

PRELIMINARY REPORT OF 060126

last update on Thu Jan 26 17:15:07 GMT 2006

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 2006-01-25 00:00:00 to 2006-01-26 17:15:07

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	39	0	21	0	15
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	39	0	21	0	15
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	39	0	21	0	15
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	39	0	21	0	15

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	50	55	42	12	55
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	50	55	42	12	55
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	50	55	42	12	55
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	50	55	42	12	55

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	20060125 073832
H	20060126 070655

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

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	-4.036255	0.007366	0.056692
7	P1	-3.003131	0.014532	-0.040981
11	P1	-4.102154	0.022610	-0.012309
15	P1	-6.065957	0.017032	-0.003915
19	P1	-3.248364	0.005914	-0.033542
22	P1	-4.486589	0.019991	-0.003387
26	P1	-4.211517	0.012761	0.037175
30	P1	-5.773932	0.009811	-0.020886
3	P1	-16.938679	0.267015	0.258852
7	P1	-16.607870	0.128325	-0.146387
11	P1	-16.609358	0.309332	-0.077984
15	P1	-13.246324	0.117582	0.067915
19	P1	-13.886824	0.075721	-0.056819
22	P1	-15.915819	0.566263	0.076991
26	P1	-15.765588	0.259556	0.040065
30	P1	-16.613420	0.339864	-0.052199

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.618294	0.094481	0.107153
7	P2	-22.478504	0.097957	0.095950
11	P2	-16.307848	0.103653	0.099711
15	P2	-7.220870	0.103455	0.035577
19	P2	-9.177834	0.098406	0.021423
22	P2	-17.942972	0.095132	-0.027412
26	P2	-16.224632	0.100745	-0.003153
30	P2	-19.657080	0.084190	0.026735

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.215858	0.007370	0.010989
7	P3	-8.215858	0.007370	0.010989
11	P3	-8.215858	0.007370	0.010989
15	P3	-8.215858	0.007370	0.010989
19	P3	-8.215858	0.007370	0.010989
22	P3	-8.215858	0.007370	0.010989
26	P3	-8.215858	0.007370	0.010989
30	P3	-8.215858	0.007370	0.010989

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	-3.723303	0.011002	-0.009895
7	P1	-2.751373	0.007750	0.046432
11	P1	-2.867521	0.011216	0.005054
15	P1	-3.459527	0.018463	-0.046049
19	P1	-3.380287	0.013178	0.005890
22	P1	-5.123318	0.021627	-0.002860
26	P1	-5.855535	0.015347	-0.003867
30	P1	-5.250041	0.030211	0.024604
3	P1	-11.519531	0.039507	-0.042218
7	P1	-9.925510	0.050932	0.036190
11	P1	-10.077720	0.051106	-0.051073
15	P1	-10.621107	0.083818	-0.047320
19	P1	-15.478631	0.062401	0.036233
22	P1	-20.650463	1.174391	0.332924

26	P1	-16.840979	0.331758	0.359456
30	P1	-18.148645	0.310587	-0.027599

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.439493	0.032104	0.205905
7	P2	-22.880823	0.058691	0.199587
11	P2	-11.442460	0.019723	0.134410
15	P2	-4.926827	0.023692	0.071139
19	P2	-6.925853	0.022359	0.061913
22	P2	-8.196550	0.022467	0.015202
26	P2	-23.980684	0.024810	0.056295
30	P2	-22.101753	0.017539	0.036281

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.056897	0.002443	0.034348
7	P3	-8.056835	0.002444	0.034933
11	P3	-8.056960	0.002451	0.035228
15	P3	-8.056884	0.002459	0.034620
19	P3	-8.057017	0.002457	0.034640
22	P3	-8.056900	0.002443	0.034104
26	P3	-8.056836	0.002442	0.033938
30	P3	-8.057003	0.002455	0.034743

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	0.000558850
	stdev	1.70407e-07
MEAN Q	mean	0.000519736
	stdev	2.15764e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.138993
	stdev	0.00120145
STDEV Q	mean	0.139352
	stdev	0.00122103



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2006012[456]

The assumptions 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_WVS_1PNPDE20060124_215516_000000002044_00315_20409_0442.N1	1	0
ASA_WSM_1PNPDE20060126_042344_000001842044_00334_20428_2419.N1	0	44





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)

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

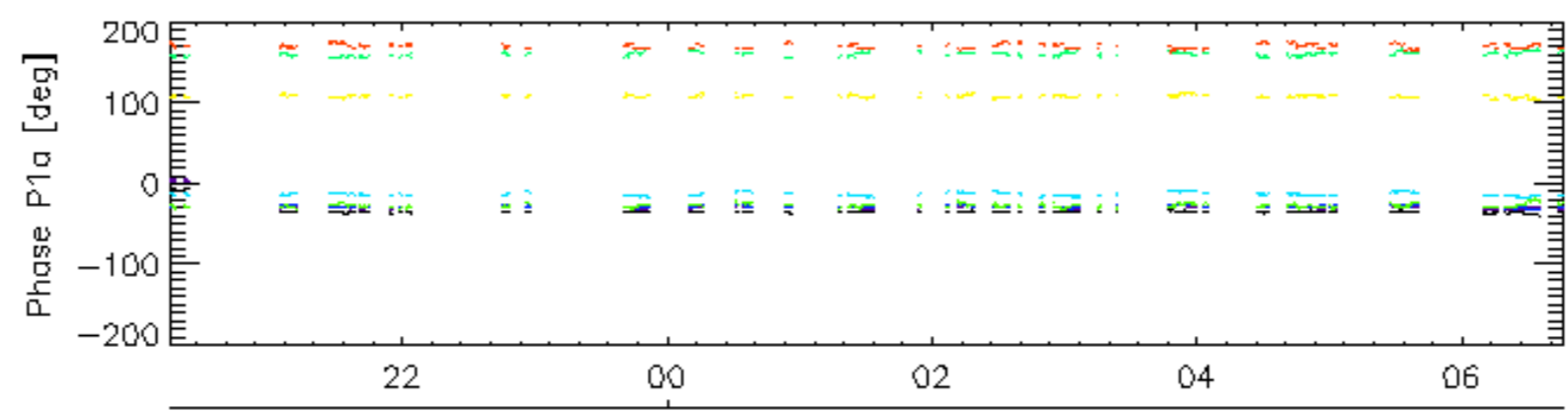
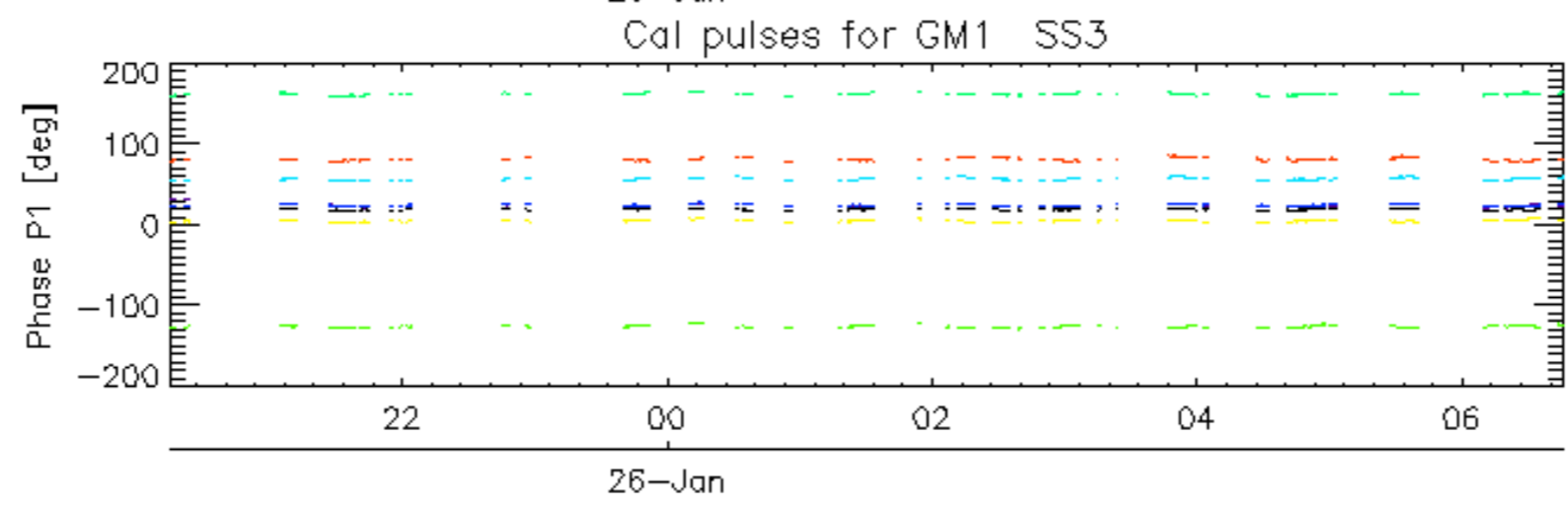
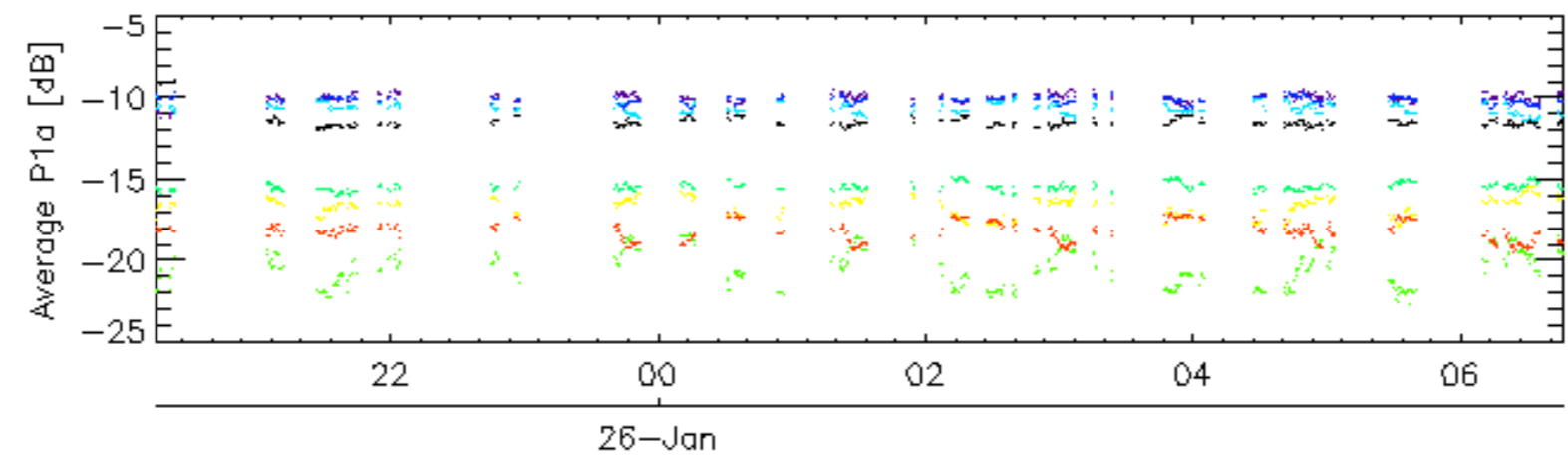
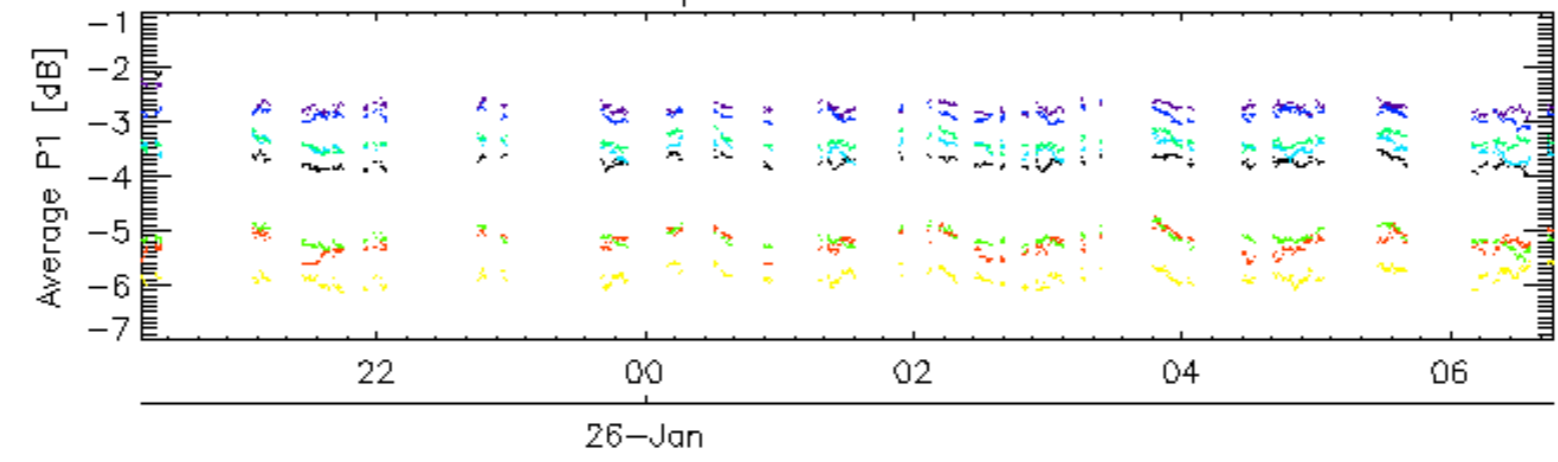
7.5 - Absolute Doppler for GM1

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

7.6 - Doppler evolution versus ANX for GM1

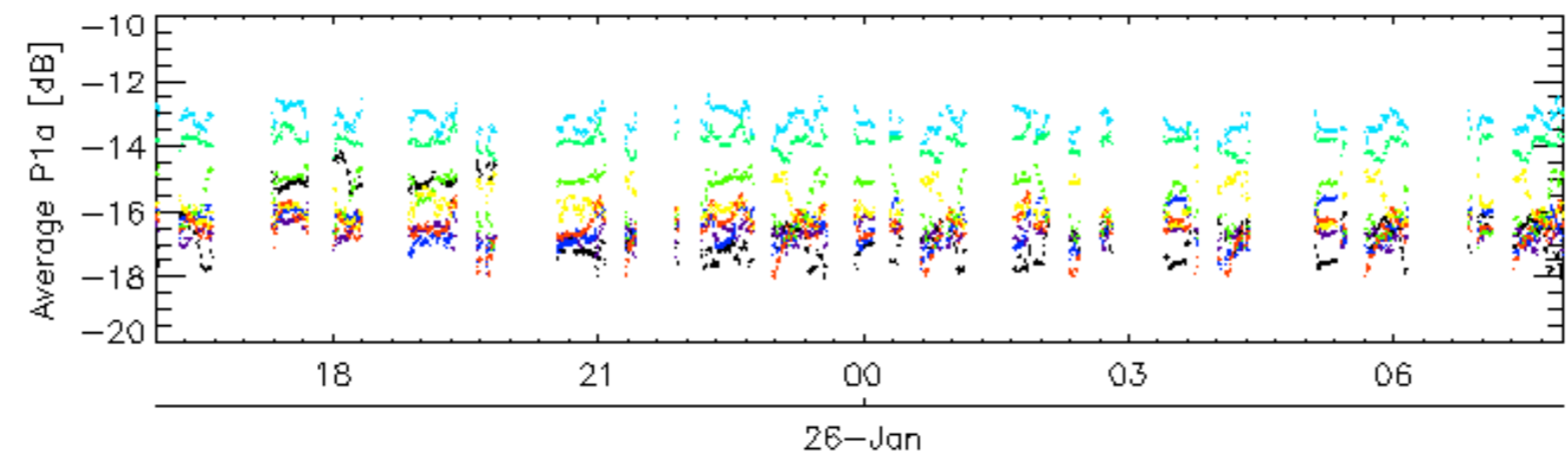
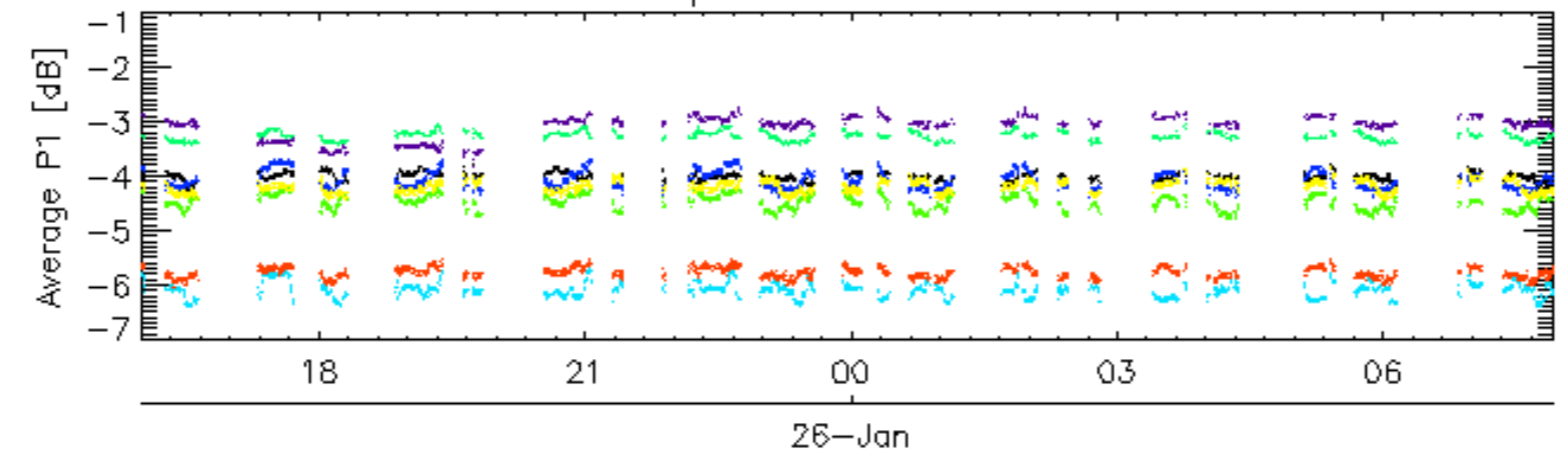
Evolution Doppler error versus ANX
<input type="checkbox"/>

