

PRELIMINARY REPORT OF 050315

last update on Tue Mar 15 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 2005-03-14 00:00:00 to 2005-03-15 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	23	34	4	1	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	23	34	4	1	0
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	23	34	4	1	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	23	34	4	1	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	49	54	4	6	5
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	49	54	4	6	5
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	49	54	4	6	5
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	49	54	4	6	5

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	20050314 084153
H	20050314 015929

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	-3.364804	0.007410	0.014153
7	P1	-3.092147	0.007854	-0.022158
11	P1	-4.695600	0.022271	-0.009871
15	P1	-5.657724	0.030989	0.008468
19	P1	-3.678661	0.003863	-0.030726
22	P1	-4.518891	0.012642	0.004499
26	P1	-4.949072	0.015948	0.009600
30	P1	-7.187727	0.018153	-0.031106
3	P1	-15.969687	0.062791	0.044743
7	P1	-15.522625	0.048338	-0.033046
11	P1	-20.960154	0.273797	-0.129423
15	P1	-11.577115	0.024190	0.027649
19	P1	-14.280860	0.024160	-0.088913
22	P1	-15.661014	0.309753	0.131762
26	P1	-17.601379	0.223519	-0.012202
30	P1	-17.961544	0.470616	-0.016756

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.101309	0.083805	0.062492
7	P2	-22.291613	0.096795	0.070704
11	P2	-14.452253	0.104520	0.204812
15	P2	-7.046536	0.092683	0.027700
19	P2	-9.640181	0.093051	0.030354
22	P2	-16.929340	0.093623	0.056899
26	P2	-16.448624	0.092349	0.015983
30	P2	-18.871443	0.082199	0.054358

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.166526	0.005215	0.000344
7	P3	-8.166526	0.005215	0.000344
11	P3	-8.166526	0.005215	0.000344
15	P3	-8.166526	0.005215	0.000344
19	P3	-8.166526	0.005215	0.000344
22	P3	-8.166526	0.005215	0.000344
26	P3	-8.166526	0.005215	0.000344
30	P3	-8.166526	0.005215	0.000344

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	-2.730660	0.011054	0.017436
7	P1	-3.022269	0.033653	-0.056038
11	P1	-3.990945	0.014429	-0.020781
15	P1	-3.569380	0.016060	-0.022360
19	P1	-3.591376	0.013490	-0.020129
22	P1	-5.744511	0.036519	-0.013977
26	P1	-7.292028	0.025127	-0.006107
30	P1	-6.229055	0.041230	-0.005146
3	P1	-10.745677	0.052793	0.005997
7	P1	-10.317794	0.144788	-0.146864
11	P1	-12.566731	0.092760	0.032472
15	P1	-11.763028	0.066328	-0.008249
19	P1	-15.568849	0.043831	0.012015
22	P1	-24.444805	1.156205	-0.317492
26	P1	-15.491536	0.159150	0.015779
30	P1	-20.208445	1.112892	-0.020914

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.812588	0.030666	0.064009
7	P2	-22.378777	0.035938	0.068858
11	P2	-10.212209	0.046457	0.168121
15	P2	-4.980212	0.020146	-0.004546
19	P2	-6.831625	0.029175	-0.001204
22	P2	-7.108878	0.028594	0.050500
26	P2	-23.853395	0.025619	0.012620
30	P2	-21.905691	0.030740	0.037673

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.999631	0.002668	0.001103
7	P3	-7.999571	0.002681	0.001251
11	P3	-7.999578	0.002691	0.001195
15	P3	-7.999689	0.002682	0.001430
19	P3	-7.999619	0.002690	0.001057
22	P3	-7.999572	0.002673	0.001266
26	P3	-7.999582	0.002679	0.001203
30	P3	-7.999619	0.002692	0.001849

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	0.000461272
	stdev	2.21769e-07
MEAN Q	mean	0.000503998
	stdev	2.32521e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.128628
	stdev	0.00101669
STDEV Q	mean	0.128873
	stdev	0.00102777



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2005031[345]

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
----------	----------	-------------------



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

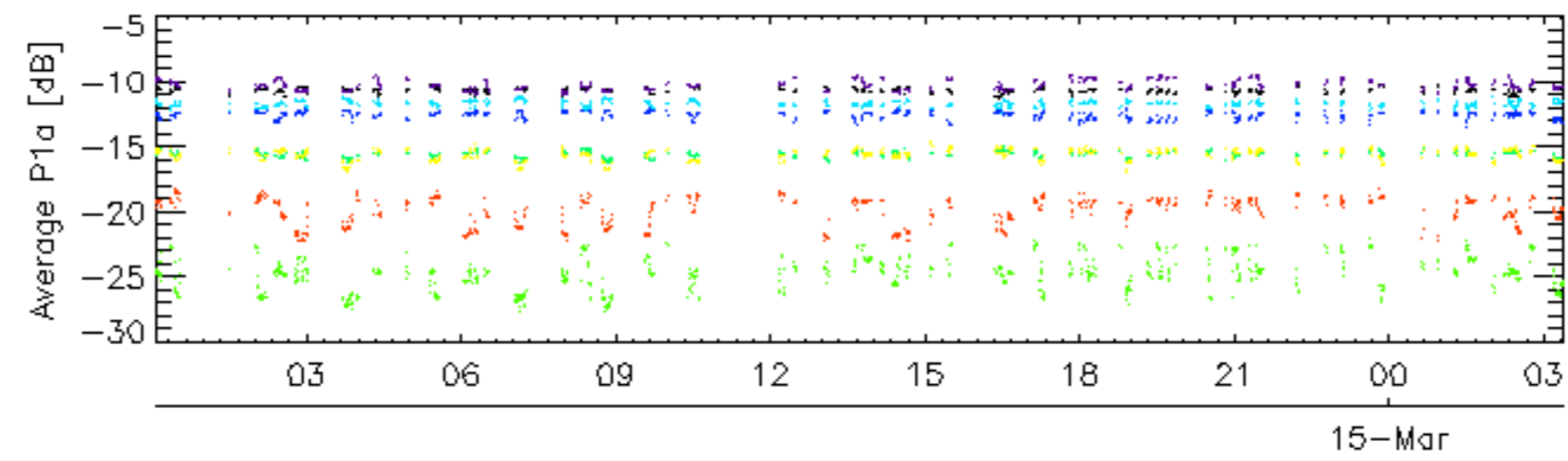
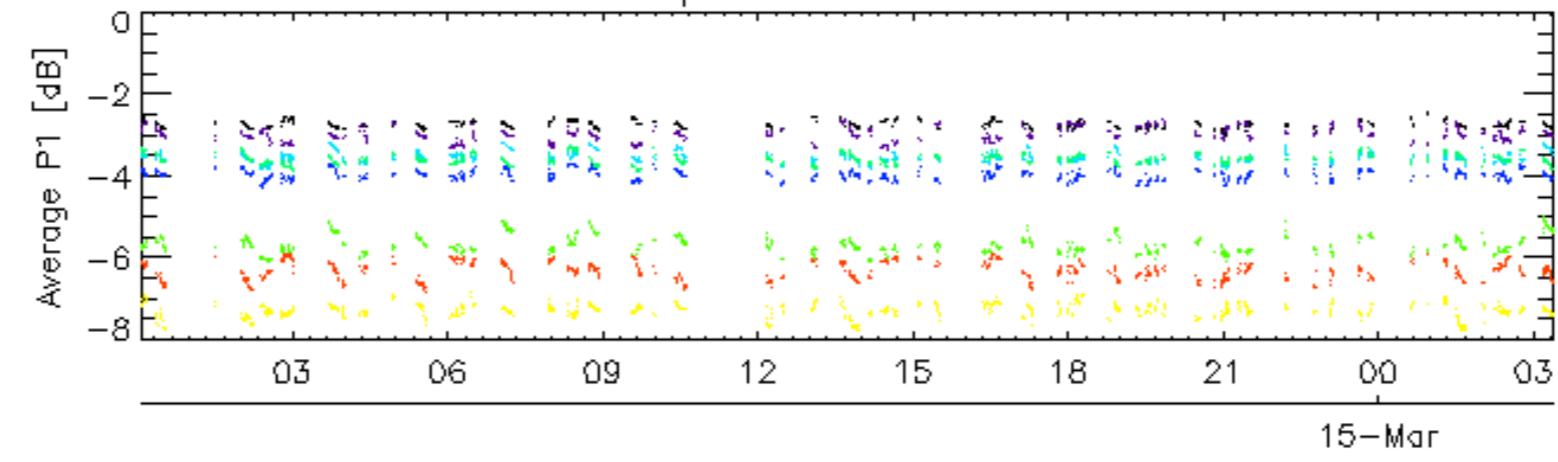
Ascending

Descending

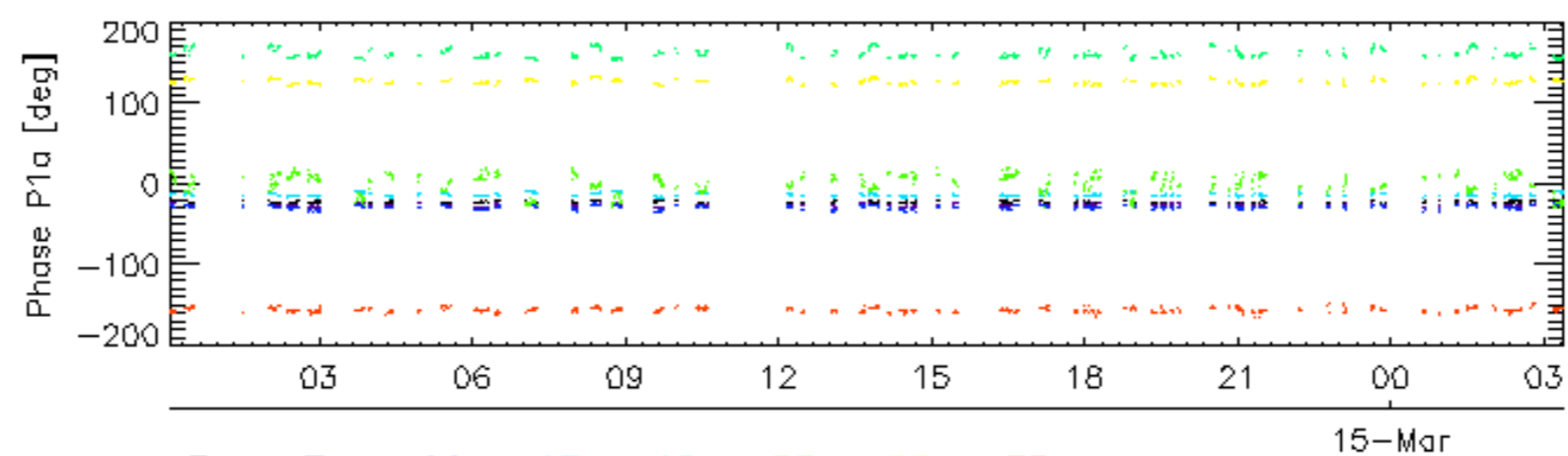
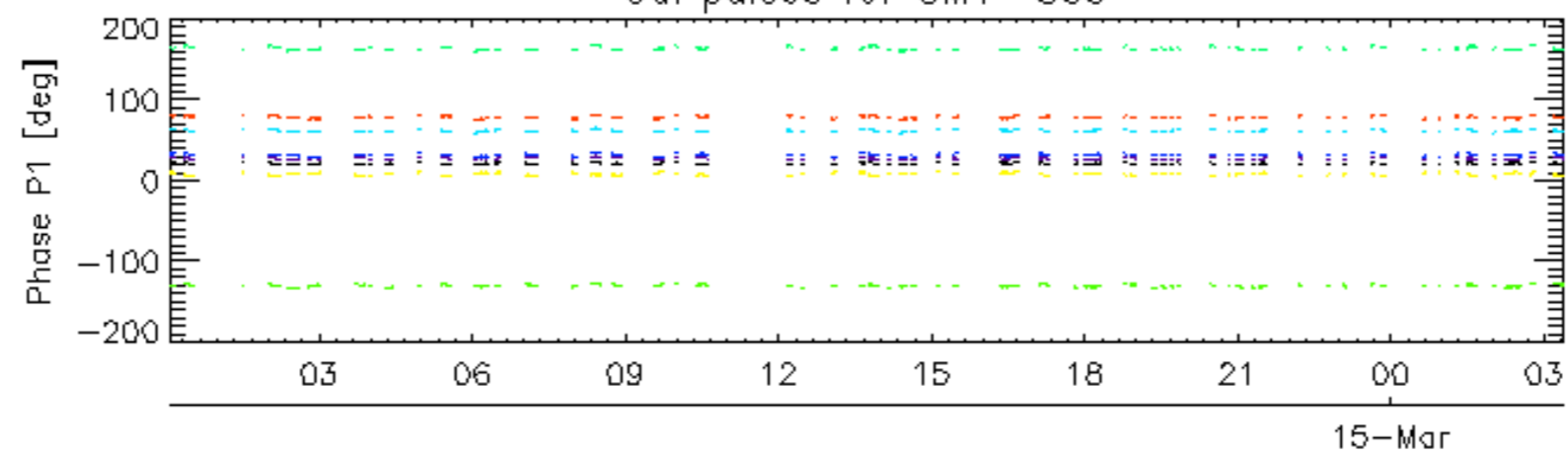
7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

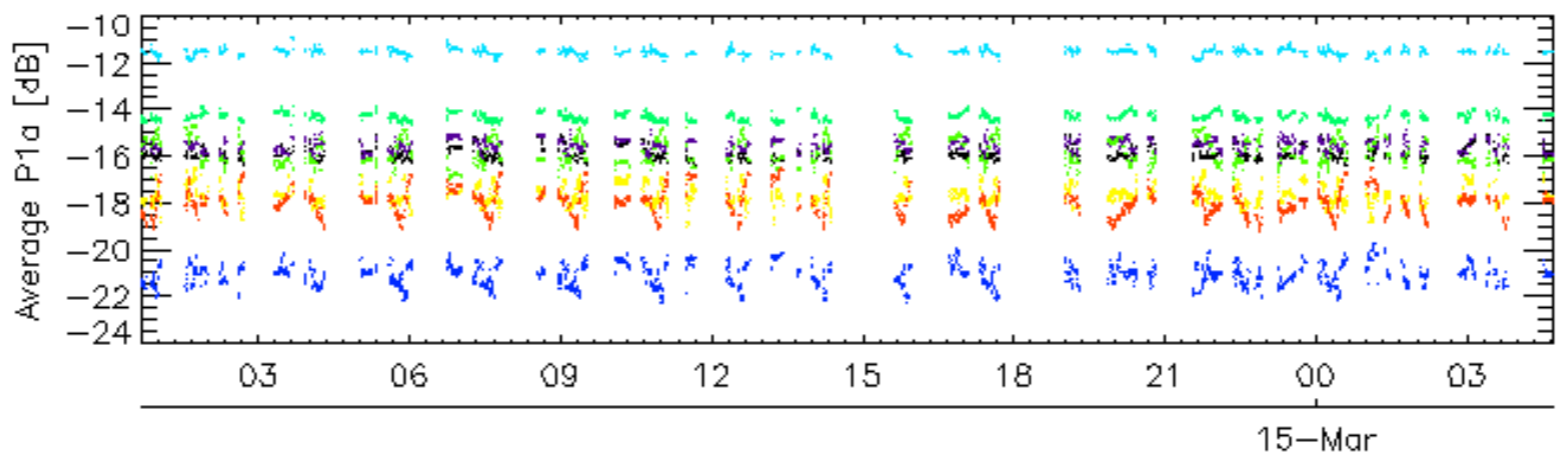
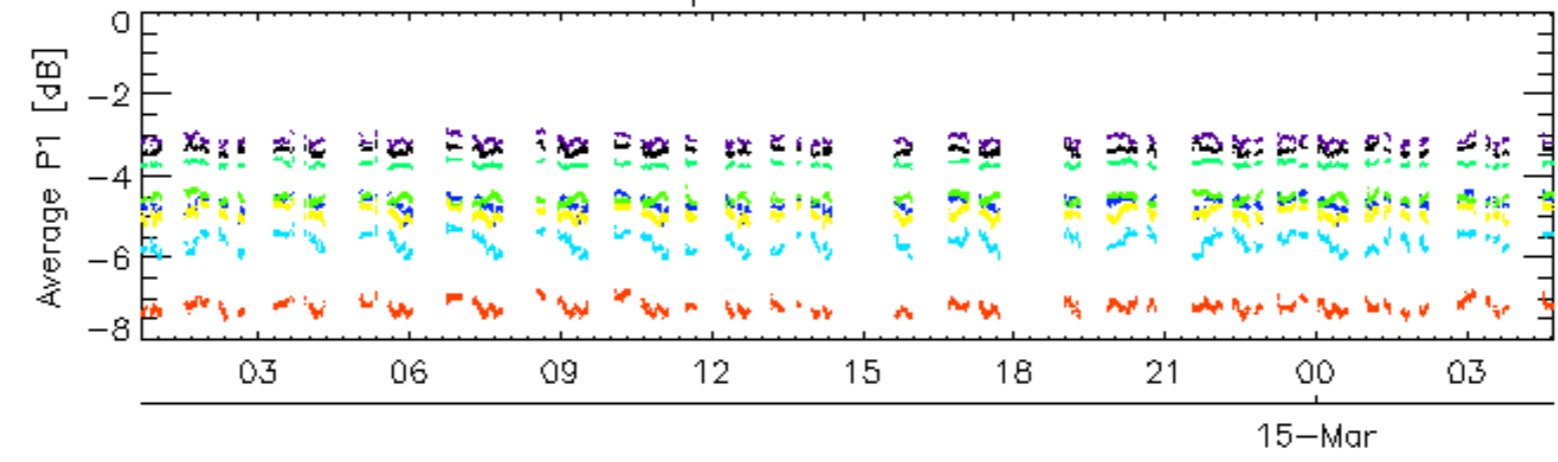


