

# PRELIMINARY REPORT OF 051218

last update on Sun Dec 18 16:48:42 GMT 2005

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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 2005-12-17 00:00:00 to 2005-12-18 16:48:43

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	35	0	14	0	29
ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	35	0	14	0	29
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	35	0	14	0	29
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	35	0	14	0	29

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	35	43	25	17	40
ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	35	43	25	17	40
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	35	43	25	17	40
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	35	43	25	17	40

## 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	20051216 033418
H	20051217 030241

### 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
<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)
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**P1 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.625641	0.232062	0.014651
7	P1	-2.753885	0.127165	0.314507
11	P1	-4.149636	0.031706	-0.027979
15	P1	-5.113777	1.722925	1.311744
19	P1	-3.038606	0.063162	0.211899
22	P1	-4.438399	0.021810	0.074567
26	P1	-4.397491	0.060306	-0.204702
30	P1	-5.654728	0.034010	0.148321
3	P1	-15.487609	2.496818	0.207630
7	P1	-15.312412	2.650595	1.539134
11	P1	-16.319668	0.476939	0.380686
15	P1	-12.785459	1.001758	1.075012
19	P1	-13.424179	0.351414	0.484317
22	P1	-16.026508	0.627744	0.477782
26	P1	-15.114850	1.103917	1.069930
30	P1	-15.590631	2.468293	1.494609

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.851488	0.109422	0.093103
7	P2	-22.552568	0.104925	0.020970
11	P2	-16.565603	0.123732	0.073142
15	P2	-7.279531	0.103490	-0.025271
19	P2	-9.220651	0.101755	0.019045
22	P2	-17.868065	0.111028	0.031574
26	P2	-16.366955	0.132528	-0.227820
30	P2	-19.788952	0.118816	-0.149372

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.235731	0.007479	-0.009293
7	P3	-8.235731	0.007479	-0.009293
11	P3	-8.235731	0.007479	-0.009293
15	P3	-8.235731	0.007479	-0.009293
19	P3	-8.235731	0.007479	-0.009293
22	P3	-8.235731	0.007479	-0.009293
26	P3	-8.235731	0.007479	-0.009293
30	P3	-8.235731	0.007479	-0.009293

#### 4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1



#### P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
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#### P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.698745	0.008085	-0.021139
7	P1	-2.776409	0.011660	0.026195
11	P1	-2.877148	0.014590	-0.004070
15	P1	-3.404782	0.021568	-0.019448
19	P1	-3.386562	0.013575	-0.022121
22	P1	-5.121806	0.019434	-0.005609
26	P1	-5.835633	0.016345	-0.041852
30	P1	-5.276908	0.033352	-0.024938
3	P1	-11.471493	0.042060	-0.031997
7	P1	-9.970549	0.045743	-0.001612
11	P1	-10.052934	0.060638	0.003929
15	P1	-10.570643	0.080481	0.075399
19	P1	-15.512559	0.073337	-0.049113
22	P1	-20.965559	0.959219	-0.107030
26	P1	-17.194416	0.303022	0.041035
30	P1	-18.291885	0.309491	0.217128

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.629250	0.030677	0.054644
7	P2	-23.056332	0.059408	-0.036938
11	P2	-11.638761	0.021742	0.116554
15	P2	-4.985691	0.021593	-0.046481
19	P2	-6.964659	0.022511	-0.040729
22	P2	-8.191198	0.023271	-0.065988
26	P2	-24.050480	0.031640	-0.023805
30	P2	-22.123203	0.019293	-0.052125

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.076399	0.002448	-0.009673
7	P3	-8.076447	0.002452	-0.009755
11	P3	-8.076390	0.002434	-0.009855
15	P3	-8.076358	0.002454	-0.010258
19	P3	-8.076468	0.002456	-0.009735
22	P3	-8.076437	0.002456	-0.010051
26	P3	-8.076337	0.002427	-0.010241
30	P3	-8.076138	0.002447	-0.010015

## 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	0.000464616
	stdev	2.16243e-07
MEAN Q	mean	0.000482110
	stdev	2.36593e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129124
	stdev	0.00107187
STDEV Q	mean	0.129411
	stdev	0.00108385



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005121[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_IMM_1PNPDE20051216_004204_000002002043_00245_19838_4039.N1	1	0
ASA_IMM_1PNPDE20051216_155110_000001122043_00254_19847_4090.N1	1	0
ASA_IMM_1PNPDE20051218_003640_000001812043_00274_19867_4206.N1	1	0
ASA_IMM_1PNPDK20051216_124317_000000532043_00253_19846_9287.N1	1	0
ASA_IMM_1PNPDK20051217_134633_000001902043_00268_19861_9338.N1	1	0
ASA_WSM_1PNPDE20051217_170153_000002442043_00270_19863_4690.N1	0	8





## 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)


Ascending

Descending

### 7.2 - Absolute Doppler for WVS

#### Evolution of Absolute Doppler


Ascending

Descending

### 7.3 - Doppler evolution versus ANX for WVS

#### Evolution Doppler error versus ANX


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### 7.4 - Unbiased Doppler Error for GM1

#### Evolution of unbiased Doppler error (Real - Expected)



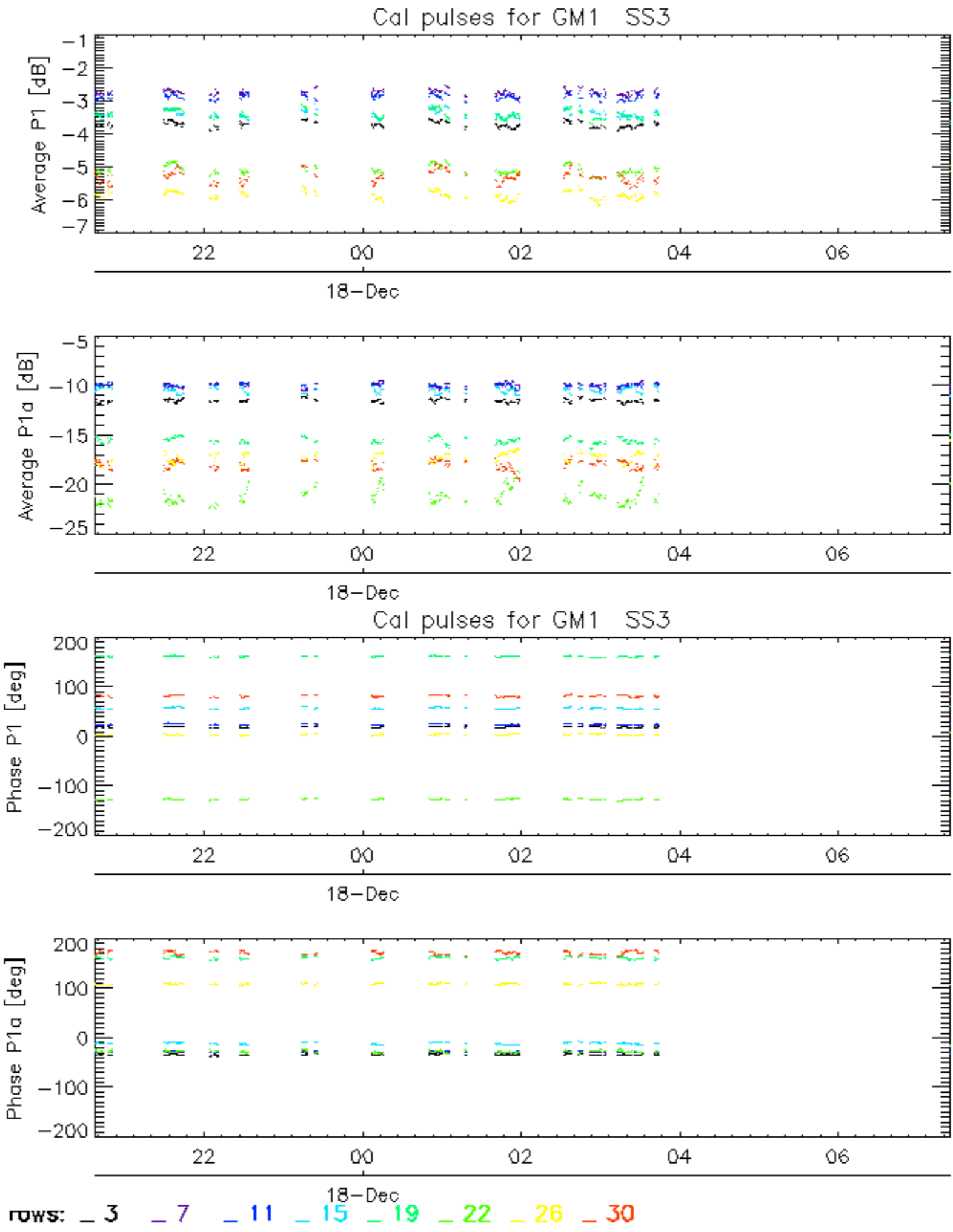
<input type="checkbox"/>
Ascending
<input type="checkbox"/>
Descending

### 7.5 - Absolute Doppler for GM1

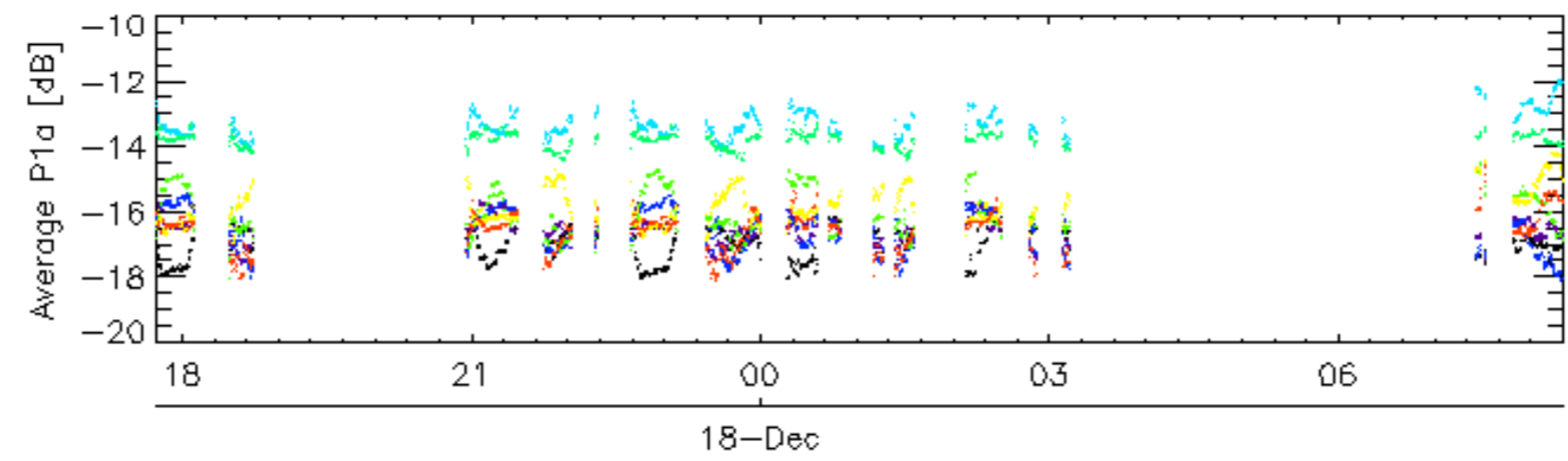
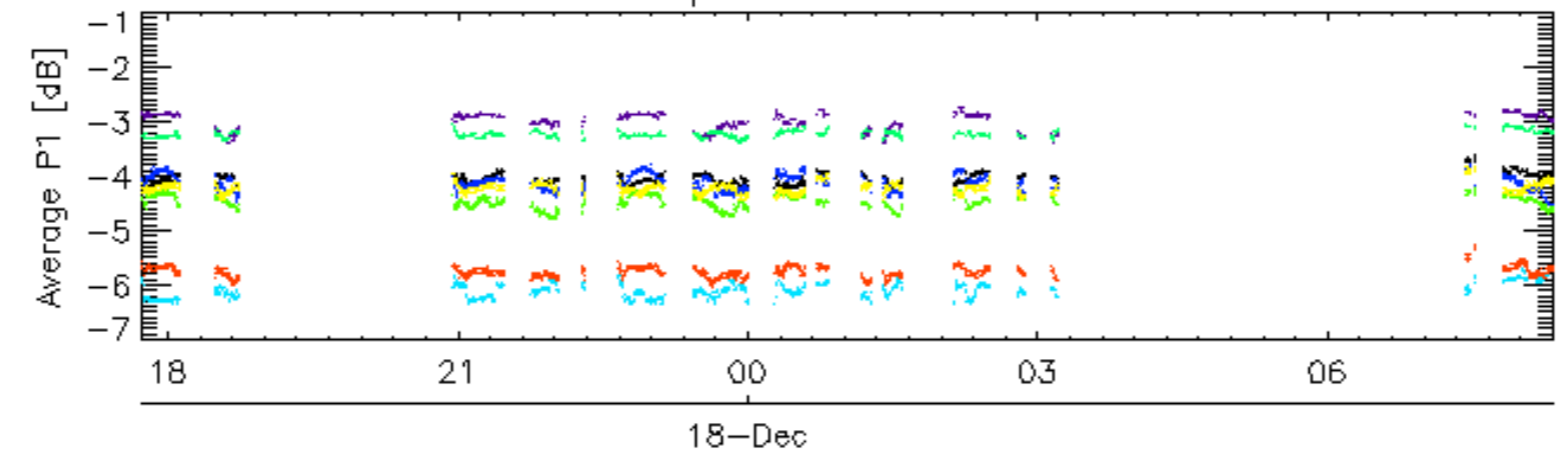
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Ascending
<input type="checkbox"/>
Descending

### 7.6 - Doppler evolution versus ANX for GM1

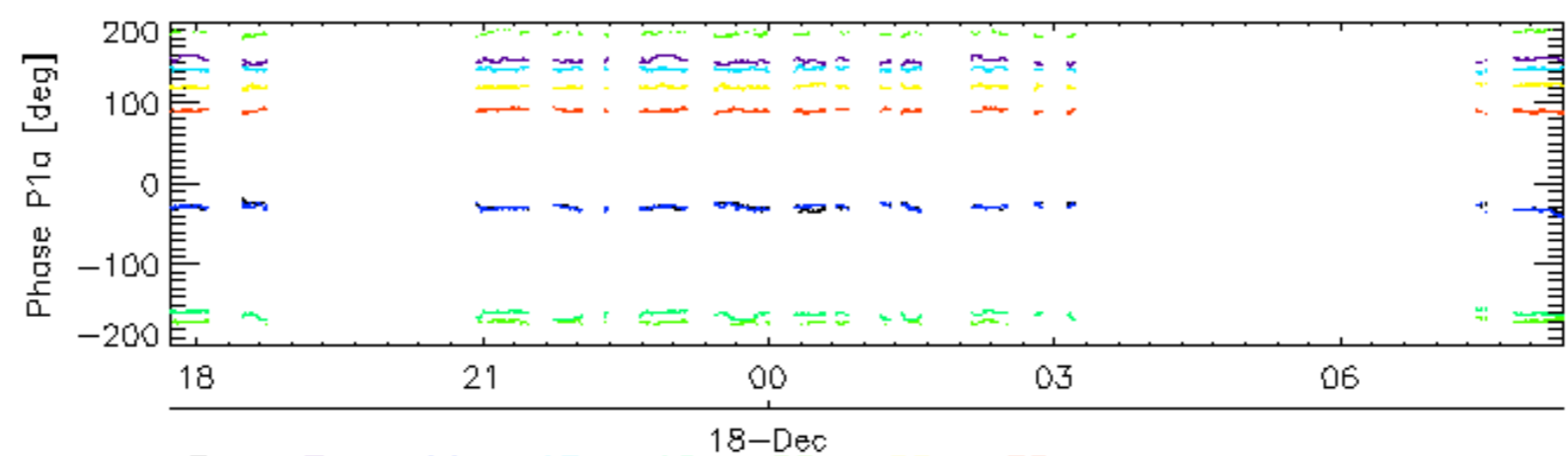
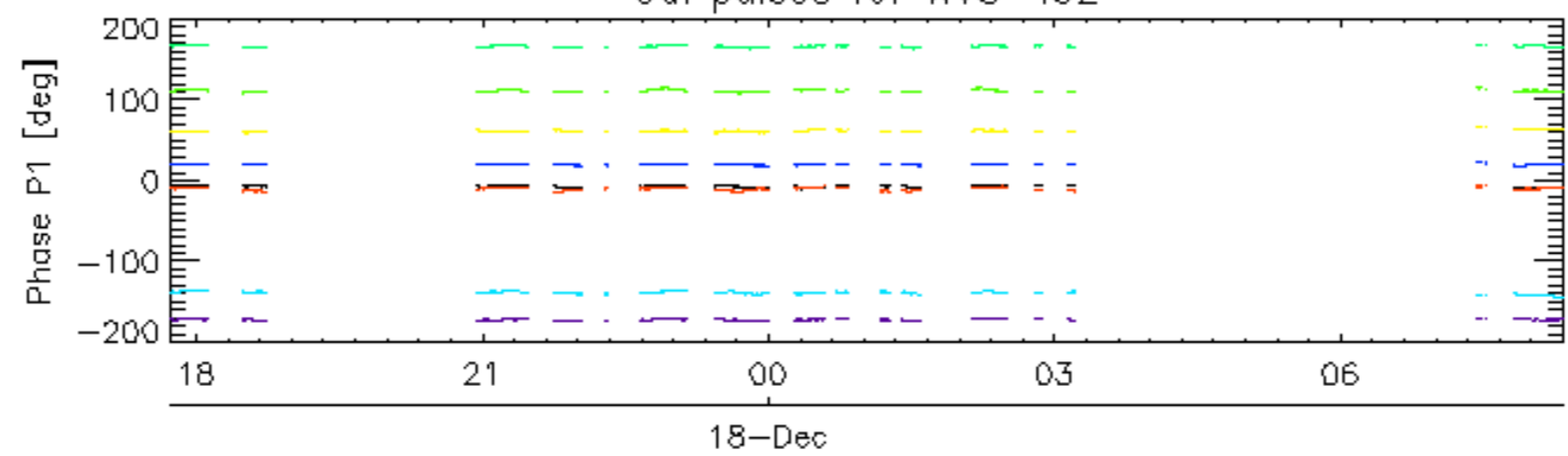
<b>Evolution Doppler error versus ANX</b>
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Cal pulses for WVS IS2

