

PRELIMINARY REPORT OF 070417

last update on Tue Apr 17 17:56:39 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 2007-04-16 00:00:00 to 2007-04-17 17:56:39

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	42	86	6	3	37
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	42	86	6	3	37
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	42	86	6	3	37
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	42	86	6	3	37

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	41	61	31	5	75
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	41	61	31	5	75
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	41	61	31	5	75
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	41	61	31	5	75

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	20070416 054045
H	20070417 050908

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
☒

P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1a	-15.057717	0.152489	-0.011310
7	P1a	-17.538336	0.126688	-0.037387
11	P1a	-17.368441	0.324884	-0.670206
15	P1a	-12.944395	0.101754	-0.461264
19	P1a	-15.279752	0.067552	-0.409842
22	P1a	-15.857564	0.408408	-0.789822
26	P1a	-15.102167	0.184564	0.481579
30	P1a	-17.595875	0.278087	-0.797025

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.760636	0.010818	-0.032672
7	P1	-3.146318	0.008984	-0.022385
11	P1	-4.207864	0.012449	-0.040213
15	P1	-6.385551	0.018818	-0.131899
19	P1	-3.791766	0.009449	0.051189
22	P1	-4.743946	0.009056	-0.065089
26	P1	-3.933726	0.017942	0.102225
30	P1	-5.971217	0.009218	0.038147

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.660776	0.090230	-0.090442
7	P2	-21.580208	0.085360	0.109841
11	P2	-15.392689	0.110968	0.172545
15	P2	-7.124115	0.087249	-0.041025
19	P2	-9.121867	0.077737	0.028043
22	P2	-18.089903	0.075824	-0.007725
26	P2	-16.608593	0.078471	-0.051462
30	P2	-19.288069	0.081203	-0.016276

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.244826	0.005320	-0.027684
7	P3	-8.244826	0.005320	-0.027684
11	P3	-8.244826	0.005320	-0.027684
15	P3	-8.244826	0.005320	-0.027684
19	P3	-8.244826	0.005320	-0.027684
22	P3	-8.244826	0.005320	-0.027684
26	P3	-8.244826	0.005320	-0.027684
30	P3	-8.244826	0.005320	-0.027684

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	-11.182367	0.048333	-0.150686
7	P1a	-10.047292	0.068568	0.168159
11	P1a	-10.686813	0.048776	0.196249
15	P1a	-10.843391	0.136171	0.176883
19	P1a	-15.796370	0.069216	-0.178761
22	P1a	-21.299604	1.404850	-0.792876
26	P1a	-15.464422	0.370894	-0.545946
30	P1a	-18.356287	0.446854	0.392679

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-8.453247	0.019987	-0.037632
7	P1	-2.409714	0.010661	0.105356
11	P1	-2.896237	0.013259	0.115822
15	P1	-3.825065	0.028914	0.084682
19	P1	-3.586032	0.012173	-0.053841
22	P1	-4.986440	0.021485	0.098813
26	P1	-6.031164	0.021591	-0.071998
30	P1	-5.335362	0.025958	-0.053952

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.168894	0.045671	-0.167609
7	P2	-22.046616	0.073673	-0.233015
11	P2	-10.634944	0.033191	-0.123526
15	P2	-4.908126	0.037851	-0.153767
19	P2	-6.866425	0.035010	-0.123779
22	P2	-8.110093	0.031729	-0.061593
26	P2	-24.326563	0.052791	-0.170146
30	P2	-21.724848	0.060770	0.001897

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.091193	0.004512	-0.040414
7	P3	-8.091237	0.004523	-0.039759
11	P3	-8.090940	0.004514	-0.039470
15	P3	-8.090936	0.004514	-0.040142
19	P3	-8.091146	0.004546	-0.039903
22	P3	-8.091097	0.004496	-0.038816
26	P3	-8.091141	0.004511	-0.039505
30	P3	-8.091067	0.004504	-0.040357

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	0.000540018
	stdev	2.06867e-07
MEAN Q	mean	0.000490666
	stdev	2.45912e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.135271
	stdev	0.00122771
STDEV Q	mean	0.135665
	stdev	0.00124566



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2007041[567]

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_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_1PNPDE20070415_151023_000002872057_00183_26790_2865.N1	0	51

ASA_WSM_1PNPDE20070416_162338_000002022057_00198_26805_4306.N1	0	46
ASA_WSM_1PNPDE20070416_180337_000001652057_00199_26806_4346.N1	0	5
ASA_WSM_1PNPDE20070416_202300_000000672057_00200_26807_4388.N1	0	74
ASA_WSM_1PNPDE20070416_234905_000002022057_00202_26809_4826.N1	0	31
ASA_WSM_1PNPDE20070417_112928_000000852057_00209_26816_5448.N1	0	52
ASA_WSM_1PNPDK20070417_122637_000001462057_00210_26817_1935.N1	0	36



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"/>	Ascending
<input type="checkbox"/>	Descending

7.2 - Absolute Doppler for WVS

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

7.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX**7.4 - Unbiased Doppler Error for GM1****Evolution of unbiased Doppler error (Real - Expected)**

Acsending

Descending

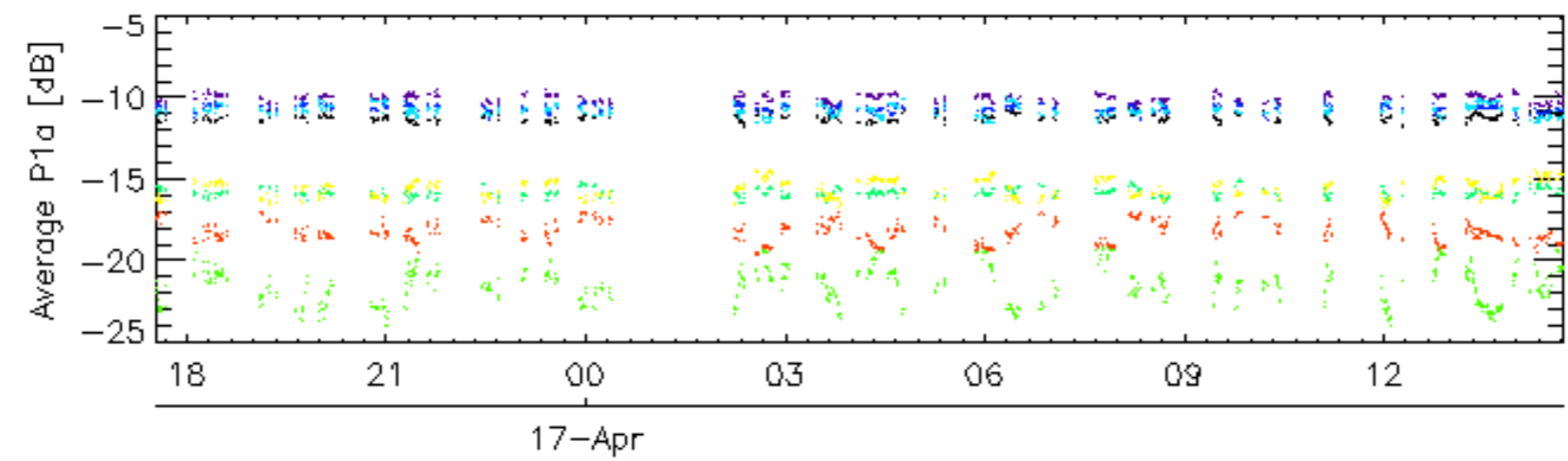
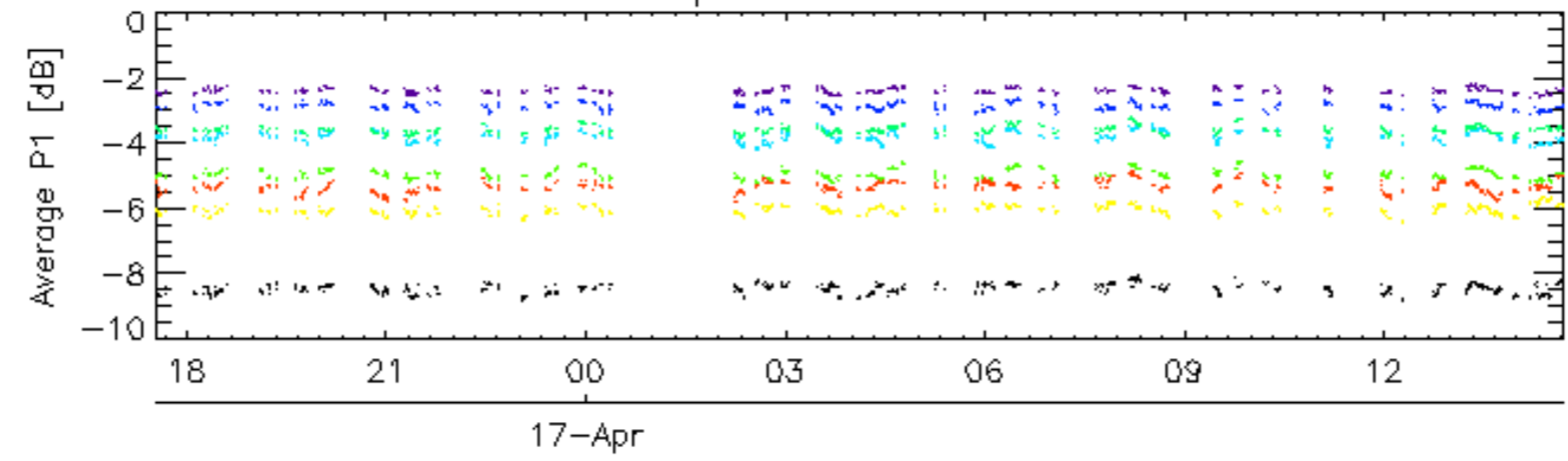
7.5 - Absolute Doppler for GM1**Evolution of Absolute Doppler**

Acsending

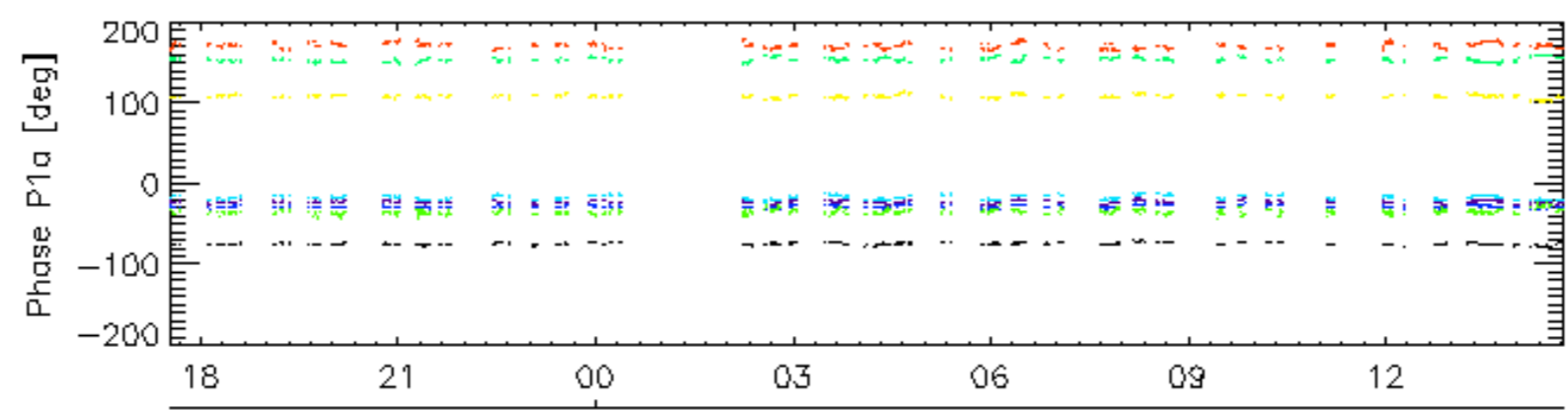
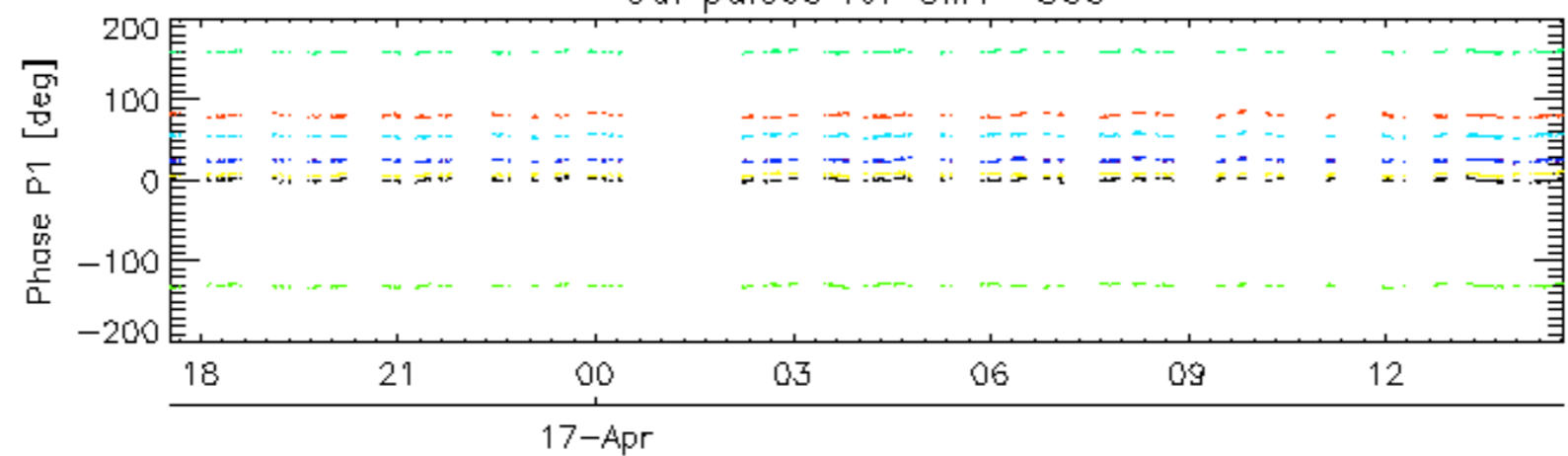
Descending