Cal pulses for GM1 SS3

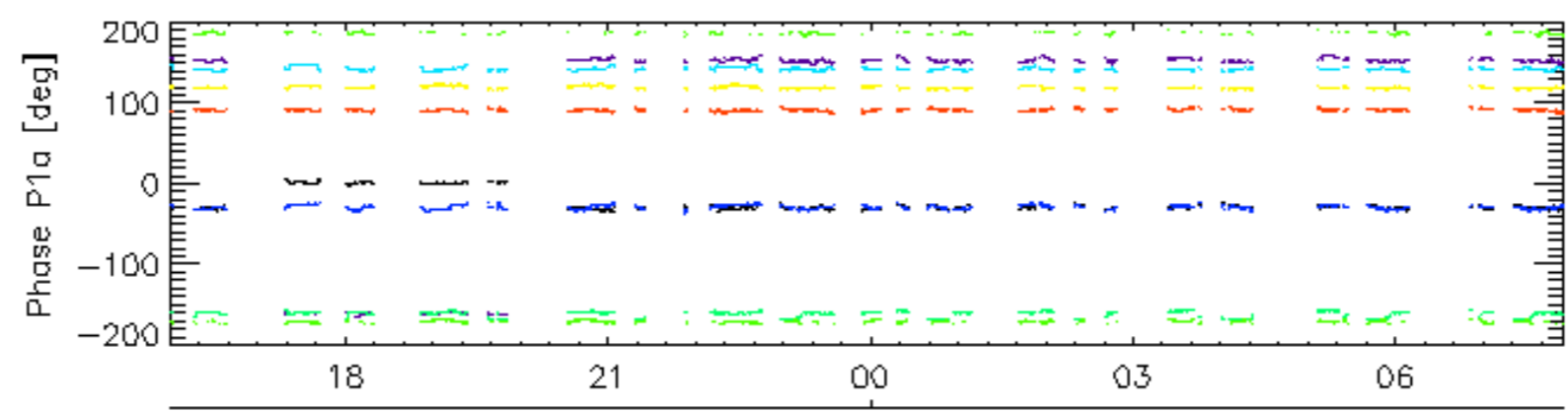
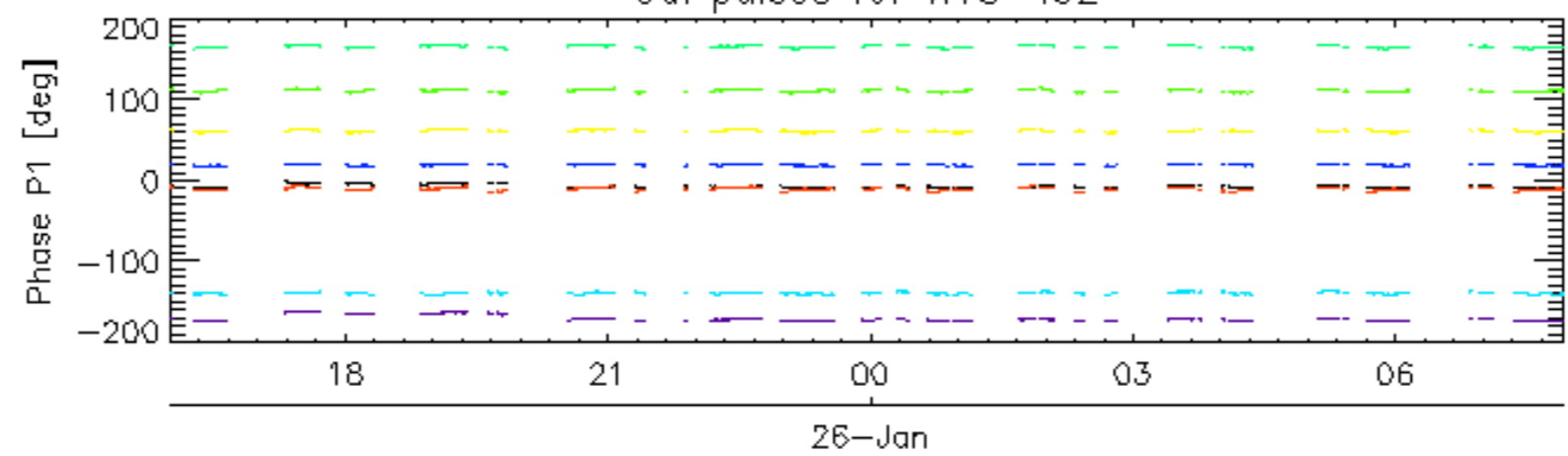


rows: **3** **7** **11** **15** 26-Jan **19** **22** **26** **30**

Cal pulses for WVS IS2

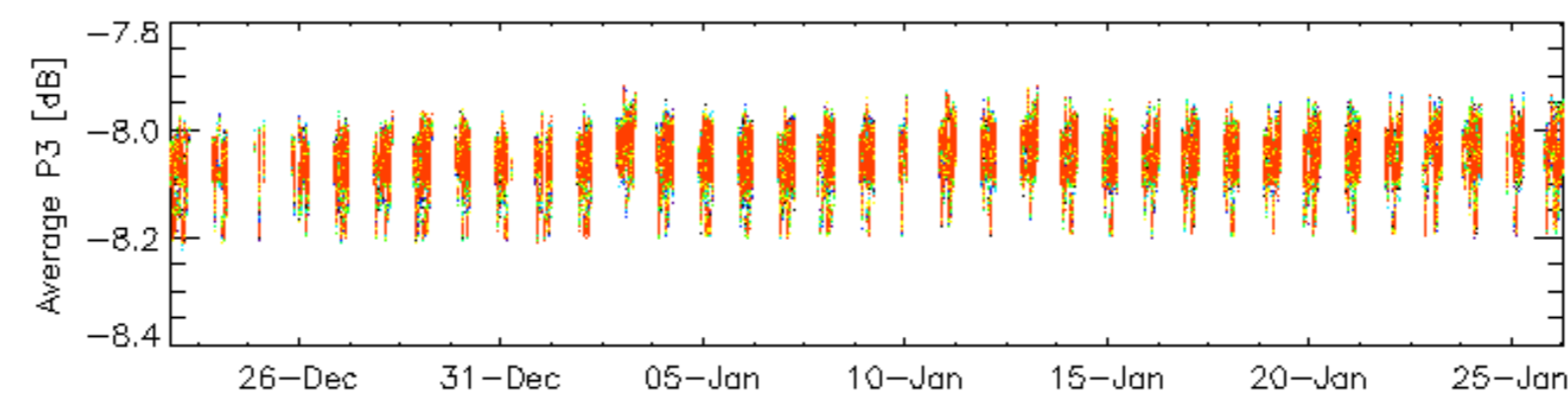
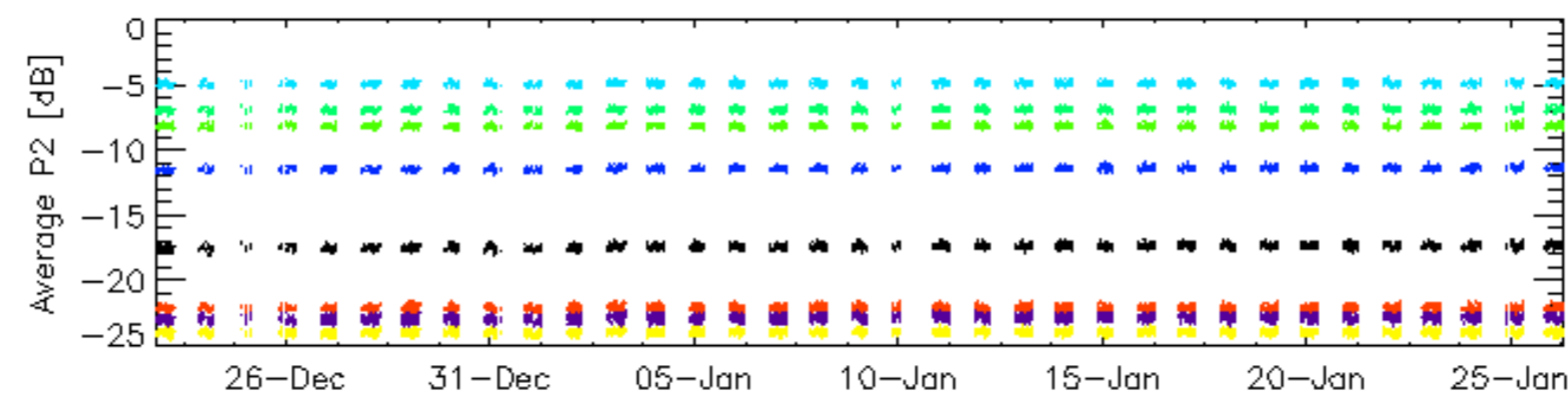
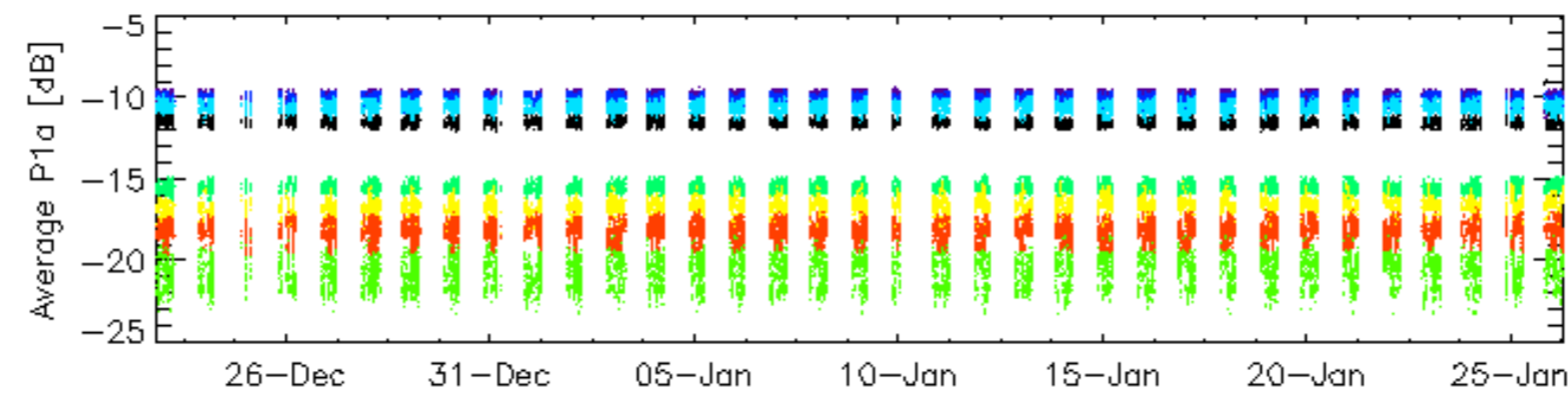
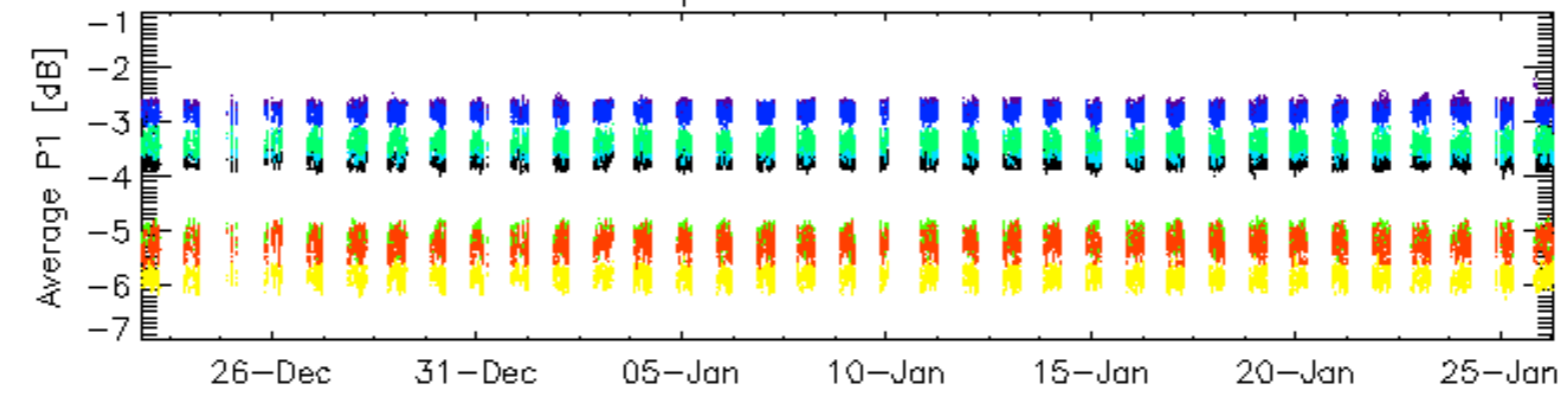


Cal pulses for WVS IS2



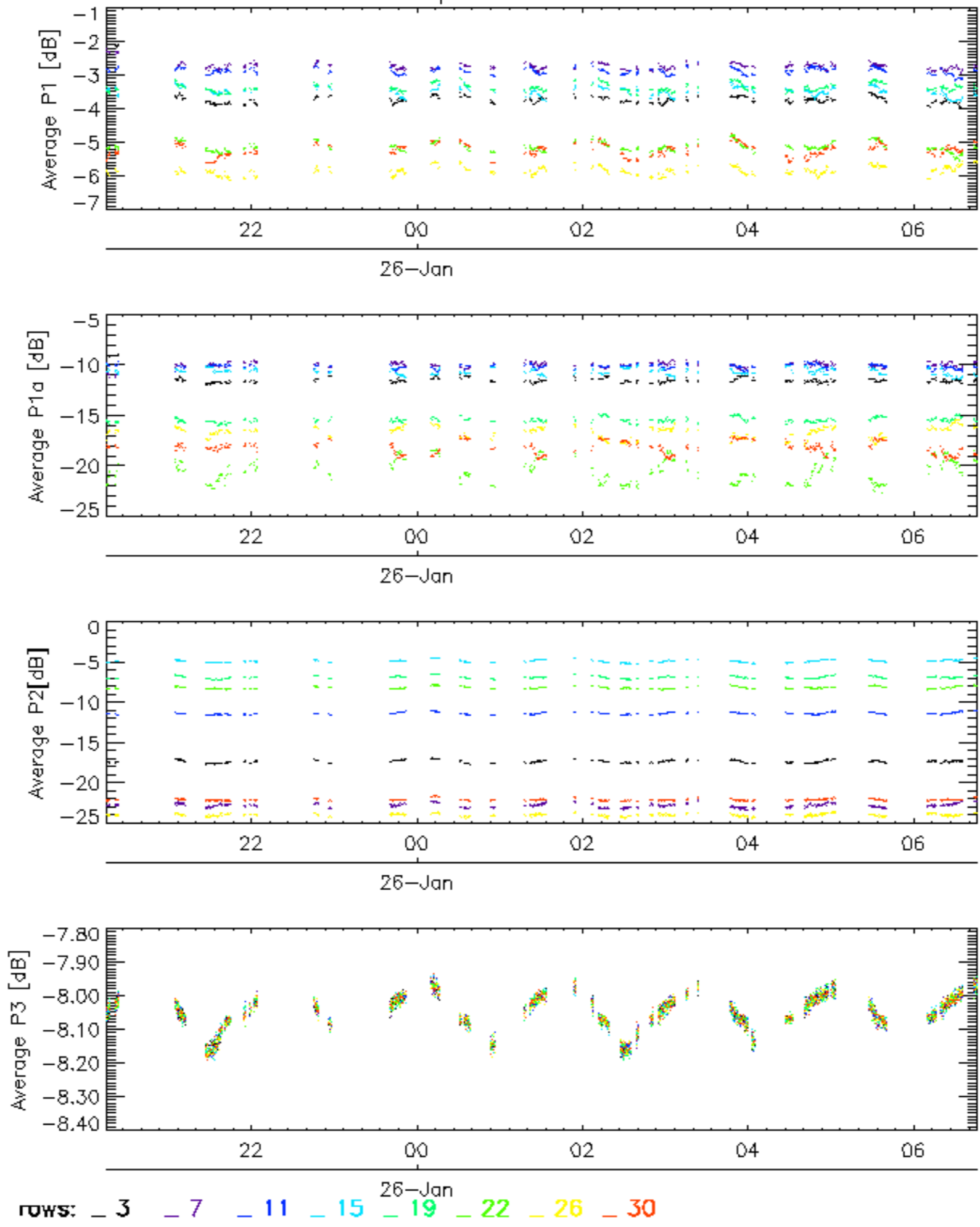
rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for GM1 SS3