Cal pulses for GM1 SS3

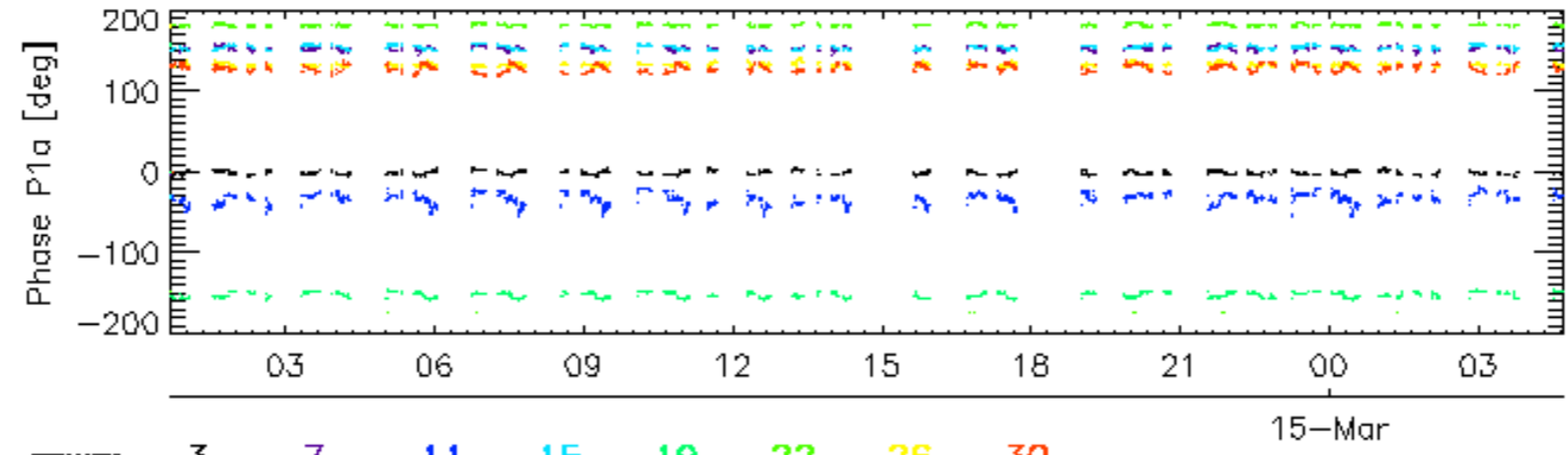
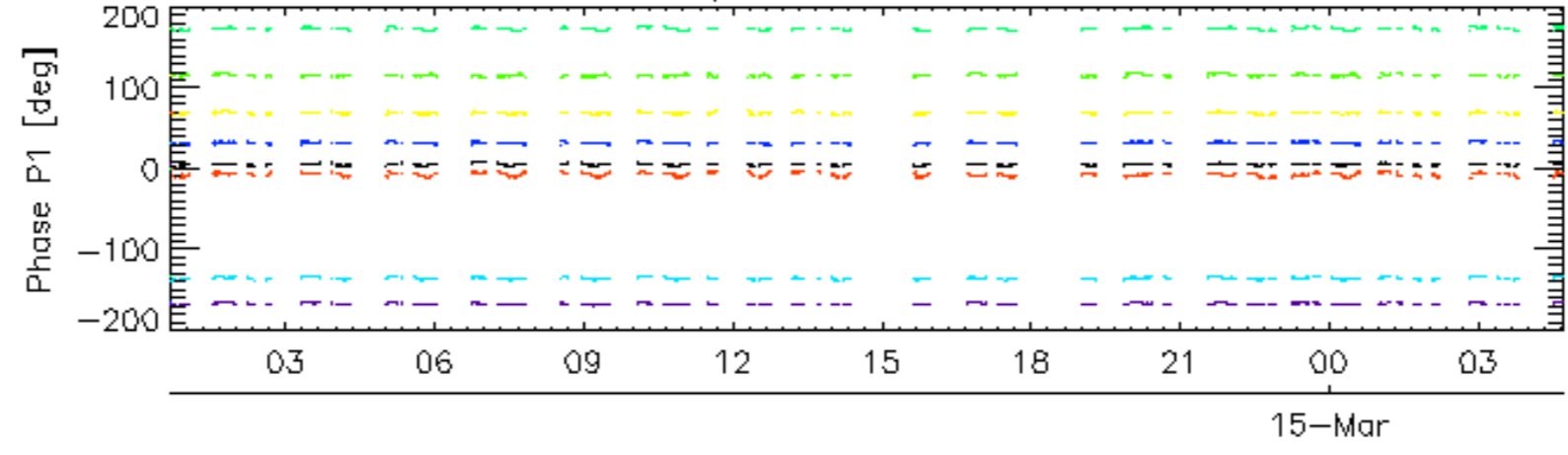


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

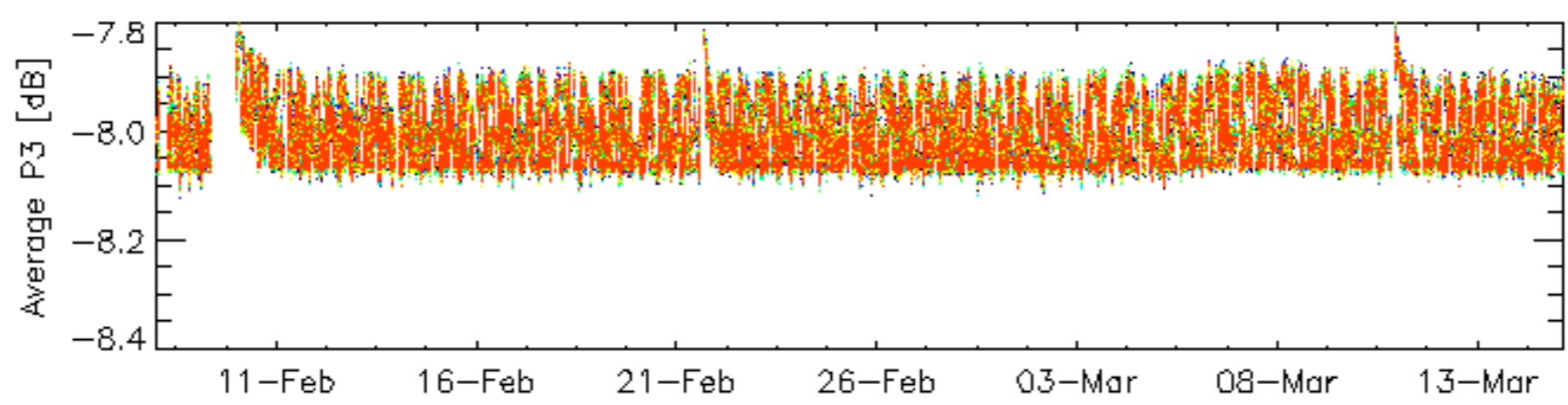
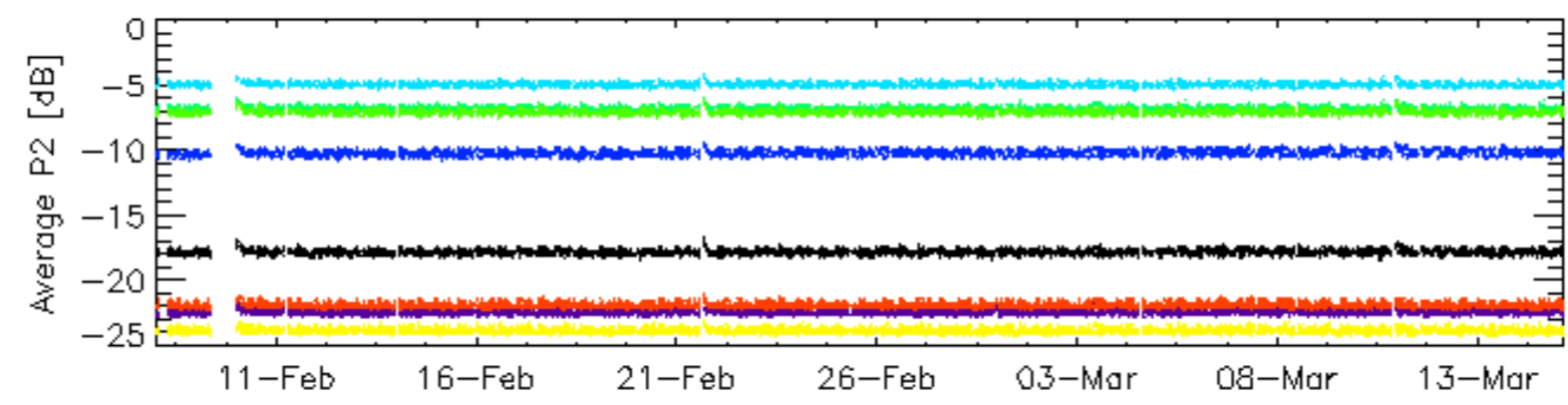
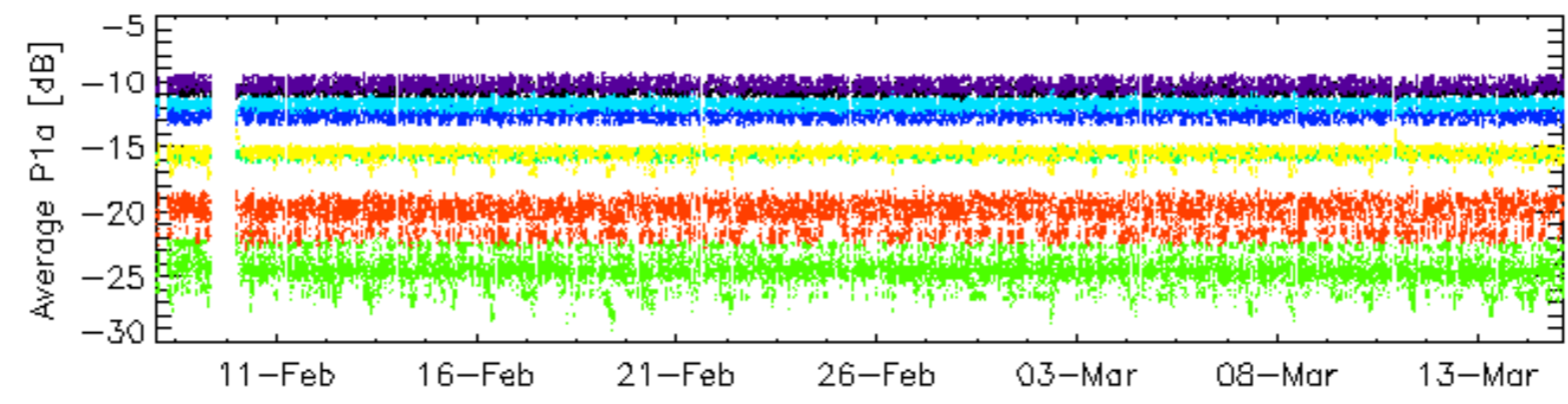
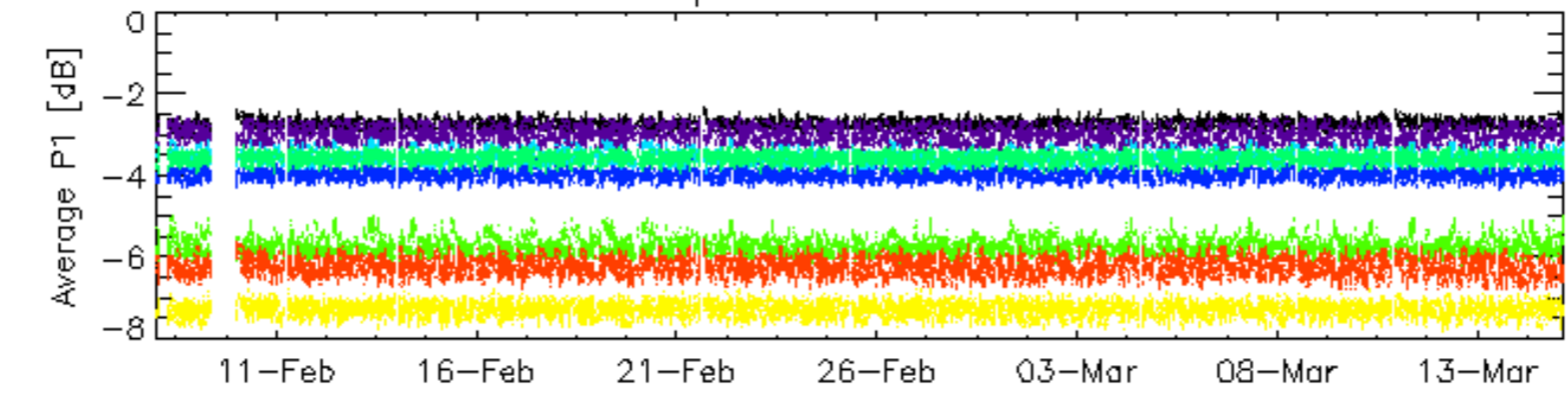


Cal pulses for WVS IS2



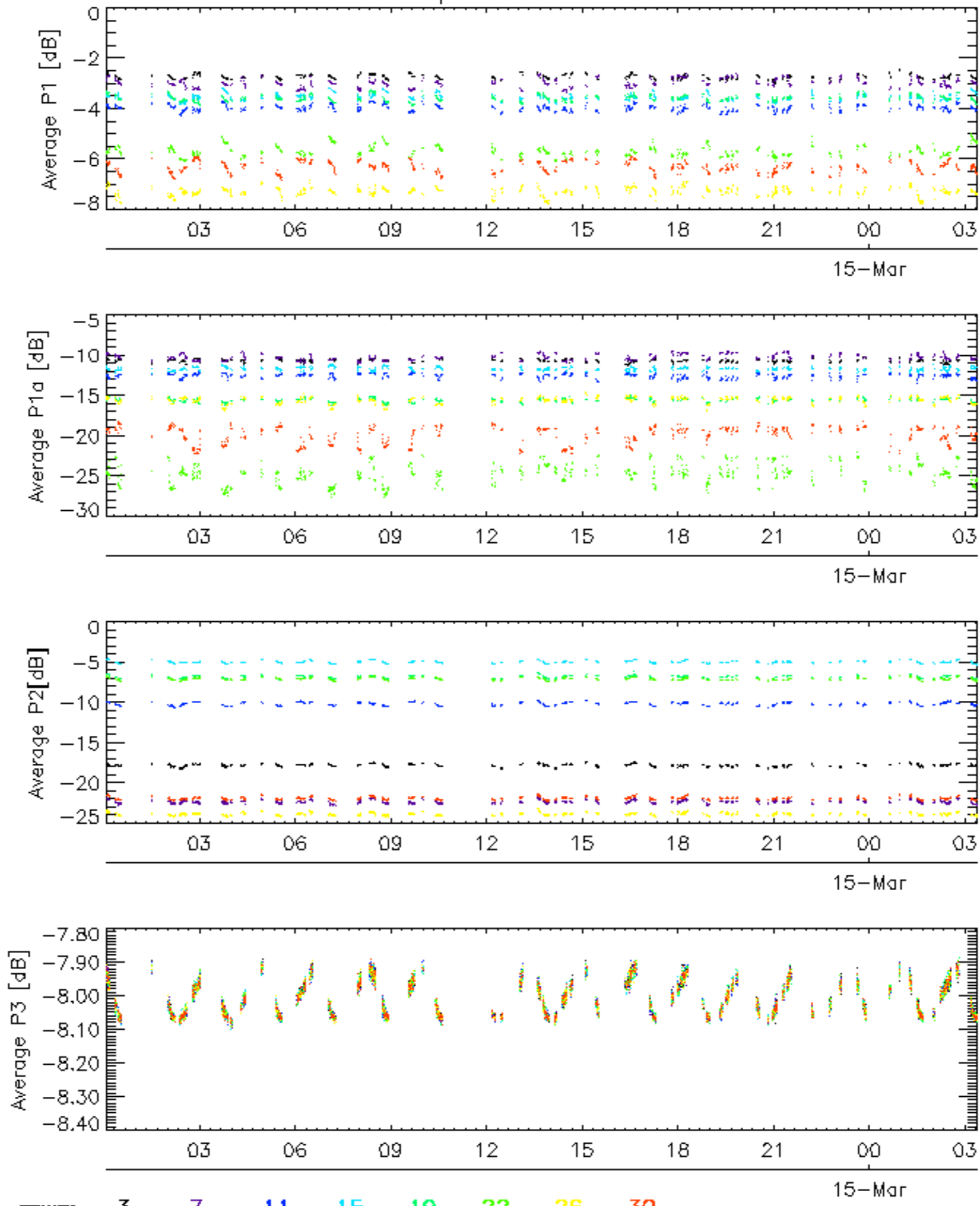
rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for GM1 SS3

