

PRELIMINARY REPORT OF 070213

last update on Tue Feb 13 16:16:24 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 2007-02-12 00:00:00 to 2007-02-13 16:16:25

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	39	61	15	3	28
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	39	61	15	3	28
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	39	61	15	3	28
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	39	61	15	3	28

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	31	39	57	9	20
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	31	39	57	9	20
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	31	39	57	9	20
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	31	39	57	9	20

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
V	20070212 084150
H	20070213 081013

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

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☒

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	-15.252927	0.359275	2.944991
7	P1a	-17.405470	0.111278	-0.464548
11	P1a	-17.355175	0.375882	-0.183897
15	P1a	-12.821997	0.127085	-0.286072
19	P1a	-15.093298	0.094819	-0.173456
22	P1a	-15.498286	0.483729	-0.470326
26	P1a	-14.966699	0.261828	0.006441
30	P1a	-17.280491	0.396753	-0.529385

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.515300	0.304051	-3.228508
7	P1	-3.105011	0.009727	-0.107523
11	P1	-4.131883	0.020387	-0.154712
15	P1	-6.319991	0.016959	-0.093171
19	P1	-3.706685	0.009039	-0.011775
22	P1	-4.674899	0.014434	-0.020843
26	P1	-3.926860	0.014171	0.012548
30	P1	-5.917820	0.012698	-0.062018

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.434061	0.447491	-3.585536
7	P2	-21.619118	0.085872	0.050191
11	P2	-15.481683	0.104402	0.073957
15	P2	-7.015886	0.101774	-0.092173

19	P2	-9.082396	0.089830	-0.074782
22	P2	-18.096542	0.088111	-0.094585
26	P2	-16.507895	0.101140	-0.141122
30	P2	-19.334560	0.081970	-0.044169

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.202440	0.008161	-0.009995
7	P3	-8.202440	0.008161	-0.009995
11	P3	-8.202440	0.008161	-0.009995
15	P3	-8.202440	0.008161	-0.009995
19	P3	-8.202440	0.008161	-0.009995
22	P3	-8.202440	0.008161	-0.009995
26	P3	-8.202440	0.008161	-0.009995
30	P3	-8.202440	0.008161	-0.009995

4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1

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P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1a	-11.412942	0.152199	1.627061
7	P1a	-10.035439	0.058238	-0.120169
11	P1a	-10.563560	0.062265	-0.398424
15	P1a	-10.845168	0.130664	-0.124095
19	P1a	-15.742361	0.063806	0.026224
22	P1a	-20.901556	1.301741	0.478314
26	P1a	-15.455077	0.260850	0.295037
30	P1a	-18.324440	0.366118	-0.067290

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
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3	P1	-6.249290	4.250950	-10.347632
7	P1	-2.440396	0.005974	0.001121
11	P1	-2.877570	0.017025	-0.159700
15	P1	-3.791777	0.033568	-0.133236
19	P1	-3.549912	0.013137	-0.010972
22	P1	-5.025150	0.023535	-0.014977
26	P1	-5.993254	0.023132	0.045712
30	P1	-5.288512	0.023711	0.014206

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.157936	0.856960	-4.443943
7	P2	-22.013939	0.051456	0.145755
11	P2	-10.680969	0.032550	0.109593
15	P2	-4.833660	0.027543	0.064724
19	P2	-6.831169	0.029248	0.080757
22	P2	-8.140349	0.030732	0.077804
26	P2	-24.250942	0.032549	0.036147
30	P2	-21.791067	0.034771	0.067511

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.050939	0.002943	0.037146
7	P3	-8.050935	0.002957	0.035984
11	P3	-8.050941	0.002944	0.036835
15	P3	-8.050950	0.002943	0.036746
19	P3	-8.050896	0.002938	0.036700
22	P3	-8.050949	0.002944	0.037154
26	P3	-8.050835	0.002942	0.037095
30	P3	-8.050900	0.002950	0.036900

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	0.000655993
	stdev	2.58943e-07
MEAN Q	mean	0.000336152
	stdev	2.51288e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.0875214
	stdev	0.00241052
STDEV Q	mean	0.0873578
	stdev	0.00245765



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2007021[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
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ASA_IMM_1PNPDE20070212_221218_000001072055_00301_25906_5131.N1	15	3773
ASA_IMM_1PNPDE20070212_221549_000002632055_00301_25906_5257.N1	3	10
ASA_IMM_1PNPDE20070212_235224_000004552055_00302_25907_5398.N1	15	2640
ASA_WSM_1PNPDE20070211_145120_000000862055_00283_25888_3819.N1	0	33
ASA_WSM_1PNPDK20070211_095259_000000852055_00280_25885_2209.N1	0	52





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)

Ascending

Descending

7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

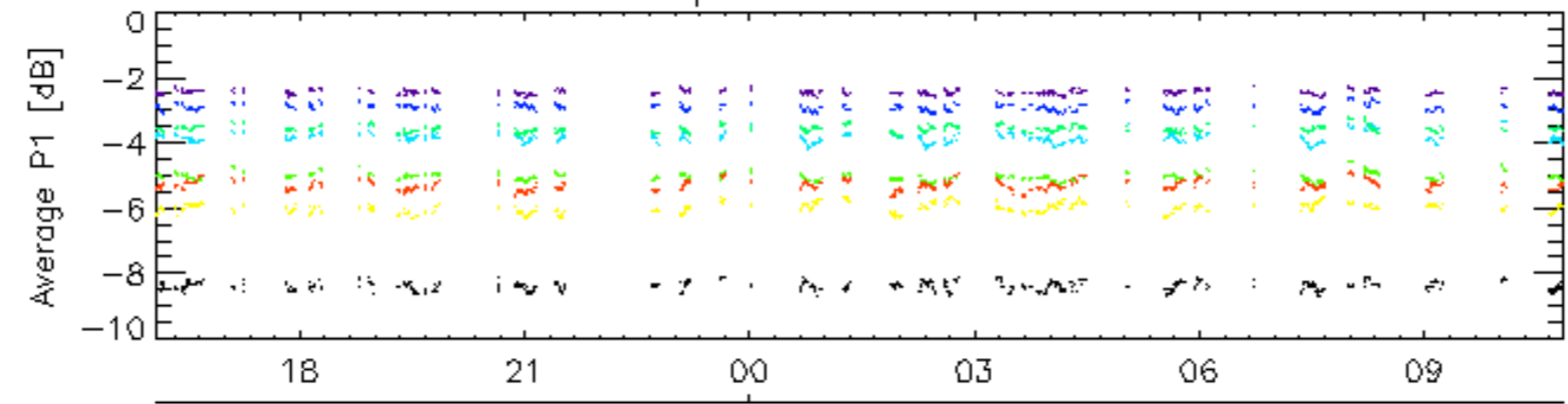
Ascending

Descending

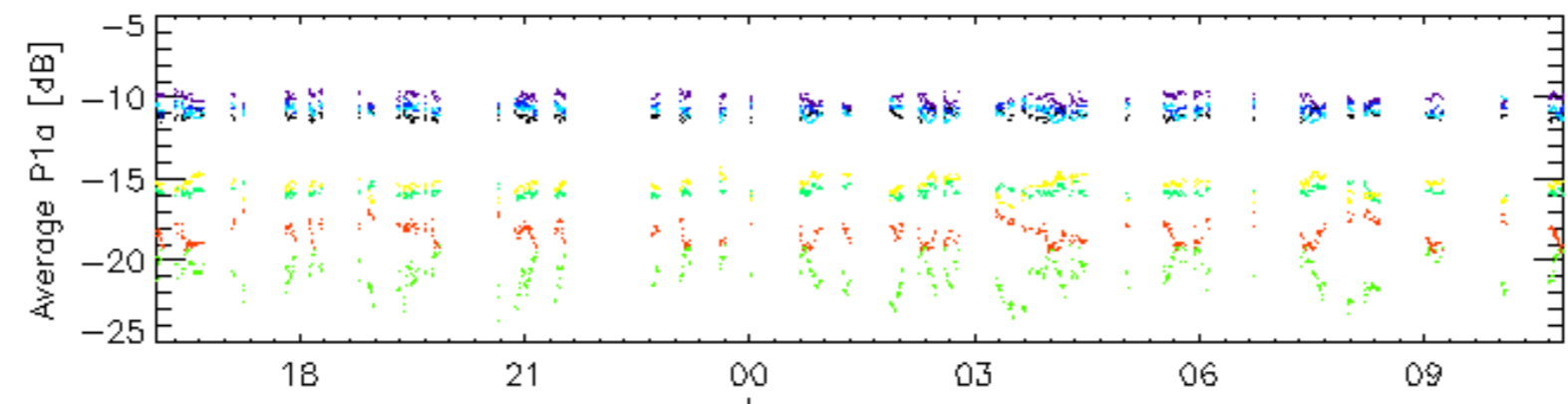
7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

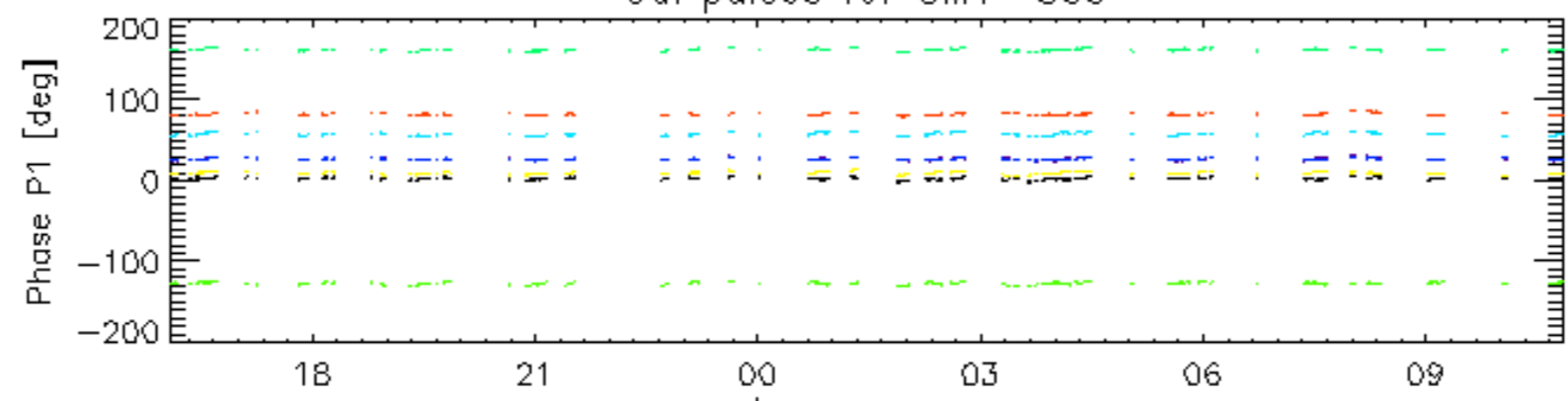


13-Feb

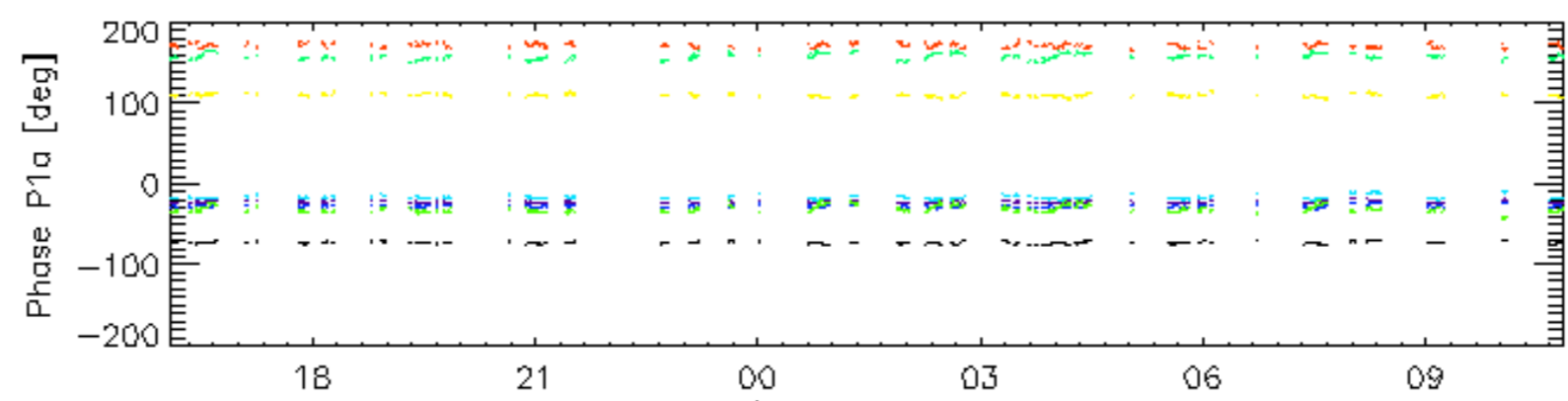


13-Feb

Cal pulses for GM1 SS3

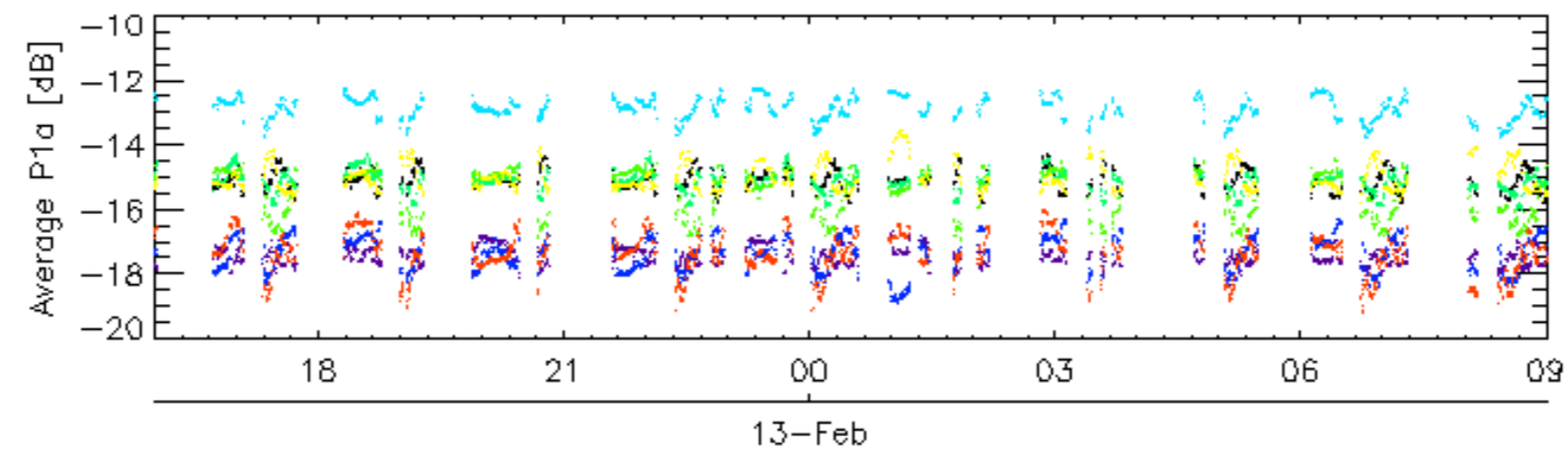
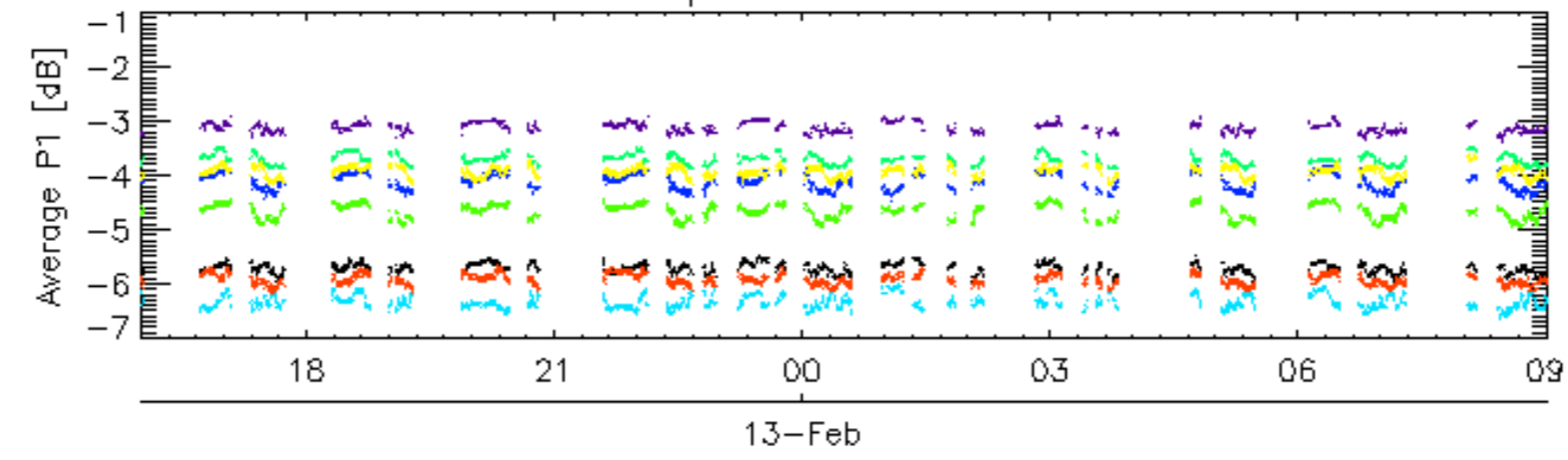


13-Feb

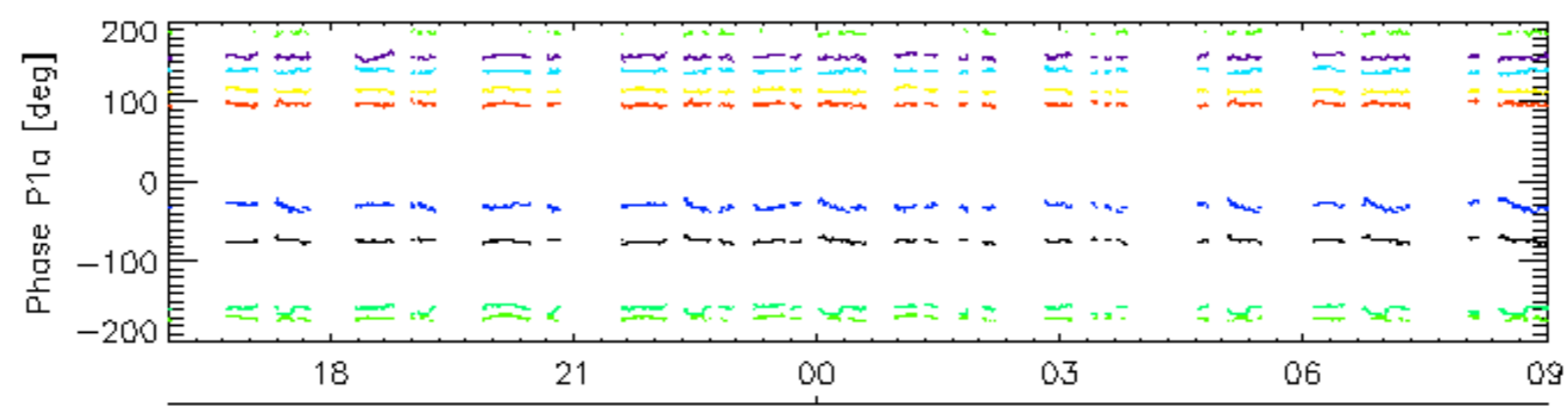
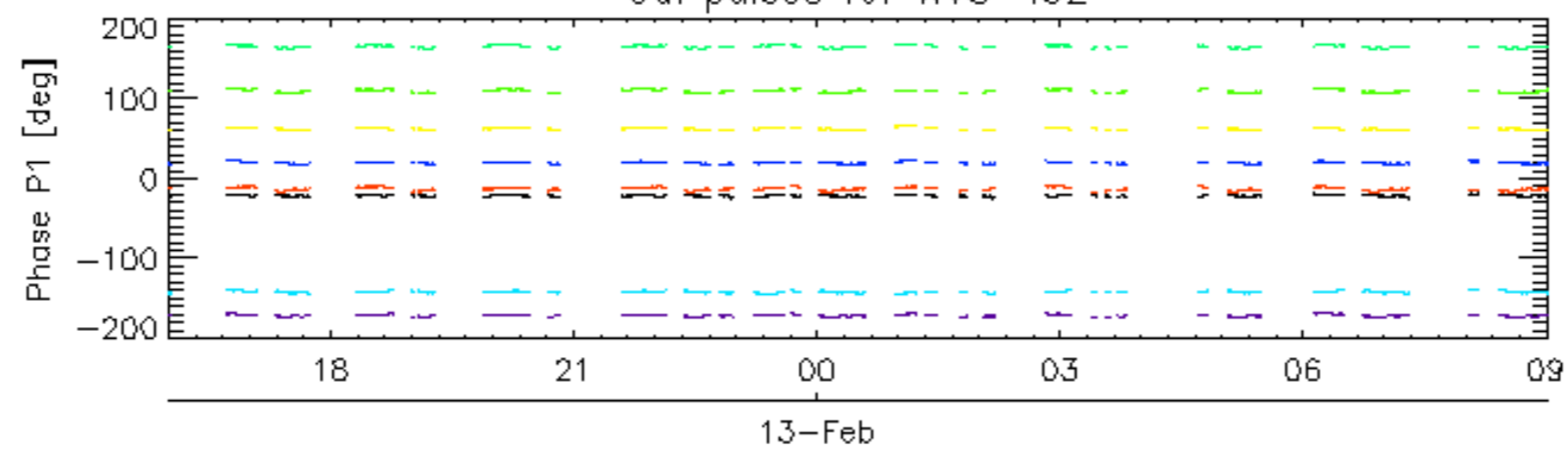


