

PRELIMINARY REPORT OF 070212

last update on Mon Feb 12 16:37:20 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 2007-02-11 00:00:00 to 2007-02-12 16:37:20

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	38	74	9	2	16
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	38	74	9	2	16
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	38	74	9	2	16
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	38	74	9	2	16

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	33	34	51	13	20
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	33	34	51	13	20
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	33	34	51	13	20
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	33	34	51	13	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	20070212 044644

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

☒
☒

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	-15.283279	0.407646	3.192241
7	P1a	-17.404381	0.112558	-0.519190
11	P1a	-17.359972	0.387024	-0.237158
15	P1a	-12.817773	0.131543	-0.299446
19	P1a	-15.091762	0.095587	-0.184167
22	P1a	-15.503878	0.487184	-0.552950
26	P1a	-14.956524	0.277697	0.061526
30	P1a	-17.266819	0.406045	-0.519524

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.477294	0.354016	-3.472289
7	P1	-3.104728	0.009822	-0.119792
11	P1	-4.134377	0.020553	-0.189661
15	P1	-6.318322	0.017315	-0.097575
19	P1	-3.706906	0.009130	-0.014466
22	P1	-4.676634	0.014201	-0.032540
26	P1	-3.924133	0.014950	0.028835
30	P1	-5.916796	0.013151	-0.063948

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.393290	0.509618	-3.865072
7	P2	-21.622728	0.087413	0.038081
11	P2	-15.484471	0.105905	0.066883
15	P2	-7.017187	0.101872	-0.108848

19	P2	-9.083659	0.091305	-0.089856
22	P2	-18.095921	0.090663	-0.103109
26	P2	-16.508820	0.102703	-0.162893
30	P2	-19.334911	0.083864	-0.051513

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.203426	0.008277	-0.016160
7	P3	-8.203426	0.008277	-0.016160
11	P3	-8.203426	0.008277	-0.016160
15	P3	-8.203426	0.008277	-0.016160
19	P3	-8.203426	0.008277	-0.016160
22	P3	-8.203426	0.008277	-0.016160
26	P3	-8.203426	0.008277	-0.016160
30	P3	-8.203426	0.008277	-0.016160

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	-11.435768	0.151358	1.711224
7	P1a	-10.032035	0.056639	-0.110031
11	P1a	-10.557467	0.062818	-0.413575
15	P1a	-10.843327	0.131266	-0.127973
19	P1a	-15.742387	0.063415	0.031407
22	P1a	-20.908772	1.316437	0.495703
26	P1a	-15.463628	0.262740	0.266958
30	P1a	-18.320810	0.366996	-0.043526

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
-----	-------	-----------	------------	-----------------

3	P1	-6.107641	4.208641	-10.918700
7	P1	-2.439935	0.006014	0.005812
11	P1	-2.874767	0.017262	-0.162477
15	P1	-3.789050	0.033808	-0.131309
19	P1	-3.549539	0.013242	-0.009255
22	P1	-5.023862	0.023771	-0.005111
26	P1	-5.994917	0.022894	0.038548
30	P1	-5.288370	0.023801	0.018266

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.094761	0.847484	-4.665674
7	P2	-22.018400	0.050995	0.130909
11	P2	-10.682932	0.032745	0.111919
15	P2	-4.836131	0.027517	0.052919
19	P2	-6.831941	0.029427	0.089492
22	P2	-8.143033	0.030626	0.066719
26	P2	-24.251938	0.032626	0.034189
30	P2	-21.793234	0.035036	0.059958

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.051932	0.002948	0.034456
7	P3	-8.051970	0.002962	0.032621
11	P3	-8.051928	0.002944	0.033928
15	P3	-8.051955	0.002946	0.033887
19	P3	-8.051937	0.002947	0.033498
22	P3	-8.051991	0.002948	0.033954
26	P3	-8.051862	0.002943	0.034194
30	P3	-8.051949	0.002954	0.033647

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	0.000662100
	stdev	2.64719e-07
MEAN Q	mean	0.000323473
	stdev	2.51413e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.0839571
	stdev	0.00230892
STDEV Q	mean	0.0837581
	stdev	0.00235422



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2007021[012]

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

7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler	
<input type="checkbox"/>	
	Ascending
<input type="checkbox"/>	
	Descending

7.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX	
<input type="checkbox"/>	

7.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)
<input type="checkbox"/>
Ascending
<input type="checkbox"/>
Descending

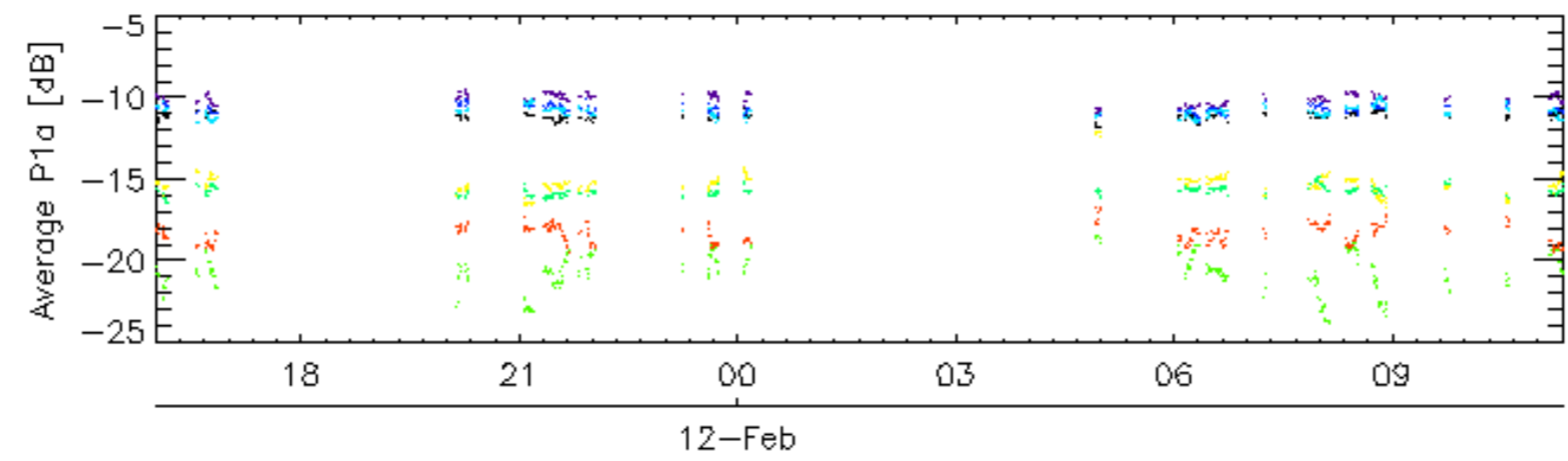
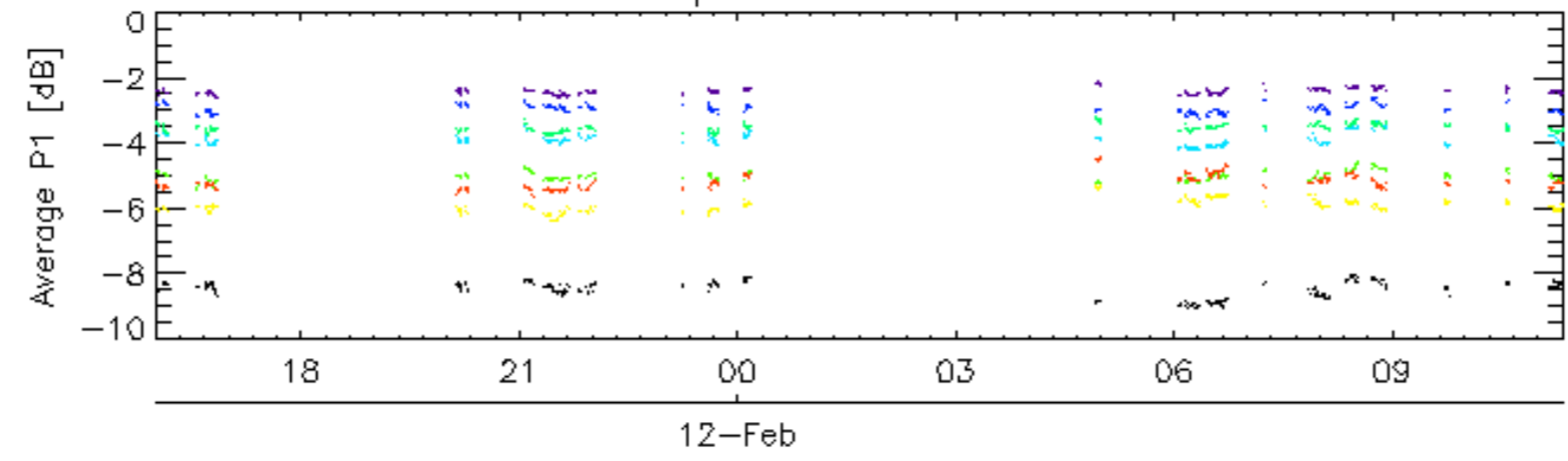
7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler
<input type="checkbox"/>
Ascending
<input type="checkbox"/>
Descending

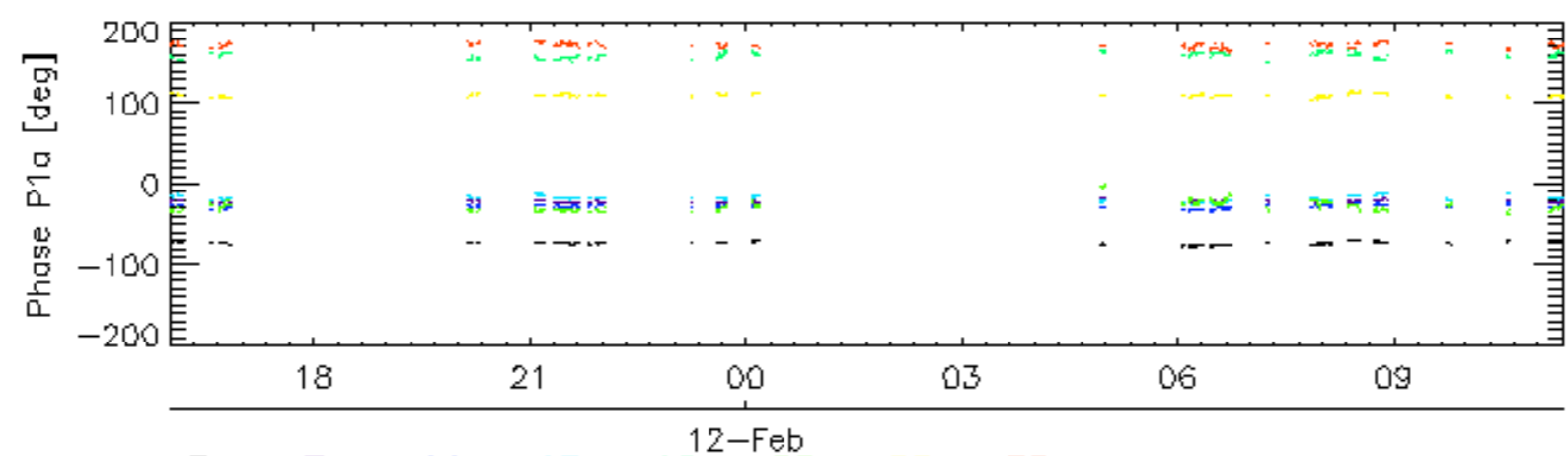
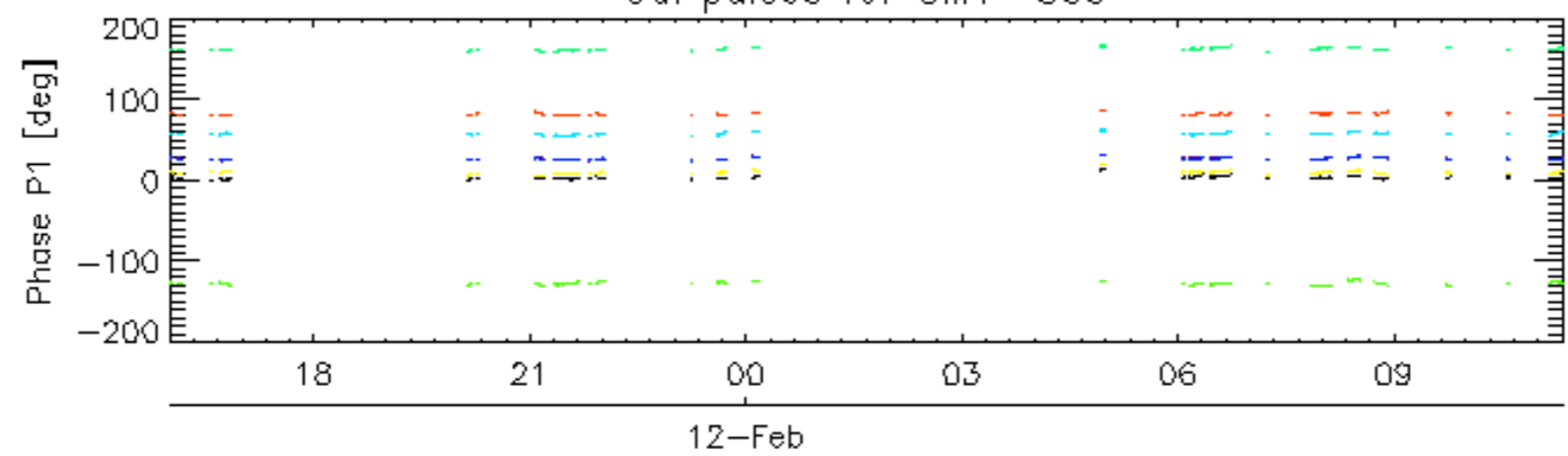
7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX
<input type="checkbox"/>

Cal pulses for GM1 SS3

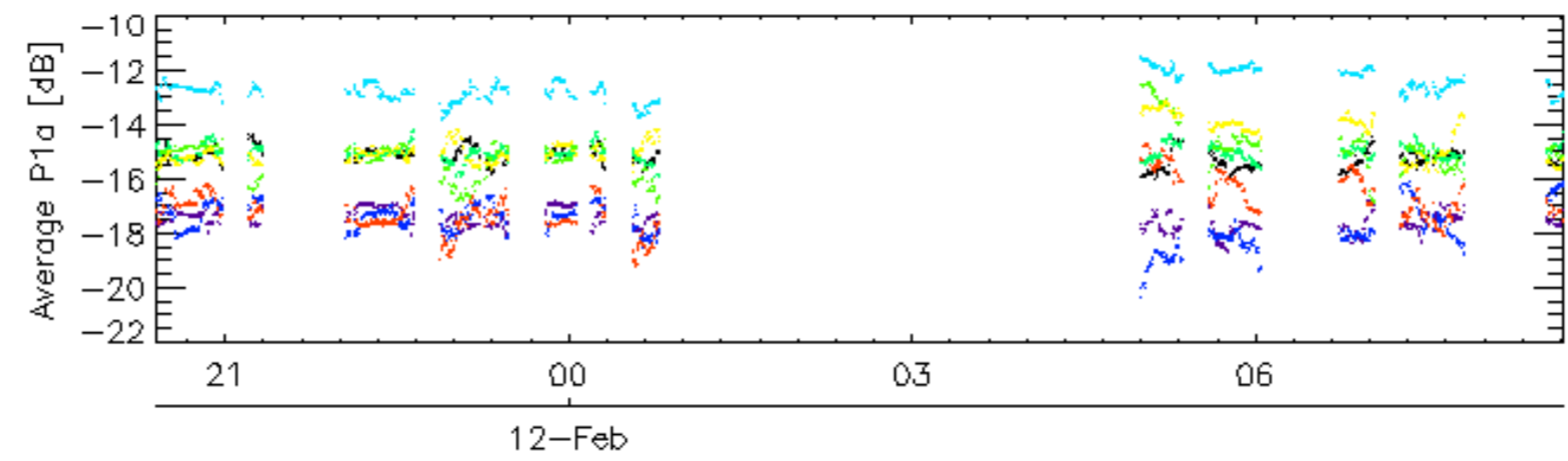
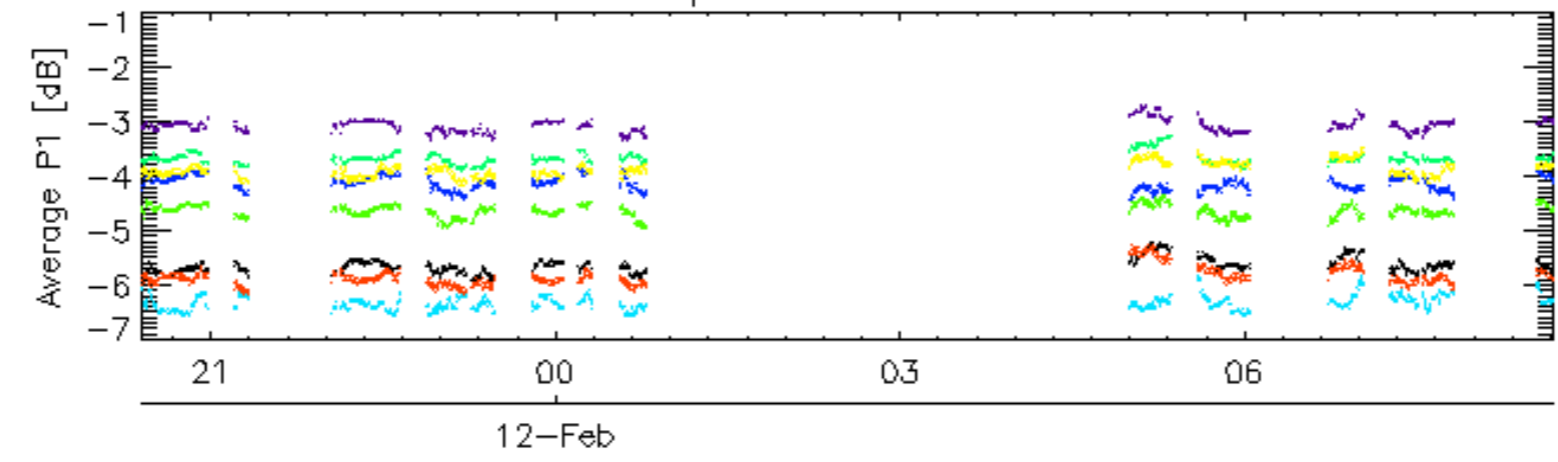


Cal pulses for GM1 SS3

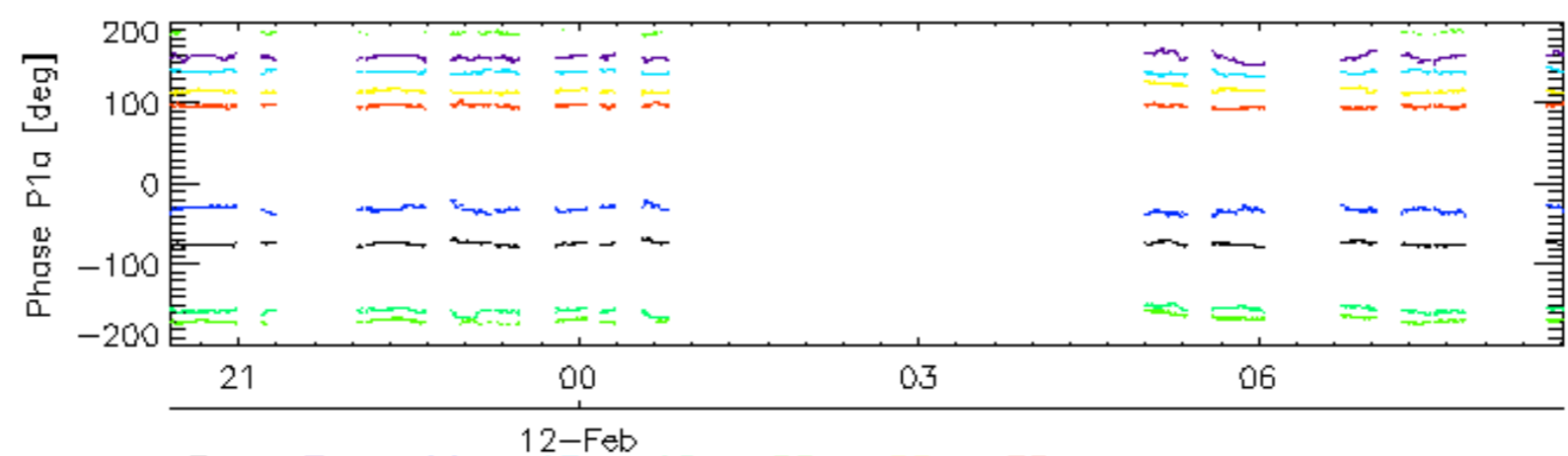
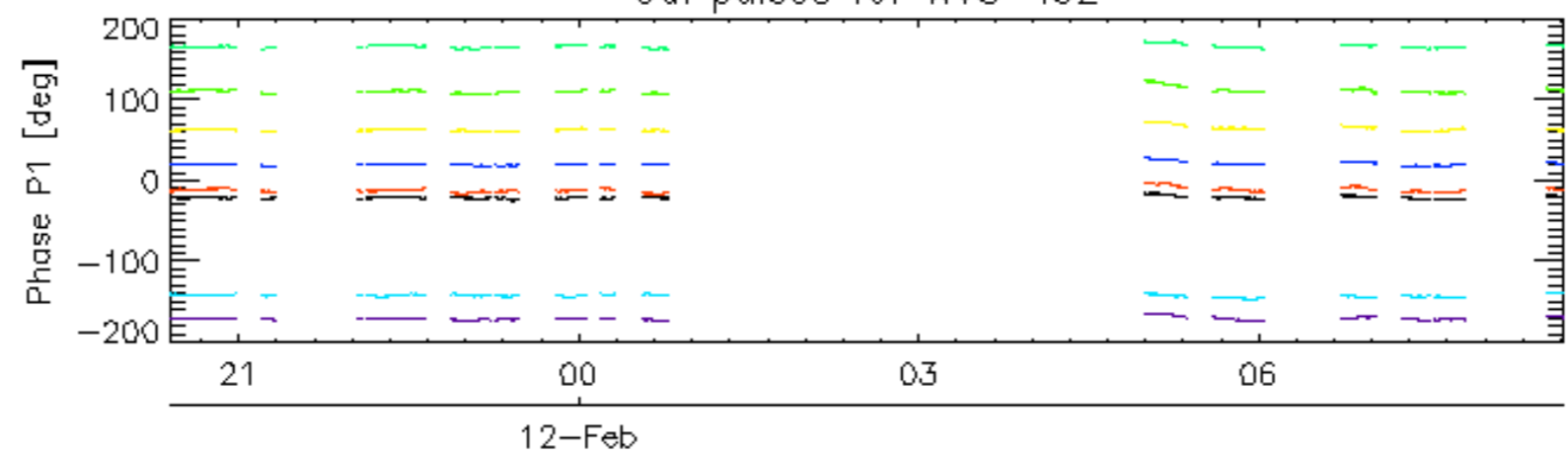


