

PRELIMINARY REPORT OF 070429

last update on Sun Apr 29 18:10:05 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 2007-04-28 00:00:00 to 2007-04-29 18:10:05

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	45	89	18	2	28
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	45	89	18	2	28
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	45	89	18	2	28
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	45	89	18	2	28

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	44	53	68	12	36
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	44	53	68	12	36
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	44	53	68	12	36
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	44	53	68	12	36

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	20070429 053209
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
☒	☒
☒	☒
☒	☒
☒	☒

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	-15.090833	0.147502	-0.184391
7	P1a	-17.553289	0.102384	-0.082036
11	P1a	-17.495705	0.351894	-0.702900
15	P1a	-13.002167	0.122788	-0.358570
19	P1a	-15.337043	0.069956	-0.328100
22	P1a	-15.910599	0.413635	-0.373693
26	P1a	-15.025467	0.214843	0.409665
30	P1a	-17.700073	0.340299	-0.626521

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.768620	0.010665	-0.048953
7	P1	-3.147289	0.008912	-0.012158
11	P1	-4.209221	0.012250	-0.016097
15	P1	-6.408278	0.019661	-0.132029
19	P1	-3.784140	0.010833	0.041552
22	P1	-4.748715	0.009413	-0.033458
26	P1	-3.918327	0.019447	0.082481
30	P1	-5.967621	0.009381	0.018987

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.660955	0.090436	-0.015917
7	P2	-21.560024	0.088336	0.114466
11	P2	-15.354277	0.116397	0.204318
15	P2	-7.126411	0.088674	-0.021832
19	P2	-9.117095	0.080364	0.018343
22	P2	-18.086420	0.076898	0.011432
26	P2	-16.618429	0.081705	-0.063731
30	P2	-19.277020	0.082307	0.049868

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.244597	0.005363	-0.004563
7	P3	-8.244597	0.005363	-0.004563
11	P3	-8.244597	0.005363	-0.004563
15	P3	-8.244597	0.005363	-0.004563
19	P3	-8.244597	0.005363	-0.004563
22	P3	-8.244597	0.005363	-0.004563
26	P3	-8.244597	0.005363	-0.004563
30	P3	-8.244597	0.005363	-0.004563

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	-11.204772	0.132326	-0.122424
7	P1a	-10.064185	0.203780	0.014478
11	P1a	-10.686732	0.100275	0.052526
15	P1a	-10.836508	0.168318	0.108520
19	P1a	-15.804335	0.090294	-0.102883
22	P1a	-21.388903	1.457708	-0.470160
26	P1a	-15.507499	0.378643	-0.276560
30	P1a	-18.308340	0.466206	0.233139

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-8.453896	0.052671	-0.012052
7	P1	-2.409875	0.111476	0.050781
11	P1	-2.888767	0.025792	0.065081
15	P1	-3.818227	0.037881	0.053411
19	P1	-3.587713	0.014772	-0.024972
22	P1	-4.970918	0.023533	0.085148
26	P1	-6.035667	0.027537	-0.035780
30	P1	-5.337329	0.033290	-0.019300

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.178905	0.065599	-0.086138
7	P2	-22.039661	0.203789	-0.039645
11	P2	-10.635445	0.045125	-0.032074
15	P2	-4.921449	0.041807	-0.076808
19	P2	-6.869446	0.040129	-0.027998
22	P2	-8.109973	0.093706	0.012940
26	P2	-24.323132	0.151494	-0.035646
30	P2	-21.712029	0.110299	0.049612

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.091408	0.004984	-0.005605
7	P3	-8.091401	0.004984	-0.005240
11	P3	-8.091224	0.004981	-0.005462
15	P3	-8.091109	0.004985	-0.005415
19	P3	-8.091306	0.005002	-0.005384
22	P3	-8.091225	0.004969	-0.005109
26	P3	-8.091233	0.004986	-0.004889
30	P3	-8.091187	0.004978	-0.005210

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	0.000545498
	stdev	1.99595e-07
MEAN Q	mean	0.000495345
	stdev	2.42397e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.135675
	stdev	0.00122530
STDEV Q	mean	0.136067
	stdev	0.00124288



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2007042[789]

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_IMM_1PNPDE20070428_182646_00000352057_00371_26978_0556.N1	0	15
ASA_GM1_1PNPDK20070428_150338_000003682057_00369_26976_6468.N1	0	15
ASA_GM1_1PNPDK20070428_164337_000002952057_00370_26977_6598.N1	0	7
ASA_GM1_1PNPDK20070428_171029_000007972057_00370_26977_6713.N1	0	6
ASA_WSM_1PNPDE20070429_014749_000000852057_00375_26982_1133.N1	0	73
ASA_WSM_1PNPDK20070427_135549_000000852057_00354_26961_5249.N1	0	52
ASA_WSM_1PNPDK20070427_191220_000000852057_00357_26964_5559.N1	0	1
ASA_APM_1PNPDE20070429_011649_000000832057_00375_26982_1129.N1	15	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)

<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)

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

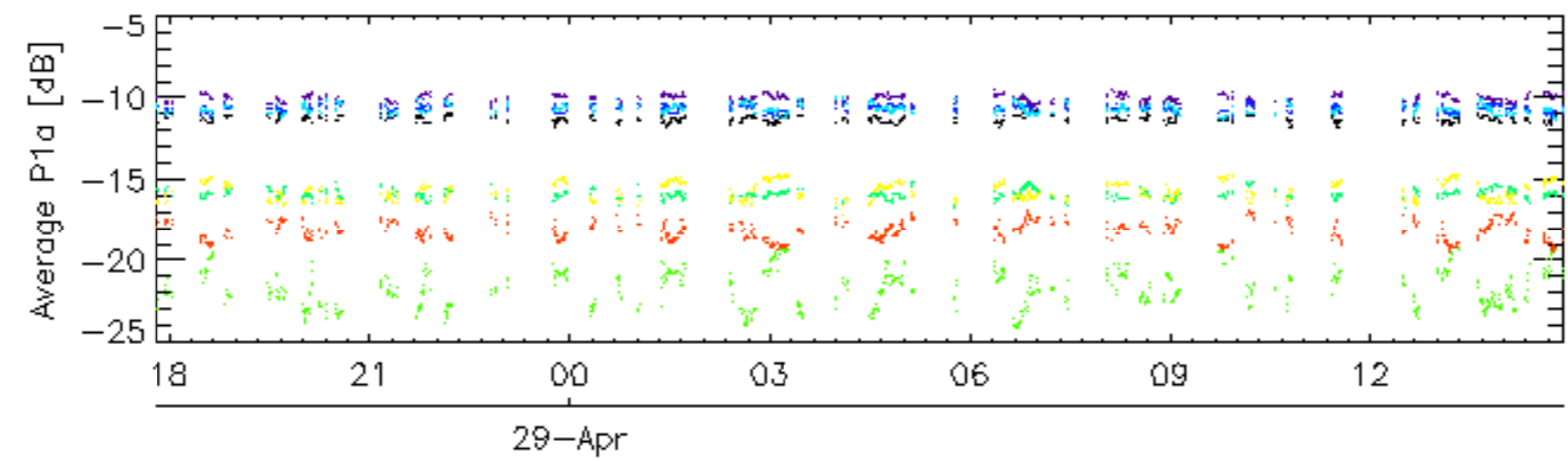
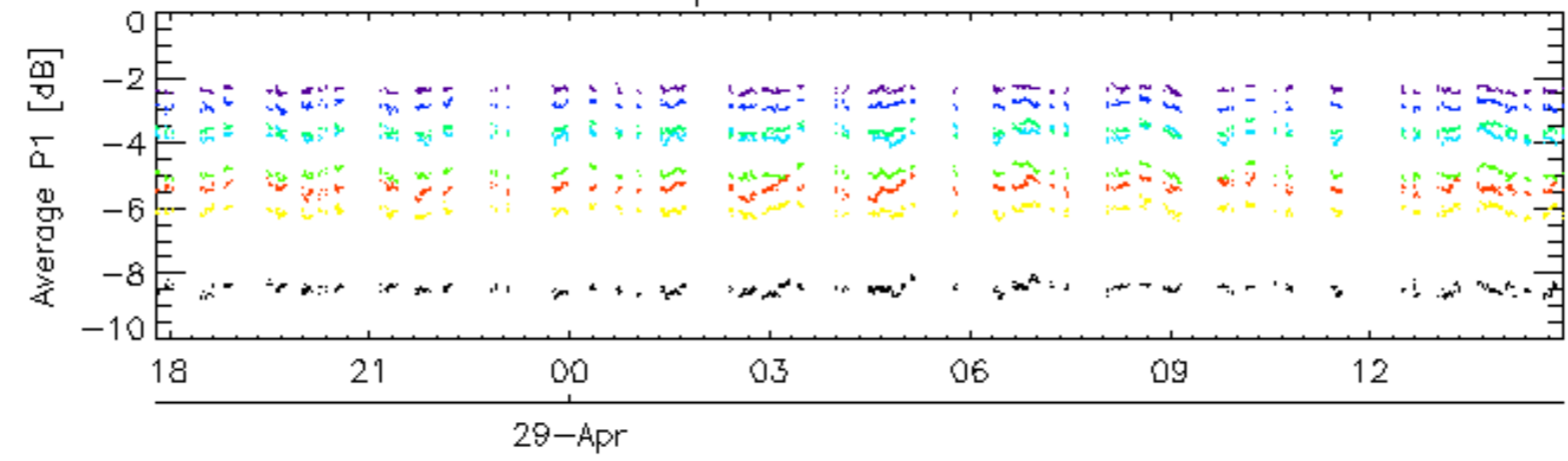
7.5 - Absolute Doppler for GM1**Evolution of Absolute Doppler**

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

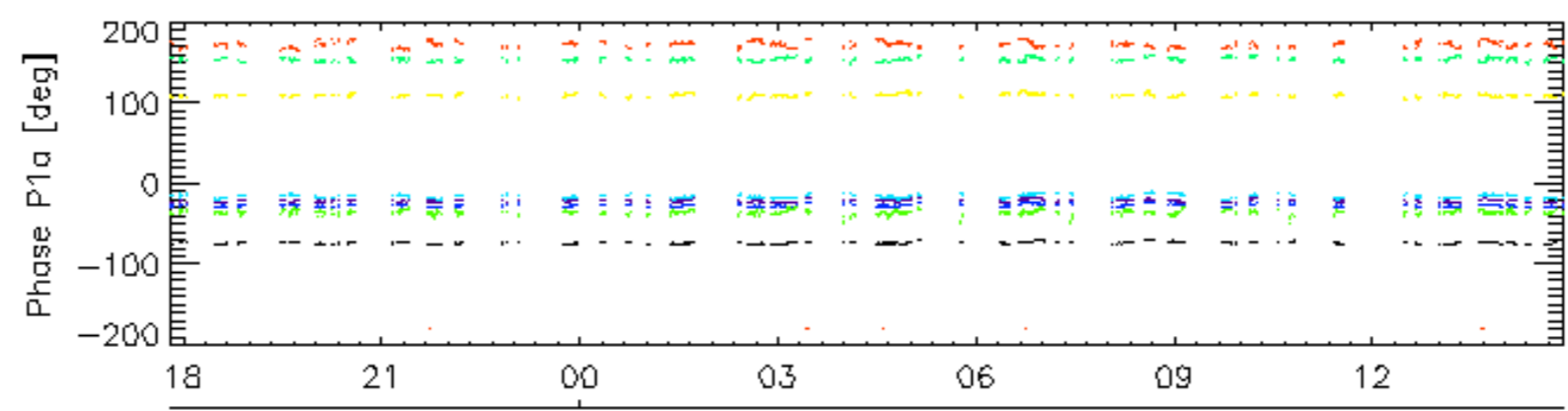
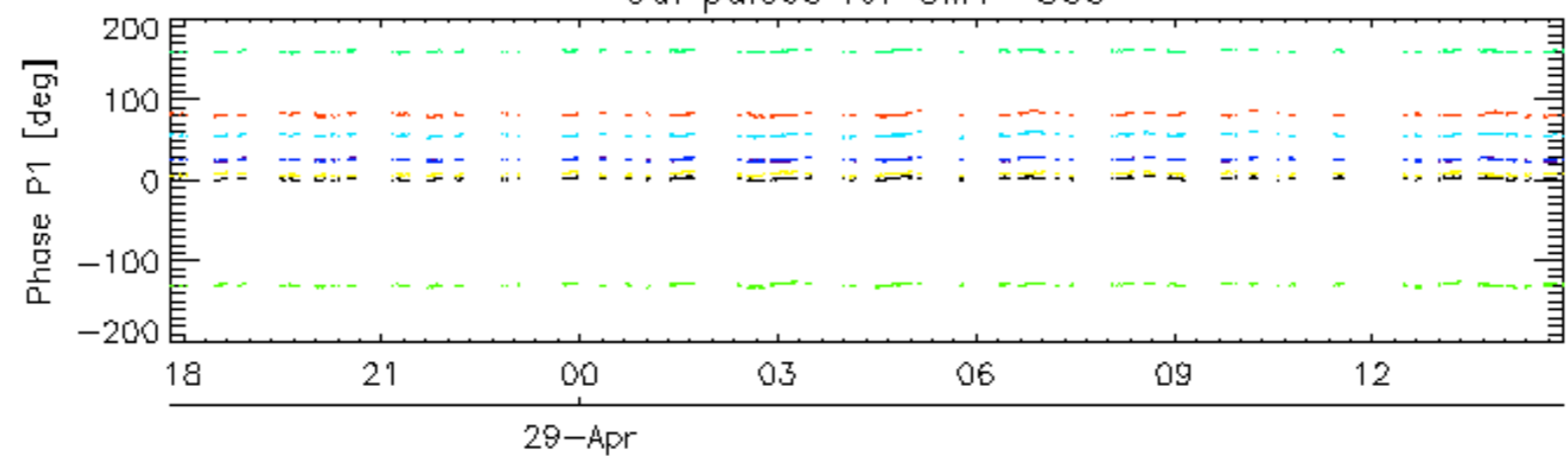
7.6 - Doppler evolution versus ANX for GM1**Evolution Doppler error versus ANX**

