

PRELIMINARY REPORT OF 070501

last update on Tue May 1 18:02:25 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 2007-04-30 00:00:00 to 2007-05-01 18:02:25

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	55	93	8	1	33
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	55	93	8	1	33
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	55	93	8	1	33
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	55	93	8	1	33

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	35	47	42	4	58
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	35	47	42	4	58
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	35	47	42	4	58
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	35	47	42	4	58

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	20070501 042855
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	-15.096996	0.147257	-0.189848
7	P1a	-17.555216	0.100228	-0.078143
11	P1a	-17.511744	0.354848	-0.670707
15	P1a	-13.011843	0.125189	-0.352107
19	P1a	-15.344605	0.070933	-0.313122
22	P1a	-15.921377	0.411954	-0.369885
26	P1a	-15.019189	0.216108	0.369144
30	P1a	-17.714027	0.344860	-0.595784

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.770551	0.010557	-0.052380
7	P1	-3.147559	0.008939	-0.011591
11	P1	-4.209963	0.012170	-0.017767
15	P1	-6.411438	0.019841	-0.127122
19	P1	-3.783567	0.010941	0.036882
22	P1	-4.749678	0.009425	-0.033081
26	P1	-3.917106	0.019493	0.073895
30	P1	-5.967556	0.009372	0.015524

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.660782	0.090549	-0.010995
7	P2	-21.557867	0.088788	0.105857
11	P2	-15.349103	0.116524	0.198406
15	P2	-7.127951	0.088539	-0.028068
19	P2	-9.117311	0.080297	0.013358
22	P2	-18.086103	0.077081	0.010551
26	P2	-16.620636	0.081792	-0.066241
30	P2	-19.275349	0.082352	0.050636

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.244994	0.005311	-0.006298
7	P3	-8.244994	0.005311	-0.006298
11	P3	-8.244994	0.005311	-0.006298
15	P3	-8.244994	0.005311	-0.006298
19	P3	-8.244994	0.005311	-0.006298
22	P3	-8.244994	0.005311	-0.006298
26	P3	-8.244994	0.005311	-0.006298
30	P3	-8.244994	0.005311	-0.006298

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	-11.208692	0.126190	-0.124709
7	P1a	-10.059203	0.193258	0.045527
11	P1a	-10.687453	0.096710	0.036341
15	P1a	-10.833436	0.165171	0.106913
19	P1a	-15.808285	0.088952	-0.109016
22	P1a	-21.381351	1.460496	-0.320310
26	P1a	-15.503311	0.375261	-0.191514
30	P1a	-18.314983	0.463170	0.139841

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-8.454232	0.050319	-0.011934
7	P1	-2.407553	0.104004	0.056316
11	P1	-2.887778	0.024775	0.058407
15	P1	-3.817868	0.037103	0.044919
19	P1	-3.589082	0.014636	-0.029453
22	P1	-4.970174	0.023237	0.072676
26	P1	-6.037890	0.026702	-0.043417
30	P1	-5.338124	0.032914	-0.020567

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.179790	0.065012	-0.074860
7	P2	-22.039850	0.193777	-0.033073
11	P2	-10.636469	0.044619	-0.032912
15	P2	-4.922329	0.041520	-0.067348
19	P2	-6.869012	0.040032	-0.019531
22	P2	-8.109742	0.089129	0.011645
26	P2	-24.323215	0.144720	-0.030022
30	P2	-21.710543	0.107379	0.049335

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.091288	0.004960	-0.003658
7	P3	-8.091282	0.004961	-0.003384
11	P3	-8.091118	0.004961	-0.003679
15	P3	-8.090991	0.004961	-0.003513
19	P3	-8.091183	0.004980	-0.003420
22	P3	-8.091084	0.004946	-0.003207
26	P3	-8.091137	0.004962	-0.003319
30	P3	-8.091064	0.004955	-0.003314

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	0.000546517
	stdev	1.99001e-07
MEAN Q	mean	0.000495351
	stdev	2.41916e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.135764
	stdev	0.00122933
STDEV Q	mean	0.136155
	stdev	0.00124704



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2007043[901]

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_1PNPDK20070430_090305_000003292057_00394_27001_8232.N1	0	16
ASA_WVS_1PNPDK20070430_163600_000000442057_00398_27005_8927.N1	0	16
ASA_WVS_1PNPDK20070430_163700_000002552057_00398_27005_8939.N1	0	16
ASA_WVS_1PNPDK20070430_194150_000000442057_00400_27007_9117.N1	0	16
ASA_WVS_1PNPDK20070430_194250_000000002057_00400_27007_9111.N1	1	0
ASA_GM1_1PNPDK20070430_142051_000003442057_00397_27004_9324.N1	0	23
ASA_GM1_1PNPDK20070430_201211_000001632057_00400_27007_9127.N1	0	46
ASA_GM1_1PNPDK20070430_201446_000001812057_00400_27007_9125.N1	0	14
ASA_WSM_1PNPDE20070430_112045_000001282057_00395_27002_2954.N1	0	9

ASA_WSM_1PNPDE20070430_171915_000002192057_00399_27006_3295.N1	0	57
ASA_WSM_1PNPDE20070430_185951_000000672057_00400_27007_3301.N1	0	57



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

7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

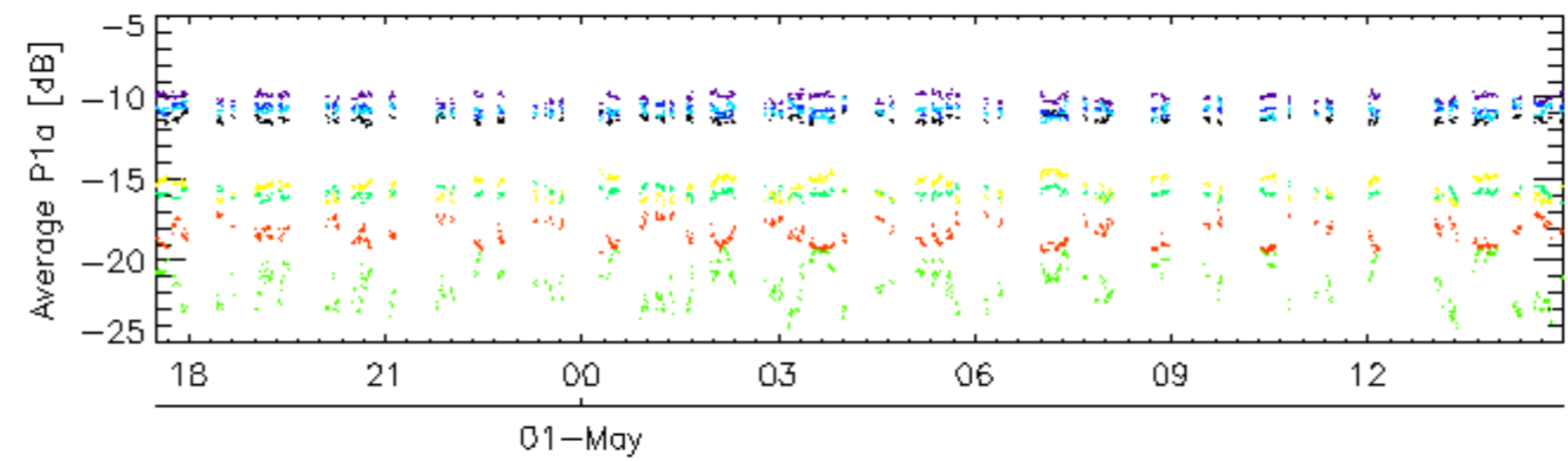
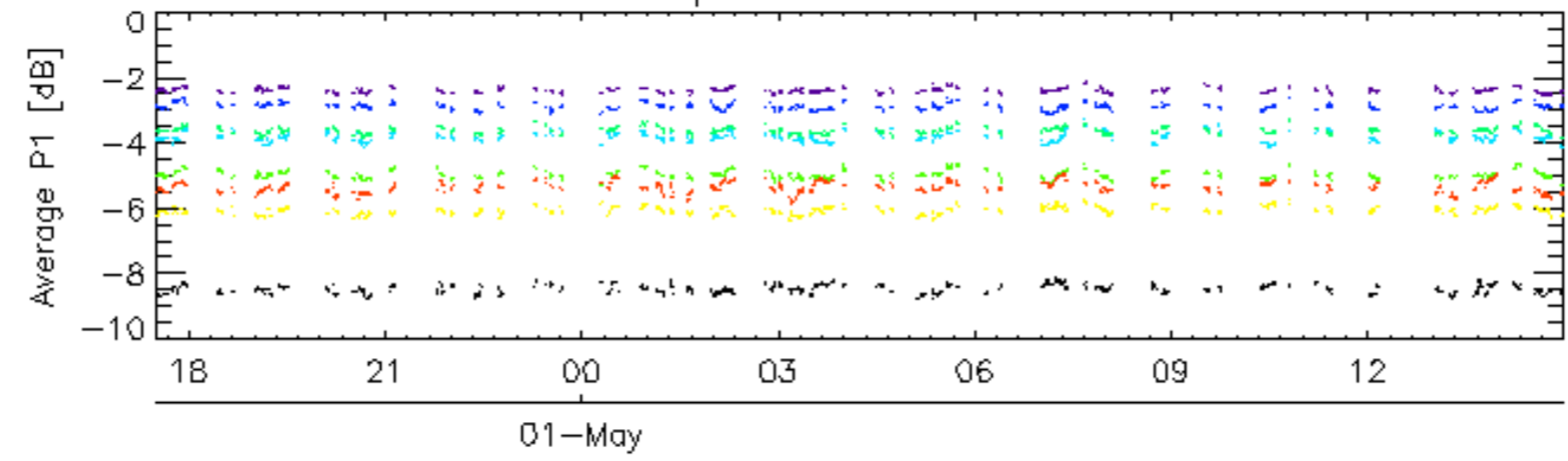
<input type="checkbox"/>
Ascending
<input type="checkbox"/>
Descending

7.6 - Doppler evolution versus ANX for GM1

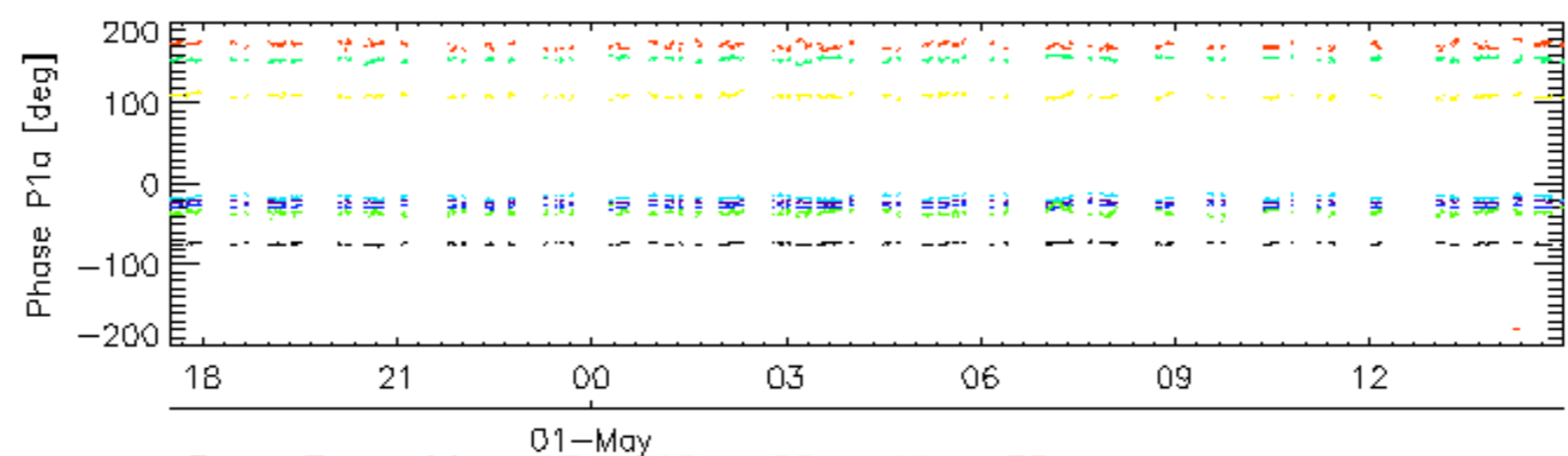
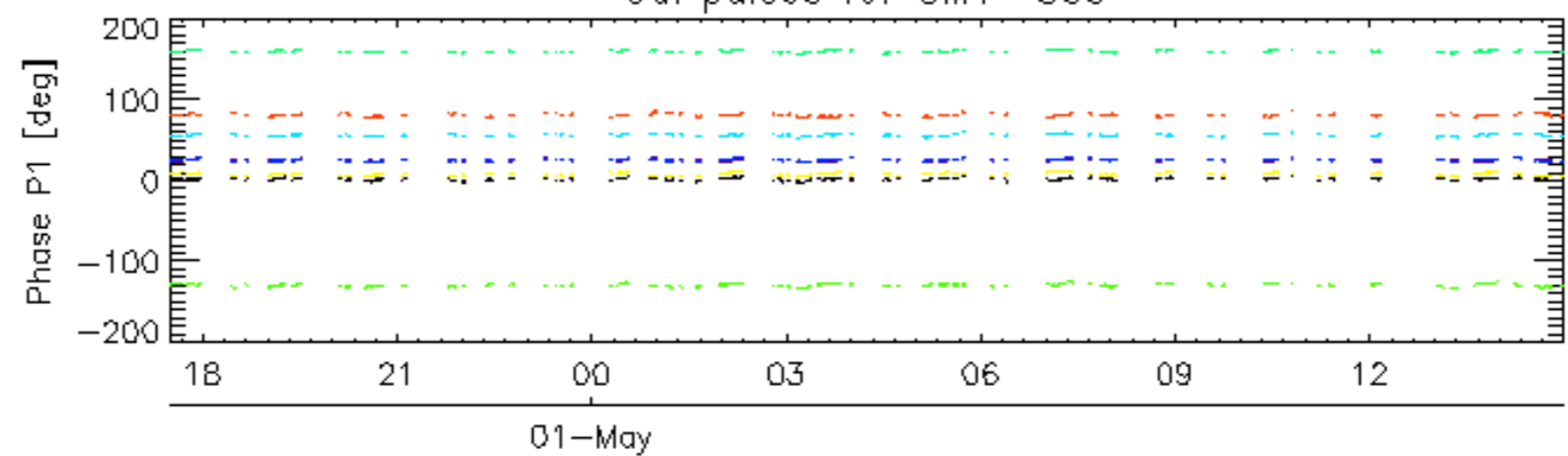
Evolution Doppler error versus ANX

<input type="checkbox"/>

Cal pulses for GM1 SS3

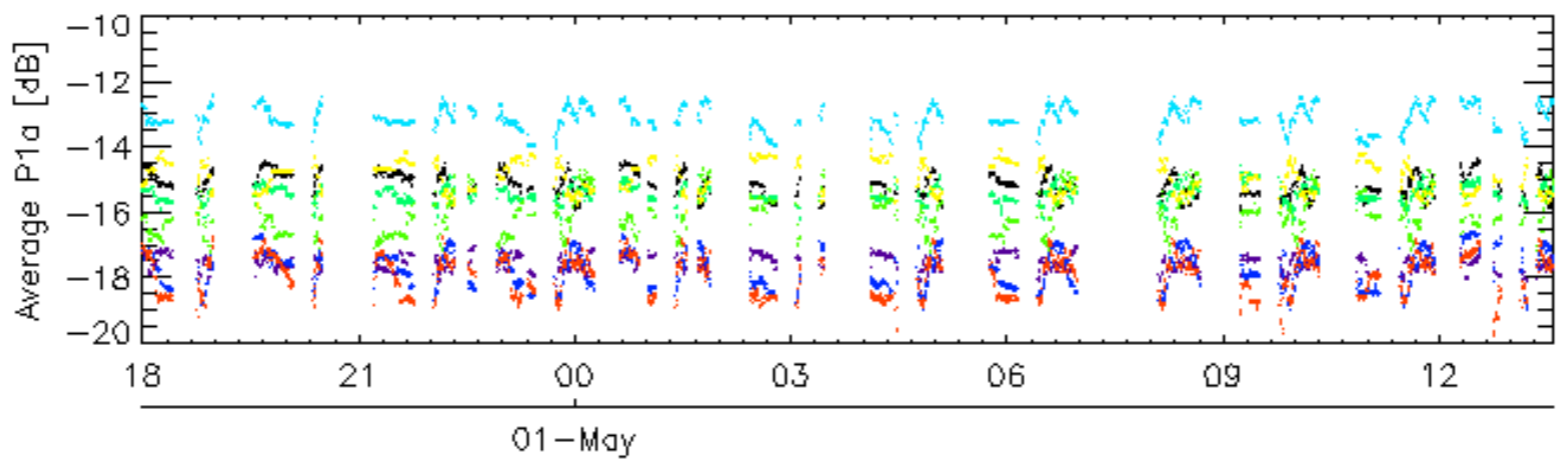
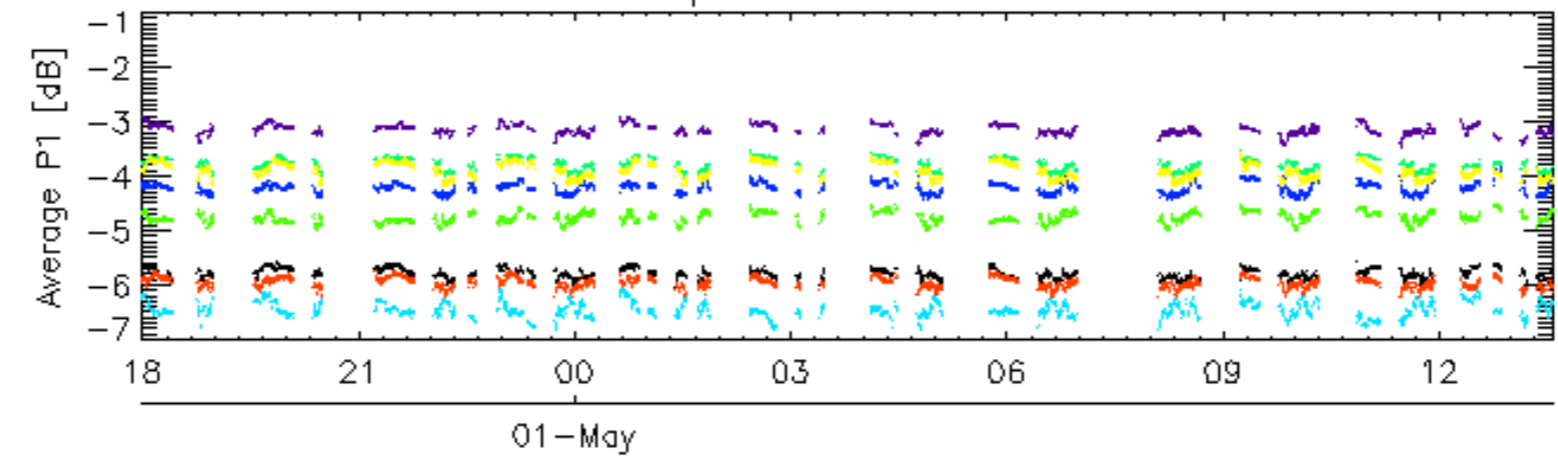


Cal pulses for GM1 SS3

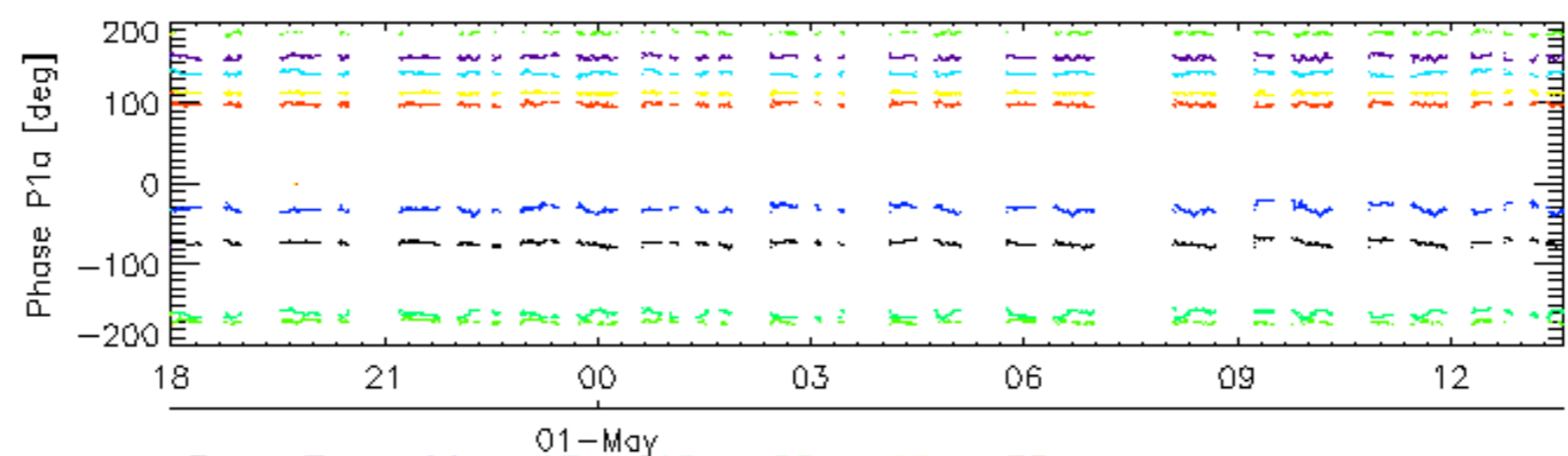
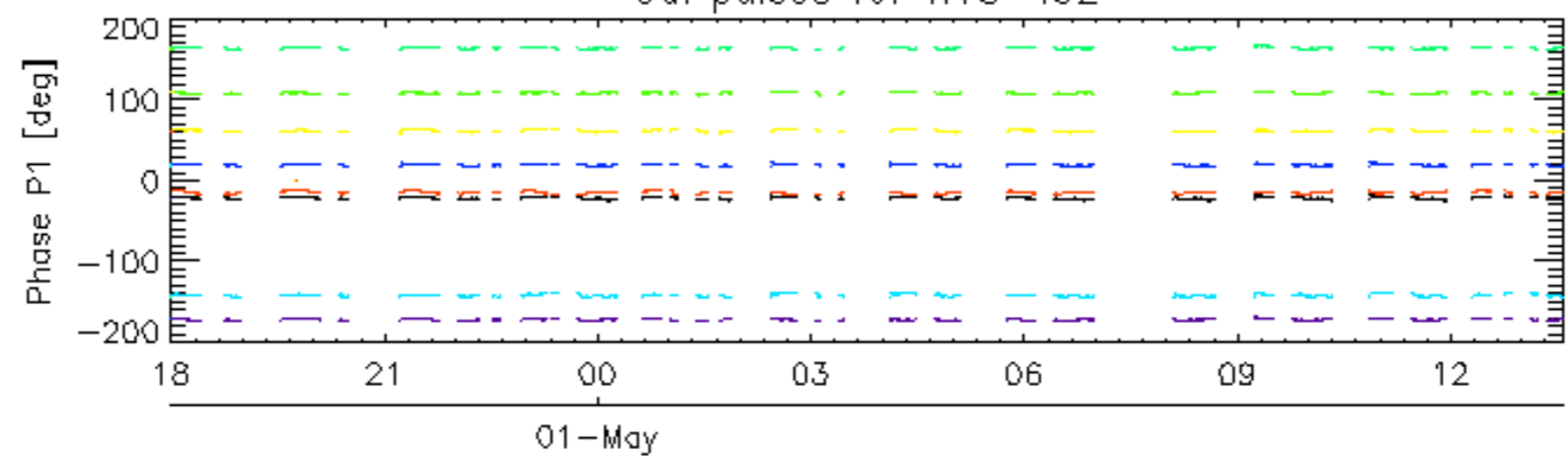