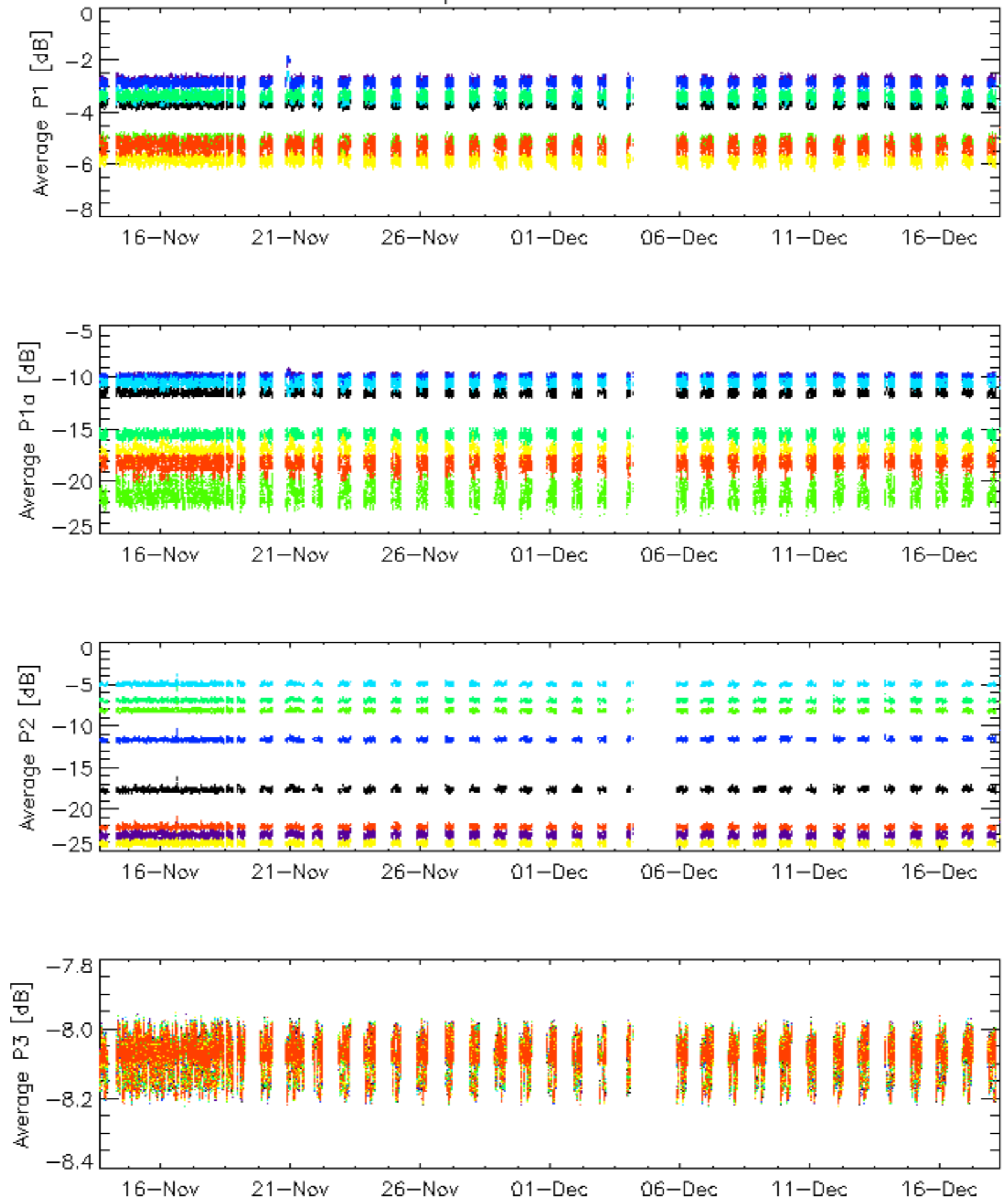


Cal pulses for WVS IS2



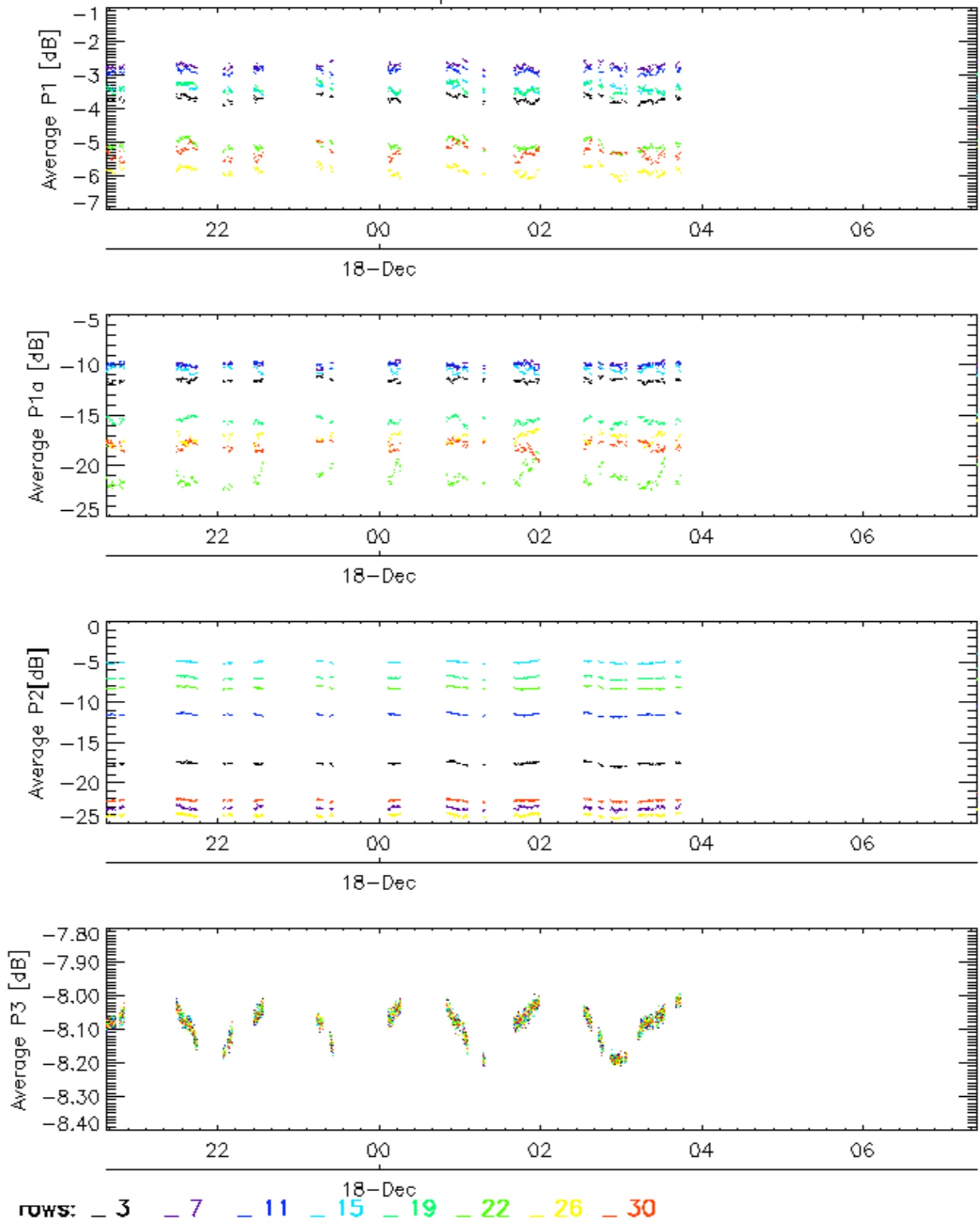
rows: 3 7 11 15 19 22 26 30

Cal pulses for GM1 SS3

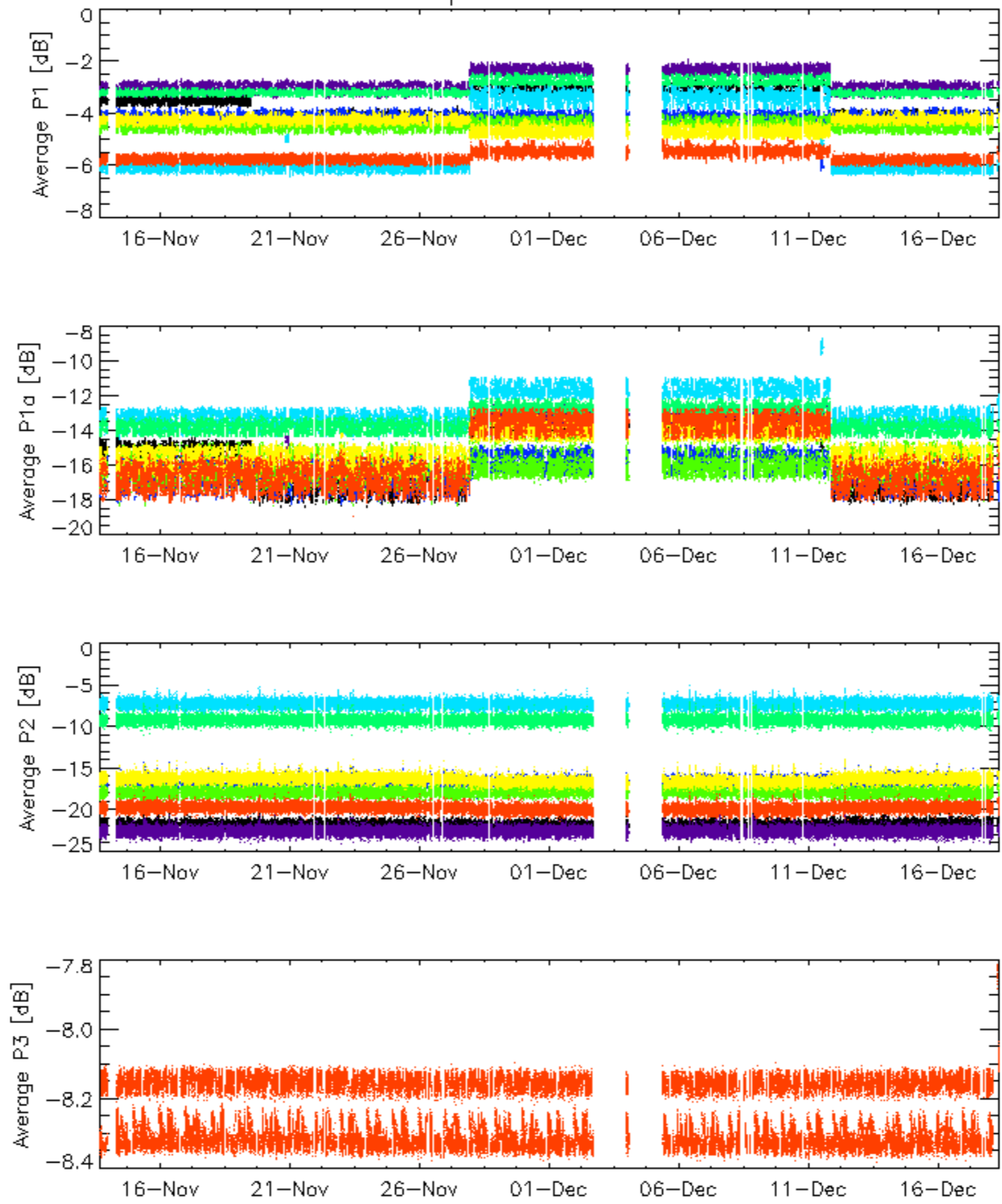


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

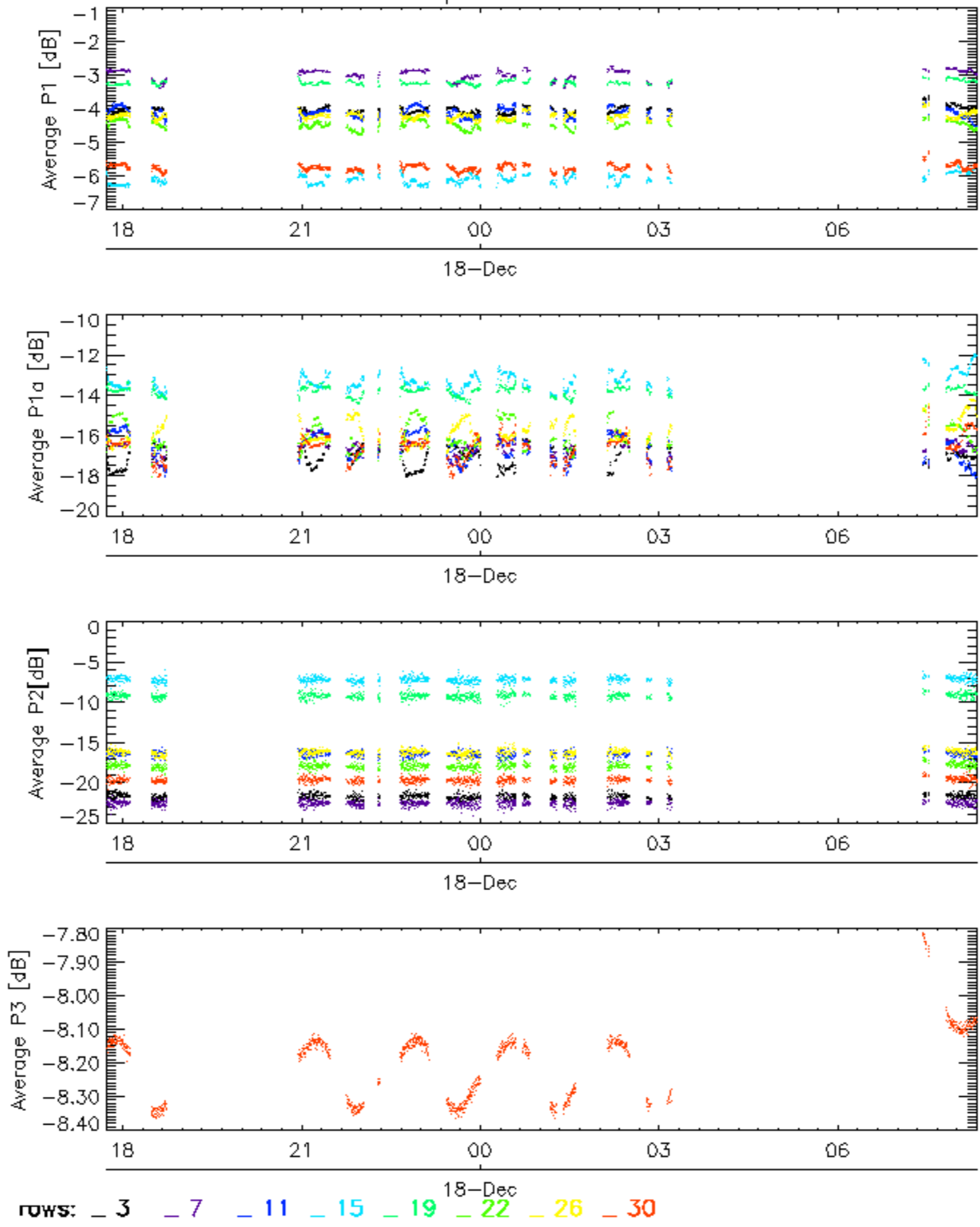


Cal pulses for WVS IS2



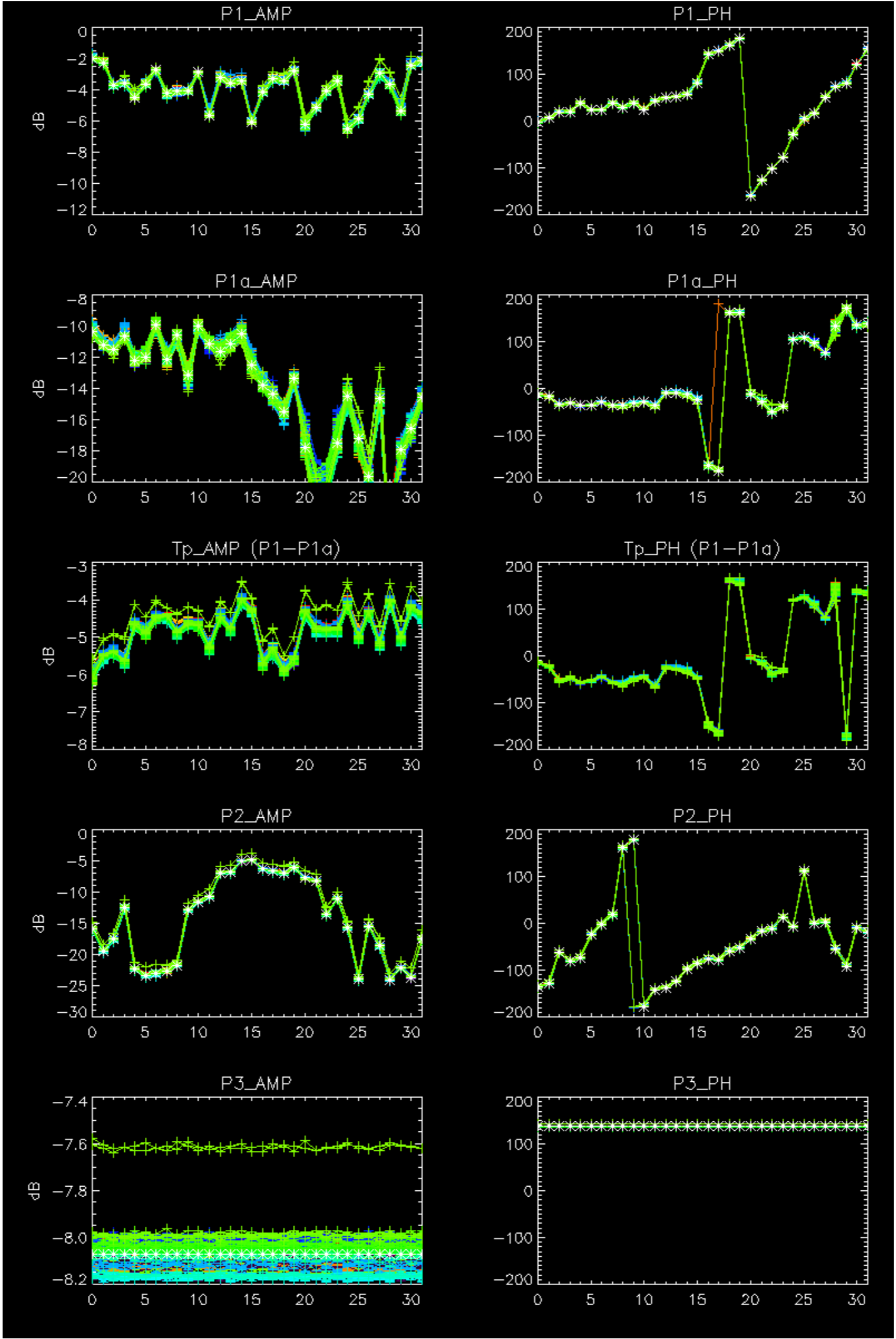
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