<input type="checkbox"/>

Cal pulses for GM1 SS3

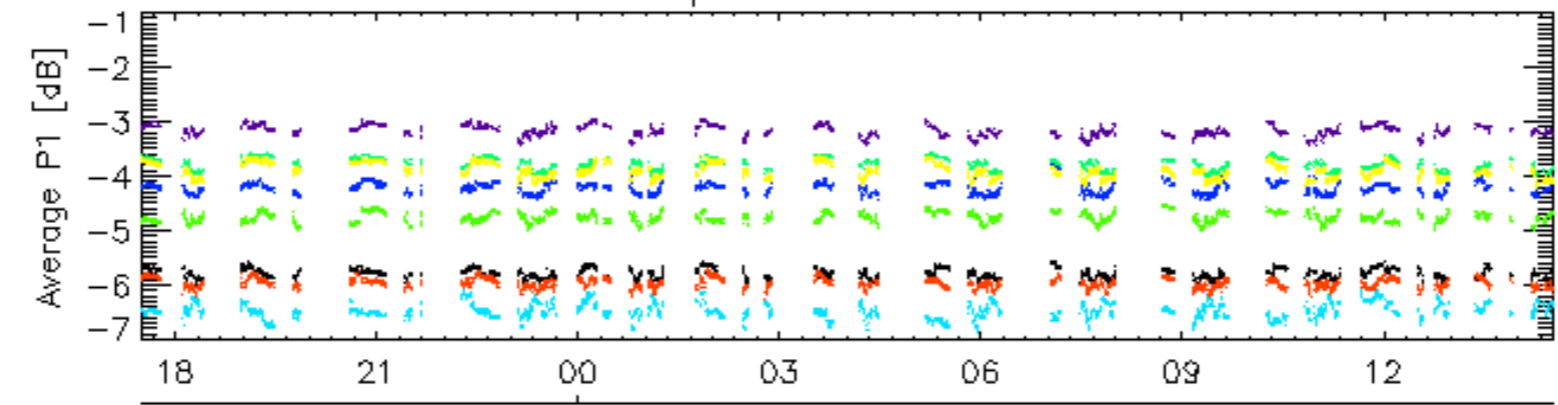


Cal pulses for GM1 SS3

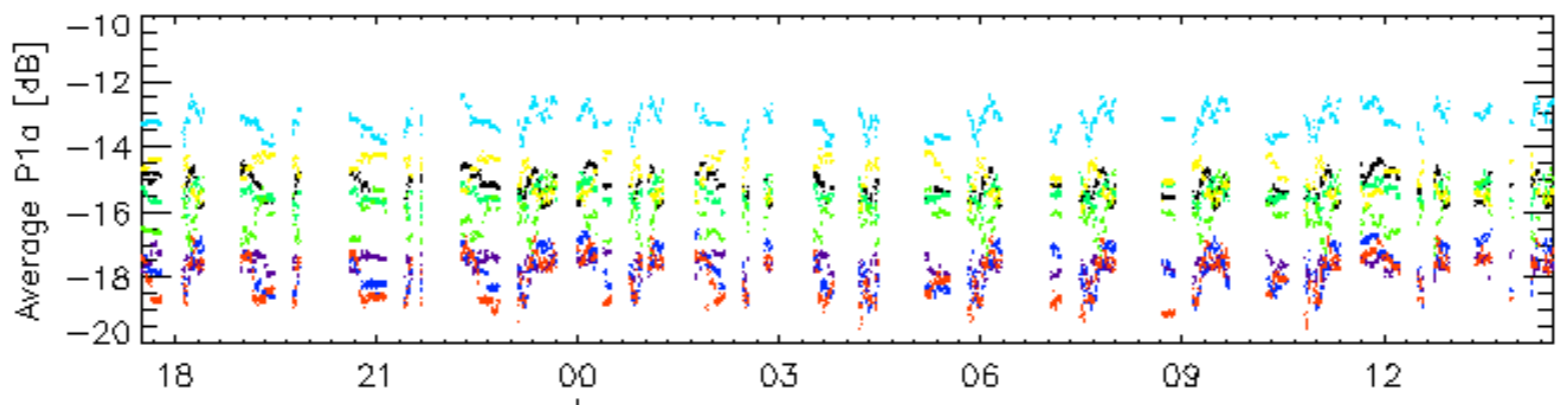


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

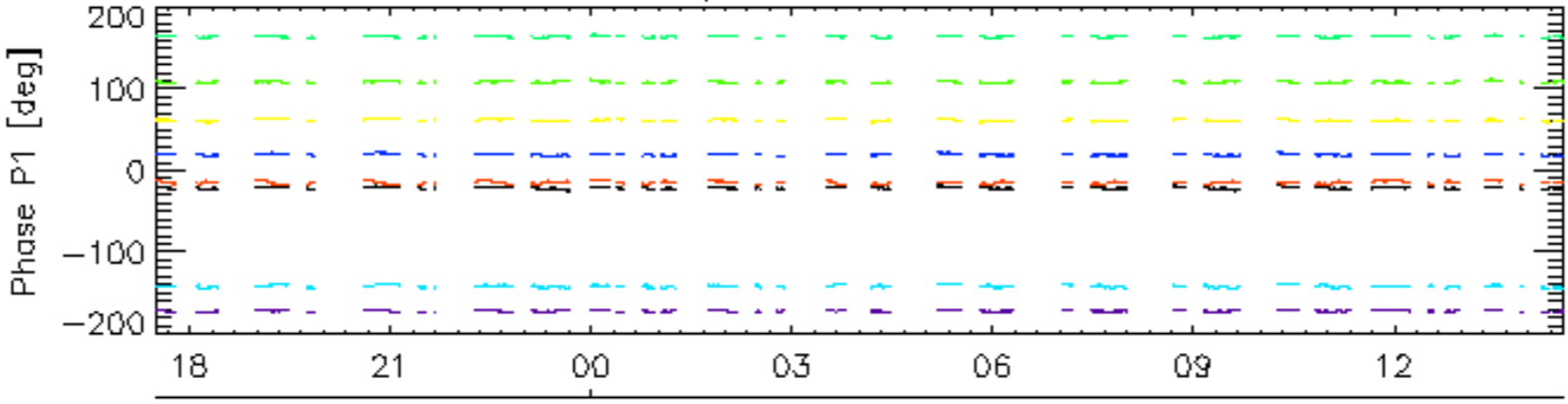


29-Apr

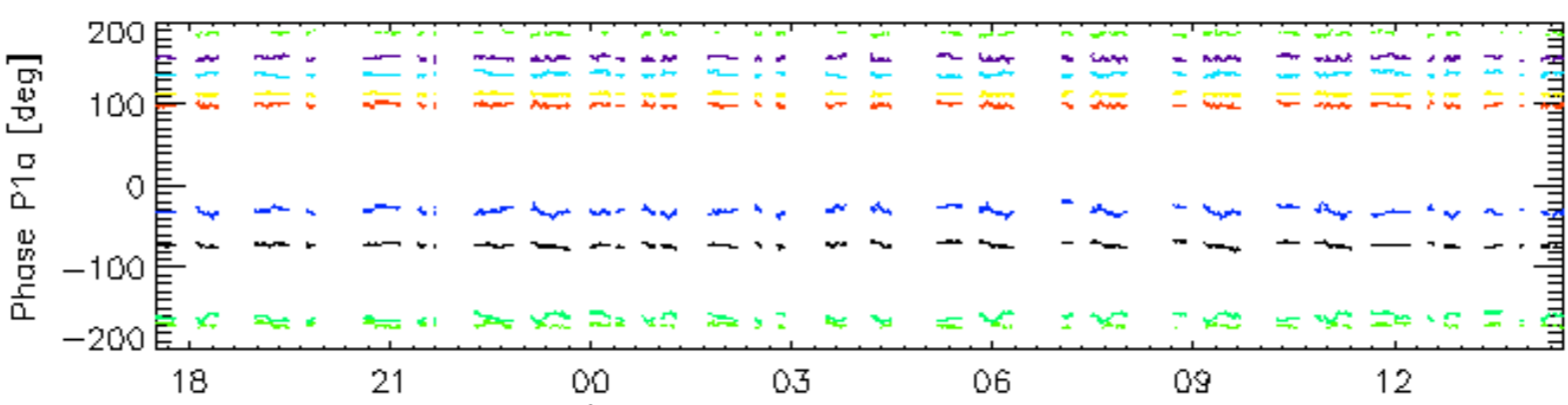


29-Apr

Cal pulses for WVS IS2

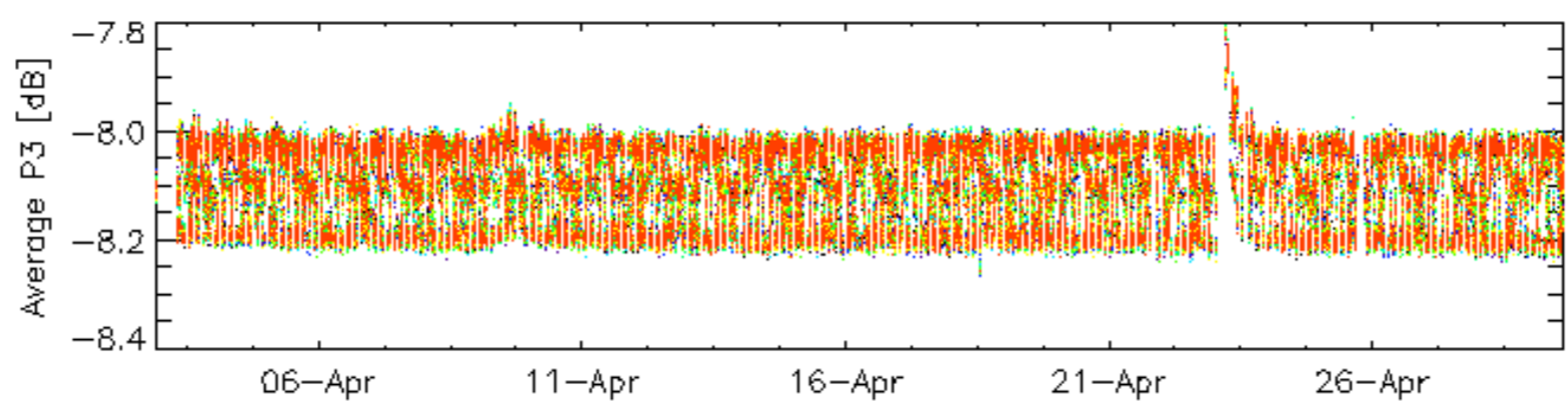
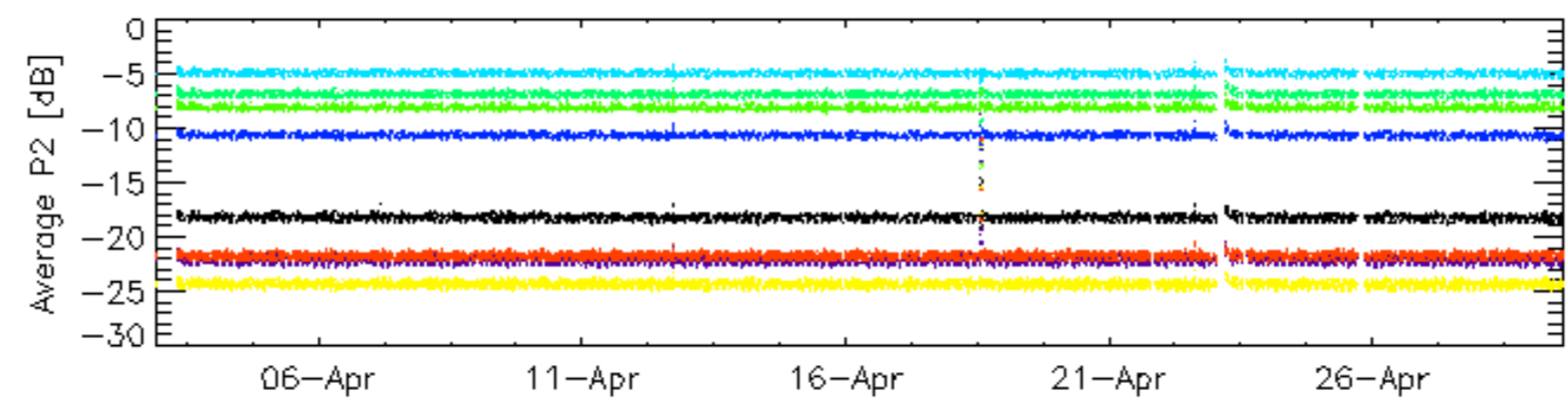
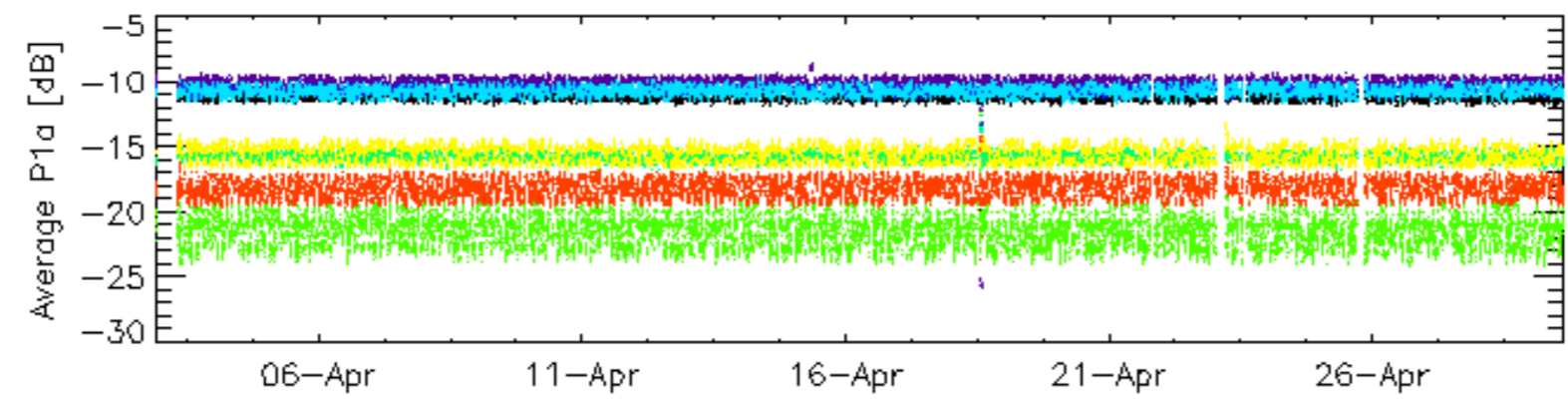
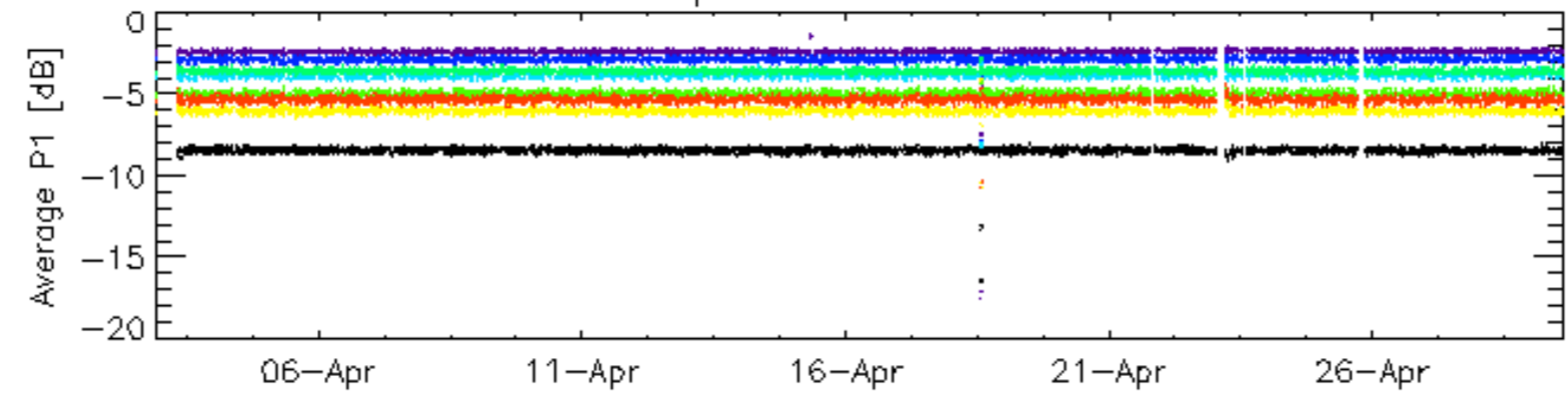


29-Apr



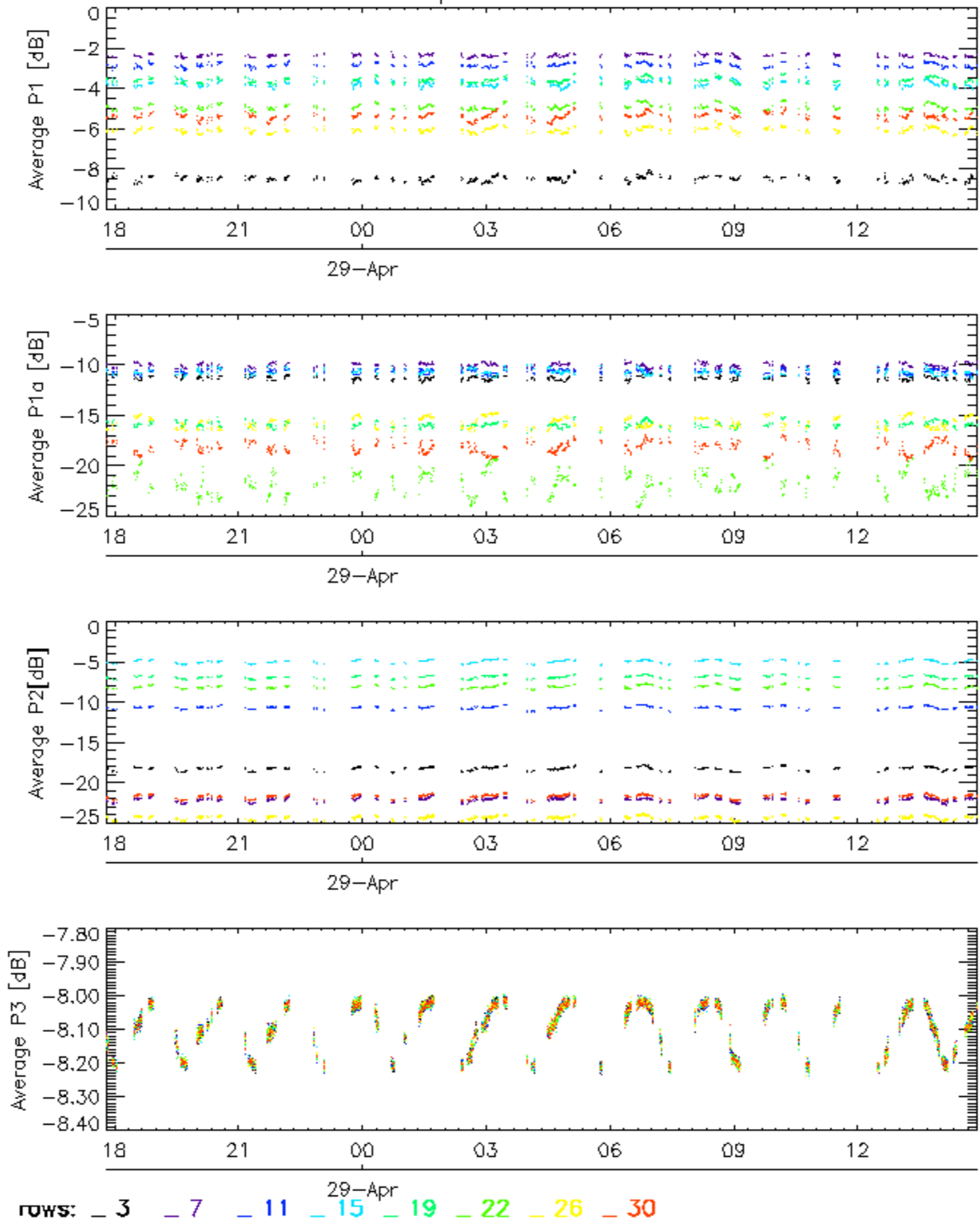
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

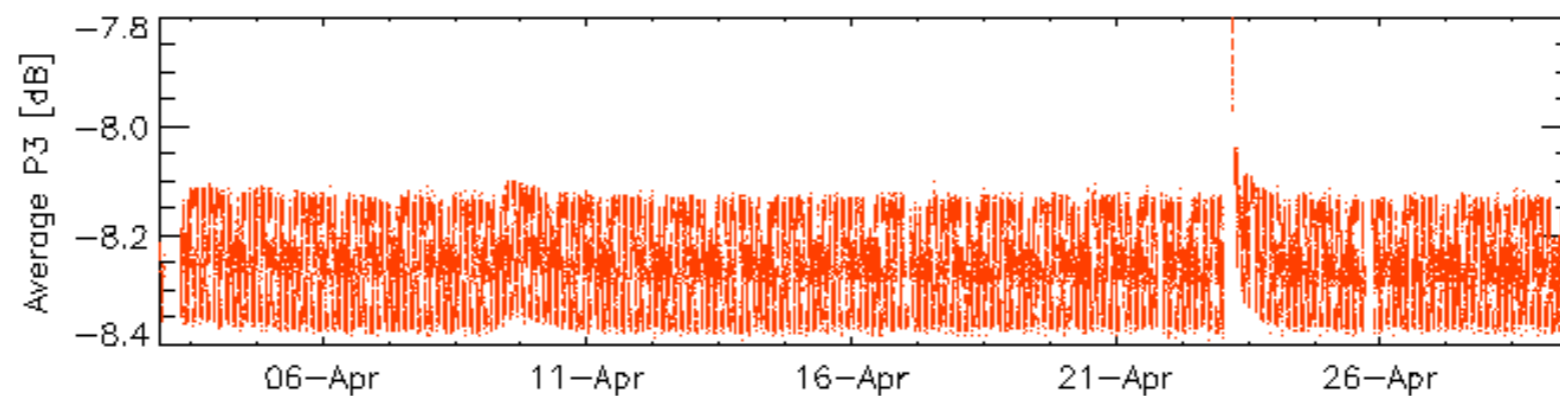
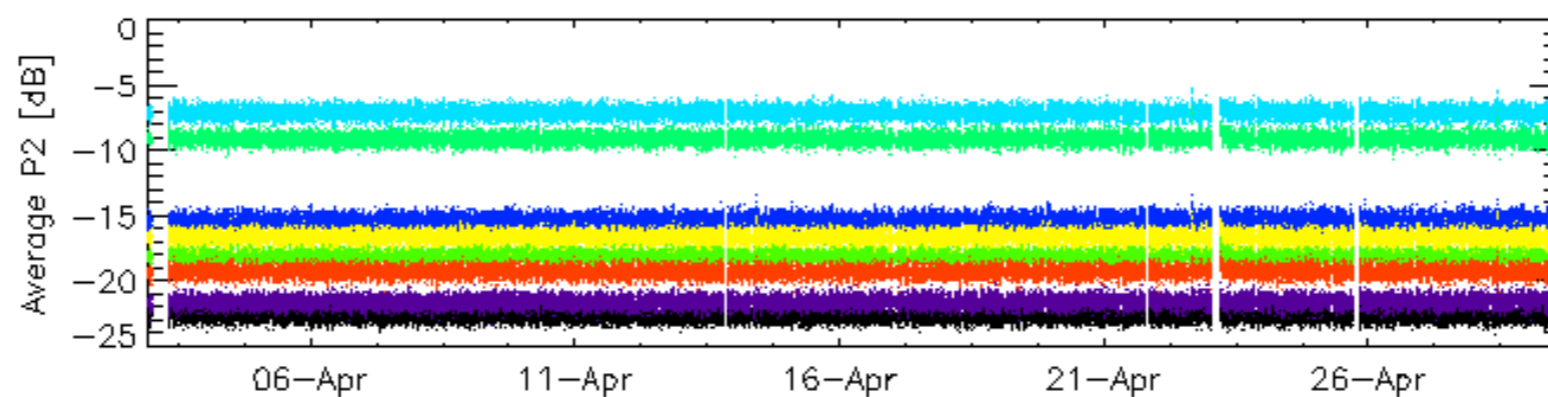
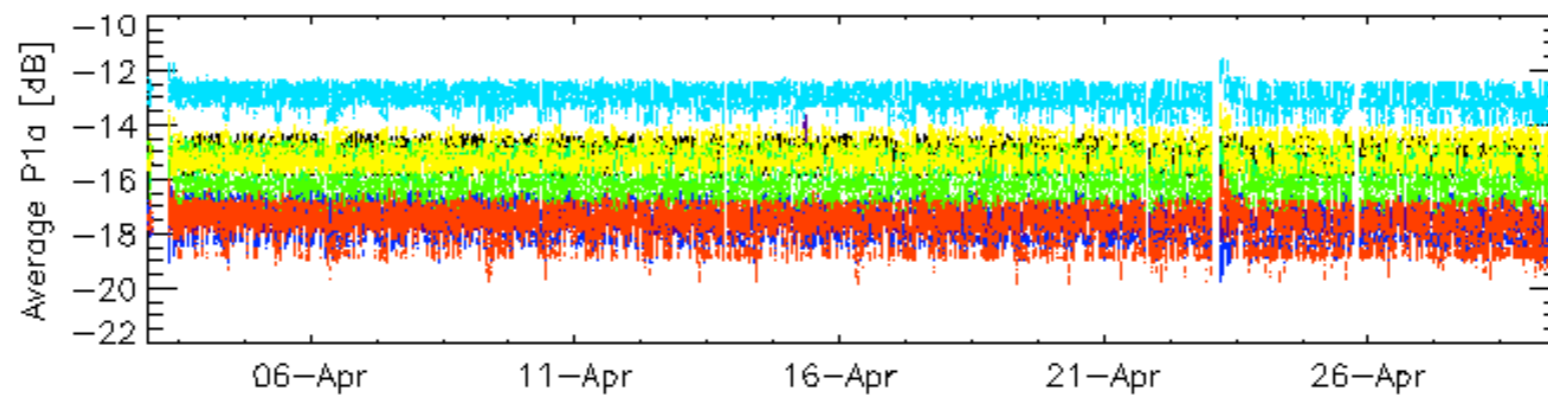
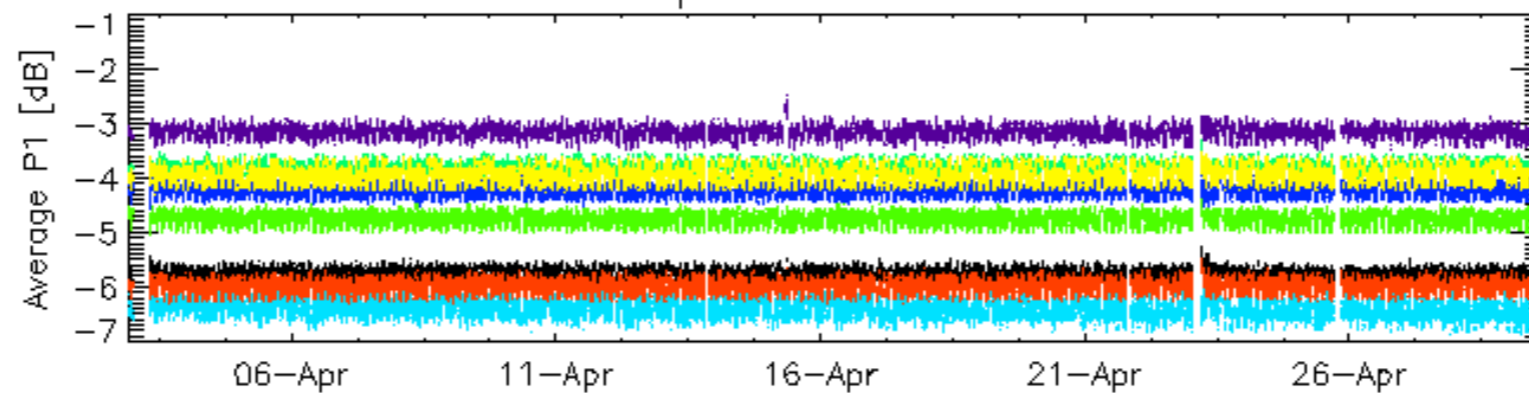


