

PRELIMINARY REPORT OF 060117

last update on Tue Jan 17 16:46:01 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 2006-01-16 00:00:00 to 2006-01-17 16:46:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	40	0	10	0	22
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	40	0	10	0	22
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	40	0	10	0	22
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	40	0	10	0	22

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	48	54	25	12	68
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	48	54	25	12	68
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	48	54	25	12	68
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	48	54	25	12	68

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	20060116 054040
H	20060115 061217

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
☒	☒
☒	☒
☒	☒
☒	☒

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)
-----	-------	-----------	------------	-----------------

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-4.051977	0.007524	0.051546
7	P1	-2.996993	0.015454	0.016890
11	P1	-4.103508	0.022860	0.027187
15	P1	-6.068659	0.017247	0.034538
19	P1	-3.240304	0.005447	-0.024193
22	P1	-4.487843	0.020276	0.023377
26	P1	-4.220887	0.011898	0.015965
30	P1	-5.770669	0.009888	0.003196
3	P1	-16.994280	0.252153	0.092838
7	P1	-16.574053	0.128276	-0.070756
11	P1	-16.595928	0.333205	0.045602
15	P1	-13.276488	0.131881	0.207446
19	P1	-13.873587	0.073729	-0.000071
22	P1	-15.967948	0.570384	0.339019
26	P1	-15.779207	0.263812	-0.035718
30	P1	-16.618517	0.357691	0.169474

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.657803	0.097969	0.156357
7	P2	-22.505657	0.097824	0.092326
11	P2	-16.344776	0.103442	0.119849
15	P2	-7.232591	0.101808	0.059752
19	P2	-9.192163	0.098198	0.079789
22	P2	-17.940094	0.096486	0.026222
26	P2	-16.229479	0.099535	0.049092
30	P2	-19.666241	0.084185	0.050266

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.220980	0.007726	0.029788
7	P3	-8.220980	0.007726	0.029788
11	P3	-8.220980	0.007726	0.029788
15	P3	-8.220980	0.007726	0.029788
19	P3	-8.220980	0.007726	0.029788
22	P3	-8.220980	0.007726	0.029788
26	P3	-8.220980	0.007726	0.029788
30	P3	-8.220980	0.007726	0.029788

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	-3.718878	0.008483	-0.010705
7	P1	-2.761751	0.007671	0.023476
11	P1	-2.867811	0.010381	0.019442
15	P1	-3.446241	0.017987	-0.057625
19	P1	-3.384037	0.014066	0.039401
22	P1	-5.122723	0.021121	0.007126
26	P1	-5.853127	0.015600	0.010319
30	P1	-5.264213	0.031647	0.066269
3	P1	-11.510466	0.033958	-0.060643
7	P1	-9.936135	0.049670	0.076243
11	P1	-10.059841	0.051097	-0.032985
15	P1	-10.597684	0.080114	-0.094394
19	P1	-15.494767	0.065737	0.100653
22	P1	-20.739218	1.098660	0.474876

26	P1	-16.949448	0.323849	0.484714
30	P1	-18.158873	0.295480	-0.031337

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.493843	0.032743	0.257518
7	P2	-22.936815	0.059261	0.298377
11	P2	-11.486526	0.020822	0.198029
15	P2	-4.946789	0.023687	0.126239
19	P2	-6.944627	0.022823	0.105852
22	P2	-8.200787	0.022839	0.055799
26	P2	-23.999664	0.026797	0.132271
30	P2	-22.114065	0.017275	0.081111

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.065623	0.002528	0.042092
7	P3	-8.065570	0.002529	0.042809
11	P3	-8.065726	0.002530	0.042729
15	P3	-8.065636	0.002528	0.042571
19	P3	-8.065721	0.002531	0.042426
22	P3	-8.065511	0.002526	0.042559
26	P3	-8.065485	0.002518	0.042622
30	P3	-8.065635	0.002528	0.041849

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	0.000542925
	stdev	1.81450e-07
MEAN Q	mean	0.000511987
	stdev	2.21609e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.137402
	stdev	0.00121737
STDEV Q	mean	0.137748
	stdev	0.00123596



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2006011[567]

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_1PNPDE20060116_162331_000002082044_00198_20292_0958.N1	0	49
ASA_WSM_1PNPDE20060116_180329_000001712044_00199_20293_0974.N1	0	13





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

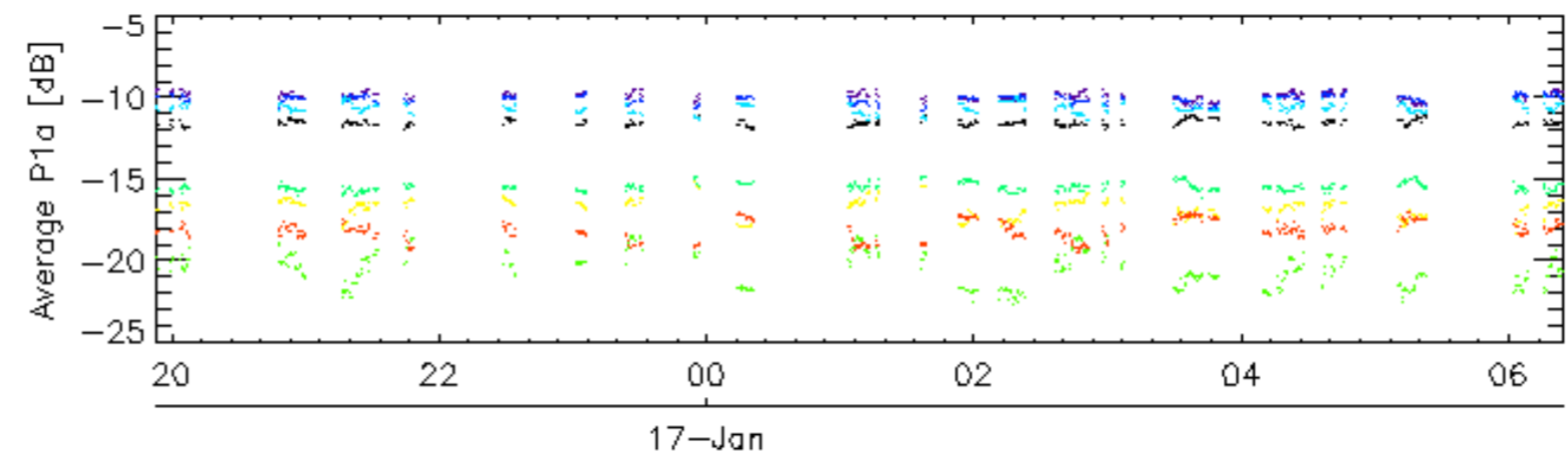
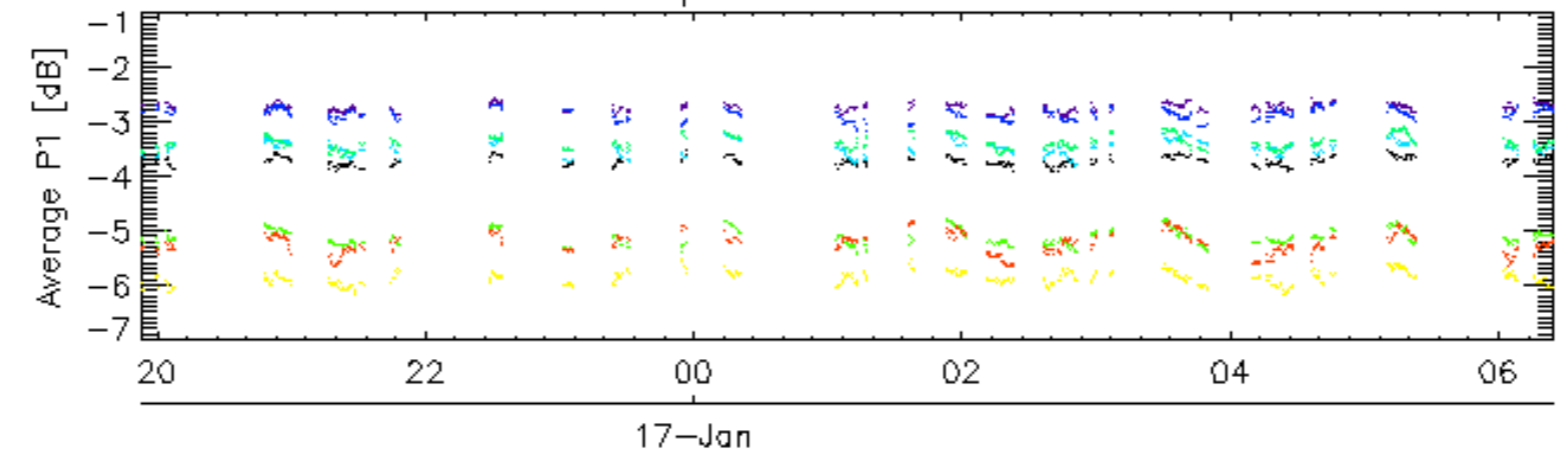
7.5 - Absolute Doppler for GM1

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

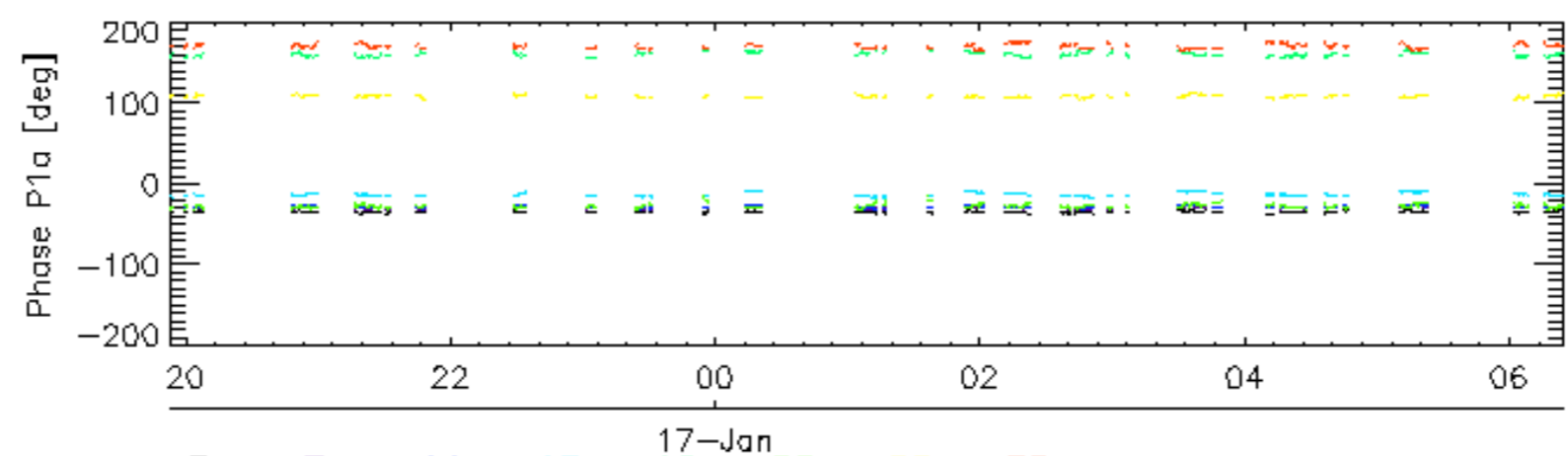
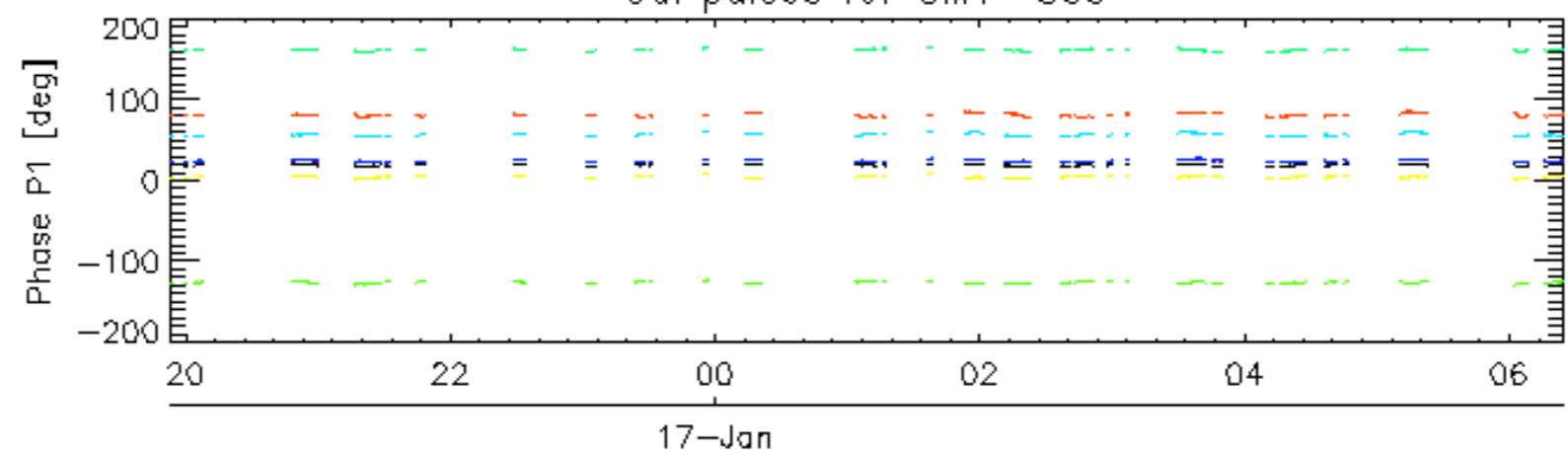
7.6 - Doppler evolution versus ANX for GM1

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

Cal pulses for GM1 SS3

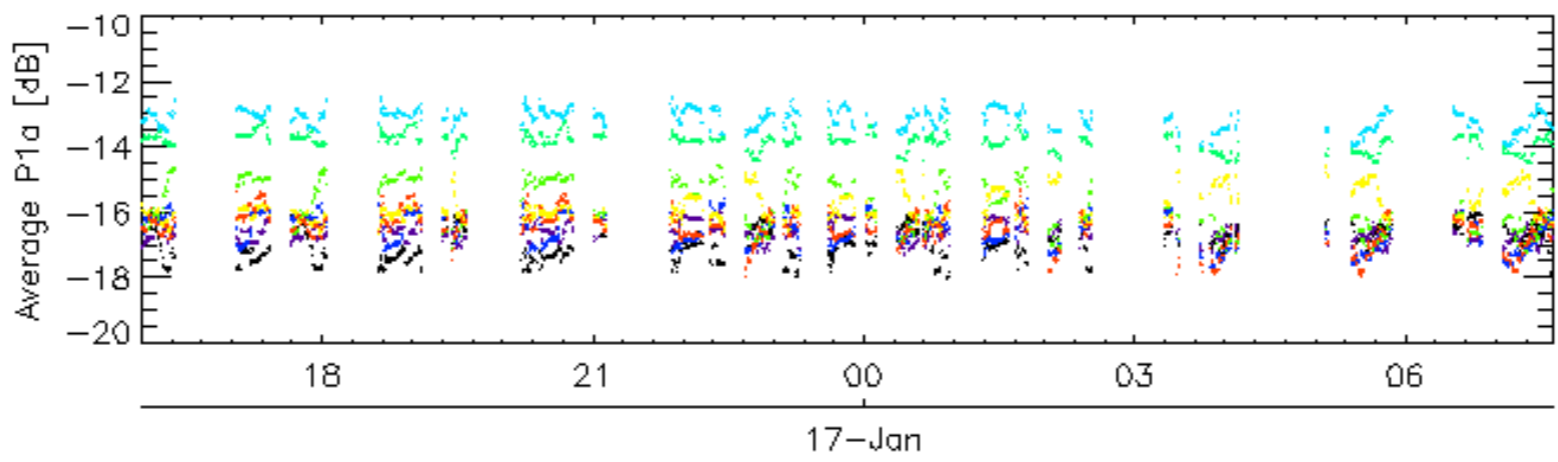
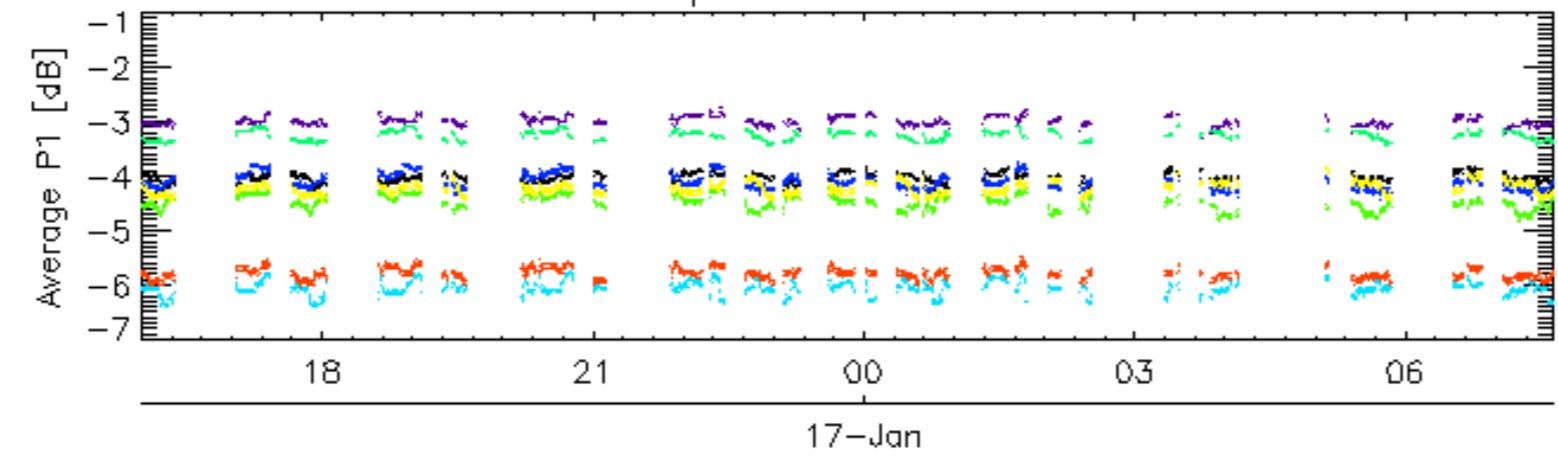


