

# PRELIMINARY REPORT OF 061216

last update on Sat Dec 16 16:21:55 GMT 2006

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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 2006-12-15 00:00:00 to 2006-12-16 16:21:55

PDHS-K
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AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
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PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	9	22	15	4	9
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	9	22	15	4	9
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	9	22	15	4	9
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	9	22	15	4	9

## 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	20061212 042859
H	20061215 185036

### 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"/>

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## 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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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	-3.963924	0.008293	0.014611
7	P1	-3.151599	0.024442	0.003910
11	P1	-4.128046	0.025853	0.011161
15	P1	-6.316885	0.016041	-0.050317
19	P1	-3.637892	0.006277	-0.069916
22	P1	-4.654326	0.013478	-0.012739
26	P1	-3.953036	0.010279	-0.025134
30	P1	-5.884782	0.009626	-0.028296
3	P1	-16.541384	0.246413	0.025486
7	P1	-17.294838	0.182580	-0.082138
11	P1	-17.198271	0.469785	0.024288
15	P1	-13.064581	0.140970	0.015903
19	P1	-14.966365	0.092940	-0.121244
22	P1	-15.829685	0.553071	-0.064848
26	P1	-15.058687	0.196365	-0.146805
30	P1	-17.505205	0.477465	-0.158389

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.819828	0.095563	0.055302
7	P2	-21.732924	0.097864	-0.000536
11	P2	-15.615030	0.106873	0.153461
15	P2	-7.119767	0.111217	0.004465
19	P2	-9.190497	0.109677	-0.023325
22	P2	-18.237406	0.102354	-0.004370
26	P2	-16.574707	0.117504	-0.074758
30	P2	-19.465748	0.092425	0.037834

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.245864	0.009079	0.007967
7	P3	-8.245864	0.009079	0.007967
11	P3	-8.245864	0.009079	0.007967

15	P3	-8.245864	0.009079	0.007967
19	P3	-8.245864	0.009079	0.007967
22	P3	-8.245864	0.009079	0.007967
26	P3	-8.245911	0.009082	0.008212
30	P3	-8.245911	0.009082	0.008212

#### 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	-3.915195	0.018126	-0.033757
7	P1	-2.486759	0.036660	0.038861
11	P1	-2.853971	0.019413	-0.019397
15	P1	-3.685456	0.033480	-0.017809
19	P1	-3.537683	0.018086	-0.047978
22	P1	-5.028286	0.023733	-0.018840
26	P1	-6.019736	0.028776	-0.048945
30	P1	-5.338304	0.040378	-0.041125
3	P1	-11.740651	0.089067	-0.053402
7	P1	-10.058836	0.112866	-0.060541
11	P1	-10.334179	0.141903	-0.061849
15	P1	-10.715593	0.126684	0.036042
19	P1	-15.719039	0.118643	-0.049257
22	P1	-21.576115	1.426633	-0.146156
26	P1	-16.066231	0.338033	-0.020312
30	P1	-17.881493	0.372031	0.029518

#### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.466904	0.128520	-0.020774
7	P2	-22.231726	0.279908	-0.004849
11	P2	-10.913047	0.152475	0.137251
15	P2	-4.984970	0.263072	-0.034830
19	P2	-6.959680	0.240259	-0.033562
22	P2	-8.255650	0.149068	0.003882
26	P2	-24.322506	0.204535	0.024974
30	P2	-21.949308	0.173569	-0.021947

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.093069	0.004561	0.013150
7	P3	-8.093103	0.004548	0.013527
11	P3	-8.093113	0.004556	0.013364
15	P3	-8.092981	0.004551	0.013348
19	P3	-8.093045	0.004558	0.013749
22	P3	-8.093060	0.004550	0.013509
26	P3	-8.092991	0.004560	0.013114
30	P3	-8.092921	0.004541	0.012862

## 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	0.000555701
	stdev	1.72318e-07
MEAN Q	mean	0.000514019
	stdev	2.16654e-07



