

PRELIMINARY REPORT OF 070222

last update on Thu Feb 22 16:34:33 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

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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 2007-02-21 00:00:00 to 2007-02-22 16:34:34

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_XCA_AXVIEC20070215_184638_20070204_165113_20071231_000000	23	50	5	0	25
ASA_CON_AXVIEC20070215_184018_20070204_165113_20071231_000000	23	50	5	0	25
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	23	50	5	0	25
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	23	50	5	0	25

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_XCA_AXVIEC20070215_184638_20070204_165113_20071231_000000	47	24	22	6	34
ASA_CON_AXVIEC20070215_184018_20070204_165113_20071231_000000	47	24	22	6	34
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	47	24	22	6	34
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	47	24	22	6	34

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	20070220 042854
H	20070221 071829

MSM in V/V polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
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⊗	
⊗	
⊗	
⊗	

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	-15.148657	0.234529	1.462742
7	P1a	-17.398258	0.105690	-0.137466
11	P1a	-17.305712	0.354572	0.153357
15	P1a	-12.840508	0.105931	-0.152422
19	P1a	-15.086374	0.093245	-0.009075
22	P1a	-15.490653	0.481574	-0.062324
26	P1a	-15.017043	0.213282	-0.215630
30	P1a	-17.307829	0.349238	-0.252547

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.614260	0.153761	-1.538527
7	P1	-3.099839	0.009135	-0.009663
11	P1	-4.123475	0.019299	-0.011673
15	P1	-6.324446	0.015651	-0.046402
19	P1	-3.706431	0.008594	-0.001584
22	P1	-4.668231	0.014418	0.033391
26	P1	-3.925693	0.013121	0.010957
30	P1	-5.912554	0.011847	0.005219

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.537304	0.264005	-1.663249
7	P2	-21.592134	0.084303	0.135108
11	P2	-15.475961	0.101075	0.048959
15	P2	-7.002884	0.097954	0.034593
19	P2	-9.072690	0.086363	0.022328
22	P2	-18.096510	0.081182	-0.018970

26	P2	-16.494356	0.094706	0.016803
30	P2	-19.325502	0.077488	0.029892

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.191453	0.007724	0.049410
7	P3	-8.191453	0.007724	0.049410
11	P3	-8.191453	0.007724	0.049410
15	P3	-8.191453	0.007724	0.049410
19	P3	-8.191453	0.007724	0.049410
22	P3	-8.191453	0.007724	0.049410
26	P3	-8.191453	0.007724	0.049410
30	P3	-8.191453	0.007724	0.049410

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	-11.305210	0.142724	1.092388
7	P1a	-10.032933	0.063023	-0.035127
11	P1a	-10.581156	0.058777	-0.226572
15	P1a	-10.849335	0.131767	-0.066895
19	P1a	-15.741111	0.064444	0.025882
22	P1a	-20.868259	1.272434	0.326032
26	P1a	-15.428367	0.262677	0.243919
30	P1a	-18.329517	0.361462	-0.040711

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-6.906770	3.876830	-6.779588
7	P1	-2.433329	0.005920	0.035654

11	P1	-2.882760	0.016056	-0.080173
15	P1	-3.798980	0.033225	-0.081027
19	P1	-3.549256	0.012725	0.003272
22	P1	-5.022793	0.022754	0.006704
26	P1	-5.990144	0.023219	0.036278
30	P1	-5.284837	0.022799	0.028185

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.446241	0.781156	-2.927753
7	P2	-21.994280	0.052715	0.153263
11	P2	-10.669588	0.030855	0.102320
15	P2	-4.823620	0.027271	0.075192
19	P2	-6.820022	0.028361	0.089355
22	P2	-8.127727	0.029929	0.094371
26	P2	-24.245663	0.032196	0.044534
30	P2	-21.773232	0.036029	0.114639

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.042070	0.003305	0.058742
7	P3	-8.042076	0.003315	0.058345
11	P3	-8.042088	0.003309	0.058548
15	P3	-8.042044	0.003314	0.058700
19	P3	-8.042088	0.003298	0.058405
22	P3	-8.042150	0.003307	0.058459
26	P3	-8.041992	0.003310	0.058768
30	P3	-8.042042	0.003313	0.058495

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	0.000622244
	stdev	2.40714e-07
MEAN Q	mean	0.000382898
	stdev	2.52256e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.103469
	stdev	0.00259542
STDEV Q	mean	0.103483
	stdev	0.00264582



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2007022[012]

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_1PNPDE20070221_143309_000000372055_00425_26030_6740.N1	1	0
ASA_IMM_1PNPDE20070221_165622_000001272055_00427_26032_6826.N1	4	86



ASA_GM1_1PNPDK20070220_151813_000003802055_00412_26017_2588.N1	0	17
ASA_WSM_1PNPDE20070221_164157_000000982055_00427_26032_6808.N1	5	1764
ASA_WSM_1PNPDE20070221_172658_000000672055_00427_26032_6800.N1	21	6572





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)

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

7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

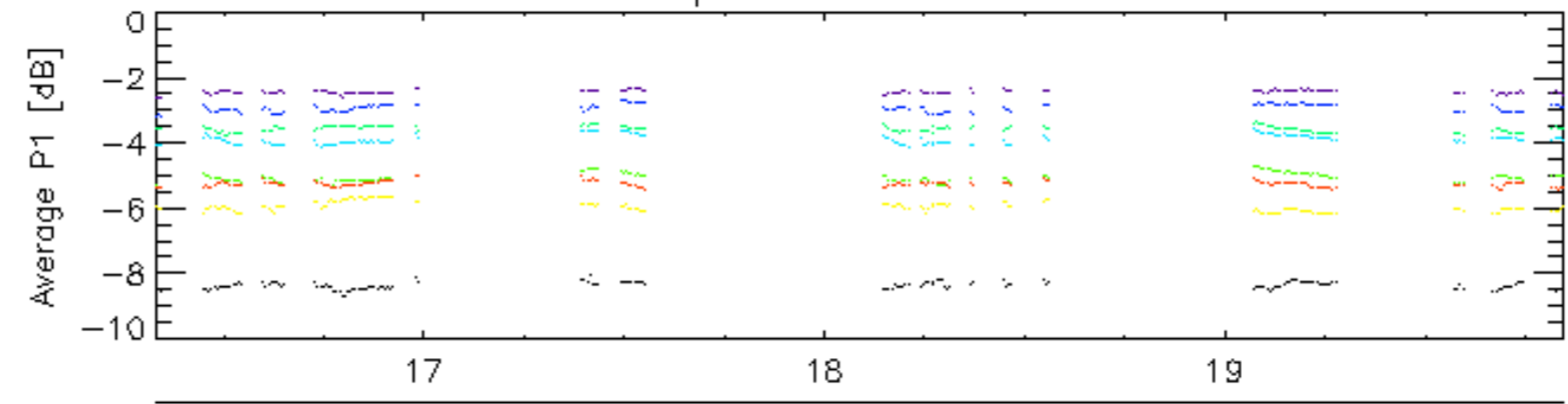
<input type="checkbox"/>
Acsending
<input type="checkbox"/>
Descending

7.6 - Doppler evolution versus ANX for GM1

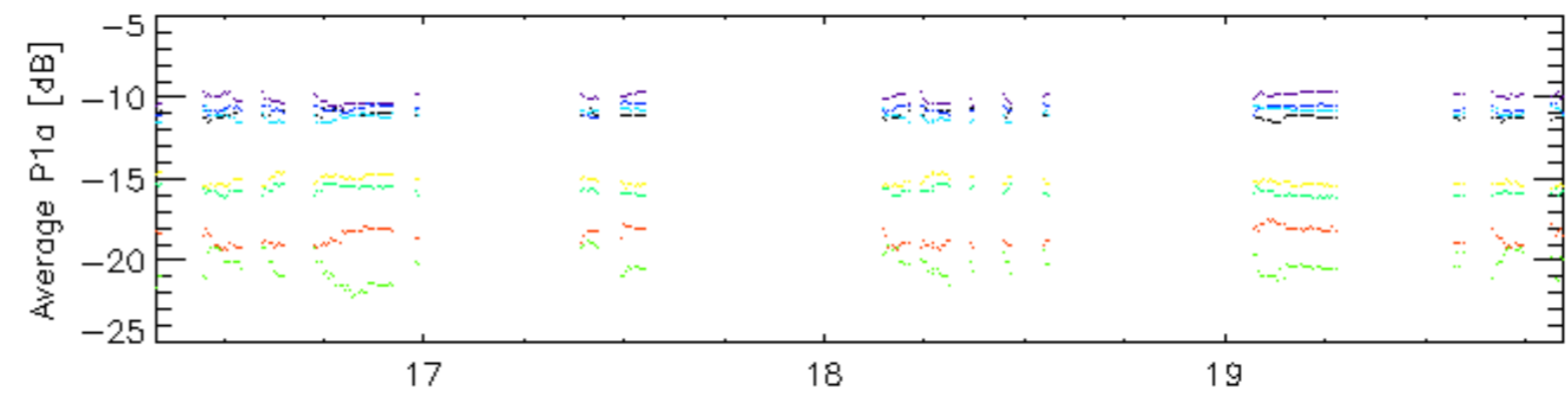
Evolution Doppler error versus ANX

<input type="checkbox"/>

Cal pulses for GM1 SS3

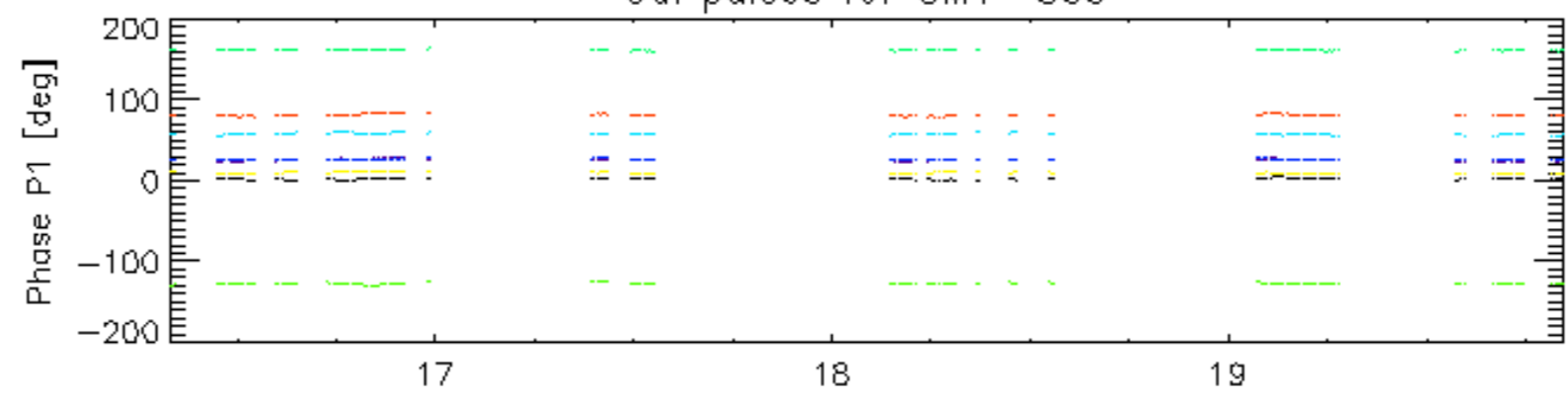


21-Feb

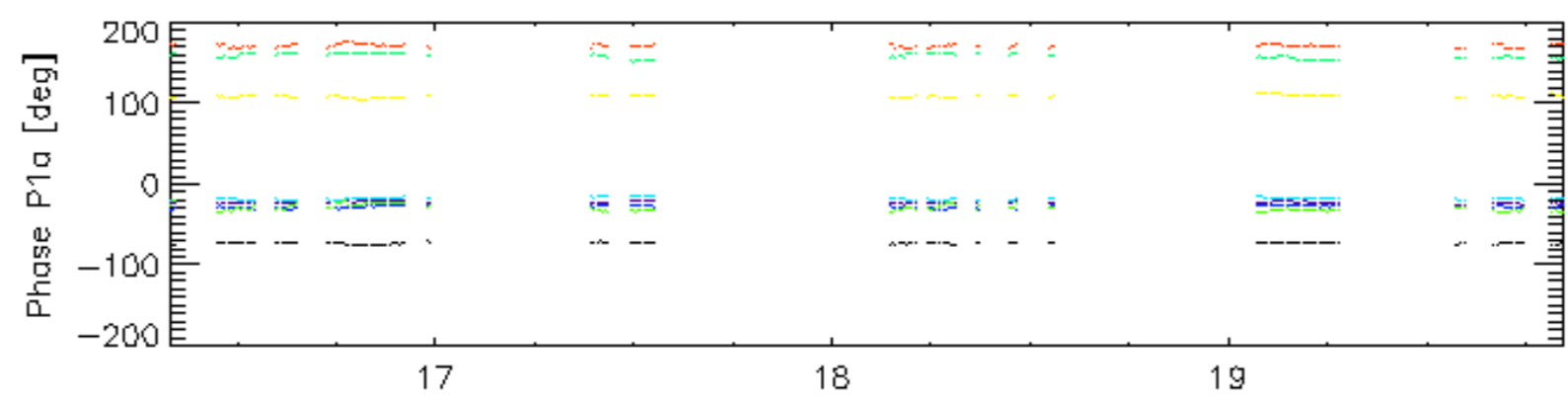


21-Feb

Cal pulses for GM1 SS3

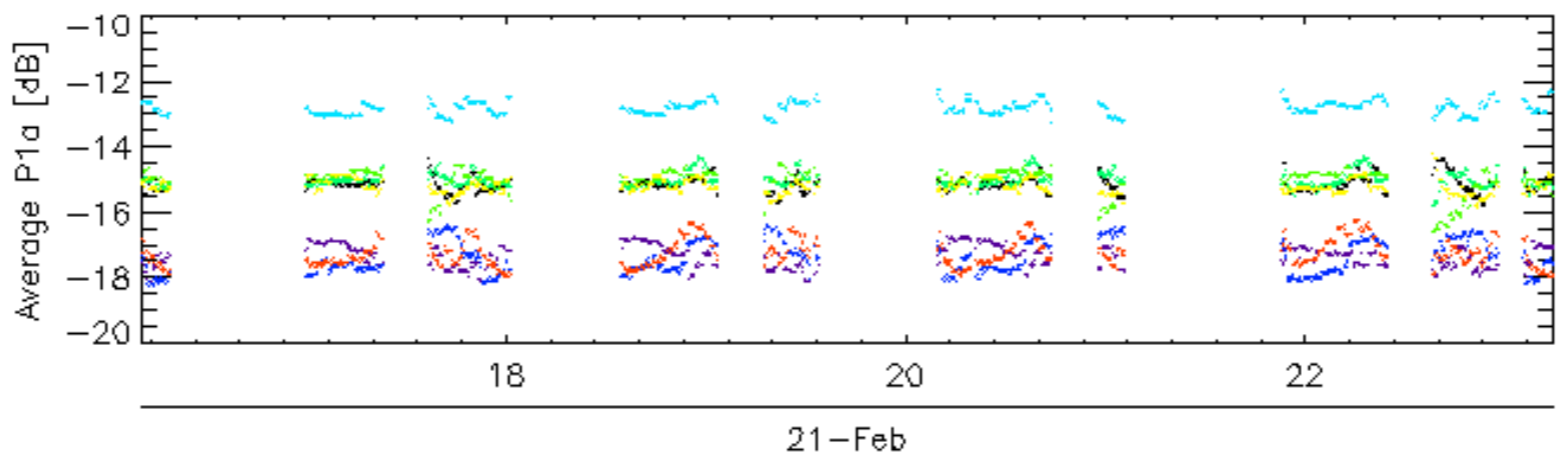
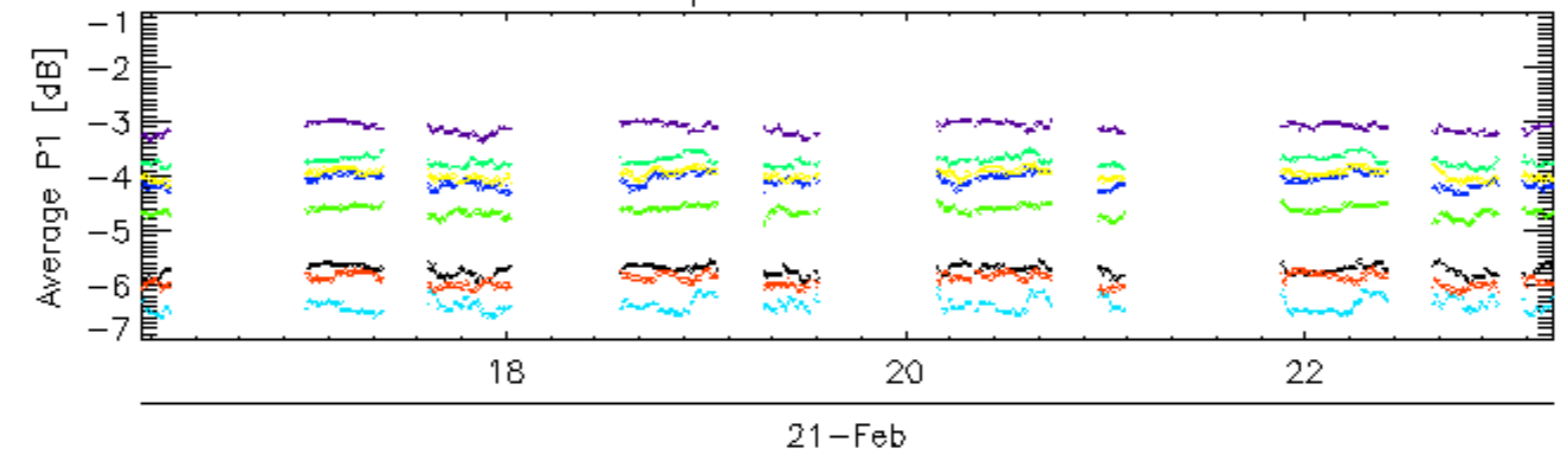


