

# PRELIMINARY REPORT OF 051217

last update on Sat Dec 17 16:46:30 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 2005-12-16 00:00:00 to 2005-12-17 16:46:30

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	43	0	12	0	24
ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	43	0	12	0	24
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	43	0	12	0	24
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	43	0	12	0	24

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	41	50	36	15	49
ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	41	50	36	15	49
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	41	50	36	15	49
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	41	50	36	15	49

## 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	20051215 040556

### 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"/>
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**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	-3.610920	0.225772	0.057070
7	P1	-2.754850	0.126032	0.390763
11	P1	-4.149466	0.031493	-0.032790
15	P1	-5.121961	1.716320	1.611956
19	P1	-3.039510	0.062724	0.267194
22	P1	-4.438431	0.021704	0.090250
26	P1	-4.397074	0.059807	-0.255237
30	P1	-5.655090	0.033762	0.179845
3	P1	-15.441987	2.420877	0.379264
7	P1	-15.317883	2.630271	1.913565
11	P1	-16.316027	0.472909	0.455258
15	P1	-12.794605	1.001573	1.269556
19	P1	-13.424979	0.348097	0.606576
22	P1	-16.032114	0.630035	0.540990
26	P1	-15.126544	1.108862	1.285290
30	P1	-15.598718	2.454853	1.832963

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.854839	0.108767	0.074548
7	P2	-22.553568	0.104511	0.022549
11	P2	-16.569807	0.122745	0.043838
15	P2	-7.279751	0.103374	-0.036365
19	P2	-9.220732	0.101433	0.027179
22	P2	-17.867769	0.110350	0.051339
26	P2	-16.365046	0.131925	-0.268112
30	P2	-19.788404	0.118293	-0.187440

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.235752	0.007397	-0.012697
7	P3	-8.235752	0.007397	-0.012697
11	P3	-8.235752	0.007397	-0.012697
15	P3	-8.235752	0.007397	-0.012697
19	P3	-8.235752	0.007397	-0.012697
22	P3	-8.235752	0.007397	-0.012697
26	P3	-8.235752	0.007397	-0.012697
30	P3	-8.235752	0.007397	-0.012697

#### 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	-3.697843	0.008025	-0.020265
7	P1	-2.777294	0.011544	0.022751
11	P1	-2.877359	0.014516	-0.002385
15	P1	-3.403841	0.021599	-0.022517
19	P1	-3.385776	0.013542	-0.021512
22	P1	-5.121058	0.019515	-0.012426
26	P1	-5.834513	0.016210	-0.040448
30	P1	-5.276121	0.033169	-0.022665
3	P1	-11.469363	0.042300	-0.032404
7	P1	-9.971074	0.045635	-0.003383
11	P1	-10.053323	0.060822	-0.002114
15	P1	-10.570506	0.081180	0.057905
19	P1	-15.511671	0.073607	-0.050316
22	P1	-20.960396	0.957580	-0.098027
26	P1	-17.197416	0.304220	0.063155
30	P1	-18.297894	0.309054	0.185456

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.631306	0.030371	0.053858
7	P2	-23.056482	0.059761	-0.025655
11	P2	-11.642371	0.021551	0.108867
15	P2	-4.984869	0.021567	-0.039006
19	P2	-6.963570	0.022261	-0.041536
22	P2	-8.189159	0.023224	-0.062532
26	P2	-24.049147	0.031529	-0.032029
30	P2	-22.121767	0.019422	-0.046765

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.076030	0.002430	-0.010194
7	P3	-8.076043	0.002436	-0.010311
11	P3	-8.076049	0.002418	-0.010322
15	P3	-8.076034	0.002438	-0.010585
19	P3	-8.076127	0.002436	-0.010058
22	P3	-8.076047	0.002436	-0.010649
26	P3	-8.075963	0.002408	-0.010952
30	P3	-8.075799	0.002428	-0.010318

## 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	0.000464744
	stdev	2.15805e-07
MEAN Q	mean	0.000483602
	stdev	2.36125e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129039
	stdev	0.00106704
STDEV Q	mean	0.129323
	stdev	0.00107893



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005121[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_IMM_1PNPDE20051216_004204_000002002043_00245_19838_4039.N1	1	0
ASA_IMM_1PNPDE20051216_155110_000001122043_00254_19847_4090.N1	1	0
ASA_IMM_1PNPDK20051216_124317_000000532043_00253_19846_9287.N1	1	0
ASA_WSM_1PNPDE20051215_134913_000000672043_00239_19832_4387.N1	0	61
ASA_WSM_1PNPDE20051215_180902_000001032043_00242_19835_4404.N1	0	34
ASA_WSM_1PNPDE20051215_230839_000001092043_00245_19838_4458.N1	0	13
ASA_WSM_1PNPDK20051215_182418_000000612043_00242_19835_2203.N1	0	12





## 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	
	

### 7.4 - Unbiased Doppler Error for GM1



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

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

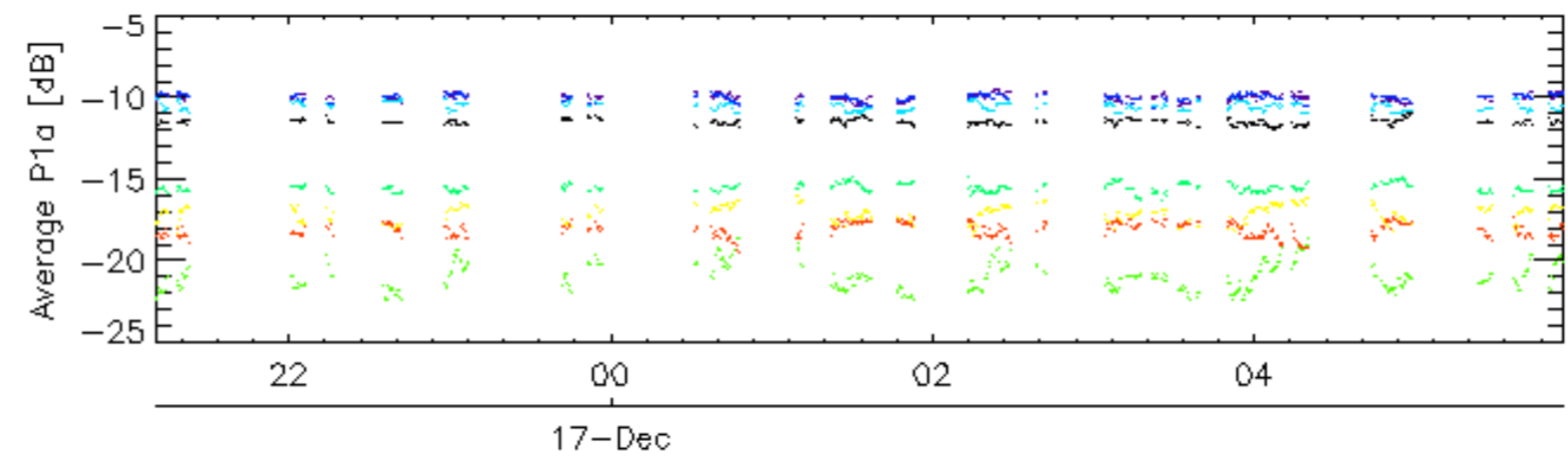
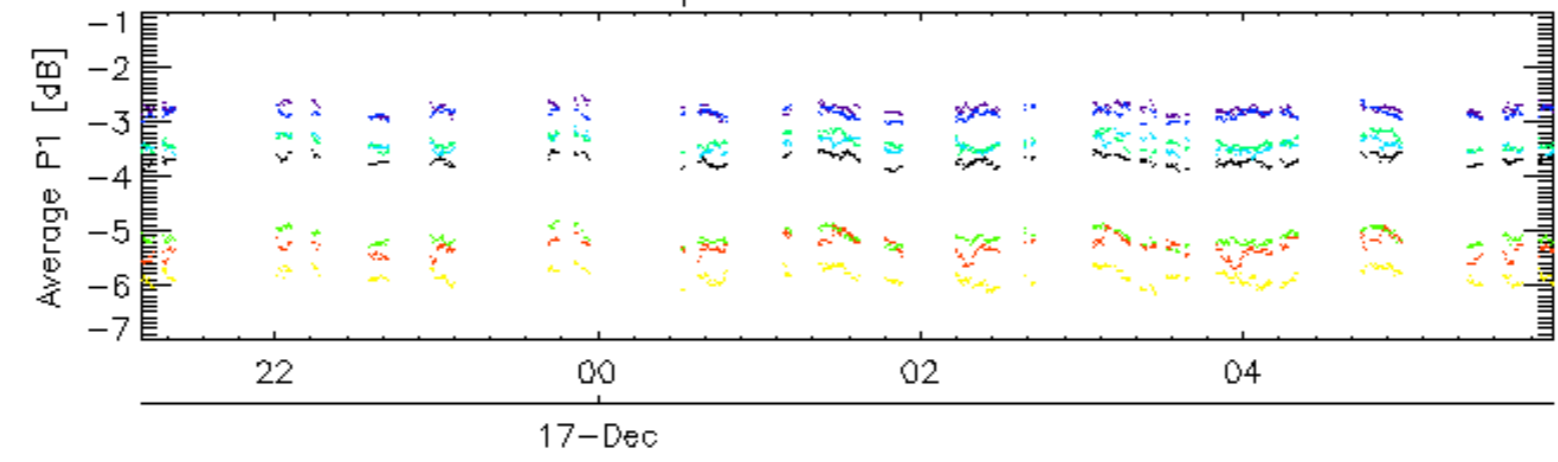
**7.5 - Absolute Doppler for GM1****Evolution of Absolute Doppler**

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Acsending
<input type="checkbox"/>
Descending

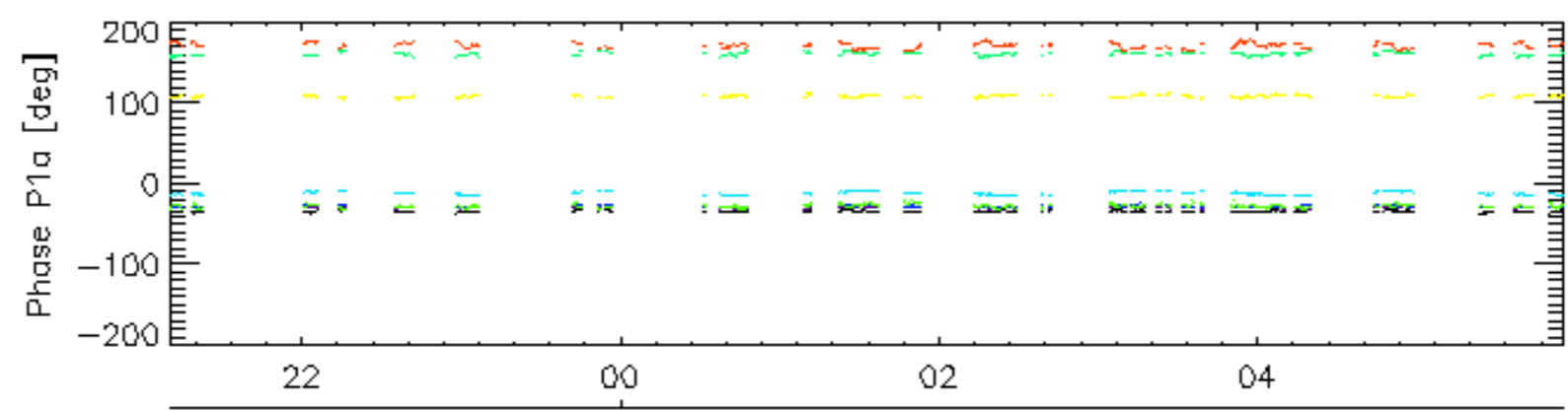
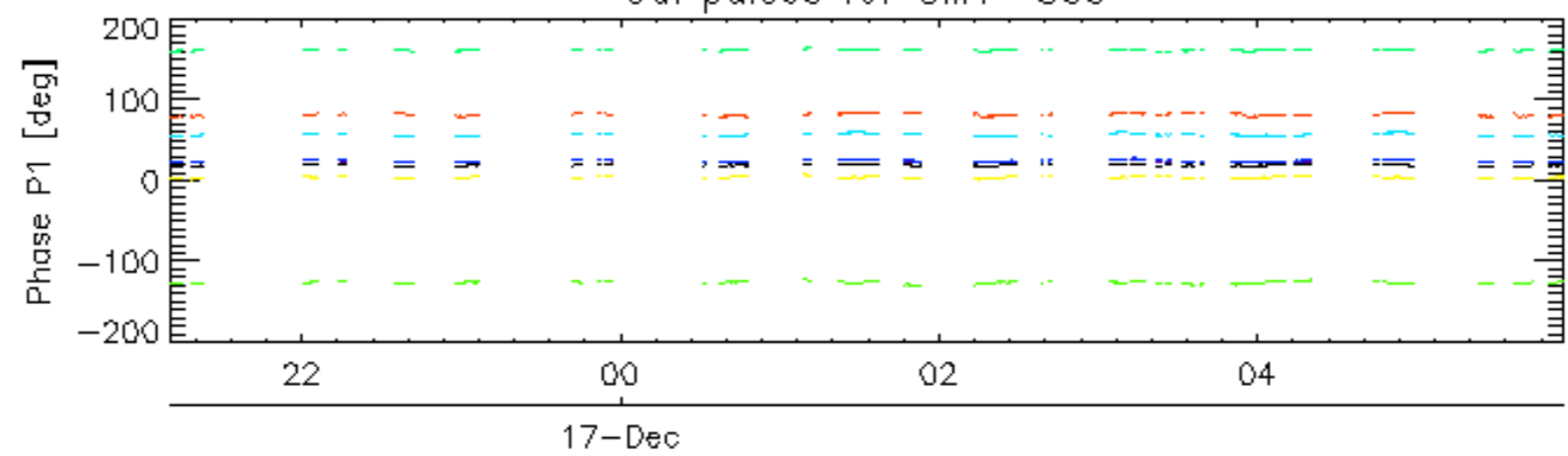
**7.6 - Doppler evolution versus ANX for GM1****Evolution Doppler error versus ANX**

<input type="checkbox"/>
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Cal pulses for GM1 SS3

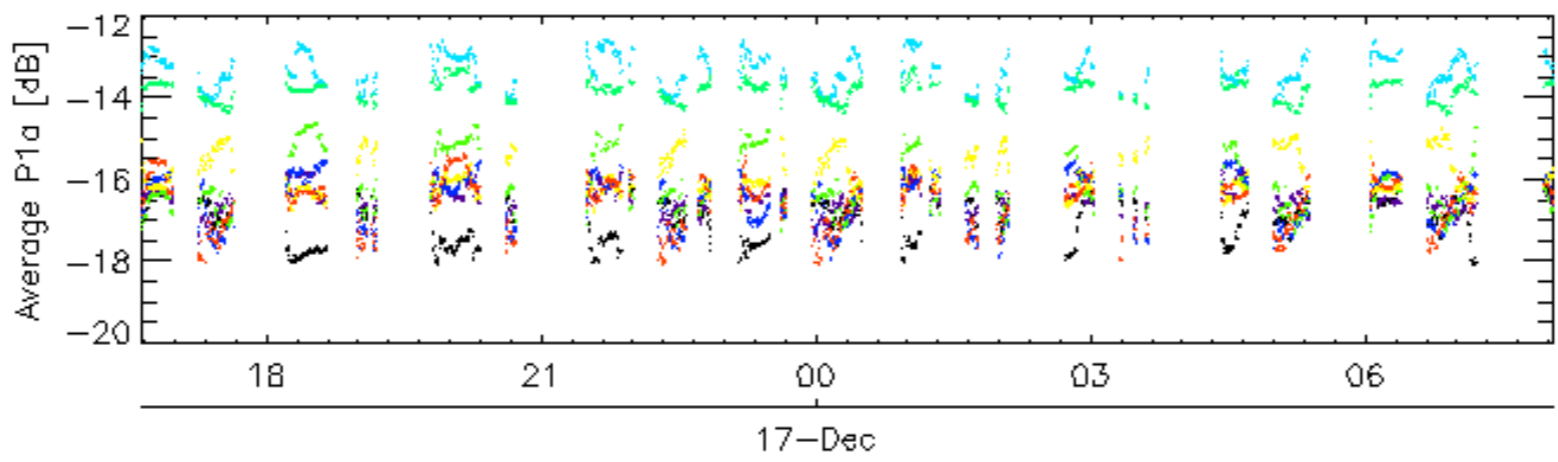
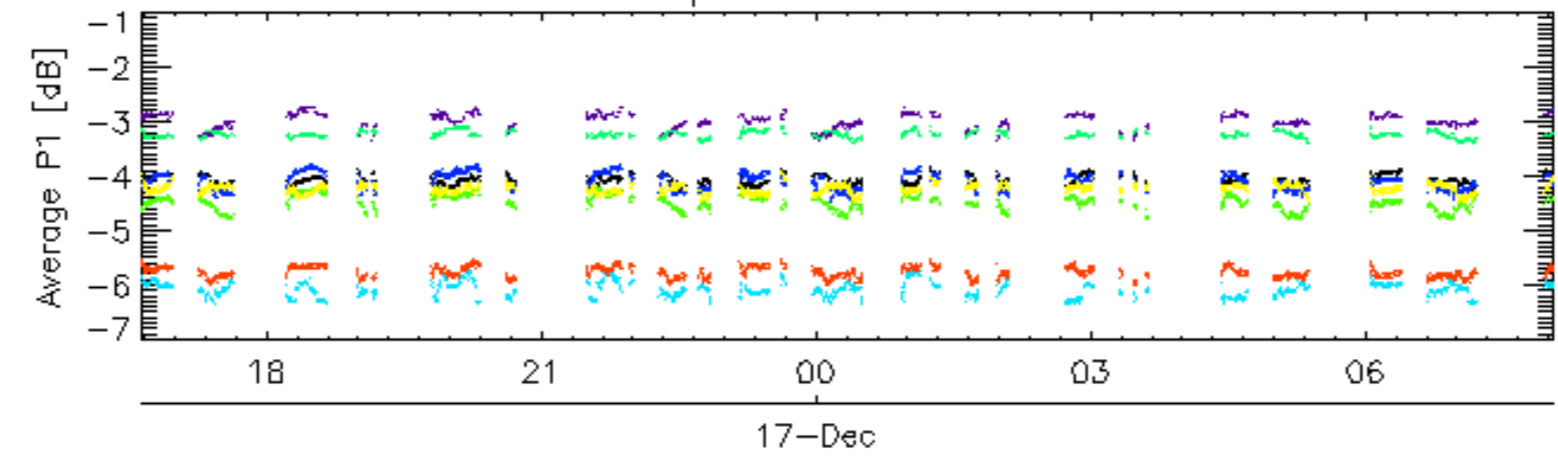