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

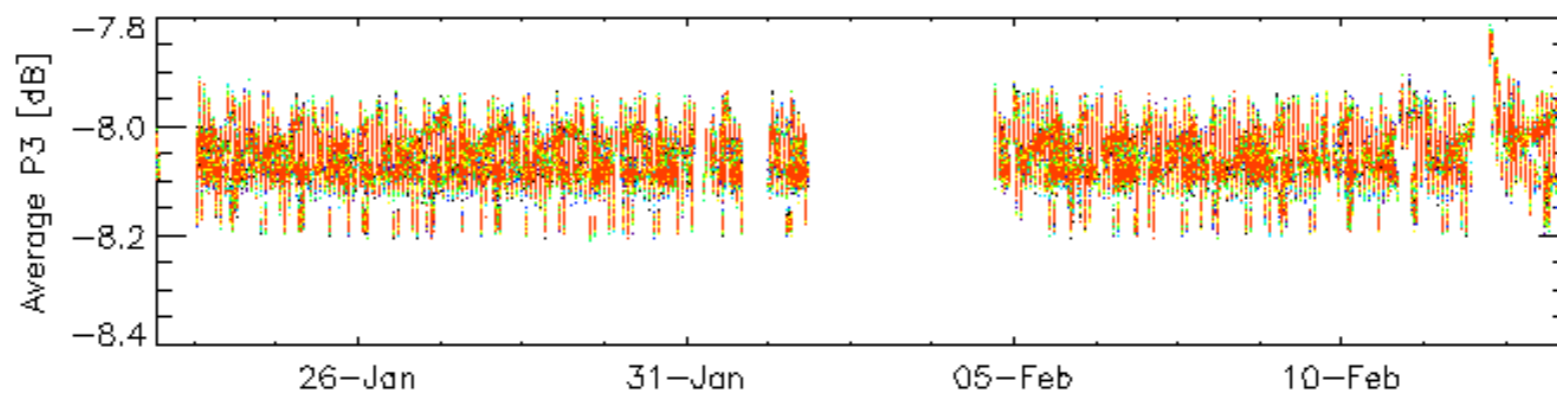
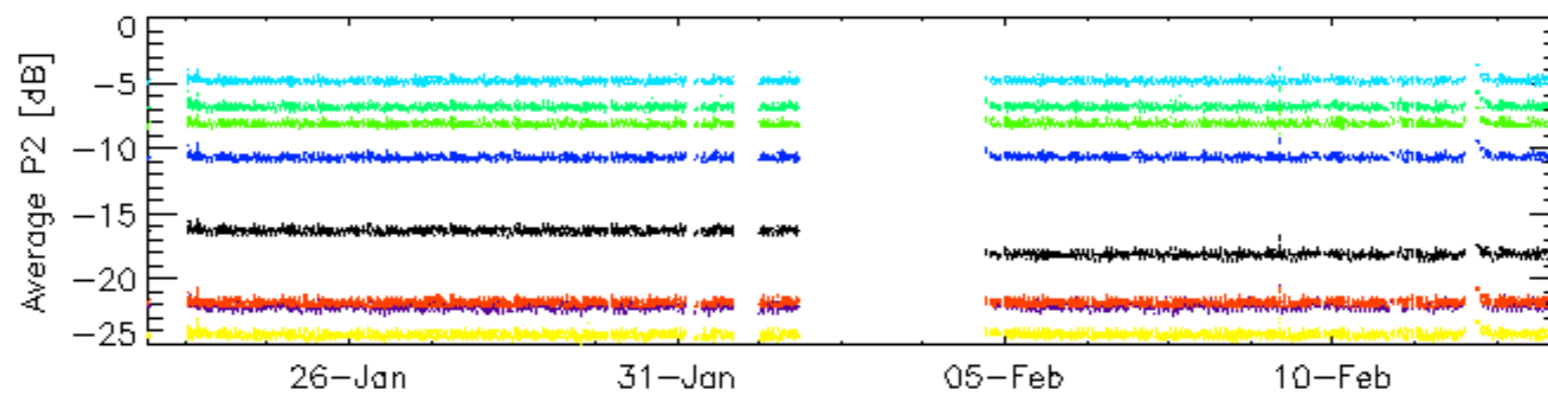
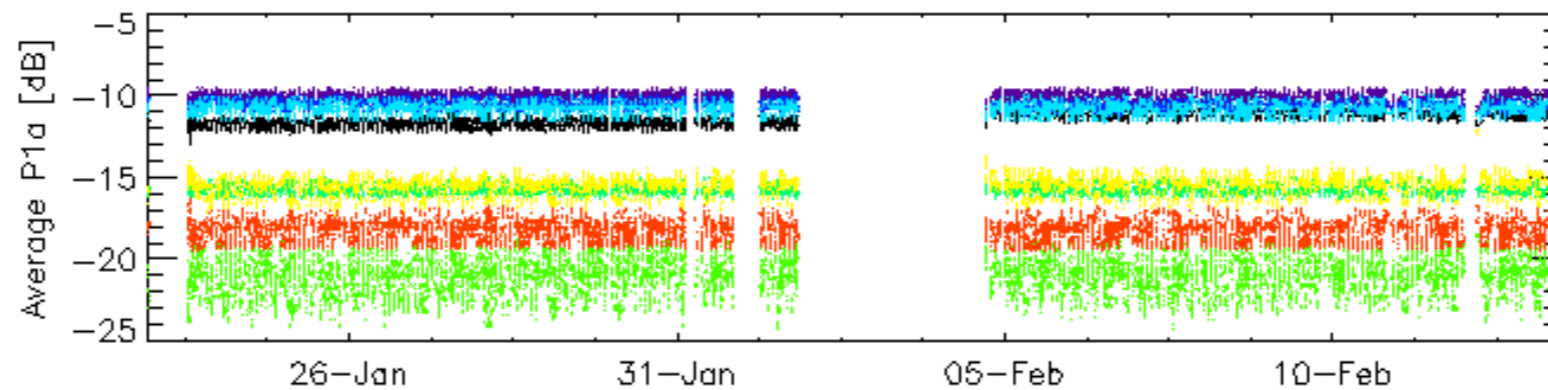
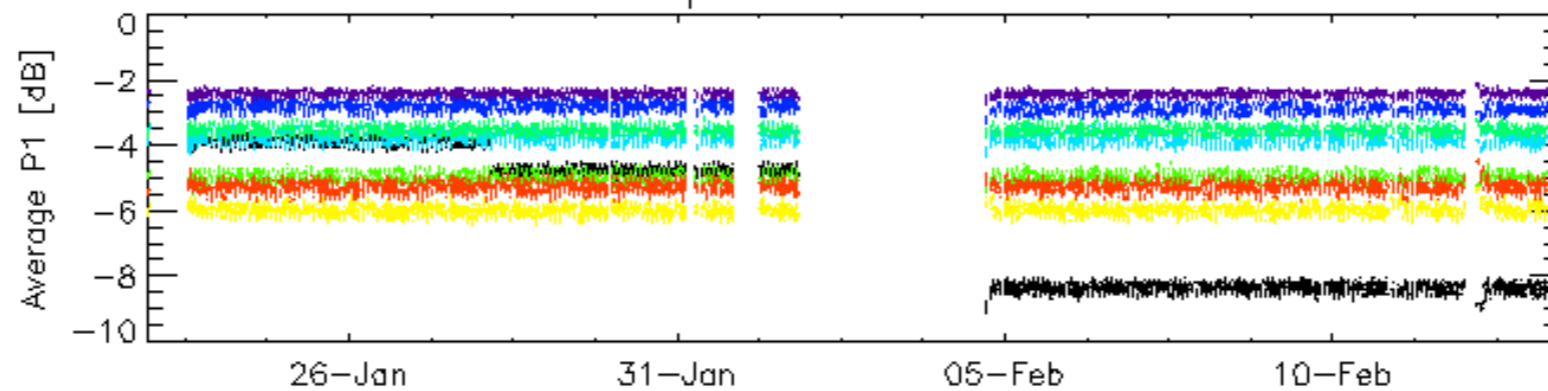


Cal pulses for WVS IS2



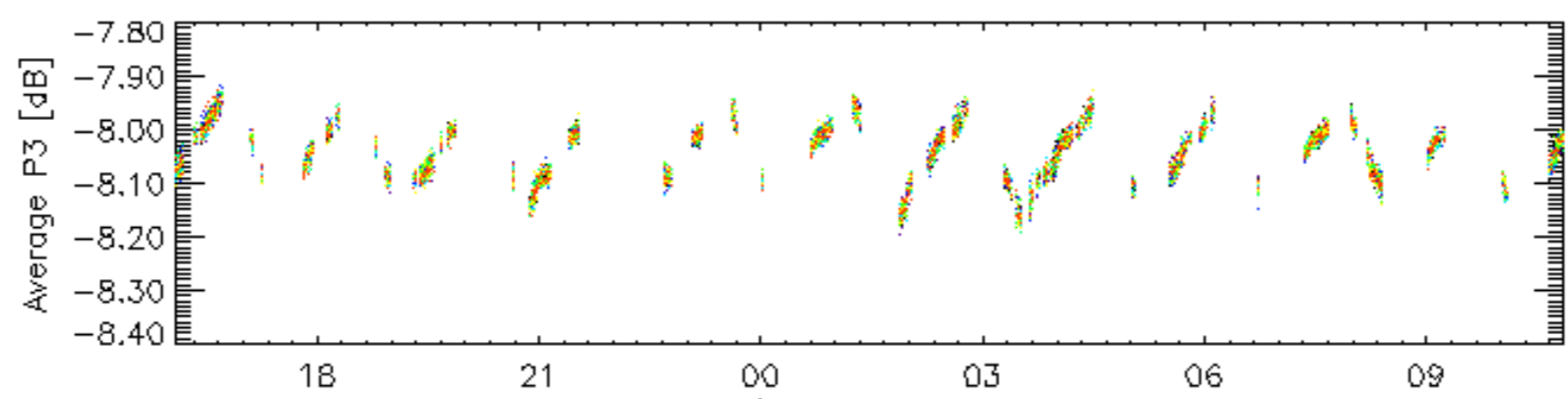
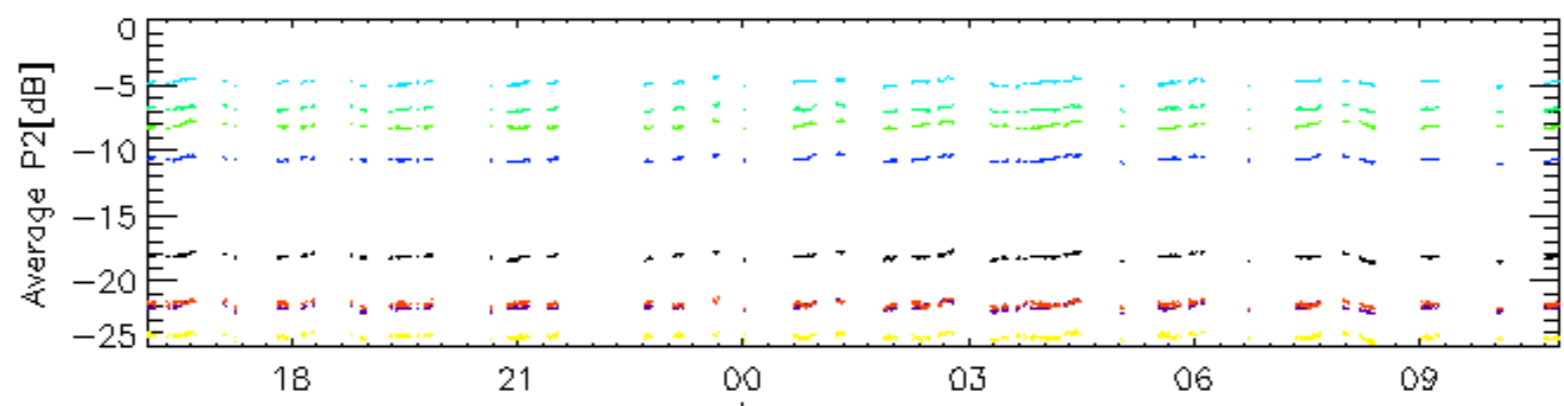
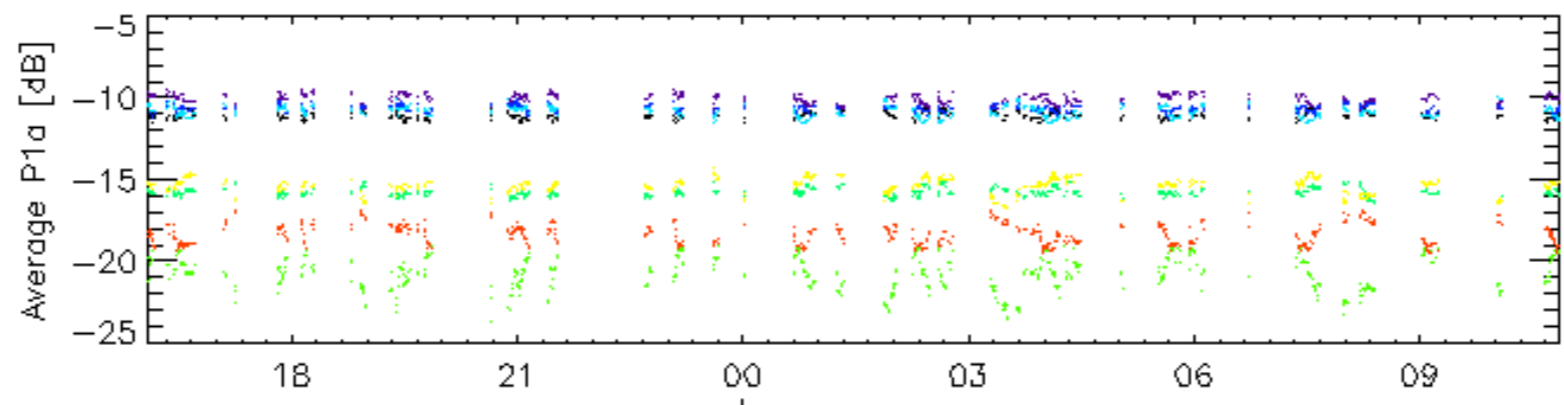
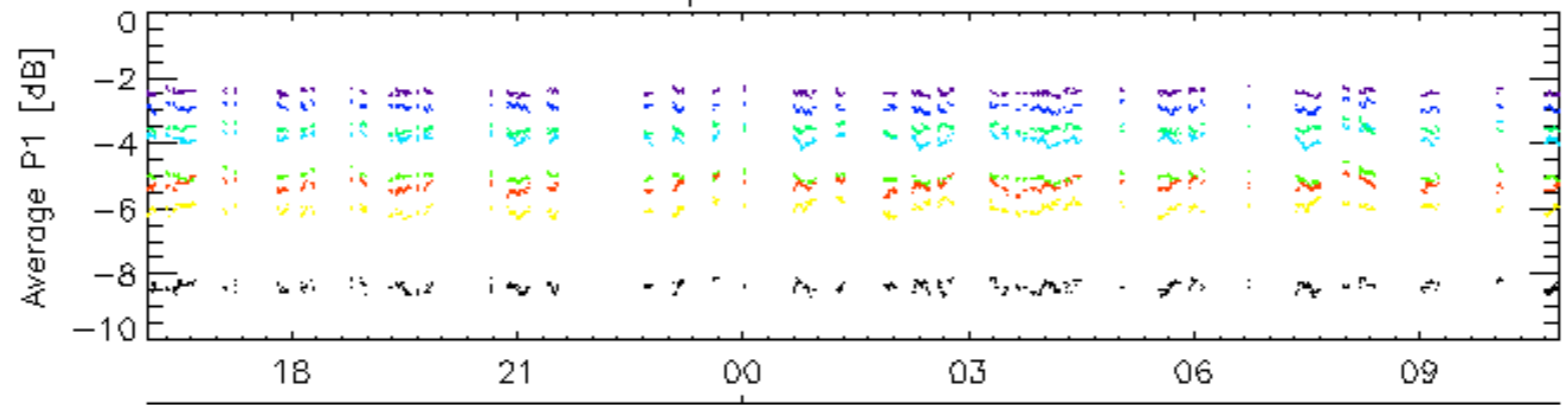
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3



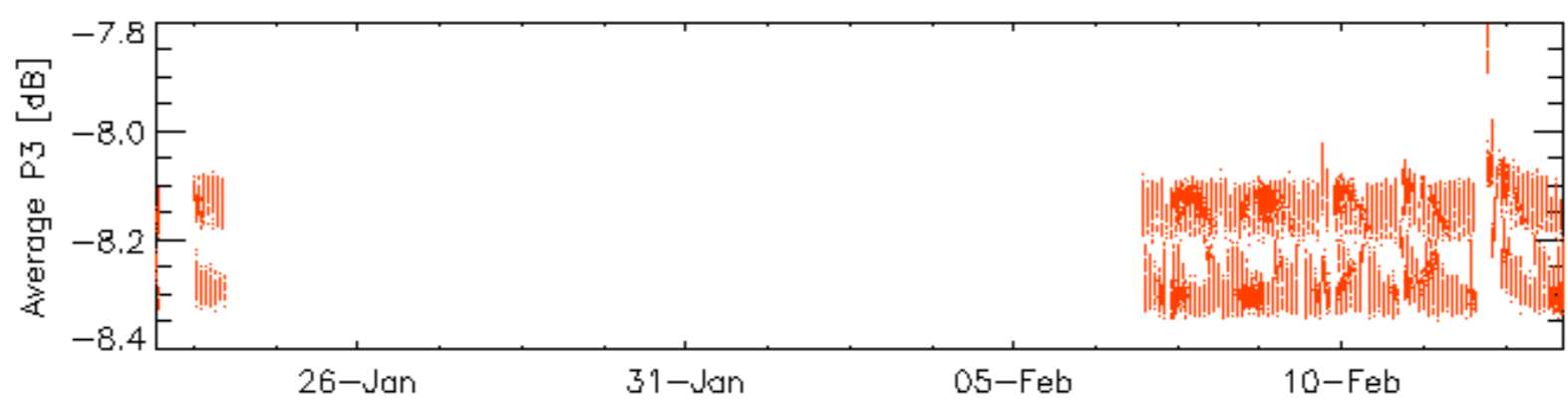
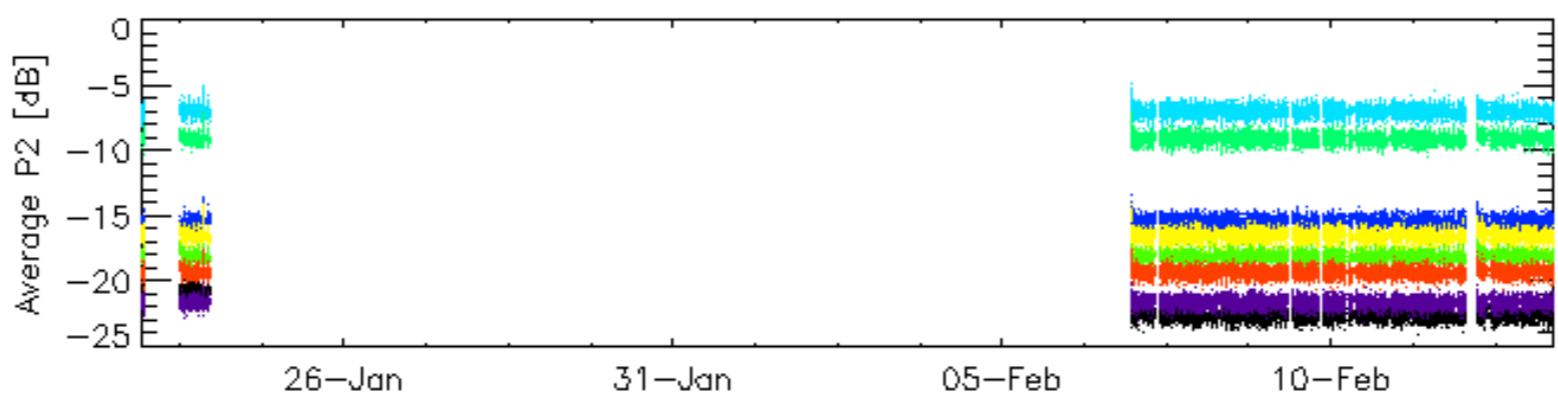
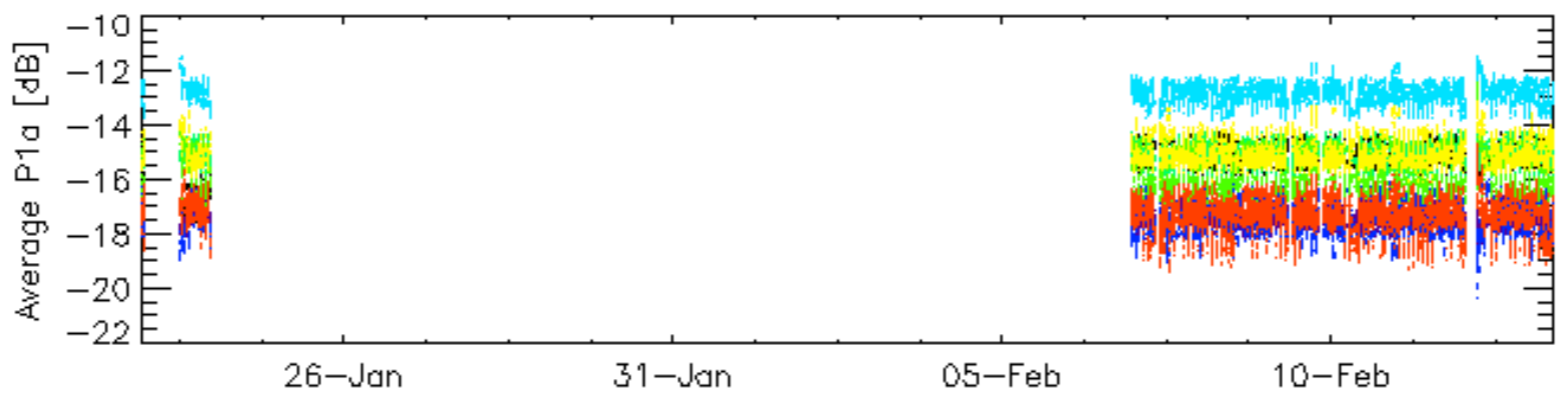
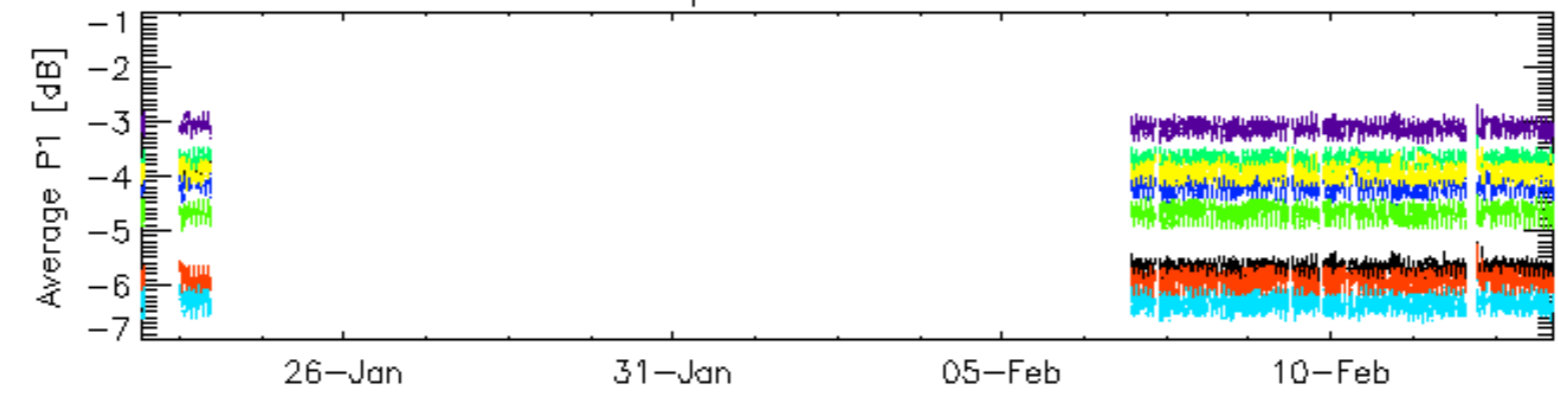
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3