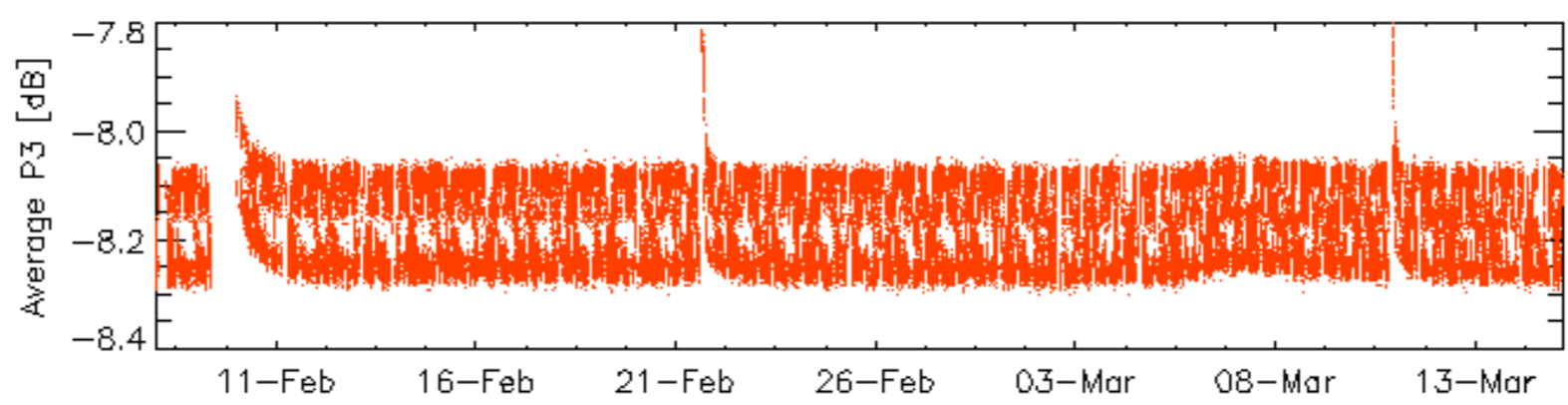
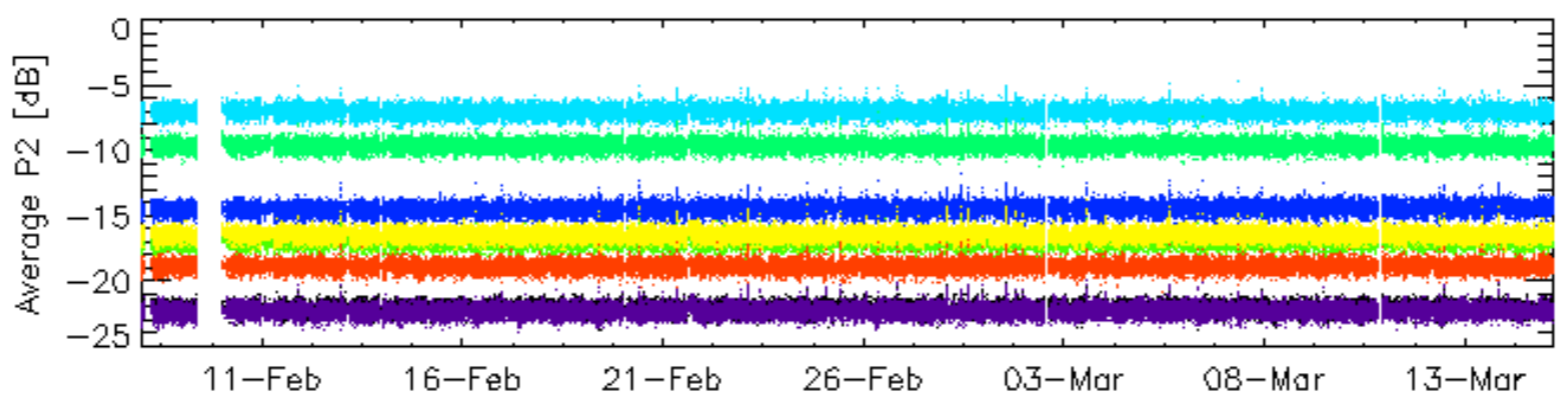
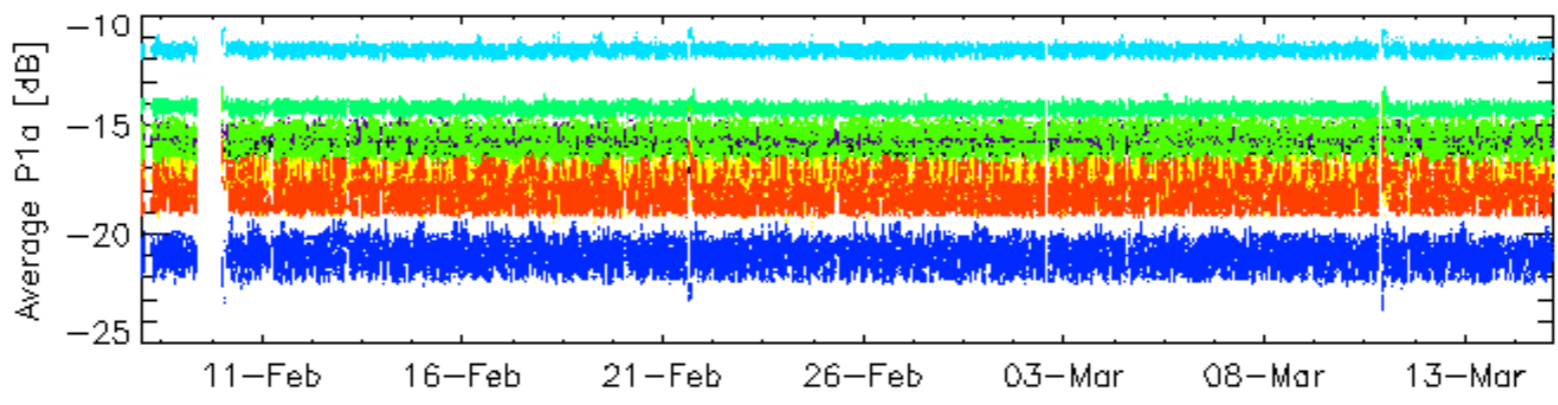
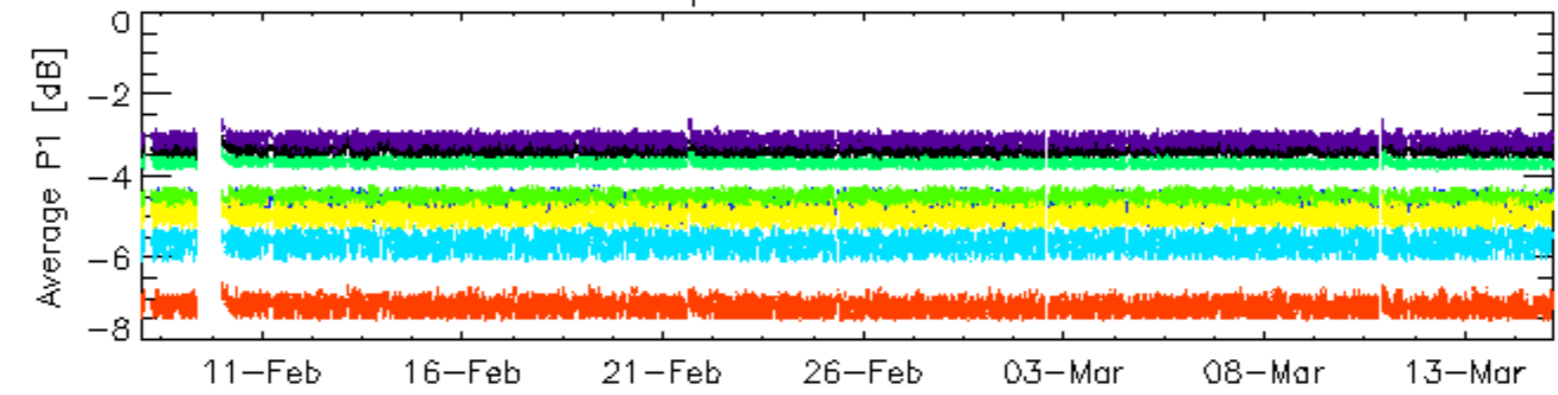


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

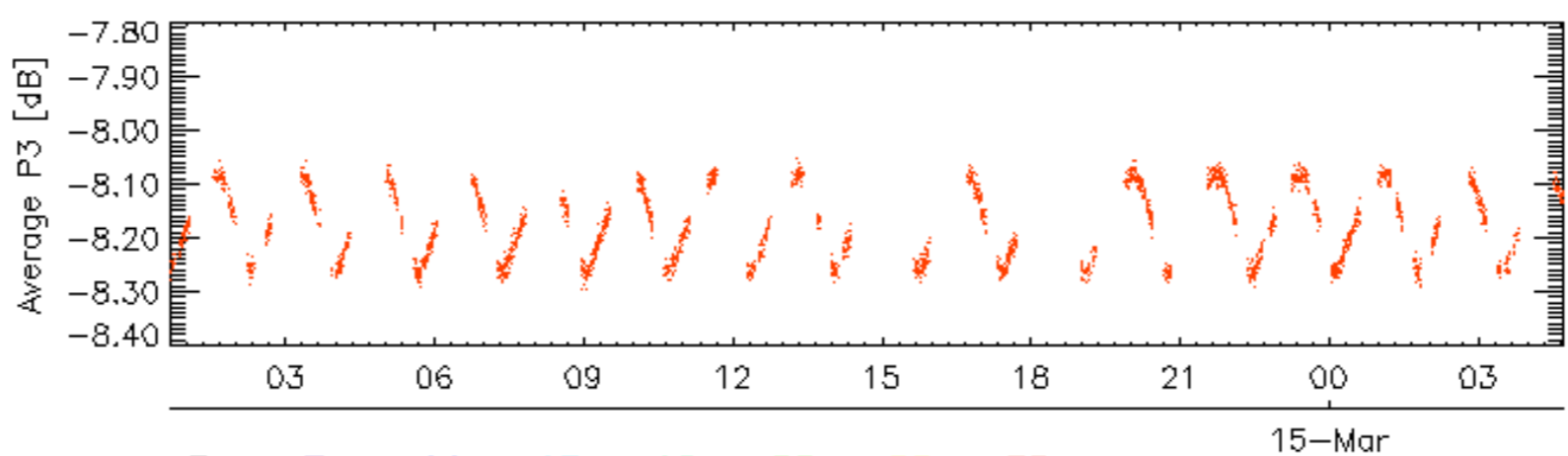
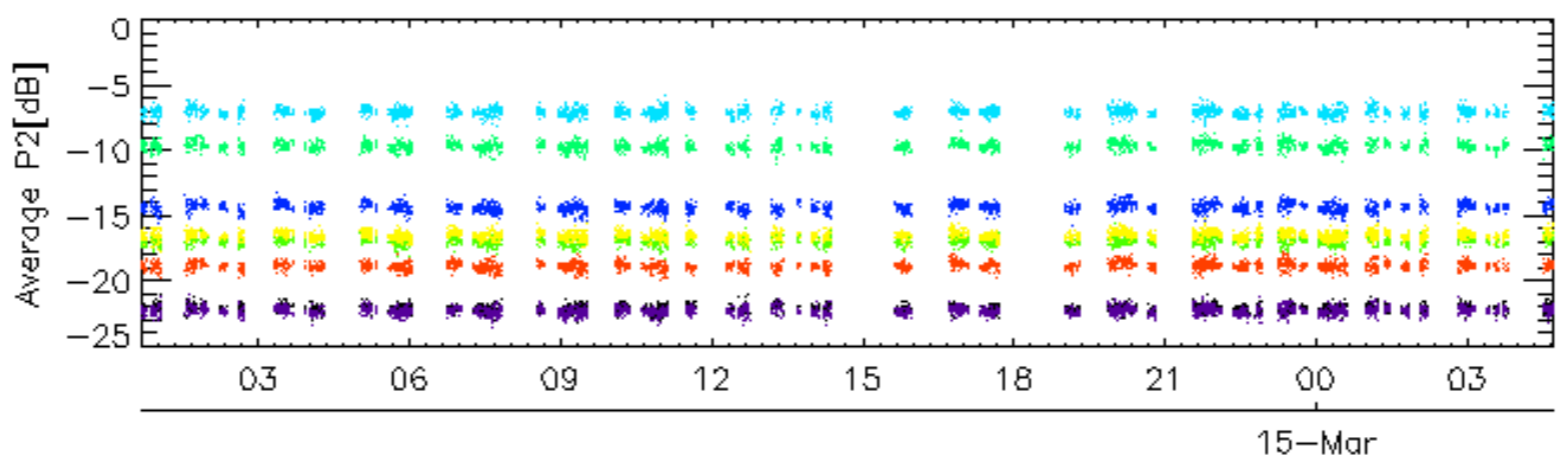
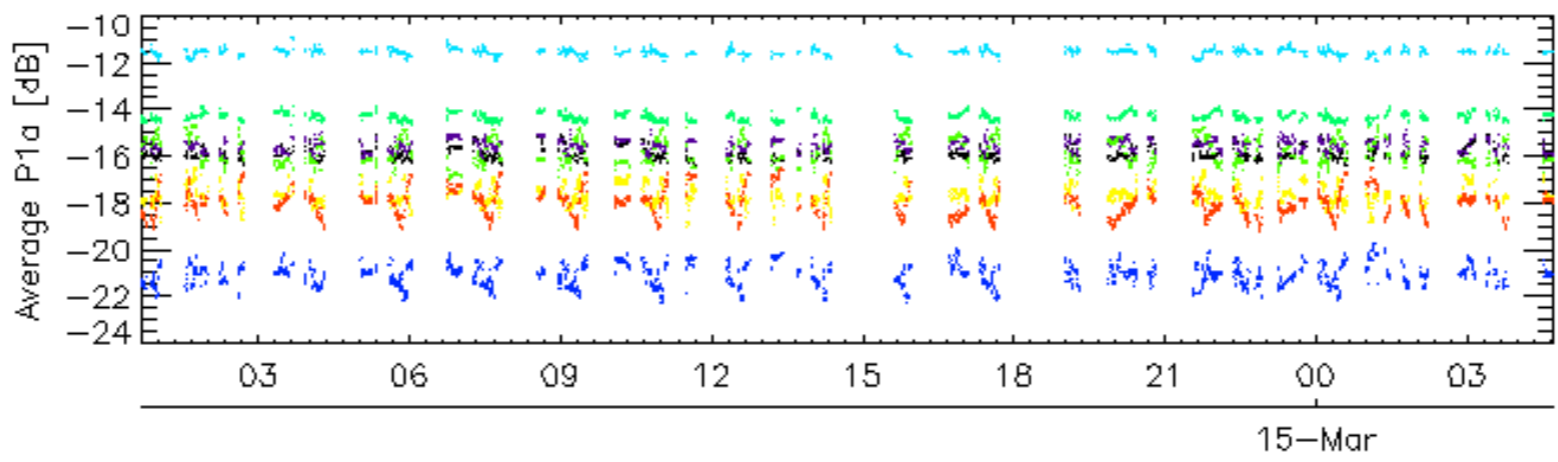
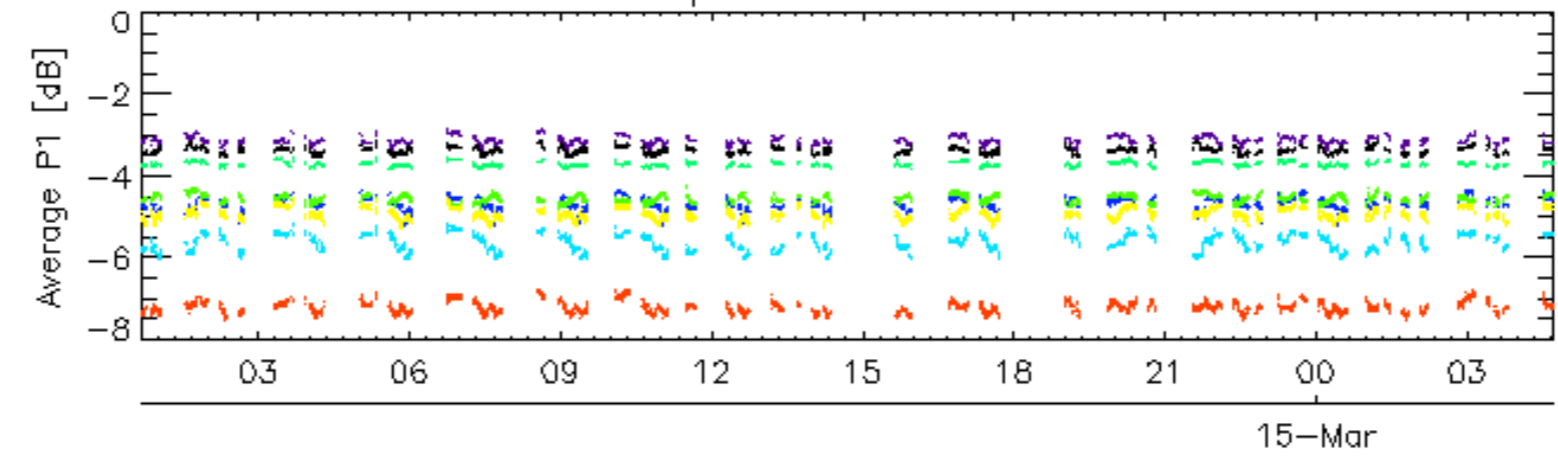


Cal pulses for WVS IS2



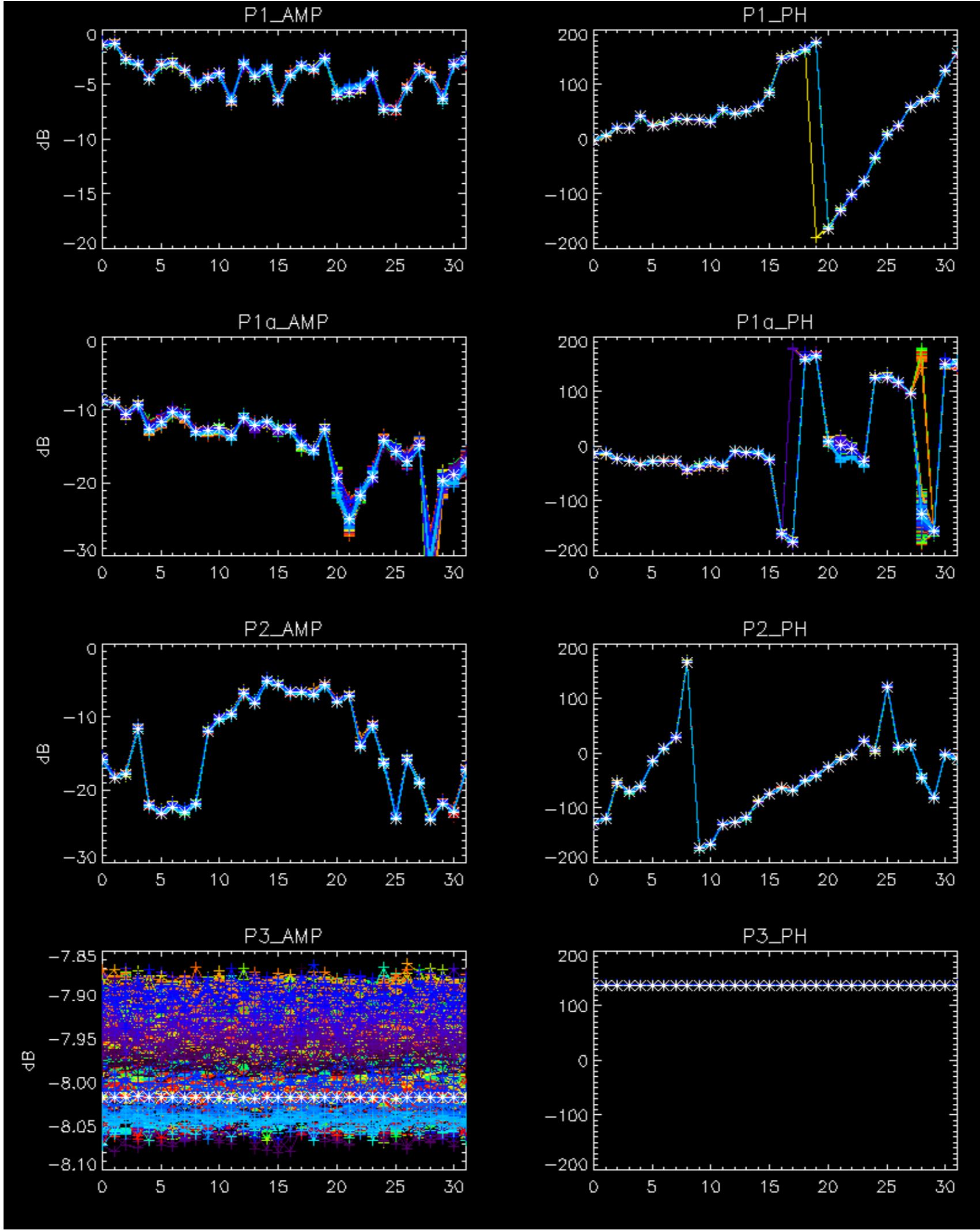
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

