

PRELIMINARY REPORT OF 070125

last update on Thu Jan 25 16:25:55 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 VV polarization
From orbit 26122 (27-Feb-2007) to 26221 (06-Mar-2007) in VV polarization
From orbit 25721 (30-Jan-2007) to 25820 (06-Feb-2007) in HH polarization
From orbit 26222 (06-Mar-2007) to 26321 (13-Mar-2007) in HH 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 2007-01-24 00:00:00 to 2007-01-25 16:25:55

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	36	67	5	2	23
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	36	67	5	2	23
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	36	67	5	2	23
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	36	67	5	2	23

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	43	55	31	14	57
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	43	55	31	14	57
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	43	55	31	14	57
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	43	55	31	14	57

2.3 - Browse Visual Inspection

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	20070124 170154
H	20070125 062641

MSM in V/V polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
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⊗	
⊗	
⊗	
⊗	

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	-11.717780	0.041342	0.930901
7	P1a	-10.027378	0.037095	0.965824
11	P1a	-10.512081	0.060976	-0.518014
15	P1a	-10.727936	0.125273	-2.602182
19	P1a	-15.781718	0.063925	-0.446152
22	P1a	-21.575508	1.948668	7.293081
26	P1a	-15.569657	0.385967	2.921776
30	P1a	-18.135725	0.267598	-4.564811

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-4.039282	0.010542	1.020313
7	P1	-2.546761	0.005230	0.252571
11	P1	-2.955063	0.011413	-0.055356
15	P1	-3.734532	0.021307	-0.152858
19	P1	-3.603818	0.015822	-0.155158
22	P1	-5.092938	0.019305	0.139065
26	P1	-5.978764	0.021403	0.447506
30	P1	-5.338158	0.041066	1.615152
3	P1a	-11.717780	0.041342	0.930901
7	P1a	-10.027378	0.037095	0.965824
11	P1a	-10.512081	0.060976	-0.518014
15	P1a	-10.727936	0.125273	-2.602182
19	P1a	-15.781718	0.063925	-0.446152
22	P1a	-21.575508	1.948668	7.293081
26	P1a	-15.569657	0.385967	2.921776
30	P1a	-18.135725	0.267598	-4.564811

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.207668	0.090571	0.765264
7	P2	-22.106119	0.129747	0.802744
11	P2	-10.992578	0.078281	0.450494
15	P2	-5.163149	0.099309	0.941454
19	P2	-7.275846	0.083977	1.060302
22	P2	-8.343506	0.081504	0.772708
26	P2	-24.330915	0.066430	0.109039
30	P2	-21.712761	0.074342	1.503170

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.222873	0.007356	-0.022570
7	P3	-8.222873	0.007356	-0.022570
11	P3	-8.222873	0.007356	-0.022570
15	P3	-8.222873	0.007356	-0.022570
19	P3	-8.222873	0.007356	-0.022570
22	P3	-8.222873	0.007356	-0.022570
26	P3	-8.222873	0.007356	-0.022570
30	P3	-8.222873	0.007356	-0.022570

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	-11.728898	0.065217	-0.064293
7	P1a	-10.028551	0.075040	0.028250
11	P1a	-10.375375	0.075359	-0.115726
15	P1a	-10.747849	0.149761	-0.087792
19	P1a	-15.753887	0.088488	-0.039807
22	P1a	-21.452200	1.489521	0.708952
26	P1a	-15.889998	0.321172	0.564169
30	P1a	-17.997545	0.379383	-0.468630

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.920833	0.012568	-0.012588
7	P1	-2.462286	0.053864	0.069583
11	P1	-2.826833	0.014312	-0.010036
15	P1	-3.726188	0.031272	-0.108220
19	P1	-3.553216	0.017912	-0.021496
22	P1	-5.004224	0.021503	-0.031550
26	P1	-6.041154	0.022649	0.010202
30	P1	-5.344389	0.034682	0.044118
3	P1a	-11.728898	0.065217	-0.064293
7	P1a	-10.028551	0.075040	0.028250
11	P1a	-10.375375	0.075359	-0.115726
15	P1a	-10.747849	0.149761	-0.087792
19	P1a	-15.753887	0.088488	-0.039807
22	P1a	-21.452200	1.489521	0.708952
26	P1a	-15.889998	0.321172	0.564169
30	P1a	-17.997545	0.379383	-0.468630

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.391806	0.078340	0.211801
7	P2	-22.160812	0.163125	0.182731
11	P2	-10.805623	0.077311	0.169704
15	P2	-4.934637	0.164065	0.146935
19	P2	-6.922574	0.146325	0.112358
22	P2	-8.216831	0.090756	0.070798
26	P2	-24.332232	0.122549	0.106241
30	P2	-21.876471	0.112870	0.159379

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.082438	0.002773	0.044109
7	P3	-8.082135	0.002769	0.043903
11	P3	-8.082288	0.002778	0.044442
15	P3	-8.082228	0.002770	0.044094

19	P3	-8.082207	0.002780	0.044526
22	P3	-8.082330	0.002775	0.043581
26	P3	-8.082388	0.002776	0.044647
30	P3	-8.082298	0.002768	0.044088

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	0.000571744
	stdev	1.67765e-07
MEAN Q	mean	0.000507058
	stdev	2.08955e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.136430
	stdev	0.00143149
STDEV Q	mean	0.136794
	stdev	0.00145483



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2007012[345]

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_1PNPDE20070123_140435_00000342055_00010_25615_0987.N1	15	1262
ASA_IMM_1PNPDE20070123_181423_000001682055_00013_25618_1065.N1	2	47
ASA_IMM_1PNPDE20070125_015755_00000802055_00031_25636_3224.N1	1	19
ASA_GM1_1PNPDK20070123_141358_000007732055_00010_25615_0389.N1	0	14
ASA_GM1_1PNPDK20070123_141358_000007732055_00010_25615_0634.N1	0	14
ASA_GM1_1PNPDK20070124_111259_000004342055_00023_25628_1933.N1	0	14
ASA_GM1_1PNPDK20070124_152257_000007732055_00025_25630_2384.N1	0	7
ASA_GM1_1PNPDK20070124_174519_000005132055_00027_25632_2481.N1	0	36
ASA_GM1_1PNPDK20070124_192744_000003202055_00028_25633_2595.N1	0	8
ASA_WSM_1PNPDE20070123_145428_000002012055_00011_25616_1023.N1	0	96
ASA_WSM_1PNPDE20070123_181840_00000852055_00013_25618_1069.N1	0	47
ASA_WSM_1PNPDE20070125_024515_00000852055_00032_25637_2992.N1	50	10096
ASA_APM_1PNPDE20070123_144834_00000422055_00011_25616_0989.N1	0	20



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
☒

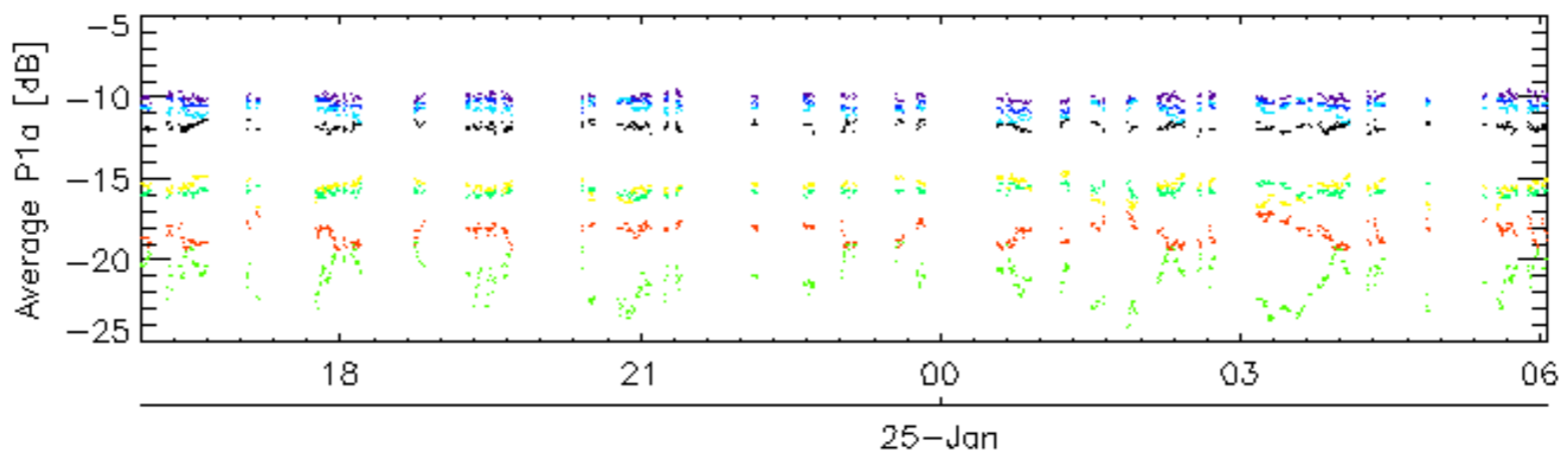
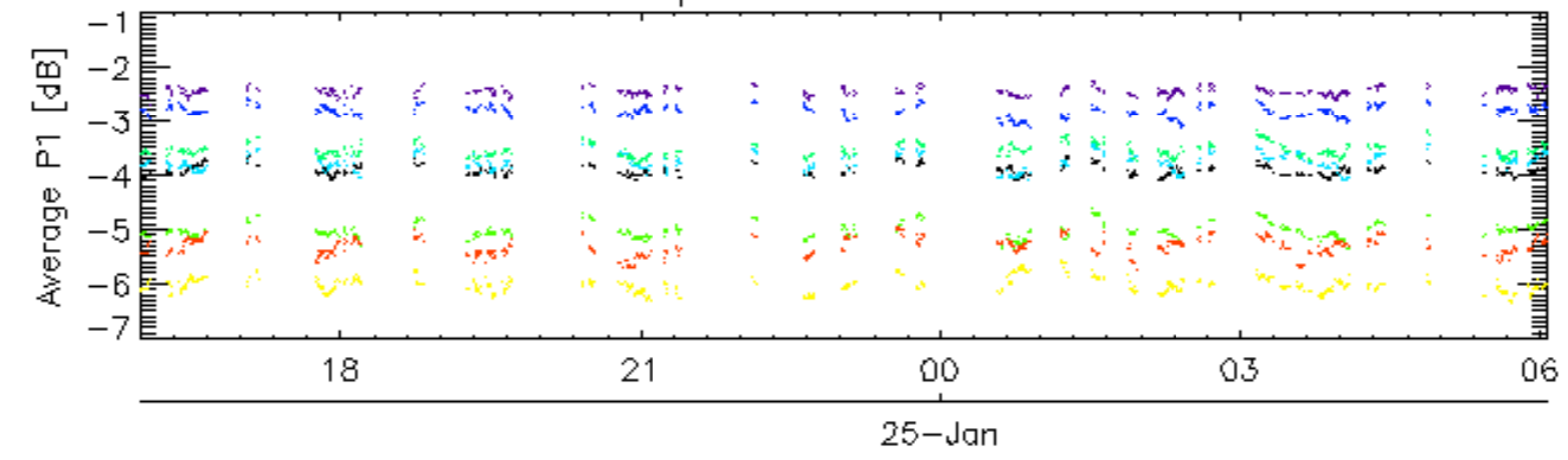
Descending

7.6 - Doppler evolution versus ANX for GM1

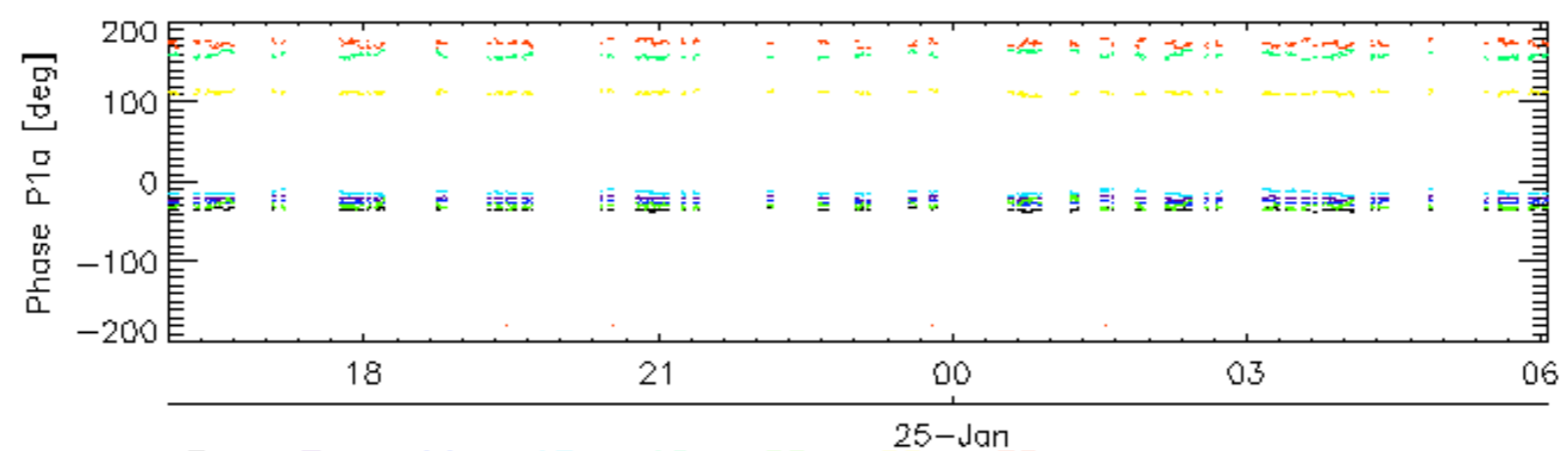
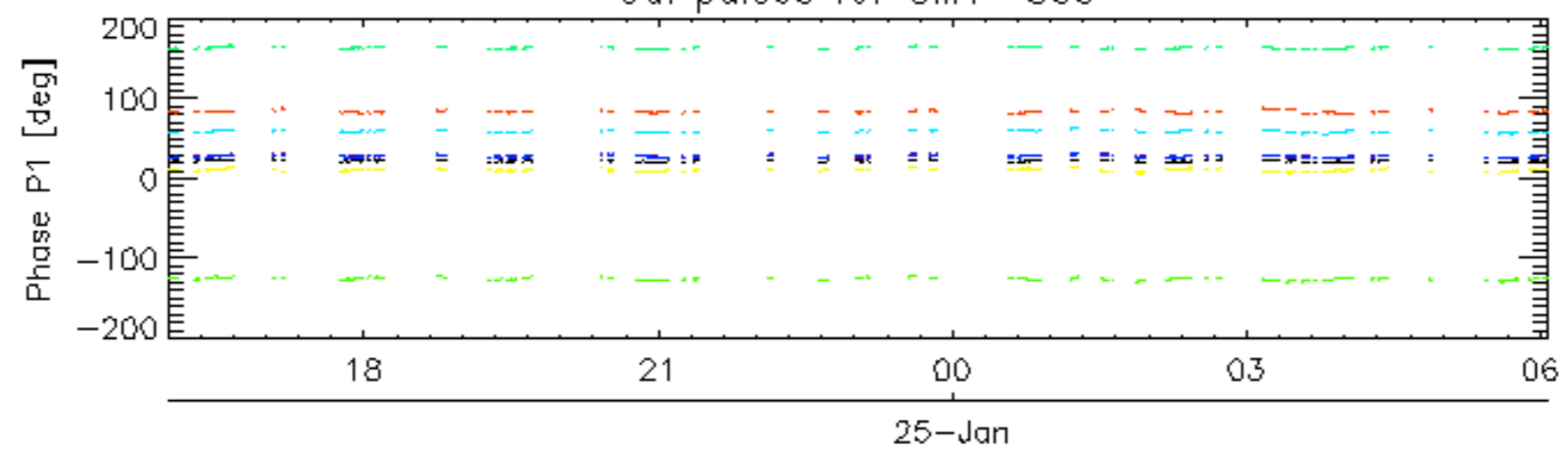
Evolution Doppler error versus ANX



Cal pulses for GM1 SS3

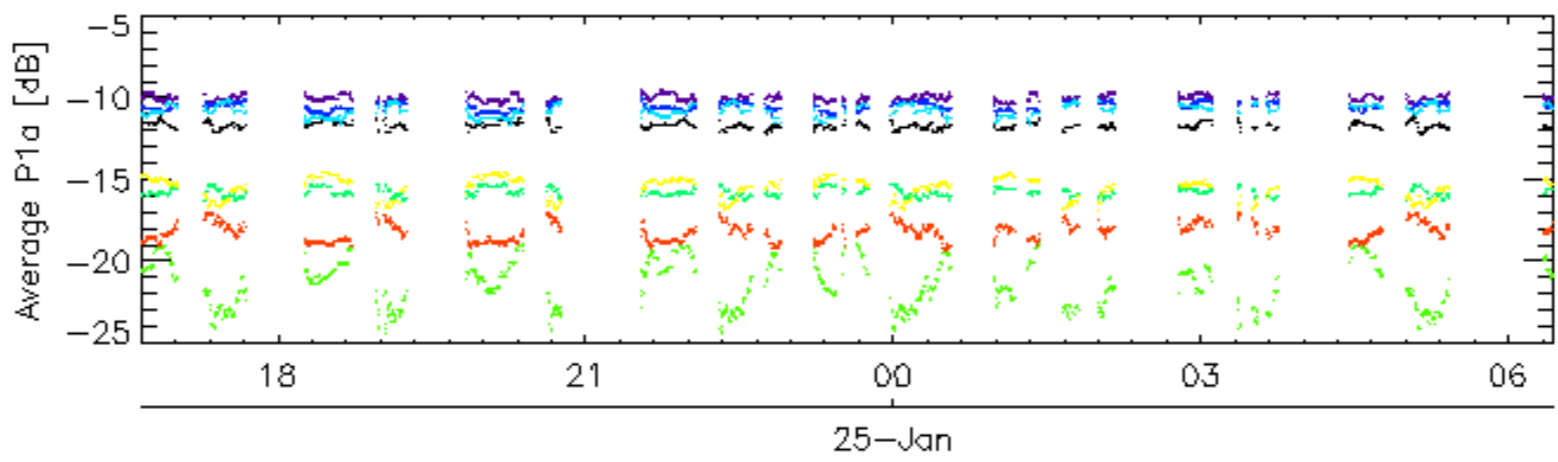
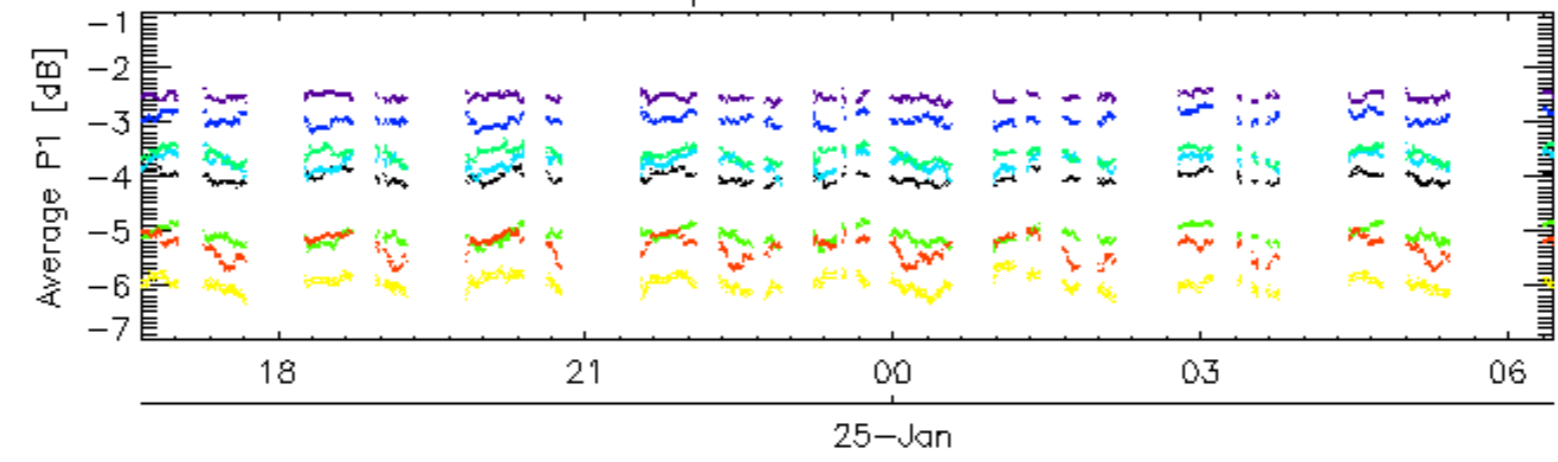