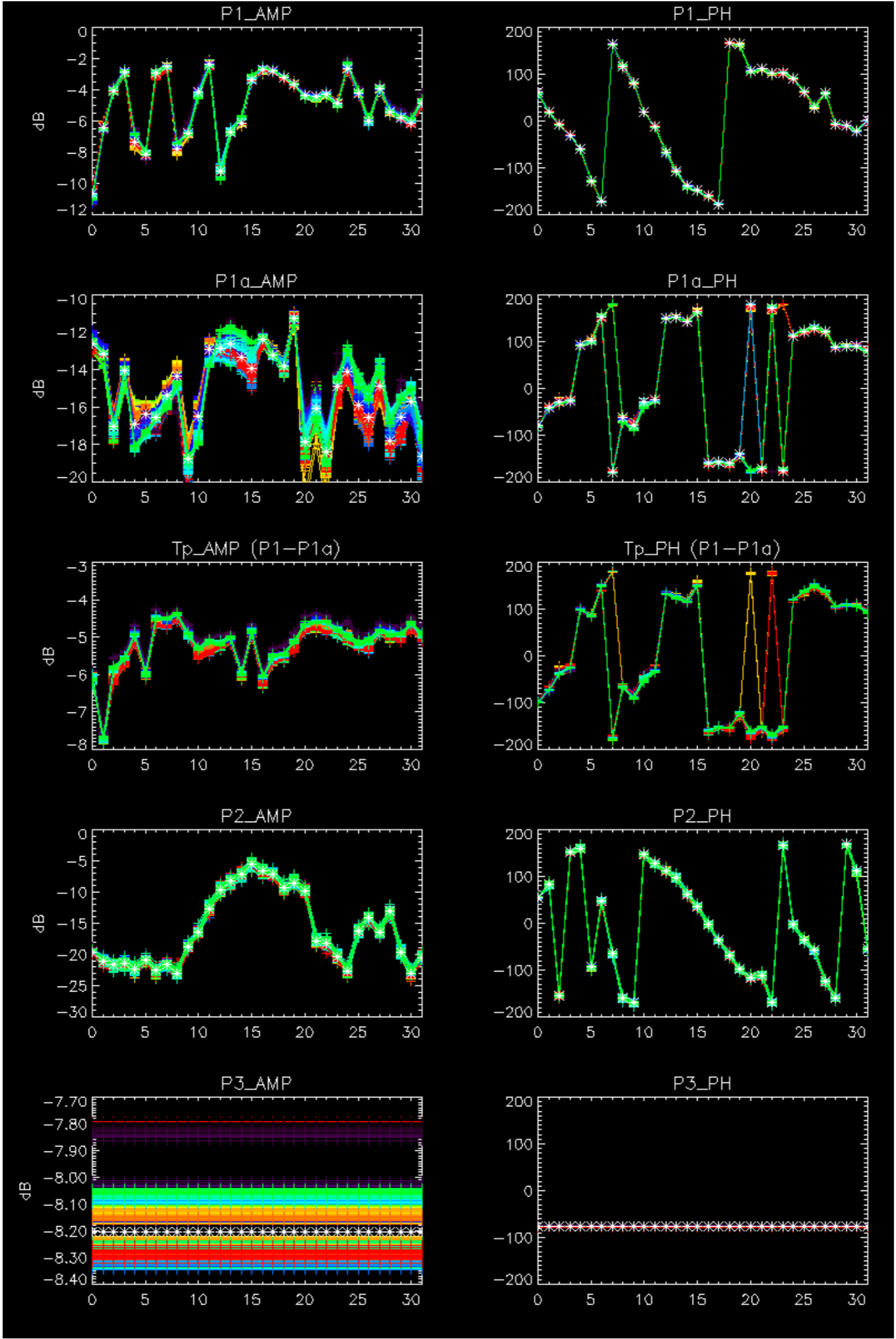
Cal pulses for WVS IS2



No anomalies observed.



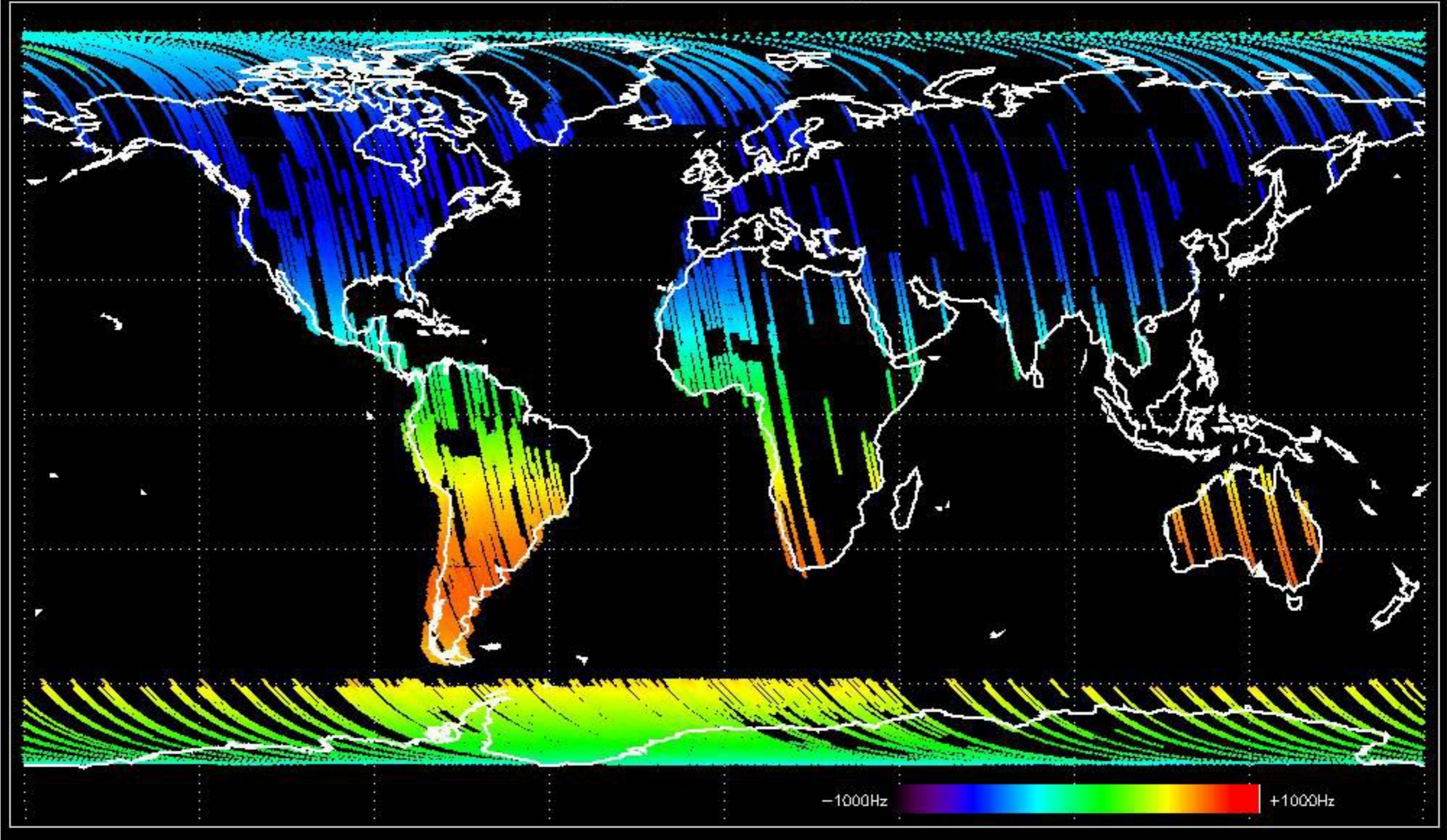




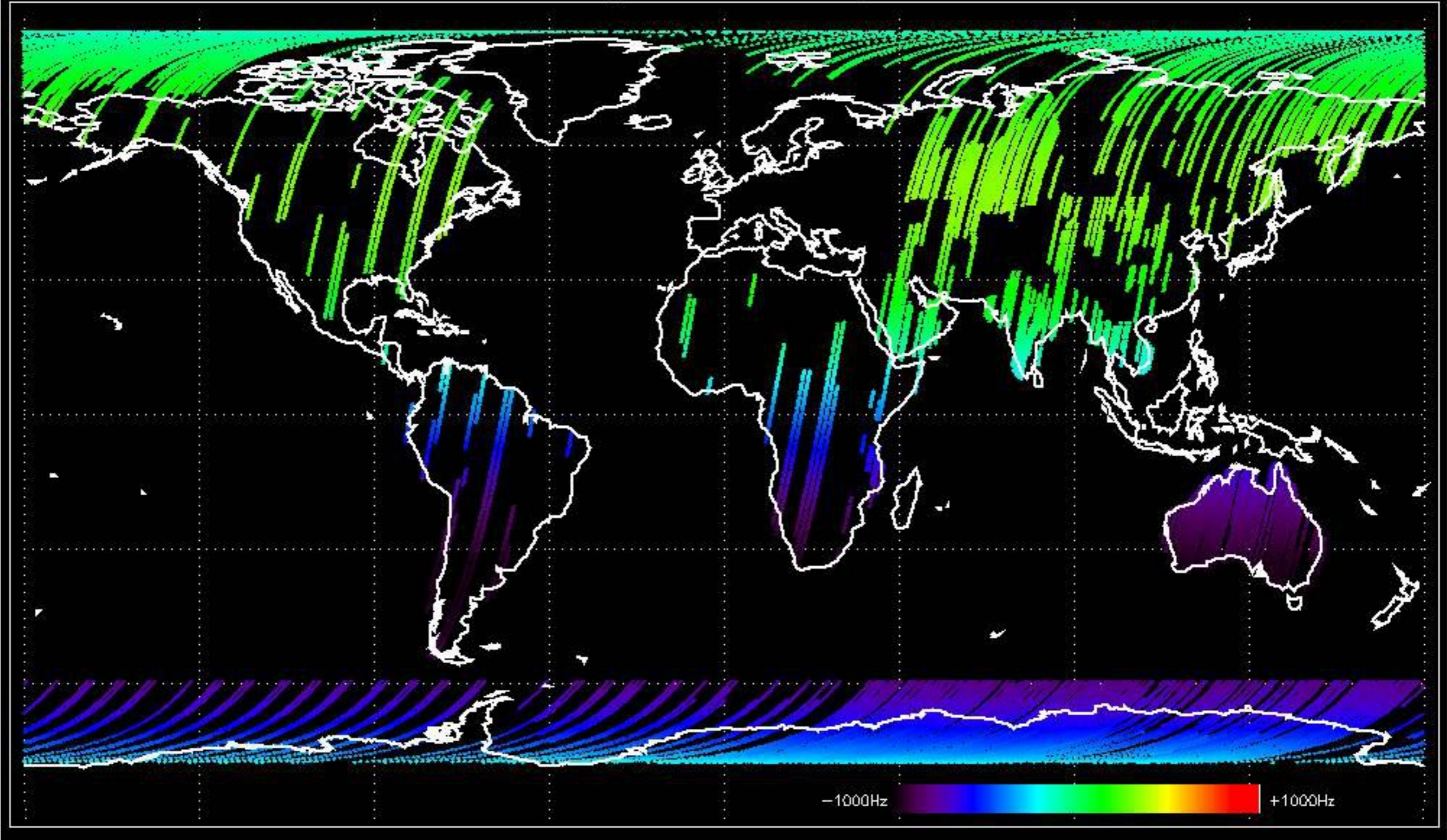
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



