

PRELIMINARY REPORT OF 070223

last update on Fri Feb 23 16:27:32 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 2007-02-22 00:00:00 to 2007-02-23 16:27:32

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20070222_190441_20070204_165113_20071231_000000	15	33	7	0	8
ASA_XCA_AXVIEC20070215_184638_20070204_165113_20071231_000000	22	41	4	1	15
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	15	33	7	0	8
ASA_CON_AXVIEC20070215_184018_20070204_165113_20071231_000000	22	41	4	1	15
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	37	74	11	1	23
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	37	74	11	1	23

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20070222_190441_20070204_165113_20071231_000000	25	28	30	3	17
ASA_XCA_AXVIEC20070215_184638_20070204_165113_20071231_000000	17	22	21	2	38
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	25	28	30	3	17
ASA_CON_AXVIEC20070215_184018_20070204_165113_20071231_000000	17	22	21	2	38
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	42	50	51	5	55
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	42	50	51	5	55

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	20070222 100804
H	20070223 143815

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	-15.140972	0.225249	1.299599
7	P1a	-17.400259	0.105659	-0.131966
11	P1a	-17.310352	0.353386	0.095443
15	P1a	-12.838055	0.105678	-0.113977
19	P1a	-15.086113	0.092875	-0.007263
22	P1a	-15.486775	0.478898	-0.028422
26	P1a	-15.020324	0.212229	-0.206209
30	P1a	-17.306227	0.345597	-0.205934

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.621732	0.143110	-1.362690
7	P1	-3.101093	0.009182	-0.017095
11	P1	-4.123897	0.019355	-0.013130
15	P1	-6.325237	0.015921	-0.045535
19	P1	-3.707400	0.008668	-0.007953
22	P1	-4.668040	0.014295	0.029665
26	P1	-3.926654	0.013148	0.002963
30	P1	-5.913065	0.011824	0.001055

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.545401	0.251168	-1.473570

7	P2	-21.592596	0.083842	0.111804
11	P2	-15.477827	0.100832	0.029057
15	P2	-7.004404	0.098151	0.018714
19	P2	-9.072611	0.086270	0.019654
22	P2	-18.096828	0.081230	-0.018778
26	P2	-16.495729	0.094225	0.004592
30	P2	-19.326731	0.077431	0.016859

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.192895	0.007683	0.031940
7	P3	-8.192895	0.007683	0.031940
11	P3	-8.192895	0.007683	0.031940
15	P3	-8.192895	0.007683	0.031940
19	P3	-8.192895	0.007683	0.031940
22	P3	-8.192895	0.007683	0.031940
26	P3	-8.192895	0.007683	0.031940
30	P3	-8.192895	0.007683	0.031940

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	-11.292409	0.139370	1.006795
7	P1a	-10.034979	0.063617	-0.041611
11	P1a	-10.585392	0.058324	-0.218059
15	P1a	-10.853224	0.131682	-0.079189
19	P1a	-15.739142	0.064520	0.033346
22	P1a	-20.863380	1.269400	0.306371
26	P1a	-15.421103	0.264407	0.249583
30	P1a	-18.335869	0.358818	-0.070612

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-6.993039	3.772182	-6.288363
7	P1	-2.433646	0.005883	0.028716
11	P1	-2.885117	0.015960	-0.081957
15	P1	-3.801597	0.033096	-0.084185
19	P1	-3.549223	0.012549	0.002899
22	P1	-5.024193	0.022722	-0.002128
26	P1	-5.987076	0.023562	0.048240
30	P1	-5.283928	0.022812	0.029319

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.482656	0.758642	-2.710822
7	P2	-21.989622	0.053142	0.157252
11	P2	-10.667562	0.030671	0.099049
15	P2	-4.821835	0.027290	0.074262
19	P2	-6.818081	0.028430	0.087421
22	P2	-8.125026	0.030069	0.095882
26	P2	-24.246193	0.032095	0.035346
30	P2	-21.770481	0.036066	0.113778

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.042063	0.003252	0.050244
7	P3	-8.042070	0.003266	0.049999
11	P3	-8.042131	0.003256	0.049855
15	P3	-8.042051	0.003262	0.050174
19	P3	-8.042103	0.003247	0.049928
22	P3	-8.042184	0.003256	0.049884
26	P3	-8.042030	0.003259	0.050112
30	P3	-8.042063	0.003265	0.049944

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	0.000618808
	stdev	2.38453e-07
MEAN Q	mean	0.000388893
	stdev	2.51415e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.105186
	stdev	0.00258376
STDEV Q	mean	0.105218
	stdev	0.00263383



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2007022[123]

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_1PNPDE20070221_143309_000000372055_00425_26030_6740.N1	1	0
ASA_IMM_1PNPDE20070221_165622_000001272055_00427_26032_6826.N1	4	86
ASA_WSM_1PNPDE20070221_164157_000000982055_00427_26032_6808.N1	5	1764
ASA_WSM_1PNPDE20070221_172658_000000672055_00427_26032_6800.N1	21	6572
ASA_WSM_1PNPDE20070222_172653_000001032055_00442_26047_8220.N1	0	12
ASA_WSM_1PNPDE20070222_190519_000001092055_00443_26048_8248.N1	0	65
ASA_WSM_1PNPDE20070223_023249_000000852055_00447_26052_8839.N1	0	29
ASA_WSM_1PNPDK20070222_140625_000000852055_00440_26045_4805.N1	0	16





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

<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

<input type="checkbox"/>

Acsending

<input type="checkbox"/>

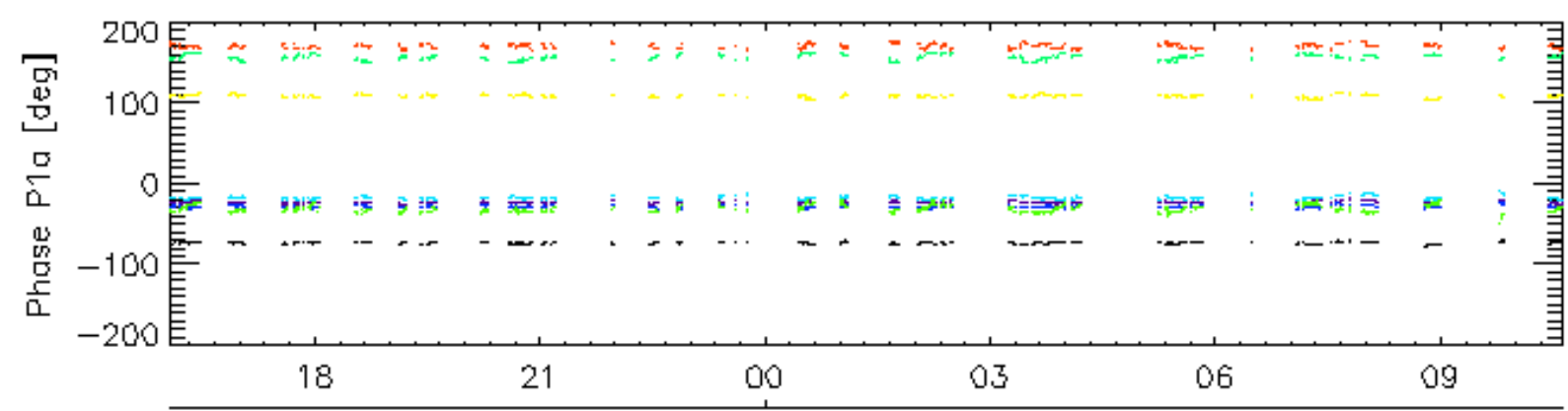
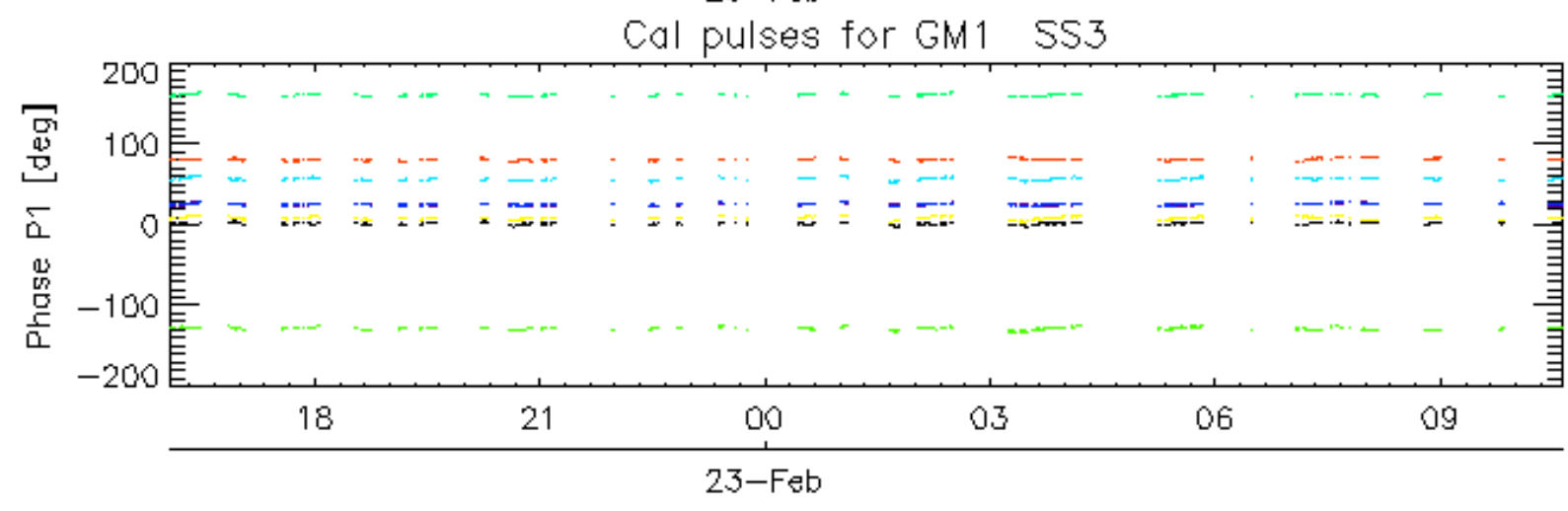
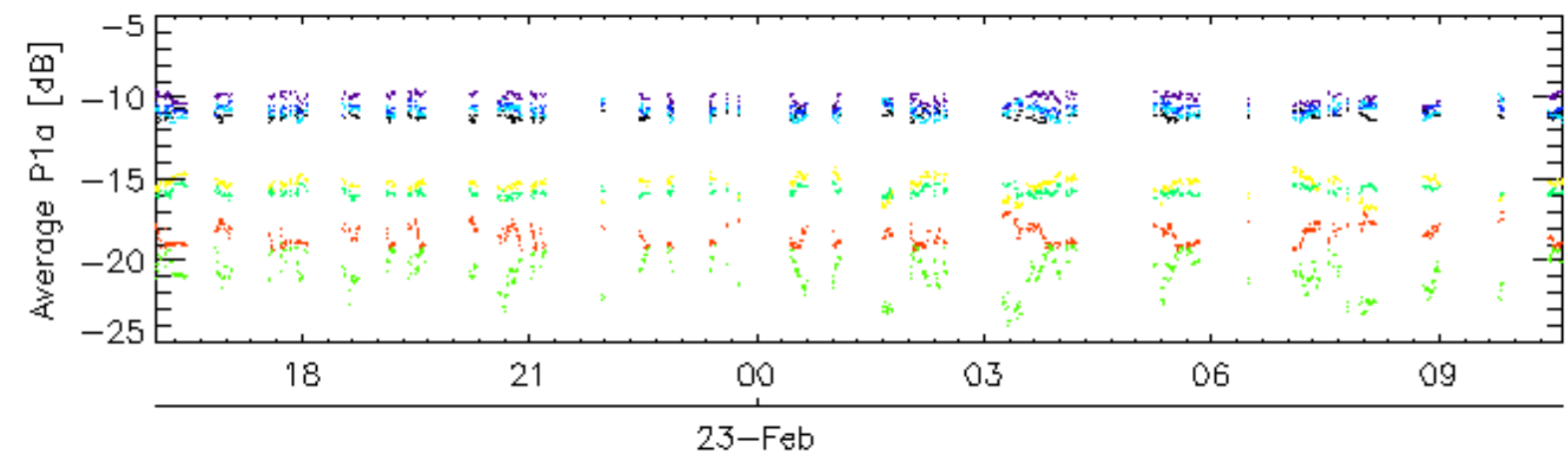
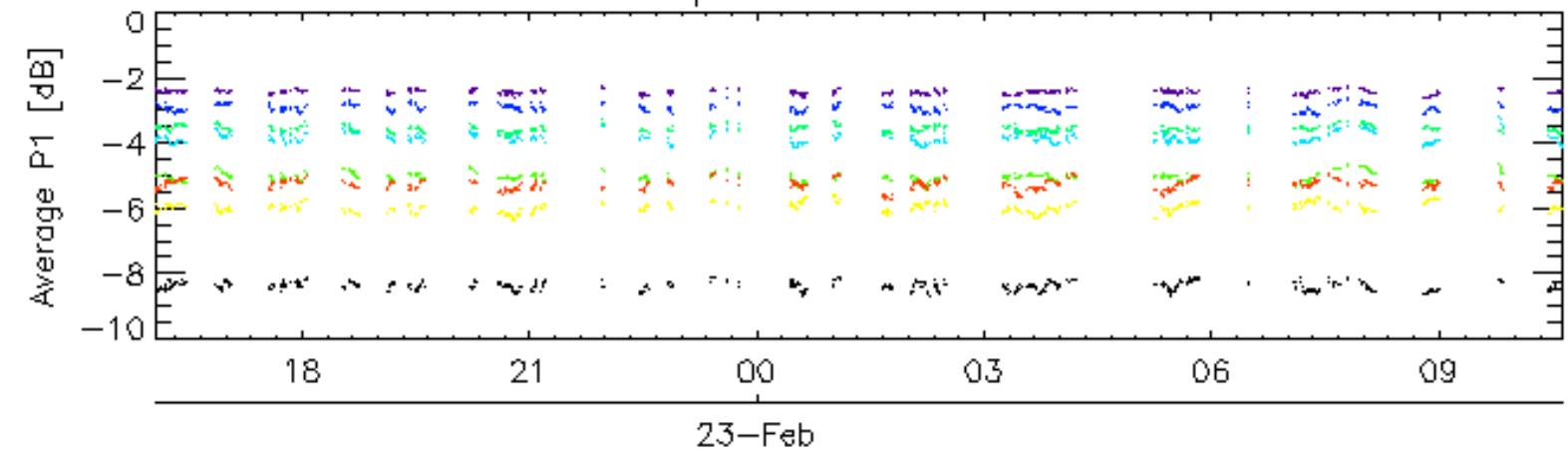
Descending

7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

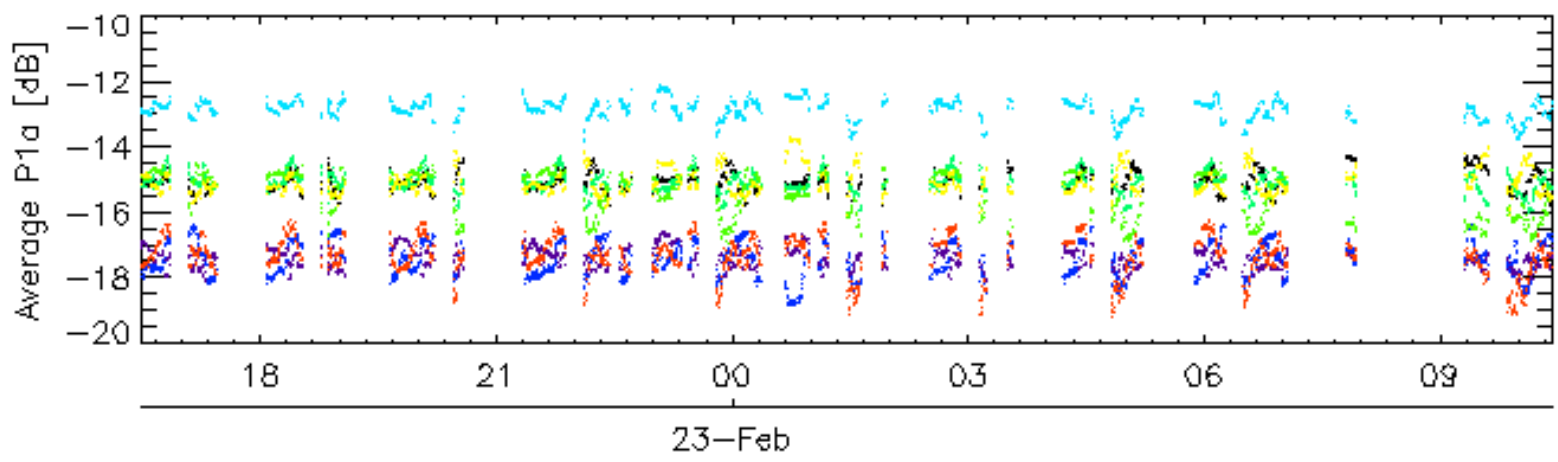
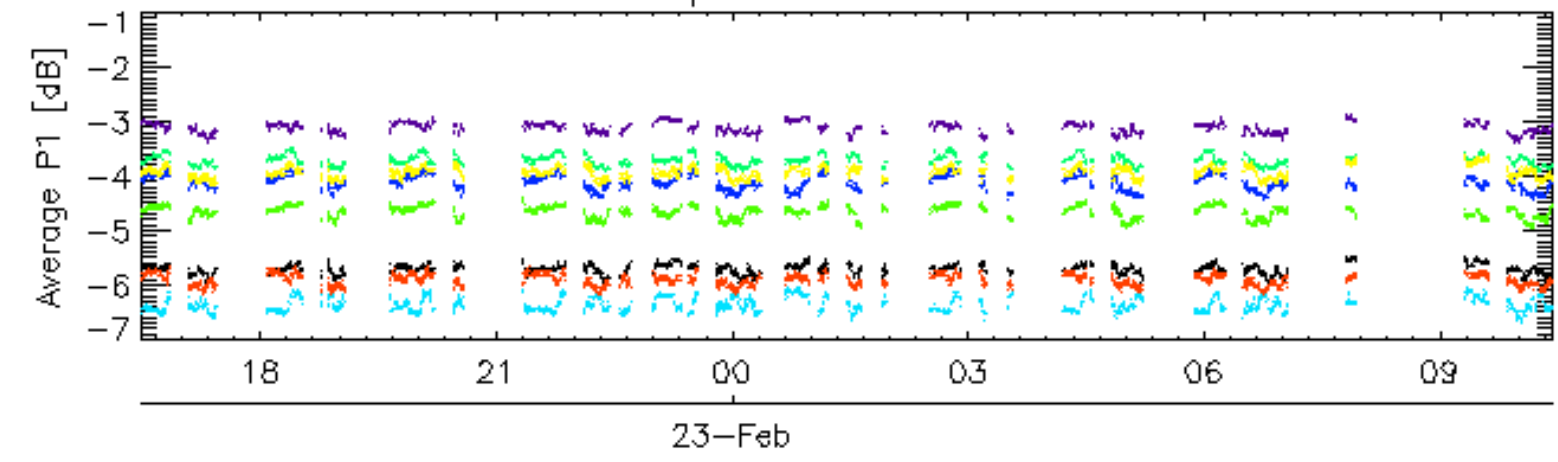
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Cal pulses for GM1 SS3

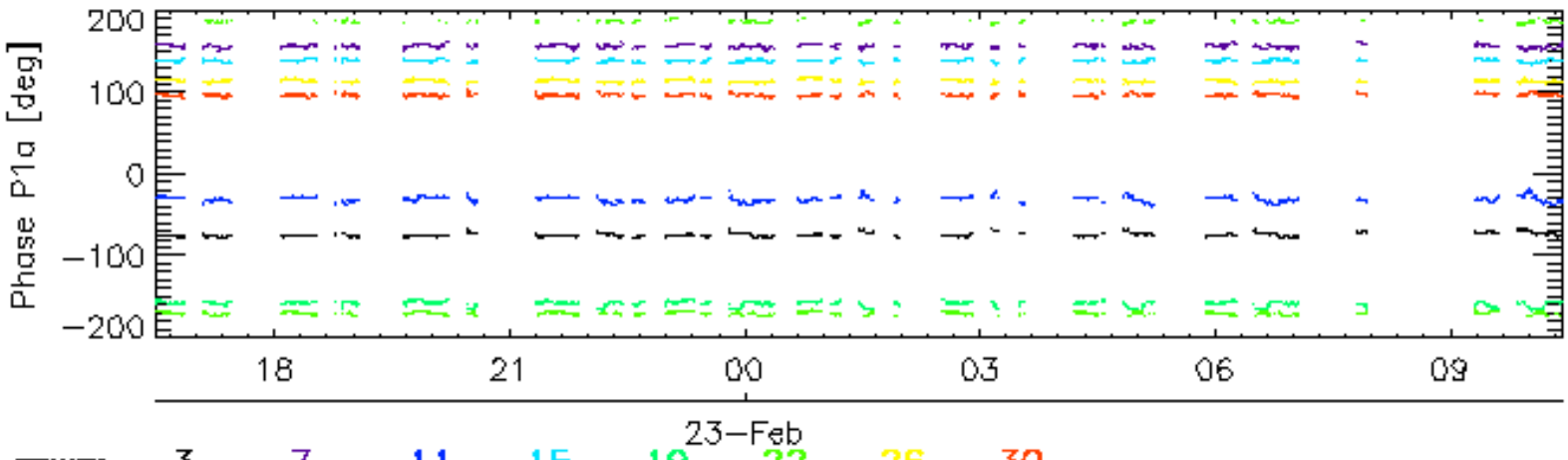
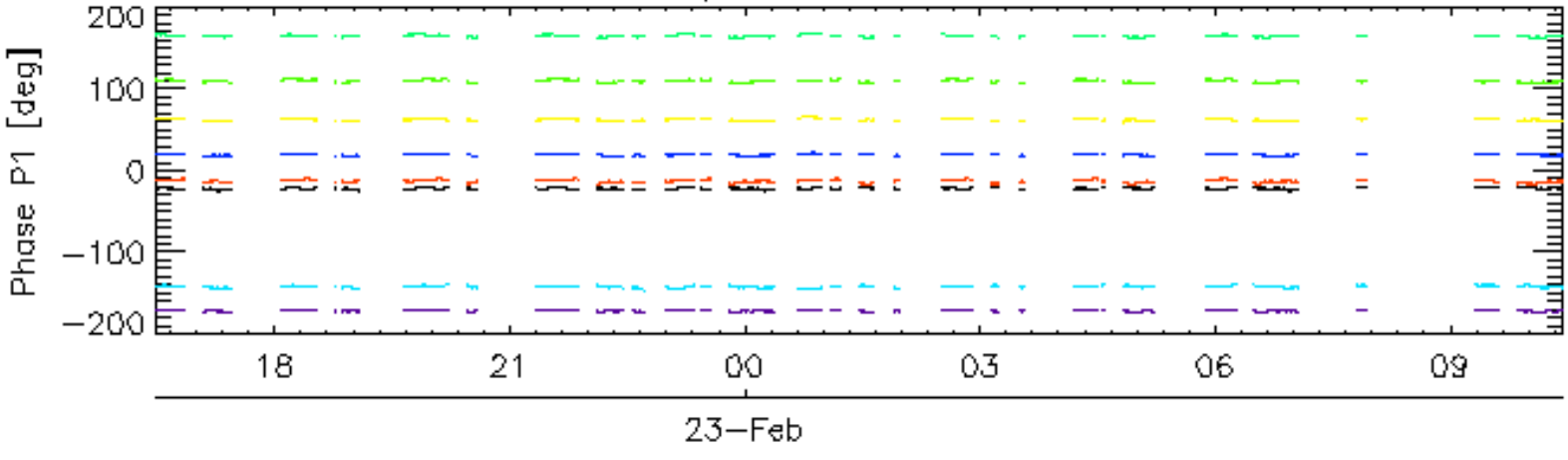


