

PRELIMINARY REPORT OF 050214

last update on Mon Feb 14 11:45:21 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 2005-02-13 00:00:00 to 2005-02-14 11:45:21

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	14	13	5	3	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	14	13	5	3	4
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	14	13	5	3	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	14	13	5	3	4

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	40	39	4	6	3
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	40	39	4	6	3
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	40	39	4	6	3
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	40	39	4	6	3

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	20050213 053212
H	20050212 060349

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	-3.393505	0.008655	0.057318
7	P1	-3.079612	0.007812	-0.001026
11	P1	-4.666779	0.018626	-0.028569
15	P1	-5.649467	0.029919	0.005959
19	P1	-3.664779	0.004292	0.009677
22	P1	-4.551145	0.014297	0.044401
26	P1	-4.941392	0.013259	0.000639
30	P1	-7.151942	0.016942	-0.024003
3	P1	-15.910562	0.096867	-0.050225
7	P1	-15.513289	0.063340	-0.022526
11	P1	-20.880938	0.230995	-0.105521
15	P1	-11.591273	0.029107	0.062727
19	P1	-14.187670	0.024653	-0.047130
22	P1	-15.862823	0.372607	0.243536
26	P1	-17.601864	0.217473	0.040574
30	P1	-17.927023	0.366247	0.020260

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.202469	0.086207	0.181178
7	P2	-22.392681	0.108181	0.163443
11	P2	-14.616341	0.101940	0.172813
15	P2	-7.091367	0.096663	0.075138
19	P2	-9.681735	0.095861	0.067077
22	P2	-17.011747	0.094812	0.139949
26	P2	-16.478874	0.093462	0.069977
30	P2	-18.903444	0.080406	0.047319

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.180492	0.005967	0.043431
7	P3	-8.180492	0.005967	0.043431
11	P3	-8.180492	0.005967	0.043431
15	P3	-8.180492	0.005967	0.043431
19	P3	-8.180492	0.005967	0.043431
22	P3	-8.180492	0.005967	0.043431
26	P3	-8.180418	0.005968	0.043335
30	P3	-8.180418	0.005968	0.043335

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	-2.783278	0.019561	0.080313
7	P1	-2.971340	0.074921	-0.038470
11	P1	-3.963730	0.025006	-0.021223
15	P1	-3.535115	0.025172	-0.015025
19	P1	-3.595887	0.013838	0.015238
22	P1	-5.693321	0.059375	-0.056373
26	P1	-7.145174	0.135715	-0.742116
30	P1	-6.273469	0.042702	0.088808
3	P1	-10.752852	0.091955	0.024745
7	P1	-10.173531	0.191994	-0.120812
11	P1	-12.557226	0.126751	-0.030226
15	P1	-11.756138	0.077344	0.025770
19	P1	-15.585614	0.054331	0.038446
22	P1	-24.122652	1.551008	-0.373331
26	P1	-15.421833	0.374062	-0.683750
30	P1	-20.026226	0.866531	-0.227962

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.912674	0.048031	0.156822
7	P2	-22.449293	0.130870	0.127161
11	P2	-10.411839	0.053748	0.253626
15	P2	-5.007581	0.021191	0.059128
19	P2	-6.881739	0.032241	0.106100
22	P2	-7.190467	0.050892	0.130128
26	P2	-23.888439	0.098056	0.082014
30	P2	-21.948460	0.058167	0.045519

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.015038	0.002558	0.046336
7	P3	-8.015098	0.002568	0.046280
11	P3	-8.015118	0.002564	0.046542
15	P3	-8.015111	0.002562	0.046377
19	P3	-8.015139	0.002580	0.046553
22	P3	-8.015145	0.002555	0.046346
26	P3	-8.014977	0.002566	0.046248
30	P3	-8.015079	0.002567	0.046135

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	0.000471963
	stdev	2.15340e-07
MEAN Q	mean	0.000543100
	stdev	2.28682e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129251
	stdev	0.000976970
STDEV Q	mean	0.129492
	stdev	0.000988364



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2005021[234]

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_1PNPDE20050212_182648_00000372034_00371_15455_2340.N1	0	18
ASA_GM1_1PNPDK20050213_094610_000005552034_00380_15464_2150.N1	0	6
ASA_WSM_1PNPDK20050212_082228_000000852034_00365_15449_4845.N1	0	38
ASA_WSM_1PNPDK20050212_102512_000000672034_00366_15450_4850.N1	0	88







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

<input type="checkbox"/>
Descending

7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

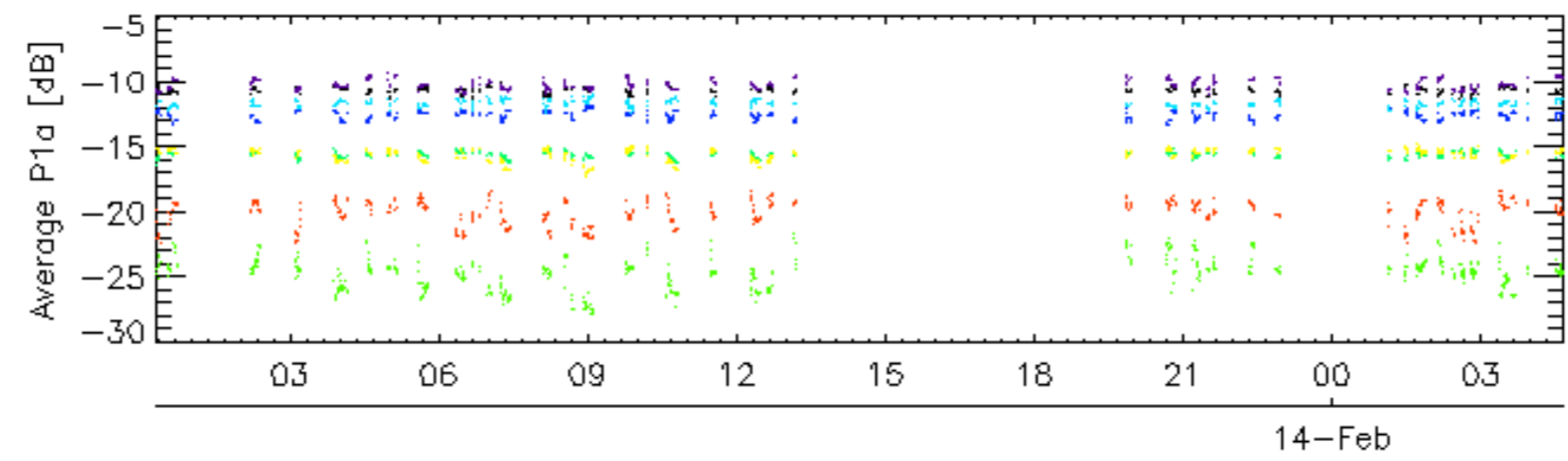
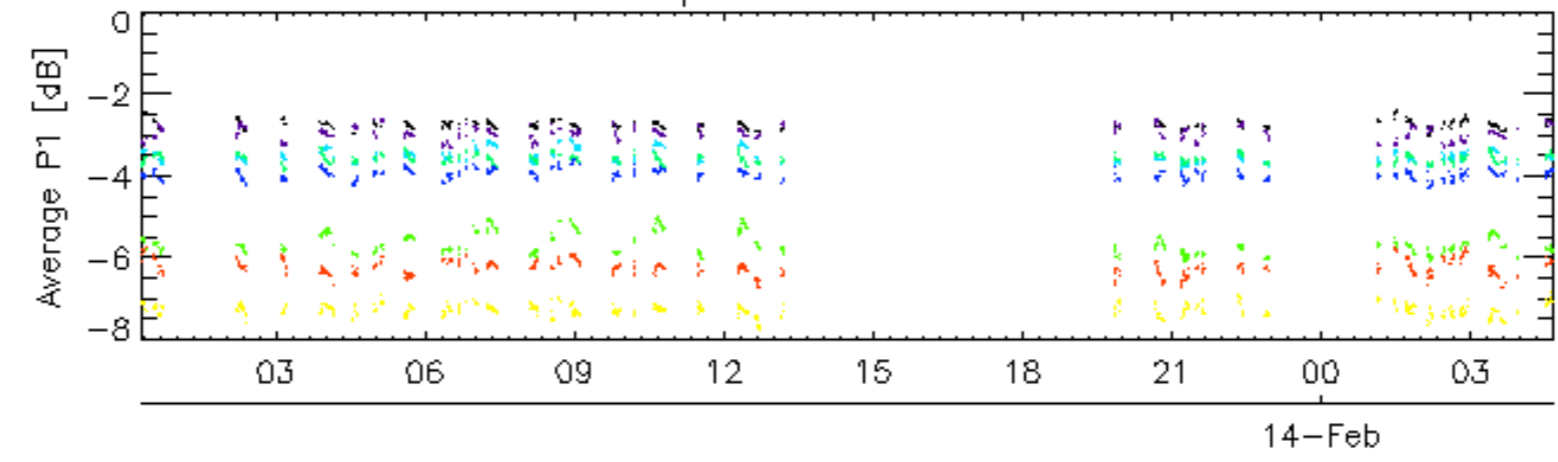
<input type="checkbox"/>
Ascending
<input type="checkbox"/>
Descending

7.6 - Doppler evolution versus ANX for GM1

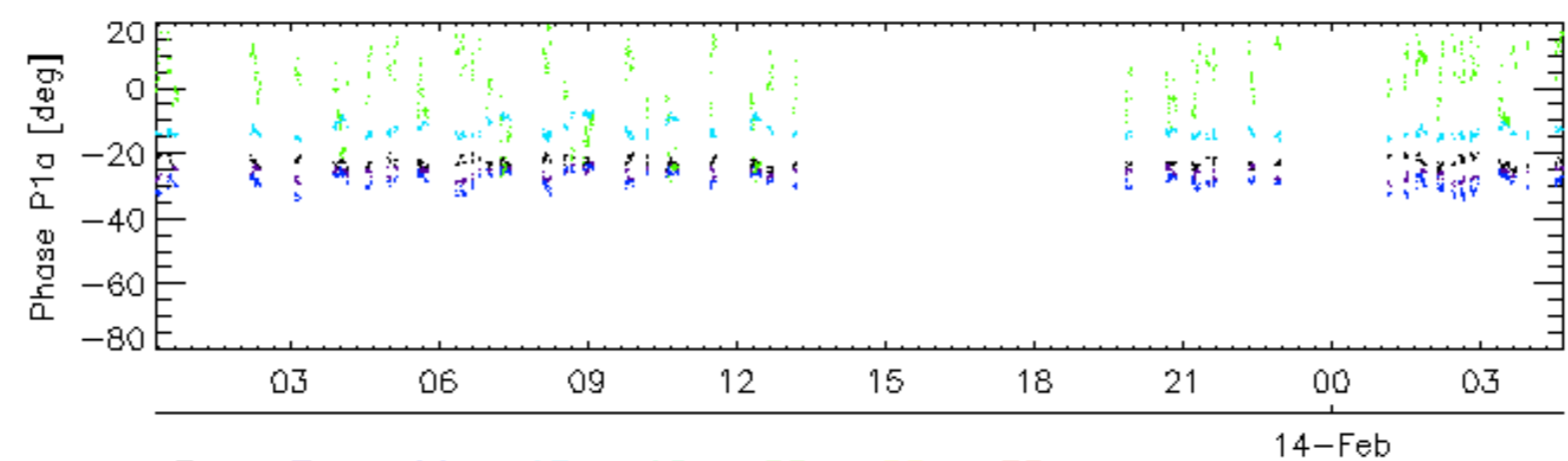
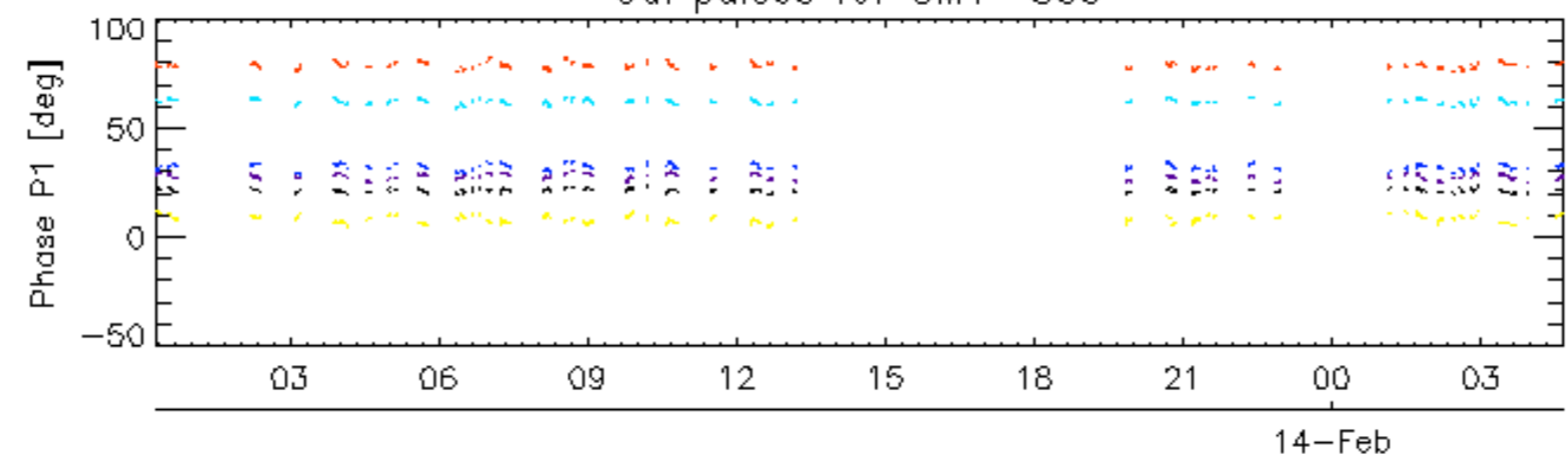
Evolution Doppler error versus ANX

<input type="checkbox"/>

Cal pulses for GM1 SS3

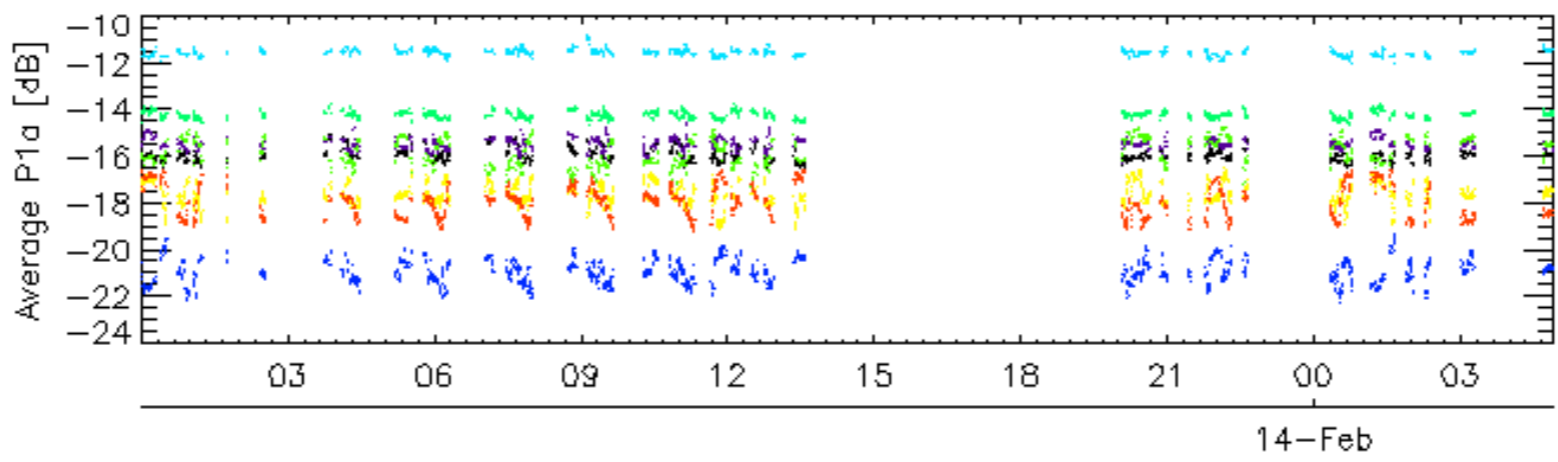
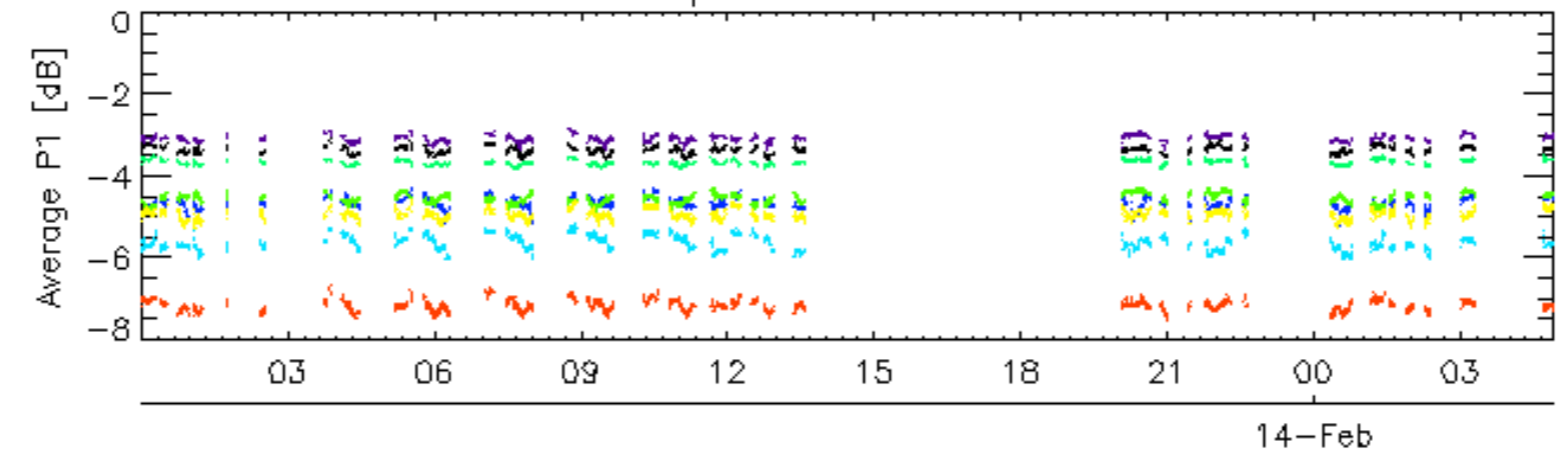


