

PRELIMINARY REPORT OF 070108

last update on Mon Jan 8 16:20:14 GMT 2007

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 2007-01-07 00:00:00 to 2007-01-08 16:20:14

PDHS-K

AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
----------------	-----	-----	-----	-----	-----

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	52	51	64	14	23
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	52	51	64	14	23
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	52	51	64	14	23
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	52	51	64	14	23

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	20070108 084151
H	20070108 015927

MSM in V/V polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

MSM in H/H polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

4 - Internal calibration Results

No anomalies observed.

4.1 - Daily statistics

4.1.1 - Evolution for WVS

Evolution of cal pulses for WVS

<input type="checkbox"/>
<input type="checkbox"/>

4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1

<input type="checkbox"/>
<input type="checkbox"/>

4.2 - Cyclic statistics

4.2.1 - Evolution for WVS

Evolution of cal pulses for WVS

<input type="checkbox"/>

P1a Cyclic statistics

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

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.967367	0.007790	0.017341
7	P1	-3.134776	0.024442	0.050824
11	P1	-4.118585	0.025612	0.020075
15	P1	-6.340864	0.016768	0.032158
19	P1	-3.679156	0.004931	-0.020043
22	P1	-4.668724	0.014342	-0.019568
26	P1	-3.965347	0.008750	0.021912
30	P1	-5.910439	0.008630	-0.019486
3	P1	-16.563934	0.264886	0.060327
7	P1	-17.274649	0.190899	0.081116
11	P1	-17.197987	0.498621	-0.164100
15	P1	-13.041787	0.135989	0.094184
19	P1	-15.034265	0.098107	-0.100295
22	P1	-15.801757	0.517967	0.100443
26	P1	-15.081620	0.183937	0.125427
30	P1	-17.521986	0.493306	0.064509

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.802877	0.094591	0.025013
7	P2	-21.700979	0.093716	0.084423
11	P2	-15.563962	0.102698	0.051835
15	P2	-7.105499	0.108637	0.055549
19	P2	-9.188379	0.104160	0.058873
22	P2	-18.228586	0.097506	0.045829
26	P2	-16.602547	0.109082	0.027807
30	P2	-19.452658	0.090257	0.050026

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.241464	0.008865	0.026706

7	P3	-8.241464	0.008865	0.026706
11	P3	-8.241464	0.008865	0.026706
15	P3	-8.241464	0.008865	0.026706
19	P3	-8.241464	0.008865	0.026706
22	P3	-8.241464	0.008865	0.026706
26	P3	-8.241508	0.008865	0.026683
30	P3	-8.241508	0.008865	0.026683

4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1

✕

P1a Cyclic statistics

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

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.930568	0.015228	0.014020
7	P1	-2.471283	0.019017	0.036352
11	P1	-2.852070	0.020185	0.053056
15	P1	-3.706694	0.032359	-0.015414
19	P1	-3.557282	0.020028	0.008809
22	P1	-5.027865	0.023760	0.043177
26	P1	-6.048044	0.030322	0.020252
30	P1	-5.358656	0.038236	0.005521
3	P1	-11.748705	0.089589	0.048827
7	P1	-10.067146	0.113357	0.058297
11	P1	-10.361032	0.108022	0.016295
15	P1	-10.737891	0.175416	-0.023221
19	P1	-15.737519	0.129582	-0.011798
22	P1	-21.604120	1.431796	0.030070
26	P1	-16.052597	0.342274	0.137345
30	P1	-17.896427	0.394637	-0.027584

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.472622	0.126451	0.077924
7	P2	-22.223429	0.332999	0.113171
11	P2	-10.869563	0.119358	0.069203
15	P2	-4.995005	0.245836	0.058610
19	P2	-6.978968	0.285696	0.056171
22	P2	-8.261292	0.136841	0.049976
26	P2	-24.349419	0.203859	-0.009502
30	P2	-21.946196	0.171925	0.100485

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.095939	0.004193	0.023972
7	P3	-8.095739	0.004175	0.024866
11	P3	-8.095950	0.004190	0.024476
15	P3	-8.095712	0.004178	0.024043
19	P3	-8.095771	0.004207	0.024502
22	P3	-8.095713	0.004194	0.024435
26	P3	-8.095982	0.004178	0.024010
30	P3	-8.095846	0.004152	0.024608

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	0.000559363
	stdev	1.67470e-07
MEAN Q	mean	0.000494906
	stdev	2.11725e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.140372
	stdev	0.00125090
STDEV Q	mean	0.140775
	stdev	0.00127199



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2007010[678]

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_WSM_1PNPDE20070106_010151_000003232054_00260_25364_4939.N1	0	36
ASA_WSM_1PNPDE20070106_153705_000000672054_00269_25373_5965.N1	9	1257
ASA_WSM_1PNPDE20070107_003113_000001412054_00274_25378_6459.N1	0	36
ASA_WSM_1PNPDE20070107_145122_000000852054_00283_25387_7247.N1	0	35
ASA_WSM_1PNPDE20070107_181429_000000852054_00285_25389_7367.N1	0	61
ASA_WSM_1PNPDE20070108_000036_000000852054_00288_25392_7771.N1	0	36
ASA_WSM_1PNPDE20070108_013811_000001412054_00289_25393_7975.N1	0	40







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



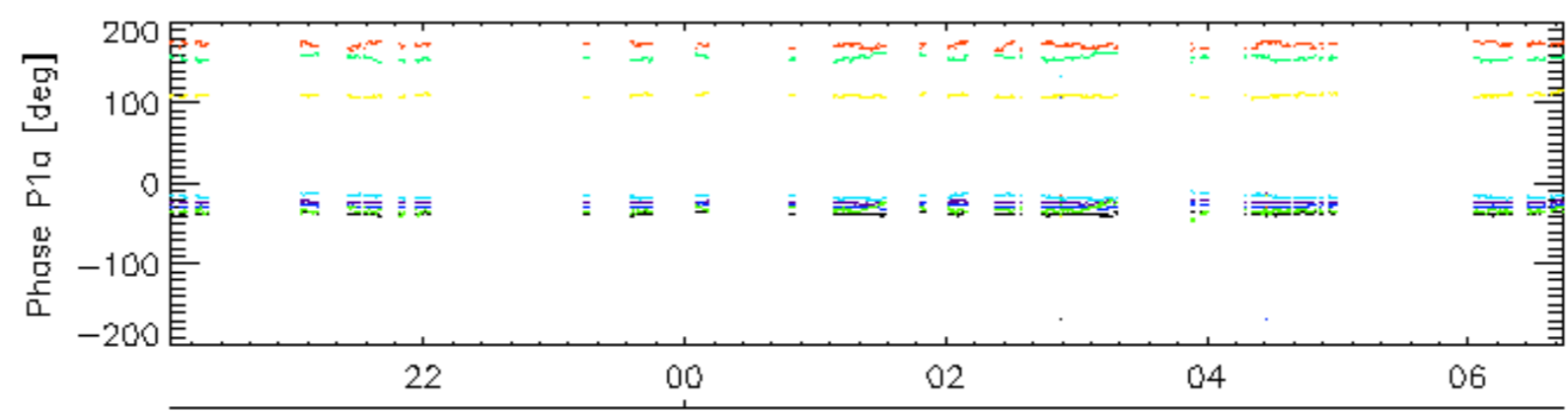
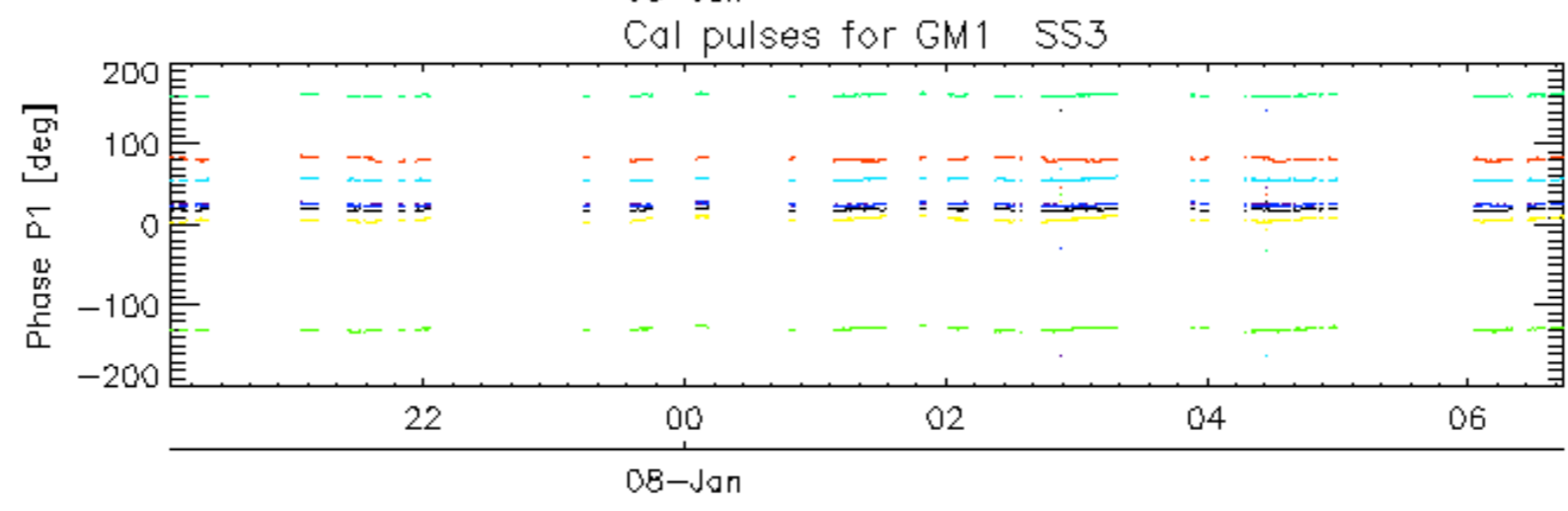
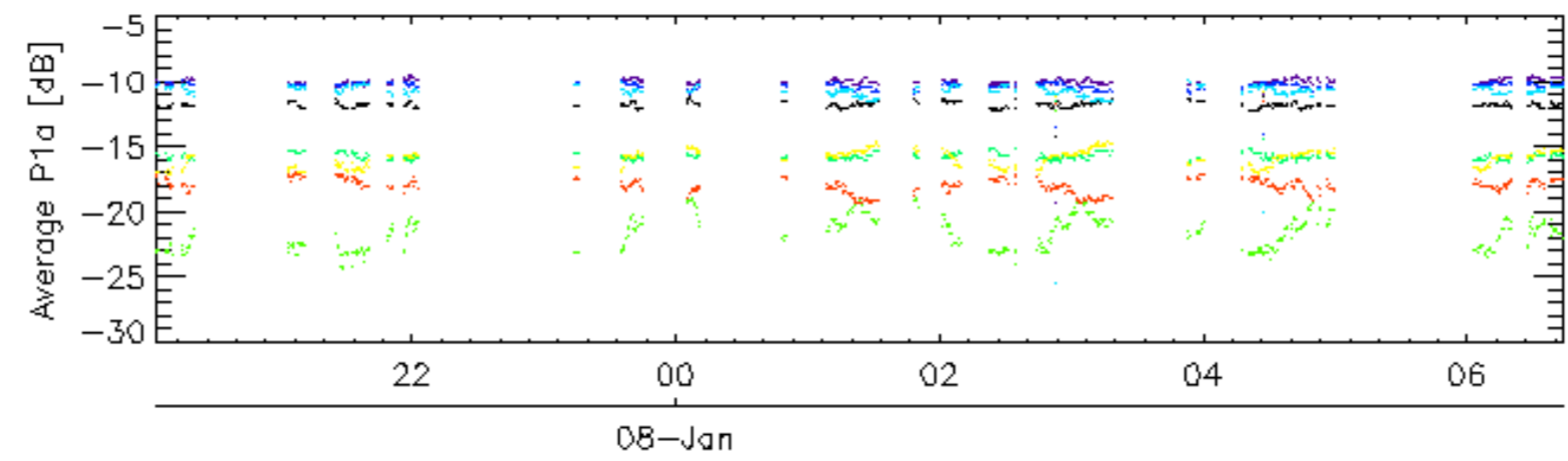
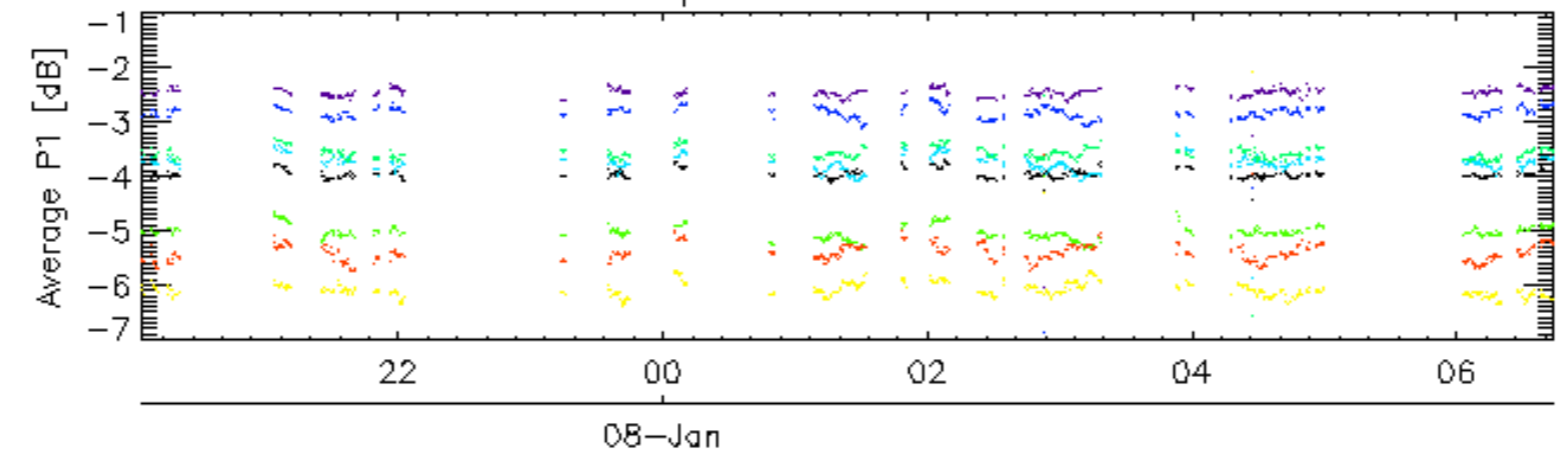
Descending

7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

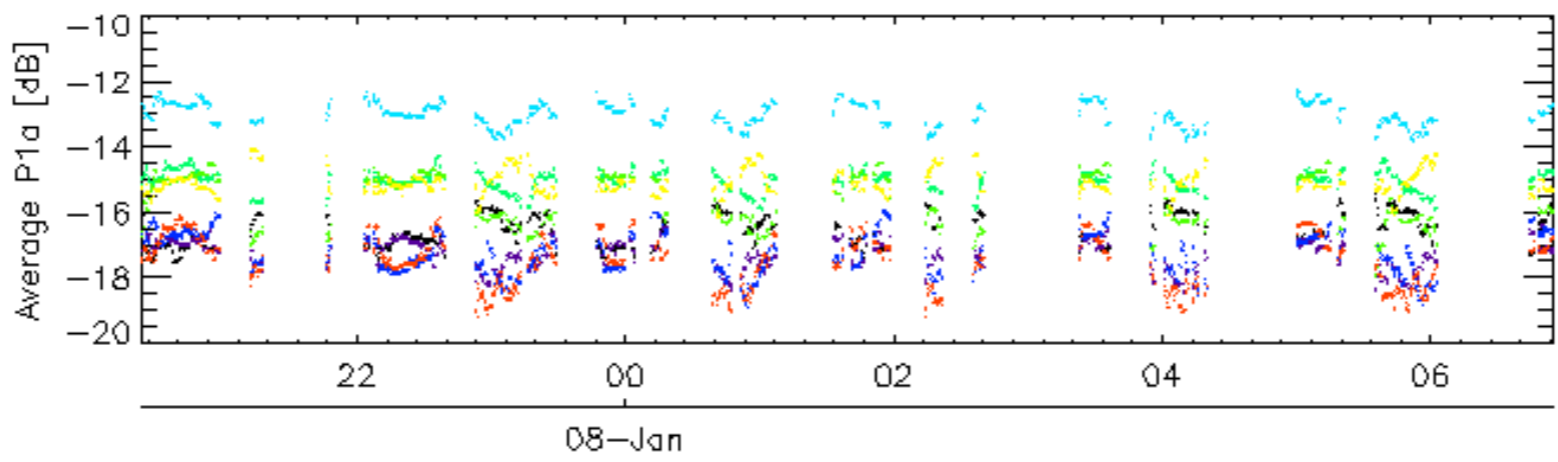
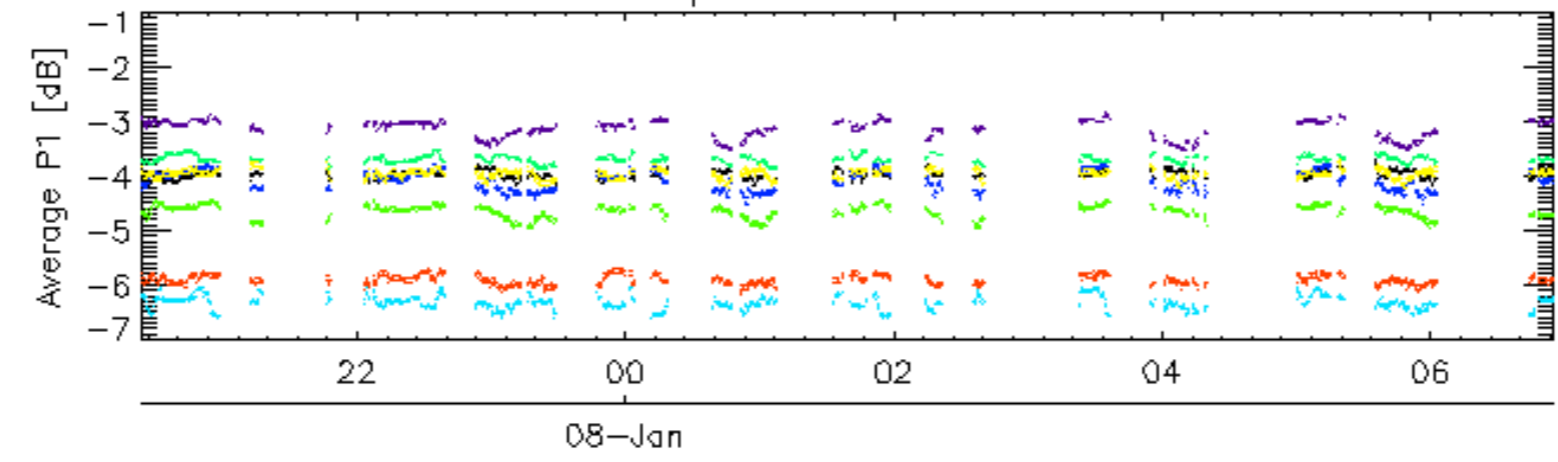