7.6 - Doppler evolution versus ANX for GM1**Evolution Doppler error versus ANX**

Cal pulses for GM1 SS3

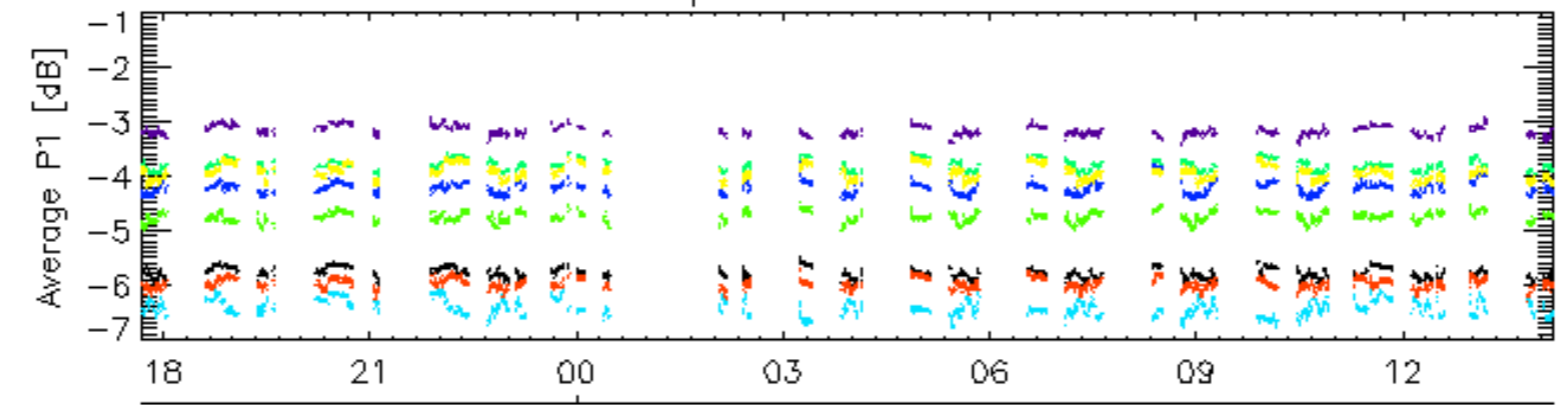


Cal pulses for GM1 SS3

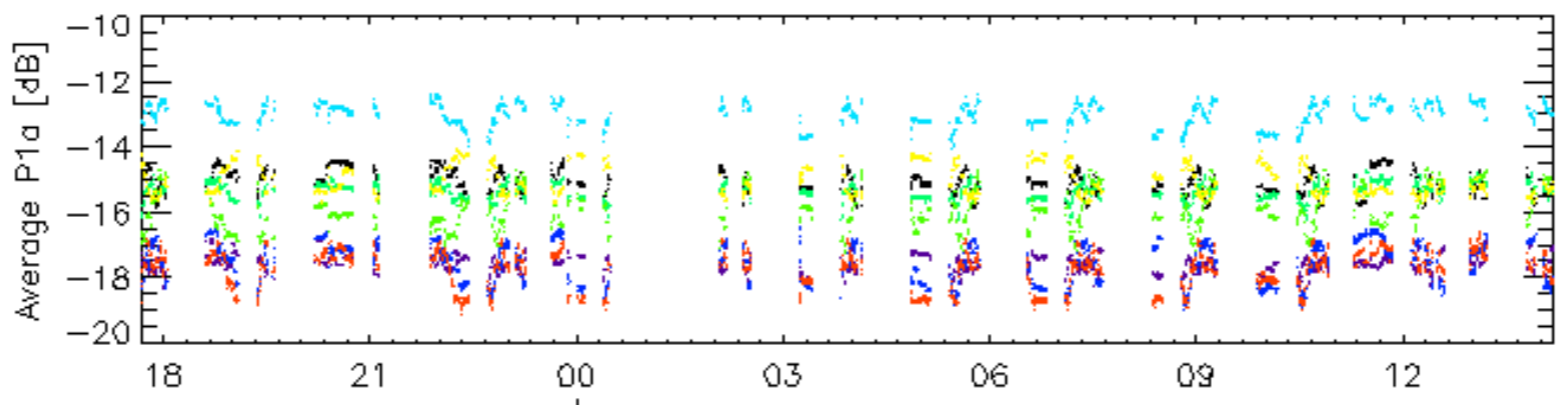


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

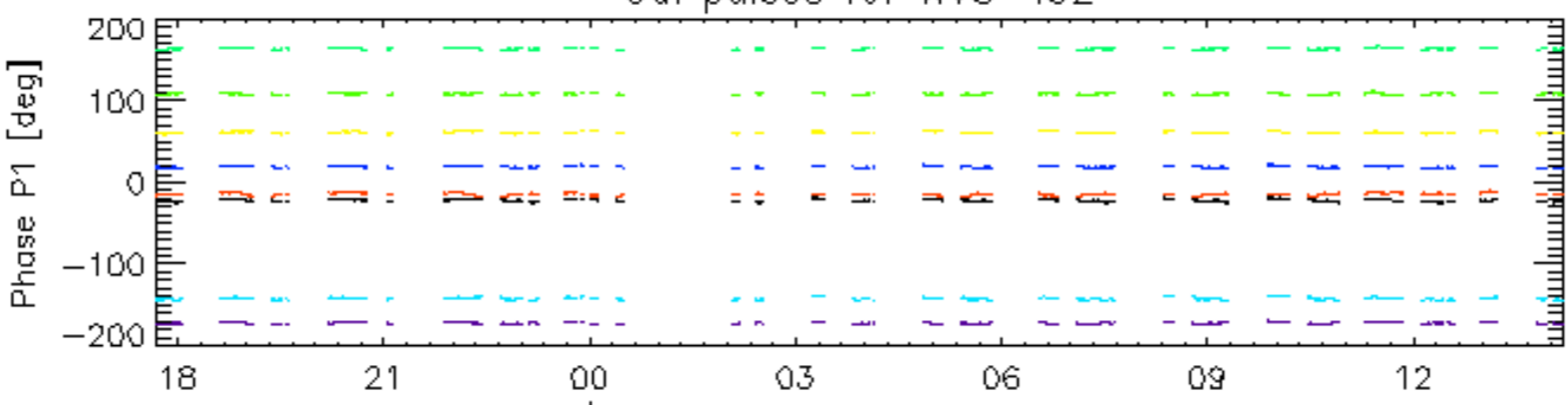


17-Apr

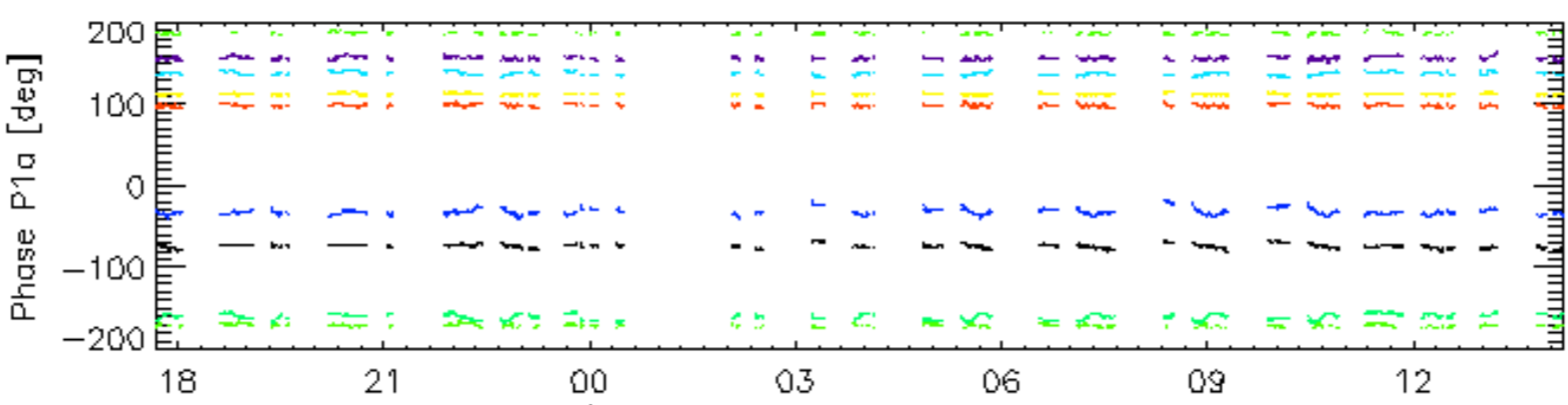


17-Apr

Cal pulses for WVS IS2

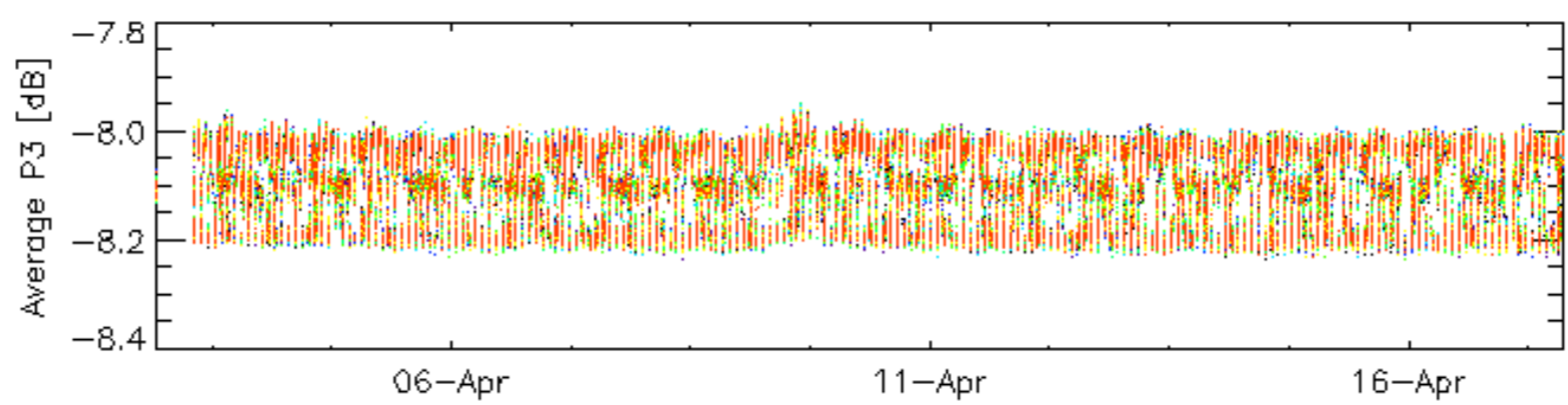
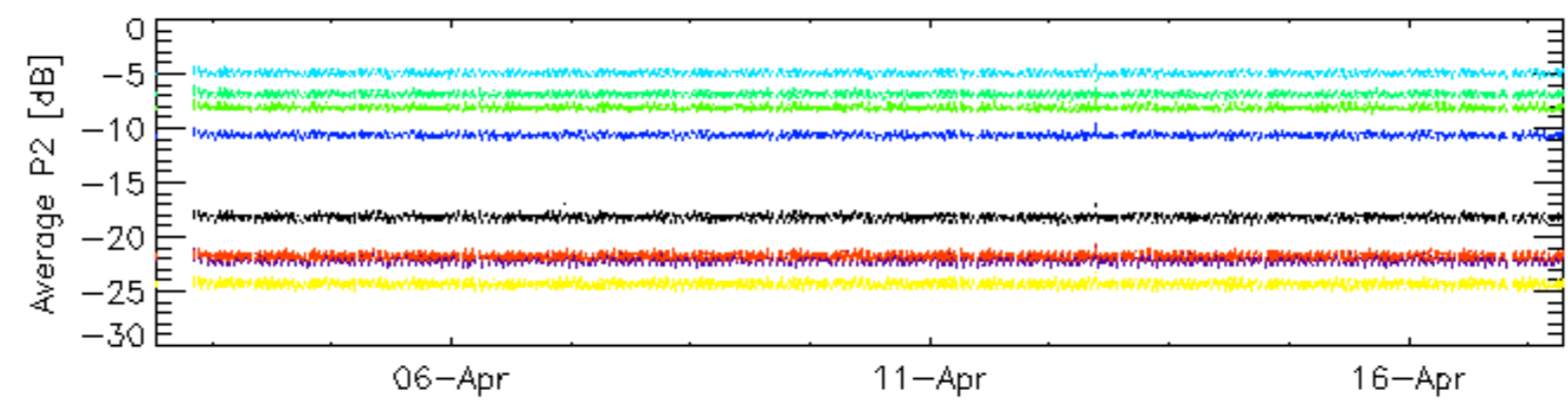
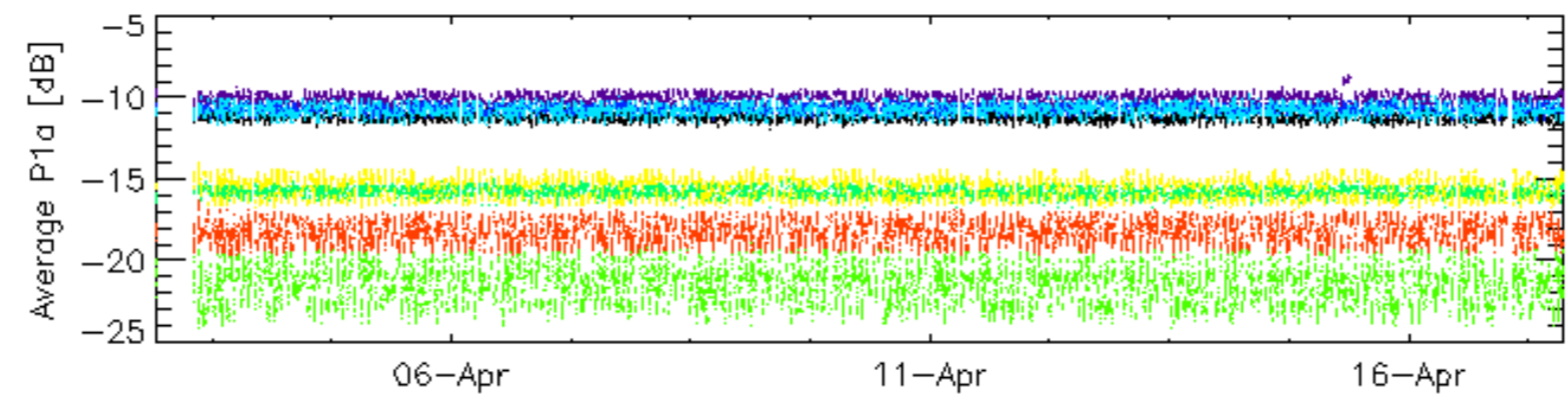
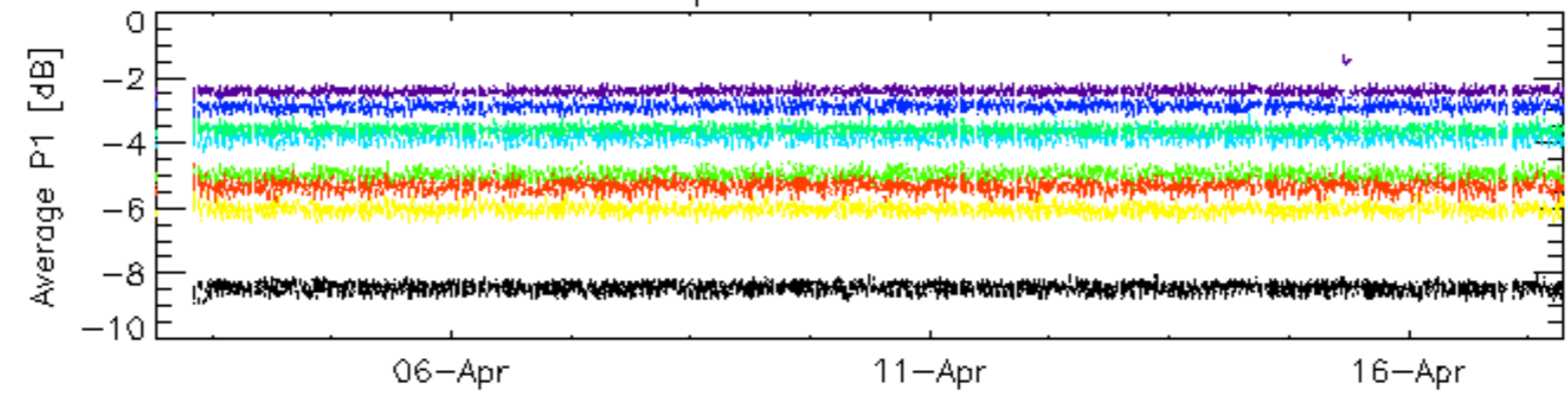


17-Apr



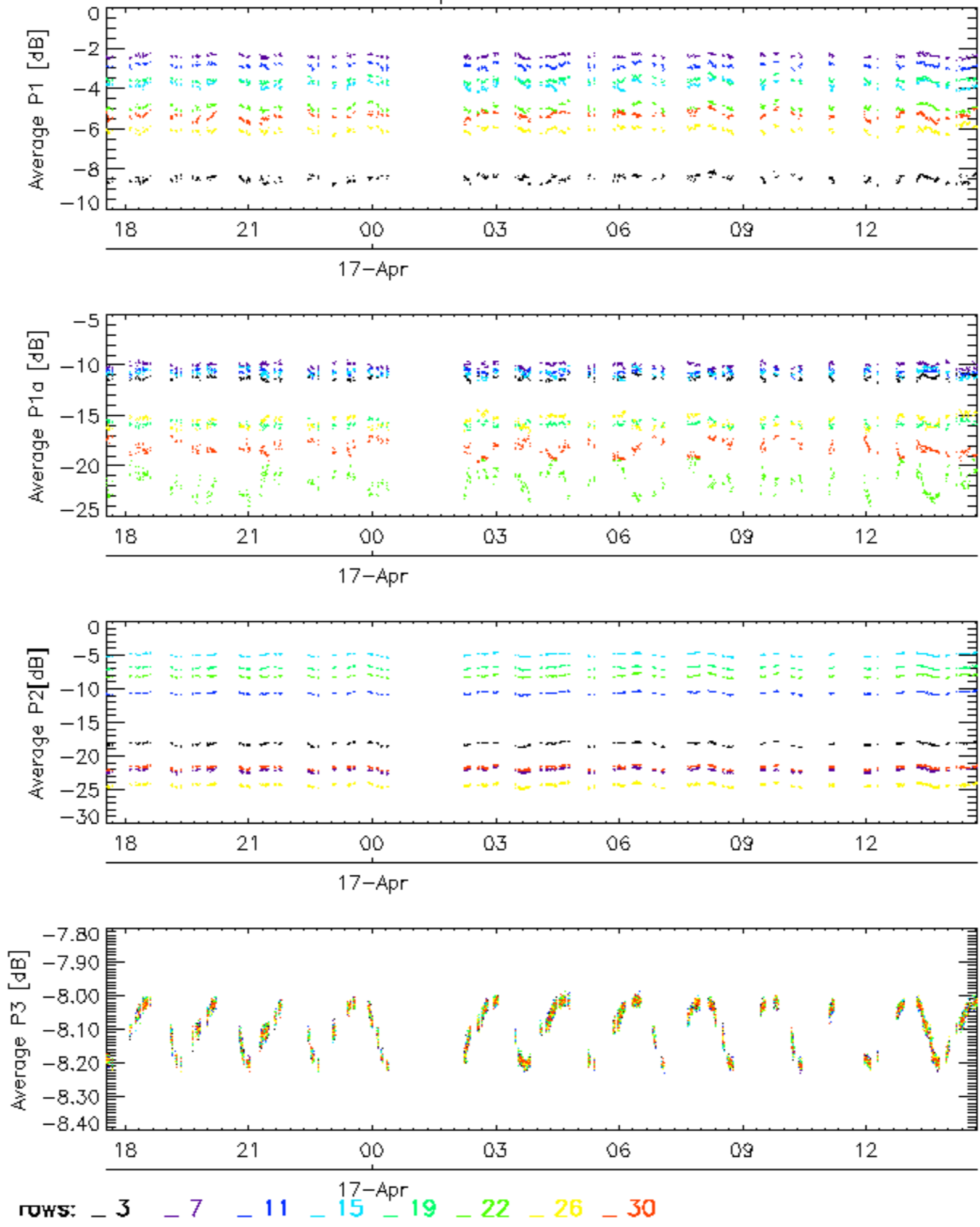
rows: 3 7 11 15 19 22 26 30

Cal pulses for GM1 SS3

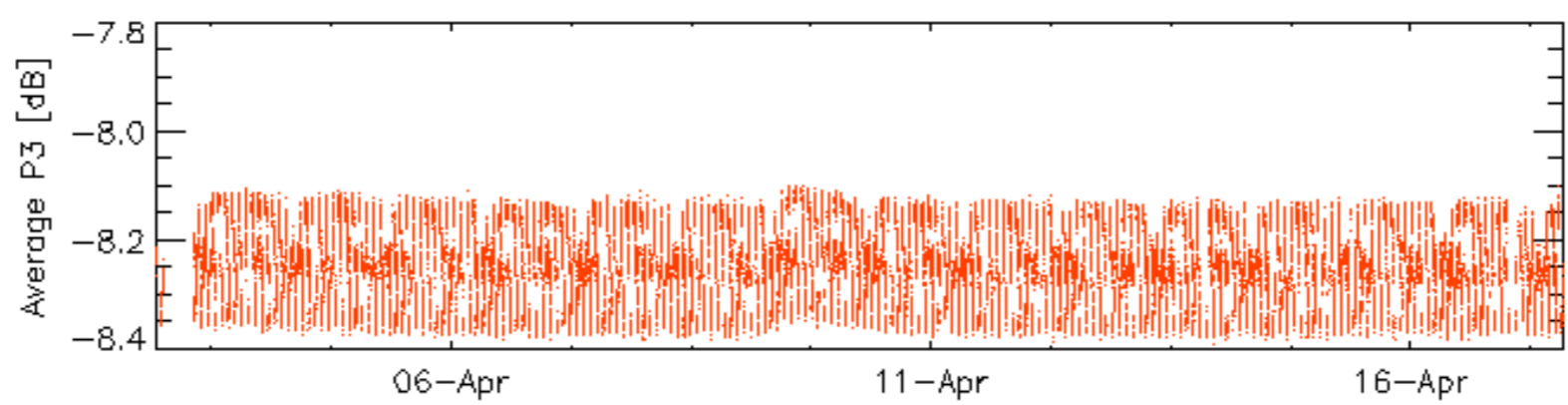
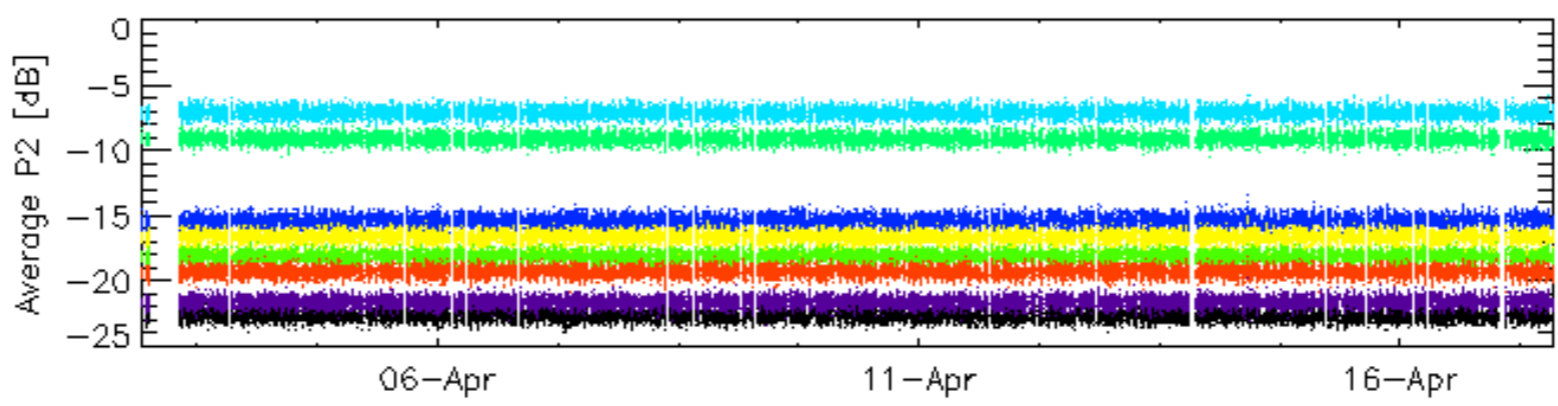
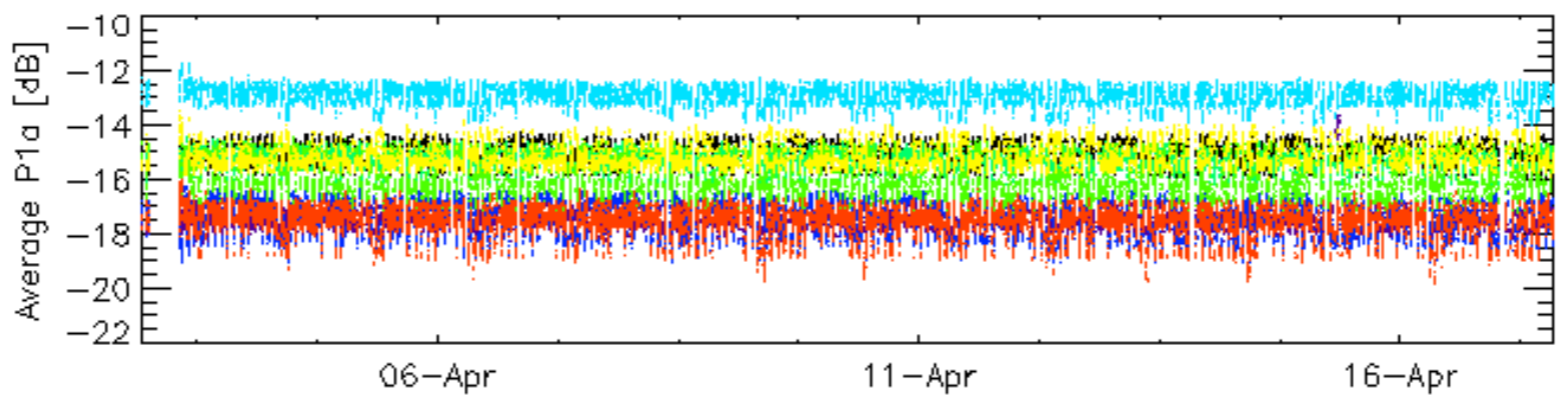
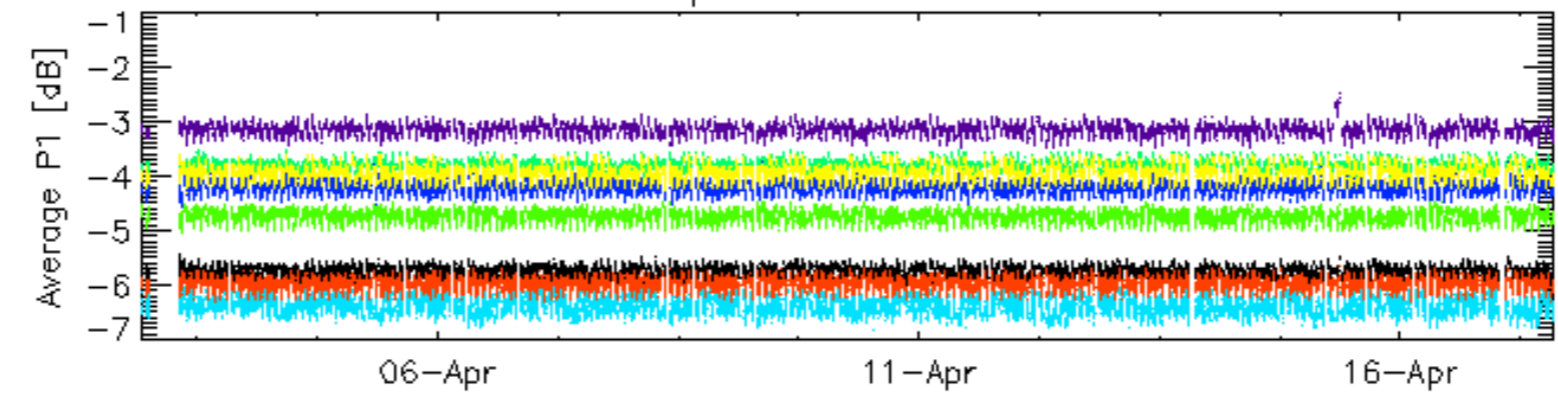