Cal pulses for GM1 SS3

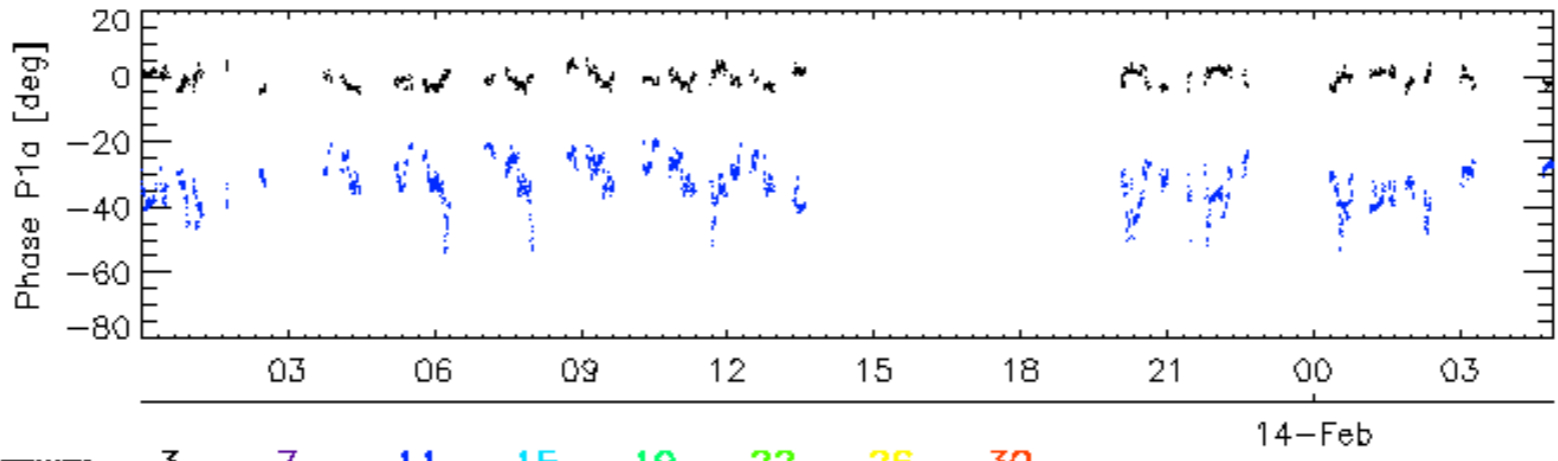
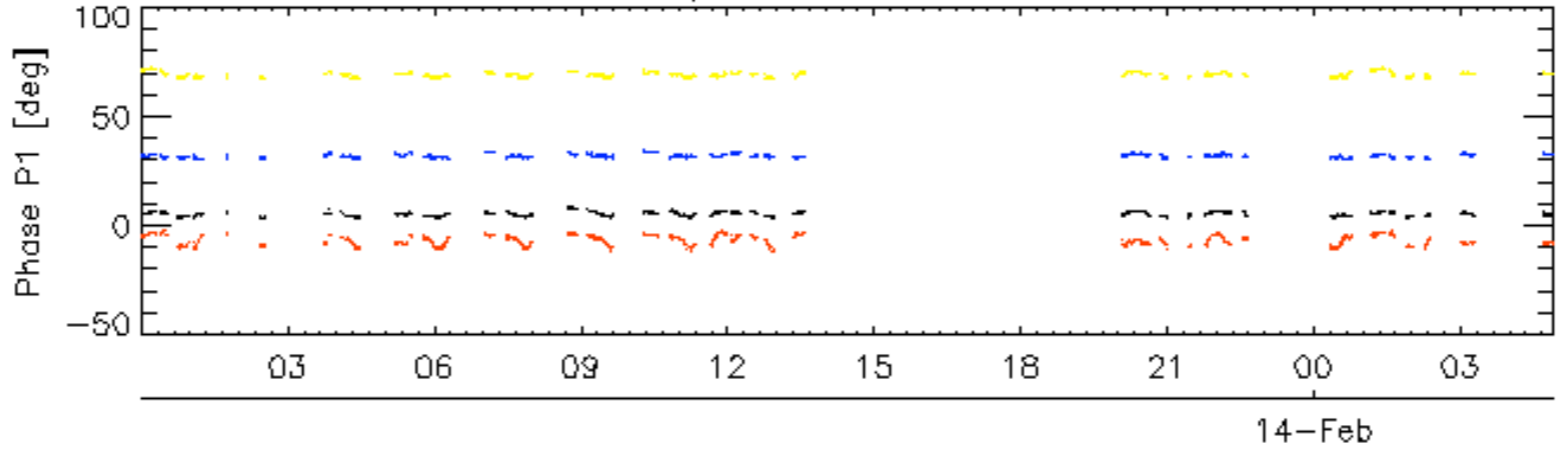


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

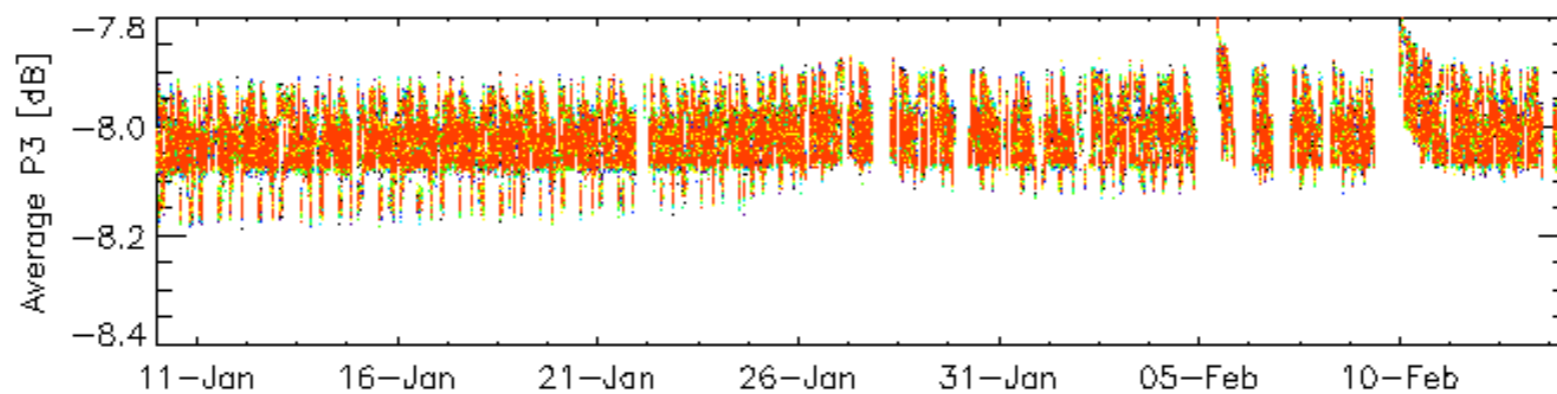
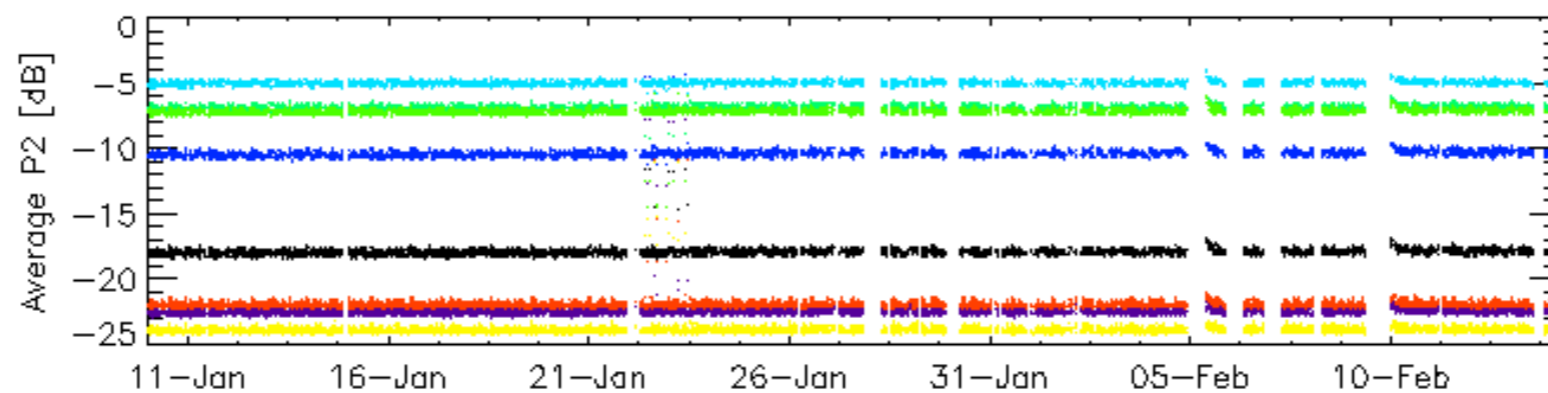
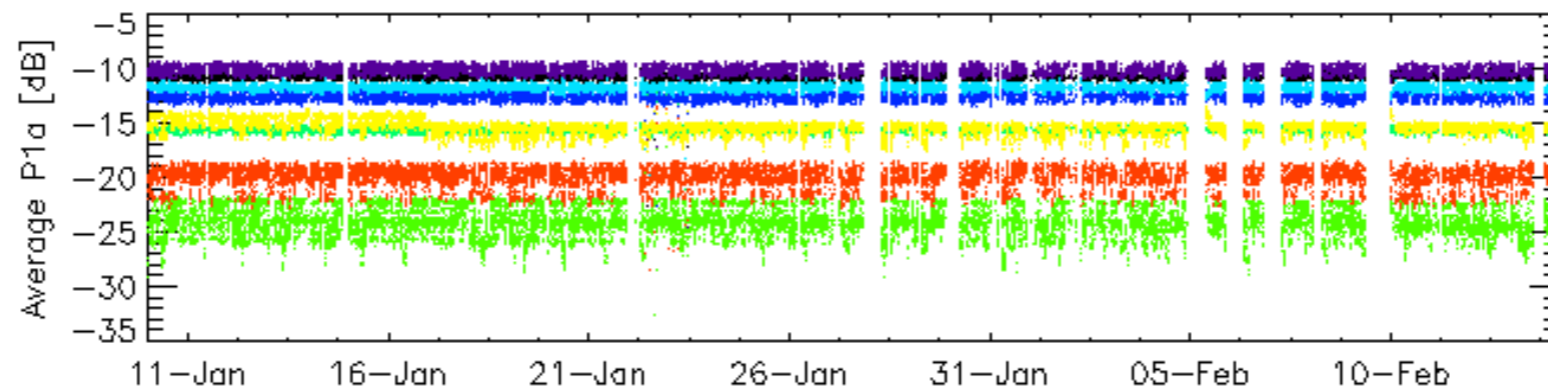
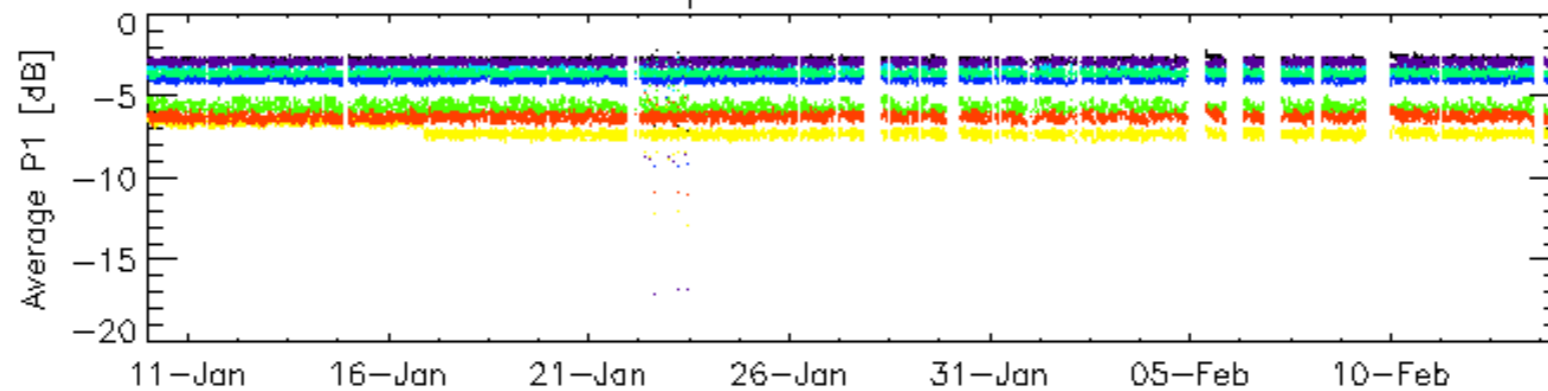


Cal pulses for WVS IS2



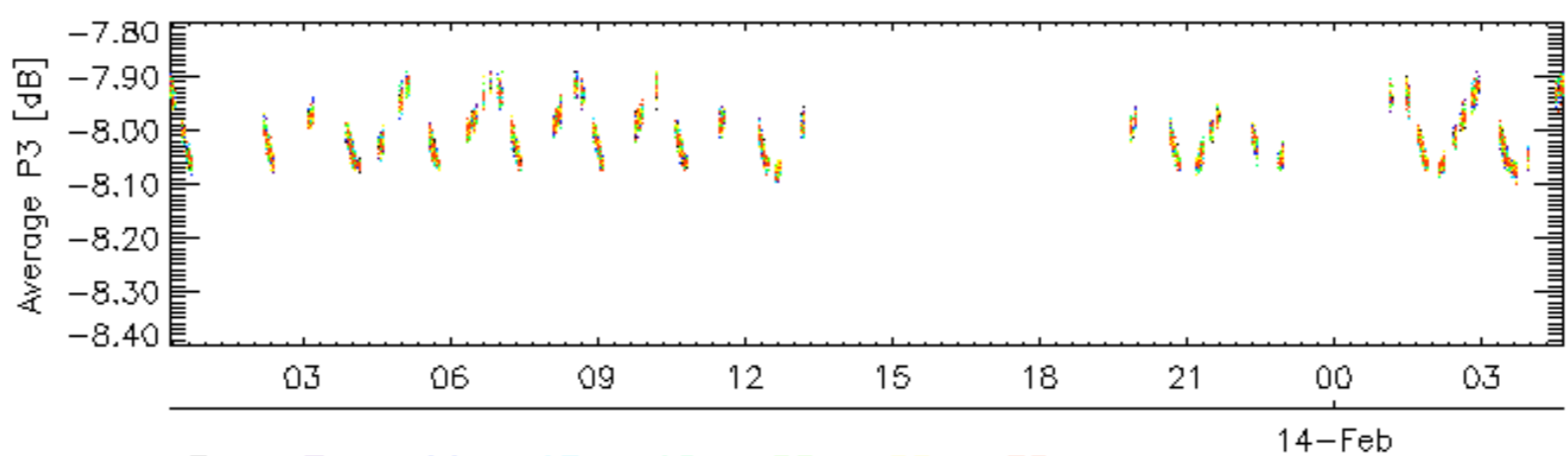
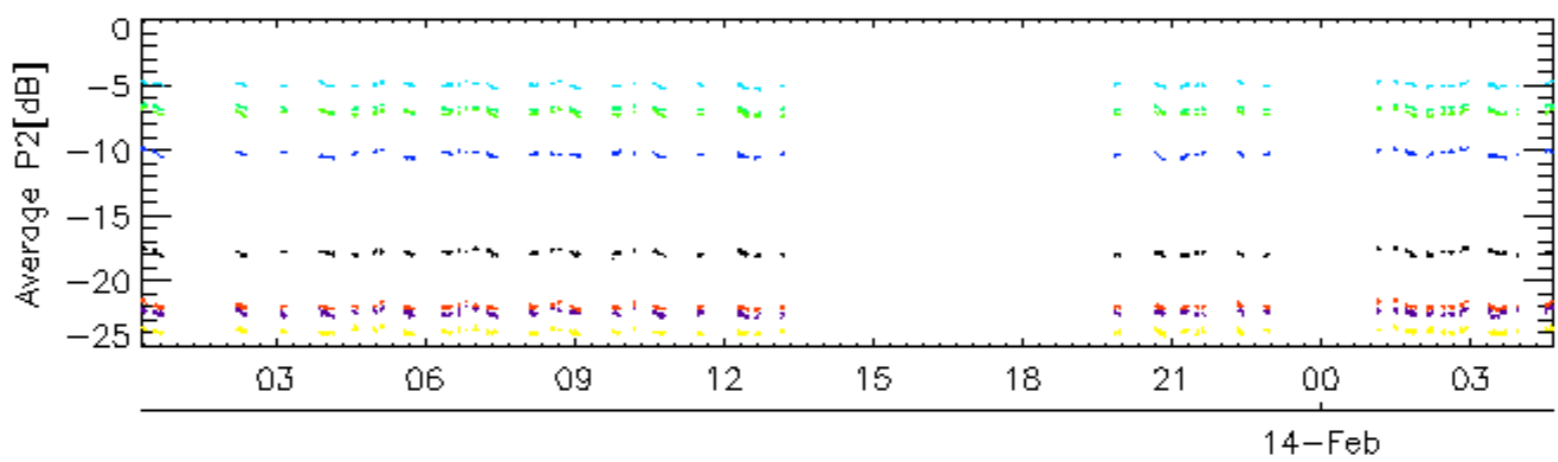
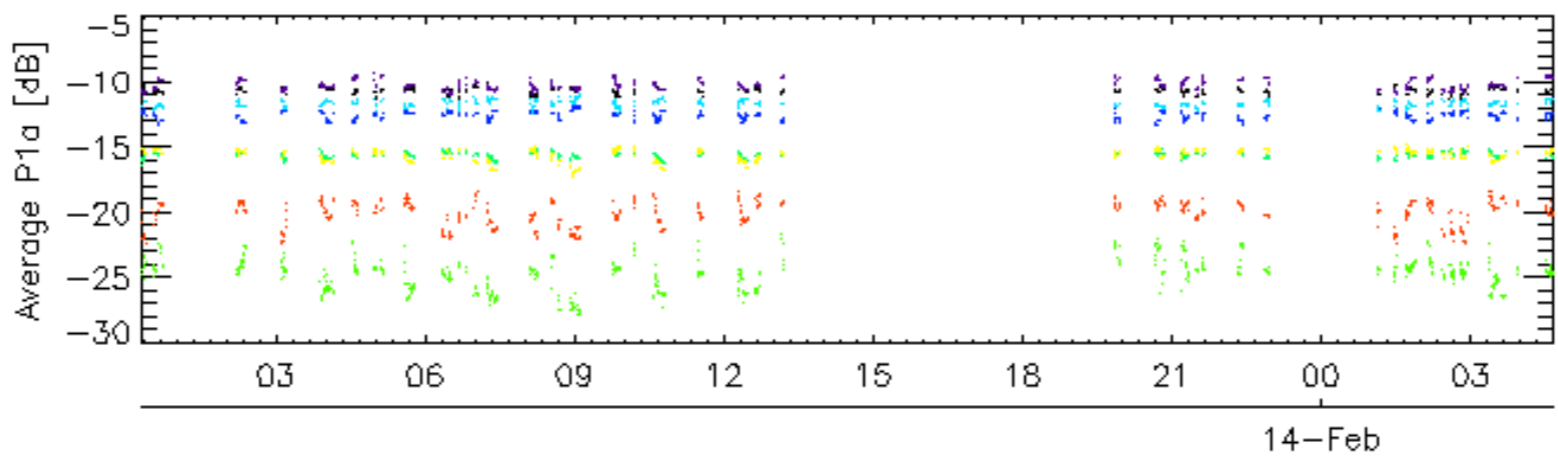
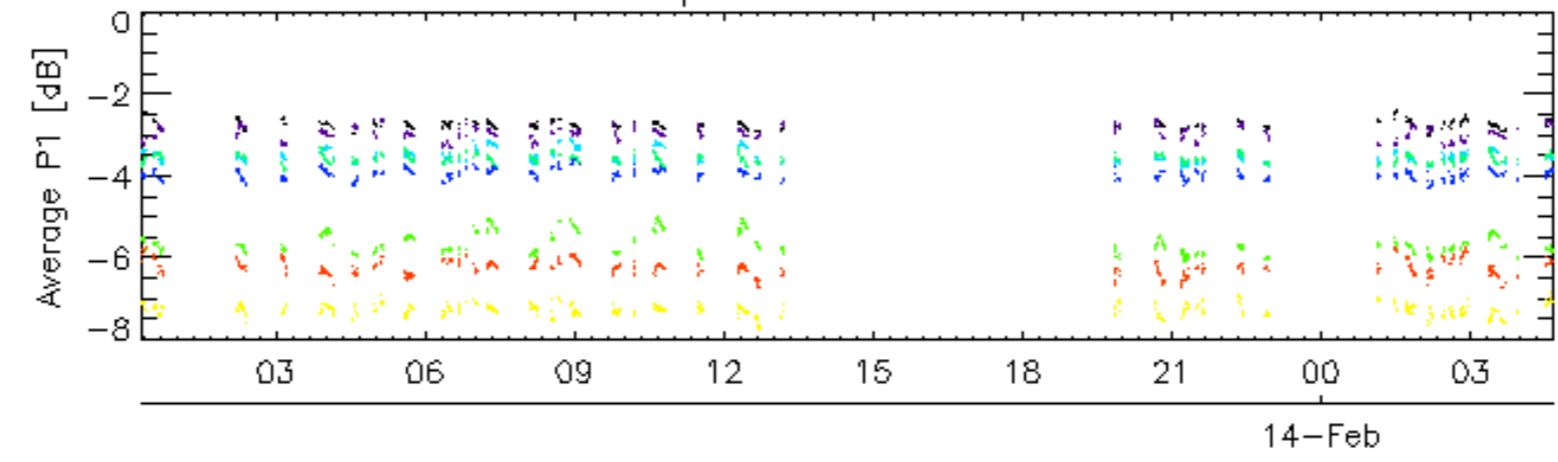
rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for GM1 SS3



