

PRELIMINARY REPORT OF 070219

last update on Mon Feb 19 16:21:14 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 2007-02-18 00:00:00 to 2007-02-19 16:21:14

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_XCA_AXVIEC20070215_184638_20070204_165113_20071231_000000	39	66	22	3	29
ASA_CON_AXVIEC20070215_184018_20070204_165113_20071231_000000	39	66	22	3	29
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	39	66	22	3	29
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	39	66	22	3	29

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_XCA_AXVIEC20070215_184638_20070204_165113_20071231_000000	44	46	64	13	31
ASA_CON_AXVIEC20070215_184018_20070204_165113_20071231_000000	44	46	64	13	31
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	44	46	64	13	31
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	44	46	64	13	31

2.3 - Browse Visual Inspection

No anomalies observed on available browse products

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	20070218 053208
H	20070219 050031

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

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☒

4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1

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☒

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	-15.161522	0.256948	1.869718
7	P1a	-17.400757	0.106937	-0.208351
11	P1a	-17.327906	0.355753	0.019370
15	P1a	-12.841687	0.110821	-0.217301
19	P1a	-15.094226	0.096439	-0.082217
22	P1a	-15.512204	0.490580	-0.282927
26	P1a	-14.994828	0.226040	-0.092233
30	P1a	-17.313044	0.373565	-0.387921

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.596900	0.179348	-1.928622
7	P1	-3.101315	0.009228	-0.023799
11	P1	-4.125963	0.019584	-0.036287
15	P1	-6.322657	0.015735	-0.044551
19	P1	-3.704086	0.008794	0.019640
22	P1	-4.671371	0.014552	0.018705
26	P1	-3.923432	0.013533	0.037233
30	P1	-5.912966	0.011938	0.004998

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.523684	0.294717	-2.127848
7	P2	-21.594297	0.084424	0.166419
11	P2	-15.471801	0.101548	0.107029
15	P2	-7.005313	0.098087	0.027231

19	P2	-9.072905	0.087162	0.030660
22	P2	-18.097866	0.081727	-0.035764
26	P2	-16.496935	0.095972	0.001287
30	P2	-19.326035	0.077873	0.038637

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.192682	0.007847	0.059161
7	P3	-8.192682	0.007847	0.059161
11	P3	-8.192682	0.007847	0.059161
15	P3	-8.192682	0.007847	0.059161
19	P3	-8.192682	0.007847	0.059161
22	P3	-8.192682	0.007847	0.059161
26	P3	-8.192682	0.007847	0.059161
30	P3	-8.192682	0.007847	0.059161

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	-11.330827	0.146041	1.218543
7	P1a	-10.030872	0.061183	-0.029054
11	P1a	-10.576840	0.059508	-0.259453
15	P1a	-10.845946	0.131223	-0.058776
19	P1a	-15.745049	0.064144	0.003765
22	P1a	-20.870565	1.287211	0.401011
26	P1a	-15.438784	0.261021	0.234830
30	P1a	-18.330305	0.363998	-0.055962

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
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3	P1	-6.758408	4.033535	-7.640326
7	P1	-2.434759	0.005950	0.035932
11	P1	-2.881482	0.016154	-0.093108
15	P1	-3.796580	0.033366	-0.085574
19	P1	-3.550345	0.012812	-0.003643
22	P1	-5.022866	0.022650	0.008953
26	P1	-5.992033	0.023064	0.032295
30	P1	-5.286794	0.023144	0.021774

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.383957	0.816365	-3.312676
7	P2	-22.000196	0.052195	0.153786
11	P2	-10.674021	0.031377	0.099022
15	P2	-4.826141	0.027251	0.078219
19	P2	-6.823989	0.028441	0.086159
22	P2	-8.132256	0.030024	0.088052
26	P2	-24.246964	0.032180	0.048372
30	P2	-21.778656	0.035400	0.107750

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.043954	0.003315	0.062310
7	P3	-8.043971	0.003327	0.061748
11	P3	-8.043980	0.003319	0.062099
15	P3	-8.043897	0.003327	0.062632
19	P3	-8.043964	0.003306	0.062049
22	P3	-8.044001	0.003317	0.062269
26	P3	-8.043874	0.003314	0.062342
30	P3	-8.043888	0.003327	0.062315

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	0.000627428
	stdev	2.46917e-07
MEAN Q	mean	0.000372068
	stdev	2.52870e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.0995939
	stdev	0.00256897
STDEV Q	mean	0.0995659
	stdev	0.00261894



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2007021[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
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ASA_IMM_1PNPDE20070217_182645_000000352055_00371_25976_1526.N1	0	16
ASA_IMM_1PNPDE20070217_233319_000000502055_00374_25979_1791.N1	15	1310
ASA_IMM_1PNPDE20070218_003602_000000622055_00374_25979_1850.N1	2	14
ASA_IMM_1PNPDE20070218_003903_000000962055_00374_25979_1947.N1	0	80
ASA_IMM_1PNPDE20070218_004118_000001582055_00374_25979_1945.N1	0	62
ASA_WSM_1PNPDE20070219_093157_000000862055_00394_25999_3949.N1	0	1





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)	
	Ascending
	Descending

7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler	
	Ascending
	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

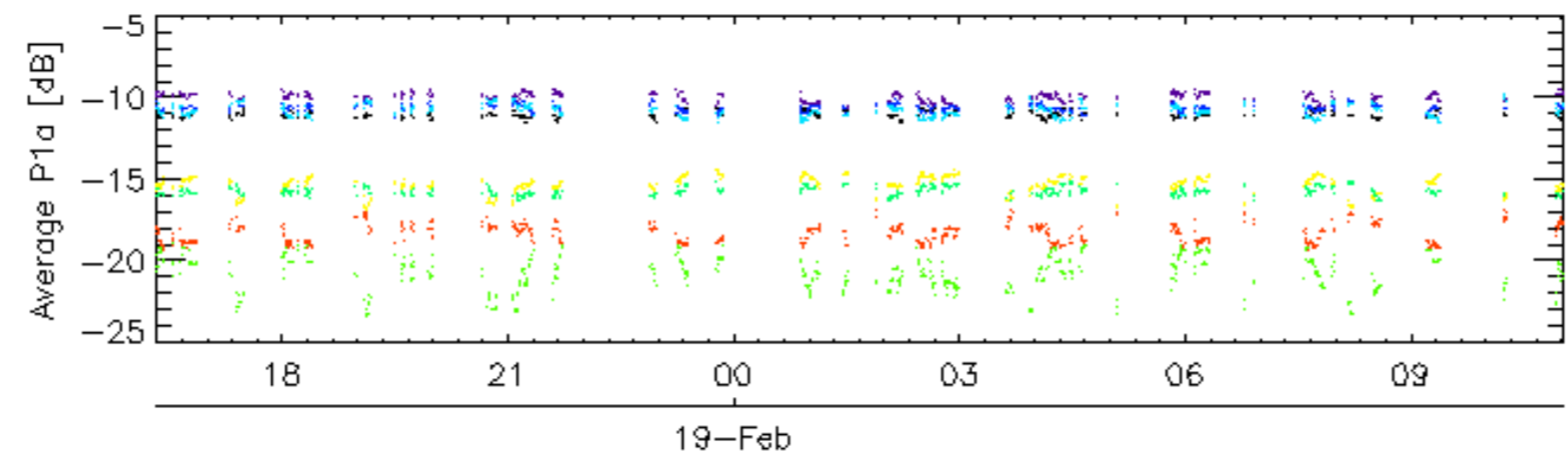
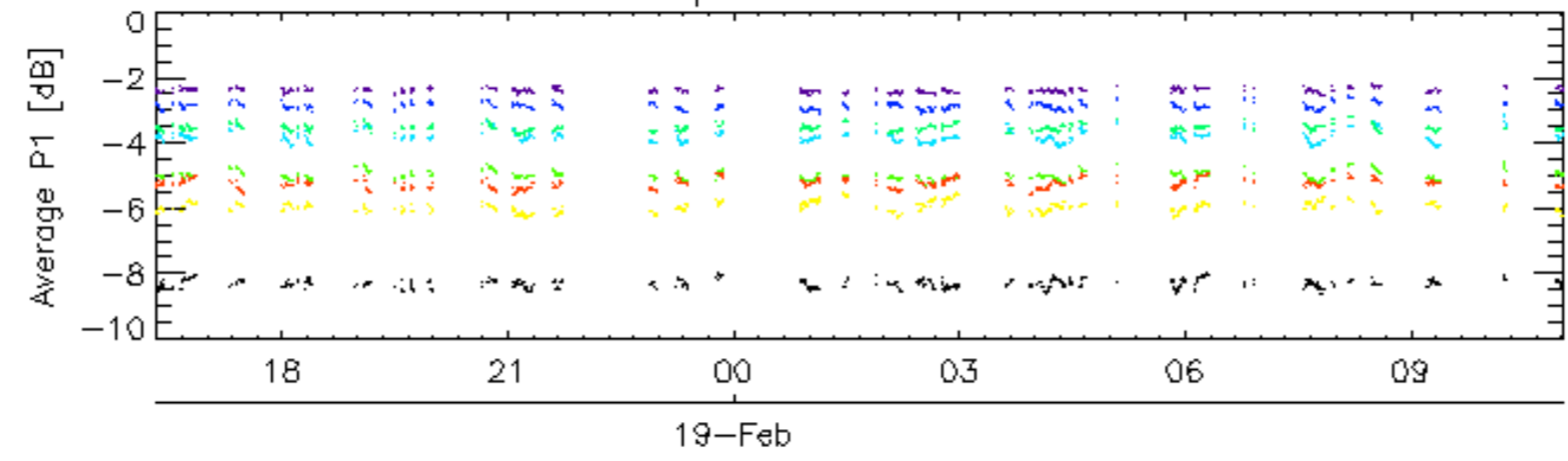
7.5 - Absolute Doppler for GM1**Evolution of Absolute Doppler**

Acsending

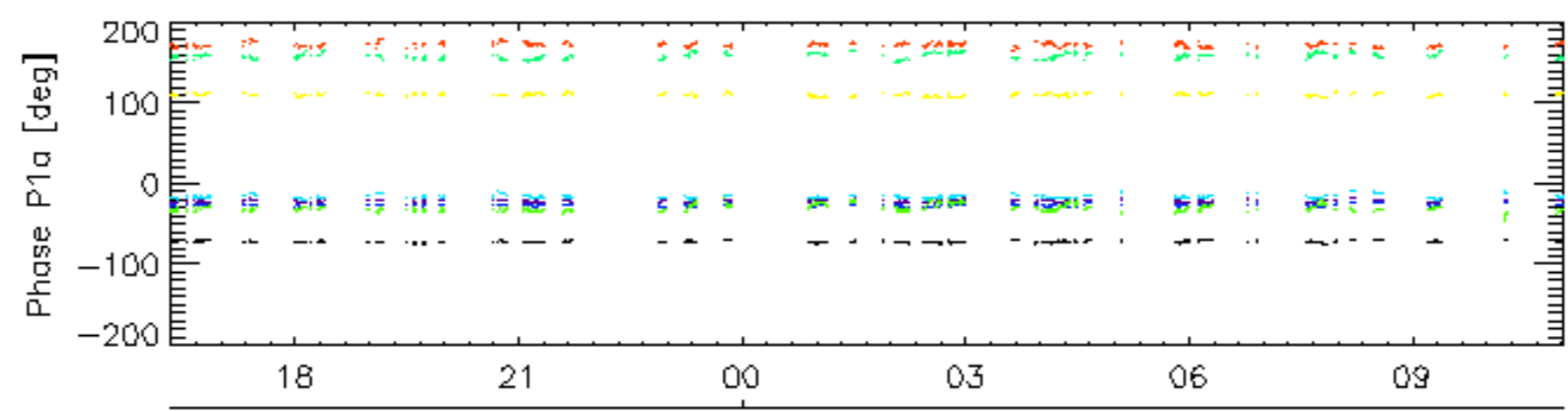
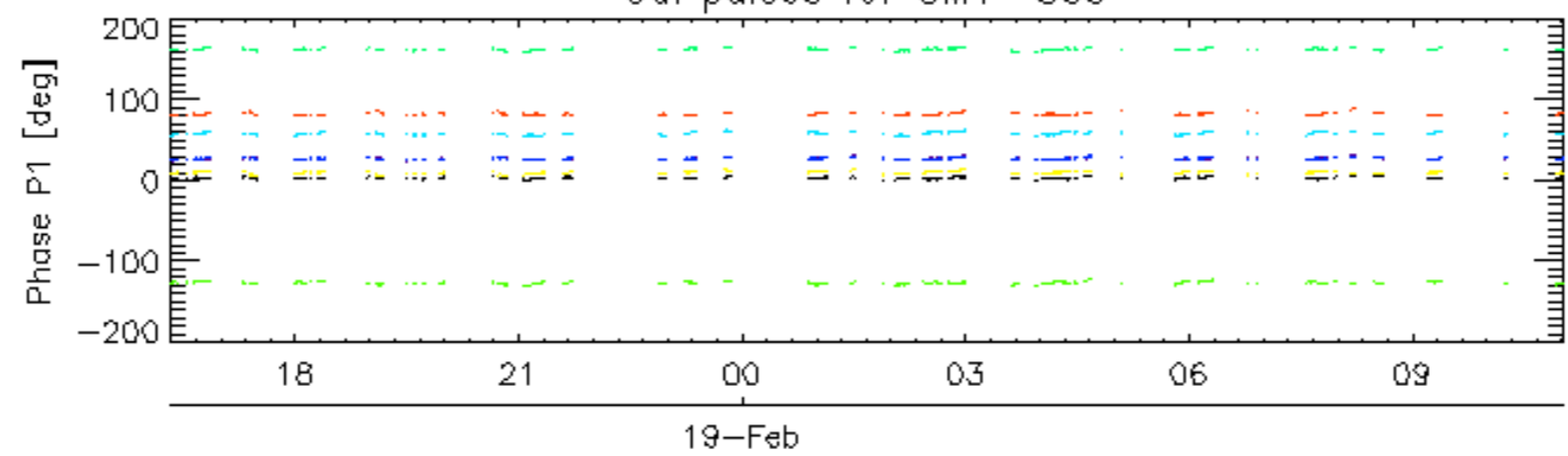
Descending

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

Cal pulses for GM1 SS3

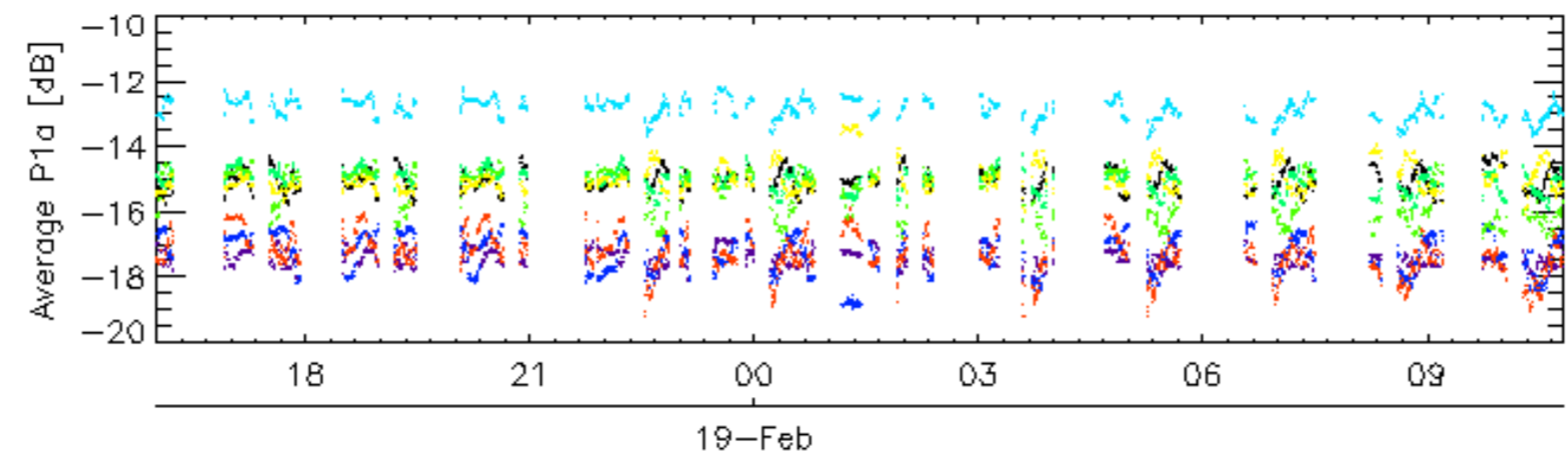
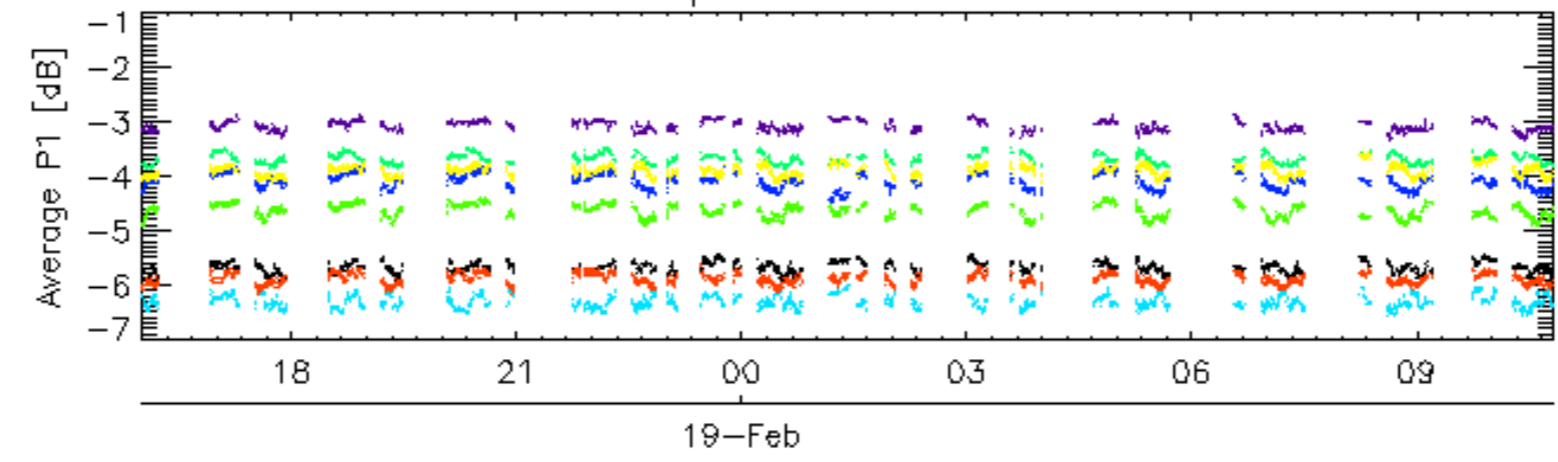


