

PRELIMINARY REPORT OF 070310

last update on Sat Mar 10 17:56:25 GMT 2007

Due to an ASAR test acquisition campaign, the daily analysis on WVS products will be based on IS4 instead of IS2 during the following periods:

From orbit 25621 (23-Jan-2007) to 25720 (30-Jan-2007) in HH polarization
From orbit 26122 (27-Feb-2007) to 26221 (06-Mar-2007) in HH polarization
From orbit 25721 (30-Jan-2007) to 25820 (06-Feb-2007) in VV polarization
From orbit 26222 (06-Mar-2007) to 26321 (13-Mar-2007) in VV polarization

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 2007-03-09 00:00:00 to 2007-03-10 17:56:25

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20070222_190441_20070204_165113_20071231_000000	38	75	13	5	30
ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	38	75	13	5	30
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	38	75	13	5	30
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	38	75	13	5	30

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20070222_190441_20070204_165113_20071231_000000	50	64	42	7	83
ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	50	64	42	7	83
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	50	64	42	7	83
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	50	64	42	7	83

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	20070310 064400
H	20070309 071537

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	-10.588842	0.280234	-0.509962
7	P1a	-10.174474	0.213527	0.145527
11	P1a	-10.846352	0.113061	0.152993
15	P1a	-12.035053	1.686007	1.117134
19	P1a	-14.817761	1.184901	-0.971940
22	P1a	-18.760902	8.032141	-2.261481
26	P1a	-15.615990	0.469253	0.272520
30	P1a	-20.823444	7.623321	2.334311

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-8.373873	0.086092	-0.224861
7	P1	-2.630020	0.052983	0.051311
11	P1	-3.358441	0.158426	0.337032
15	P1	-4.964422	1.522968	1.065082
19	P1	-3.363974	0.097595	-0.308238
22	P1	-5.447126	0.164706	0.322546
26	P1	-5.183818	0.783588	-0.826132
30	P1	-5.490549	0.067108	0.197128

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.091307	0.087512	0.037733
7	P2	-21.808275	0.125999	-0.170013
11	P2	-10.752408	0.132715	-0.266116
15	P2	-5.097049	0.078754	-0.080655
19	P2	-7.222006	0.077806	-0.034069
22	P2	-8.370042	0.078522	0.054975

26	P2	-24.122810	0.122936	-0.313114
30	P2	-21.654610	0.065351	0.063934

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.231121	0.007452	-0.032746
7	P3	-8.231121	0.007452	-0.032746
11	P3	-8.231121	0.007452	-0.032746
15	P3	-8.231121	0.007452	-0.032746
19	P3	-8.231121	0.007452	-0.032746
22	P3	-8.231121	0.007452	-0.032746
26	P3	-8.231121	0.007452	-0.032746
30	P3	-8.231121	0.007452	-0.032746

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	-11.076468	0.050180	-0.023572
7	P1a	-10.063191	0.132630	-0.045856
11	P1a	-10.654946	0.064279	-0.059630
15	P1a	-10.912536	0.135286	-0.171423
19	P1a	-15.711937	0.069332	0.088272
22	P1a	-20.853758	1.169112	-0.159381
26	P1a	-15.321848	0.269788	0.231841
30	P1a	-18.385685	0.342900	-0.127539

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-8.385042	0.039248	-0.064813
7	P1	-2.432404	0.021145	0.008096

11	P1	-2.917438	0.019049	-0.032659
15	P1	-3.835065	0.039378	-0.059046
19	P1	-3.553152	0.011607	-0.007324
22	P1	-5.039510	0.023456	-0.041233
26	P1	-5.970041	0.026333	0.048010
30	P1	-5.279245	0.021710	0.012277

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.096968	0.032659	0.004696
7	P2	-21.958950	0.055695	0.050140
11	P2	-10.648970	0.030941	0.018179
15	P2	-4.818674	0.027633	-0.012173
19	P2	-6.809649	0.029784	0.000813
22	P2	-8.098598	0.034128	0.065365
26	P2	-24.266613	0.036313	-0.098204
30	P2	-21.748455	0.037860	0.054800

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.048238	0.003664	-0.035153
7	P3	-8.048236	0.003670	-0.034838
11	P3	-8.048365	0.003667	-0.035252
15	P3	-8.048253	0.003681	-0.035469
19	P3	-8.048306	0.003667	-0.035262
22	P3	-8.048345	0.003666	-0.035246
26	P3	-8.048136	0.003667	-0.035237
30	P3	-8.048309	0.003679	-0.035074

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	0.000628738
	stdev	2.50415e-07
MEAN Q	mean	0.000371744
	stdev	2.66555e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.108717
	stdev	0.00245510
STDEV Q	mean	0.108737
	stdev	0.00251113



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2007030[890]

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_1PNPDE20070308_014959_000000802056_00132_26238_4901.N1	1	0
ASA_IMM_1PNPDE20070309_042629_000000782056_00147_26253_6465.N1	1	0

ASA_GM1_1PNPDK20070309_194700_000000962056_00157_26263_1858.N1	0	6
ASA_WSM_1PNPDE20070309_015045_000000852056_00146_26252_6150.N1	0	52
ASA_WSM_1PNPDE20070309_151944_000000672056_00154_26260_6845.N1	0	67
ASA_WSM_1PNPDE20070309_151944_000000802056_00154_26260_6879.N1	0	67
ASA_APM_1PNPDE20070308_204806_000000422056_00143_26249_5615.N1	15	257
ASA_APM_1PNPDE20070309_011941_000000422056_00146_26252_6027.N1	14	0
ASA_APM_1PNPDK20070309_095951_000000542056_00151_26257_1118.N1	0	4





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)


Acsending

Descending

7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler


Acsending

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

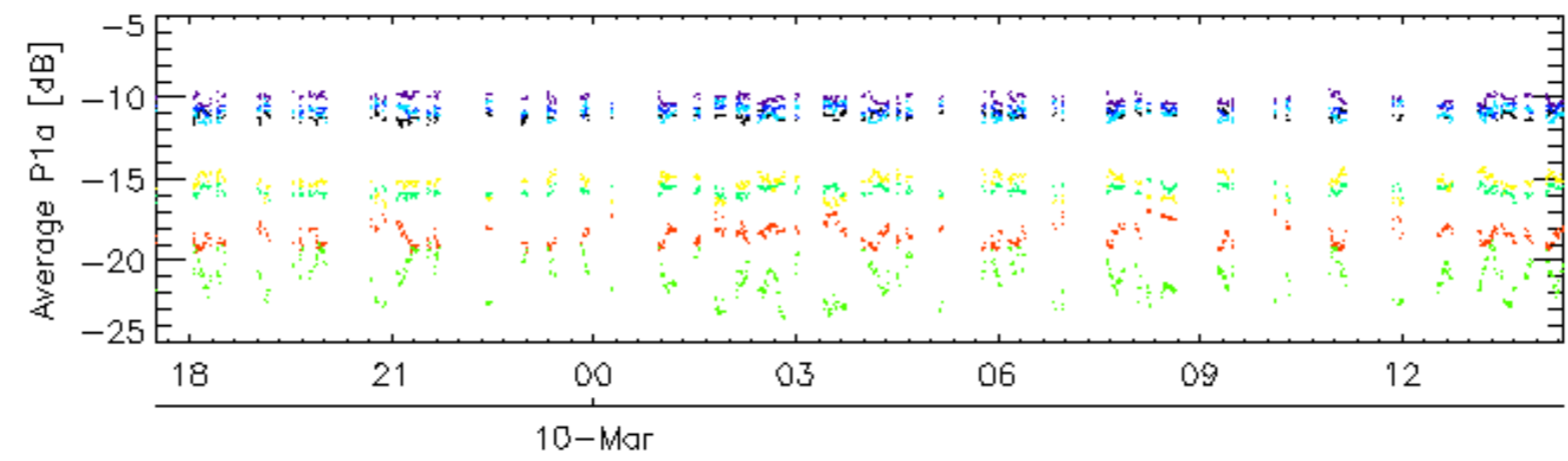
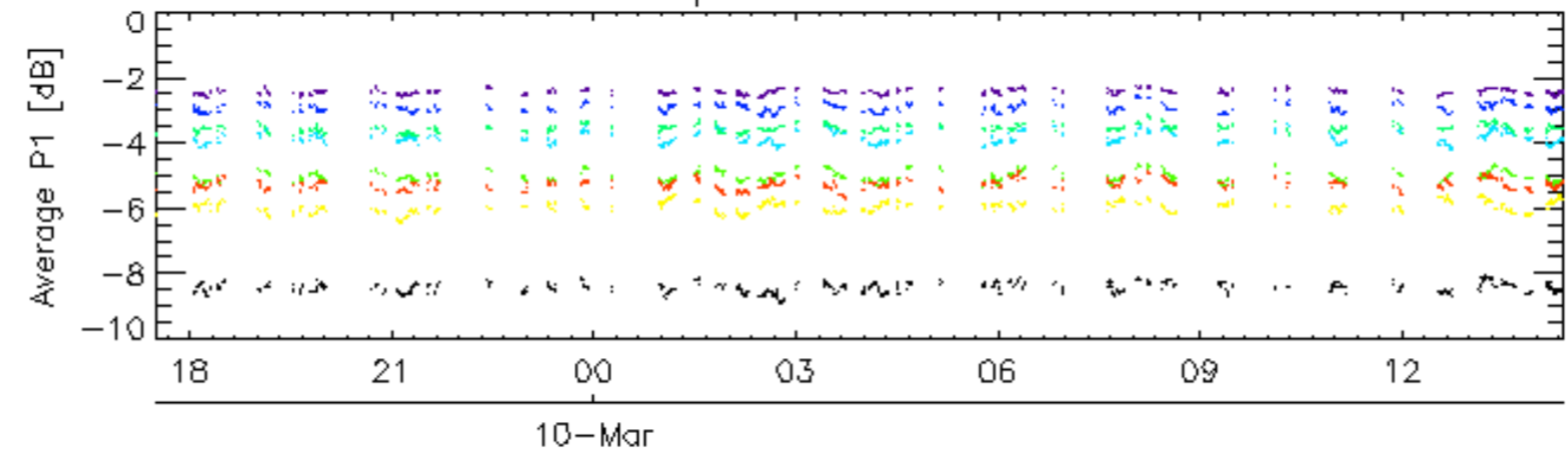
7.5 - Absolute Doppler for GM1**Evolution of Absolute Doppler**

Acsending

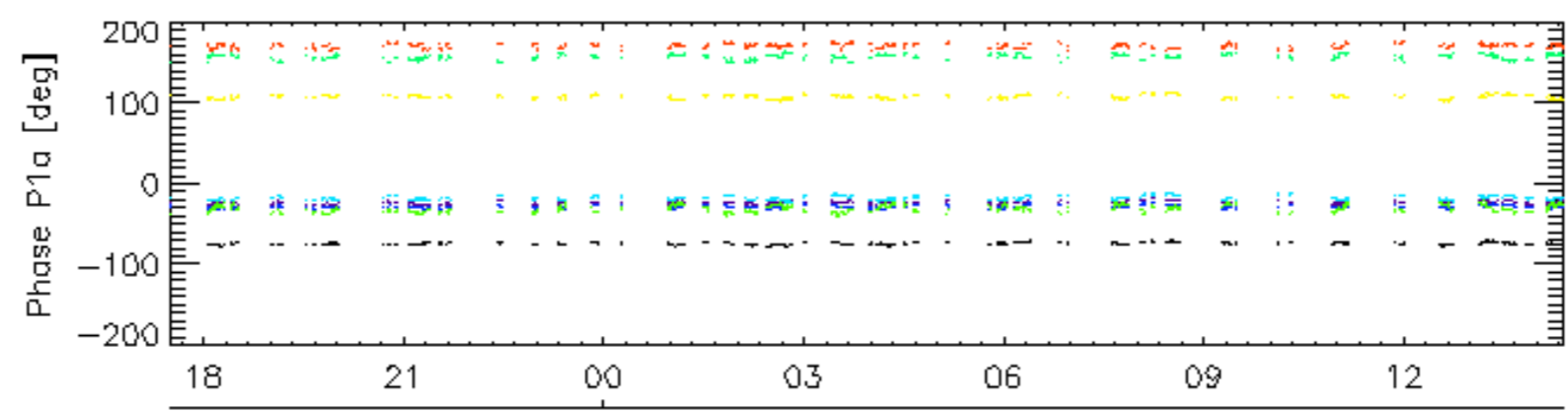
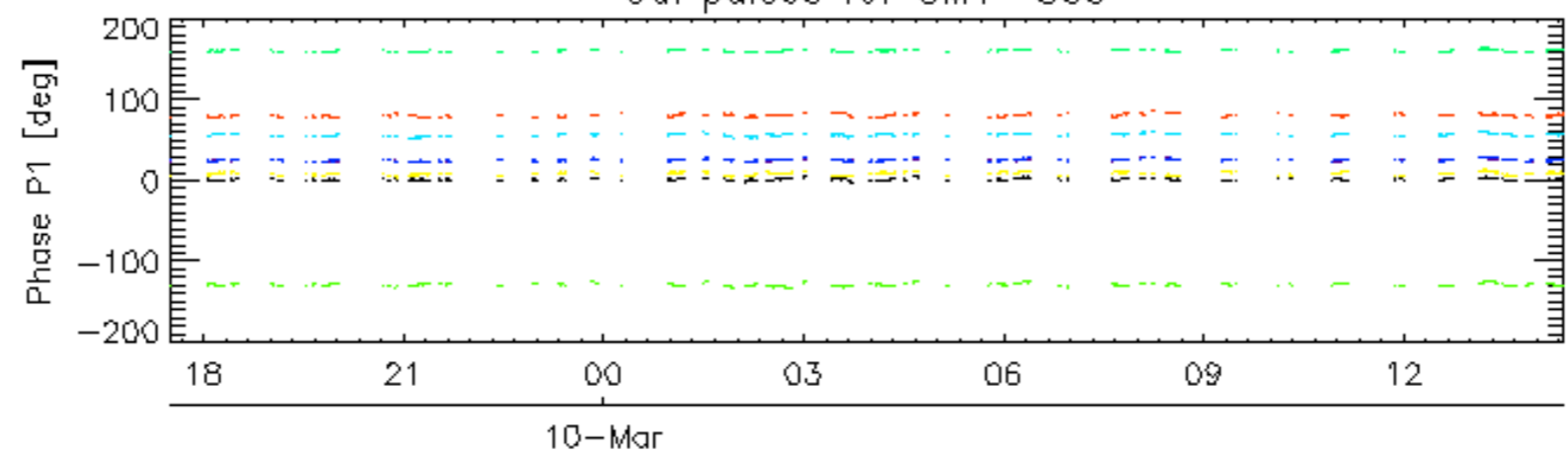
Descending