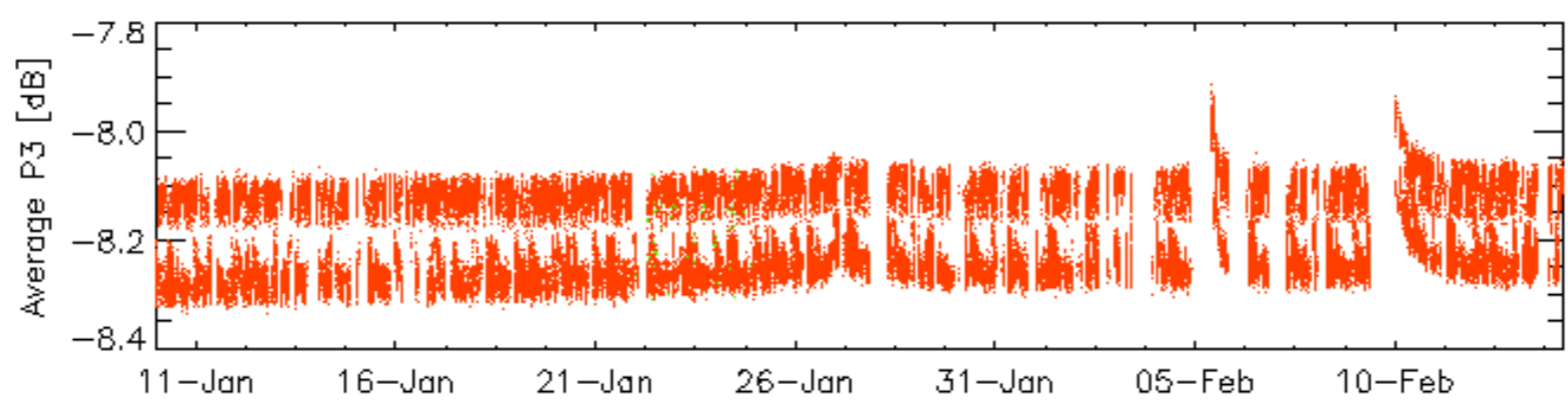
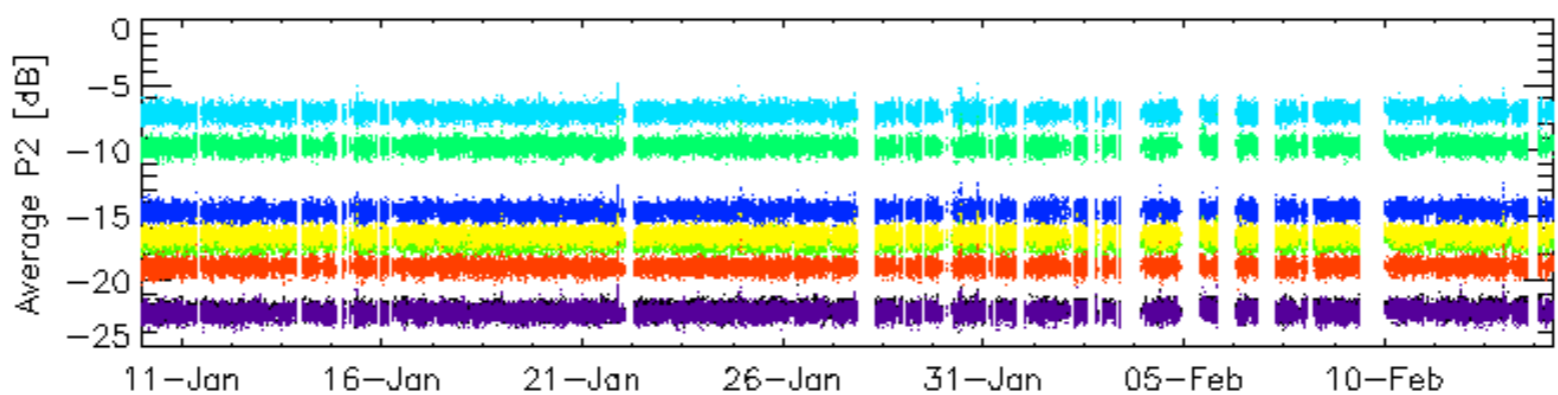
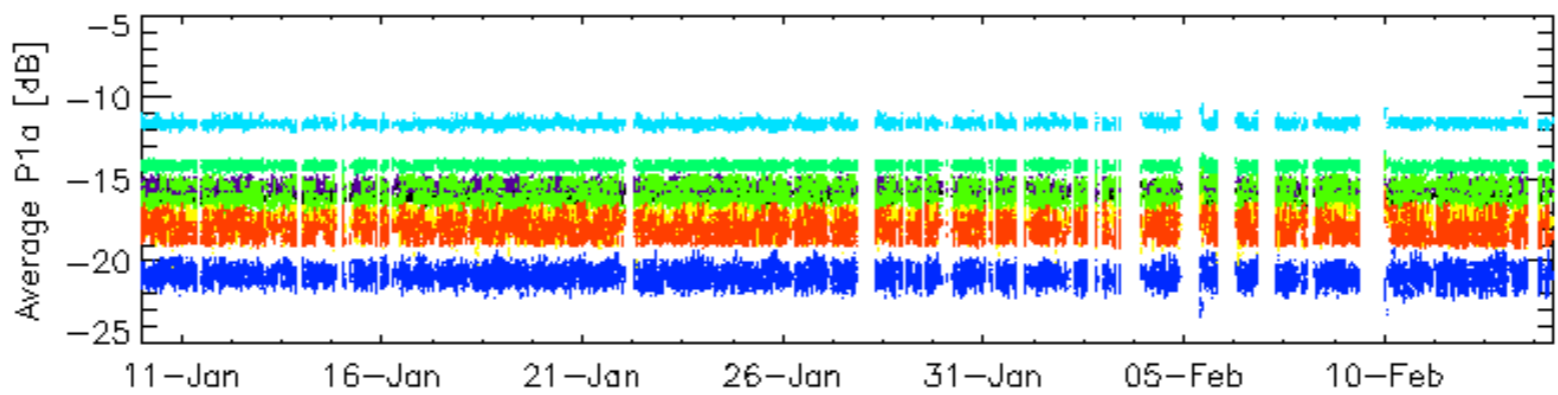
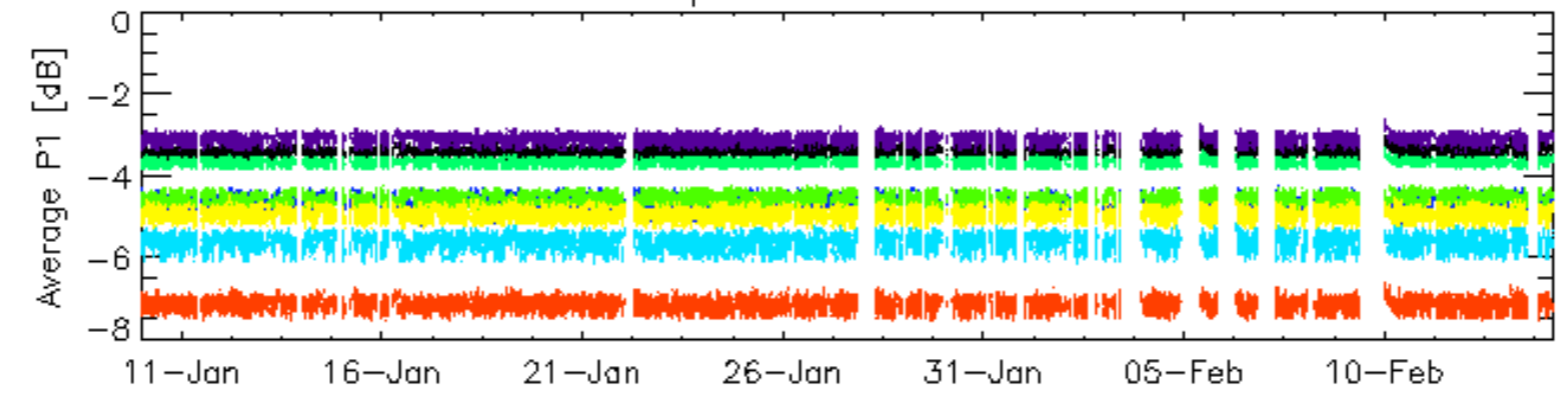
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3



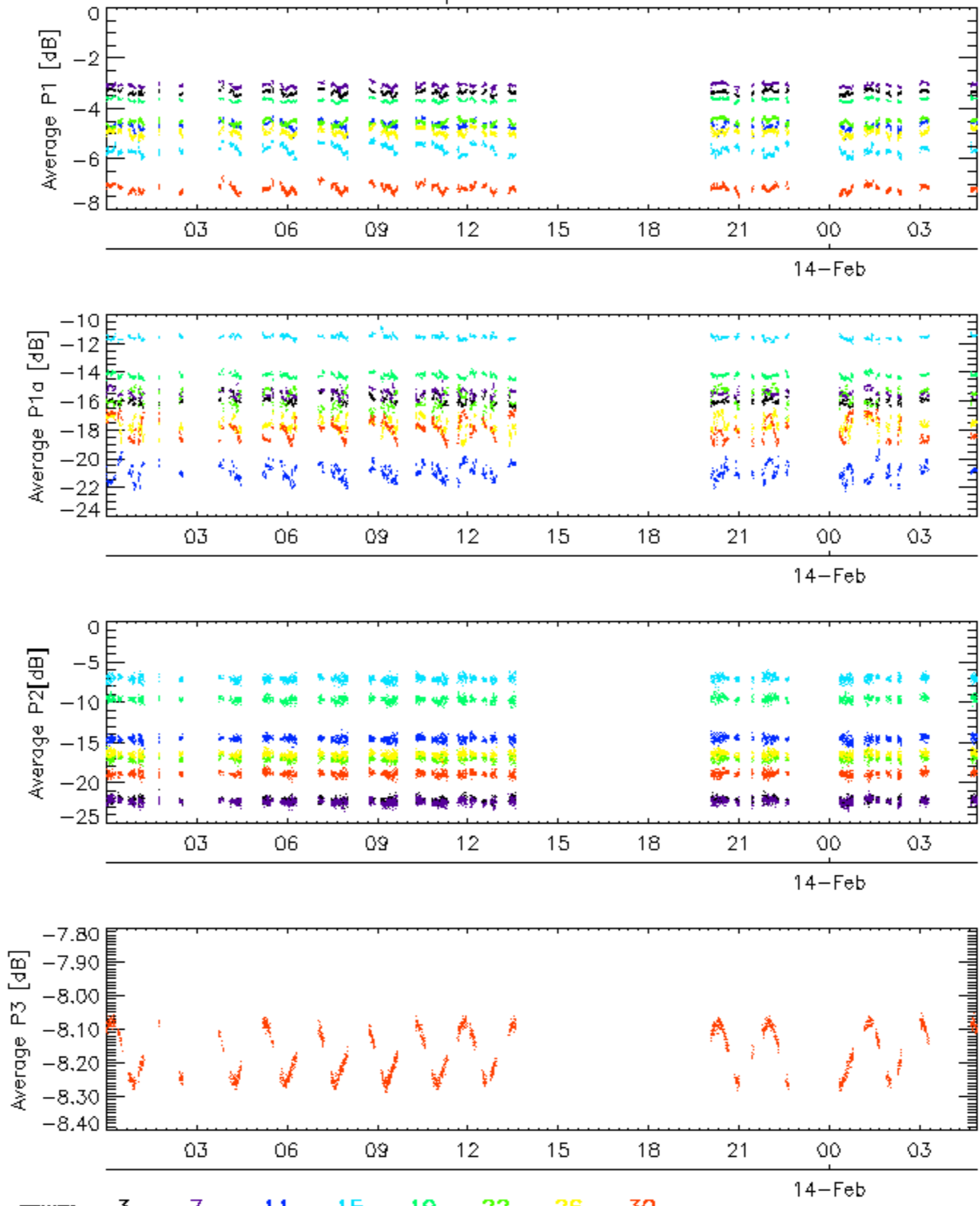
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

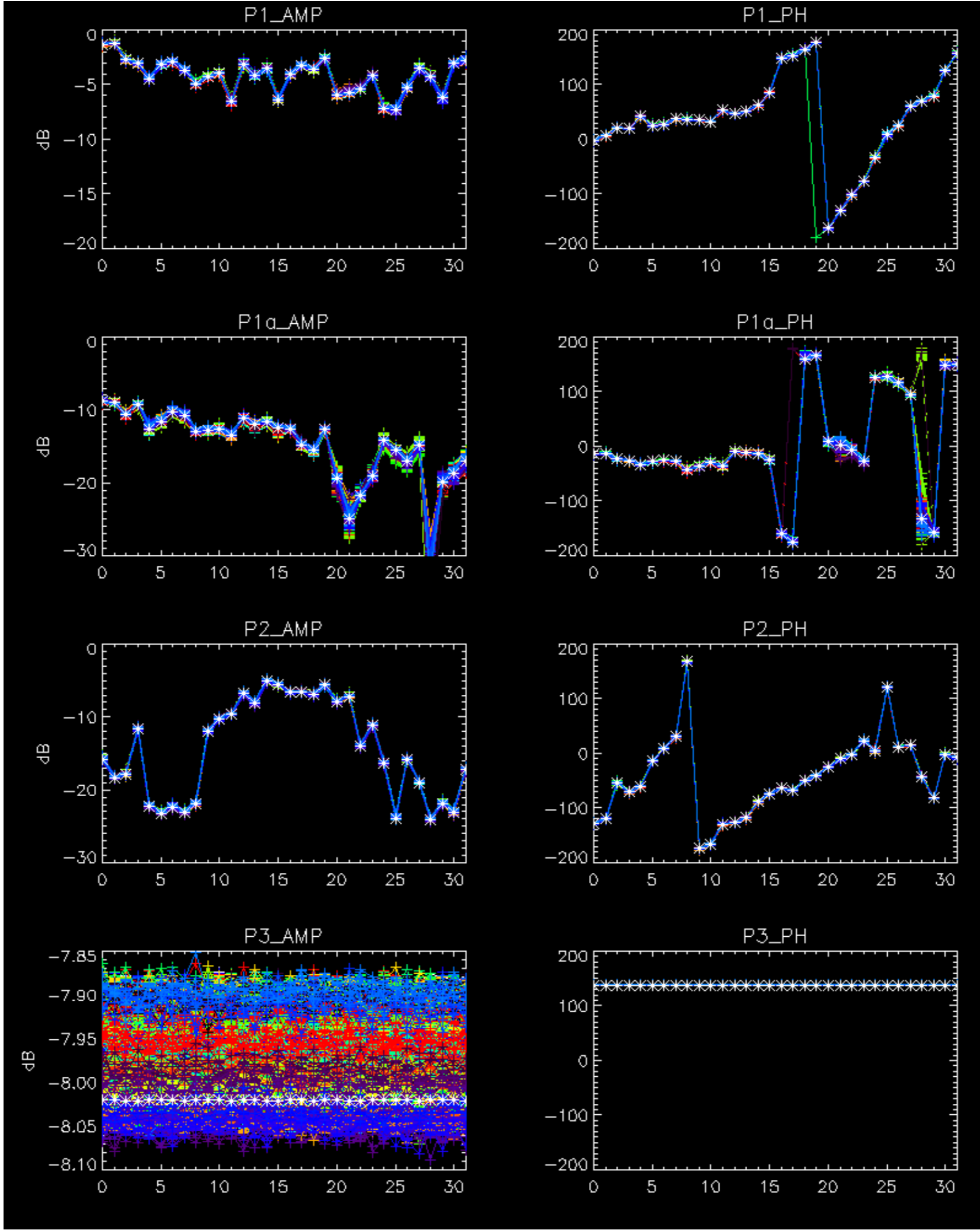


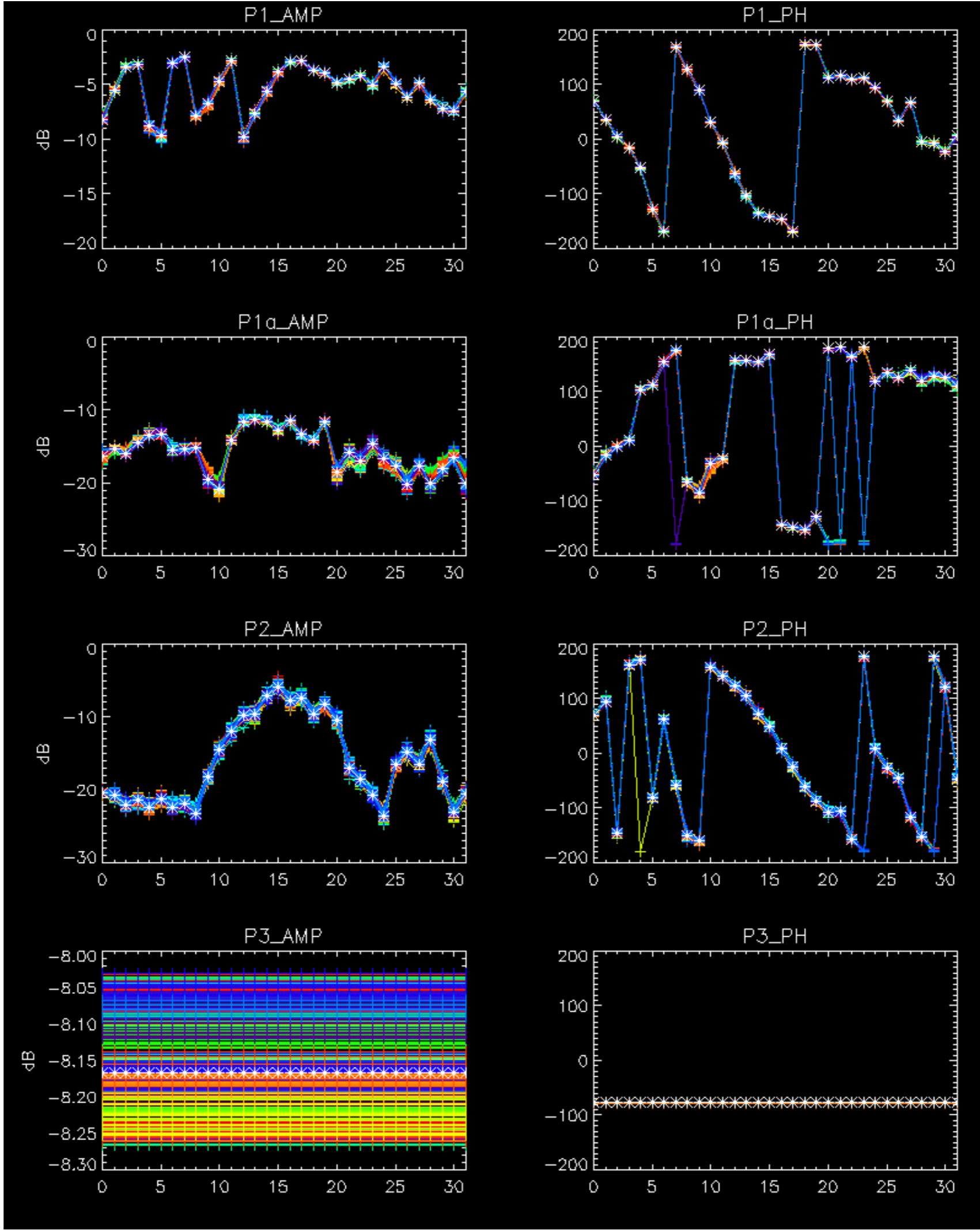
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



