

PRELIMINARY REPORT OF 070201

last update on Thu Feb 1 16:58:02 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 2007-01-31 00:00:00 to 2007-02-01 16:58:02

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	40	69	7	5	30
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	40	69	7	5	30
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	40	69	7	5	30
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	40	69	7	5	30

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	8	10	4	3	6
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	8	10	4	3	6
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	8	10	4	3	6
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	8	10	4	3	6

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	20070201 074712
H	20070129 092202

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	-11.643787	0.057078	1.208621
7	P1a	-10.038939	0.054190	-0.699954
11	P1a	-10.565881	0.076206	-1.260753
15	P1a	-11.092980	0.809612	-7.449183
19	P1a	-15.548500	0.531048	5.753595
22	P1a	-20.888124	4.559503	14.738102
26	P1a	-15.613183	0.396397	-1.013179
30	P1a	-18.798340	3.597919	-15.297807

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-4.424495	0.176425	-4.695576
7	P1	-2.557309	0.008299	-0.349571
11	P1	-3.038198	0.063743	-1.932917
15	P1	-4.025663	0.593931	-6.481508
19	P1	-3.550036	0.047785	1.515284
22	P1	-5.183372	0.076542	-2.057657
26	P1	-5.789354	0.318778	4.575666
30	P1	-5.359768	0.054325	-0.867691

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.243711	0.096677	-0.757869
7	P2	-22.054012	0.143396	1.242746
11	P2	-10.931198	0.101598	1.352380
15	P2	-5.144379	0.096318	0.225711

19	P2	-7.271508	0.082006	0.157539
22	P2	-8.358270	0.079979	-0.353473
26	P2	-24.285542	0.092654	1.231809
30	P2	-21.702854	0.072797	0.016003

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.225466	0.007436	-0.000662
7	P3	-8.225466	0.007436	-0.000662
11	P3	-8.225466	0.007436	-0.000662
15	P3	-8.225466	0.007436	-0.000662
19	P3	-8.225466	0.007436	-0.000662
22	P3	-8.225466	0.007436	-0.000662
26	P3	-8.225466	0.007436	-0.000662
30	P3	-8.225466	0.007436	-0.000662

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	-11.726501	0.046371	0.505057
7	P1a	-10.006560	0.039106	0.406452
11	P1a	-10.483970	0.056611	0.125075
15	P1a	-10.826065	0.130170	-0.196116
19	P1a	-15.752179	0.060975	-0.311113
22	P1a	-20.974543	1.397886	1.596246
26	P1a	-15.513459	0.251112	-0.053968
30	P1a	-18.312819	0.368863	-0.256594

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
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3	P1	-4.290185	0.188199	-4.854071
7	P1	-2.437901	0.006331	0.091419
11	P1	-2.844604	0.016079	0.193471
15	P1	-3.766705	0.032483	0.018640
19	P1	-3.549189	0.013545	-0.092482
22	P1	-5.020917	0.023693	0.100384
26	P1	-6.003349	0.021729	-0.230029
30	P1	-5.291495	0.024843	-0.032950

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.291664	0.030985	-0.195725
7	P2	-22.045179	0.047738	-0.365874
11	P2	-10.706809	0.029892	-0.294965
15	P2	-4.846405	0.026957	-0.140094
19	P2	-6.848959	0.026792	-0.223366
22	P2	-8.157883	0.028525	-0.279950
26	P2	-24.264530	0.031533	-0.305745
30	P2	-21.803925	0.034540	-0.042085

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.057071	0.002554	-0.025375
7	P3	-8.056895	0.002549	-0.027425
11	P3	-8.056975	0.002556	-0.022855
15	P3	-8.057021	0.002541	-0.026298
19	P3	-8.056919	0.002536	-0.025286
22	P3	-8.057104	0.002552	-0.025809
26	P3	-8.056993	0.002540	-0.025129
30	P3	-8.056938	0.002545	-0.023244

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	0.000682525
	stdev	2.60298e-07
MEAN Q	mean	0.000305222
	stdev	1.97933e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.0568054
	stdev	0.000947997
STDEV Q	mean	0.0563845
	stdev	0.000957672



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2007013[011]

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_WVS_1PNPDK20070131_090438_000000452055_00122_25727_9958.N1	0	8
ASA_WVS_1PNPDK20070131_090438_000000452055_00122_25727_9973.N1	0	8
ASA_GM1_1PNPDK20070131_140516_000005552055_00125_25730_0316.N1	0	8
ASA_WSM_1PNPDE20070130_000819_000002452055_00102_25707_9211.N1	0	68
ASA_WSM_1PNPDE20070130_063931_000000852055_00106_25711_9762.N1	0	1
ASA_WSM_1PNPDK20070131_092147_000003422055_00122_25727_0151.N1	0	6



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**7.4 - Unbiased Doppler Error for GM1****Evolution of unbiased Doppler error (Real - Expected)**

Acsending

Descending

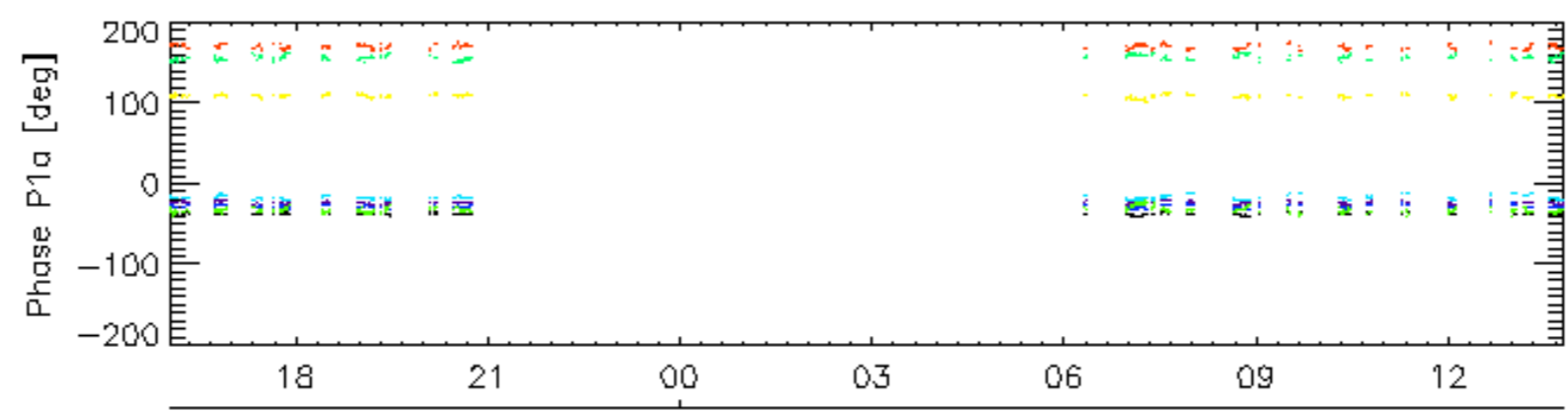
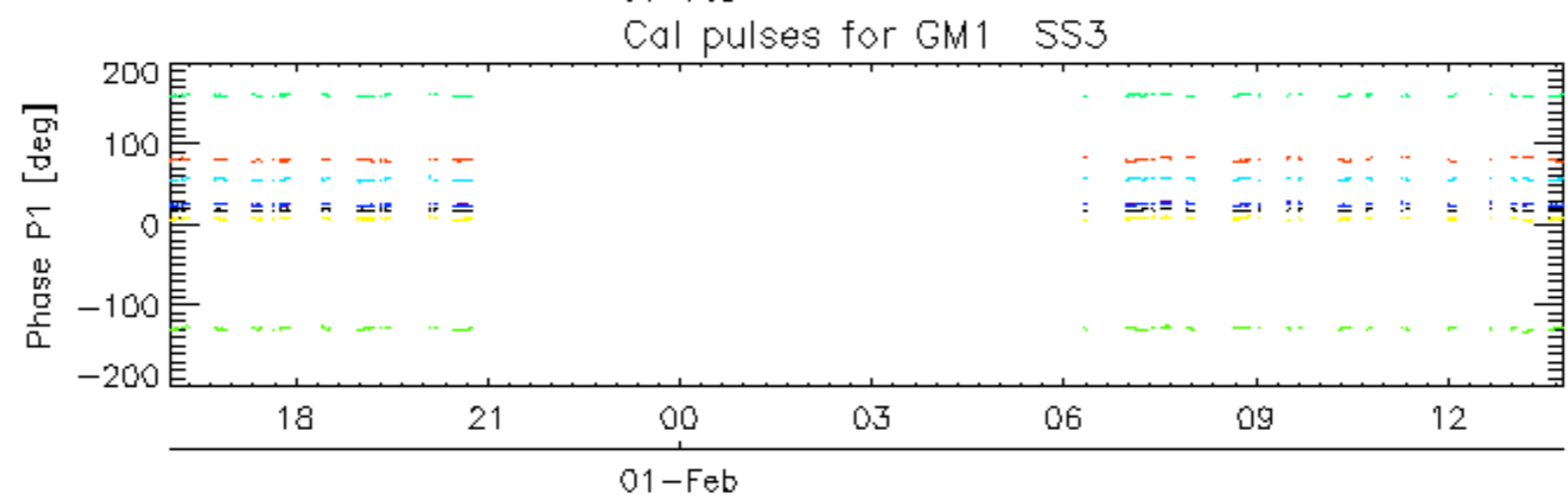
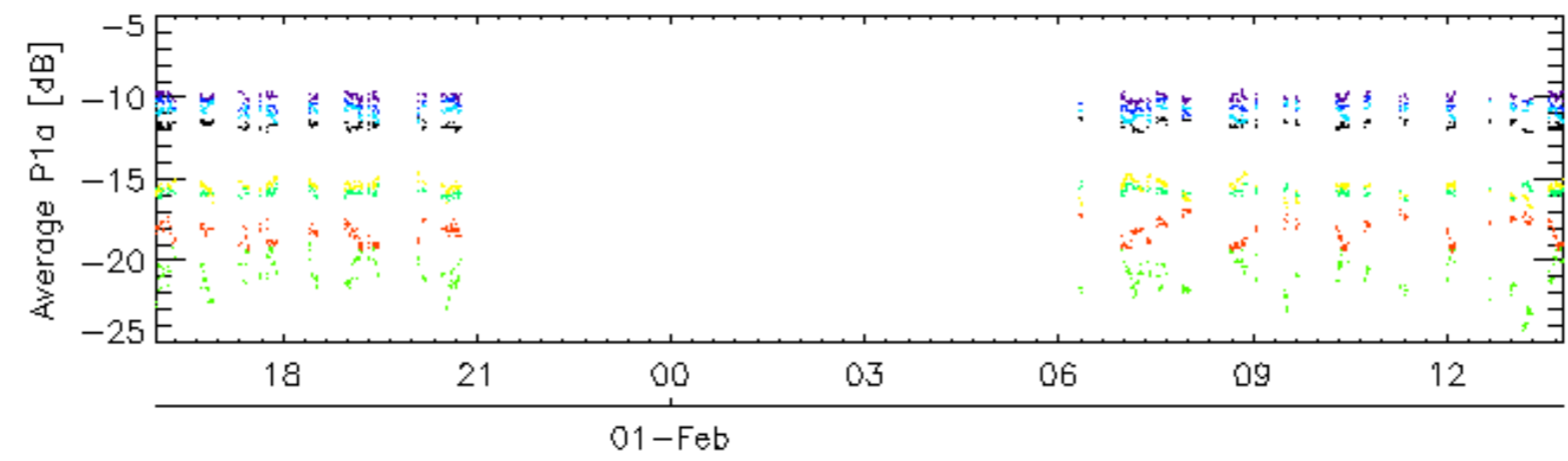
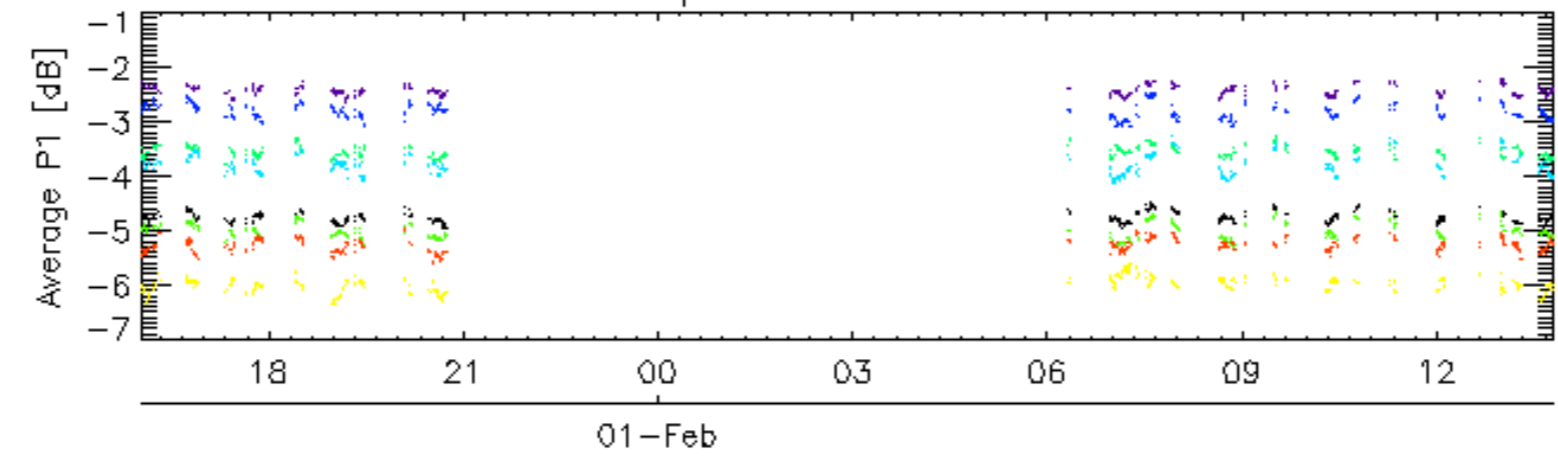
7.5 - Absolute Doppler for GM1**Evolution of Absolute Doppler**

Acsending

Descending

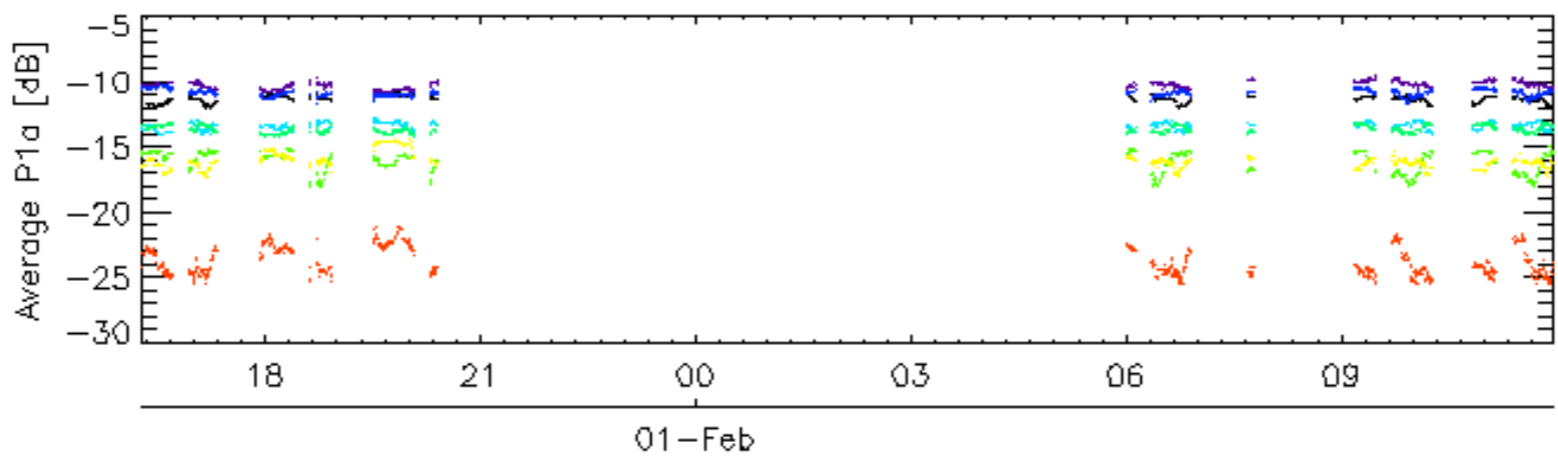
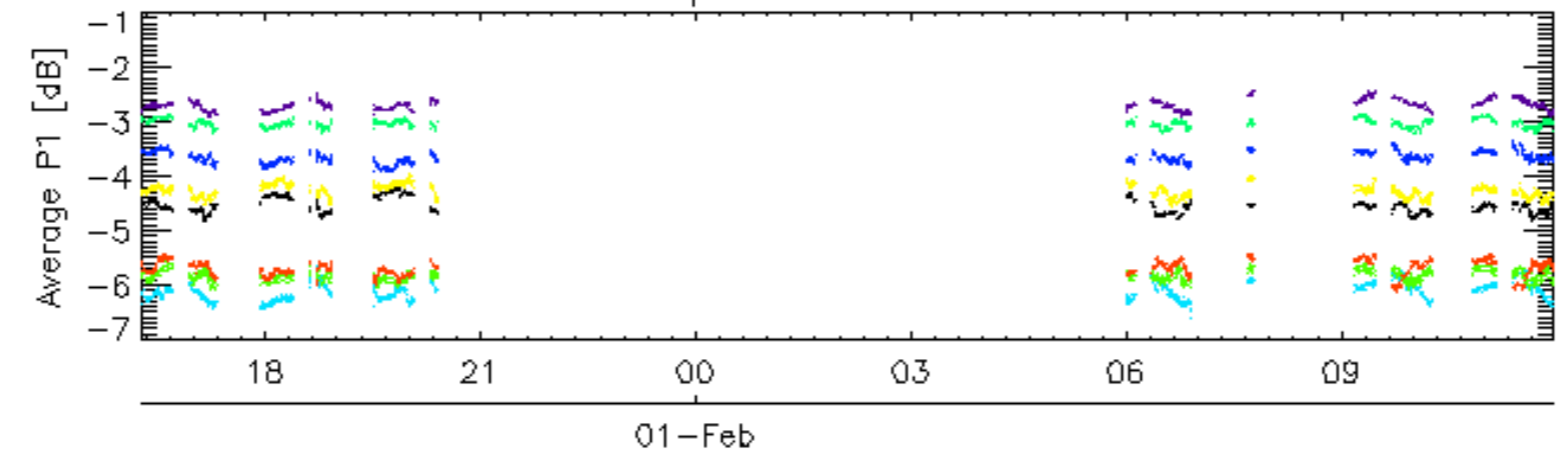
7.6 - Doppler evolution versus ANX for GM1**Evolution Doppler error versus ANX**