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

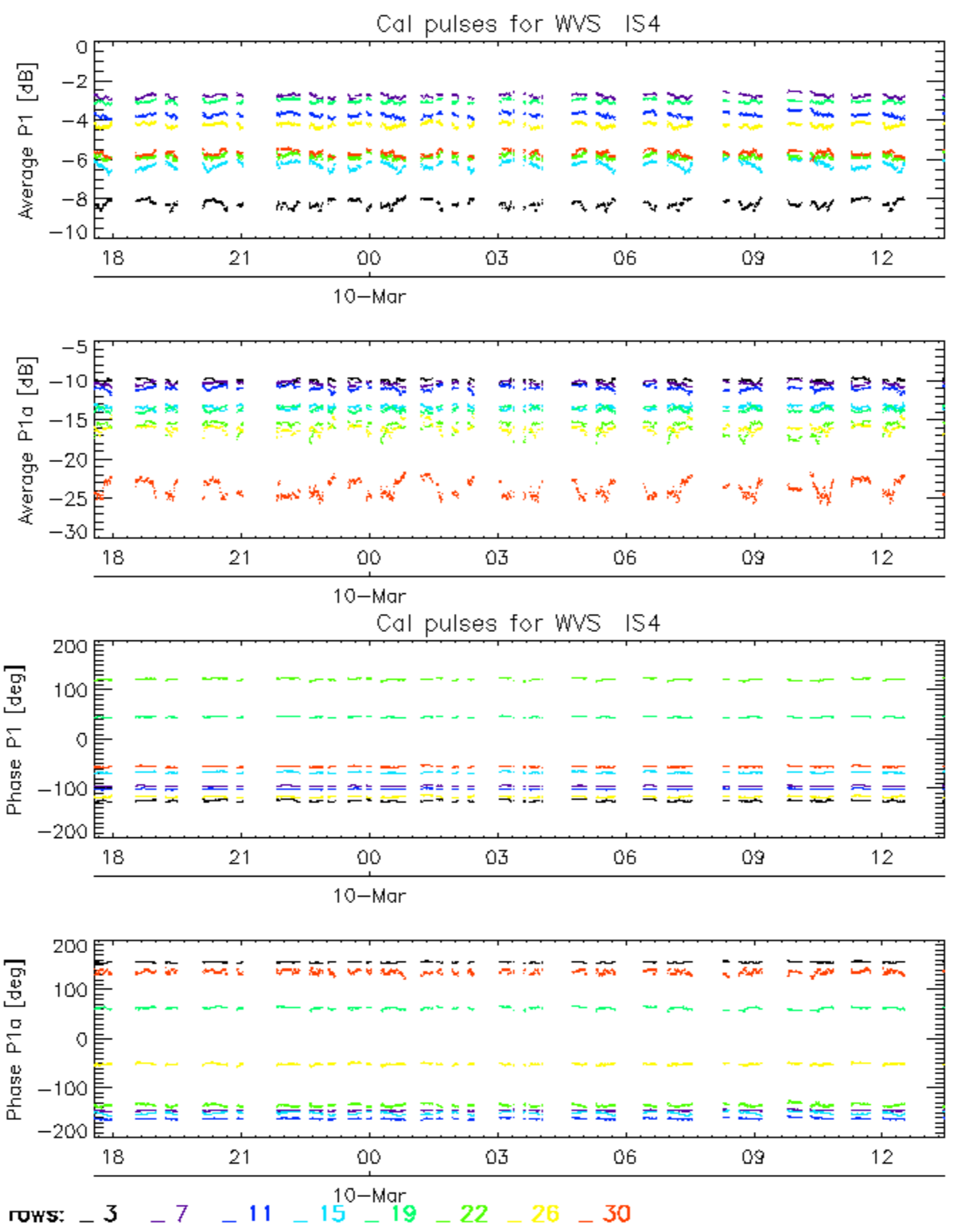
Cal pulses for GM1 SS3



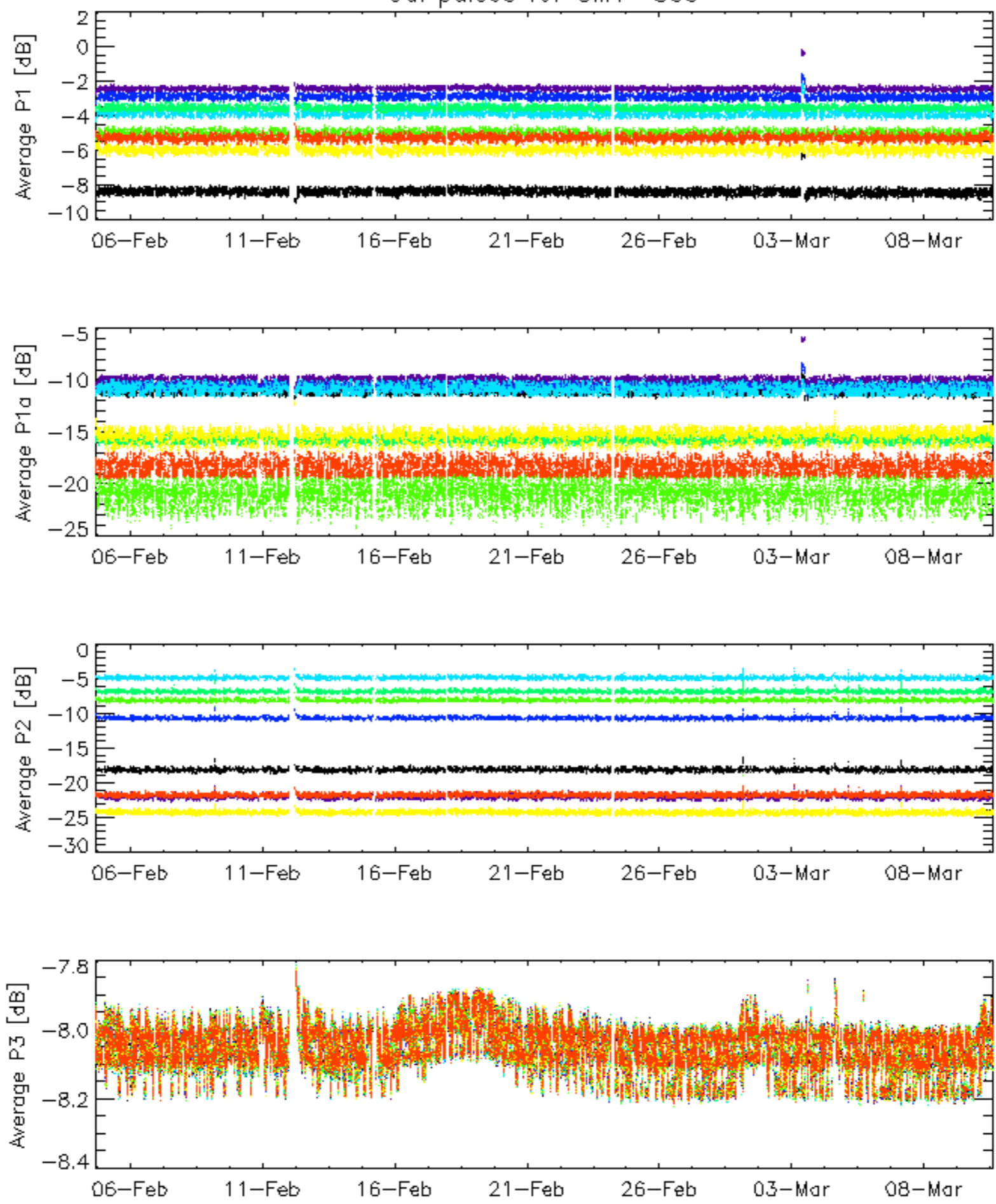
Cal pulses for GM1 SS3



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

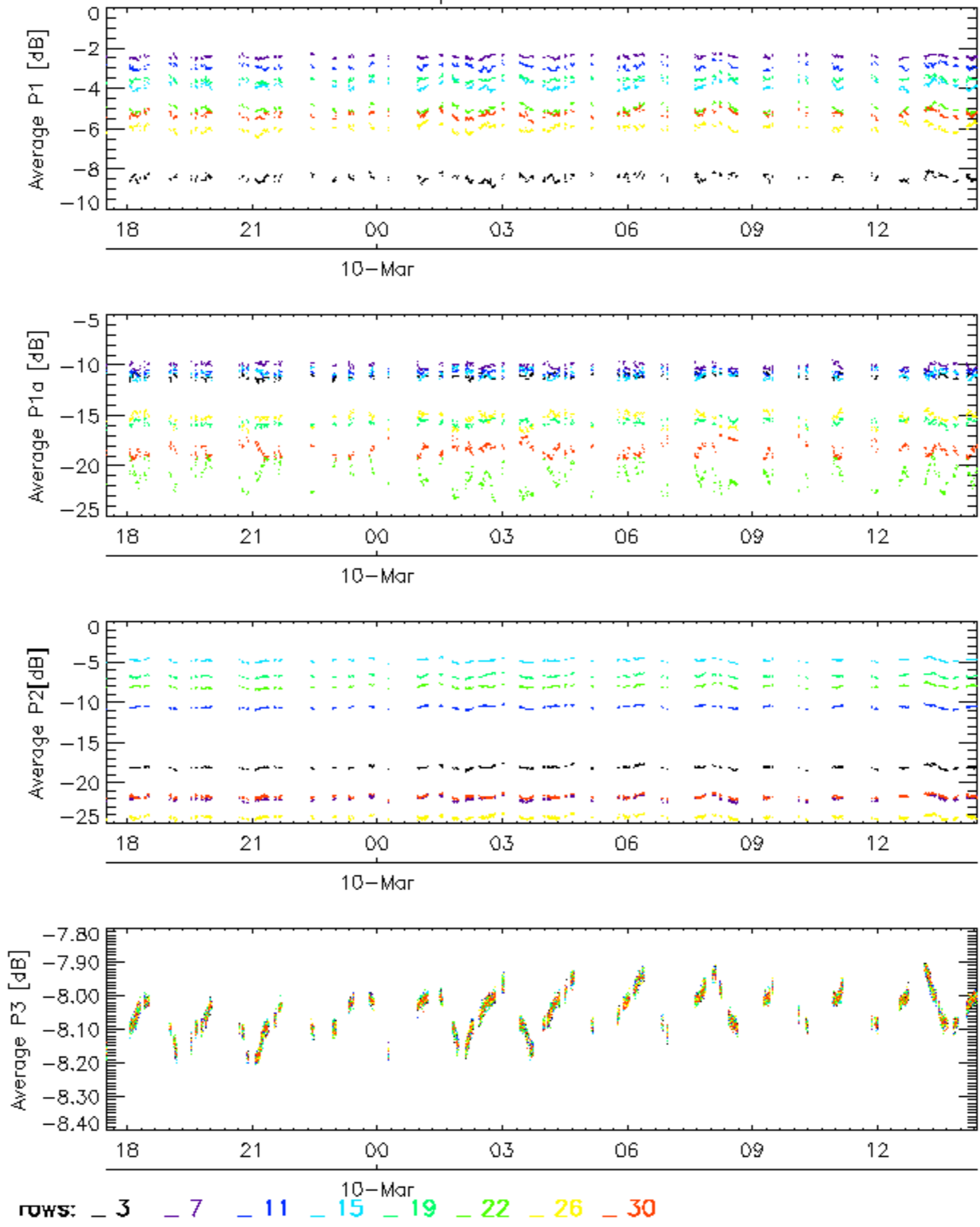


Cal pulses for GM1 SS3

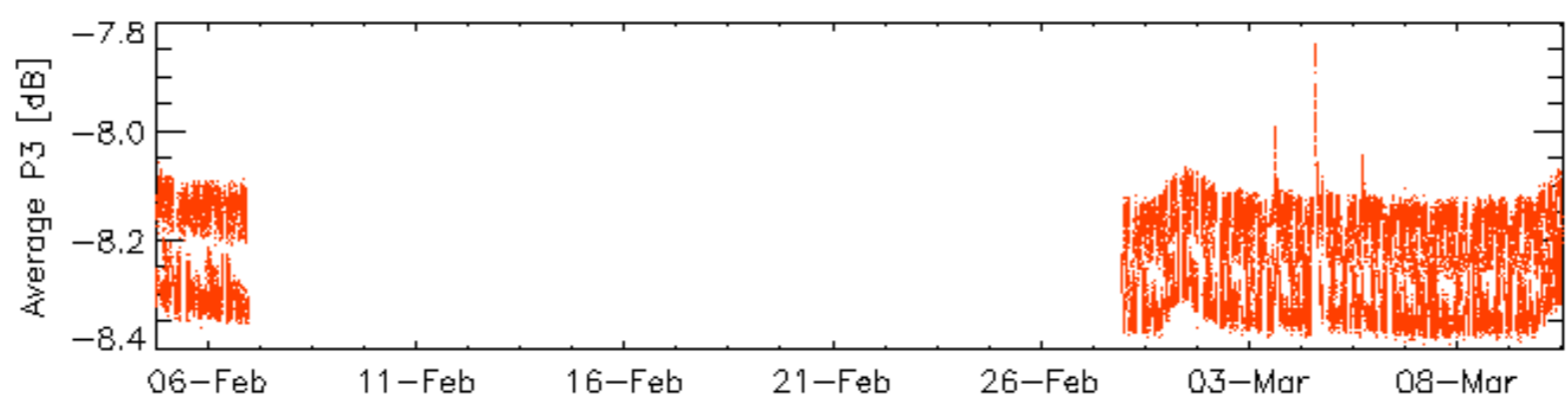
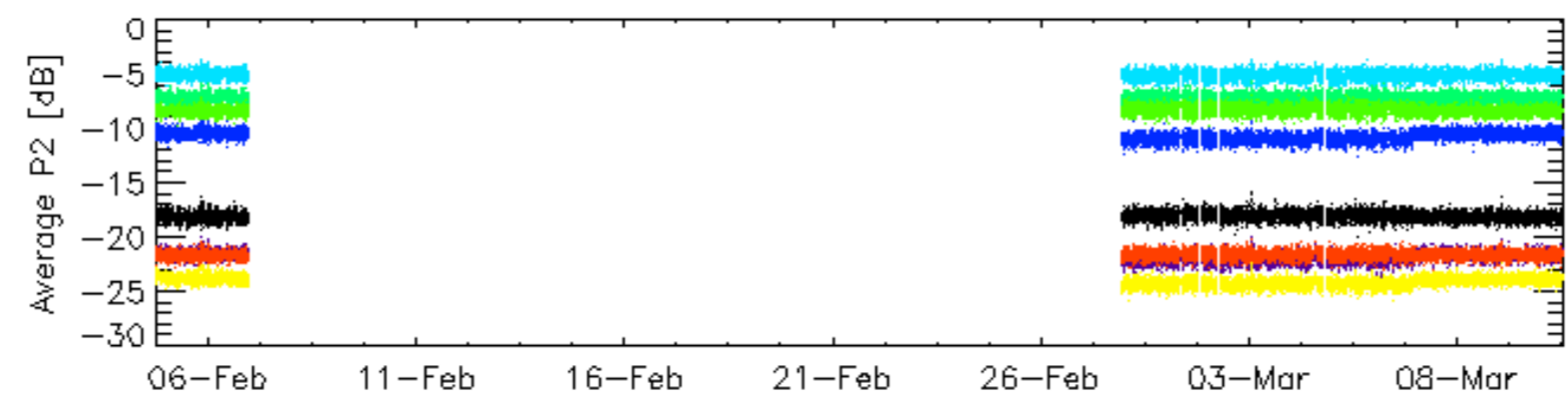
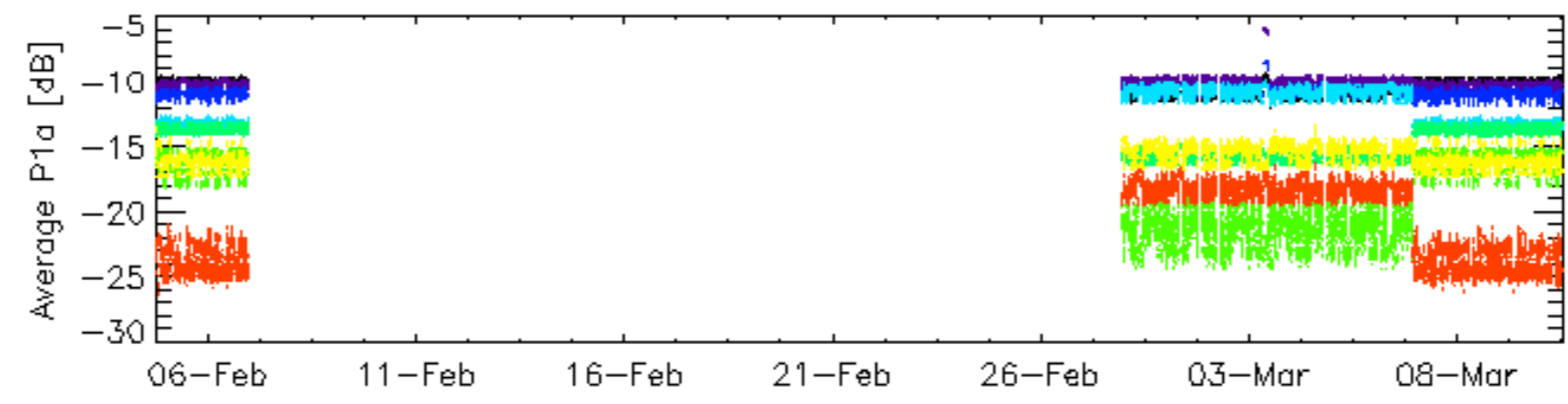
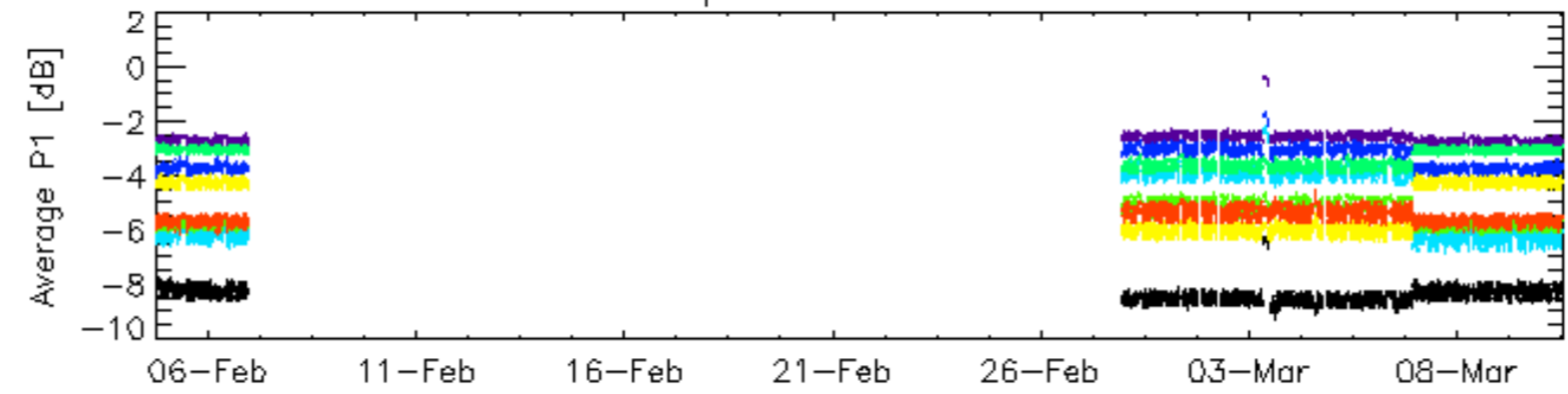


