

PRELIMINARY REPORT OF 050319

last update on Sat Mar 19 10:50:01 GMT 2005

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 2005-03-18 00:00:00 to 2005-03-19 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	30	46	2	4	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	30	46	2	4	4
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	30	46	2	4	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	30	46	2	4	4

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	49	48	5	3	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	49	48	5	3	4
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	49	48	5	3	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	49	48	5	3	4

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	20050318 063525
H	20050319 060347

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)
-----	-------	-----------	------------	-----------------

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.363719	0.007112	0.022331
7	P1	-3.094717	0.007863	-0.018780
11	P1	-4.694459	0.022508	0.009382
15	P1	-5.655968	0.031195	0.025237
19	P1	-3.681517	0.003690	-0.019571
22	P1	-4.518659	0.012513	0.006161
26	P1	-4.946816	0.016285	0.026026
30	P1	-7.190490	0.017850	-0.011650
3	P1	-15.967699	0.060694	0.076055
7	P1	-15.525674	0.048508	-0.044196
11	P1	-20.967201	0.273425	-0.132924
15	P1	-11.574771	0.024096	0.049986
19	P1	-14.289226	0.023608	-0.059577
22	P1	-15.657673	0.308262	0.112197
26	P1	-17.606266	0.219200	-0.000882
30	P1	-17.960968	0.471074	0.004766

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.093811	0.083488	0.073913
7	P2	-22.283945	0.095905	0.085726
11	P2	-14.429633	0.106020	0.226395
15	P2	-7.045468	0.092075	0.030586
19	P2	-9.637734	0.092992	0.039257
22	P2	-16.922983	0.093276	0.069246
26	P2	-16.446465	0.092048	0.029943
30	P2	-18.866194	0.082273	0.073376

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.165861	0.005101	0.013557
7	P3	-8.165861	0.005101	0.013557
11	P3	-8.165861	0.005101	0.013557
15	P3	-8.165861	0.005101	0.013557
19	P3	-8.165861	0.005101	0.013557
22	P3	-8.165861	0.005101	0.013557
26	P3	-8.165861	0.005101	0.013557
30	P3	-8.165861	0.005101	0.013557

4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1

✕

P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
-----	-------	-----------	------------	-----------------

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-2.729550	0.011050	0.022040
7	P1	-3.027064	0.033216	-0.045714
11	P1	-3.991875	0.014575	-0.019747
15	P1	-3.571882	0.015972	-0.009136
19	P1	-3.591677	0.013150	-0.015951
22	P1	-5.746491	0.035799	0.003524
26	P1	-7.290502	0.025000	0.001074
30	P1	-6.229159	0.042722	-0.007853
3	P1	-10.749448	0.053532	0.016265
7	P1	-10.330061	0.144703	-0.123793
11	P1	-12.561561	0.090606	0.039433
15	P1	-11.763881	0.068251	-0.001994
19	P1	-15.565595	0.043008	0.019435
22	P1	-24.488211	1.150536	-0.228170
26	P1	-15.484183	0.165567	0.038121
30	P1	-20.206028	1.129592	0.054768

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.803661	0.032651	0.088814
7	P2	-22.370728	0.037014	0.103257
11	P2	-10.193874	0.048342	0.178019
15	P2	-4.979696	0.020790	0.014043
19	P2	-6.830802	0.030748	0.016324
22	P2	-7.102557	0.030146	0.080742
26	P2	-23.851866	0.026475	0.023500
30	P2	-21.901728	0.031900	0.050376

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.999501	0.002689	0.012449
7	P3	-7.999459	0.002699	0.012432
11	P3	-7.999441	0.002712	0.012441
15	P3	-7.999558	0.002704	0.012756
19	P3	-7.999475	0.002709	0.012292
22	P3	-7.999465	0.002692	0.012221
26	P3	-7.999451	0.002697	0.012452
30	P3	-7.999455	0.002710	0.012933

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	0.000459447
	stdev	2.23271e-07
MEAN Q	mean	0.000496767
	stdev	2.33247e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.128529
	stdev	0.00102884
STDEV Q	mean	0.128777
	stdev	0.00104013



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2005031[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
ASA_WVS_1PNPDE20050317_004428_000000002035_00331_15916_7479.N1	1	0
ASA_WVS_1PNPDE20050318_062804_000000002035_00349_15934_7472.N1	1	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"/>
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"/>
Acsending
<input type="checkbox"/>
Descending

7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

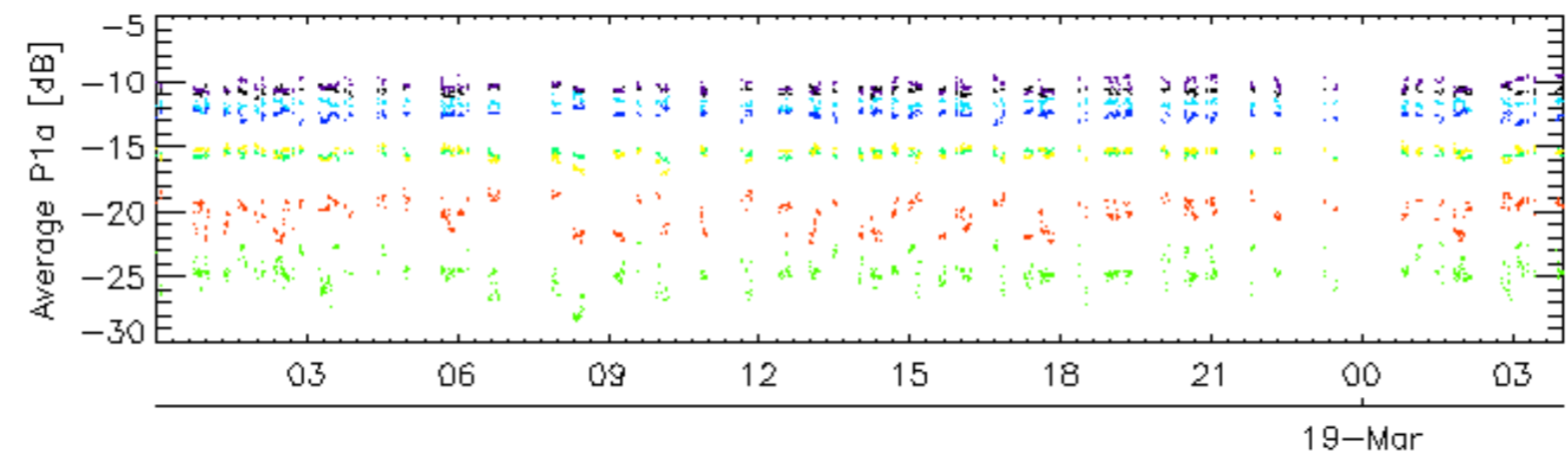
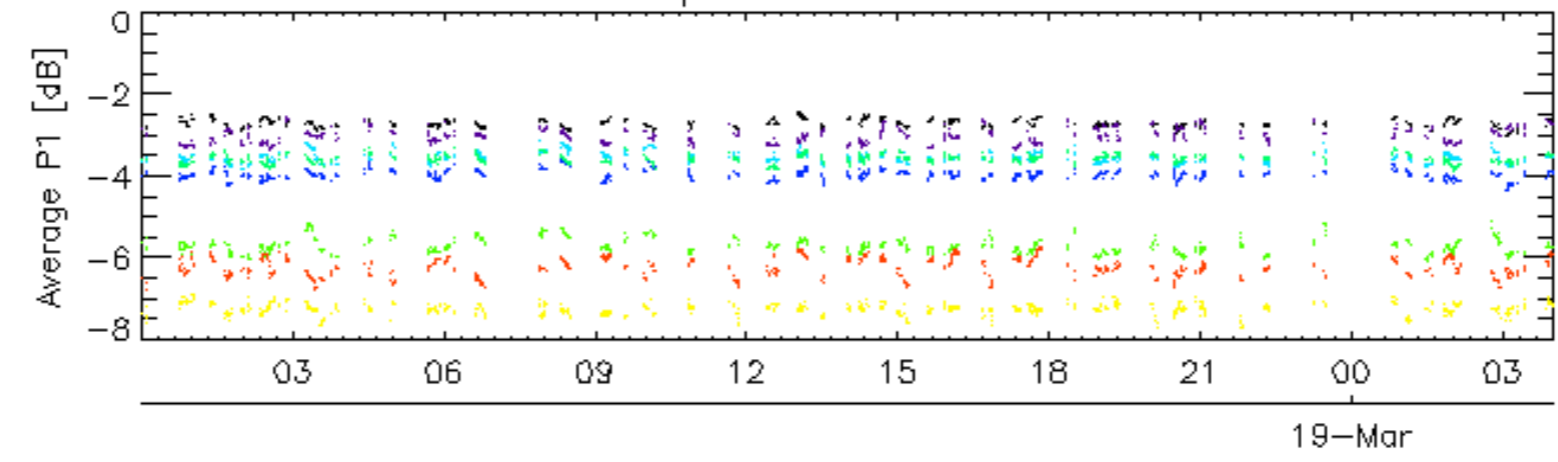
Ascending

Descending

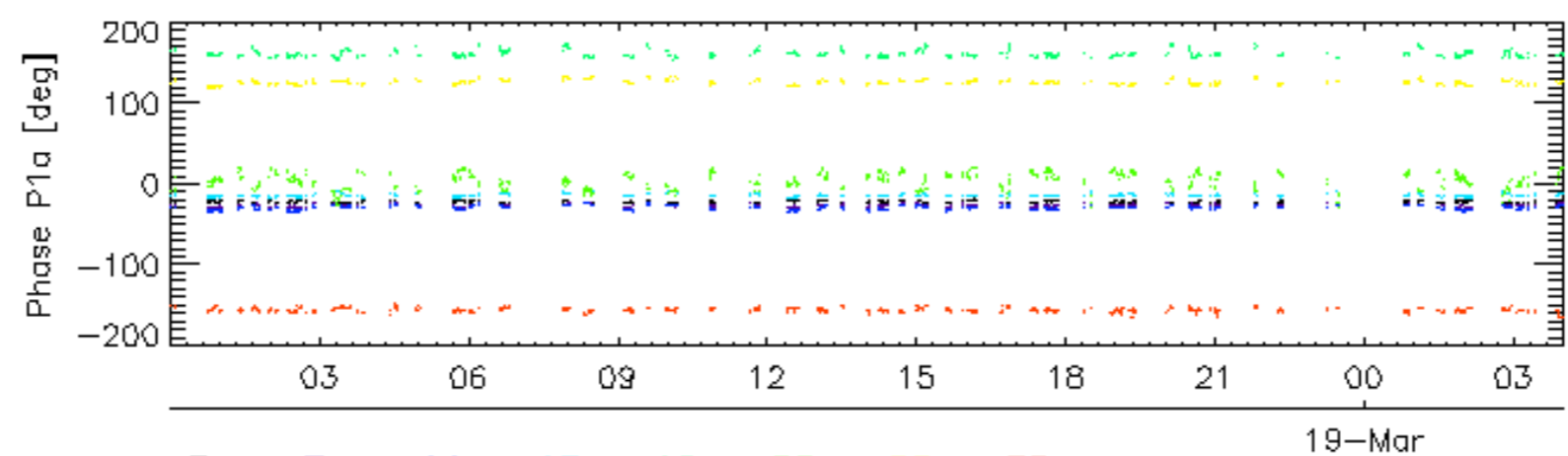
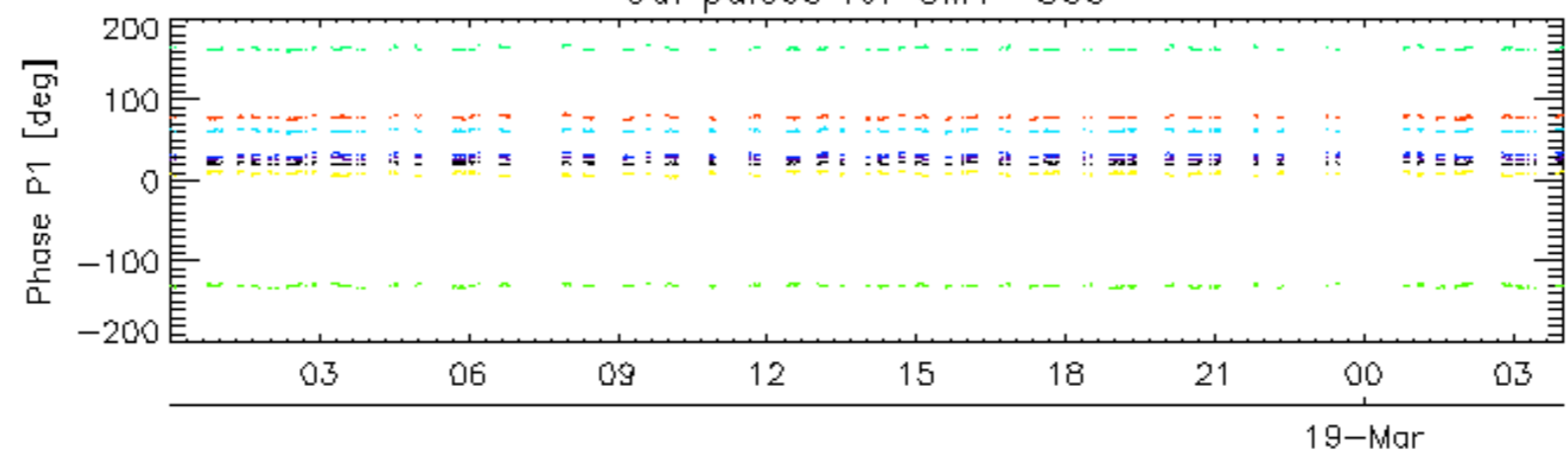
7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

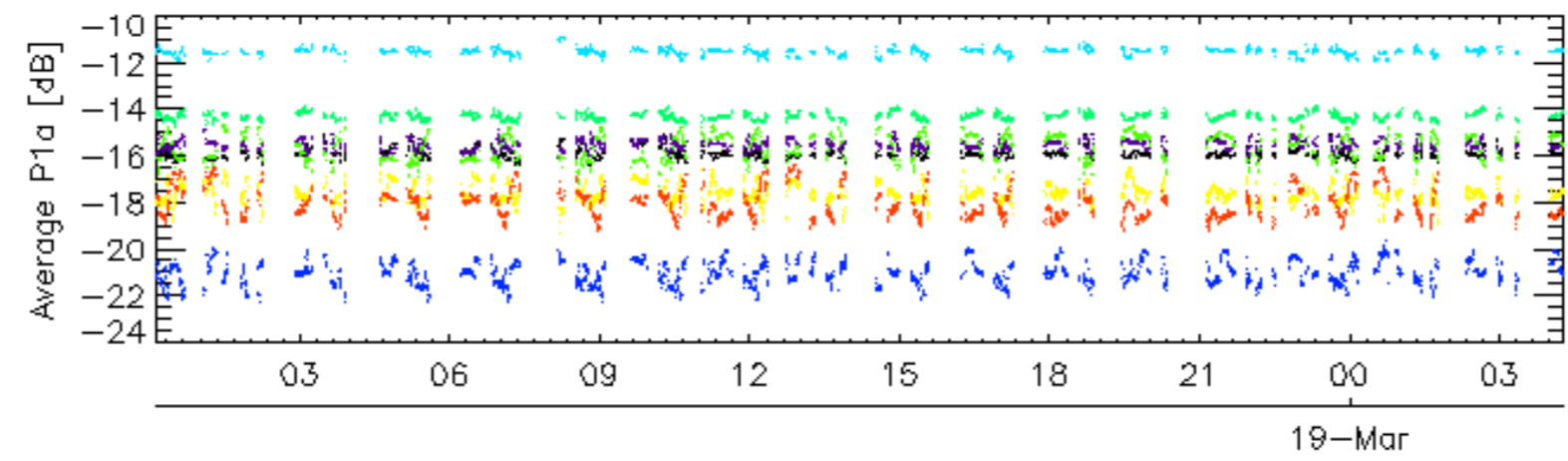
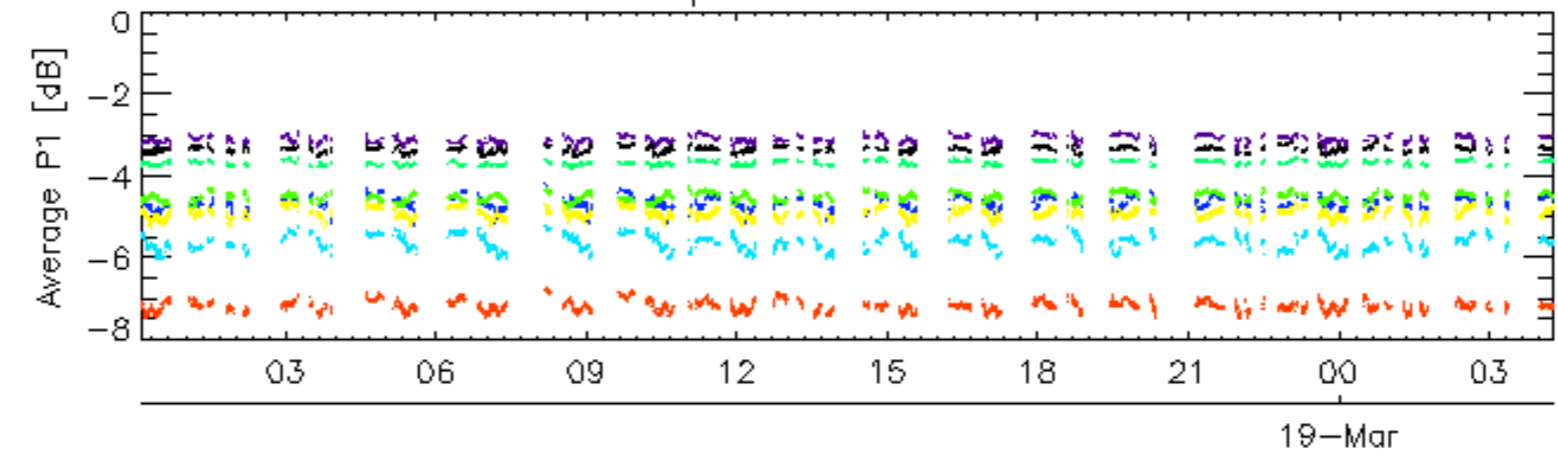