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

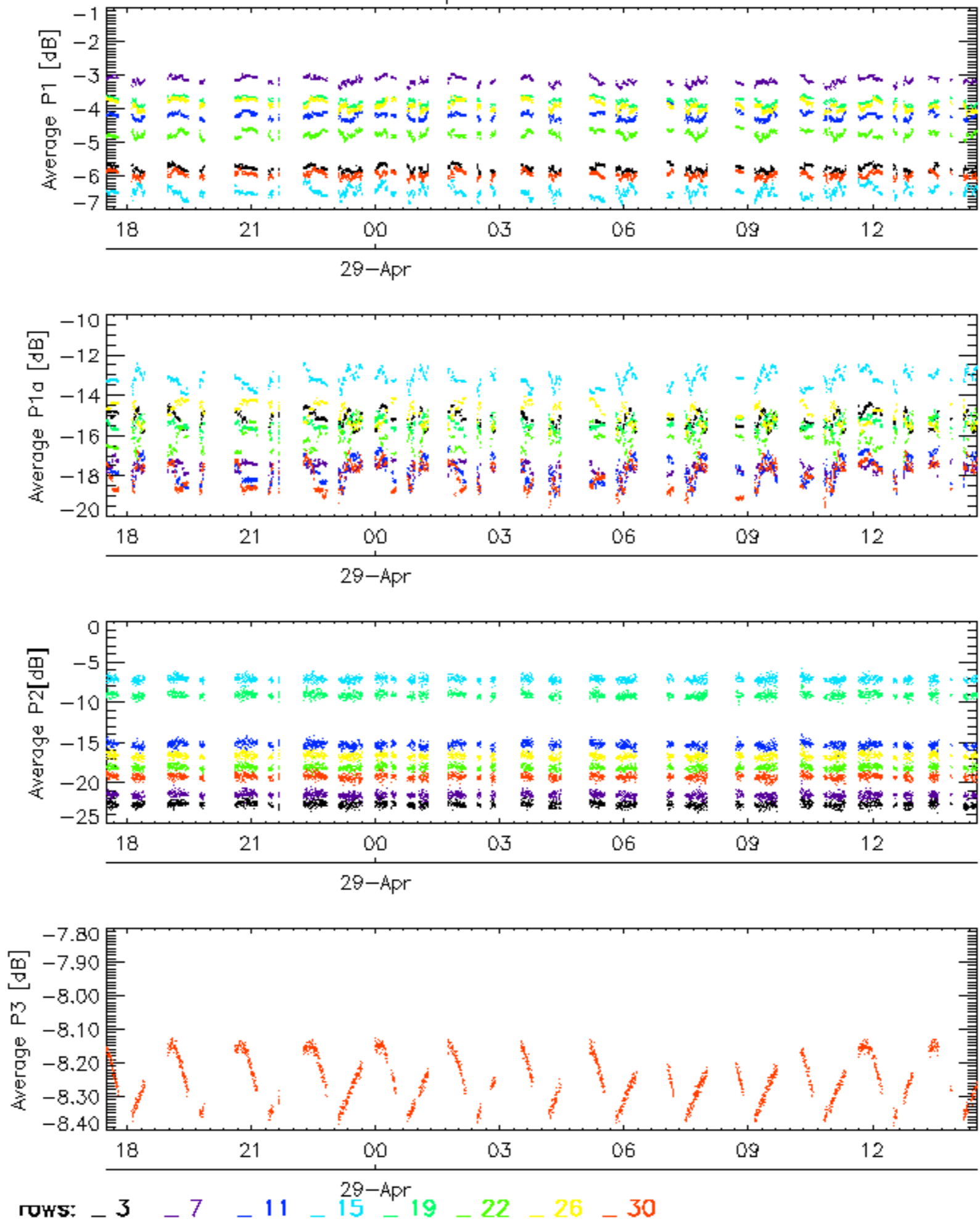


Cal pulses for WVS IS2

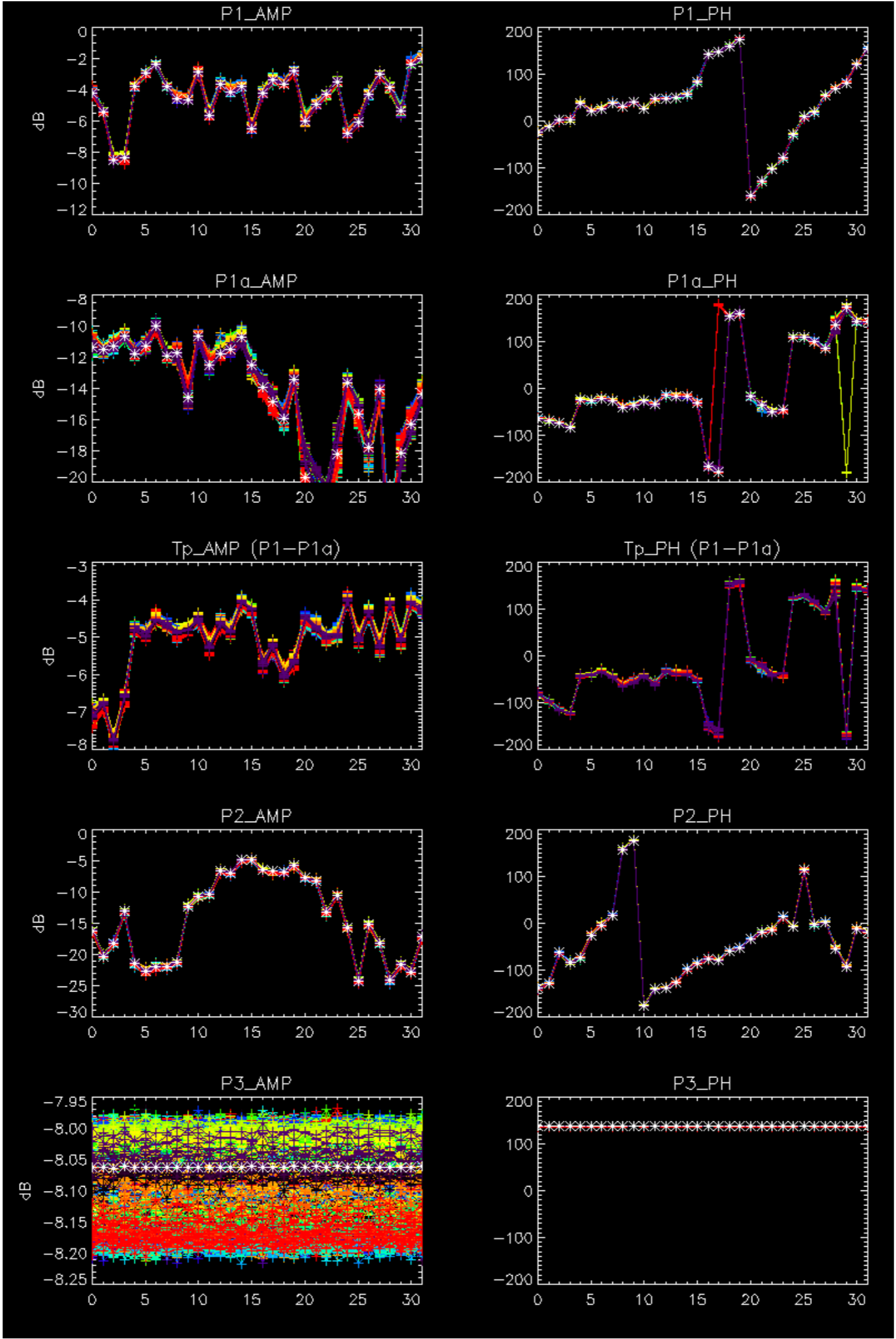


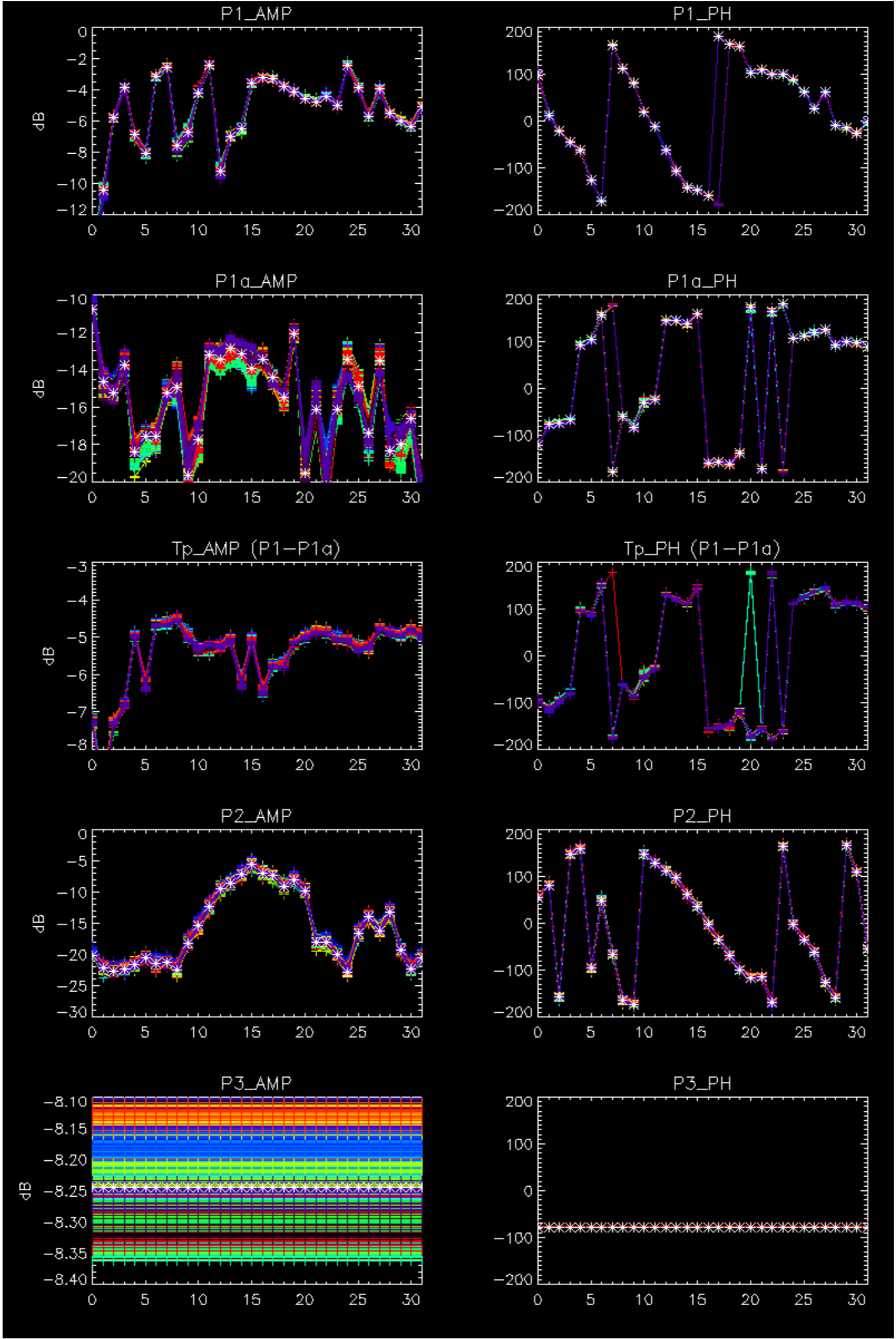
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



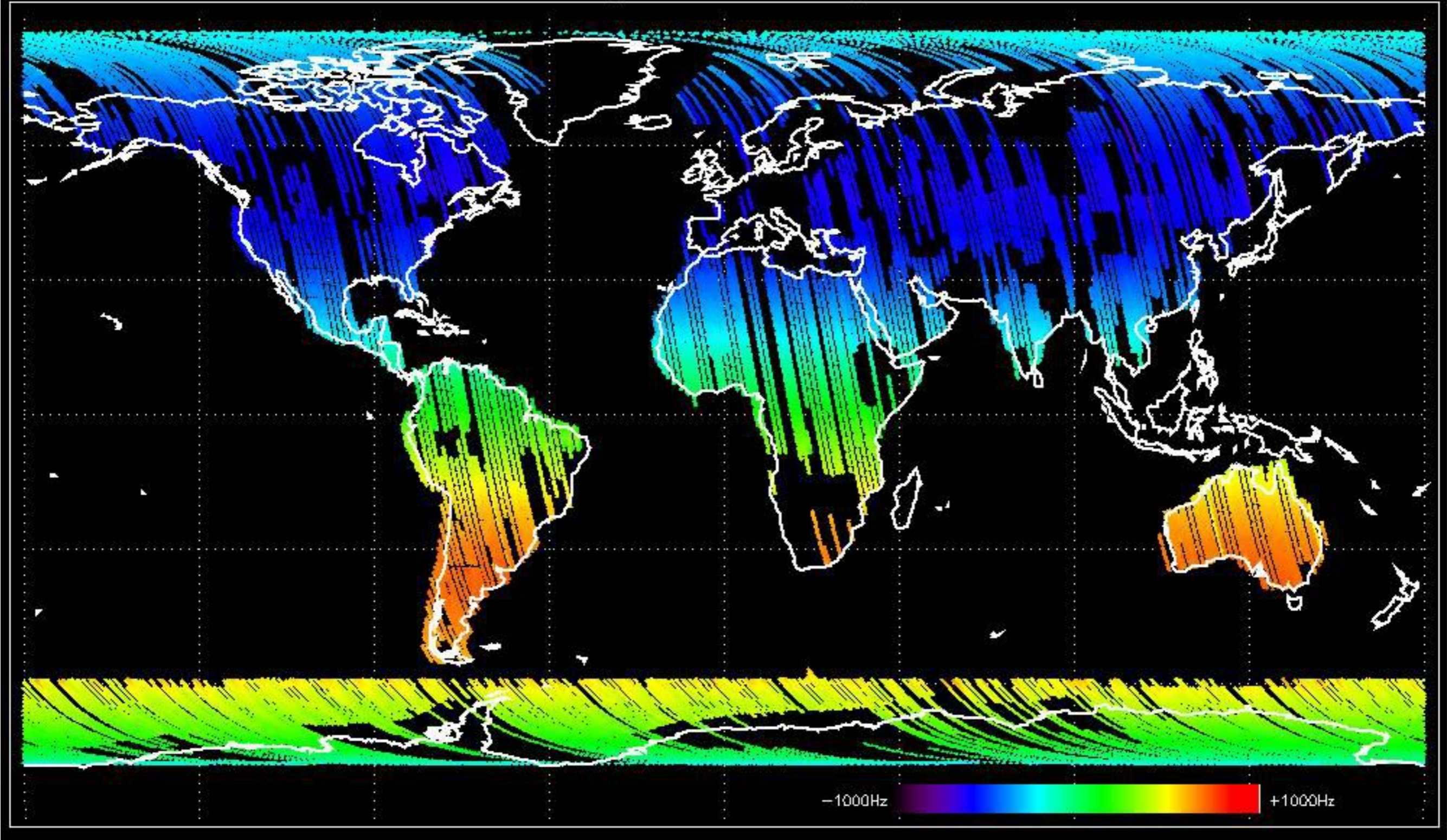
No anomalies observed.