Cal pulses for GM1 SS3

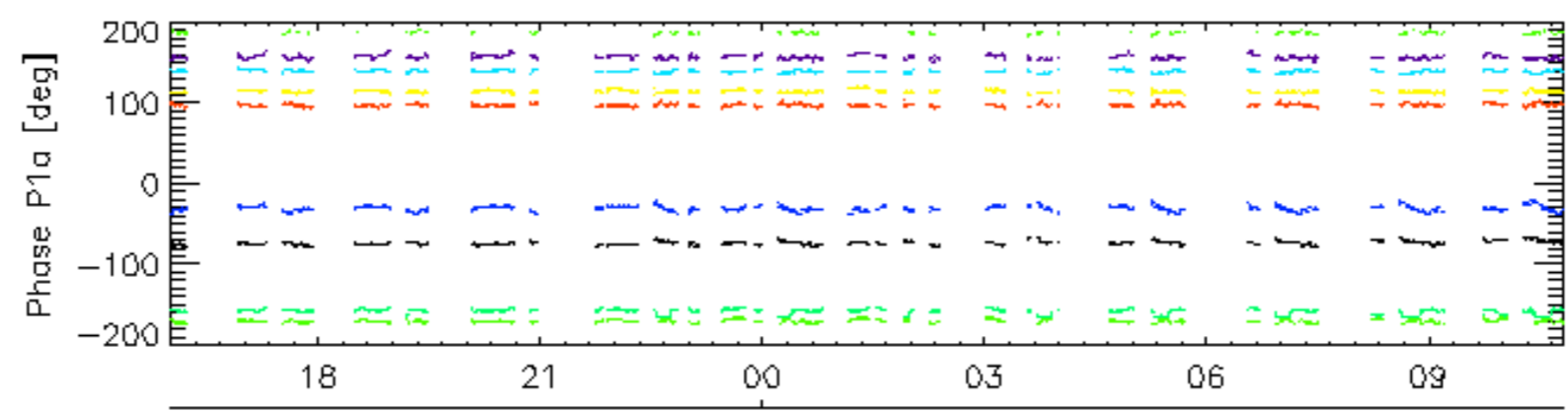
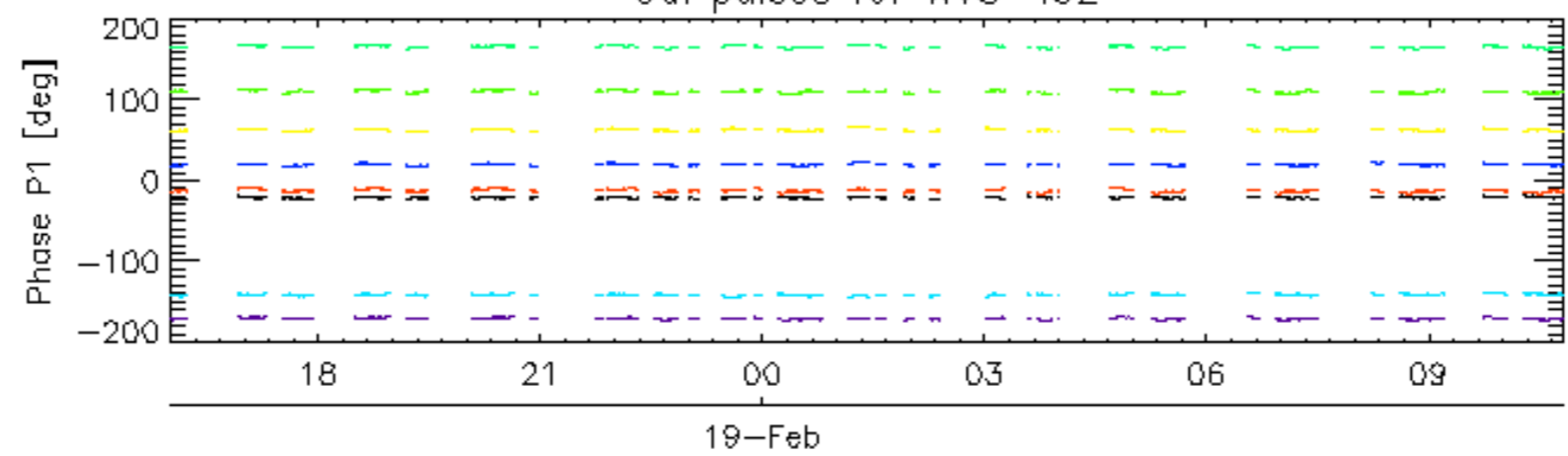


rows: 3 7 11 15 19 22 26 30

Cal pulses for WVS IS2

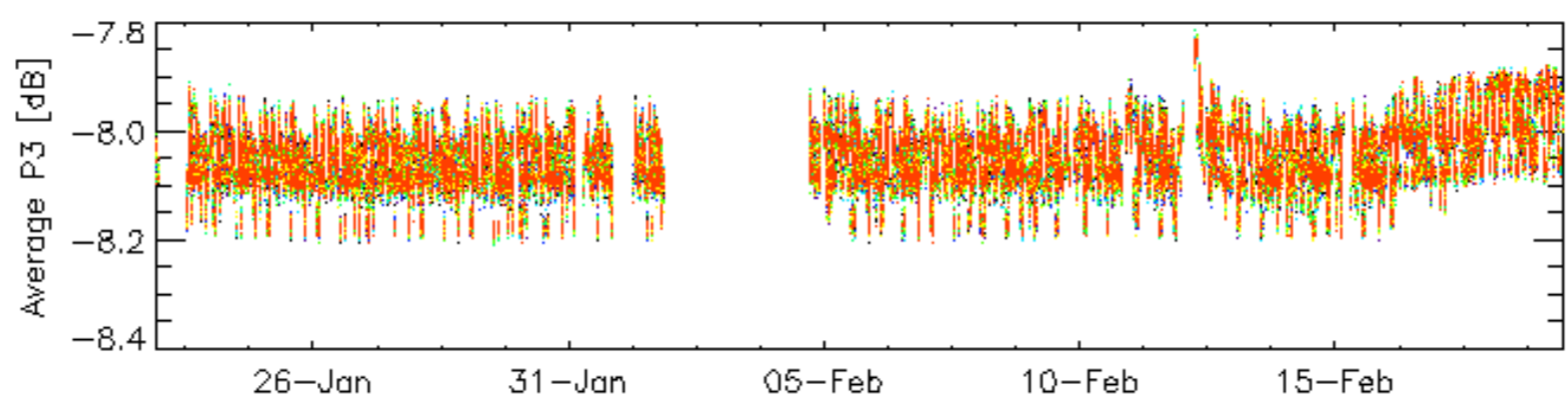
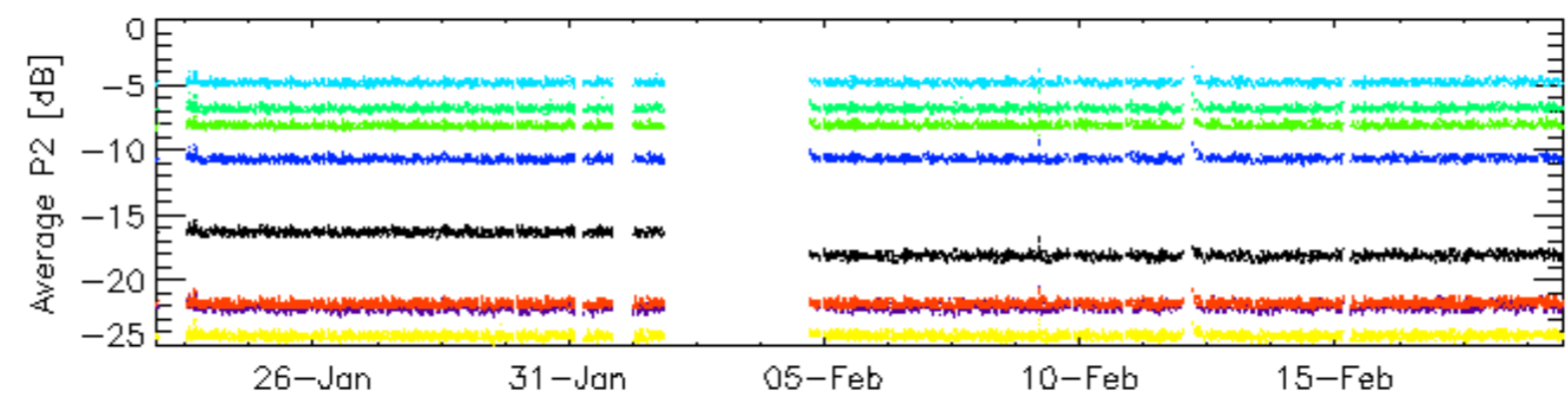
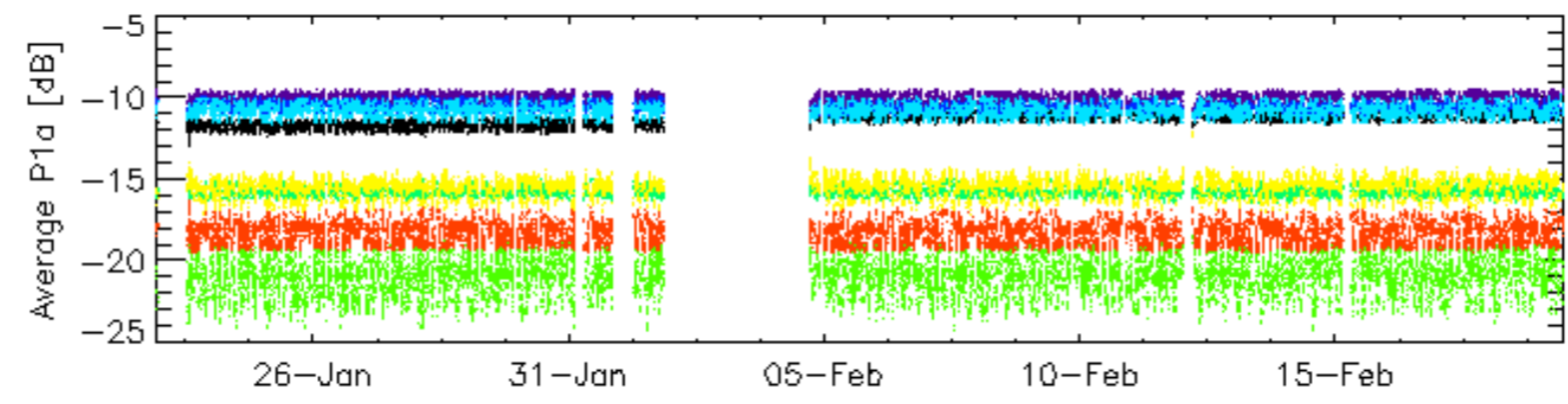
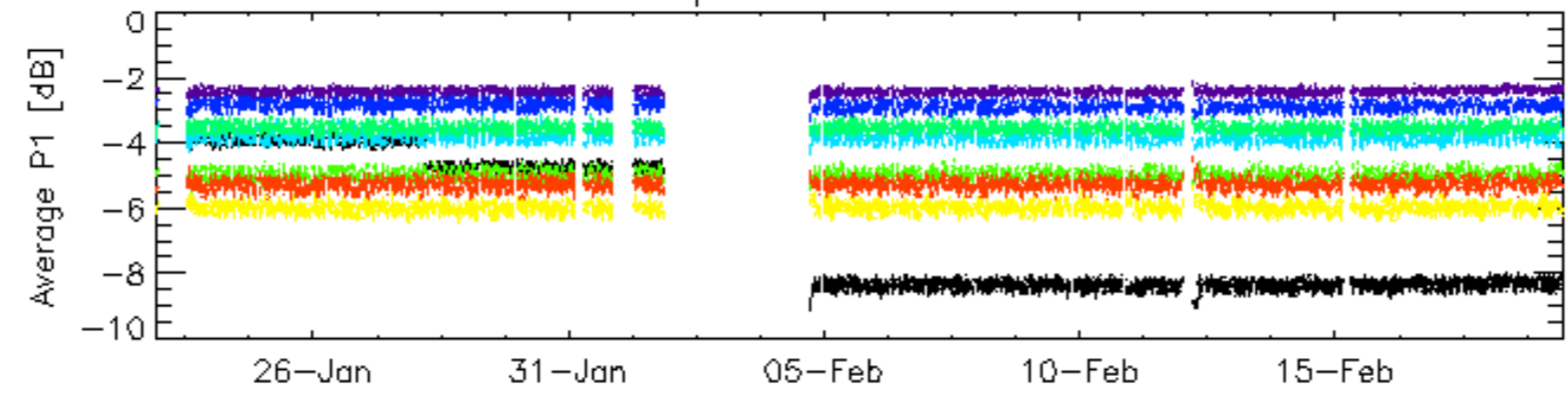


Cal pulses for WVS IS2



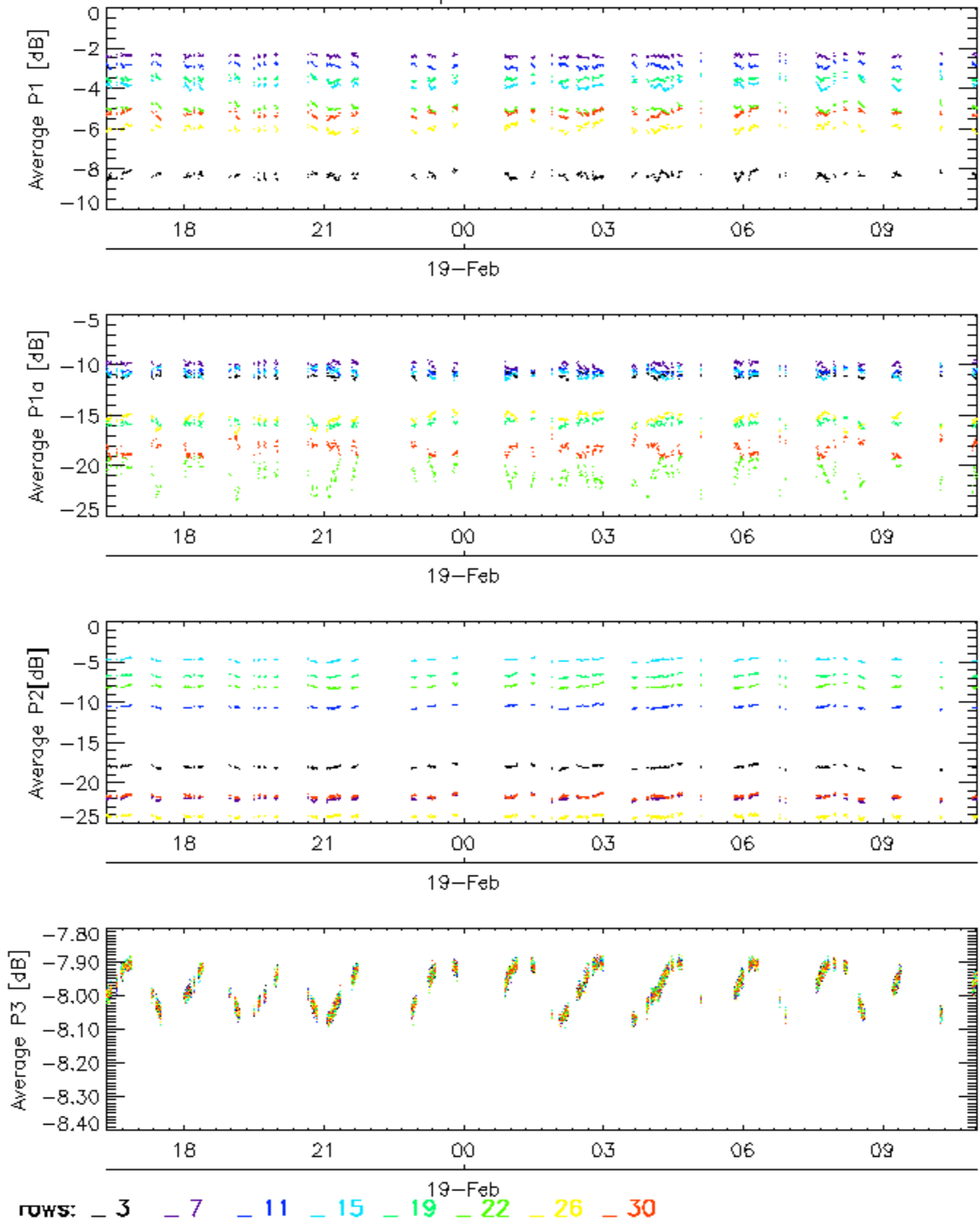
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

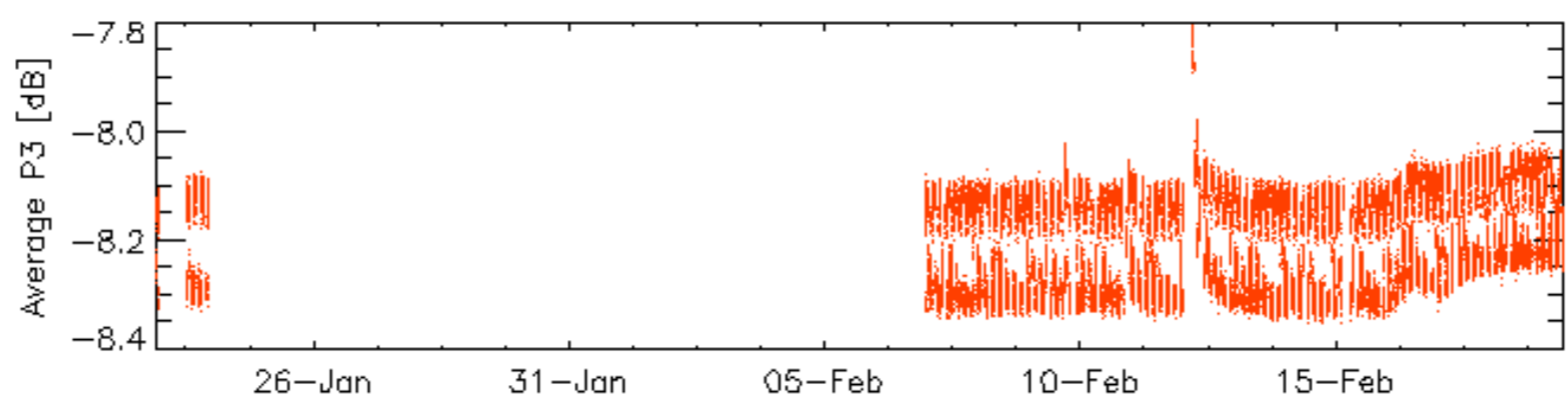
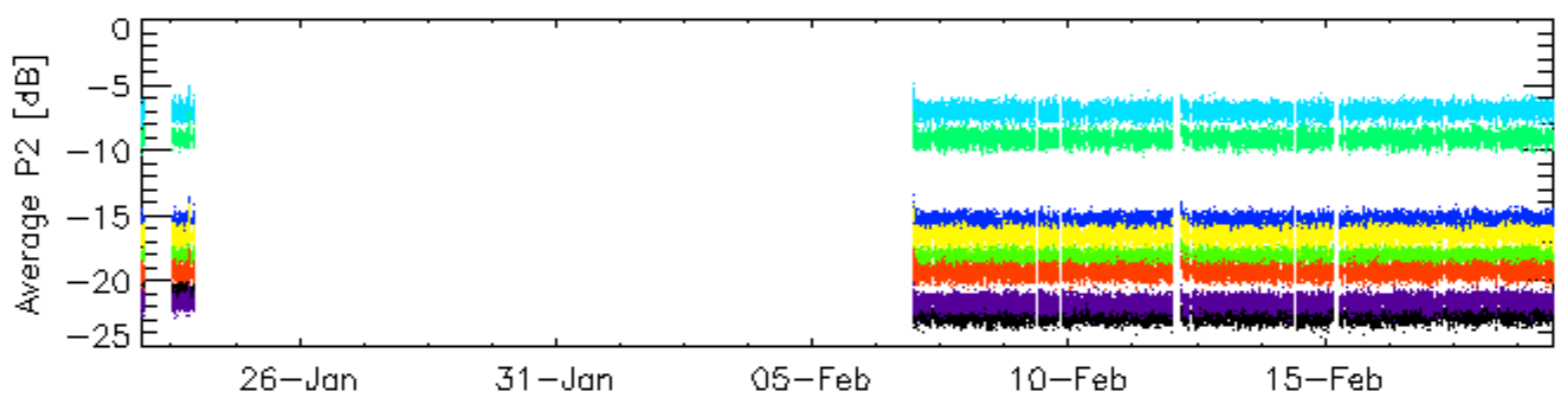
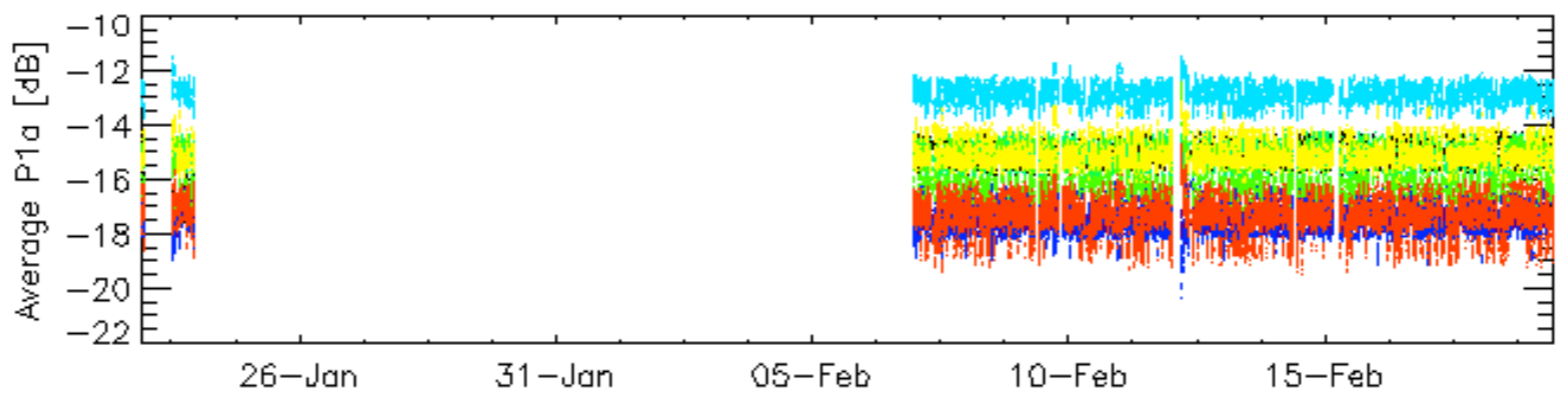
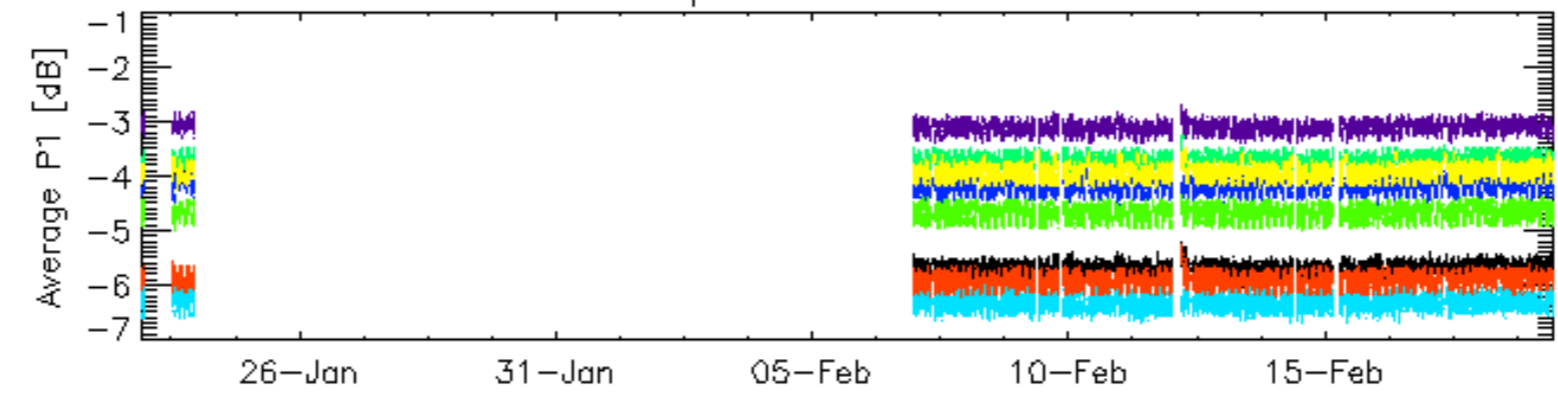