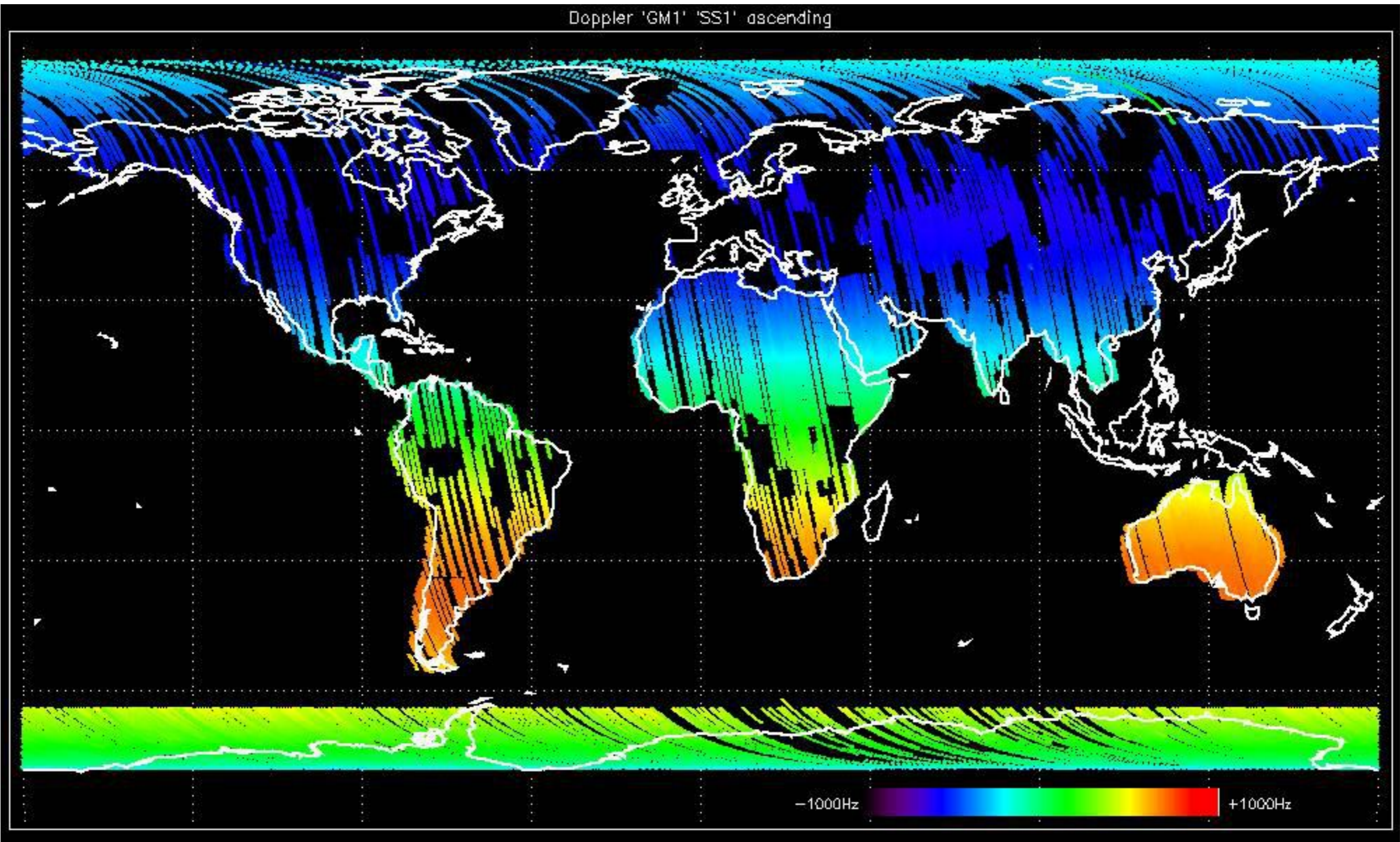
No anomalies observed.



