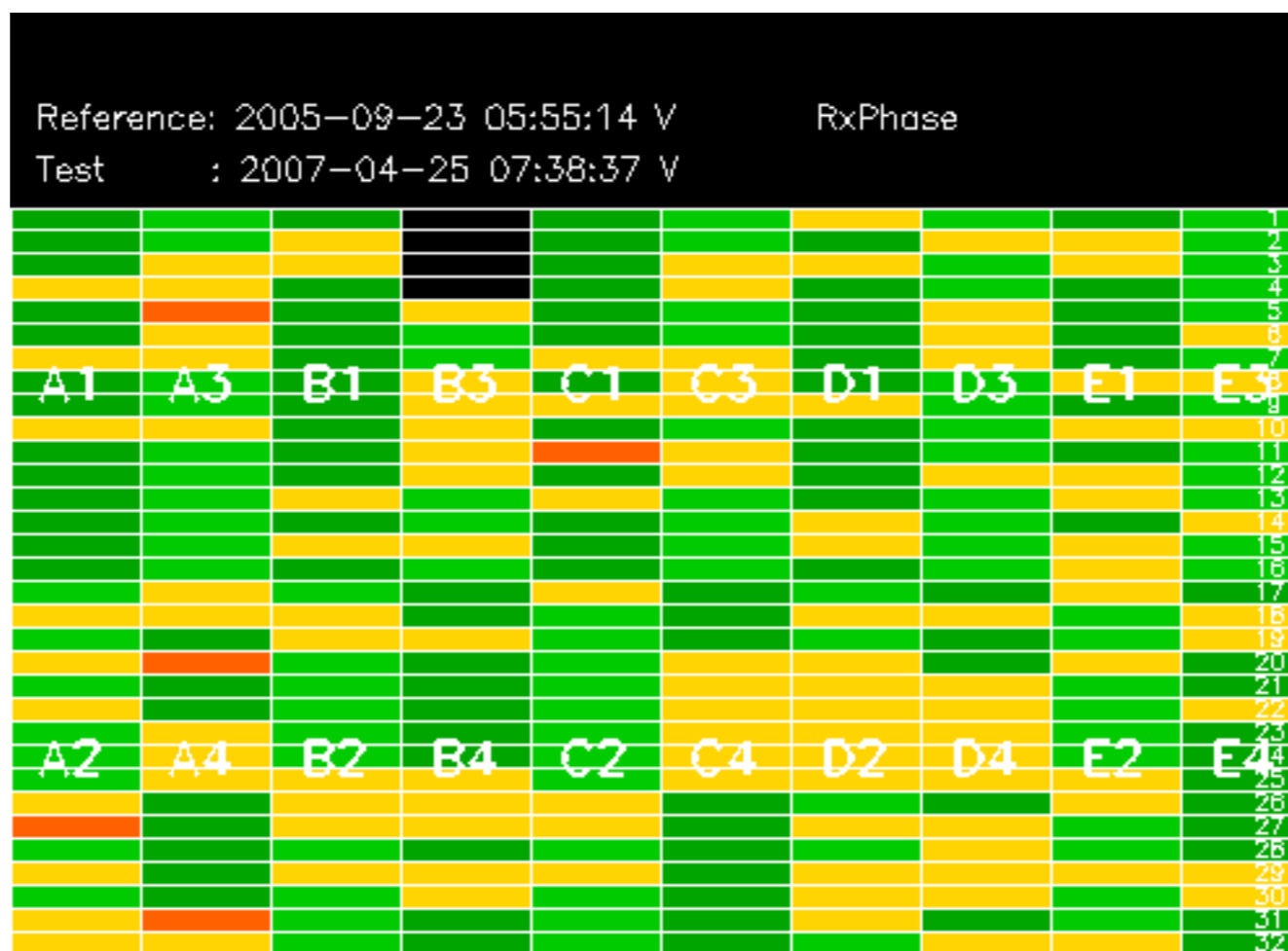
No anomalies observed.

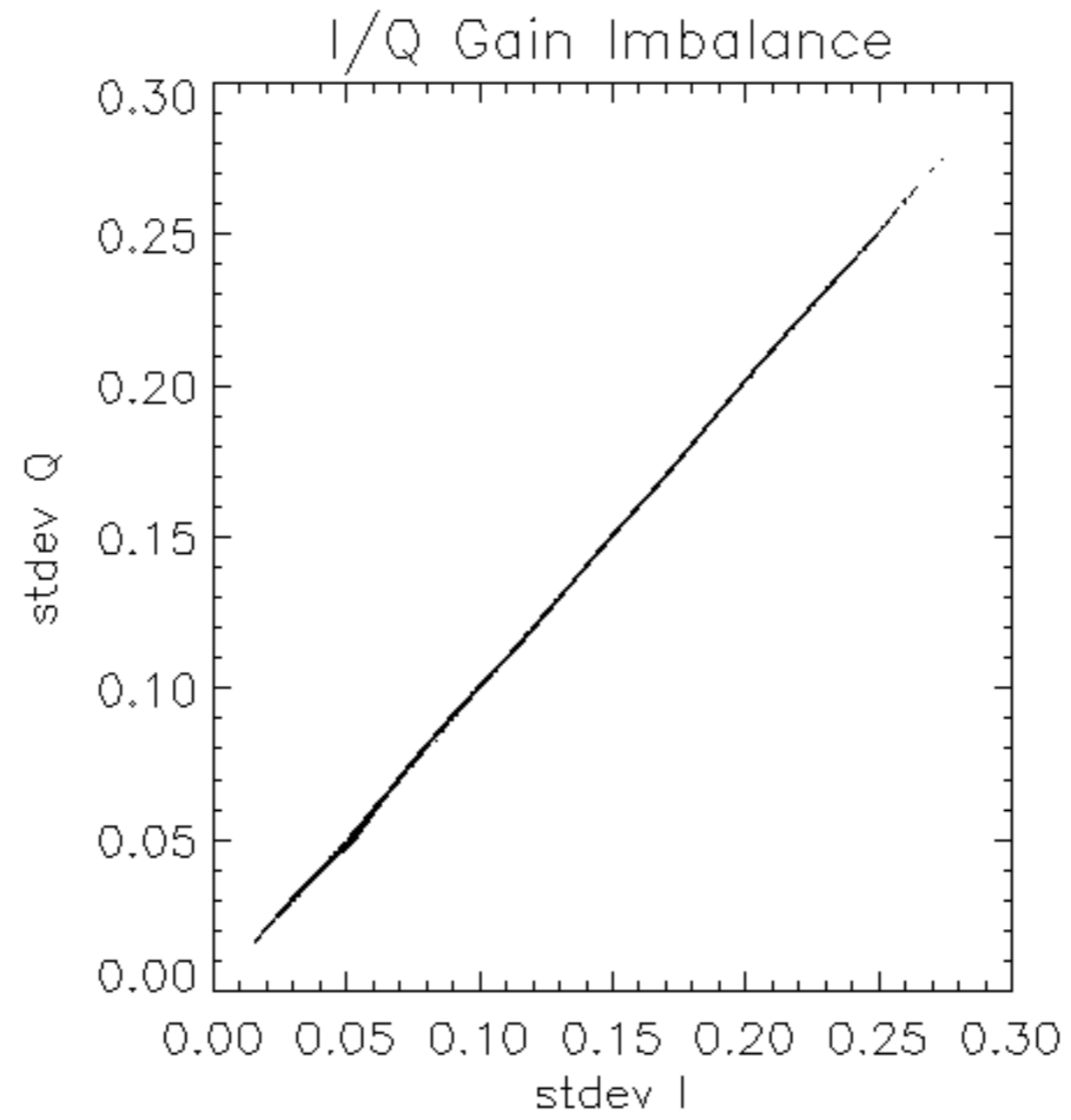


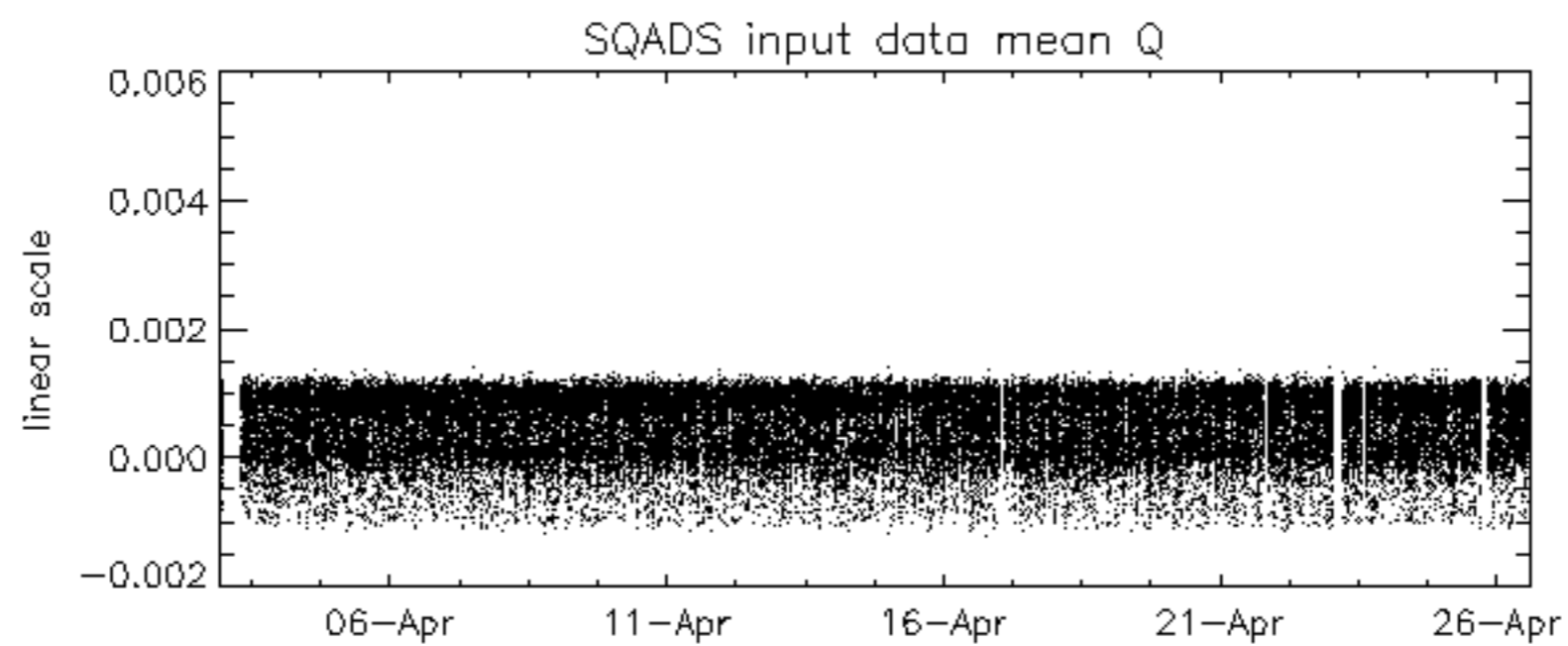
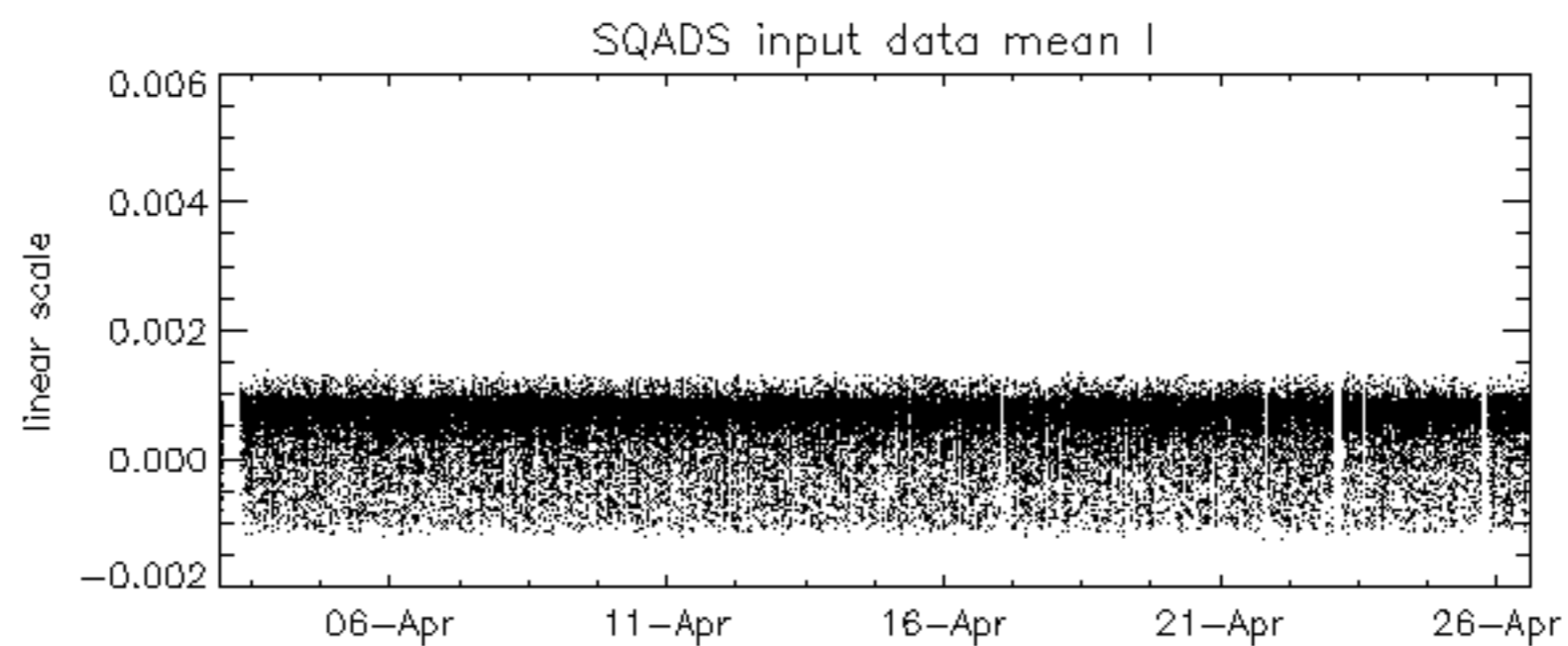
