

PRELIMINARY REPORT OF 070506

last update on Sun May 6 23:07:52 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 2007-05-05 00:00:00 to 2007-05-06 23:07:52

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	42	89	14	0	27
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	42	89	14	0	27
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	42	89	14	0	27
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	42	89	14	0	27

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	48	61	67	10	46
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	48	61	67	10	46
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	48	61	67	10	46
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	48	61	67	10	46

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	20070505 204903
H	20070506 183650

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	-15.126043	0.147036	-0.266469
7	P1a	-17.564144	0.096187	-0.093093
11	P1a	-17.556770	0.363988	-0.631379
15	P1a	-13.043408	0.133373	-0.373922
19	P1a	-15.363555	0.072080	-0.284202
22	P1a	-15.938976	0.397398	-0.313152
26	P1a	-15.004813	0.218168	0.292208
30	P1a	-17.769955	0.370939	-0.648108

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.773845	0.010348	-0.048256
7	P1	-3.151665	0.009069	-0.028872
11	P1	-4.208329	0.013012	-0.002095
15	P1	-6.422607	0.020067	-0.133660
19	P1	-3.782173	0.011122	0.028520
22	P1	-4.748459	0.009617	-0.013291
26	P1	-3.915751	0.019343	0.050378
30	P1	-5.966999	0.009339	0.012313

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.659786	0.090800	-0.001887
7	P2	-21.549229	0.089303	0.107928
11	P2	-15.336968	0.117797	0.180602
15	P2	-7.129691	0.088336	-0.026012
19	P2	-9.120312	0.080553	-0.008099
22	P2	-18.089024	0.077048	-0.009810
26	P2	-16.628319	0.082094	-0.080171
30	P2	-19.272703	0.082006	0.043185

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.245619	0.005177	-0.007640
7	P3	-8.245619	0.005177	-0.007640
11	P3	-8.245619	0.005177	-0.007640
15	P3	-8.245619	0.005177	-0.007640
19	P3	-8.245619	0.005177	-0.007640
22	P3	-8.245619	0.005177	-0.007640
26	P3	-8.245619	0.005177	-0.007640
30	P3	-8.245619	0.005177	-0.007640

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	-11.227575	0.121544	-0.185190
7	P1a	-10.049223	0.171934	0.081570
11	P1a	-10.684706	0.088773	0.036356
15	P1a	-10.819391	0.158464	0.140181
19	P1a	-15.817839	0.087344	-0.116645
22	P1a	-21.408525	1.459129	-0.333123
26	P1a	-15.514117	0.365152	-0.171998
30	P1a	-18.307680	0.451670	0.122765

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-8.430441	0.072346	0.138422
7	P1	-2.399985	0.089161	0.074665
11	P1	-2.883205	0.022976	0.059668
15	P1	-3.813272	0.035871	0.051449
19	P1	-3.591355	0.014497	-0.029664
22	P1	-4.963790	0.023411	0.078324
26	P1	-6.042141	0.024970	-0.048038
30	P1	-5.341461	0.031847	-0.030313

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.182484	0.064713	-0.057223
7	P2	-22.043575	0.173185	-0.038563
11	P2	-10.639389	0.043729	-0.035007
15	P2	-4.927238	0.041166	-0.065987
19	P2	-6.869756	0.039797	-0.015083
22	P2	-8.107635	0.080748	0.018590
26	P2	-24.323679	0.131549	-0.020248
30	P2	-21.707001	0.101792	0.049783

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.090555	0.004905	0.002216
7	P3	-8.090529	0.004909	0.002294
11	P3	-8.090391	0.004907	0.001987
15	P3	-8.090338	0.004907	0.001962
19	P3	-8.090439	0.004929	0.002085
22	P3	-8.090330	0.004900	0.002457
26	P3	-8.090427	0.004909	0.002164
30	P3	-8.090344	0.004901	0.002147

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	0.000547046
	stdev	1.97797e-07
MEAN Q	mean	0.000498823
	stdev	2.41819e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.135704
	stdev	0.00121756
STDEV Q	mean	0.136092
	stdev	0.00123509



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2007050[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_IMM_1PNPDK20070504_083350_00000612057_00451_27058_4312.N1	0	26
ASA_GM1_1PNPDK20070504_103913_000001632057_00452_27059_6905.N1	0	15
ASA_GM1_1PNPDK20070504_103940_000001322057_00452_27059_4839.N1	0	15
ASA_GM1_1PNPDK20070504_140155_000001502057_00454_27061_5837.N1	0	14
ASA_GM1_1PNPDK20070504_141822_000001632057_00454_27061_5839.N1	0	7
ASA_GM1_1PNPDK20070504_144335_000006462057_00454_27061_5971.N1	0	23
ASA_WSM_1PNPDE20070504_023250_000000852057_00447_27054_7677.N1	0	27
ASA_WSM_1PNPDE20070505_134710_000000852057_00468_27075_9521.N1	0	26
ASA_WSM_1PNPDE20070506_094328_000000852057_00480_27087_0728.N1	0	1

ASA_WSM_1PNPDE20070506_113212_000001532057_00481_27088_0776.N1	0	25
ASA_APM_1PNPDE20070506_023611_000000422057_00476_27083_0204.N1	6	0



7 - Doppler Analysis

Preliminary report. The data is not yet controlled

7.1 - Unbiased Doppler Error for WVS

Evolution of unbiased Doppler error (Real - Expected)

<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

<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

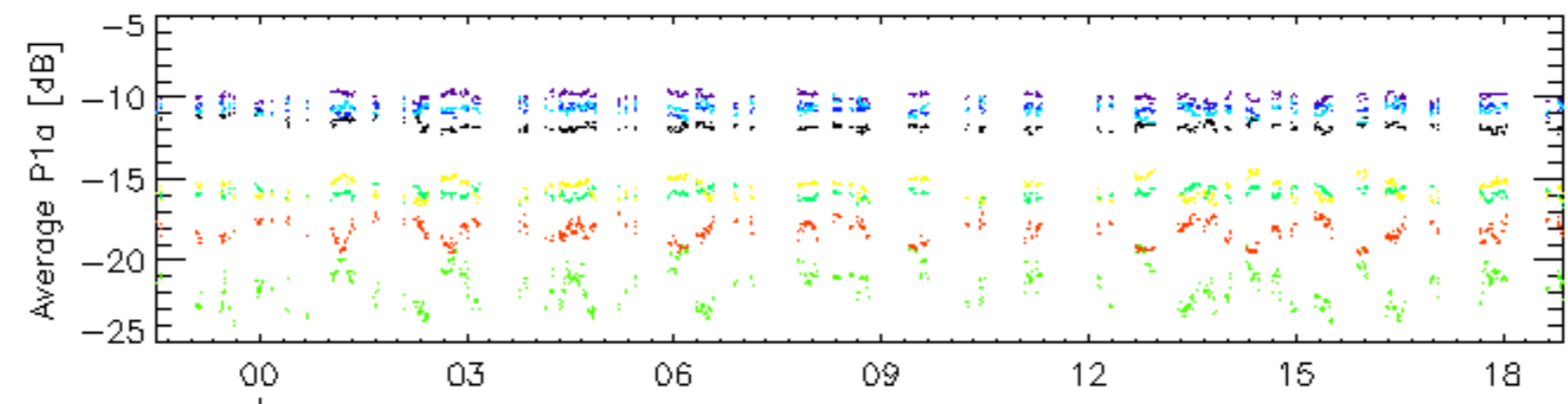
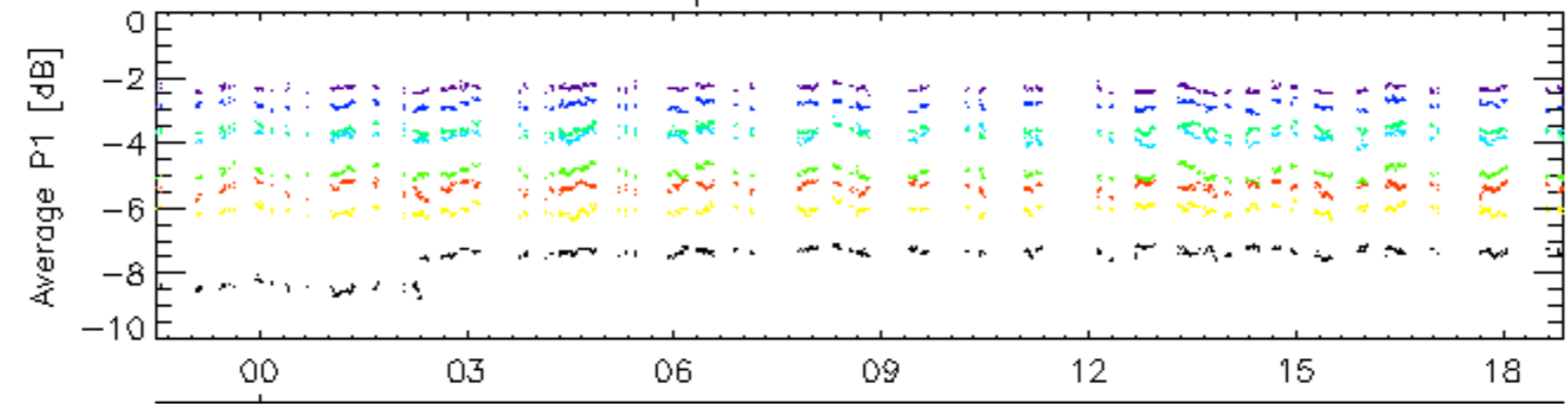
<input type="checkbox"/>
Ascending
<input type="checkbox"/>
Descending

7.6 - Doppler evolution versus ANX for GM1

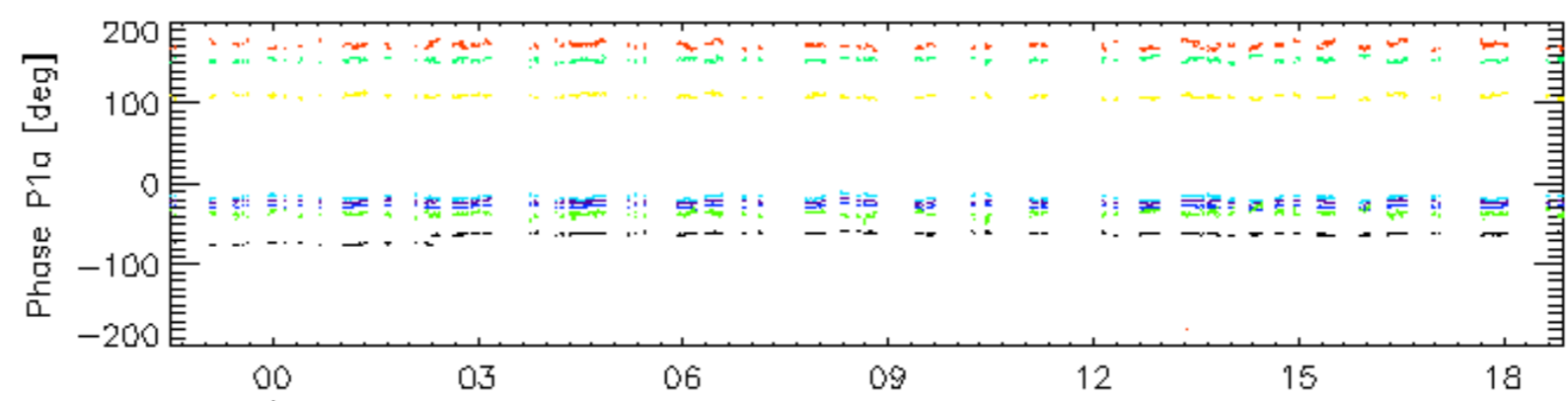
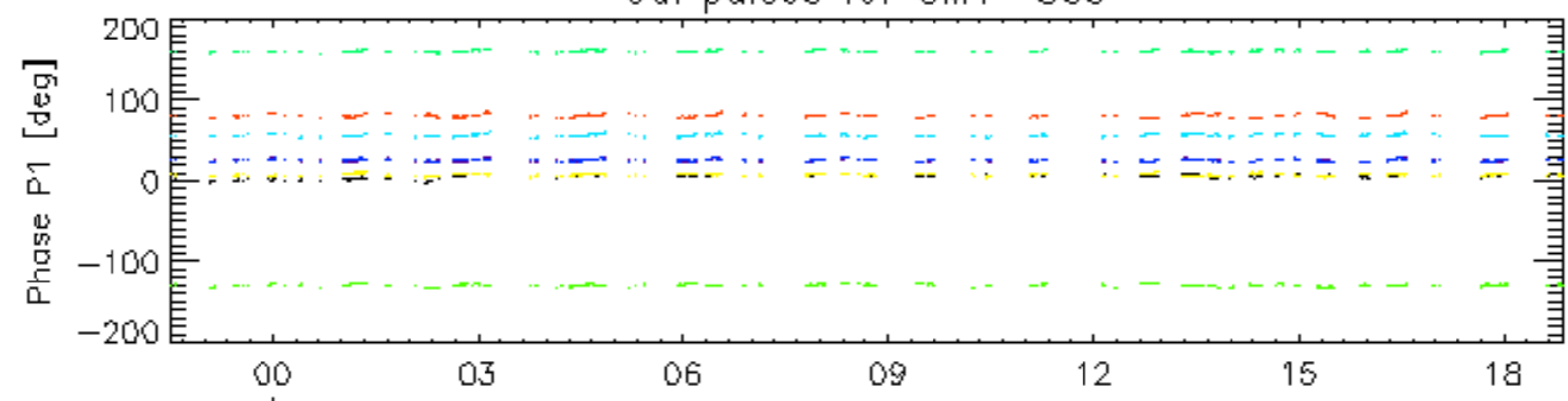
Evolution Doppler error versus ANX