Cal pulses for GM1 SS3

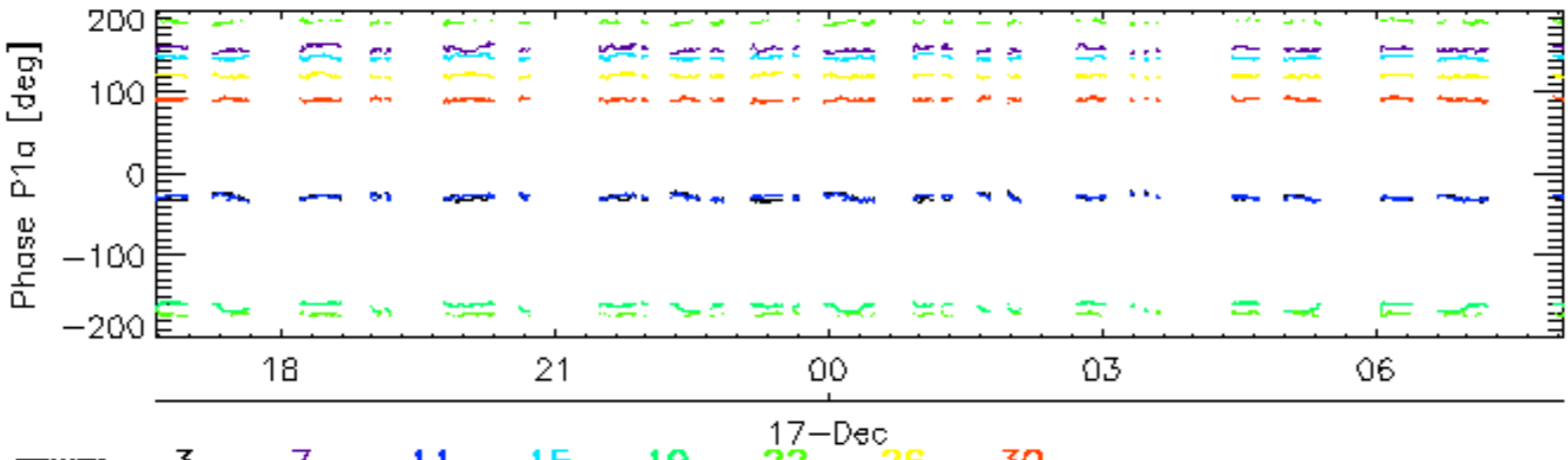
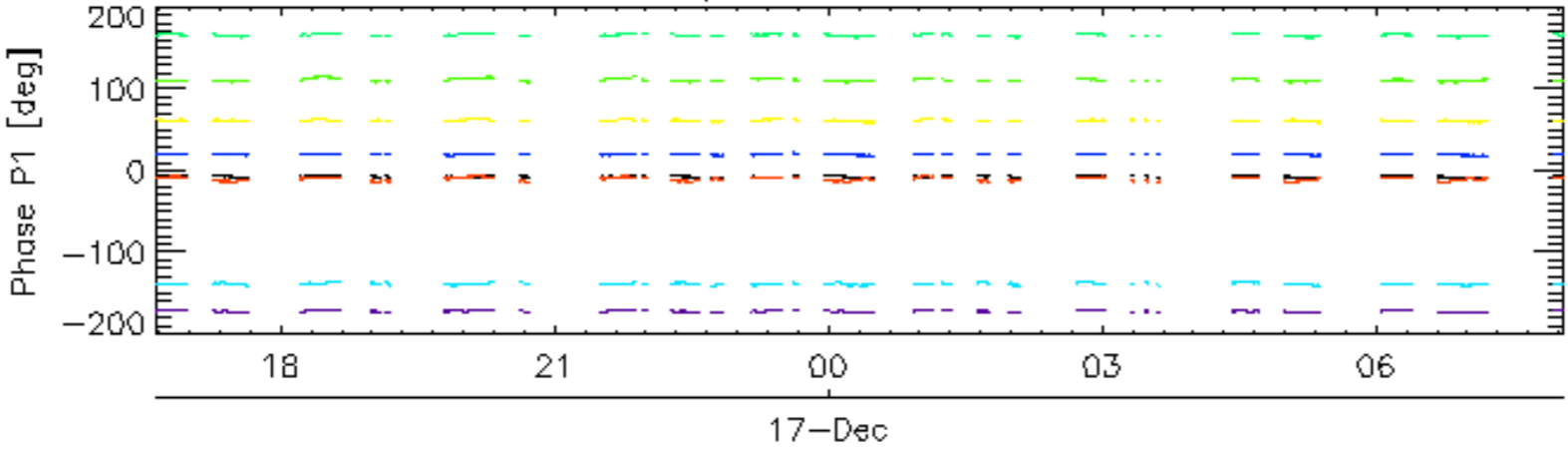


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

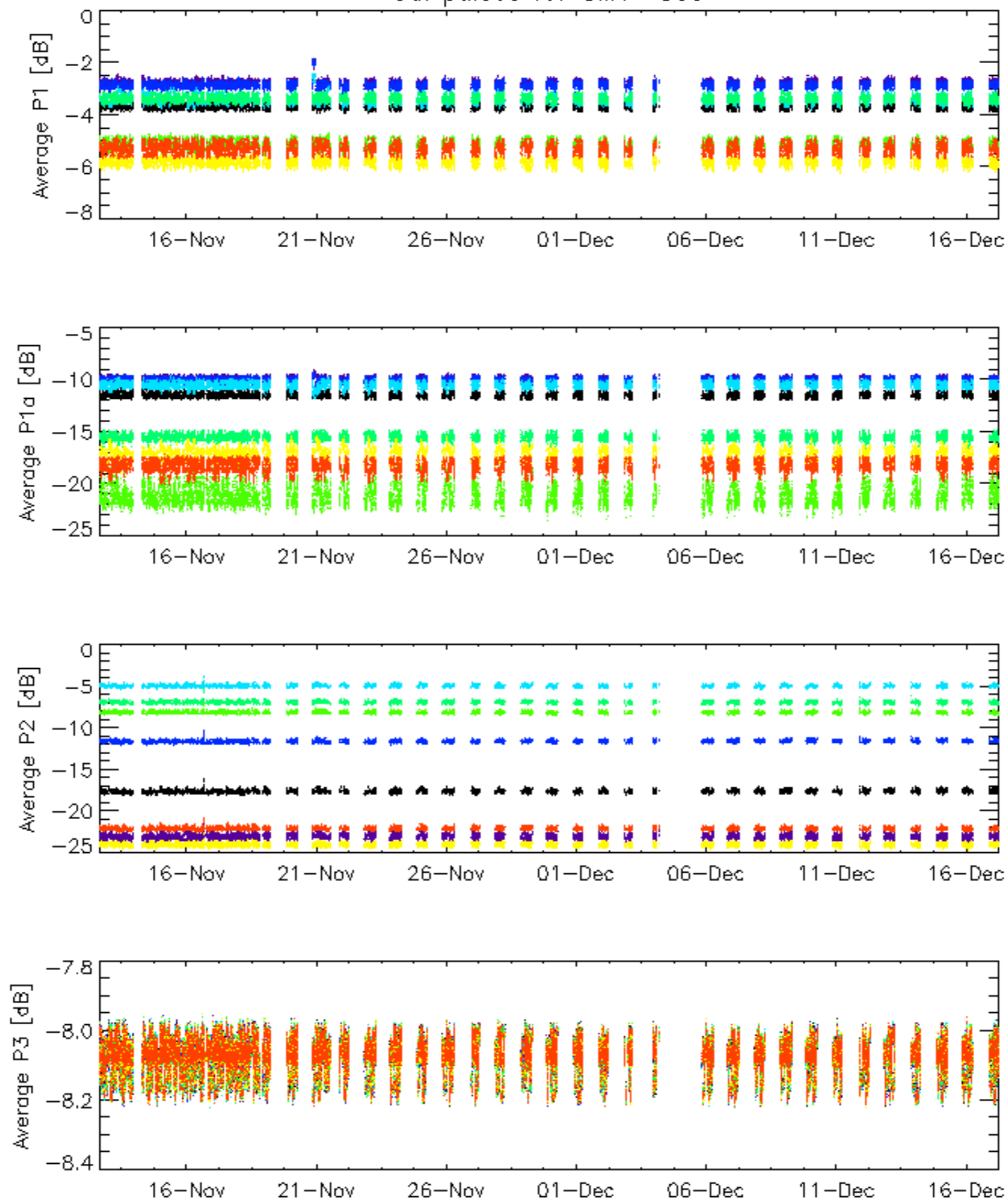


Cal pulses for WVS IS2



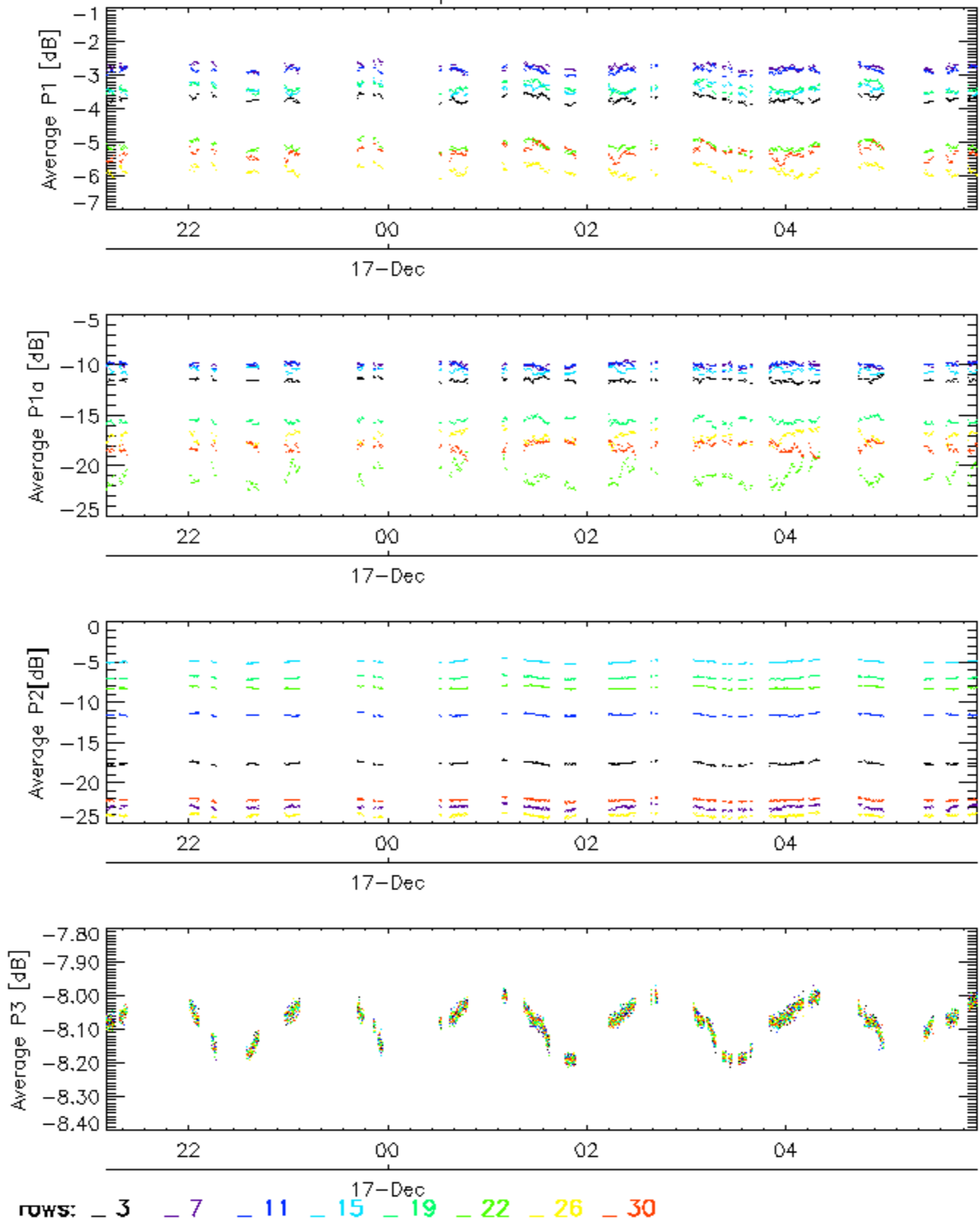
rows: 3 7 11 15 19 22 26 30

Cal pulses for GM1 SS3

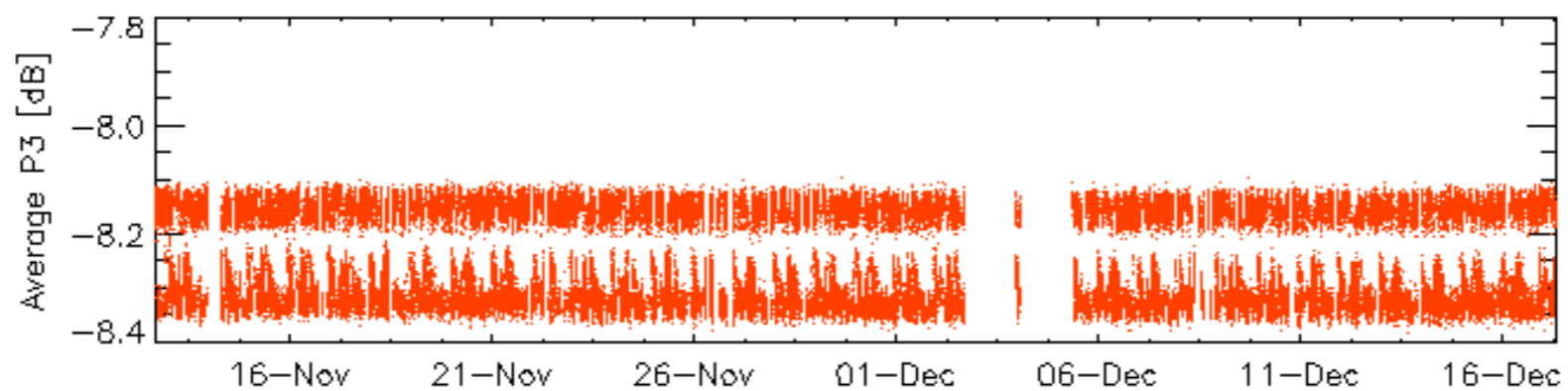
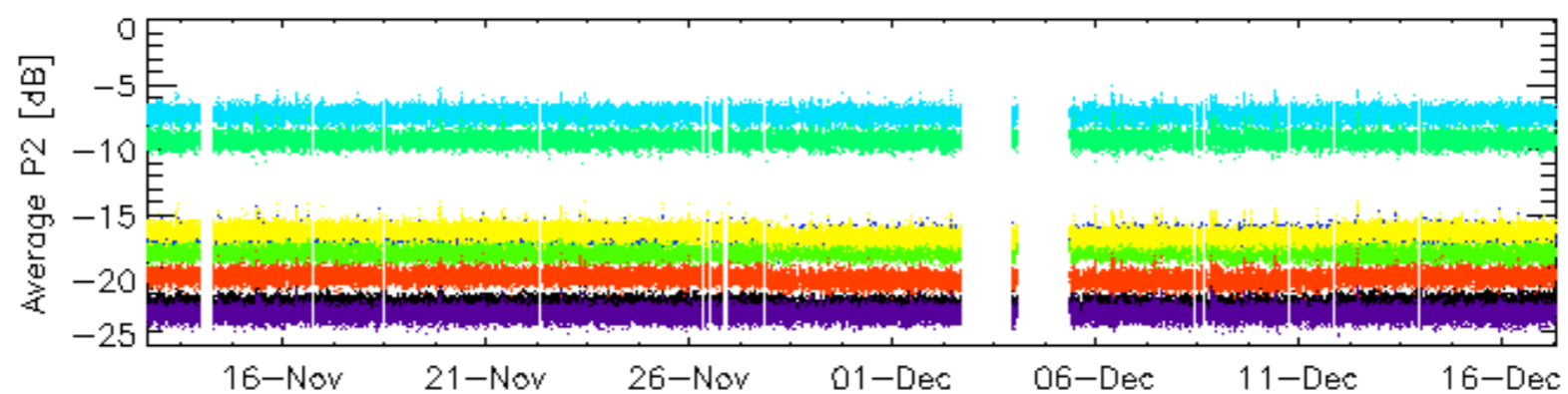
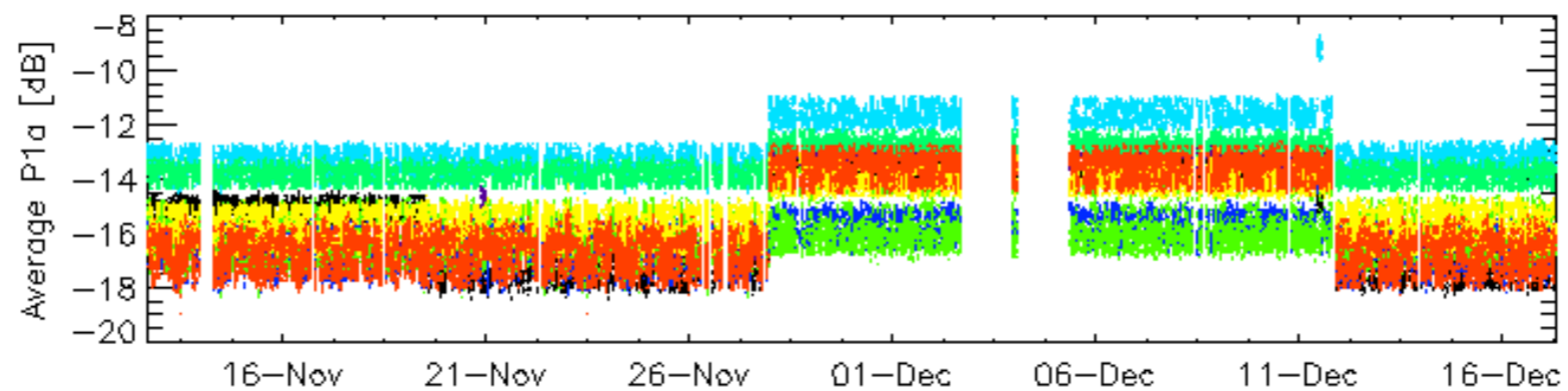
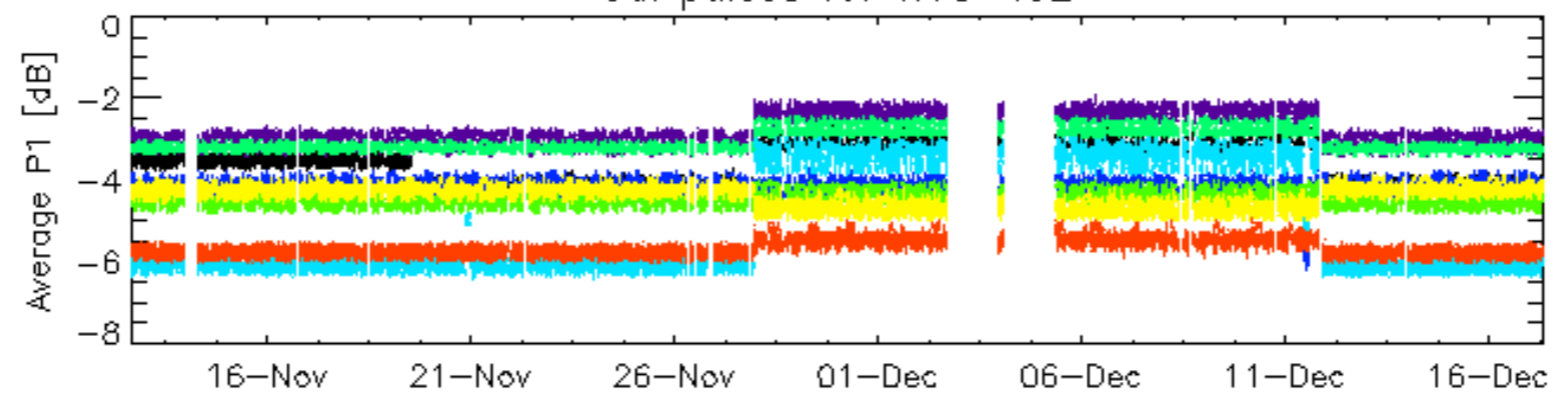