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

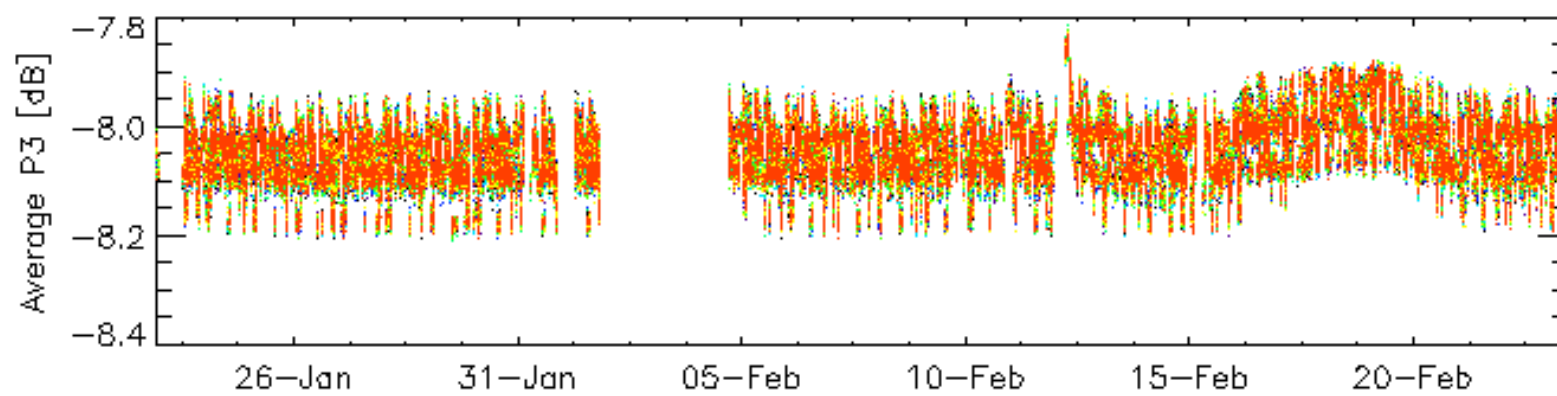
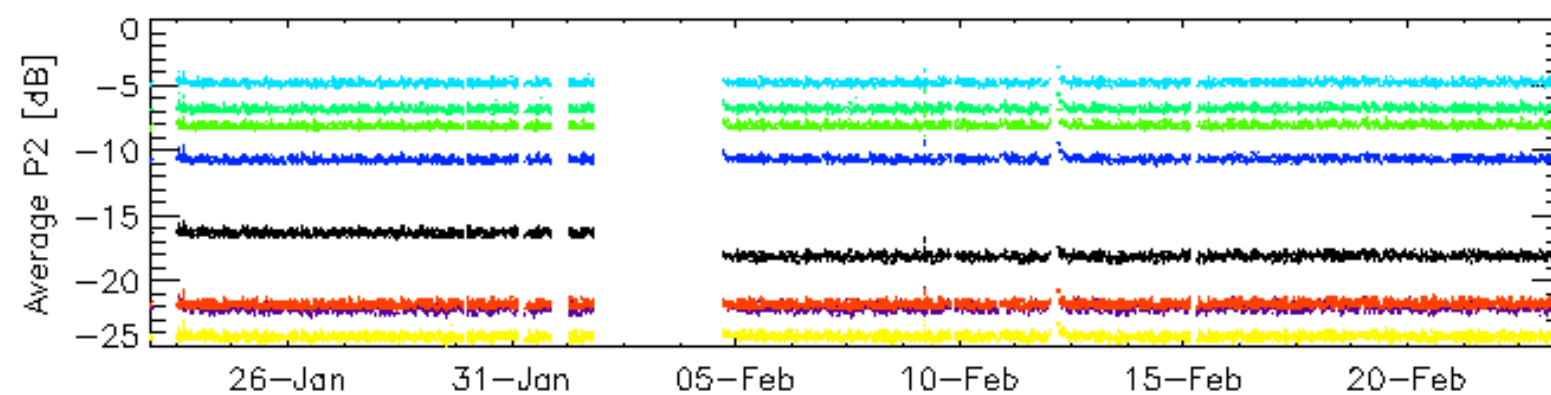
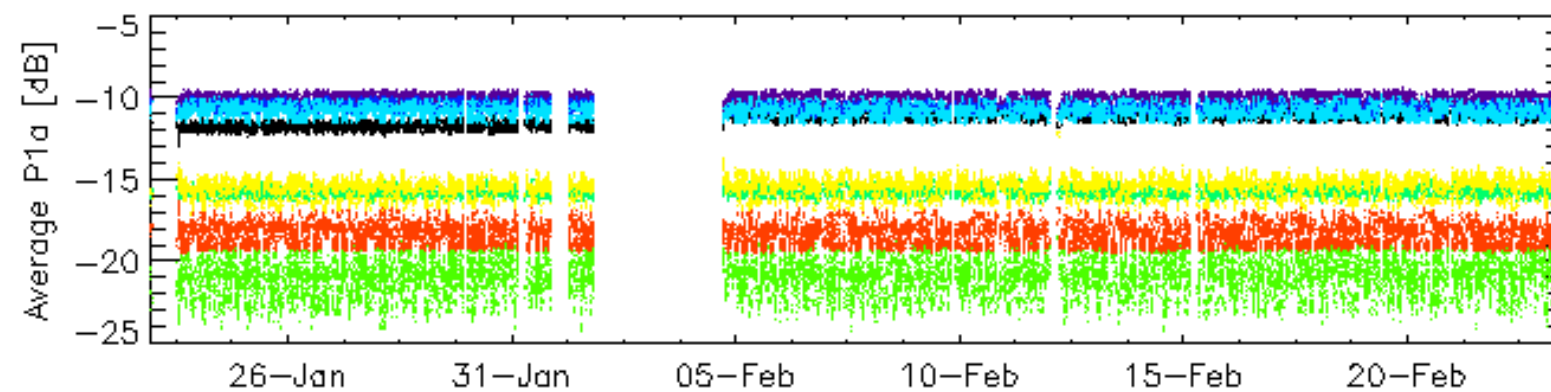
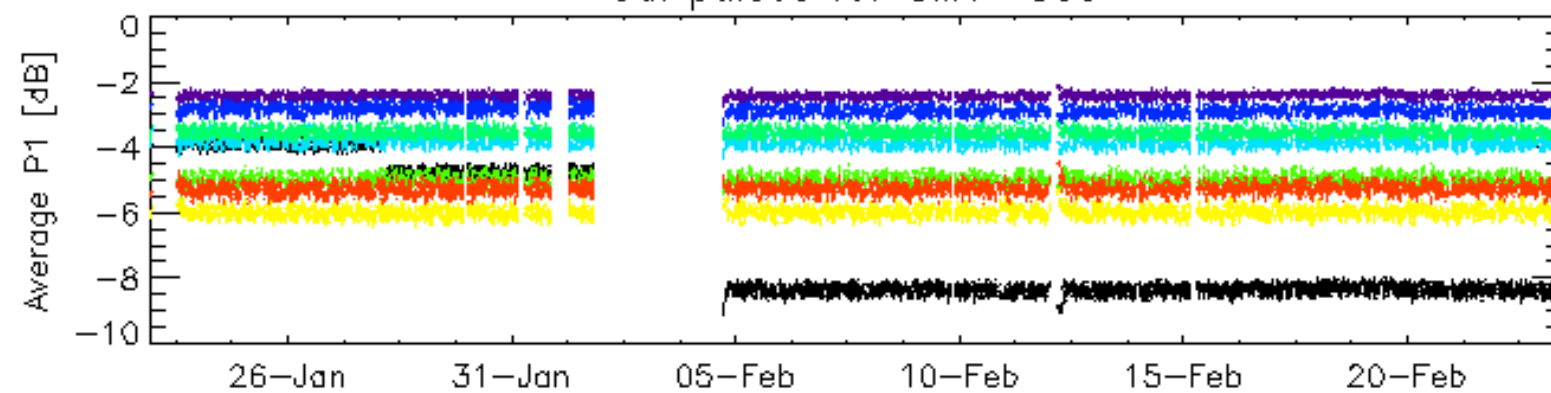


Cal pulses for WVS IS2



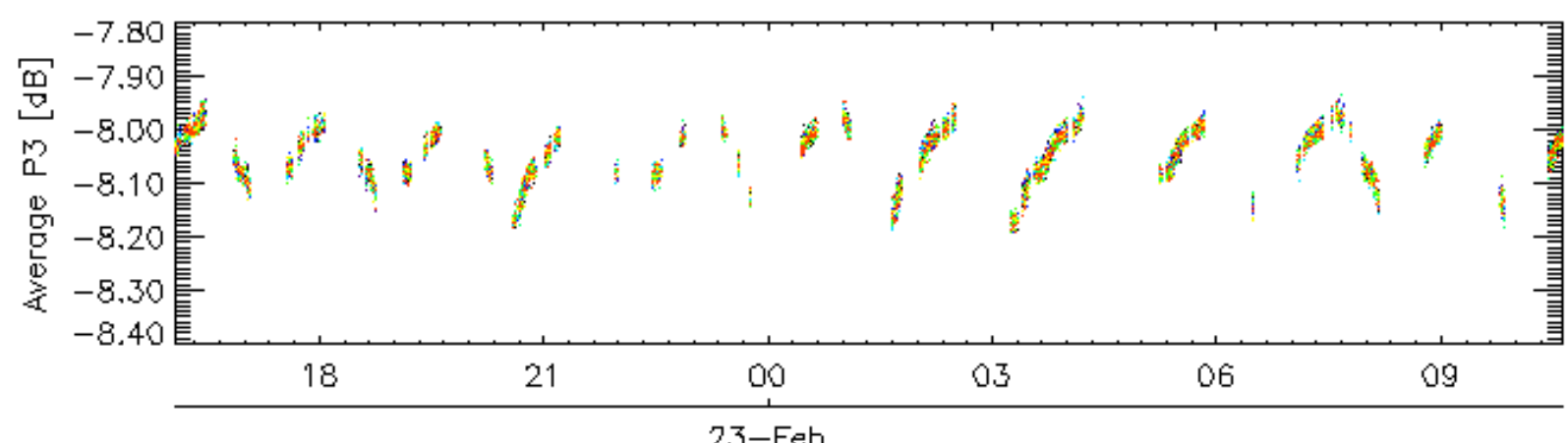
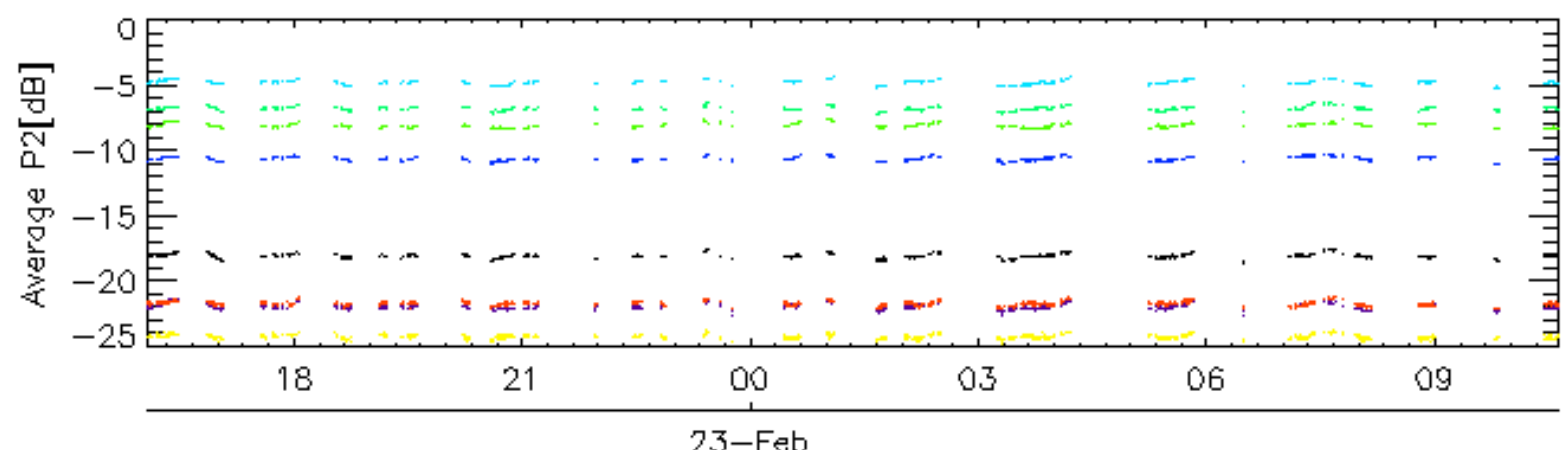
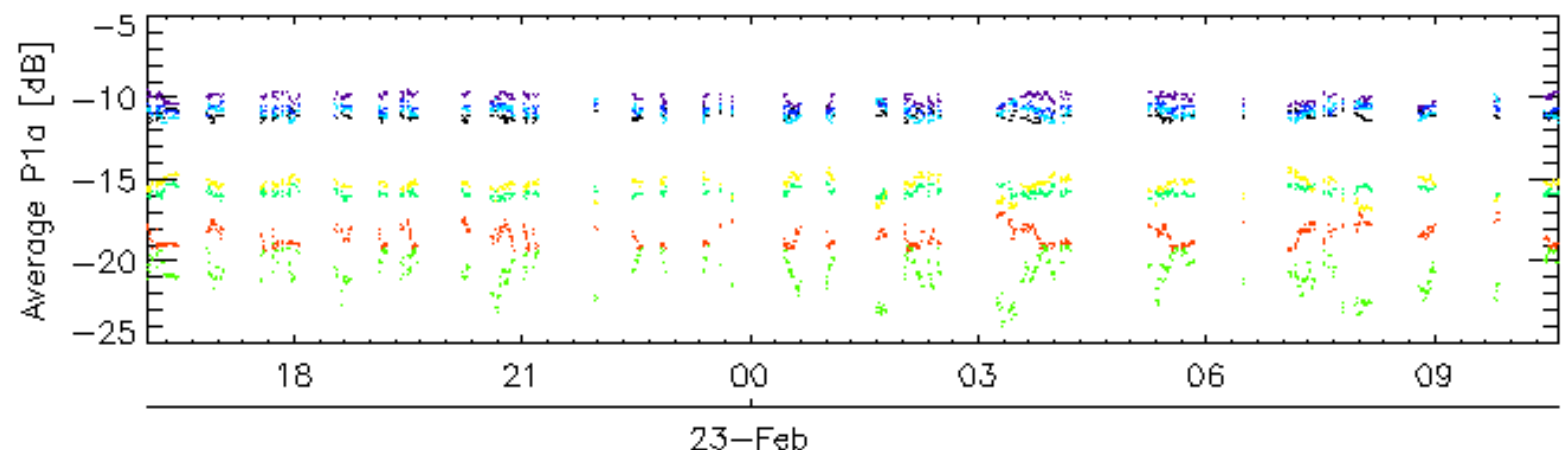
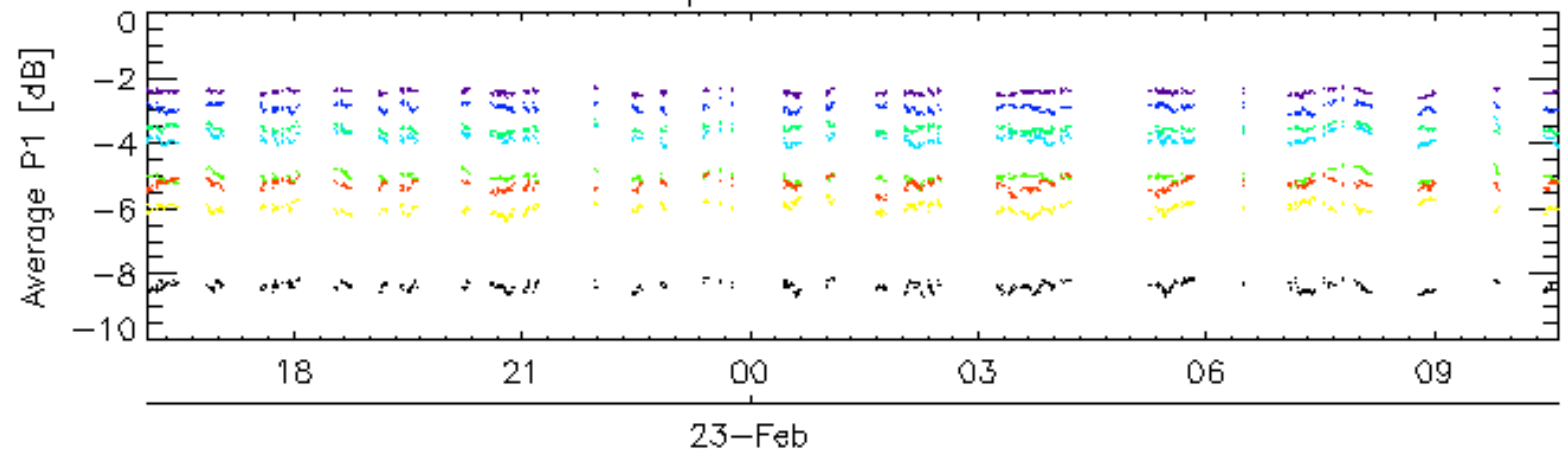
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3



