

PRELIMINARY REPORT OF 070216

last update on Fri Feb 16 16:19:20 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

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 2007-02-15 00:00:00 to 2007-02-16 16:19:20

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_XCA_AXVIEC20070215_184638_20070204_165113_20071231_000000	16	28	10	0	21
ASA_CON_AXVIEC20070215_184018_20070204_165113_20071231_000000	16	28	10	0	21
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	21	42	5	1	15
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	21	42	5	1	15
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	37	70	15	1	36
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	37	70	15	1	36

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_XCA_AXVIEC20070215_184638_20070204_165113_20071231_000000	28	38	18	5	31
ASA_CON_AXVIEC20070215_184018_20070204_165113_20071231_000000	28	38	18	5	31
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	12	14	19	7	21
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	12	14	19	7	21
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	40	52	37	12	52
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	40	52	37	12	52

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
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V	20070216 063522
H	20070215 070659

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

☒
☒

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	-15.203314	0.294098	2.362852
7	P1a	-17.404604	0.109207	-0.324169
11	P1a	-17.330994	0.358049	0.000797
15	P1a	-12.836306	0.117143	-0.271513
19	P1a	-15.094521	0.095163	-0.127022
22	P1a	-15.505094	0.480787	-0.347004
26	P1a	-14.996137	0.238289	-0.149962
30	P1a	-17.300682	0.373223	-0.466422

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.572452	0.229411	-2.604057
7	P1	-3.107977	0.009359	-0.091670
11	P1	-4.132878	0.019621	-0.114285
15	P1	-6.326168	0.016467	-0.097437
19	P1	-3.710090	0.009076	-0.026513
22	P1	-4.677085	0.014208	-0.024282
26	P1	-3.930768	0.014079	-0.012112
30	P1	-5.920091	0.012361	-0.055851

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.498819	0.357122	-2.898067

7	P2	-21.614876	0.084597	0.057745
11	P2	-15.485585	0.102544	0.031732
15	P2	-7.018648	0.099818	-0.077204
19	P2	-9.085103	0.087740	-0.063461
22	P2	-18.103121	0.083824	-0.099754
26	P2	-16.508102	0.098225	-0.096364
30	P2	-19.337212	0.079512	-0.045554

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.204117	0.007861	-0.015006
7	P3	-8.204117	0.007861	-0.015006
11	P3	-8.204117	0.007861	-0.015006
15	P3	-8.204117	0.007861	-0.015006
19	P3	-8.204117	0.007861	-0.015006
22	P3	-8.204117	0.007861	-0.015006
26	P3	-8.204117	0.007861	-0.015006
30	P3	-8.204117	0.007861	-0.015006

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	-11.370852	0.148533	1.386409
7	P1a	-10.035319	0.059543	-0.081427
11	P1a	-10.573668	0.060910	-0.339520
15	P1a	-10.849572	0.130640	-0.114231
19	P1a	-15.746413	0.063549	-0.006834
22	P1a	-20.883410	1.291424	0.450727
26	P1a	-15.447363	0.259652	0.255016
30	P1a	-18.334860	0.364691	-0.116379

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-6.537130	4.210361	-8.949886
7	P1	-2.440630	0.005887	-0.000585
11	P1	-2.882783	0.016812	-0.143814
15	P1	-3.796737	0.033788	-0.123437
19	P1	-3.552304	0.012991	-0.022560
22	P1	-5.026338	0.023308	-0.017814
26	P1	-5.994056	0.023243	0.027416
30	P1	-5.290174	0.023016	0.000177

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.288784	0.854688	-3.889144
7	P2	-22.011208	0.050695	0.120358
11	P2	-10.681533	0.031394	0.073372
15	P2	-4.832828	0.027030	0.051345
19	P2	-6.831304	0.028291	0.056833
22	P2	-8.139917	0.030242	0.057346
26	P2	-24.254021	0.032095	0.006199
30	P2	-21.789282	0.034285	0.059275

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.051433	0.002900	0.022528
7	P3	-8.051457	0.002912	0.021622
11	P3	-8.051484	0.002898	0.022001
15	P3	-8.051476	0.002900	0.022112
19	P3	-8.051416	0.002892	0.022284
22	P3	-8.051510	0.002898	0.022188
26	P3	-8.051351	0.002895	0.022433
30	P3	-8.051408	0.002903	0.022194

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	0.000640224
	stdev	2.52207e-07
MEAN Q	mean	0.000356015
	stdev	2.52557e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.0940939
	stdev	0.00252470
STDEV Q	mean	0.0940055
	stdev	0.00257404



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2007021[456]

The assumptions 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_1PNPDE20070215_081235_000003682055_00336_25941_8530.N1	15	2459
ASA_IMM_1PNPDE20070216_012024_000000352055_00346_25951_9272.N1	1	0
ASA_GM1_1PNPDK20070214_130229_000004652055_00324_25929_5768.N1	0	9
ASA_GM1_1PNPDK20070216_072909_000004652055_00350_25955_7551.N1	0	14





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

Descending

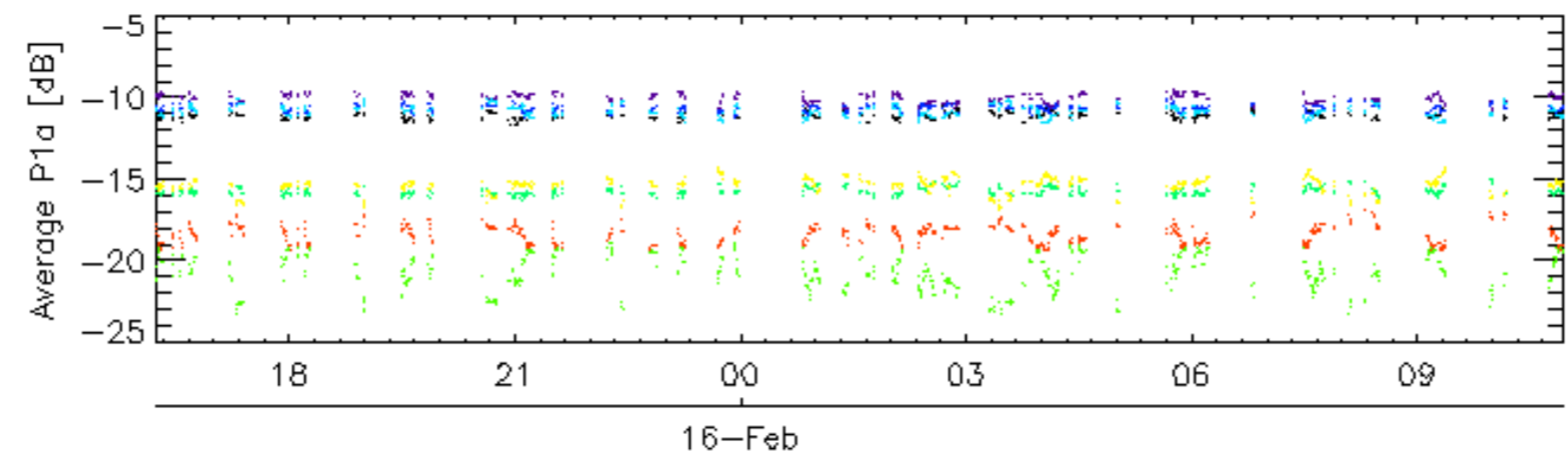
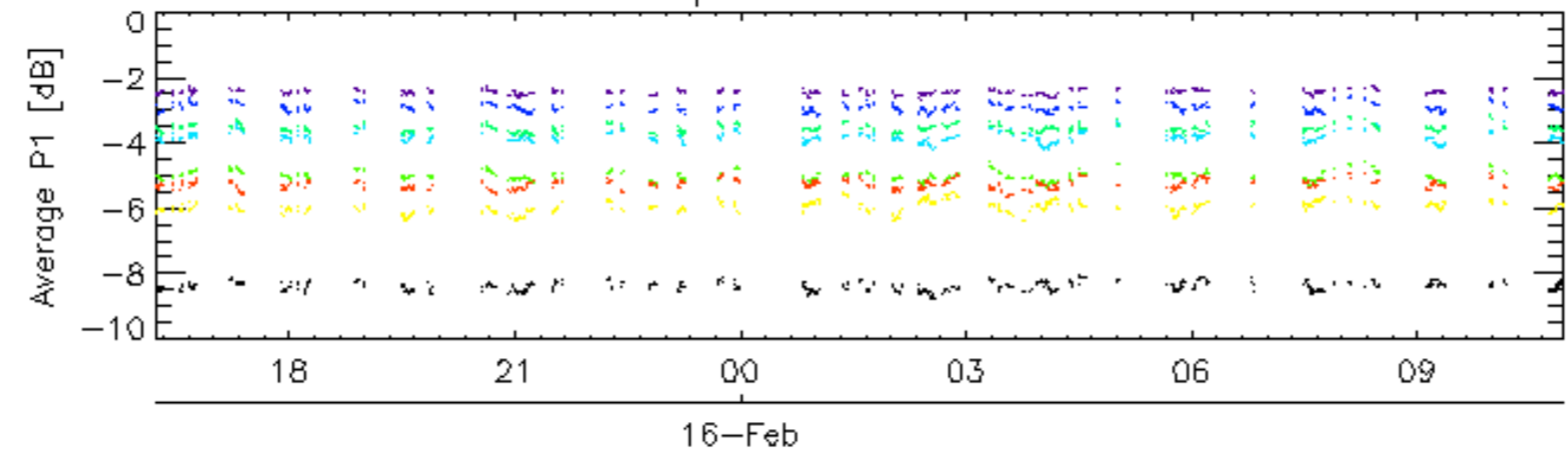
7.5 - Absolute Doppler for GM1**Evolution of Absolute Doppler**

Acsending

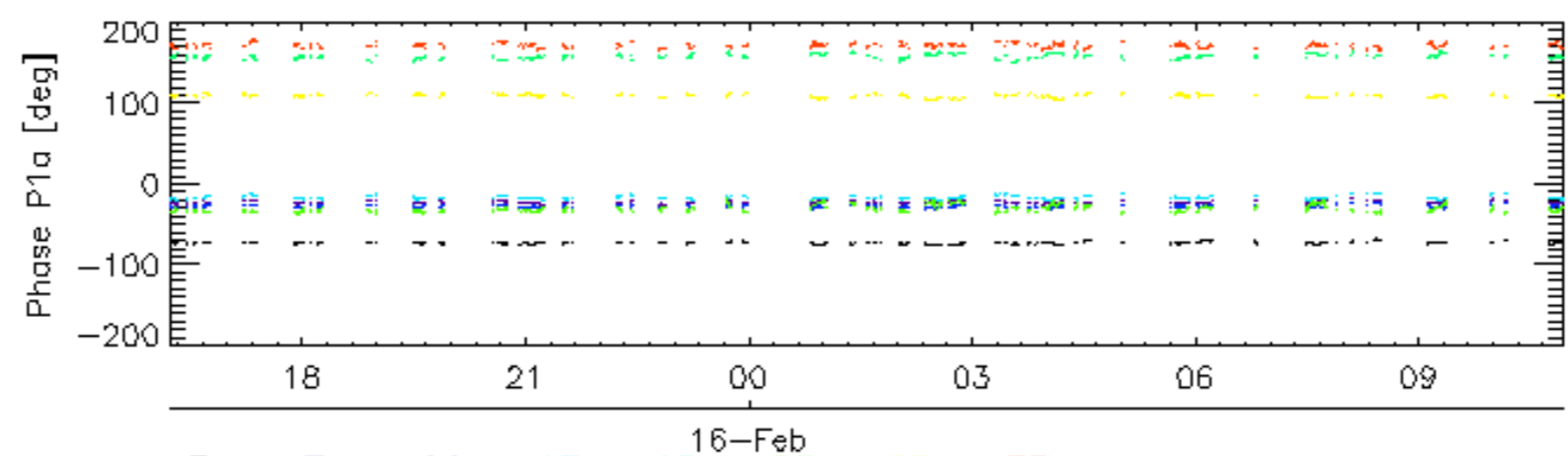
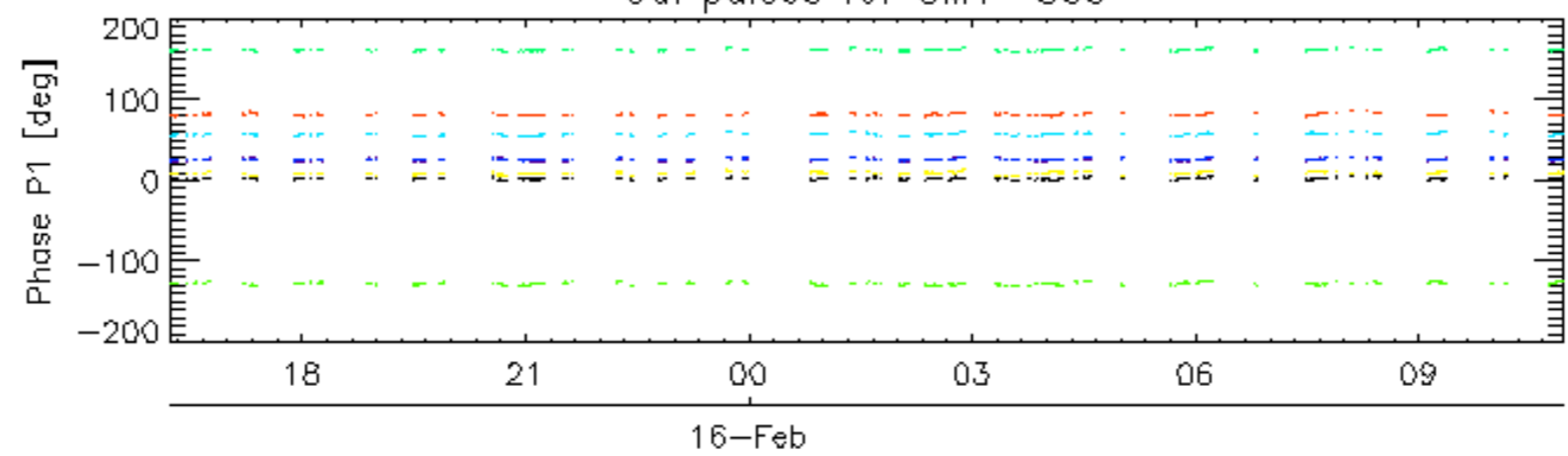
Descending

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

Cal pulses for GM1 SS3

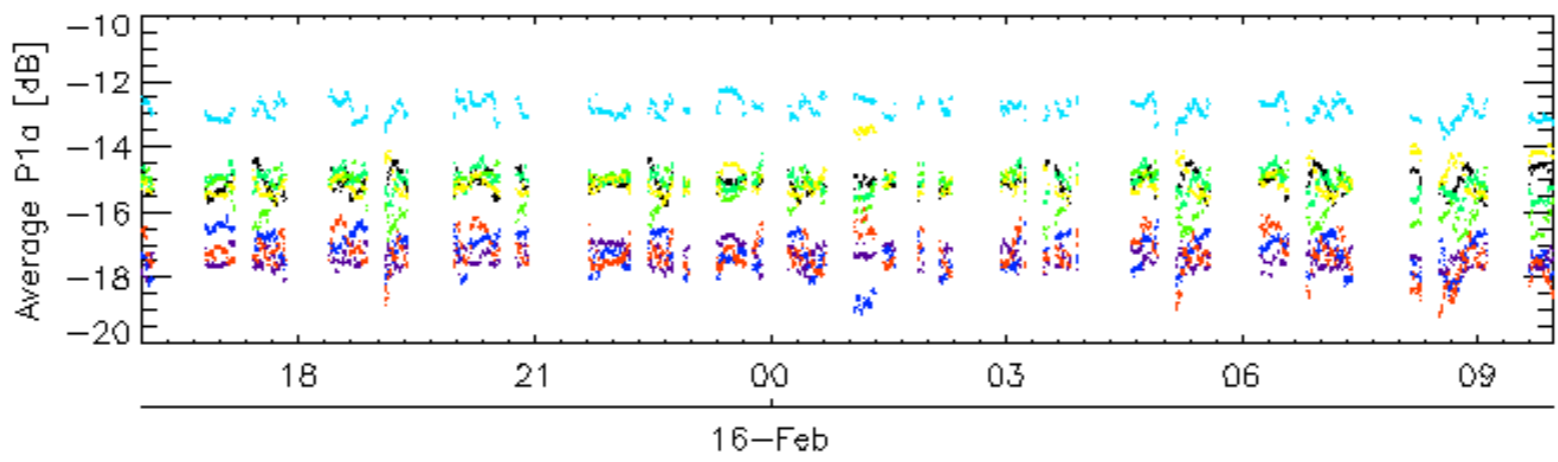
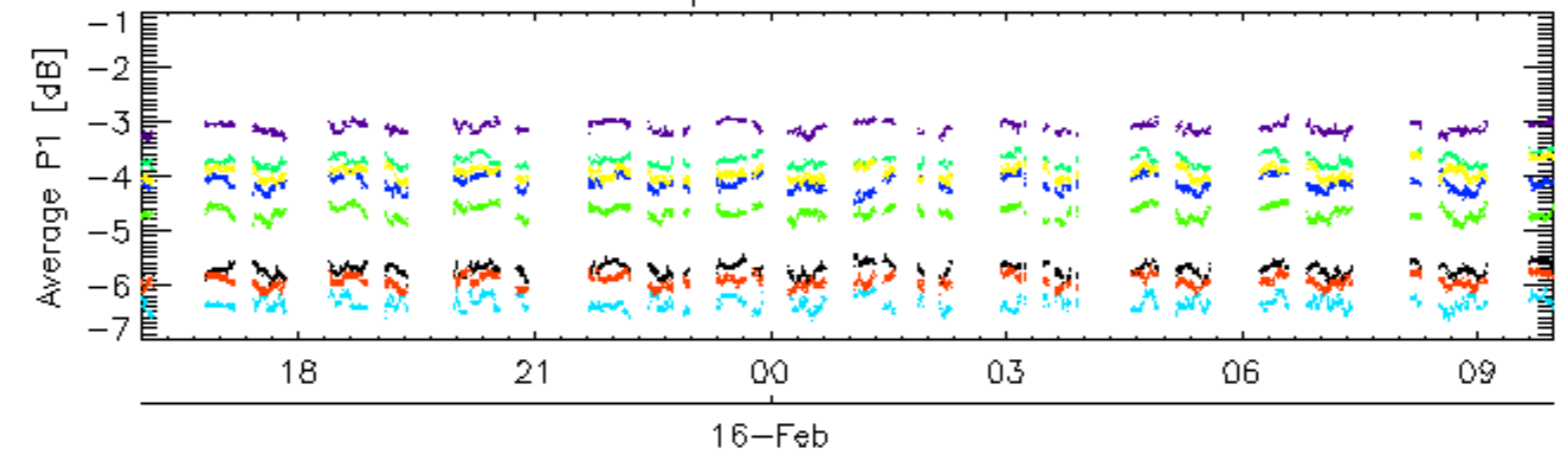