Cal pulses for GM1 SS3

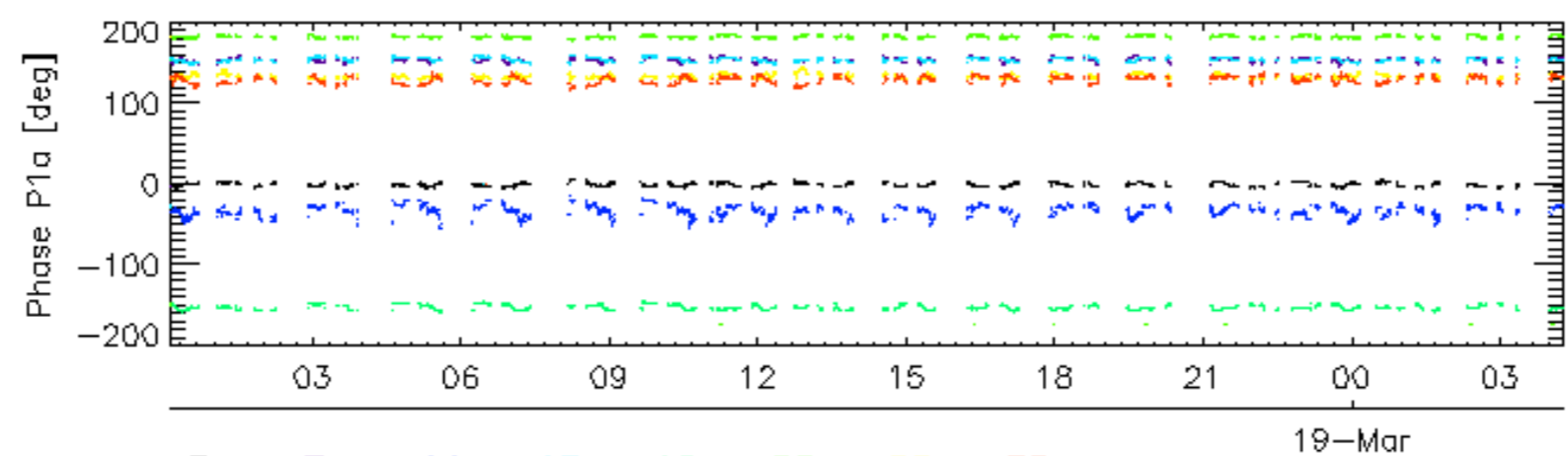
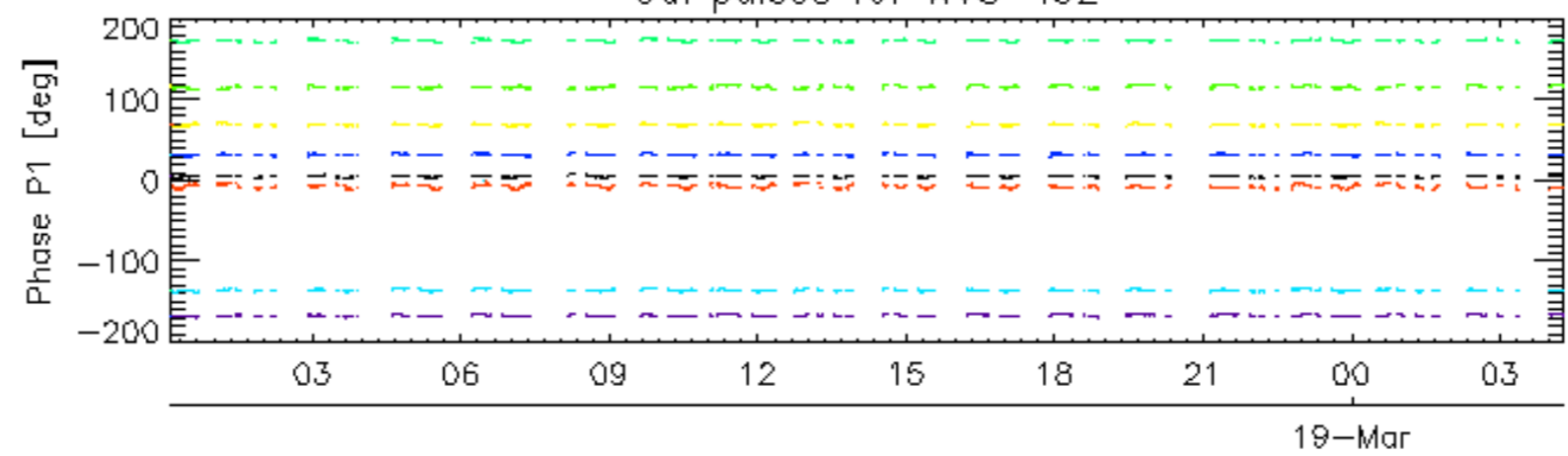


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

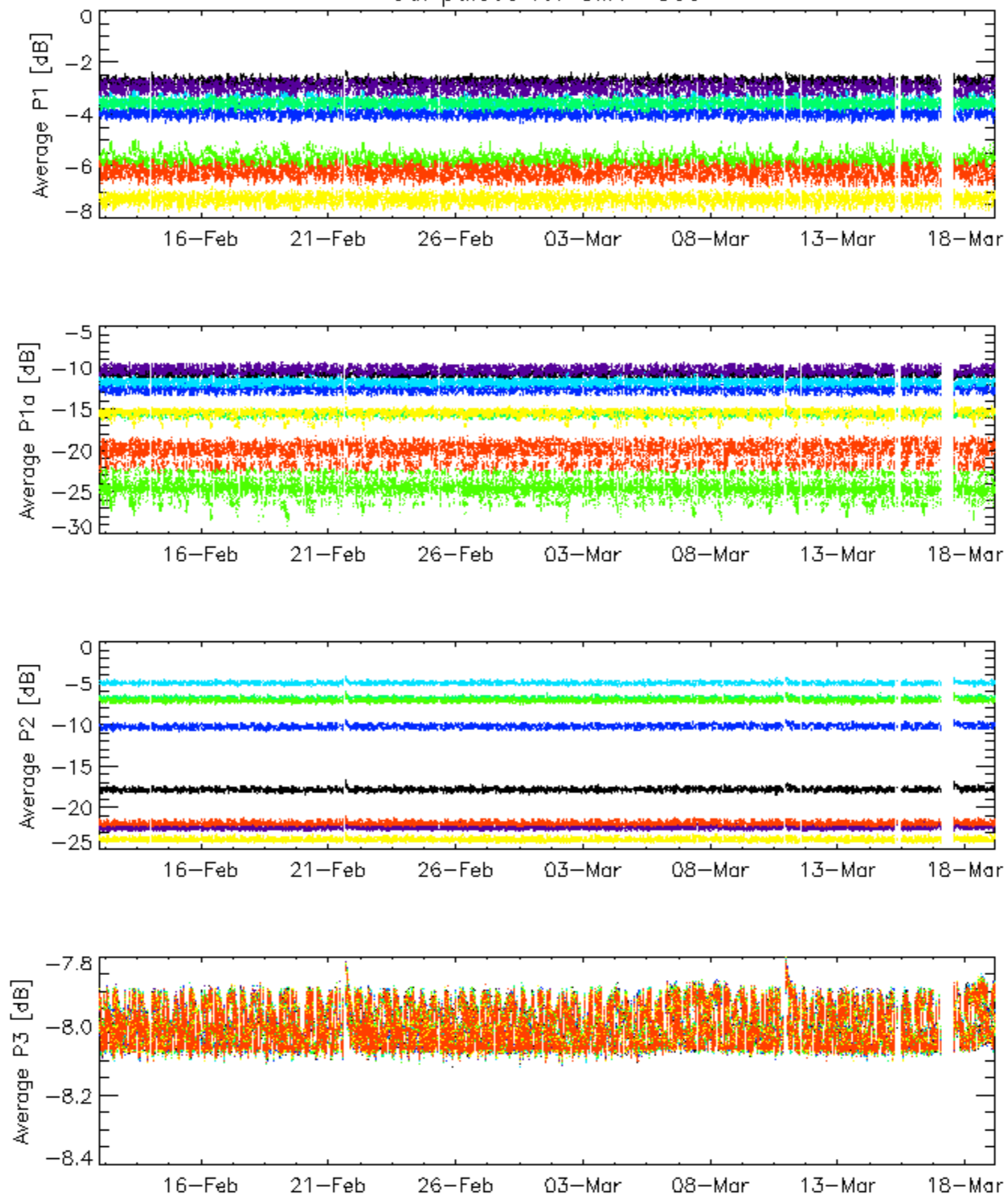


Cal pulses for WVS IS2



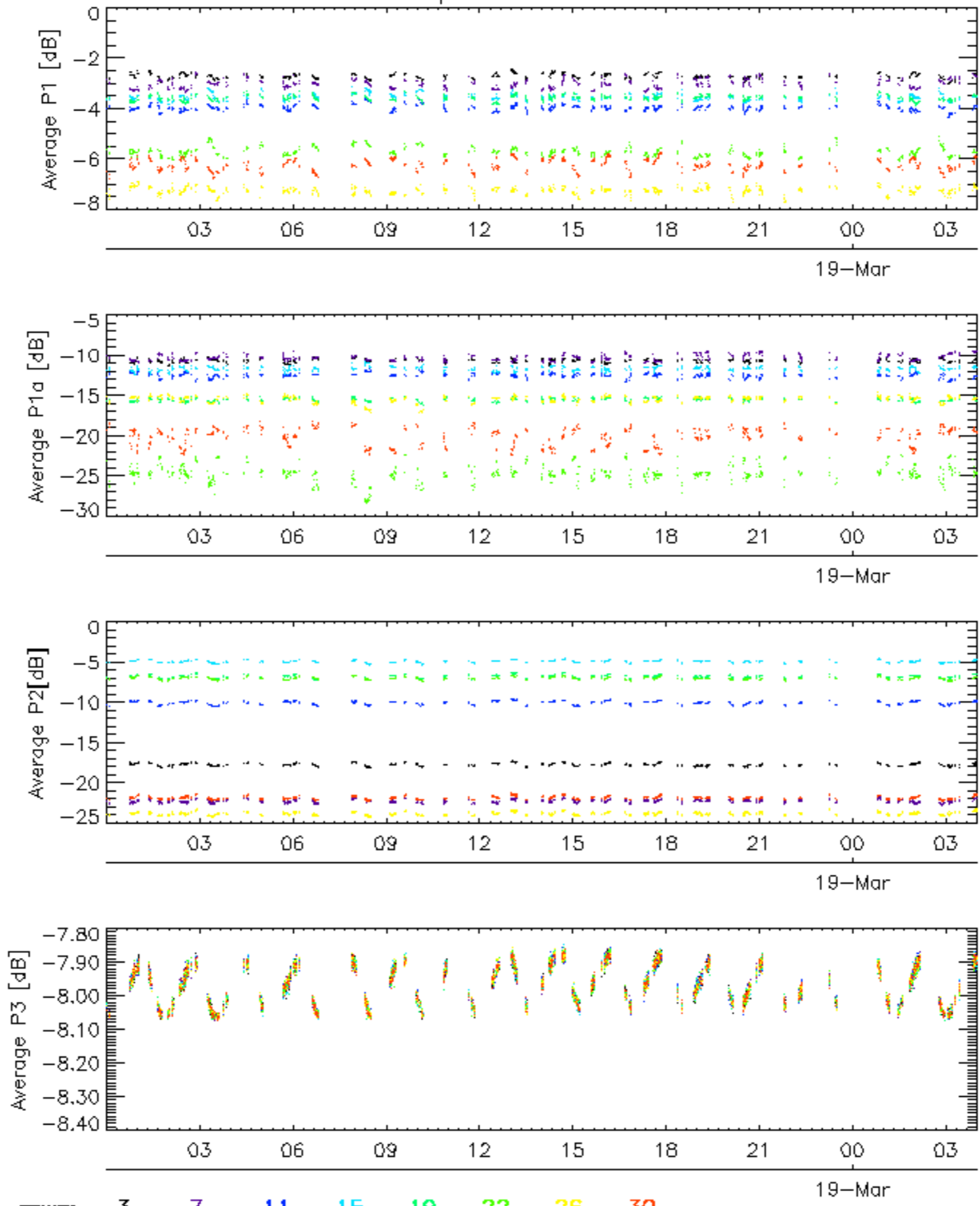
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

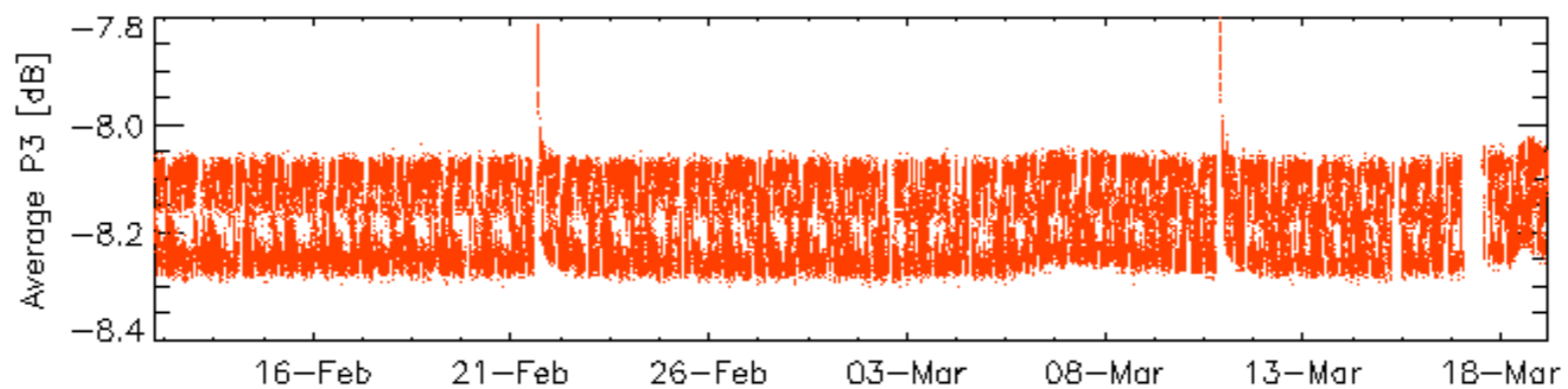
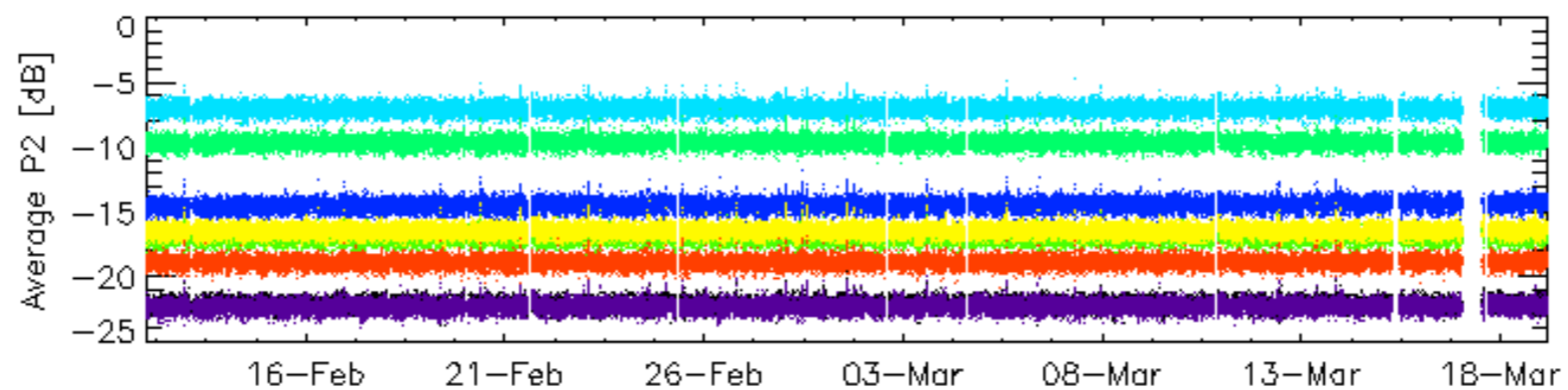
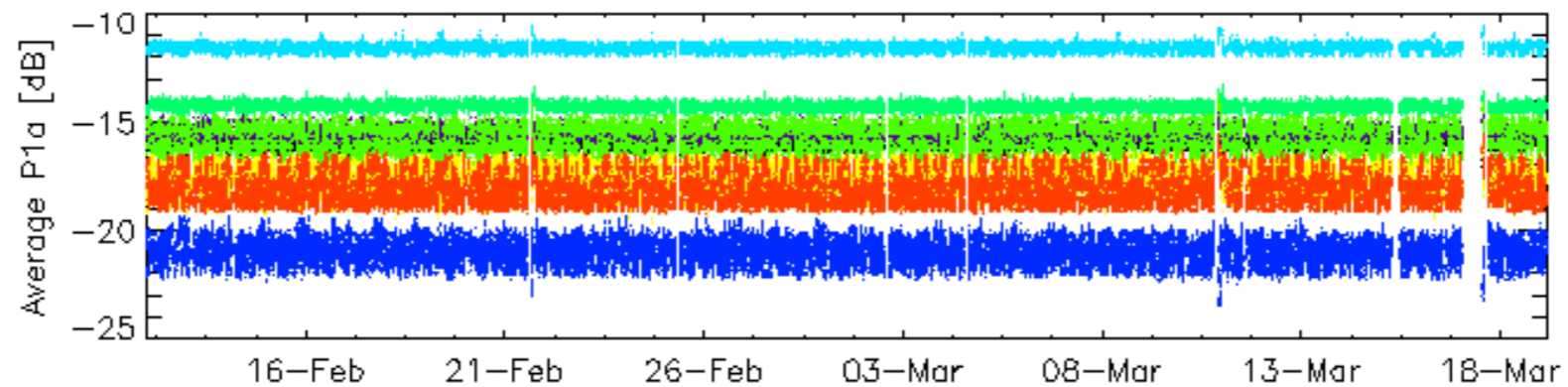
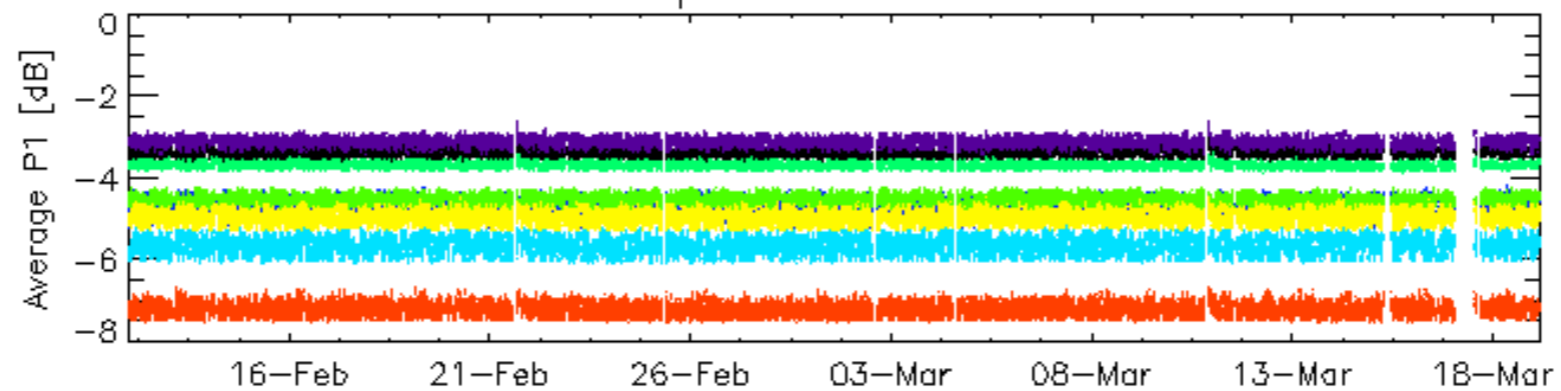