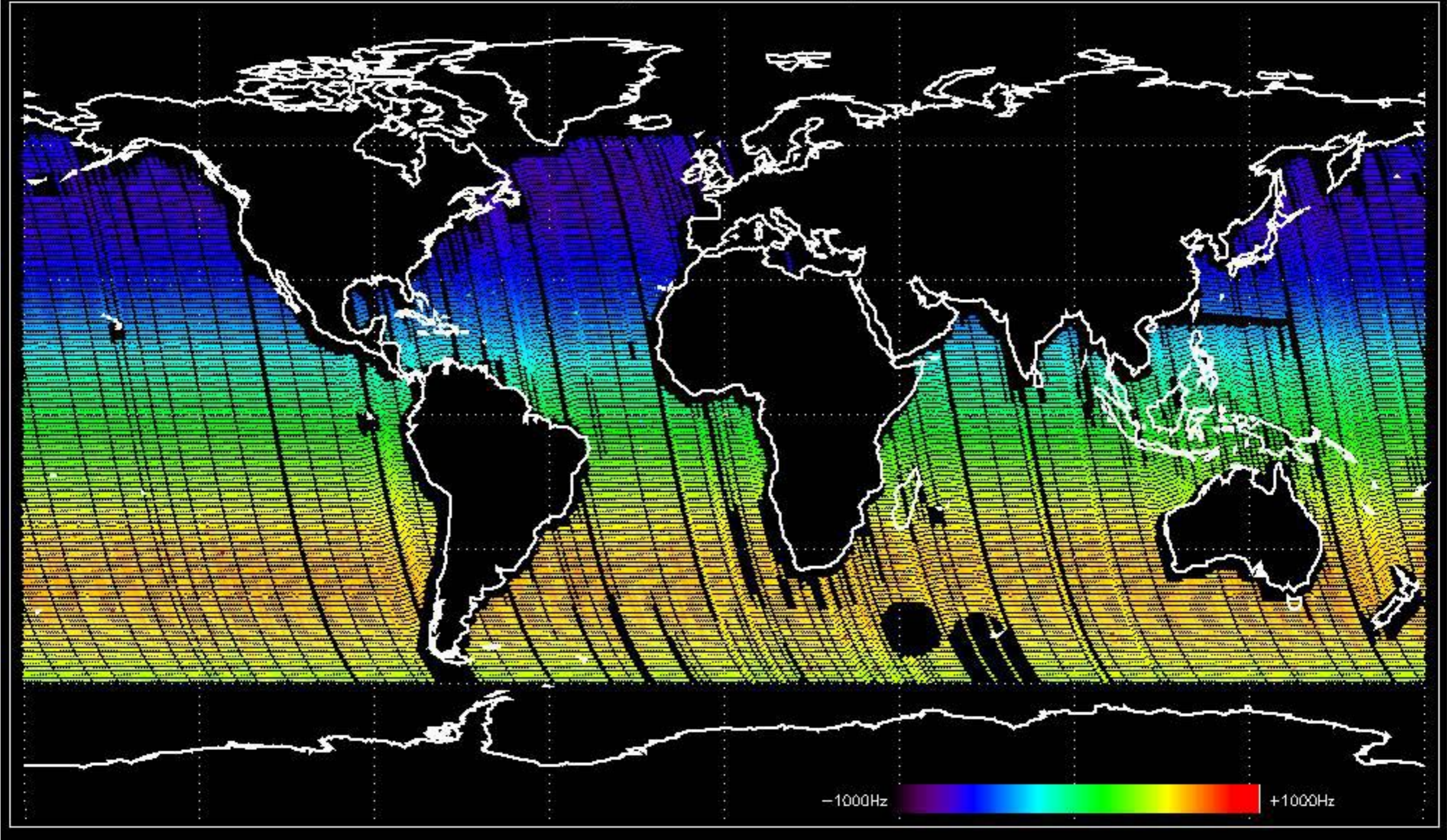
Doppler 'GM1' 'SS1' ascending



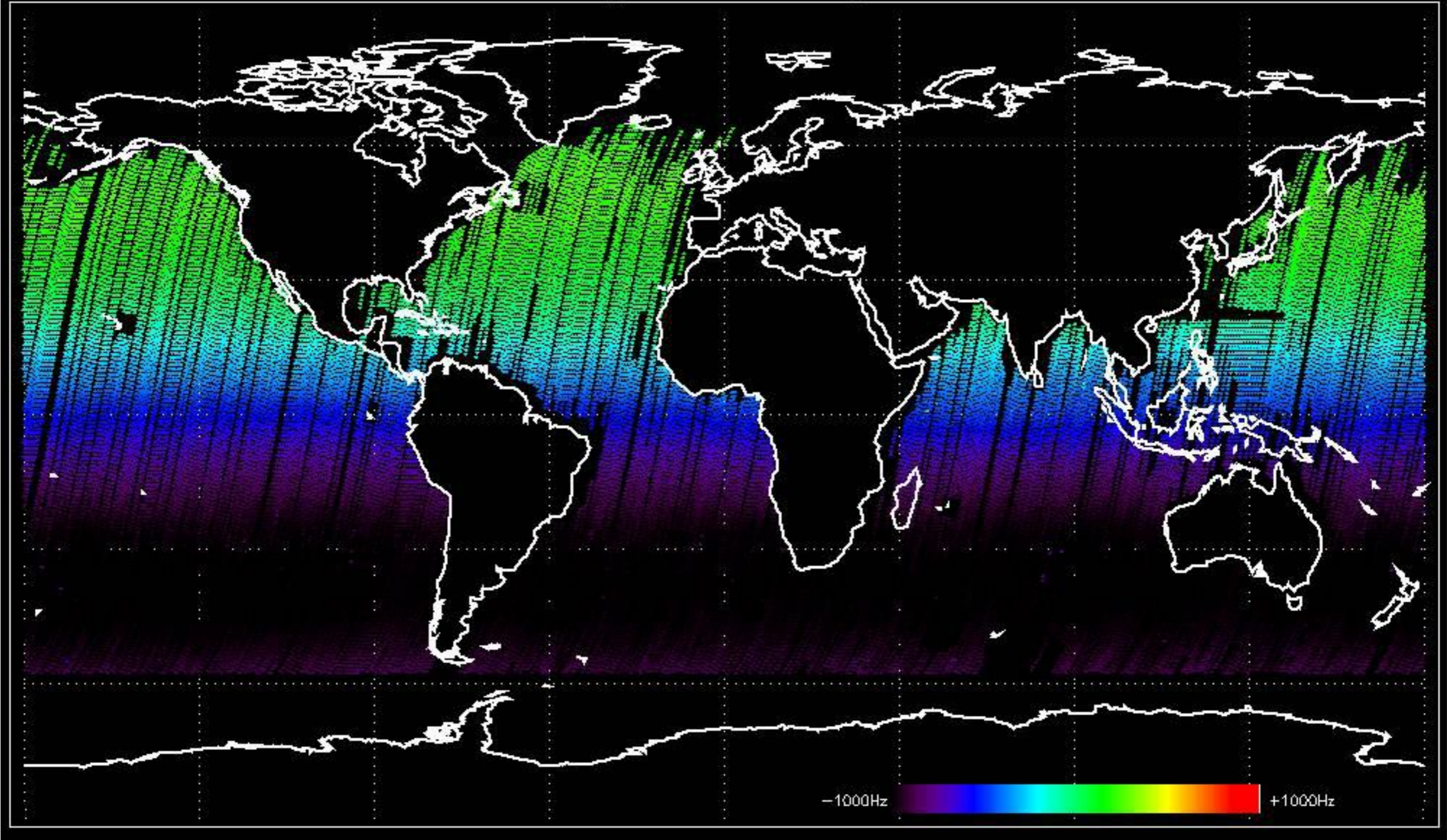
Doppler 'GM1' 'SS1' descending



Doppler 'WVS' 'IS2' ascending

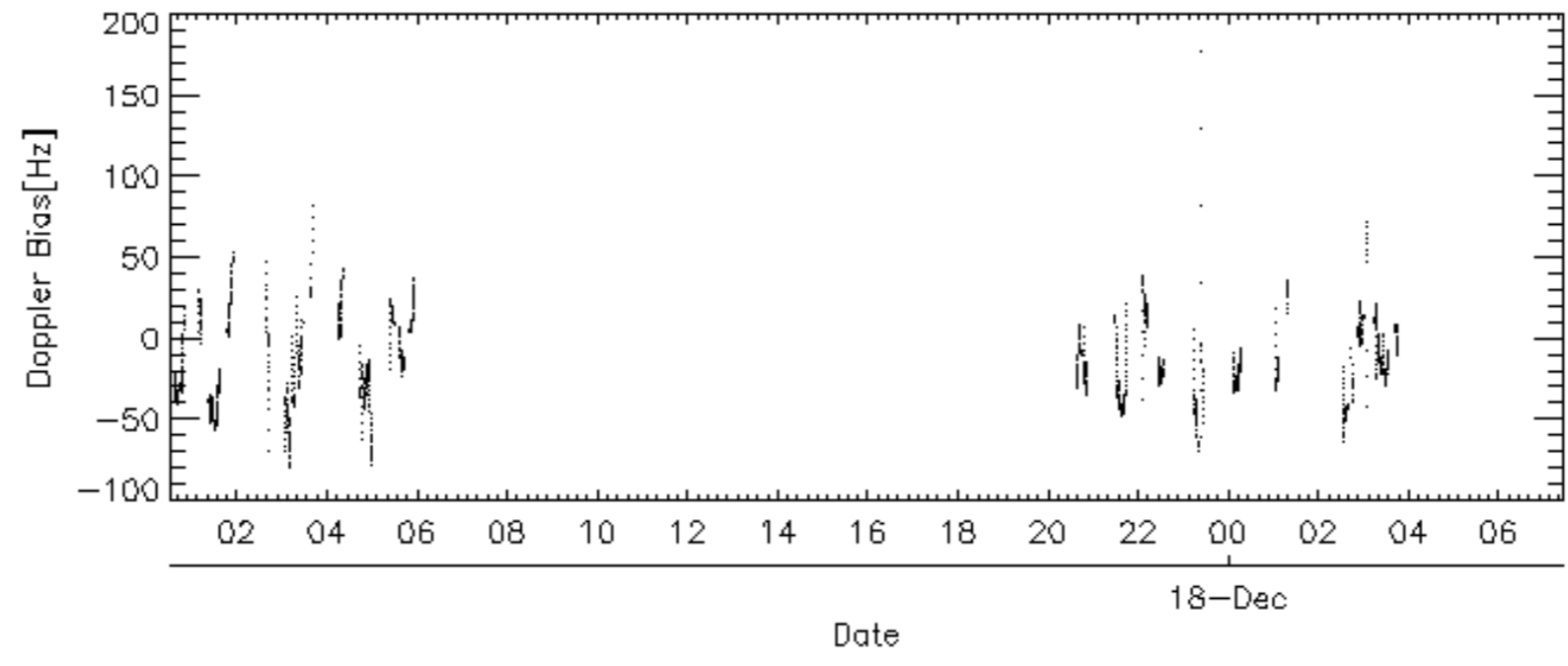
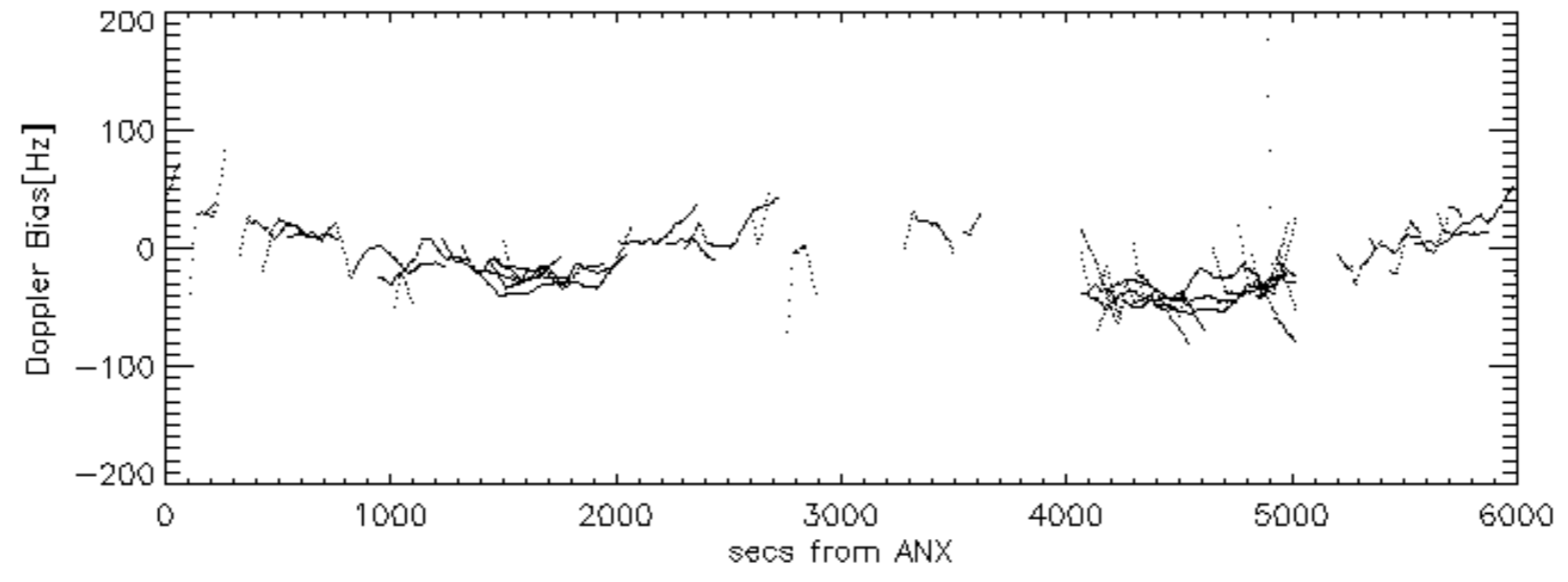
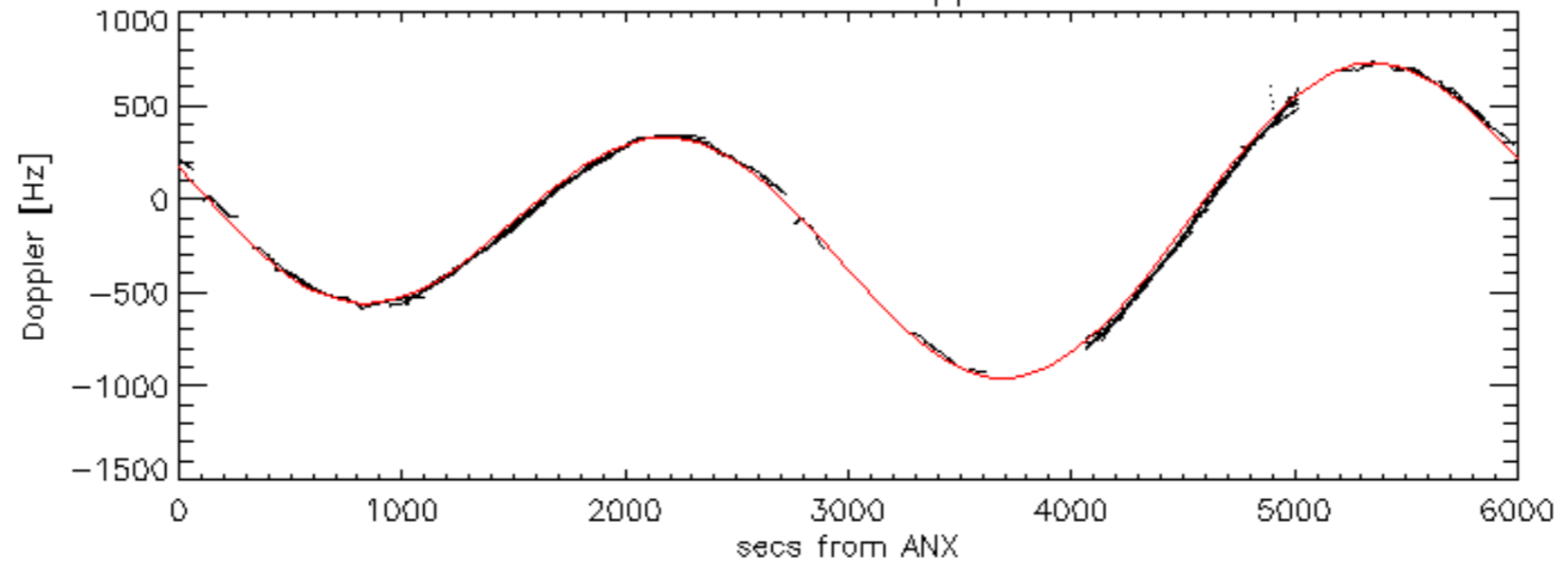