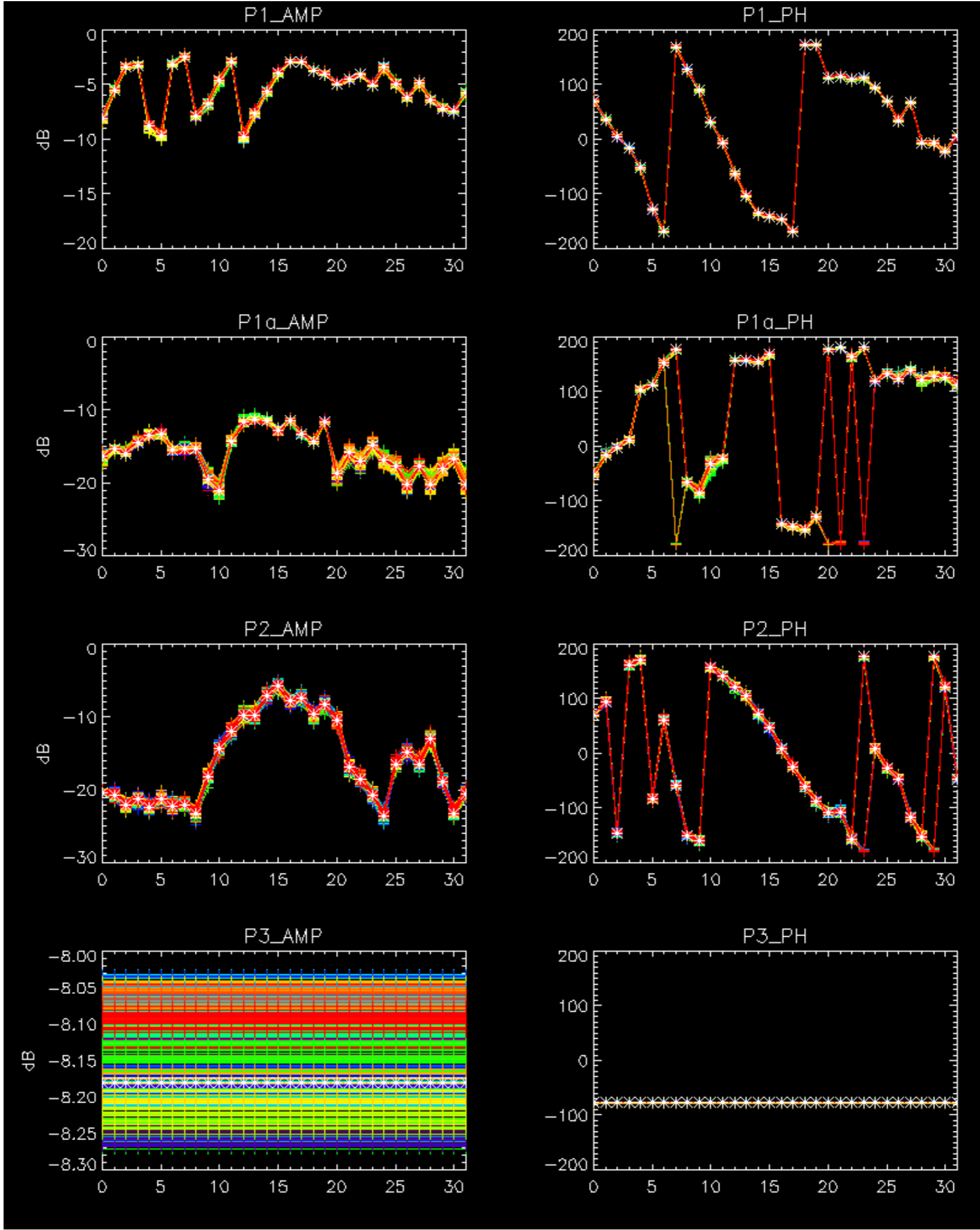
Cal pulses for WVS IS2



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

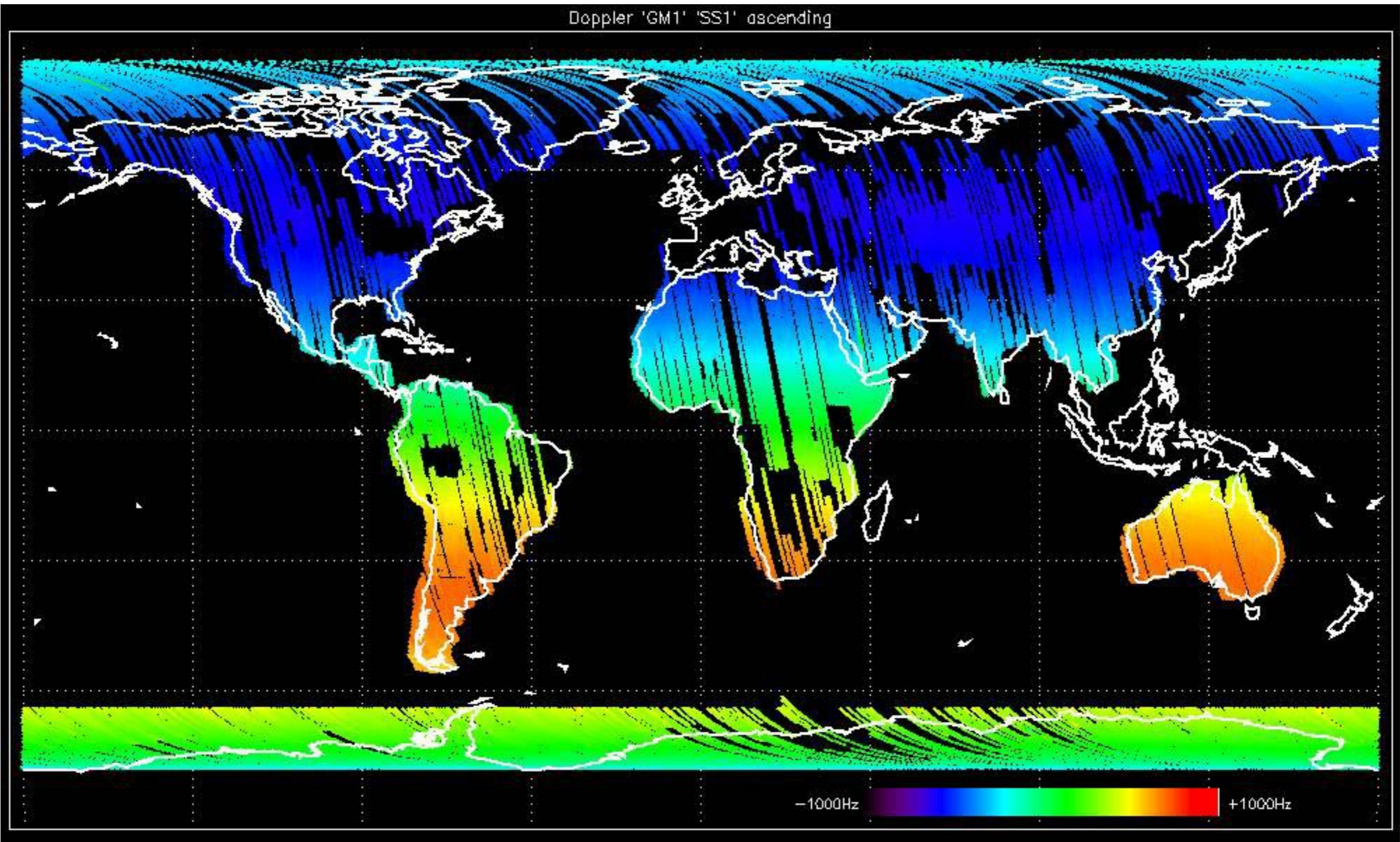
No anomalies observed.