## 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.138530
	stdev	0.00117170
STDEV Q	mean	0.138915
	stdev	0.00119108



## 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006121[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
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## 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)

⊗
Ascending
⊗
Descending



## 7.5 - Absolute Doppler for GM1

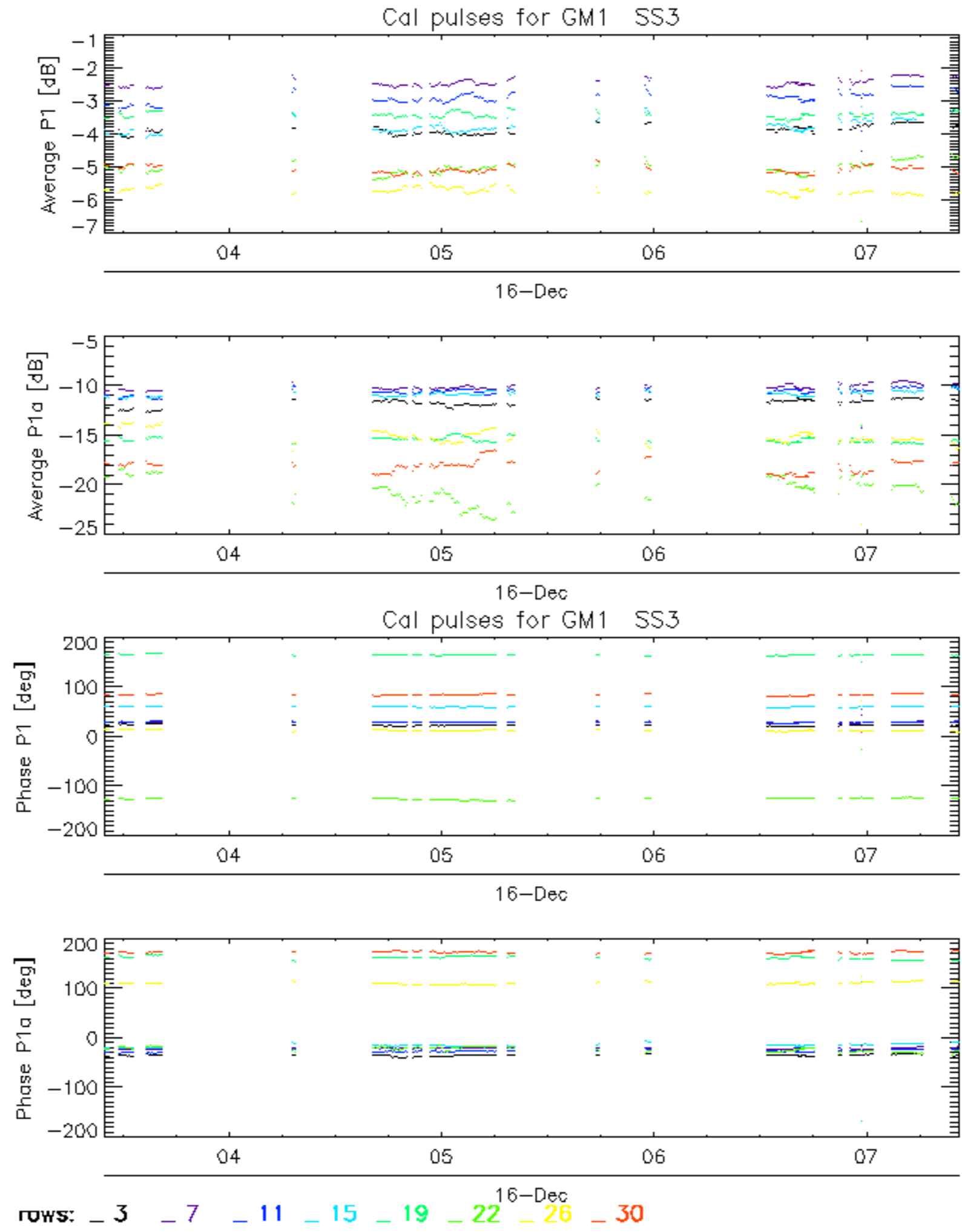
Evolution of Absolute Doppler

Ascending

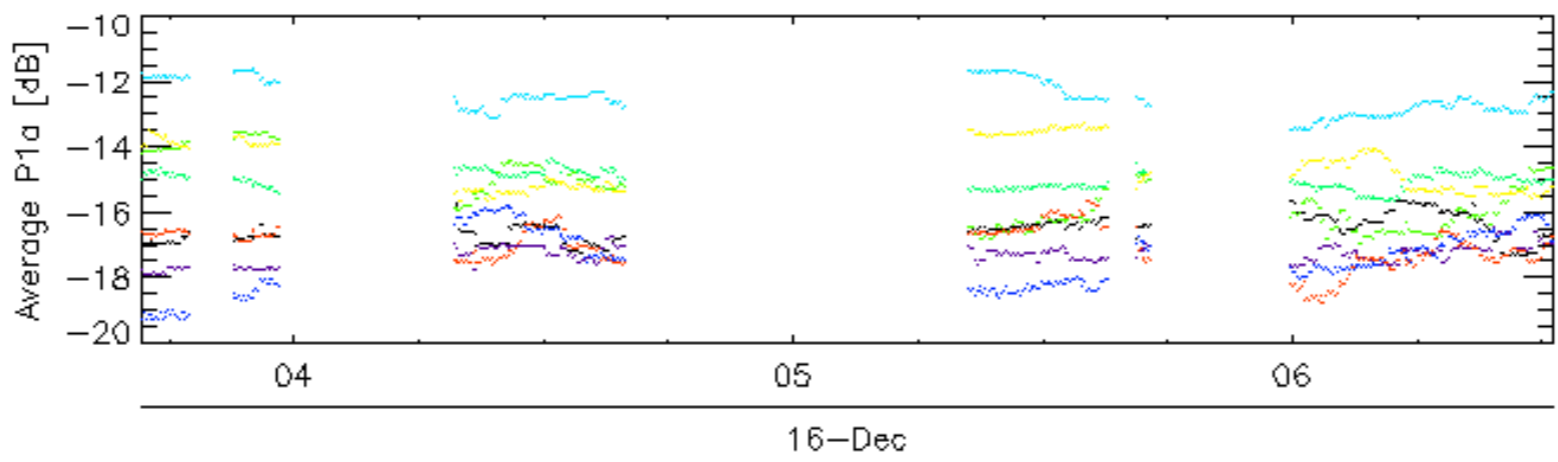
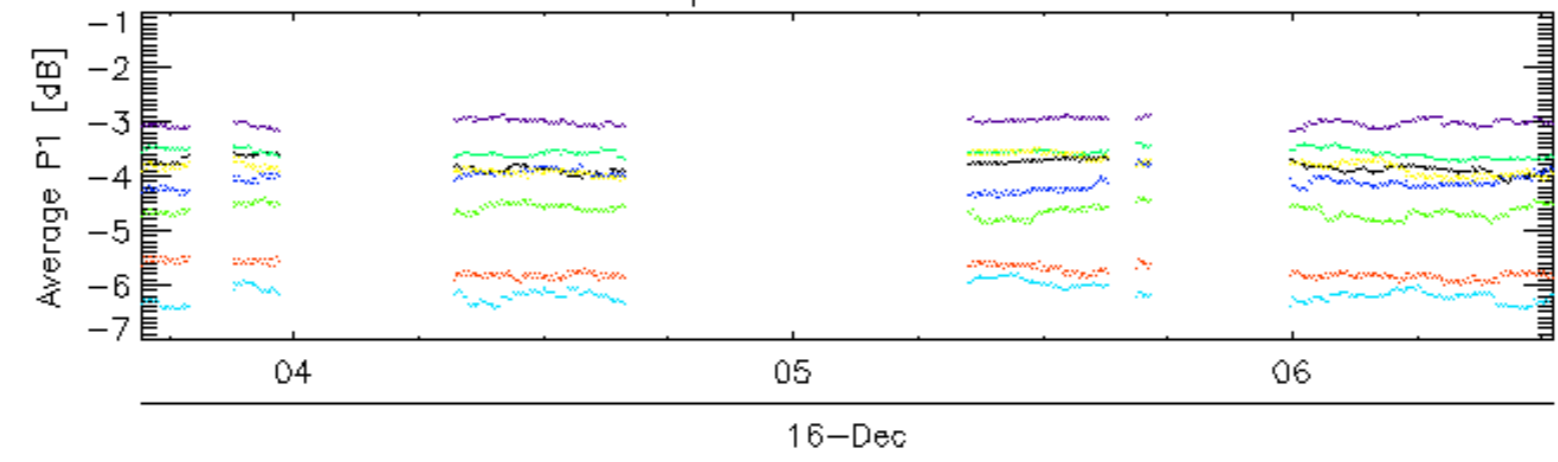
Descending