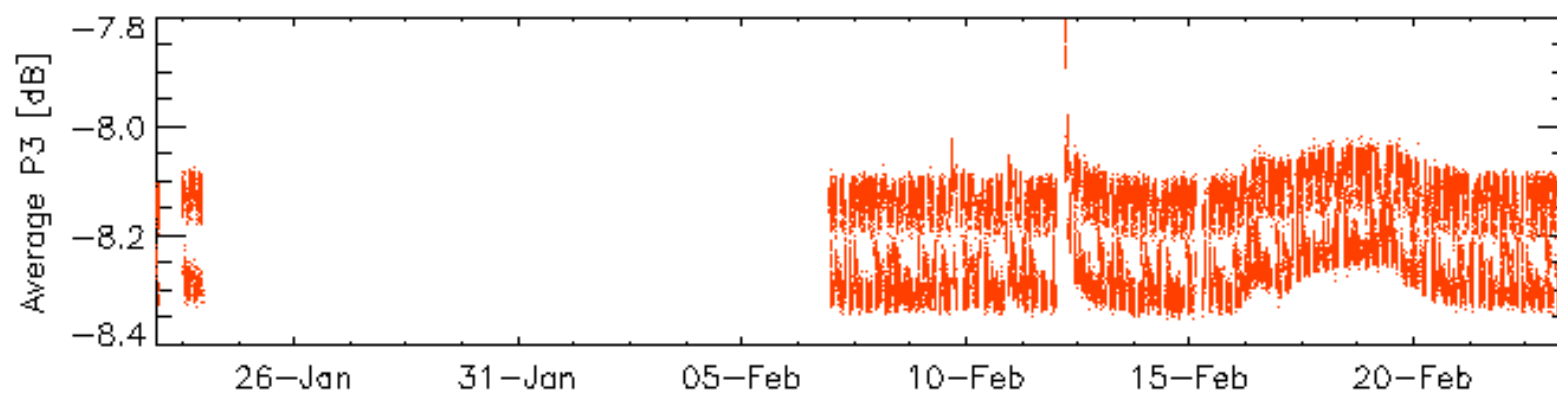
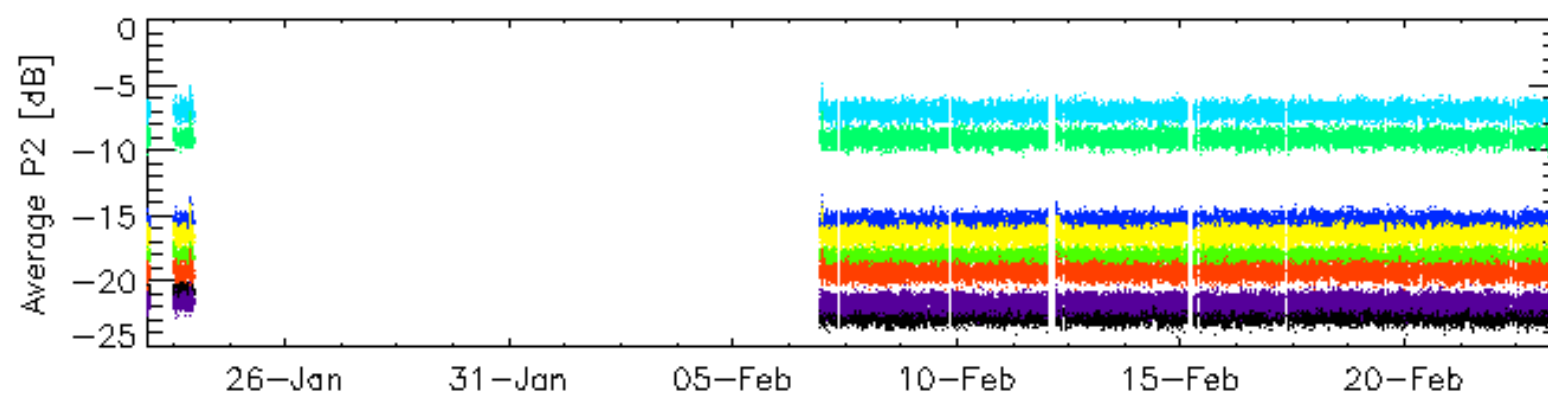
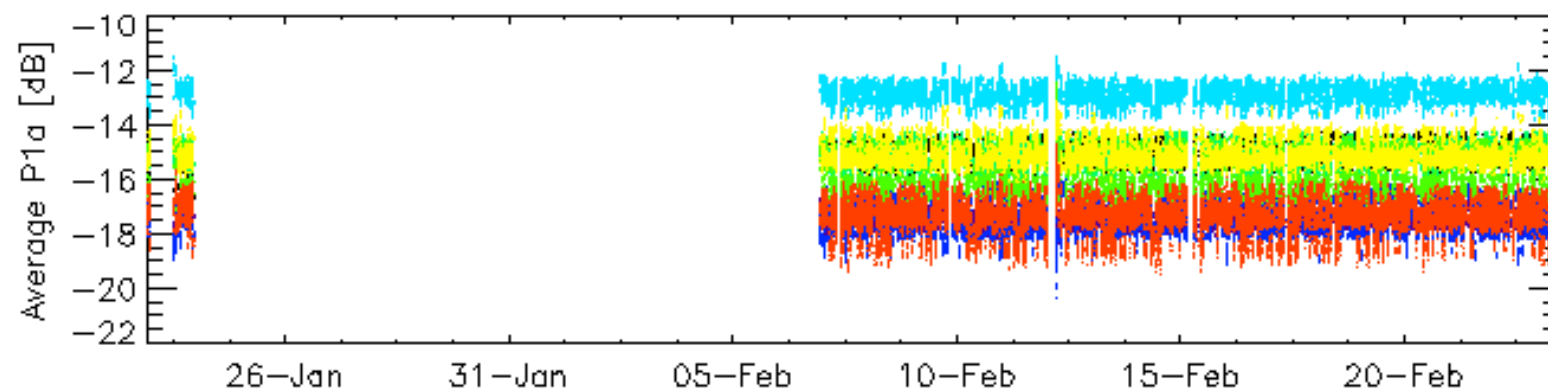
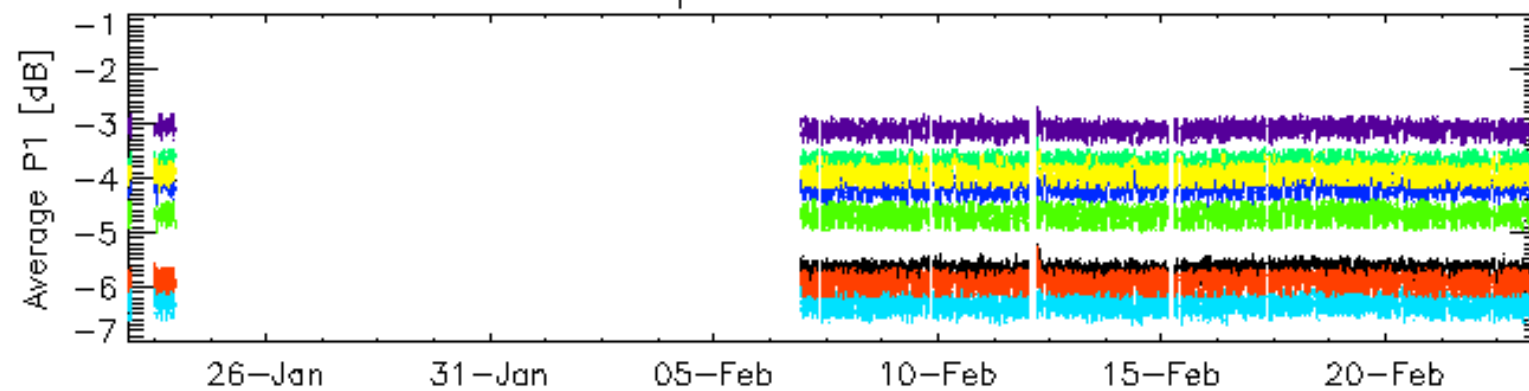
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Cal pulses for GM1 SS3



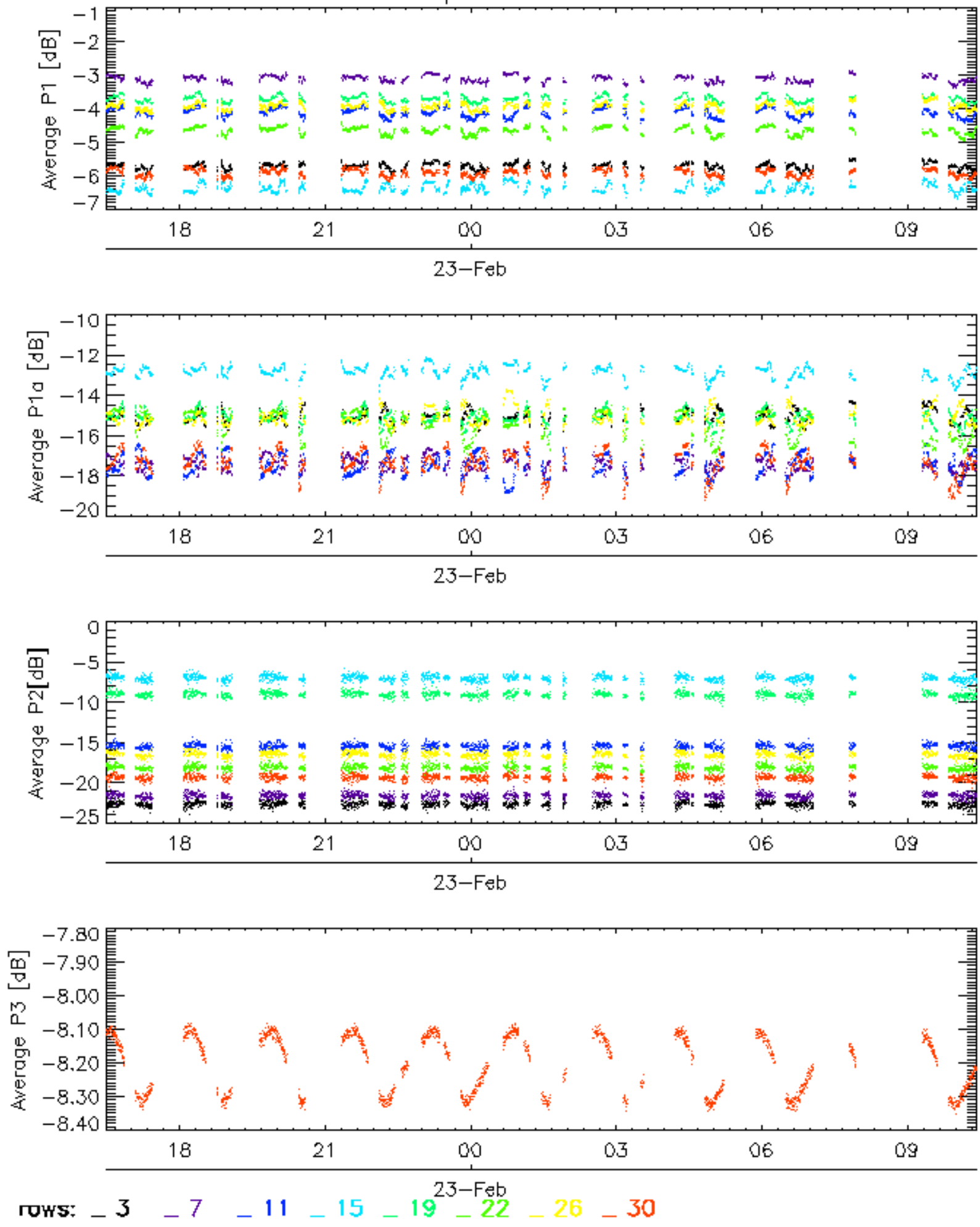
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Cal pulses for WVS IS2



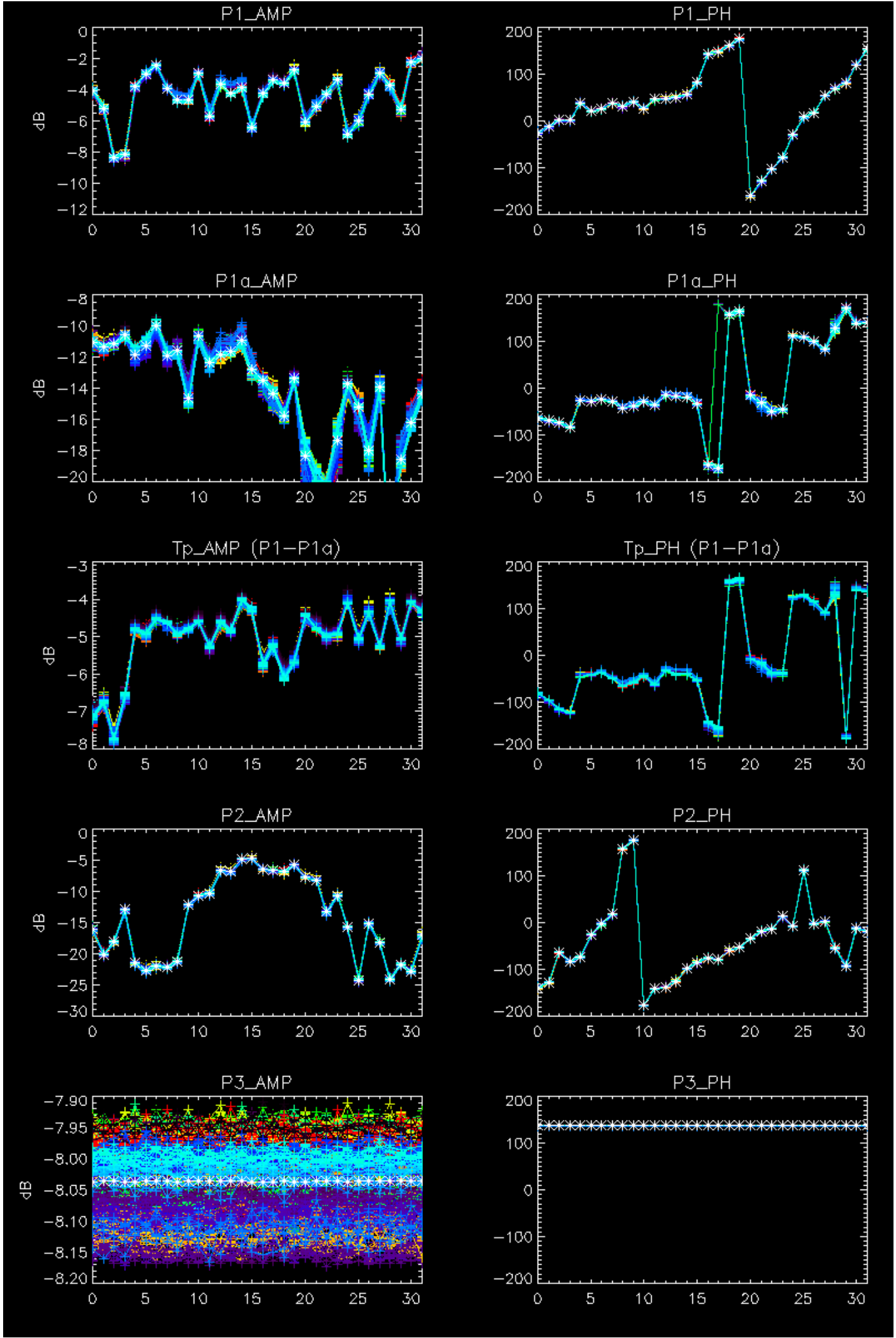
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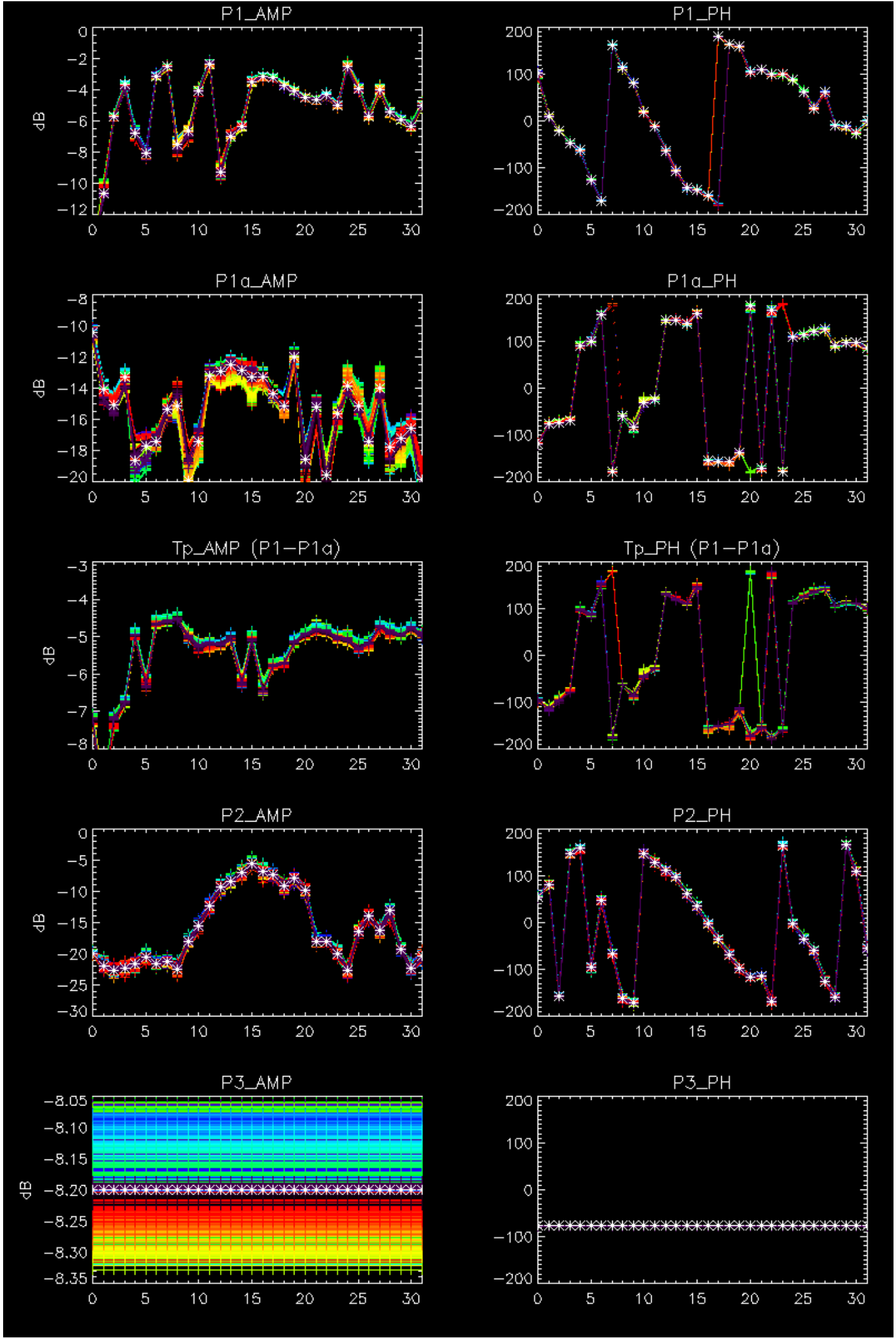
Cal pulses for WVS IS2



No anomalies observed on available browse products

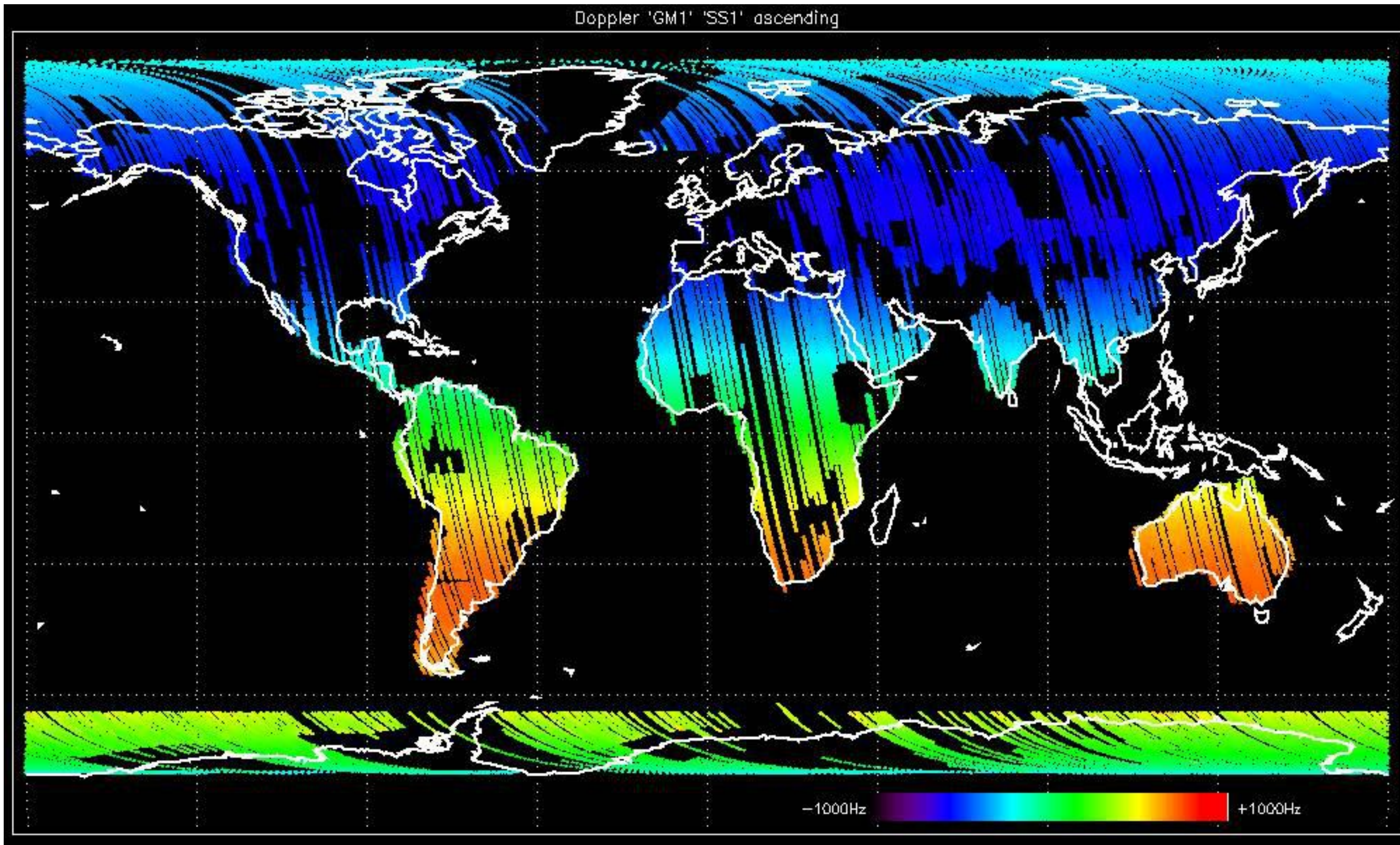
No anomalies observed.



