

# PRELIMINARY REPORT OF 051215

last update on Thu Dec 15 16:44:14 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 2005-12-14 00:00:00 to 2005-12-15 16:44:14

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	45	0	13	0	15
ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	45	0	13	0	15
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	45	0	13	0	15
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	45	0	13	0	15

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	43	52	26	11	55
ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	43	52	26	11	55
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	43	52	26	11	55
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	43	52	26	11	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	20051214 043733
H	20051213 050910

### 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
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☒

#### 4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1
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☒

### 4.2 - Cyclic statistics

#### 4.2.1 - Evolution for WVS

Evolution of cal pulses for WVS
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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	-3.574210	0.211900	0.206596
7	P1	-2.754265	0.125985	0.578651
11	P1	-4.151616	0.031083	-0.050142
15	P1	-5.119951	1.715918	2.351419
19	P1	-3.036905	0.061963	0.401858
22	P1	-4.438528	0.021243	0.133747
26	P1	-4.398151	0.059566	-0.382085
30	P1	-5.654639	0.033661	0.264475
3	P1	-15.320377	2.243304	0.928806
7	P1	-15.312644	2.624614	2.828934
11	P1	-16.314240	0.470280	0.675034
15	P1	-12.802139	1.013077	1.772206
19	P1	-13.418388	0.342733	0.926274
22	P1	-16.051487	0.625432	0.707200
26	P1	-15.129138	1.112178	1.804024
30	P1	-15.598199	2.457308	2.681047

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.865183	0.107680	0.025719
7	P2	-22.554277	0.105098	0.027618
11	P2	-16.578768	0.122023	-0.017223
15	P2	-7.280093	0.104109	-0.049282
19	P2	-9.221759	0.102130	0.034727
22	P2	-17.865541	0.110797	0.096732
26	P2	-16.362831	0.133374	-0.367830
30	P2	-19.787354	0.119318	-0.270131

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.235678	0.007365	-0.014673
7	P3	-8.235678	0.007365	-0.014673
11	P3	-8.235678	0.007365	-0.014673
15	P3	-8.235678	0.007365	-0.014673
19	P3	-8.235678	0.007365	-0.014673
22	P3	-8.235678	0.007365	-0.014673
26	P3	-8.235678	0.007365	-0.014673
30	P3	-8.235678	0.007365	-0.014673

**4.2.2 - Evolution for GM1**

Evolution of cal pulses for GM1

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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	-3.696480	0.007977	-0.017374
7	P1	-2.779127	0.011459	0.027318
11	P1	-2.878182	0.014469	-0.006185
15	P1	-3.401161	0.021743	-0.020443
19	P1	-3.384040	0.013351	-0.019003
22	P1	-5.119708	0.019576	-0.010211
26	P1	-5.830614	0.016254	-0.043614
30	P1	-5.275741	0.033038	-0.014278
3	P1	-11.469640	0.042762	-0.029574
7	P1	-9.970691	0.045289	-0.003866
11	P1	-10.052407	0.060549	-0.007103
15	P1	-10.567053	0.083039	0.035527
19	P1	-15.509224	0.073062	-0.028507
22	P1	-20.956320	0.968839	-0.166724

26	P1	-17.206228	0.310001	0.053490
30	P1	-18.317883	0.312441	0.177893

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.636698	0.030300	0.064585
7	P2	-23.056538	0.060897	-0.020655
11	P2	-11.650311	0.021952	0.114079
15	P2	-4.983277	0.021704	-0.043533
19	P2	-6.961173	0.021923	-0.029083
22	P2	-8.184501	0.023580	-0.064146
26	P2	-24.047897	0.031570	-0.034091
30	P2	-22.118612	0.020035	-0.042611

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.075094	0.002441	-0.010156
7	P3	-8.075145	0.002448	-0.010225
11	P3	-8.075162	0.002438	-0.010032
15	P3	-8.075092	0.002446	-0.010359
19	P3	-8.075268	0.002455	-0.009838
22	P3	-8.075204	0.002452	-0.010069
26	P3	-8.075064	0.002423	-0.010755
30	P3	-8.074895	0.002446	-0.009812

## 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	0.000464705
	stdev	2.16744e-07
MEAN Q	mean	0.000483374
	stdev	2.37078e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129018
	stdev	0.00107149
STDEV Q	mean	0.129301
	stdev	0.00108341



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005121[345]

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_IMM_1PNPDE20051213_003723_000001162043_00202_19795_3834.N1	1	0
ASA_IMM_1PNPDE20051214_004627_000001012043_00217_19810_3913.N1	1	0
ASA_IMM_1PNPDK20051213_123408_000000812043_00210_19803_9153.N1	1	0
ASA_WSM_1PNPDE20051213_012705_000001472043_00203_19796_4009.N1	0	65
ASA_WSM_1PNPDE20051213_112835_000001592043_00209_19802_4068.N1	0	15

ASA_WSM_1PNPDE20051213_204345_000000612043_00214_19807_4111.N1	0	1
ASA_WSM_1PNPDE20051214_110145_000000672043_00223_19816_4200.N1	0	3
ASA_APM_1PNPDE20051213_141144_000000712043_00211_19804_3369.N1	0	14
ASA_APM_1PNPDE20051213_223010_000000432043_00216_19809_3379.N1	0	21



## 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)

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

### 7.2 - Absolute Doppler for WVS

#### Evolution of Absolute Doppler

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

### 7.3 - Doppler evolution versus ANX for WVS

#### Evolution Doppler error versus ANX

<input type="checkbox"/>
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### 7.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)
<input type="checkbox"/>
Acsending
<input type="checkbox"/>
Descending

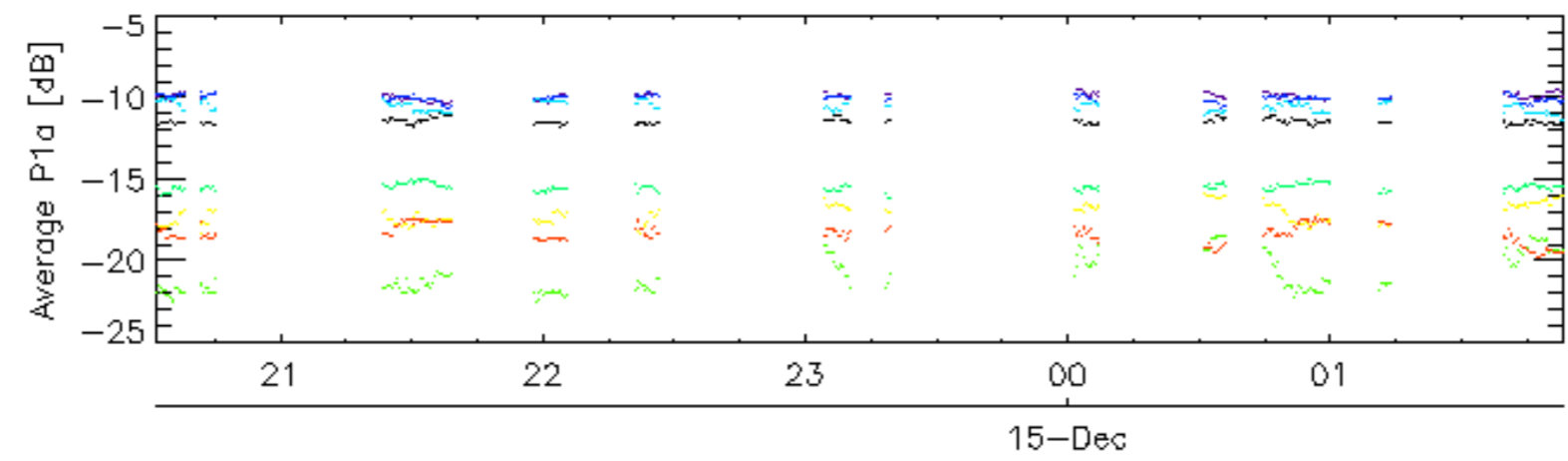
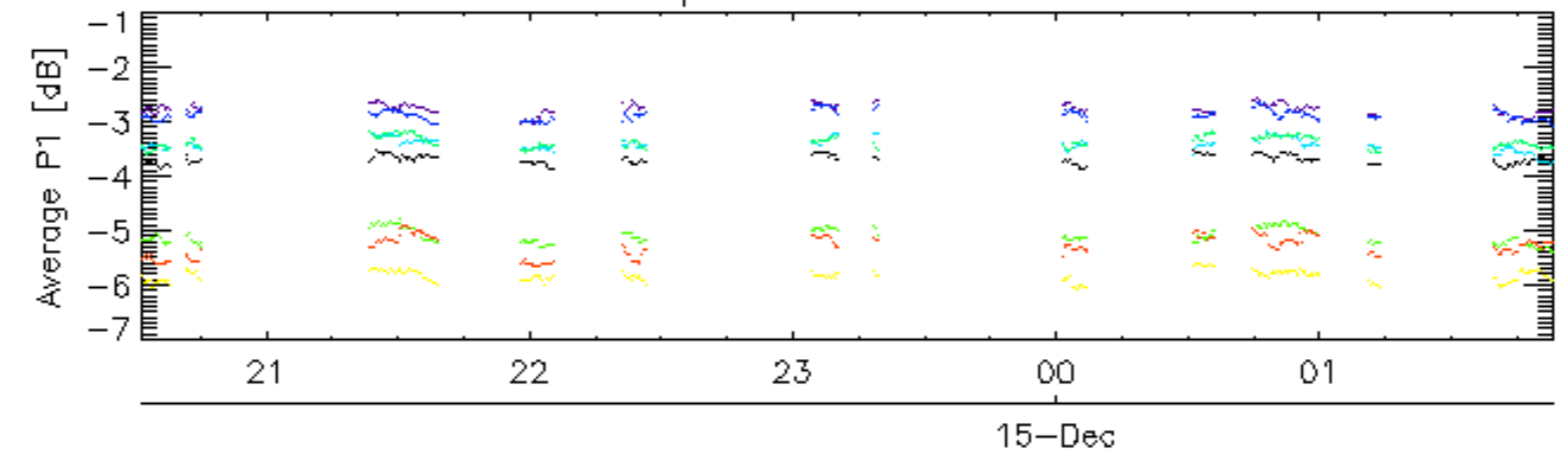
### 7.5 - Absolute Doppler for GM1

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

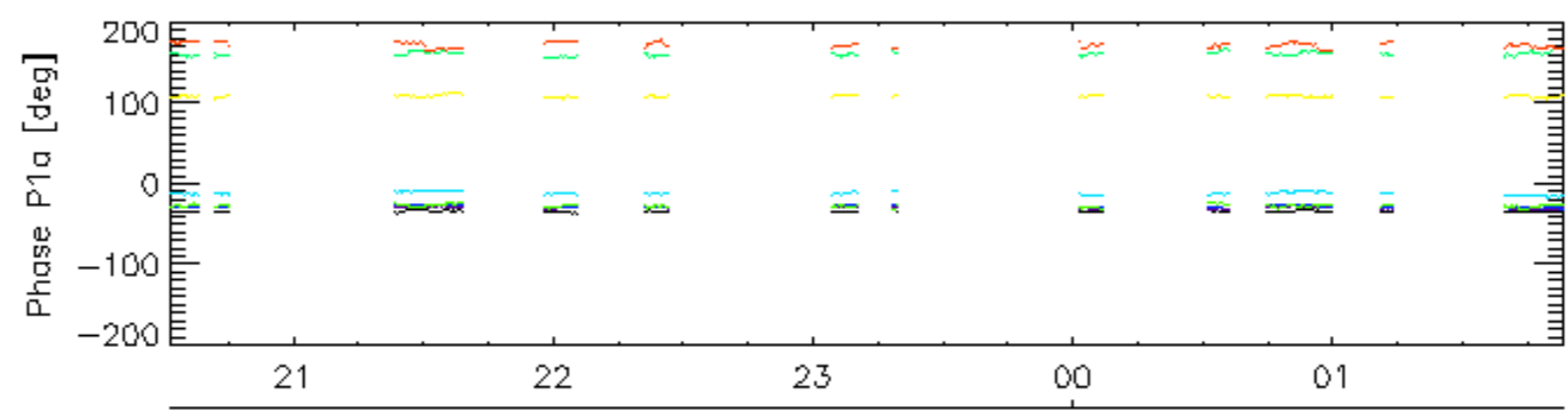
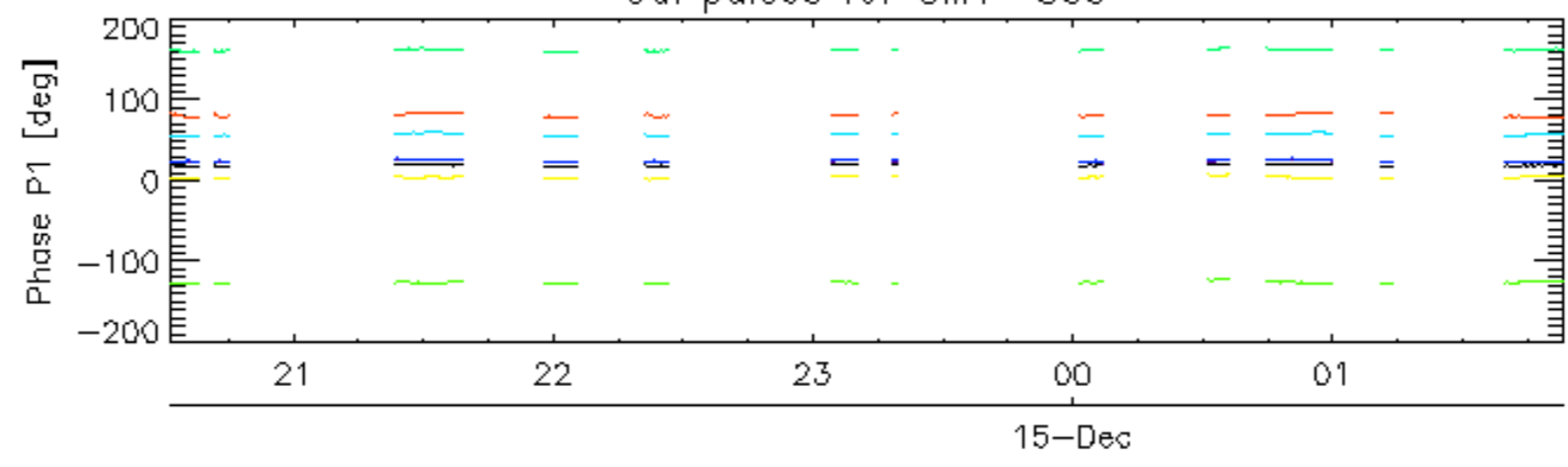
### 7.6 - Doppler evolution versus ANX for GM1

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

Cal pulses for GM1 SS3

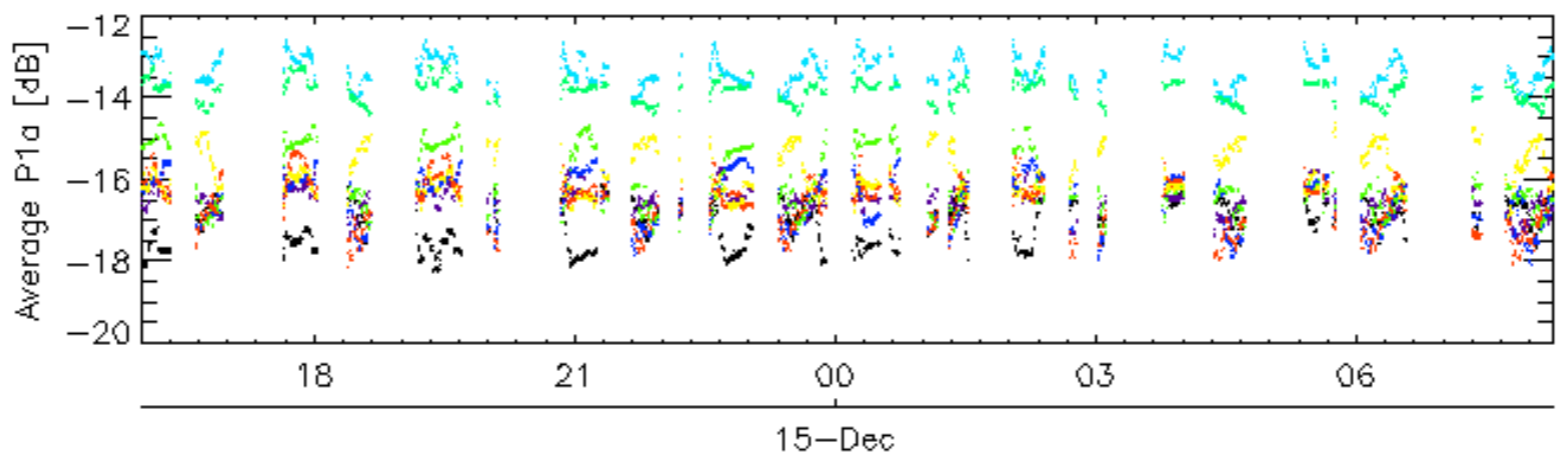
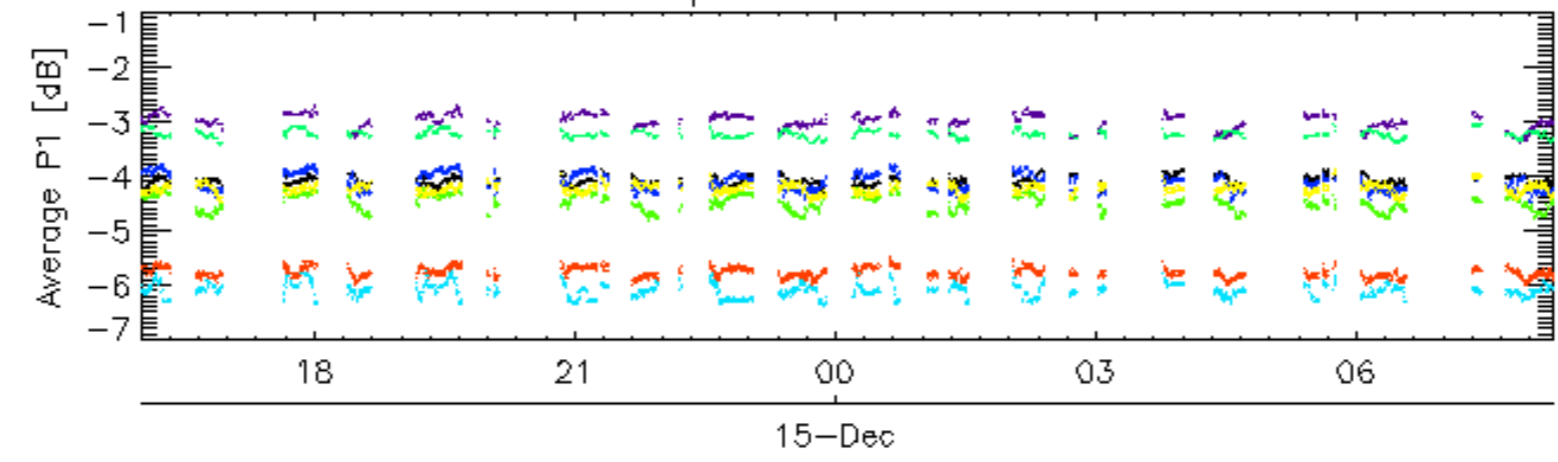