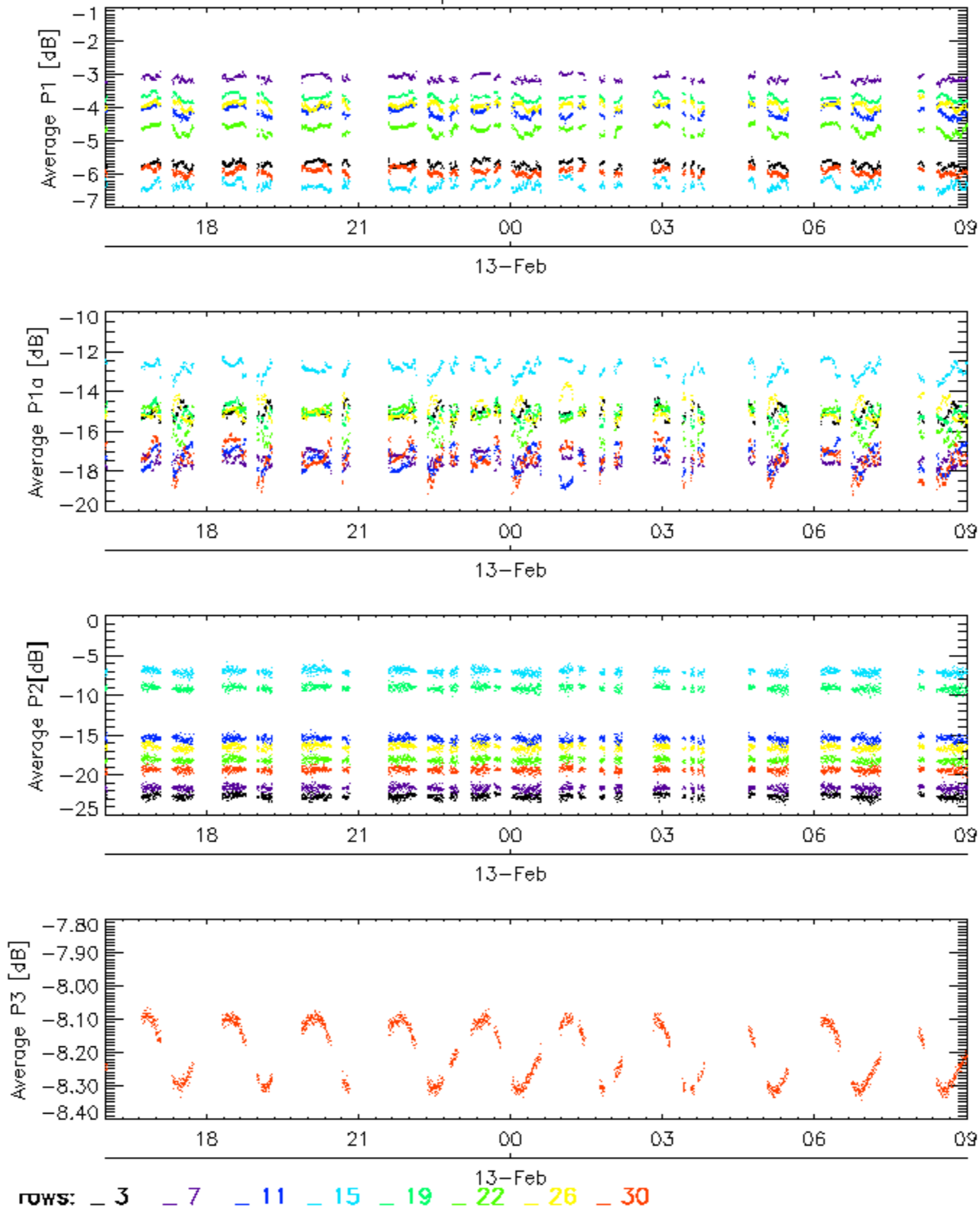
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Cal pulses for WVS IS2



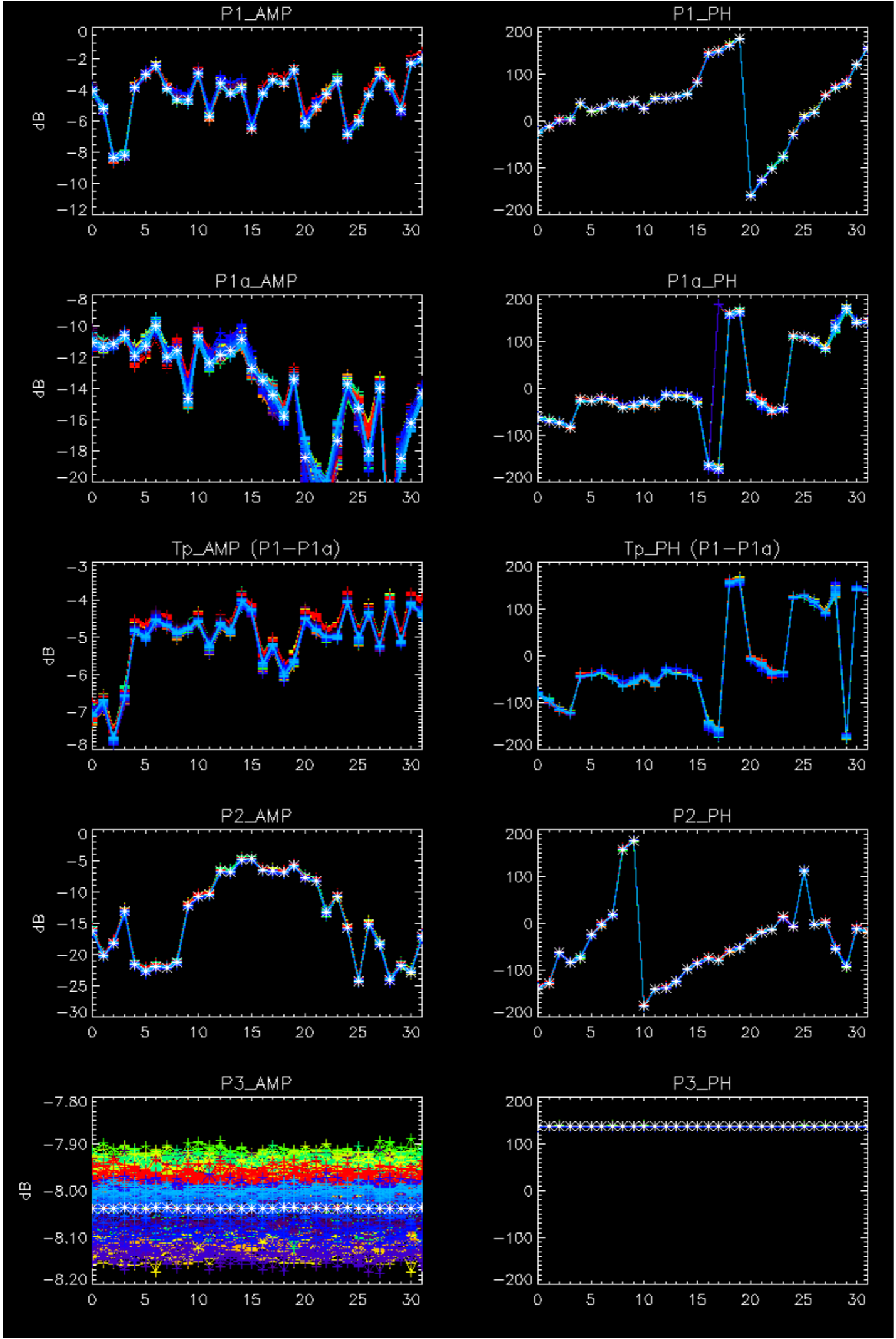
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

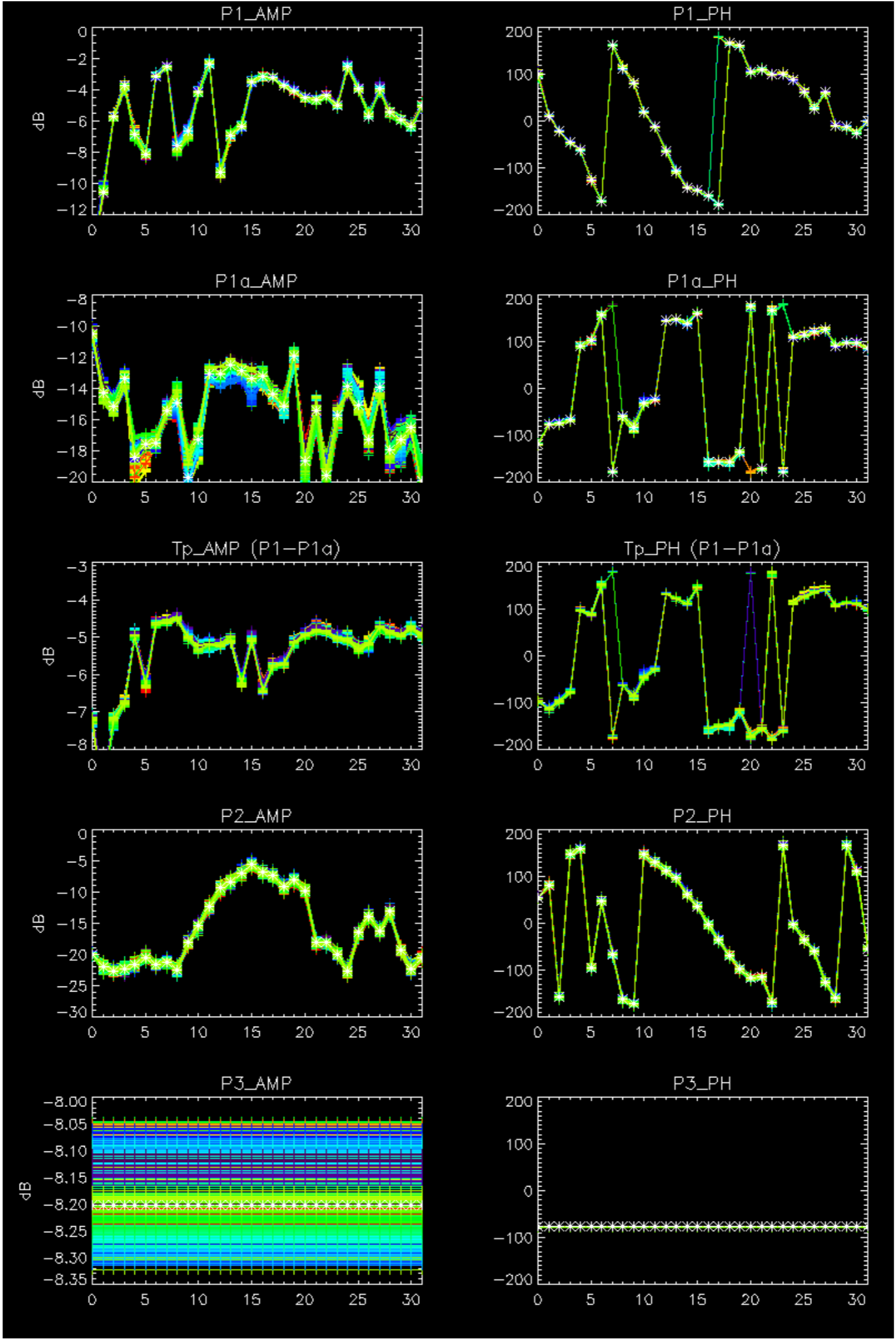
Cal pulses for WVS IS2



No anomalies observed on available browse products

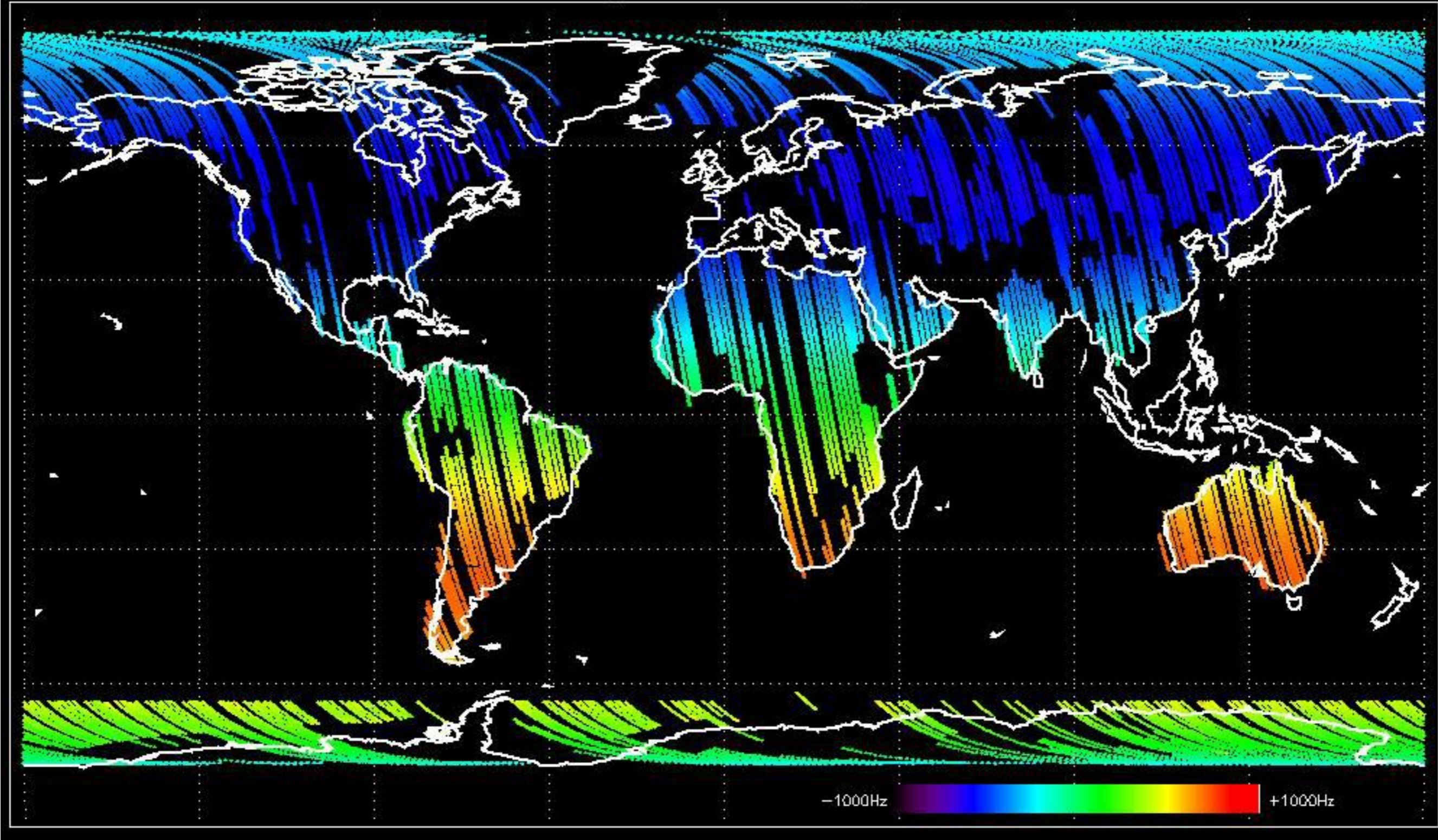
No anomalies observed.