Cal pulses for GM1 SS3

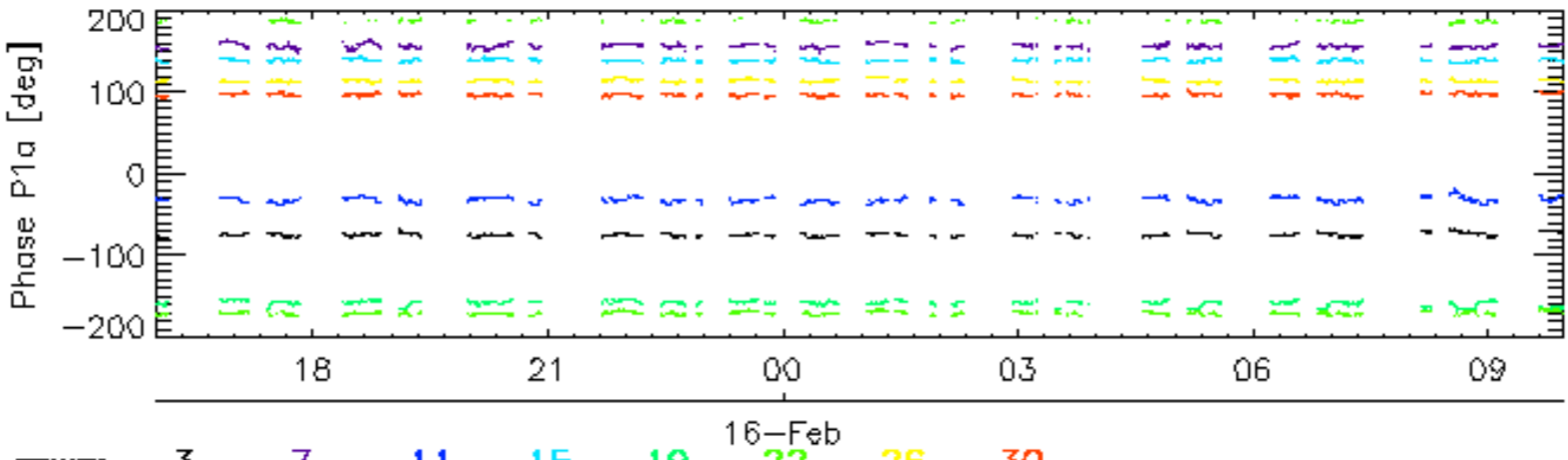
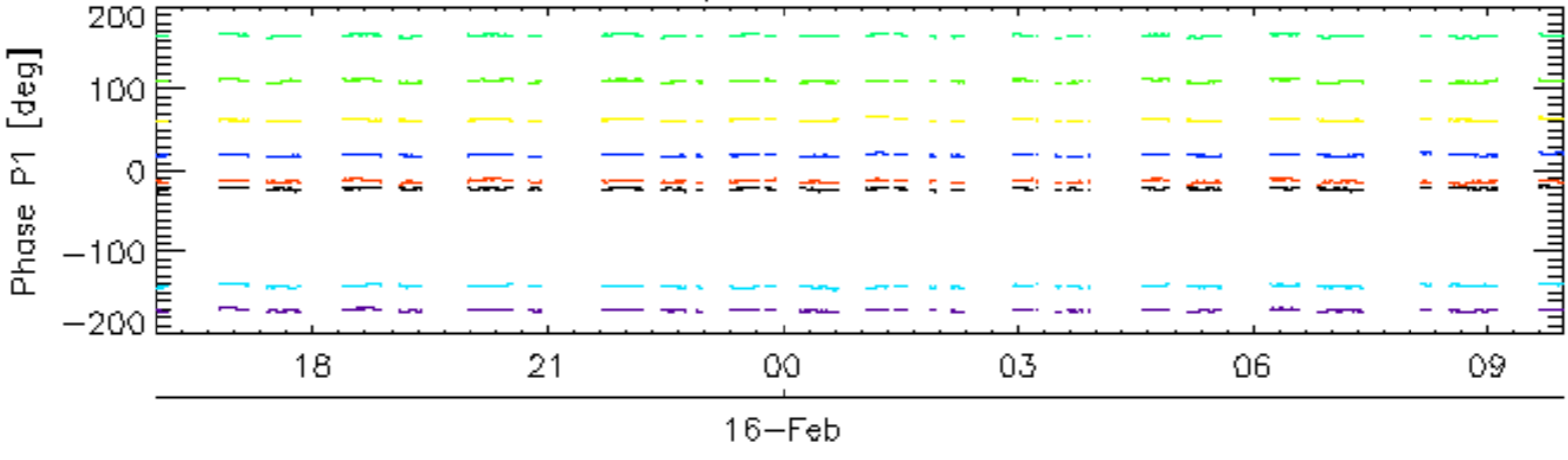


rows: 3 7 11 15 19 22 26 30

Cal pulses for WVS IS2

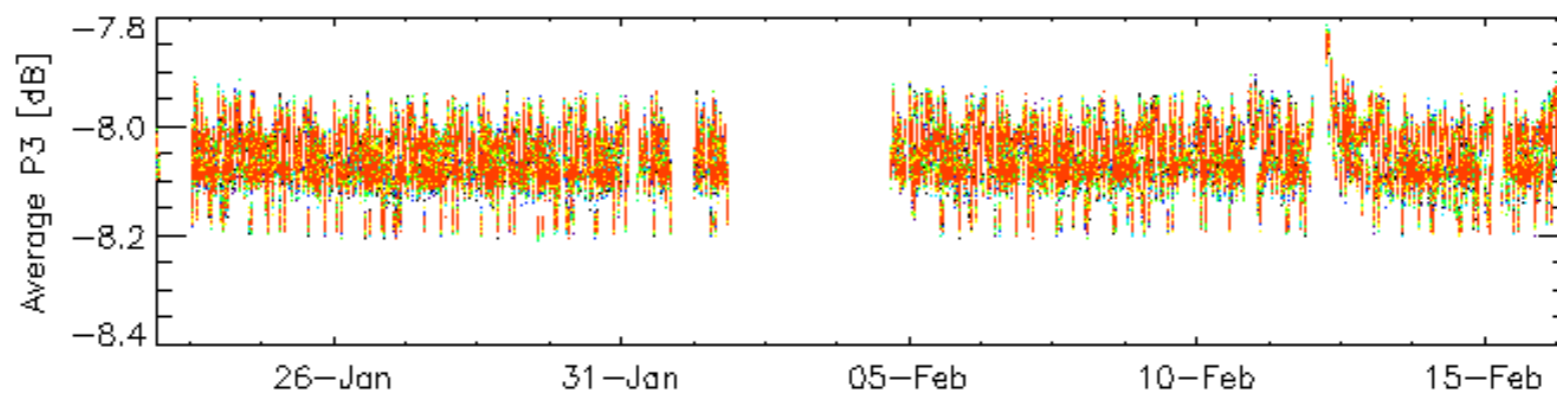
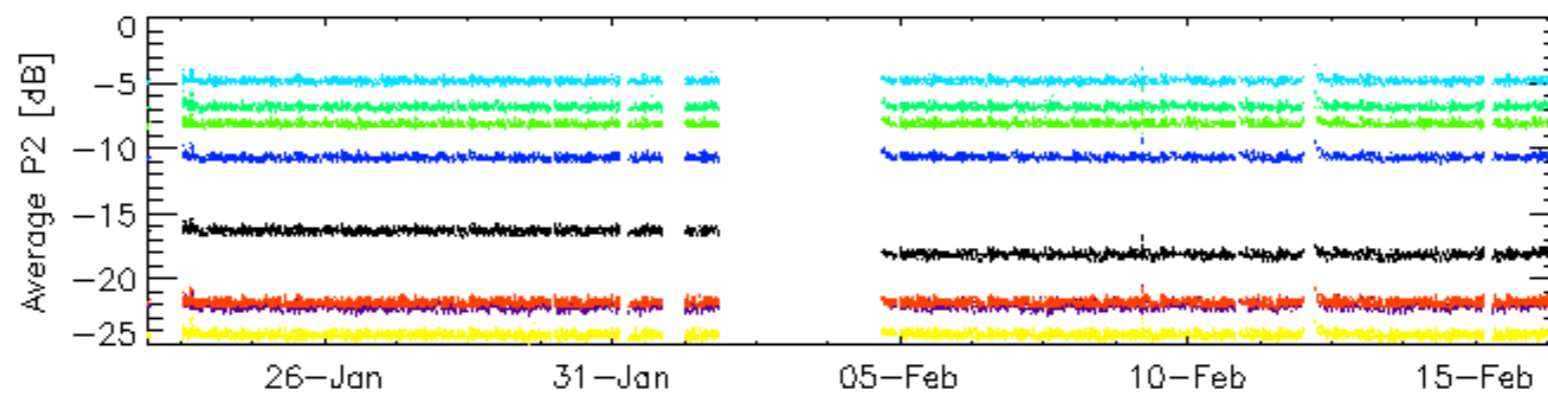
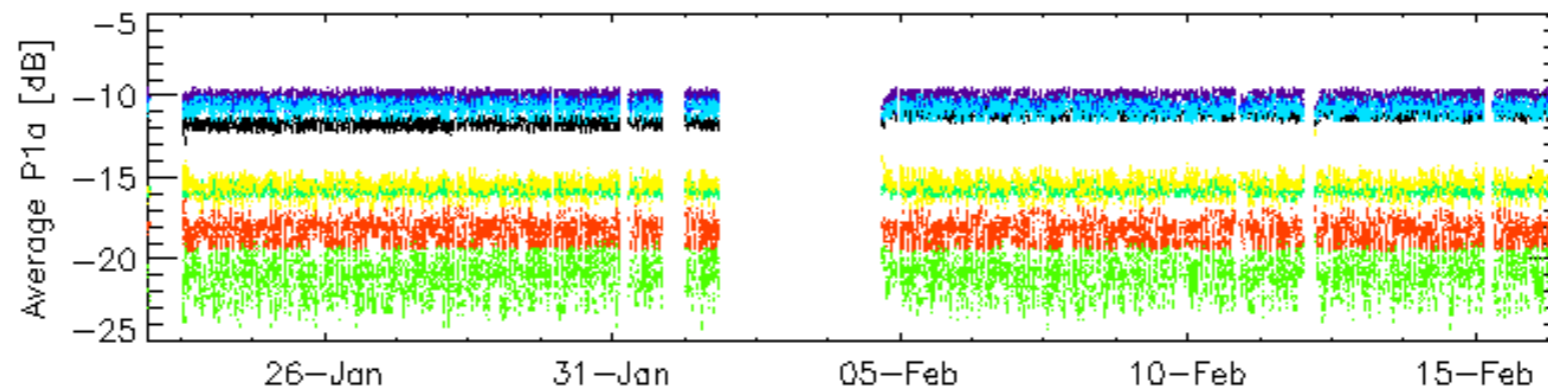
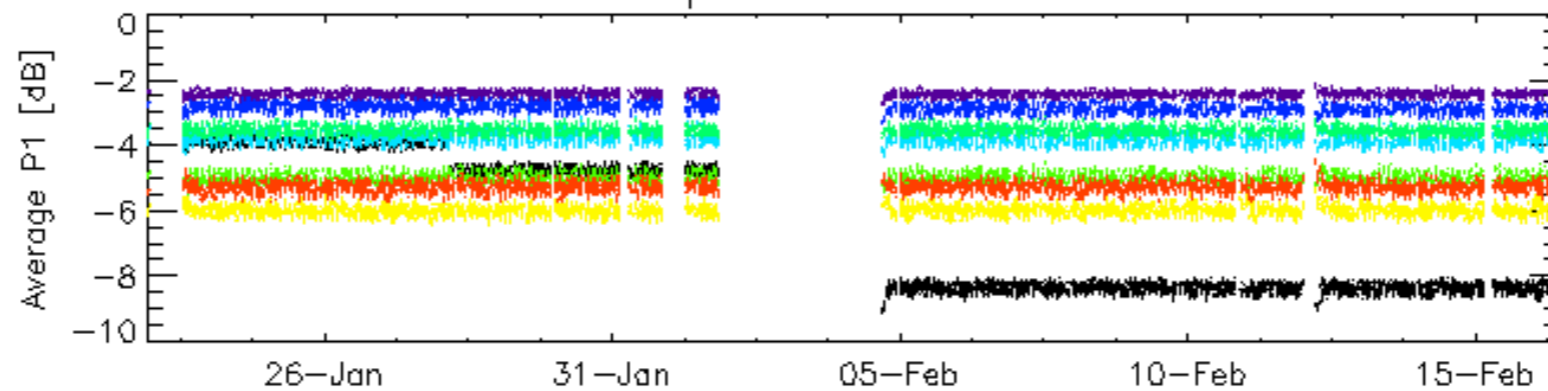


Cal pulses for WVS IS2



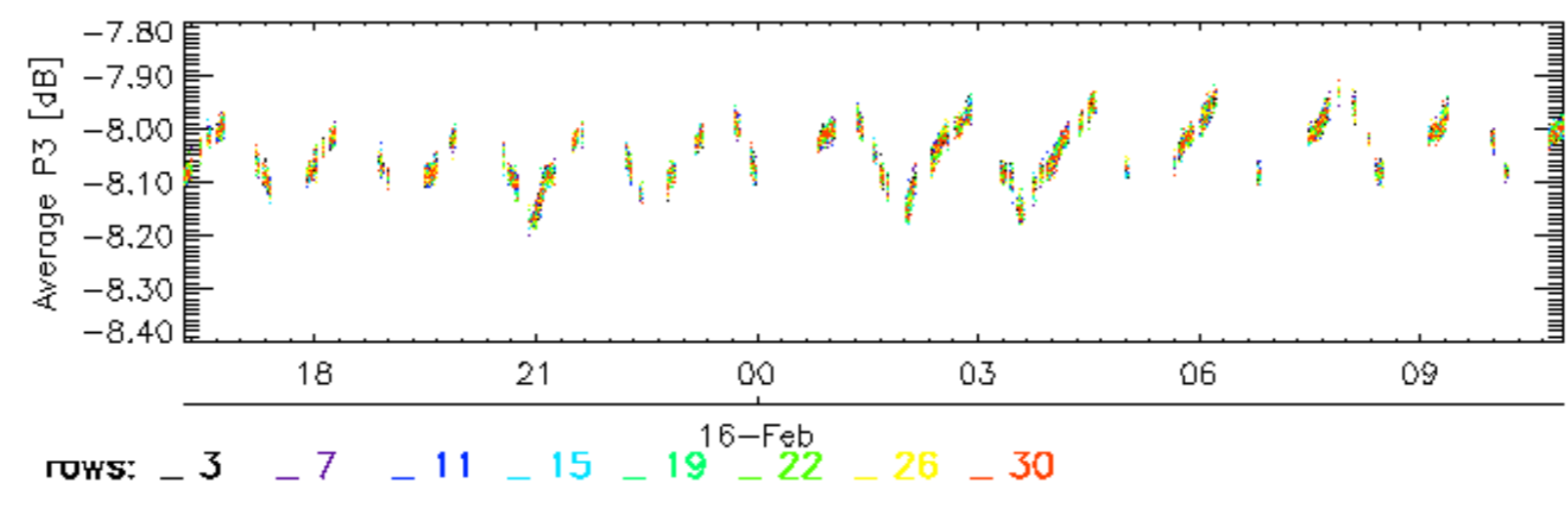
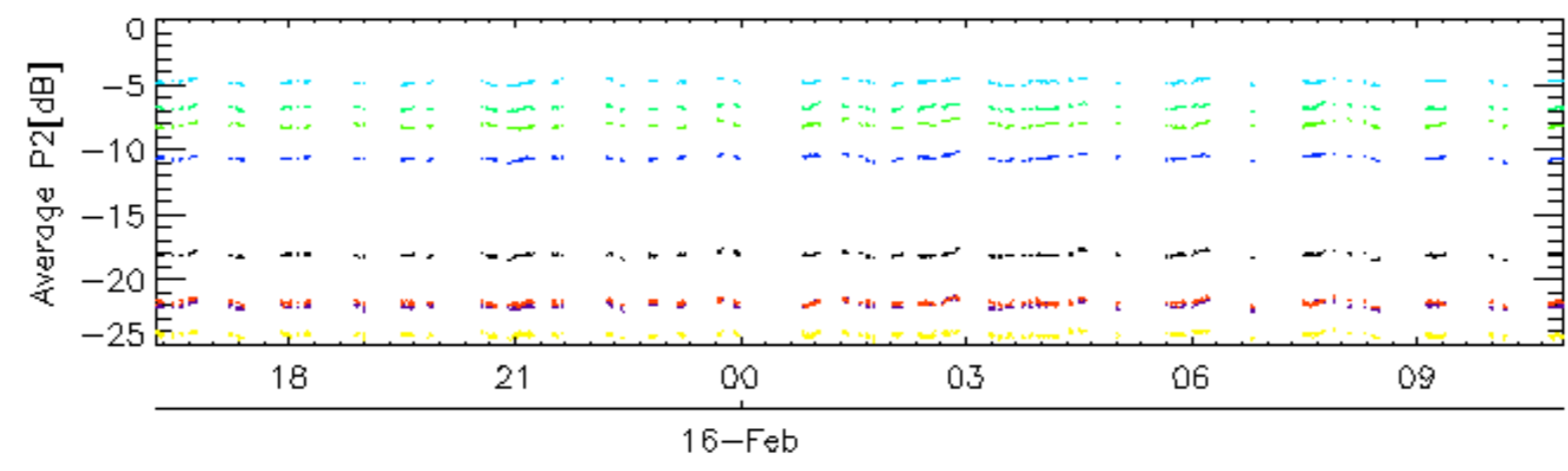
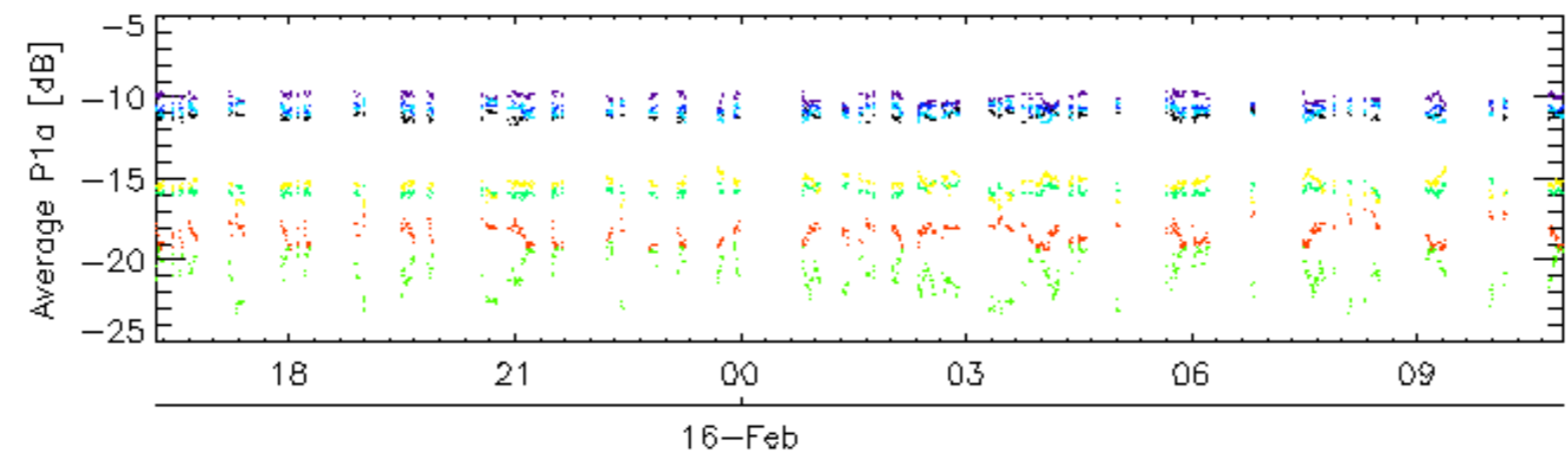
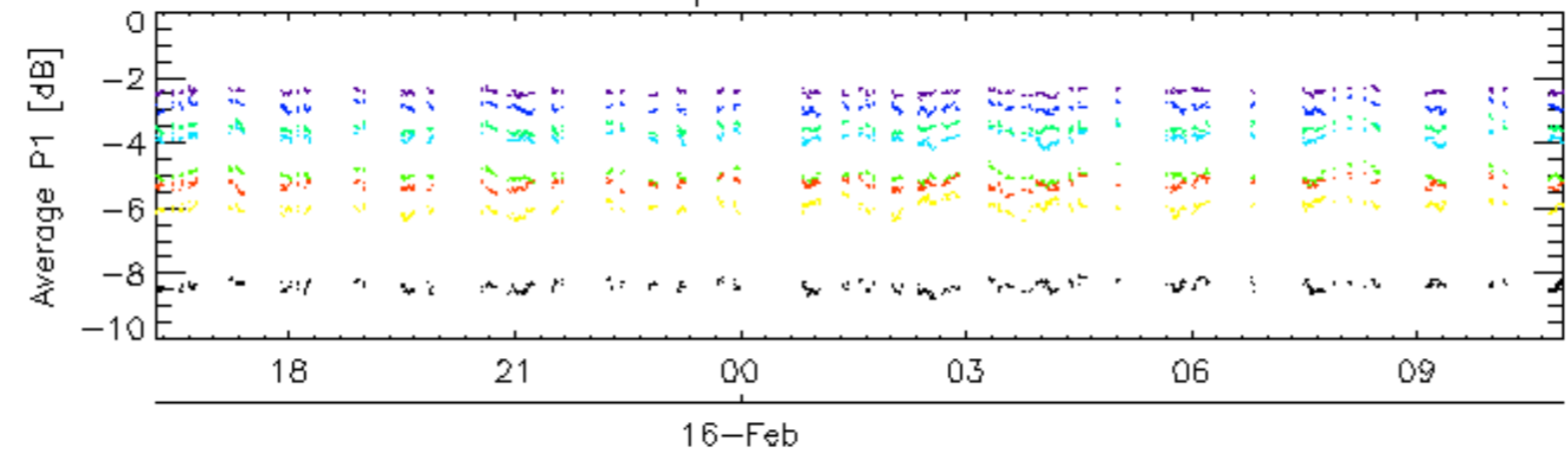
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