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

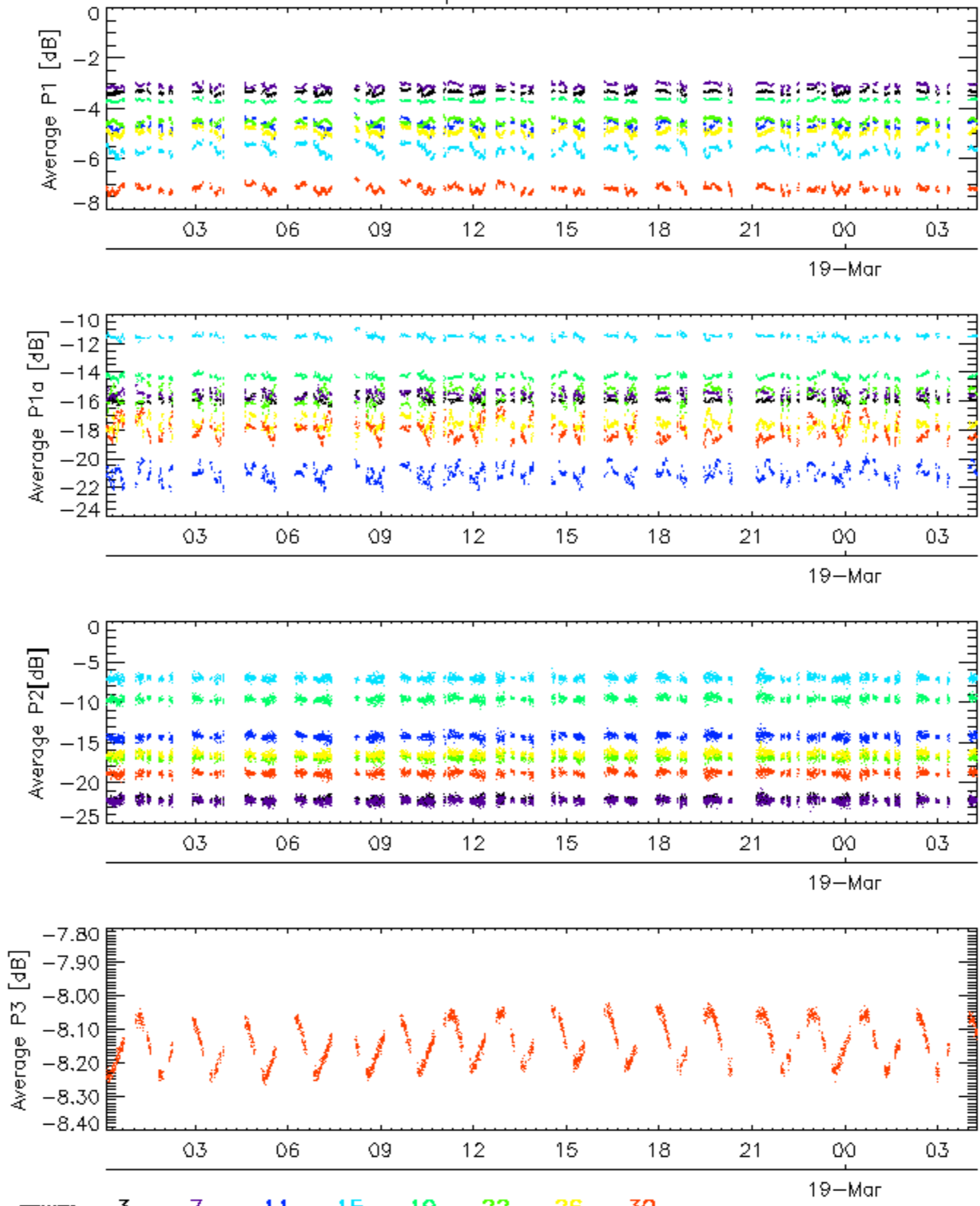


Cal pulses for WVS IS2

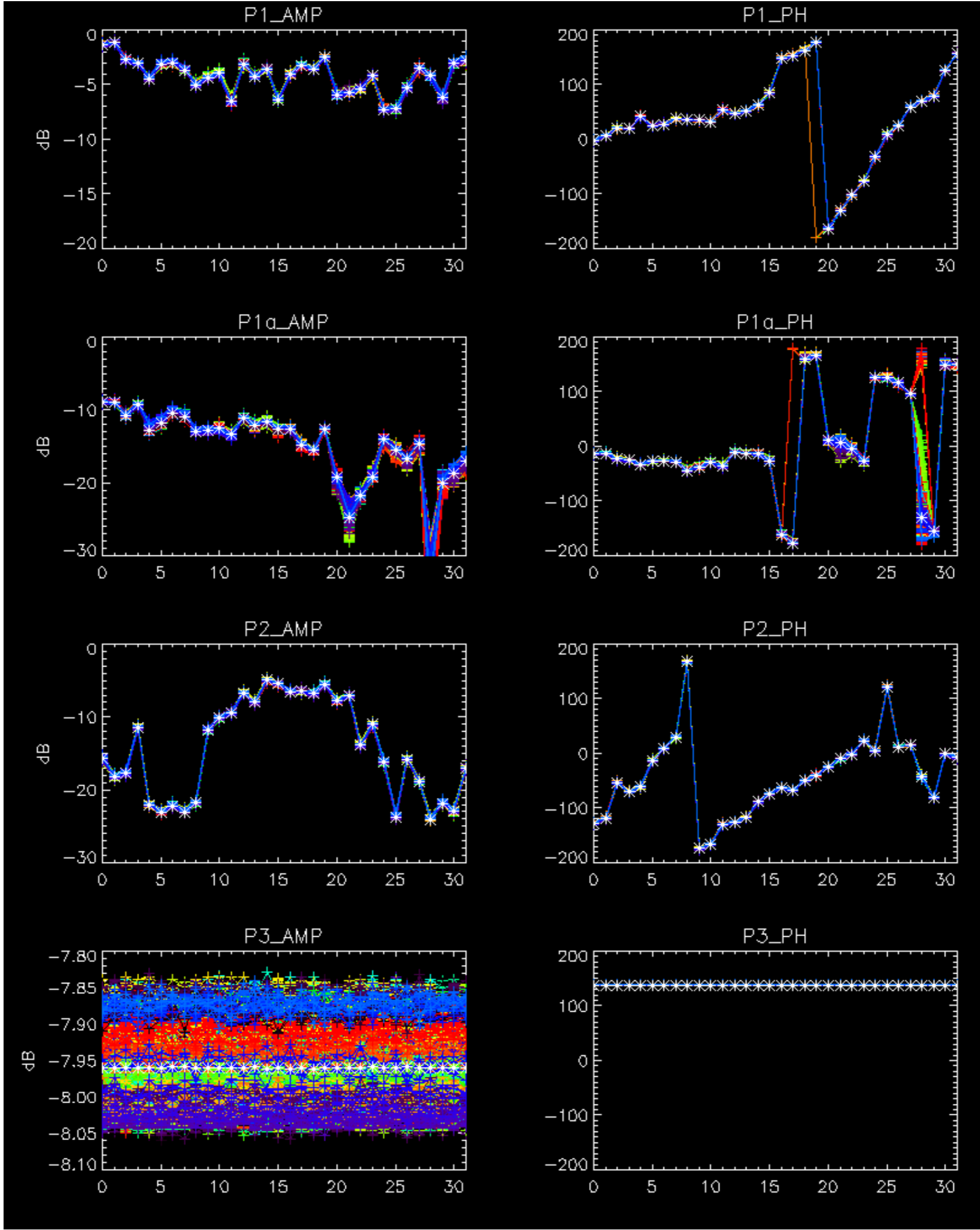


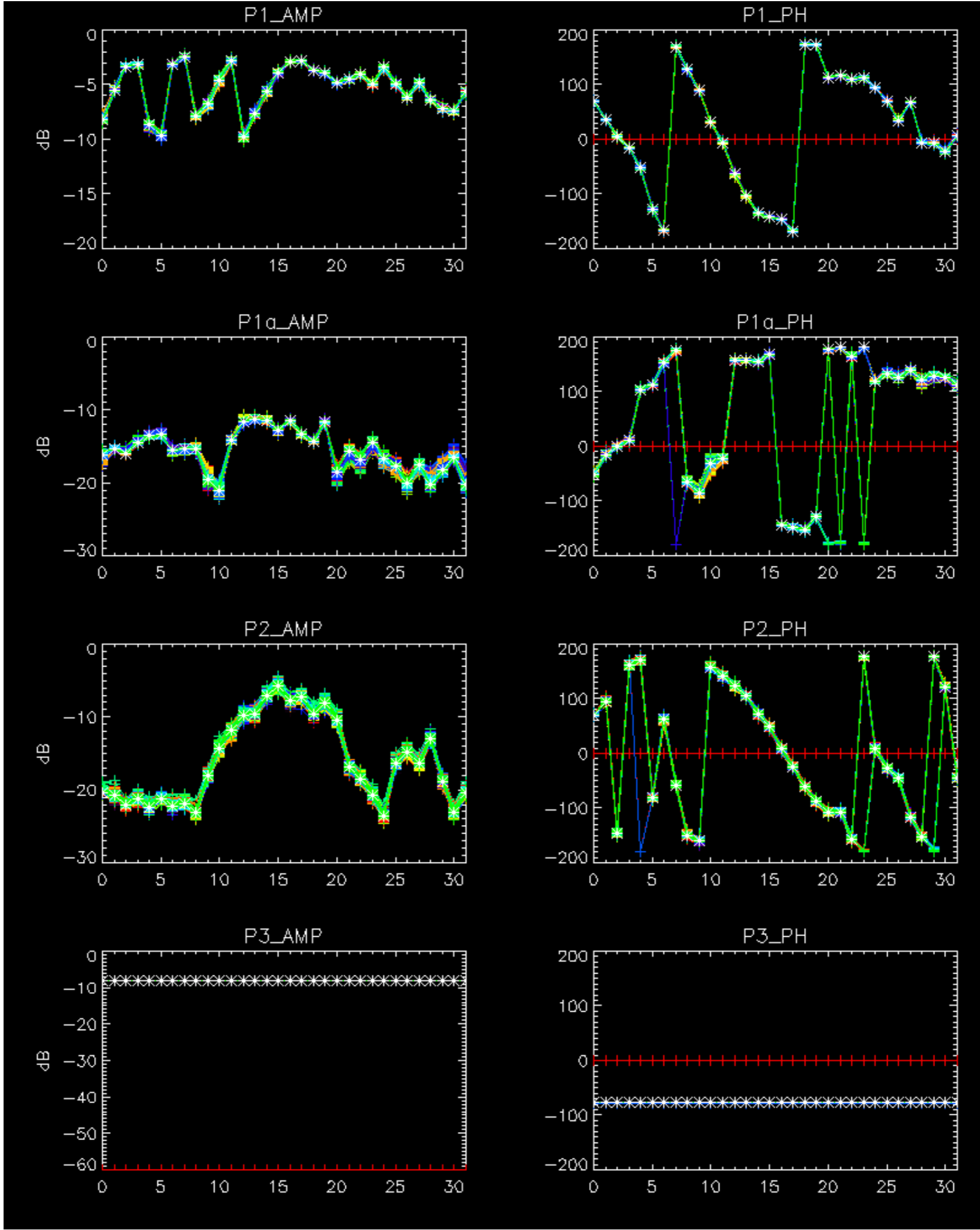
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



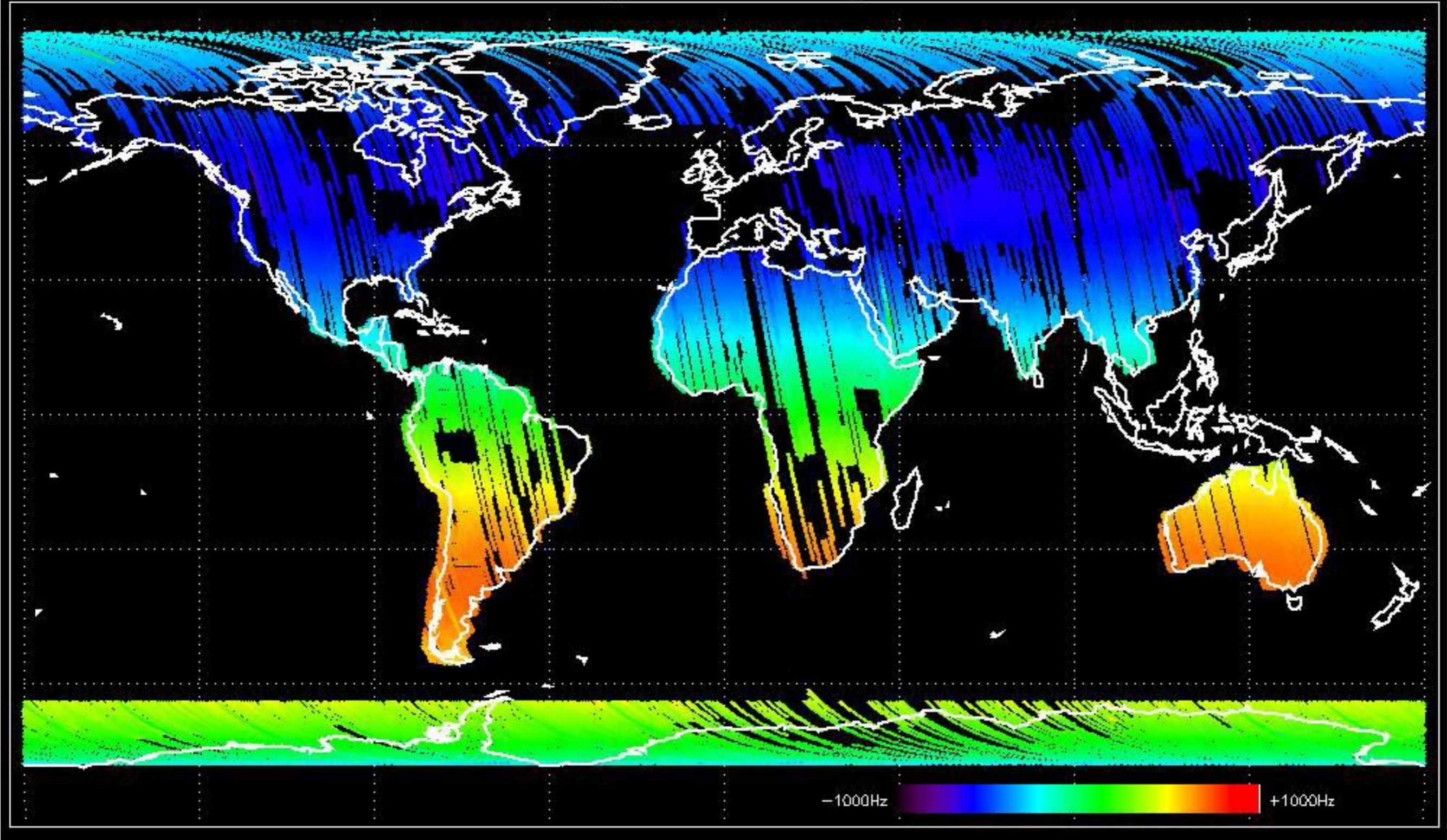
No anomalies observed.