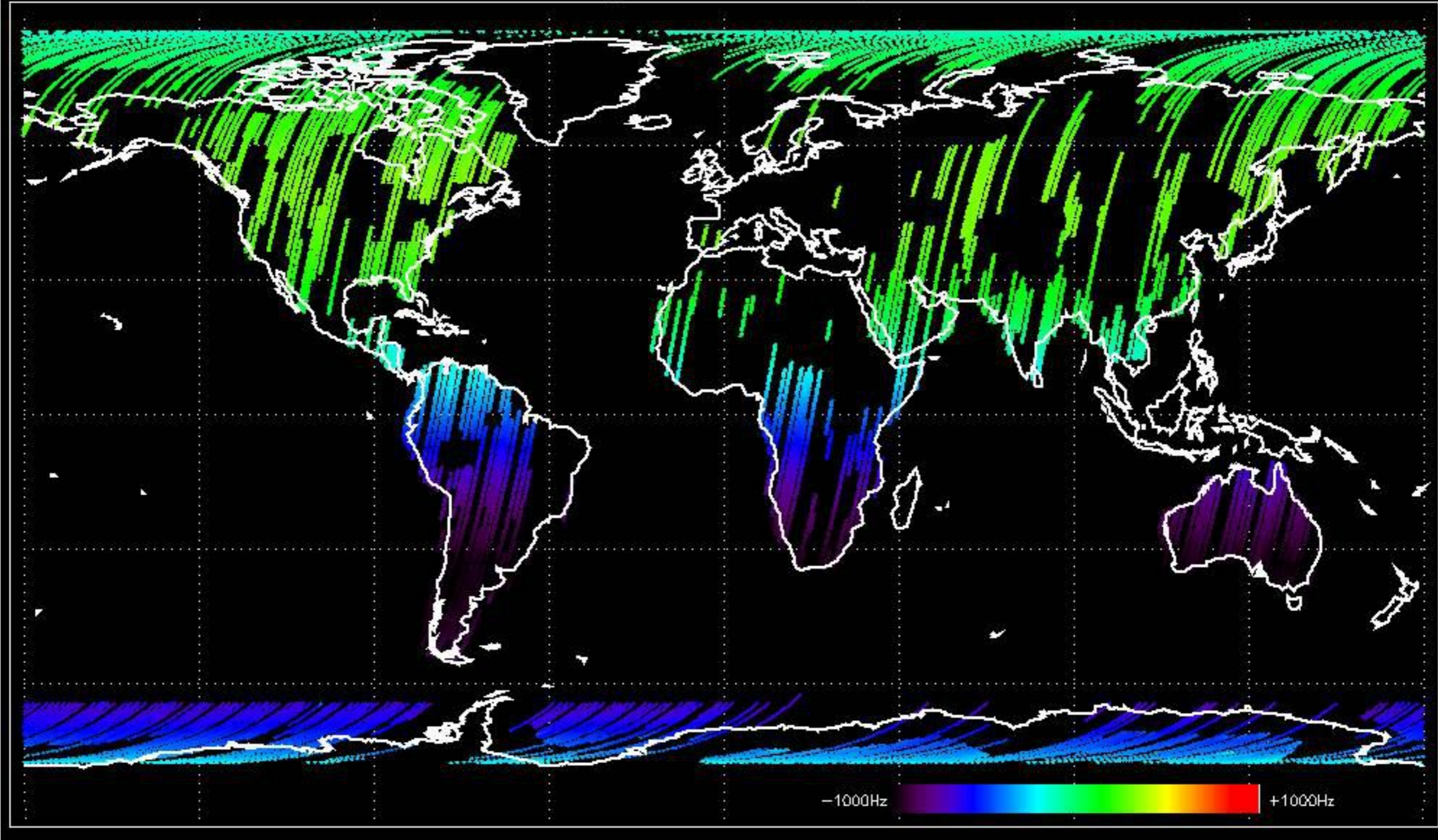


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

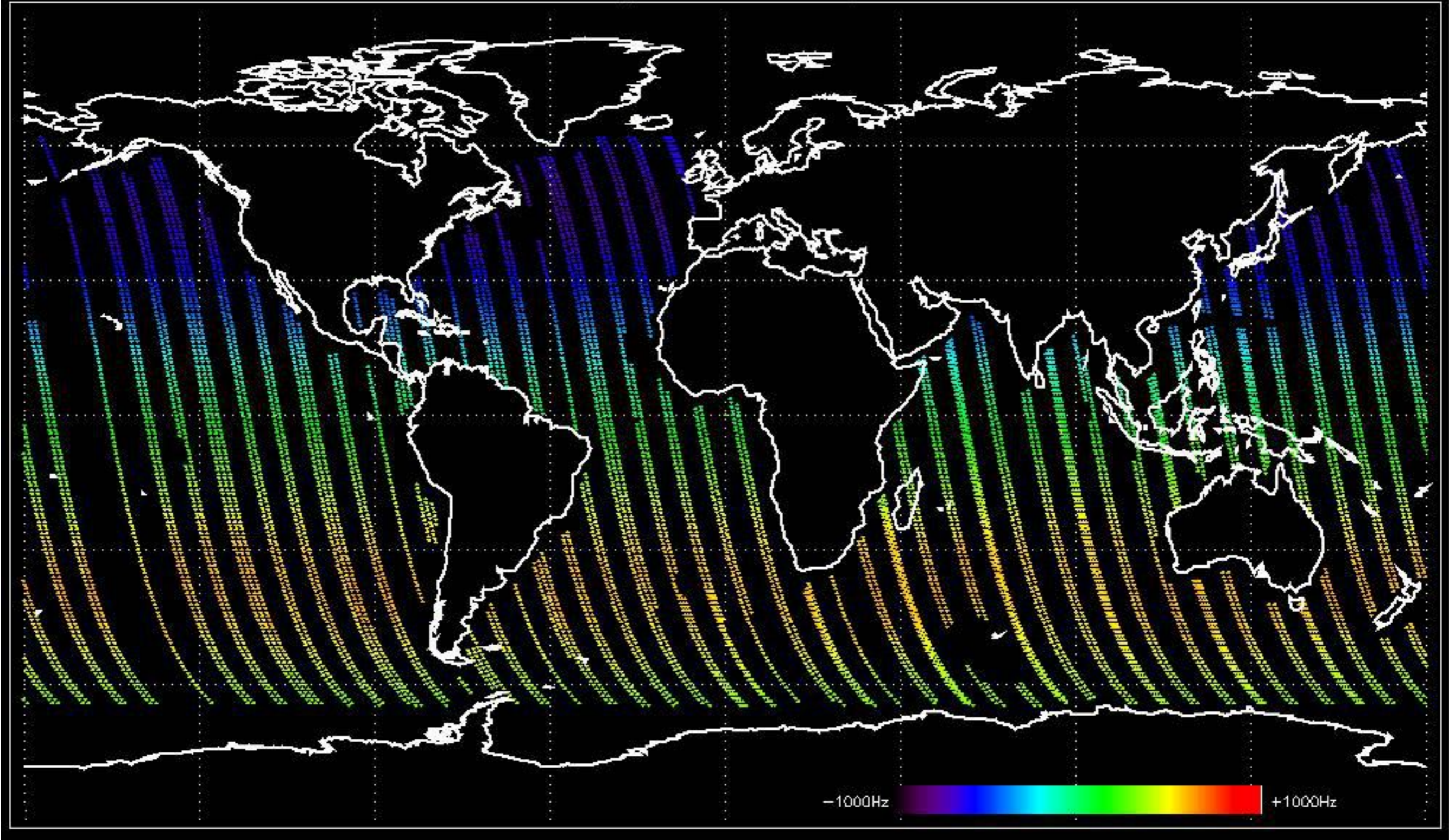
Doppler 'GM1' 'SS1' ascending



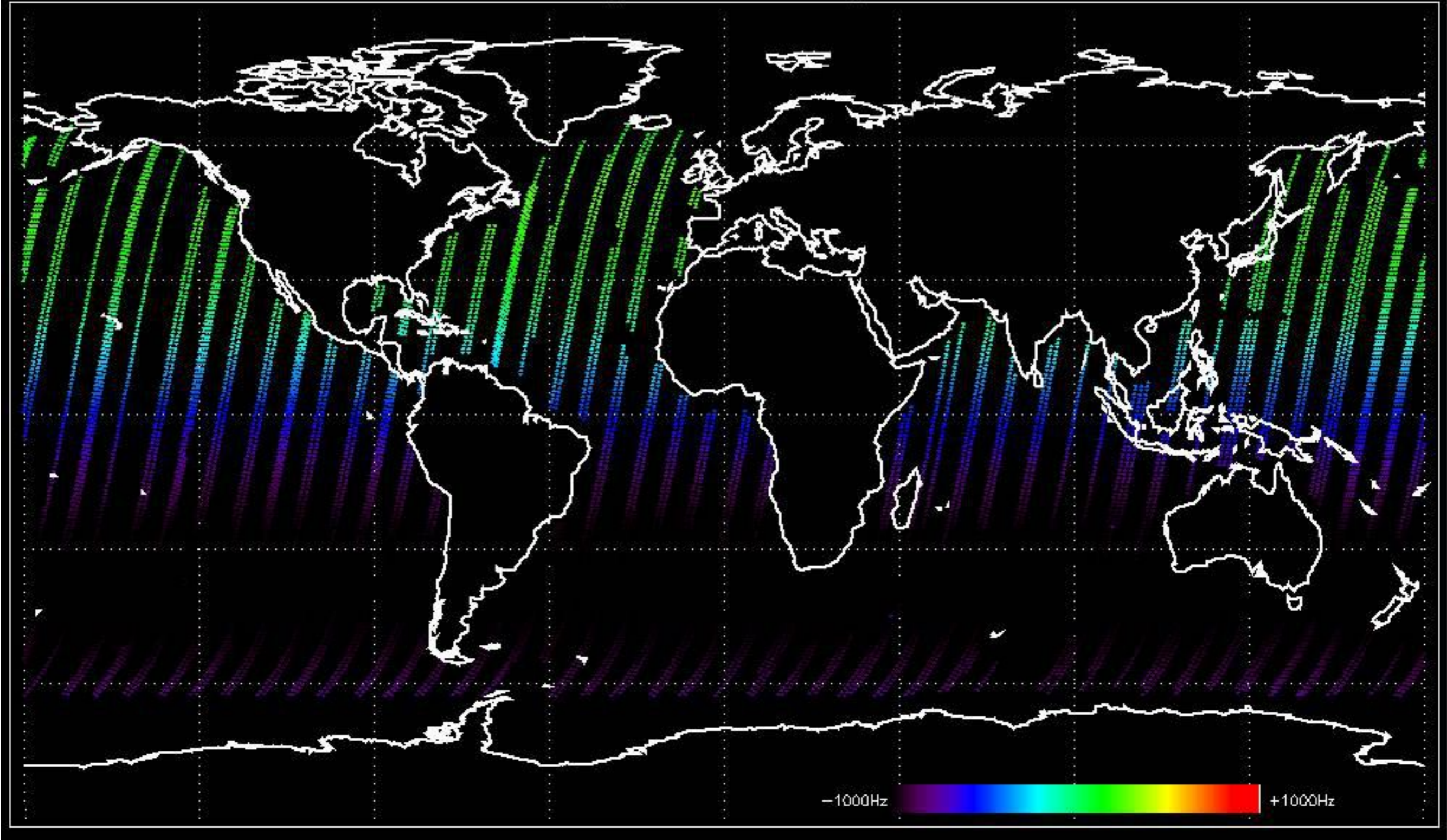
Doppler 'GM1' 'SS1' descending

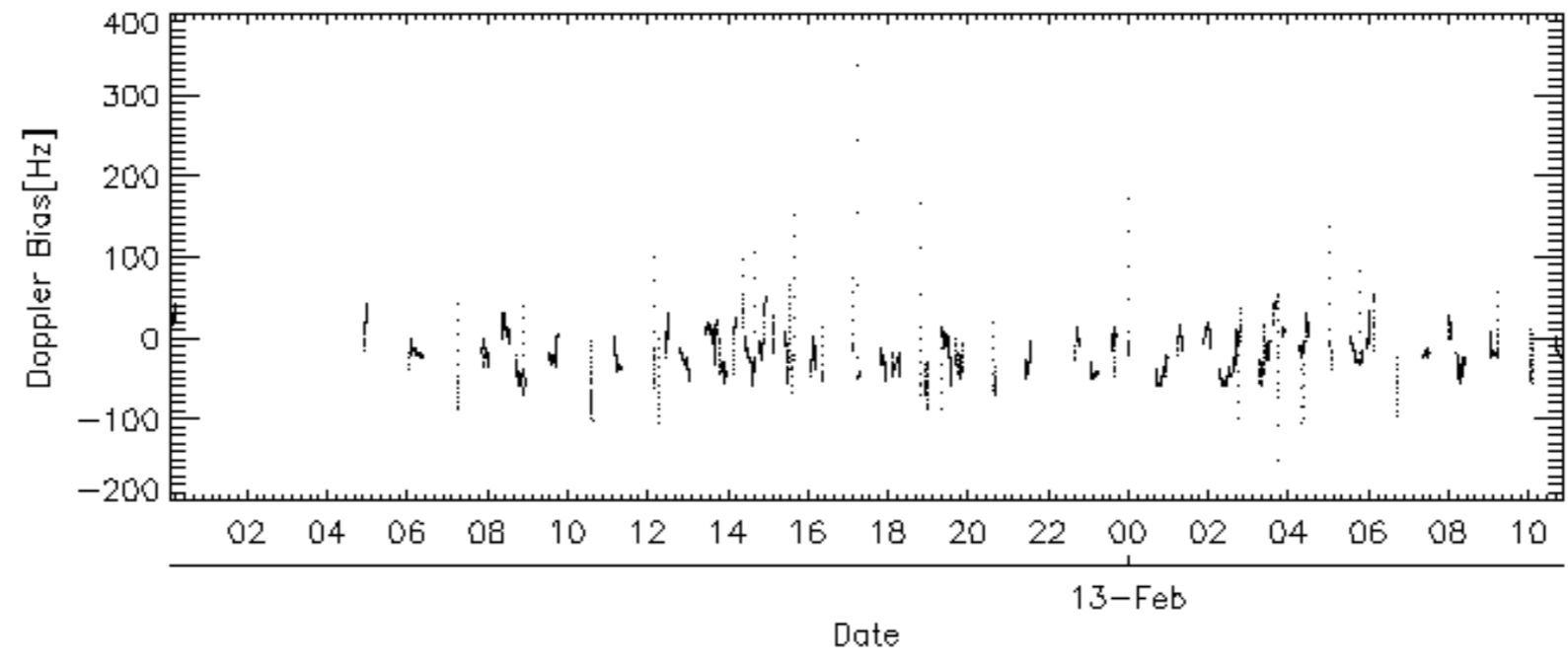
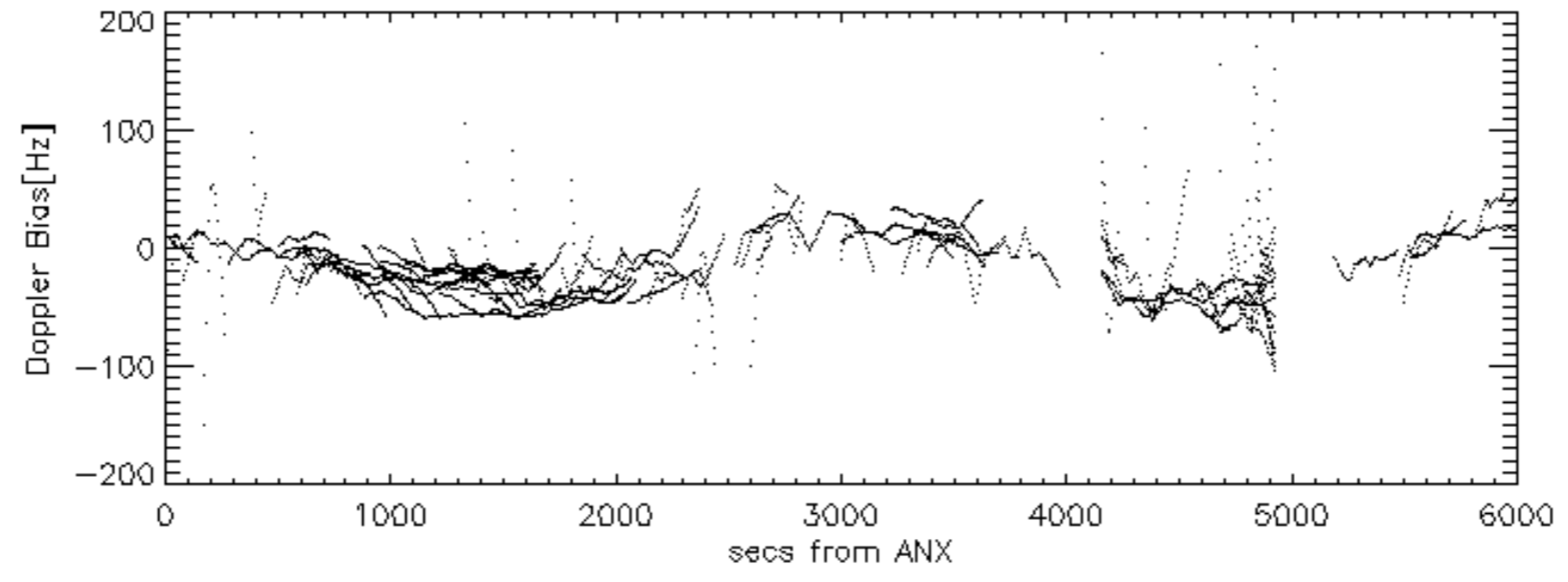
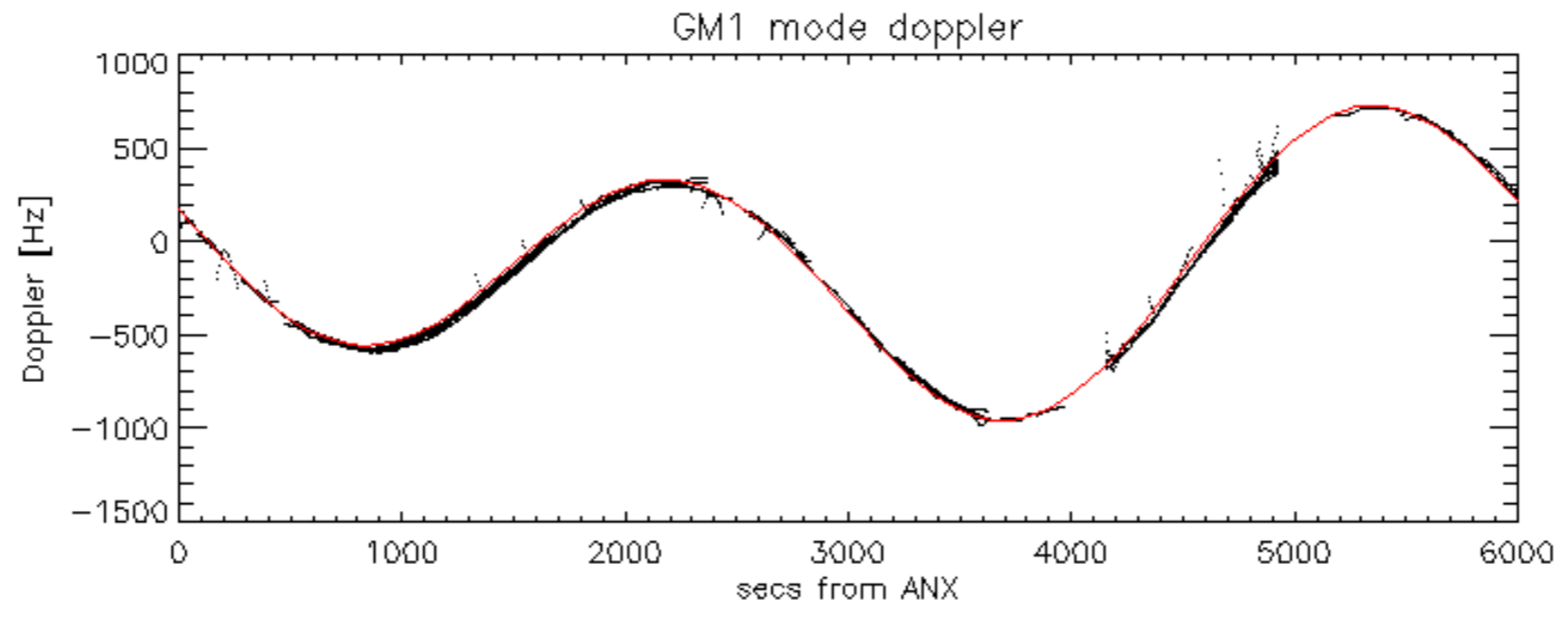


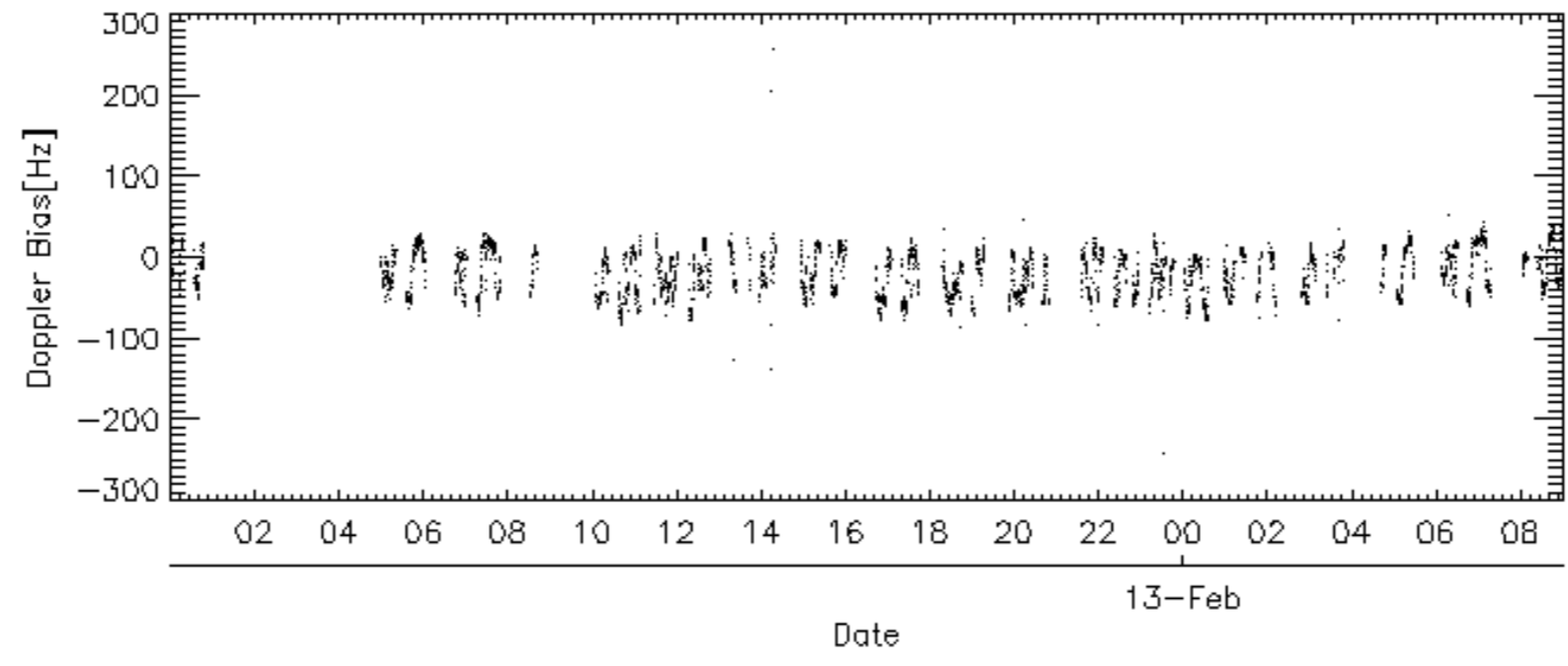
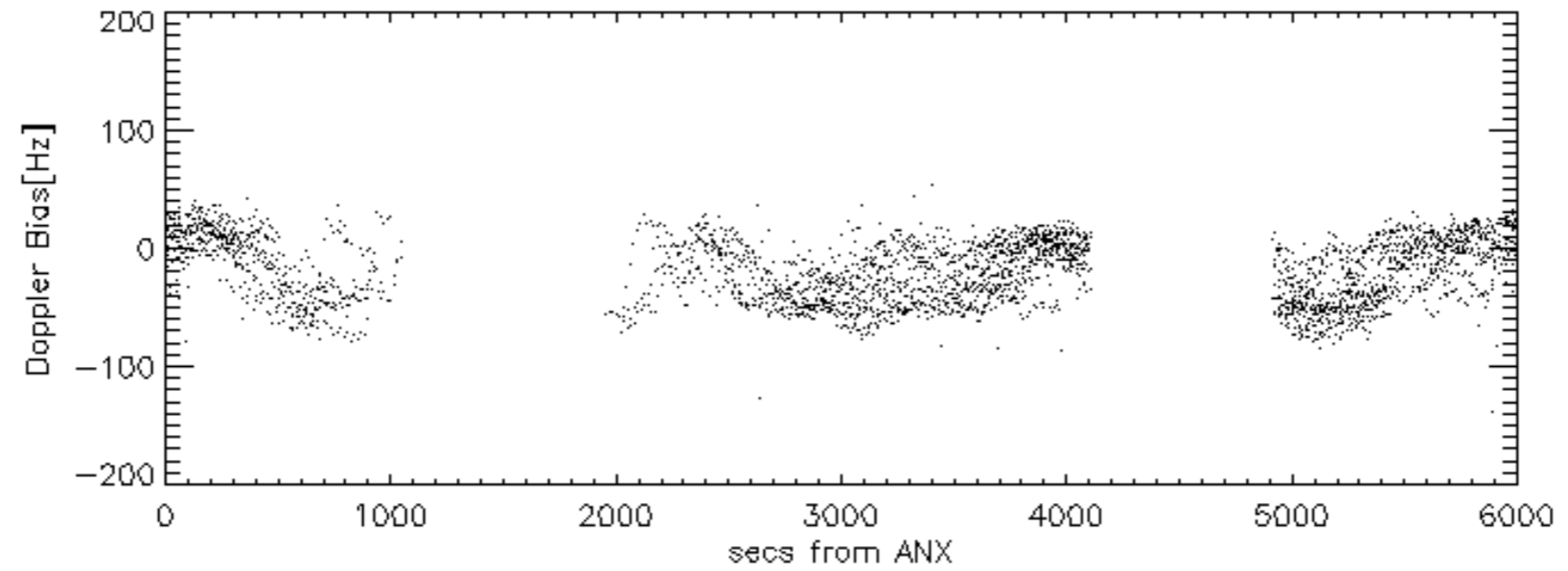
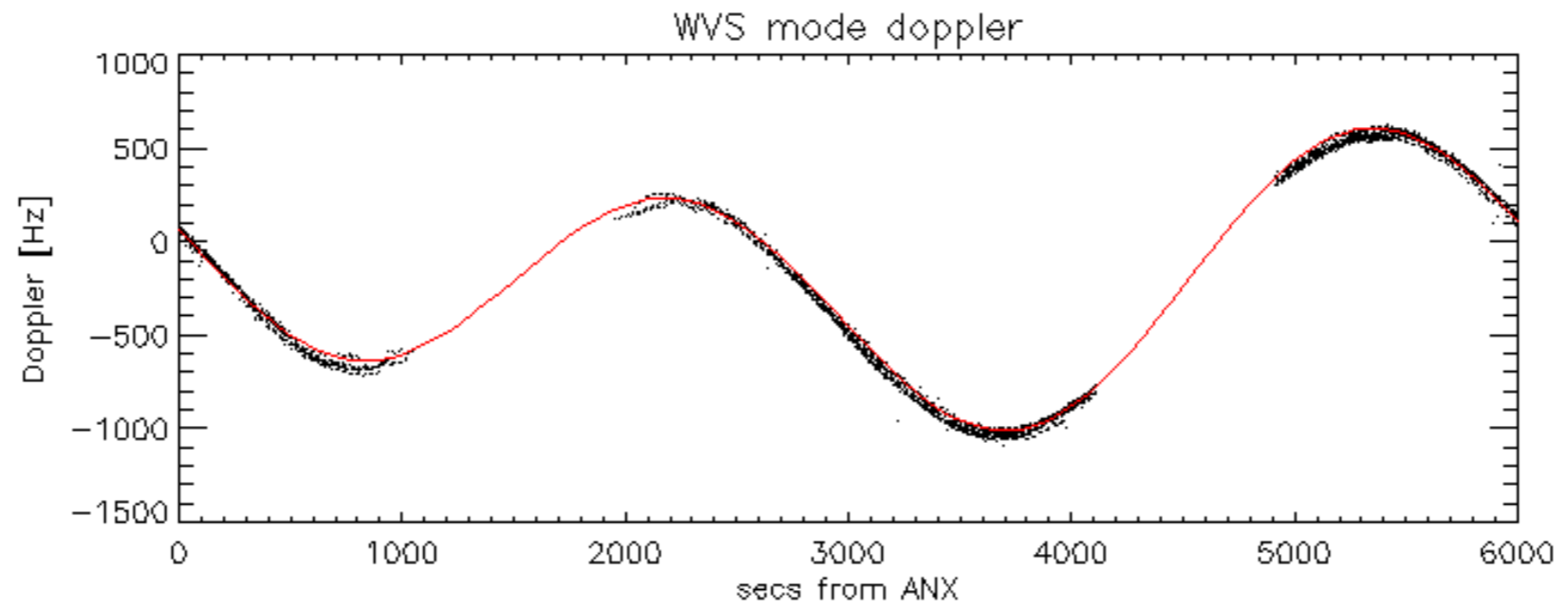
Doppler 'WVS' 'IS2' ascending