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

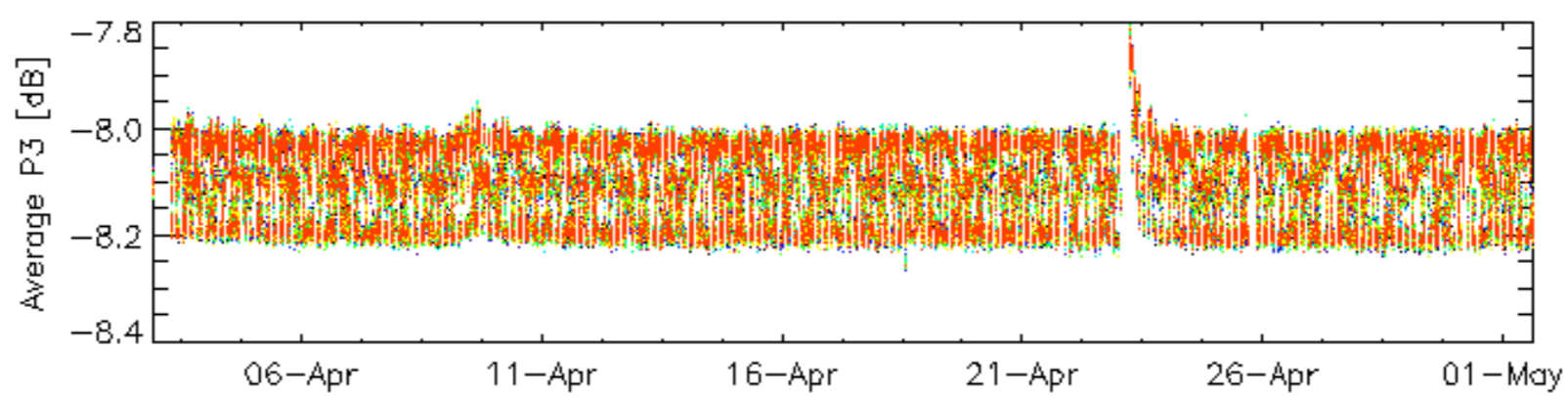
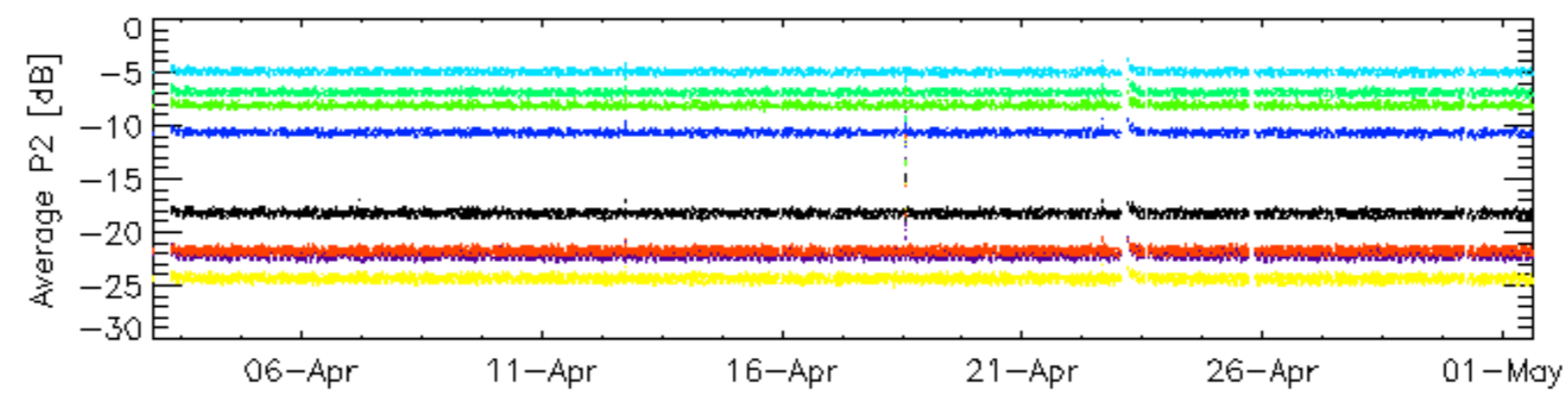
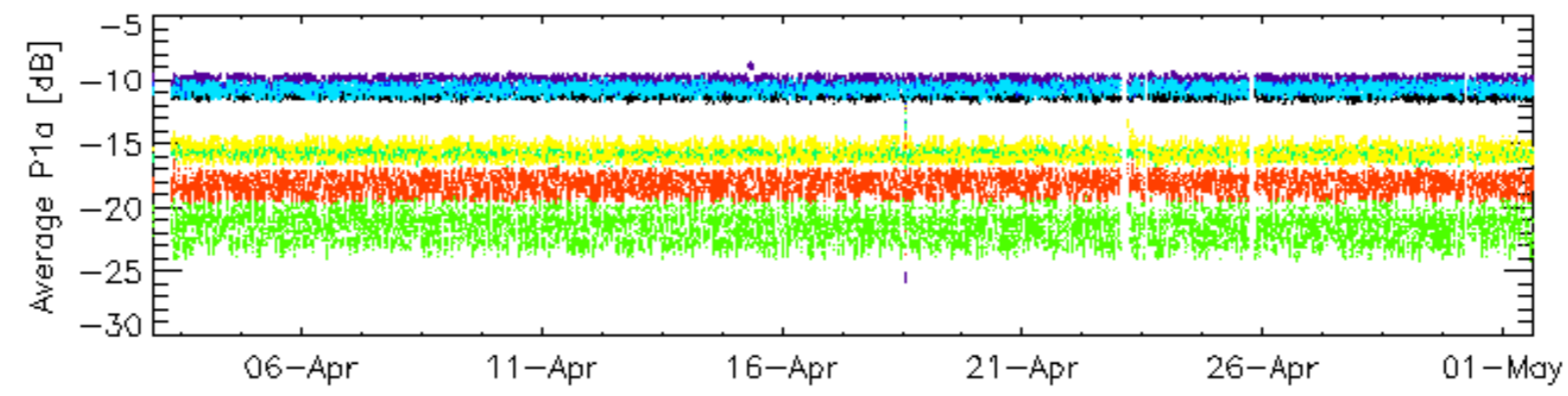
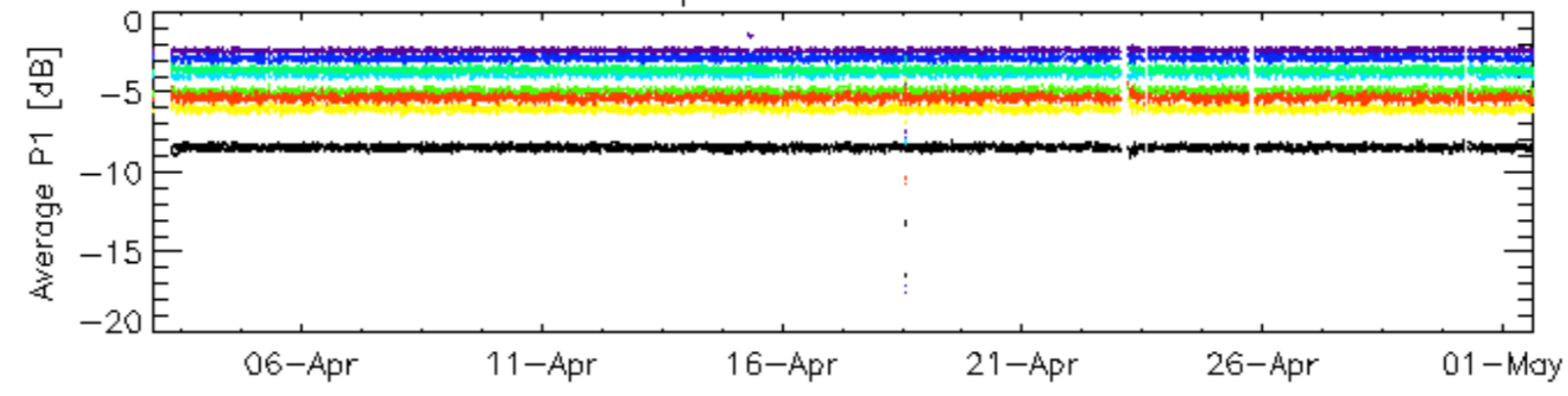


Cal pulses for WVS IS2



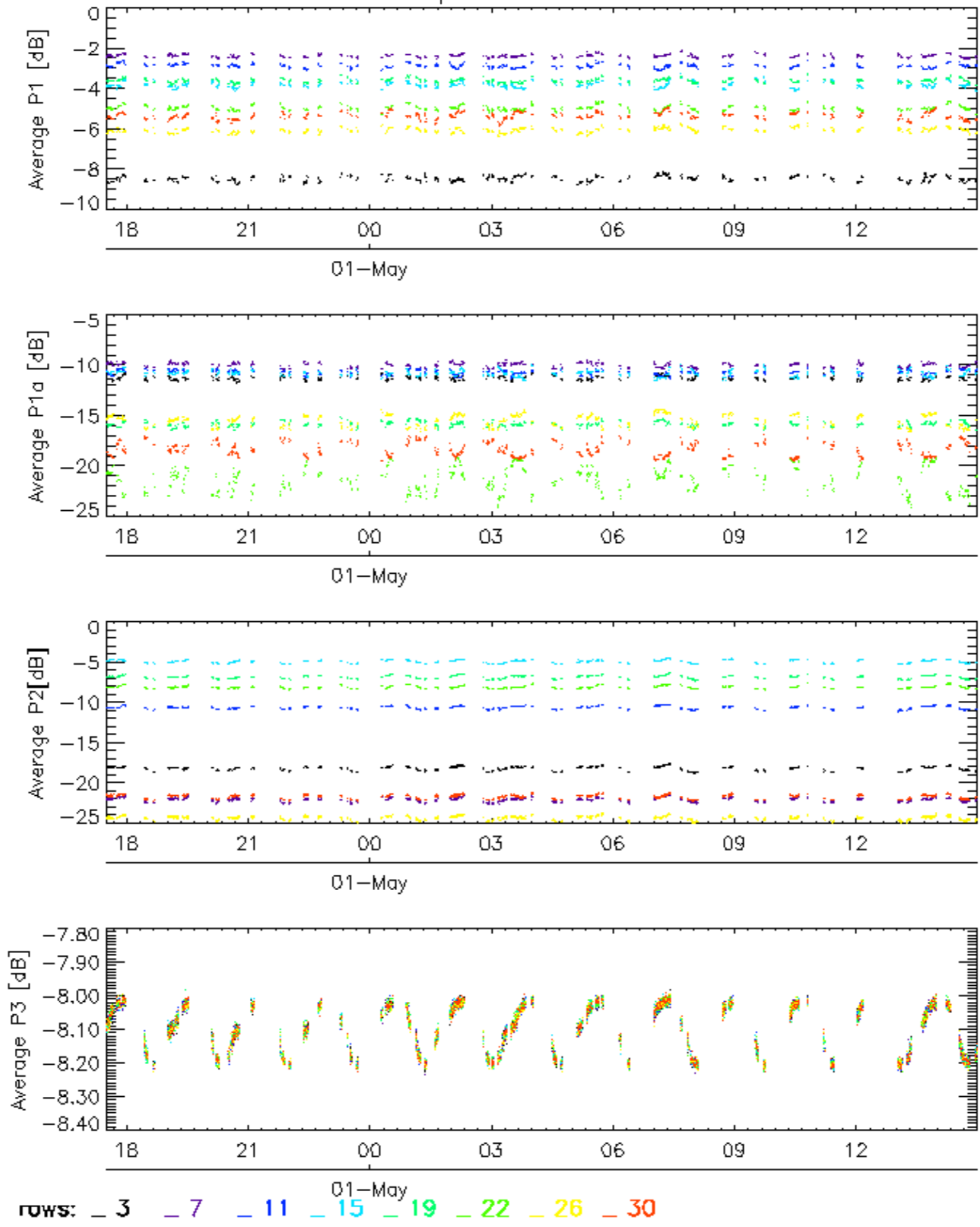
rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for GM1 SS3

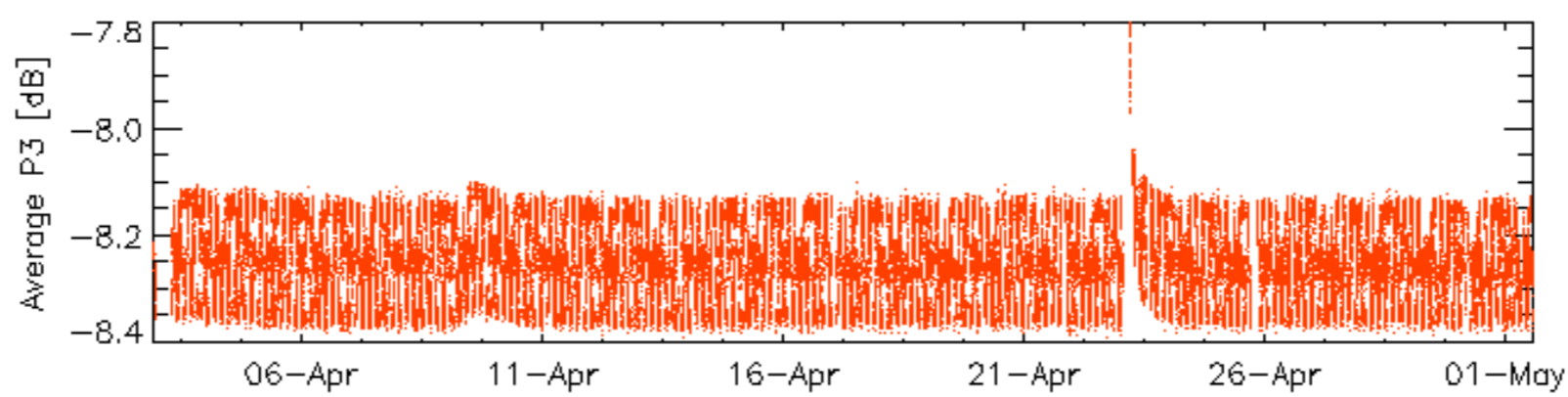
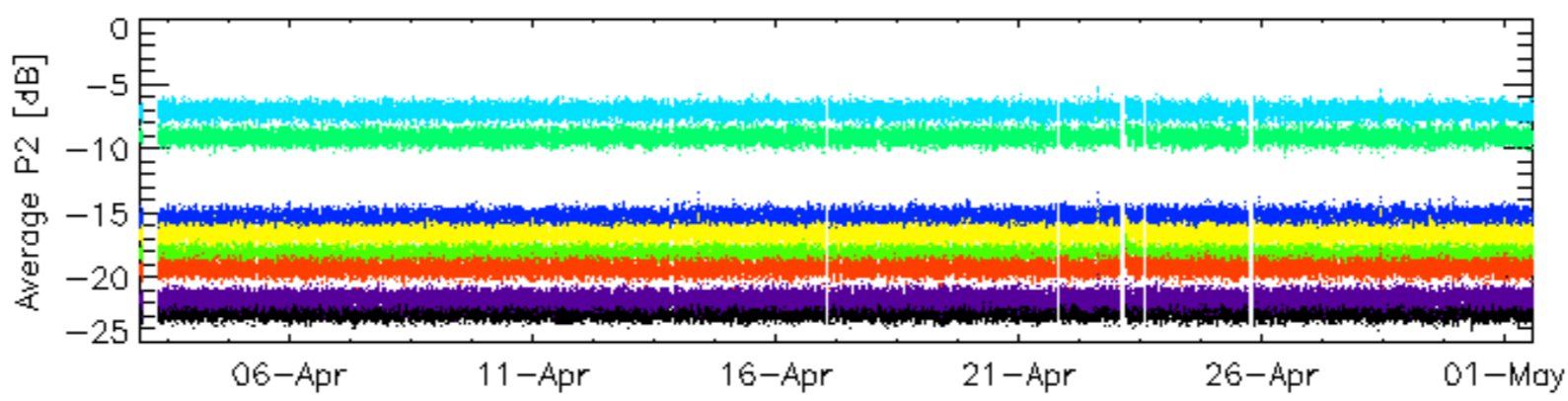
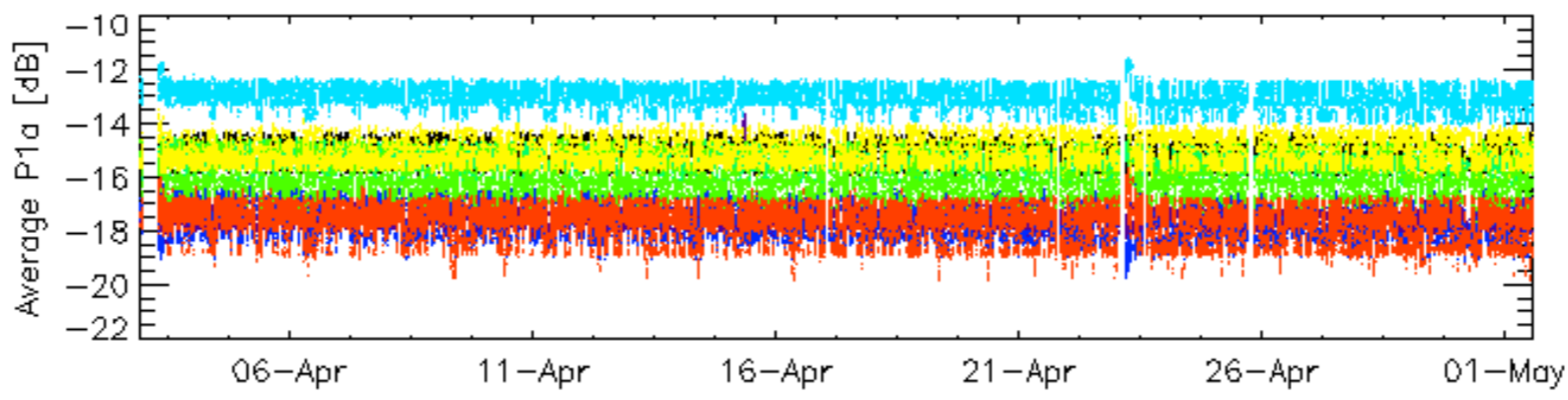
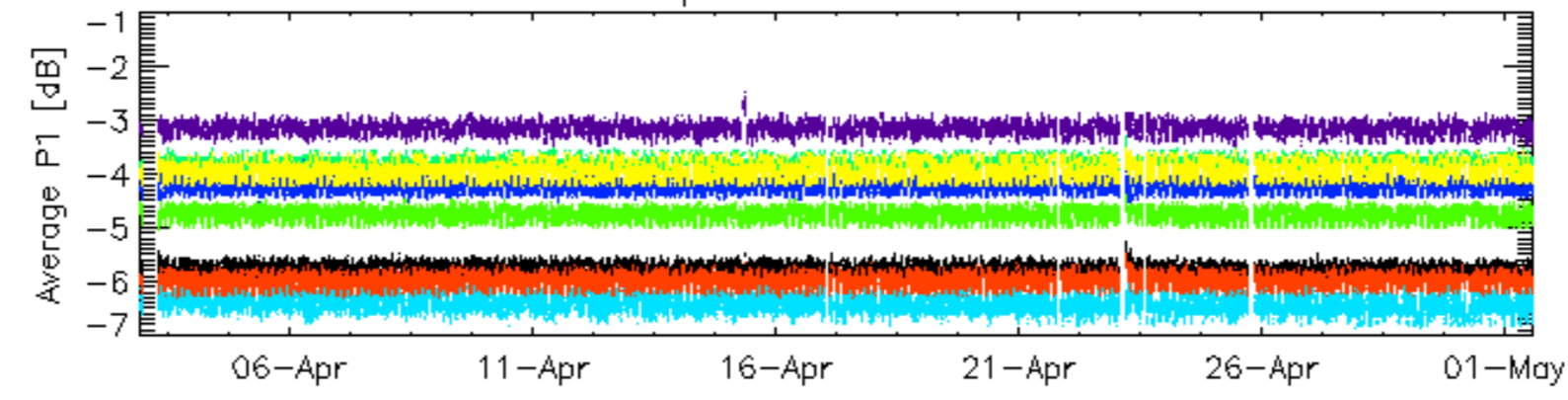