Cal pulses for GM1 SS3

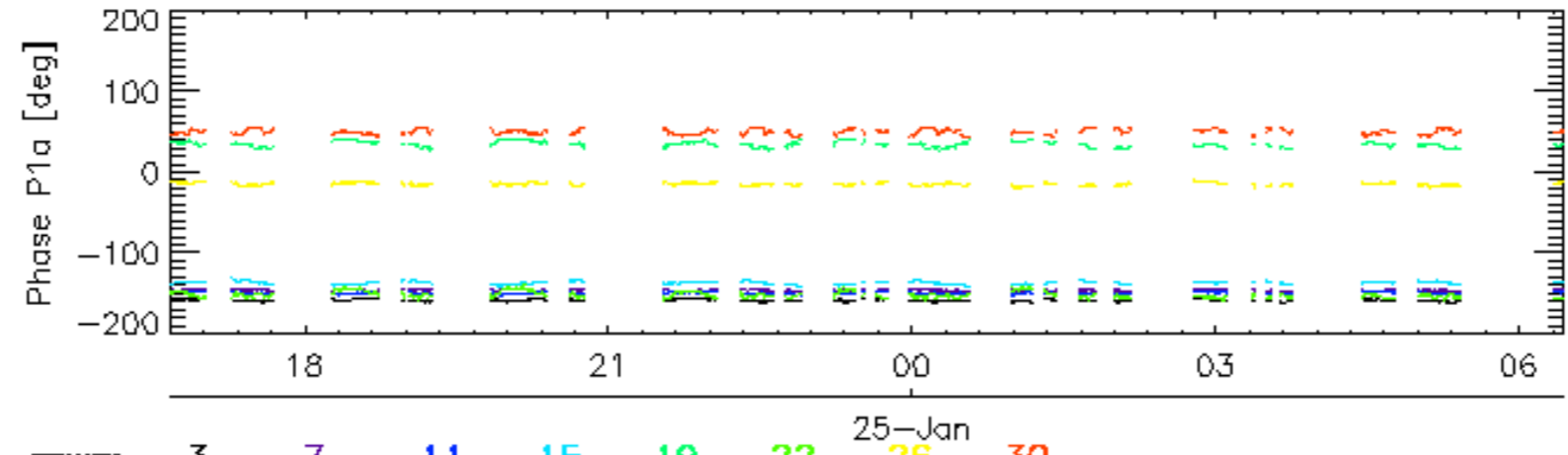
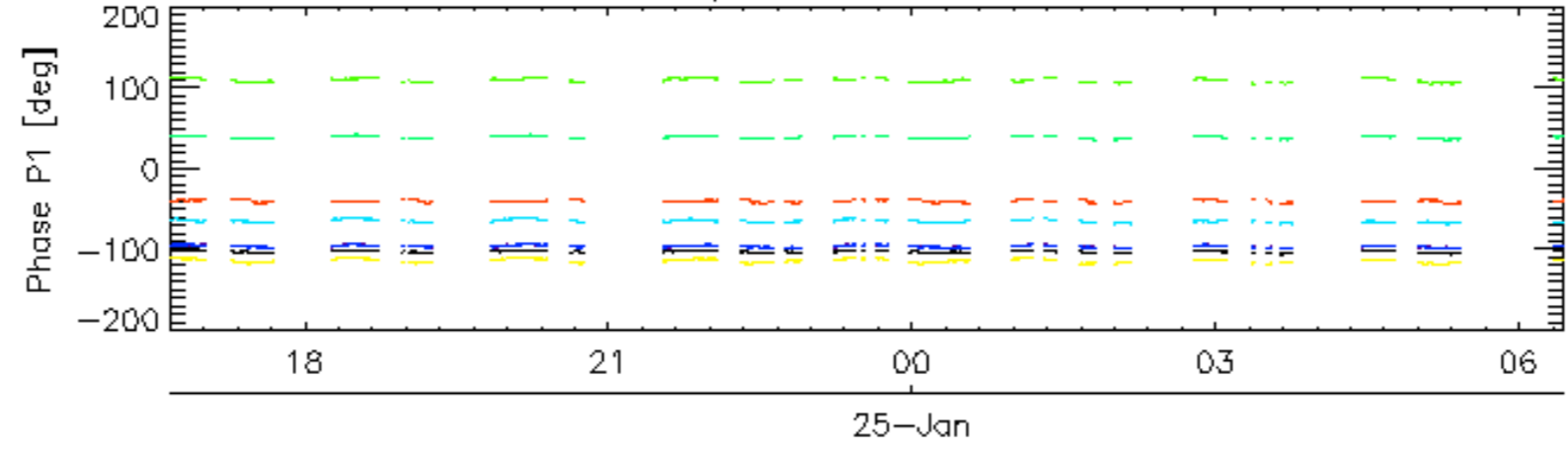


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS4

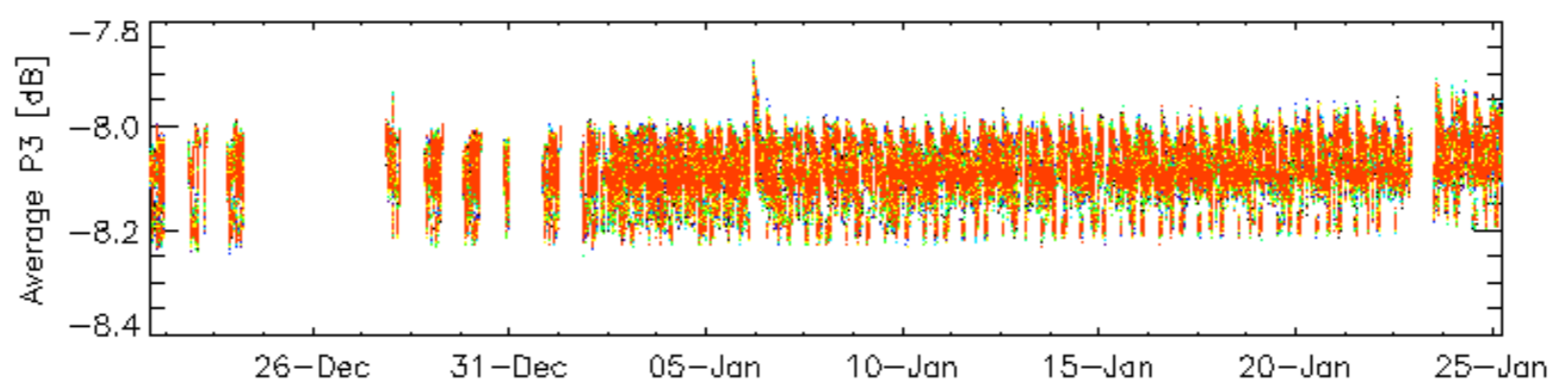
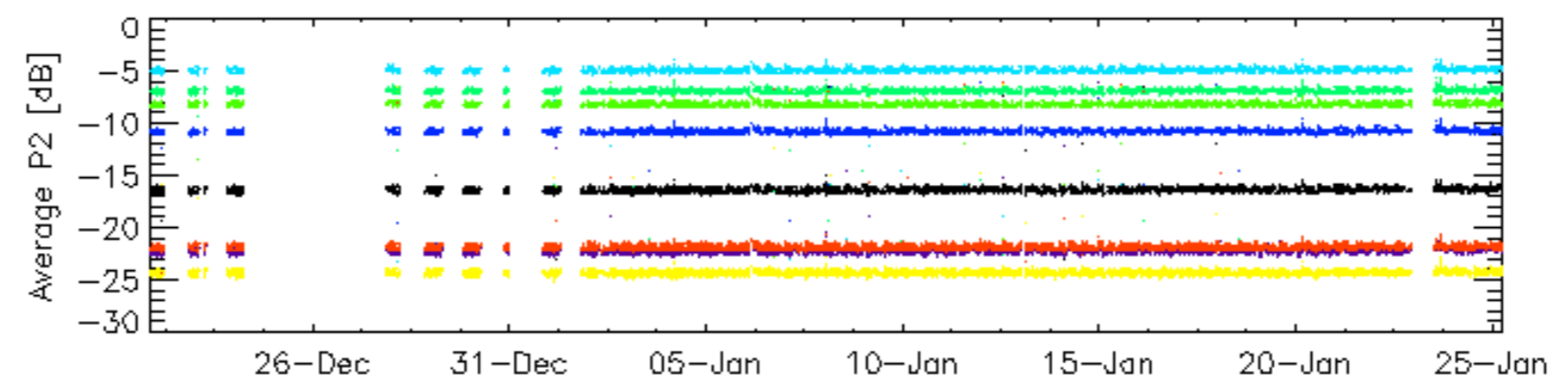
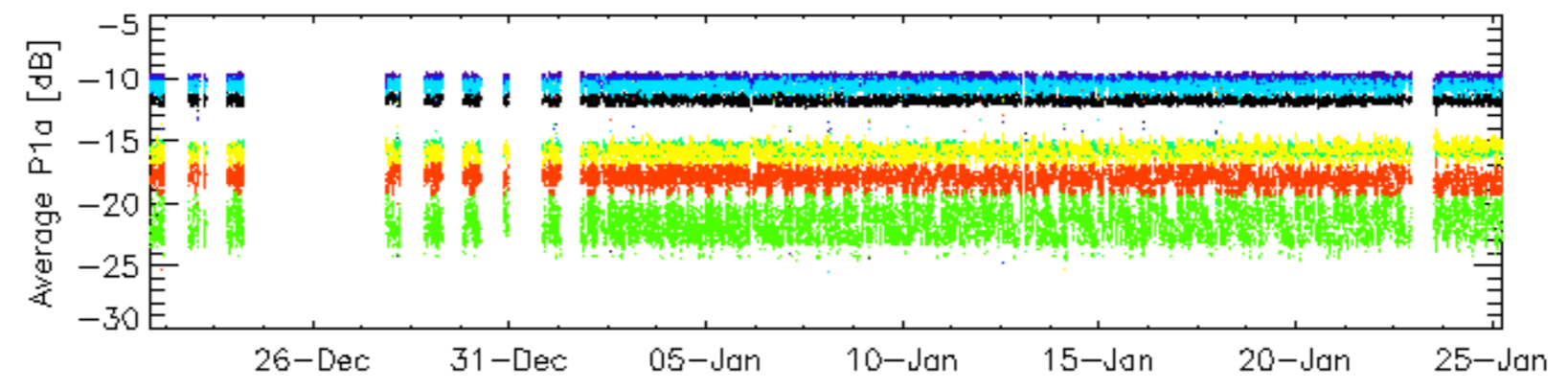
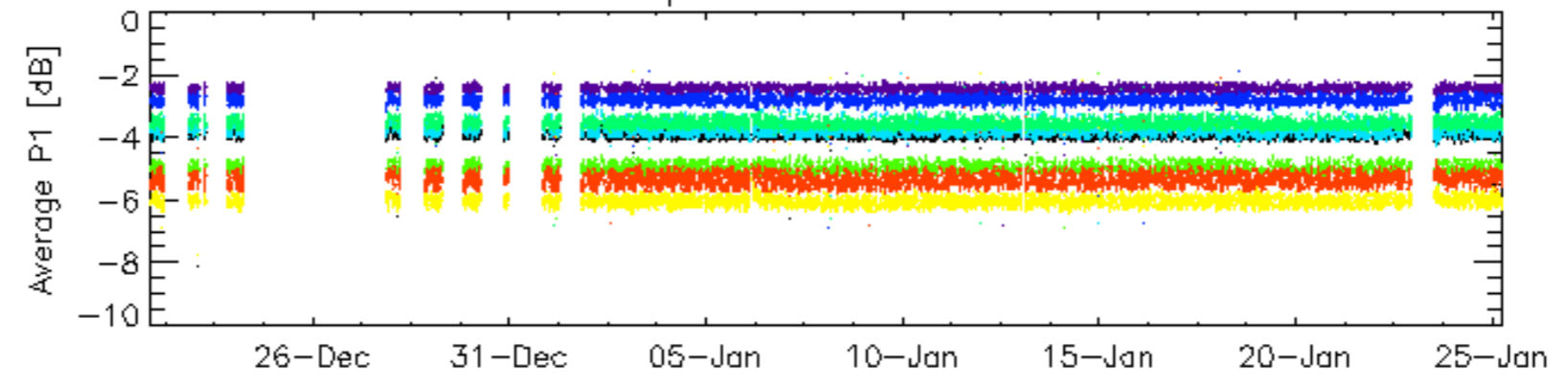


Cal pulses for WVS IS4



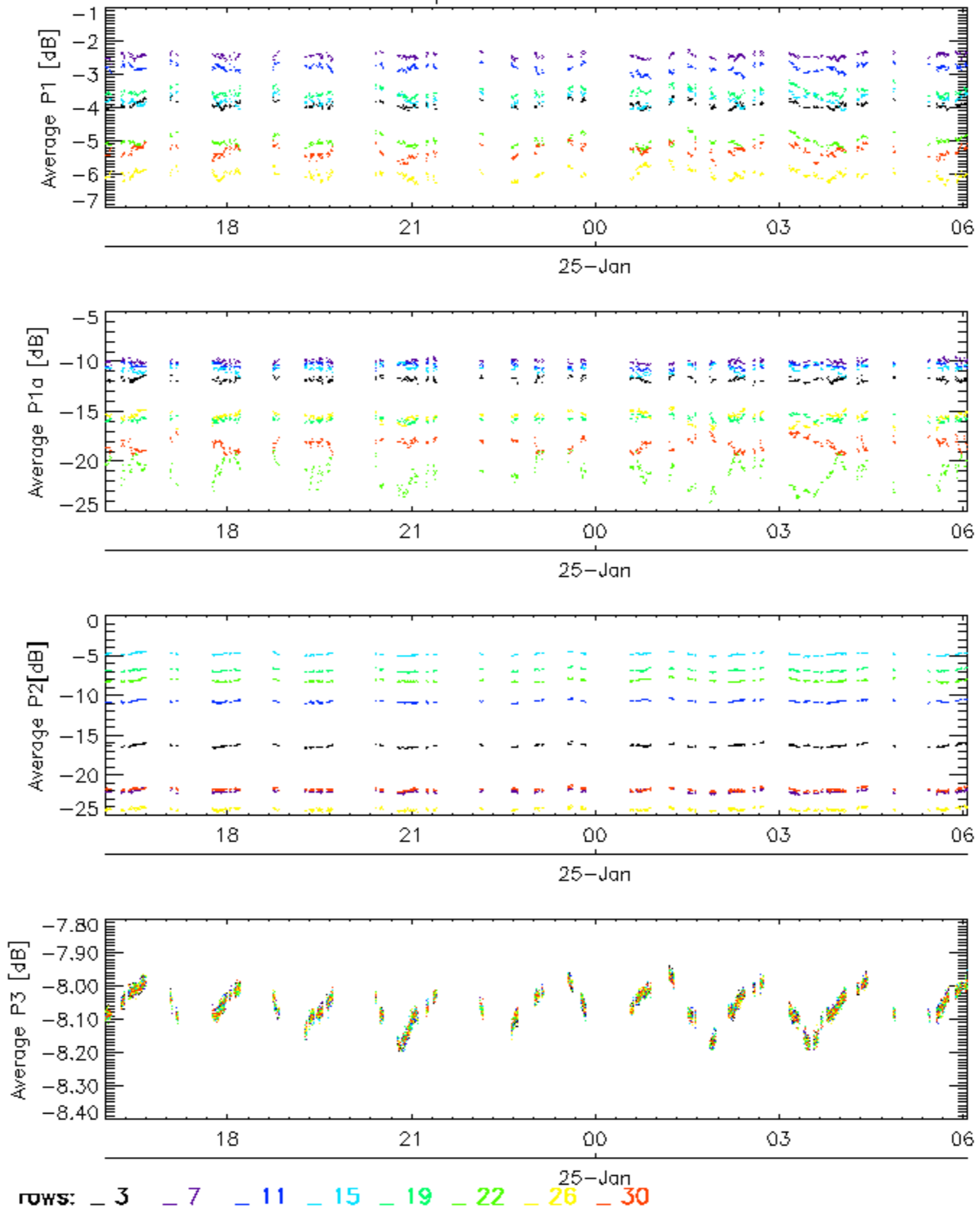
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