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

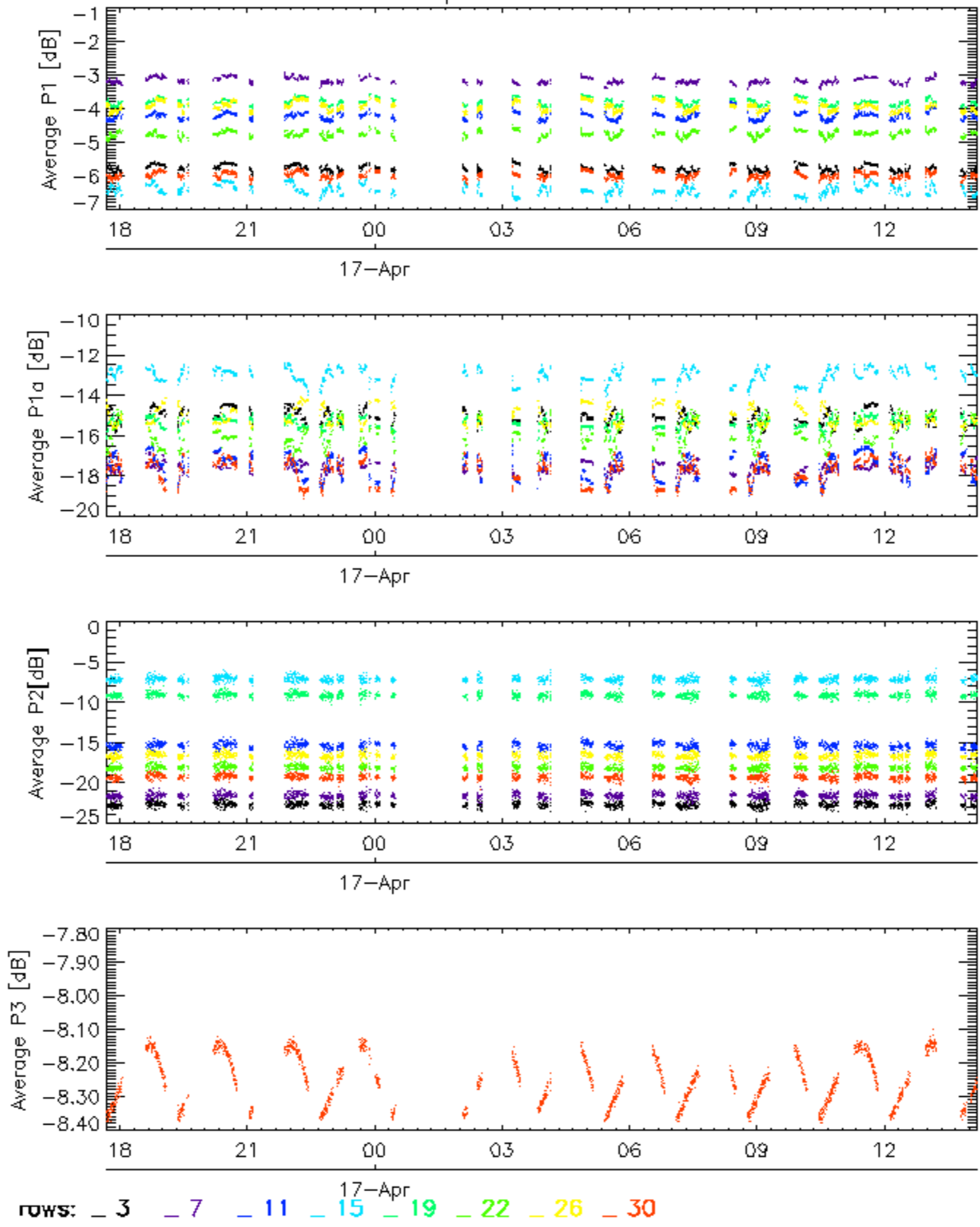


Cal pulses for WVS IS2

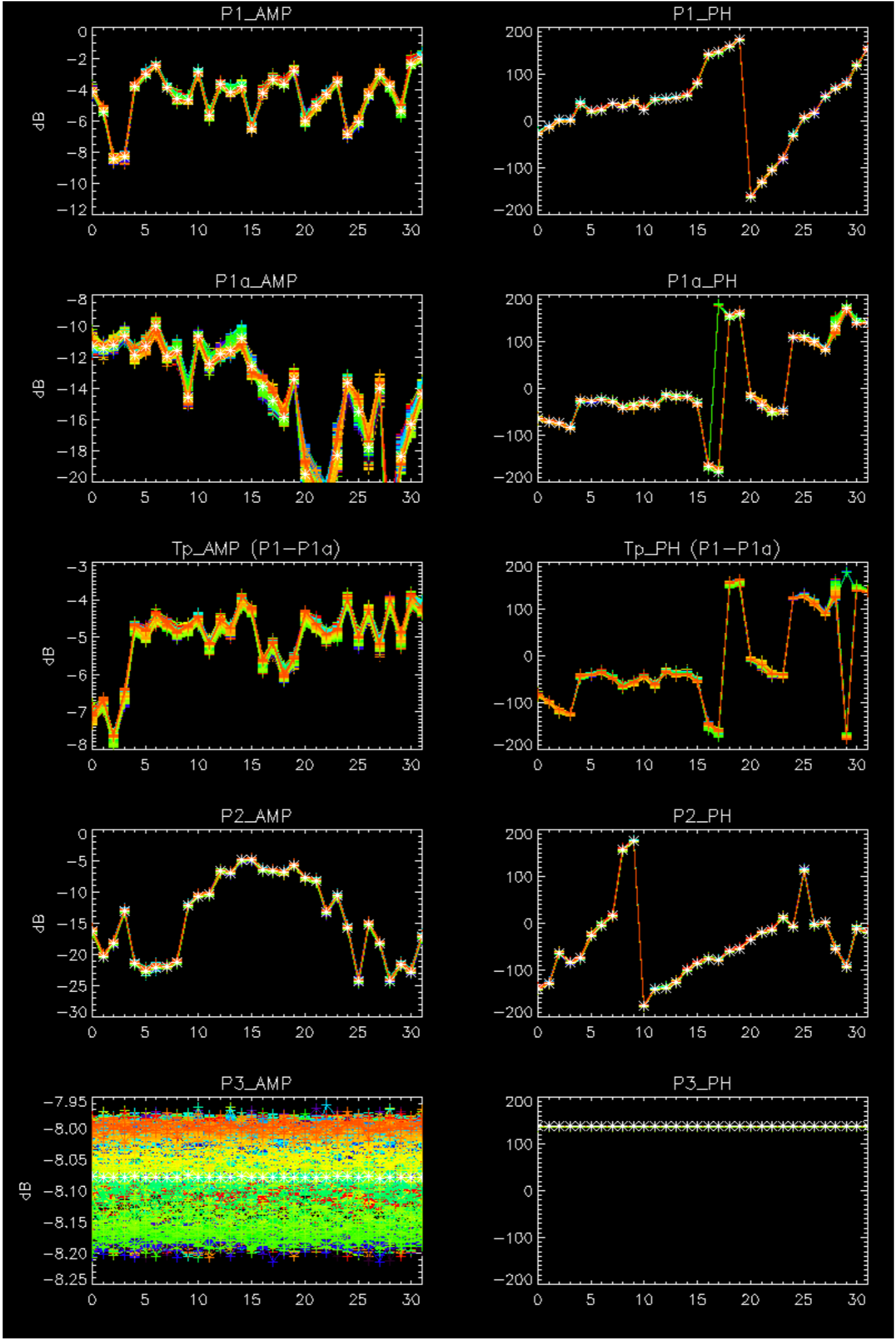


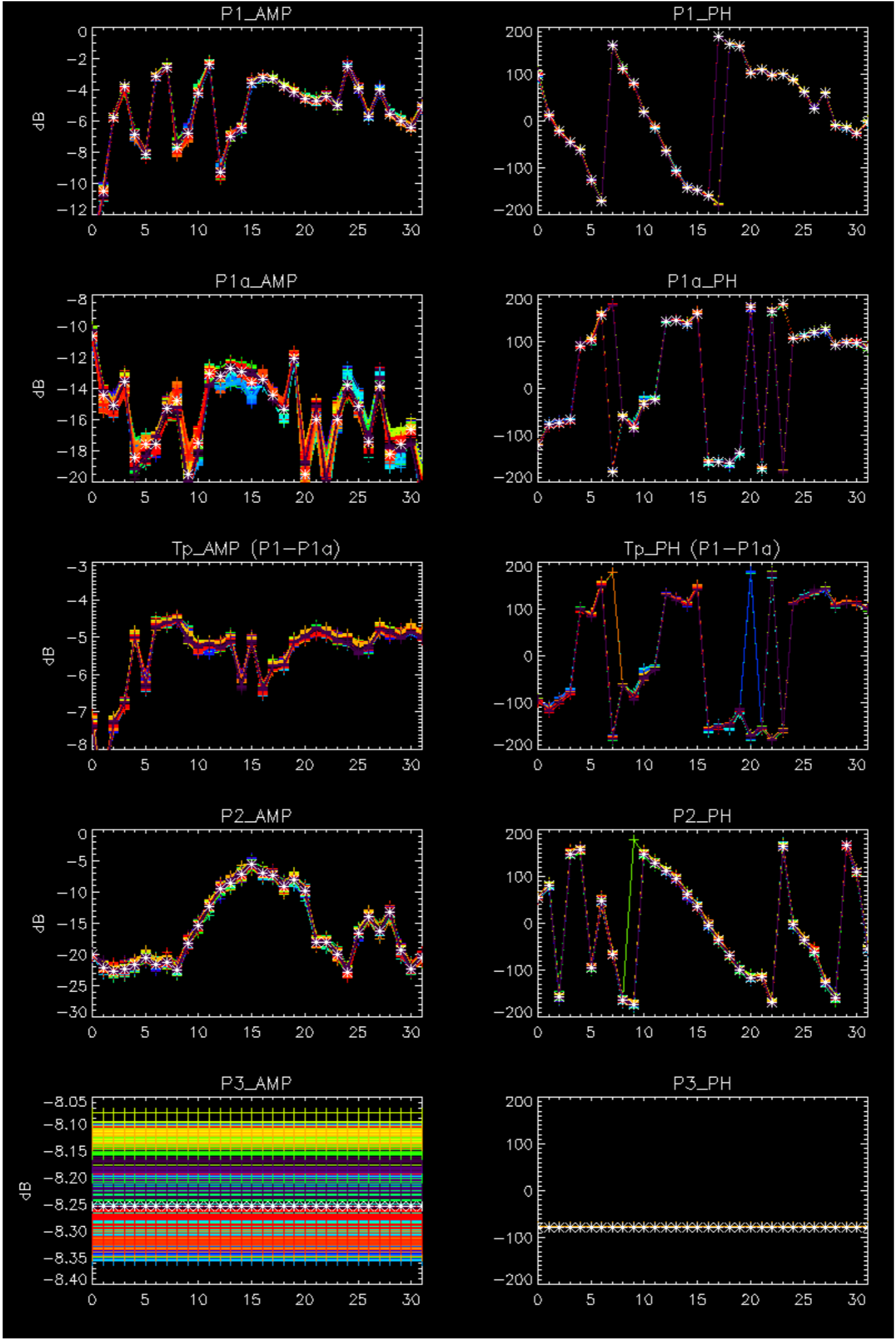
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



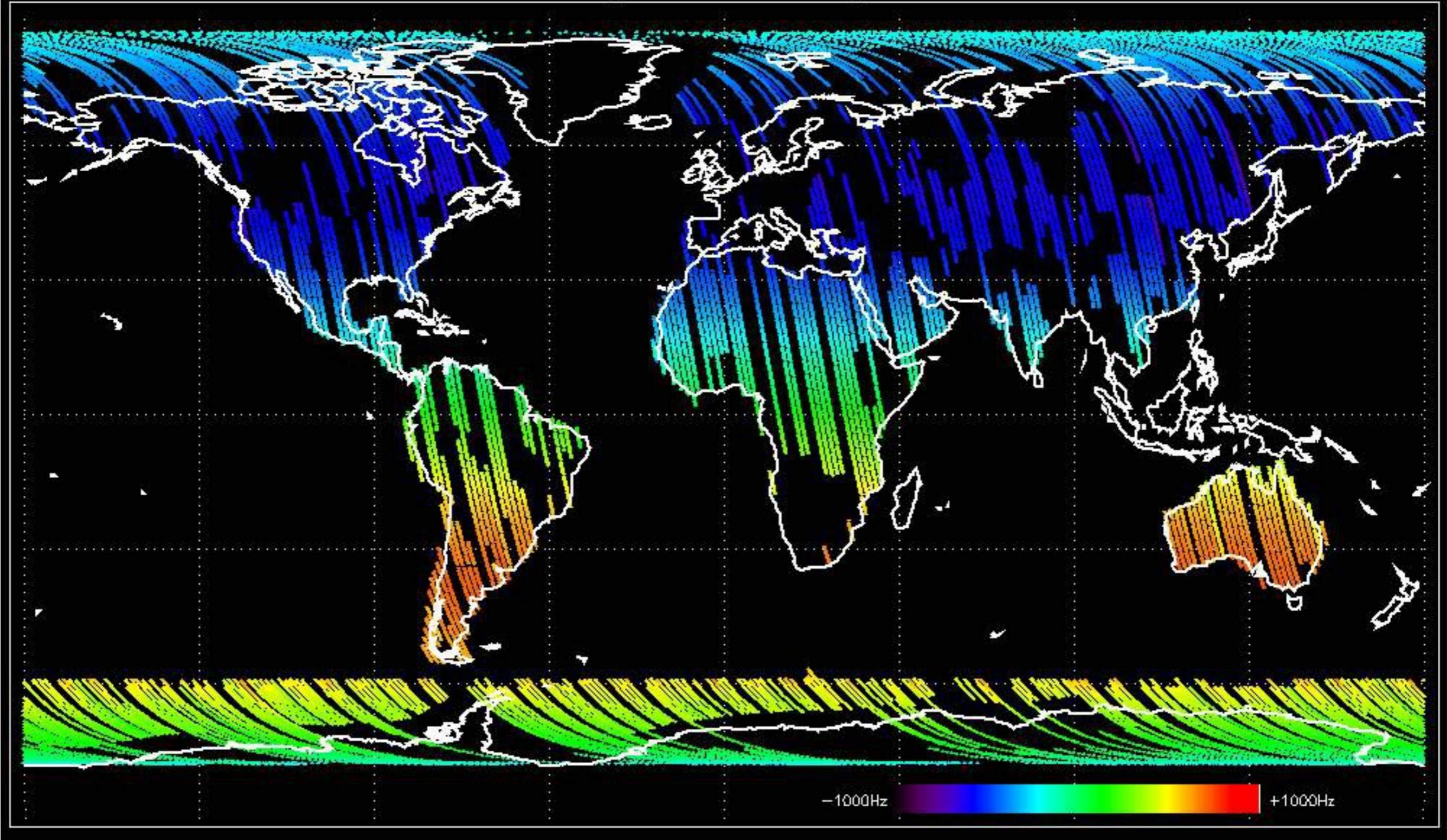
No anomalies observed.