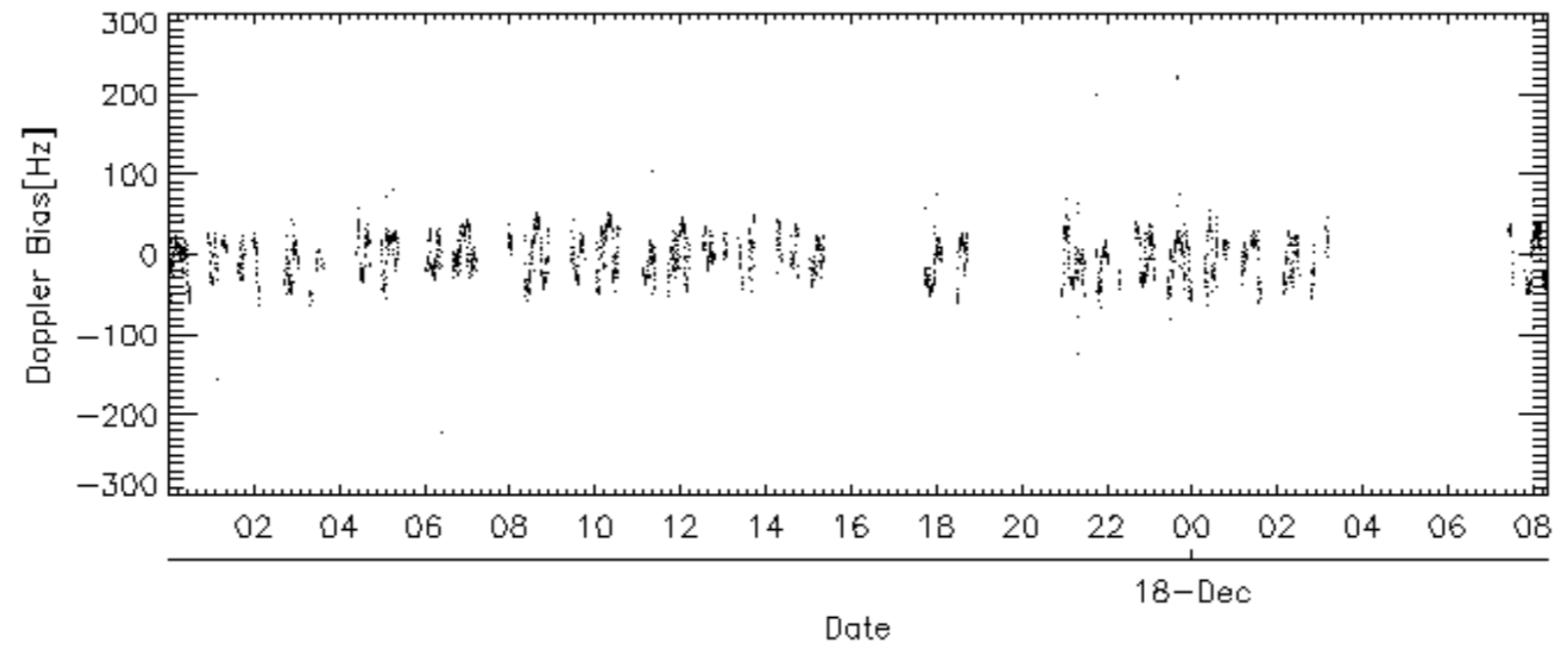
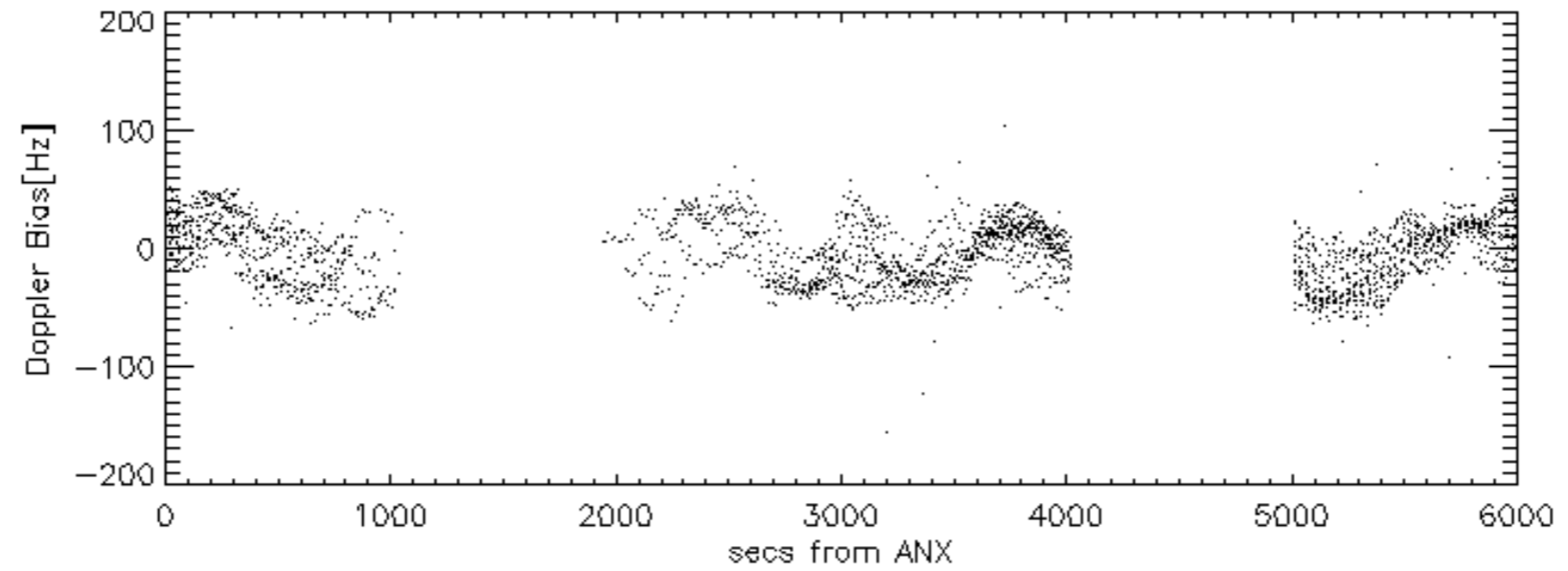
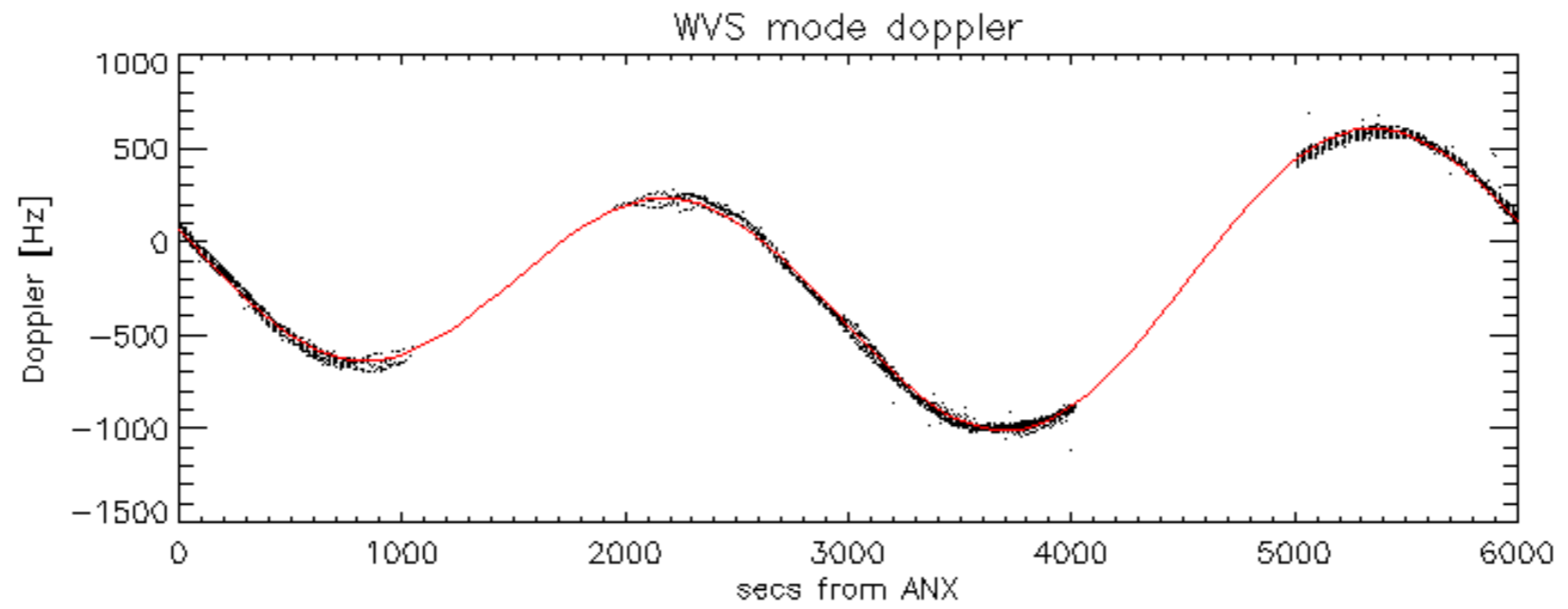
Doppler 'WVS' 'IS2' descending



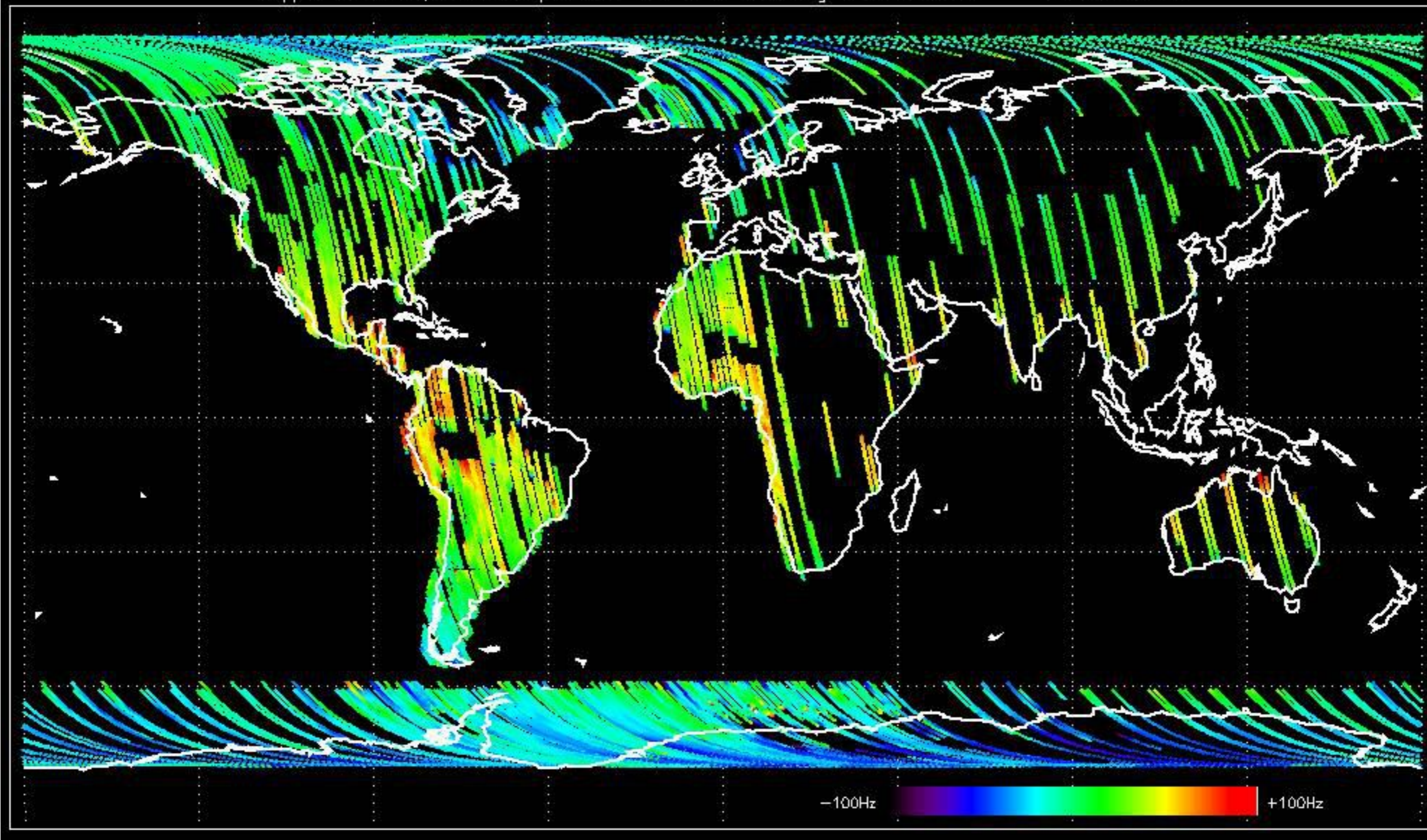


GM1 mode doppler

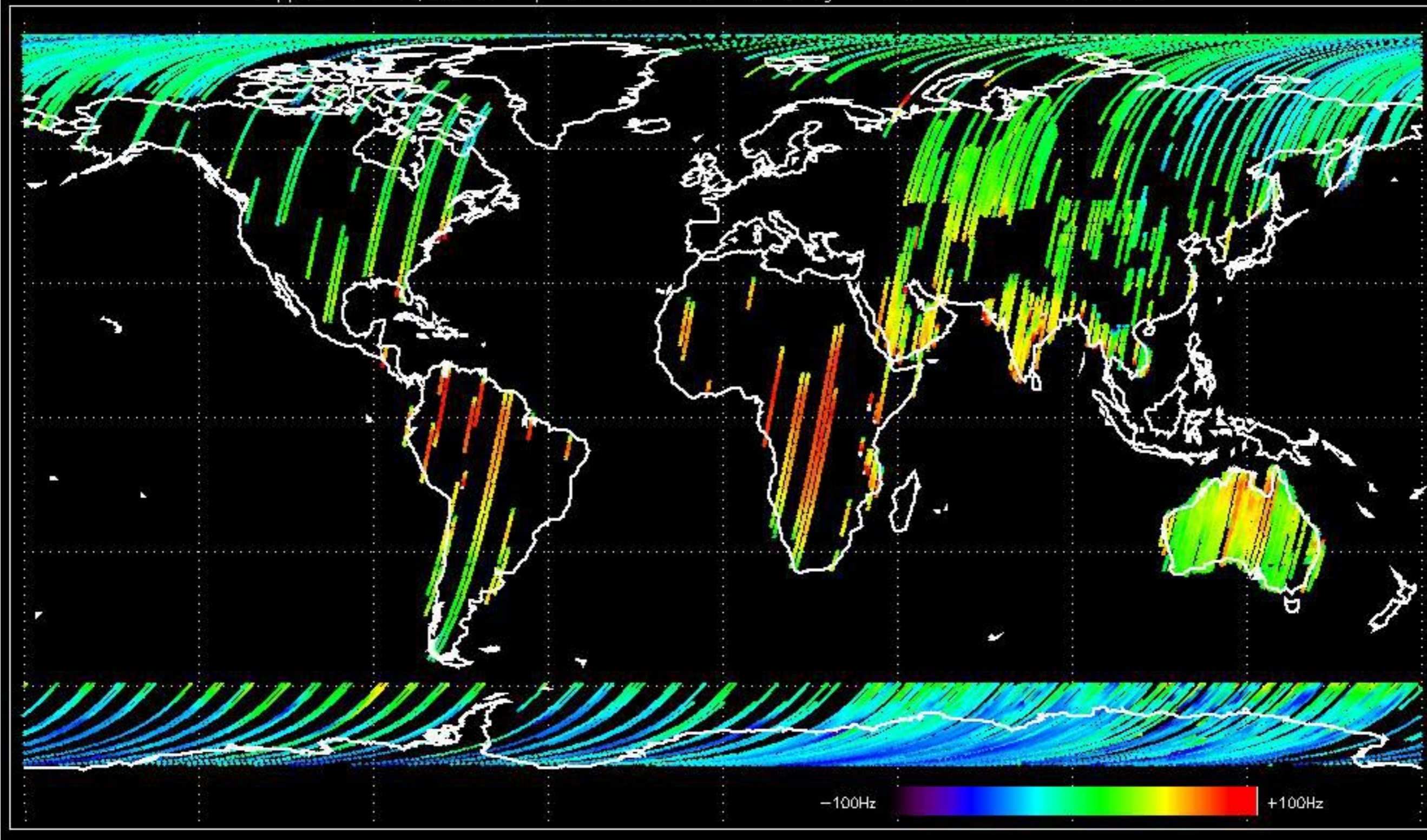




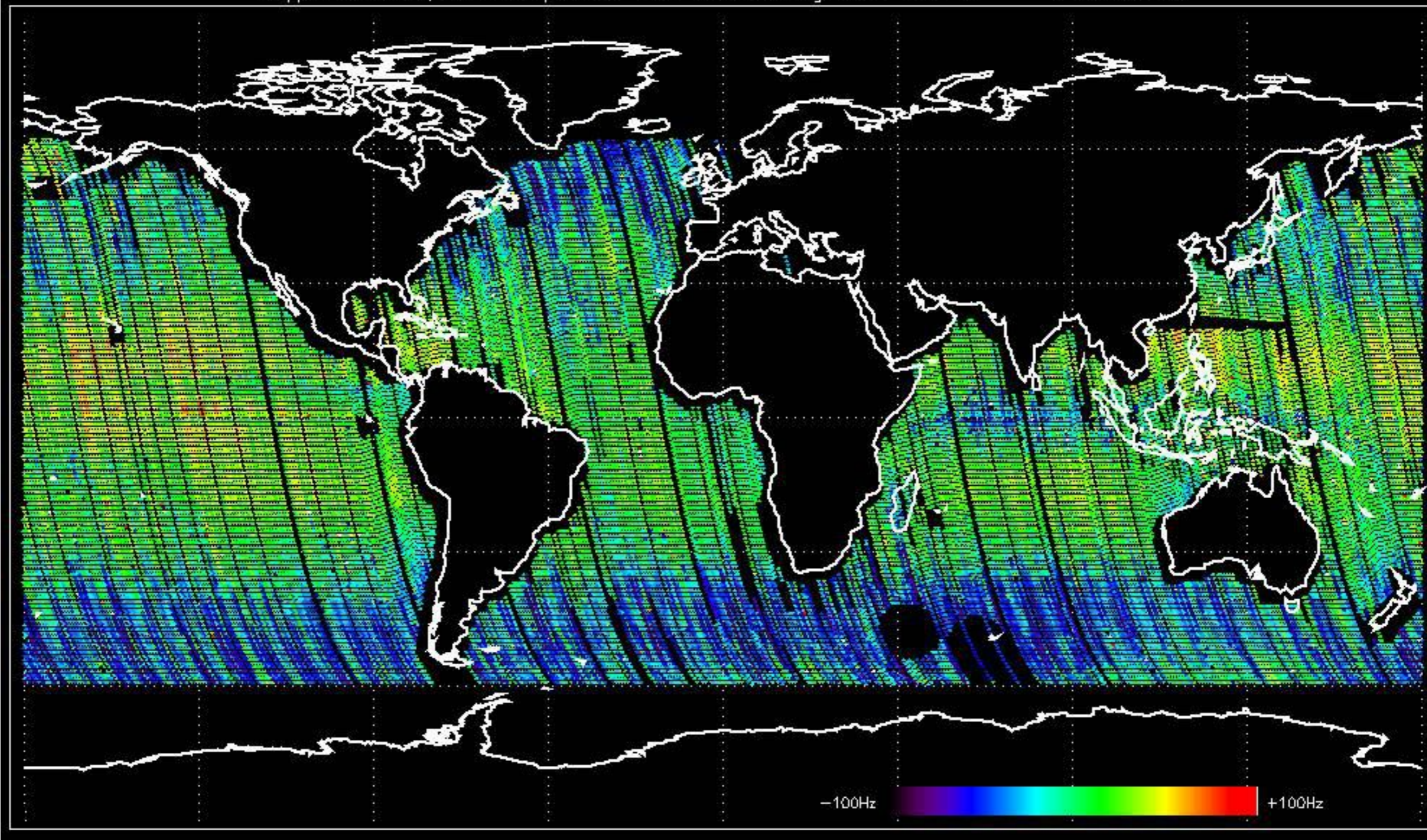
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -16.347626 Hz