Cal pulses for GM1 SS3

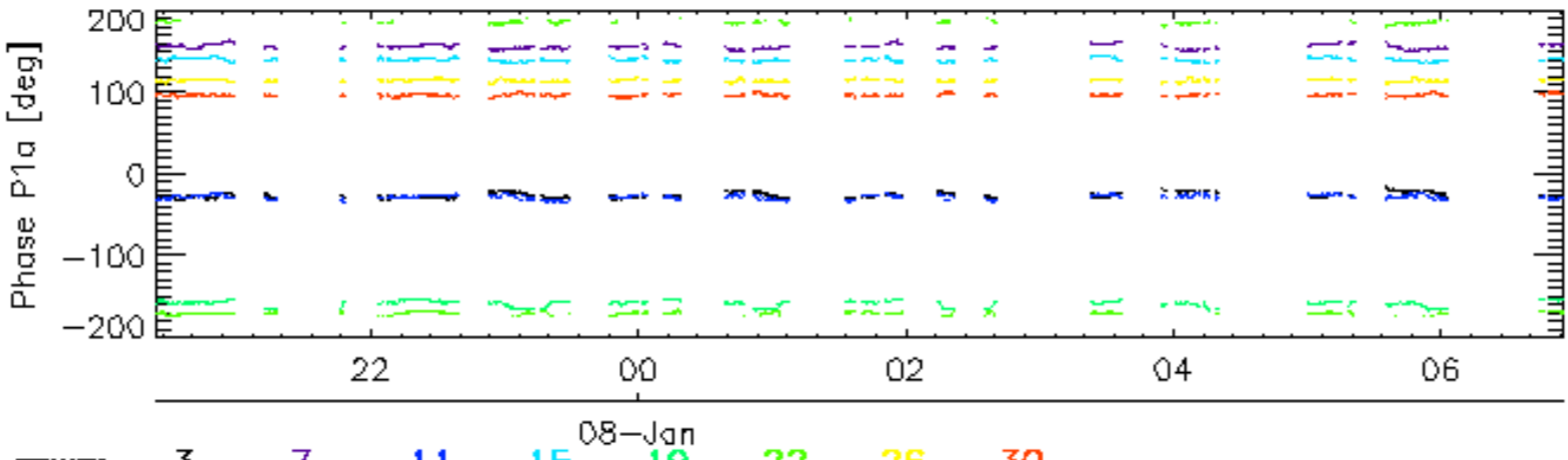
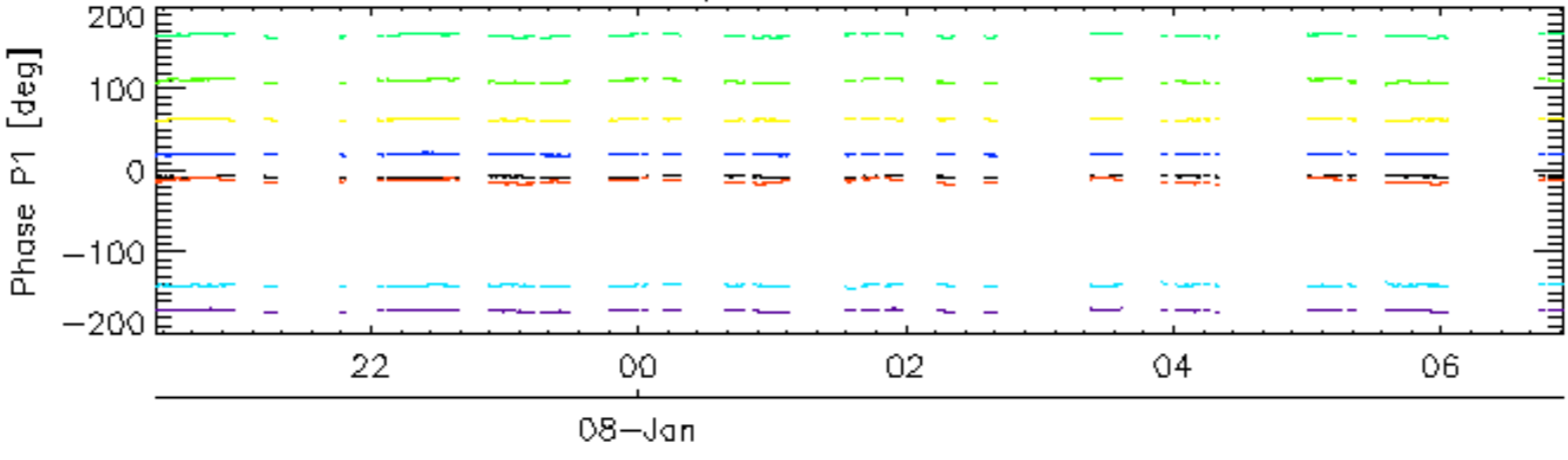


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

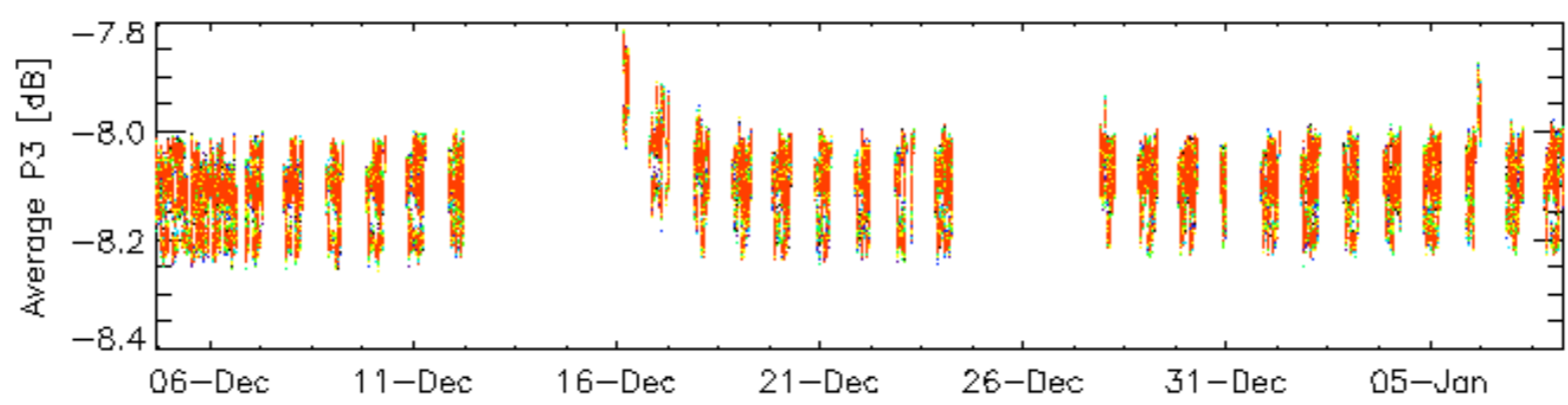
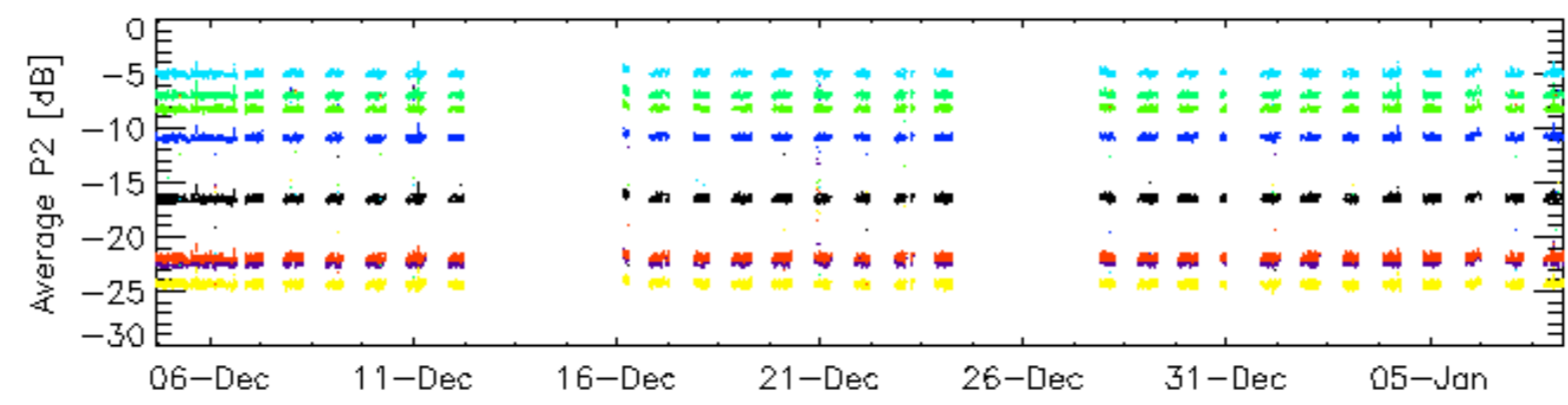
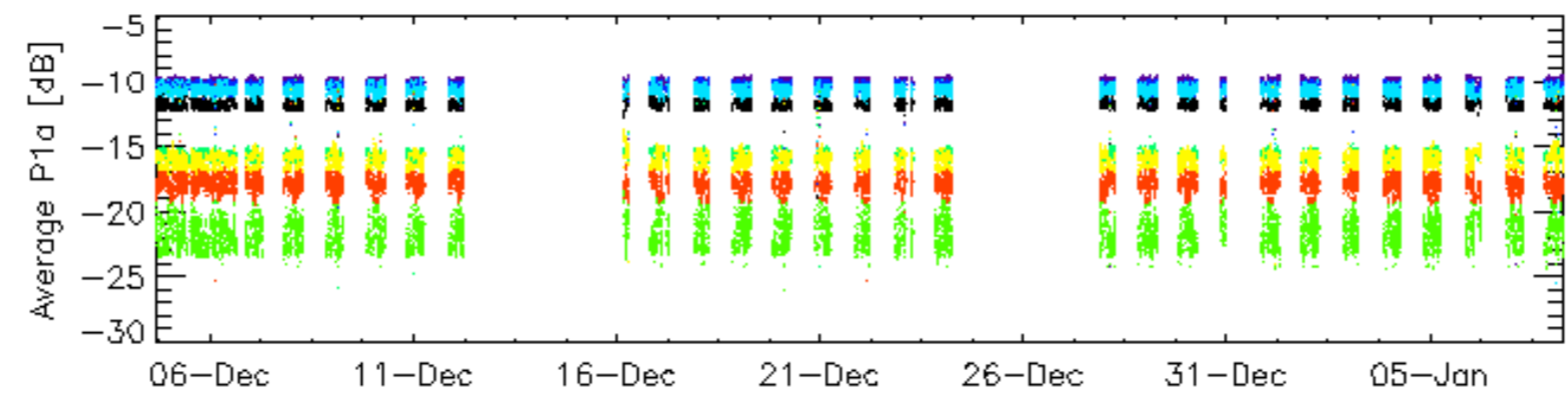
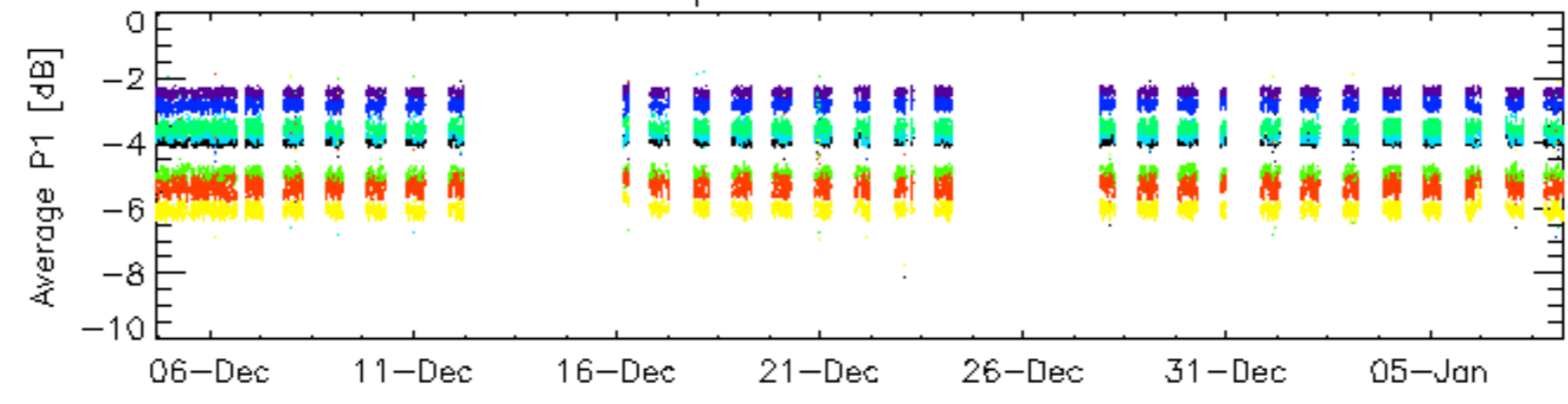


Cal pulses for WVS IS2



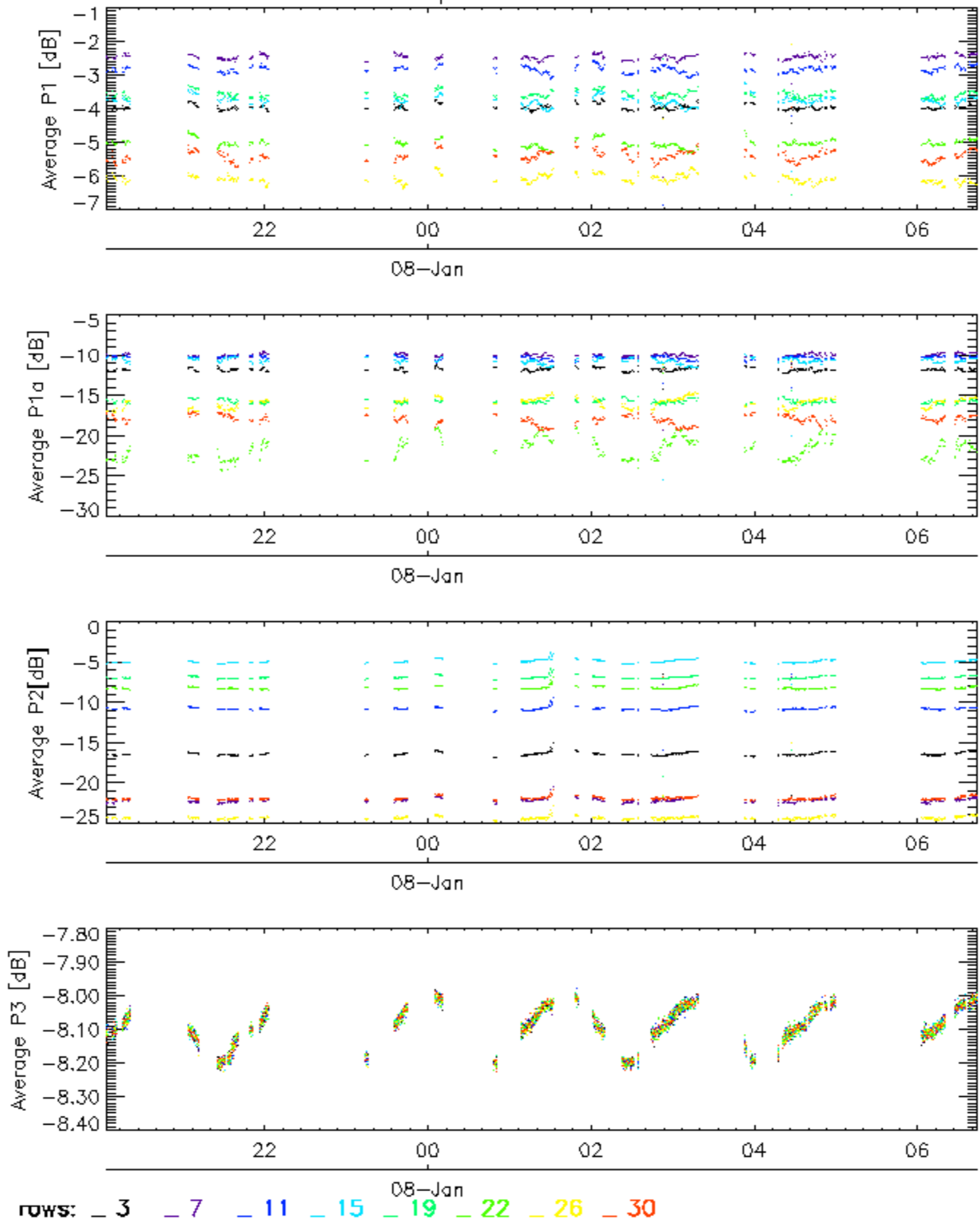
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

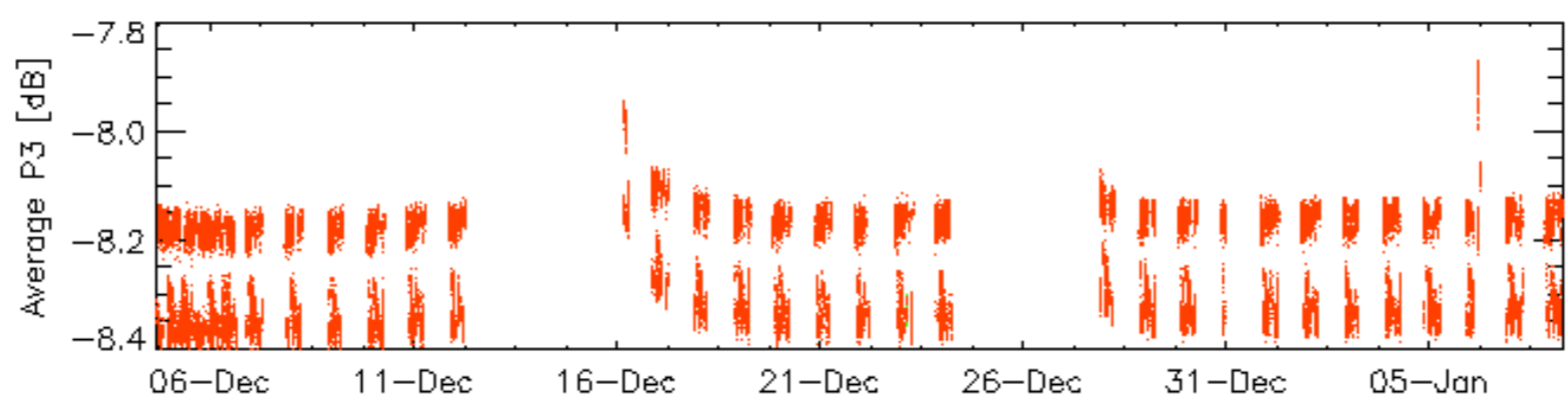
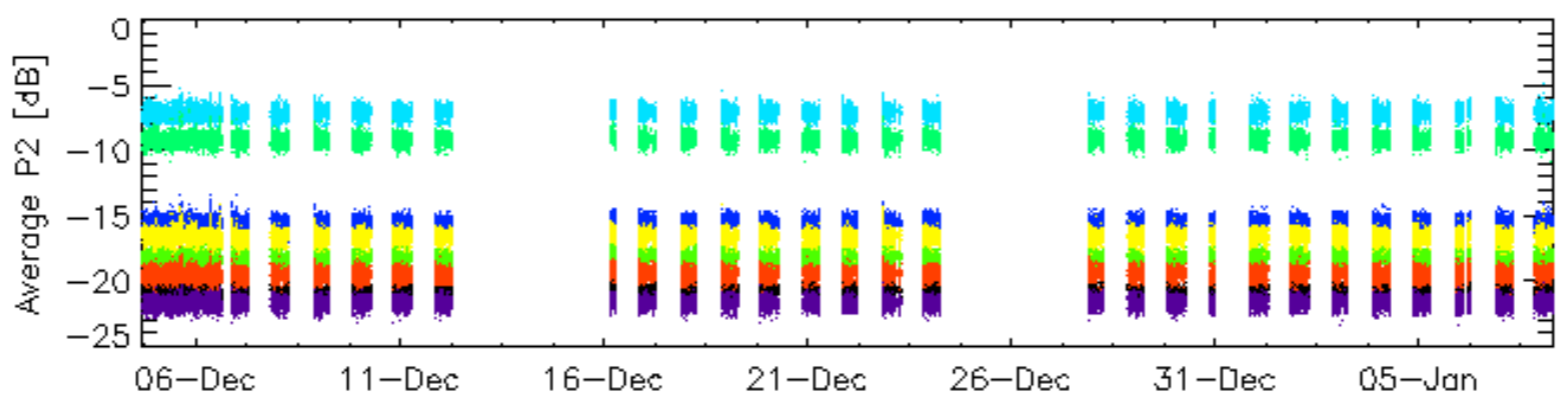
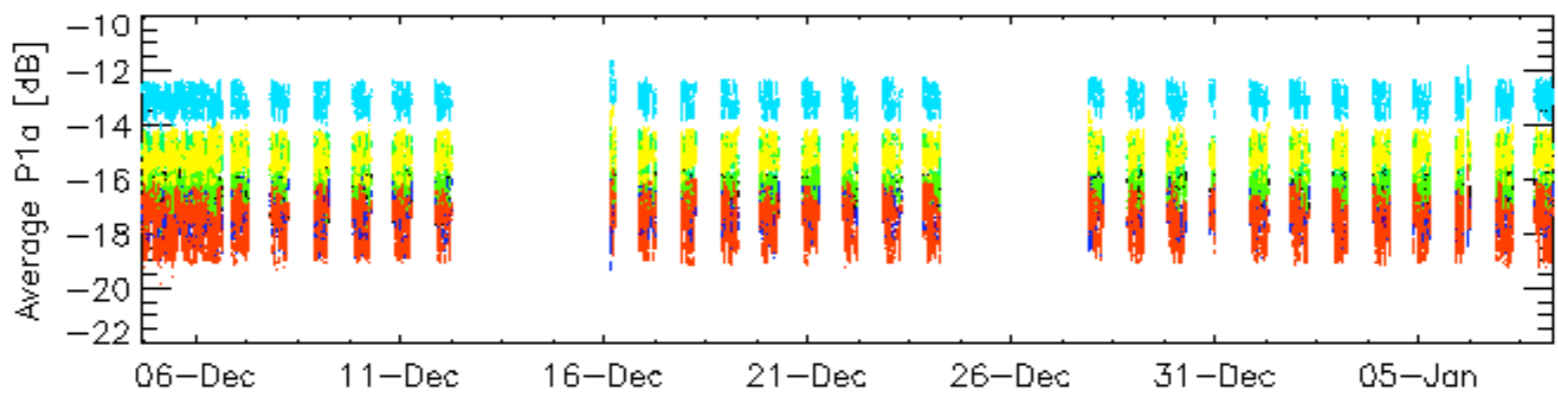
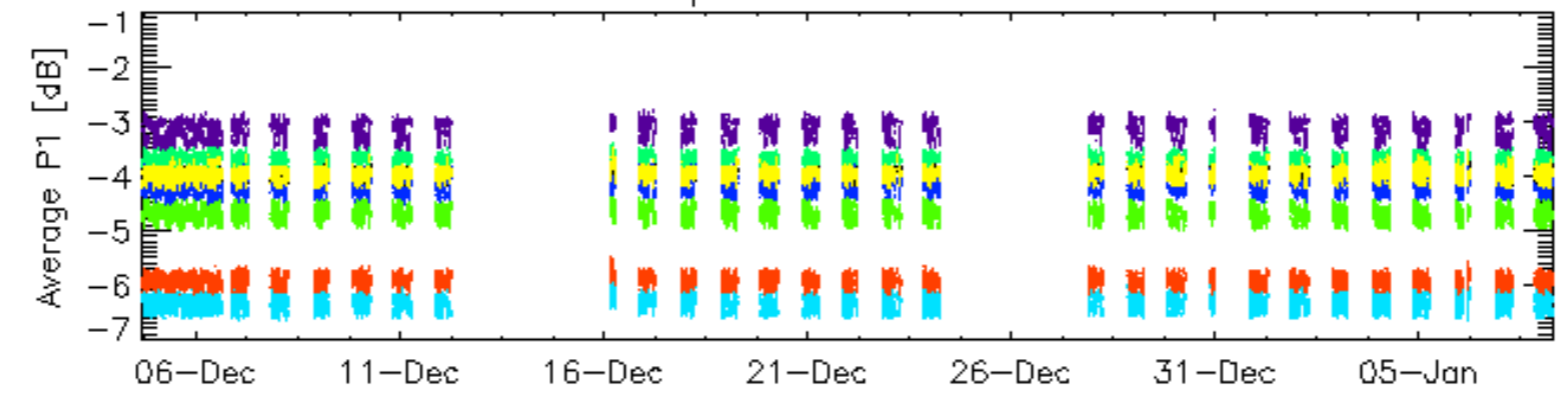