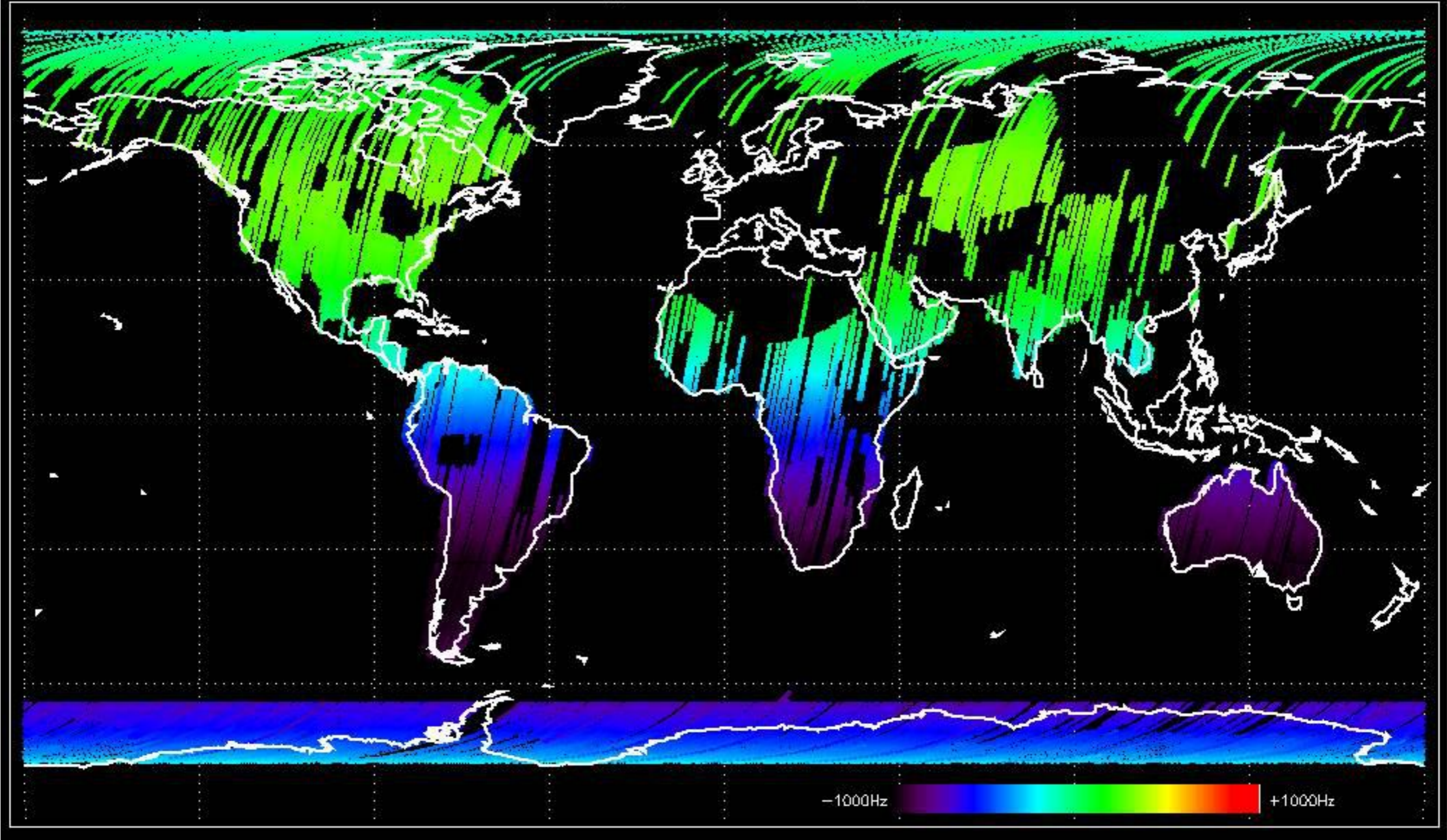


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

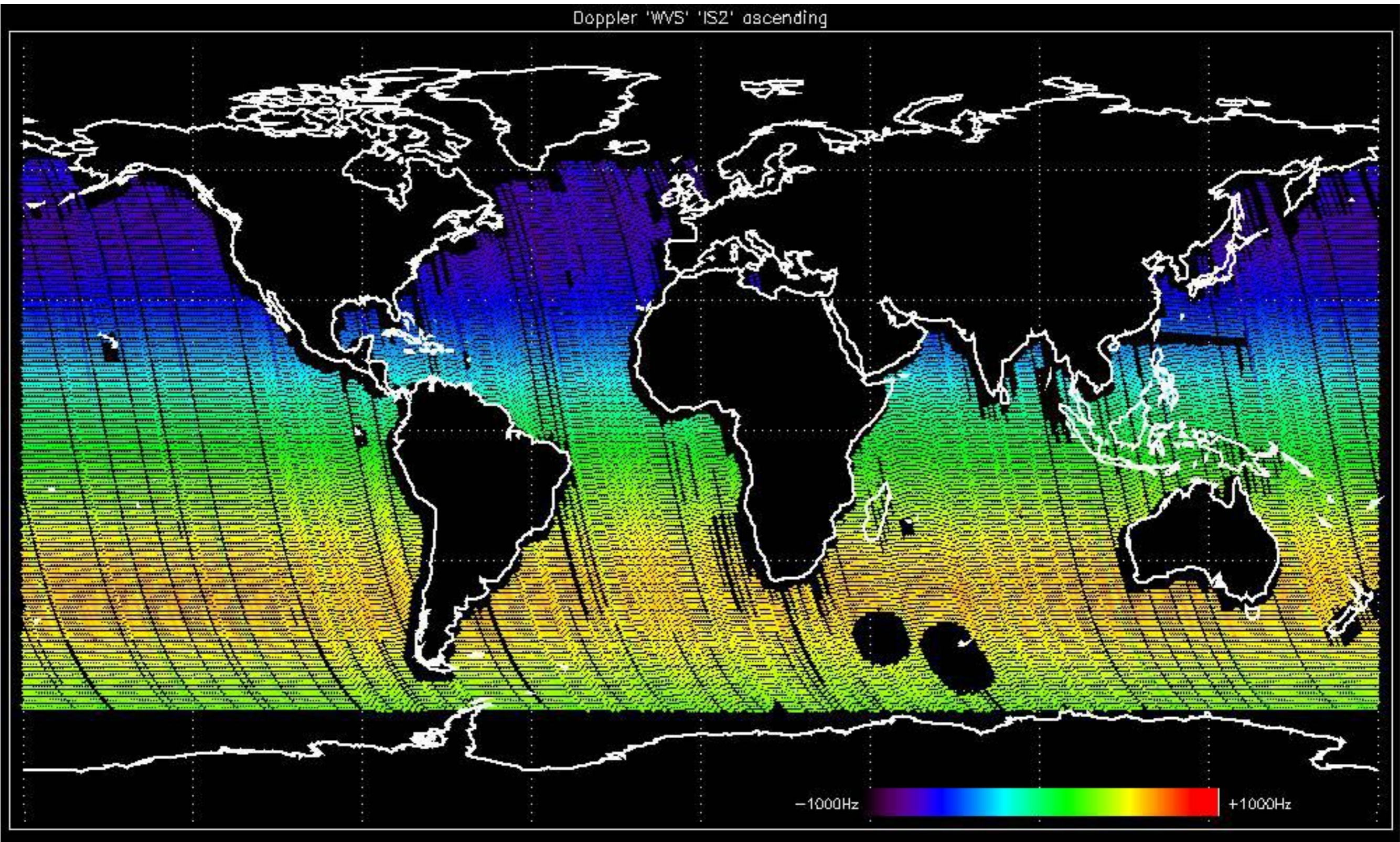
Doppler 'GM1' 'SS1' ascending



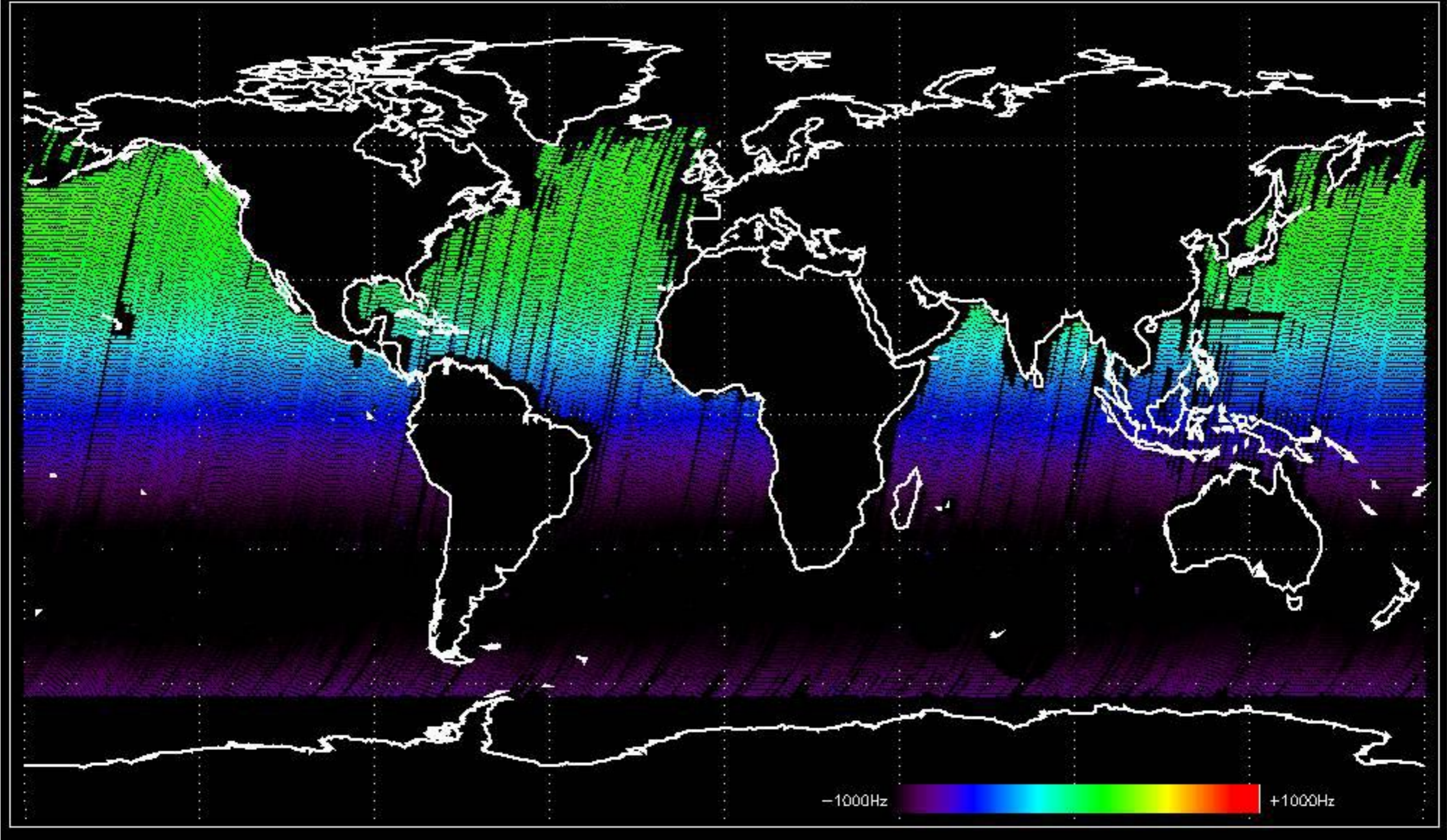
Doppler 'GM1' 'SS1' descending



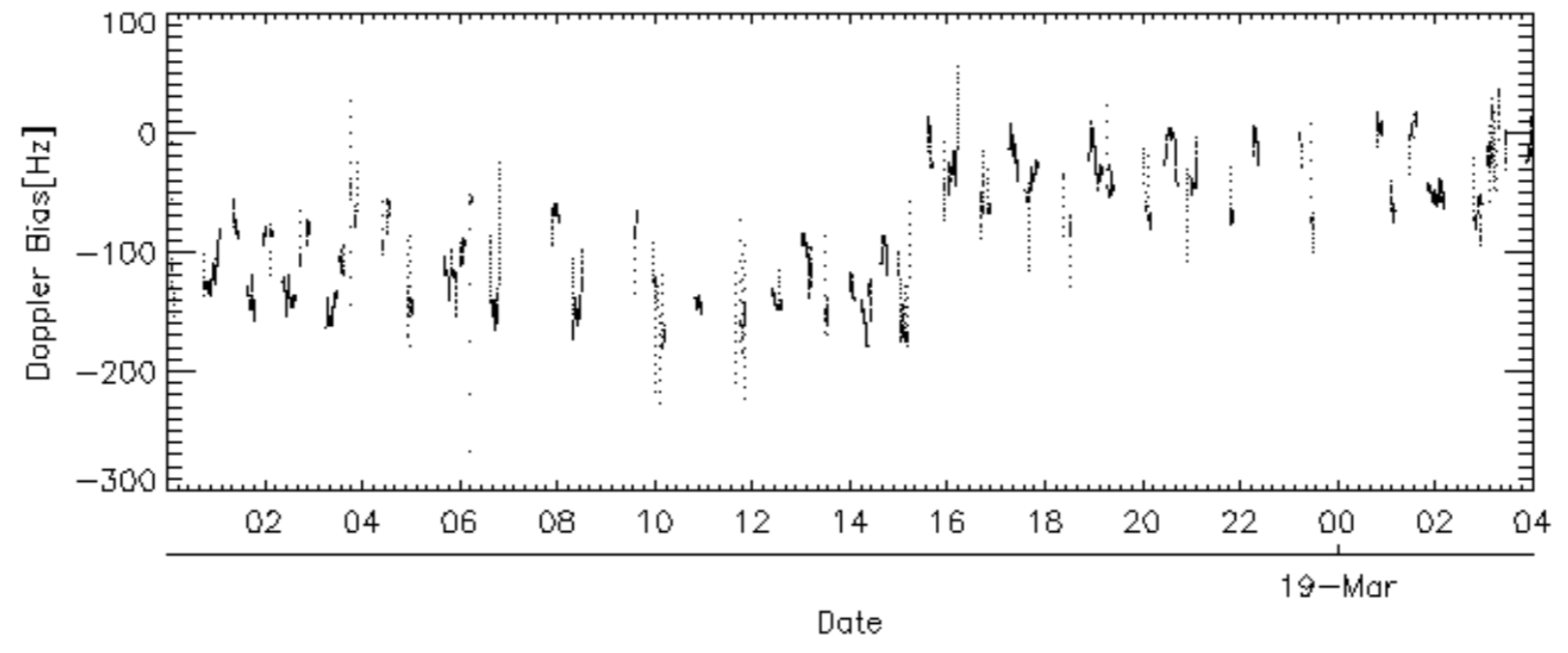
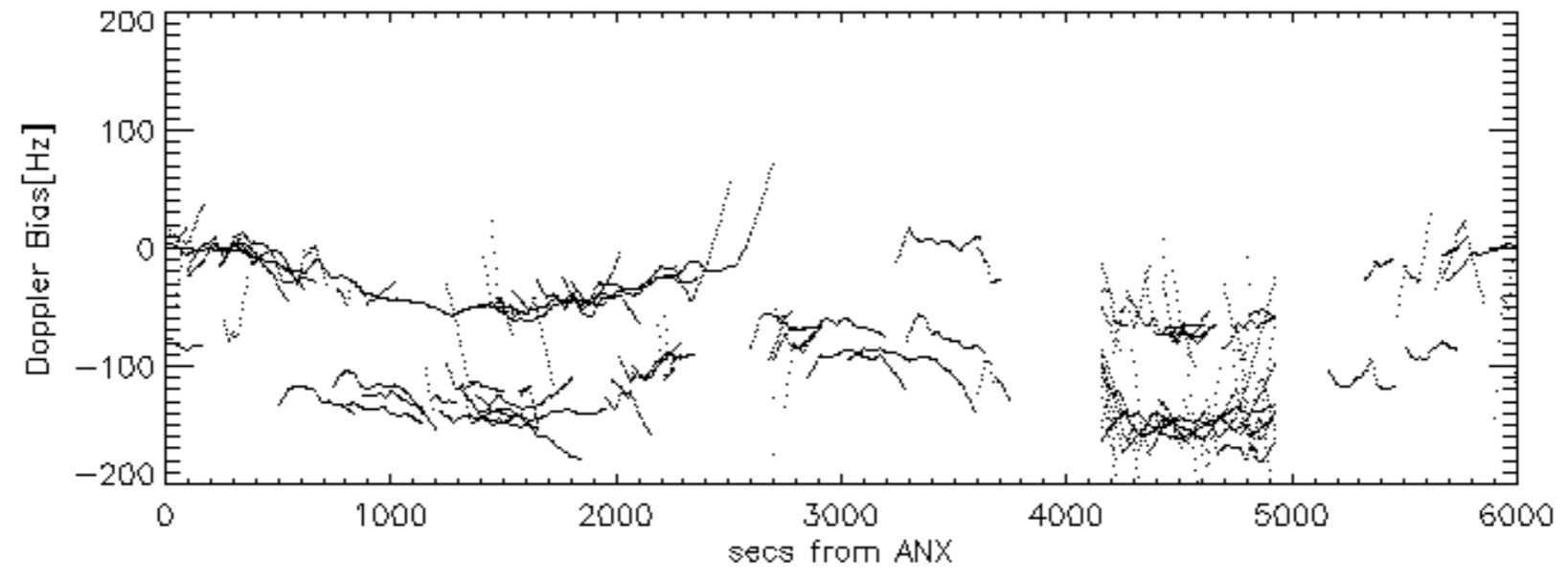
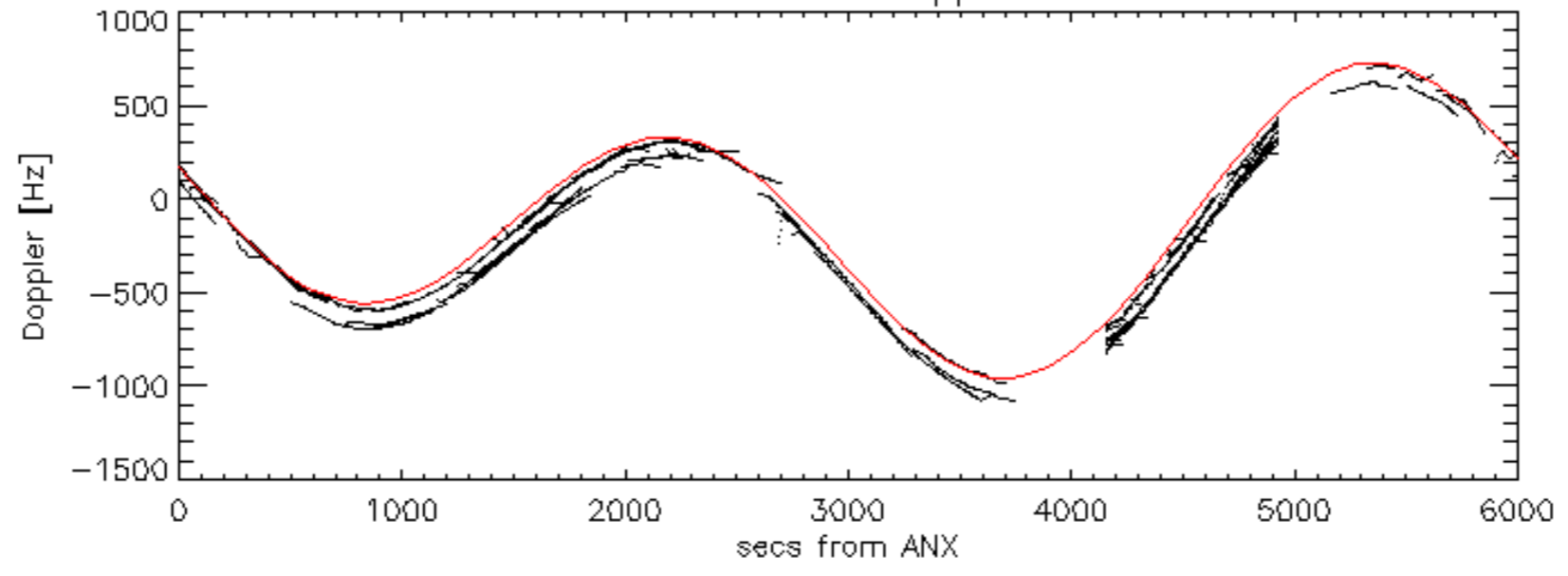
Doppler 'WVS' 'IS2' ascending