Cal pulses for GM1 SS3

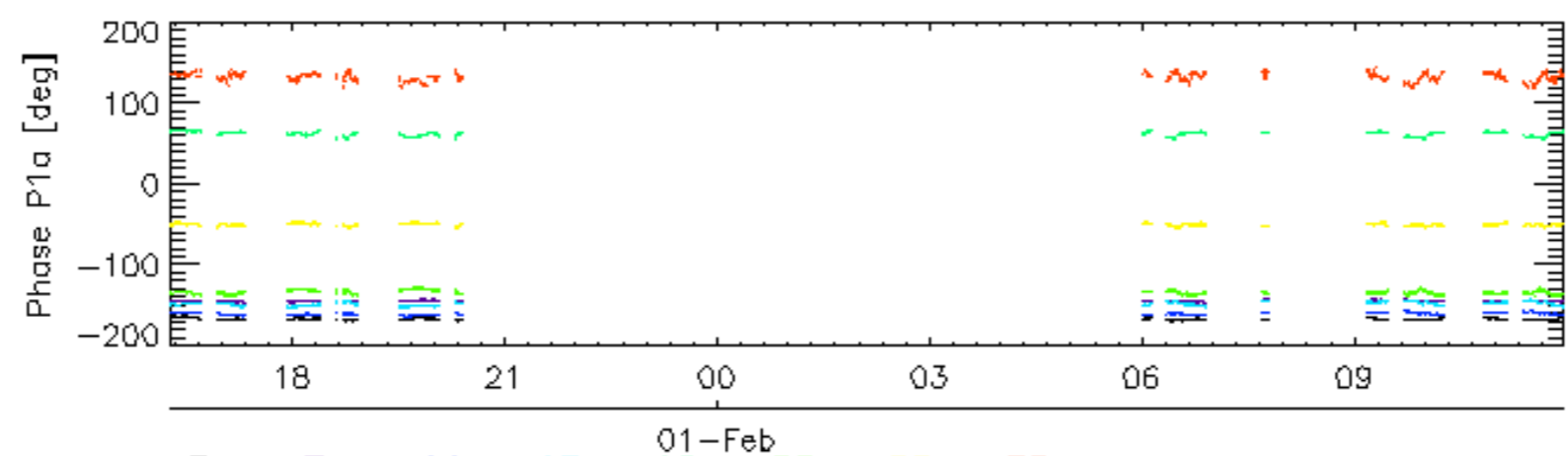
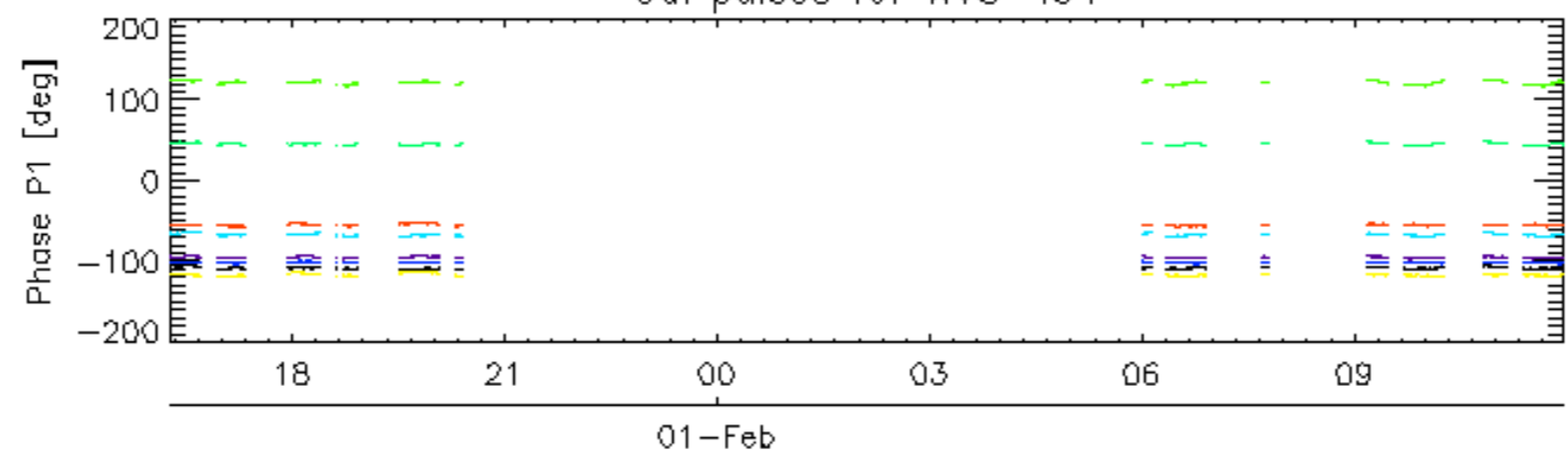


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS4

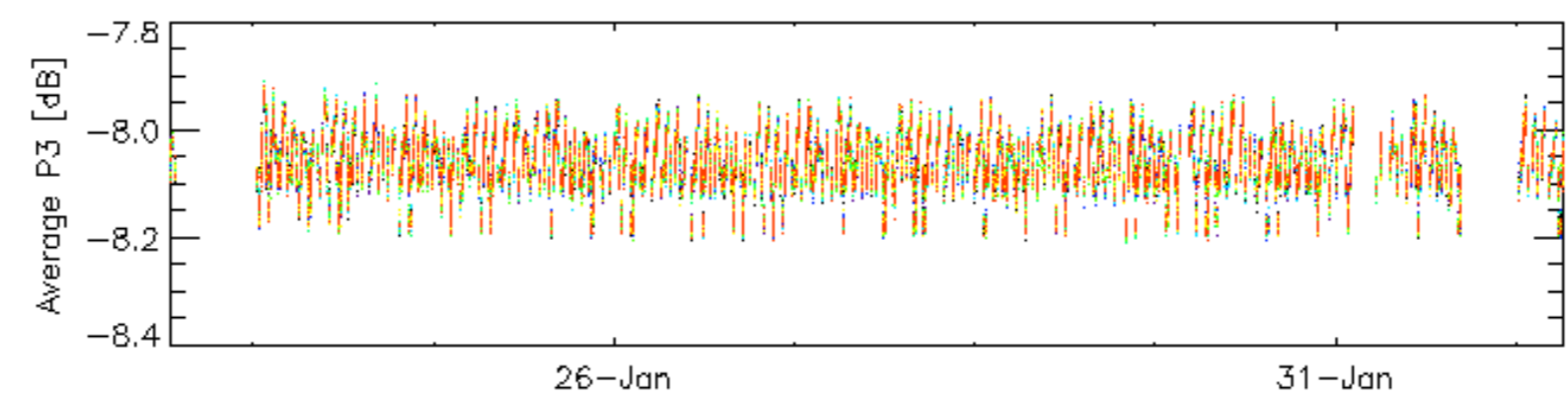
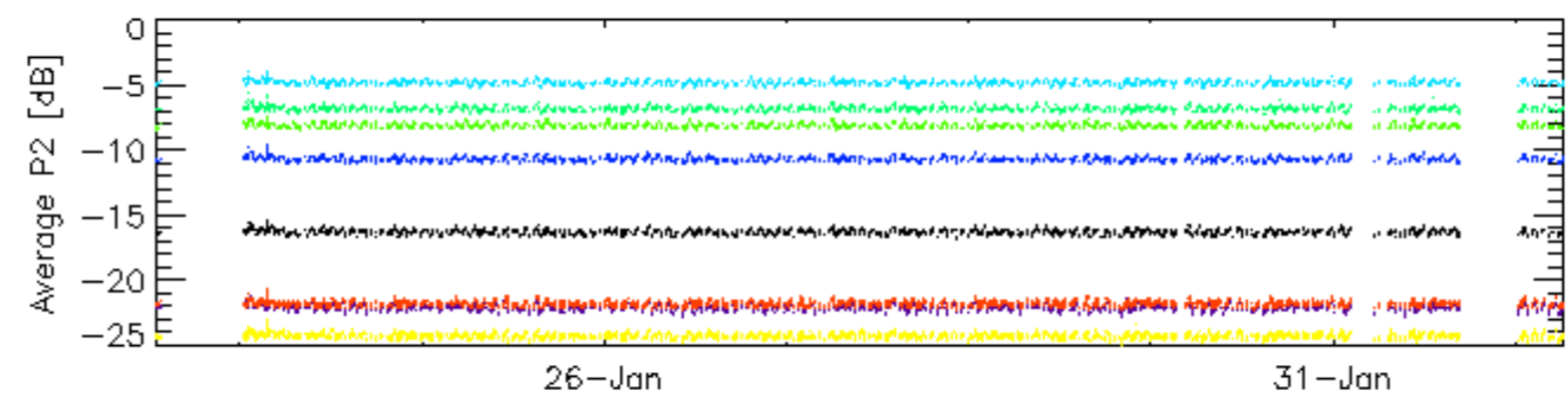
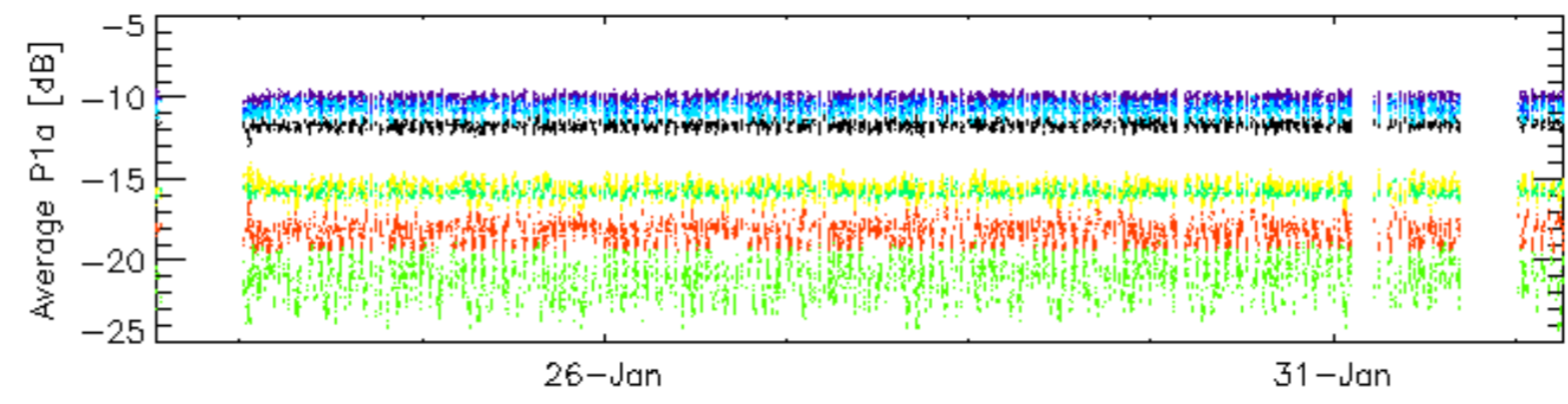
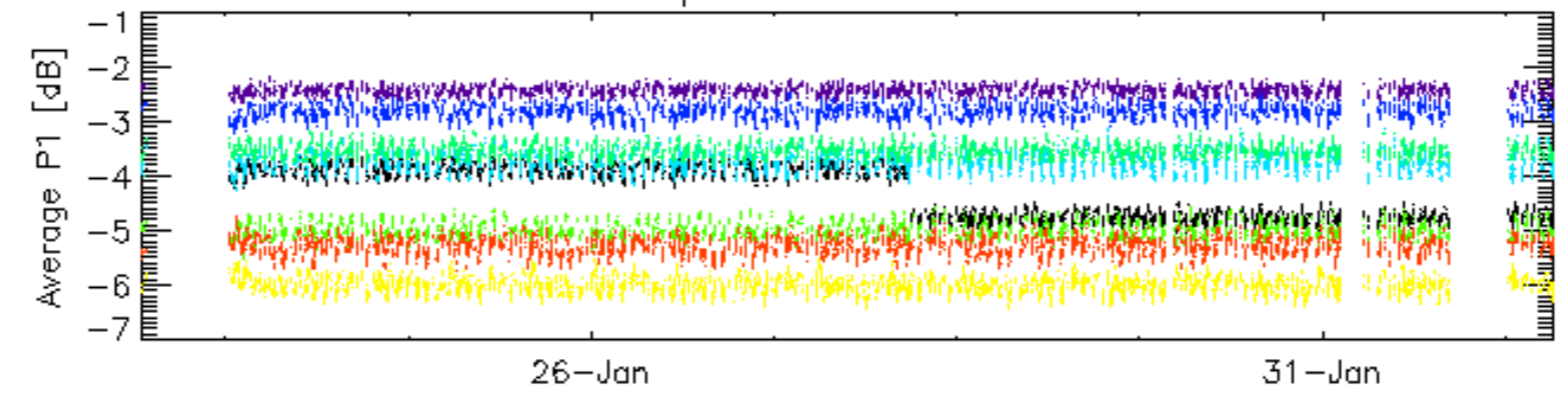


Cal pulses for WVS IS4



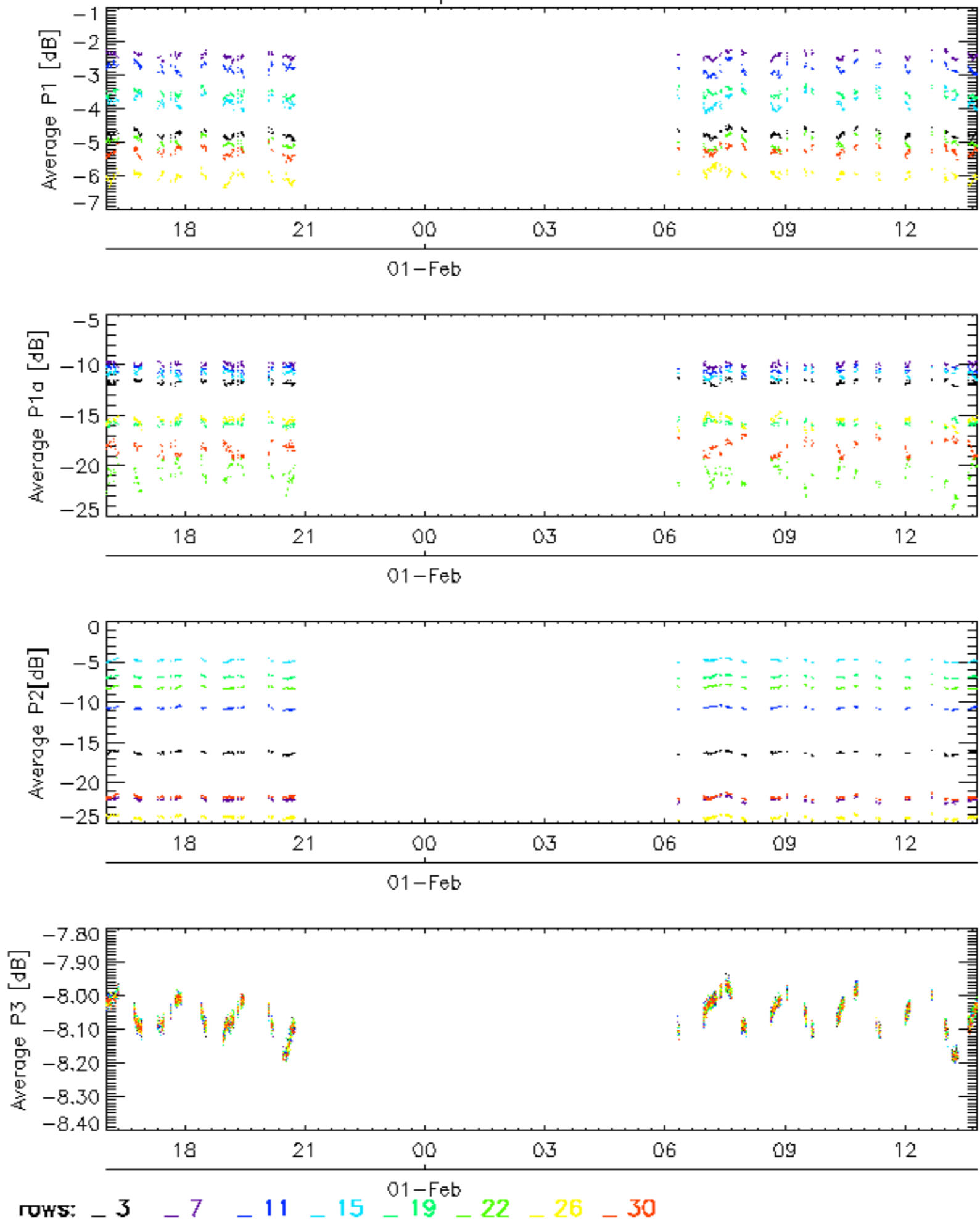
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