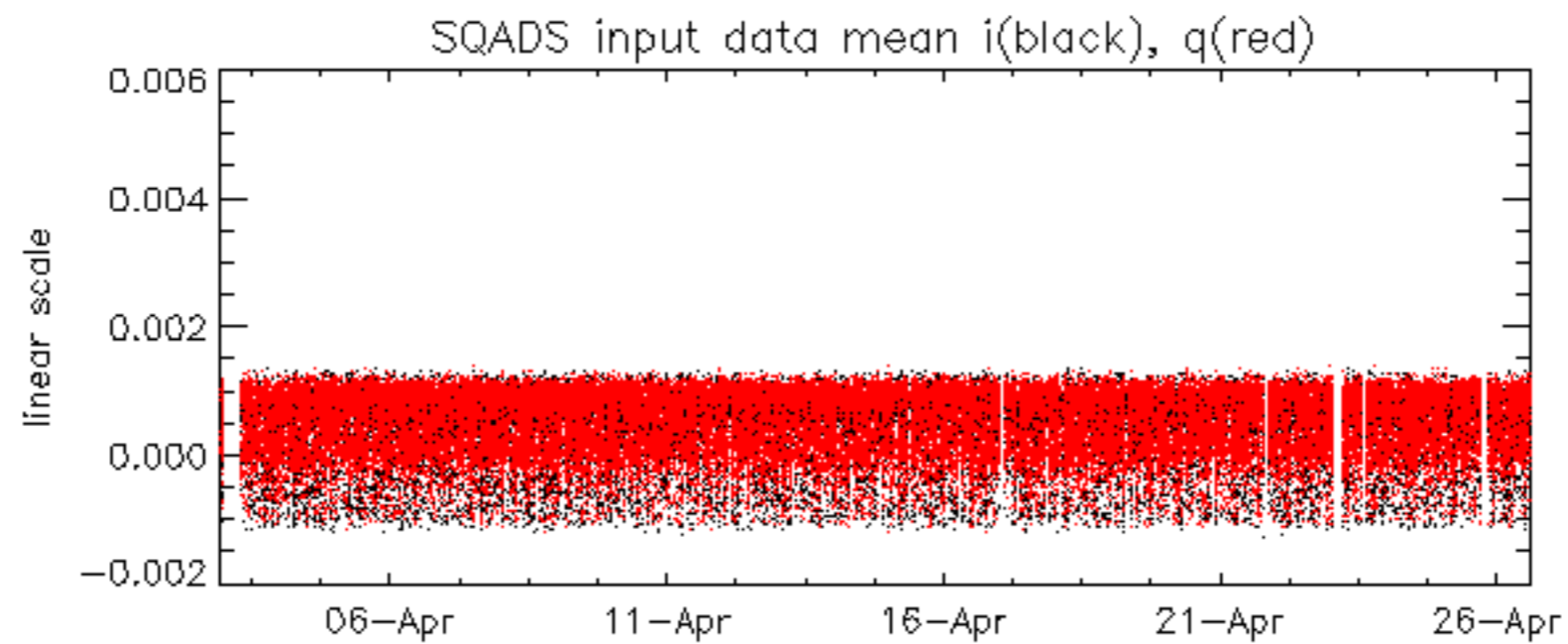


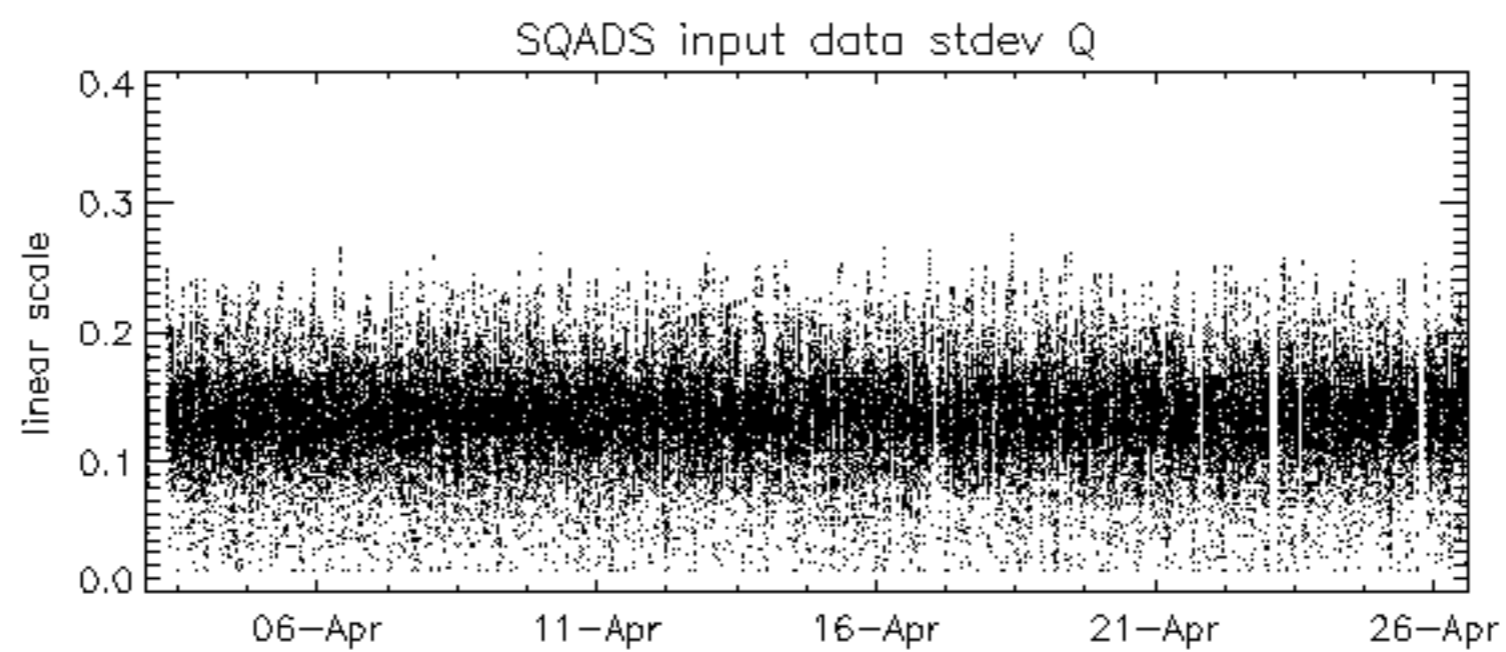
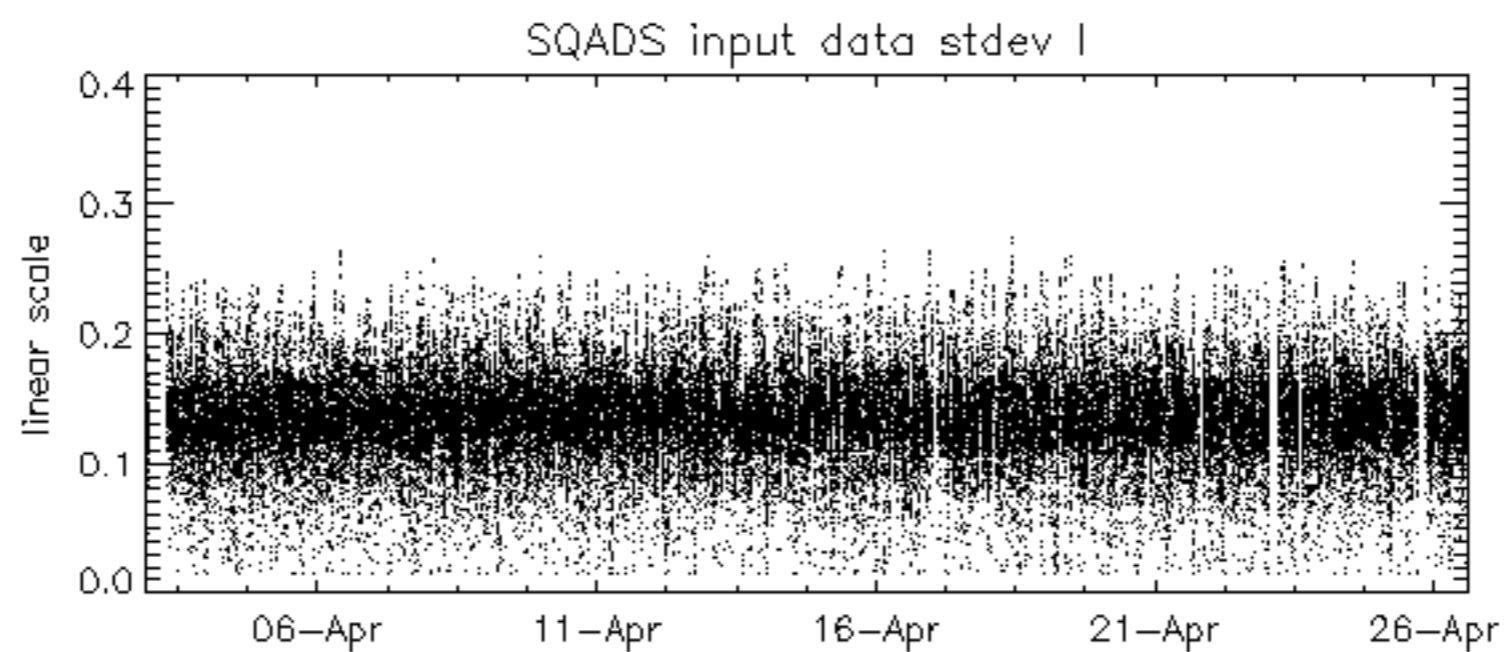
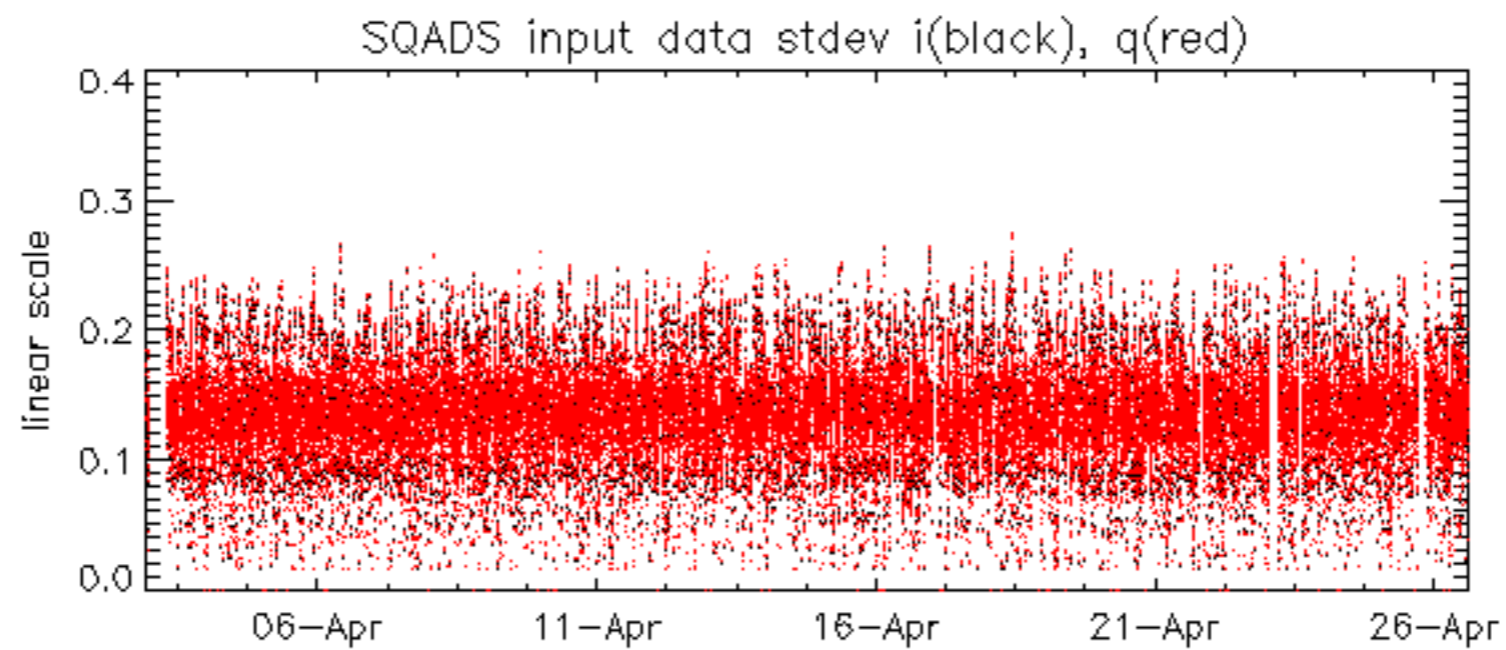




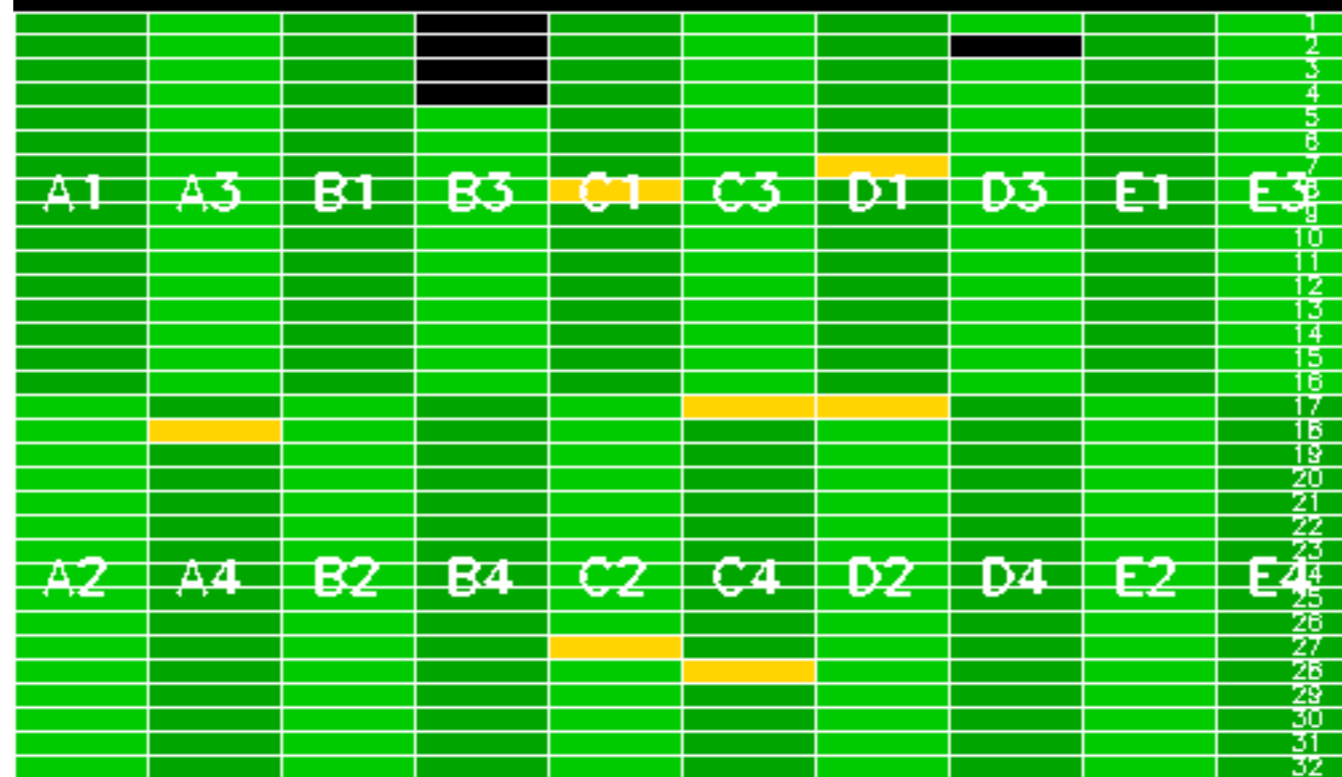