<input type="checkbox"/>

Cal pulses for GM1 SS3

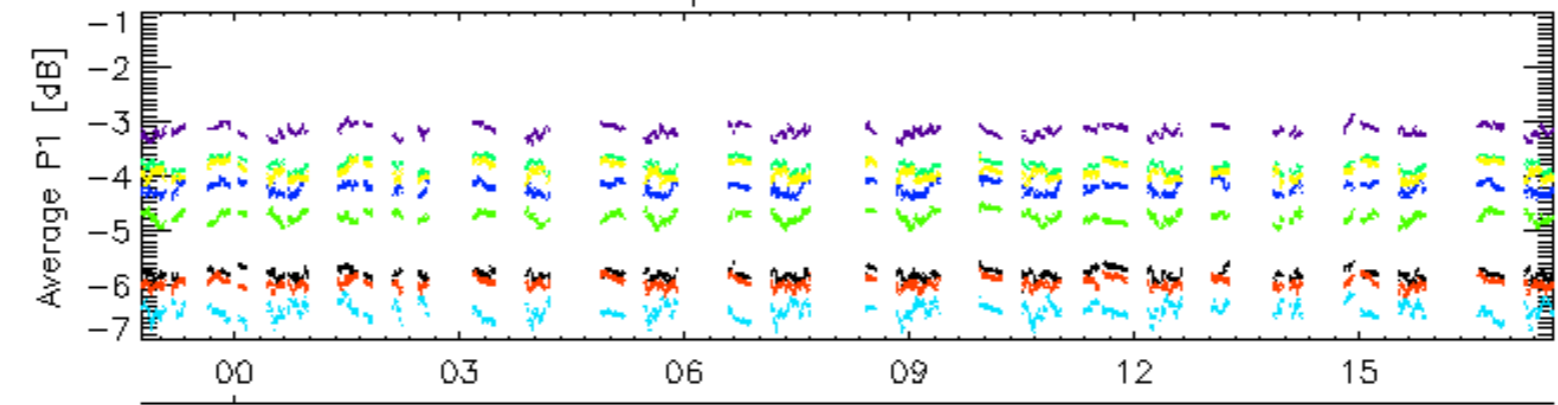


Cal pulses for GM1 SS3

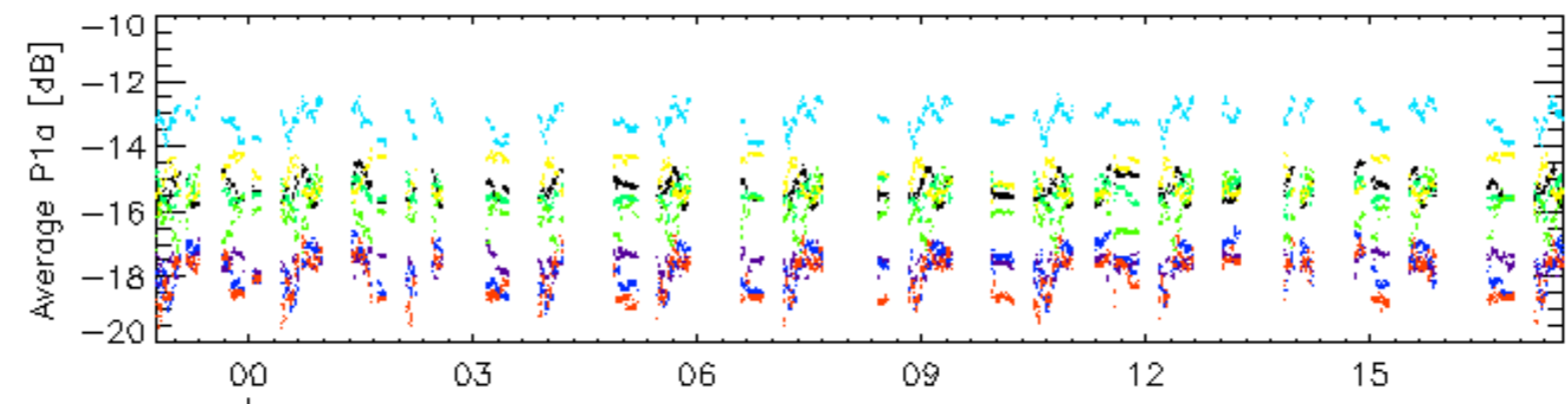


rows: 3 7 11 15 19 22 26 30

Cal pulses for WVS IS2

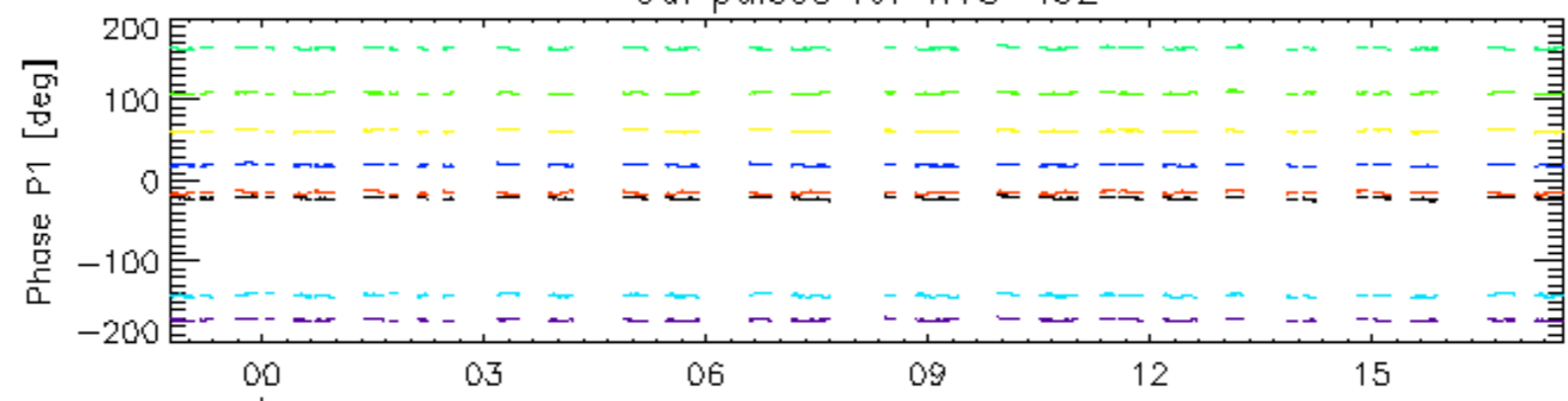


06-May

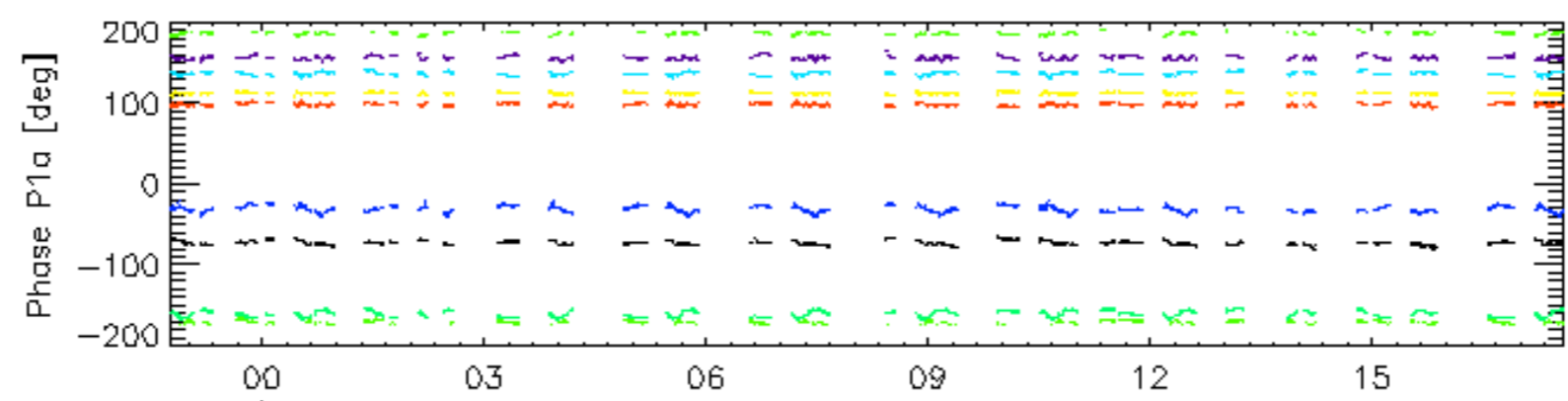


06-May

Cal pulses for WVS IS2

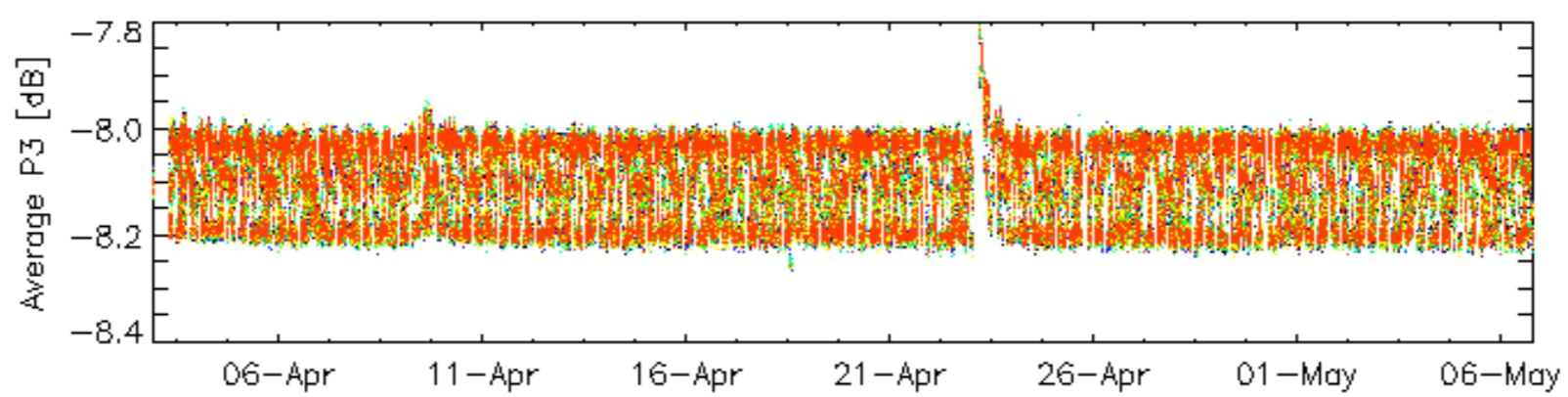
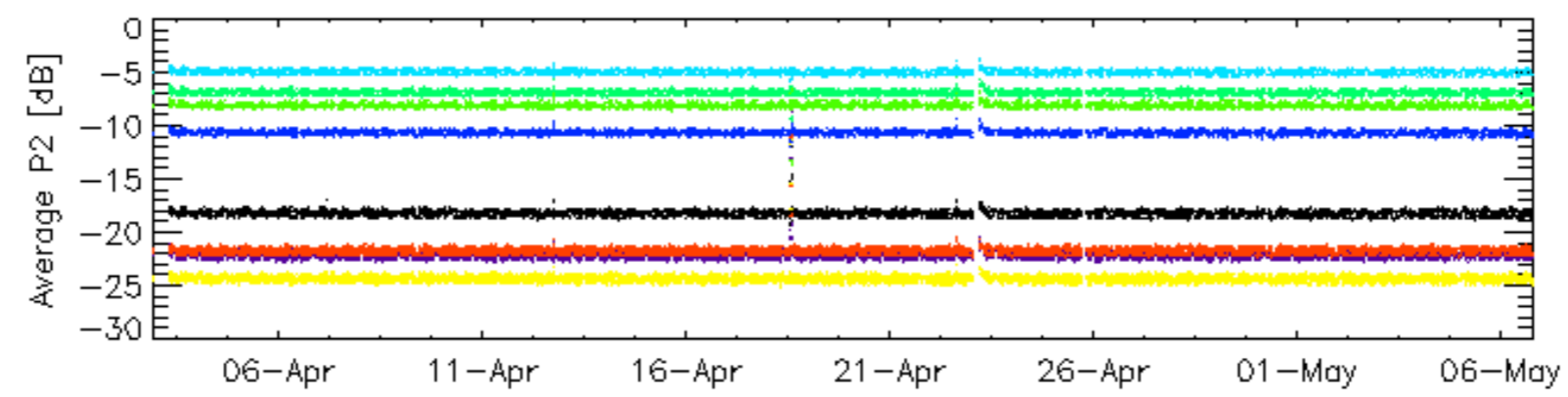
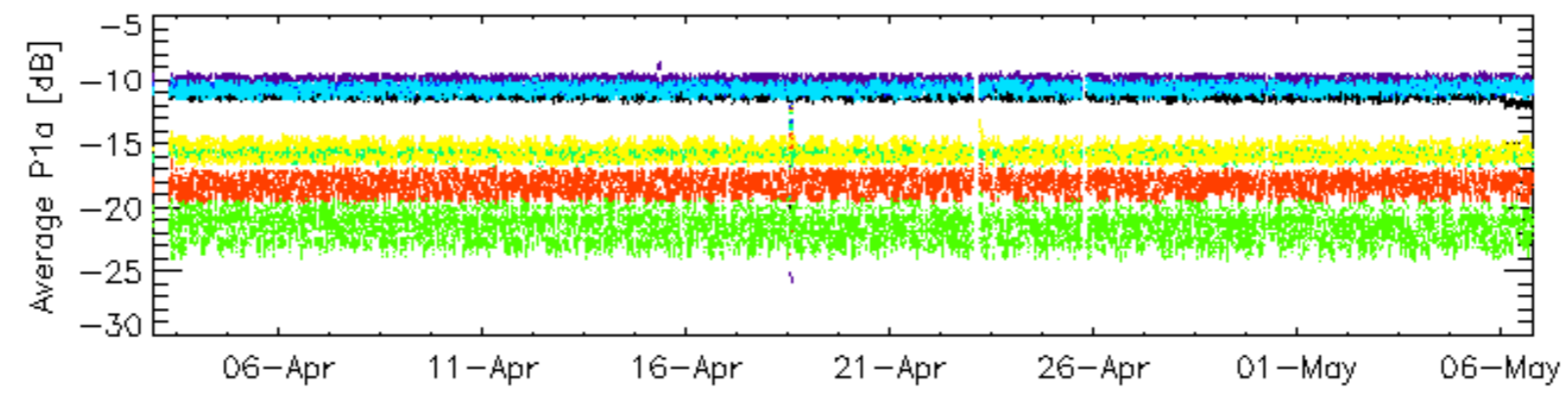
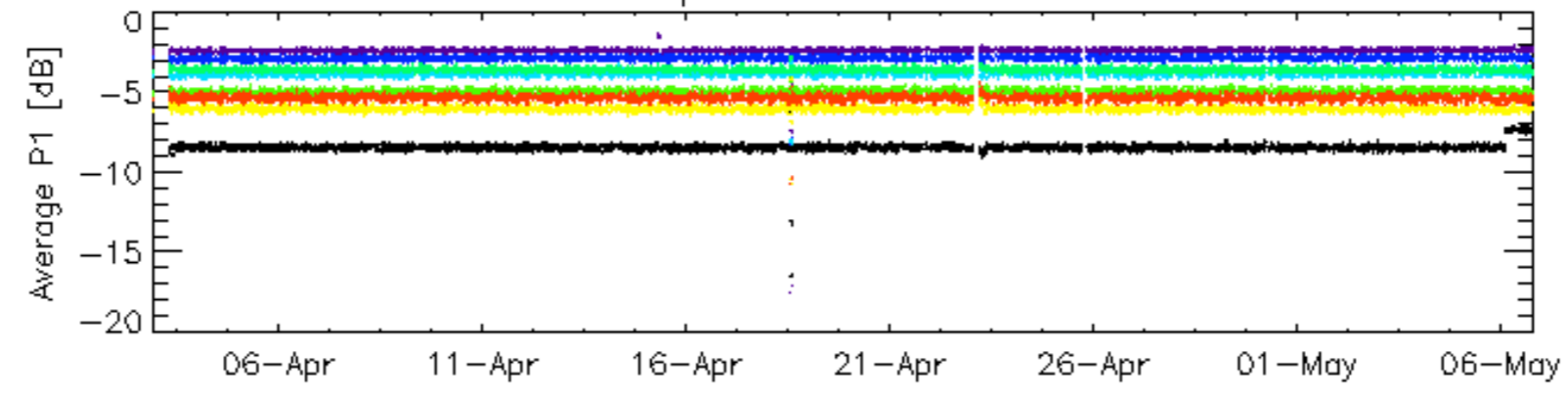


06-May



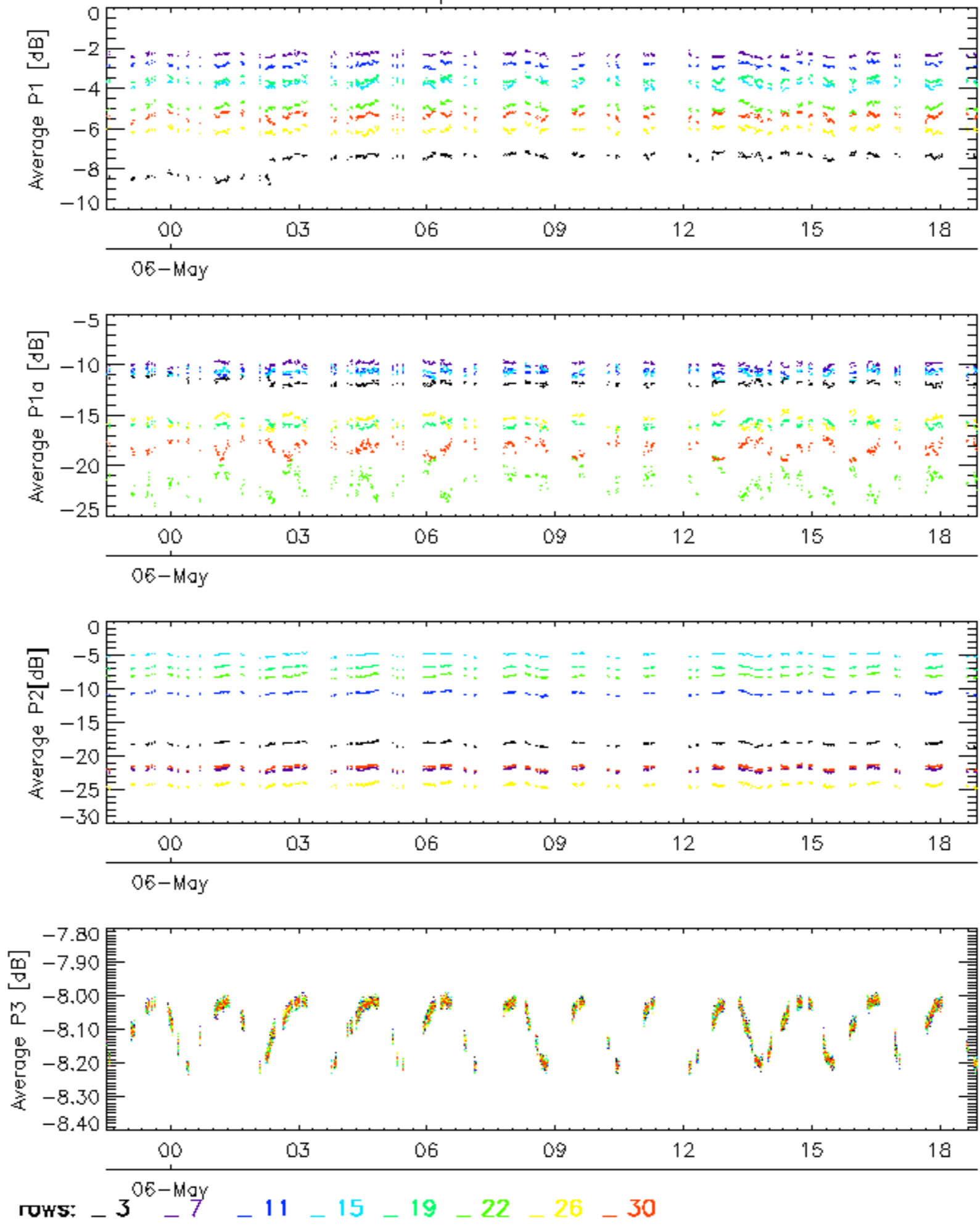
rows: 06-May
- 3 - 7 - 11 - 15 - 19 - 22 - 26 - 30

Cal pulses for GM1 SS3

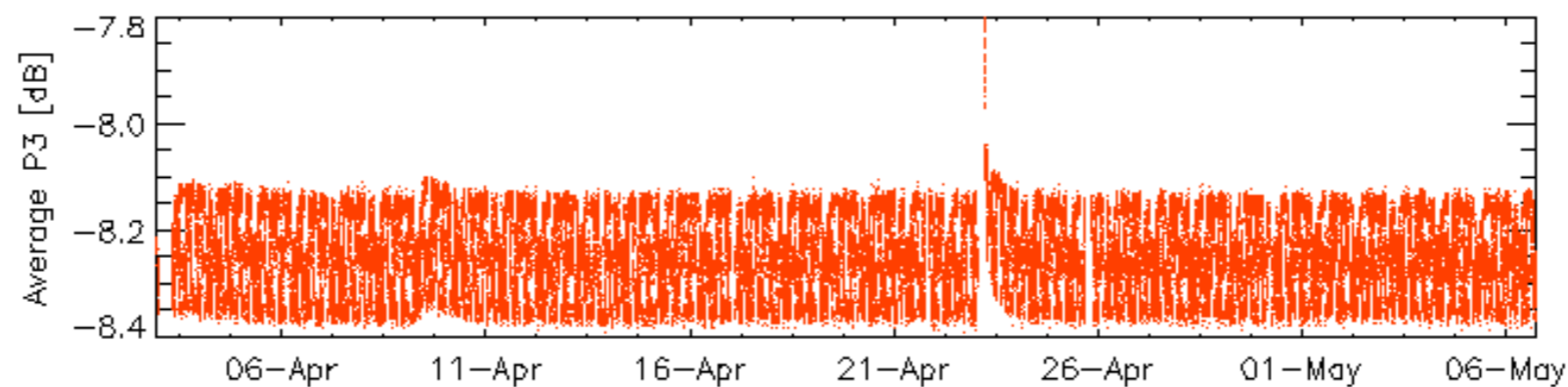
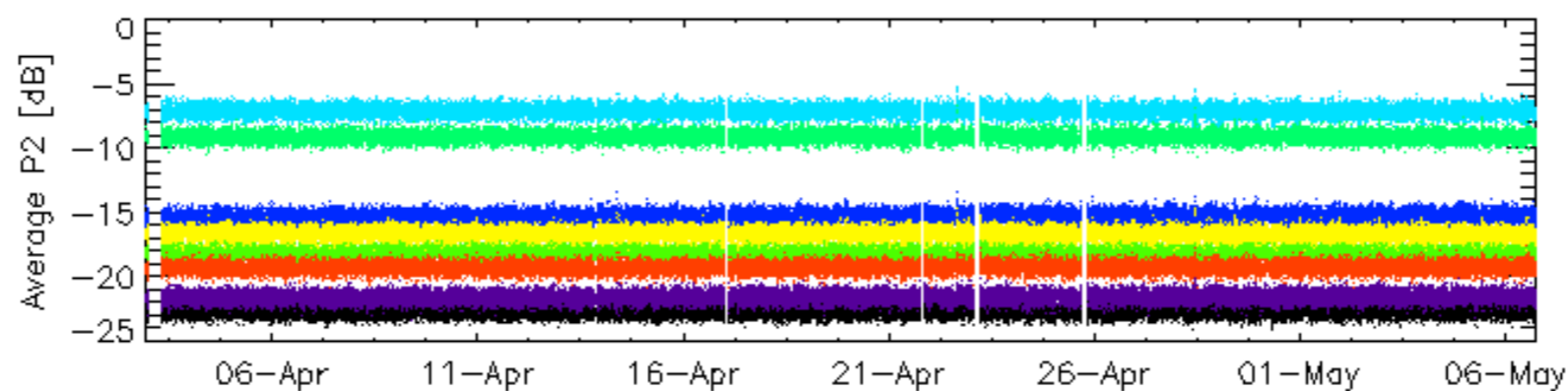
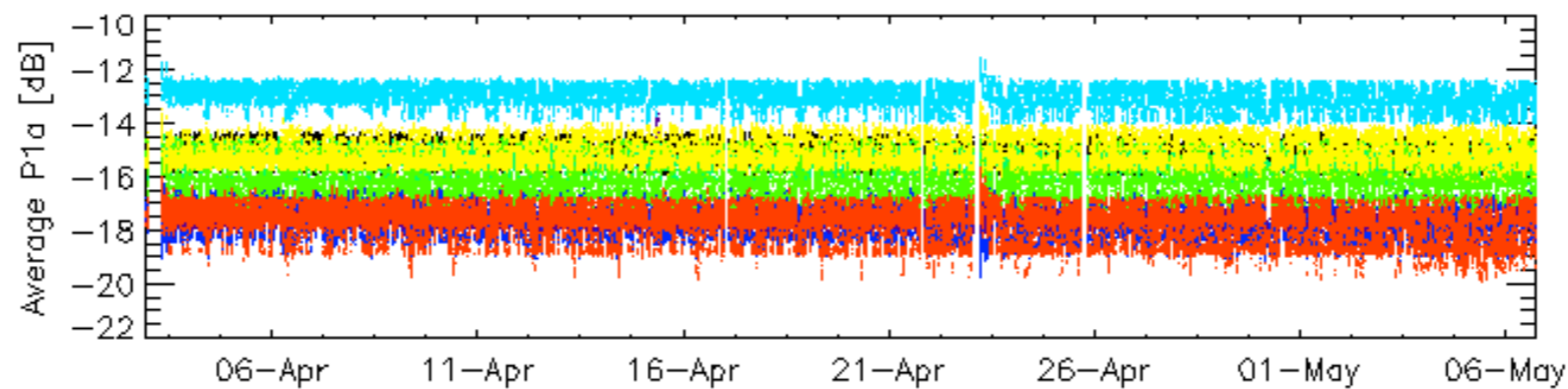
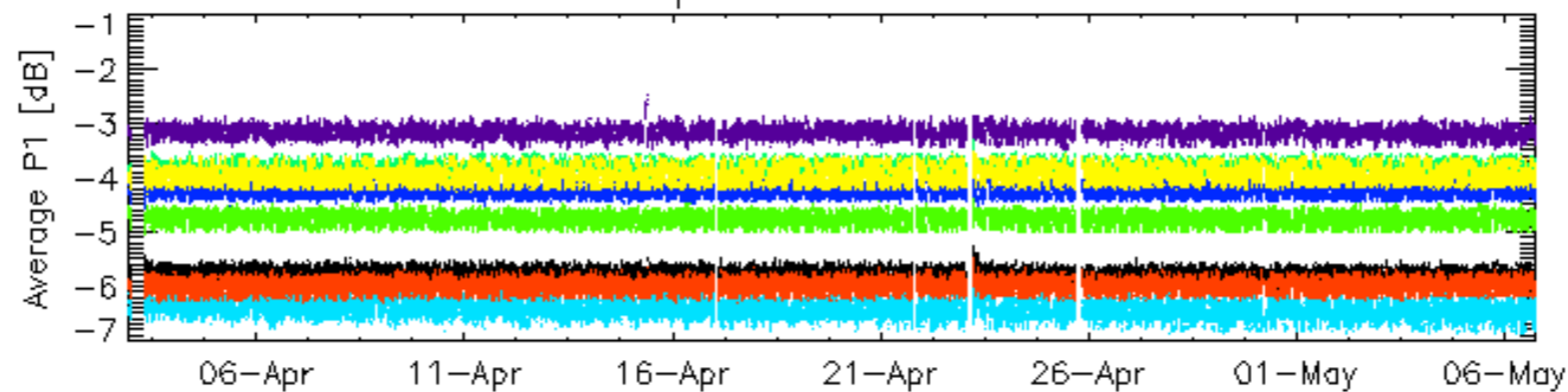