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

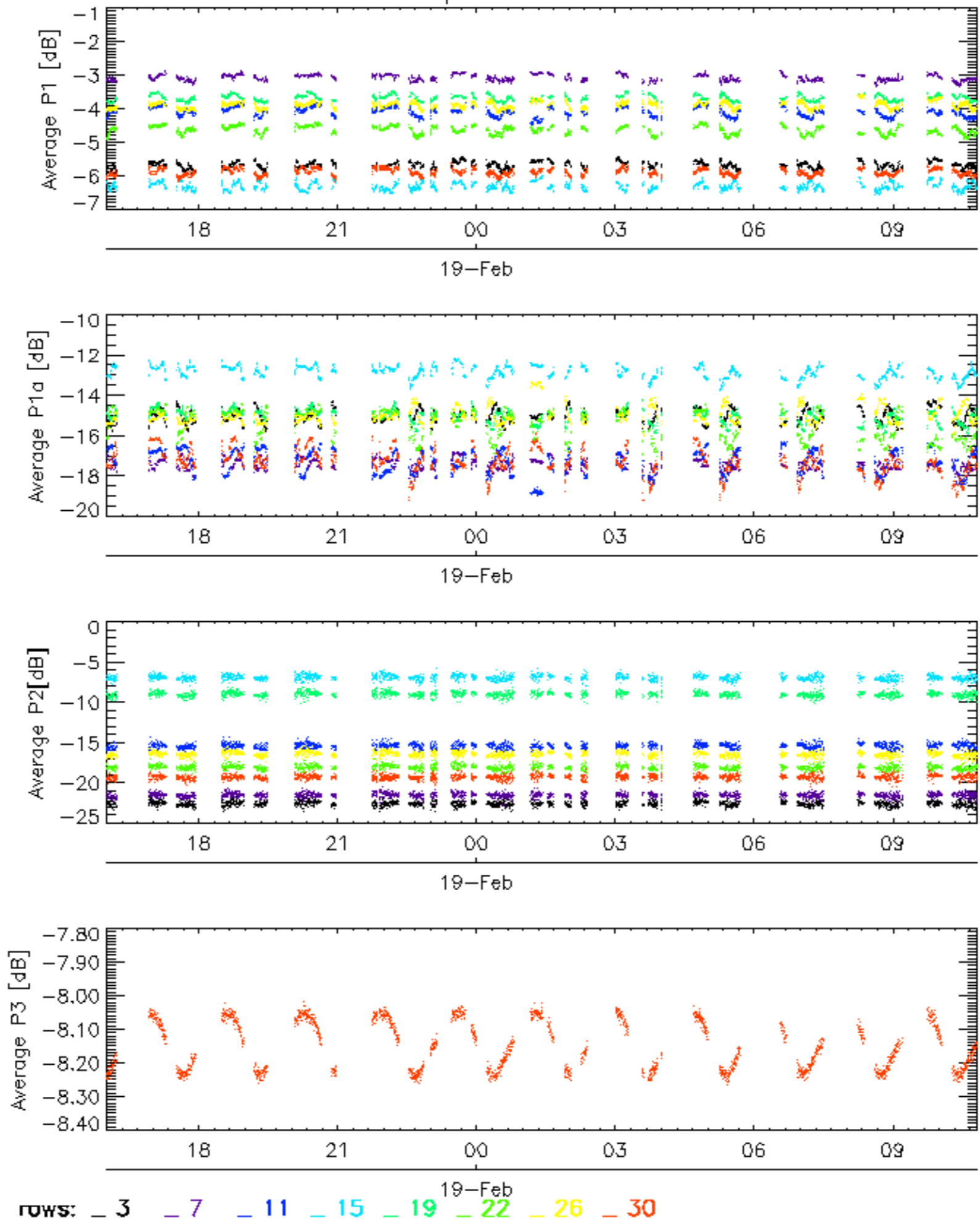


Cal pulses for WVS IS2



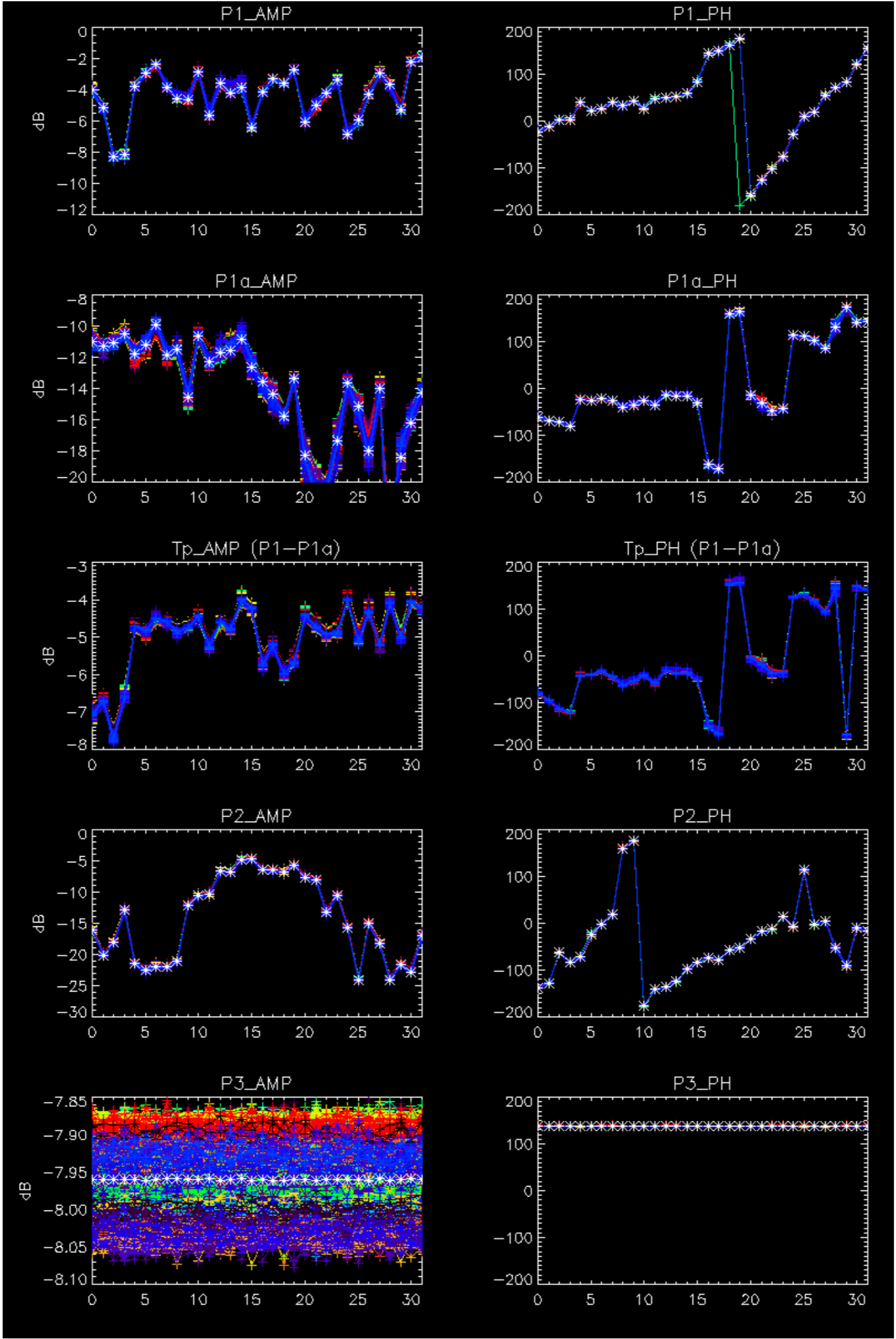
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

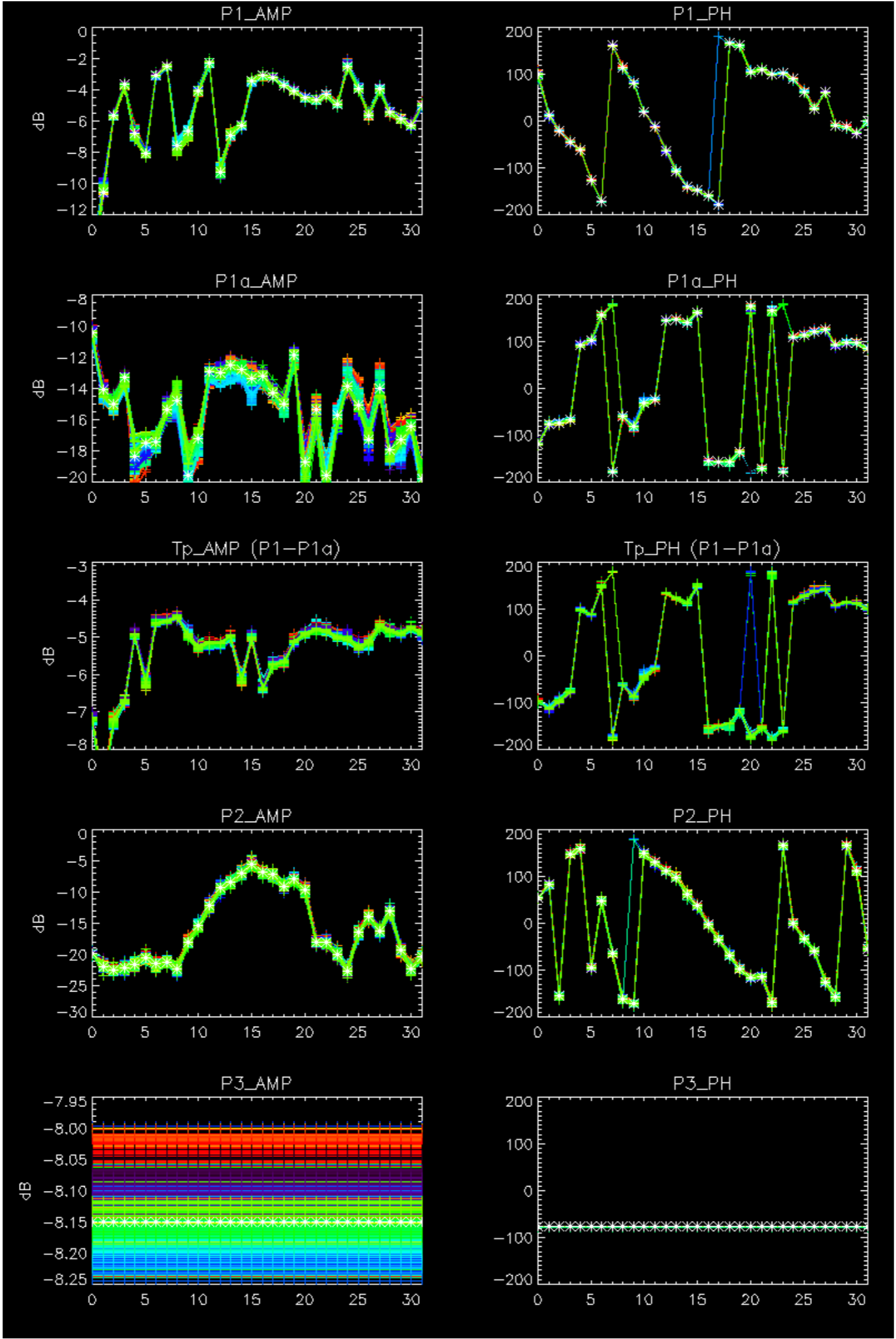
Cal pulses for WVS IS2



No anomalies observed on available browse products

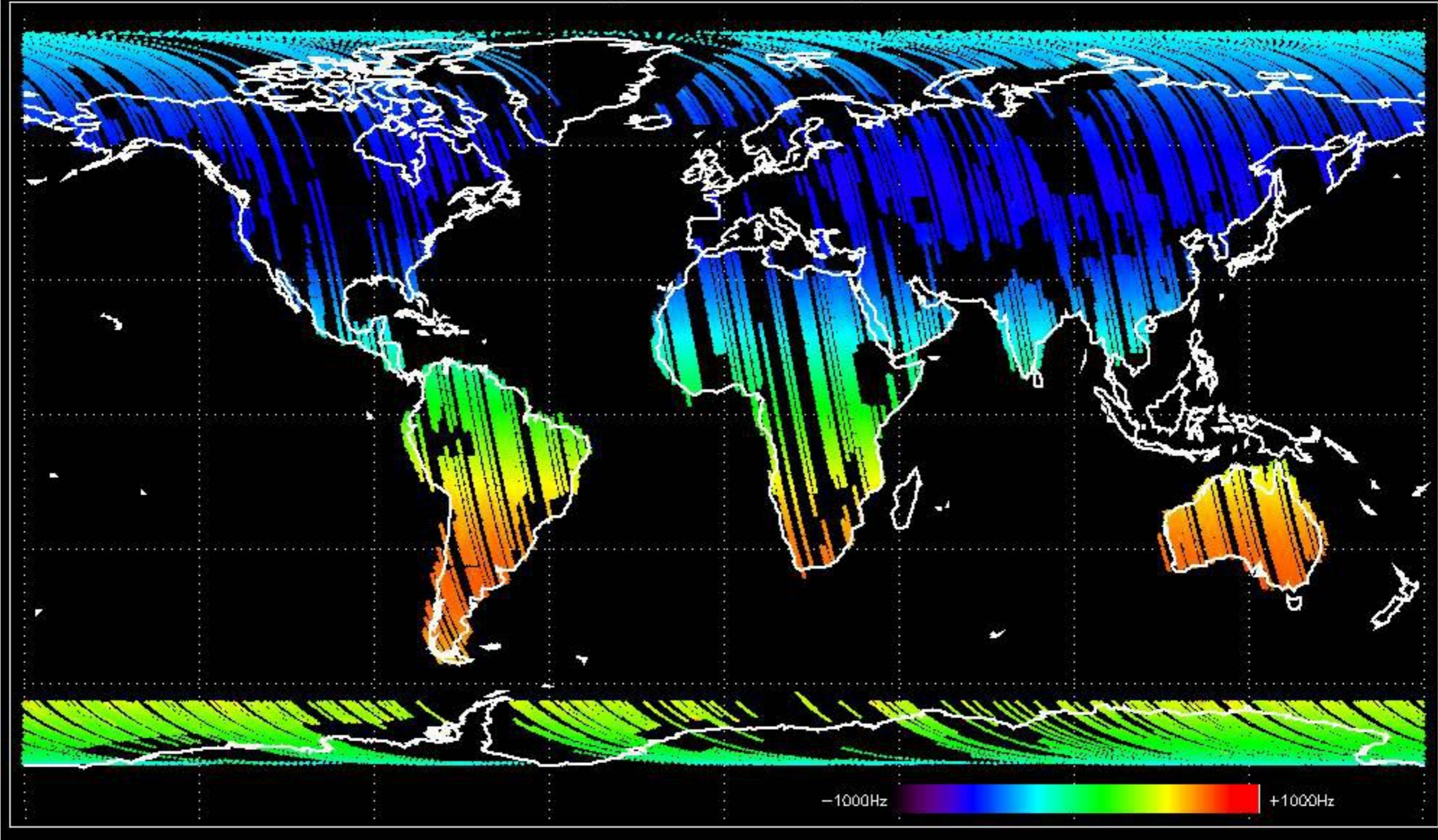
No anomalies observed.