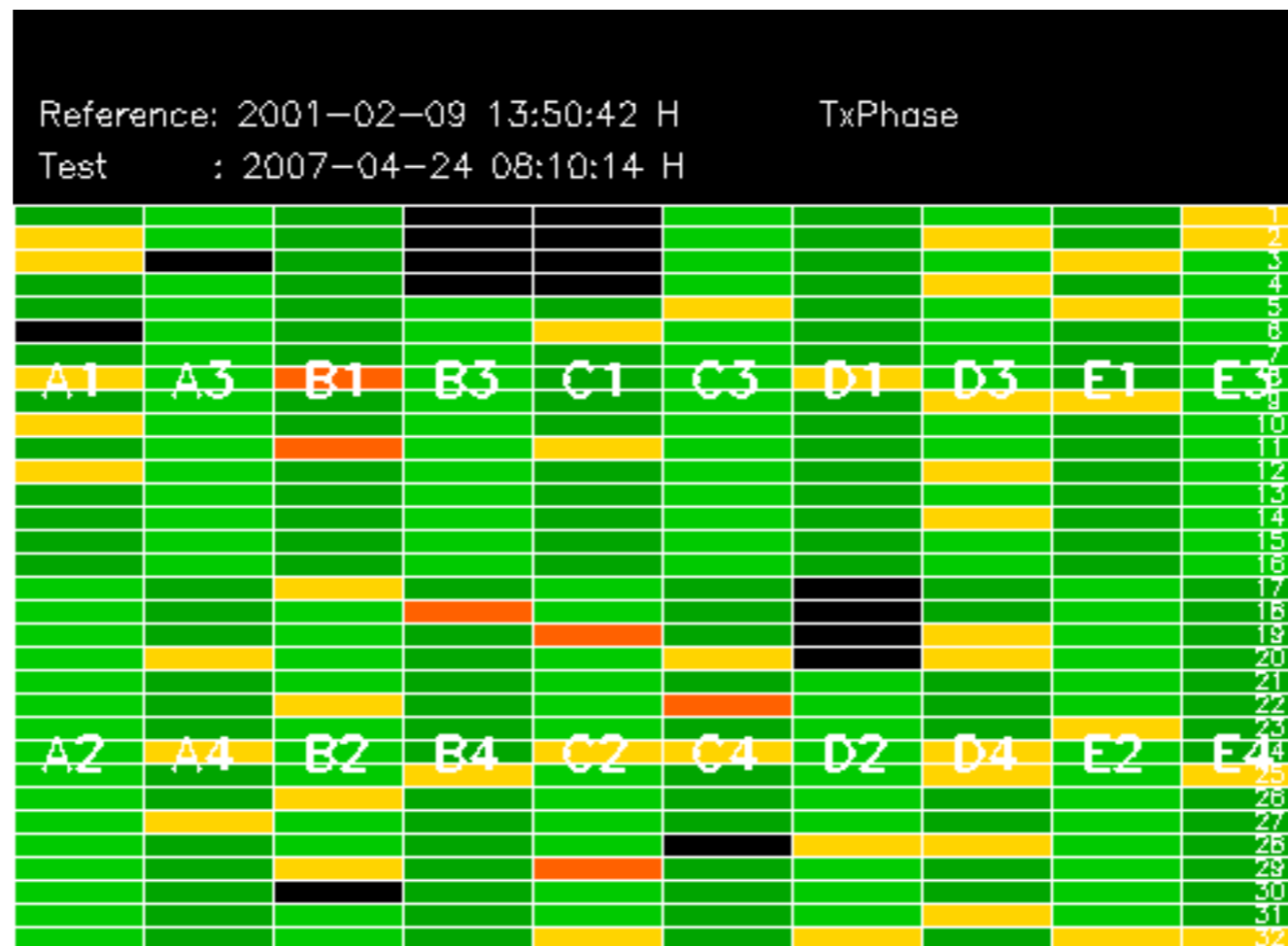
Reference: 2005-09-23 05:55:14 V TxGain
 Test : 2007-04-25 07:38:37 V

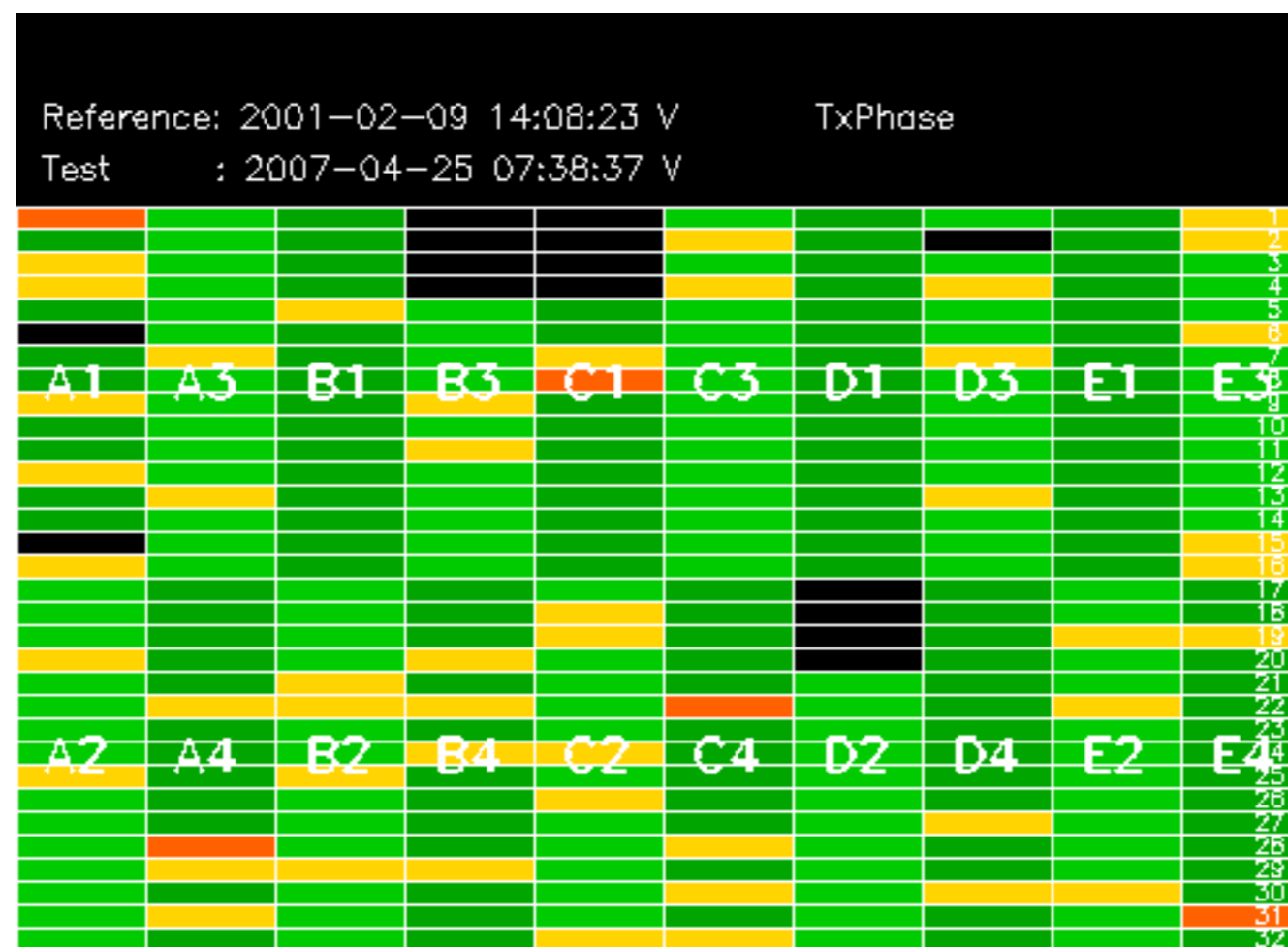


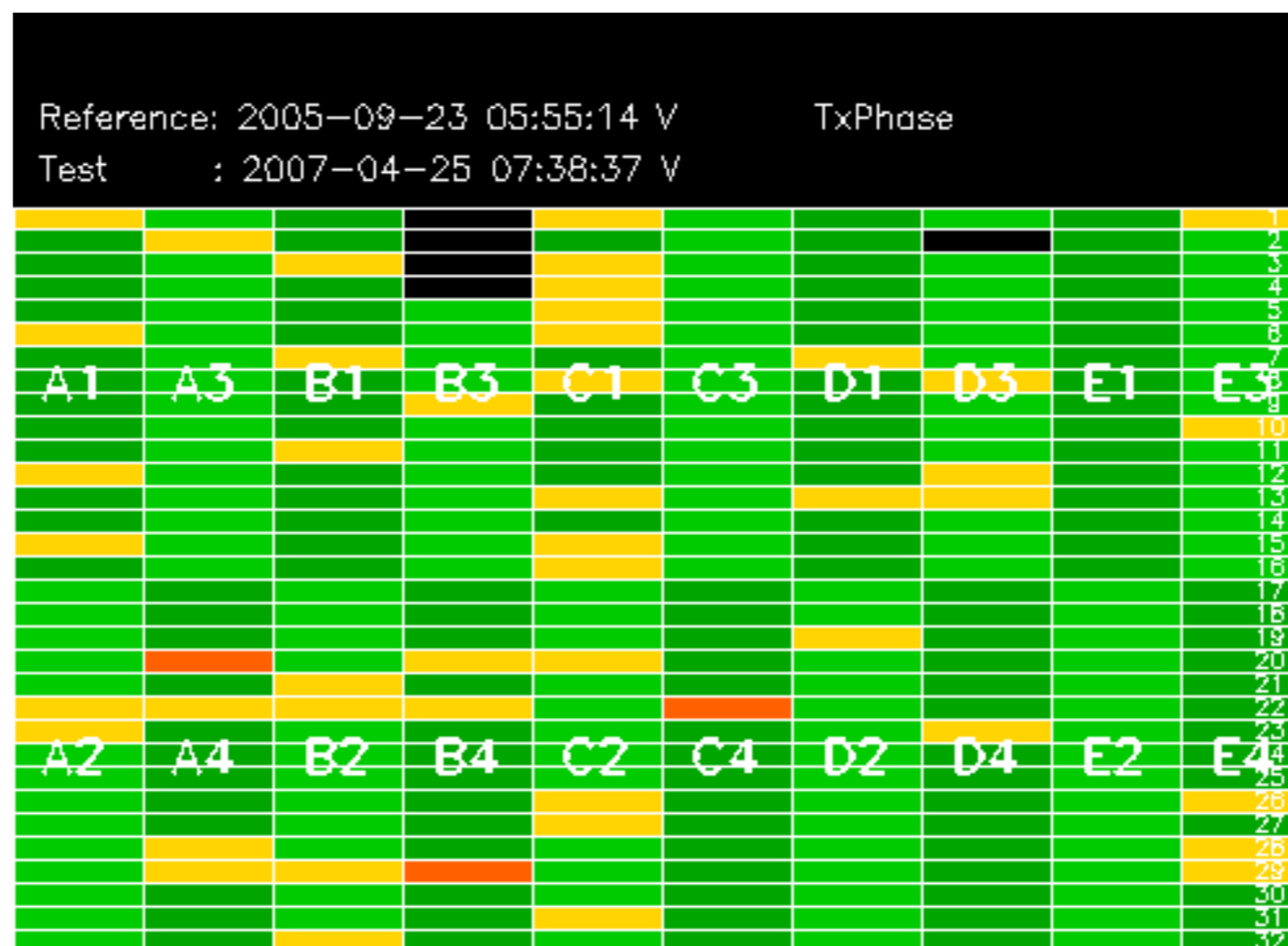