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

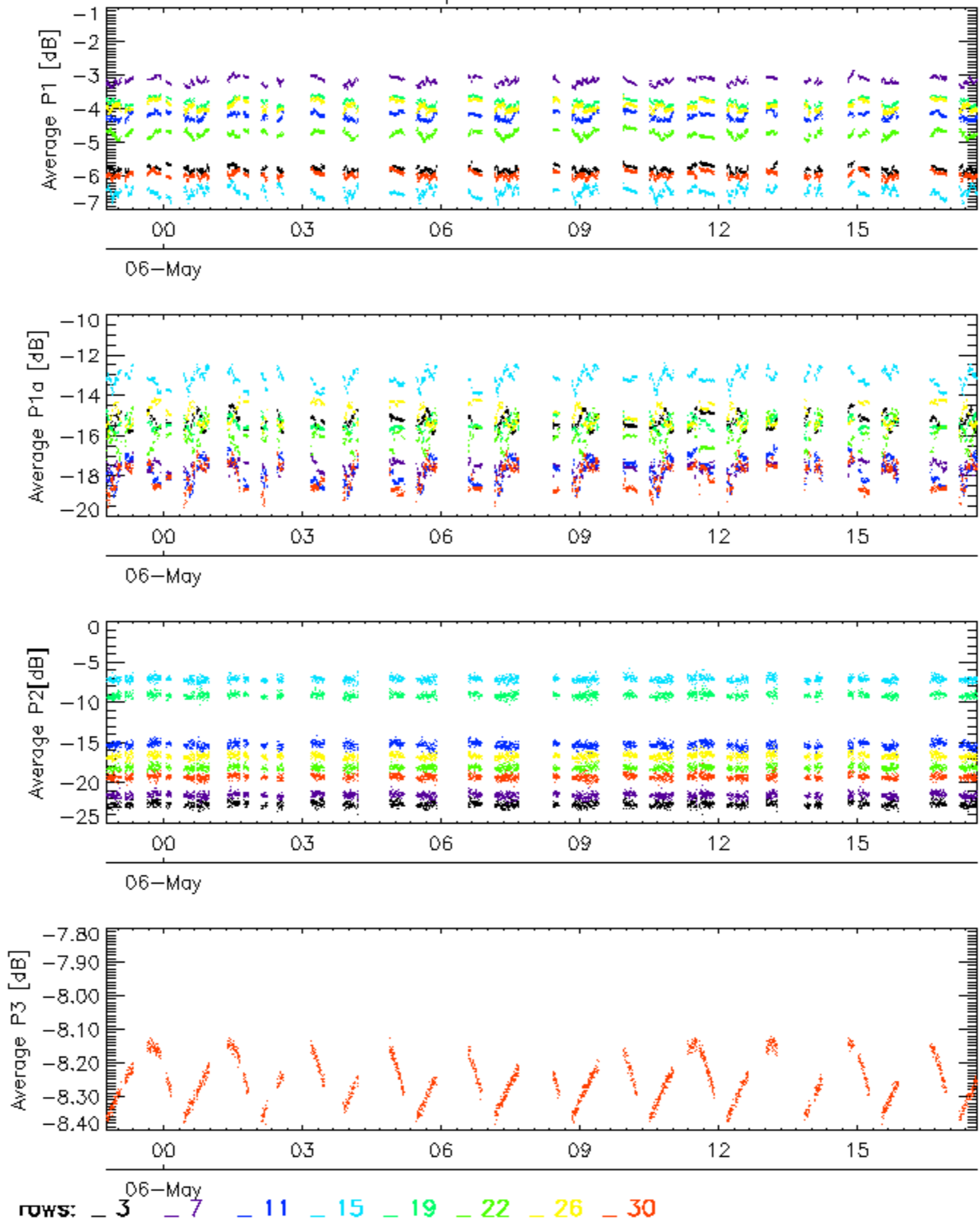


Cal pulses for WVS IS2

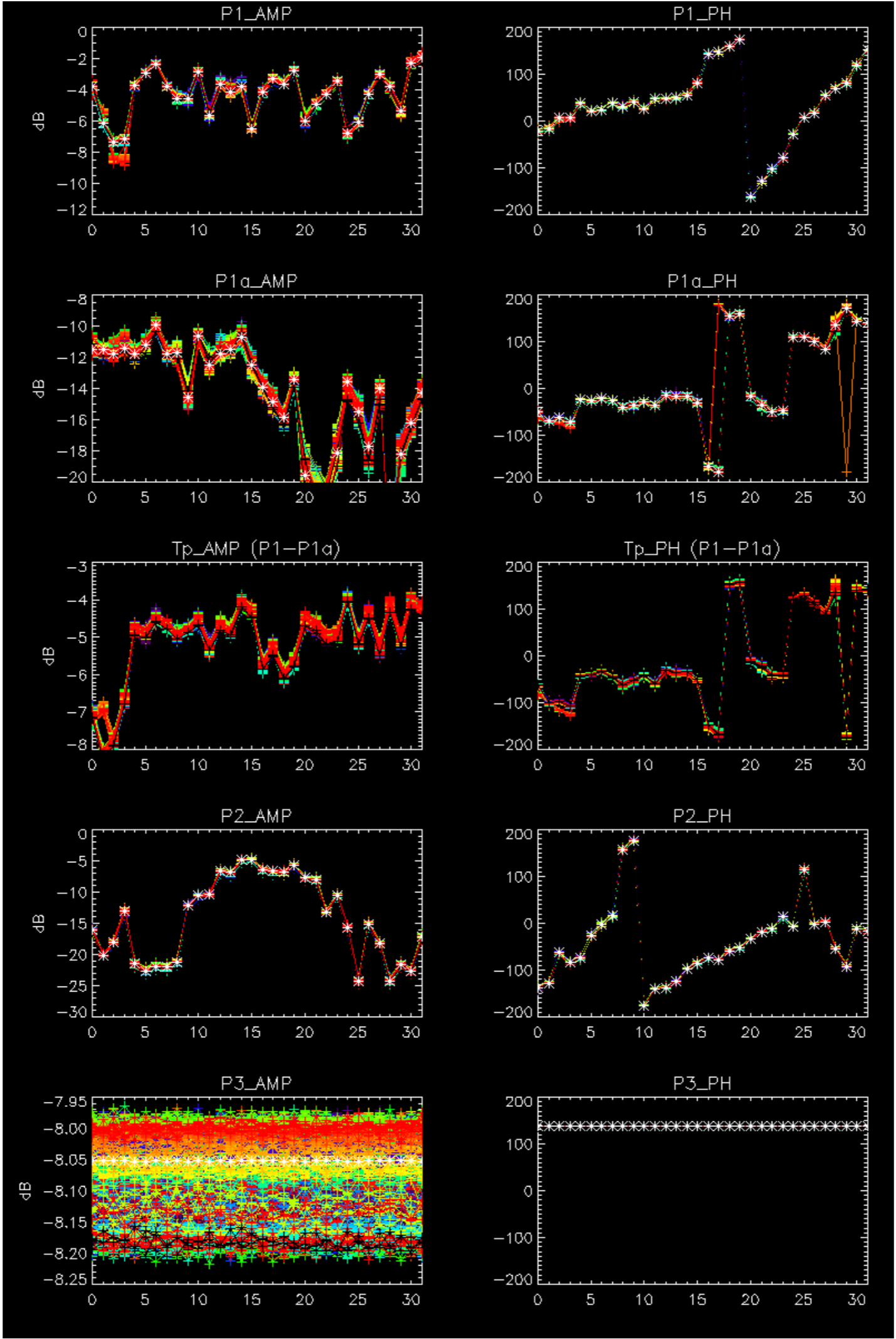


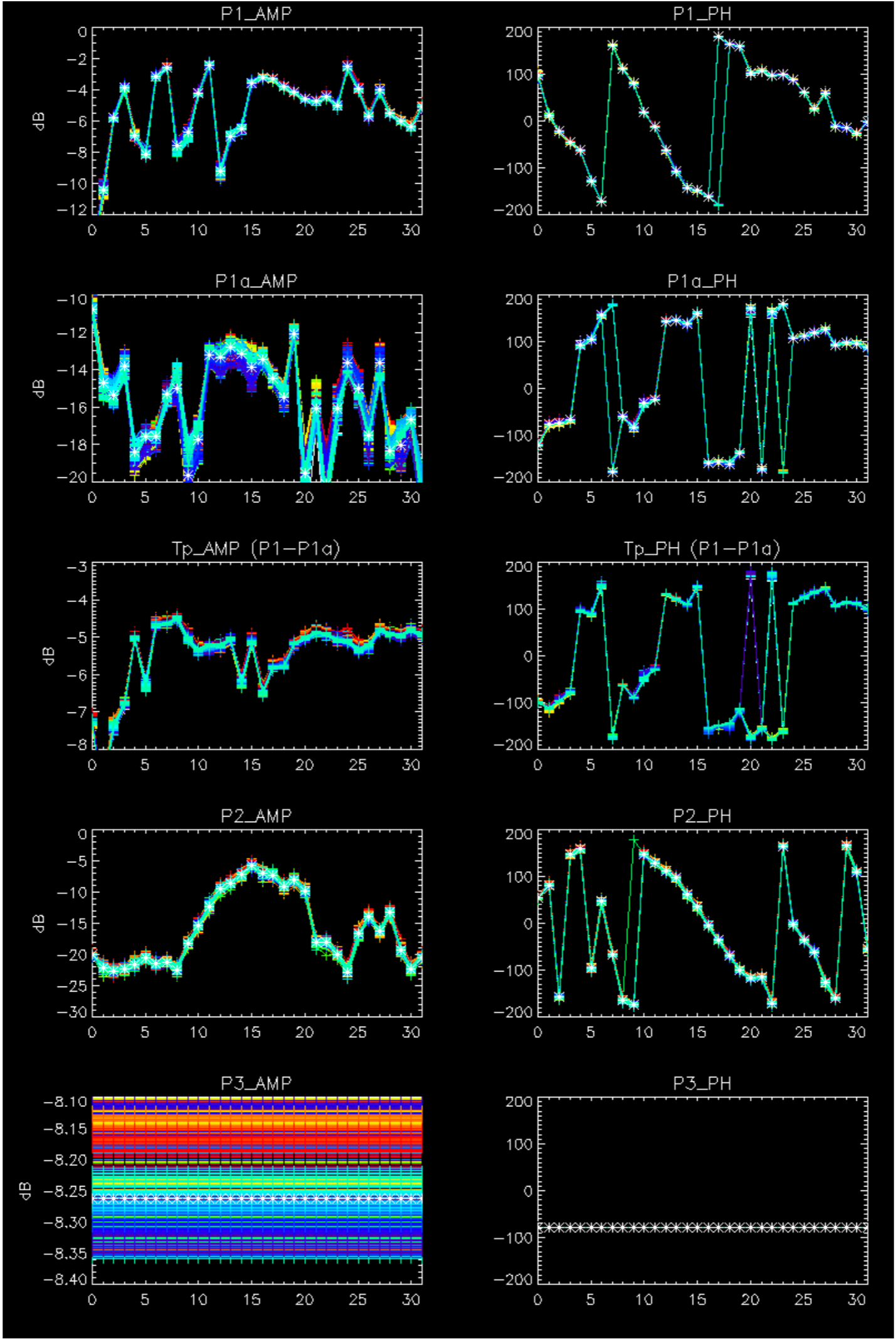
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



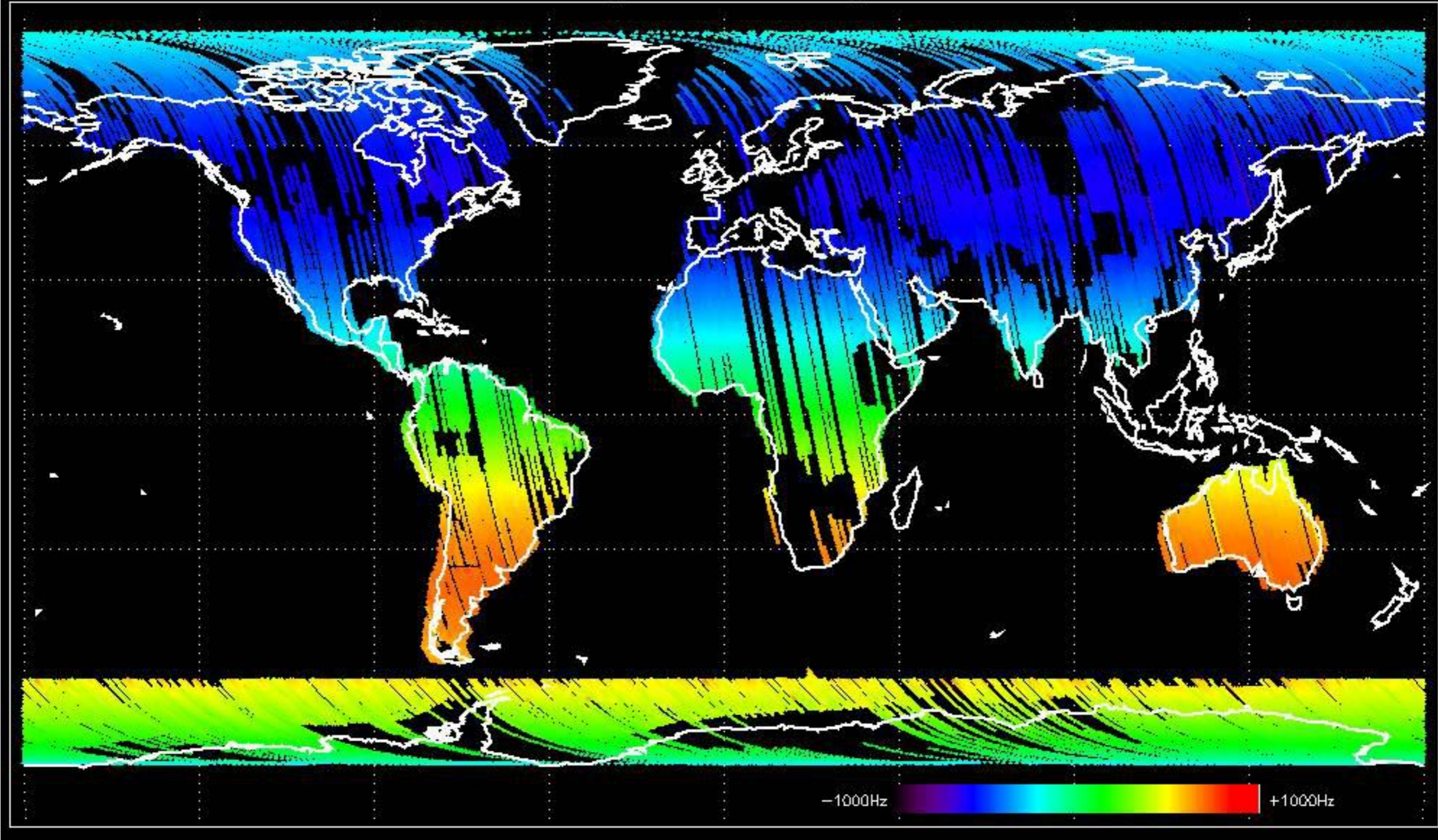
No anomalies observed.