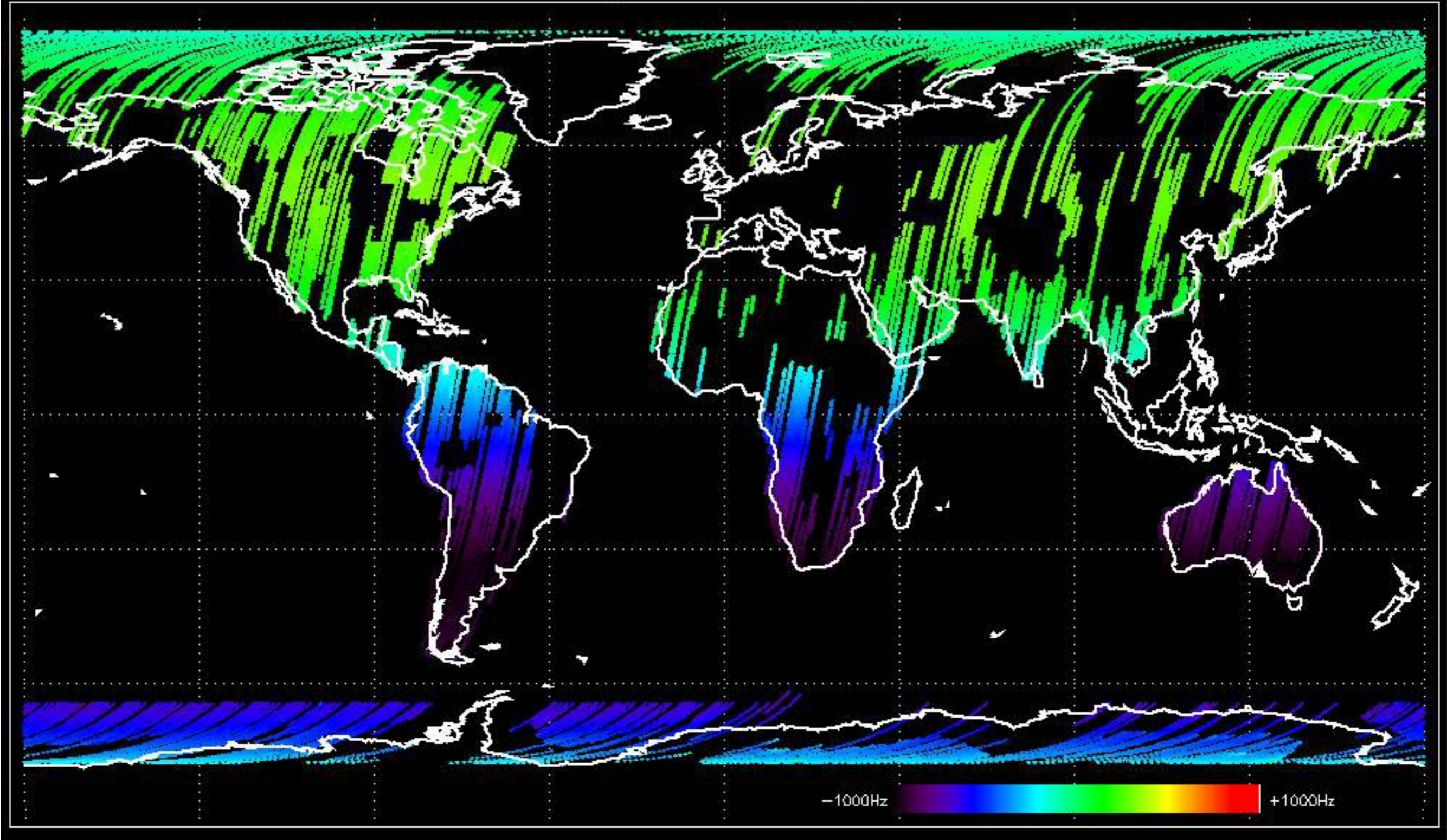


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

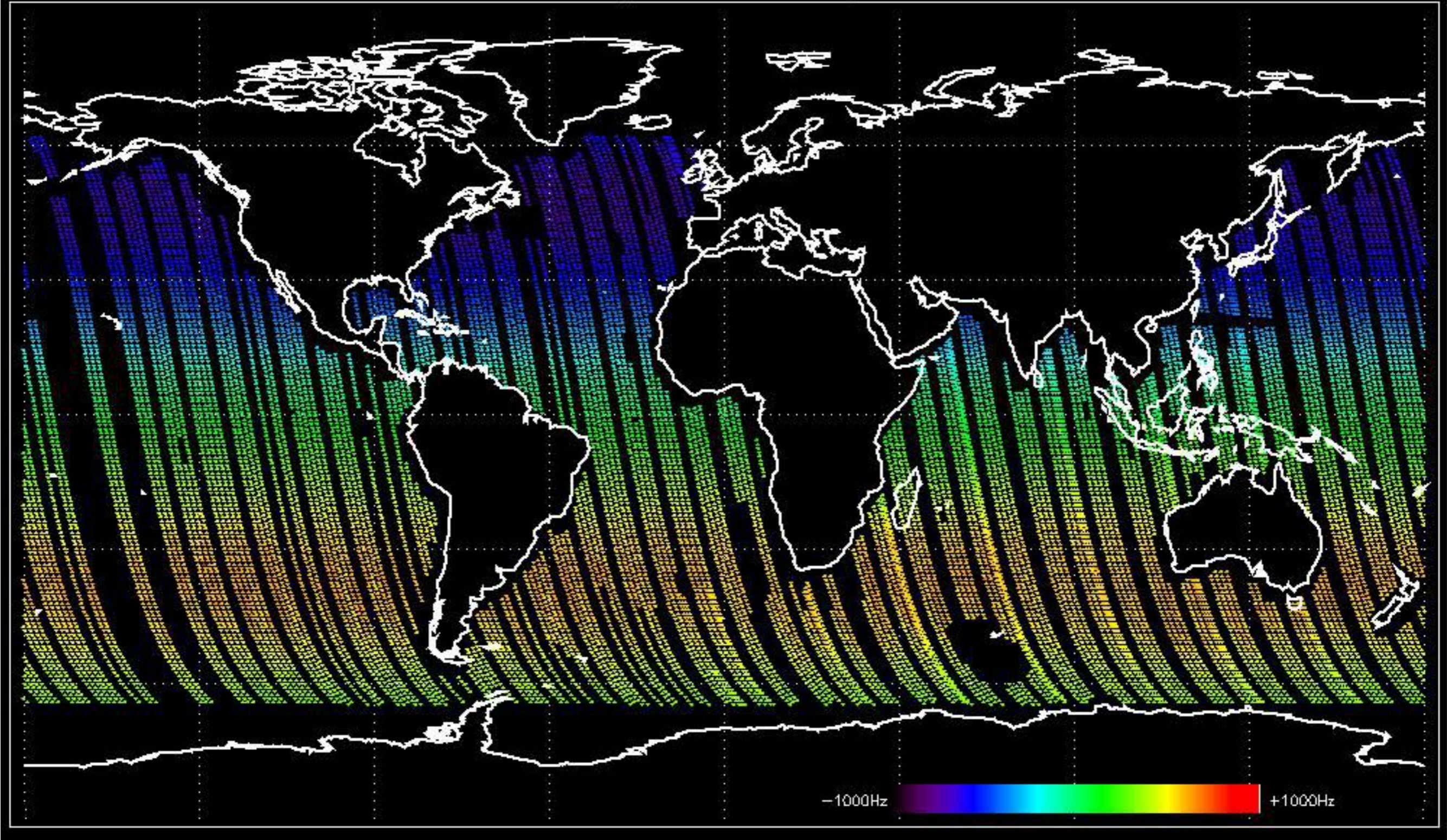
Doppler 'GM1' 'SS1' ascending



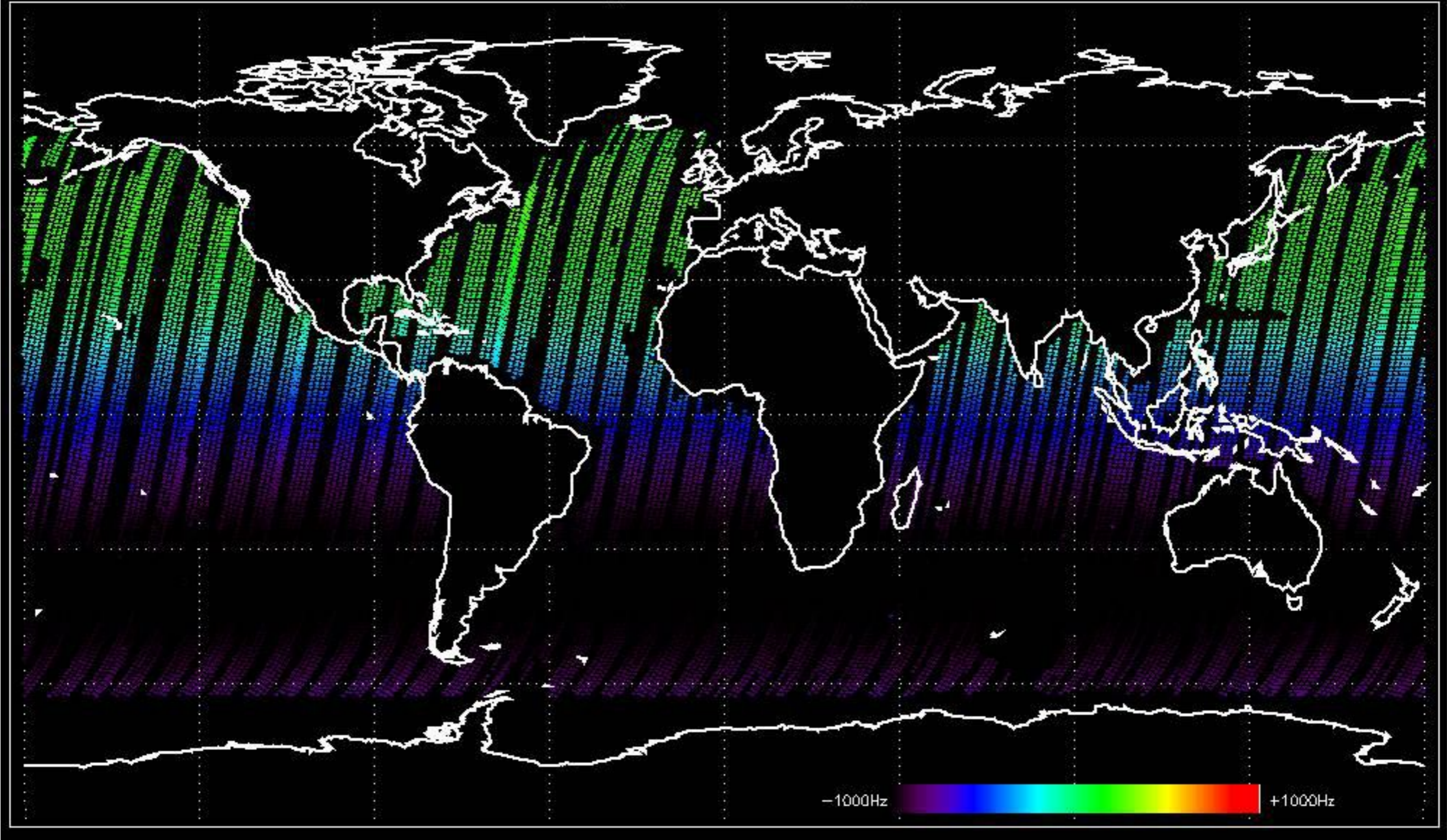
Doppler 'GM1' 'SS1' descending



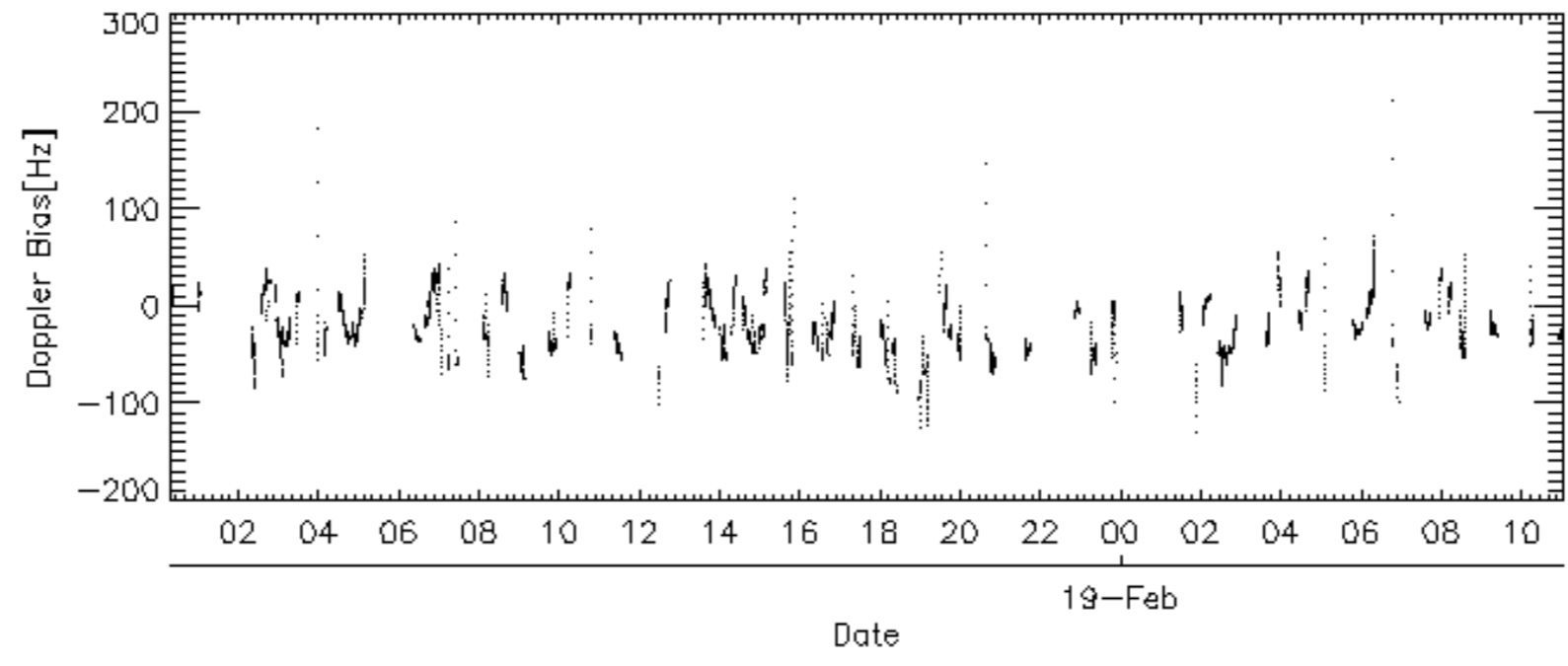
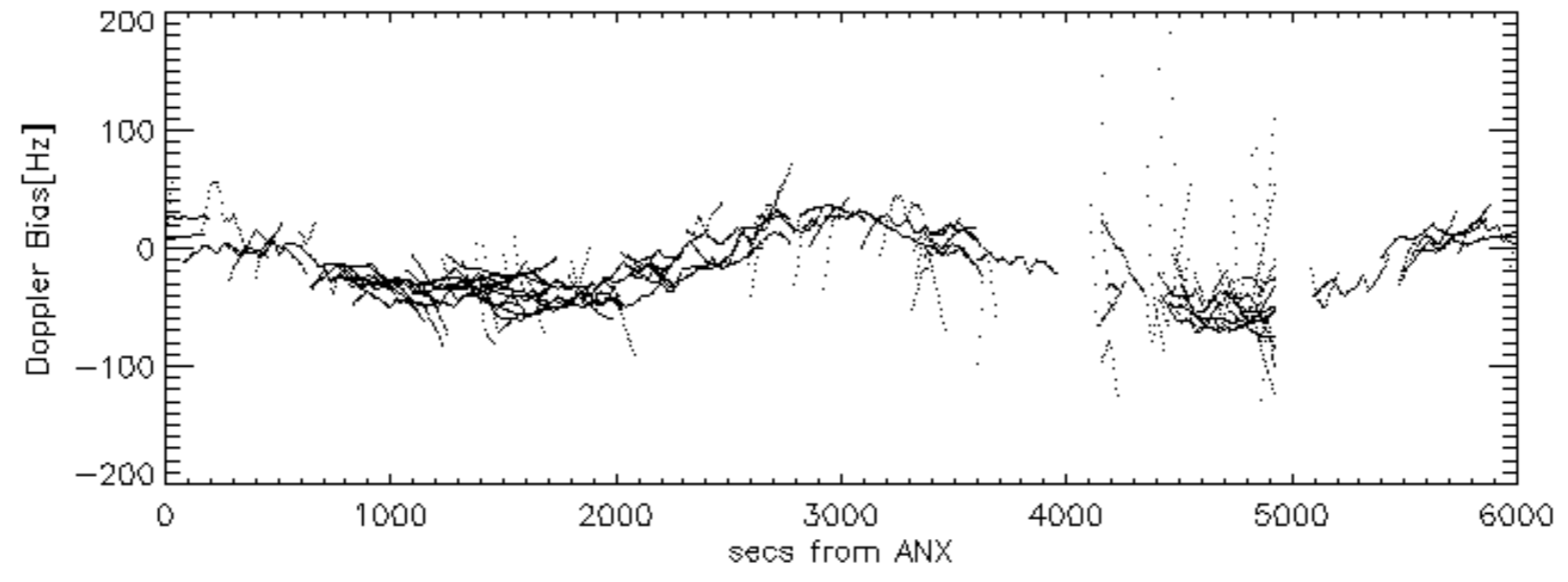
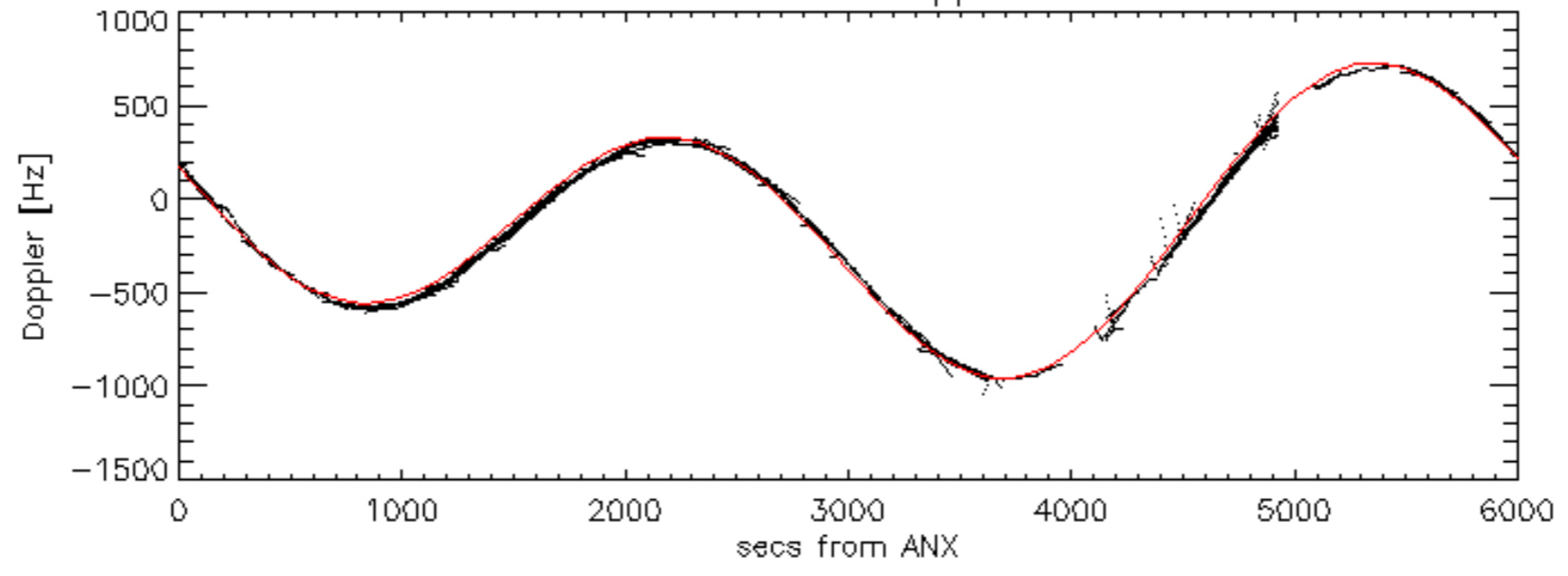
Doppler 'WVS' 'IS2' ascending