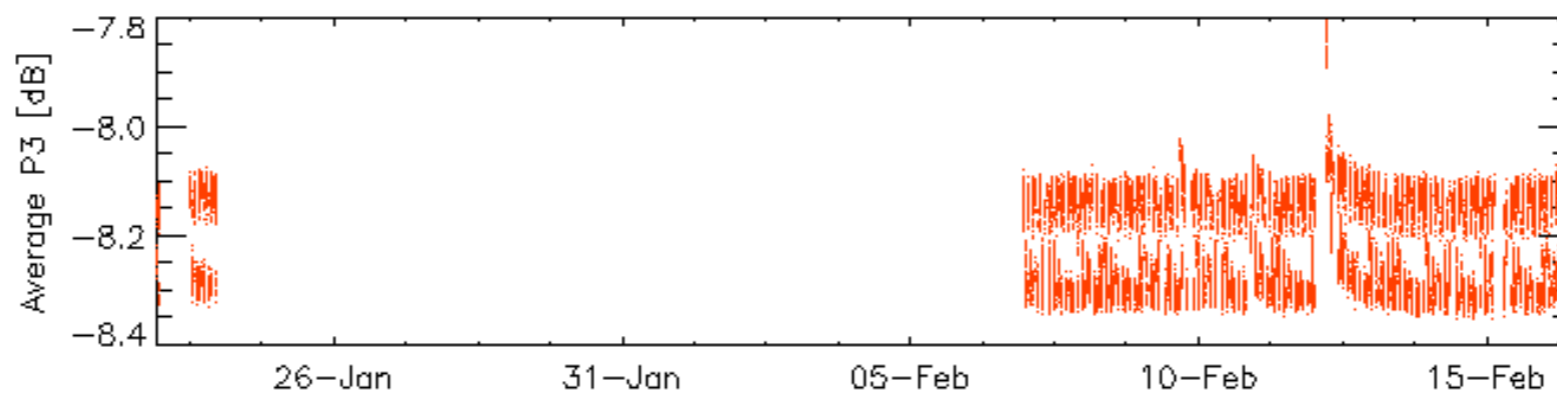
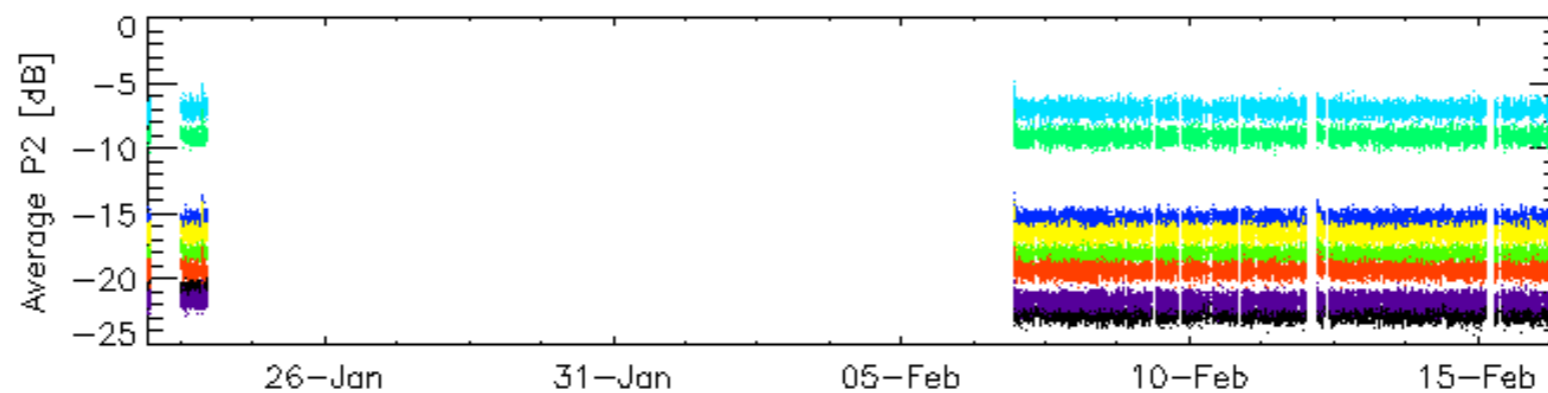
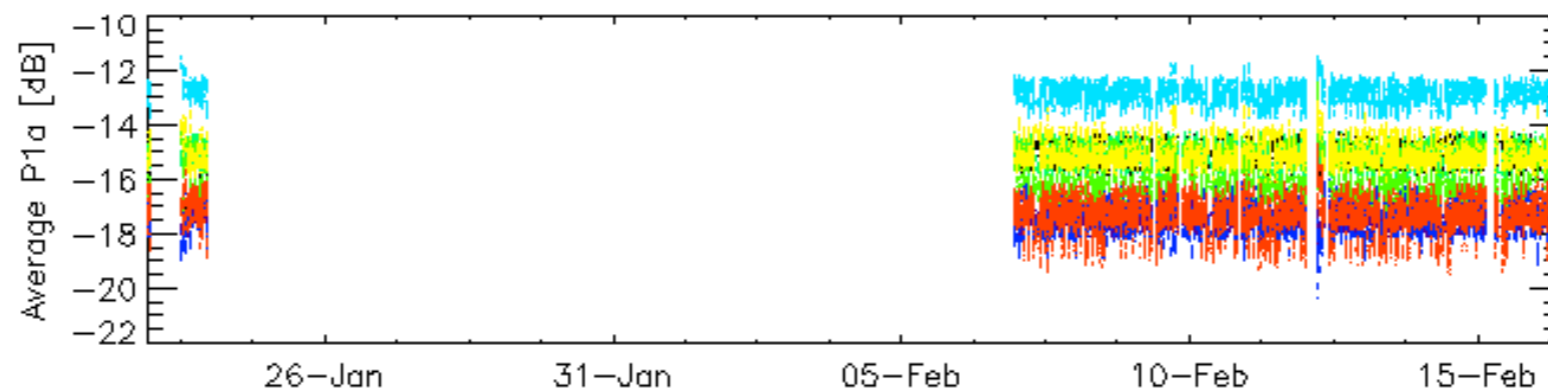
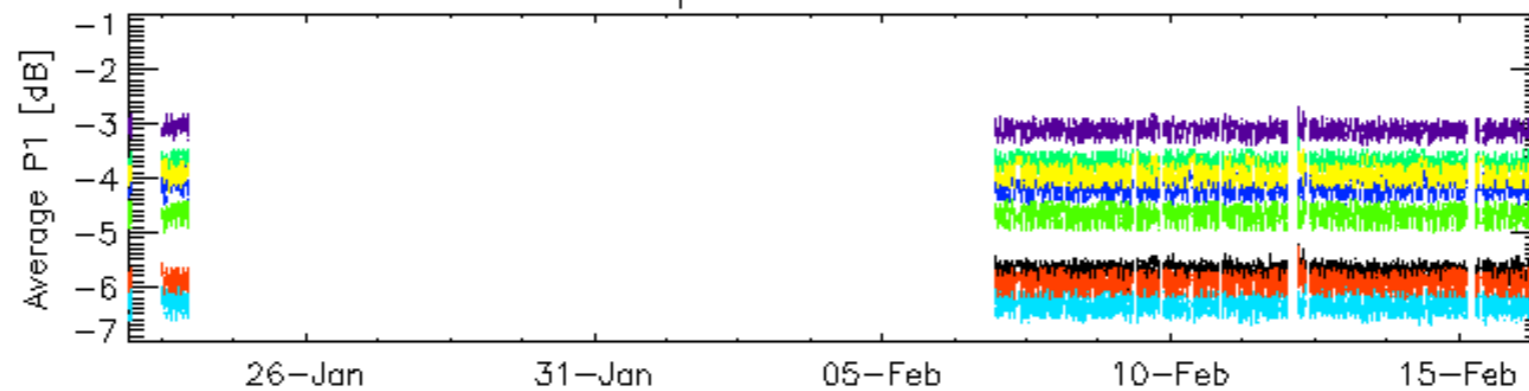


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

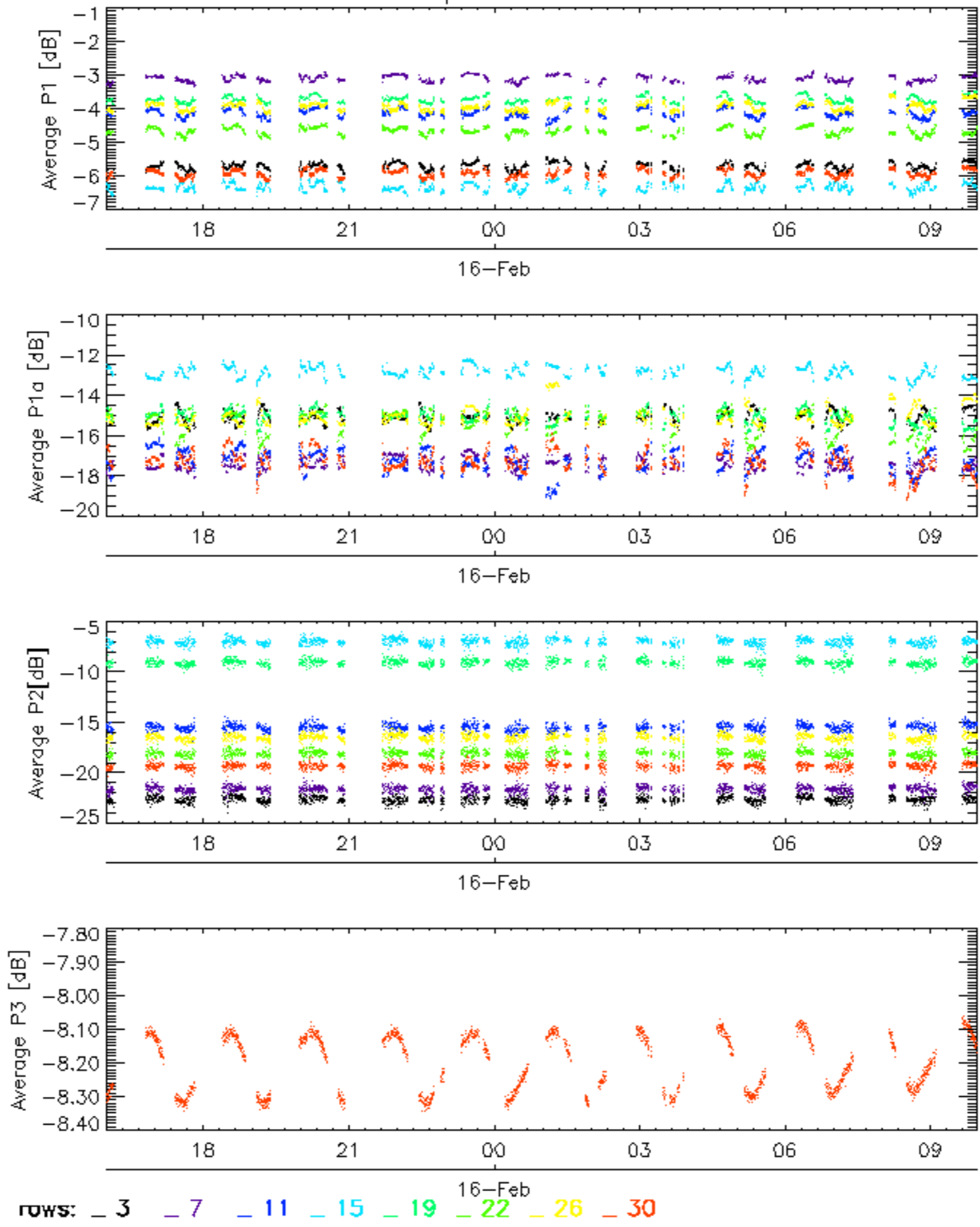


Cal pulses for WVS IS2



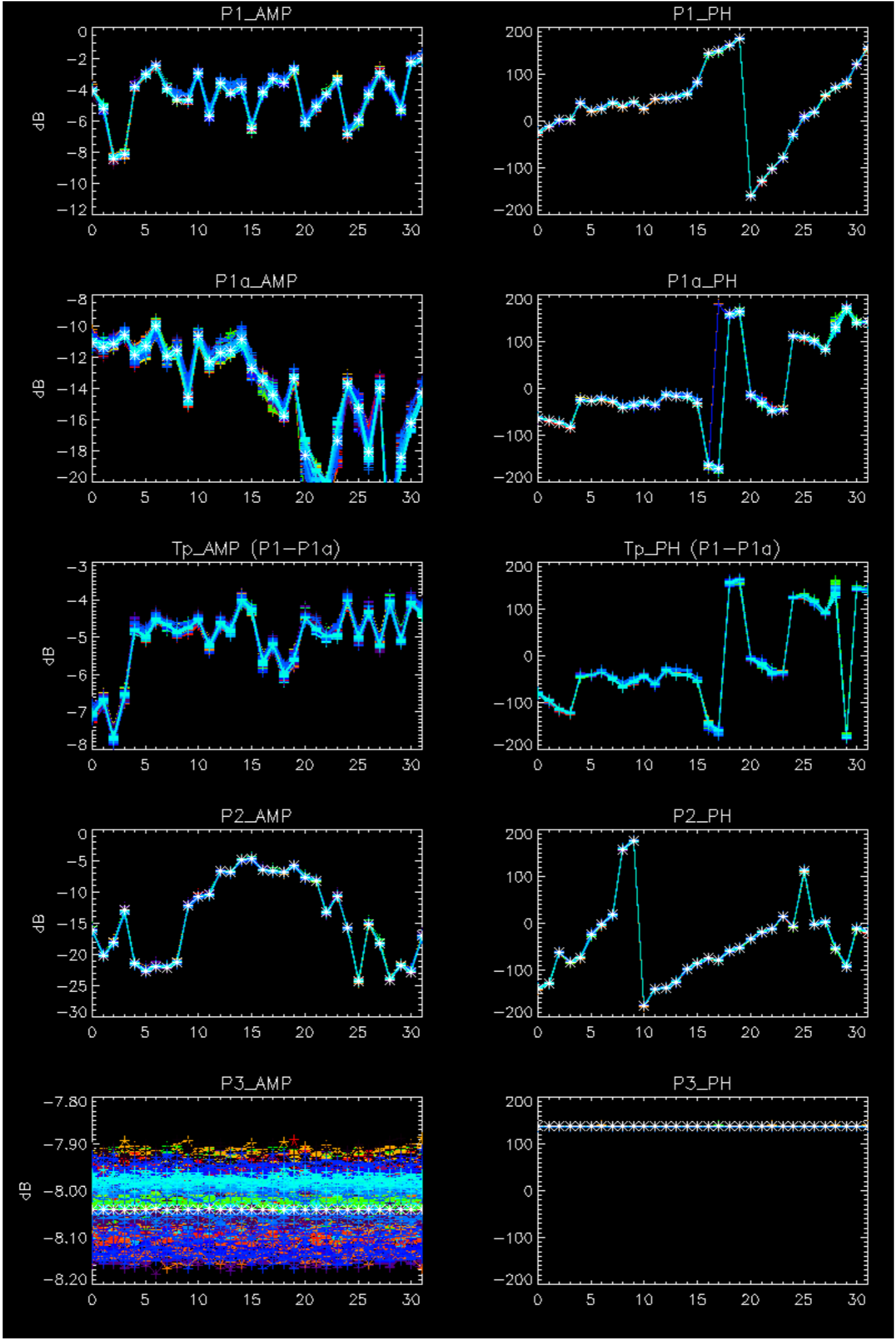
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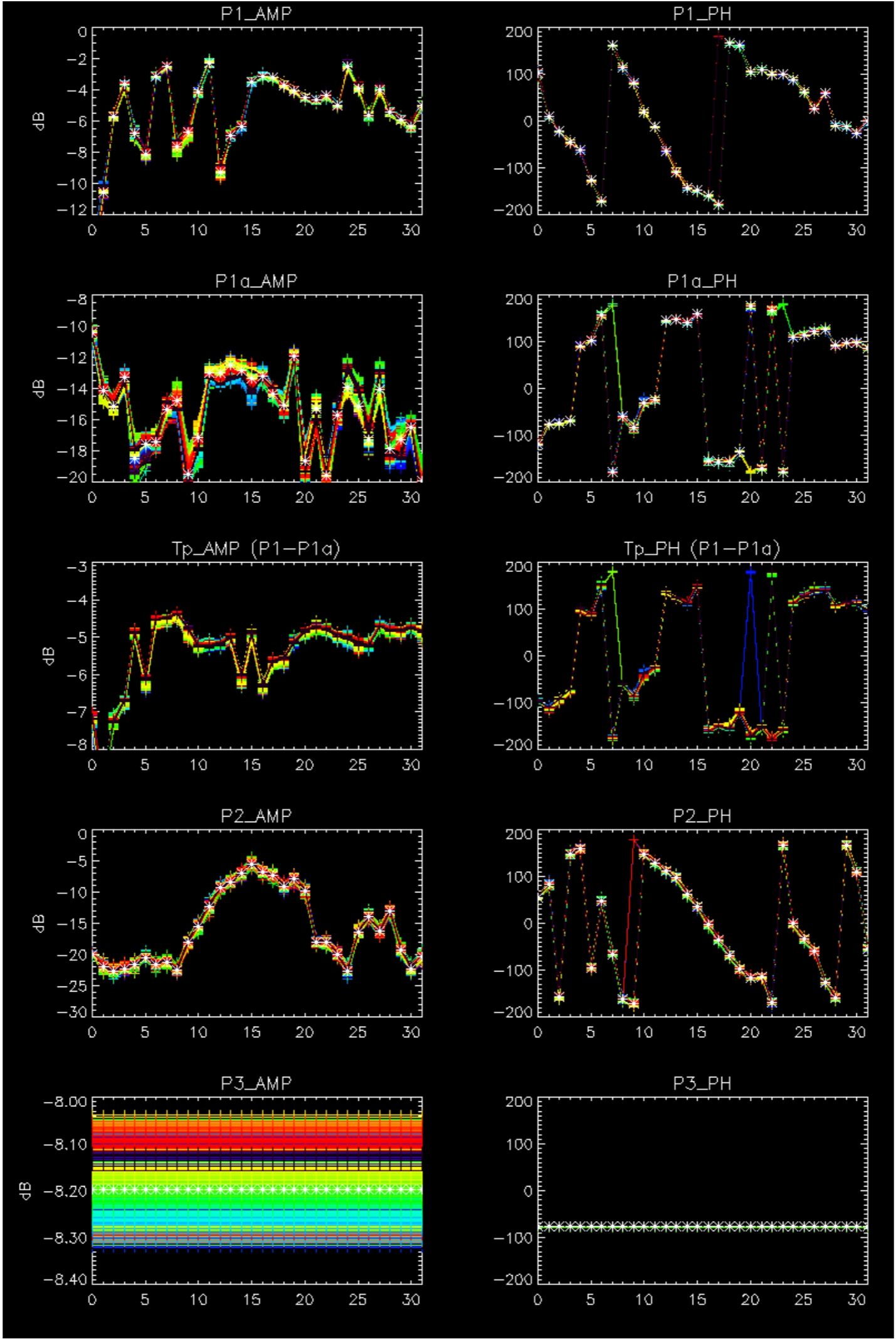
Cal pulses for WVS IS2



No anomalies observed on available browse products

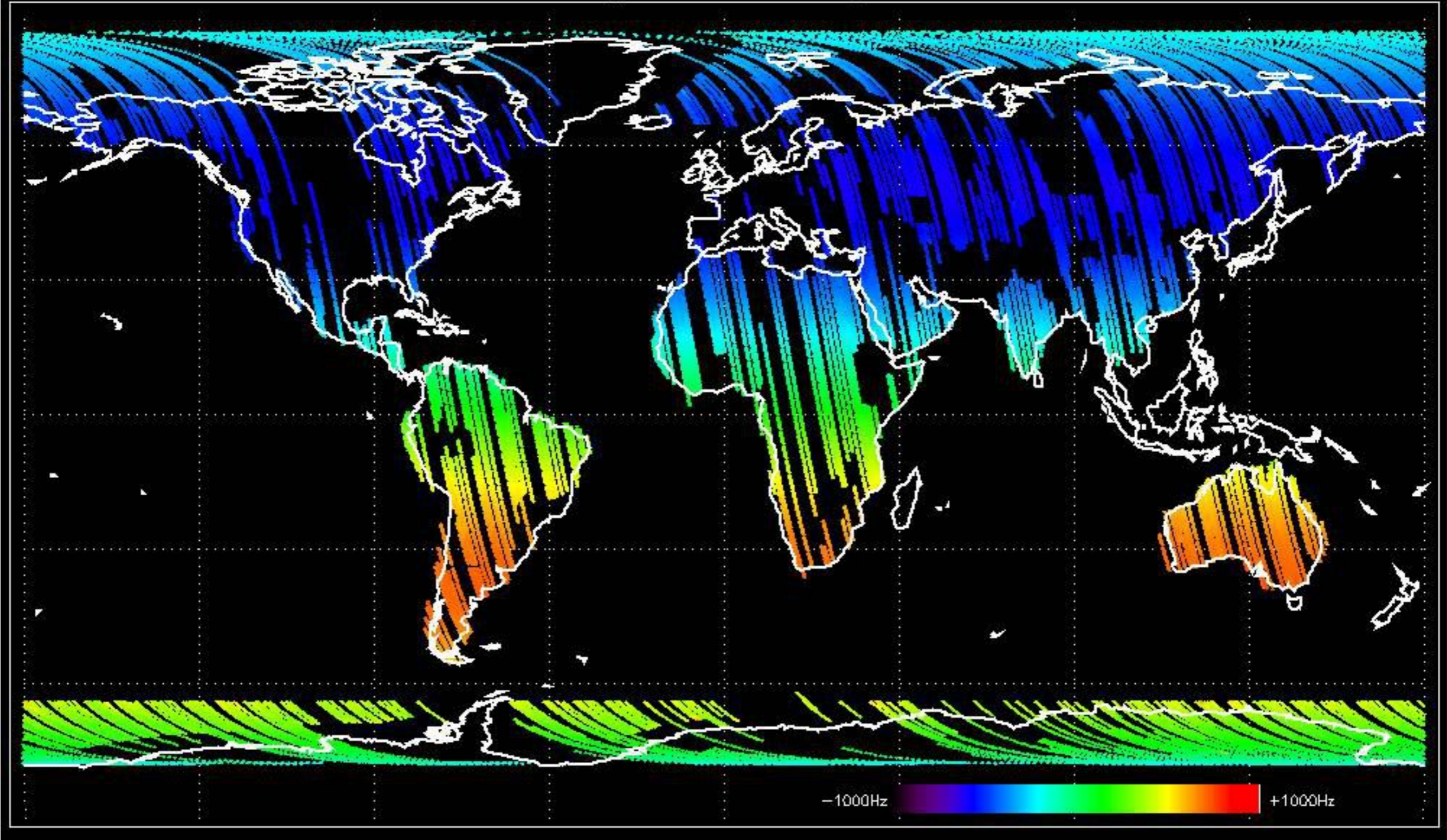
No anomalies observed.