Summary of analysis for the last 3 days 2007042[456]

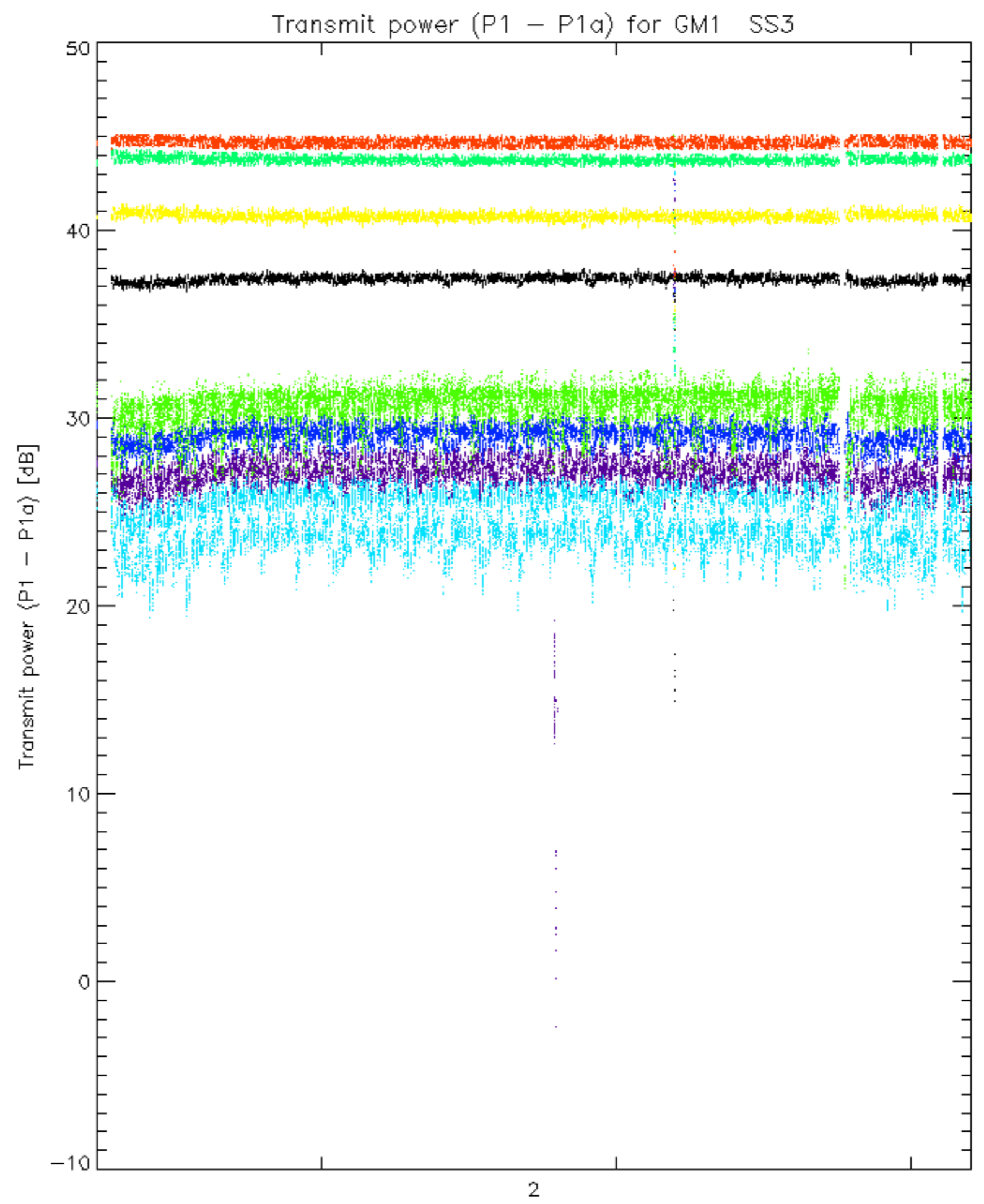
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_WVS_1PNPDK20070424_070914_000005