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

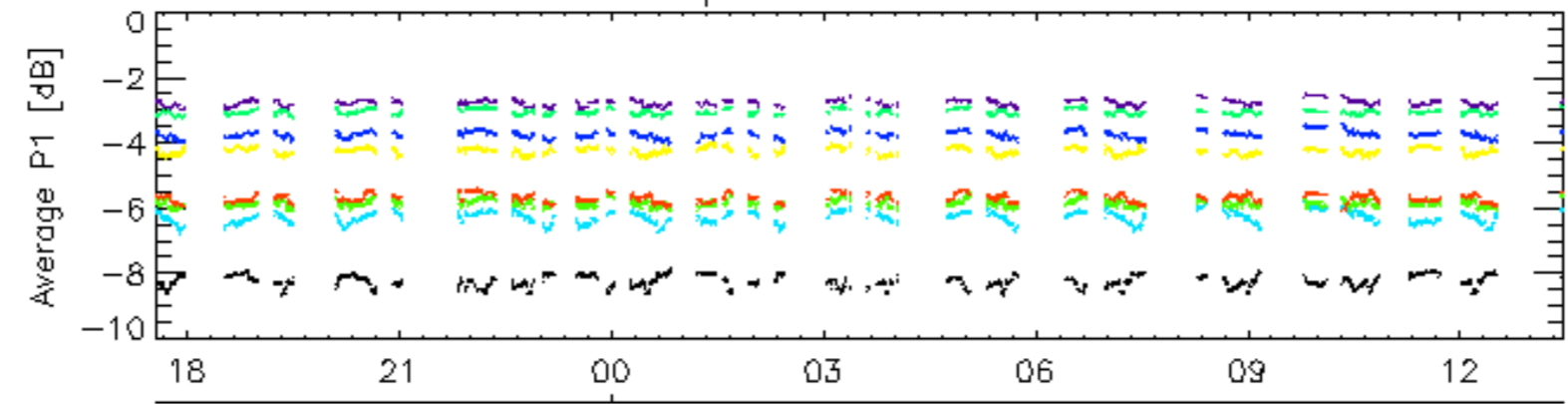


Cal pulses for WVS IS4

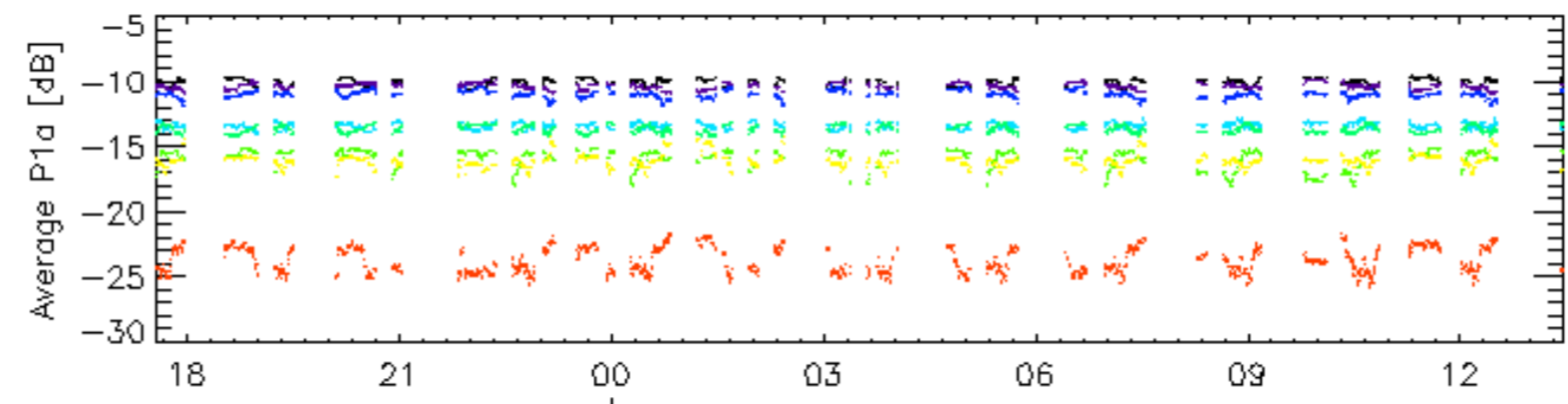


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

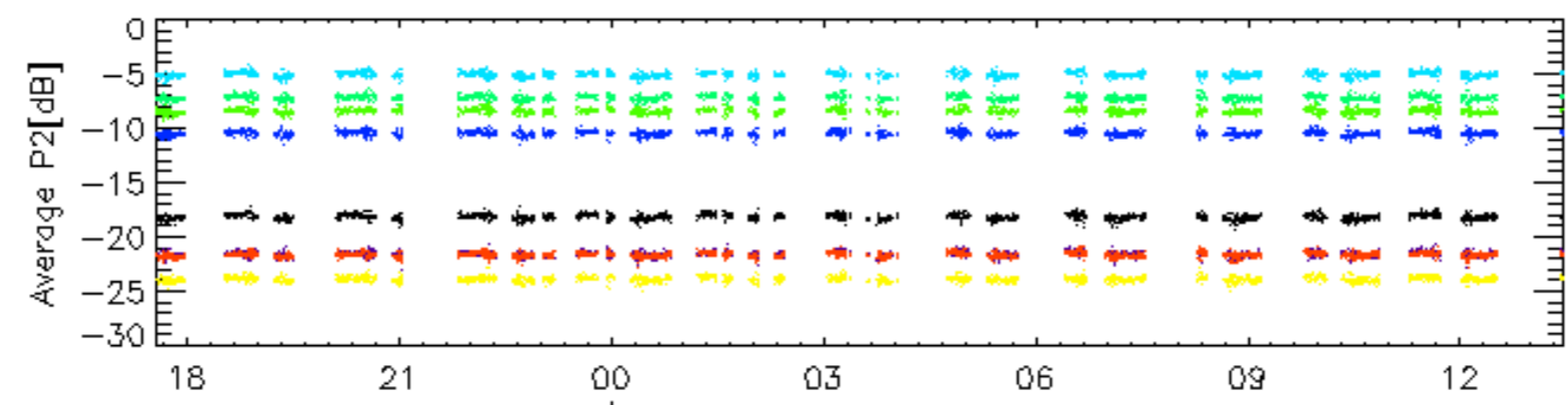
Cal pulses for WVS IS4



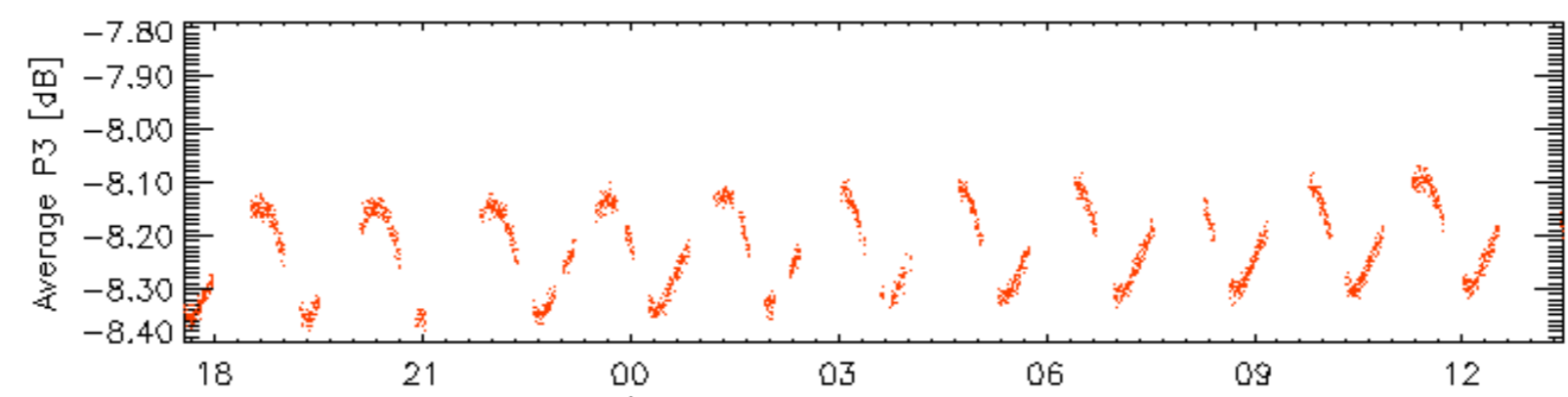
10-Mar



10-Mar



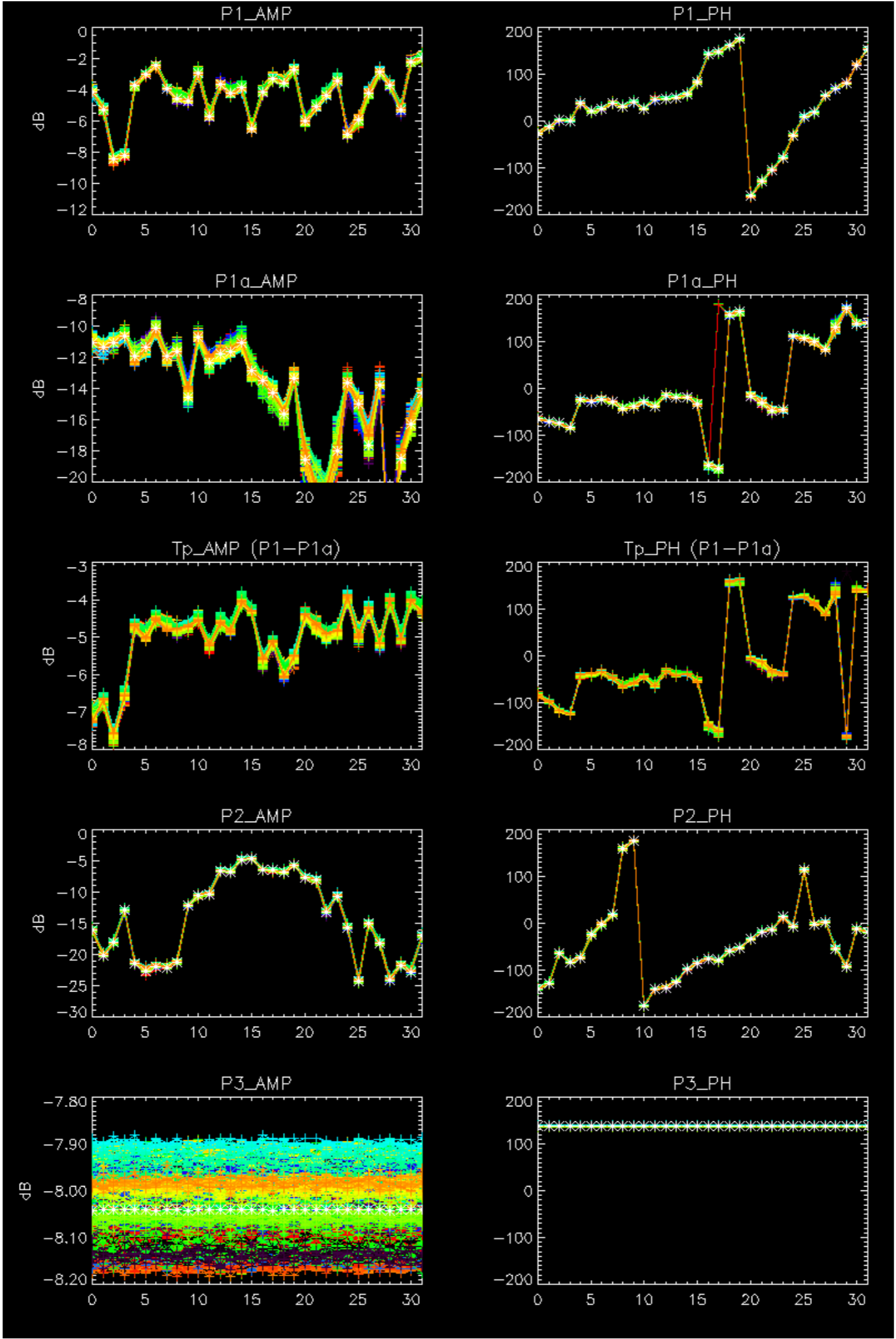
10-Mar

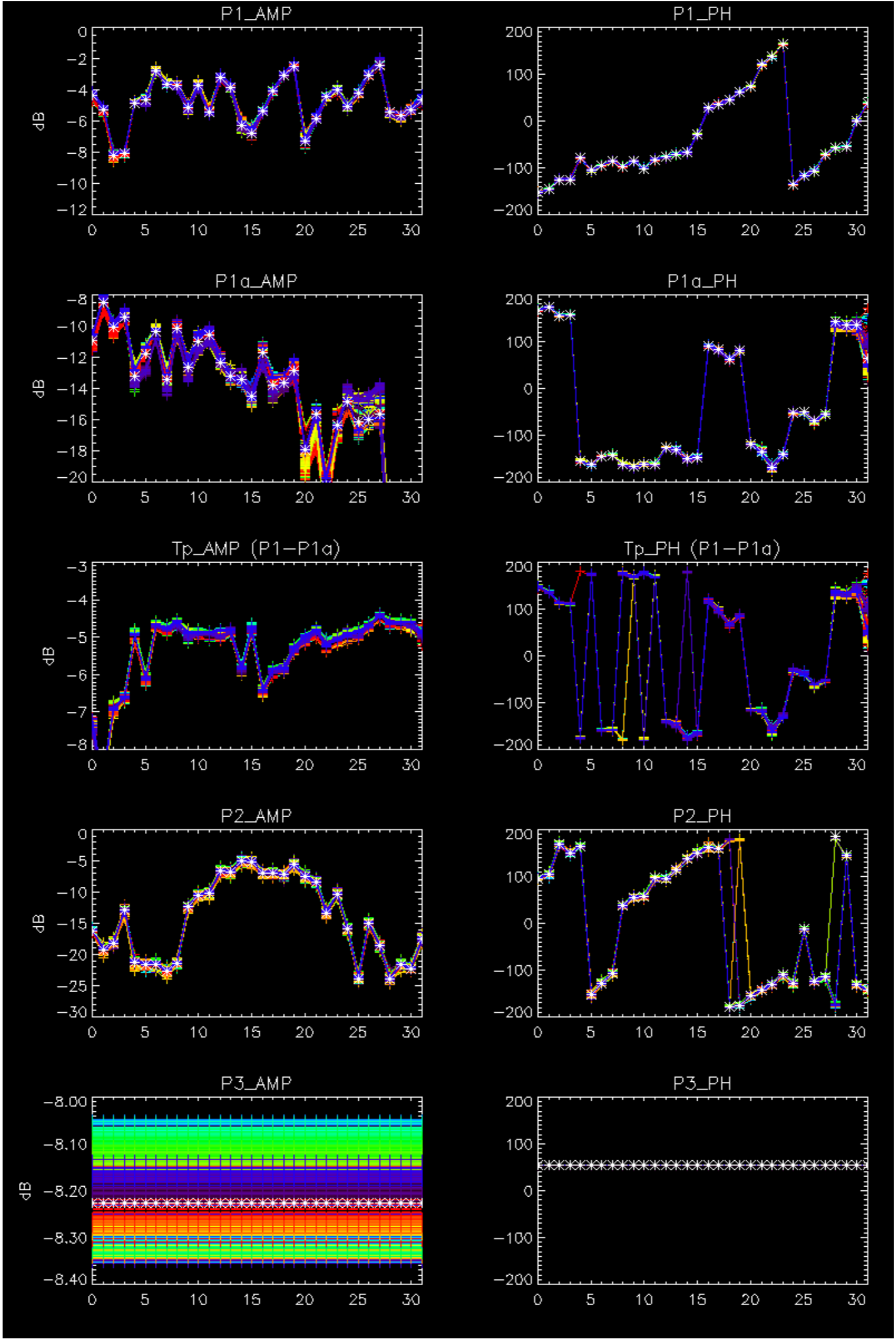


10-Mar

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

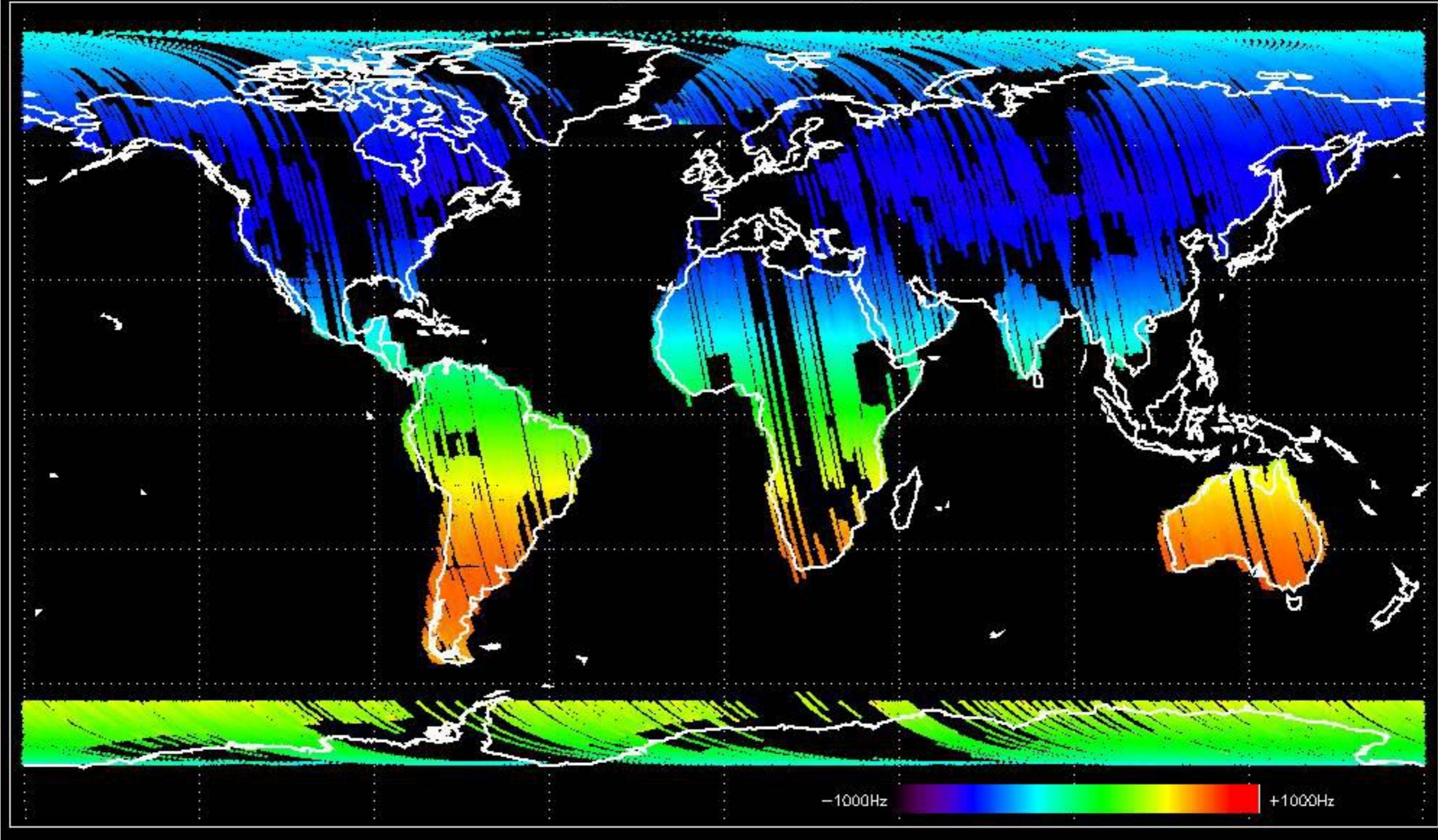
No anomalies observed.