Cal pulses for GM1 SS3

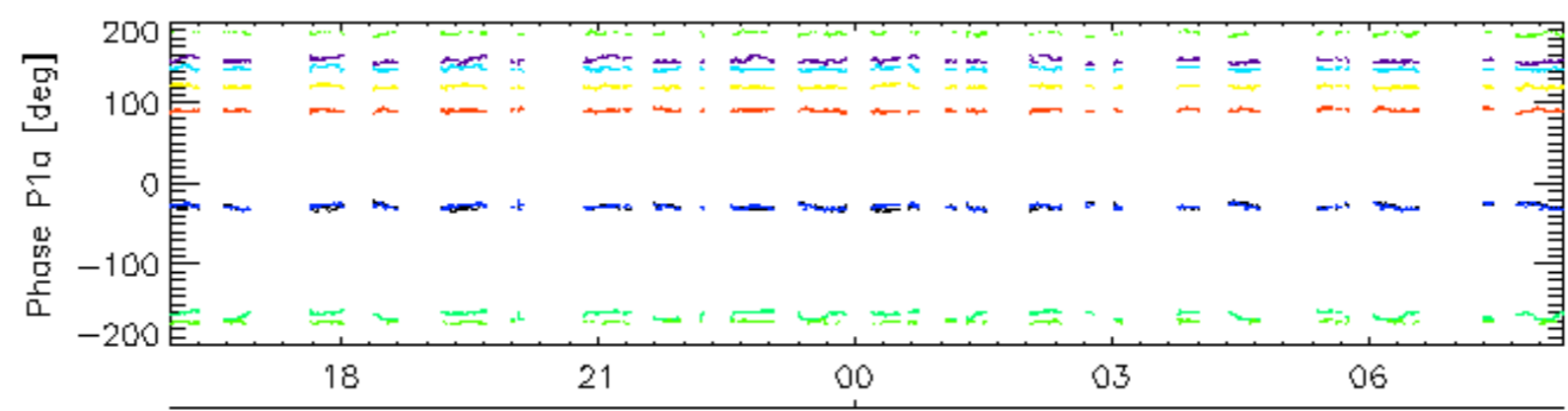
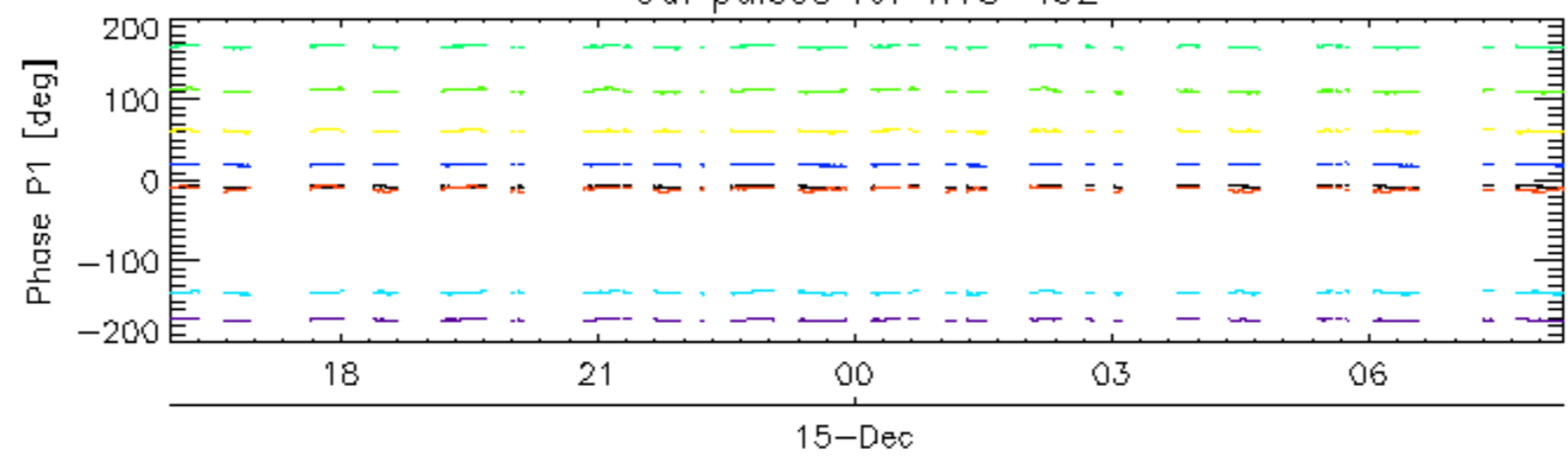


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30 15-Dec

Cal pulses for WVS IS2

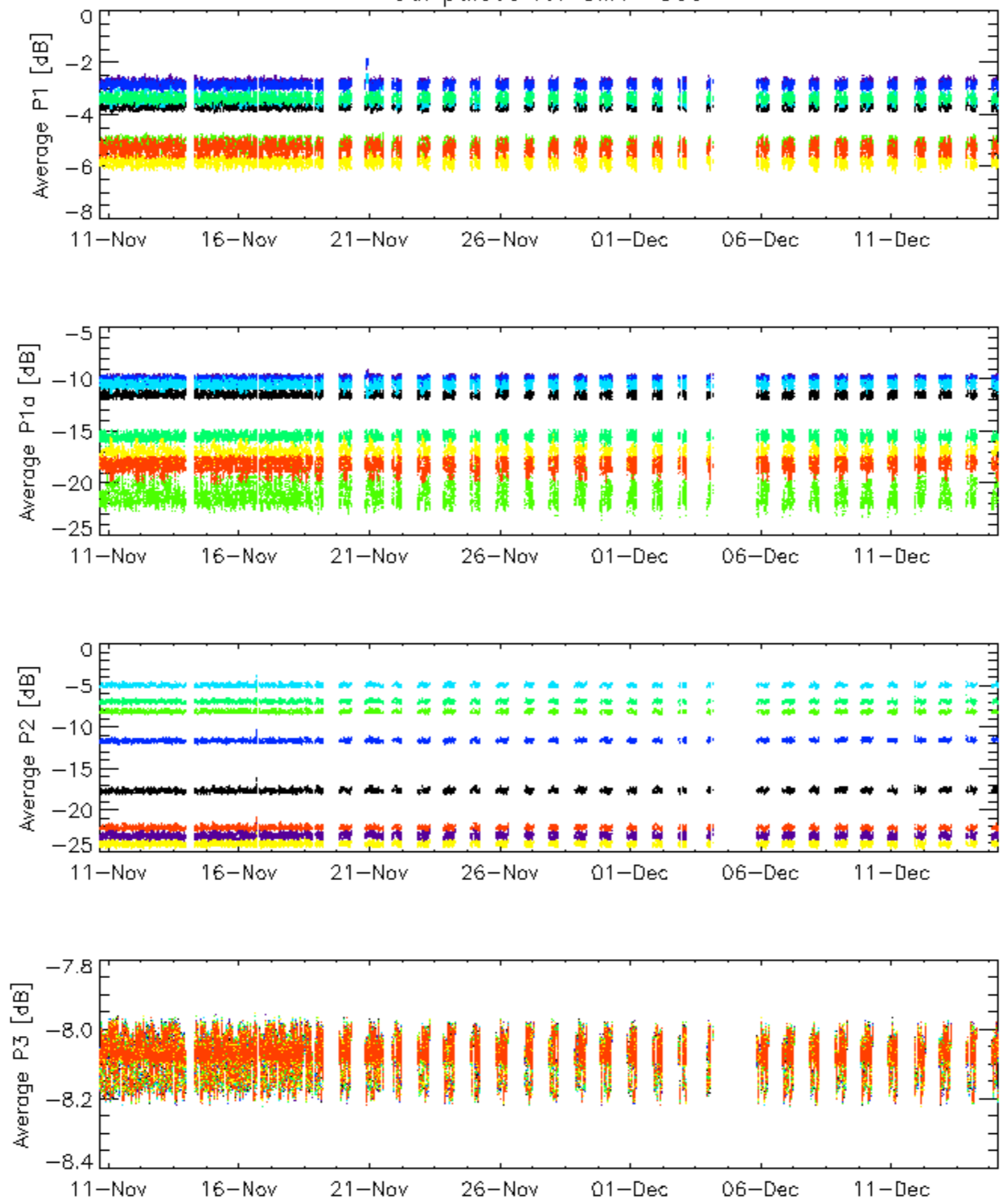


Cal pulses for WVS IS2



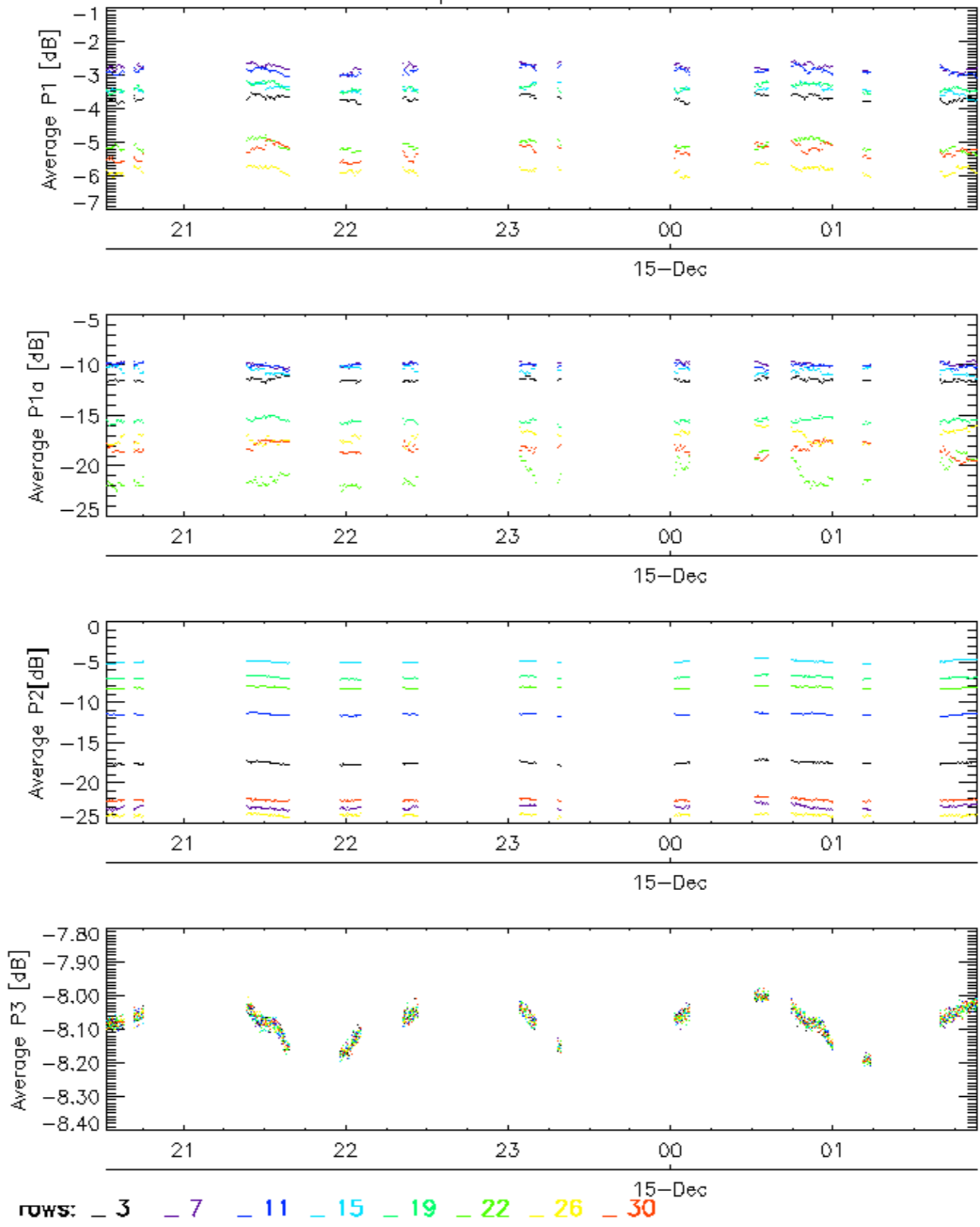
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

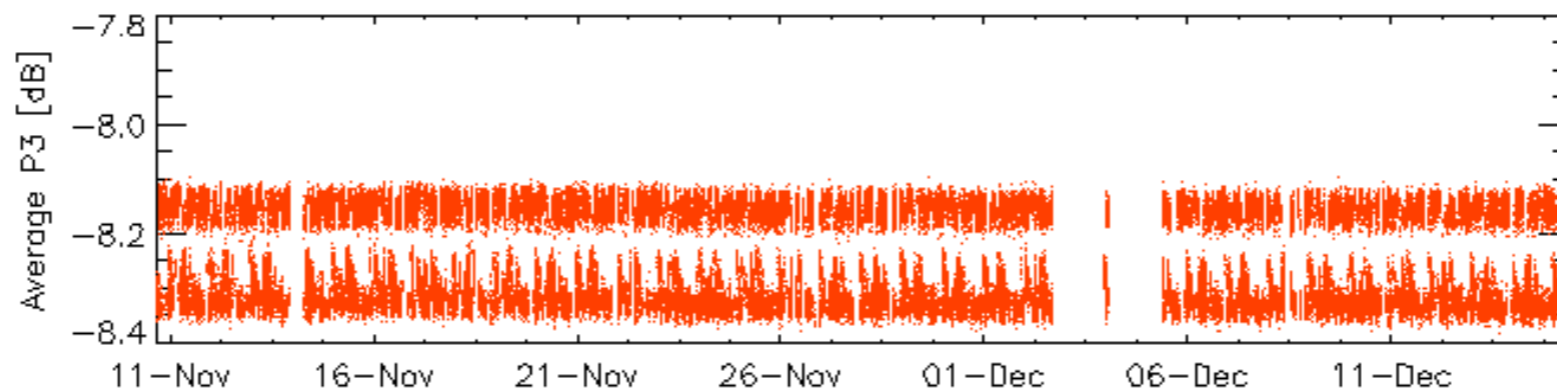
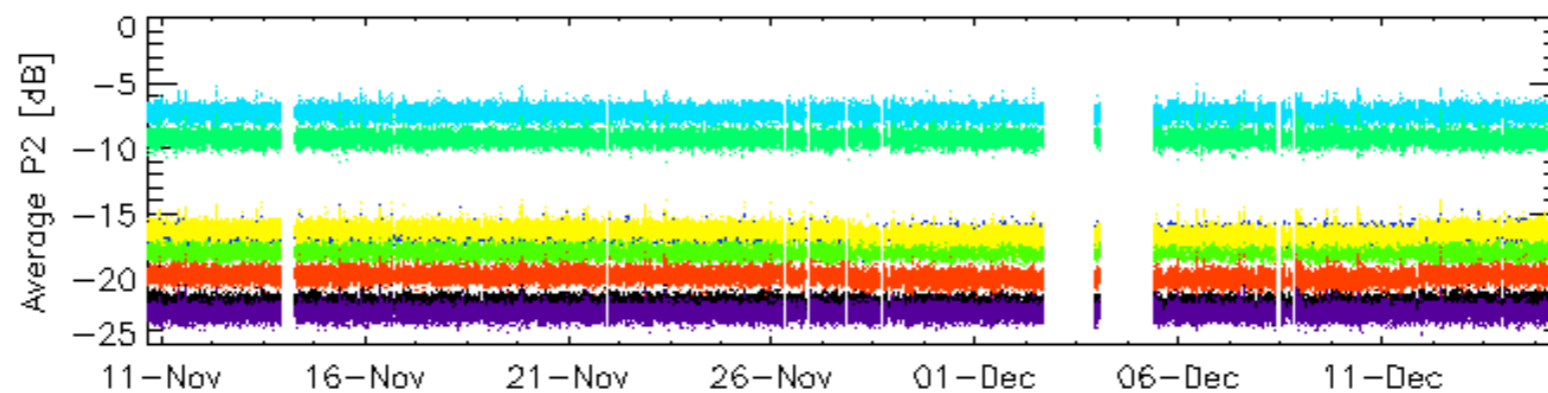
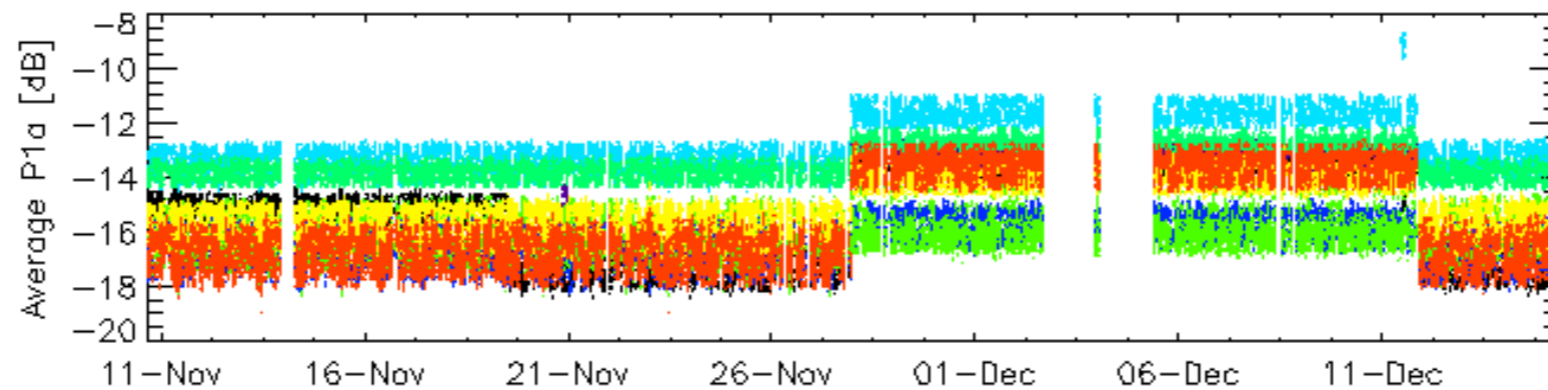
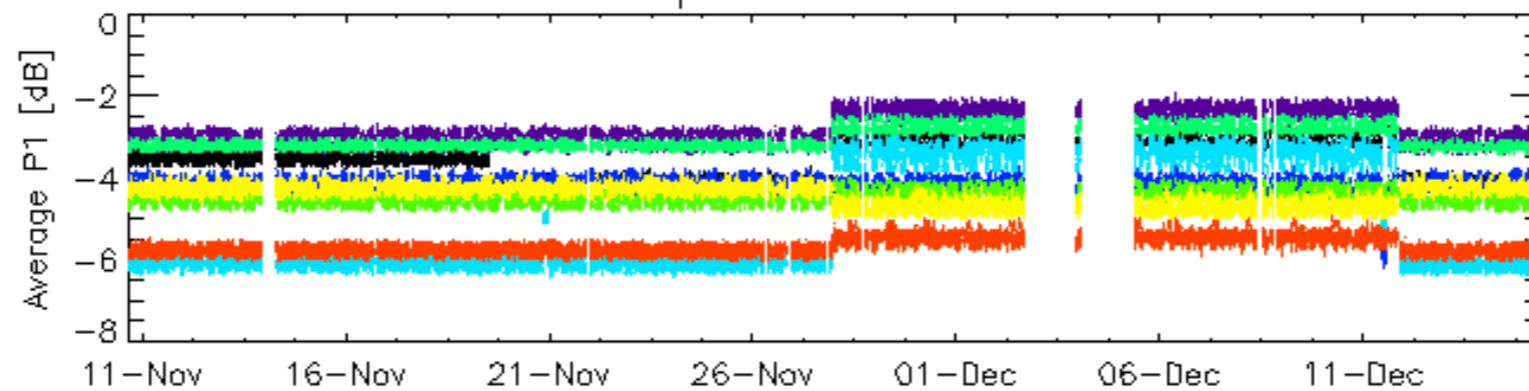