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

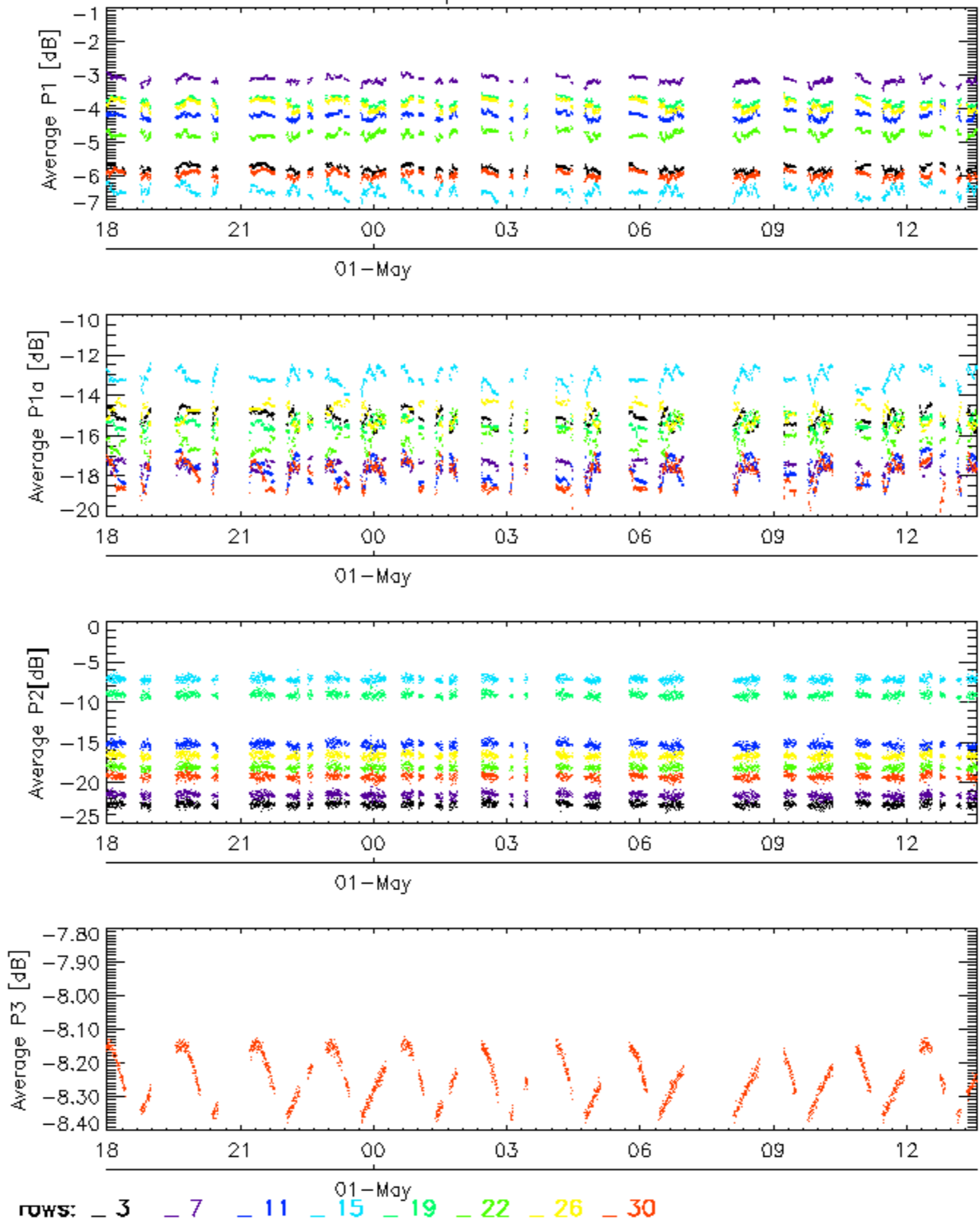


Cal pulses for WVS IS2

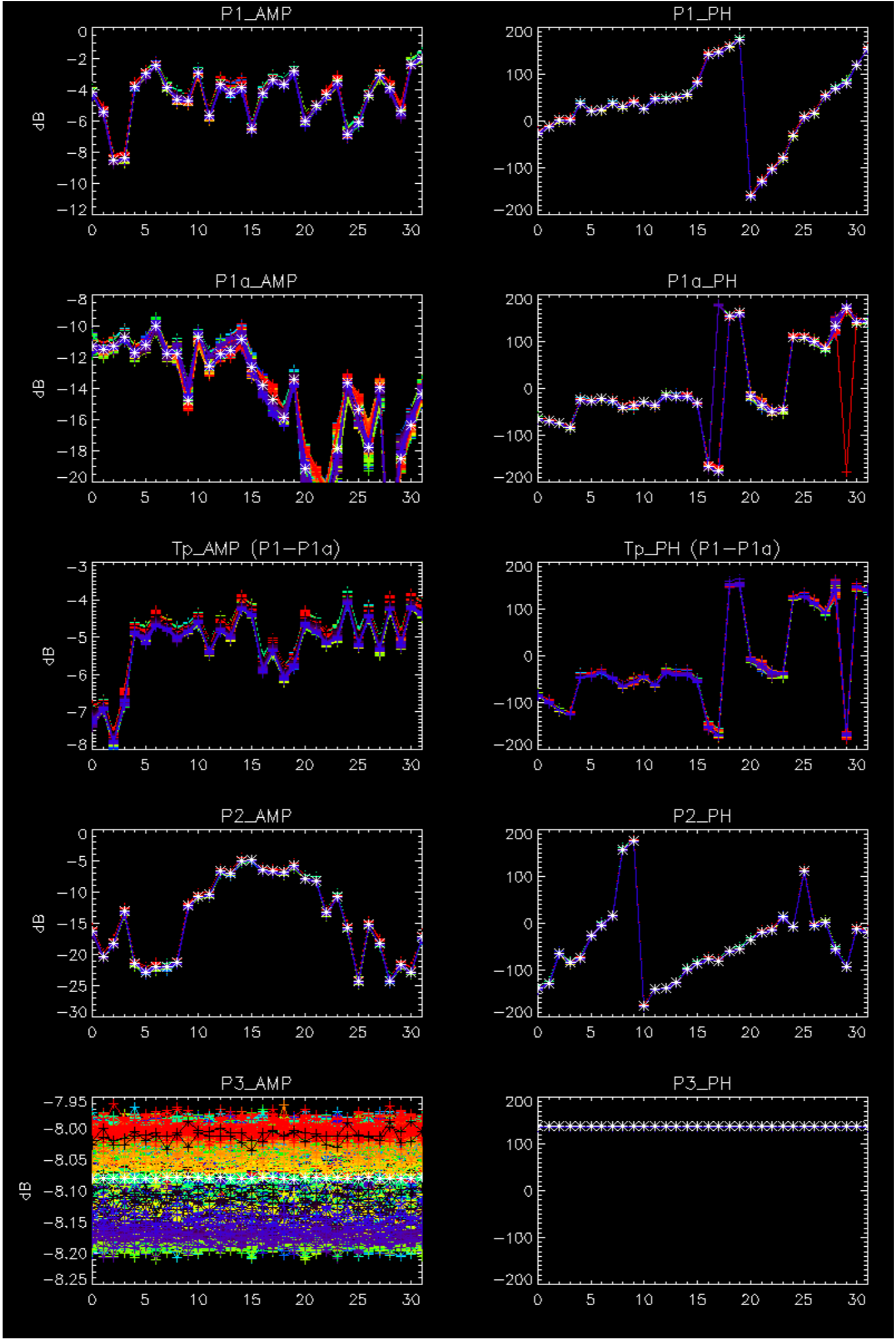


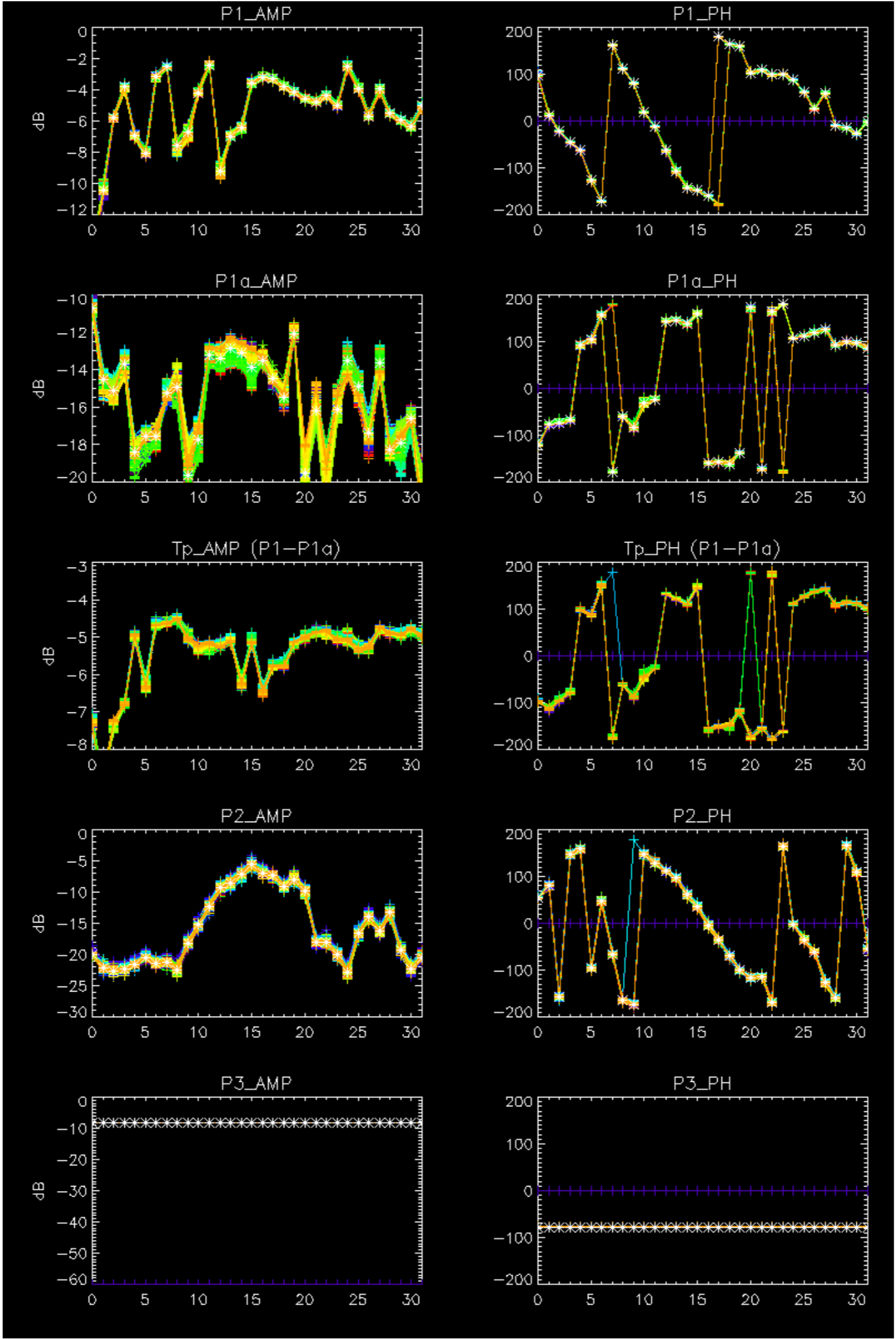
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



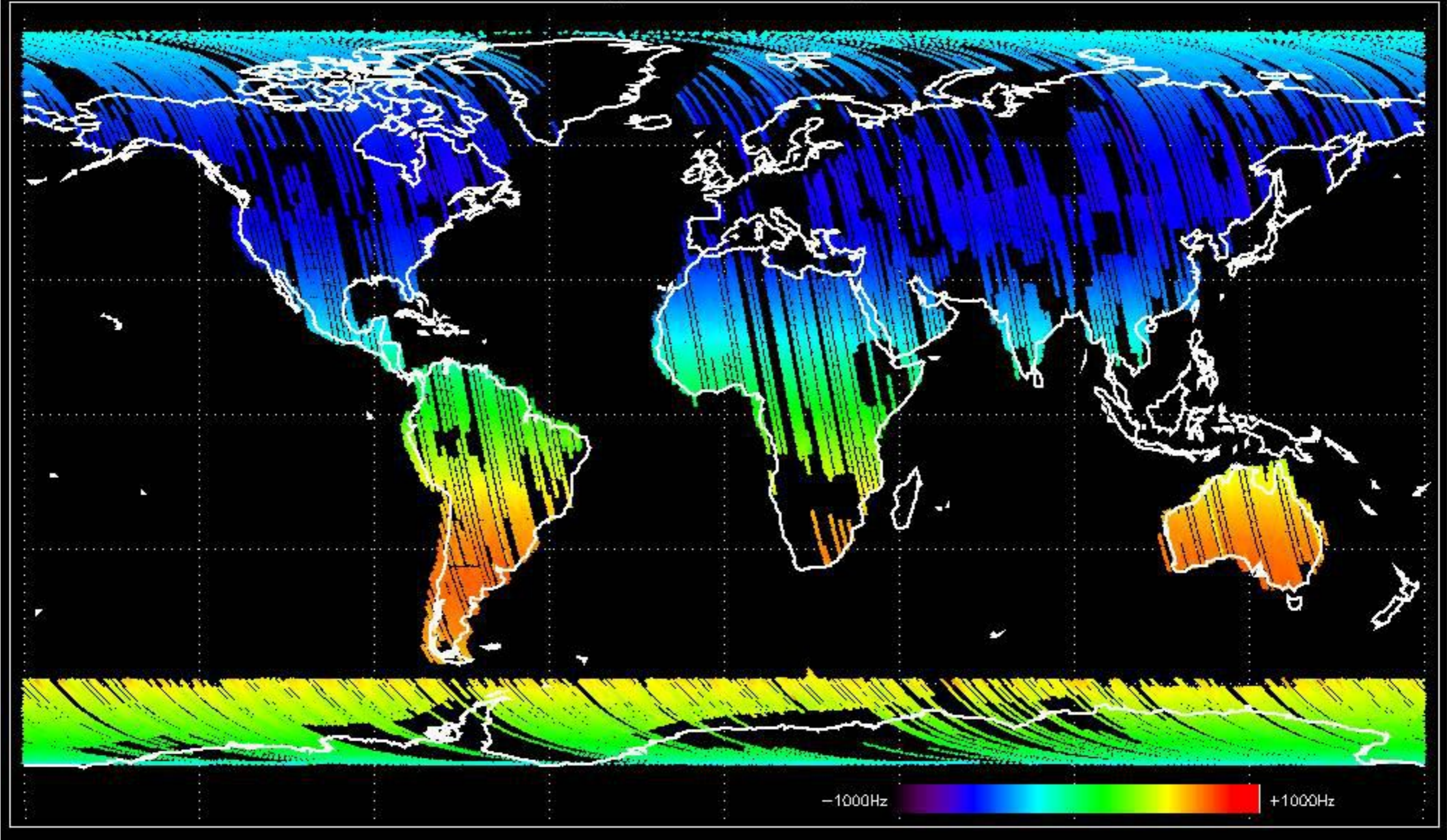
No anomalies observed.