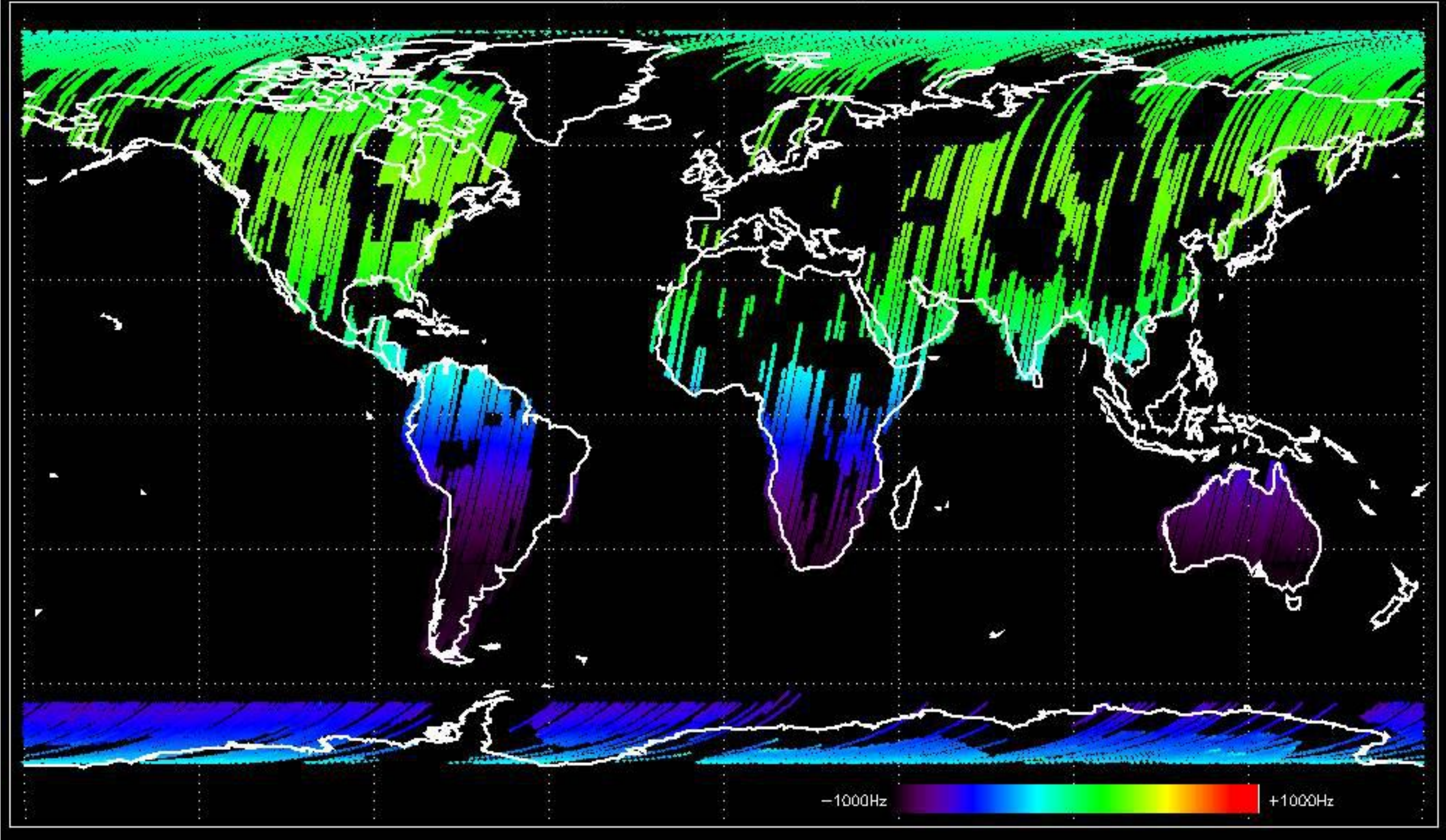


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

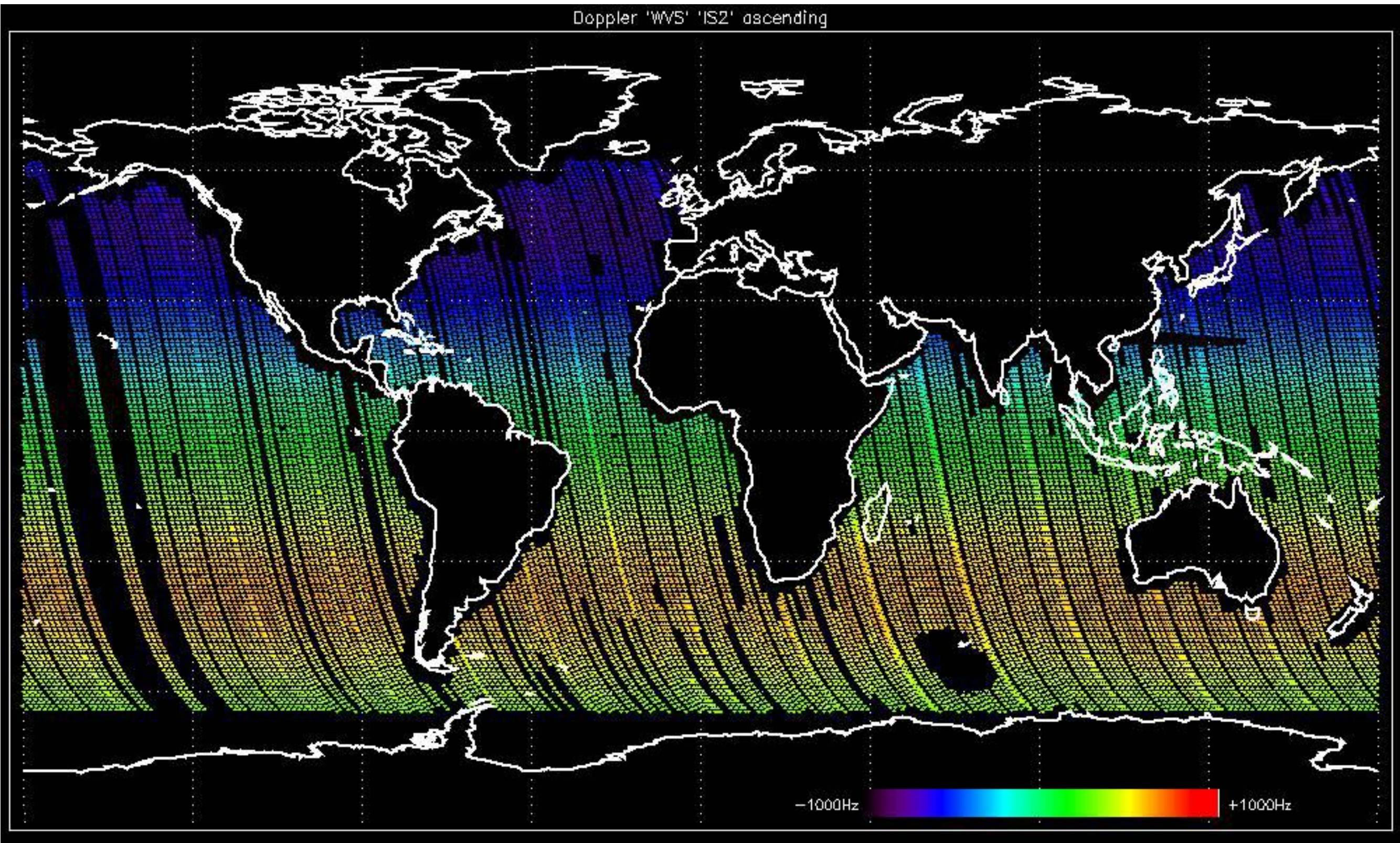
Doppler 'GM1' 'SS1' ascending



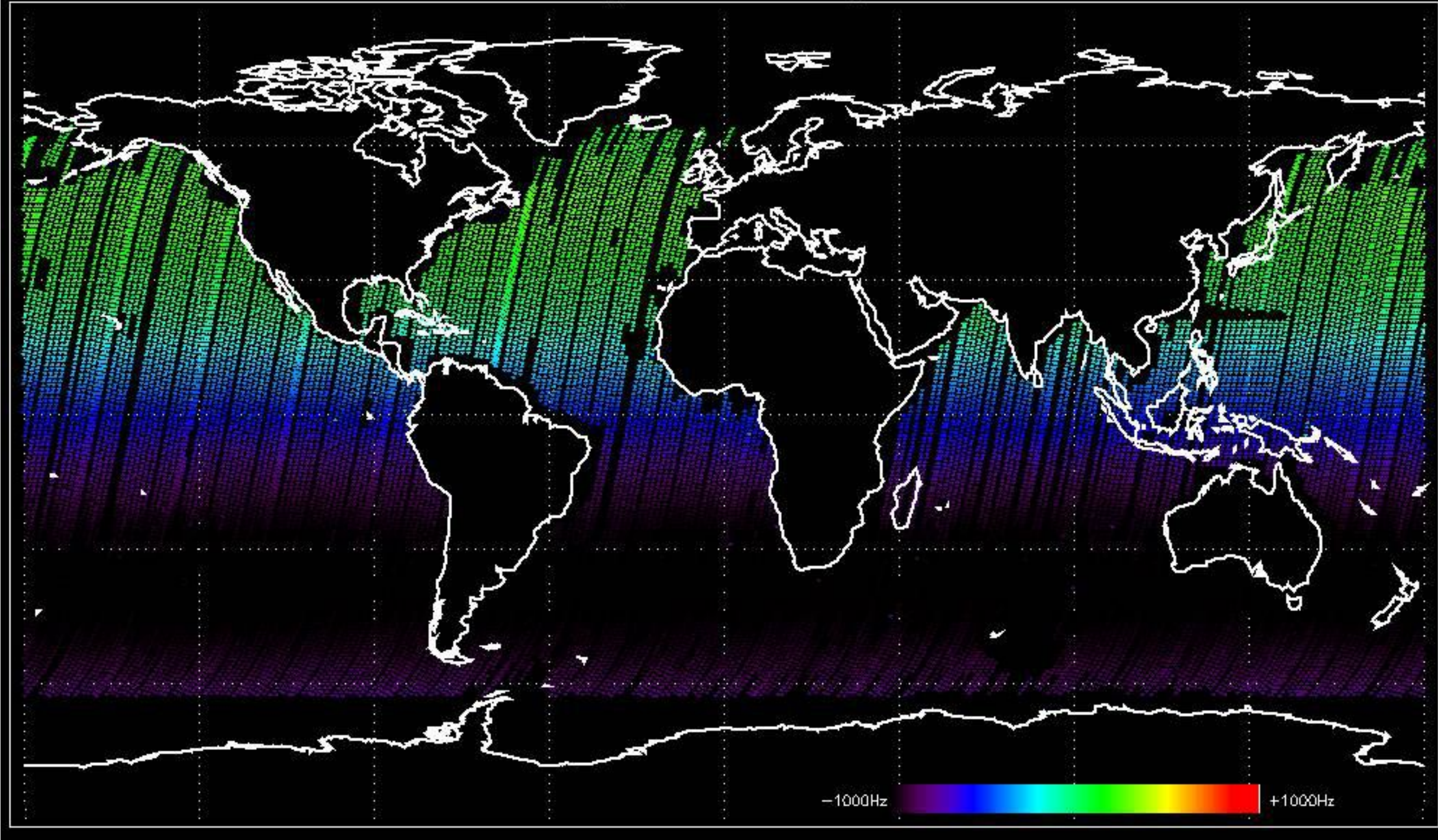
Doppler 'GM1' 'SS1' descending



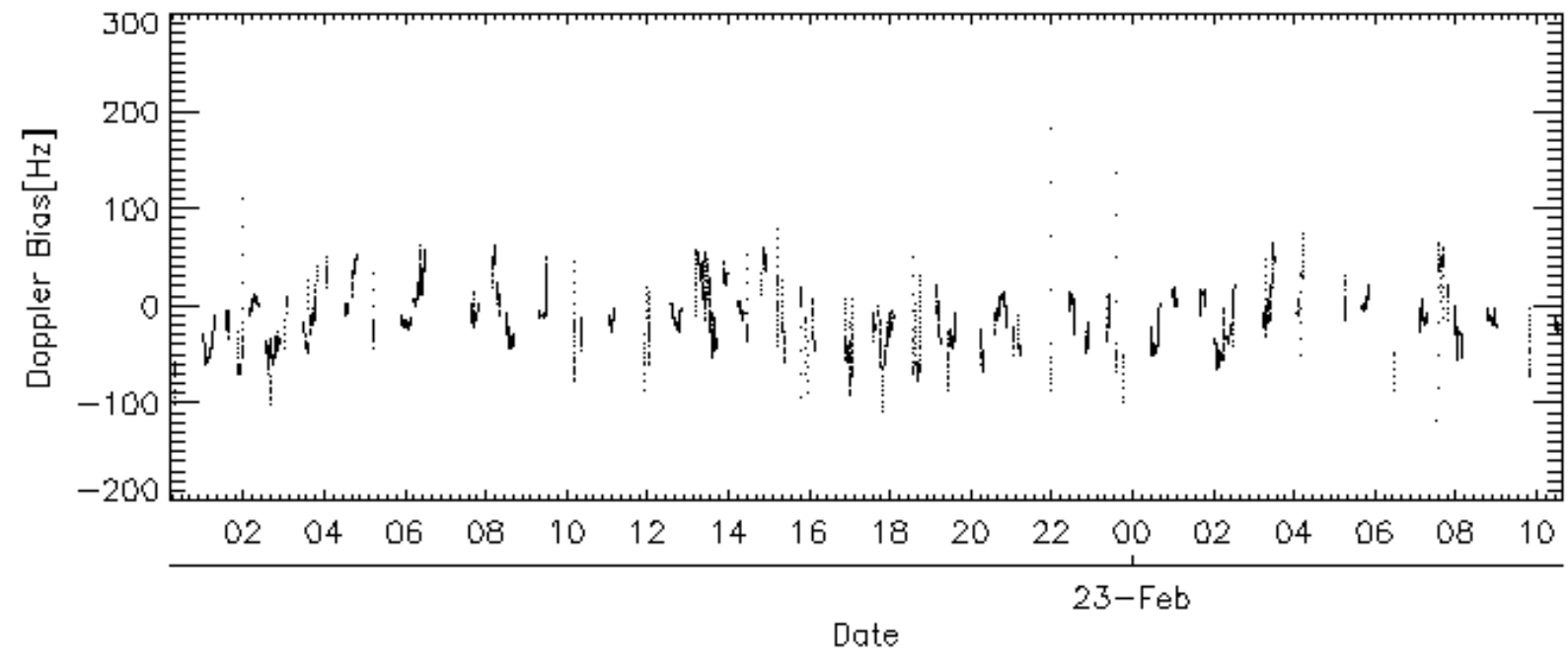
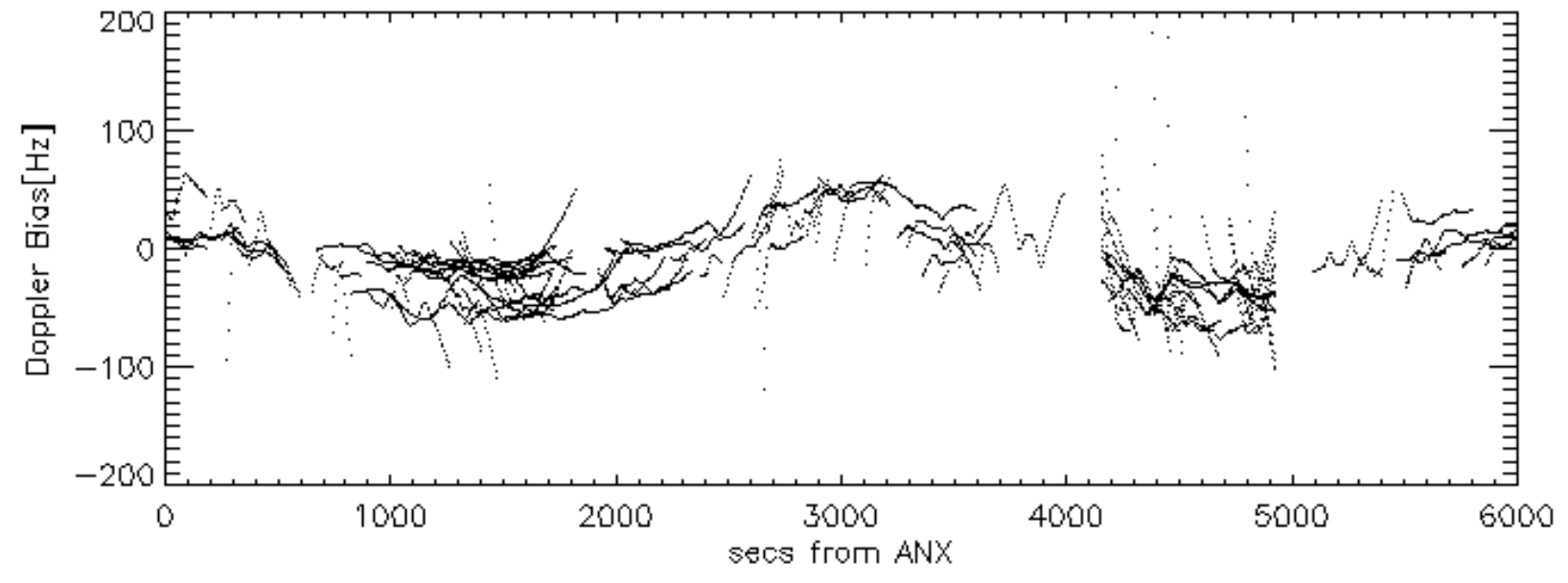
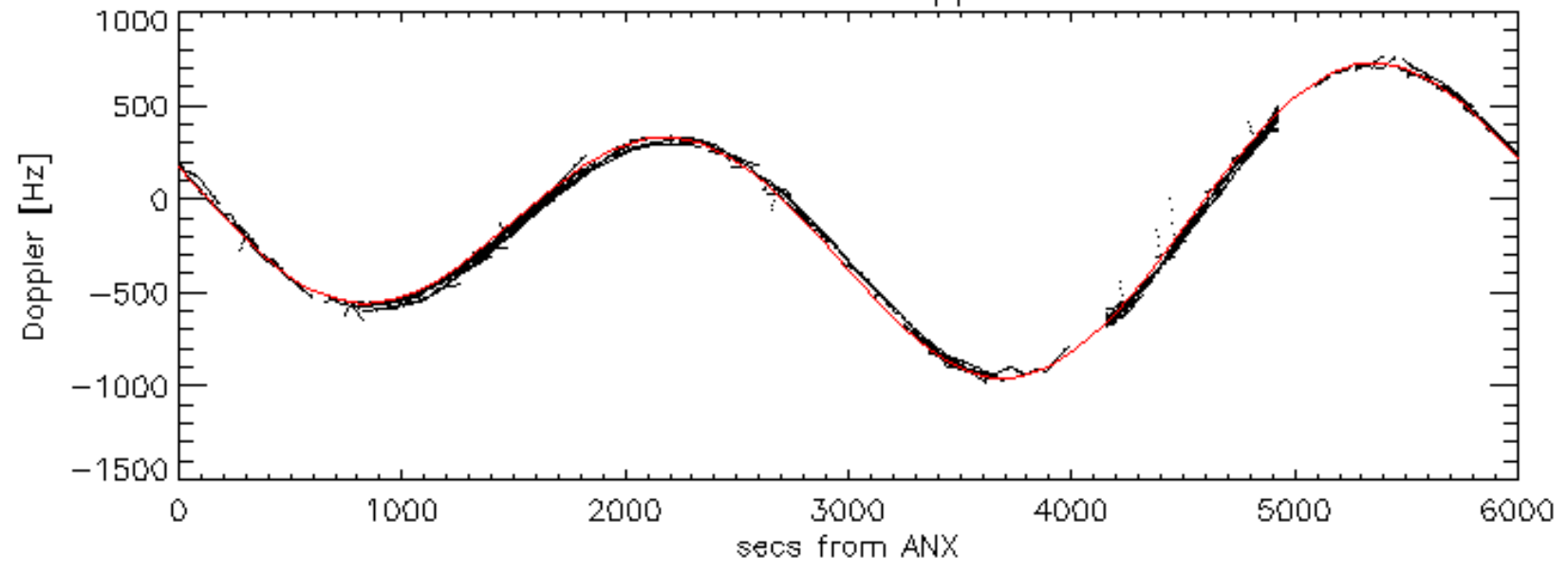
Doppler 'WVS' 'IS2' ascending