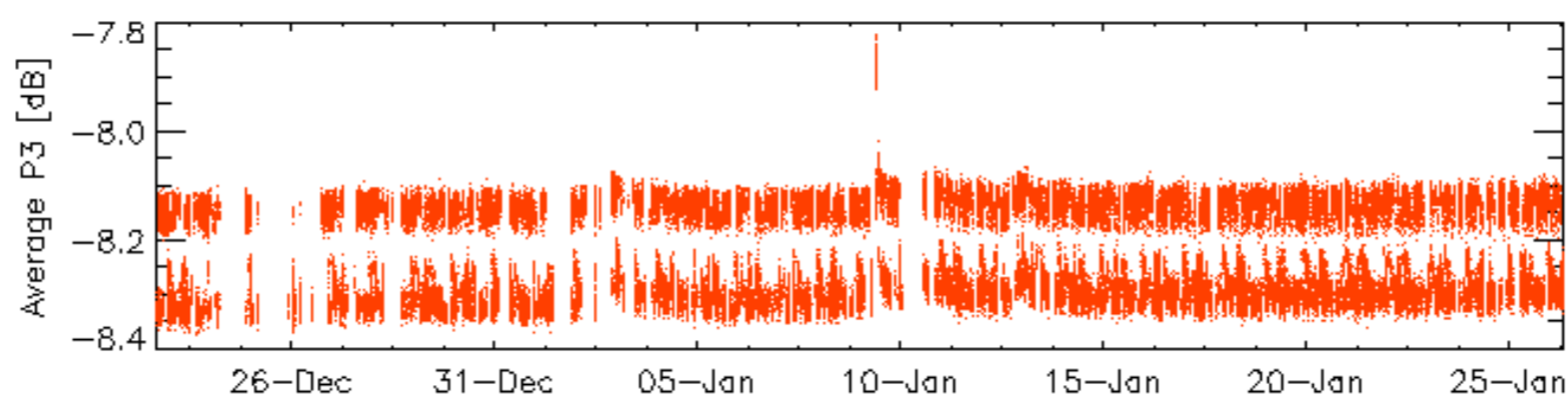
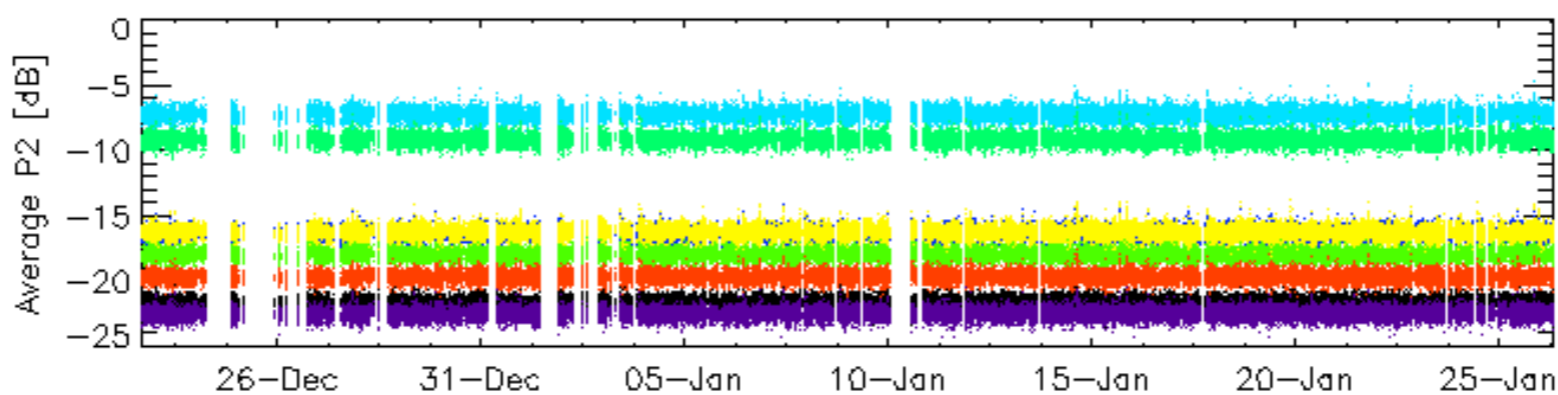
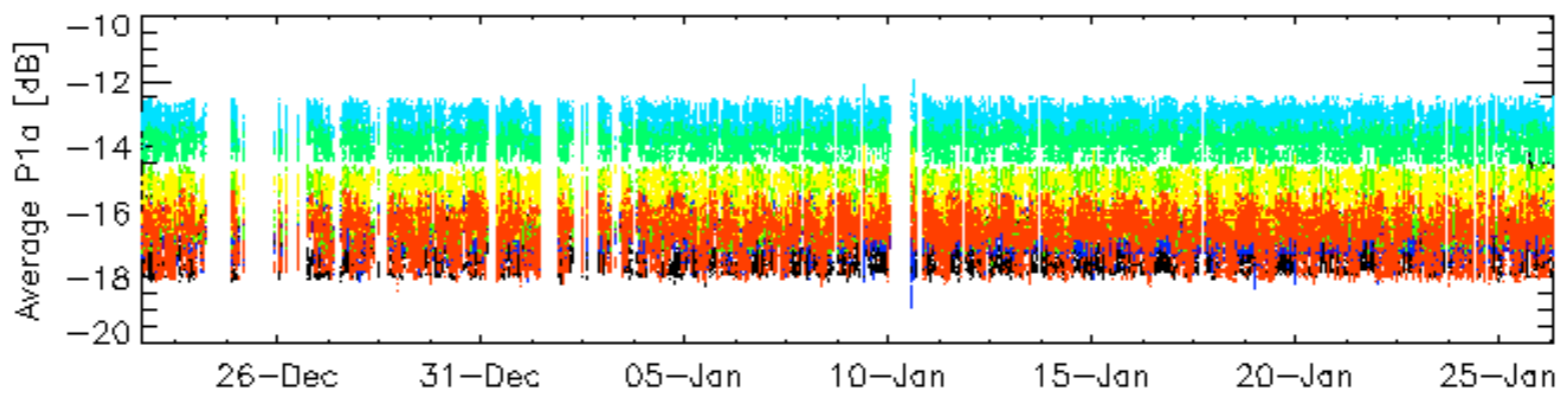
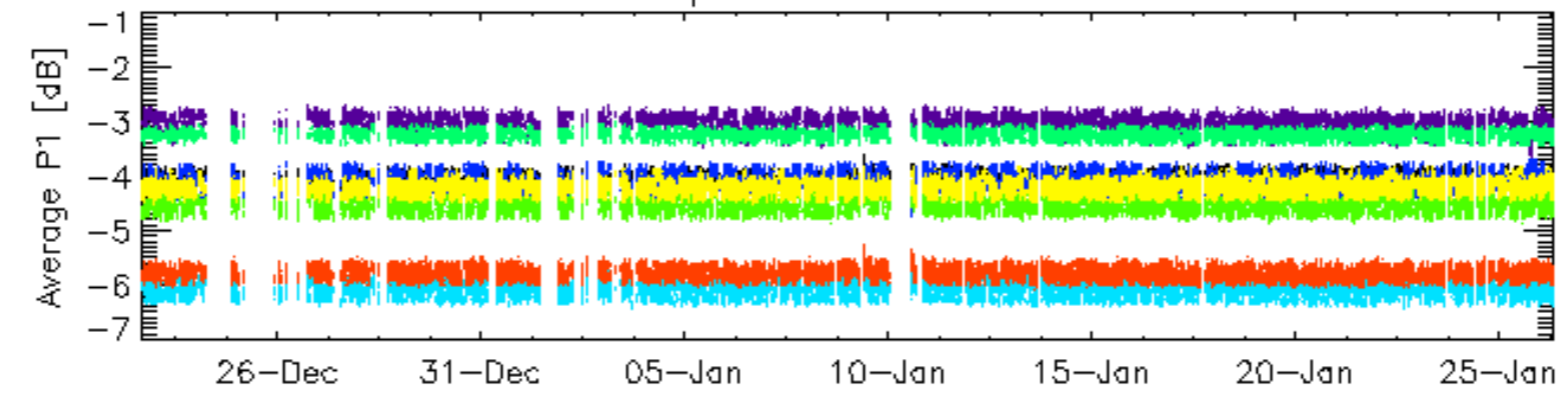


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

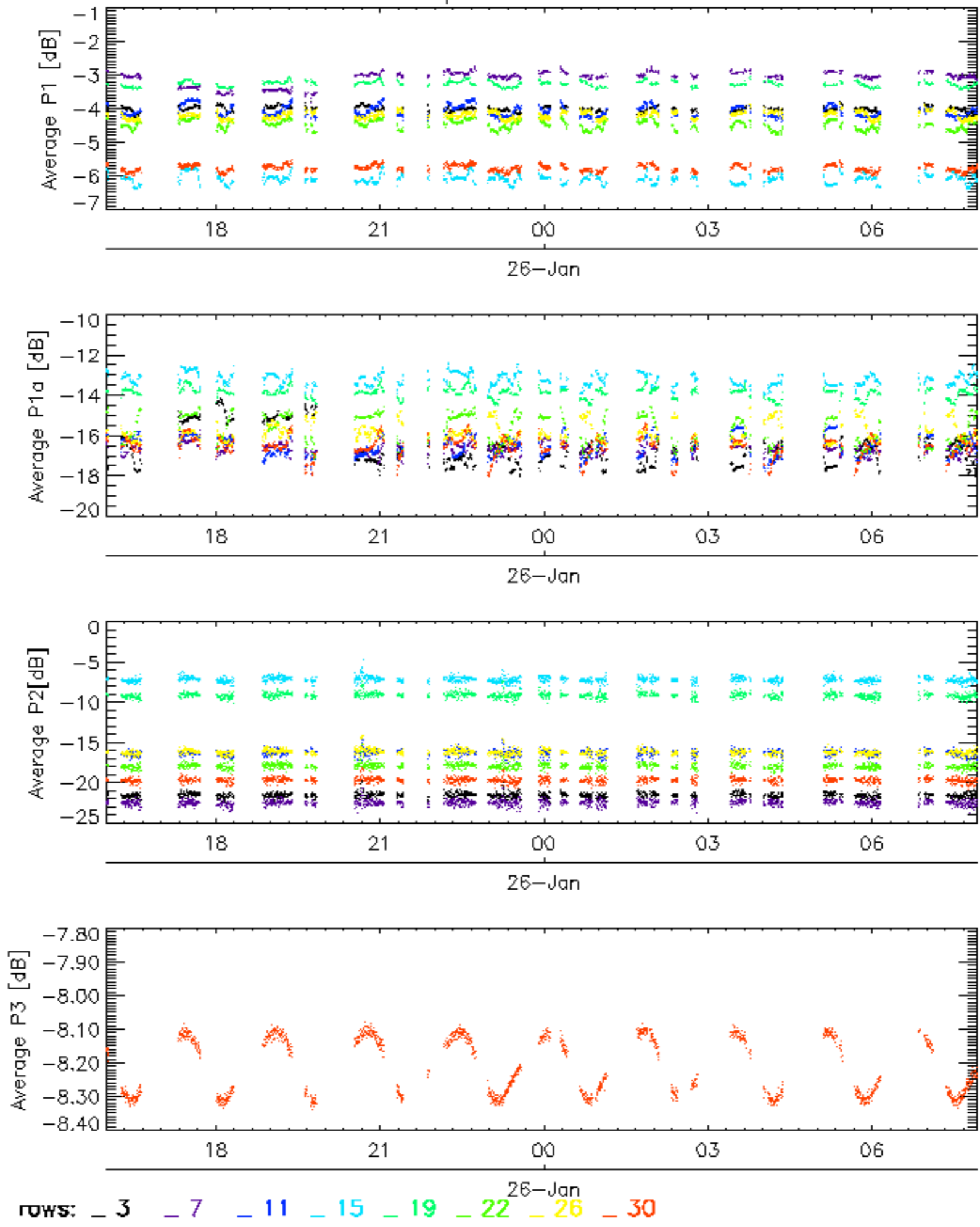


Cal pulses for WVS IS2



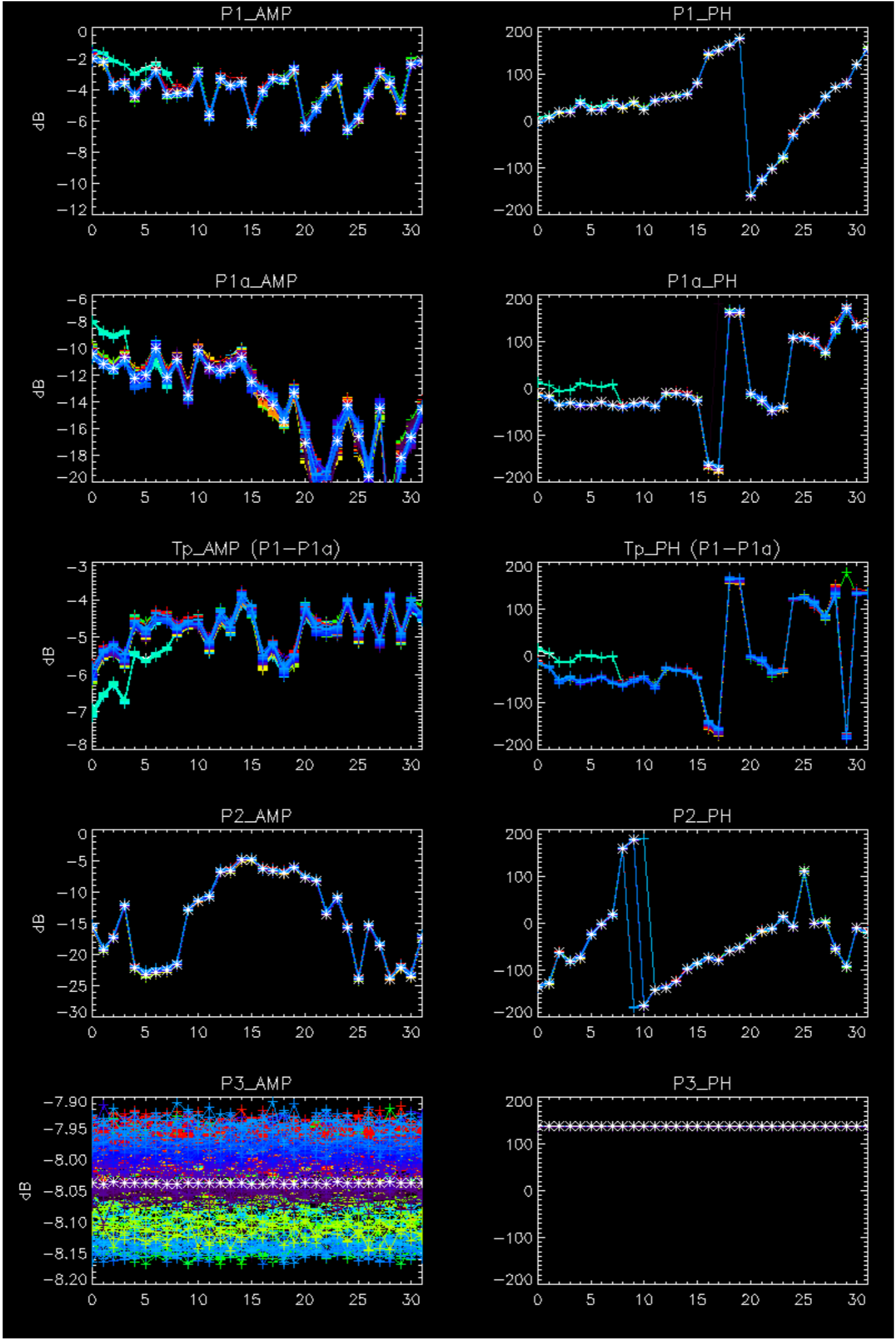
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

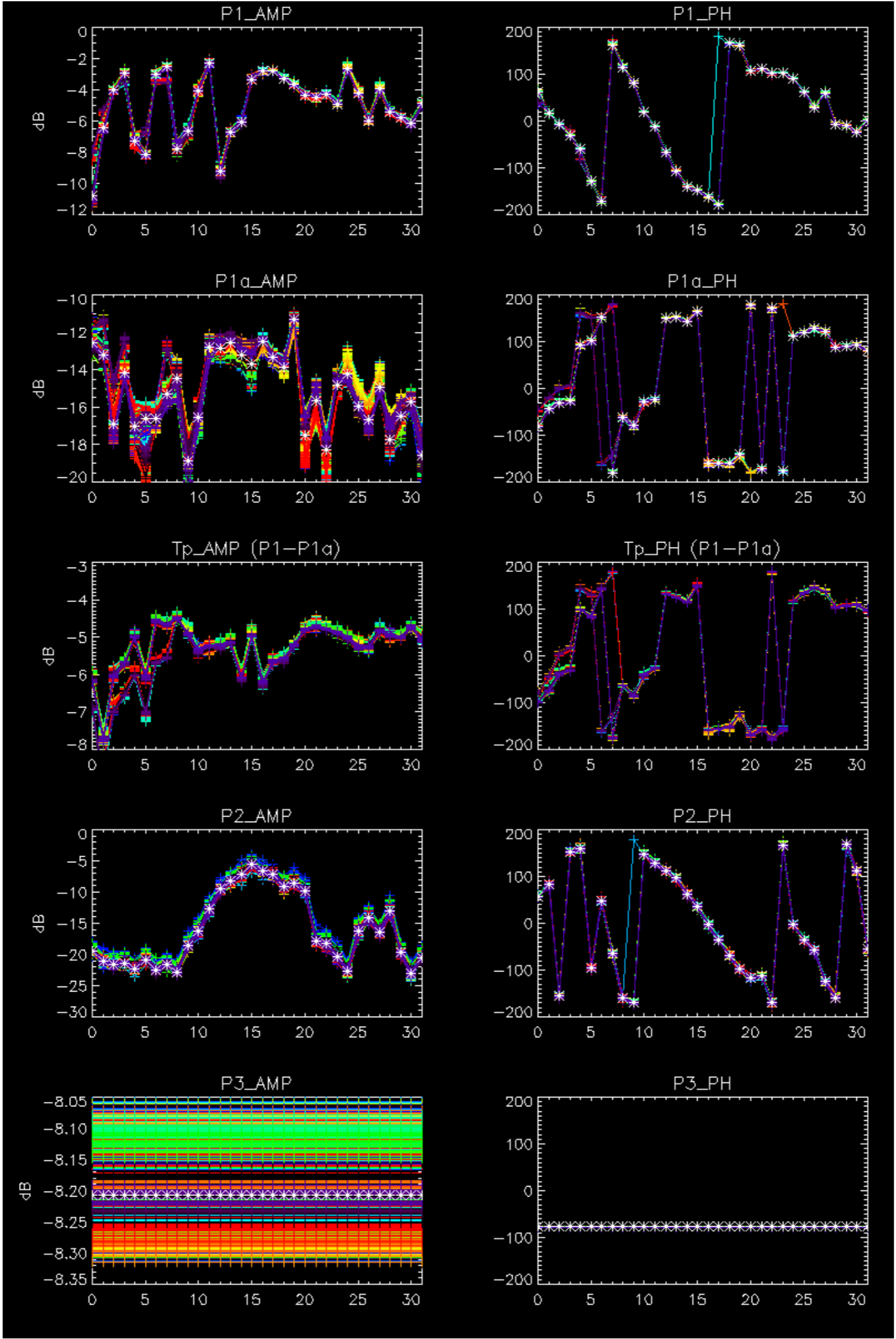
Cal pulses for WVS IS2



No anomalies observed on available browse products

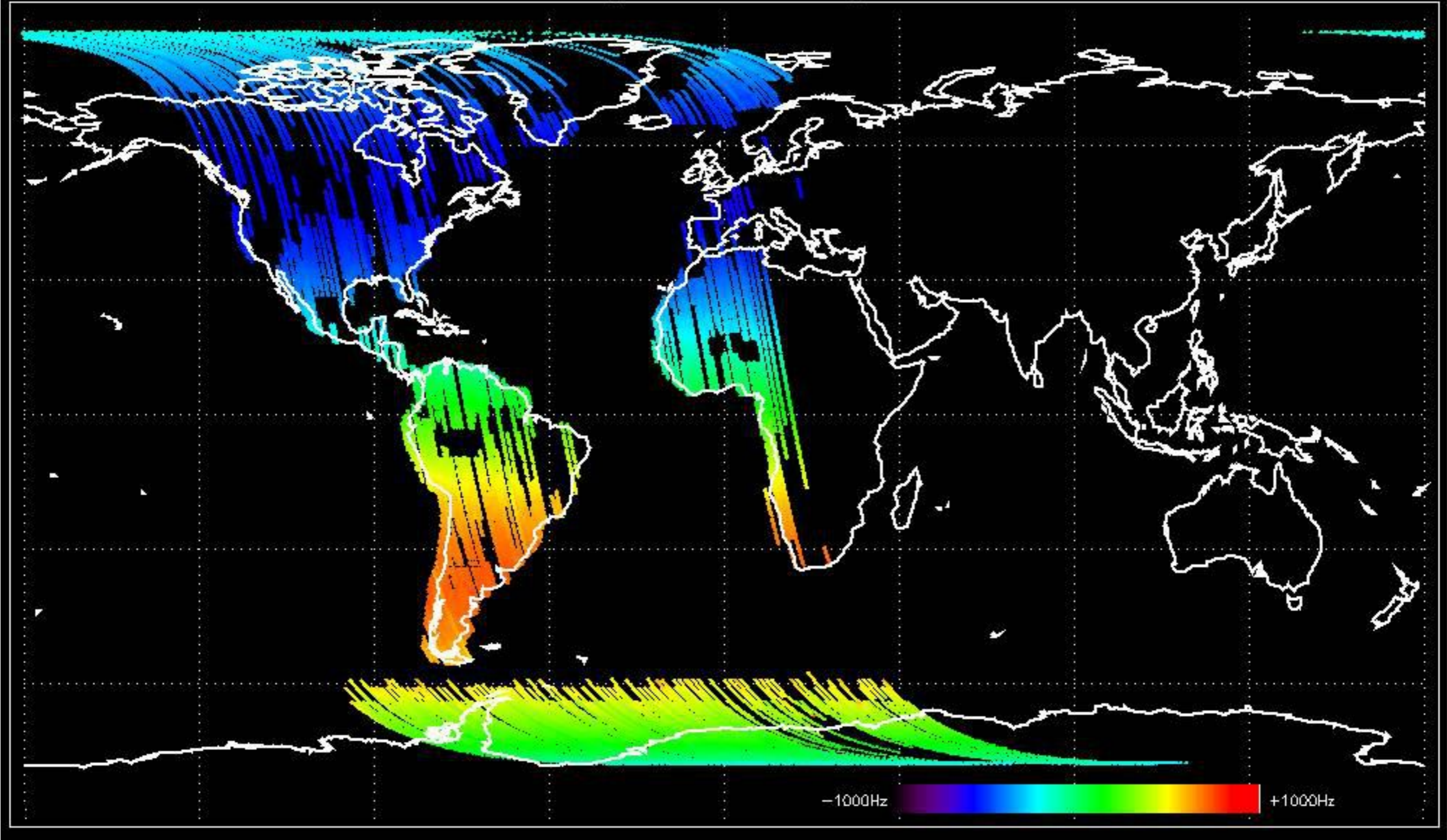
No anomalies observed.