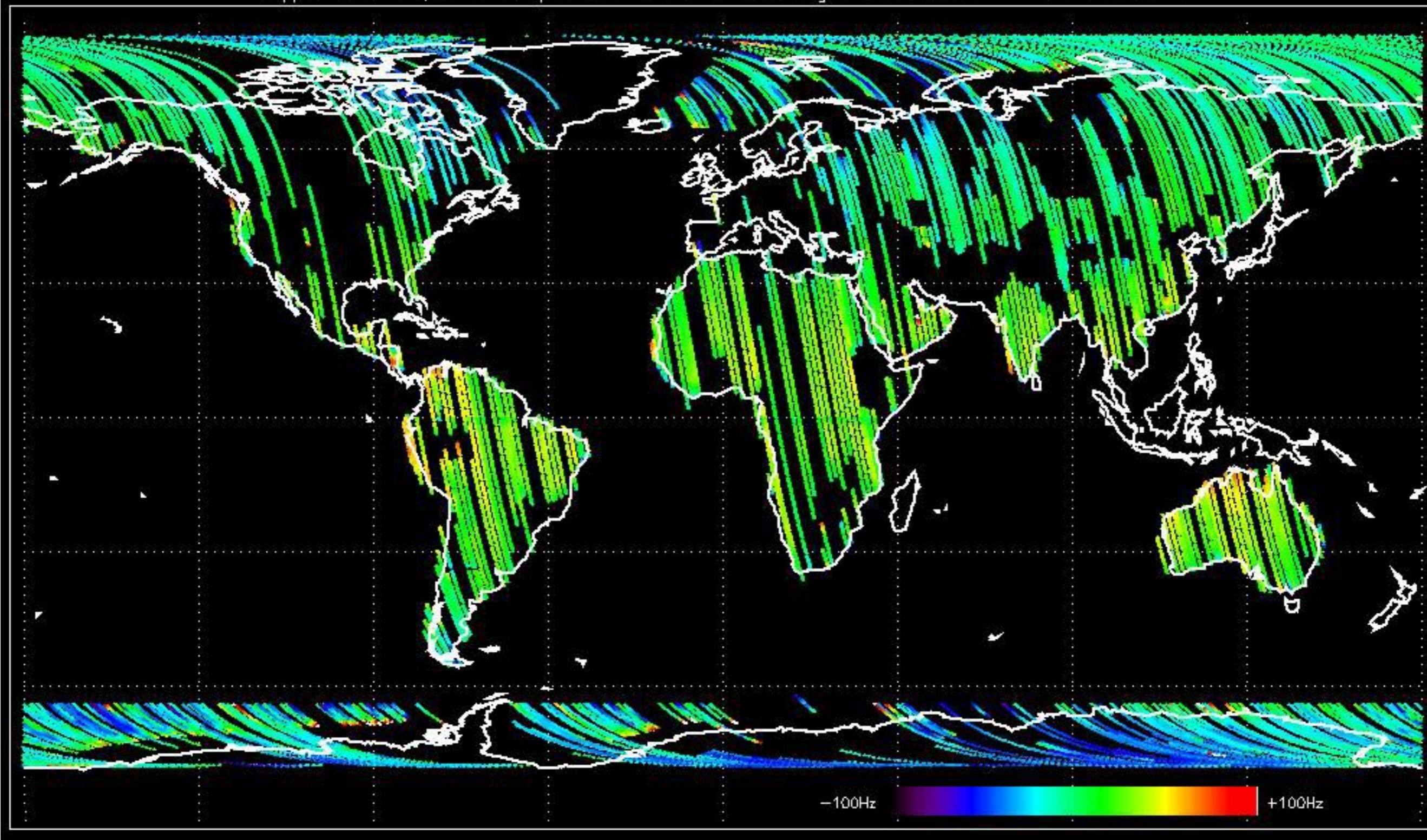
Doppler 'WVS' 'IS2' descending



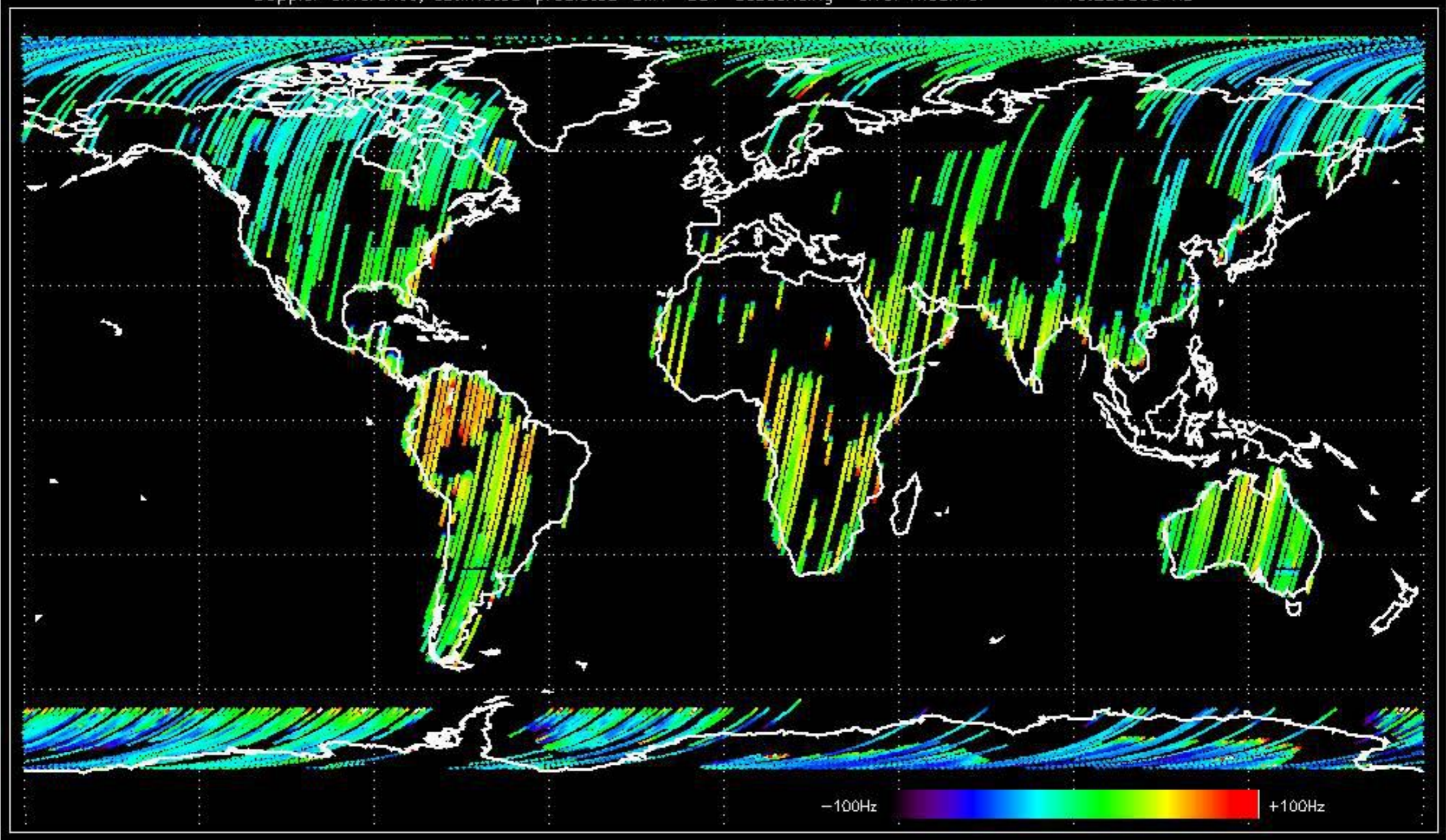




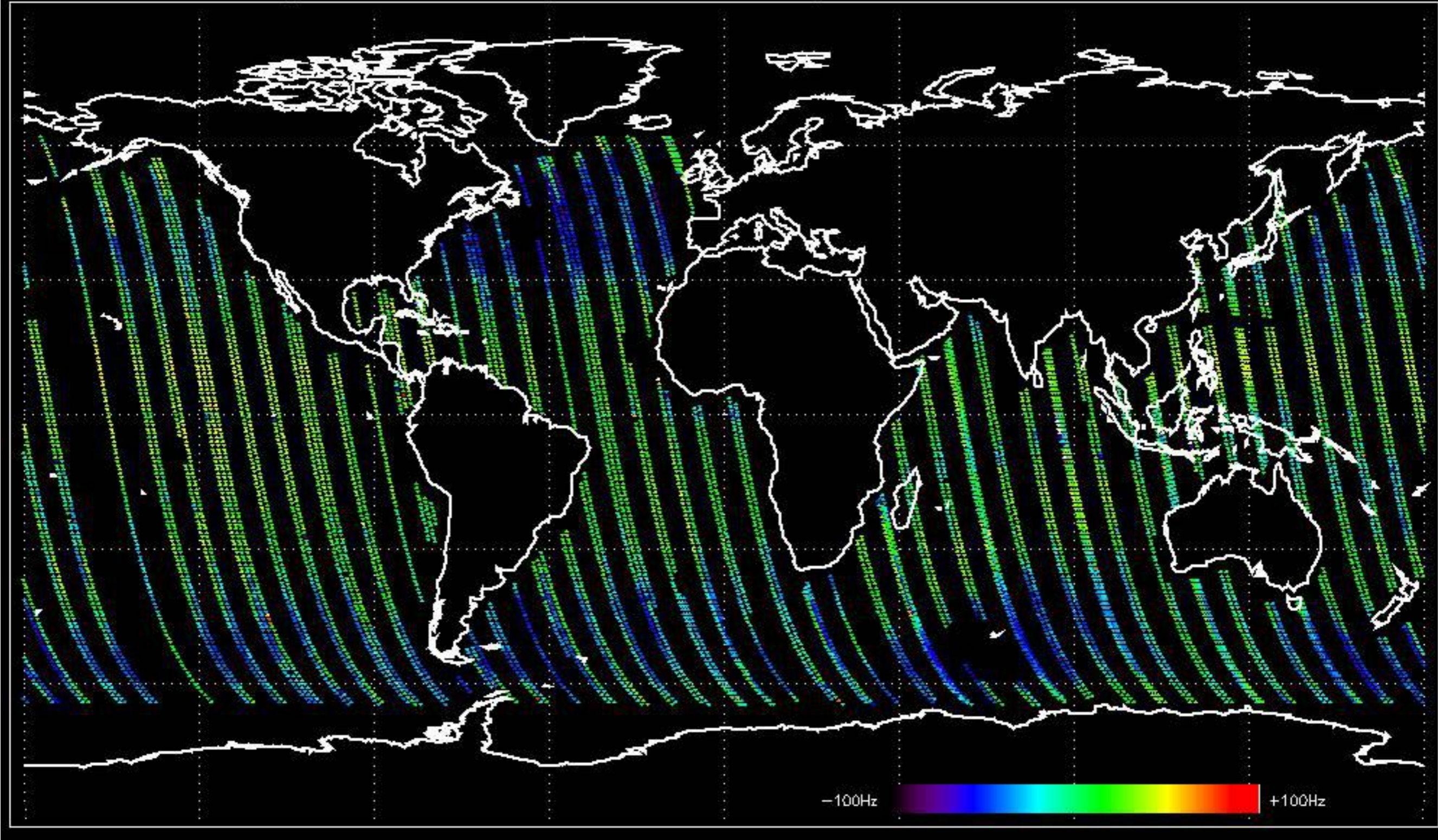
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -17.489044 Hz



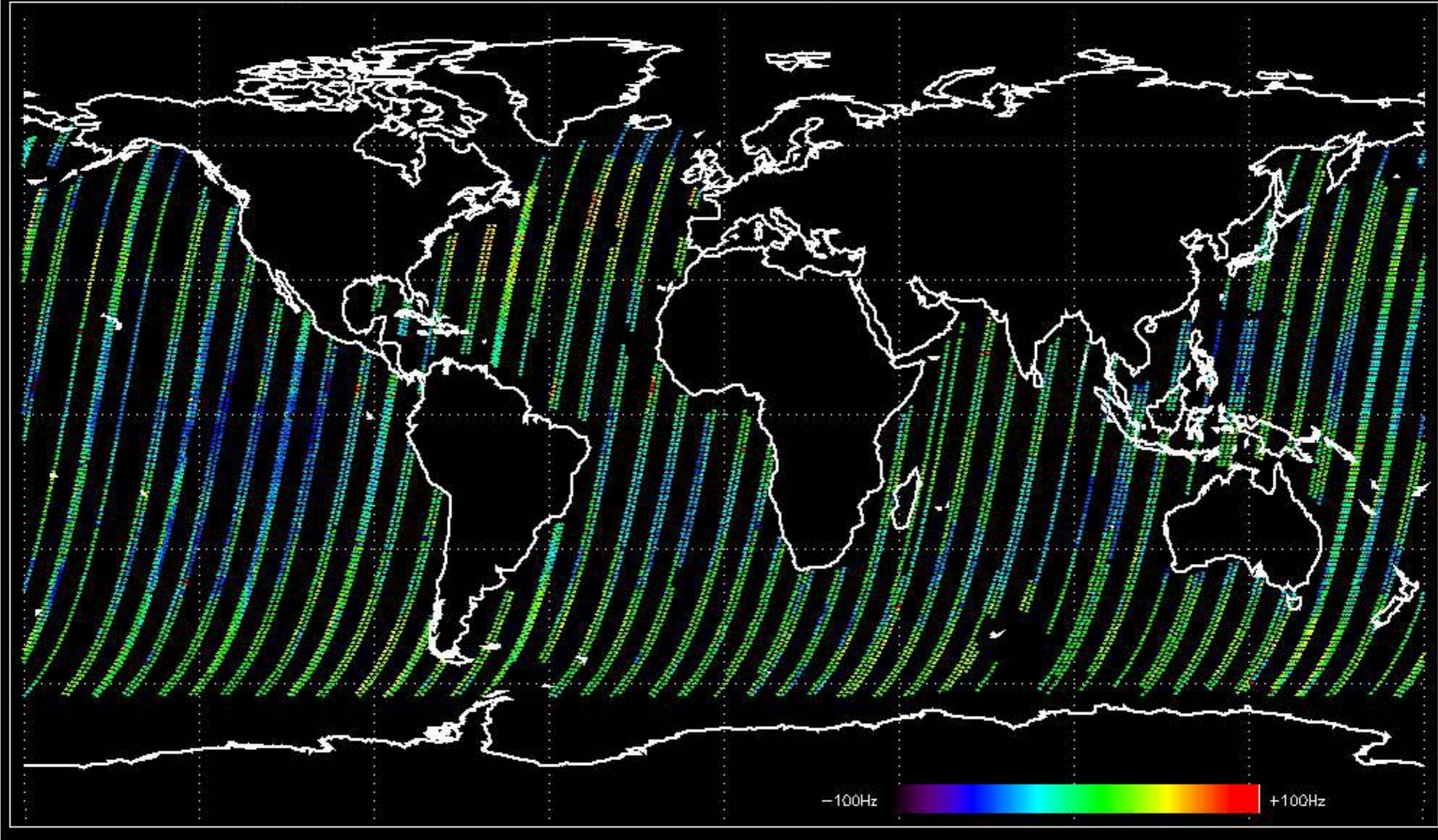
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -18.239895 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -15.831300 Hz