21-Feb

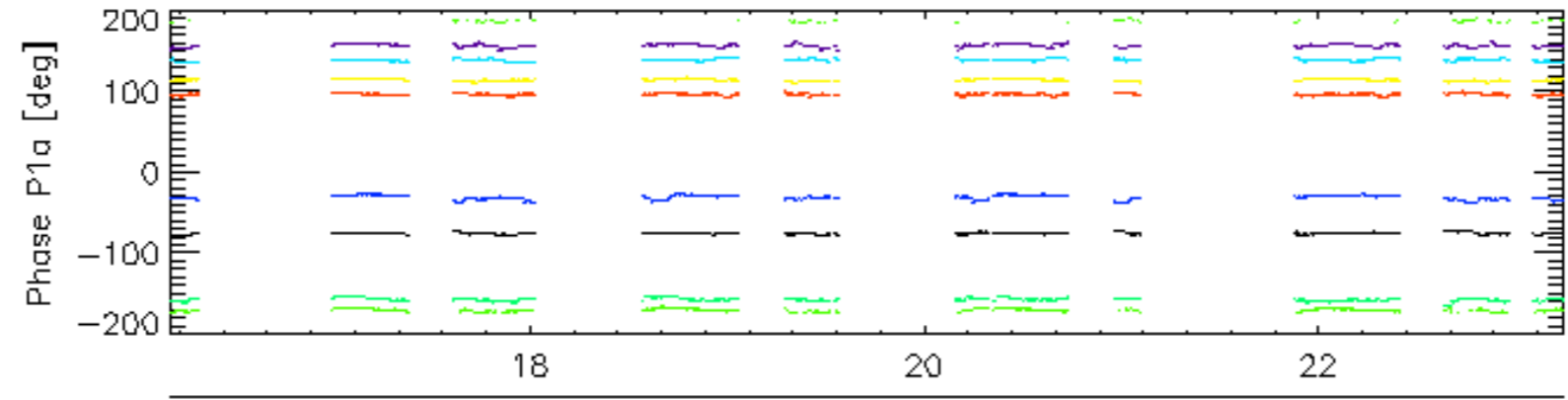
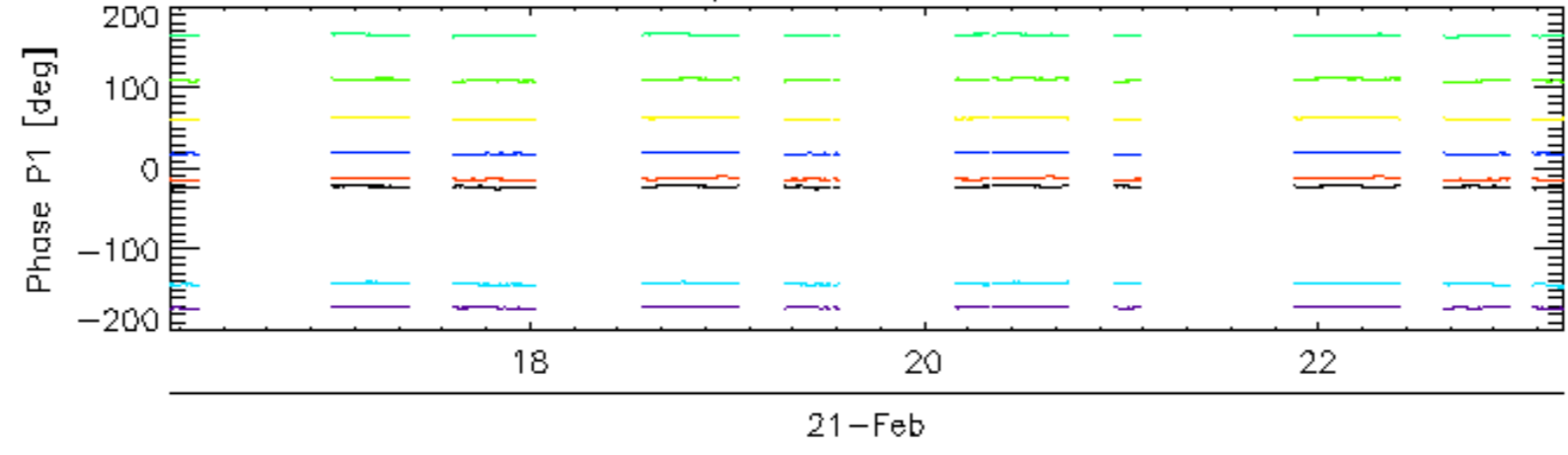


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

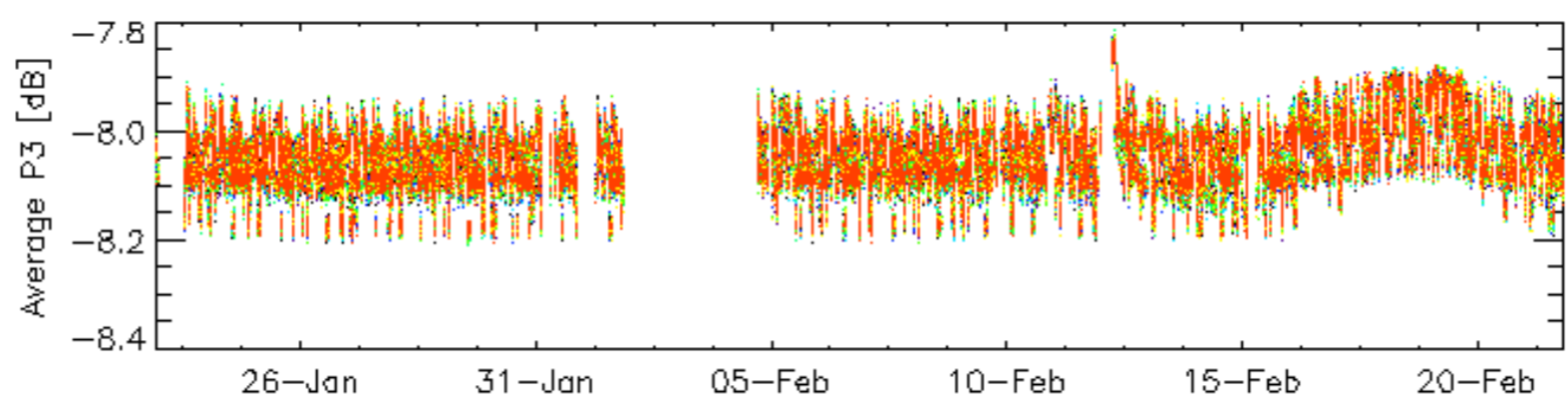
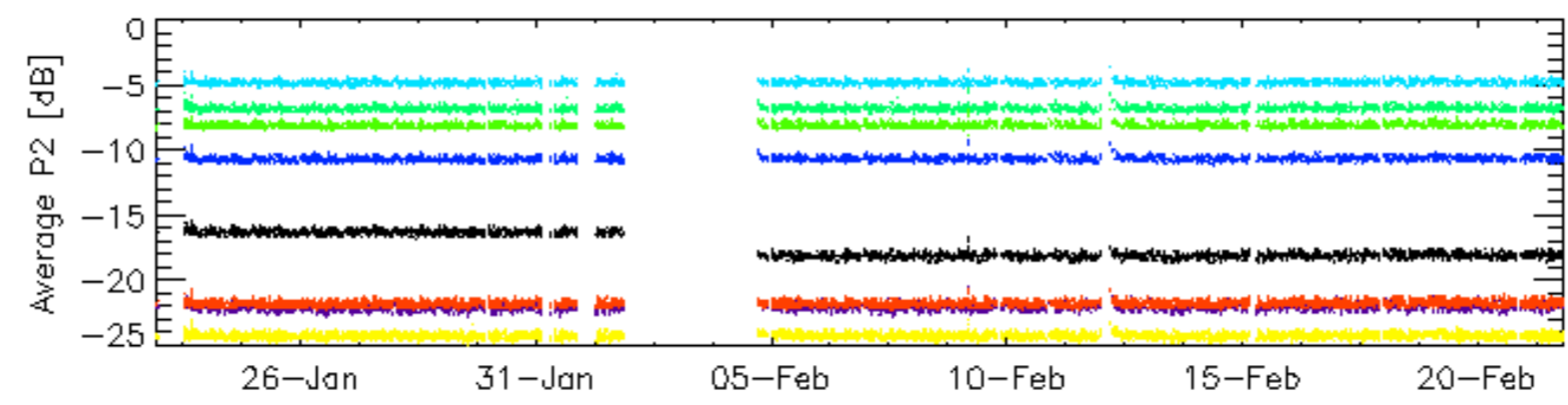
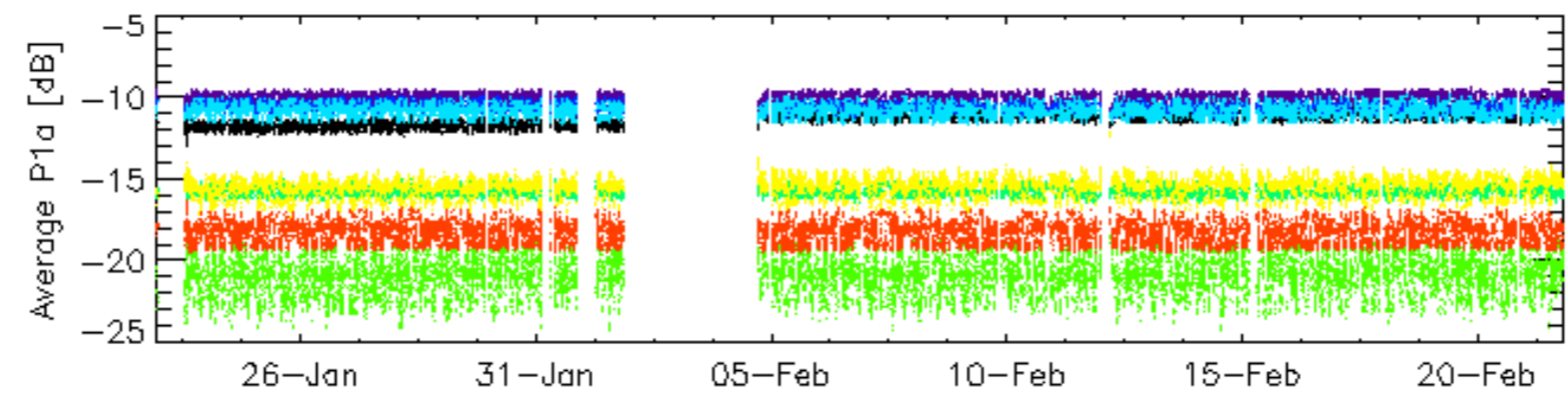
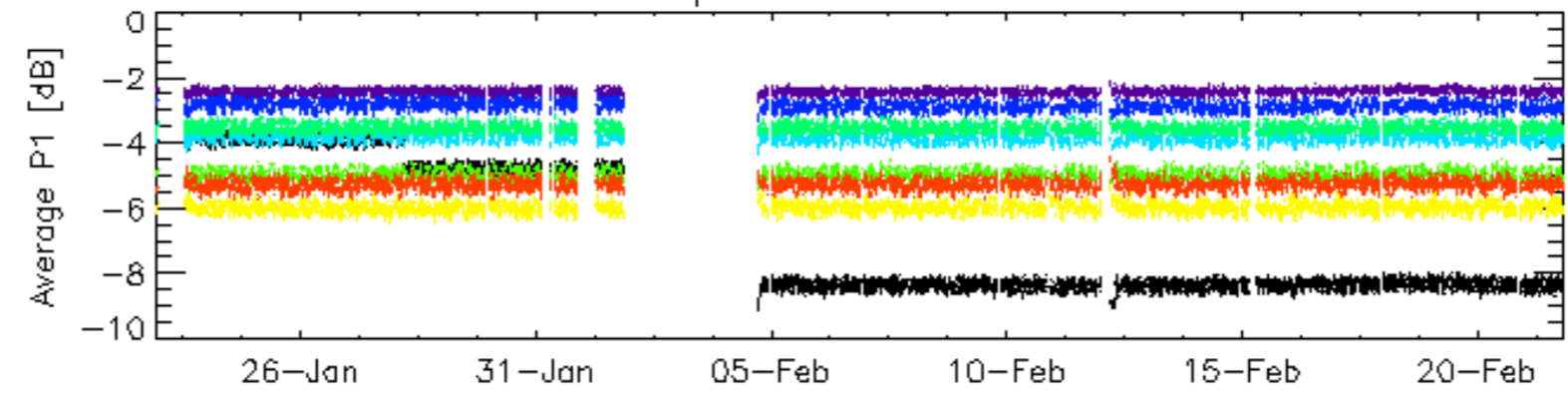