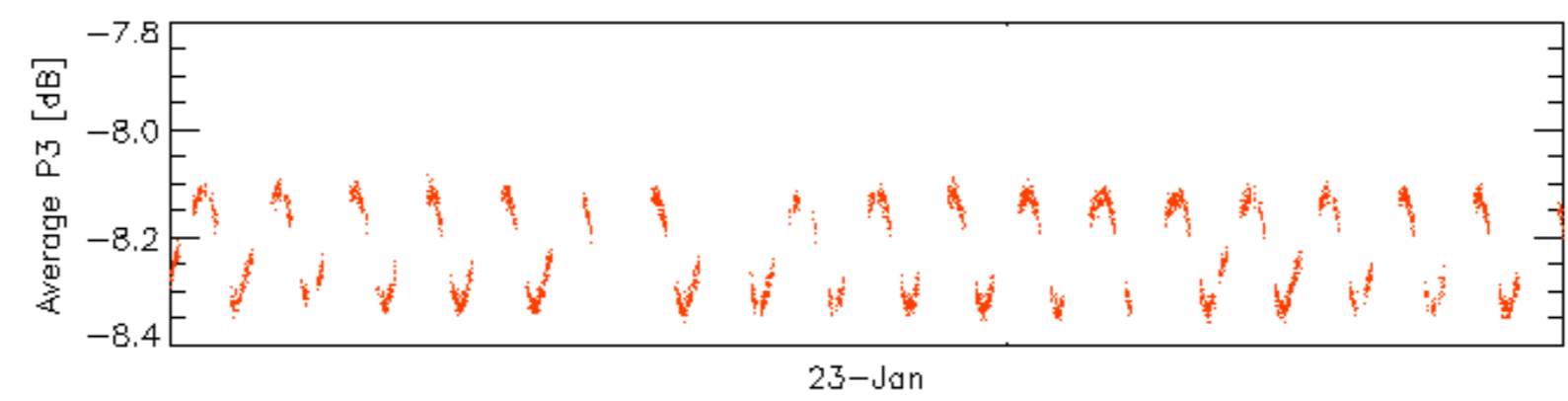
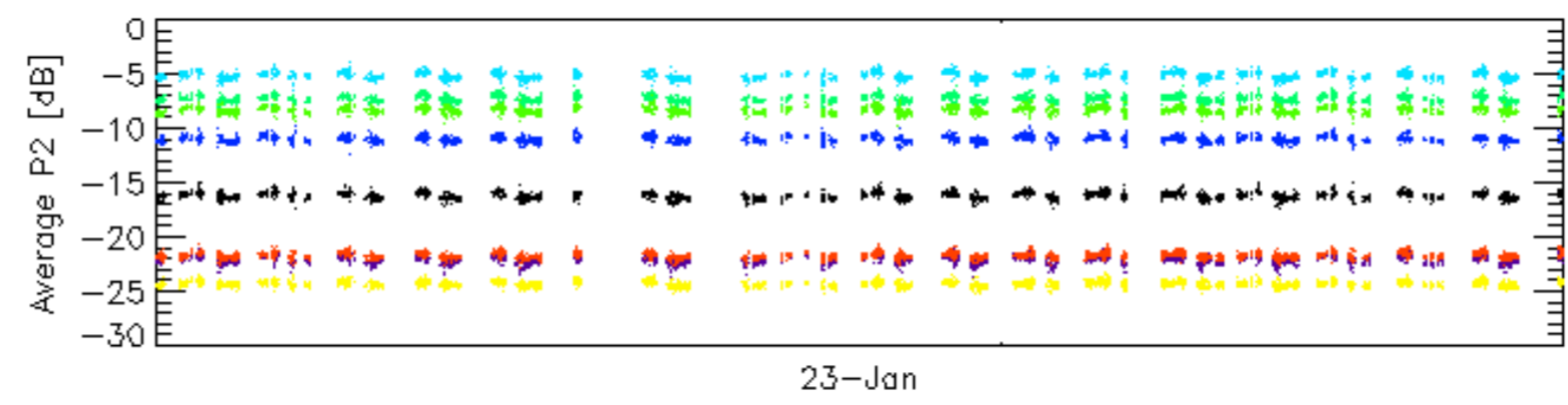
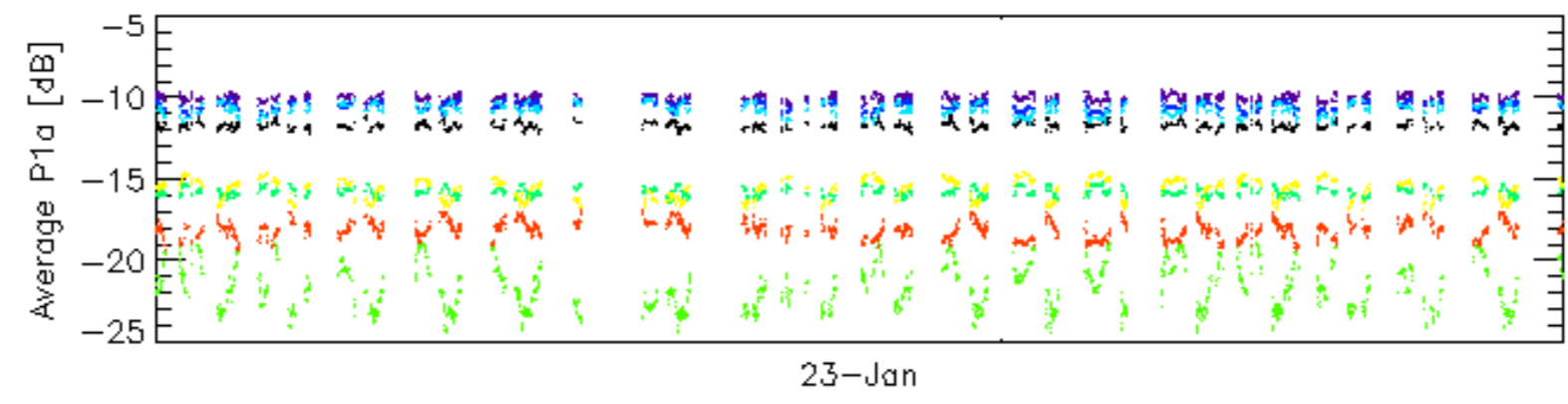
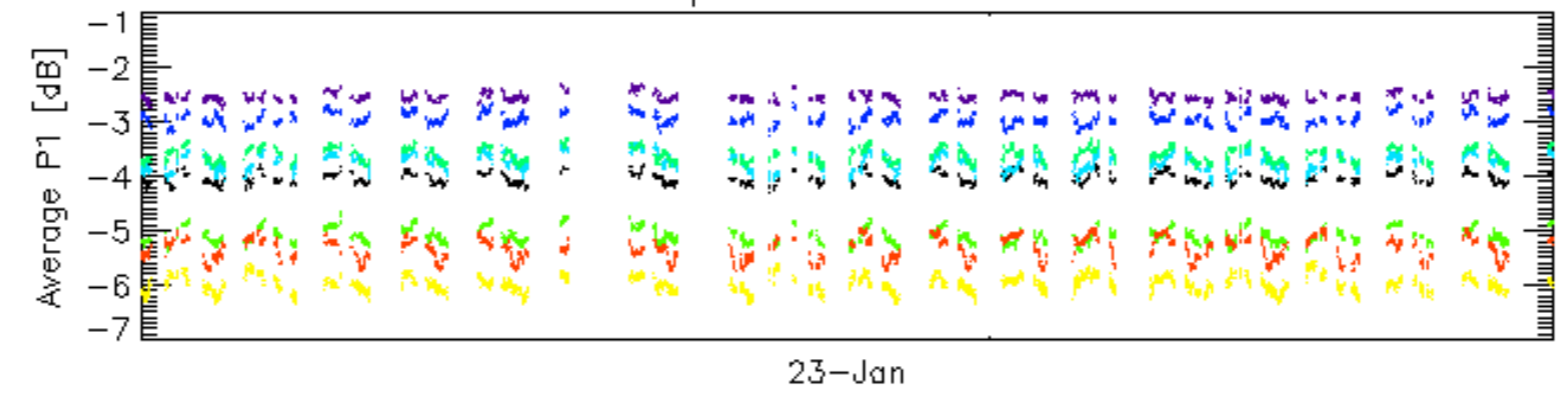


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

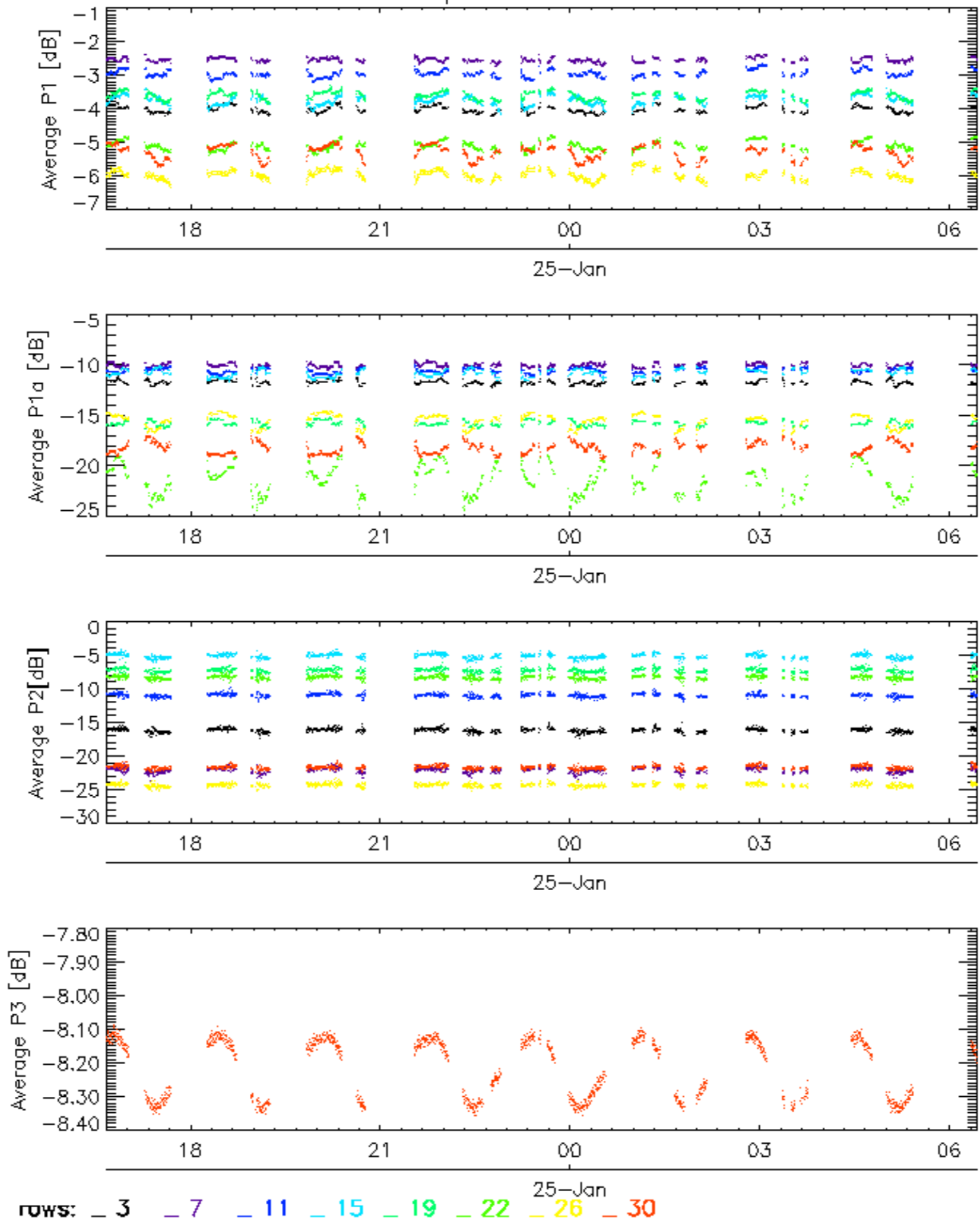


Cal pulses for WVS IS4

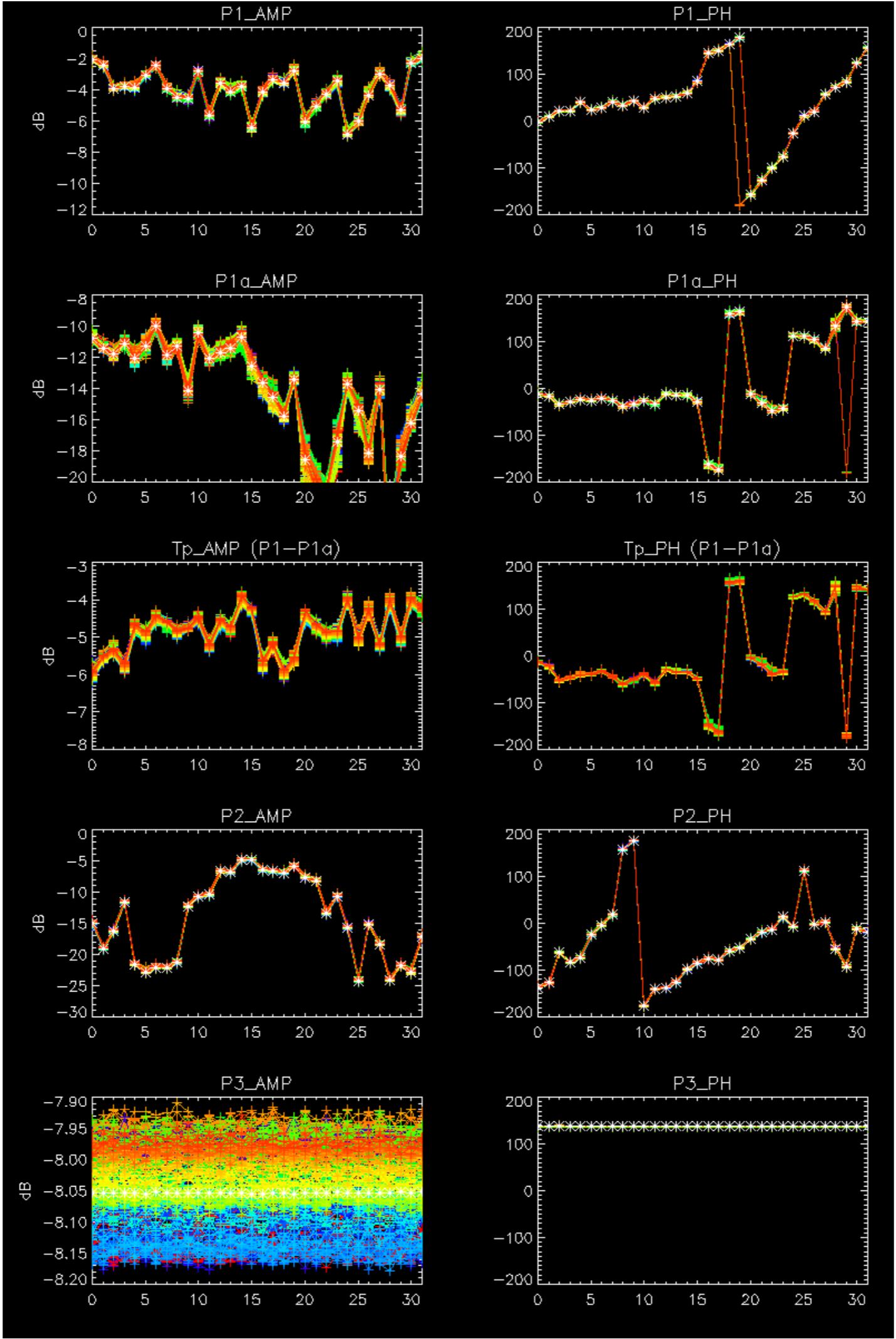


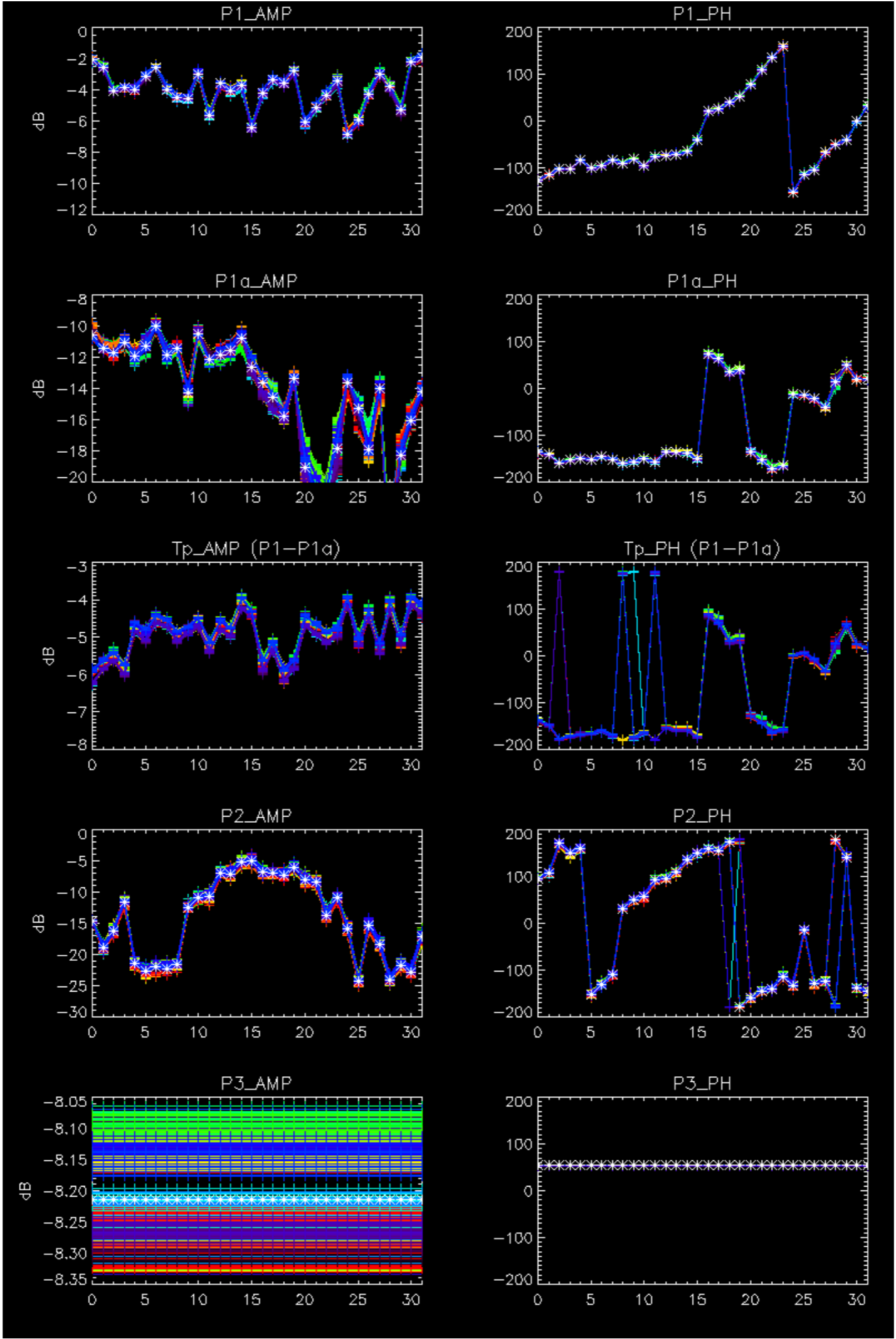
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS4



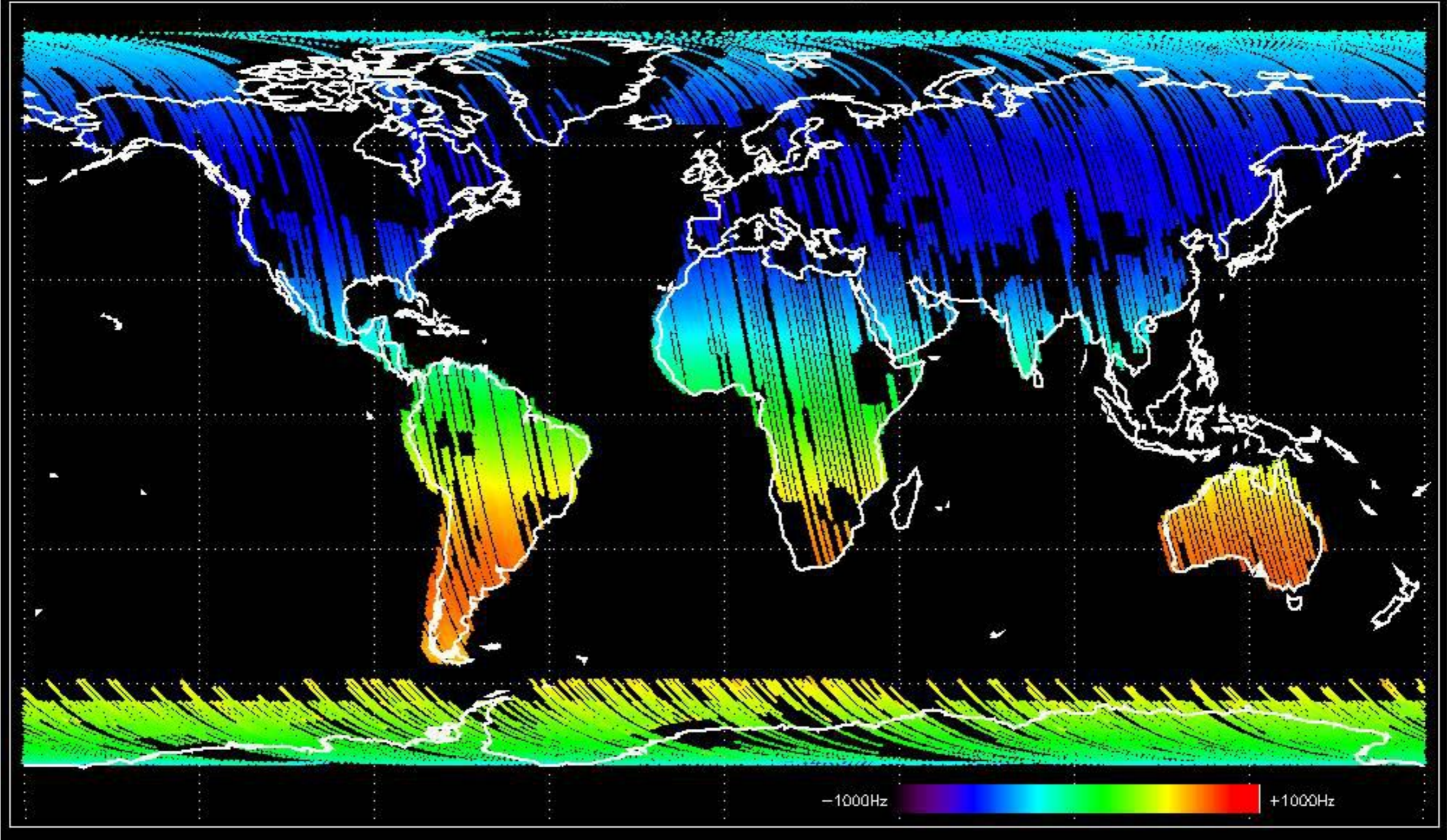
No anomalies observed.