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

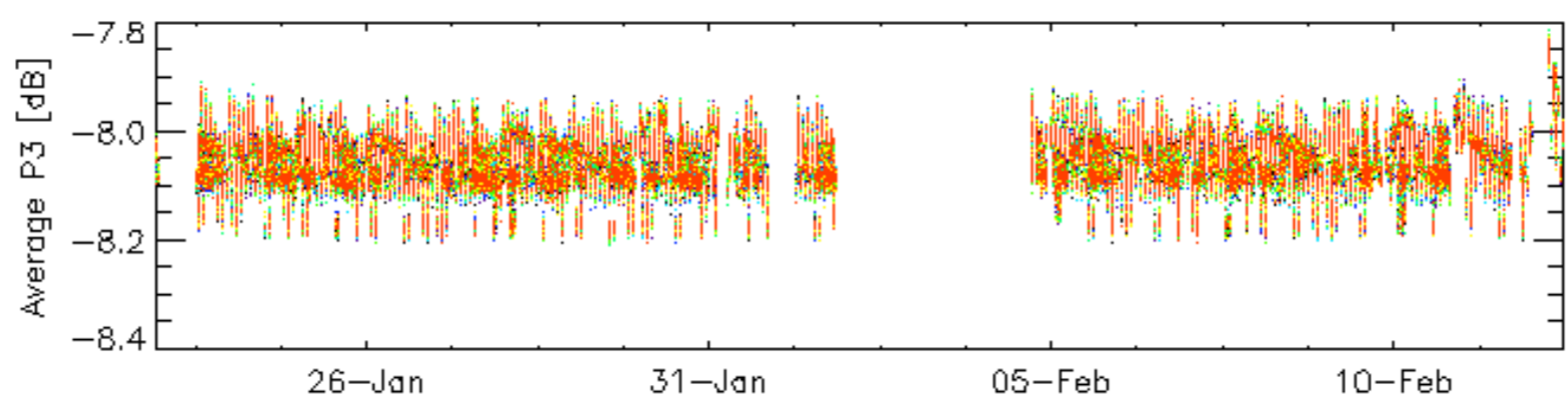
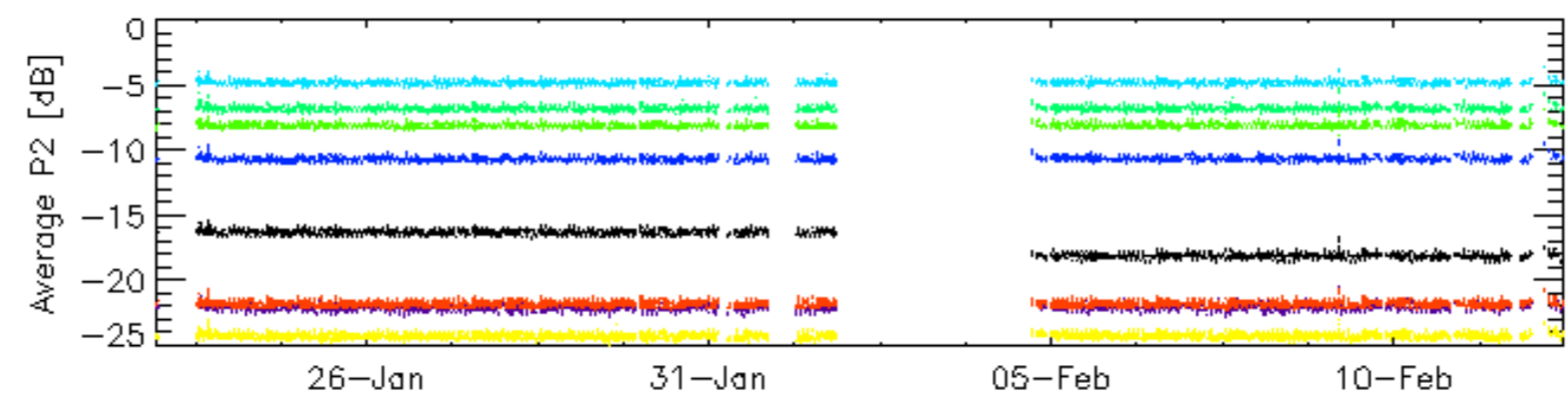
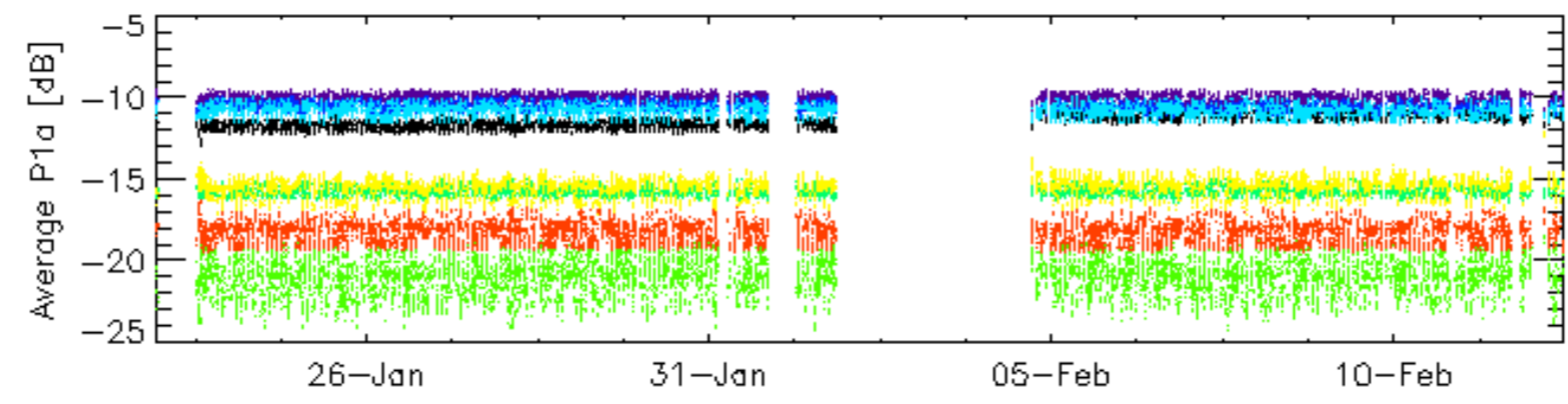
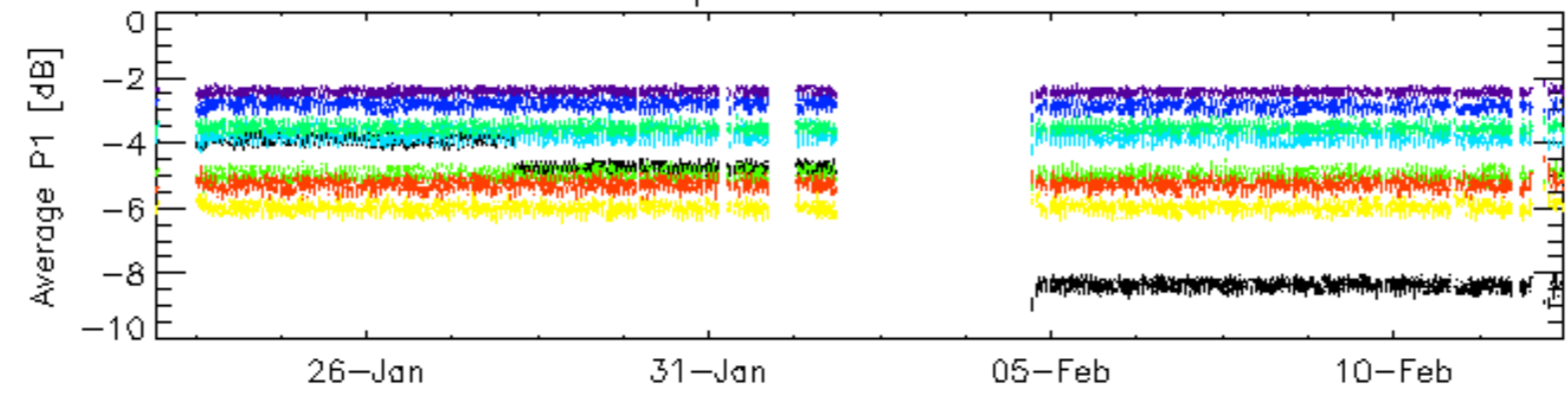


Cal pulses for WVS IS2



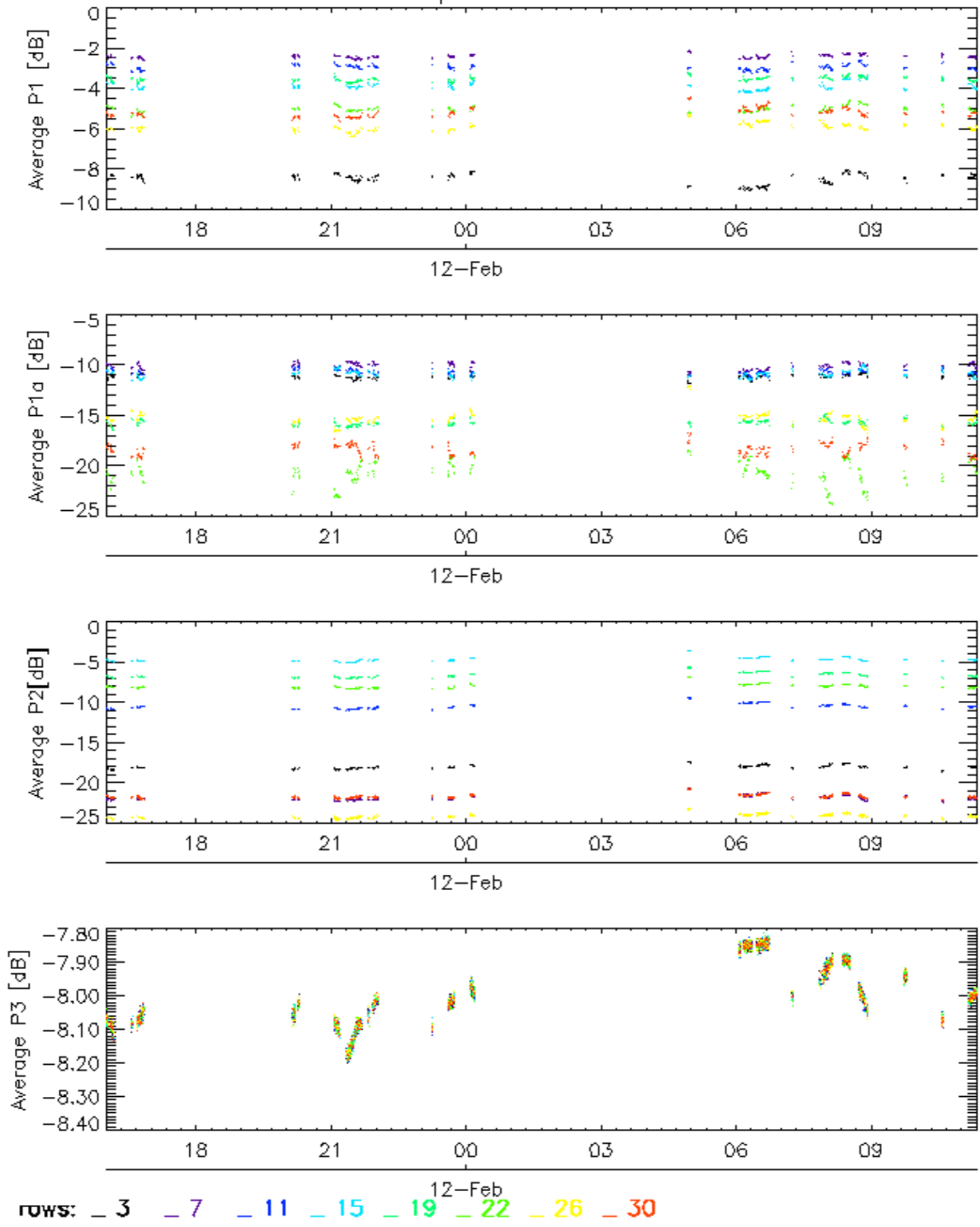
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