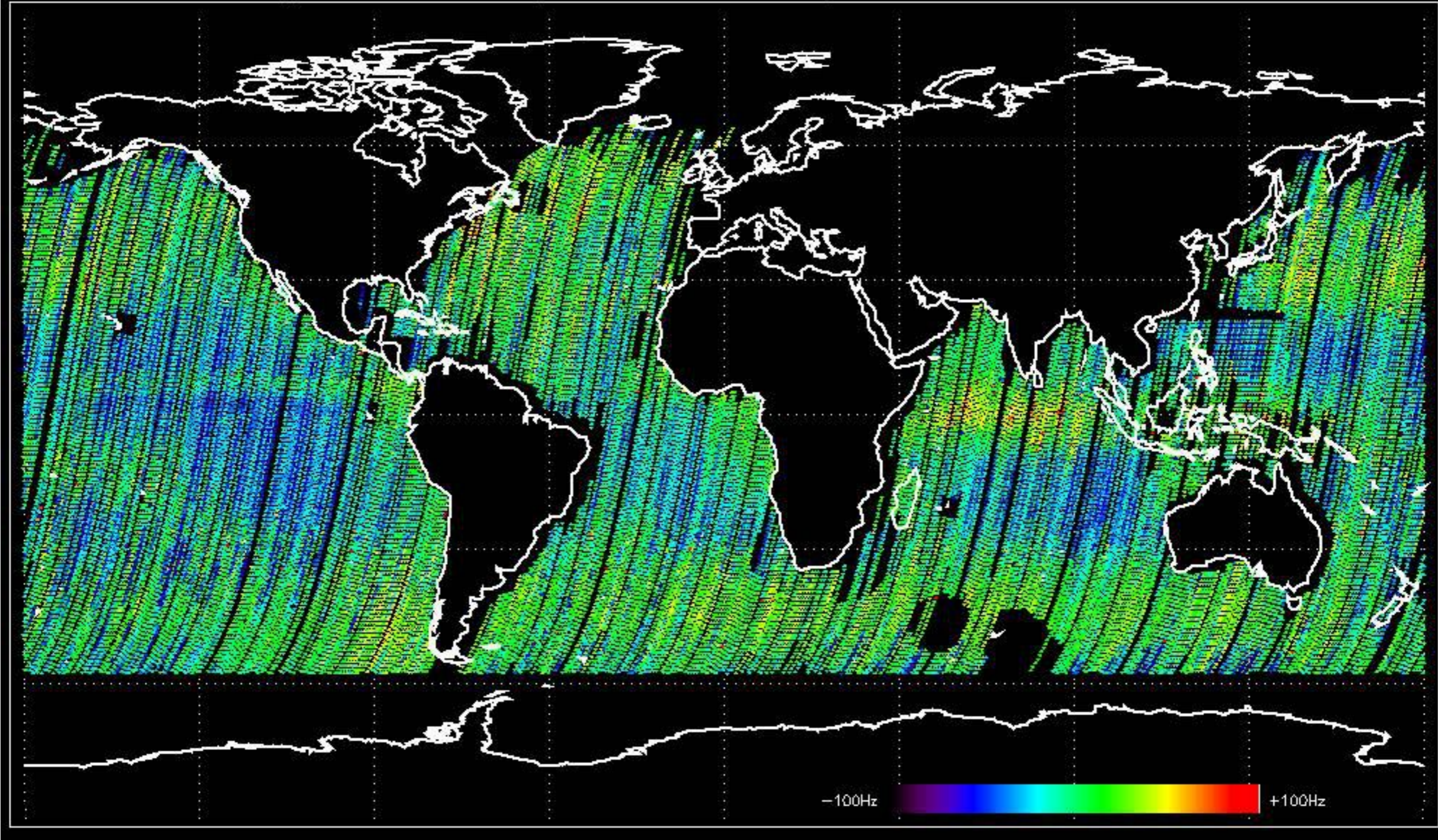
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -16.162753 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -9.8026107 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -13.500105 Hz



No anomalies observed on available MS products:

No anomalies observed.











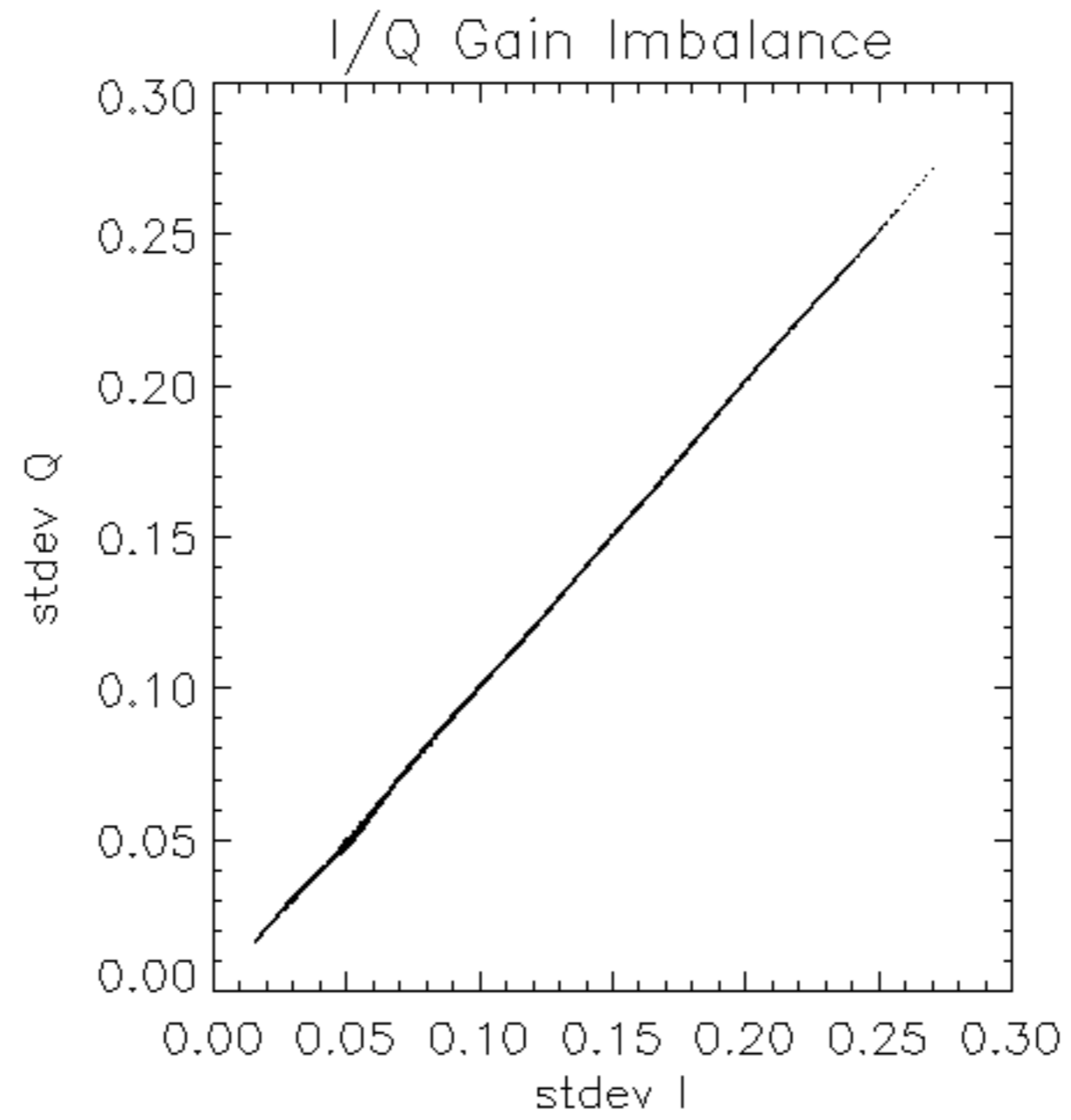


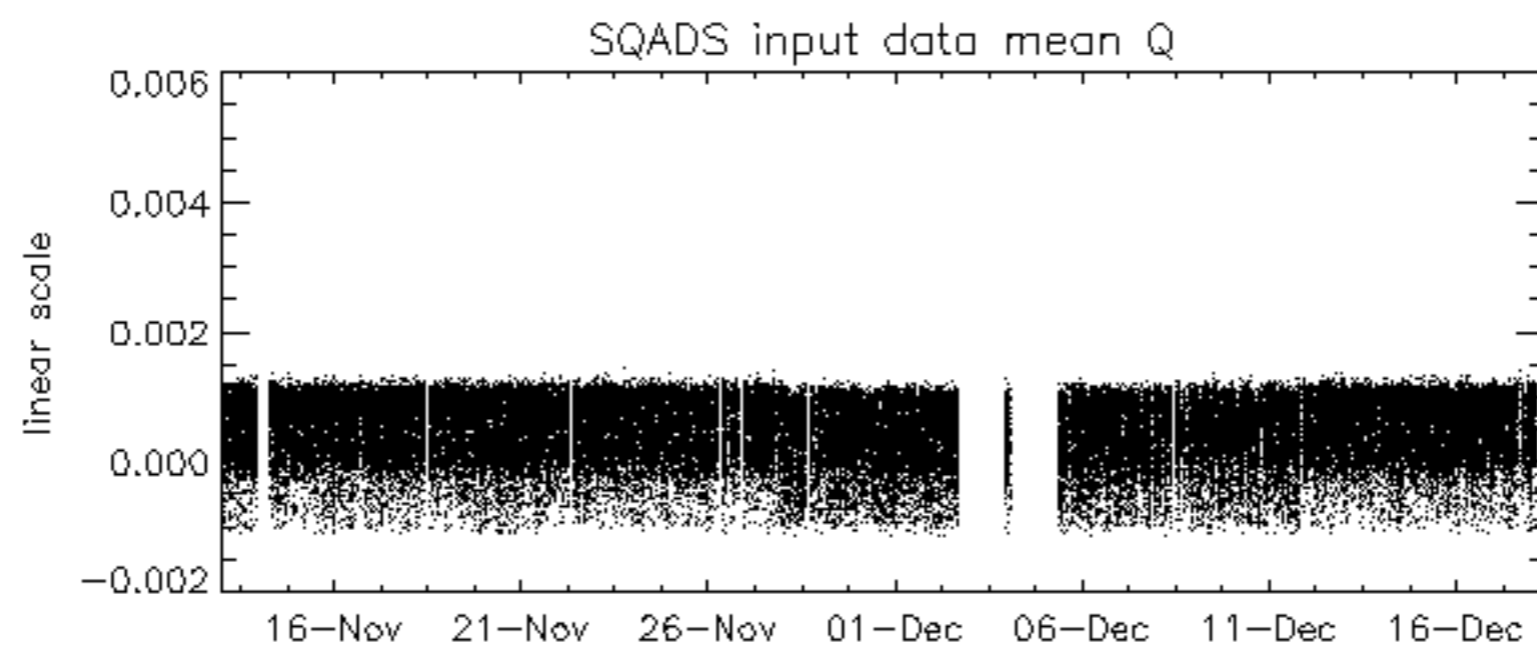
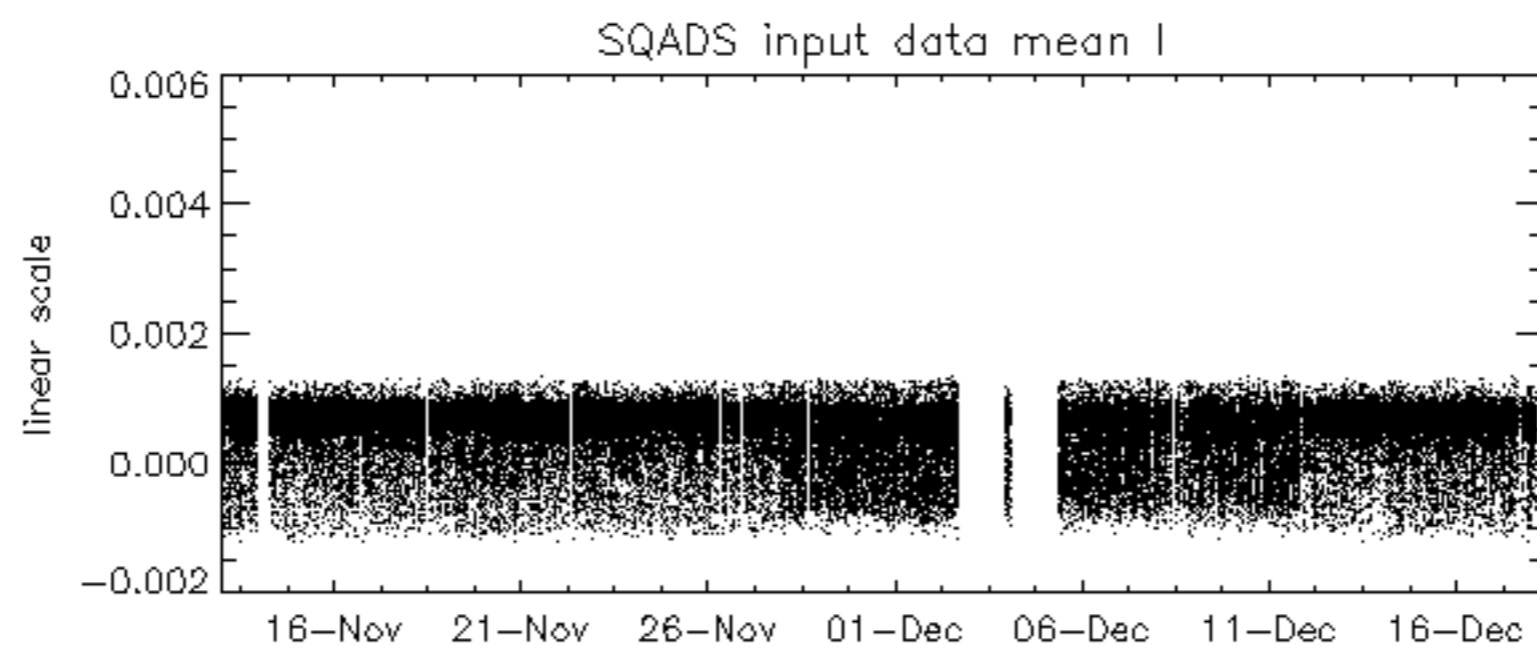
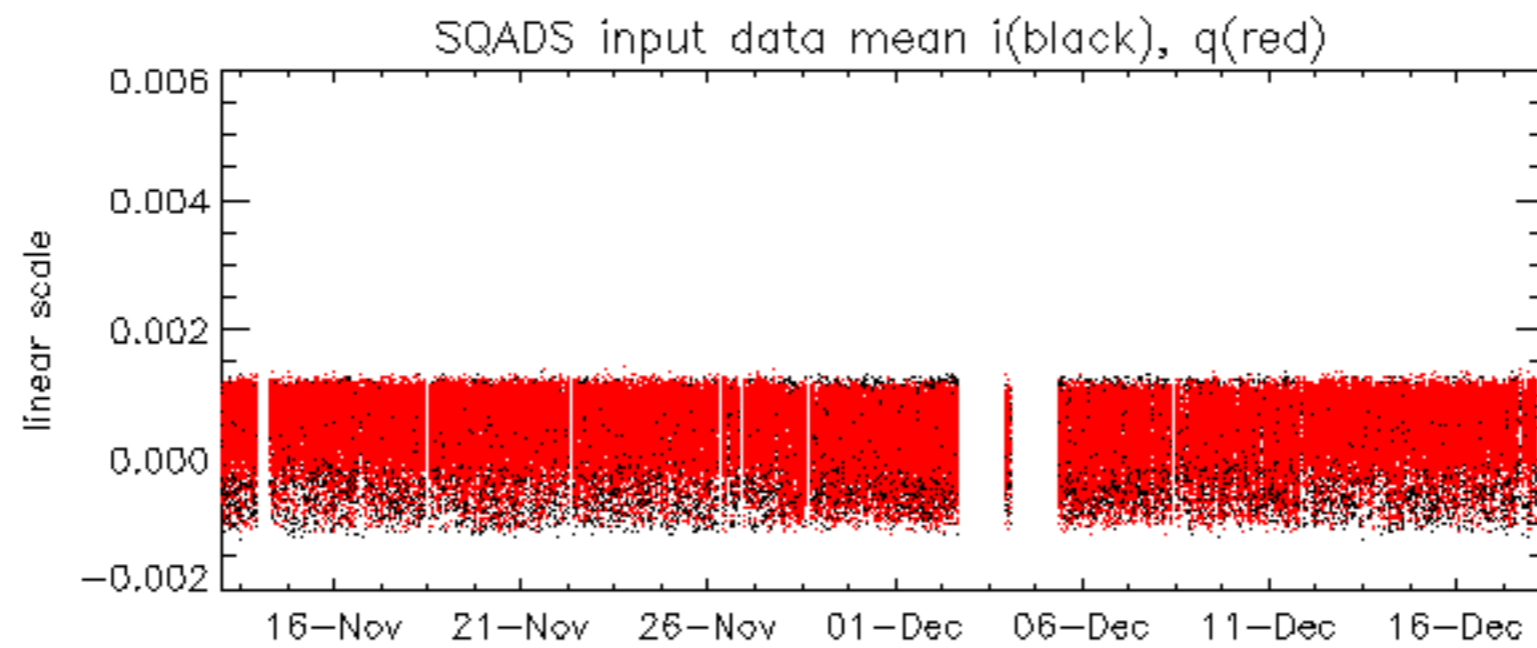