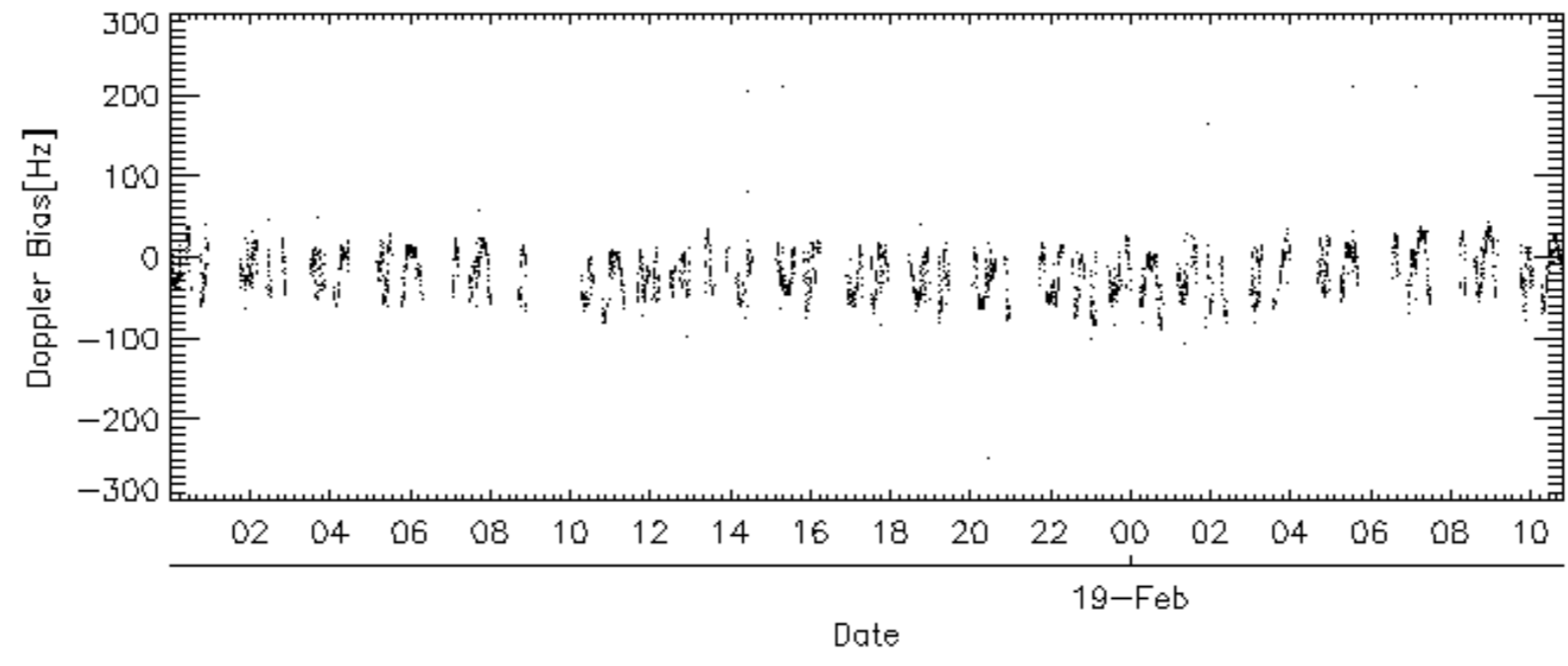
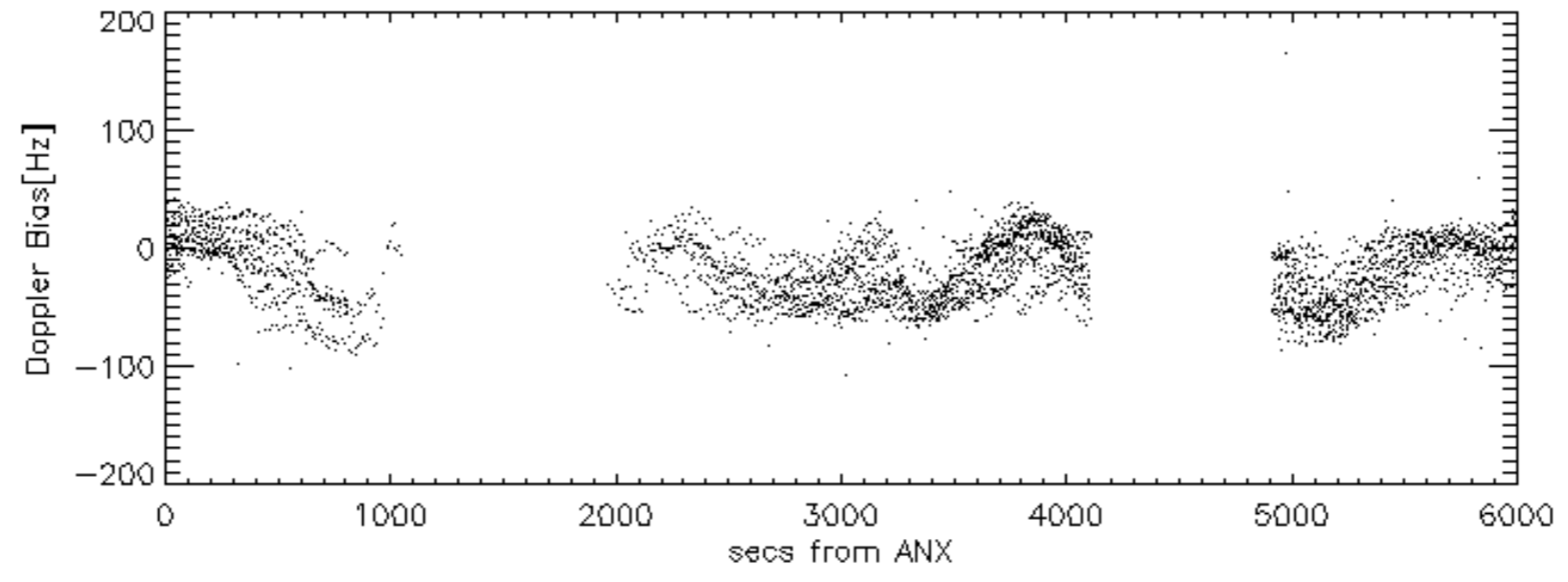
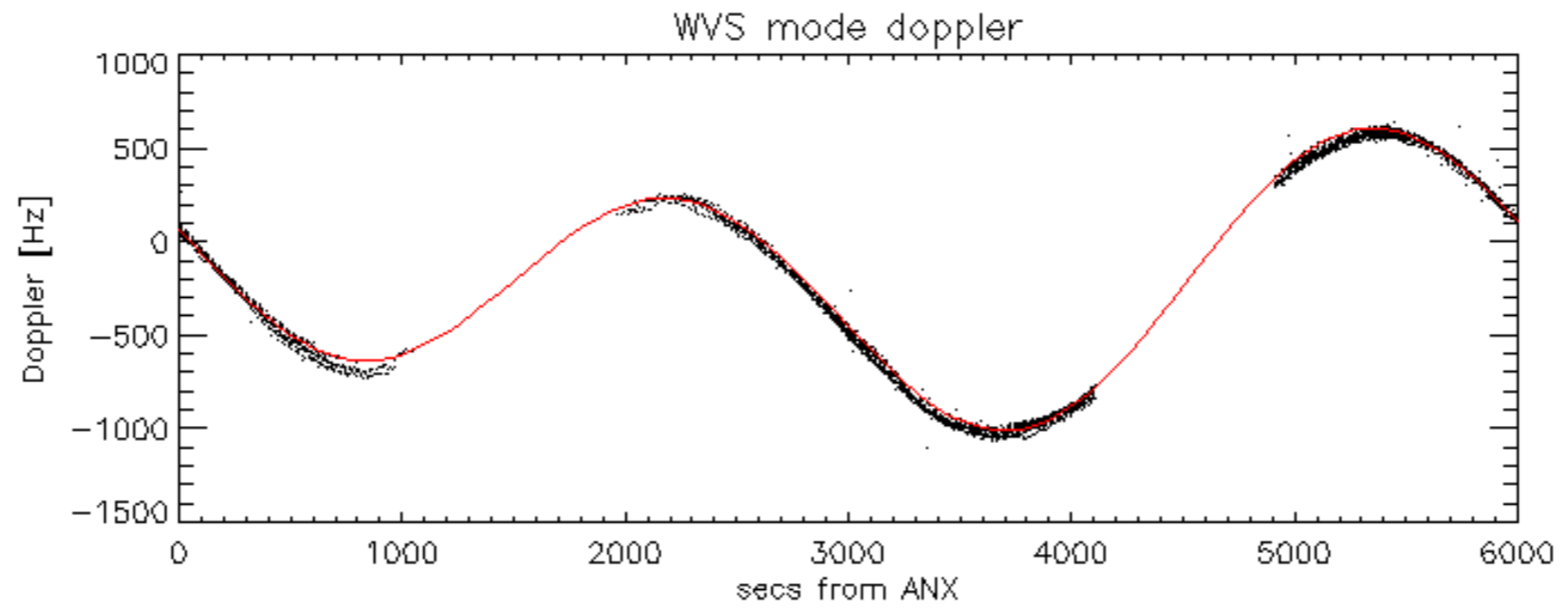


Doppler 'WVS' 'IS2' descending

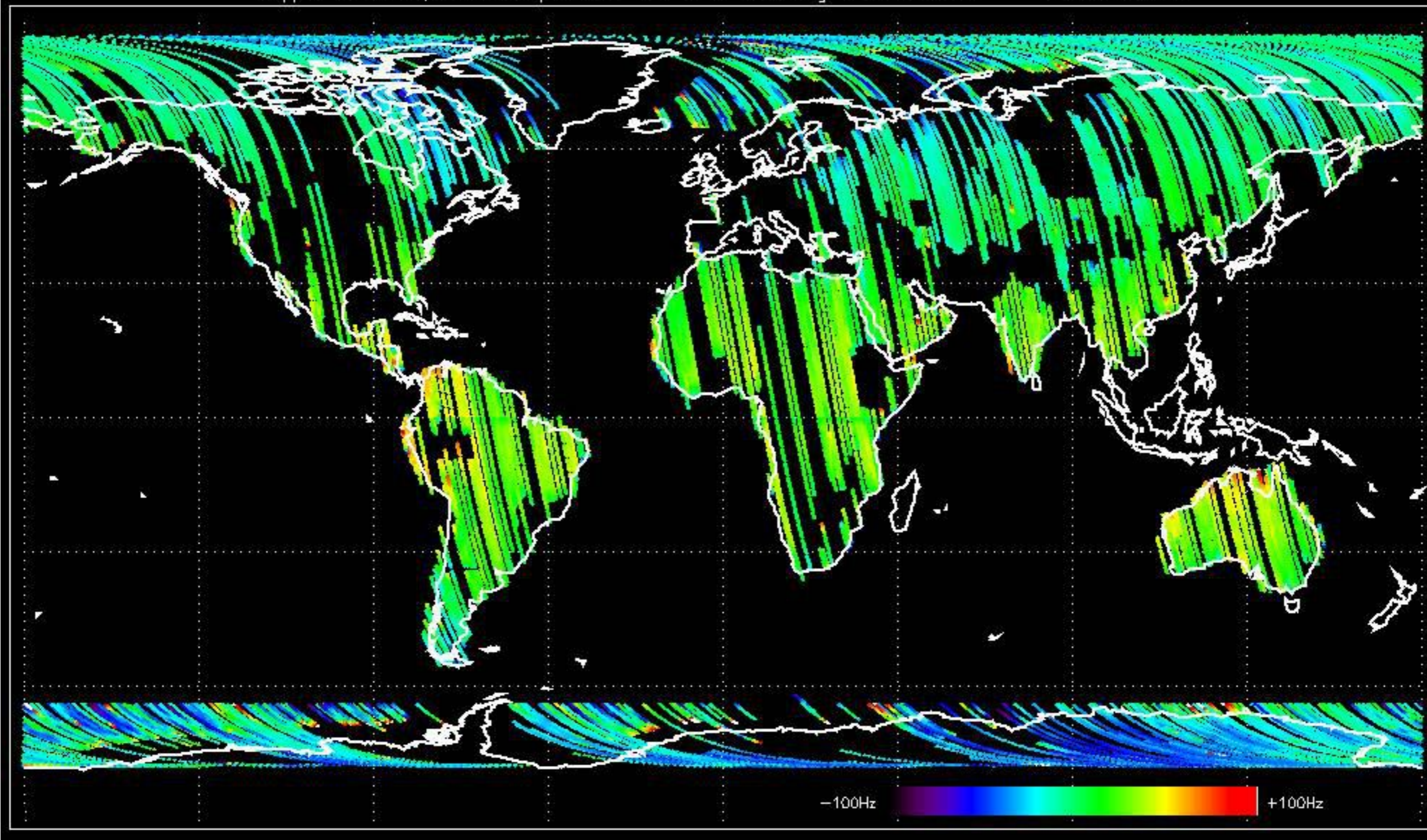


GM1 mode doppler

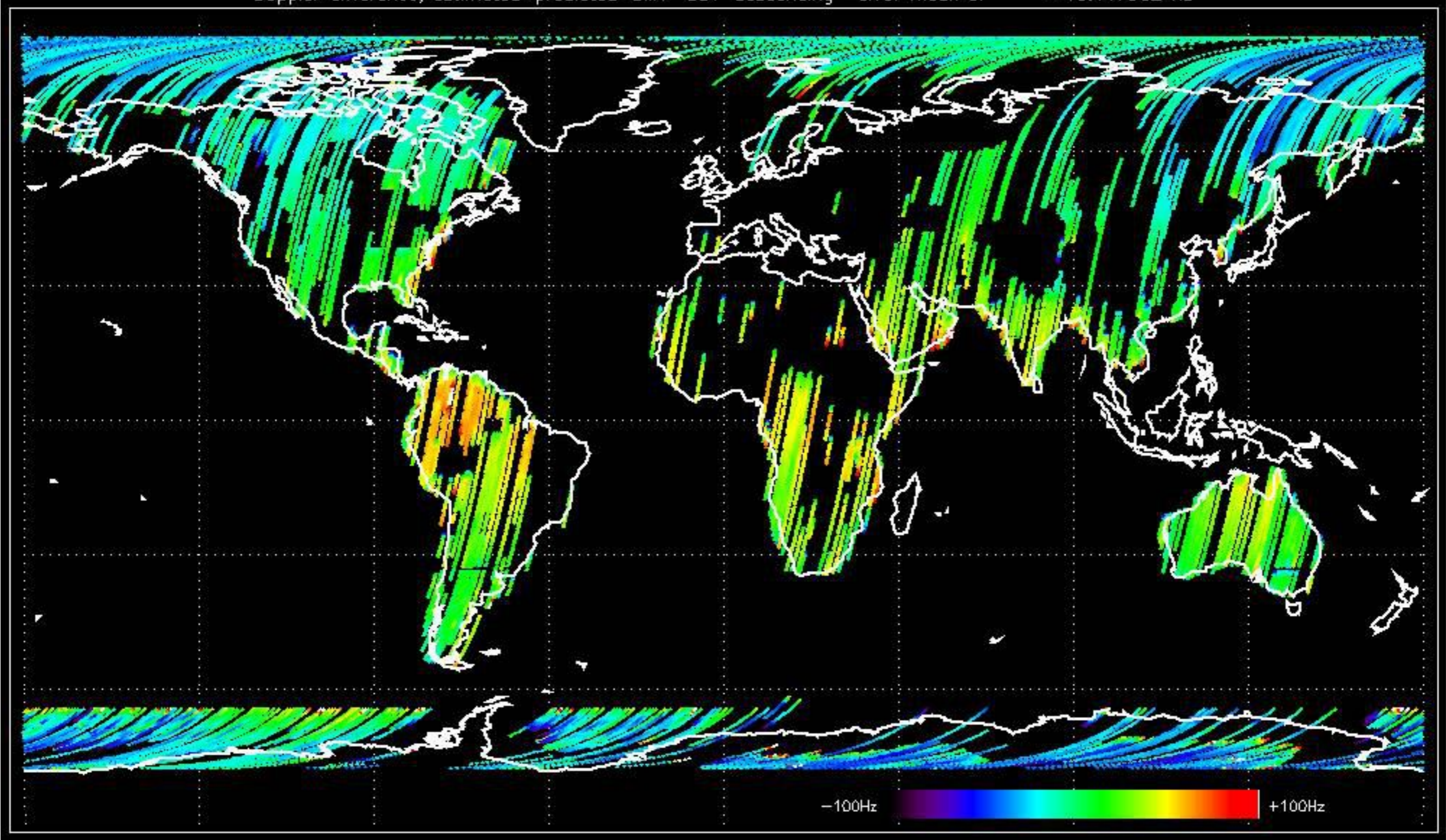




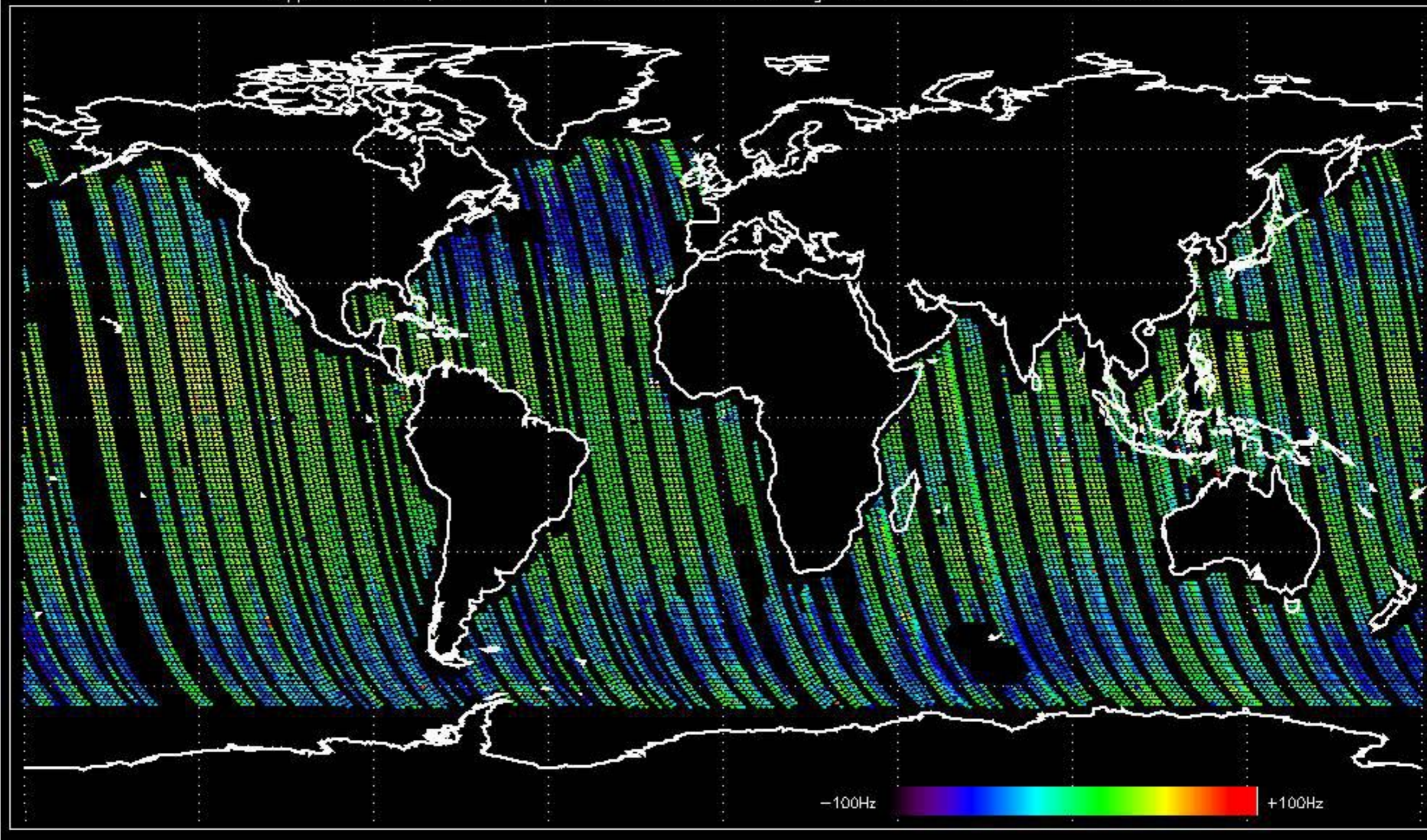
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -18.048450 Hz



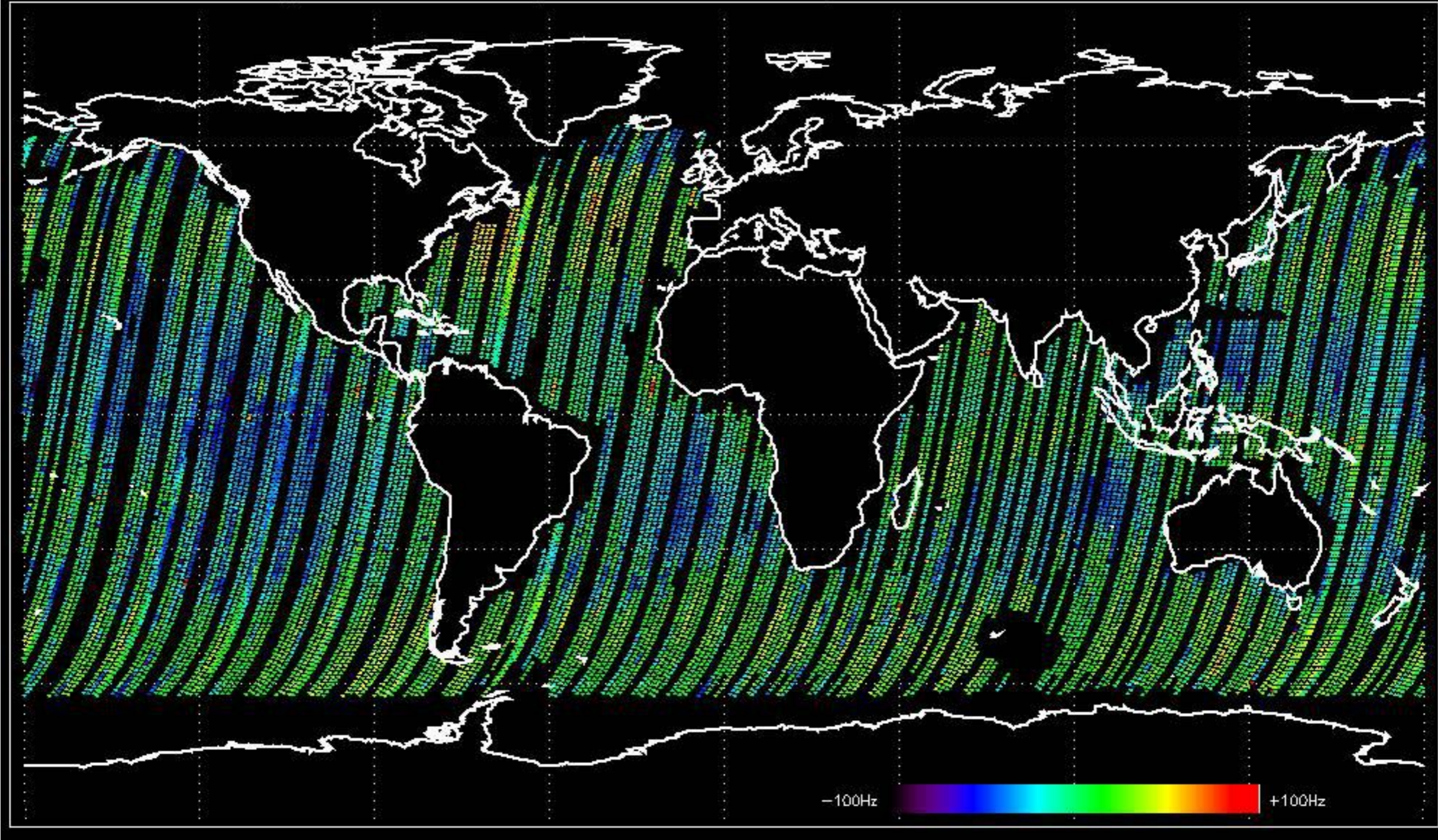
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -18.147962 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -15.894146 Hz