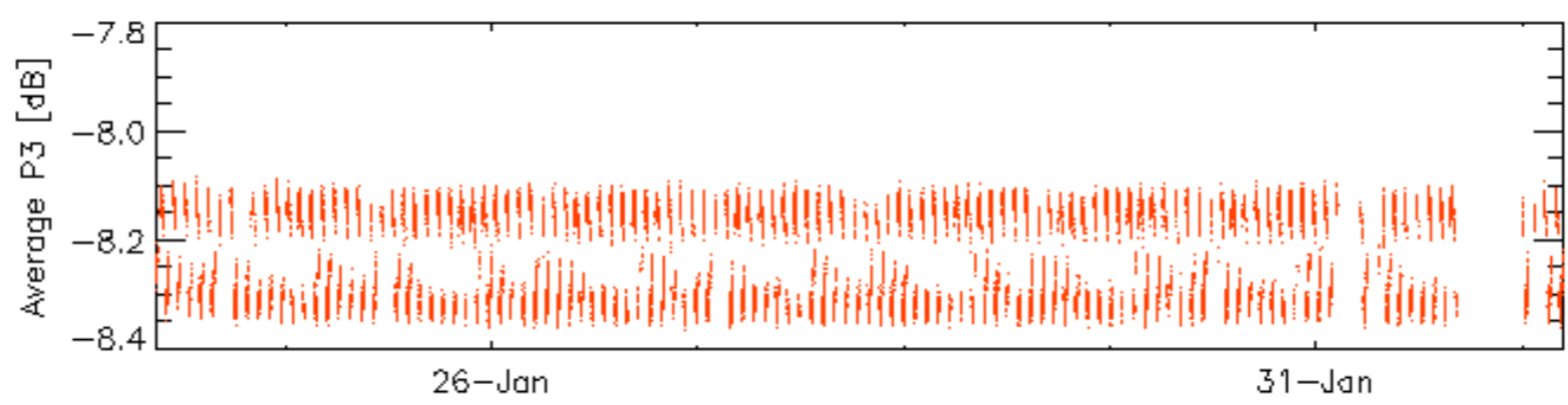
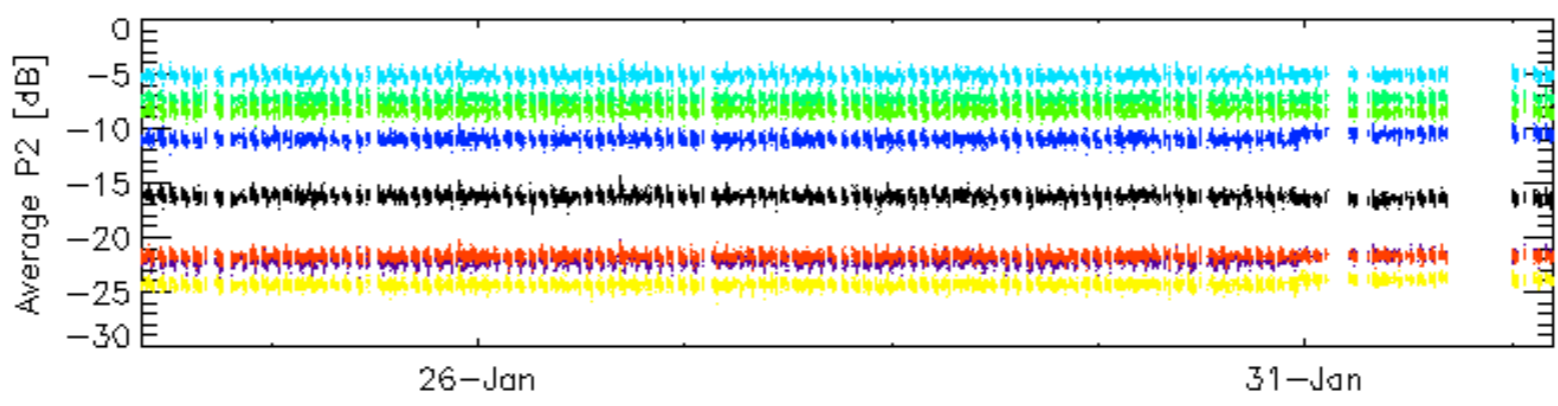
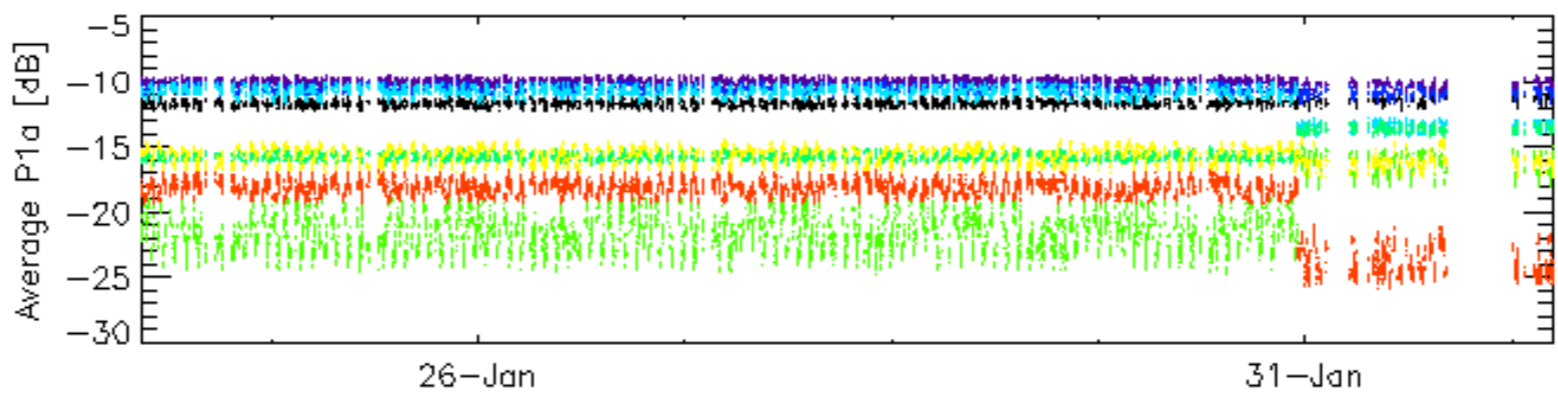
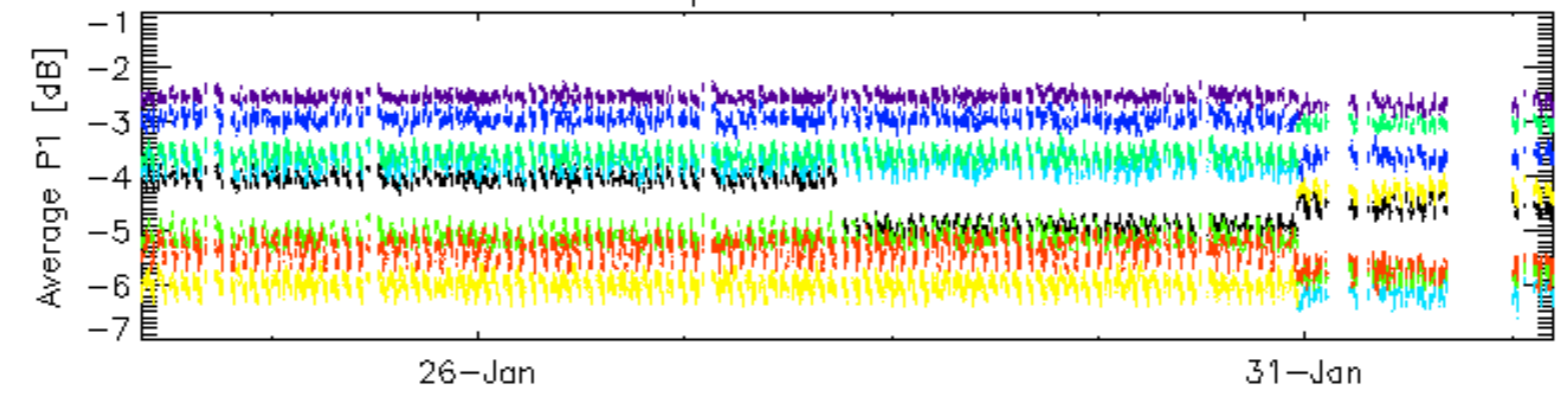


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

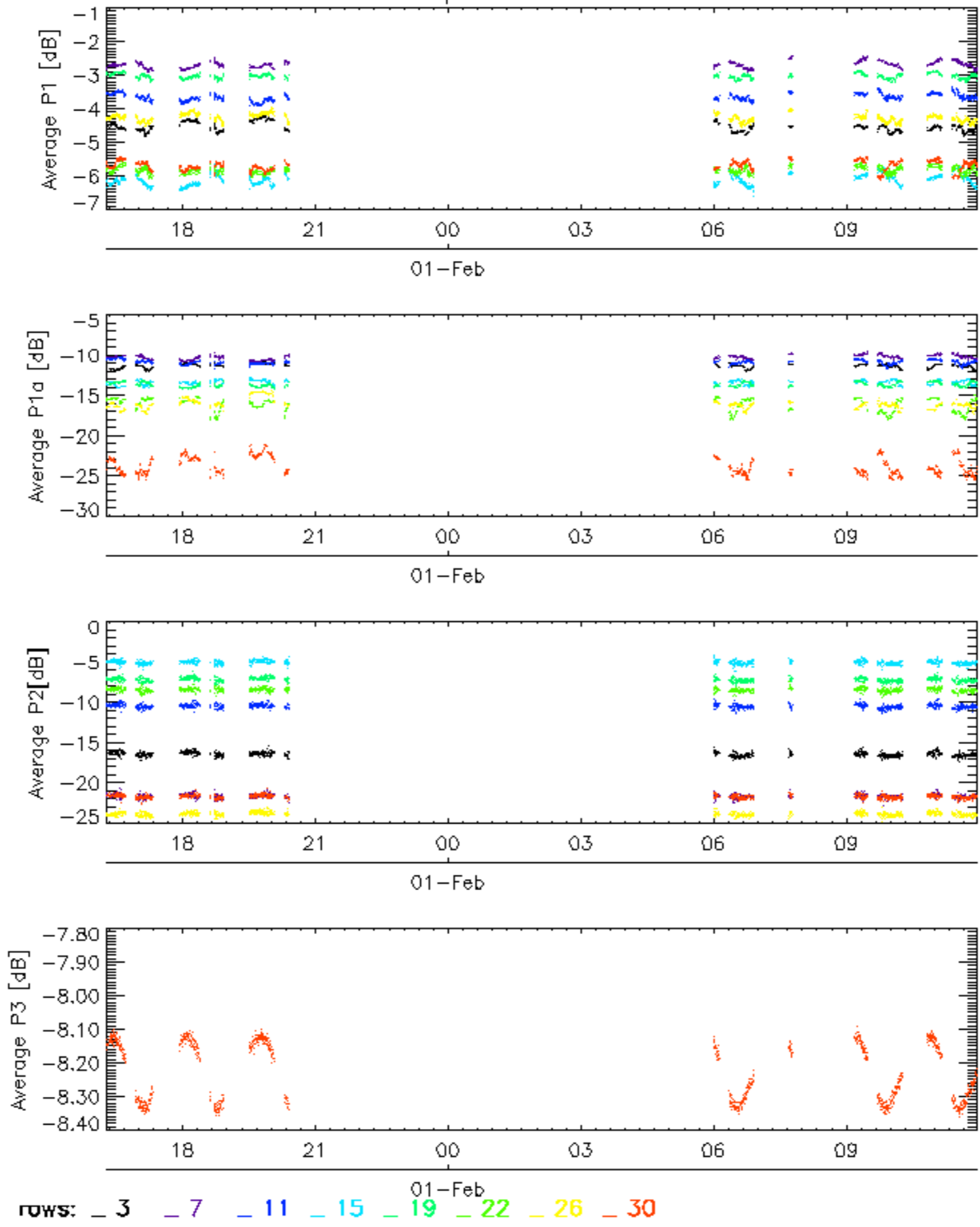


Cal pulses for WVS IS4



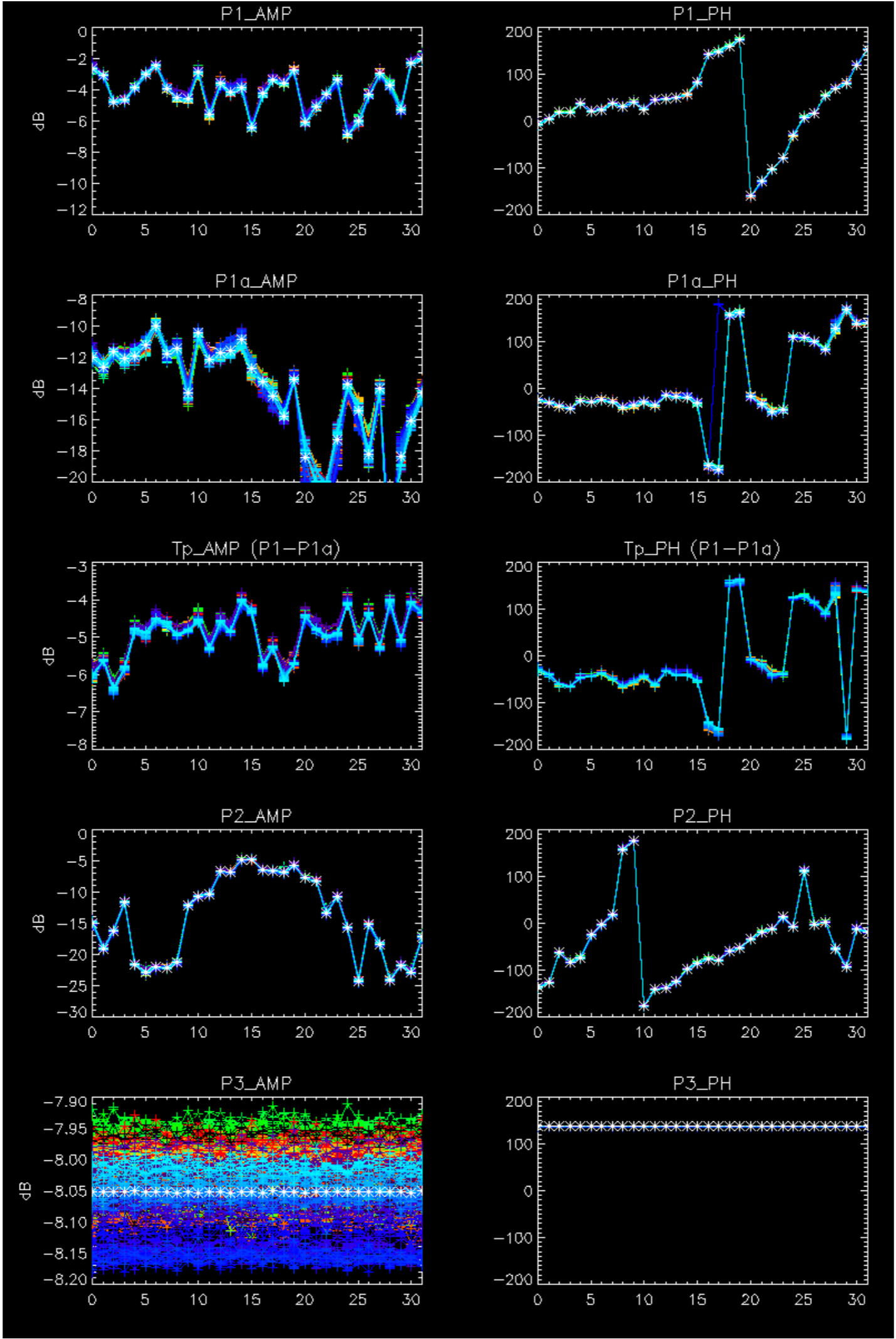
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

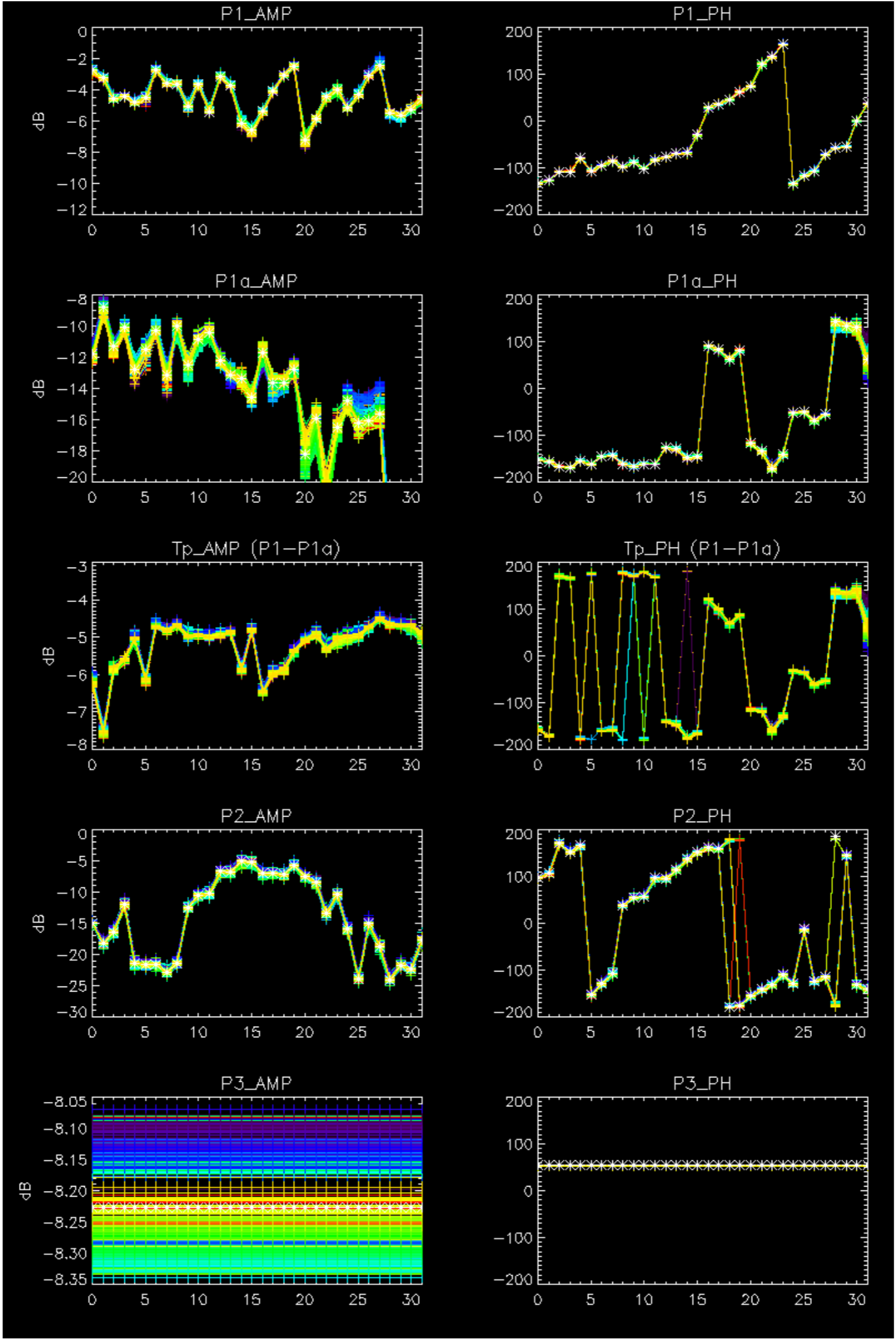
Cal pulses for WVS IS4



No anomalies observed on available browse products

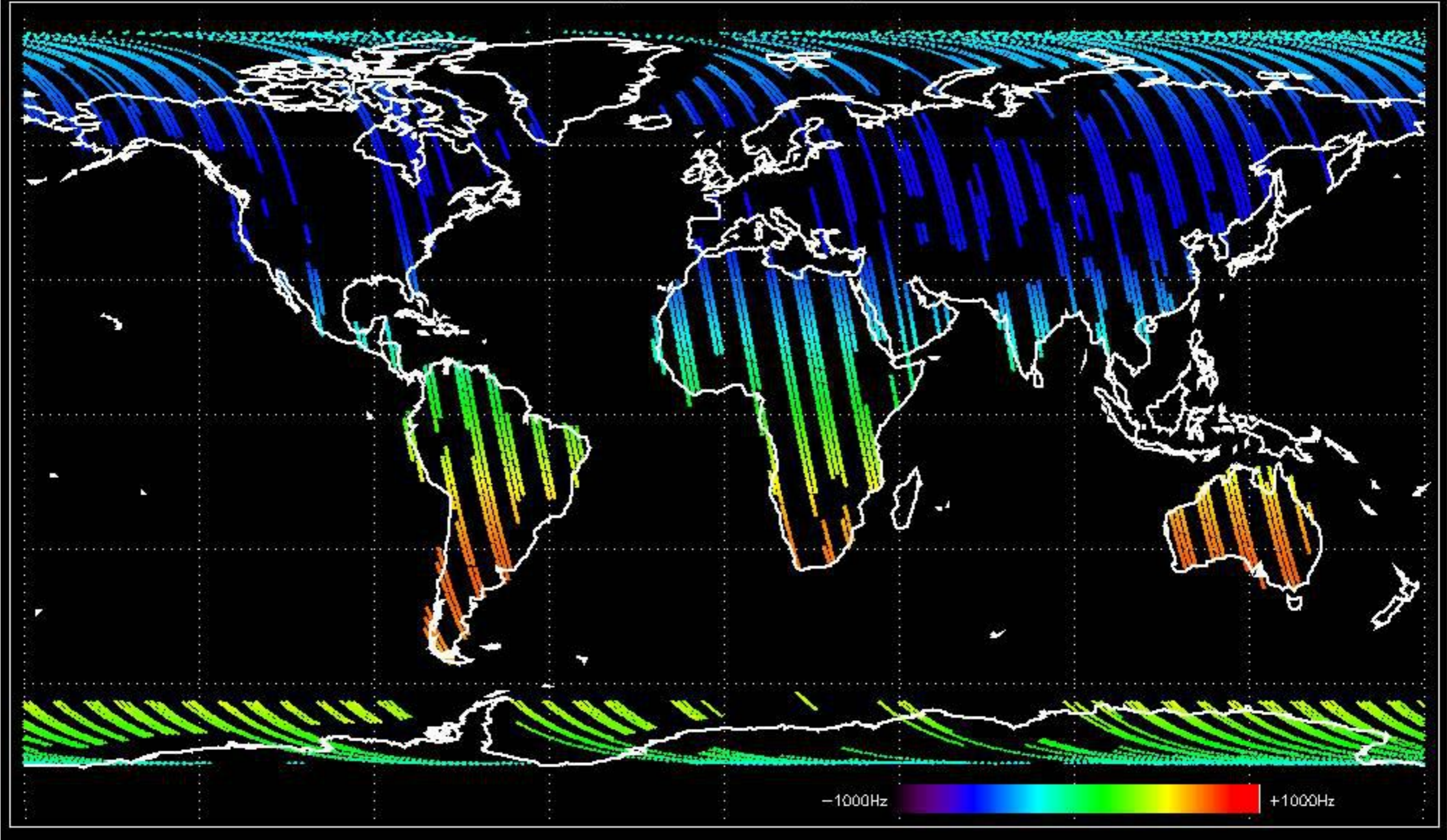
No anomalies observed.