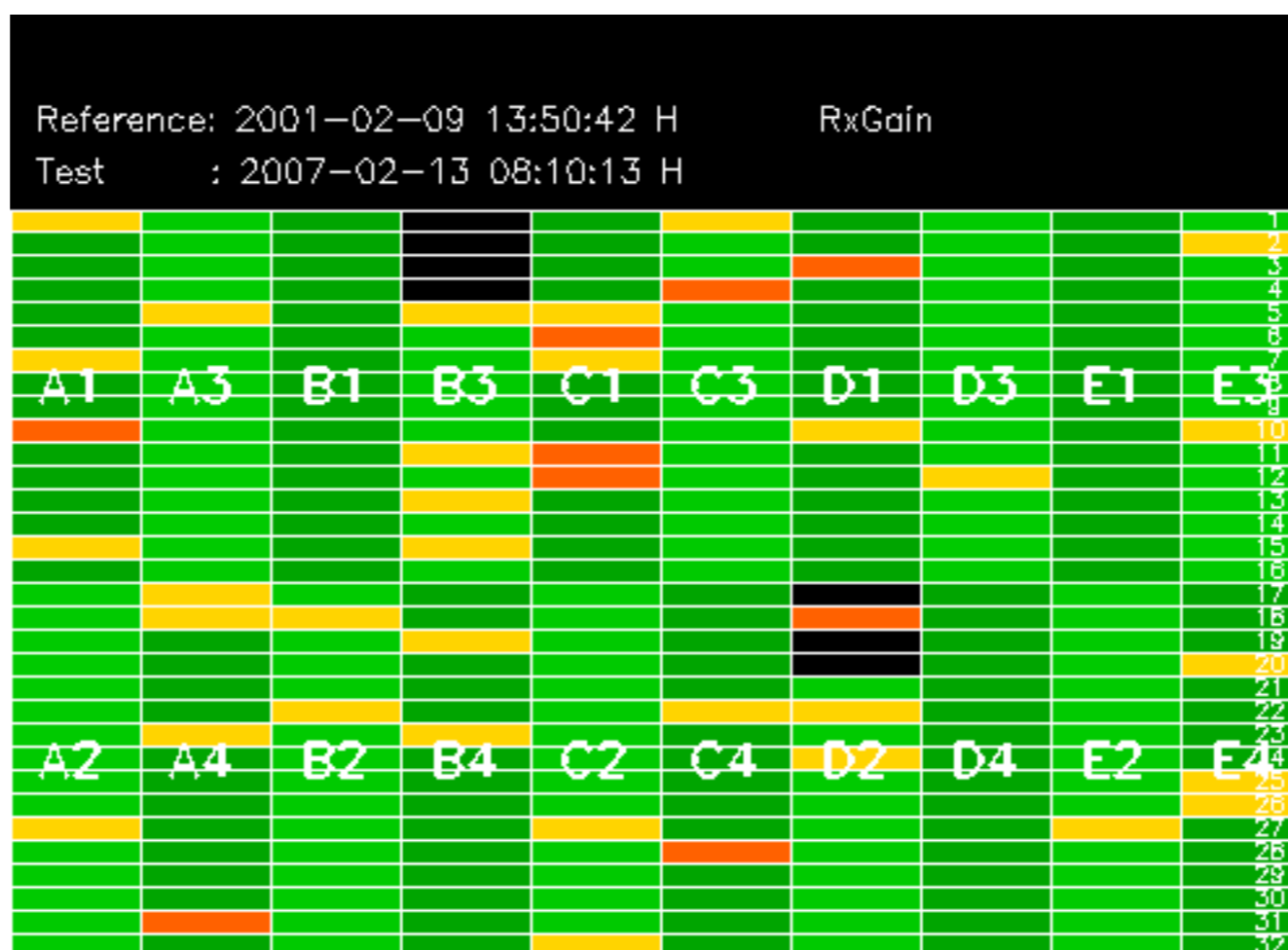


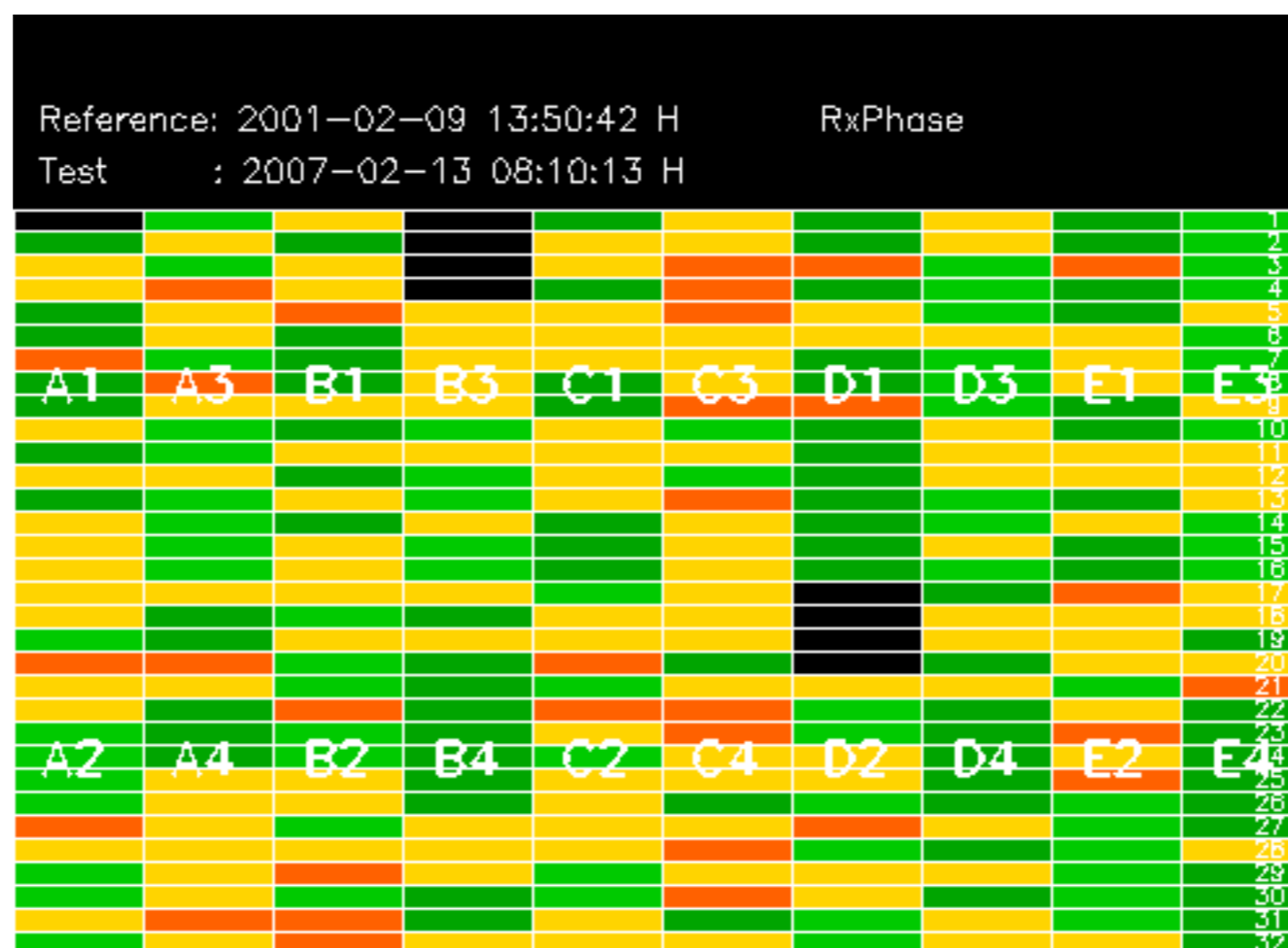
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -17.884118 Hz

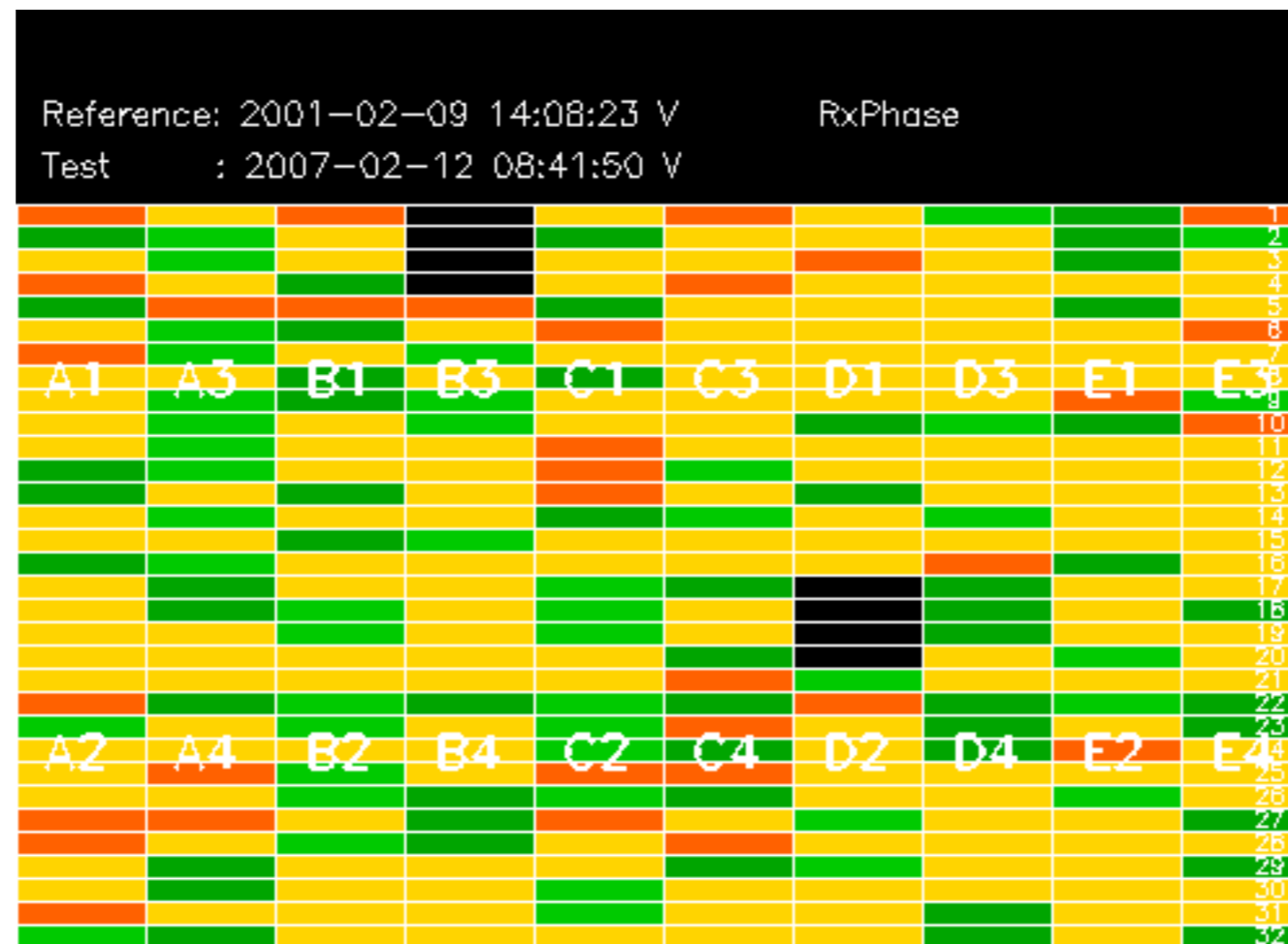


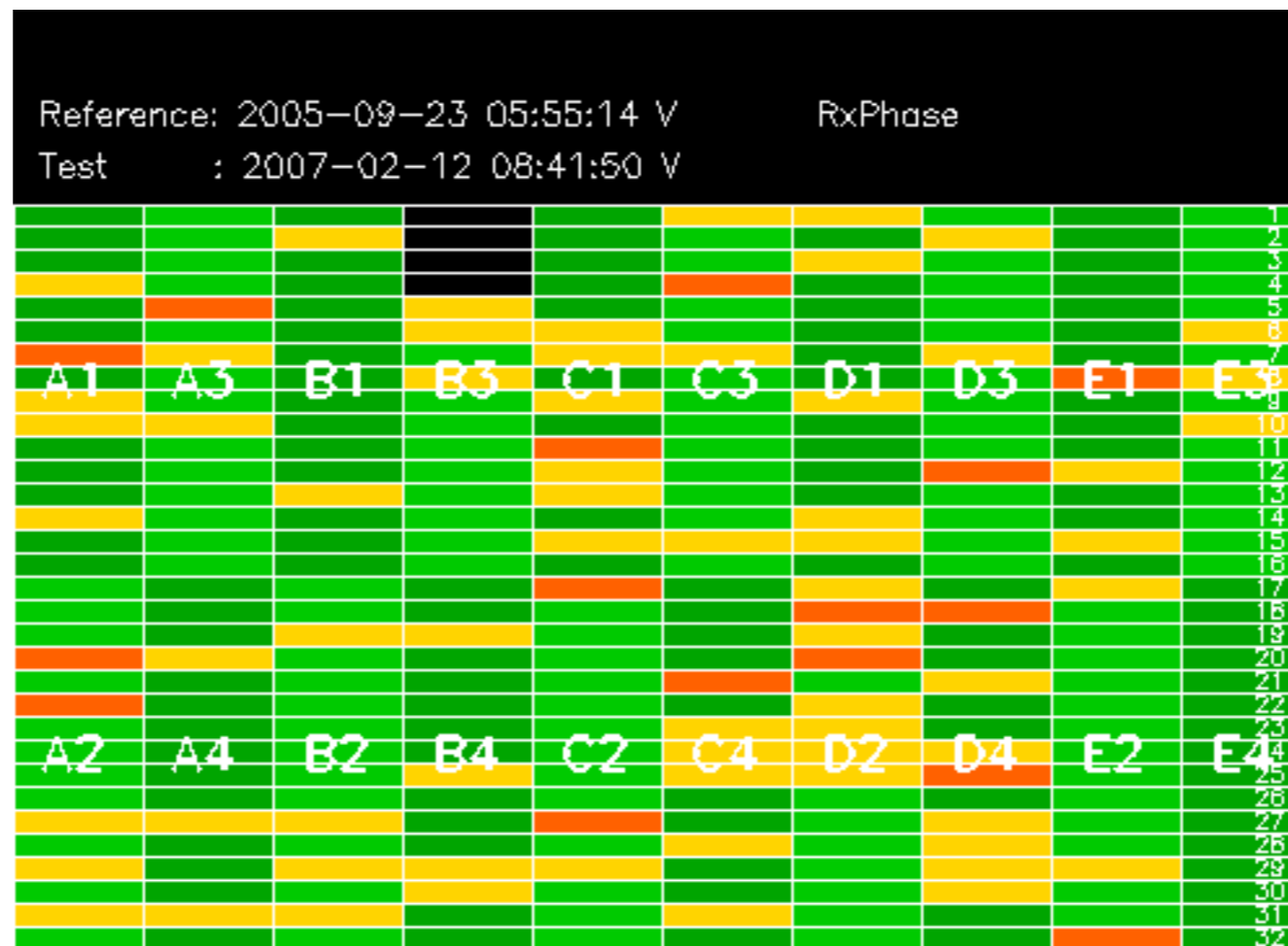
No anomalies observed on available MS products:

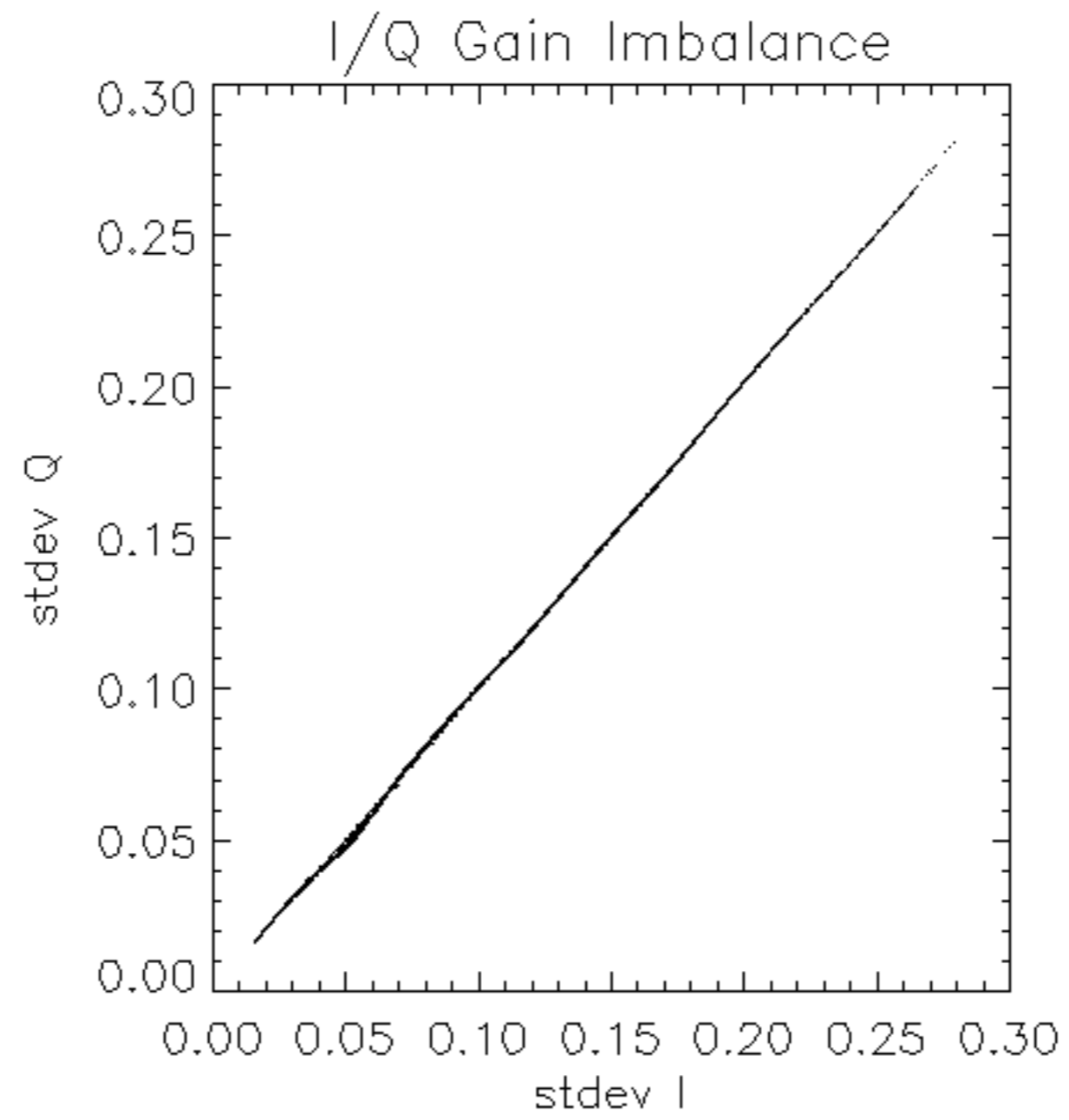
No anomalies observed.

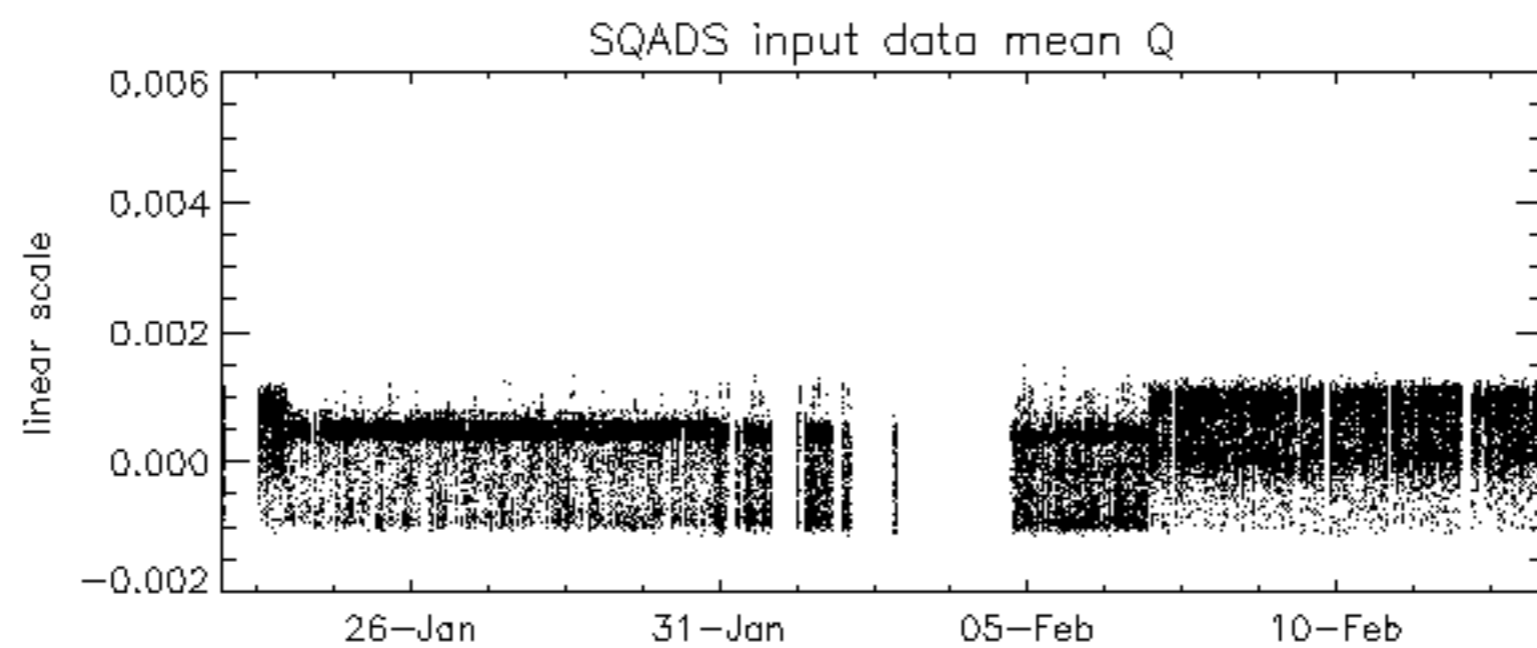
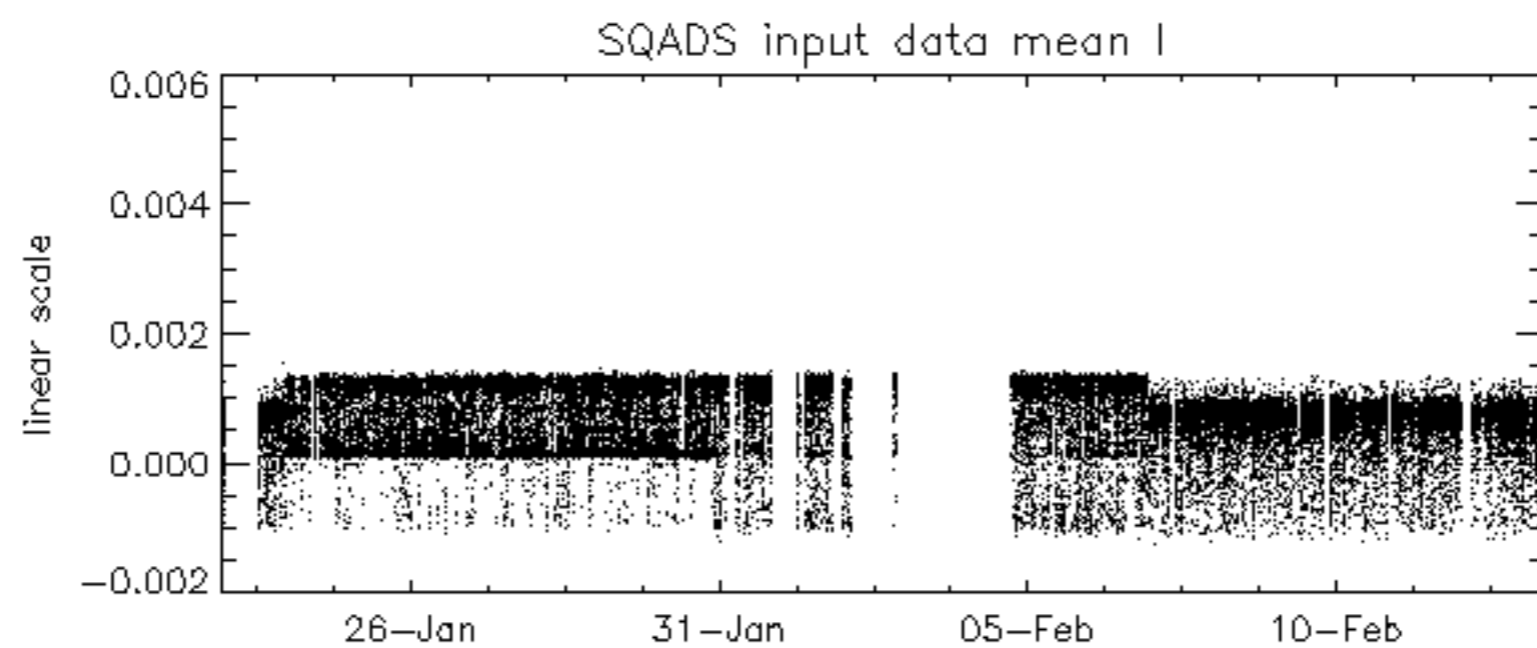
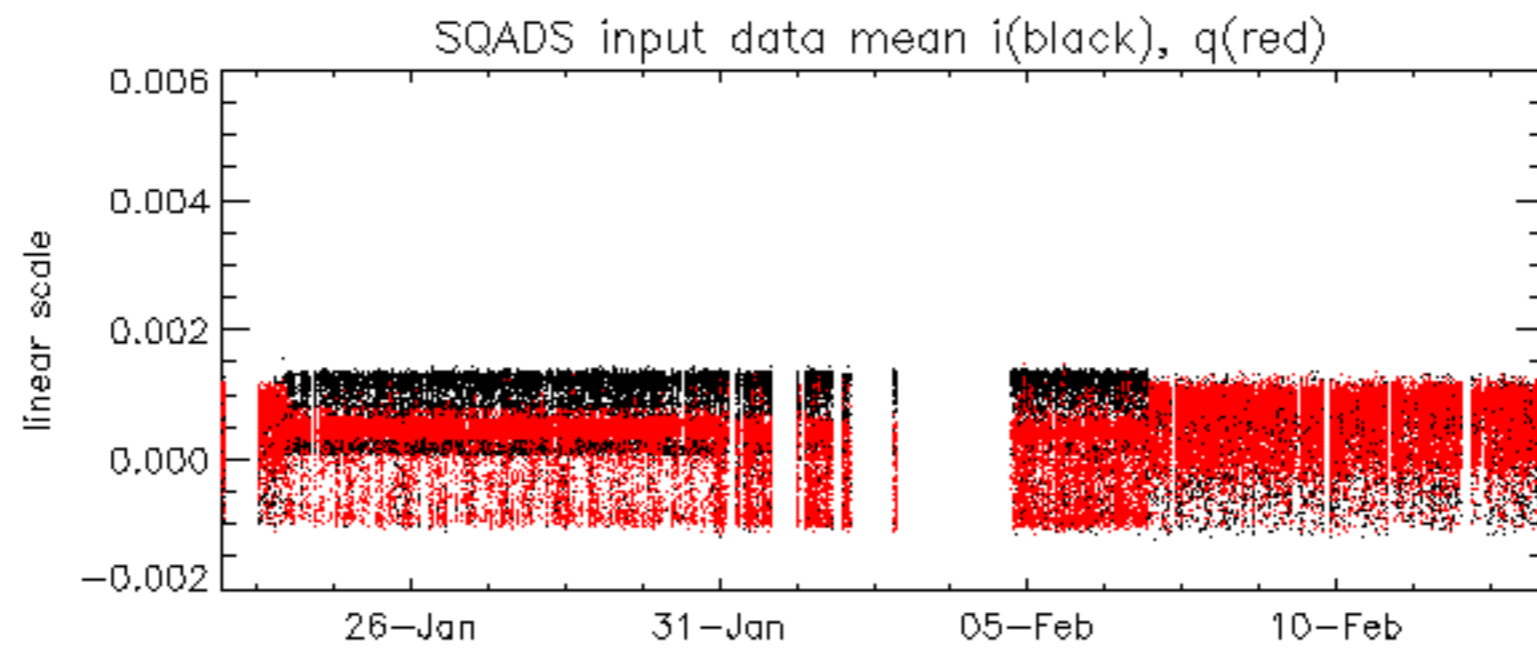