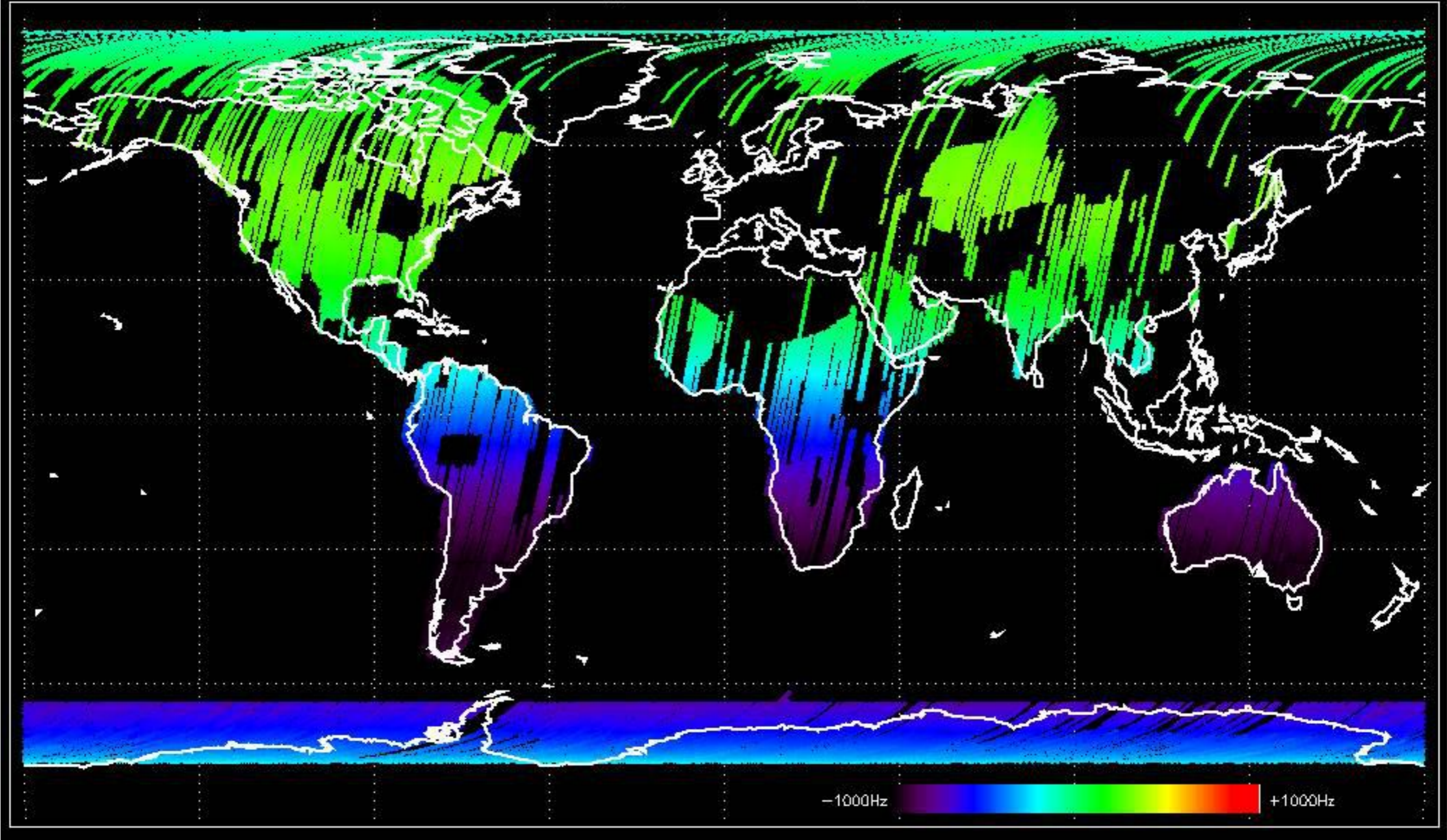


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

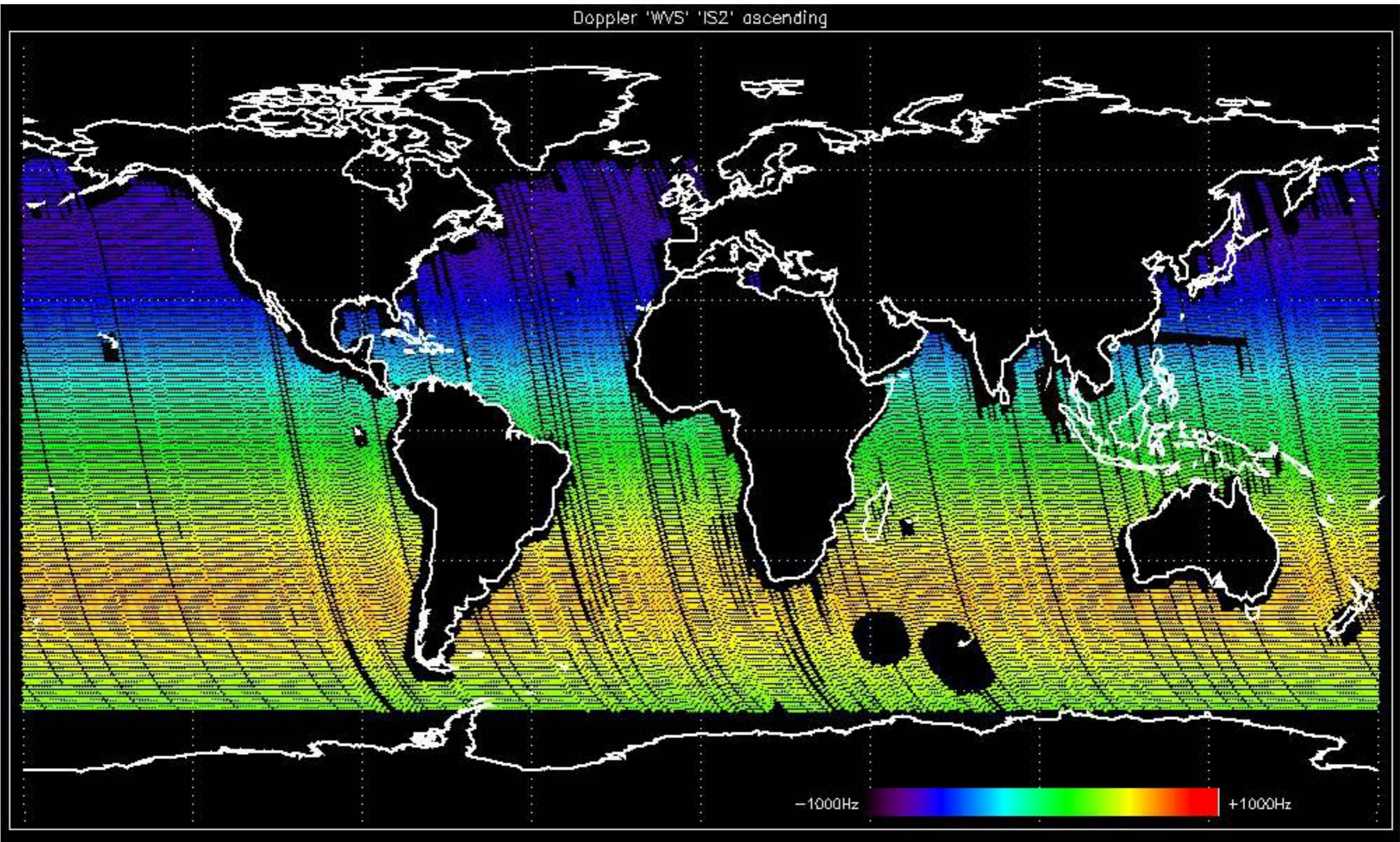
Doppler 'GM1' 'SS1' ascending



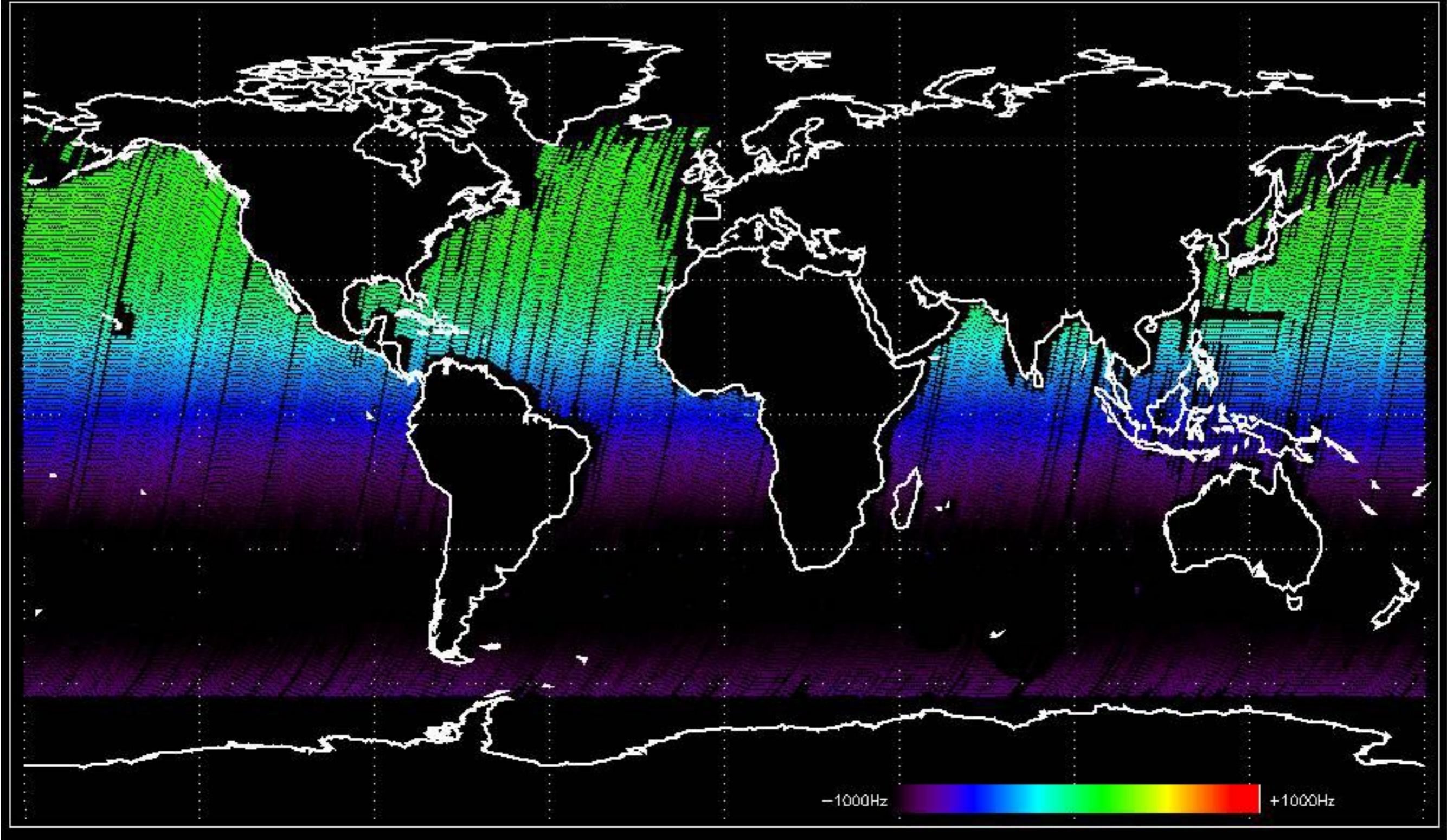
Doppler 'GM1' 'SS1' descending



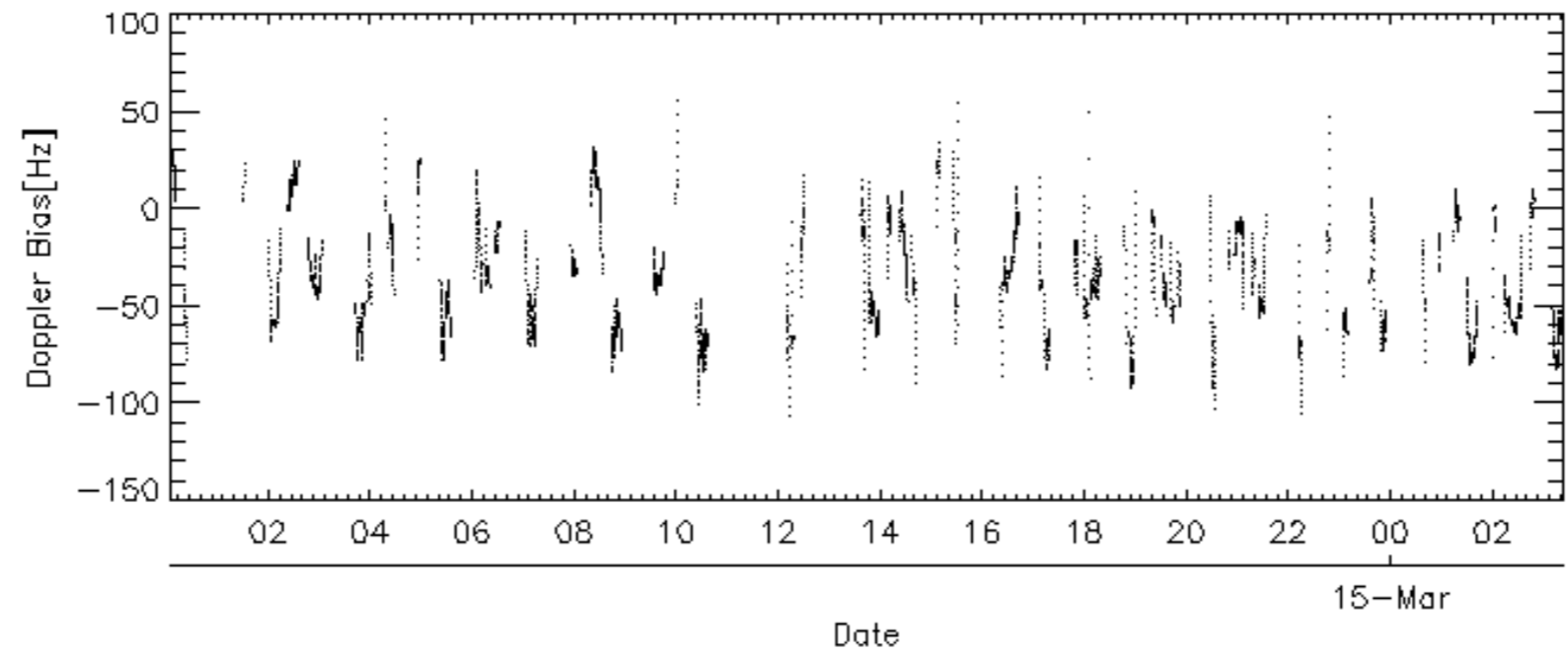
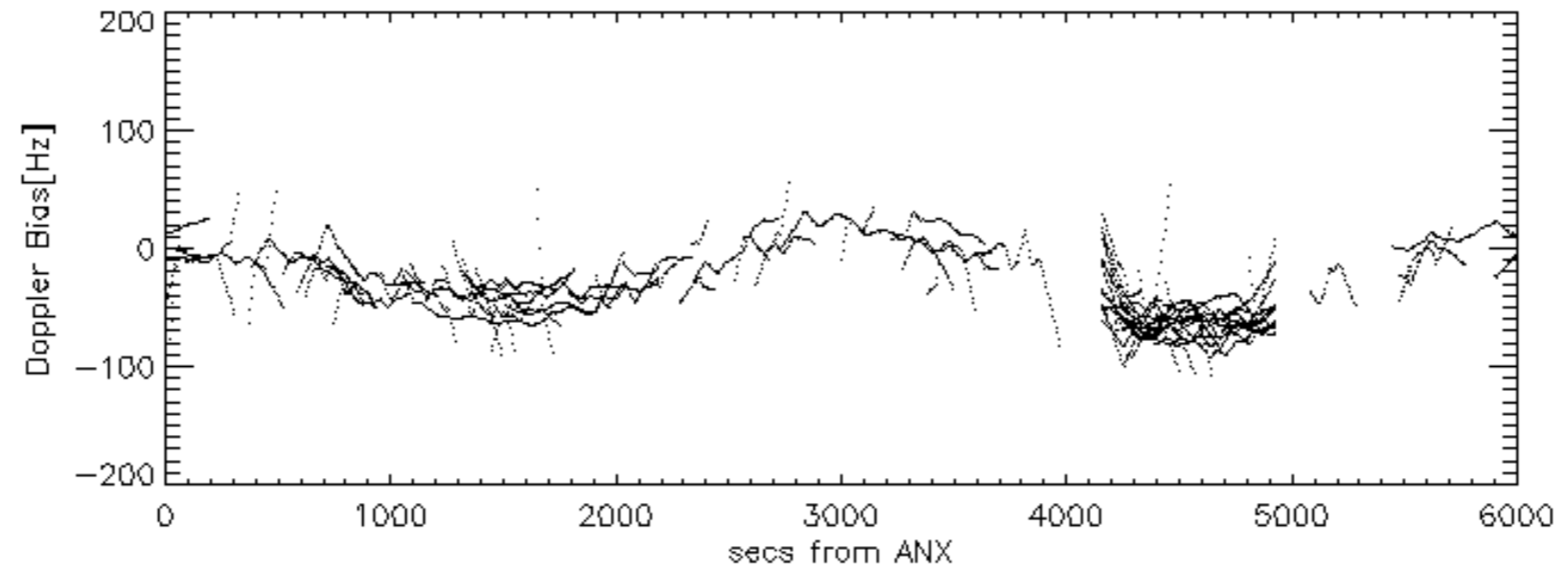
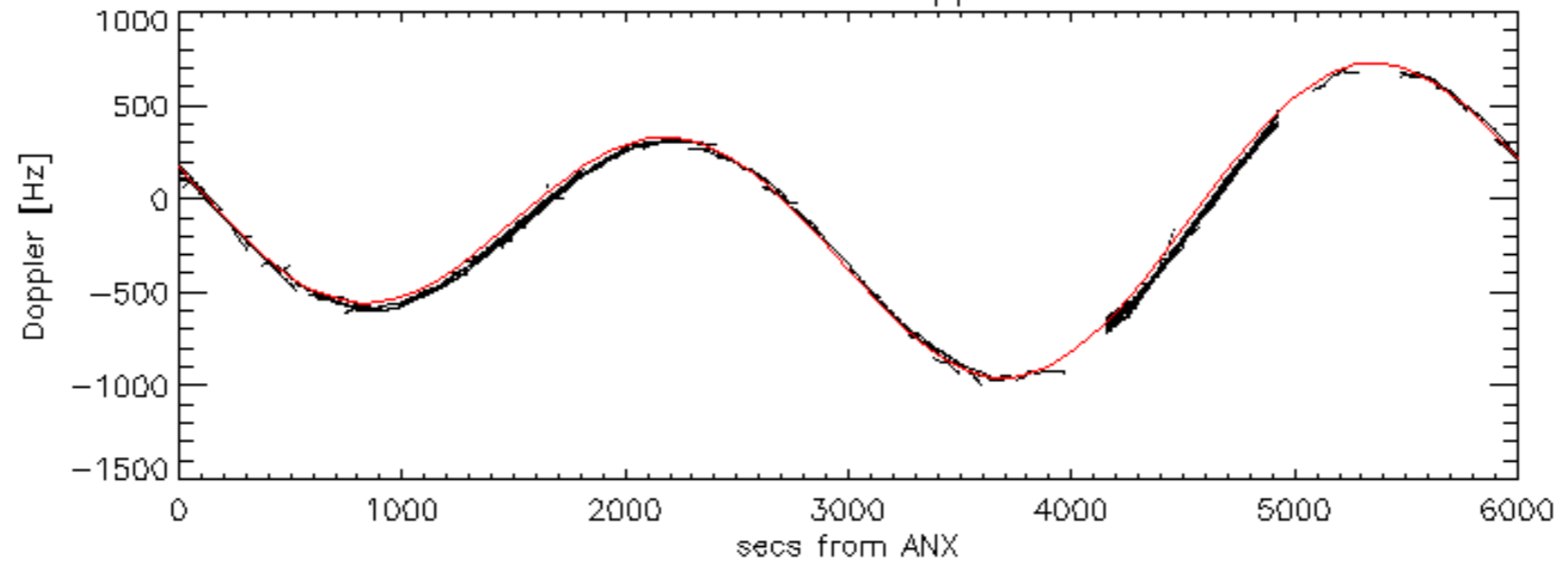
Doppler 'WVS' 'IS2' ascending

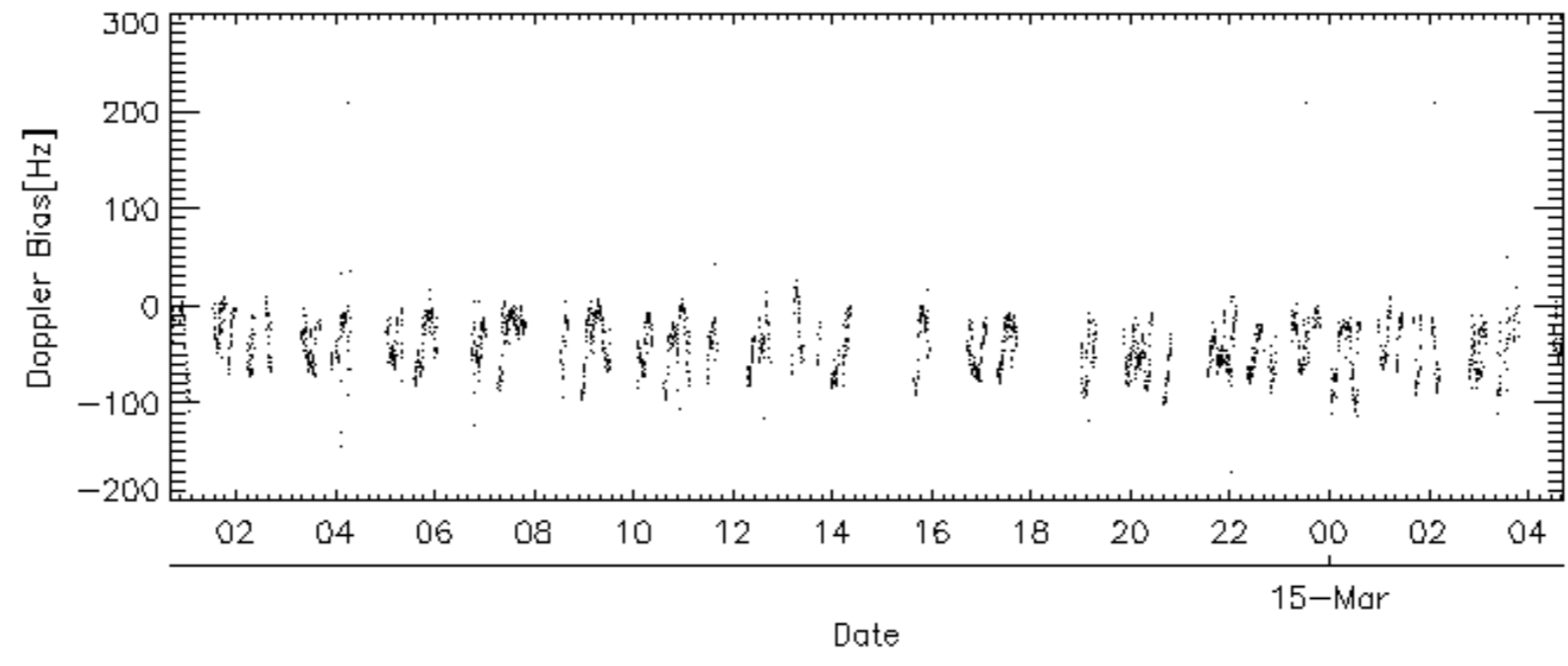
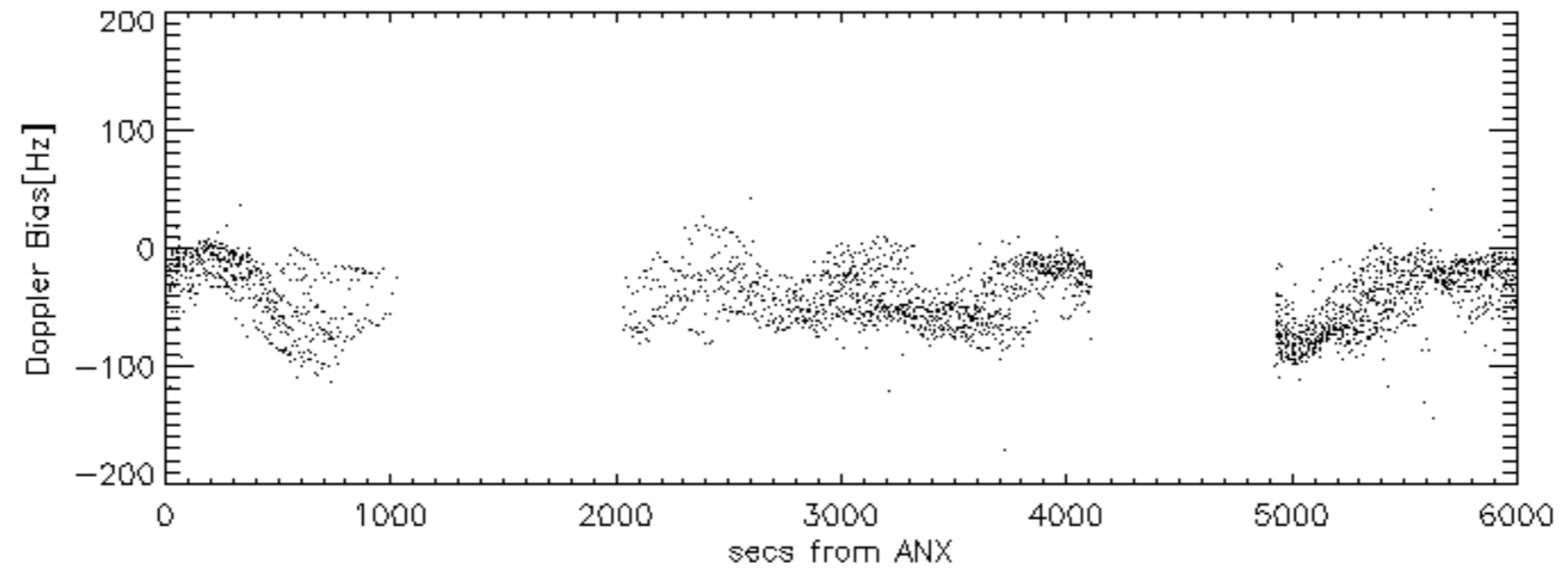
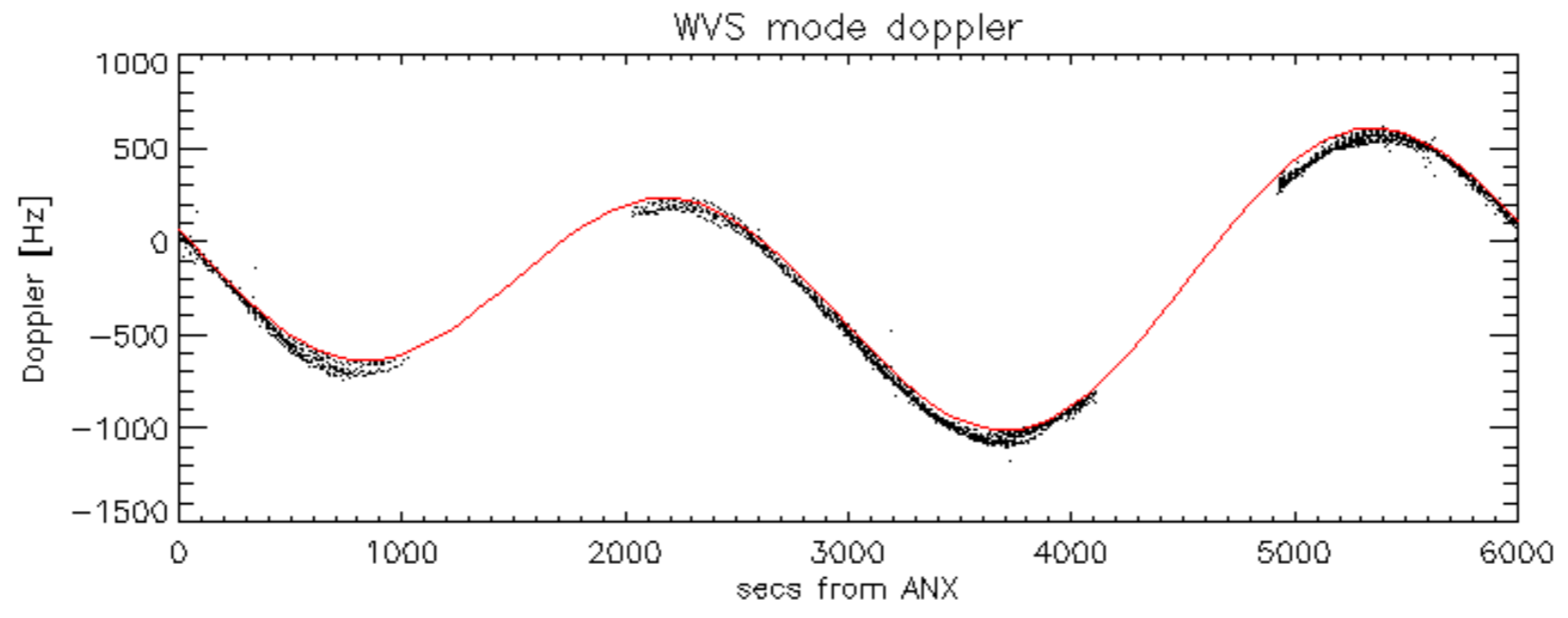