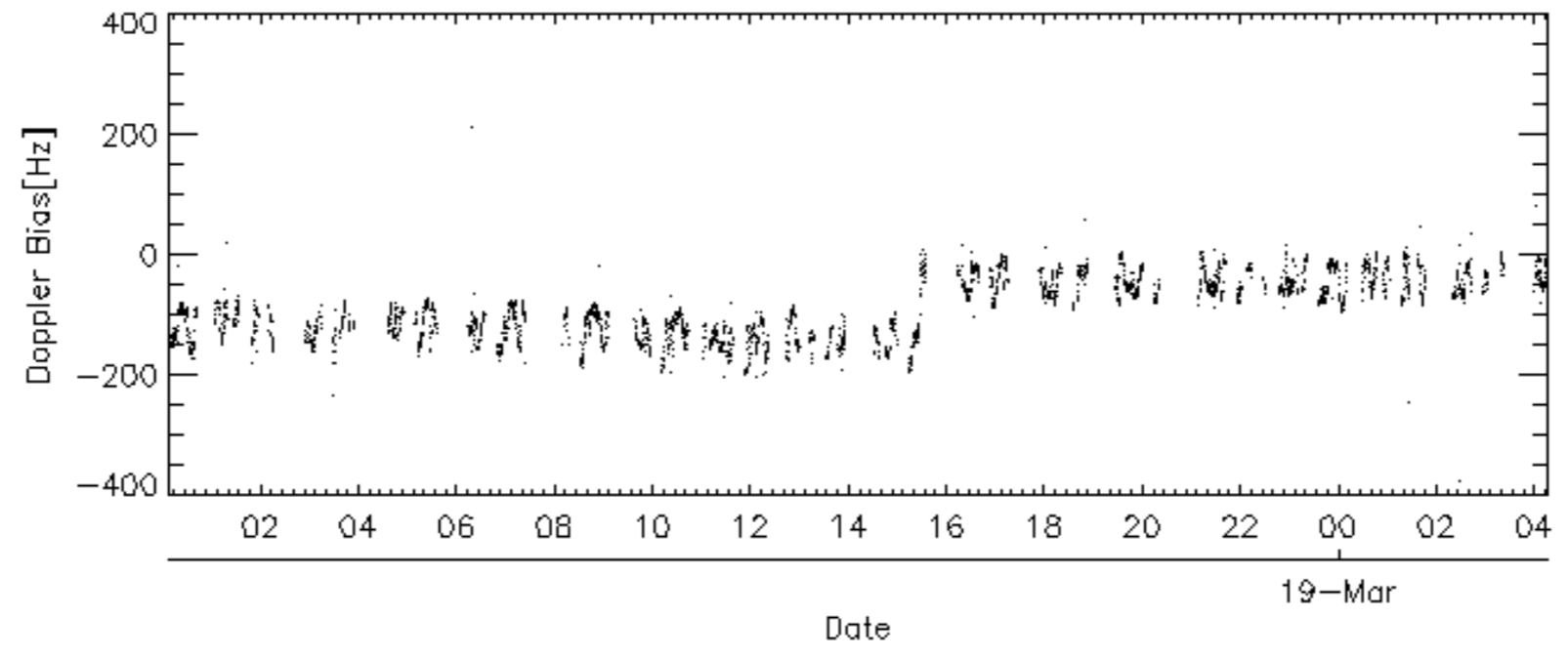
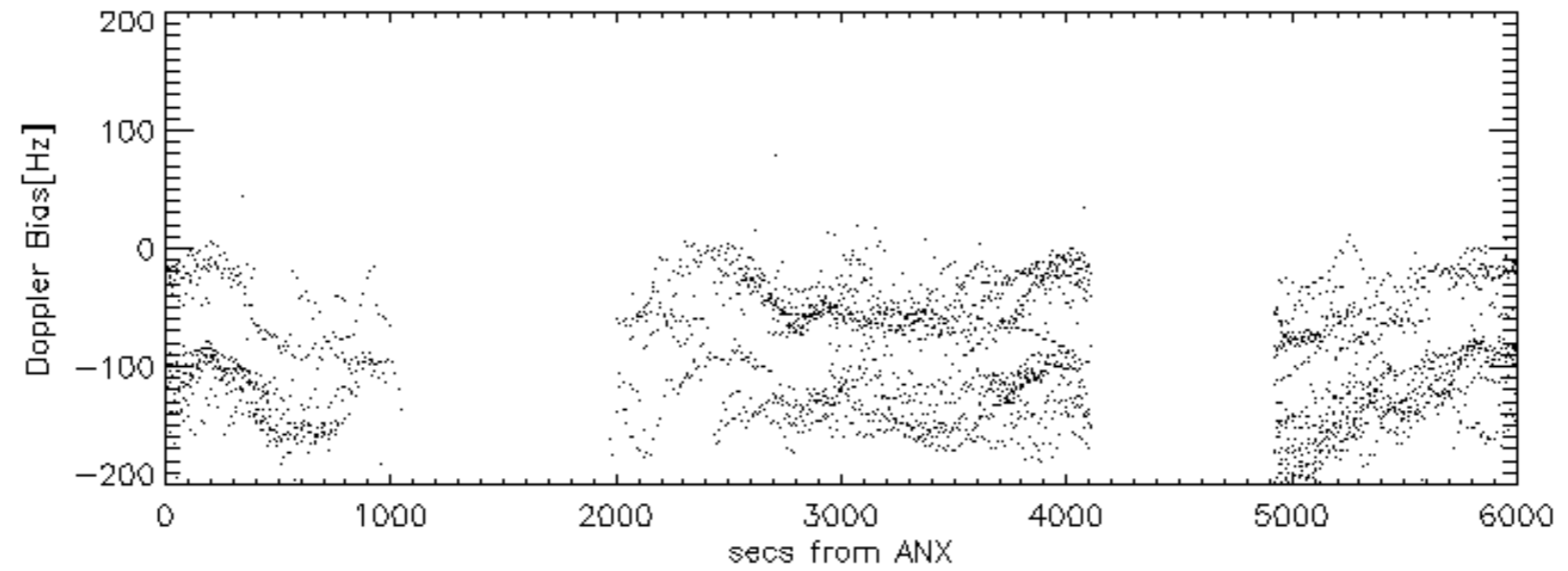
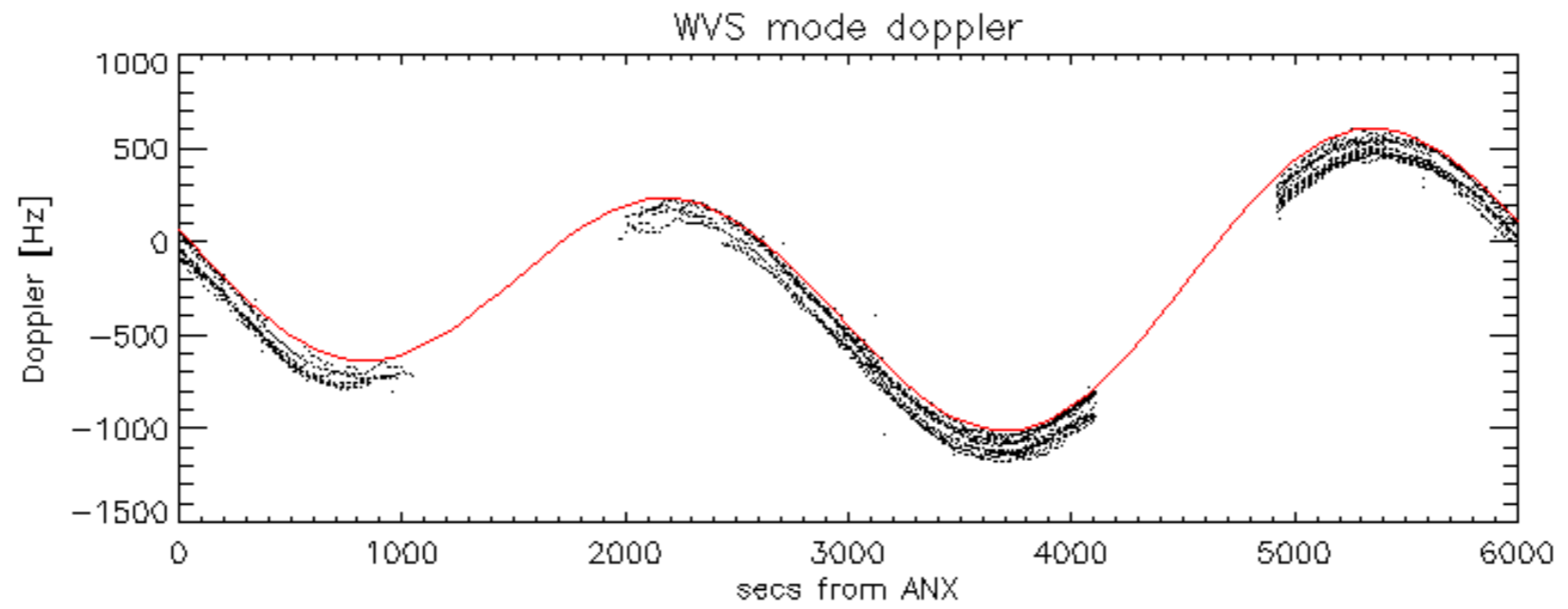


Doppler 'WVS' 'IS2' descending

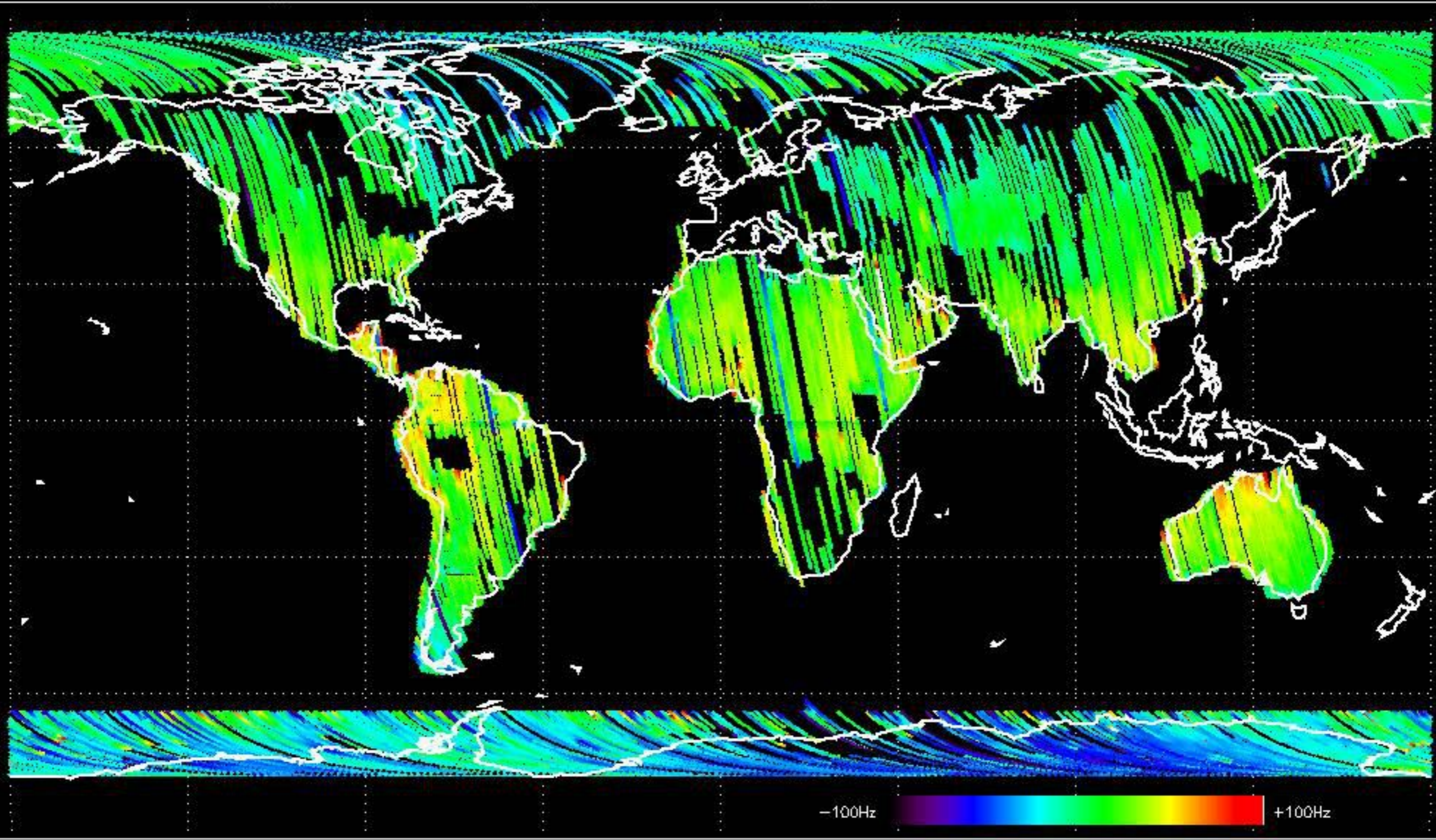


GM1 mode doppler

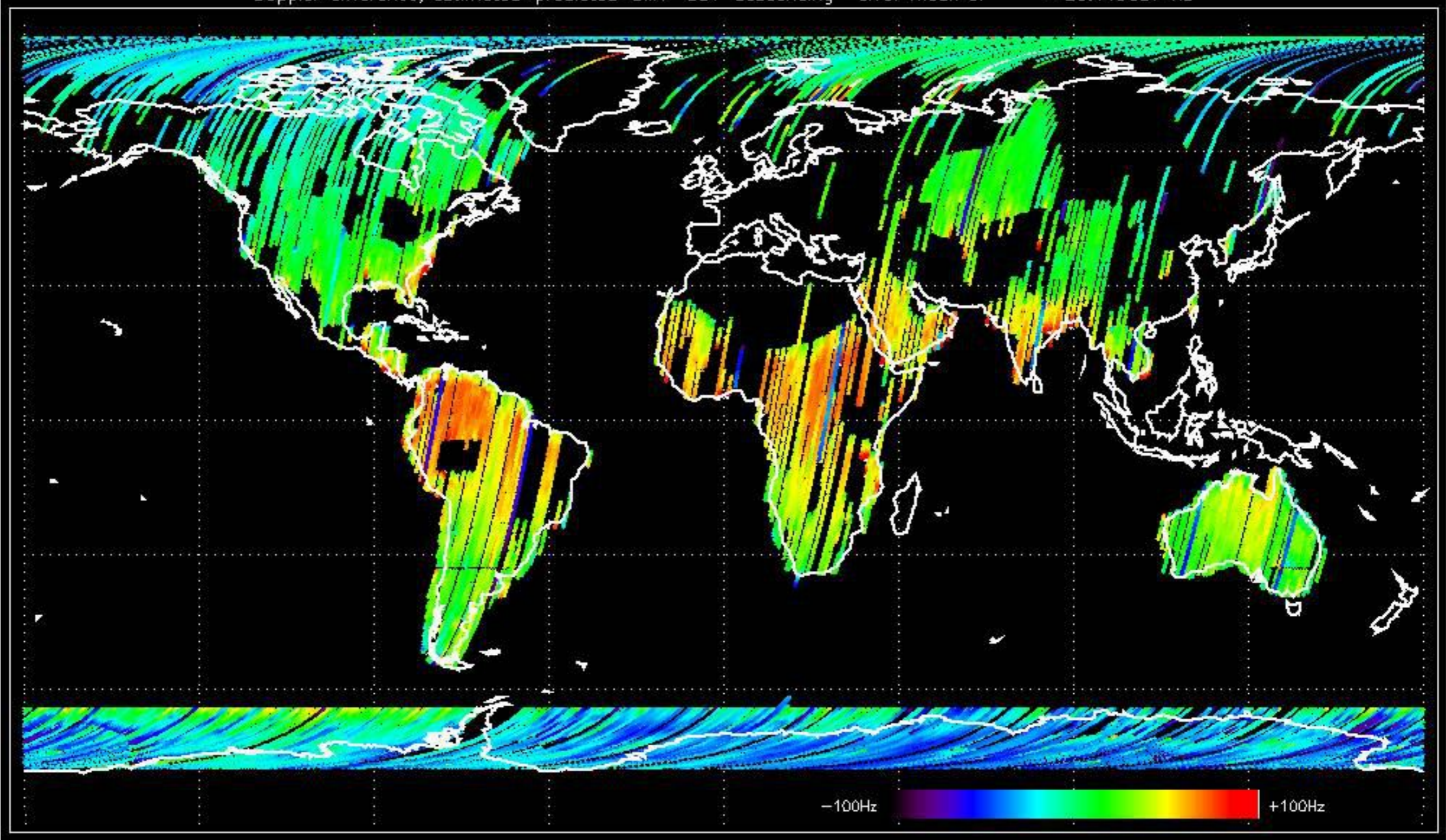




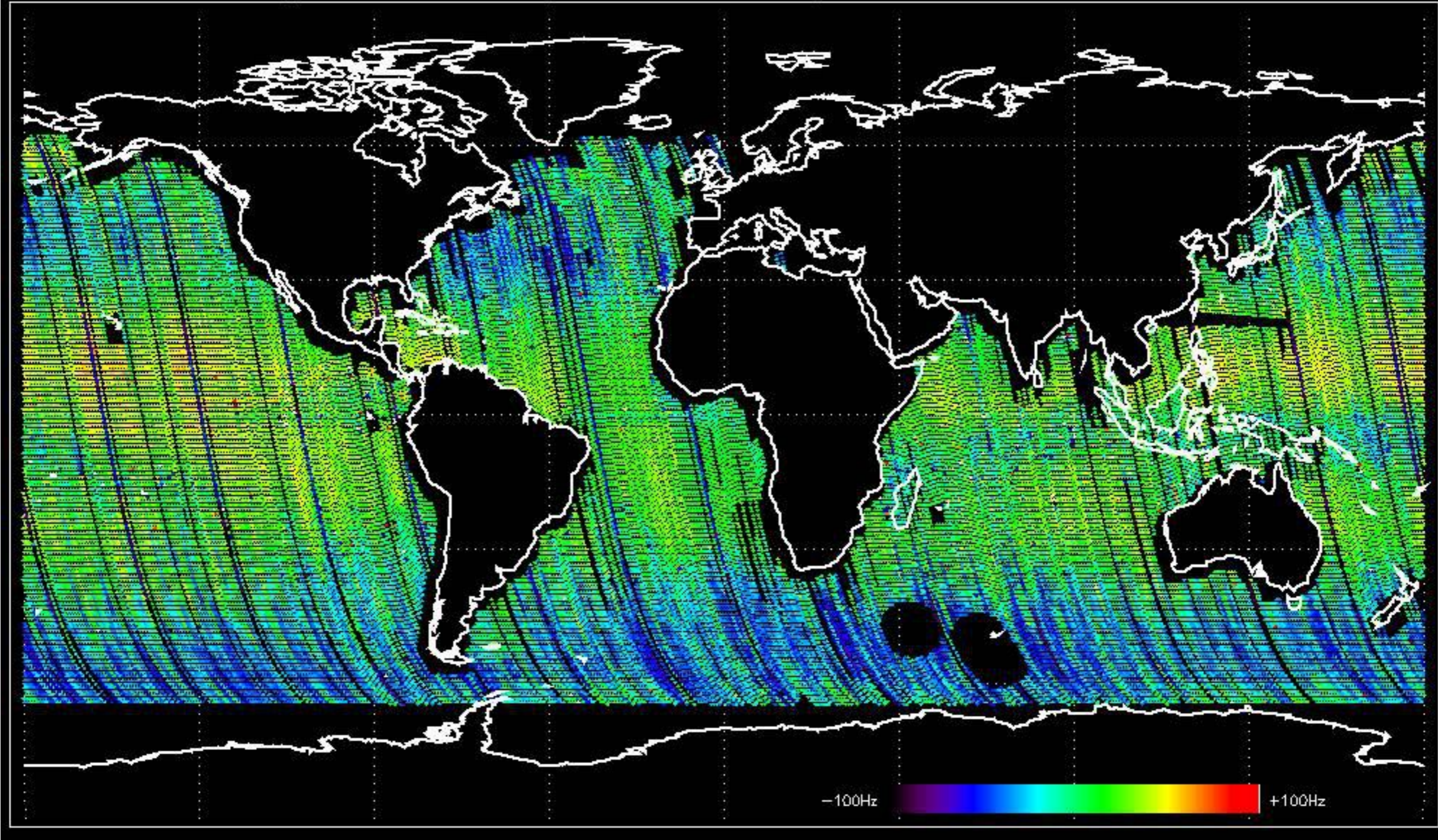
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -32.021315 Hz