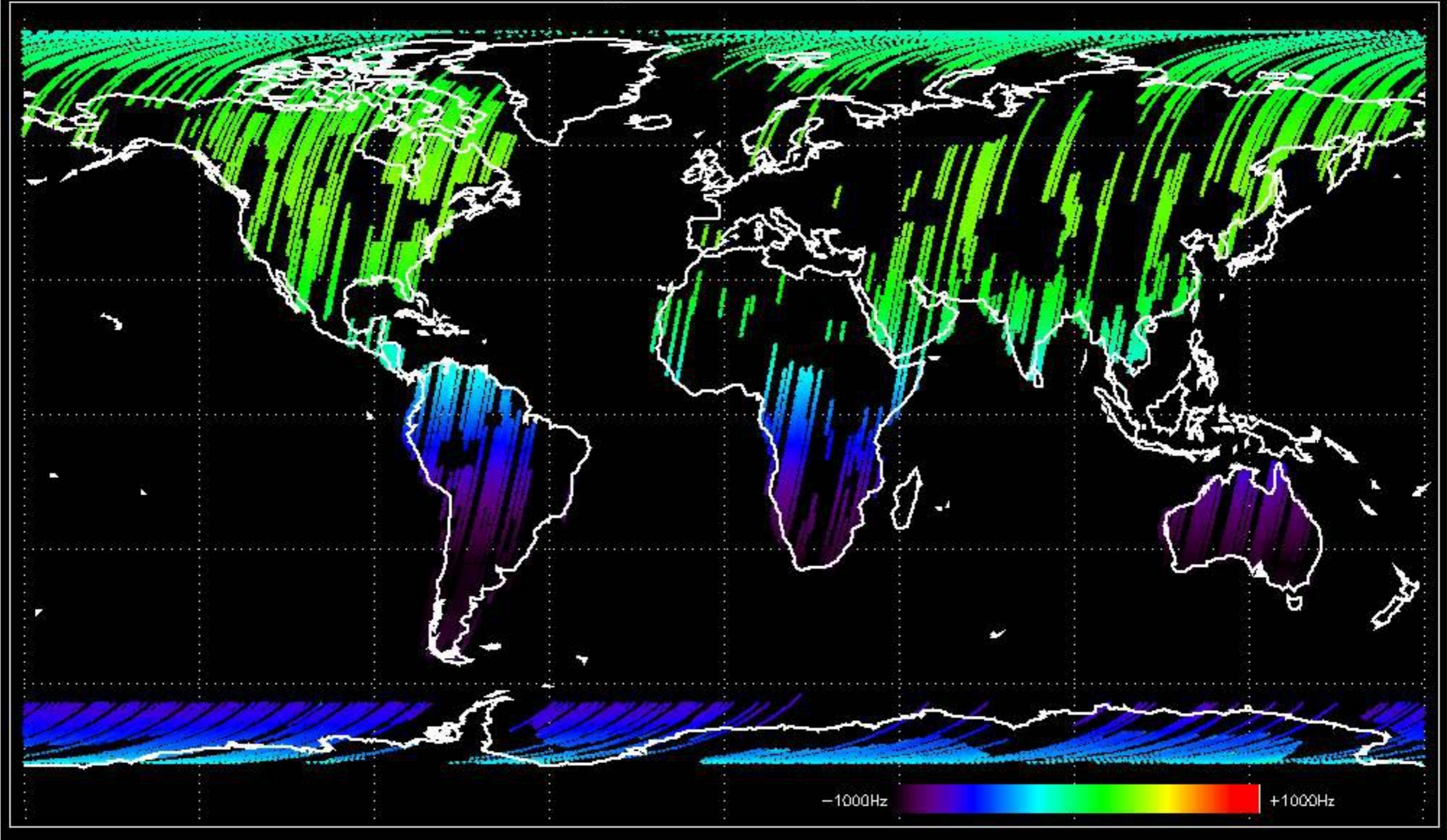


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

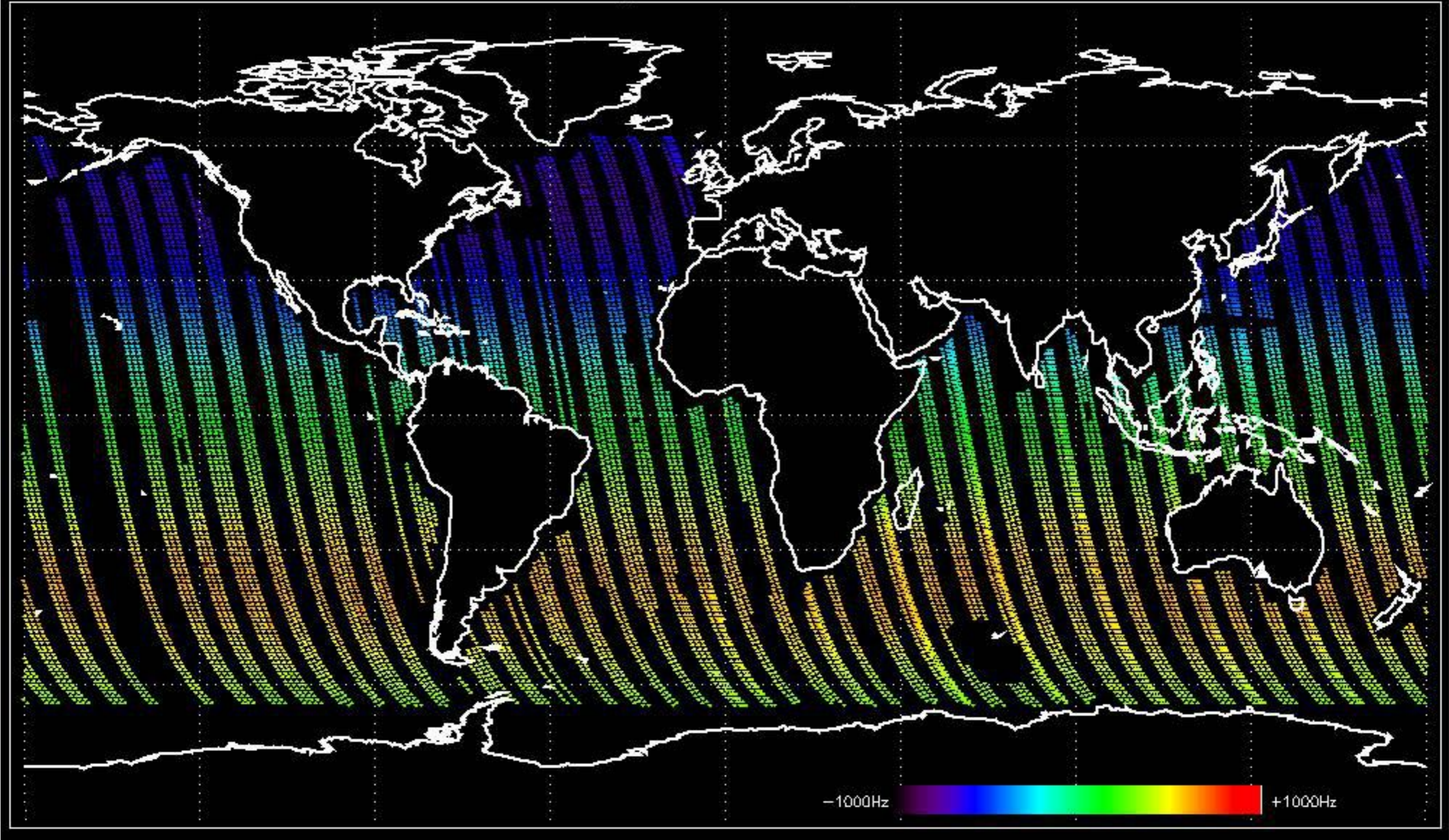
Doppler 'GM1' 'SS1' ascending



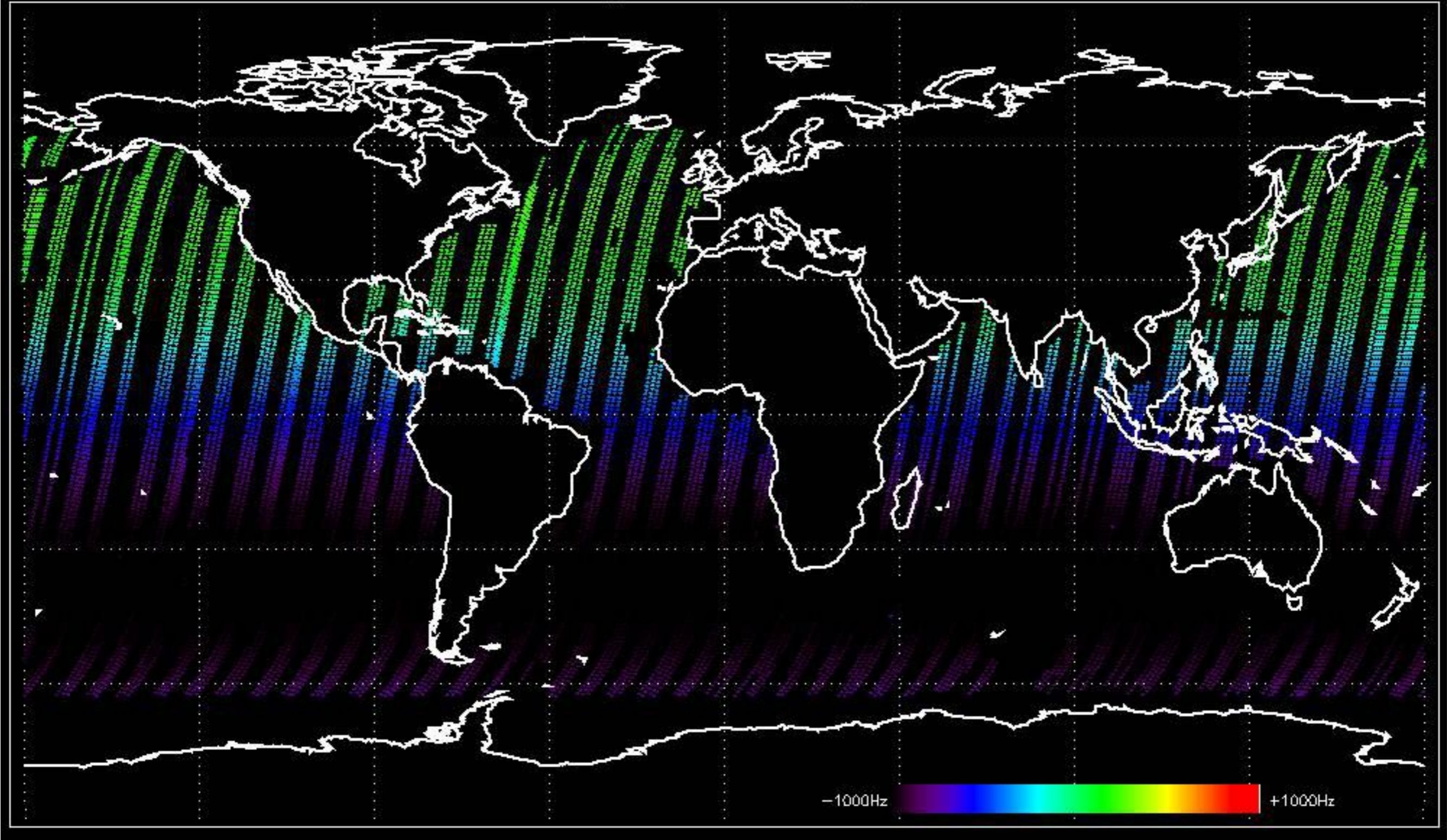
Doppler 'GM1' 'SS1' descending



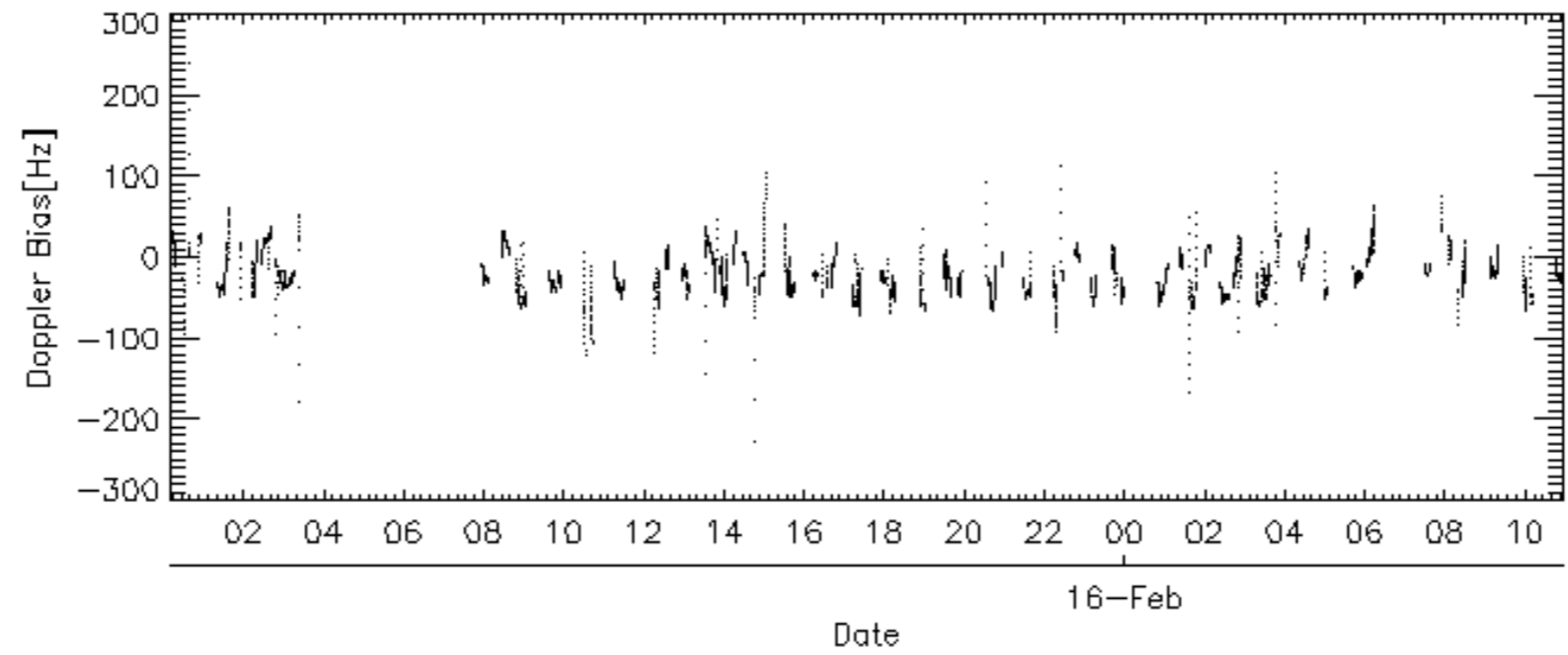
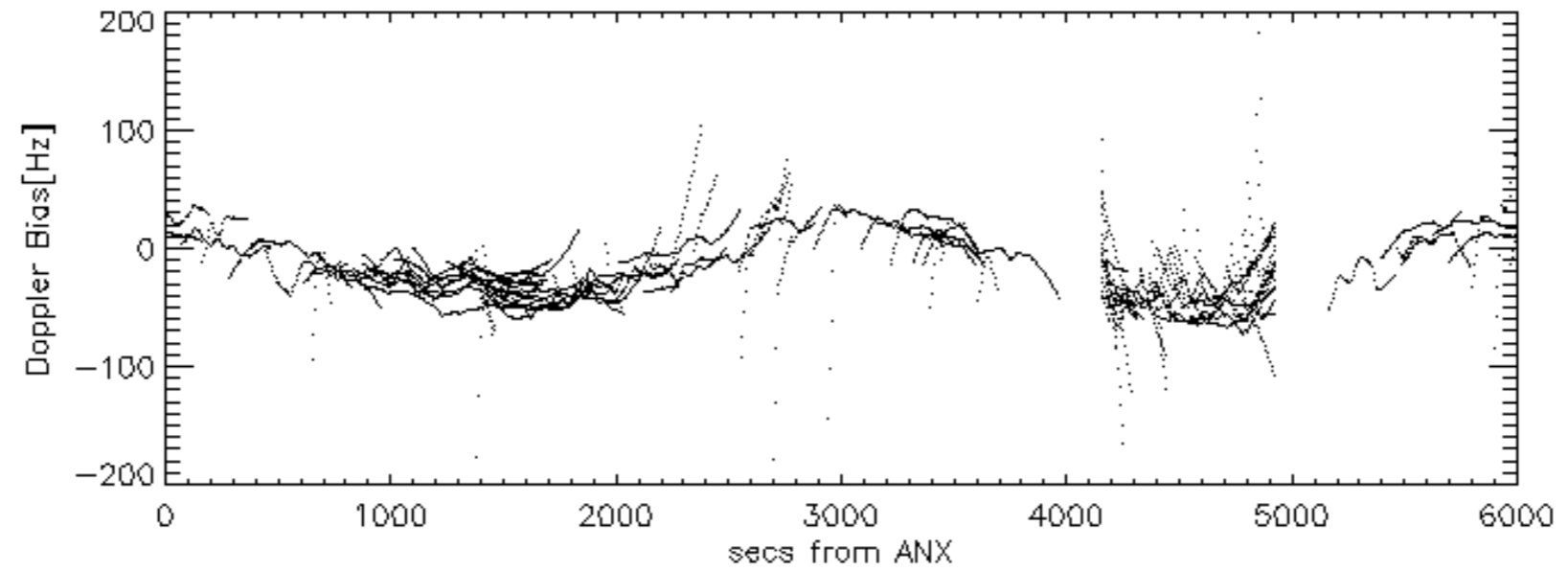
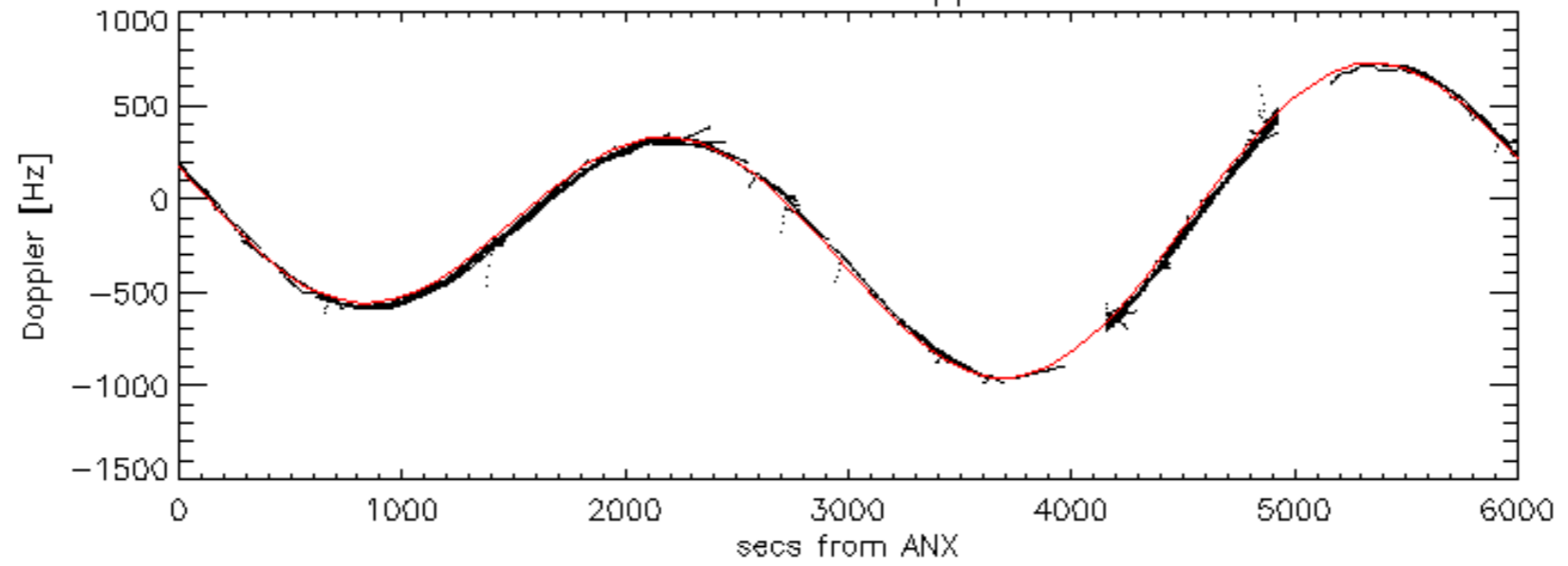
Doppler 'WVS' 'IS2' ascending