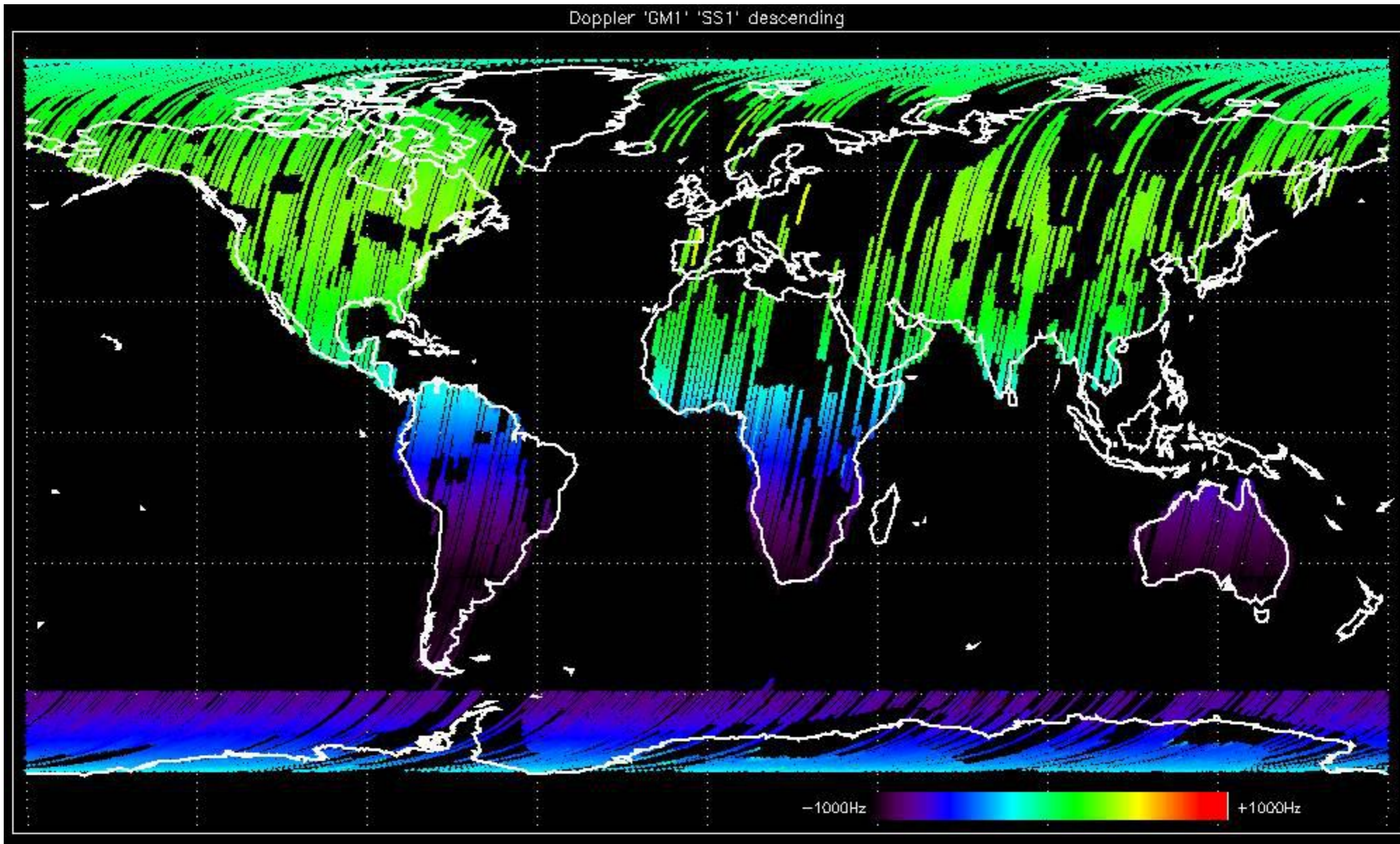


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

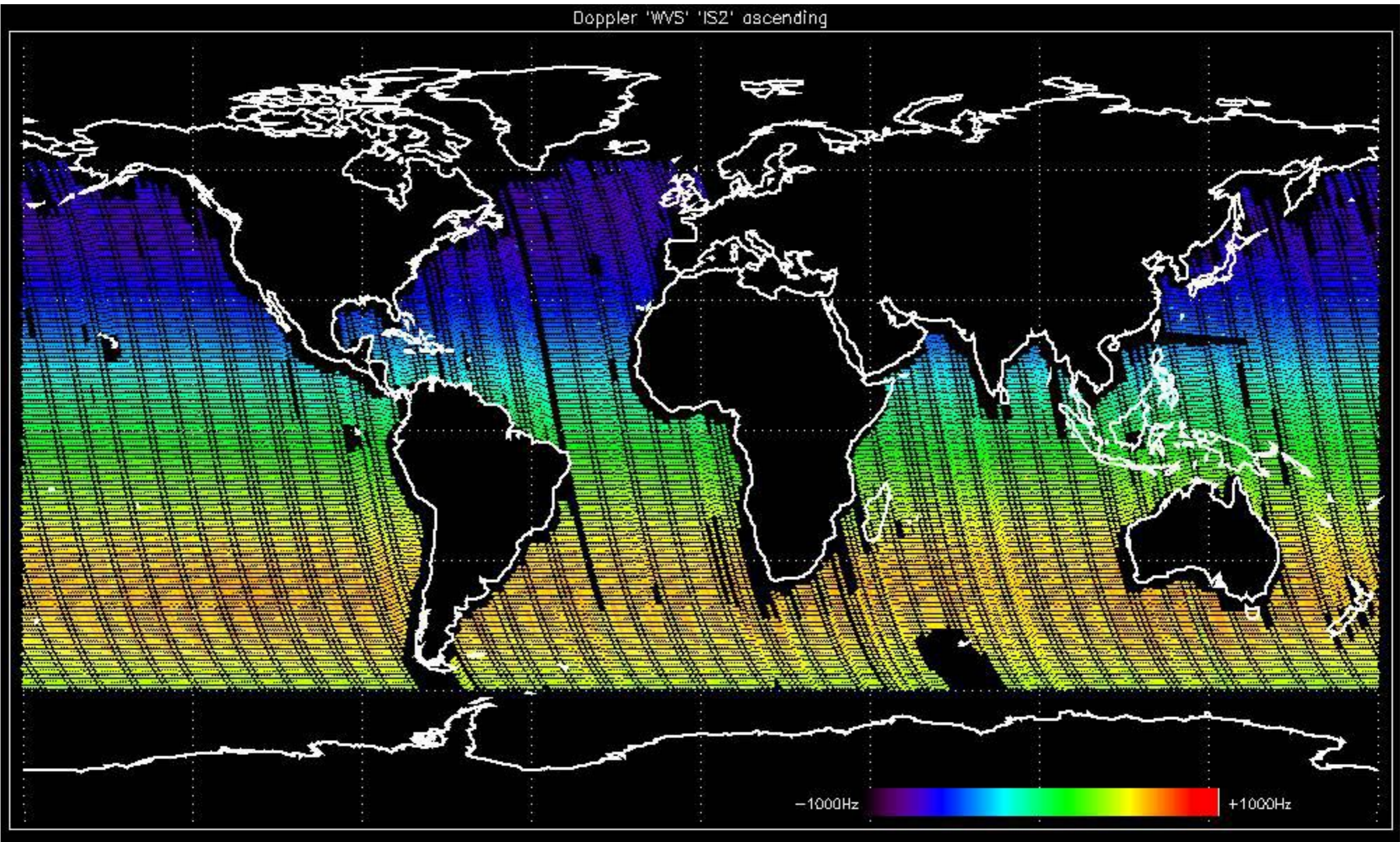
Doppler 'GM1' 'SS1' ascending



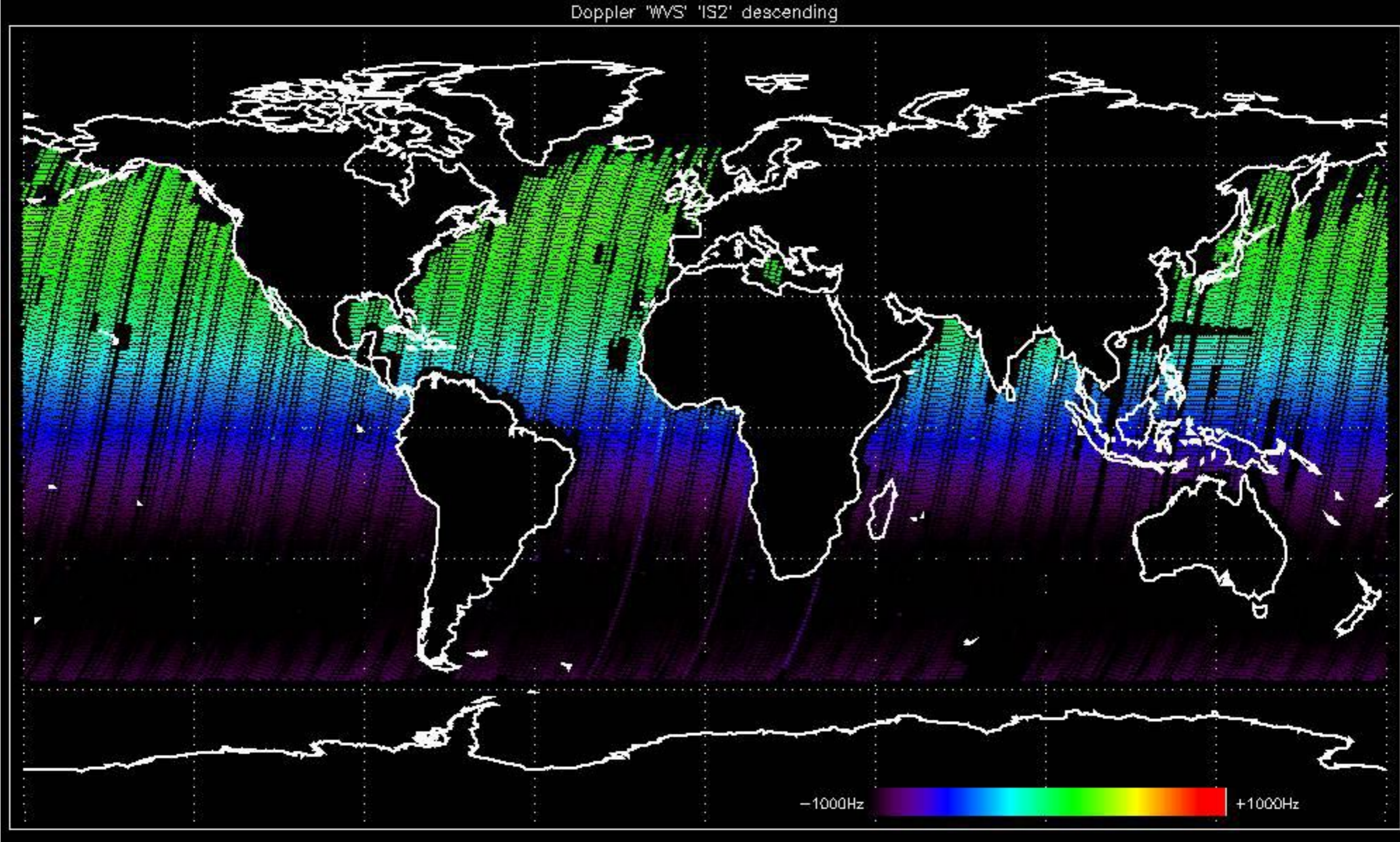
Doppler 'GM1' 'SS1' descending



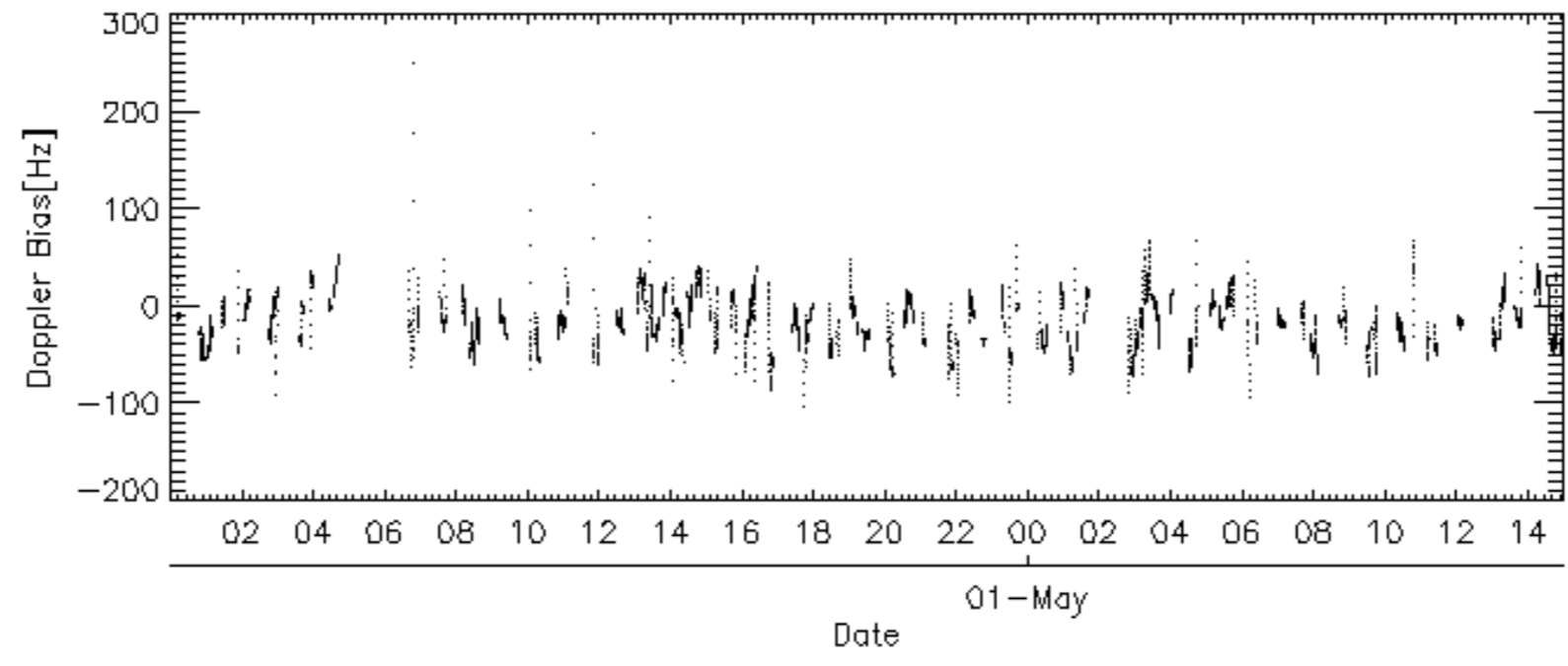
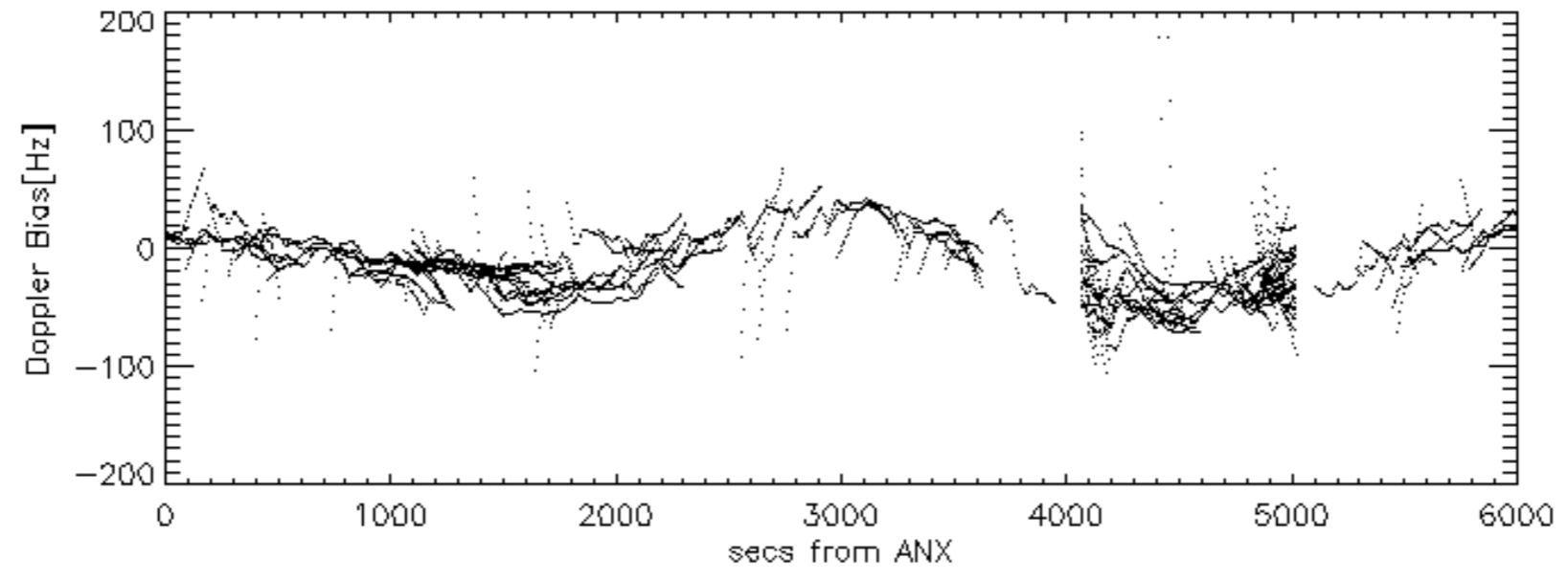
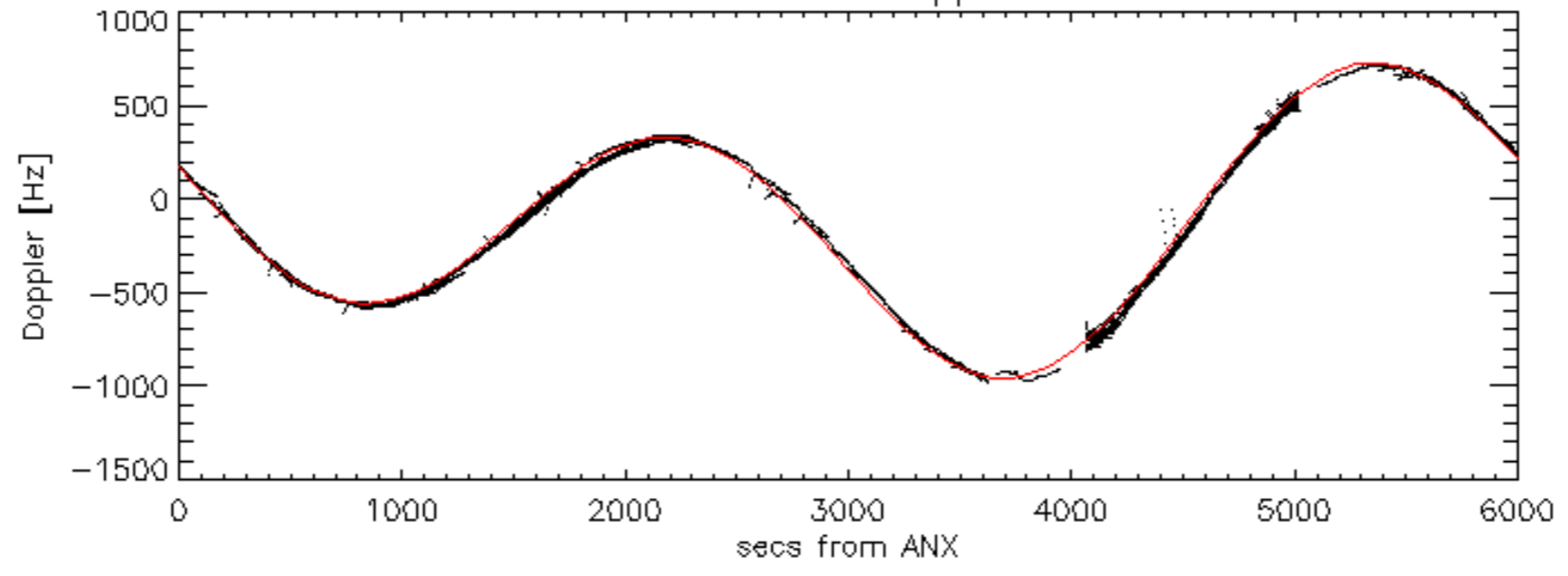
Doppler 'WVS' 'IS2' ascending

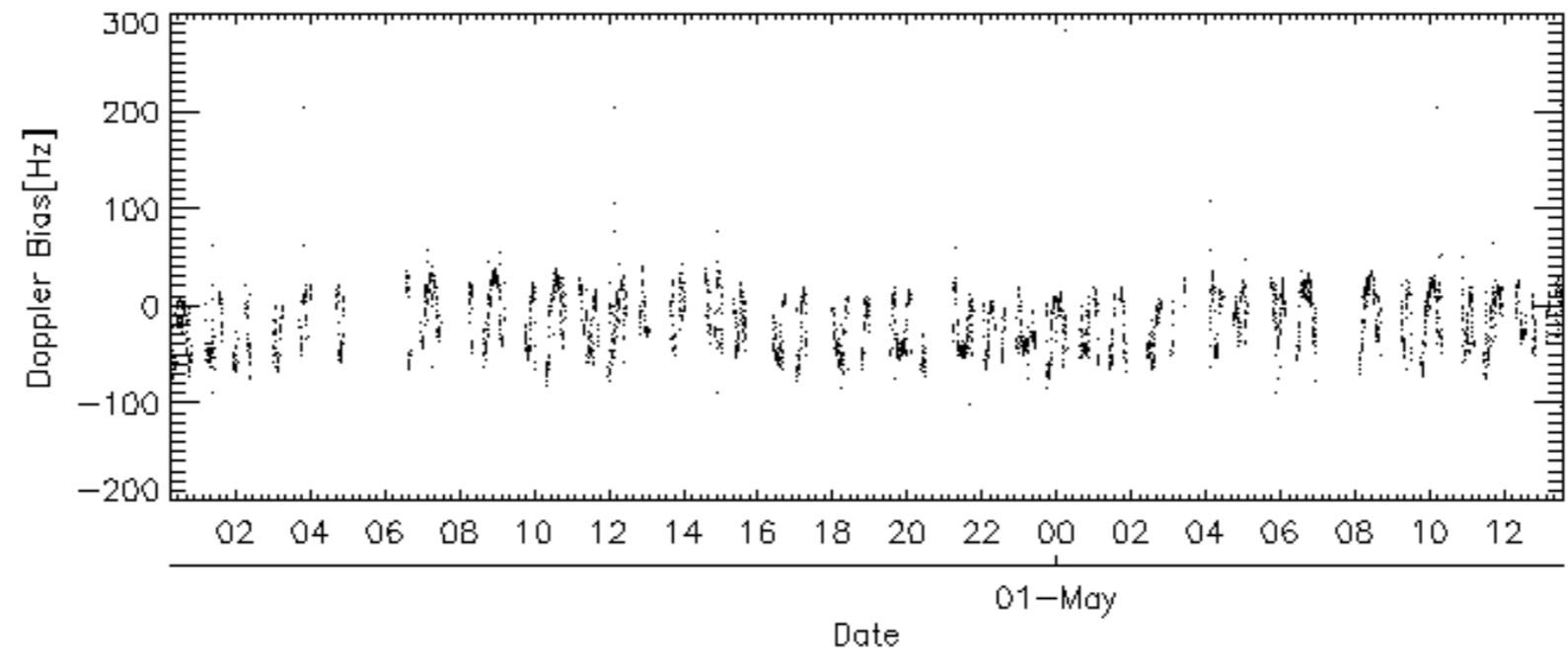
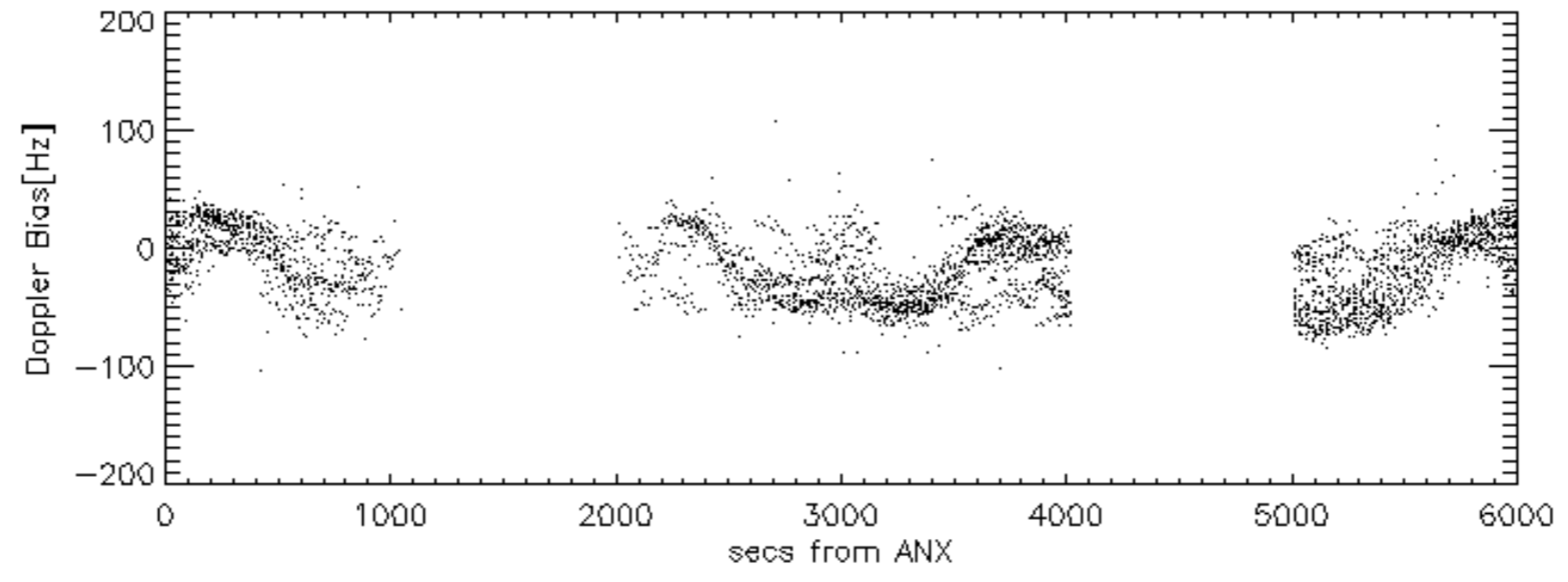
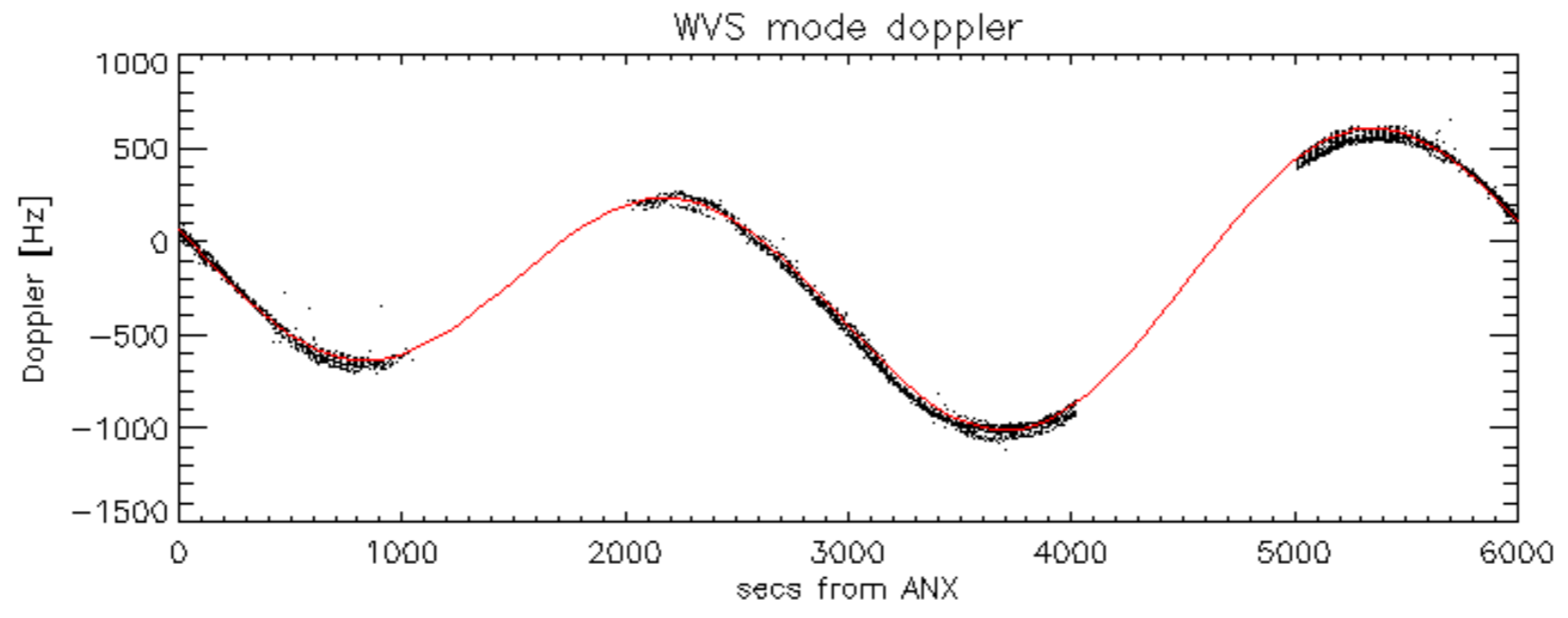