Cal pulses for GM1 SS3

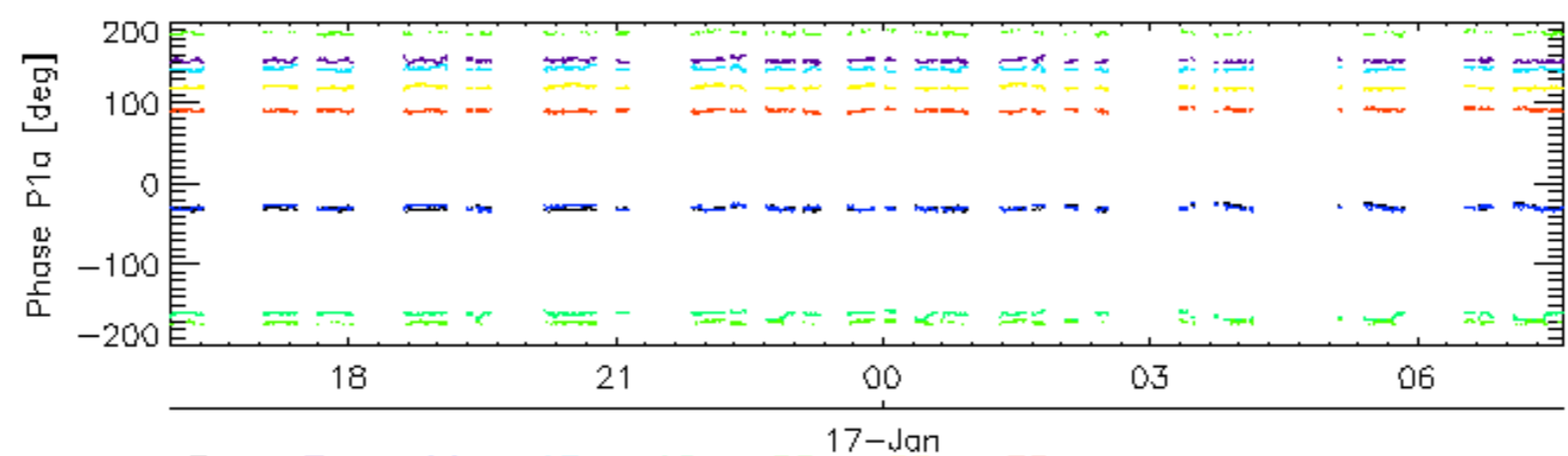
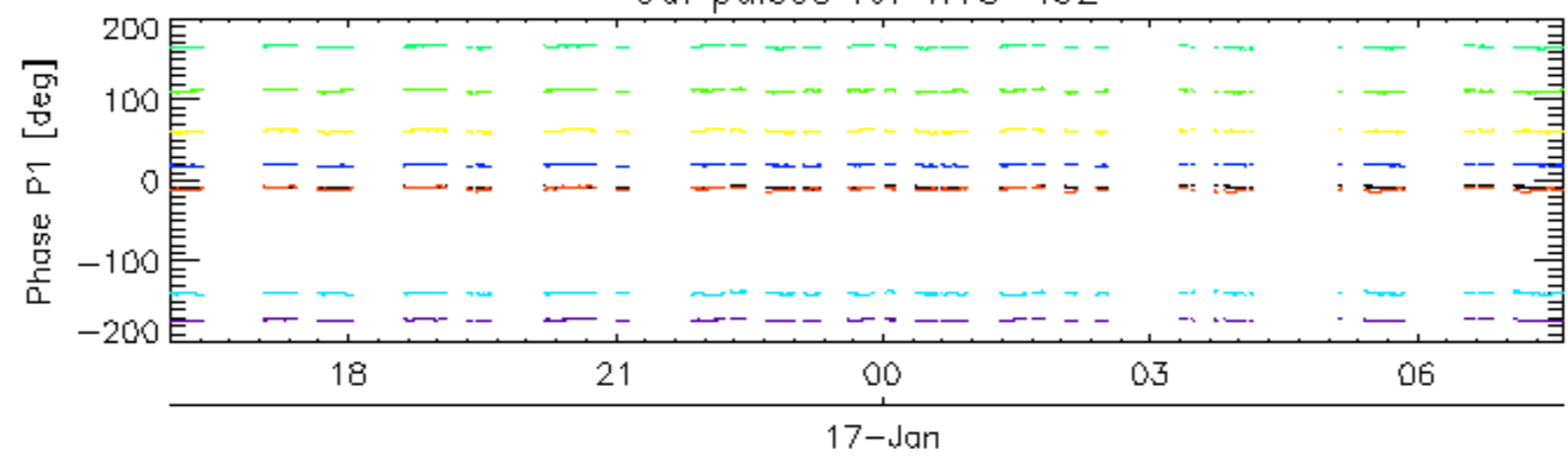


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

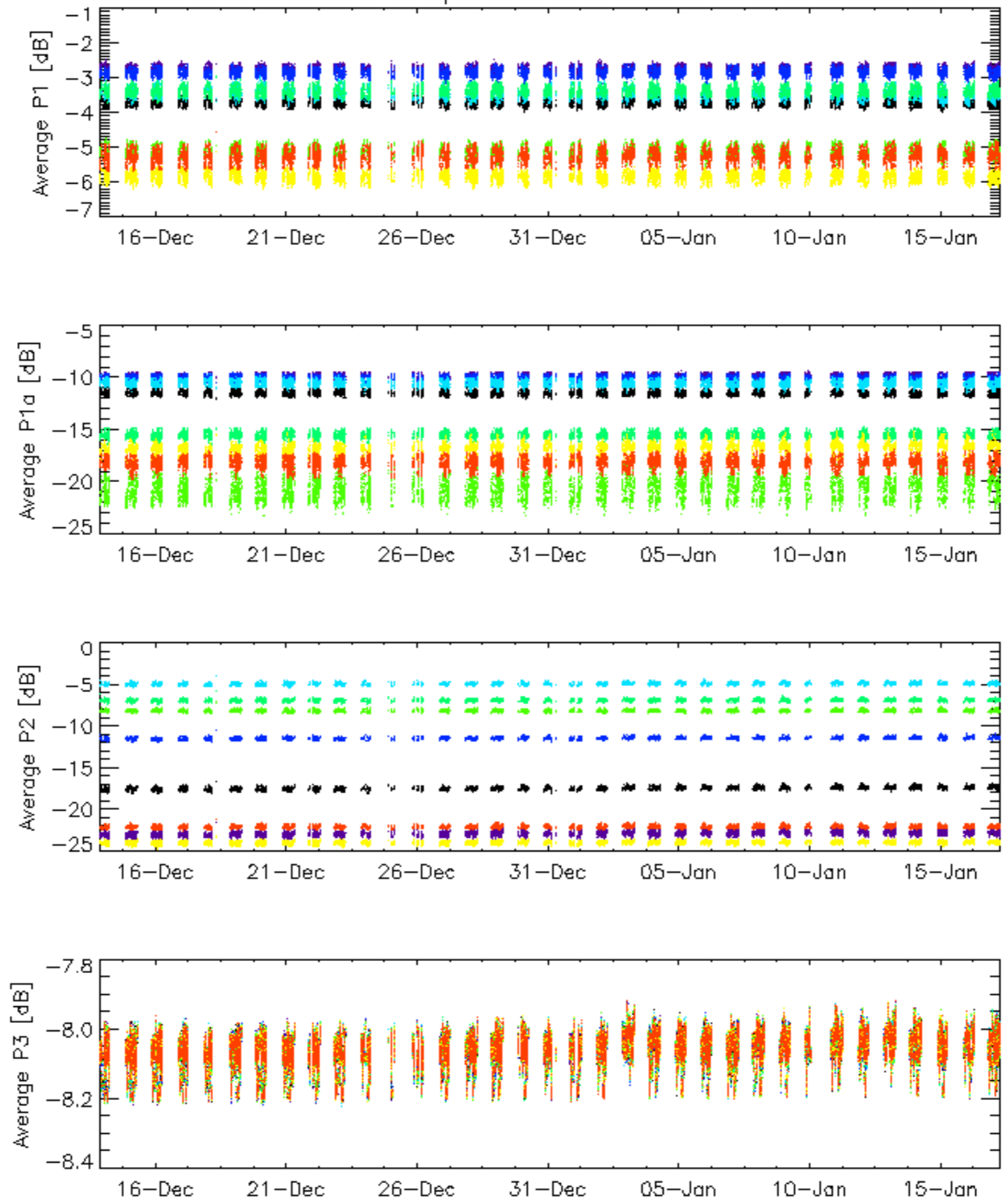


Cal pulses for WVS IS2

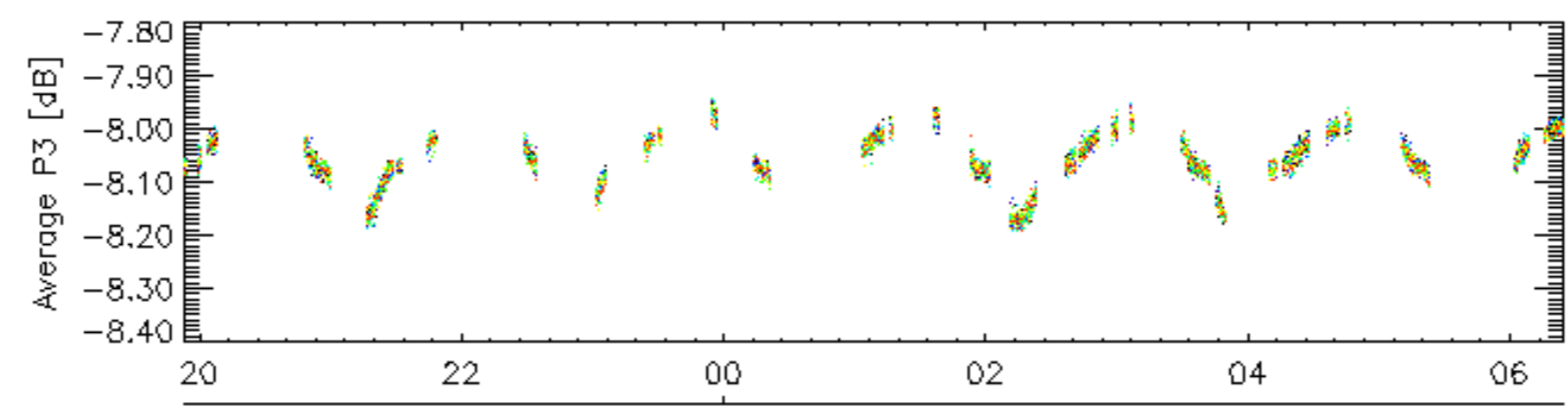
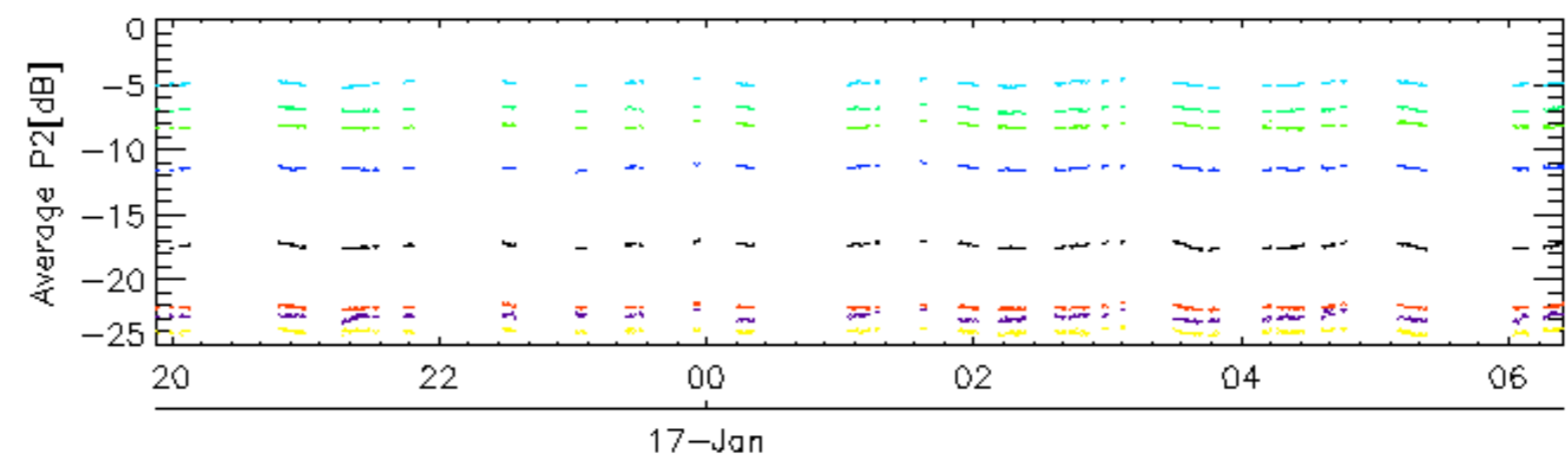
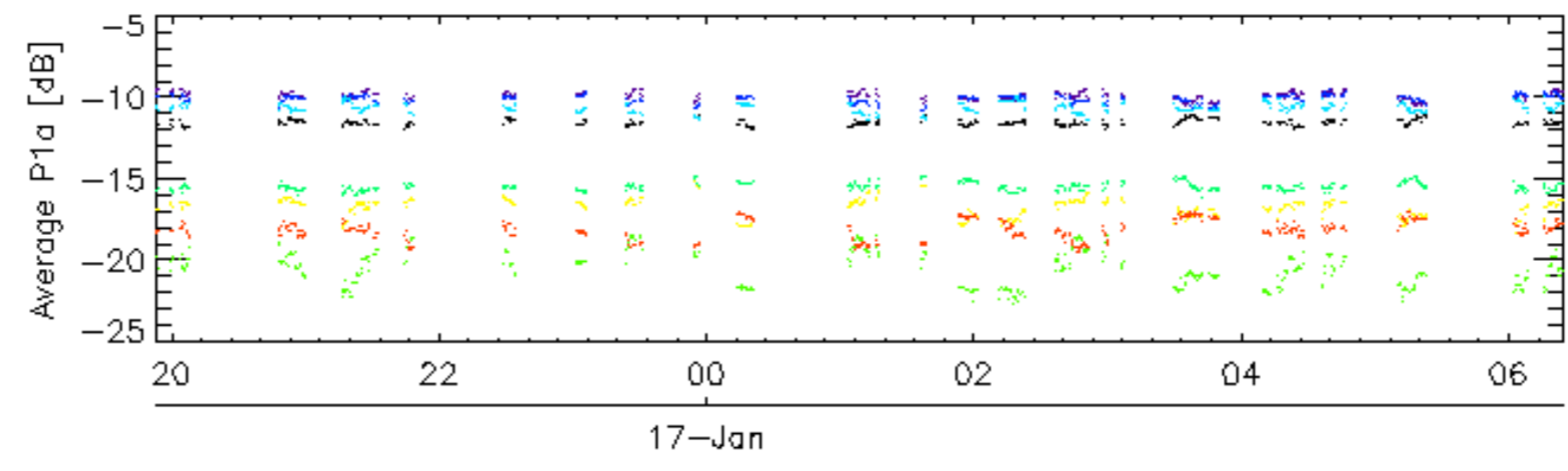
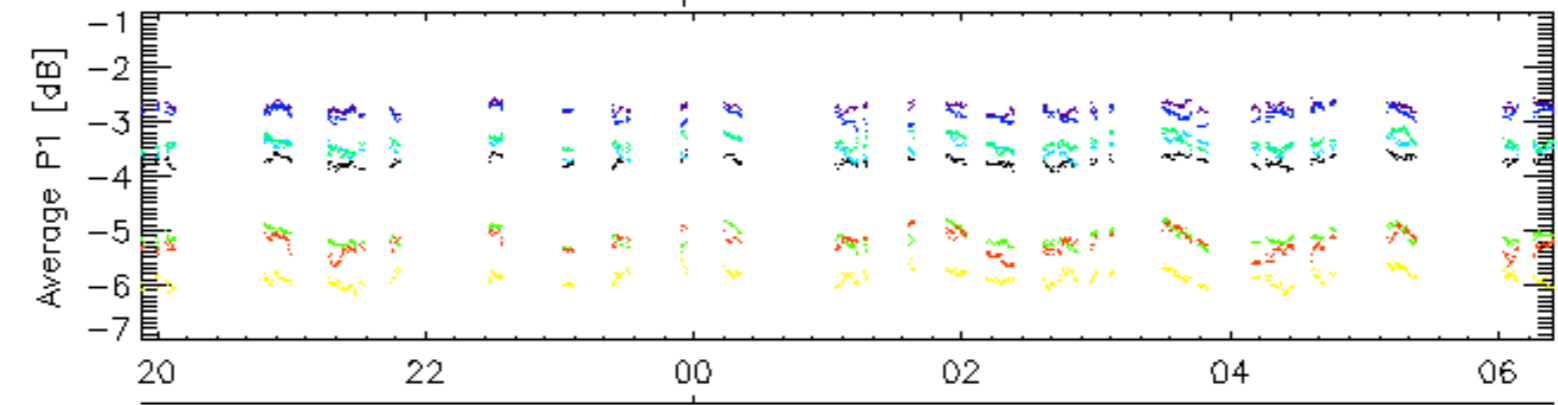