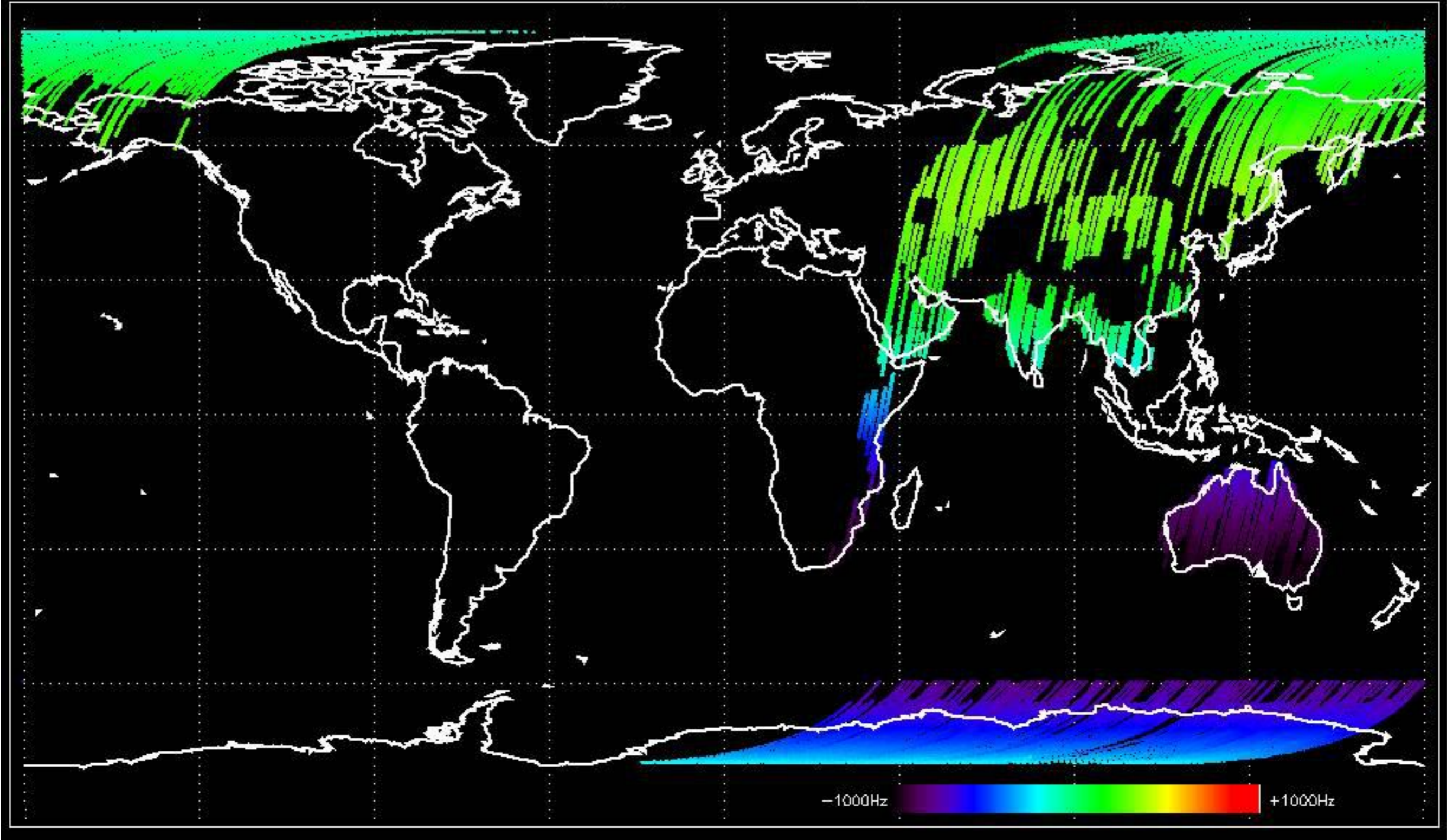


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

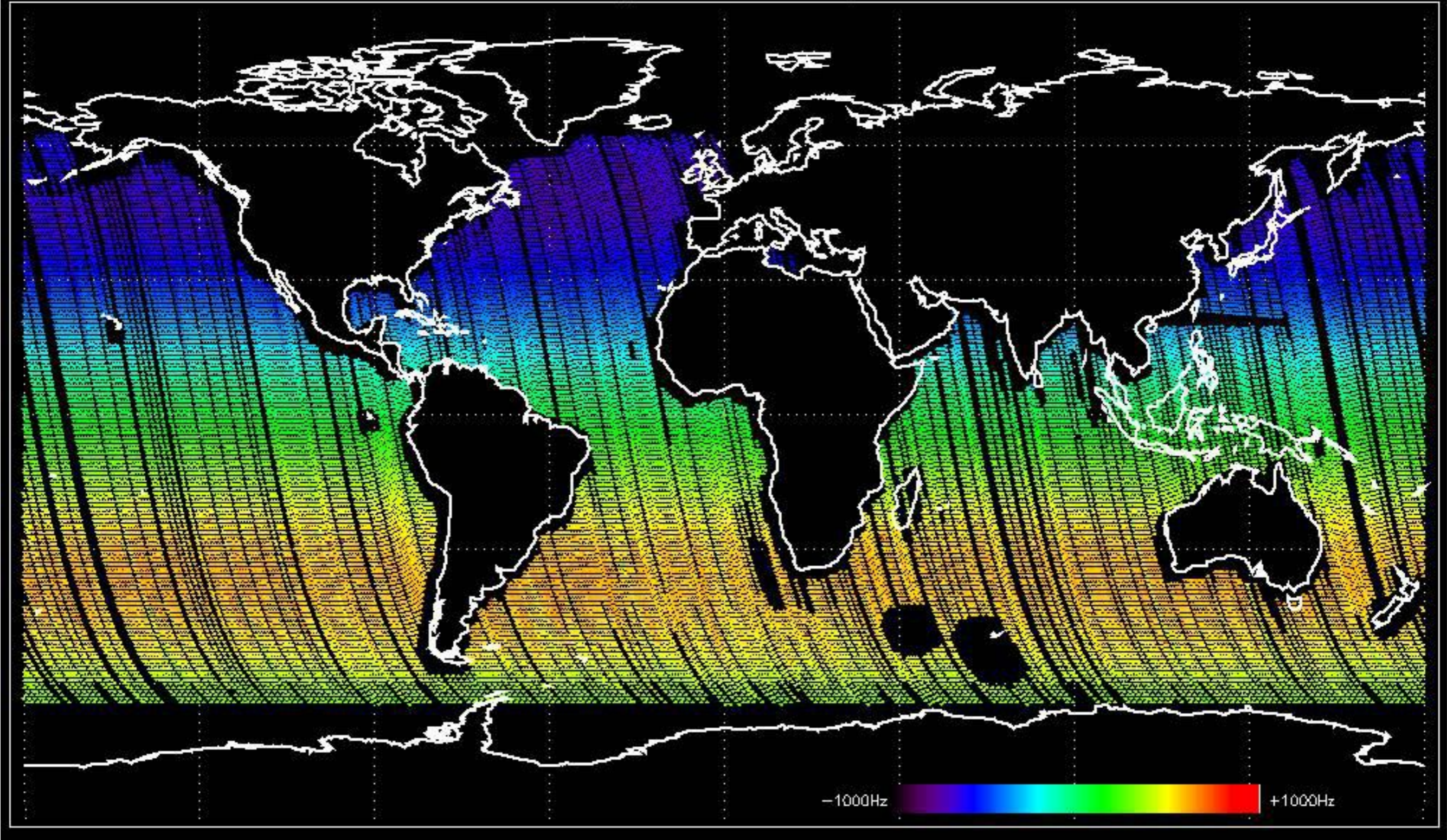
Doppler 'GM1' 'SS1' ascending



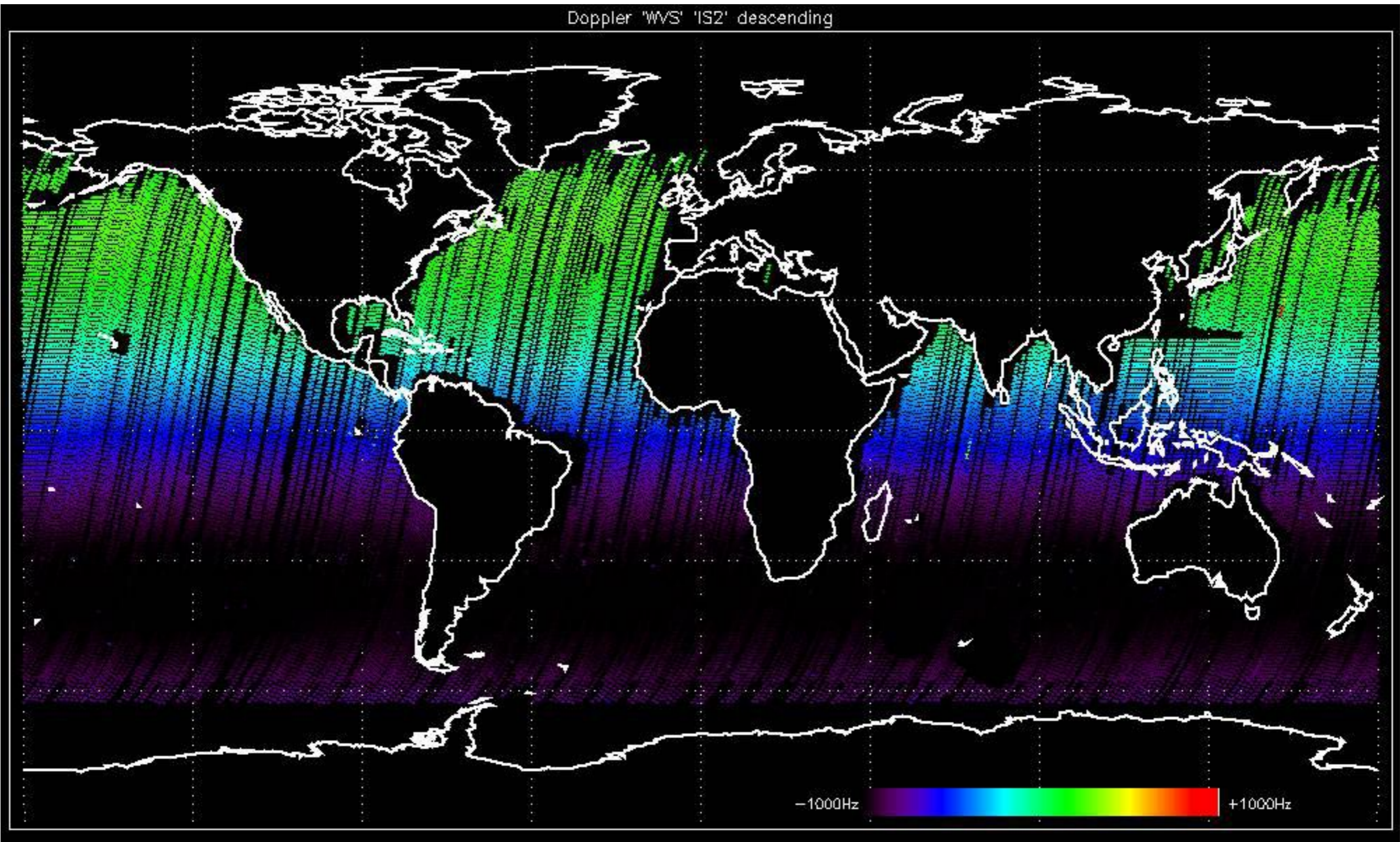
Doppler 'GM1' 'SS1' descending



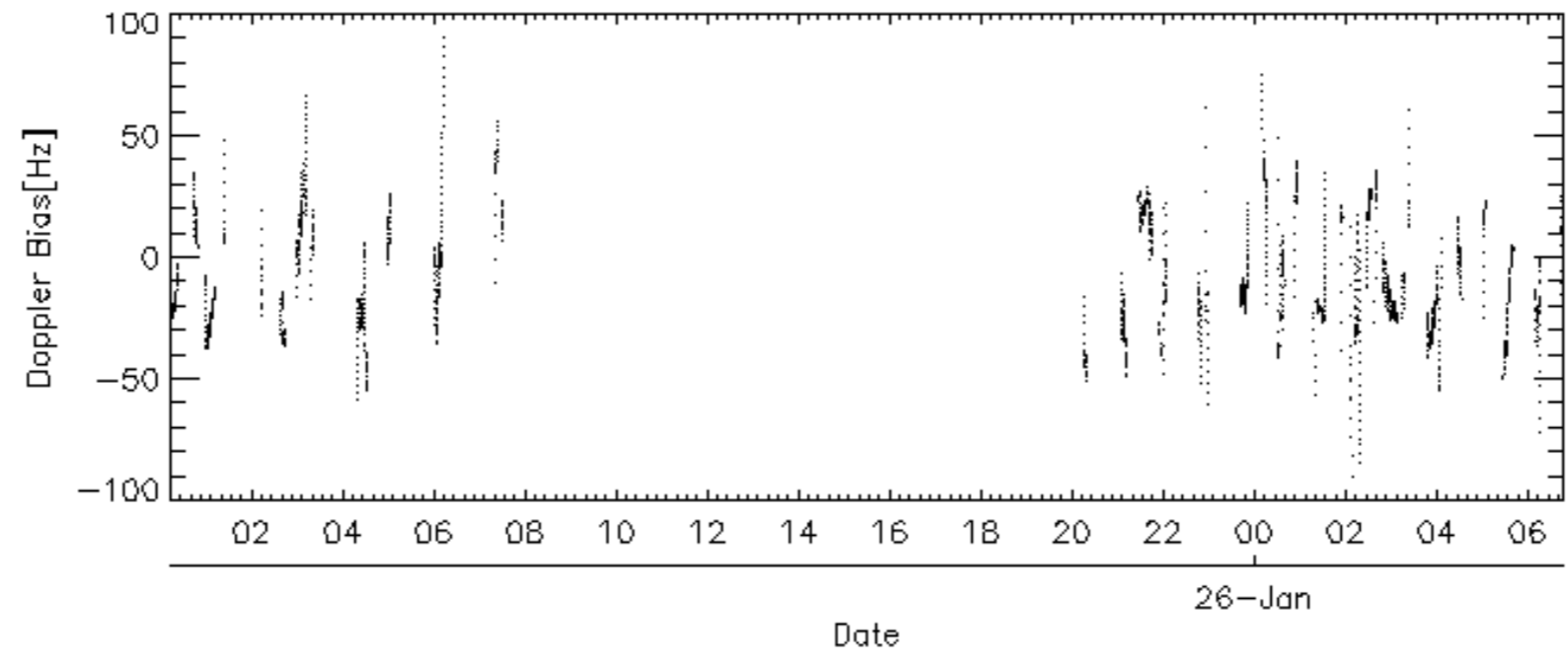
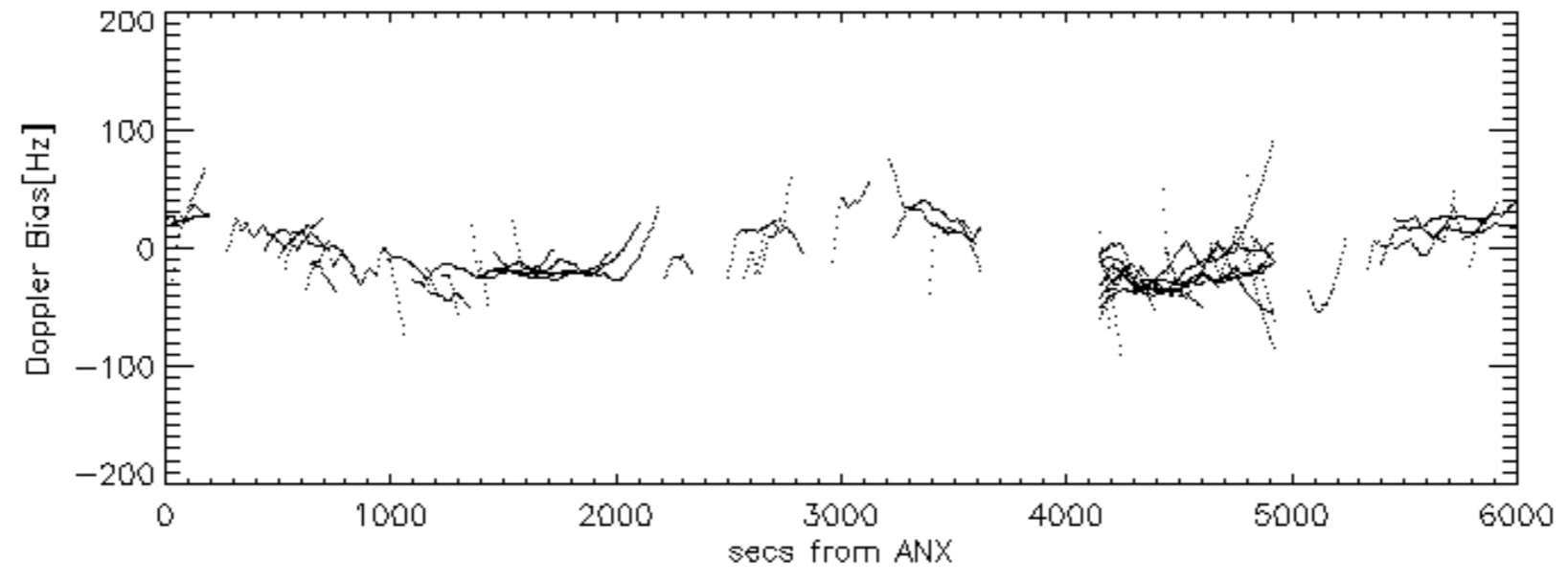
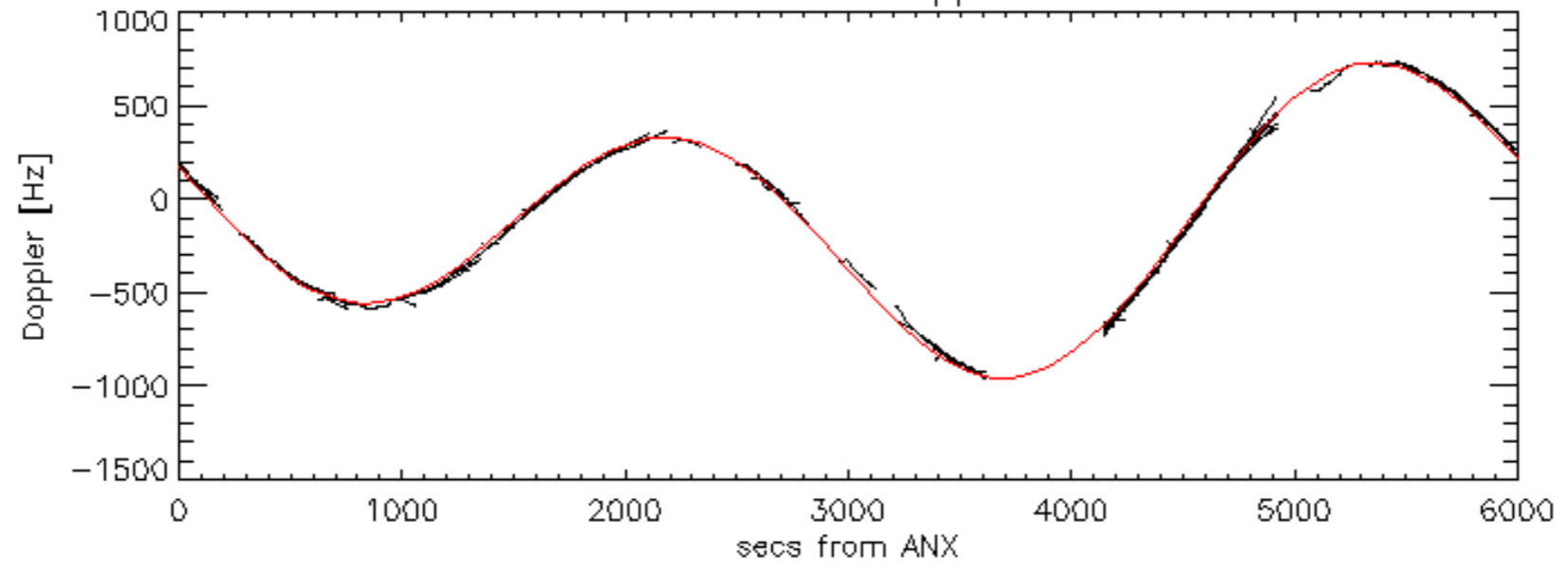
Doppler 'WVS' 'IS2' ascending