## 7.6 - Doppler evolution versus ANX for GM1

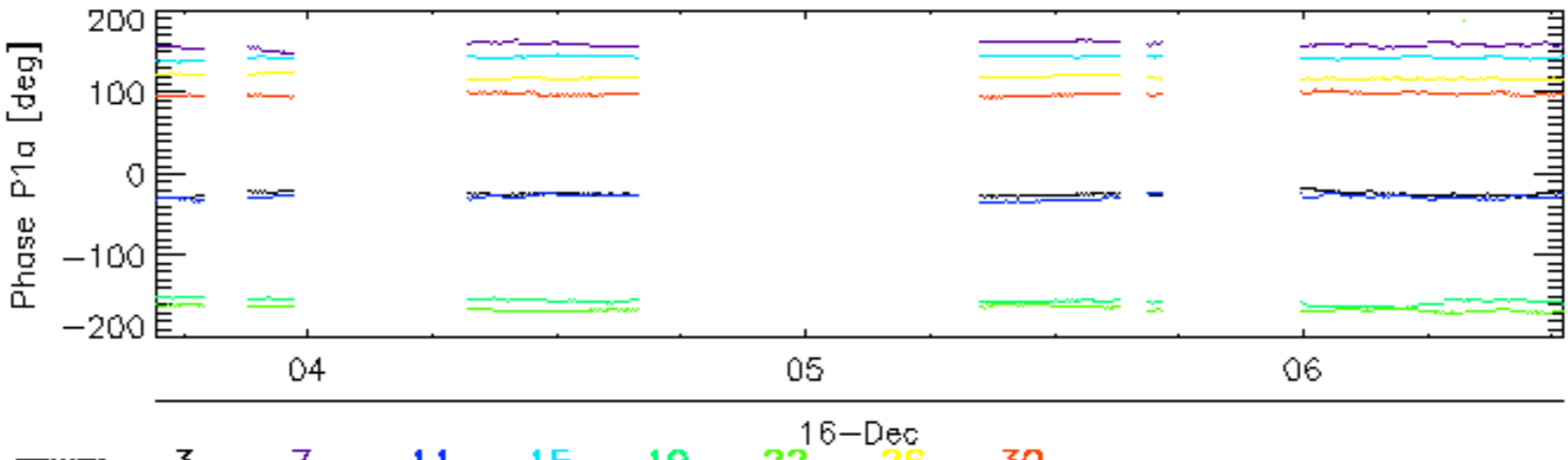
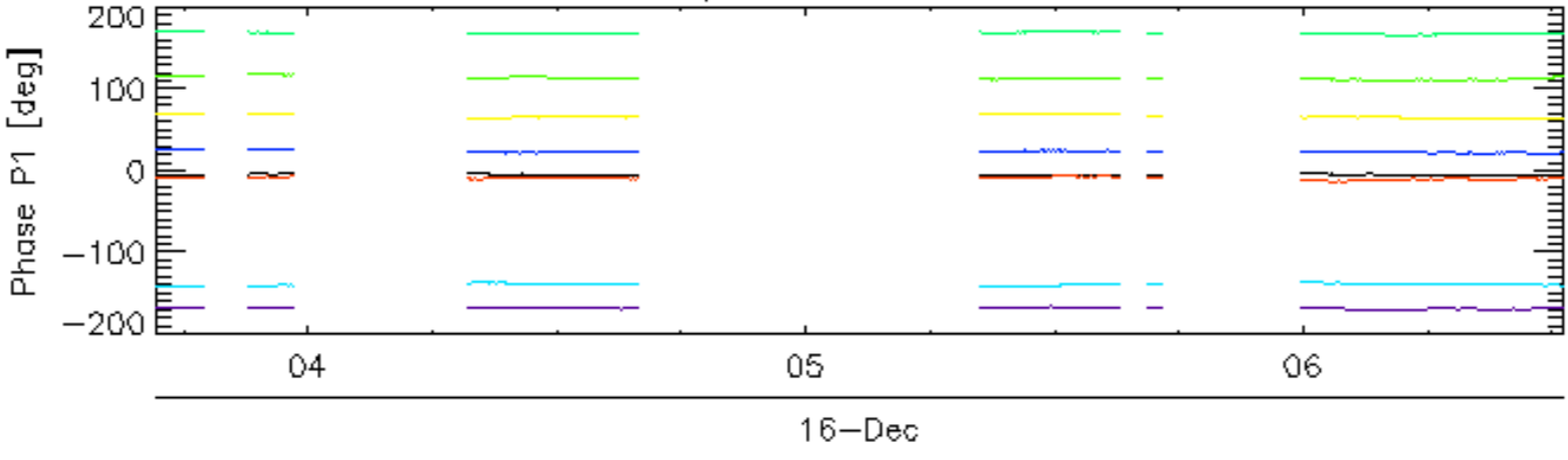
Evolution Doppler error versus ANX