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

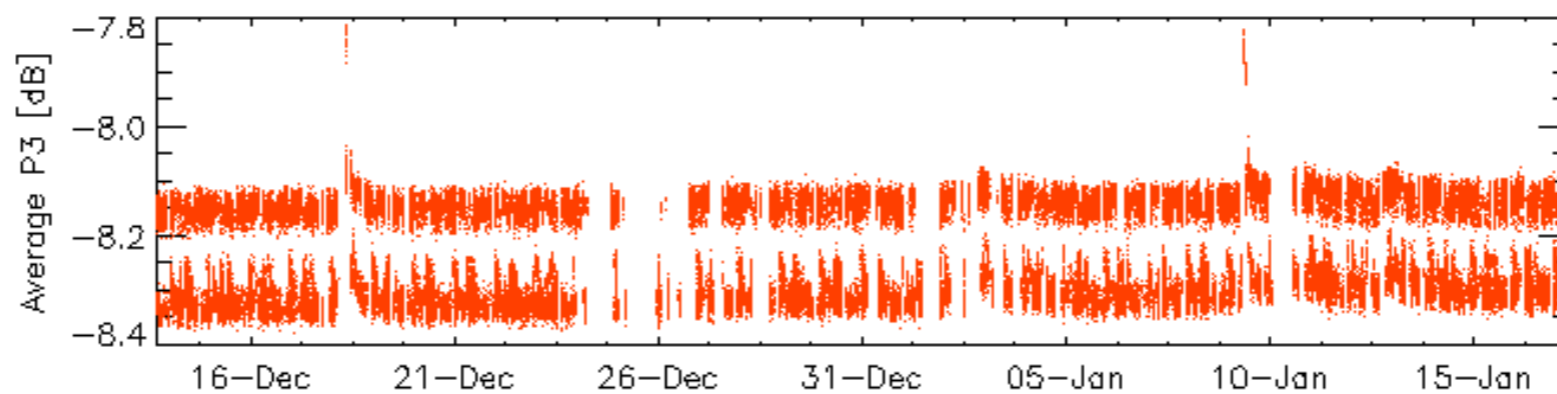
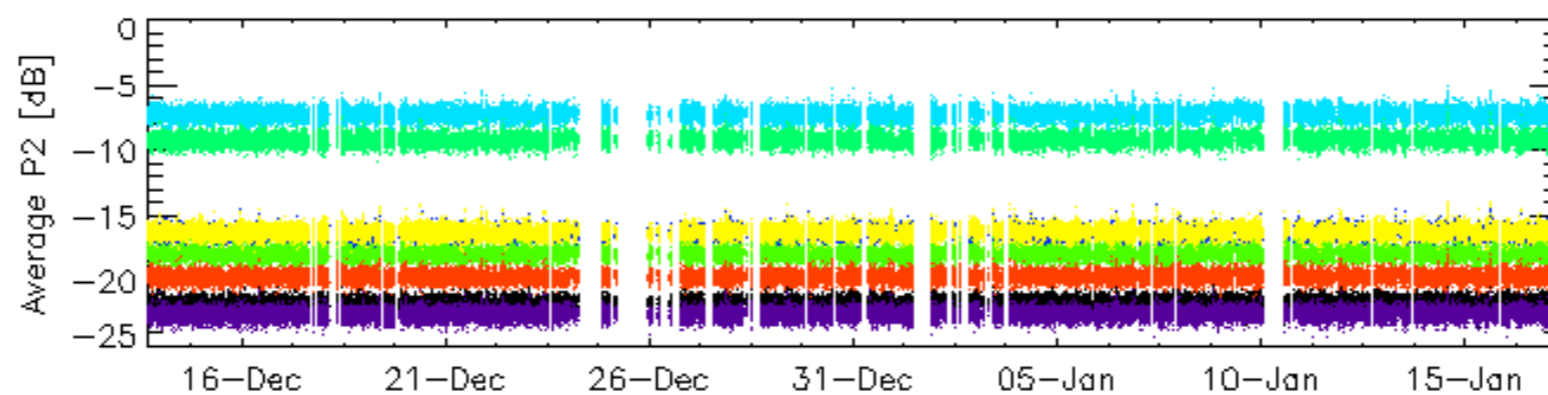
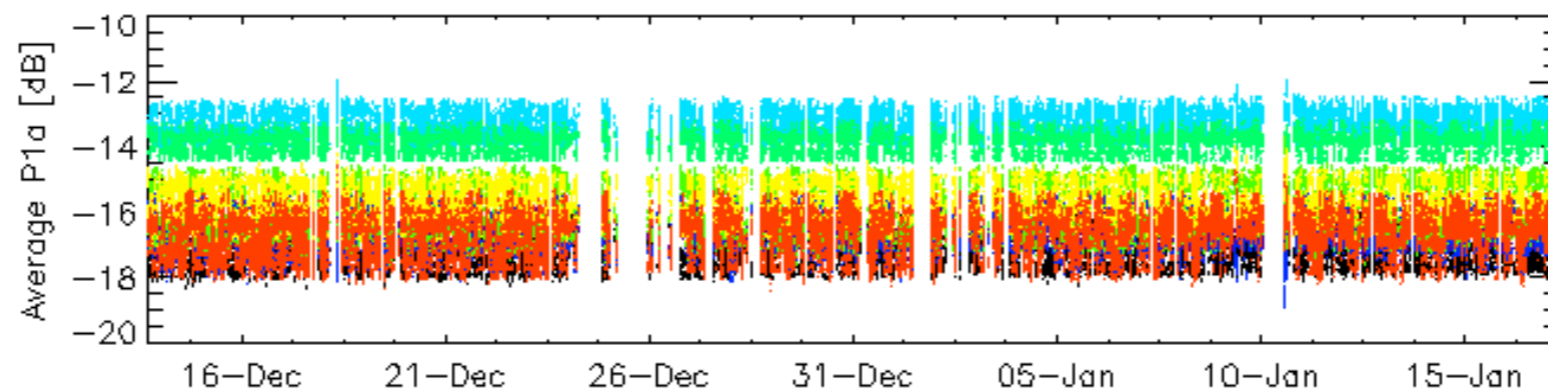
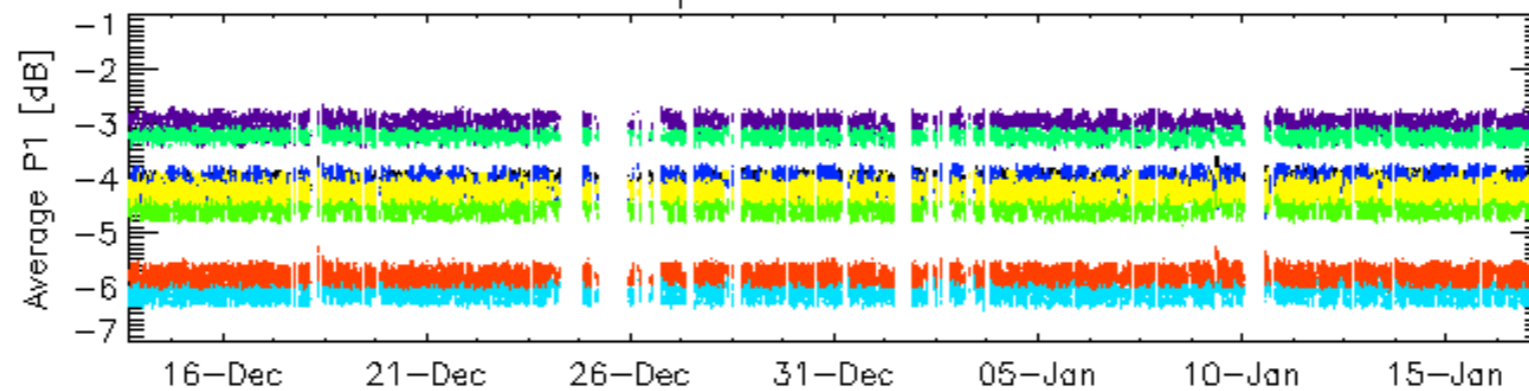


Cal pulses for GM1 SS3



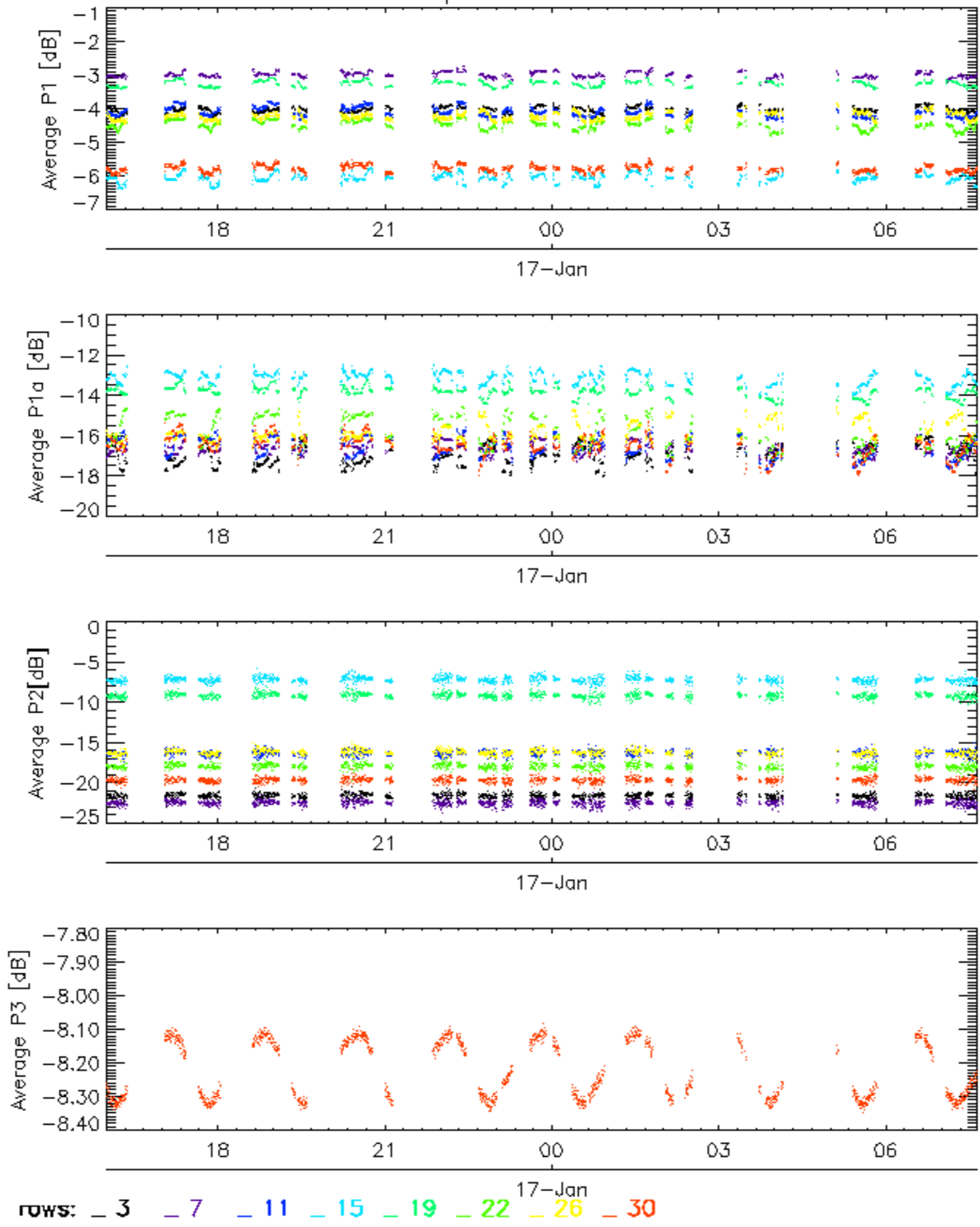
rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2



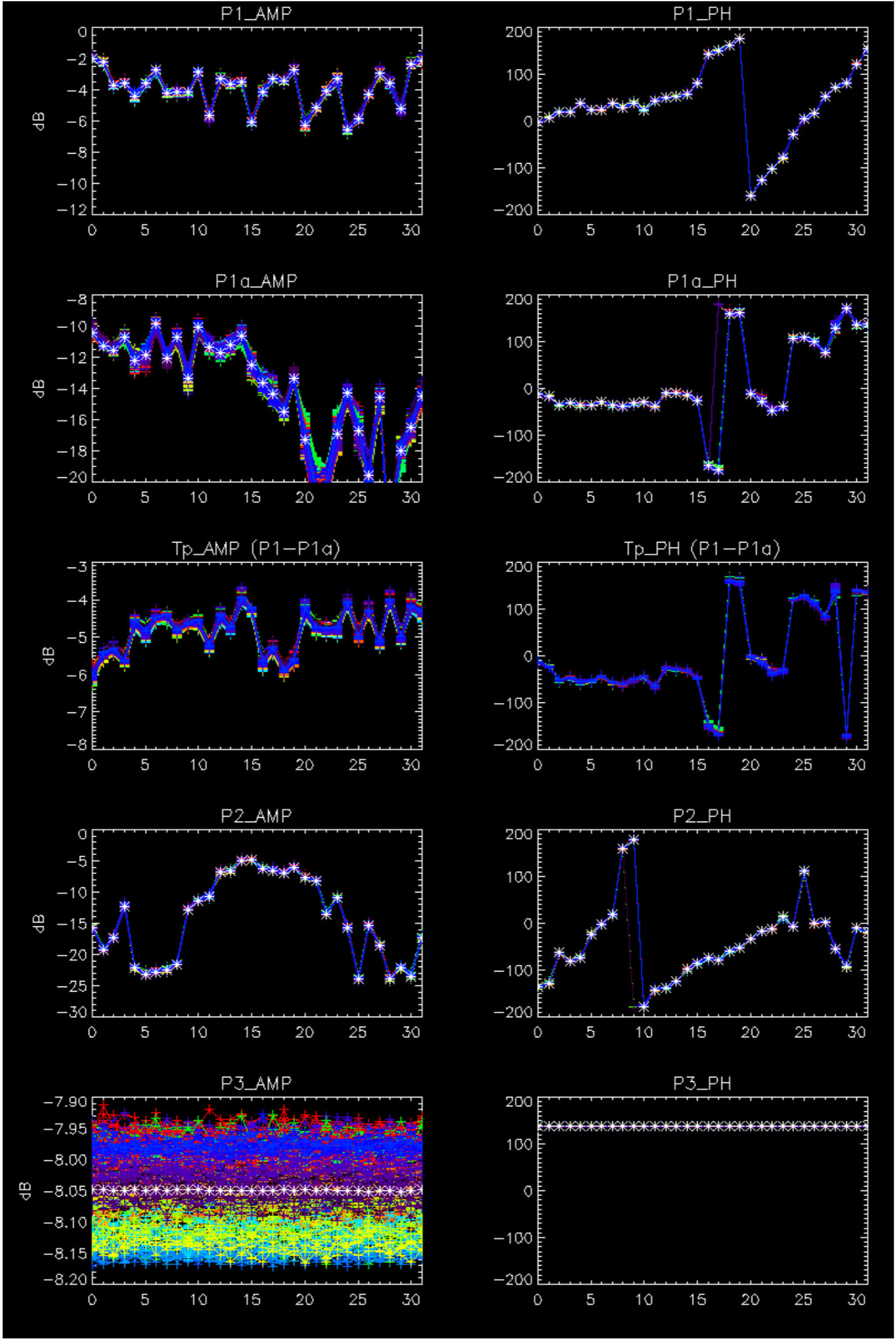
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

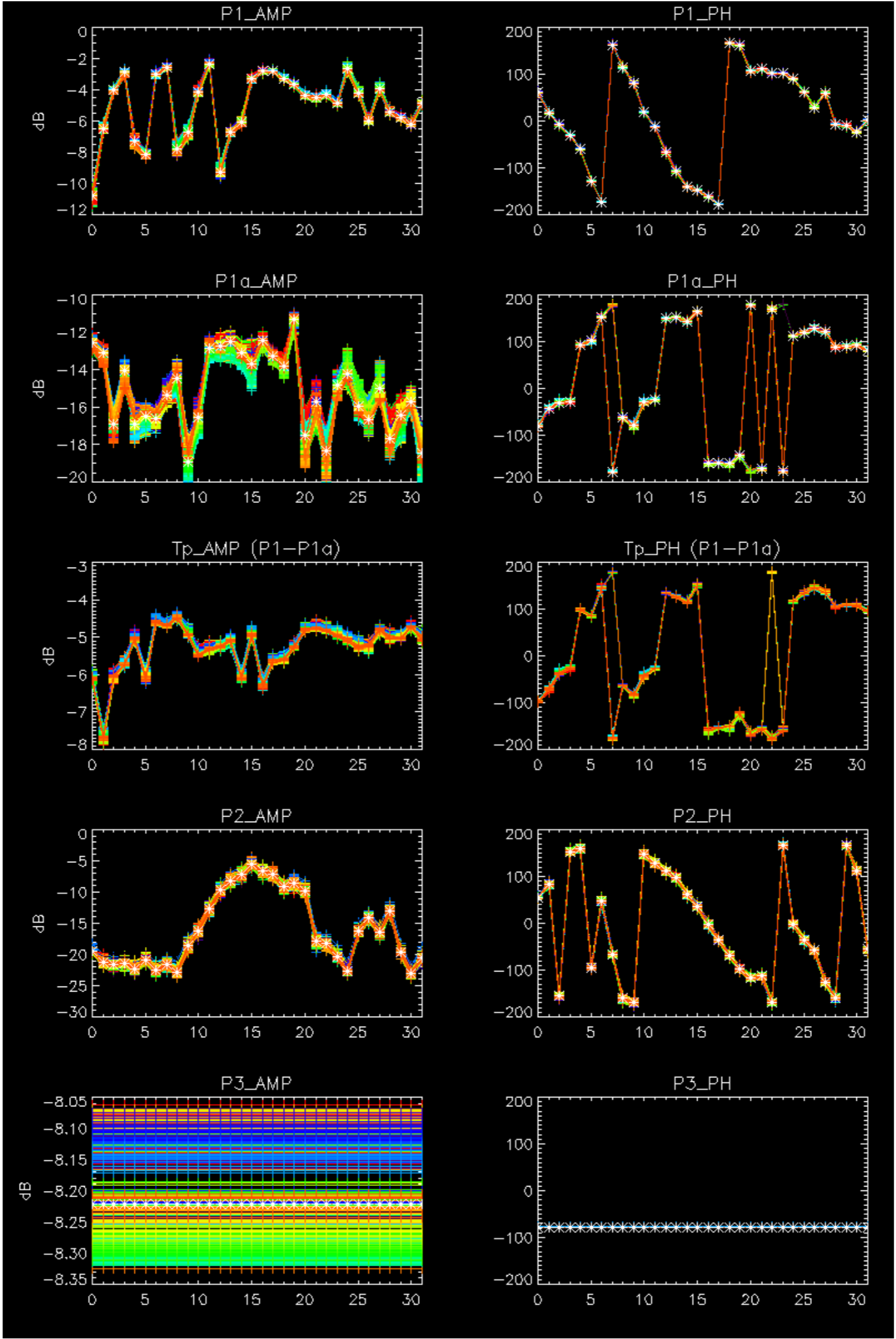
Cal pulses for WVS IS2



No anomalies observed on available browse products

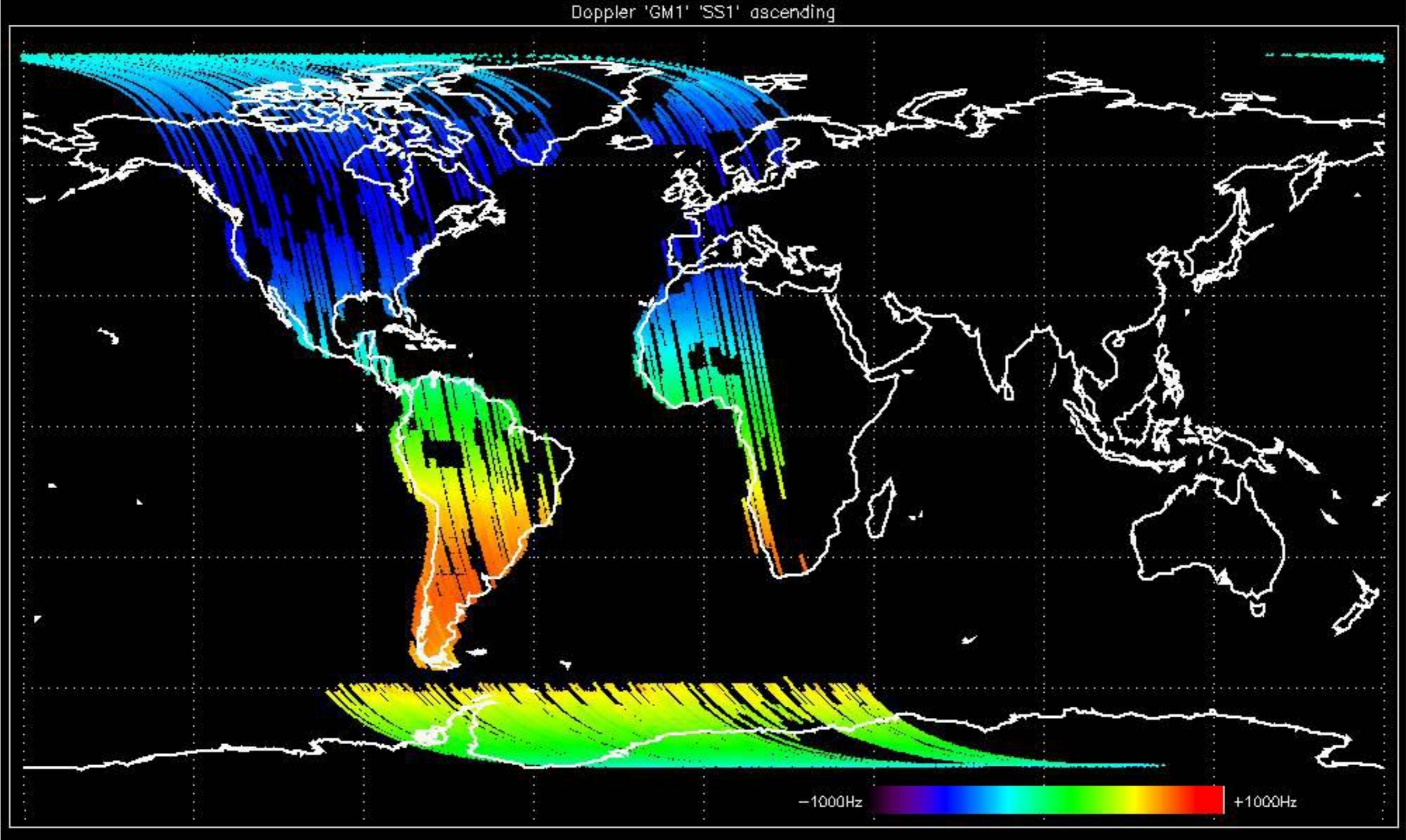
No anomalies observed.