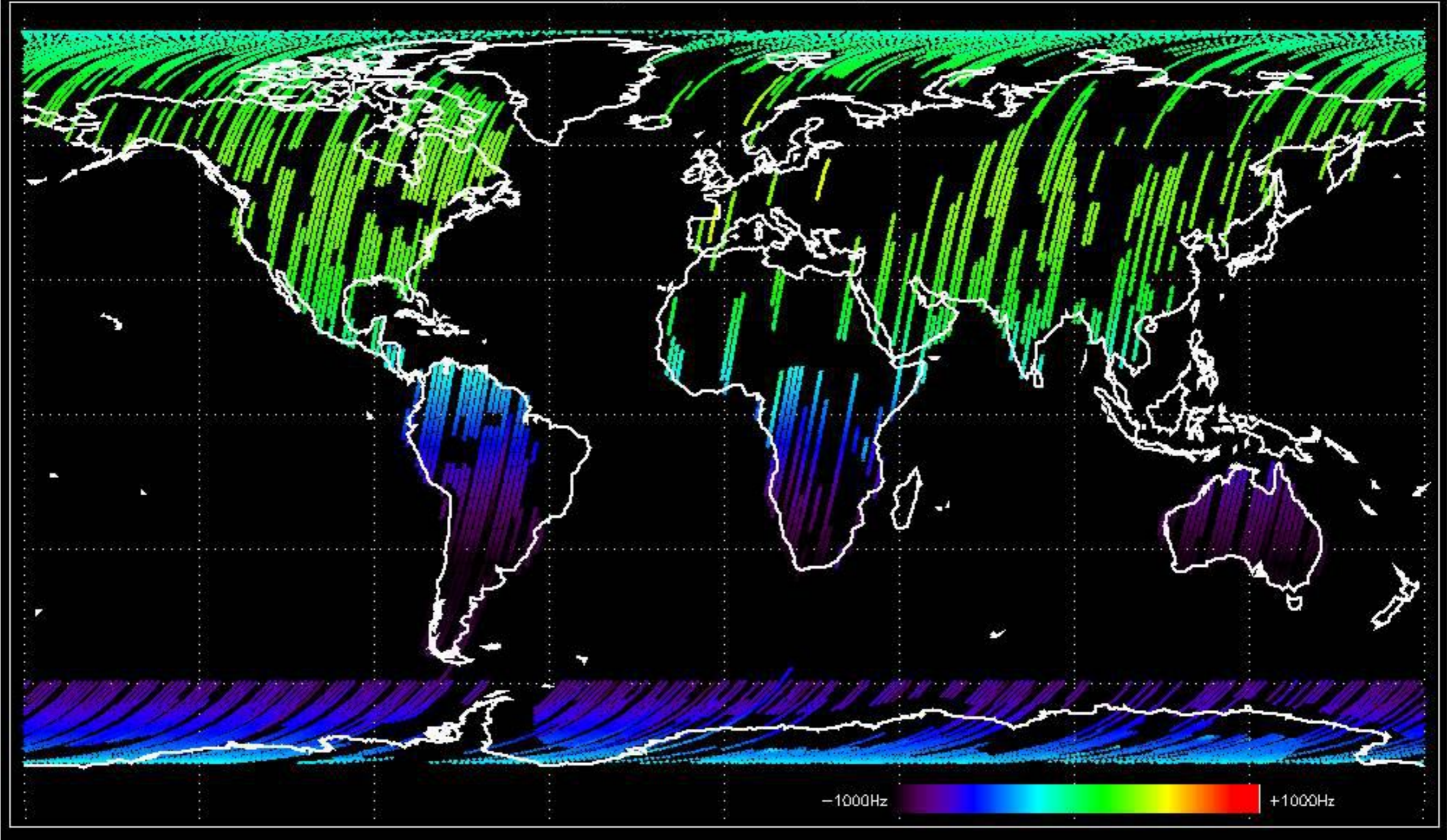


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

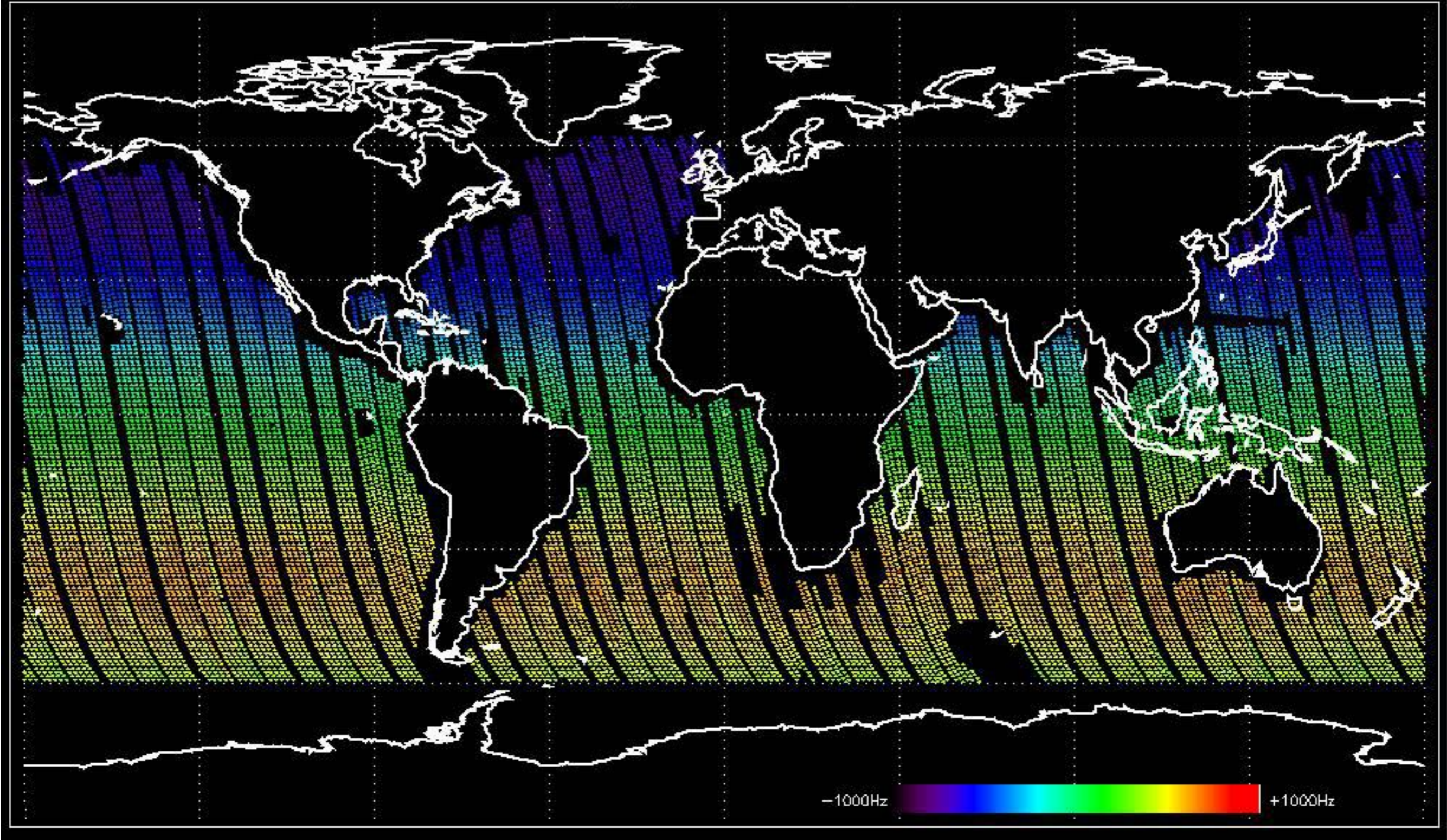
Doppler 'GM1' 'SS1' ascending



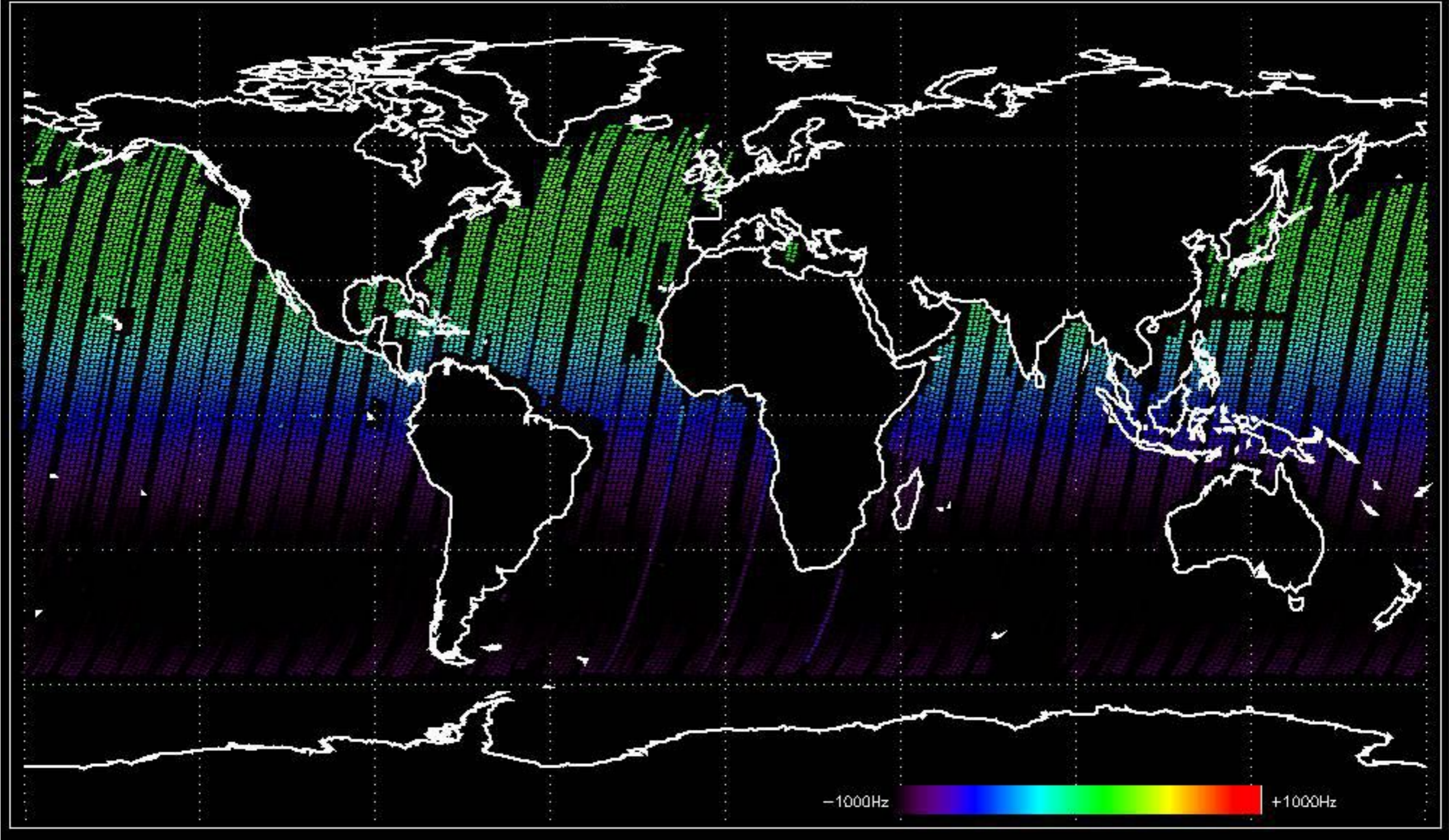
Doppler 'GM1' 'SS1' descending



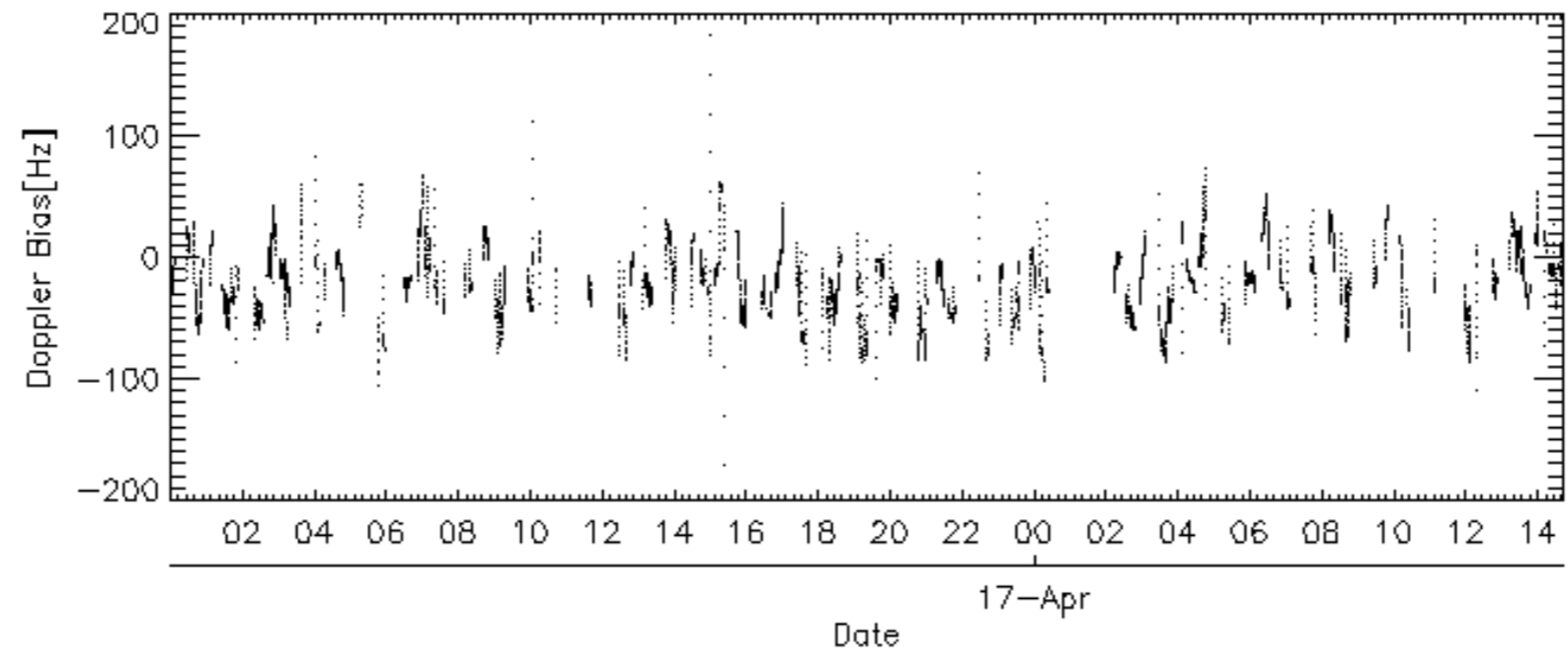
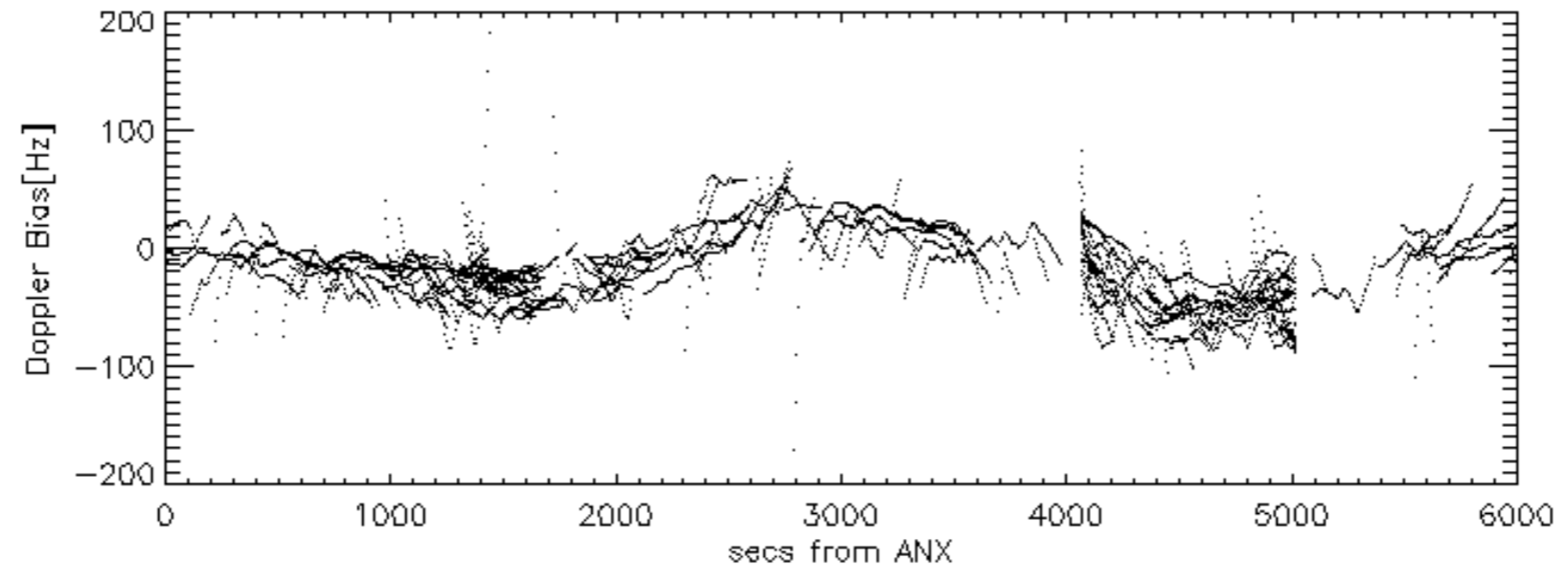
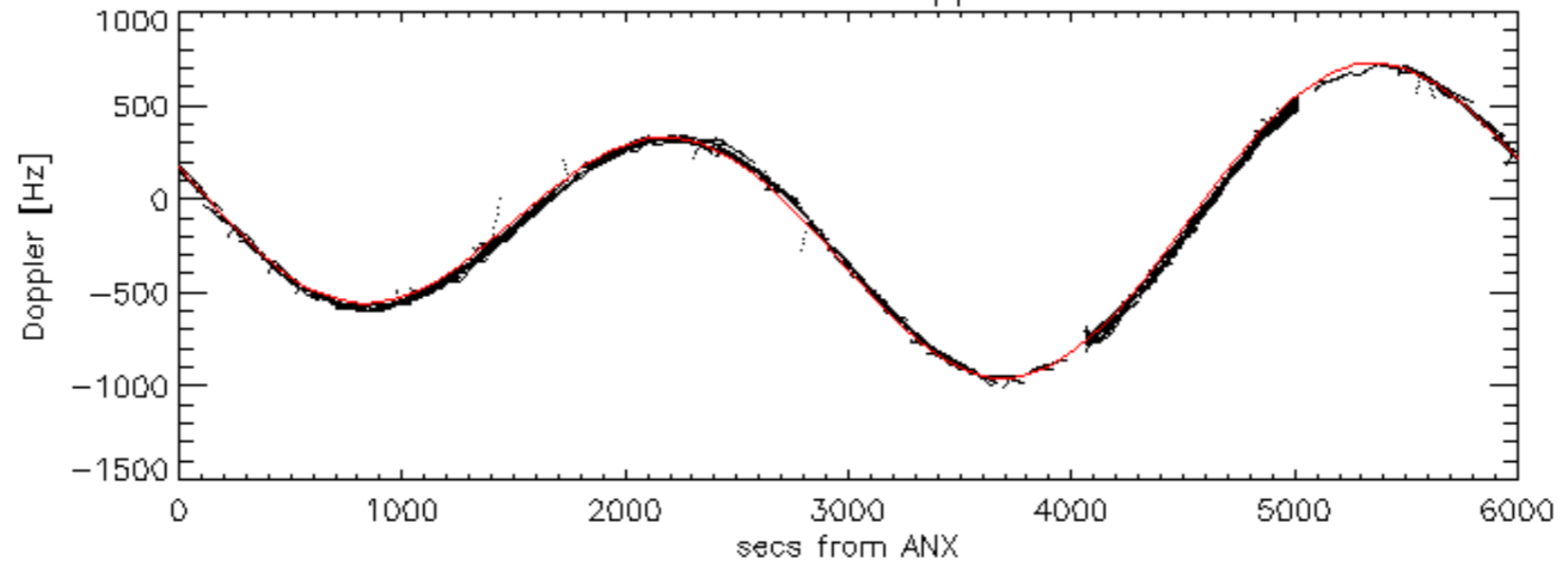
Doppler 'WVS' 'IS2' ascending

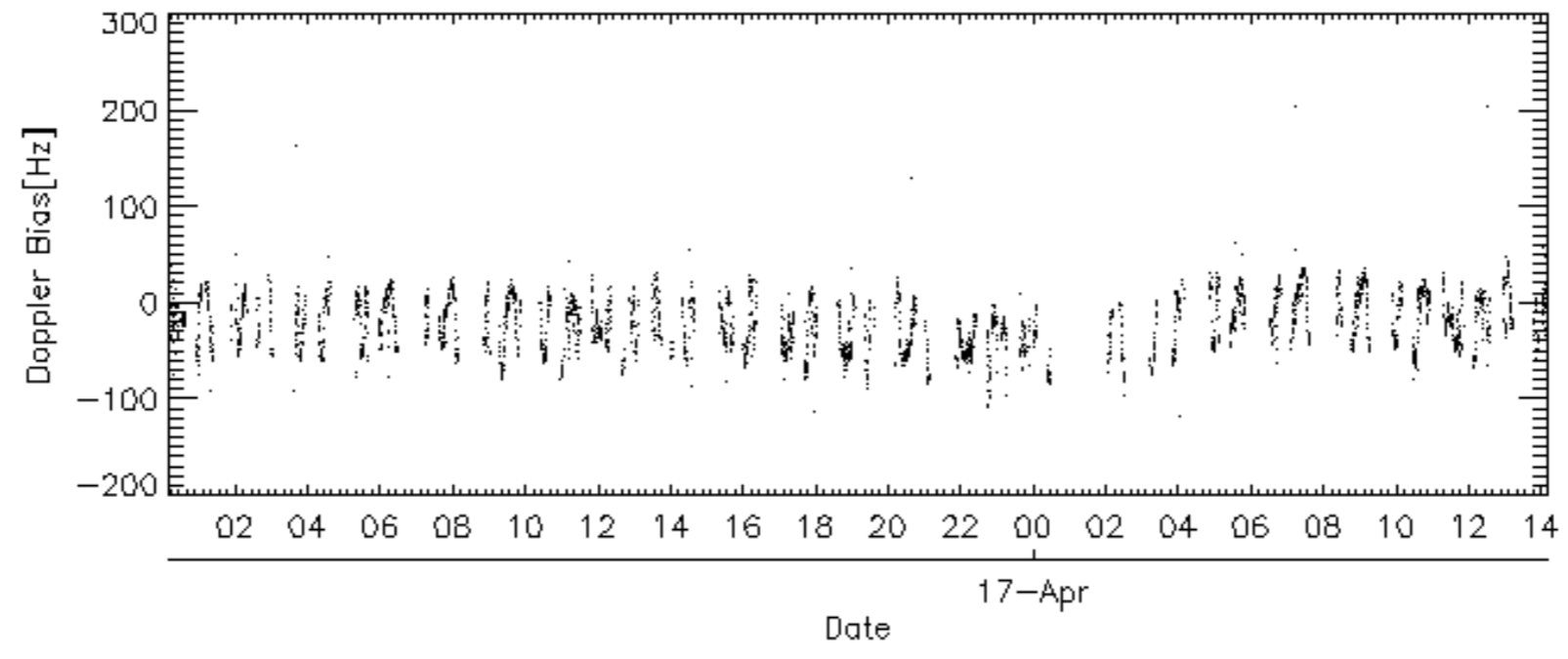
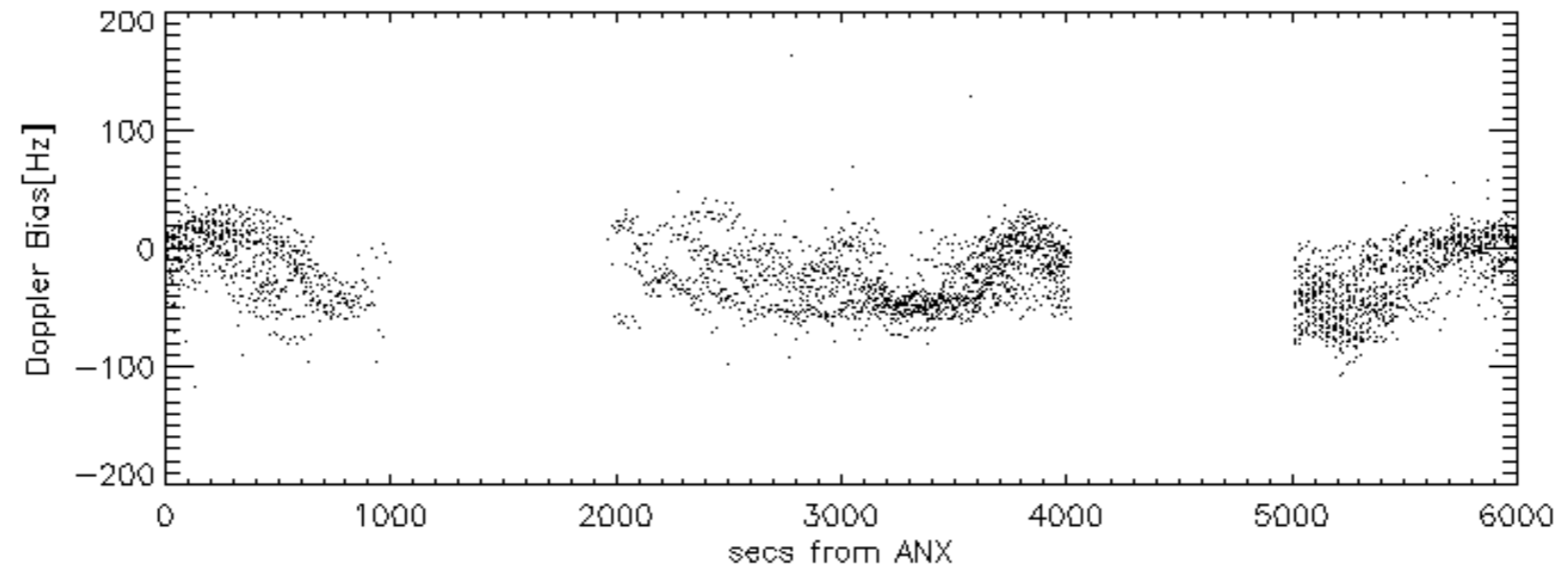
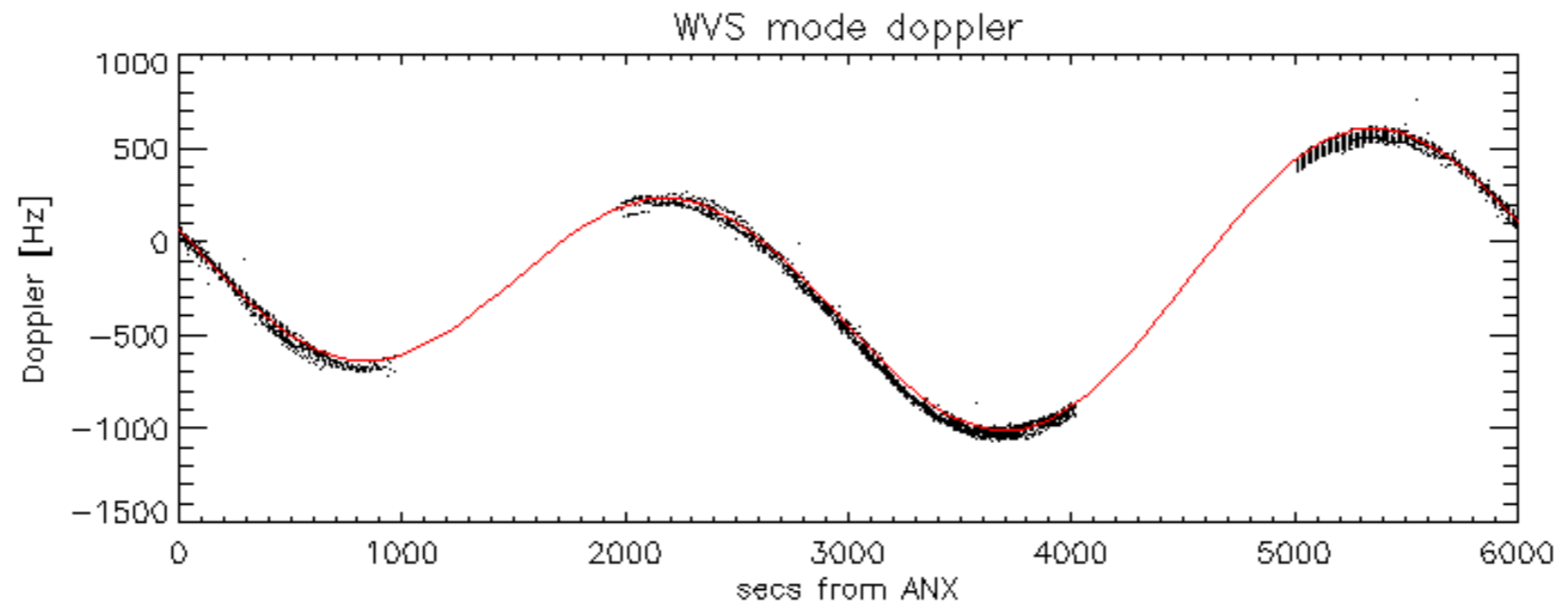