Cal pulses for WVS IS2



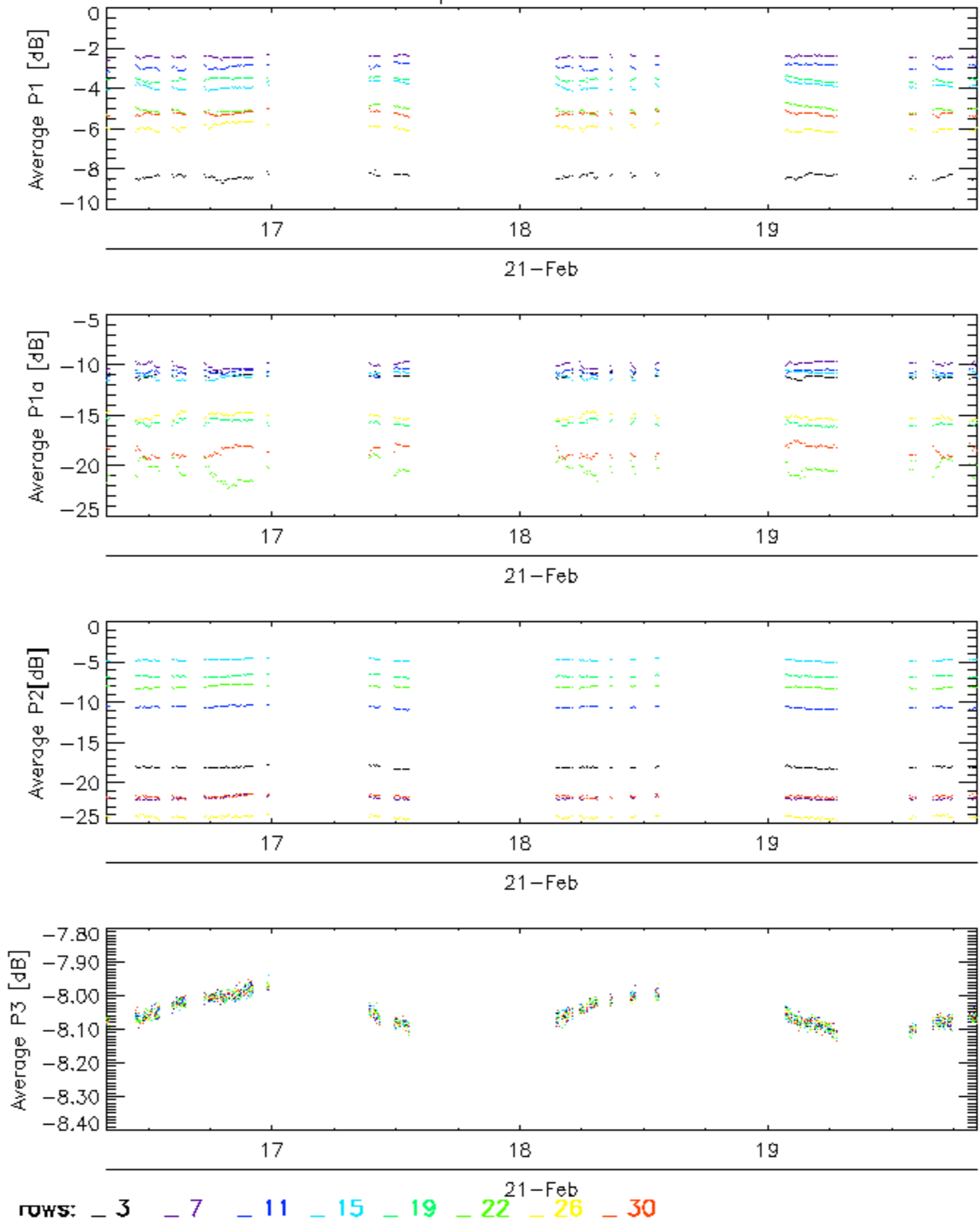
rows: 3 7 11 15 19 22 26 30

Cal pulses for GM1 SS3

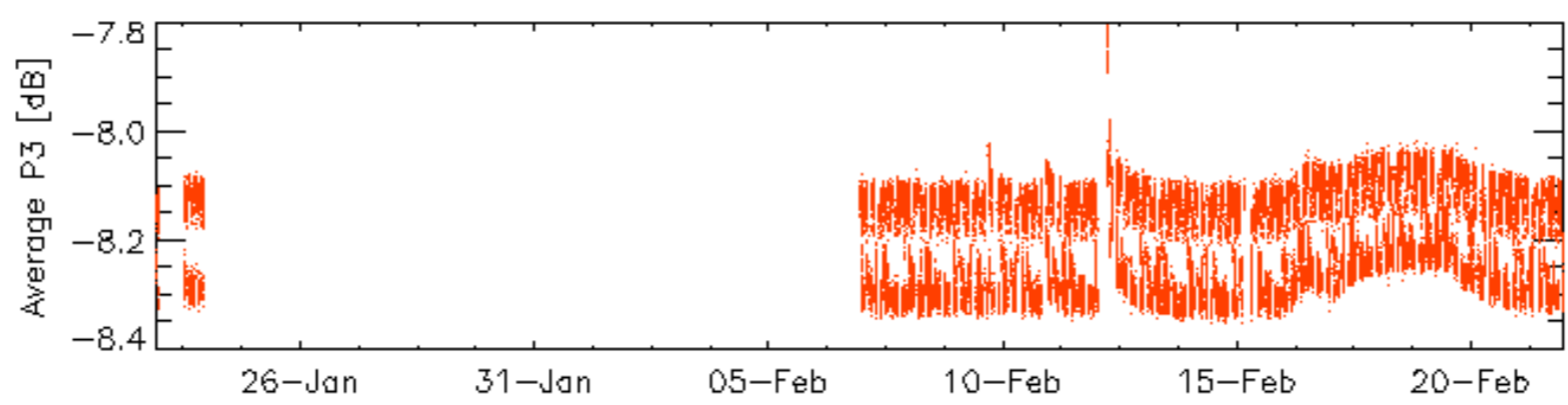
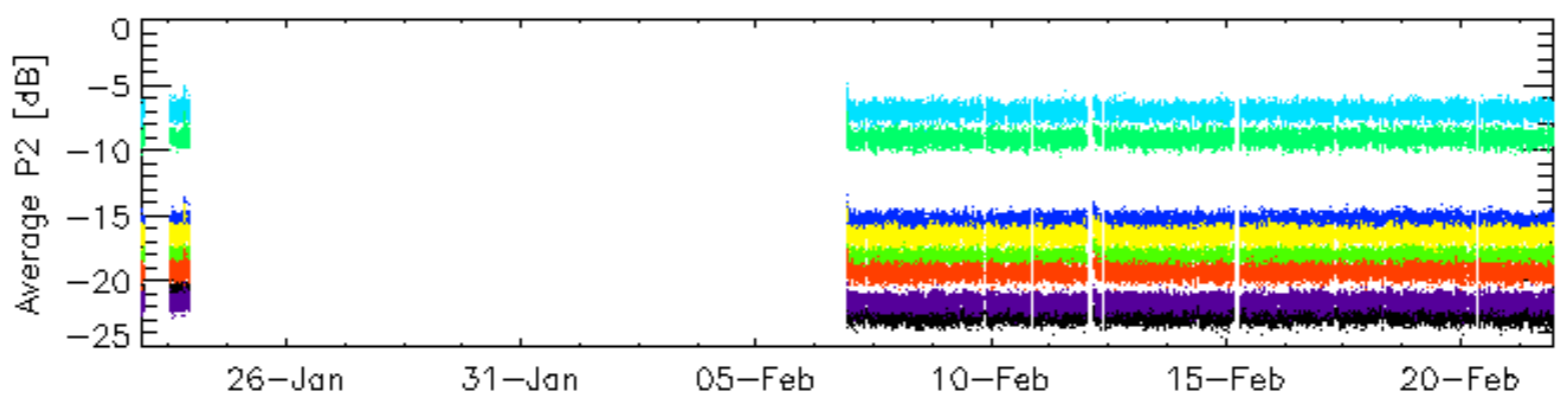
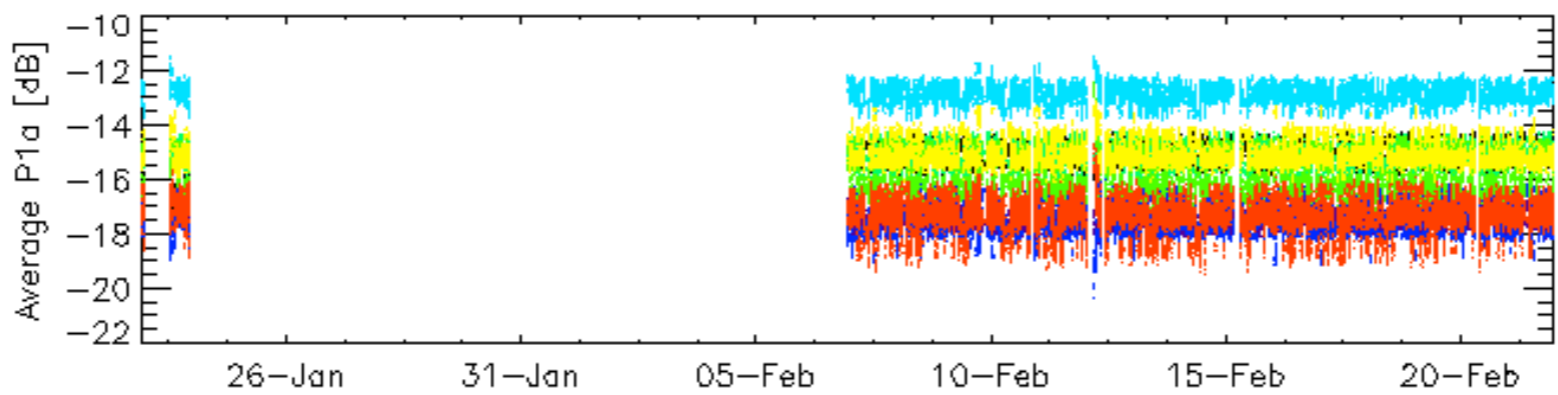
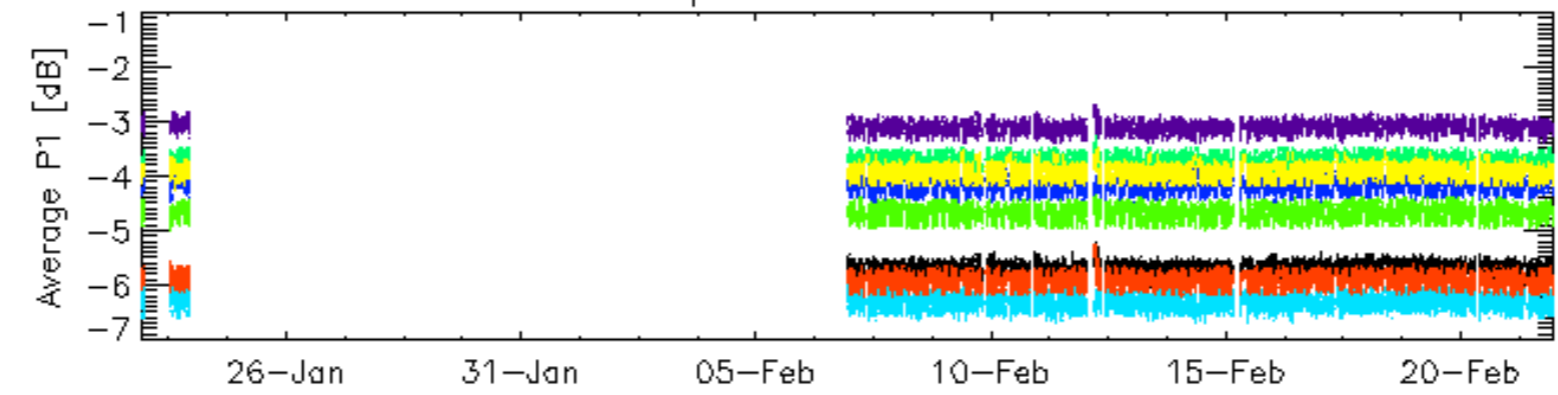


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

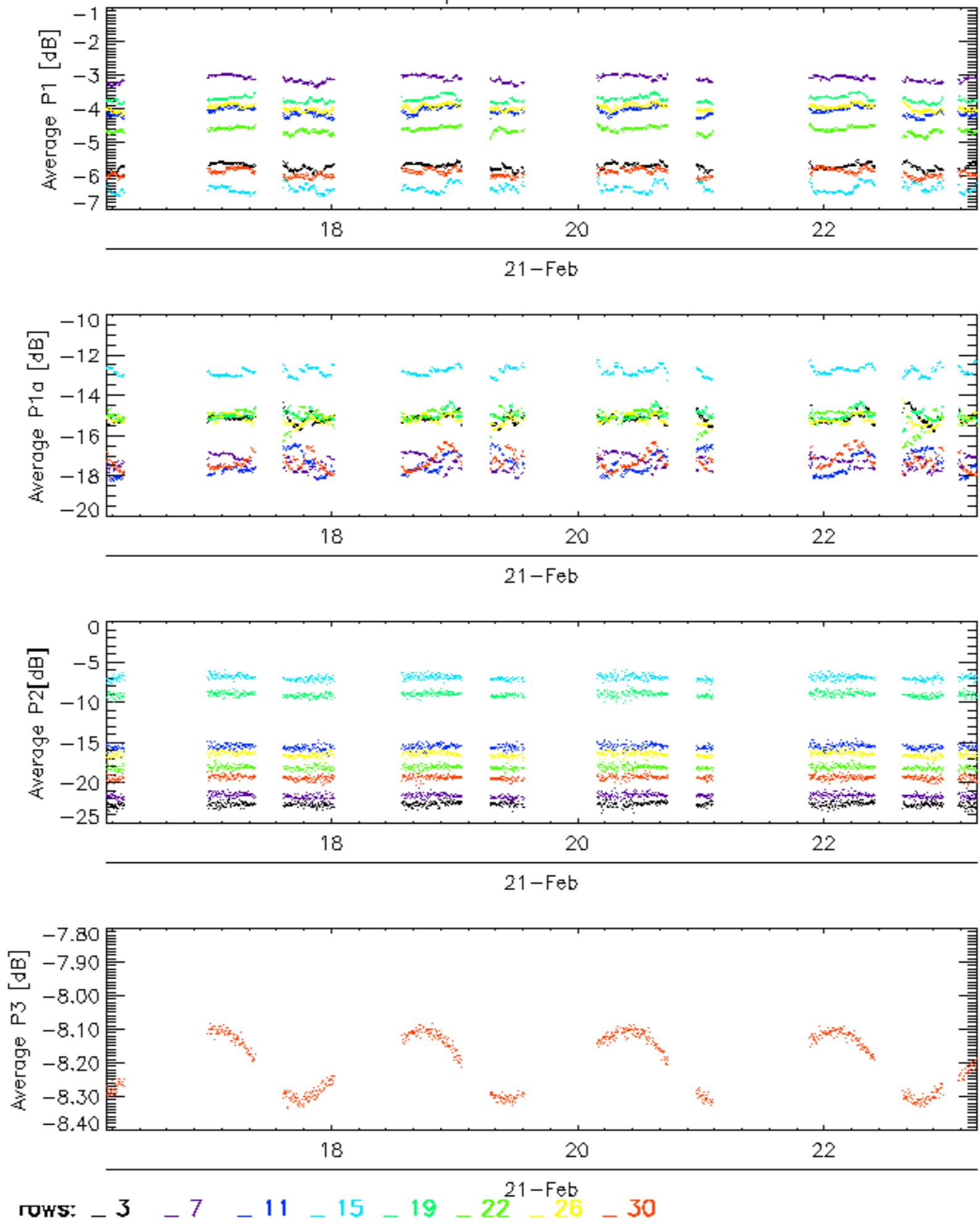


Cal pulses for WVS IS2

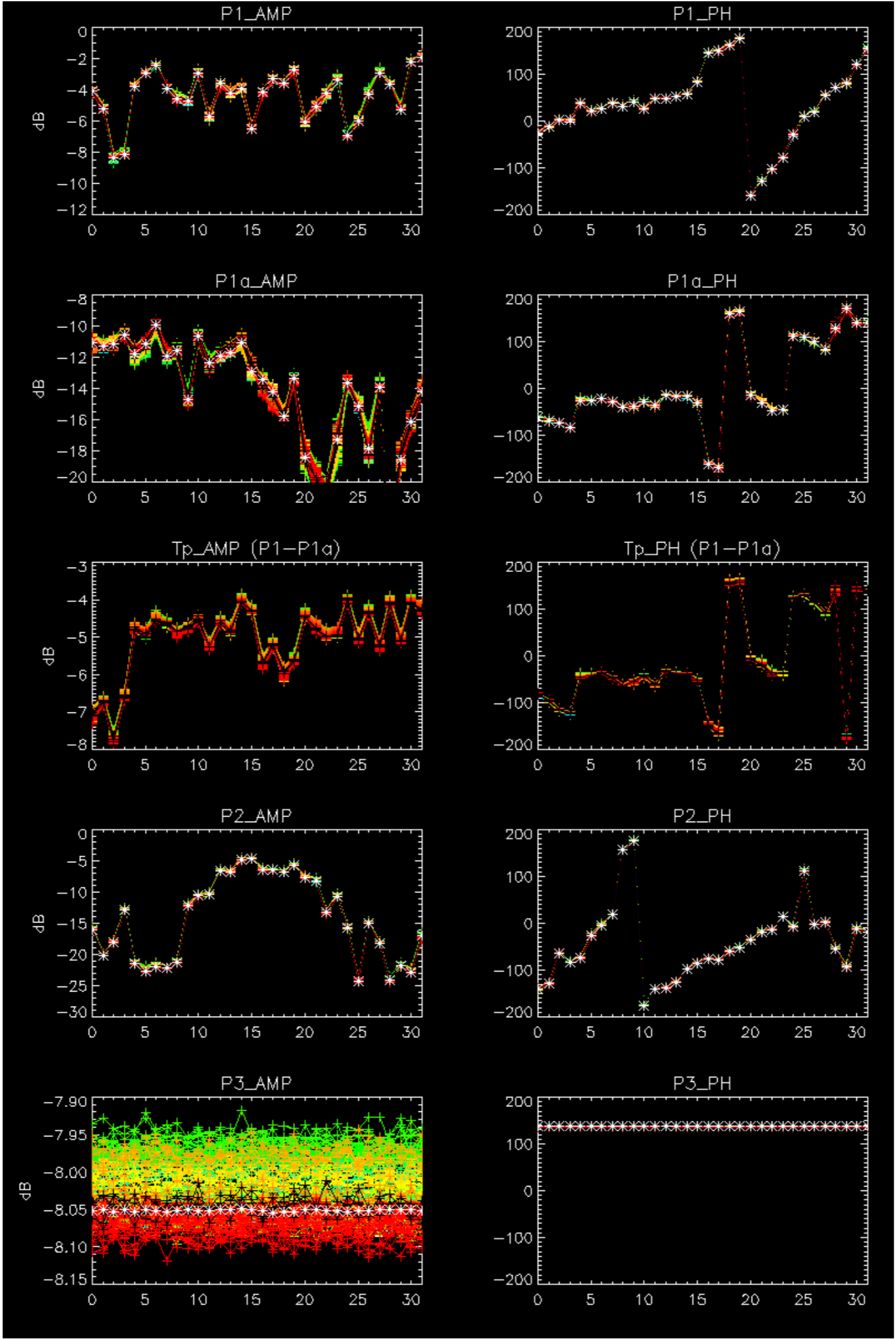


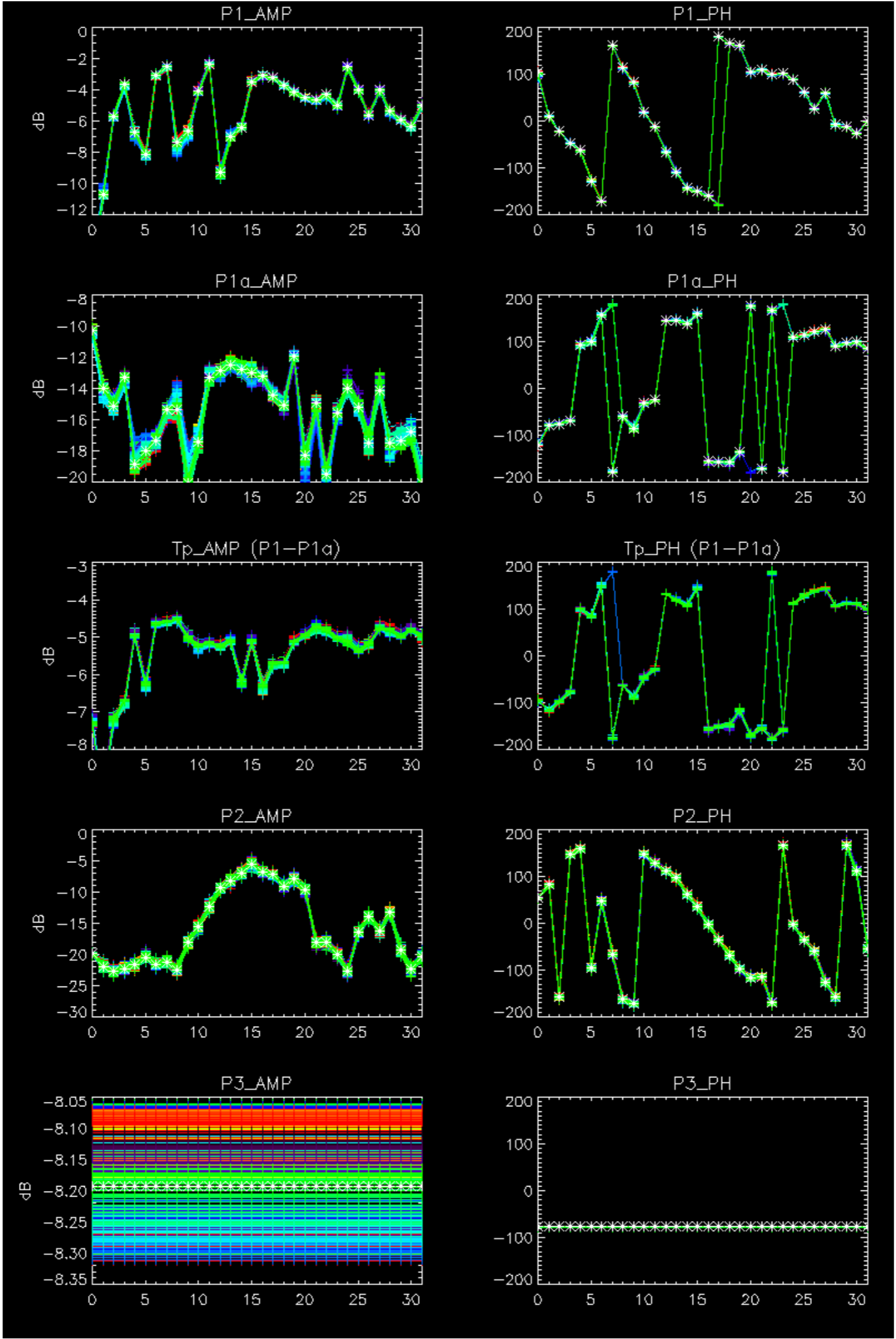
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



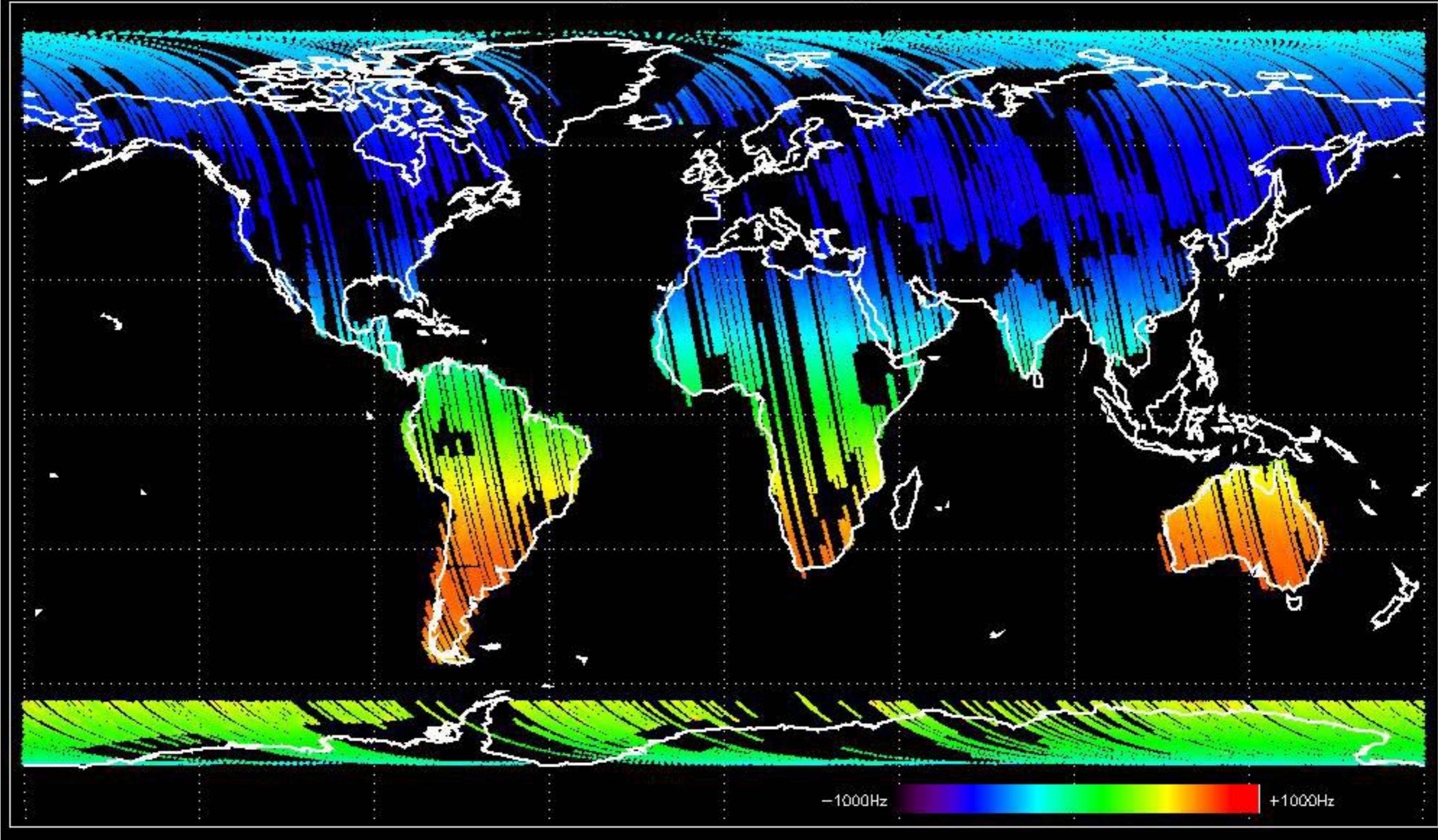
No anomalies observed.