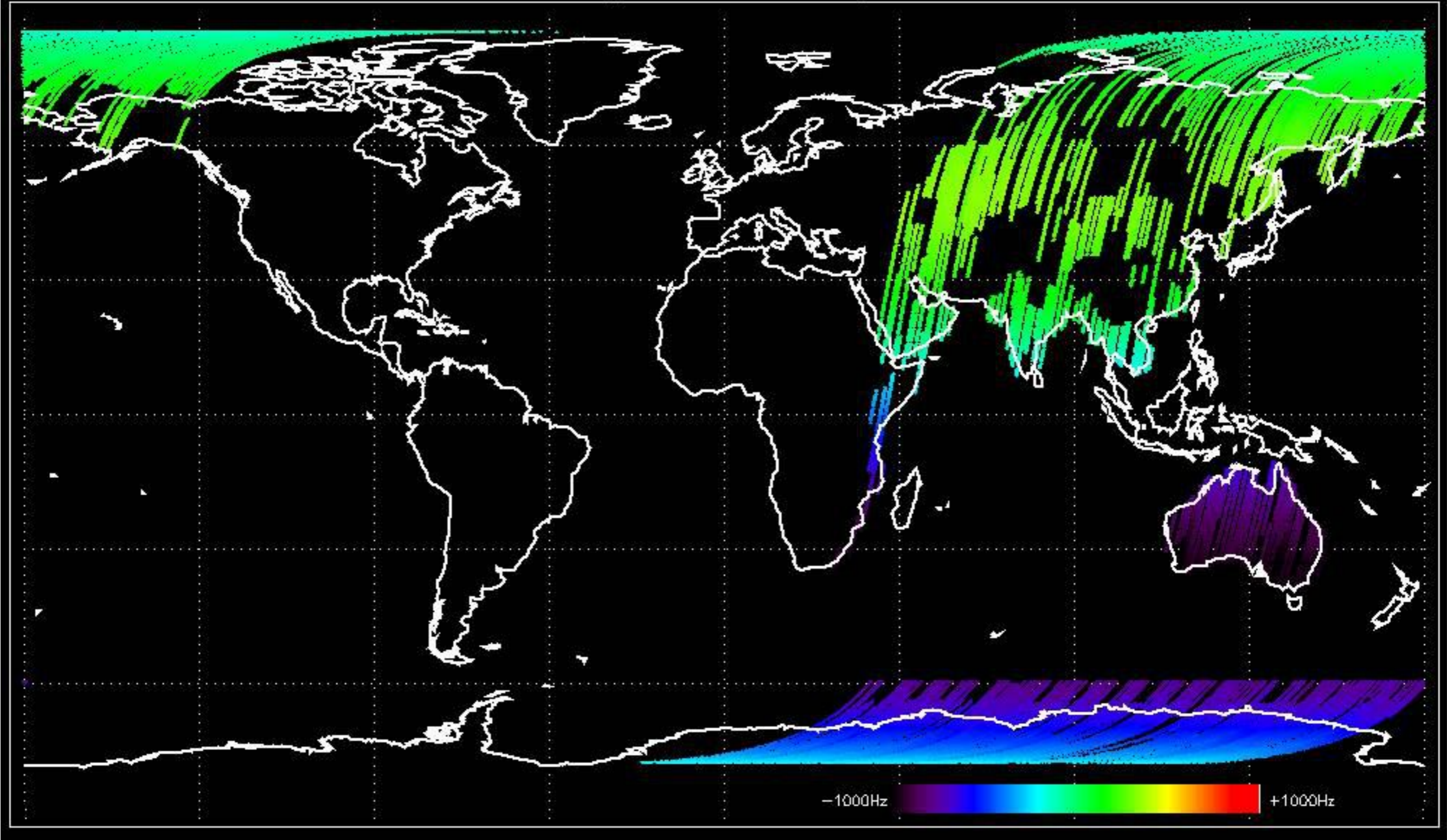


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

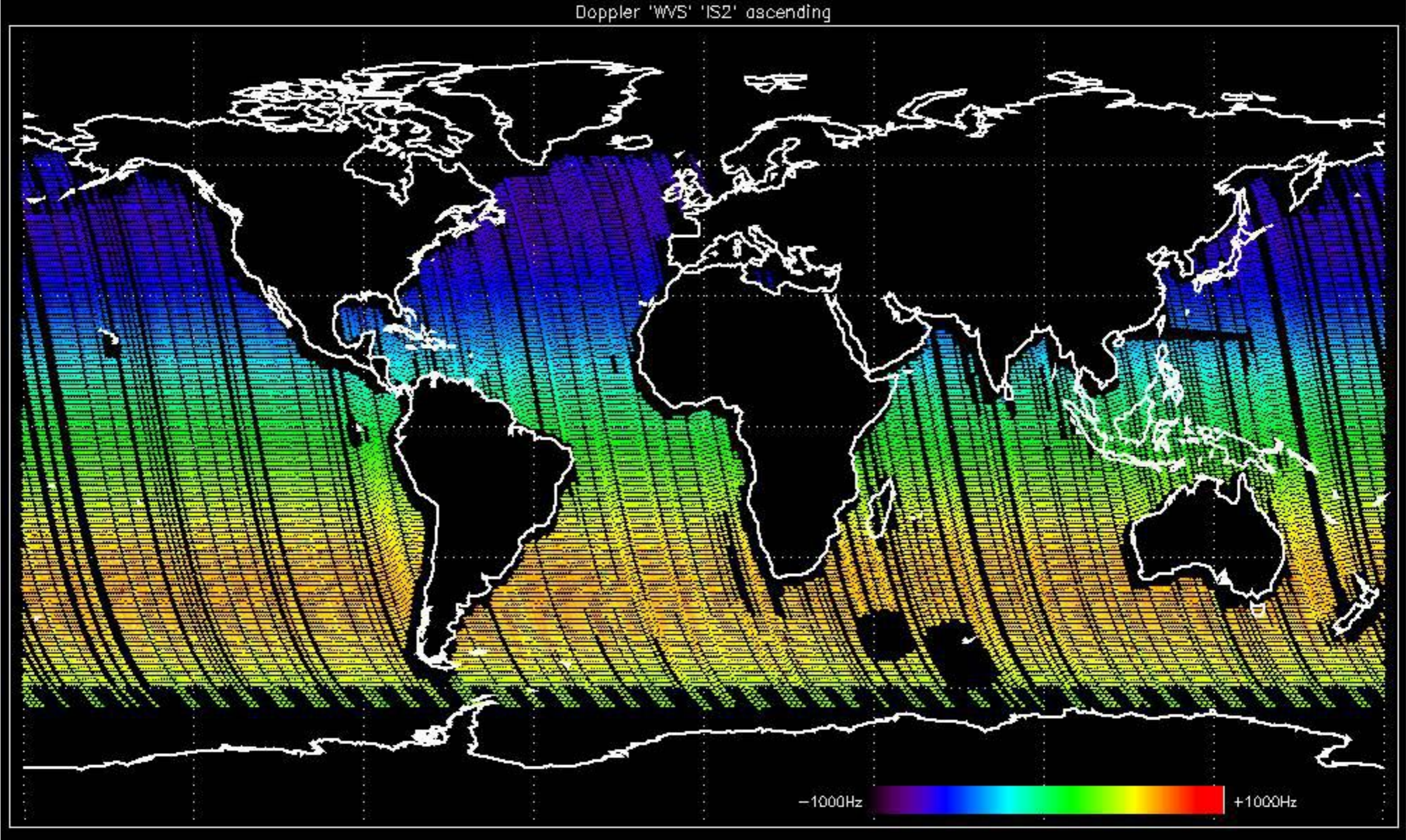
Doppler 'GM1' 'SS1' ascending



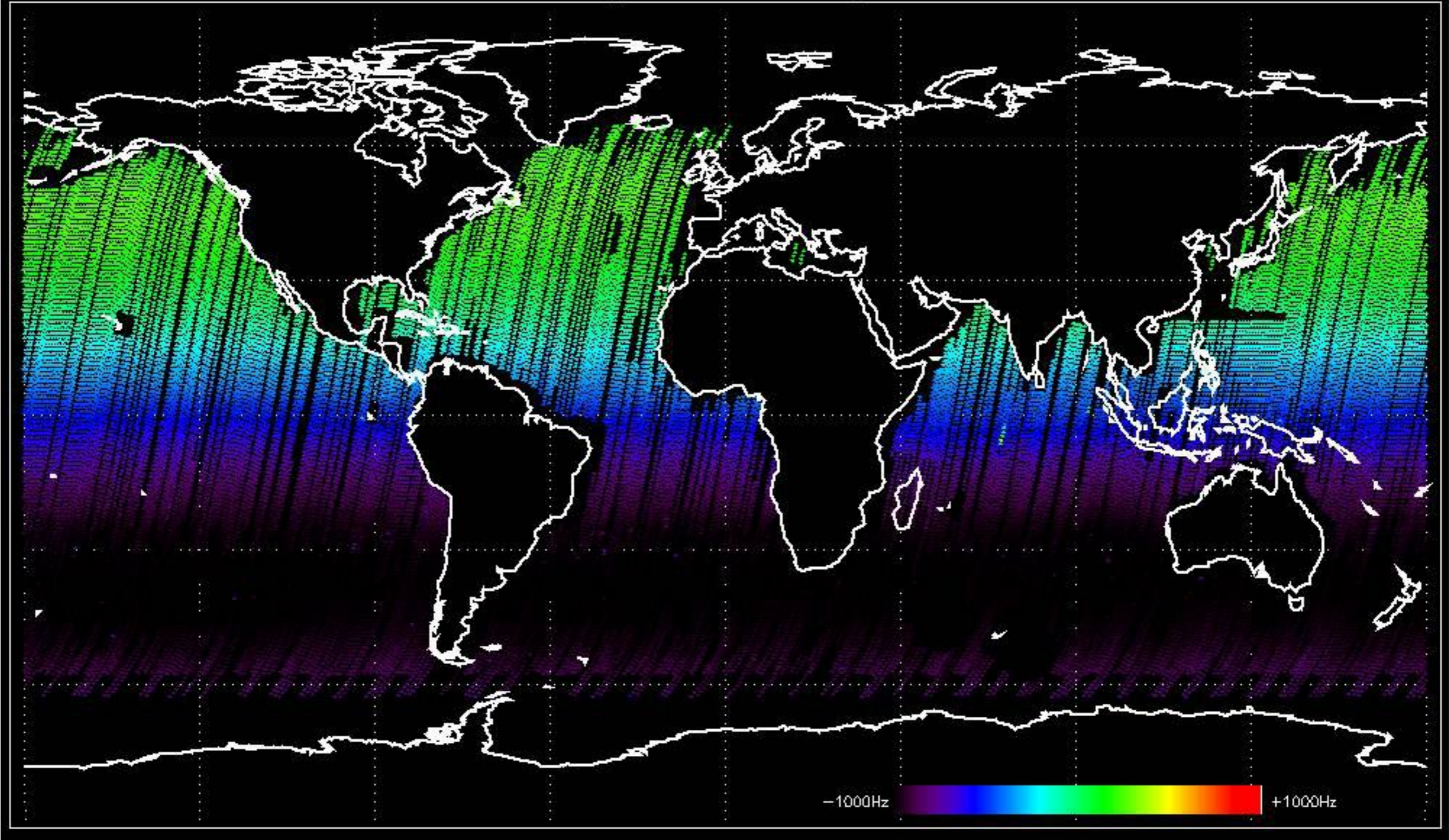
Doppler 'GM1' 'SS1' descending



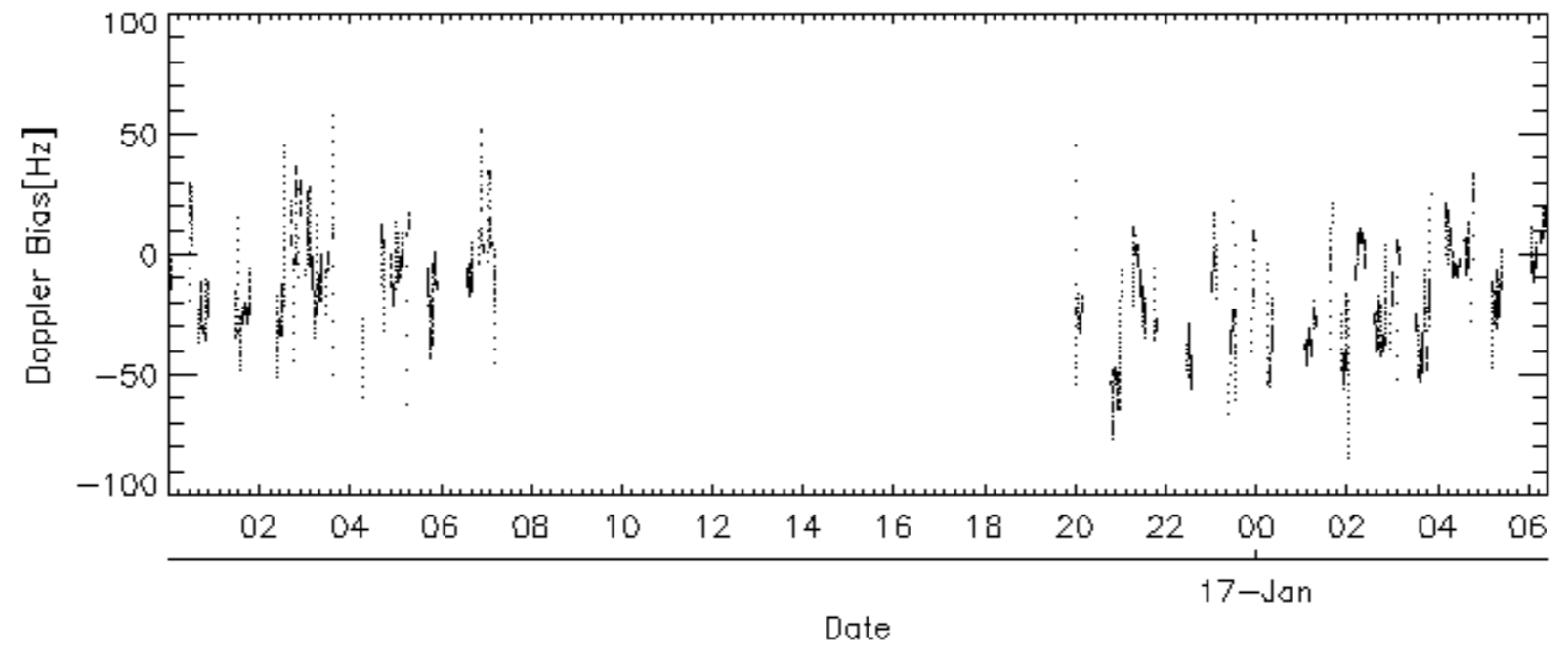
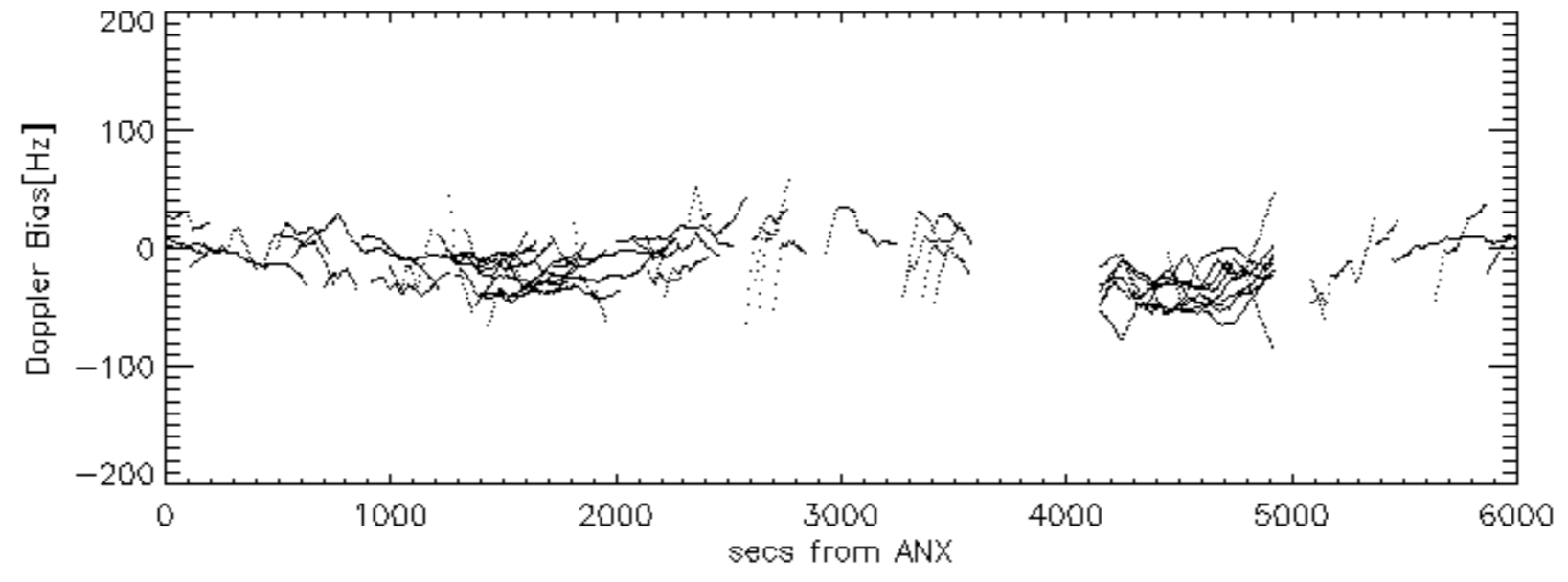
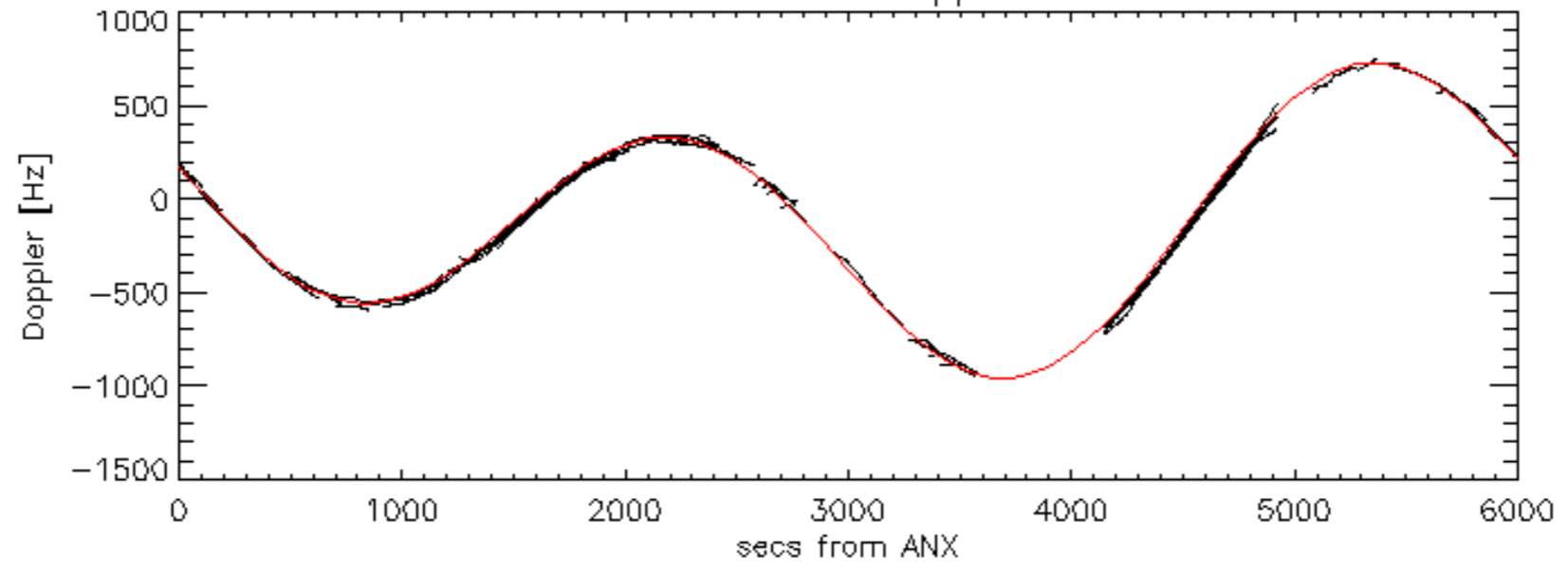
Doppler 'WVS' 'IS2' ascending