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

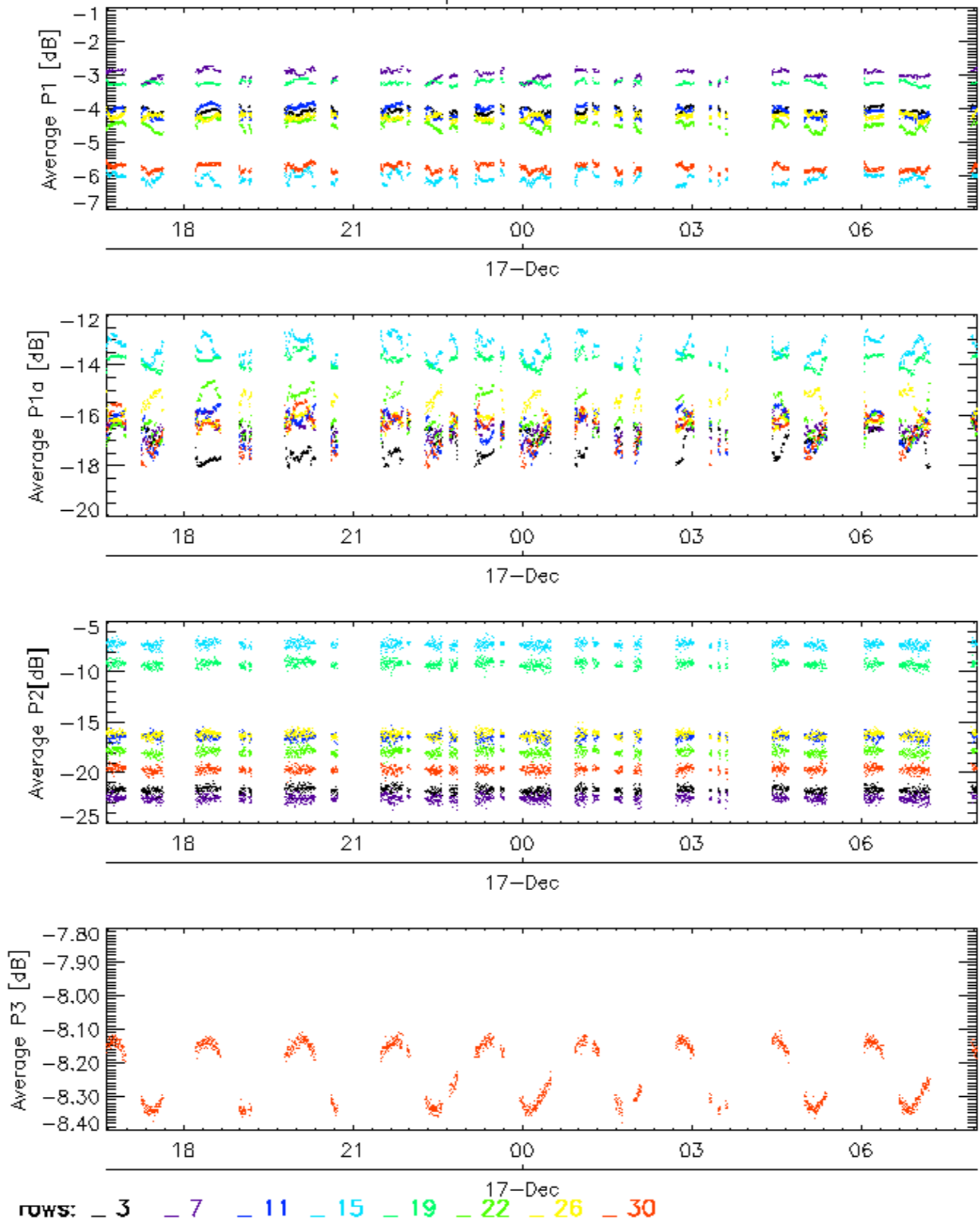


Cal pulses for WVS IS2



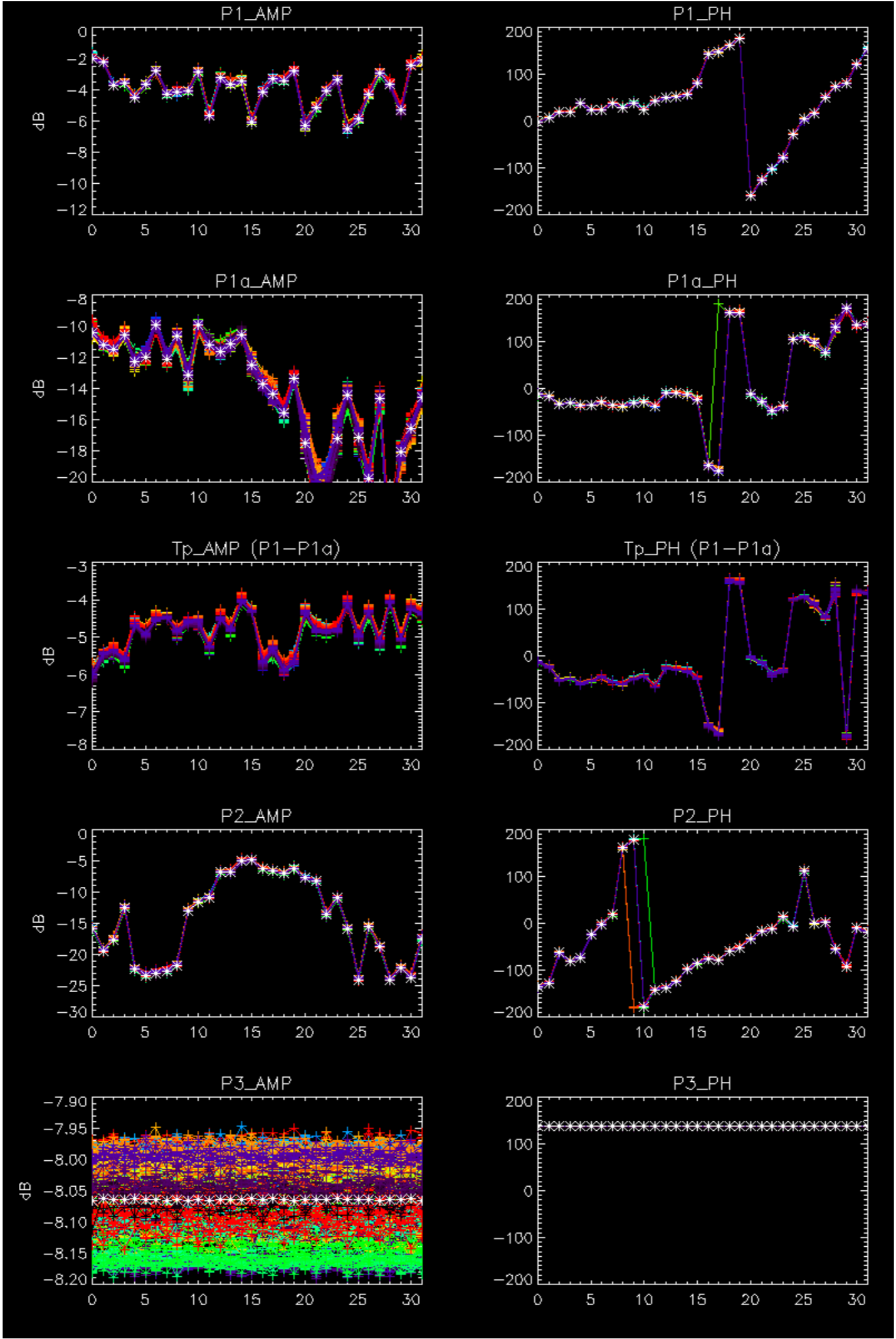
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

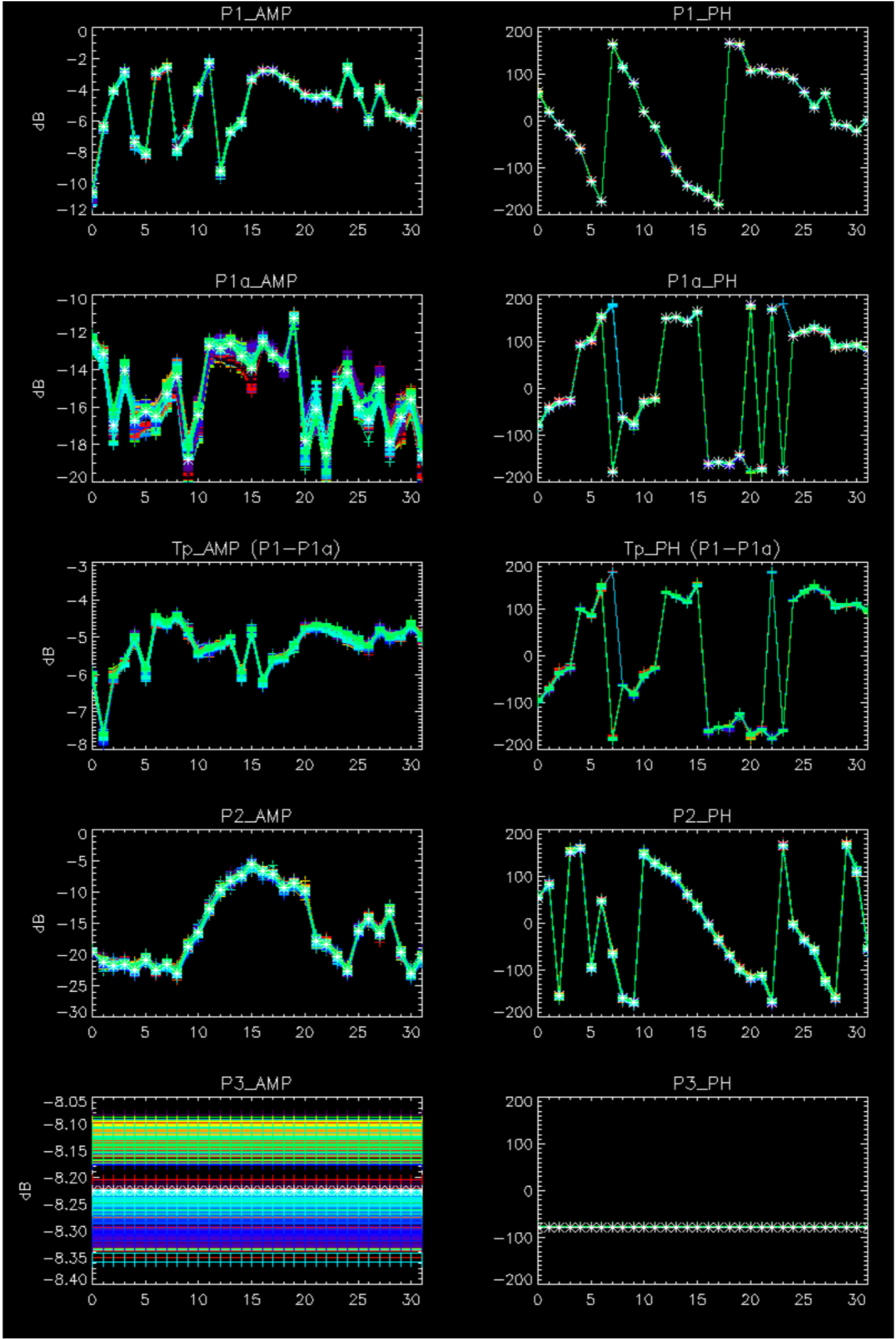
Cal pulses for WVS IS2



No anomalies observed.



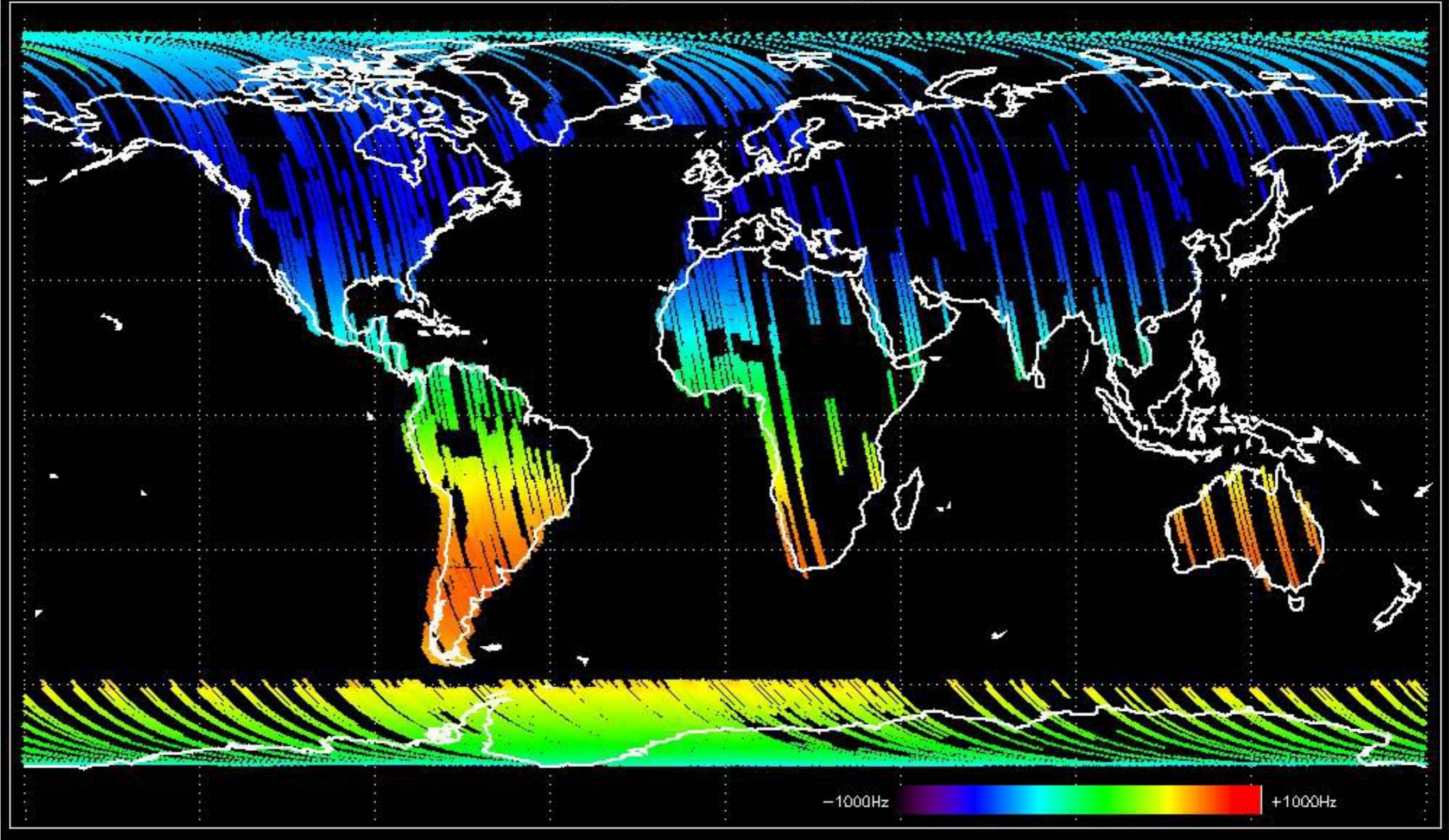




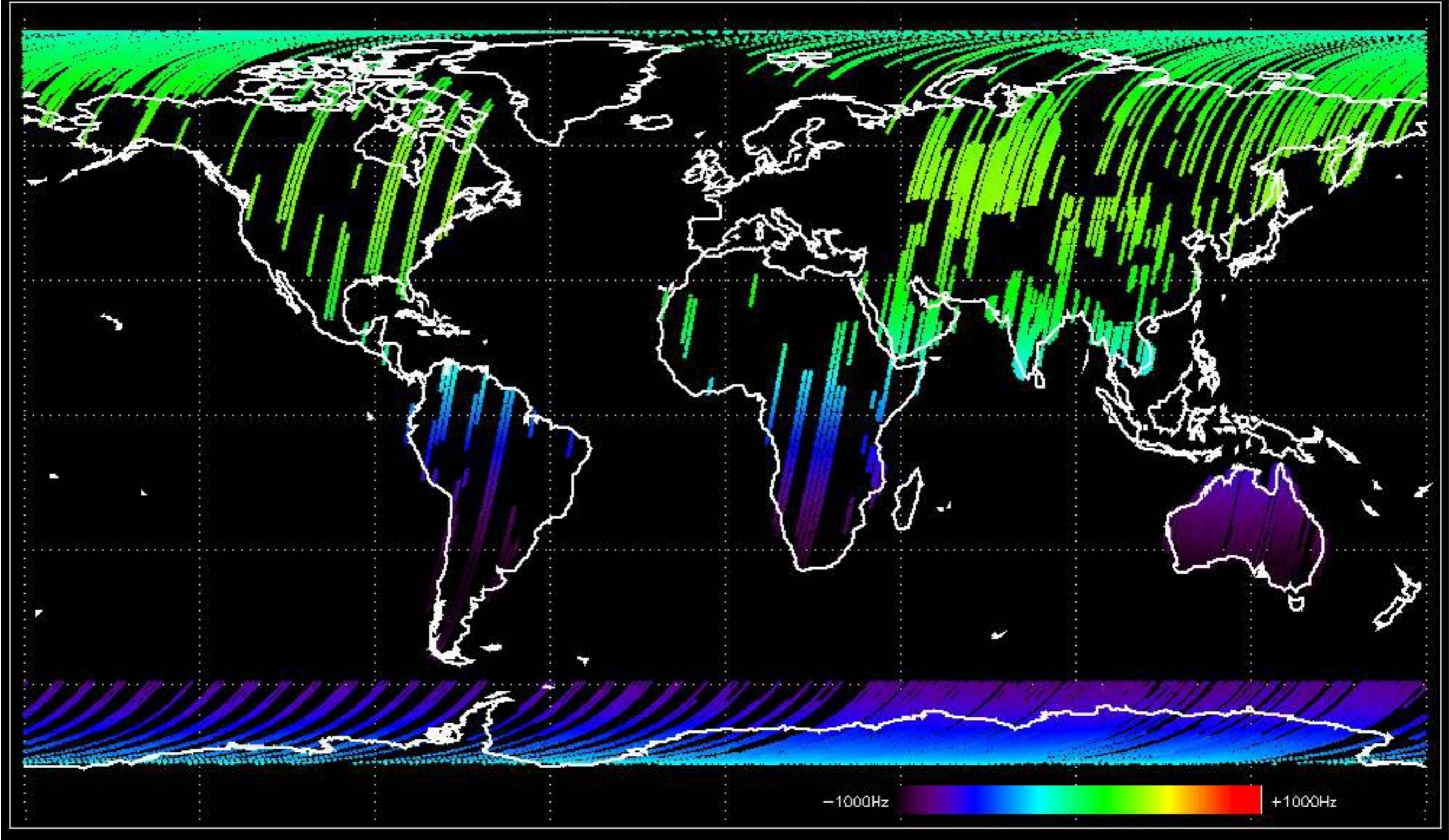
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