Doppler 'WVS' 'IS2' descending

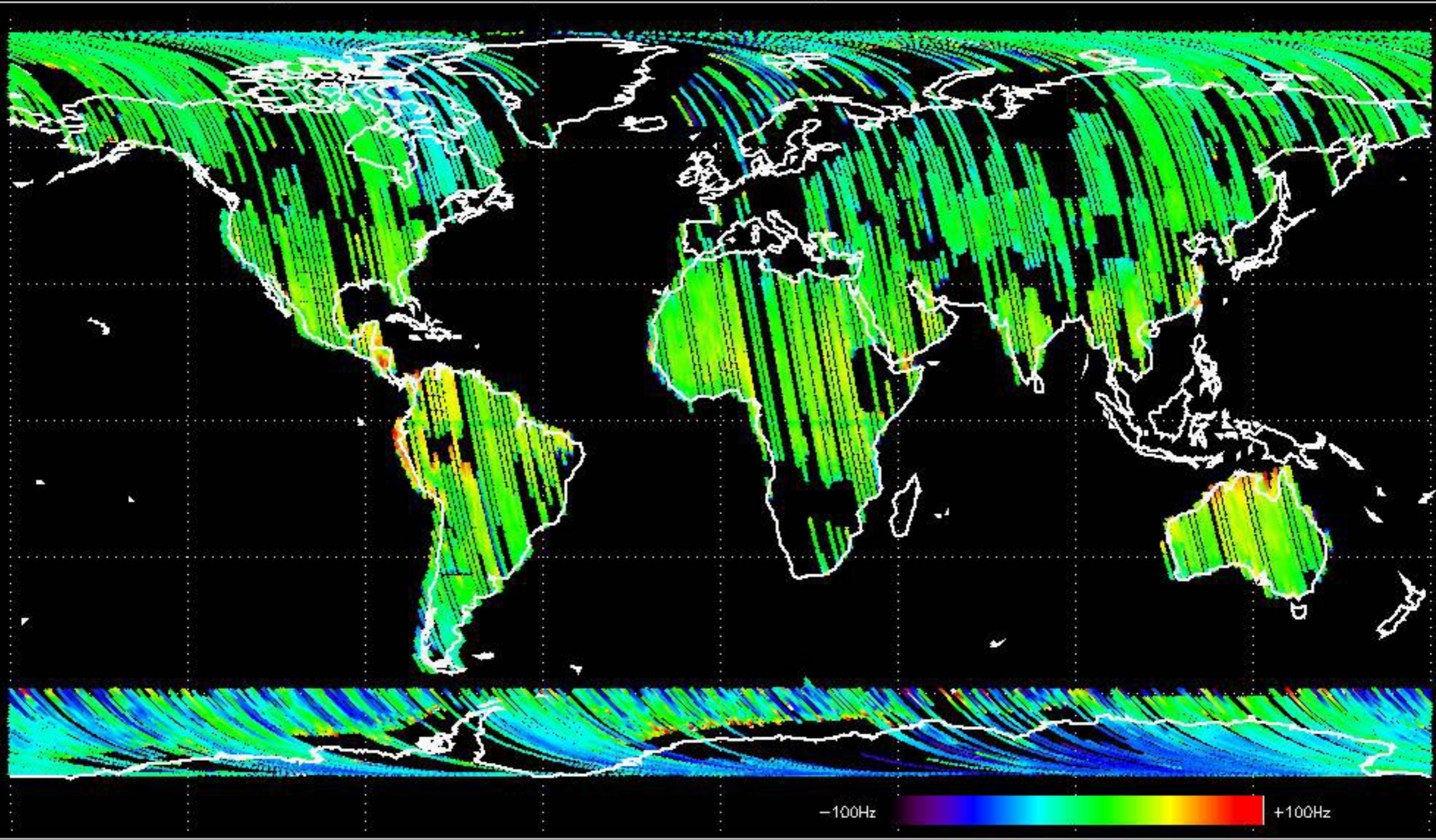


GM1 mode doppler

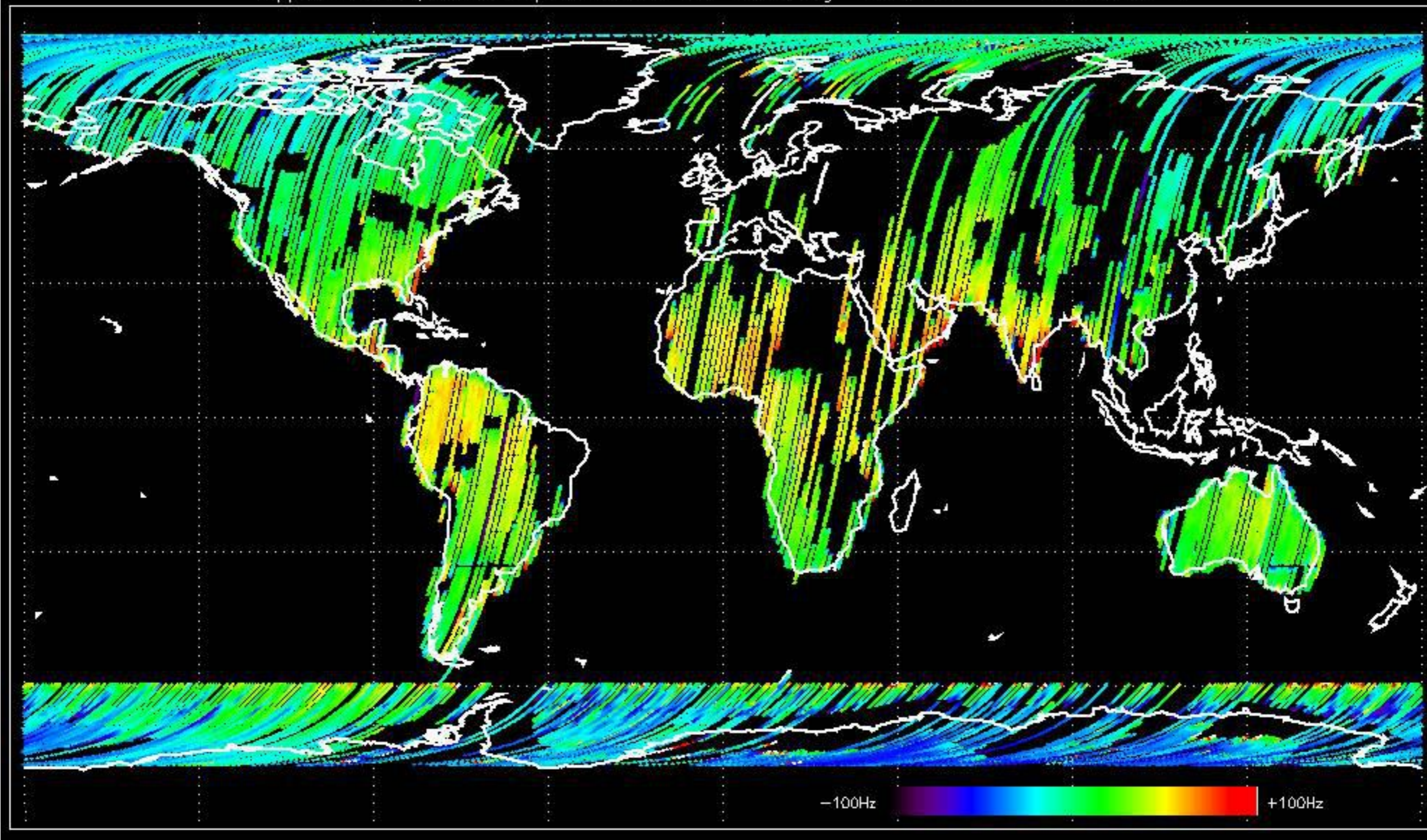




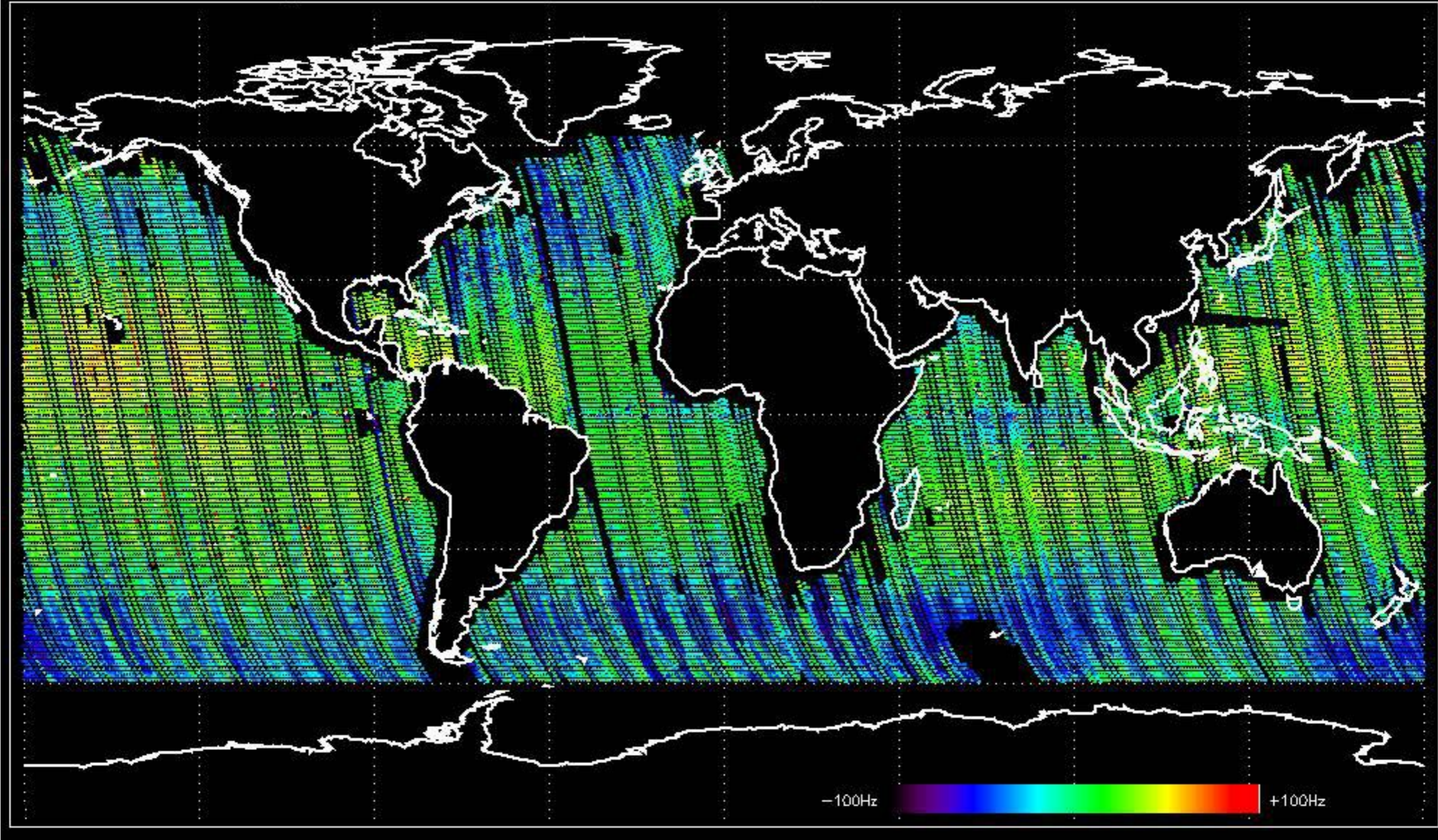
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -25.300381 Hz



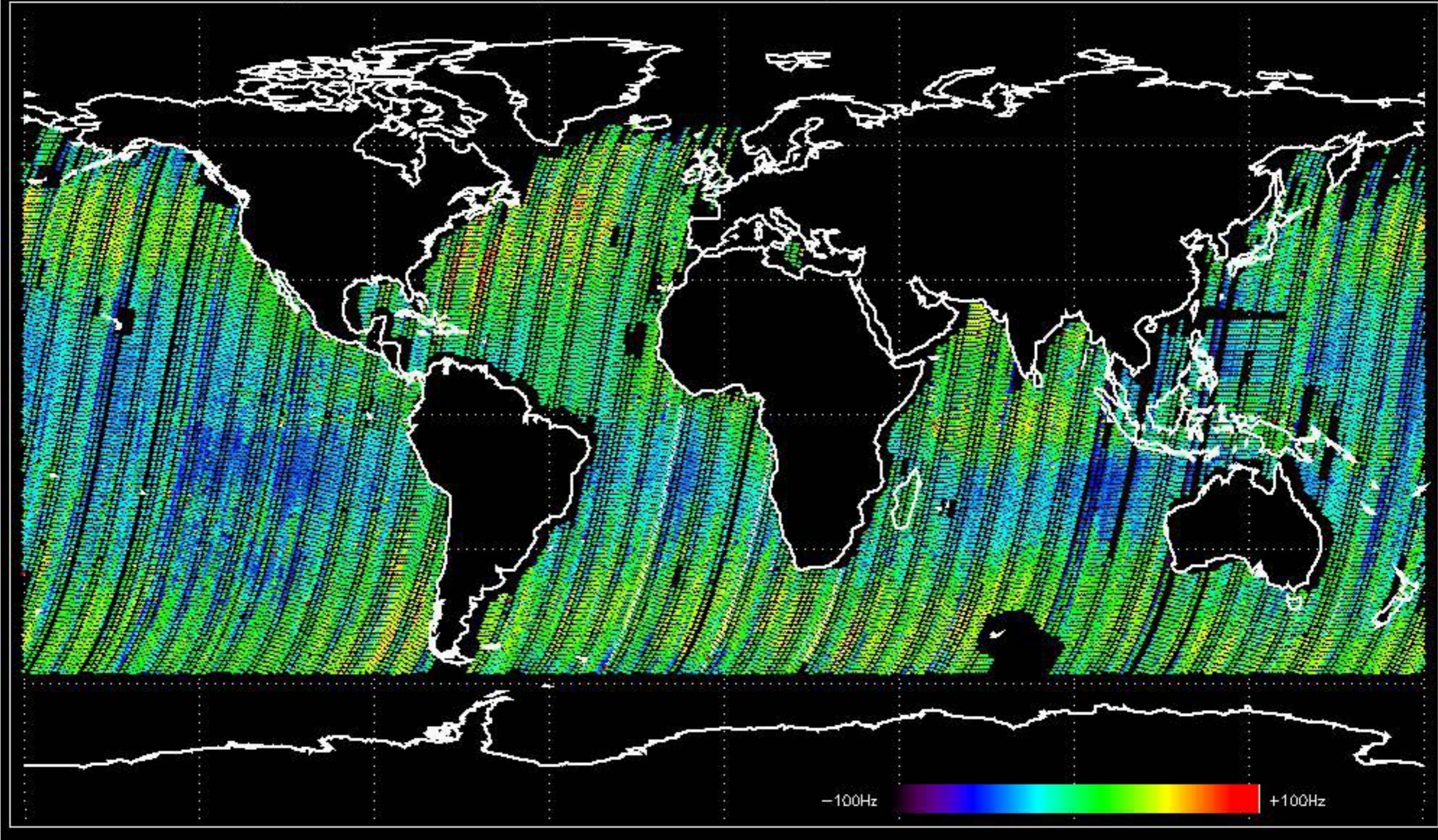
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -16.651821 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -19.514973 Hz

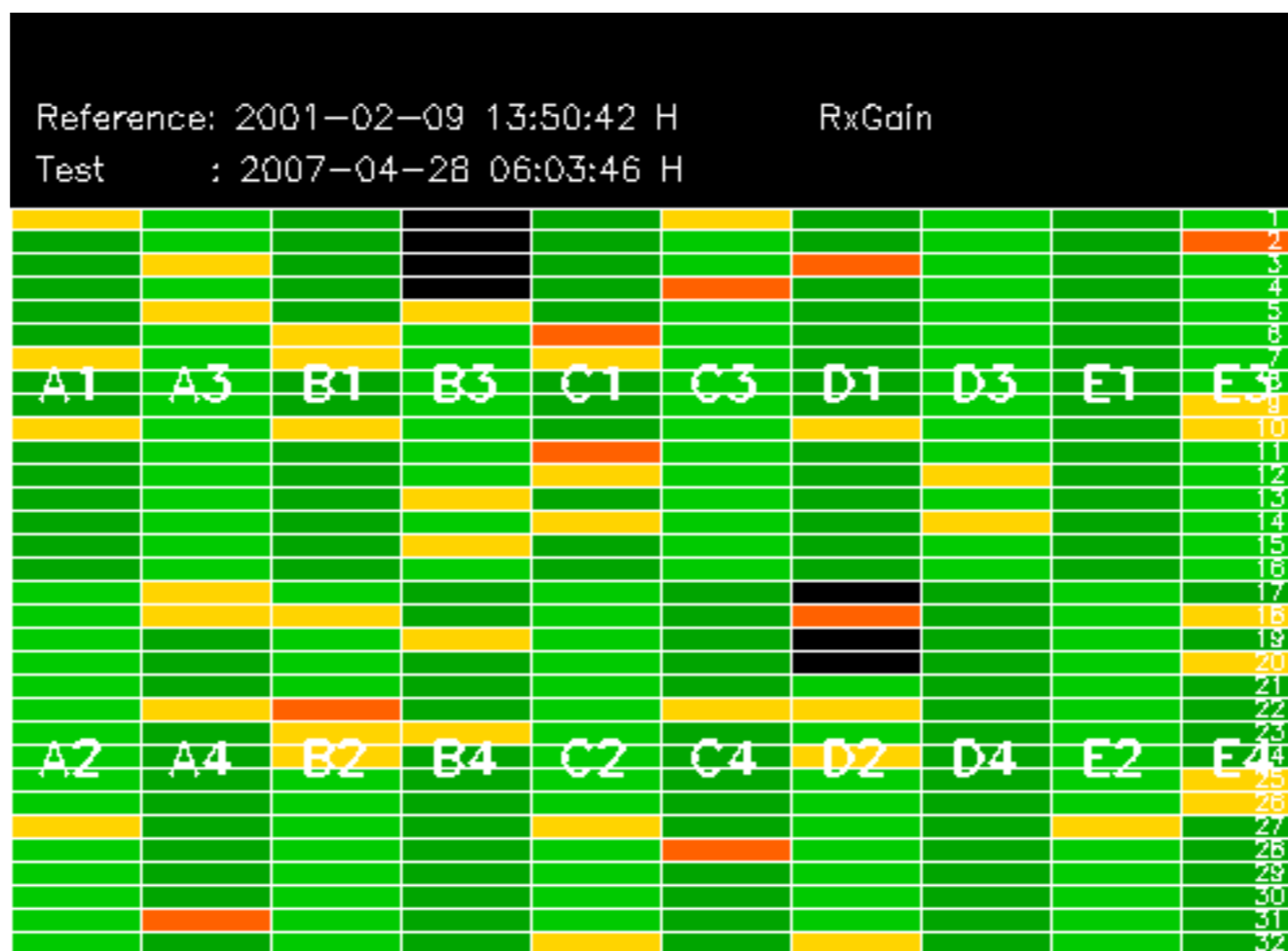


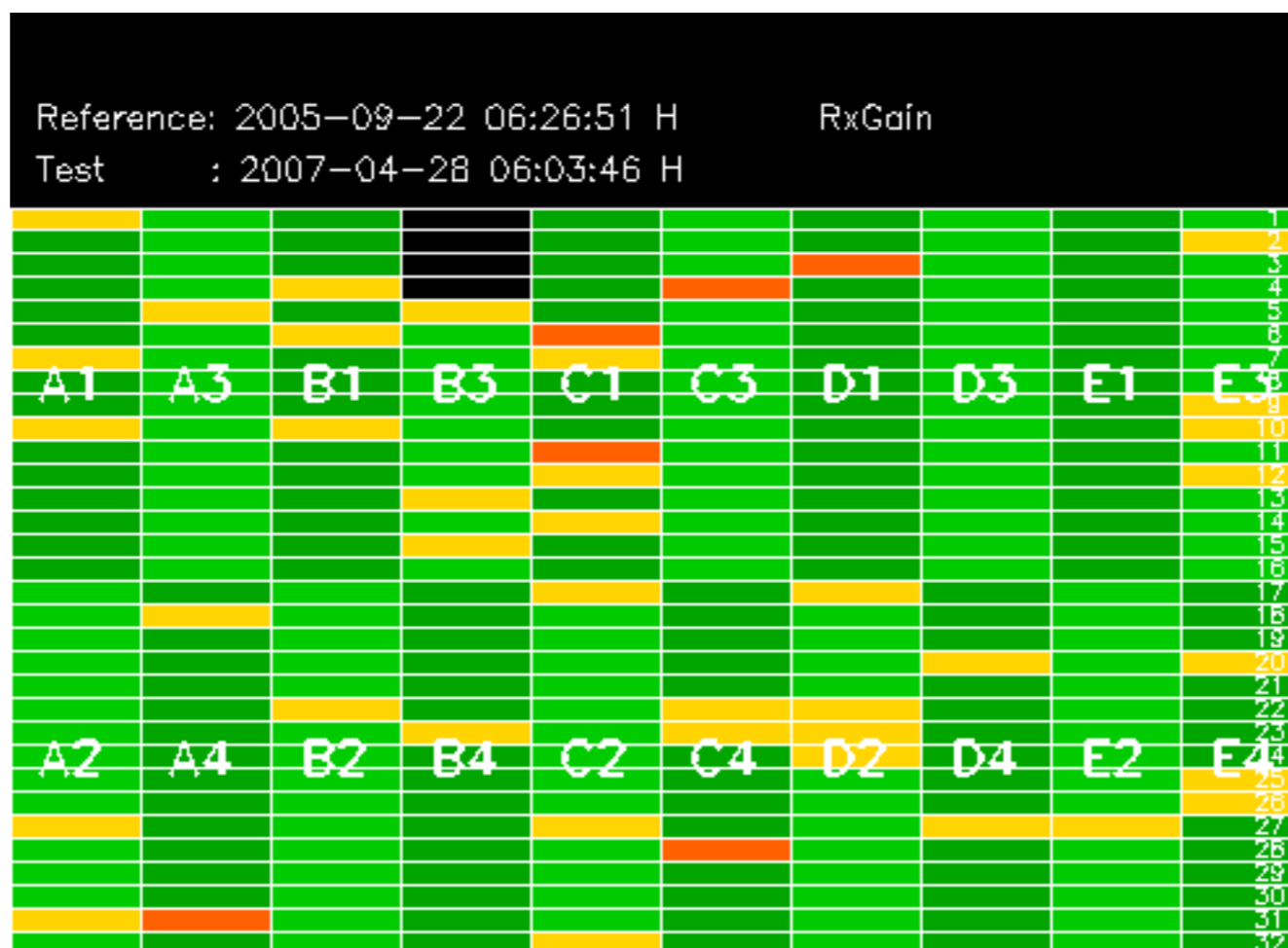
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -21.308912 Hz