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

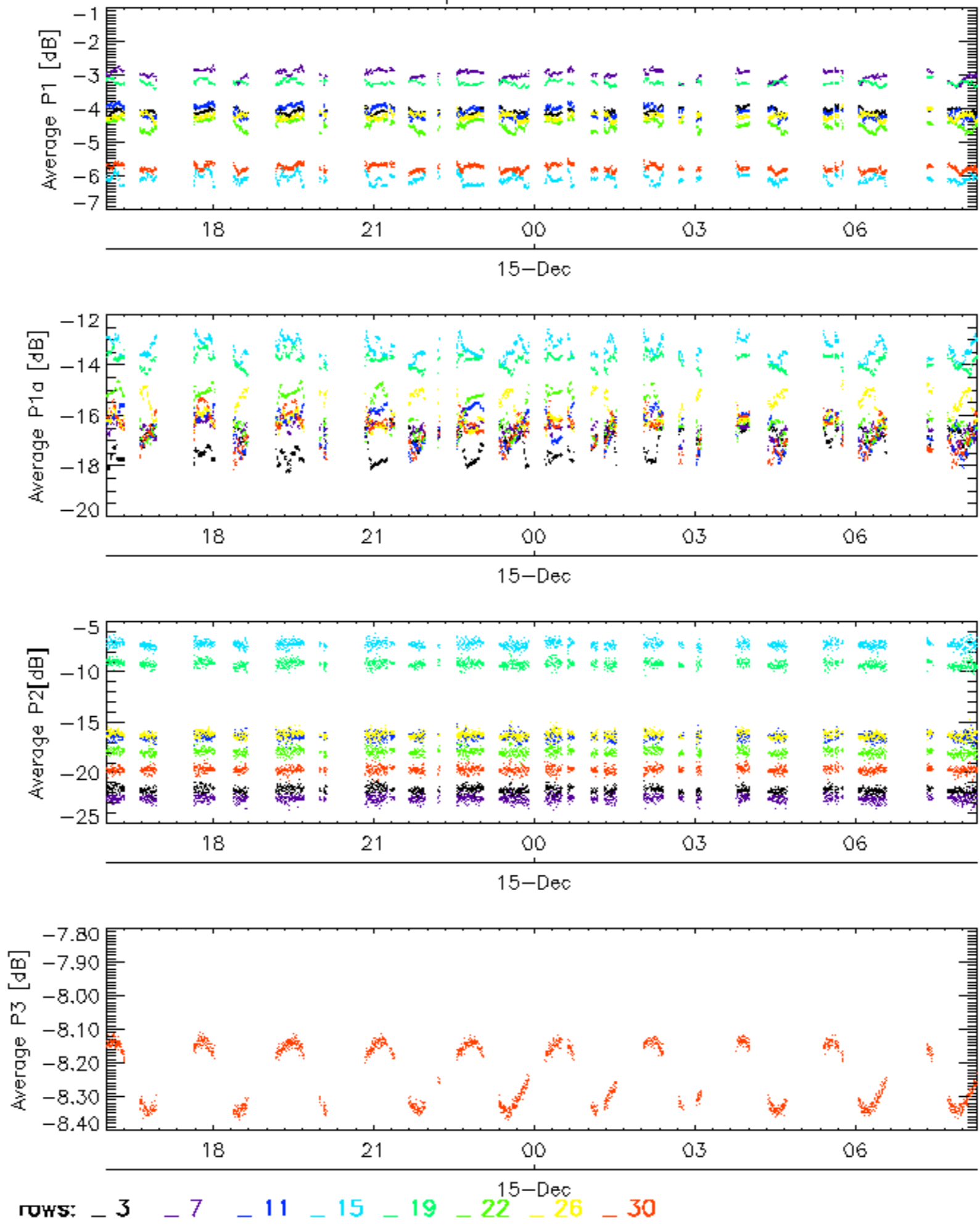


Cal pulses for WVS IS2



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

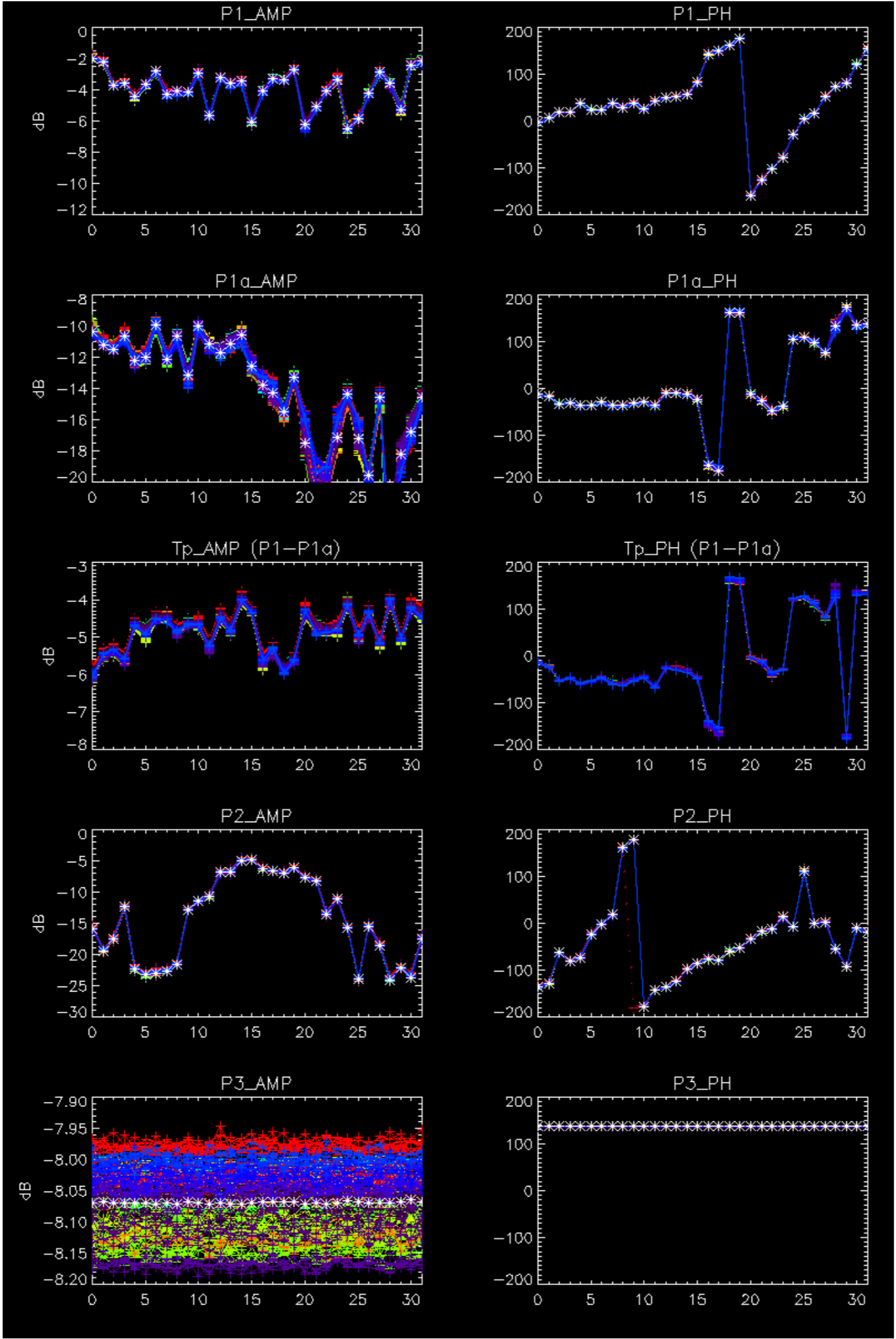
Cal pulses for WVS IS2

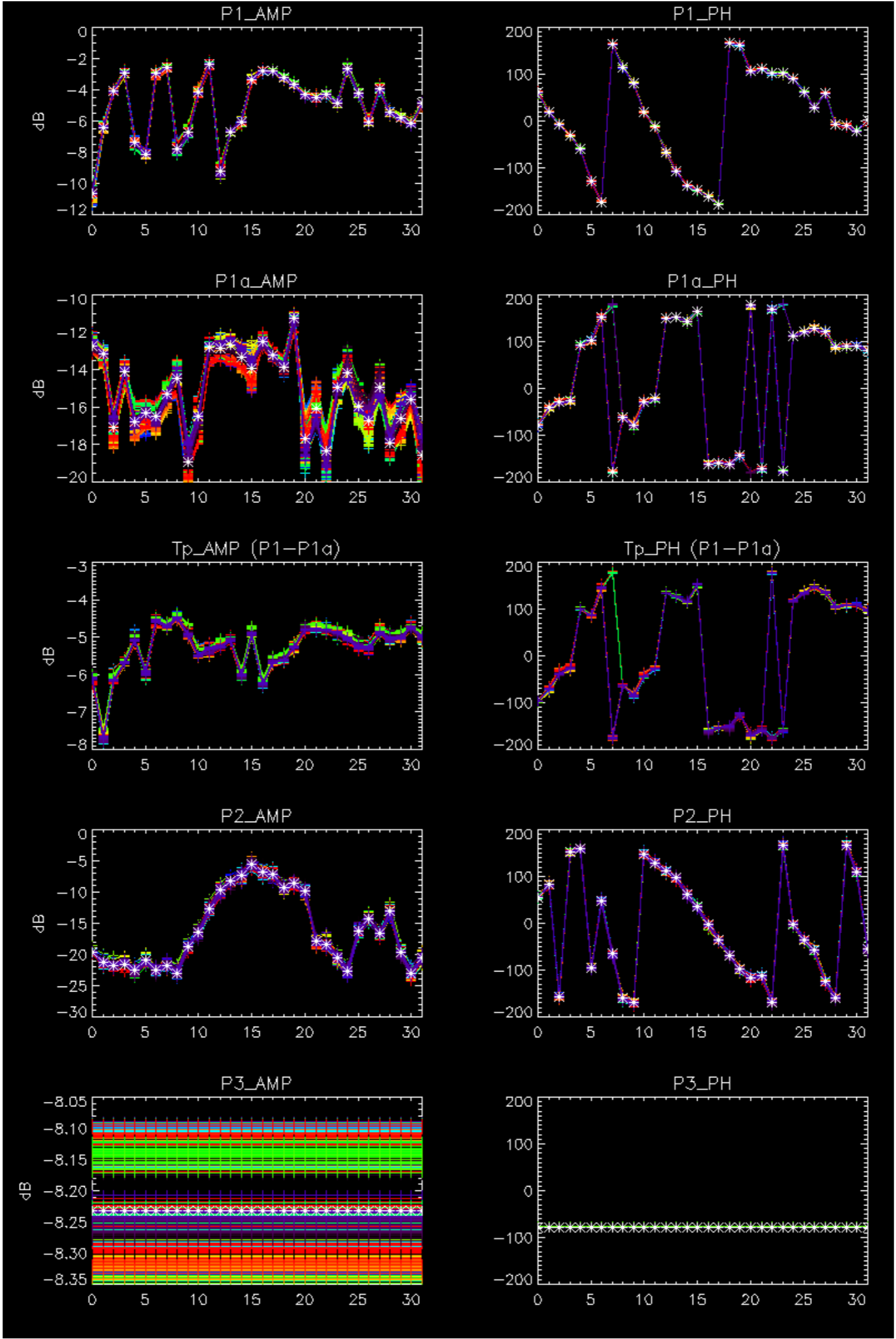


No anomalies observed on available browse products



No anomalies observed.