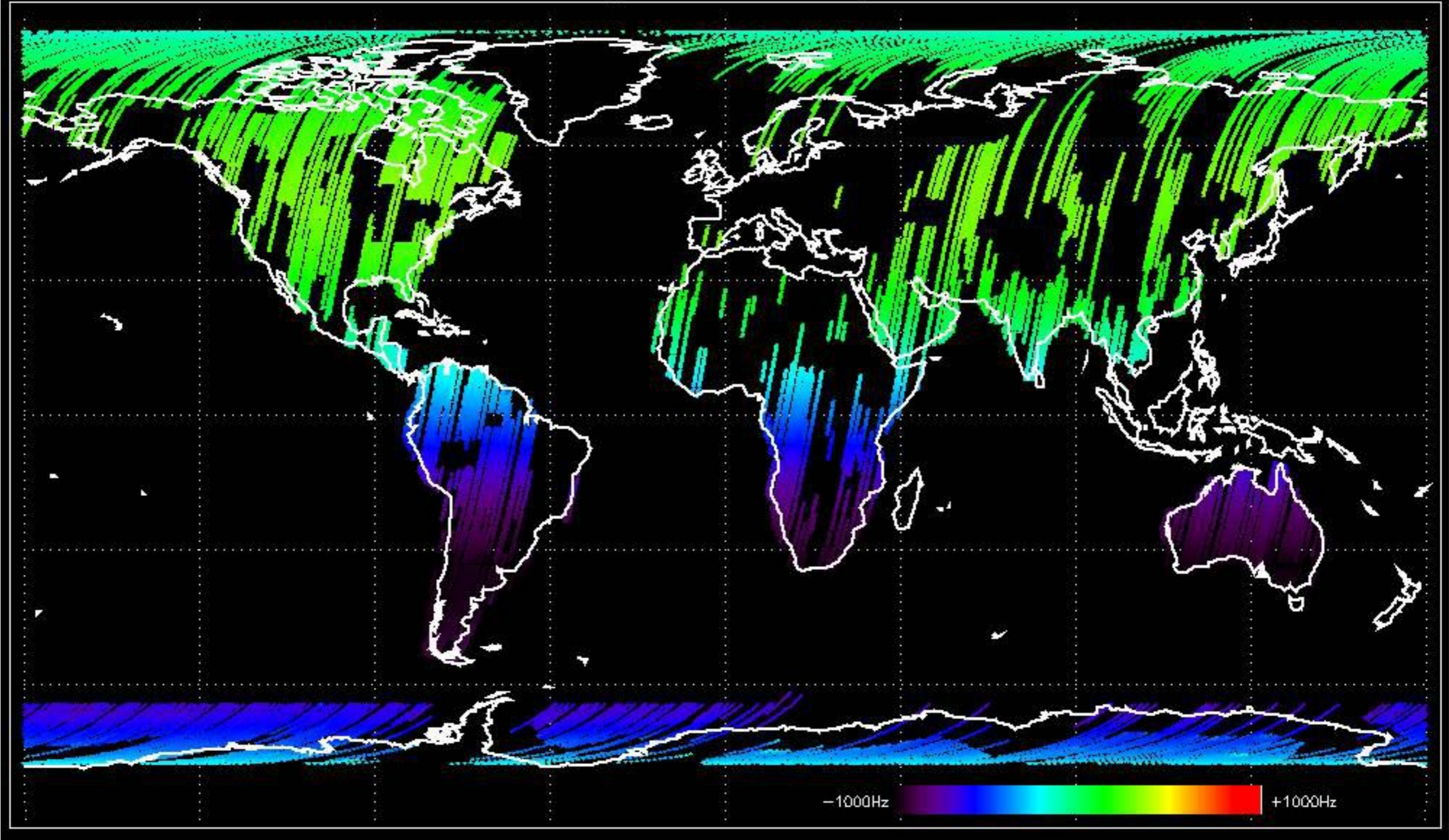


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

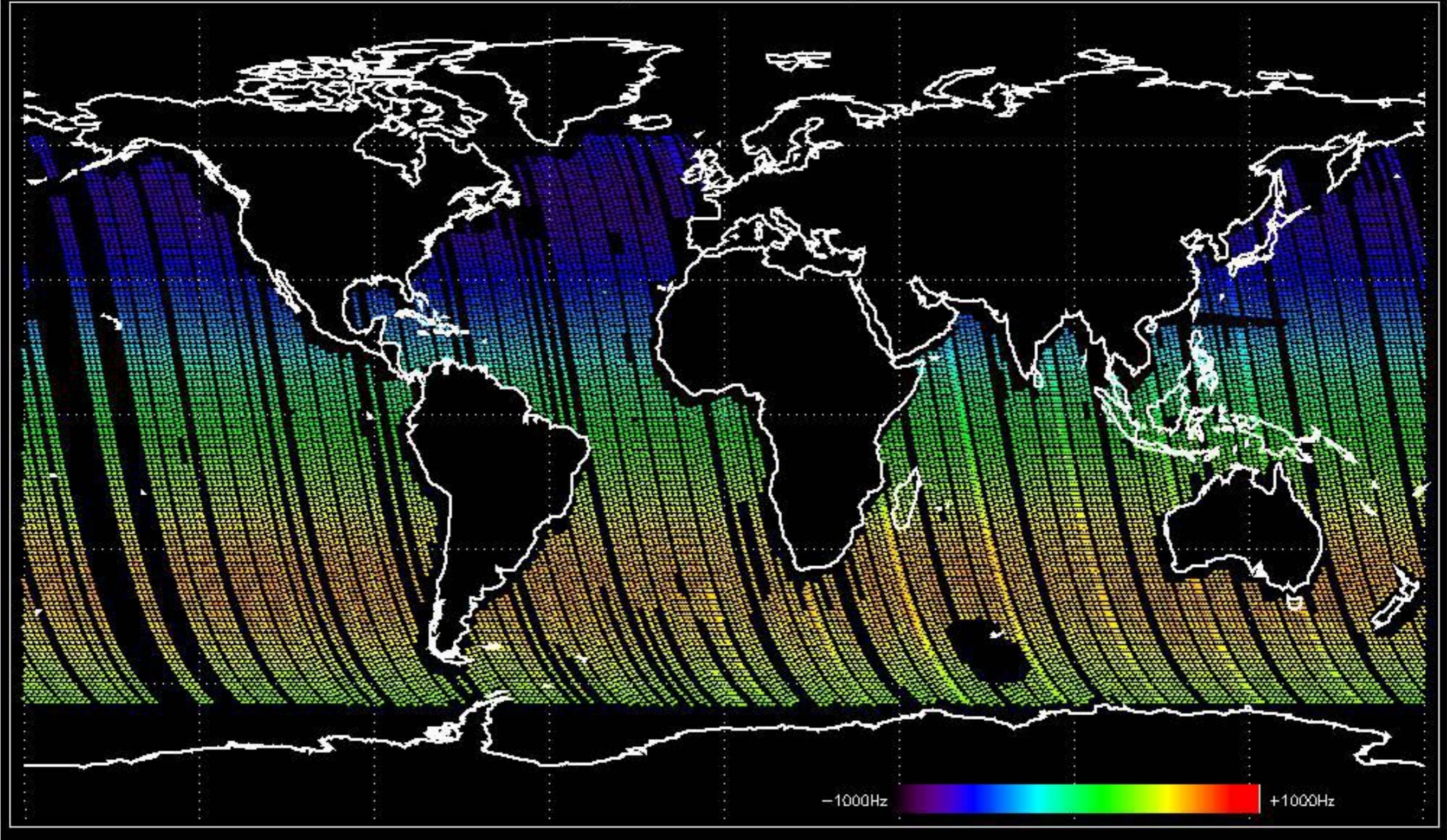
Doppler 'GM1' 'SS1' ascending



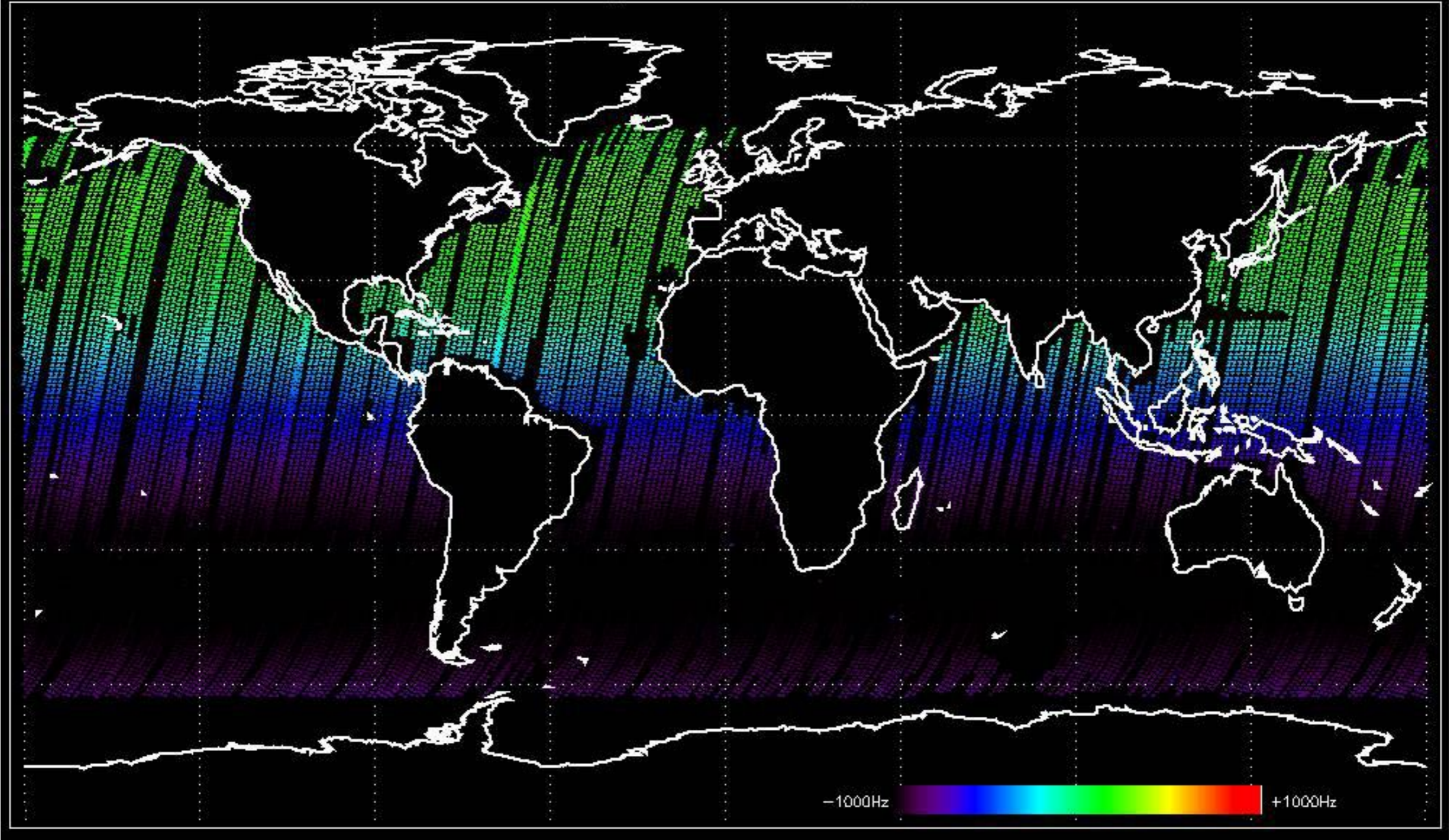
Doppler 'GM1' 'SS1' descending



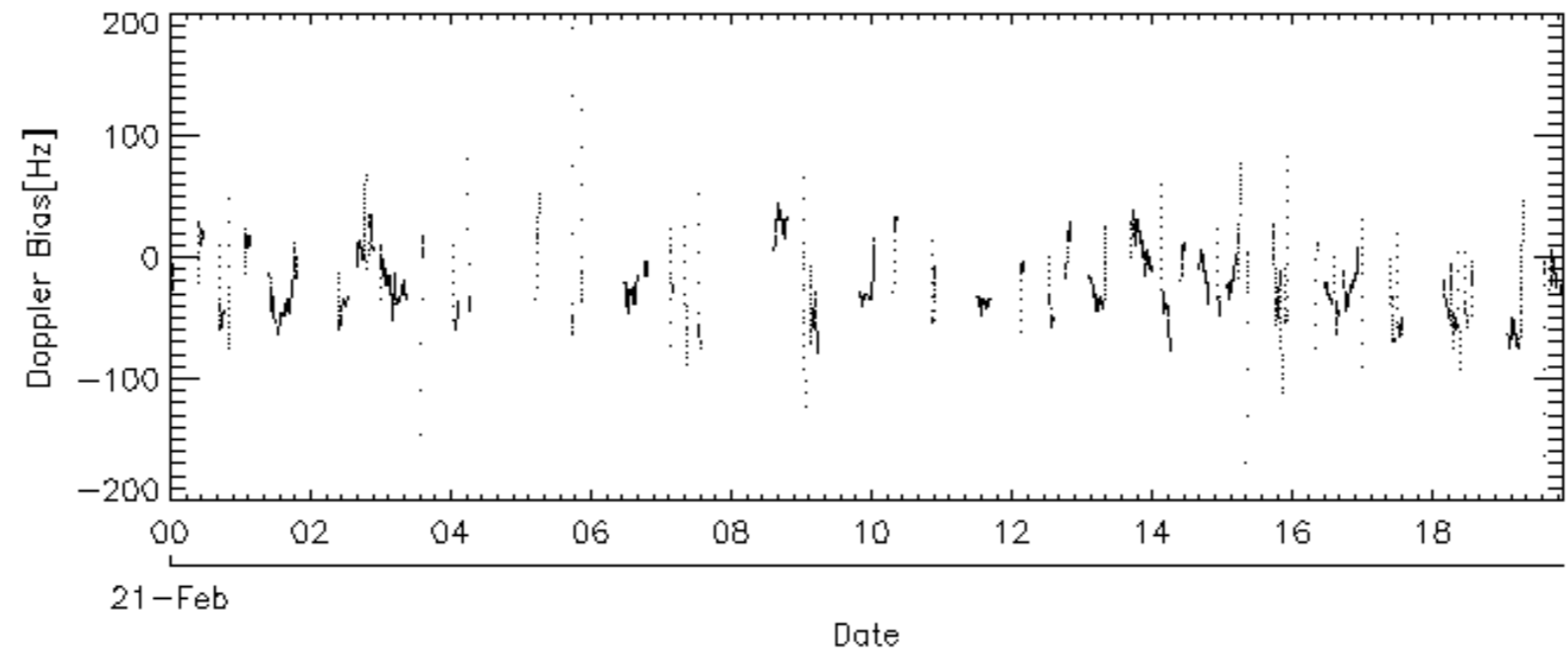
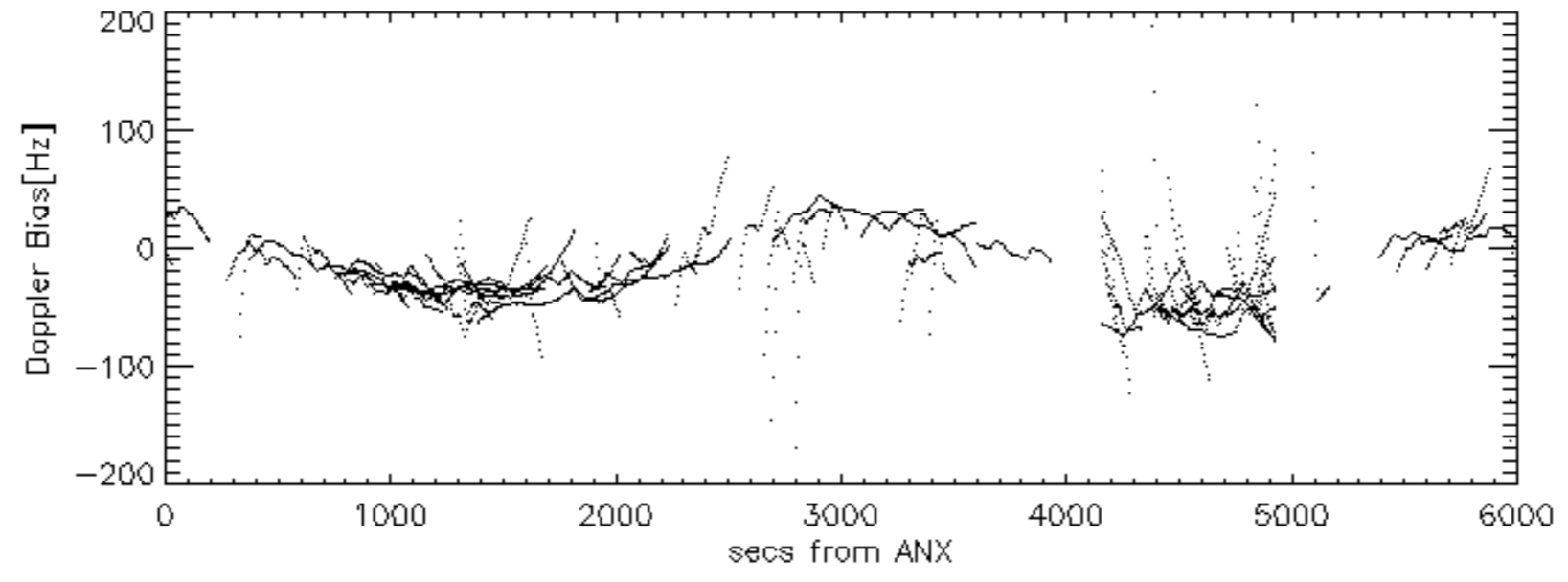
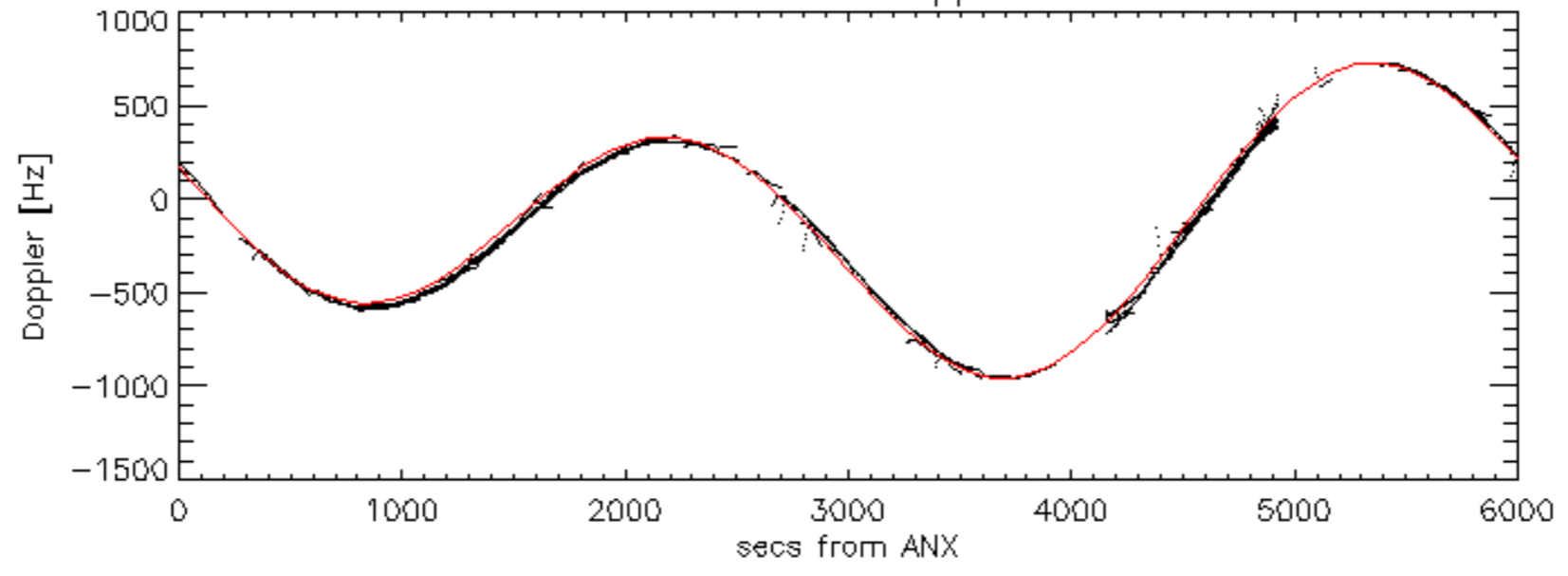
Doppler 'WVS' 'IS2' ascending