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

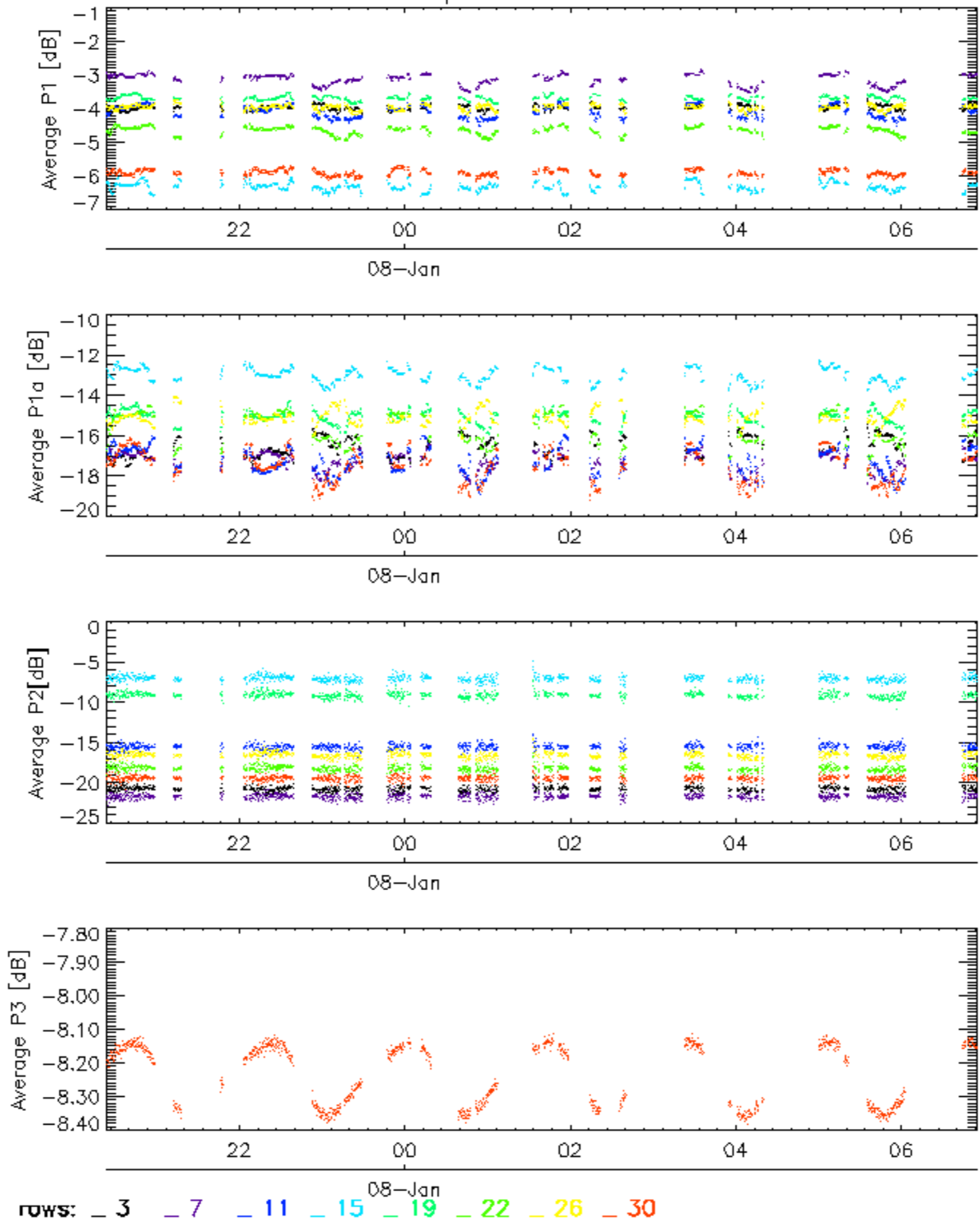


Cal pulses for WVS IS2



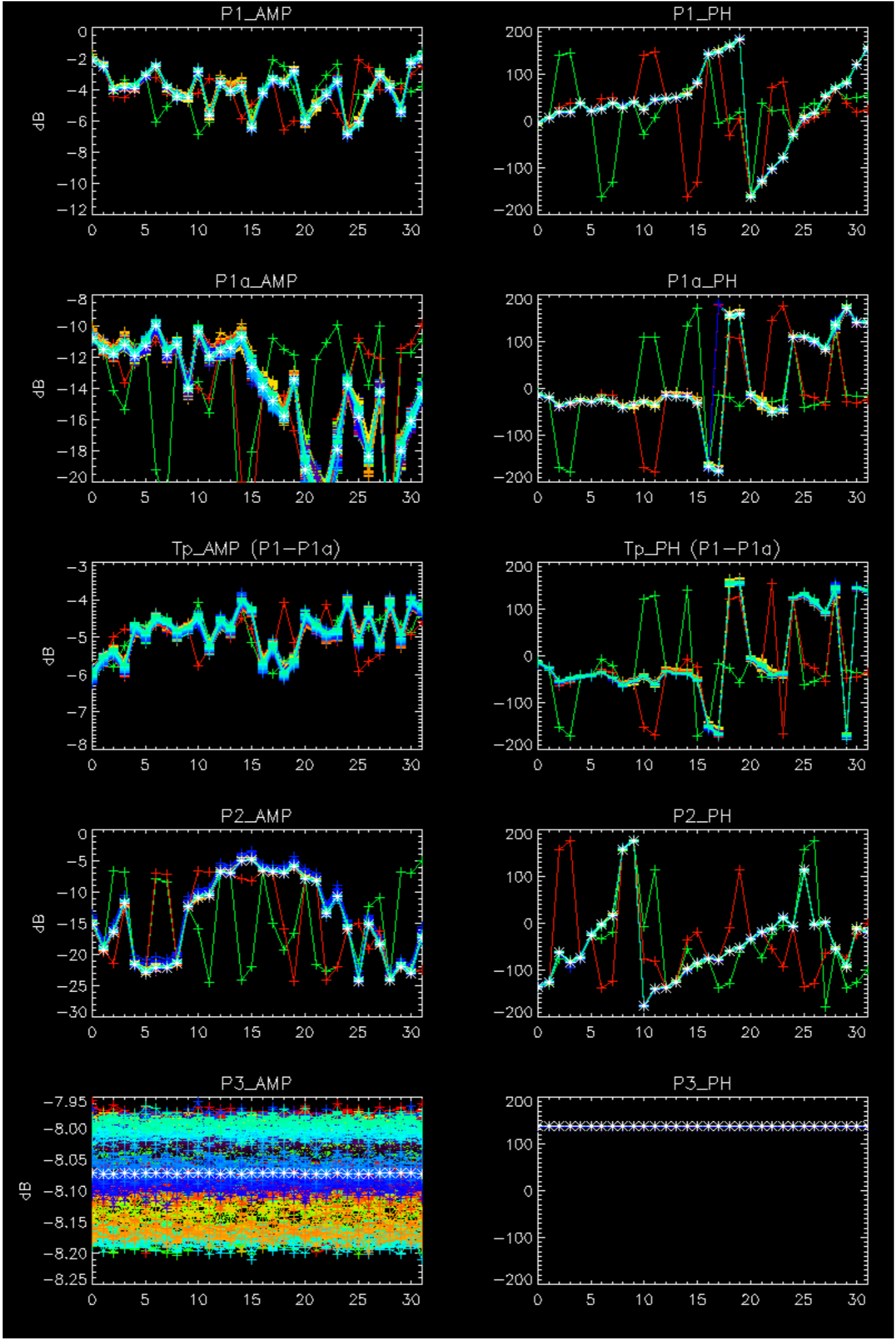
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

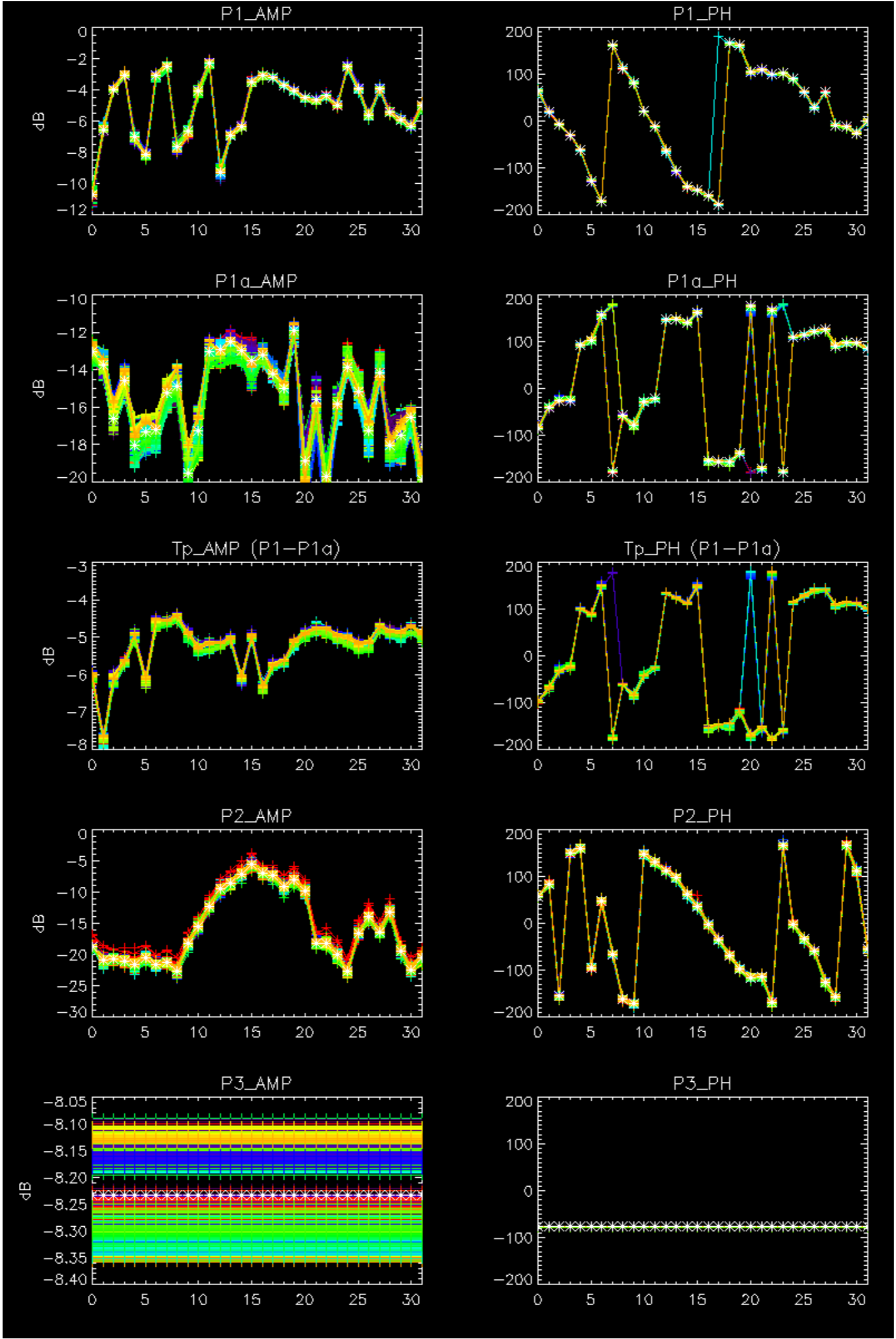
Cal pulses for WVS IS2



No anomalies observed on available browse products

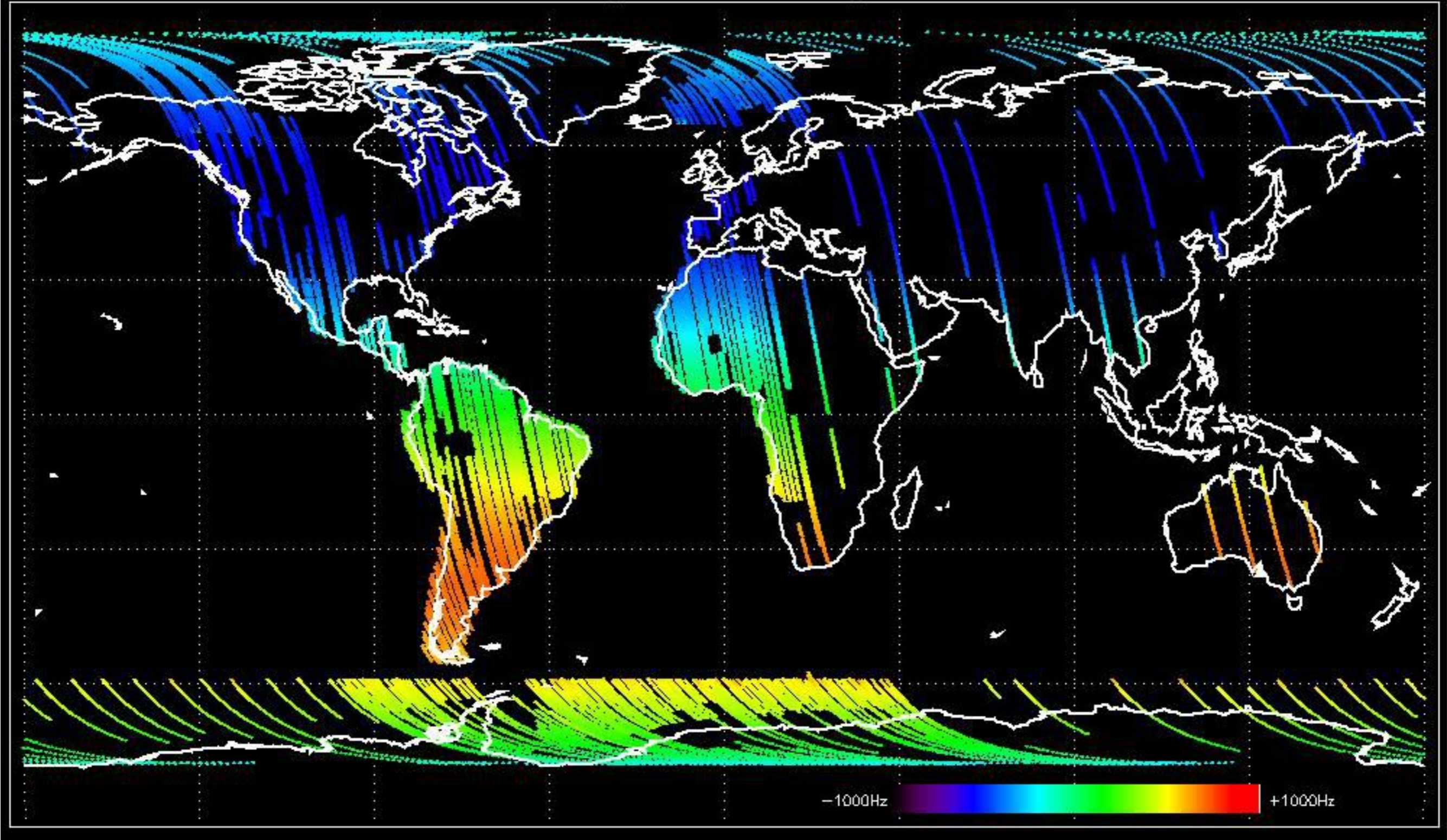
No anomalies observed.