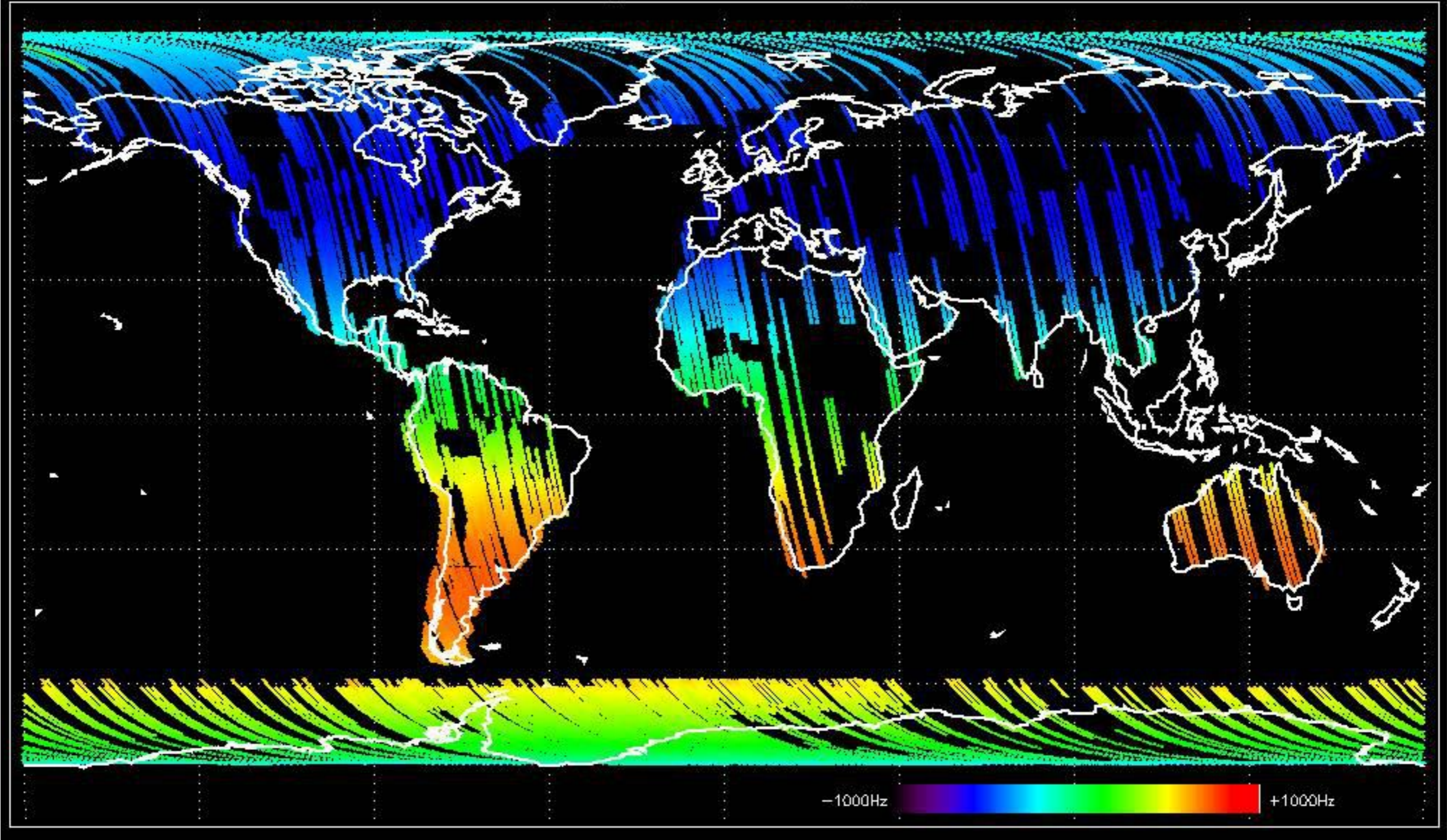


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



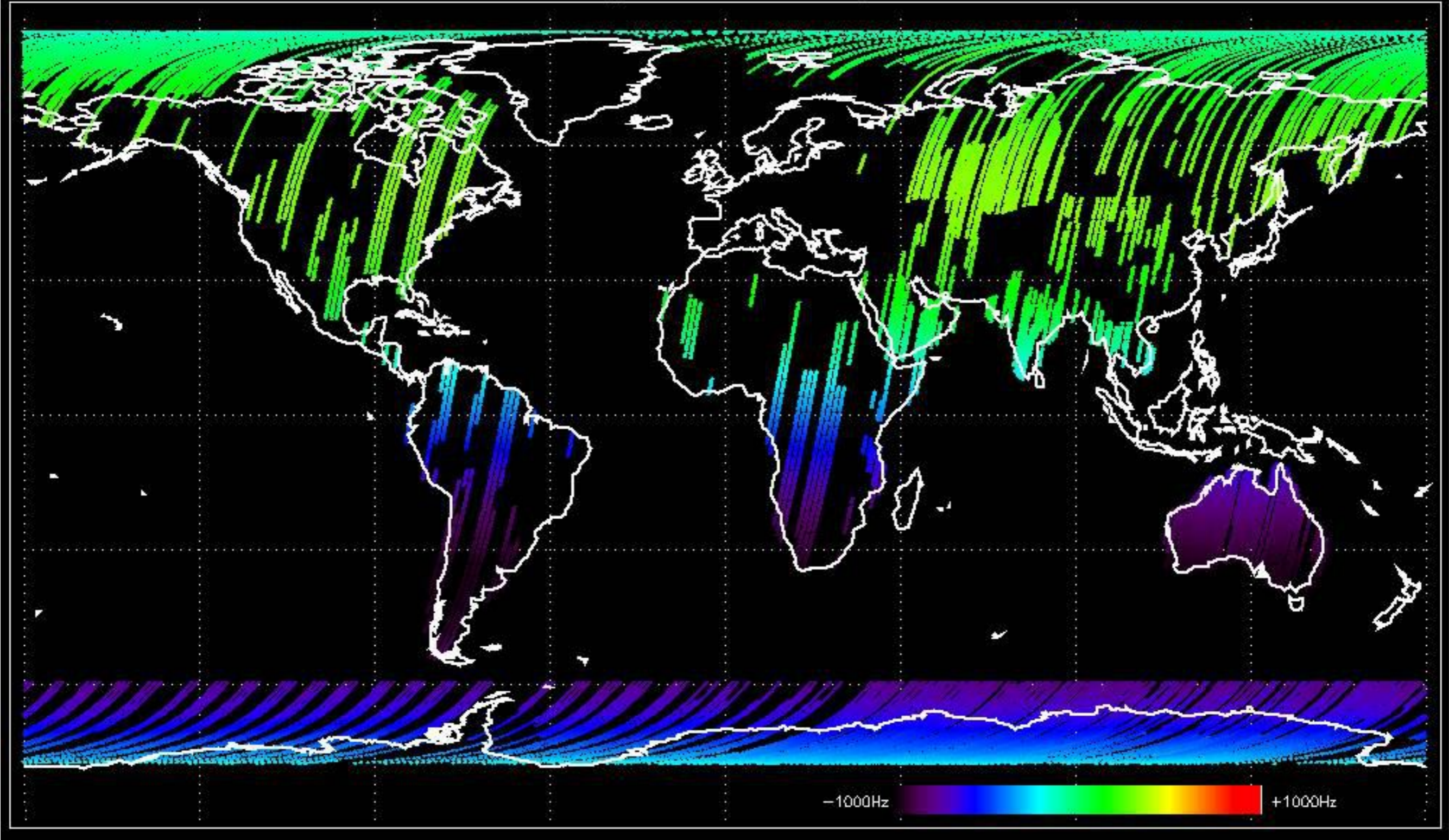


Doppler 'GM1' 'SS1' ascending



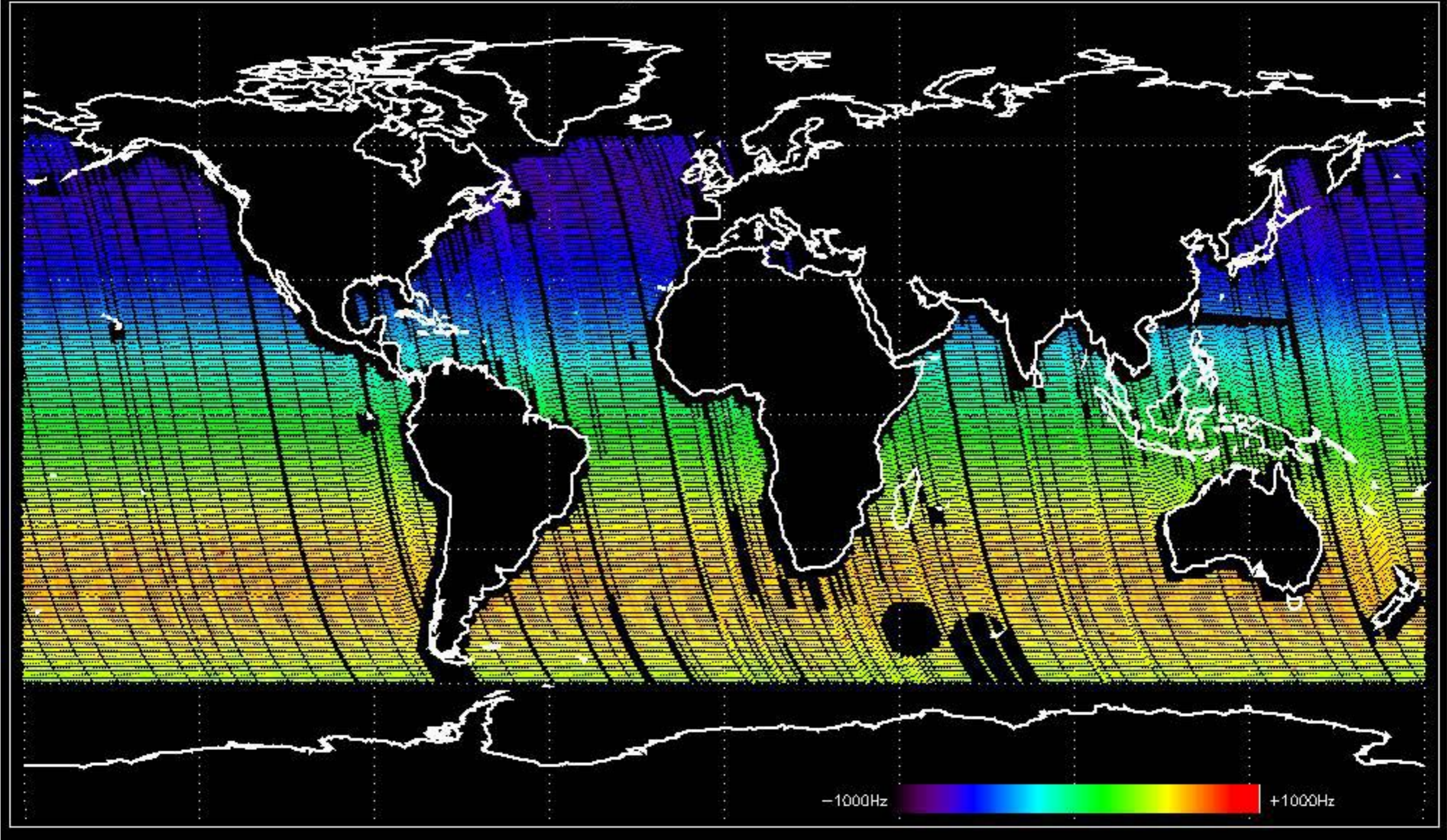


Doppler 'GM1' 'SS1' descending



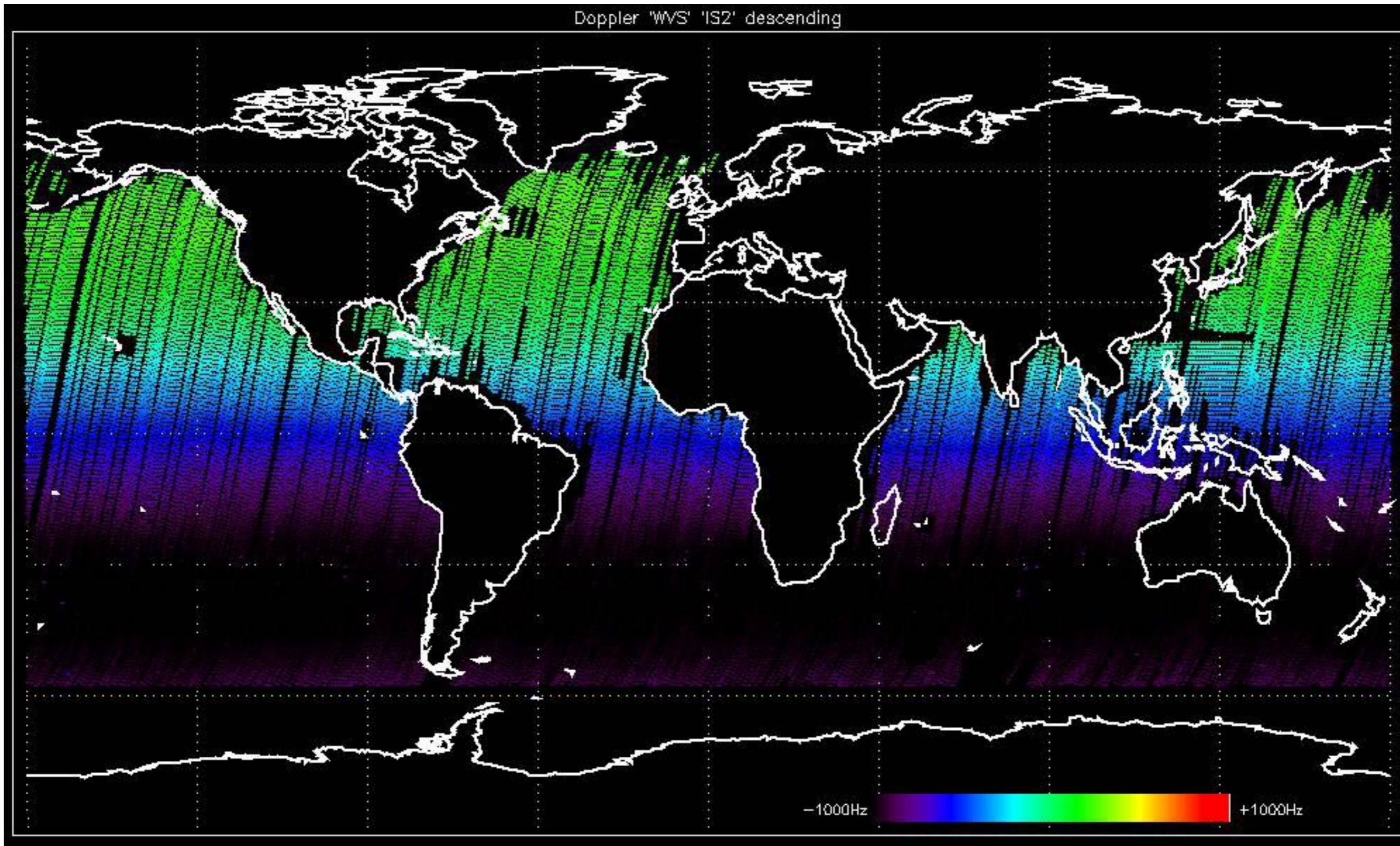


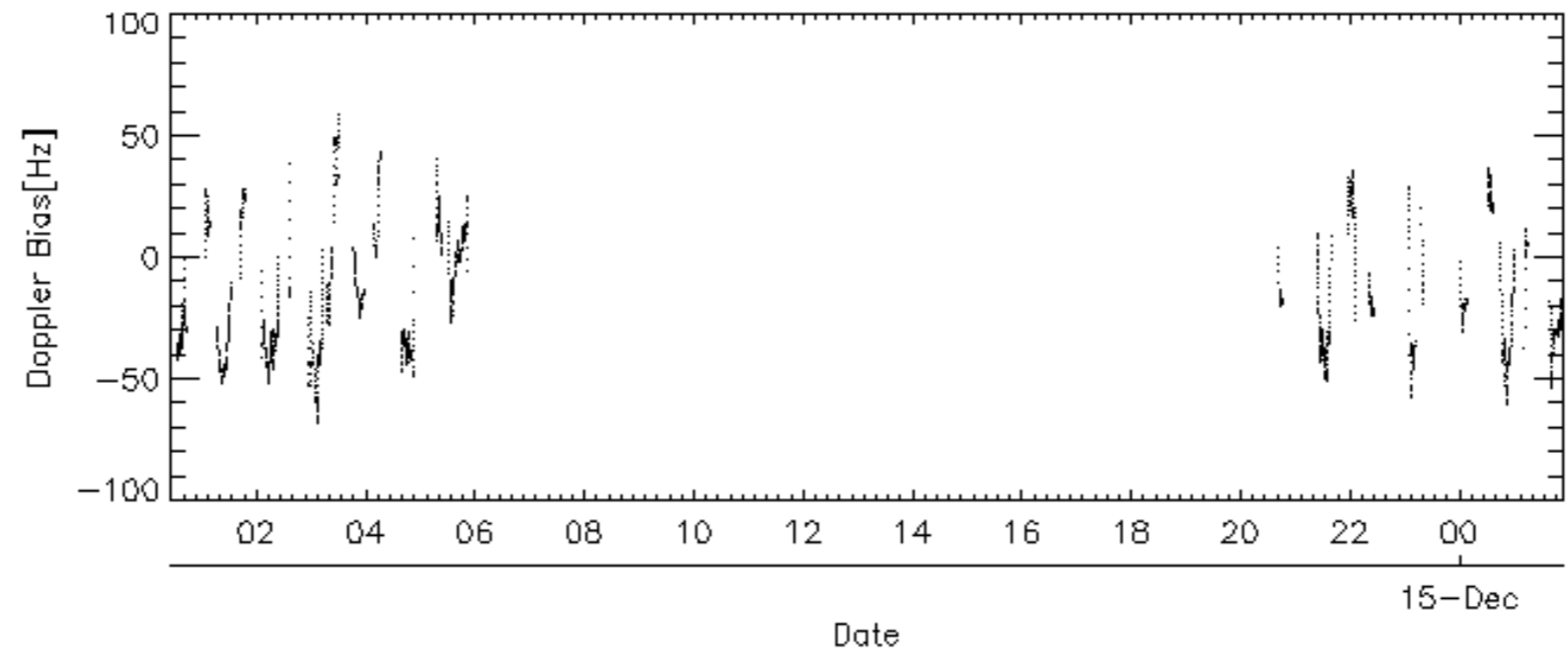
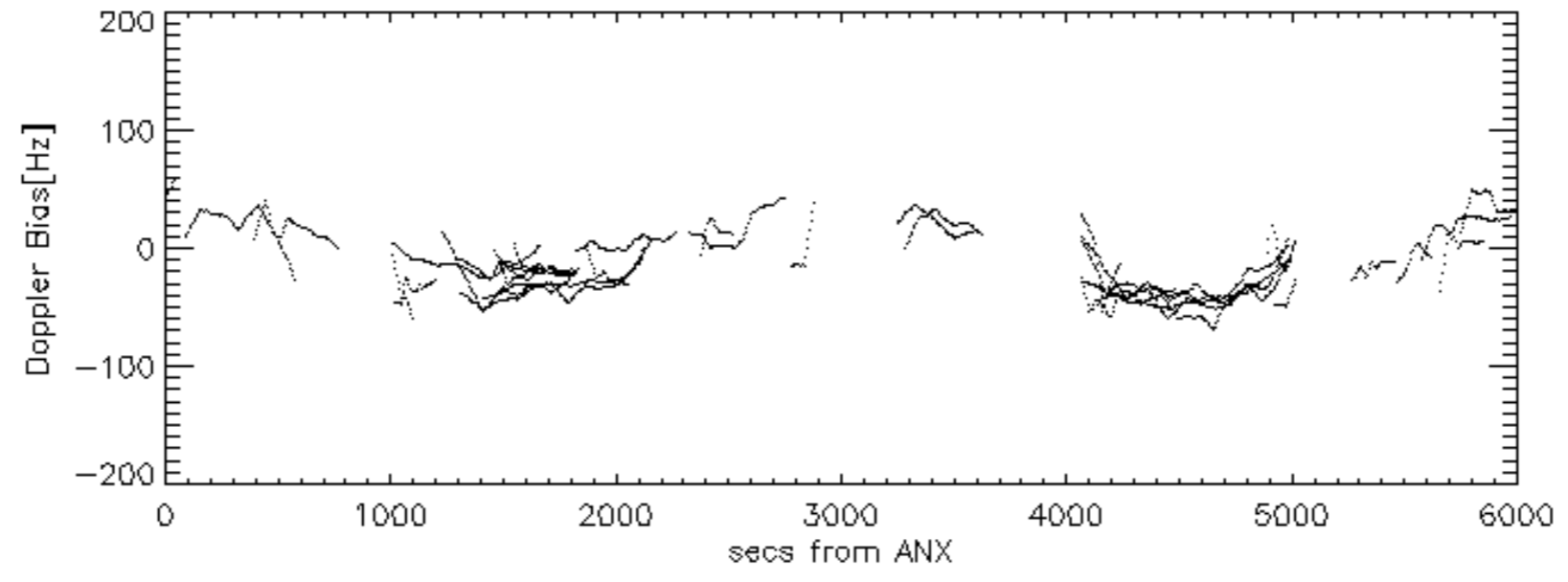
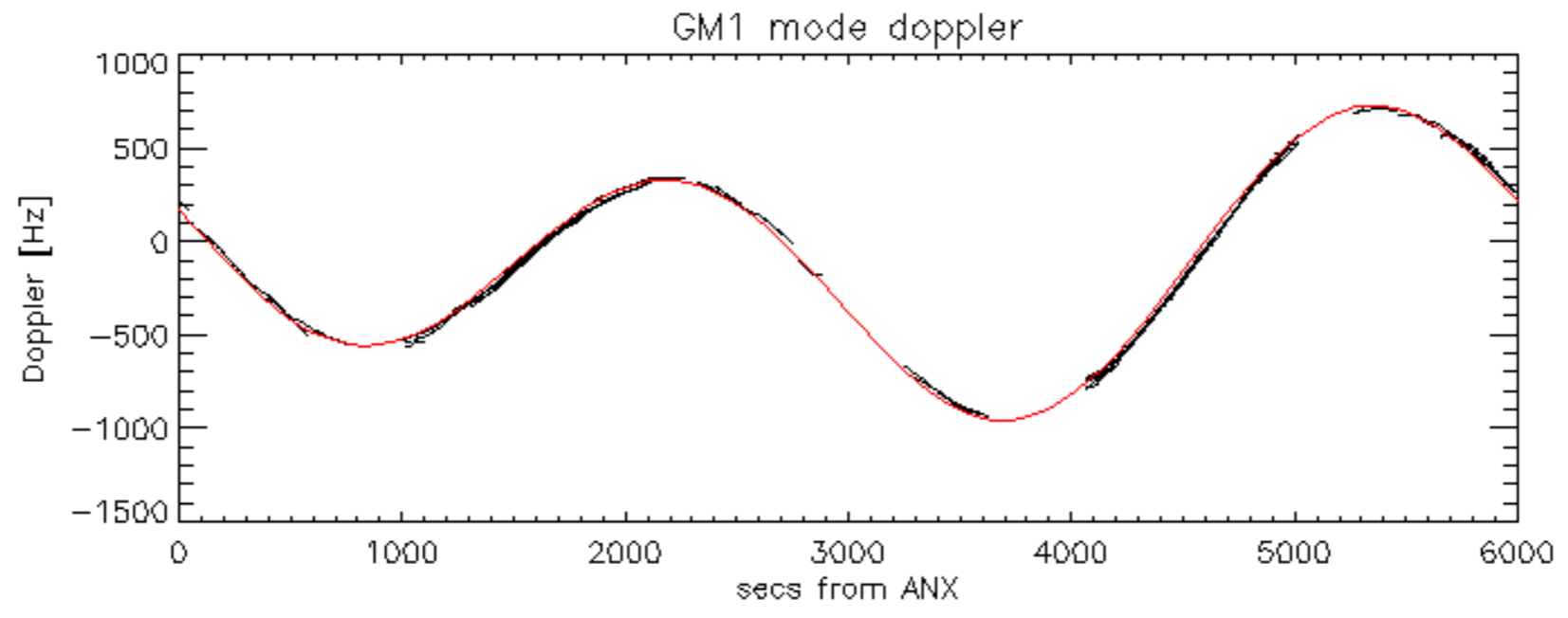
Doppler 'WVS' 'IS2' ascending