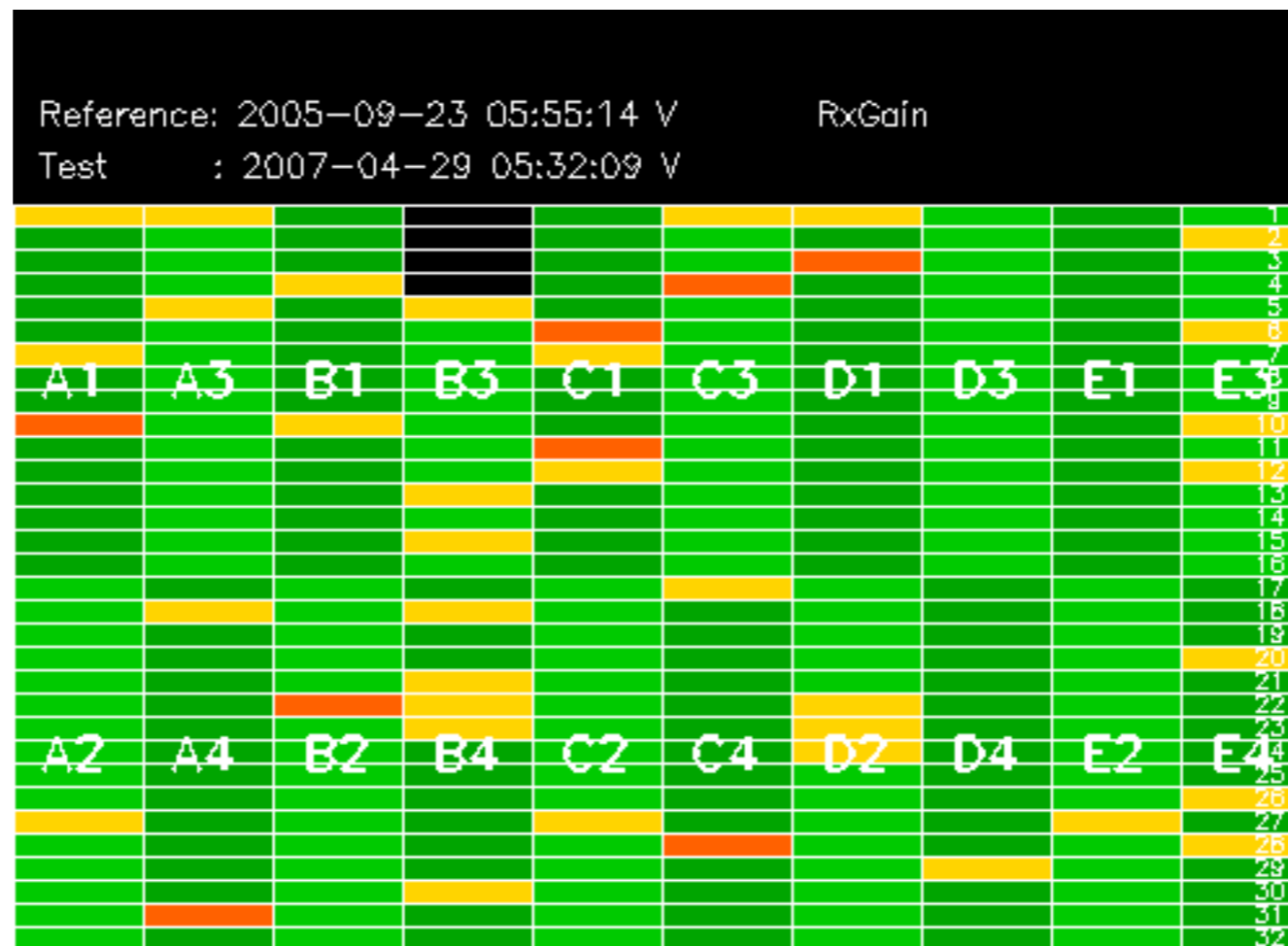


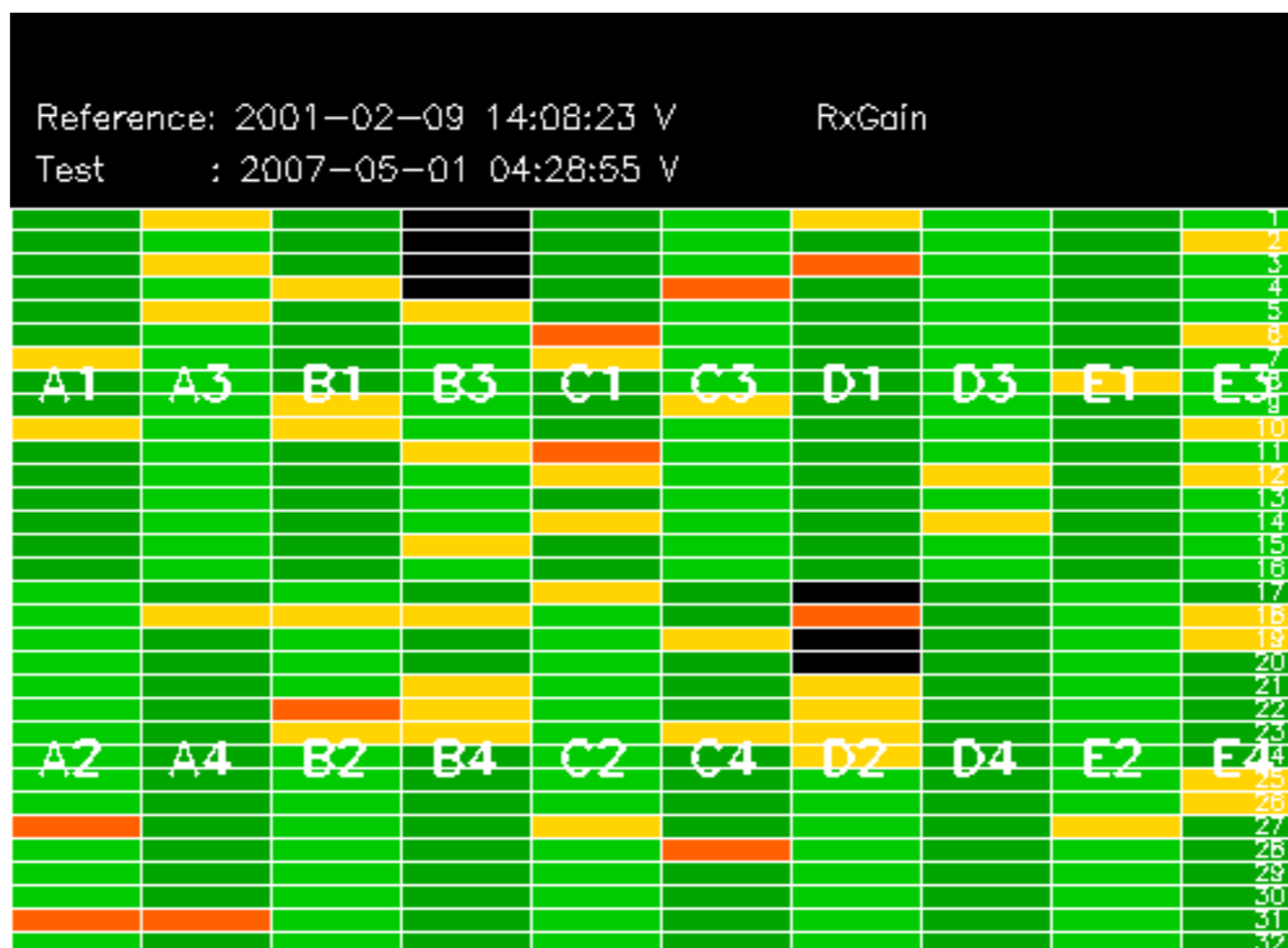
No anomalies observed on available MS products:

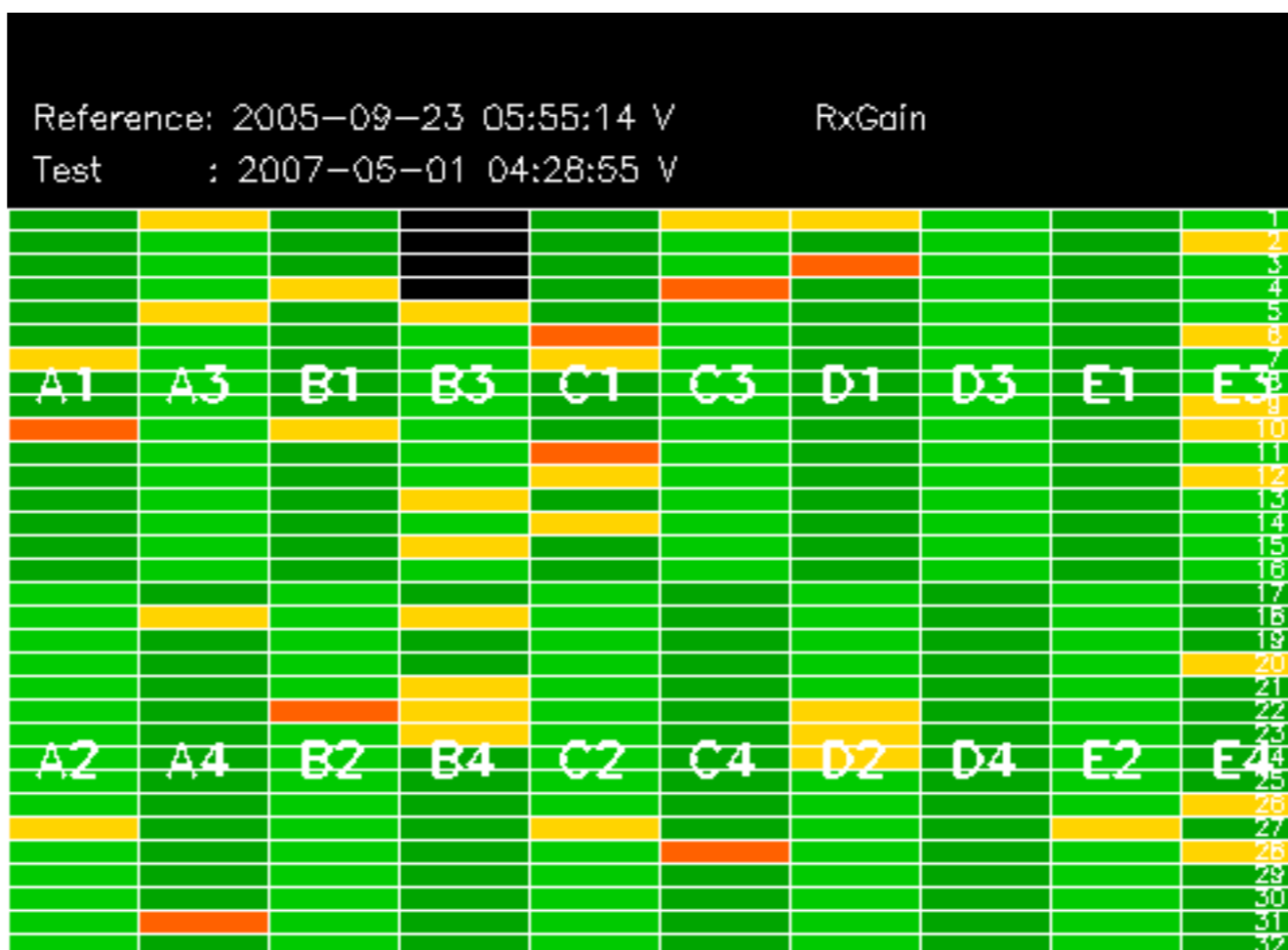
No anomalies observed.