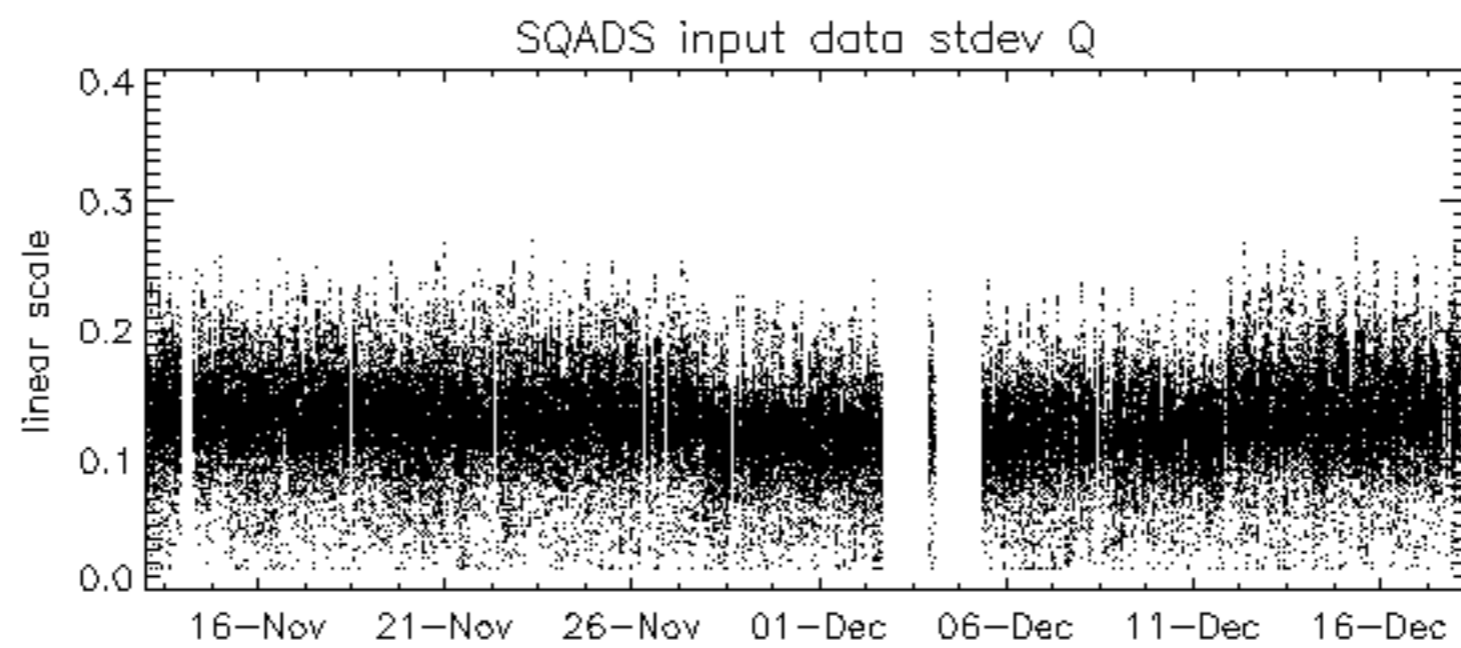
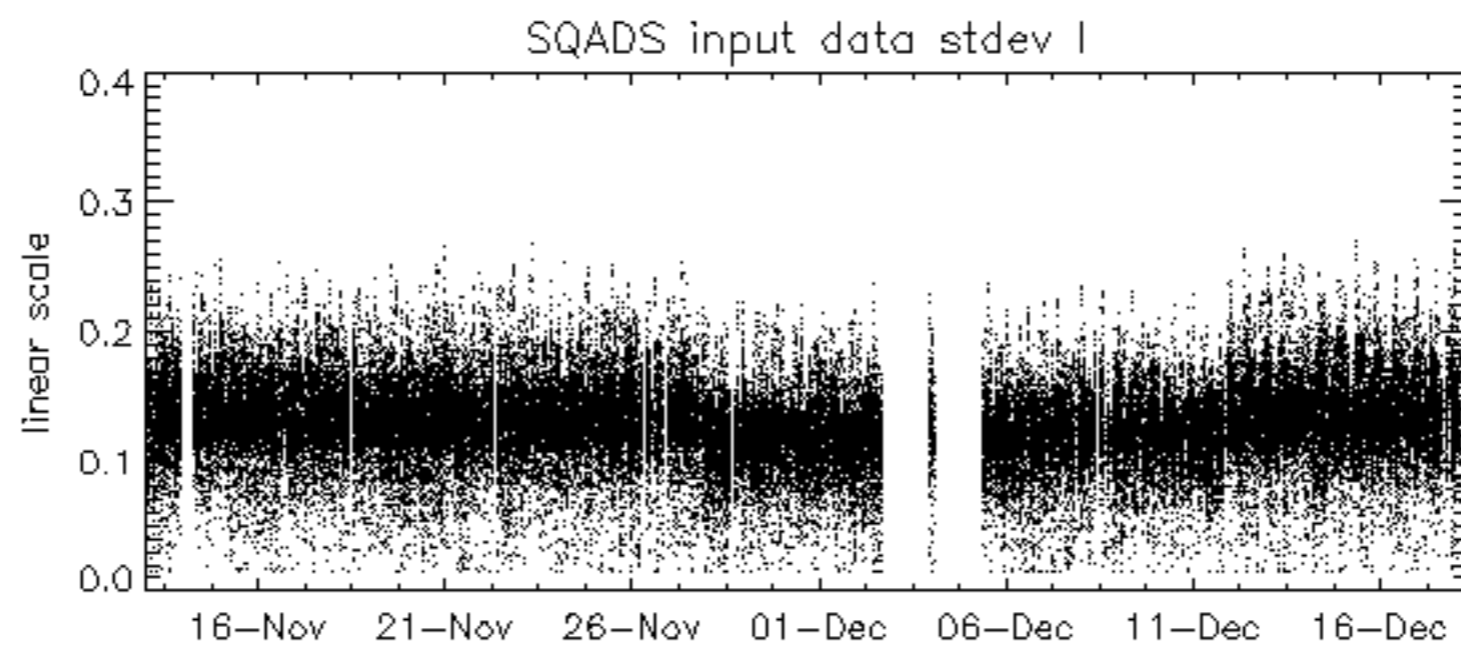
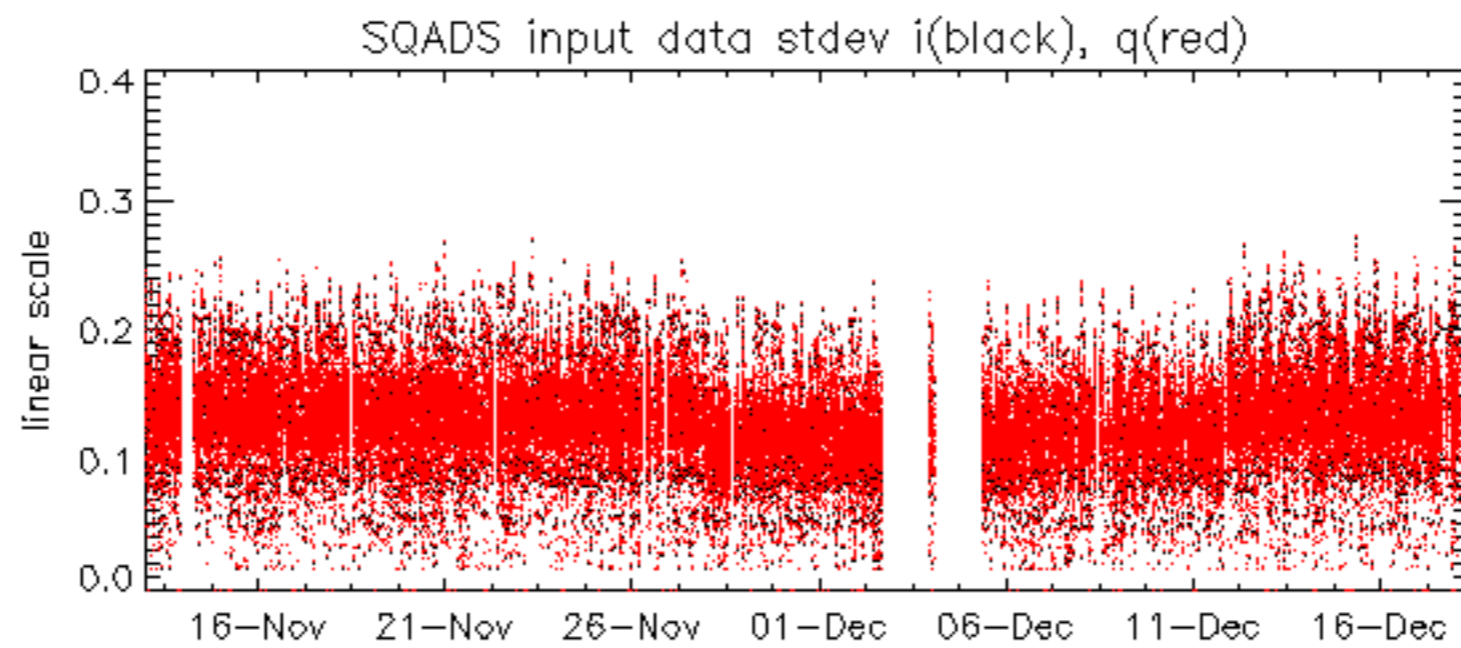


















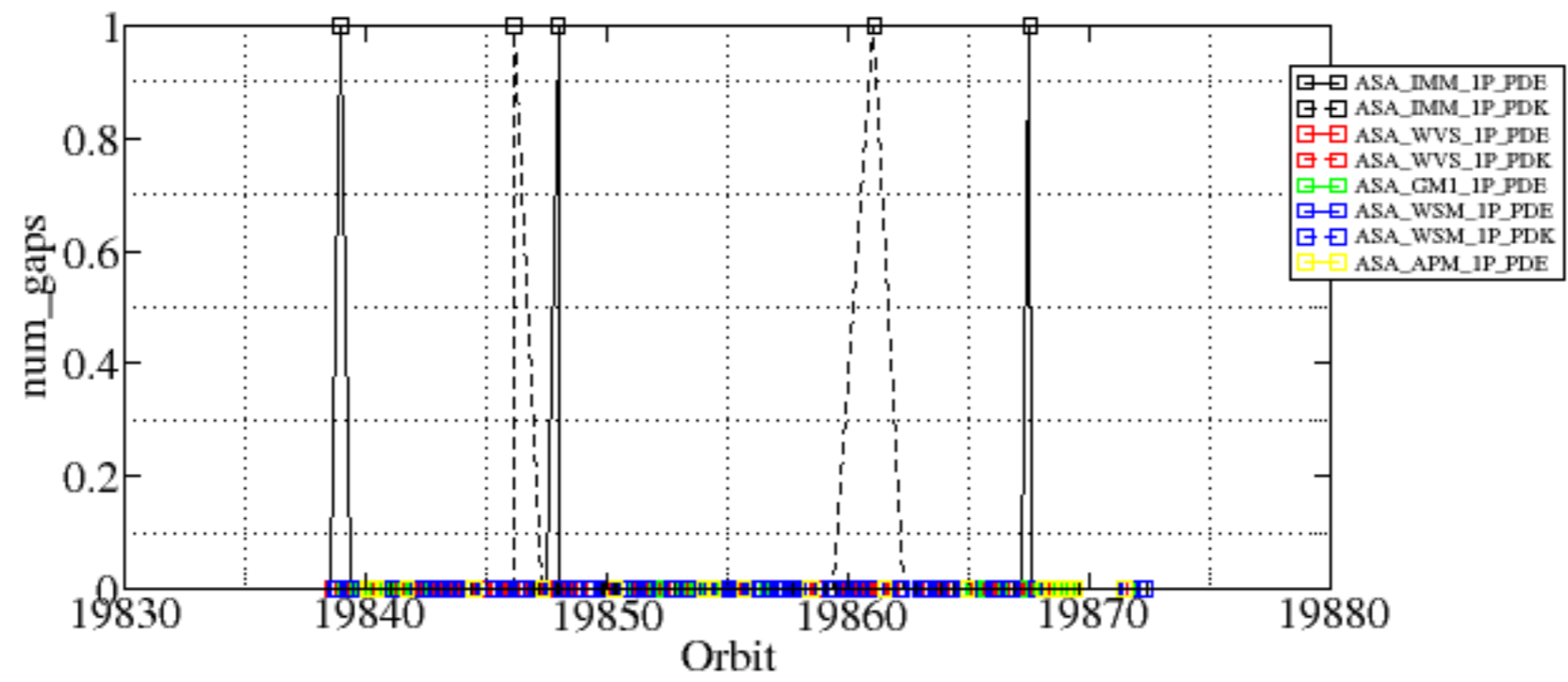


Summary of analysis for the last 3 days 2005121[678]

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_IMM_1PNPDE20051216_004204_000002002043_00245_19838_4039.N1	1	0
ASA_IMM_1PNPDE20051216_155110_000001122043_00254_19847_4090.N1	1	0
ASA_IMM_1PNPDE20051218_003640_000001812043_00274_19867_4206.N1	1	0
ASA_IMM_1PNPDK20051216_124317_000000532043_00253_19846_9287.N1	1	0
ASA_IMM_1PNPDK20051217_134633_000001902043_00268_19861_9338.N1	1	0
ASA_WSM_1PNPDE20051217_170153_000002442043_00270_19863_4690.N1	0	8