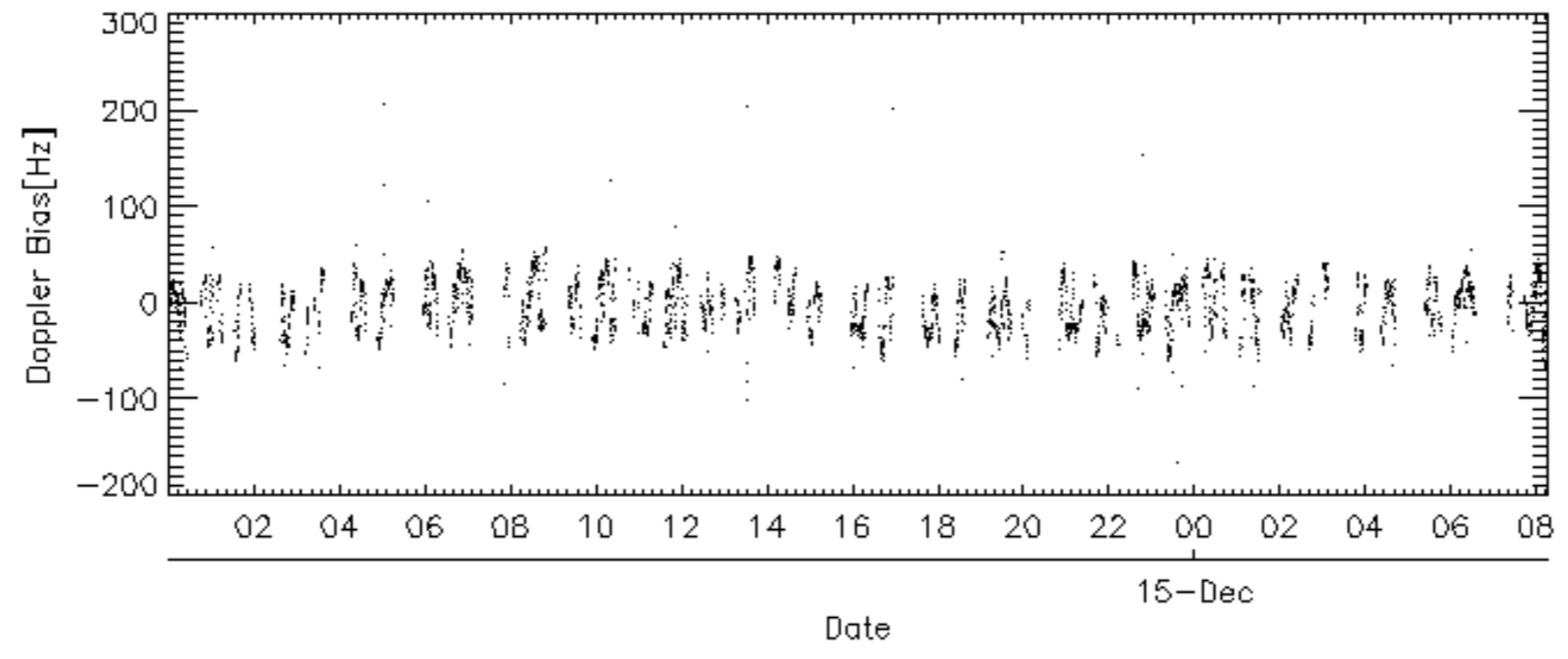
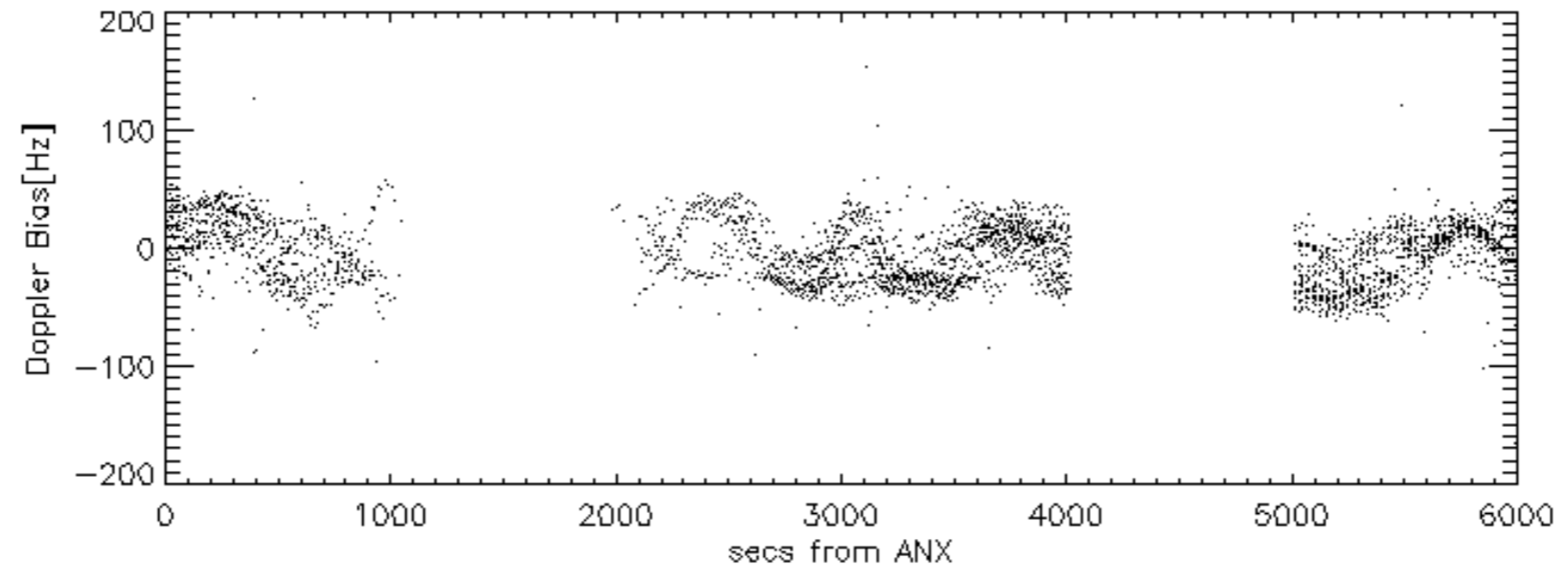
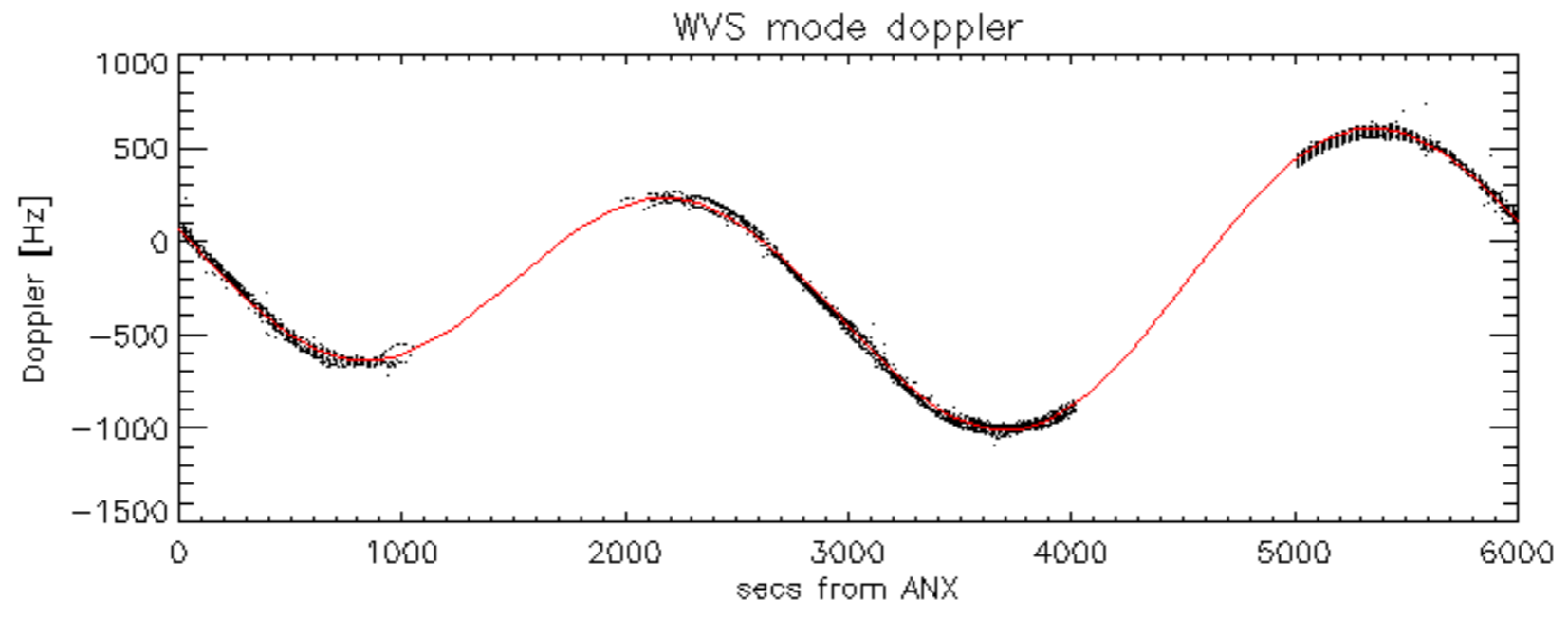