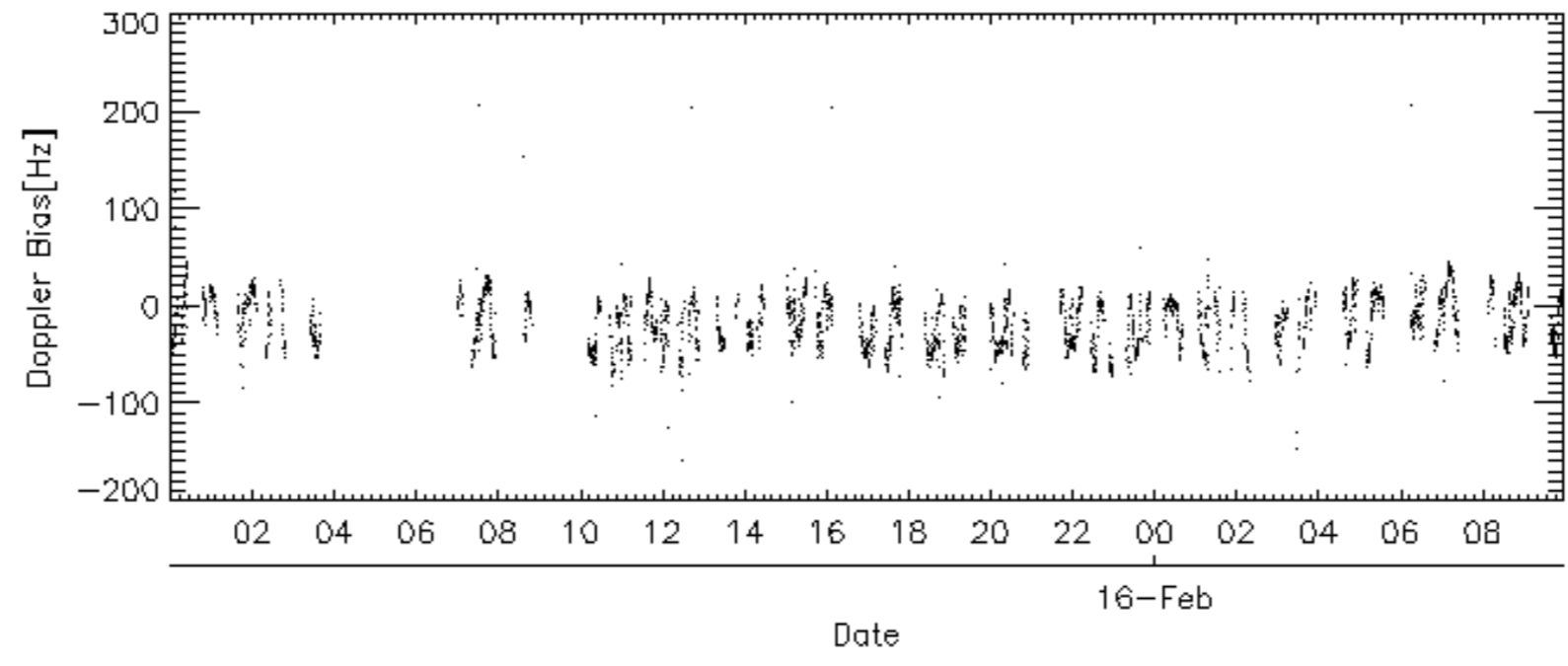
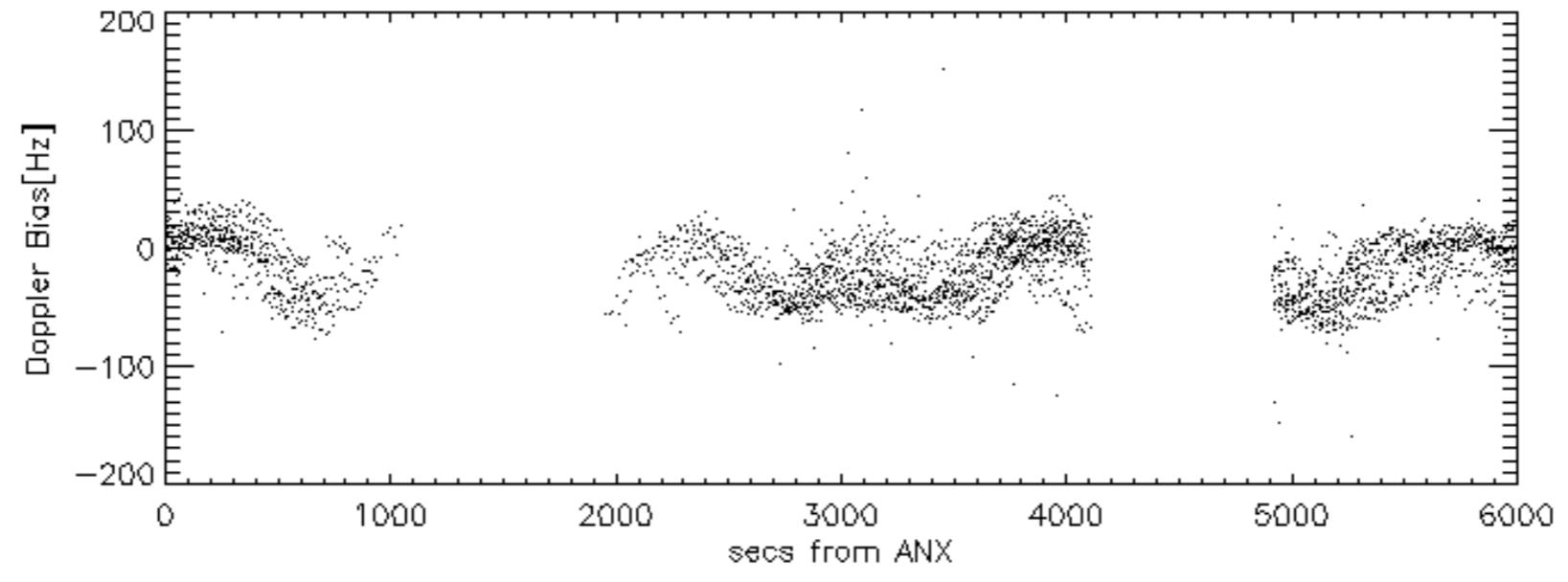
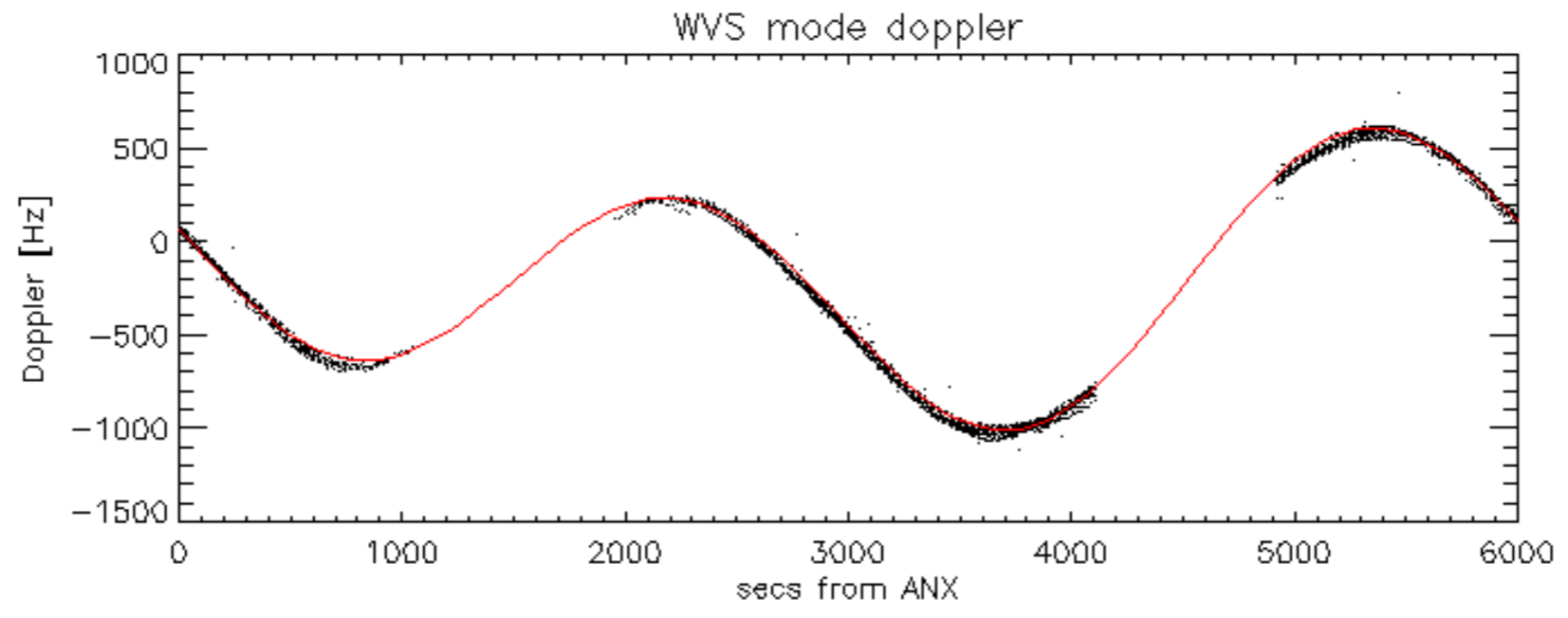


Doppler 'WVS' 'IS2' descending

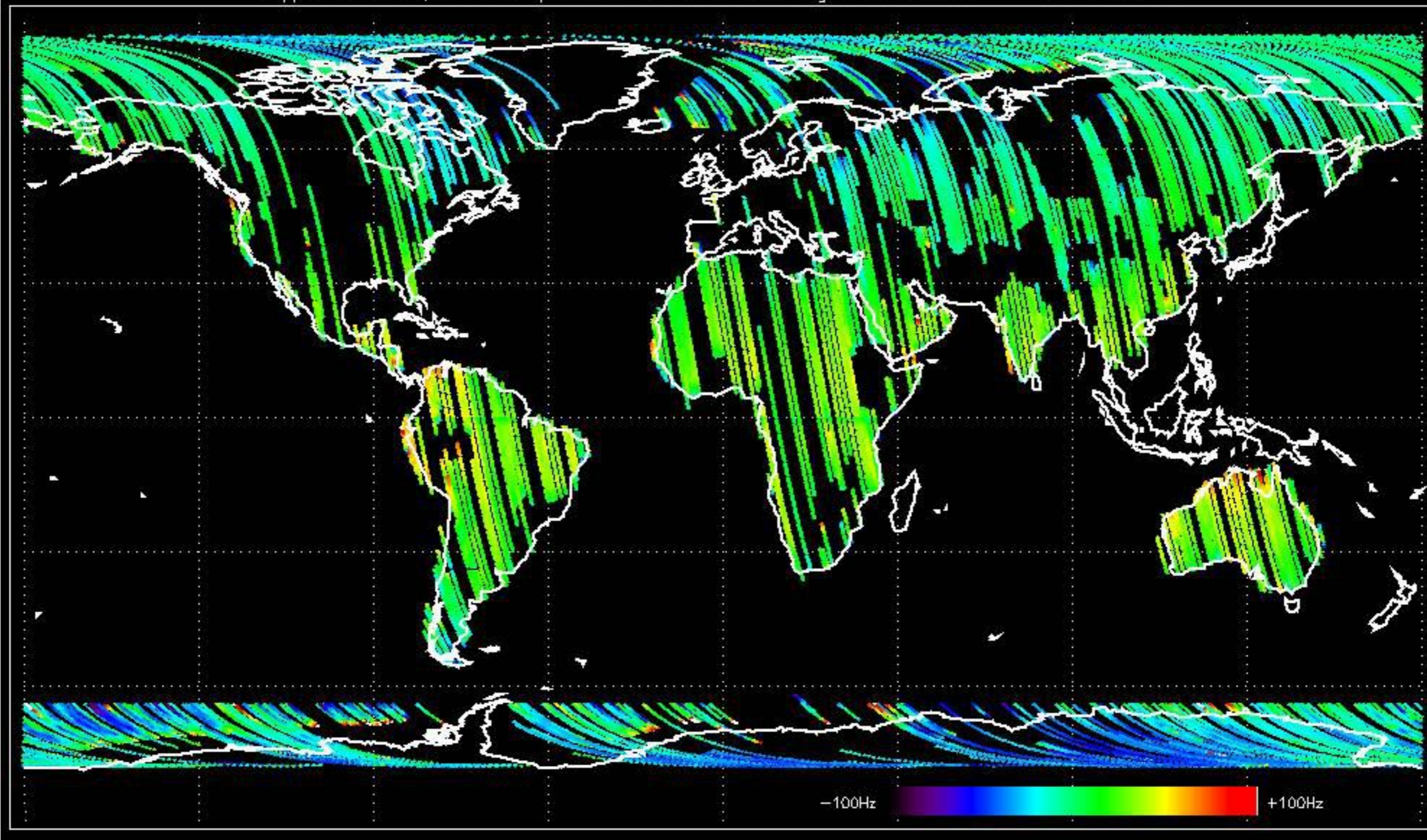


GM1 mode doppler

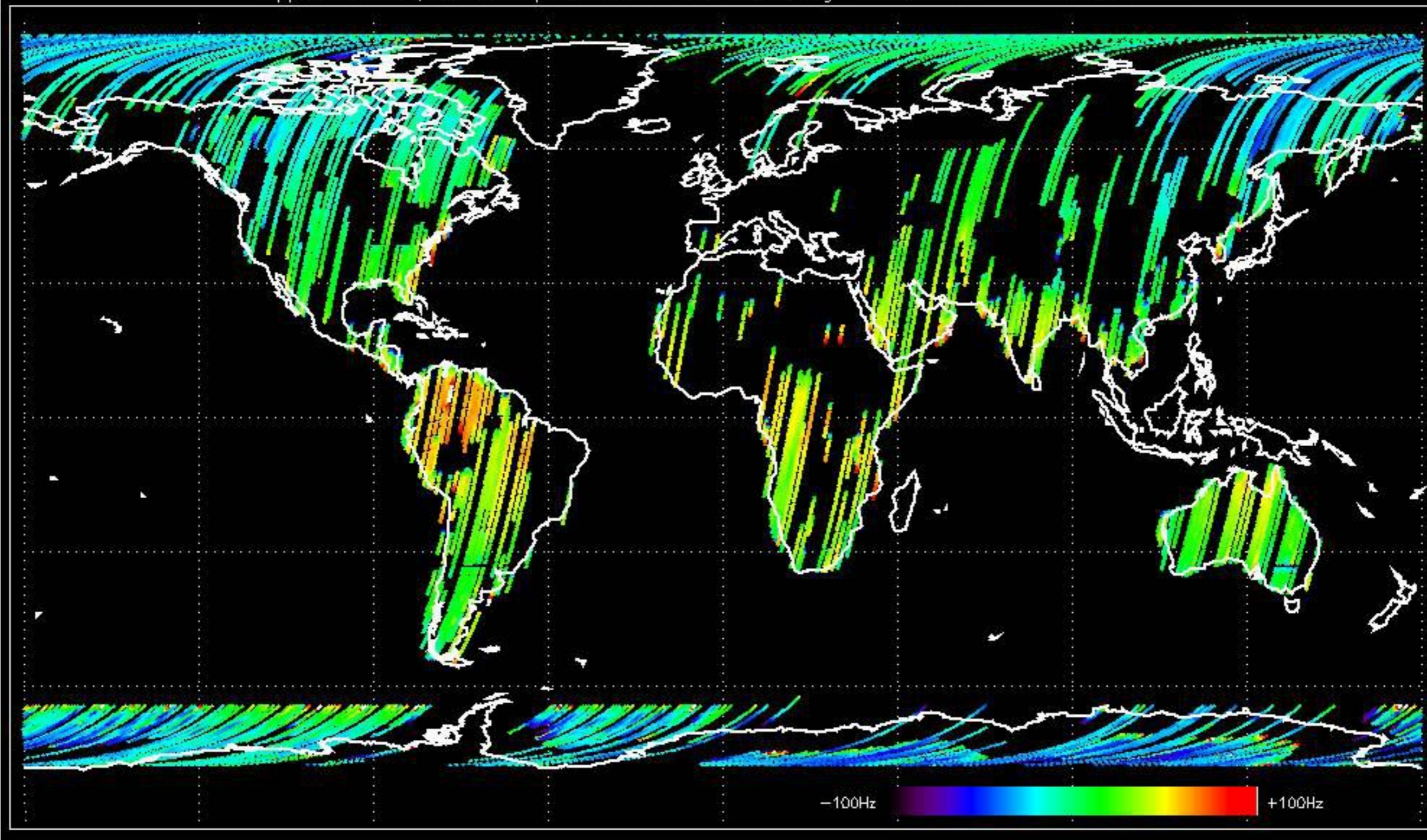




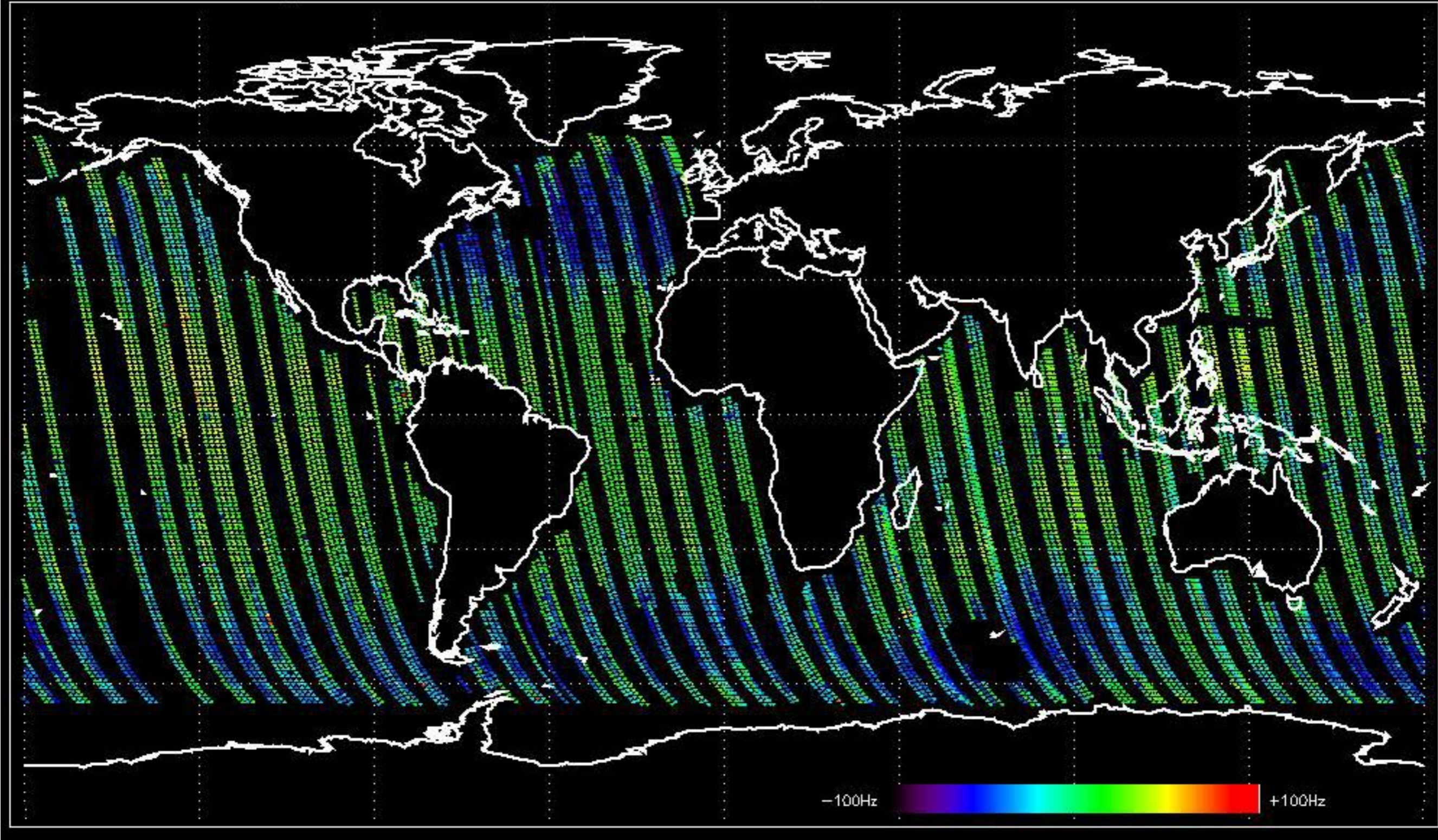
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -17.660157 Hz