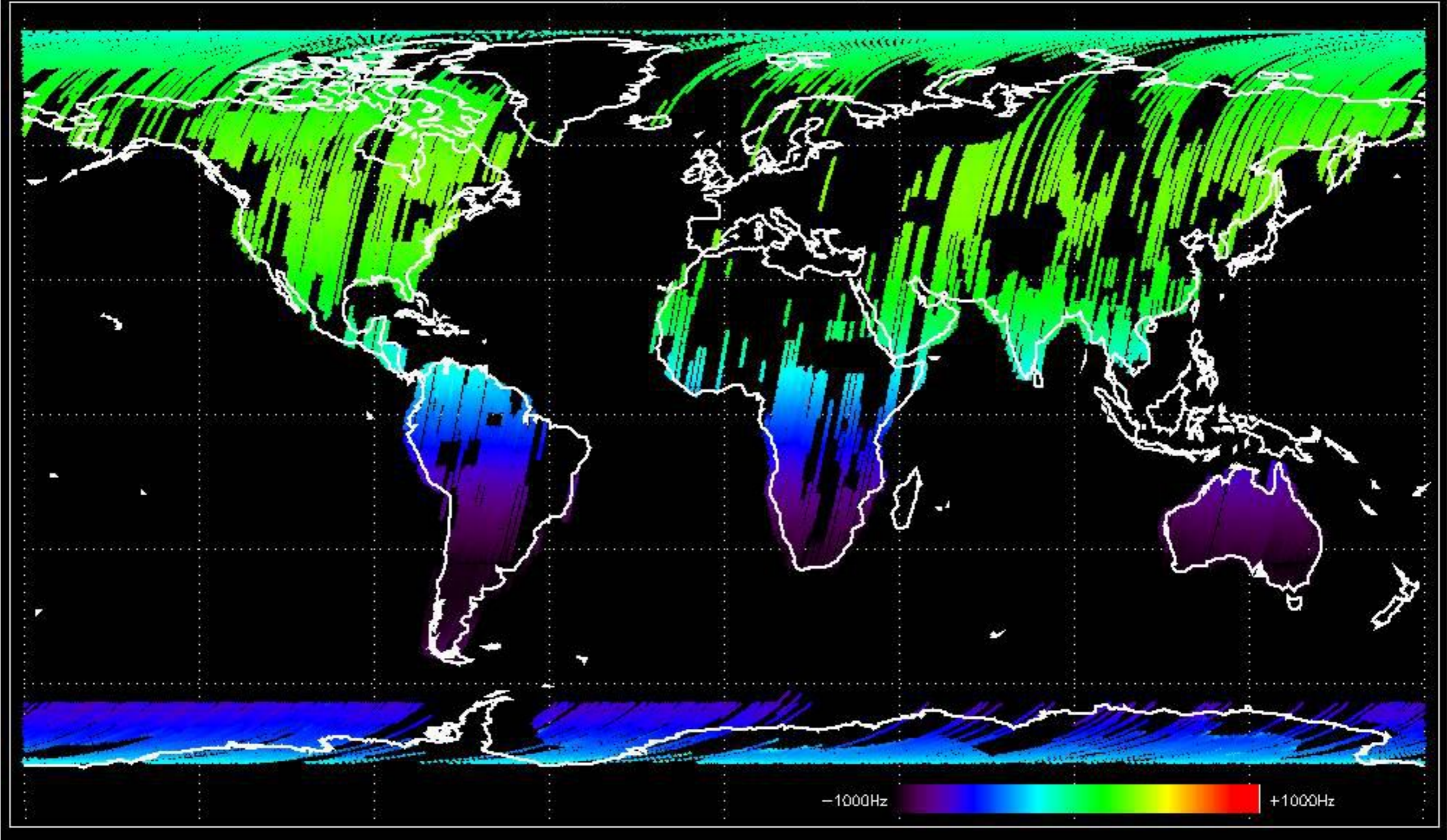


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

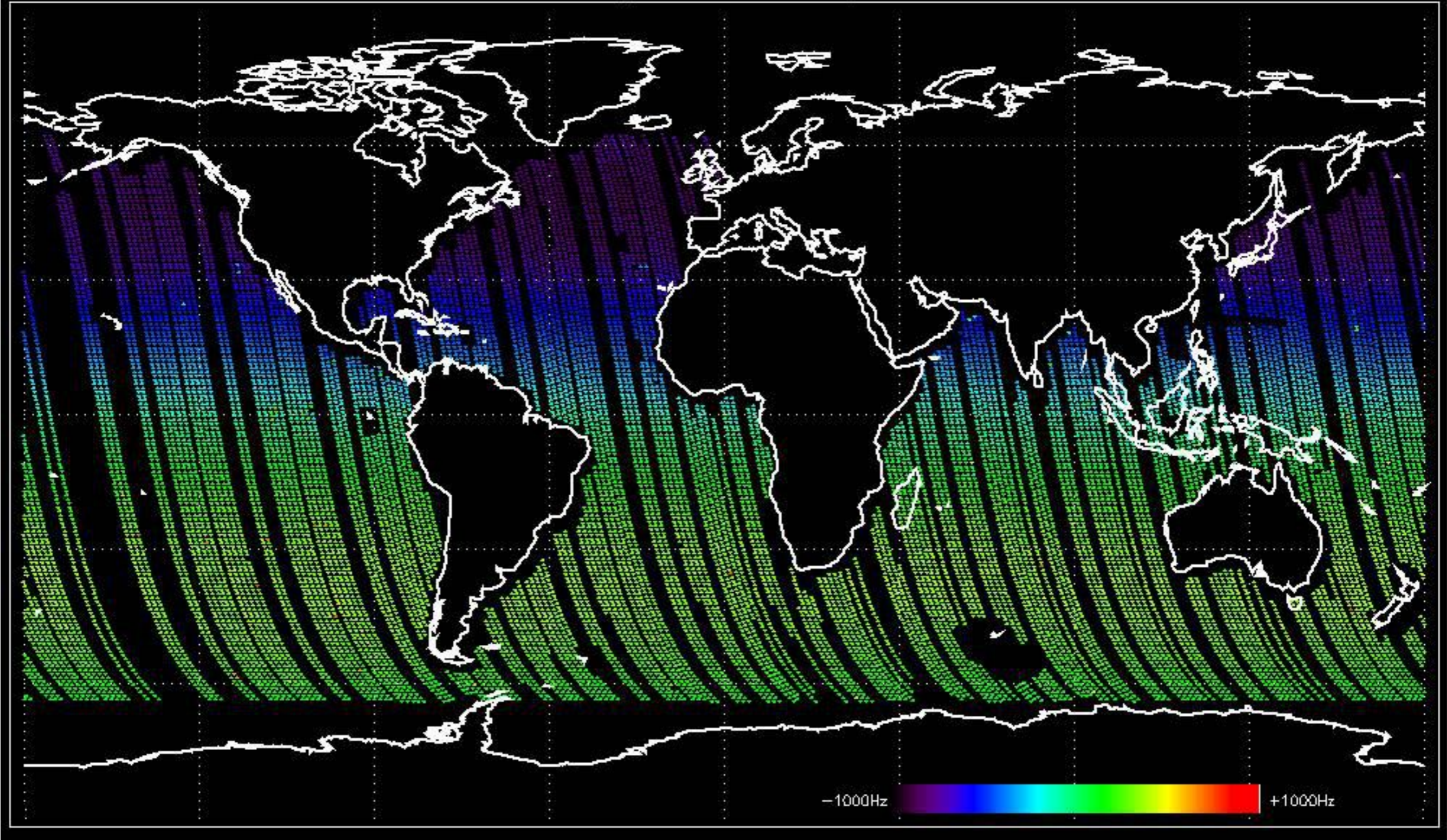
Doppler 'GM1' 'SS1' ascending



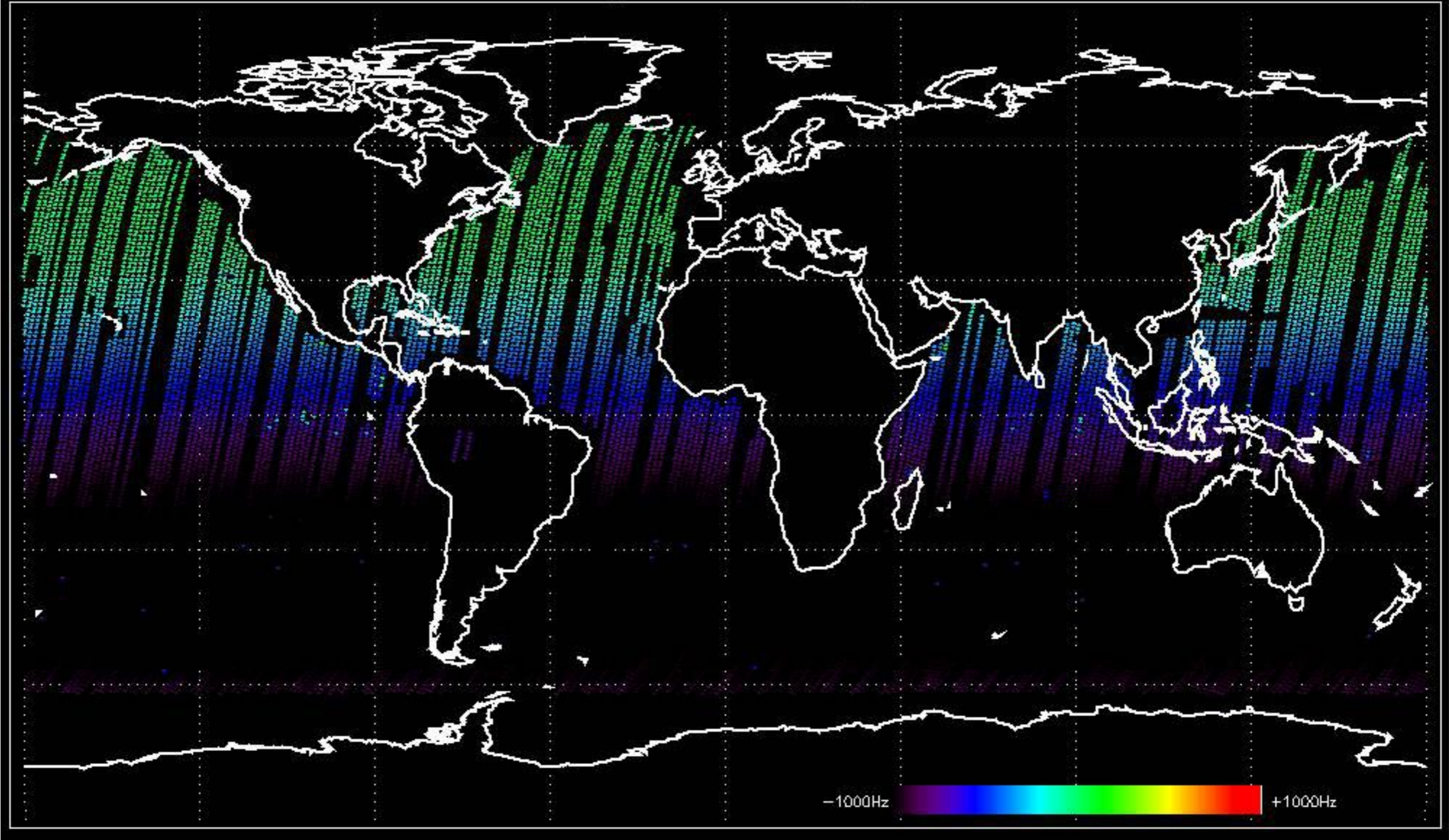
Doppler 'GM1' 'SS1' descending



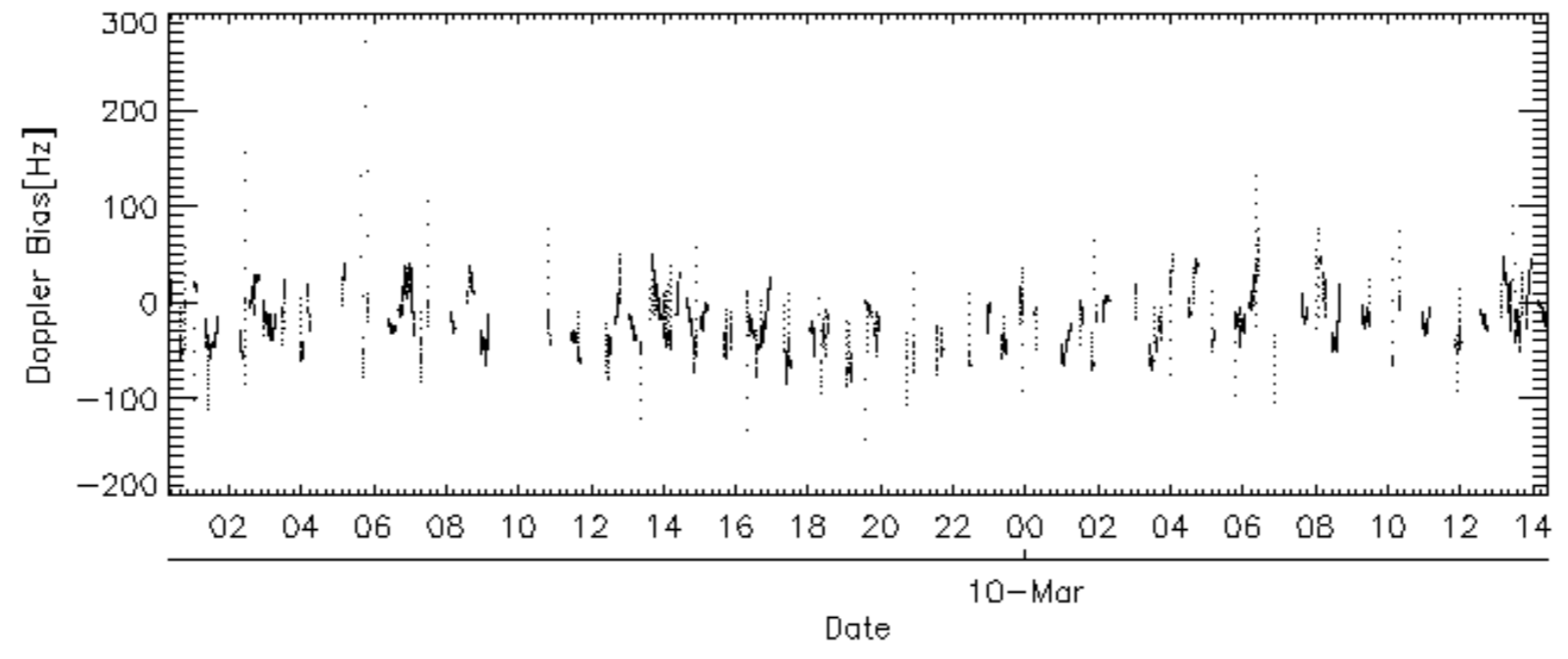
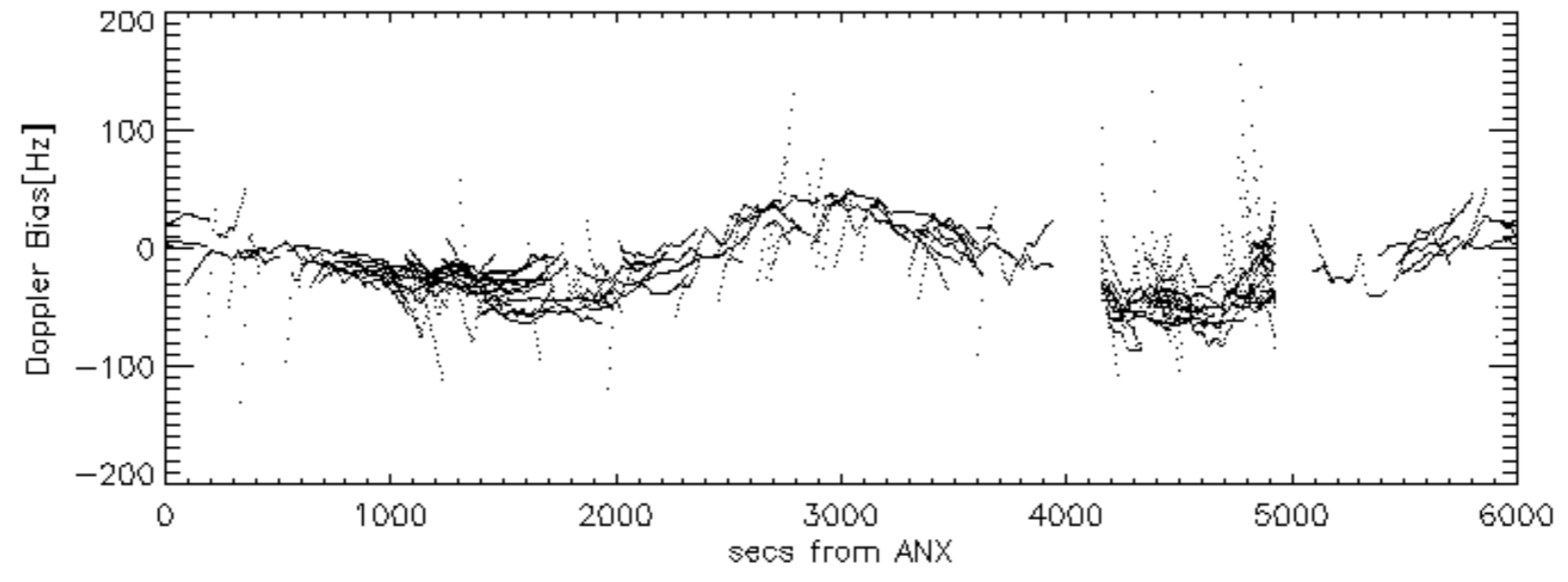
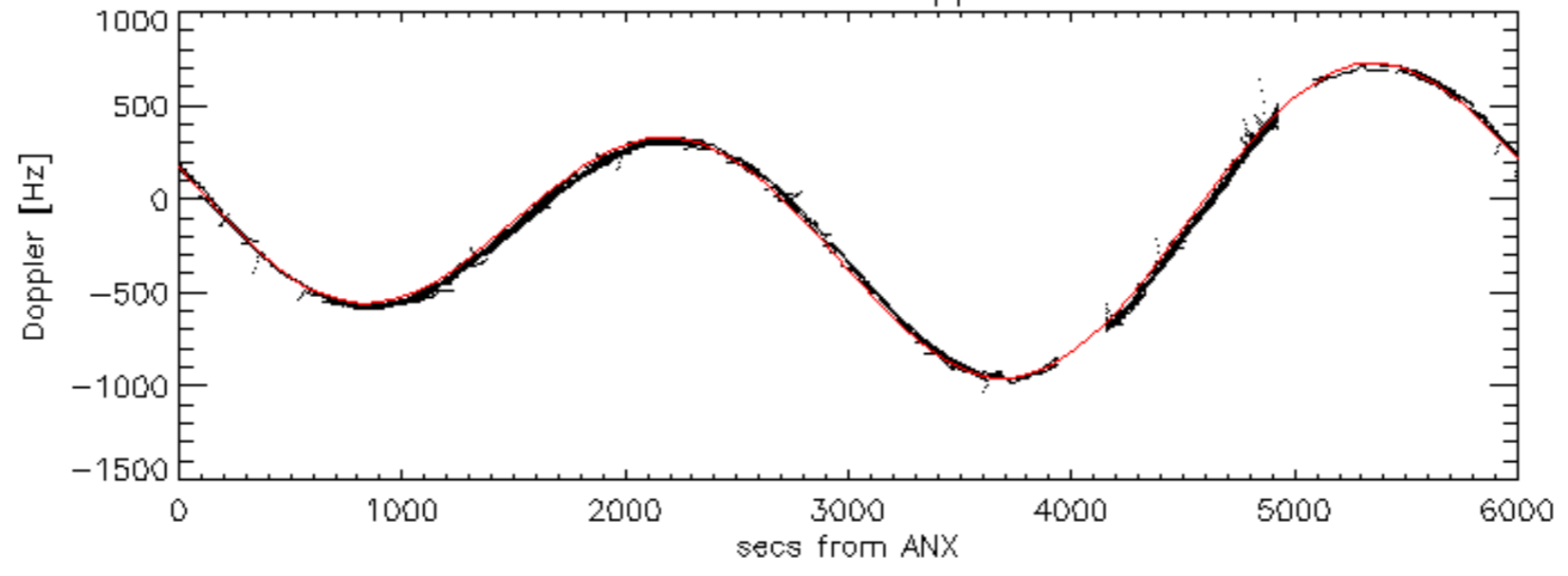
Doppler 'WVS' 'IS4' ascending

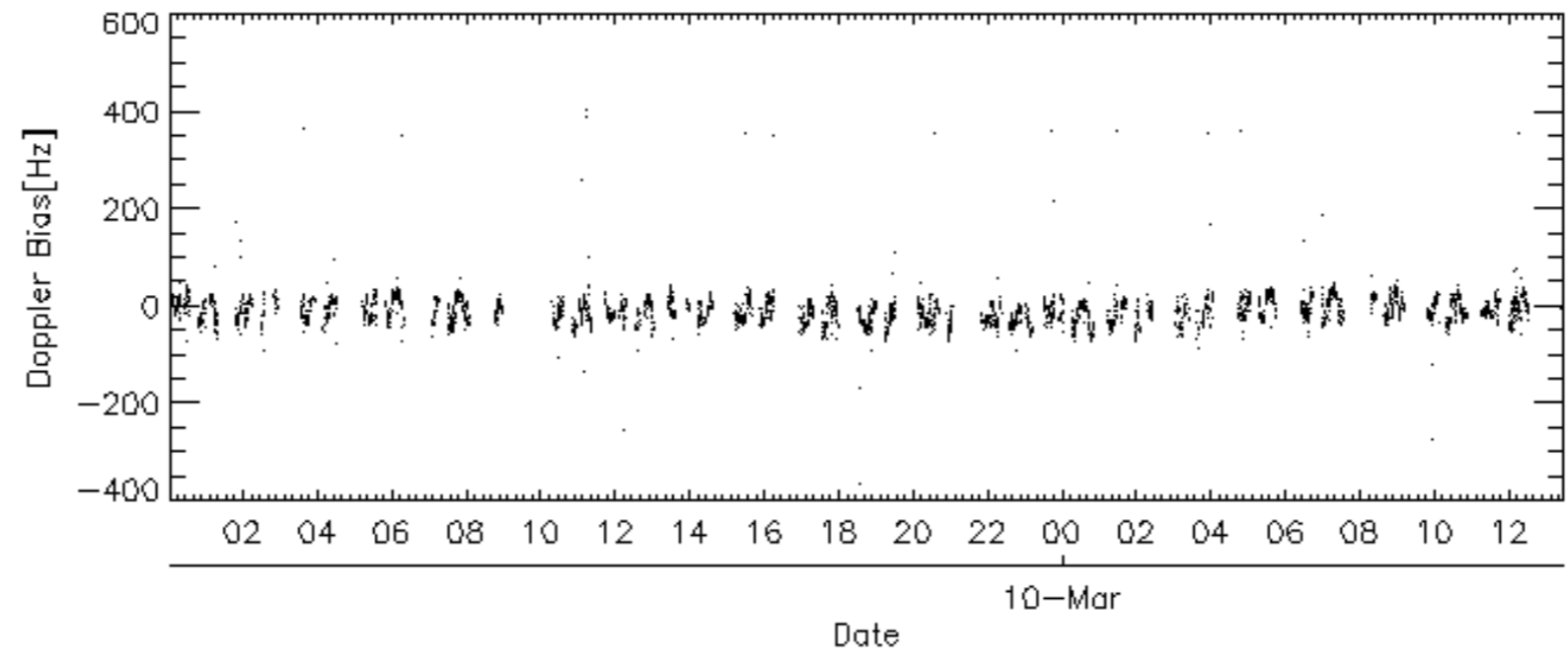
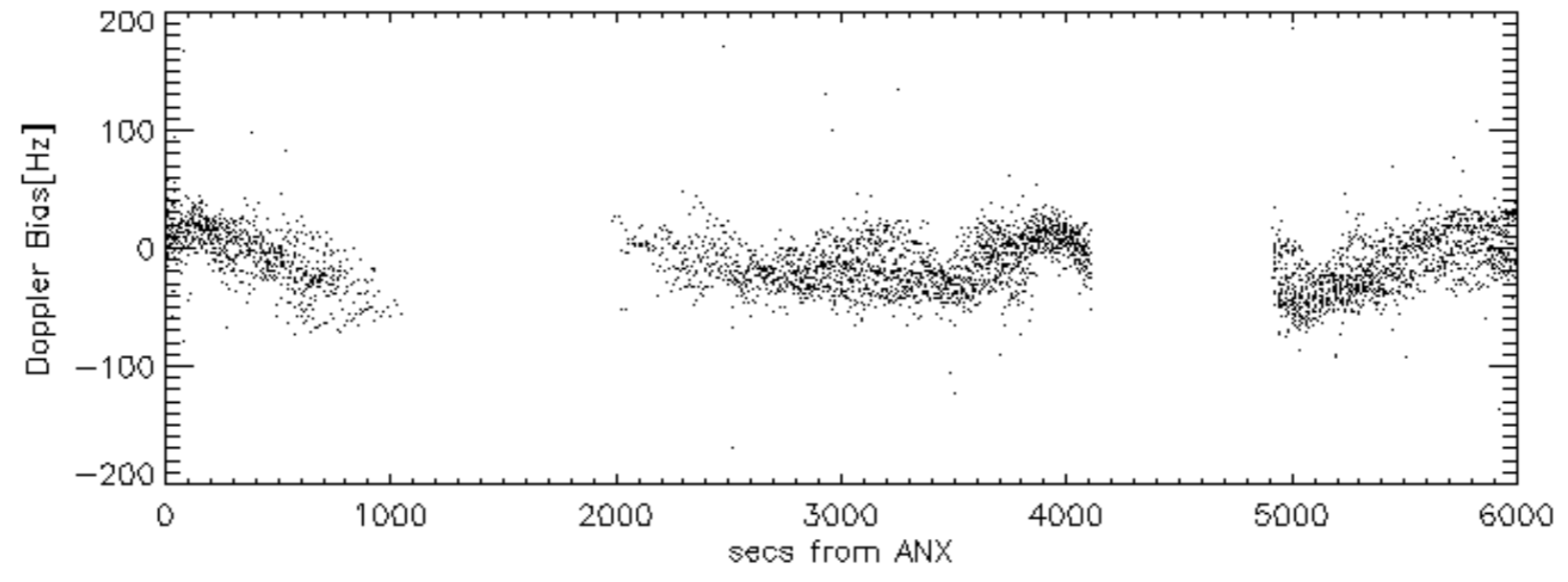
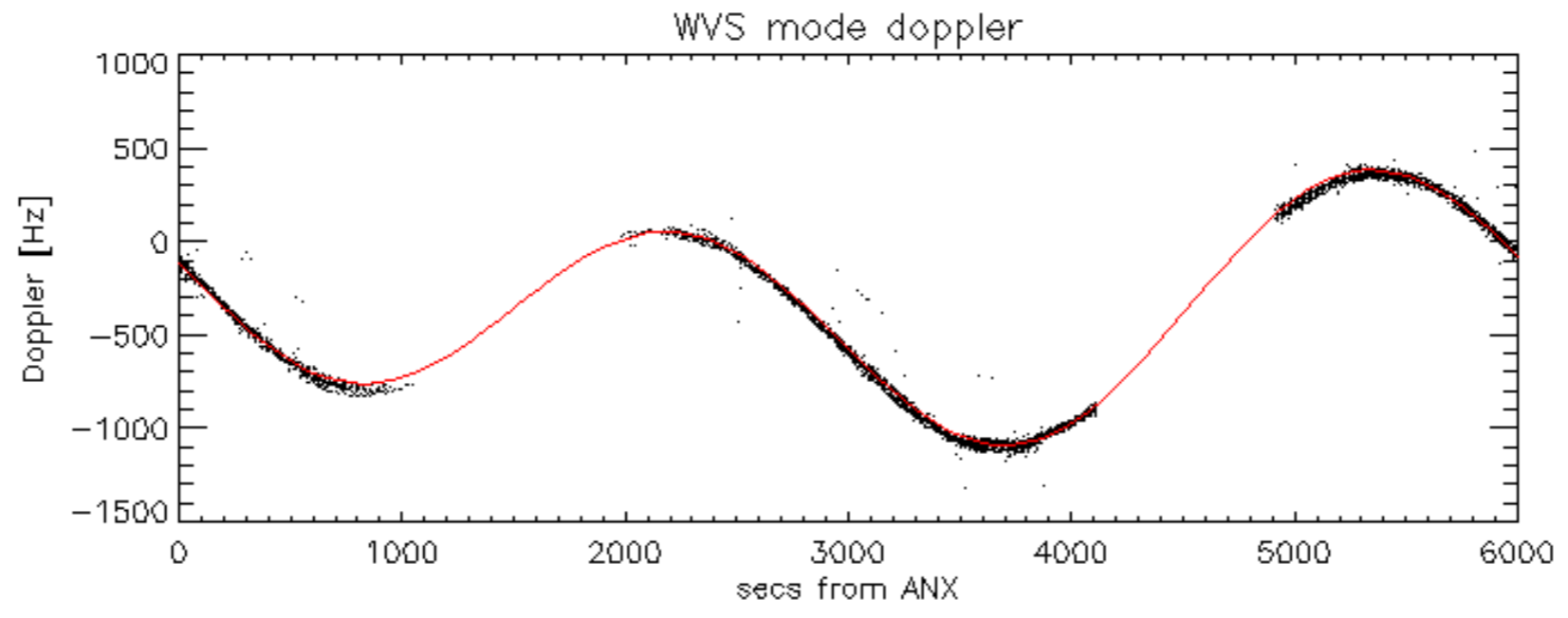