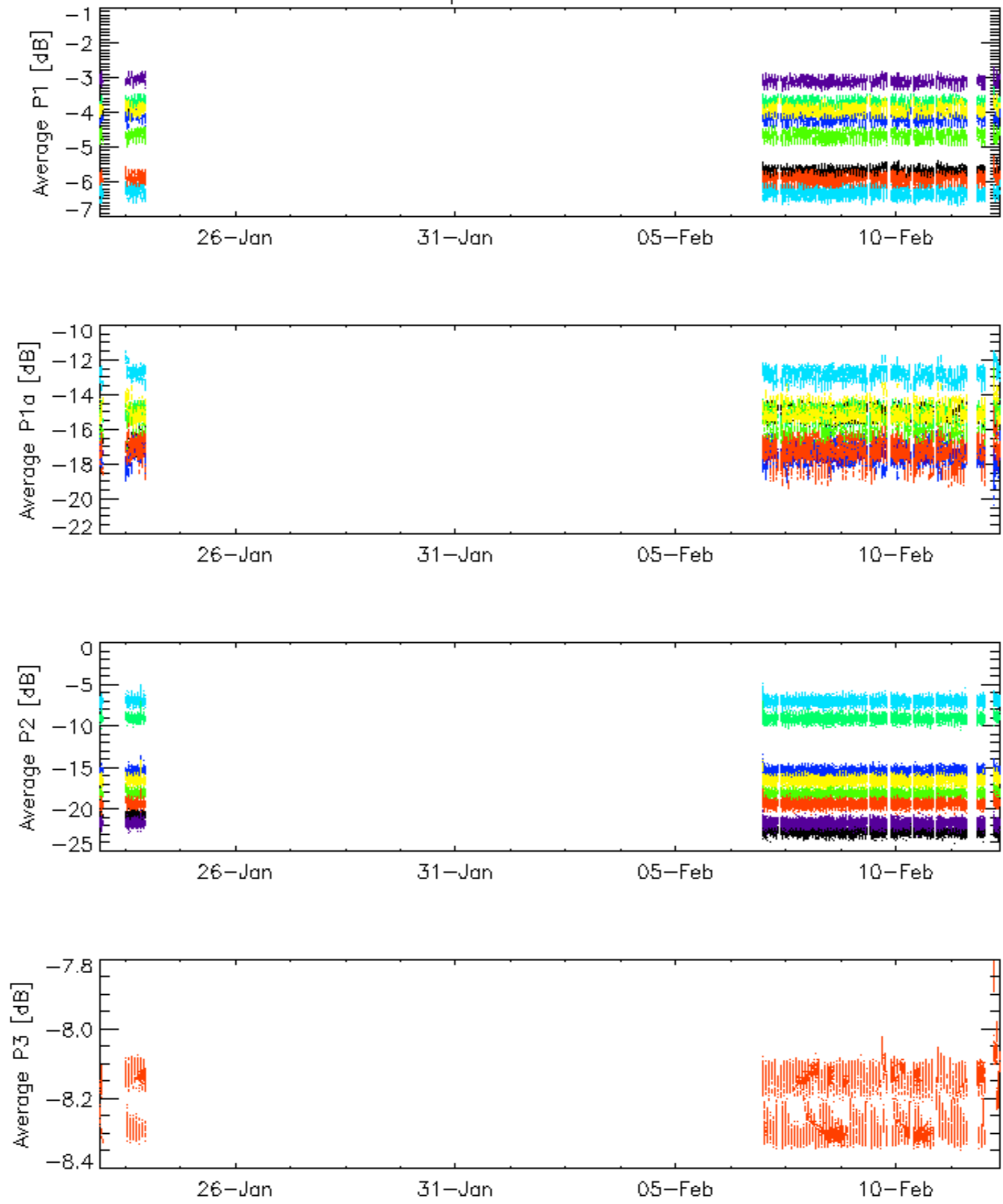


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

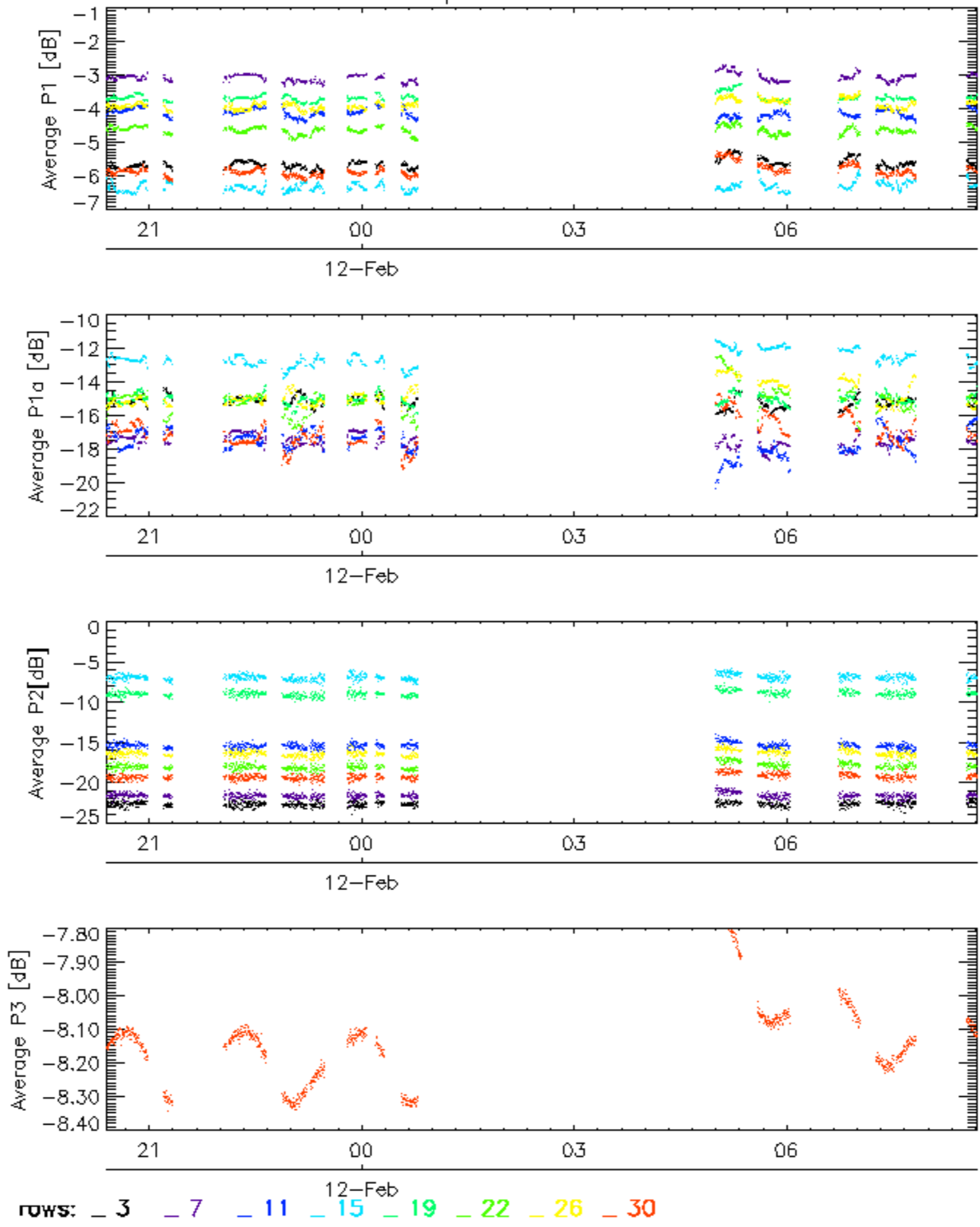
Cal pulses for GM1 SS3



Cal pulses for WVS IS2

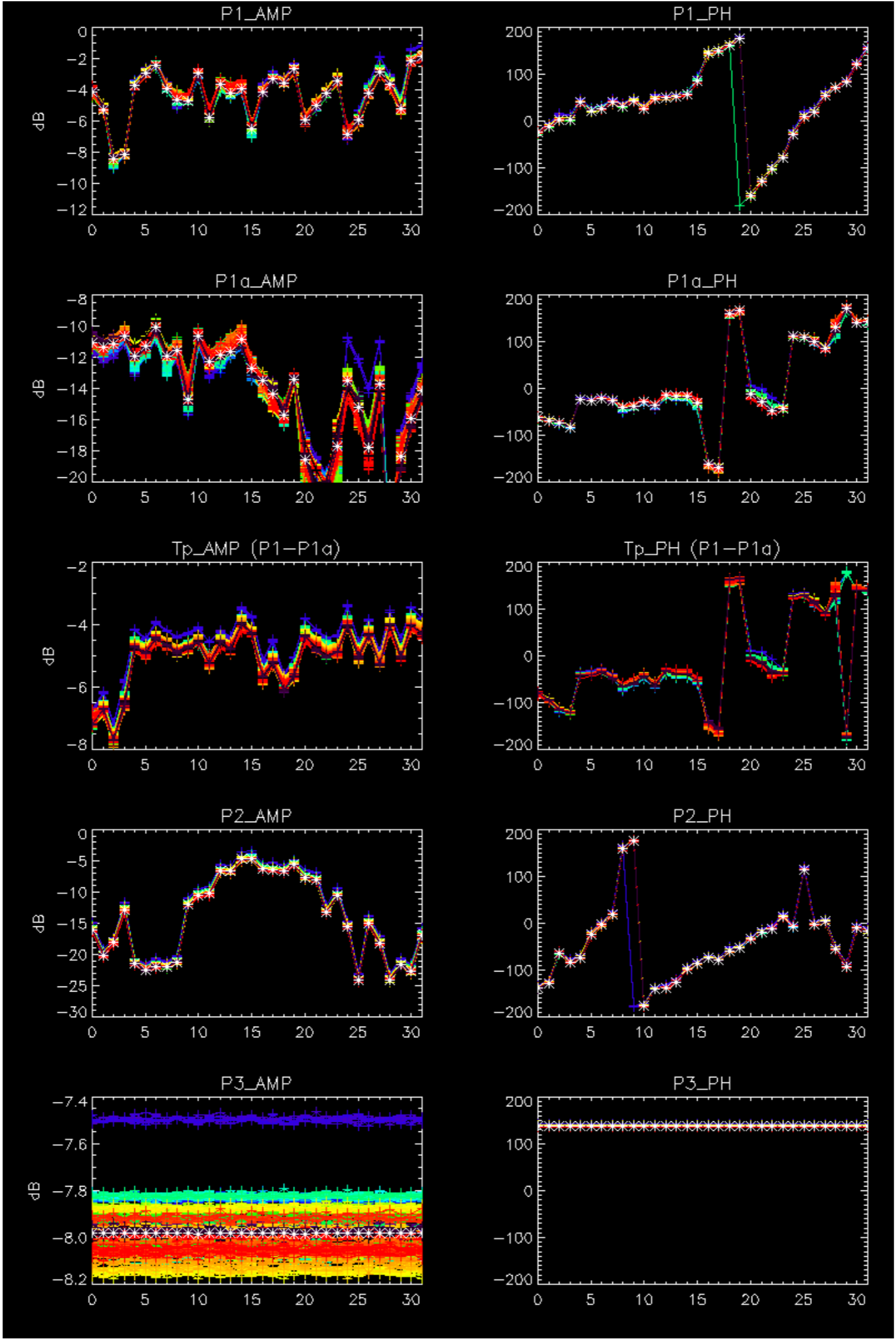


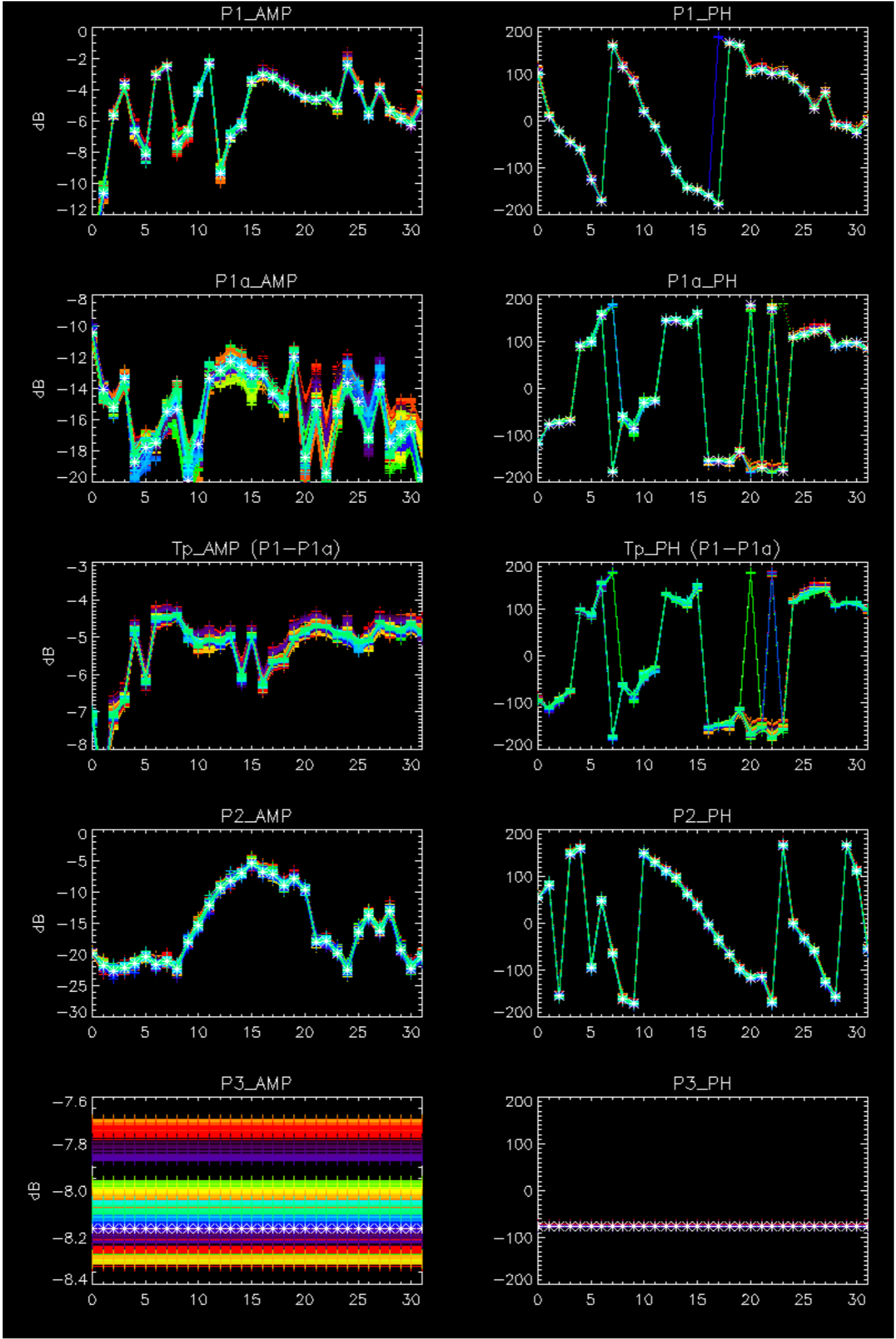
Cal pulses for WVS IS2



No anomalies observed on available browse products

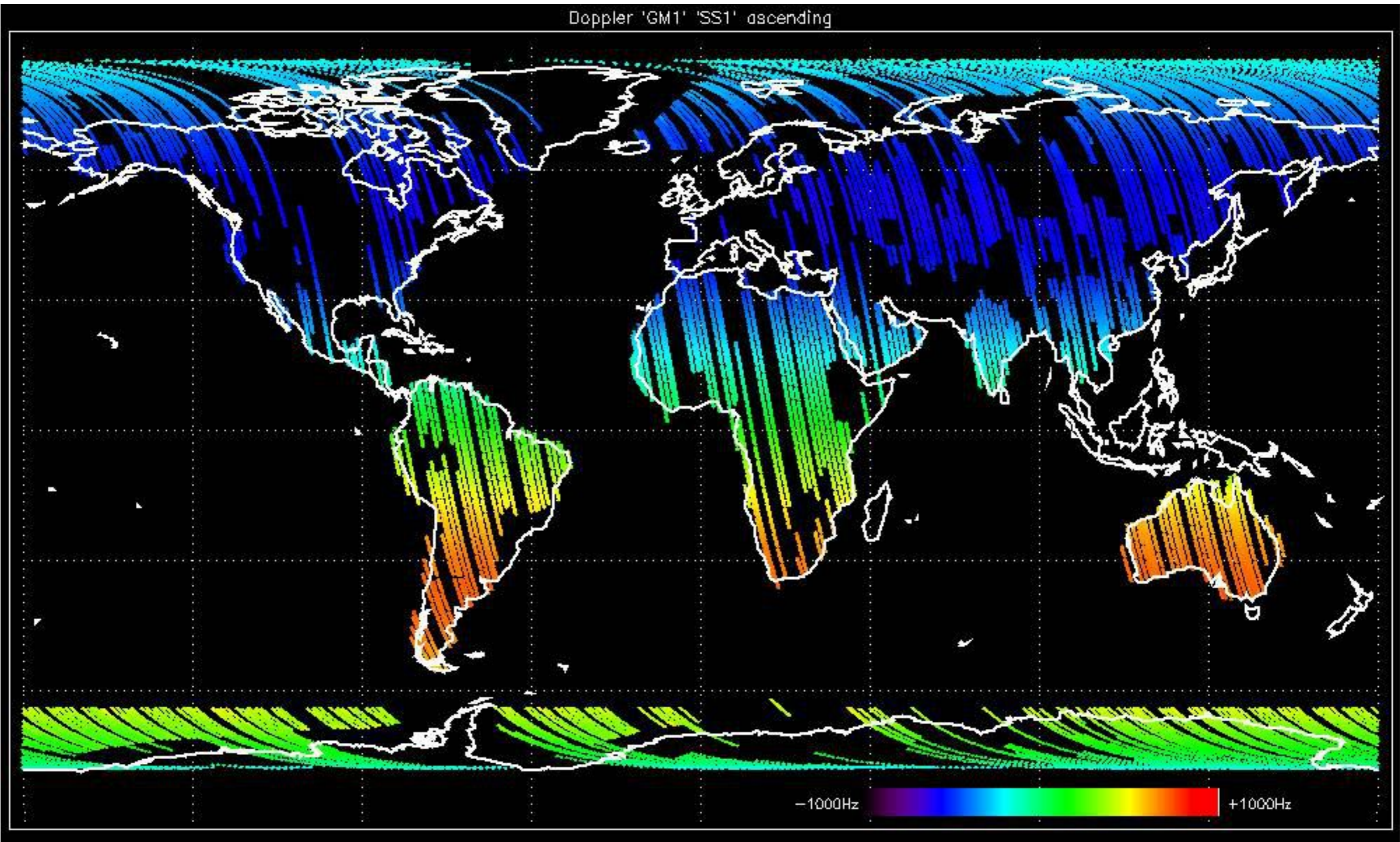
No anomalies observed.