Doppler 'WVS' 'IS2' descending

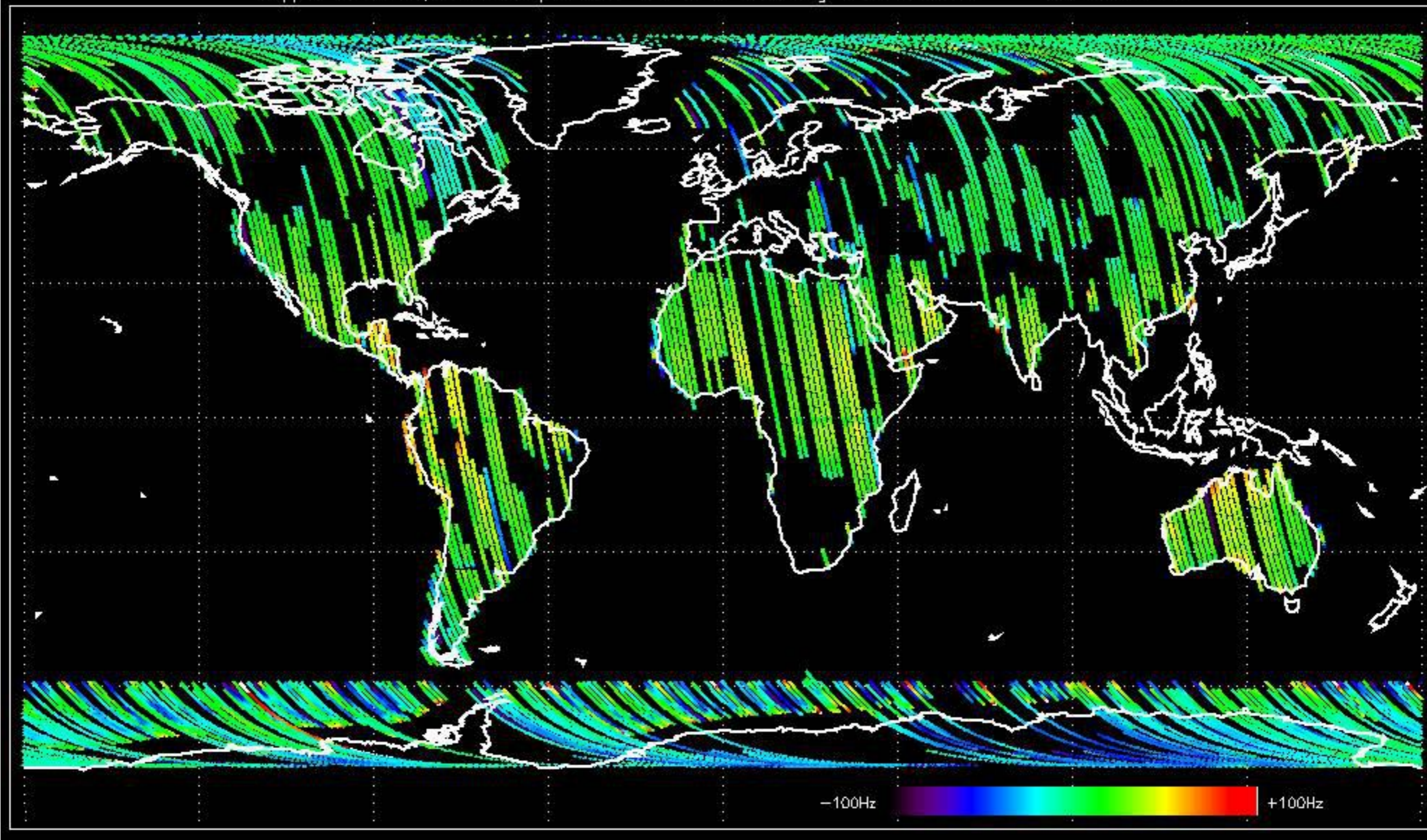


GM1 mode doppler

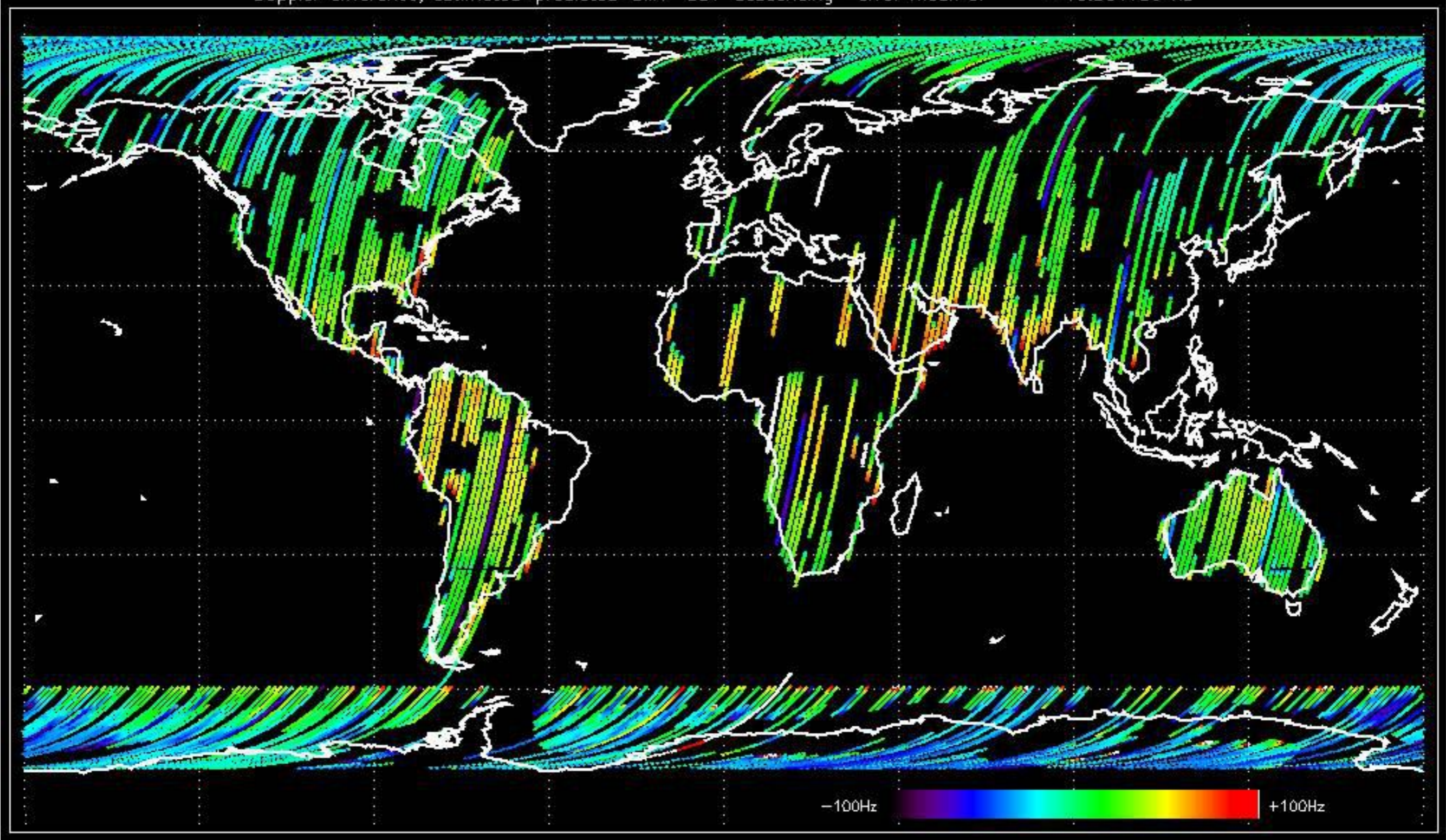




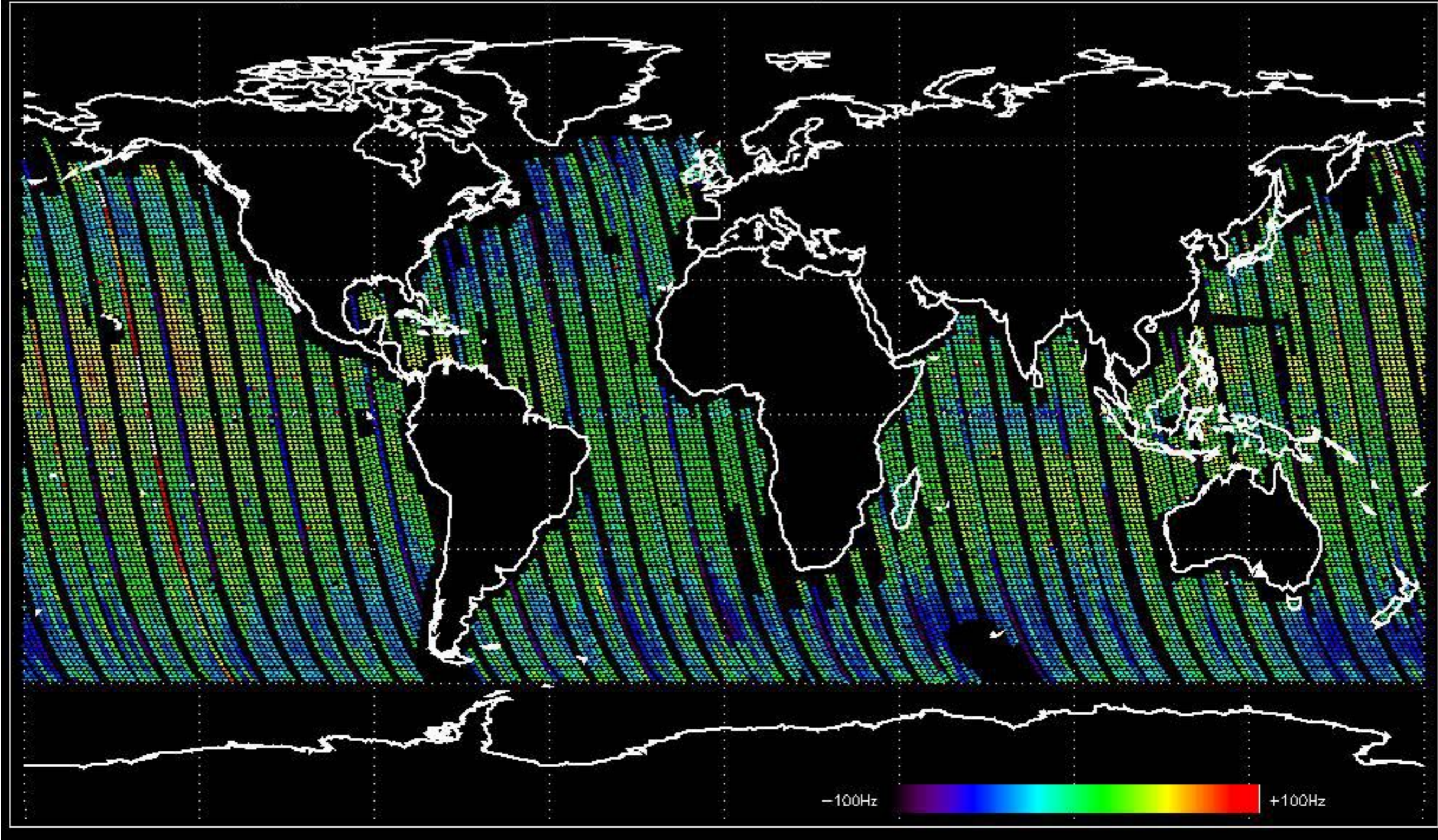
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -27.312588 Hz



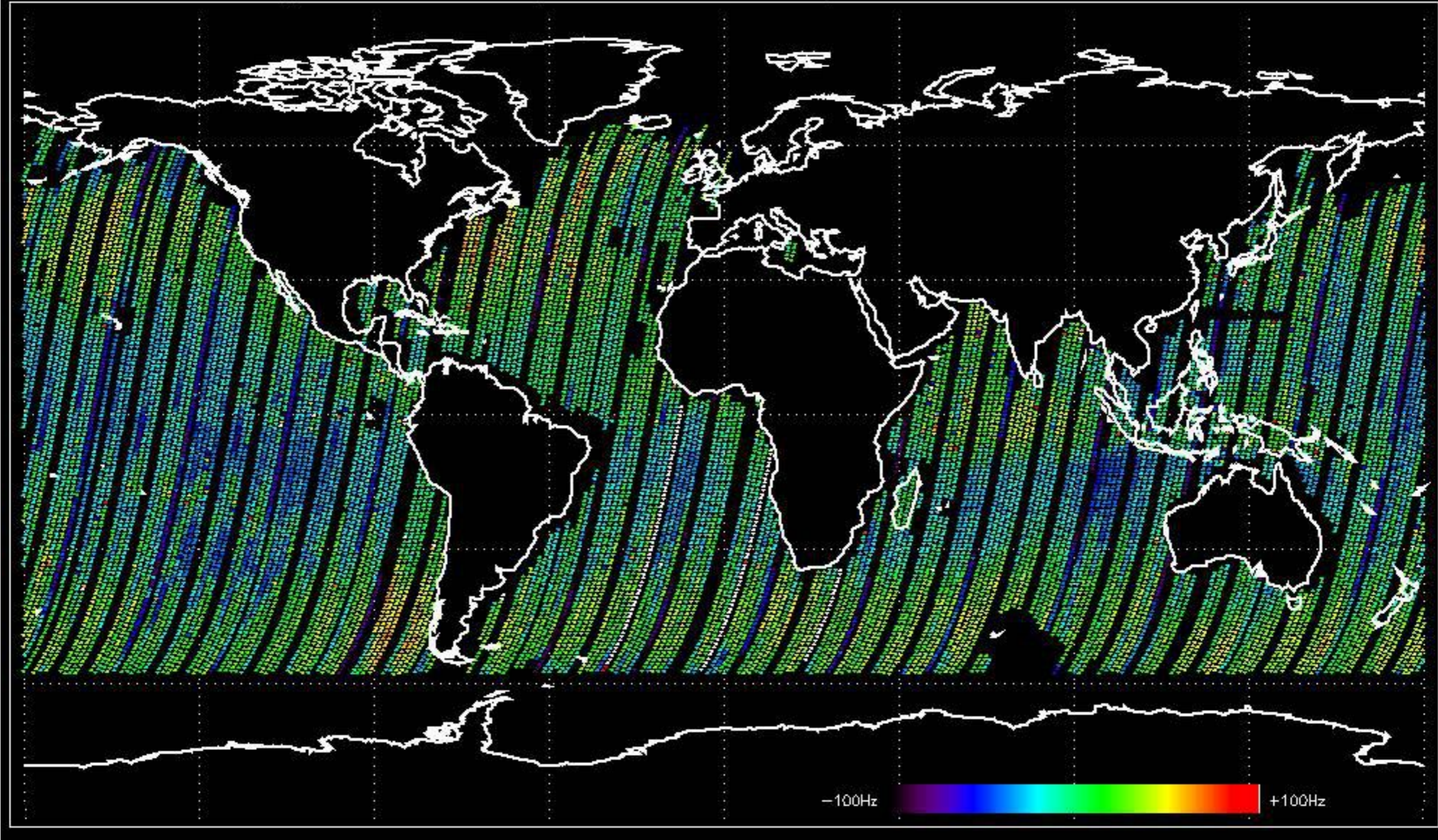
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -18.804156 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -23.381125 Hz

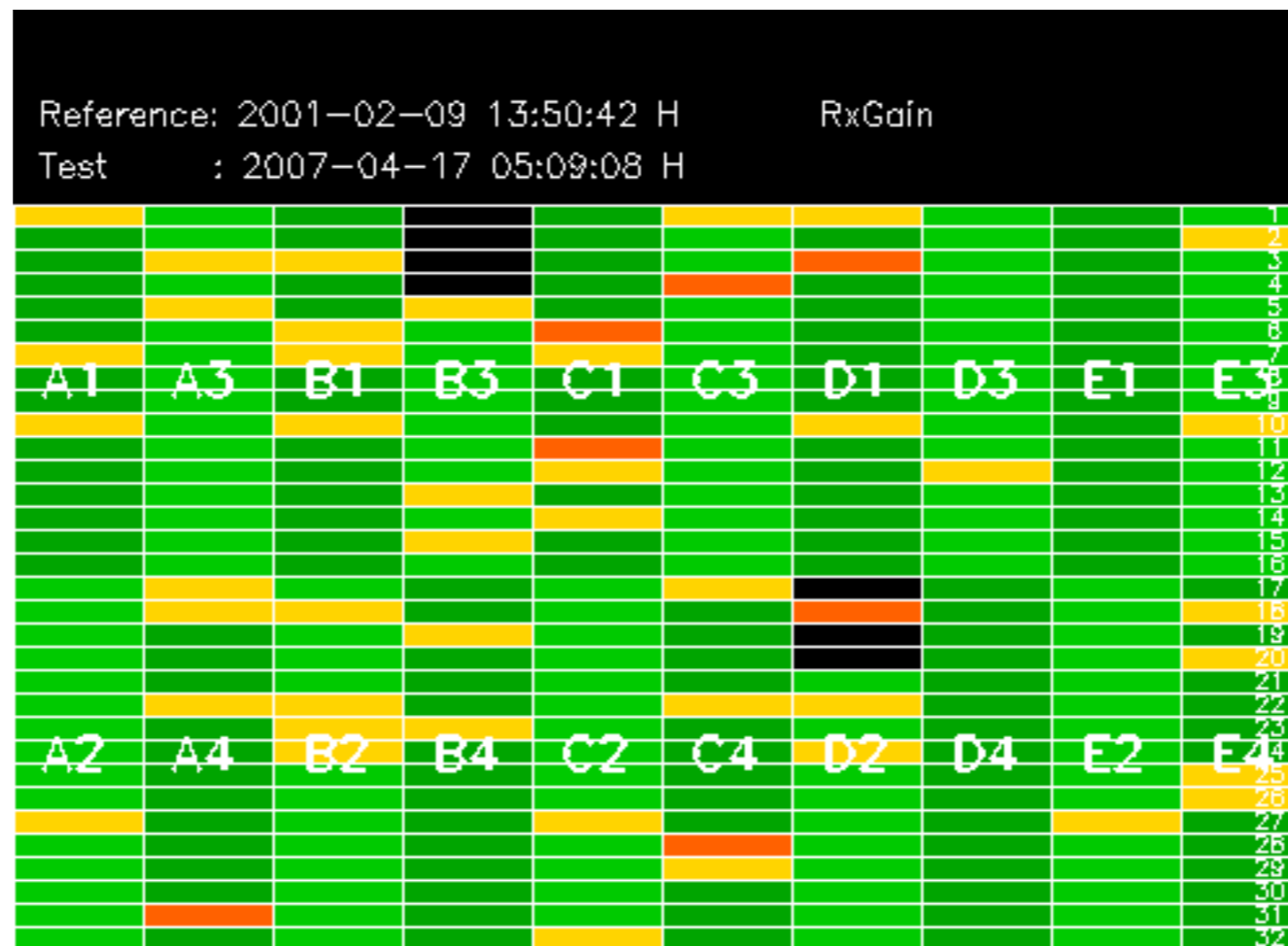


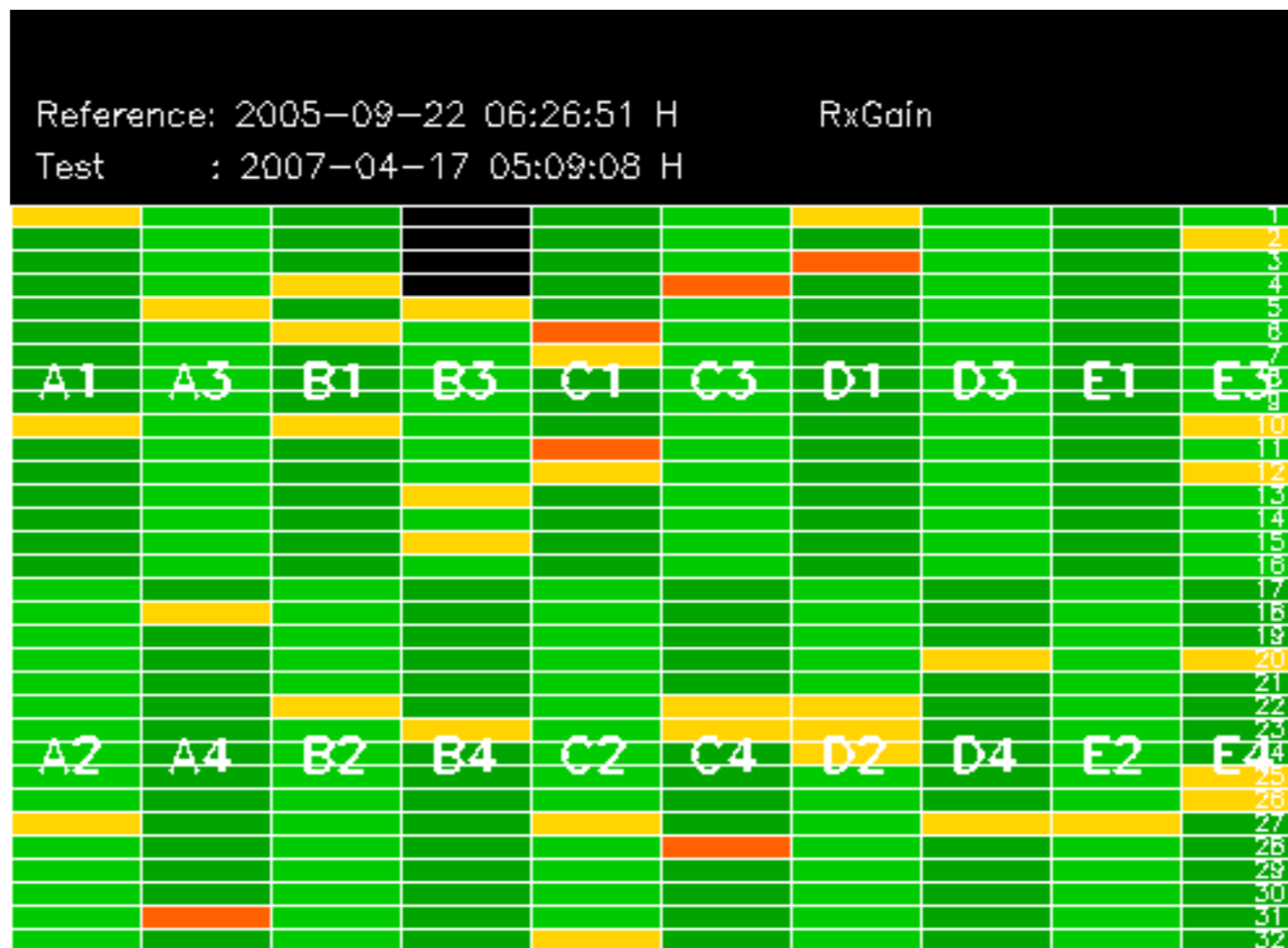
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -22.239513 Hz