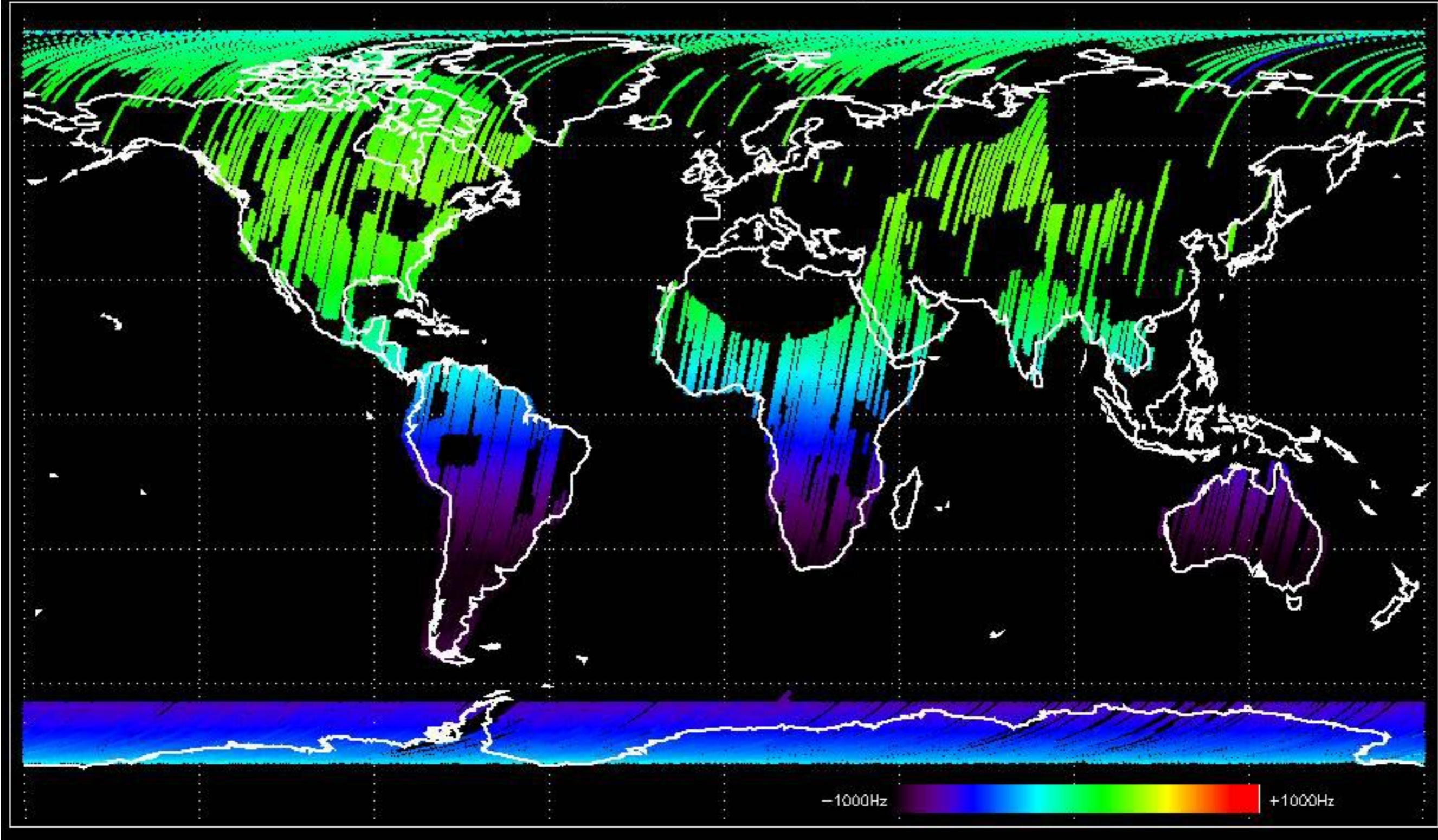


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

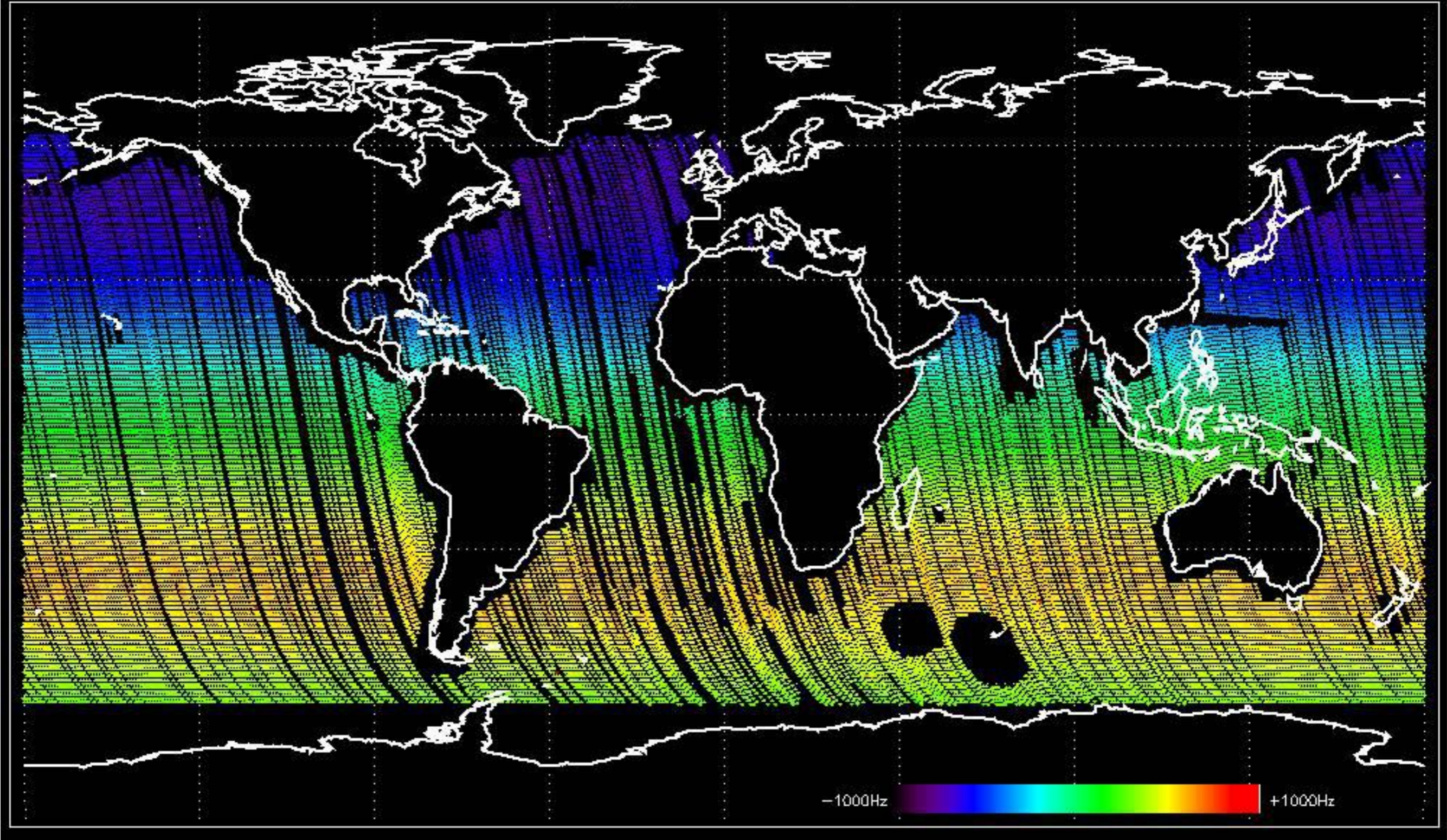
Doppler 'GM1' 'SS1' ascending



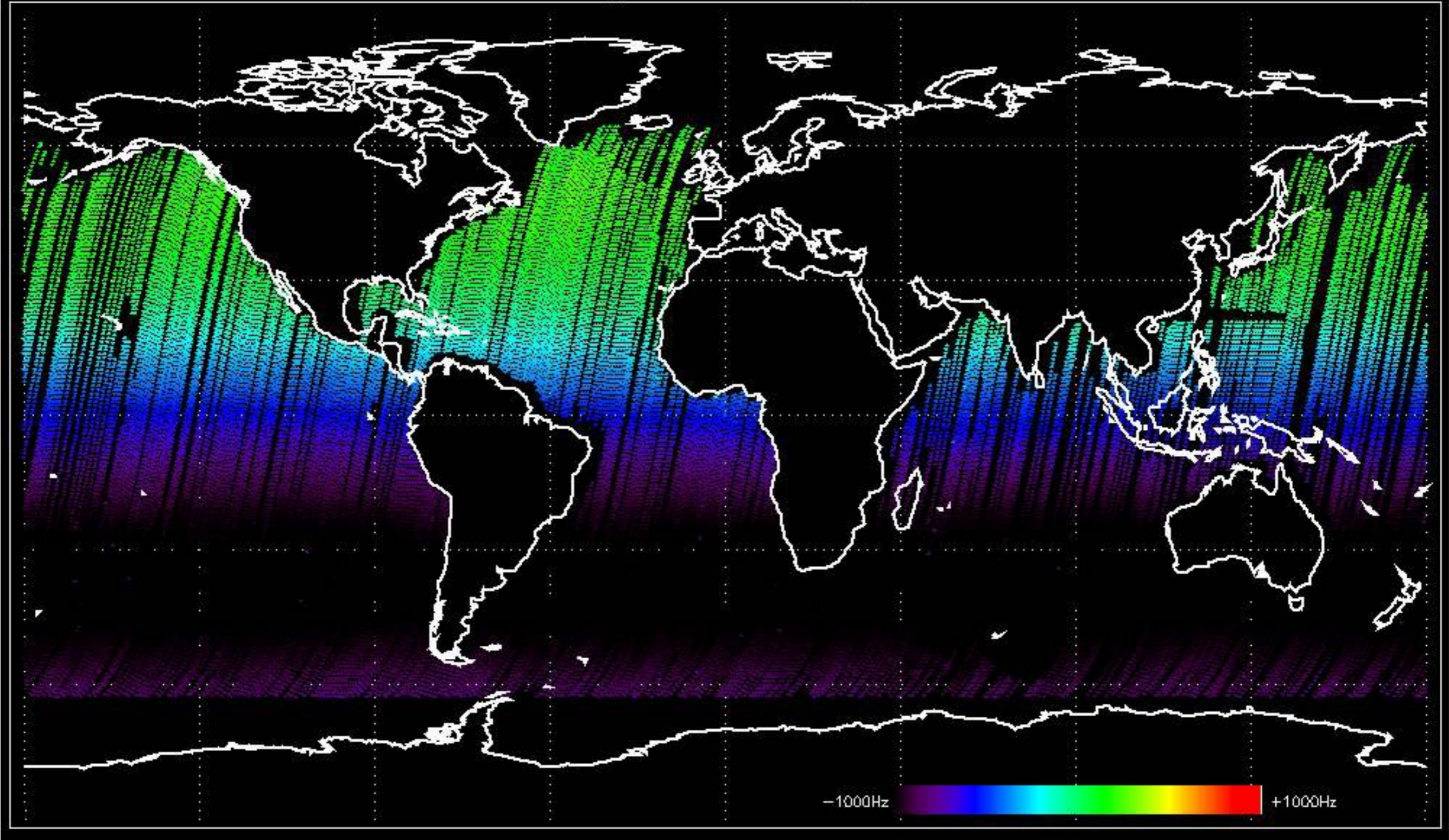
Doppler 'GM1' 'SS1' descending



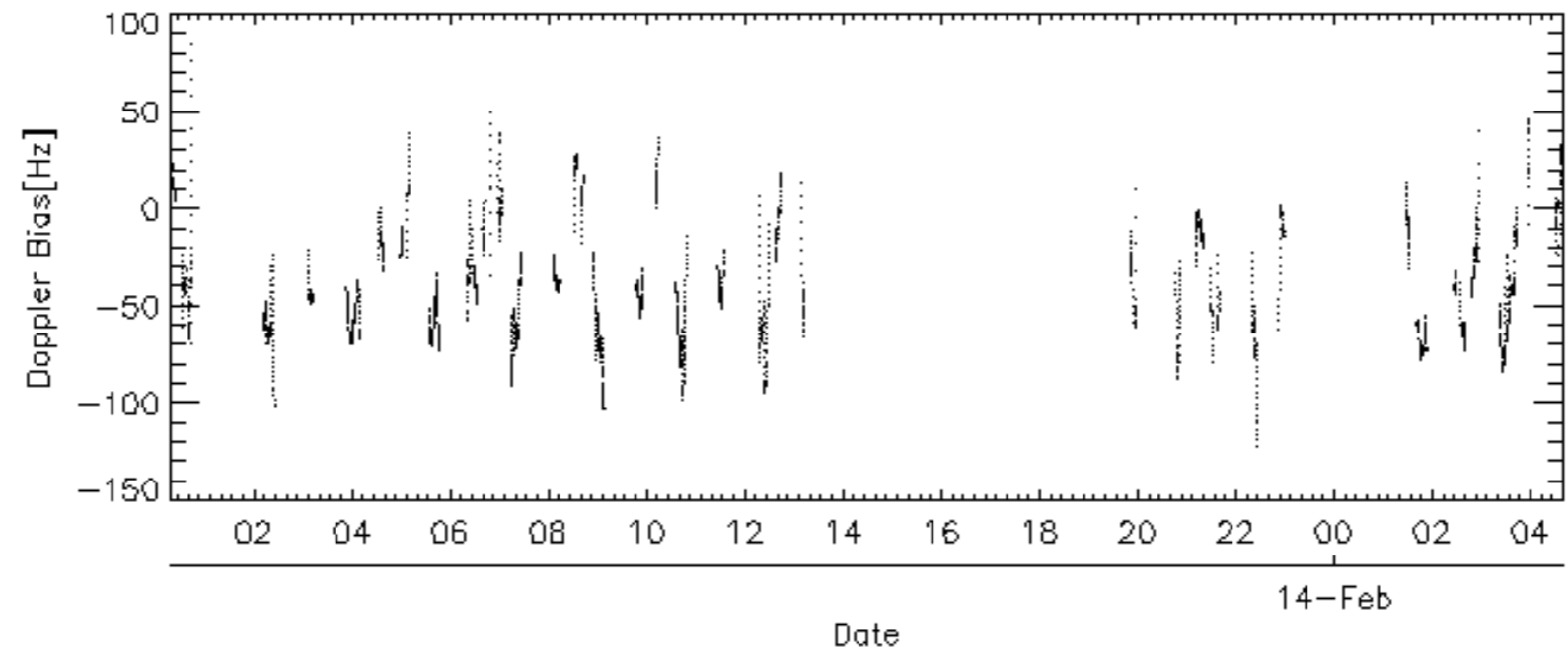
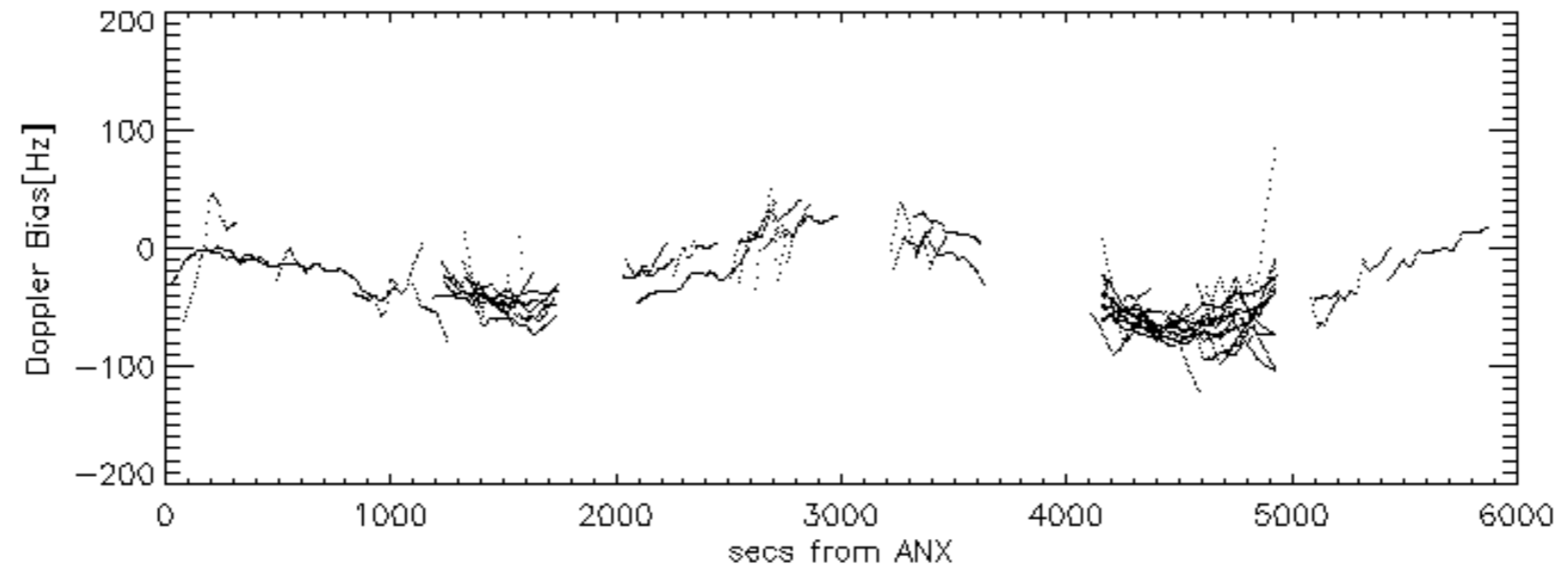
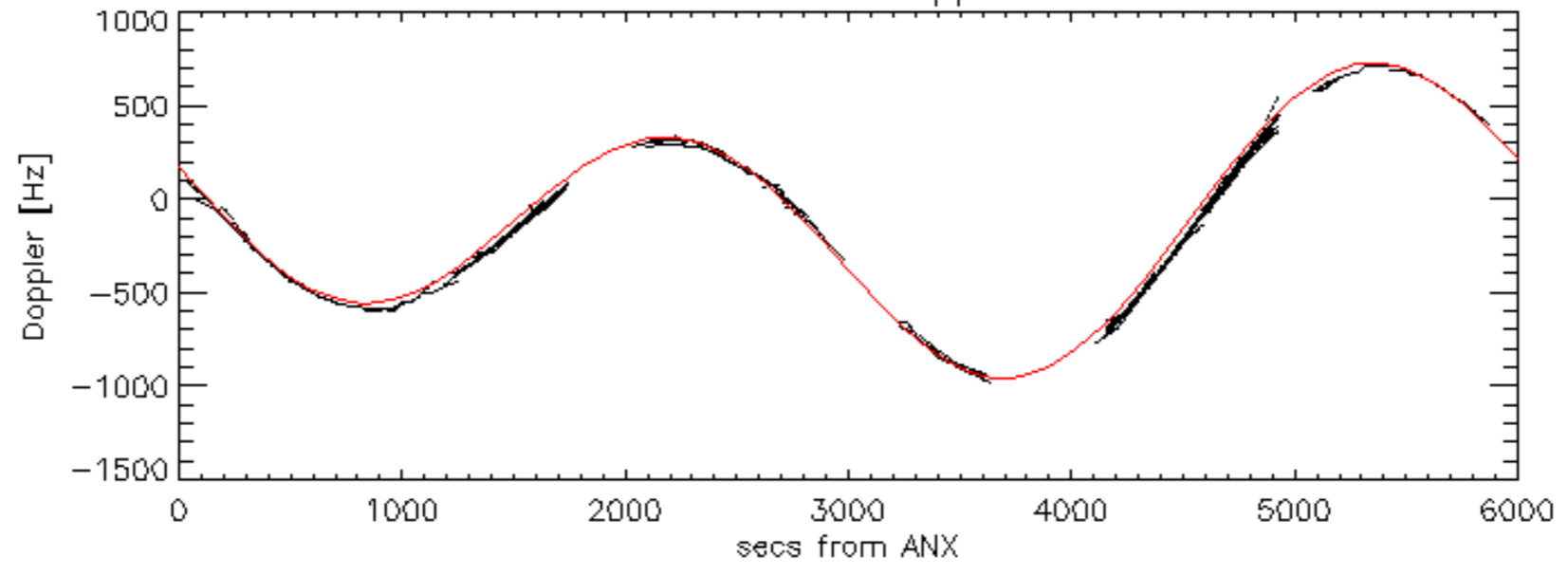
Doppler 'WVS' 'IS2' ascending

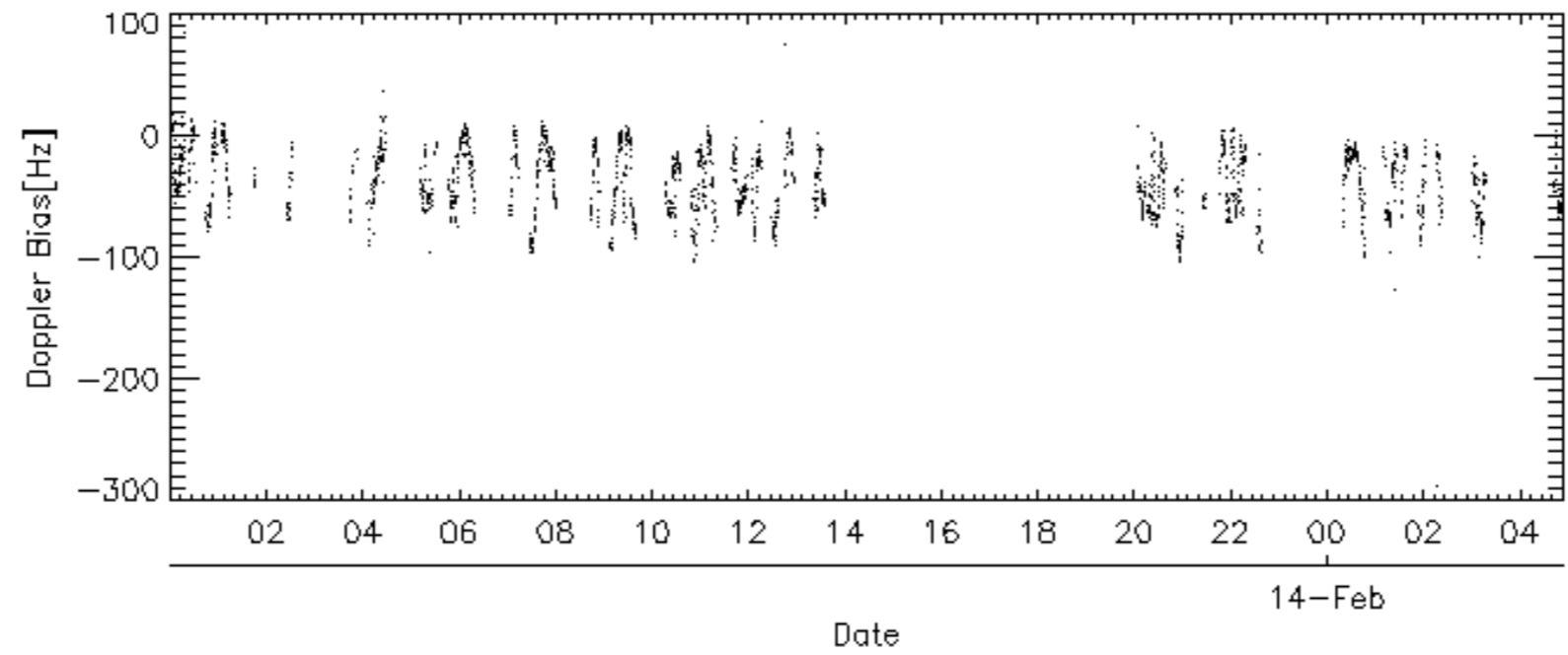
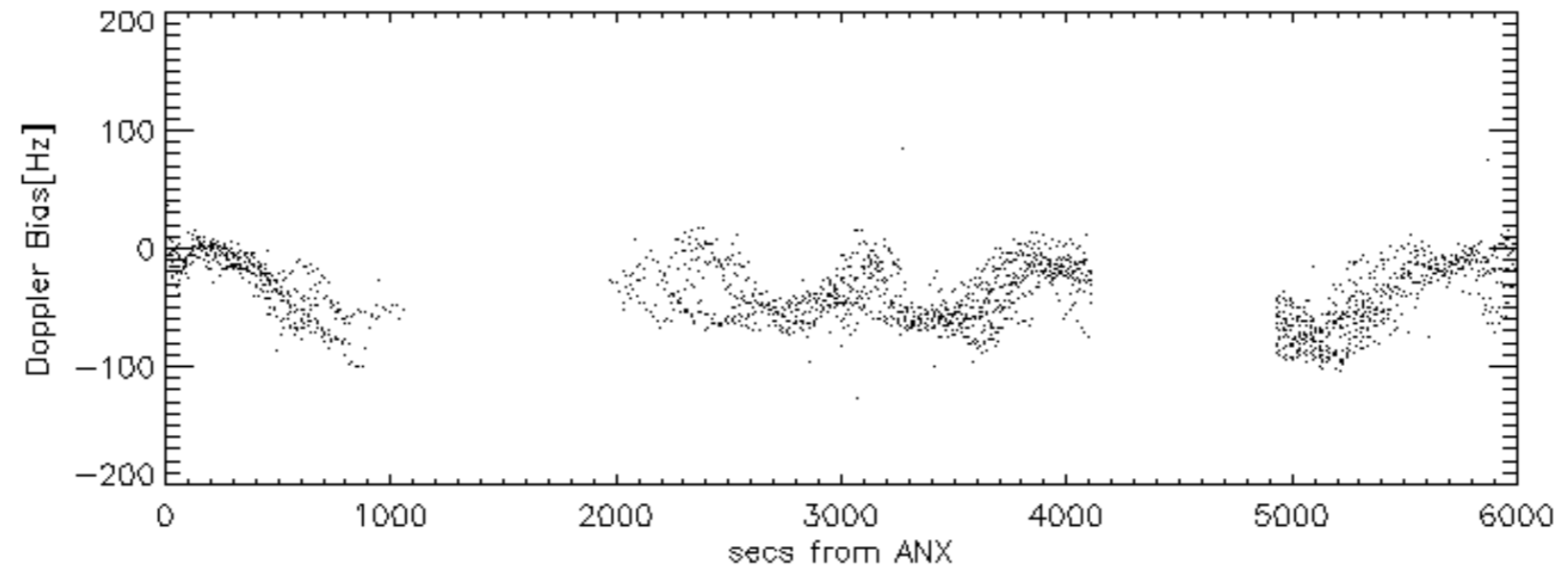
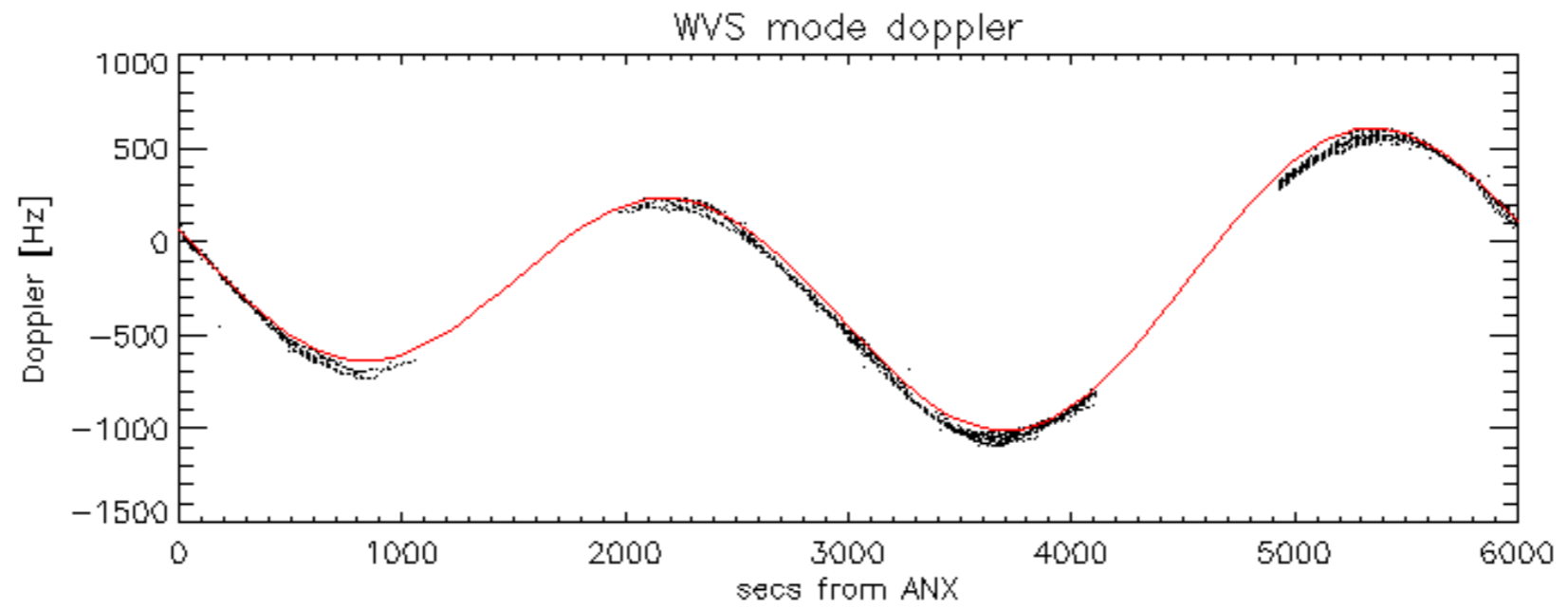