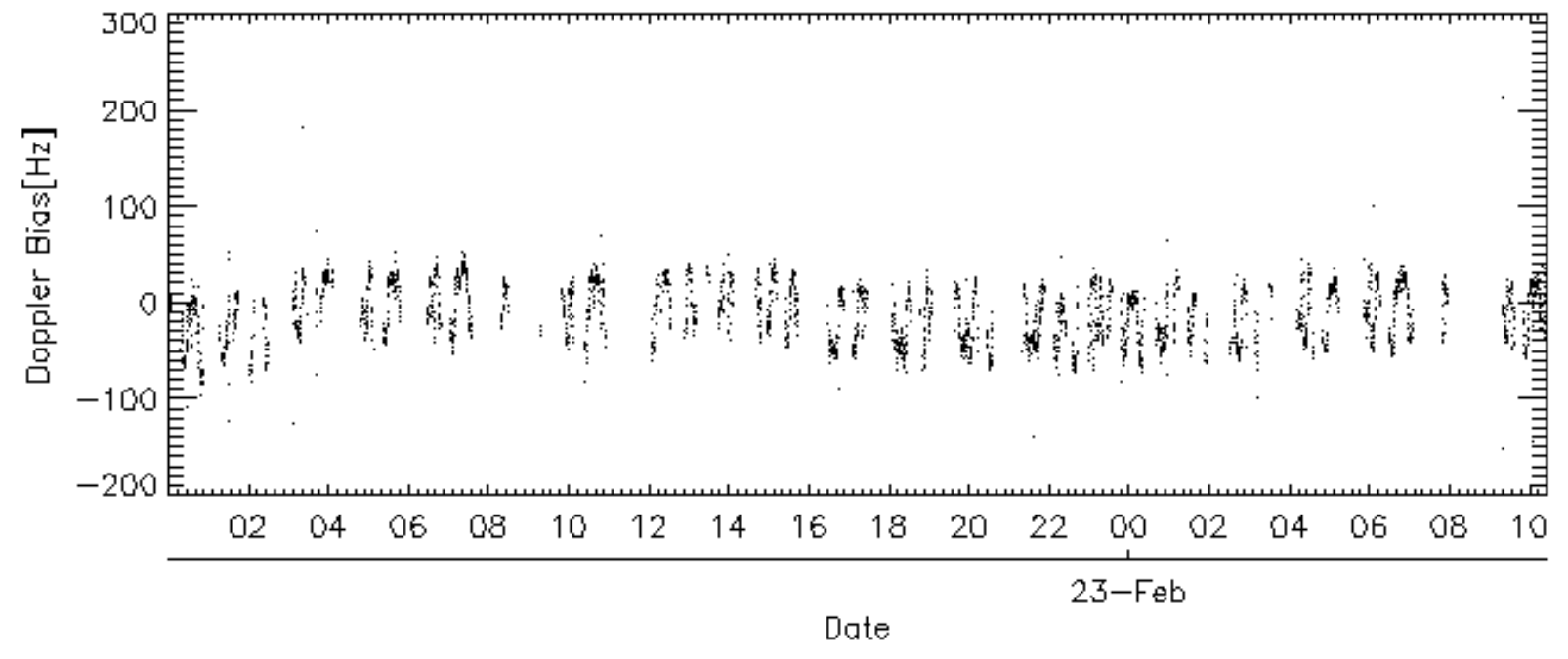
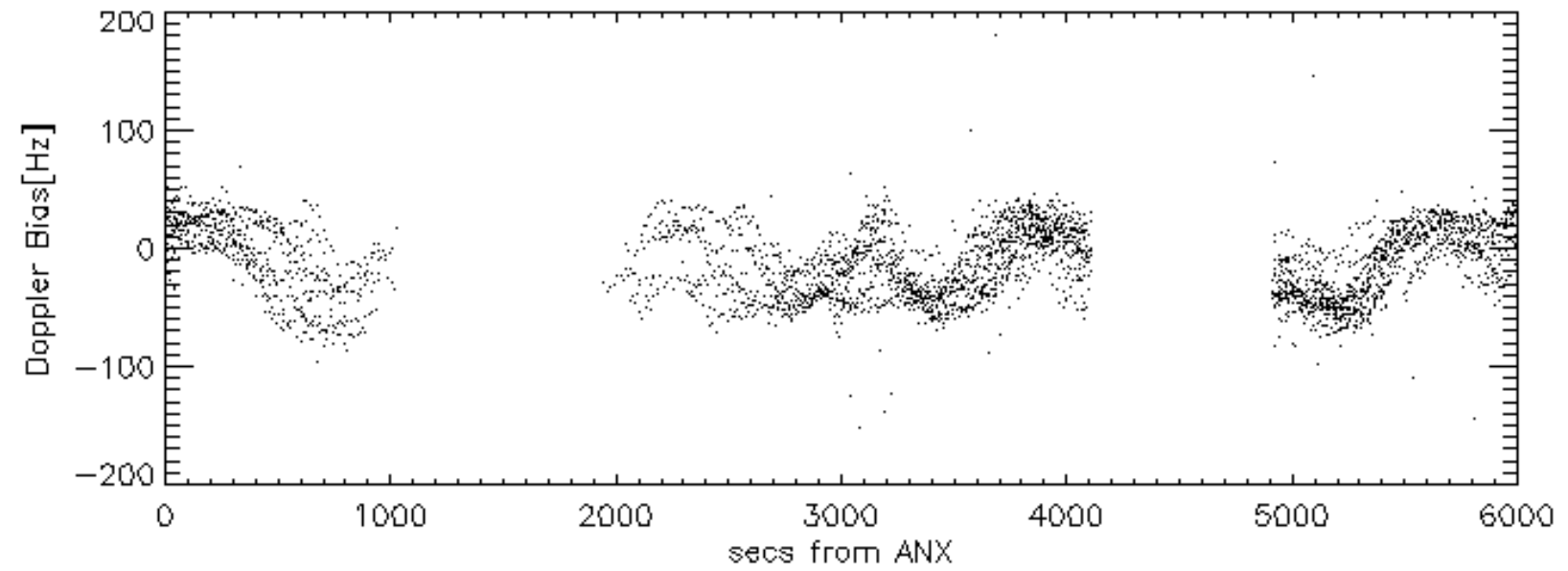
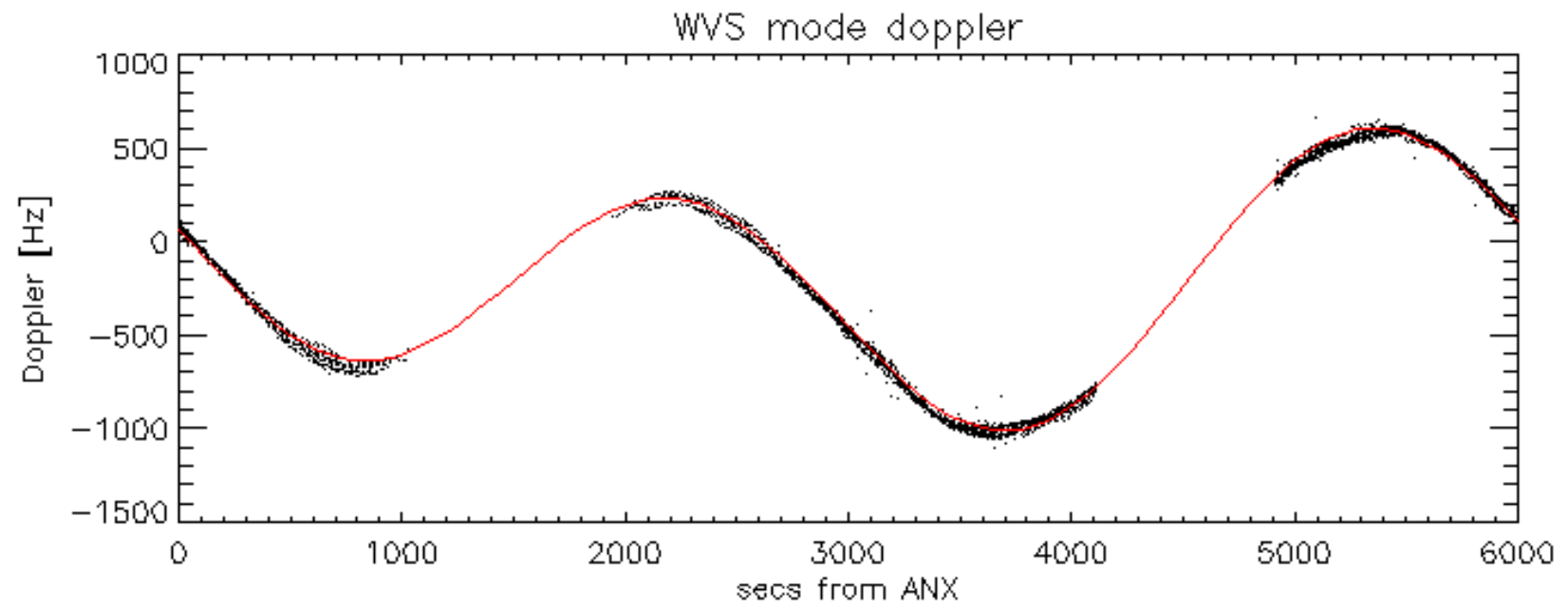


Doppler 'WVS' 'IS2' descending

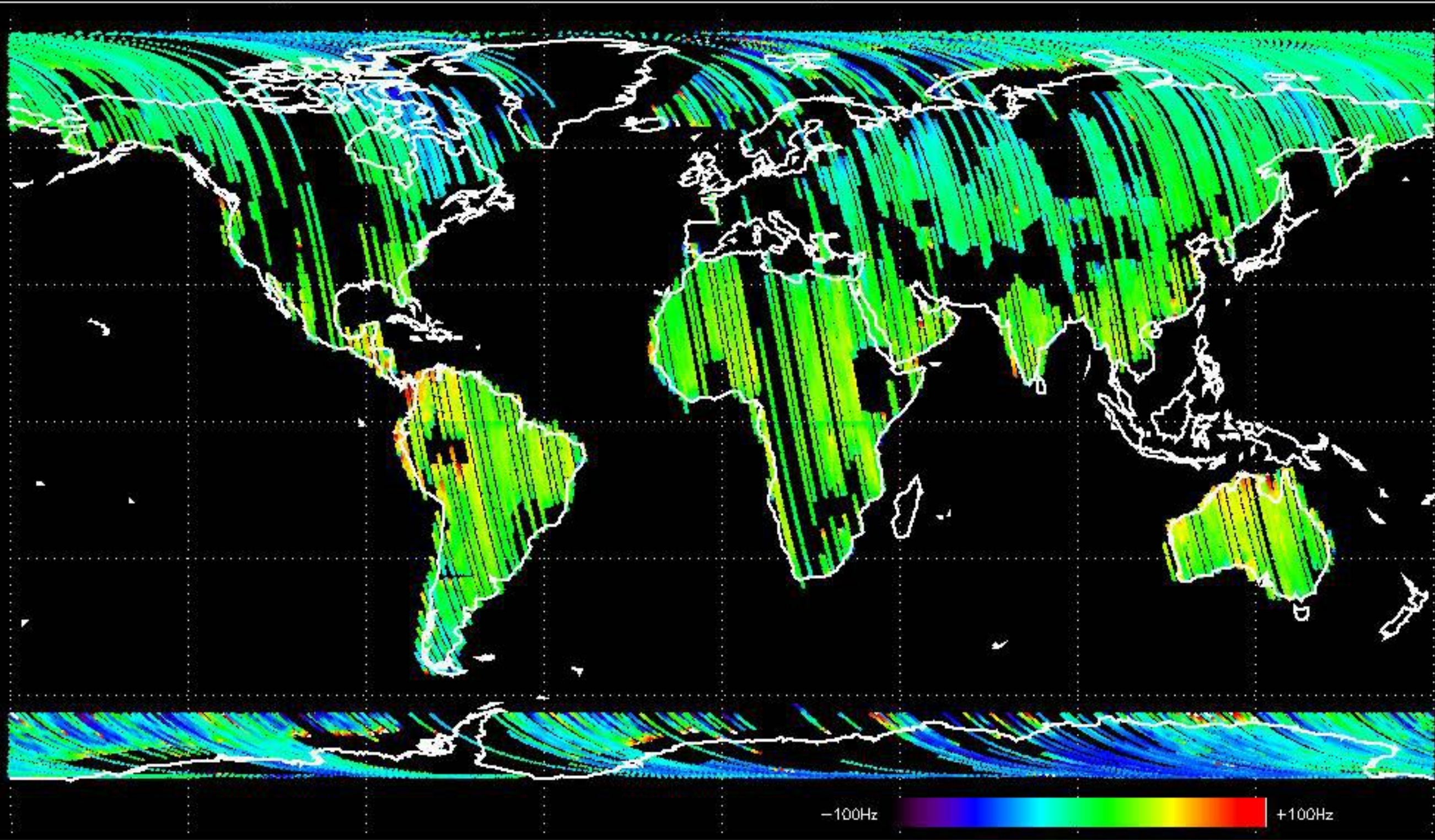


GM1 mode doppler

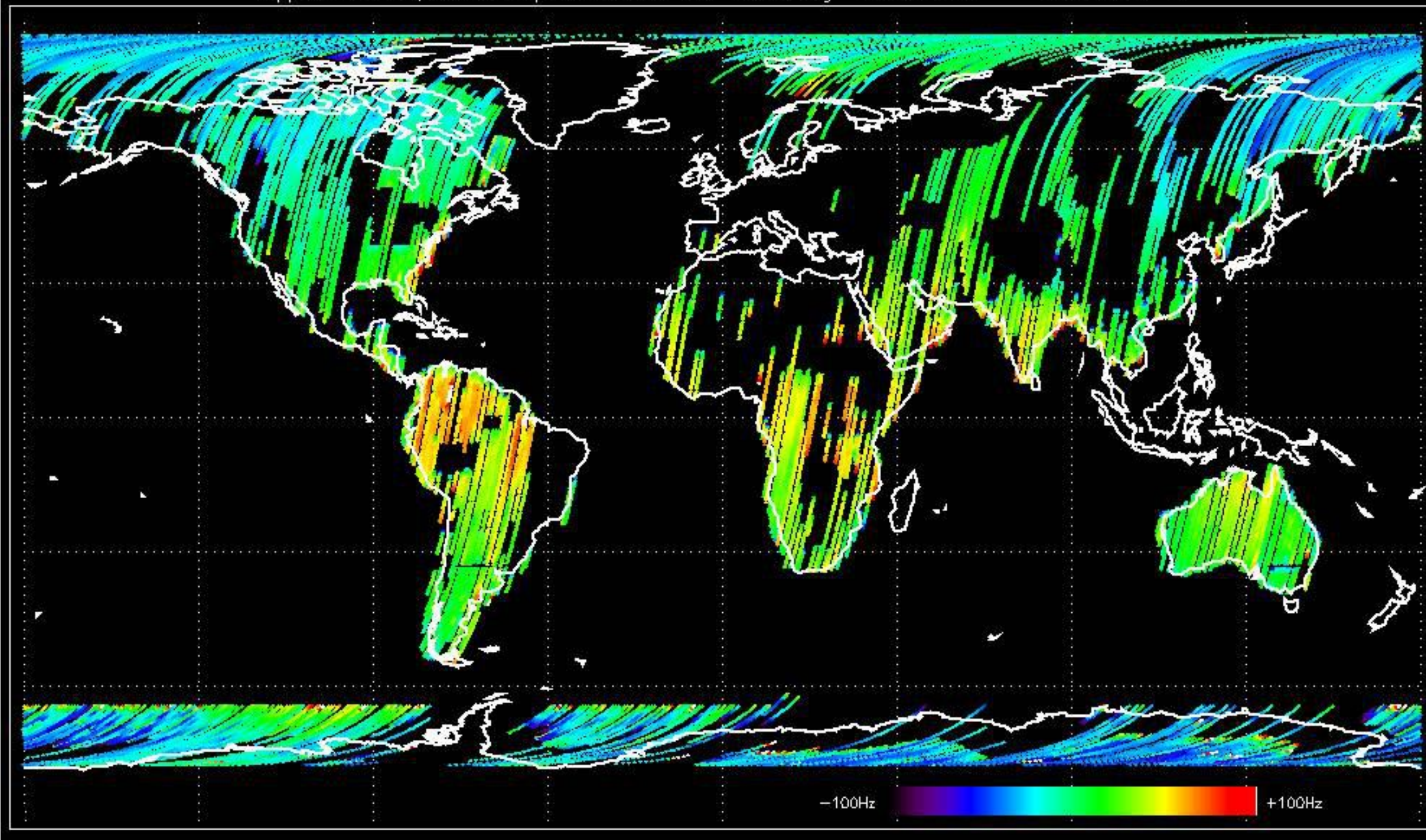




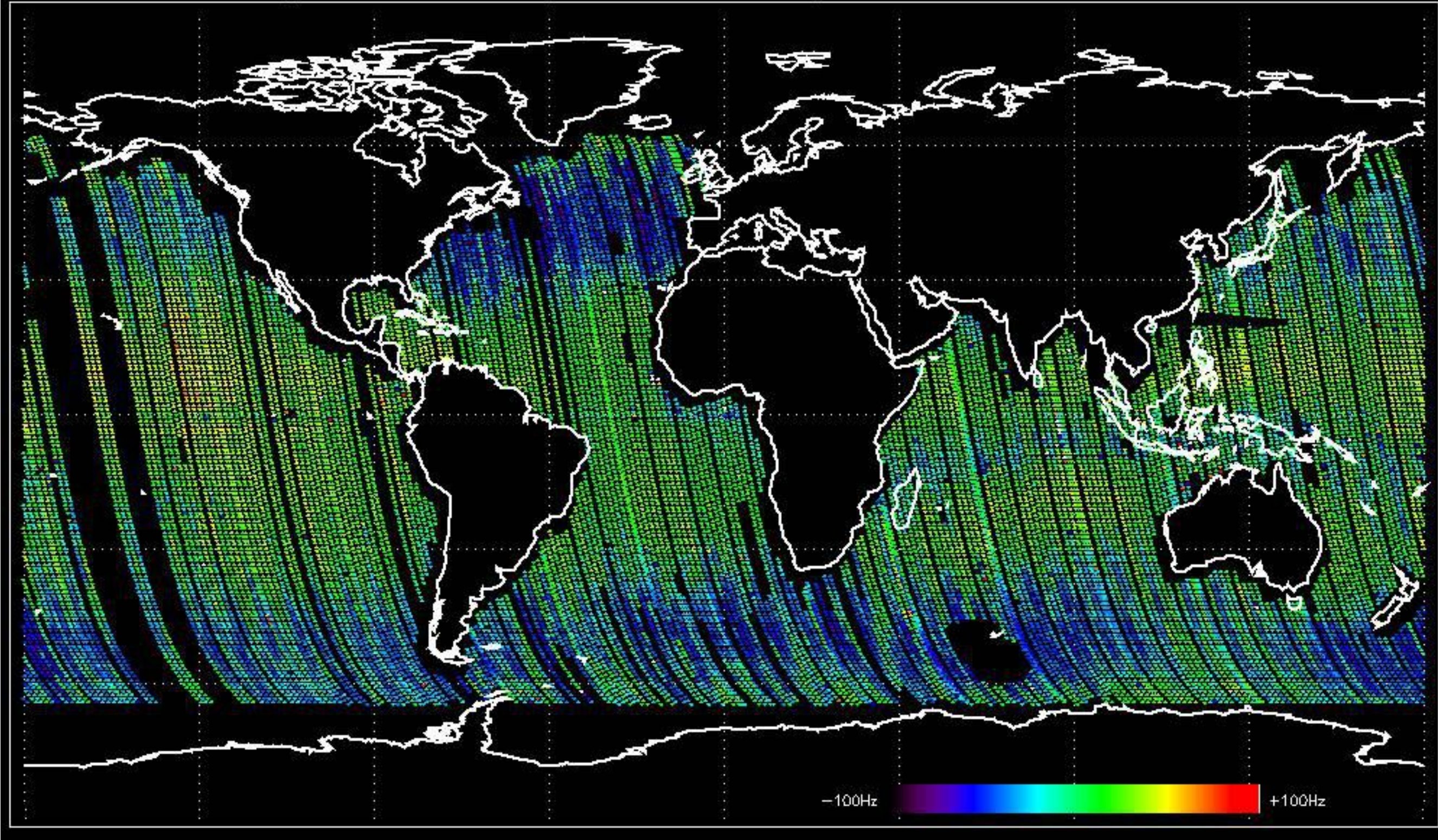
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -18.385652 Hz



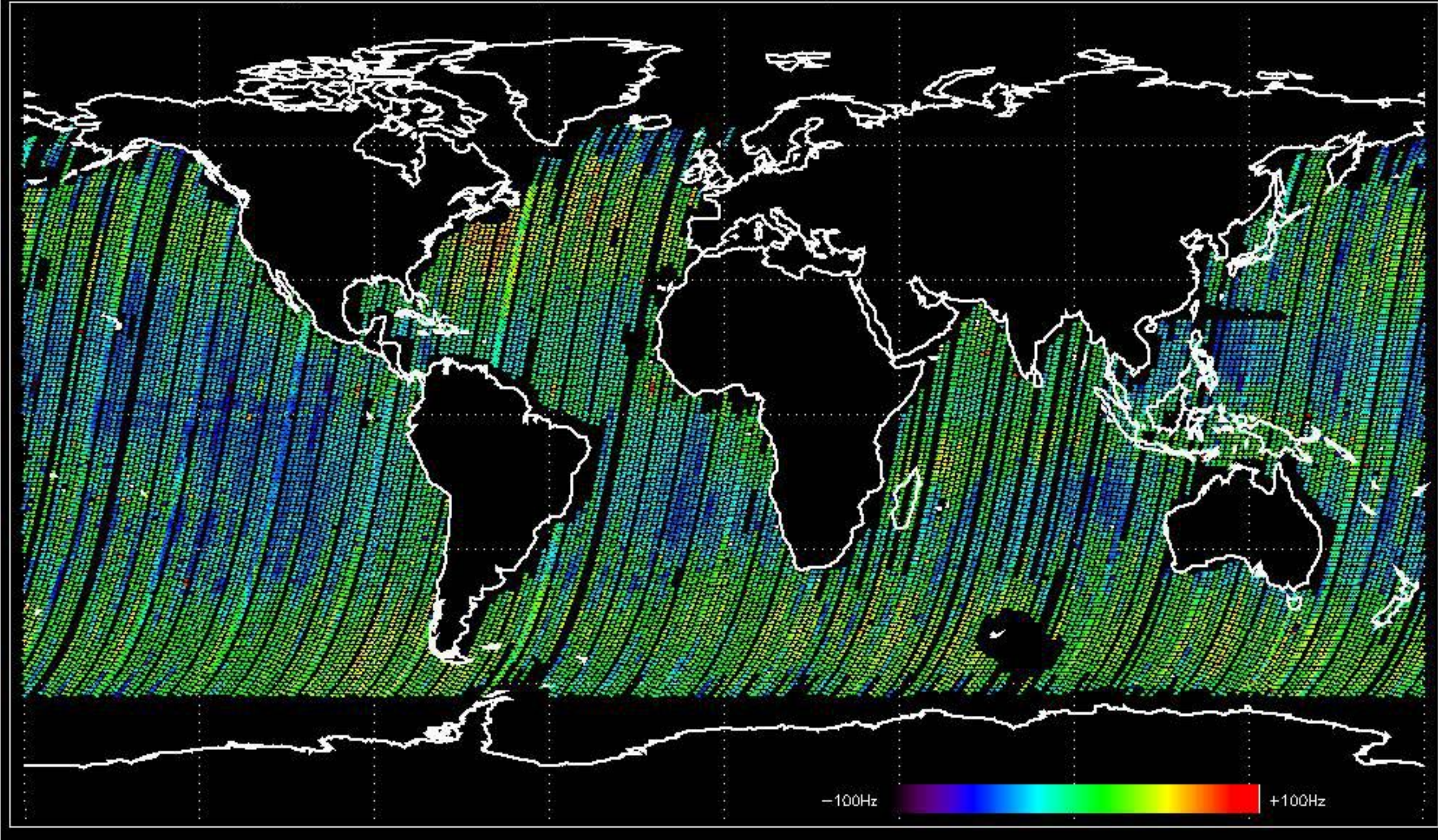
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -17.839991 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -15.517132 Hz