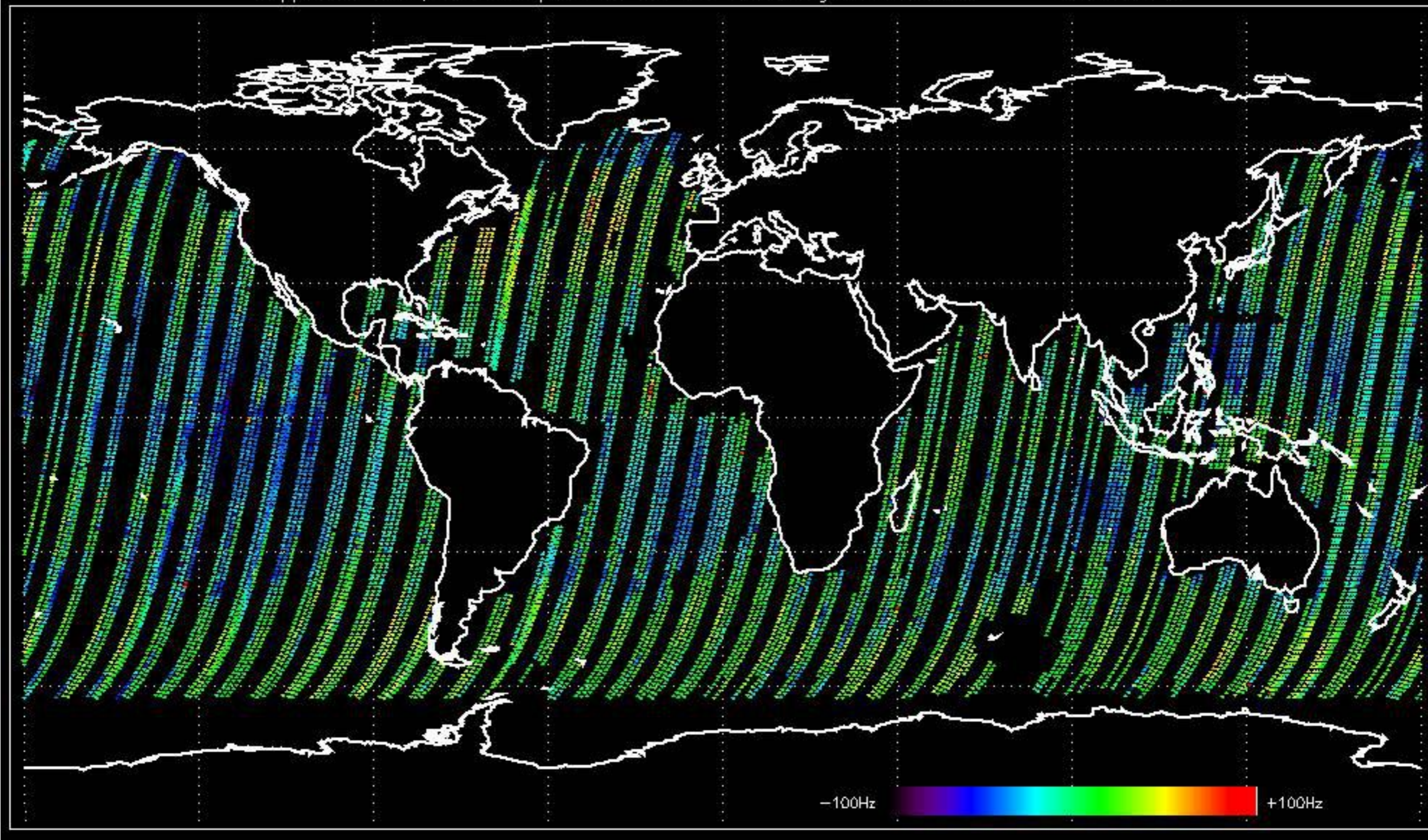
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -18.467163 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -15.460627 Hz

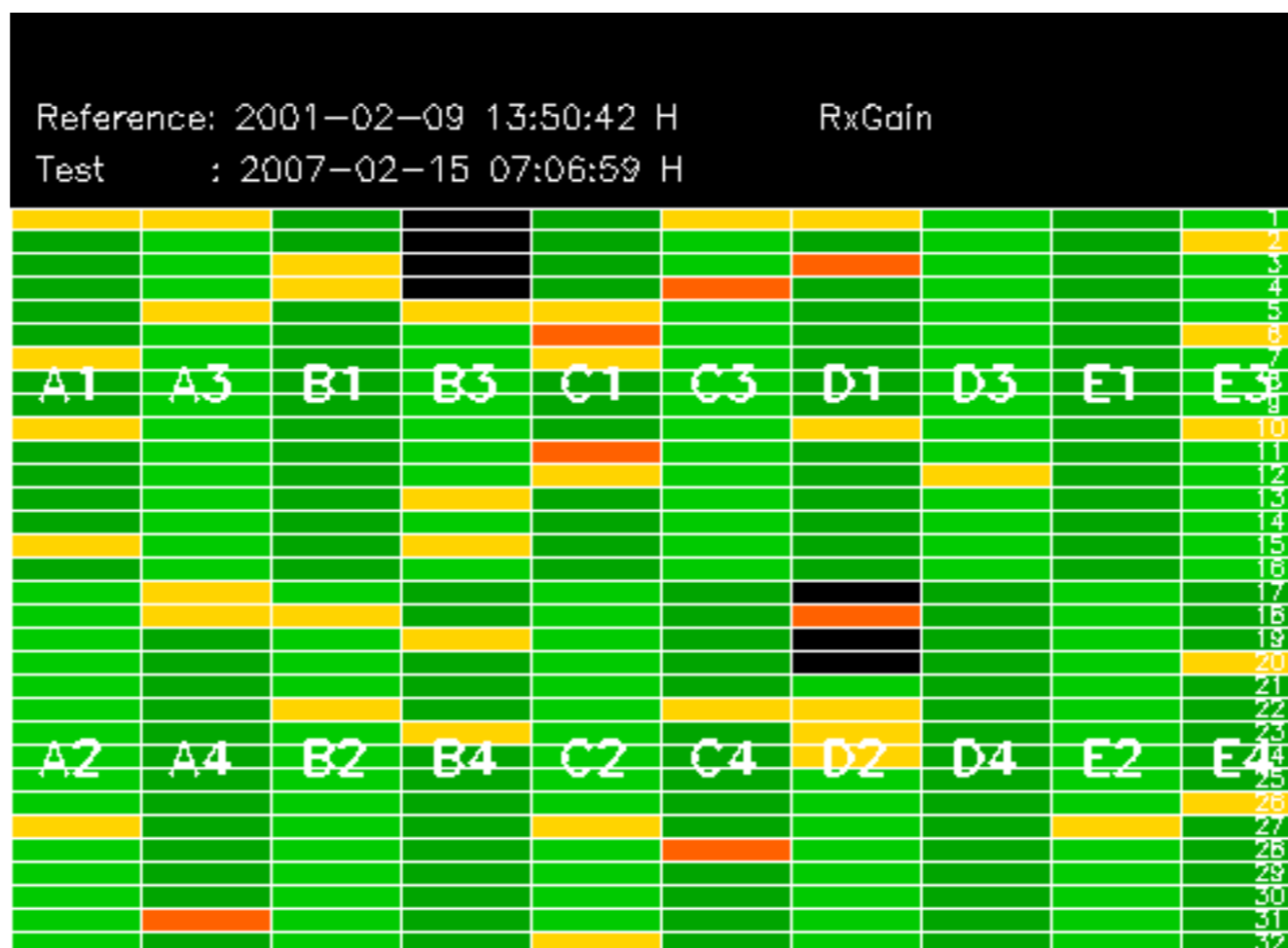


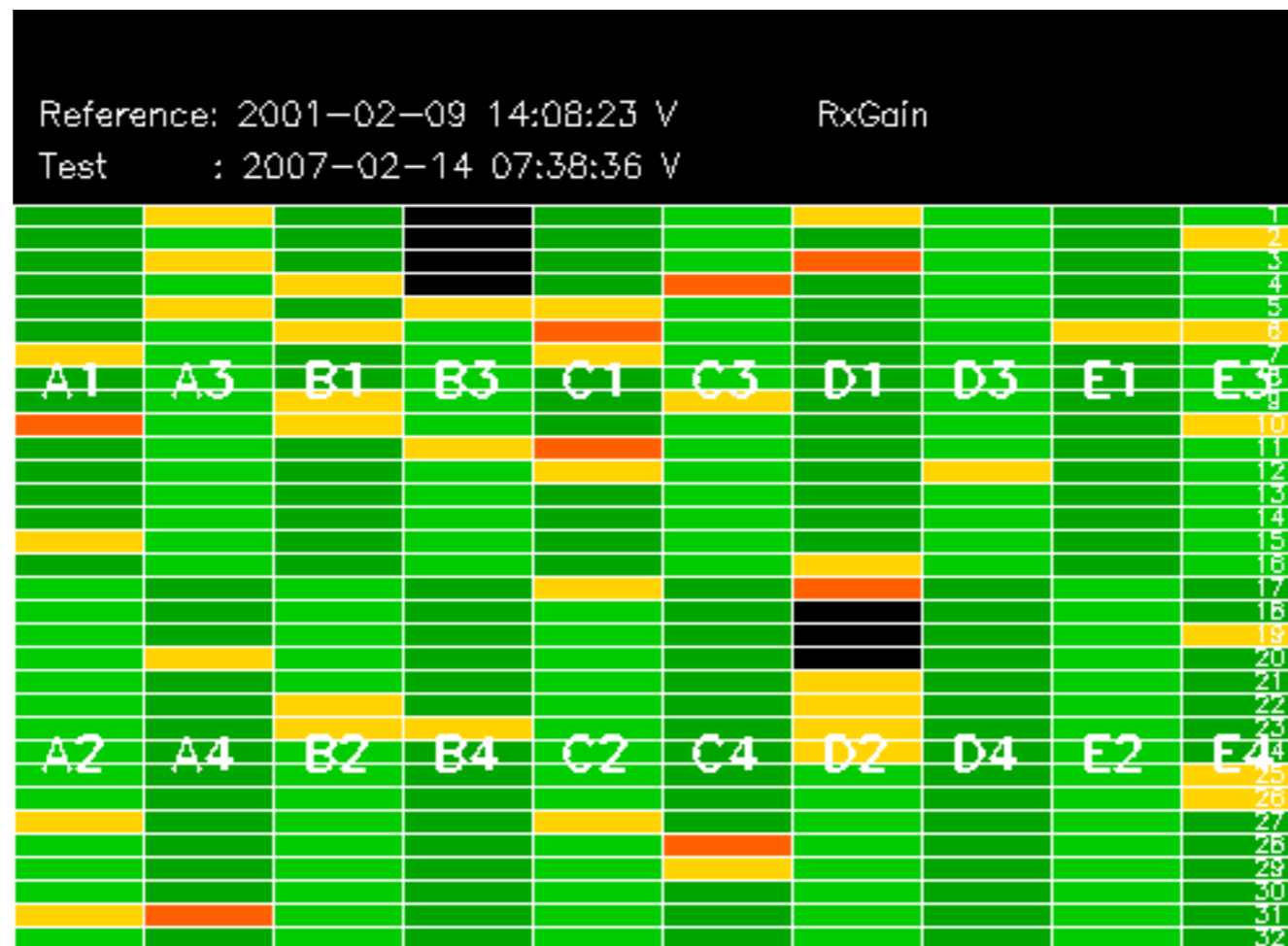
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -16.909365 Hz

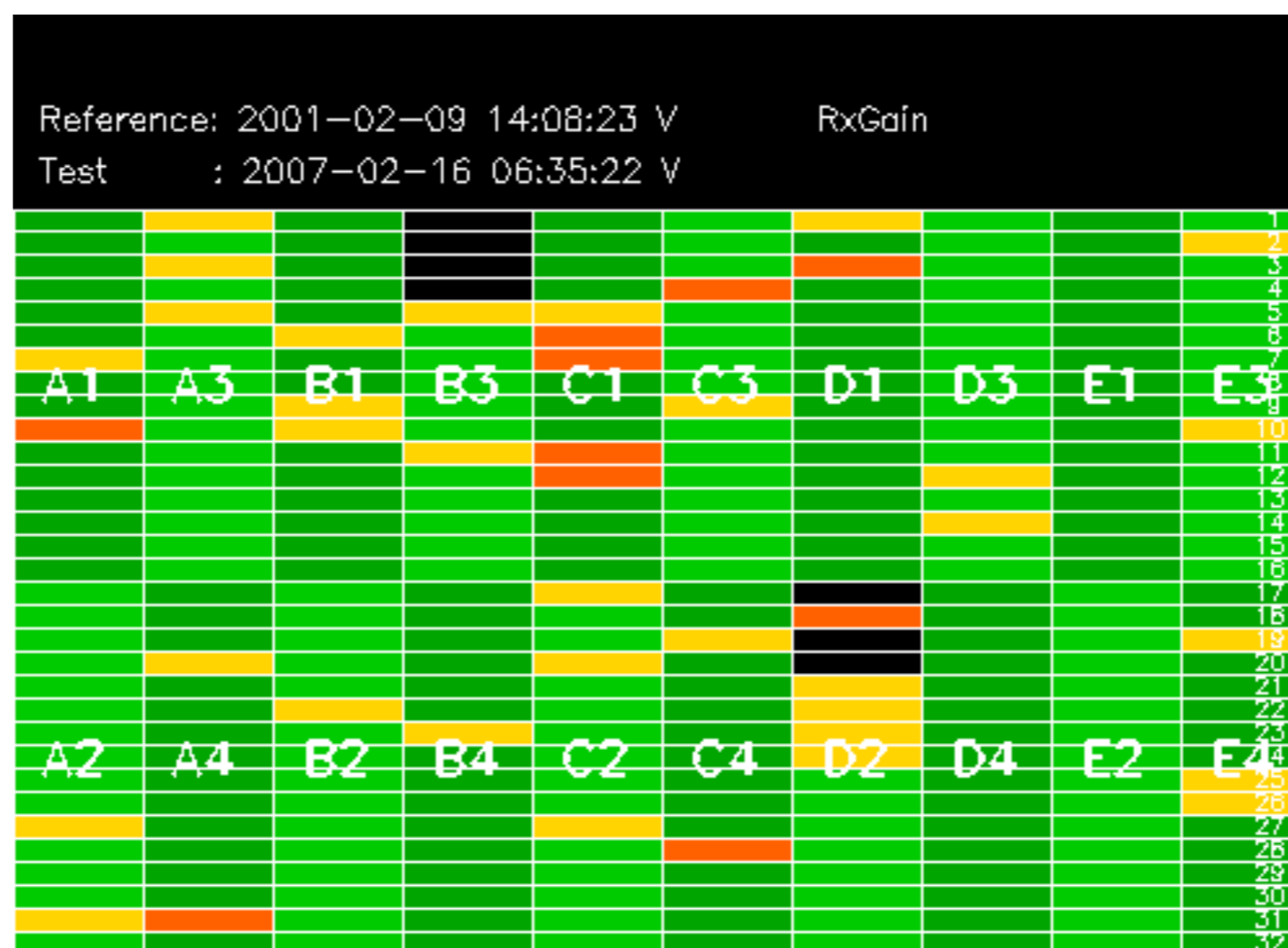


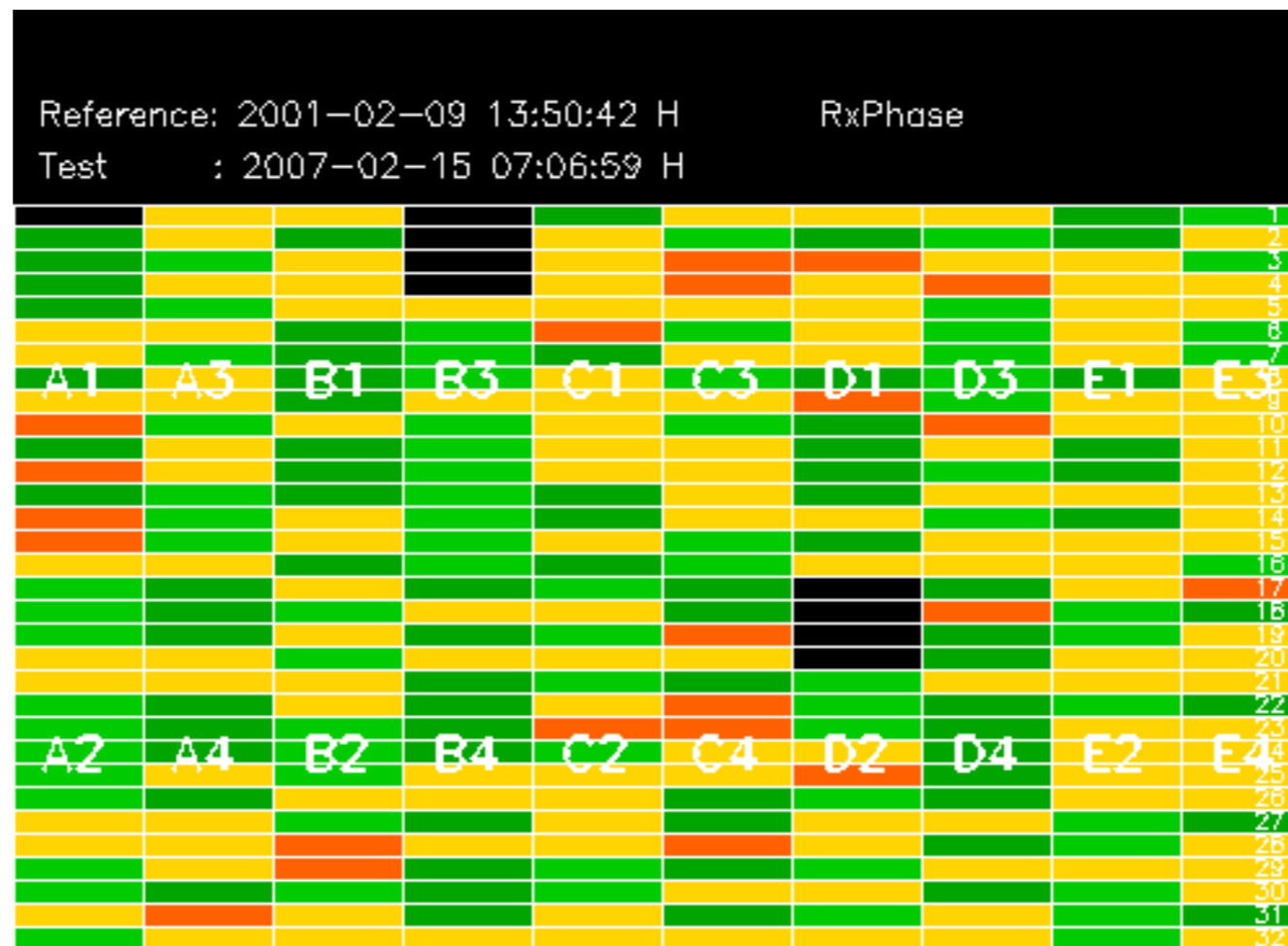
No anomalies observed on available MS products:

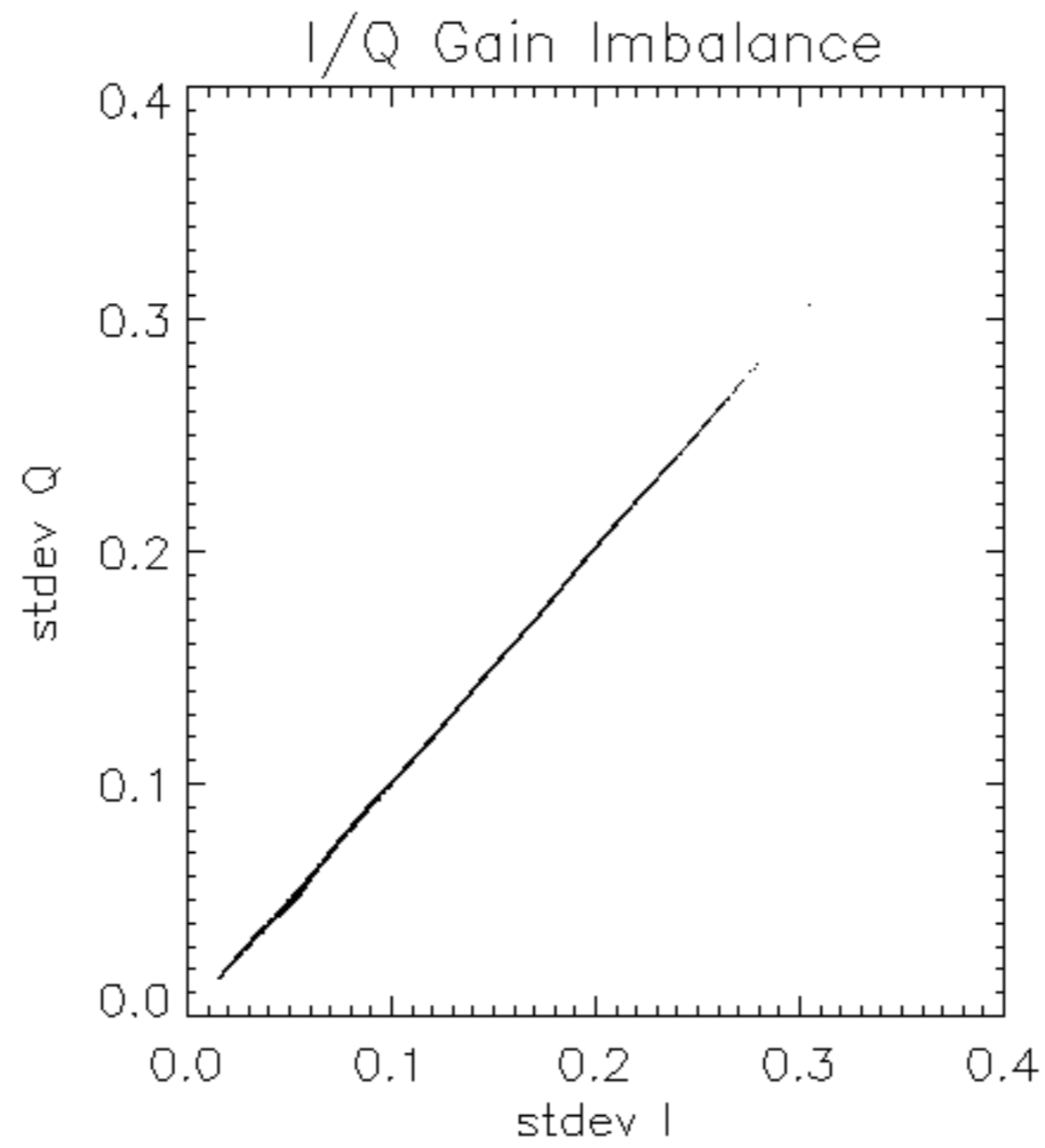
No anomalies observed.