Doppler 'WVS' 'IS2' descending

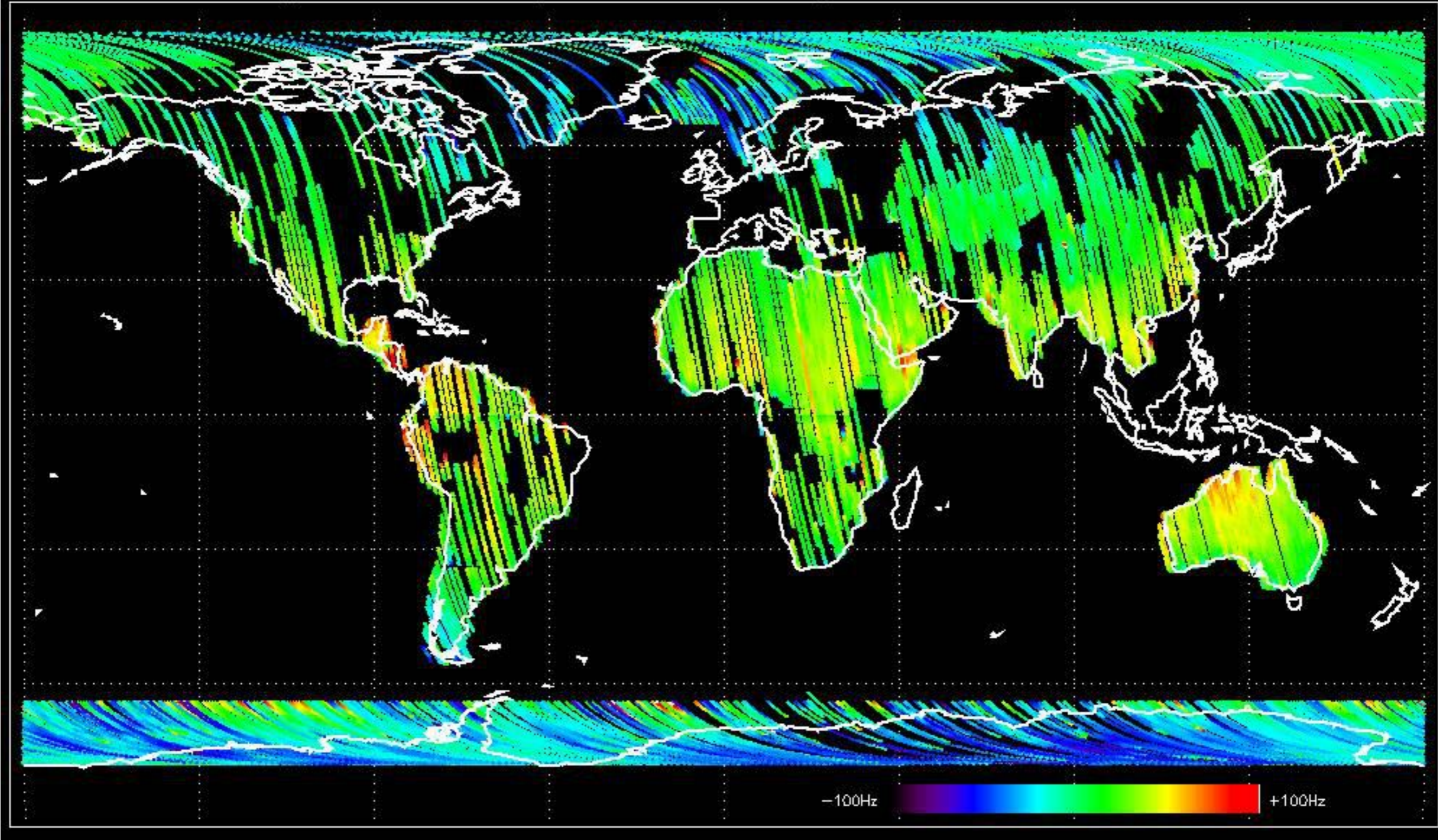


GM1 mode doppler

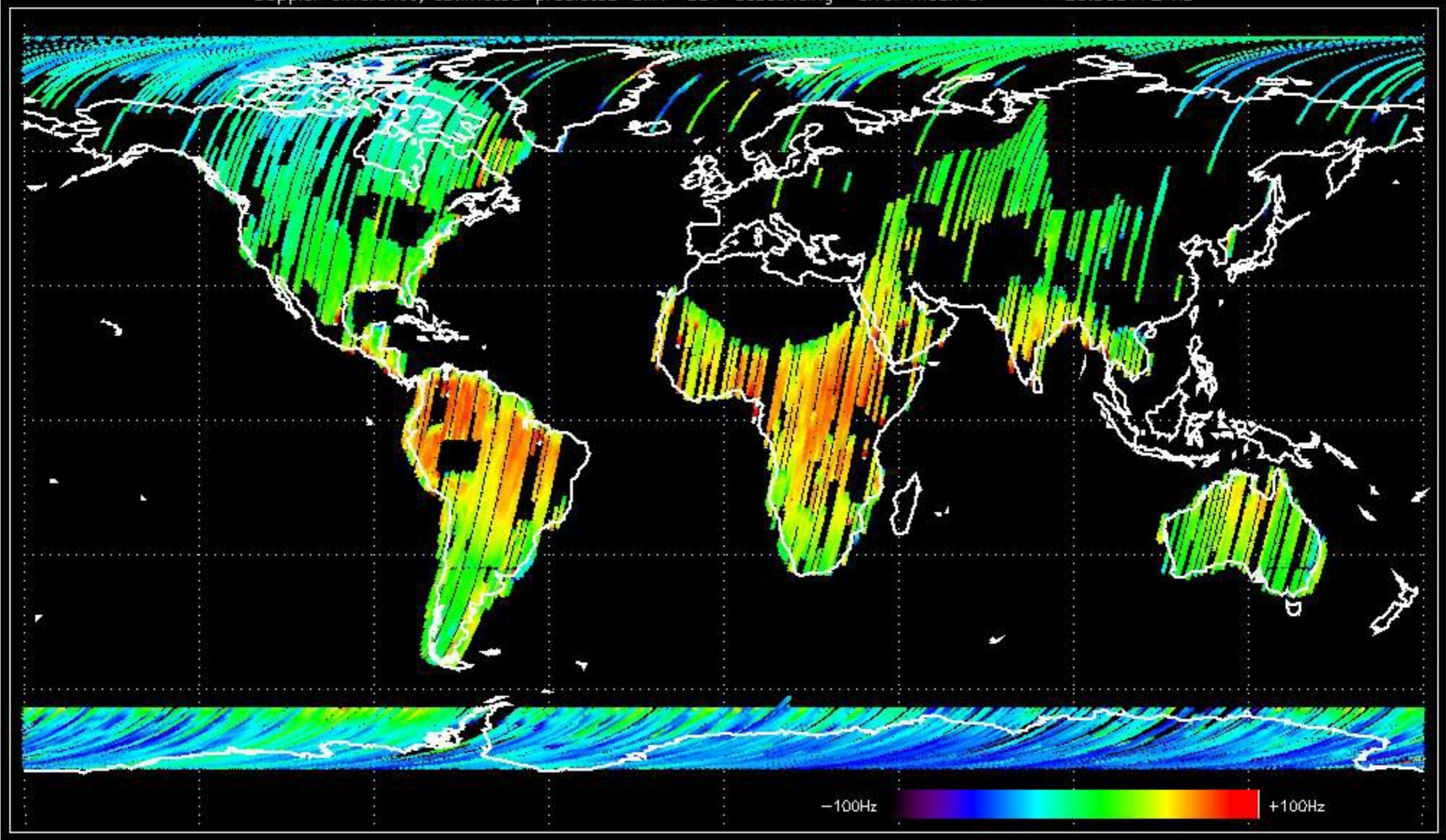




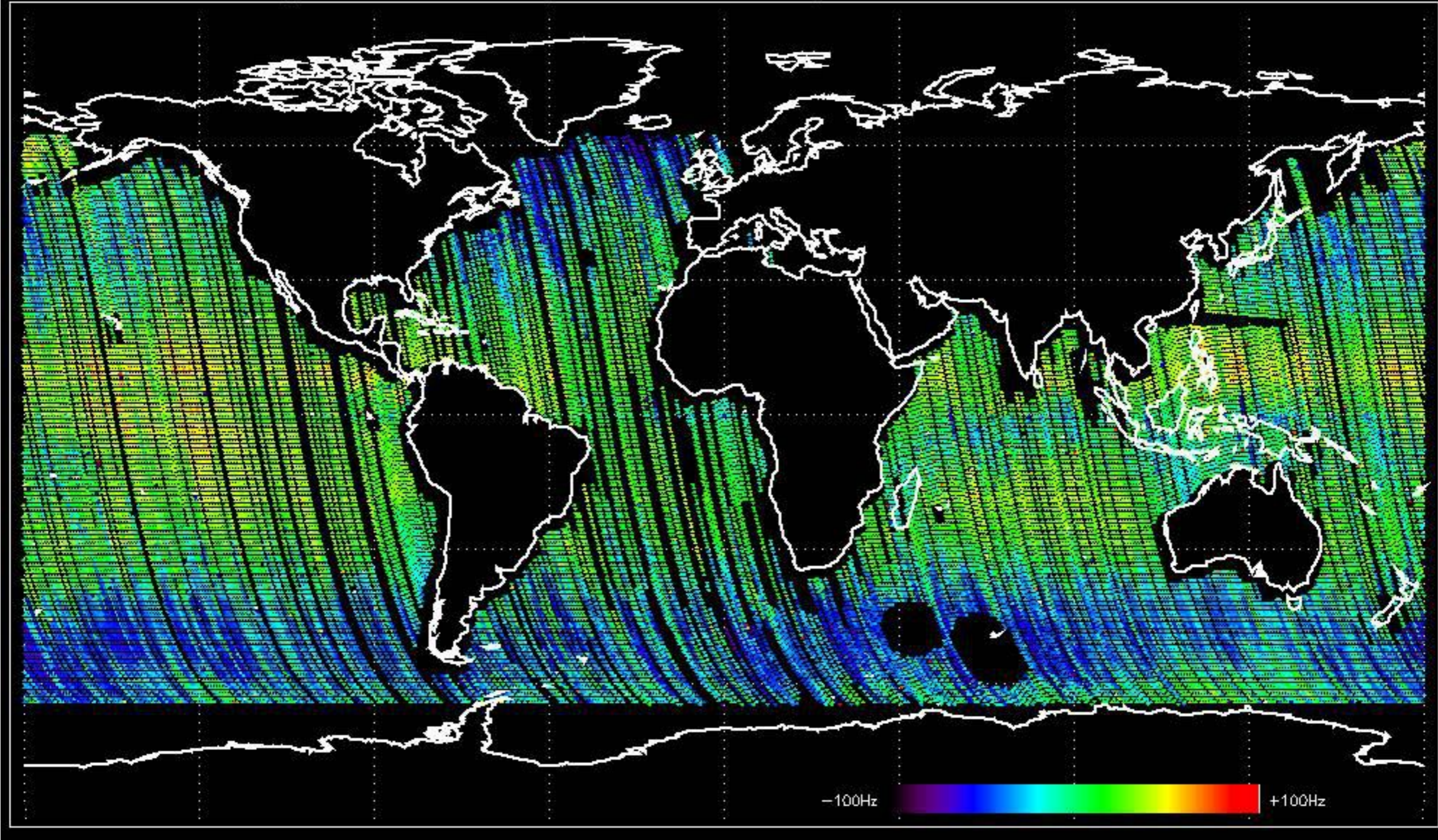
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -31.865529 Hz



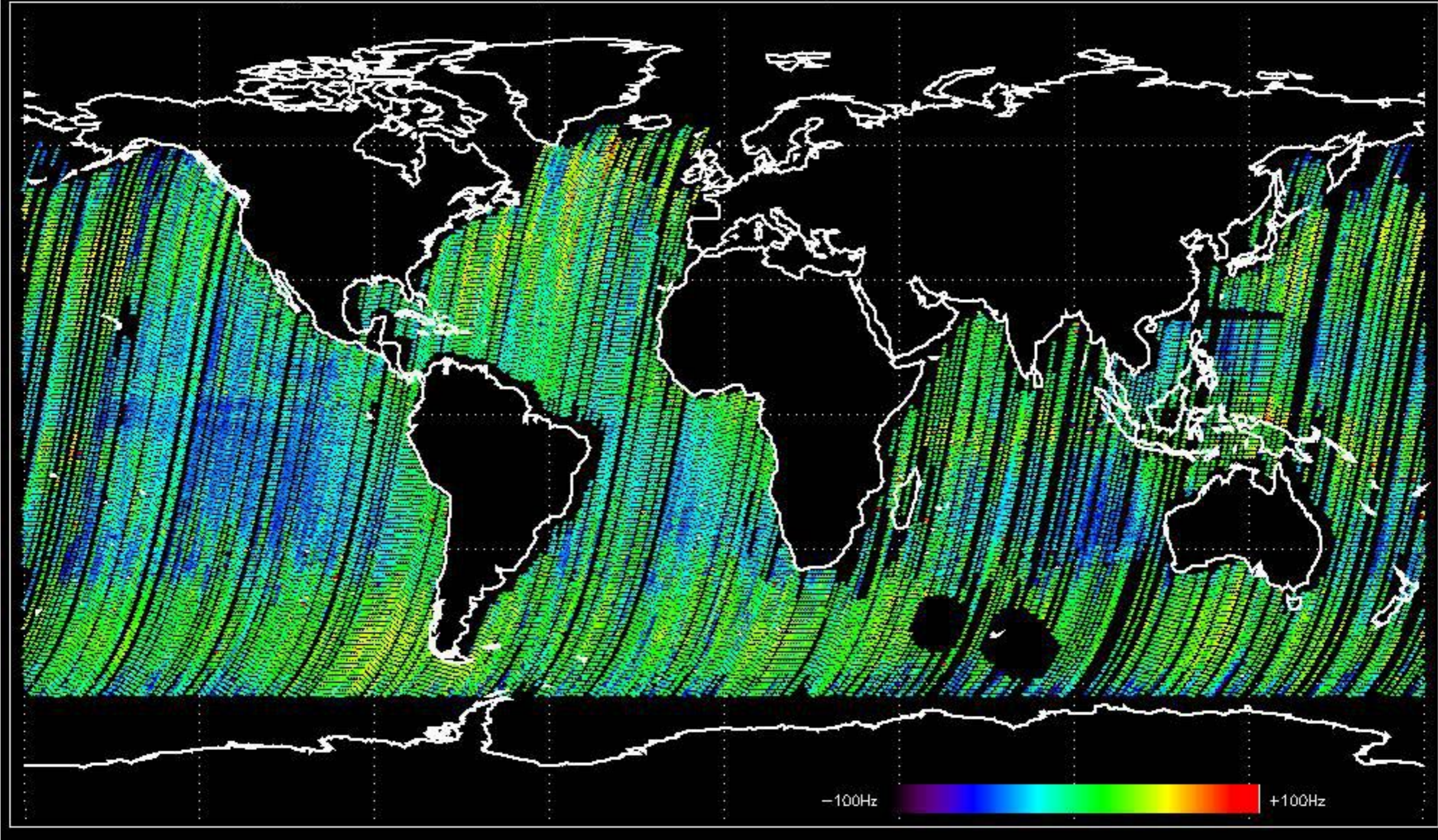
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -29.563172 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -33.989221 Hz