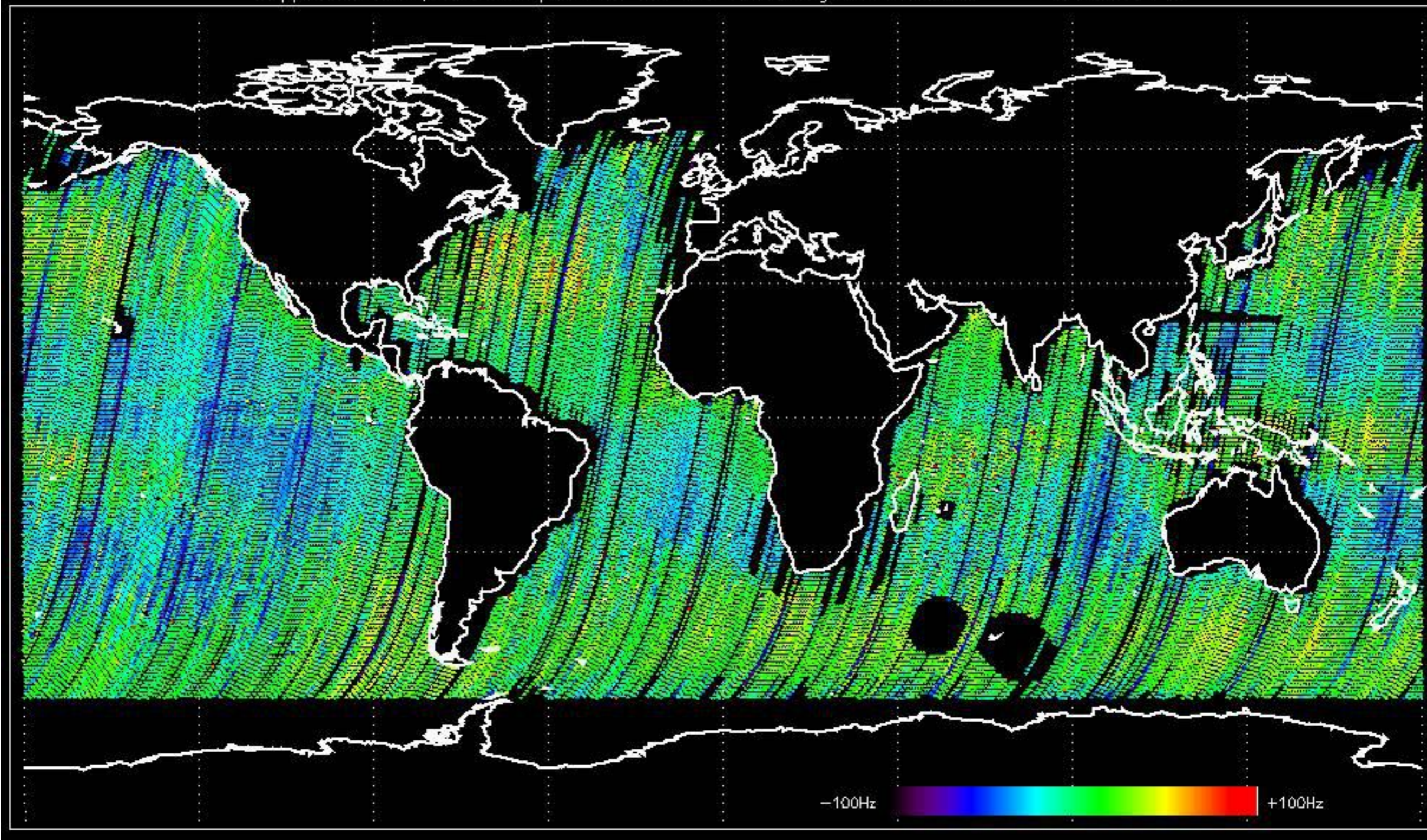
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -28.149607 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -36.729737 Hz

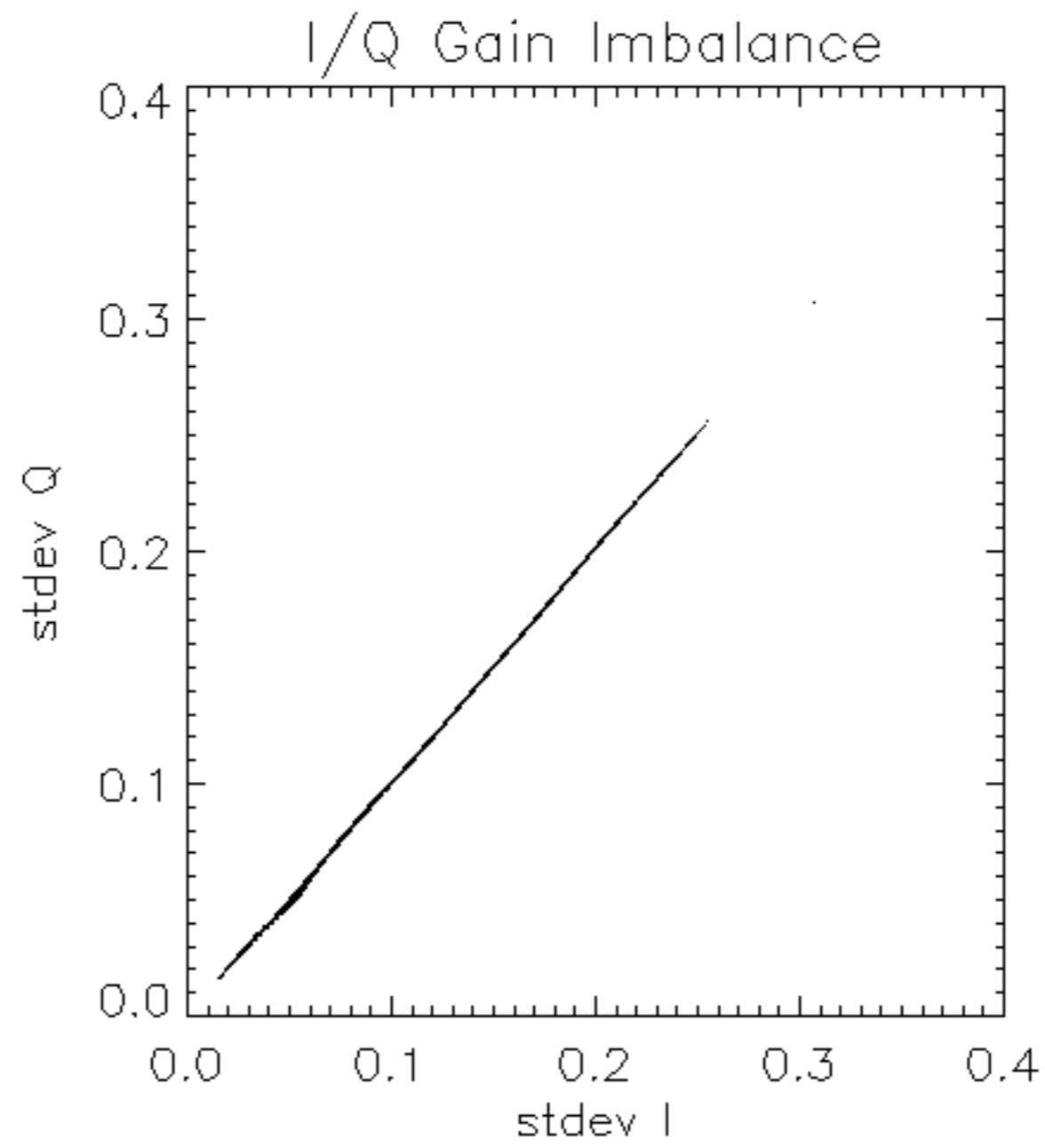


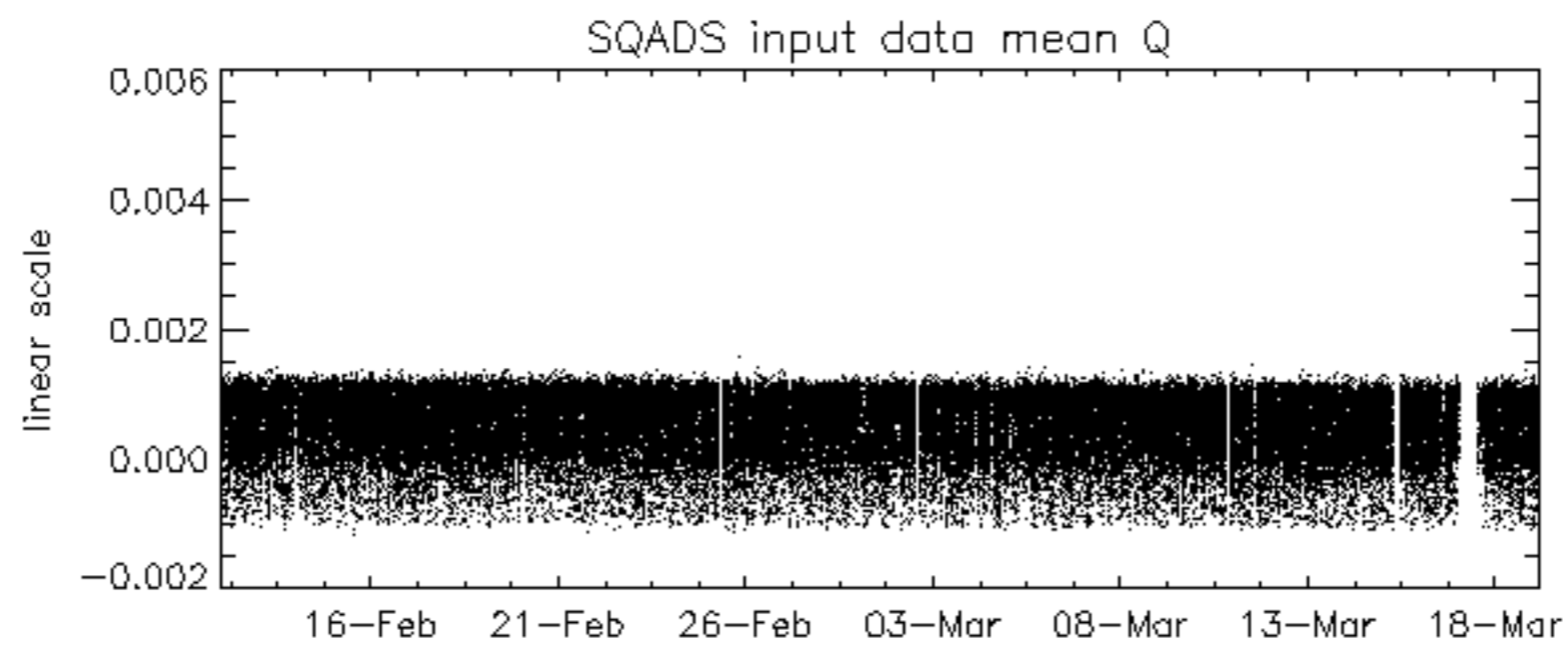
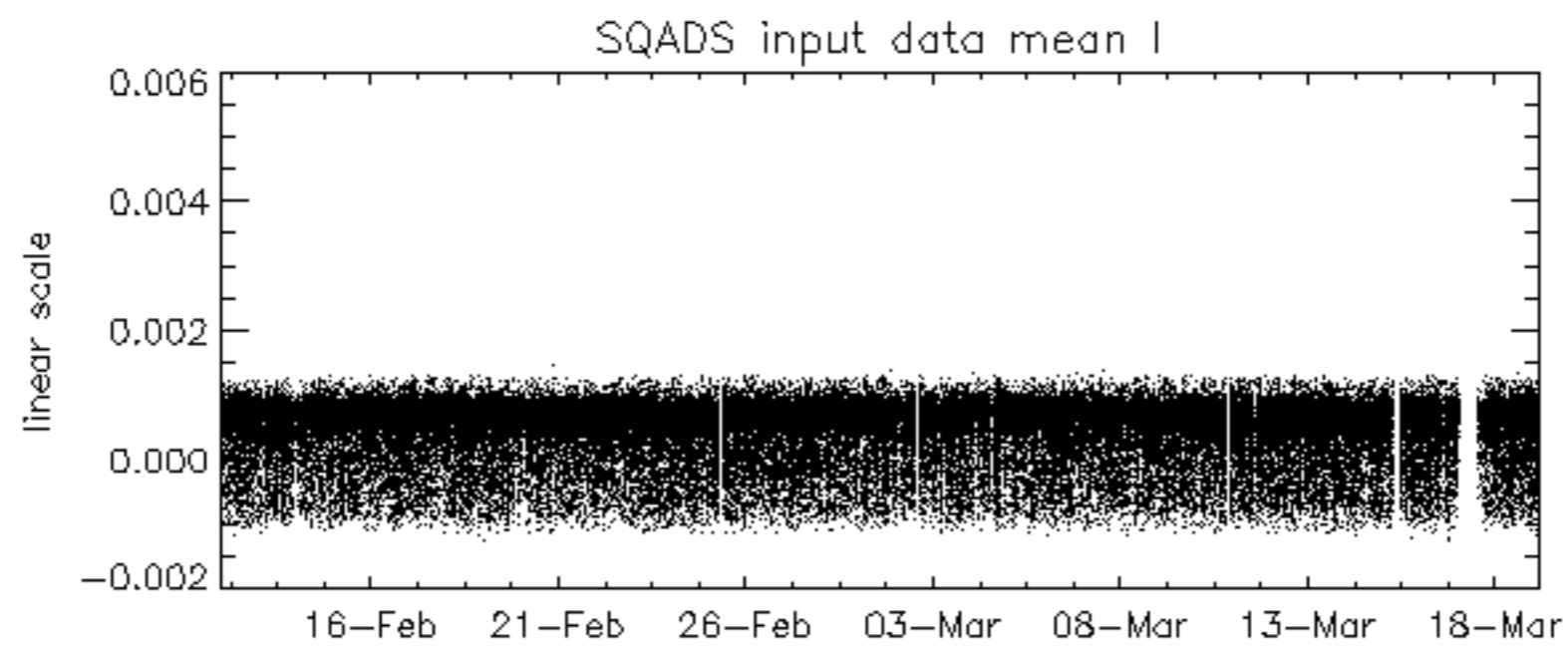
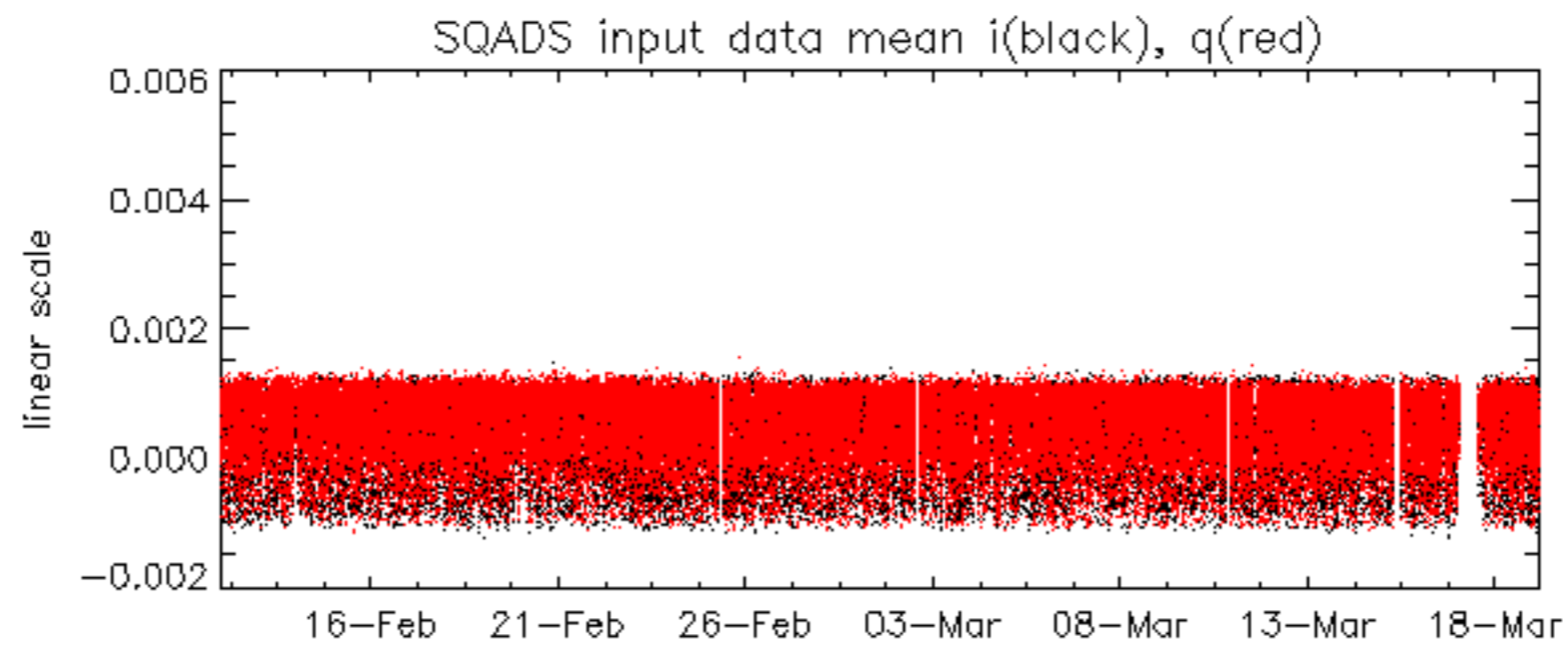
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -35.074082 Hz