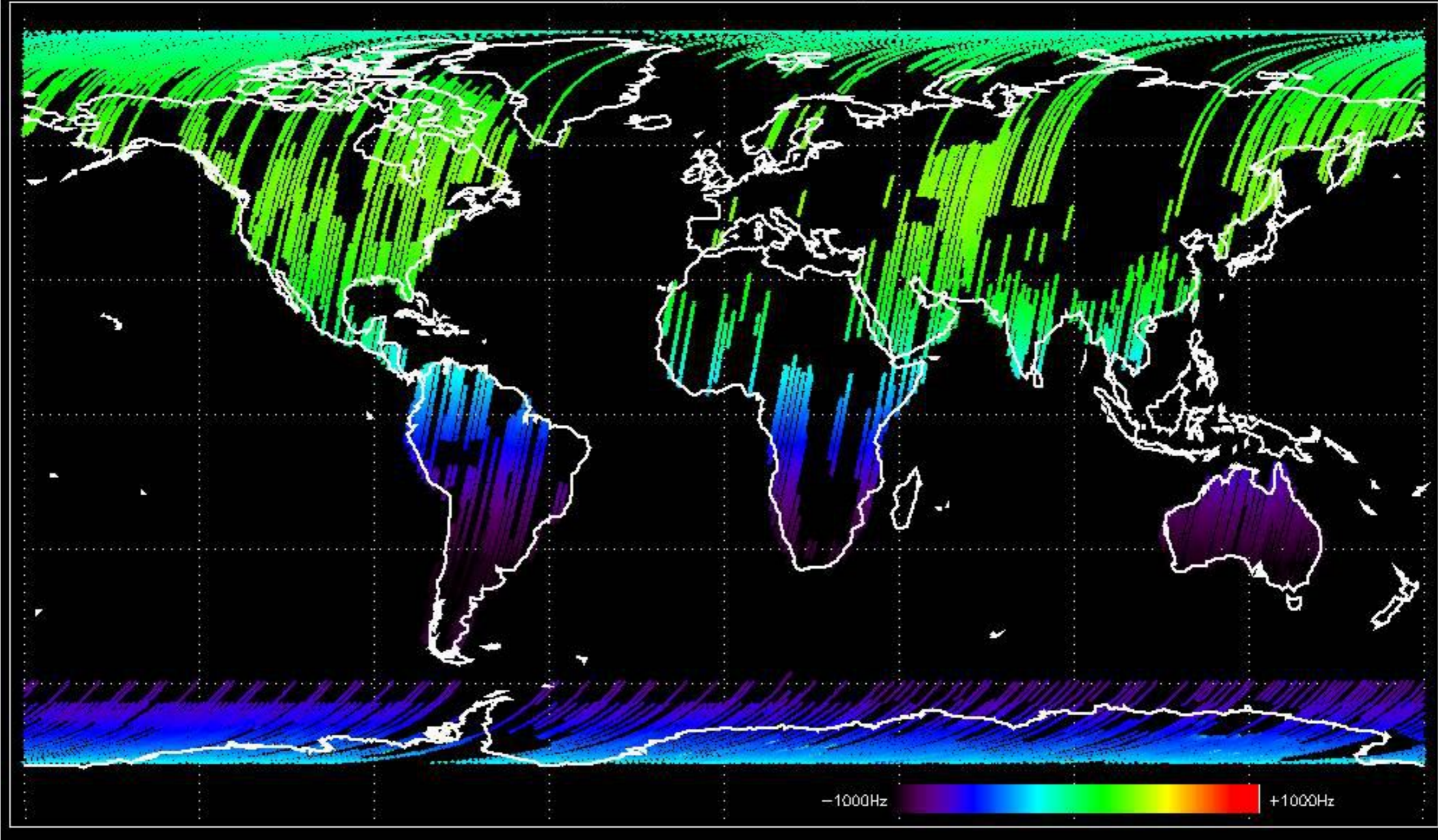


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

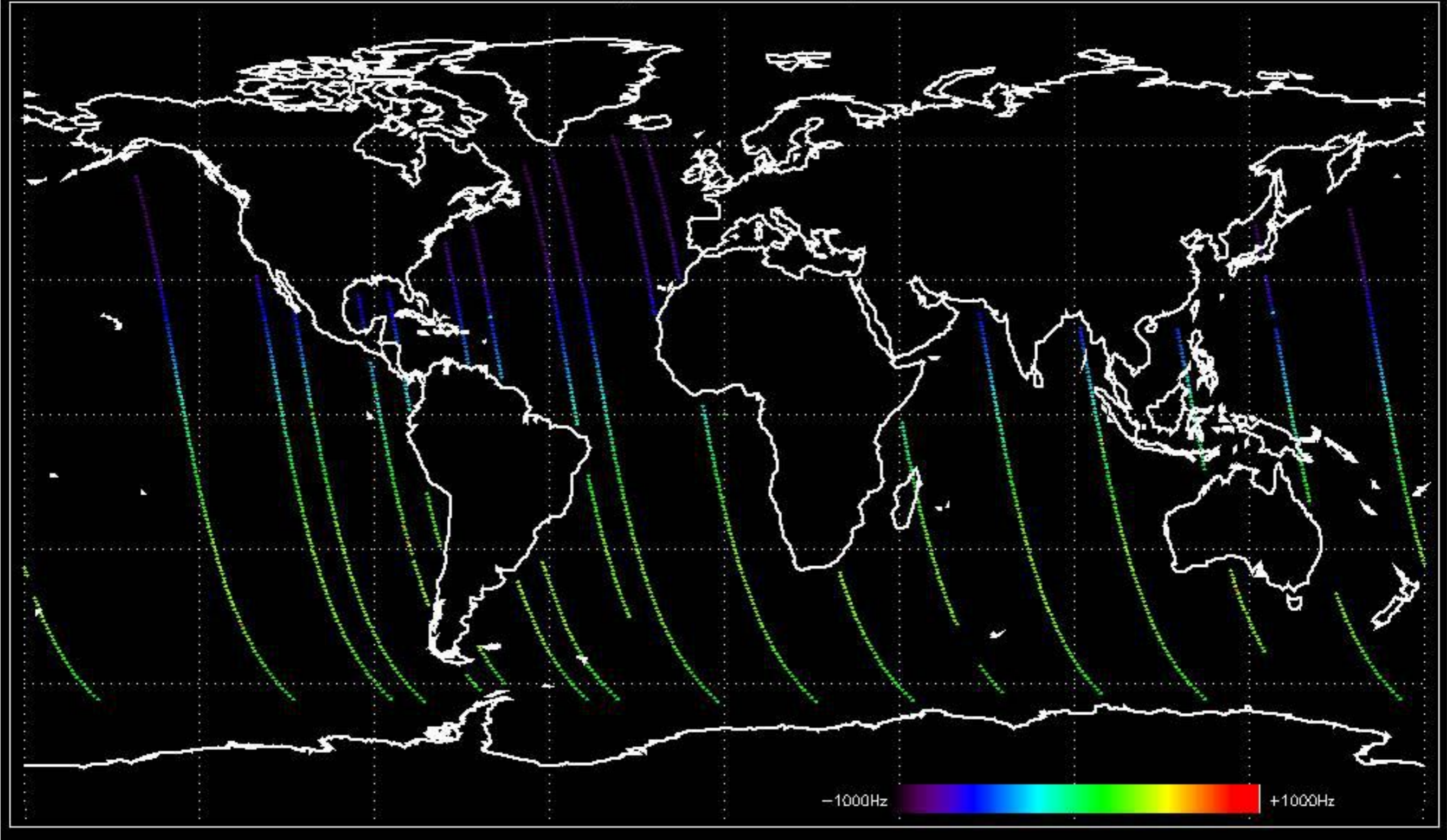
Doppler 'GM1' 'SS1' ascending



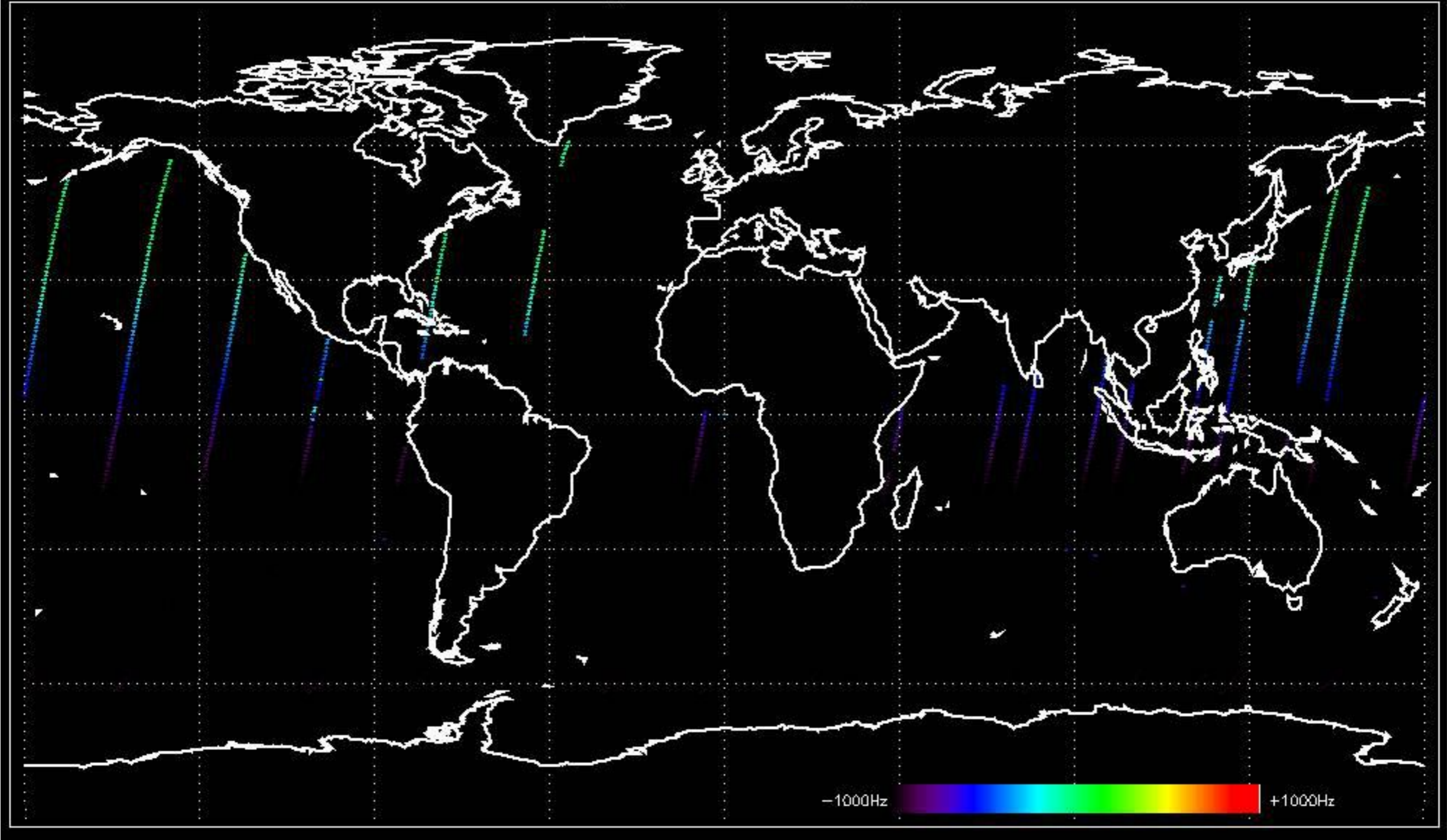
Doppler 'GM1' 'SS1' descending



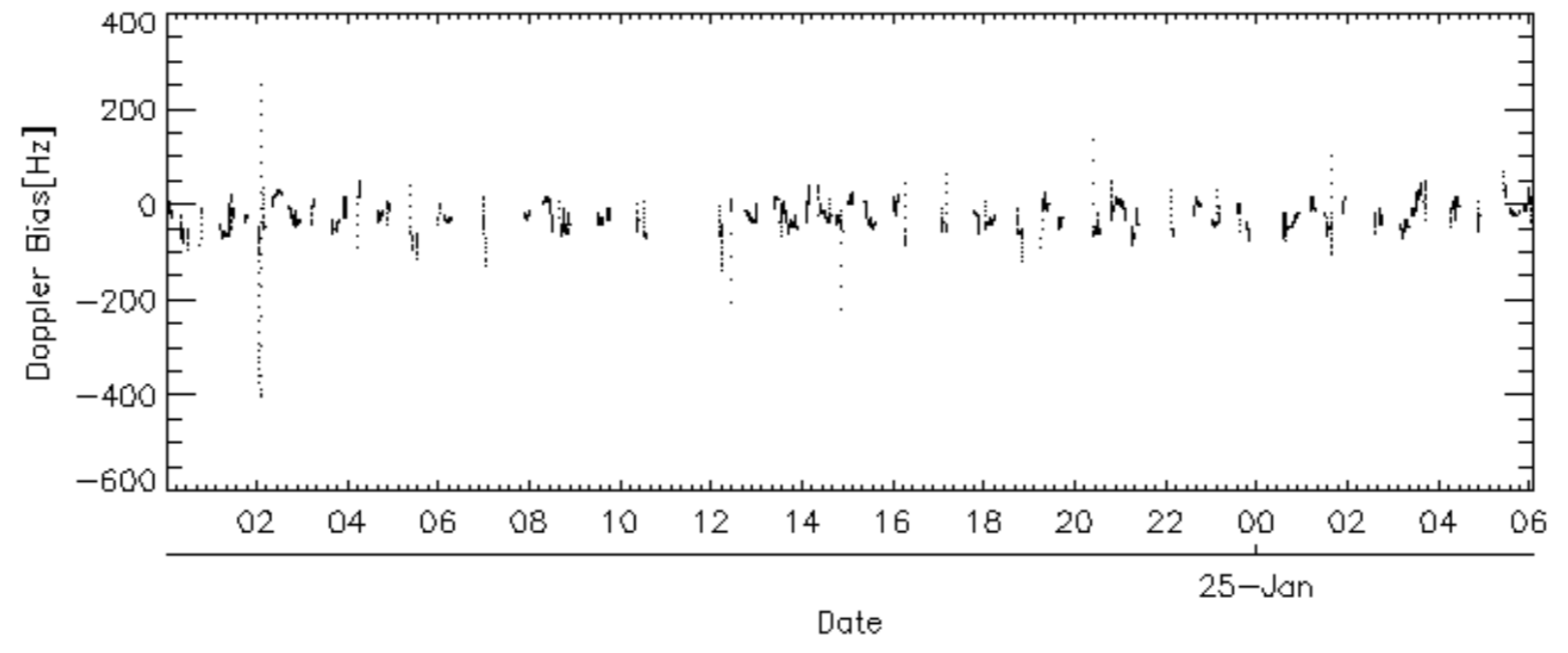
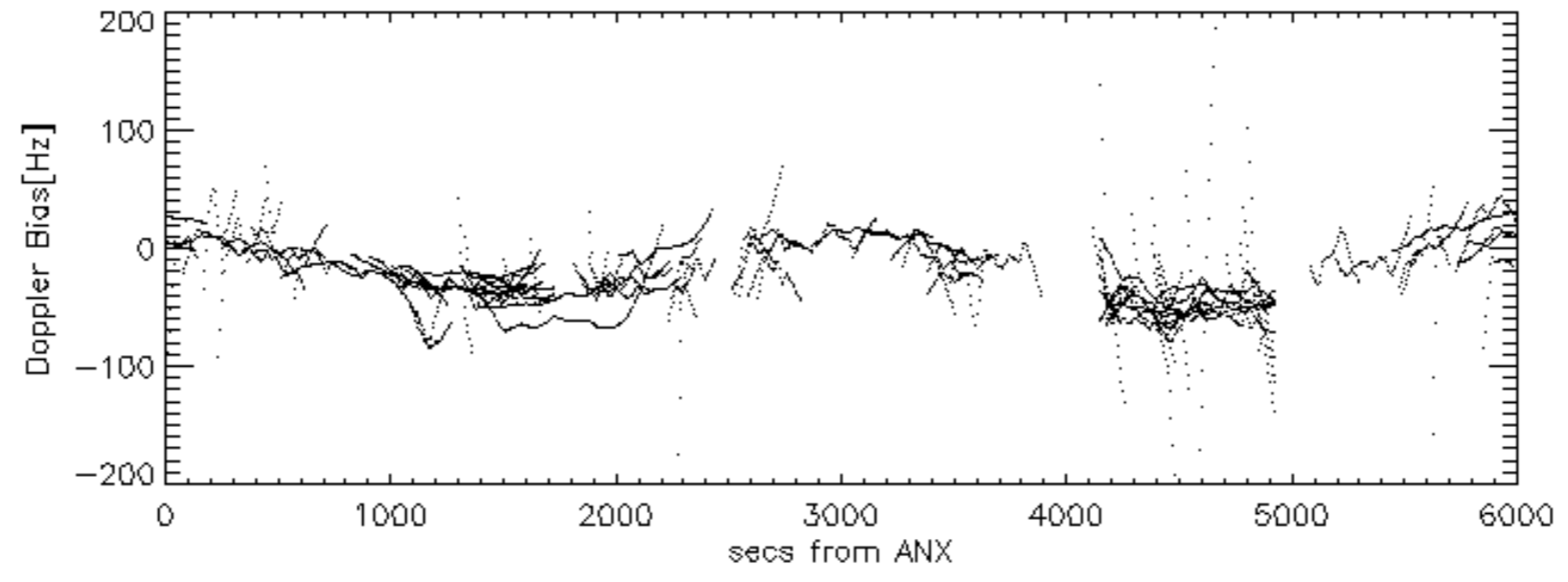
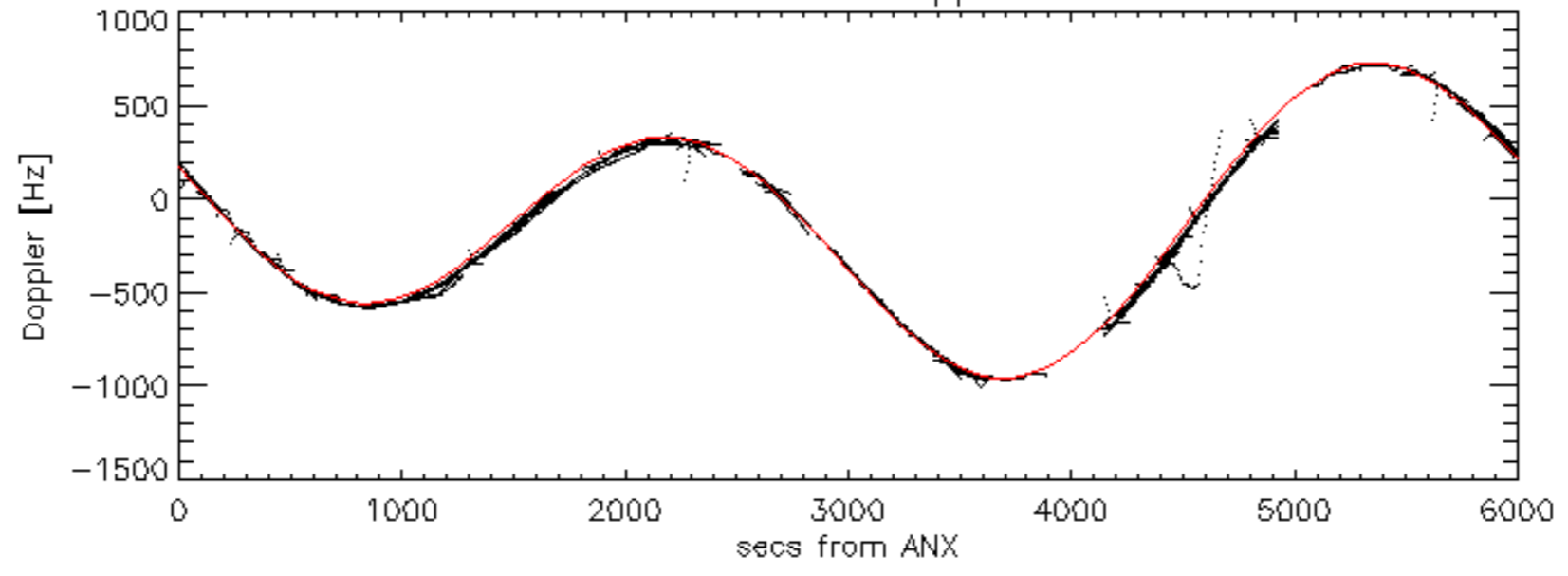
Doppler 'WVS' 'IS4' ascending