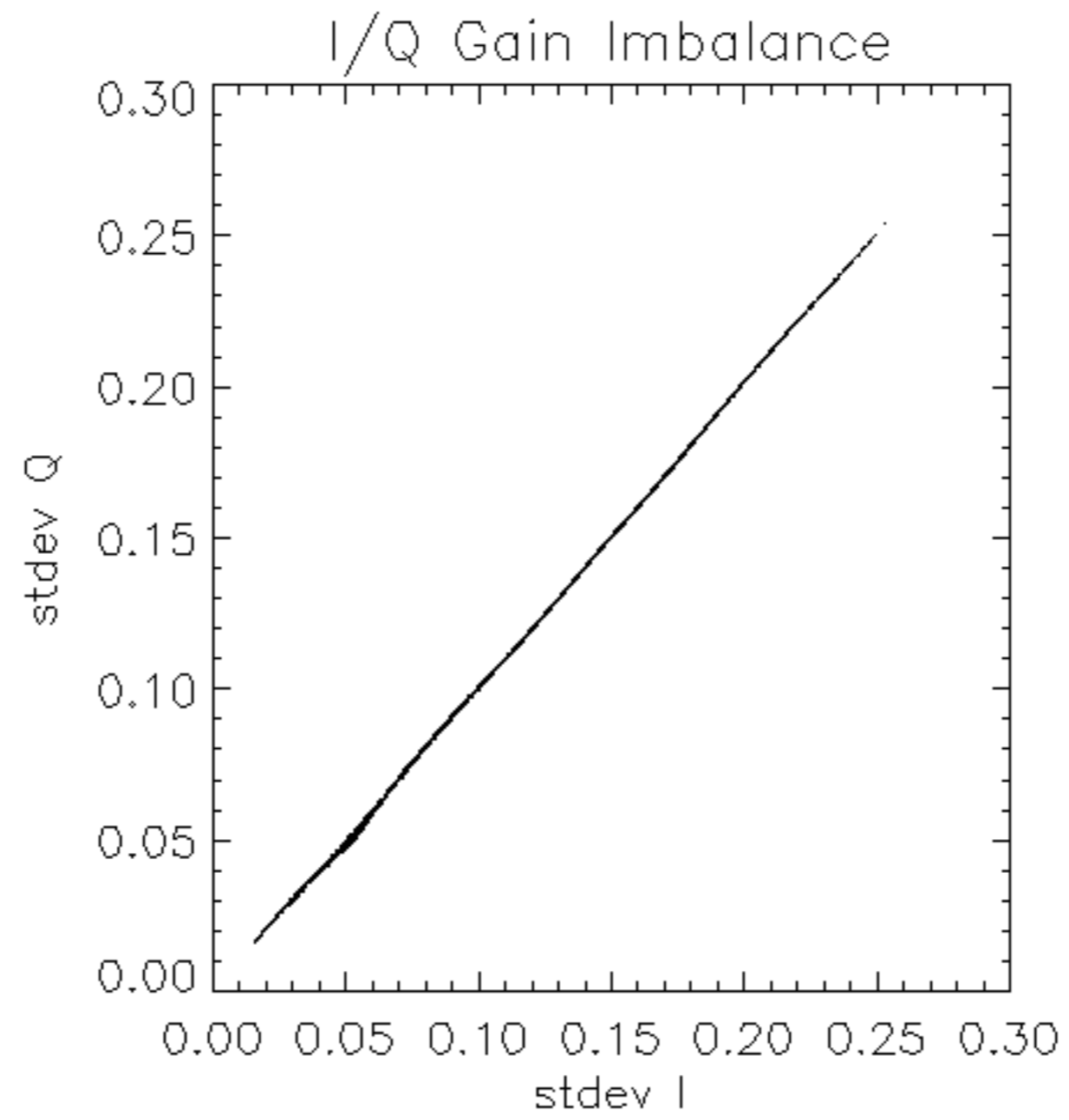


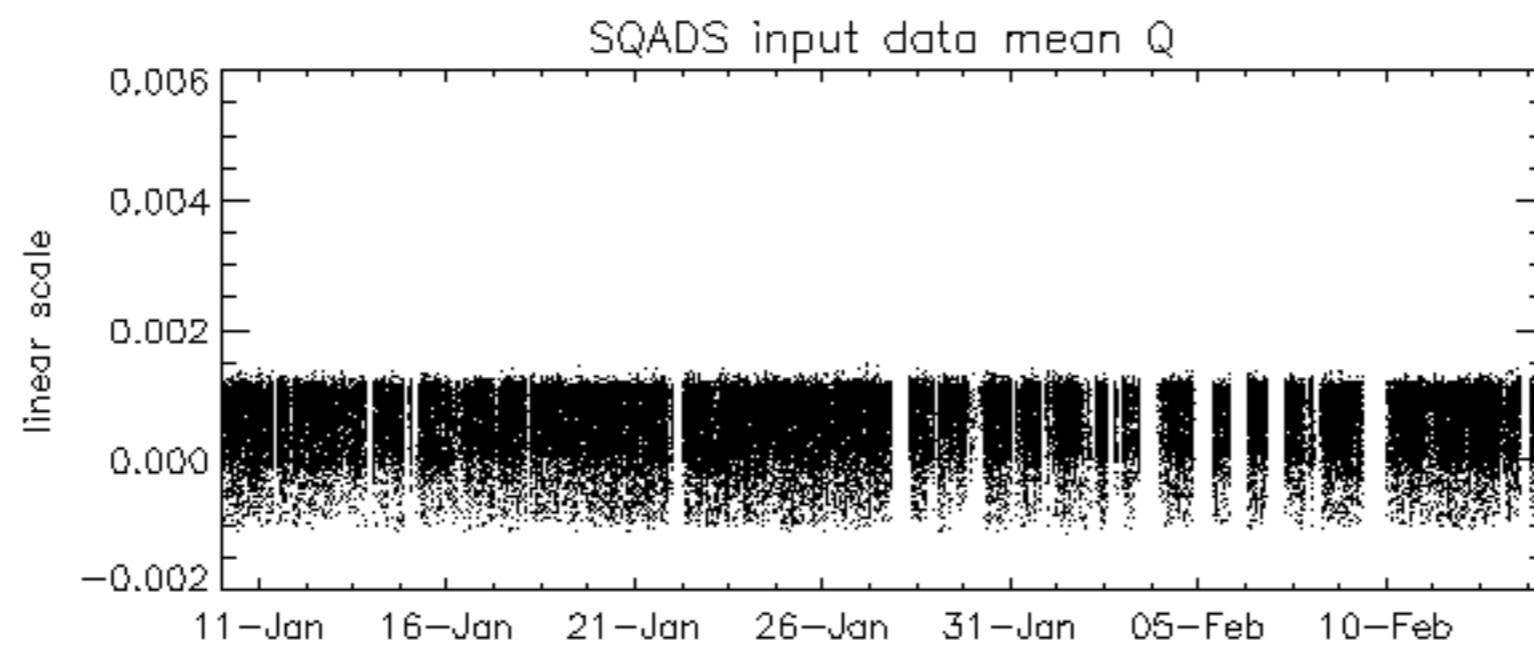
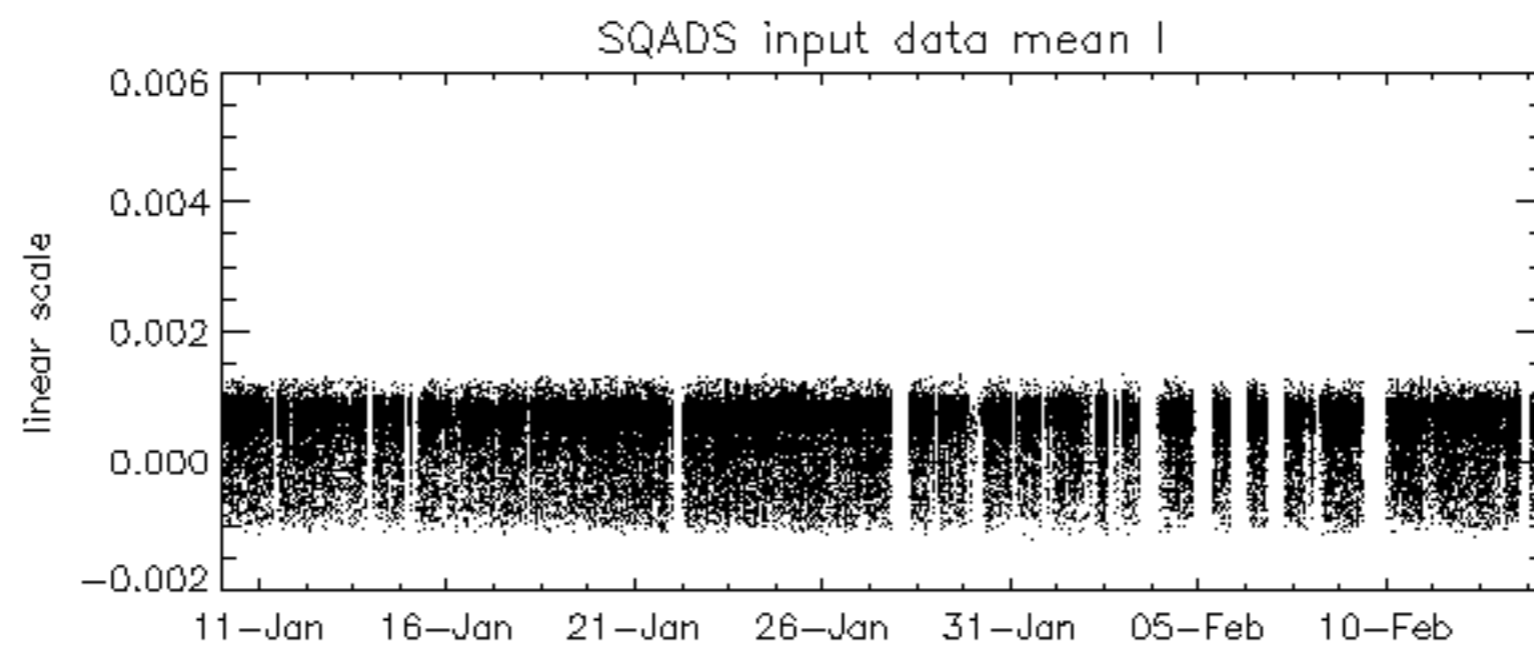
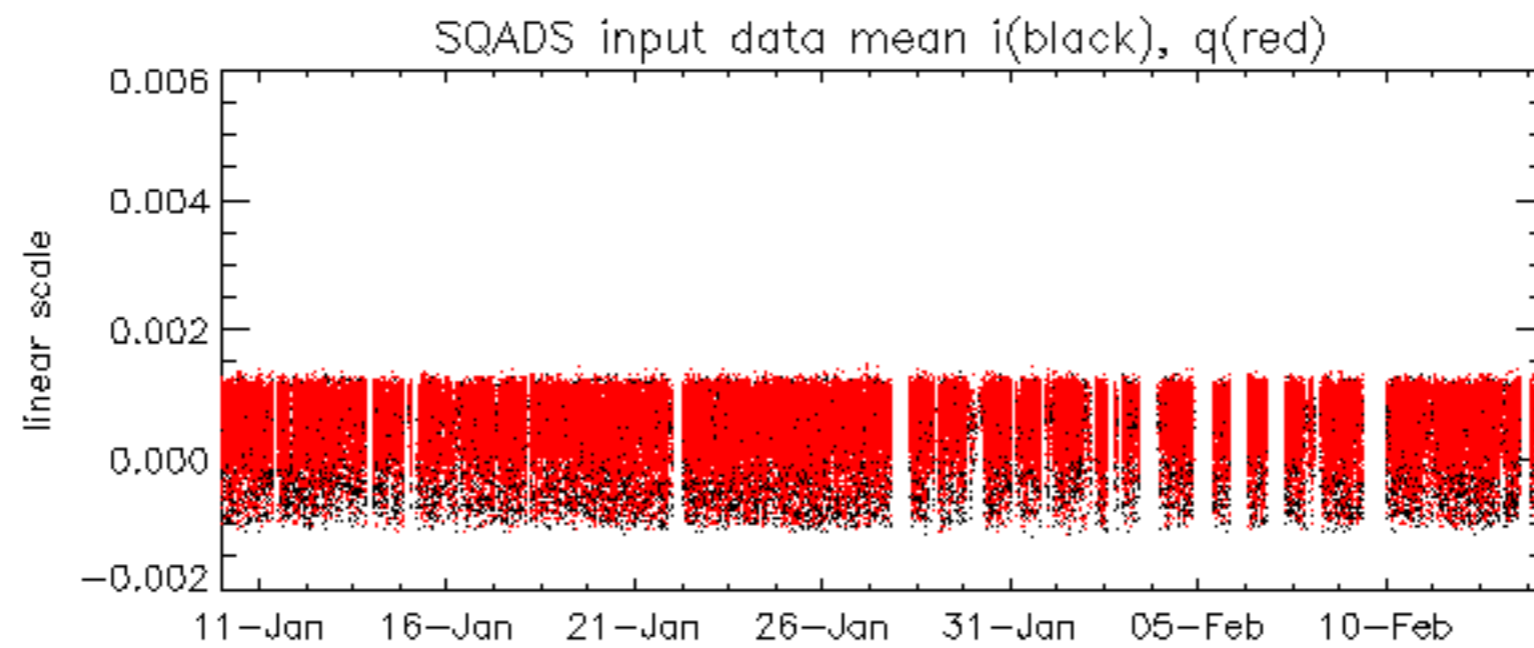
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -34.979457 Hz

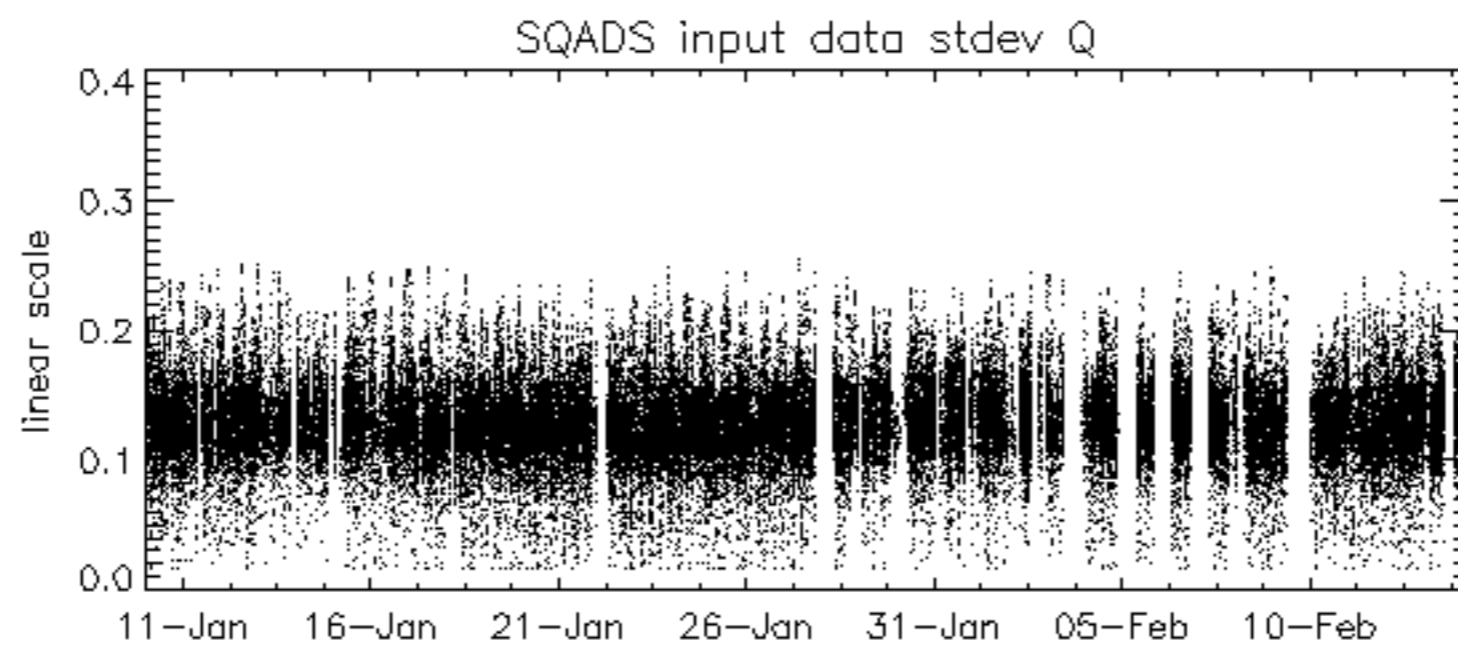
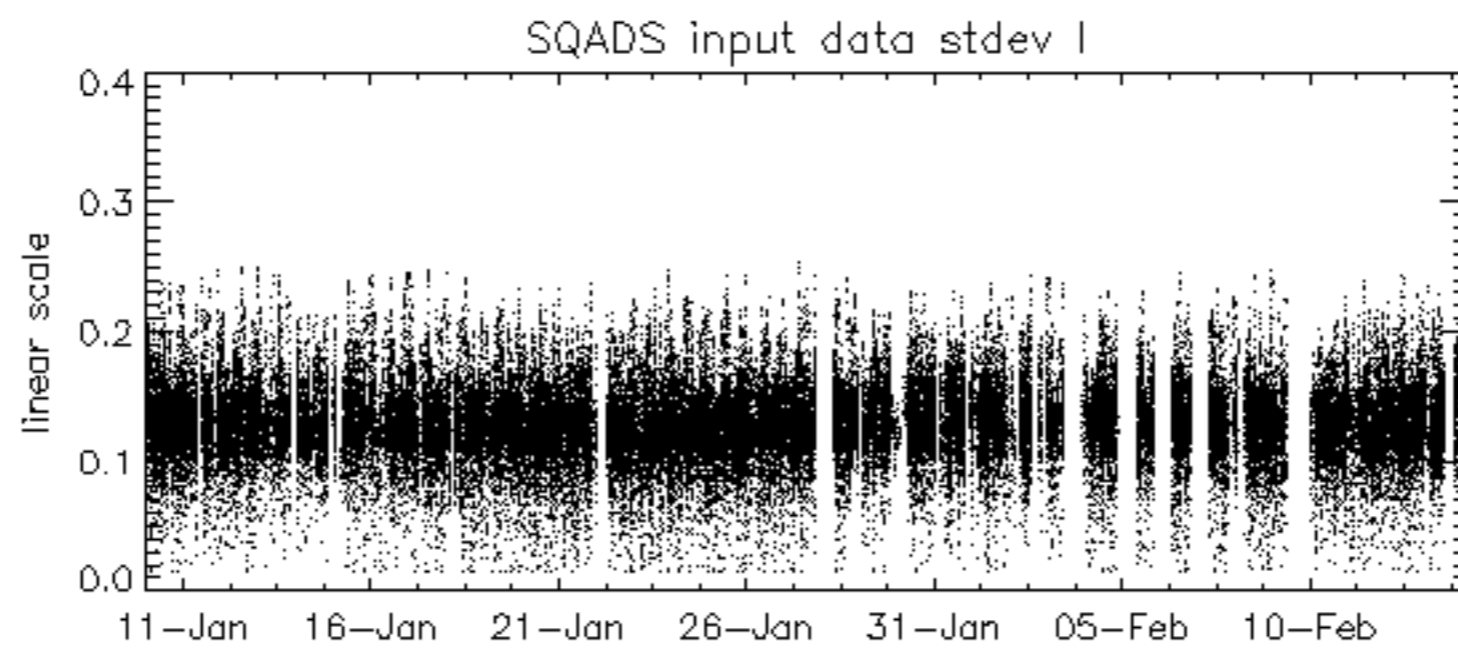
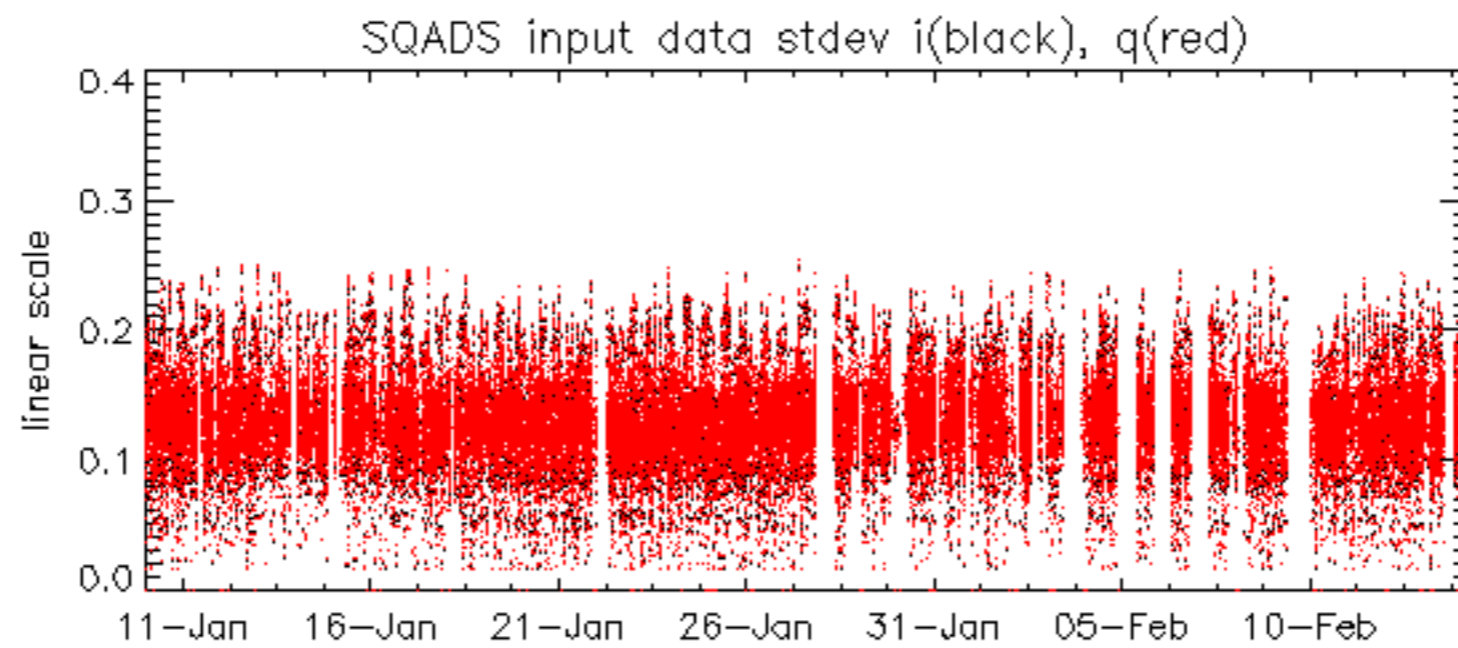


No anomalies observed on available MS products:

No anomalies observed.