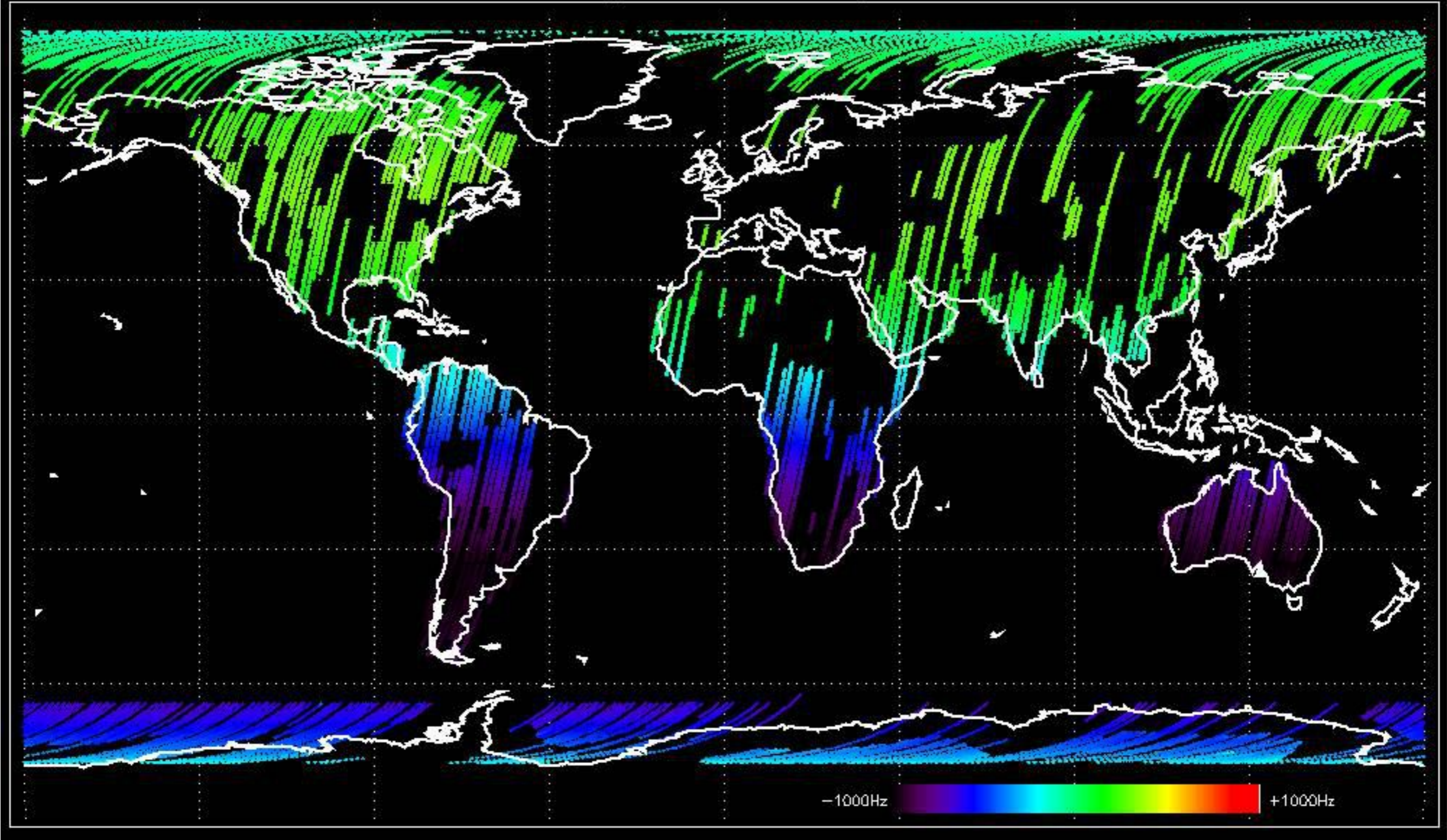


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

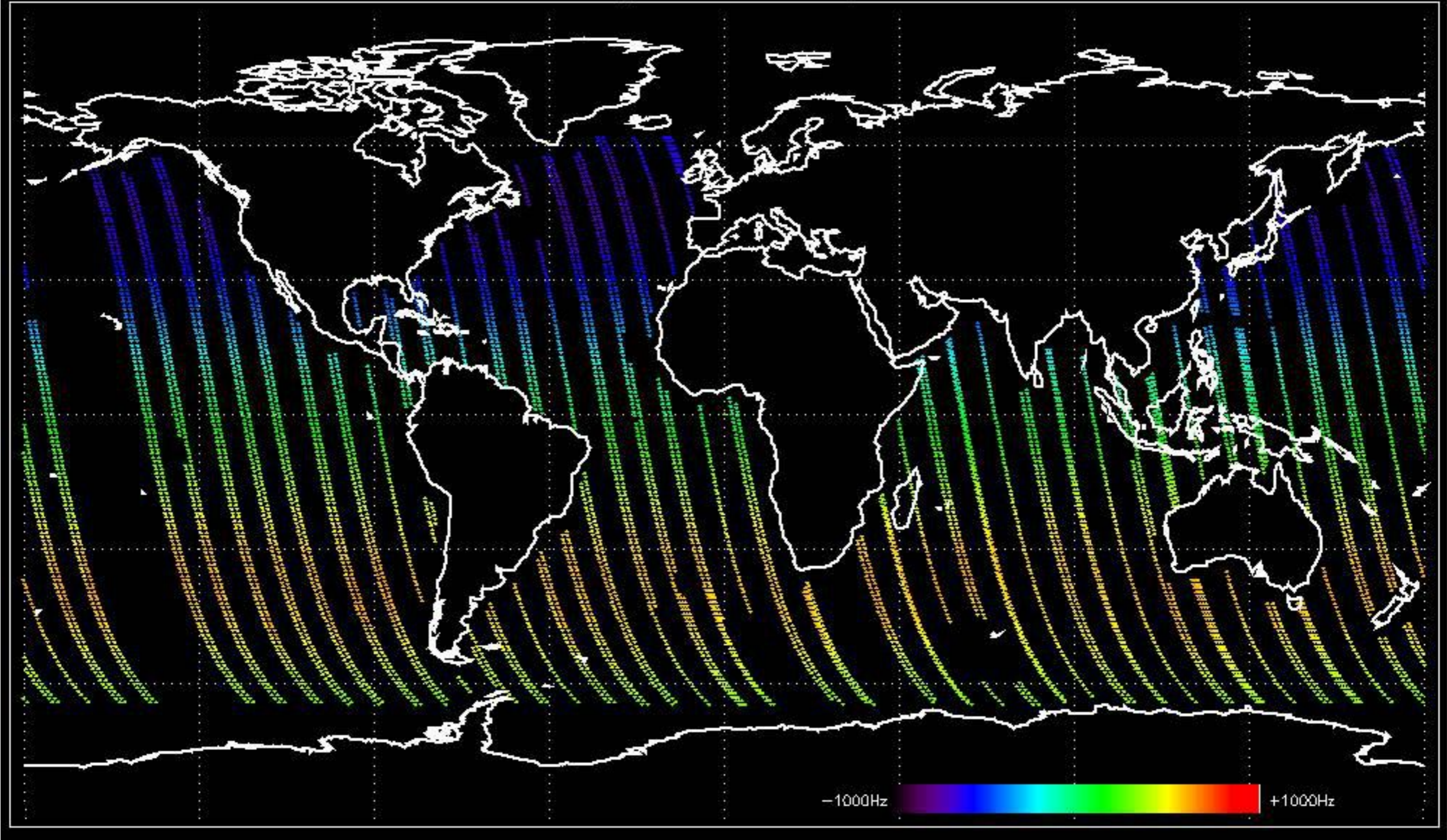
Doppler 'GM1' 'SS1' ascending



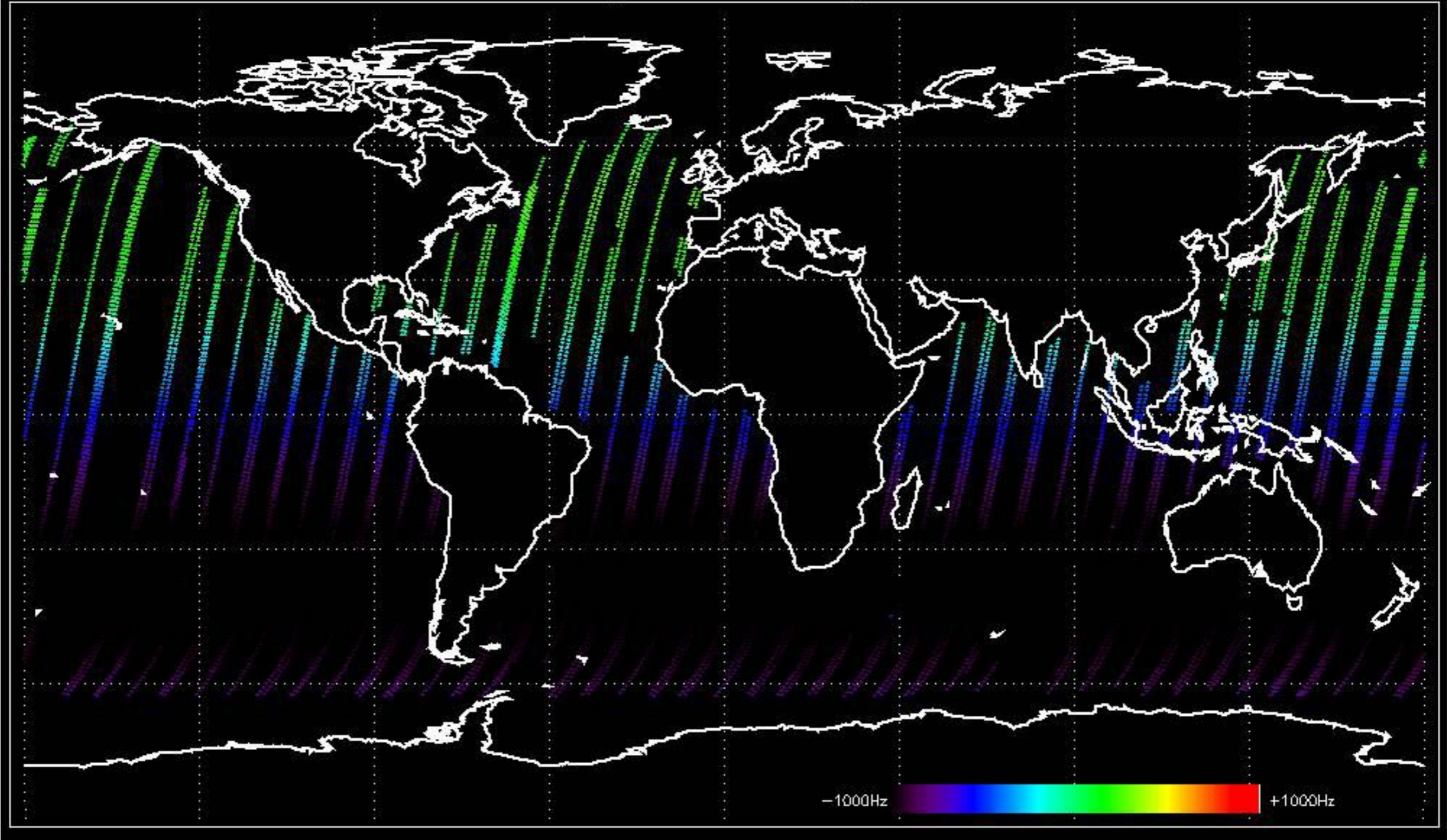
Doppler 'GM1' 'SS1' descending



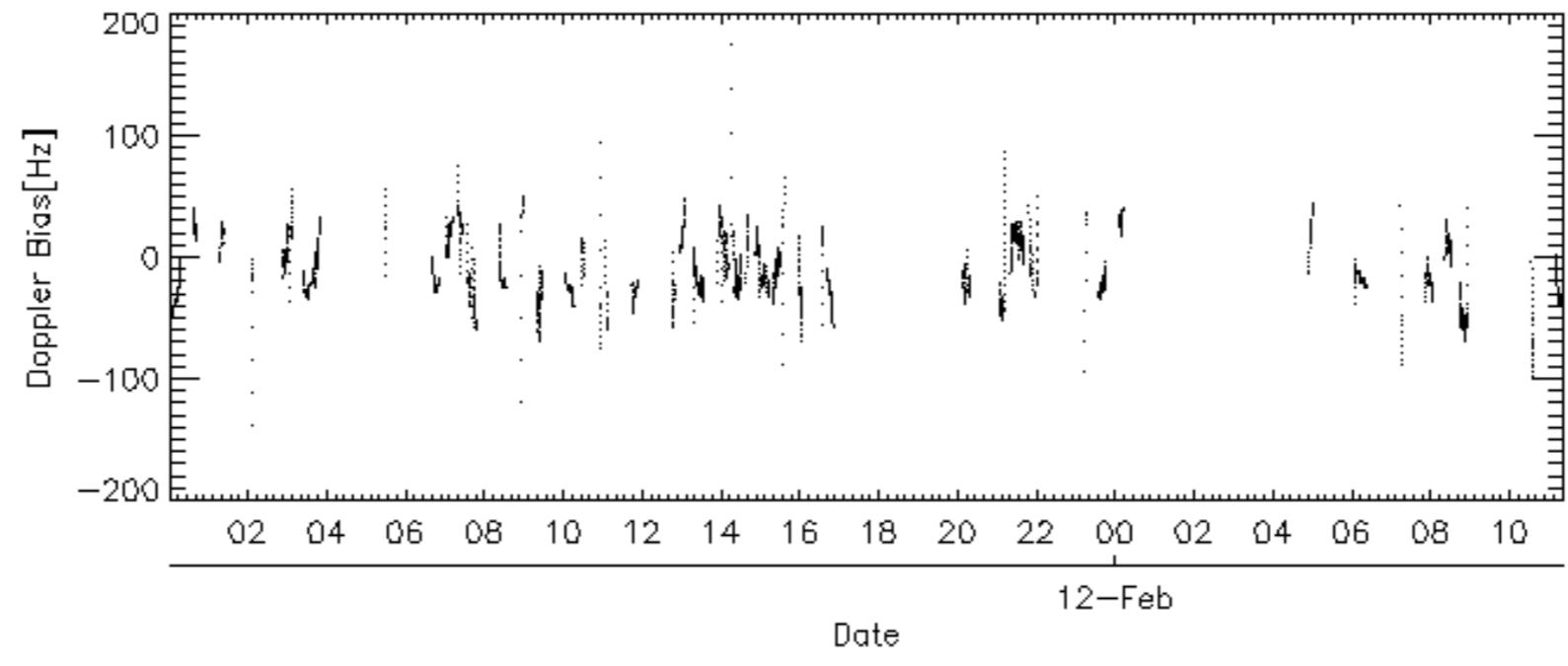
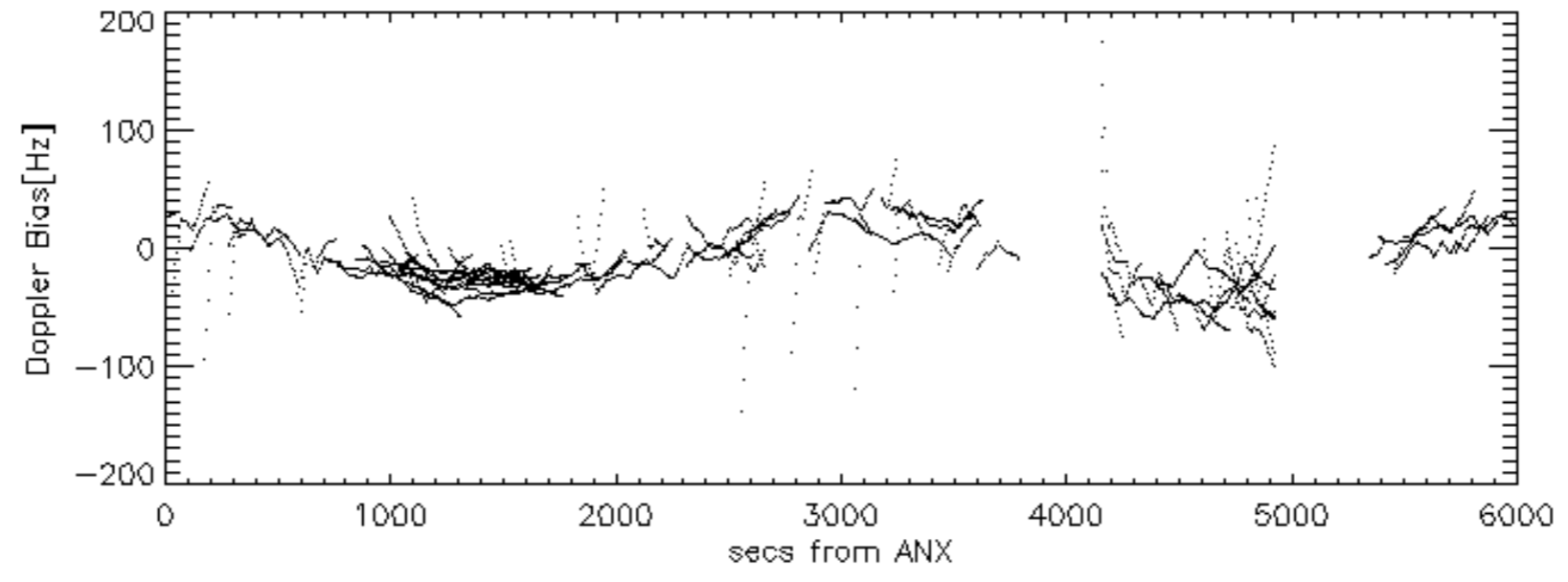
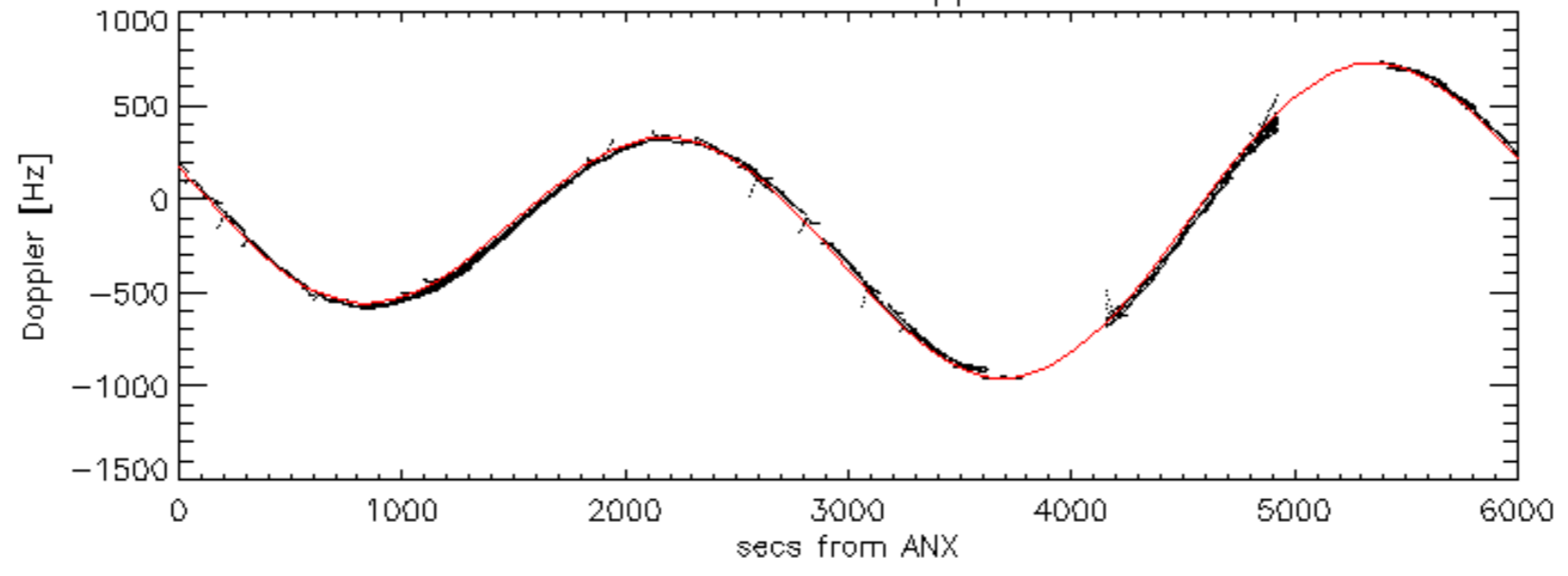
Doppler 'WVS' 'IS2' ascending

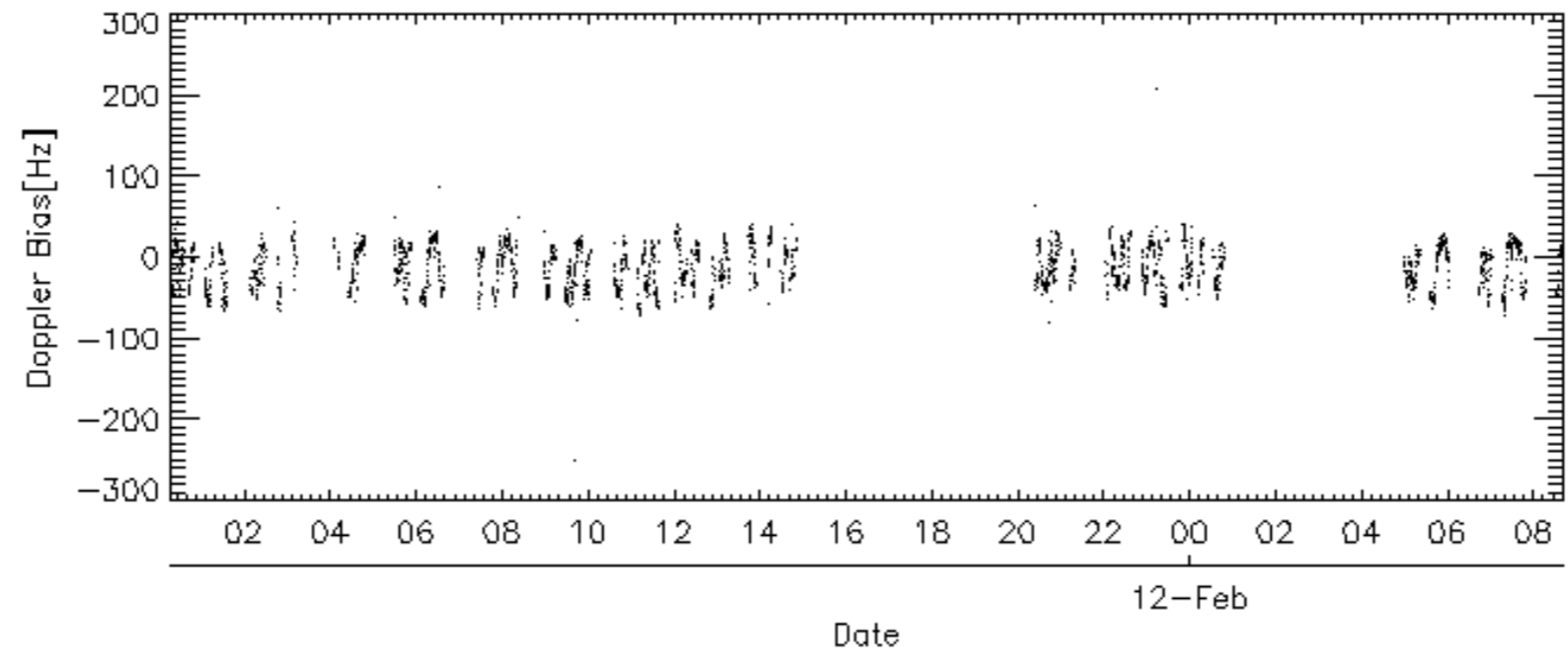
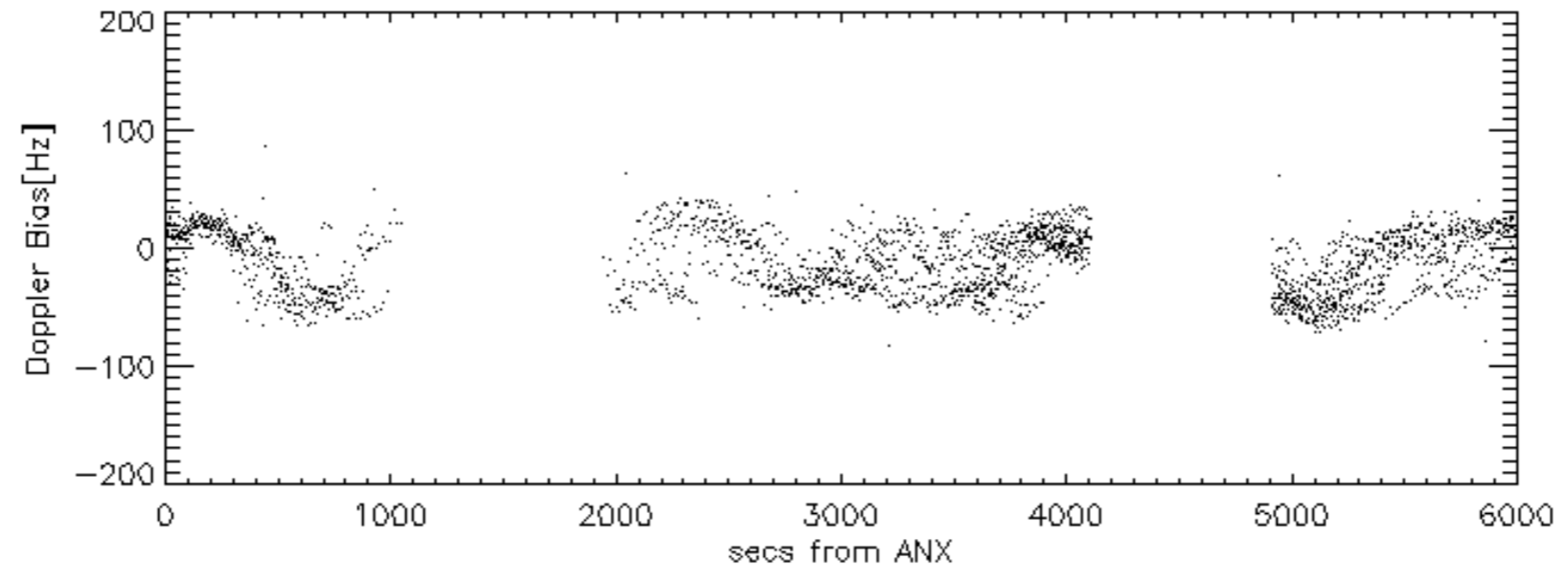
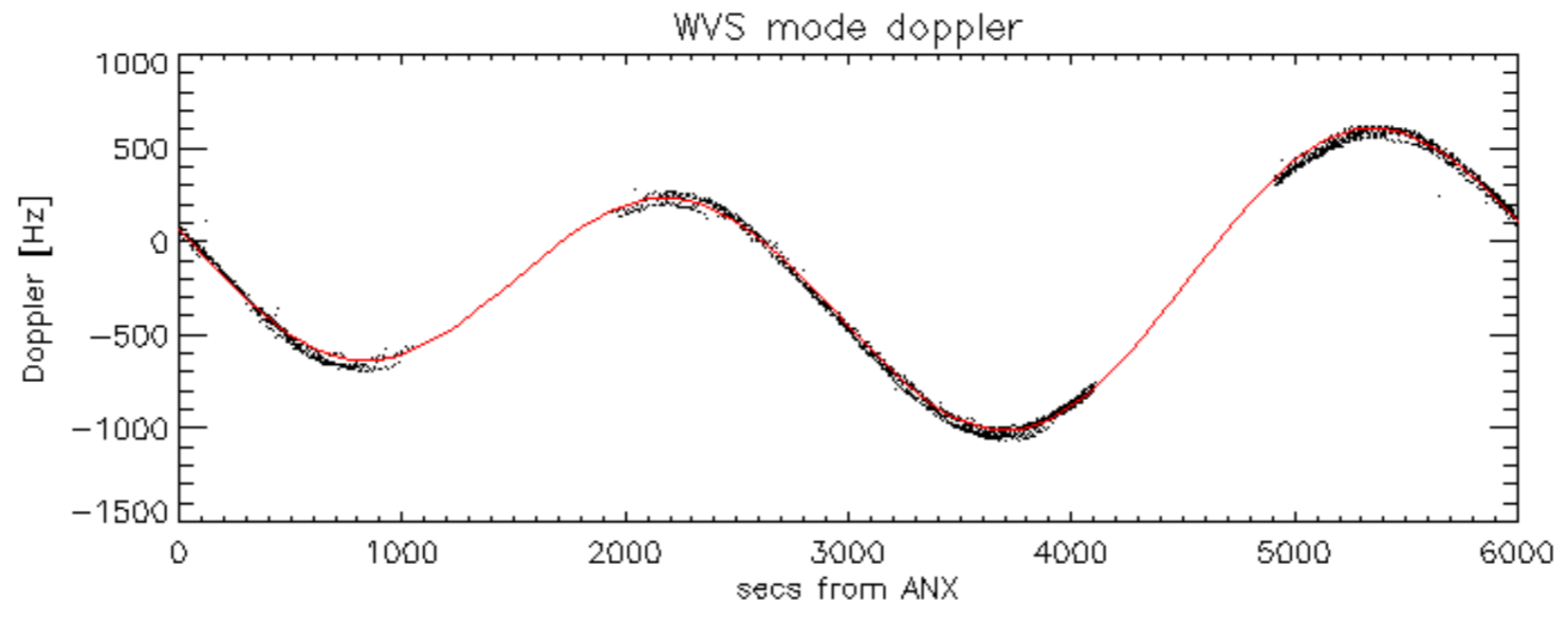