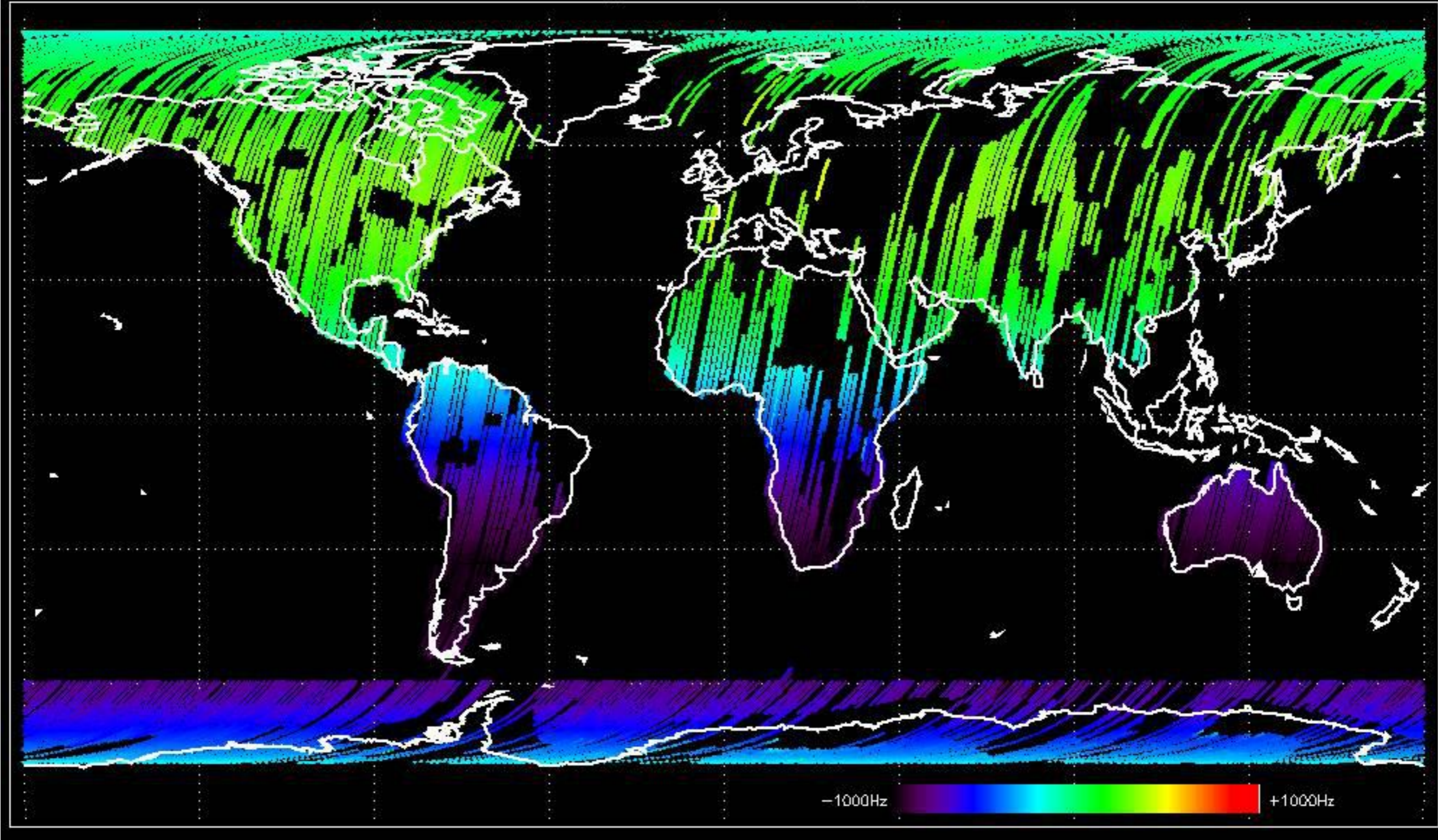


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

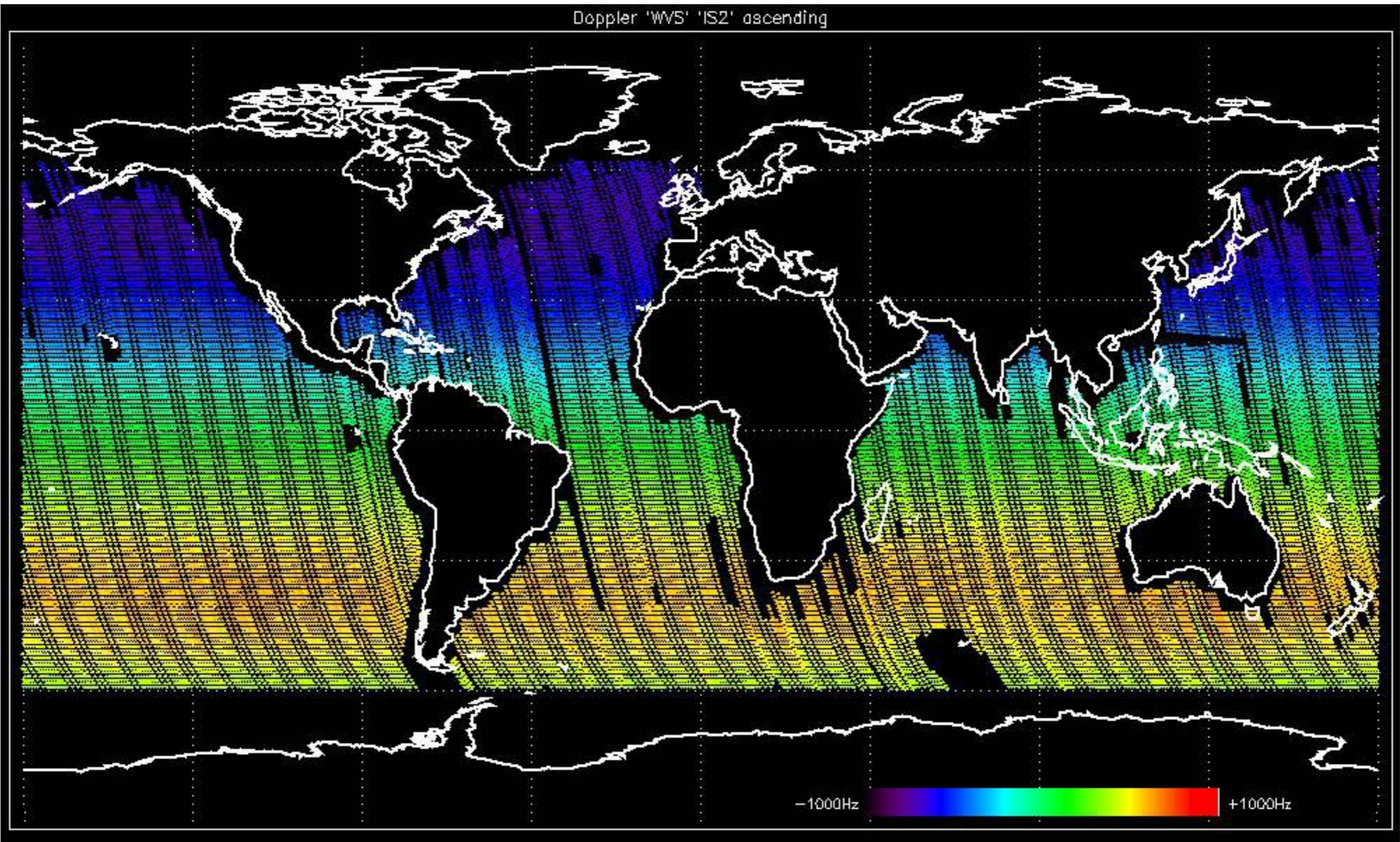
Doppler 'GM1' 'SS1' ascending



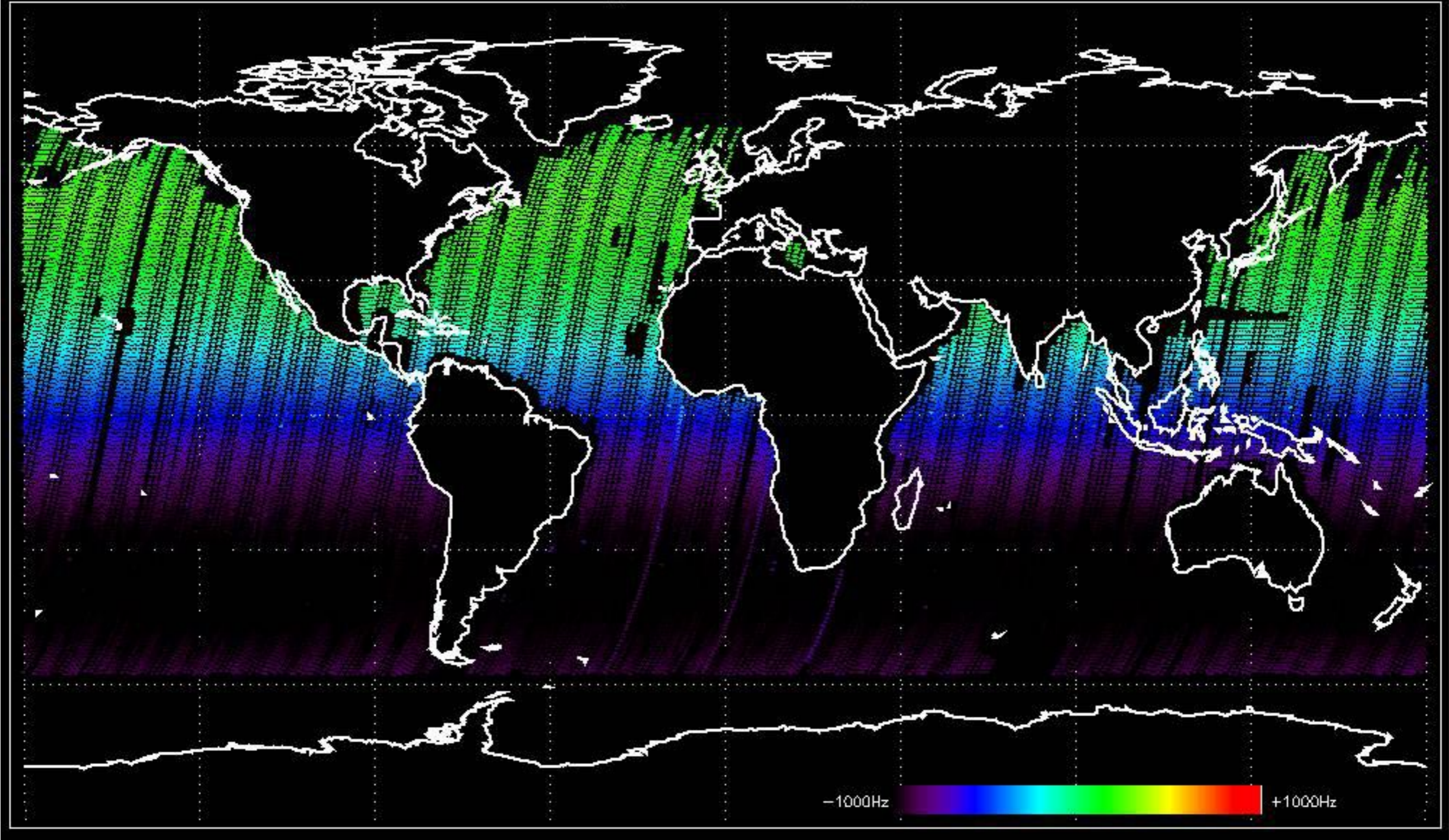
Doppler 'GM1' 'SS1' descending



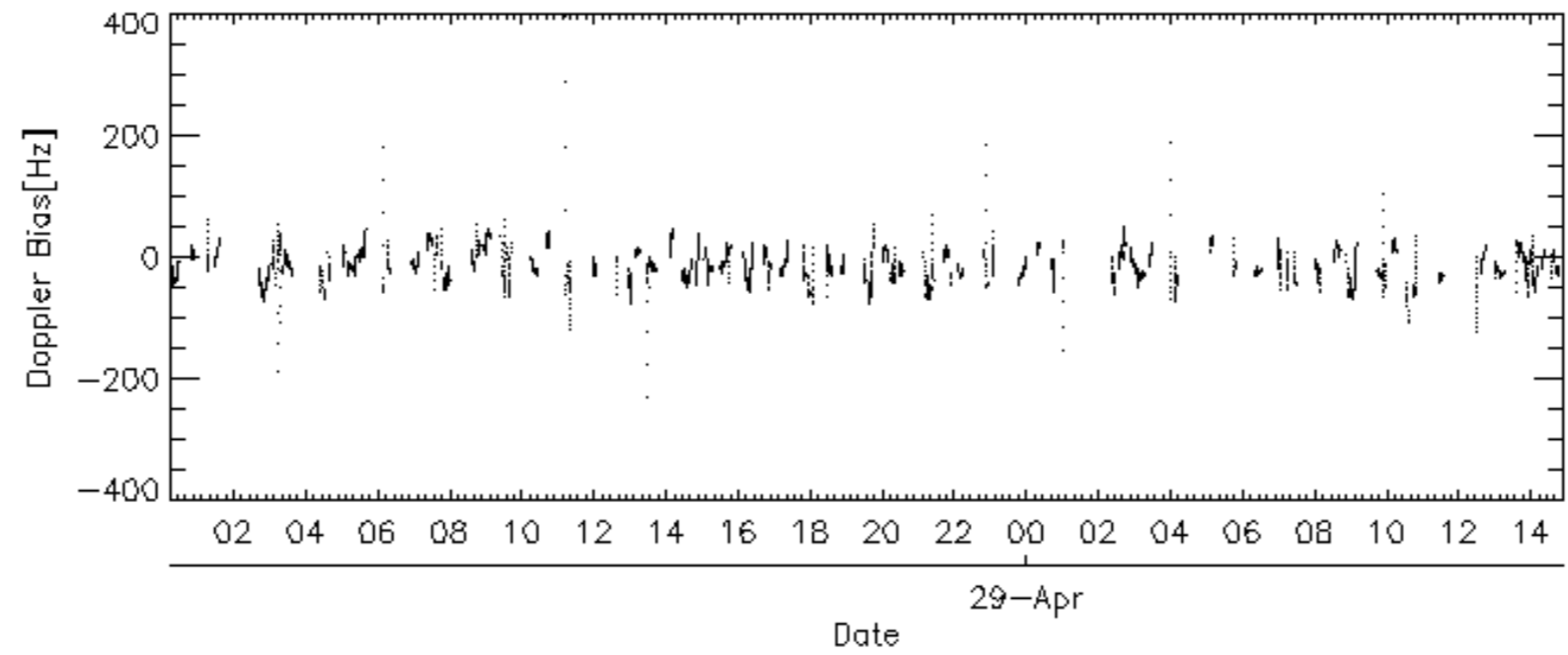
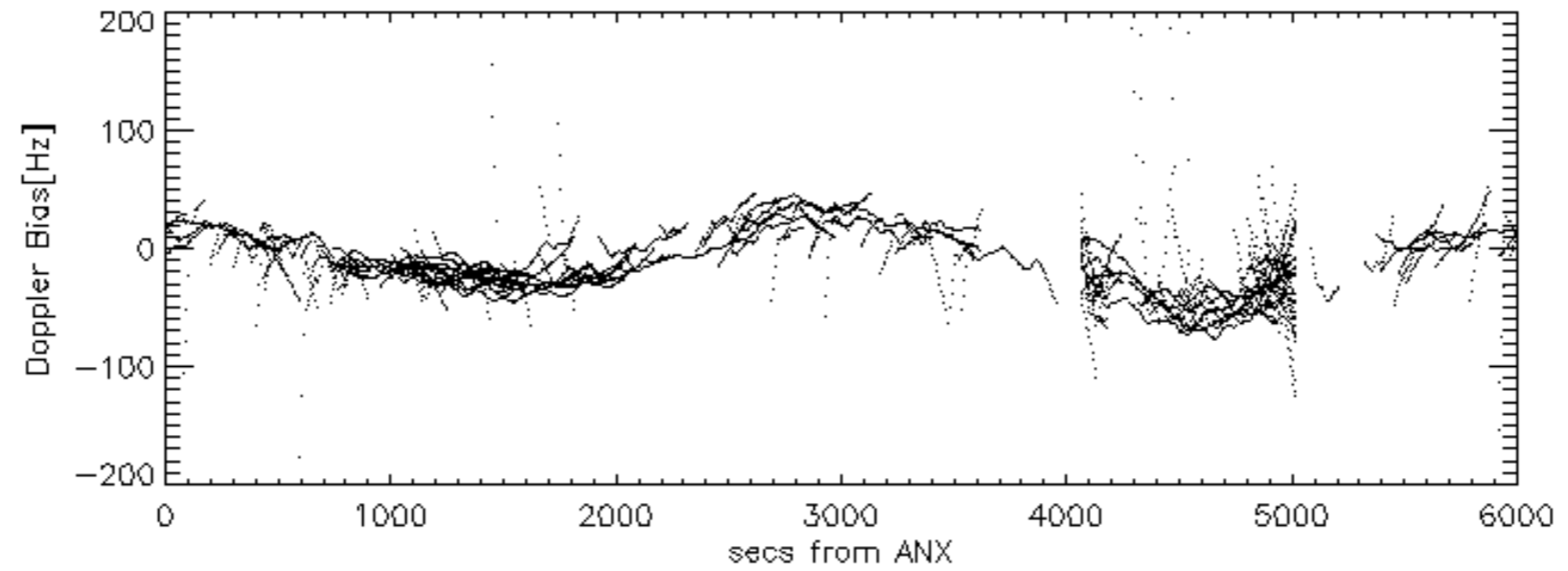
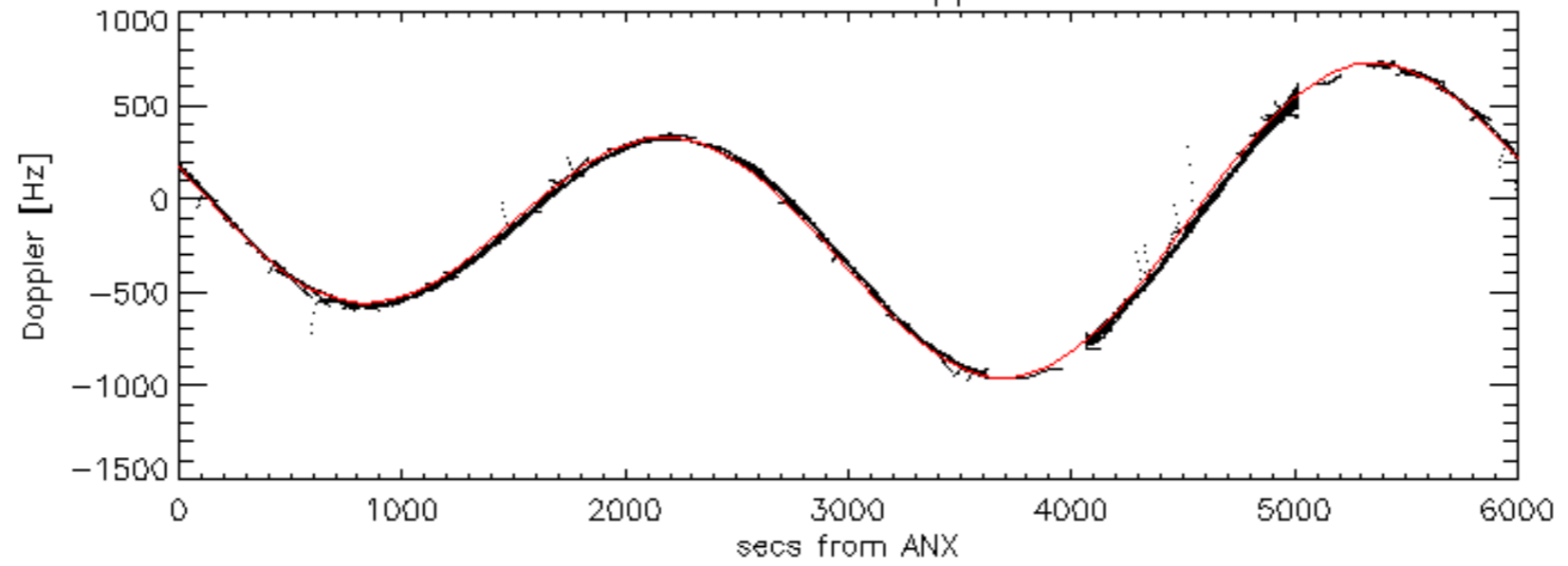
Doppler 'WVS' 'IS2' ascending

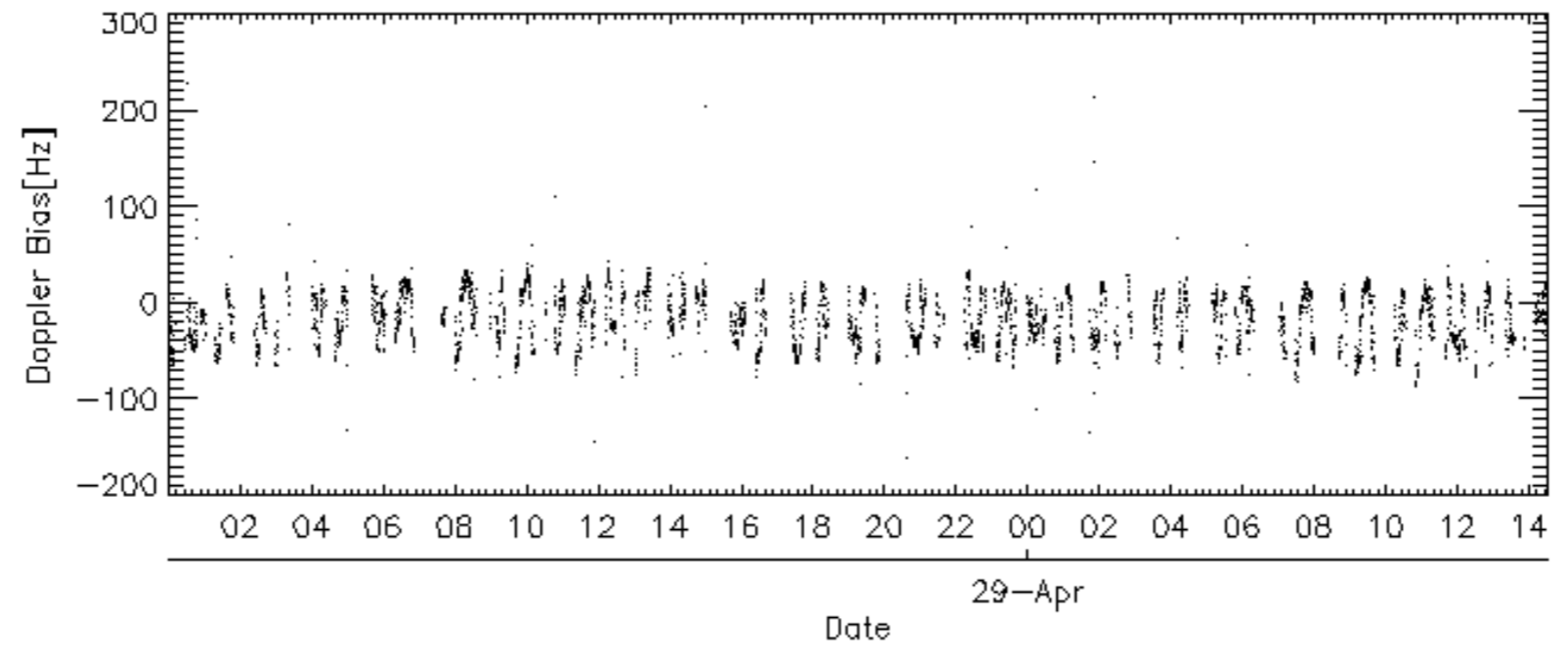
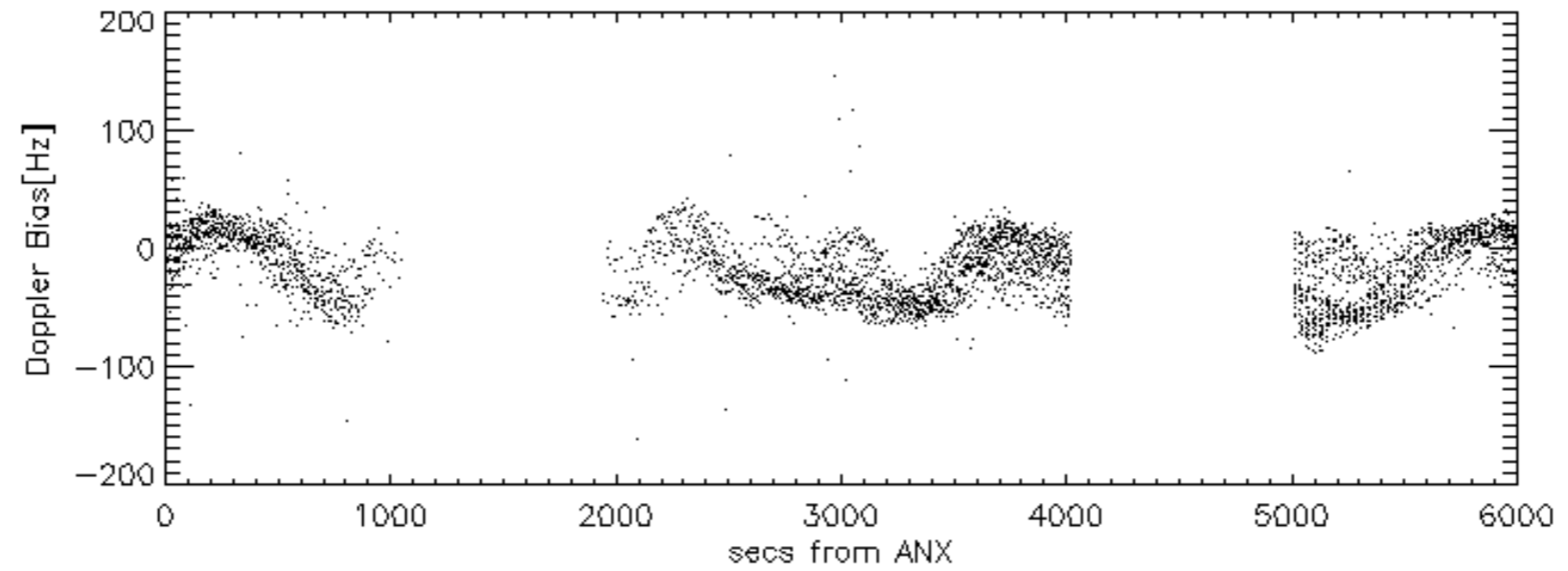
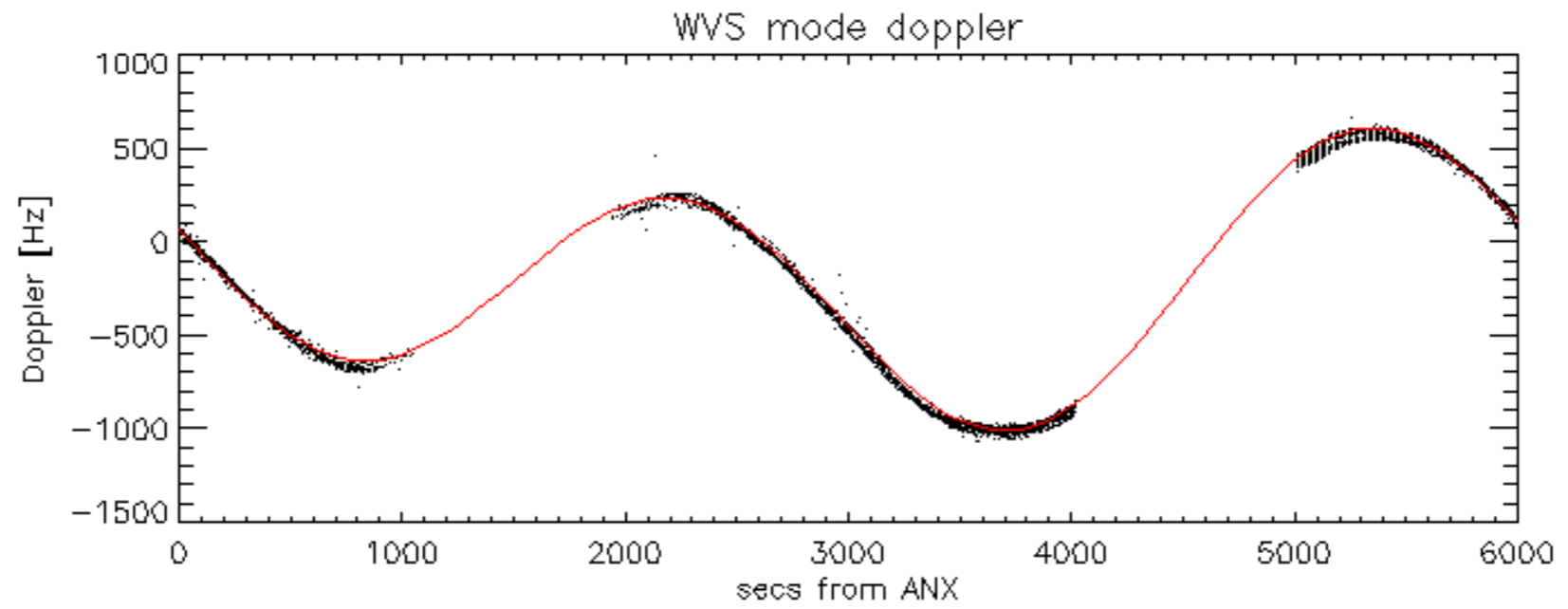