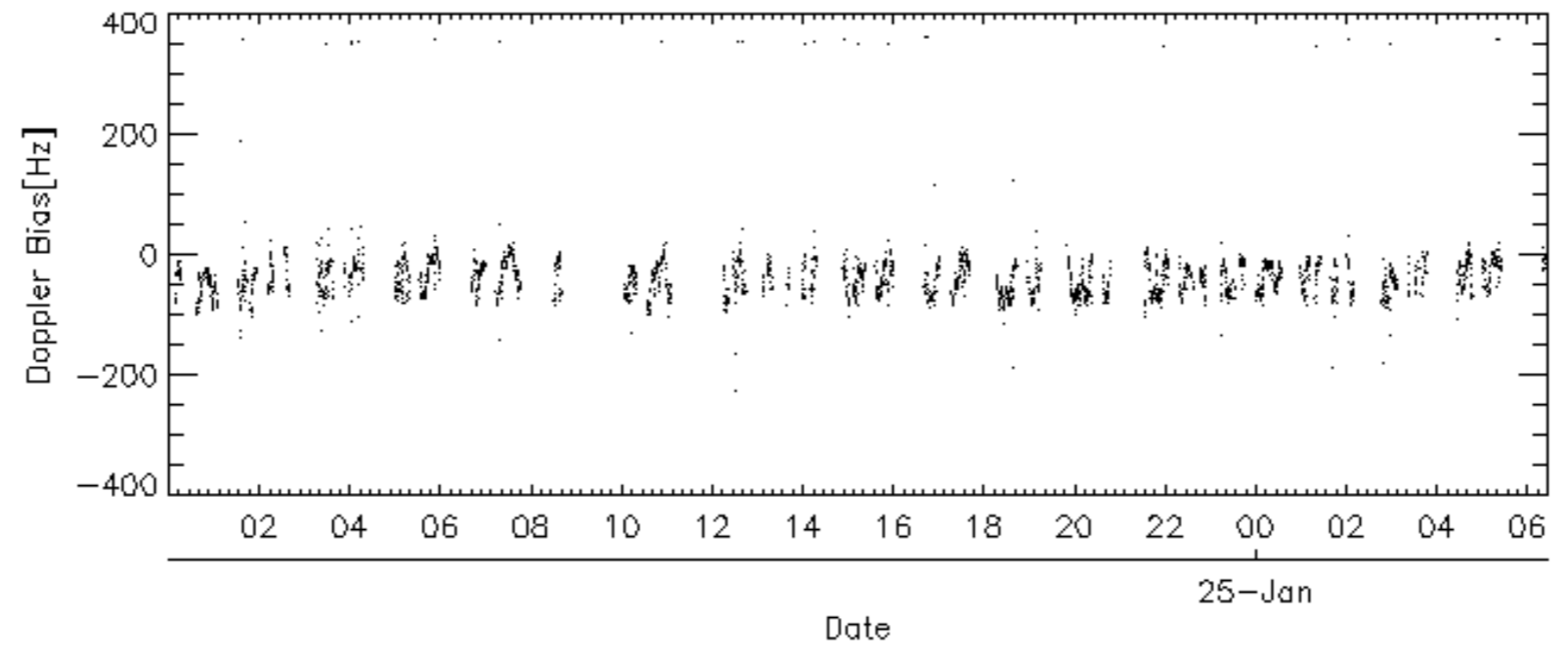
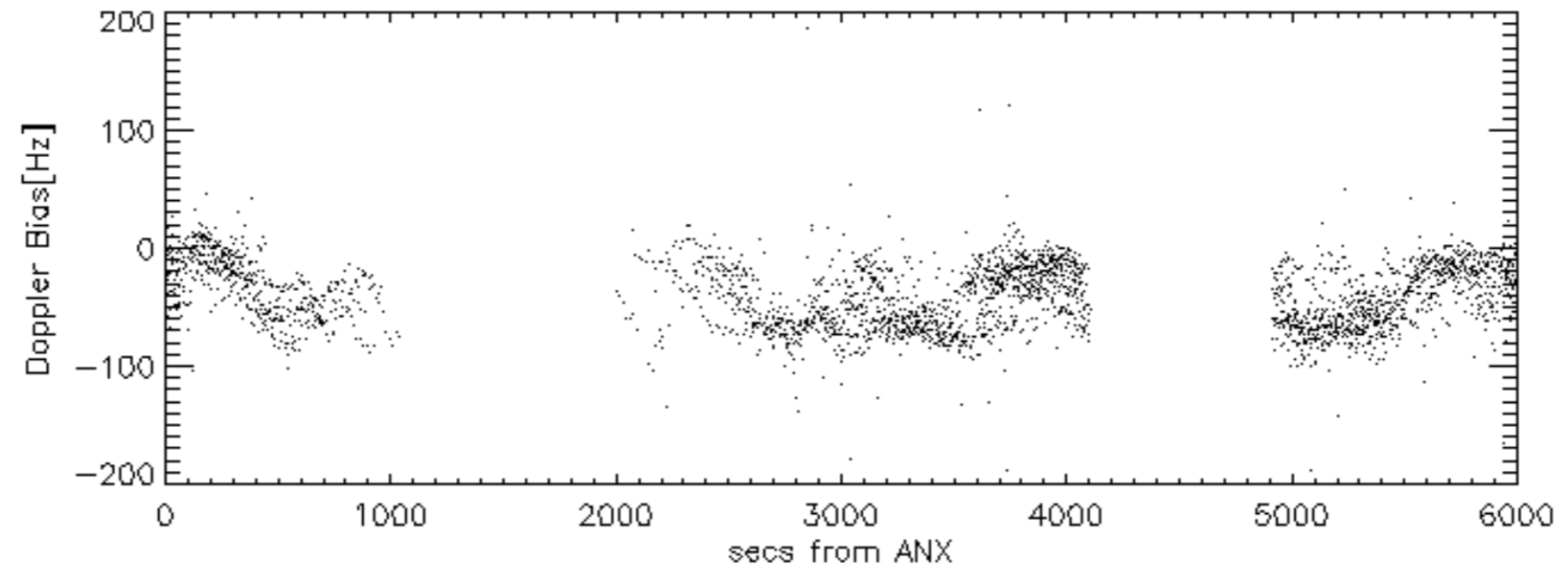
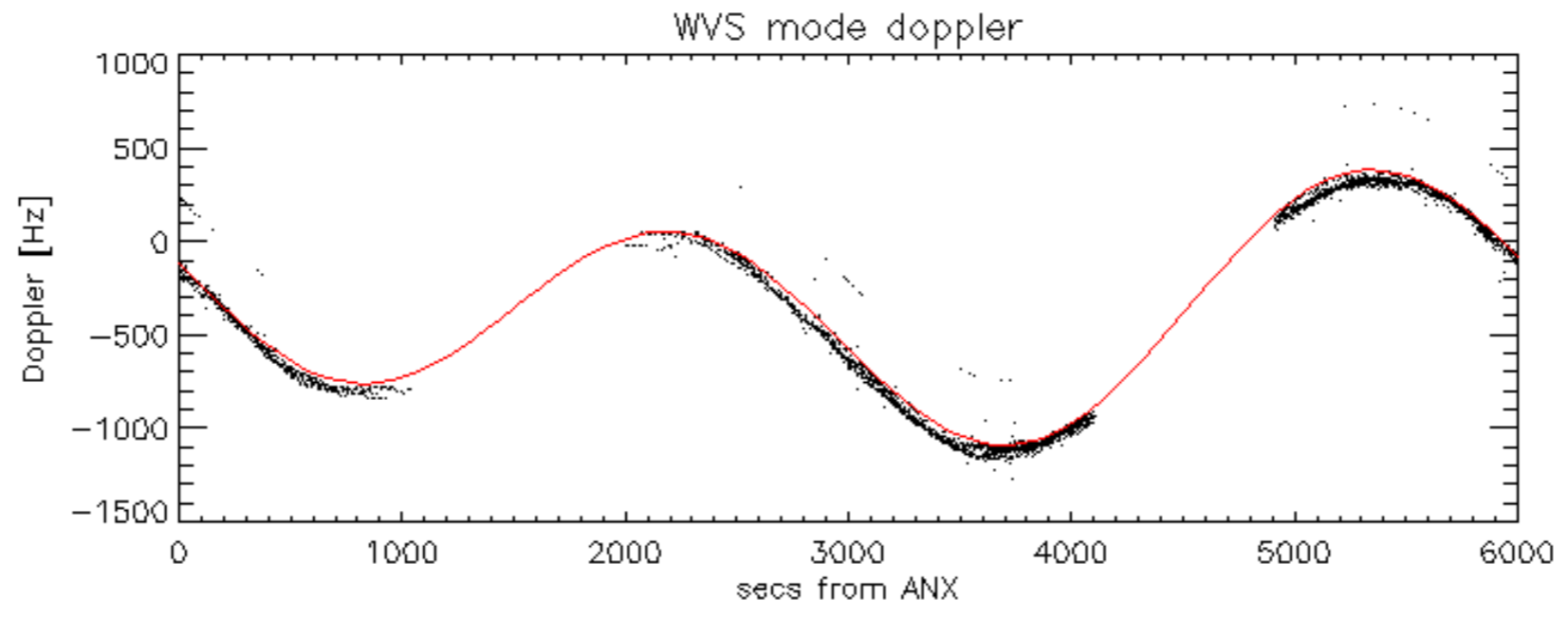


Doppler 'WVS' 'IS4' descending

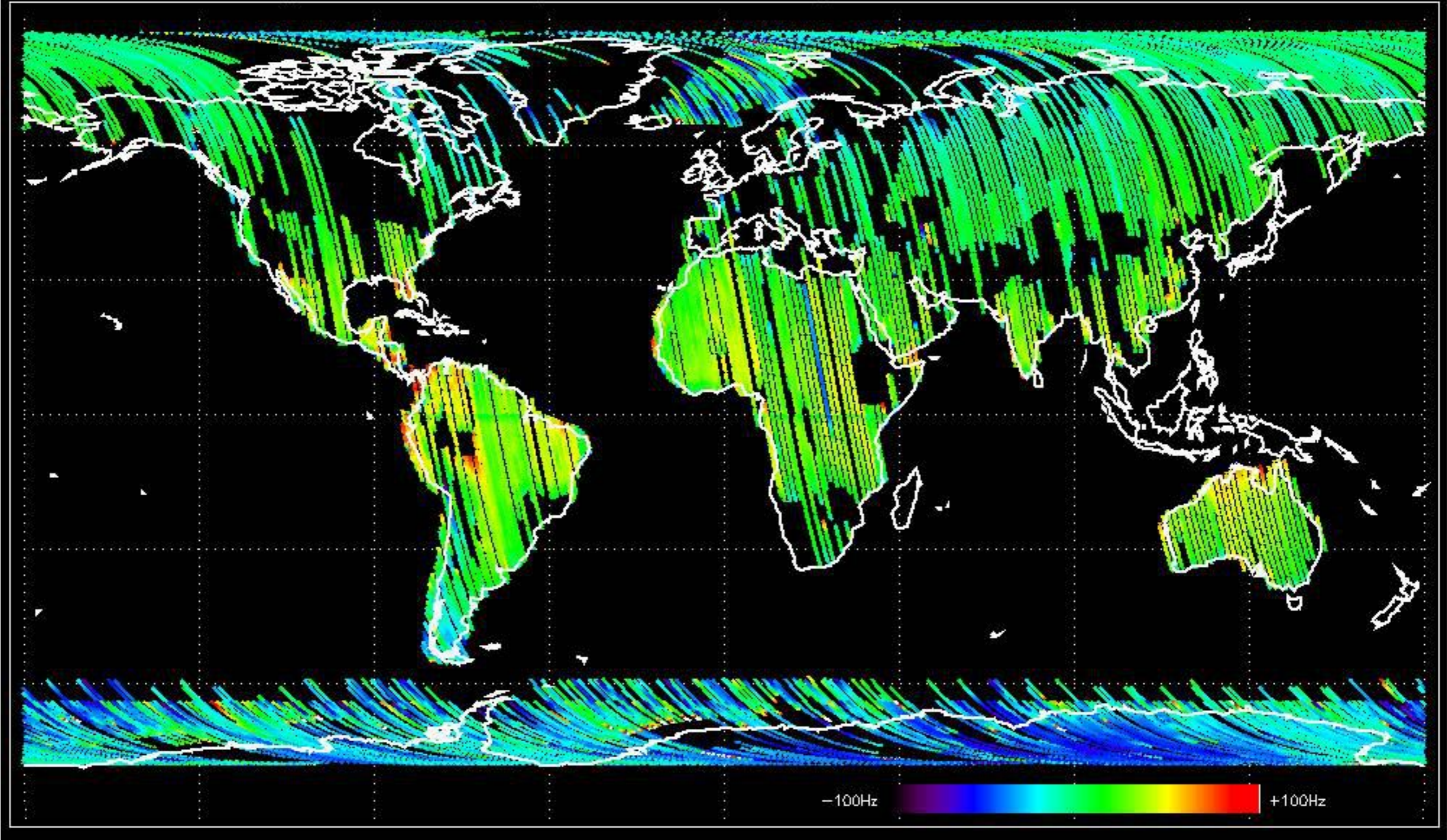


GM1 mode doppler

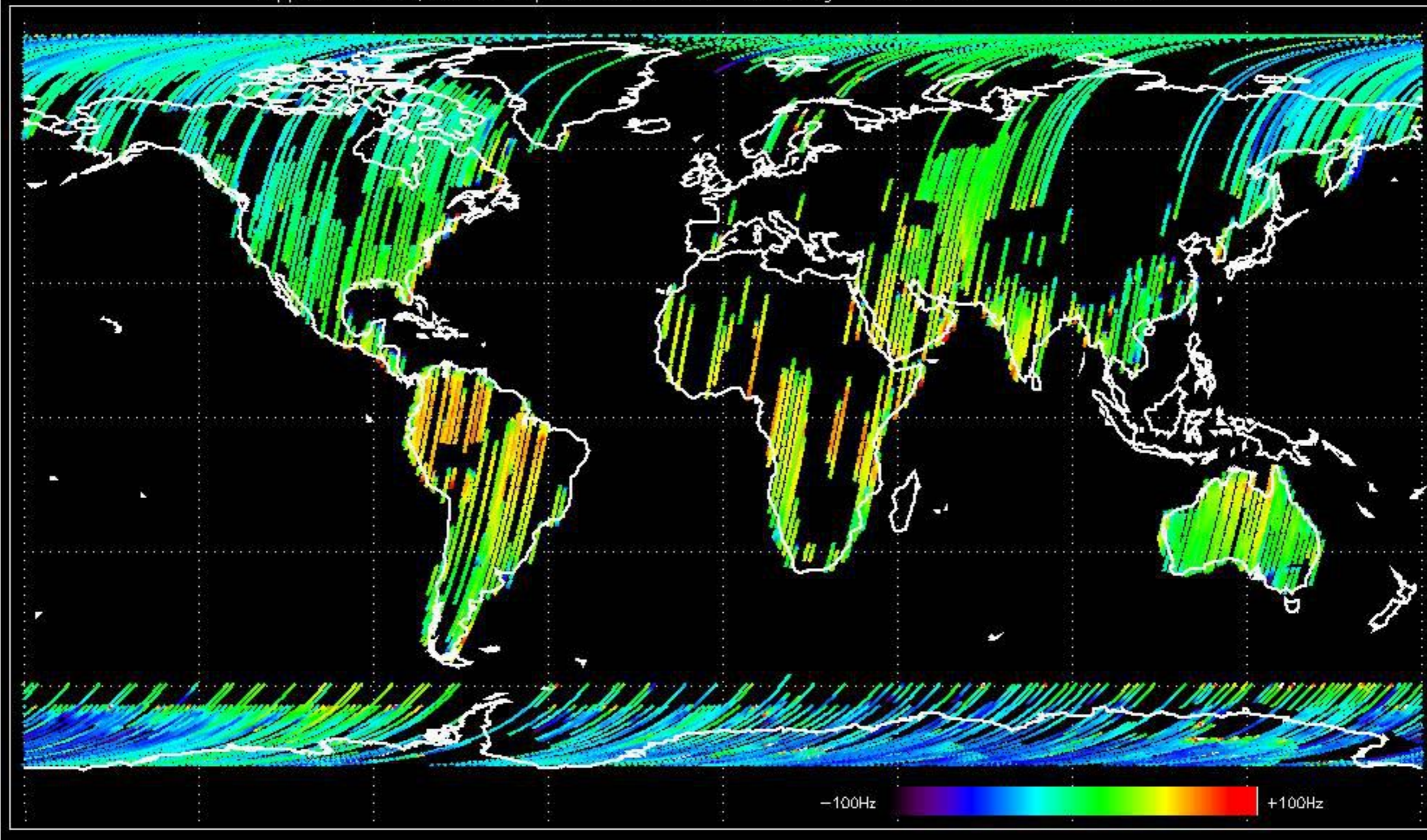




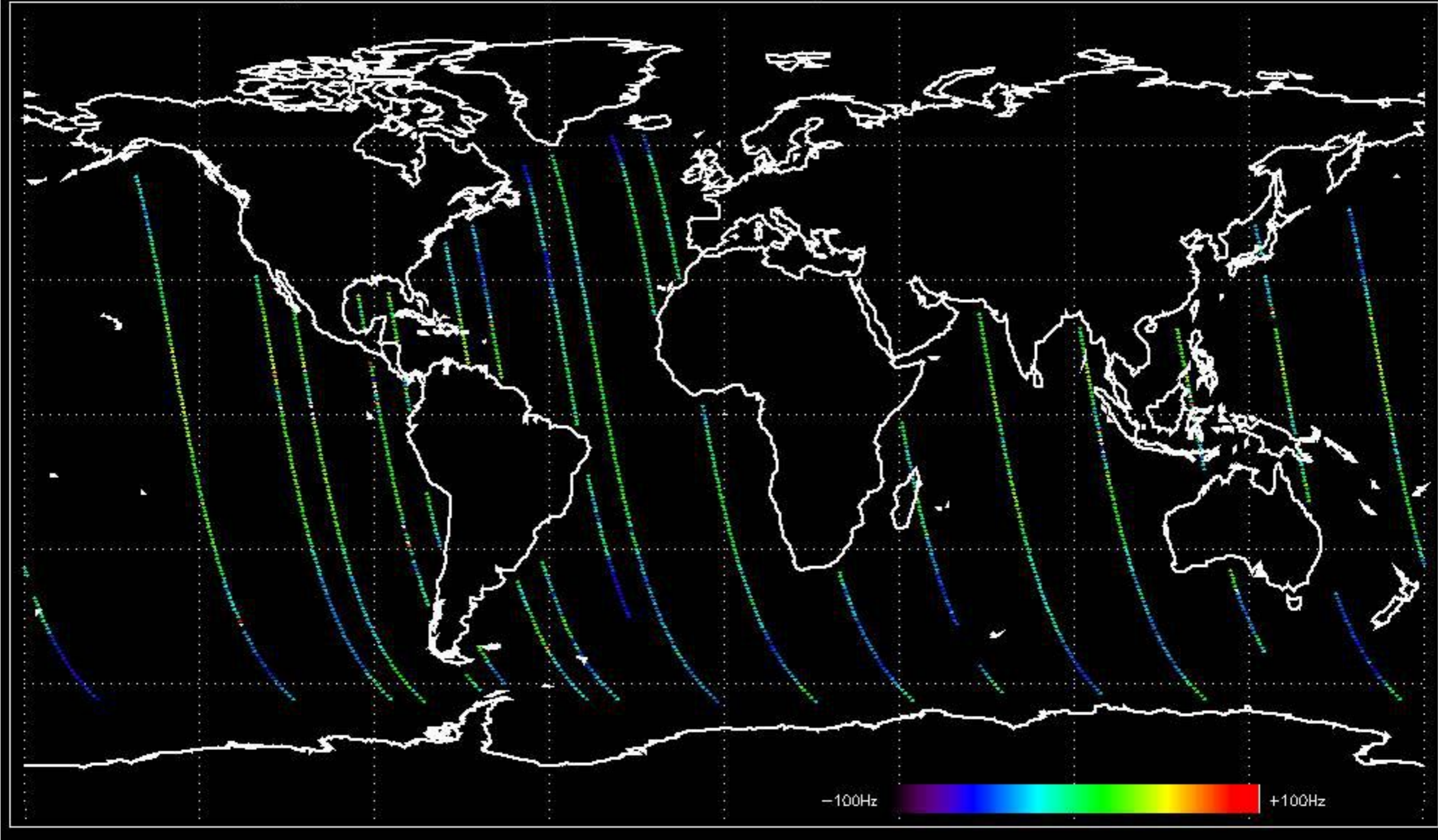
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -19.231251 Hz