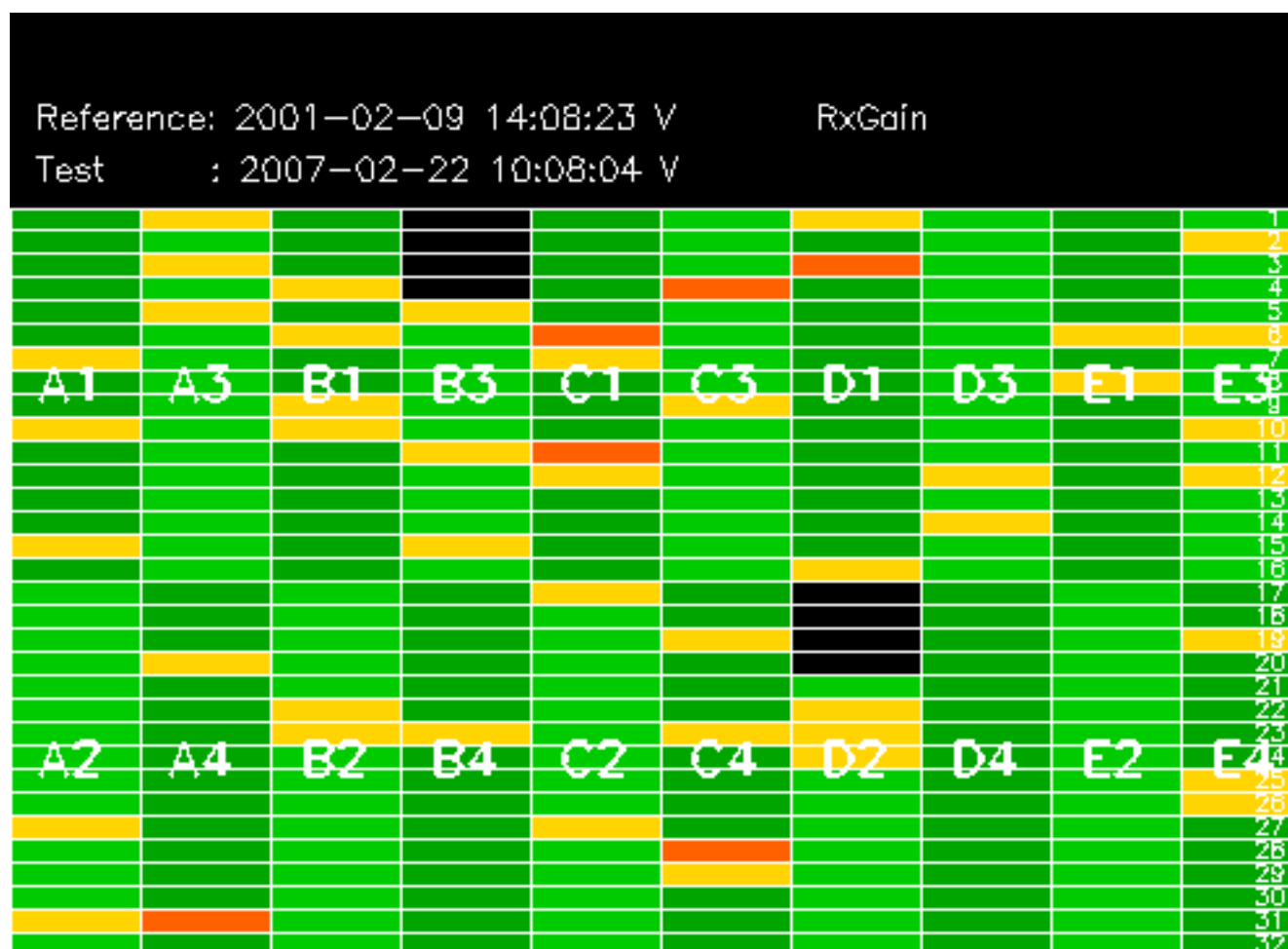


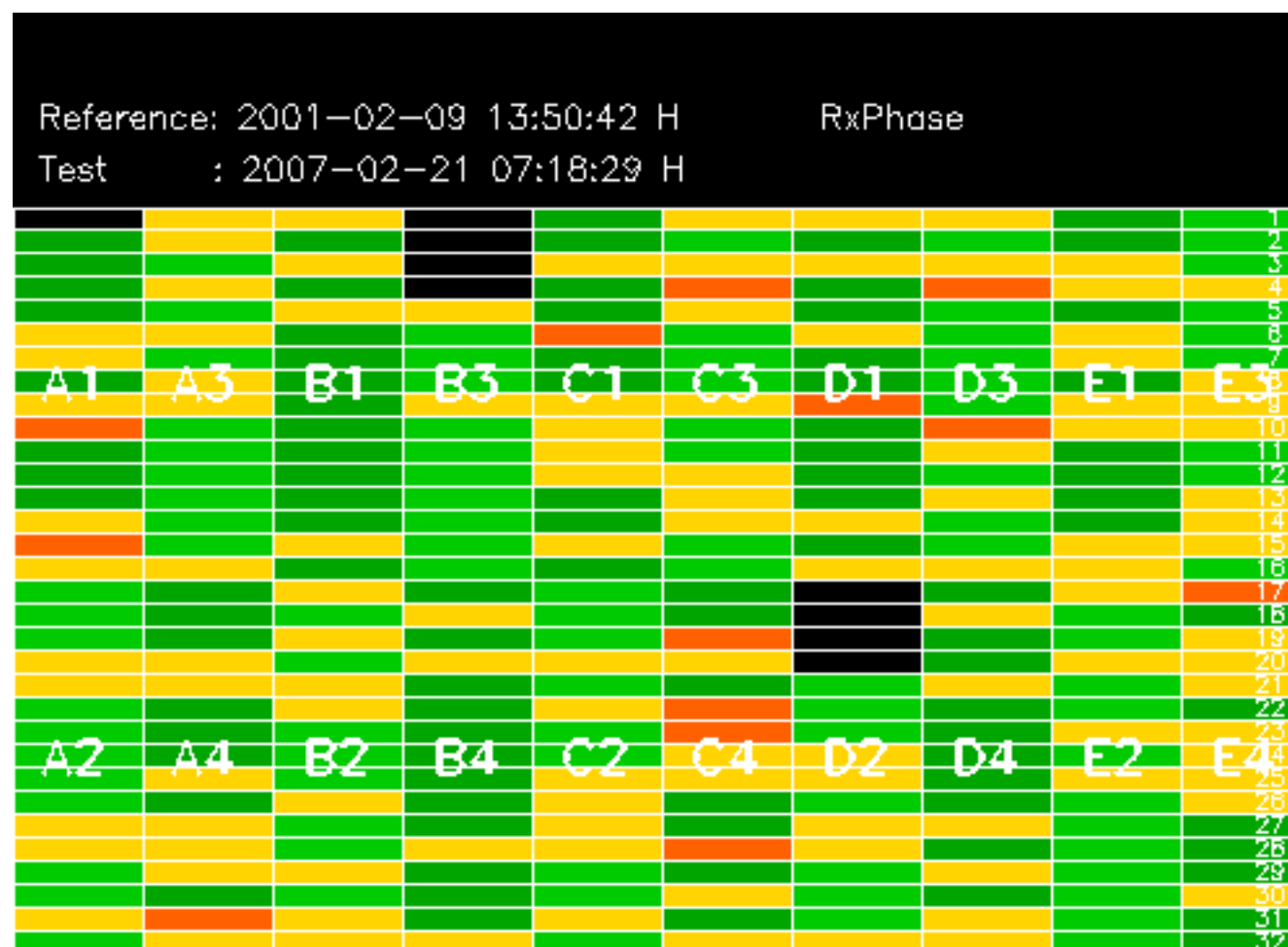
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -16.628426 Hz

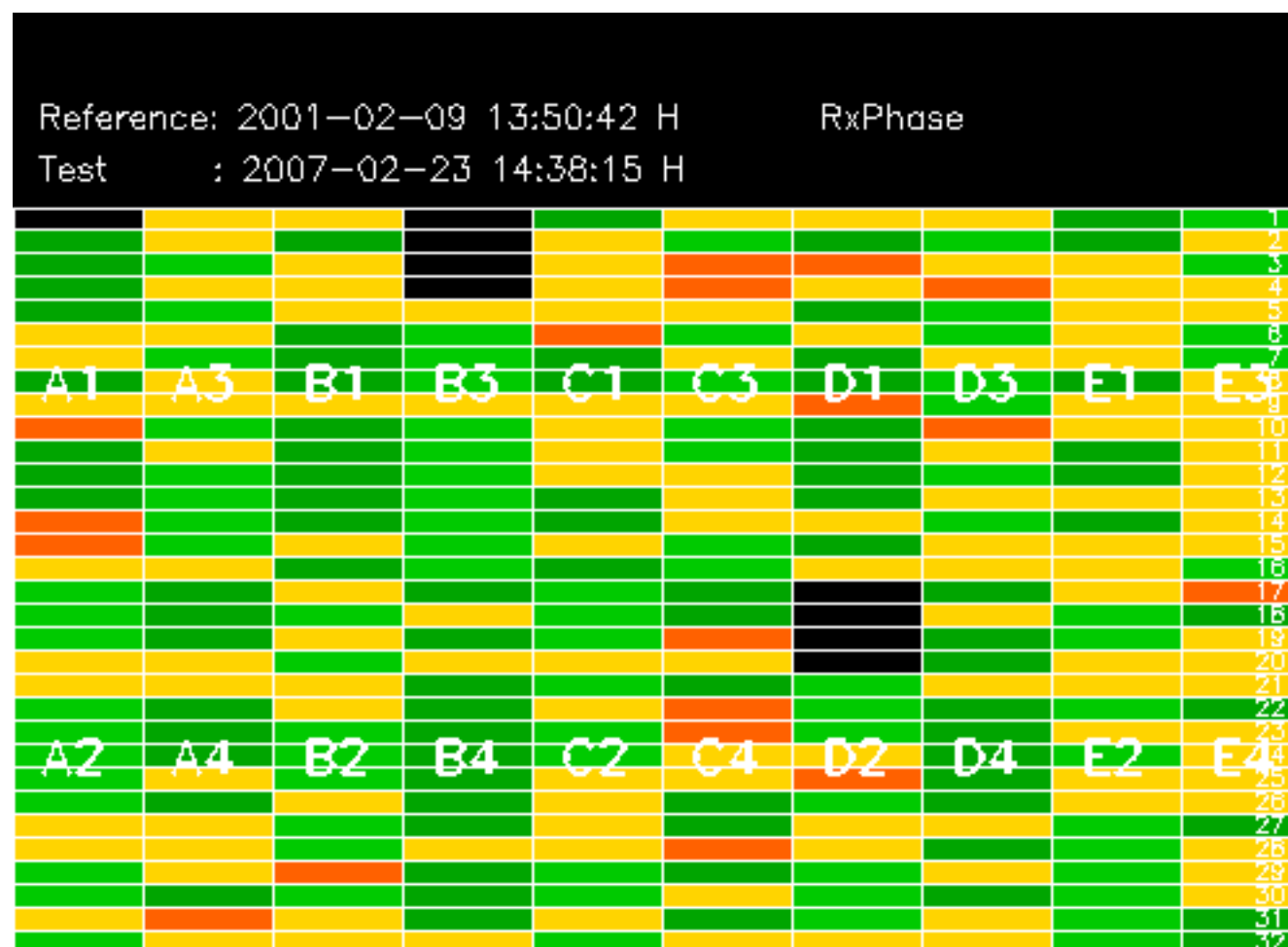


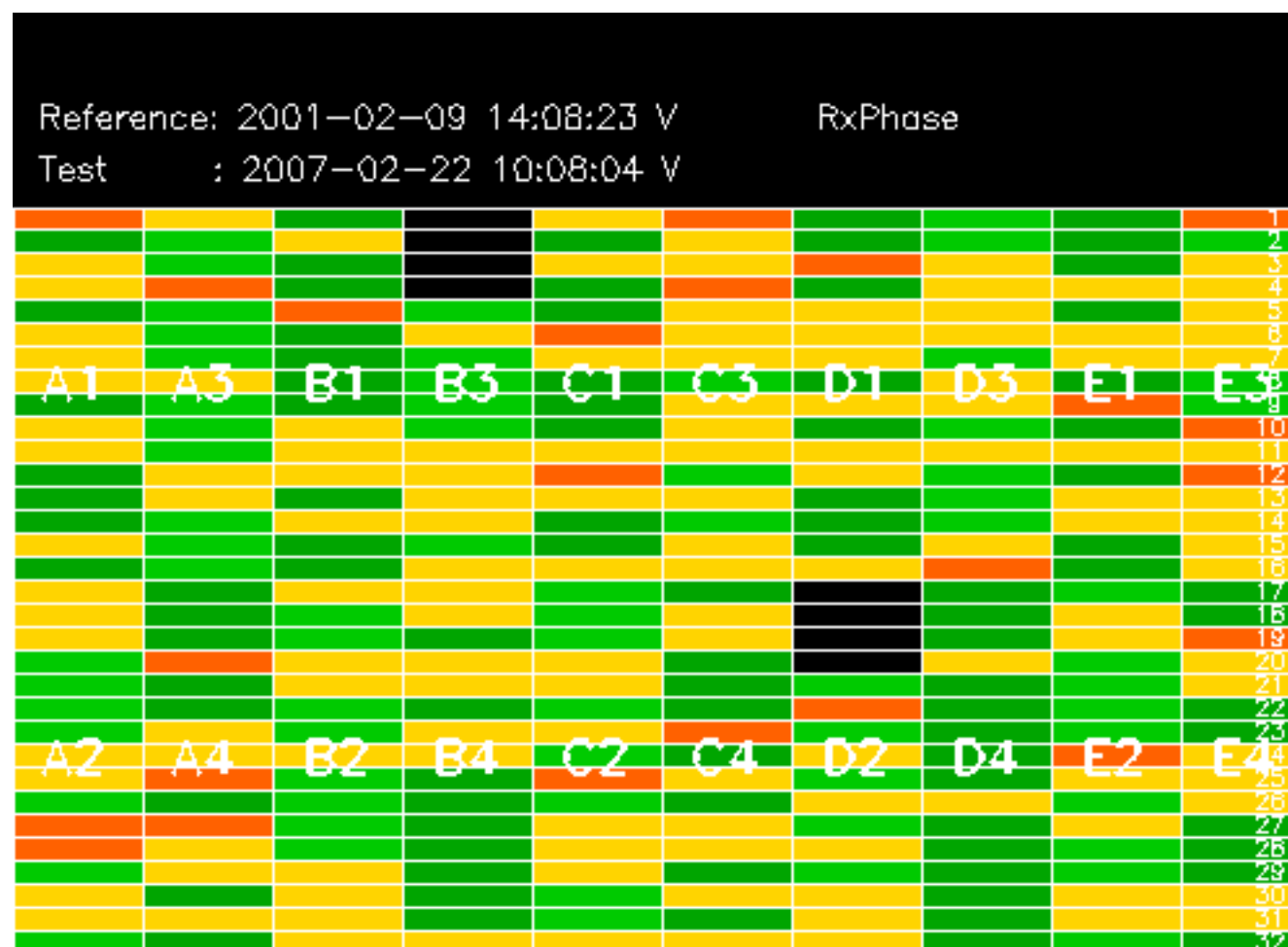
No anomalies observed on available MS products:

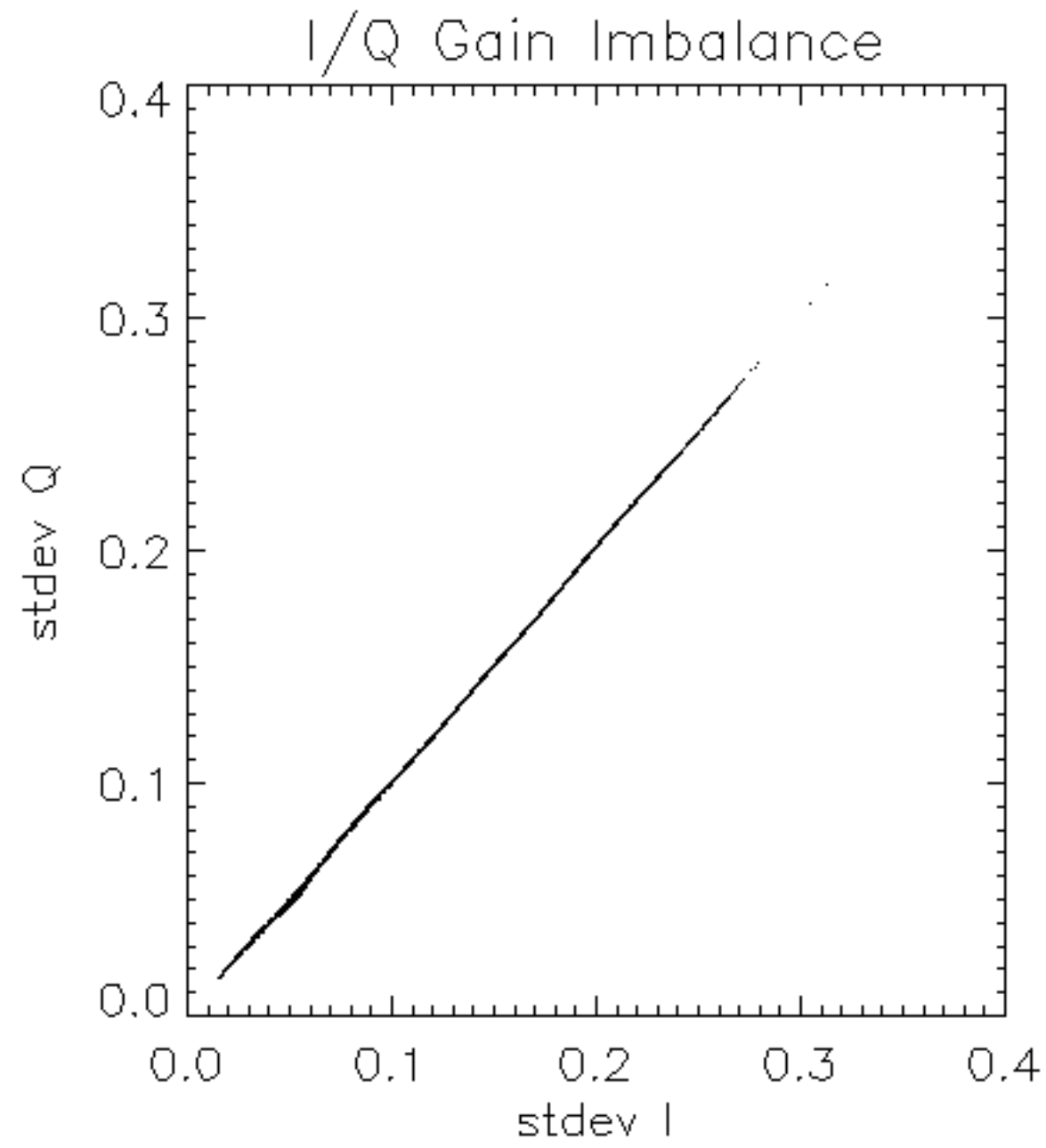
No anomalies observed.