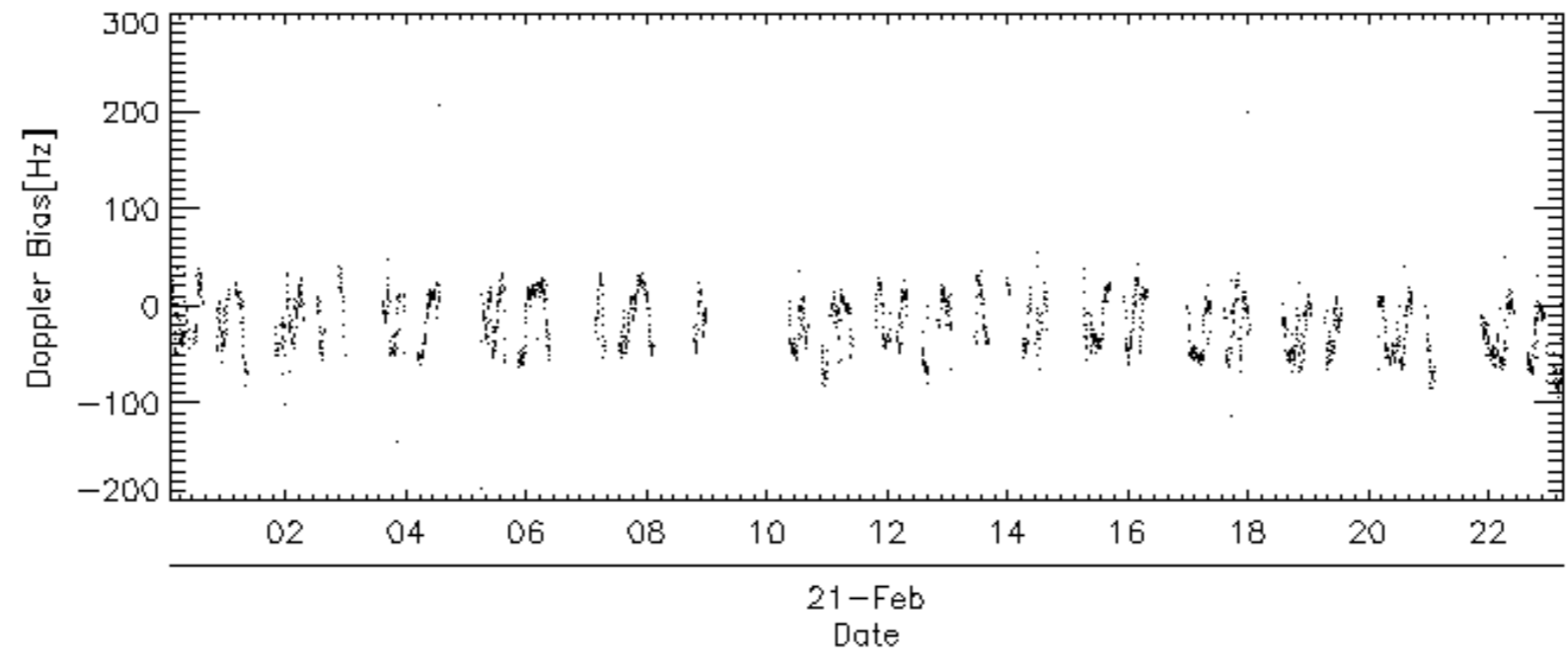
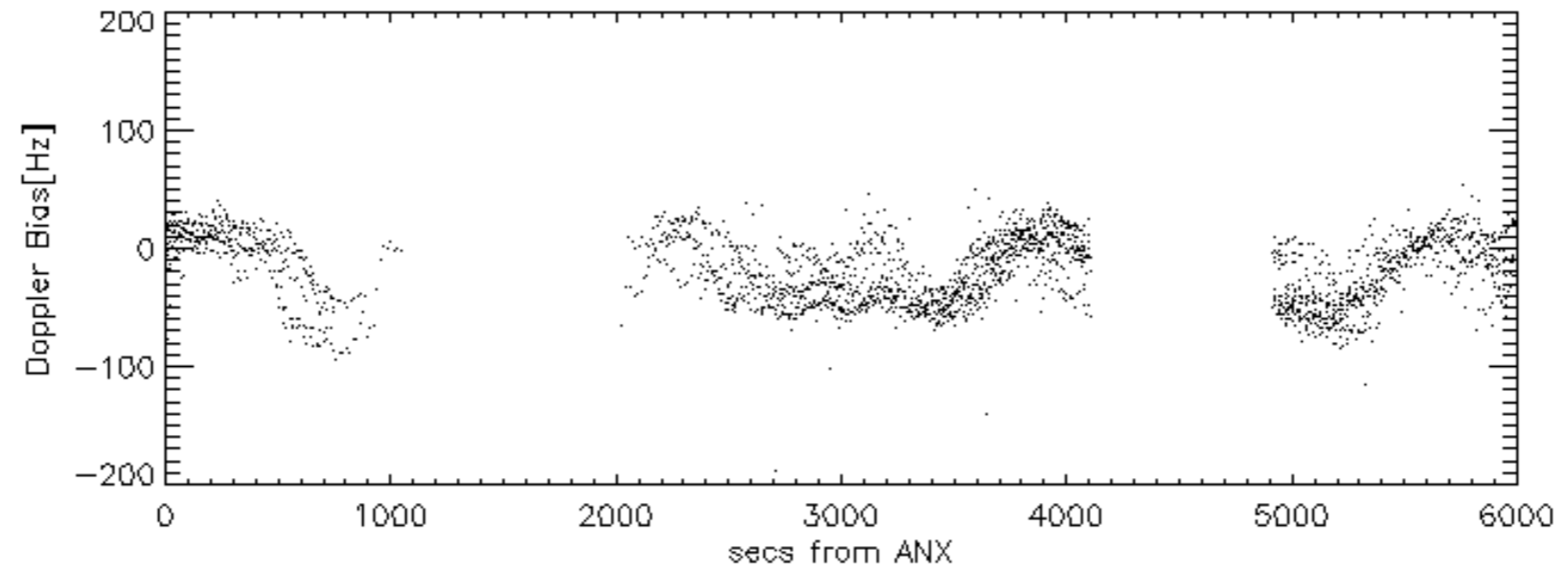
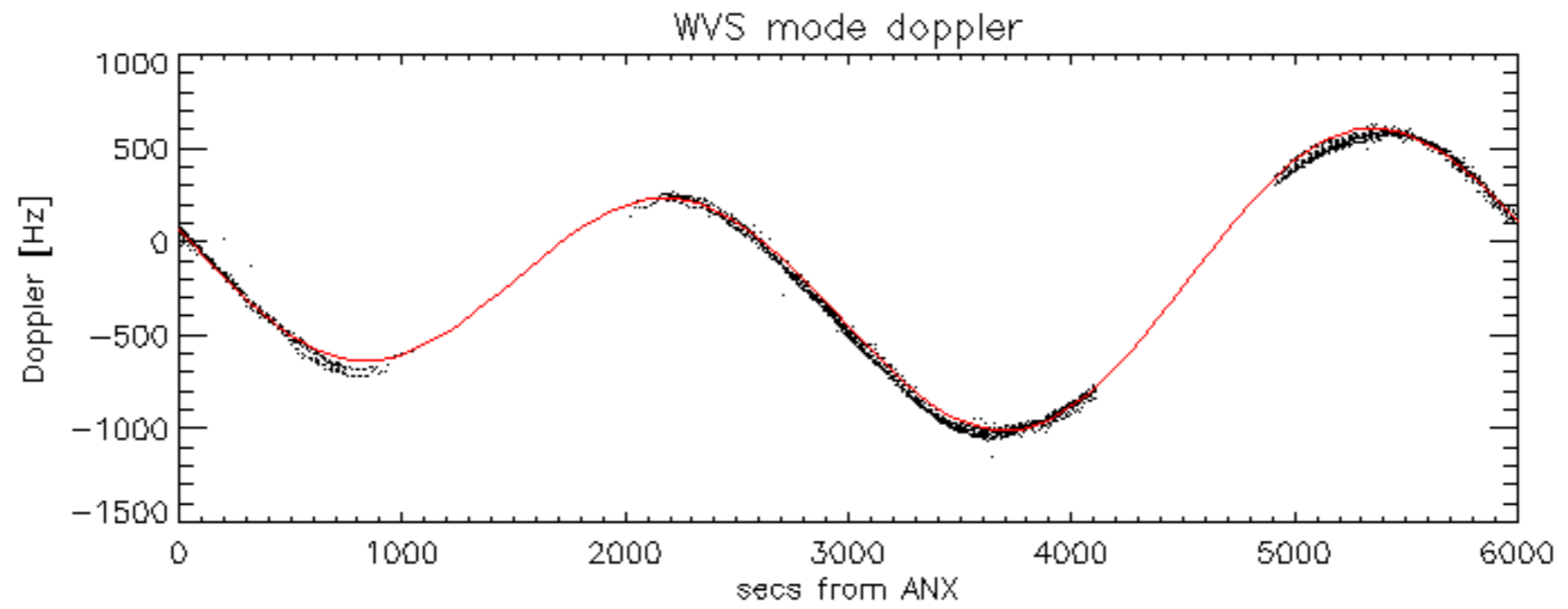