Doppler 'WVS' 'IS2' descending

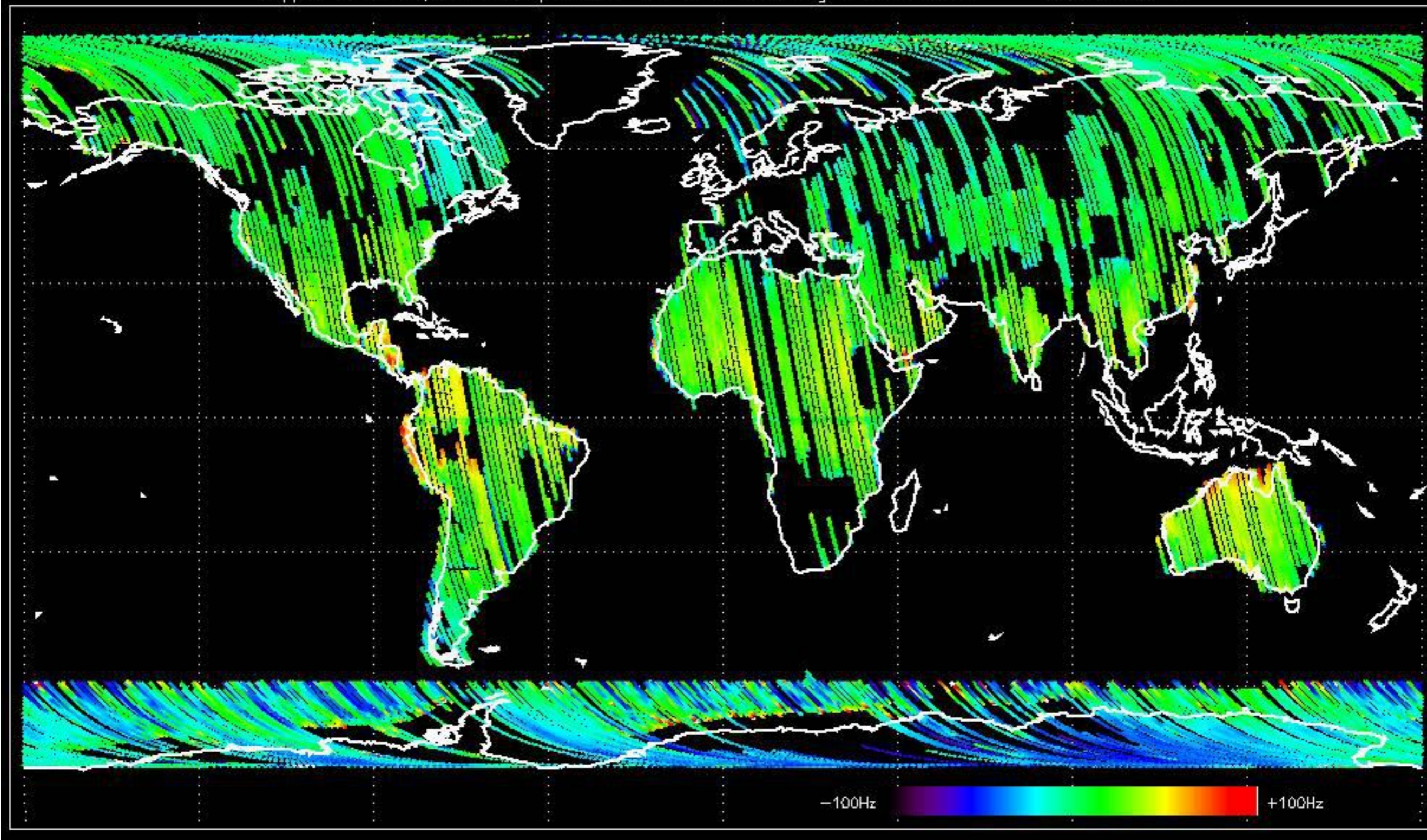


GM1 mode doppler

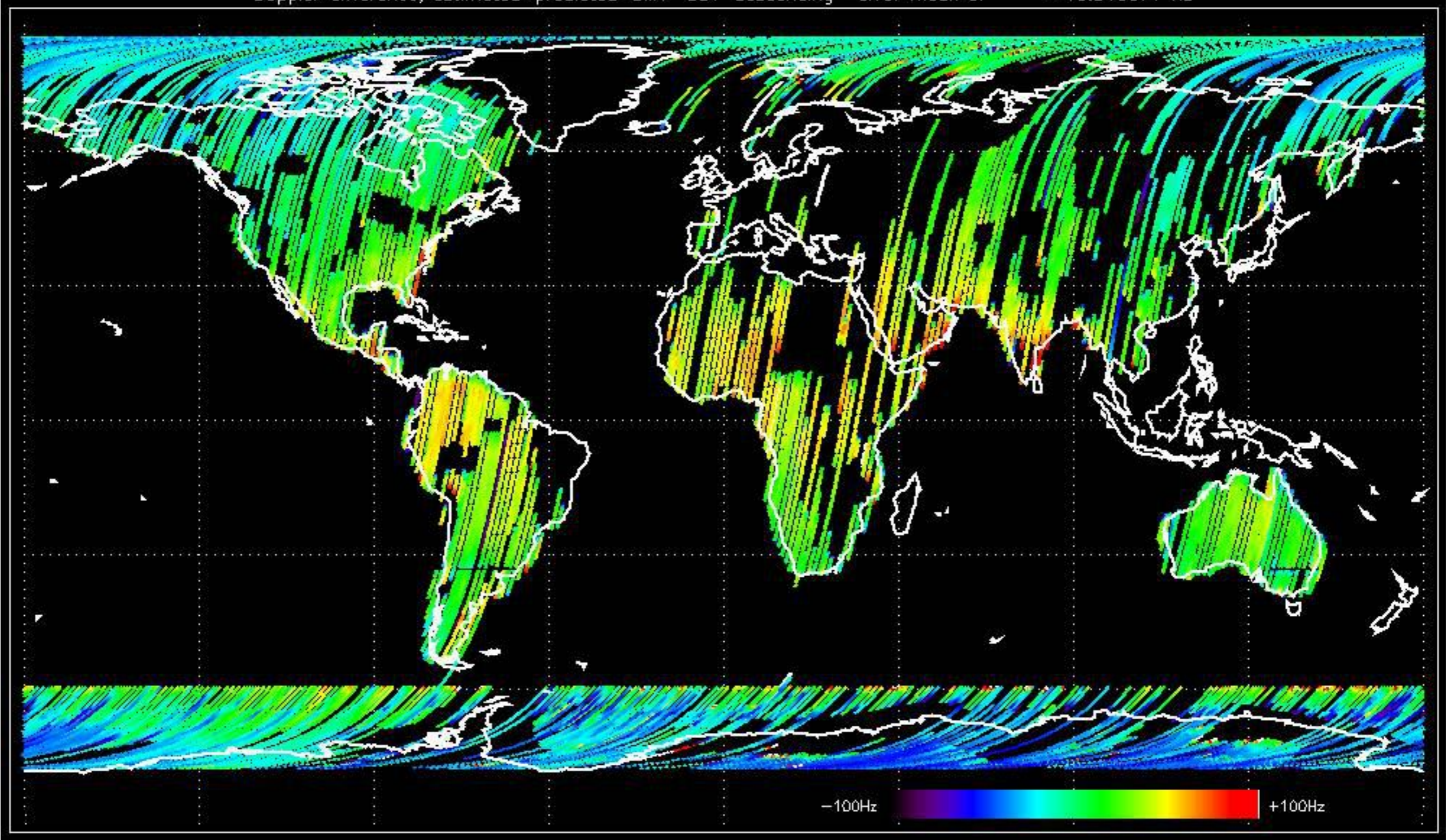




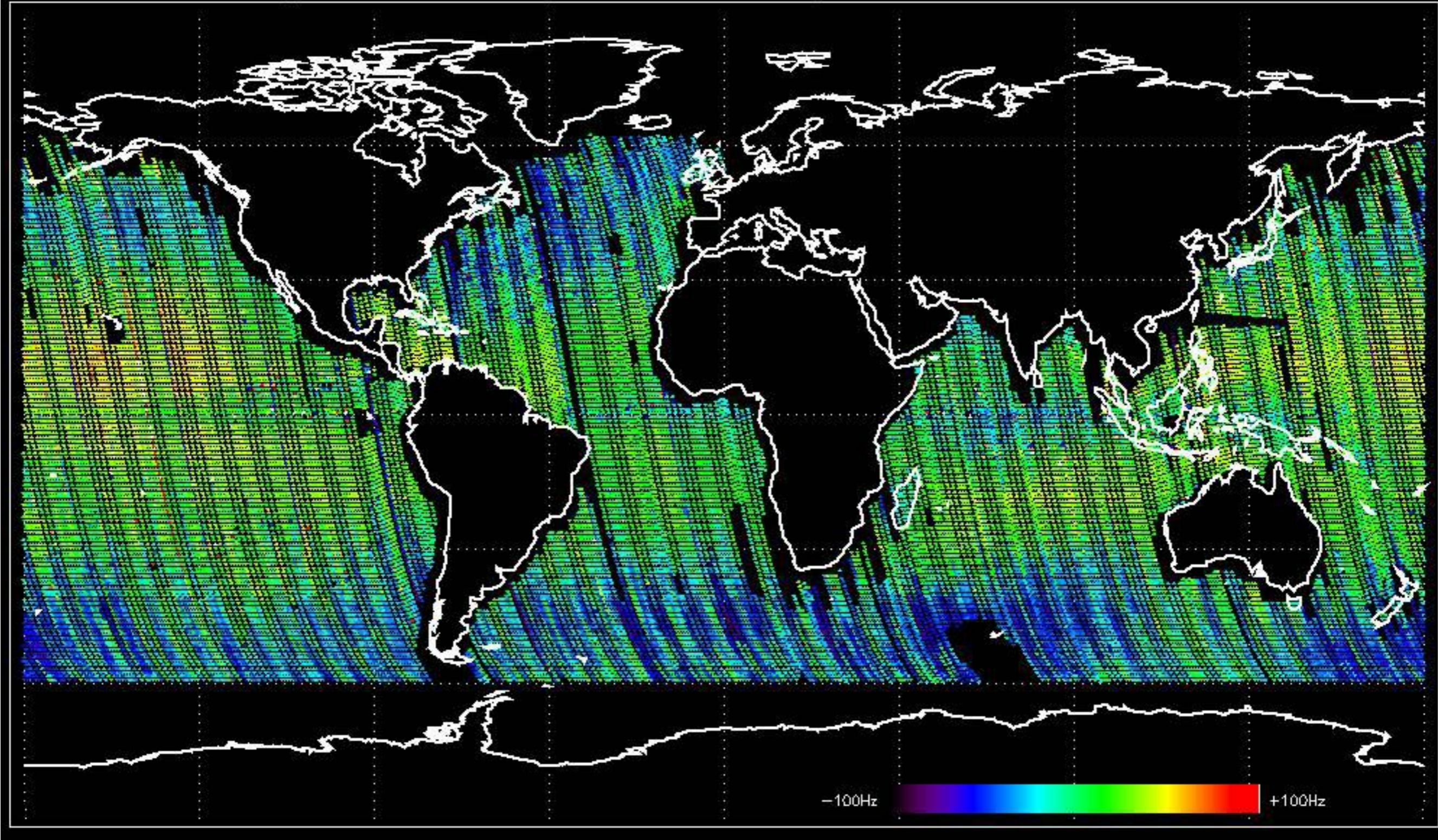
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -25.837399 Hz



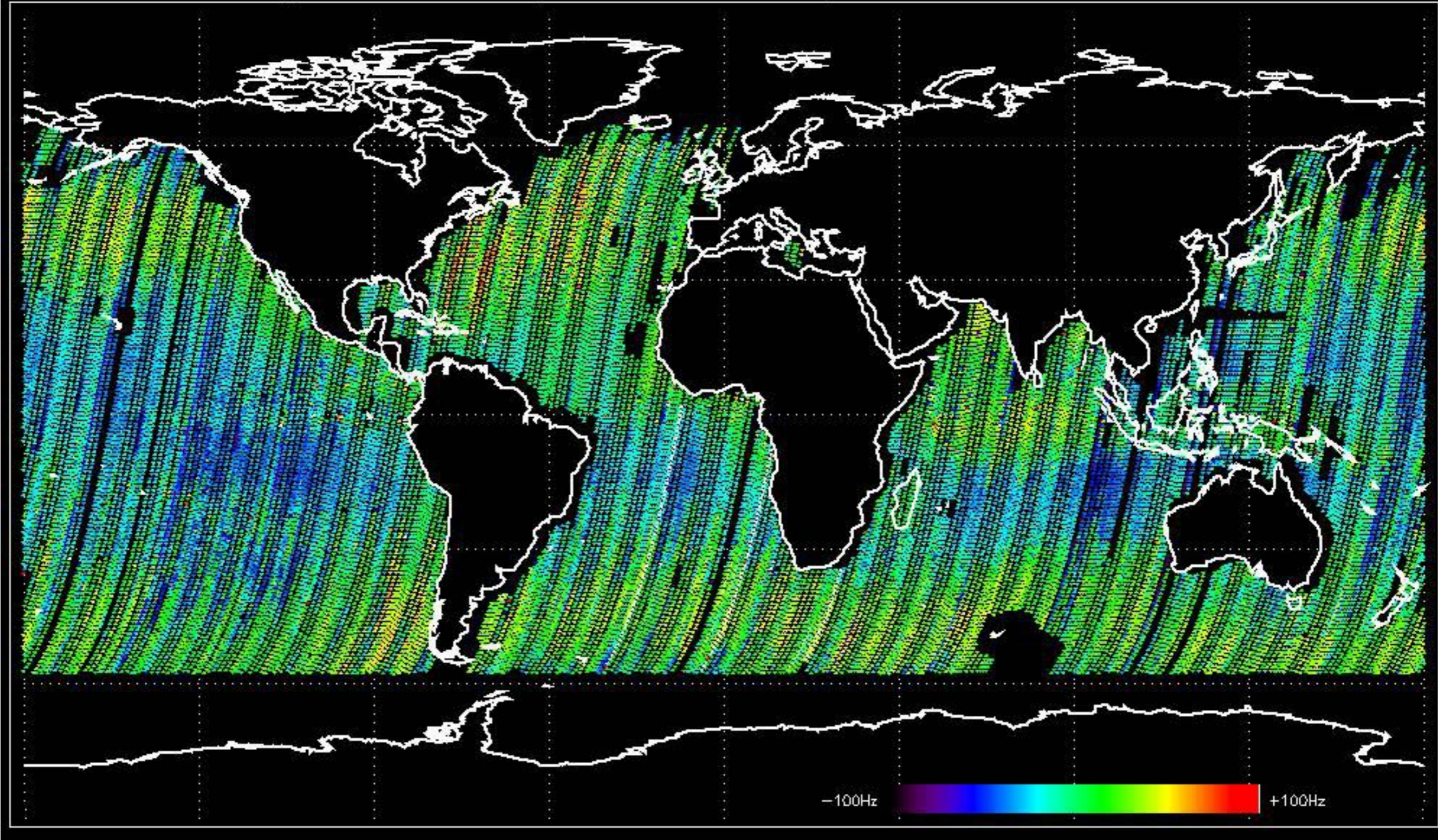
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -16.540671 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -19.937215 Hz

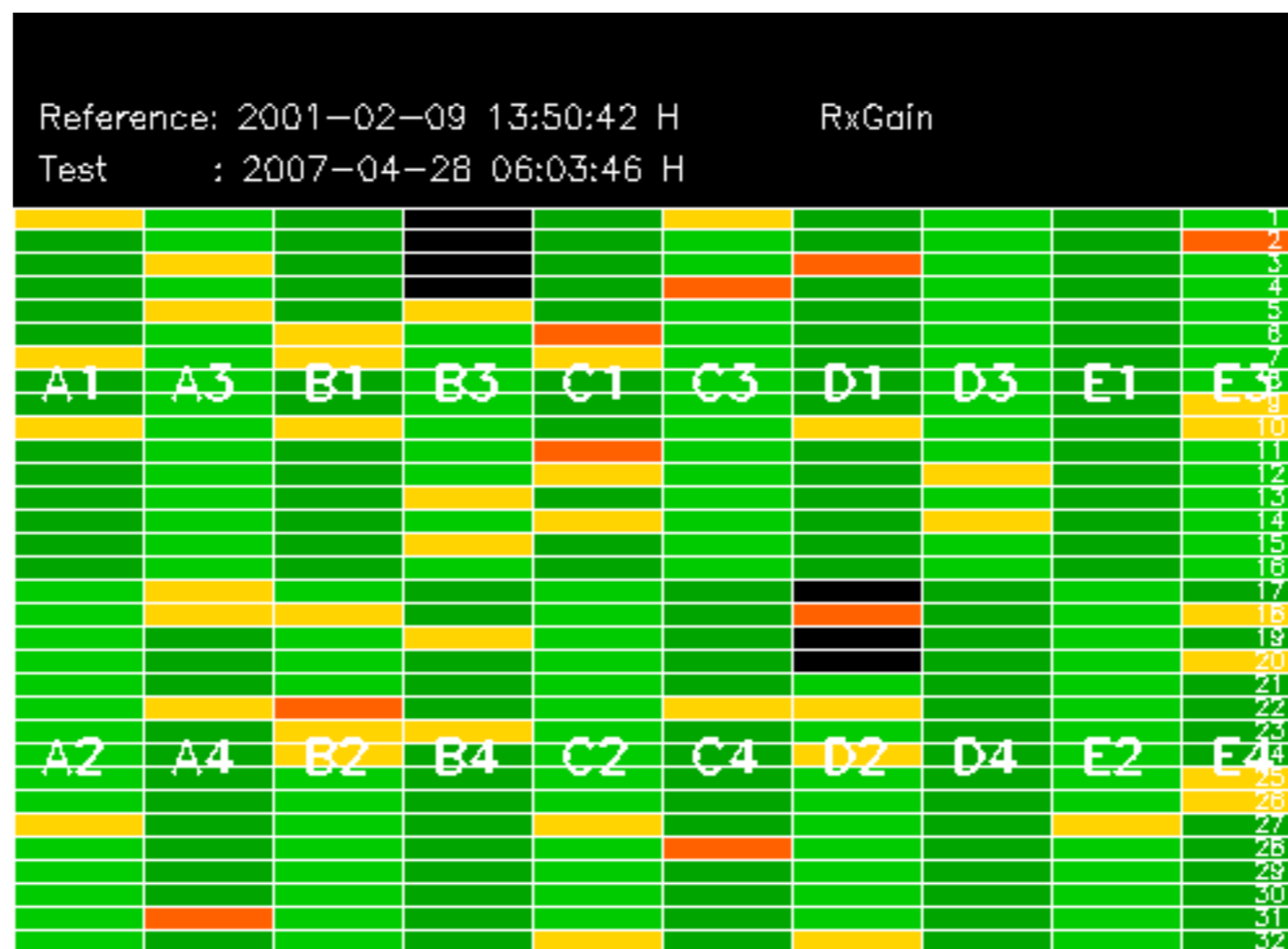


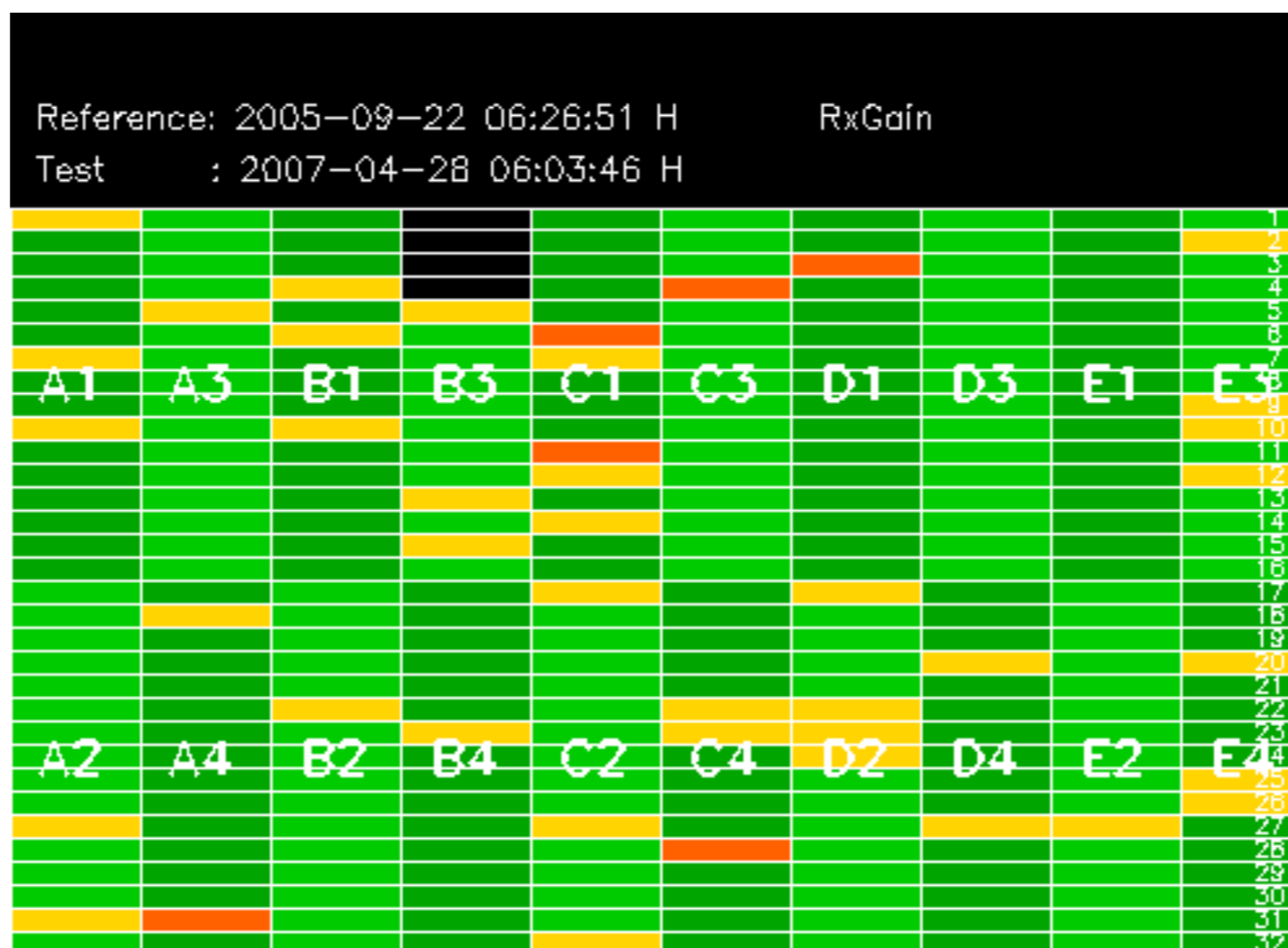
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -21.207802 Hz