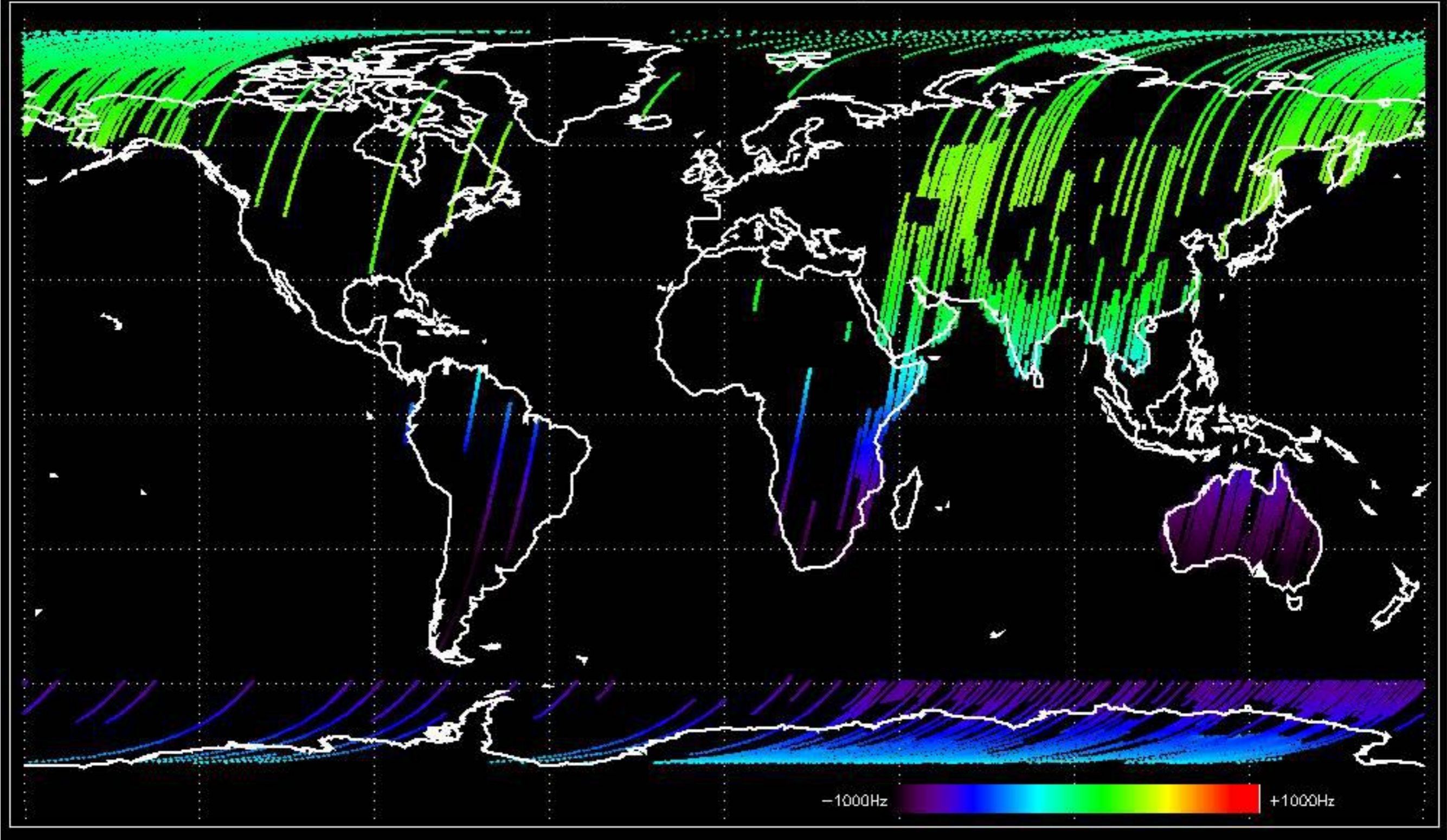


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

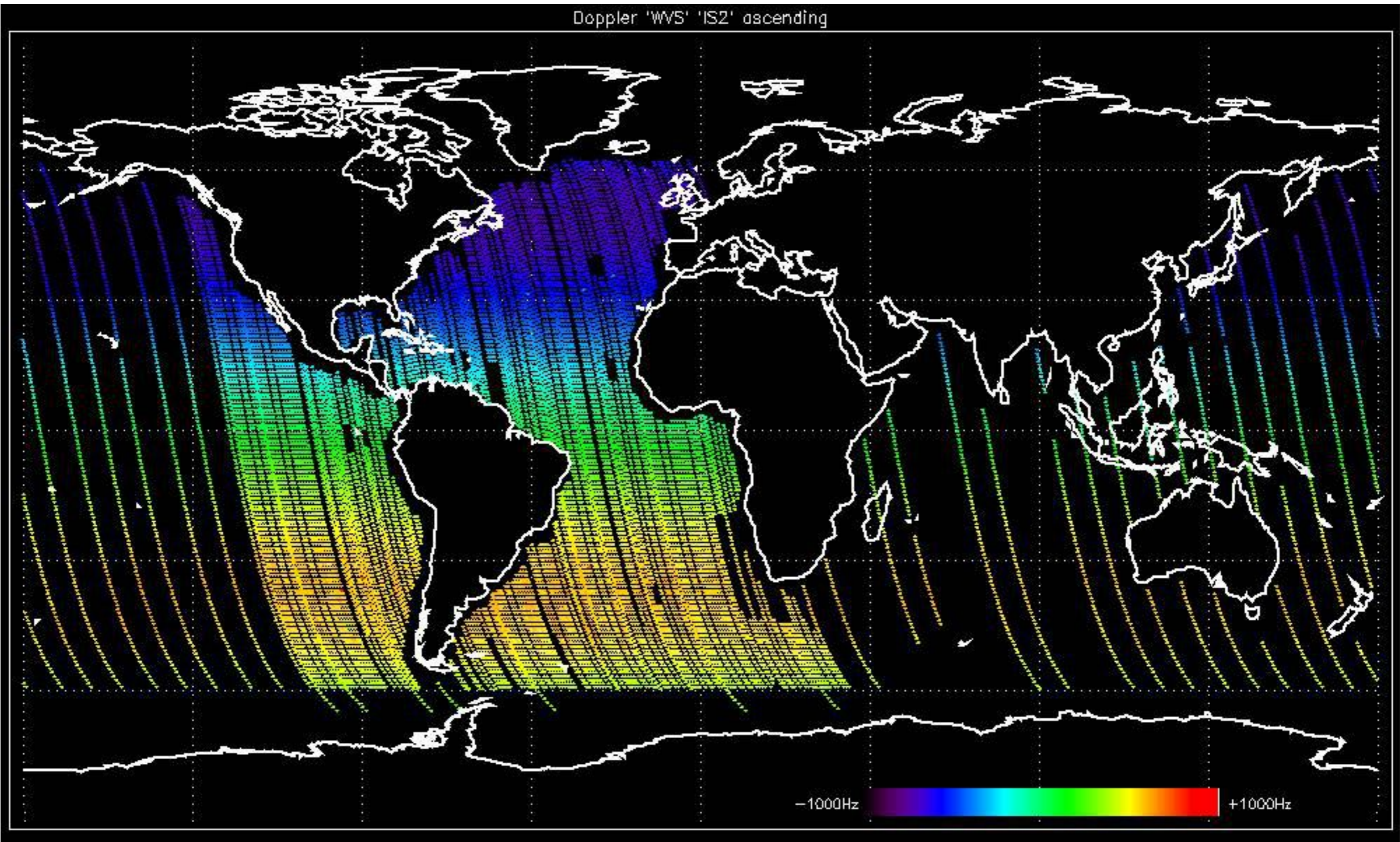
Doppler 'GM1' 'SS1' ascending



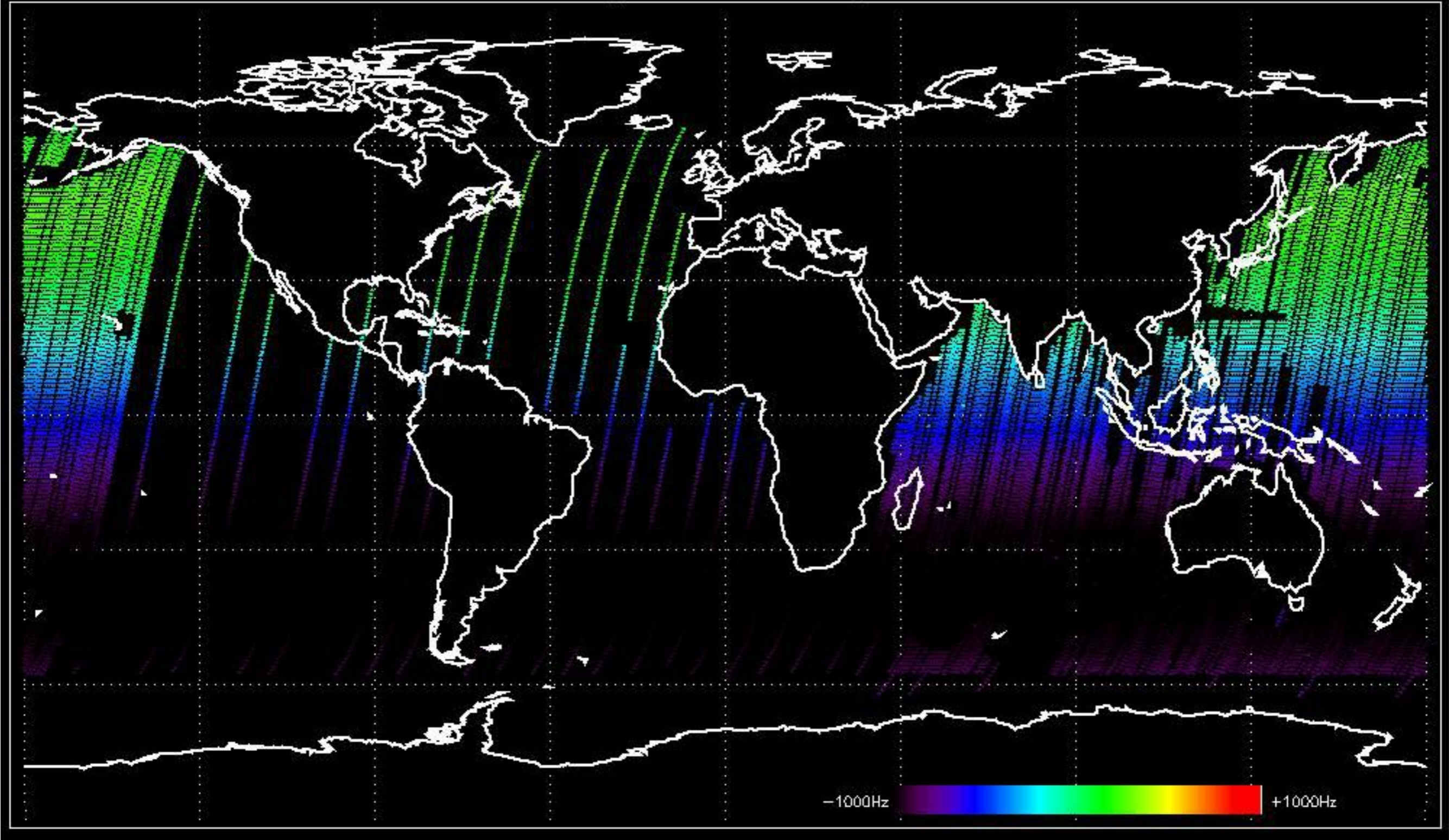
Doppler 'GM1' 'SS1' descending



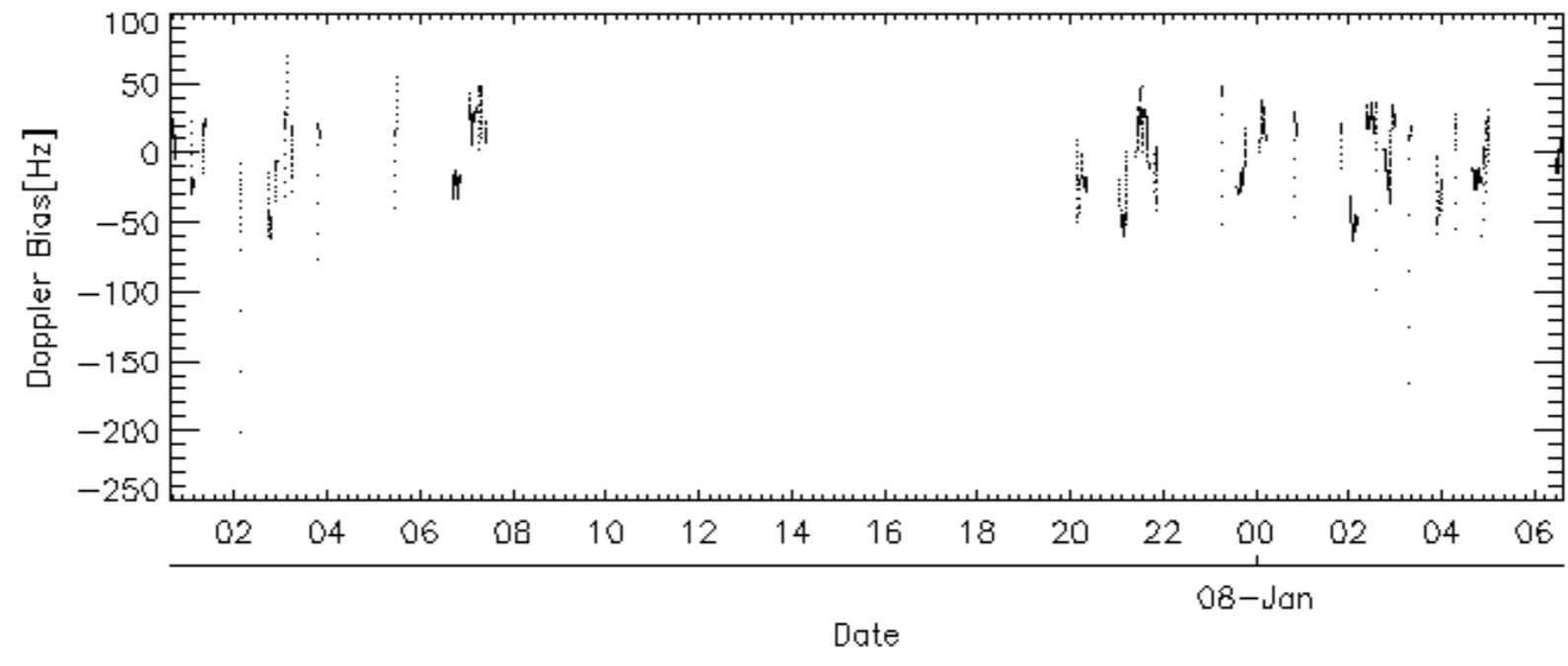
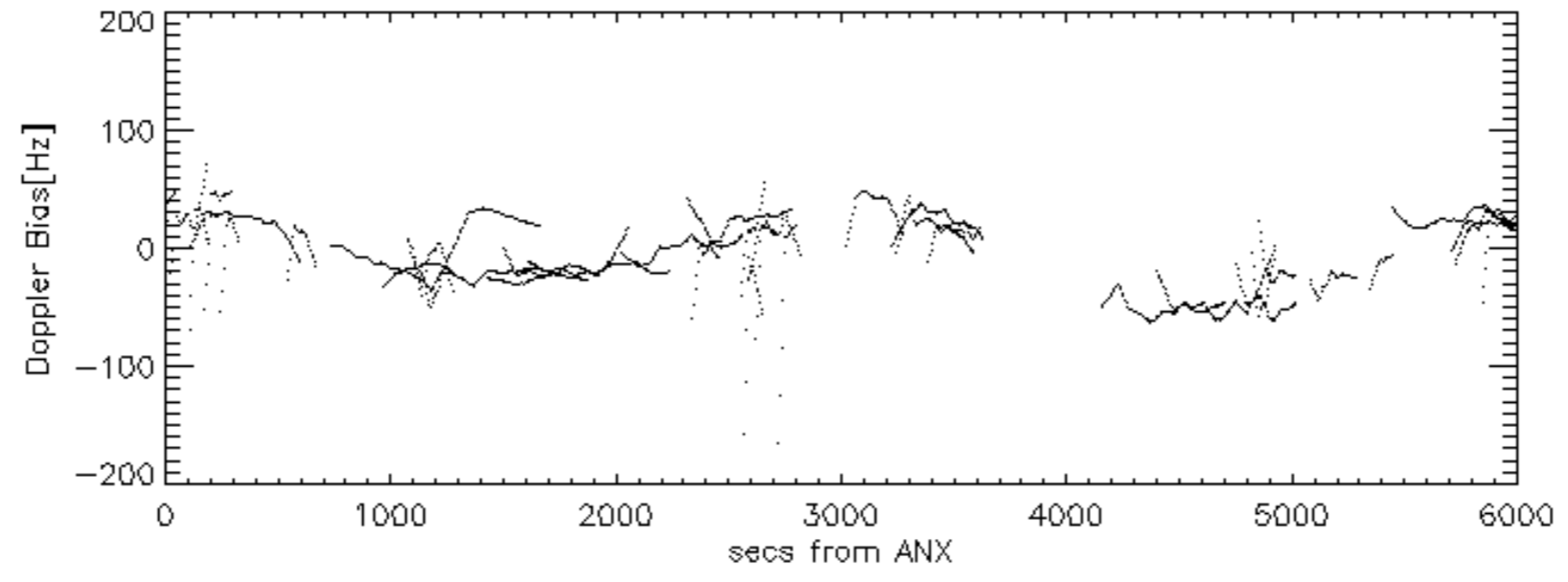
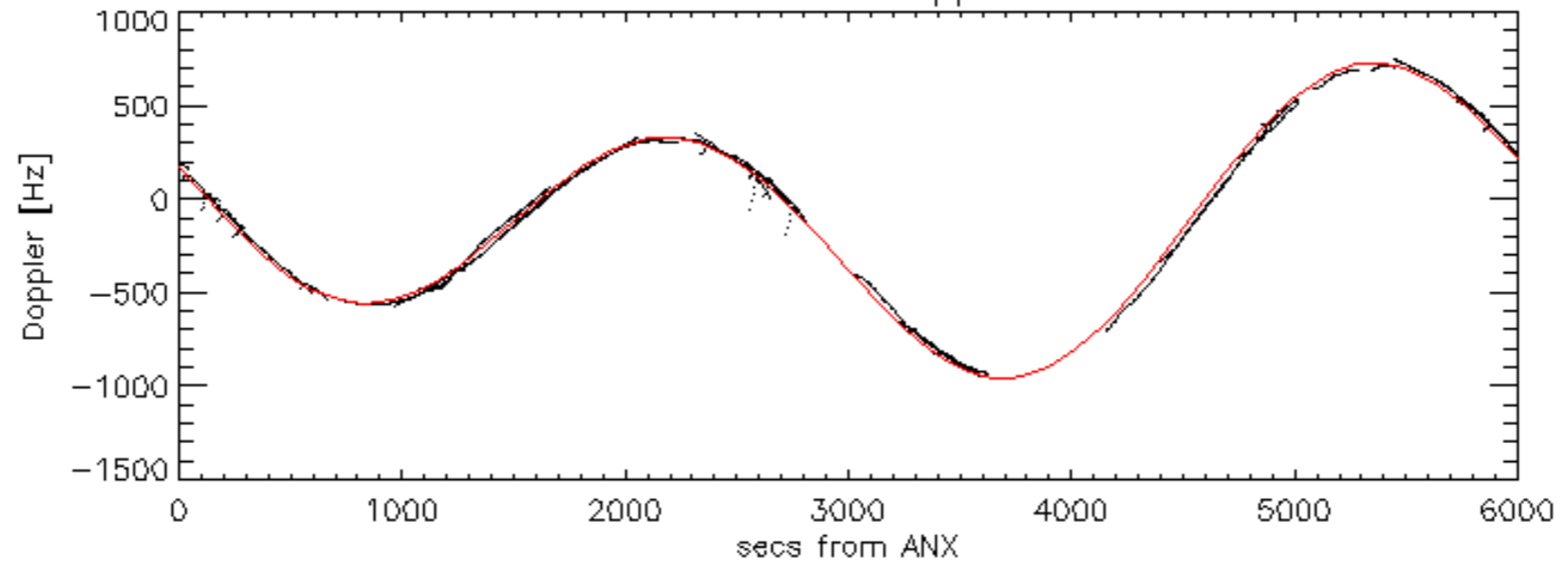
Doppler 'WVS' 'IS2' ascending