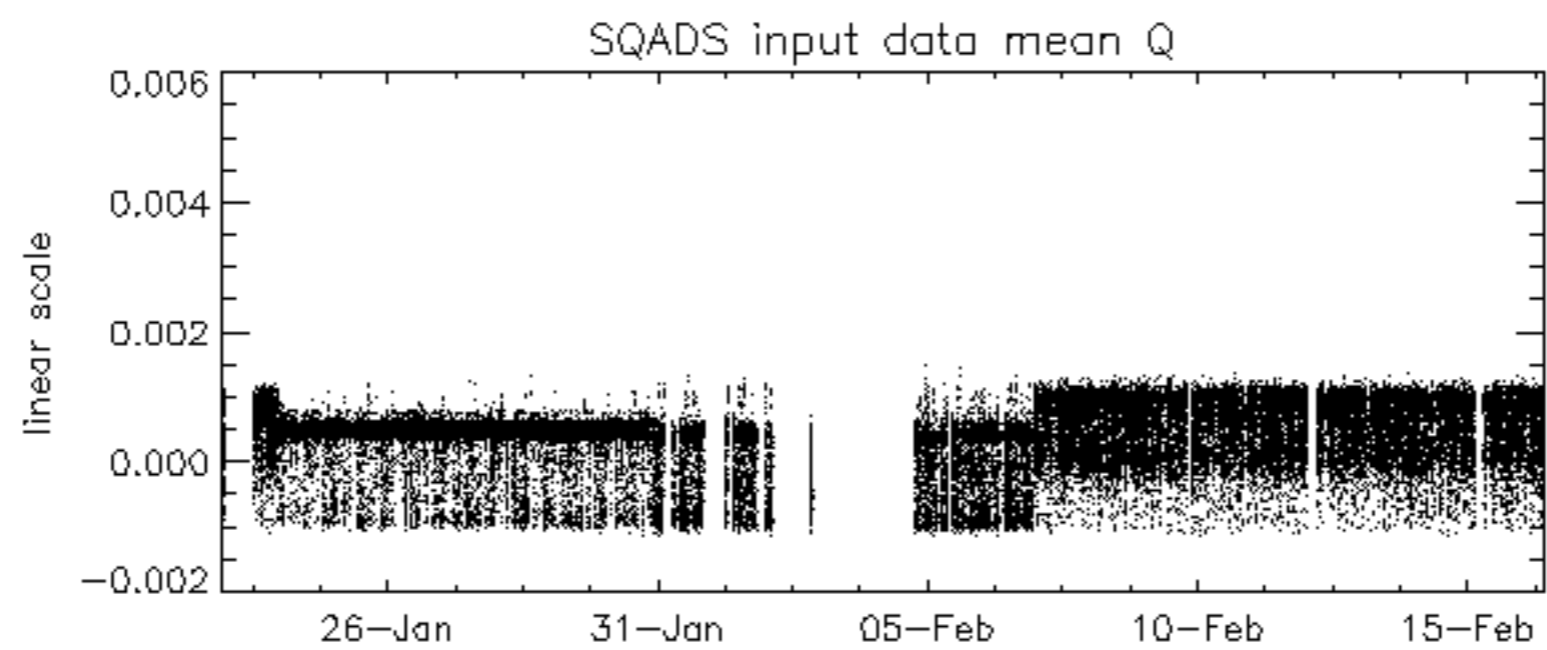
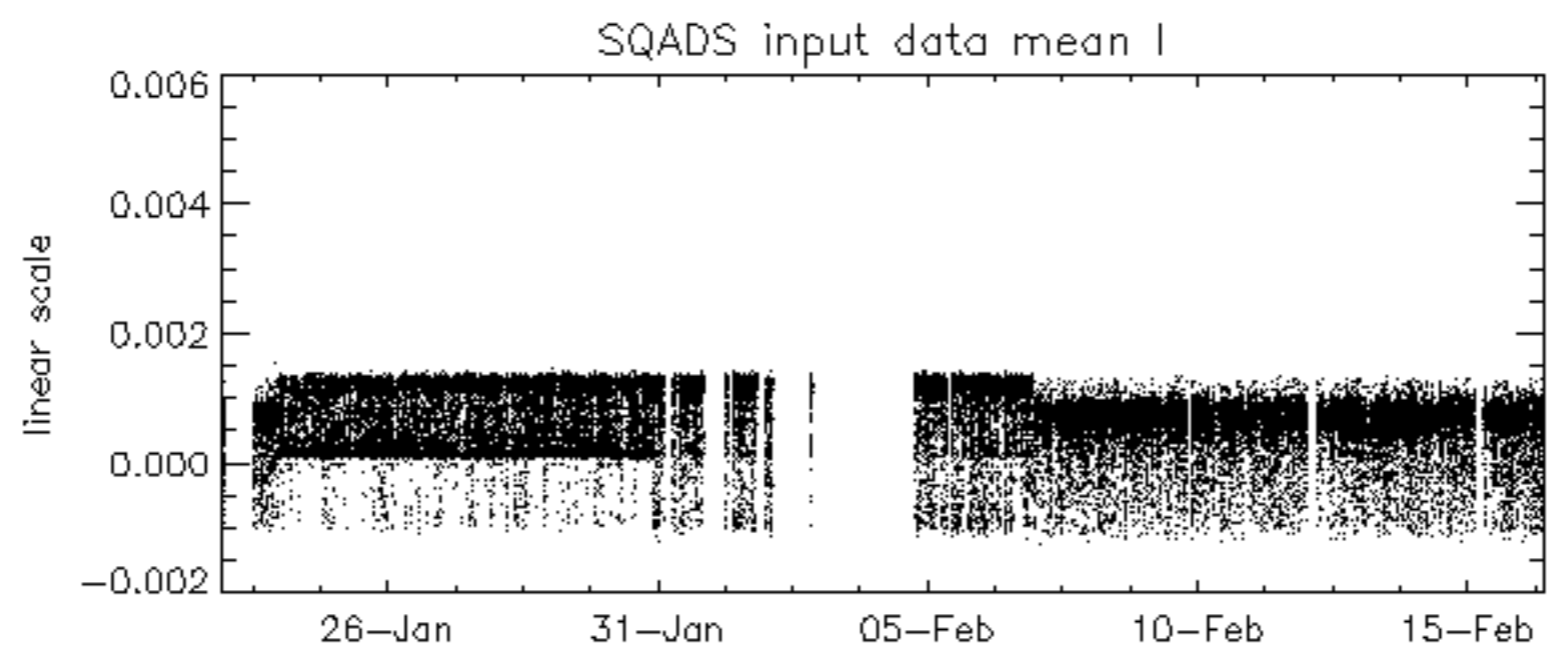
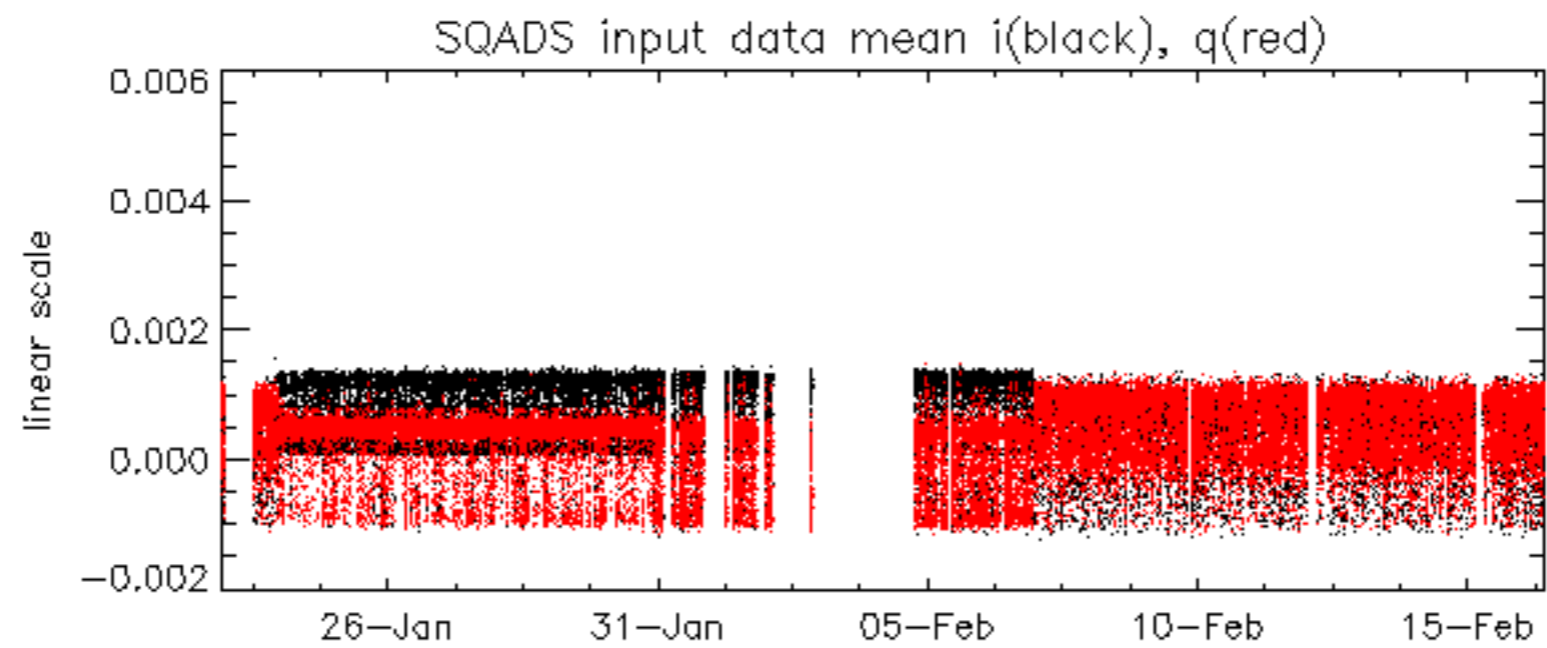


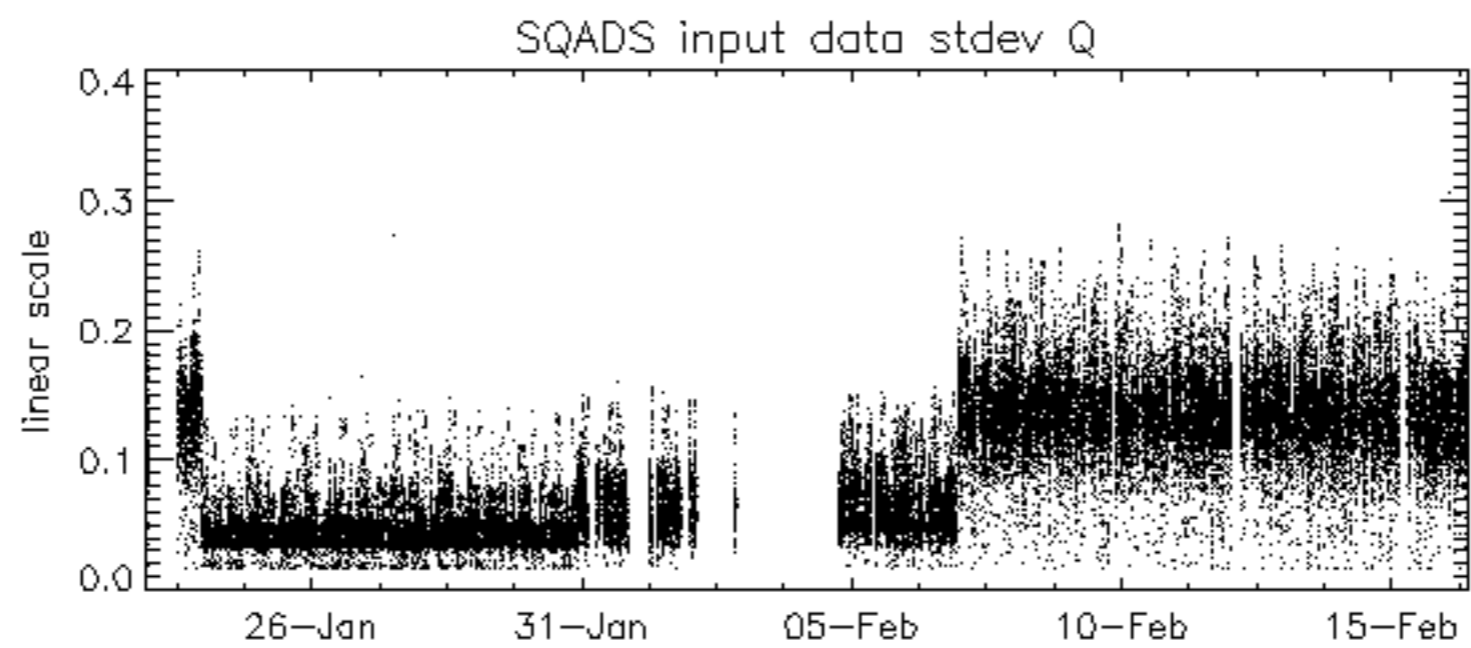
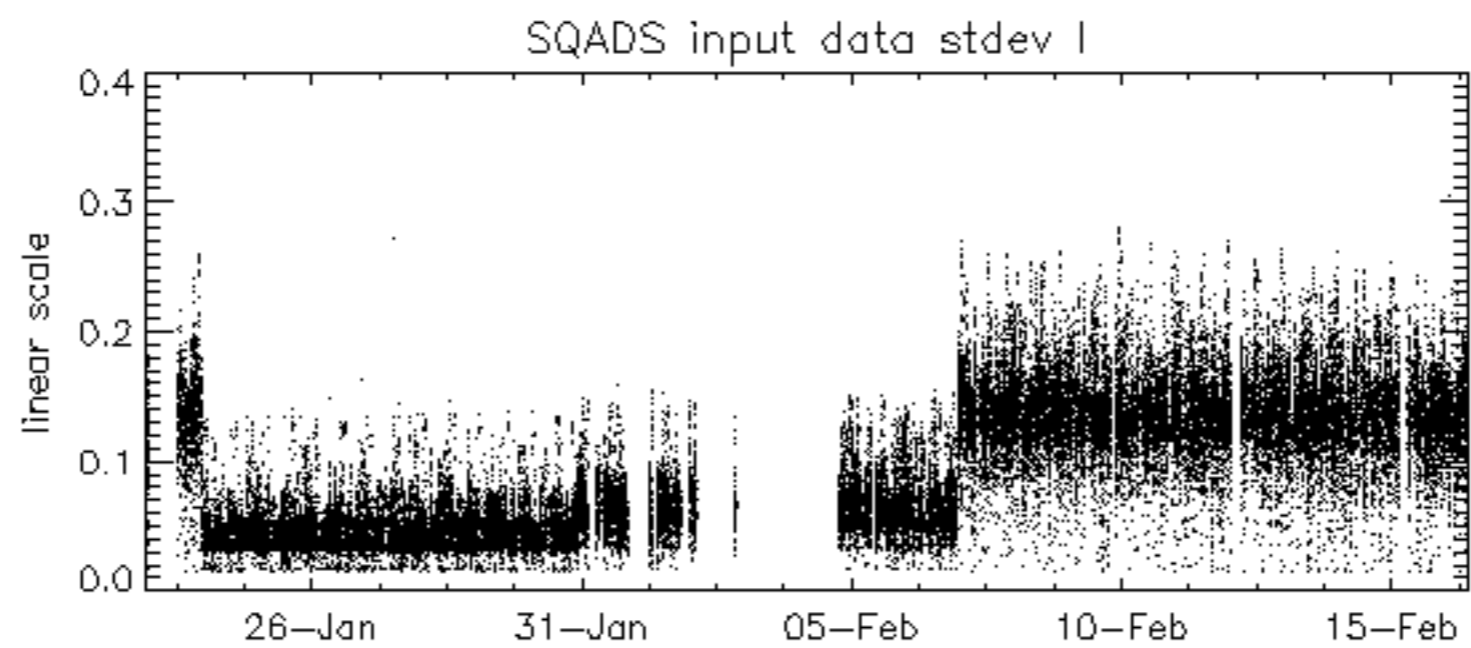
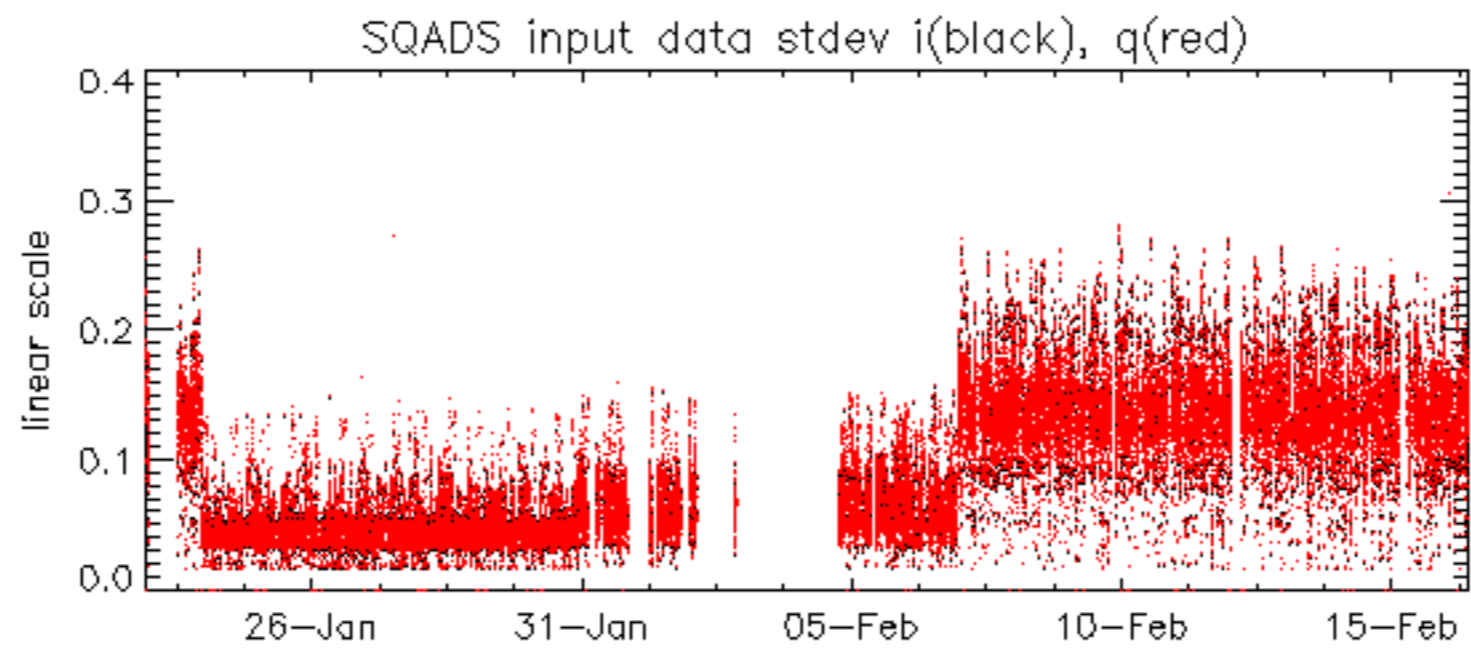










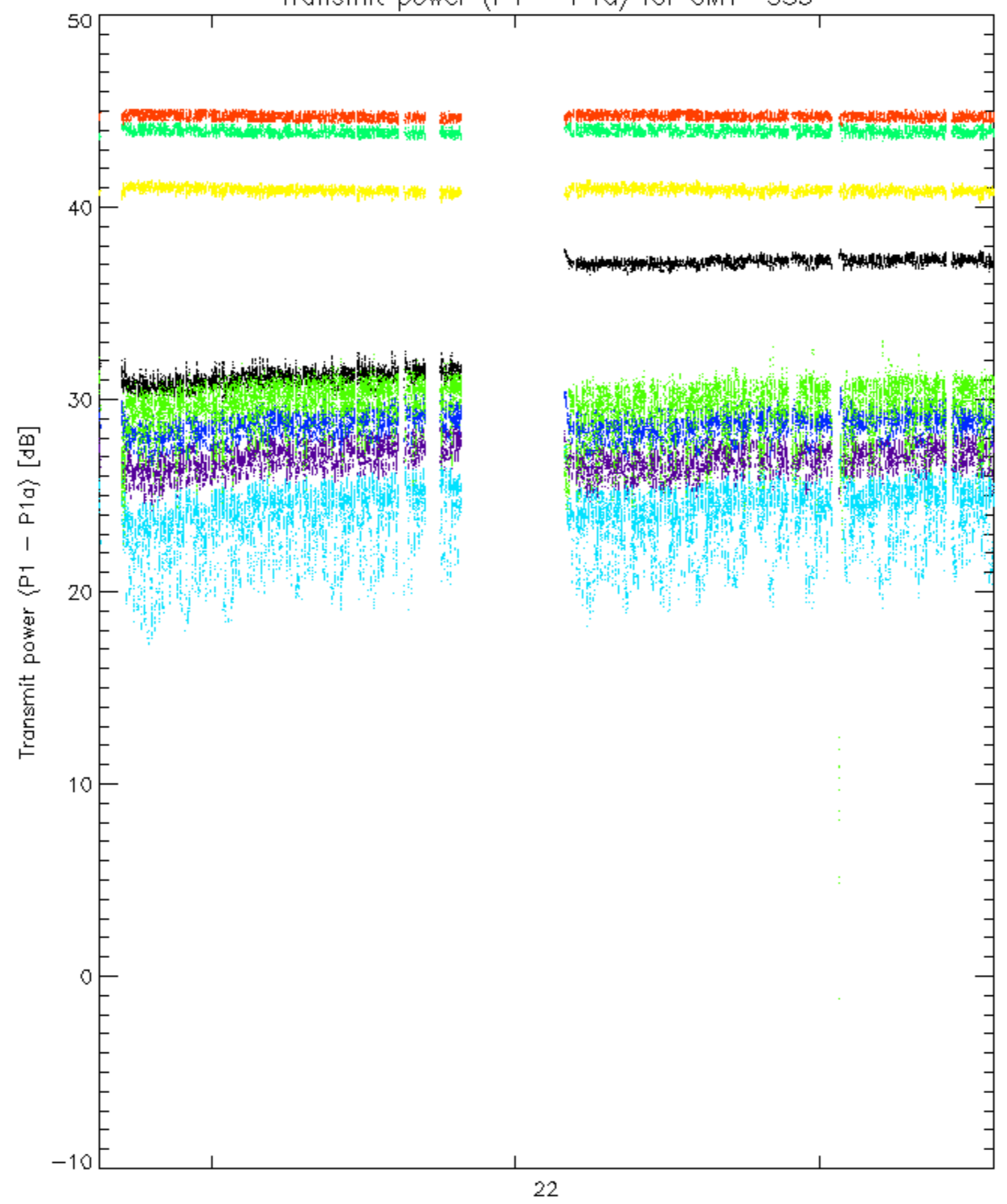


Summary of analysis for the last 3 days 2007021[456]