Doppler 'WVS' 'IS2' descending

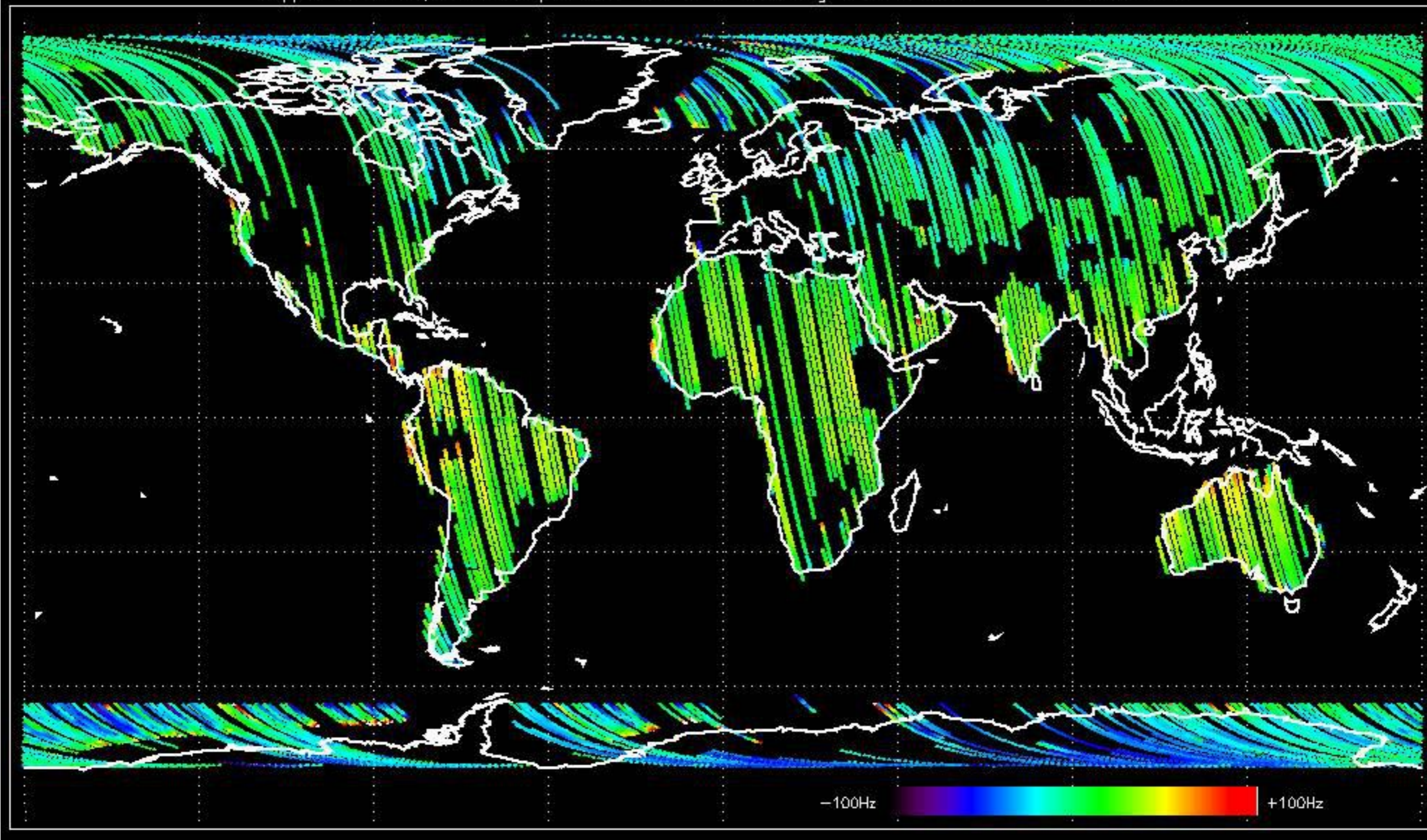


GM1 mode doppler

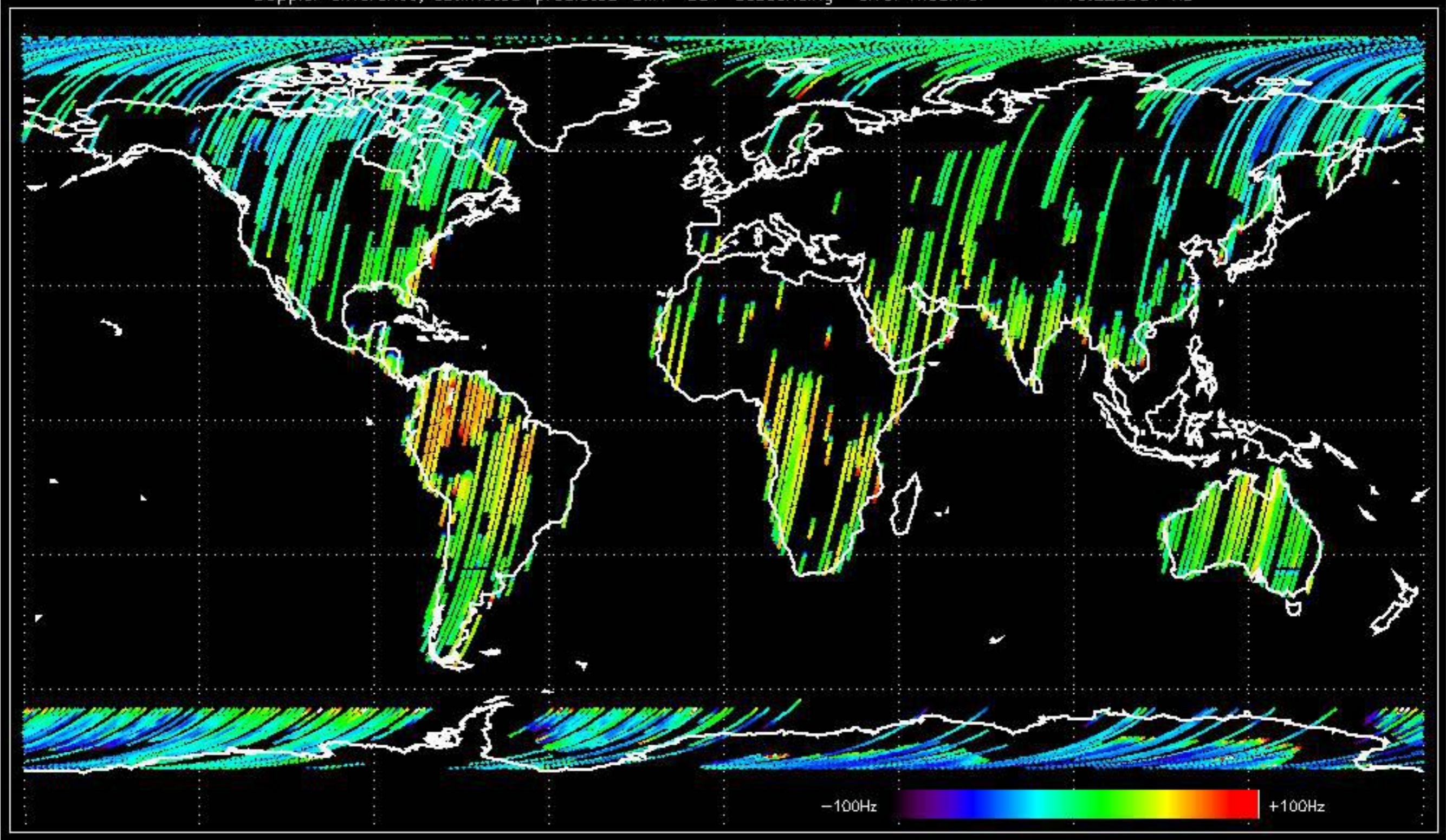




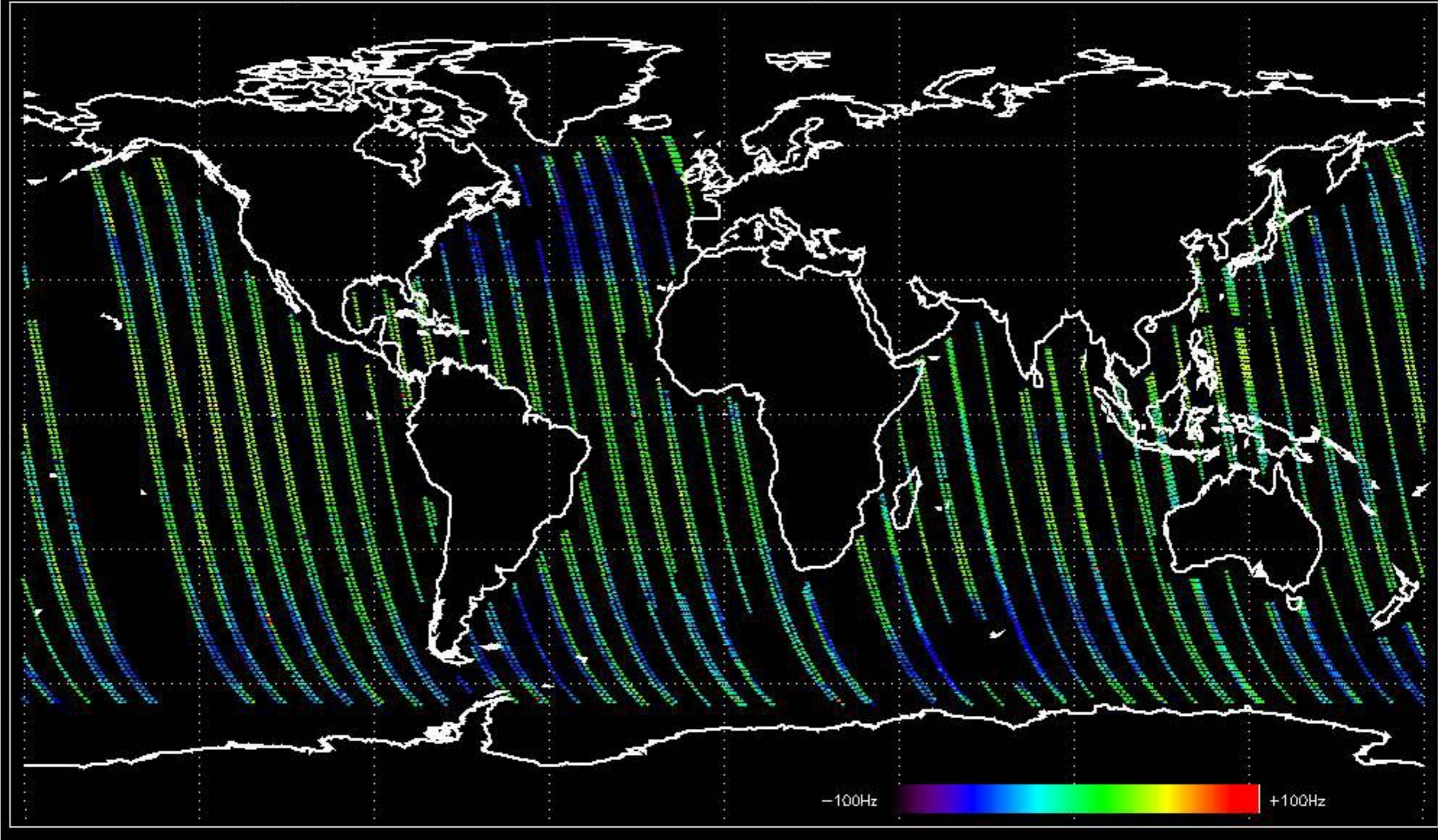
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -17.451387 Hz



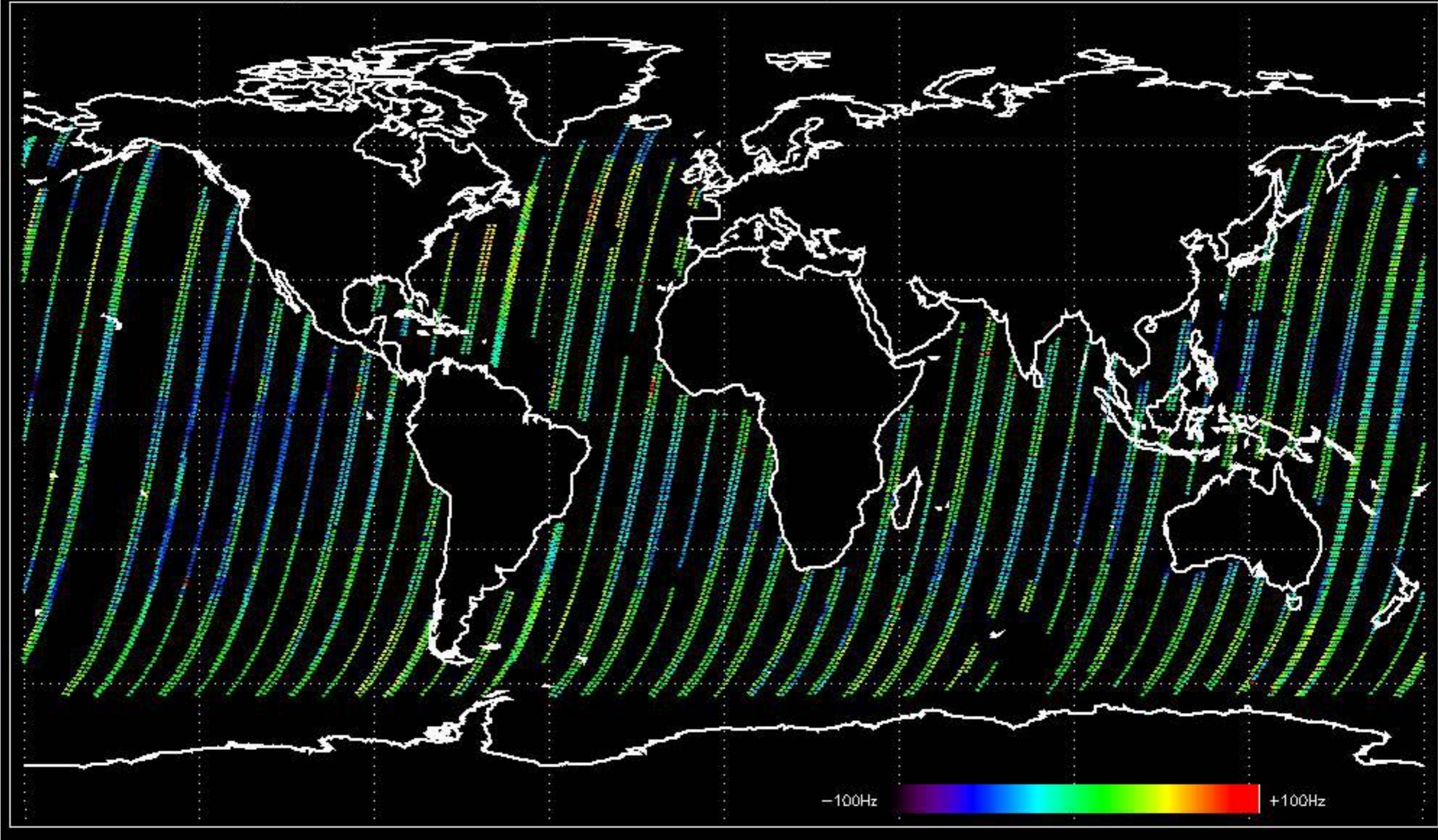
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -18.225901 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -15.676925 Hz

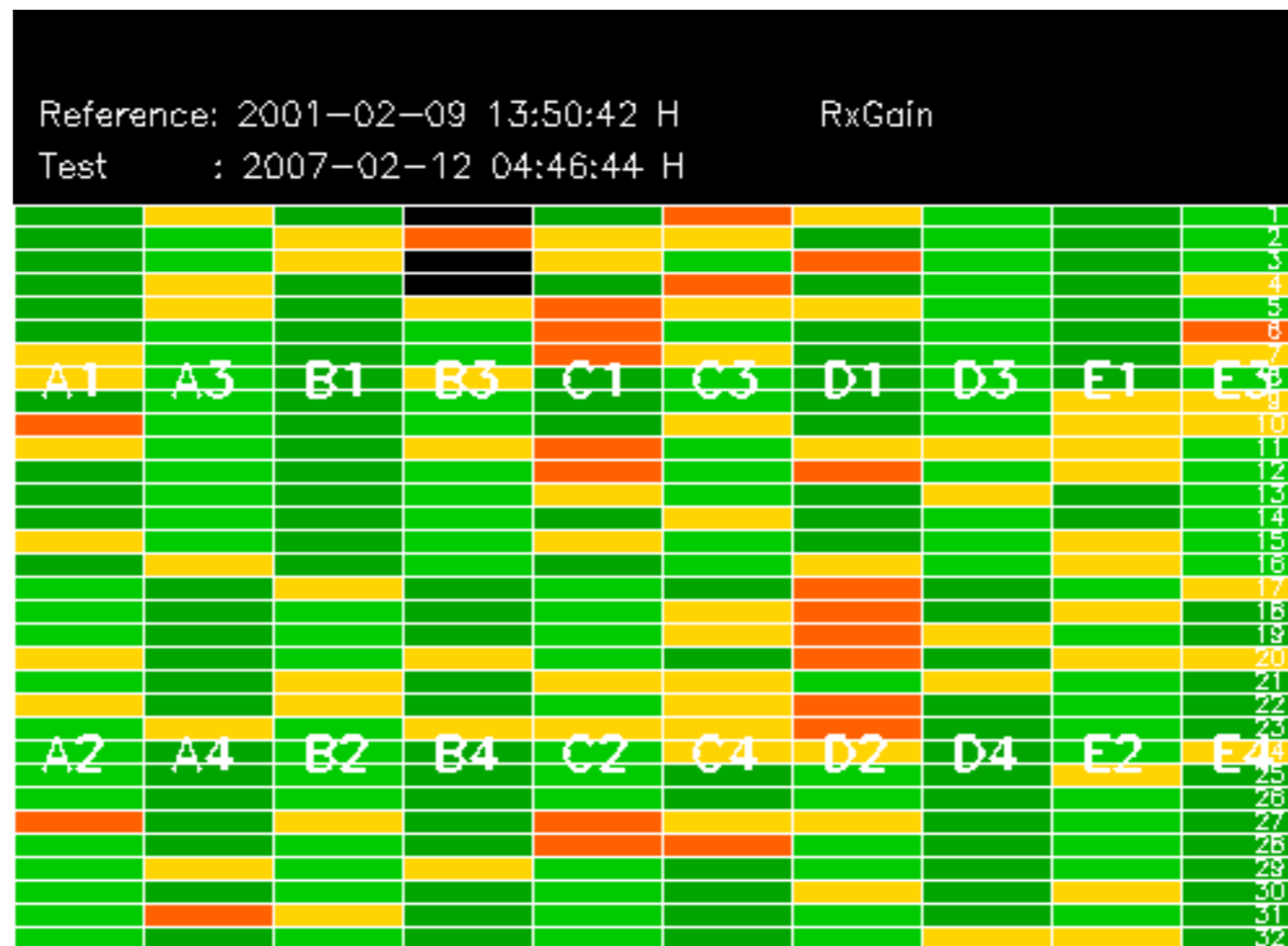


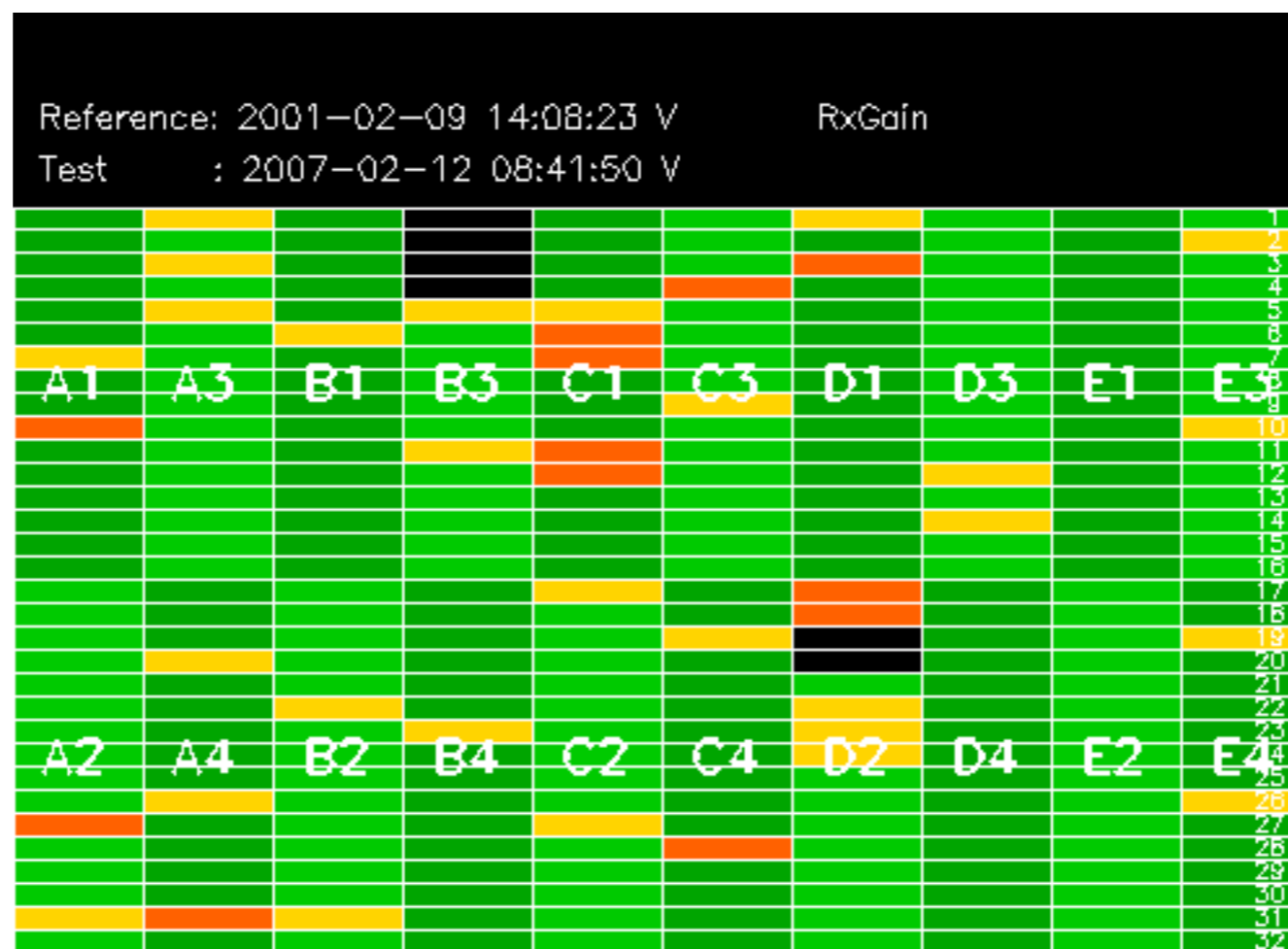
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -17.117806 Hz