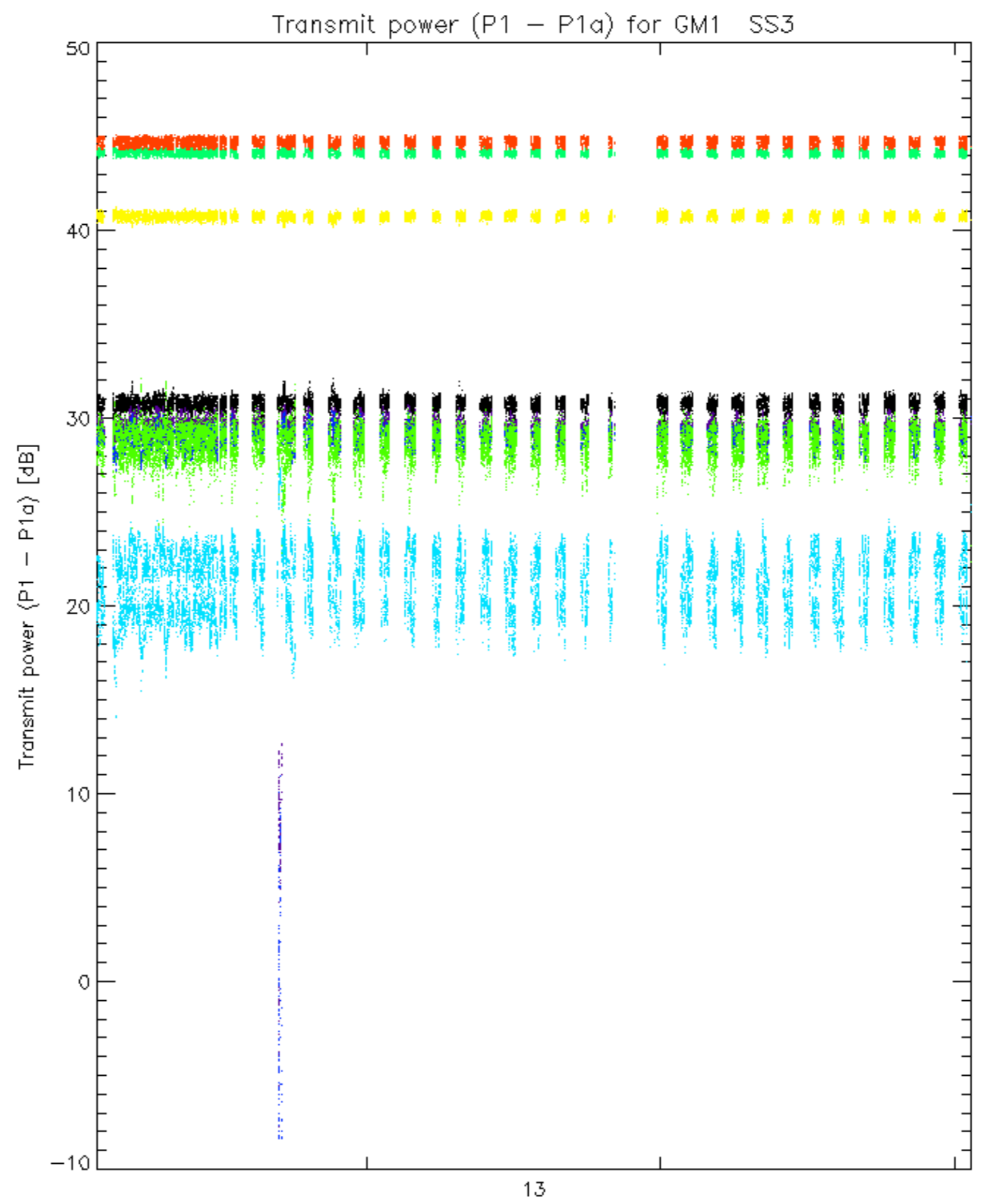




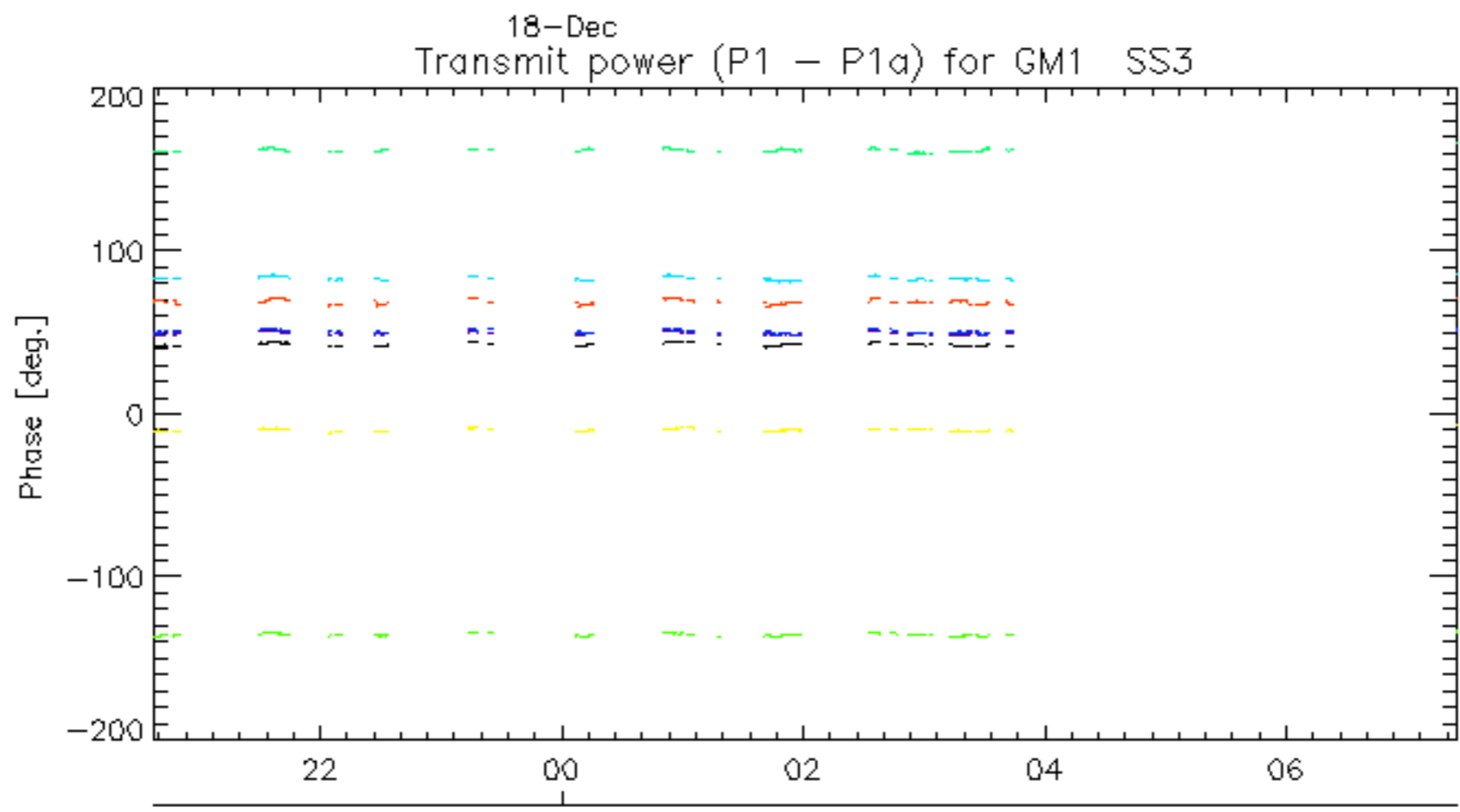
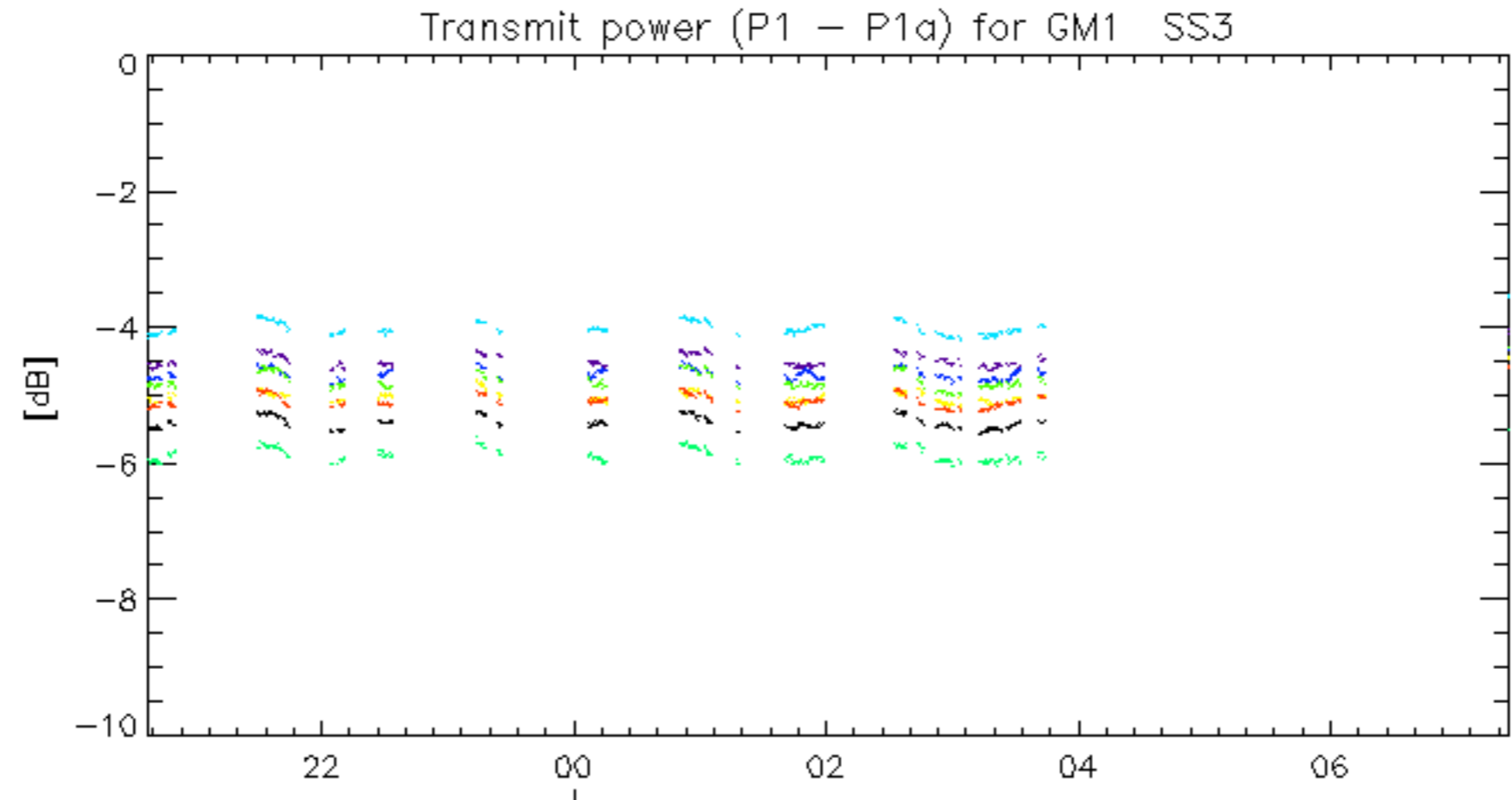






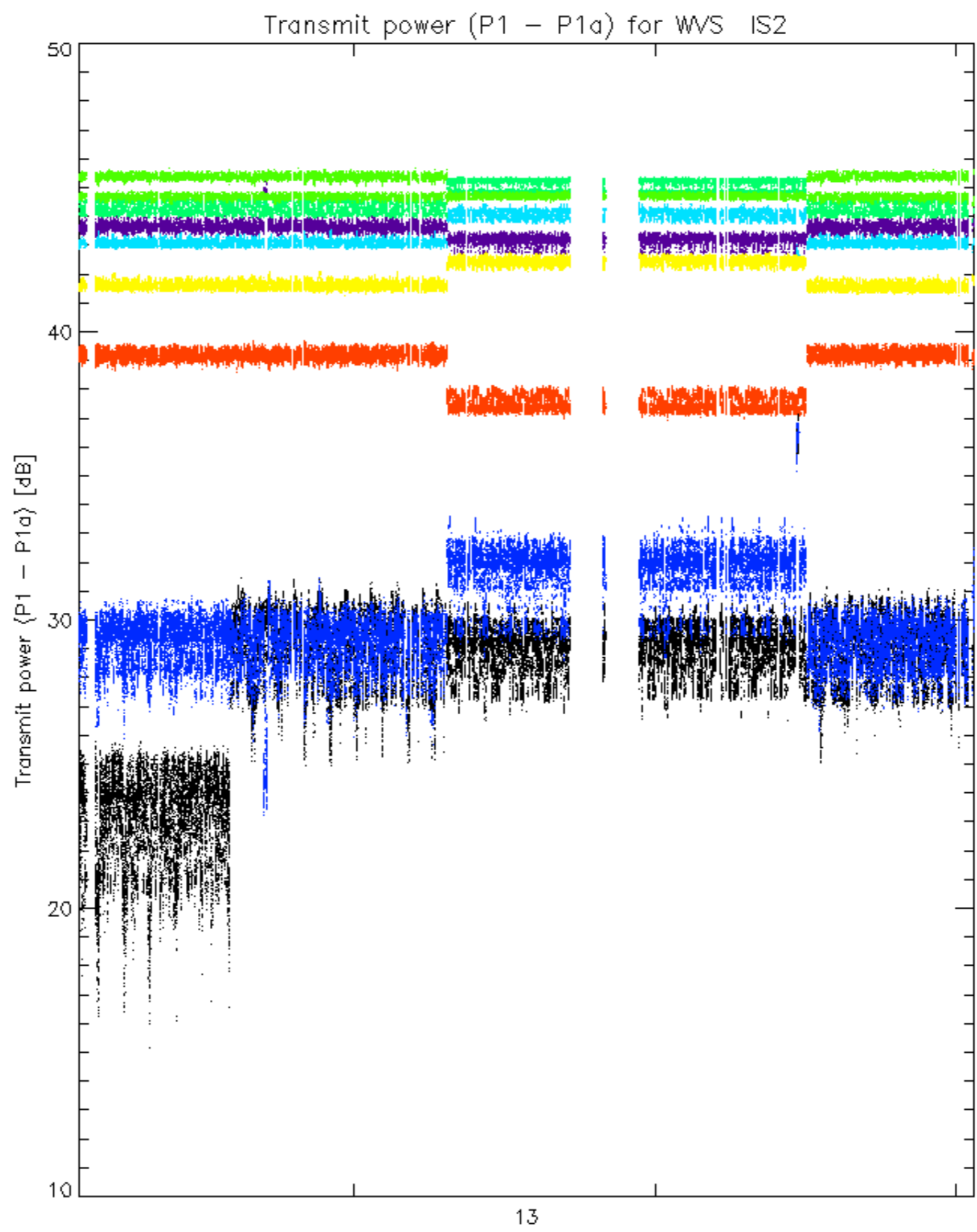


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

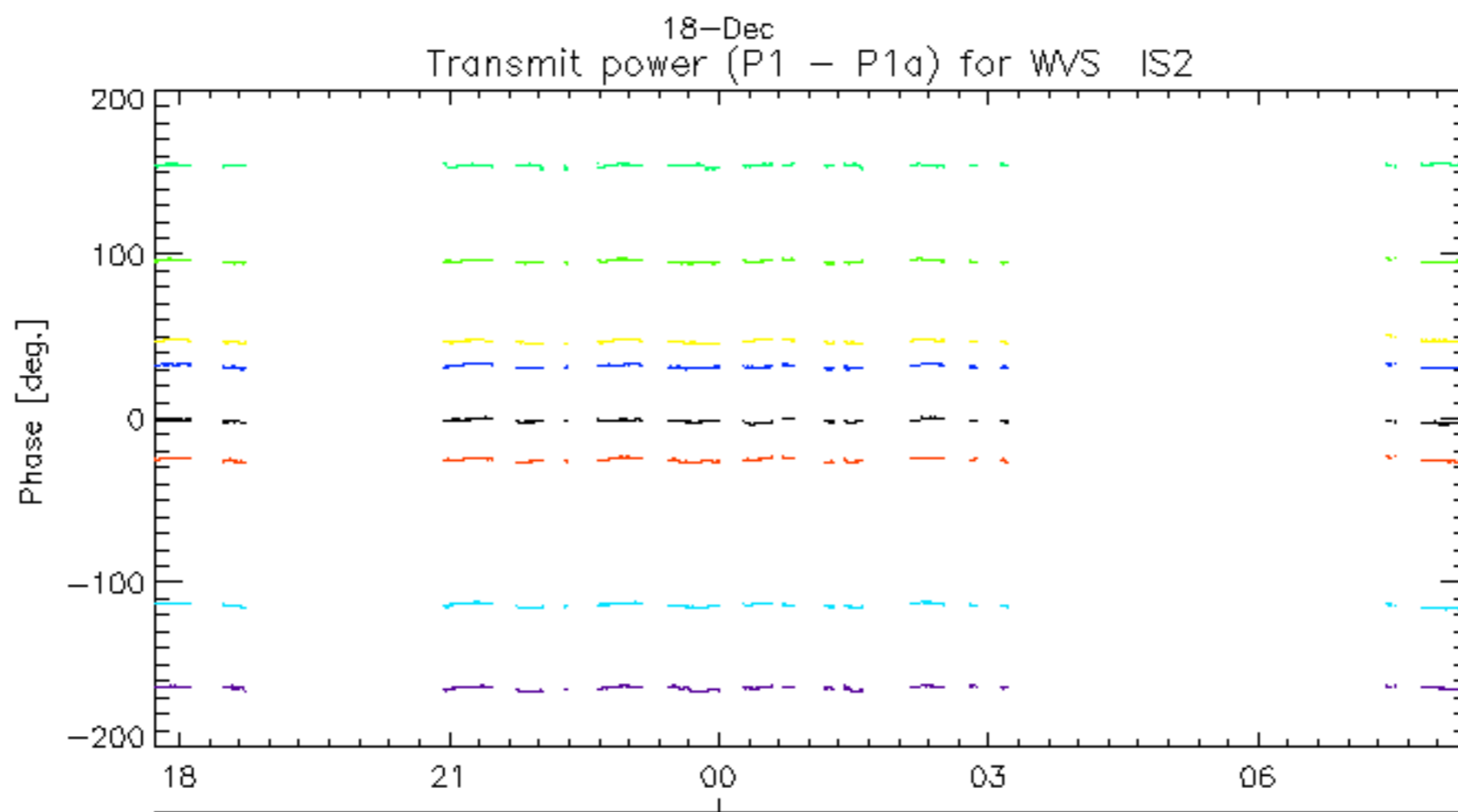
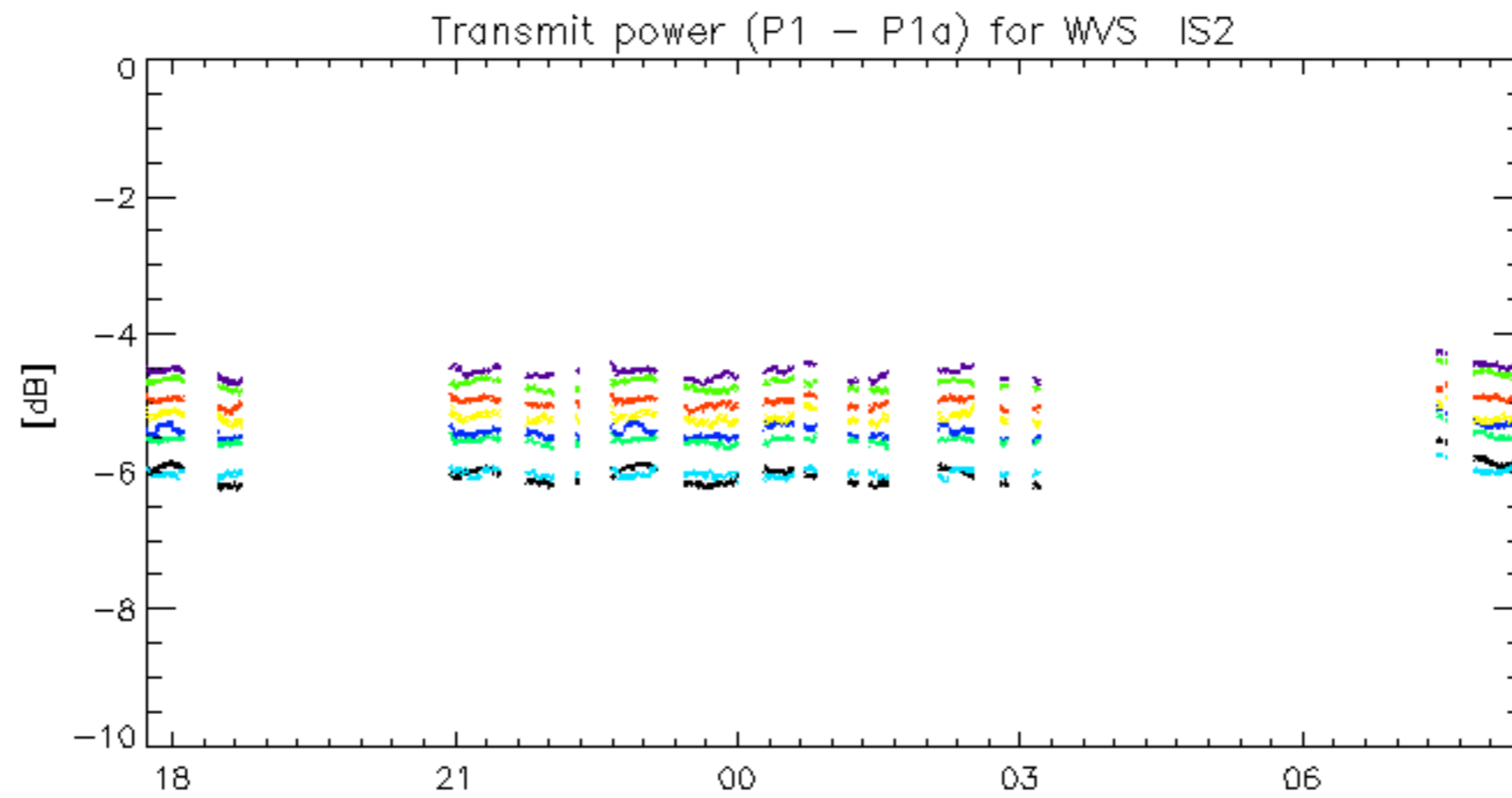


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30





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



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

No unavailabilities during the reported period.