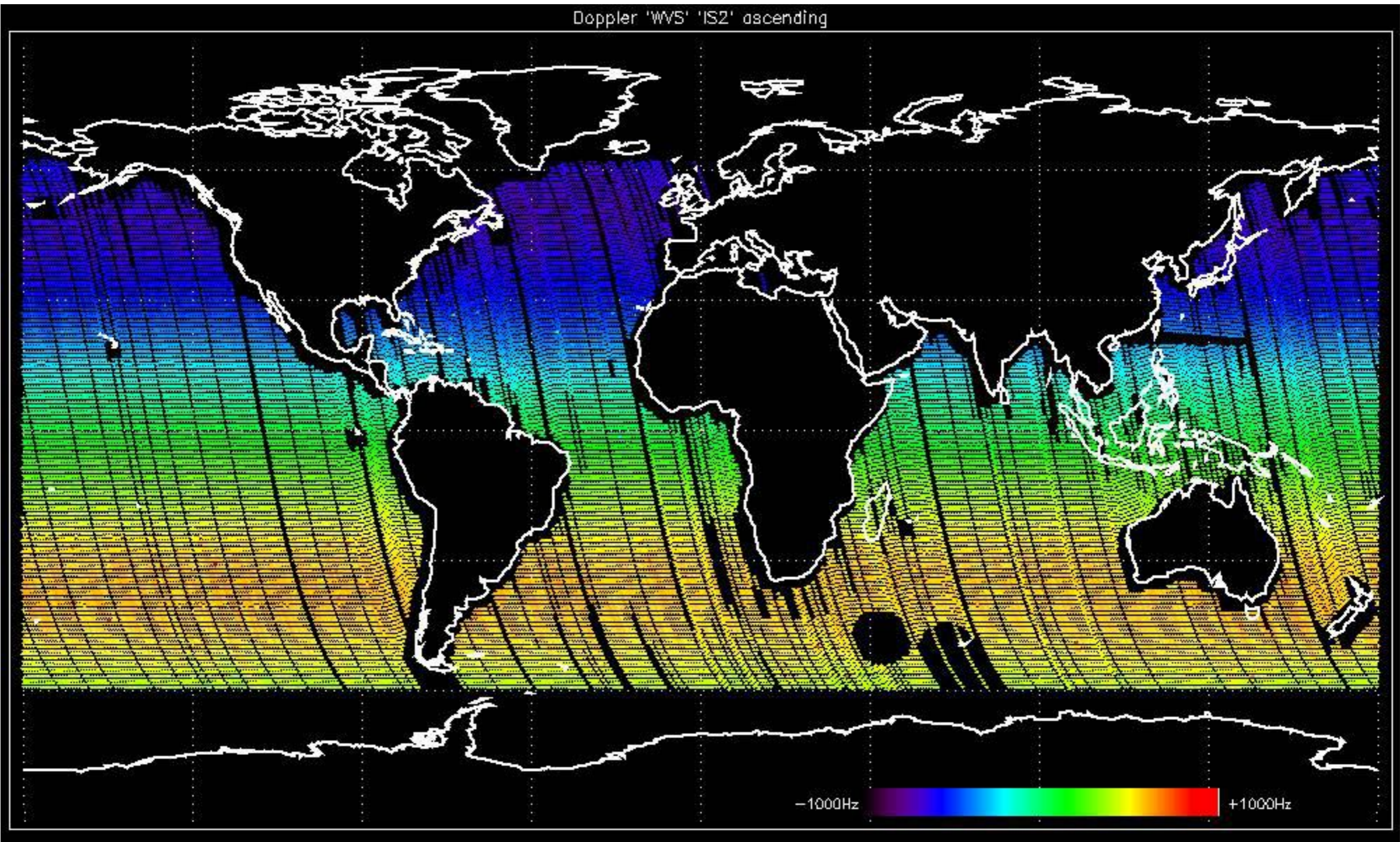
Doppler 'GM1' 'SS1' ascending



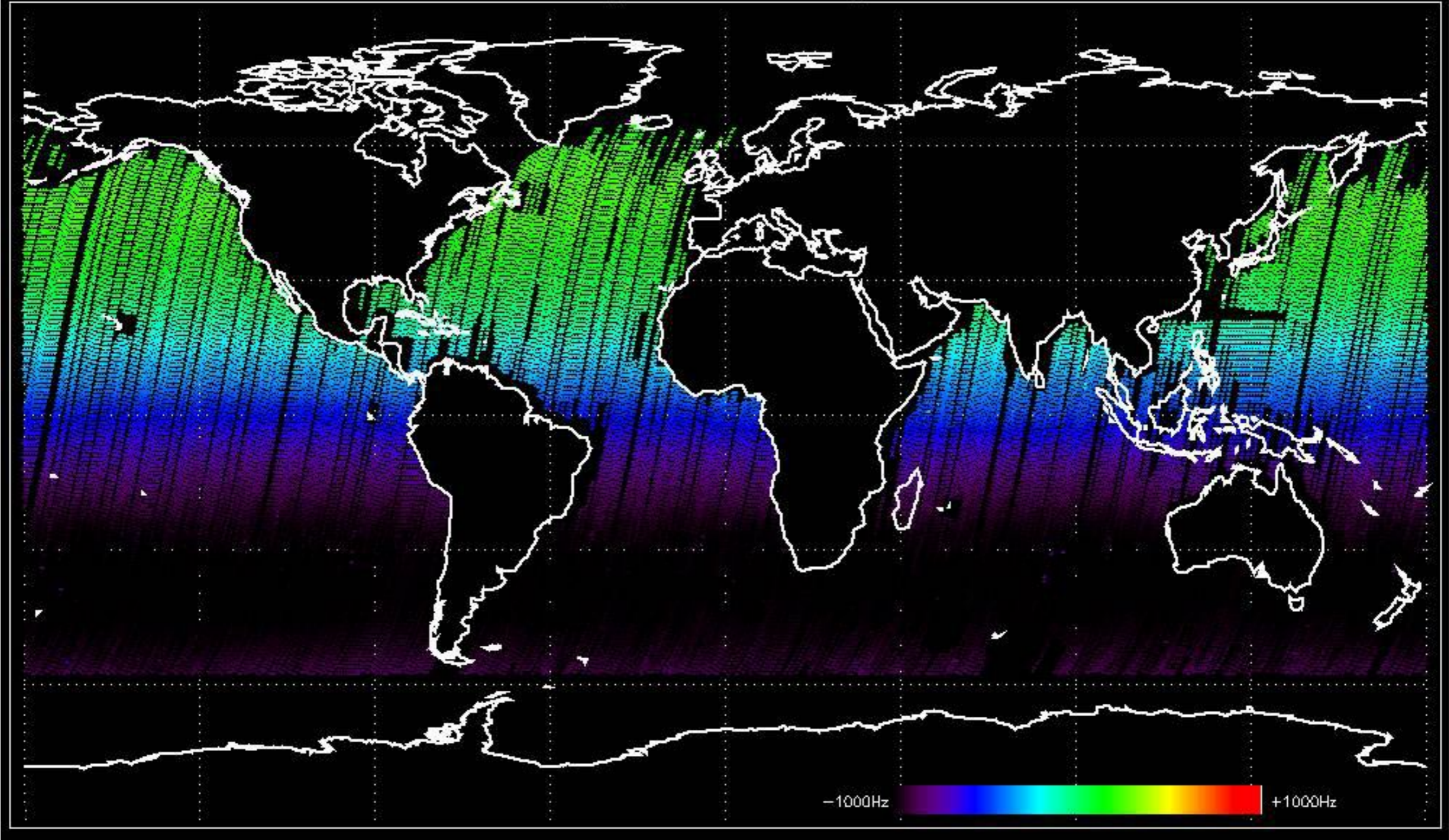
Doppler 'GM1' 'SS1' descending



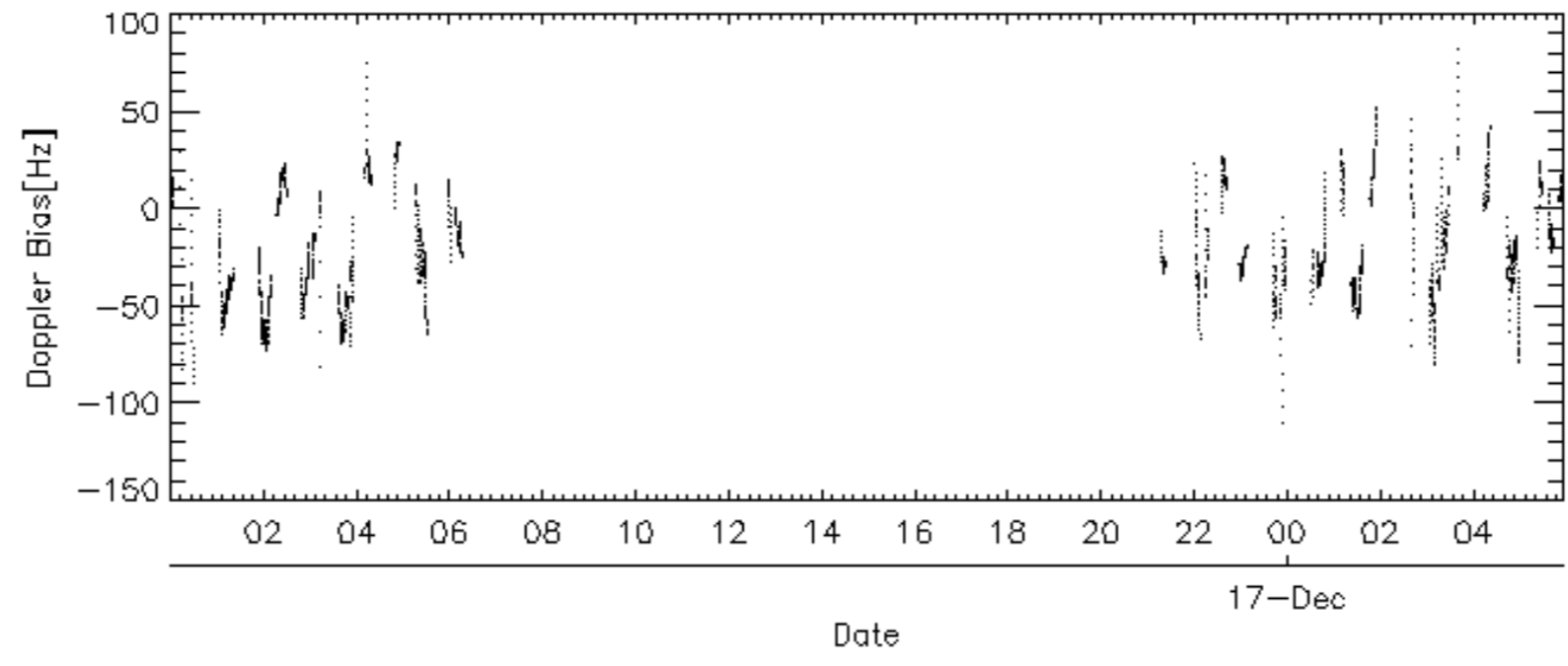
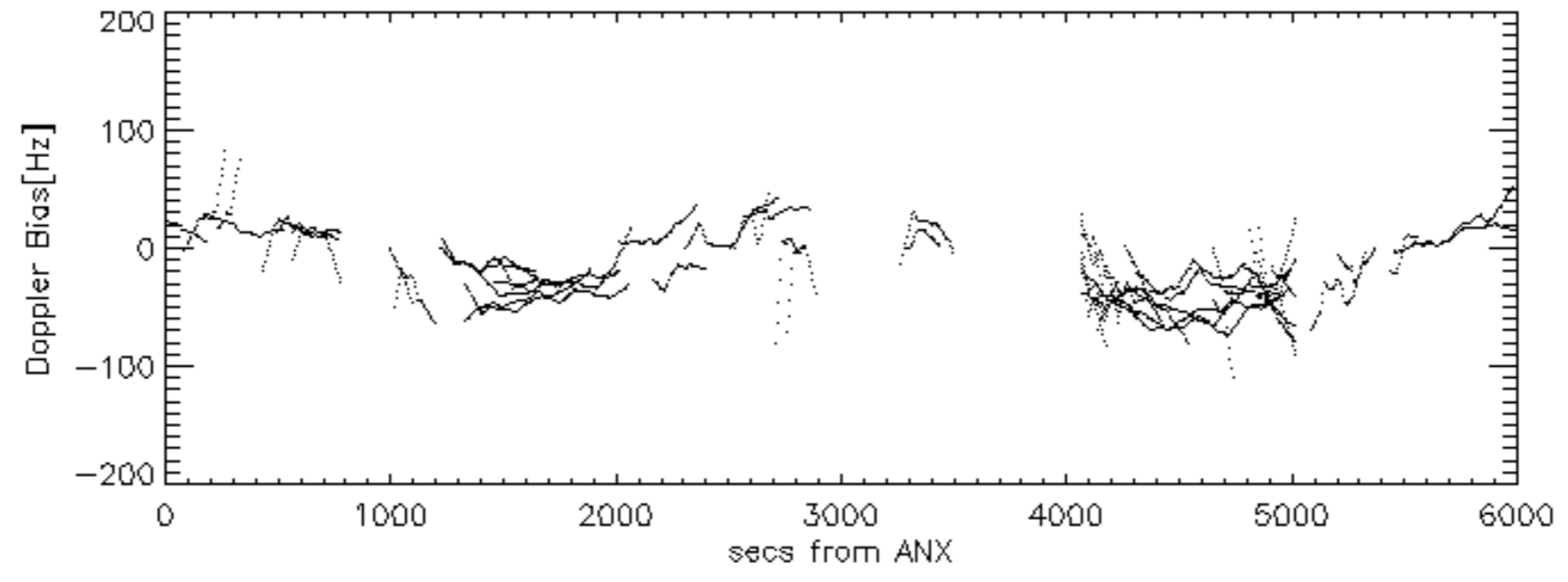
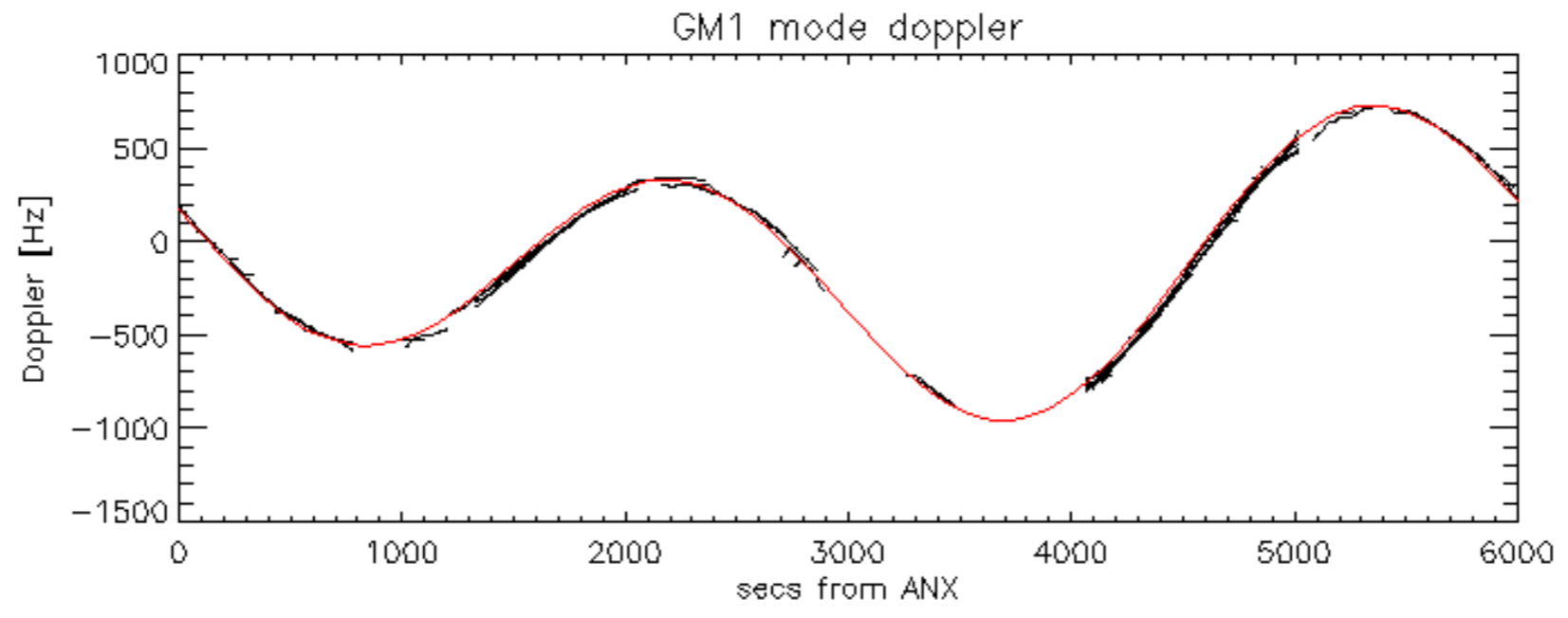
Doppler 'WVS' 'IS2' ascending