Doppler 'WVS' 'IS2' descending

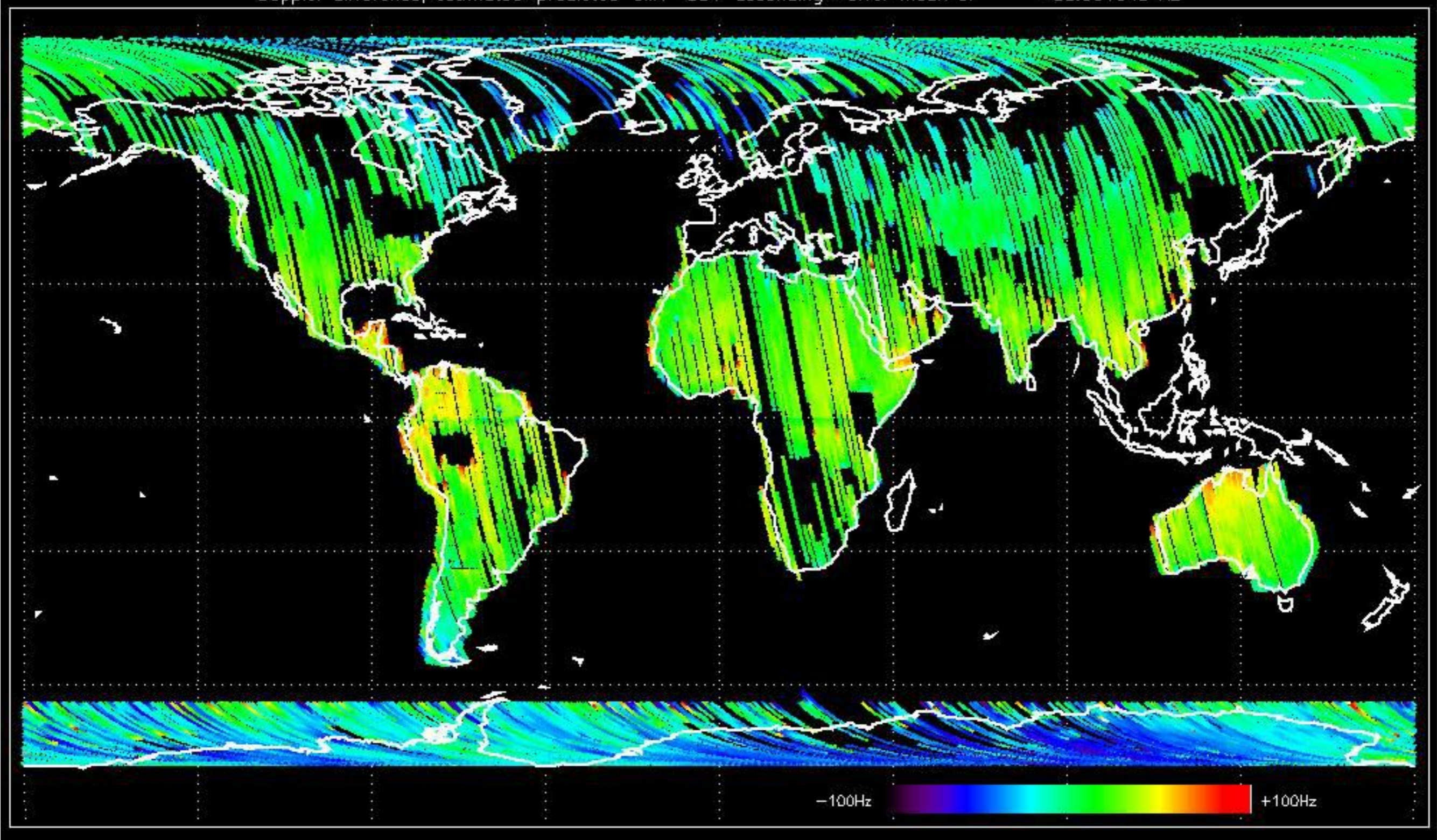


GM1 mode doppler

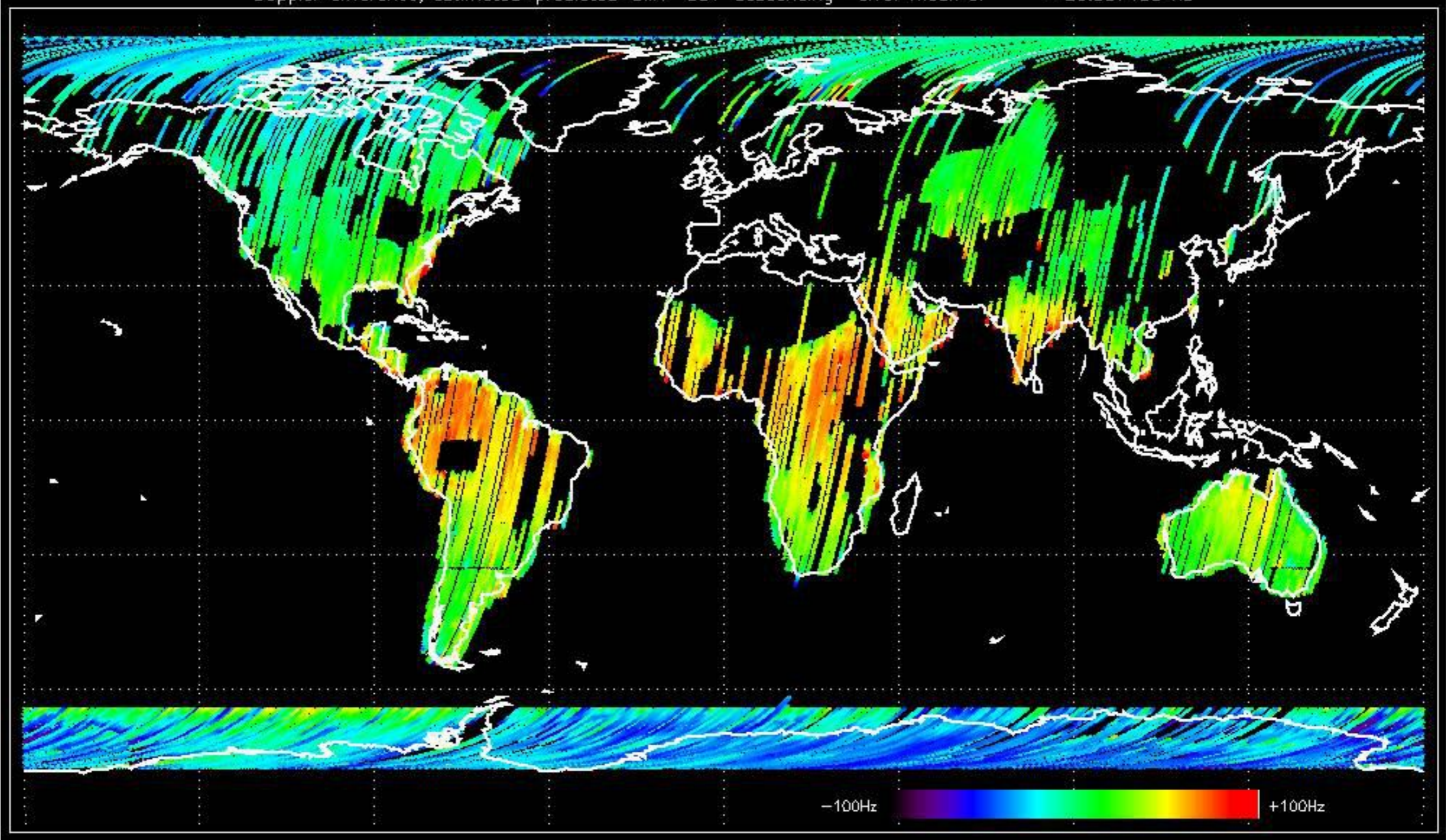




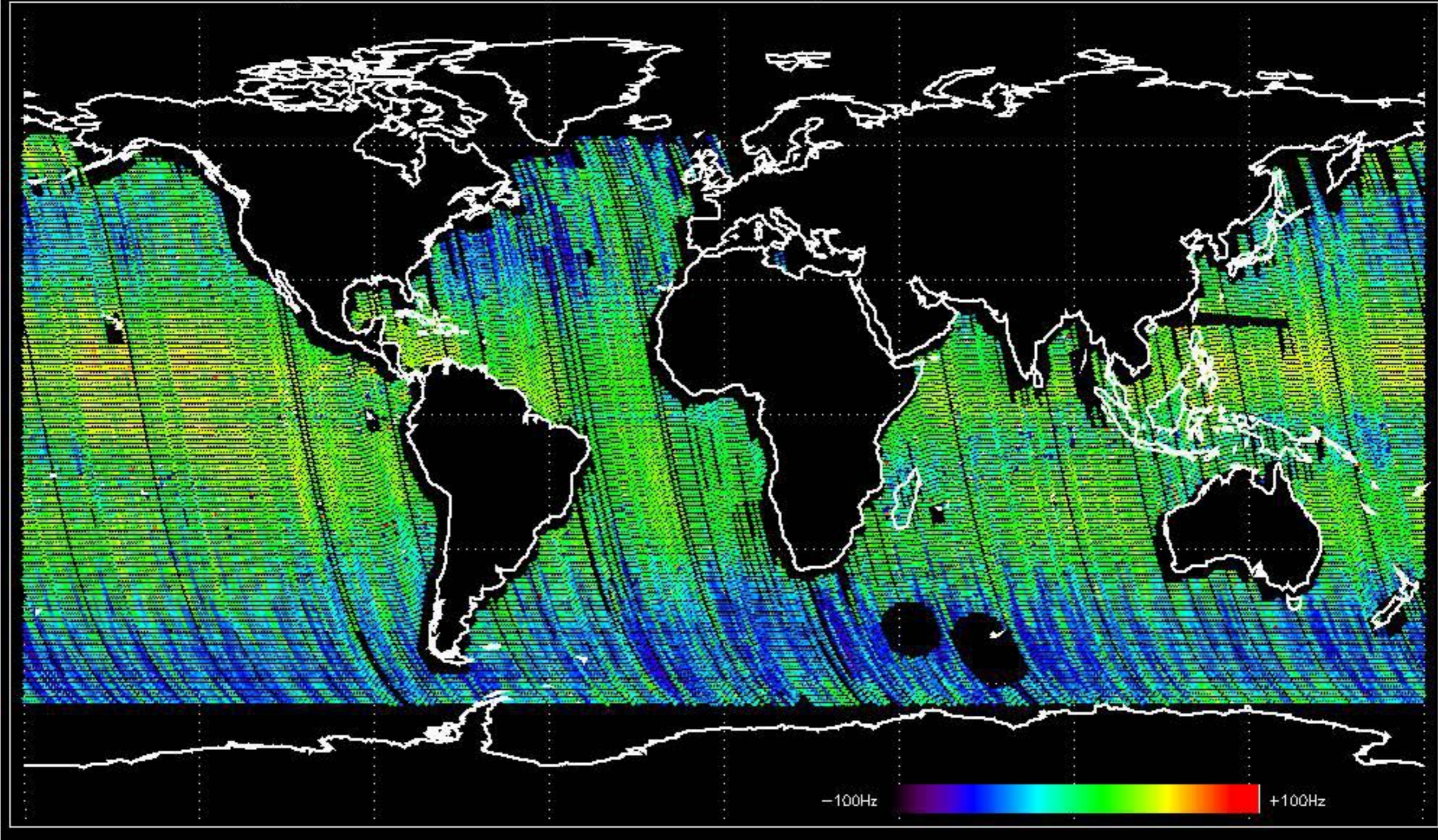
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -30.331845 Hz



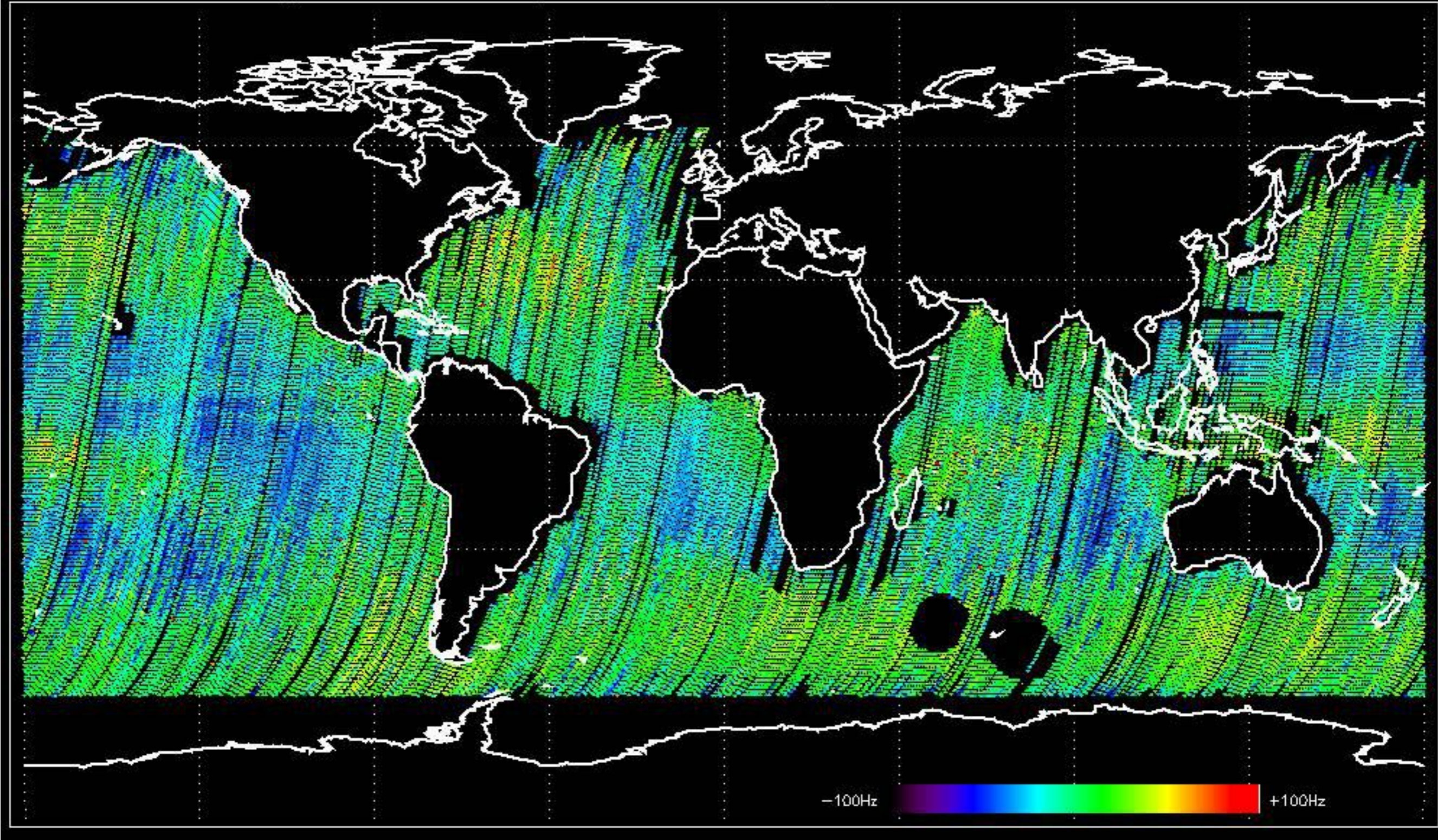
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -26.557438 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -33.925119 Hz