Doppler 'WVS' 'IS2' descending



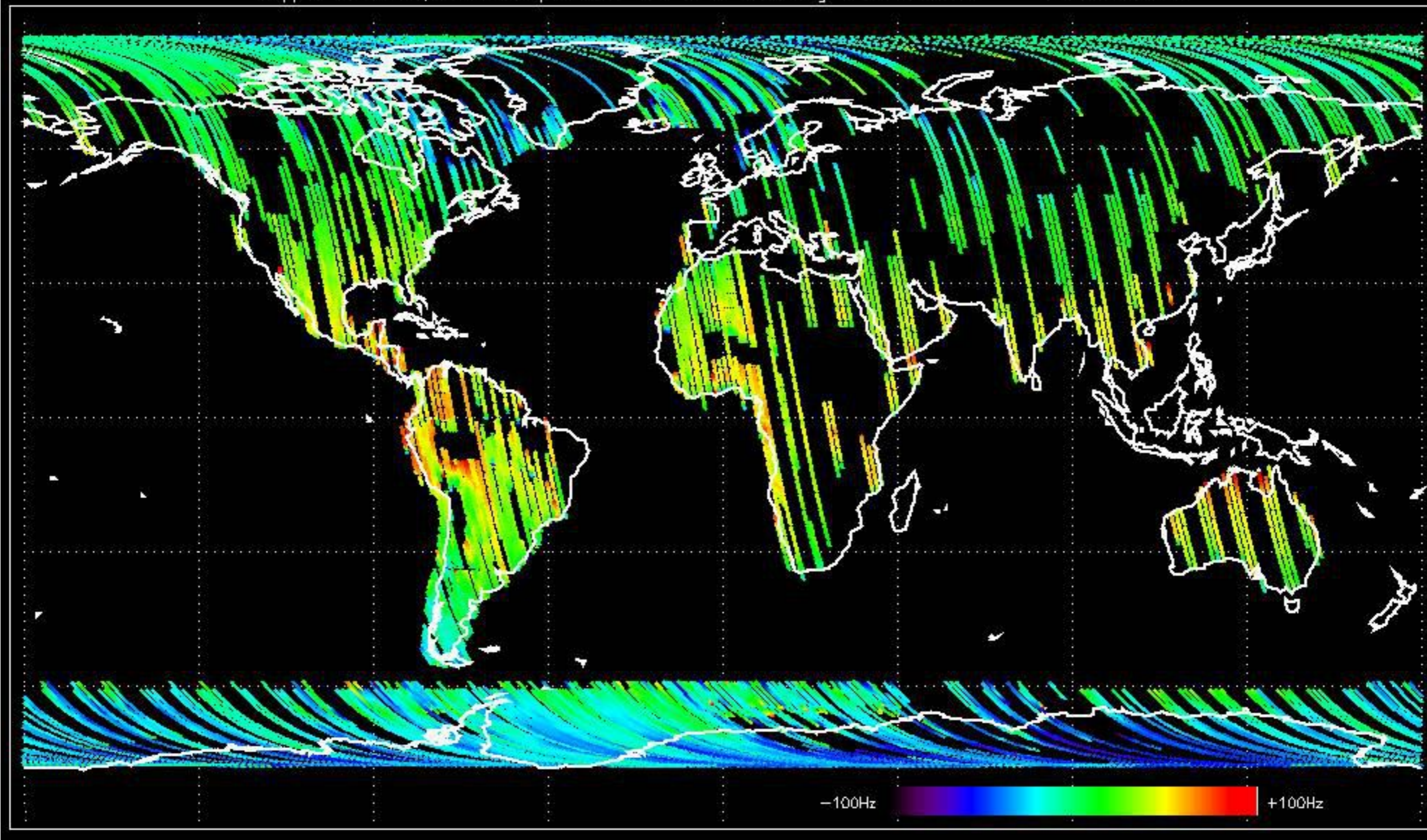






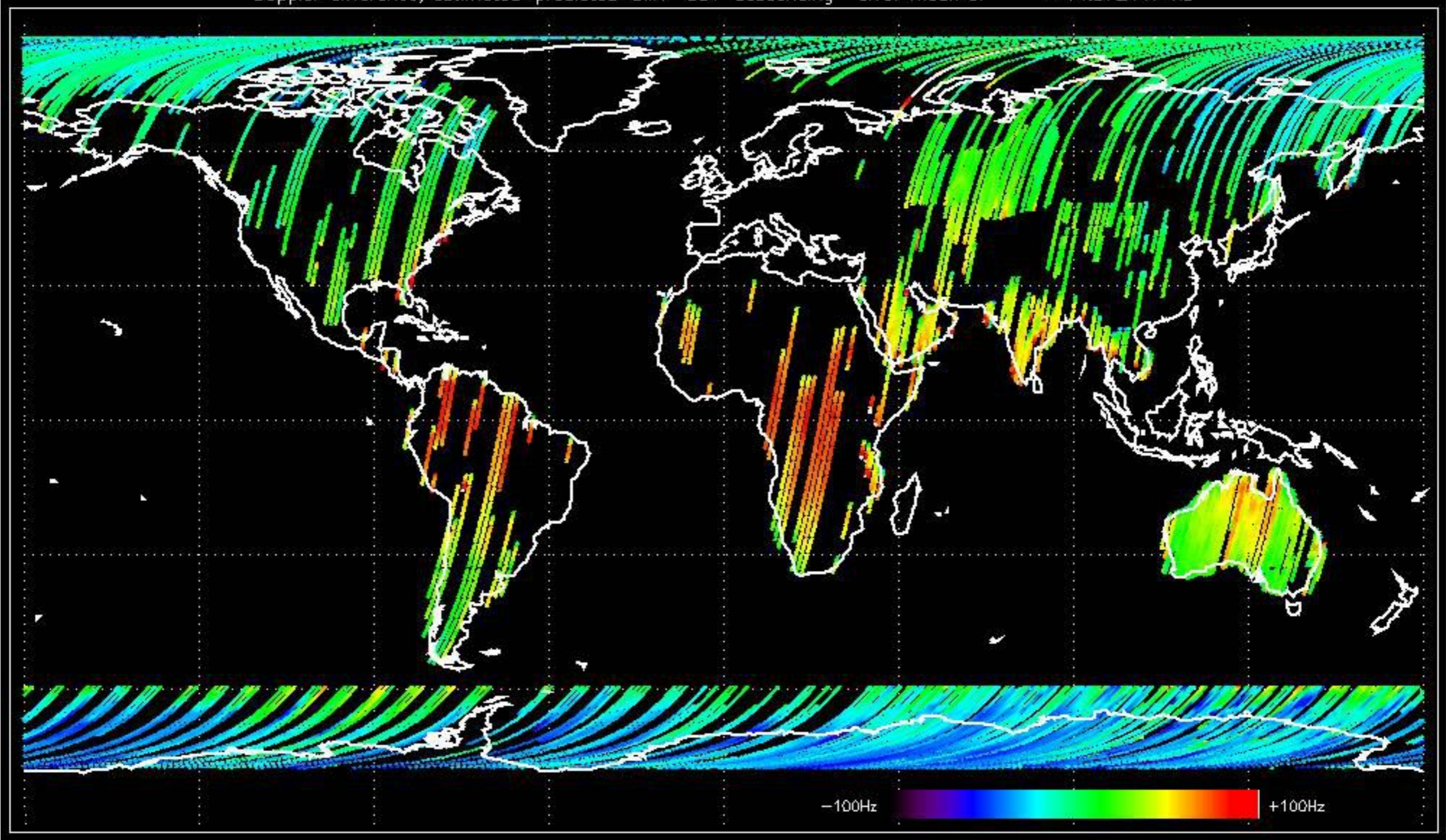


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -16.077423 Hz



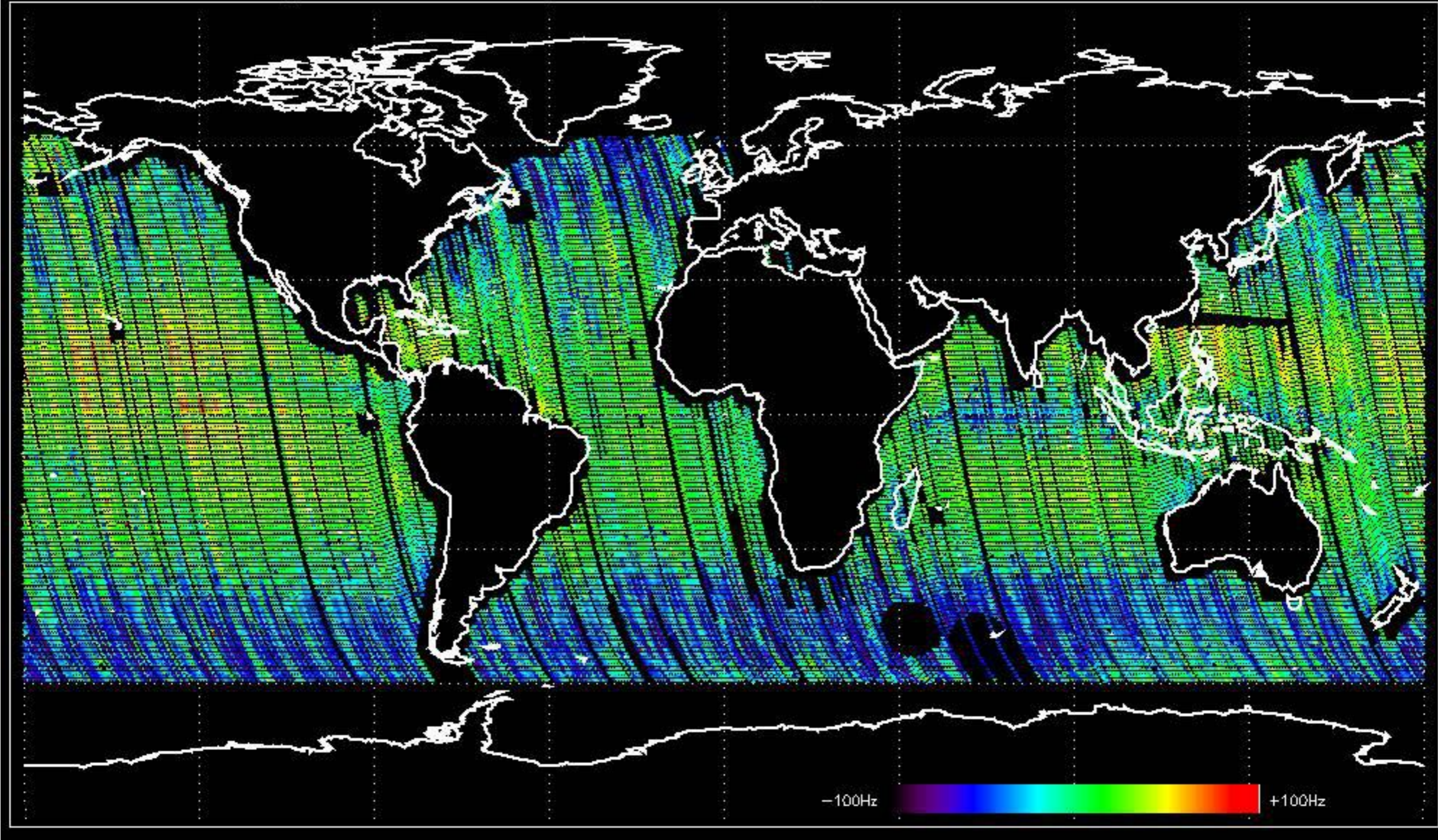


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -14.872447 Hz



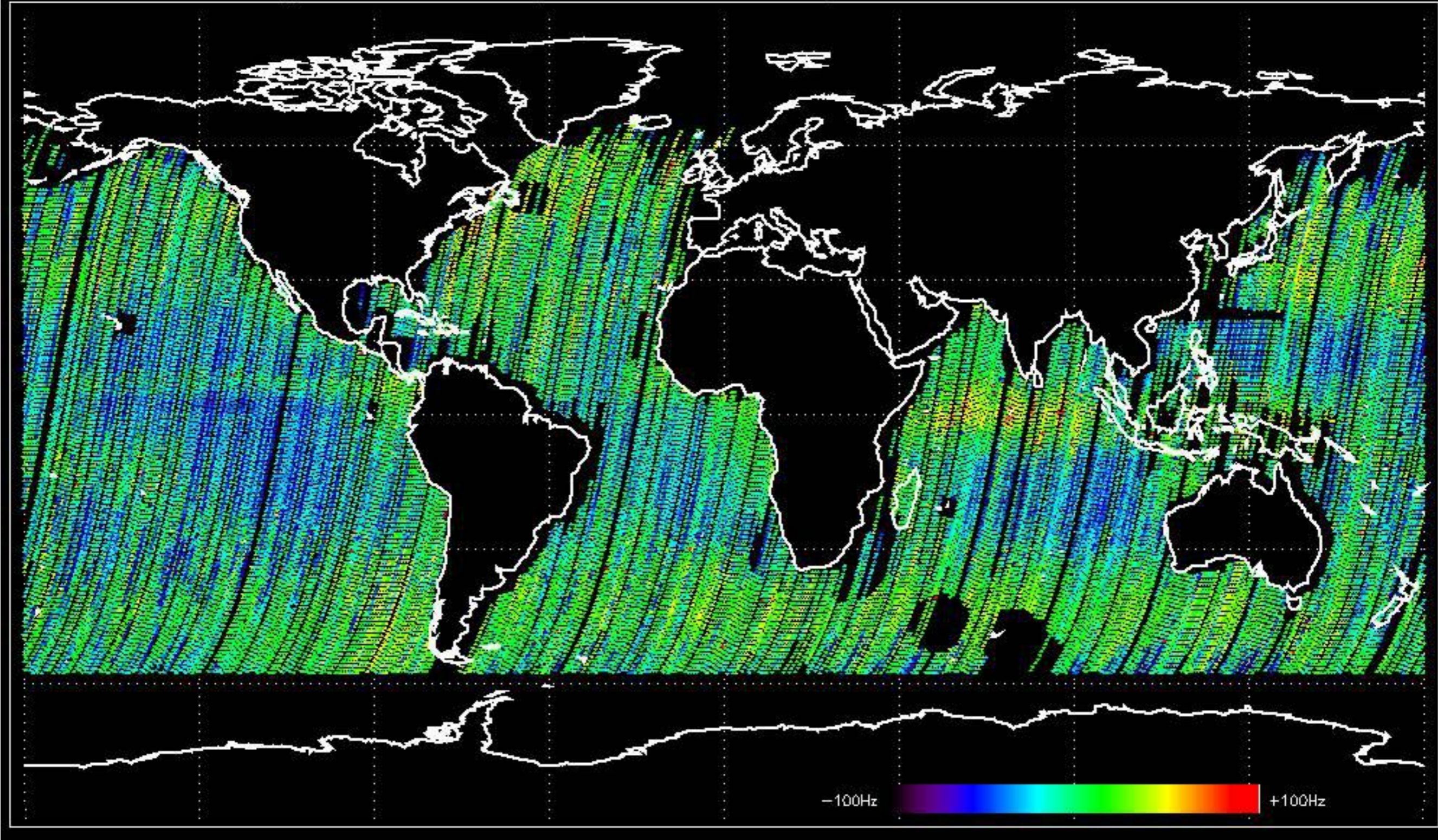


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -9.6805130 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -13.287823 Hz





No anomalies observed on available MS products:



No anomalies observed.









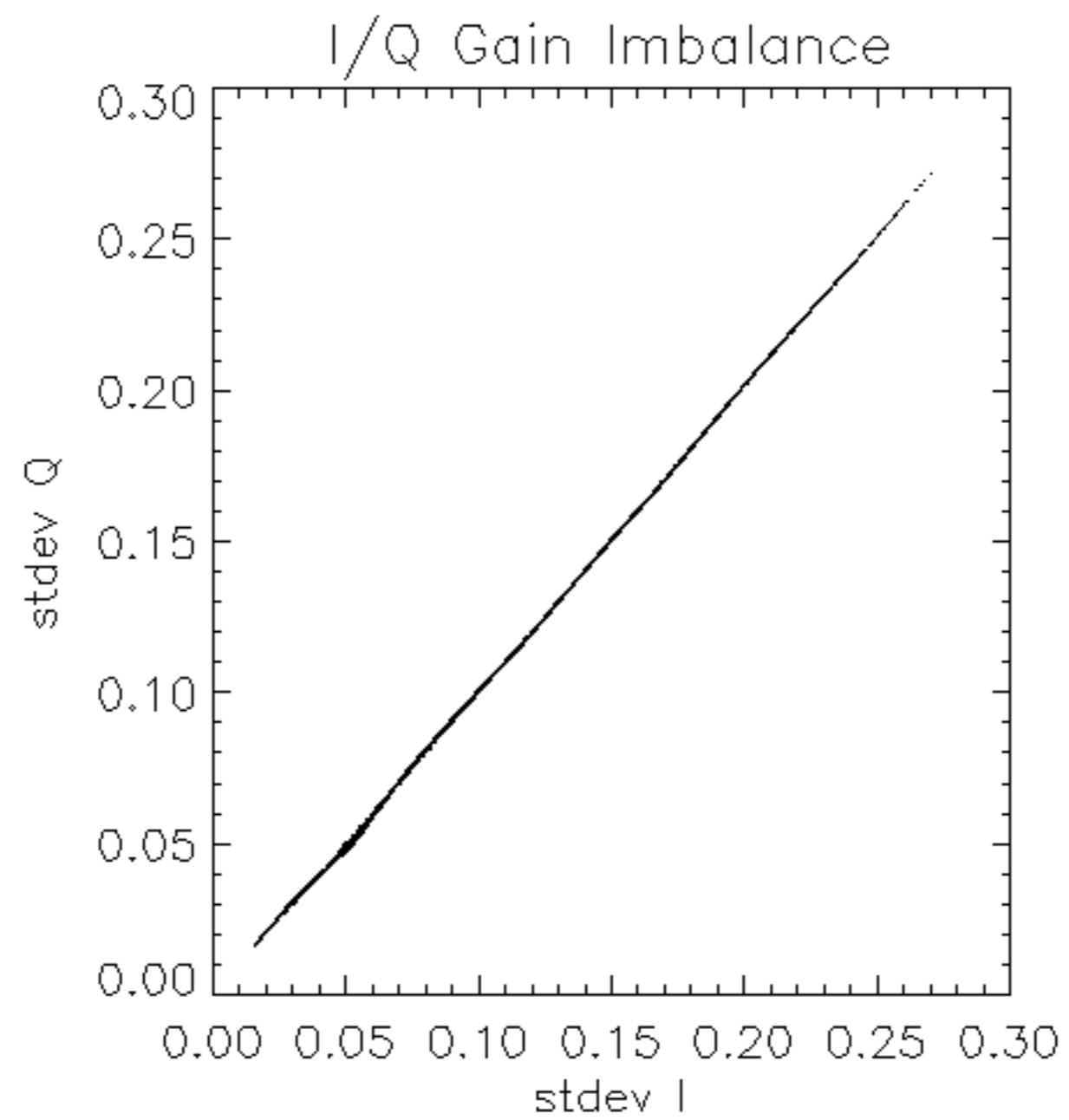


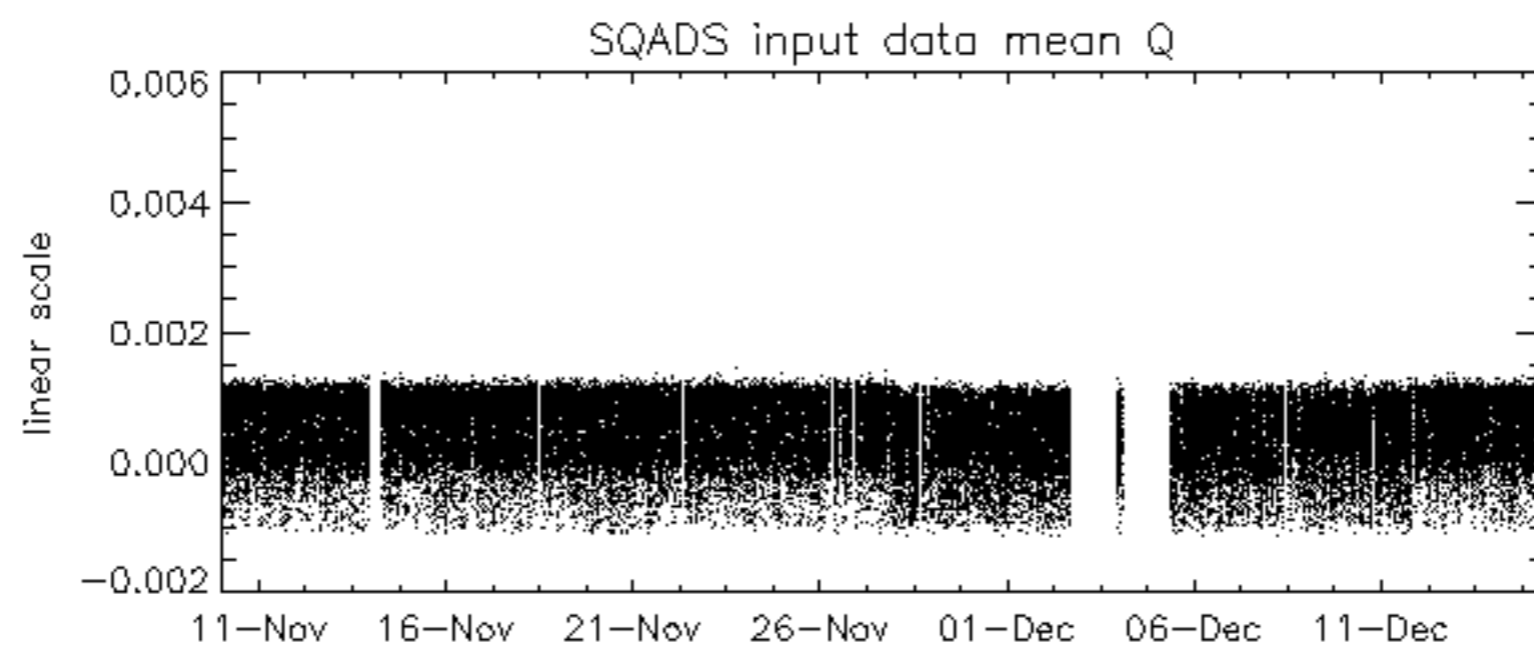
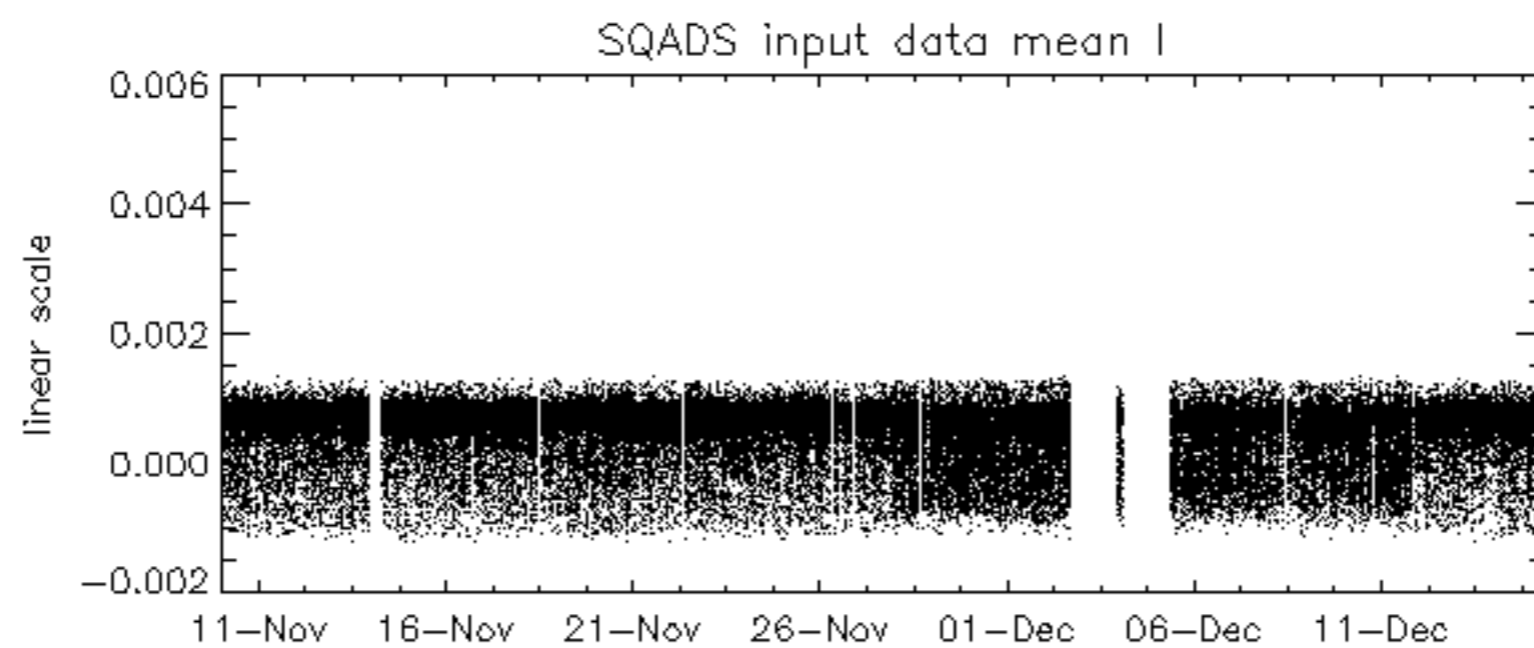
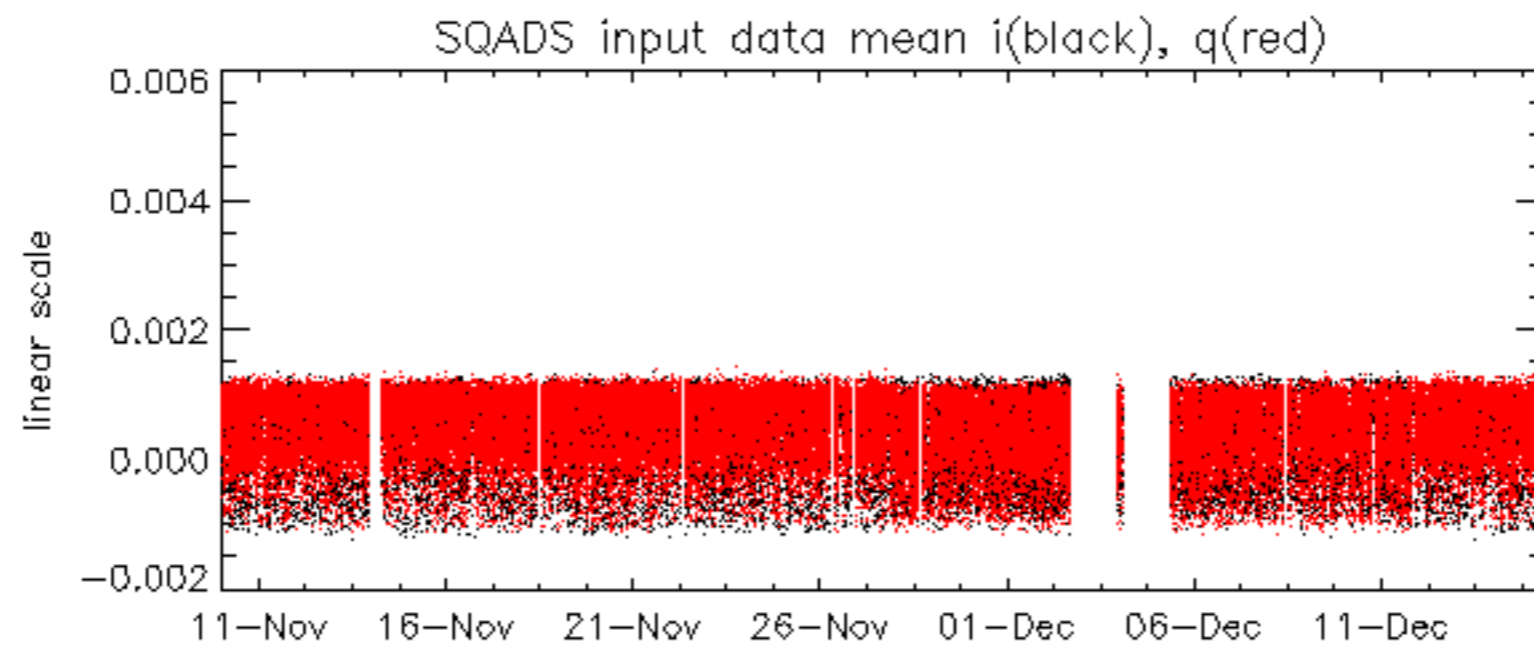