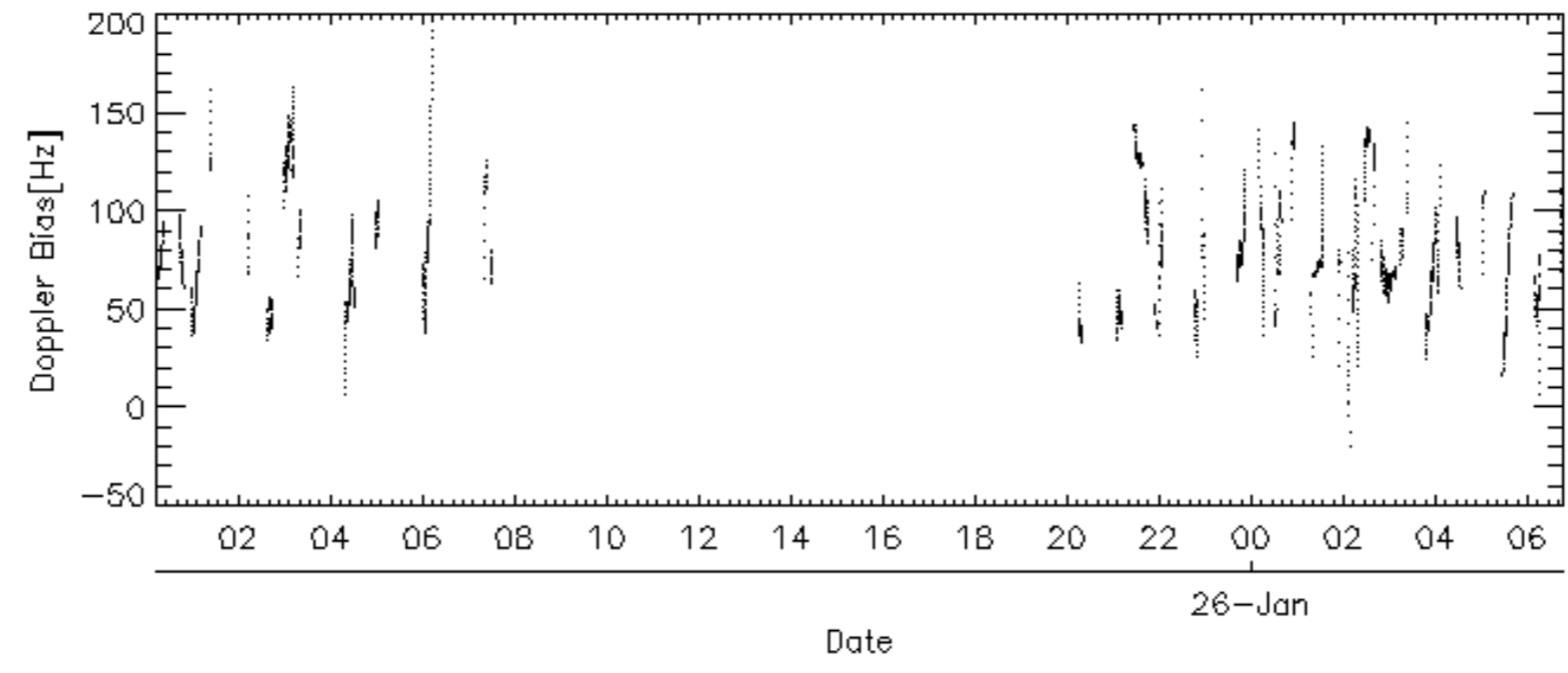
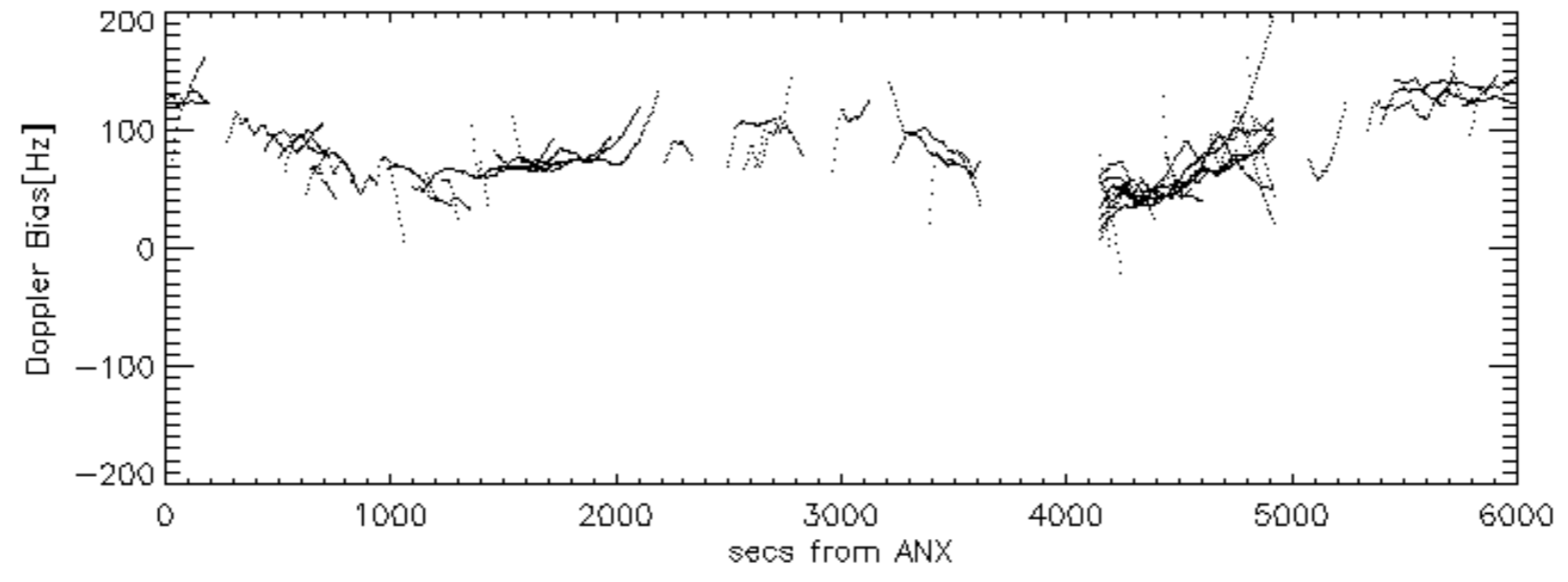
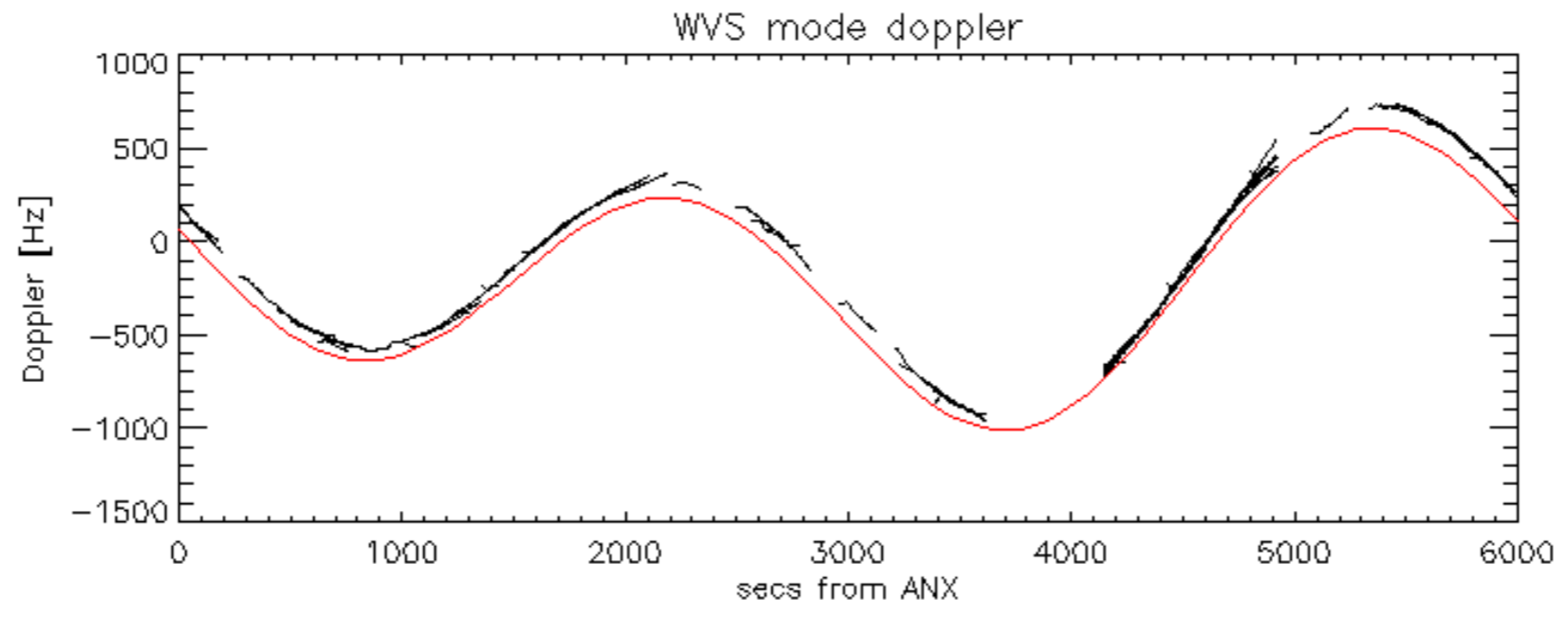