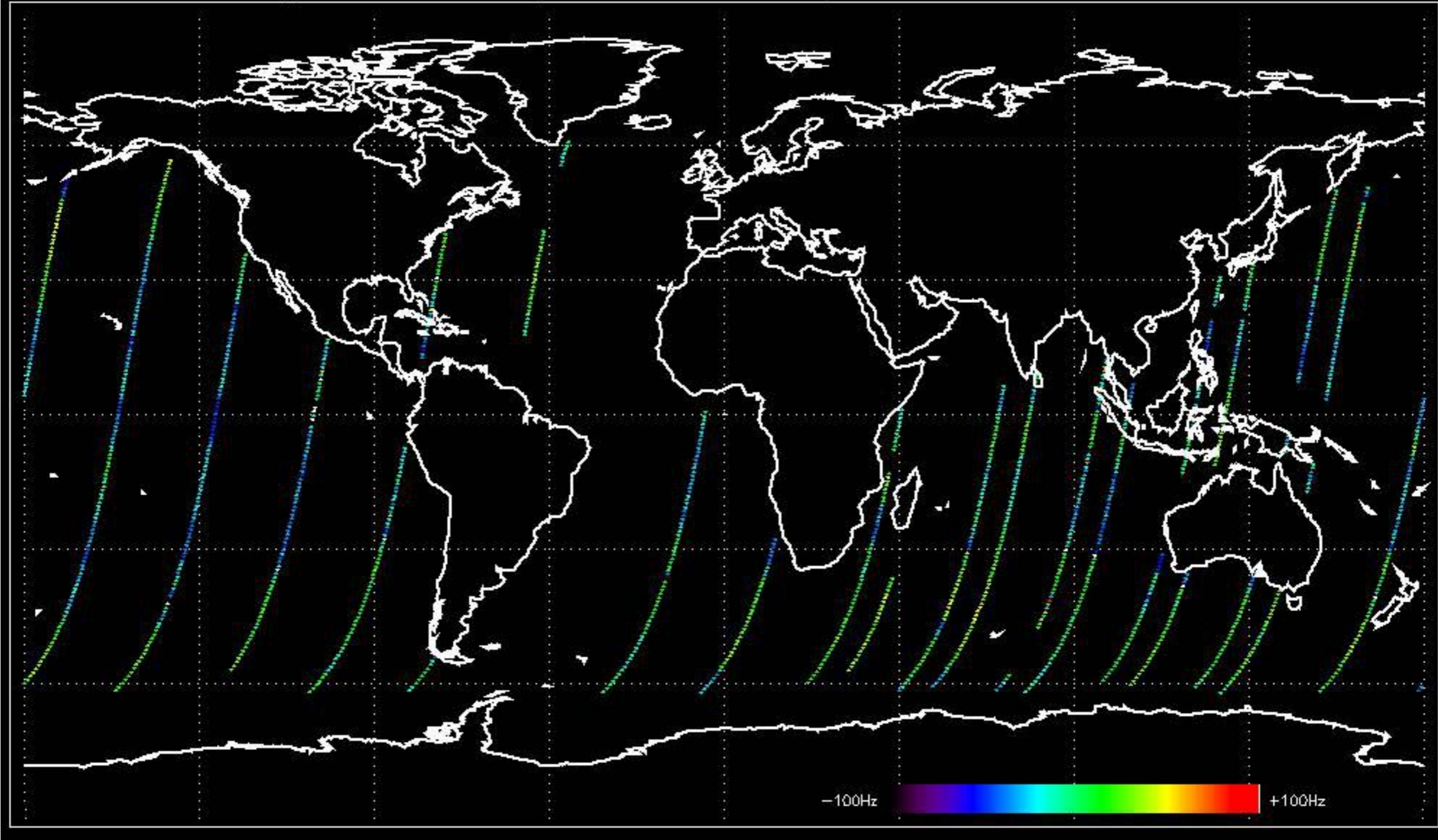
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -19.338493 Hz



Doppler difference, estimated-predicted 'WVS' 'IS4' ascending -error mean of -33.019400 Hz

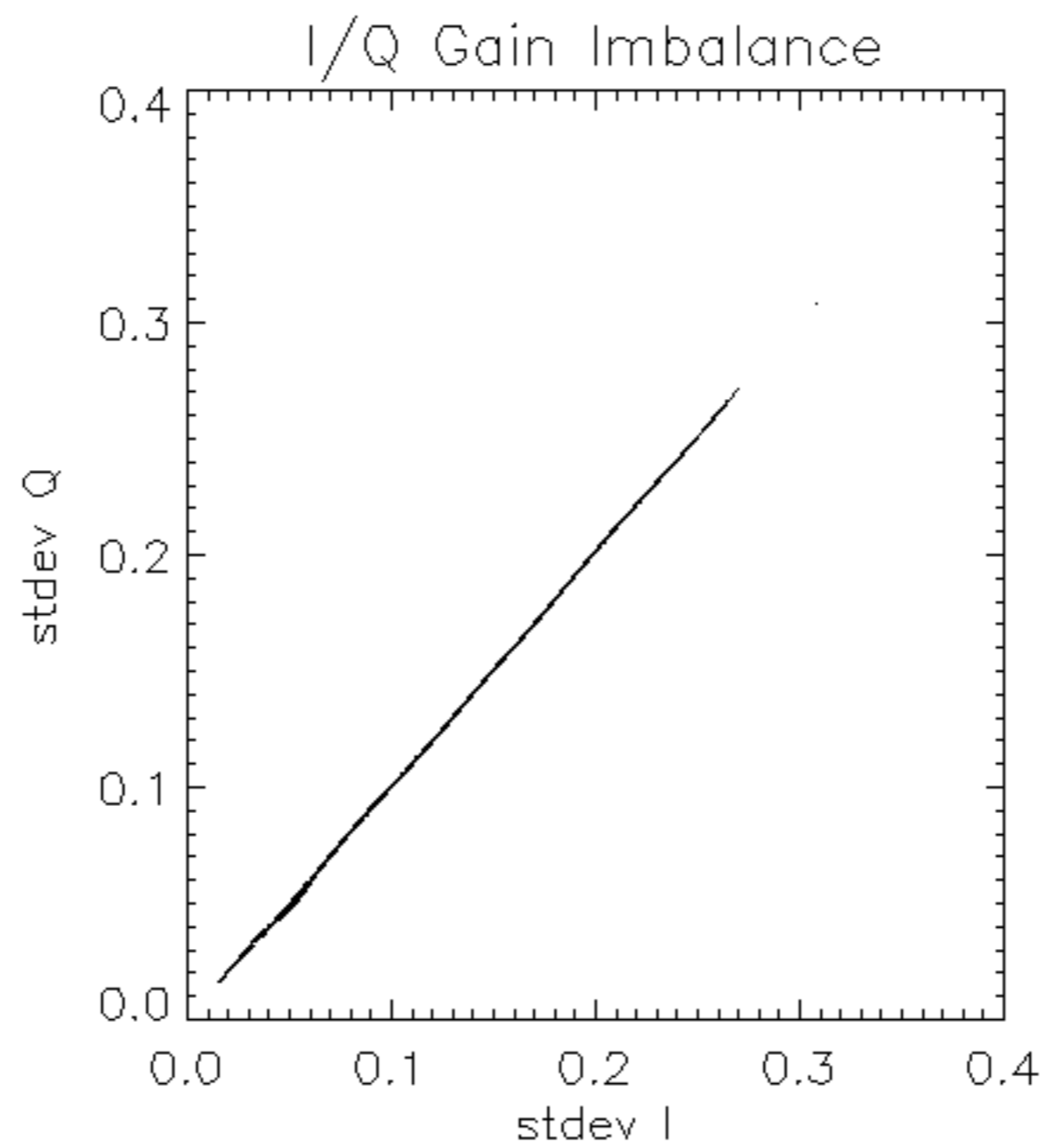


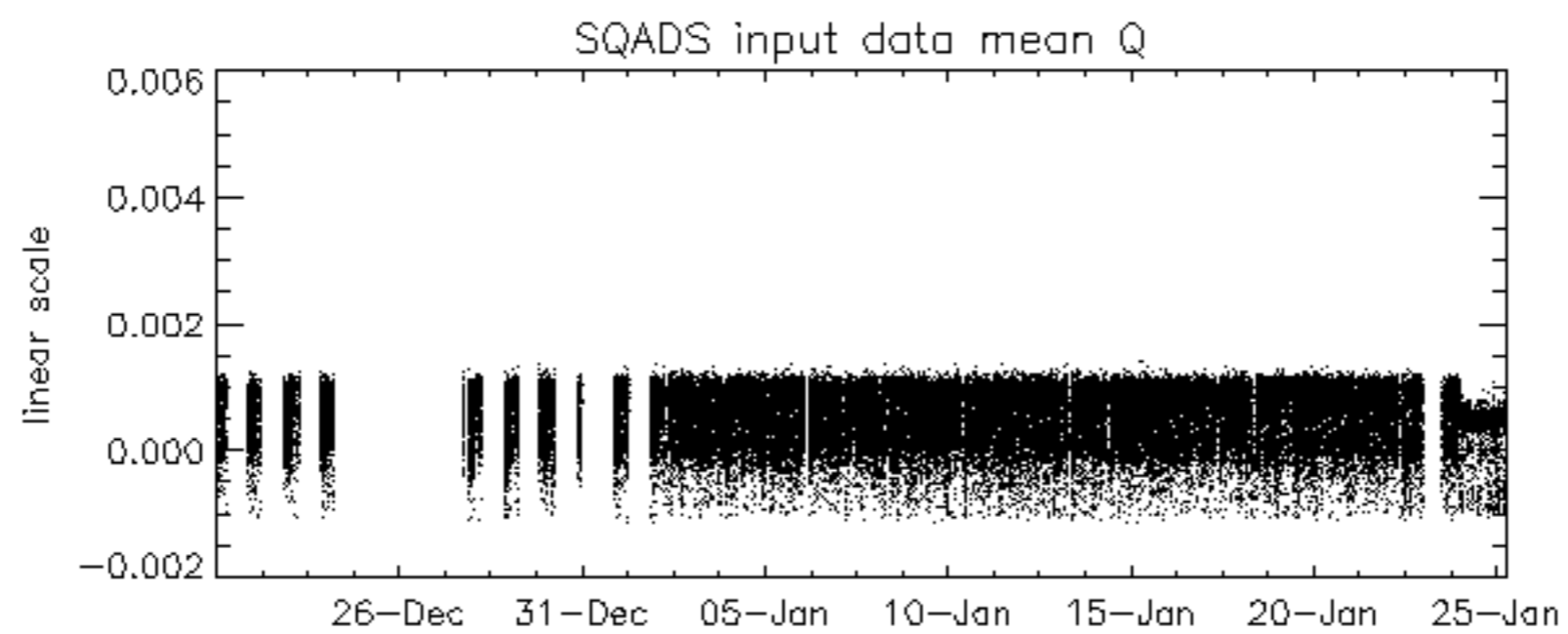
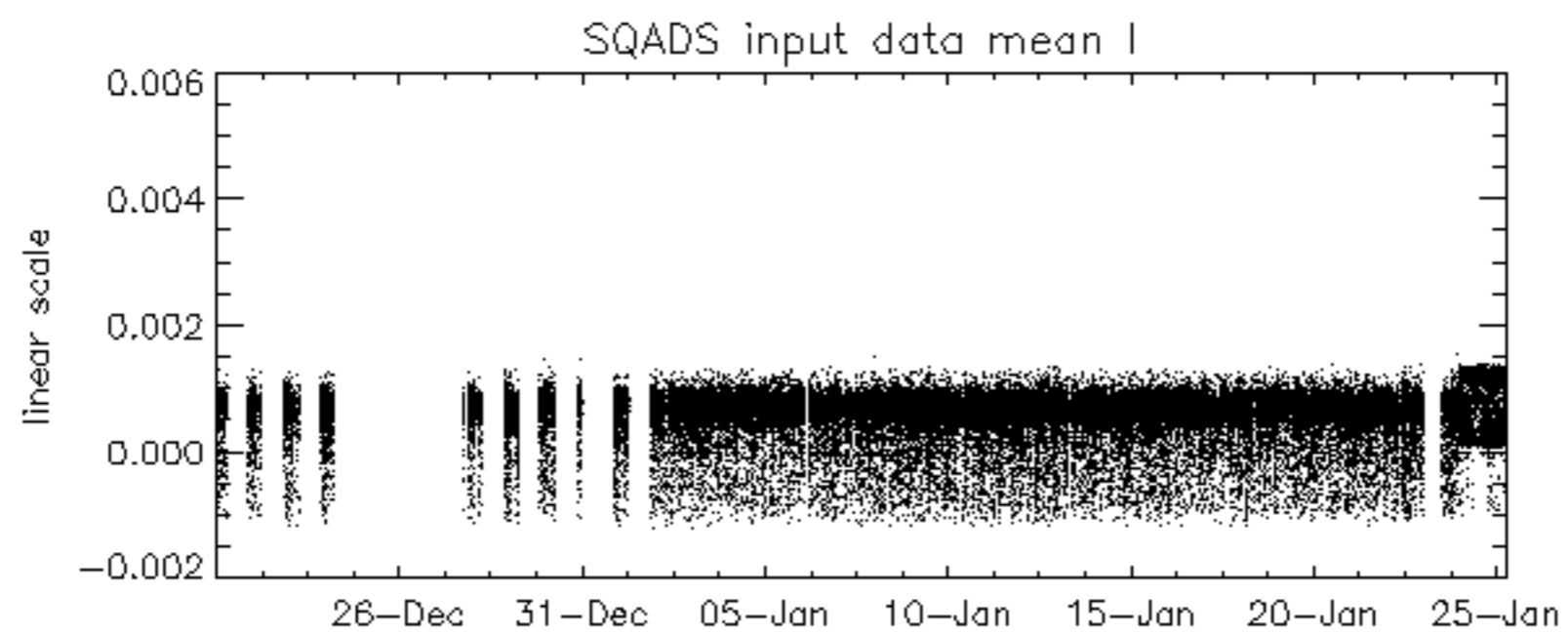
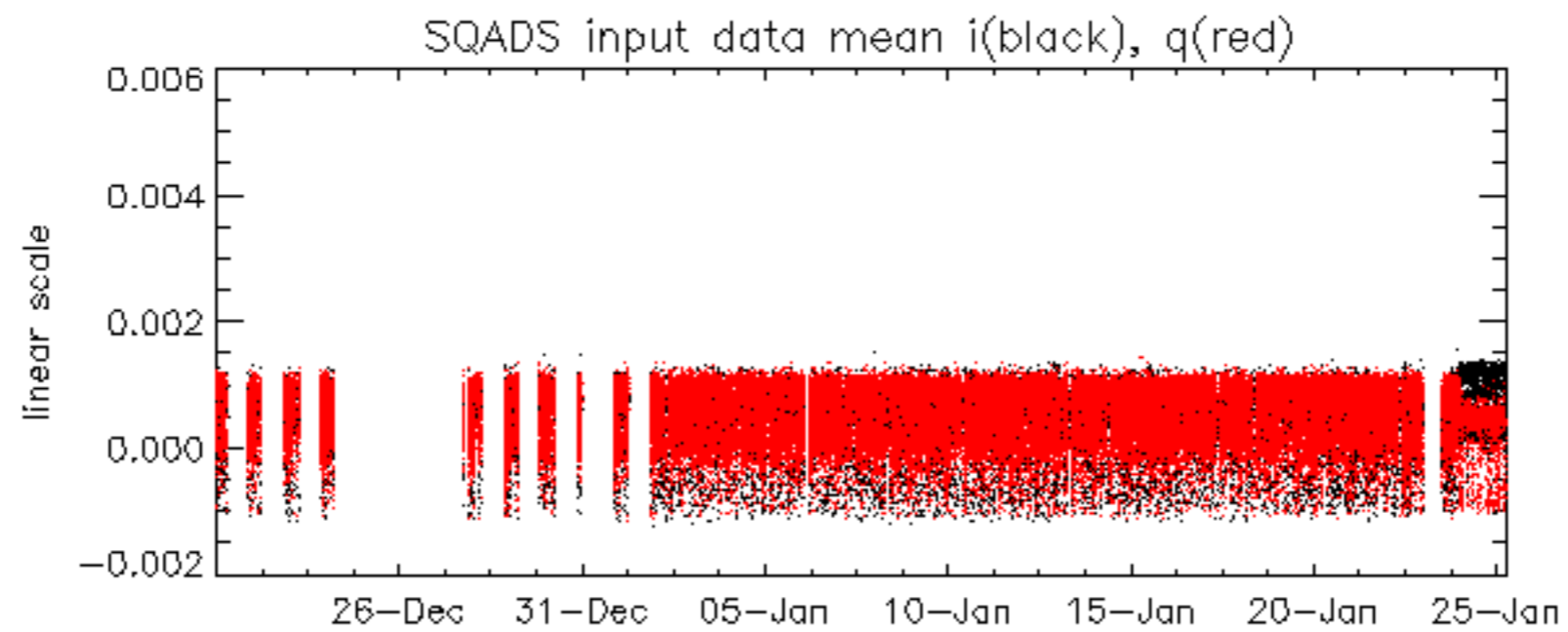
Doppler difference, estimated-predicted 'WVS' 'IS4' descending -error mean of -39.704445 Hz