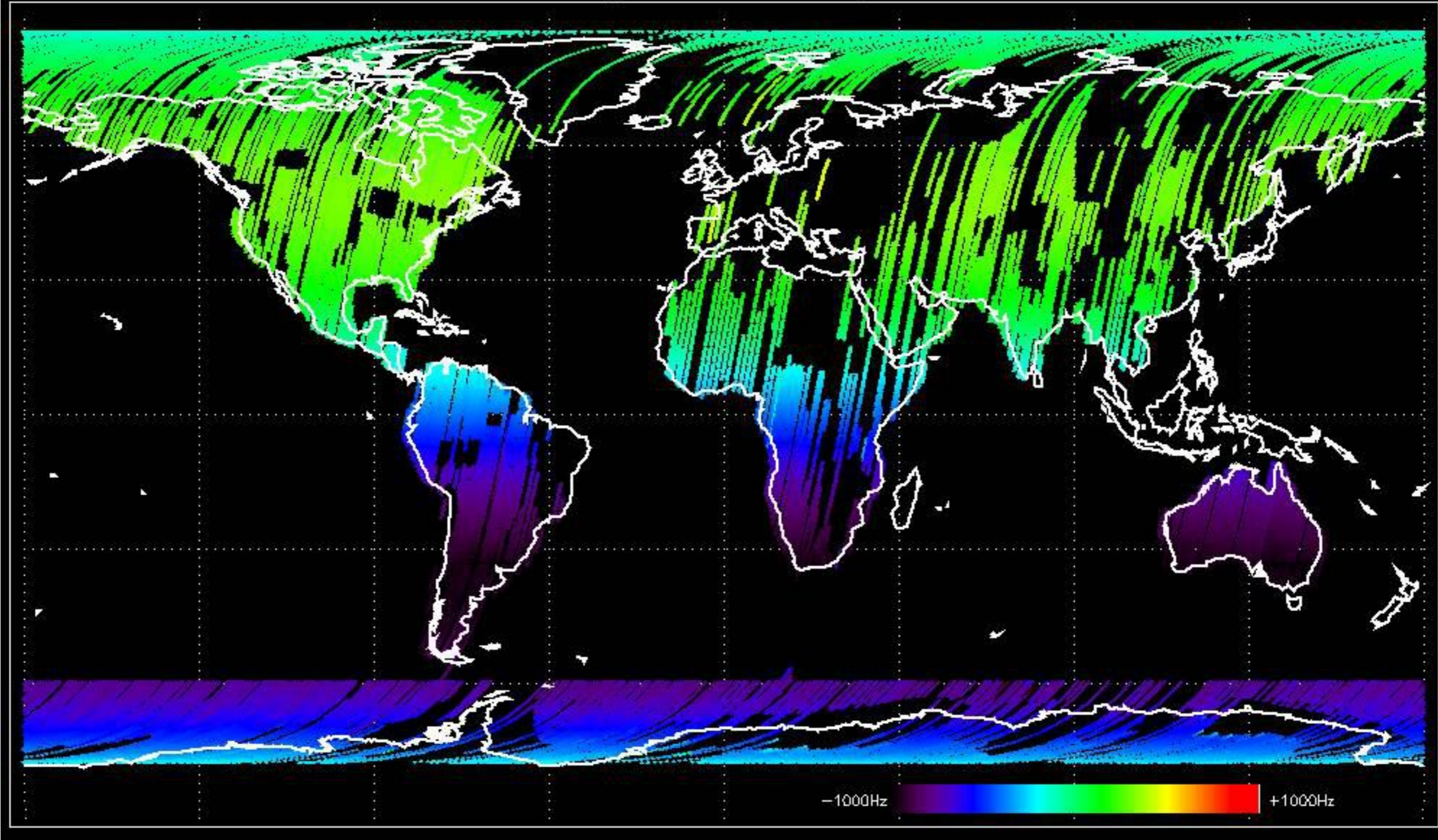


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

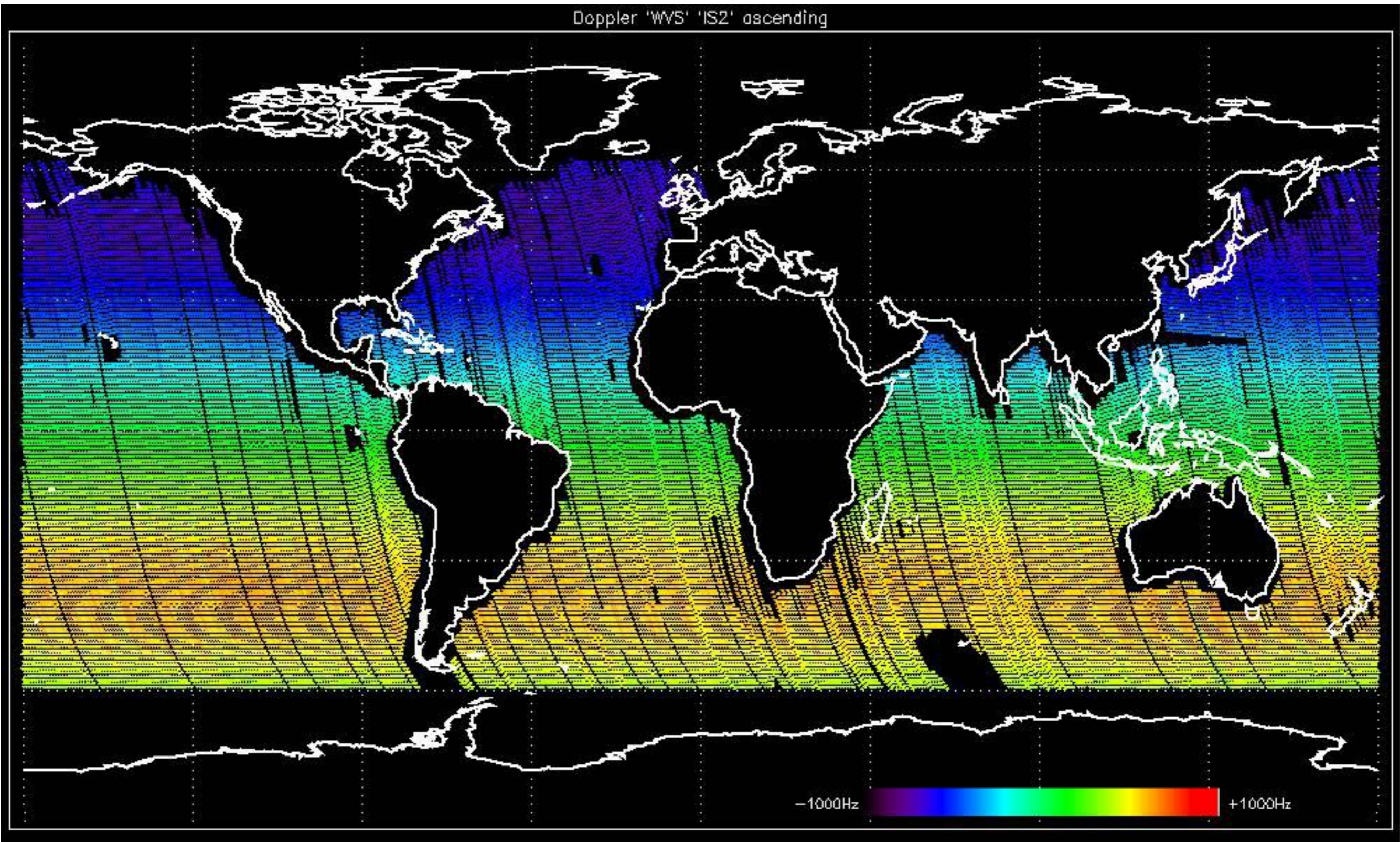
Doppler 'GM1' 'SS1' ascending



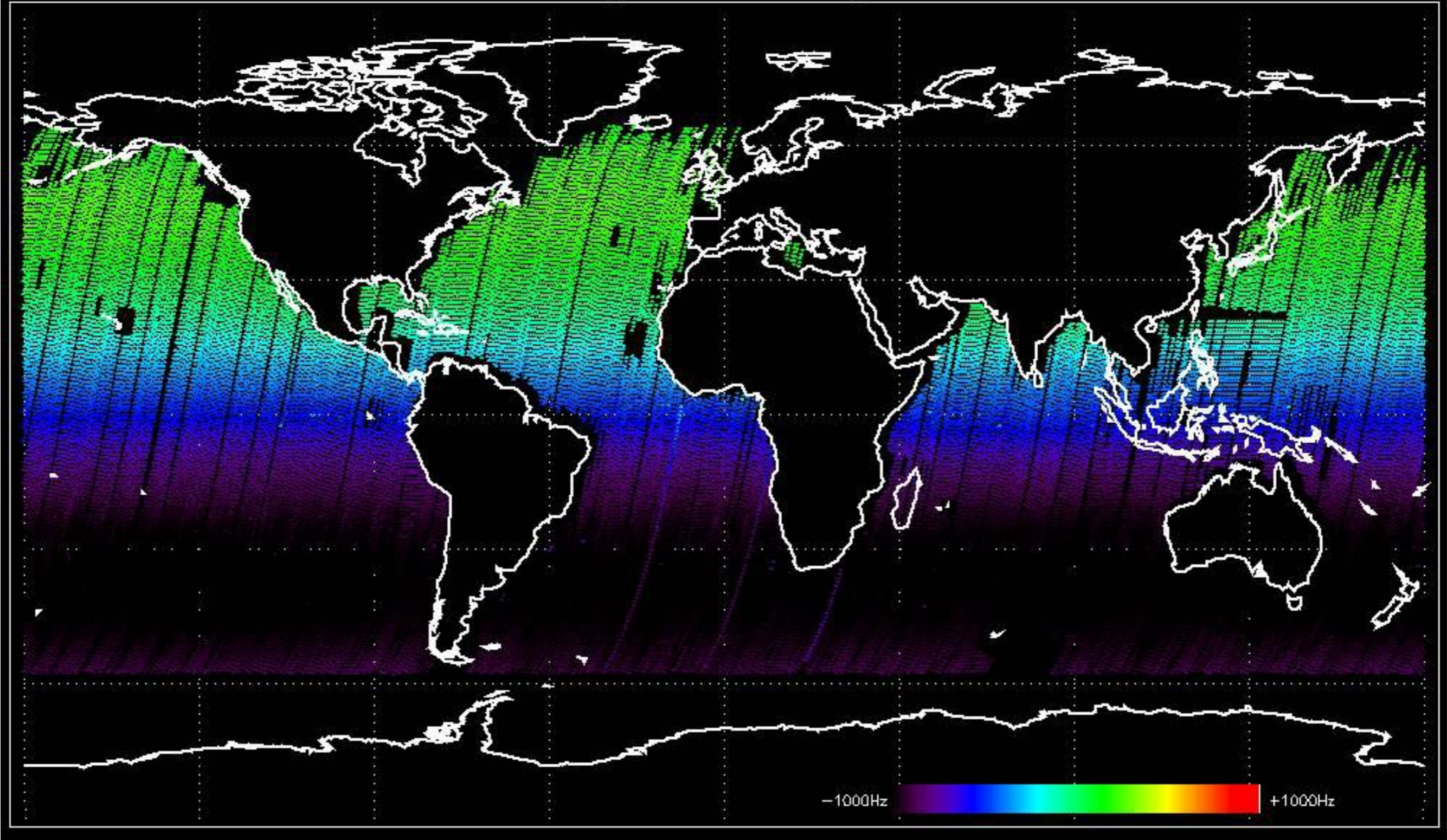
Doppler 'GM1' 'SS1' descending



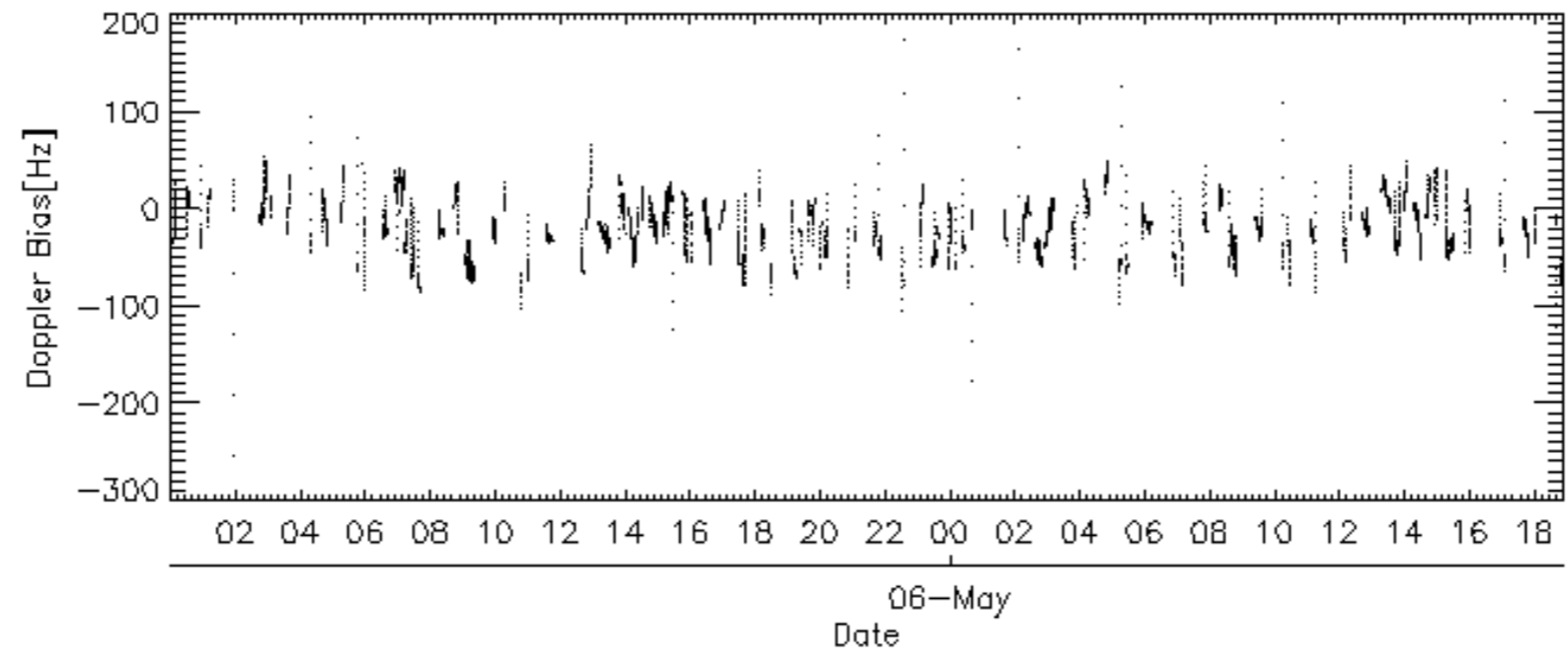
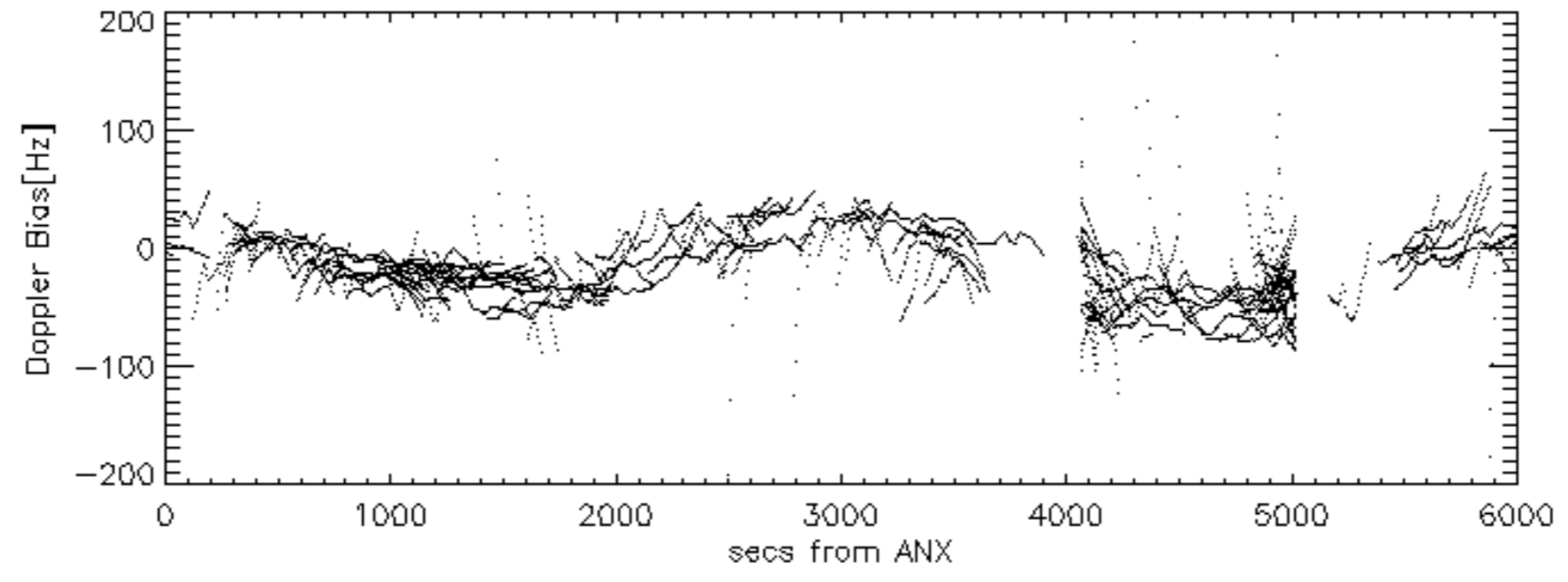
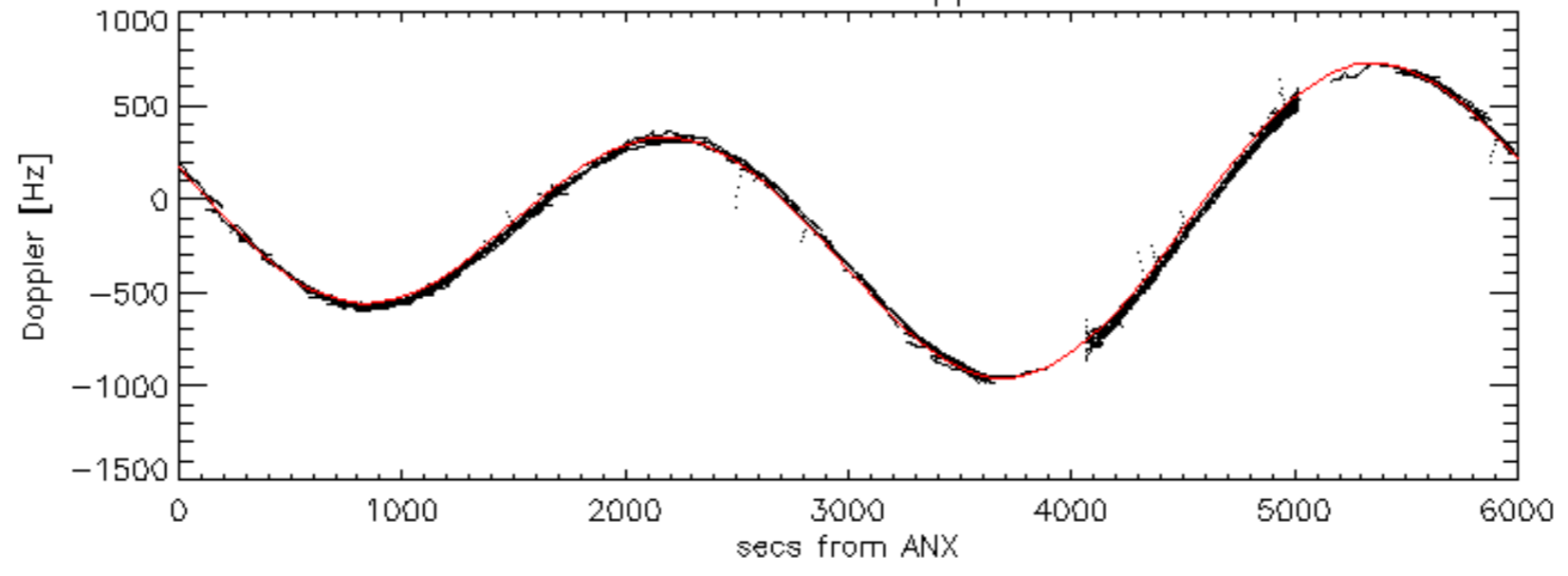
Doppler 'WVS' 'IS2' ascending

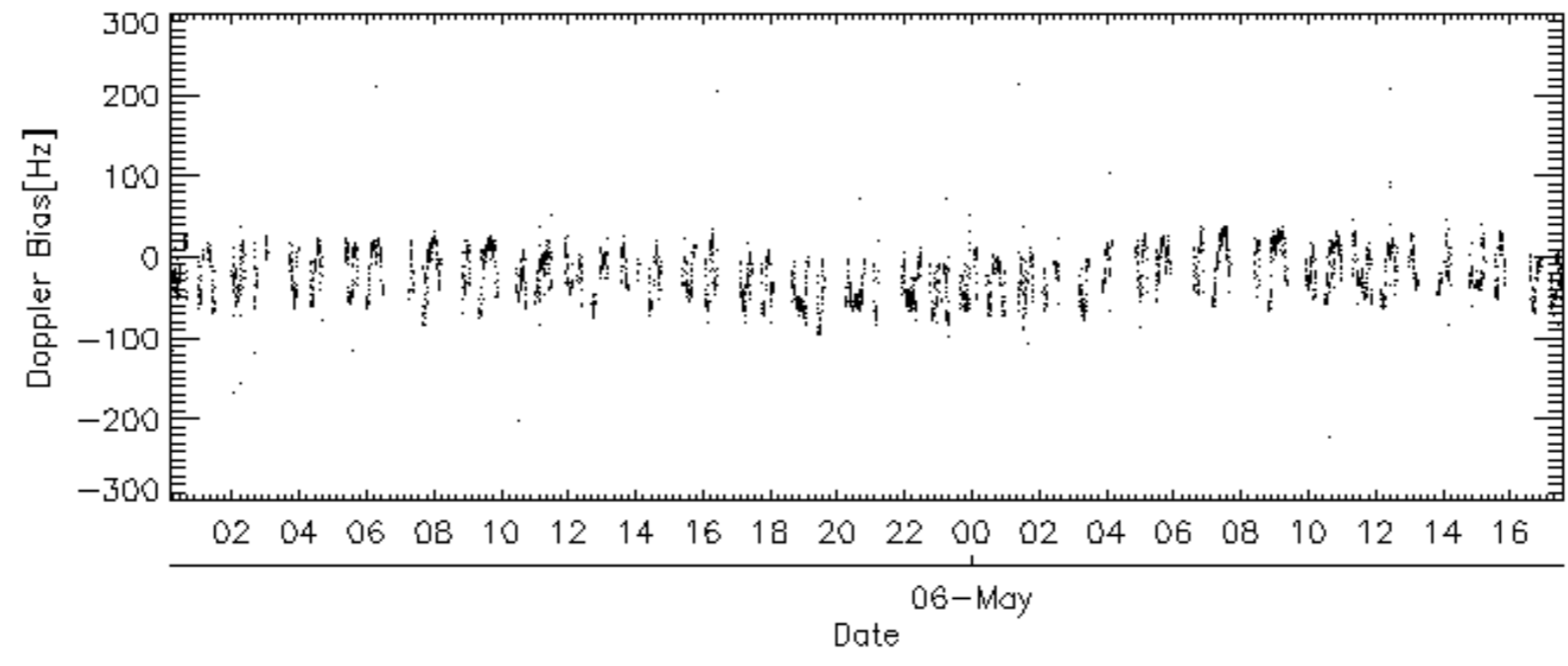
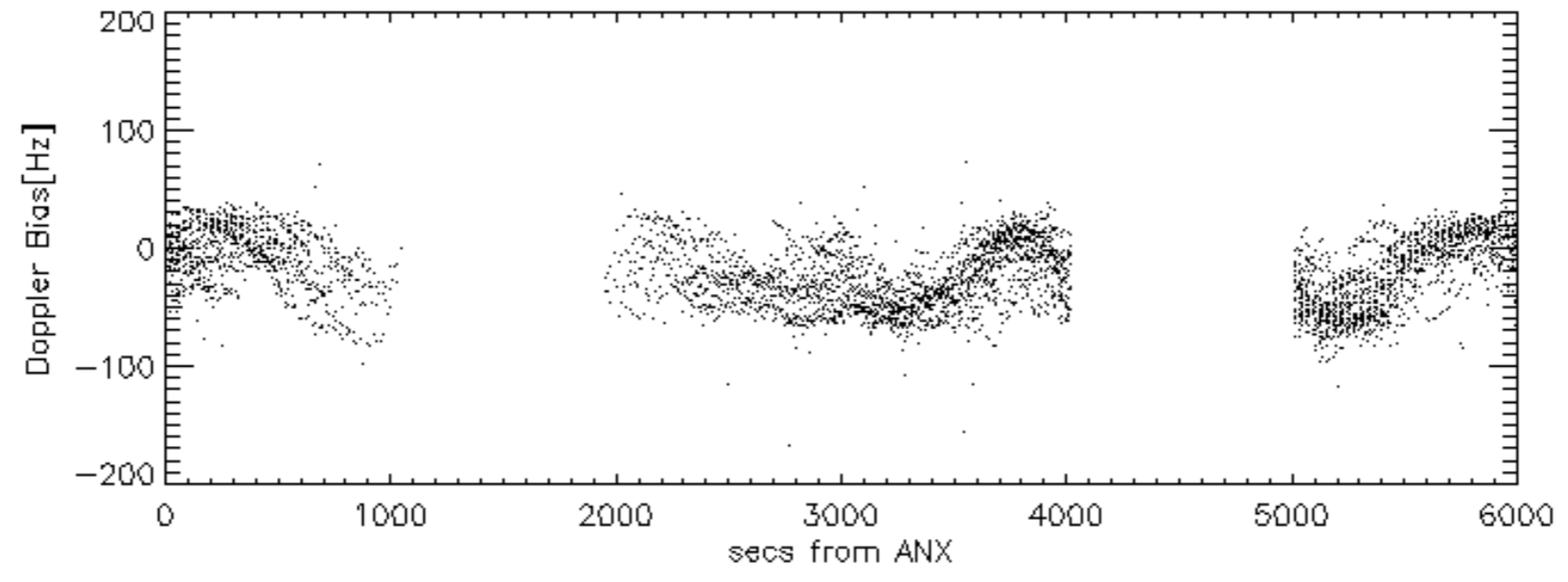
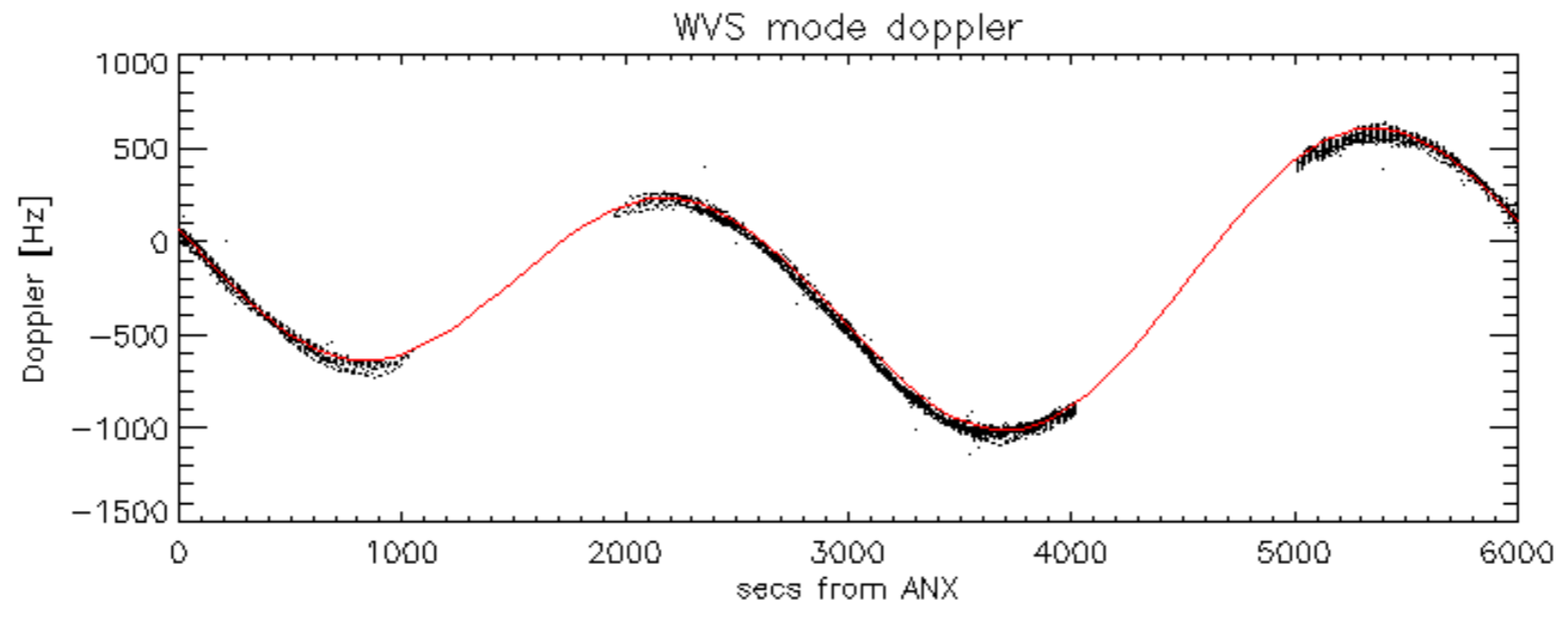