Doppler 'WVS' 'IS2' descending

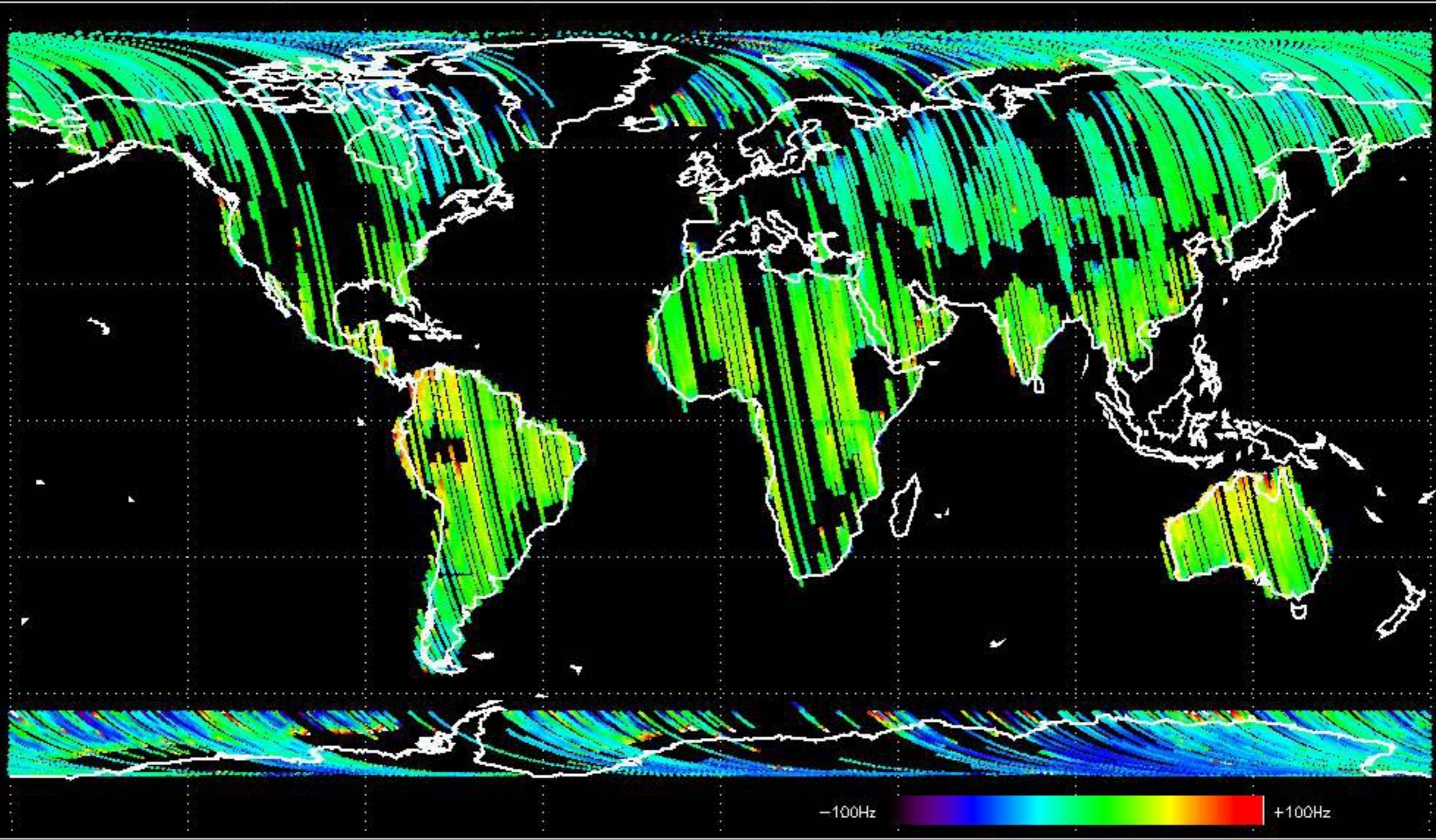


GM1 mode doppler

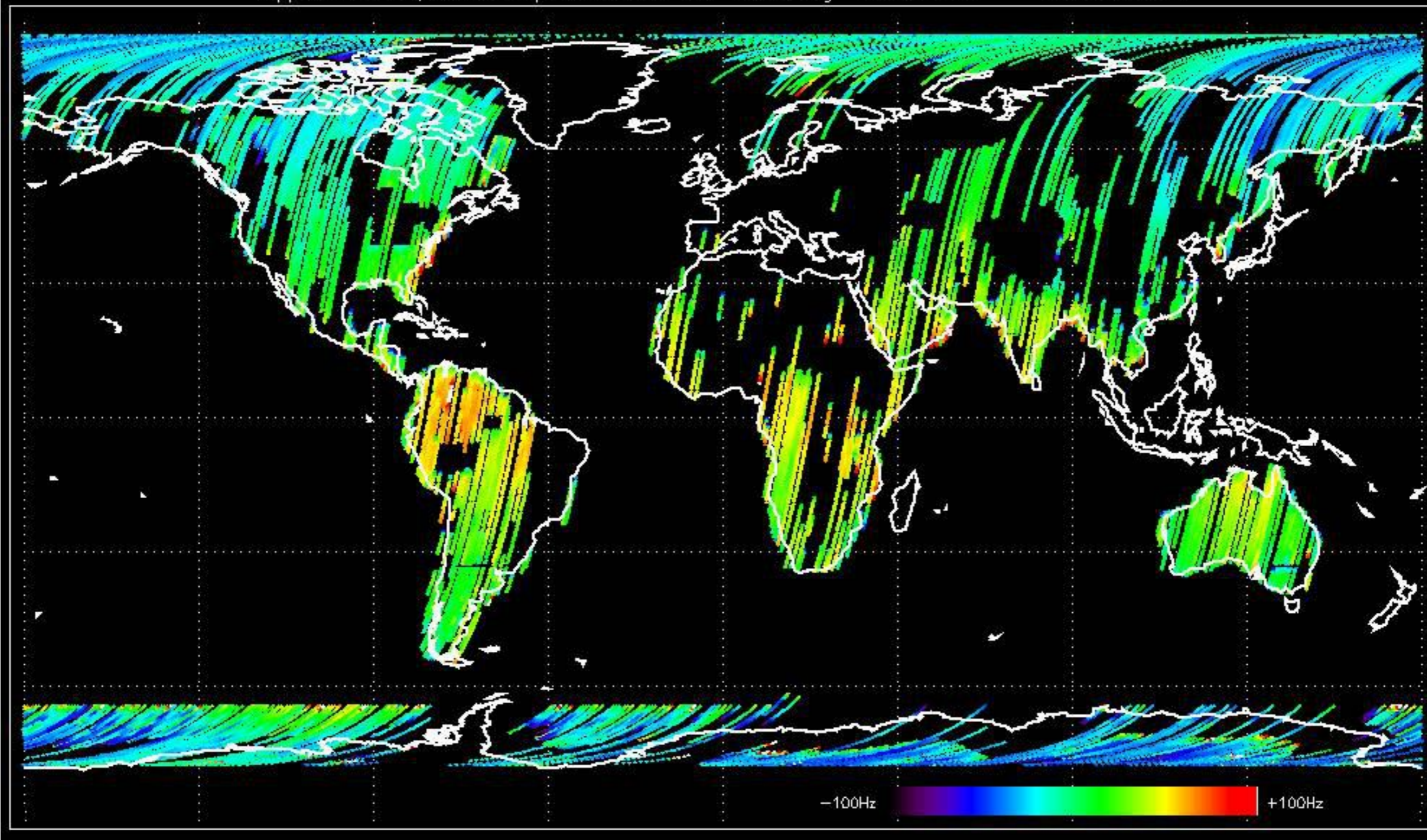




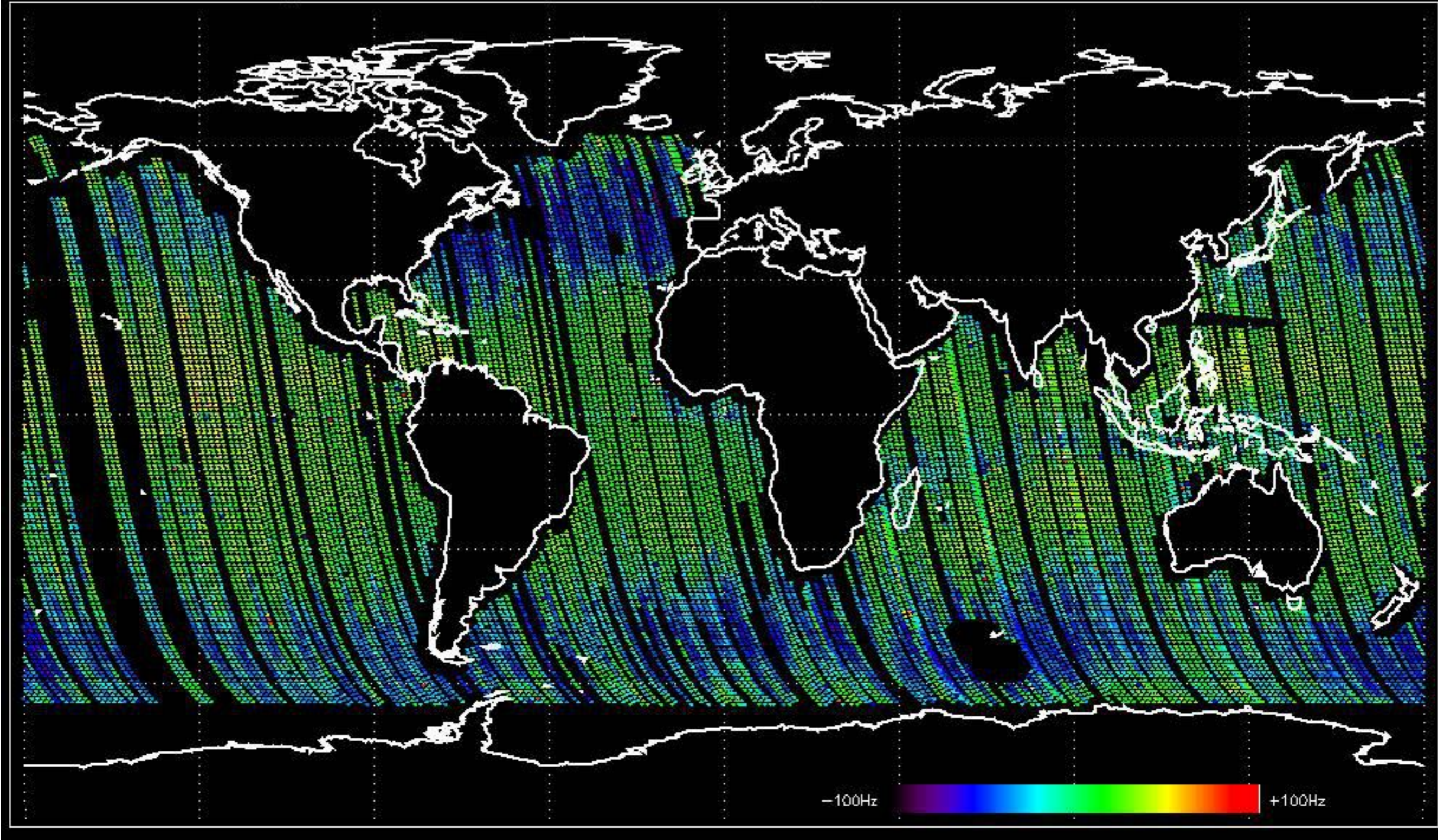
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -18.285990 Hz



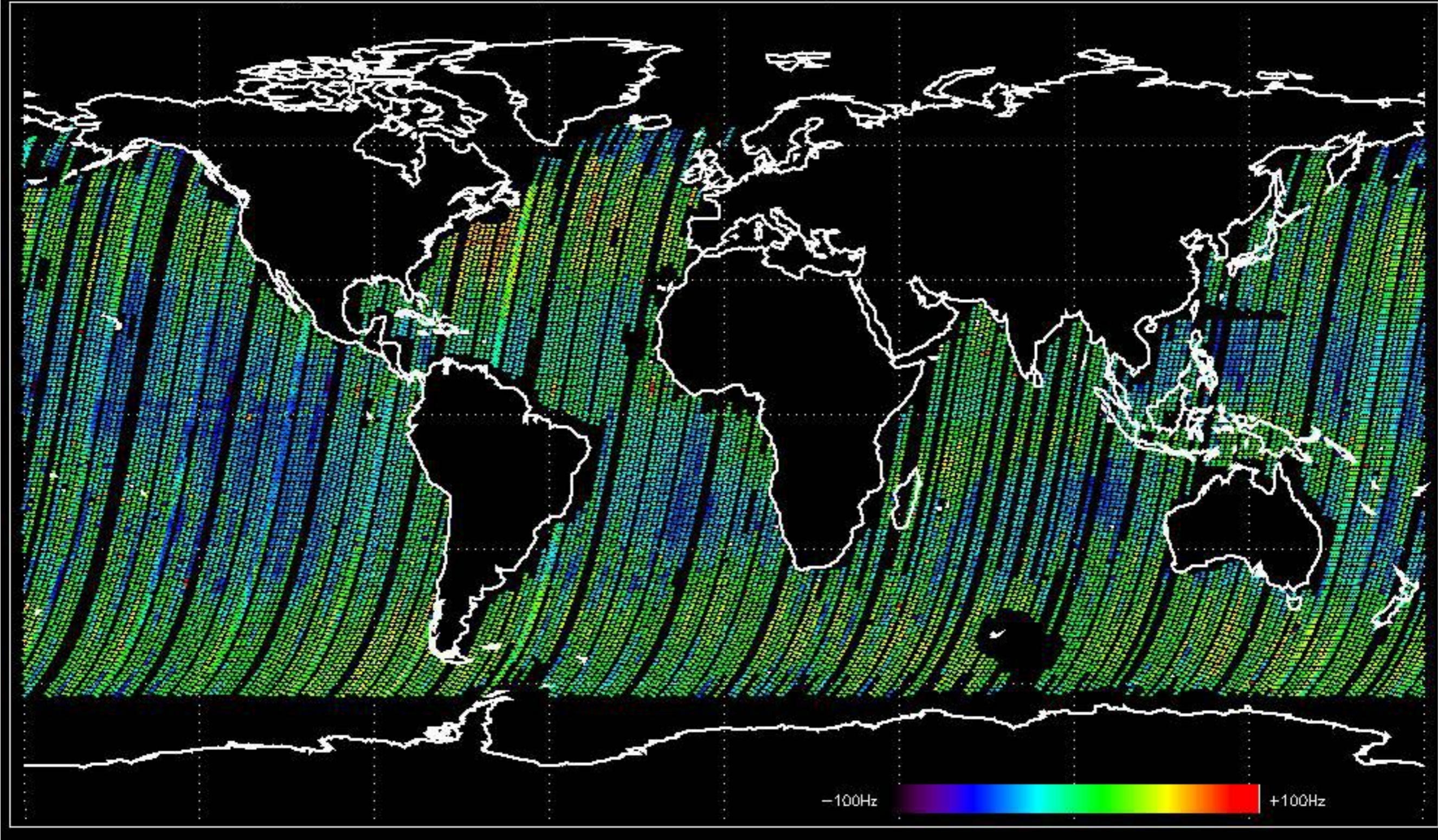
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -18.151675 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -15.931790 Hz

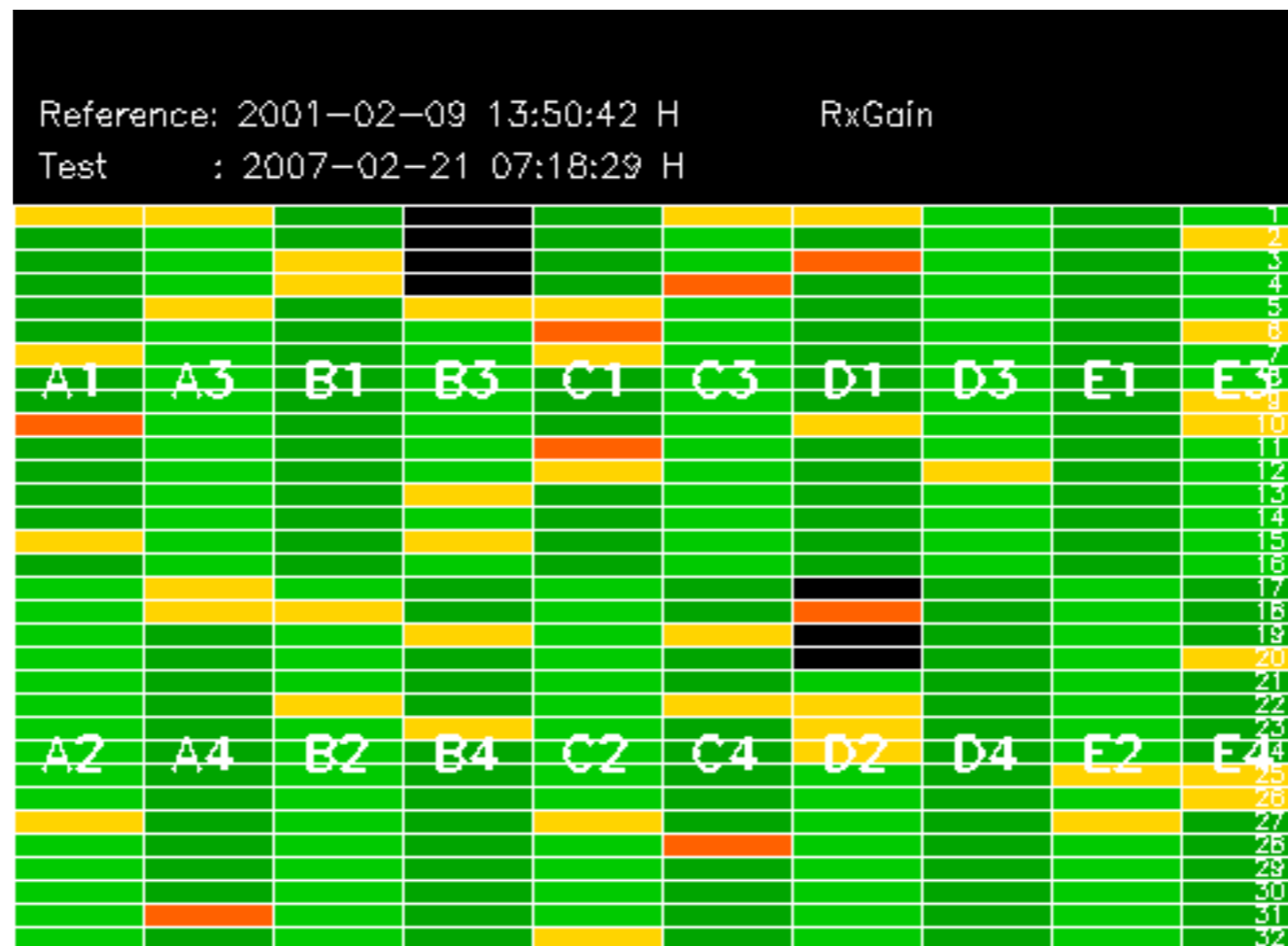


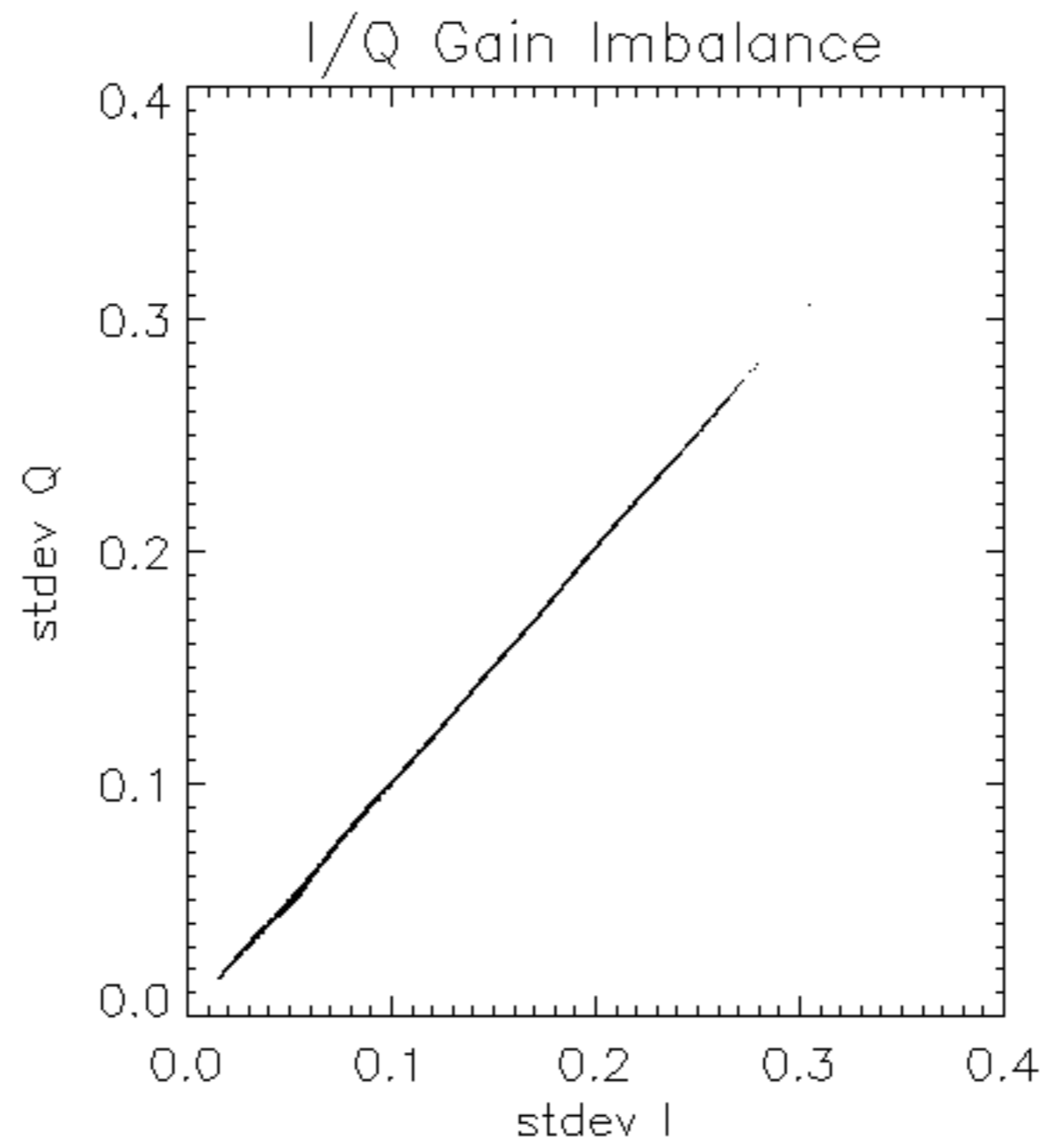
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -16.909156 Hz