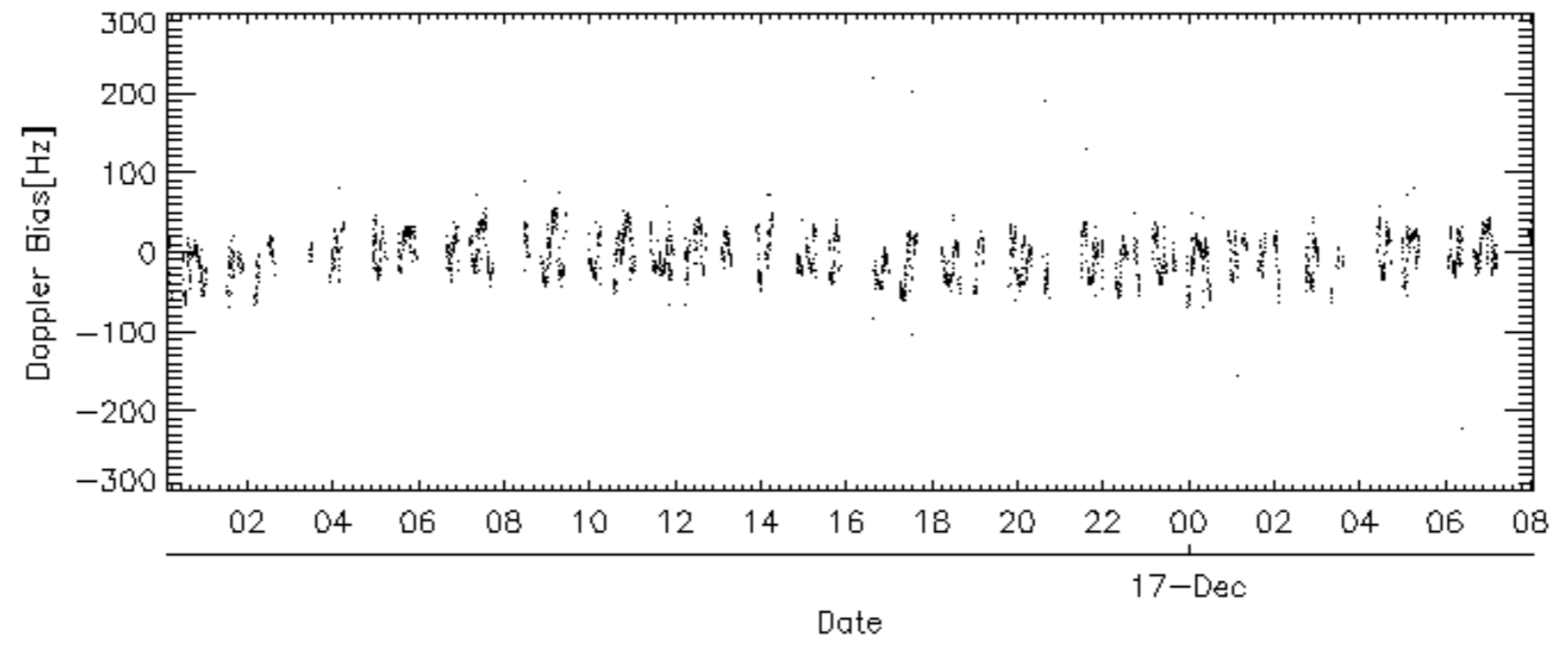
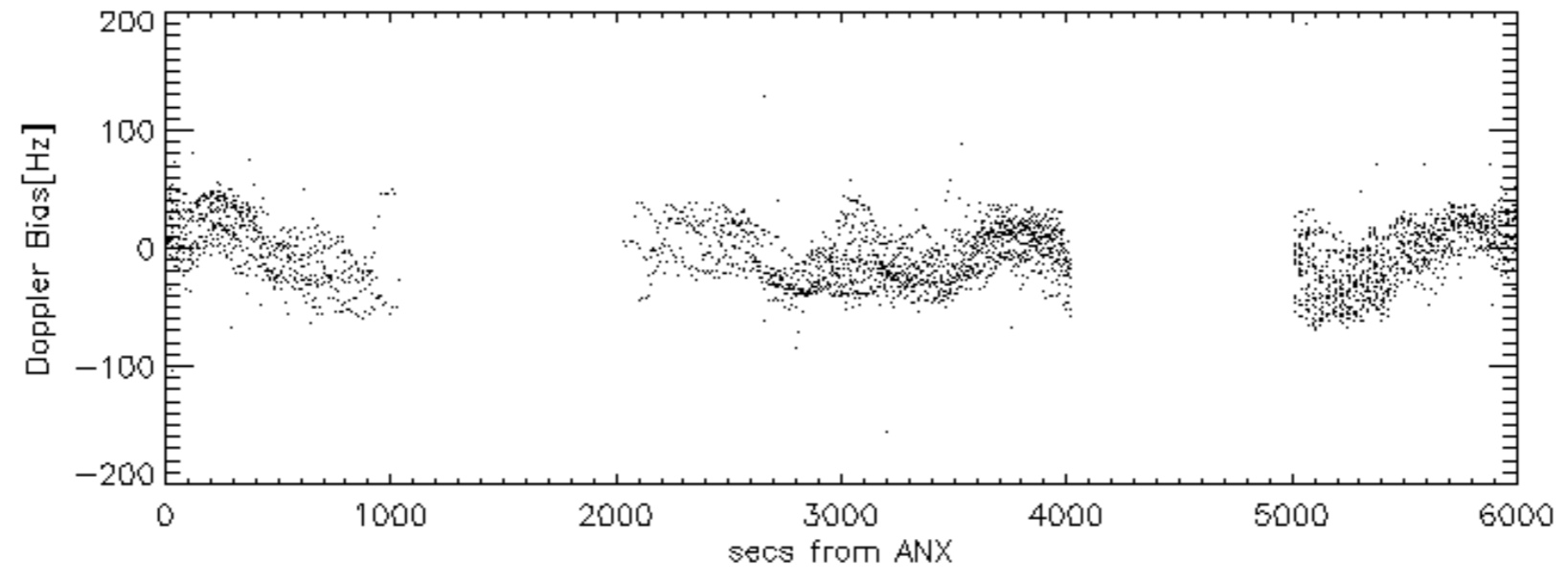
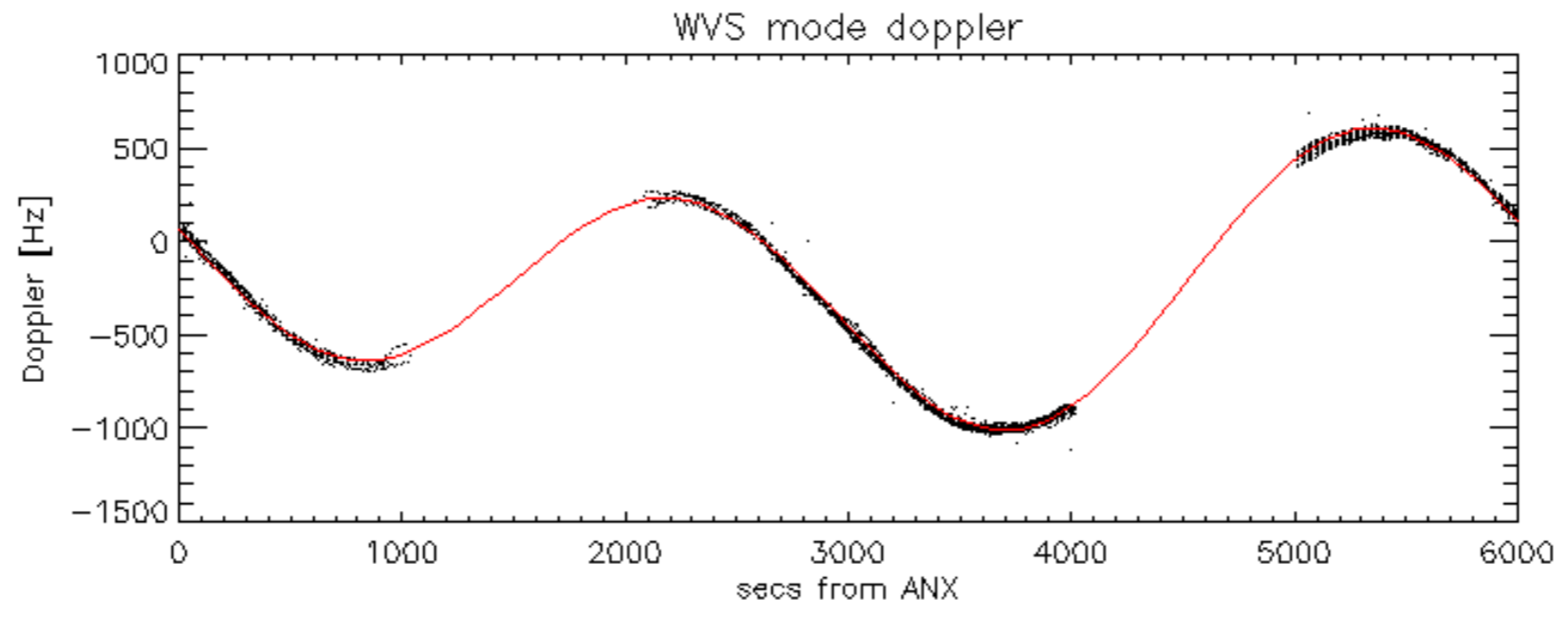


Doppler 'WVS' 'IS2' descending

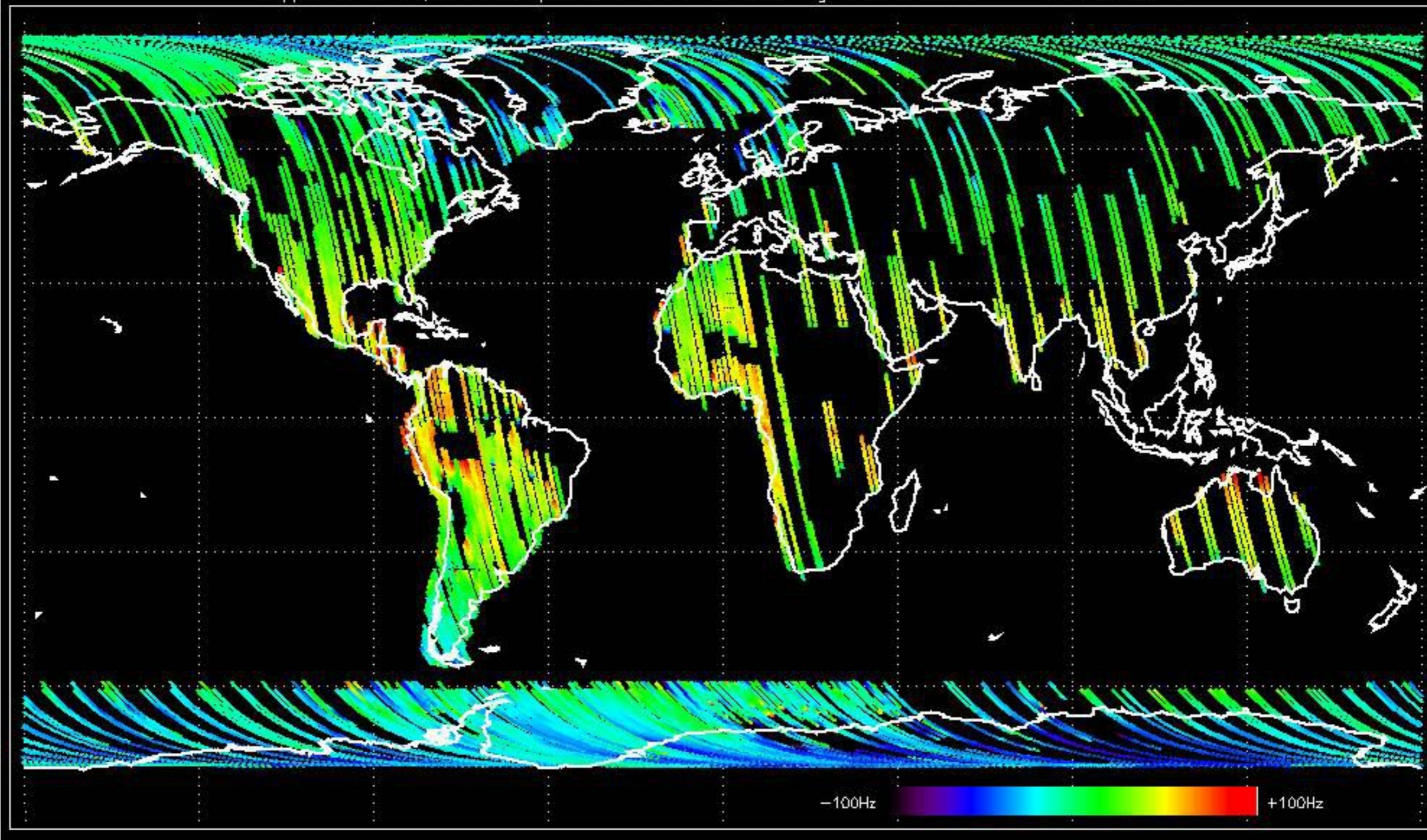




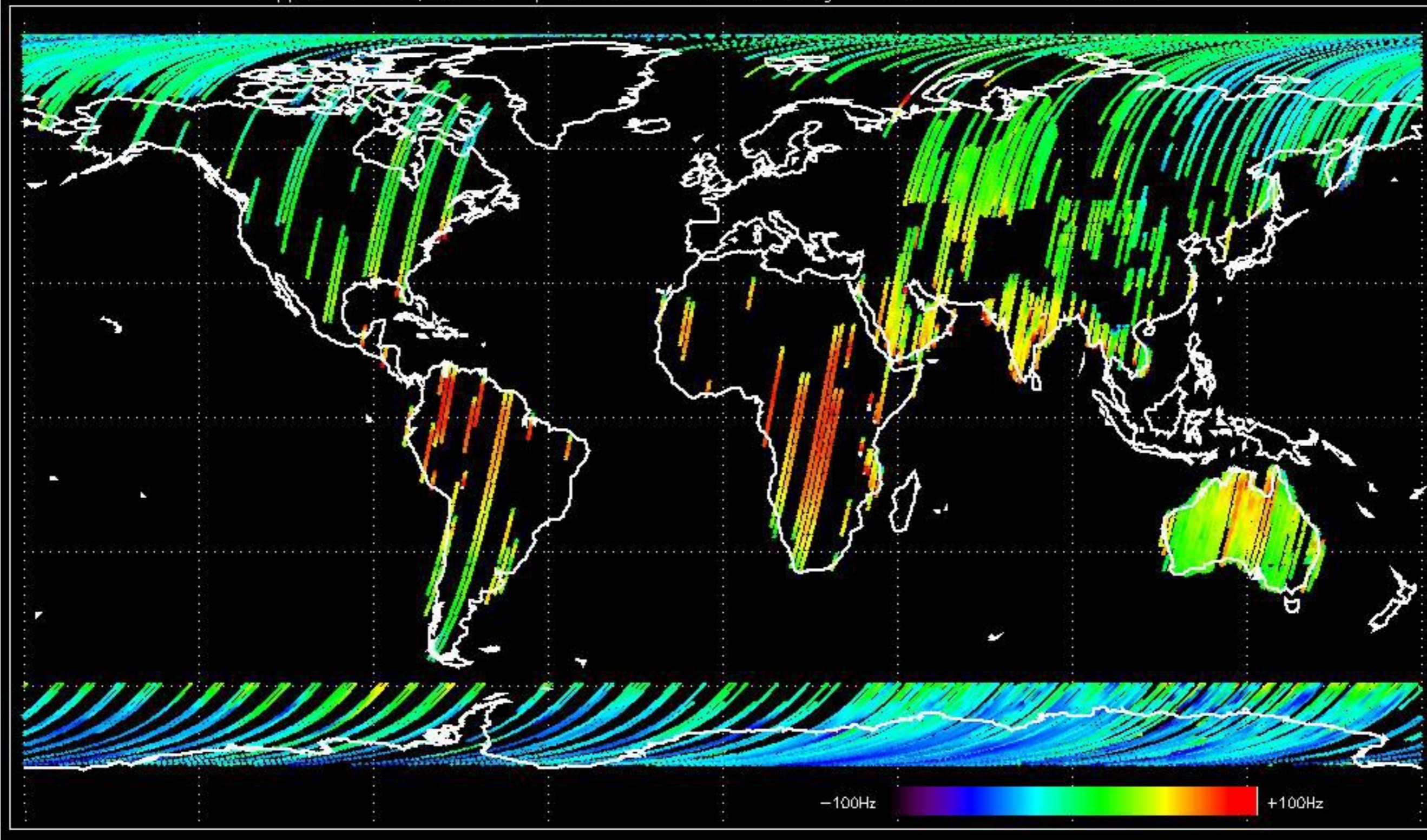




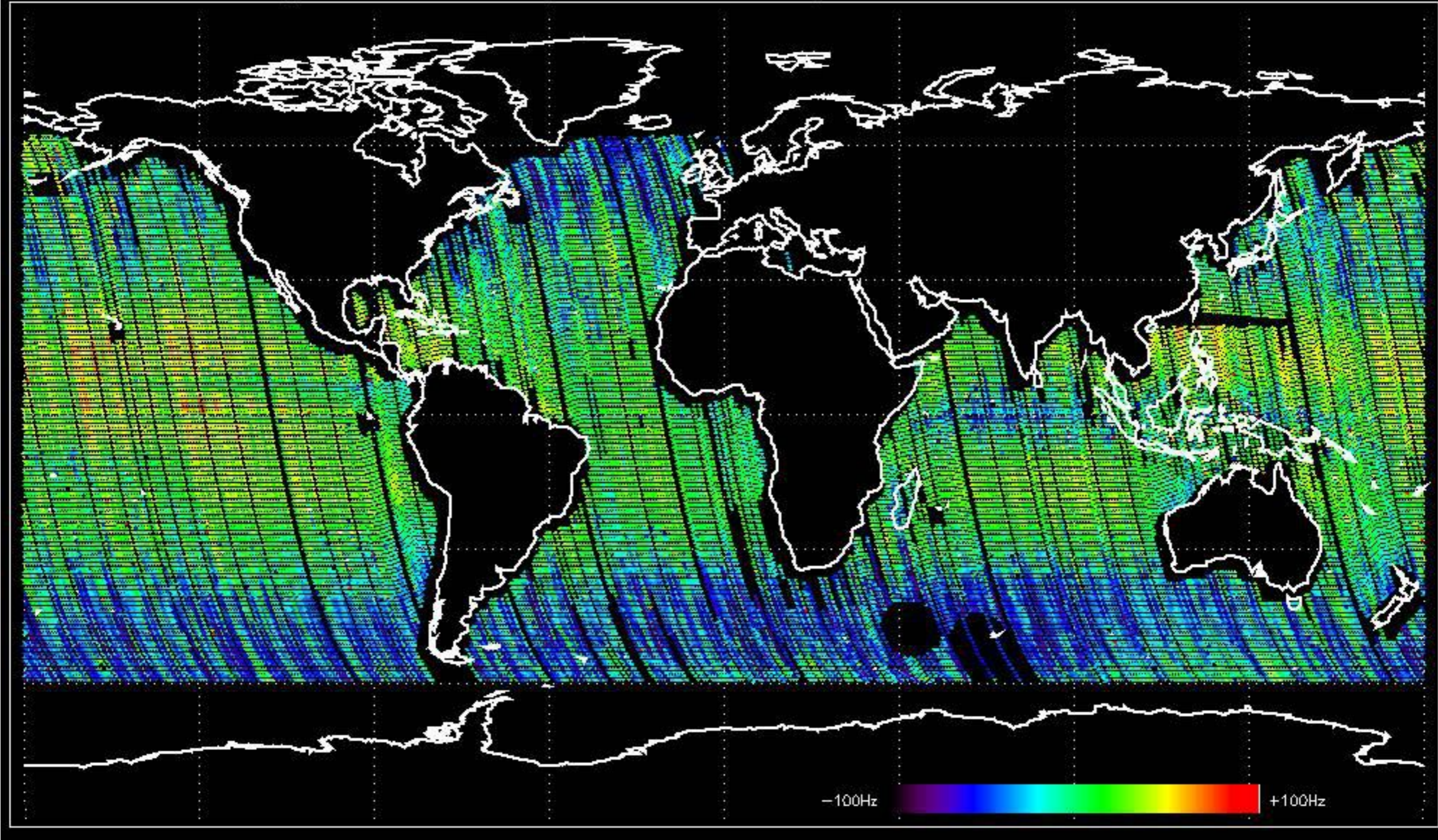
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -16.234539 Hz