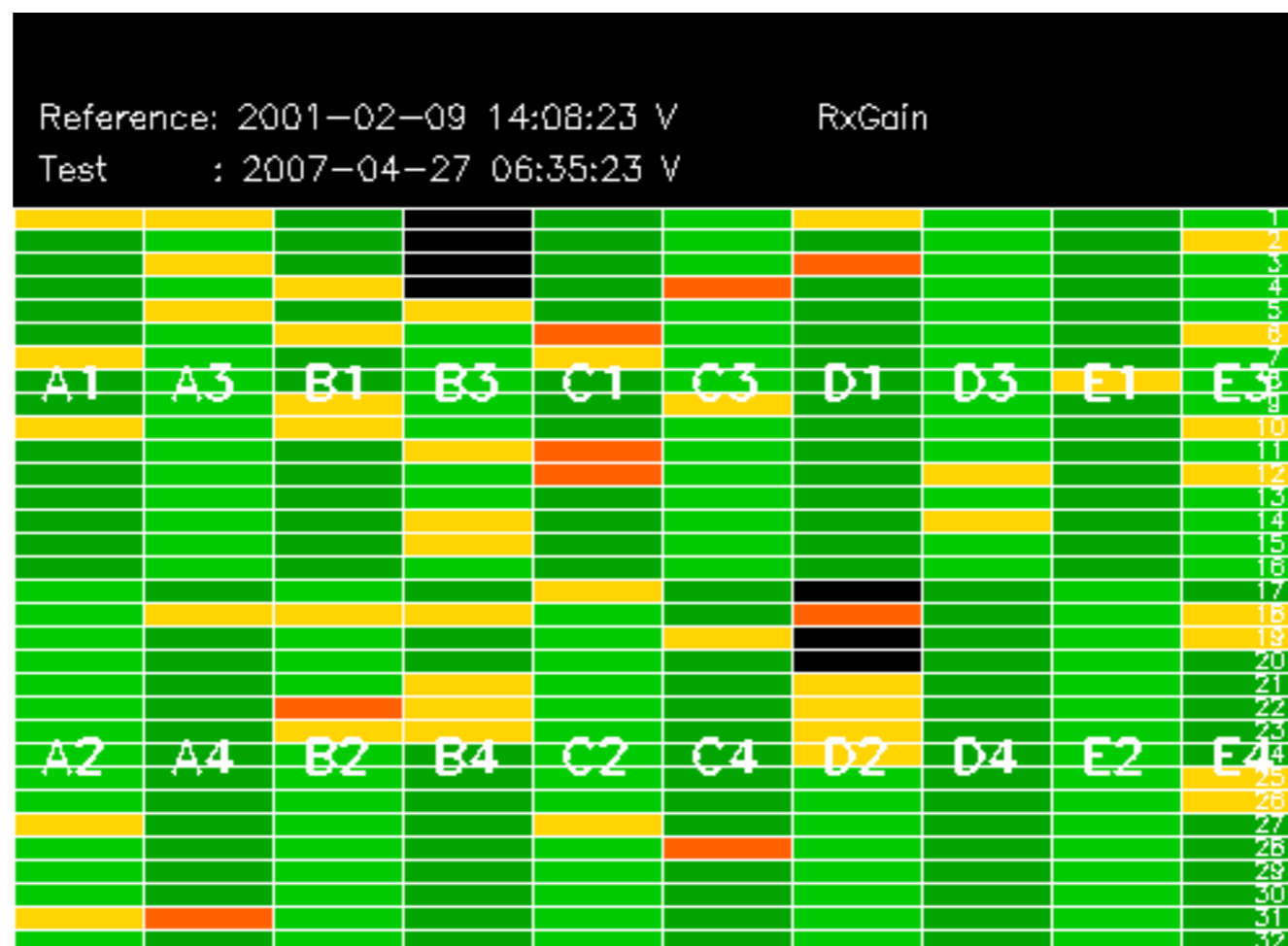


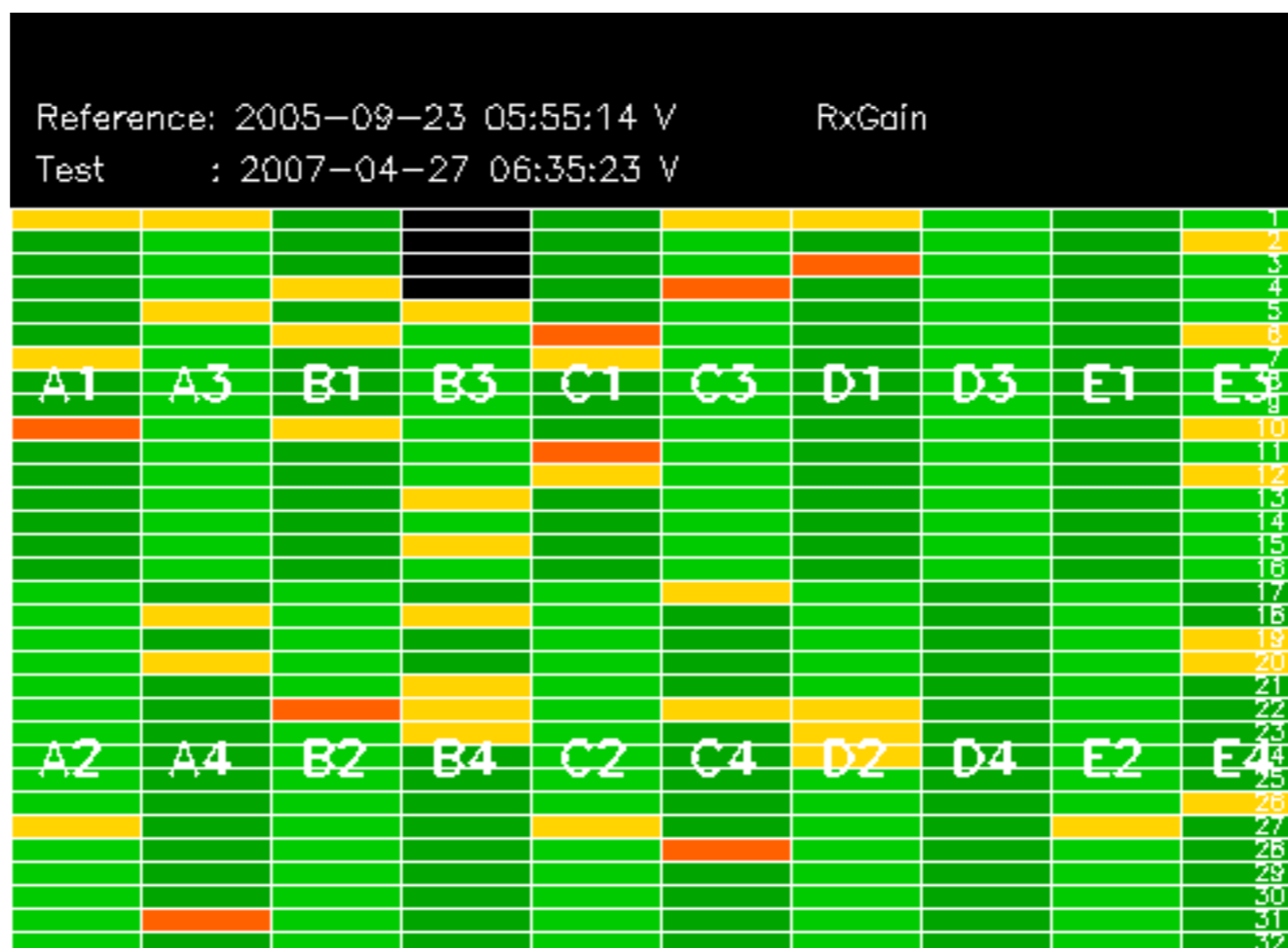
No anomalies observed on available MS products:

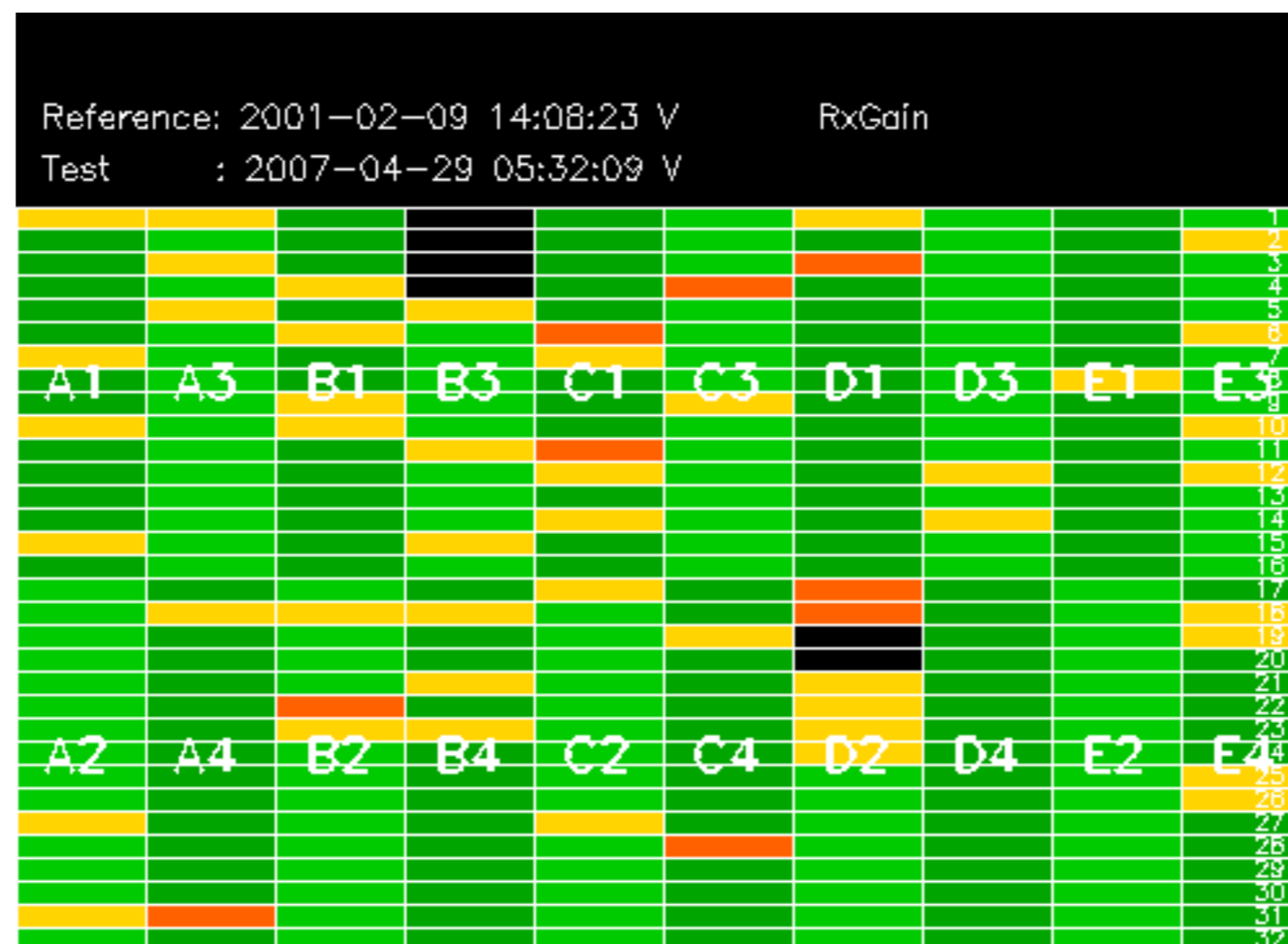
No anomalies observed.

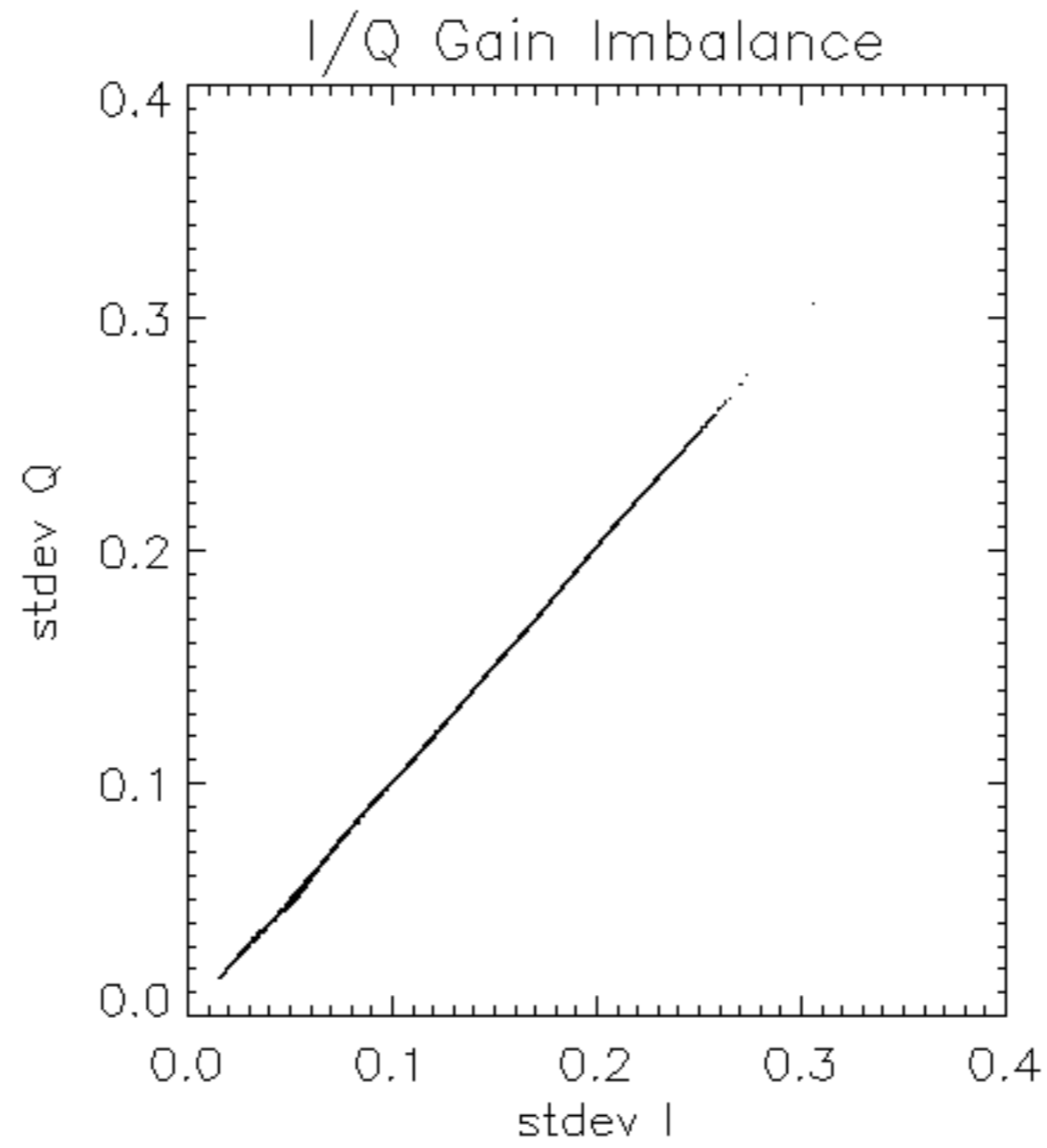


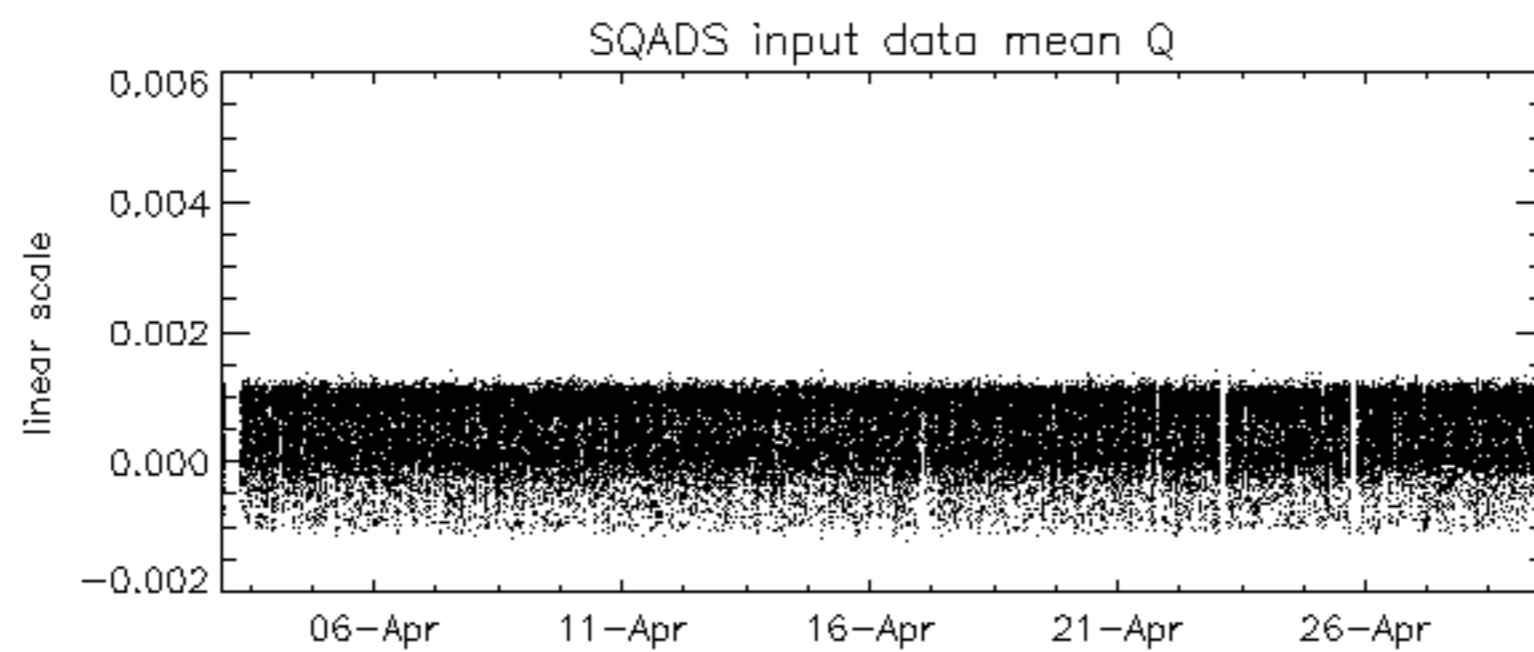
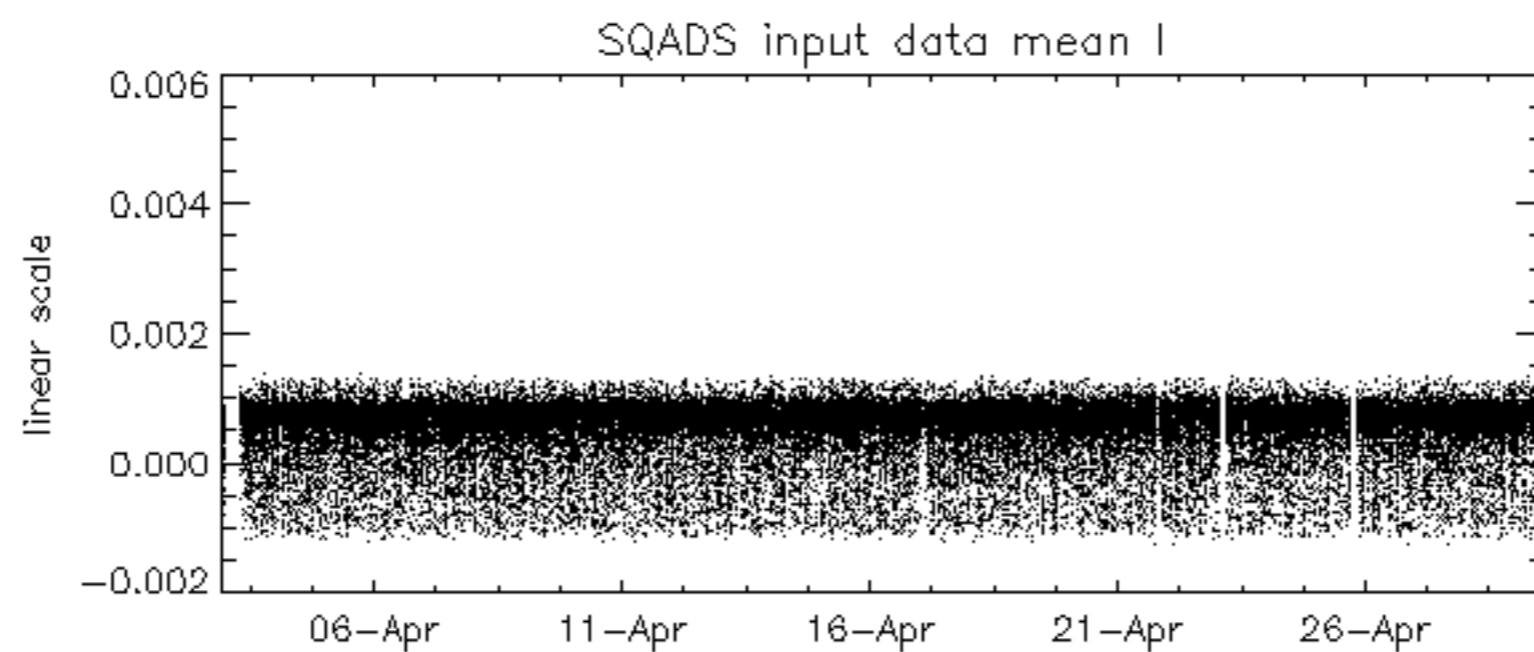
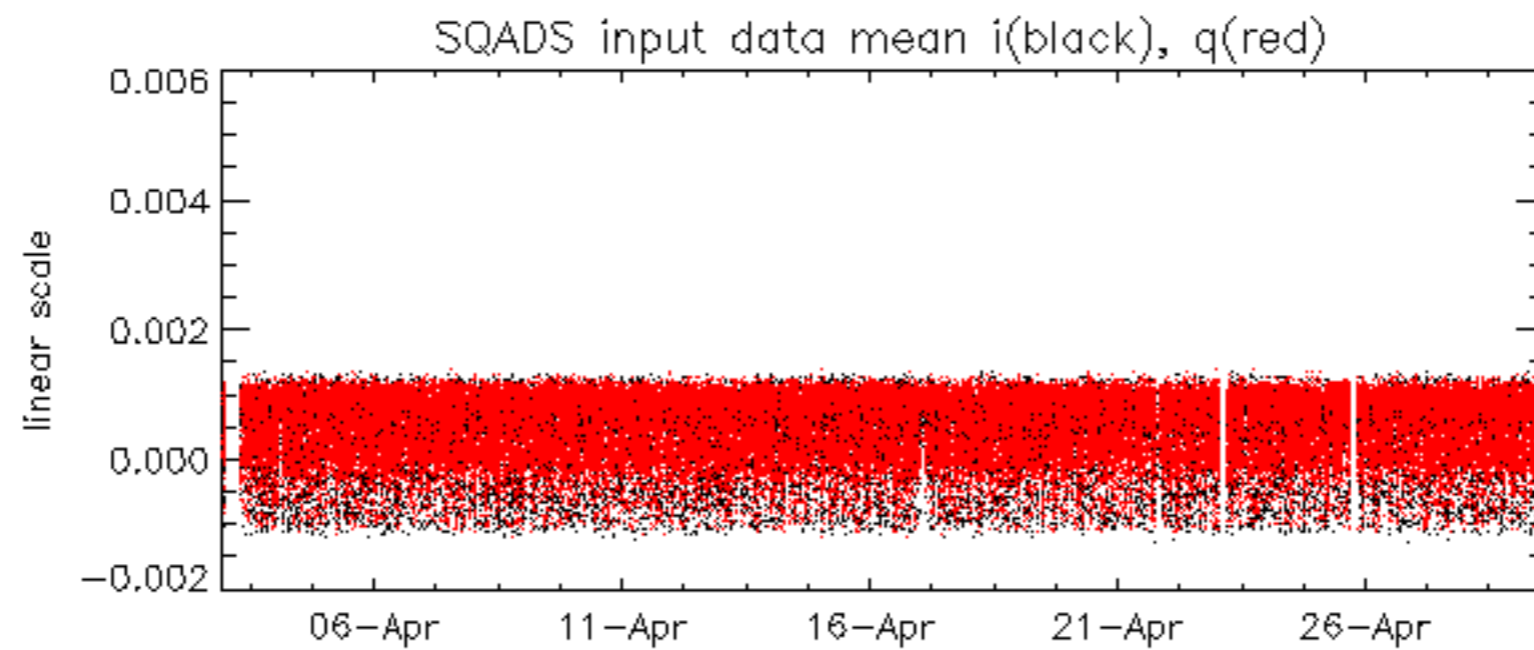