Doppler 'WVS' 'IS2' descending

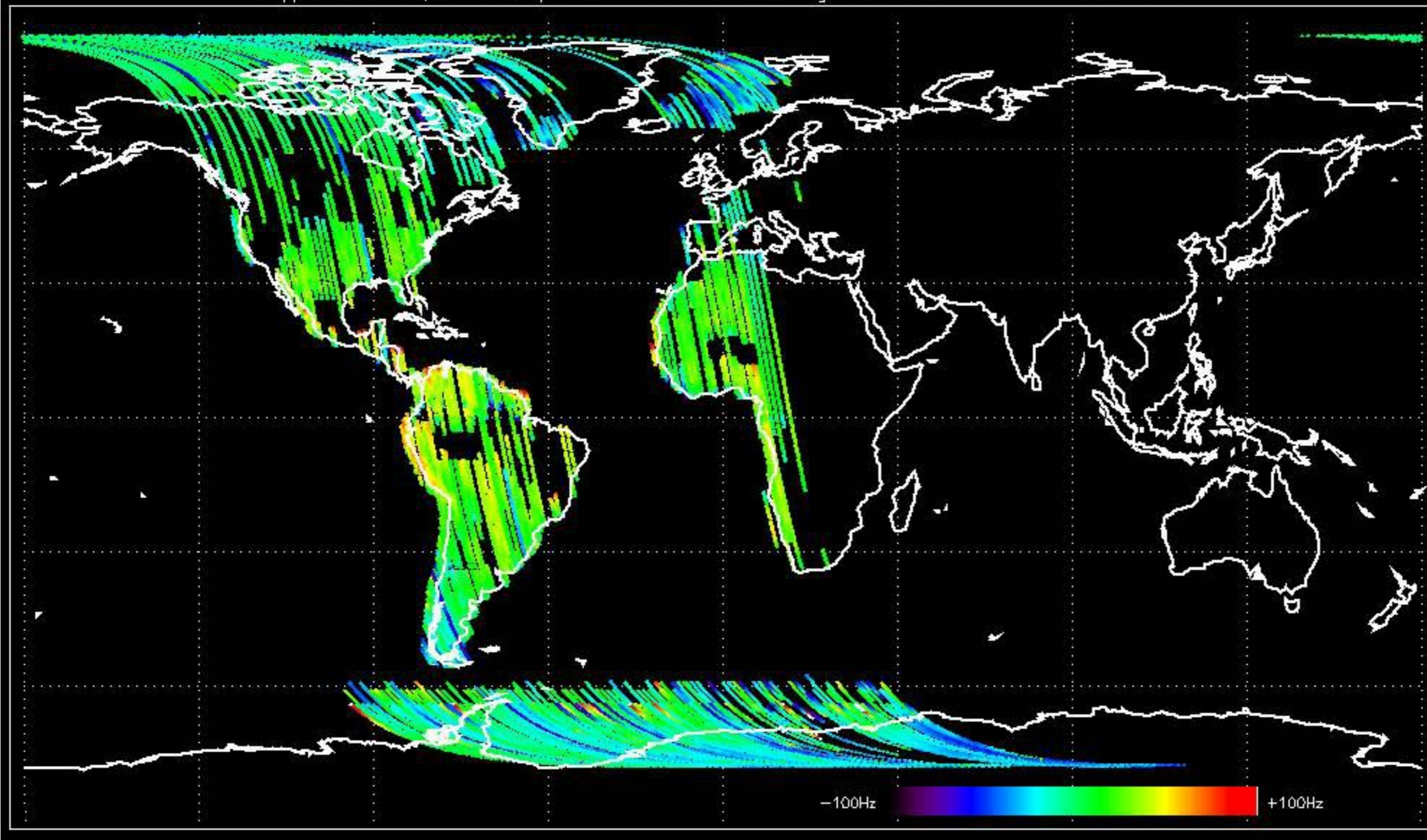


GM1 mode doppler

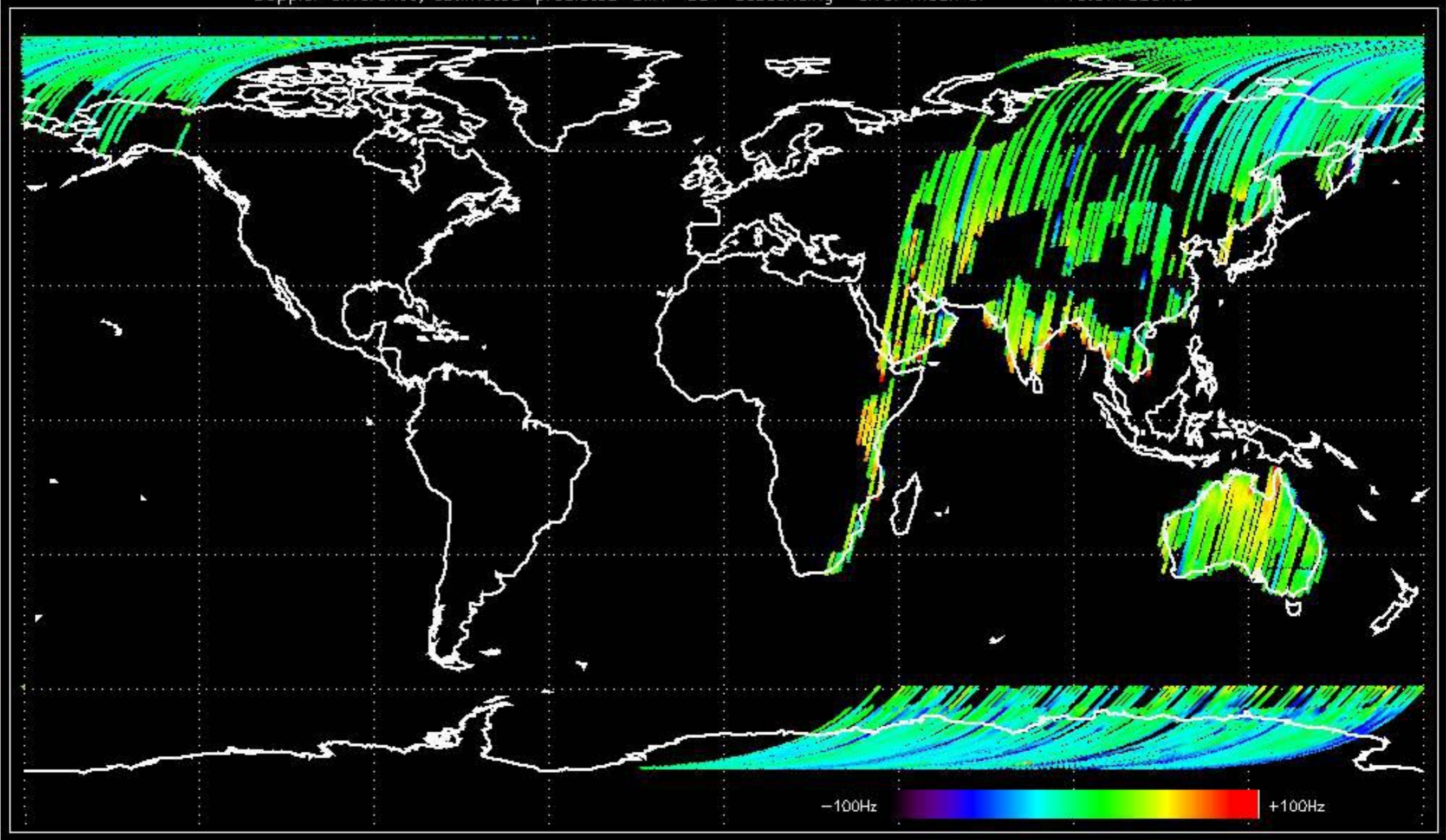




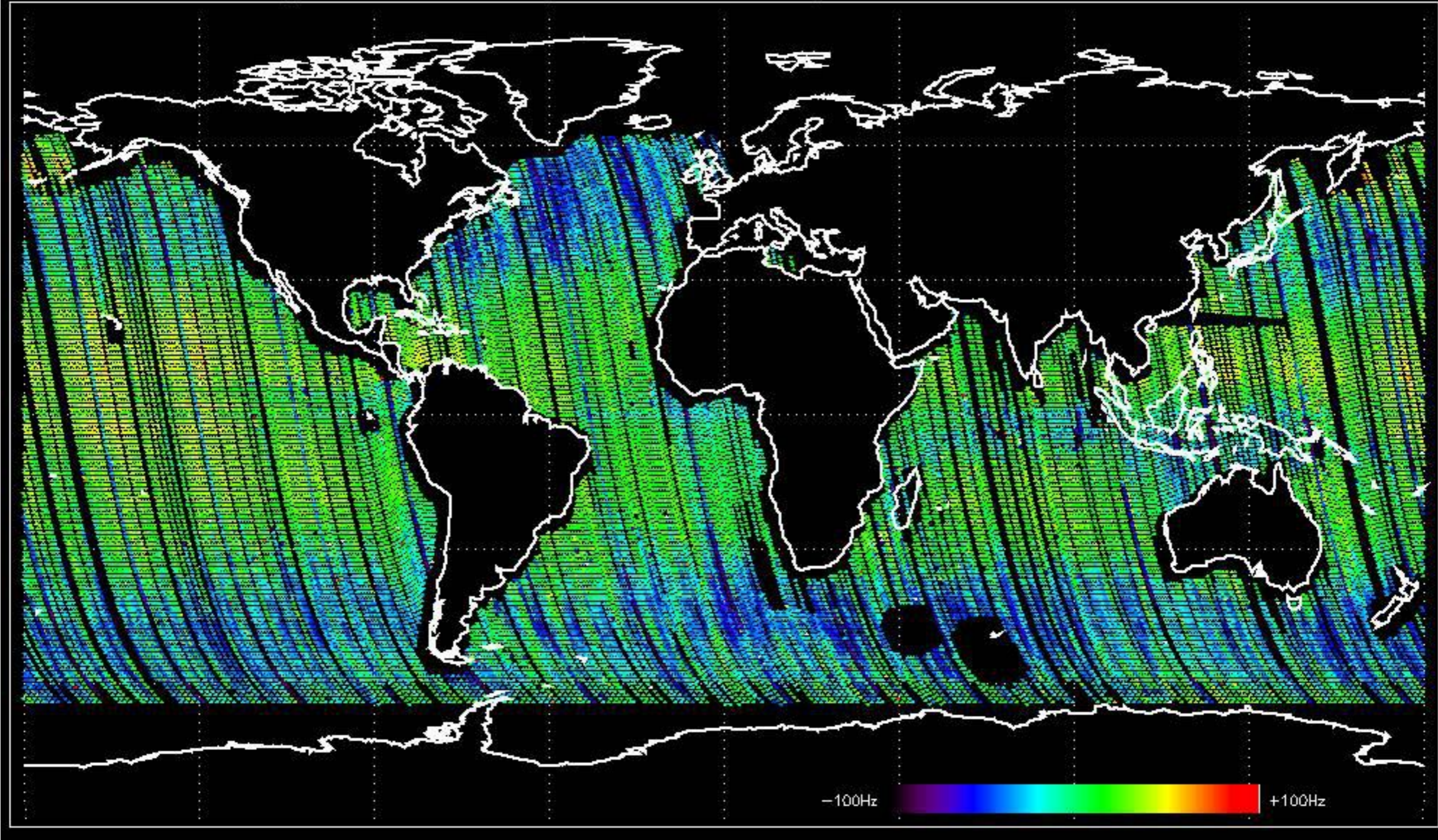
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -11.543786 Hz



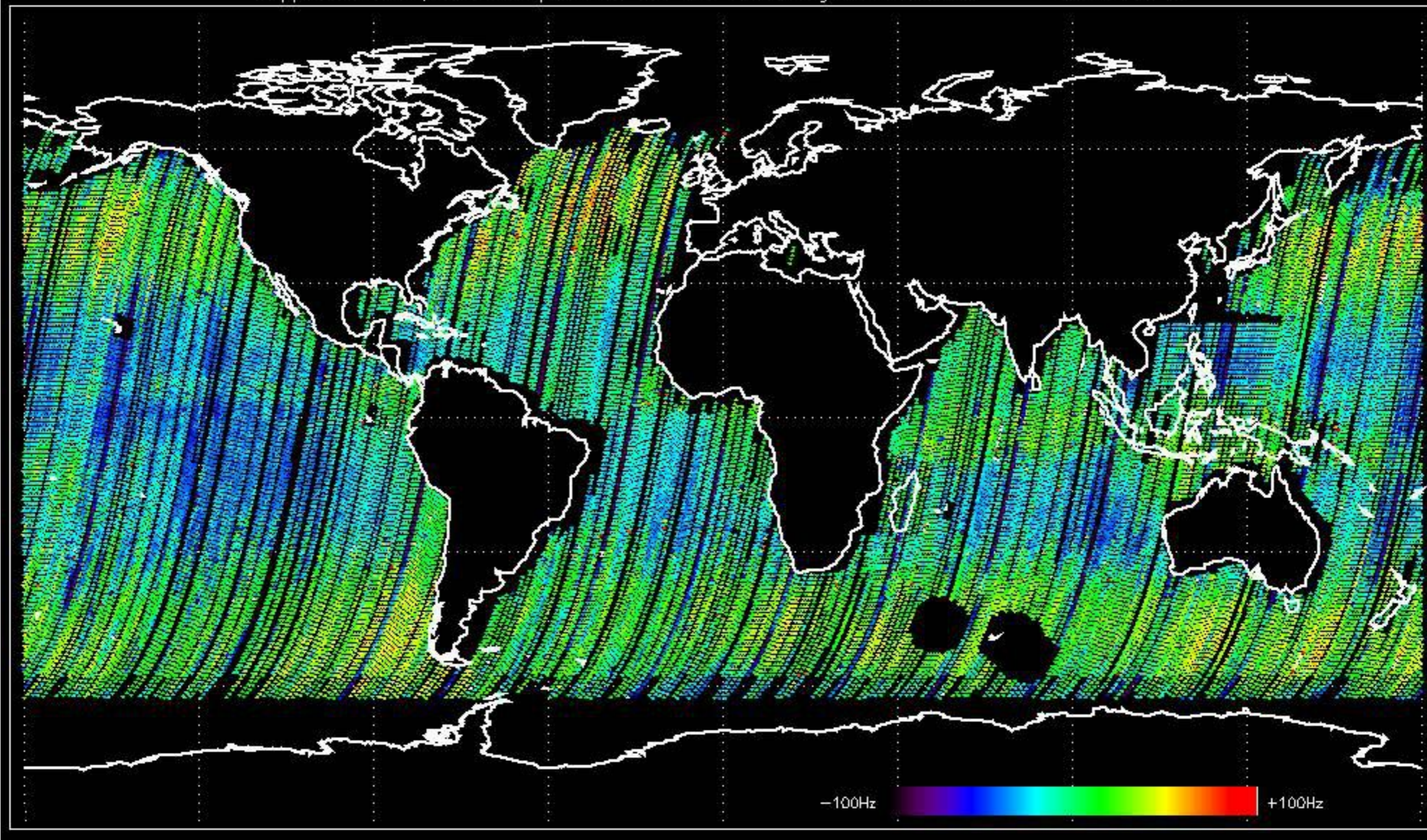
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -16.677080 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -8.5656908 Hz

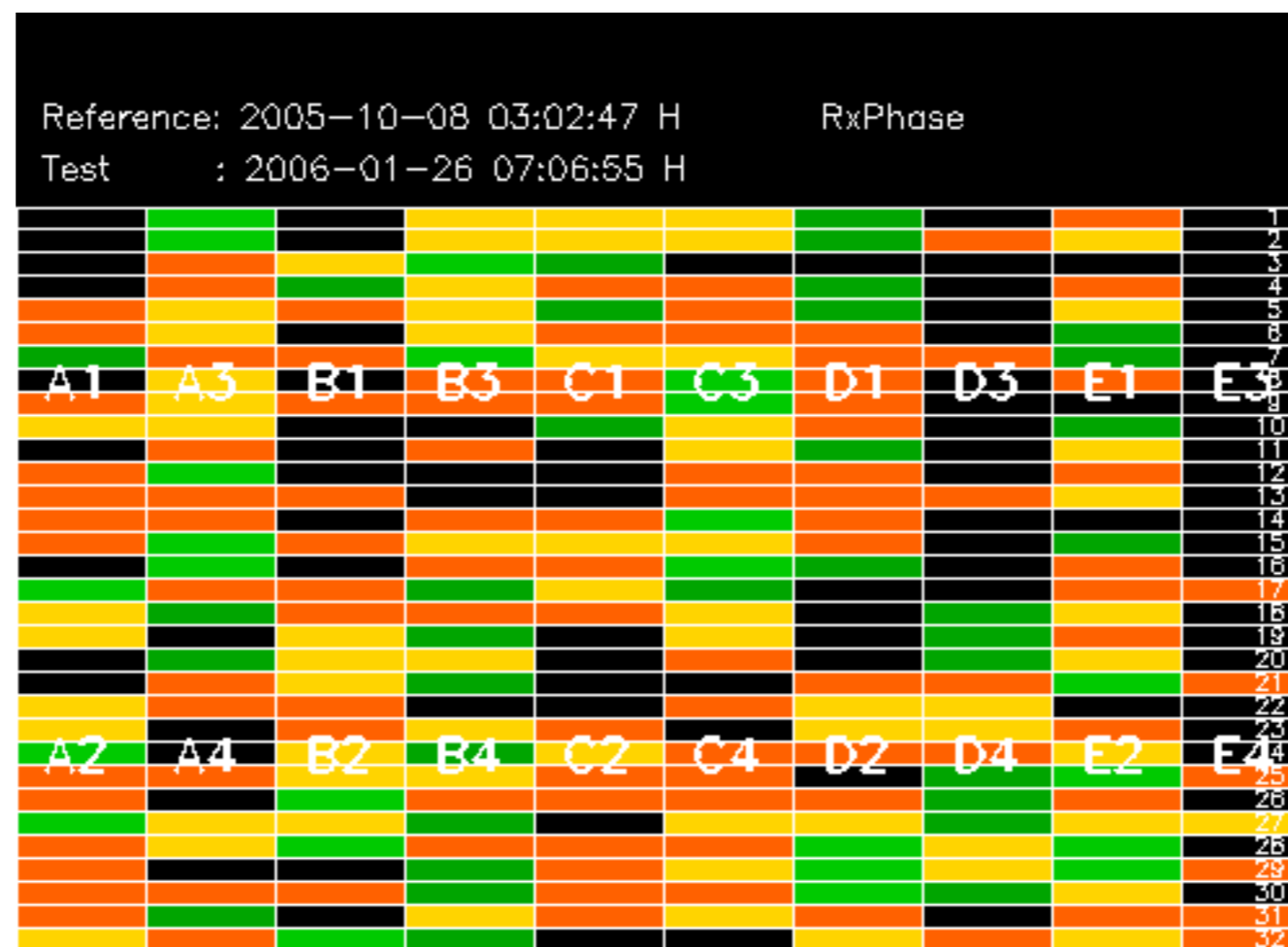


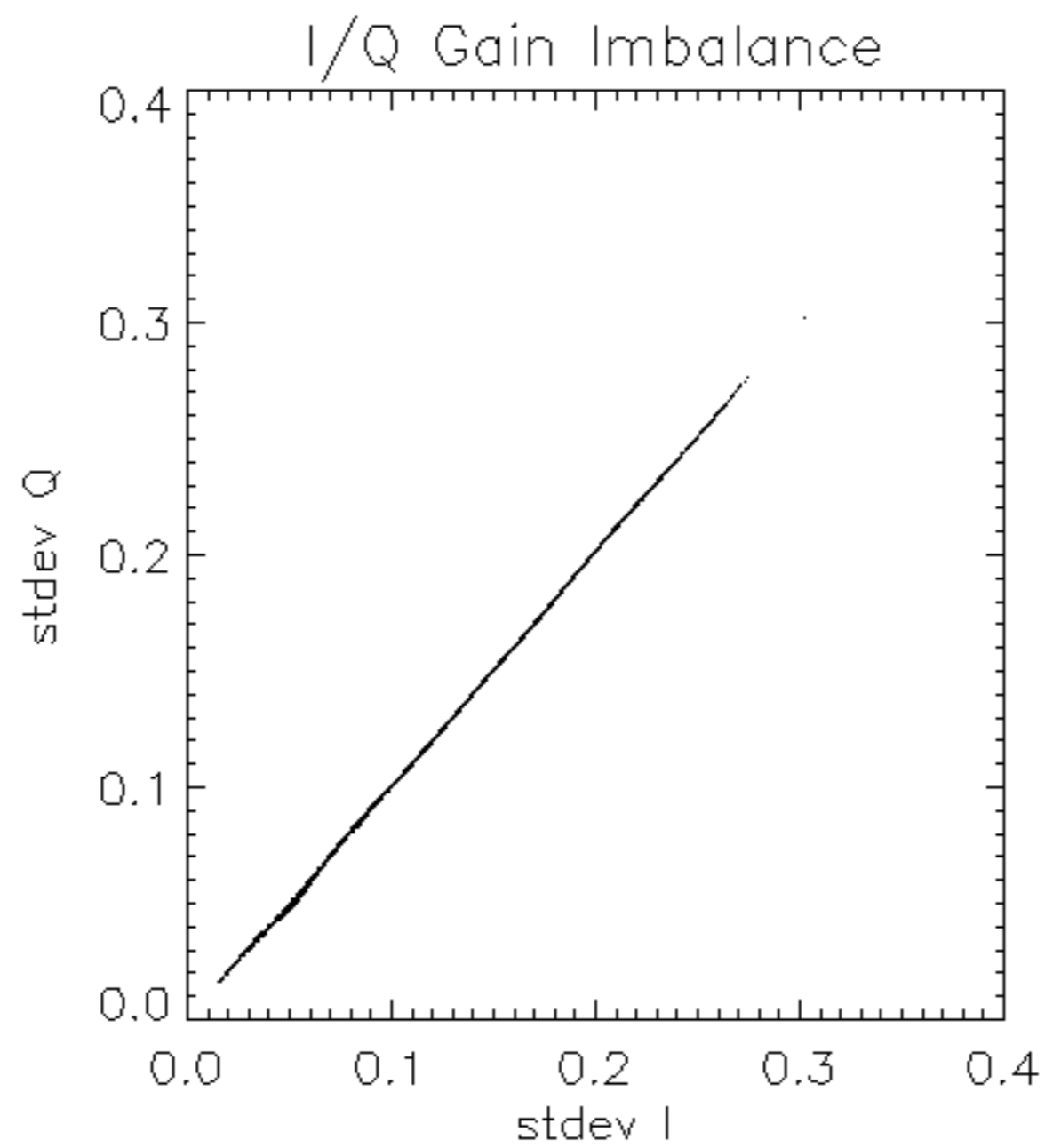
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -10.208631 Hz