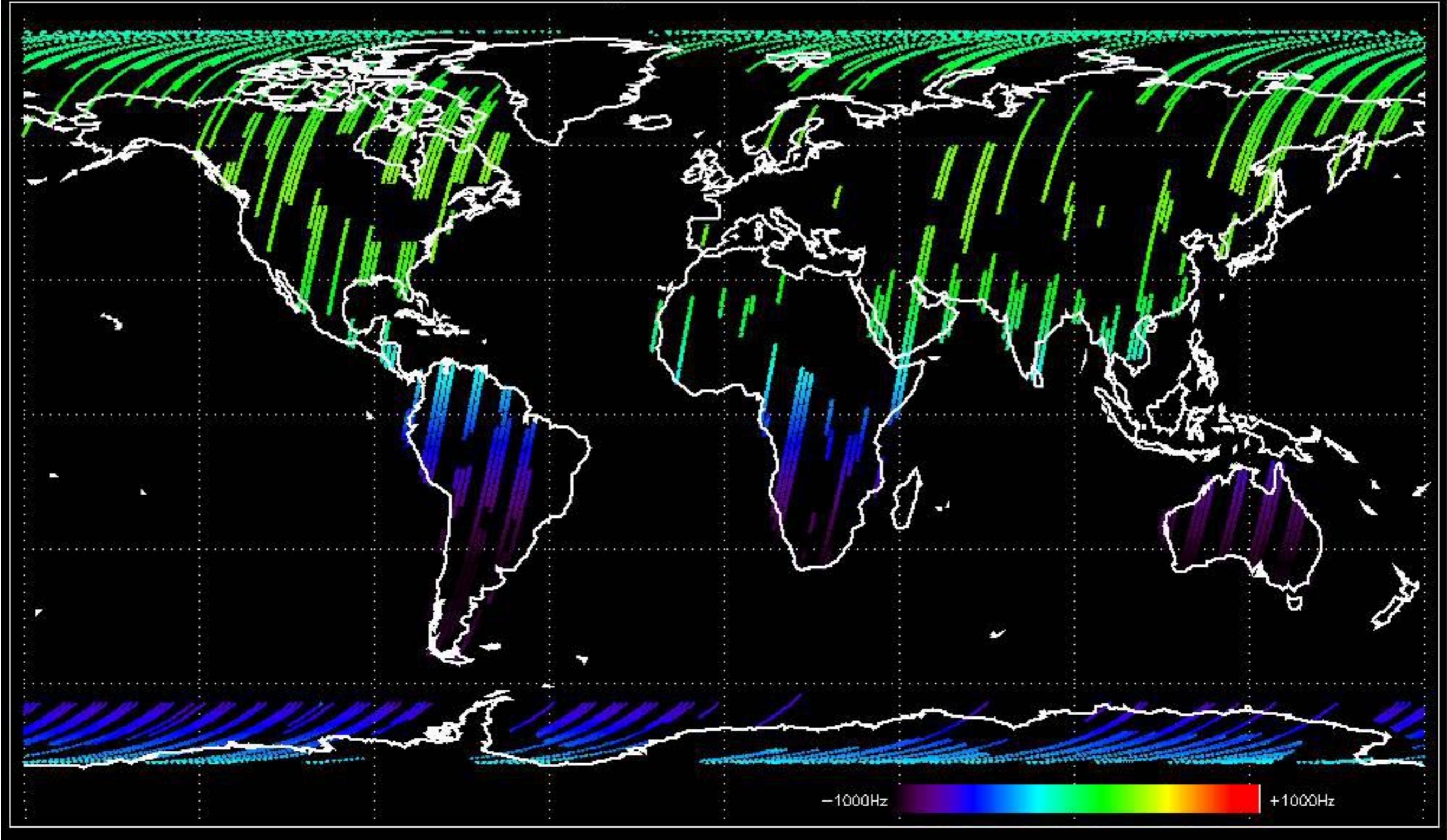


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

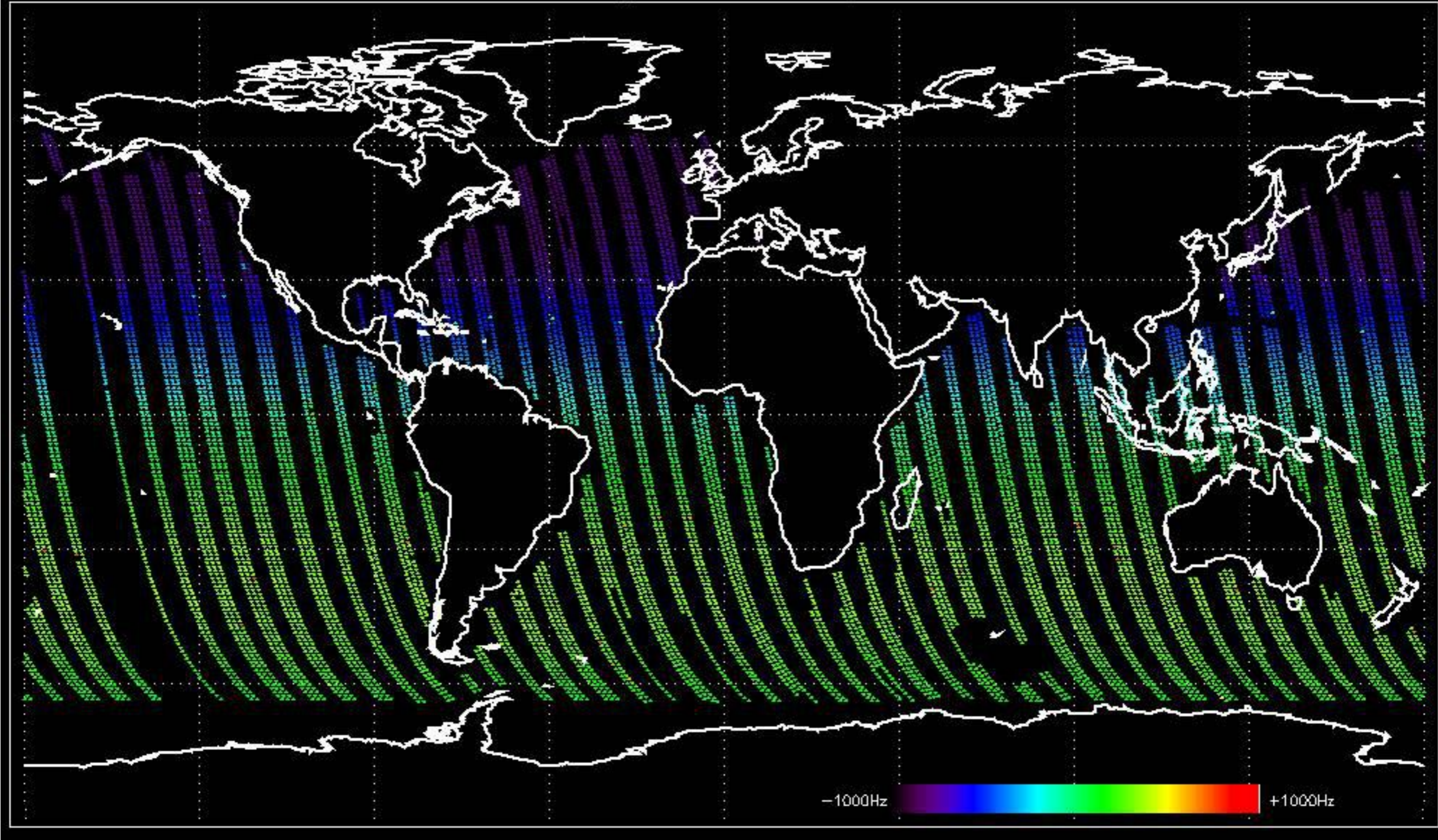
Doppler 'GM1' 'SS1' ascending



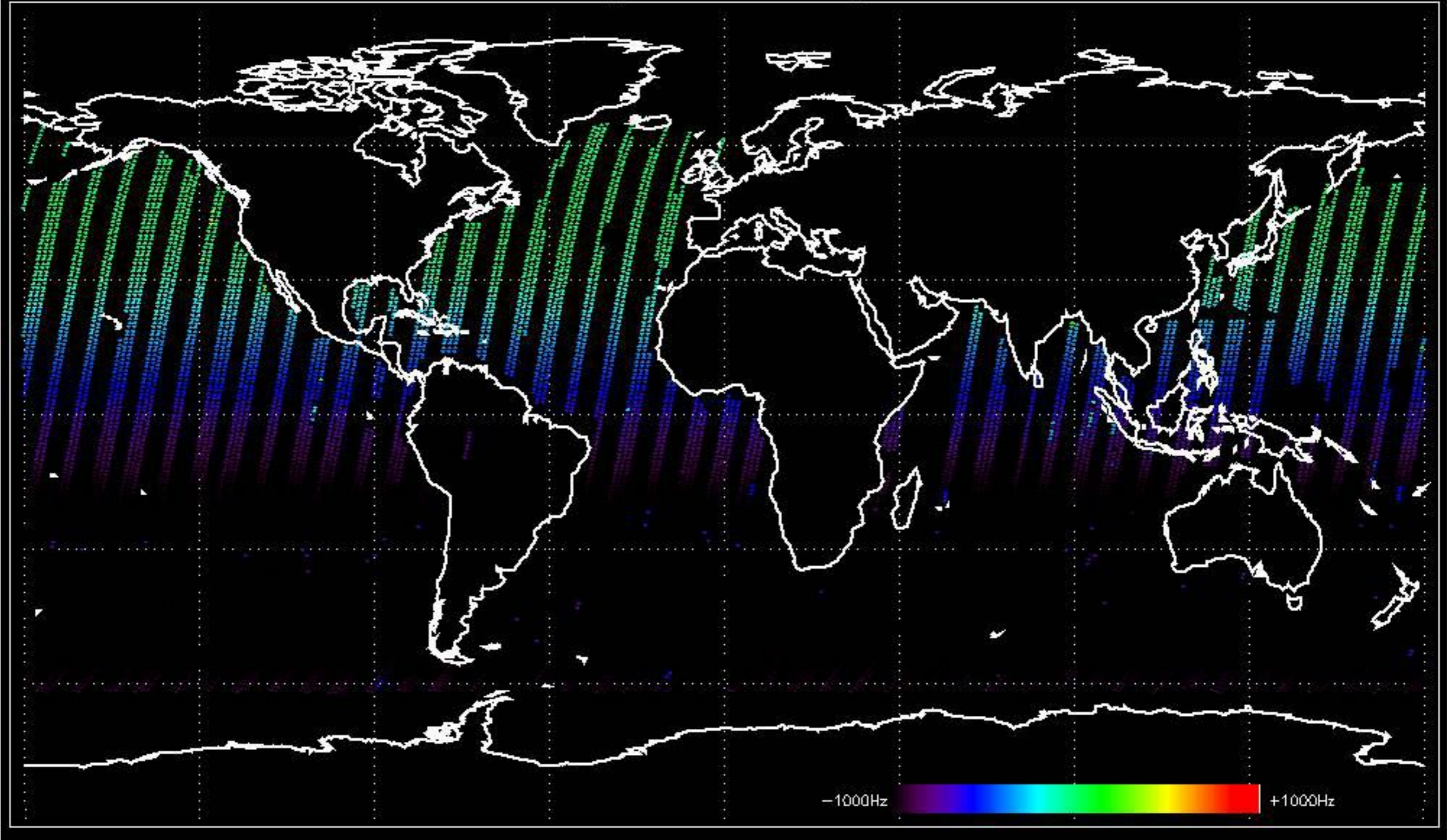
Doppler 'GM1' 'SS1' descending



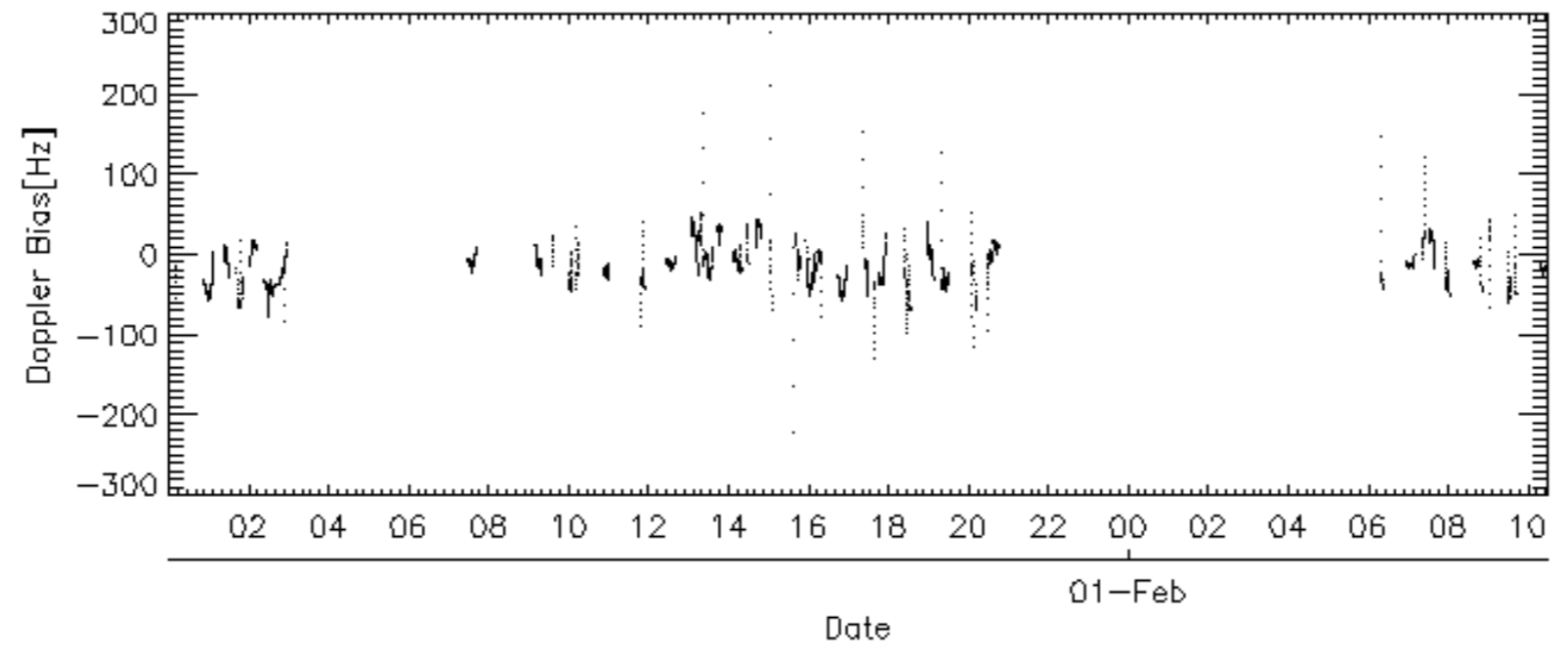
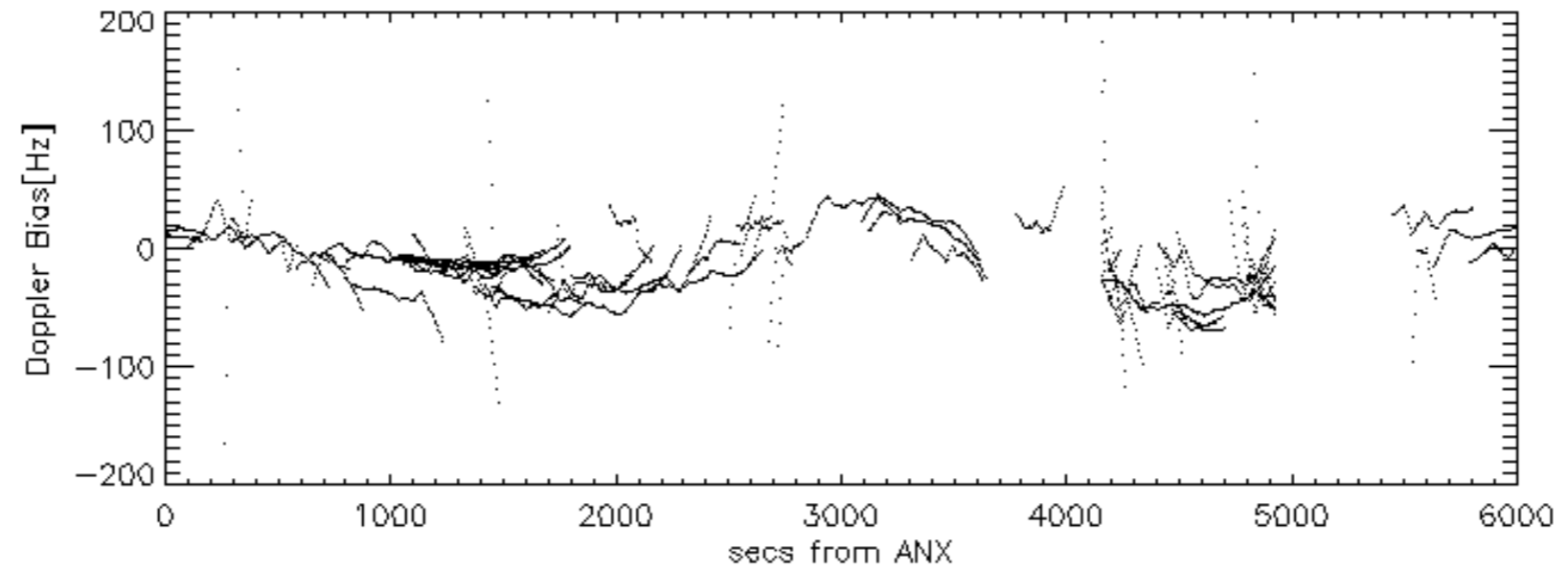
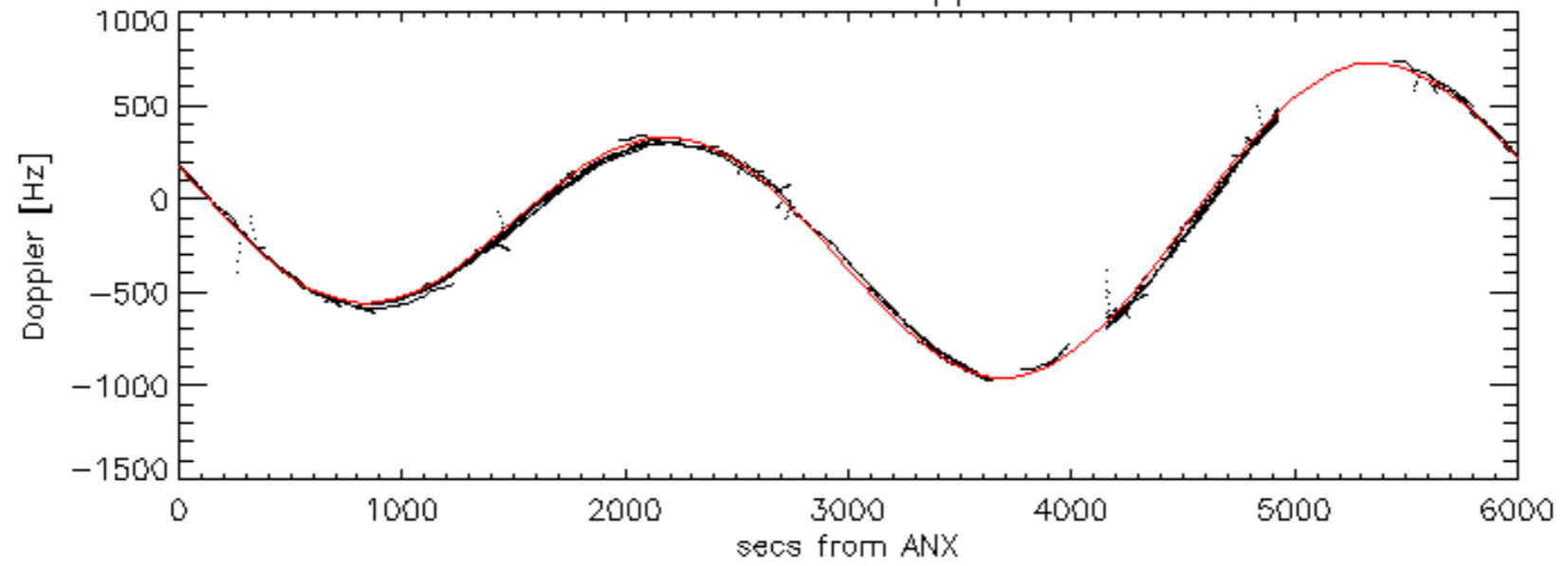
Doppler 'WVS' 'IS4' ascending