Doppler 'WVS' 'IS2' descending

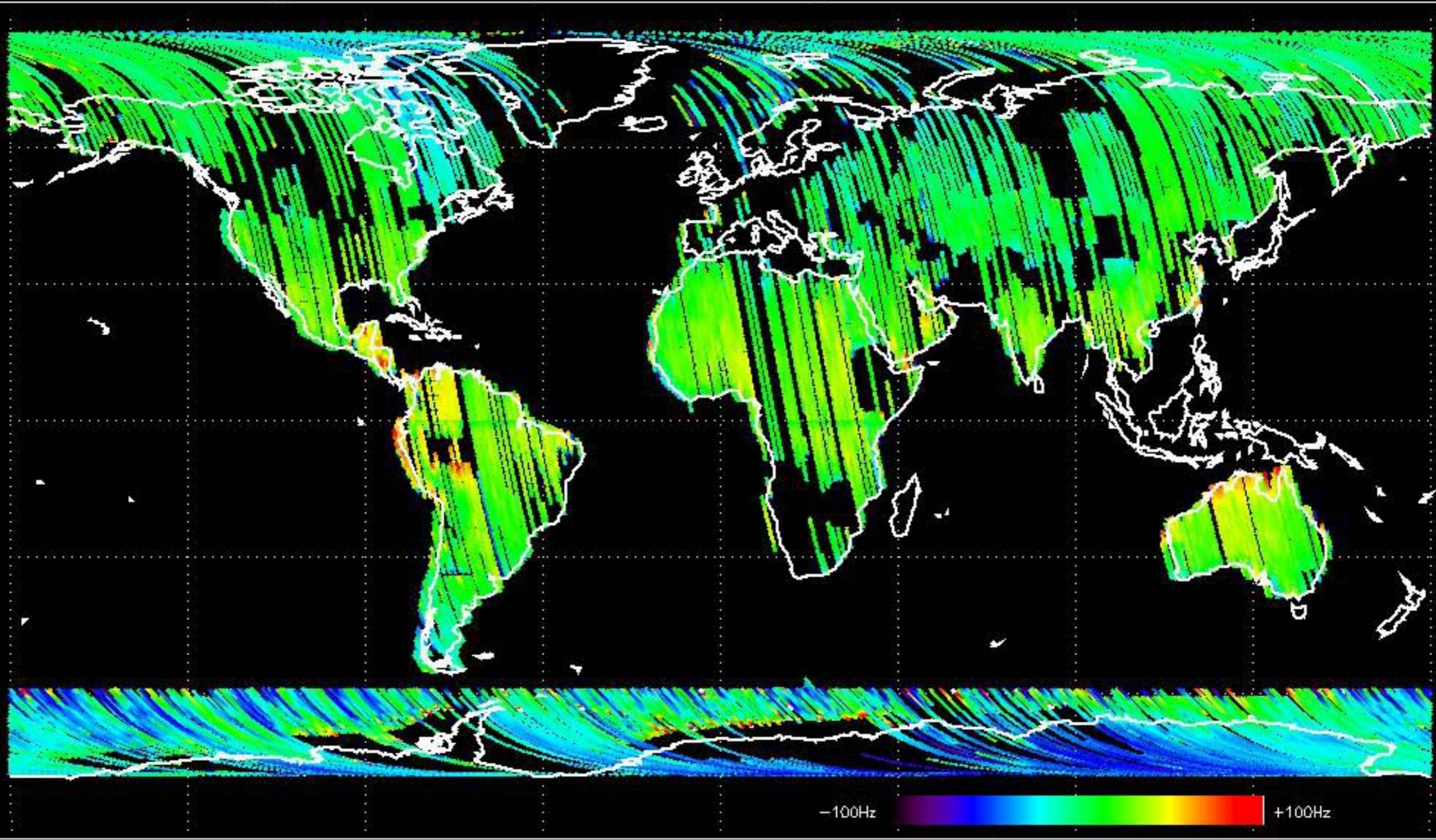


GM1 mode doppler

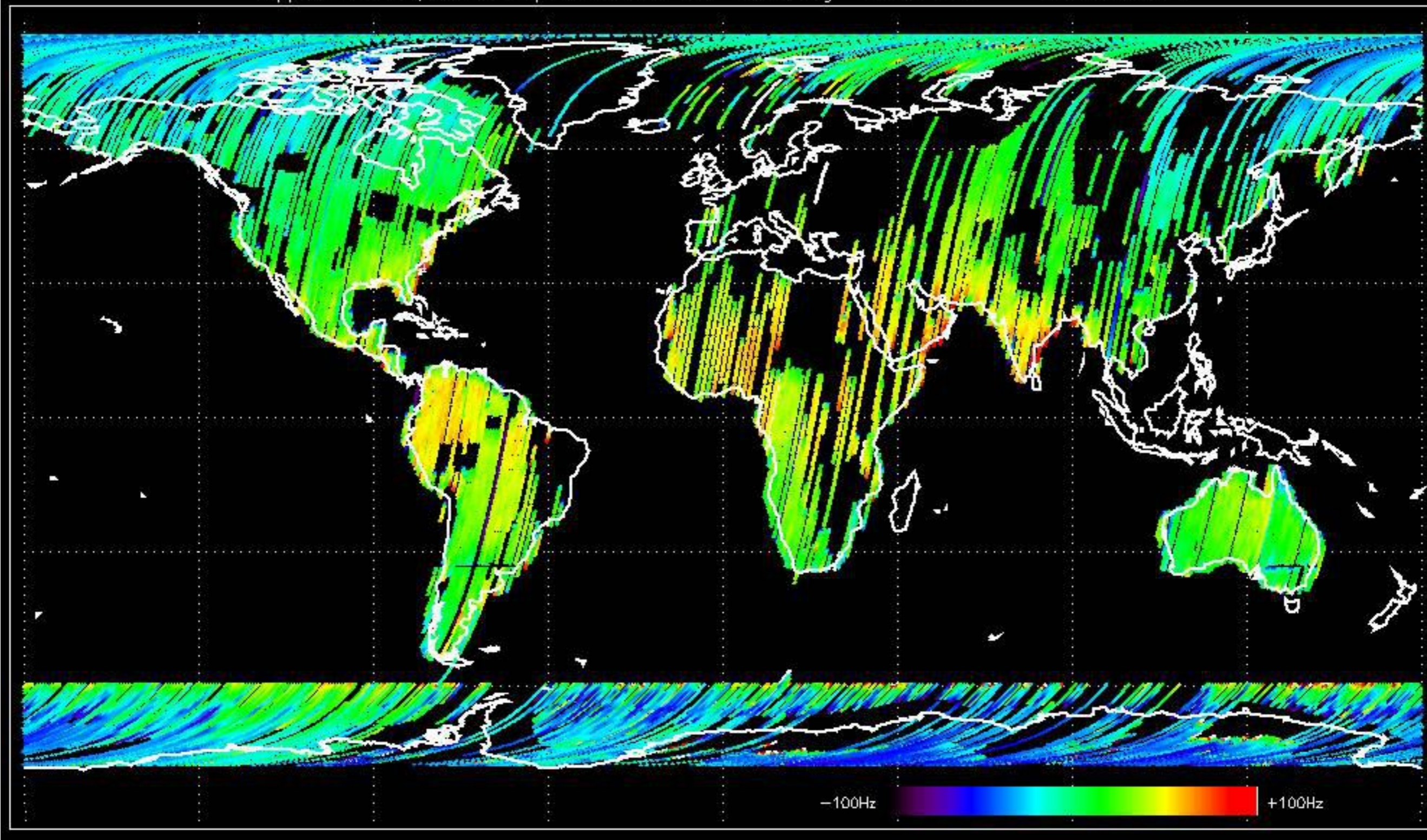




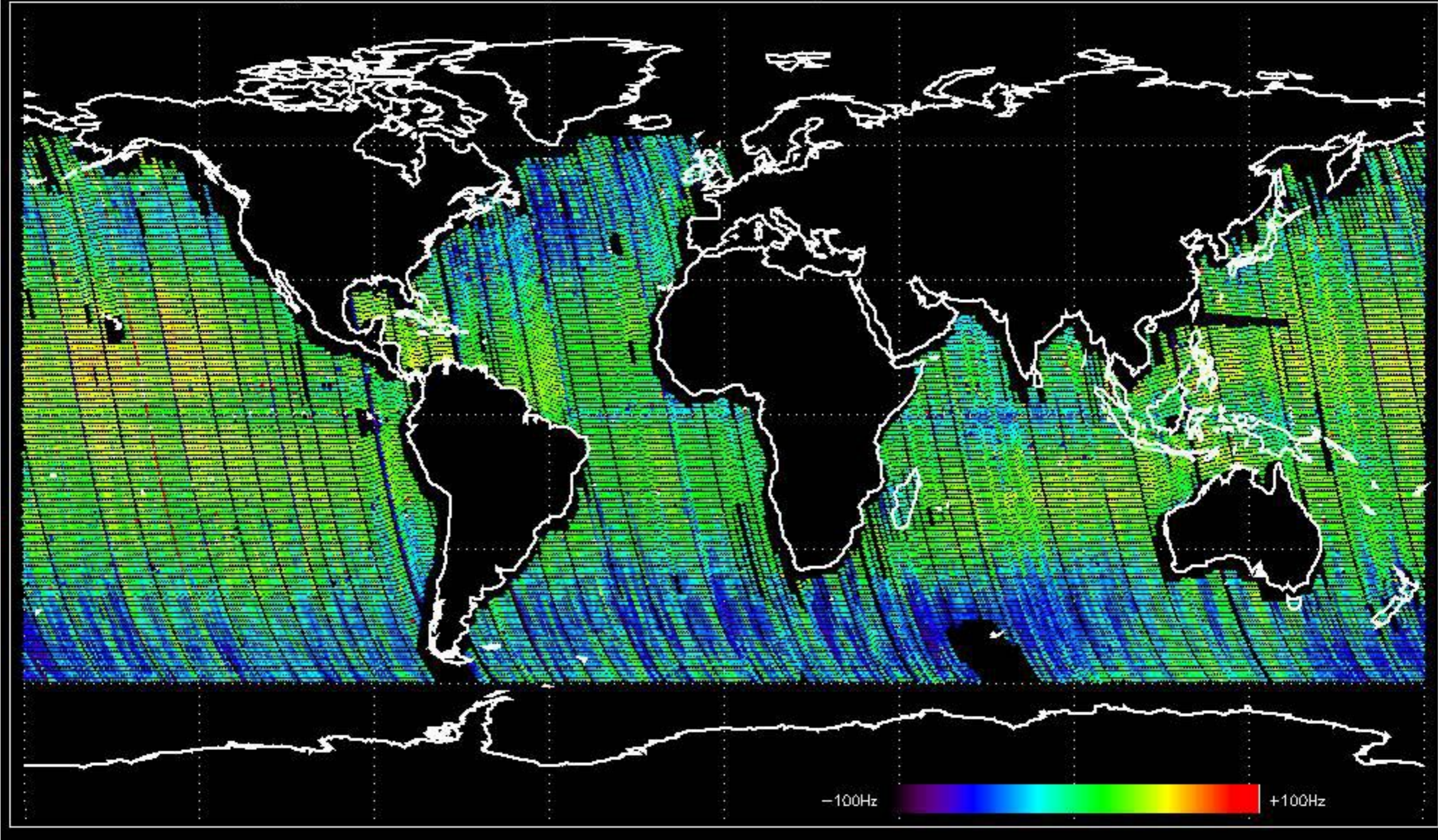
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -24.691280 Hz



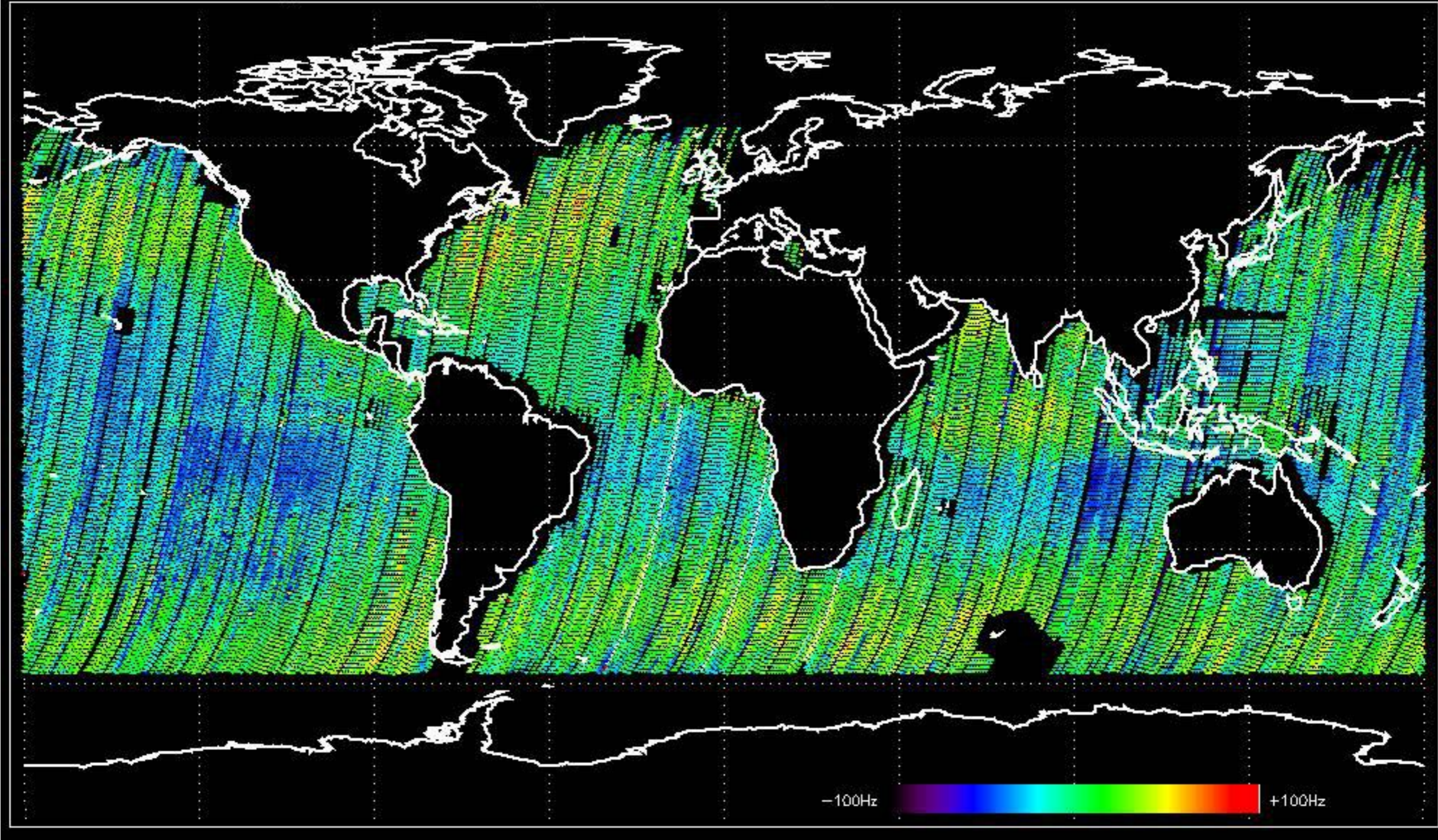
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -16.527599 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -18.958573 Hz

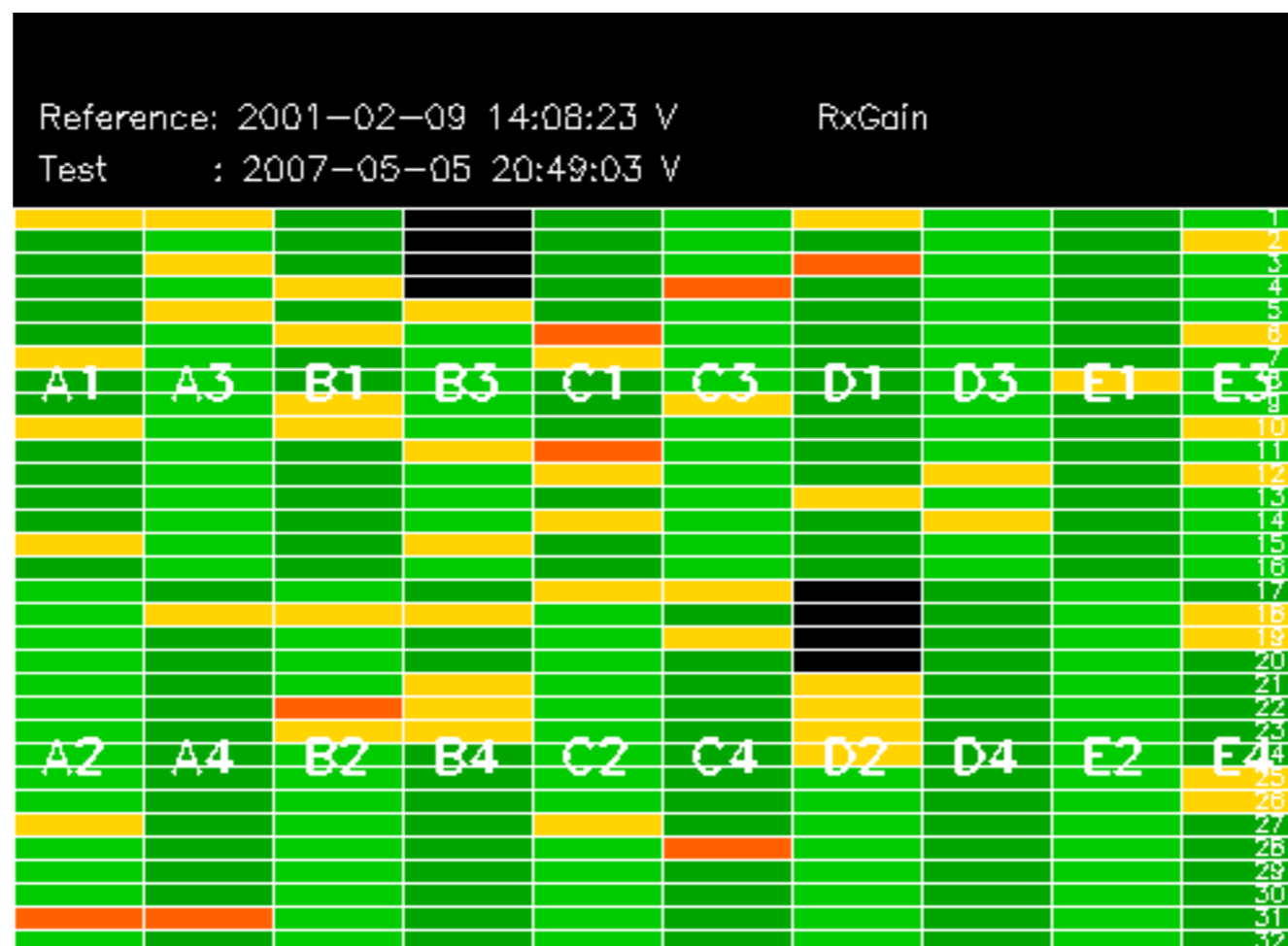


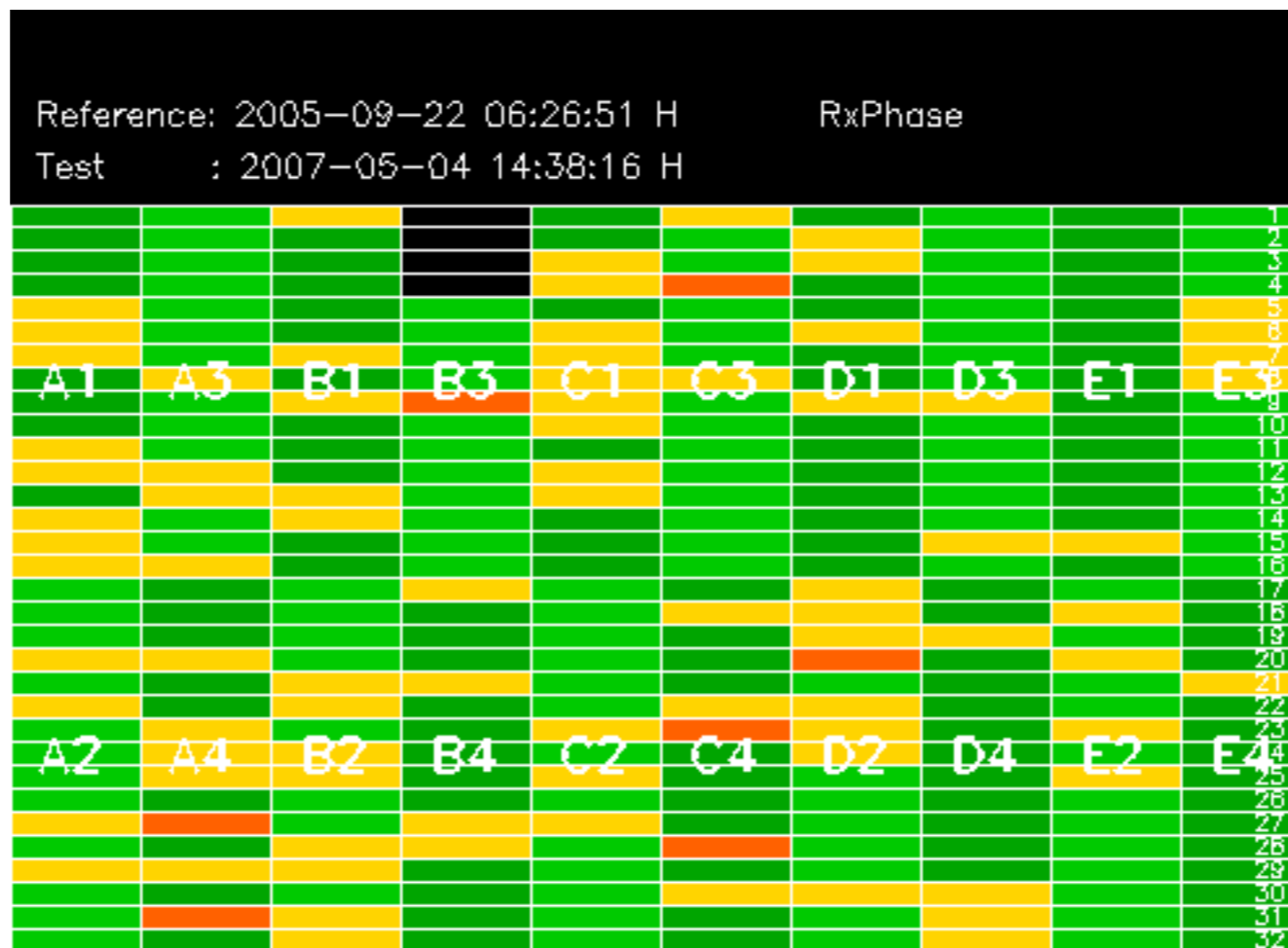
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -21.663259 Hz