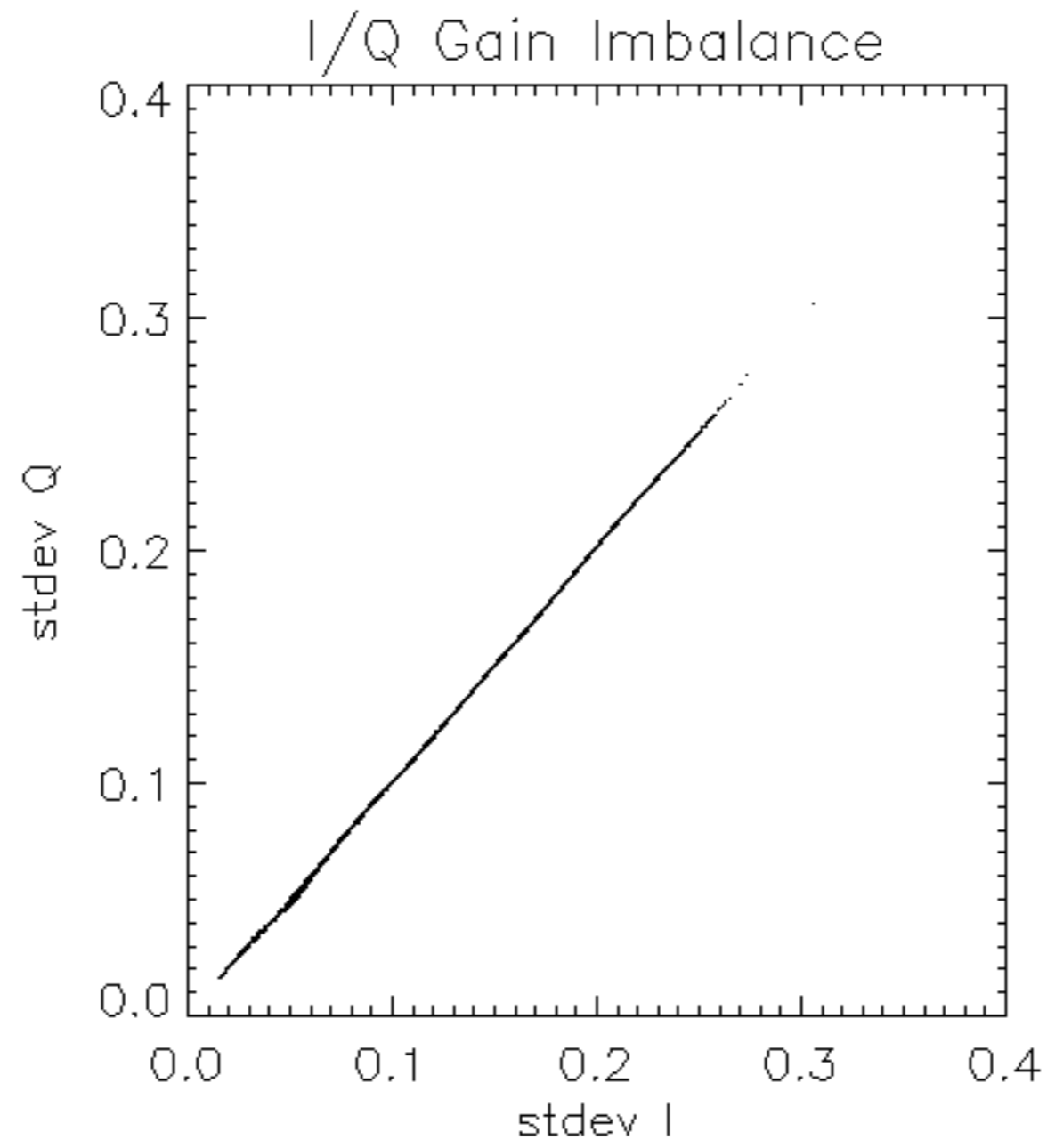


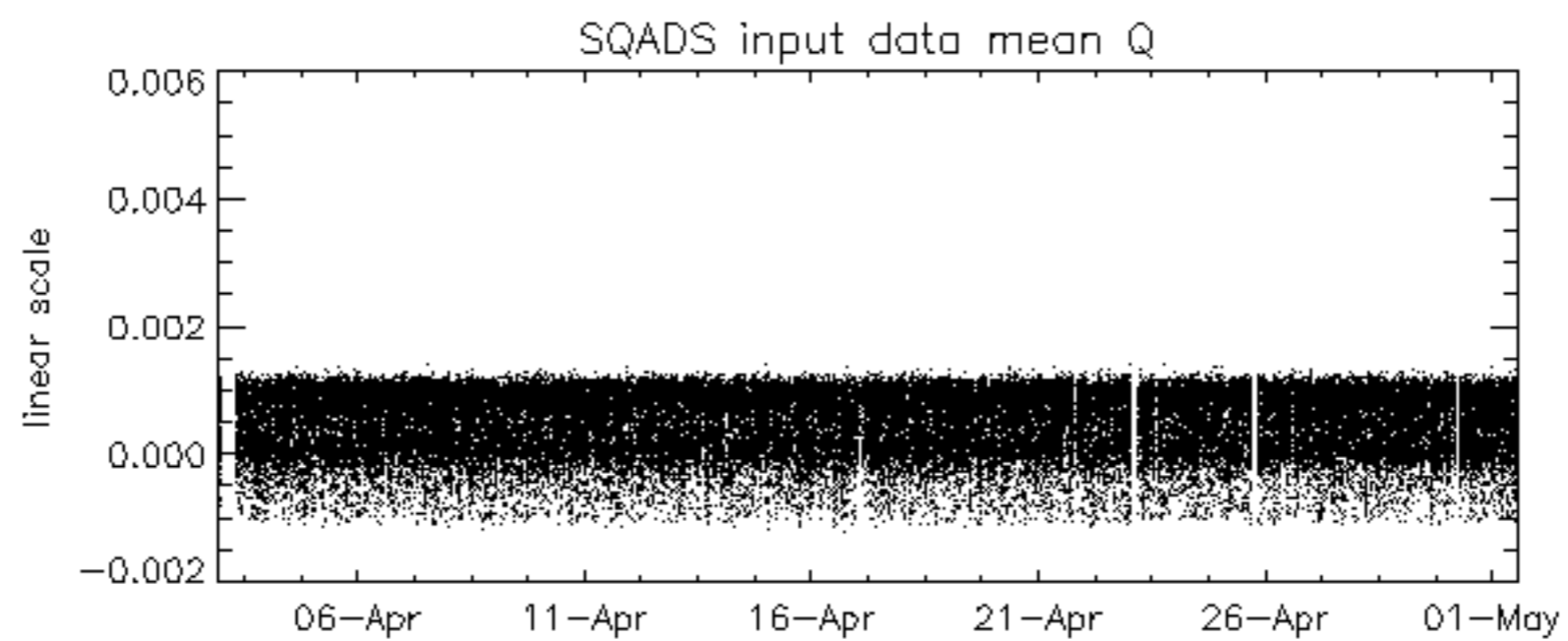
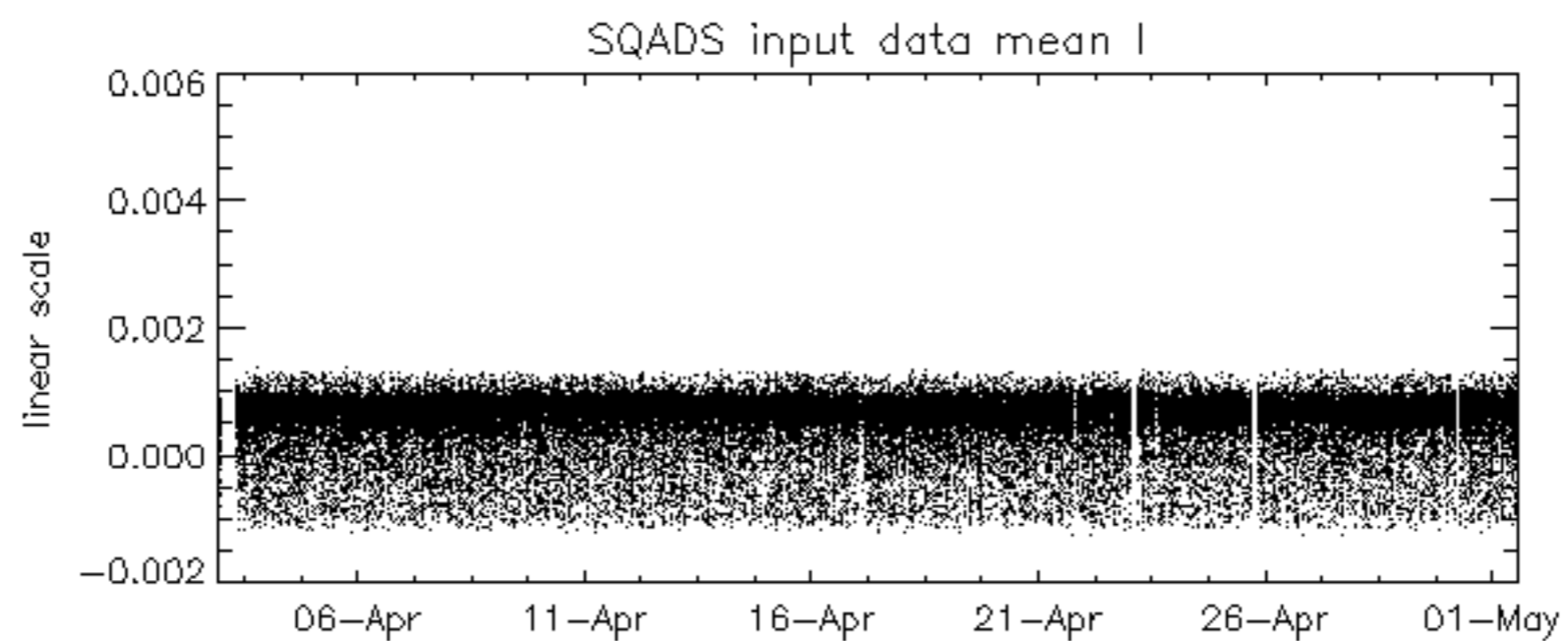
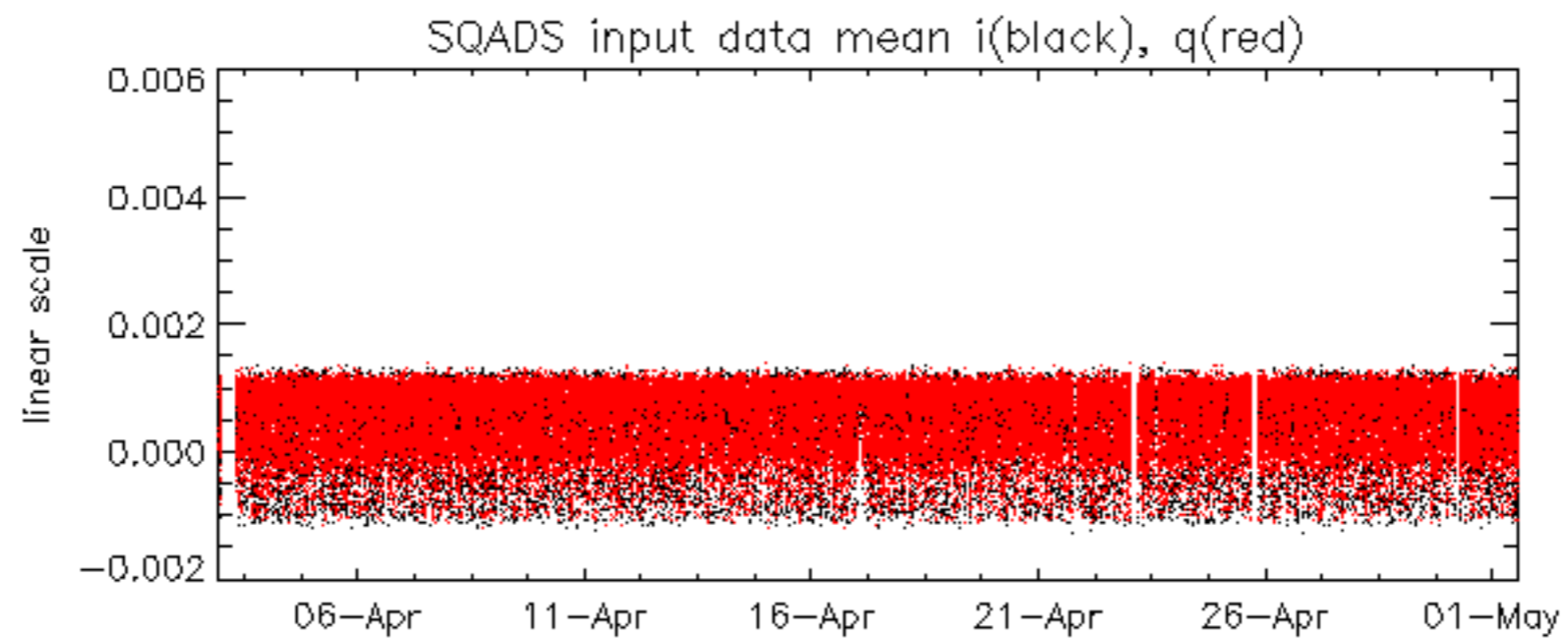


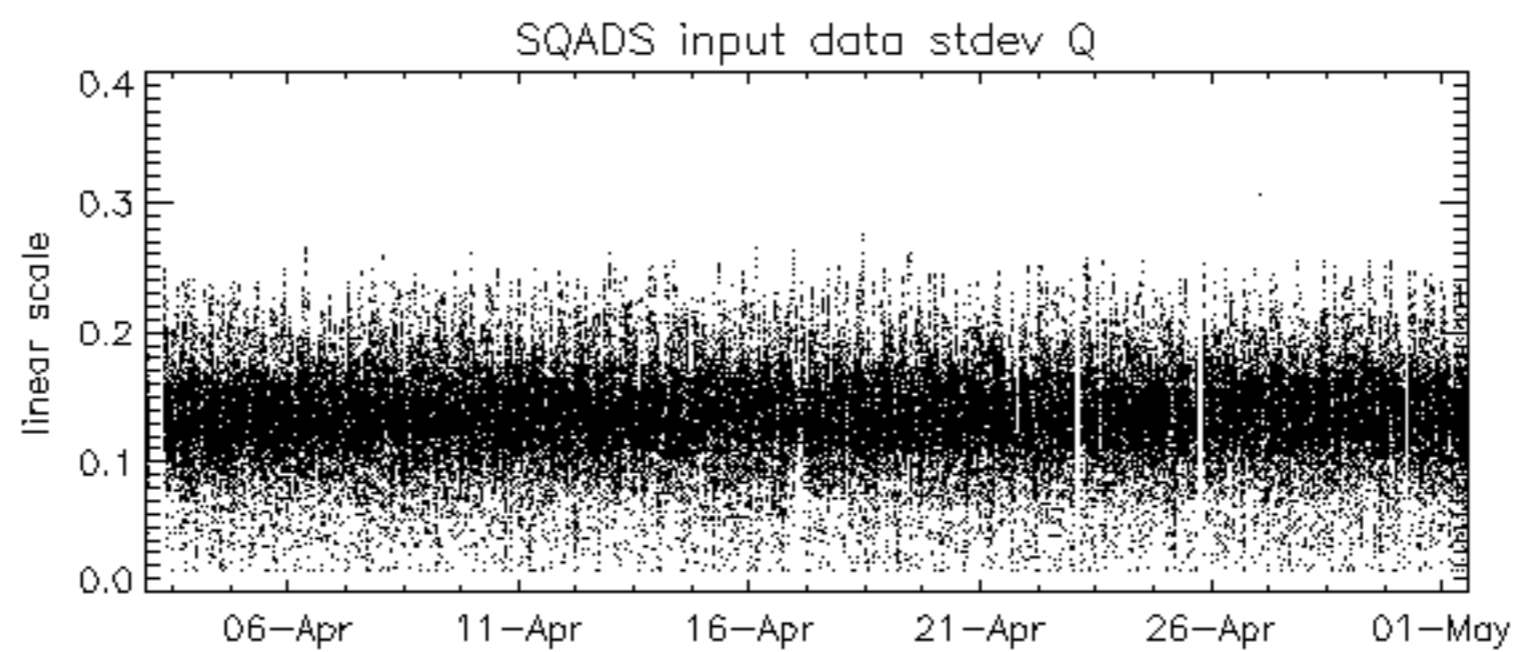
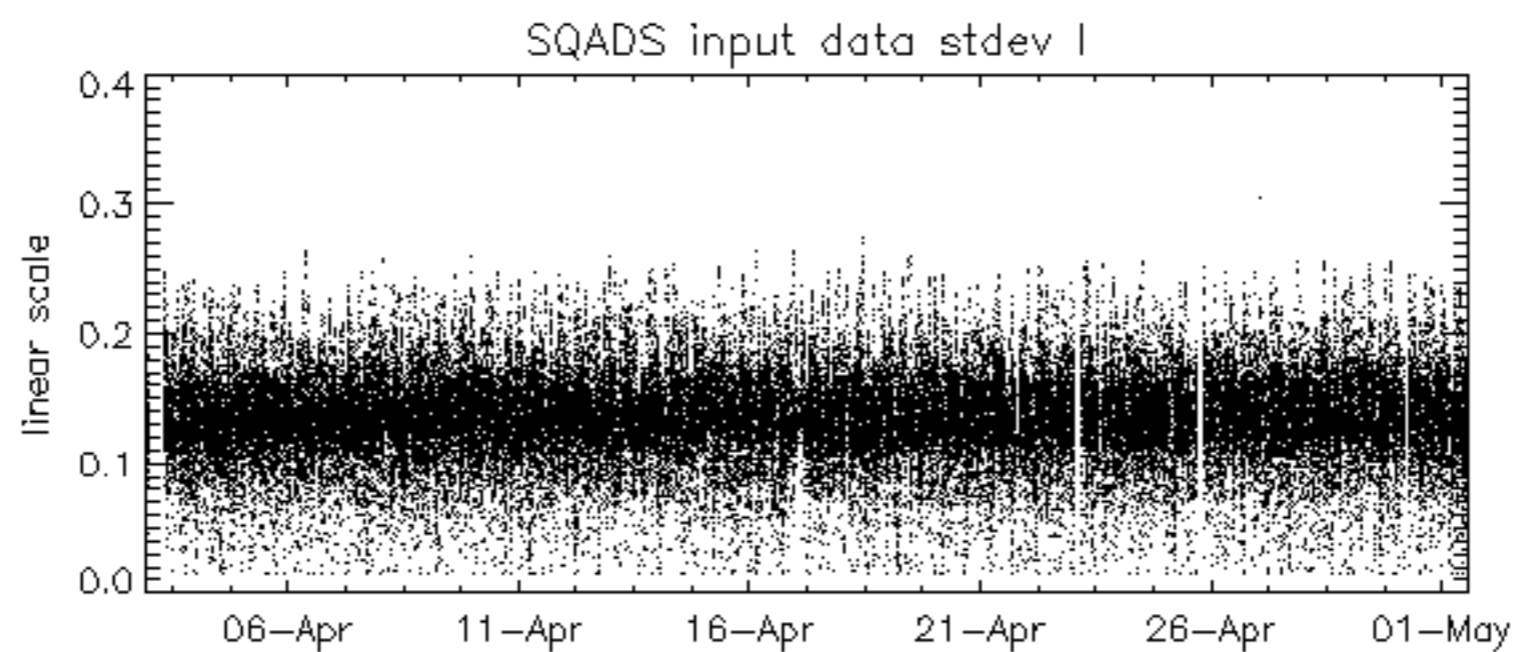
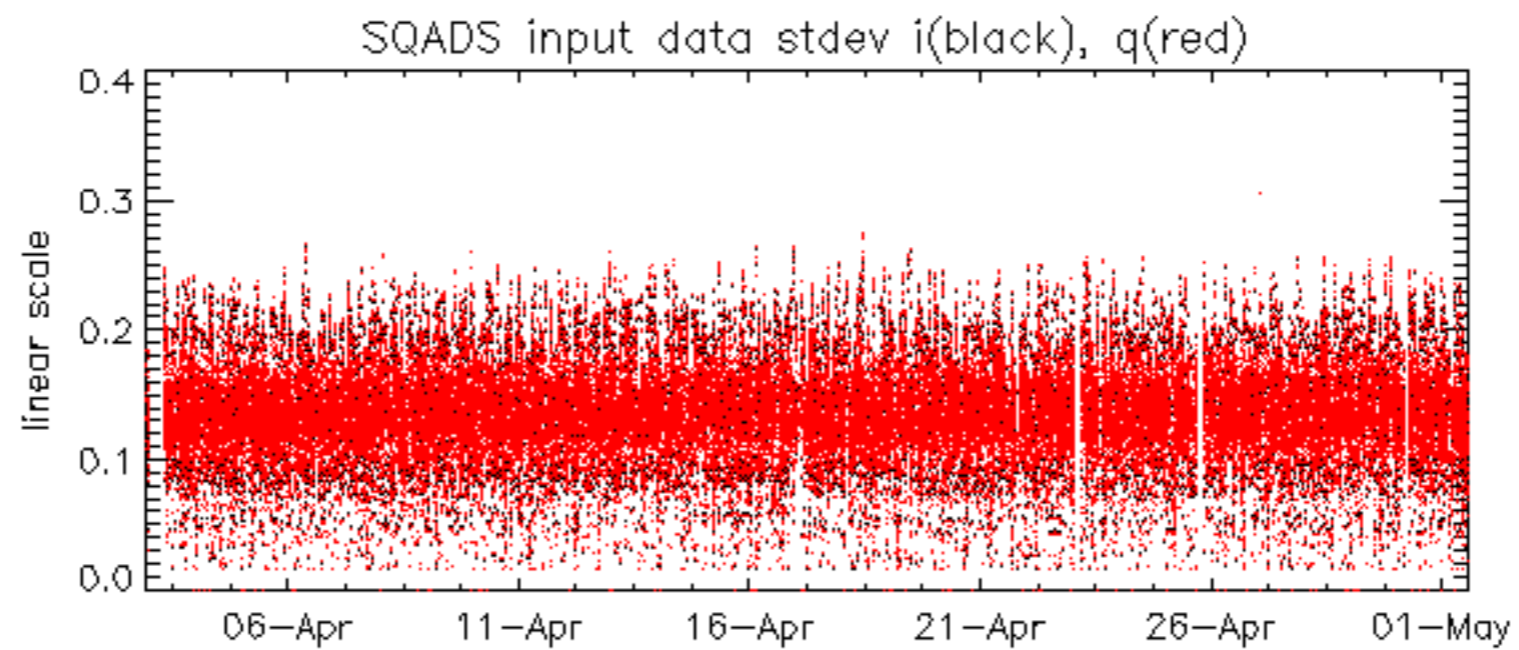








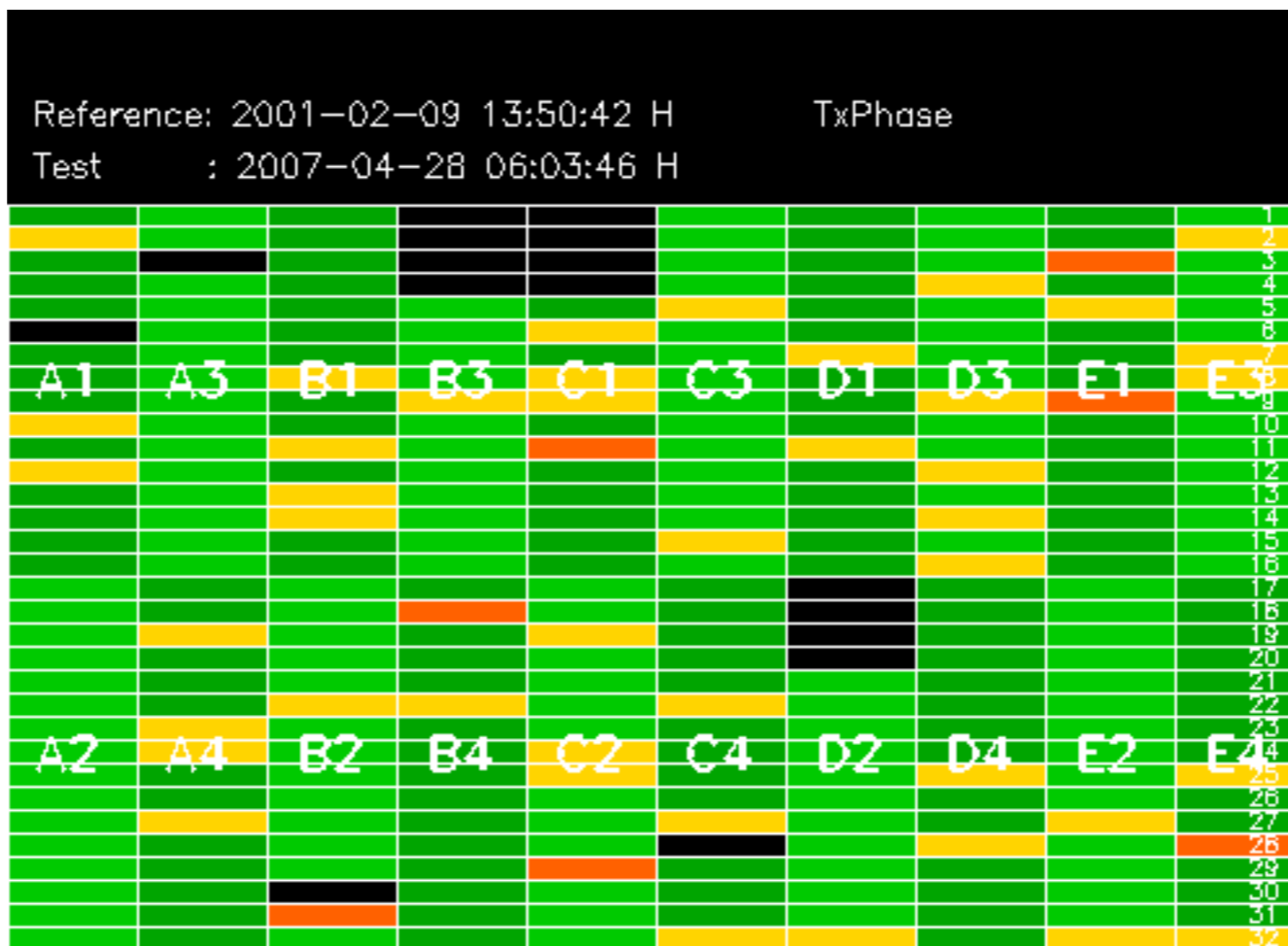


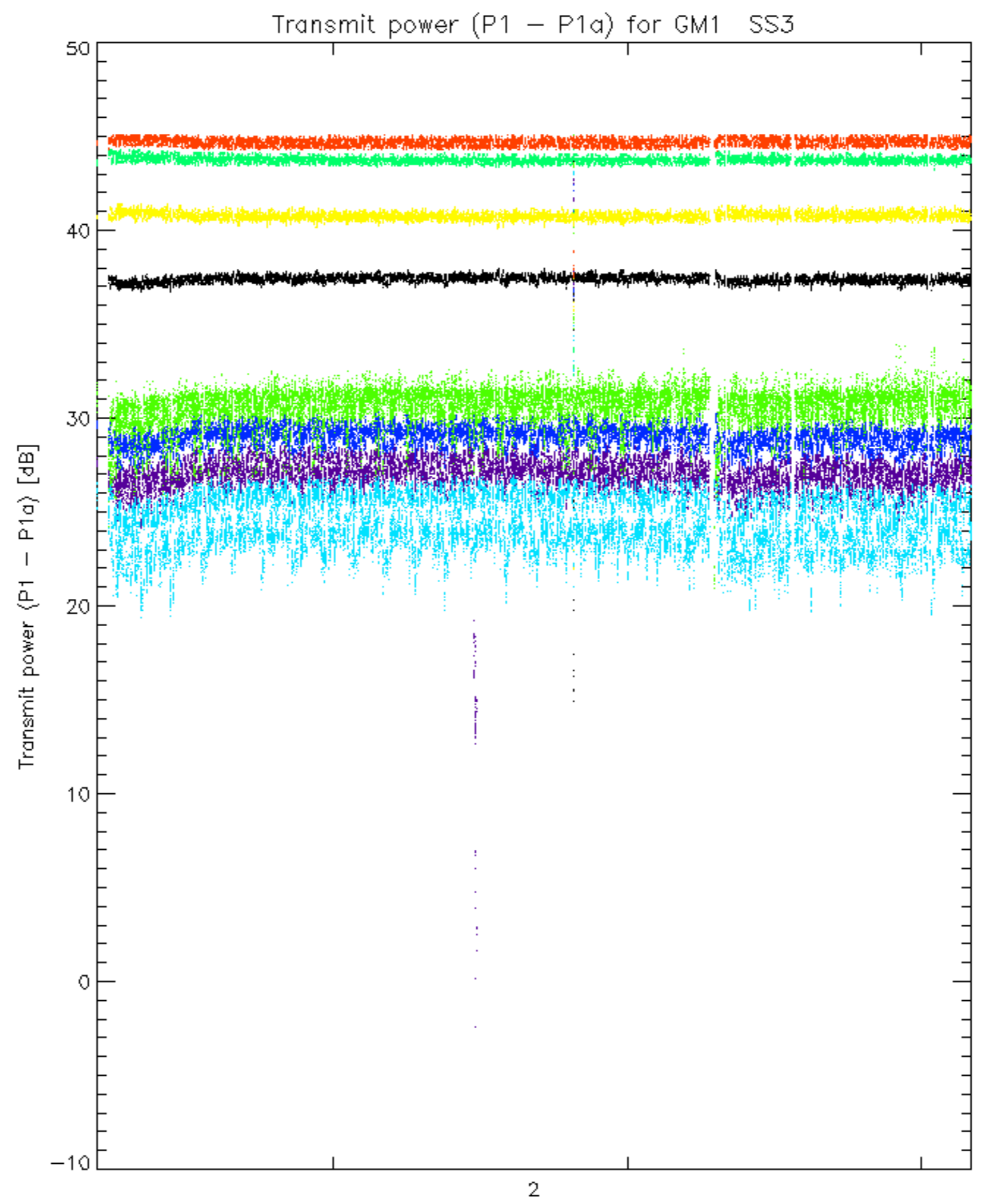


Summary of analysis for the last 3 days 2007043[901]