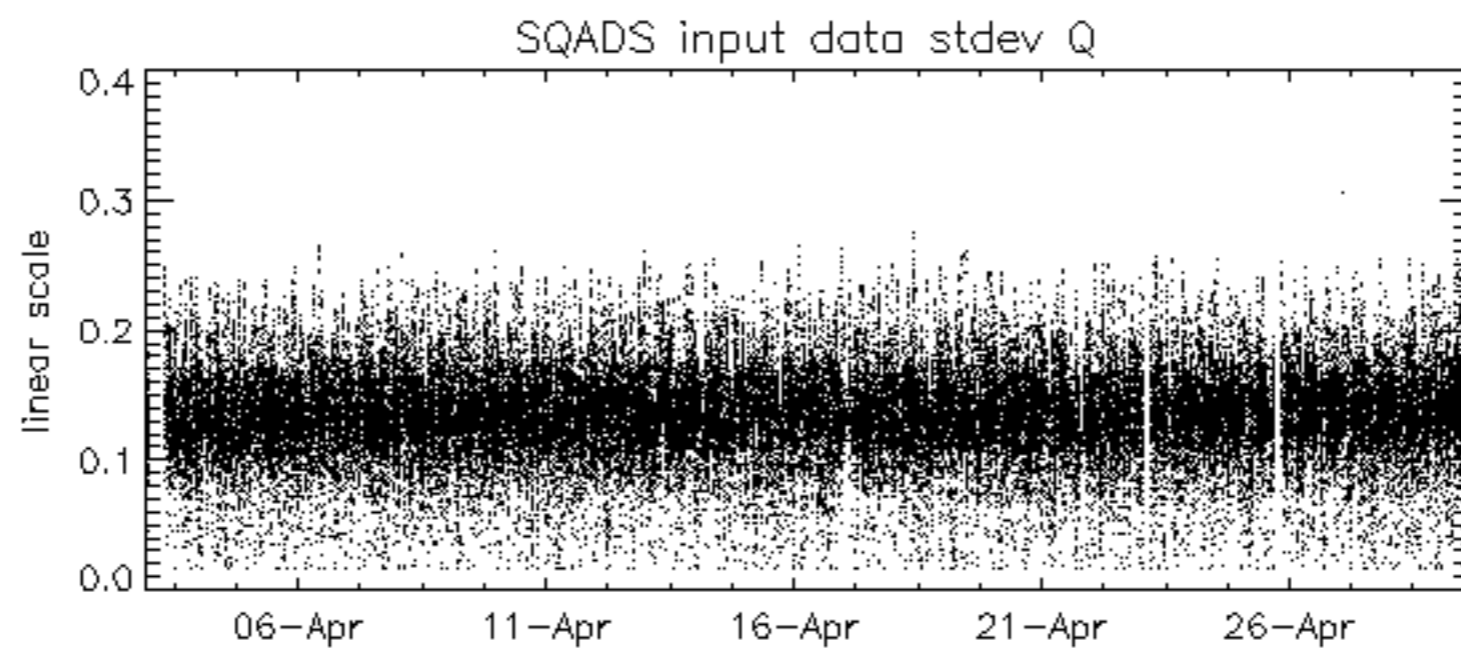
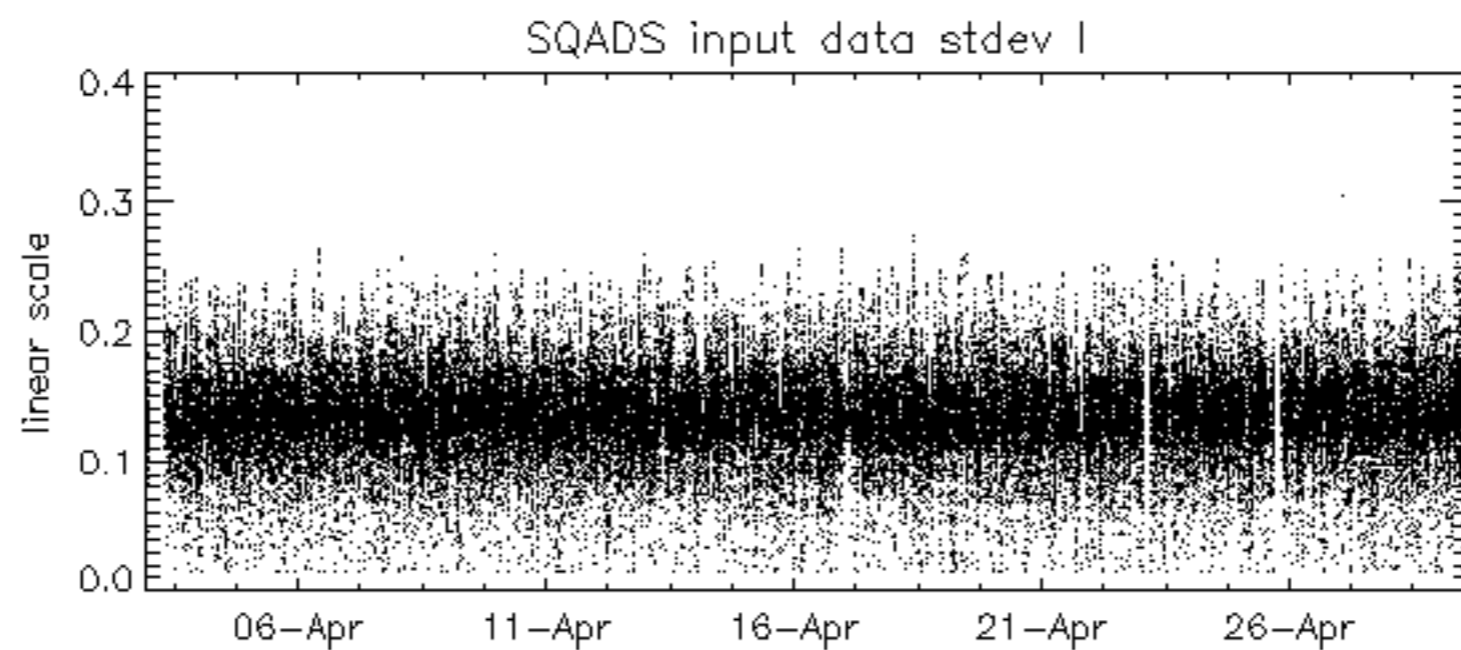
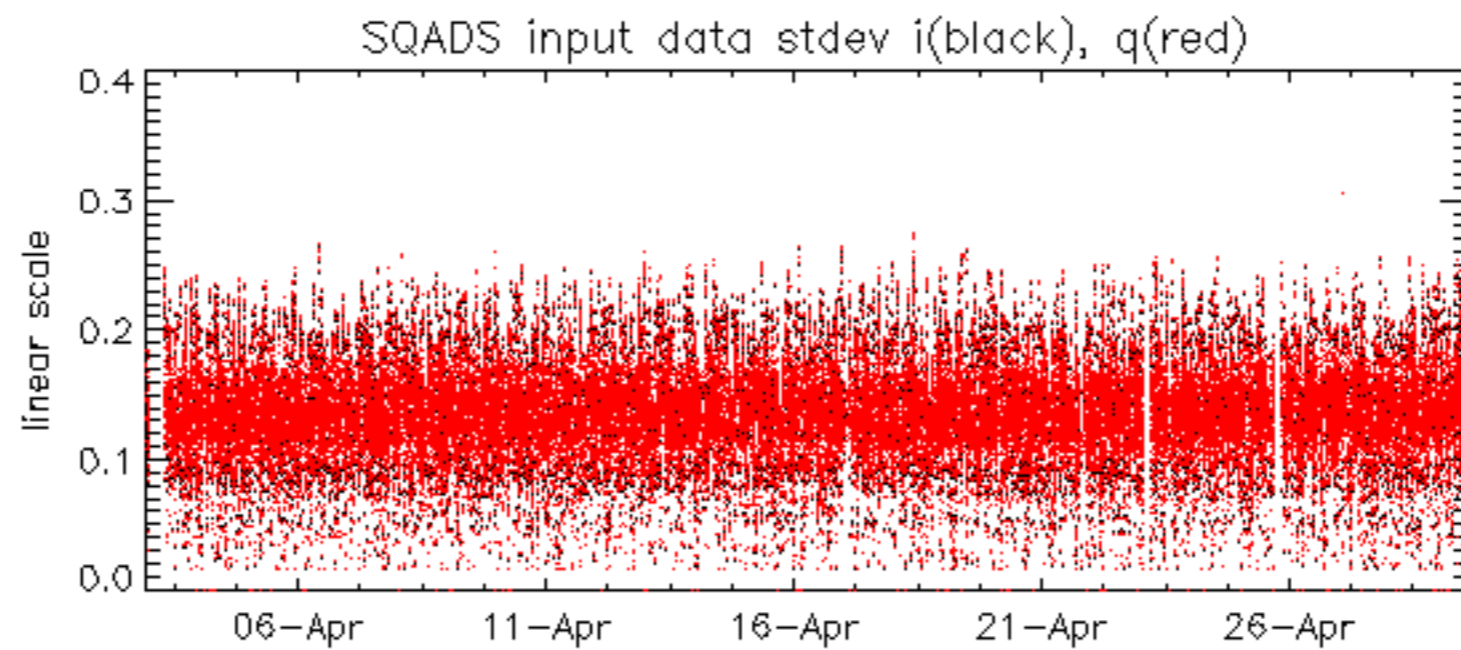








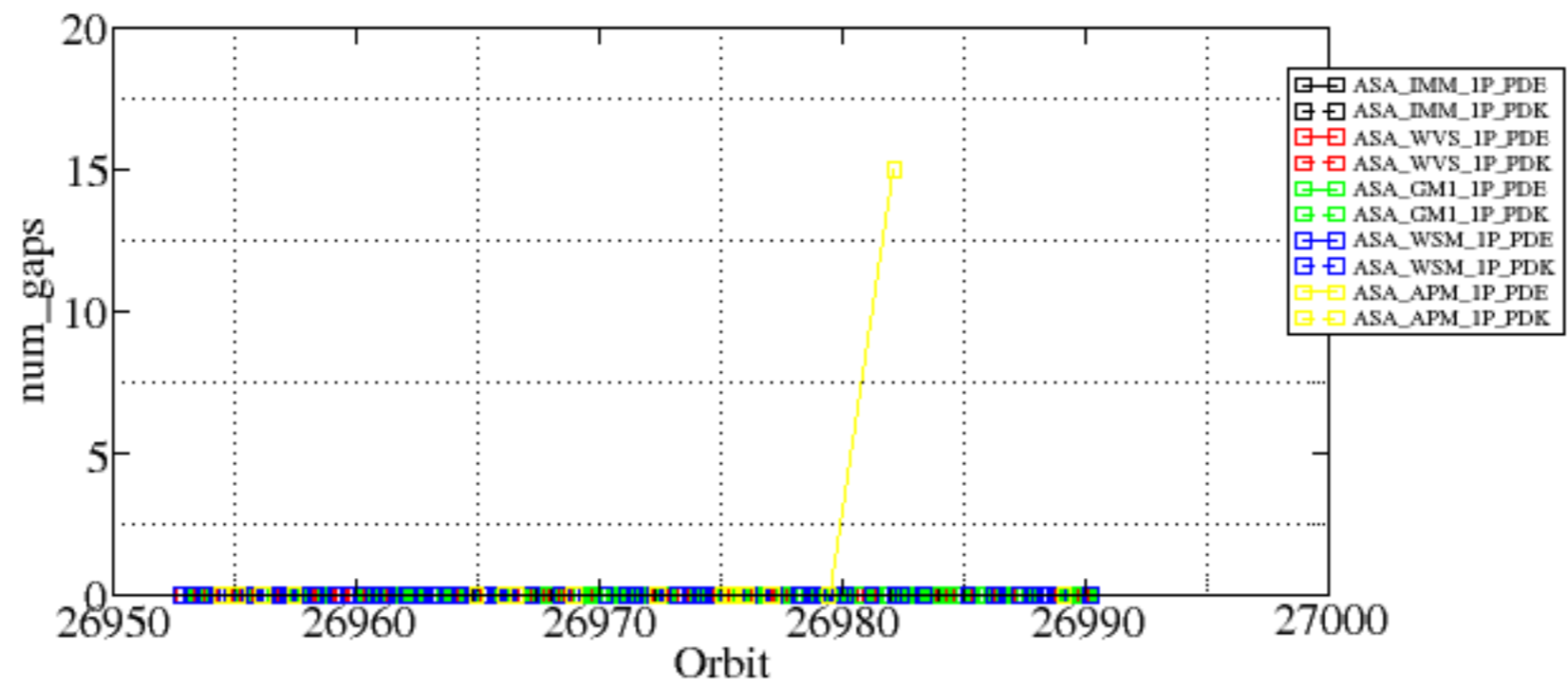


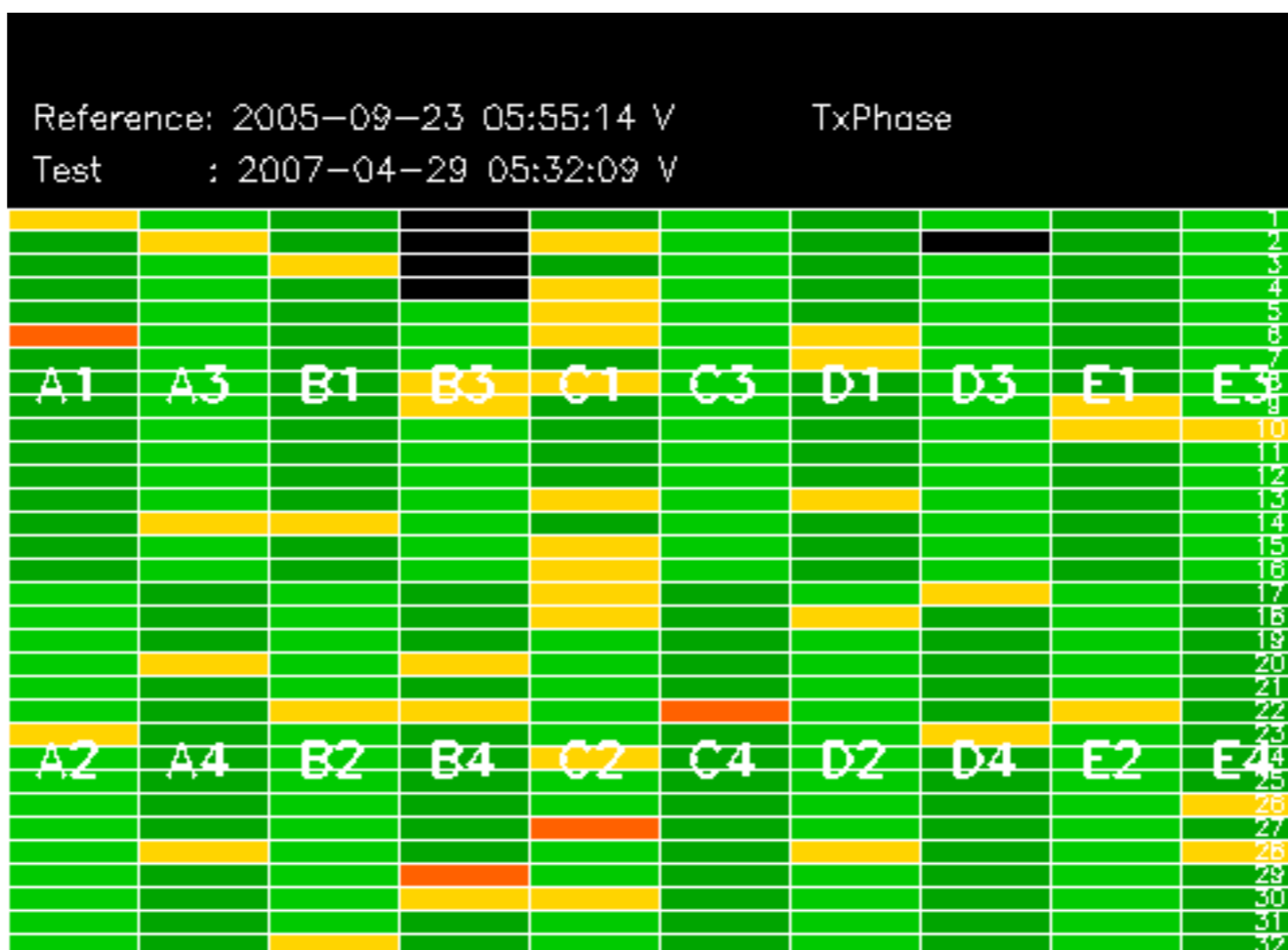


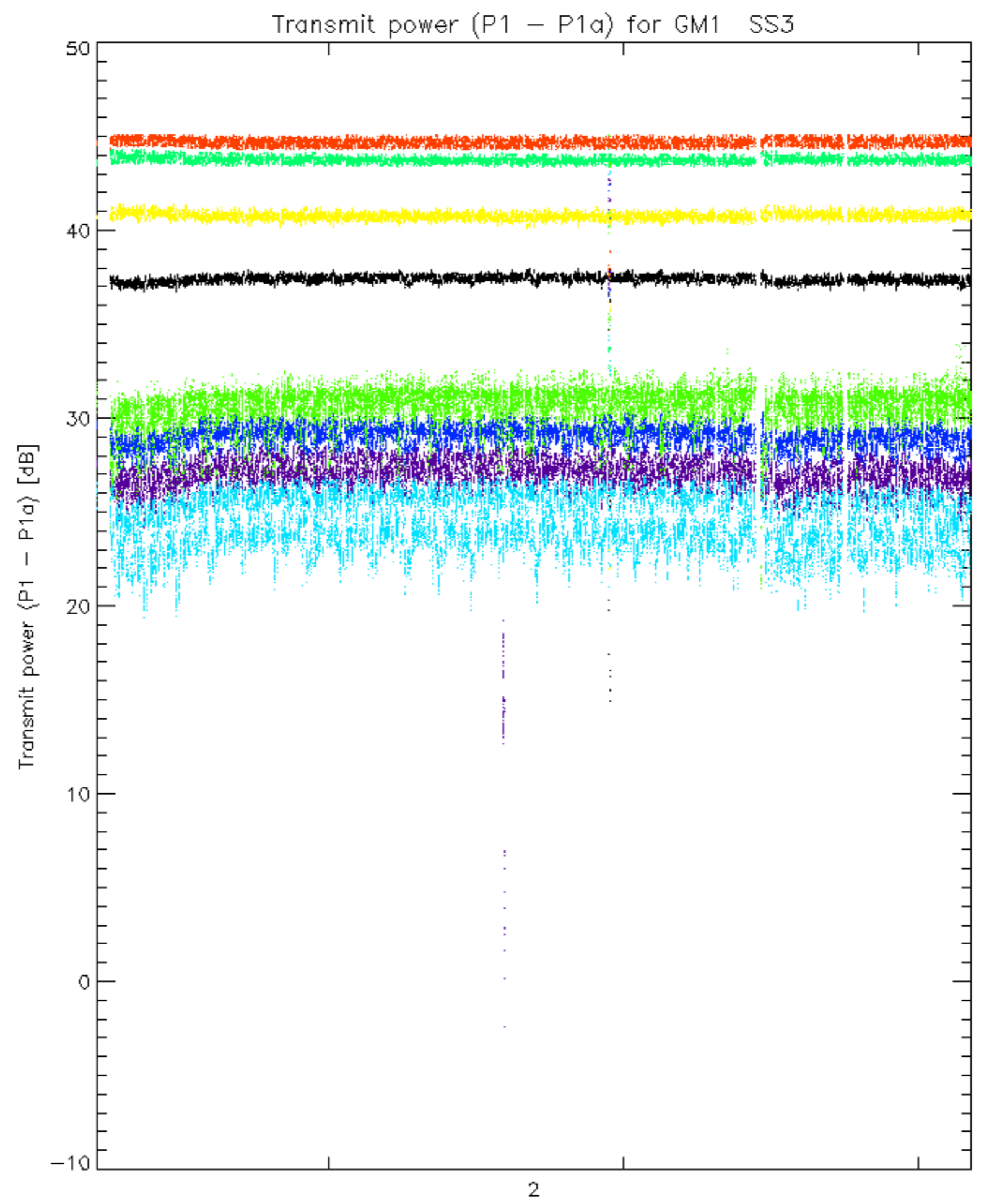
Summary of analysis for the last 3 days 2007042[789]