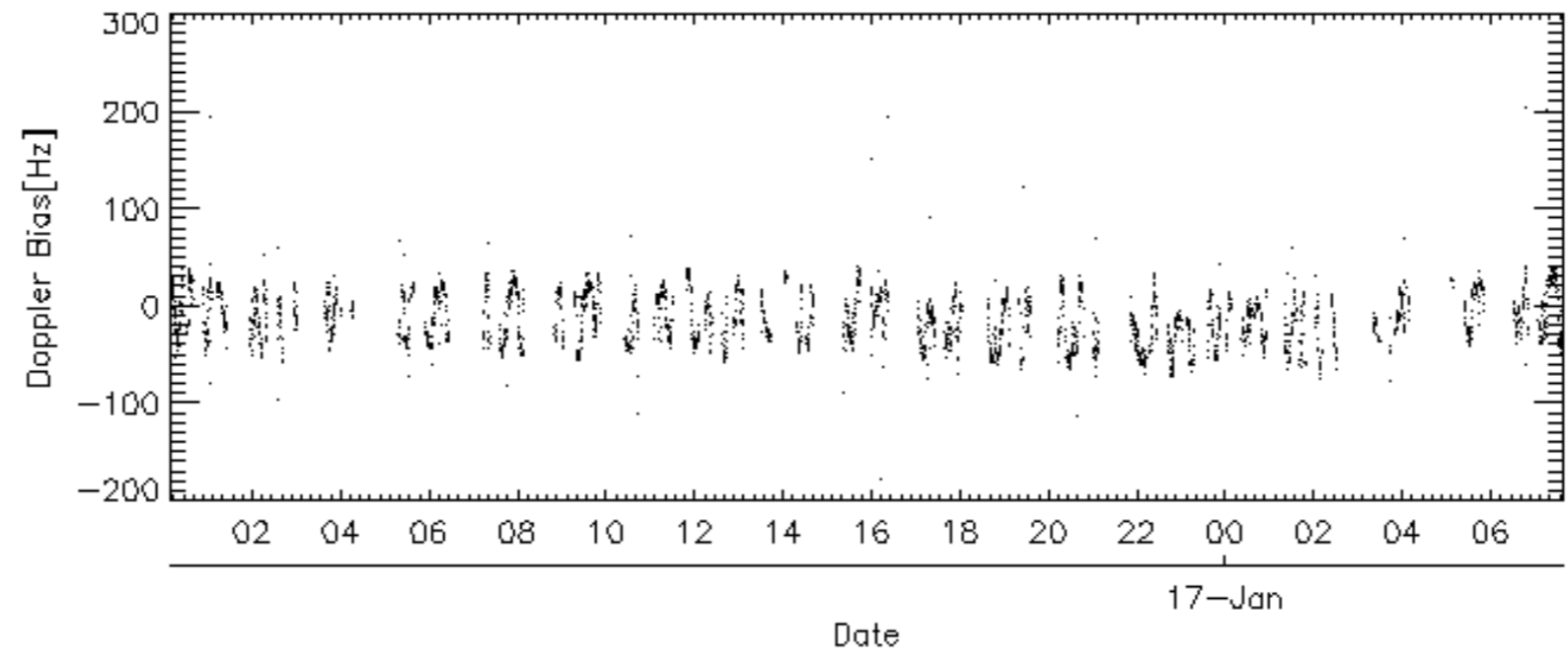
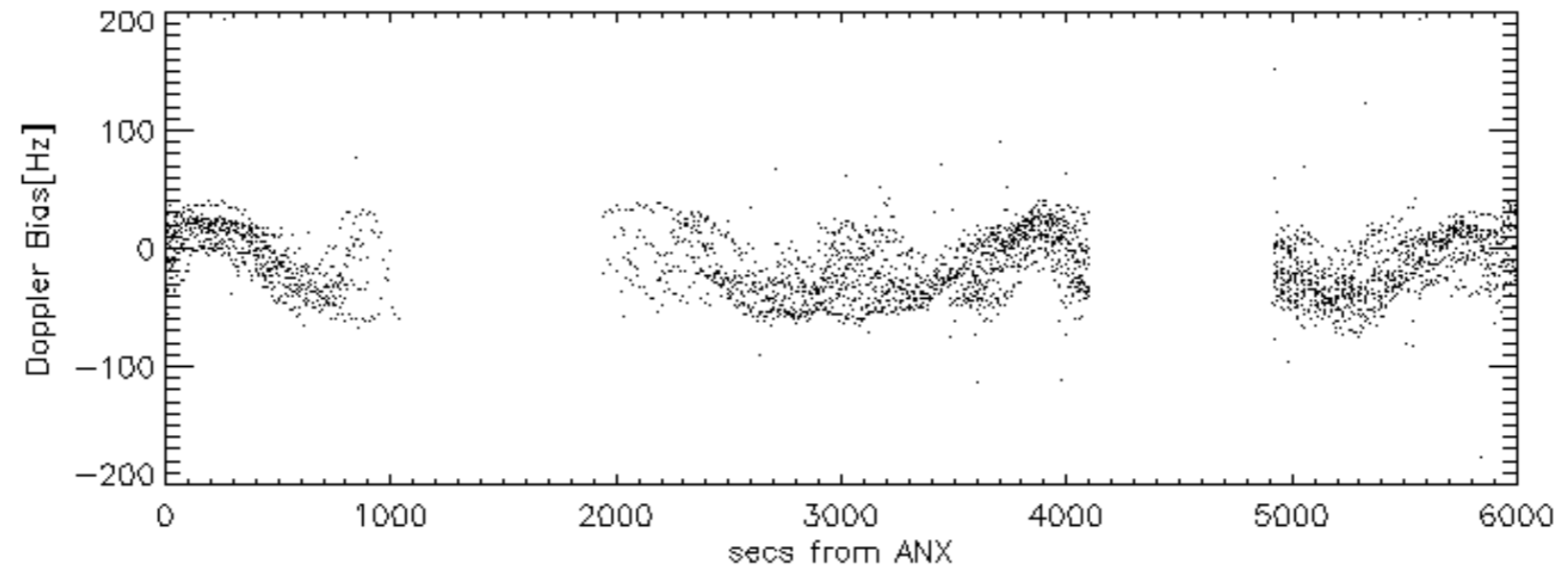
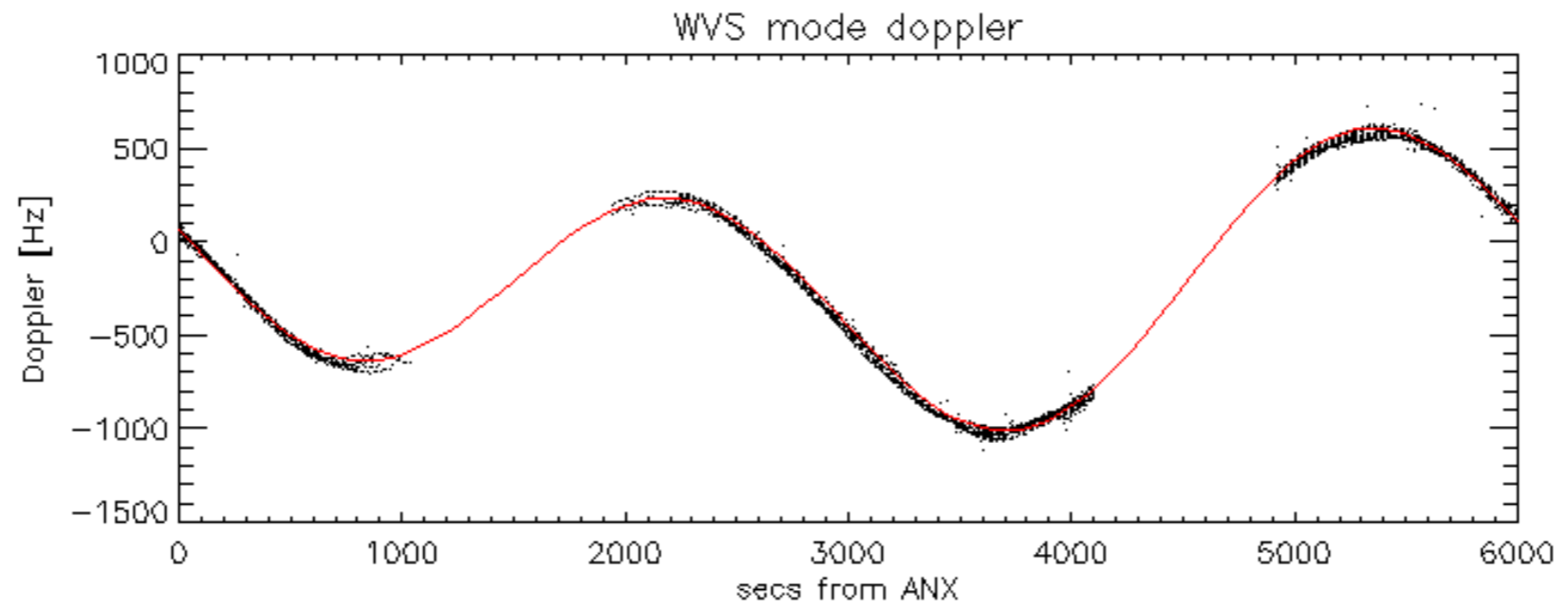


Doppler 'WVS' 'IS2' descending

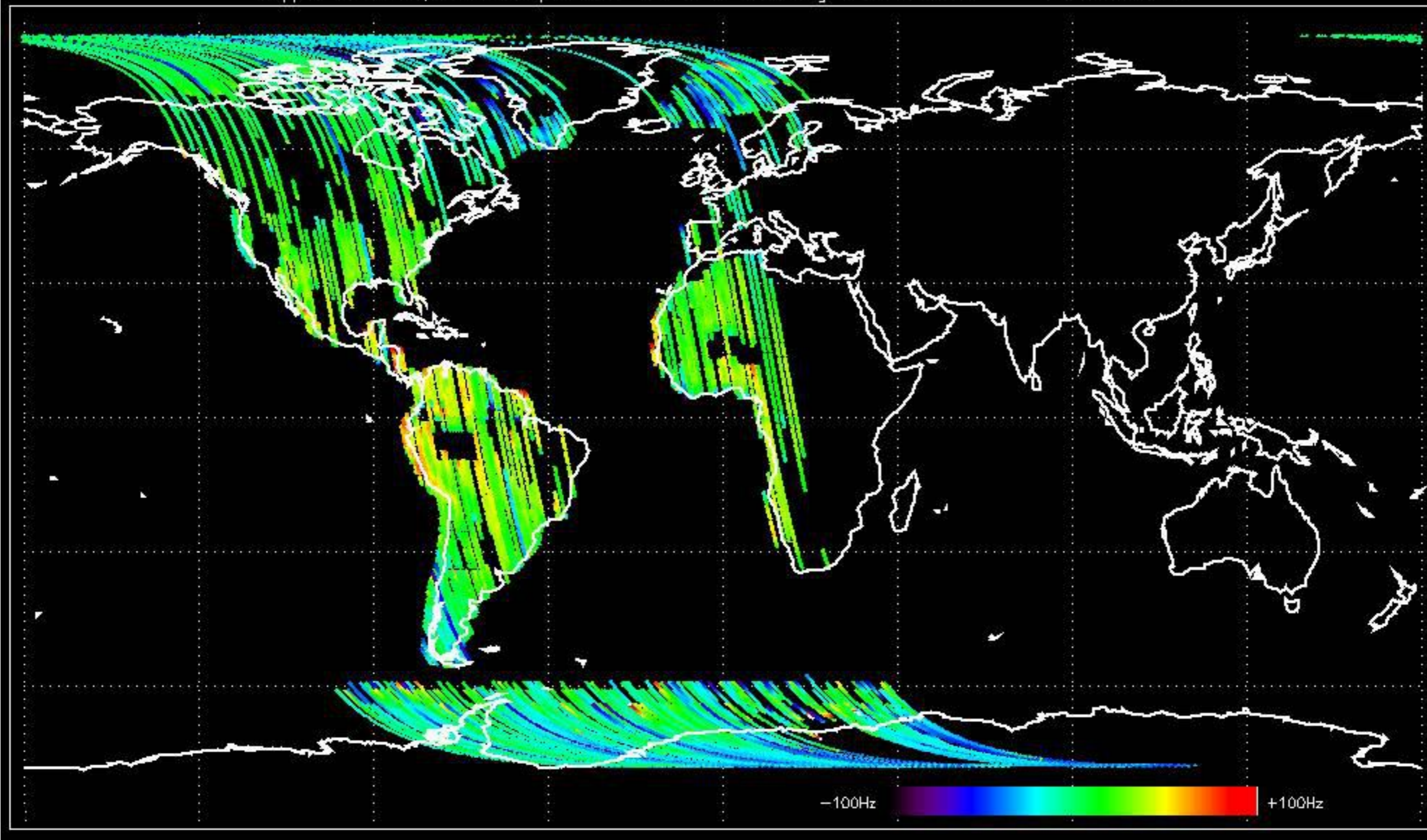


GM1 mode doppler

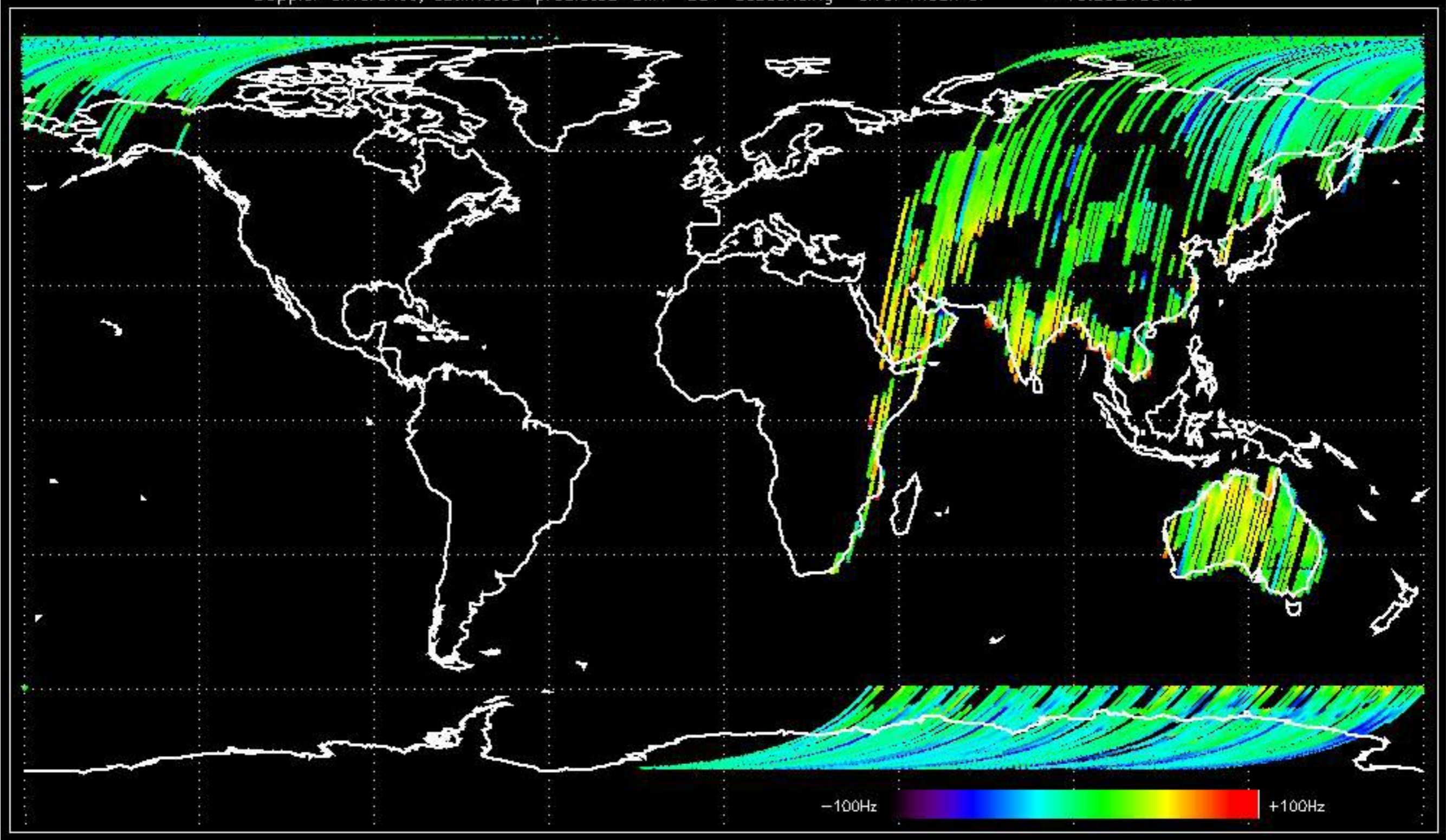




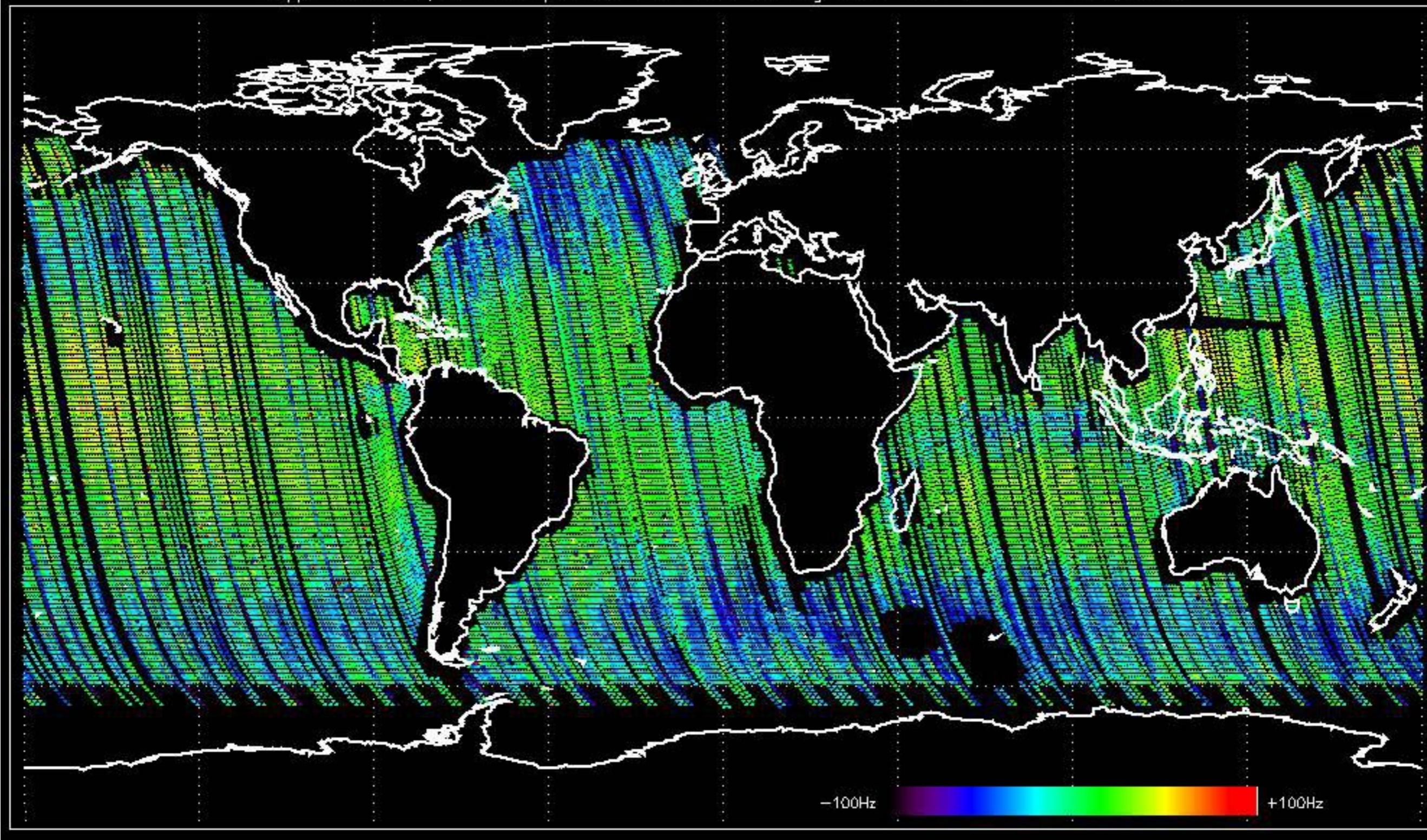
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -13.471435 Hz