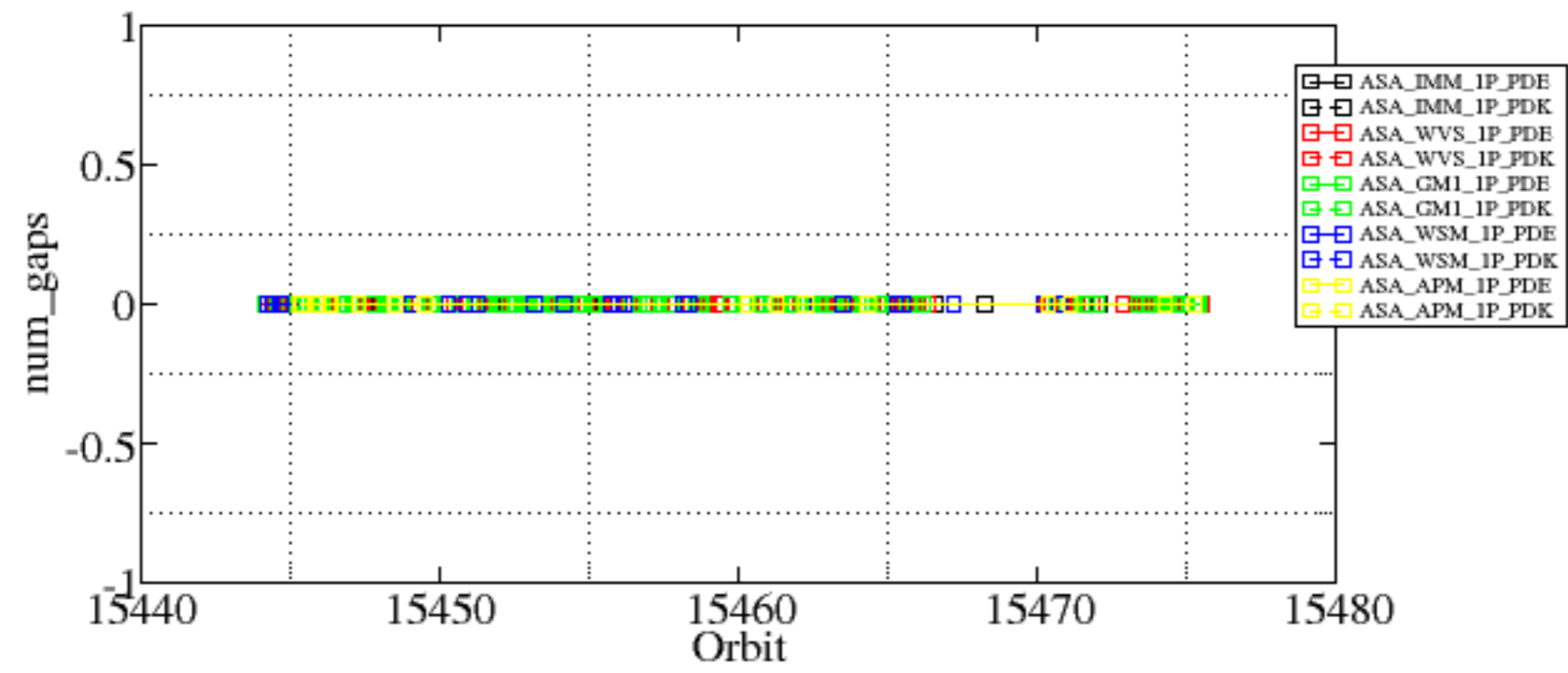


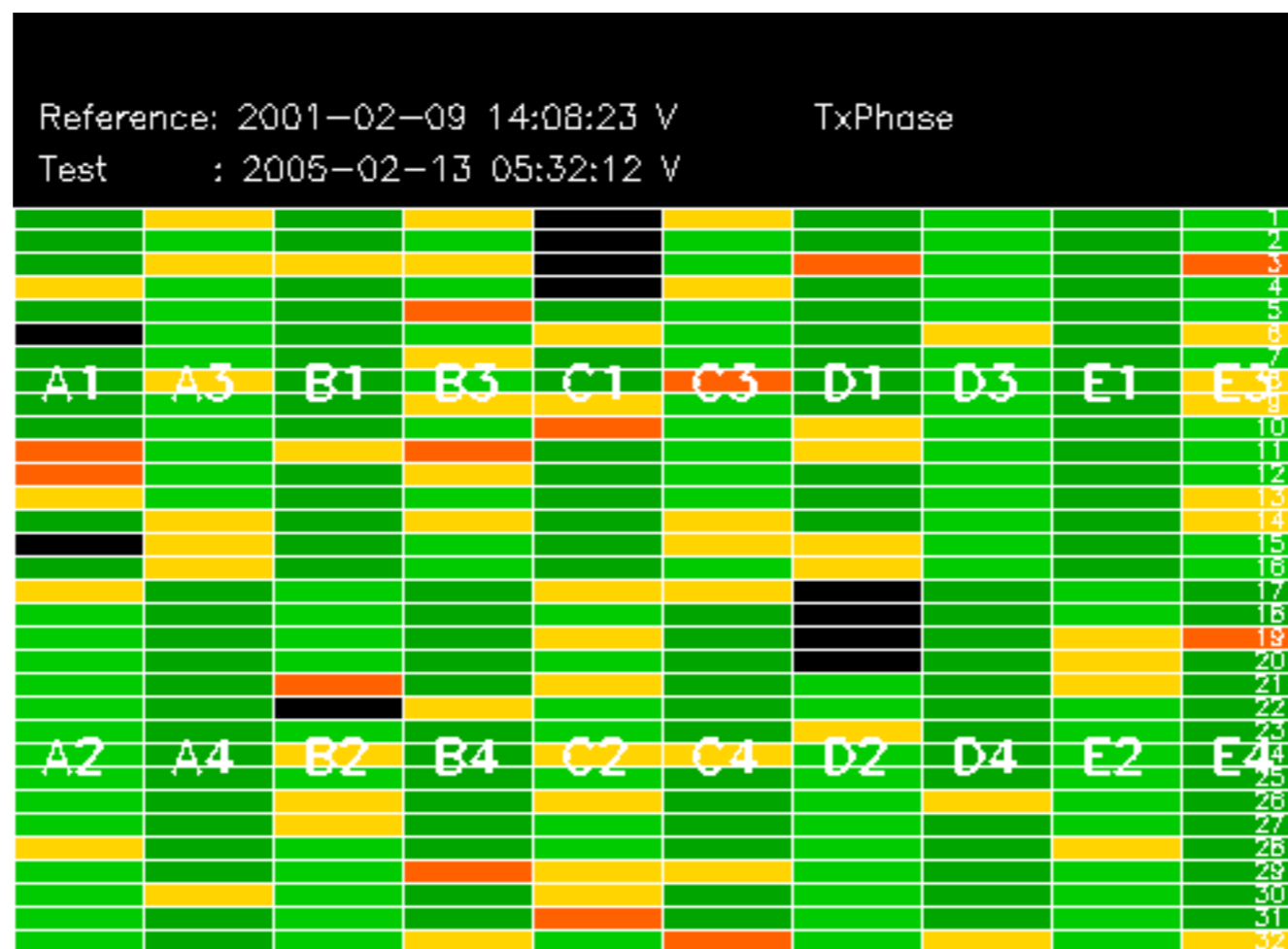


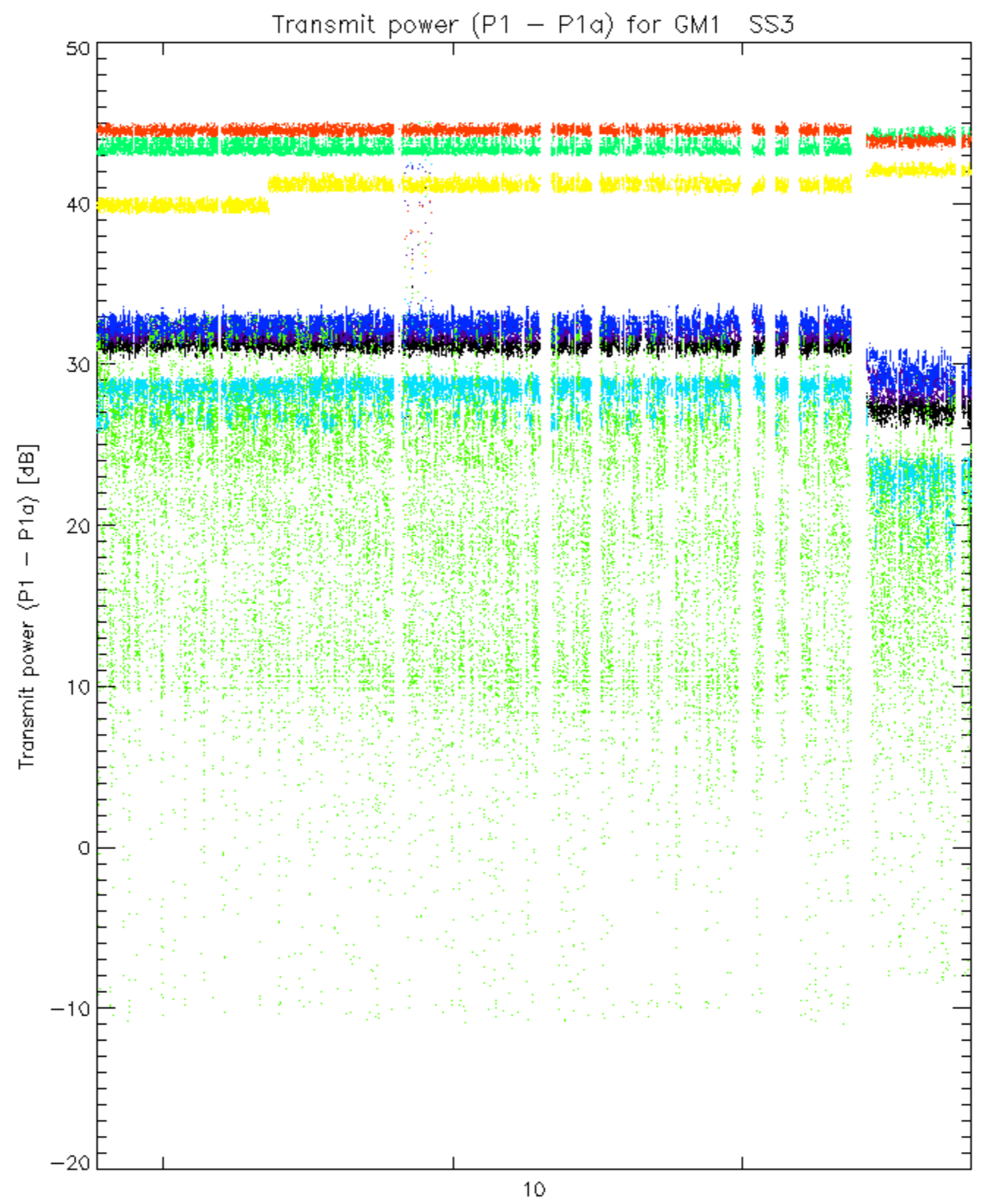
Summary of analysis for the last 3 days 2005021[234]

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

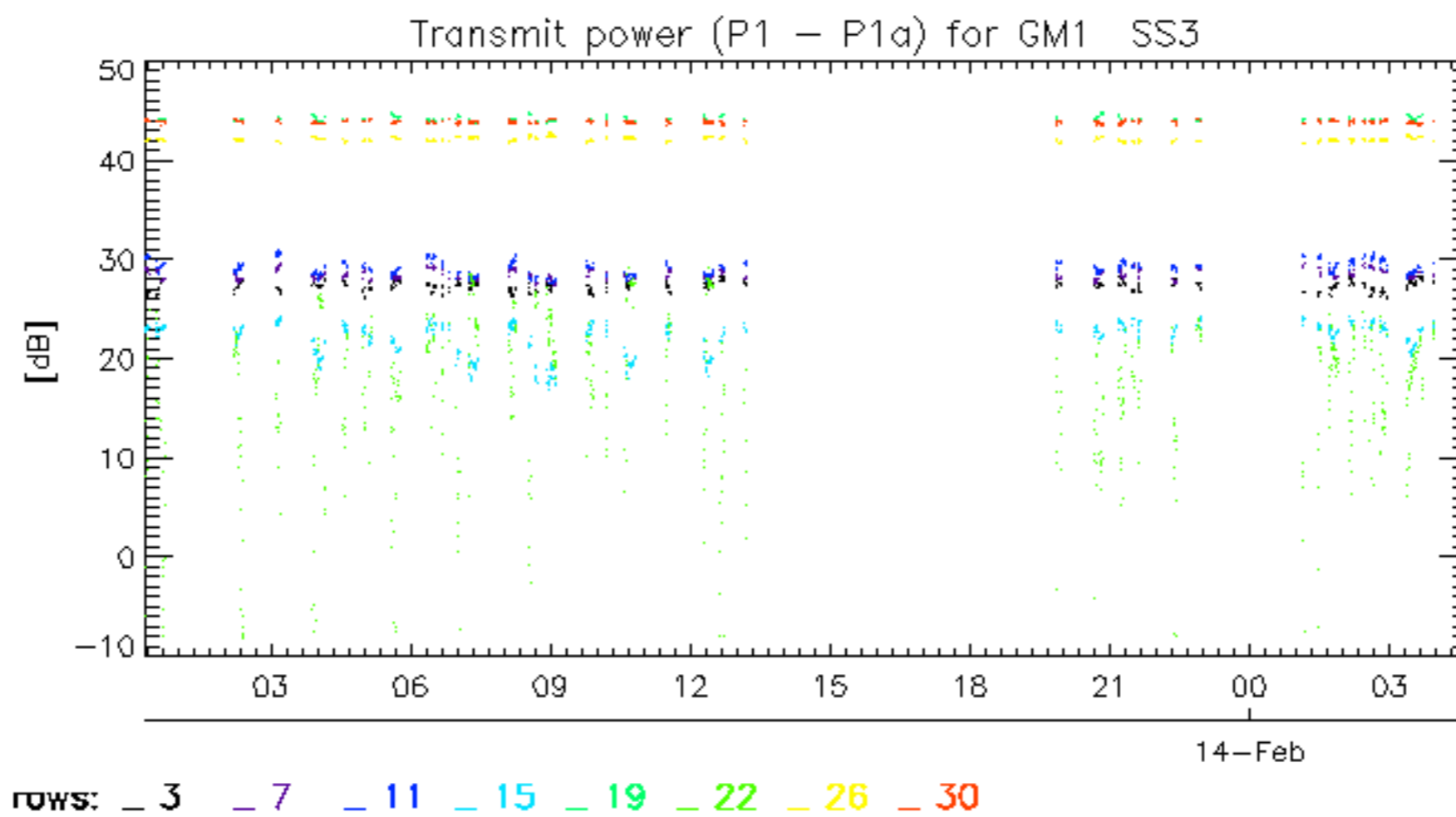
Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20050212_182648_000000372034_00371_15455_2340.N1	0	18
ASA_GM1_1PNPDK20050213_094610_000005552034_00380_15464_2150.N1	0	6
ASA_WSM_1PNPDK20050212_082228_000000852034_00365_15449_4845.N1	0	38
ASA_WSM_1PNPDK20050212_102512_000000672034_00366_15450_4850.N1	0	88

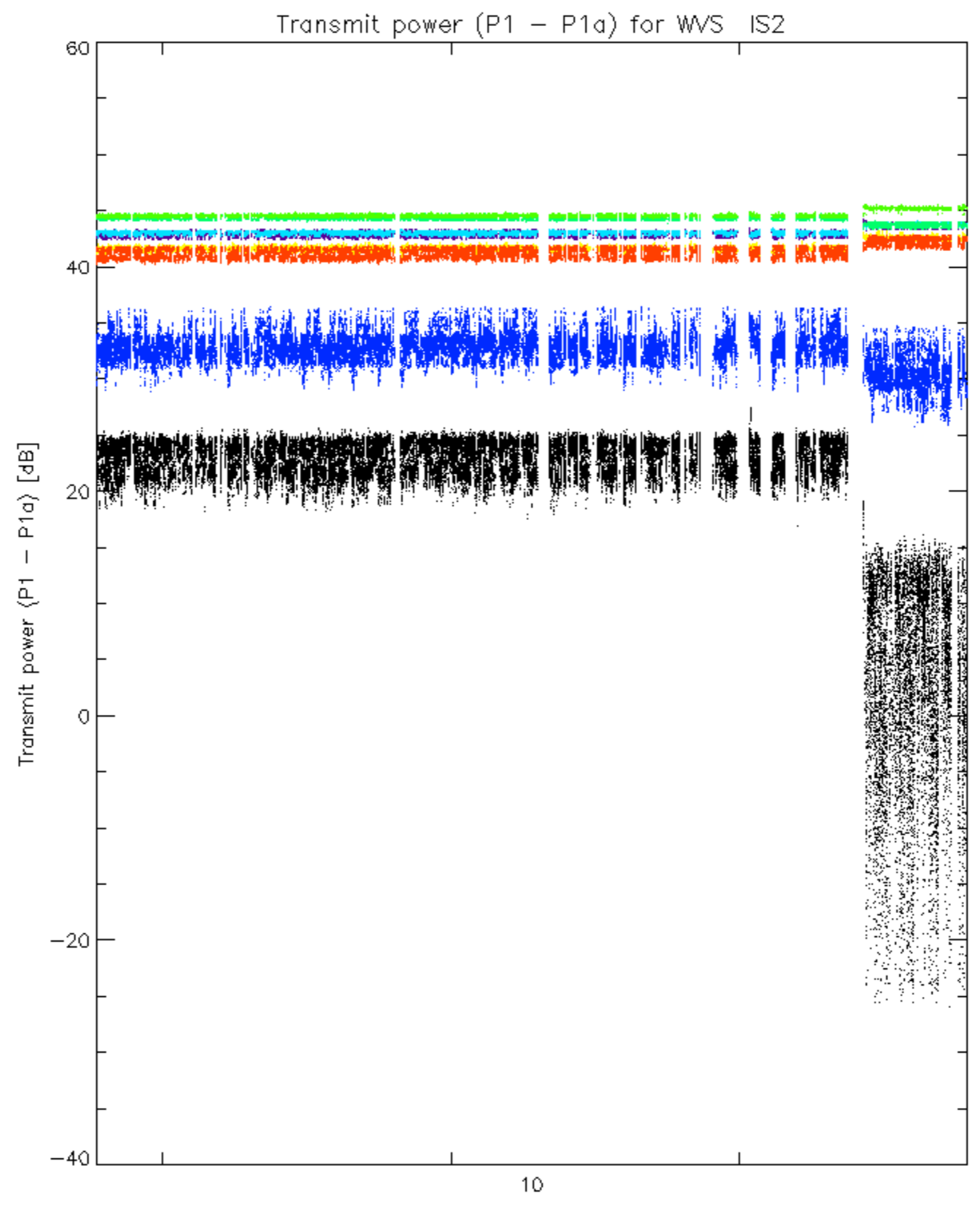




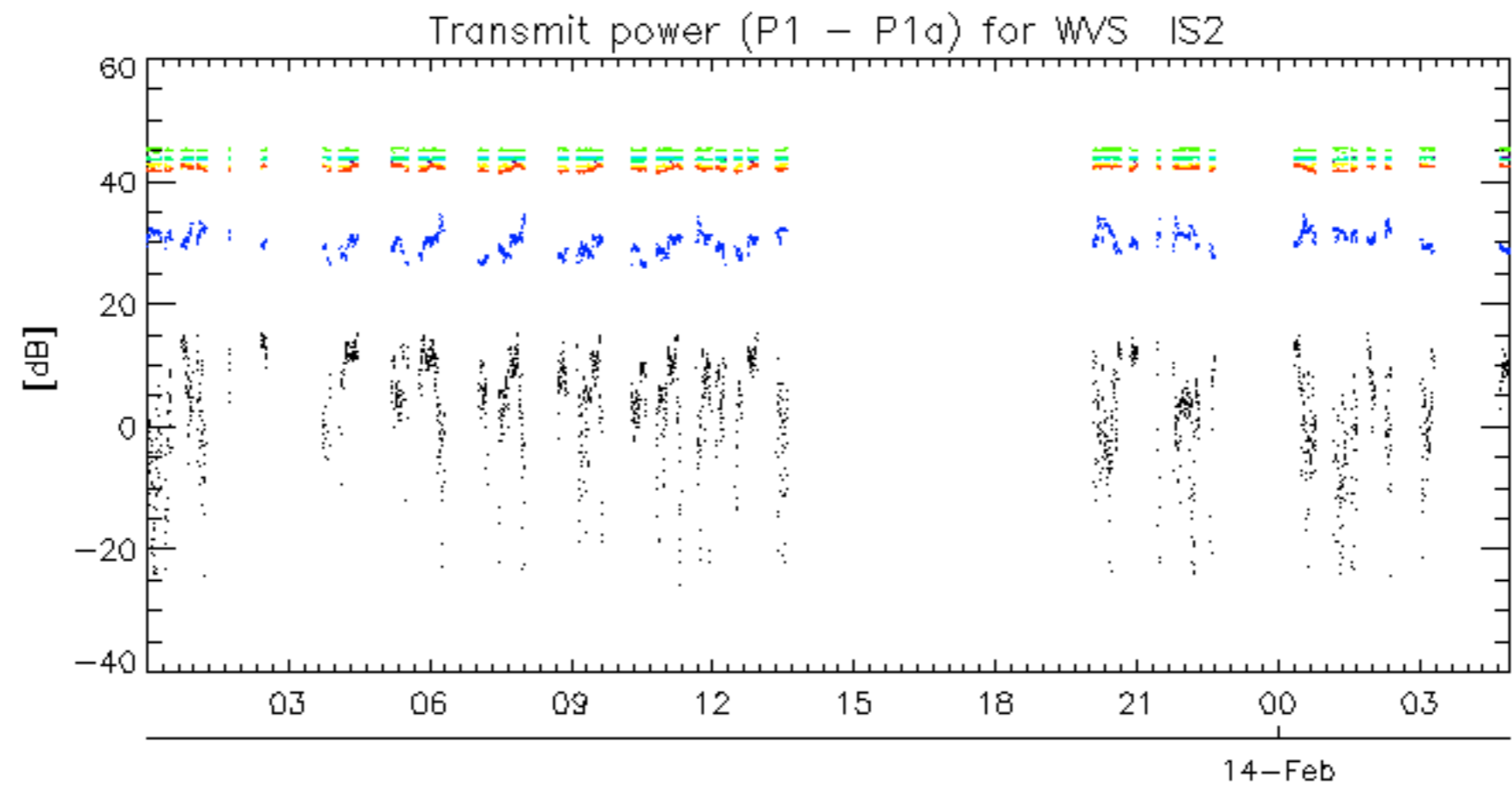


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30





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



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

No unavailabilities during the reported period.