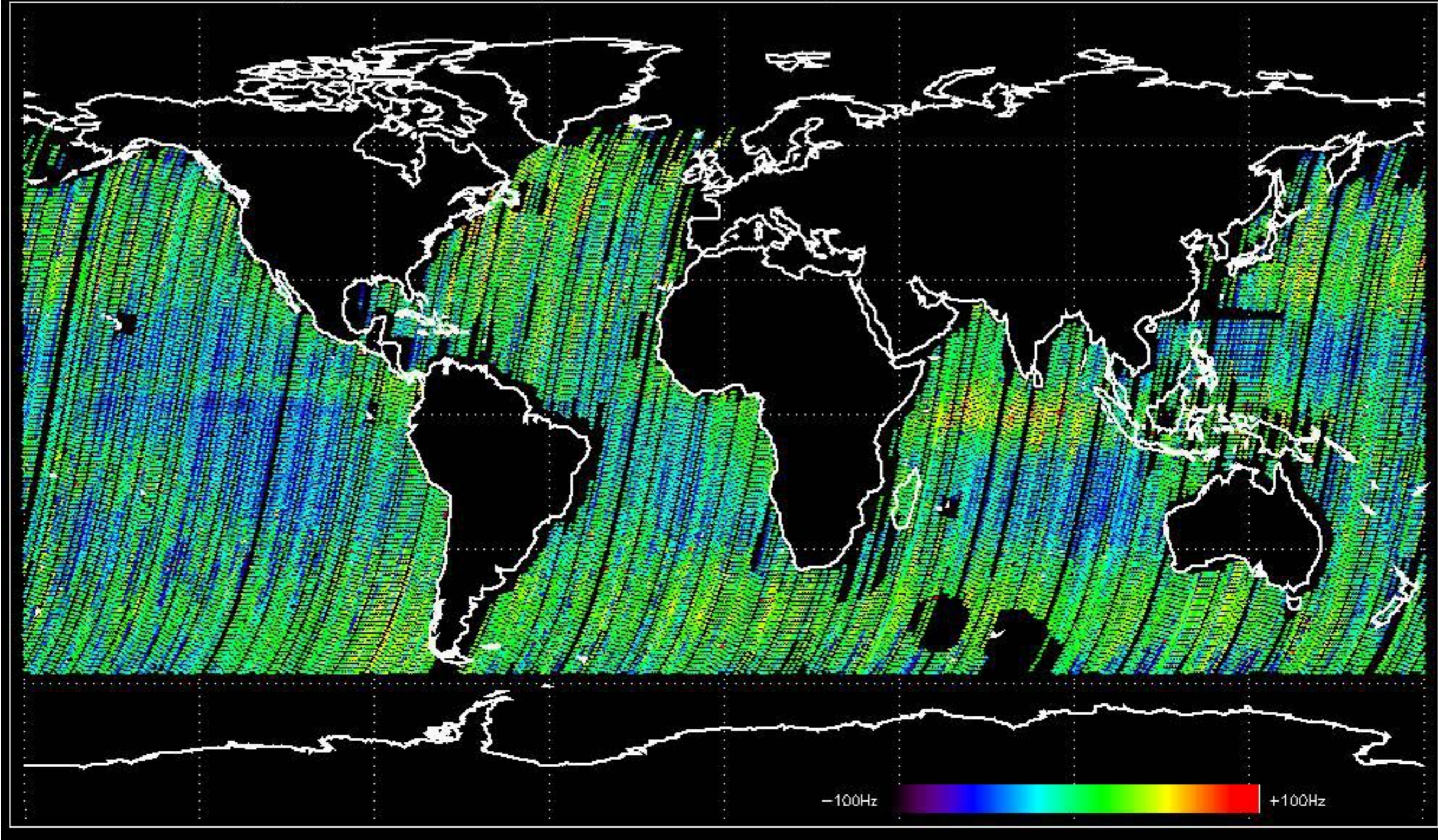
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -15.543068 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -9.7165143 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -13.404077 Hz



No anomalies observed on available MS products:

No anomalies observed.











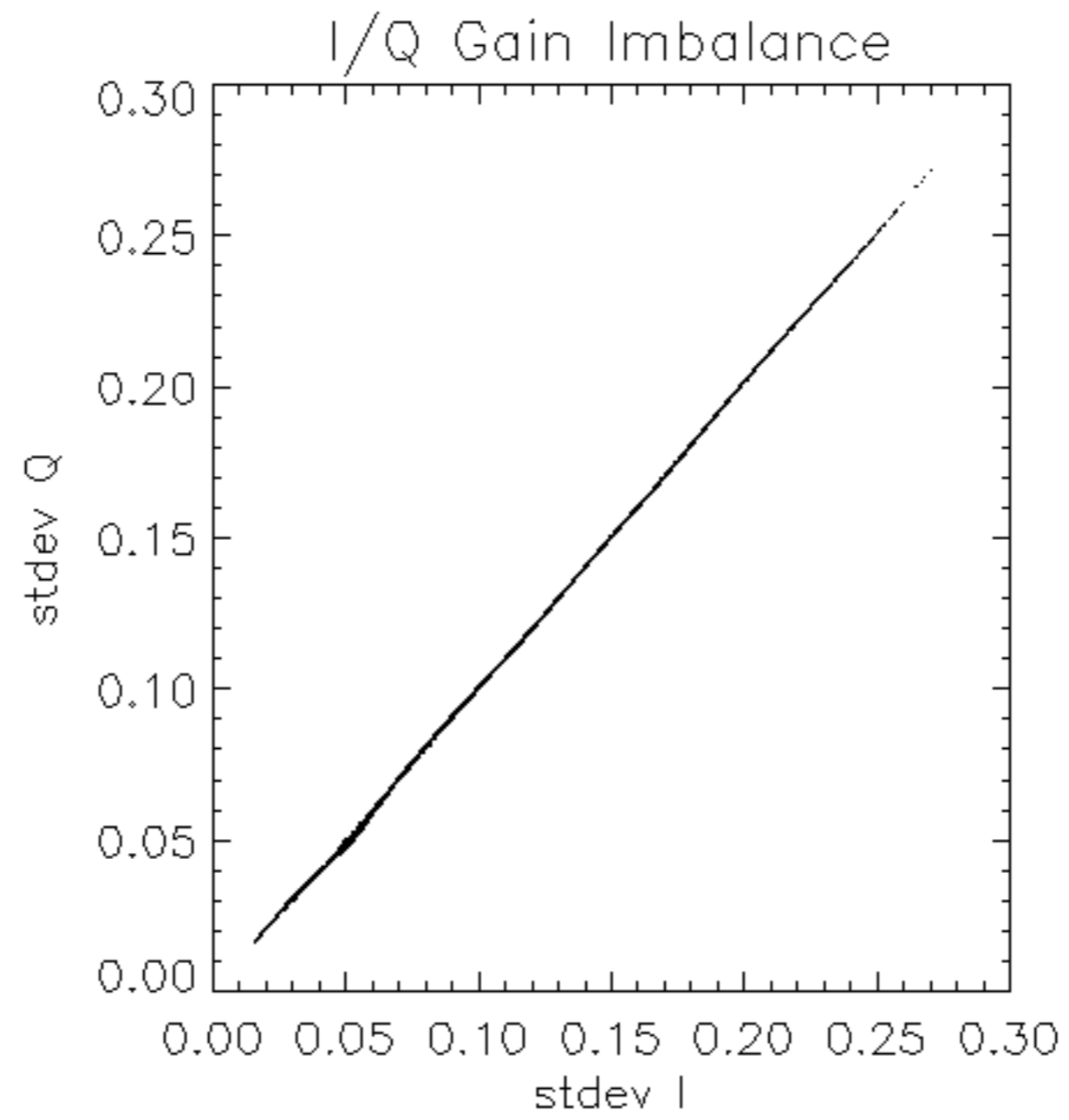


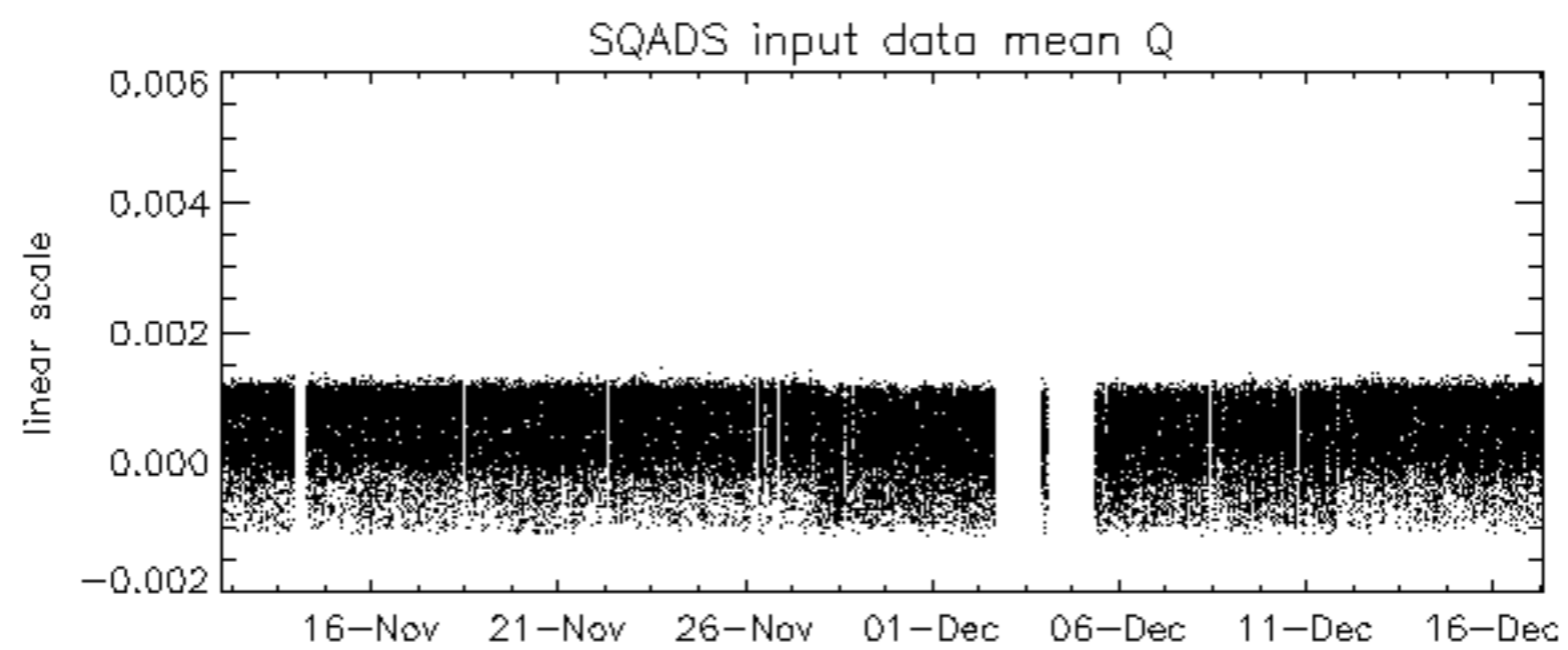
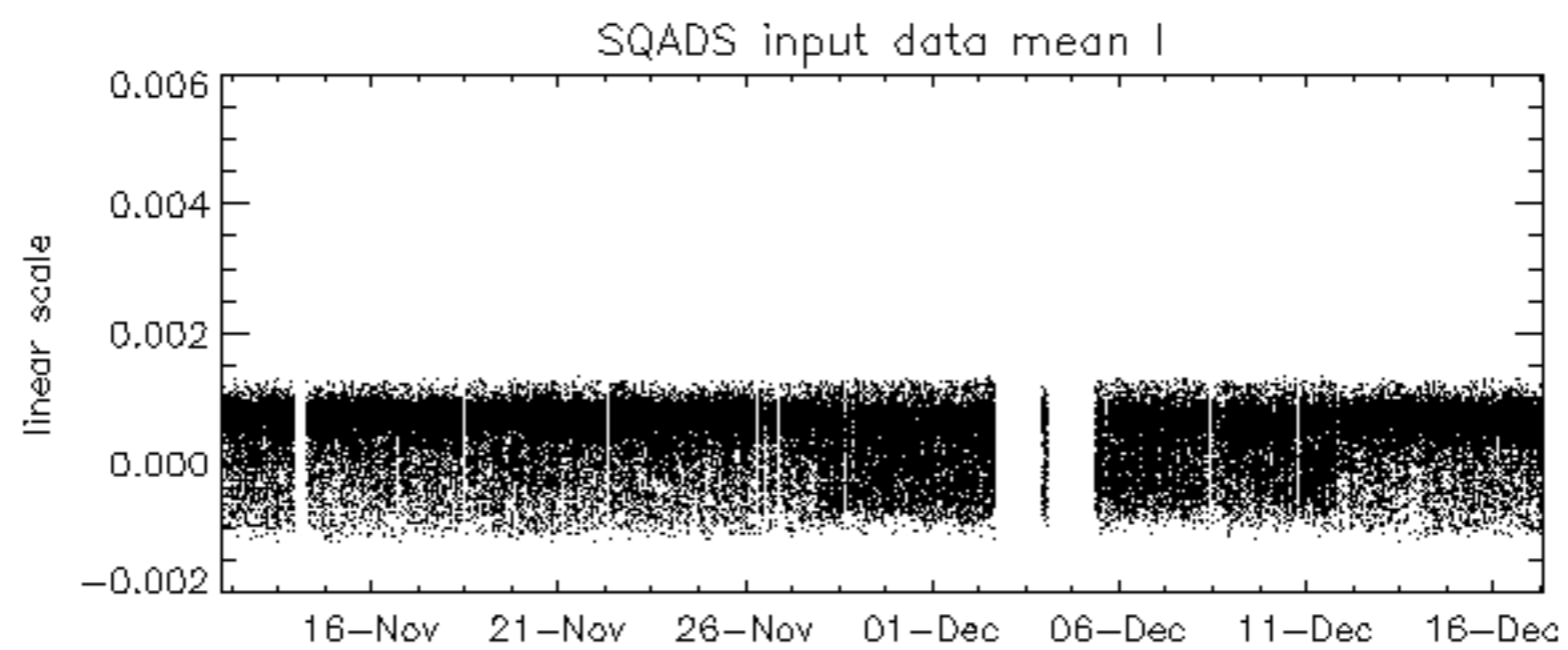
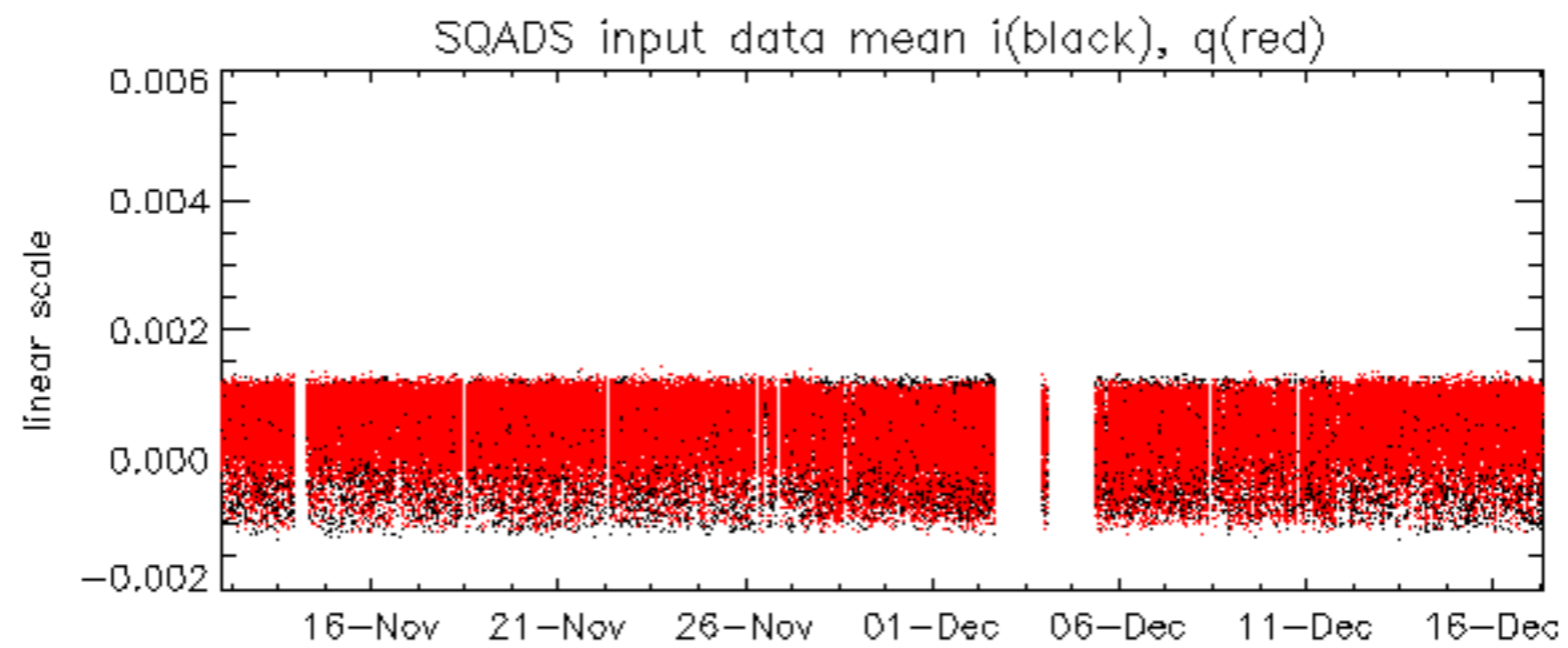