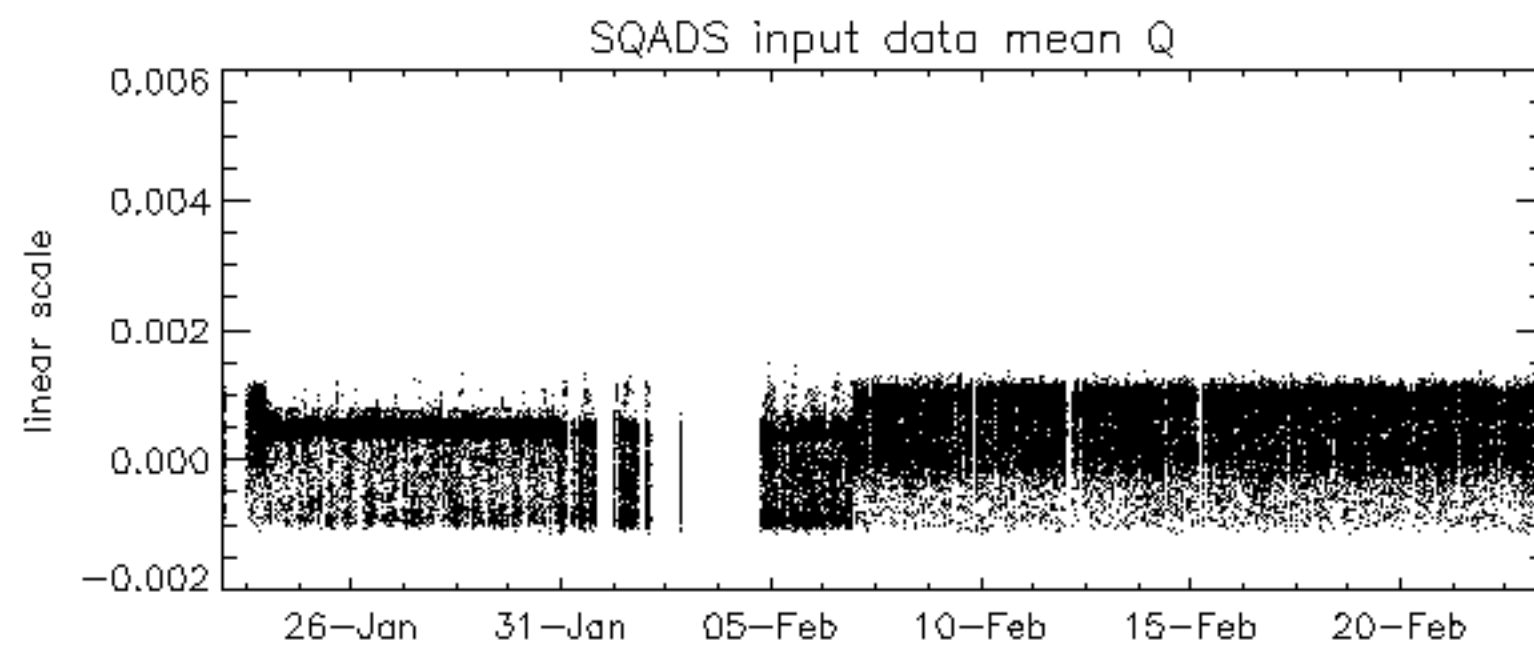
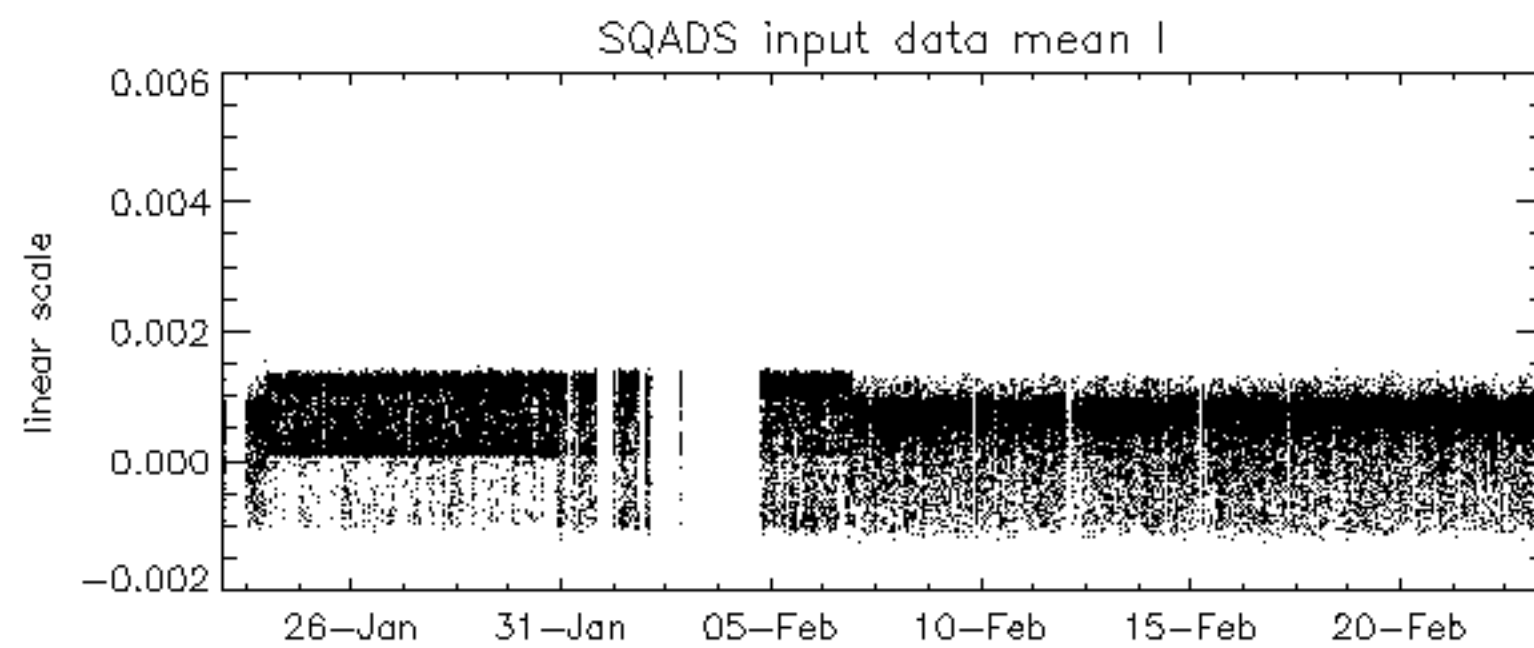
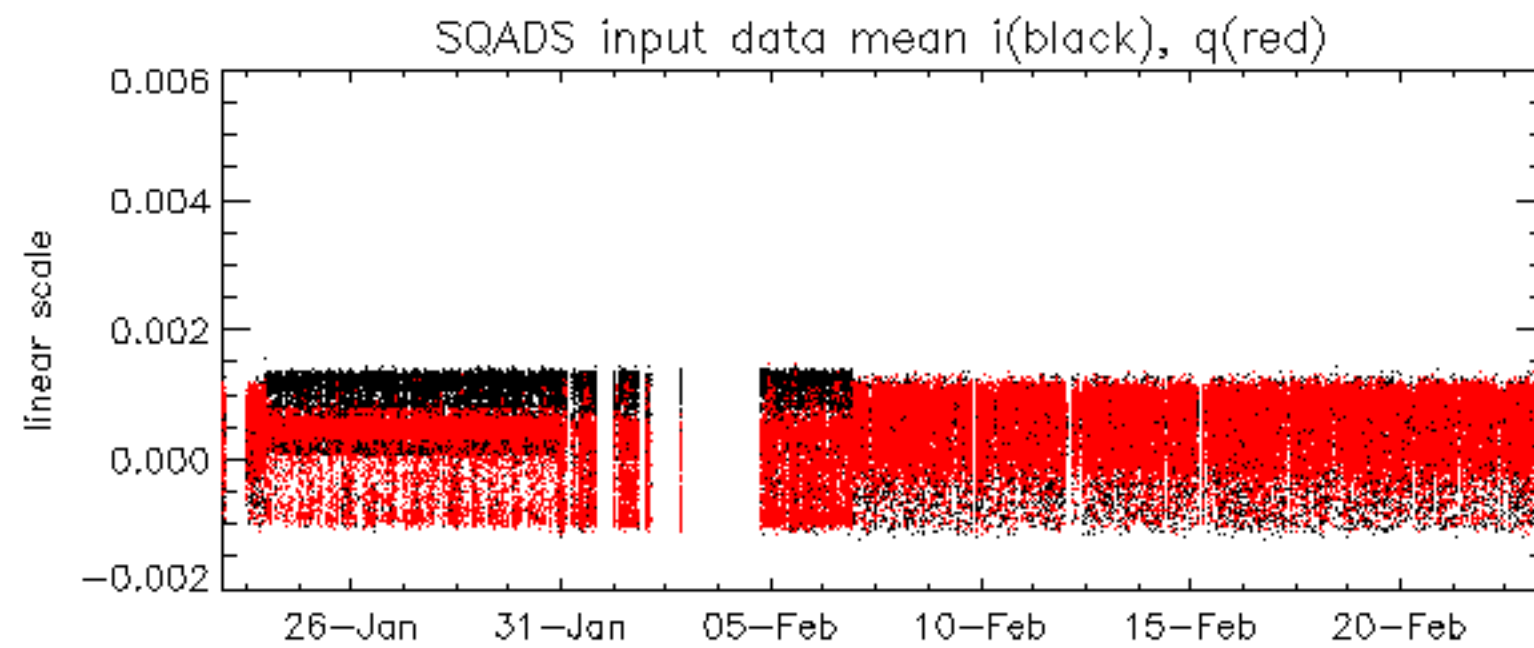


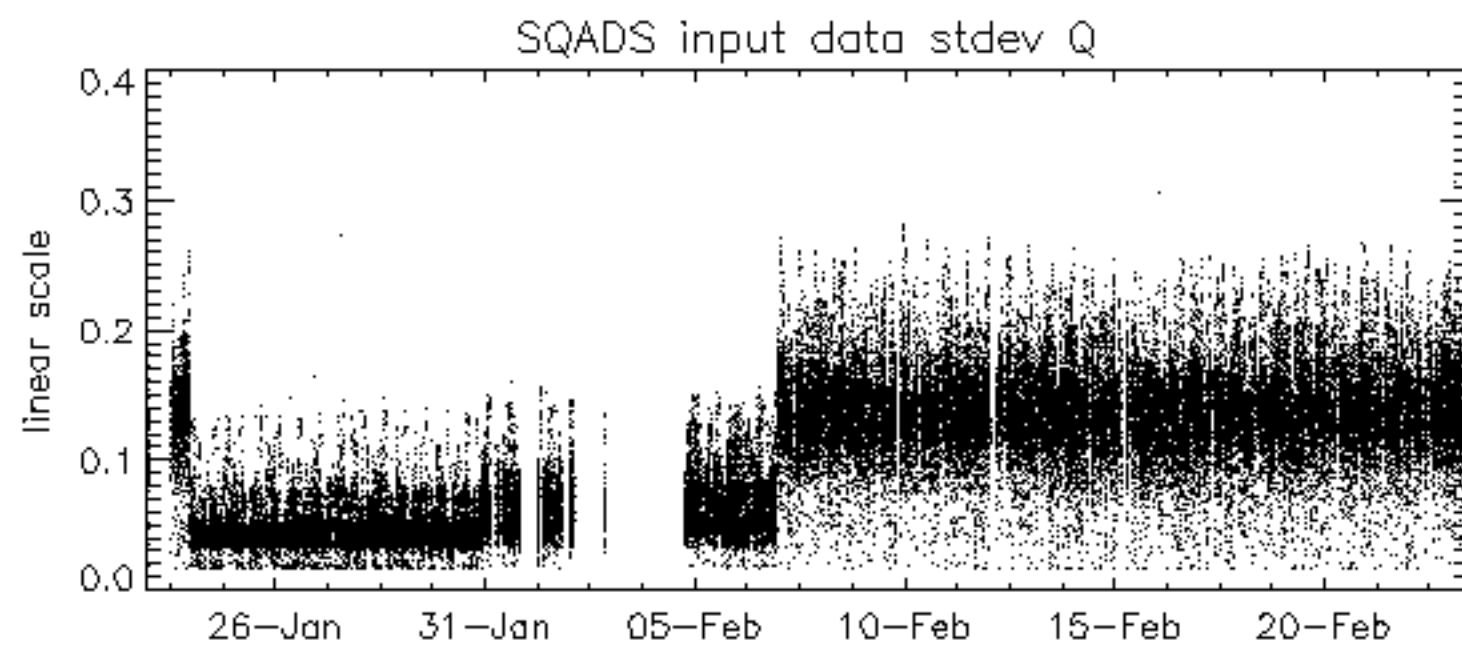
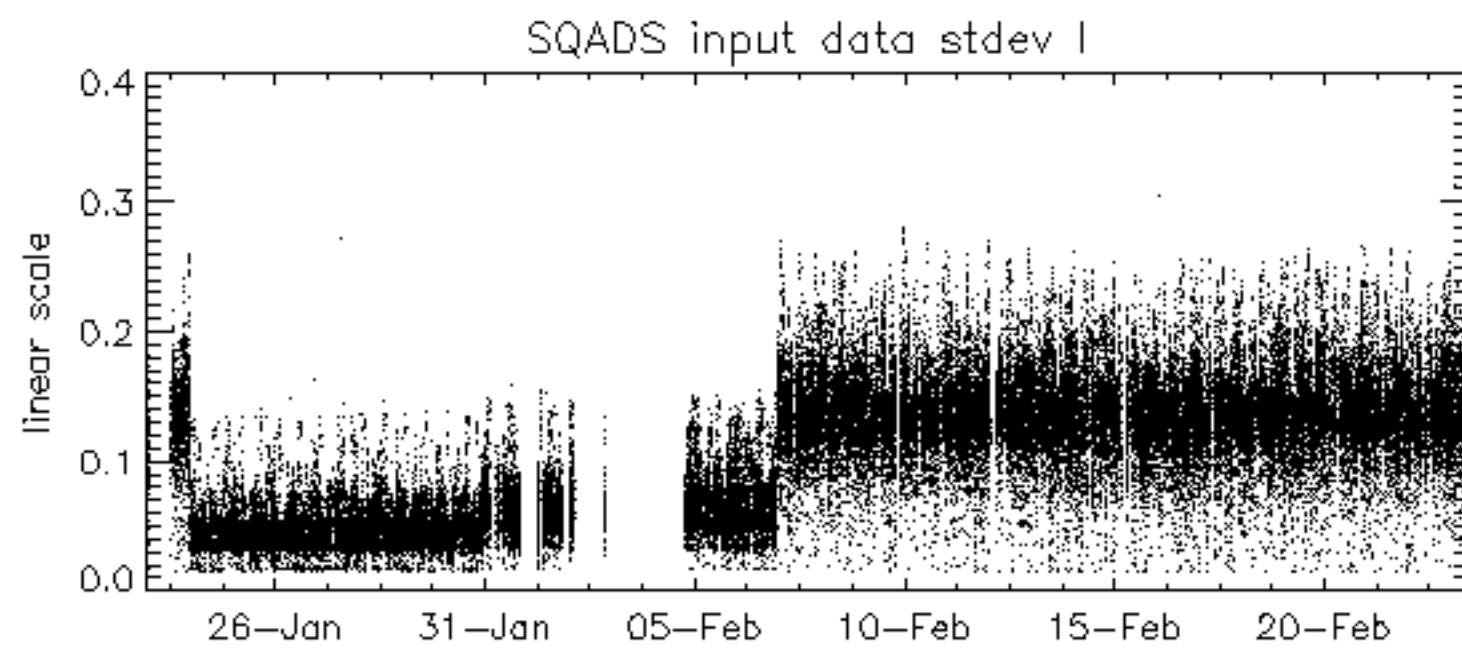
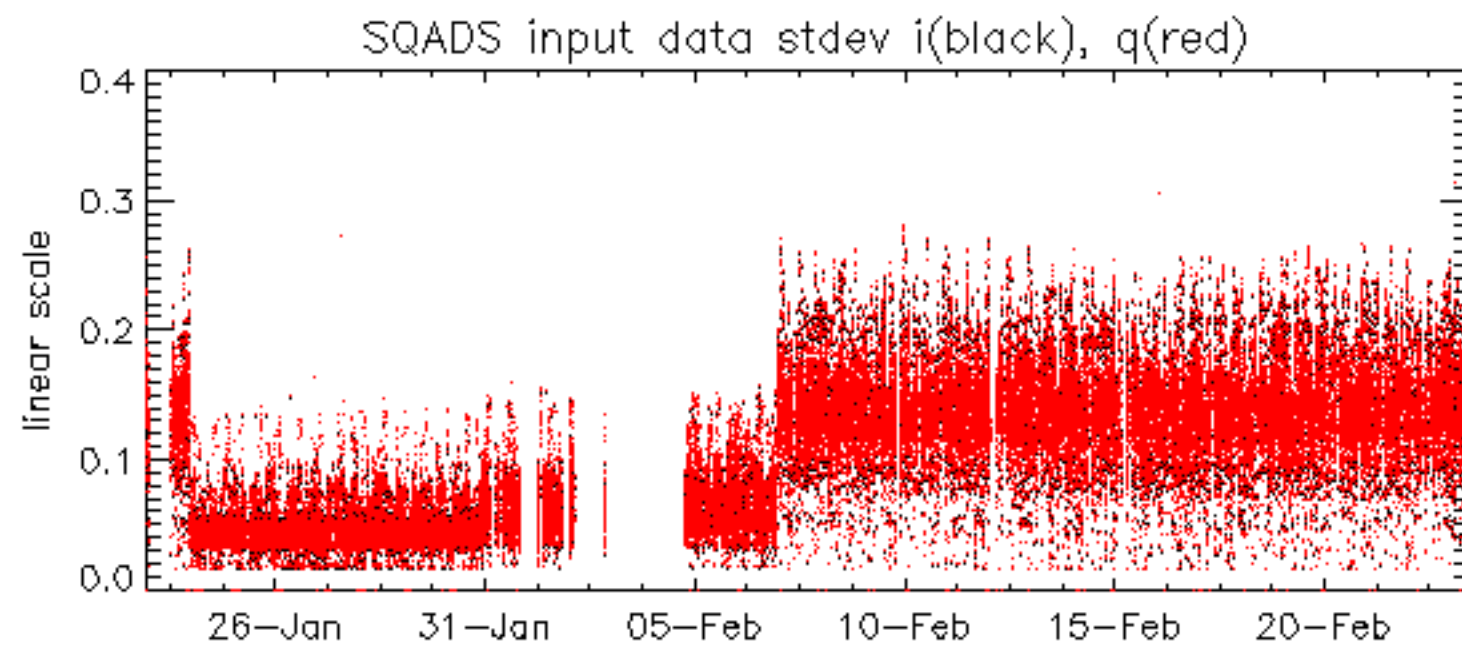








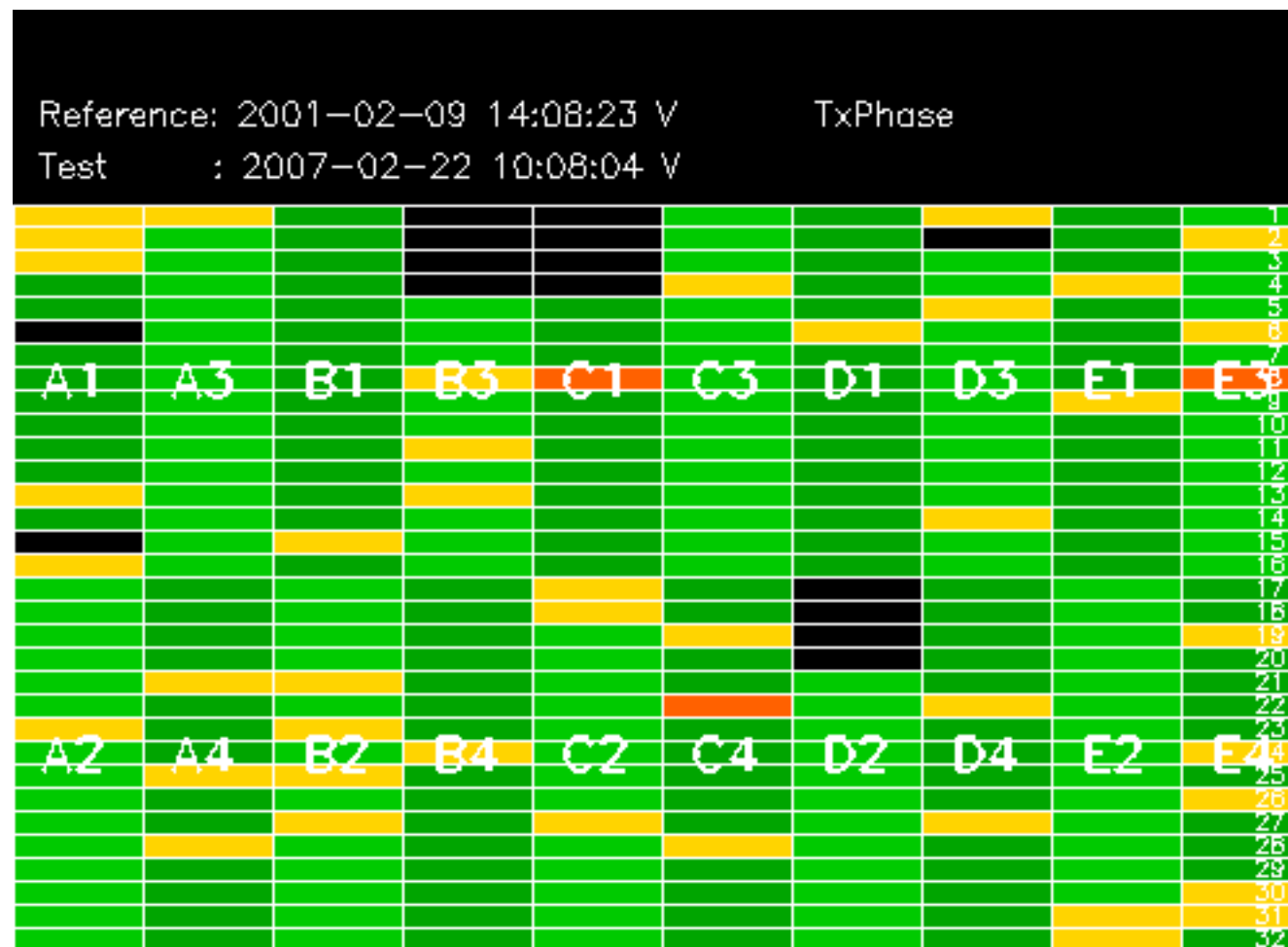




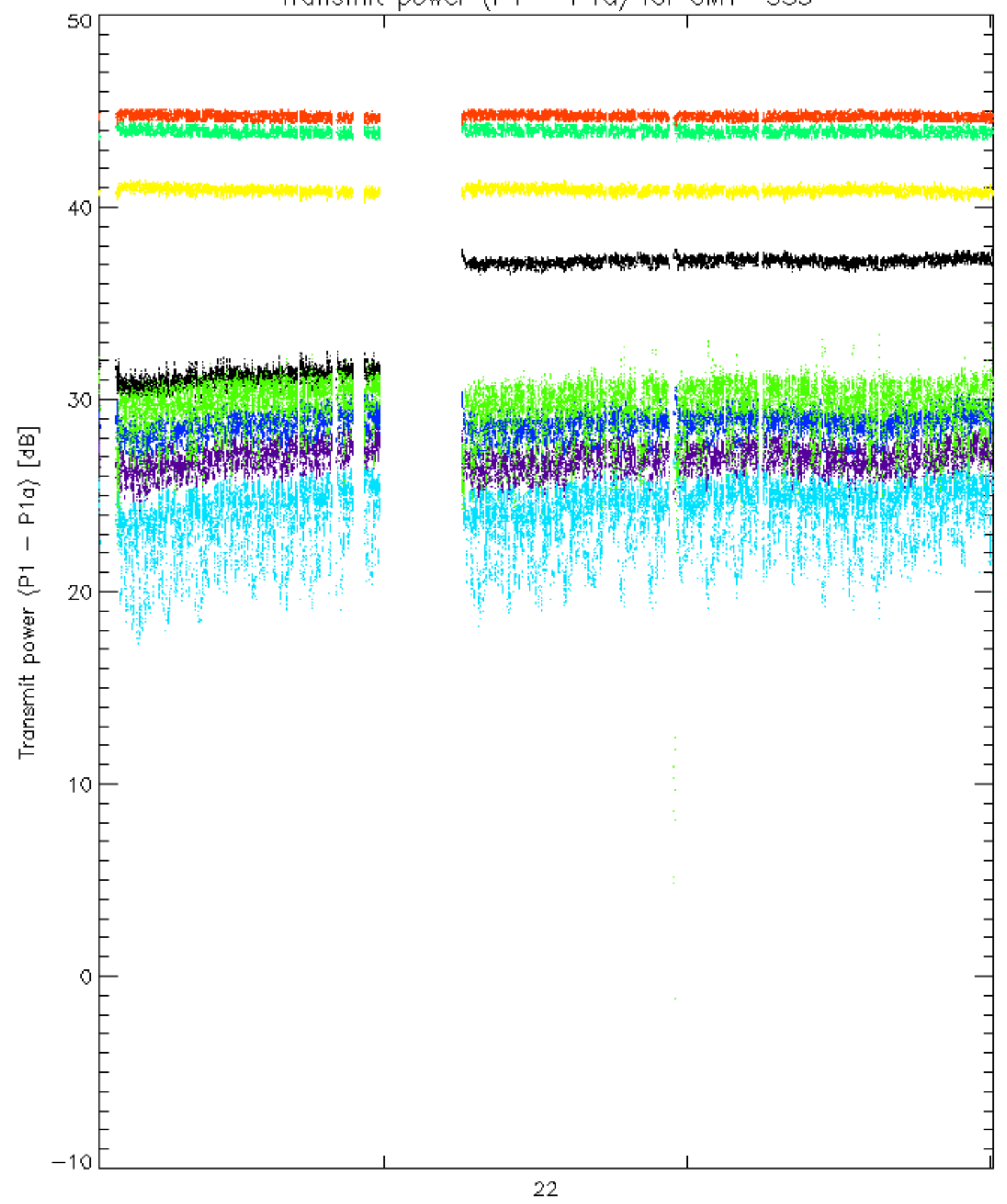
Summary of analysis for the last 3 days 2007022[123]