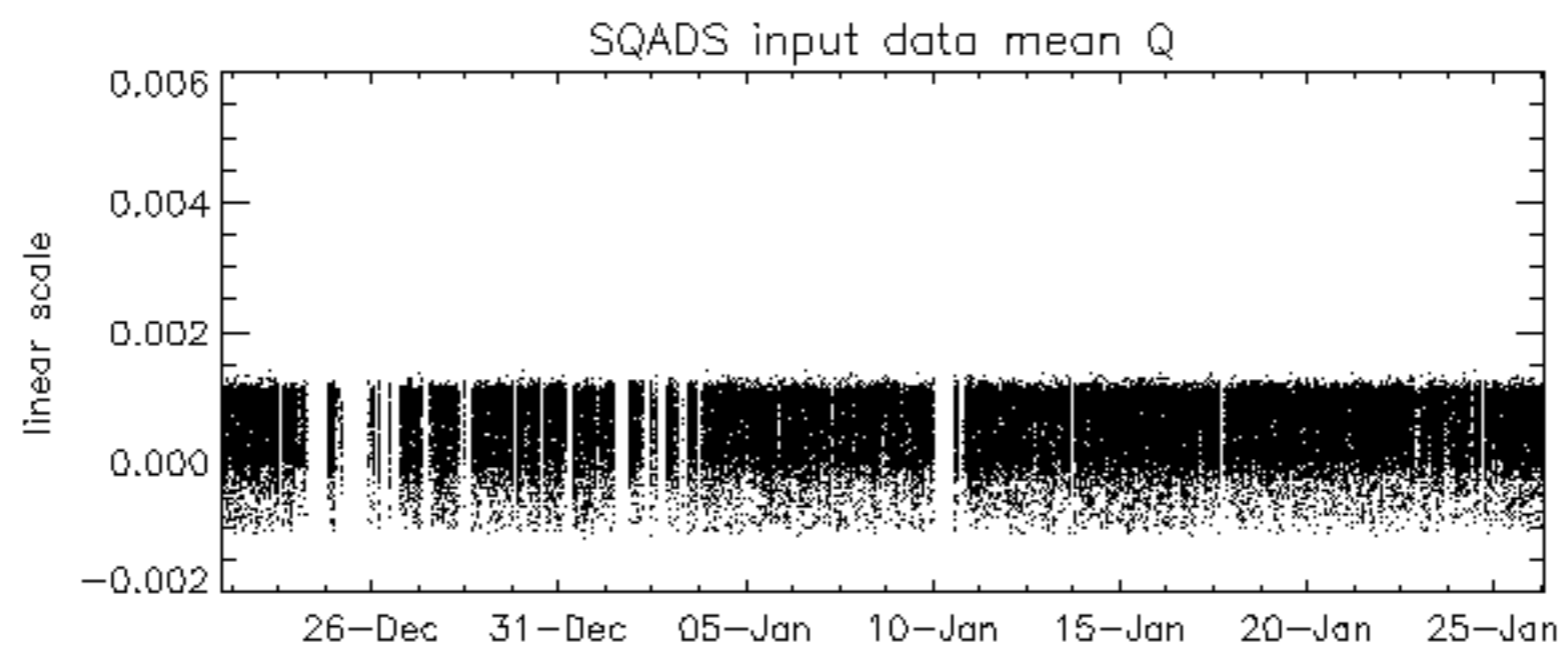
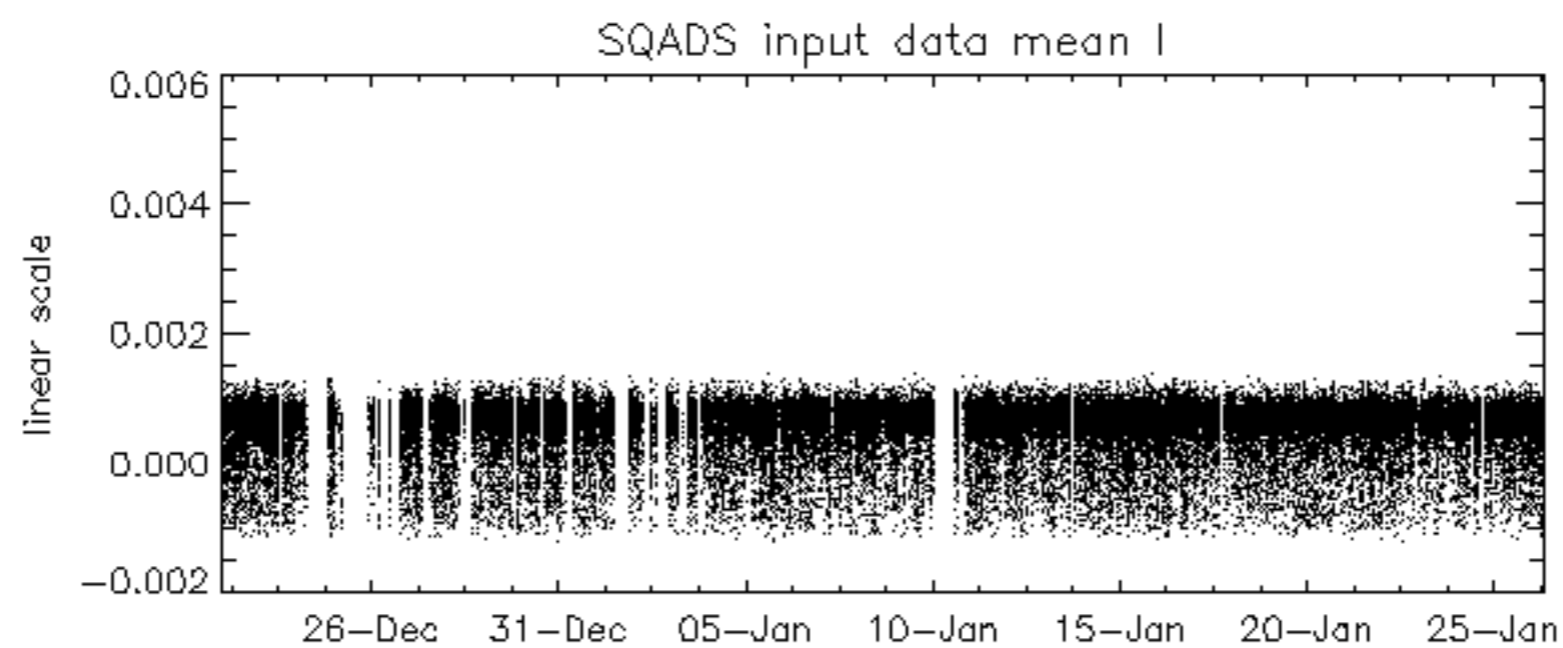
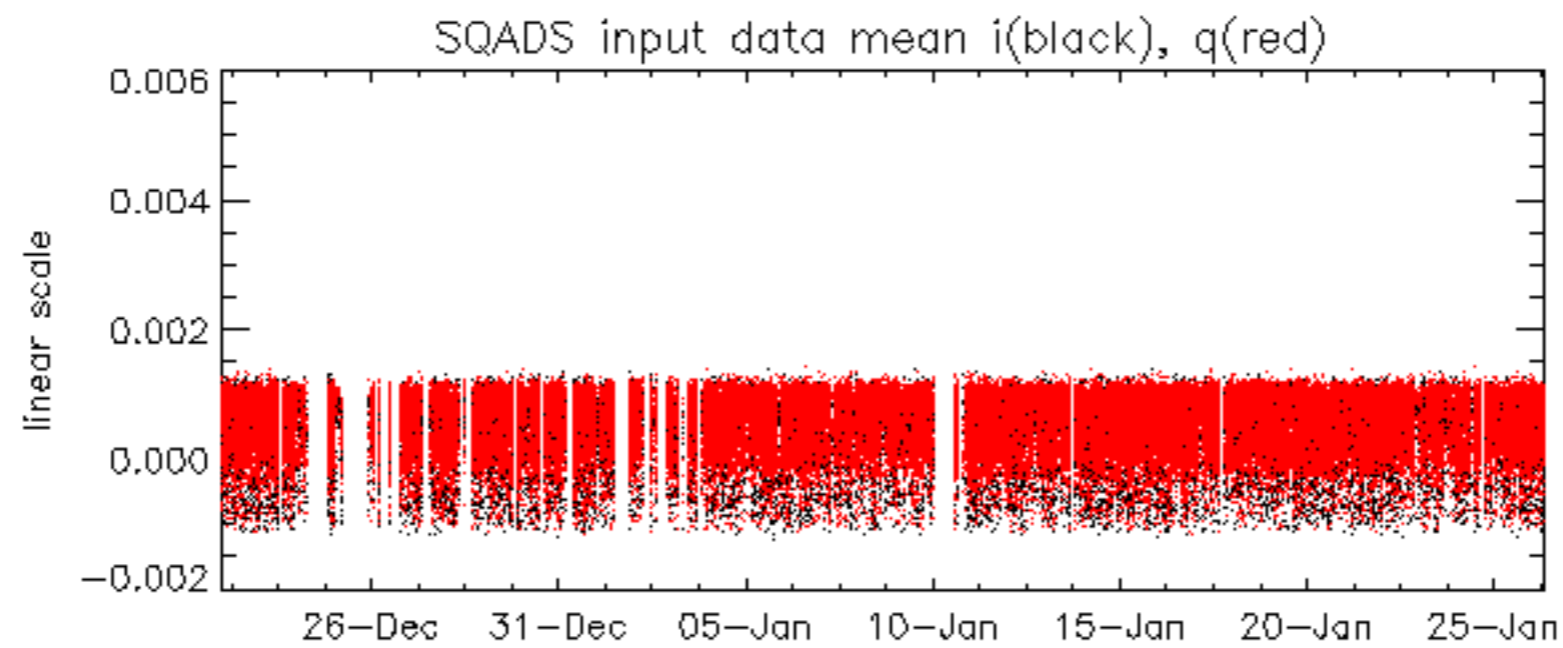


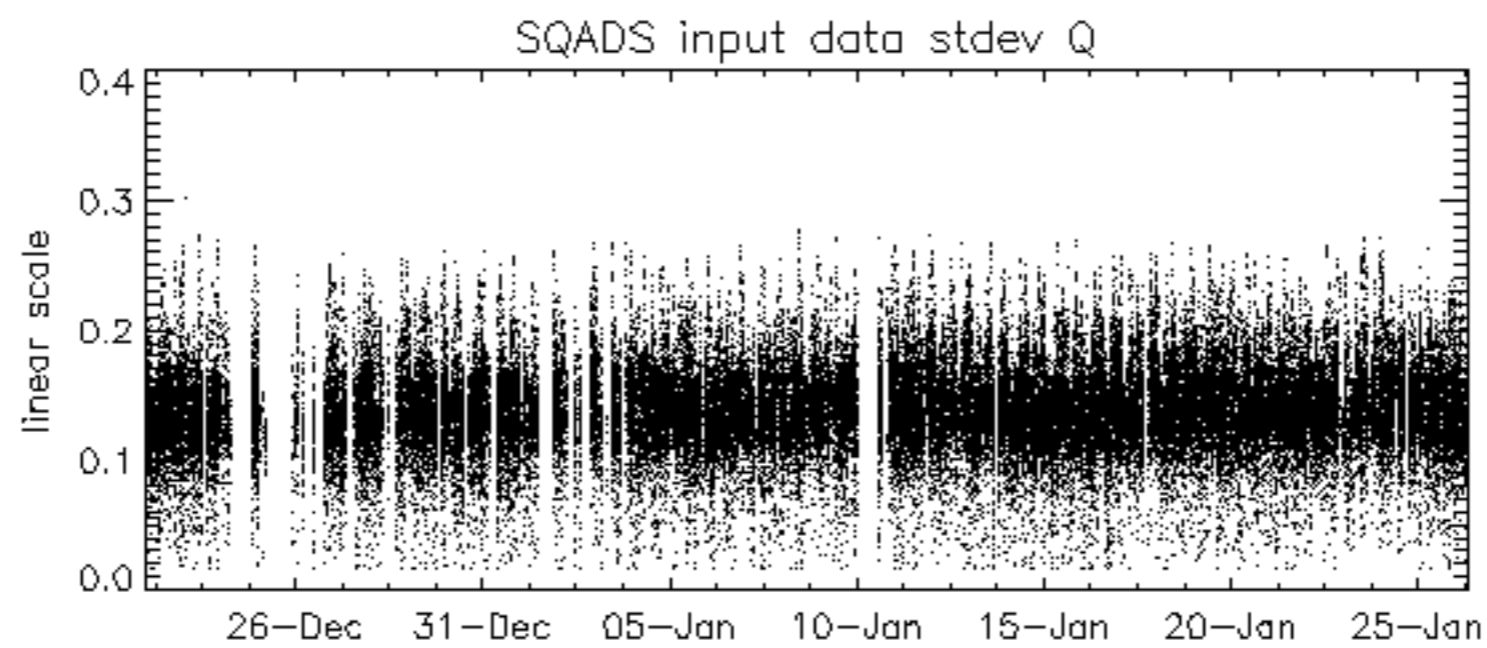
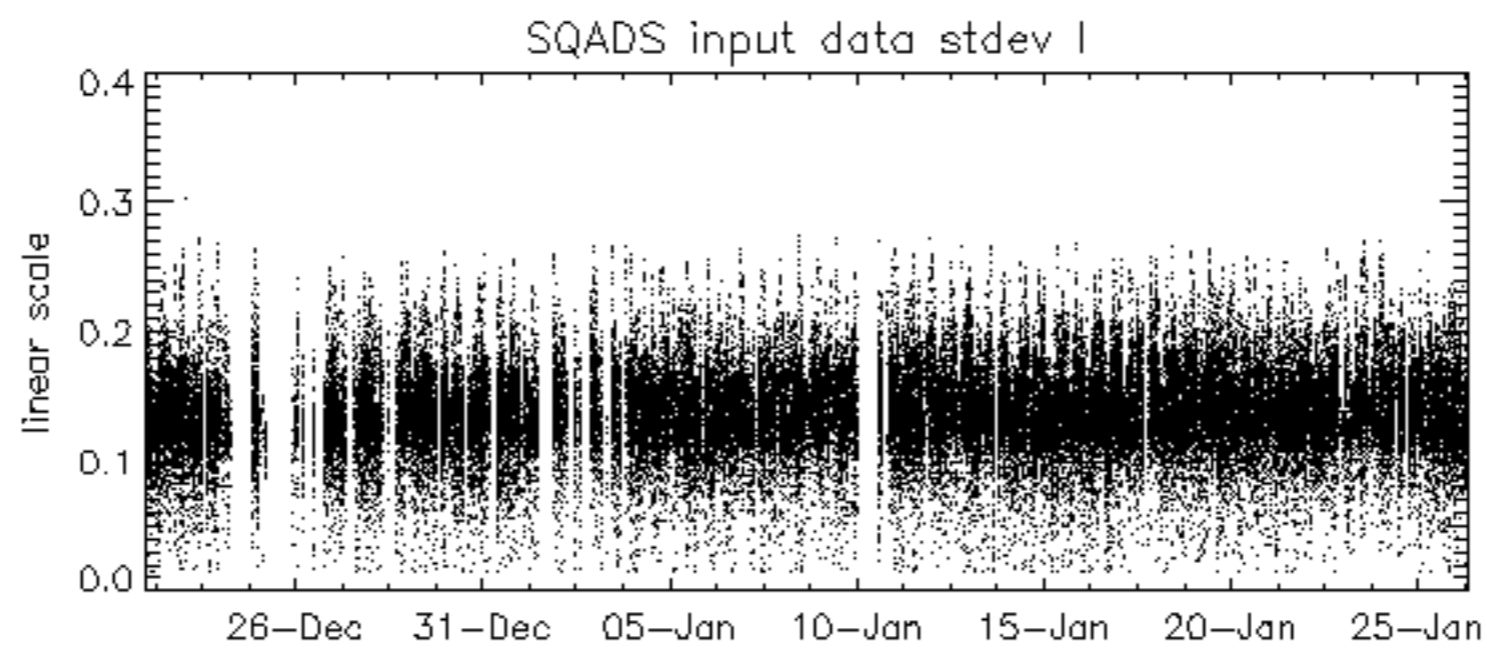
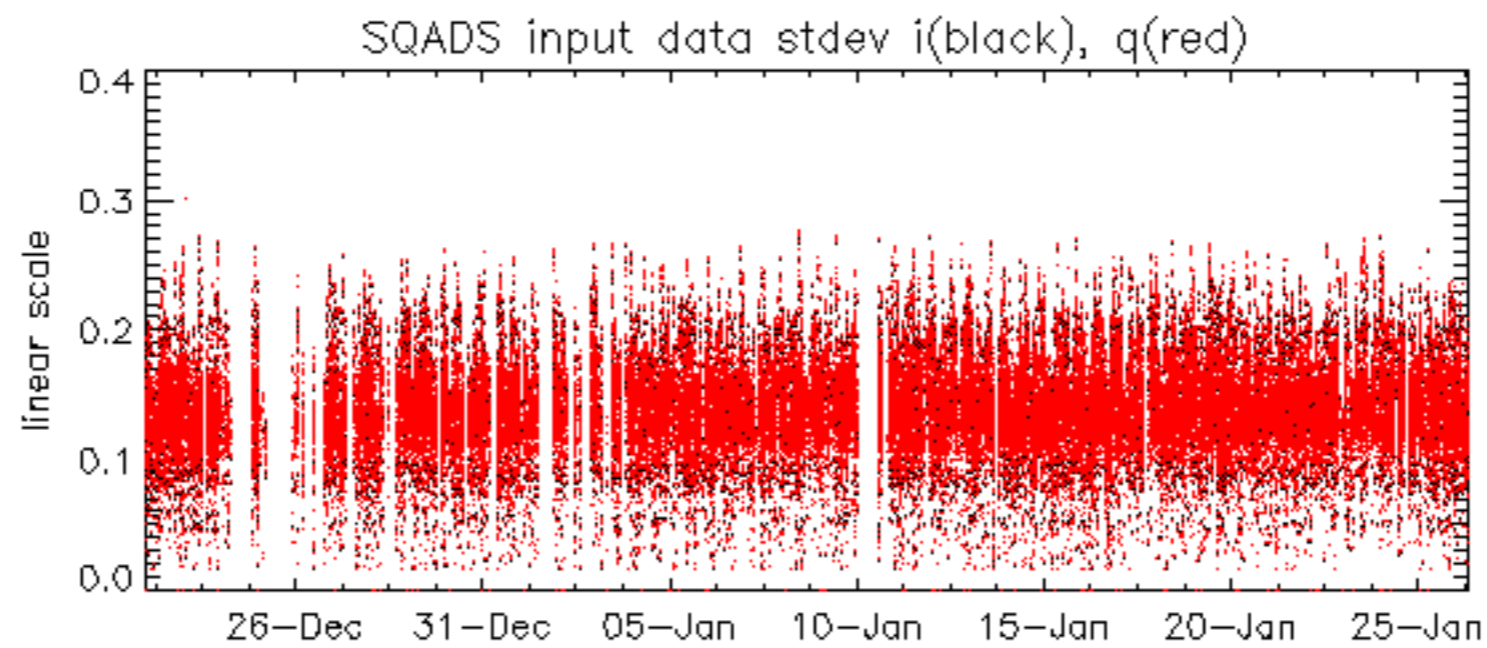
No anomalies observed on available MS products:

No anomalies observed.







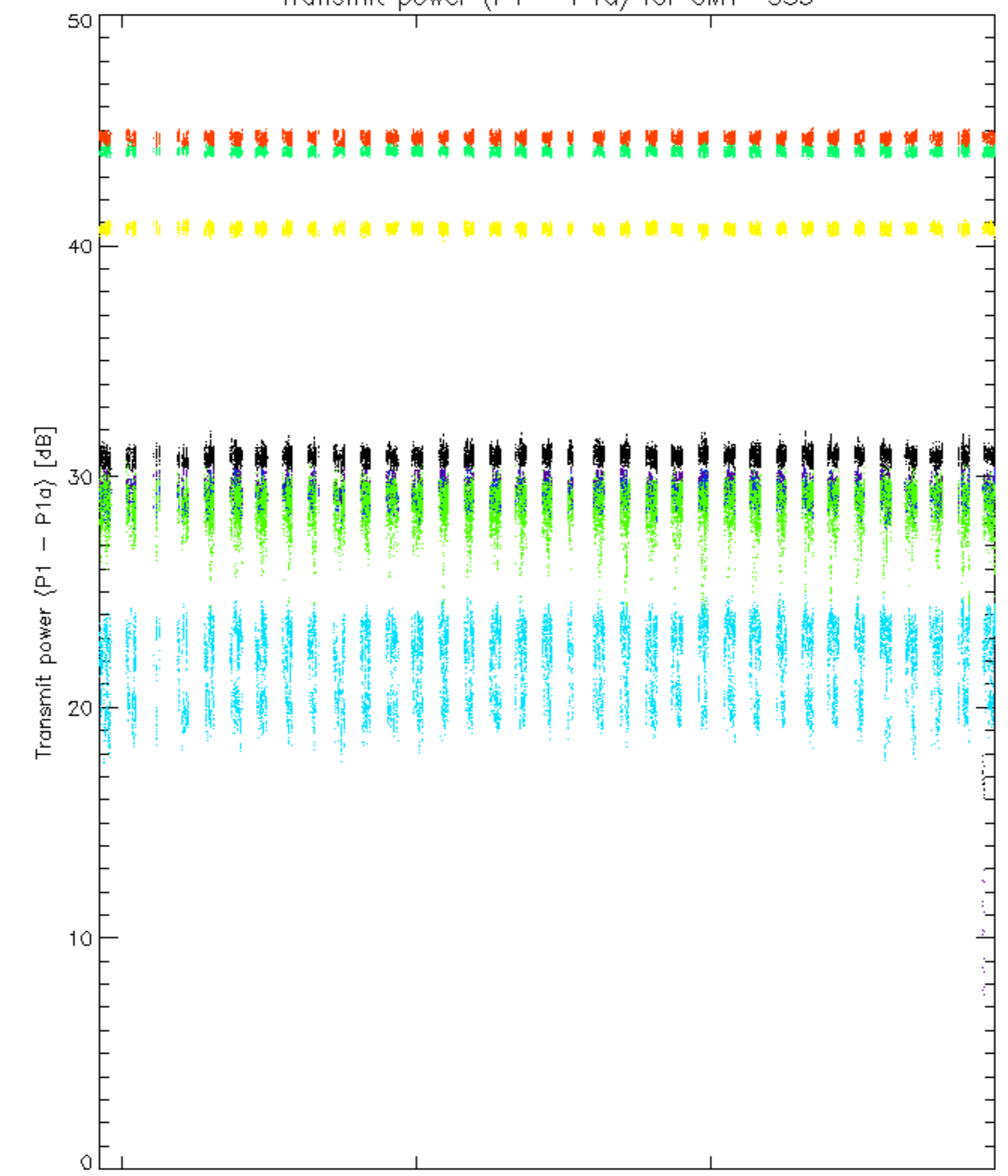


Summary of analysis for the last 3 days 2006012[456]