Doppler 'WVS' 'IS4' descending

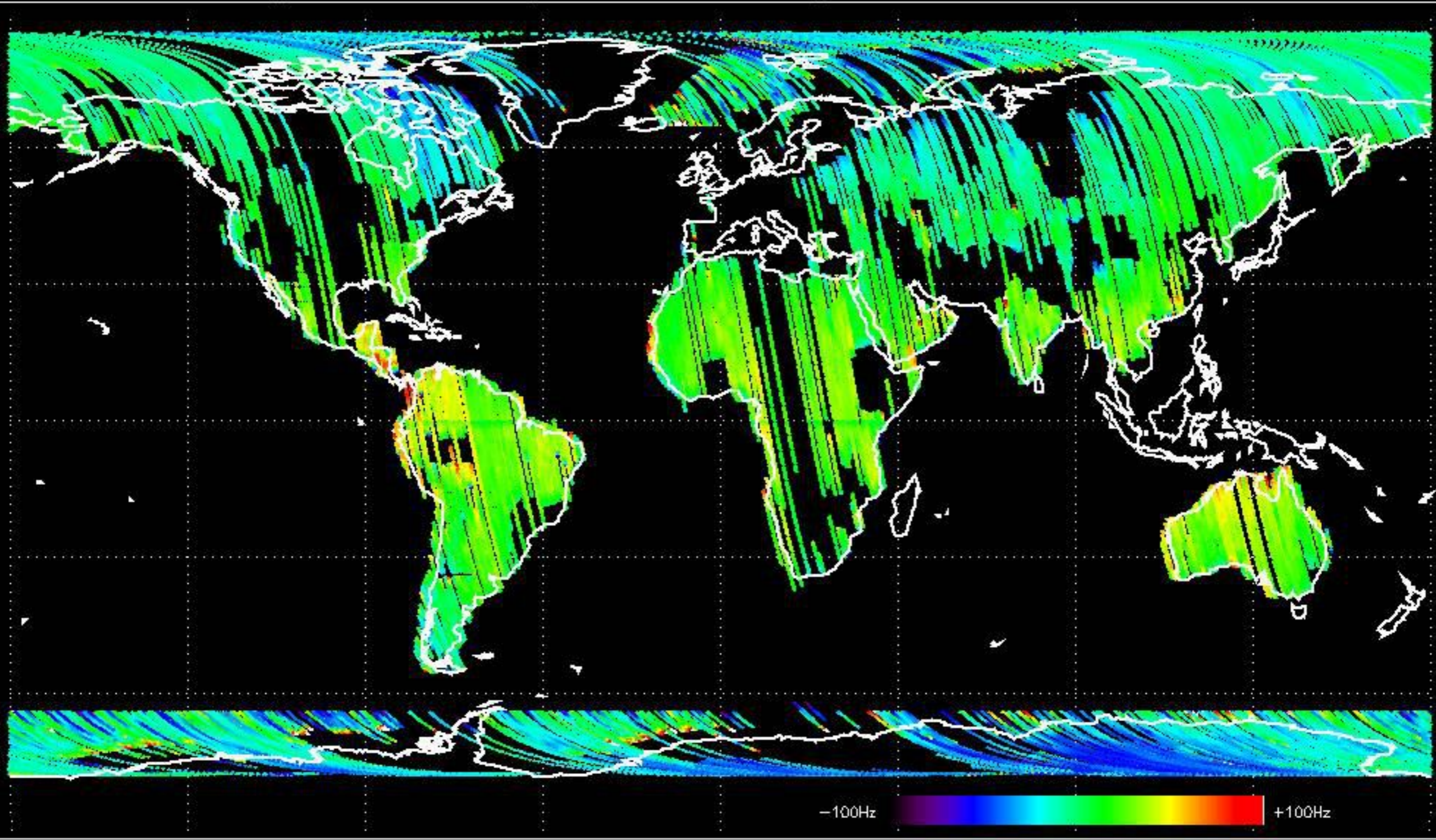


GM1 mode doppler

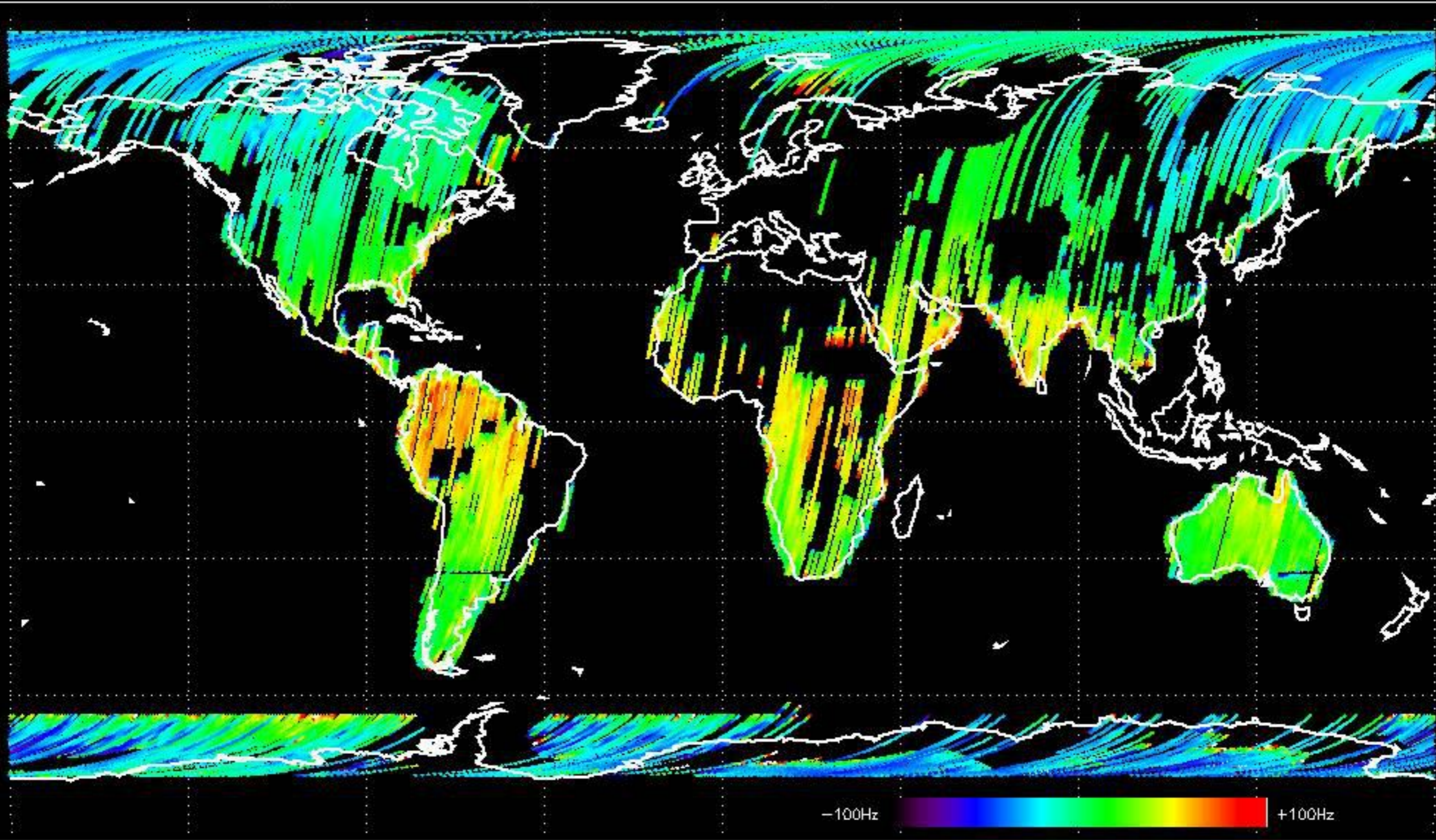




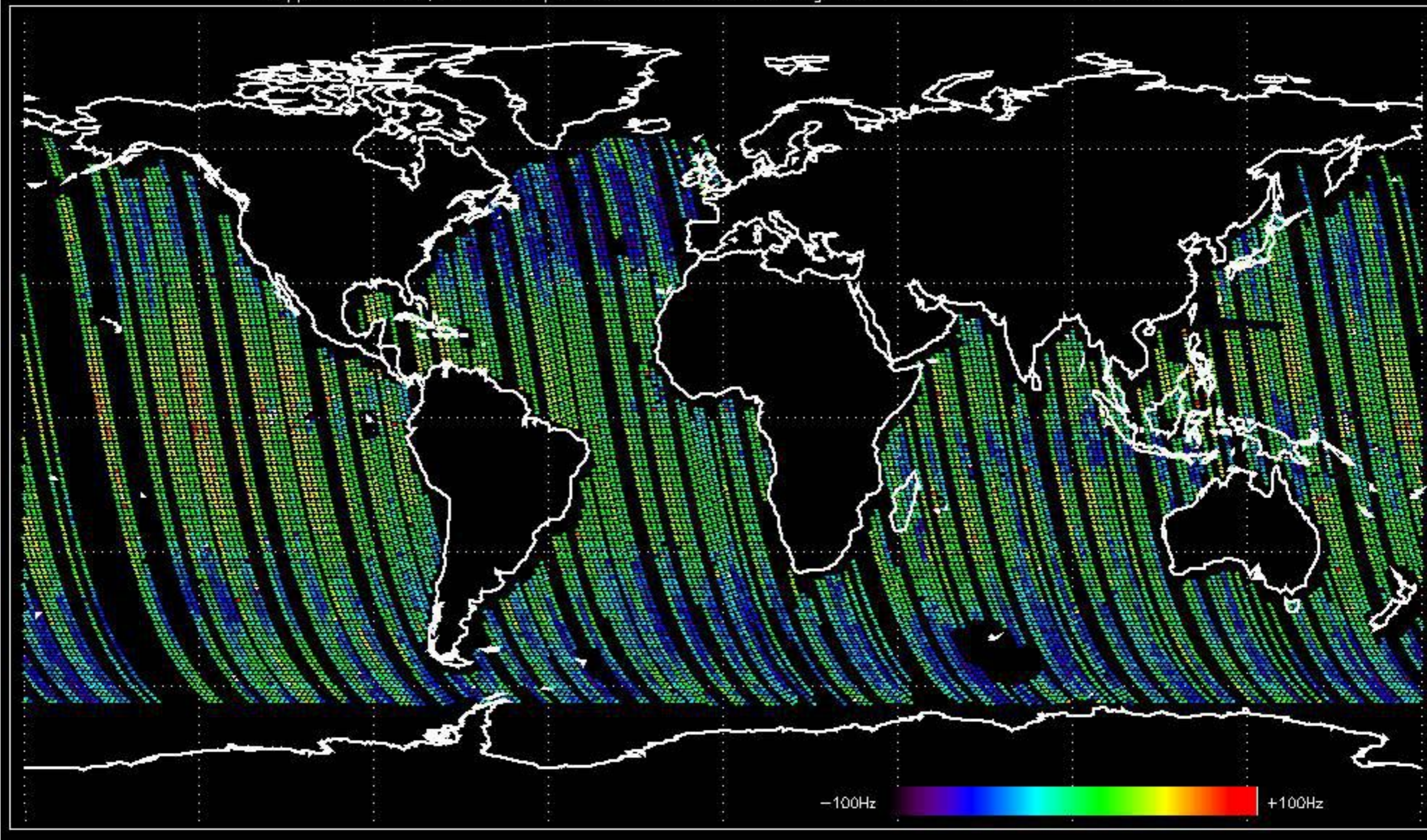
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -19.396677 Hz



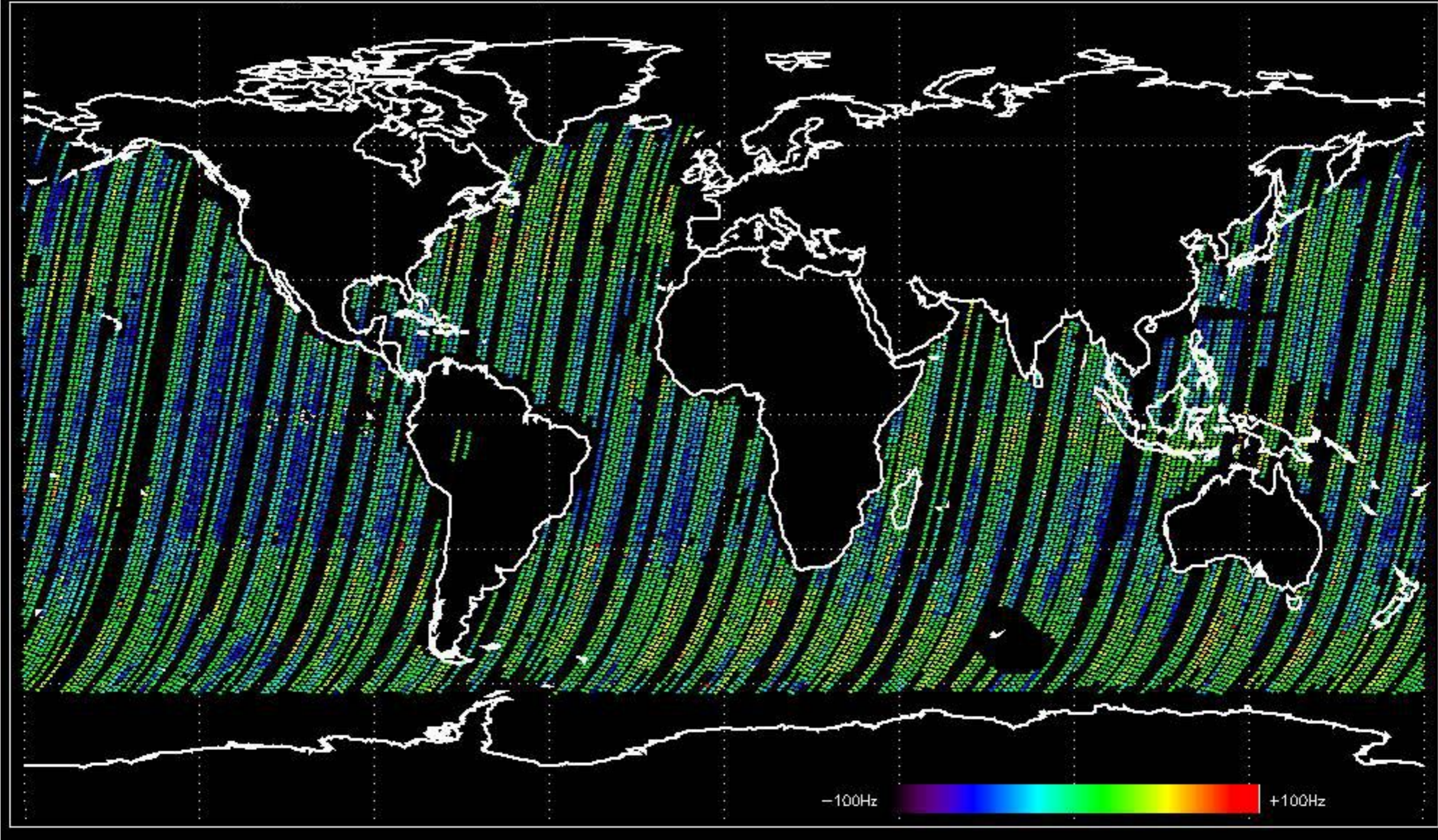
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -16.581017 Hz



Doppler difference, estimated-predicted 'WVS' 'IS4' ascending -error mean of -22.018843 Hz