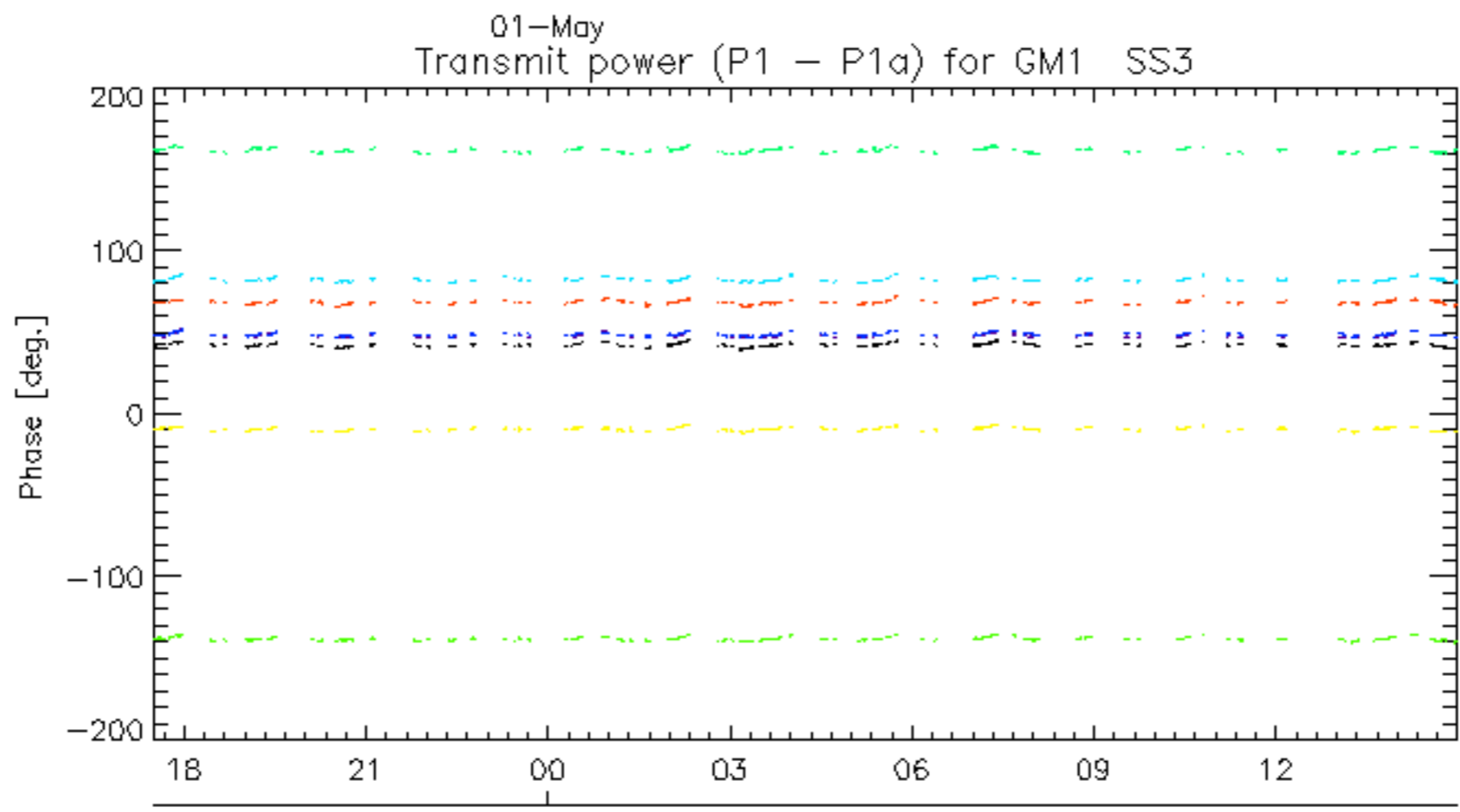
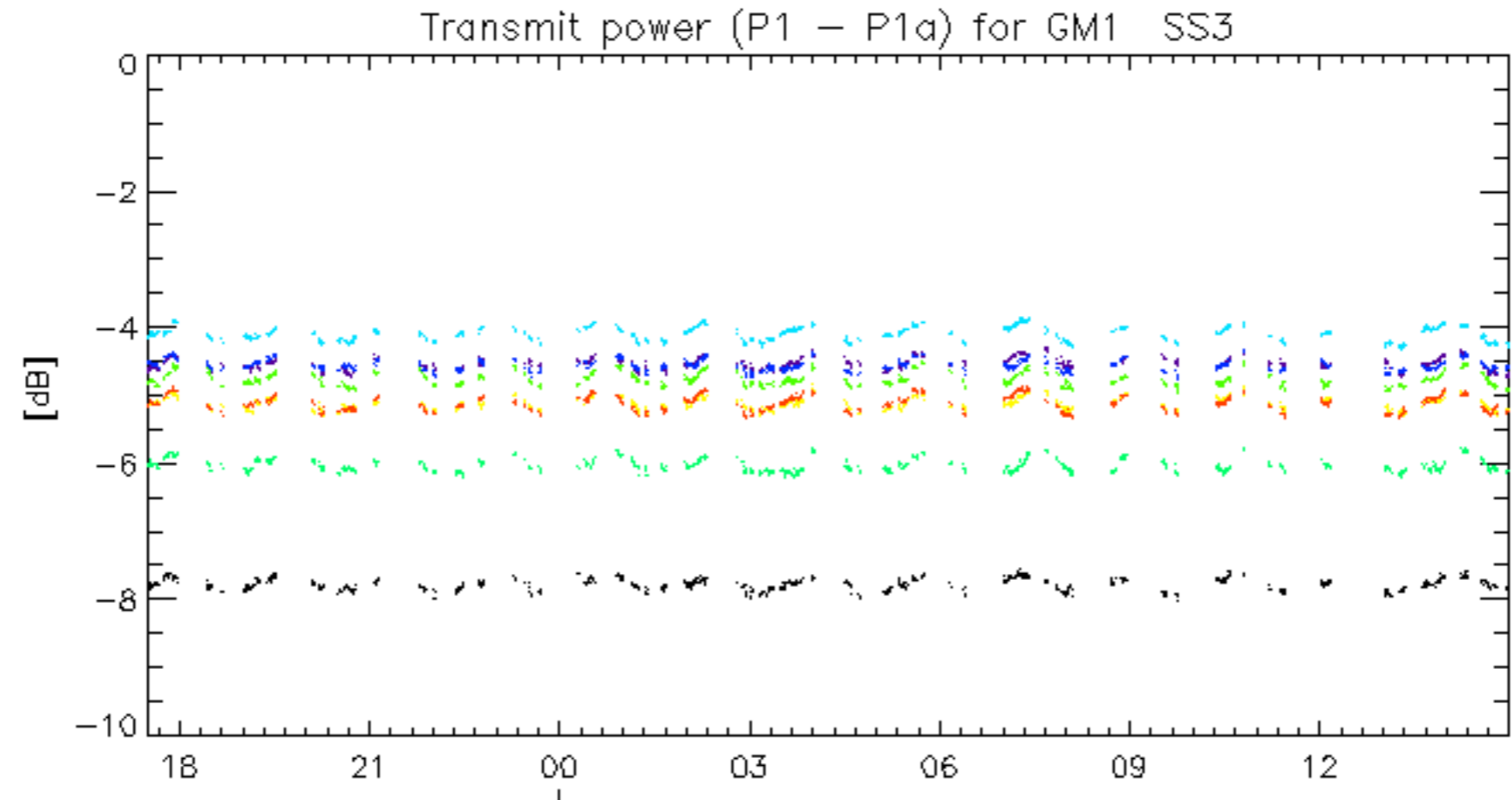
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_WVS_1PNPDK20070430_090305_000003292057_00394_27001_8232.N1	0	16
ASA_WVS_1PNPDK20070430_163600_000000442057_00398_27005_8927.N1	0	16
ASA_WVS_1PNPDK20070430_163700_000002552057_00398_27005_8939.N1	0	16
ASA_WVS_1PNPDK20070430_194150_000000442057_00400_27007_9117.N1	0	16
ASA_WVS_1PNPDK20070430_194250_000000002057_00400_27007_9111.N1	1	0
ASA_GM1_1PNPDK20070430_142051_000003442057_00397_27004_9324.N1	0	23
ASA_GM1_1PNPDK20070430_201211_000001632057_00400_27007_9127.N1	0	46
ASA_GM1_1PNPDK20070430_201446_000001812057_00400_27007_9125.N1	0	14
ASA_WSM_1PNPDE20070430_112045_000001282057_00395_27002_2954.N1	0	9
ASA_WSM_1PNPDE20070430_171915_000002192057_00399_27006_3295.N1	0	57
ASA_WSM_1PNPDE20070430_185951_000000672057_00400_27007_3301.N1	0	57

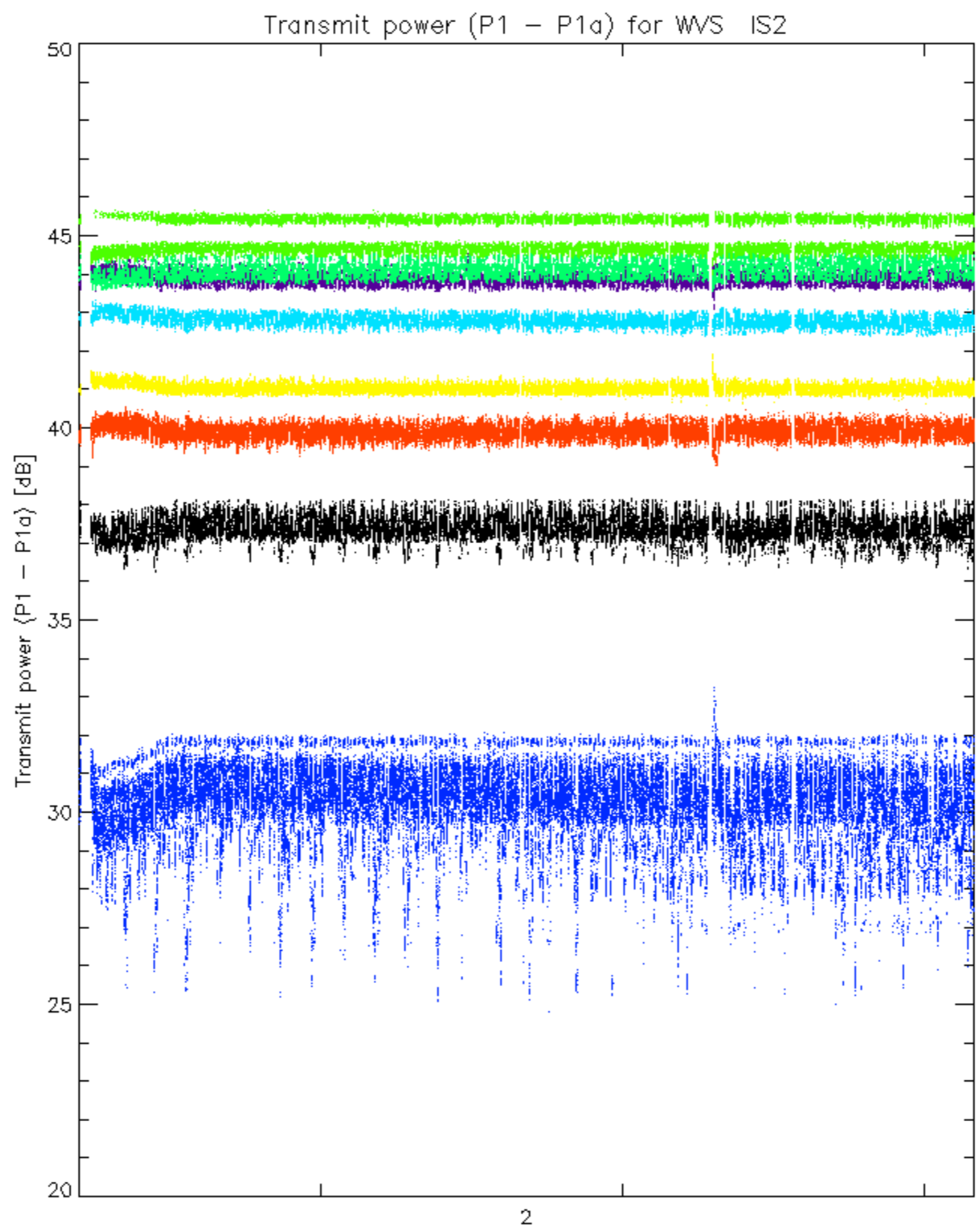




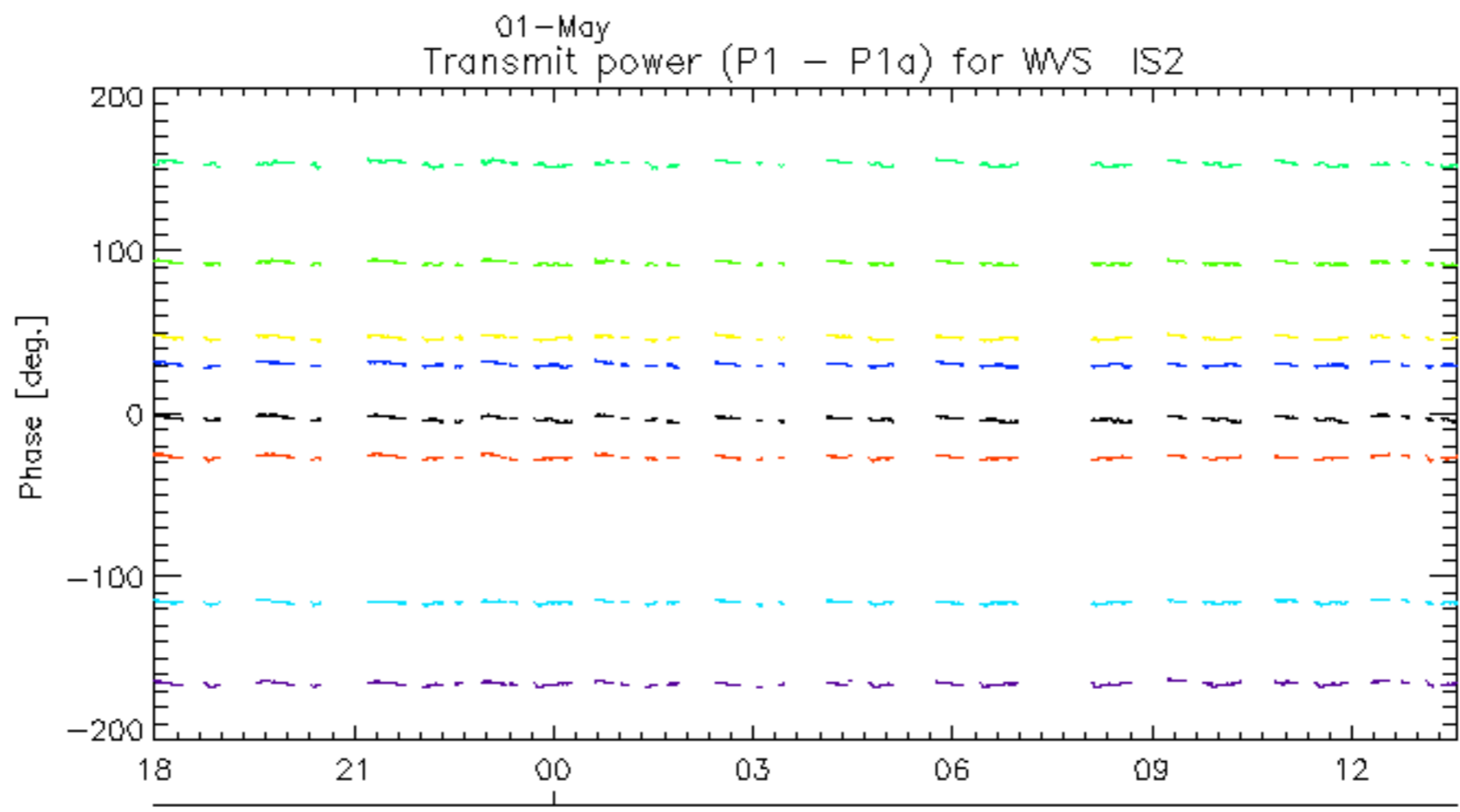
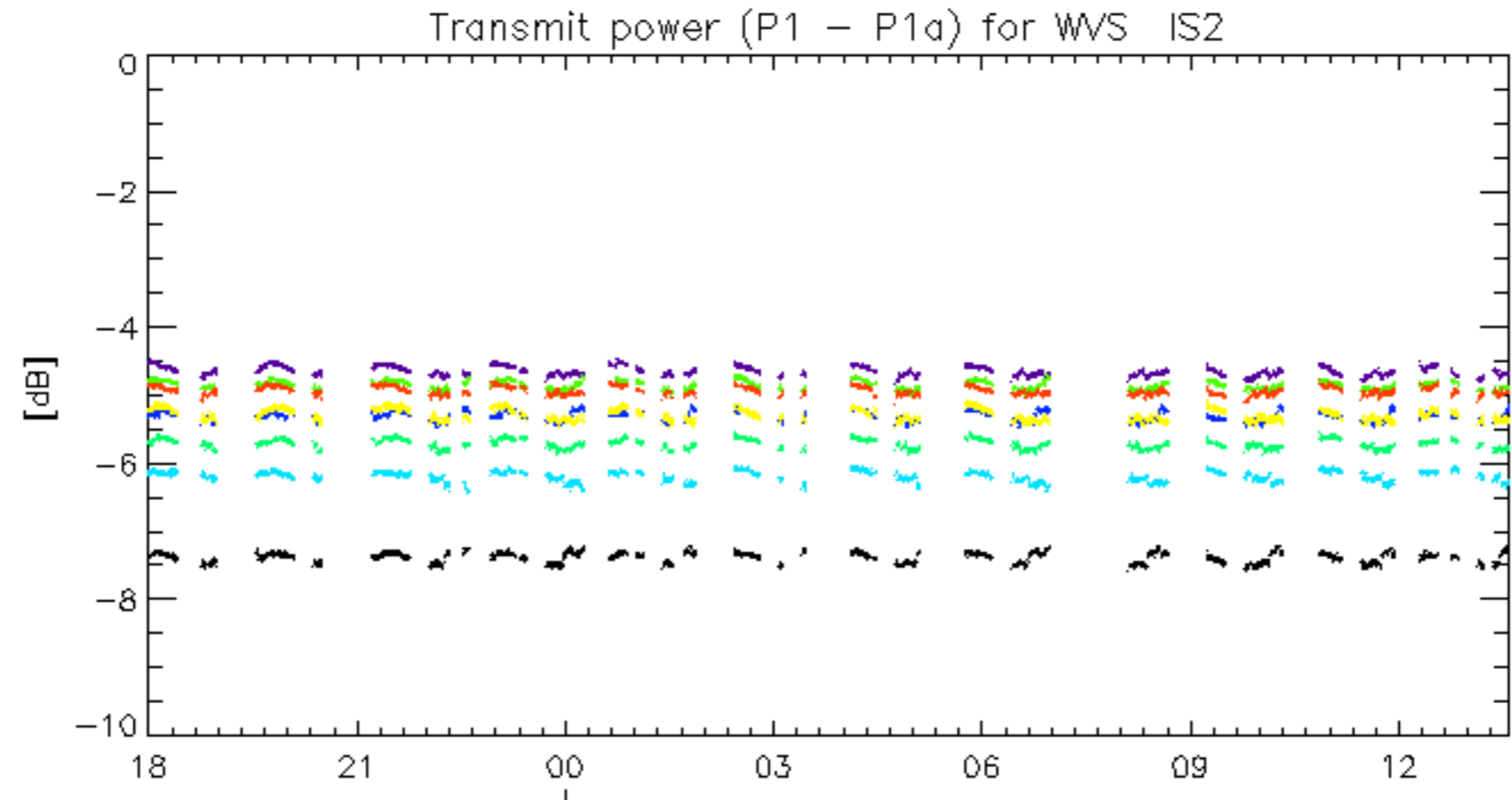
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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.