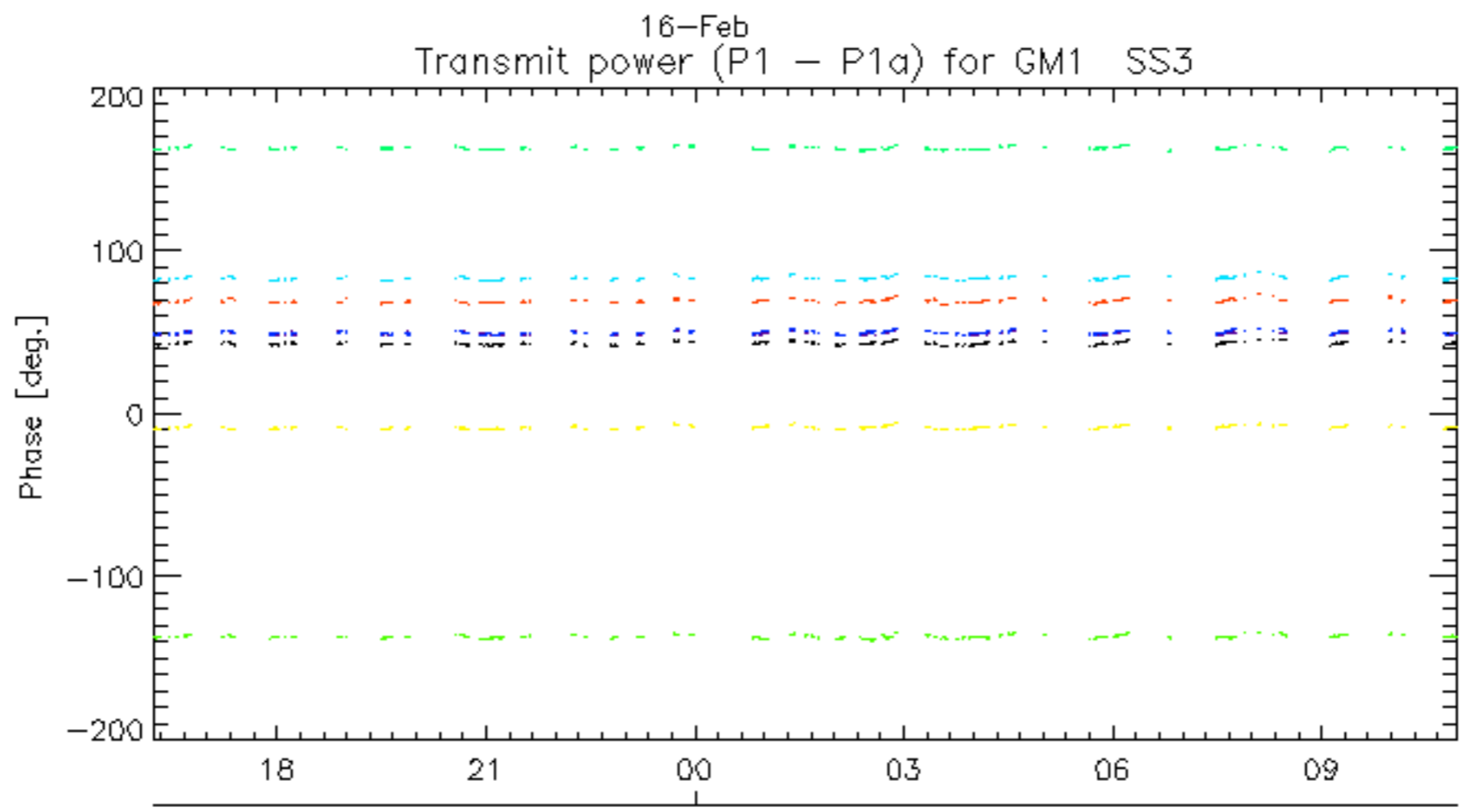
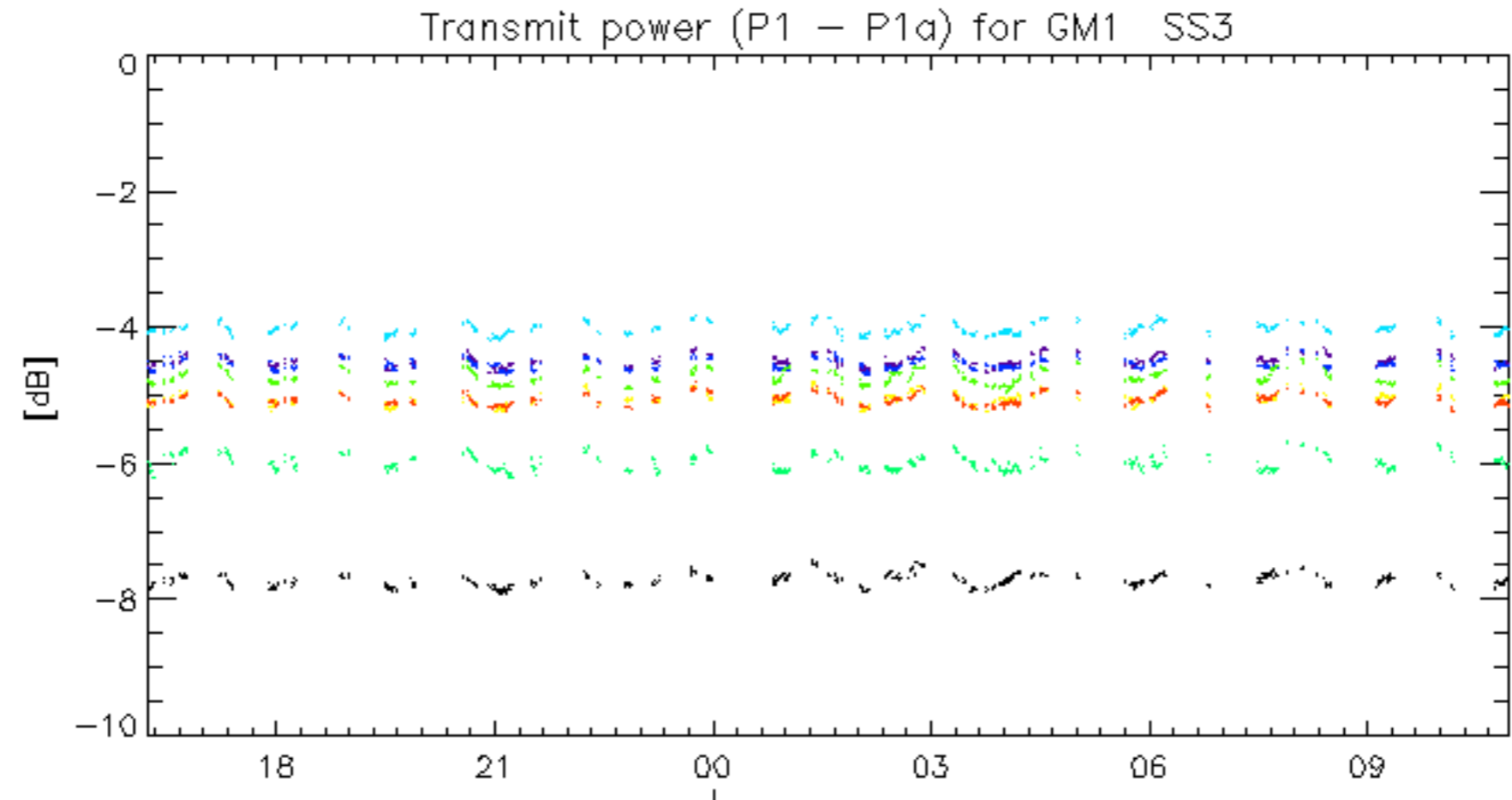
The assumption is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20070215_081235_000003682055_00336_25941_8530.N1	15	2459
ASA_IMM_1PNPDE20070216_012024_000000352055_00346_25951_9272.N1	1	0
ASA_GM1_1PNPDK20070214_130229_000004652055_00324_25929_5768.N1	0	9
ASA_GM1_1PNPDK20070216_072909_000004652055_00350_25955_7551.N1	0	14

Transmit power (P1 - P1a) for GM1 SS3

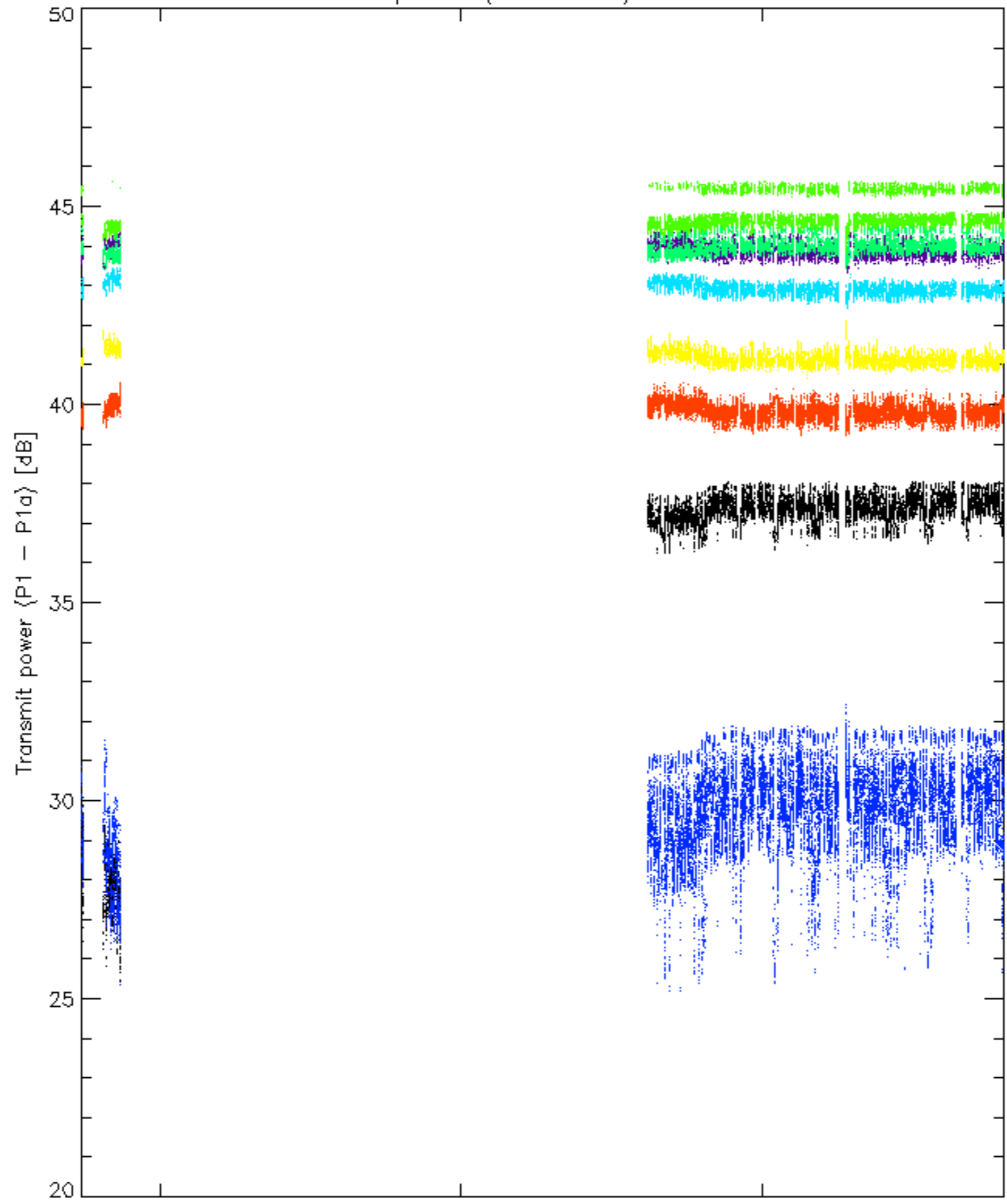


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

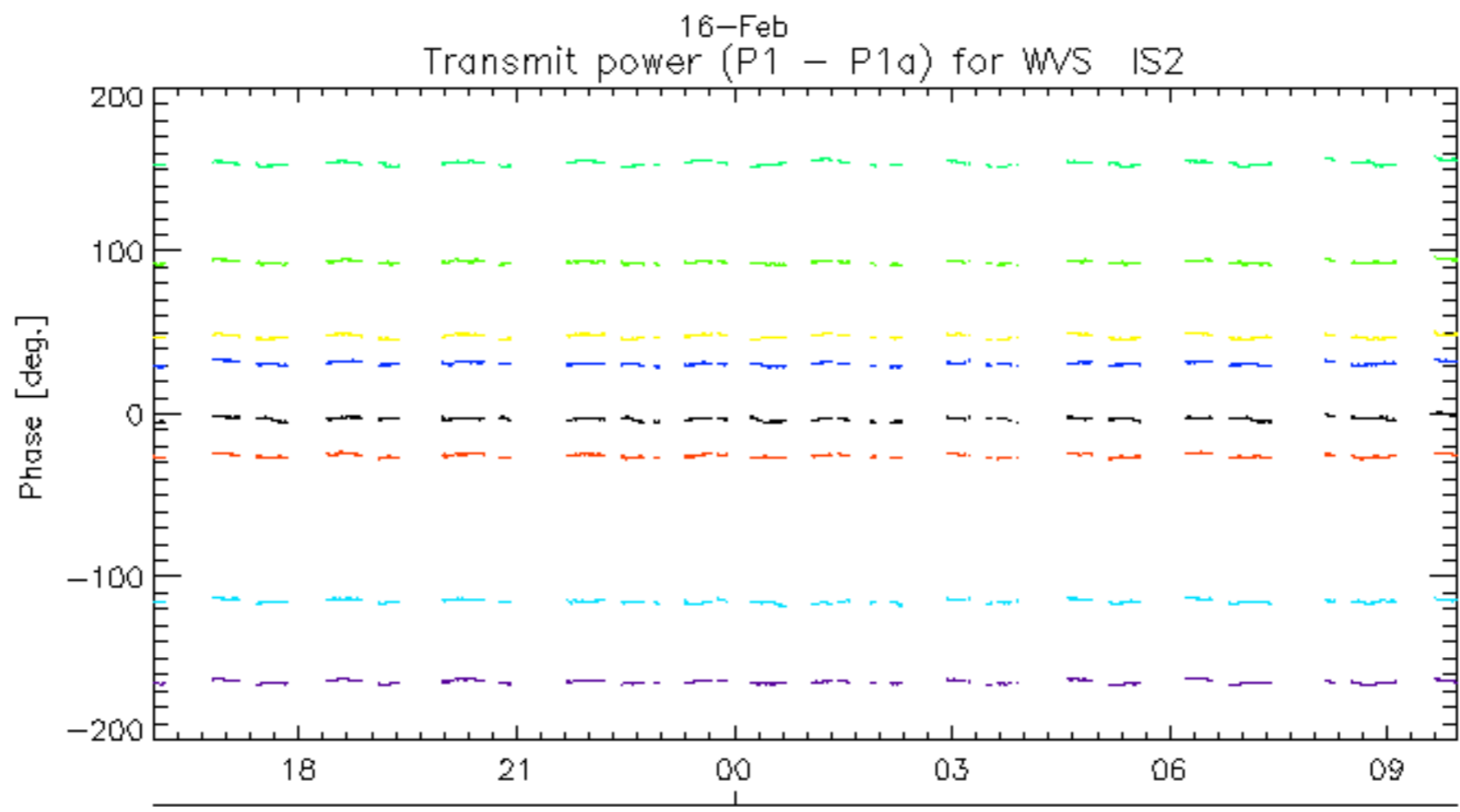
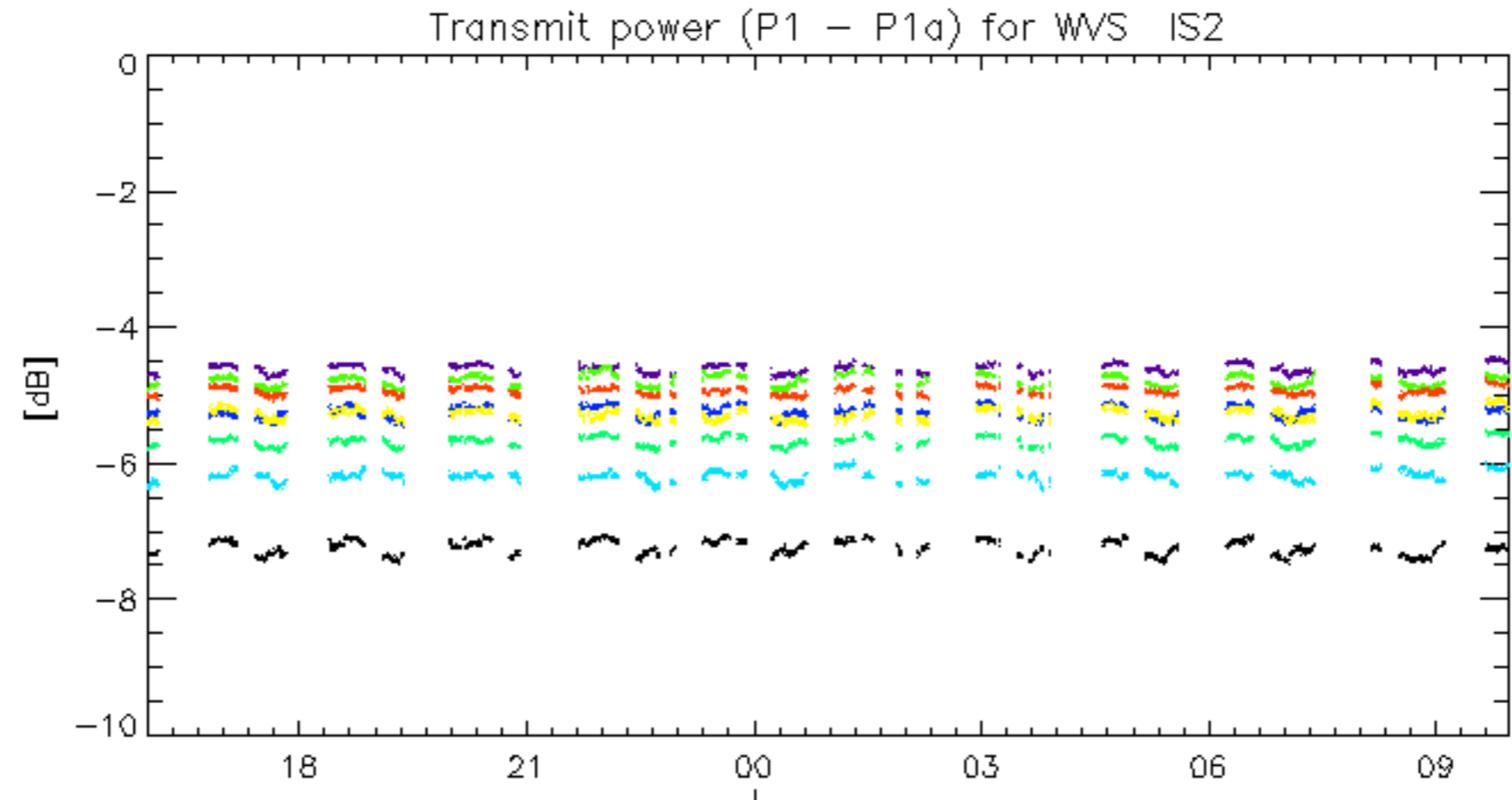


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Transmit power (P1 - P1a) for WVS IS2



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



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

No unavailabilities during the reported period.