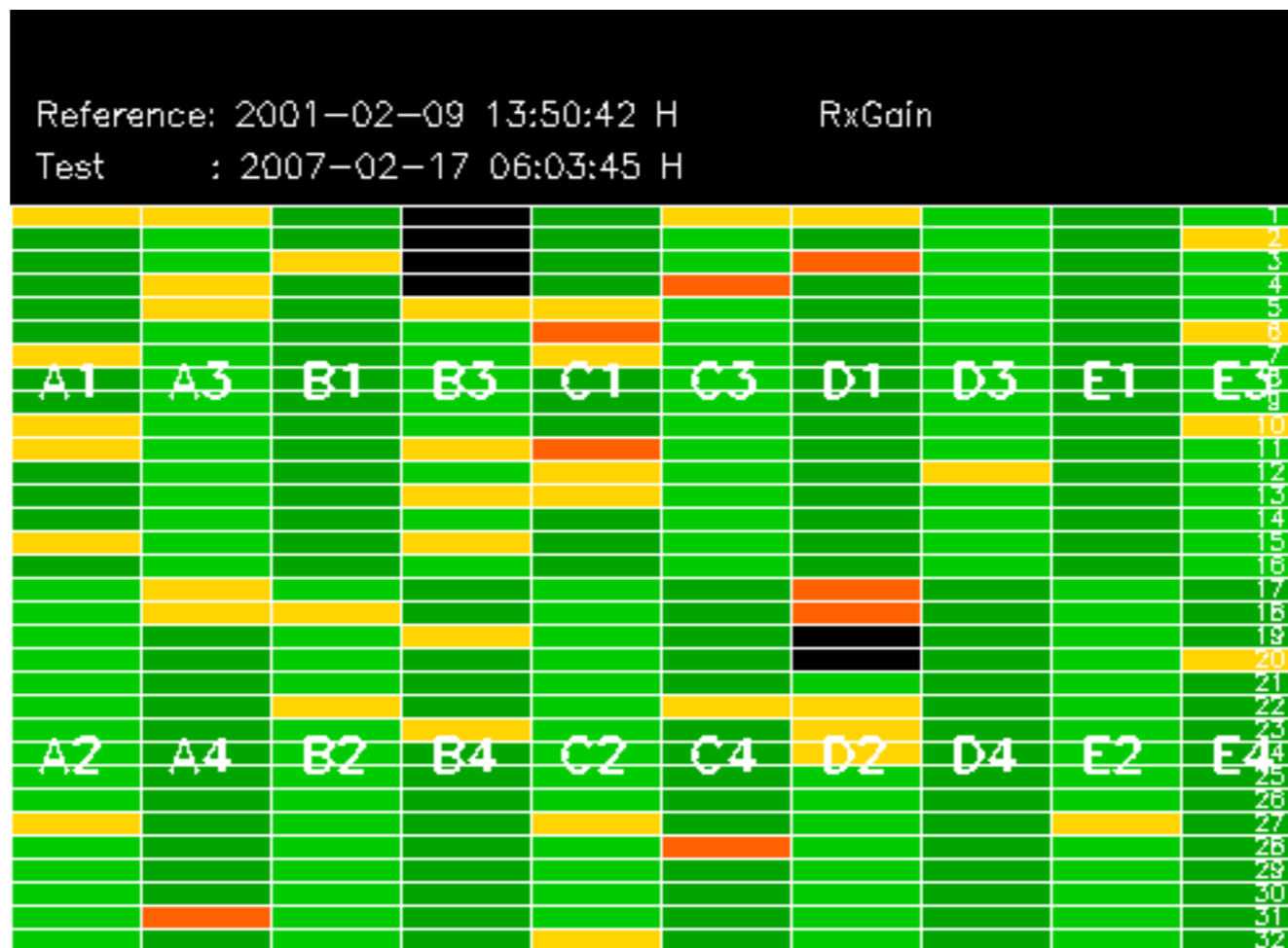


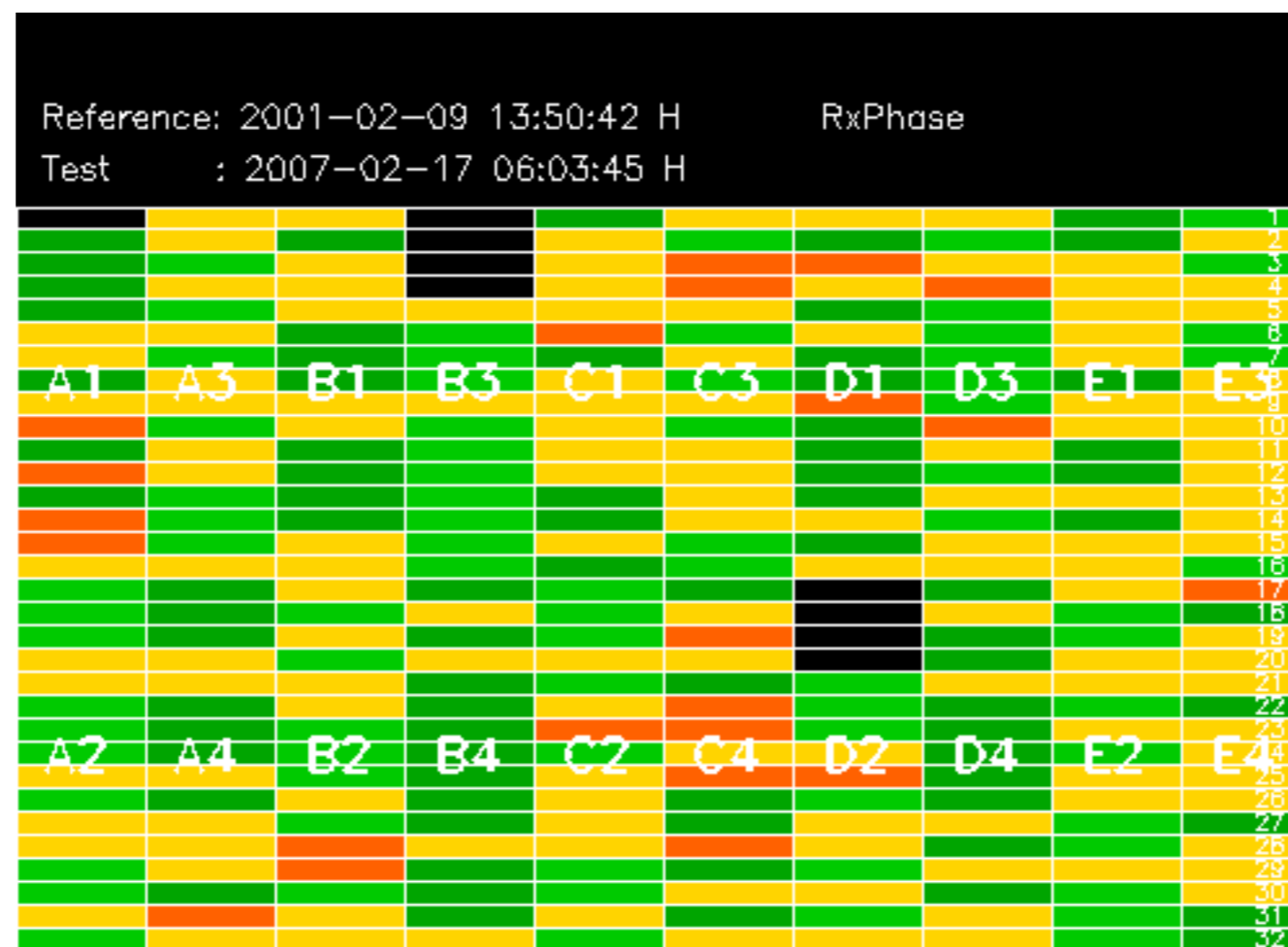
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -16.991081 Hz

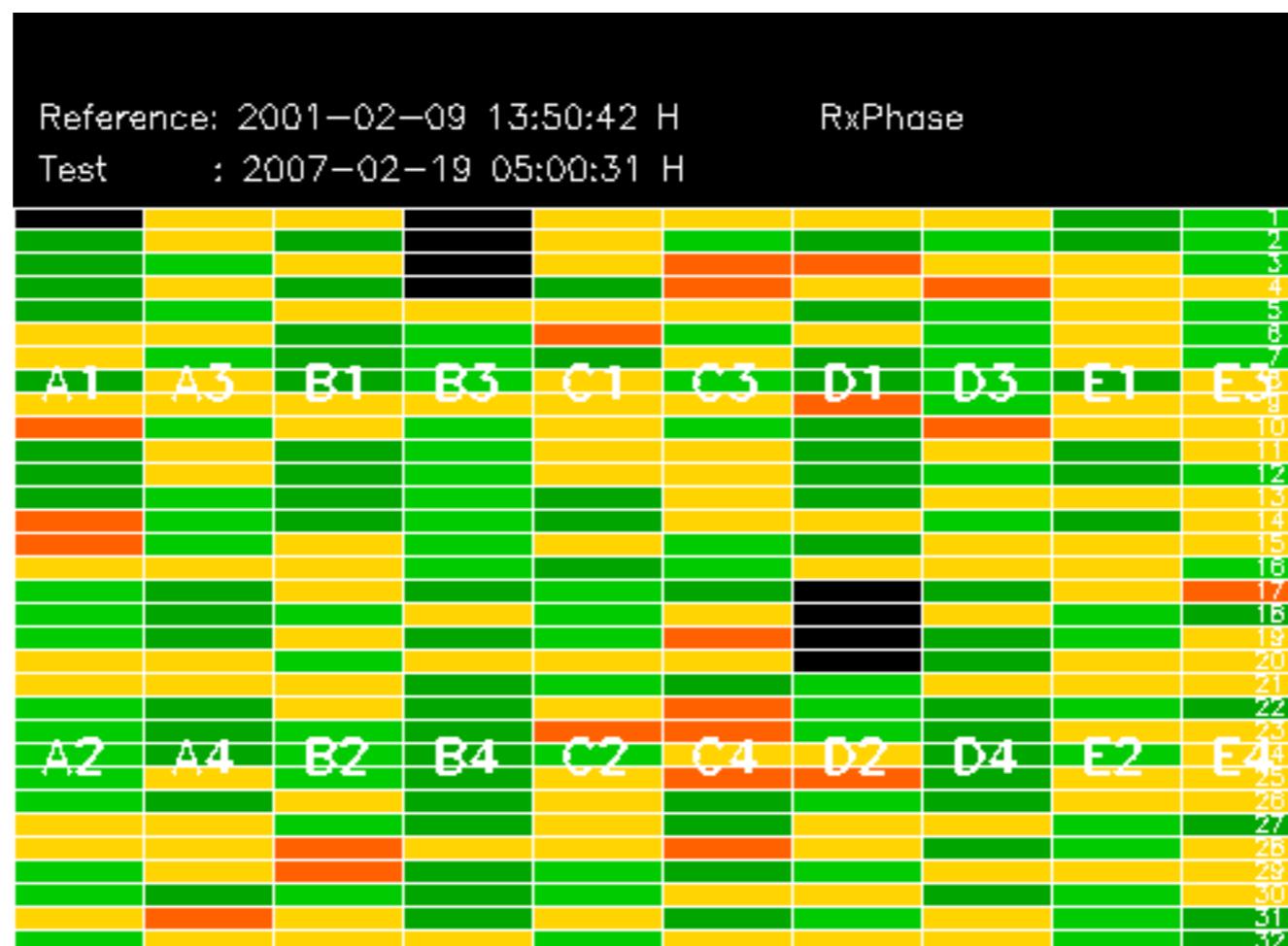


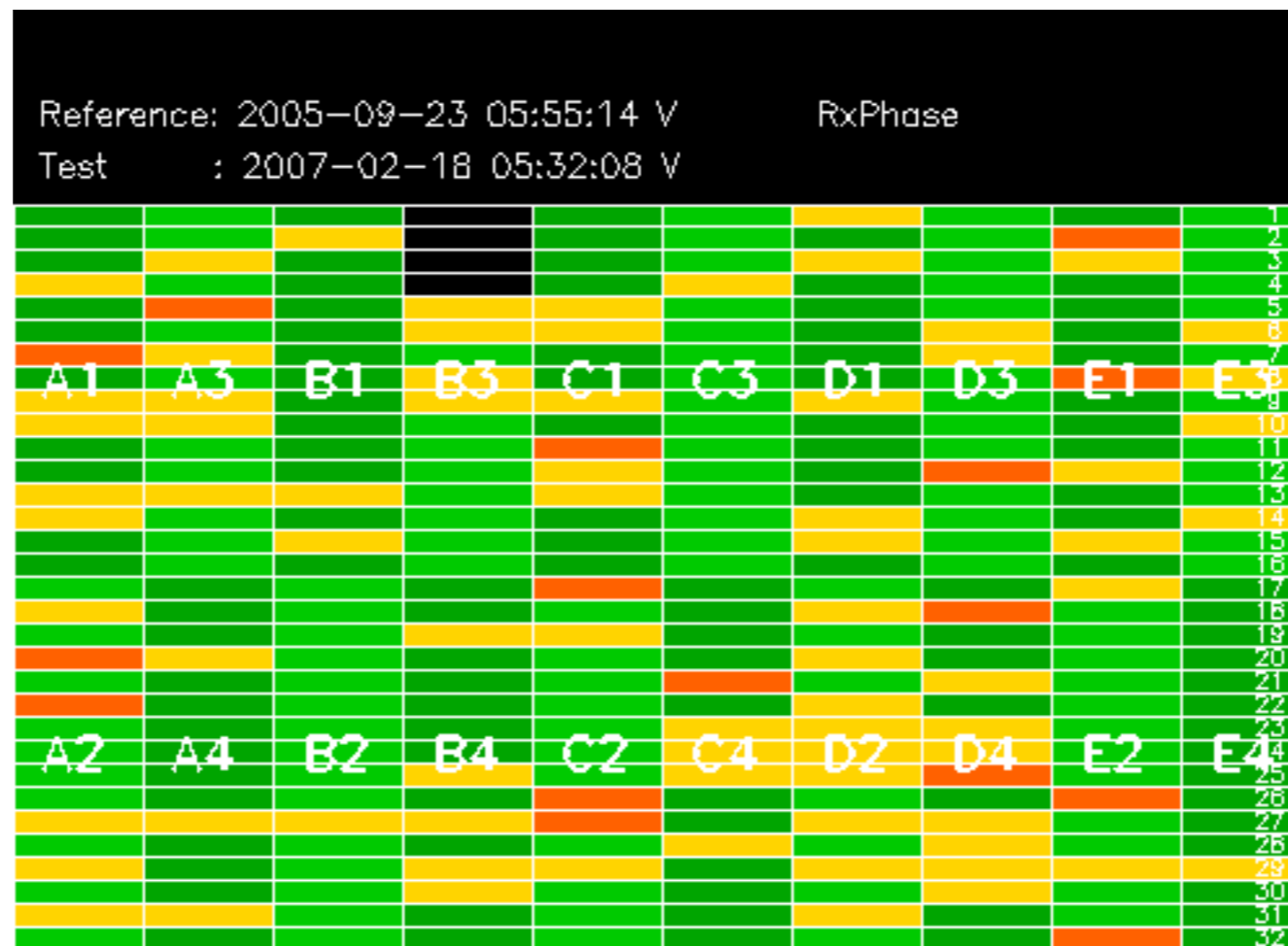
No anomalies observed on available MS products:

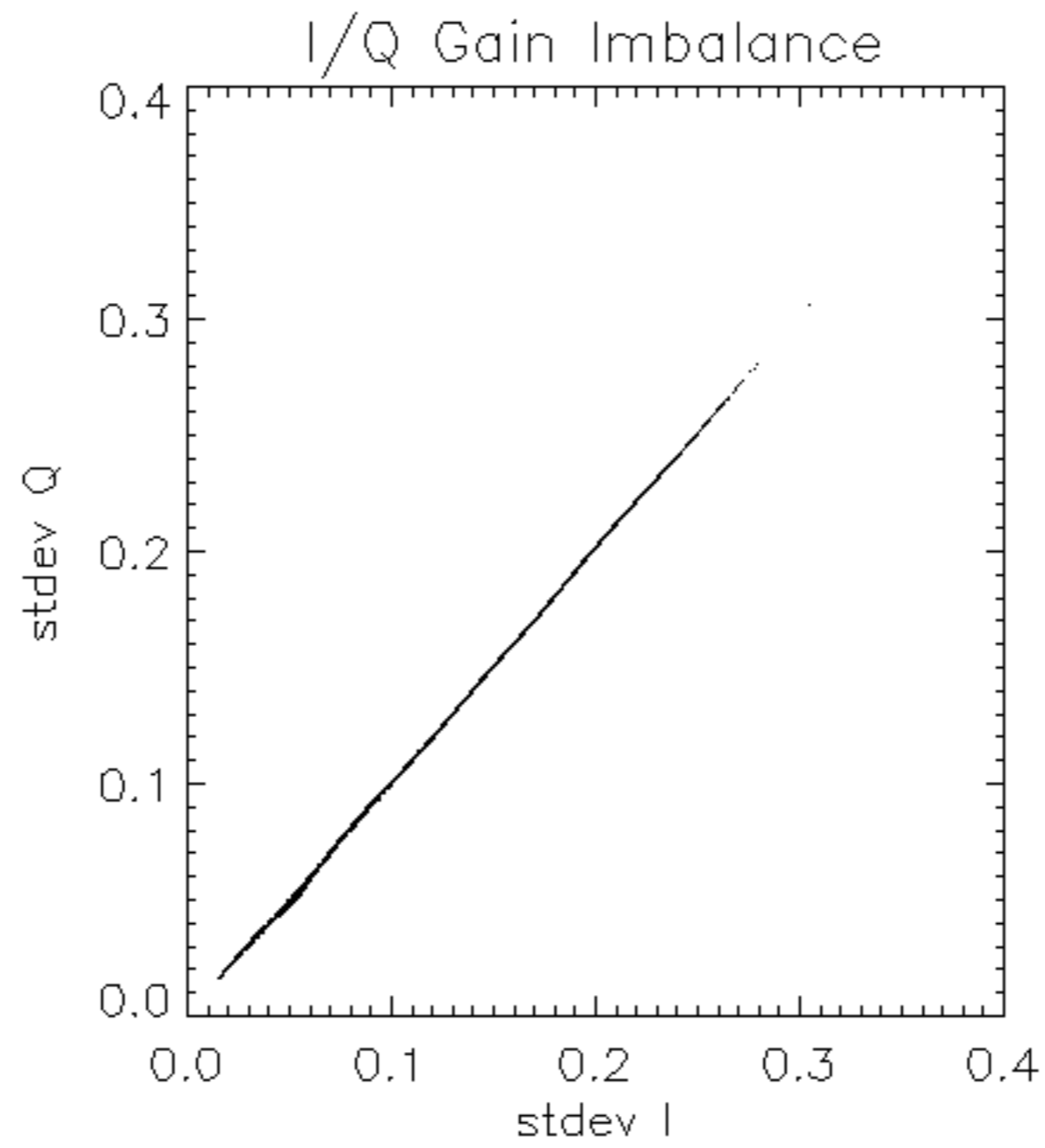
No anomalies observed.