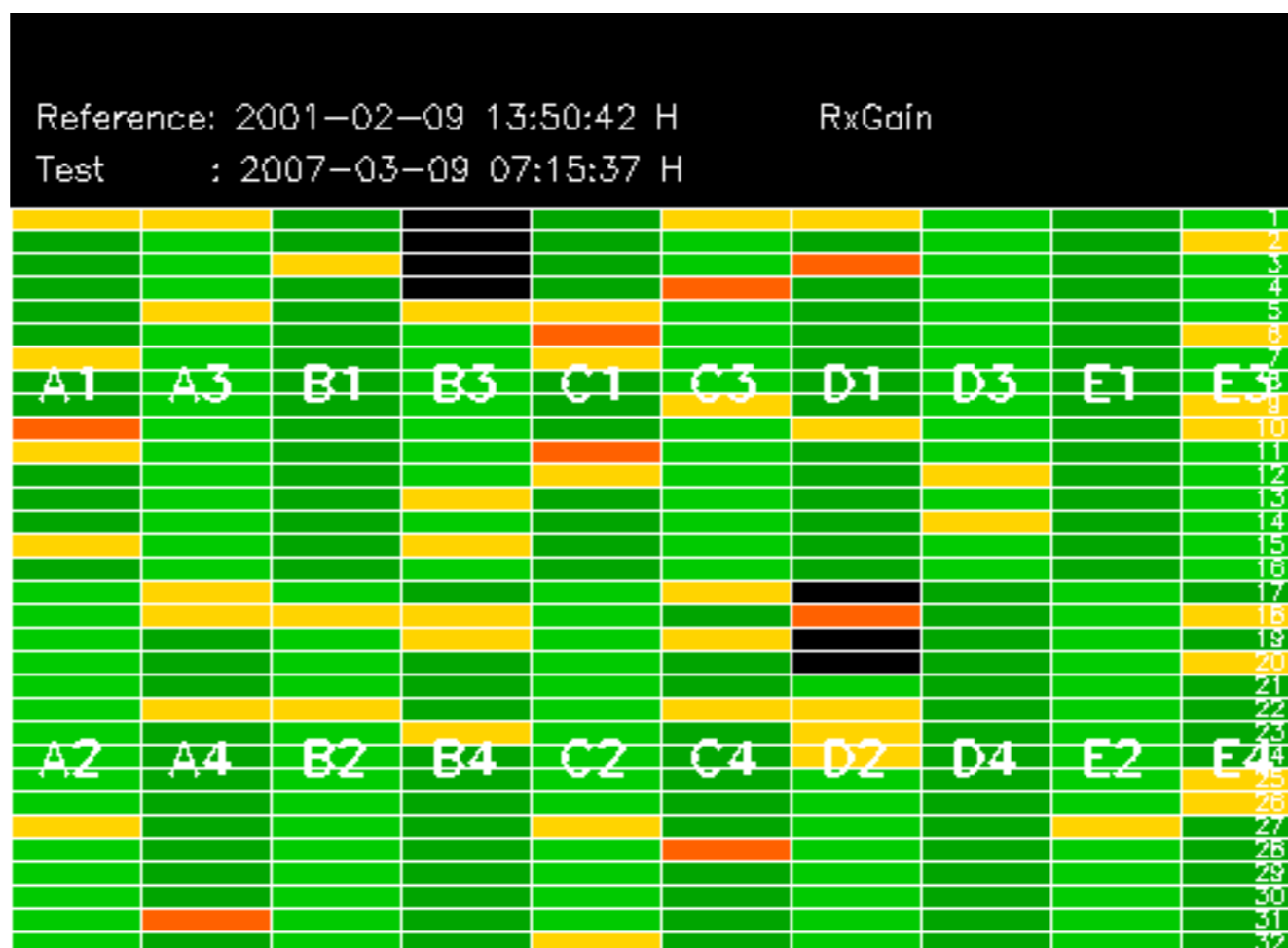


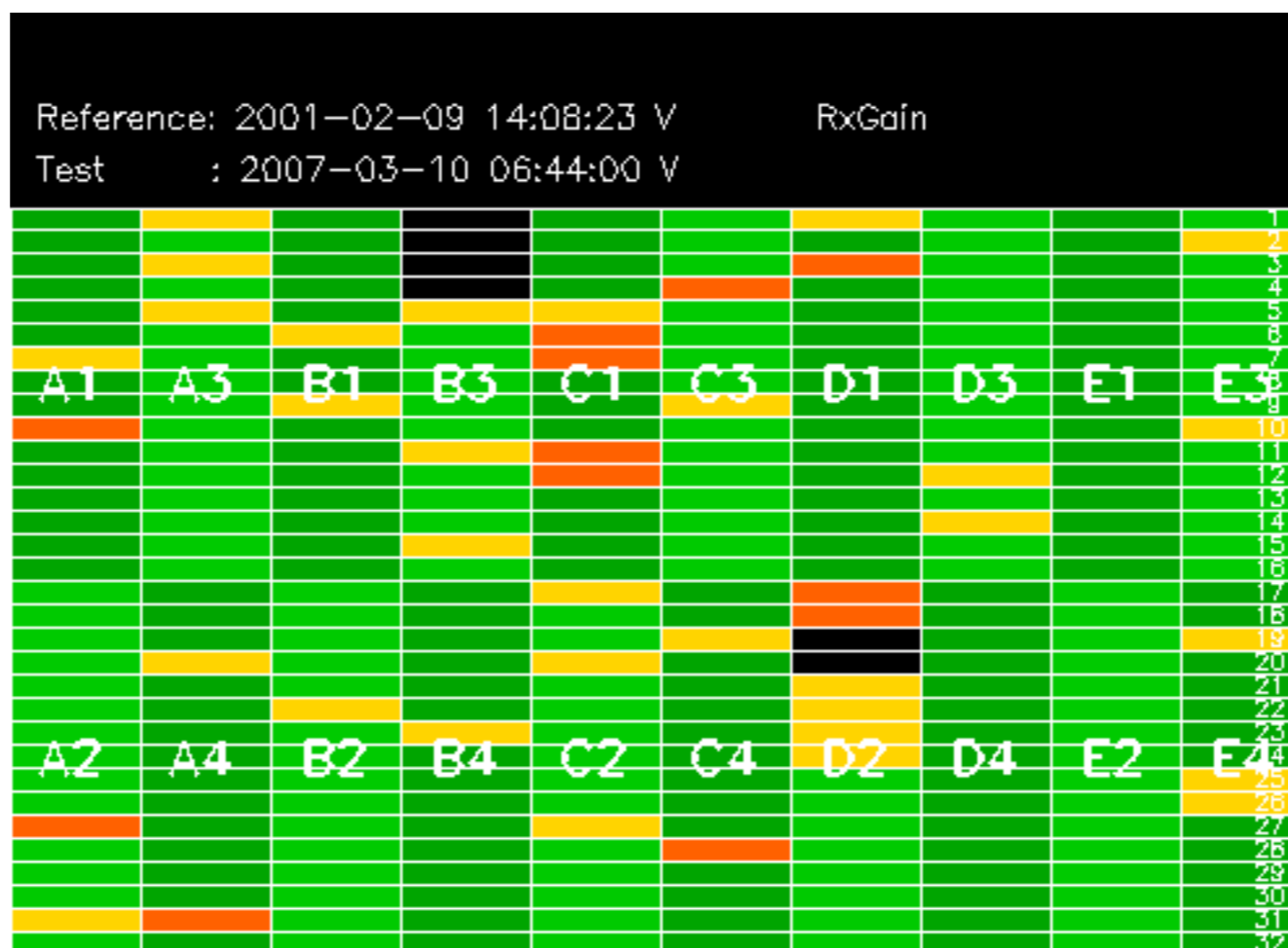
Doppler difference, estimated-predicted 'WVS' 'IS4' descending -error mean of -24.003250 Hz

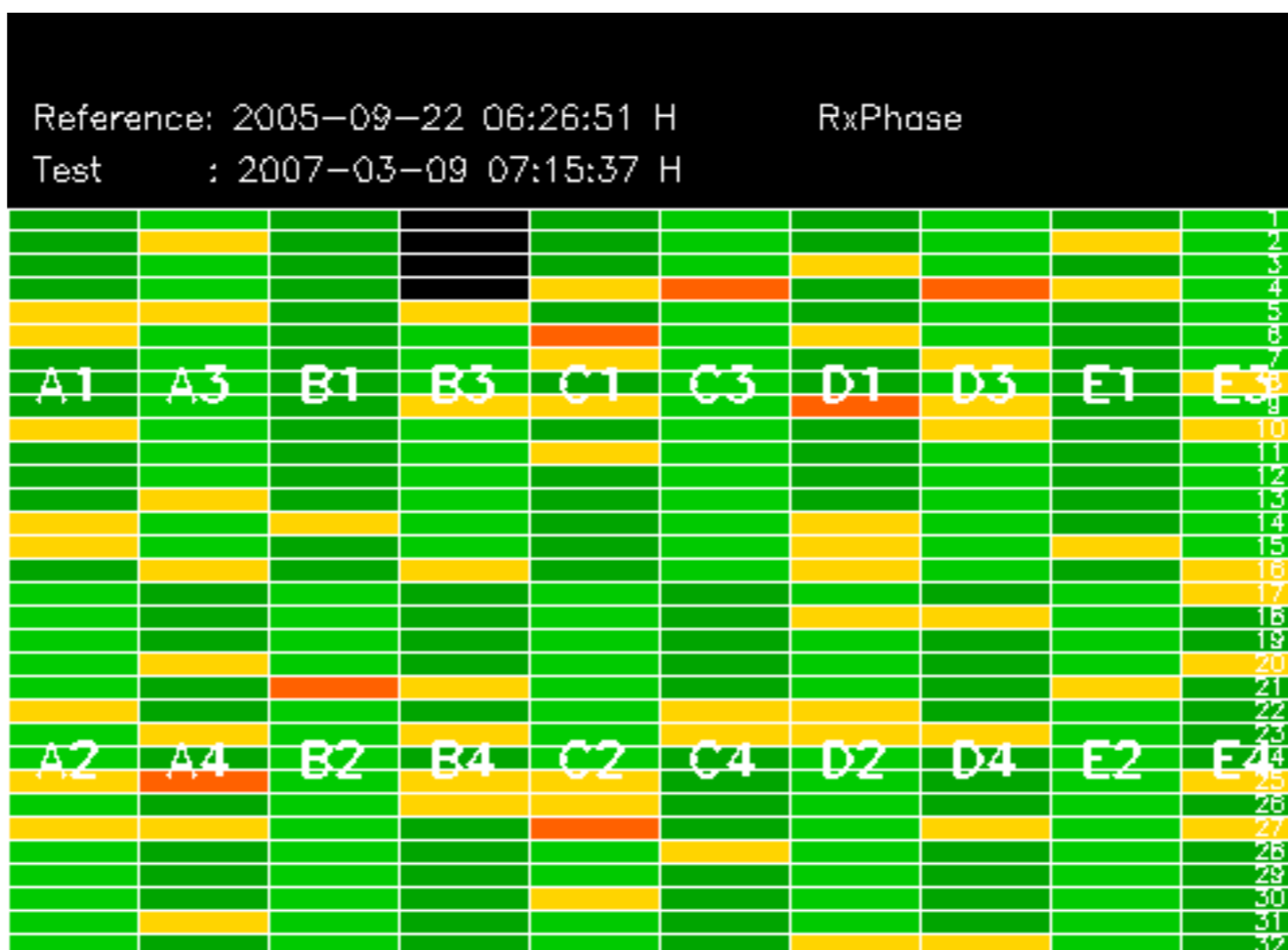


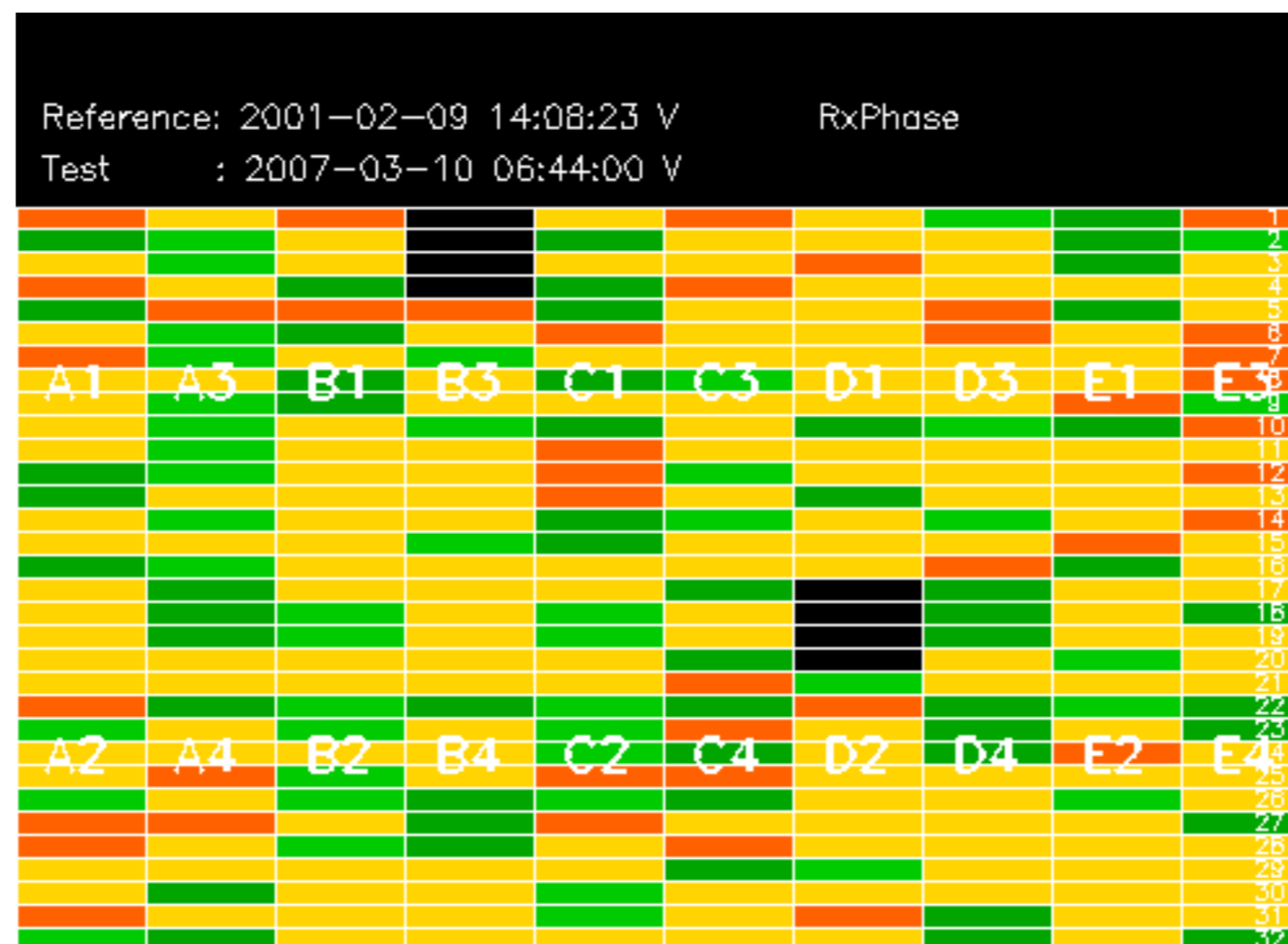
No anomalies observed on available MS products:

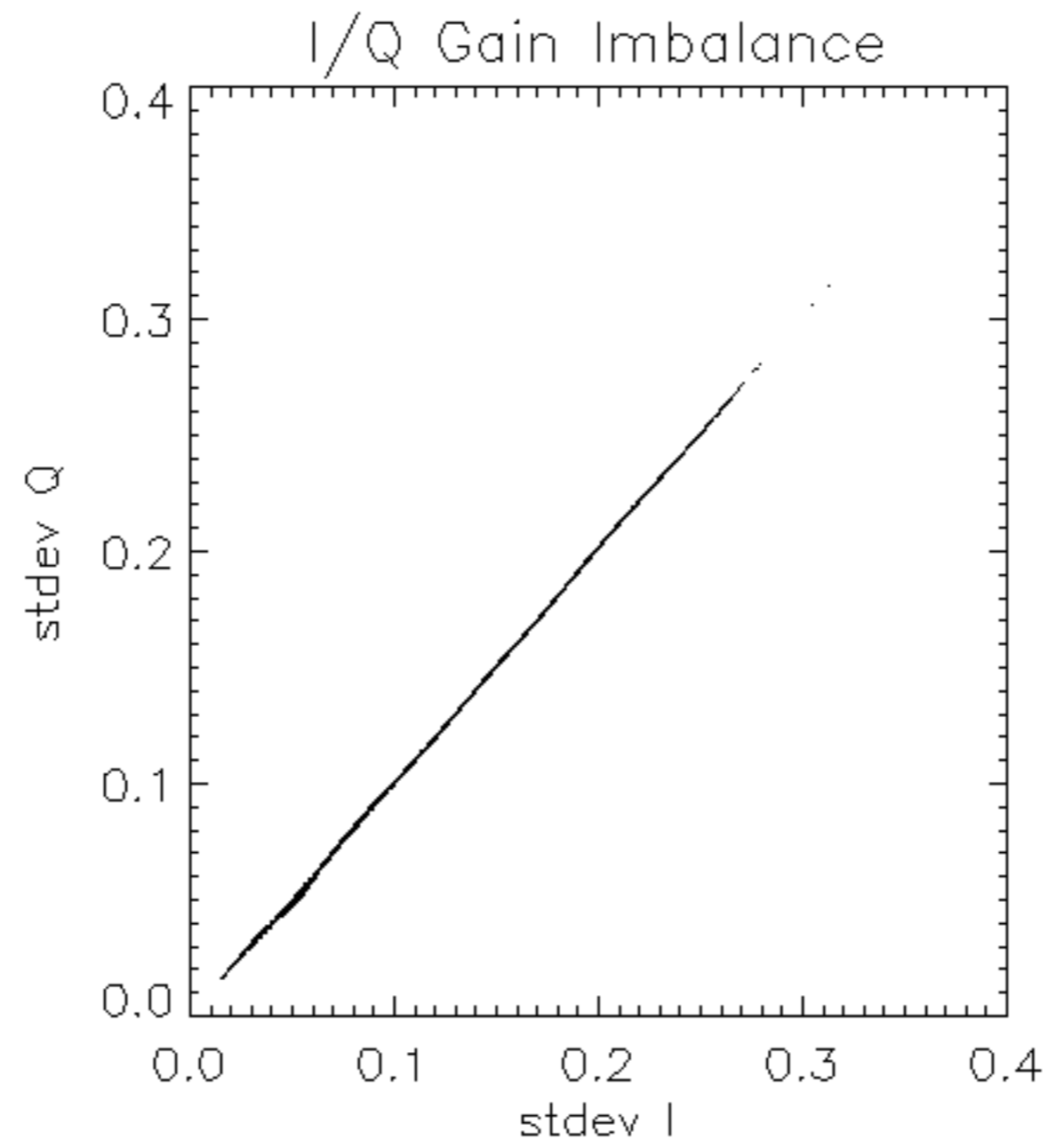
No anomalies observed.

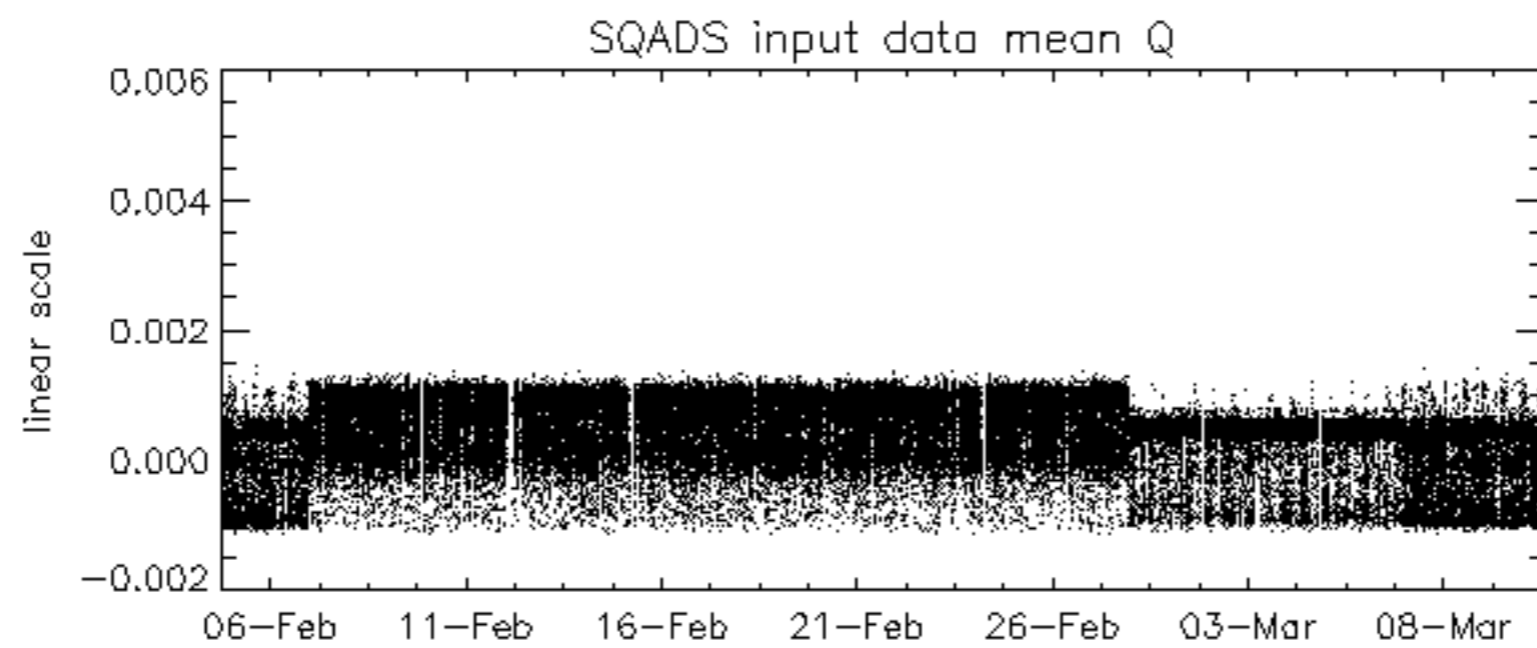
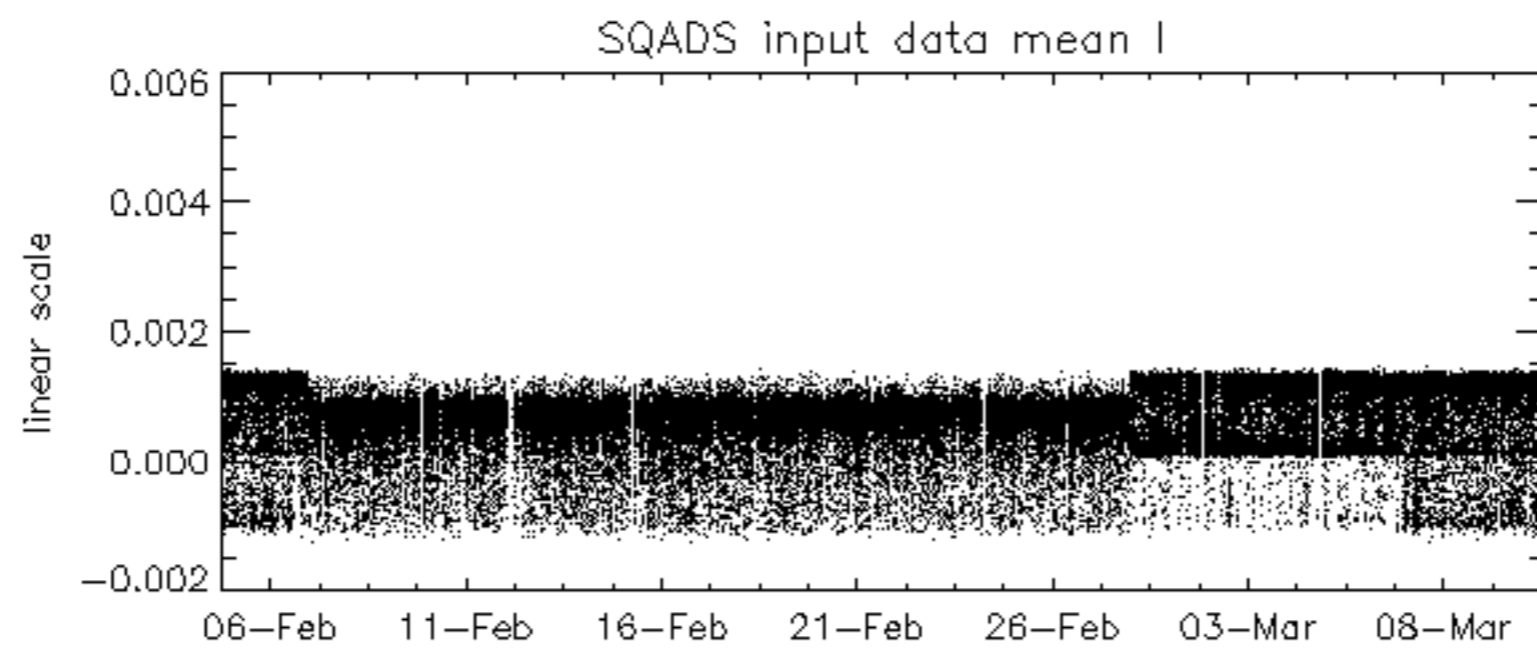
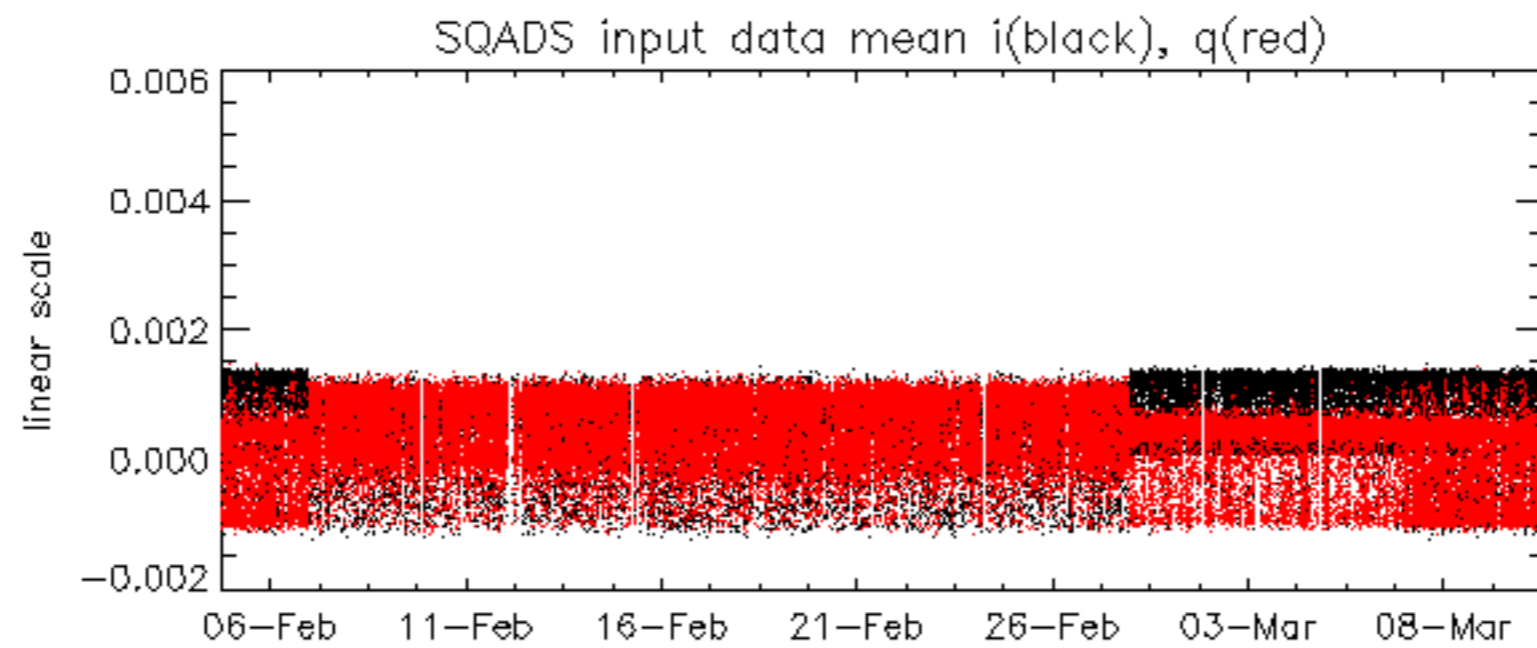