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

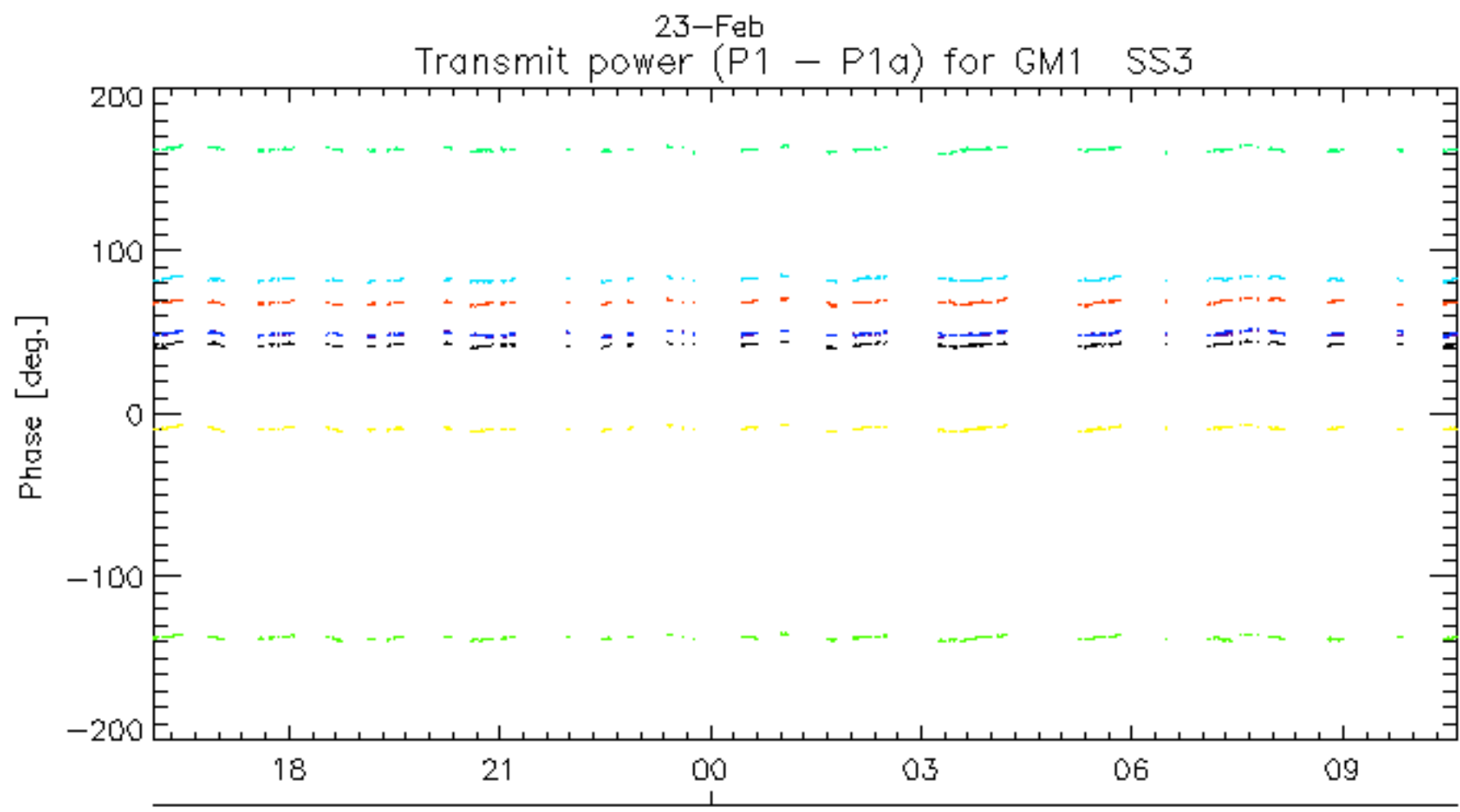
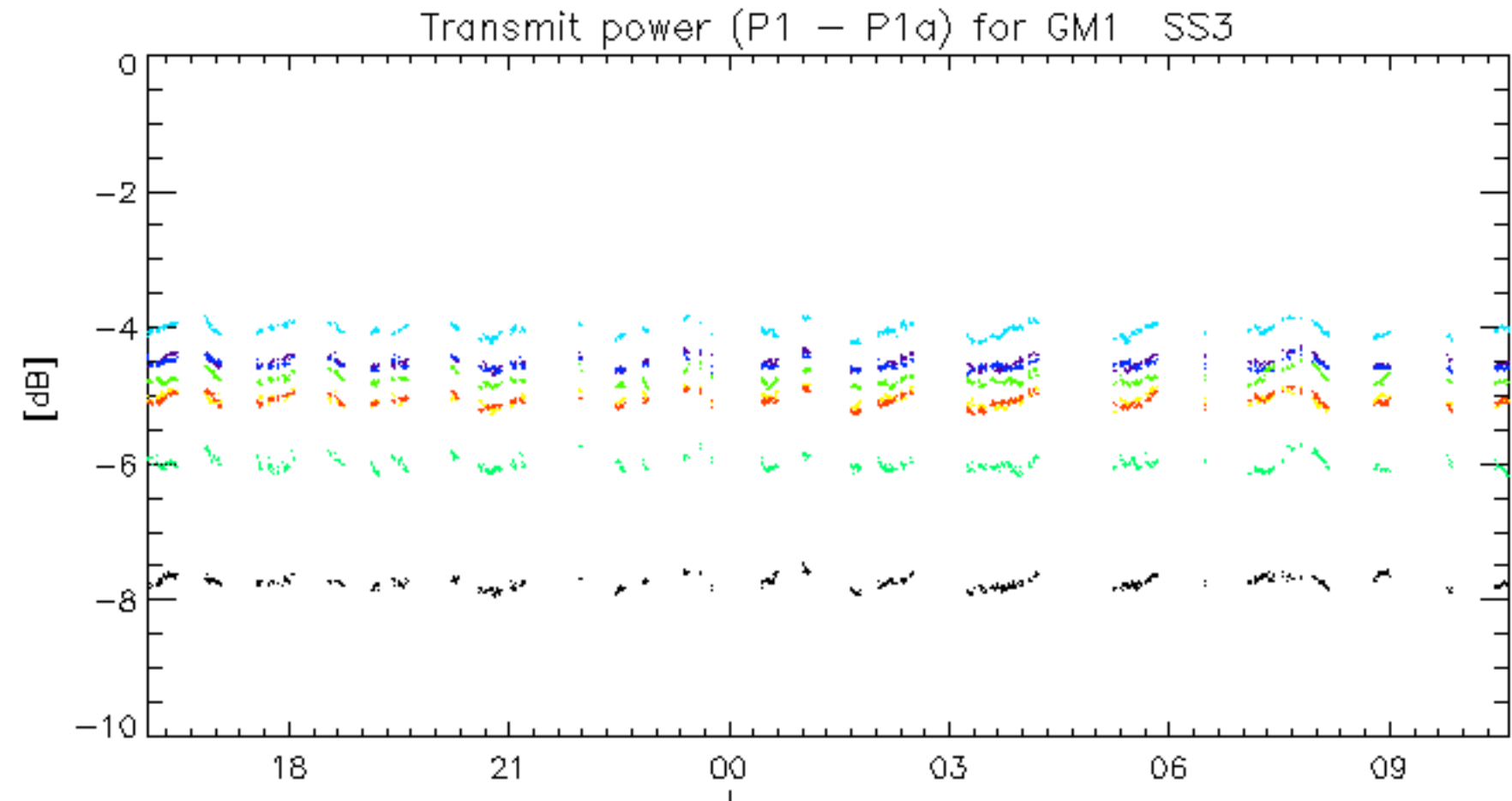
Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20070221_143309_000000372055_00425_26030_6740.N1	1	0
ASA_IMM_1PNPDE20070221_165622_000001272055_00427_26032_6826.N1	4	86
ASA_WSM_1PNPDE20070221_164157_000000982055_00427_26032_6808.N1	5	1764
ASA_WSM_1PNPDE20070221_172658_000000672055_00427_26032_6800.N1	21	6572
ASA_WSM_1PNPDE20070222_172653_000001032055_00442_26047_8220.N1	0	12
ASA_WSM_1PNPDE20070222_190519_000001092055_00443_26048_8248.N1	0	65
ASA_WSM_1PNPDE20070223_023249_000000852055_00447_26052_8839.N1	0	29
ASA_WSM_1PNPDK20070222_140625_000000852055_00440_26045_4805.N1	0	16



Transmit power (P1 - P1a) for GM1 SS3

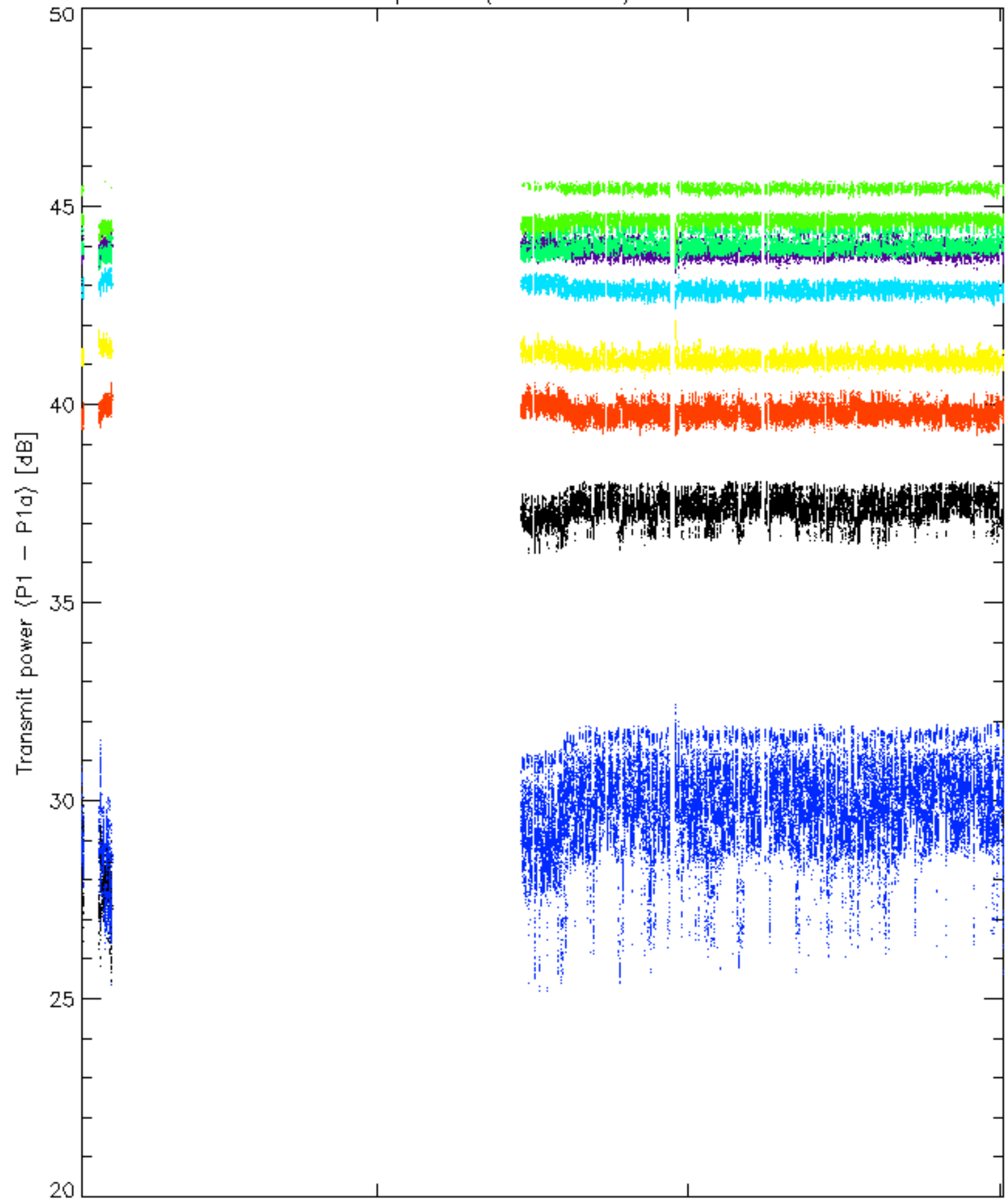


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

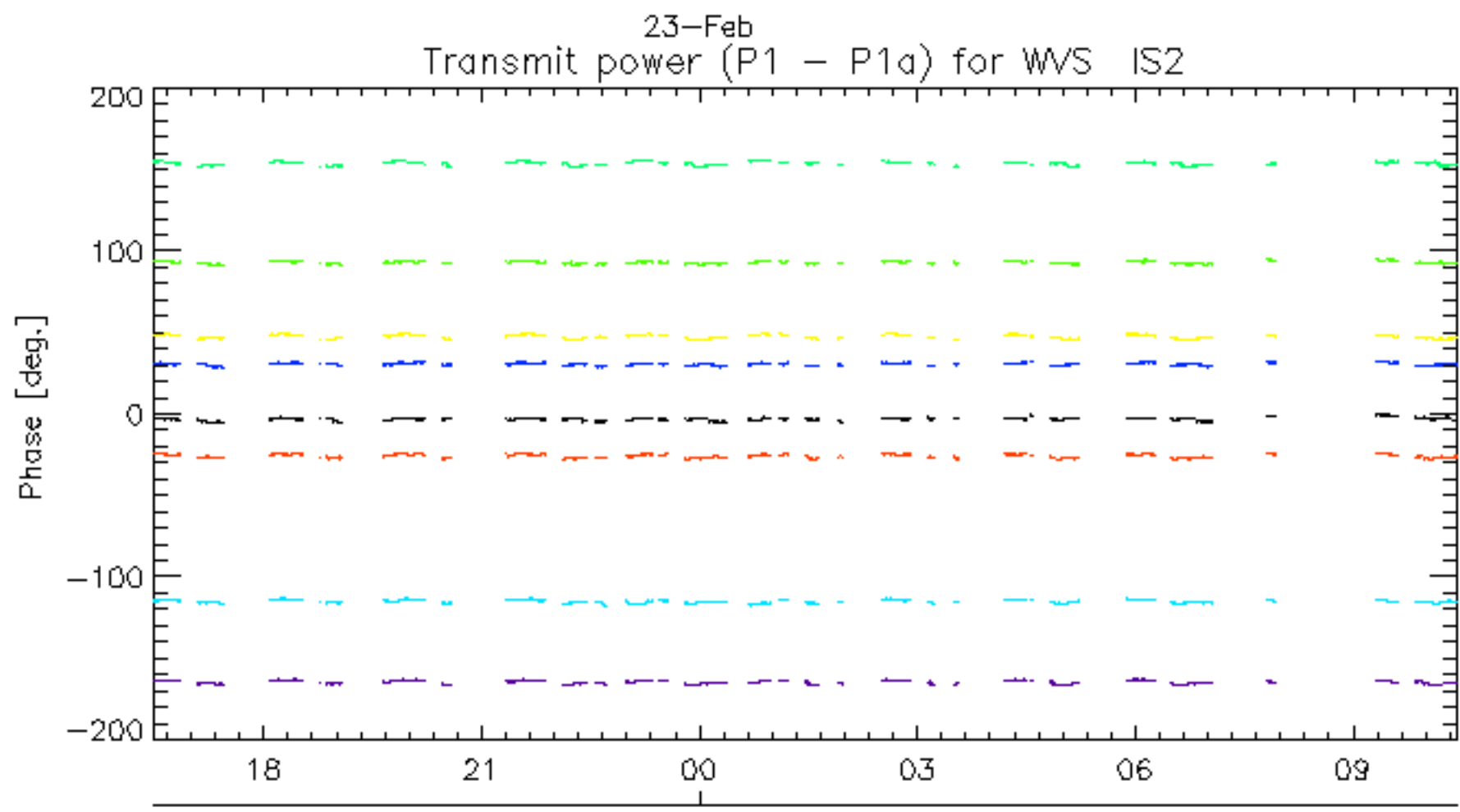
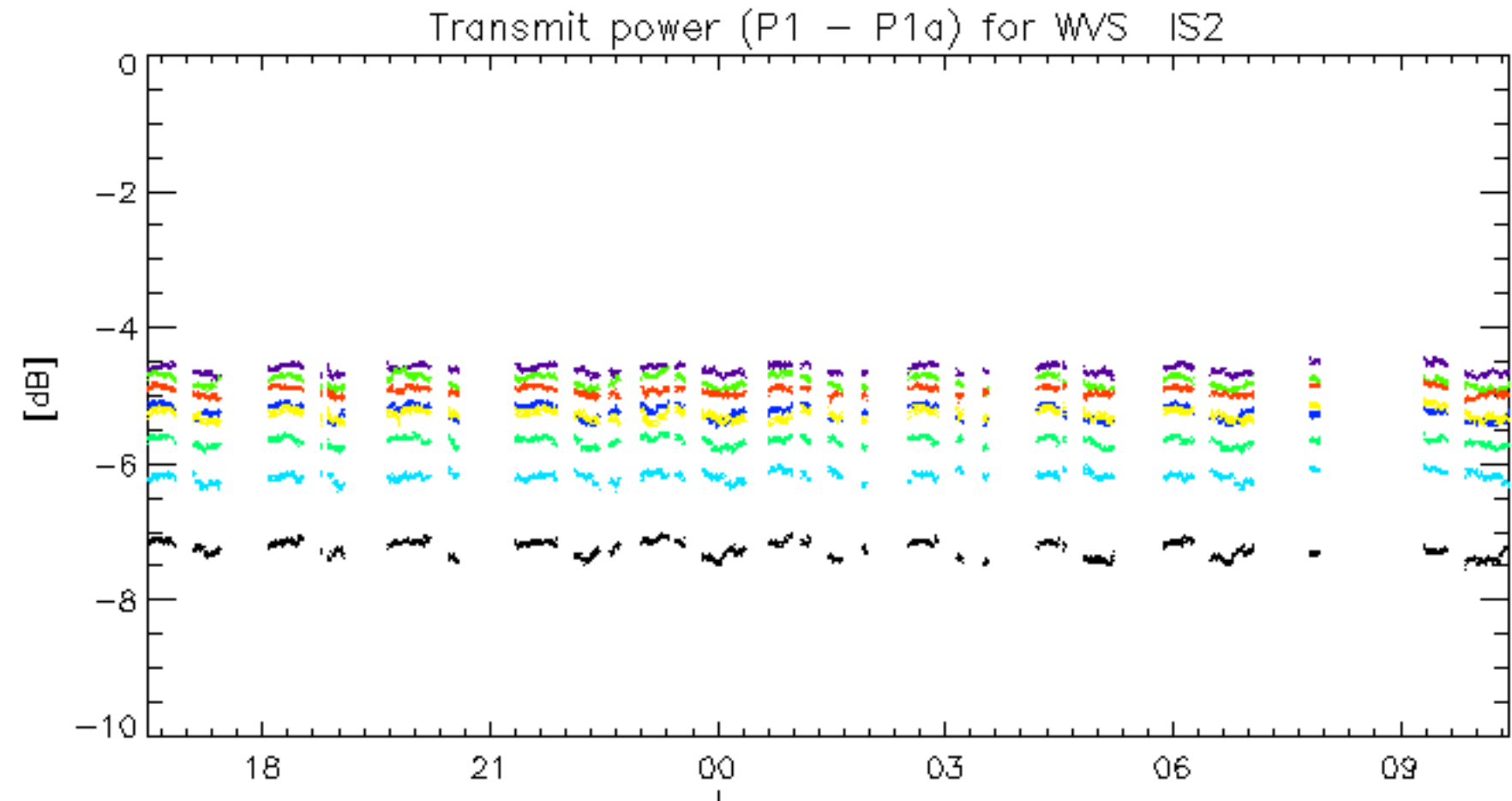


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Transmit power (P1 - P1a) for WVS IS2



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



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

No unavailabilities during the reported period.