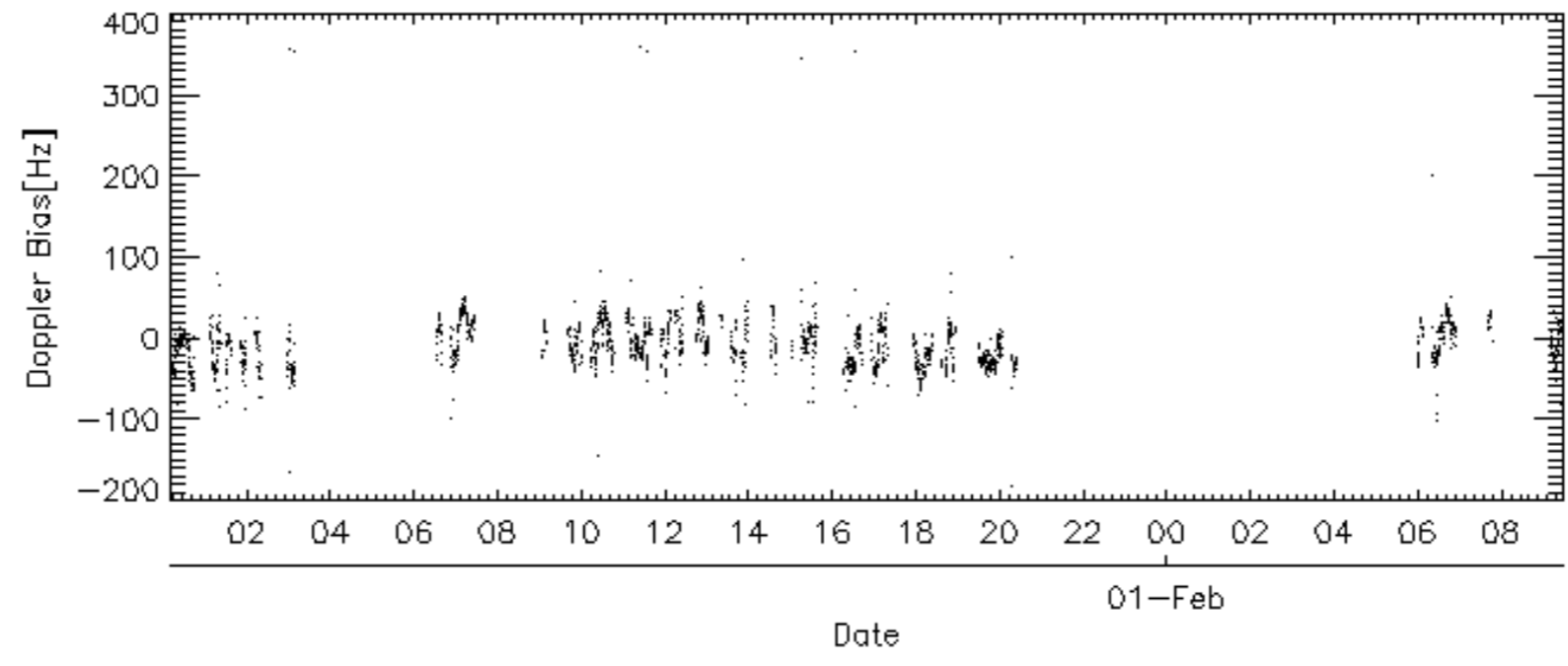
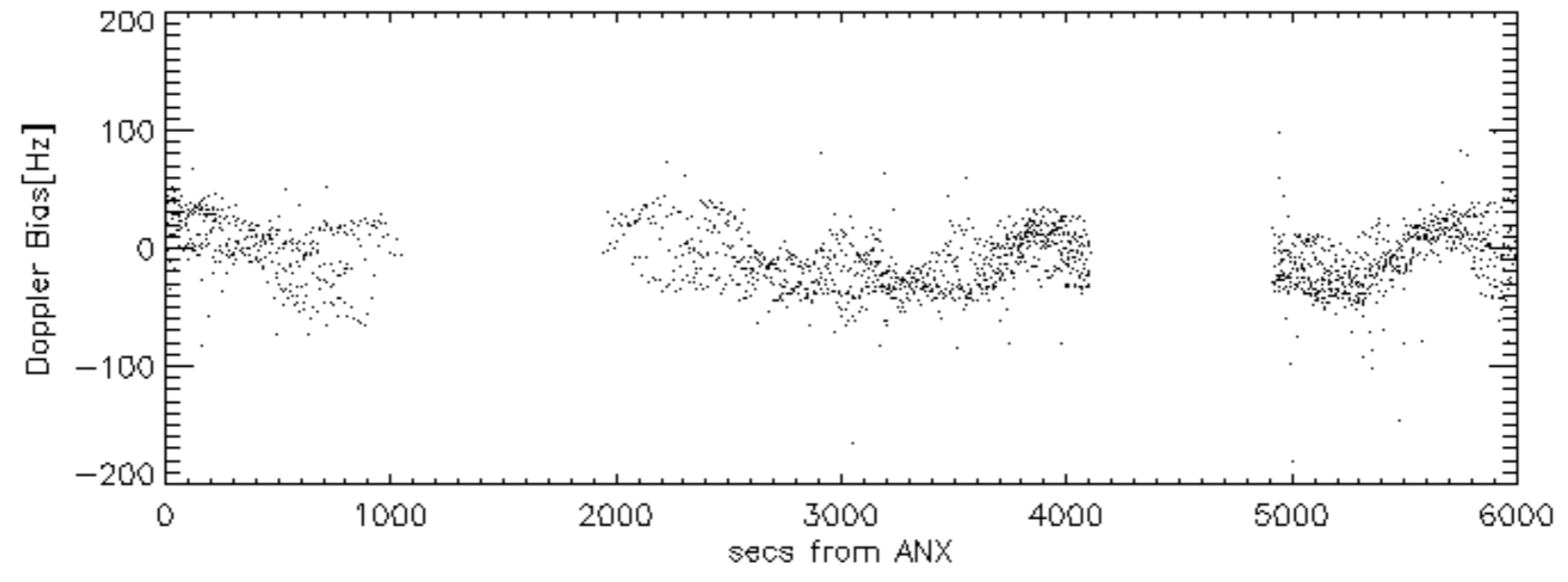
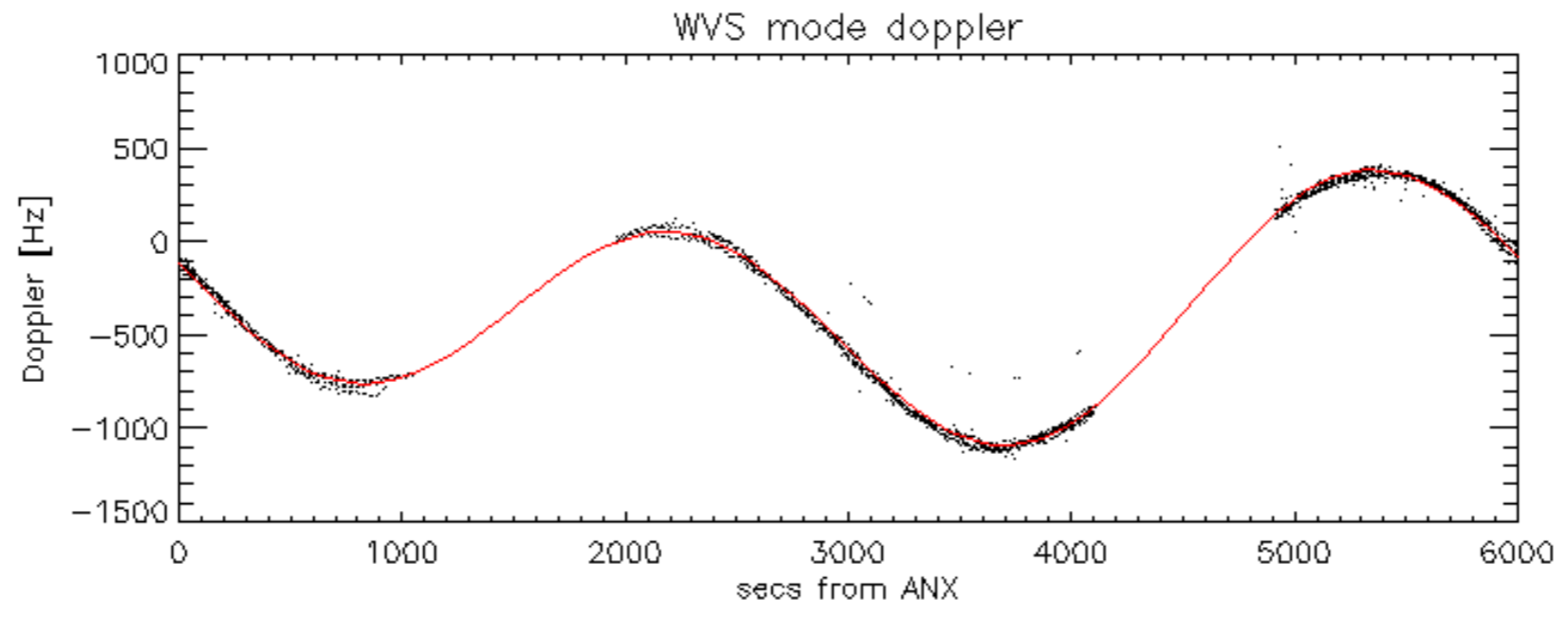