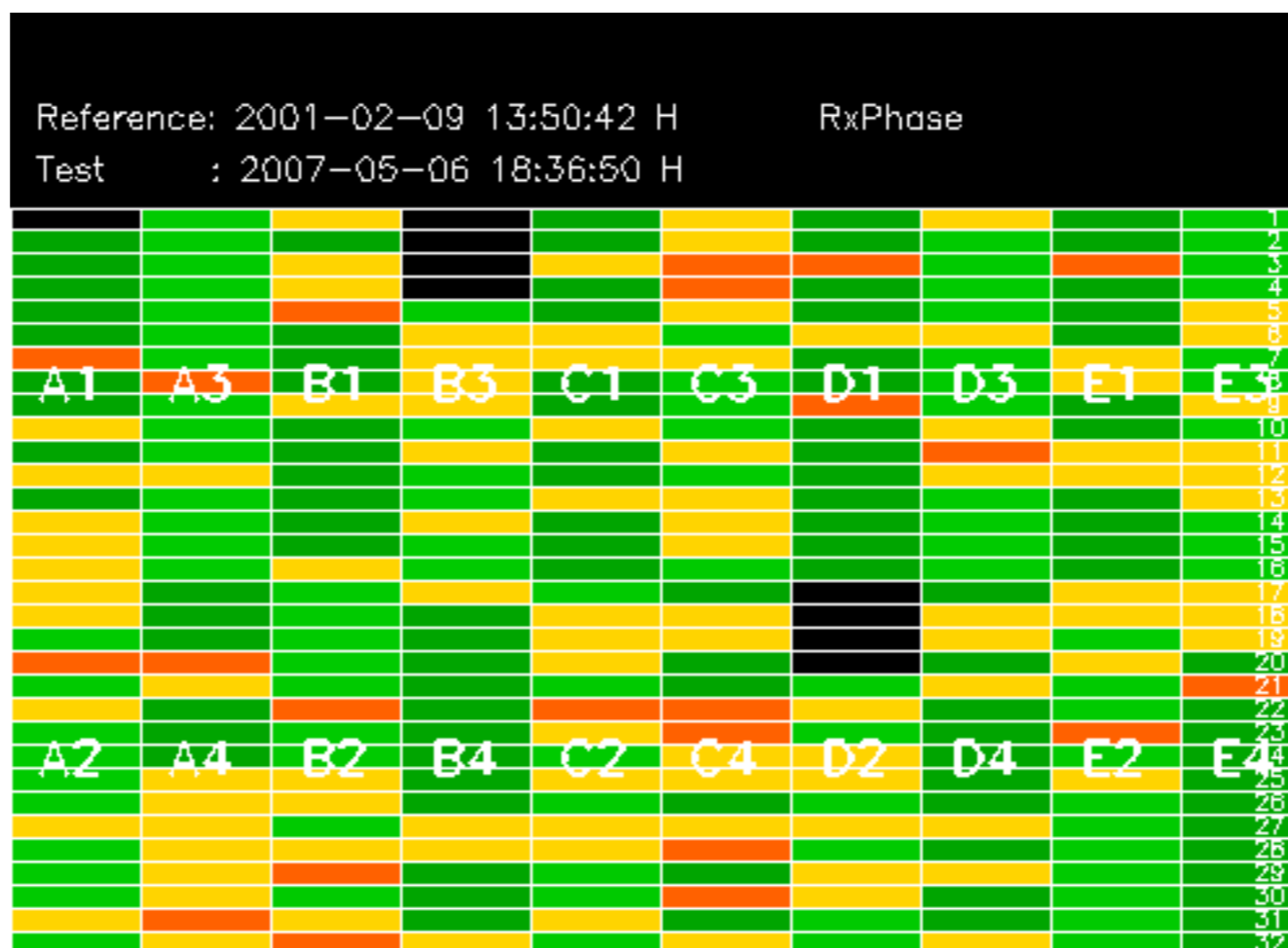


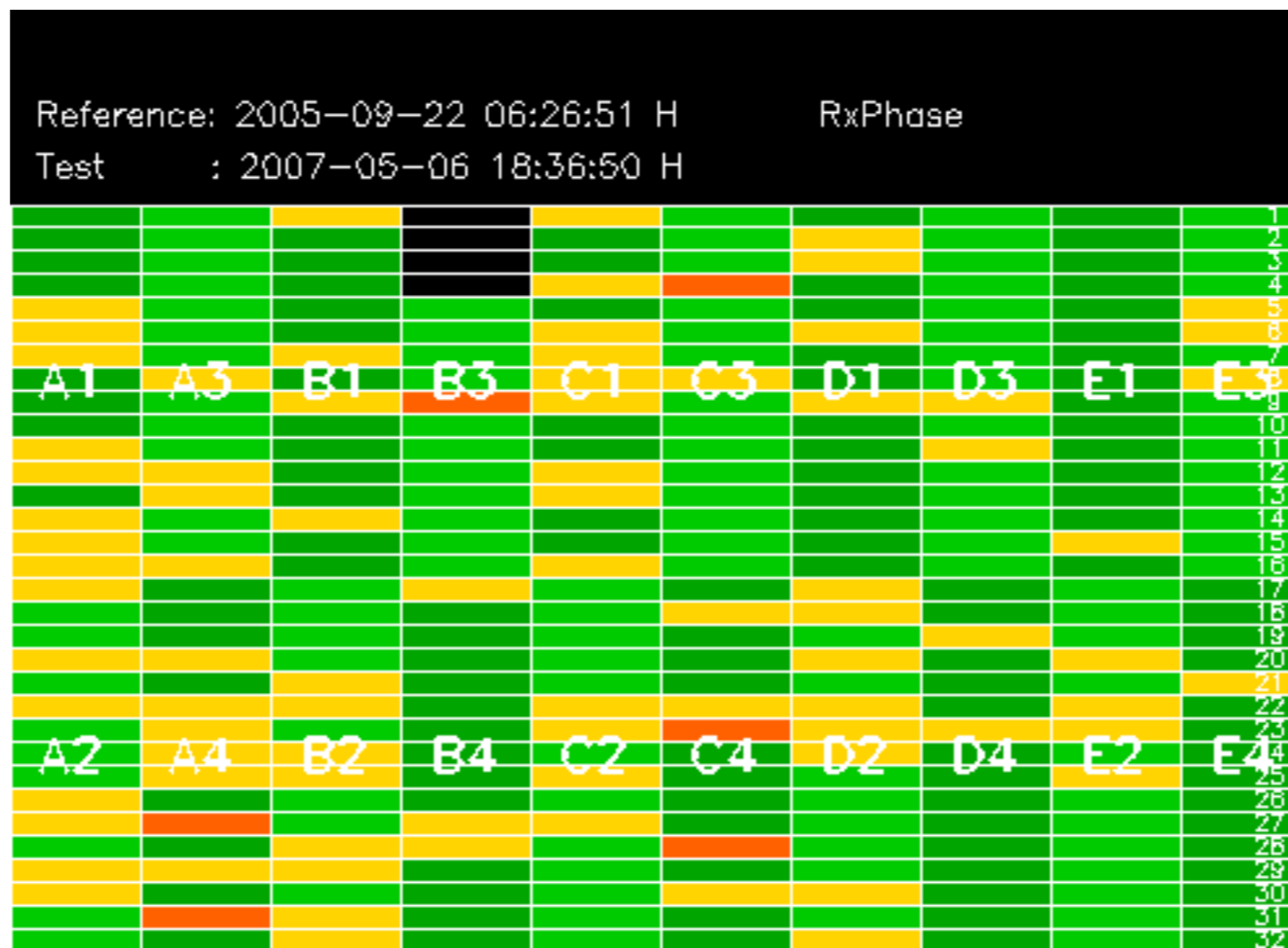
No anomalies observed on available MS products:

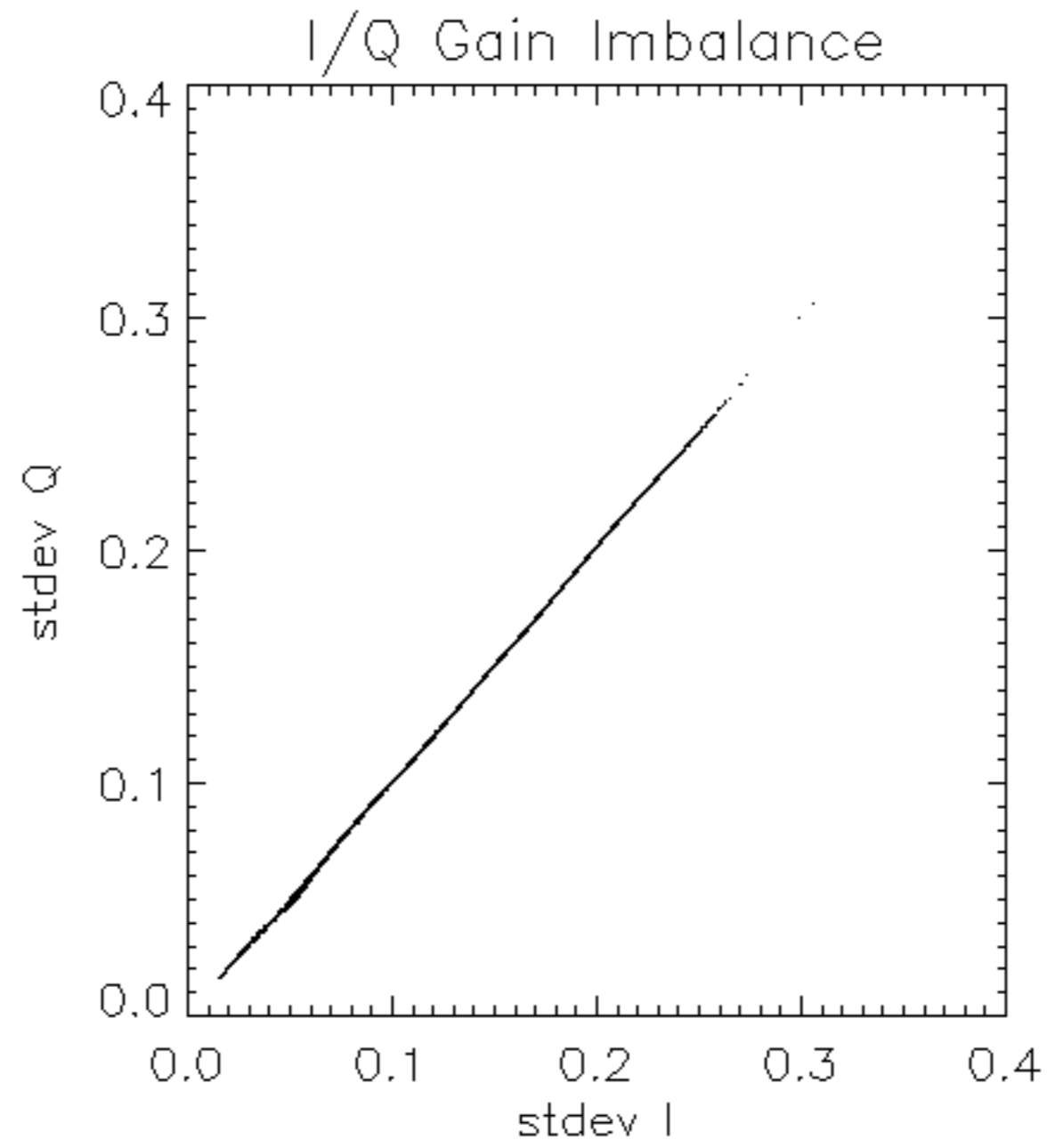
No anomalies observed.

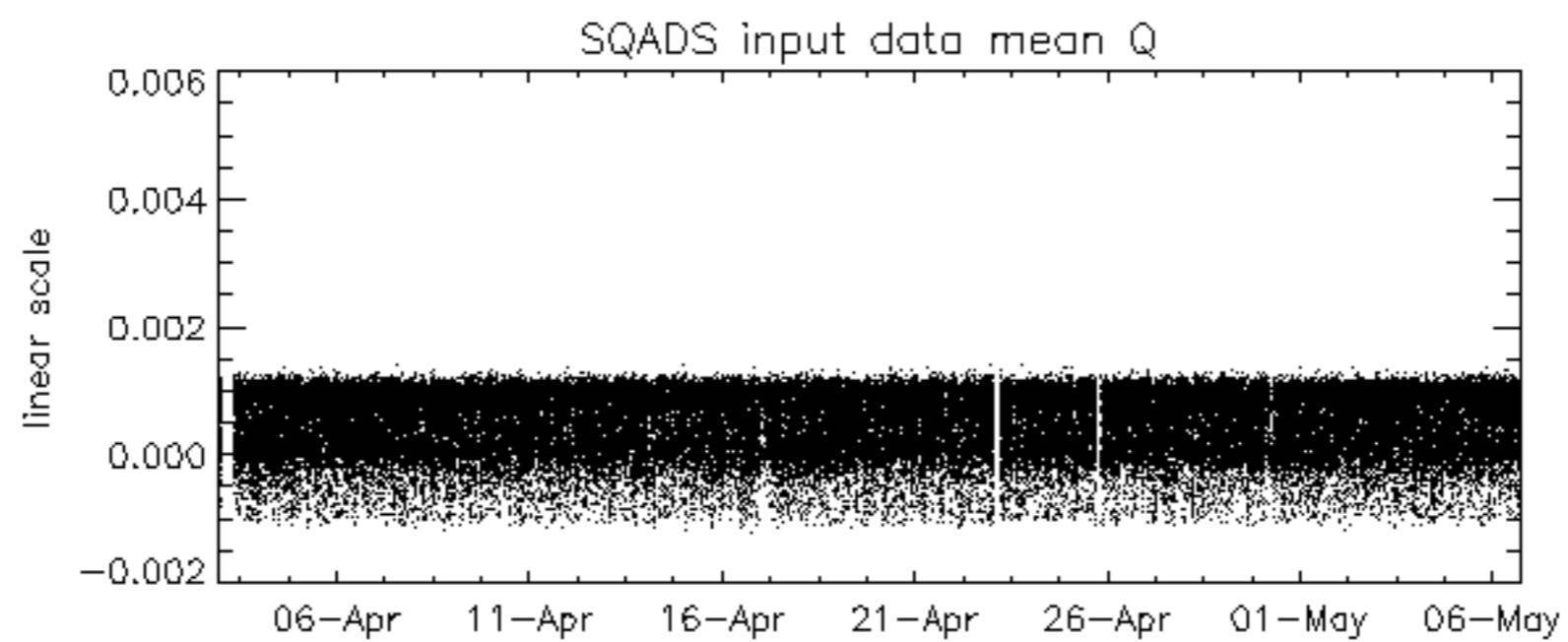
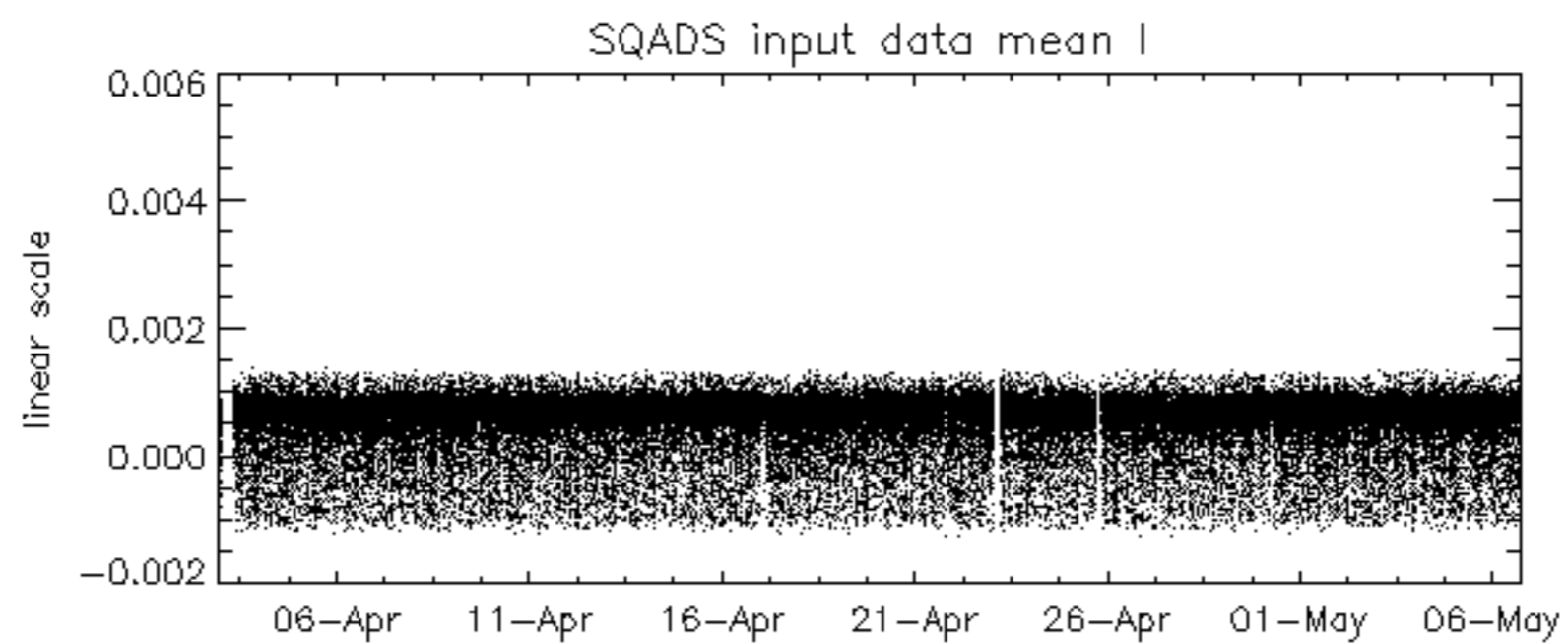
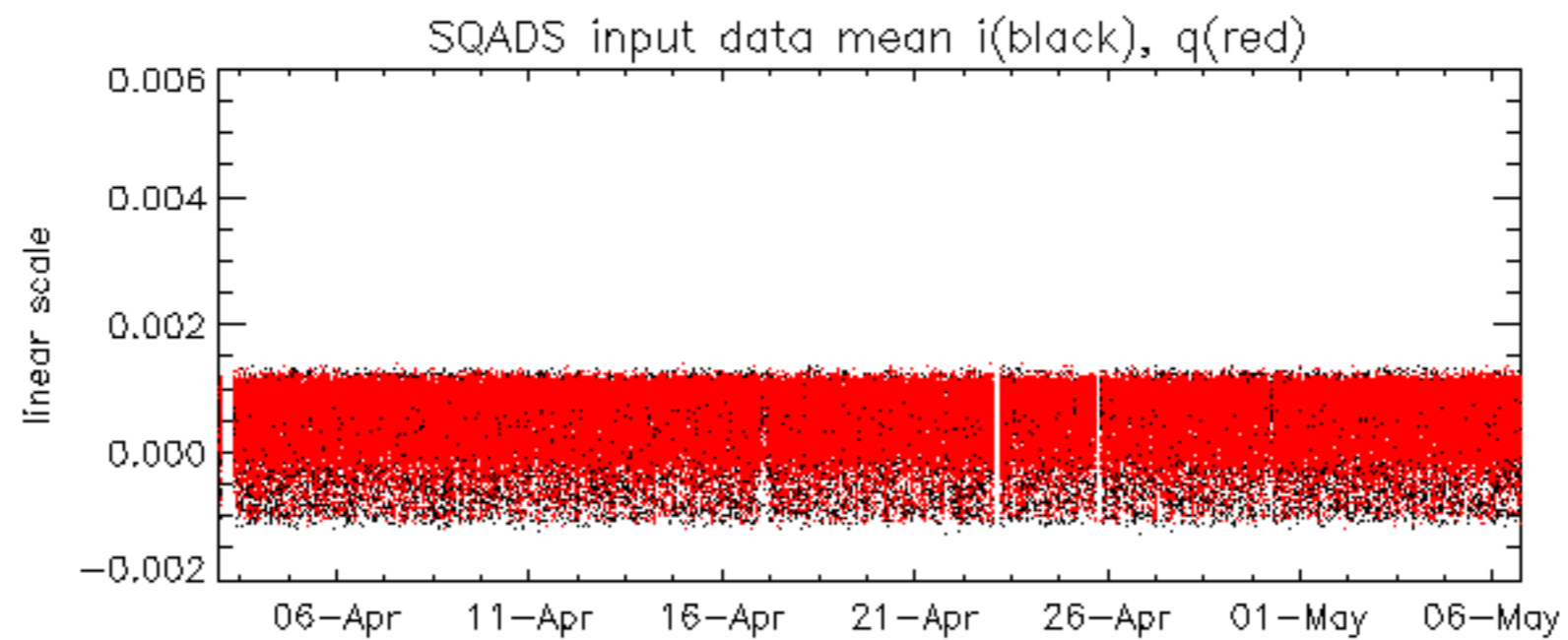