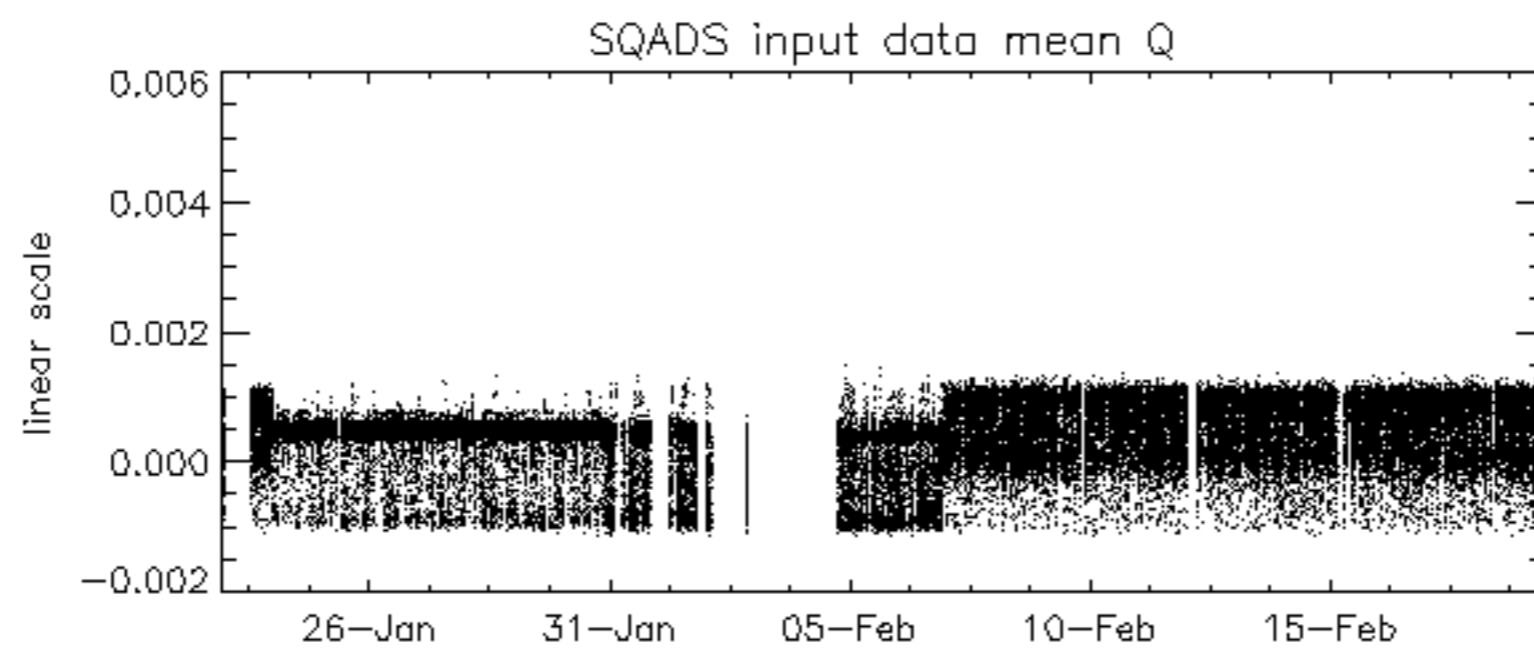
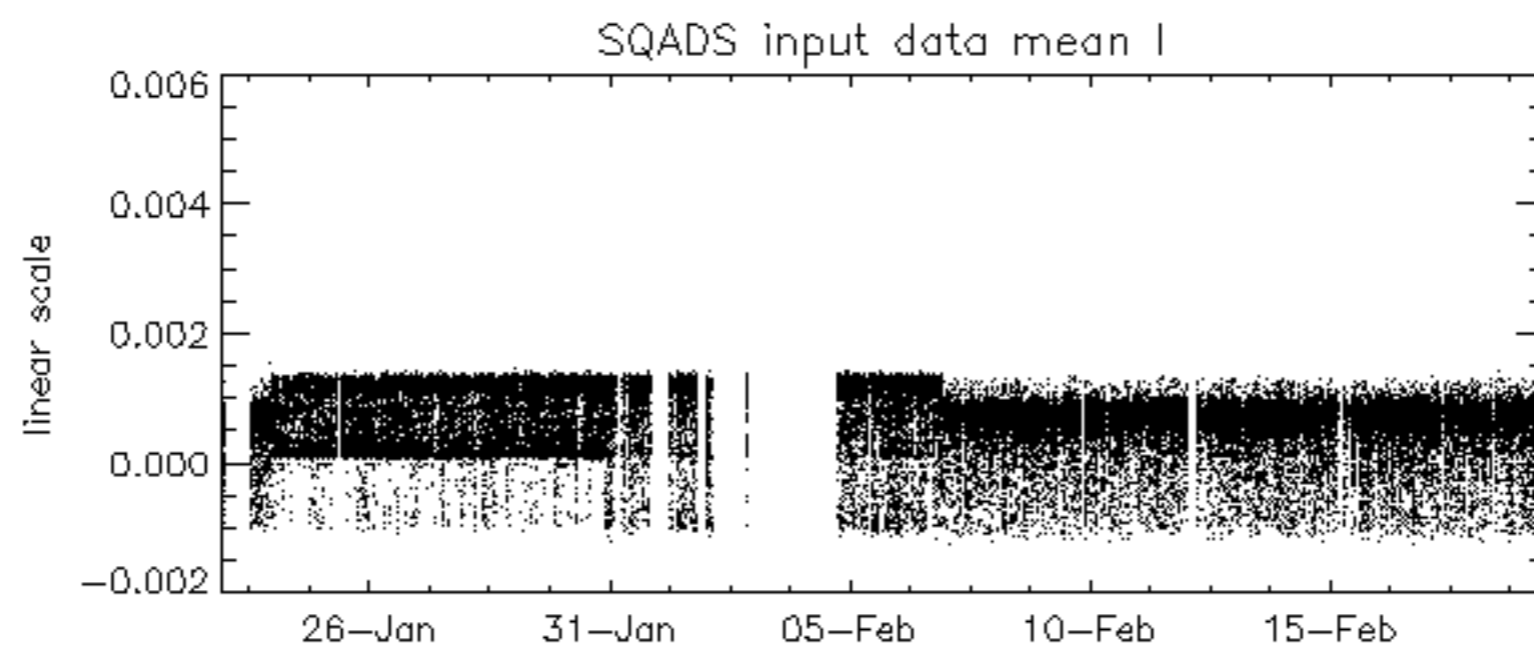
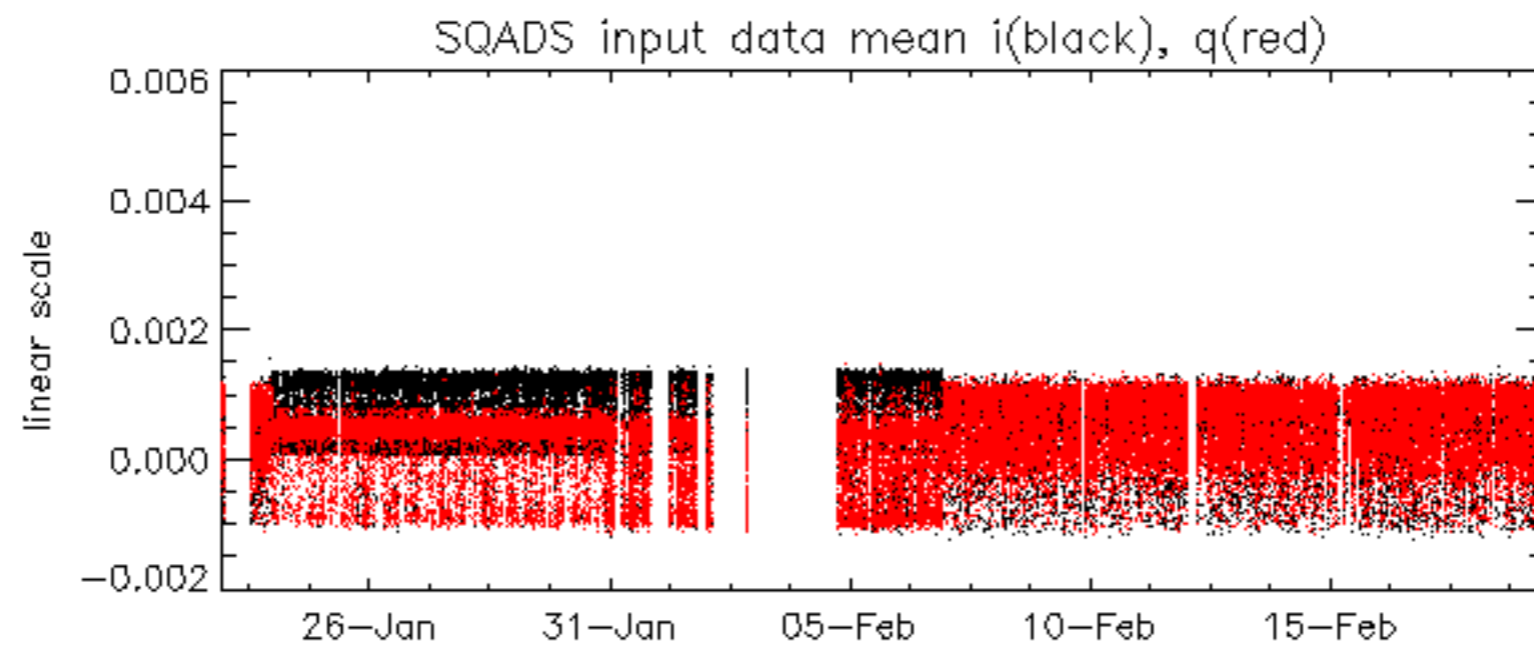


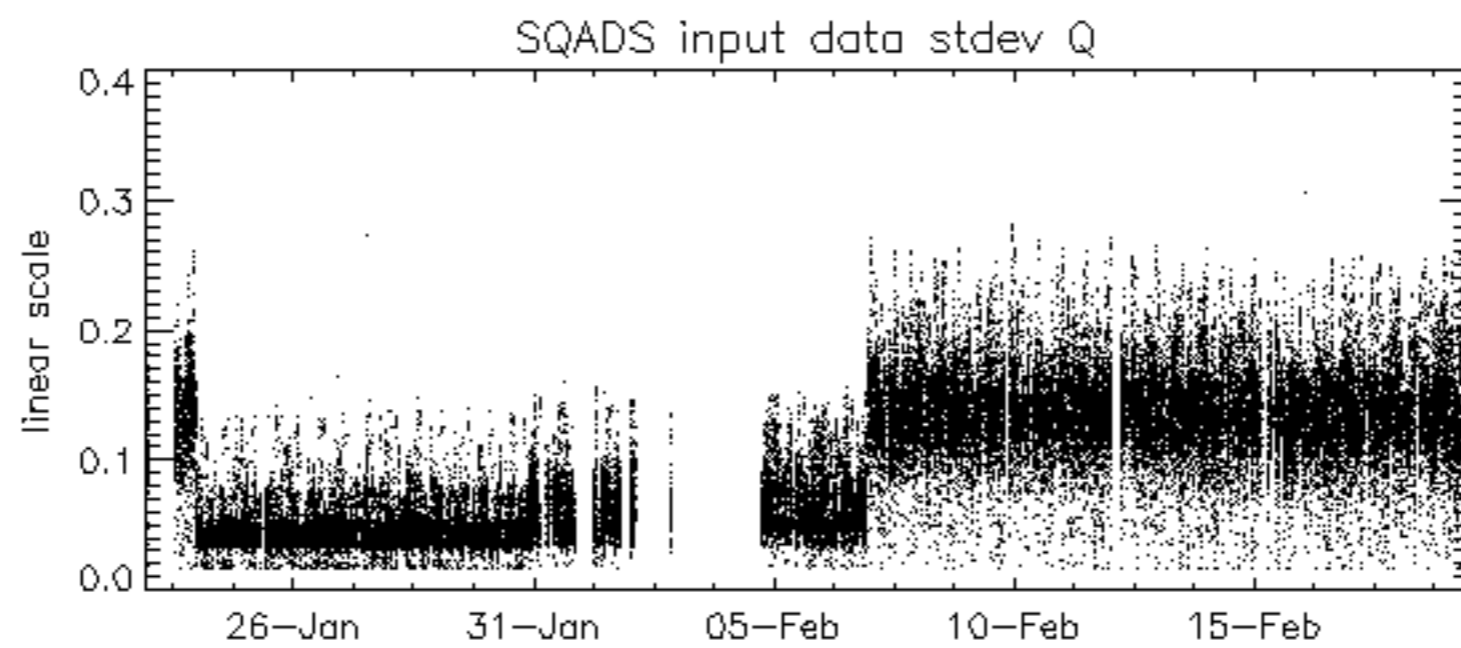
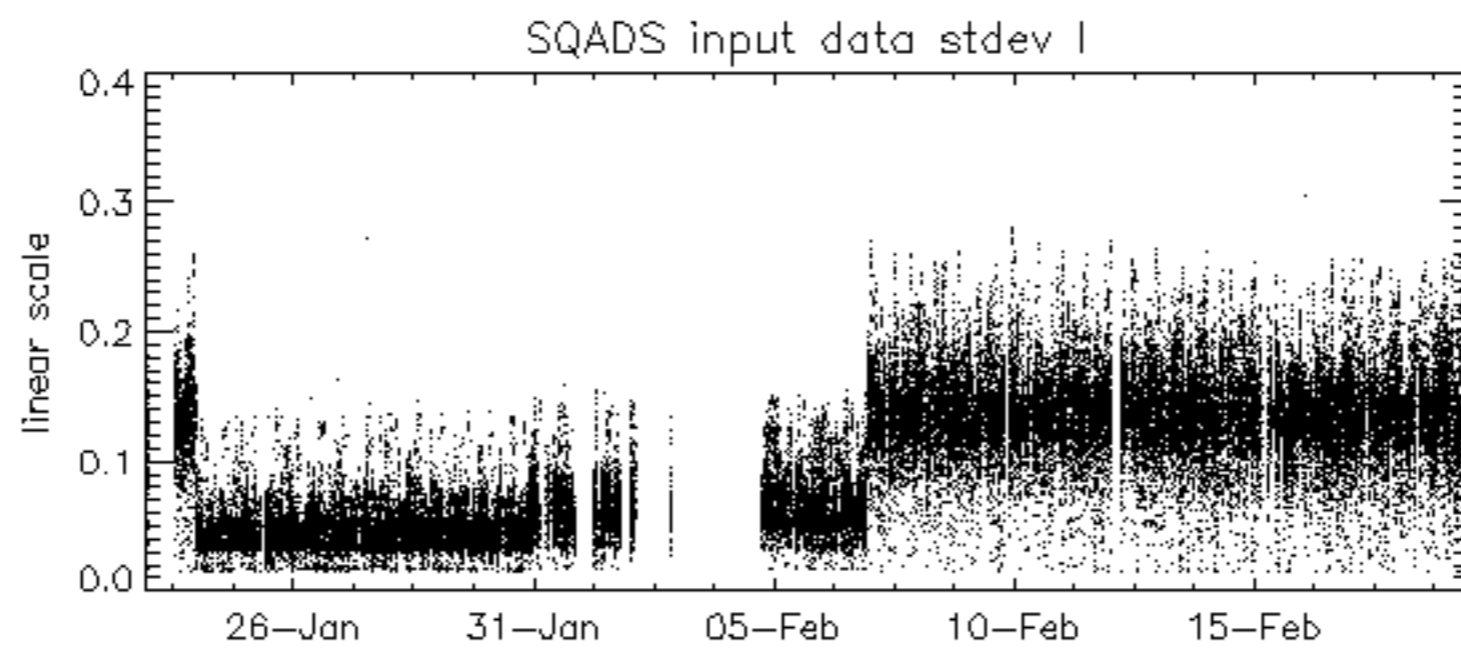
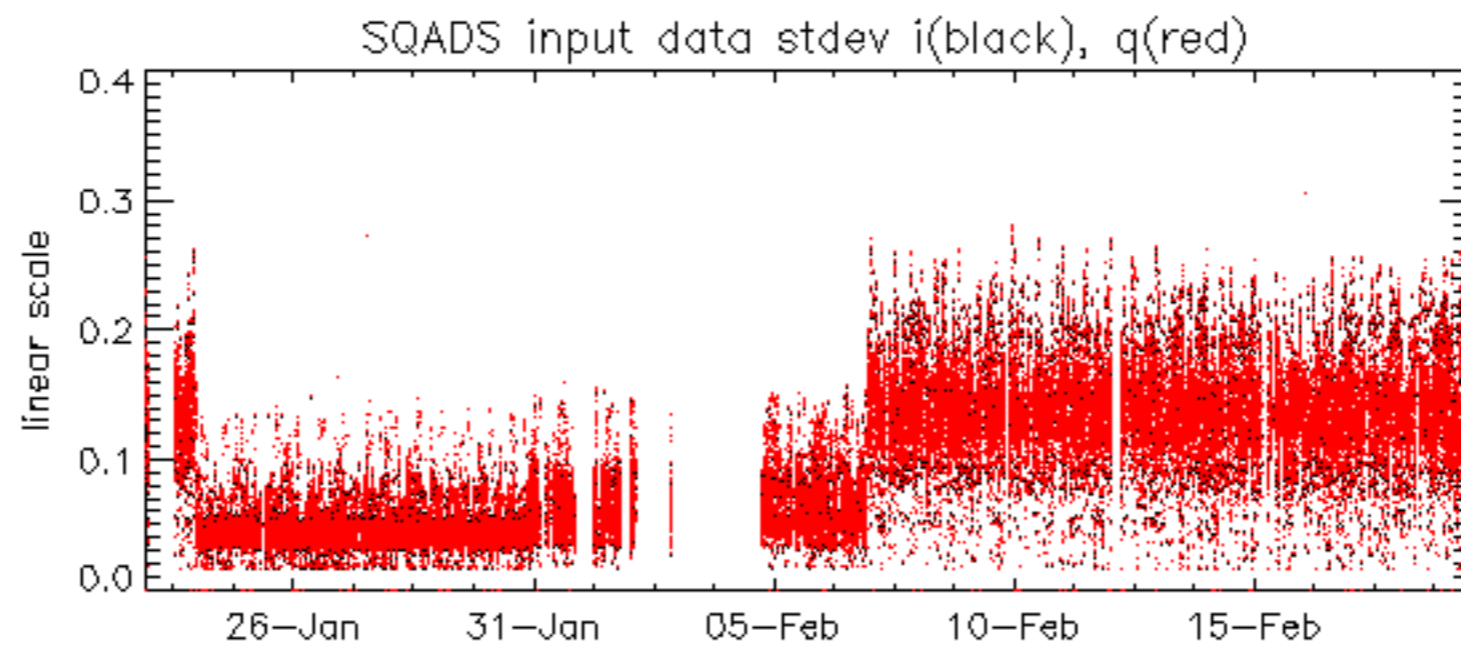










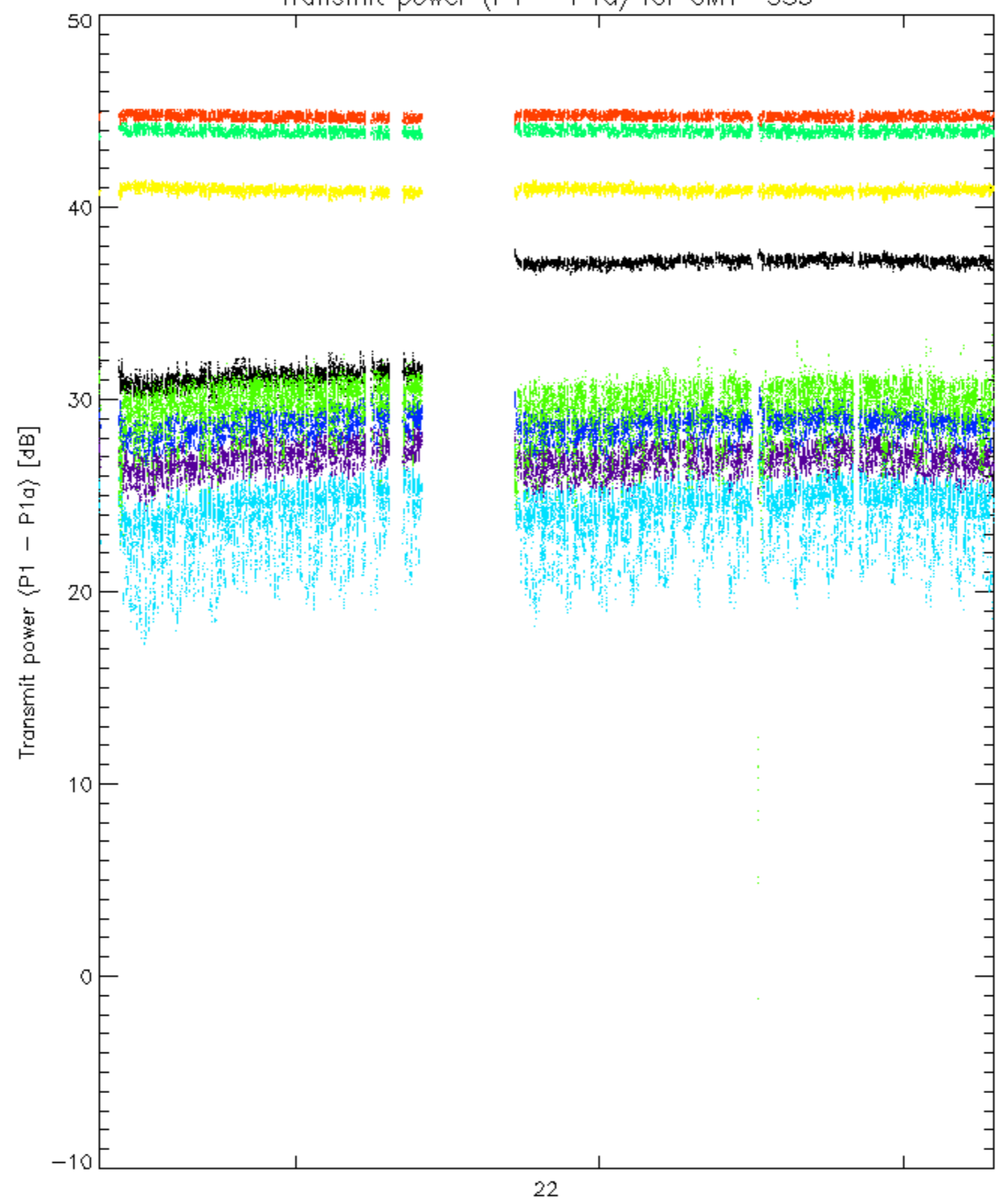


Summary of analysis for the last 3 days 2007021[789]