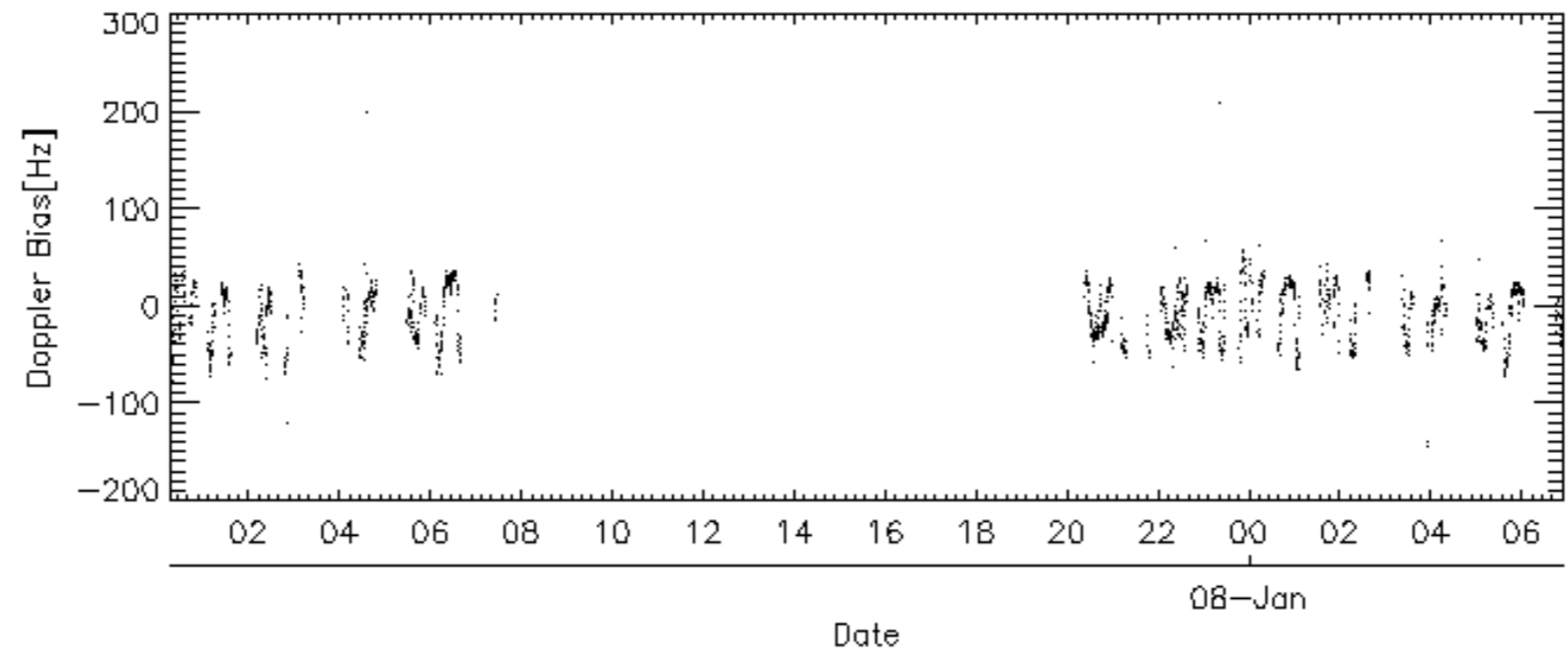
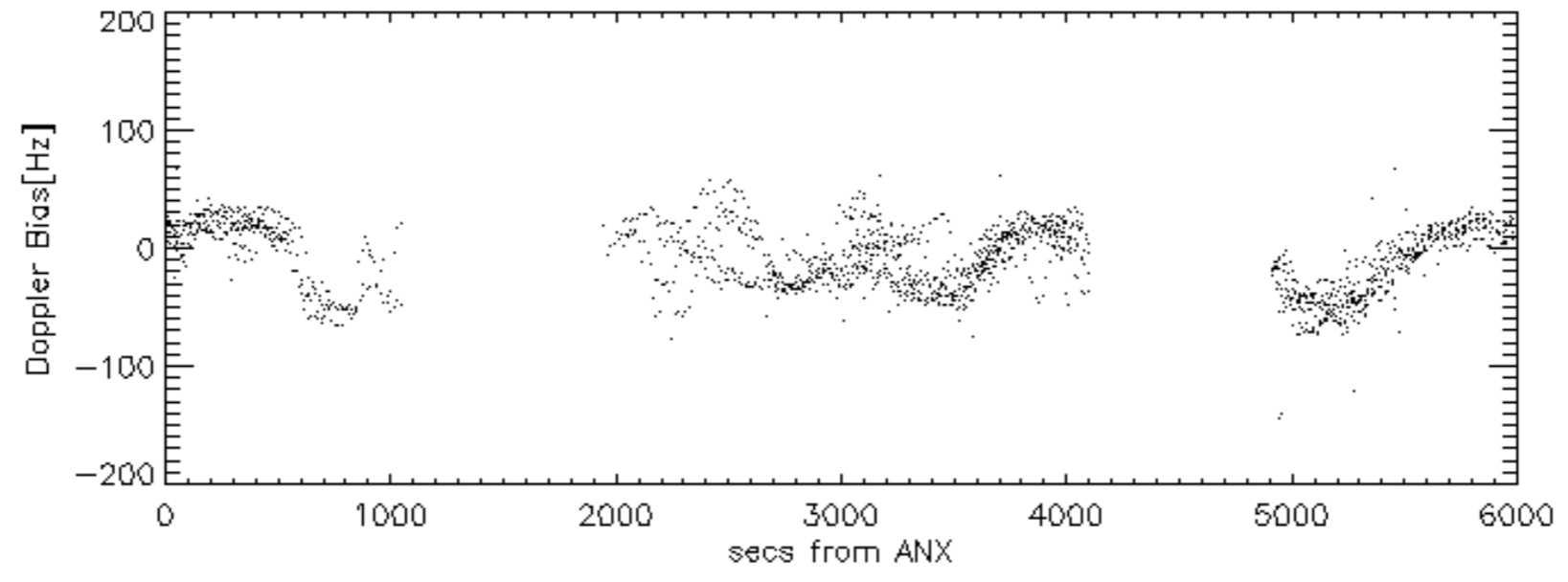
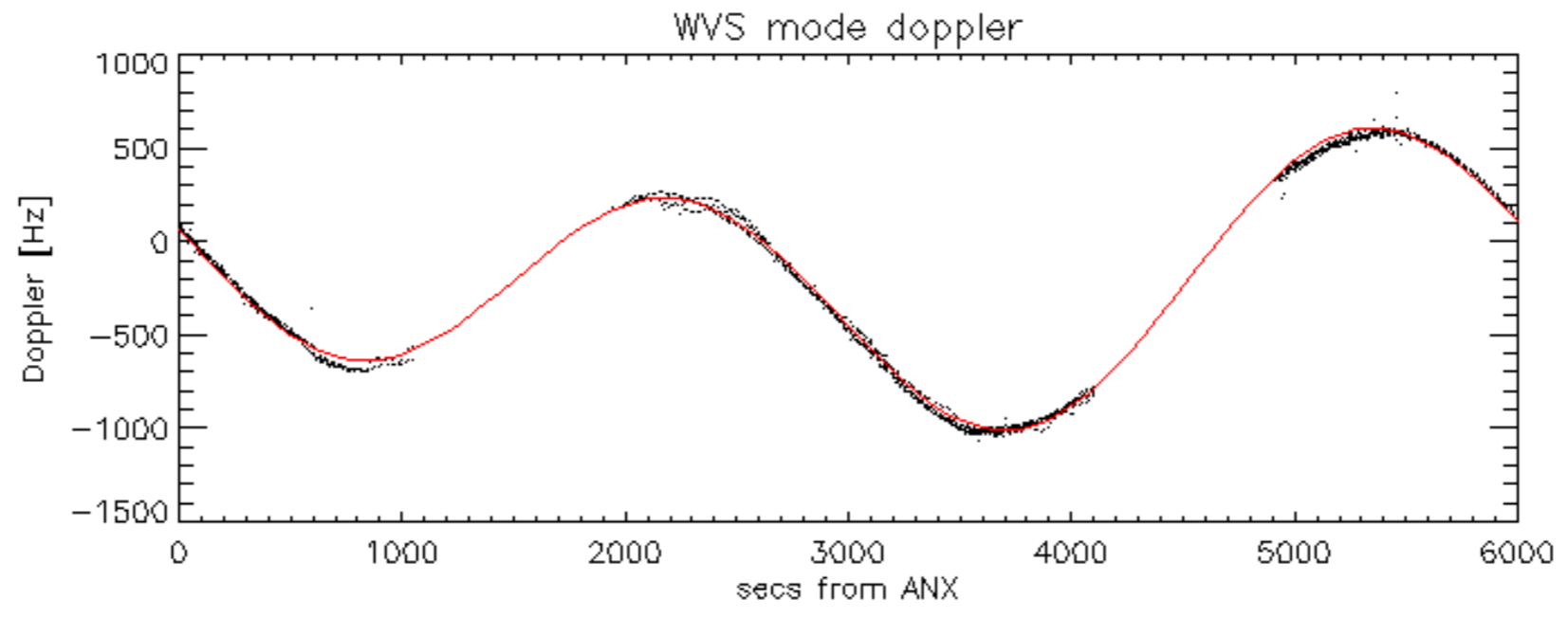


Doppler 'WVS' 'IS2' descending

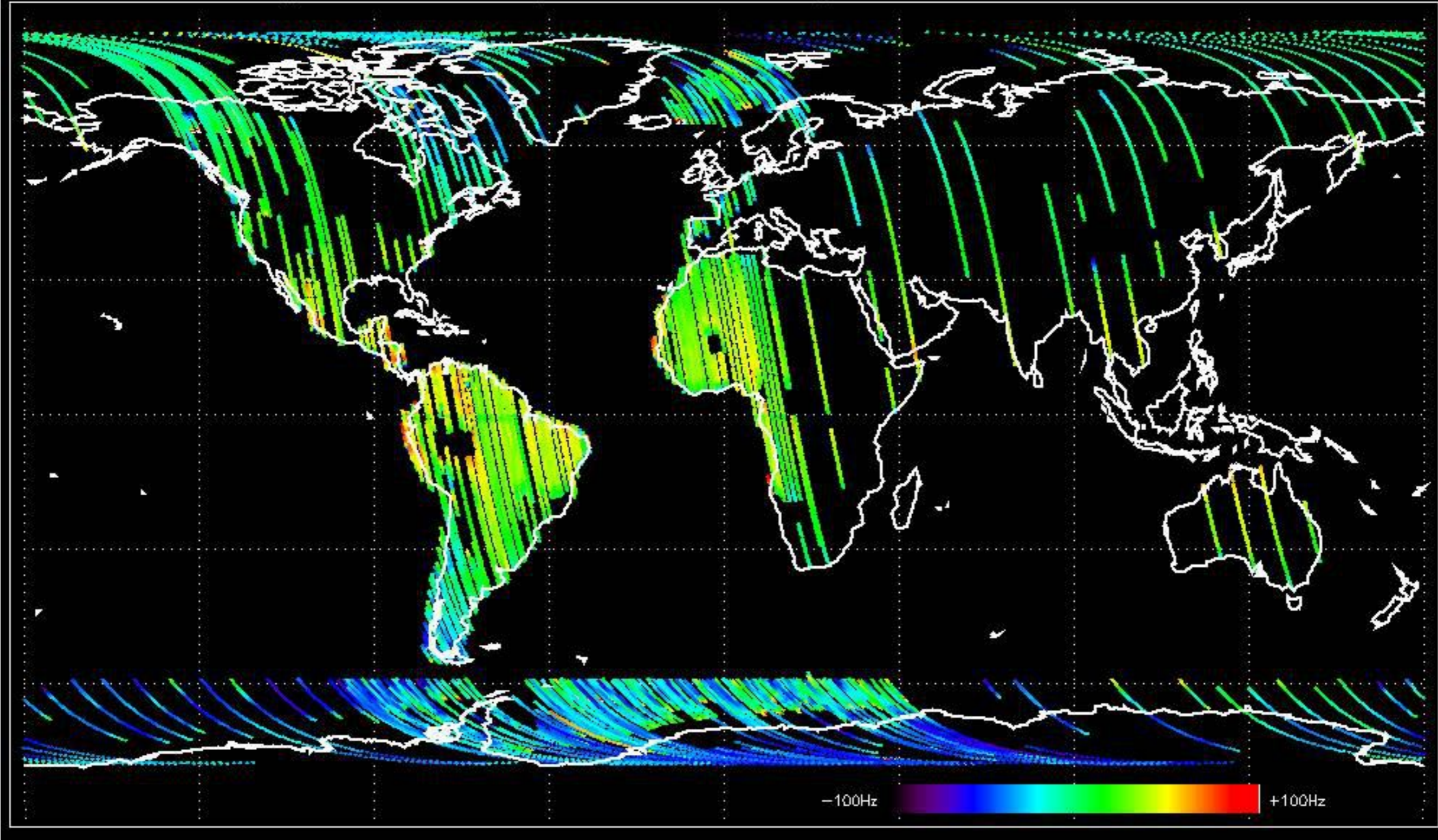


GM1 mode doppler

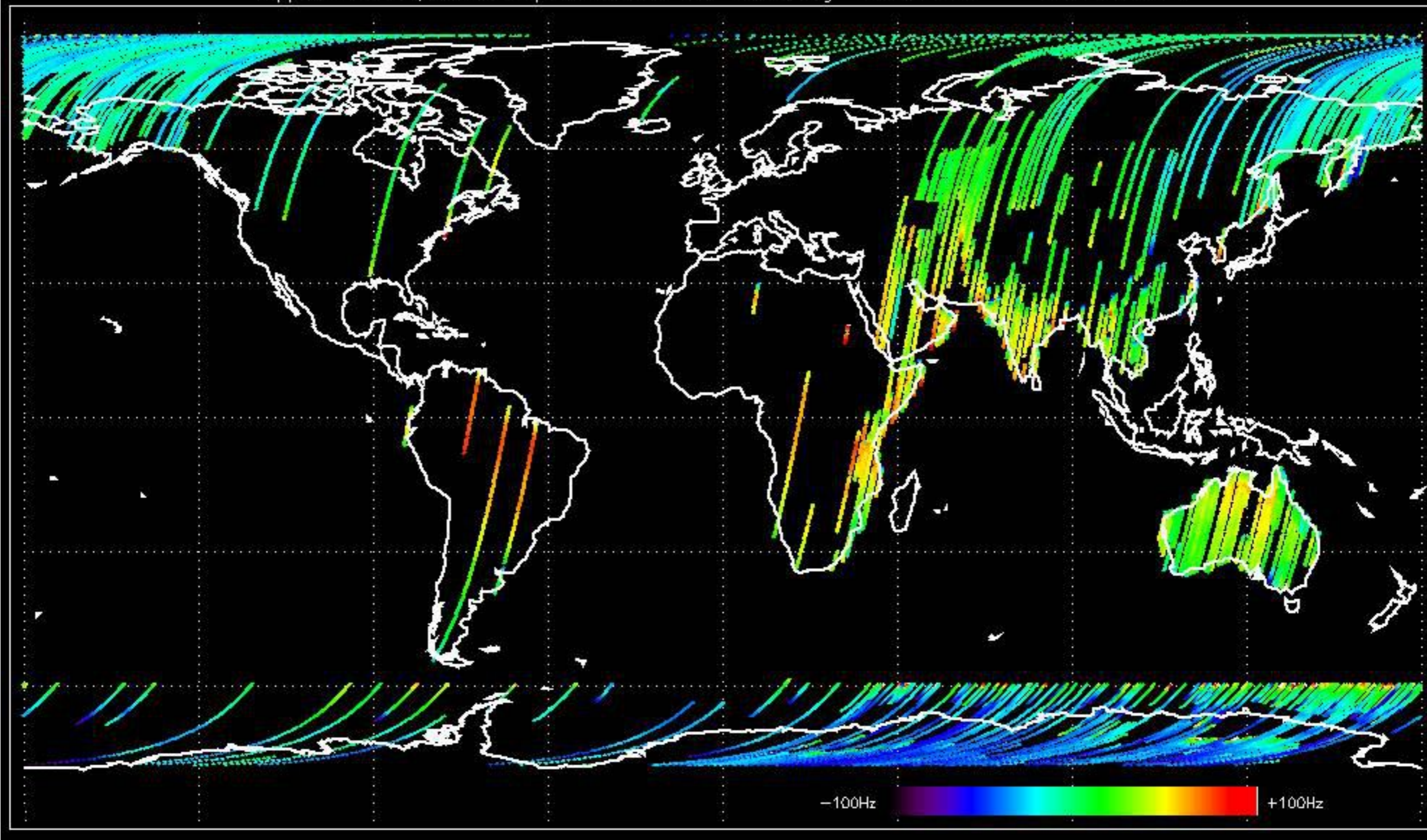




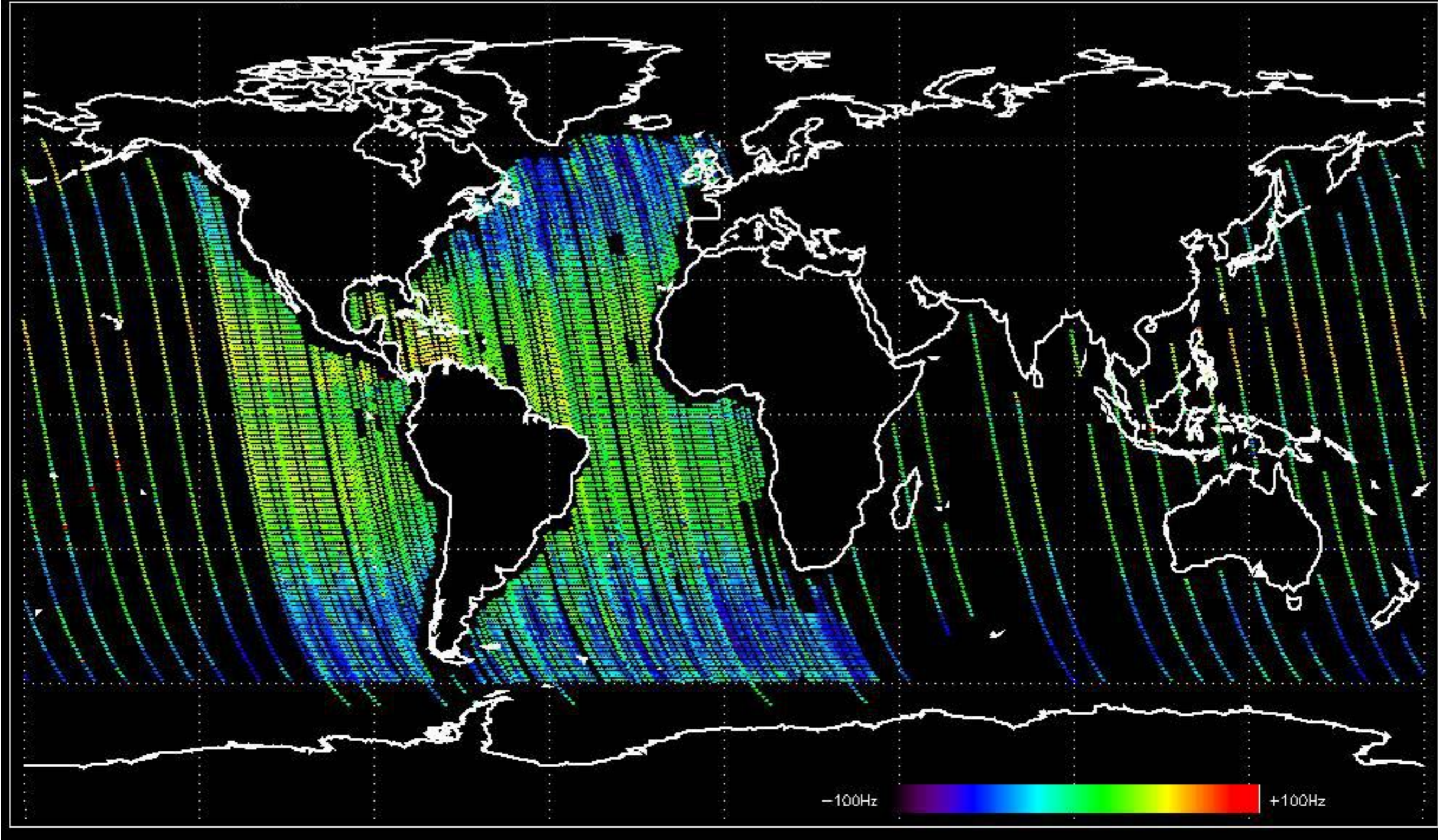
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -16.987699 Hz