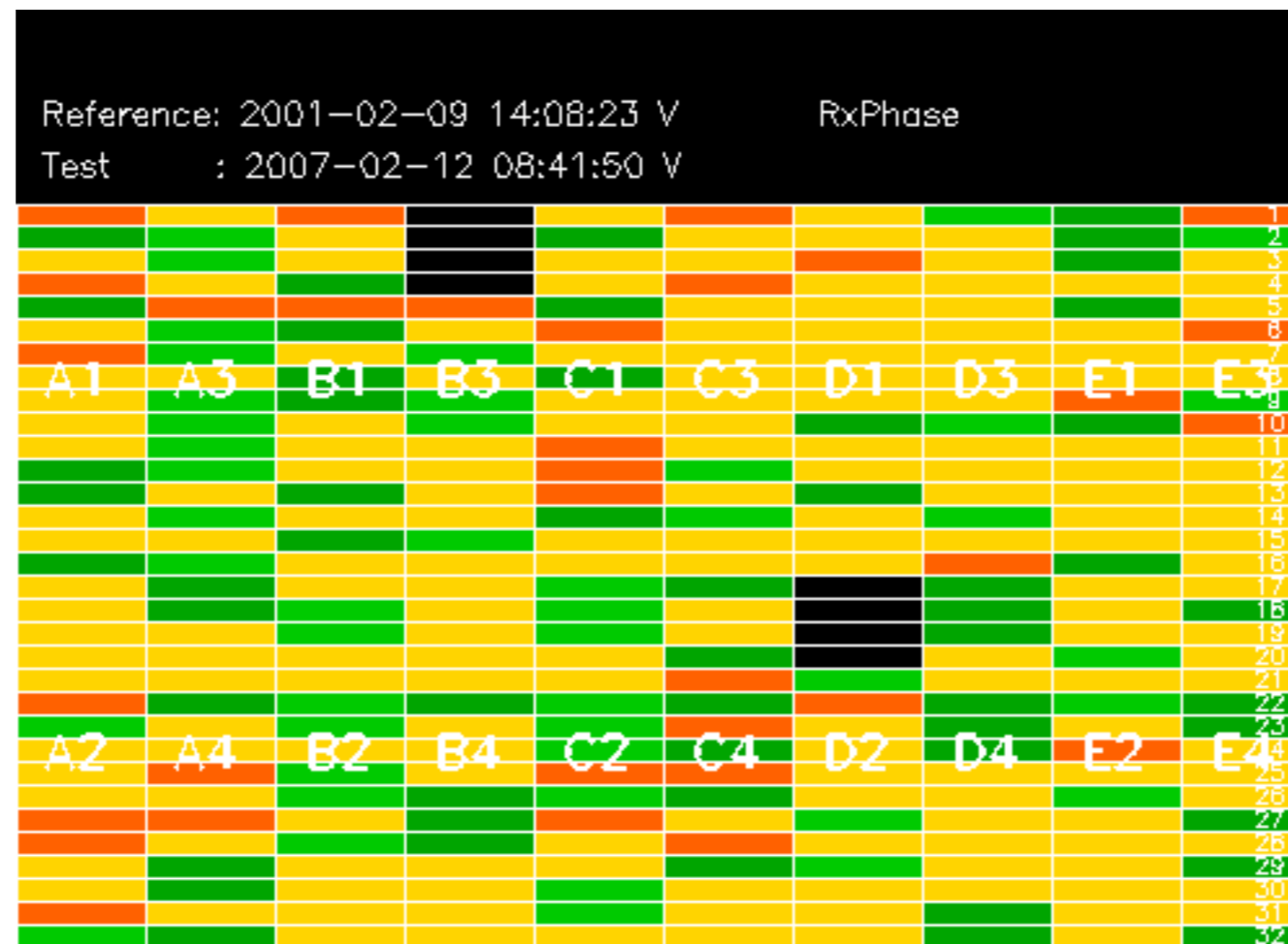


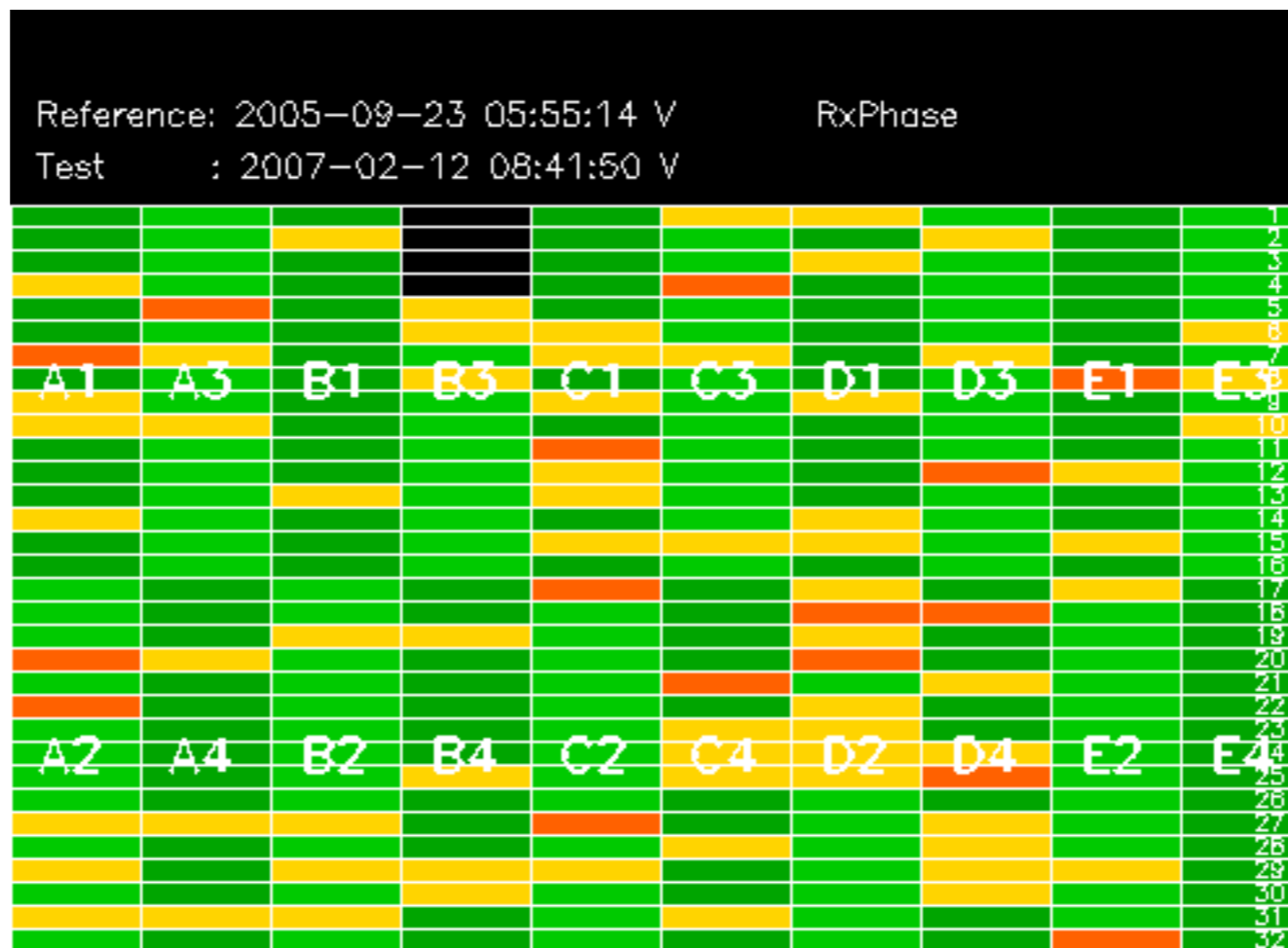
No anomalies observed on available MS products:

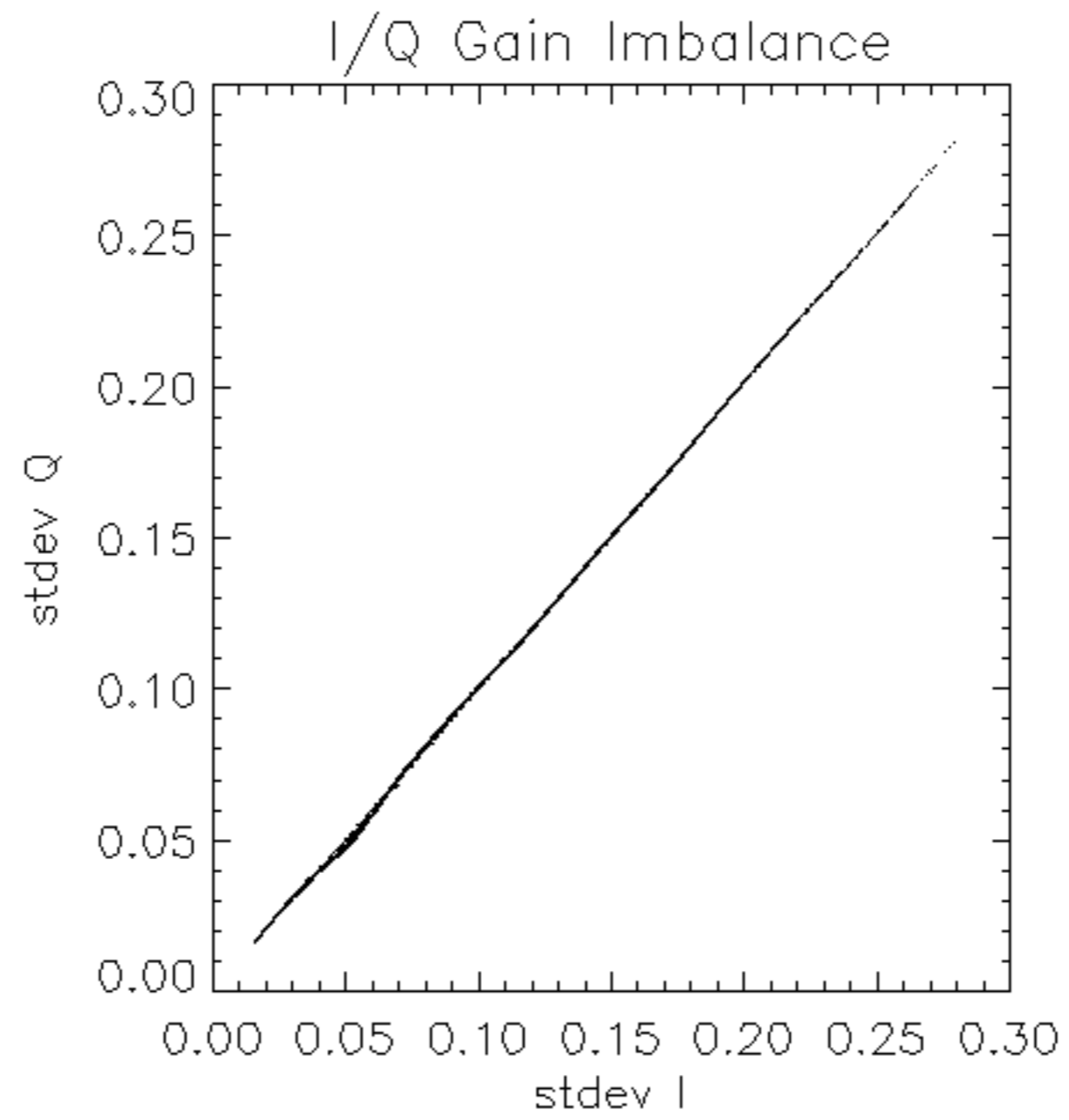
No anomalies observed.

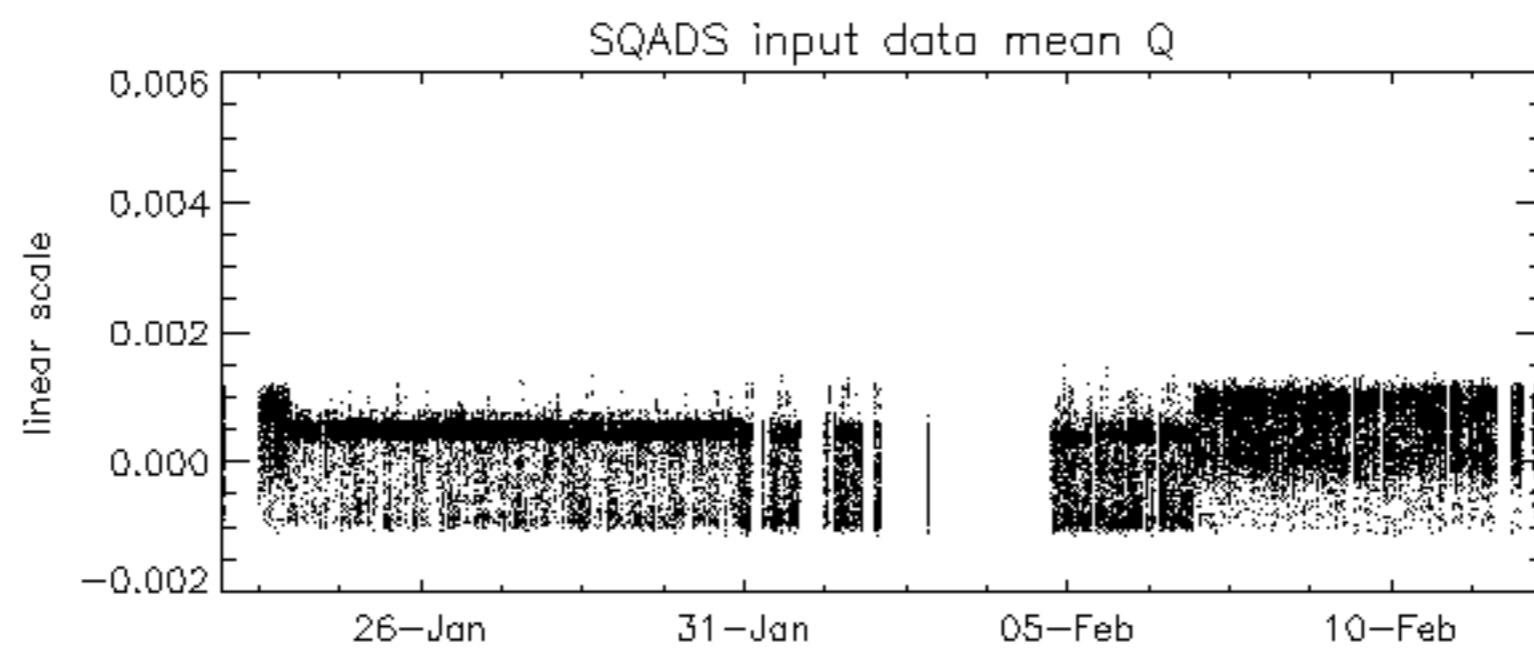
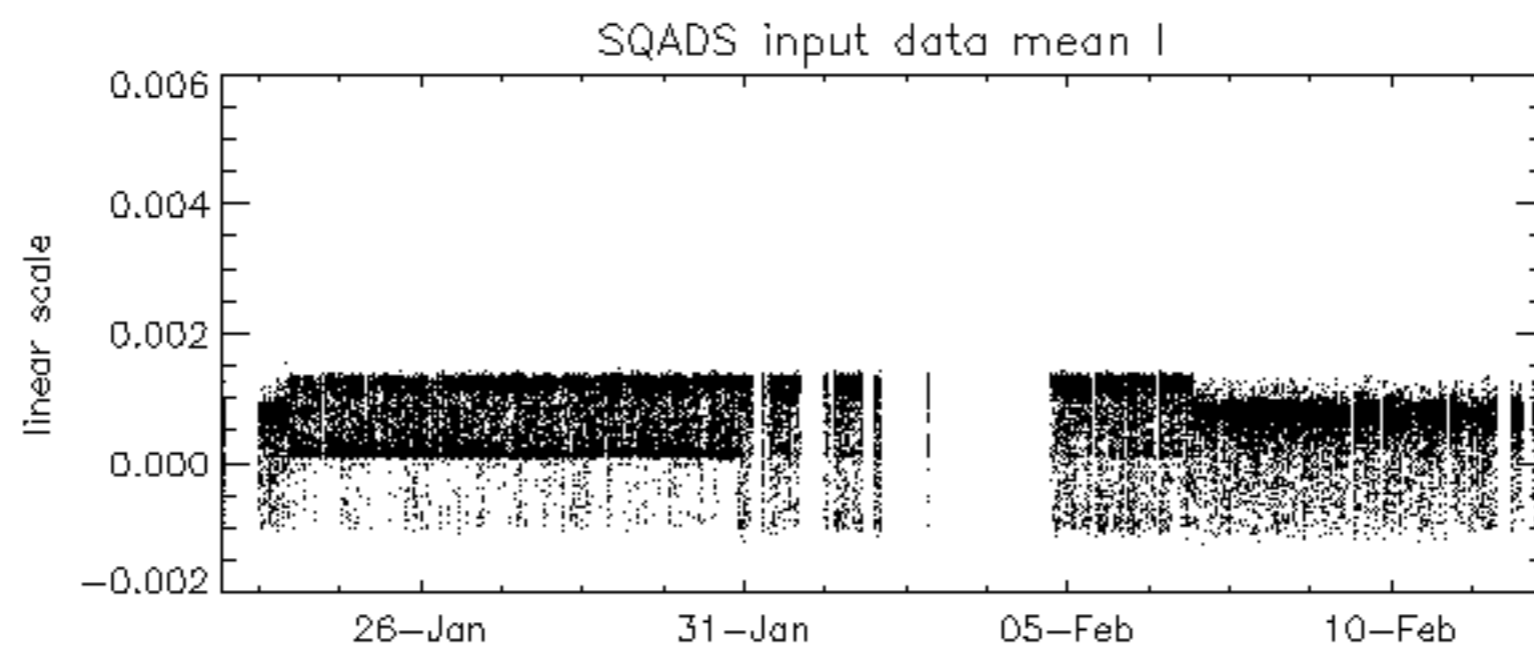
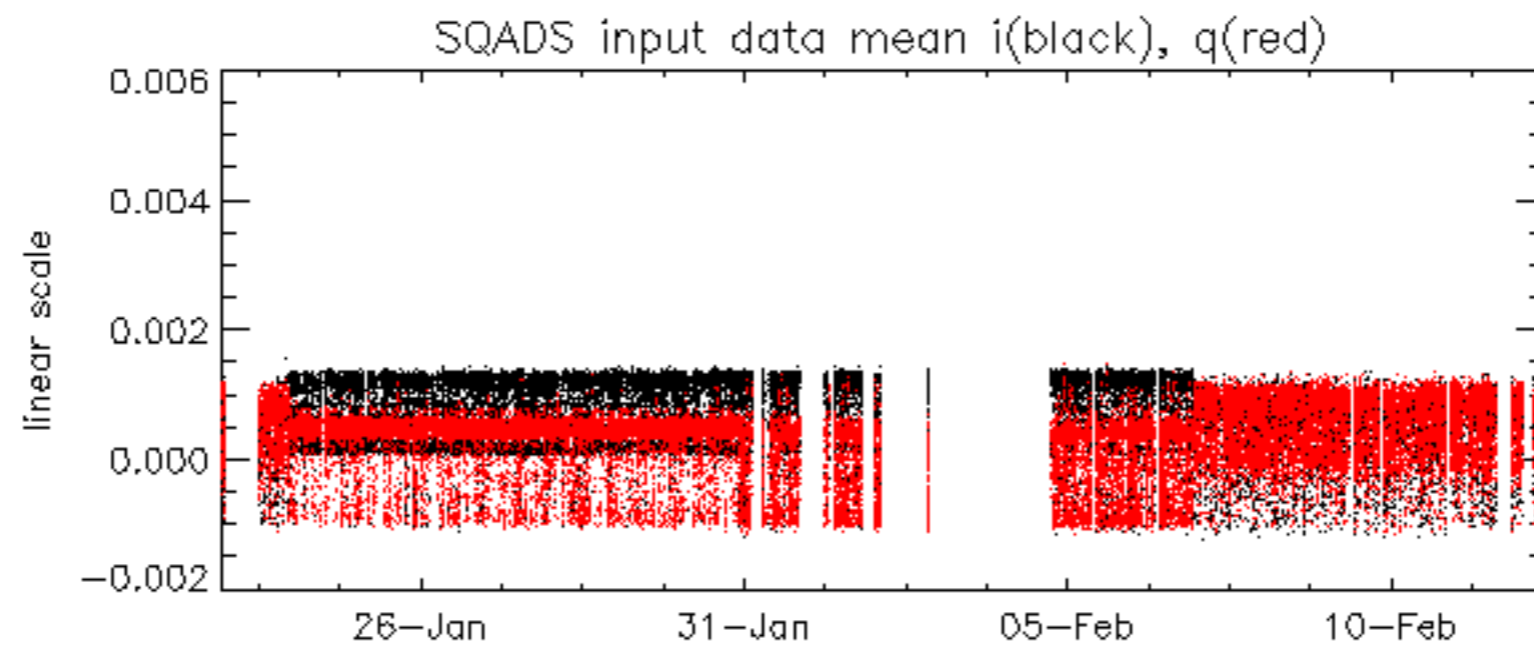