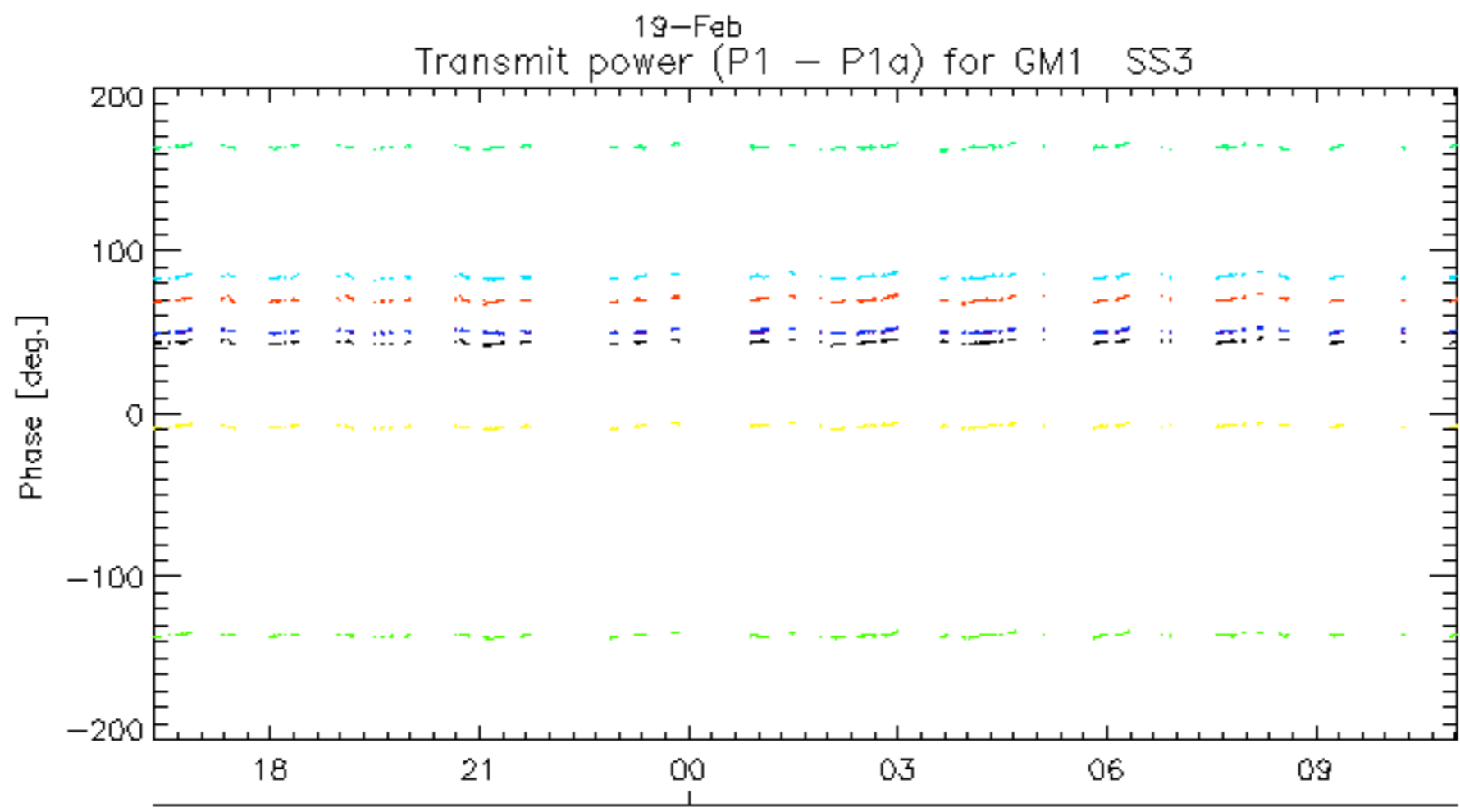
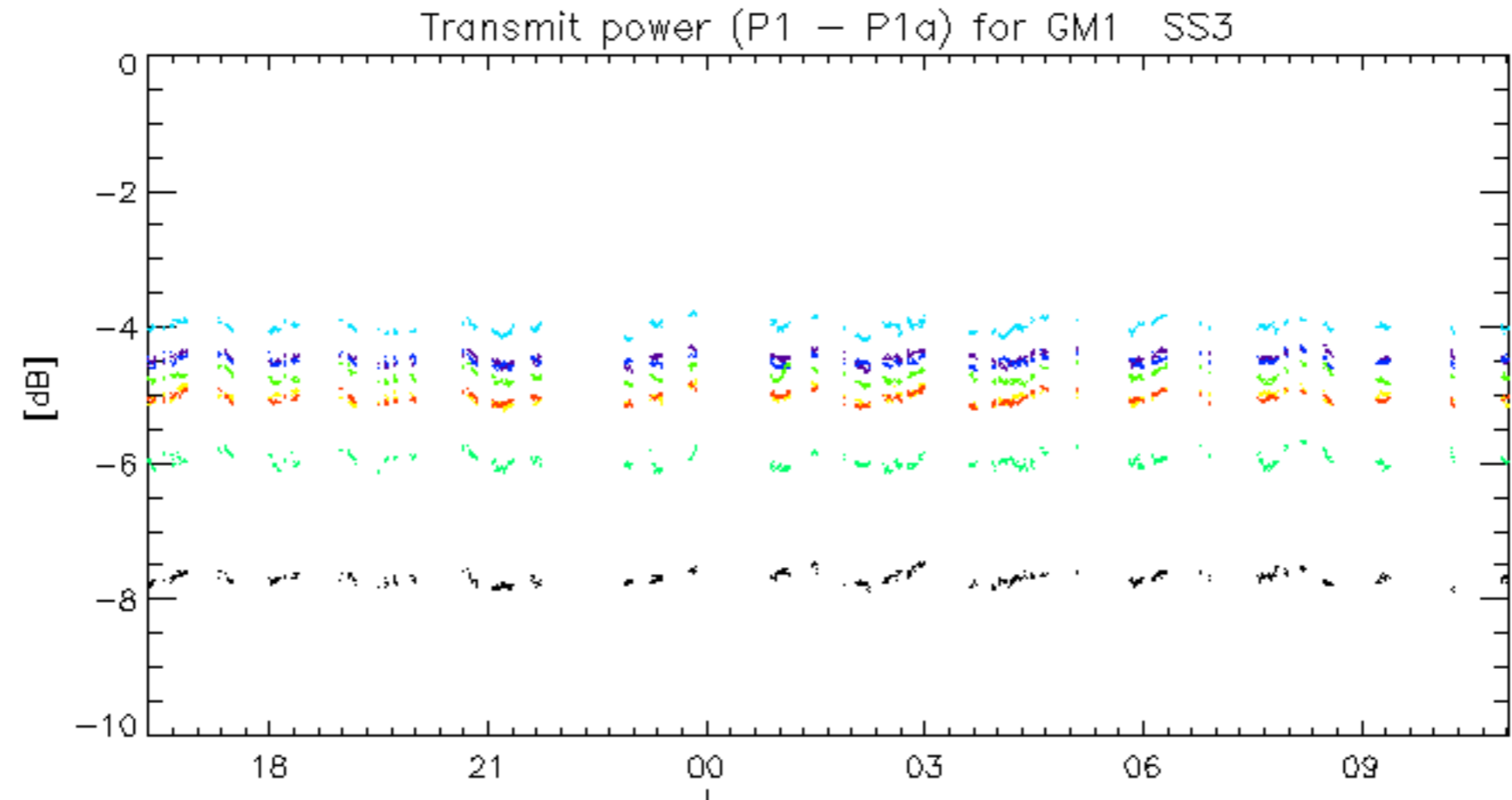
The assumption is taken that the SQUADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20070217_182645_00000352055_00371_25976_1526.N1	0	16
ASA_IMM_1PNPDE20070217_233319_00000502055_00374_25979_1791.N1	15	1310
ASA_IMM_1PNPDE20070218_003602_00000622055_00374_25979_1850.N1	2	14
ASA_IMM_1PNPDE20070218_003903_00000962055_00374_25979_1947.N1	0	80
ASA_IMM_1PNPDE20070218_004118_000001582055_00374_25979_1945.N1	0	62
ASA_WSM_1PNPDE20070219_093157_00000862055_00394_25999_3949.N1	0	1

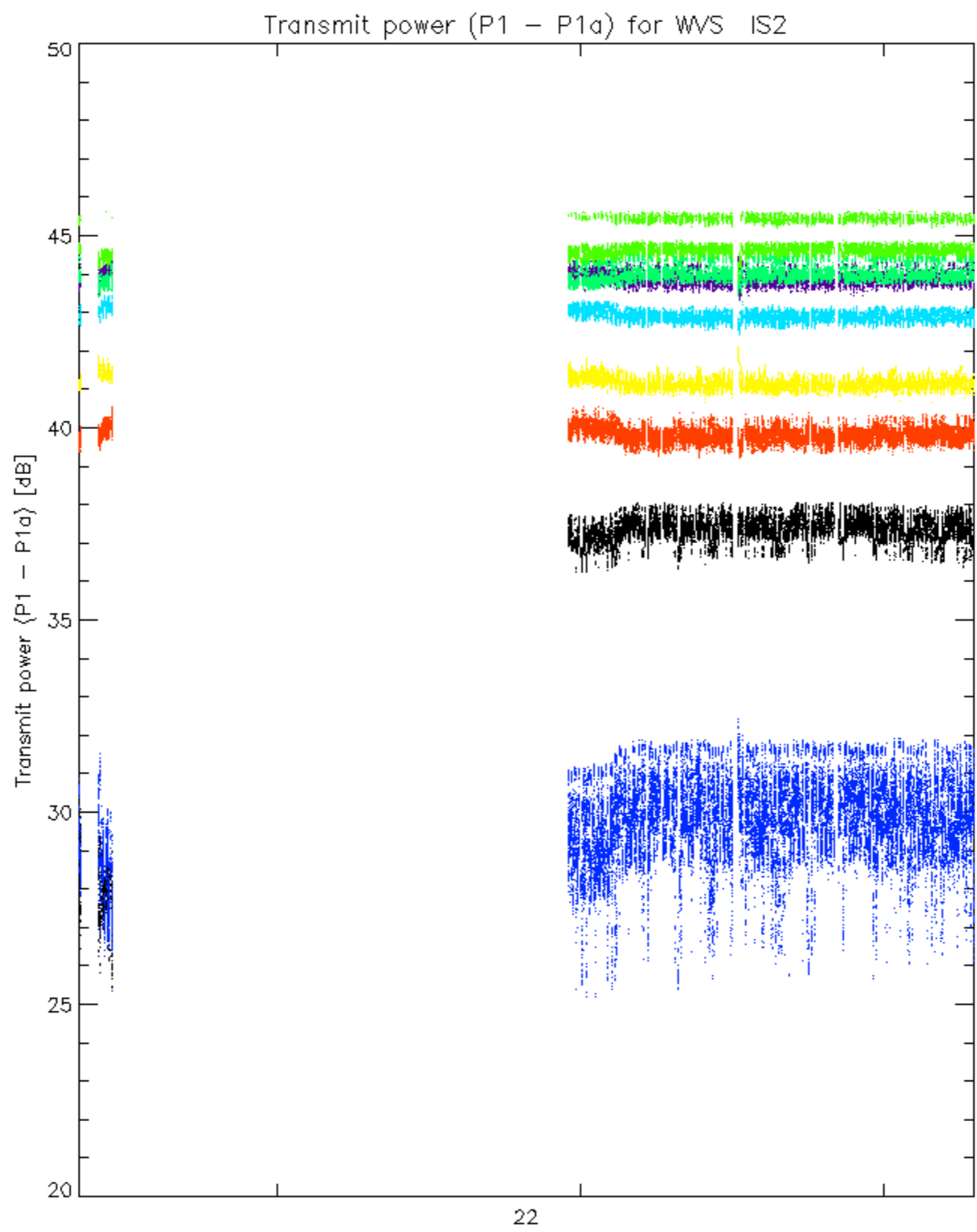
Transmit power (P1 - P1a) for GM1 SS3



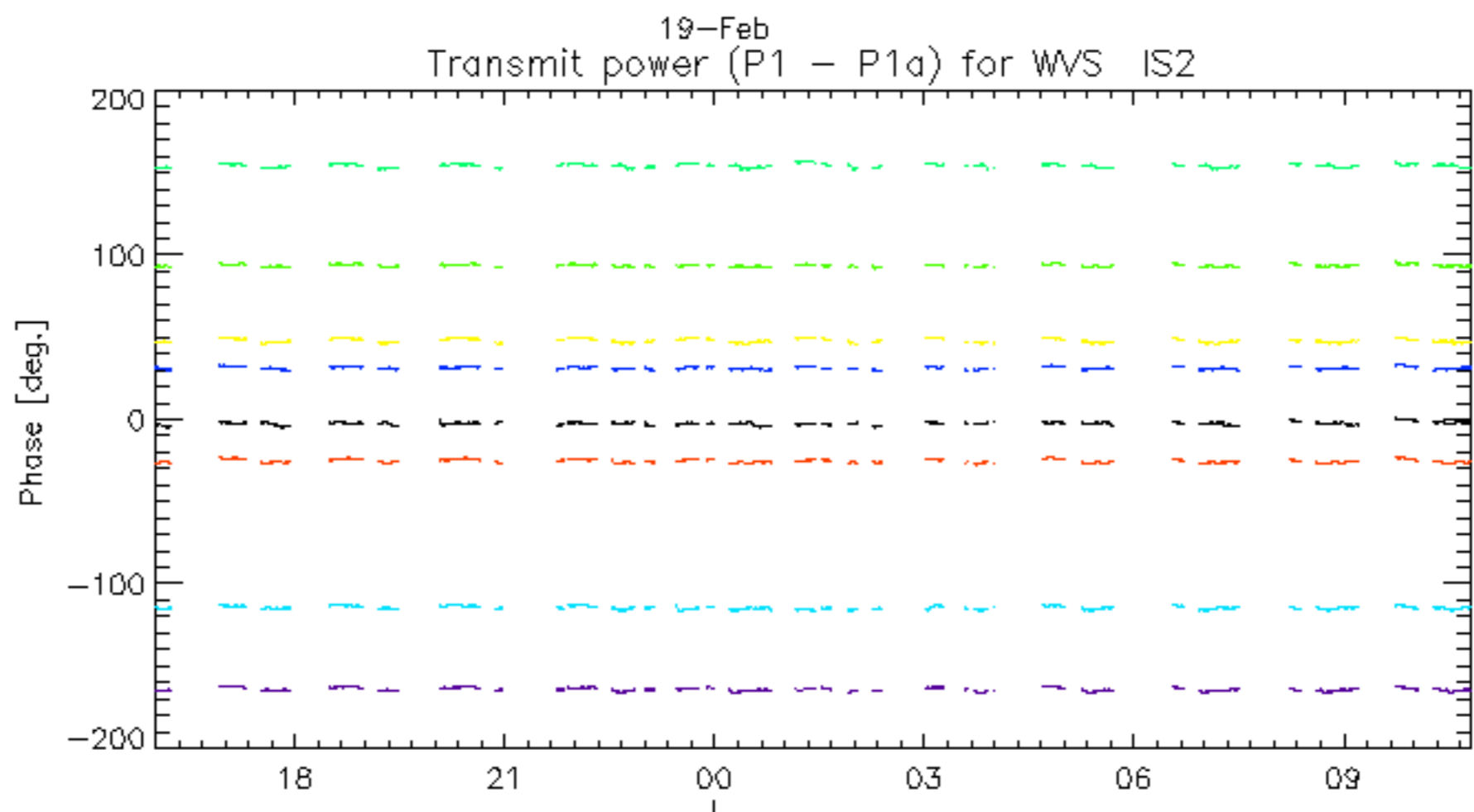
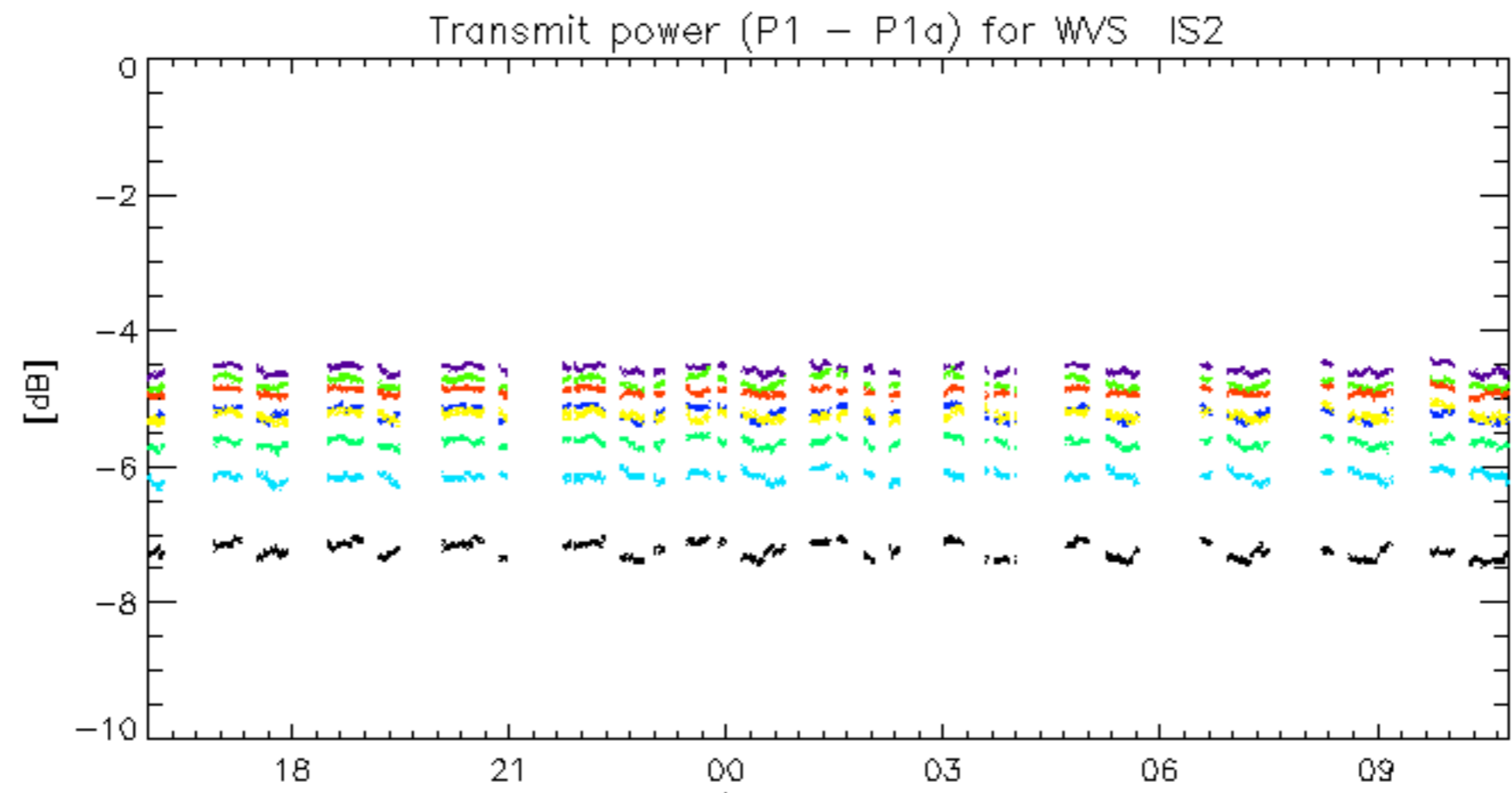
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



rows: 3 7 11 15 19 22 26 30



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



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

No unavailabilities during the reported period.