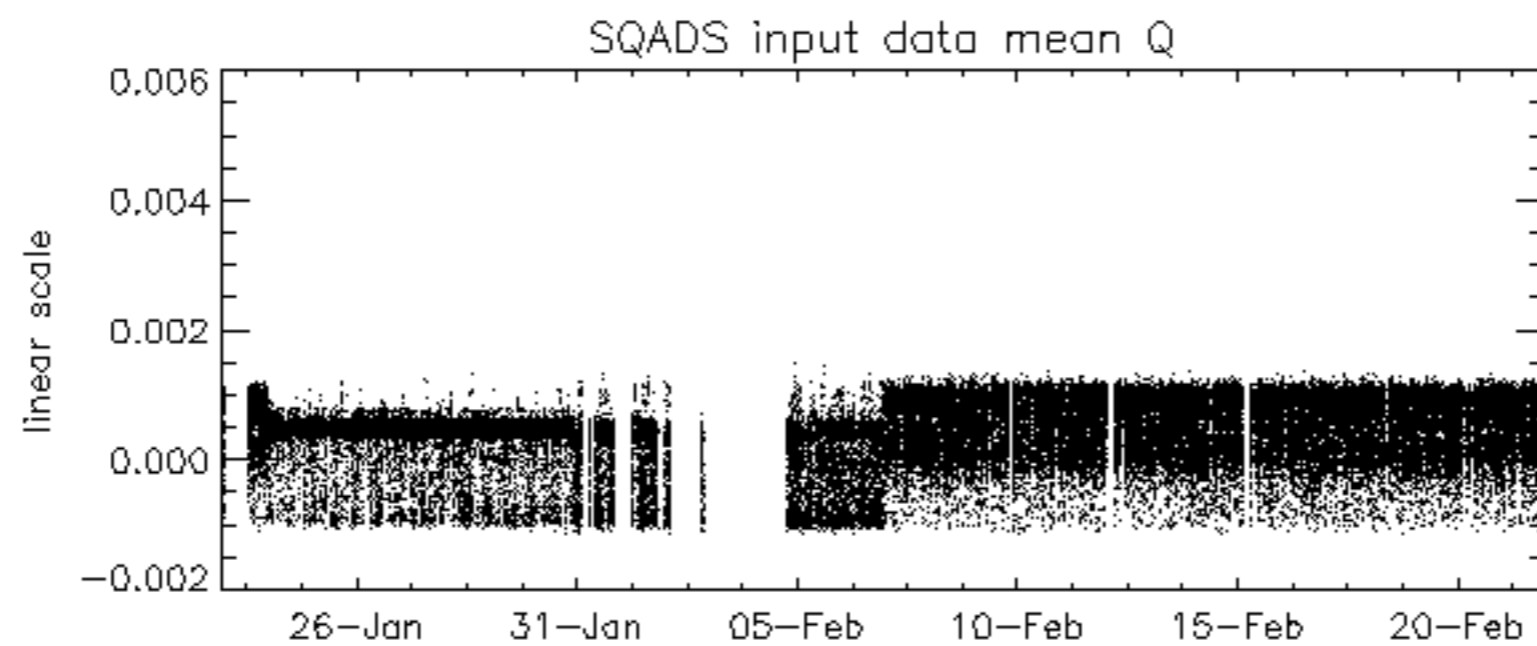
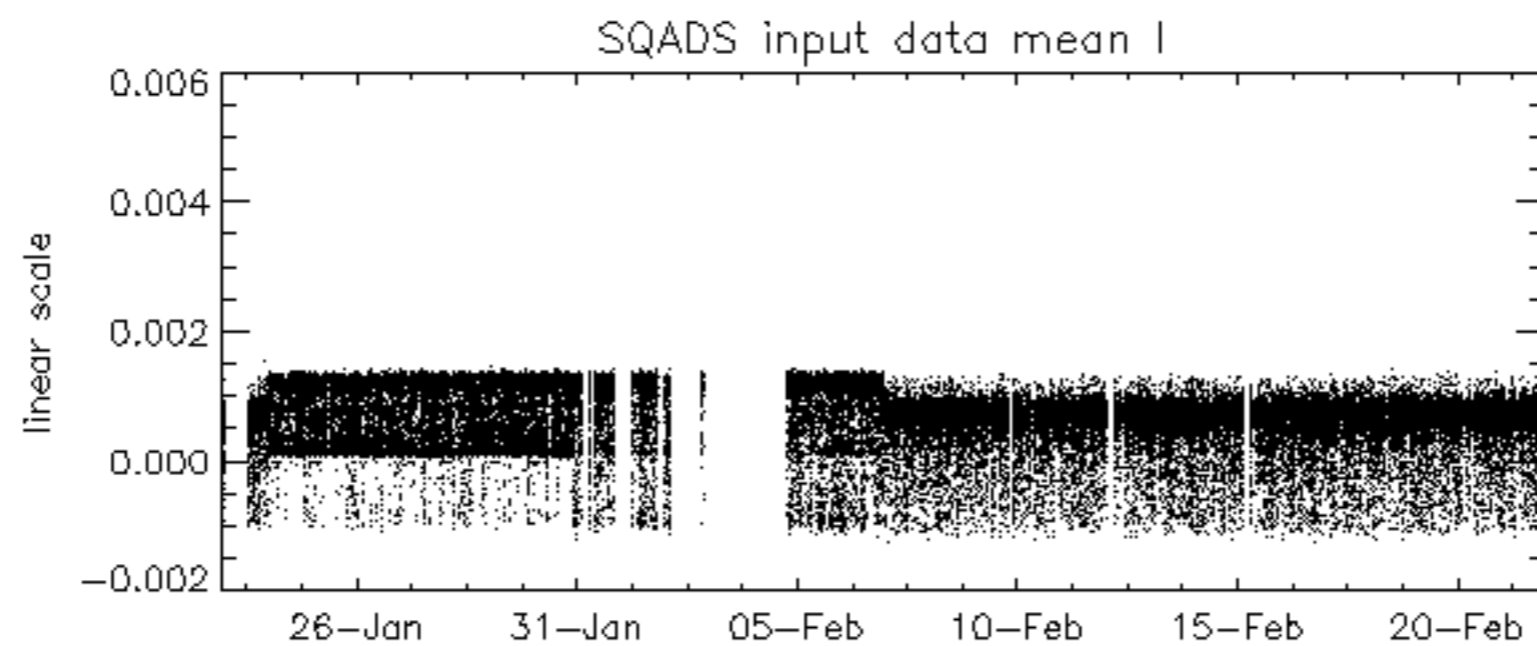
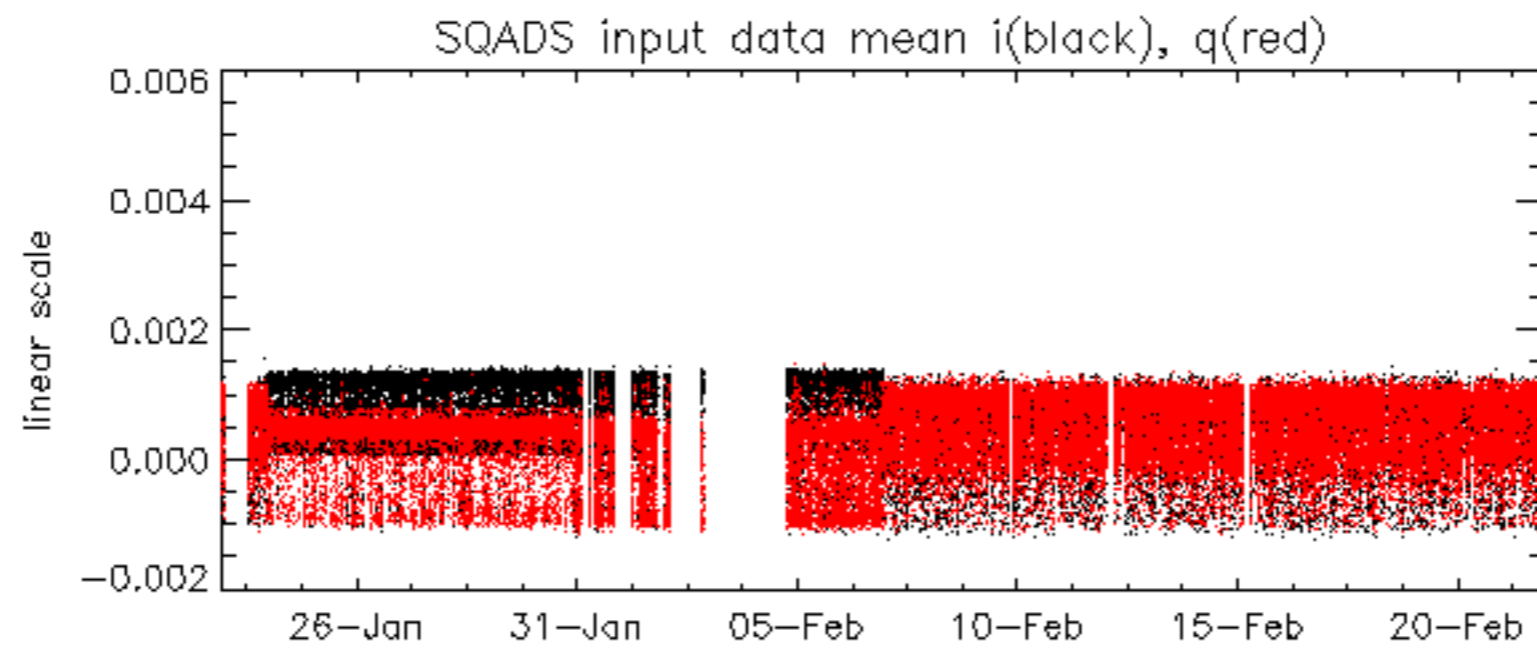


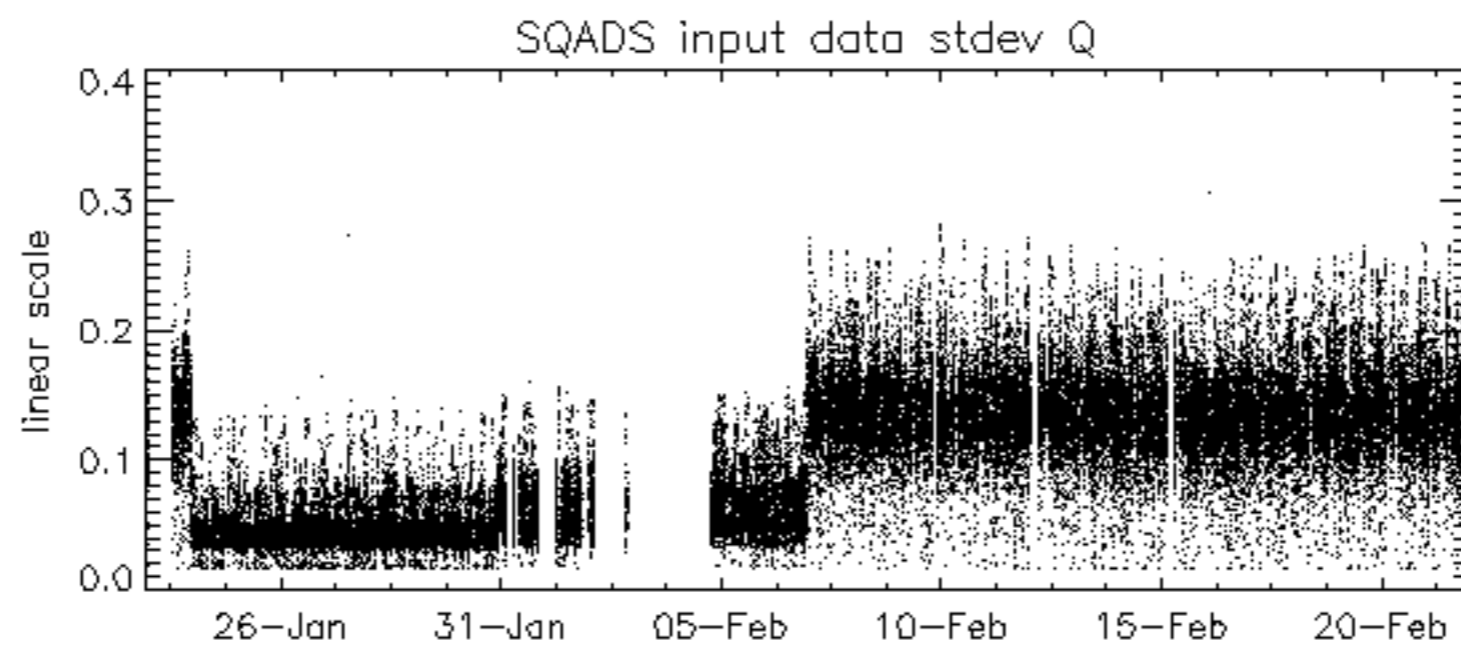
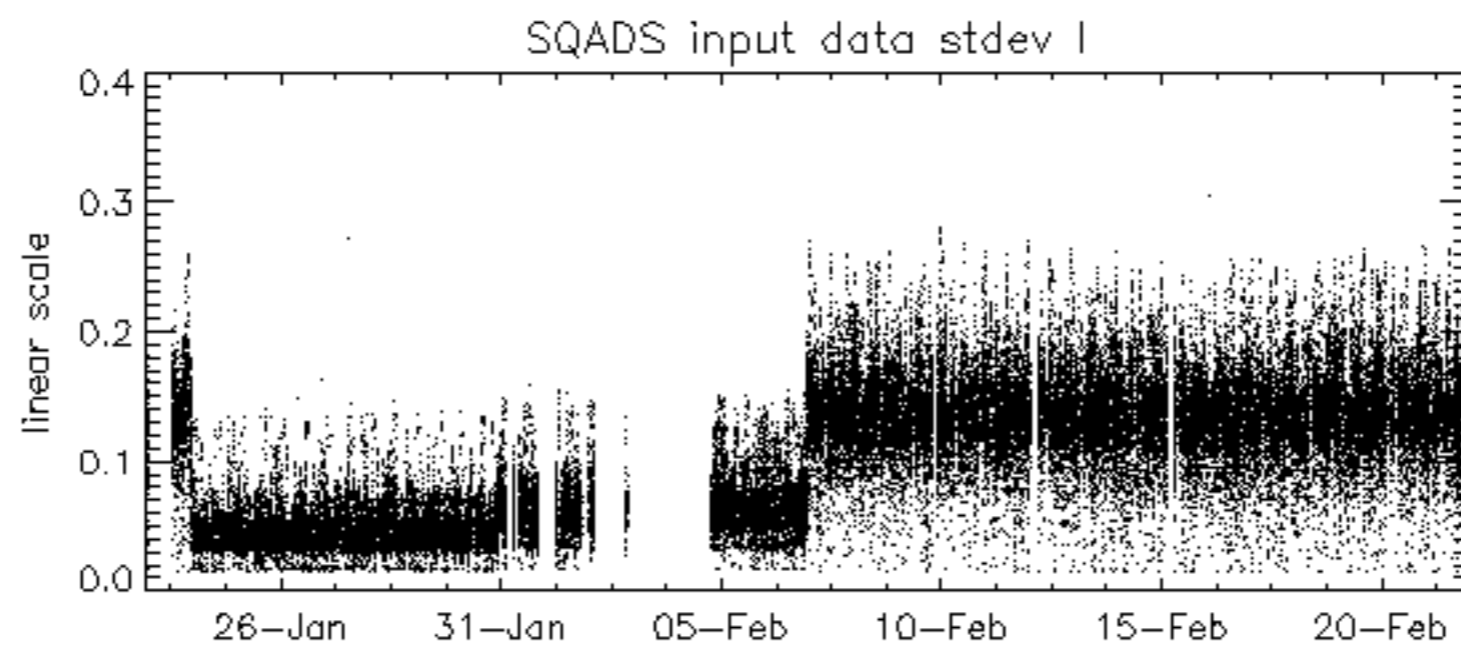
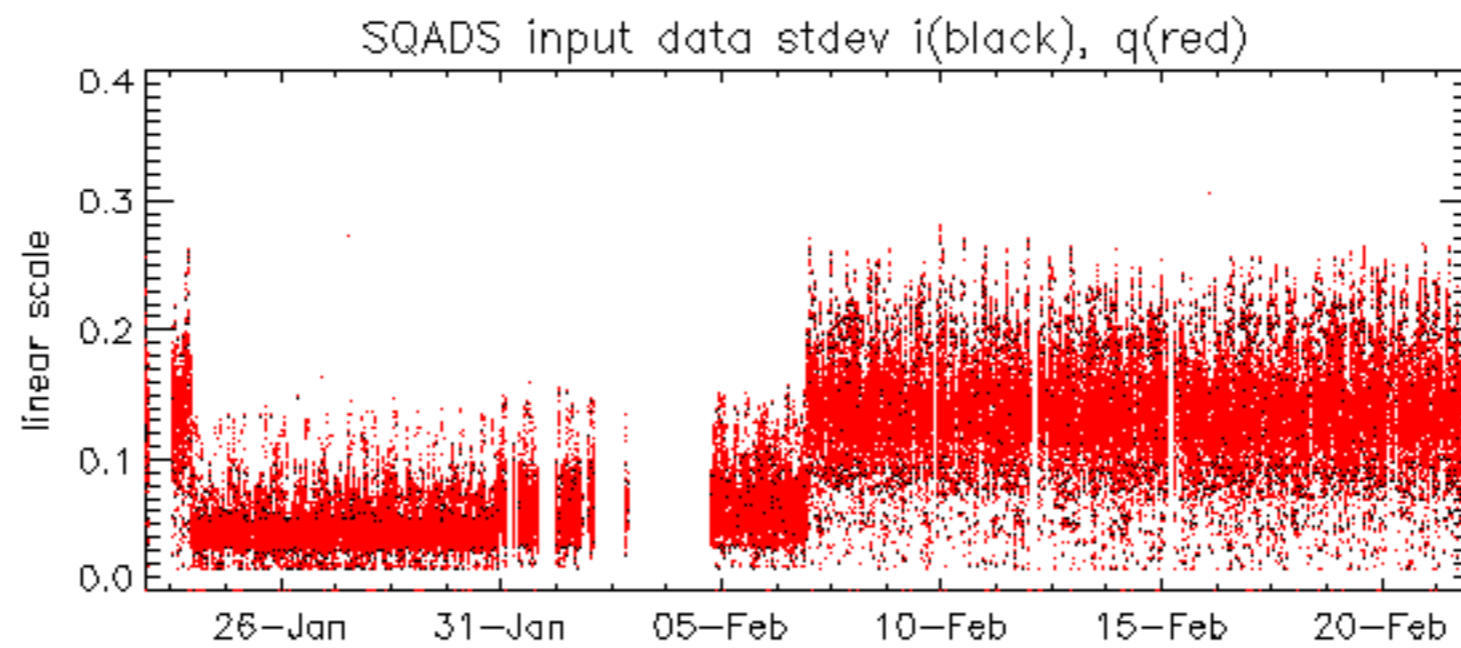
No anomalies observed on available MS products:

No anomalies observed.







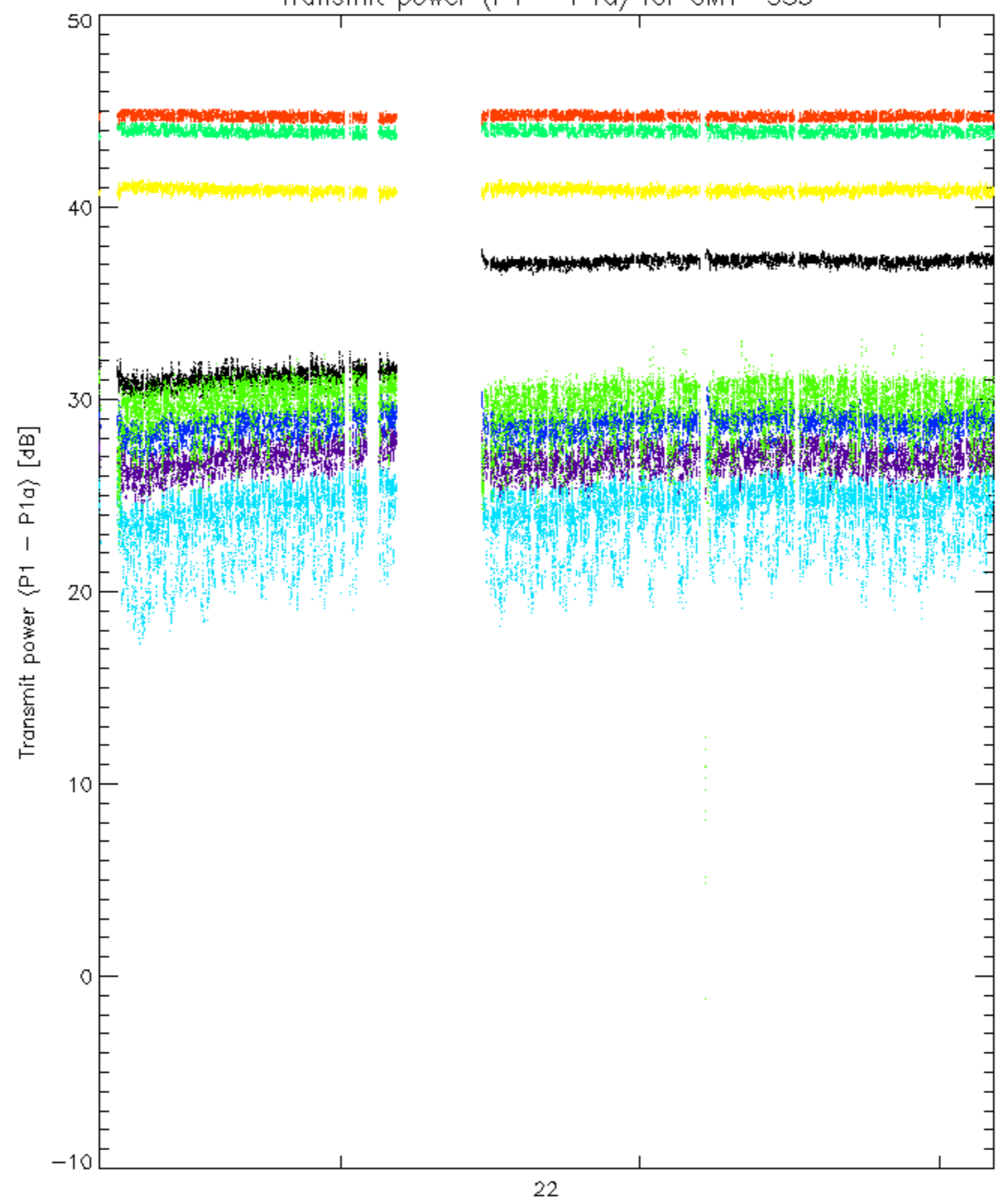


Summary of analysis for the last 3 days 2007022[012]