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

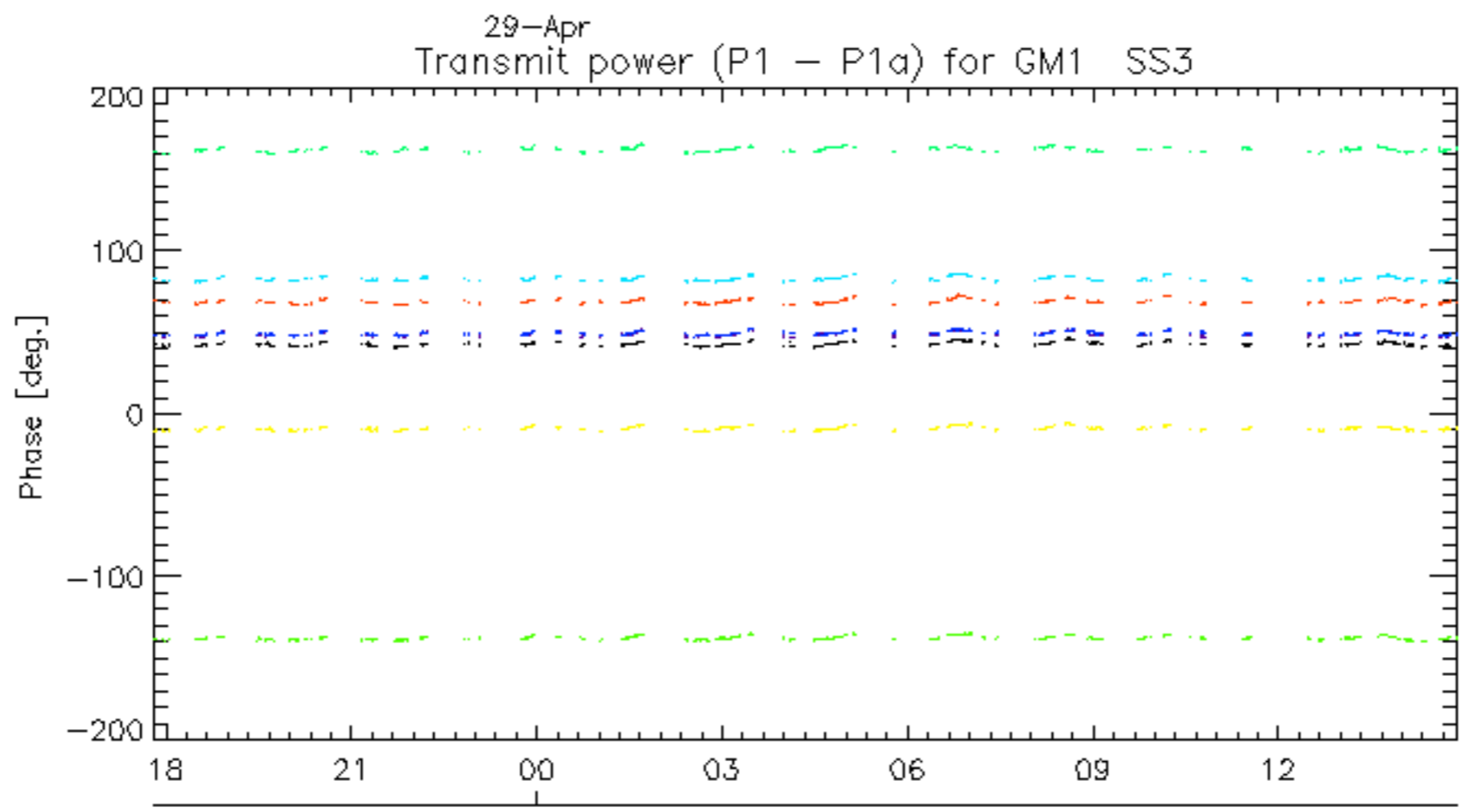
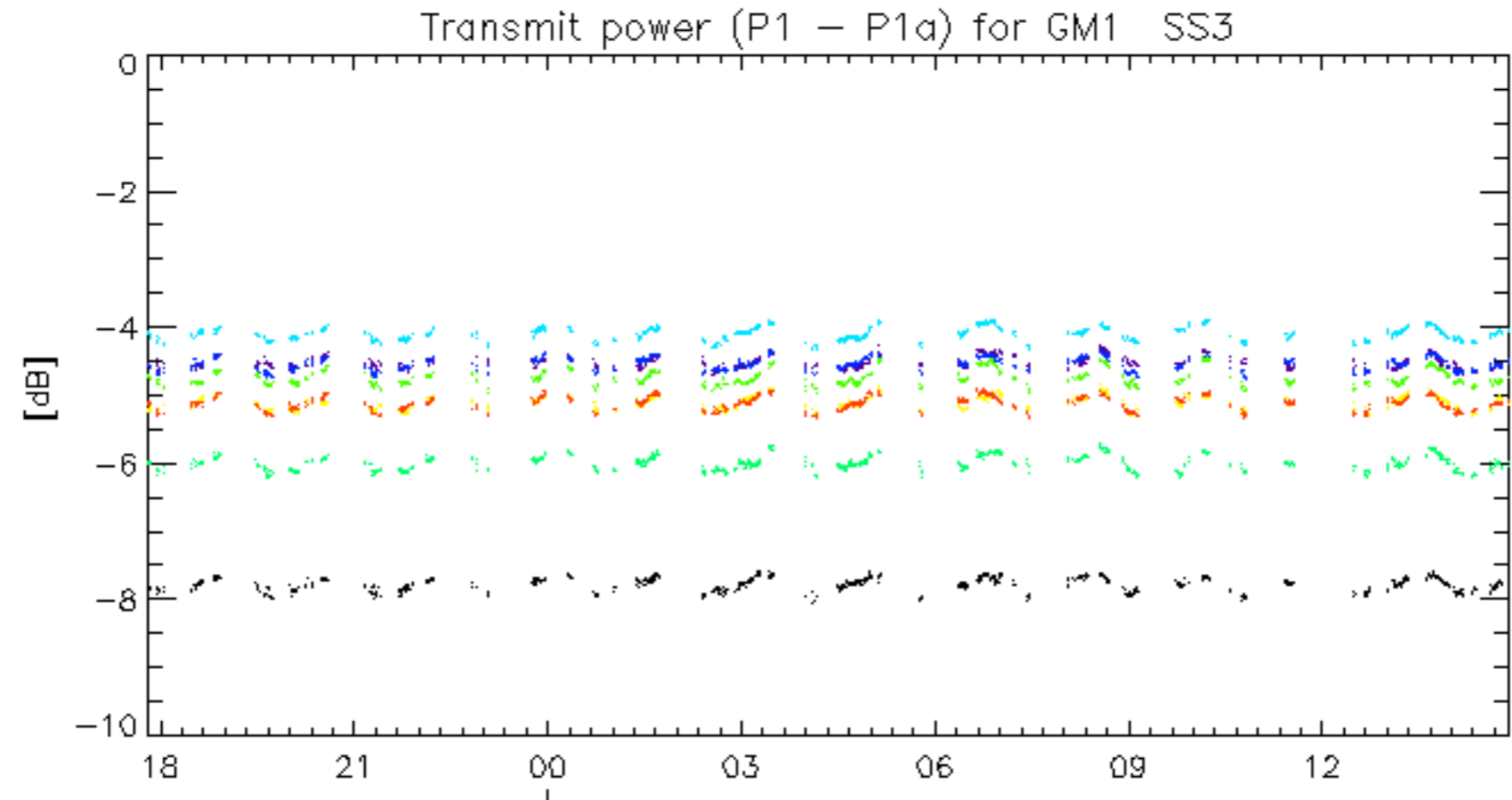
Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20070428_182646_000000352057_00371_26978_0556.N1	0	15
ASA_GM1_1PNPDK20070428_150338_000003682057_00369_26976_6468.N1	0	15
ASA_GM1_1PNPDK20070428_164337_000002952057_00370_26977_6598.N1	0	7
ASA_GM1_1PNPDK20070428_171029_000007972057_00370_26977_6713.N1	0	6
ASA_WSM_1PNPDE20070429_014749_000000852057_00375_26982_1133.N1	0	73
ASA_WSM_1PNPDK20070427_135549_000000852057_00354_26961_5249.N1	0	52
ASA_WSM_1PNPDK20070427_191220_000000852057_00357_26964_5559.N1	0	1
ASA_APM_1PNPDE20070429_011649_000000832057_00375_26982_1129.N1	15	0



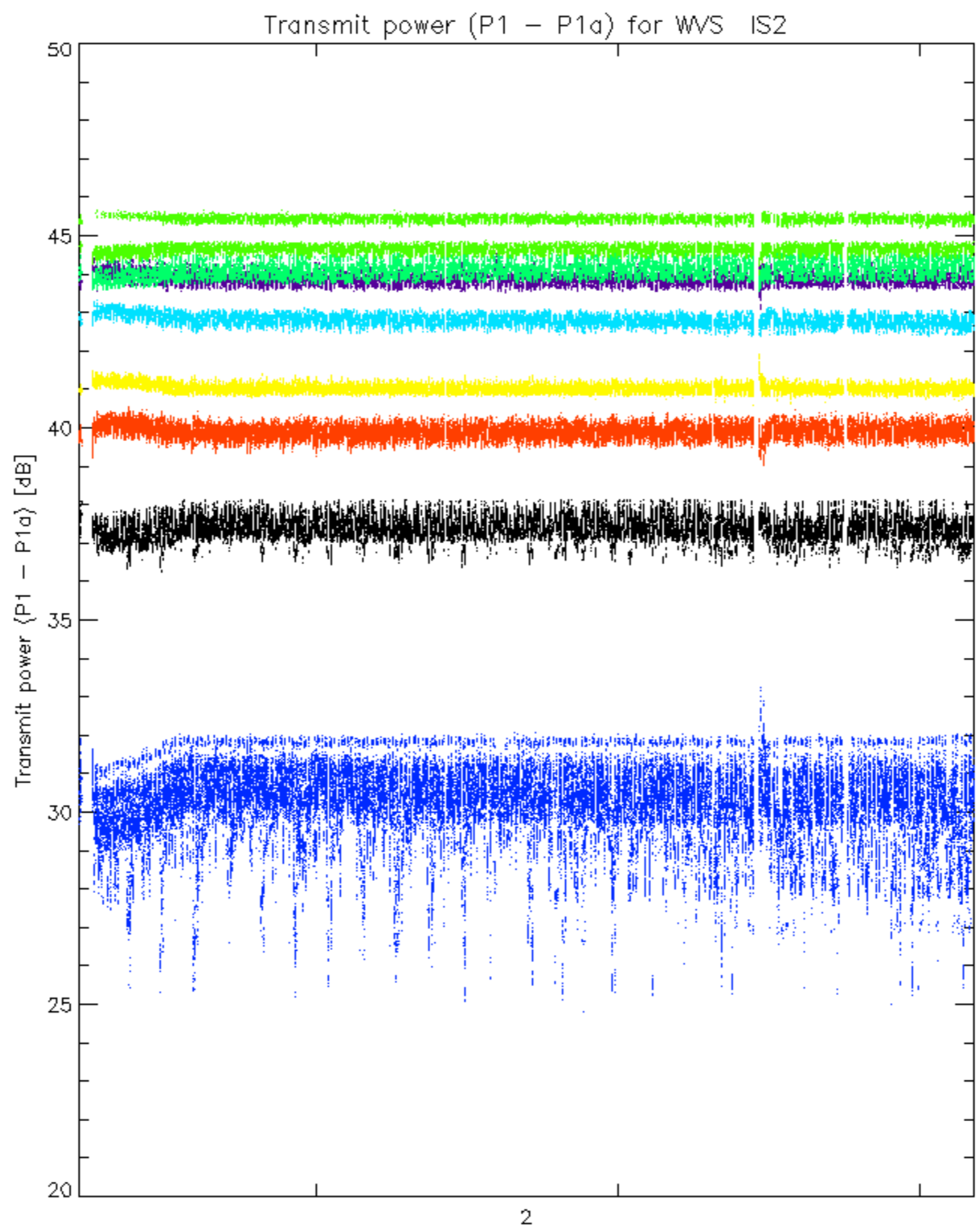




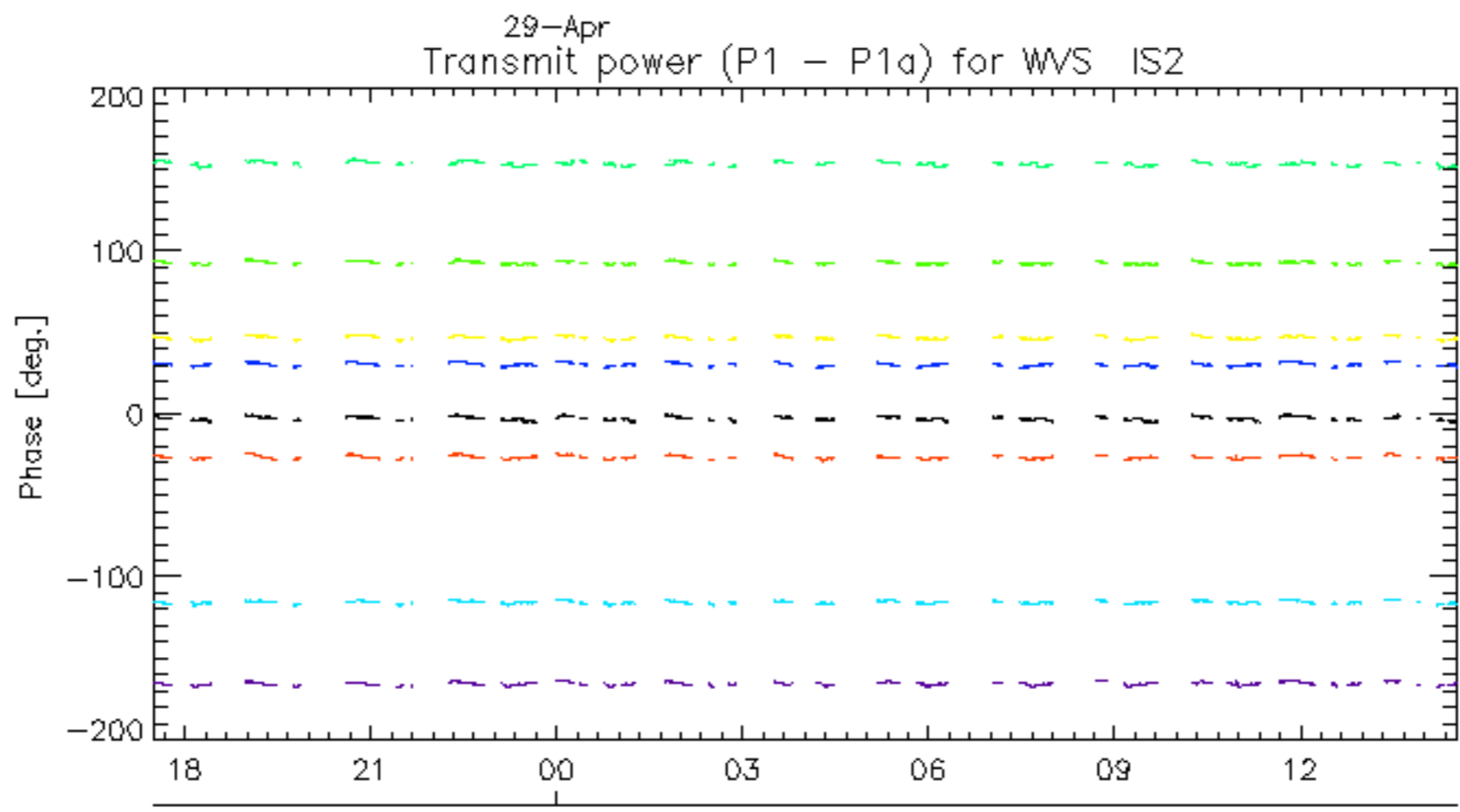
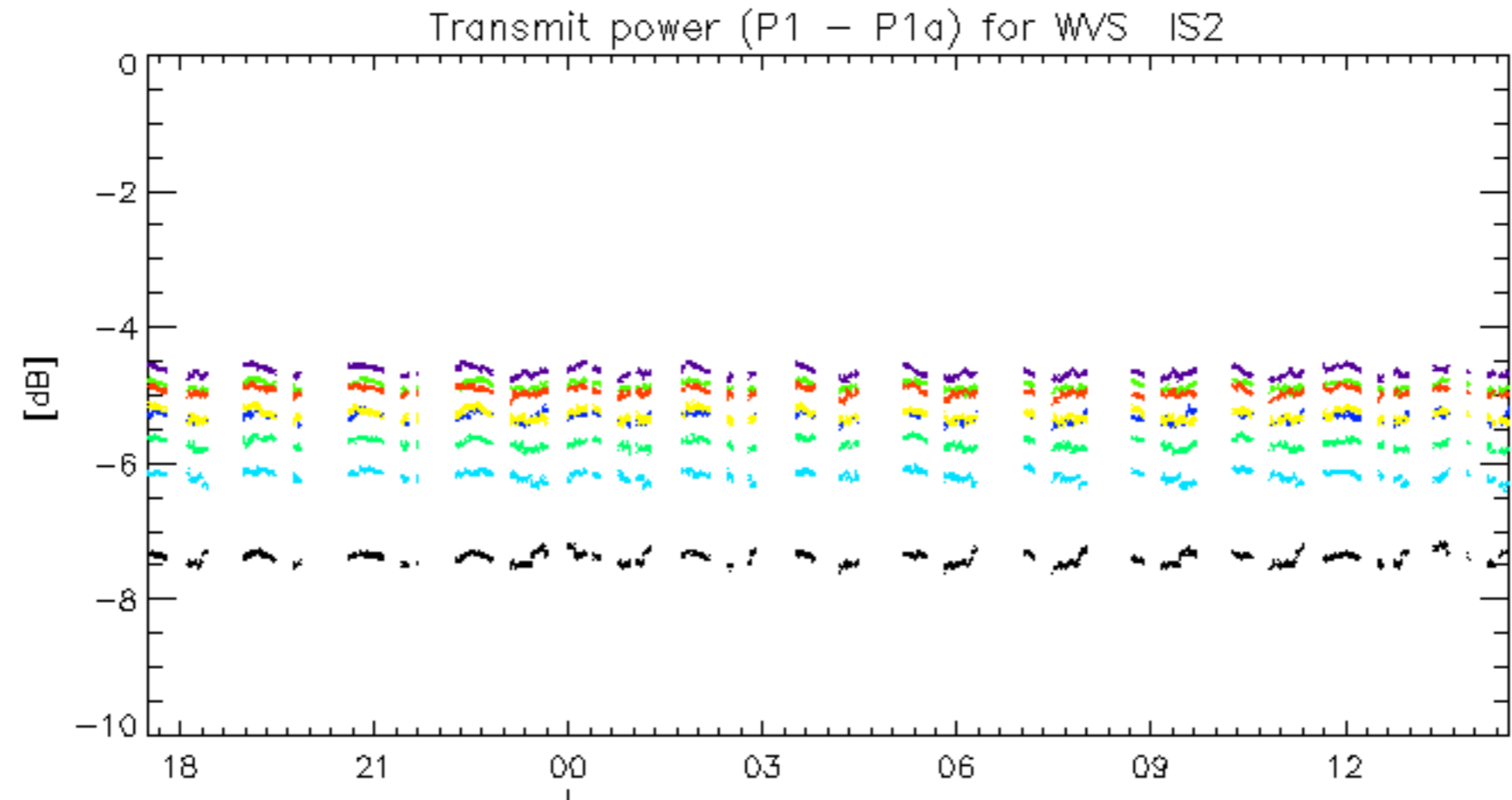
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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



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



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

No unavailabilities during the reported period.