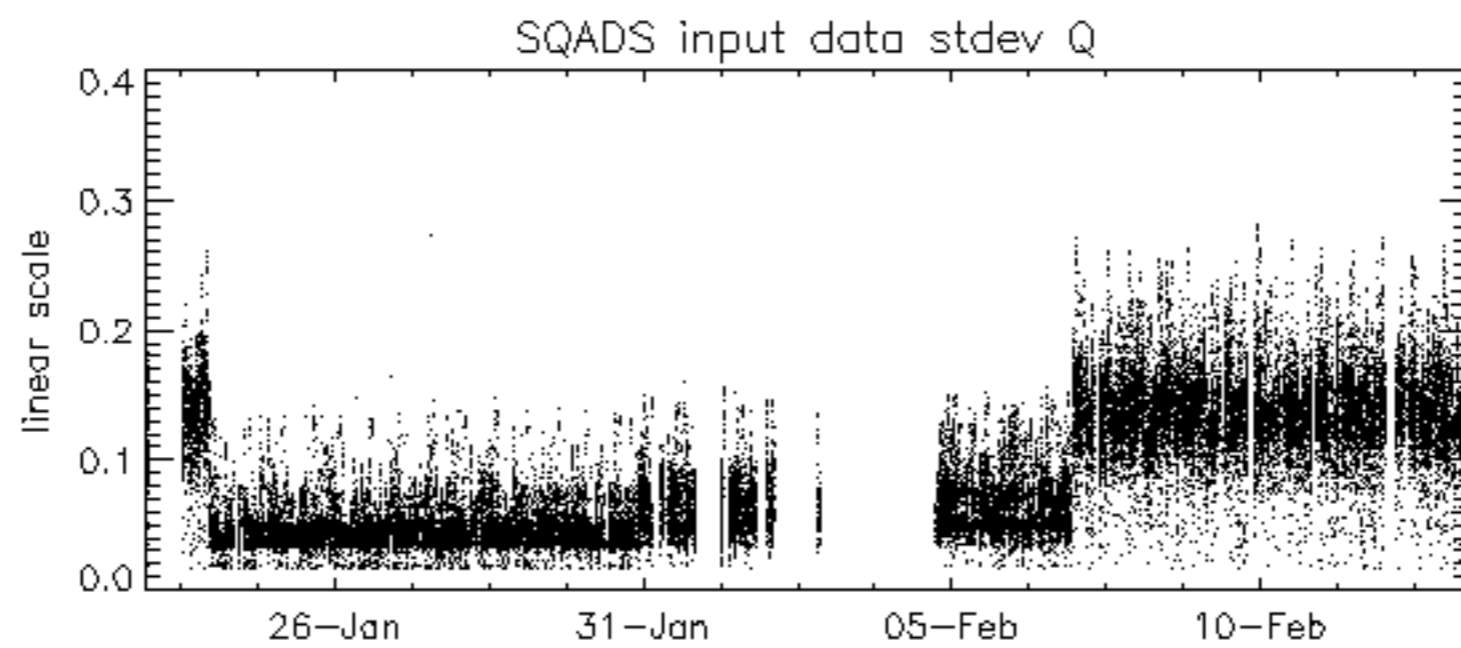
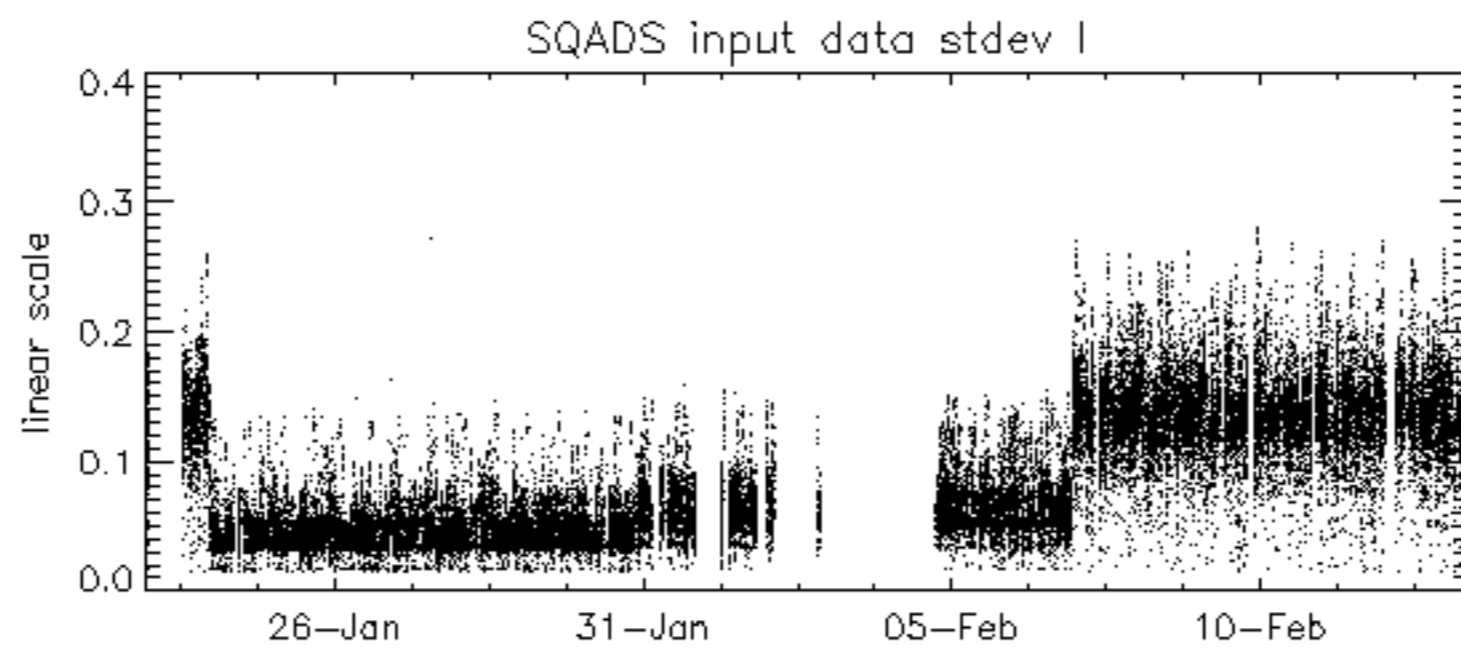
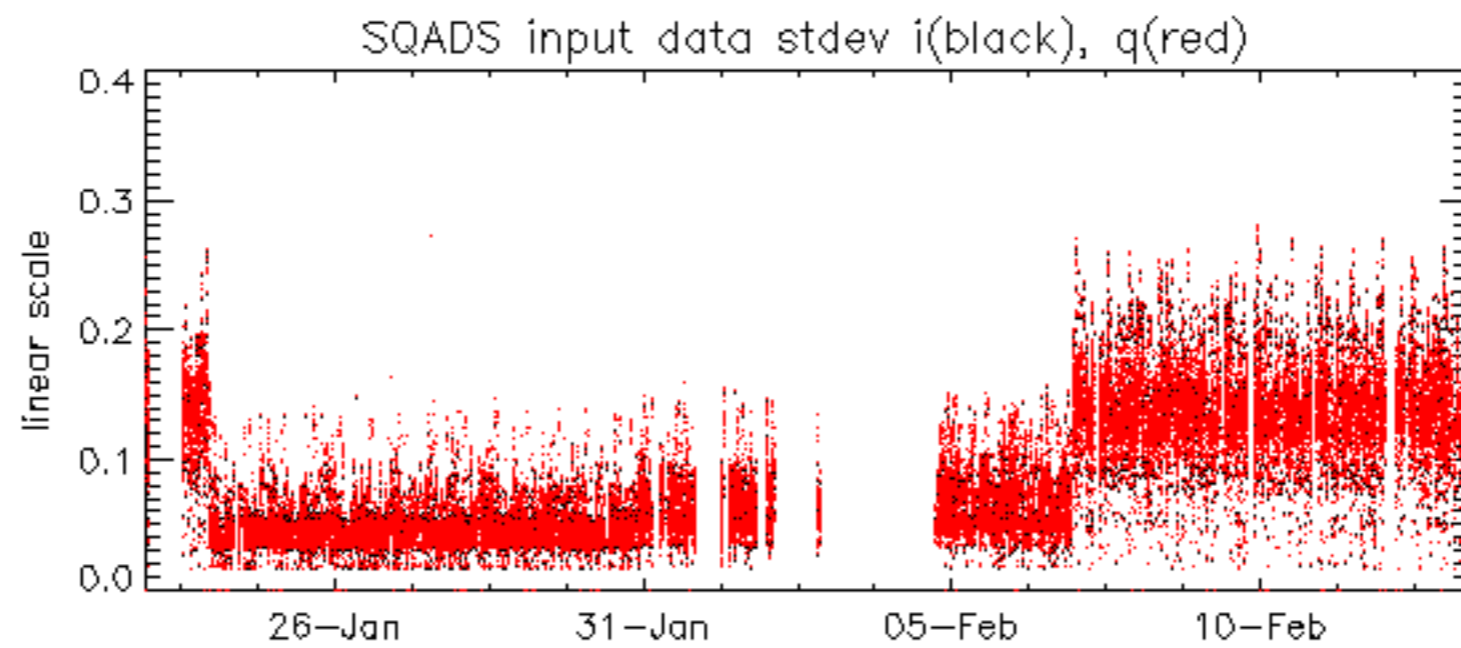


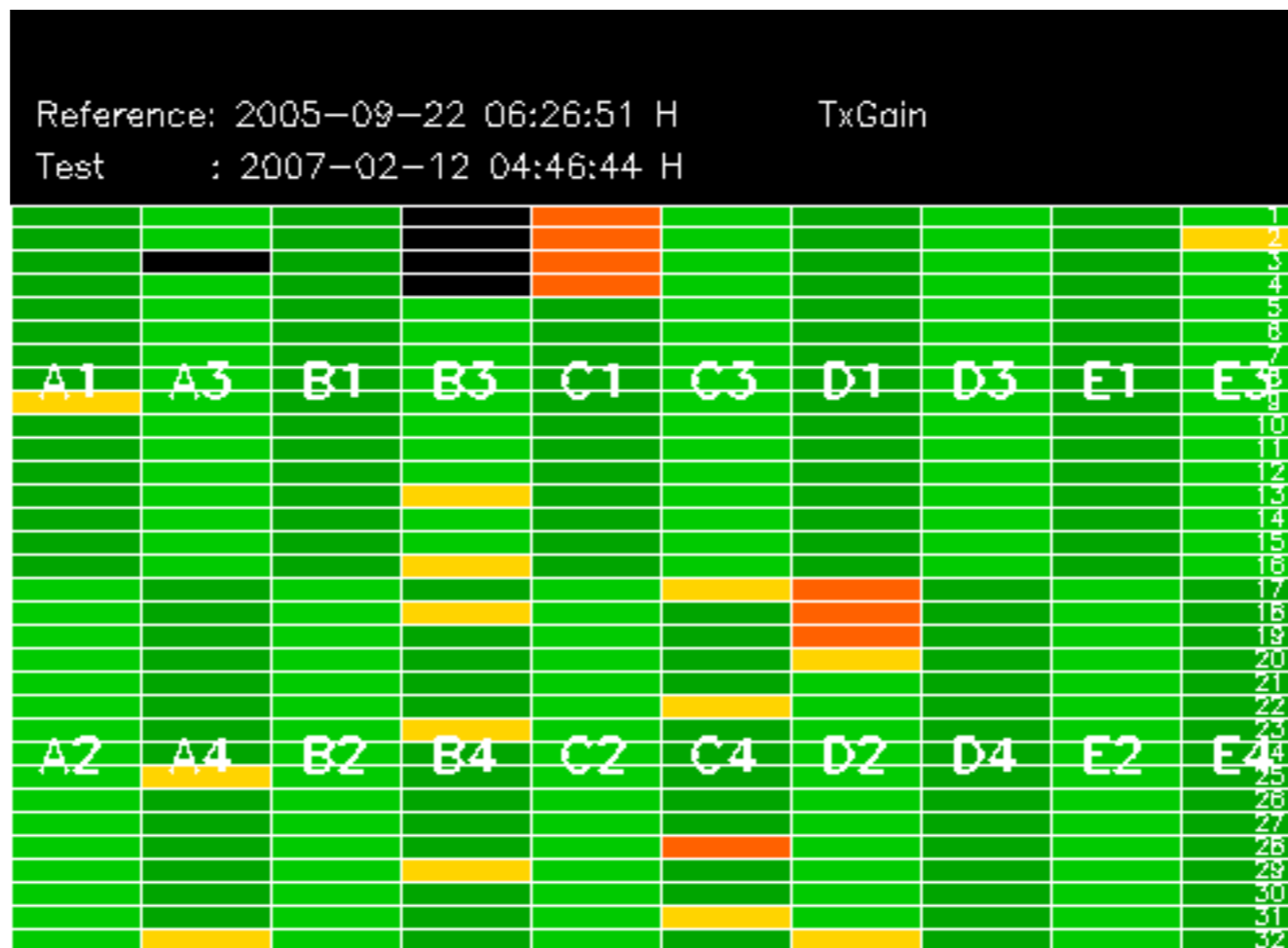








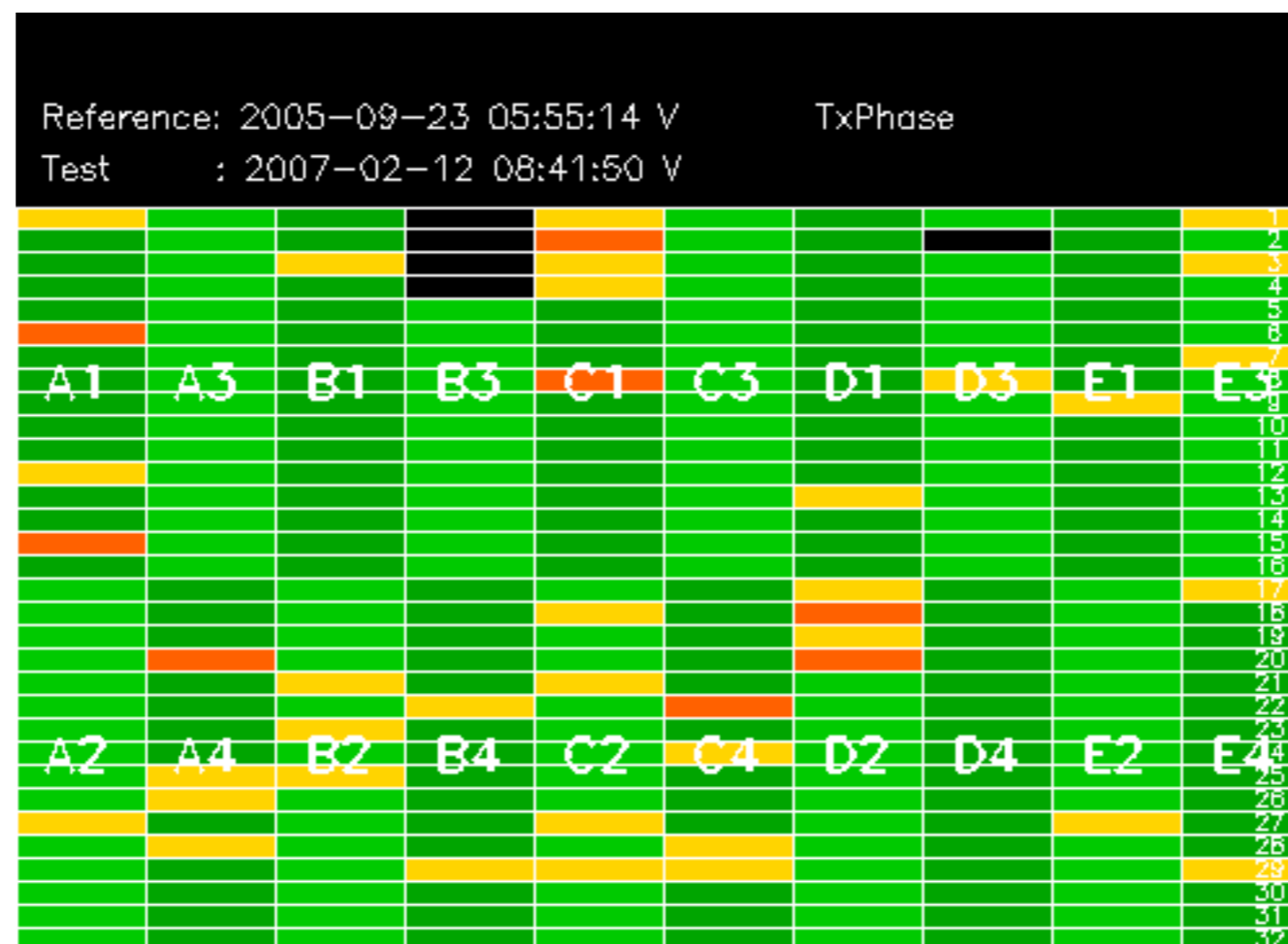




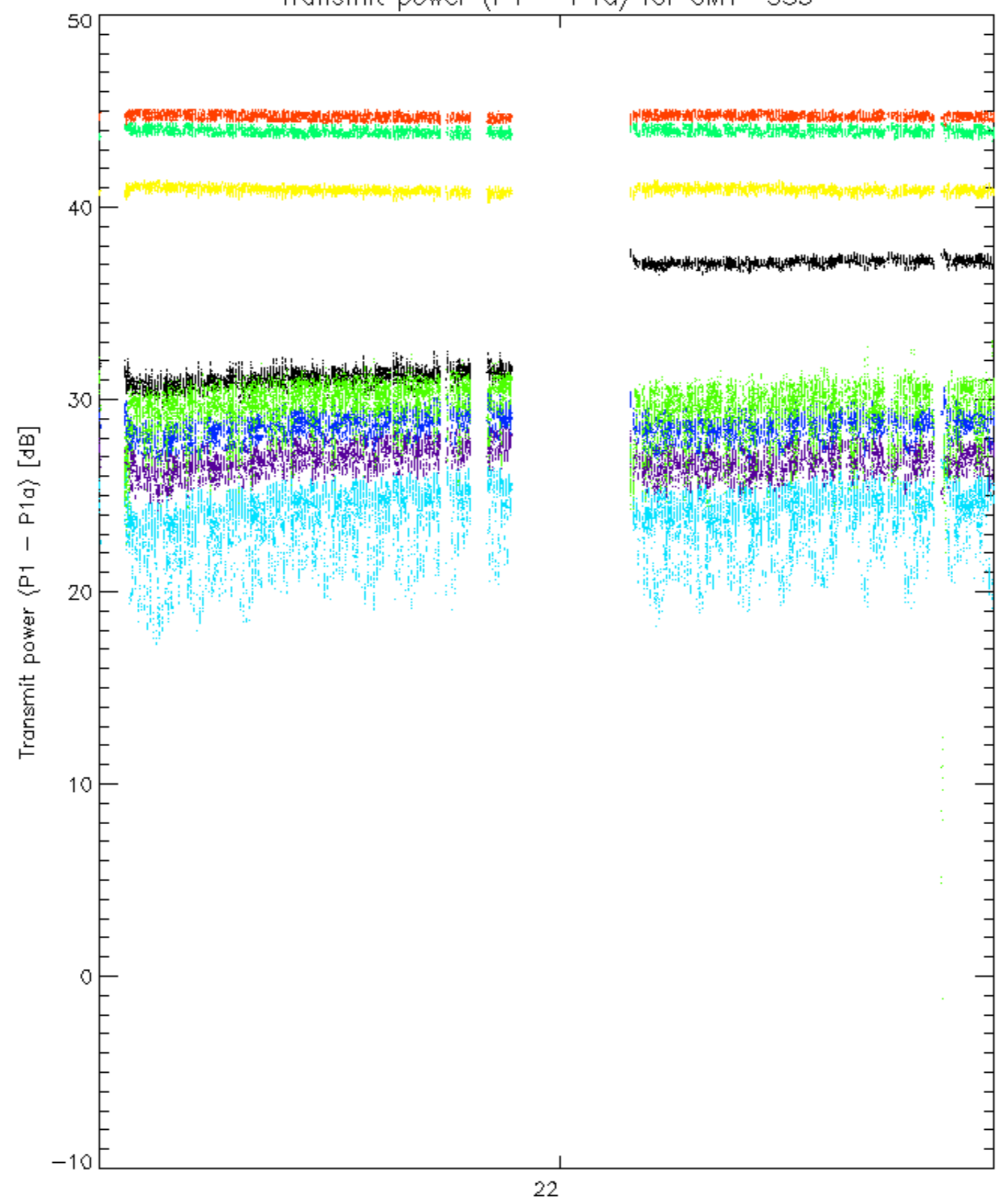
Summary of analysis for the last 3 days 2007021[123]