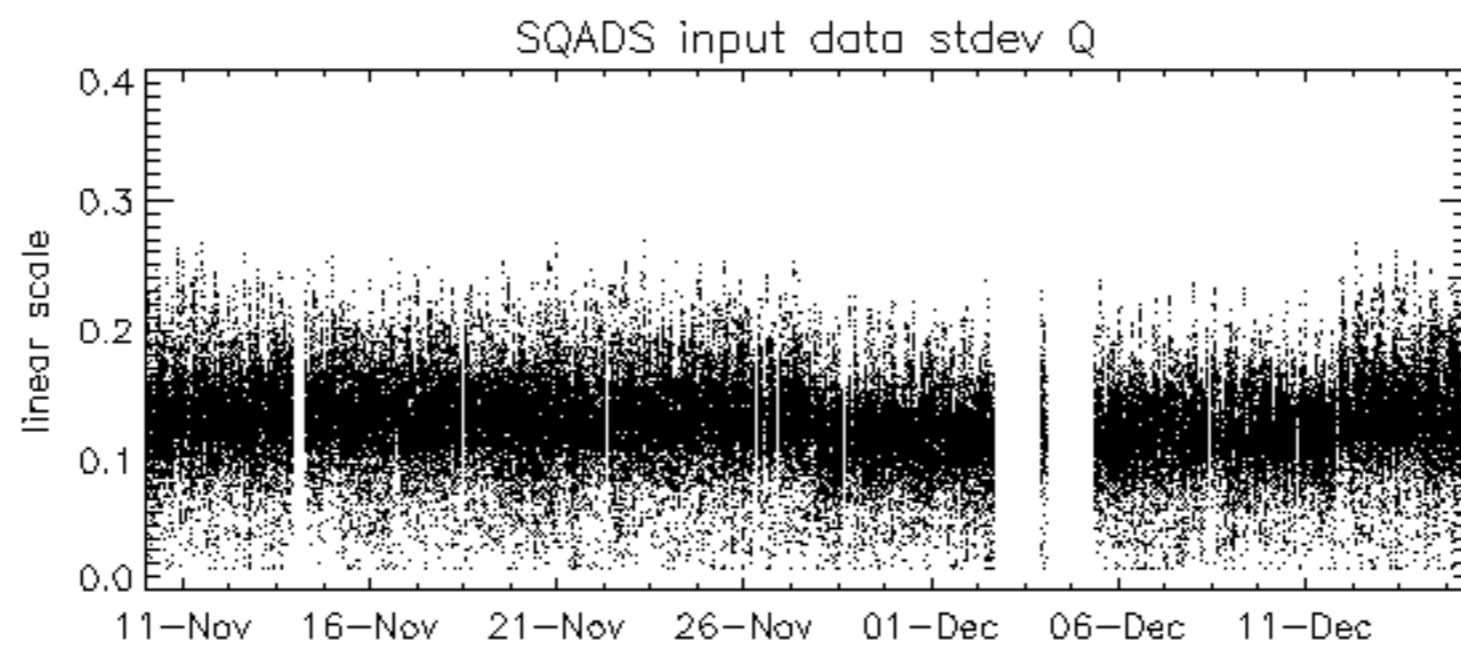
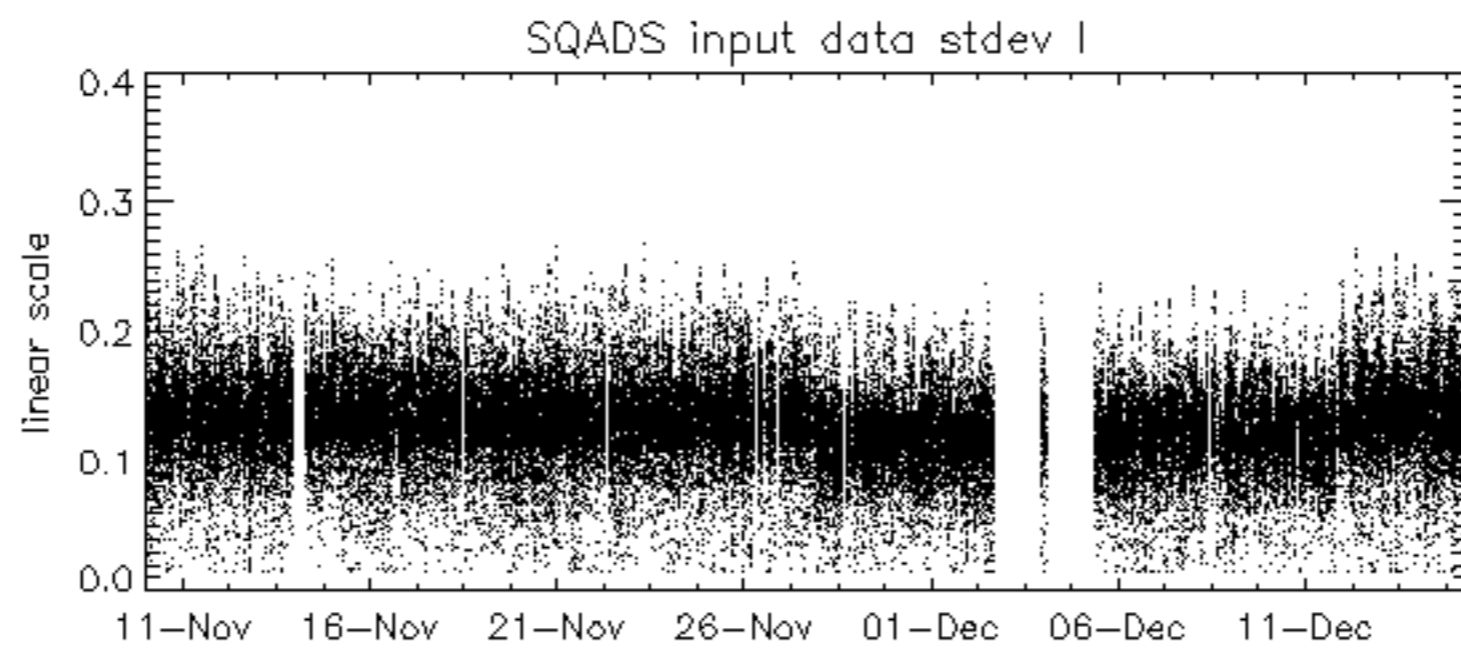
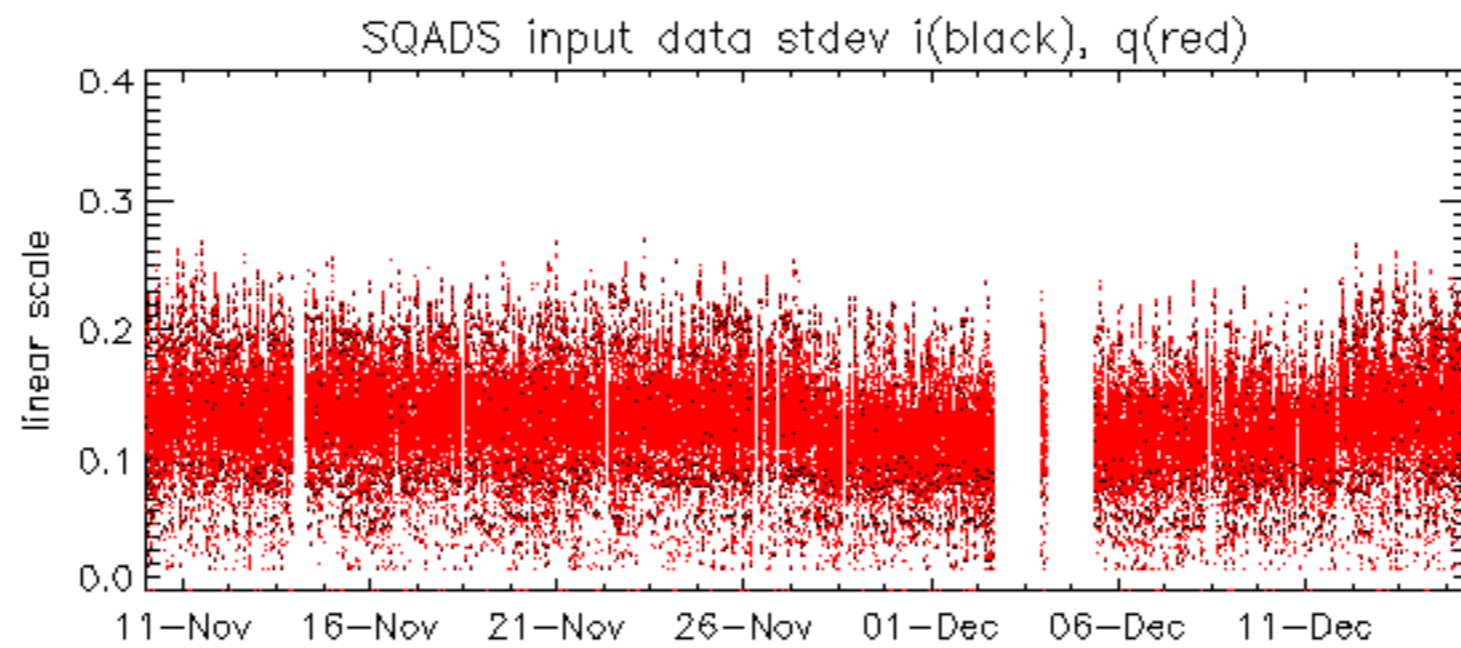


















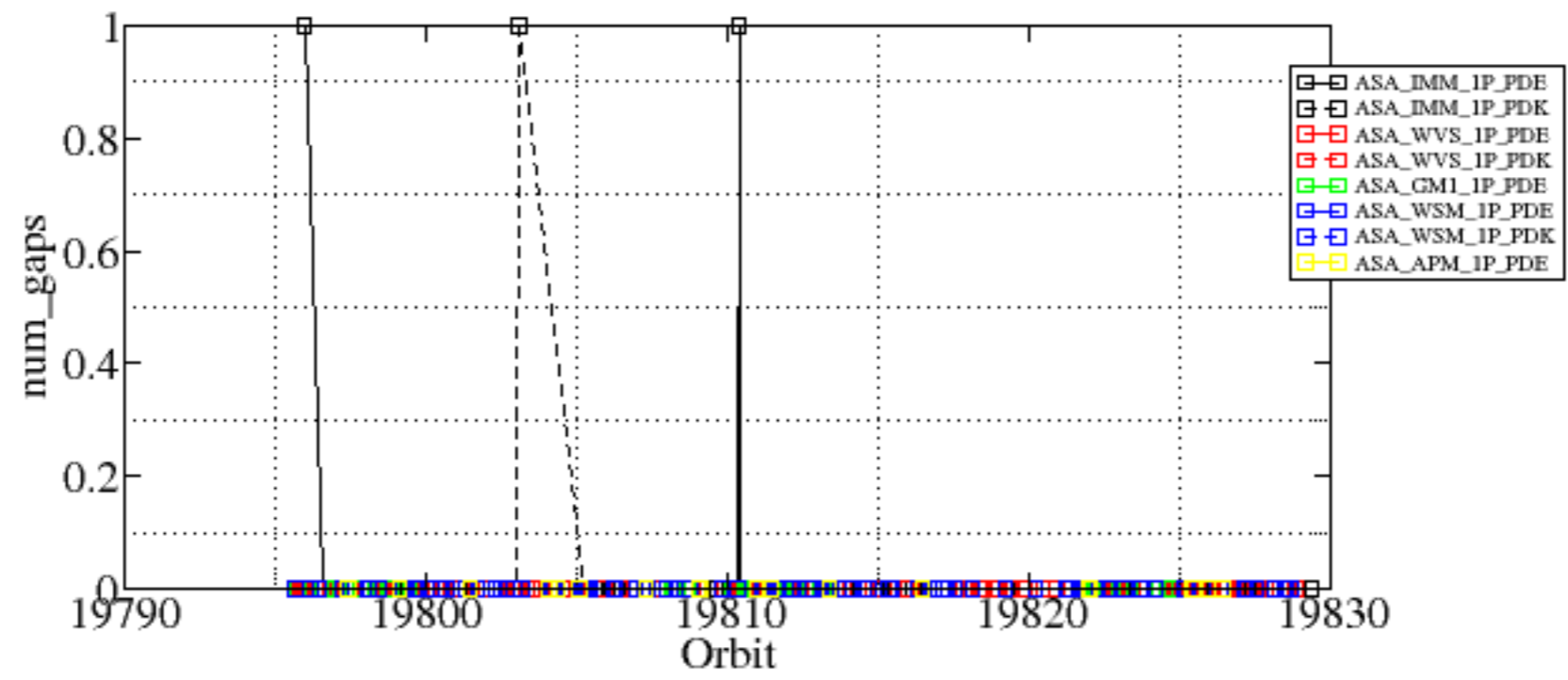




Summary of analysis for the last 3 days 2005121[345]

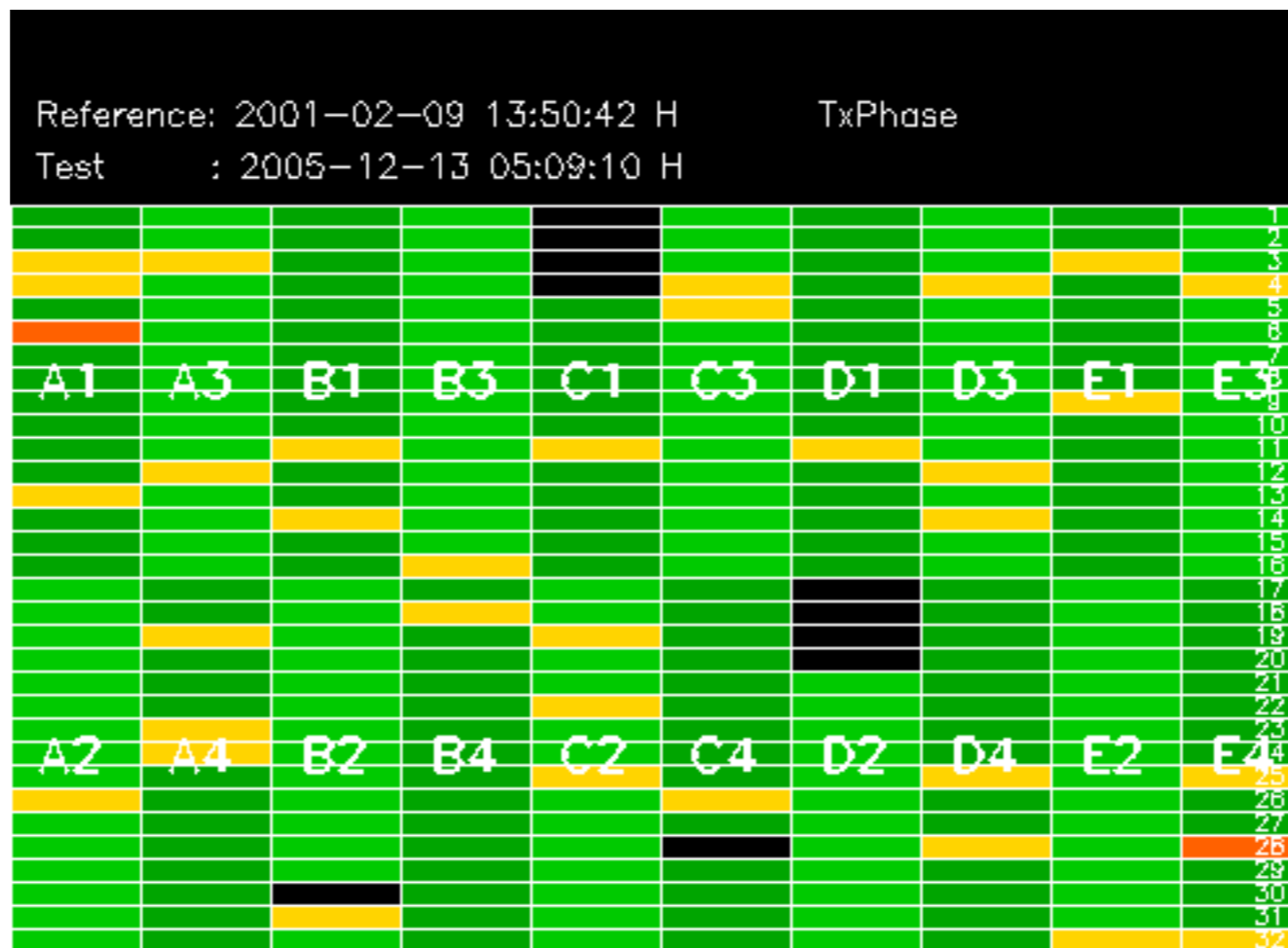
The assumptions is taken that the SQADS num\_gaps and num\_missing\_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20051213_003723_000001162043_00202_19795_3834.N1	1	0
ASA_IMM_1PNPDE20051214_004627_000001012043_00217_19810_3913.N1	1	0
ASA_IMM_1PNPDK20051213_123408_000000812043_00210_19803_9153.N1	1	0
ASA_WSM_1PNPDE20051213_012705_000001472043_00203_19796_4009.N1	0	65
ASA_WSM_1PNPDE20051213_112835_000001592043_00209_19802_4068.N1	0	15
ASA_WSM_1PNPDE20051213_204345_000000612043_00214_19807_4111.N1	0	1
ASA_WSM_1PNPDE20051214_110145_000000672043_00223_19816_4200.N1	0	3
ASA_APM_1PNPDE20051213_141144_000000712043_00211_19804_3369.N1	0	14
ASA_APM_1PNPDE20051213_223010_000000432043_00216_19809_3379.N1	0	21