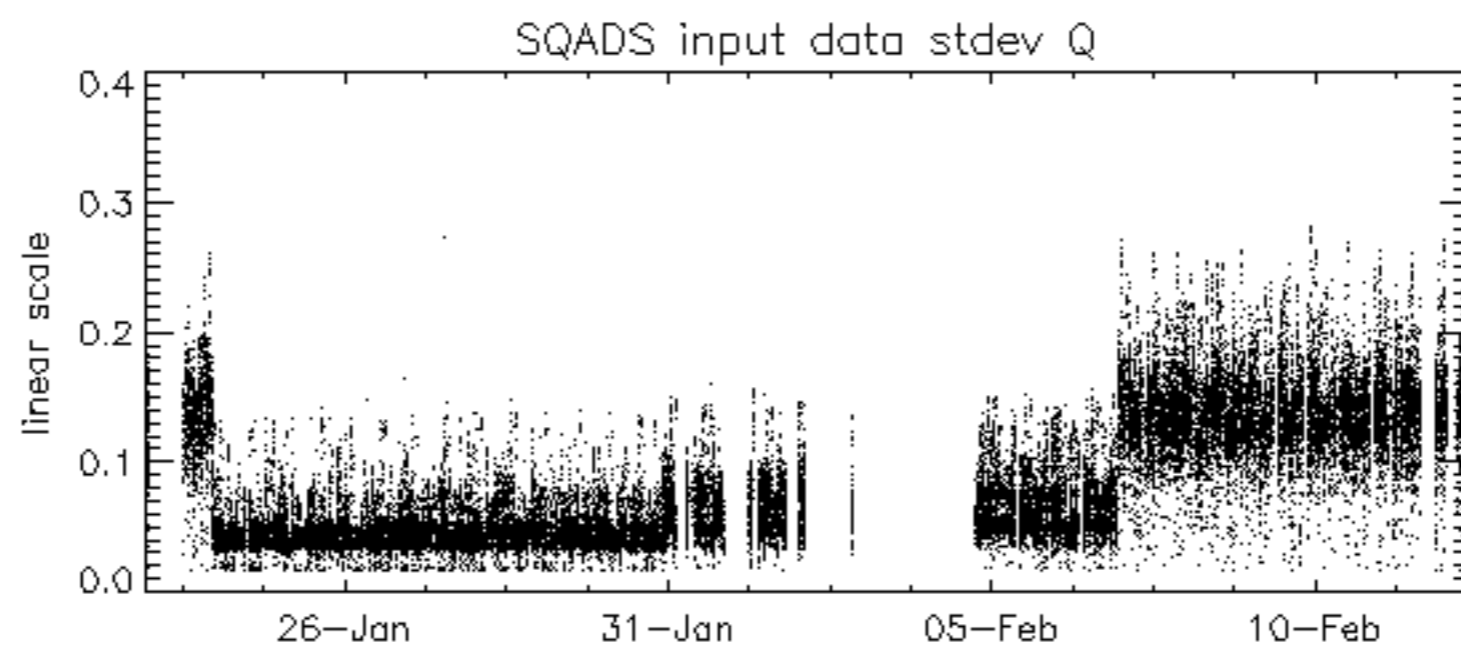
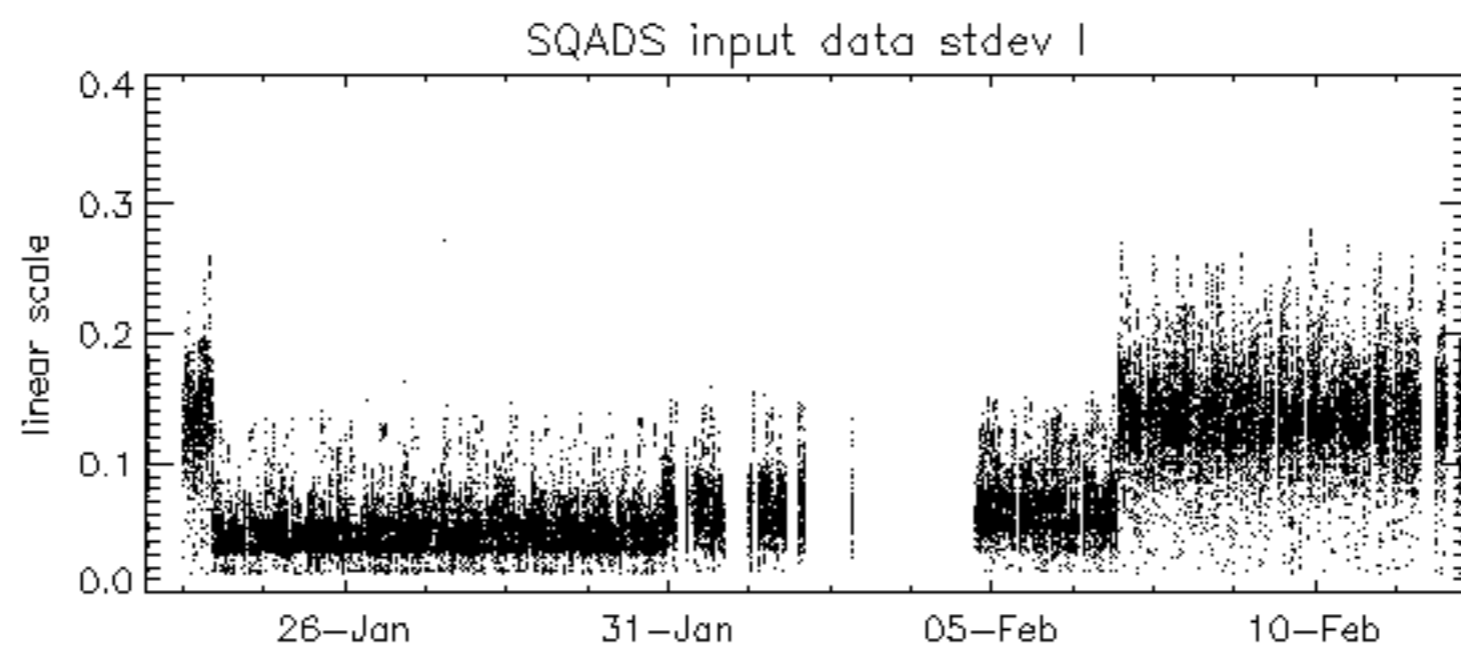
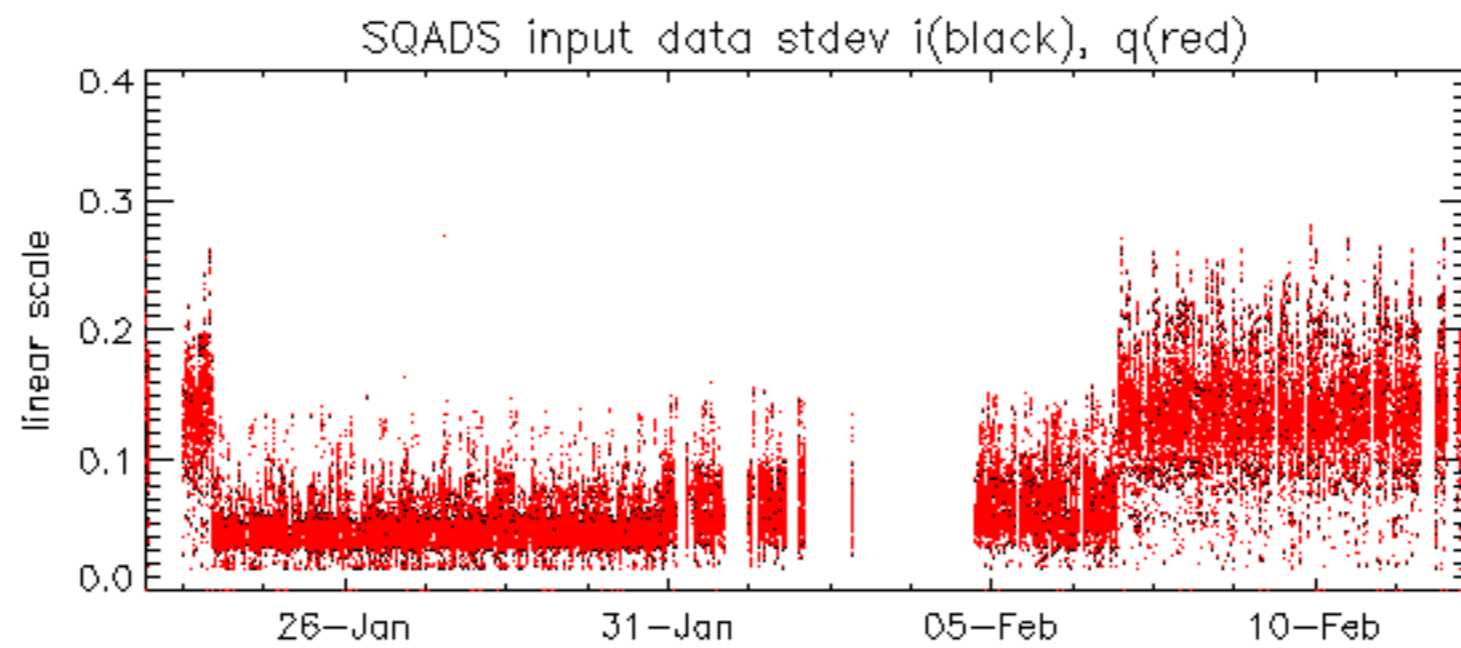








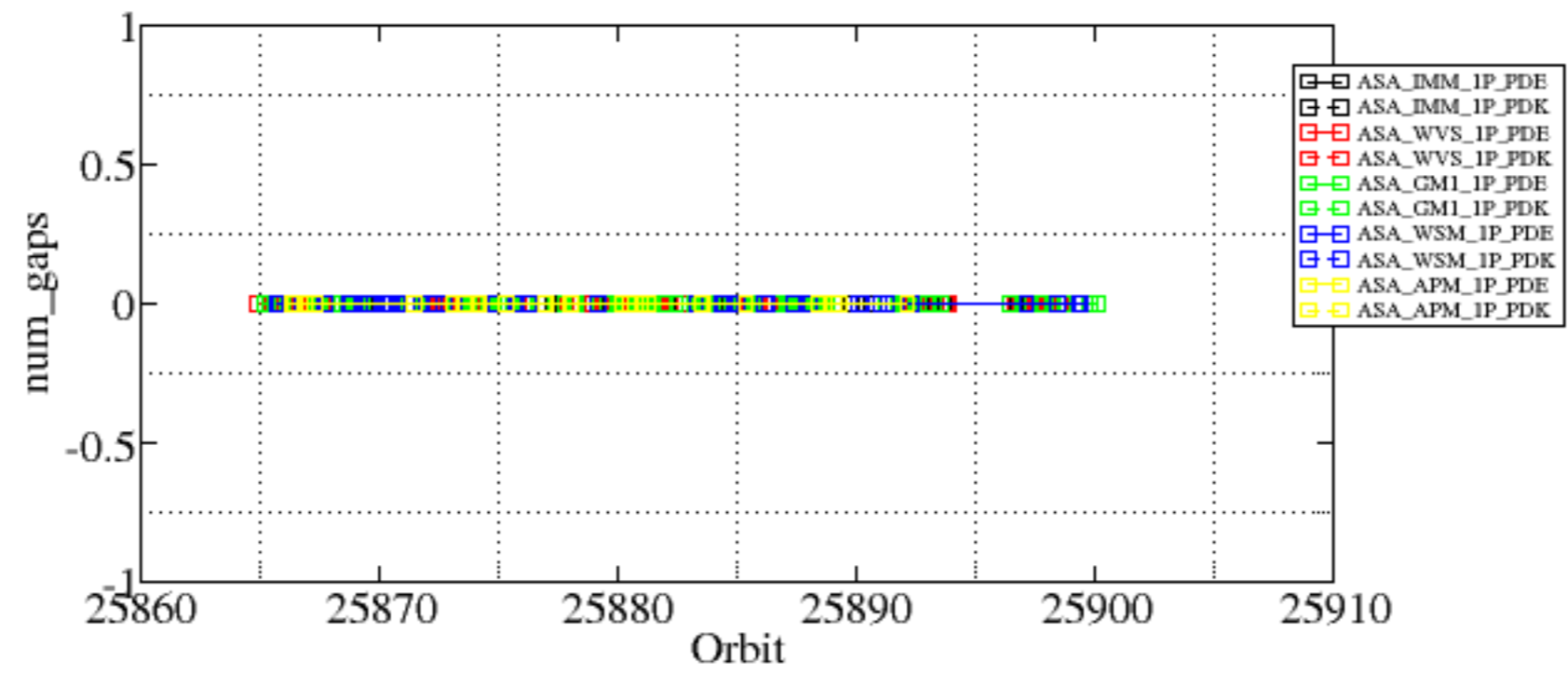


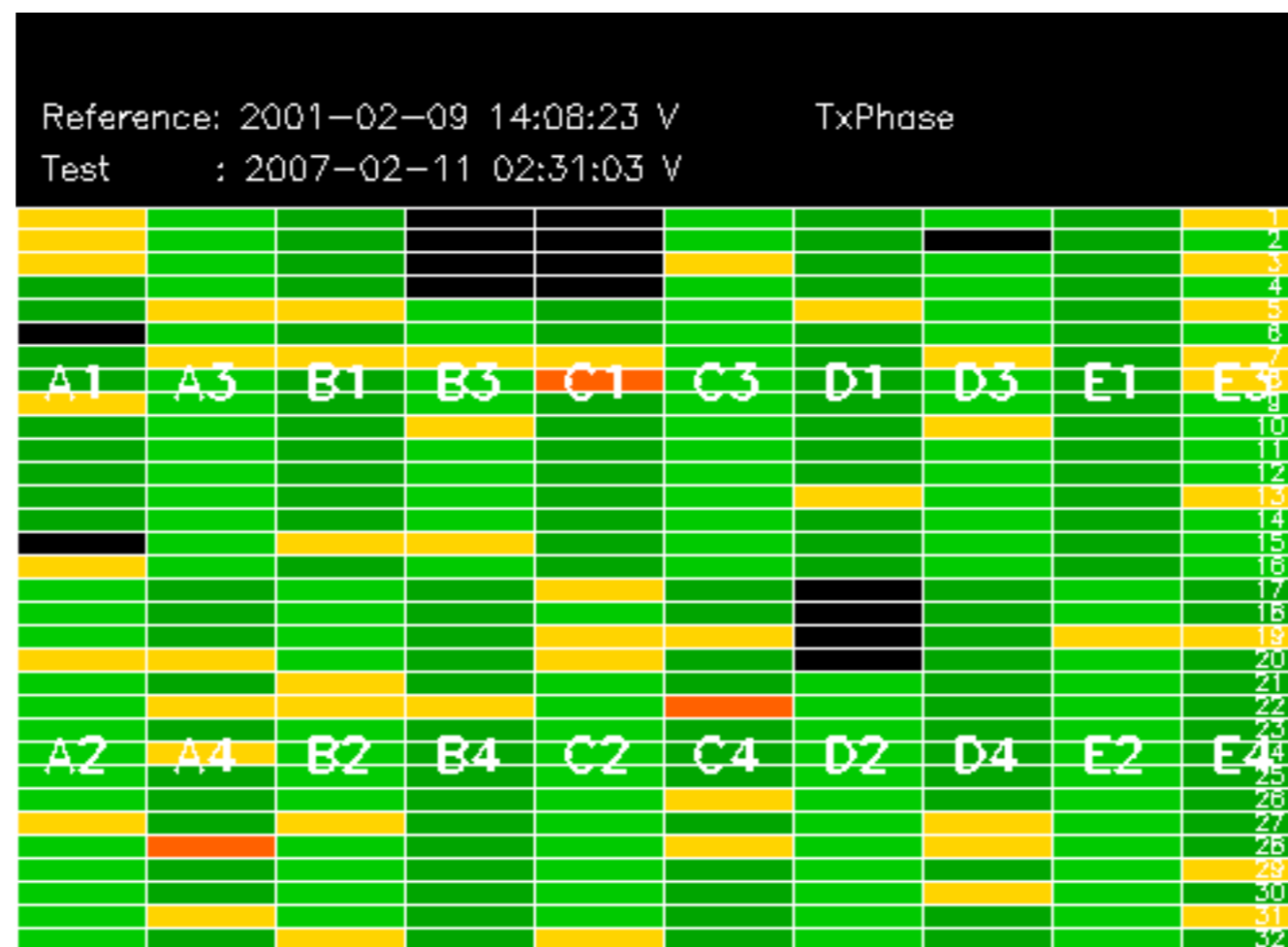


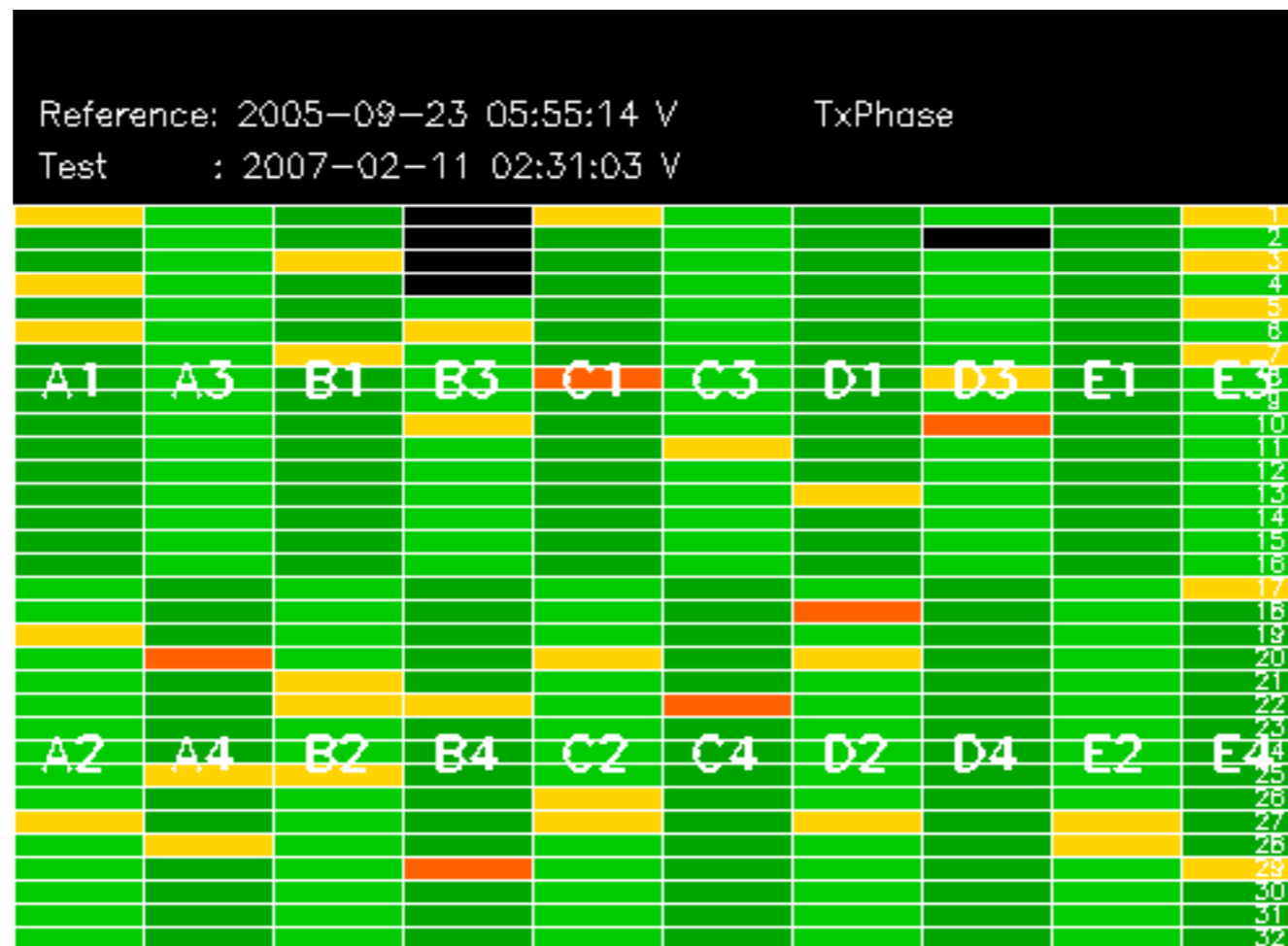
Summary of analysis for the last 3 days 2007021[012]