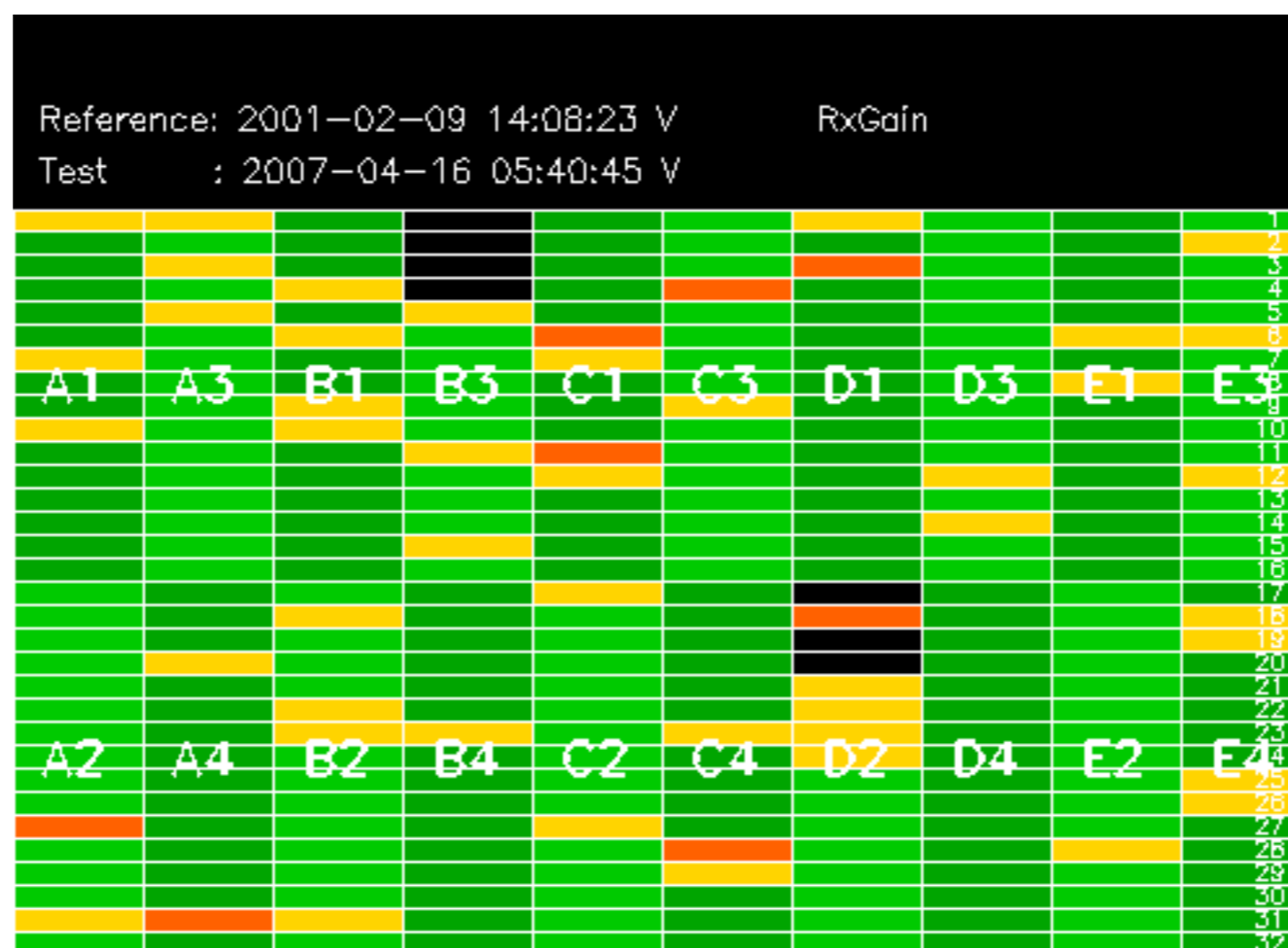


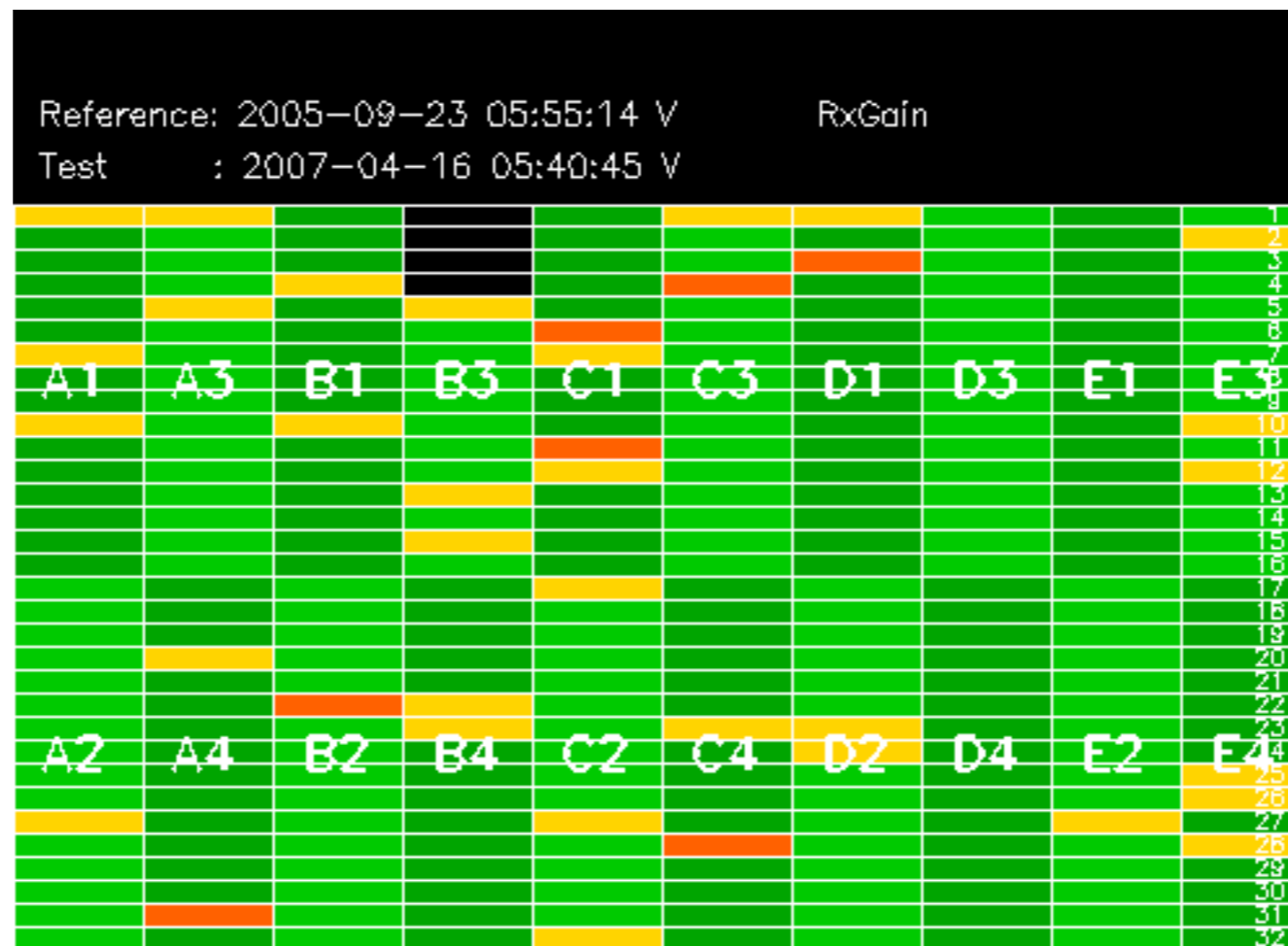
No anomalies observed on available MS products:

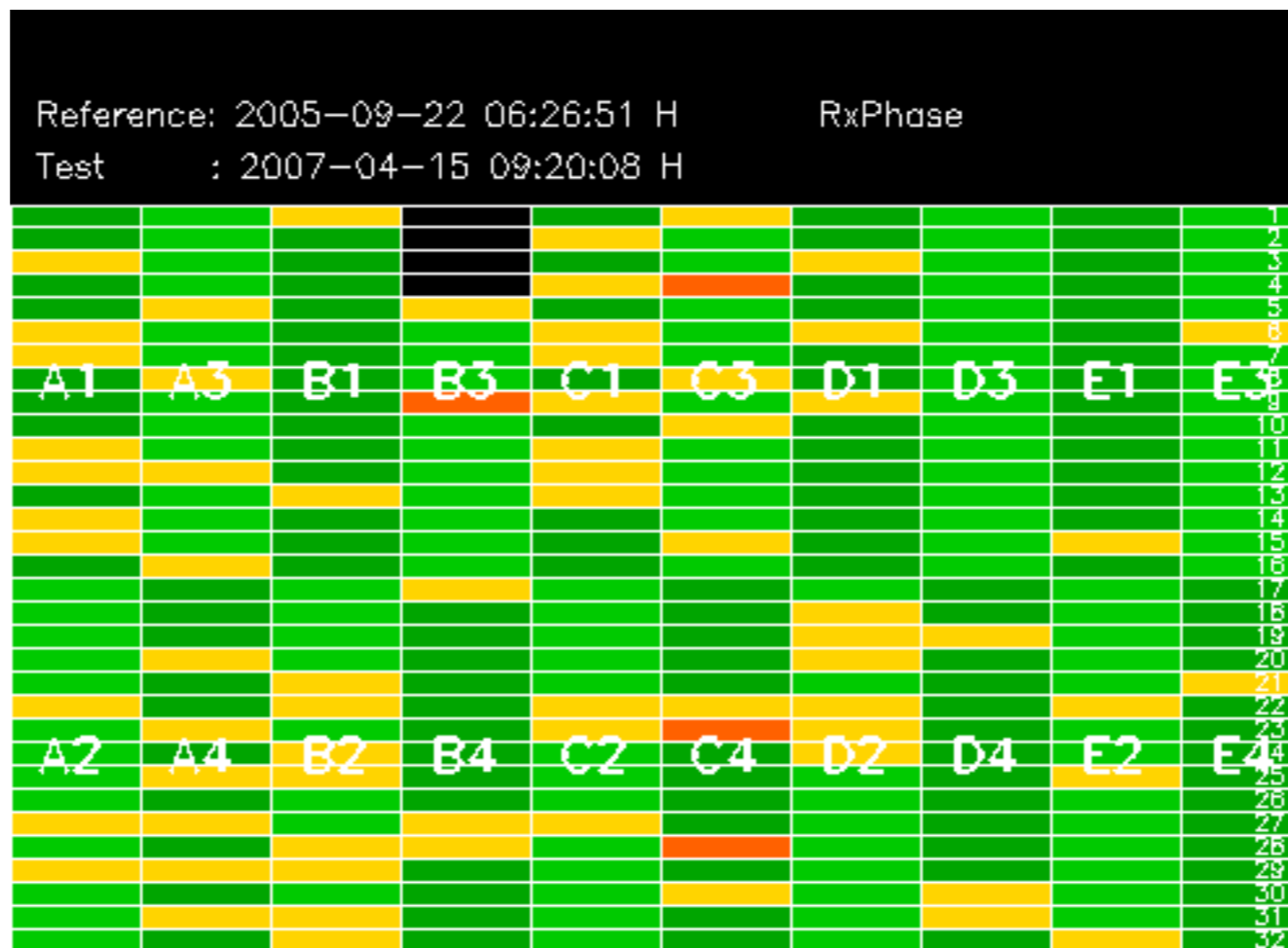
No anomalies observed.

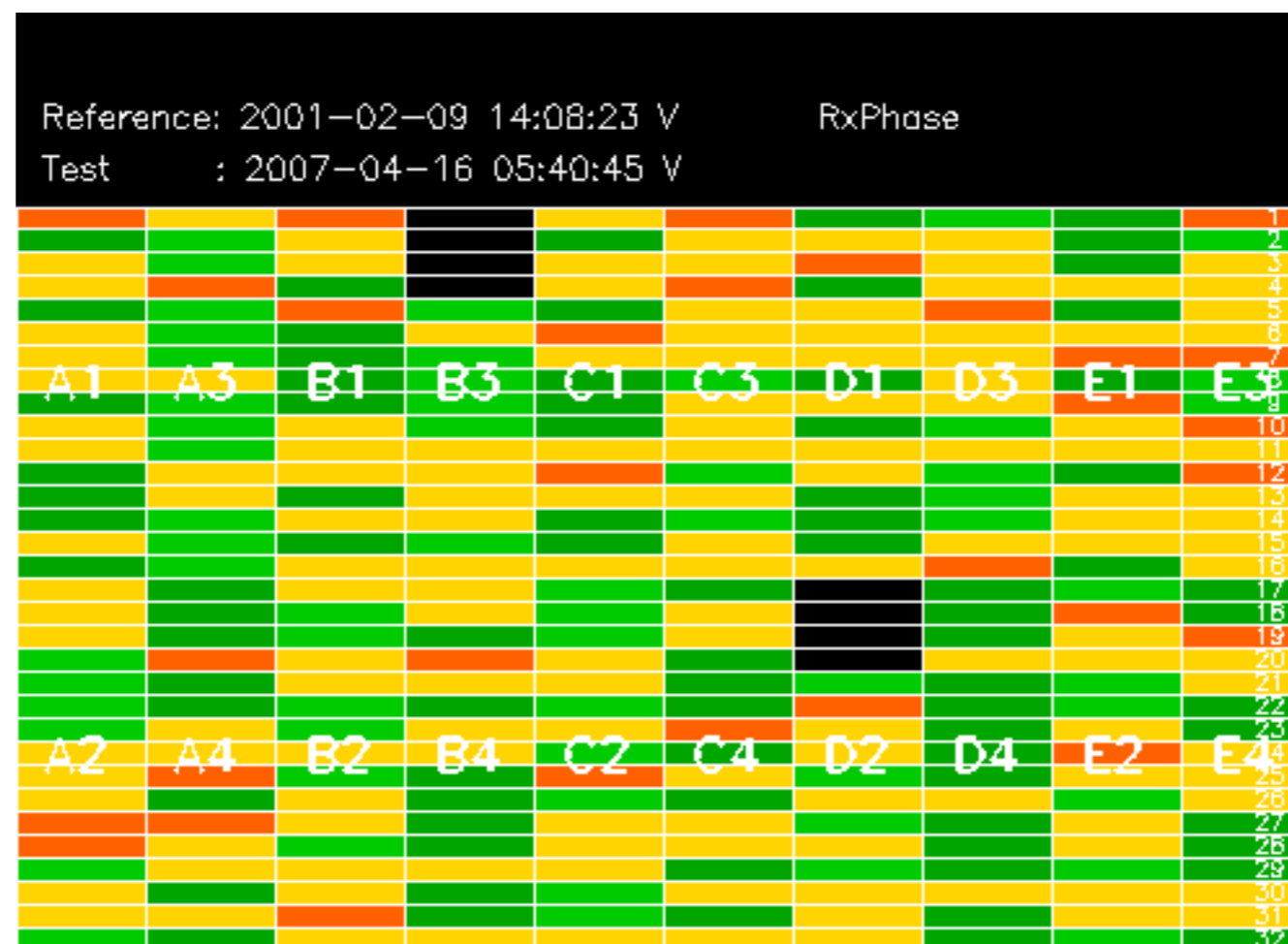


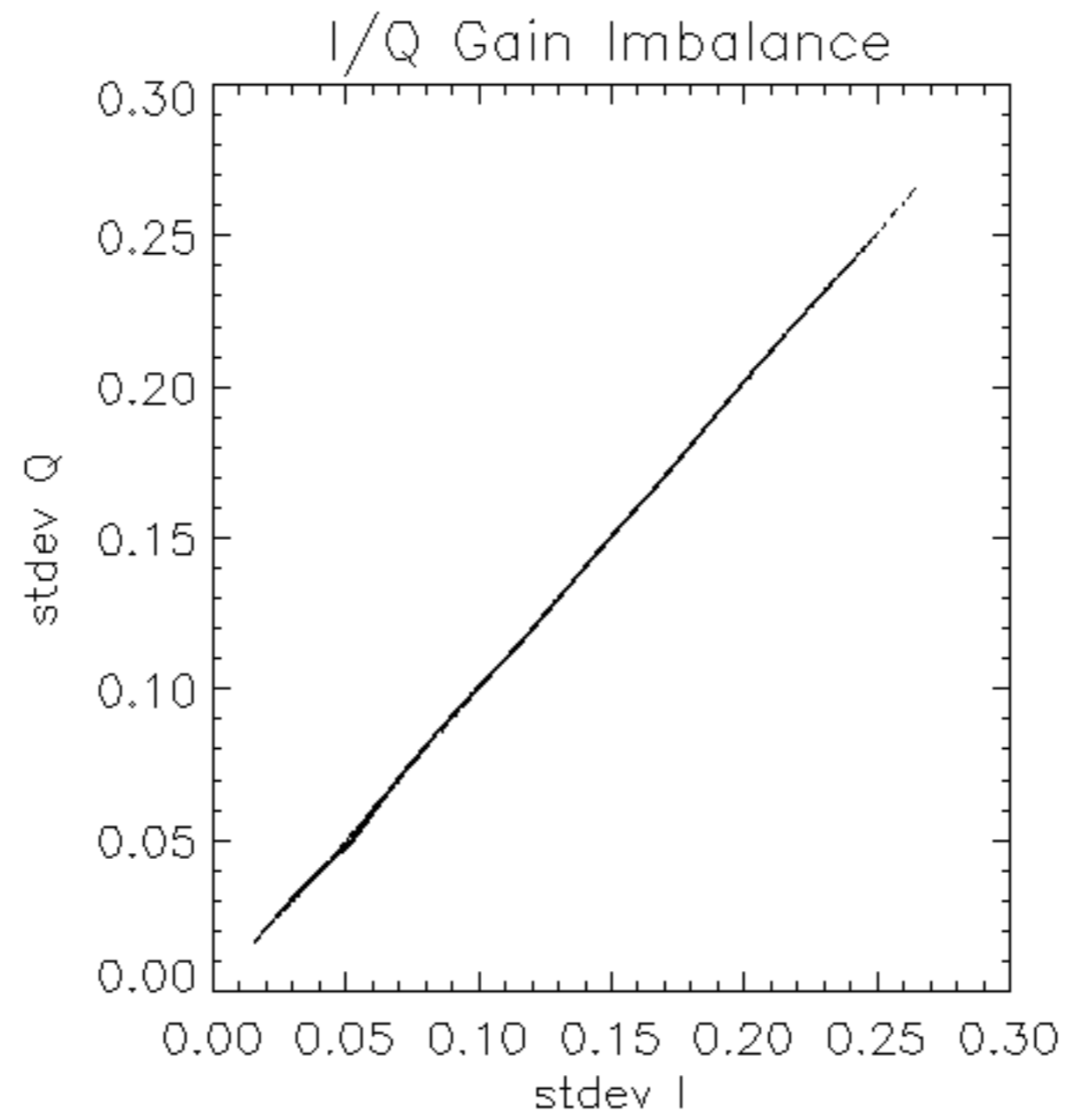


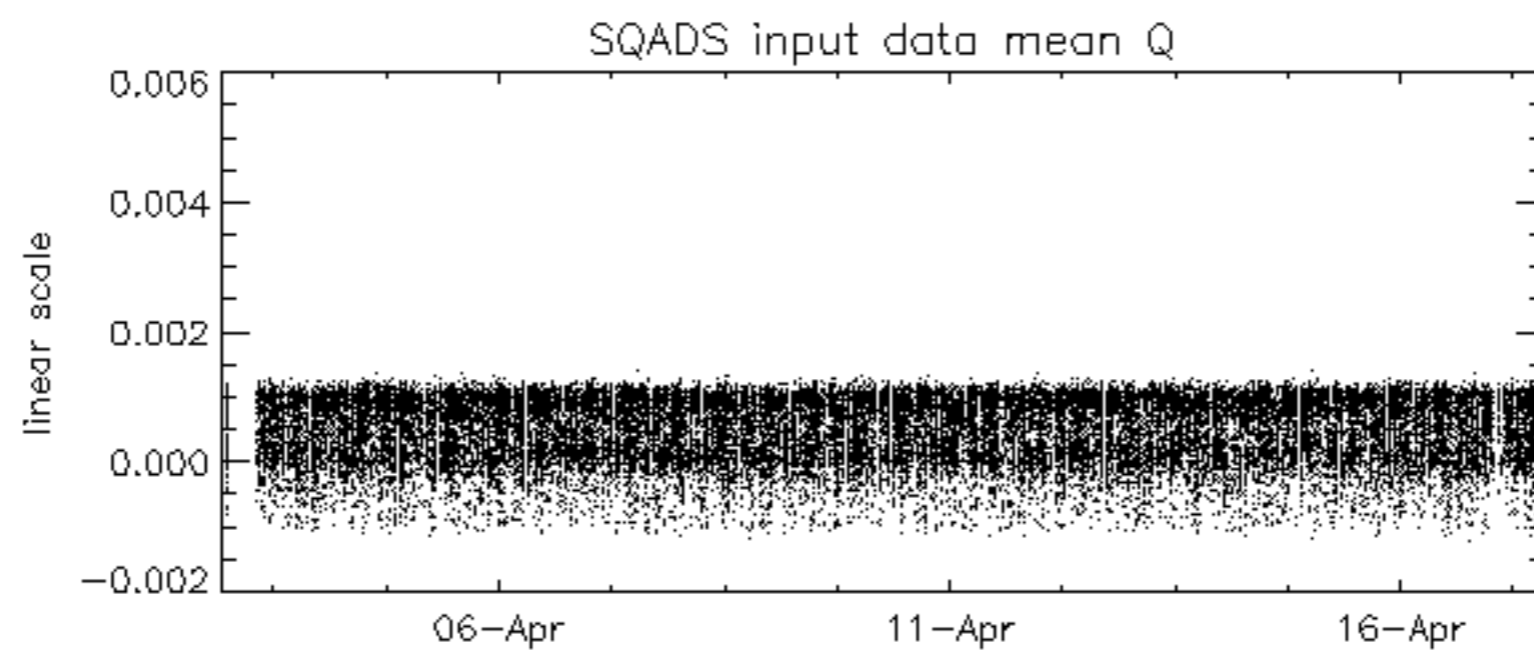
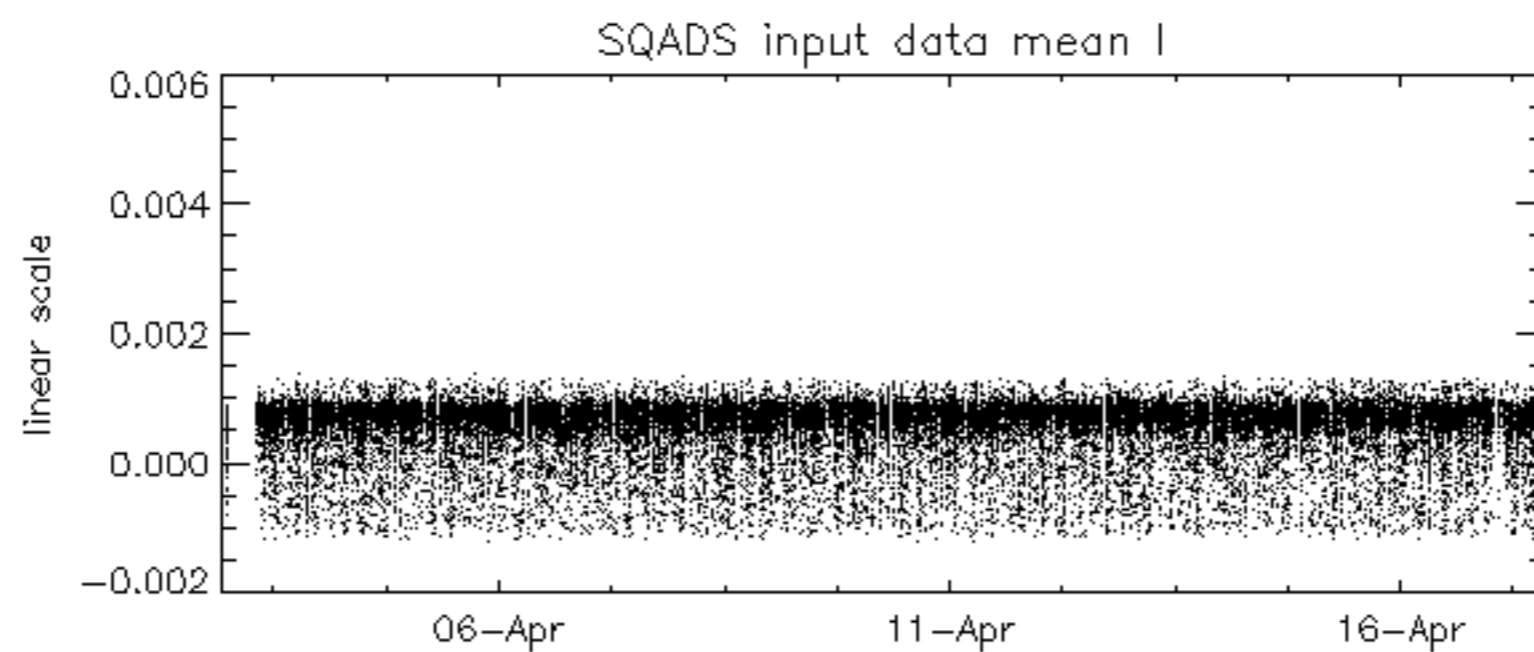
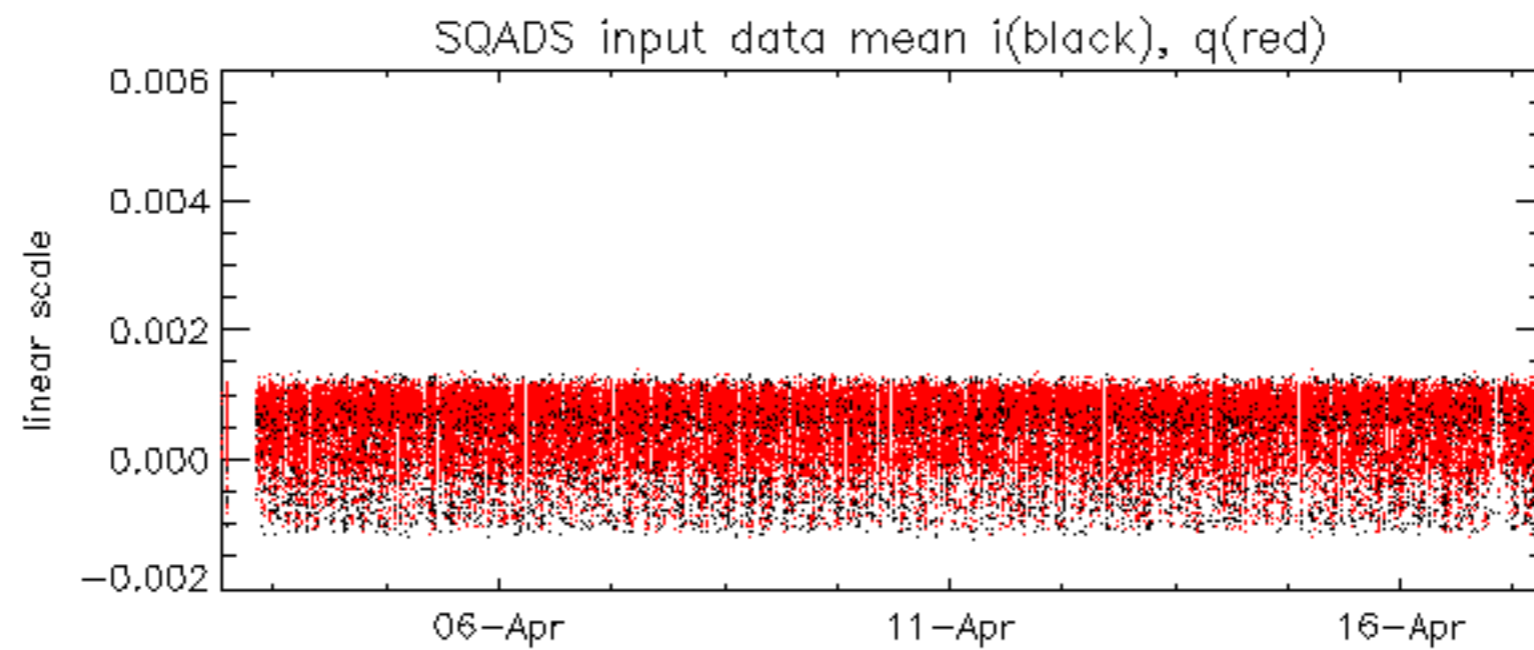