Doppler 'WVS' 'IS4' descending

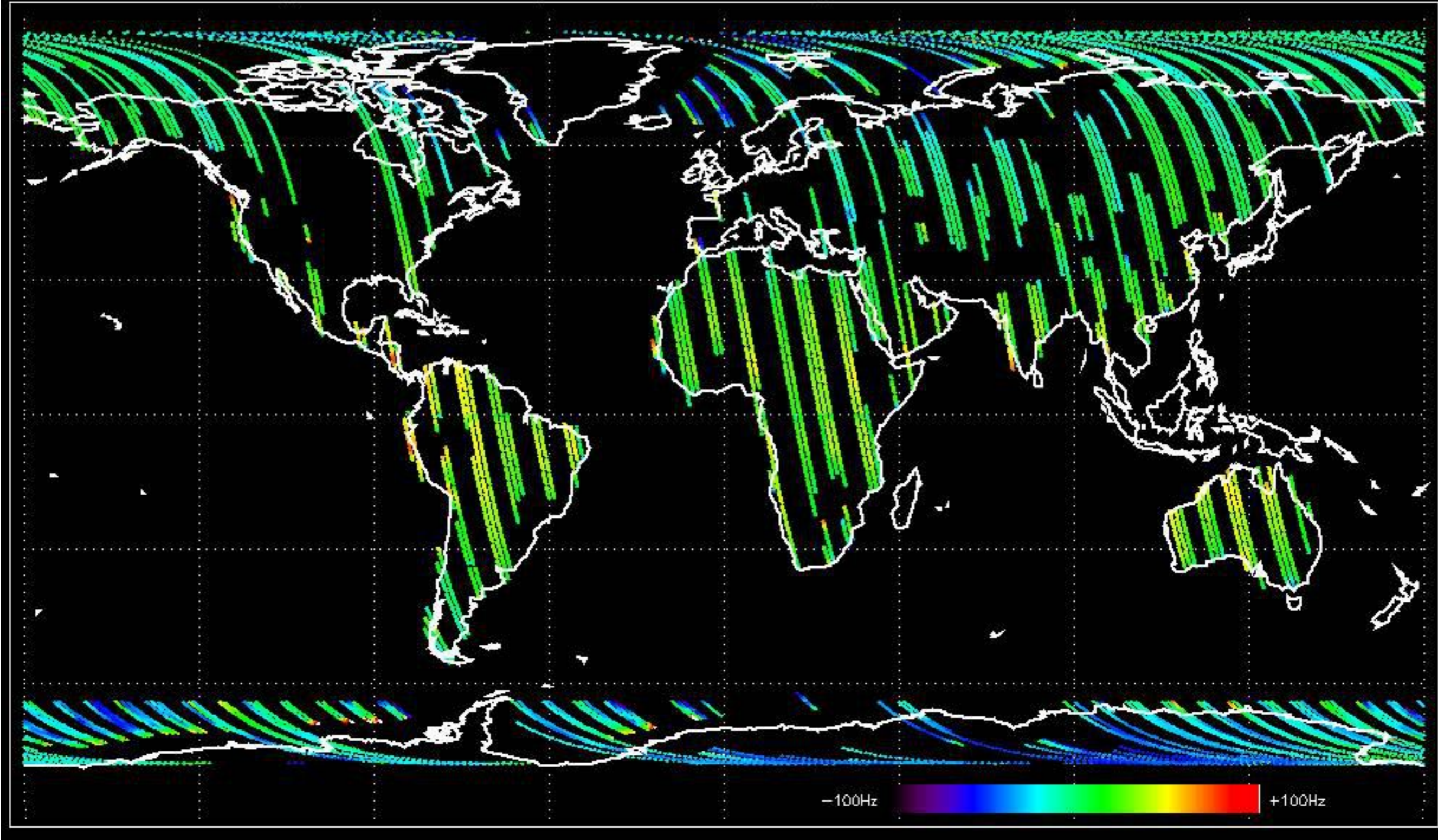


GM1 mode doppler

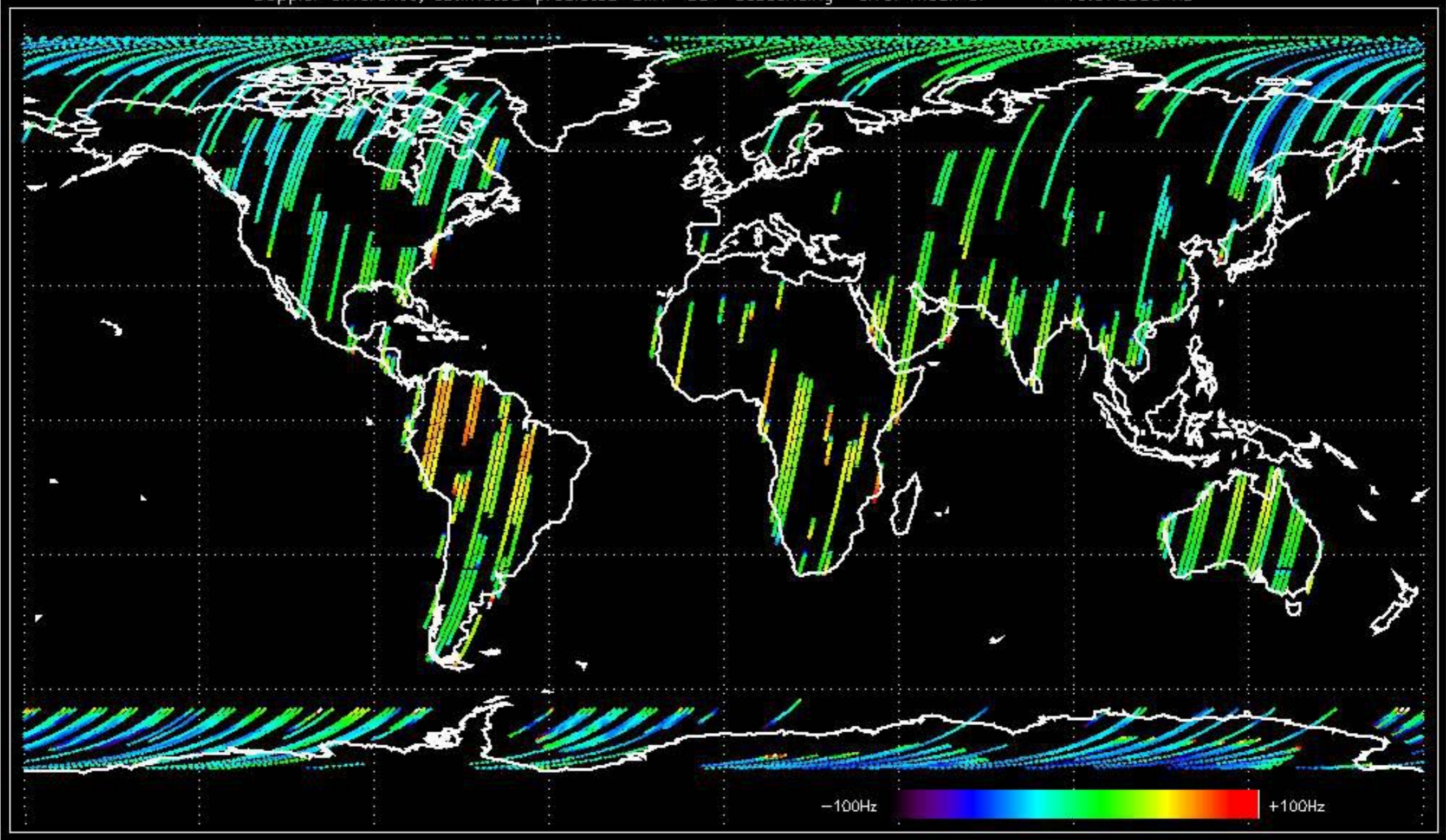




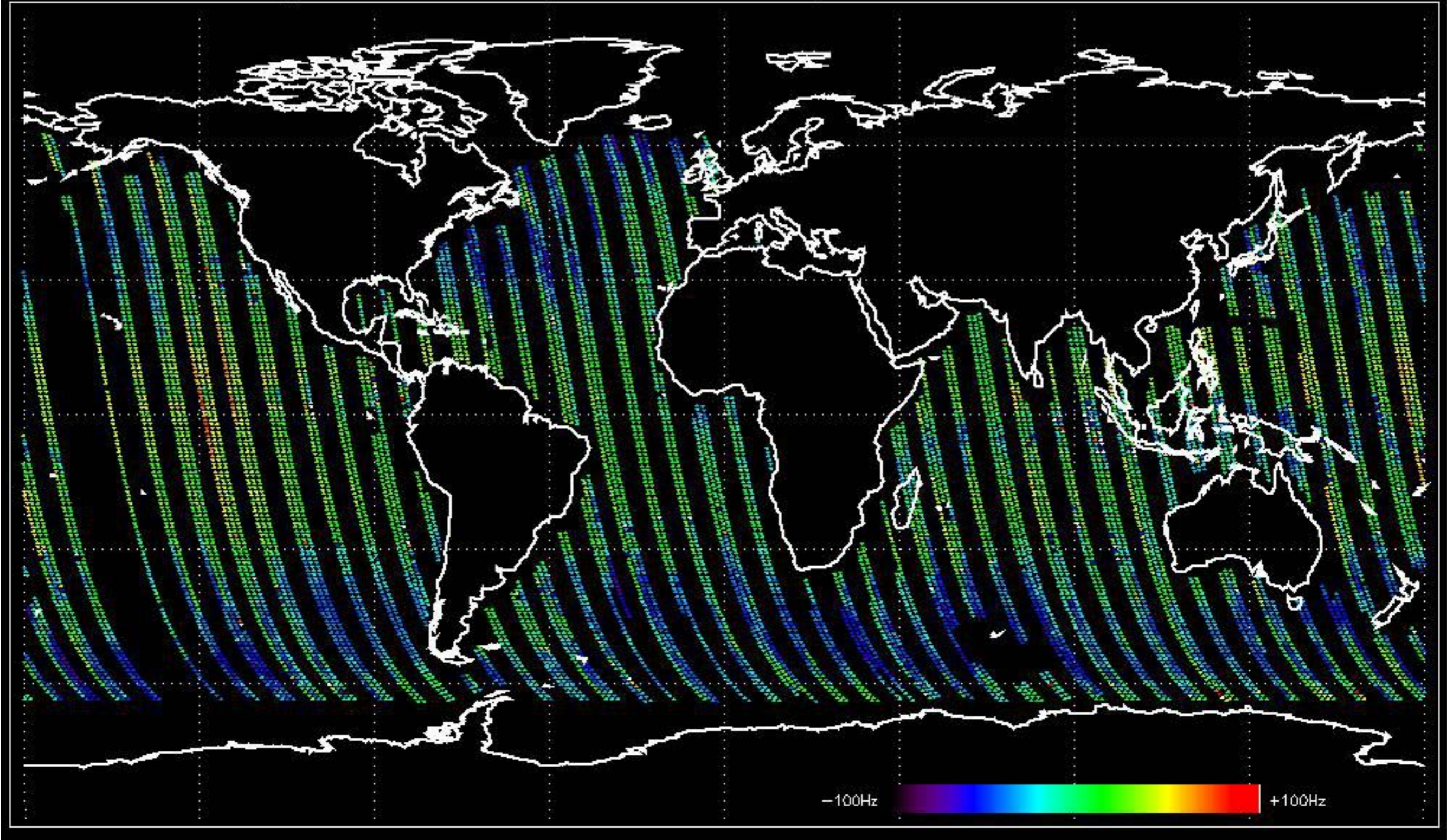
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -17.139486 Hz



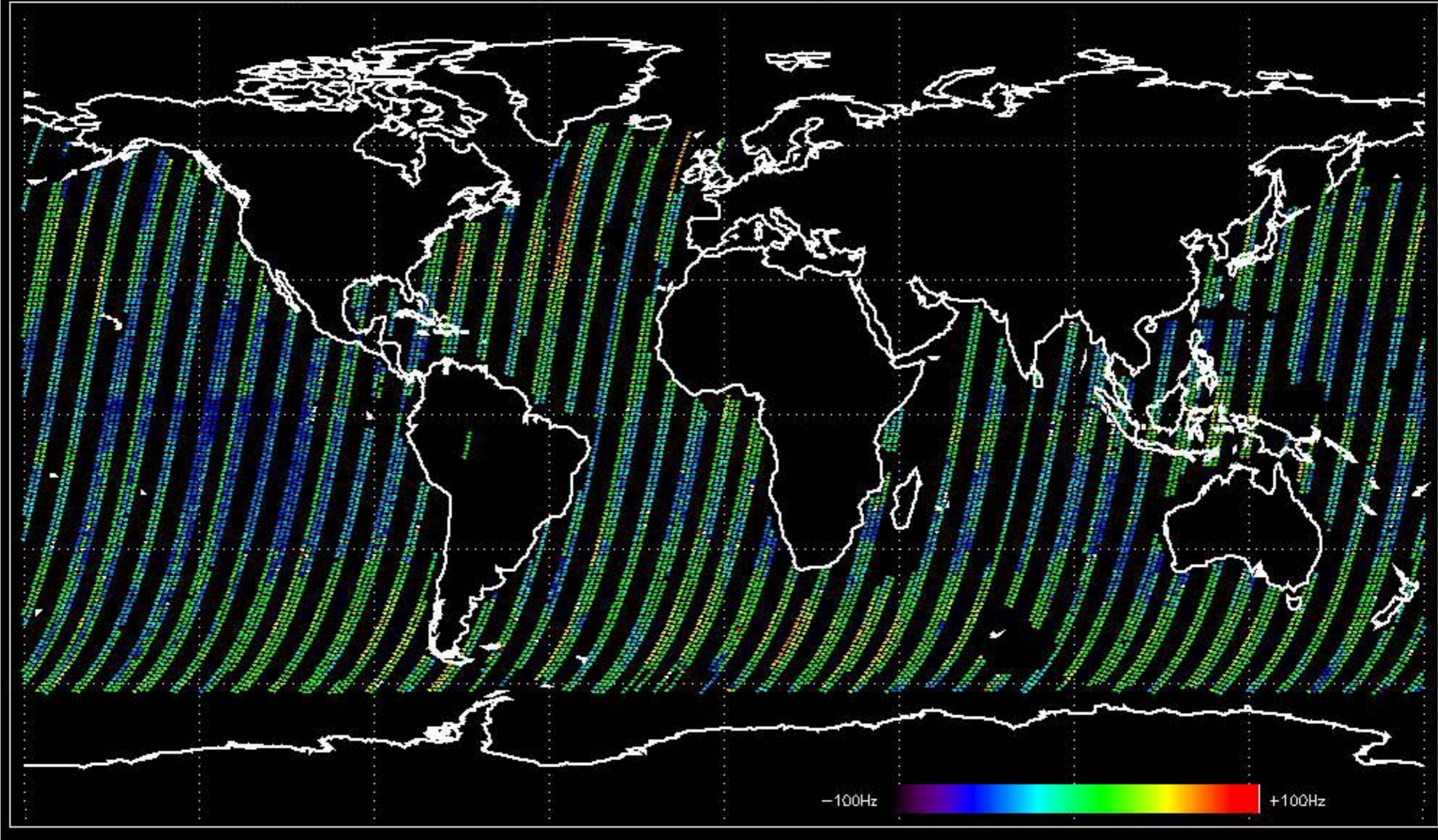
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -18.670059 Hz



Doppler difference, estimated-predicted 'WVS' 'IS4' ascending -error mean of -25.978261 Hz

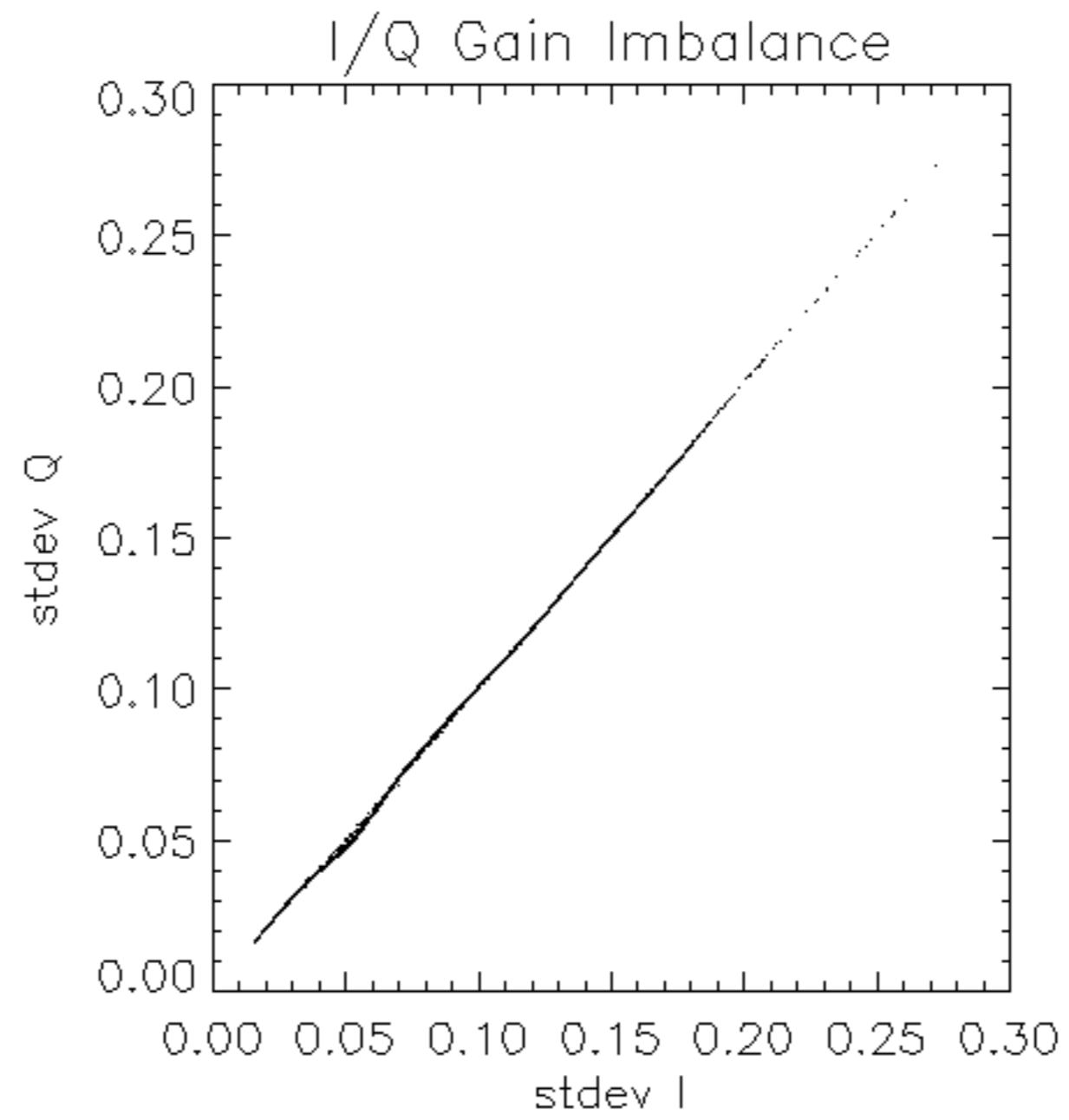


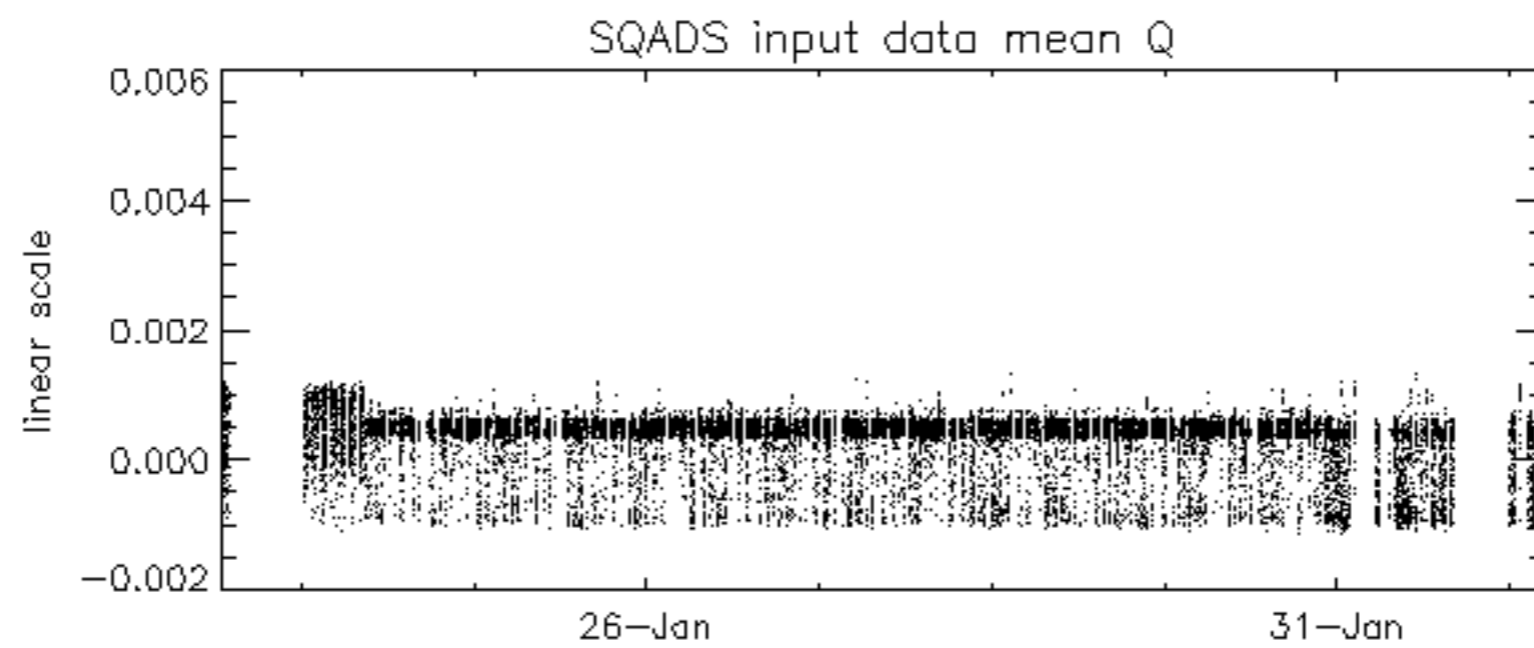
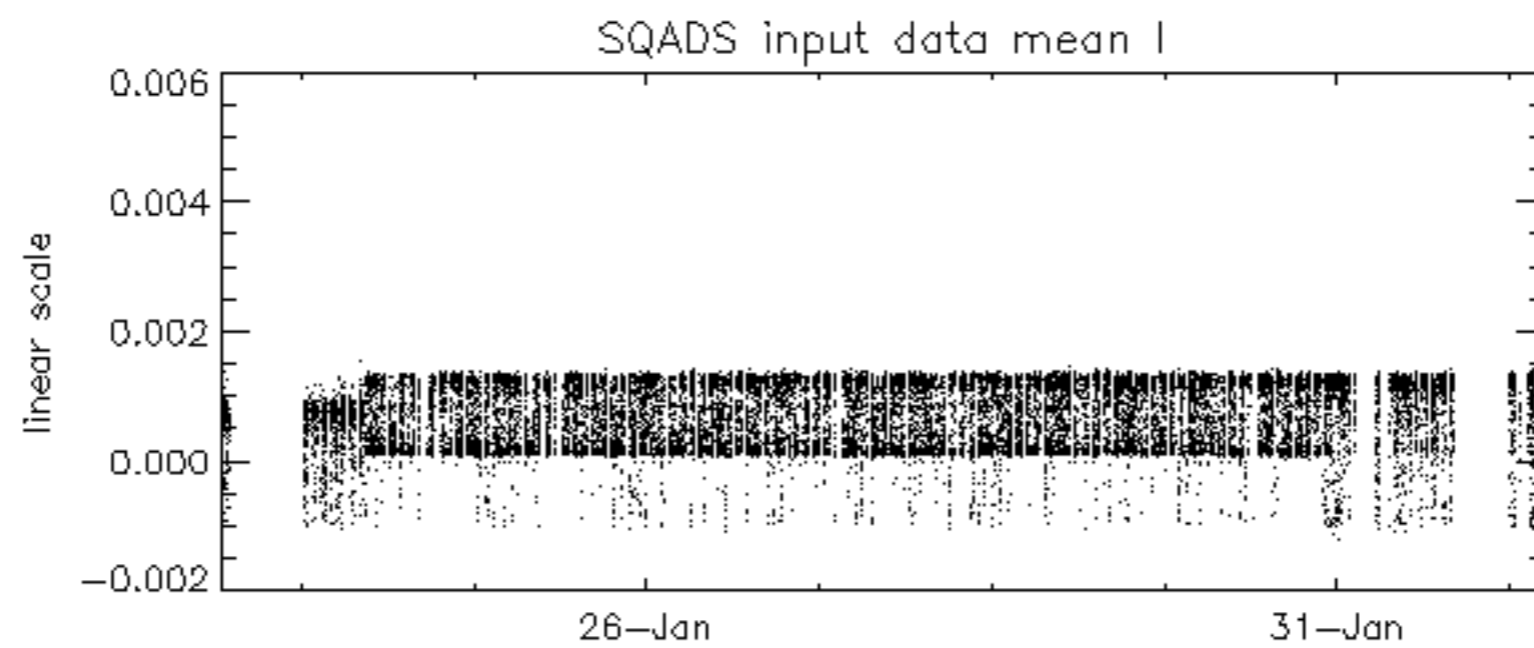
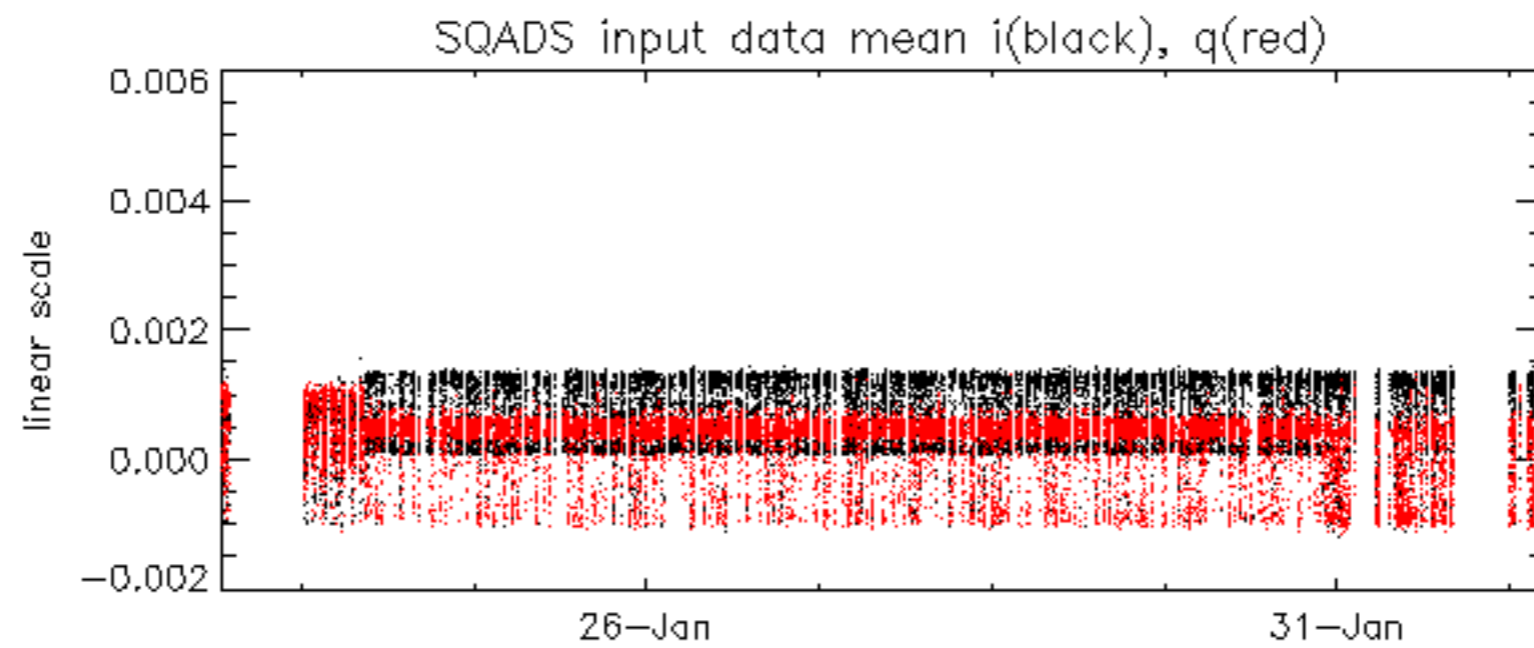
Doppler difference, estimated-predicted 'WVS' 'IS4' descending -error mean of -33.588564 Hz