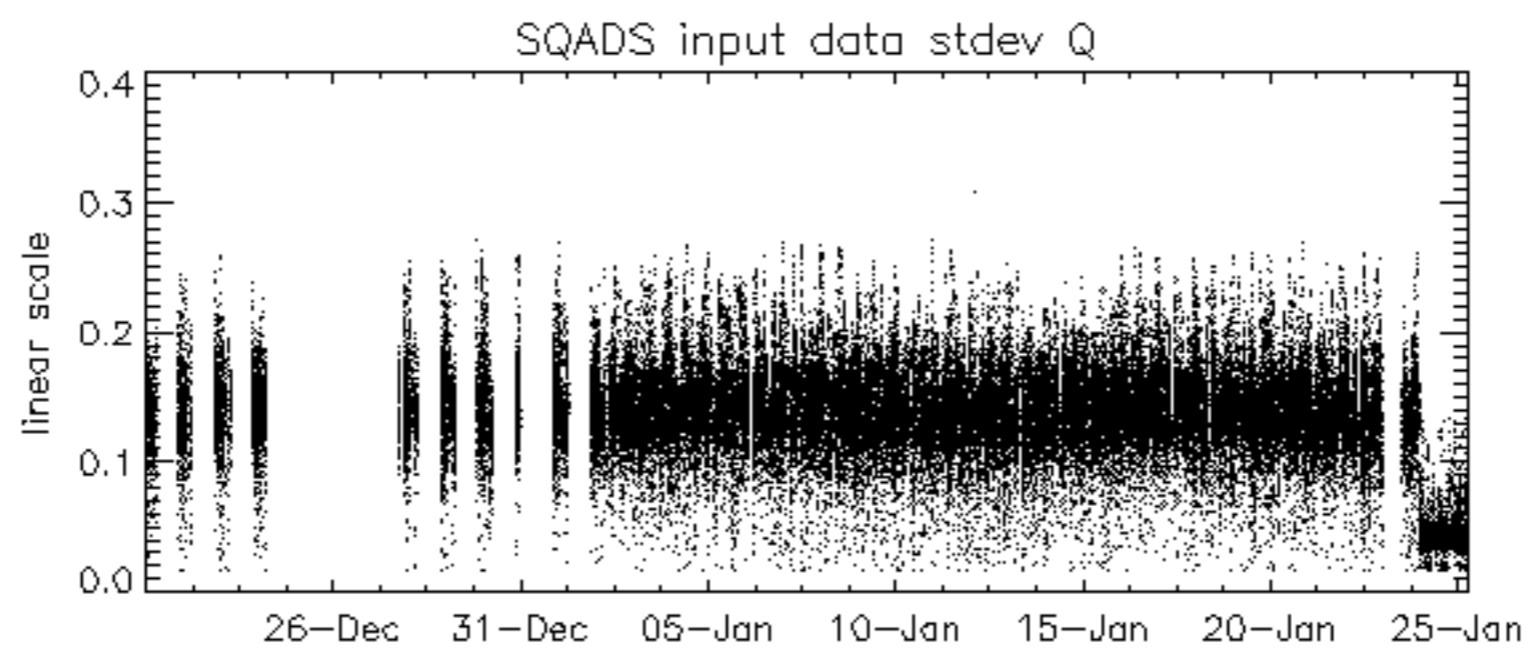
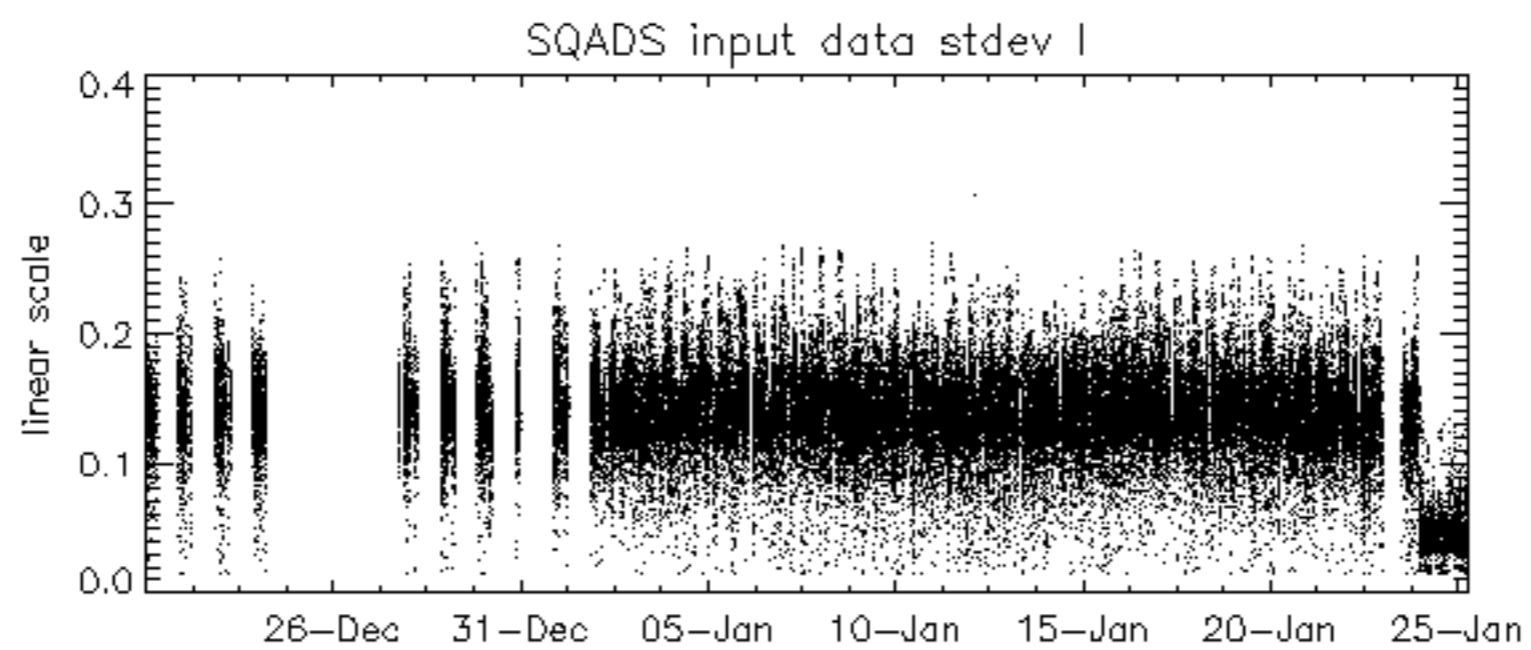
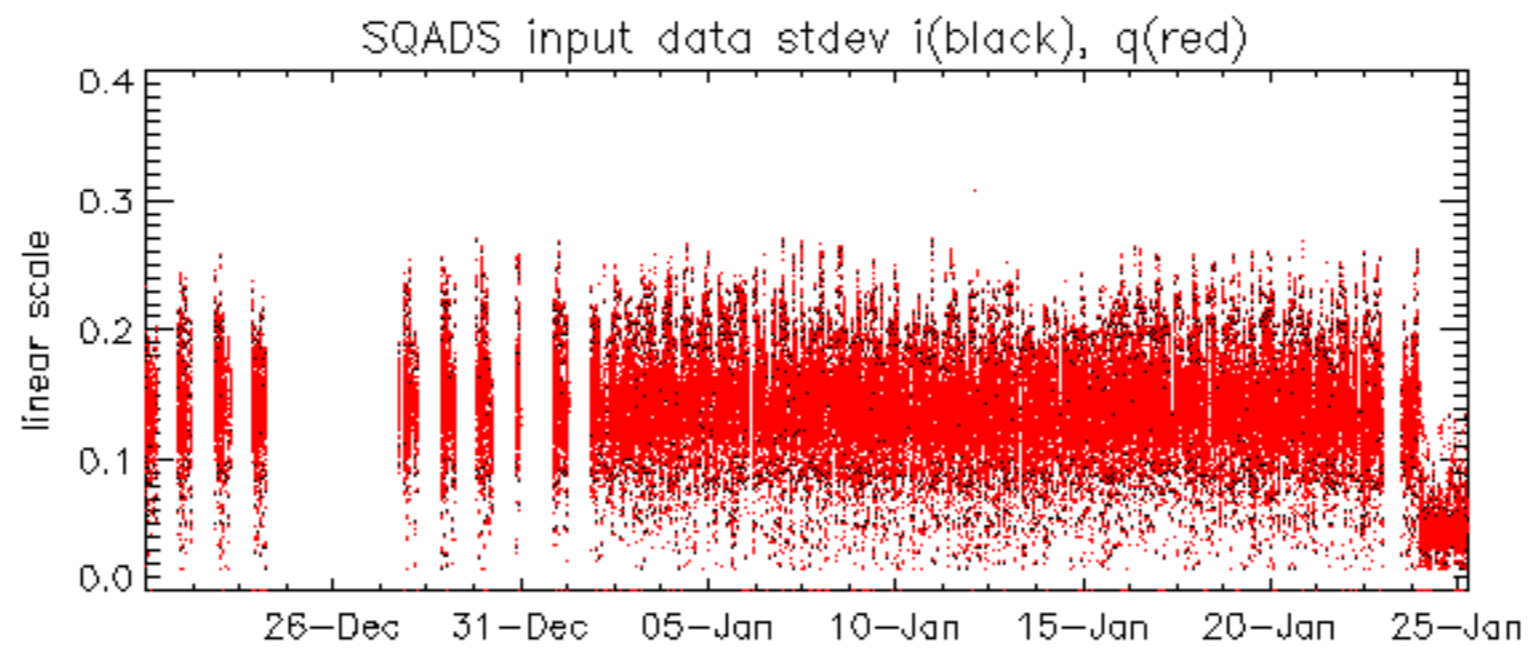


No anomalies observed on available MS products:

No anomalies observed.



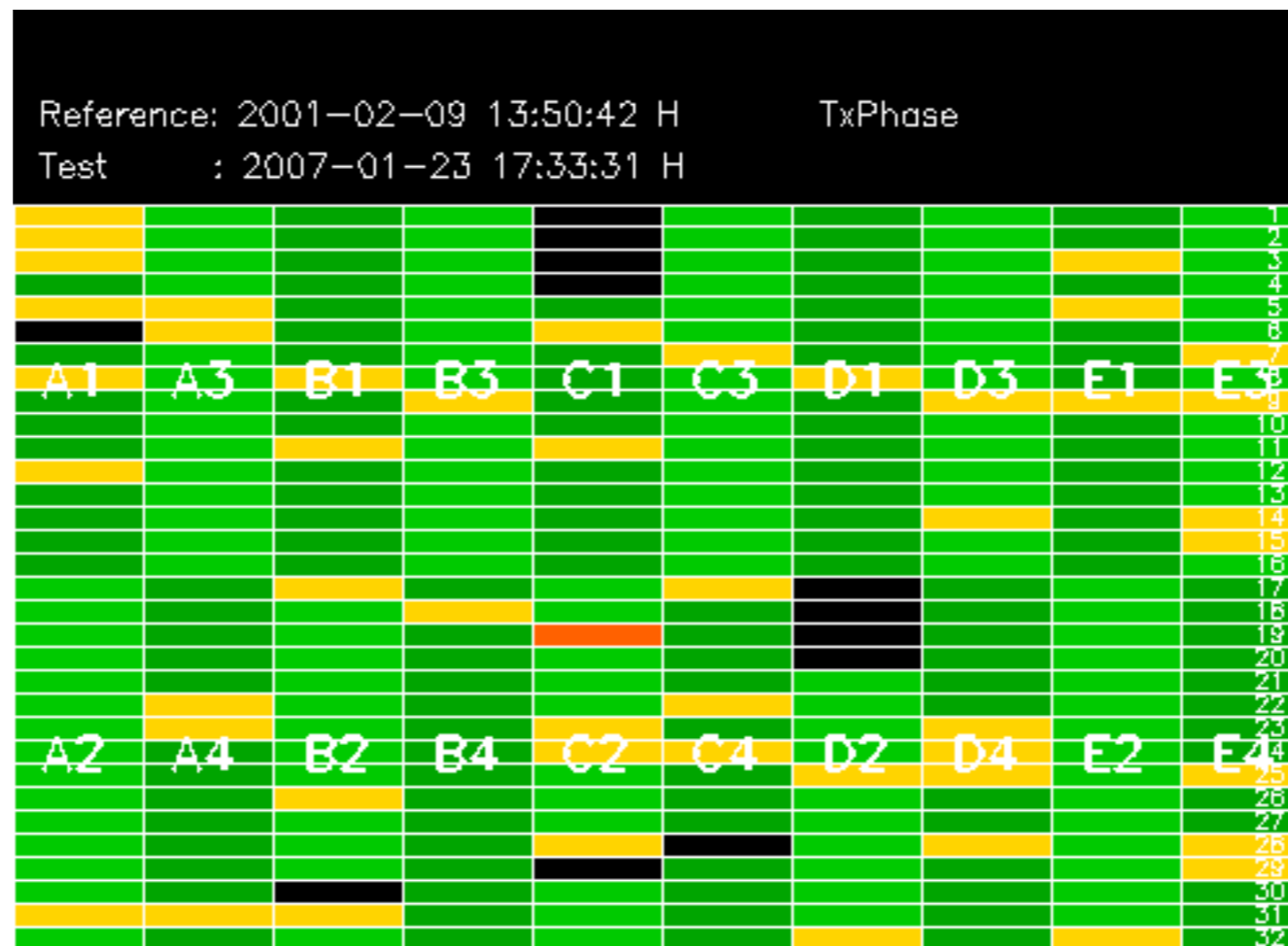


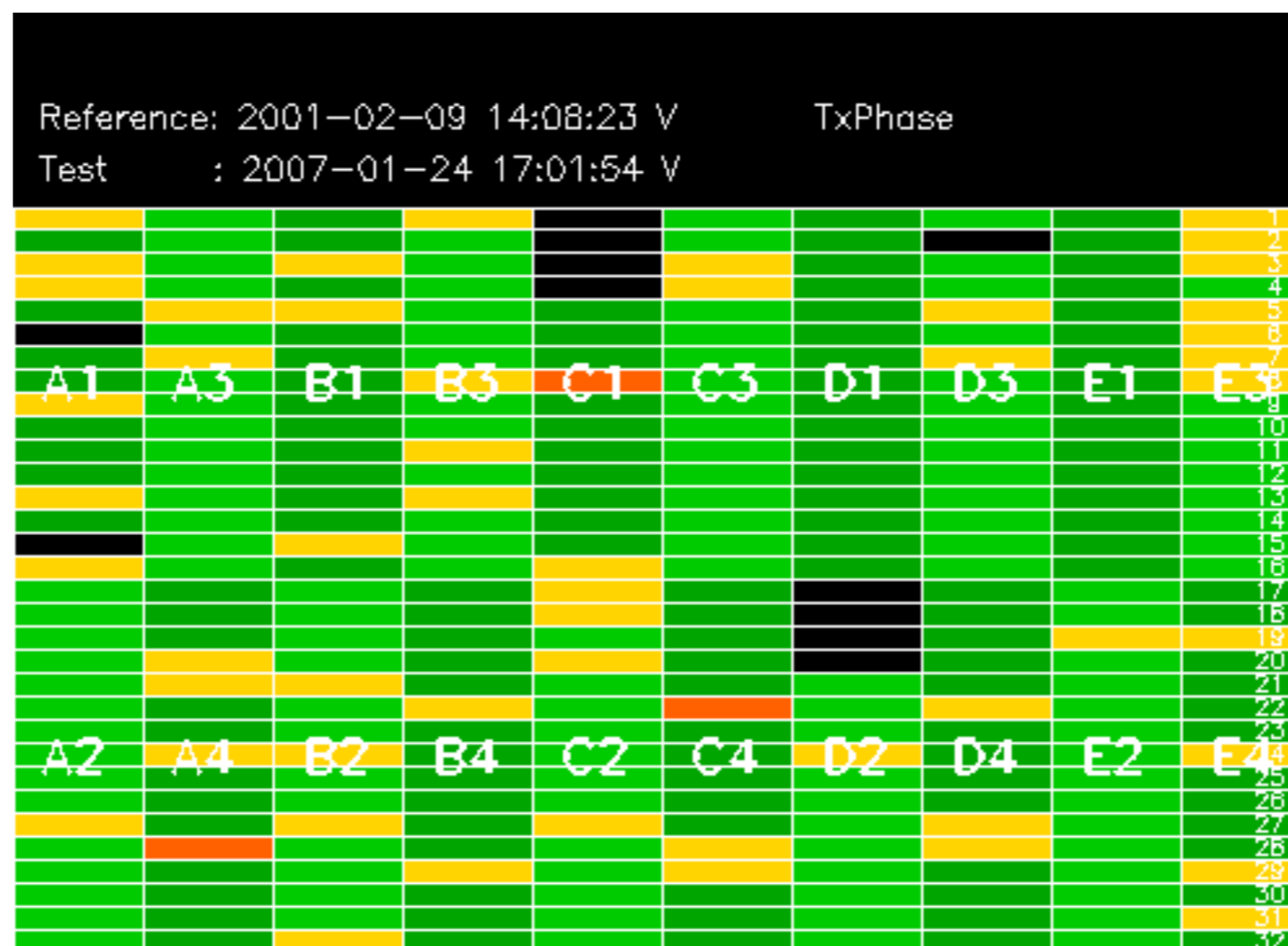


Summary of analysis for the last 3 days 2007012[345]

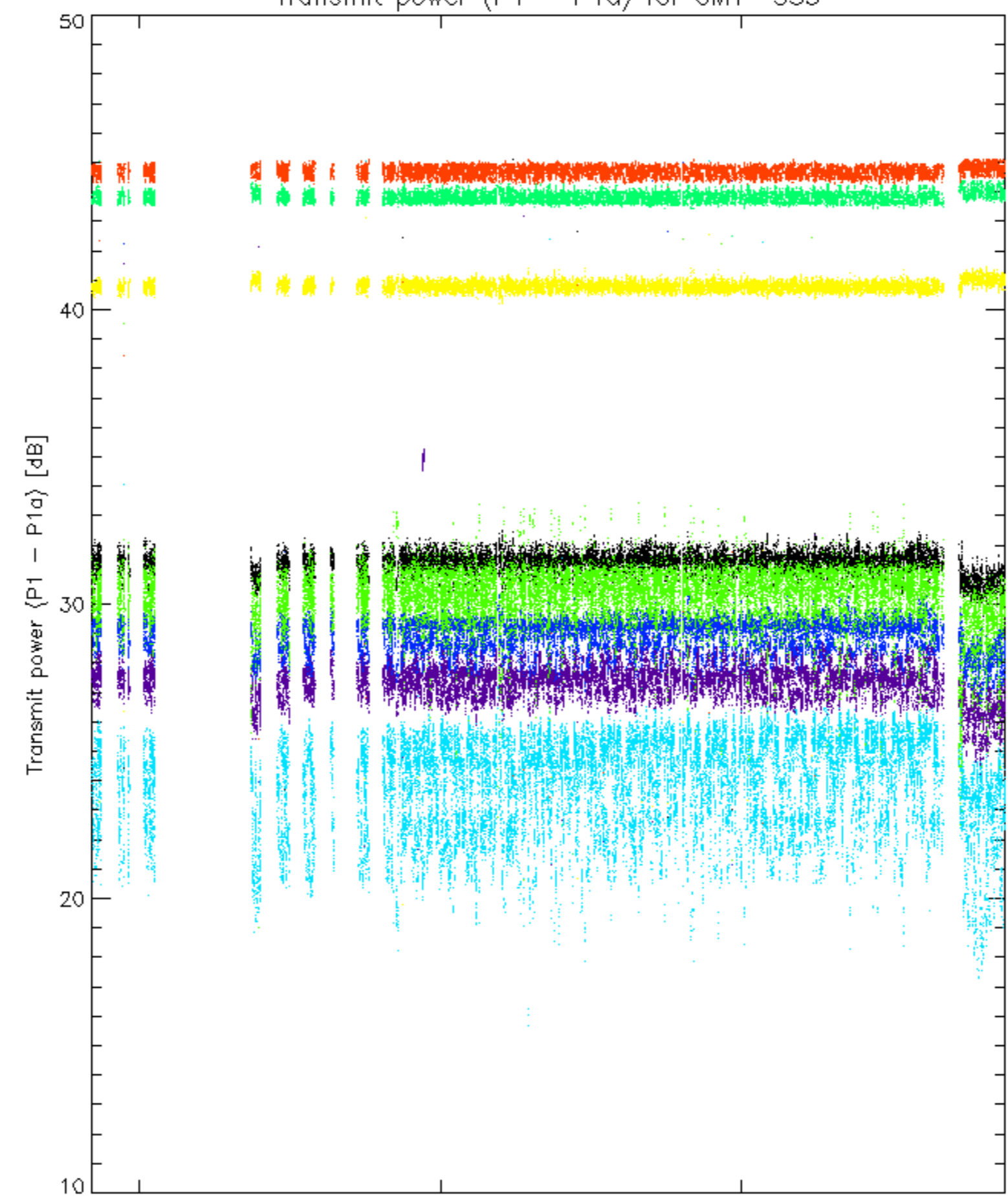
The assumption is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20070123_140435_000000342055_00010_25615_0987.N1	15	1262
ASA_IMM_1PNPDE20070123_181423_000001682055_00013_25618_1065.N1	2	47
ASA_IMM_1PNPDE20070125_015755_000000802055_00031_25636_3224.N1	1	19
ASA_GM1_1PNPDK20070123_141358_000007732055_00010_25615_0389.N1	0	14
ASA_GM1_1PNPDK20070123_141358_000007732055_00010_25615_0634.N1	0	14
ASA_GM1_1PNPDK20070124_111259_000004342055_00023_25628_1933.N1	0	14
ASA_GM1_1PNPDK20070124_152257_000007732055_00025_25630_2384.N1	0	7
ASA_GM1_1PNPDK20070124_174519_000005132055_00027_25632_2481.N1	0	36
ASA_GM1_1PNPDK20070124_192744_000003202055_00028_25633_2595.N1	0	8
ASA_WSM_1PNPDE20070123_145428_000002012055_00011_25616_1023.N1	0	96
ASA_WSM_1PNPDE20070123_181840_000000852055_00013_25618_1069.N1	0	47
ASA_WSM_1PNPDE20070125_024515_000000852055_00032_25637_2992.N1	50	10096
ASA_APM_1PNPDE20070123_144834_000000422055_00011_25616_0989.N1	0	20