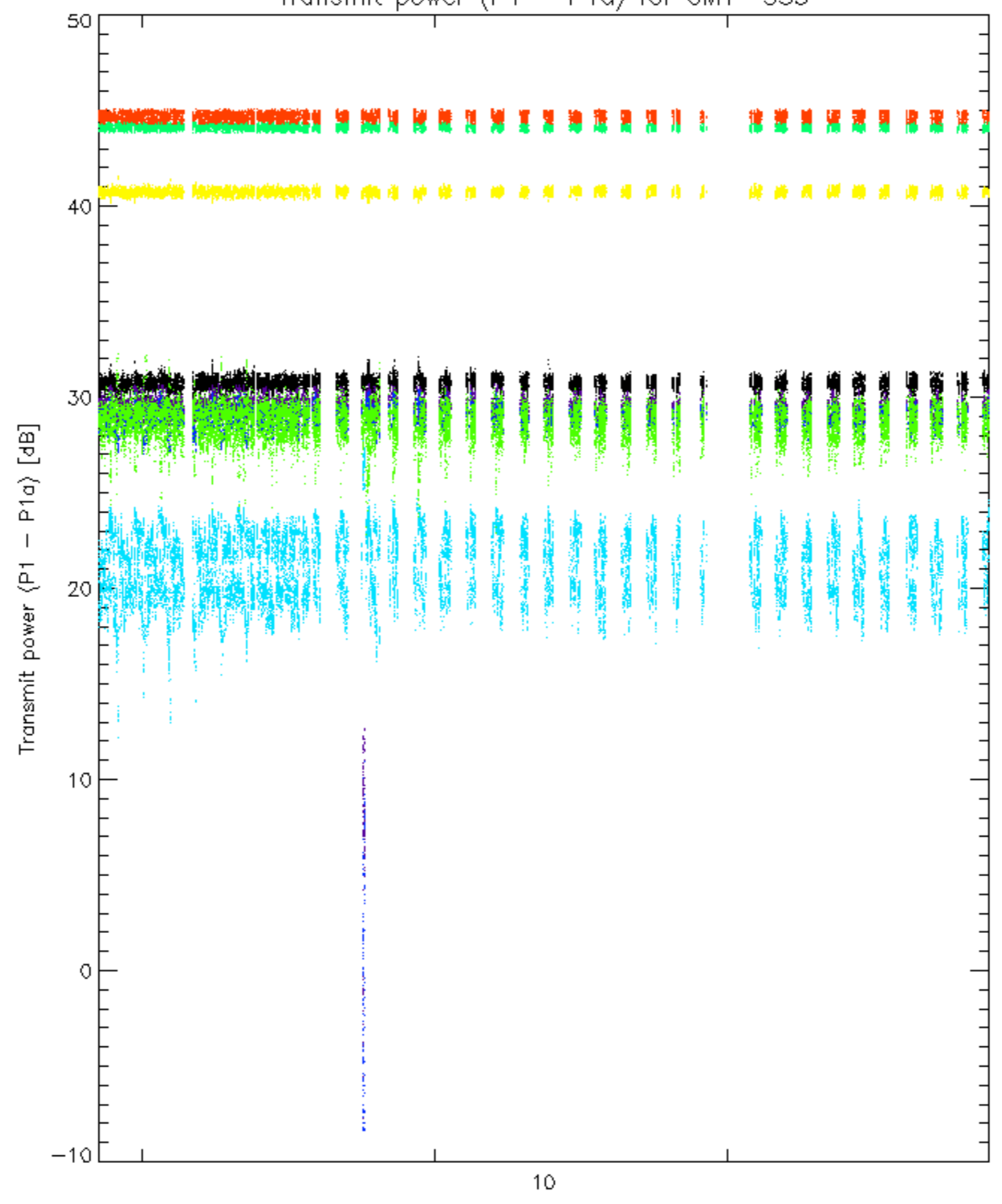




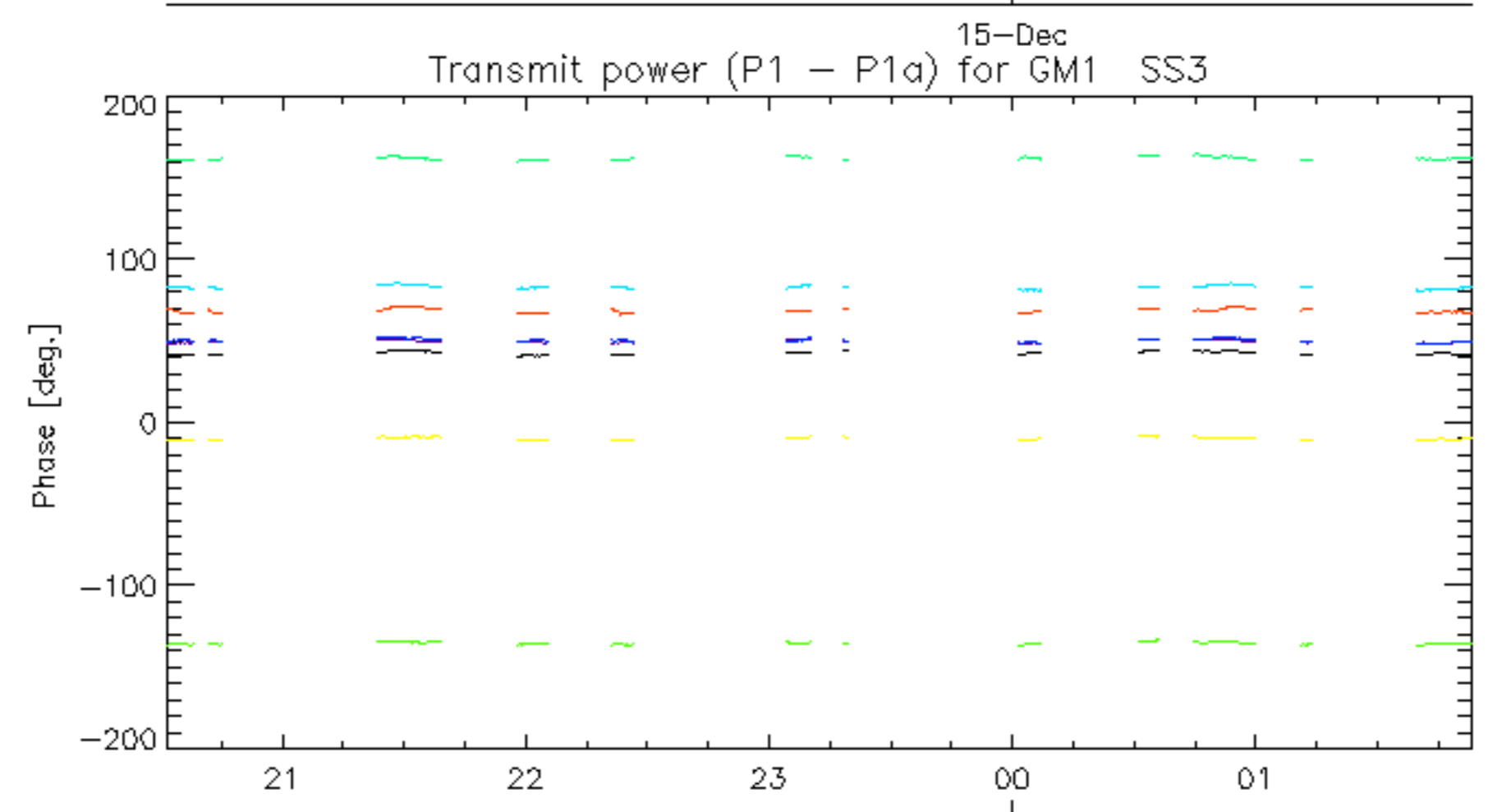
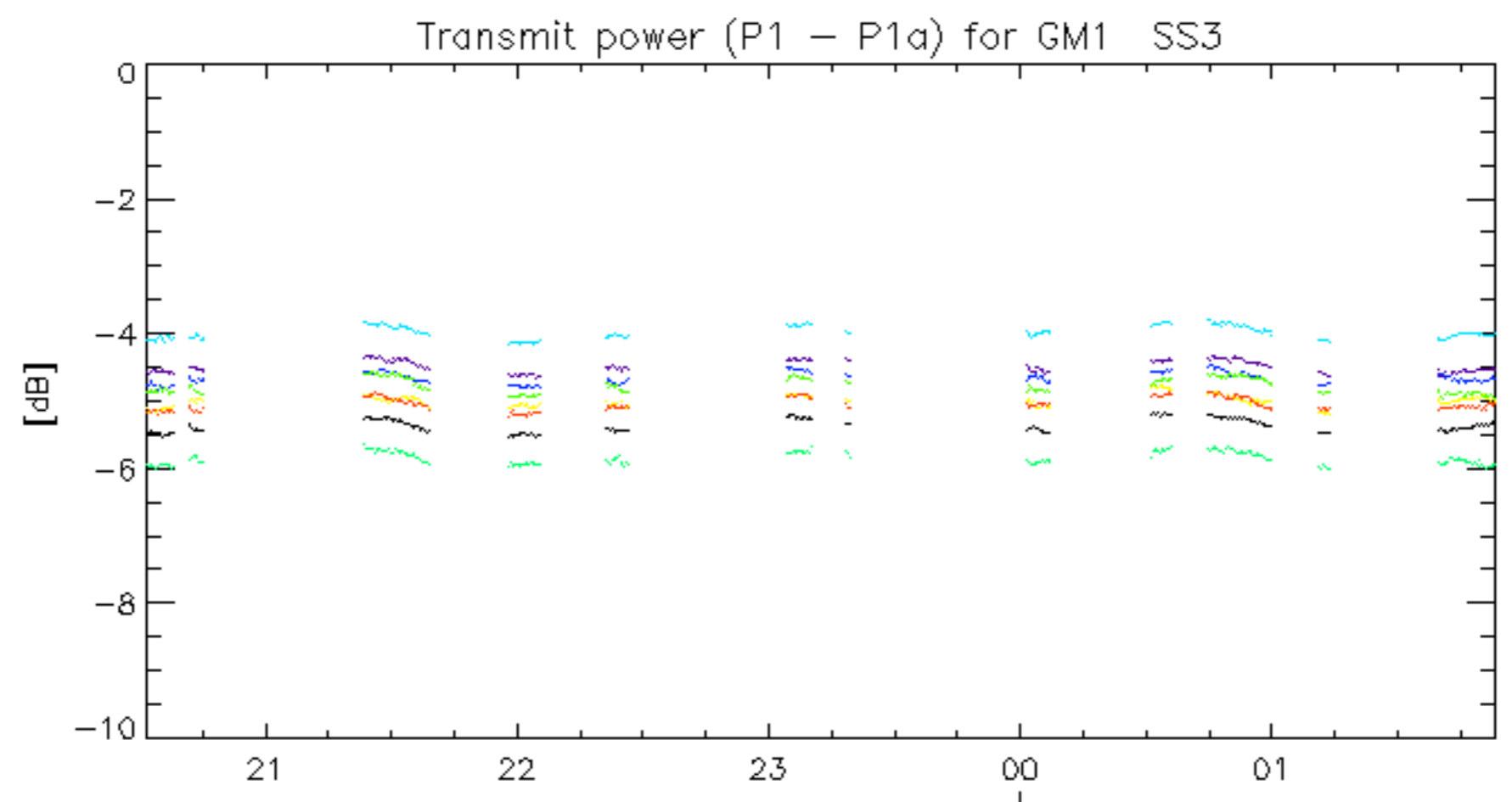




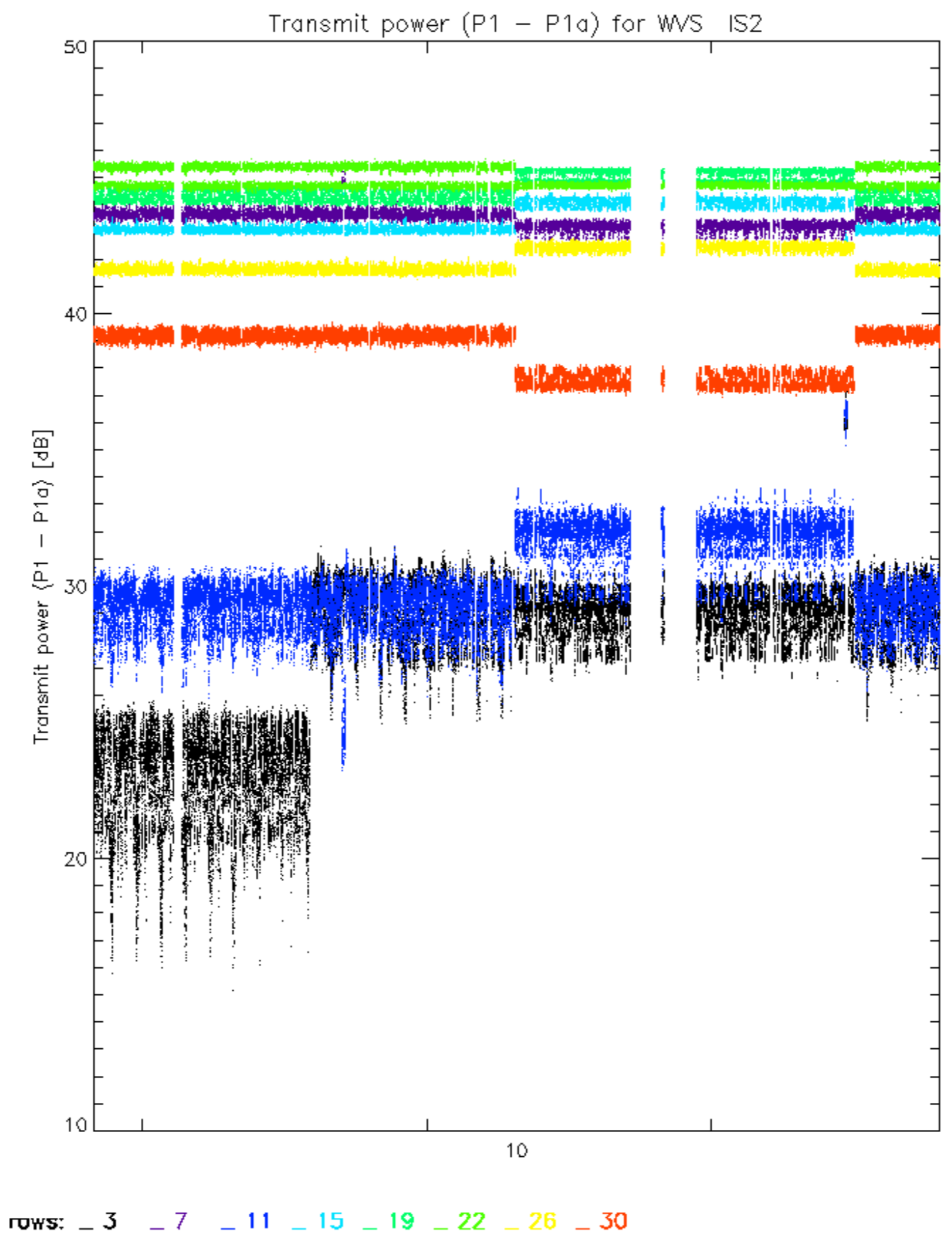
Transmit power (P1 - P1a) for GM1 SS3

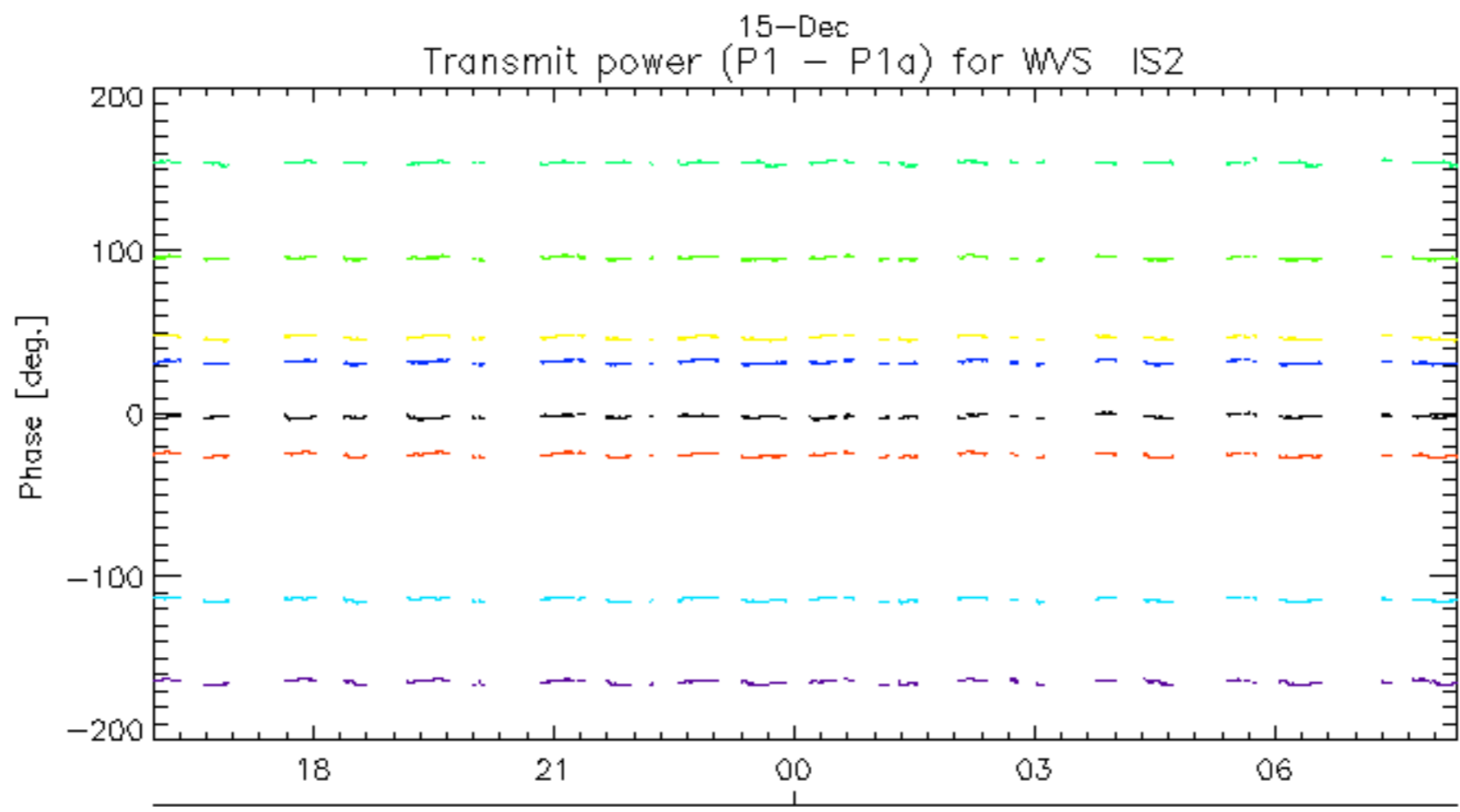
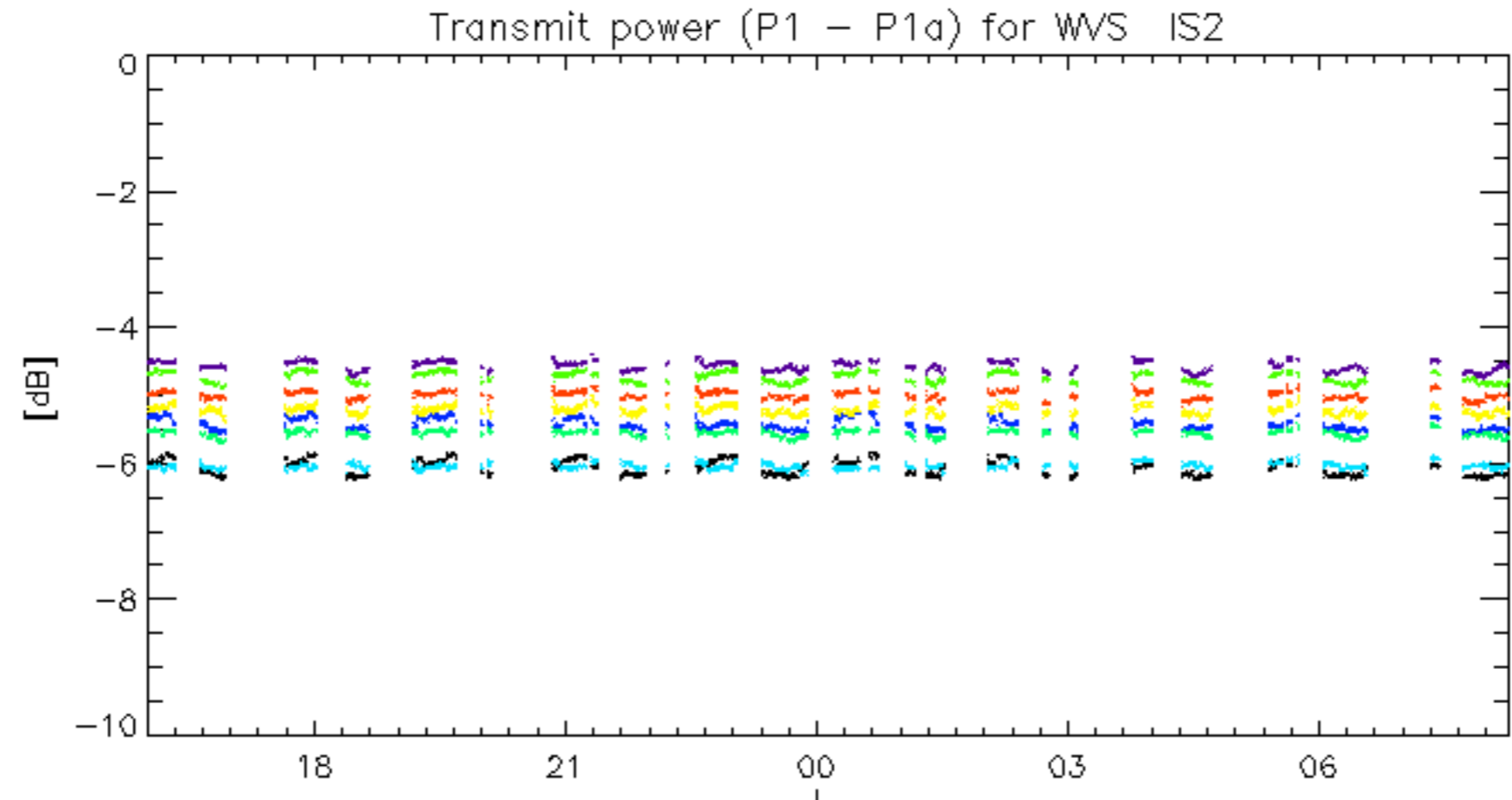


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



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





rows: 3 7 11 15 19 22 26 30



No unavailabilities during the reported period.