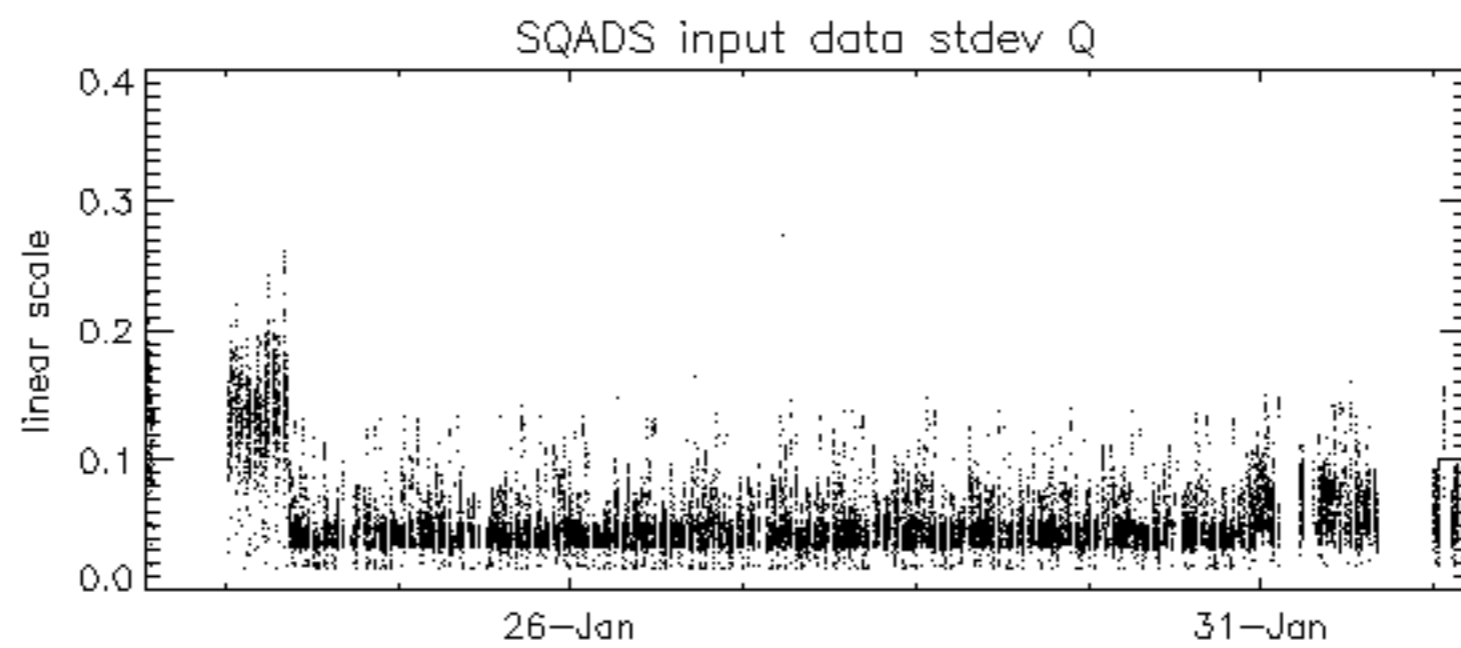
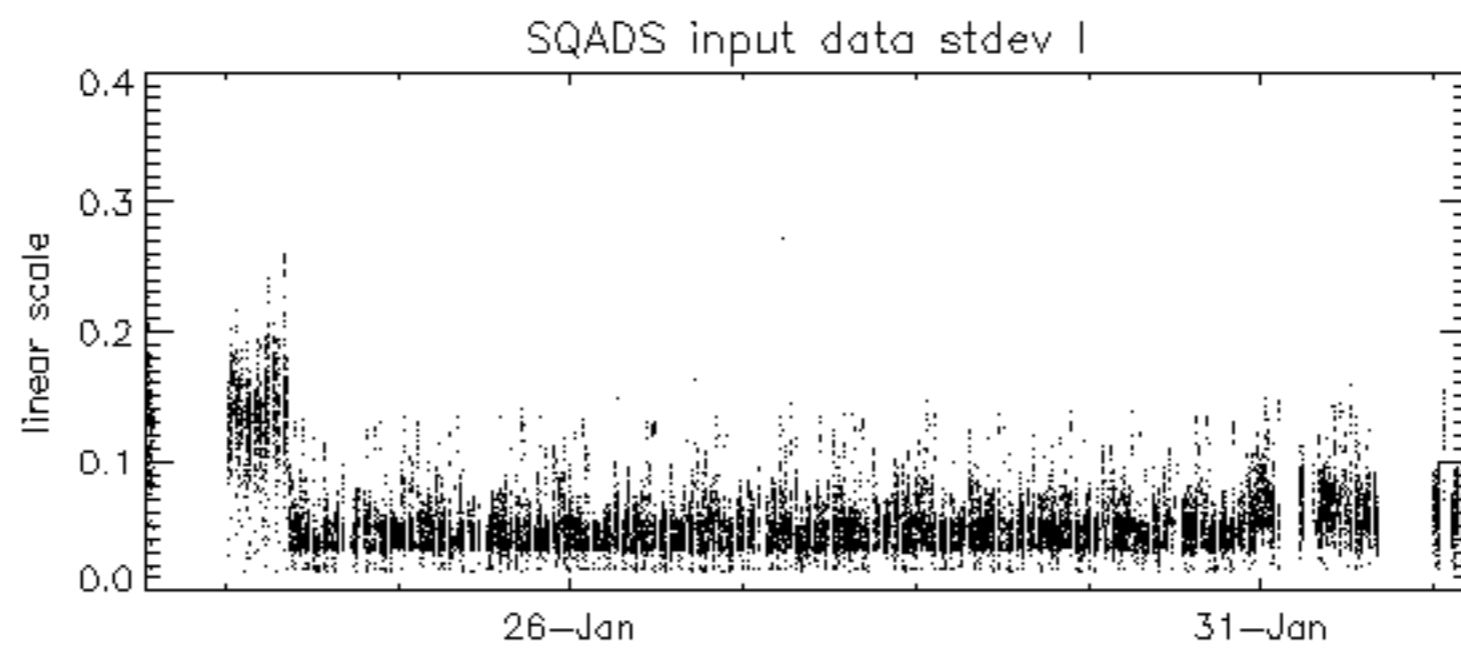
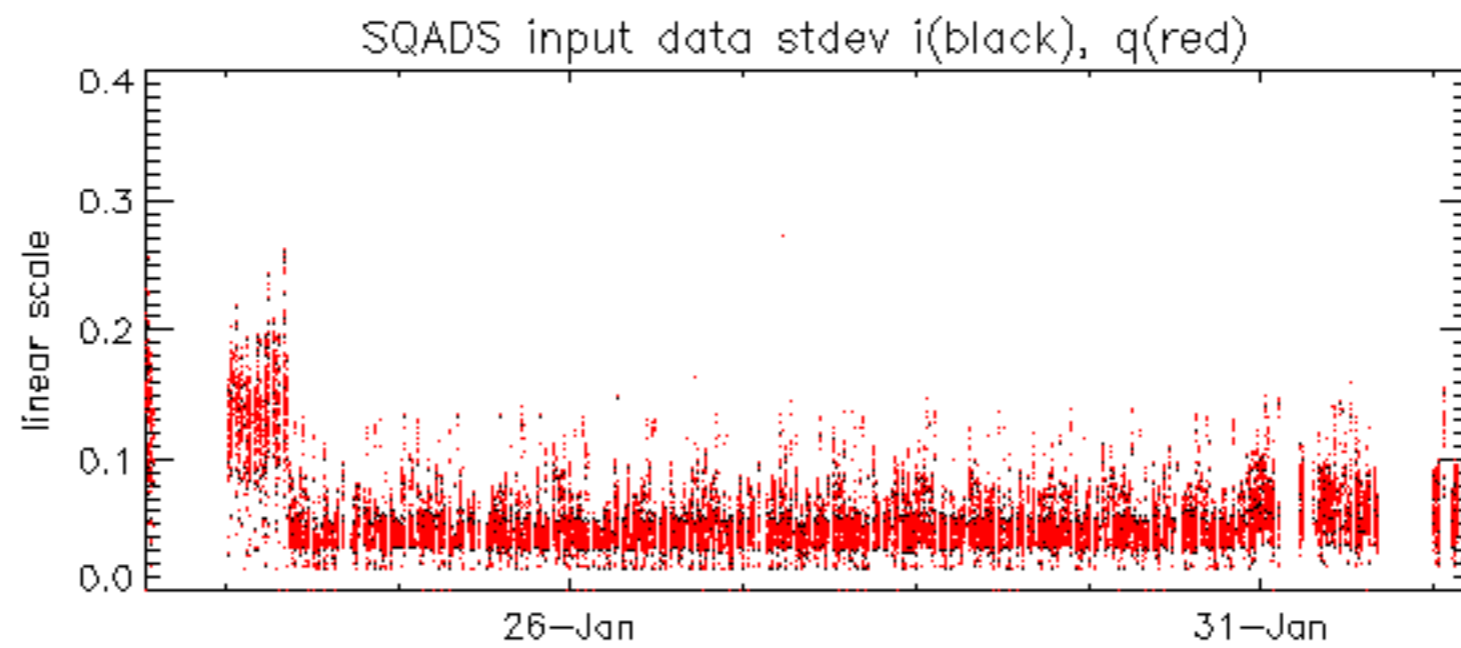


No anomalies observed on available MS products:

No anomalies observed.



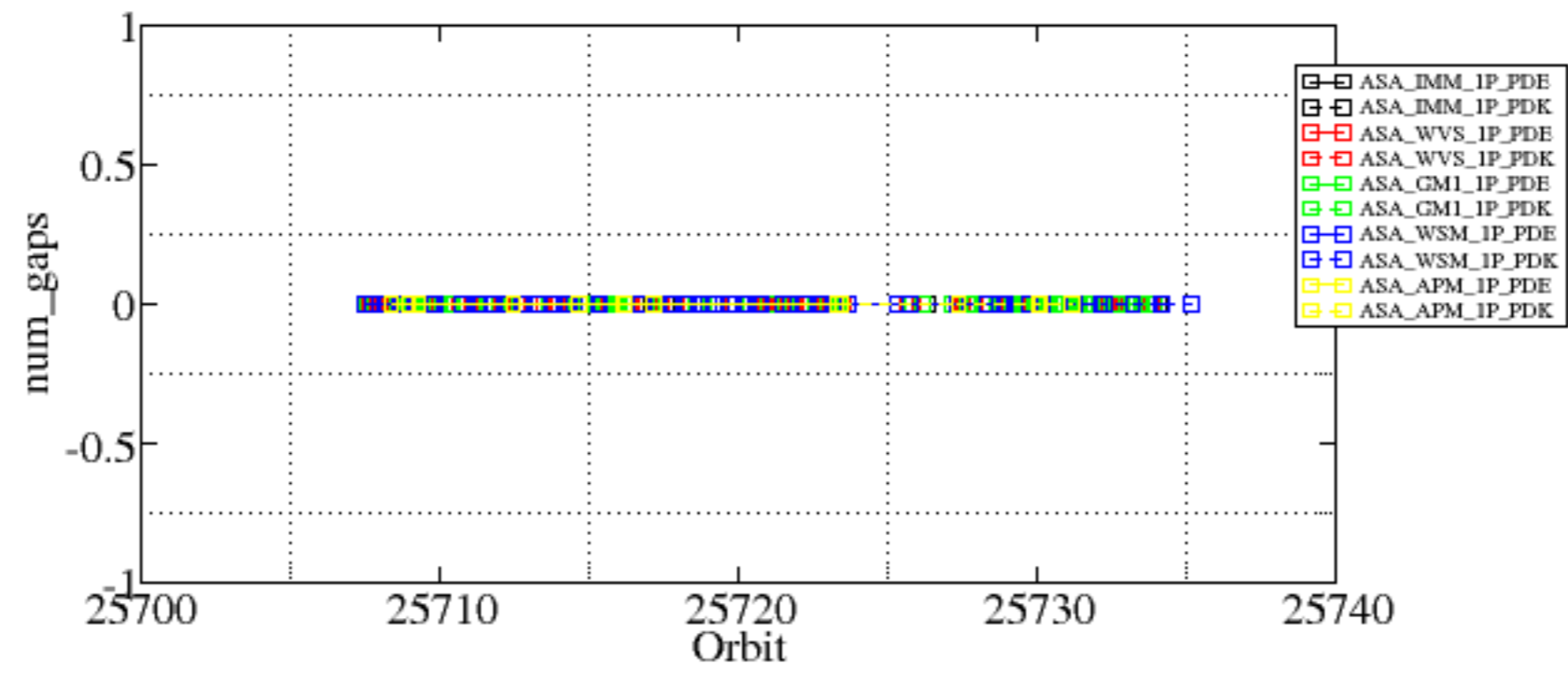




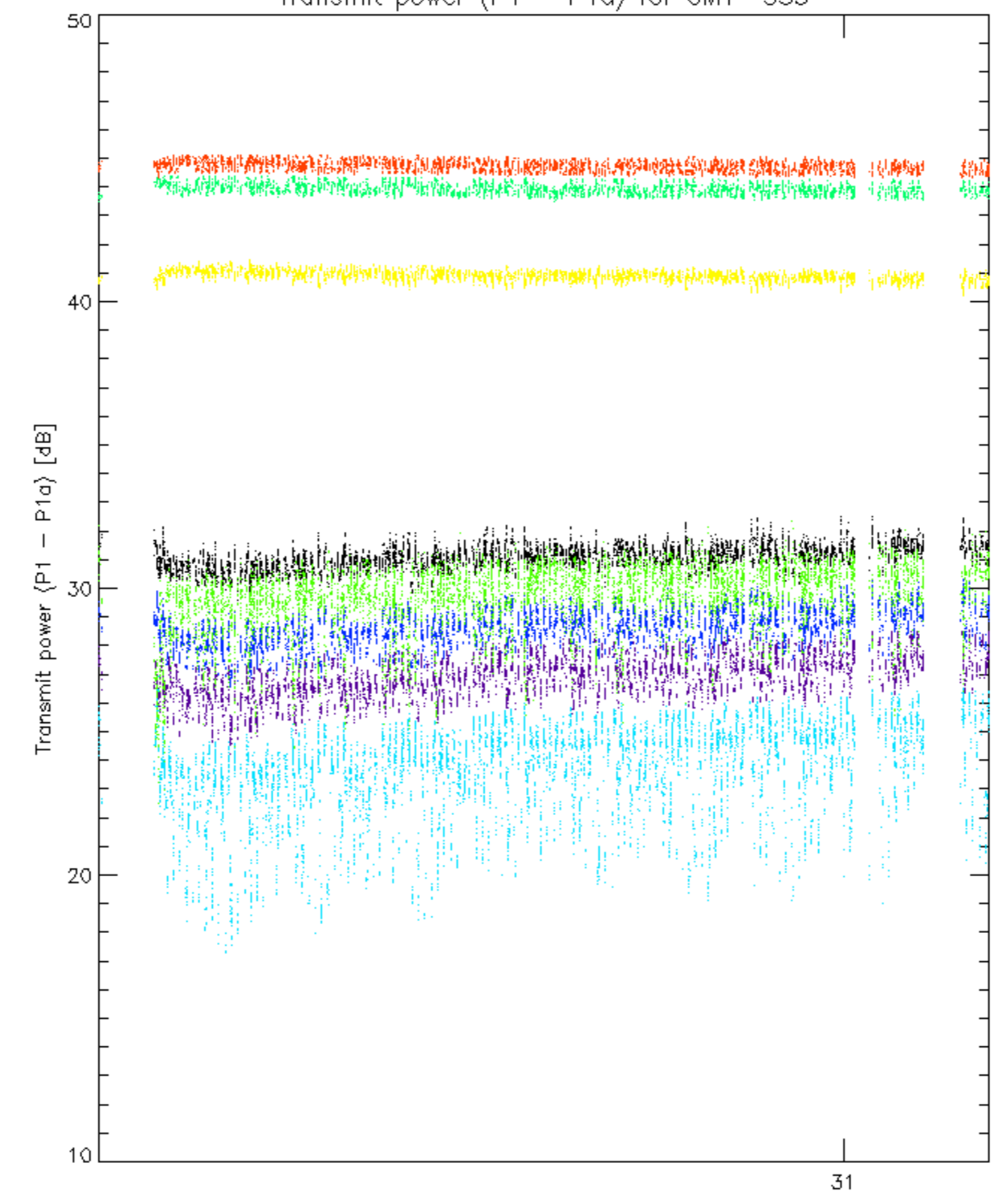
Summary of analysis for the last 3 days 2007013[011]