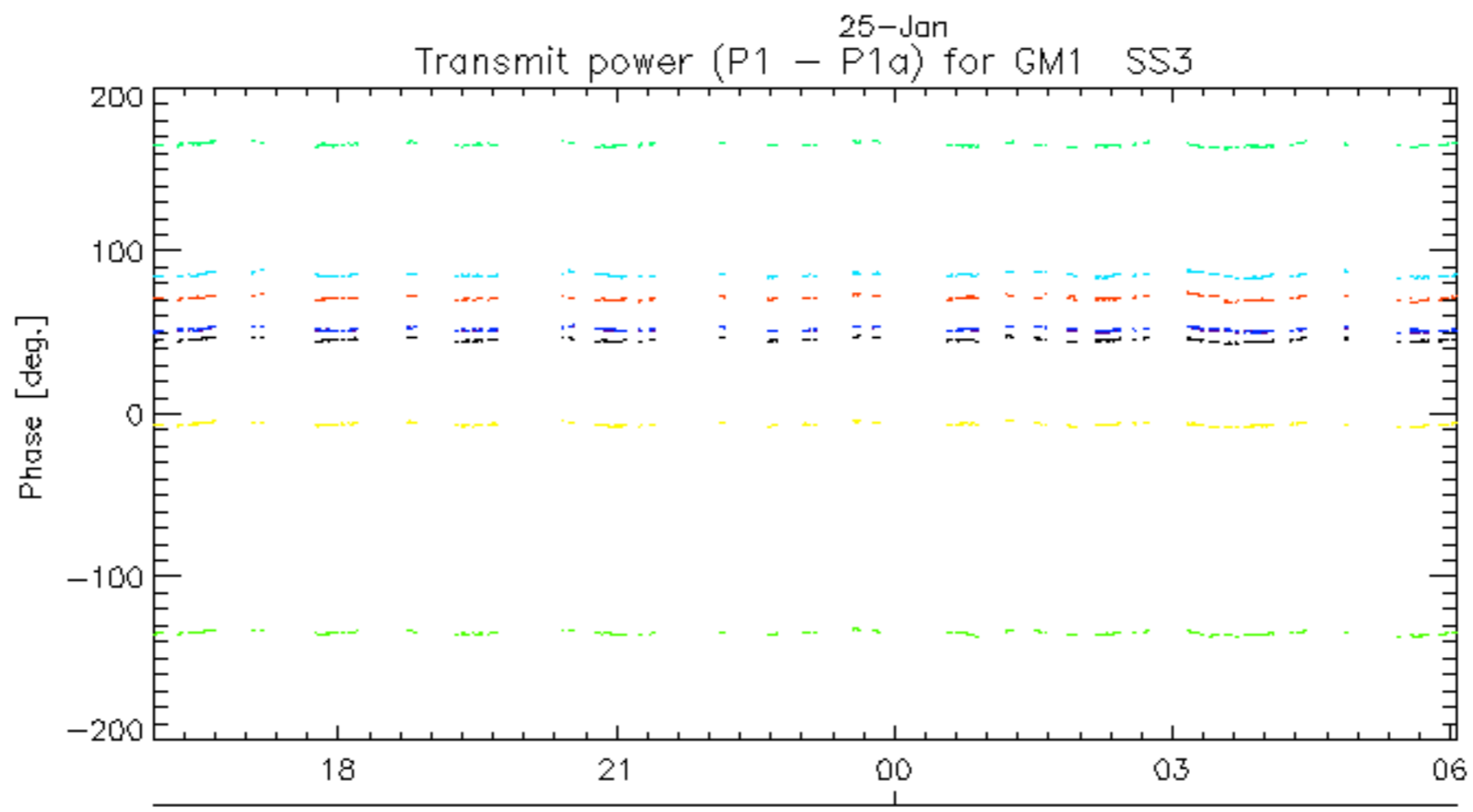
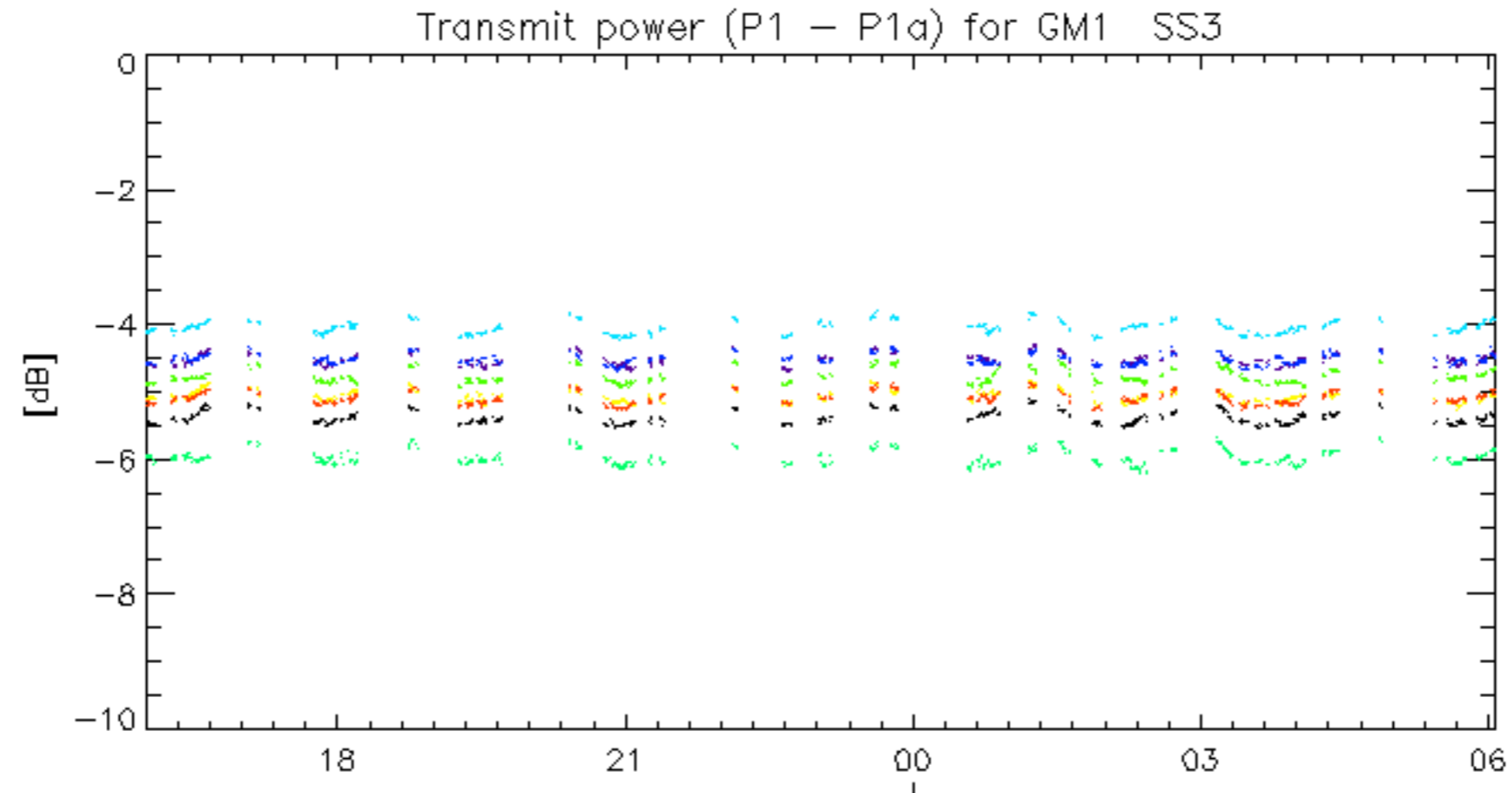




Transmit power (P1 - P1a) for GM1 SS3

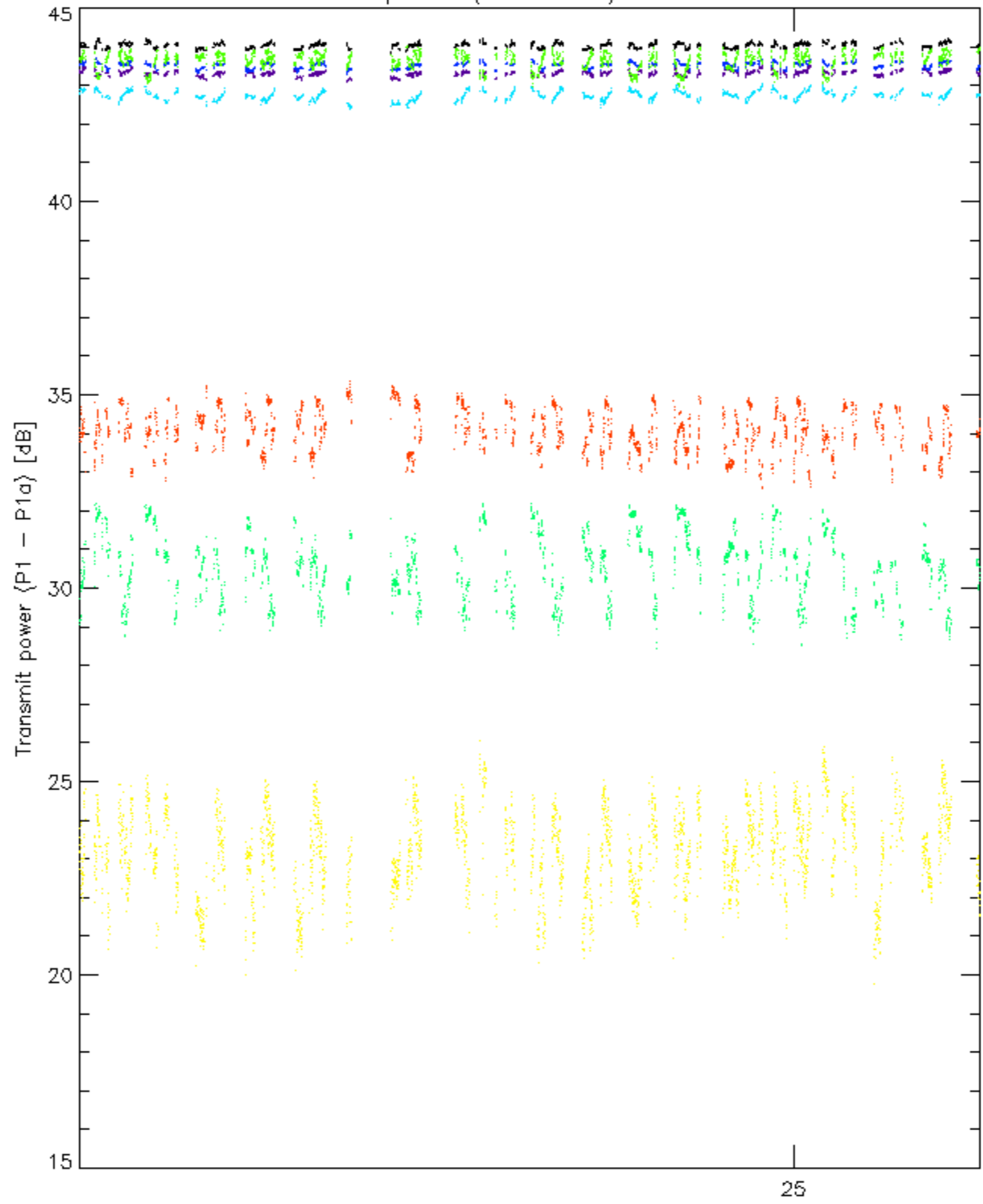


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

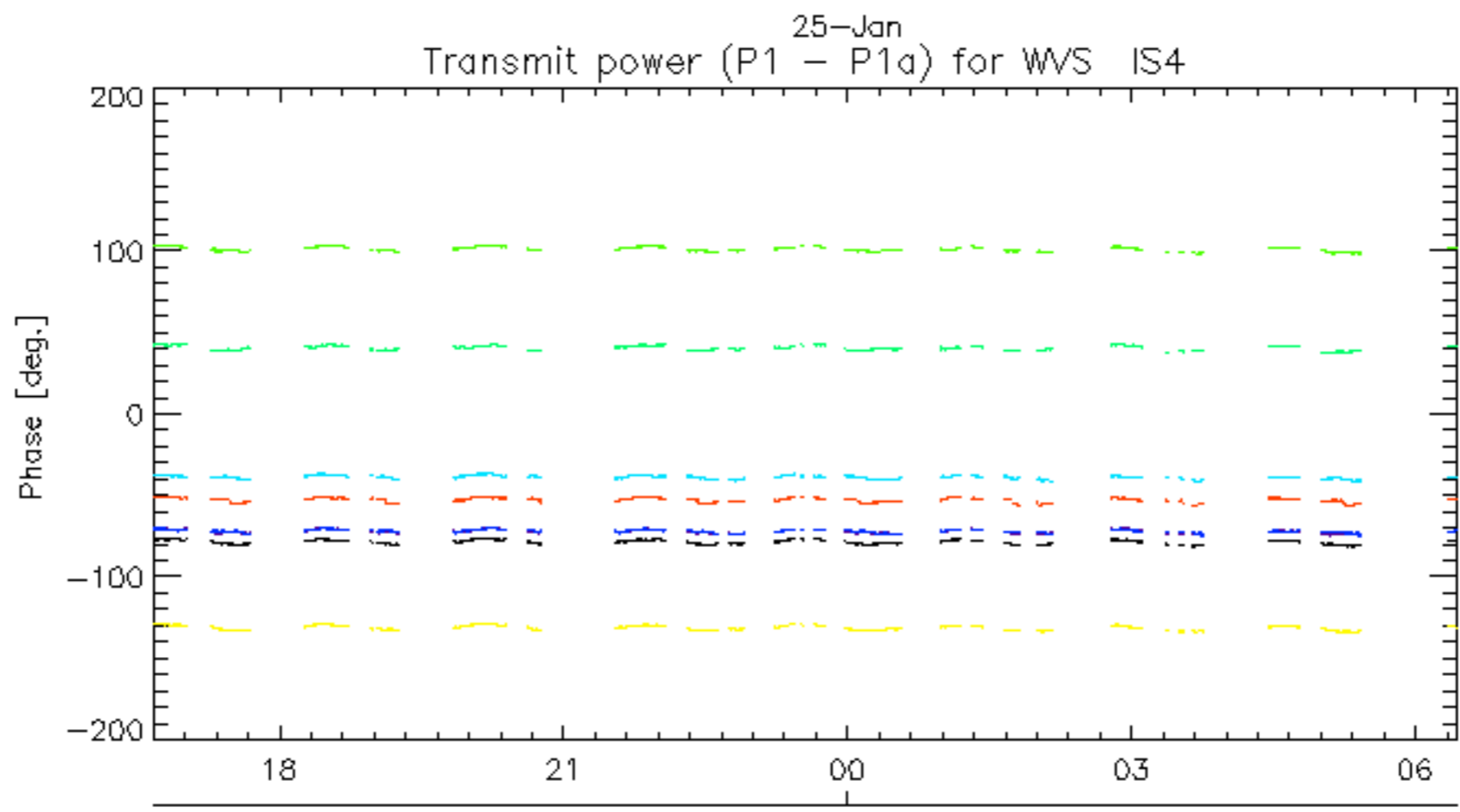
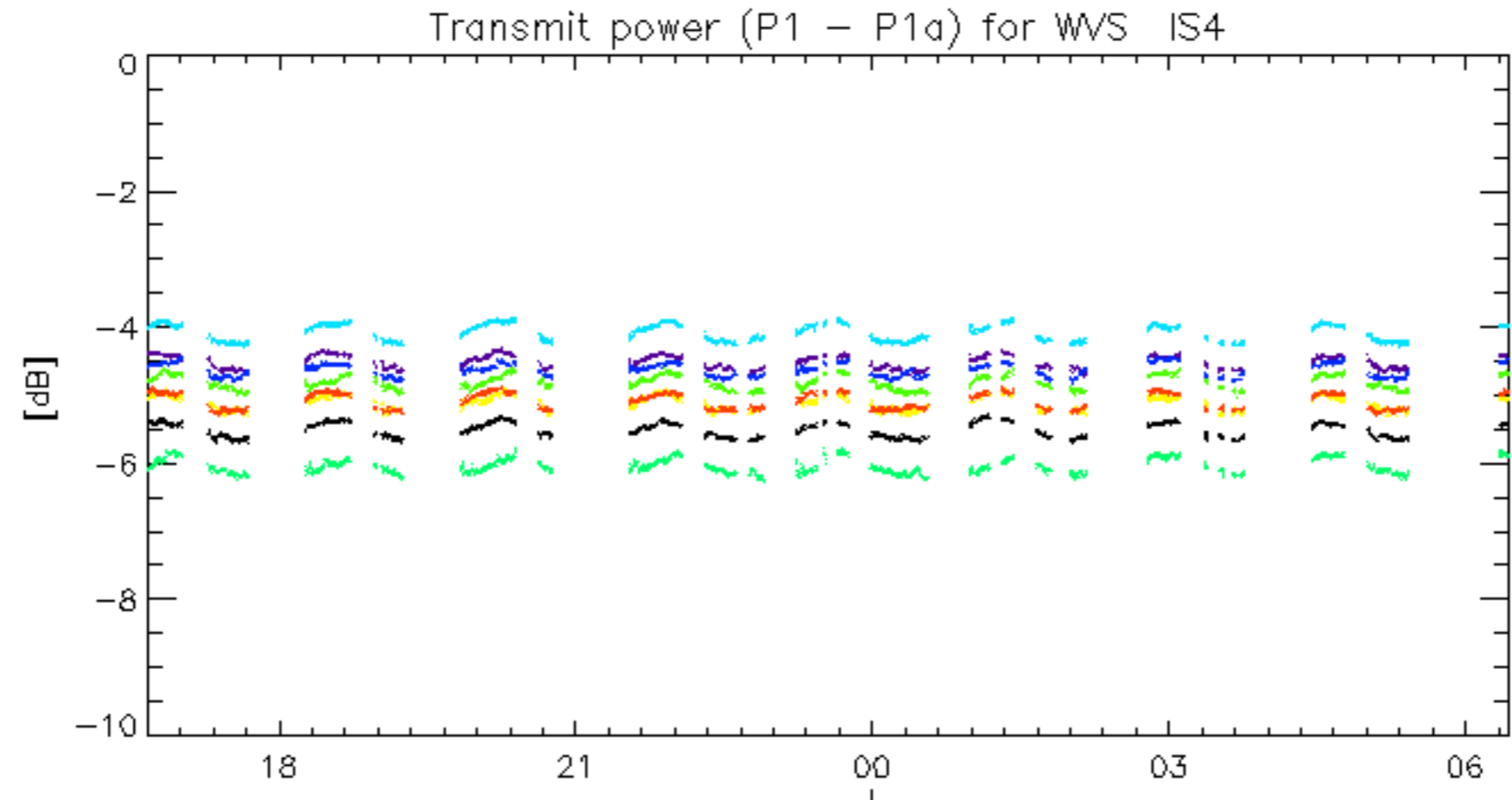


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Transmit power (P1 - P1a) for WVS IS4



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



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

No unavailabilities during the reported period.