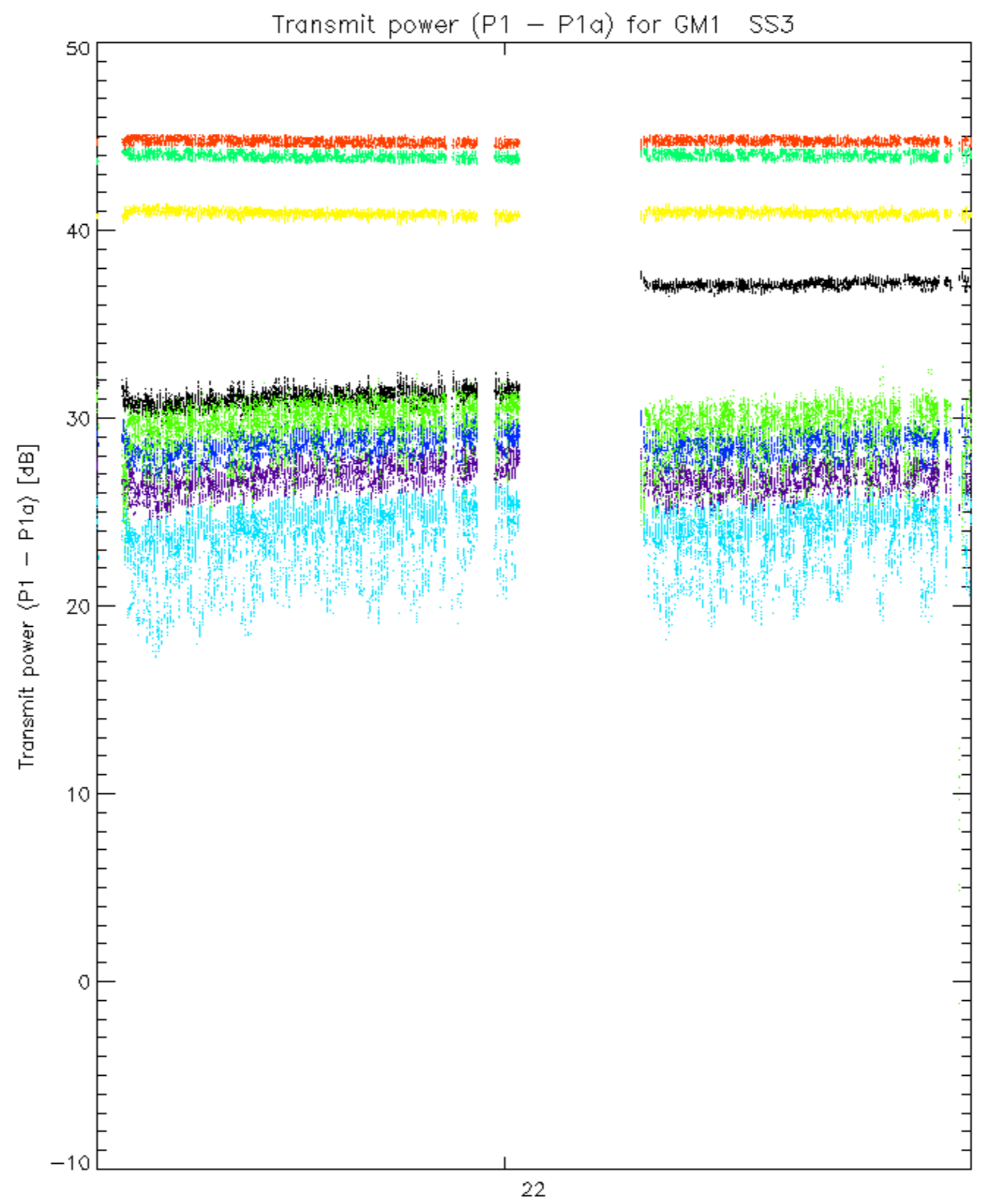
The assumption is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_WSM_1PNPDE20070211_145120_00000862055_00283_25888_3819.N1	0	33
ASA_WSM_1PNPDK20070211_095259_00000852055_00280_25885_2209.N1	0	52

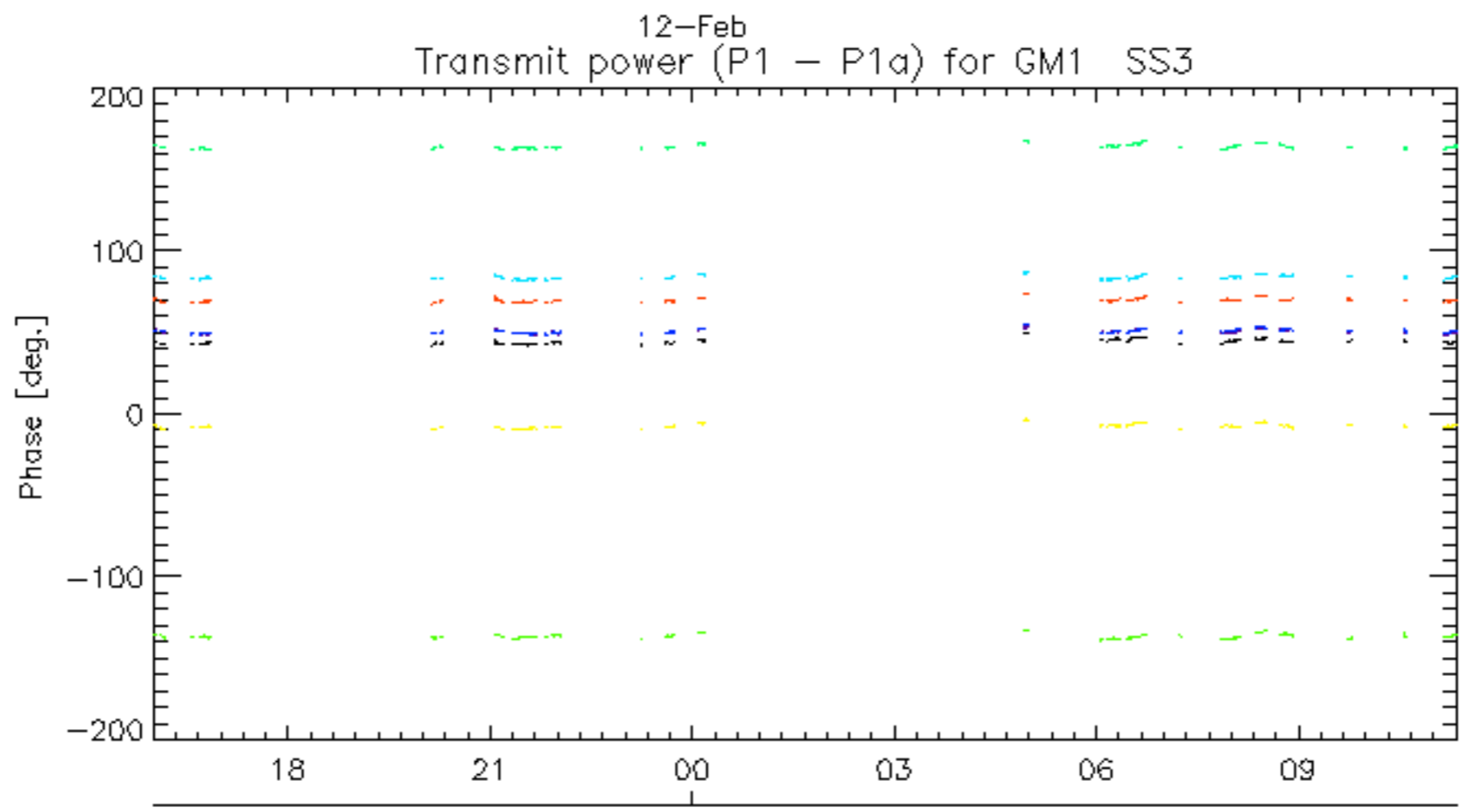
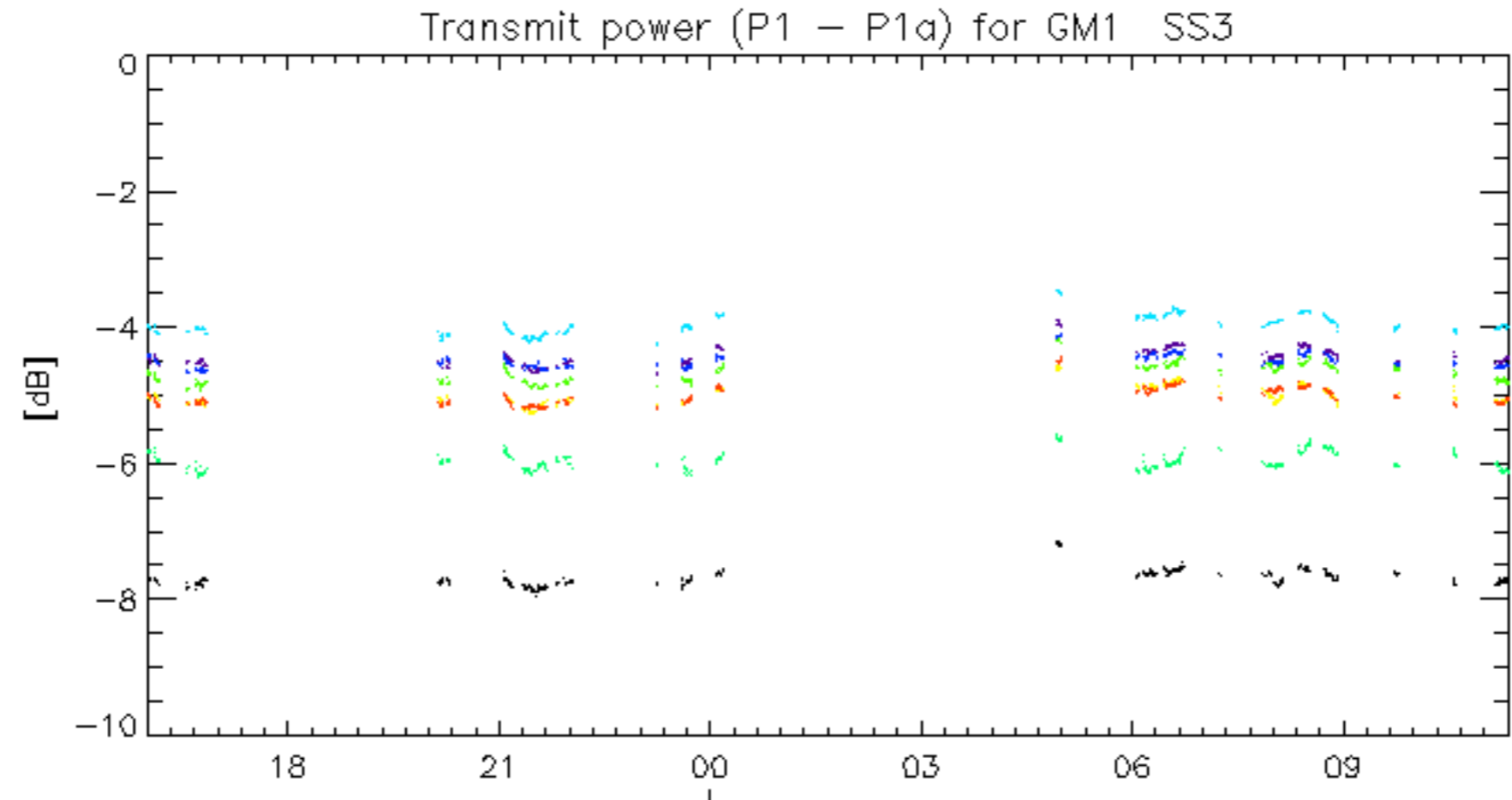






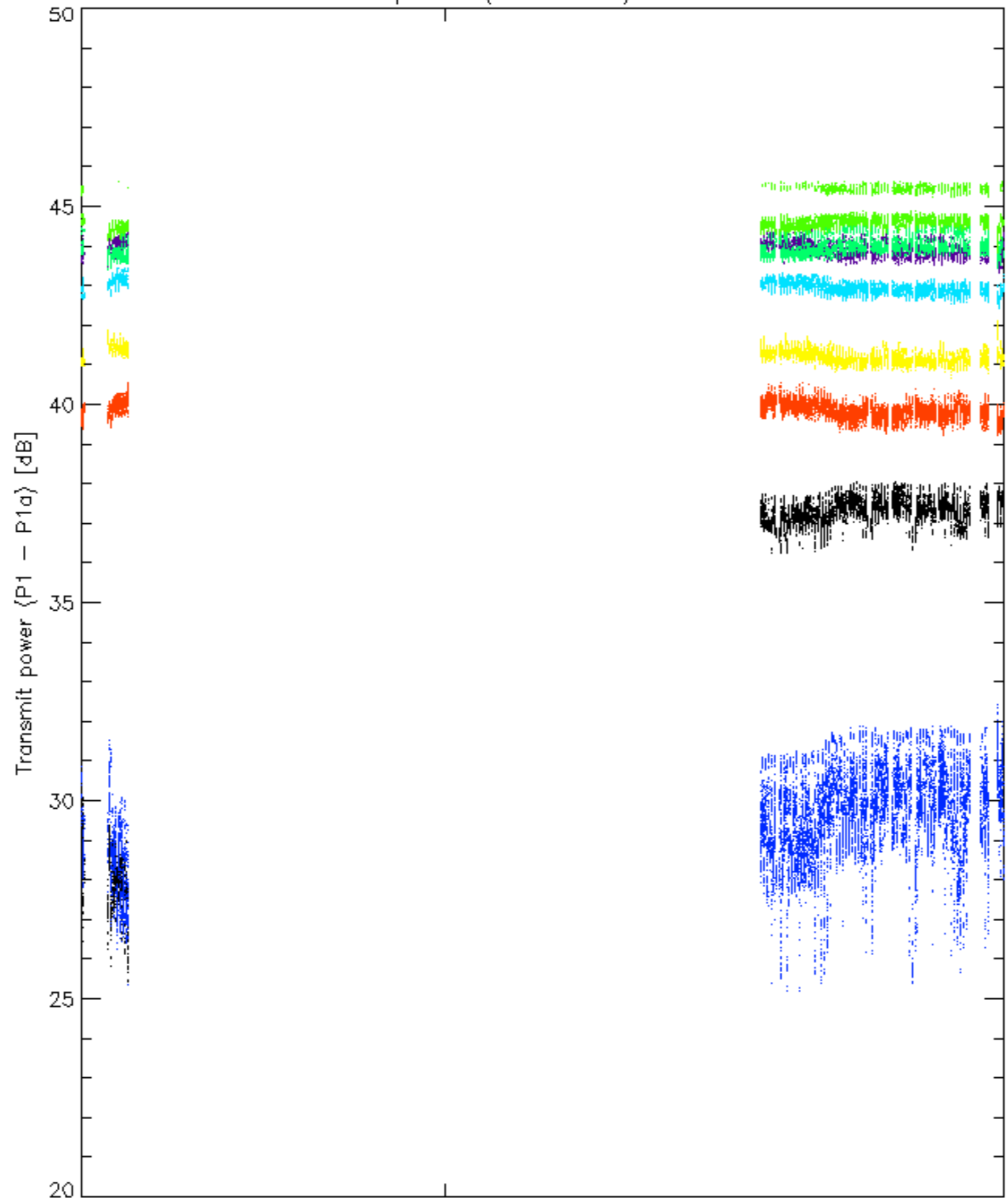


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

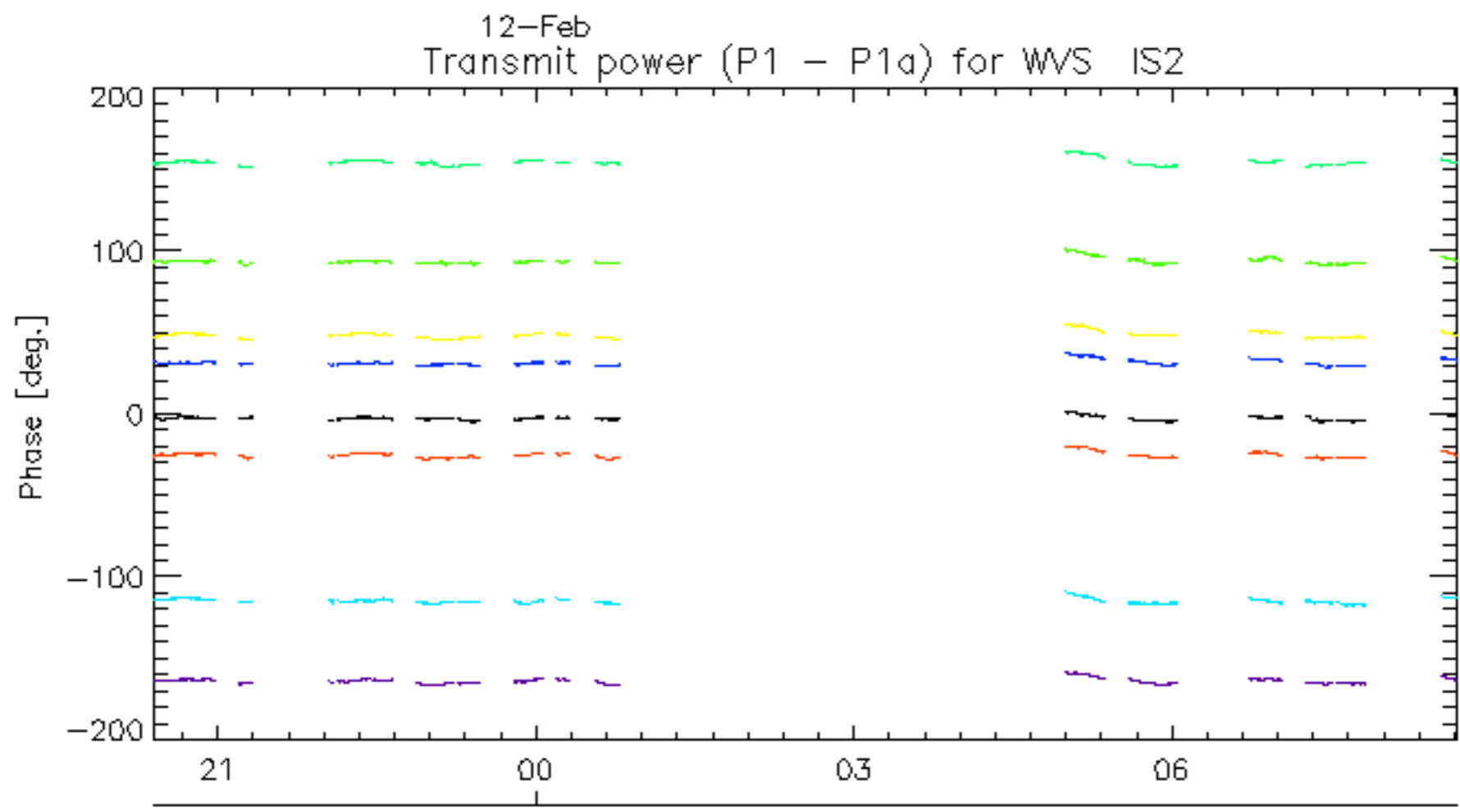
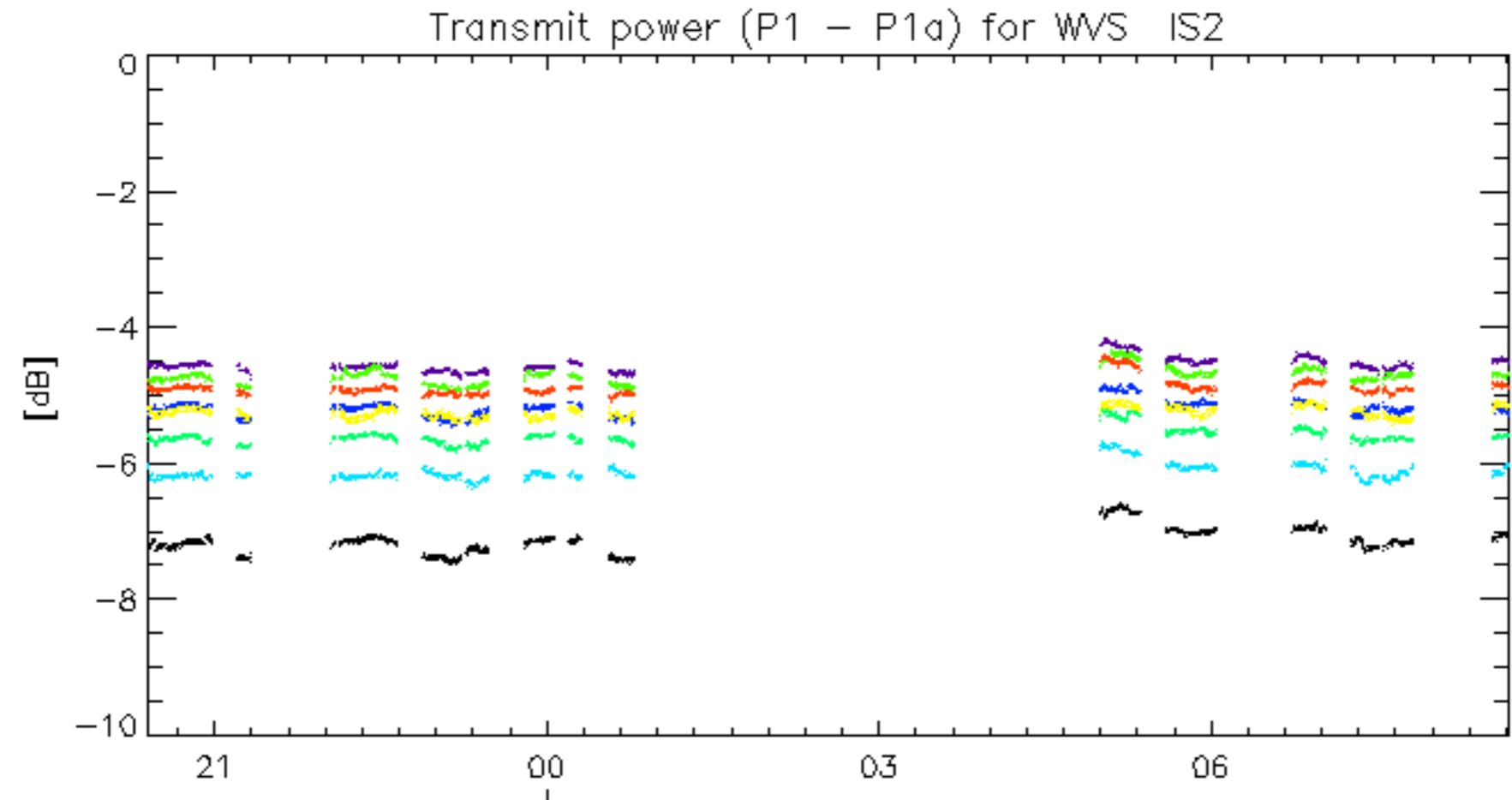


12-Feb
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Transmit power (P1 - P1a) for WVS IS2



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



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

No unavailabilities during the reported period.