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

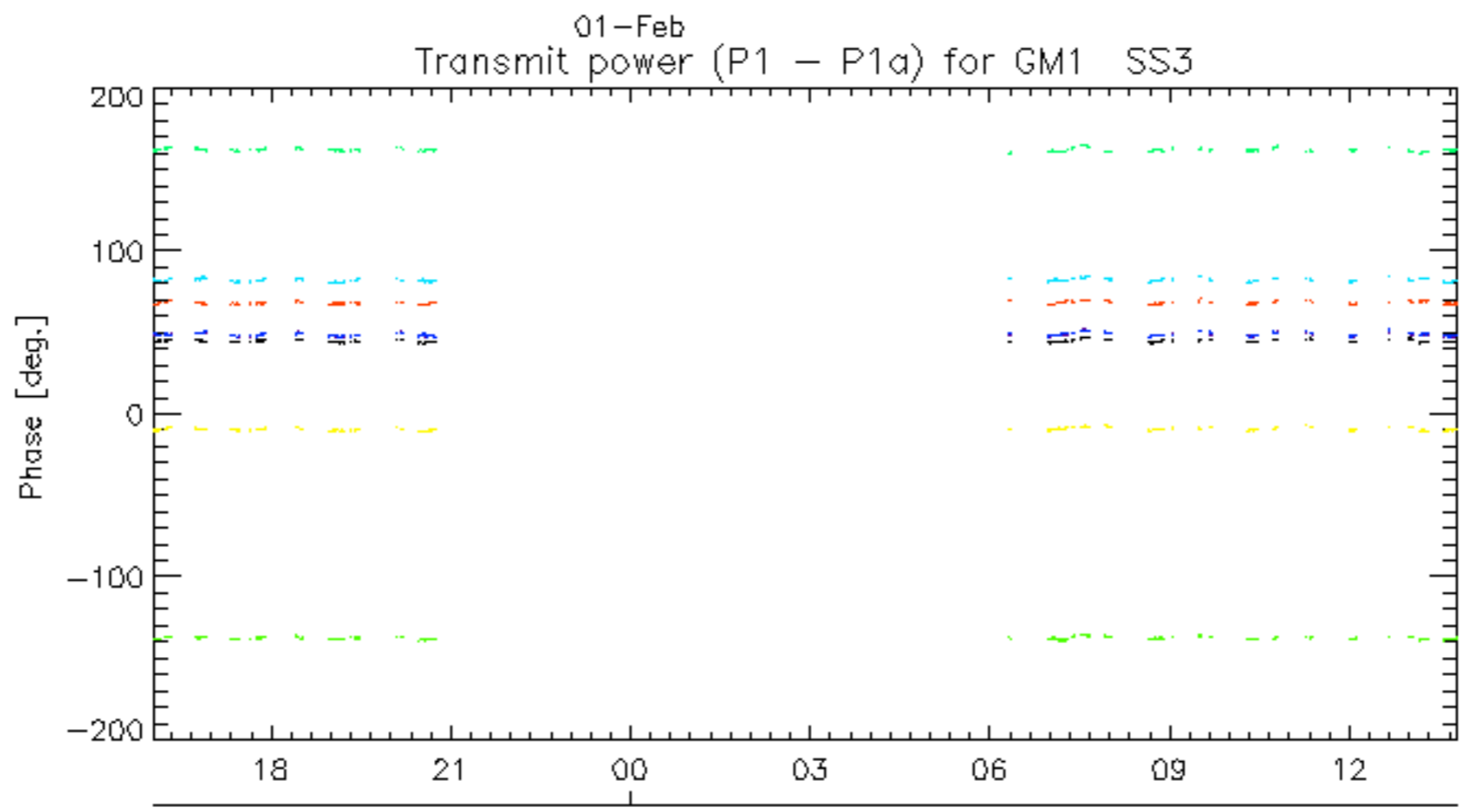
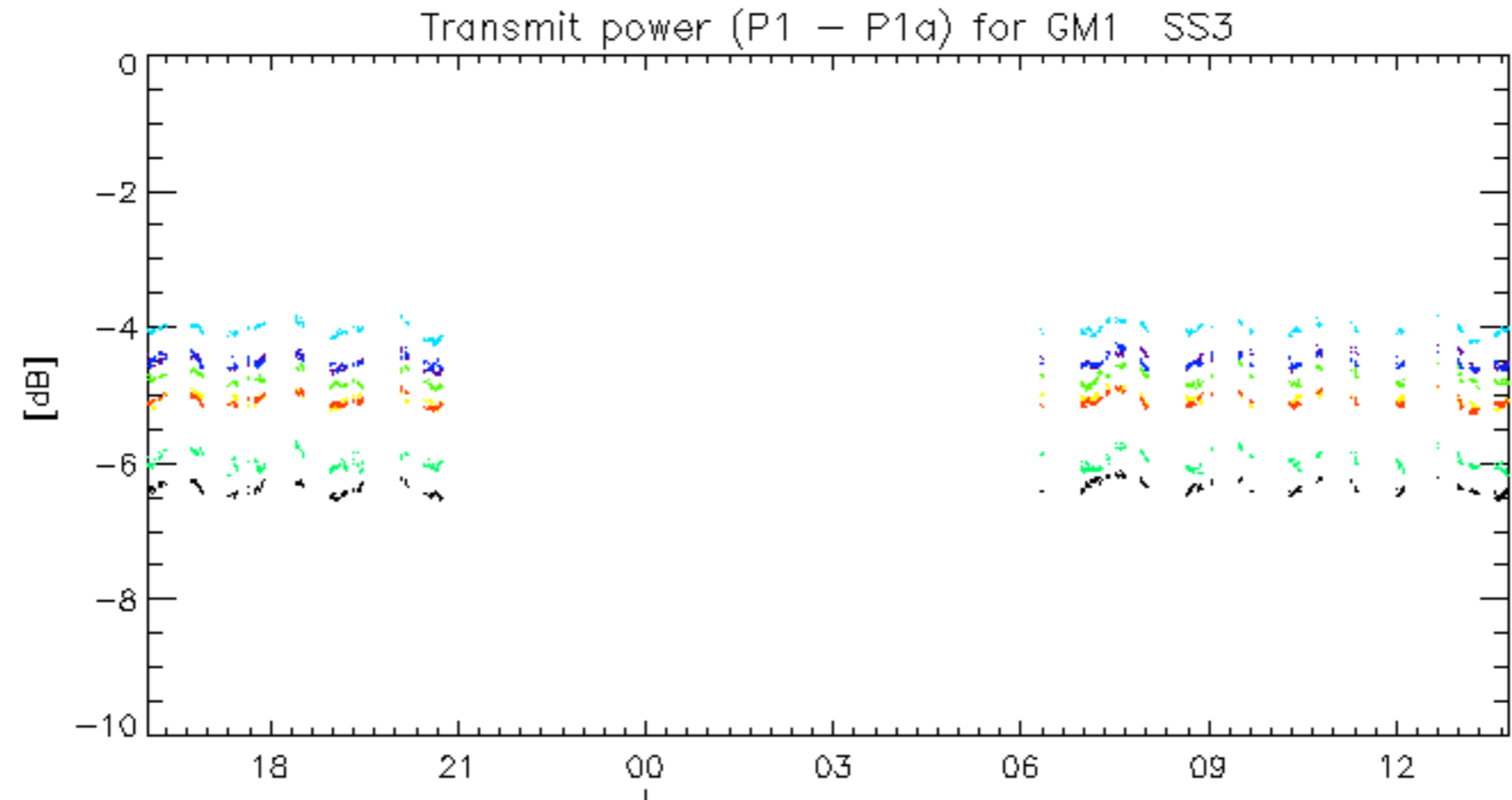
Filename	num_gaps	num_missing_lines
ASA_WVS_1PNPDK20070131_090438_00000452055_00122_25727_9958.N1	0	8
ASA_WVS_1PNPDK20070131_090438_00000452055_00122_25727_9973.N1	0	8
ASA_GM1_1PNPDK20070131_140516_000005552055_00125_25730_0316.N1	0	8
ASA_WSM_1PNPDE20070130_000819_000002452055_00102_25707_9211.N1	0	68
ASA_WSM_1PNPDE20070130_063931_000000852055_00106_25711_9762.N1	0	1
ASA_WSM_1PNPDK20070131_092147_000003422055_00122_25727_0151.N1	0	6



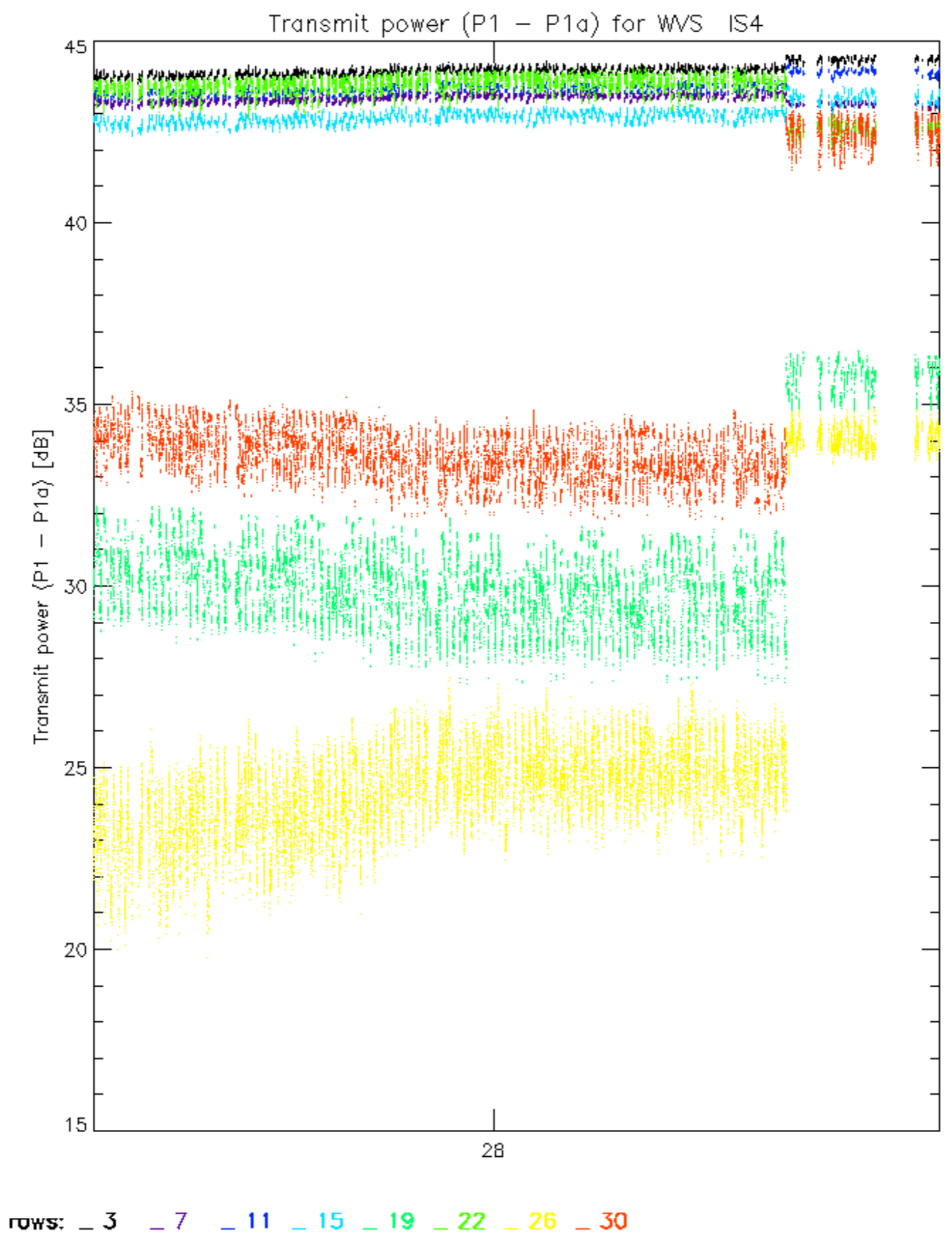
Transmit power (P1 - P1a) for GM1 SS3

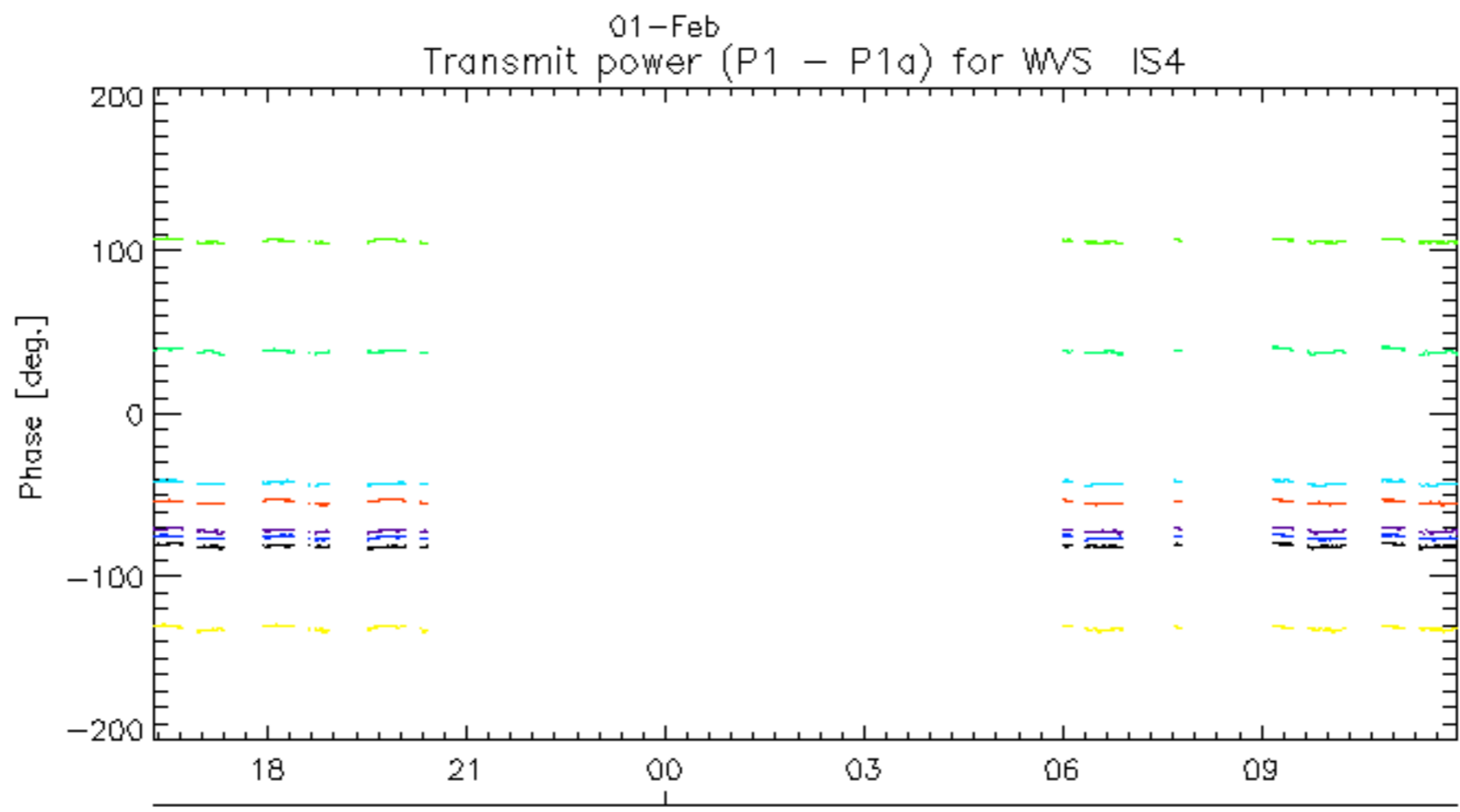
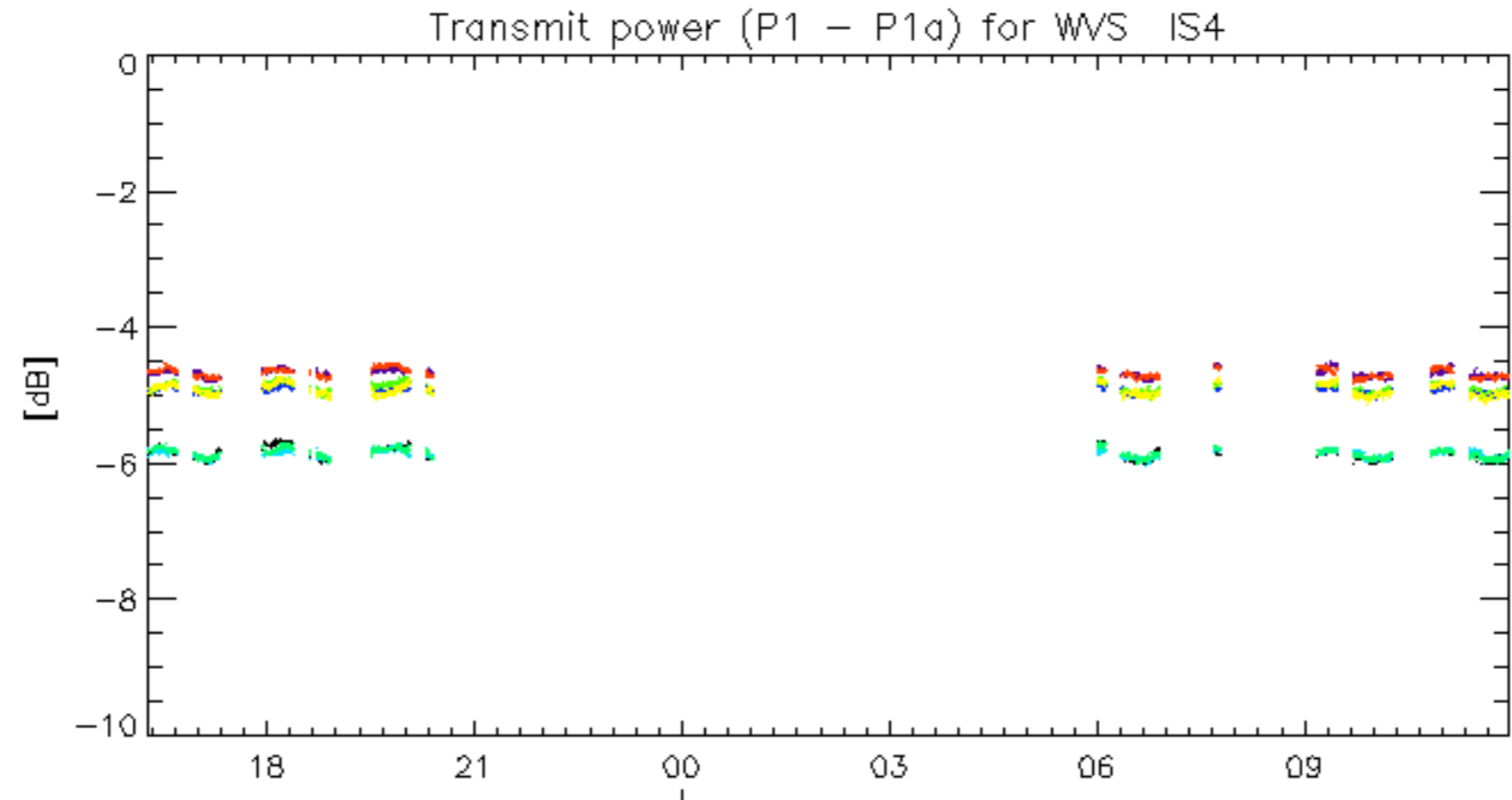


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No unavailabilities during the reported period.