242057_00307_26914_0654.N1	0	16
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_WSM_1PNPDE20070426_000621_000002022057_00331_26938_7094.N1	0	31
ASA_APM_1PNPDE20070424_021349_00000402057_00304_26911_4412.N1	13	0
ASA_APM_1PNPDE20070426_011026_000001332057_00332_26939_7224.N1	6	0
ASA_APM_1PNPDK20070424_084924_00000402057_00308_26915_0777.N1	15	257

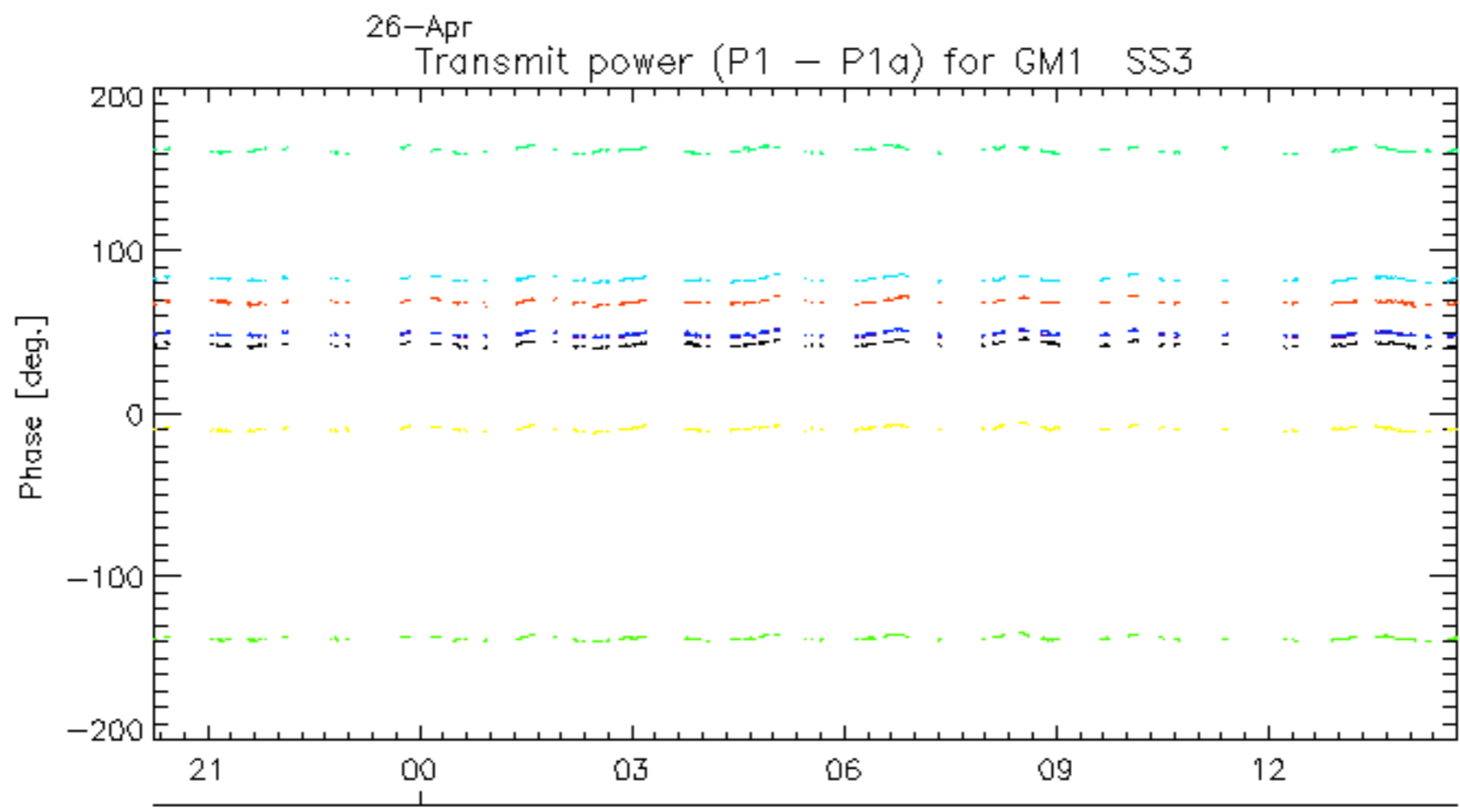