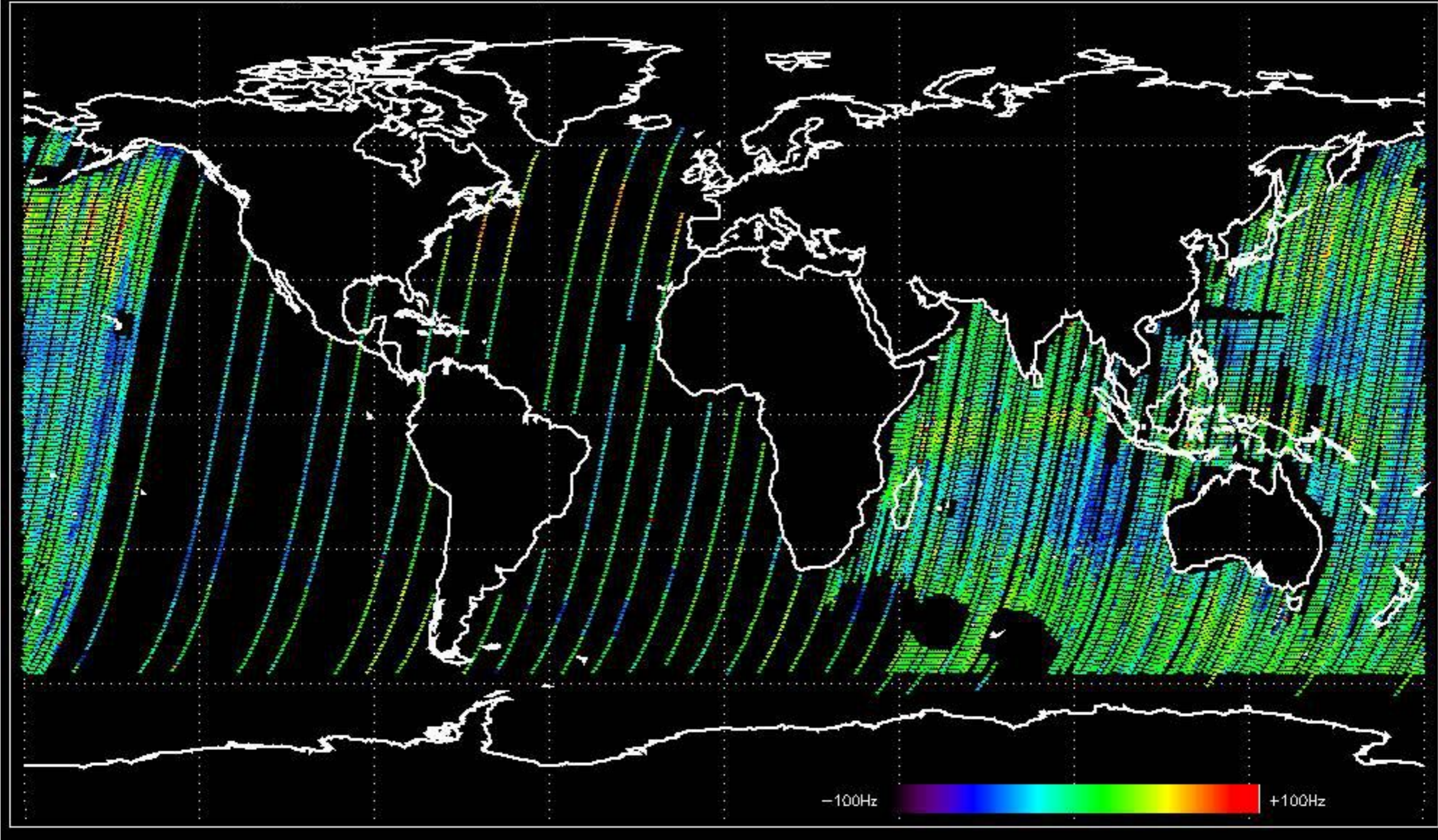
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -18.246777 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -15.105358 Hz

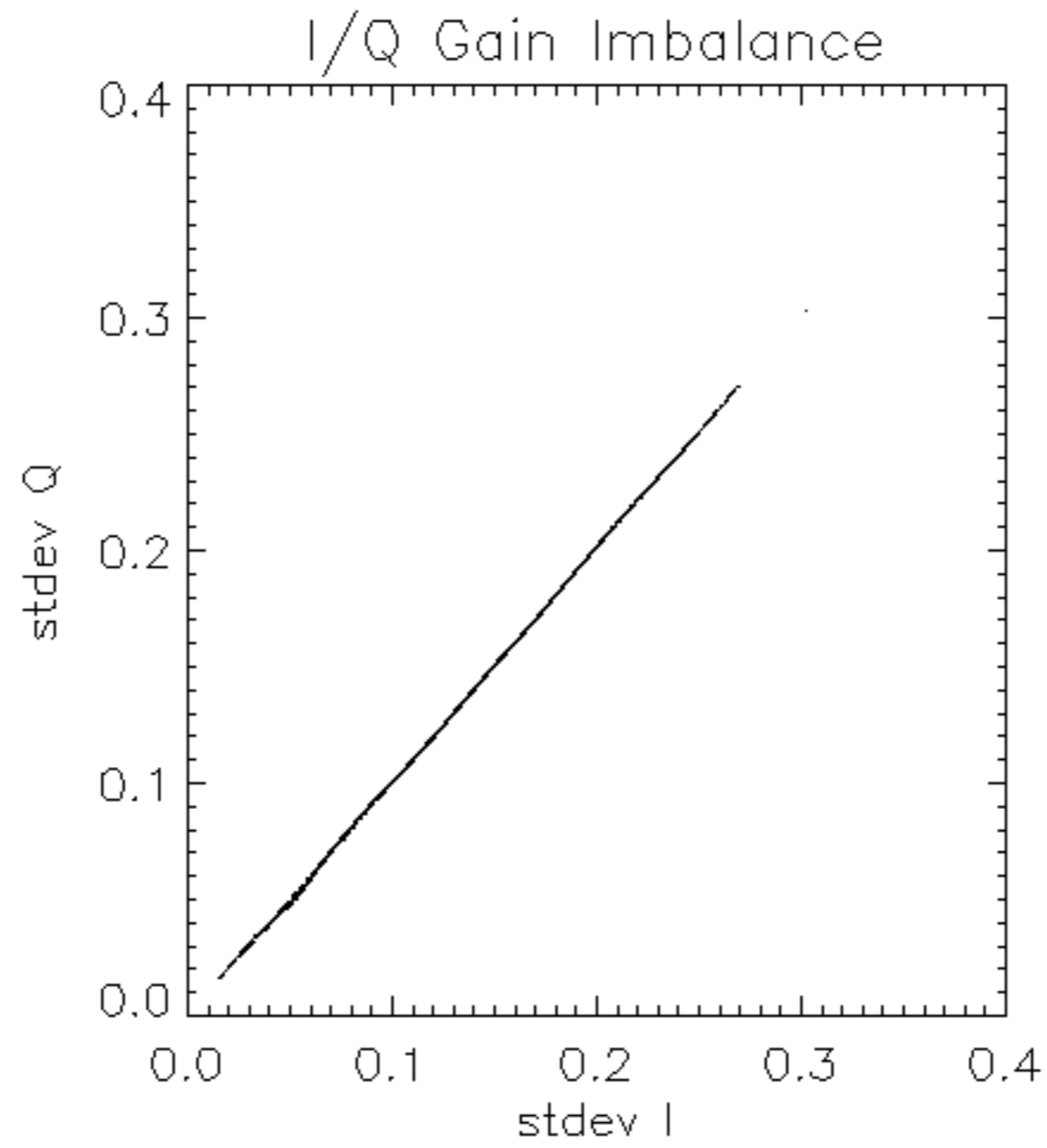


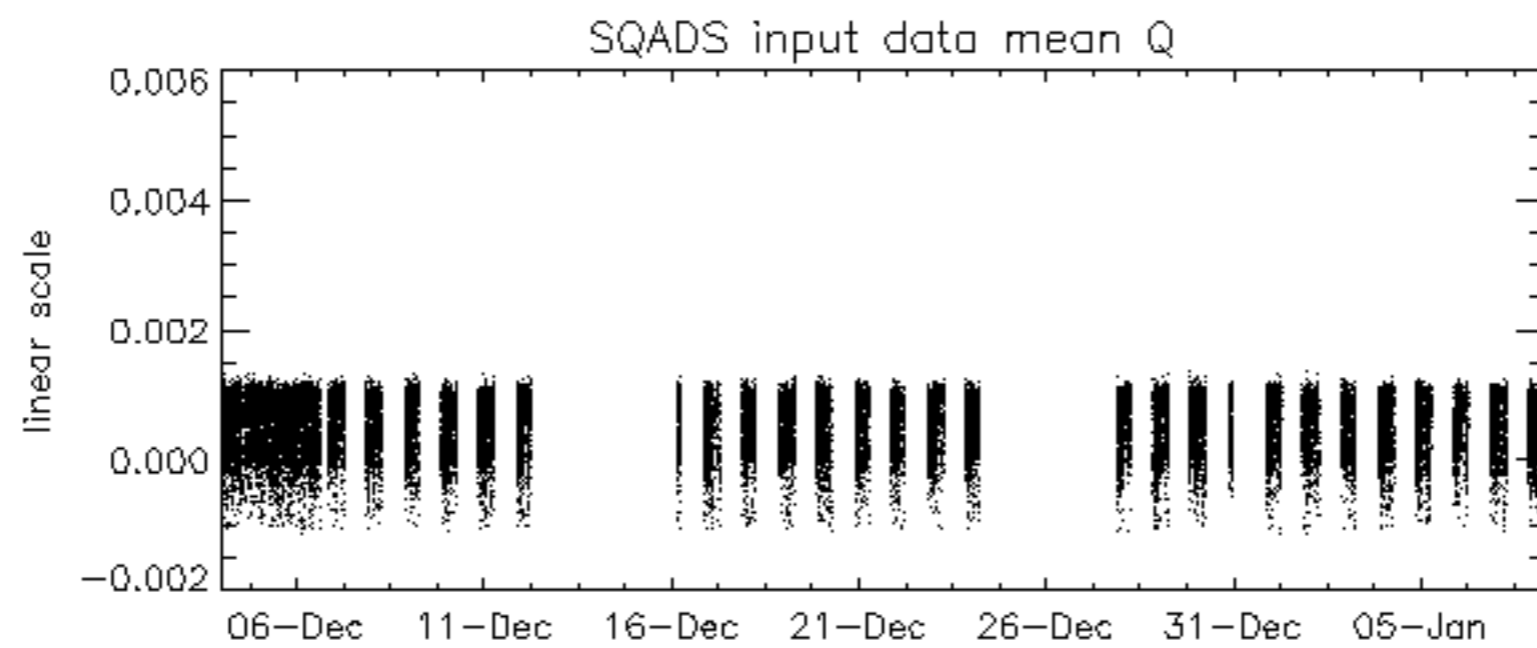
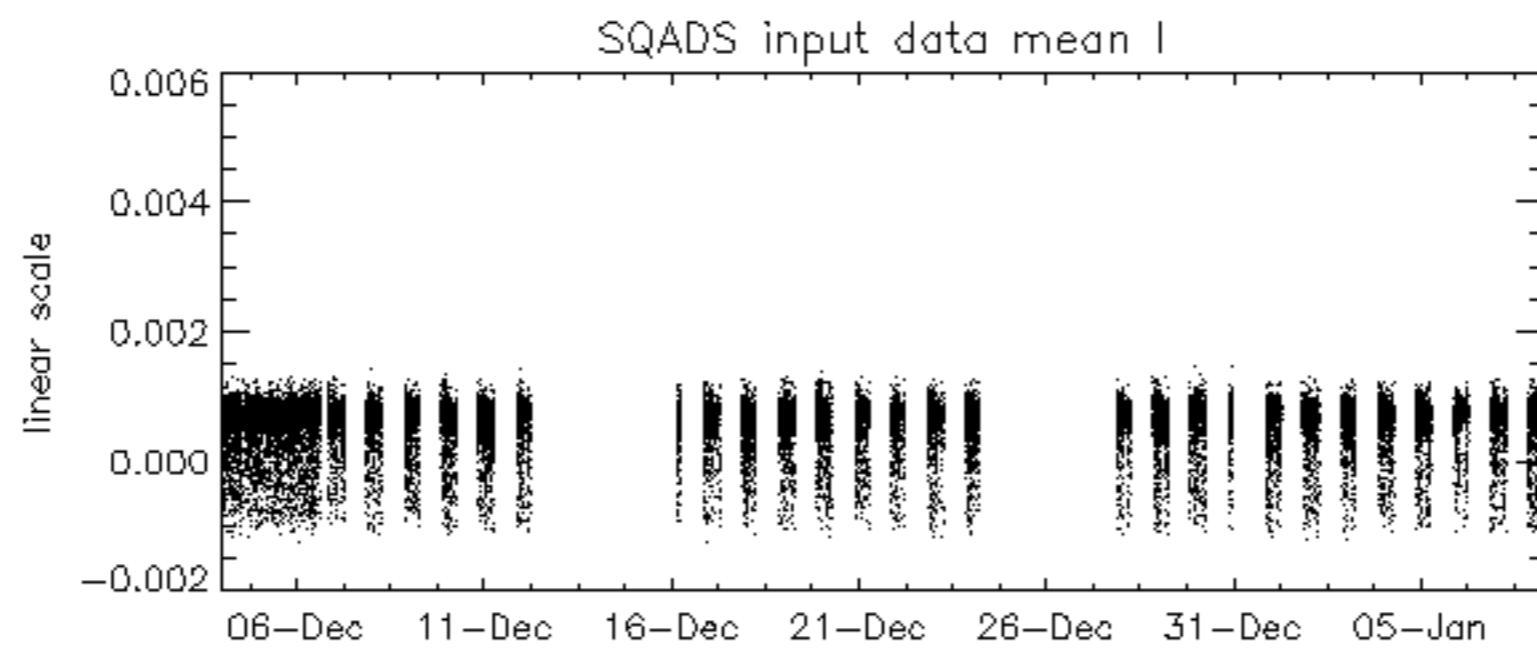
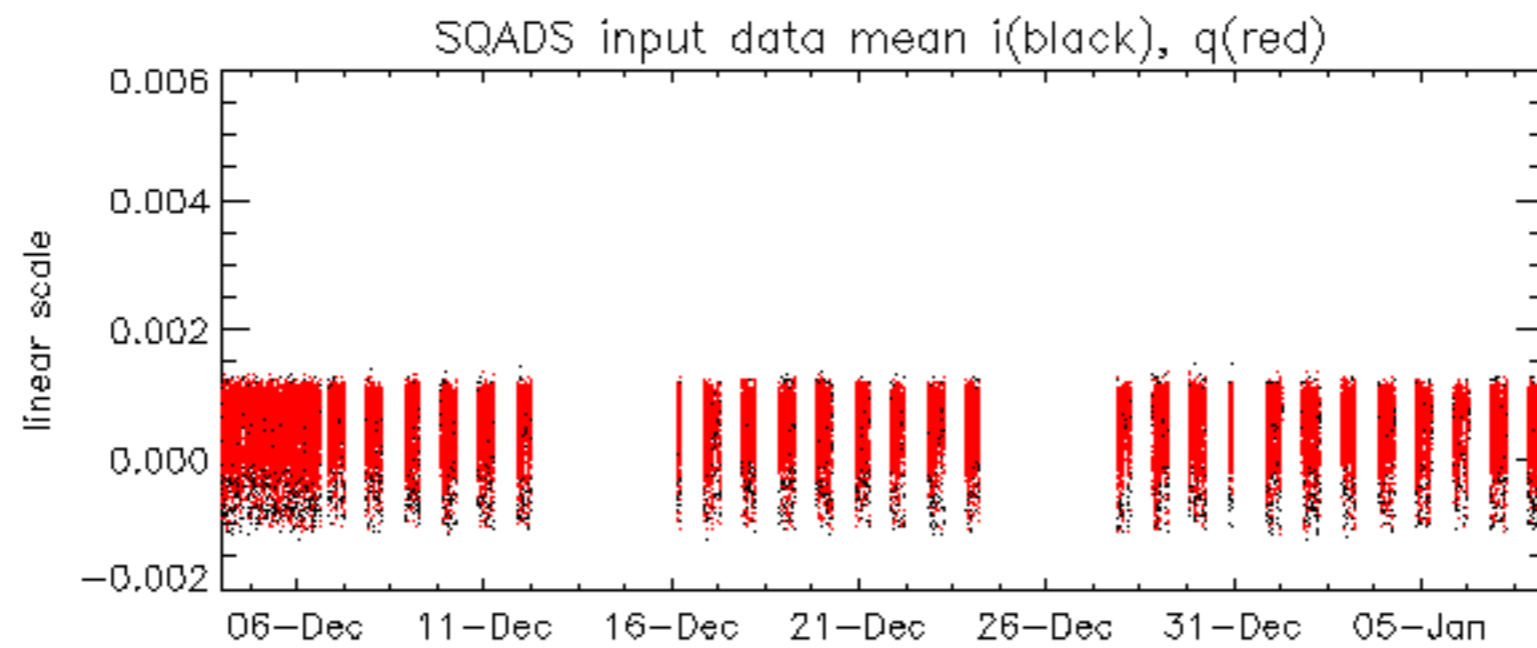
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -10.084687 Hz