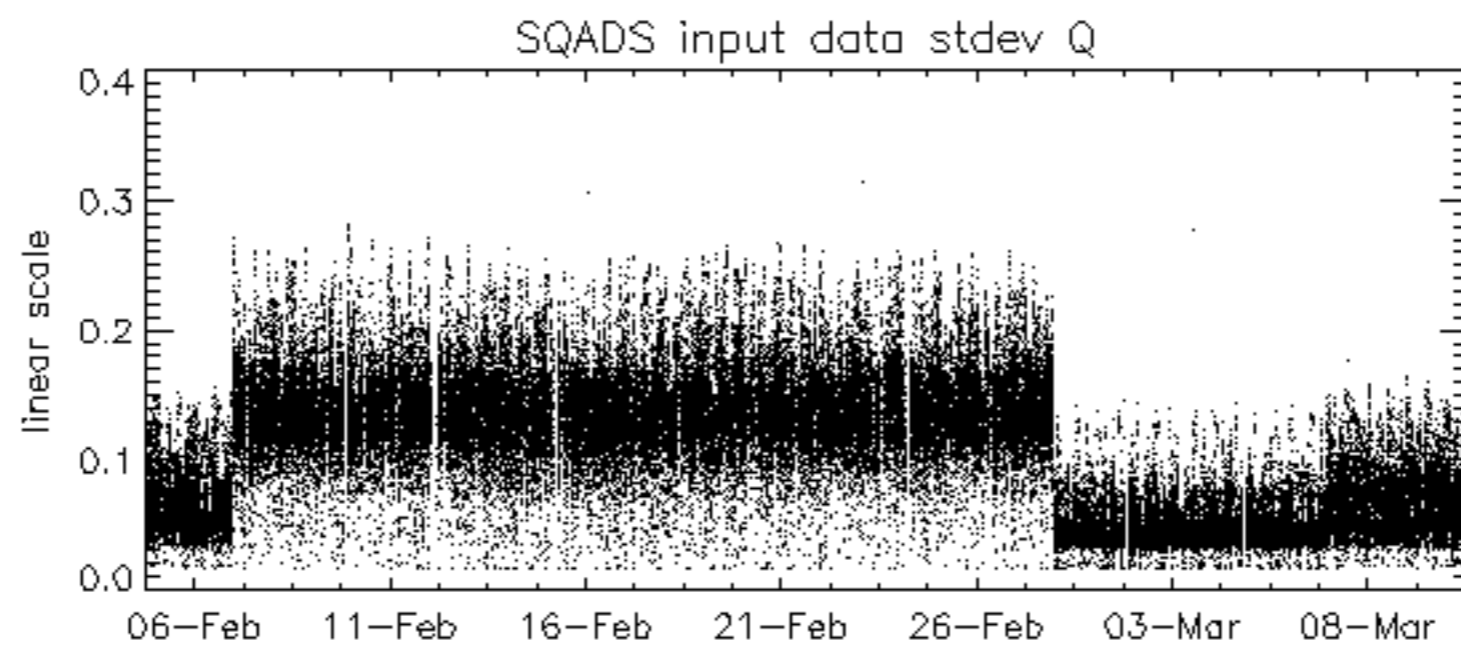
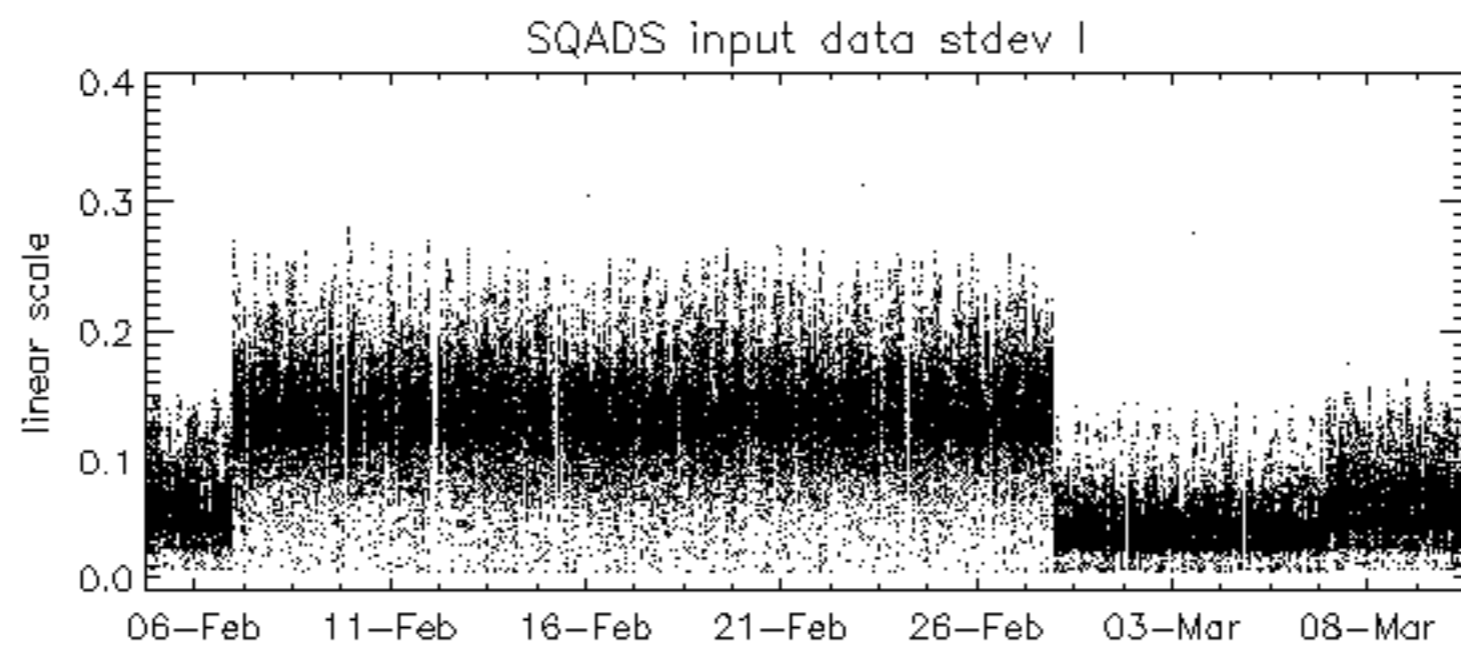
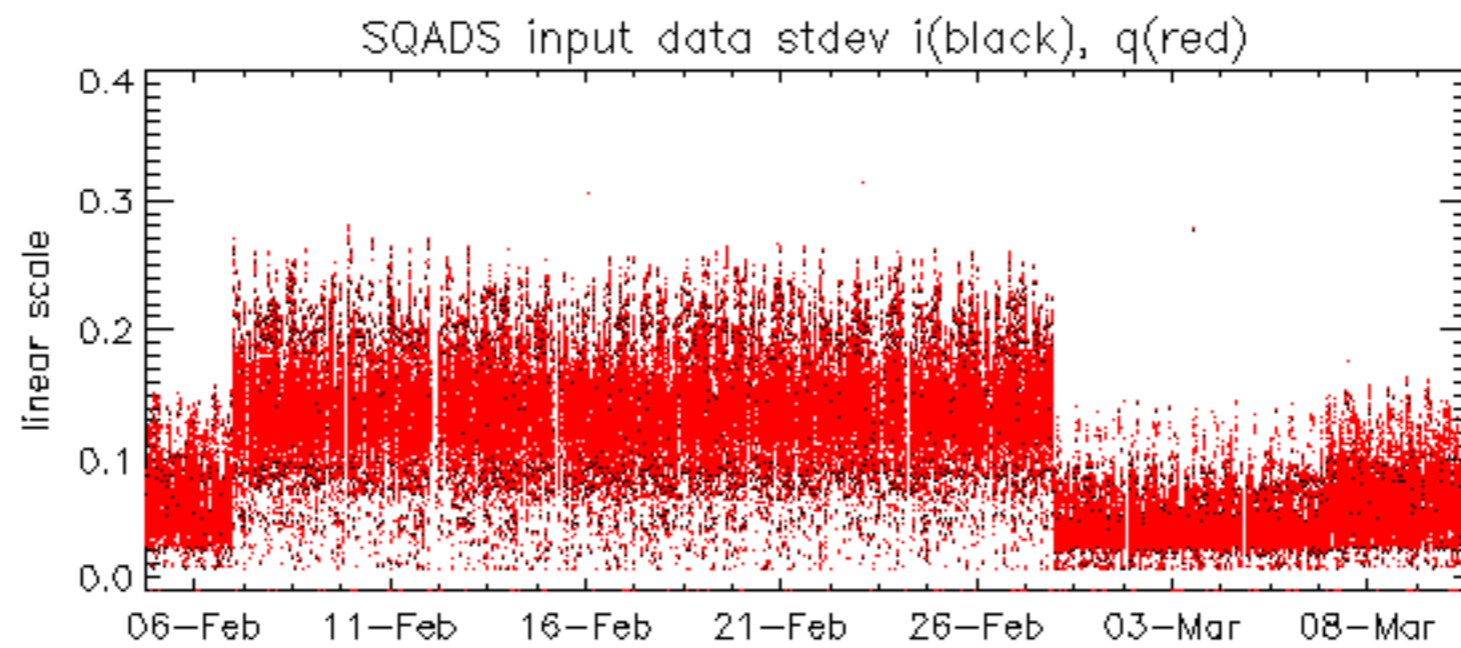








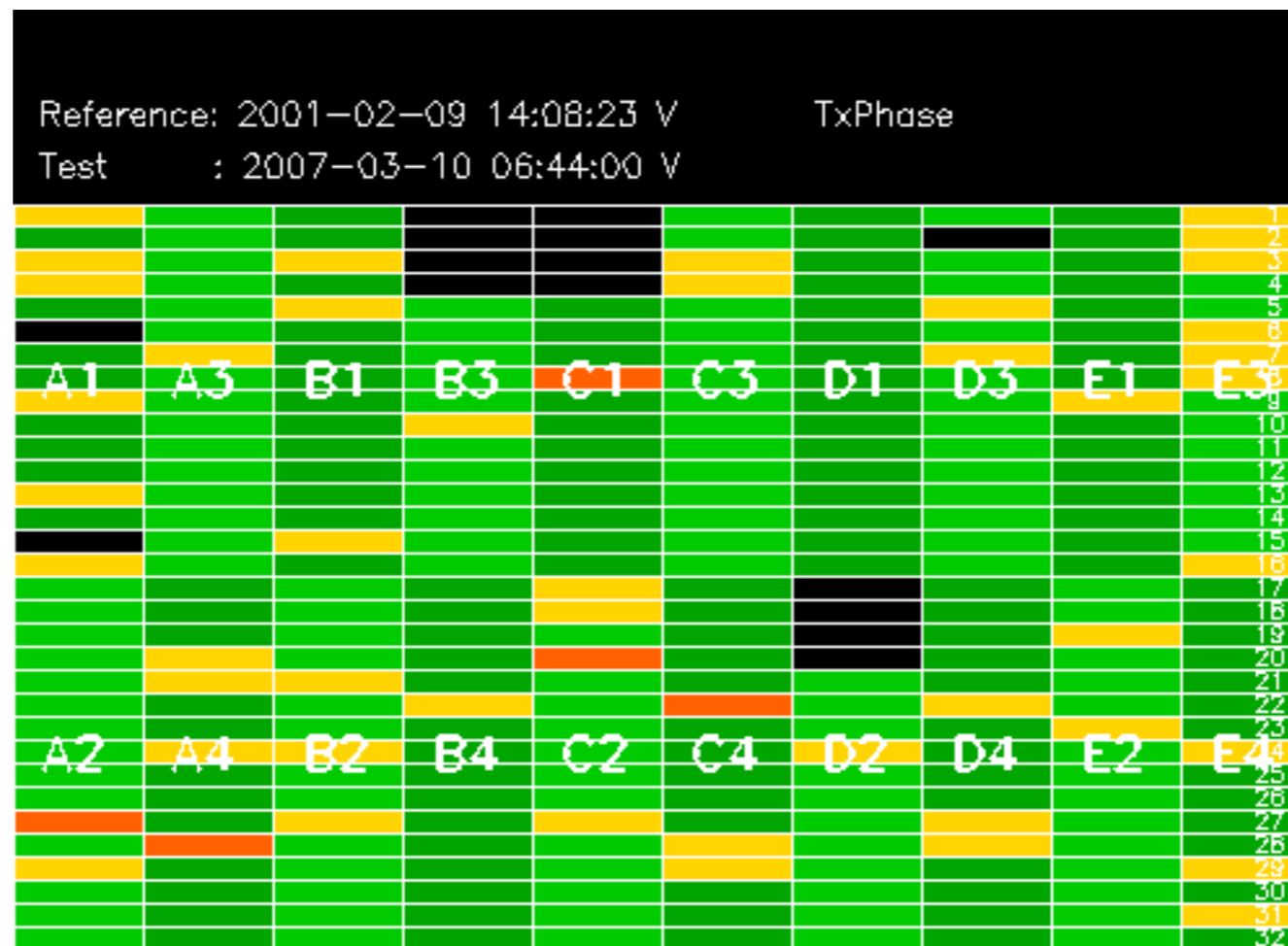


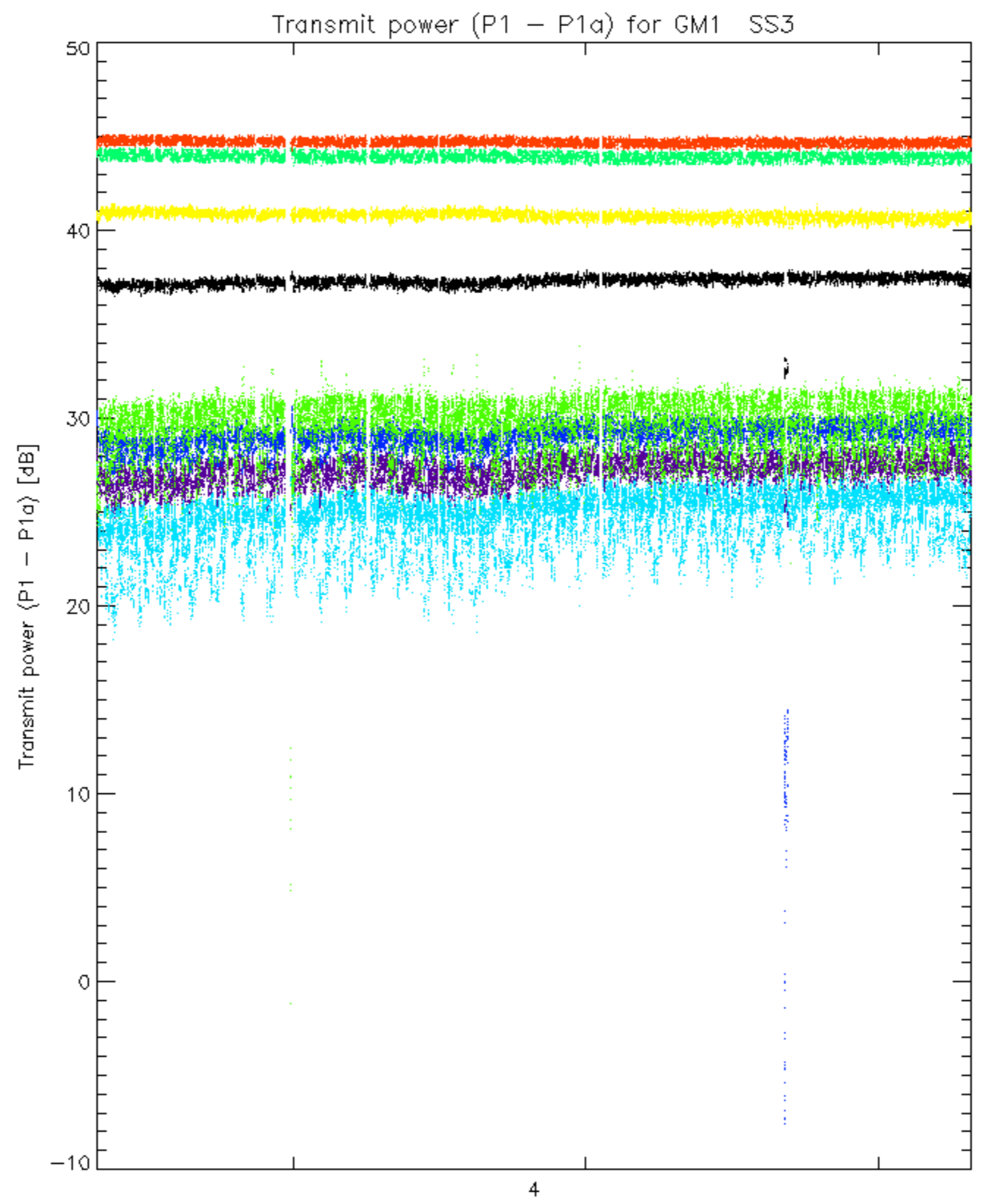


Summary of analysis for the last 3 days 2007030[890]