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

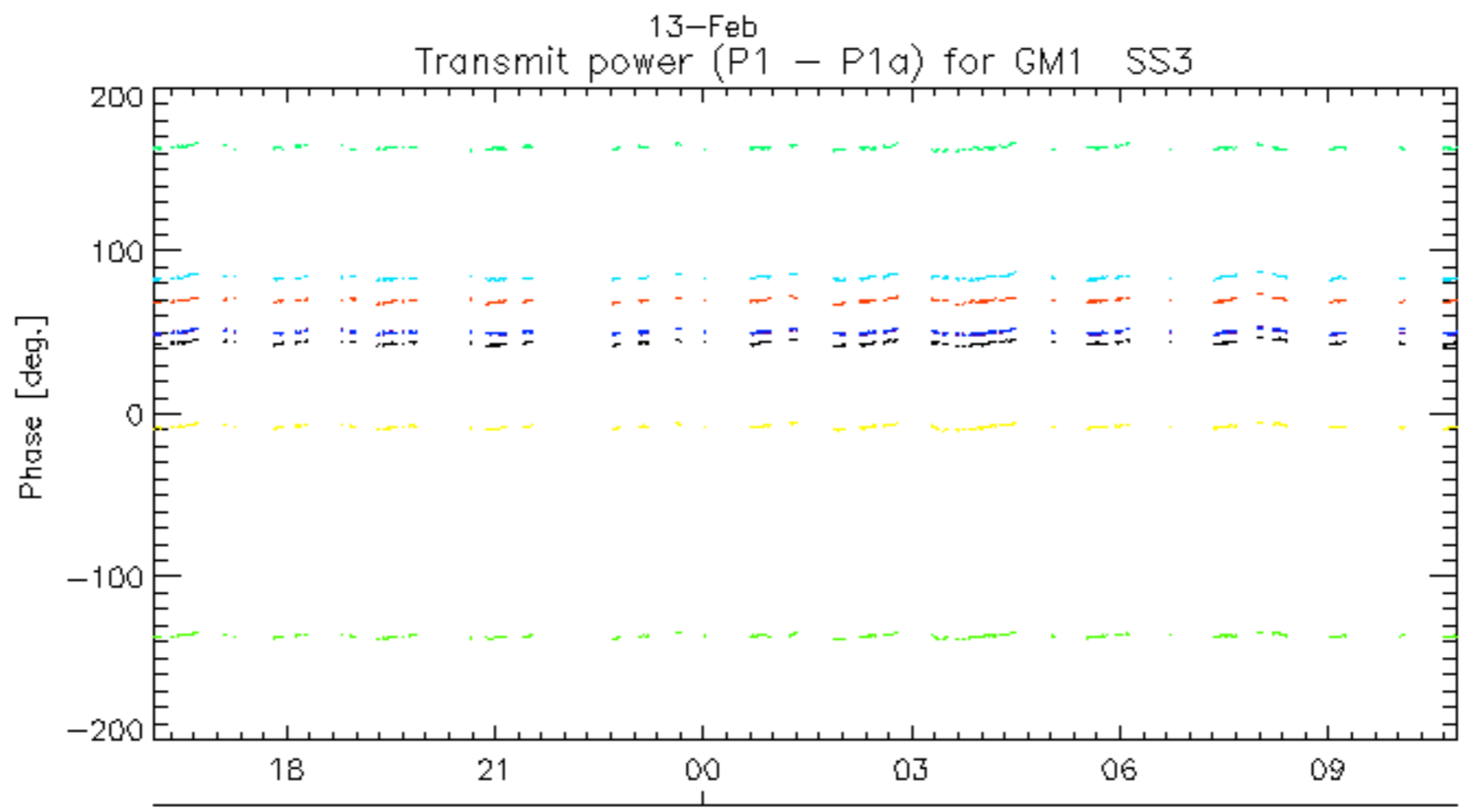
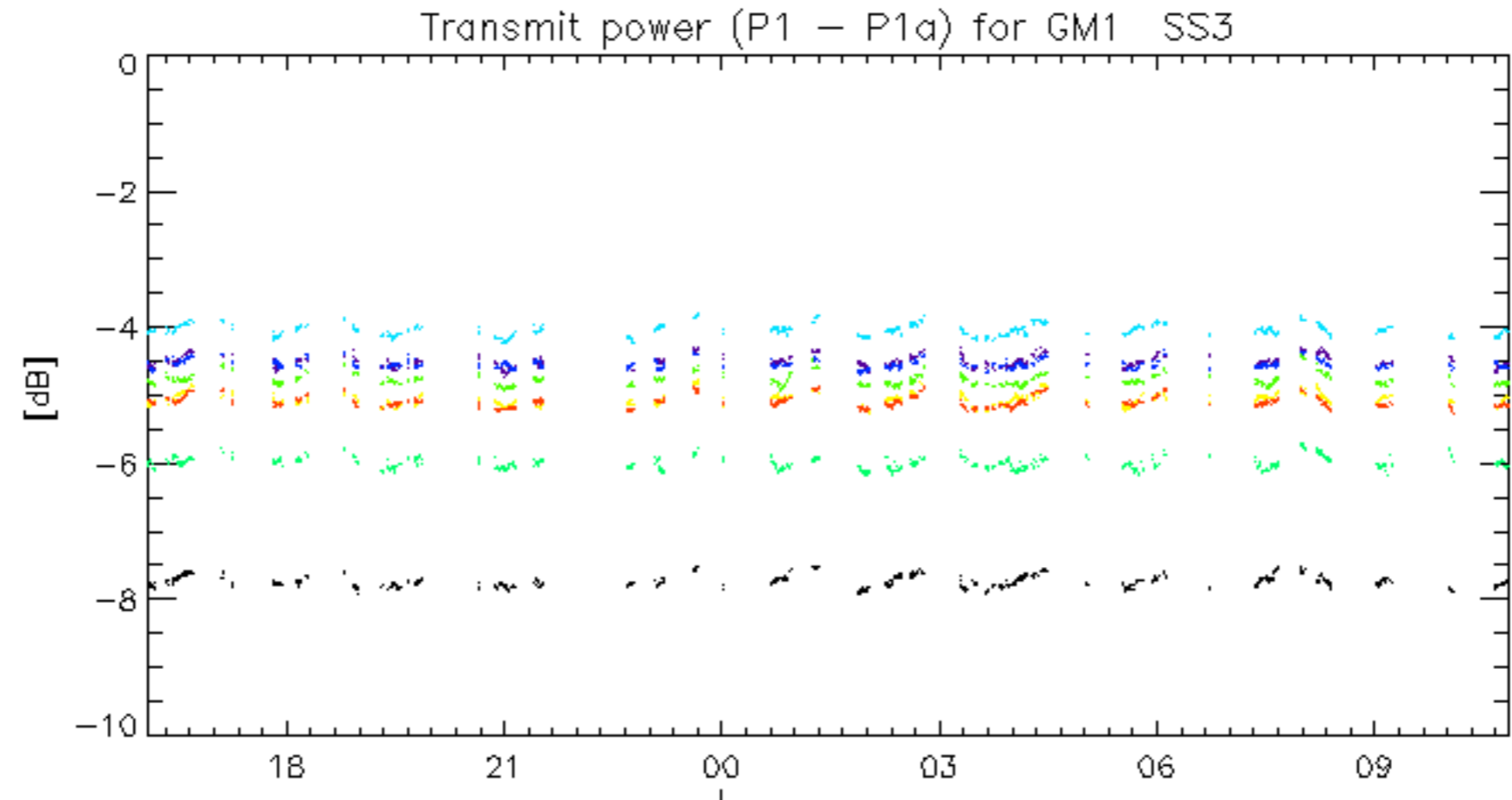
Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20070212_221218_000001072055_00301_25906_5131.N1	15	3773
ASA_IMM_1PNPDE20070212_221549_000002632055_00301_25906_5257.N1	3	10
ASA_IMM_1PNPDE20070212_235224_000004552055_00302_25907_5398.N1	15	2640
ASA_WSM_1PNPDE20070211_145120_000000862055_00283_25888_3819.N1	0	33
ASA_WSM_1PNPDK20070211_095259_000000852055_00280_25885_2209.N1	0	52



Transmit power (P1 - P1a) for GM1 SS3

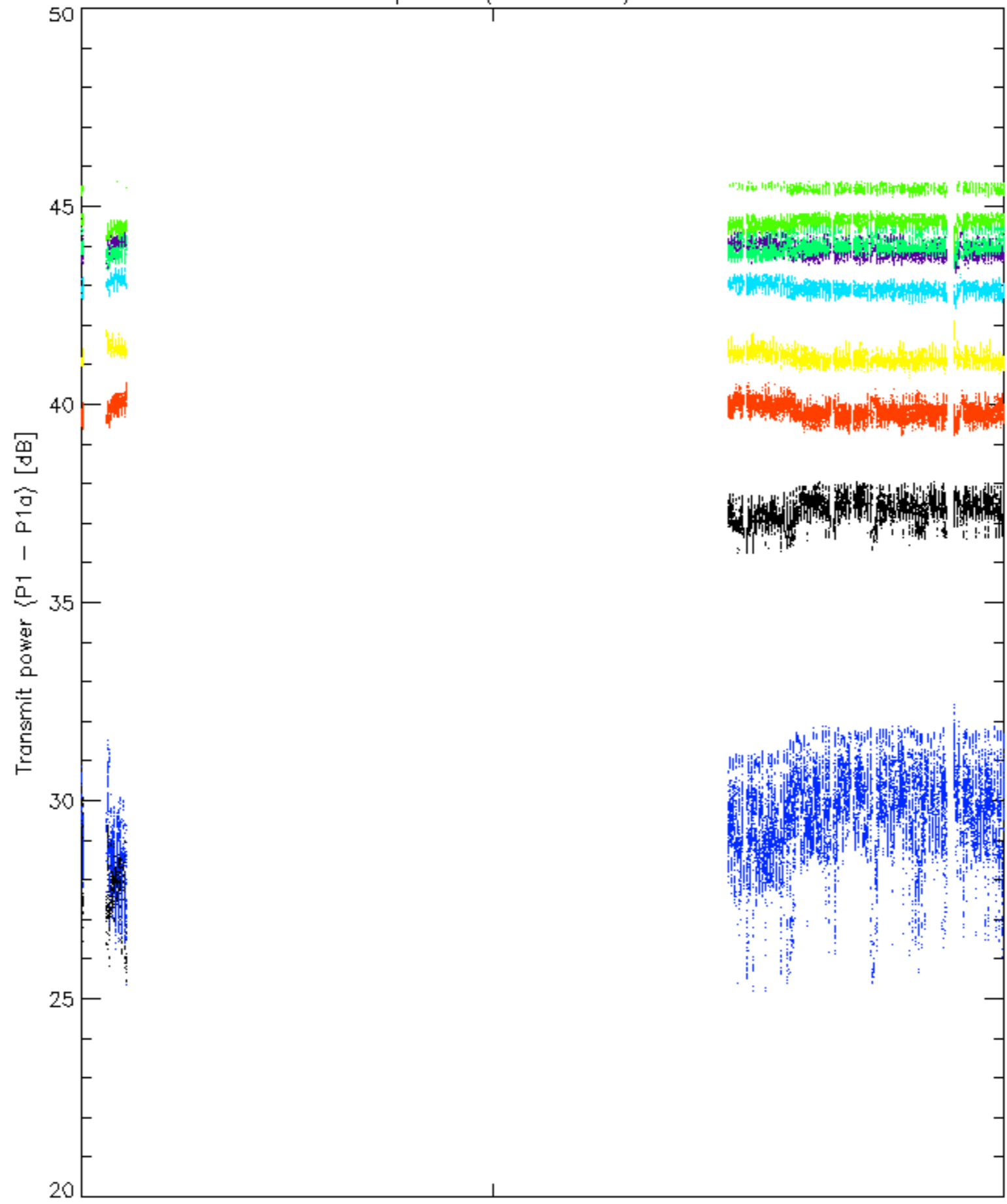


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

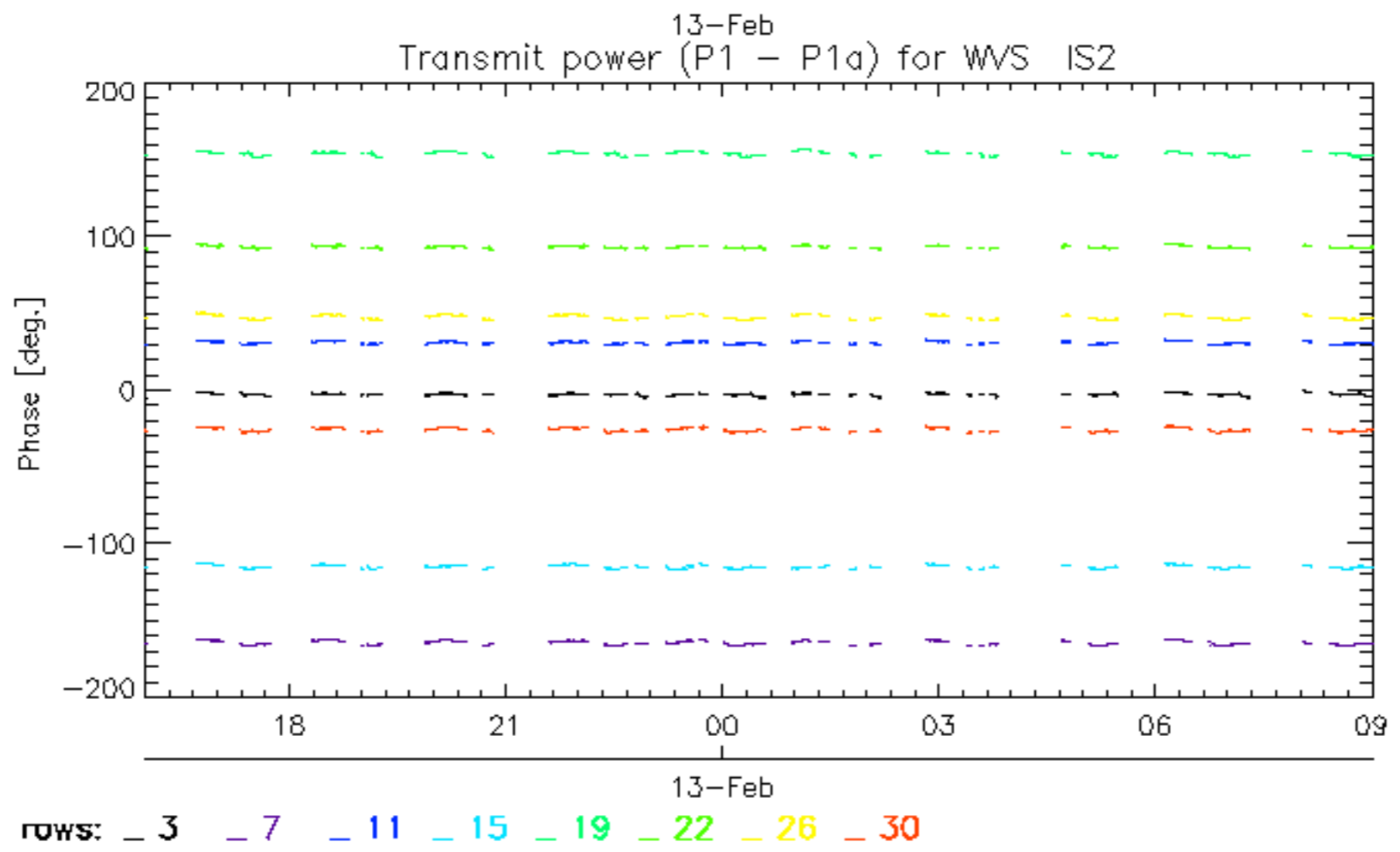
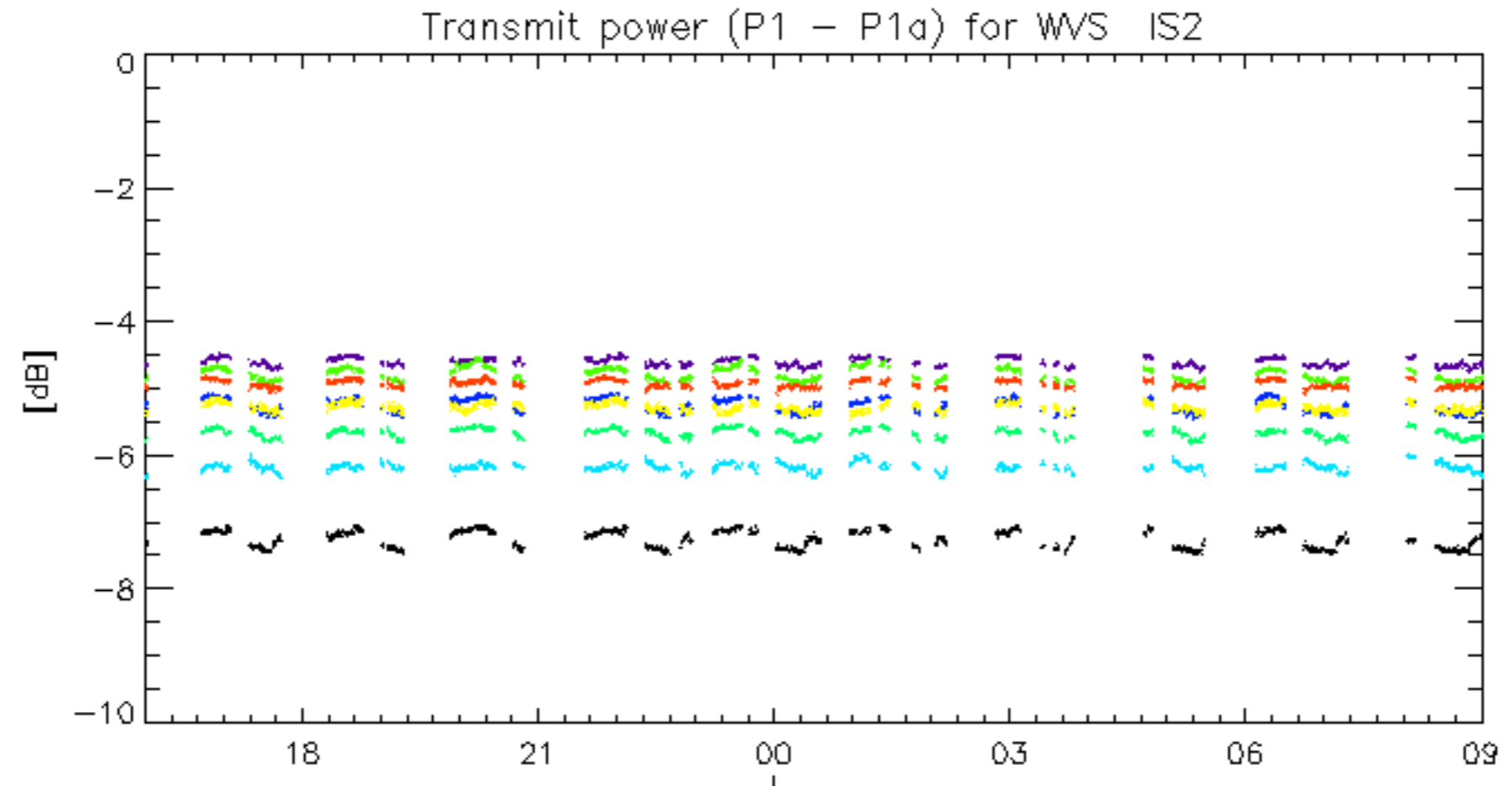


13-Feb
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Transmit power (P1 - P1a) for WVS IS2



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



No unavailabilities during the reported period.