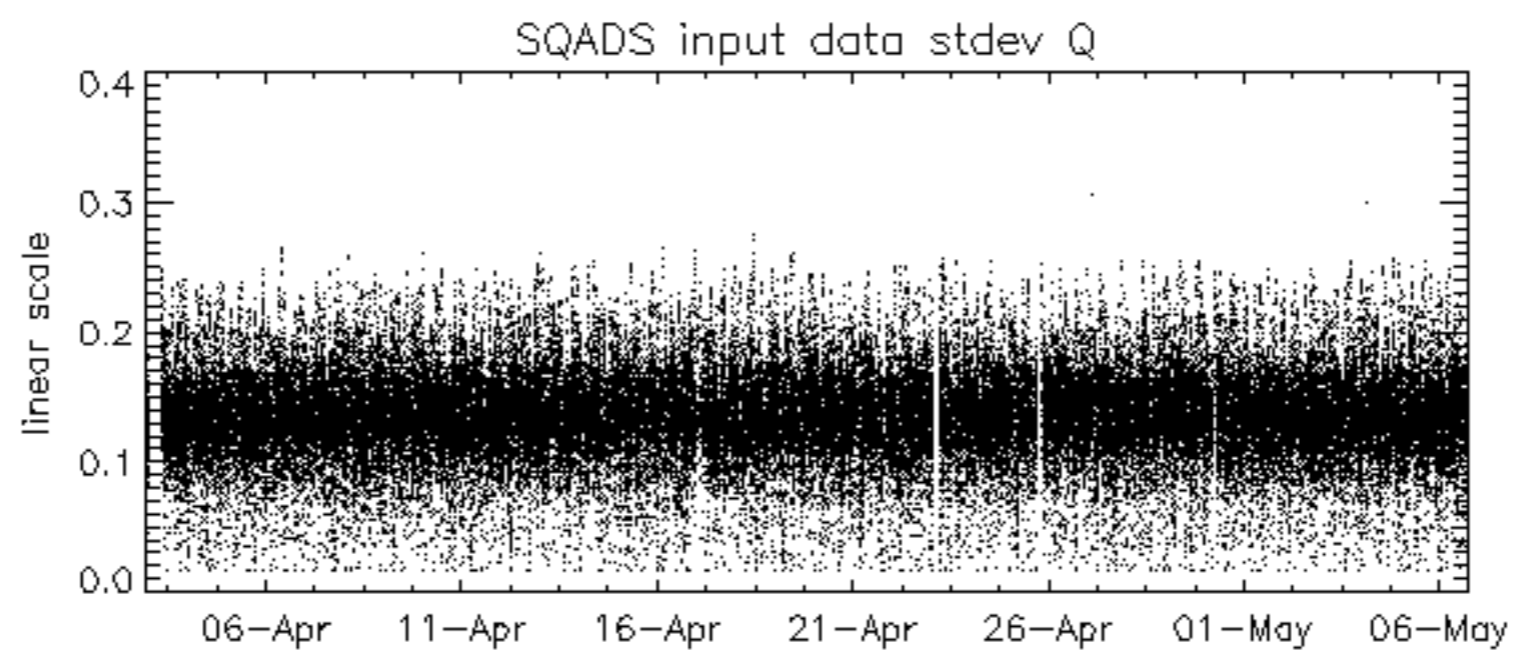
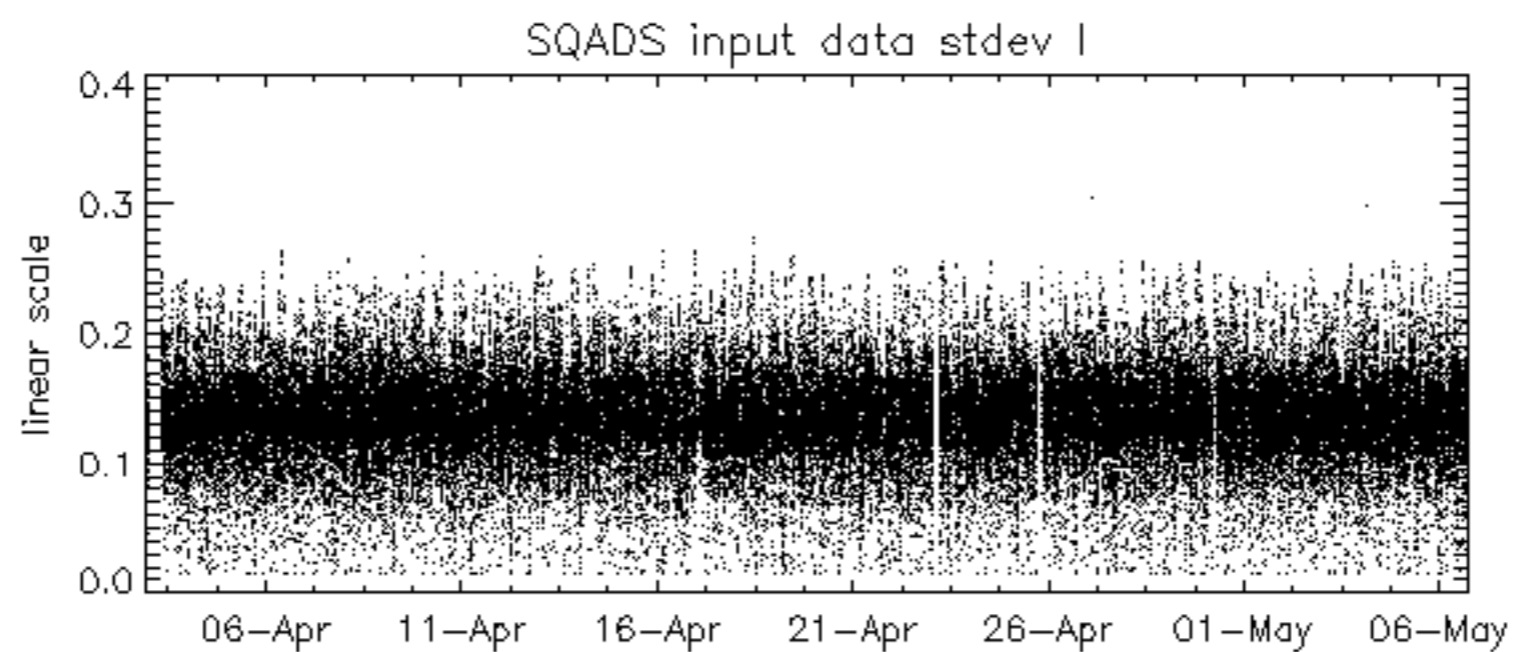
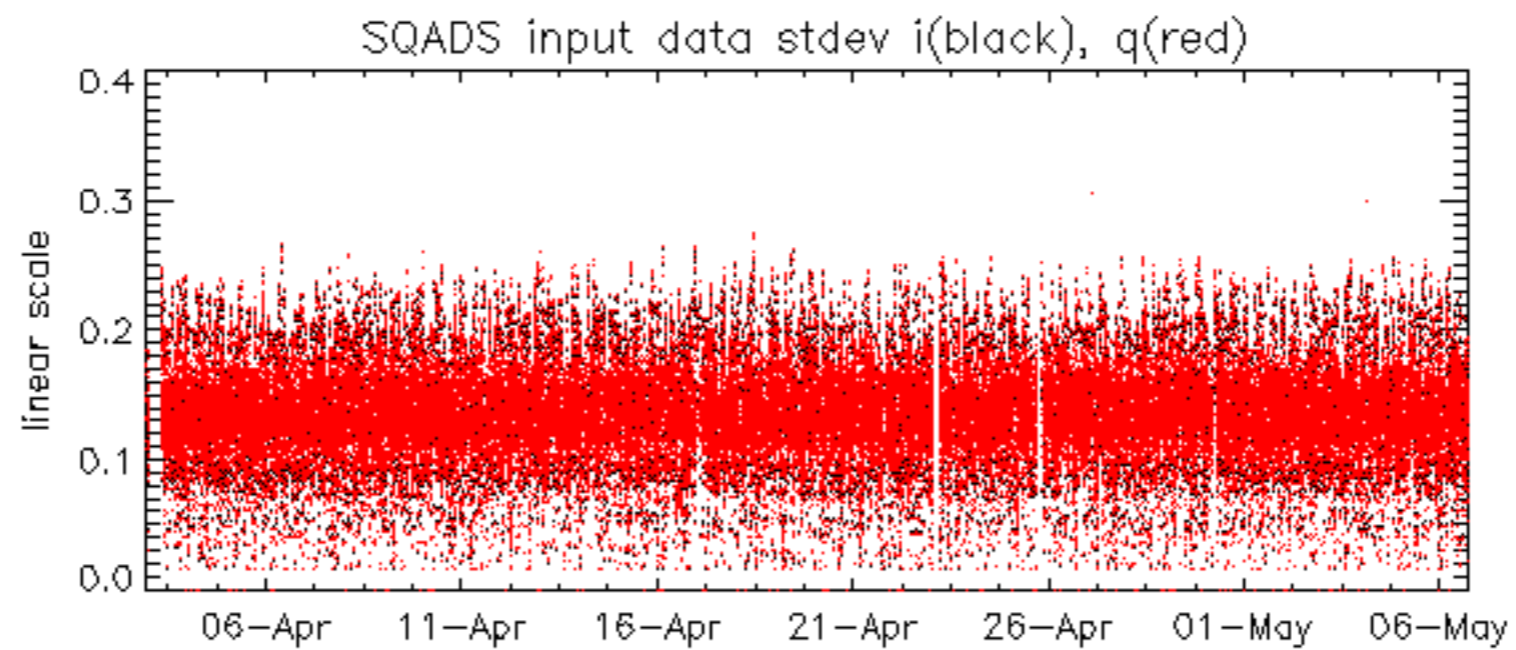








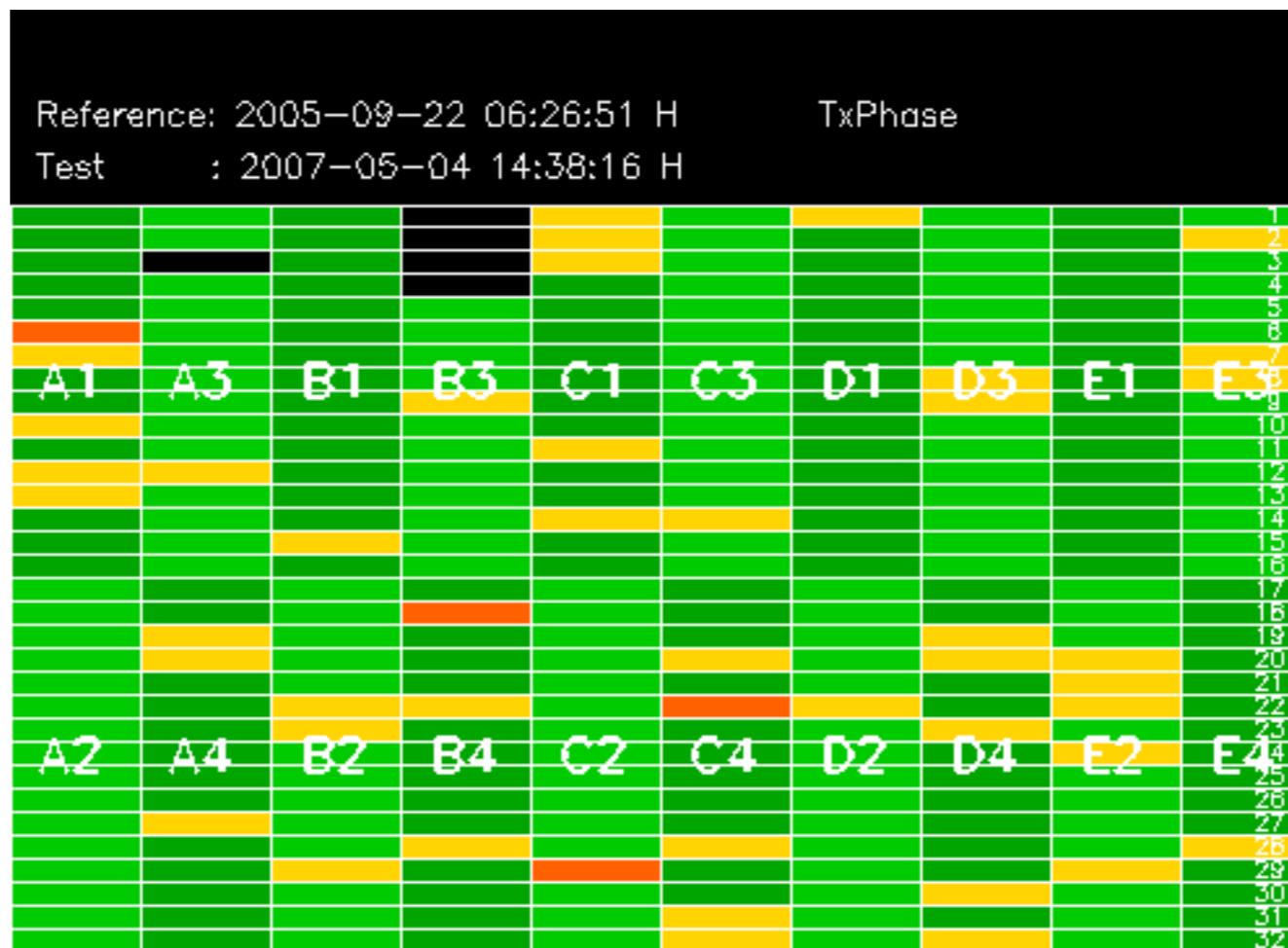


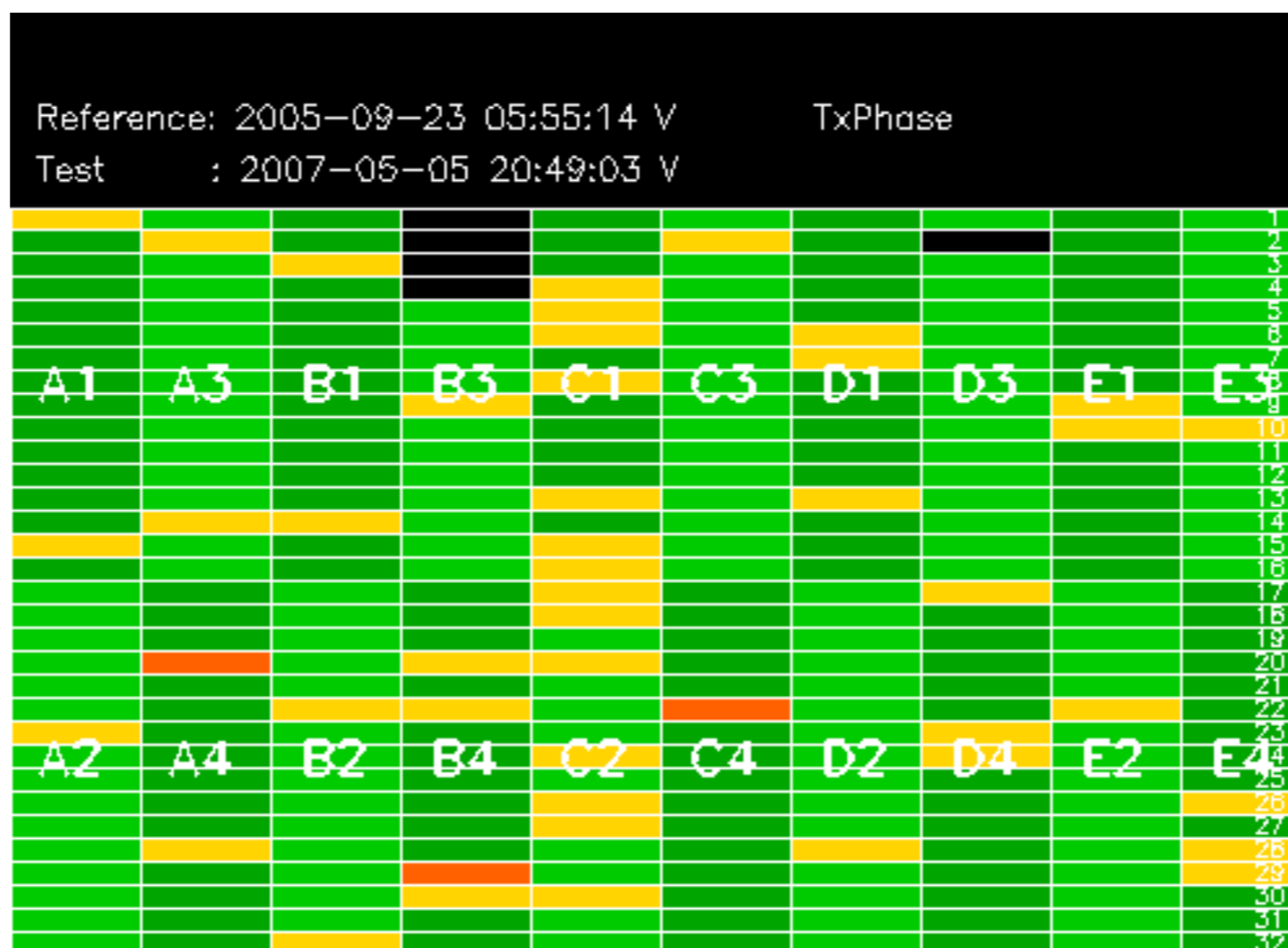


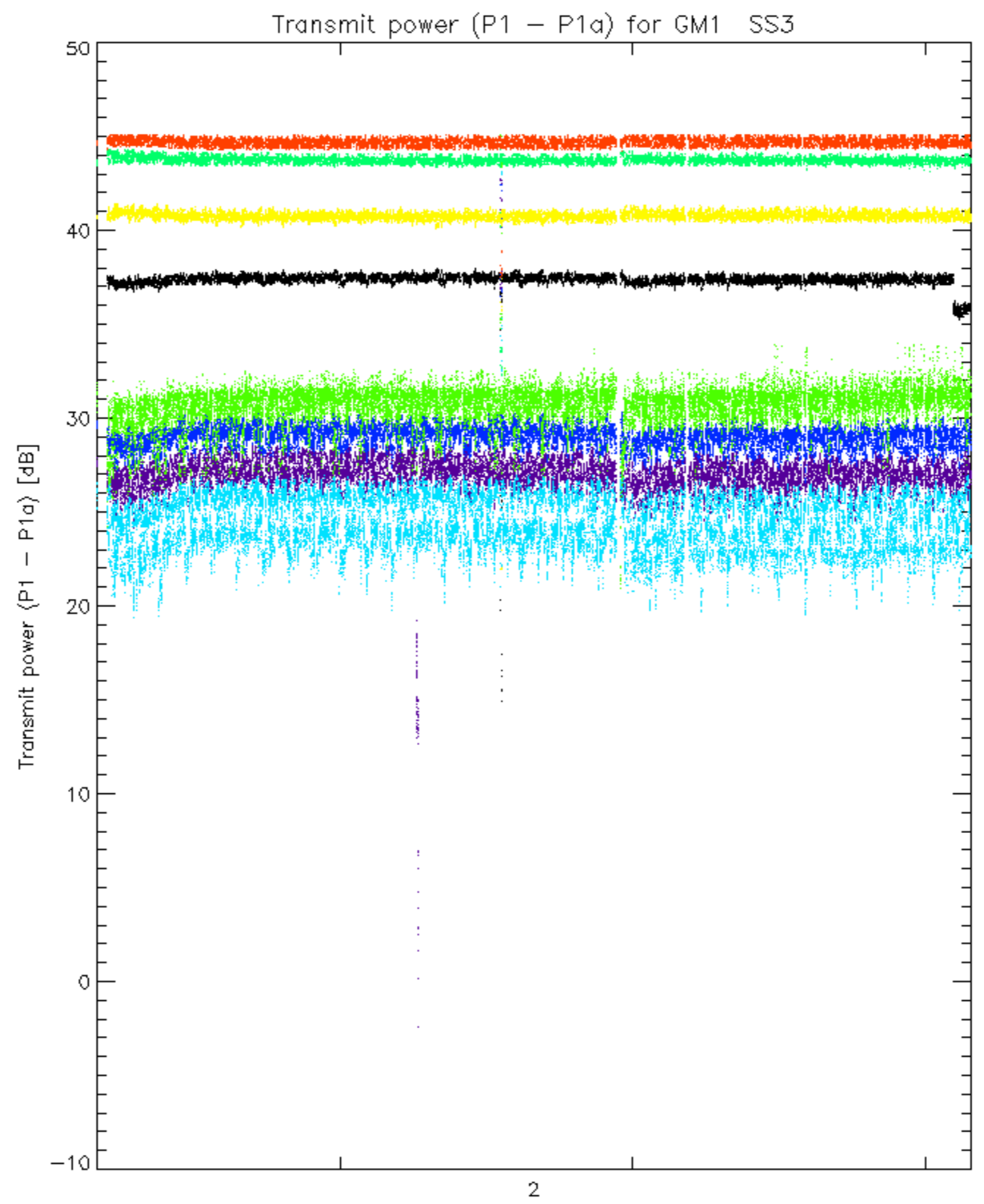
Summary of analysis for the last 3 days 2007050[456]