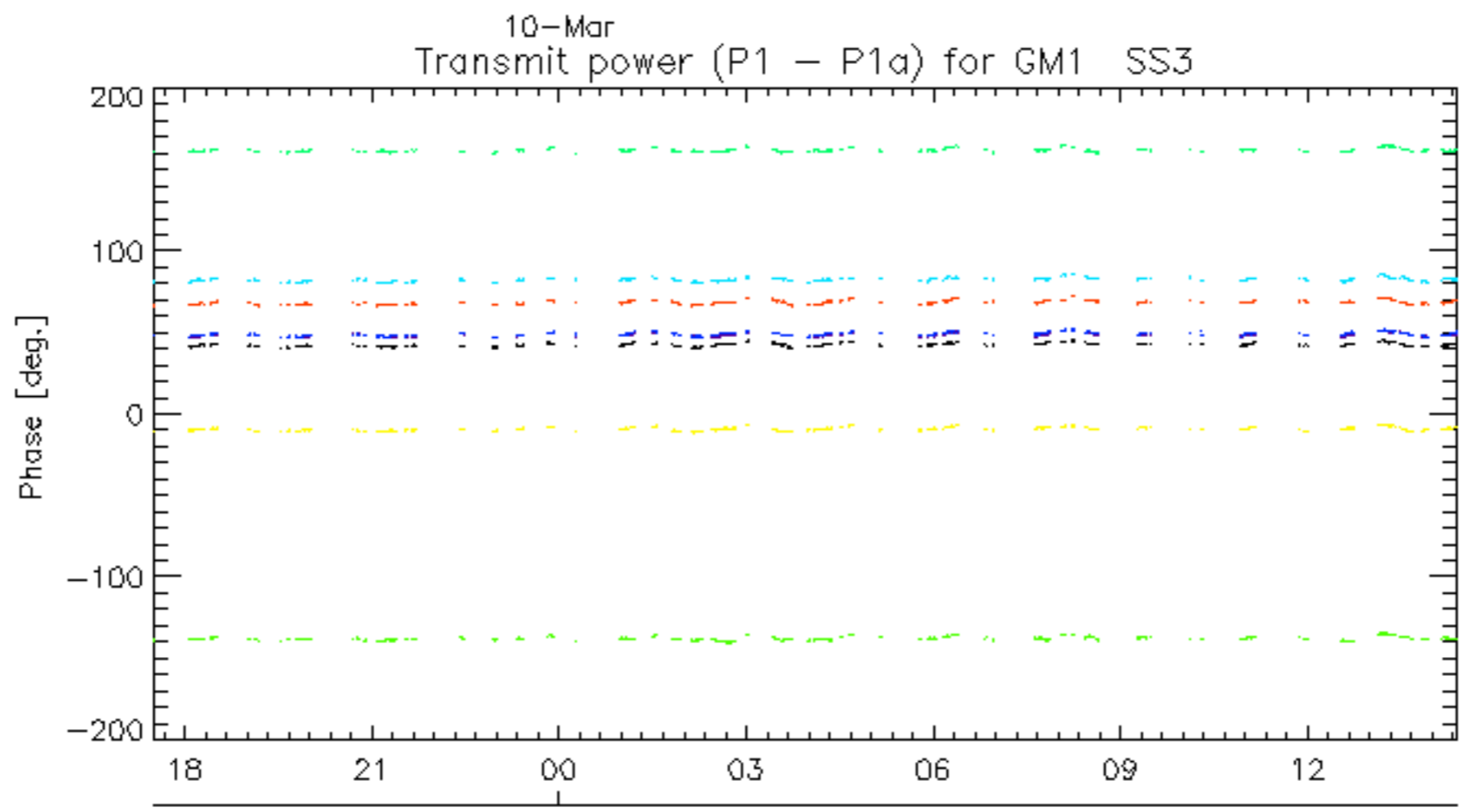
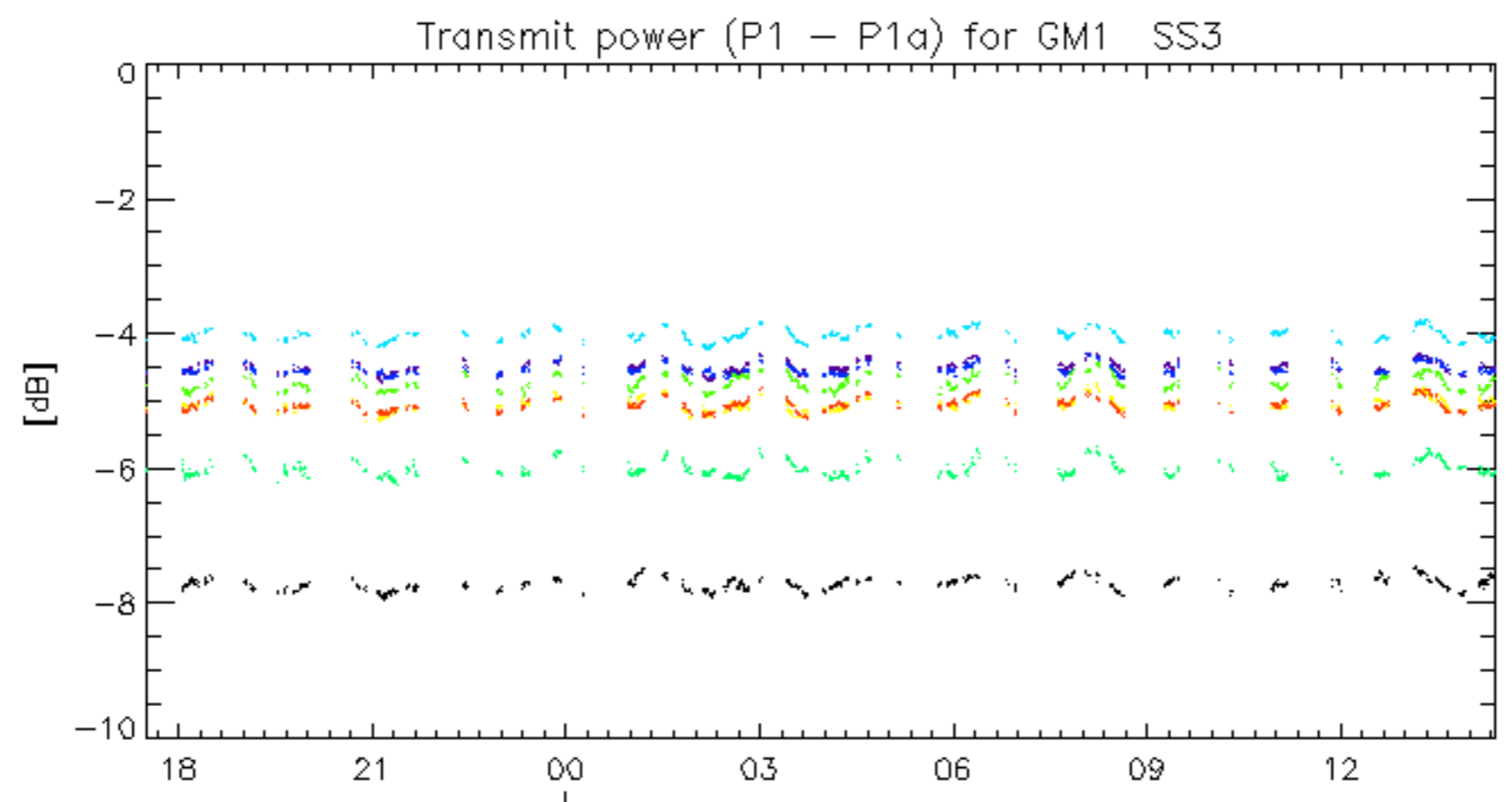
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20070308_014959_000000802056_00132_26238_4901.N1	1	0
ASA_IMM_1PNPDE20070309_042629_000000782056_00147_26253_6465.N1	1	0
ASA_GM1_1PNPDK20070309_194700_000000962056_00157_26263_1858.N1	0	6
ASA_WSM_1PNPDE20070309_015045_000000852056_00146_26252_6150.N1	0	52
ASA_WSM_1PNPDE20070309_151944_000000672056_00154_26260_6845.N1	0	67
ASA_WSM_1PNPDE20070309_151944_000000802056_00154_26260_6879.N1	0	67
ASA_APM_1PNPDE20070308_204806_000000422056_00143_26249_5615.N1	15	257
ASA_APM_1PNPDE20070309_011941_000000422056_00146_26252_6027.N1	14	0
ASA_APM_1PNPDK20070309_095951_000000542056_00151_26257_1118.N1	0	4

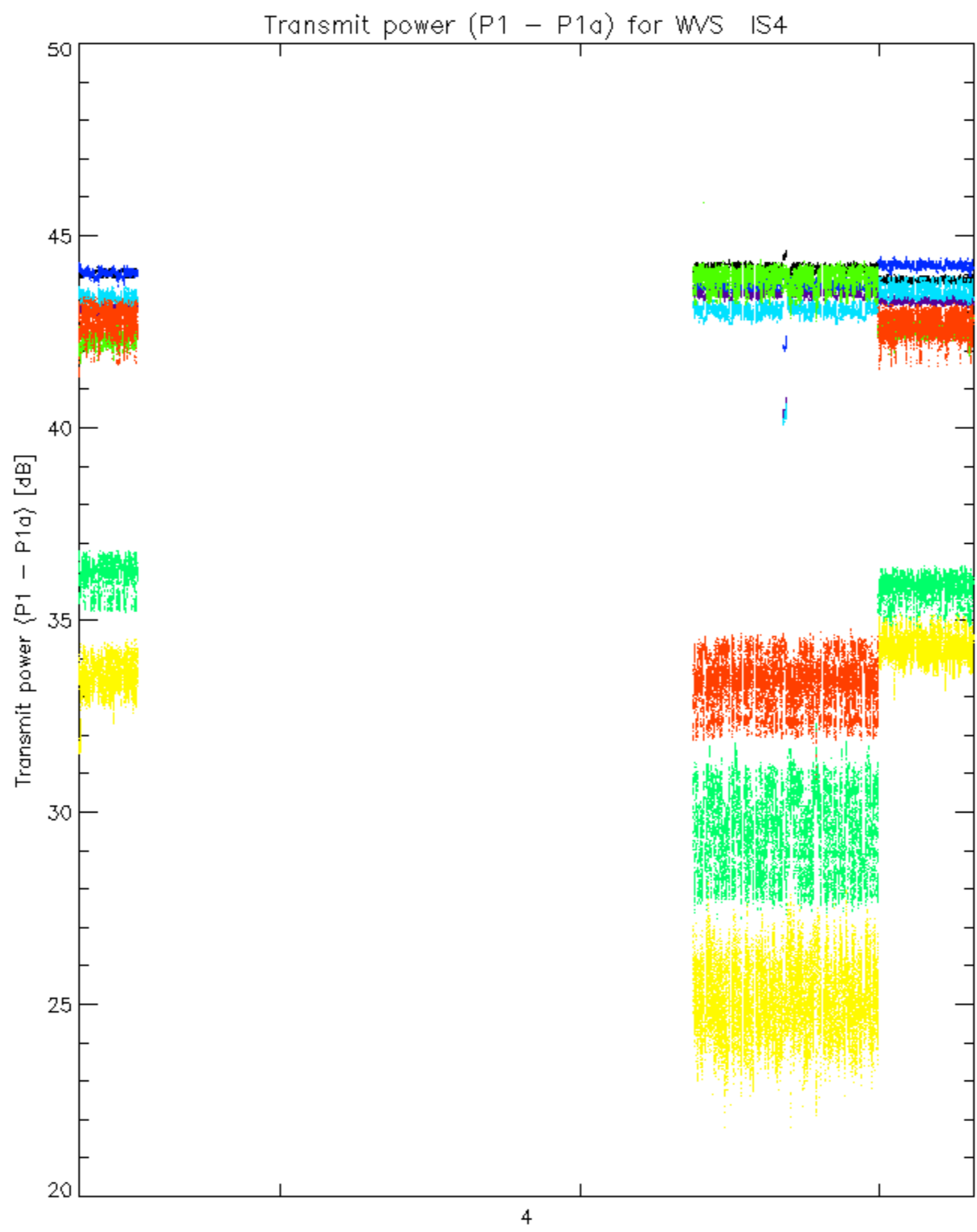




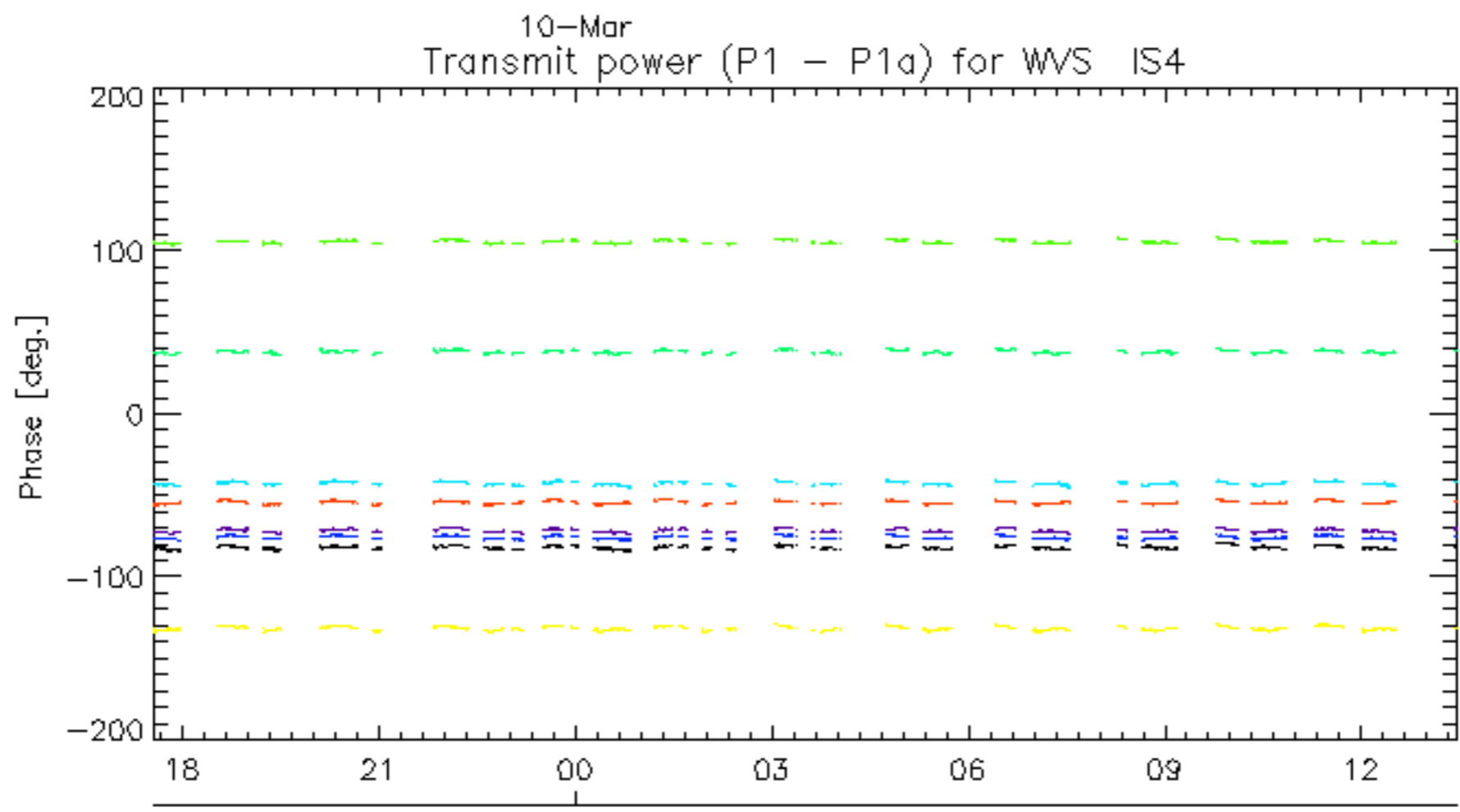
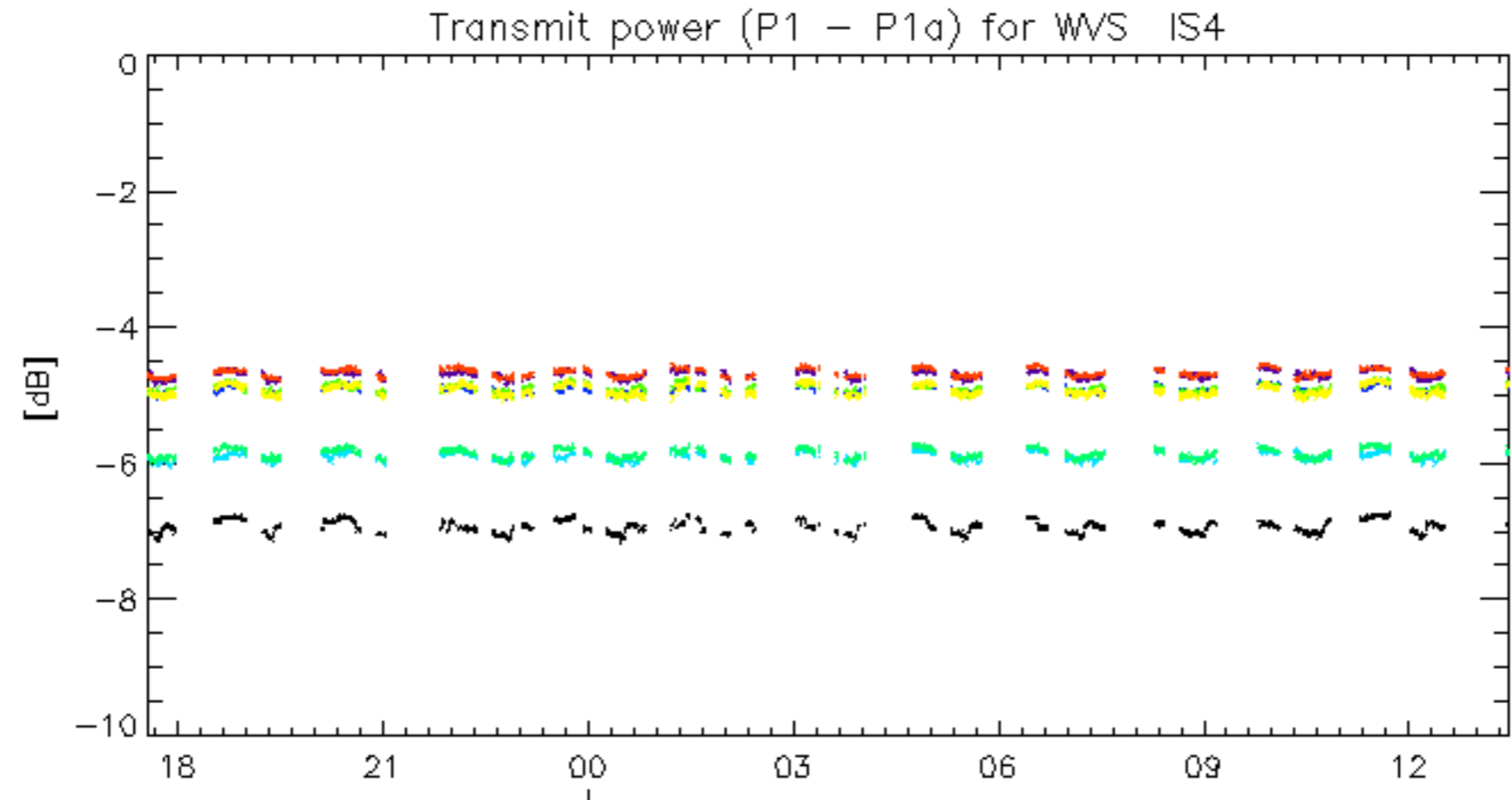
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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.