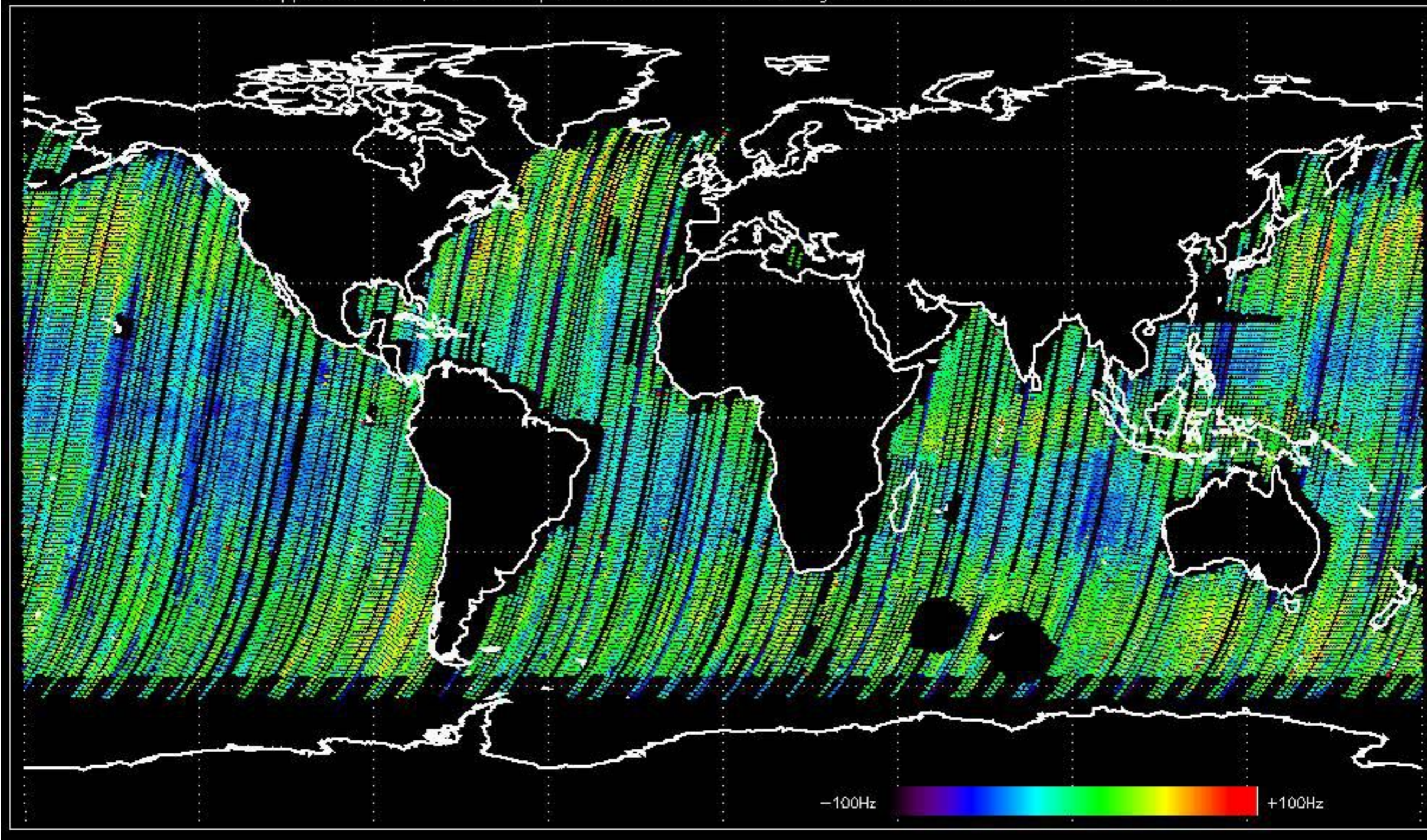
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -18.592189 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -7.8791325 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -9.6102254 Hz

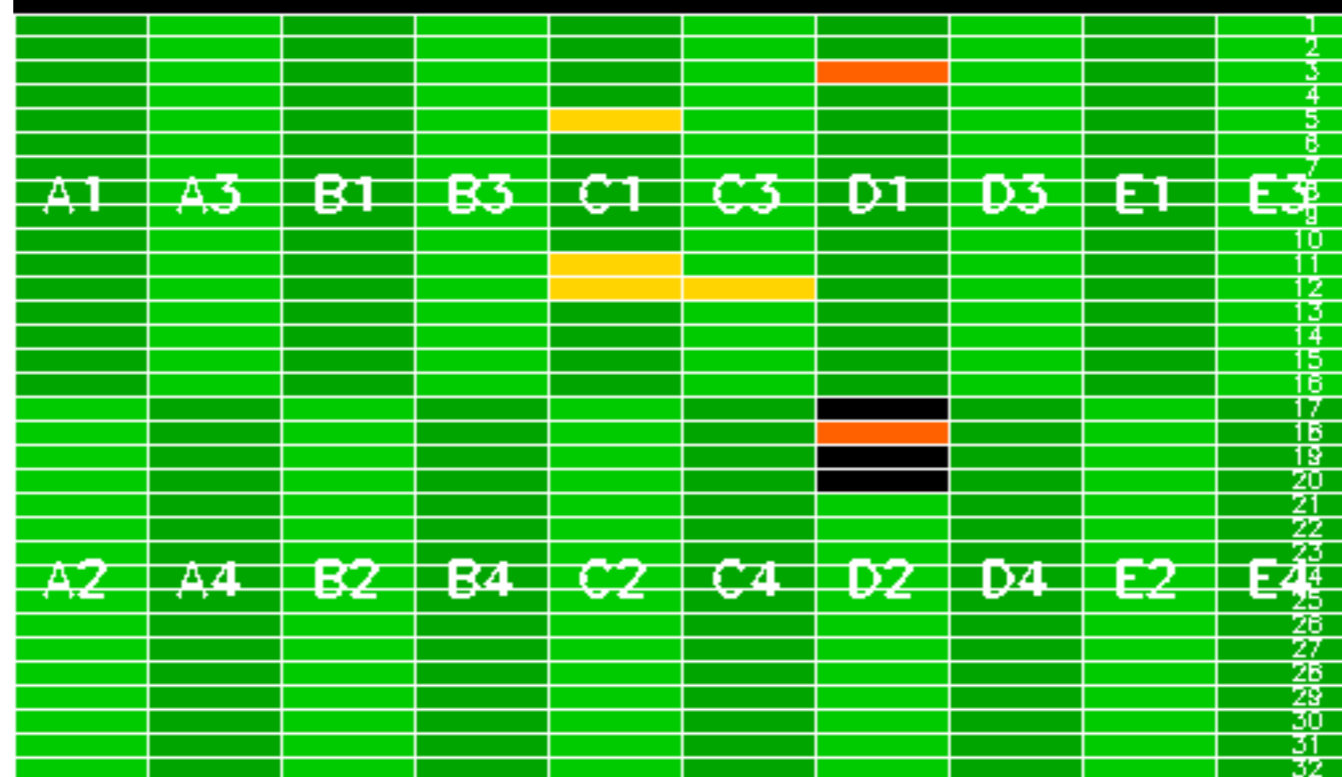


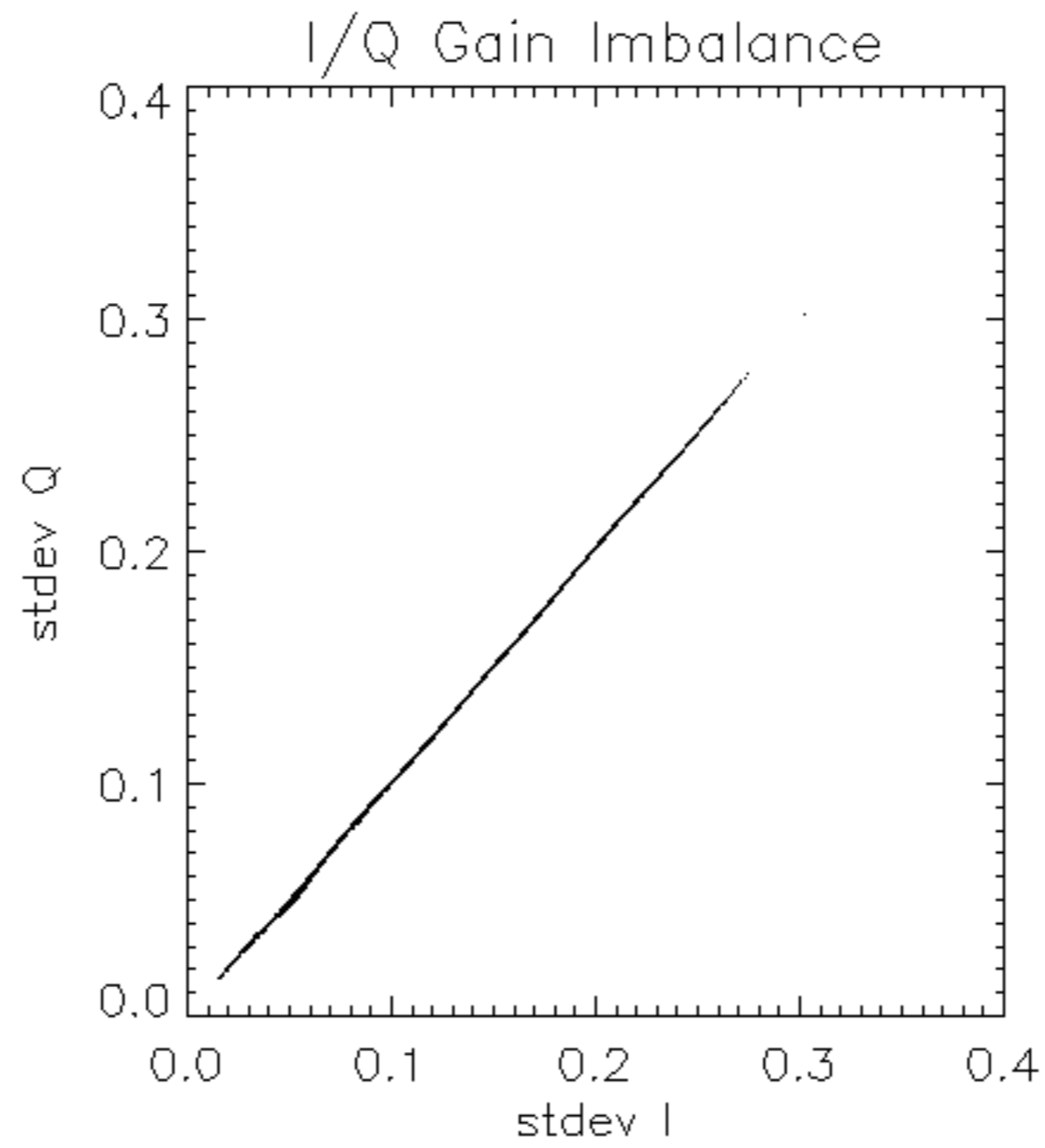
No anomalies observed on available MS products:

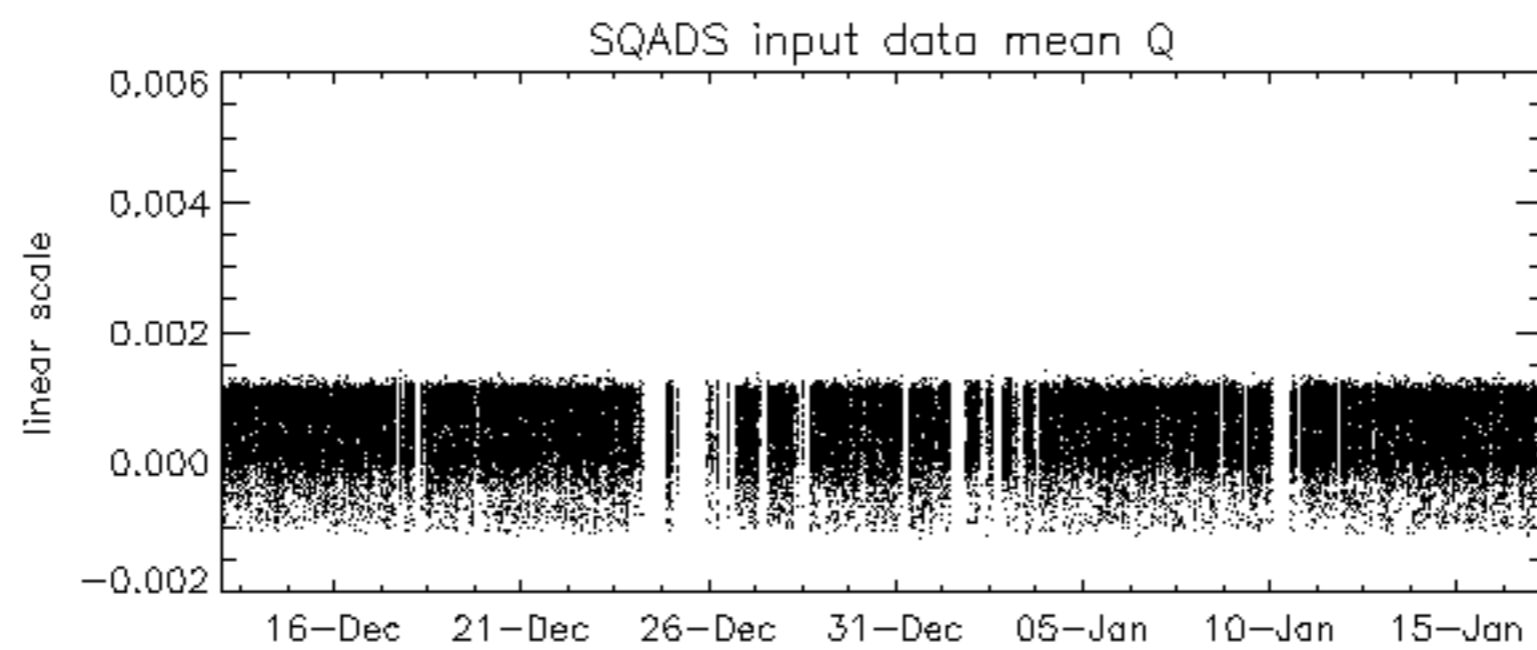
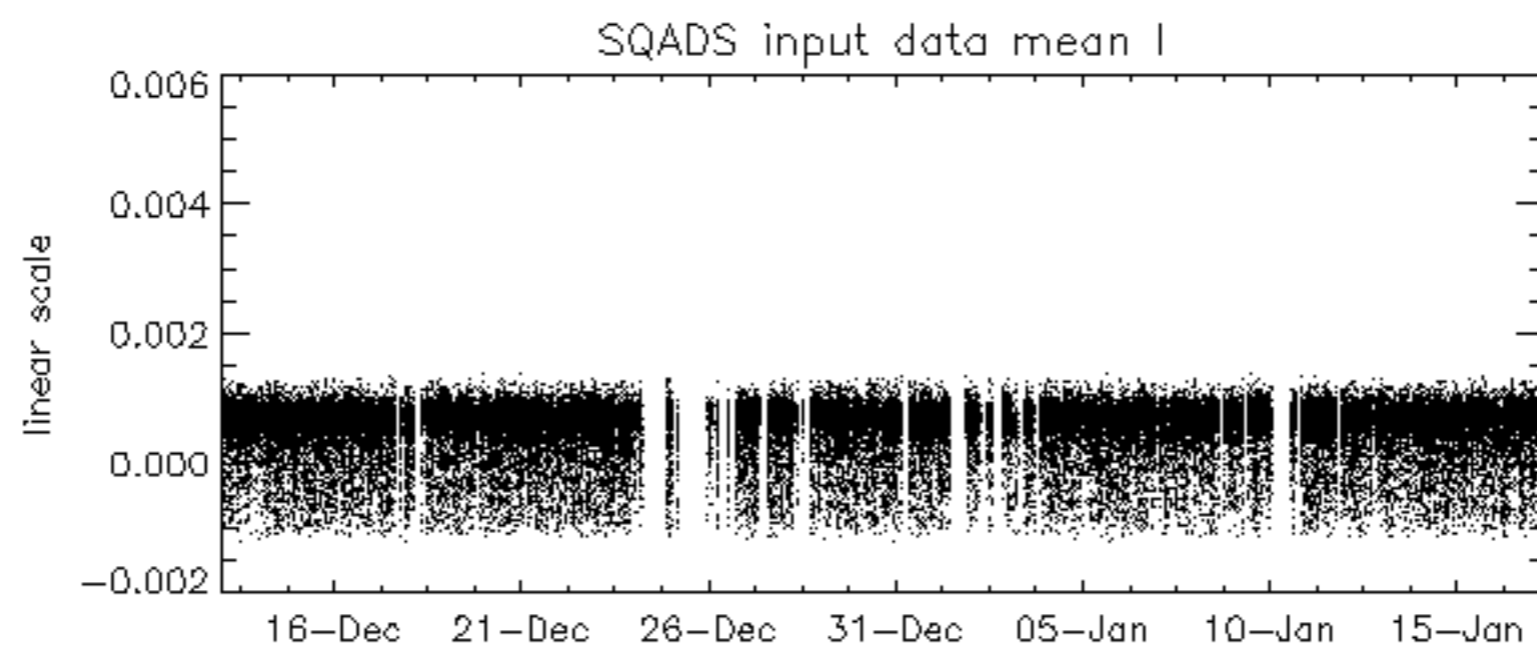
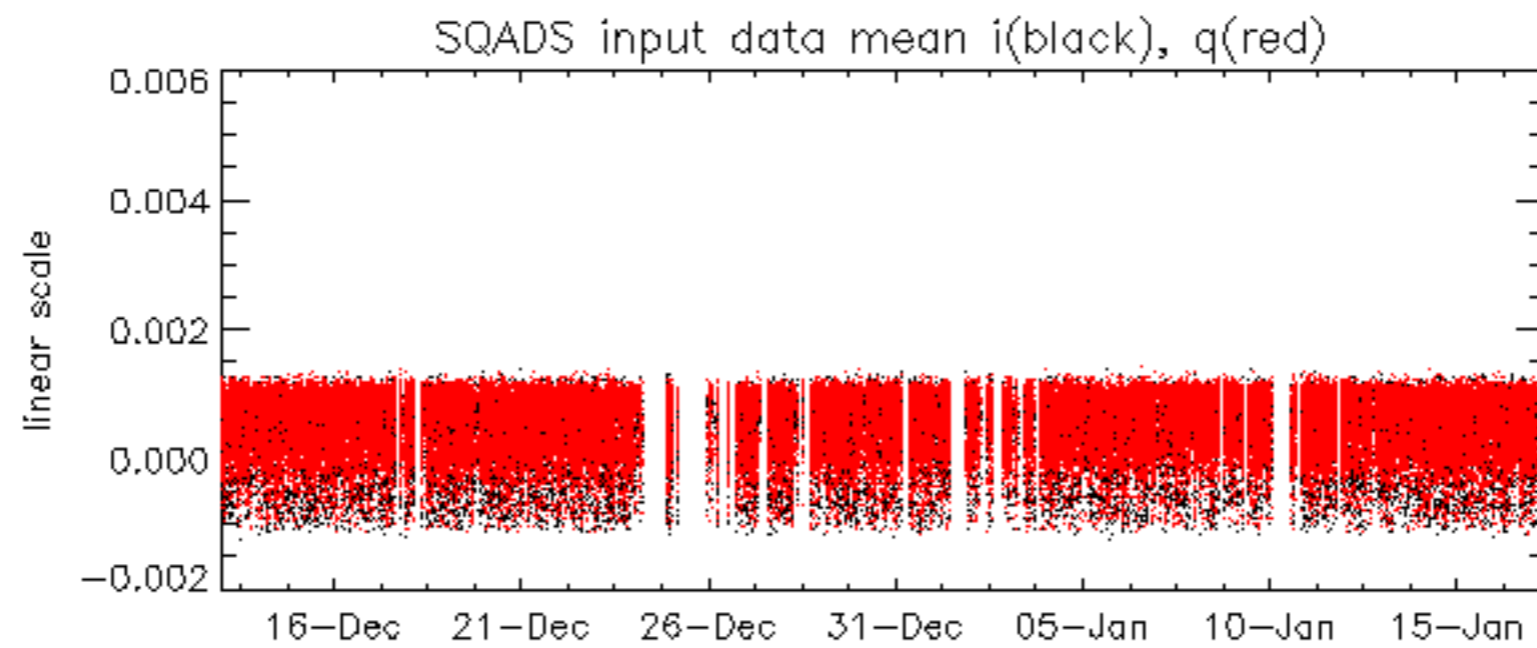
No anomalies observed.