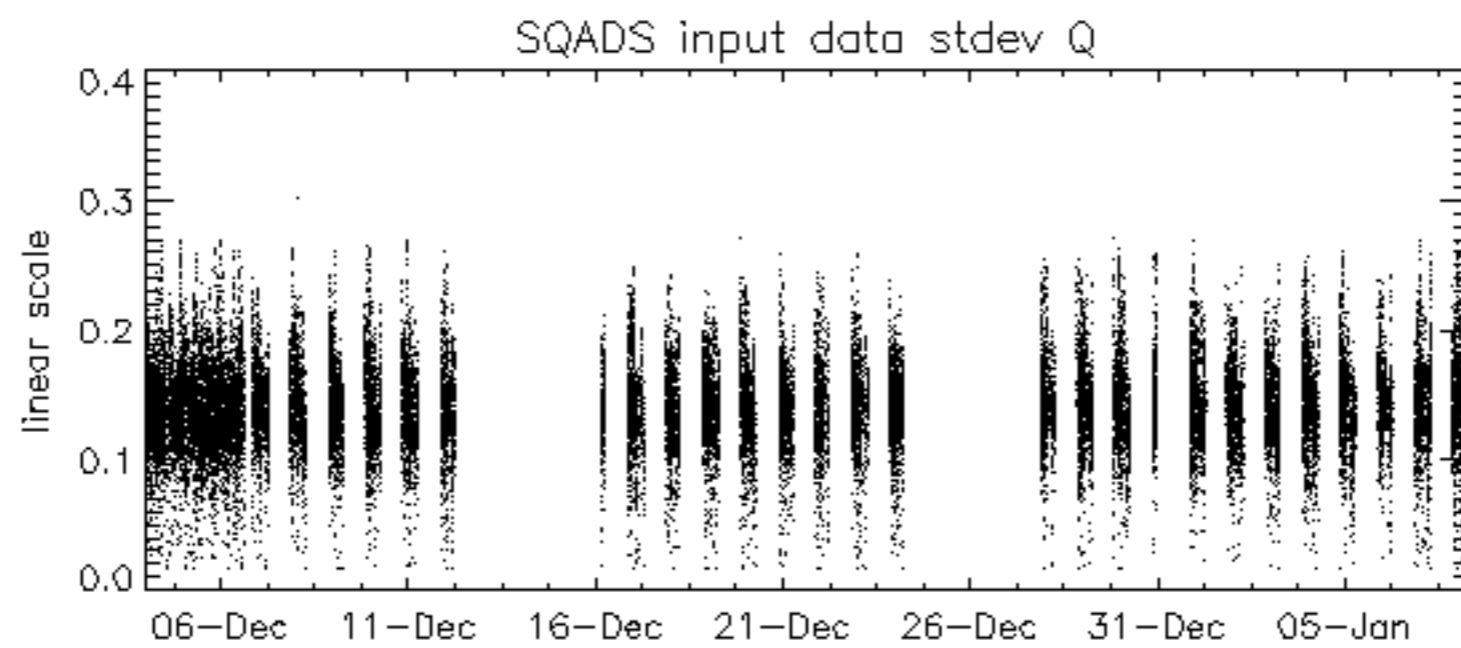
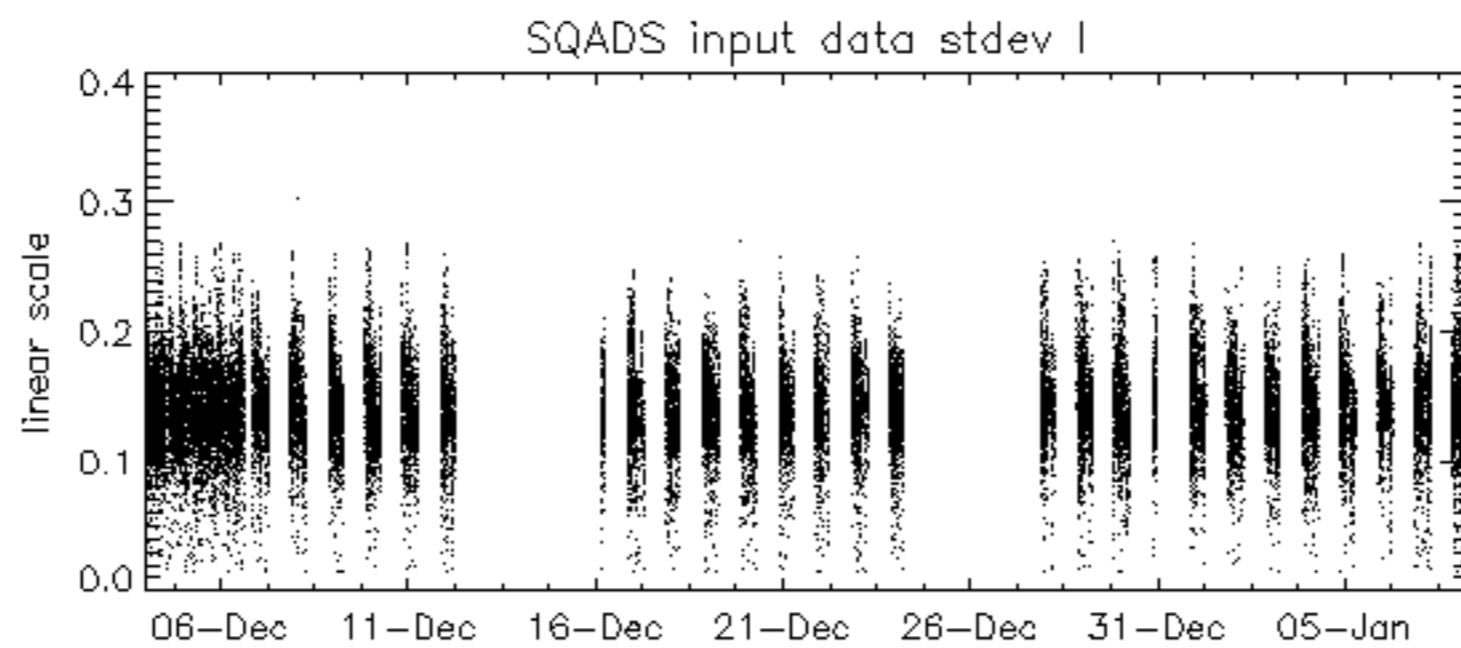
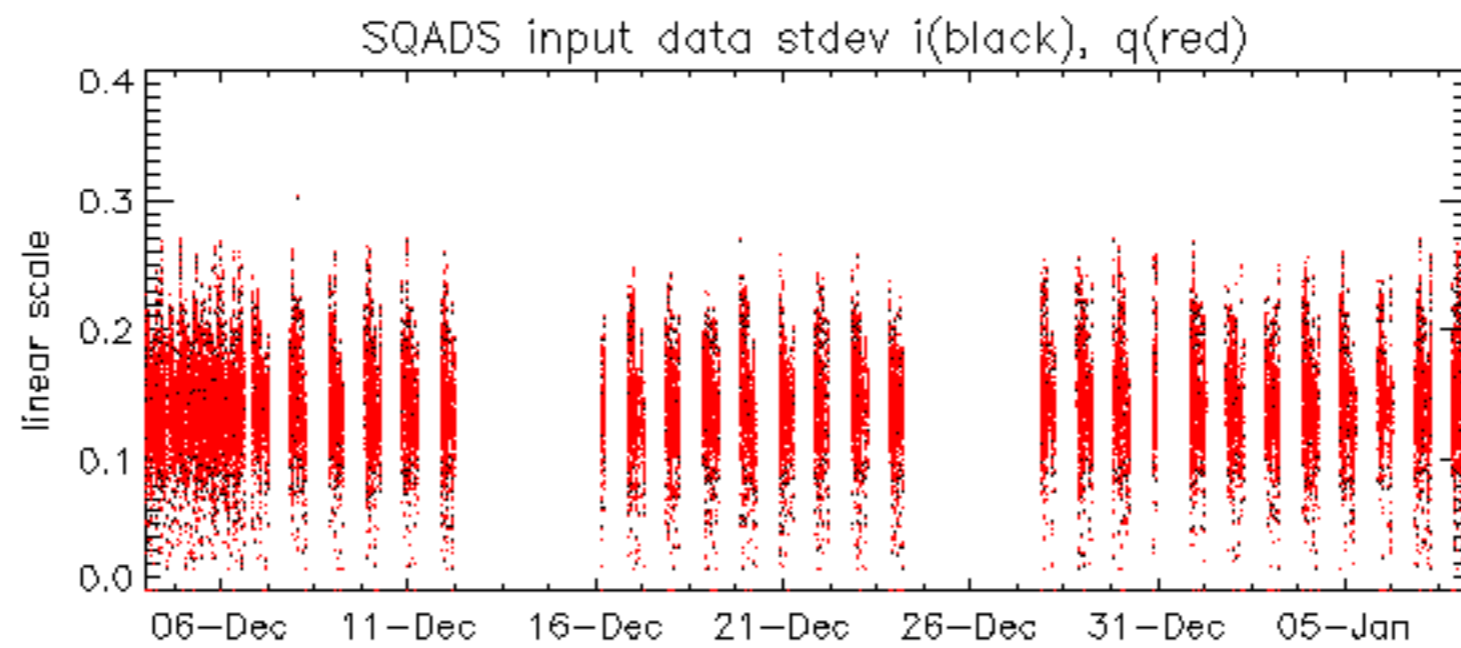


No anomalies observed on available MS products:

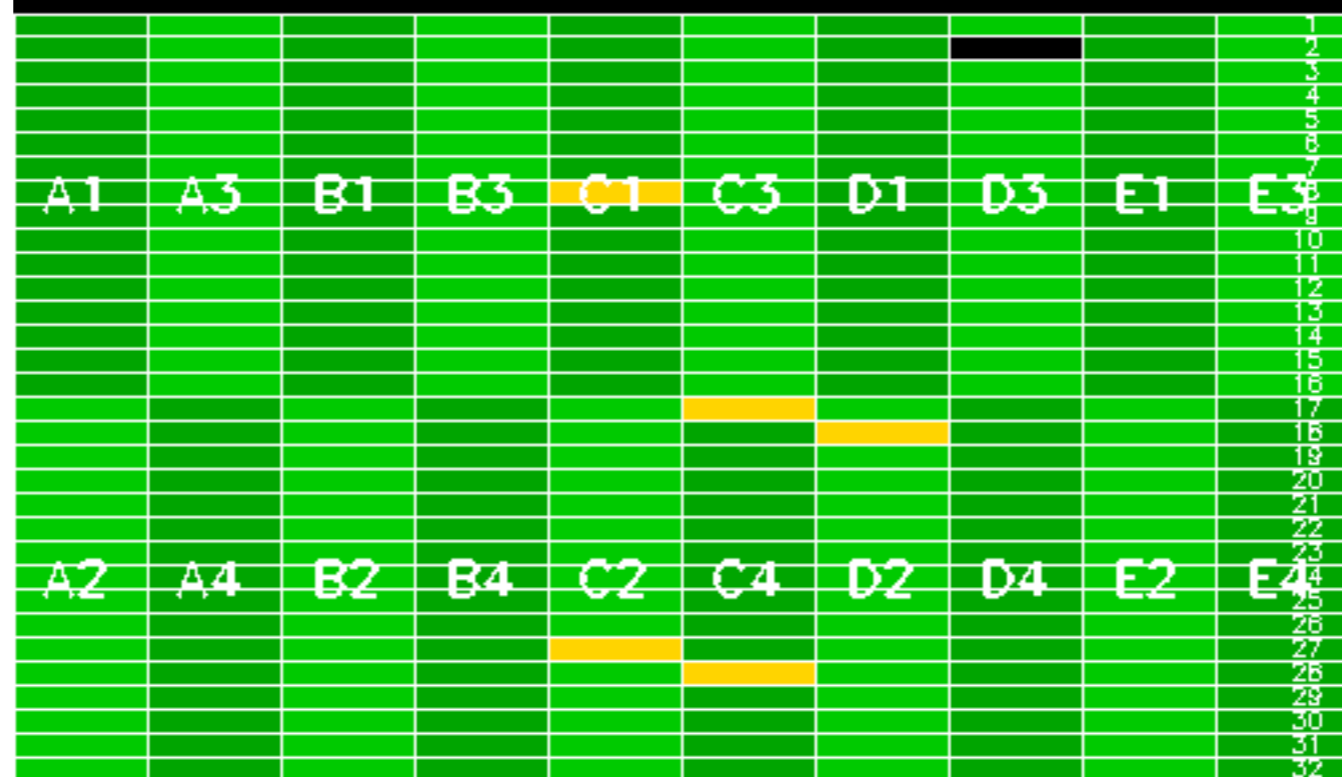
No anomalies observed.







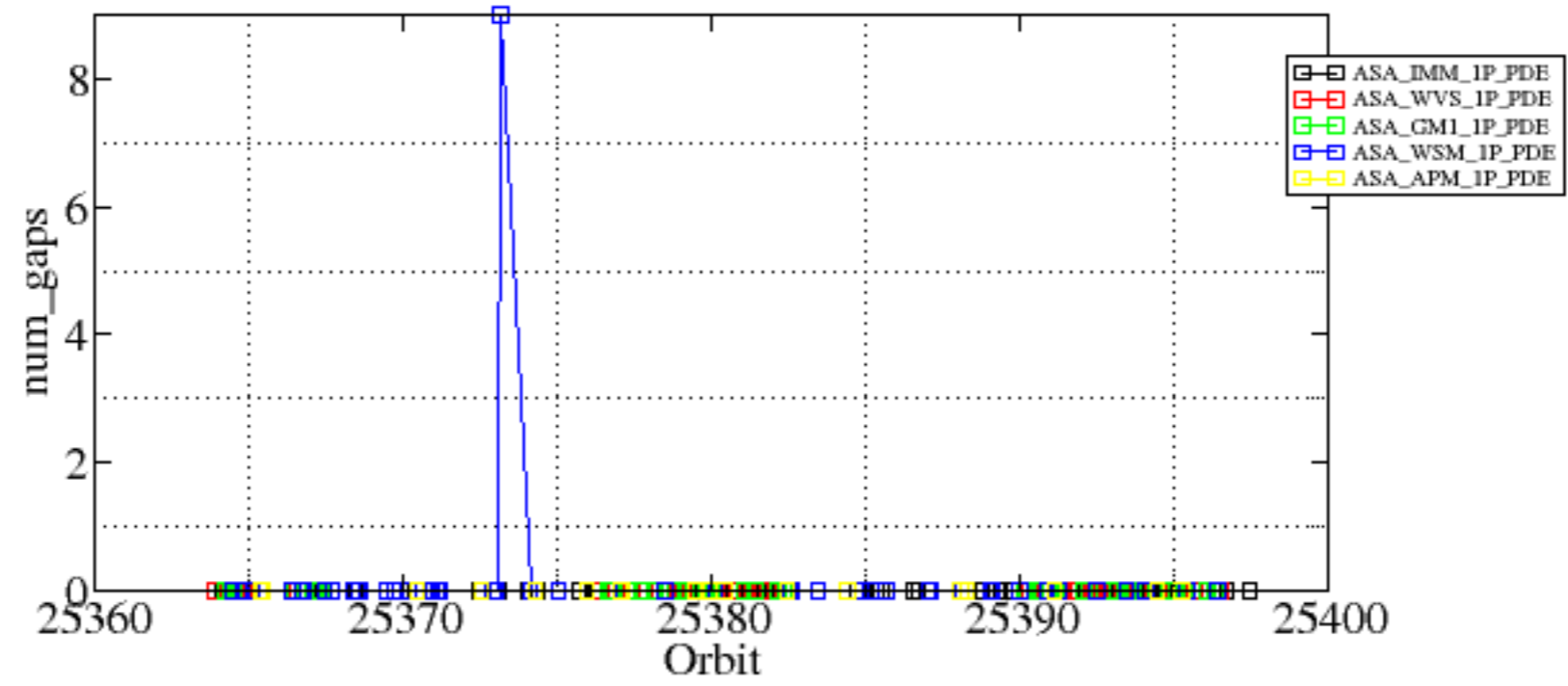
Reference: 2005-09-23 05:55:14 V TxGain
 Test : 2007-01-08 08:41:51 V

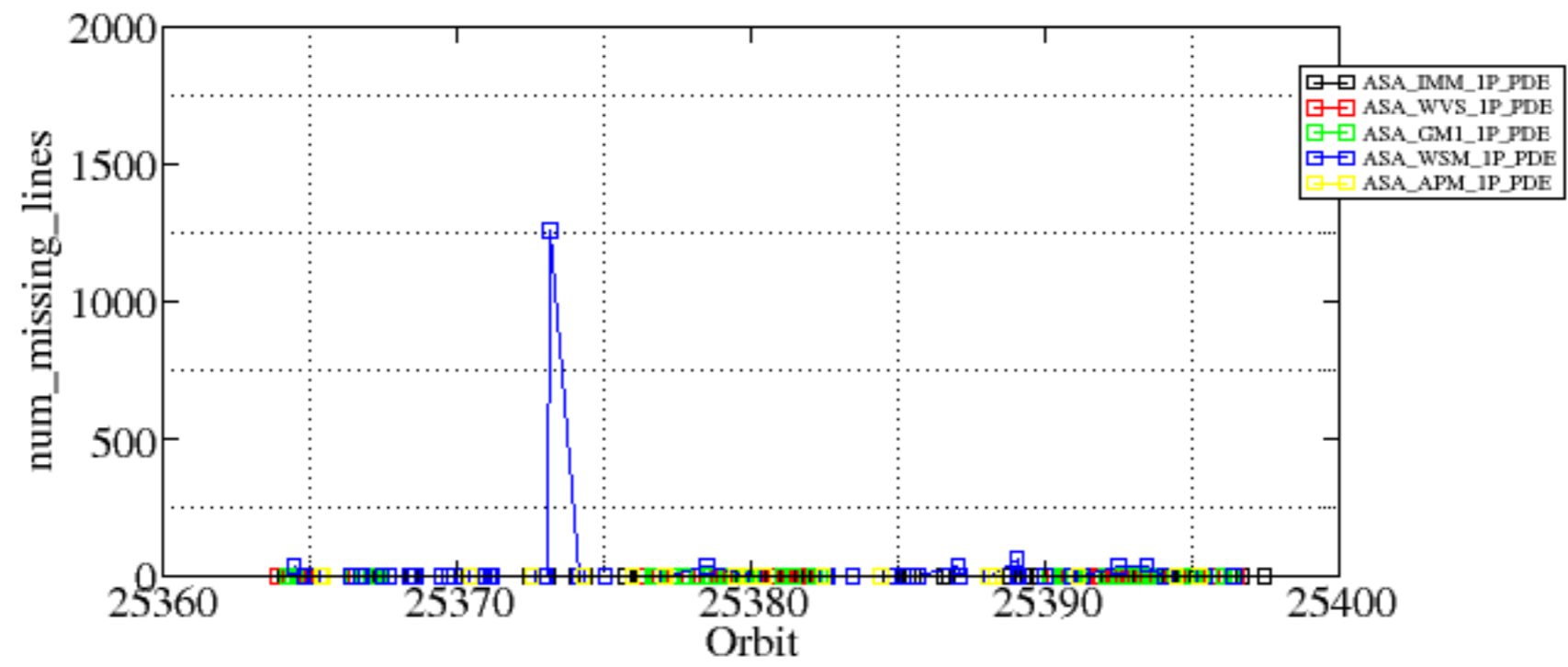


Summary of analysis for the last 3 days 2007010[678]

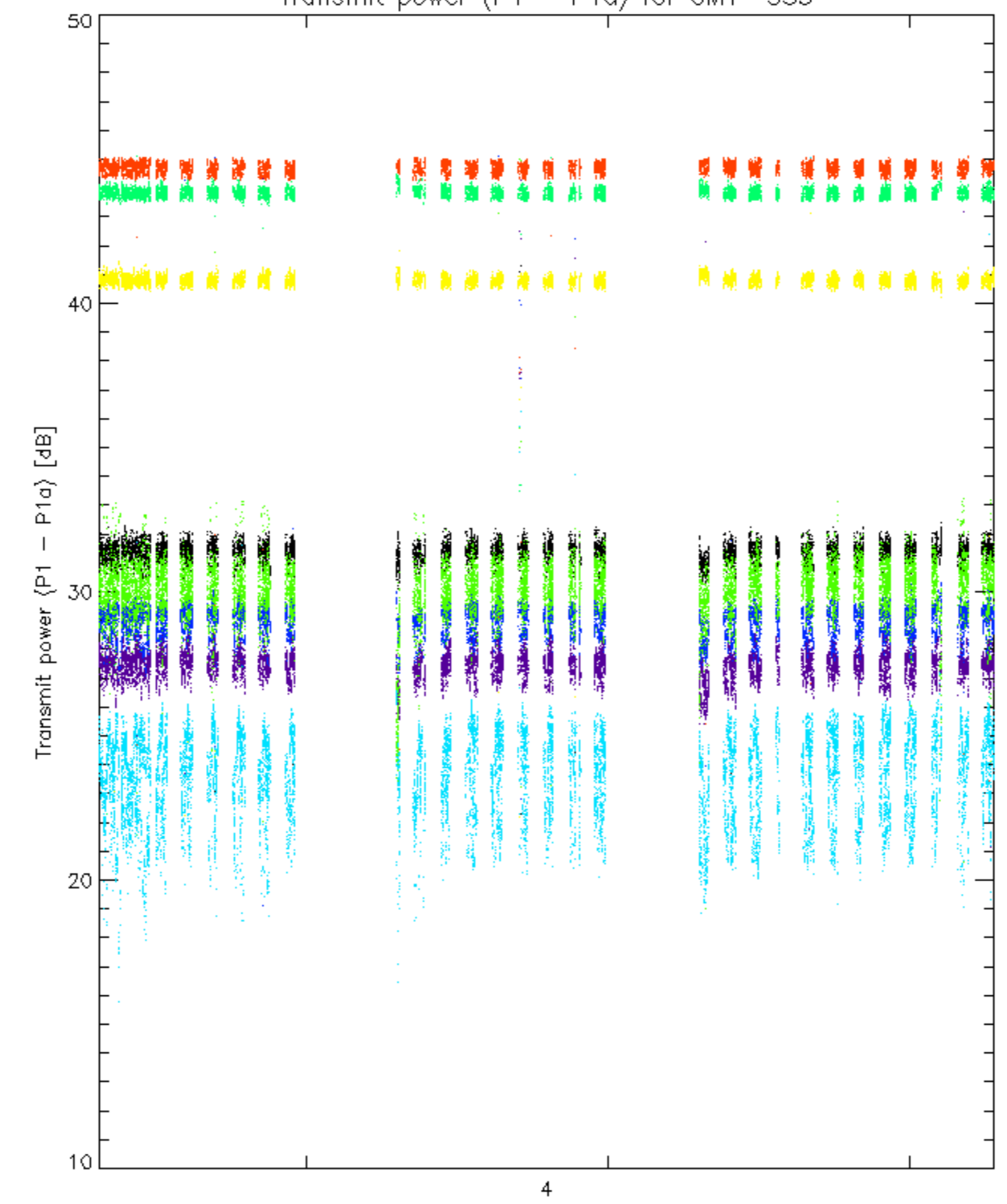
The assumption is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_WSM_1PNPDE20070106_010151_000003232054_00260_25364_4939.N1	0	36
ASA_WSM_1PNPDE20070106_153705_00000672054_00269_25373_5965.N1	9	1257
ASA_WSM_1PNPDE20070107_003113_000001412054_00274_25378_6459.N1	0	36
ASA_WSM_1PNPDE20070107_145122_00000852054_00283_25387_7247.N1	0	35
ASA_WSM_1PNPDE20070107_181429_00000852054_00285_25389_7367.N1	0	61
ASA_WSM_1PNPDE20070108_000036_00000852054_00288_25392_7771.N1	0	36
ASA_WSM_1PNPDE20070108_013811_000001412054_00289_25393_7975.N1	0	40