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

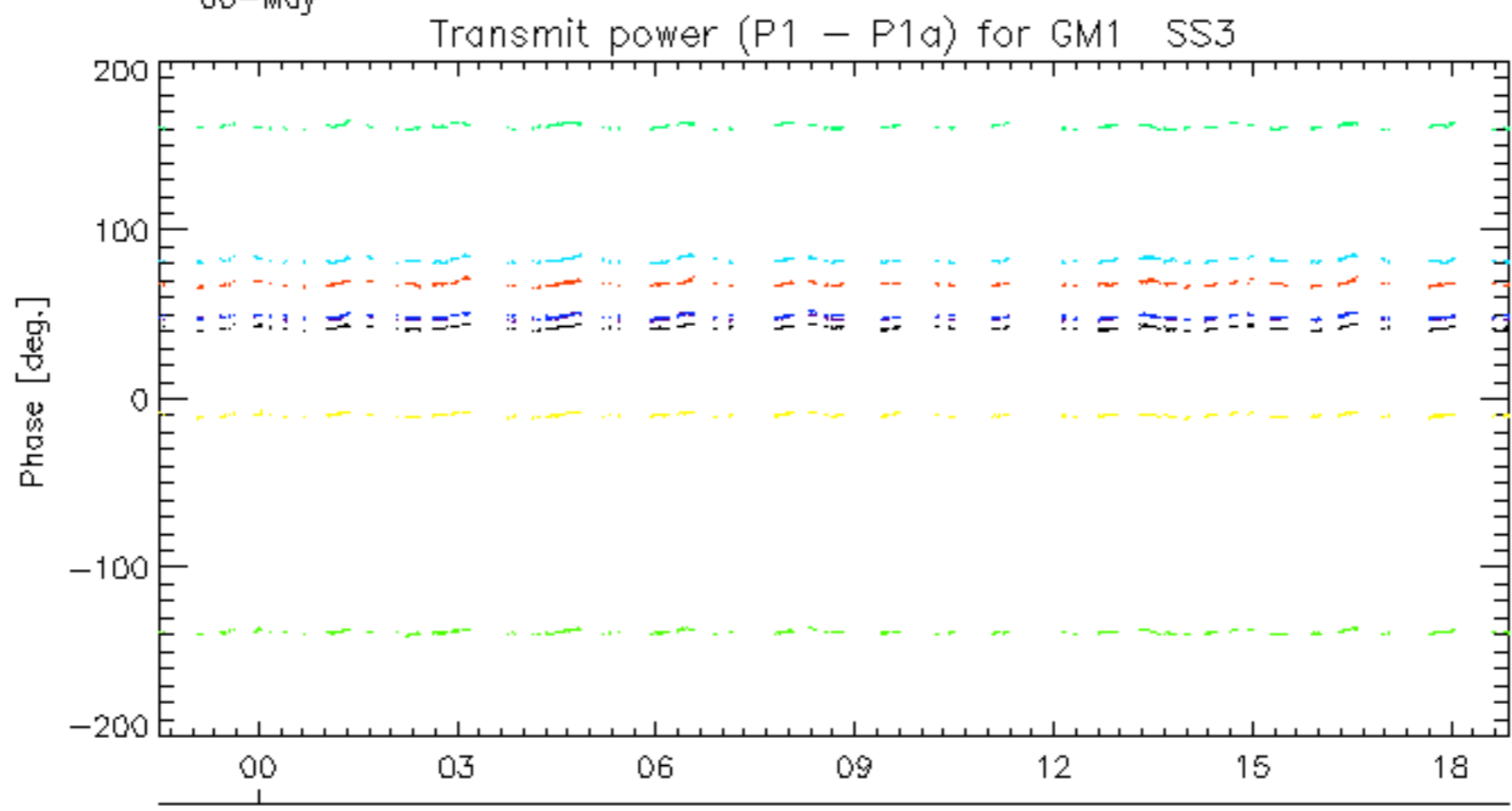
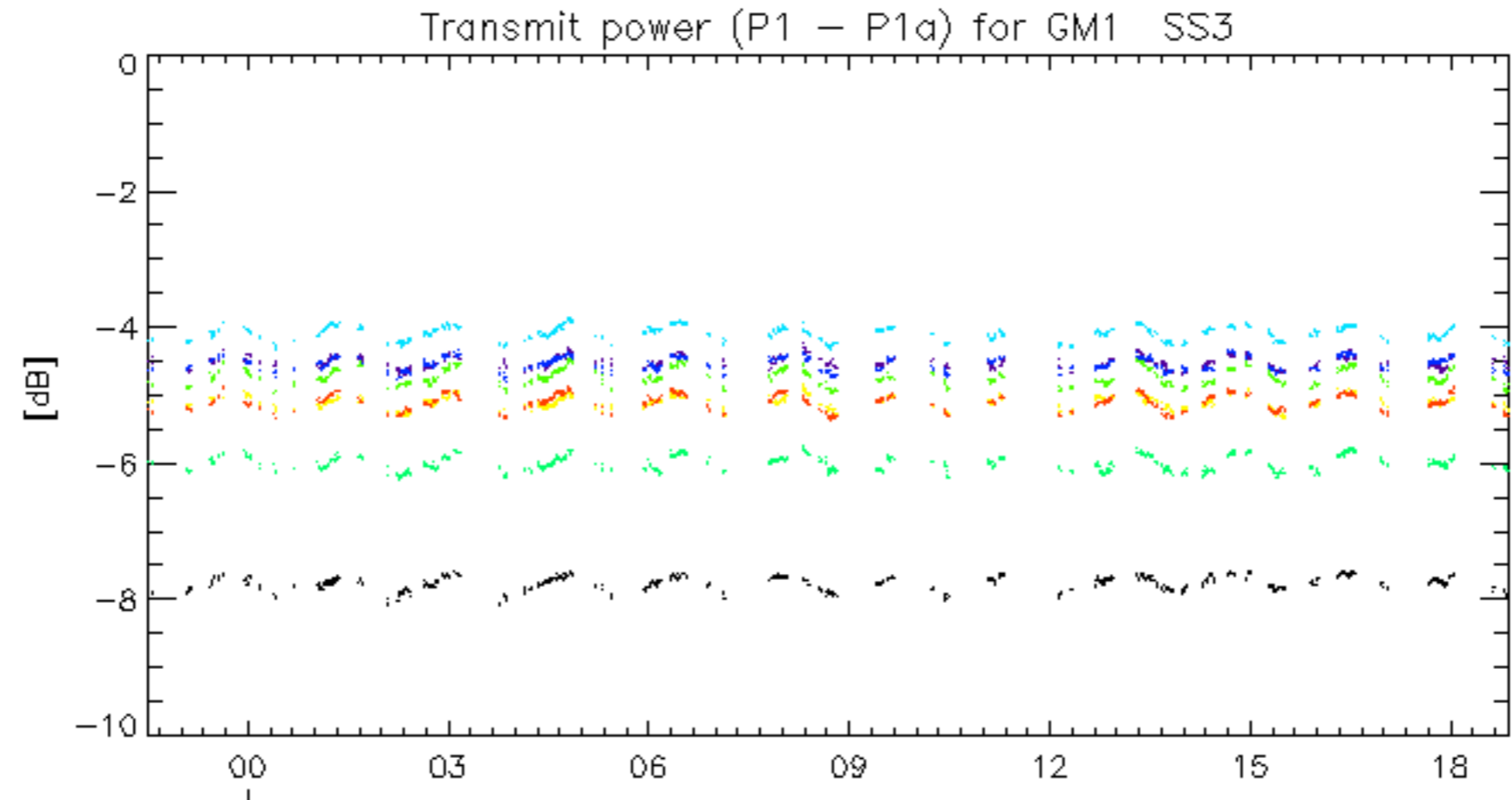
Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDK20070504_083350_00000612057_00451_27058_4312.N1	0	26
ASA_GM1_1PNPDK20070504_103913_000001632057_00452_27059_6905.N1	0	15
ASA_GM1_1PNPDK20070504_103940_000001322057_00452_27059_4839.N1	0	15
ASA_GM1_1PNPDK20070504_140155_000001502057_00454_27061_5837.N1	0	14
ASA_GM1_1PNPDK20070504_141822_000001632057_00454_27061_5839.N1	0	7
ASA_GM1_1PNPDK20070504_144335_000006462057_00454_27061_5971.N1	0	23
ASA_WSM_1PNPDE20070504_023250_00000852057_00447_27054_7677.N1	0	27
ASA_WSM_1PNPDE20070505_134710_00000852057_00468_27075_9521.N1	0	26
ASA_WSM_1PNPDE20070506_094328_00000852057_00480_27087_0728.N1	0	1
ASA_WSM_1PNPDE20070506_113212_000001532057_00481_27088_0776.N1	0	25
ASA_APM_1PNPDE20070506_023611_00000422057_00476_27083_0204.N1	6	0



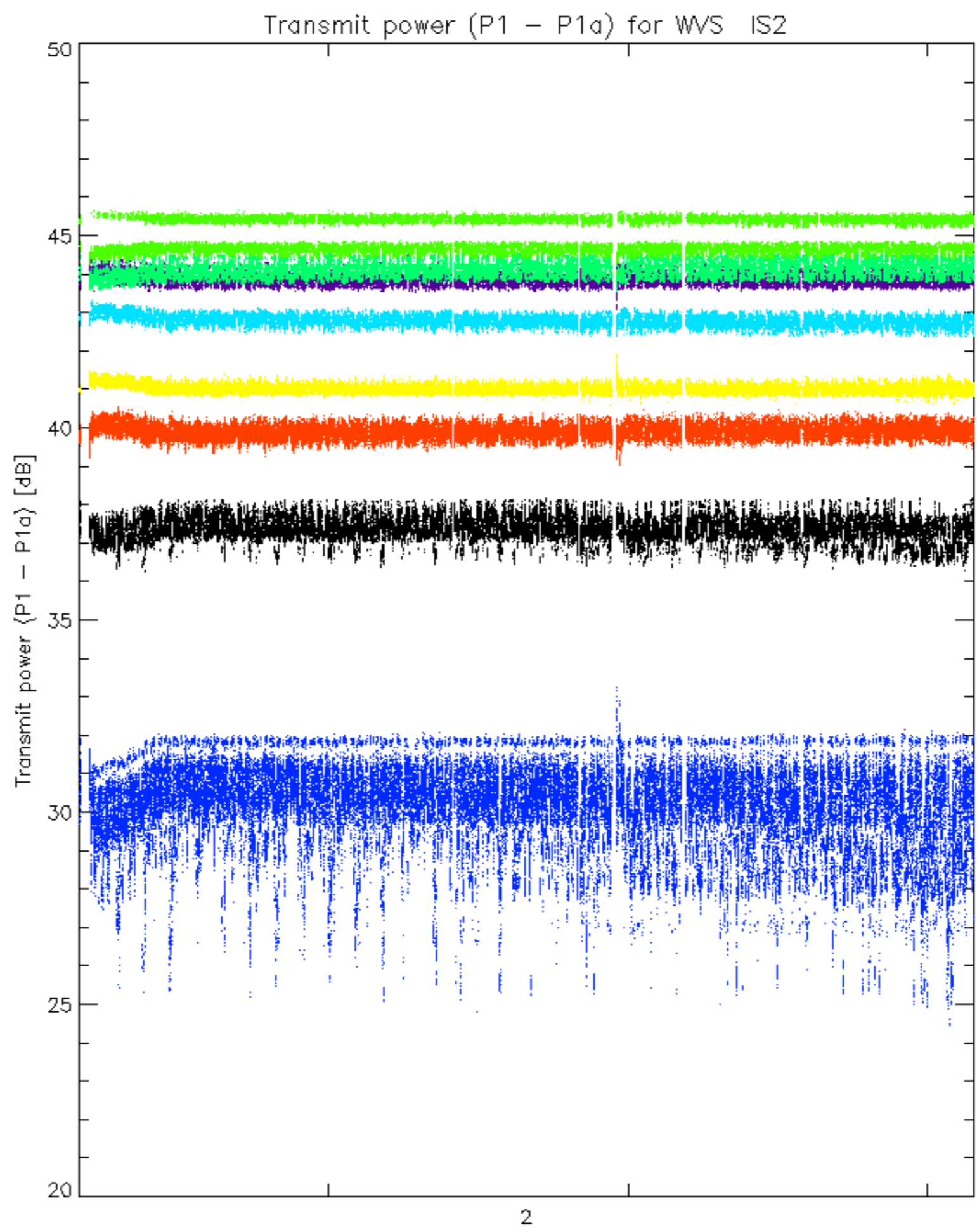




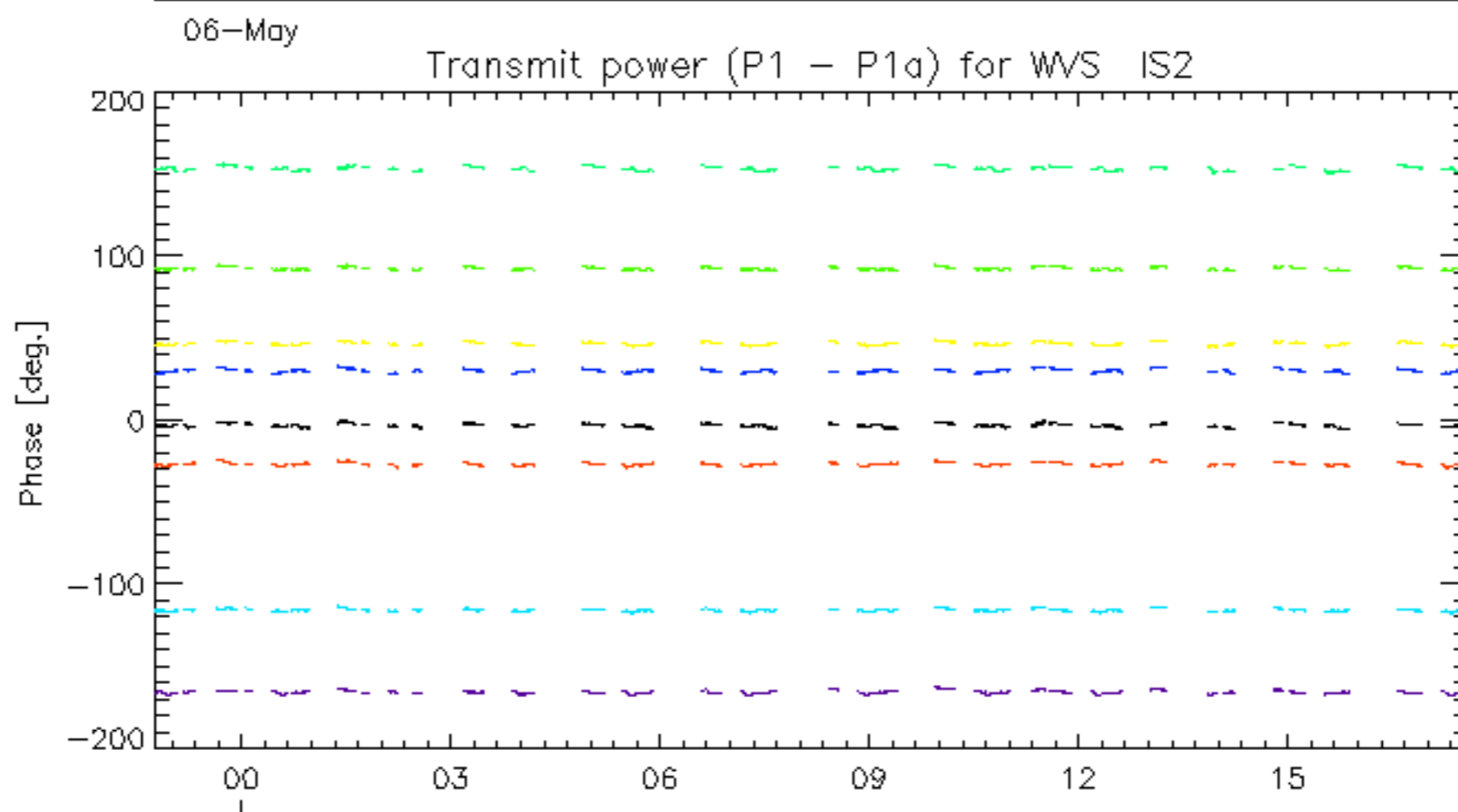
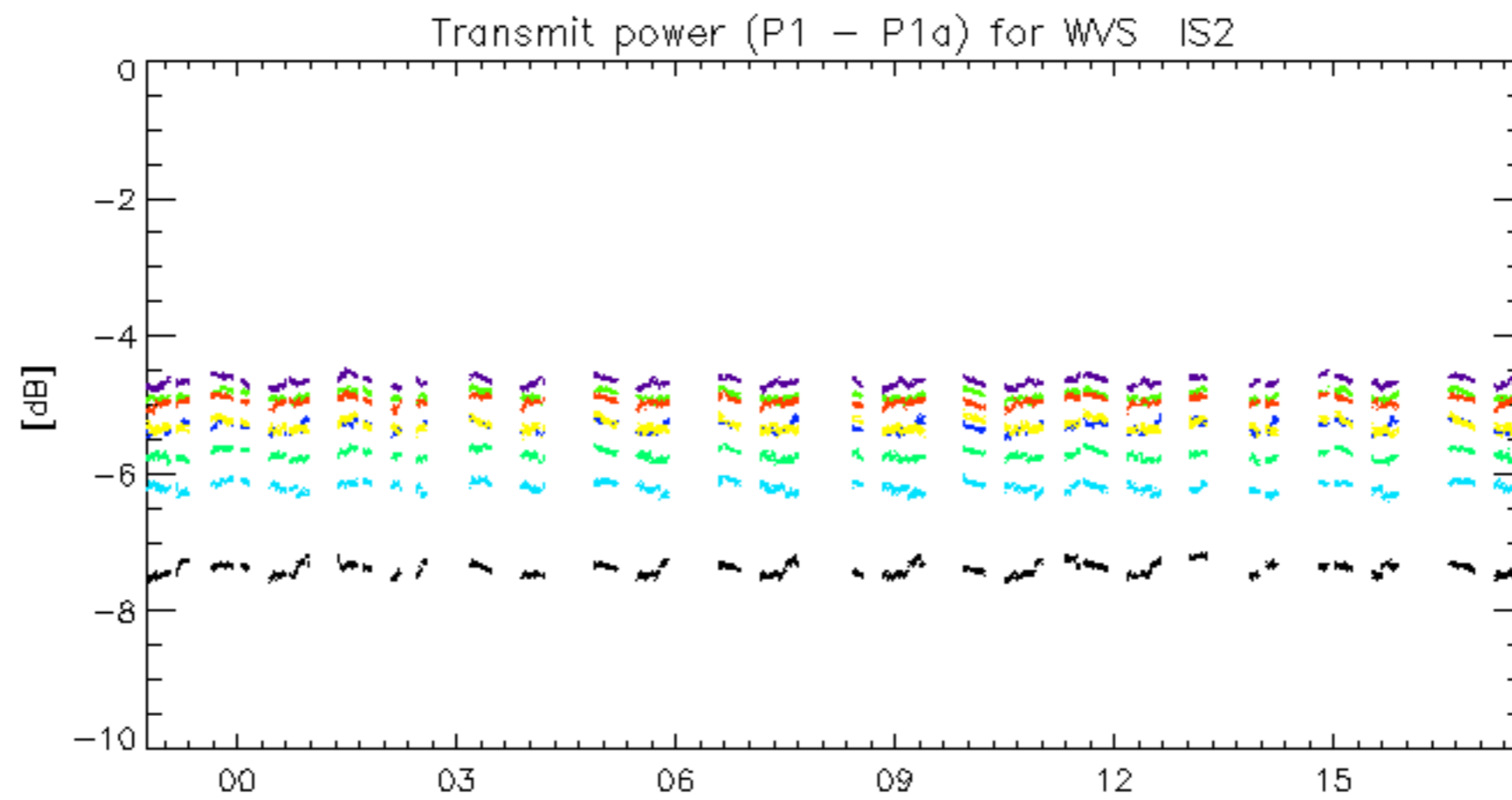
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



rows: 3 7 11 15 19 22 26 30



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



06-May

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

No unavailabilities during the reported period.