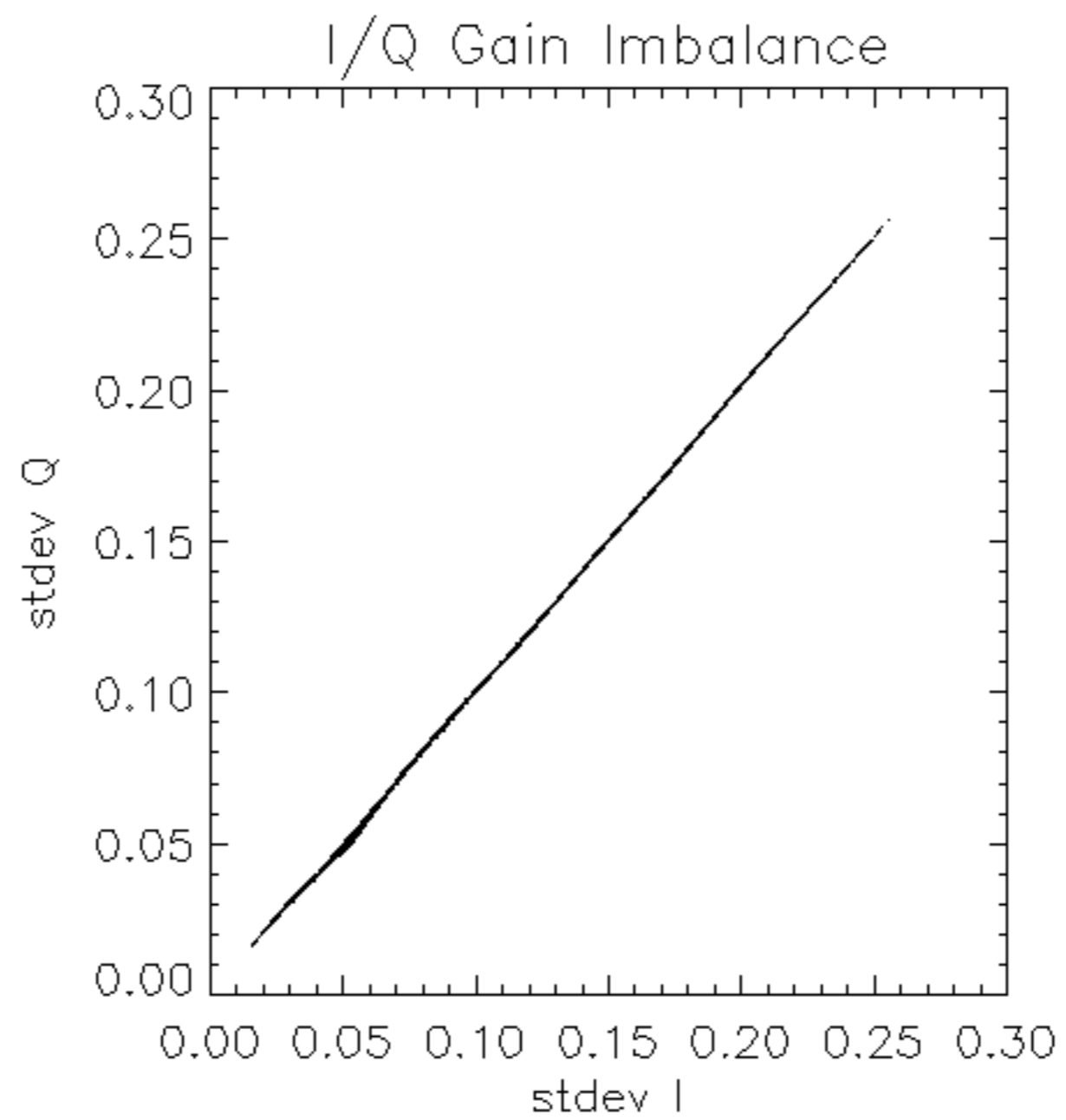


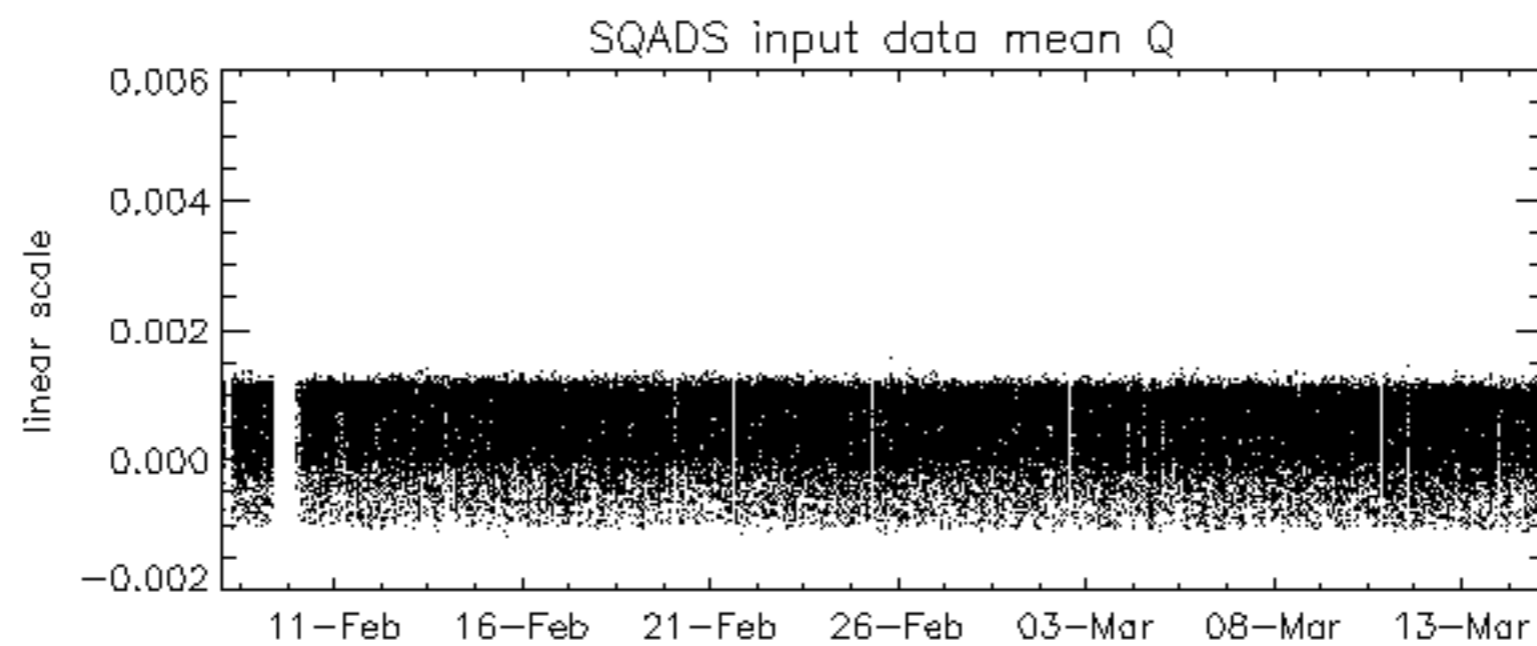
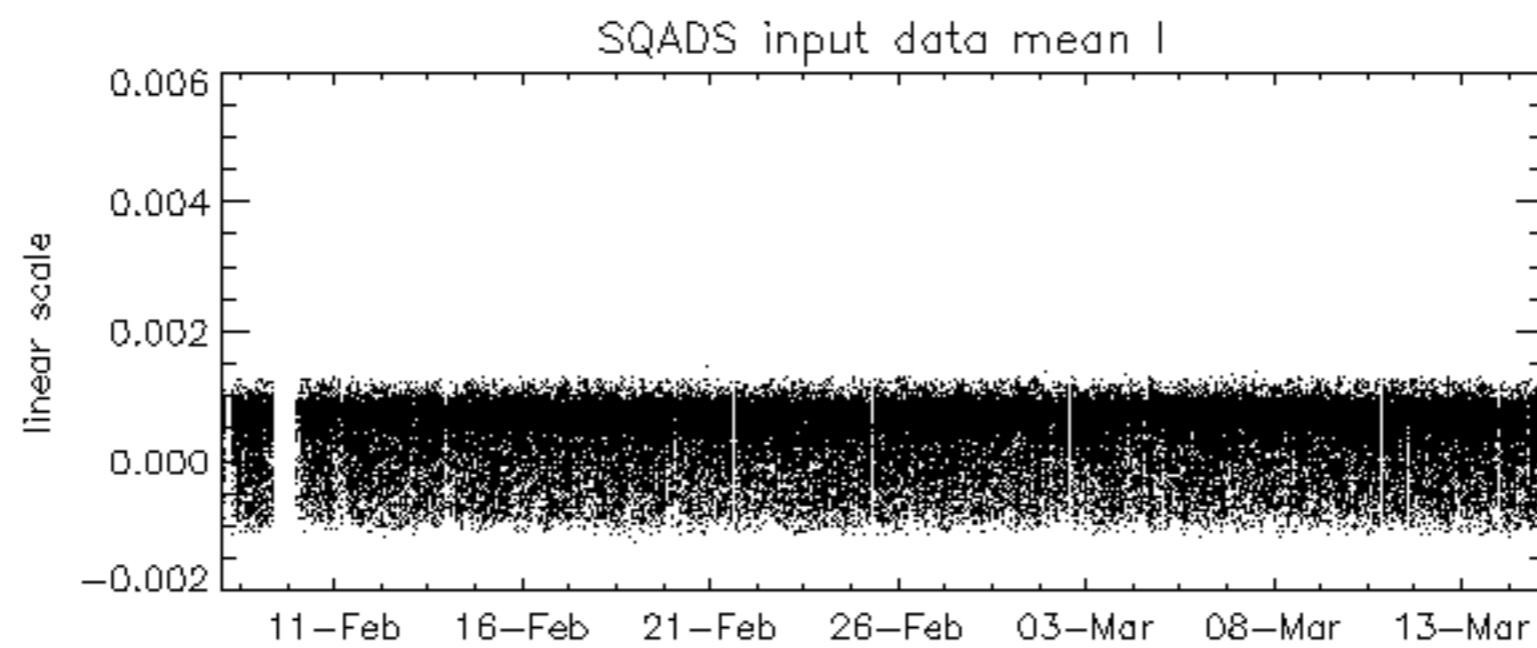
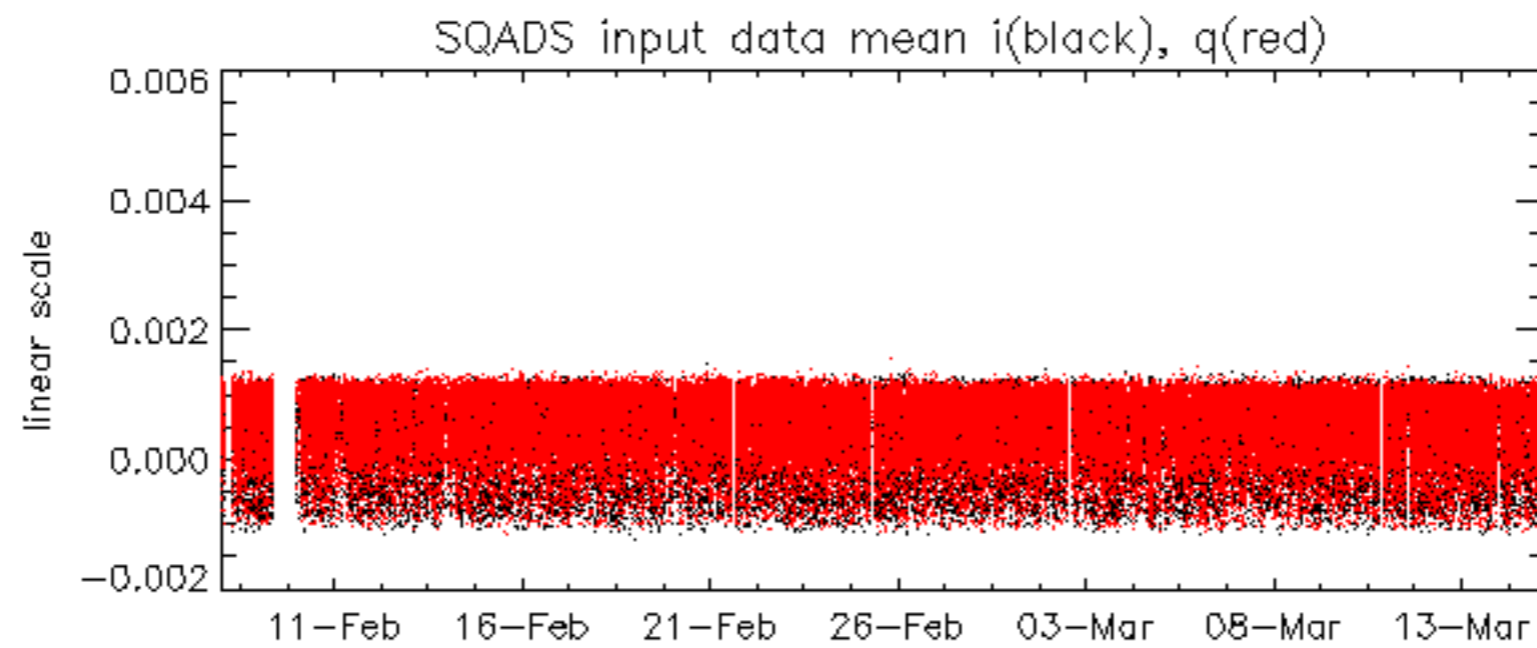
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -32.512625 Hz

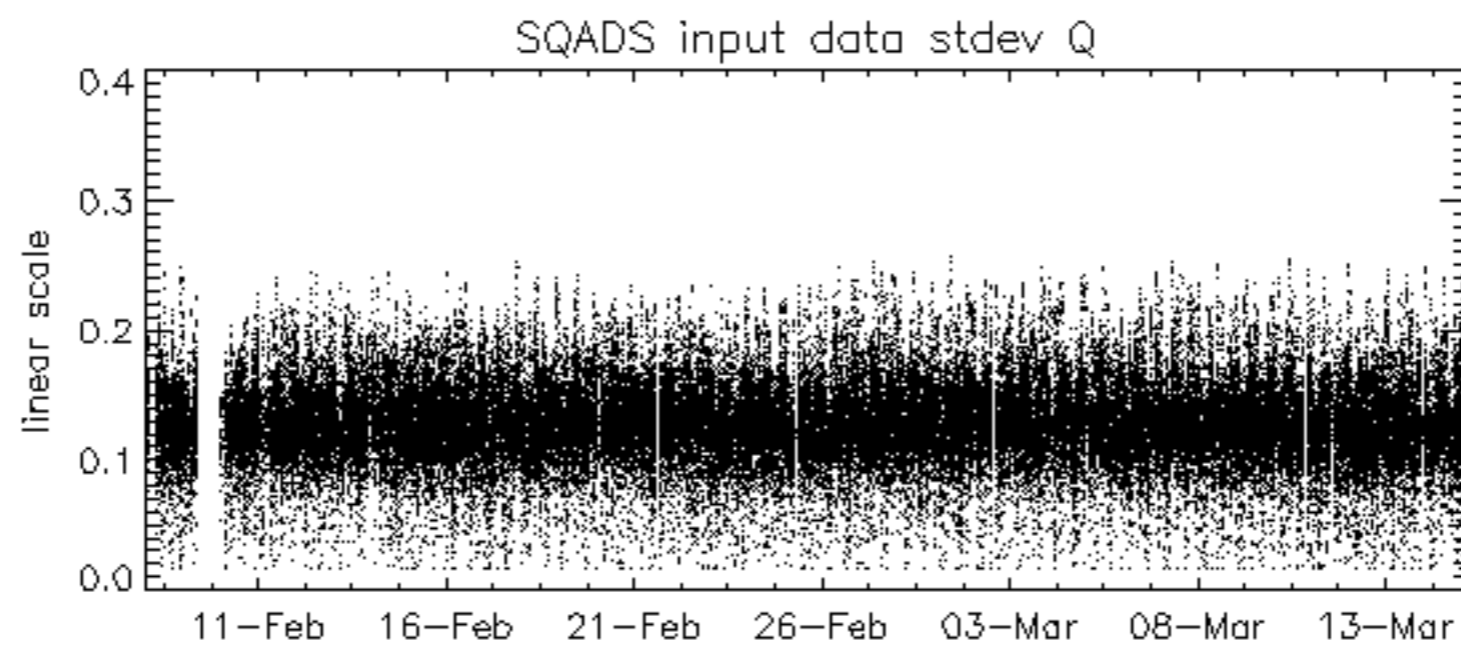
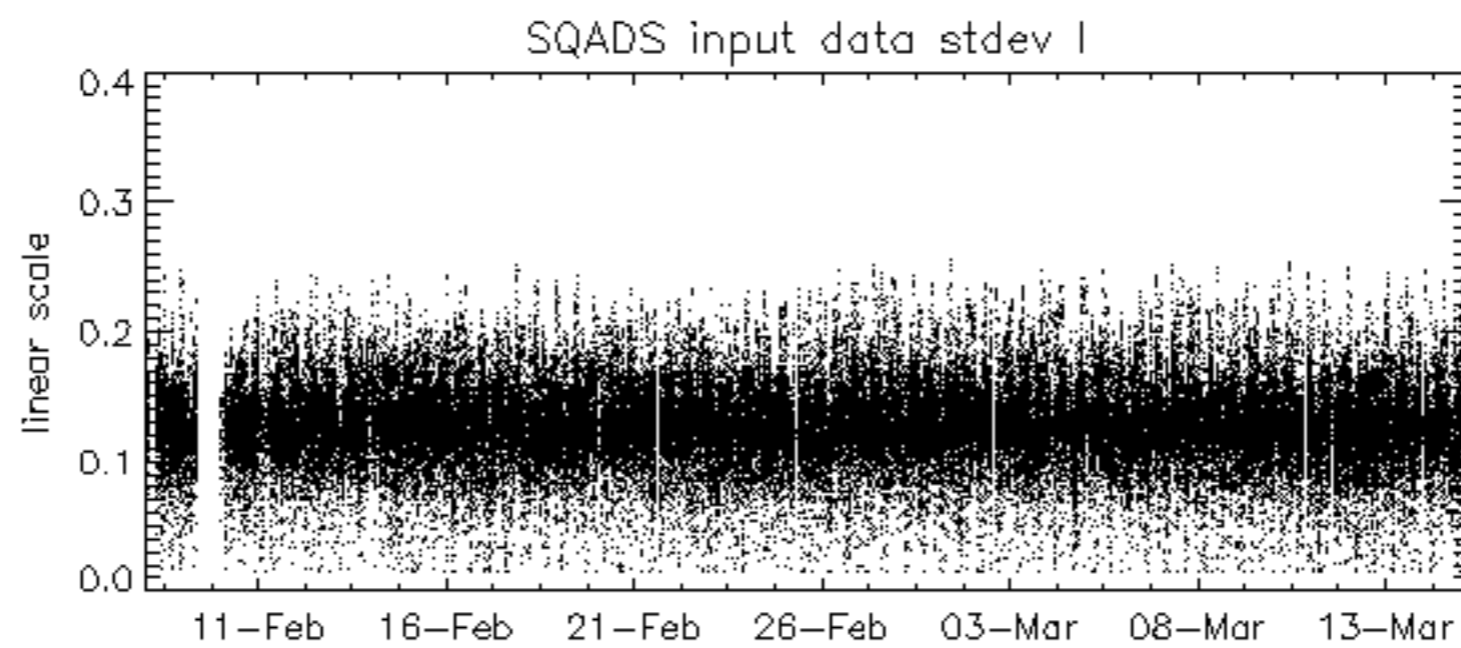
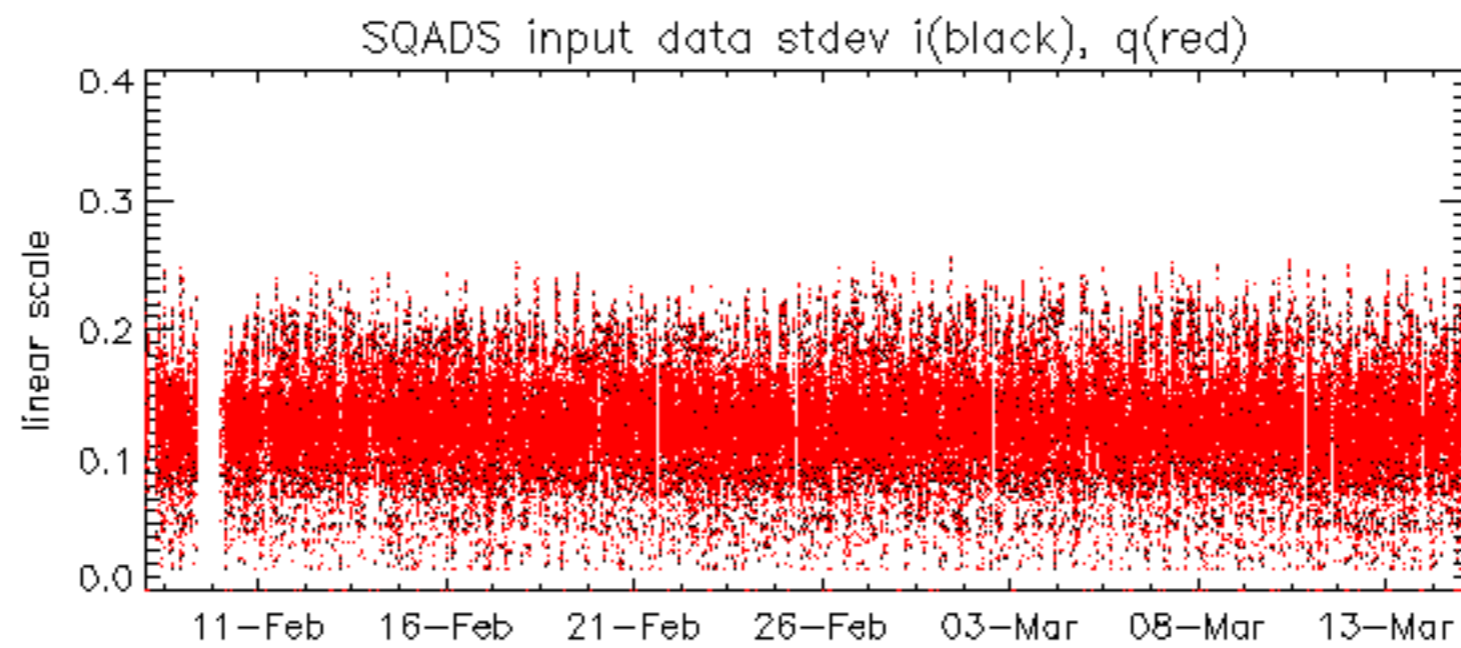


No anomalies observed on available MS products:

No anomalies observed.