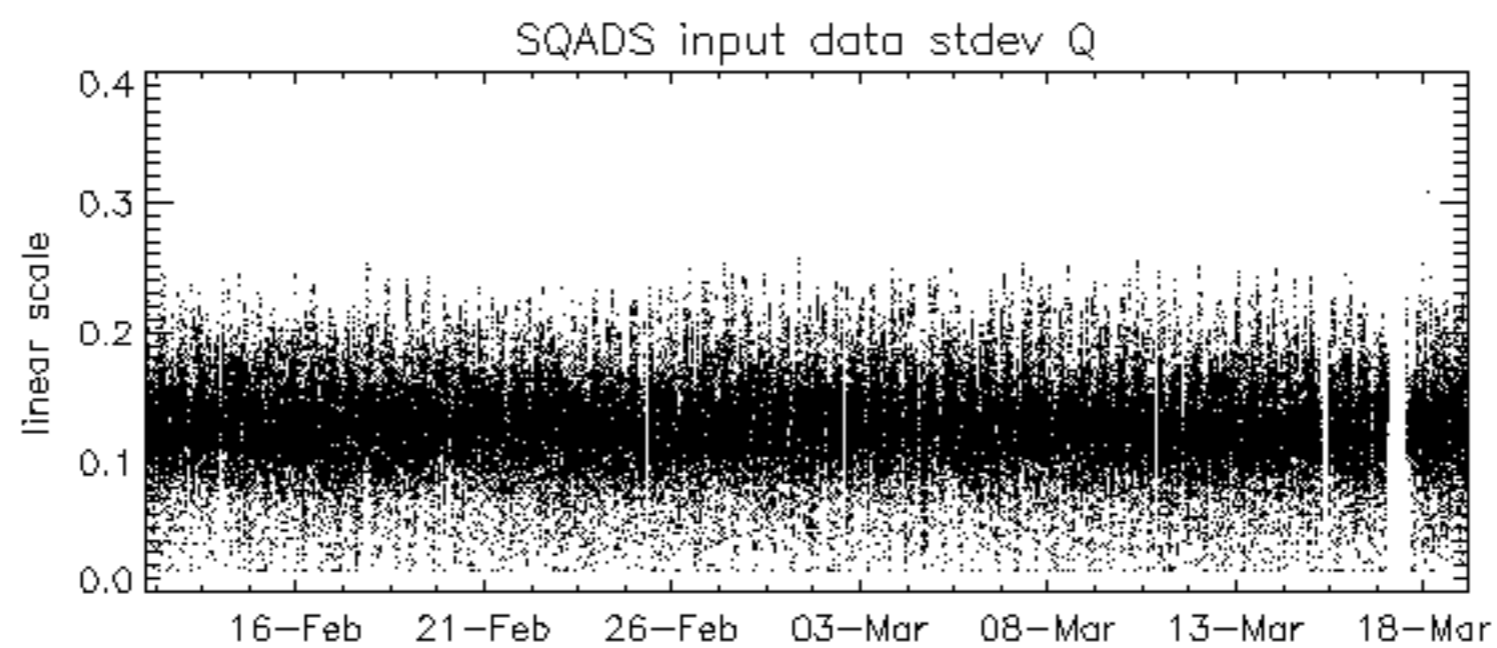
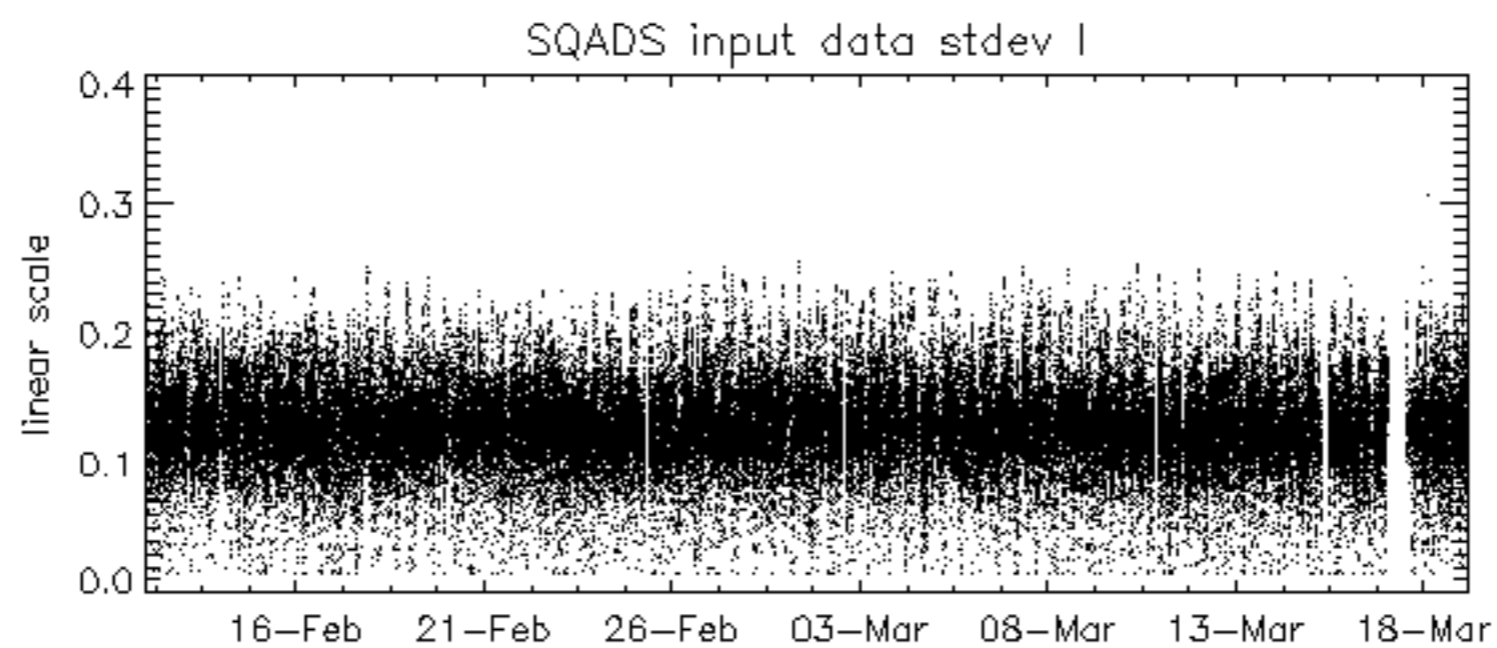
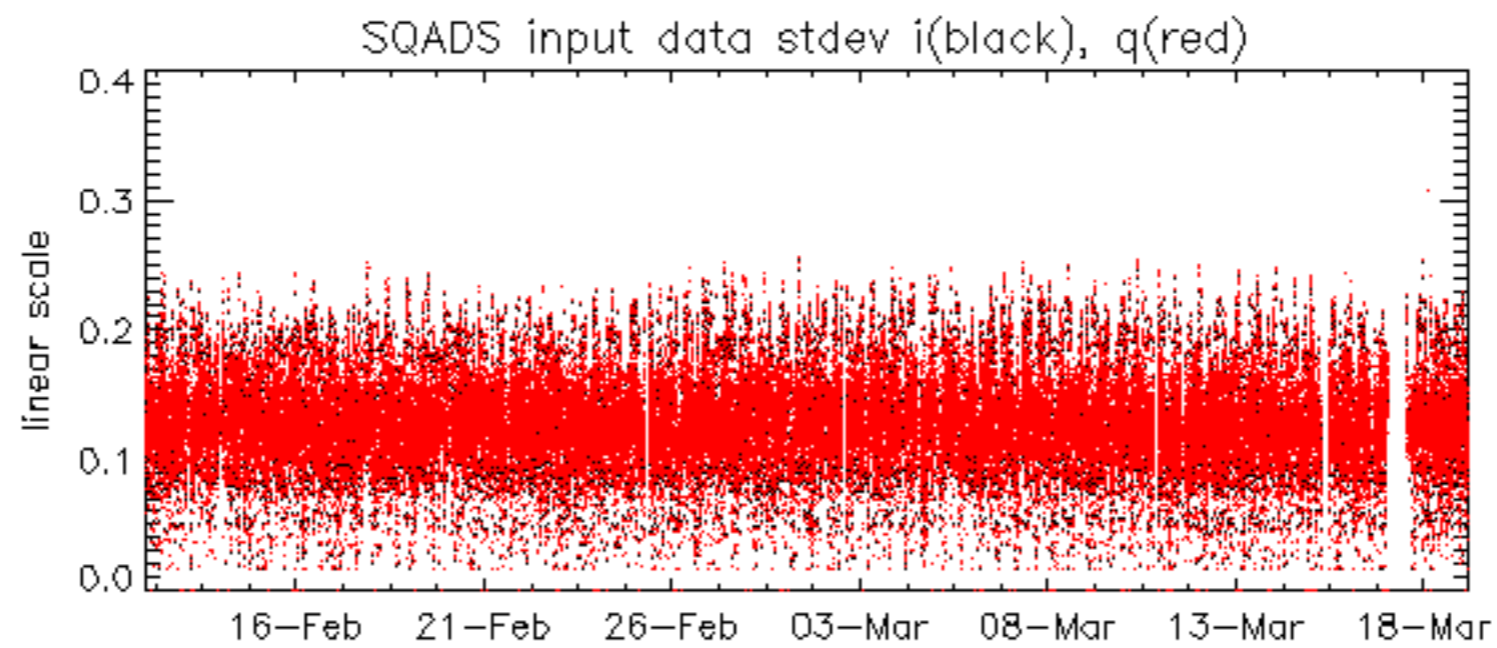


No anomalies observed on available MS products:

No anomalies observed.