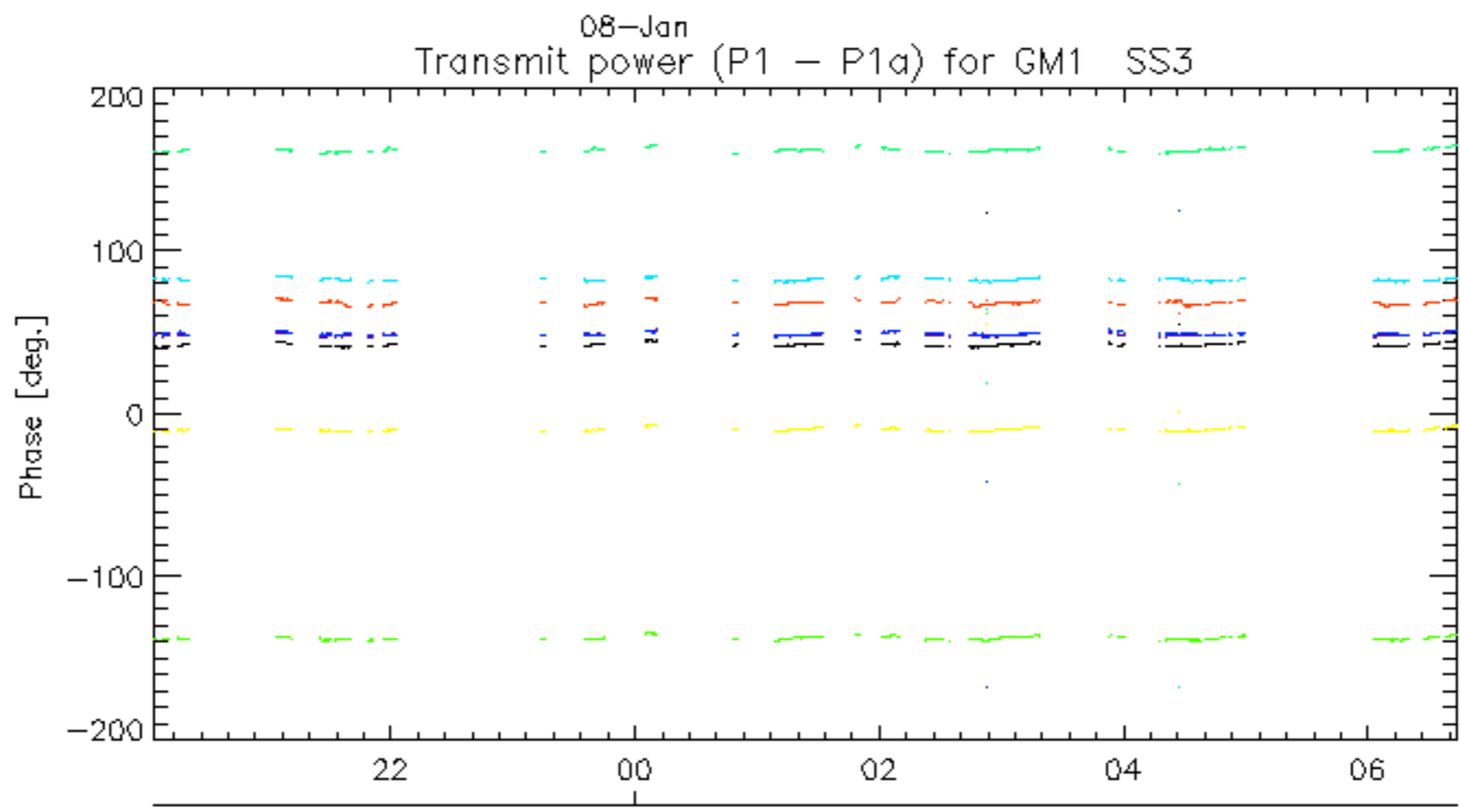
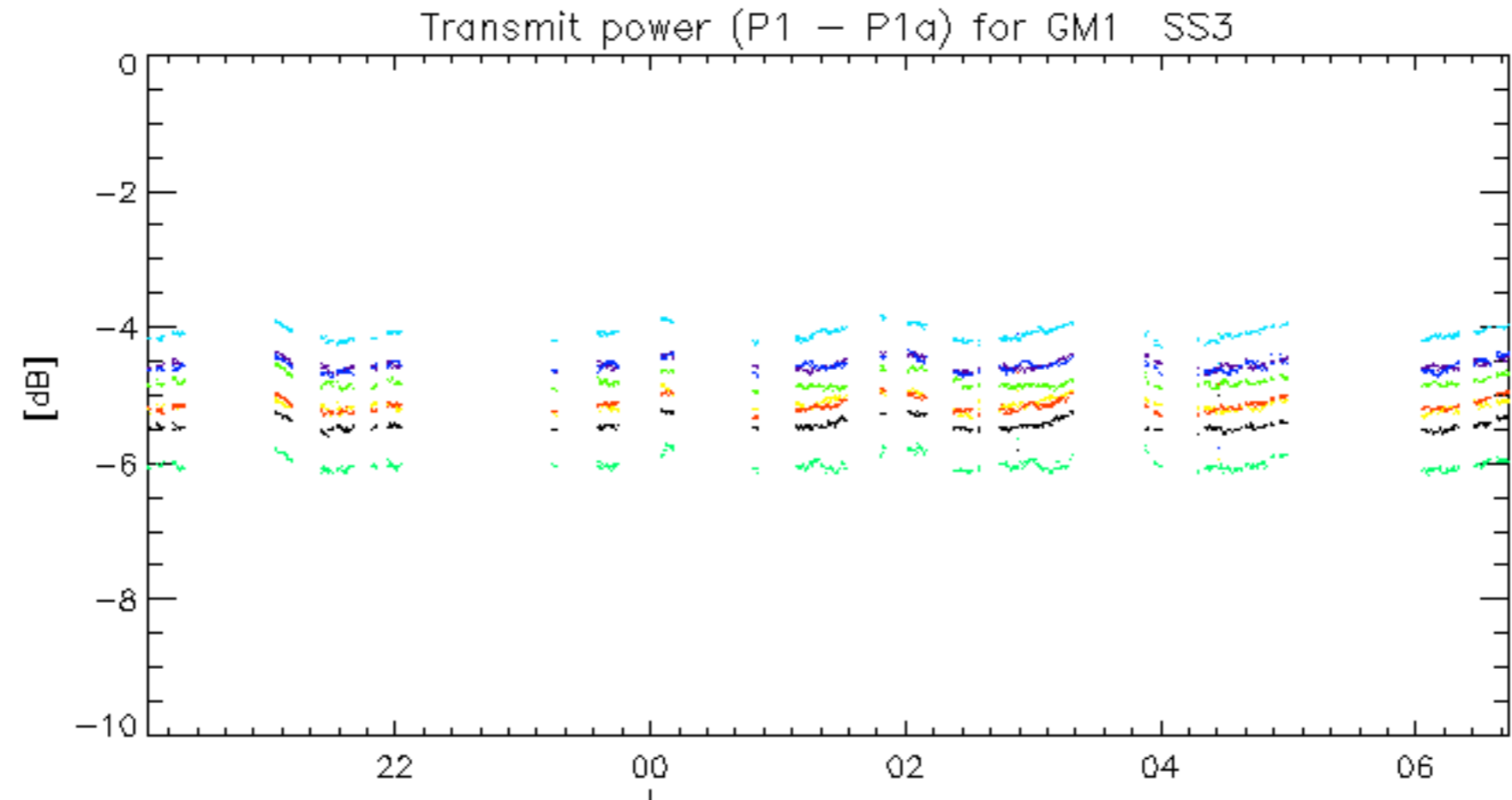




Transmit power (P1 - P1a) for GM1 SS3

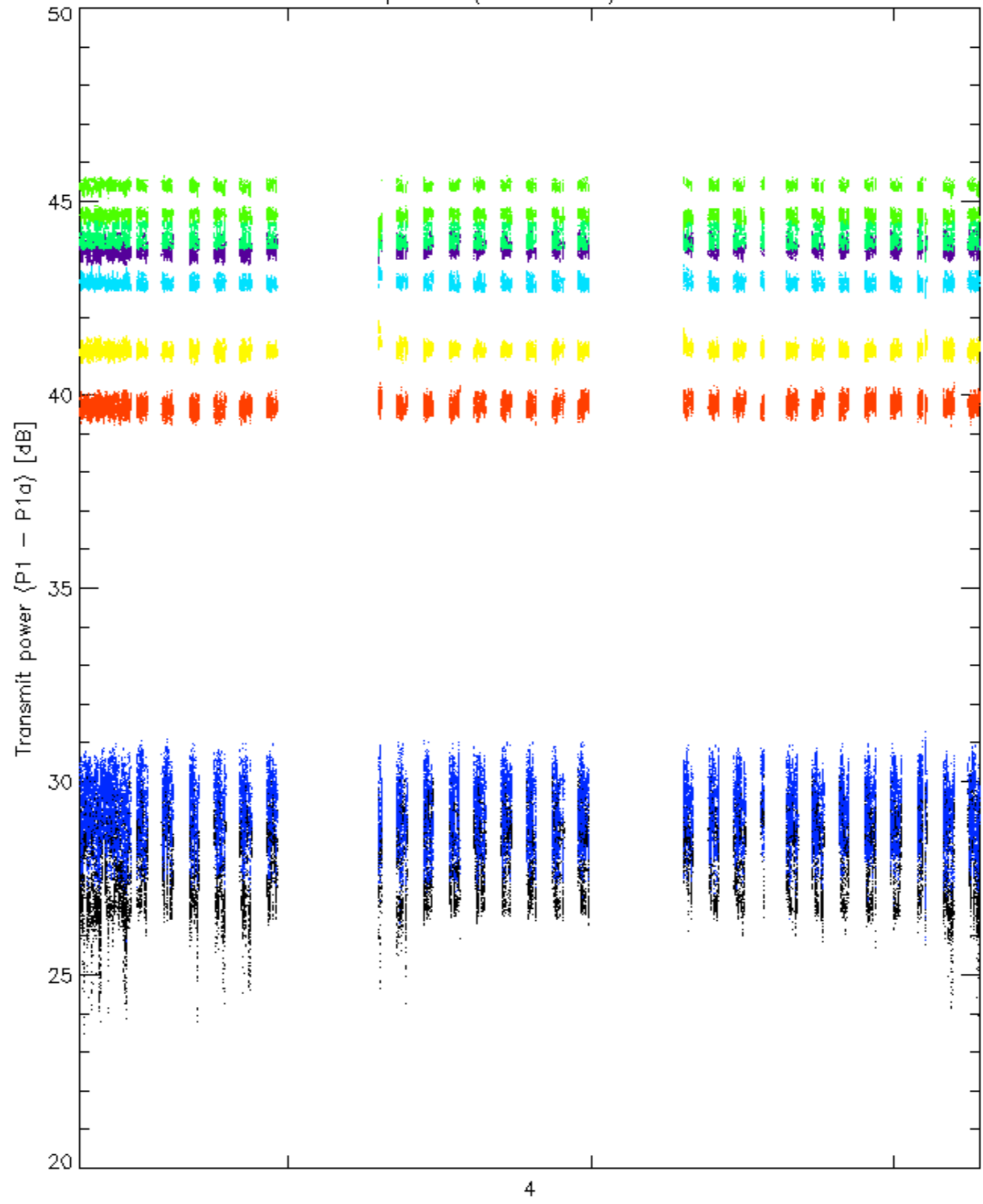


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

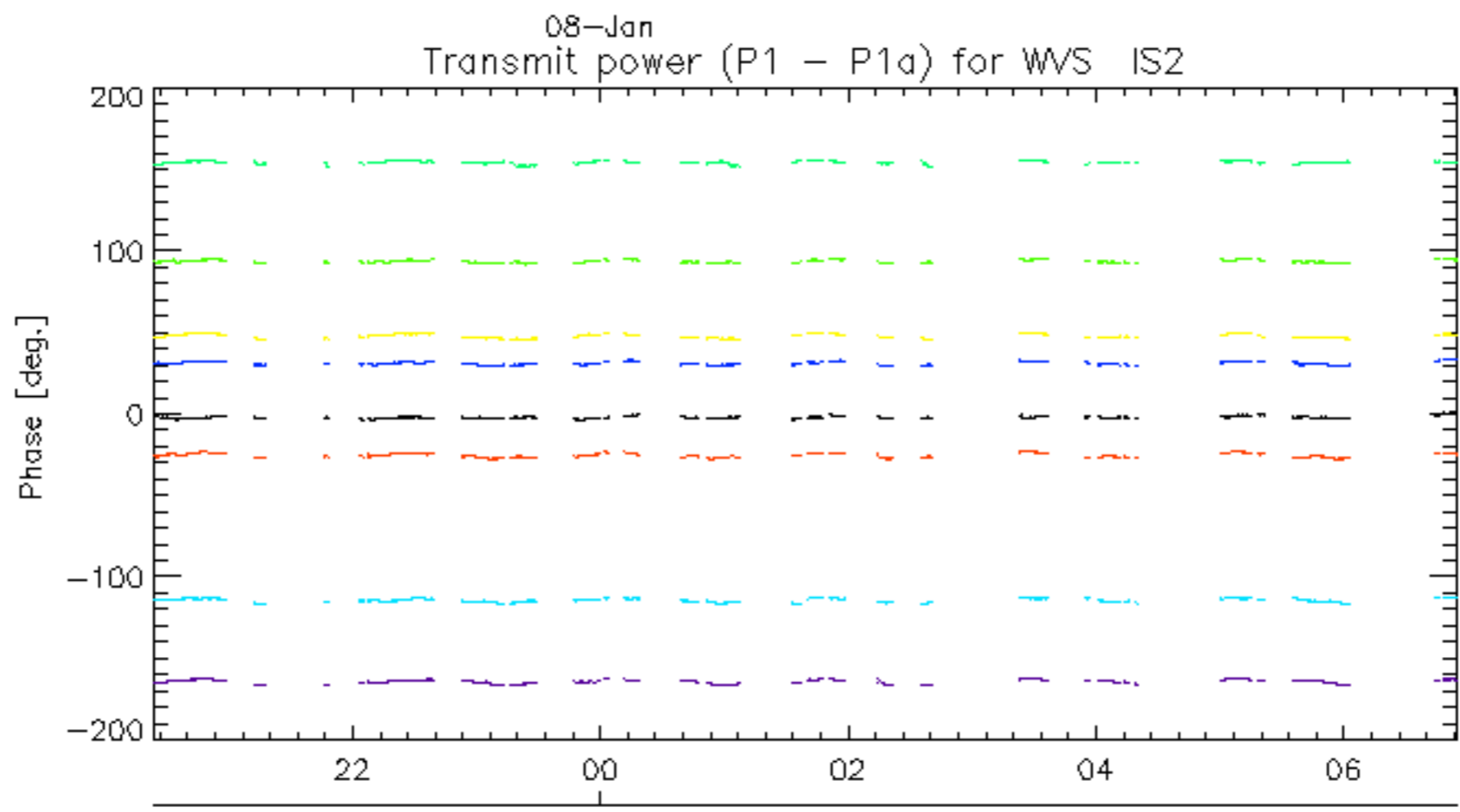
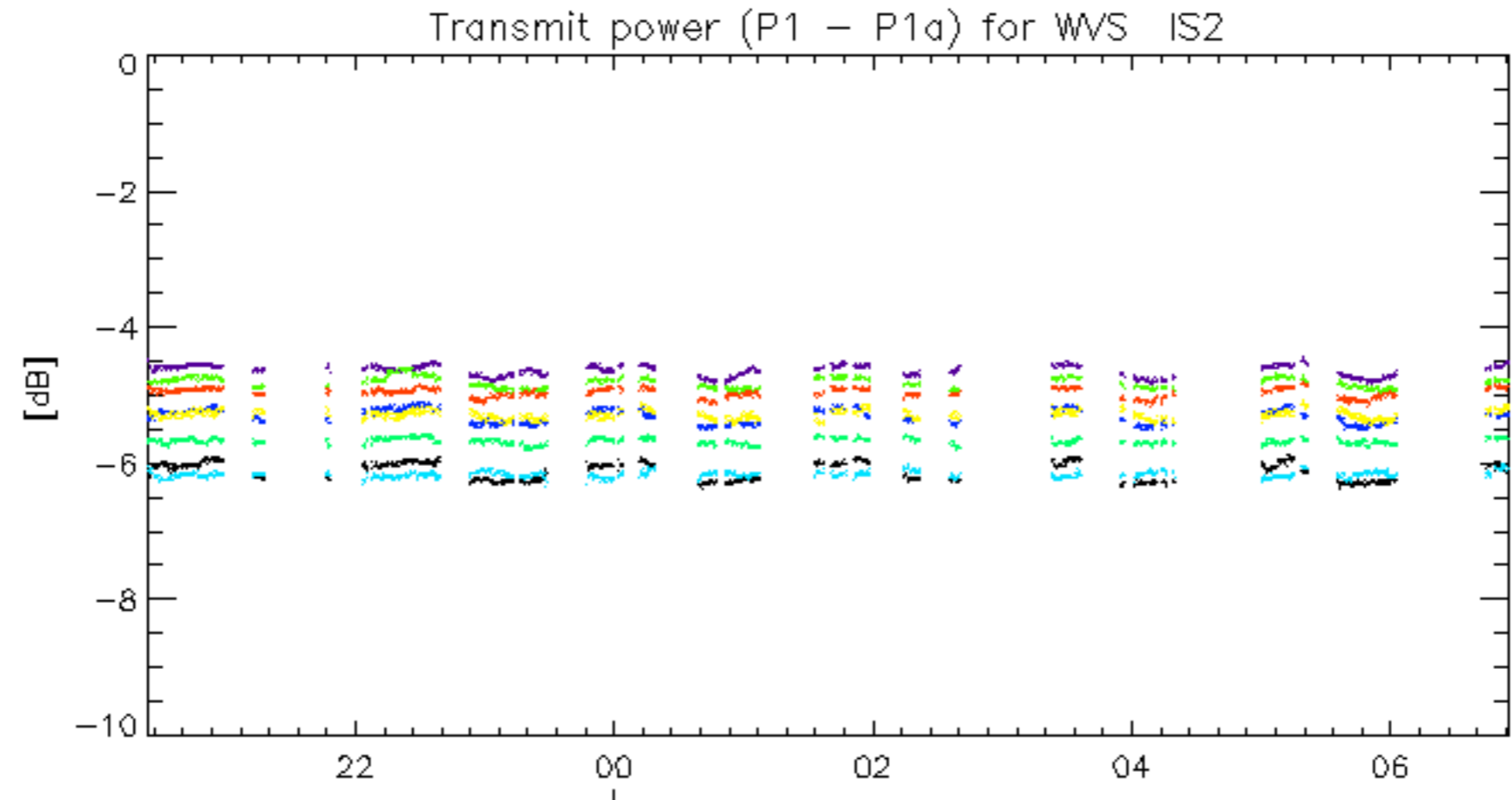


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

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.