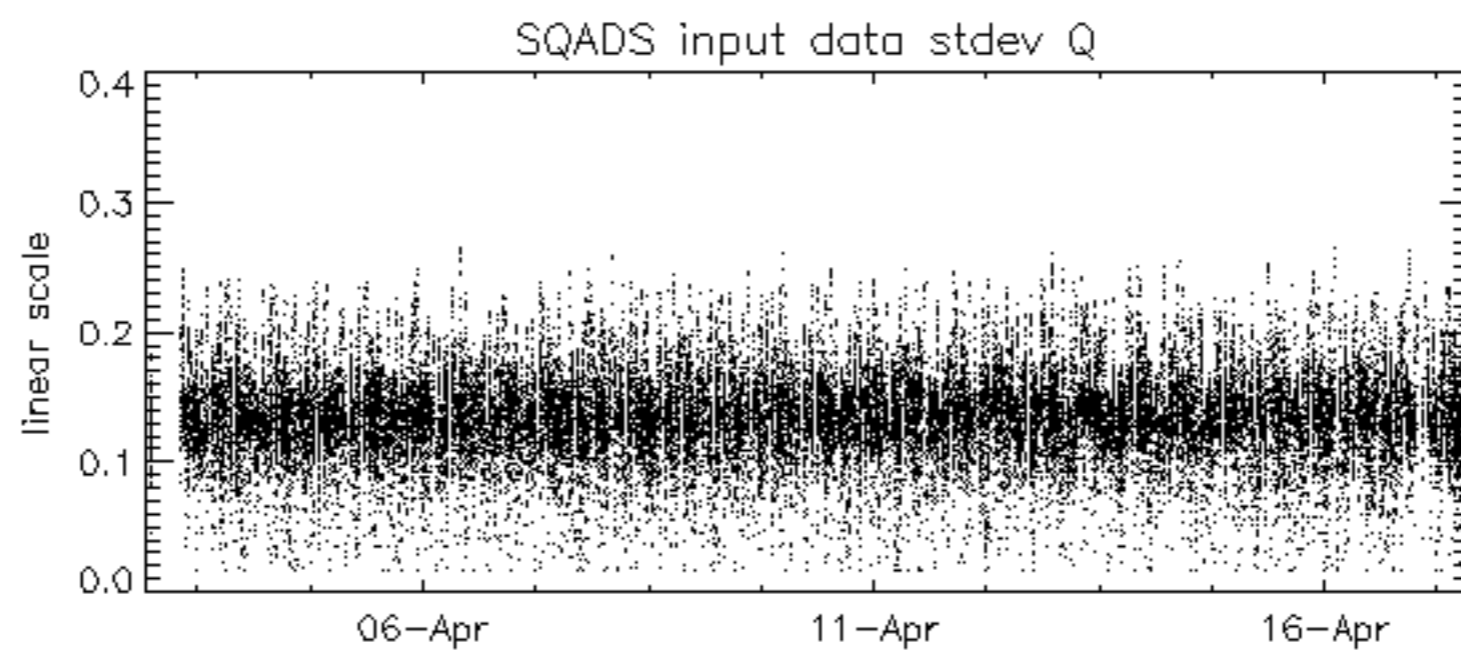
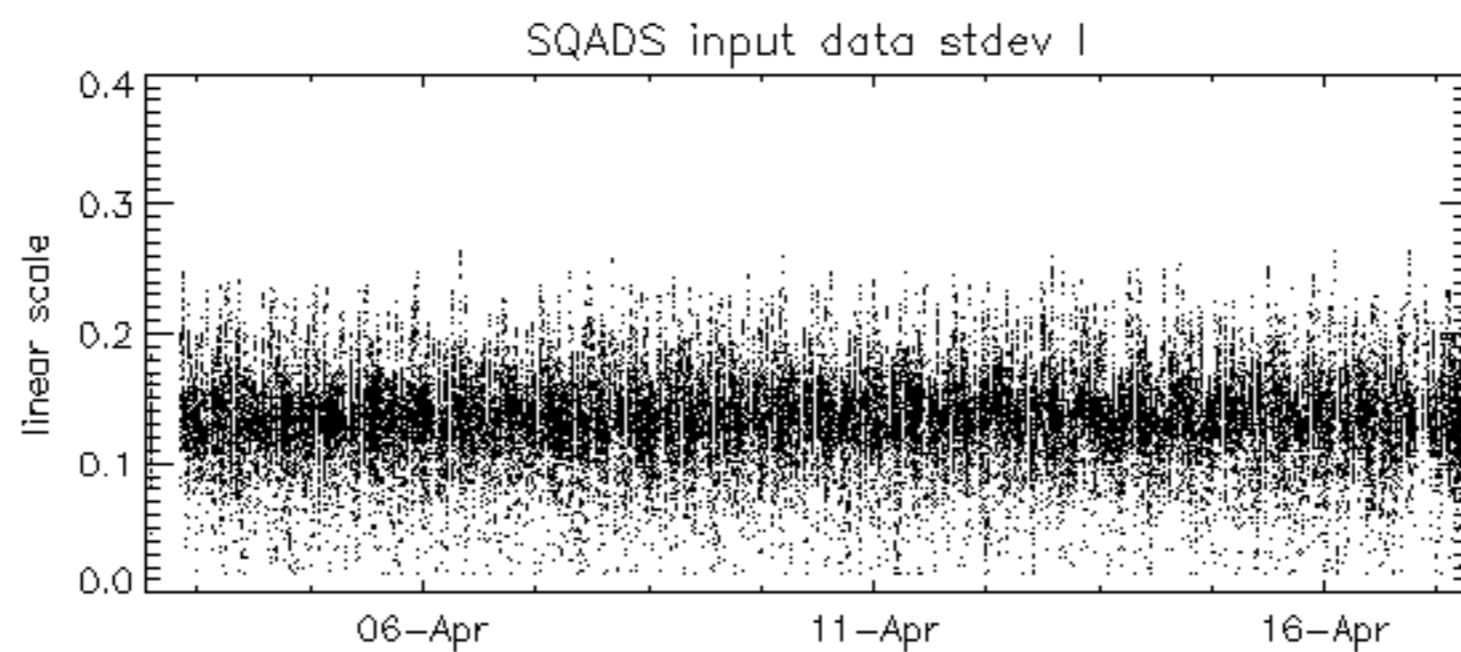
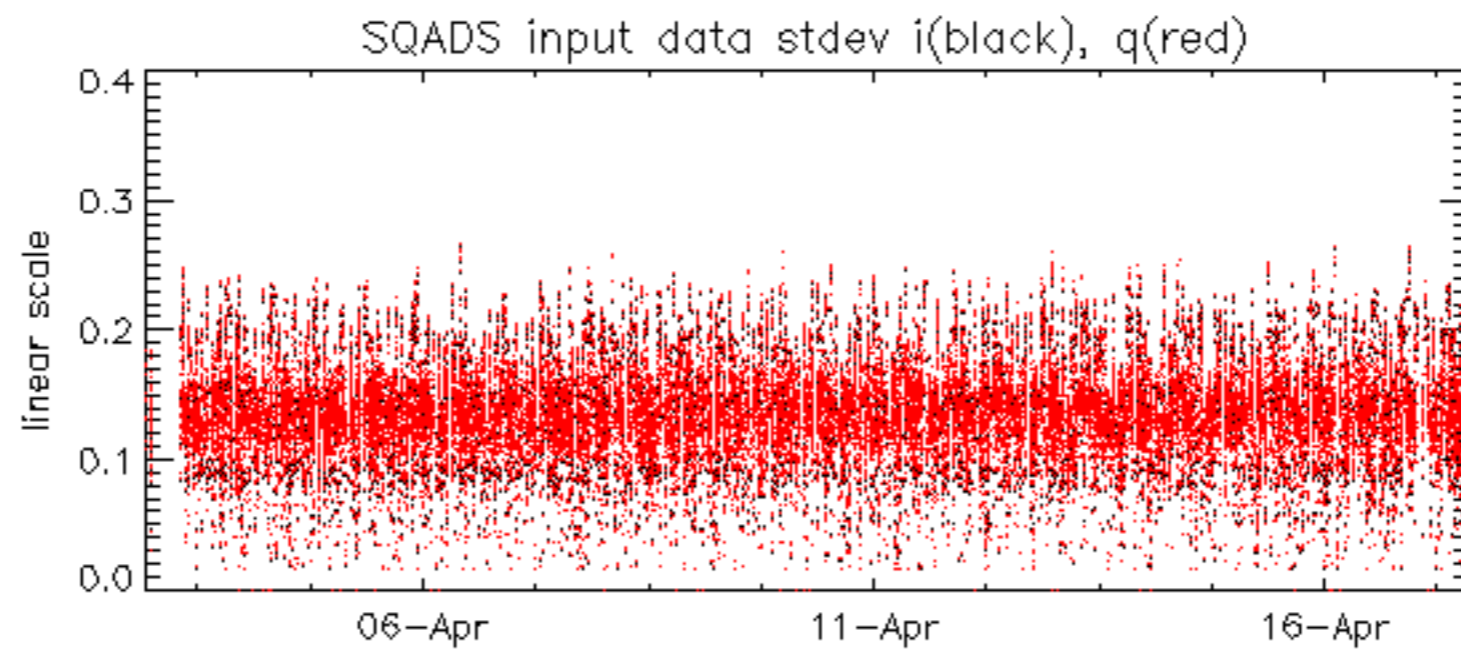








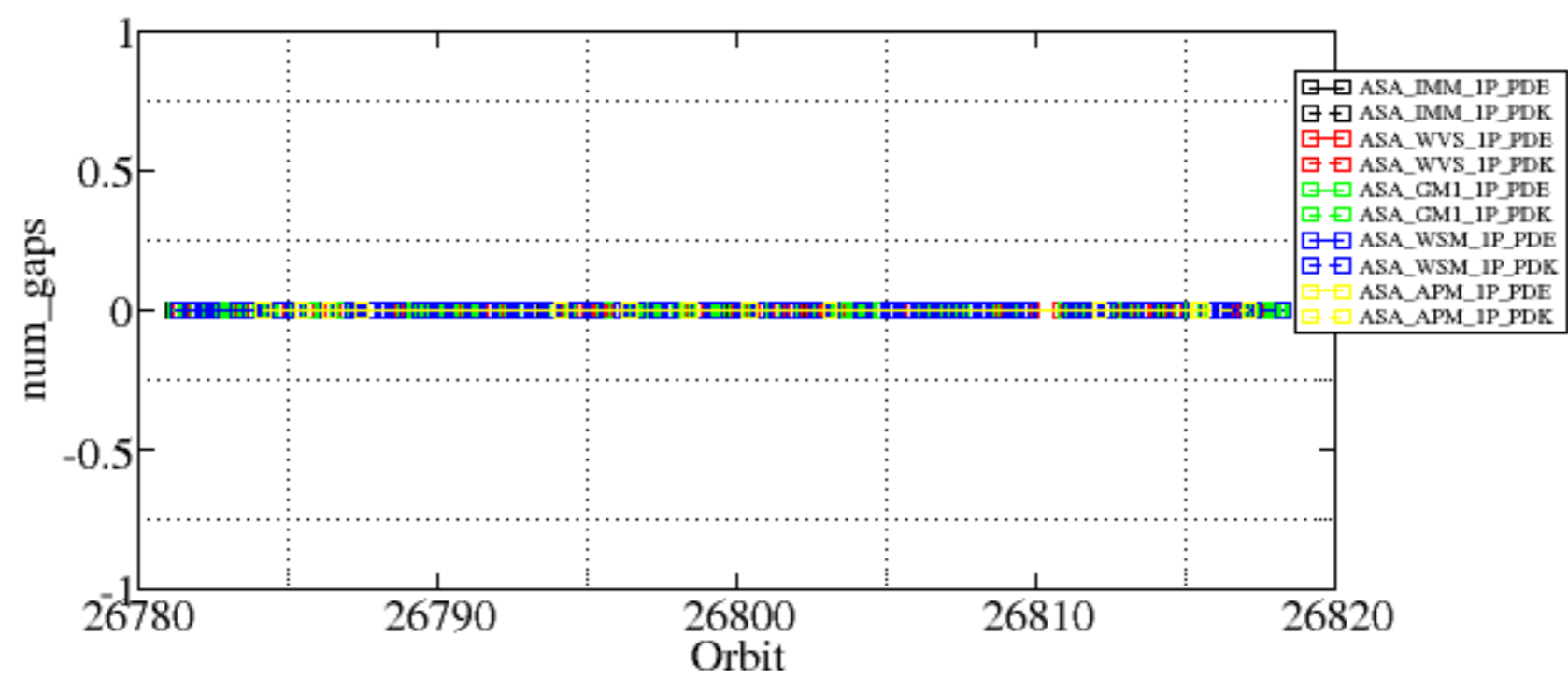


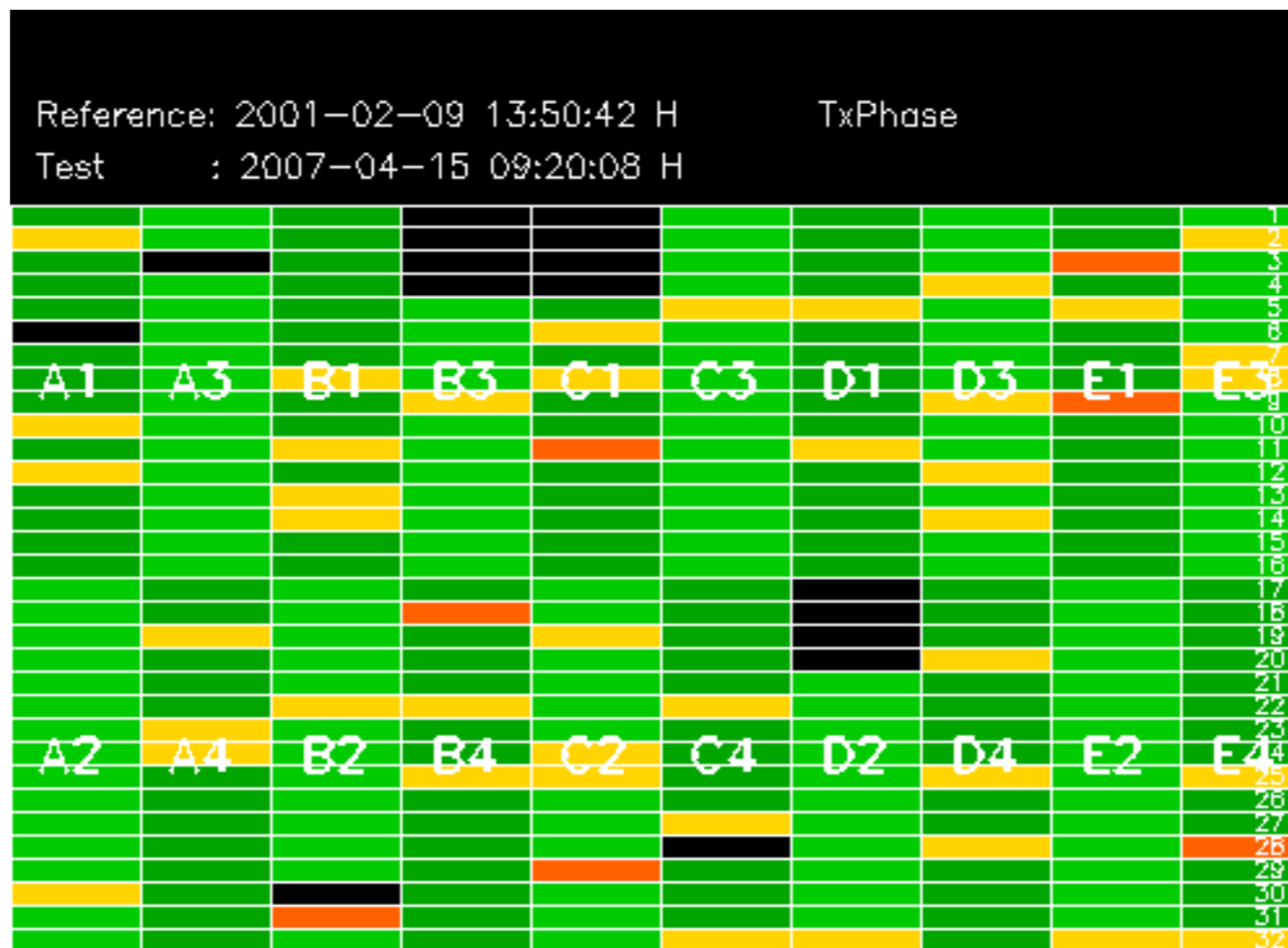


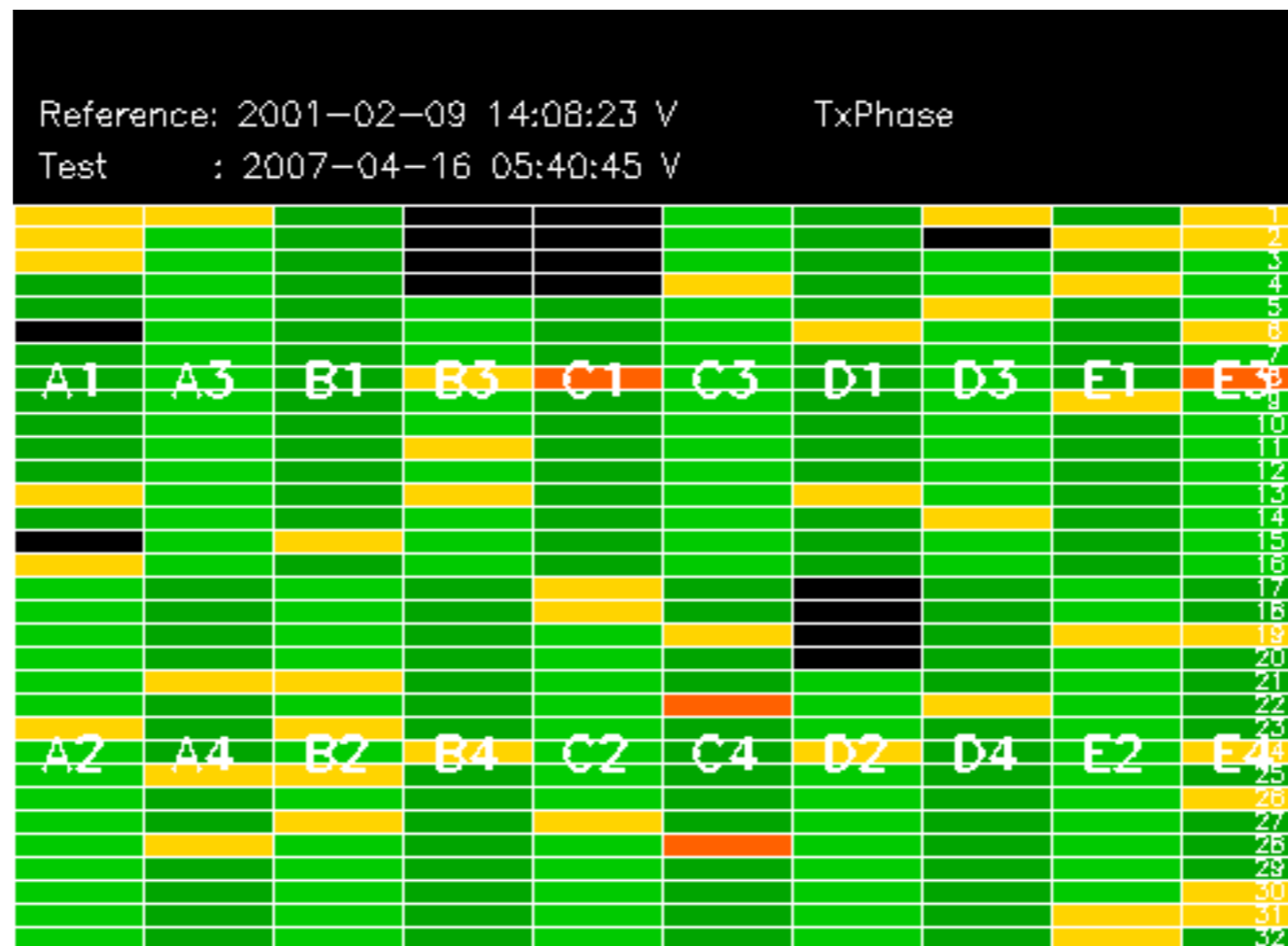
Summary of analysis for the last 3 days 2007041[567]