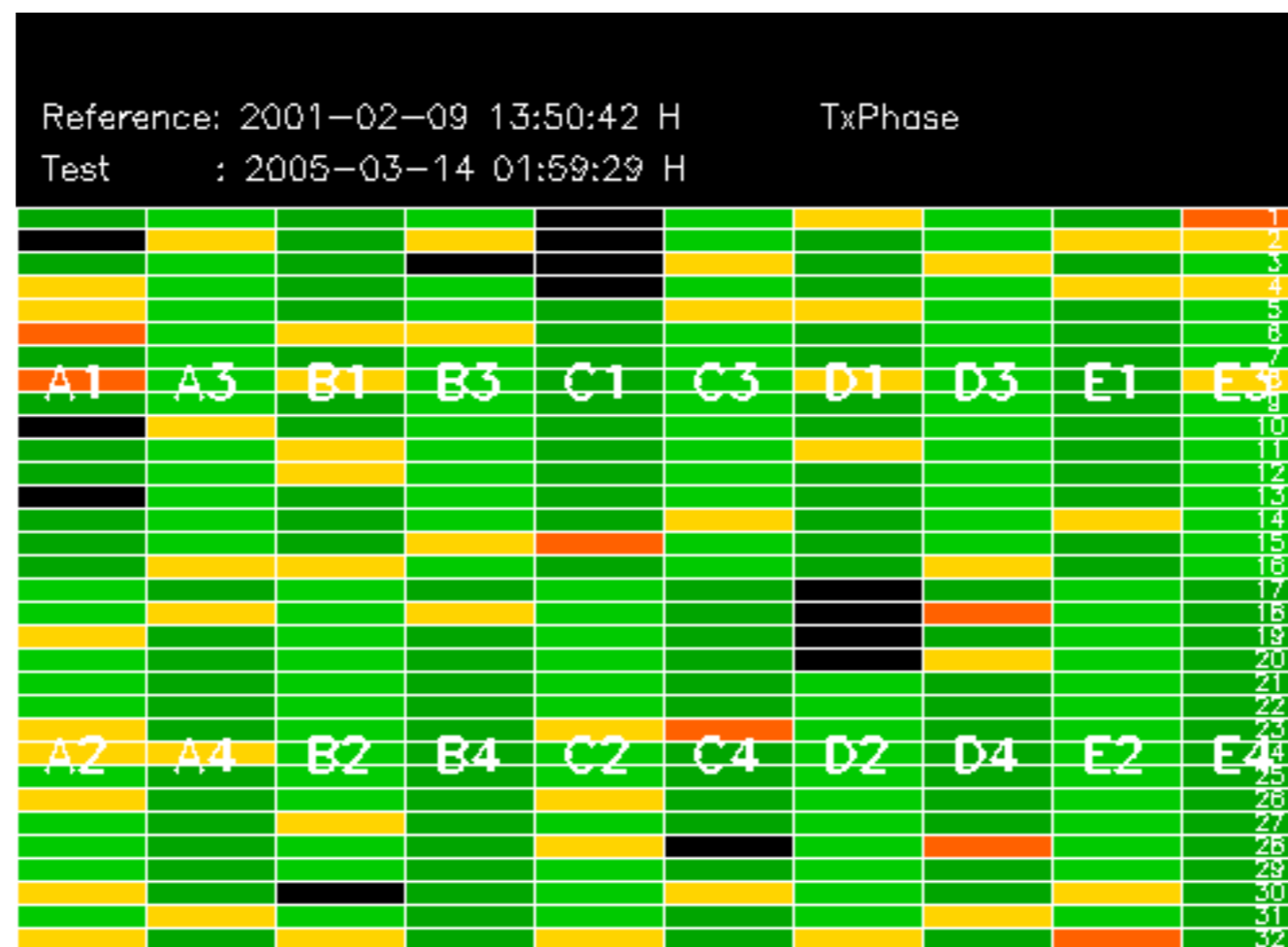


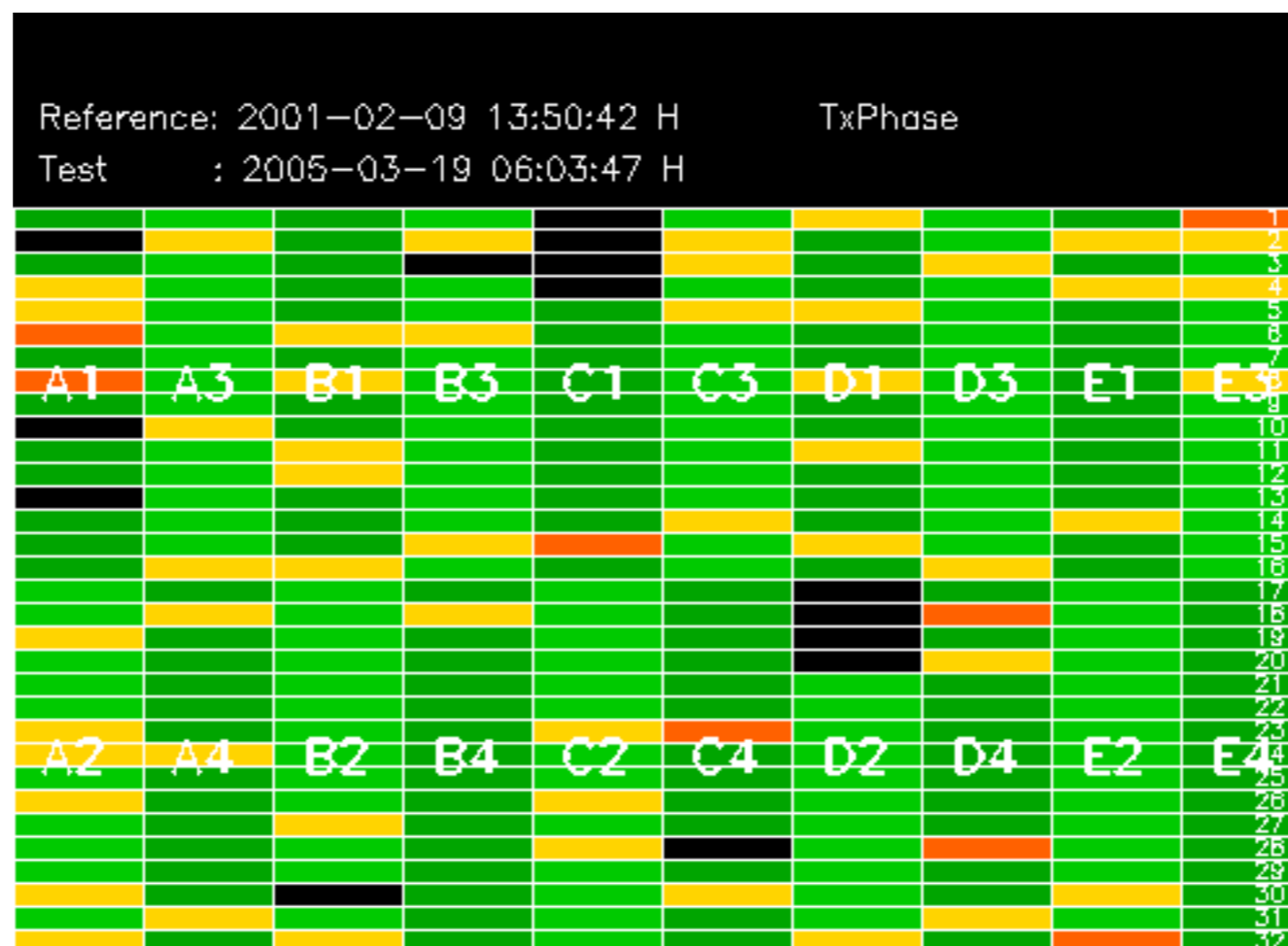


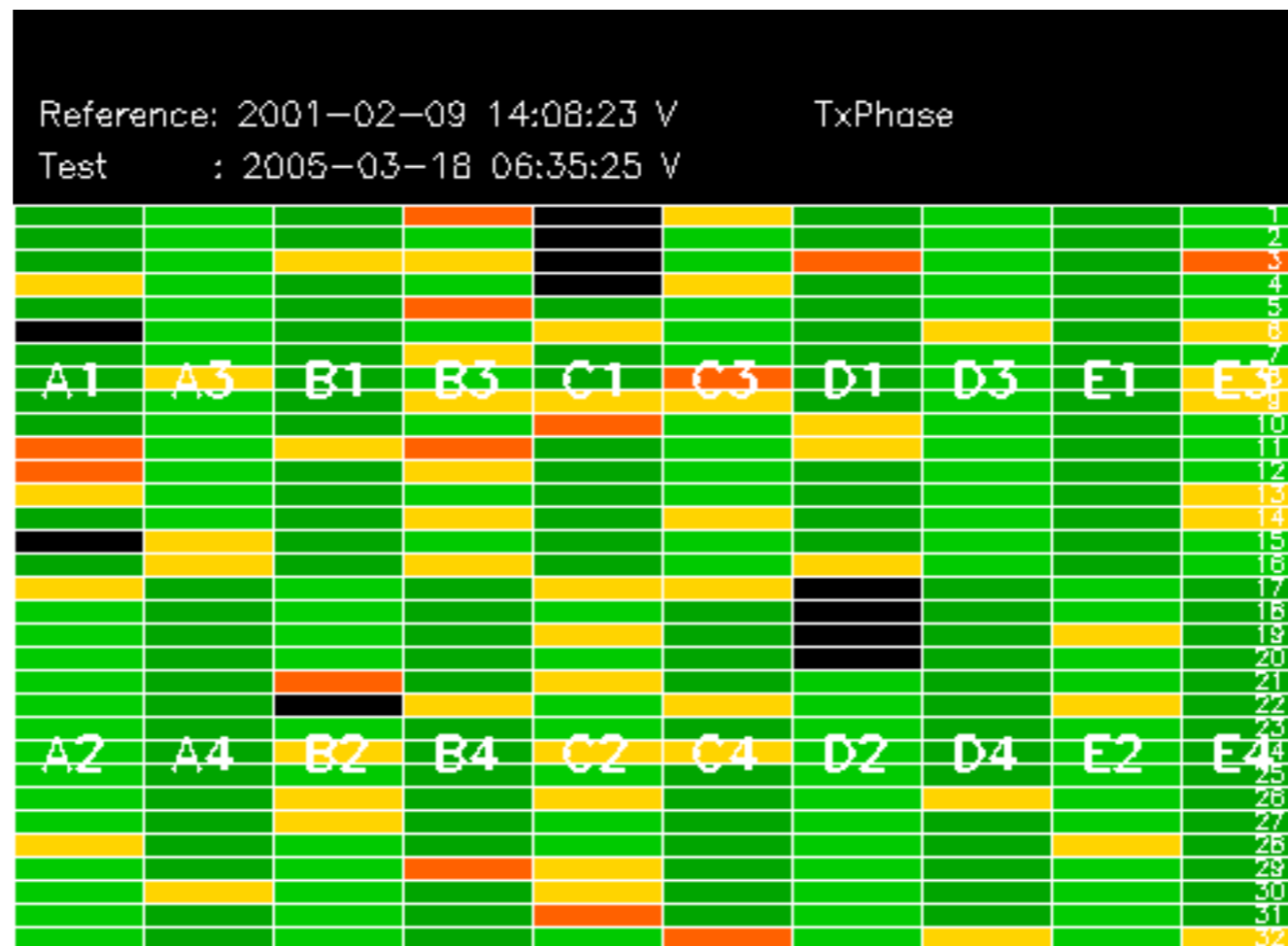
Summary of analysis for the last 3 days 2005031[789]

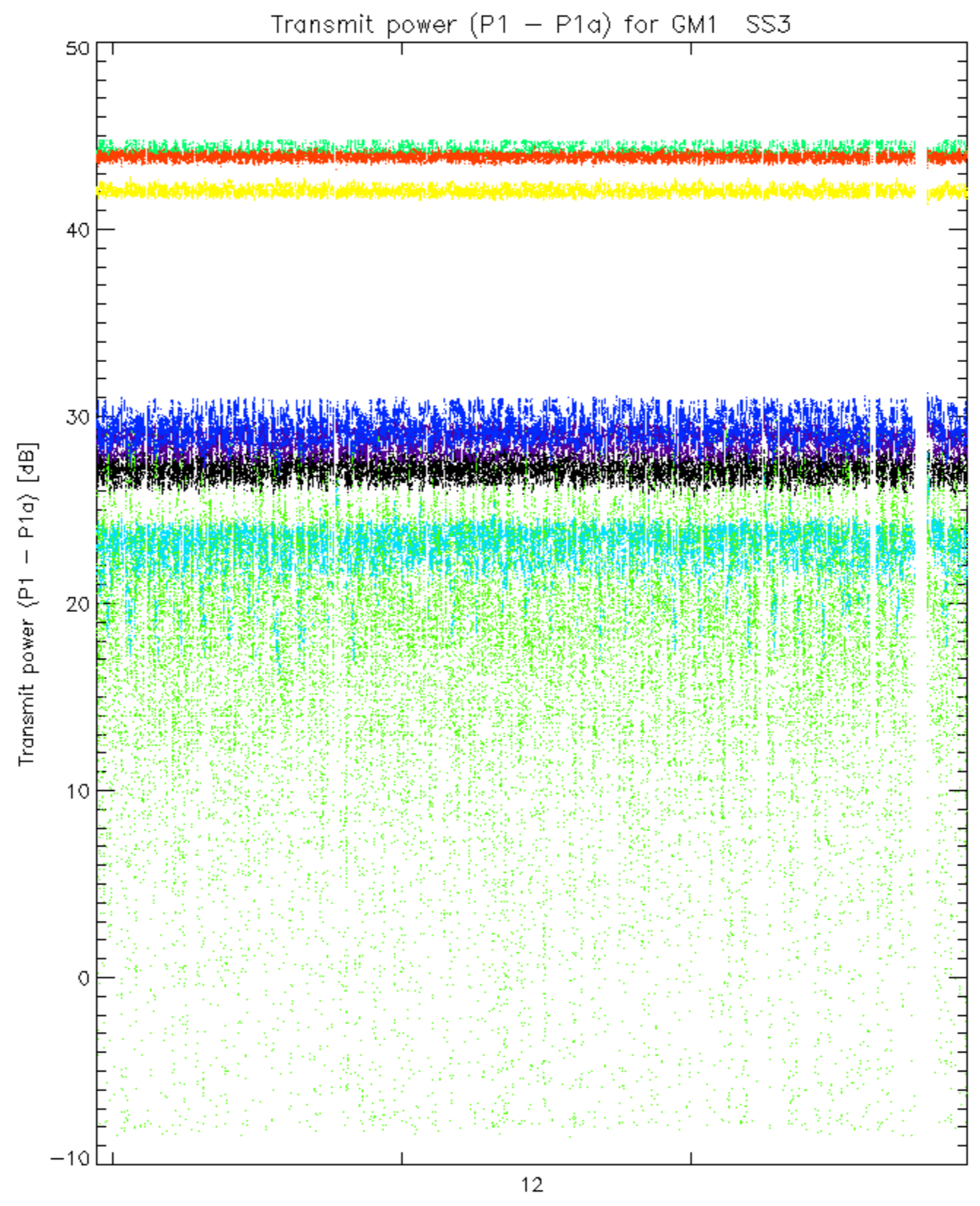
The assumption is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_WVS_1PNPDE20050317_004428_00000002035_00331_15916_7479.N1	1	0
ASA_WVS_1PNPDE20050318_062804_00000002035_00349_15934_7472.N1	1	0

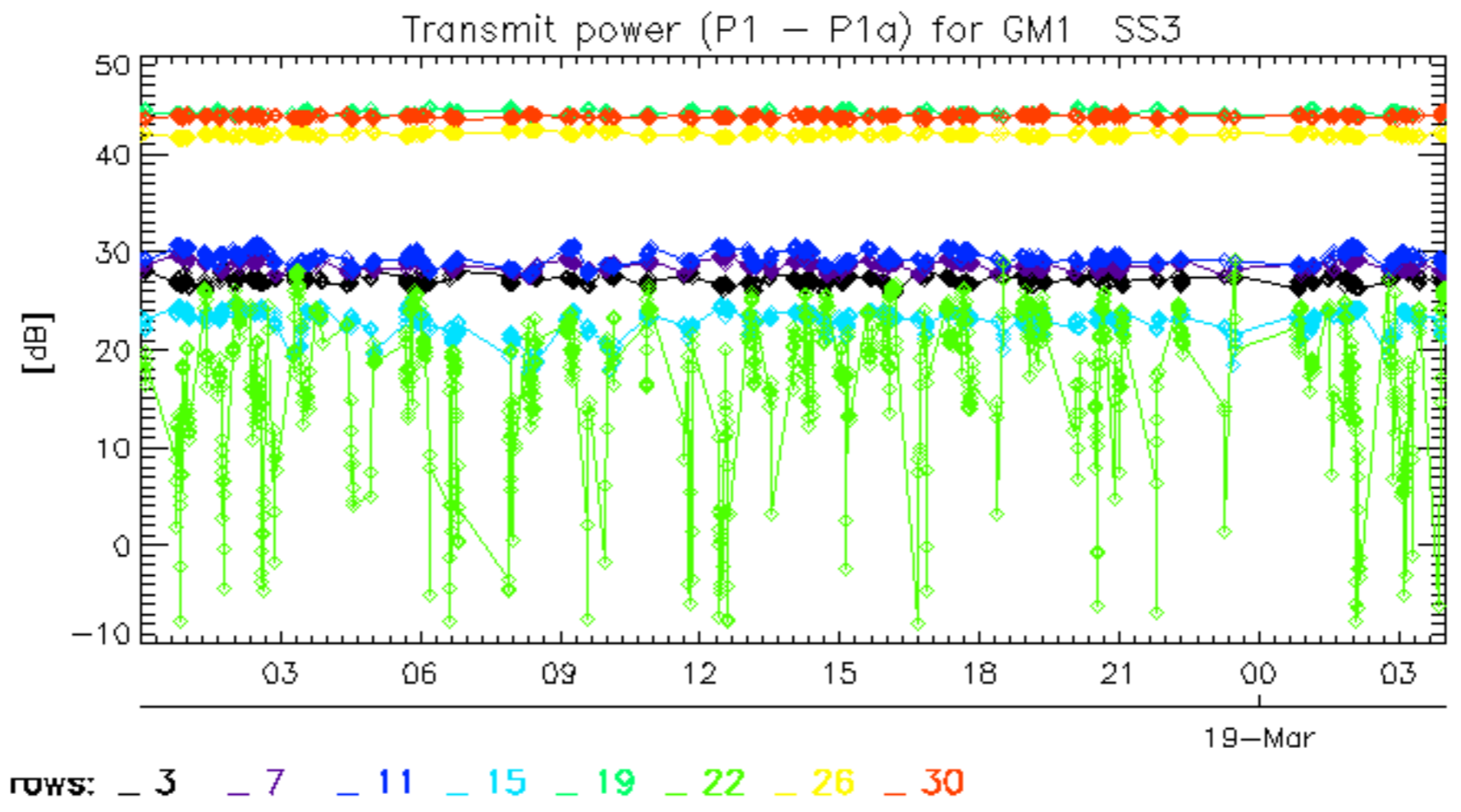


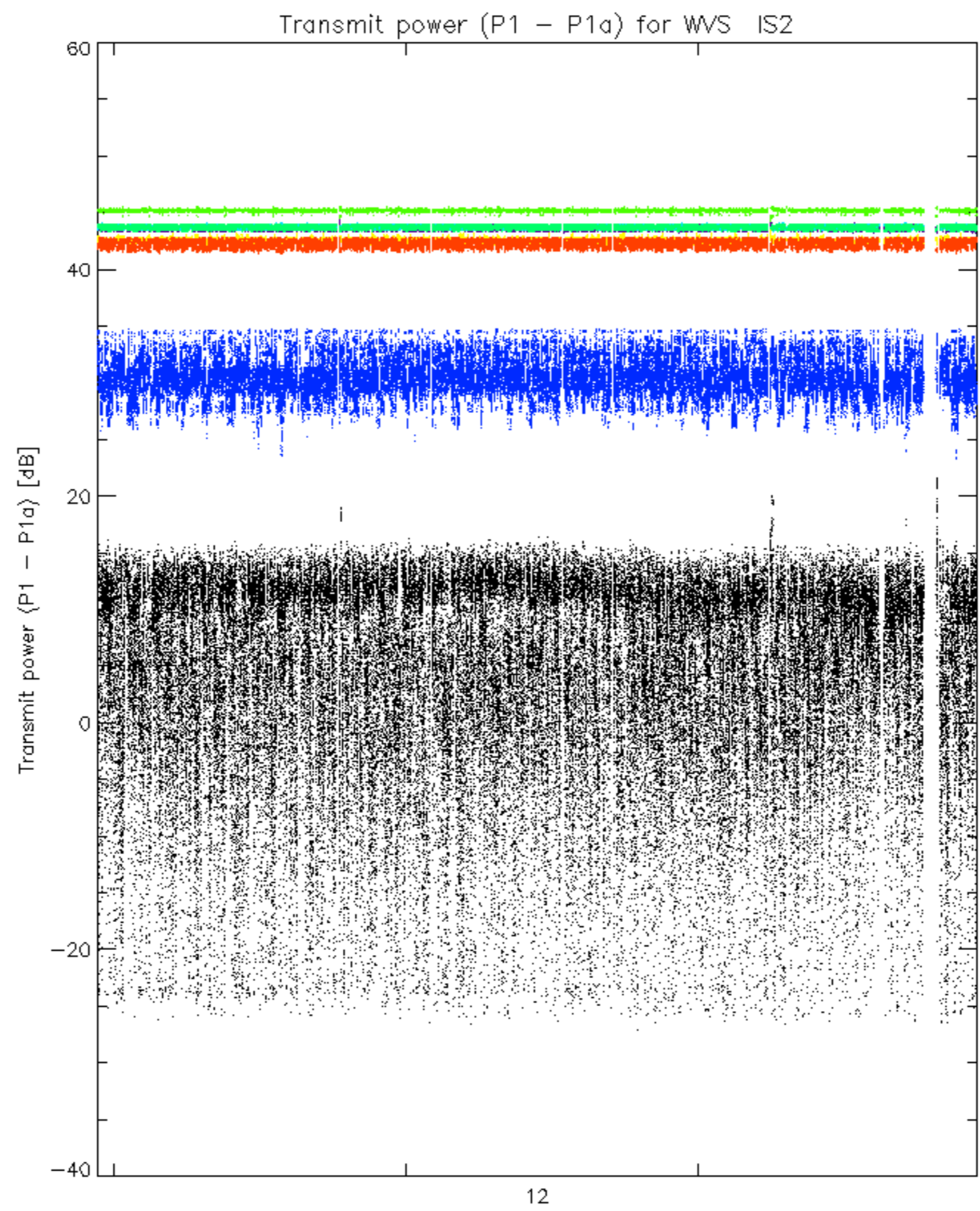




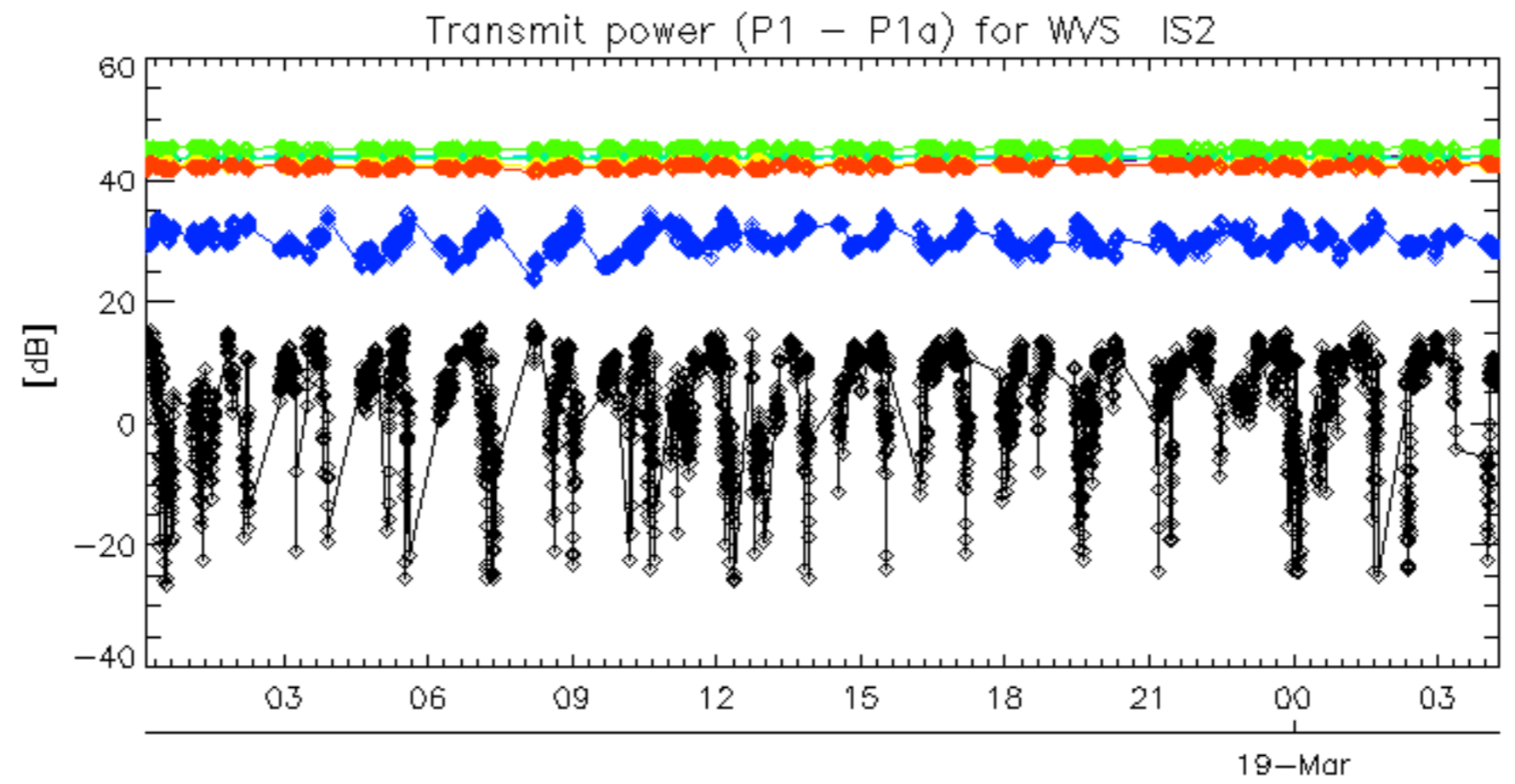


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30





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



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

No unavailabilities during the reported period.