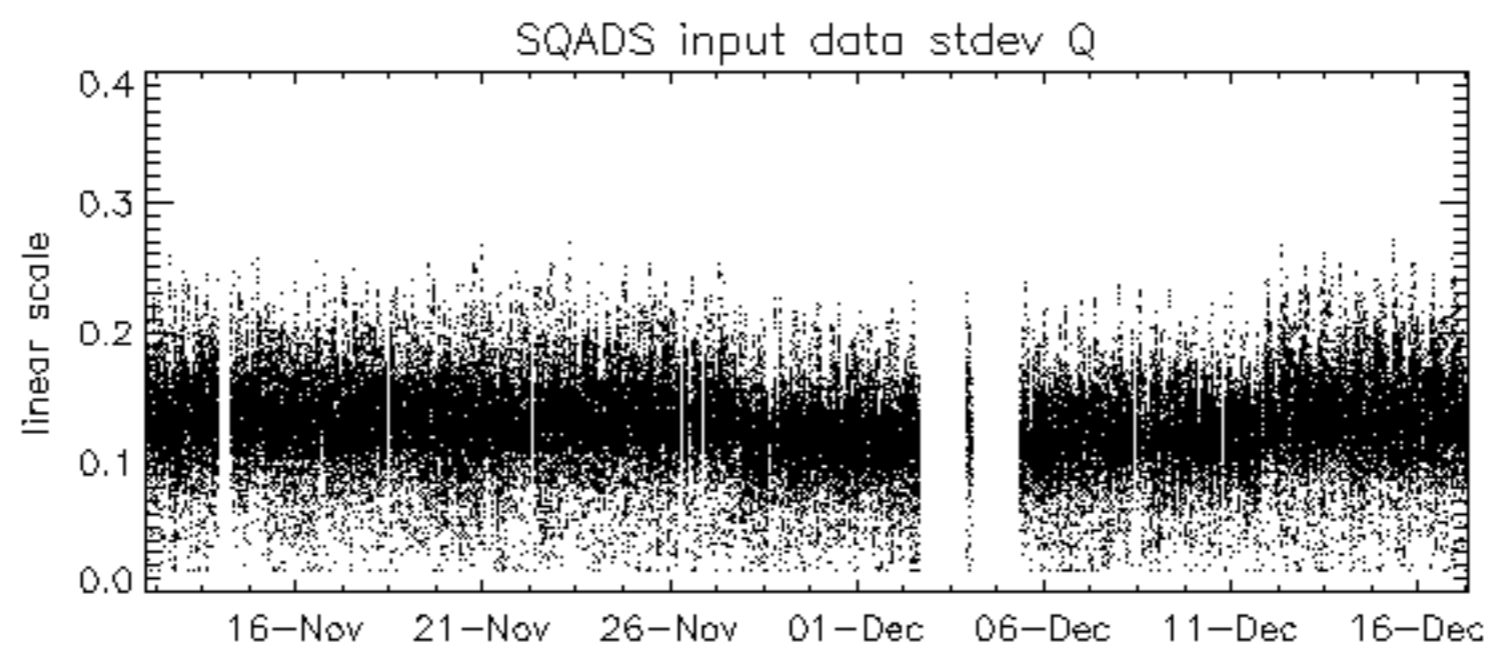
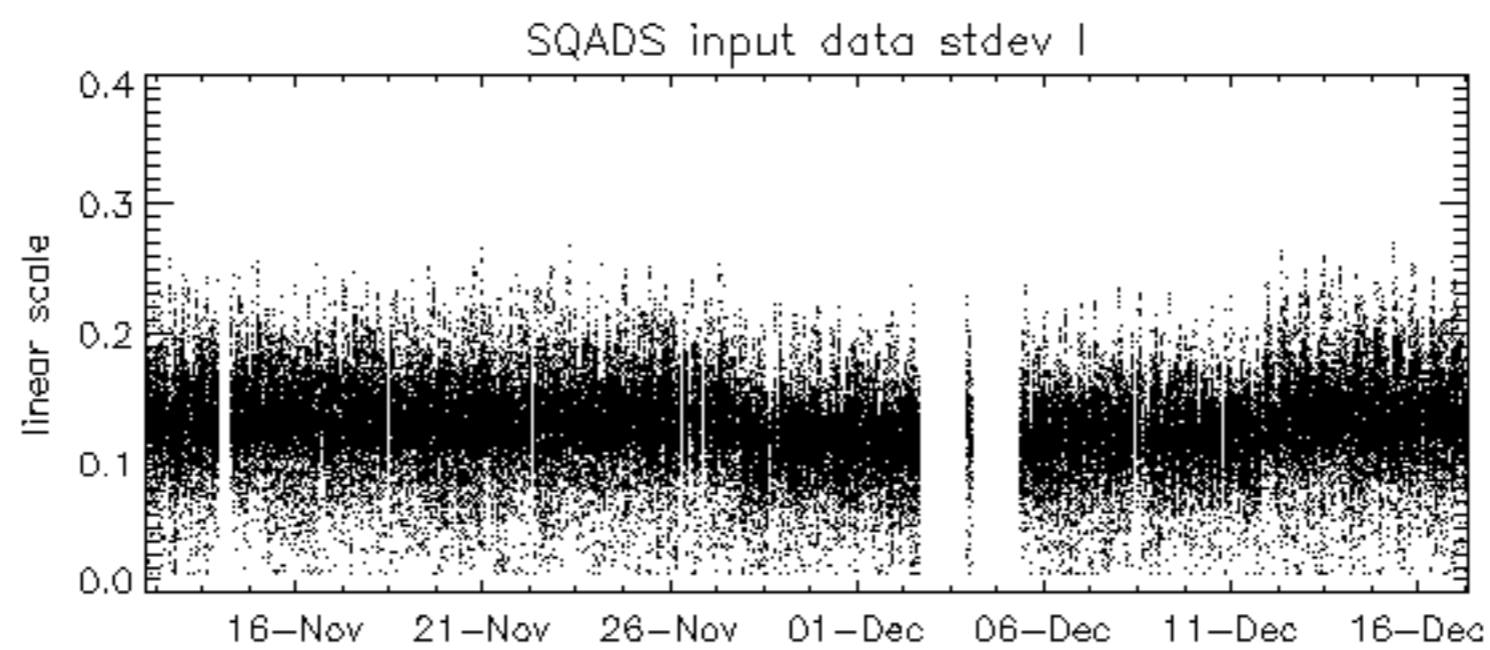
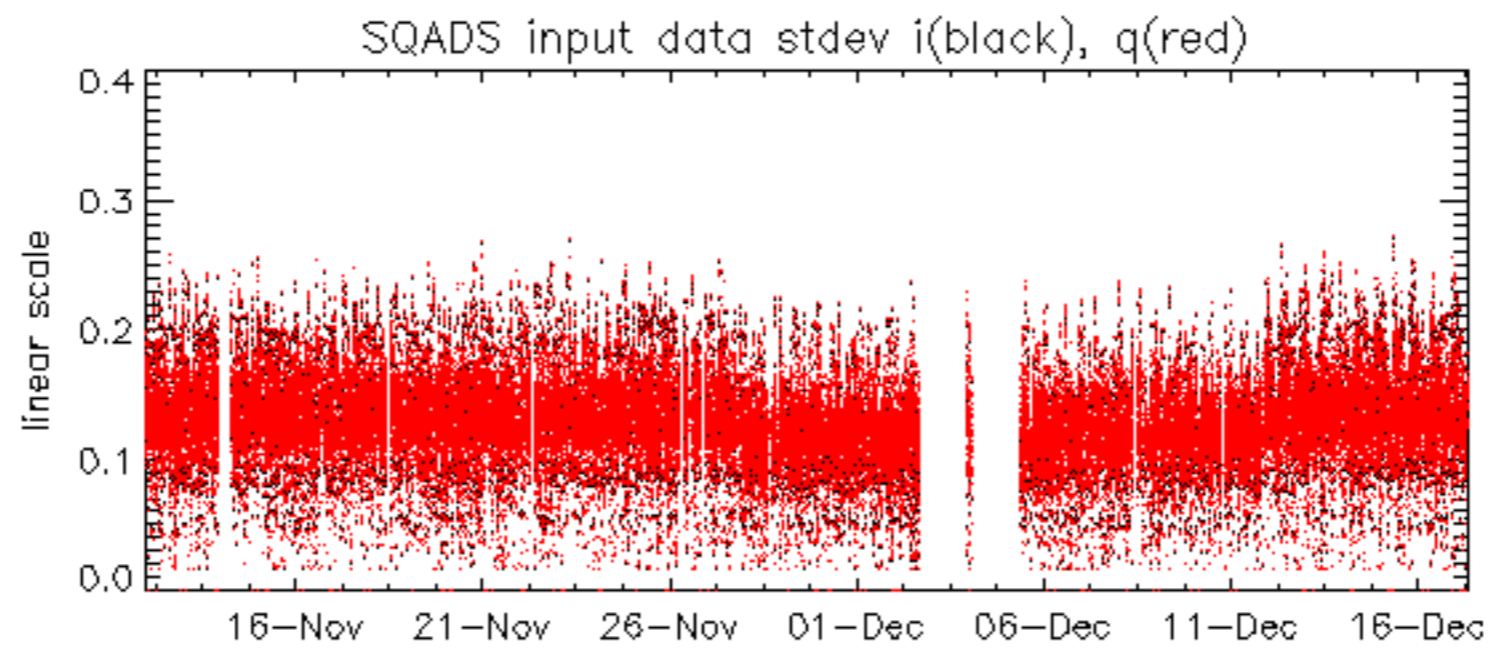




















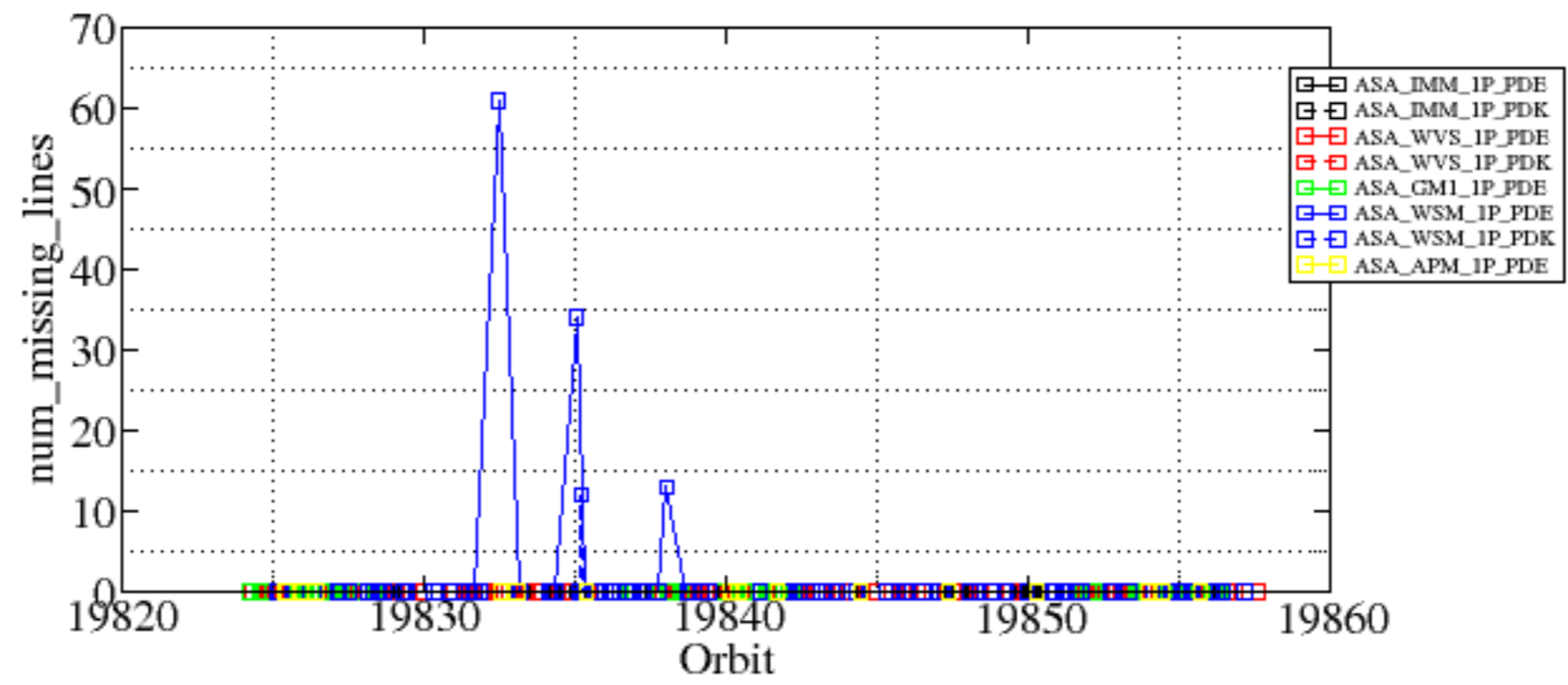
Summary of analysis for the last 3 days 2005121[567]

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_1PNPDK20051216_124317_000000532043_00253_19846_9287.N1	1	0
ASA_WSM_1PNPDE20051215_134913_000000672043_00239_19832_4387.N1	0	61
ASA_WSM_1PNPDE20051215_180902_000001032043_00242_19835_4404.N1	0	34
ASA_WSM_1PNPDE20051215_230839_000001092043_00245_19838_4458.N1	0	13
ASA_WSM_1PNPDK20051215_182418_000000612043_00242_19835_2203.N1	0	12