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

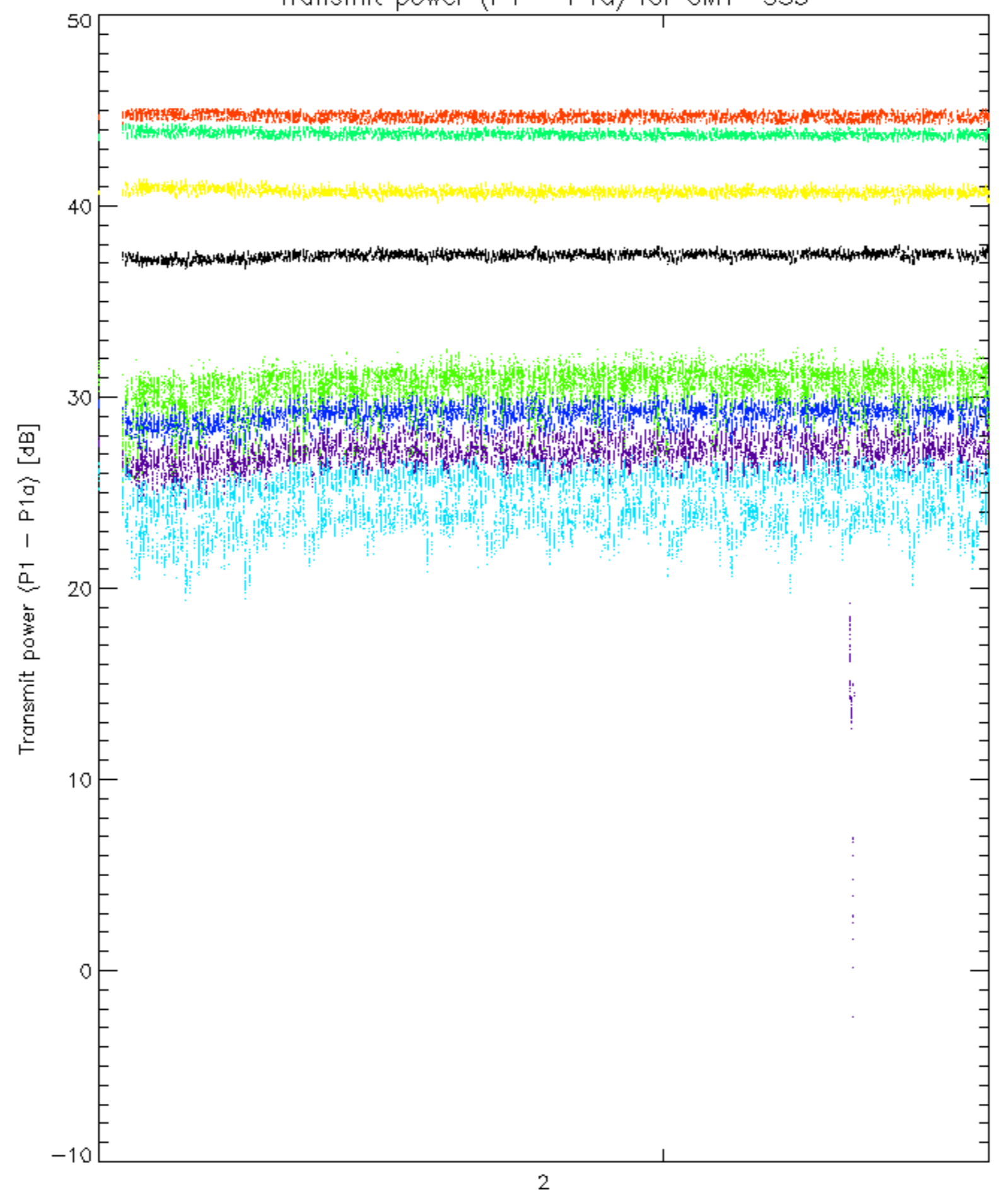
Filename	num_gaps	num_missing_lines
ASA_WVS_1PNPDK20070415_083228_000005542057_00179_26786_9326.N1	0	16
ASA_WVS_1PNPDK20070415_155855_000009742057_00183_26790_0003.N1	0	24
ASA_GM1_1PNPDK20070415_133943_000008702057_00182_26789_9670.N1	0	9
ASA_GM1_1PNPDK20070415_161605_000004222057_00183_26790_9996.N1	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_1PNPDE20070415_151023_000002872057_00183_26790_2865.N1	0	51
ASA_WSM_1PNPDE20070416_162338_000002022057_00198_26805_4306.N1	0	46
ASA_WSM_1PNPDE20070416_180337_000001652057_00199_26806_4346.N1	0	5
ASA_WSM_1PNPDE20070416_202300_000000672057_00200_26807_4388.N1	0	74
ASA_WSM_1PNPDE20070416_234905_000002022057_00202_26809_4826.N1	0	31
ASA_WSM_1PNPDE20070417_112928_000000852057_00209_26816_5448.N1	0	52
ASA_WSM_1PNPDK20070417_122637_000001462057_00210_26817_1935.N1	0	36



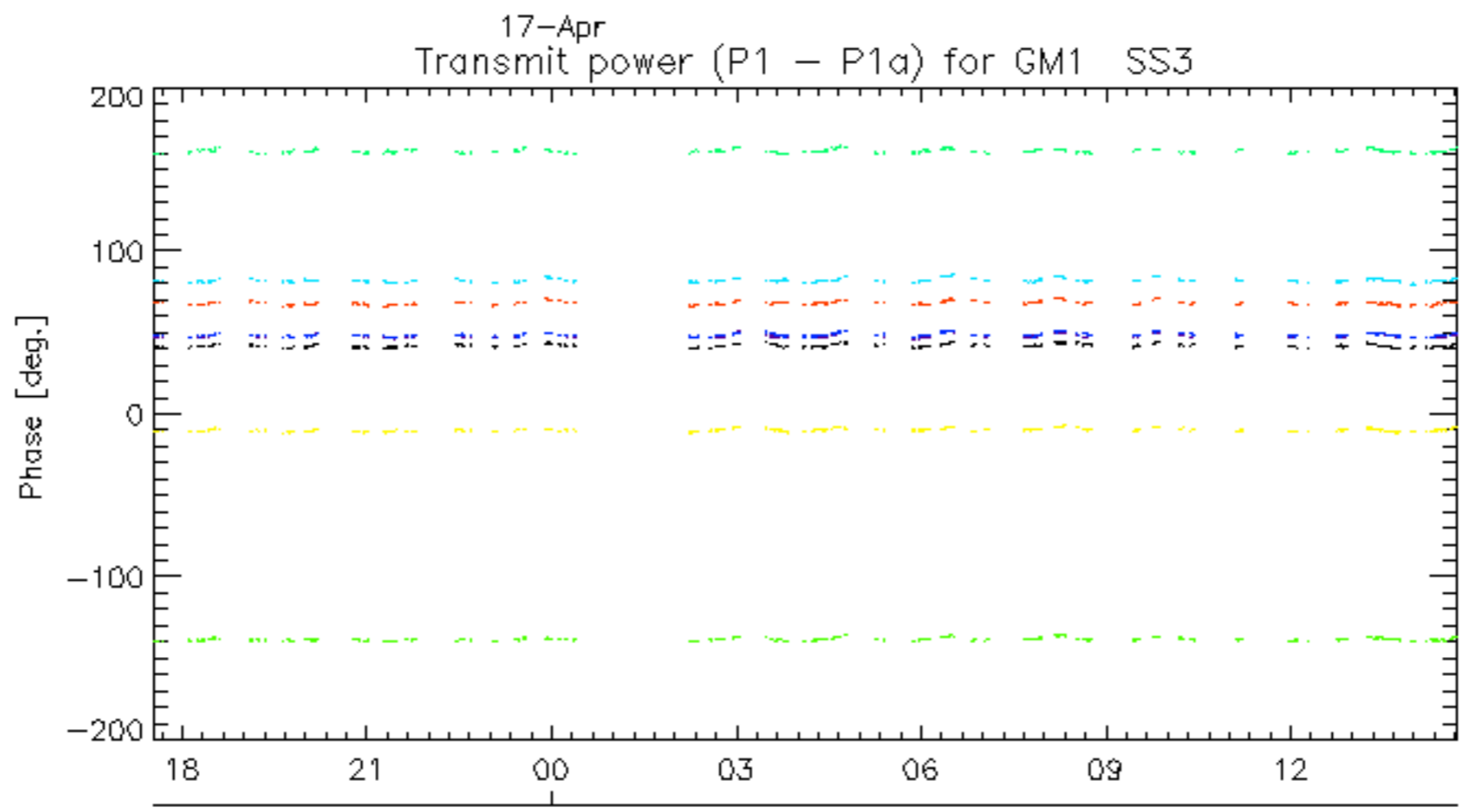
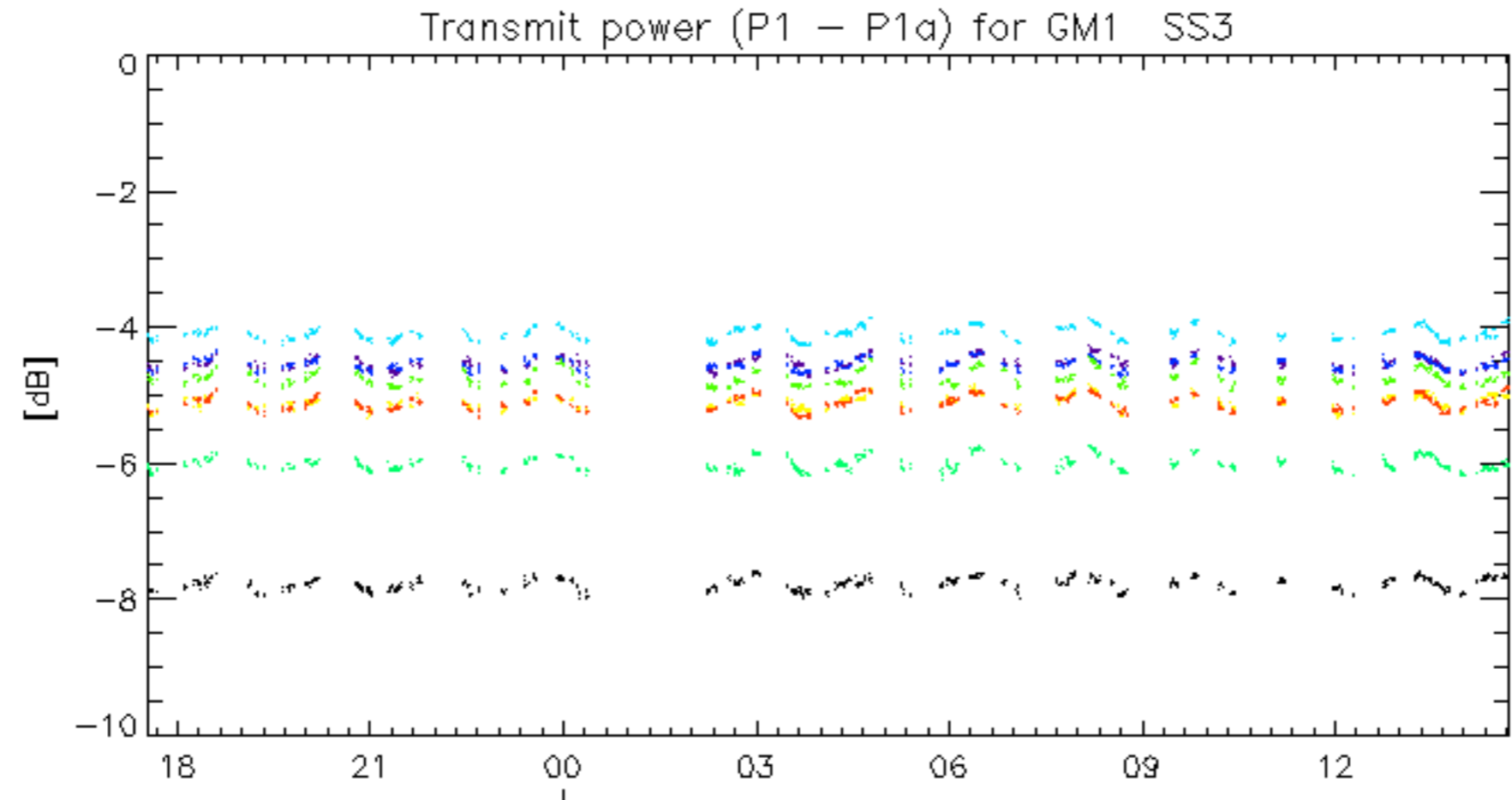




Transmit power (P1 - P1a) for GM1 SS3

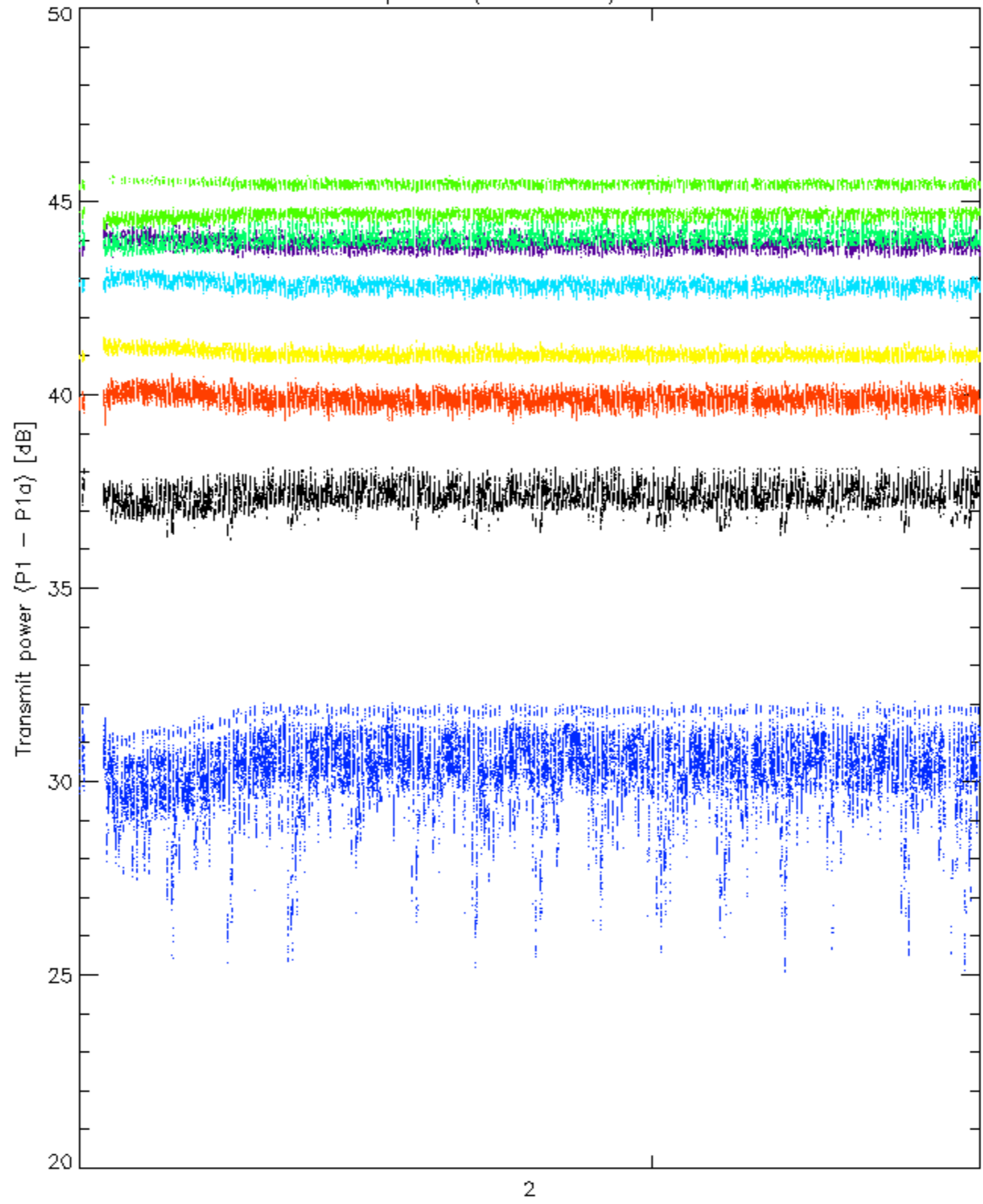


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

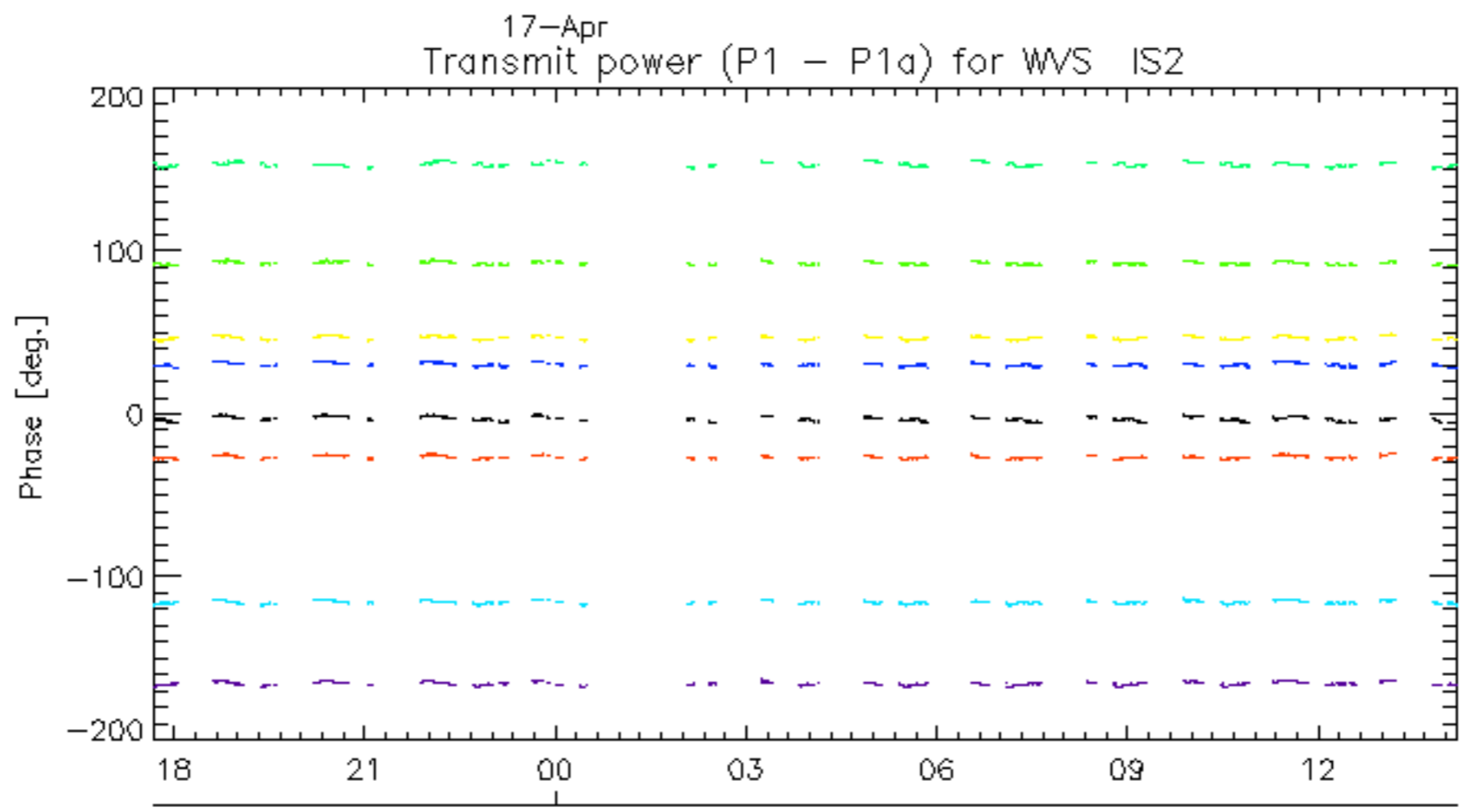
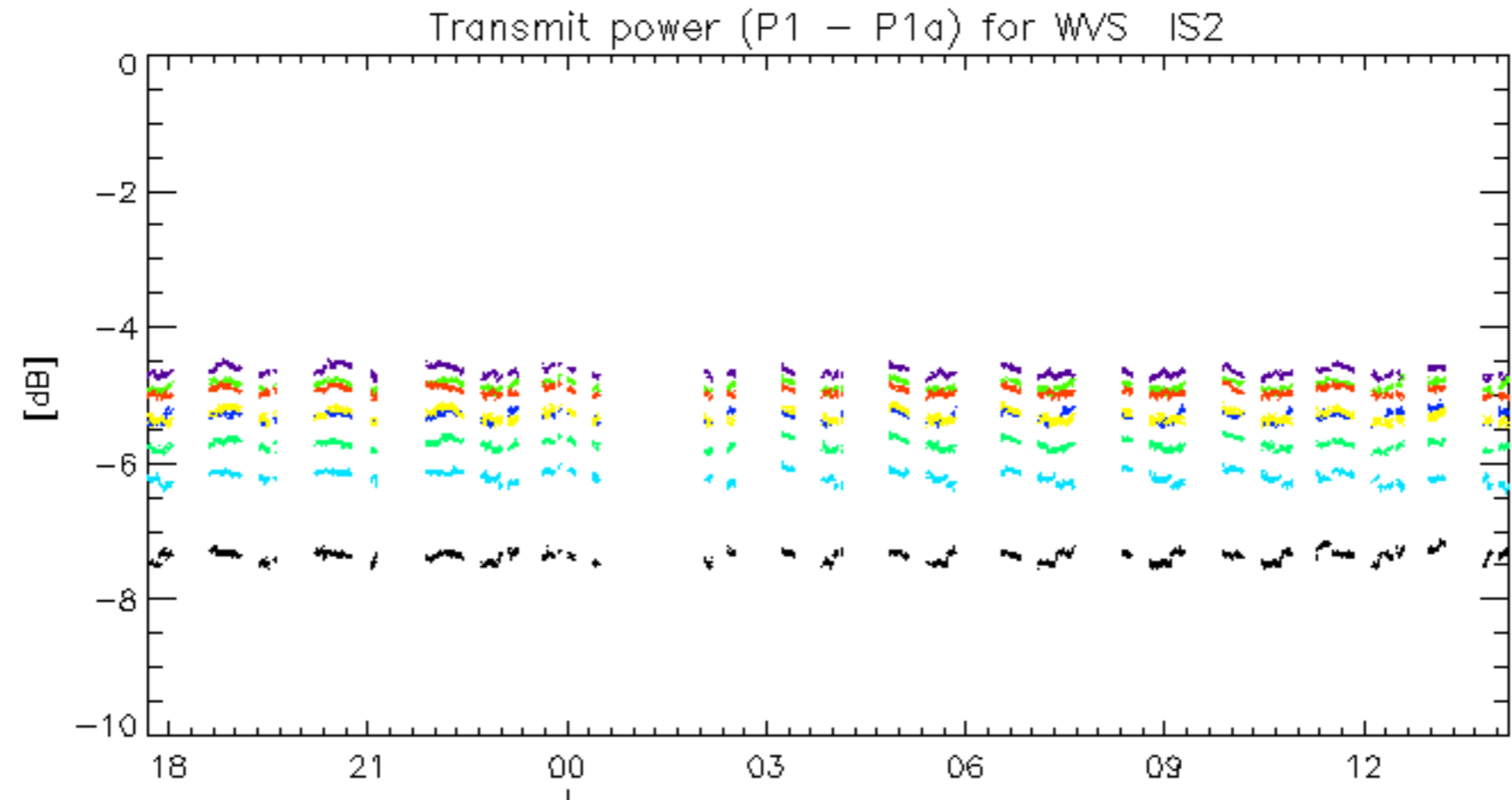


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

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.