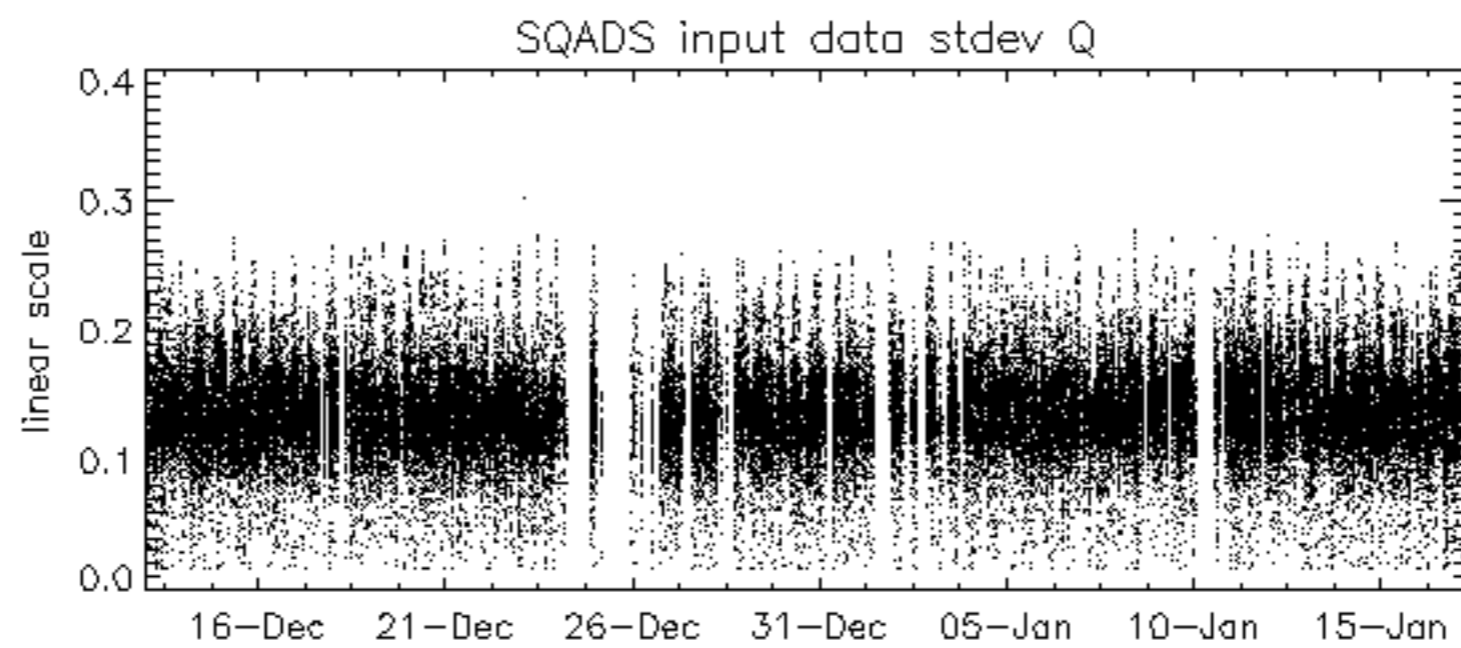
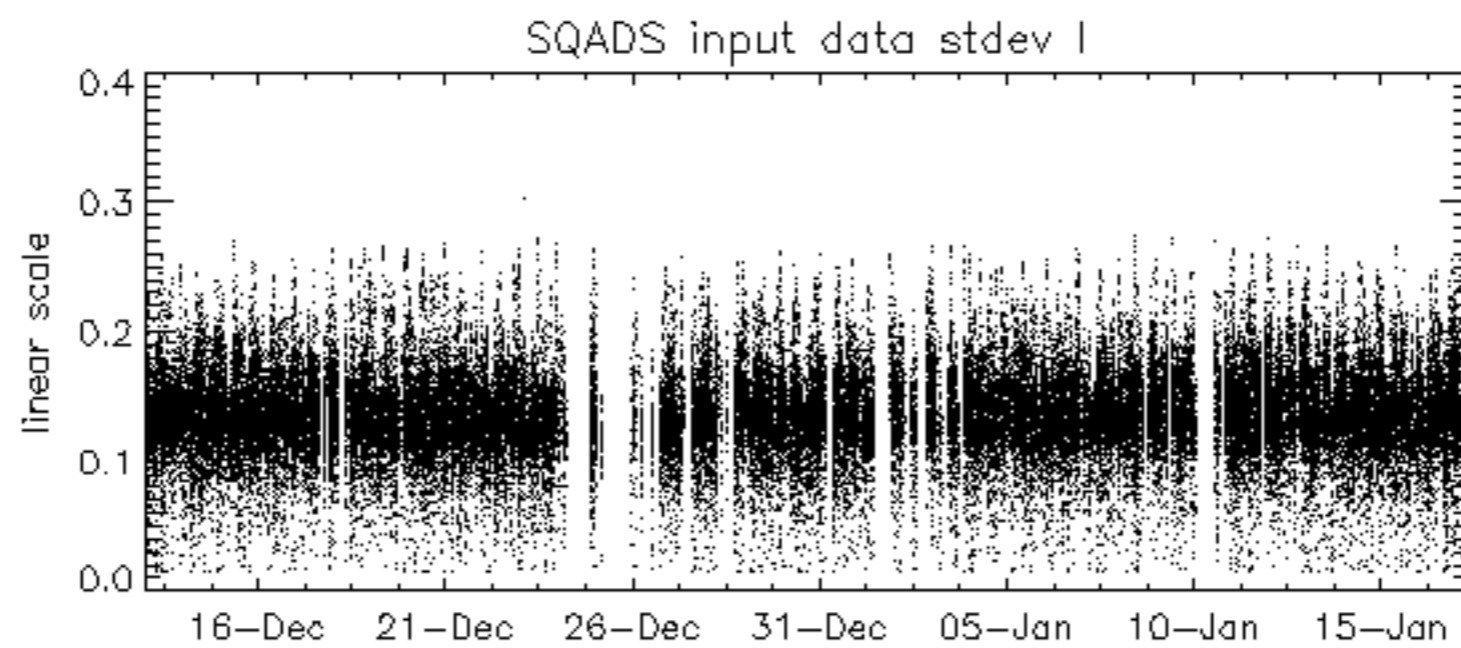
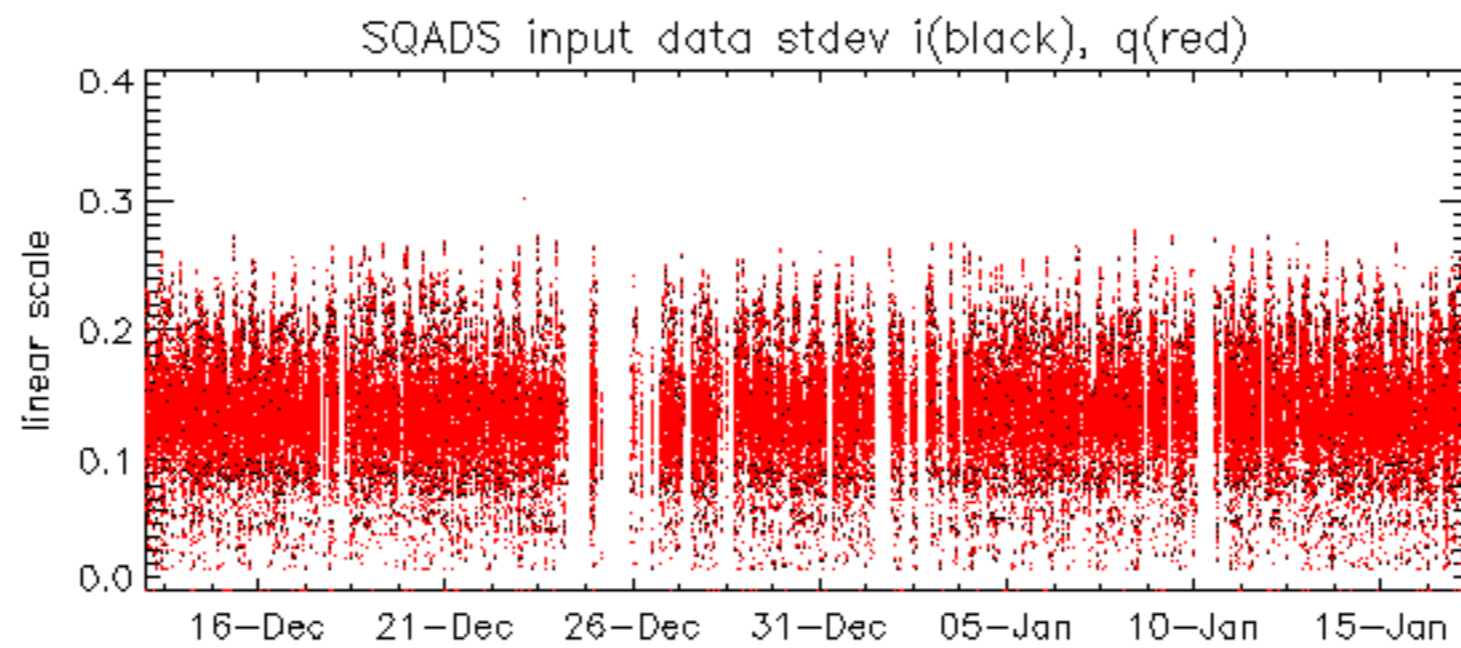
Reference: 2001-02-09 13:50:42 H RxGain

Test : 2006-01-15 06:12:17 H





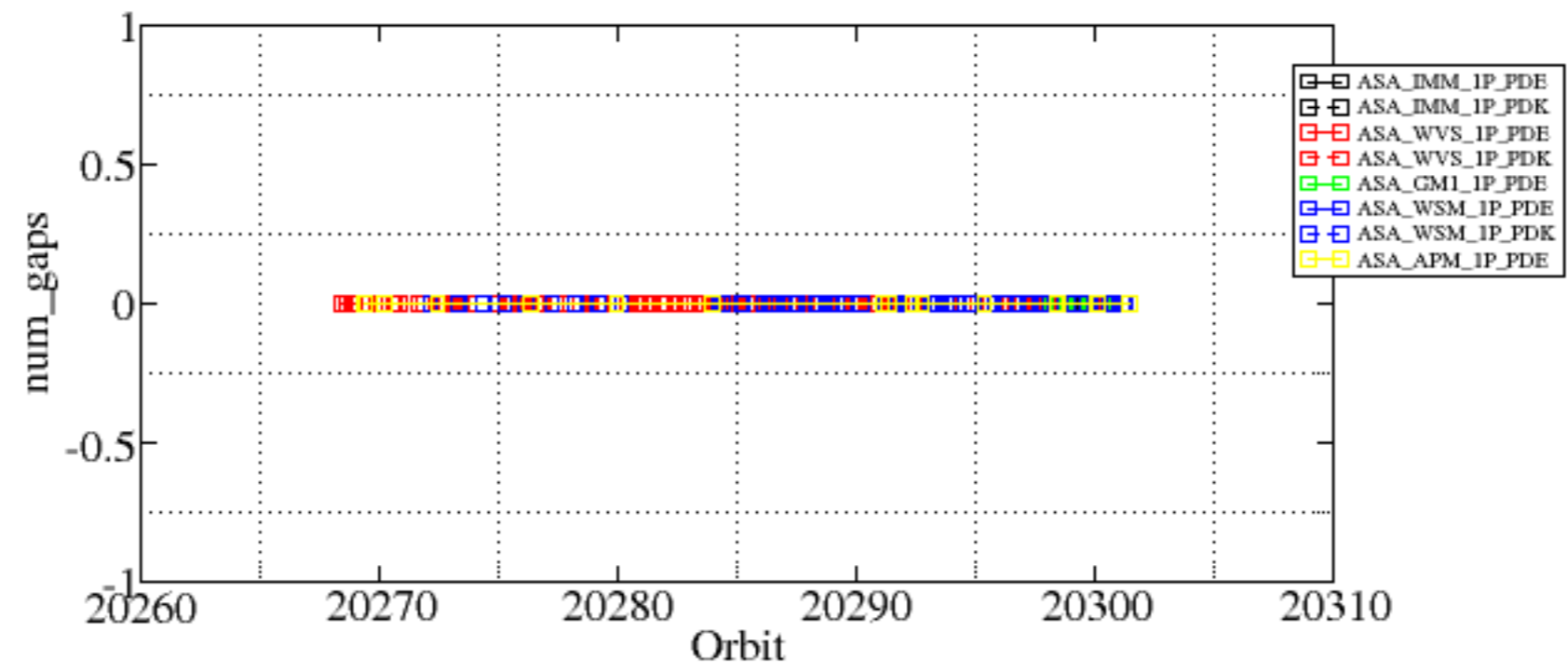




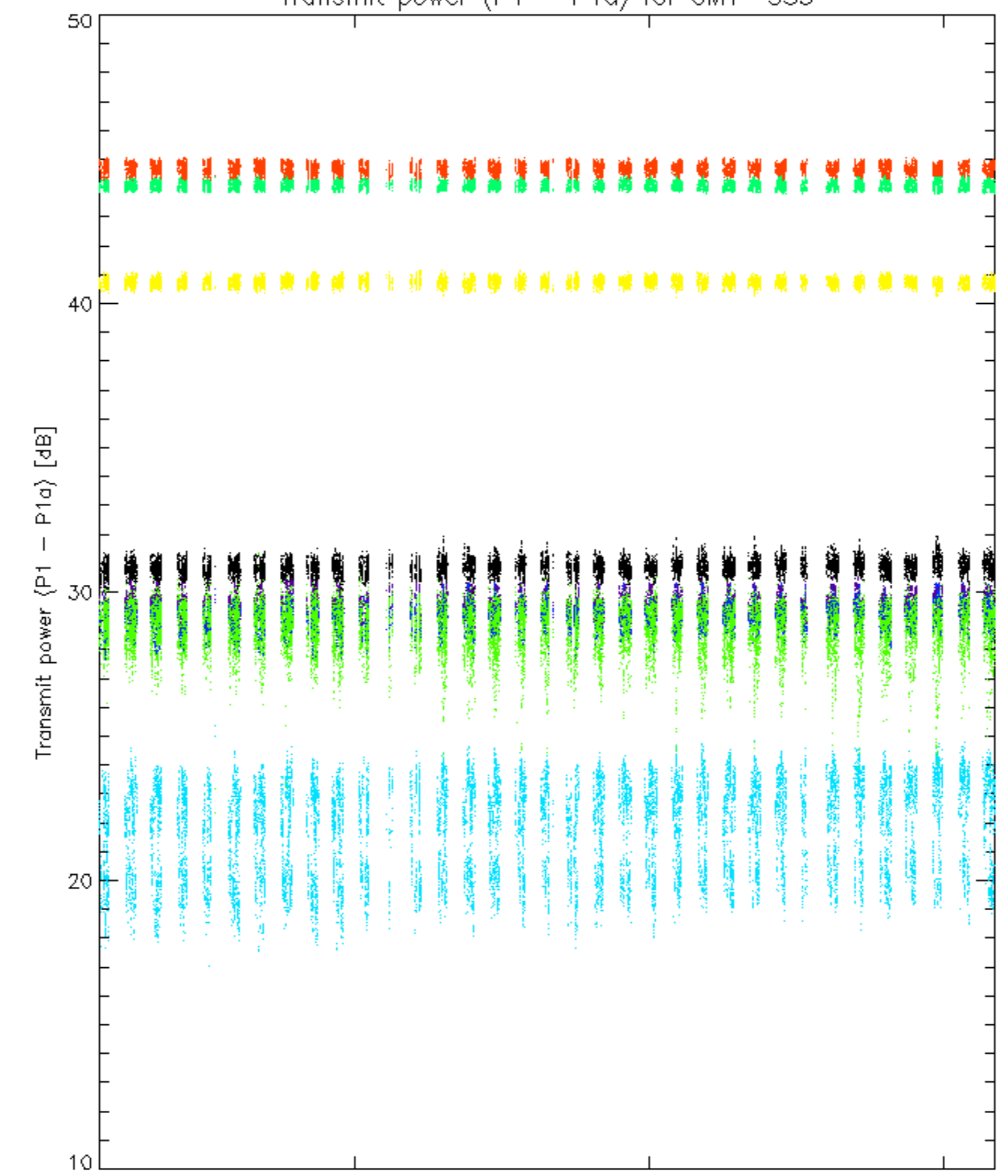
Summary of analysis for the last 3 days 2006011[567]