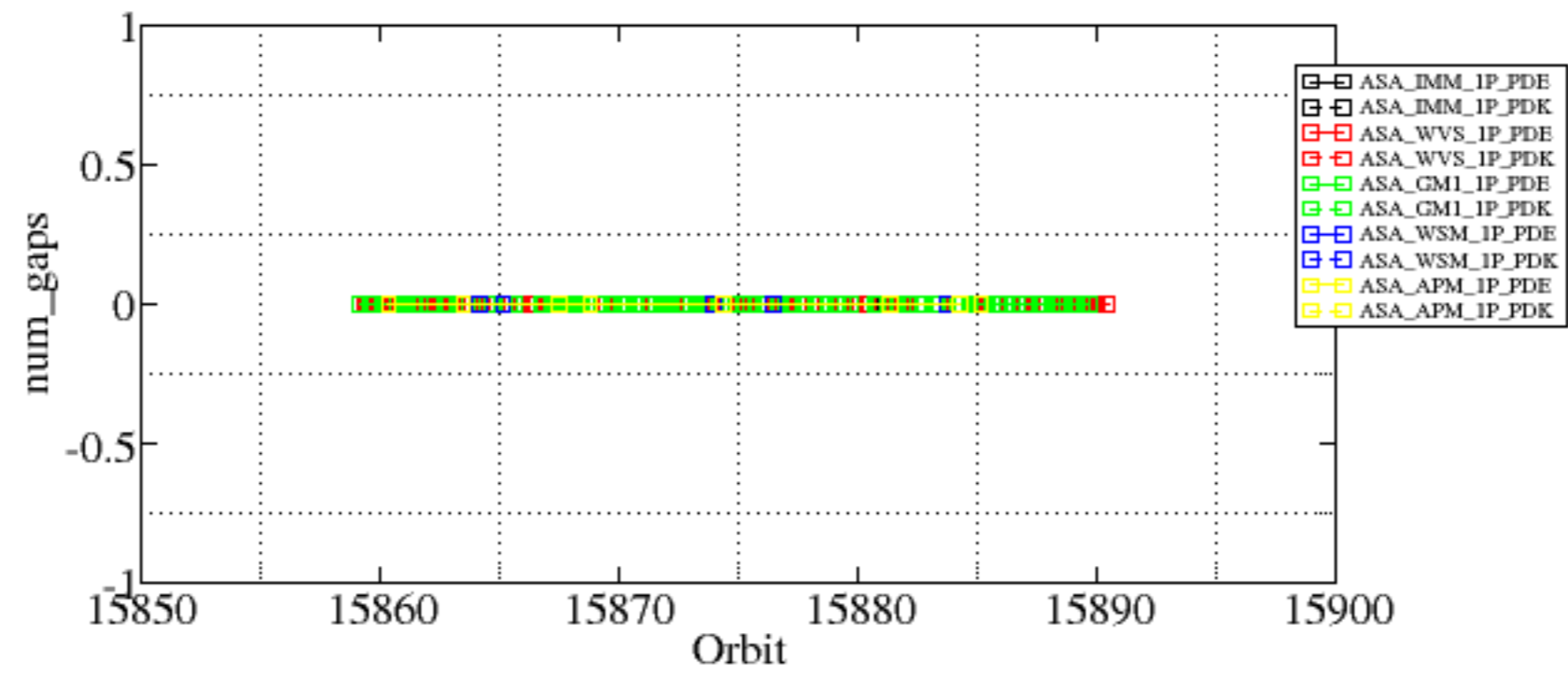


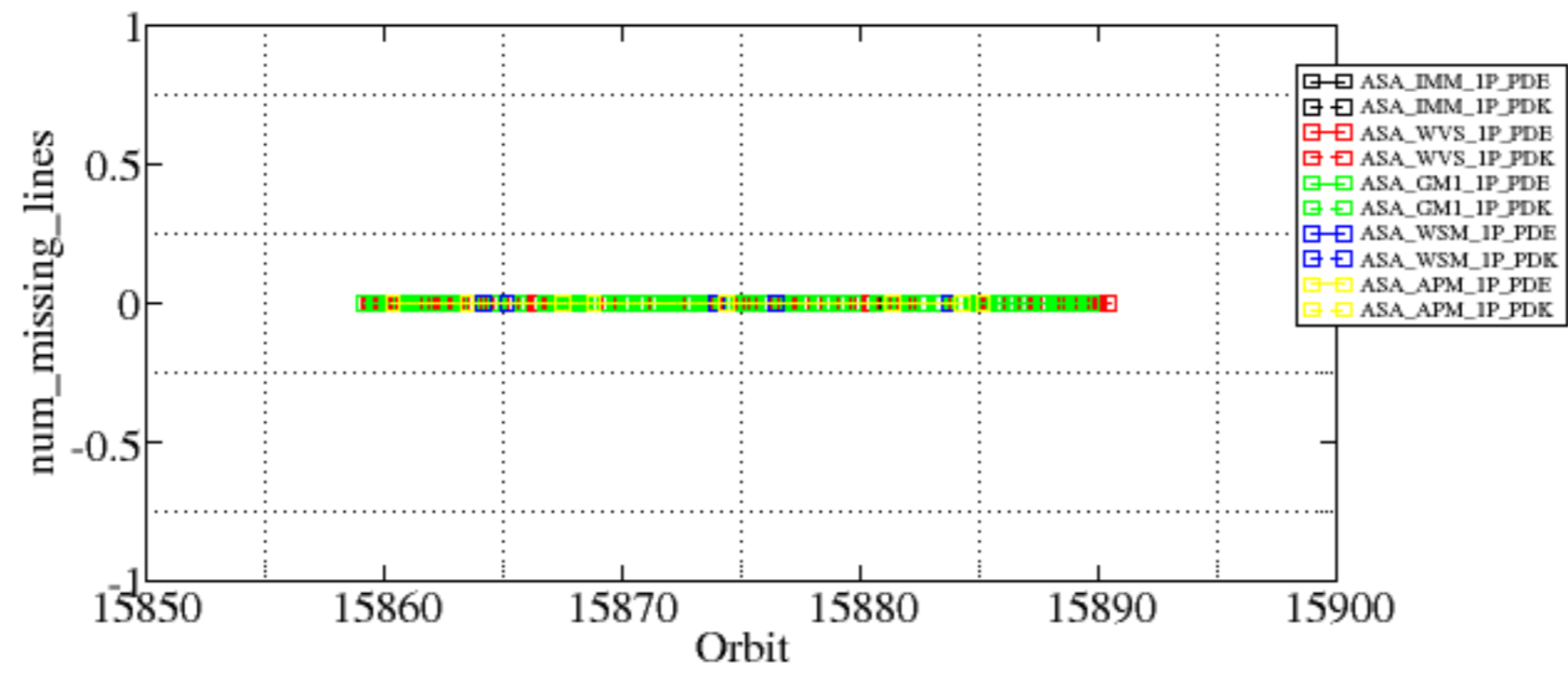


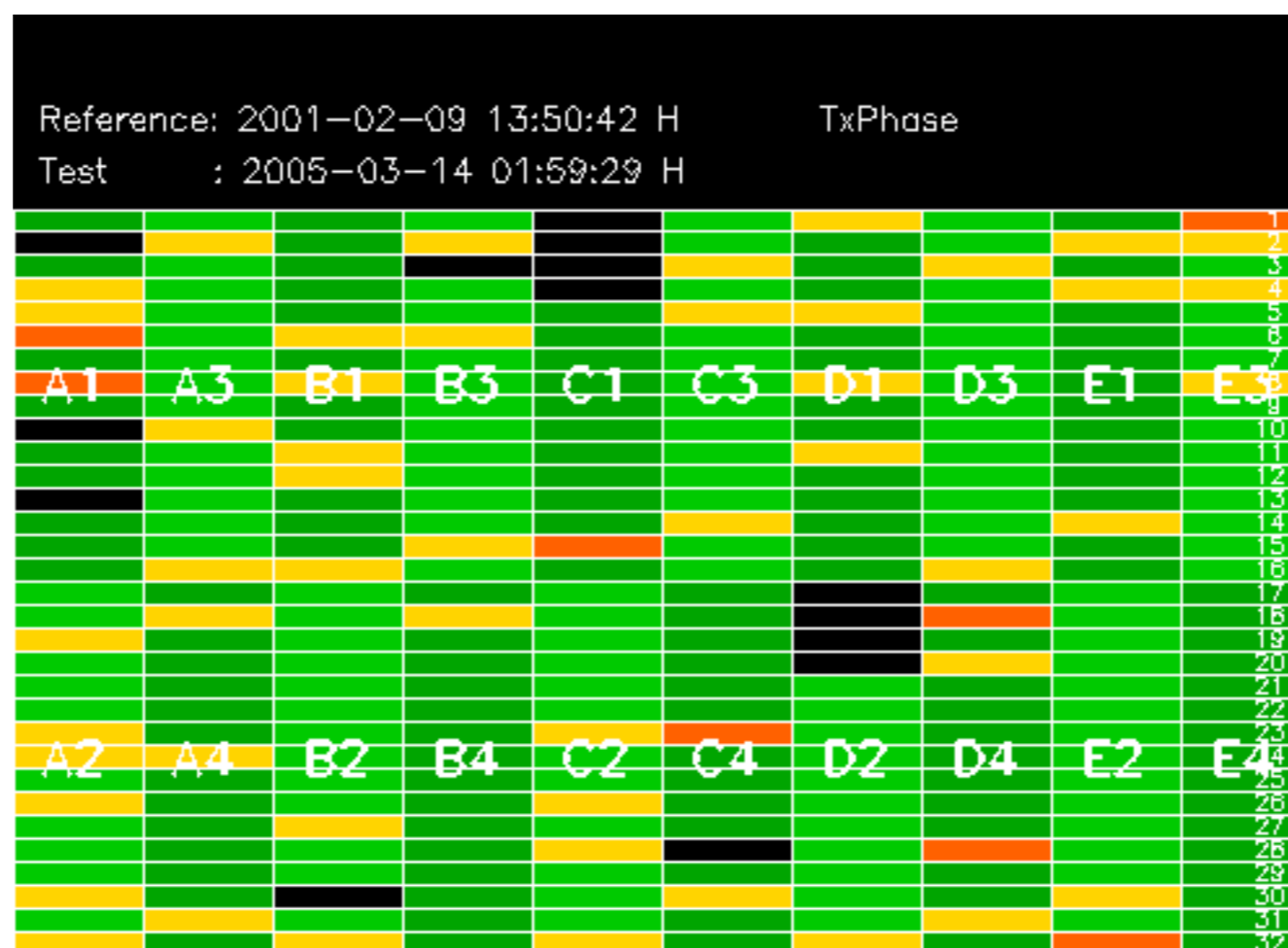
Summary of analysis for the last 3 days 2005031[345]

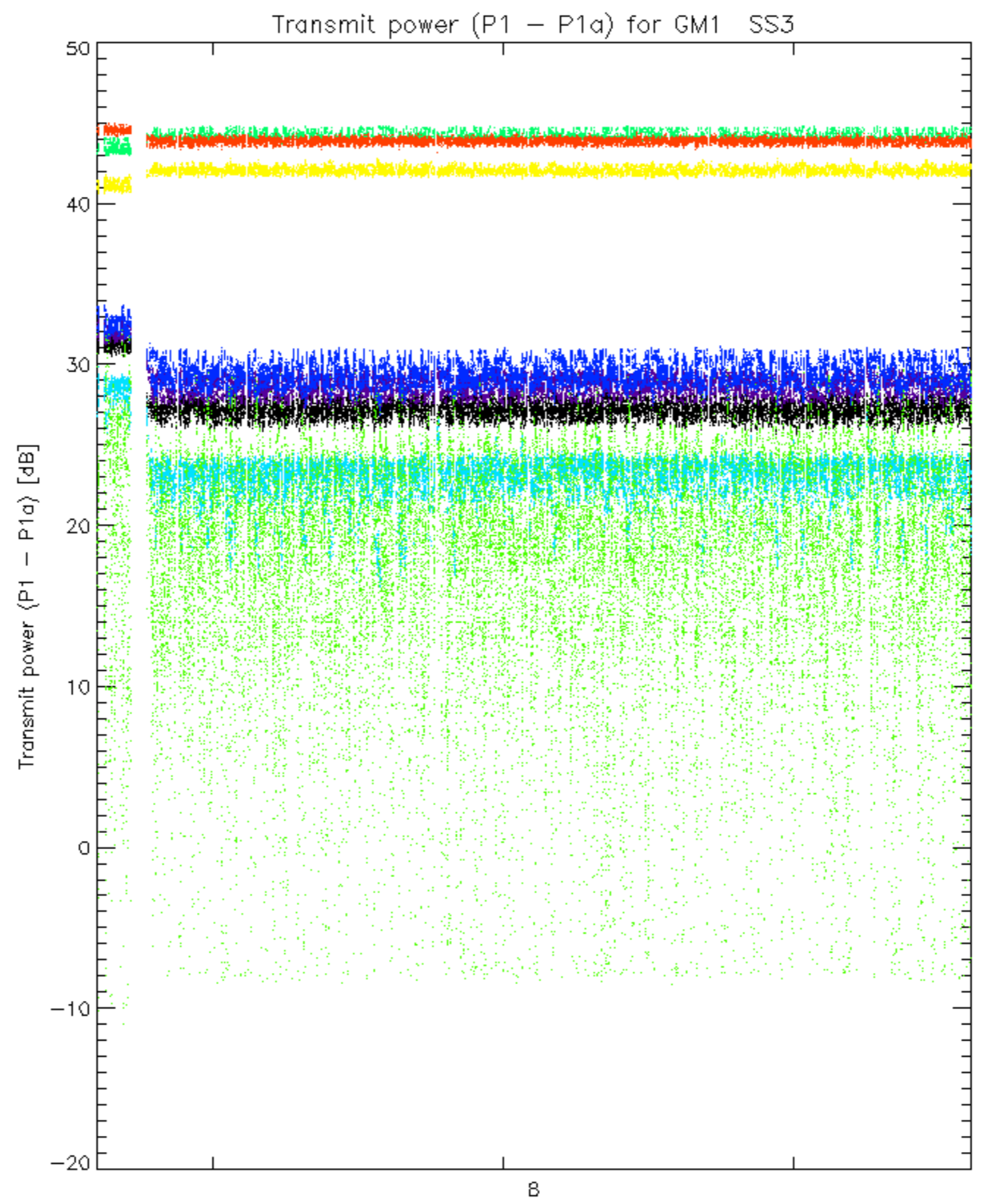
The assumption is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
----------	----------	-------------------

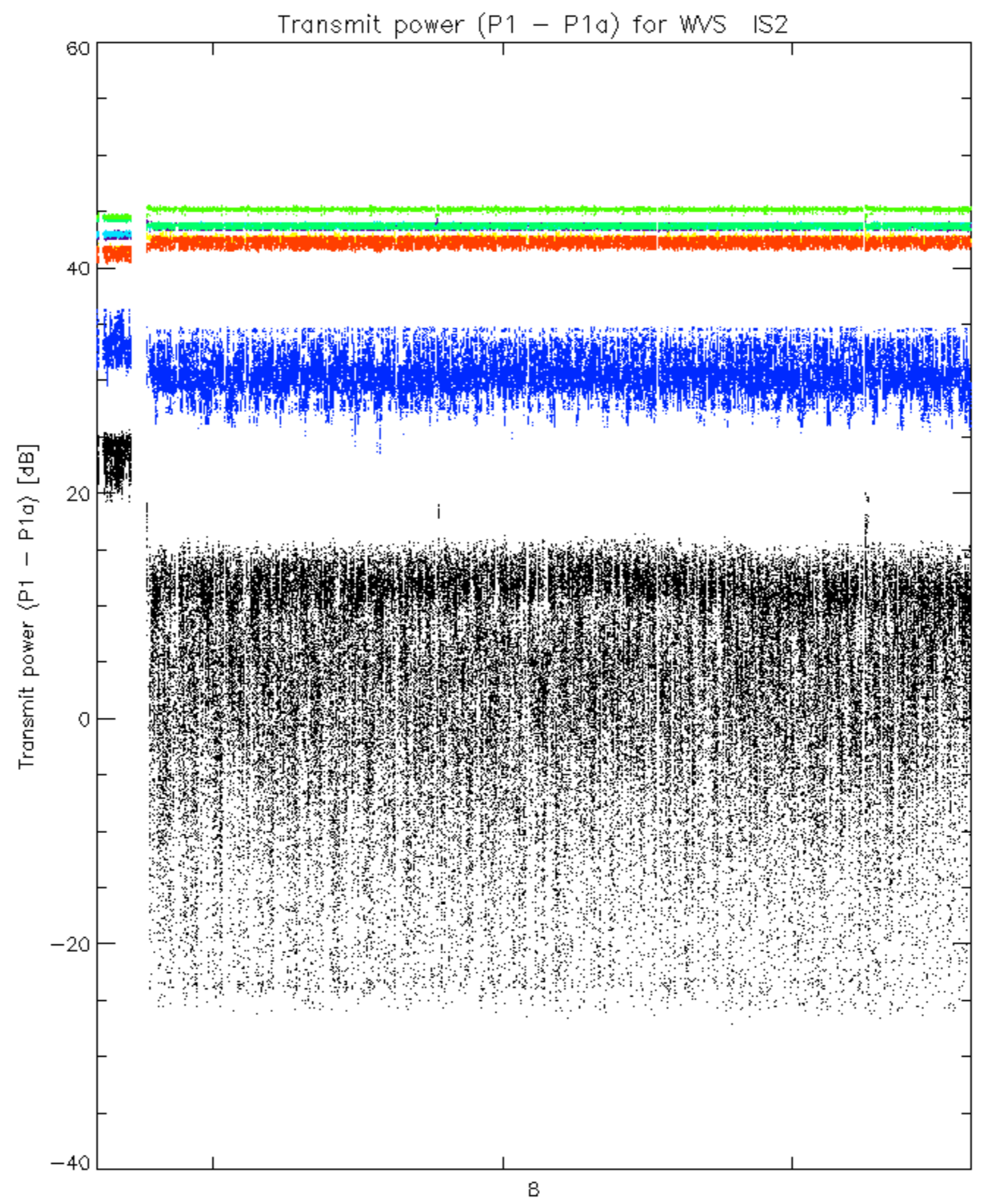




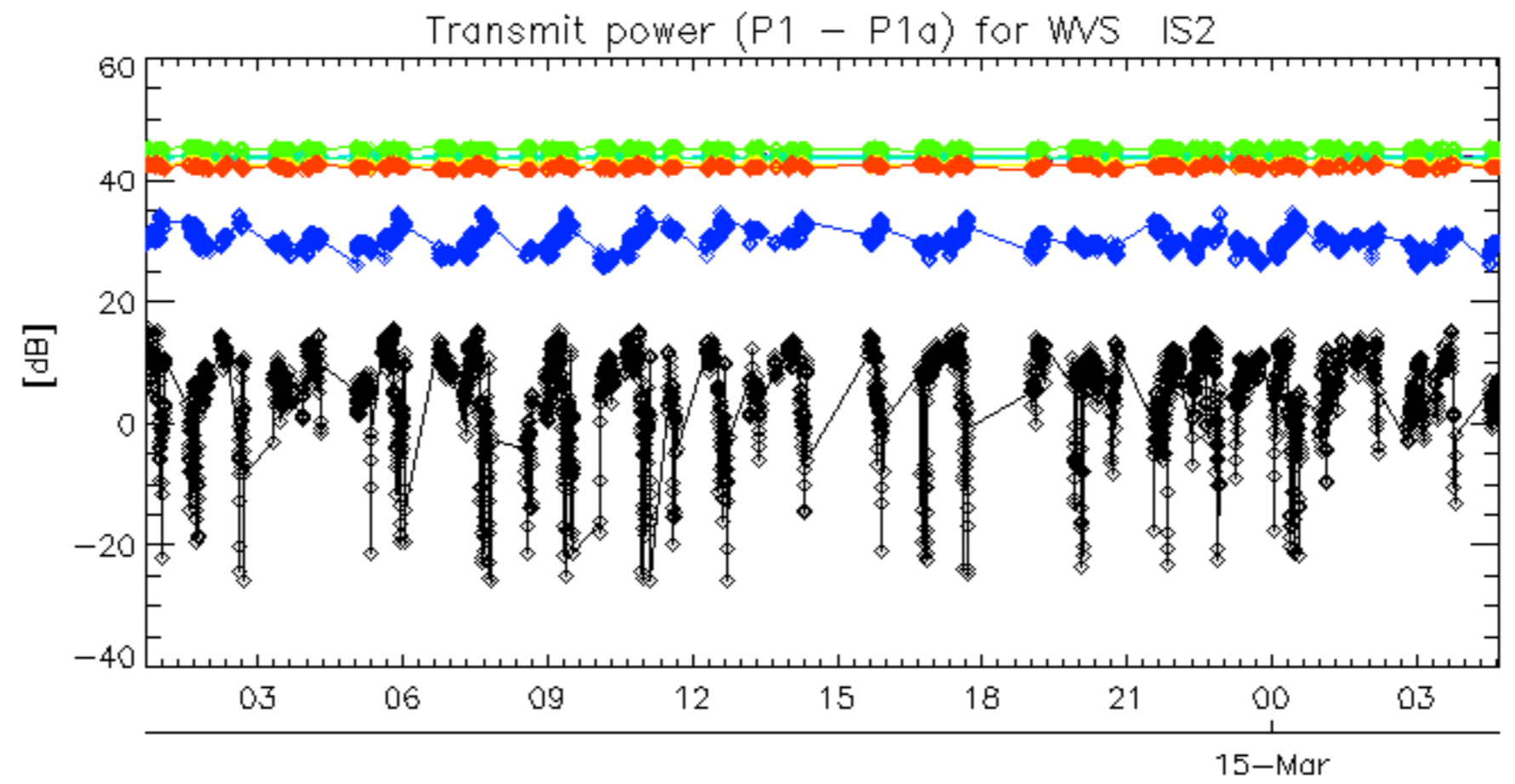




rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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



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

No unavailabilities during the reported period.