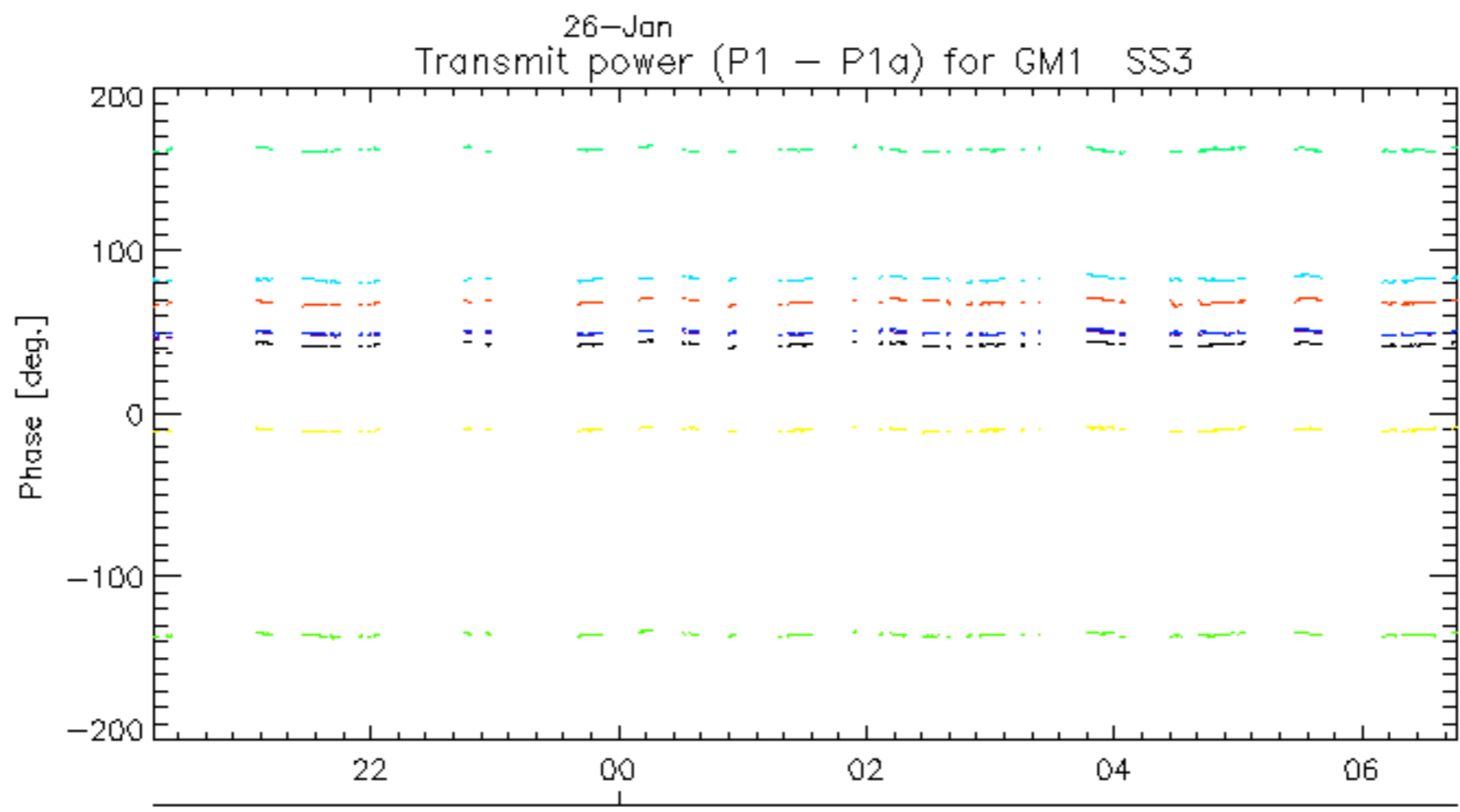
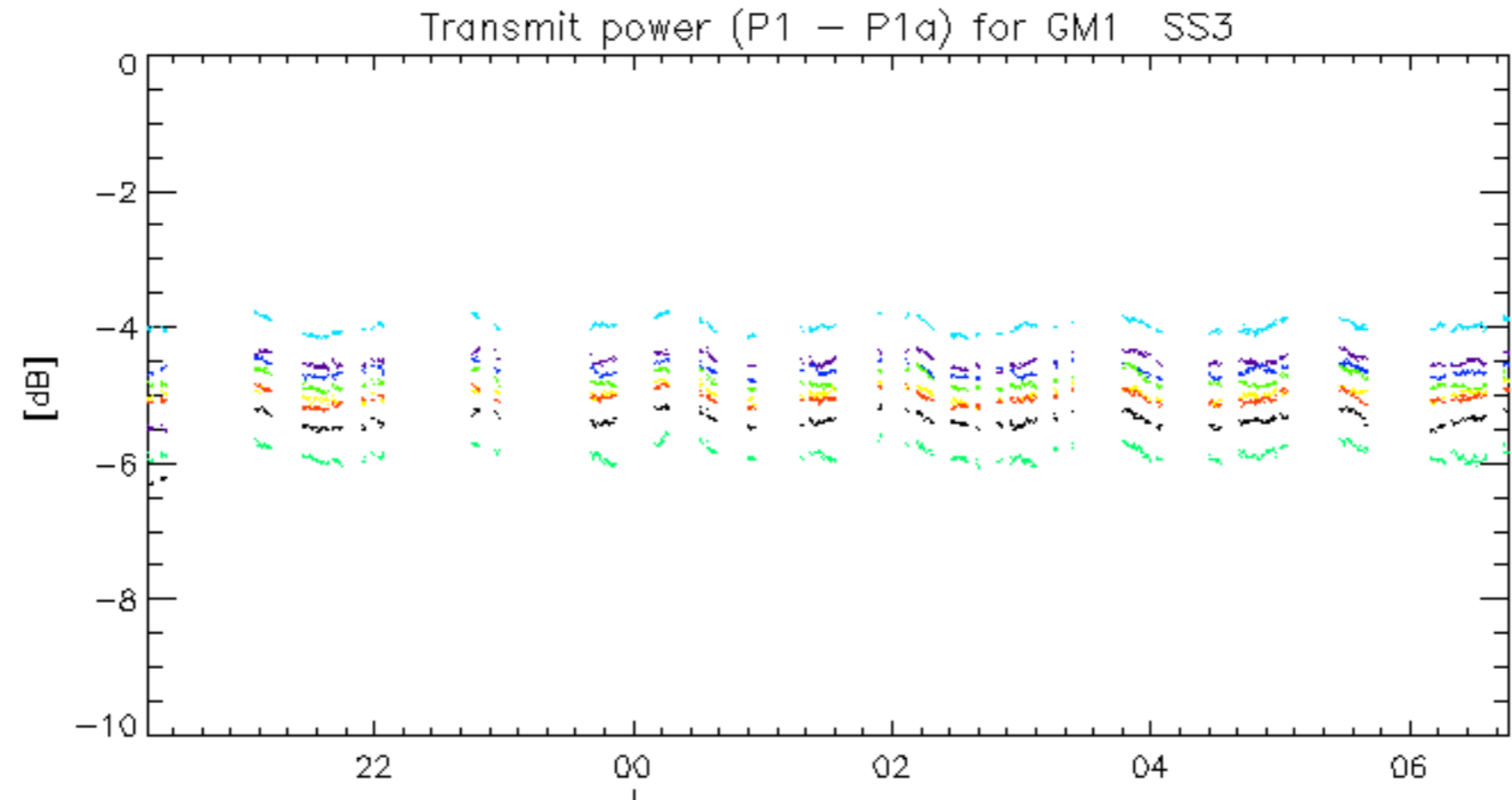
The assumption is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_WVS_1PNPDE20060124_215516_00000002044_00315_20409_0442.N1	1	0
ASA_WSM_1PNPDE20060126_042344_000001842044_00334_20428_2419.N1	0	44

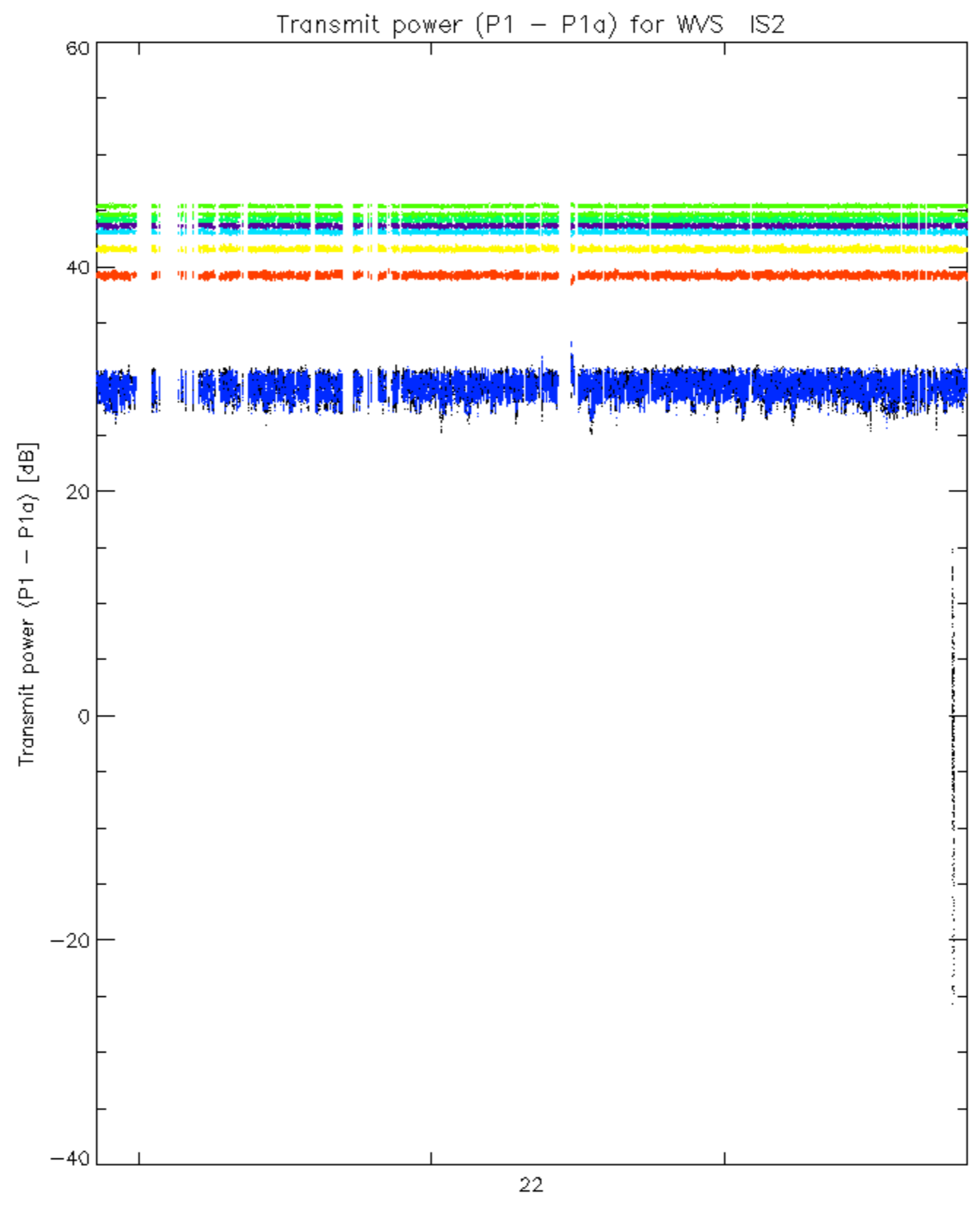
Transmit power (P1 - P1a) for GM1 SS3

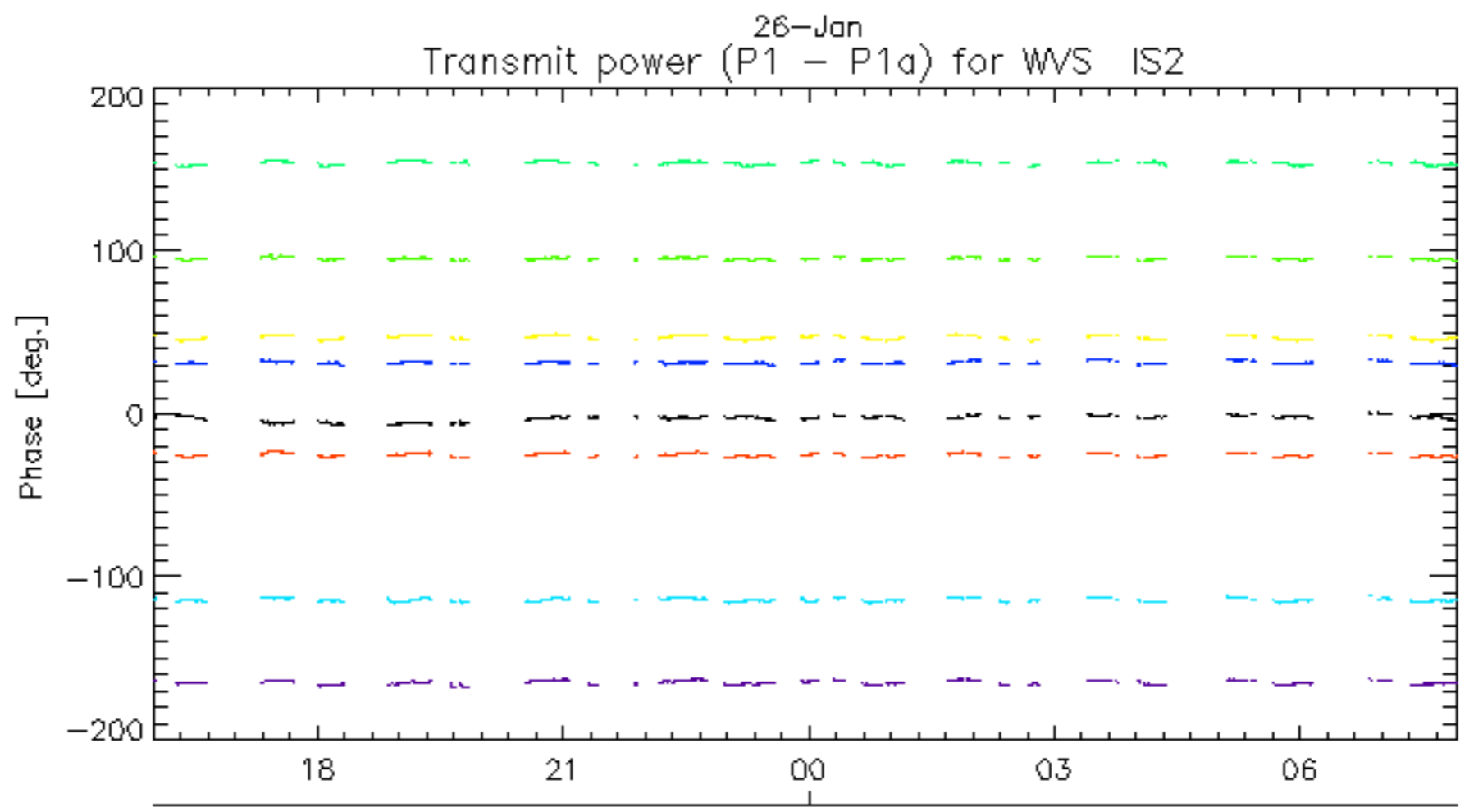
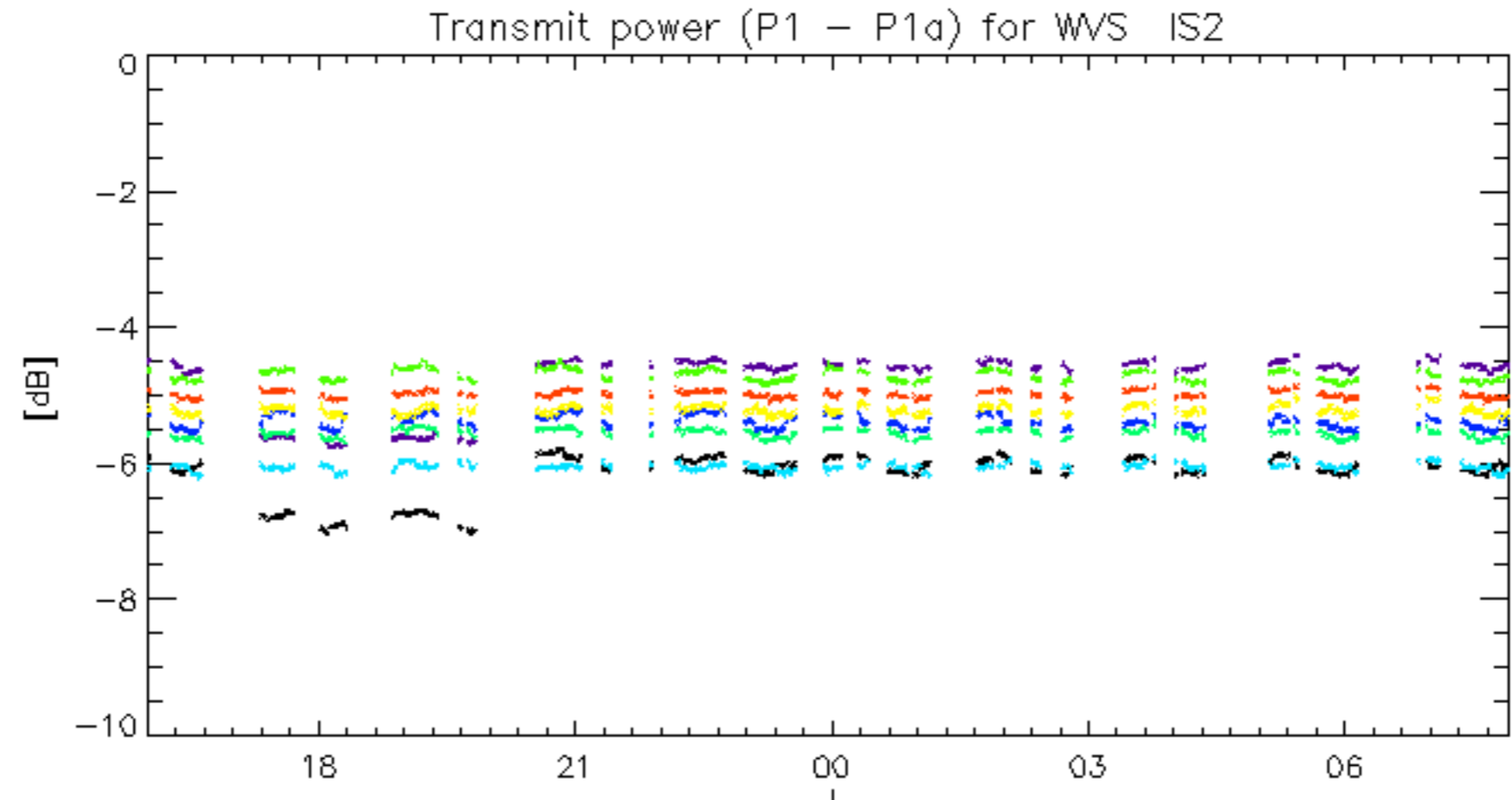


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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





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

No unavailabilities during the reported period.