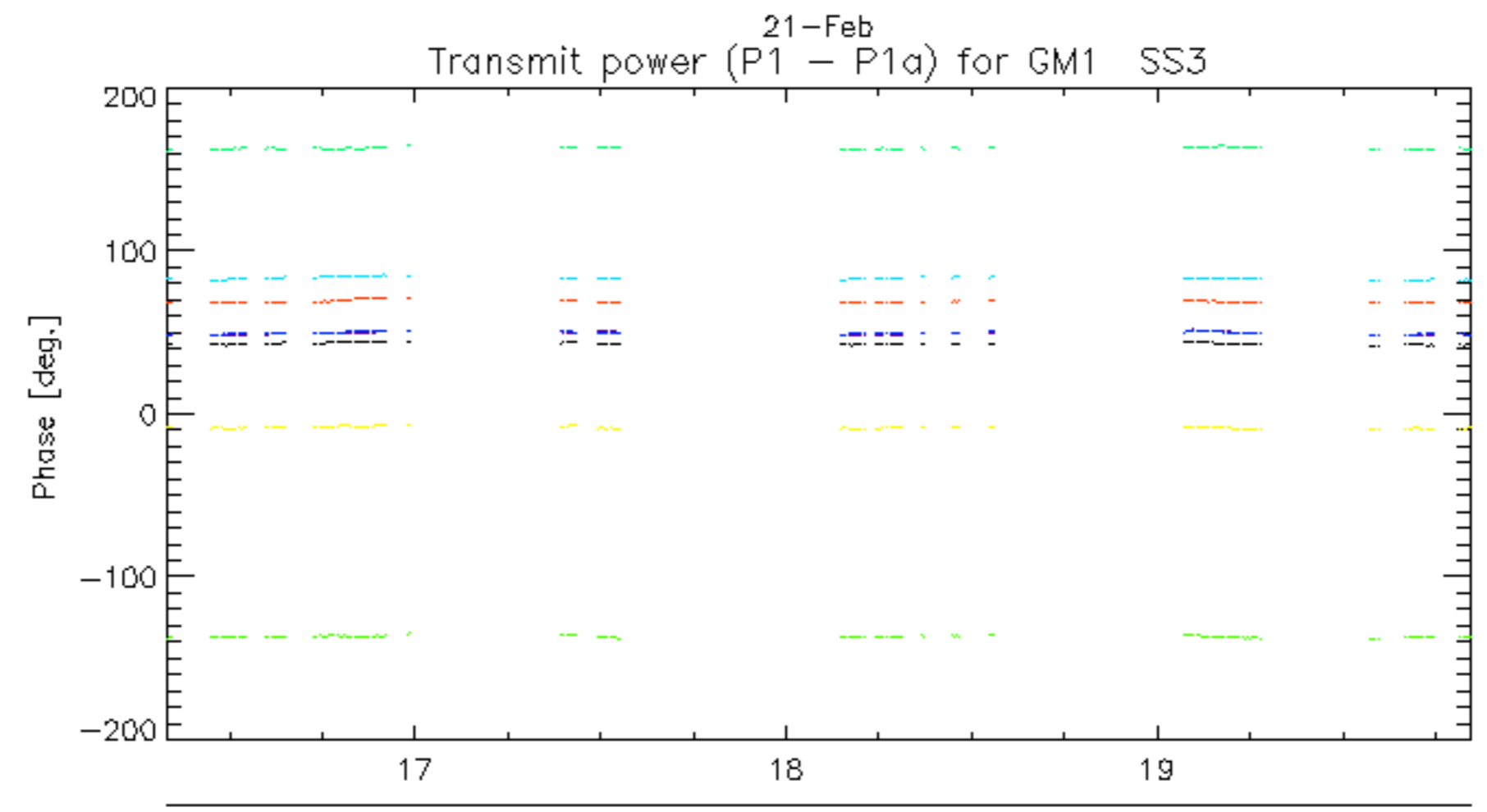
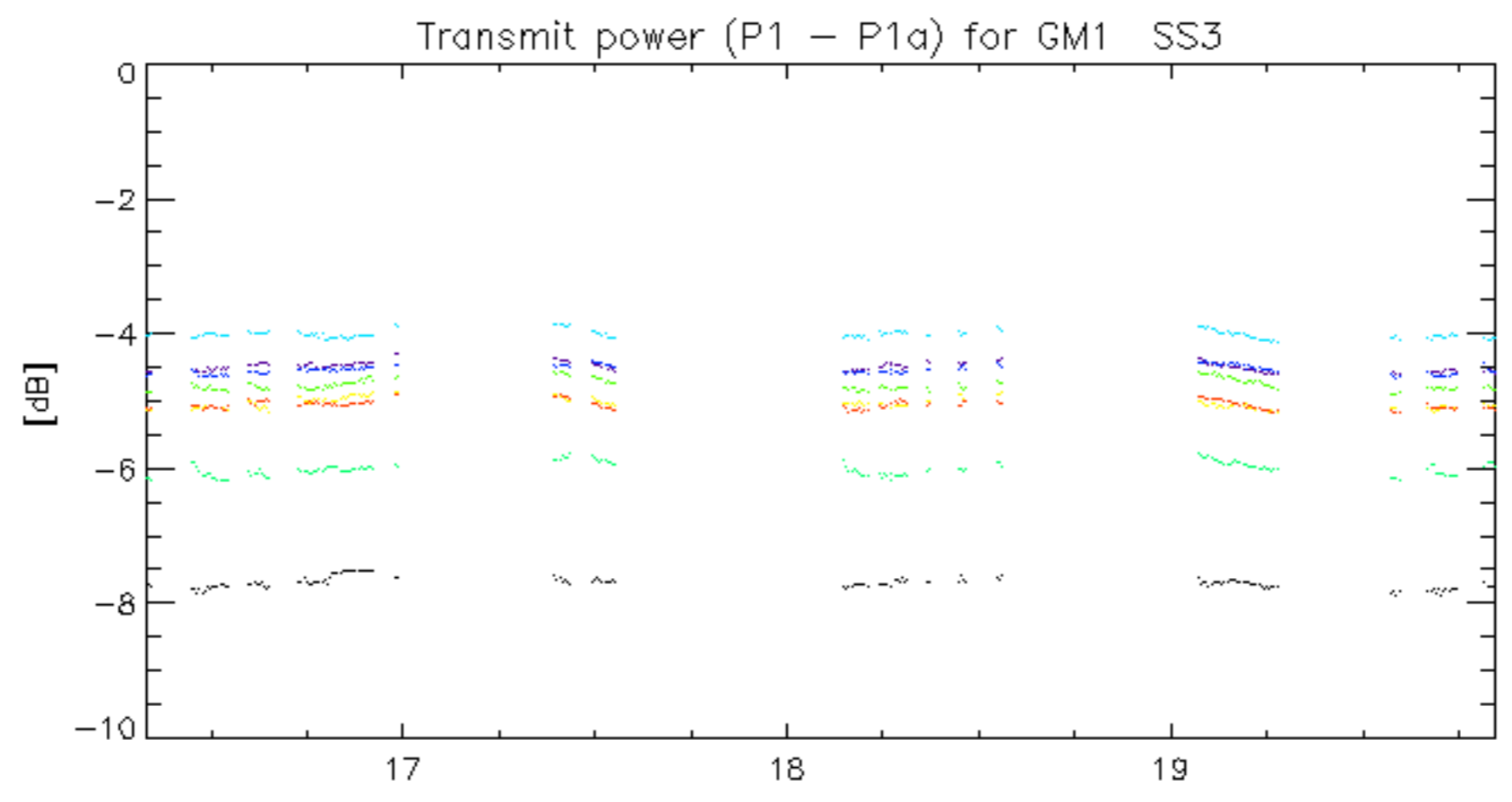
The assumption is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20070221_143309_00000372055_00425_26030_6740.N1	1	0
ASA_IMM_1PNPDE20070221_165622_000001272055_00427_26032_6826.N1	4	86
ASA_GM1_1PNPDK20070220_151813_000003802055_00412_26017_2588.N1	0	17
ASA_WSM_1PNPDE20070221_164157_000000982055_00427_26032_6808.N1	5	1764
ASA_WSM_1PNPDE20070221_172658_000000672055_00427_26032_6800.N1	21	6572

Transmit power (P1 - P1a) for GM1 SS3

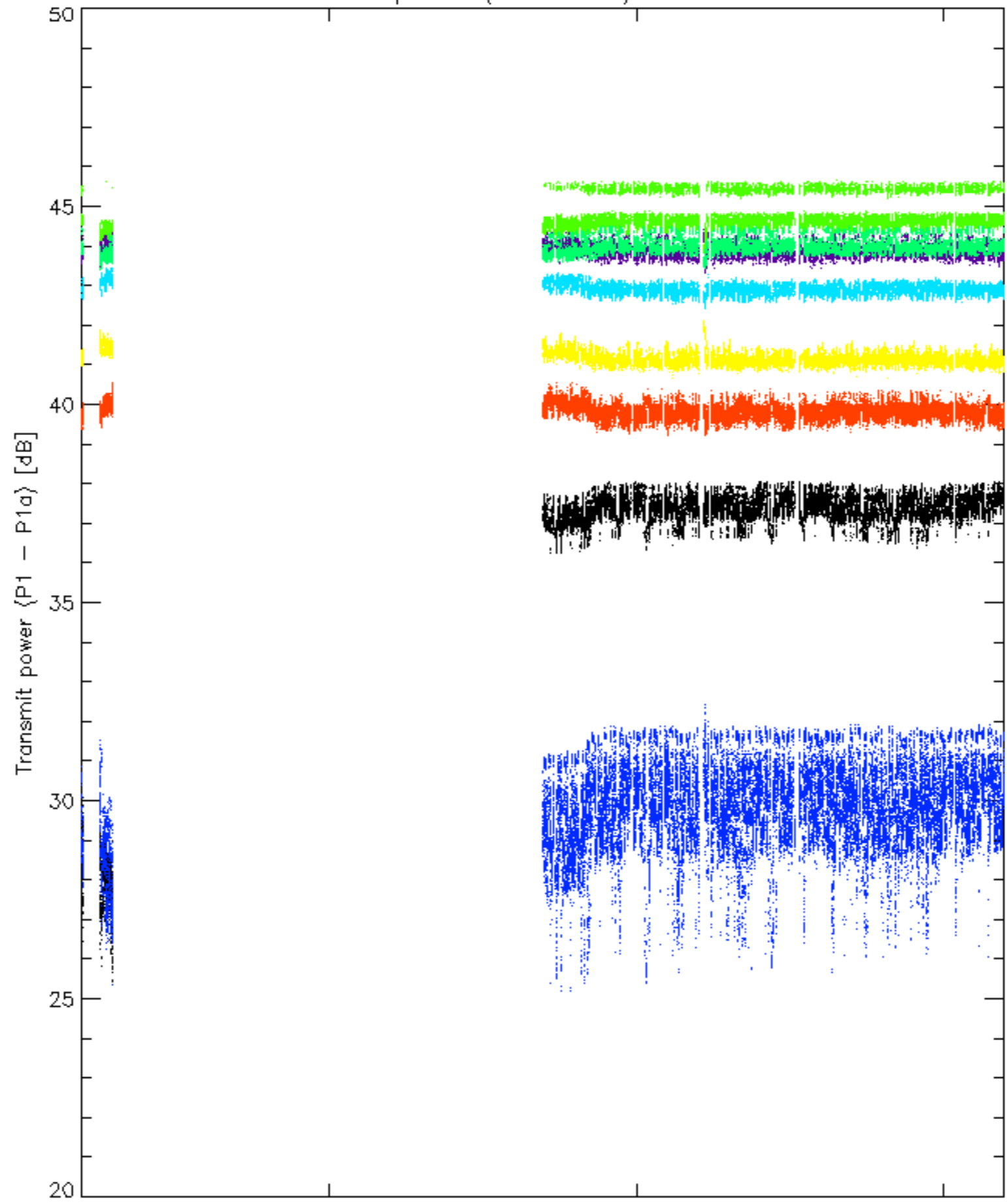


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



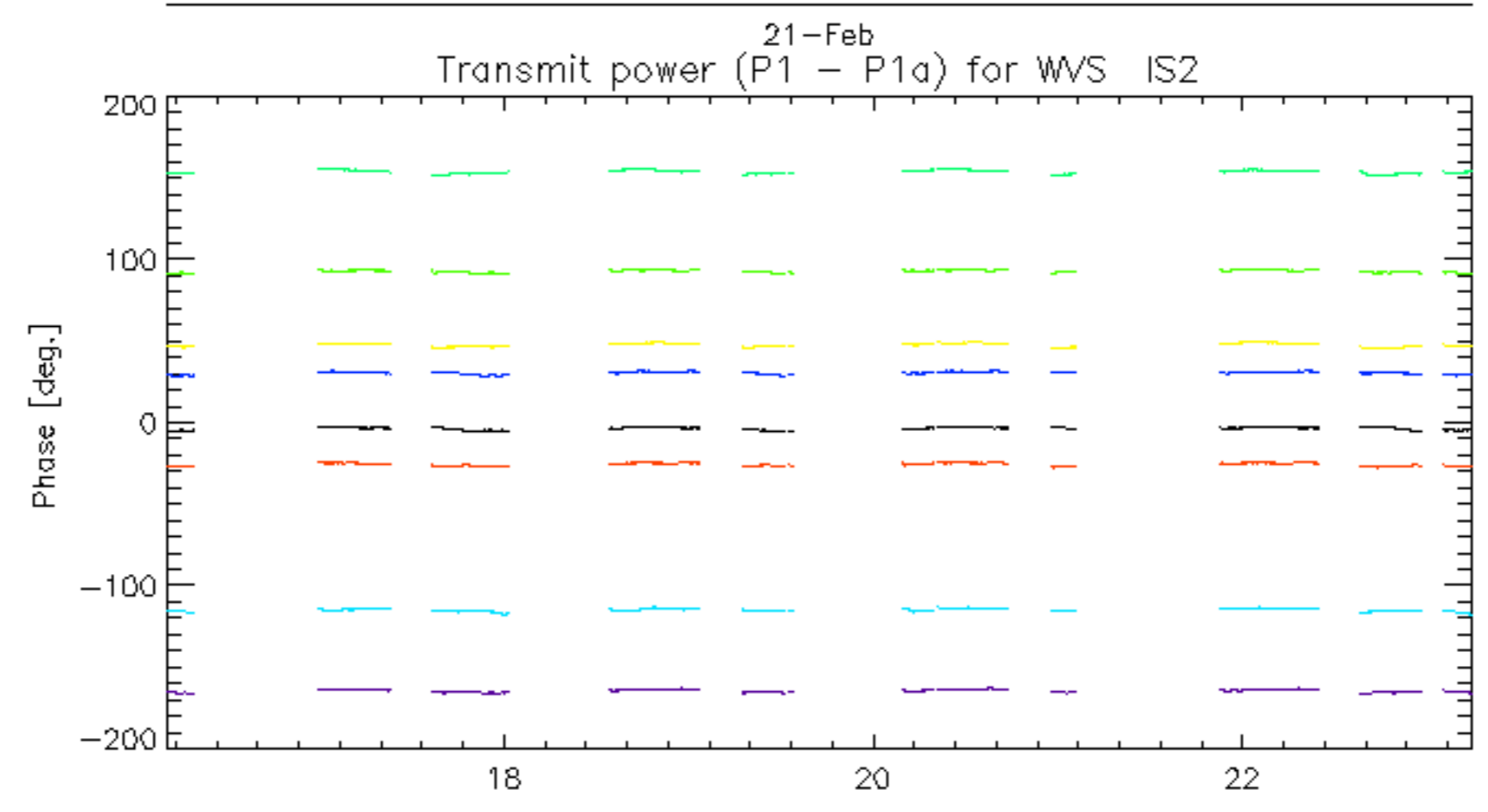
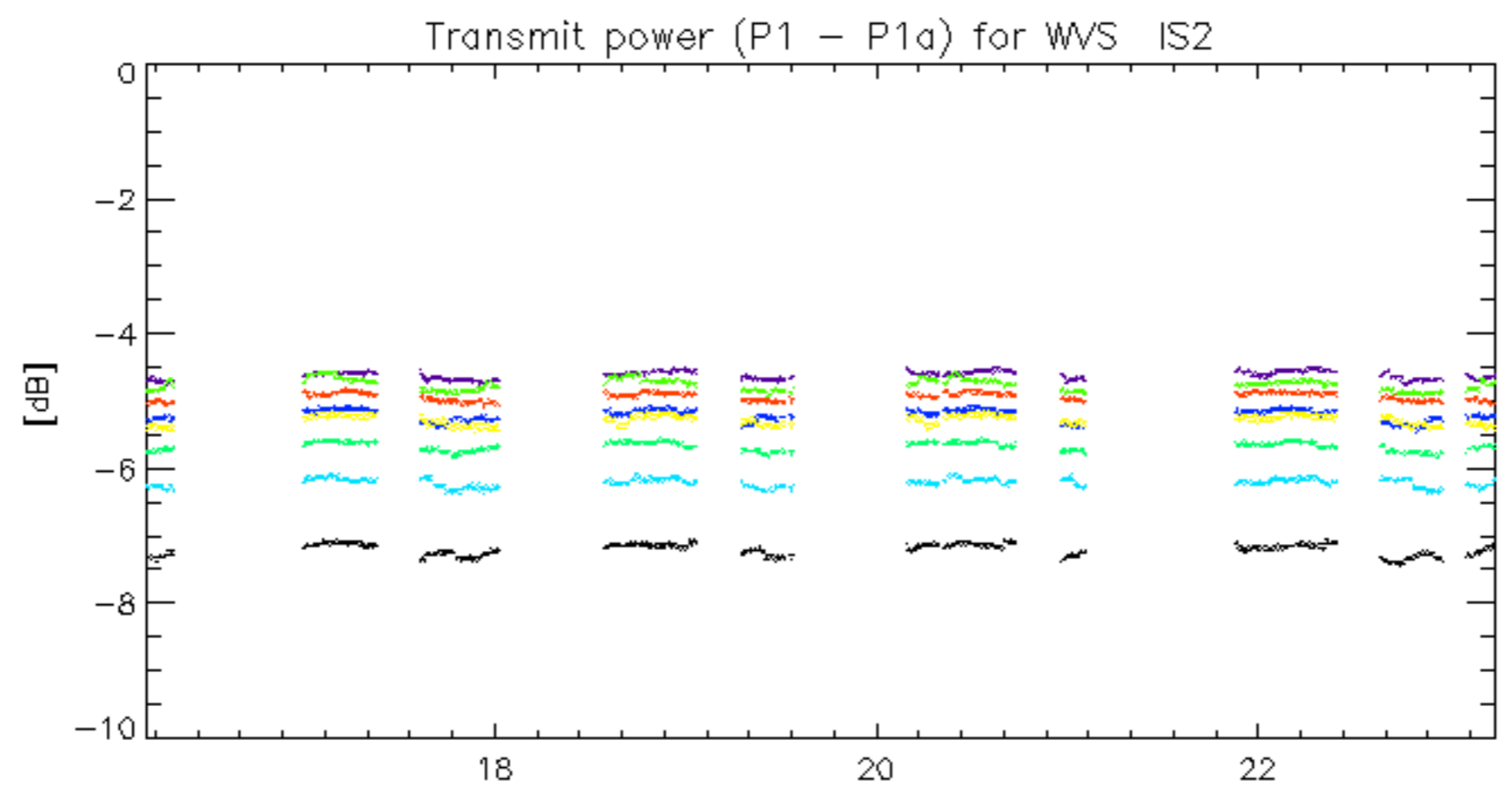
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Transmit power (P1 - P1a) for WWS IS2



22

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



21-Feb
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

No unavailabilities during the reported period.