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_1PNPDE20060116_162331_000002082044_00198_20292_0958.N1	0	49
ASA_WSM_1PNPDE20060116_180329_000001712044_00199_20293_0974.N1	0	13

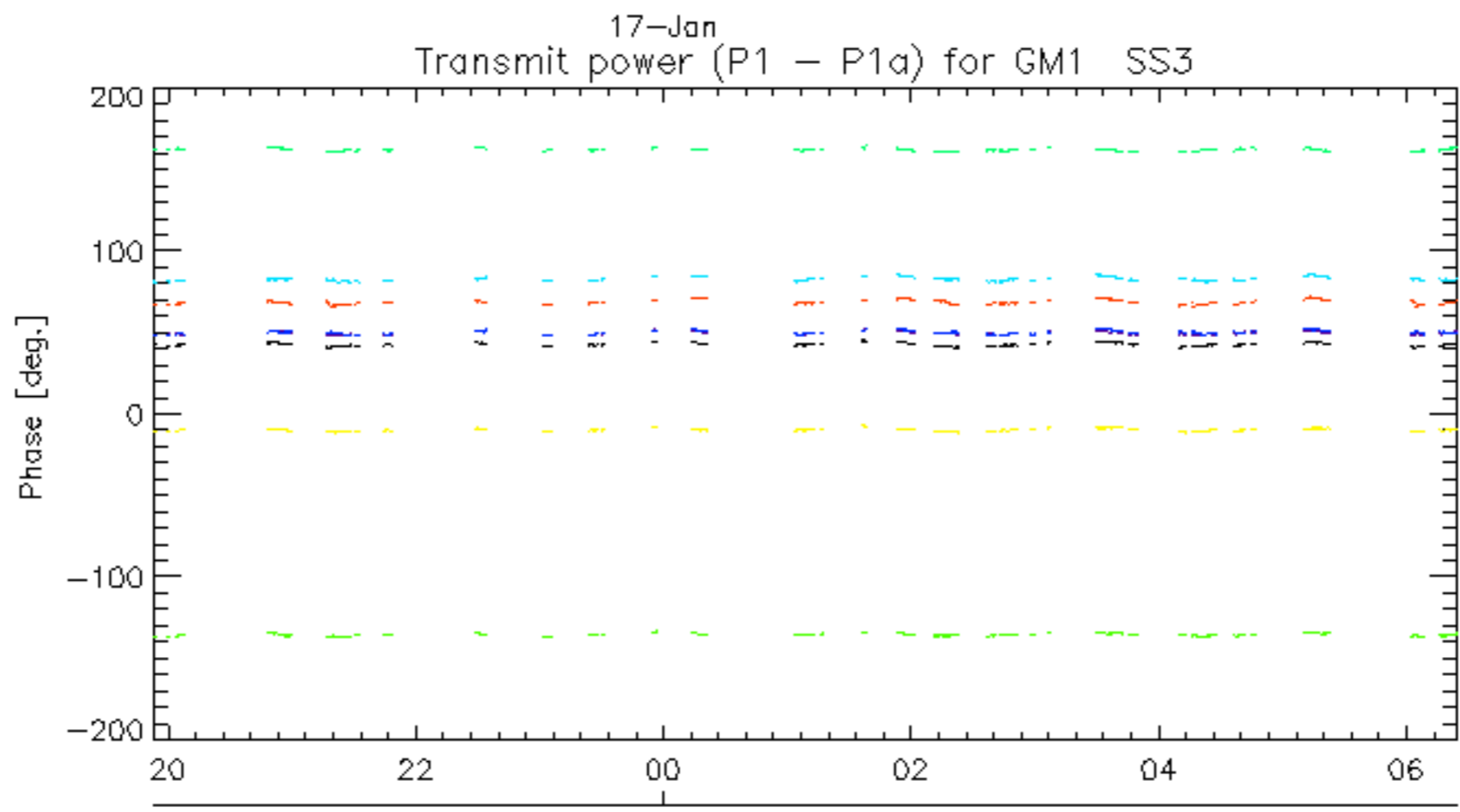
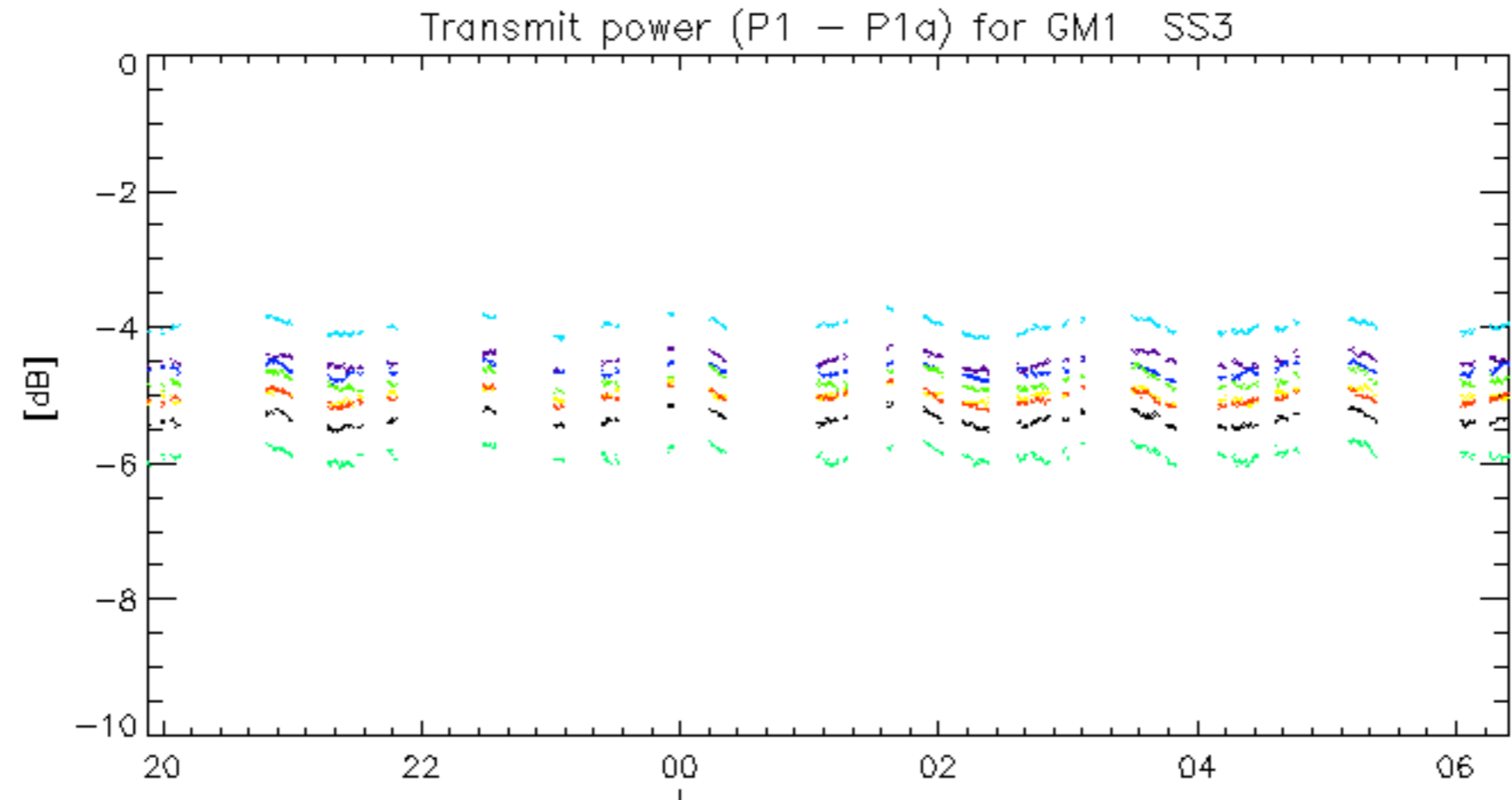


Transmit power (P1 - P1a) for GM1 SS3

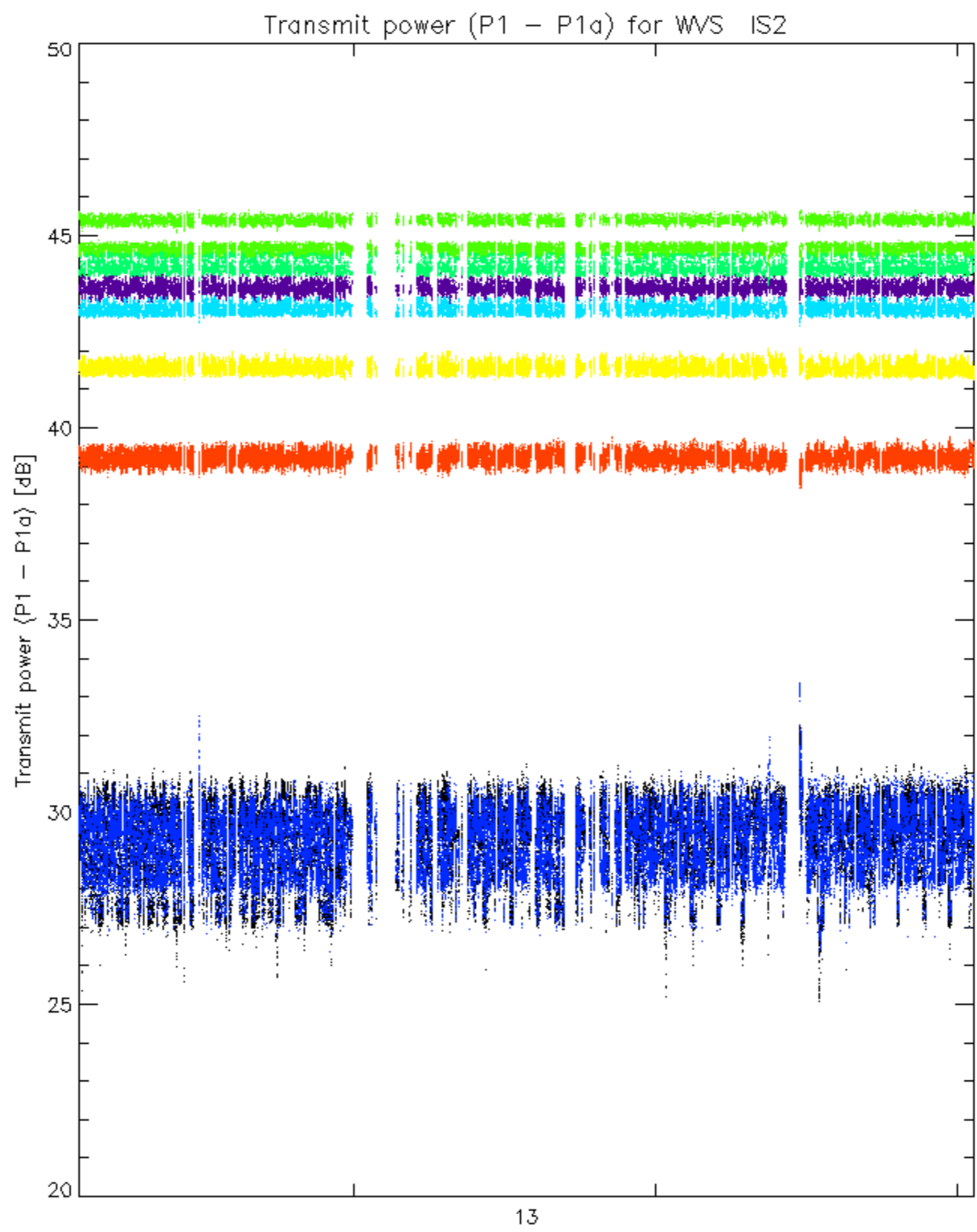


13

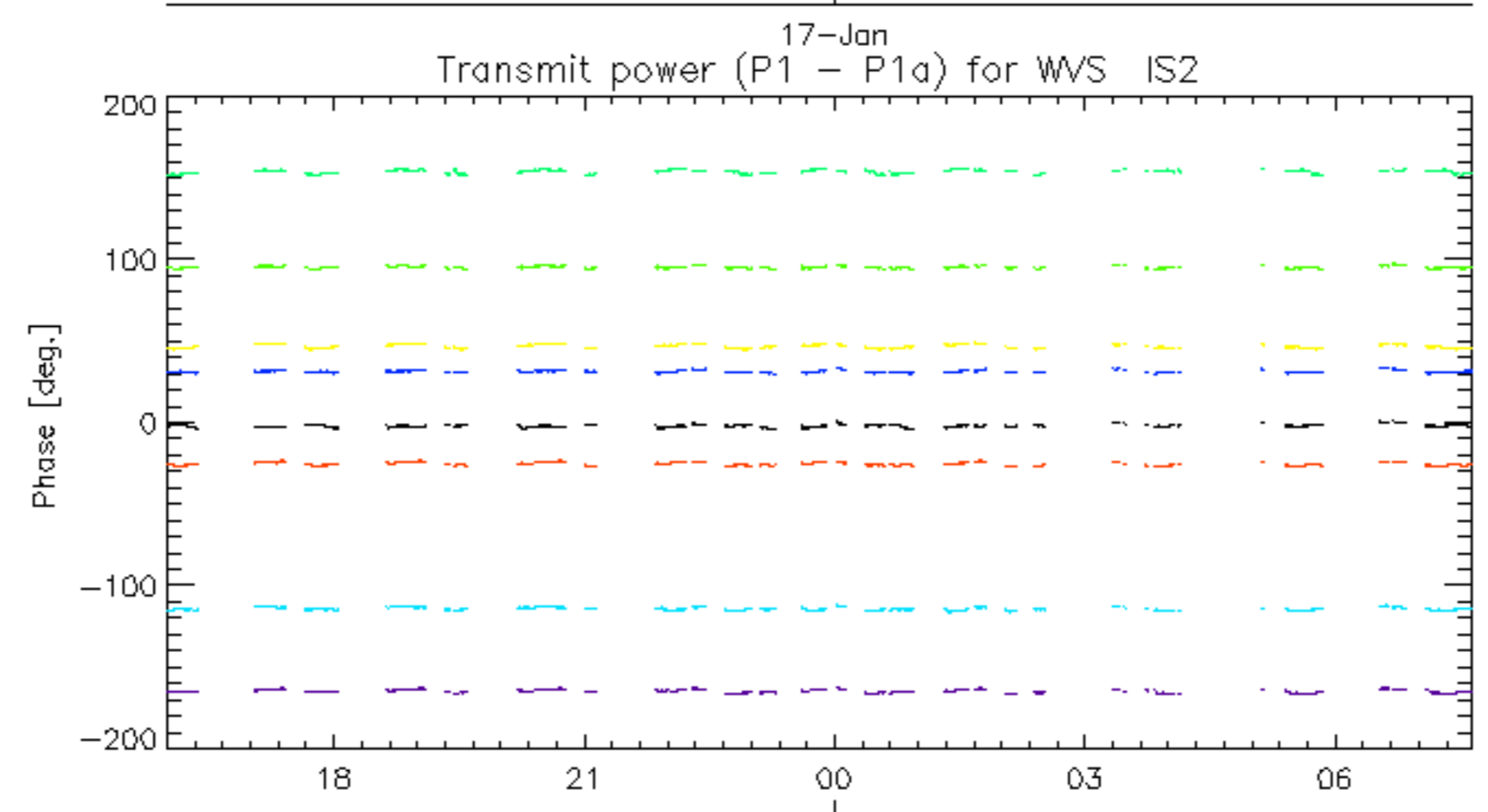
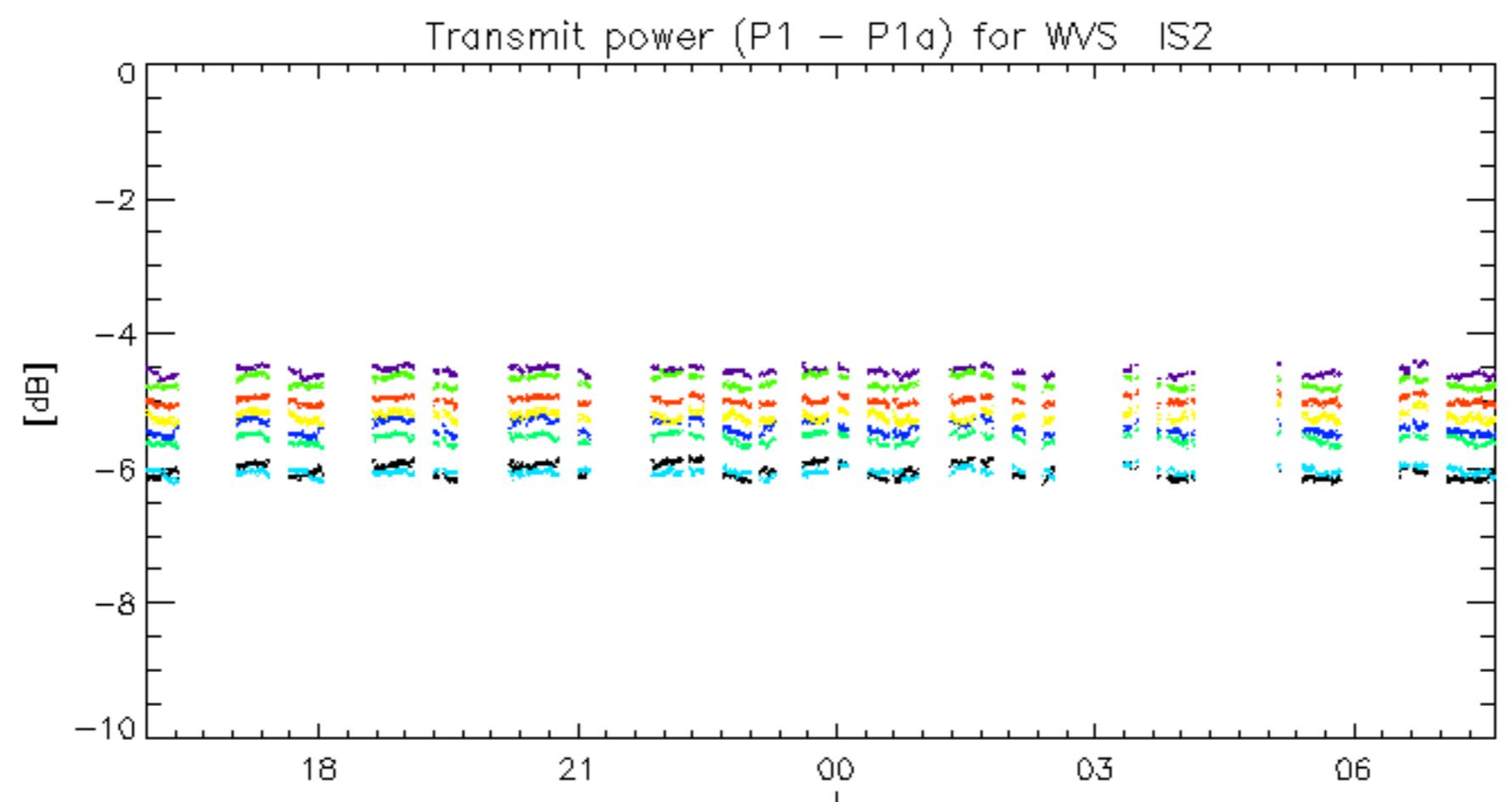
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



17-Jan
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.