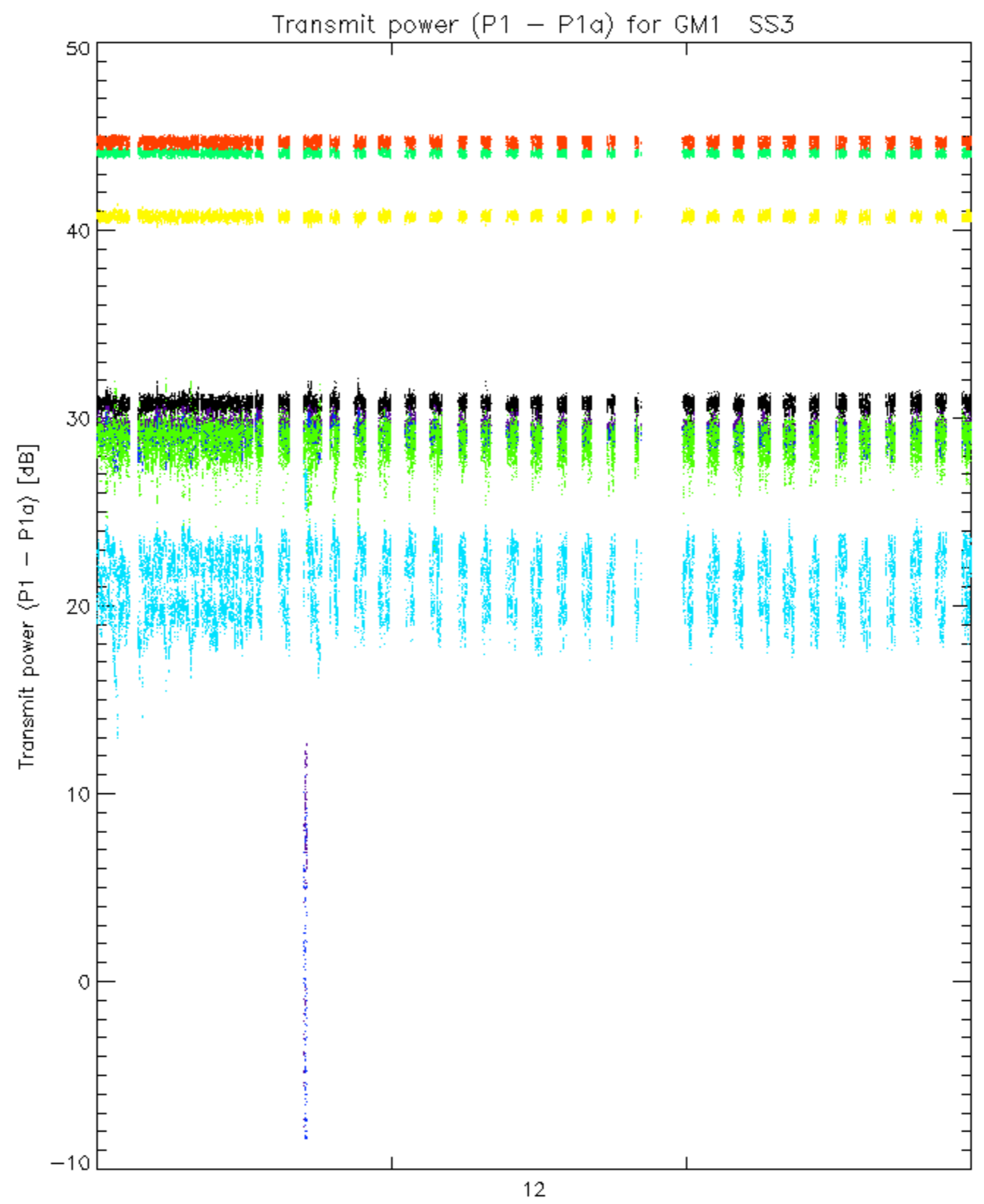




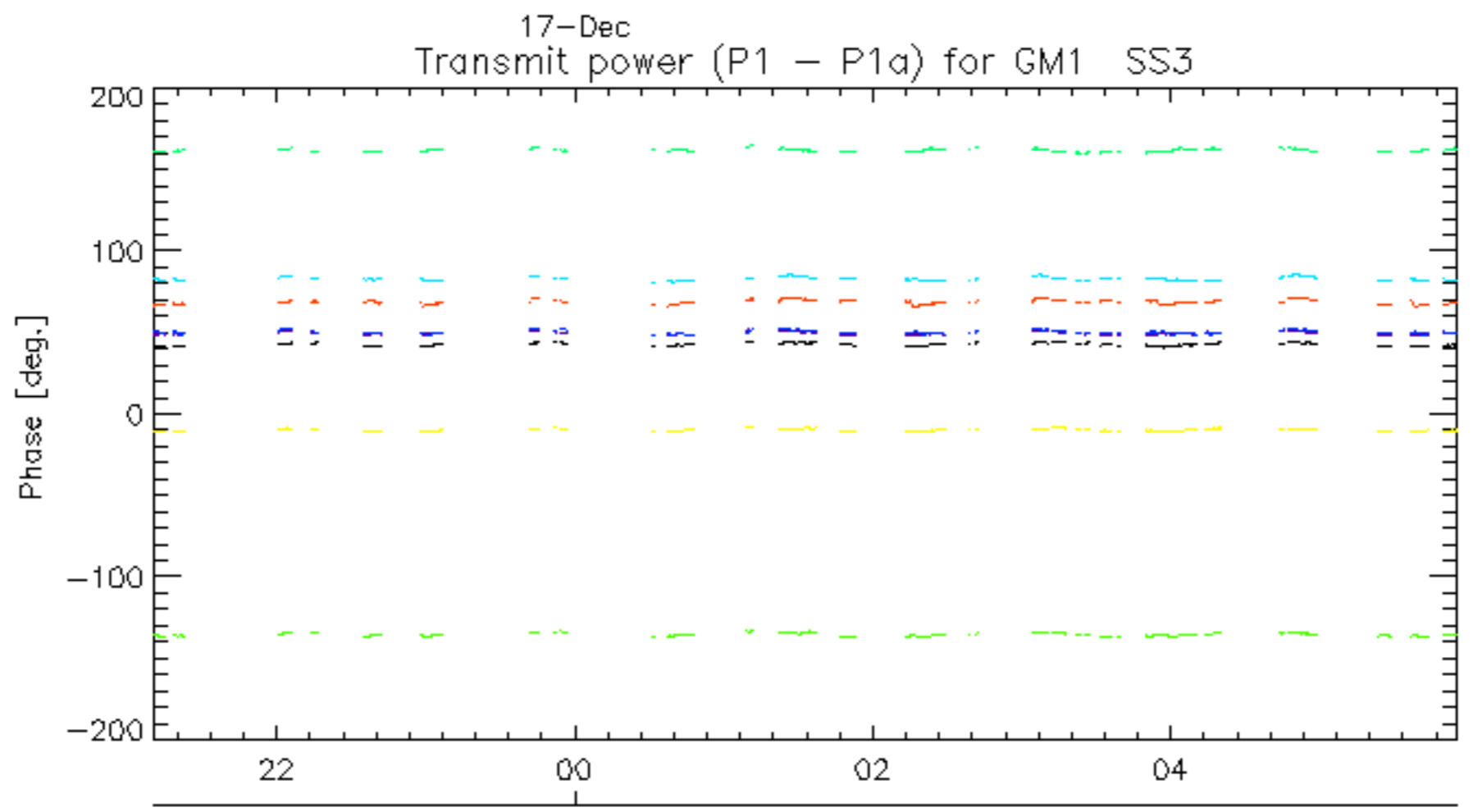
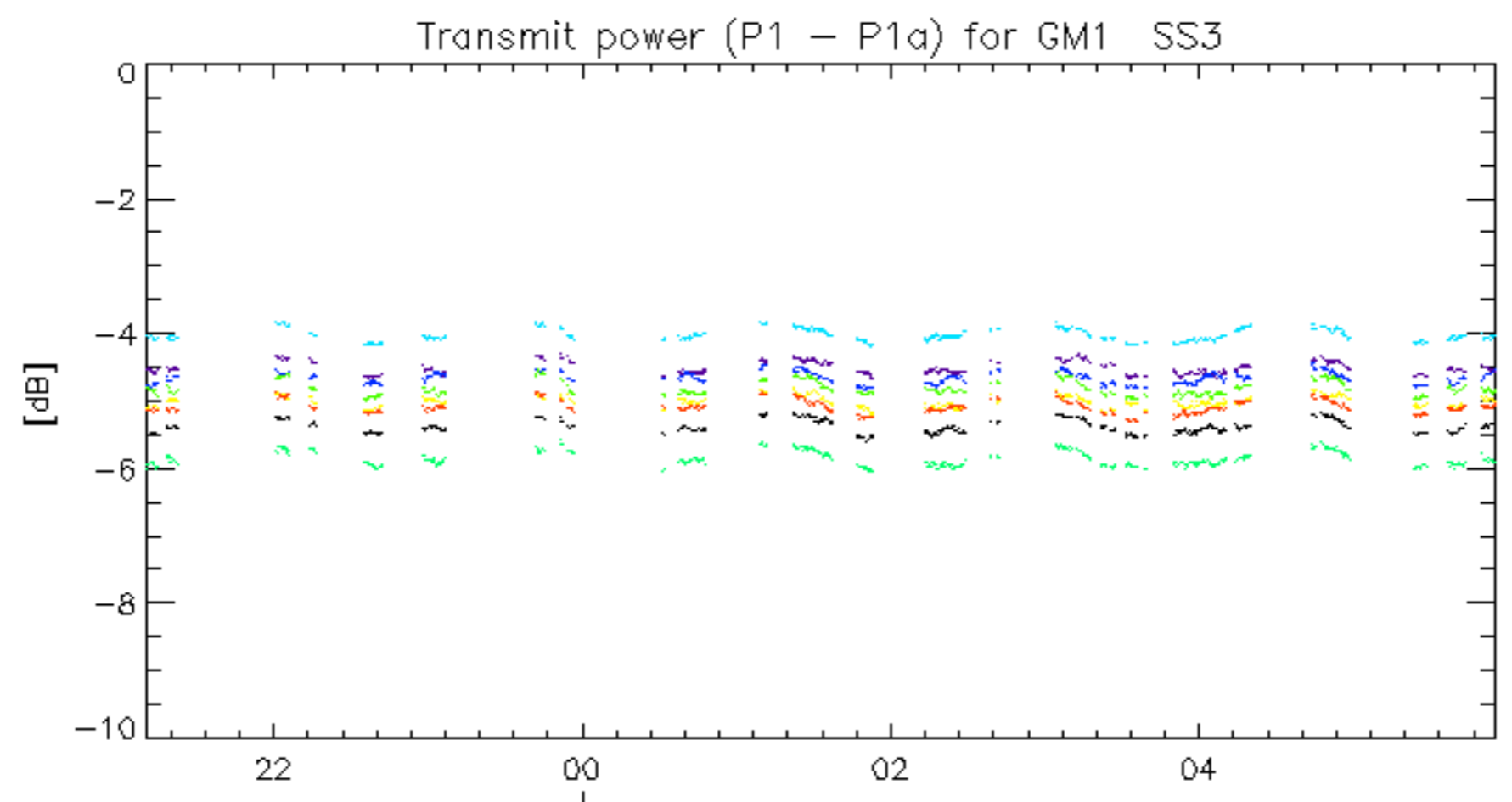






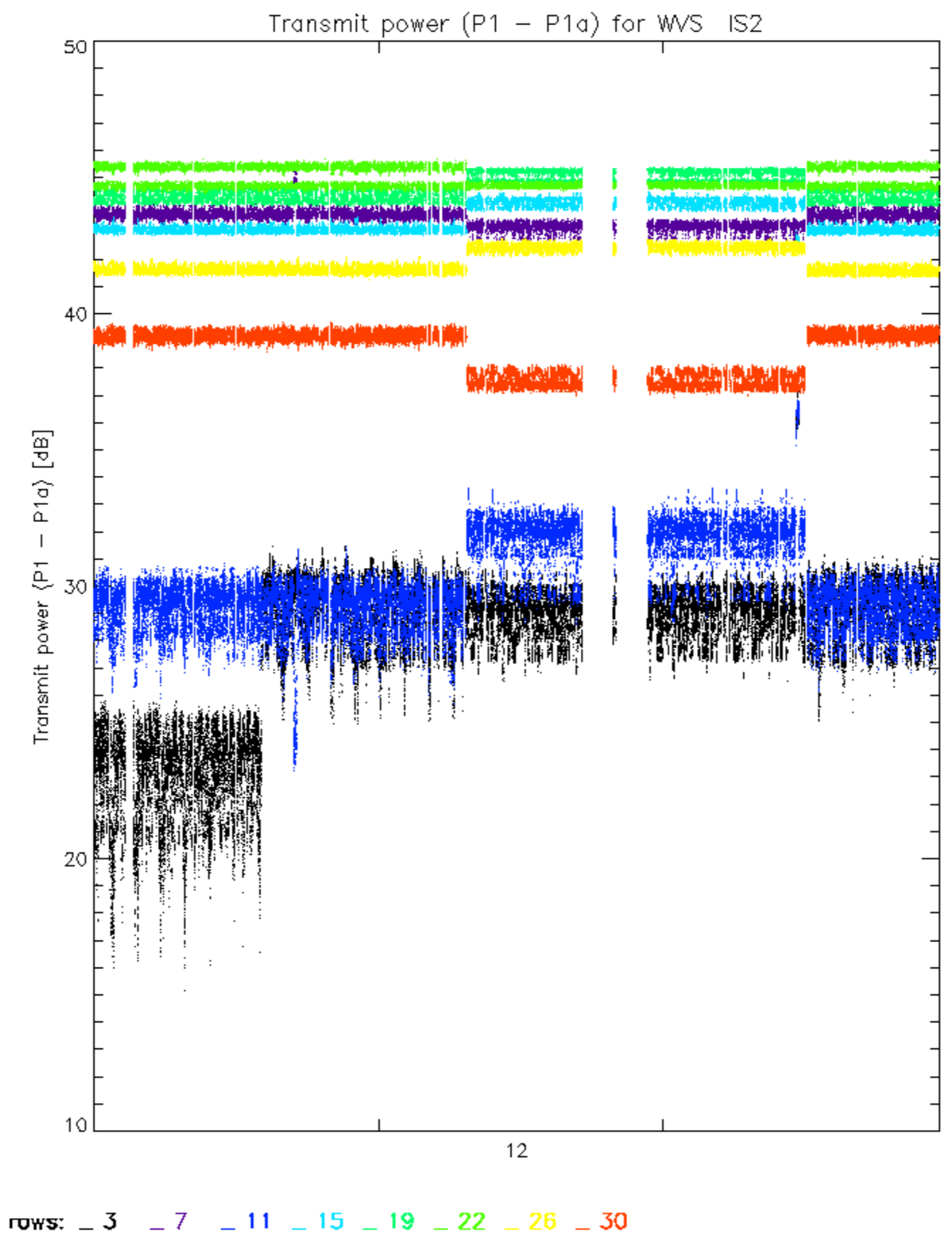


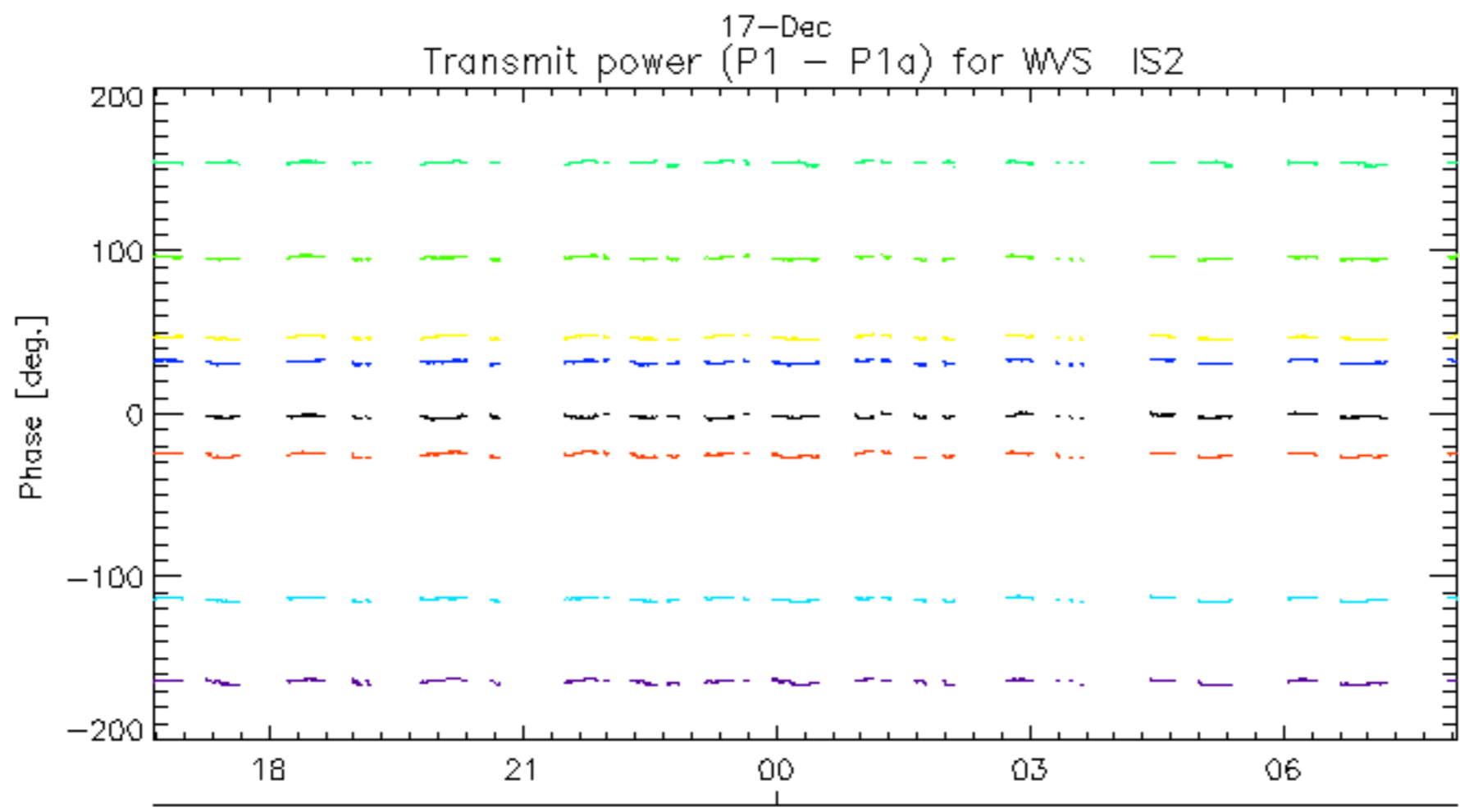
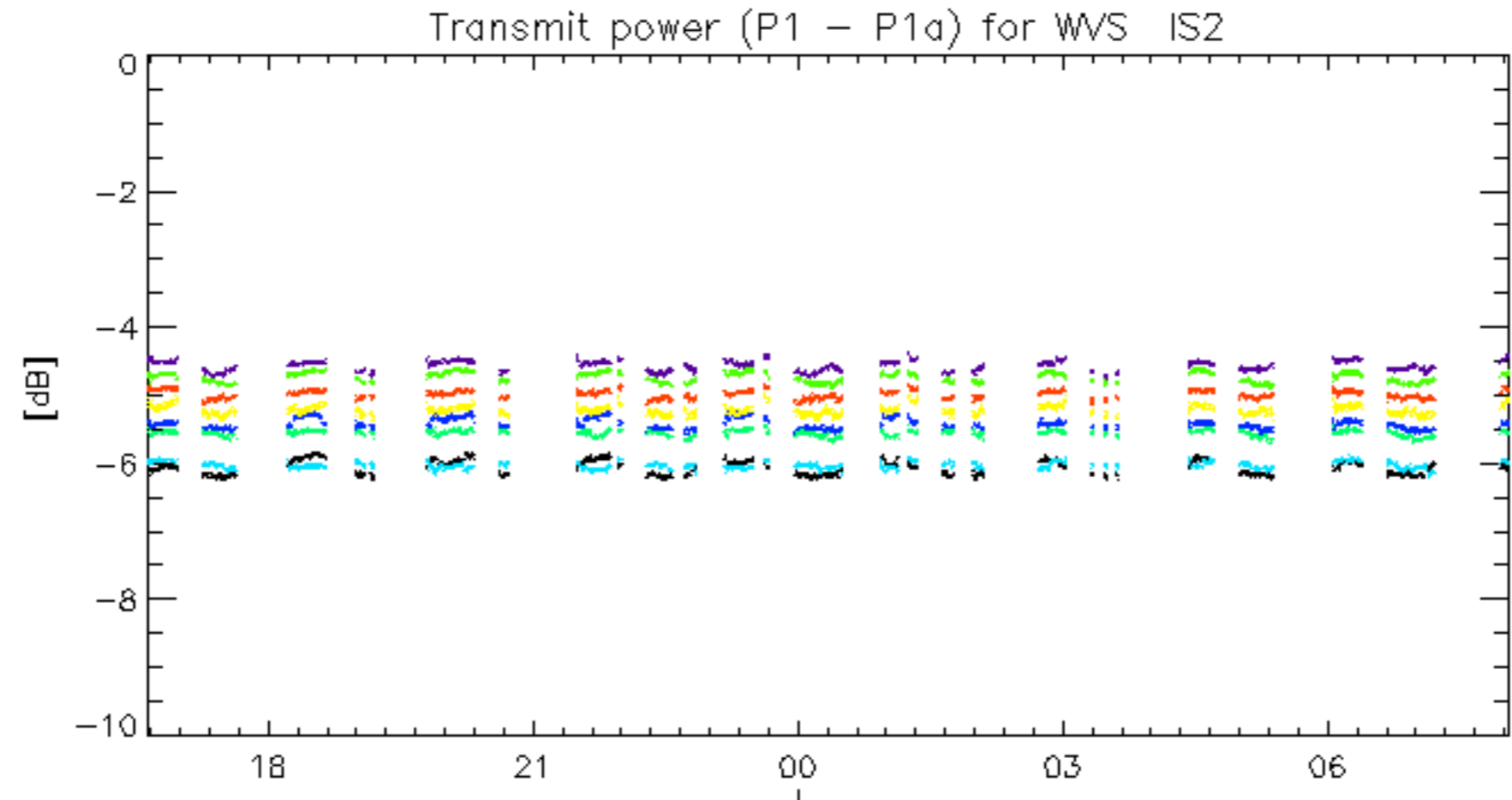
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



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







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

No unavailabilities during the reported period.