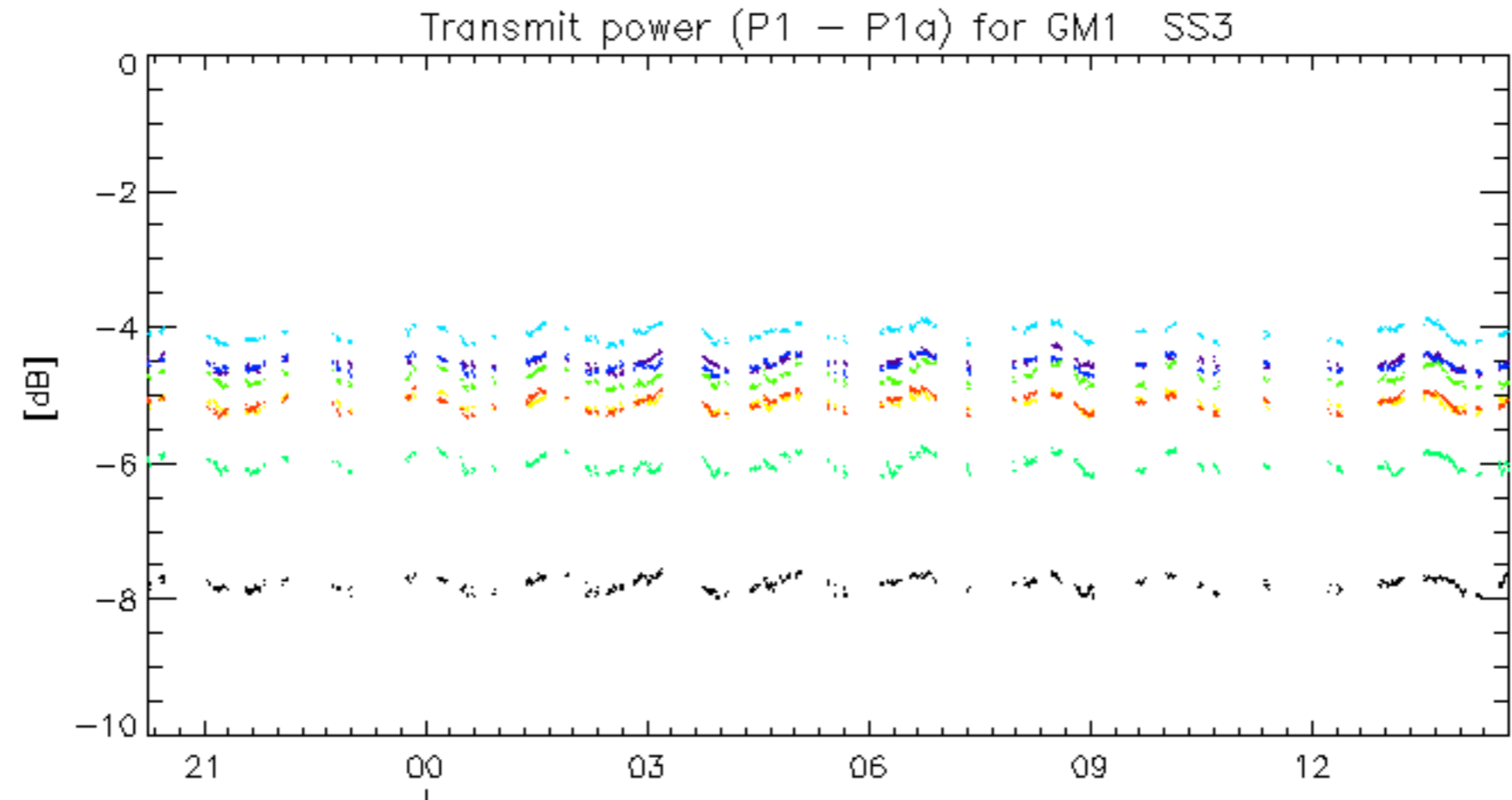




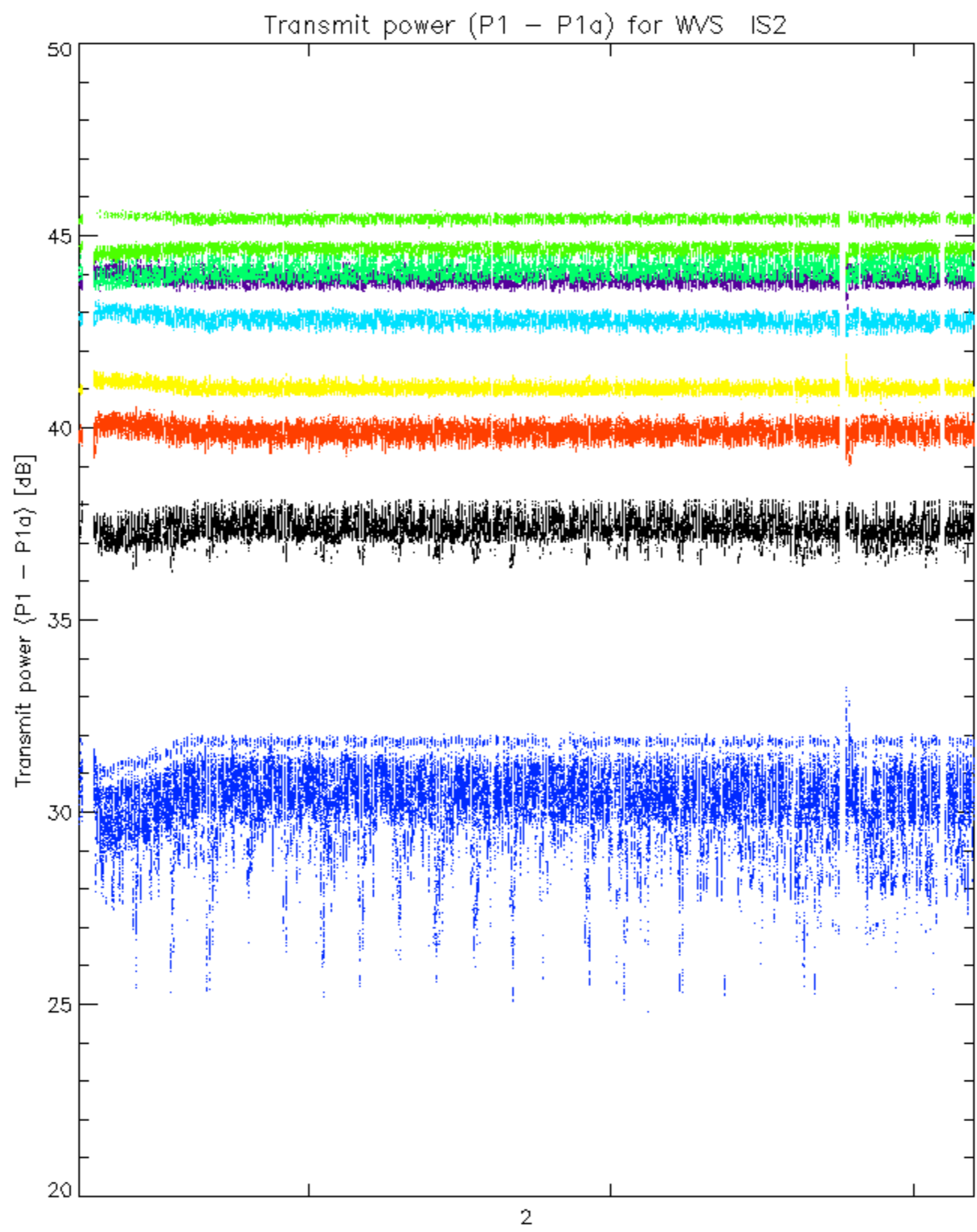


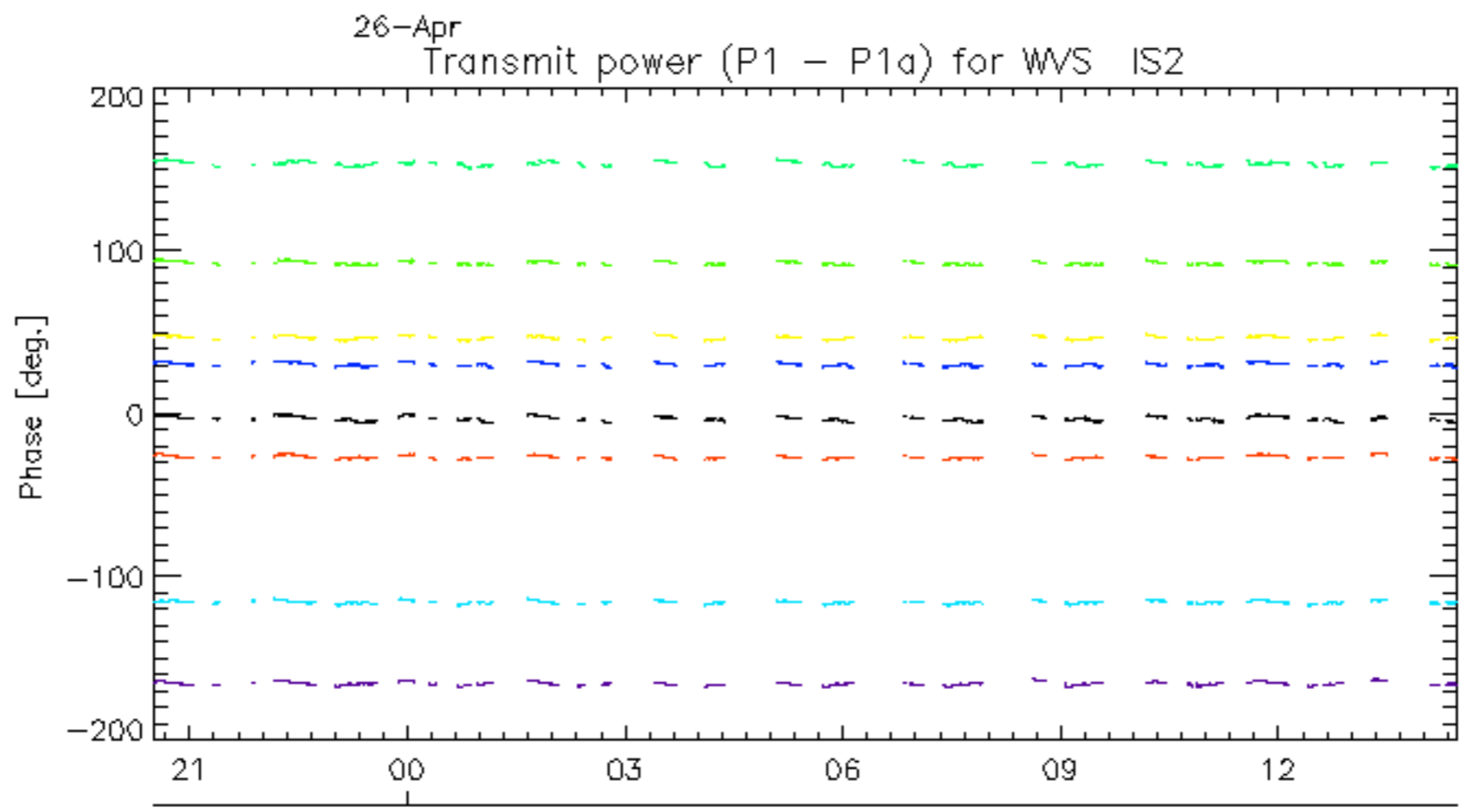
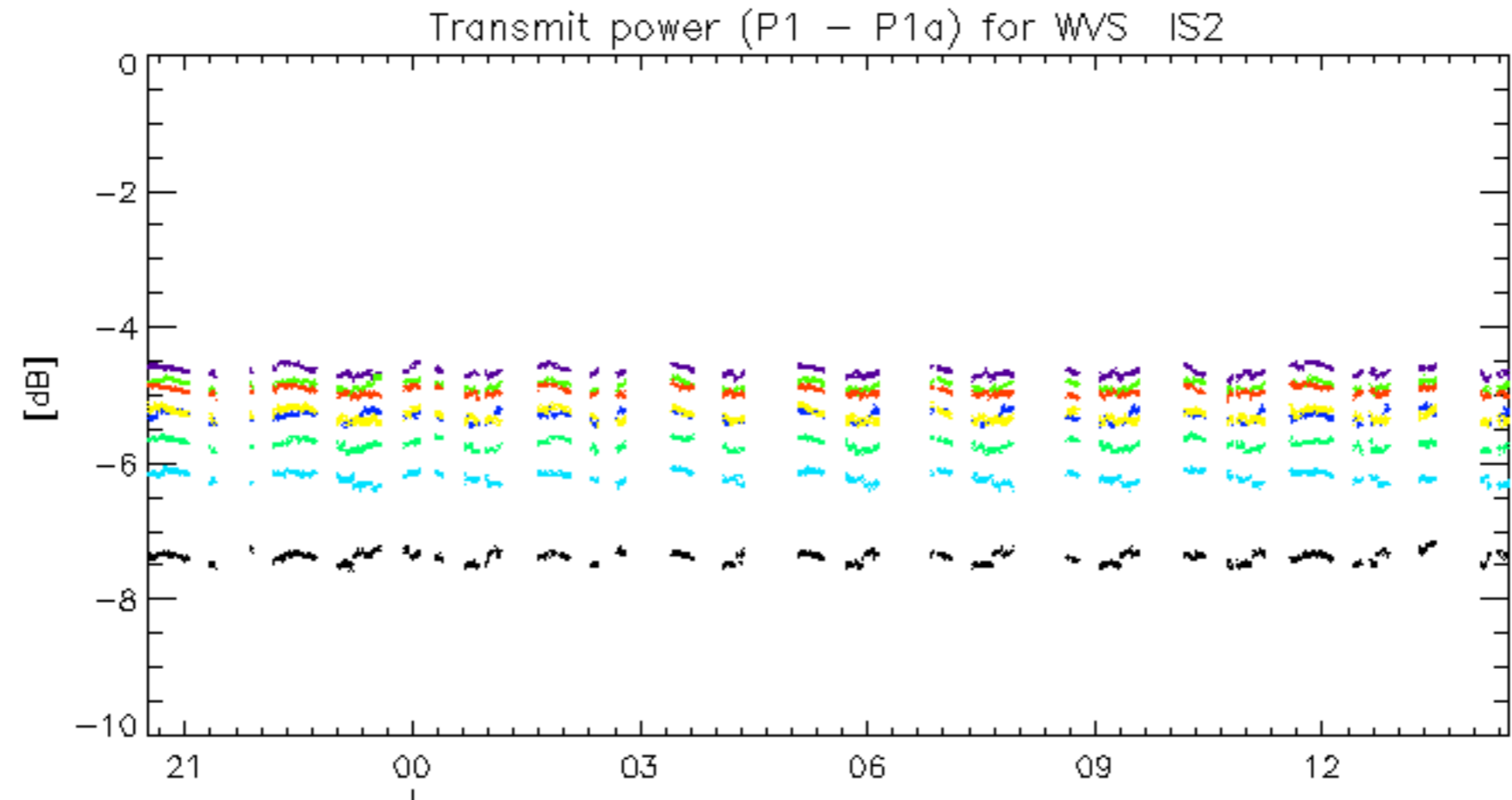


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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





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

No unavailabilities during the reported period.