Cal pulses for WVS IS2

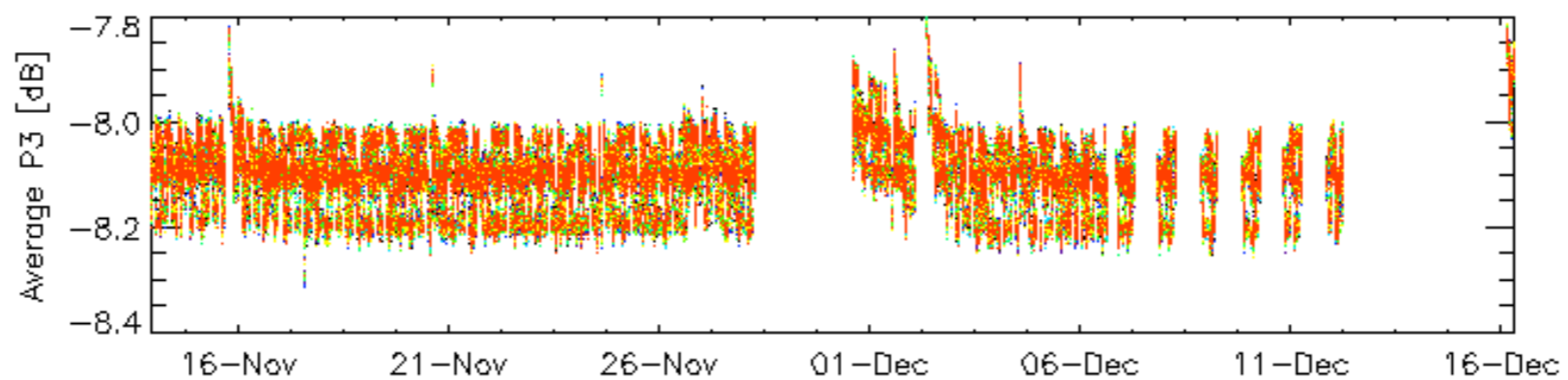
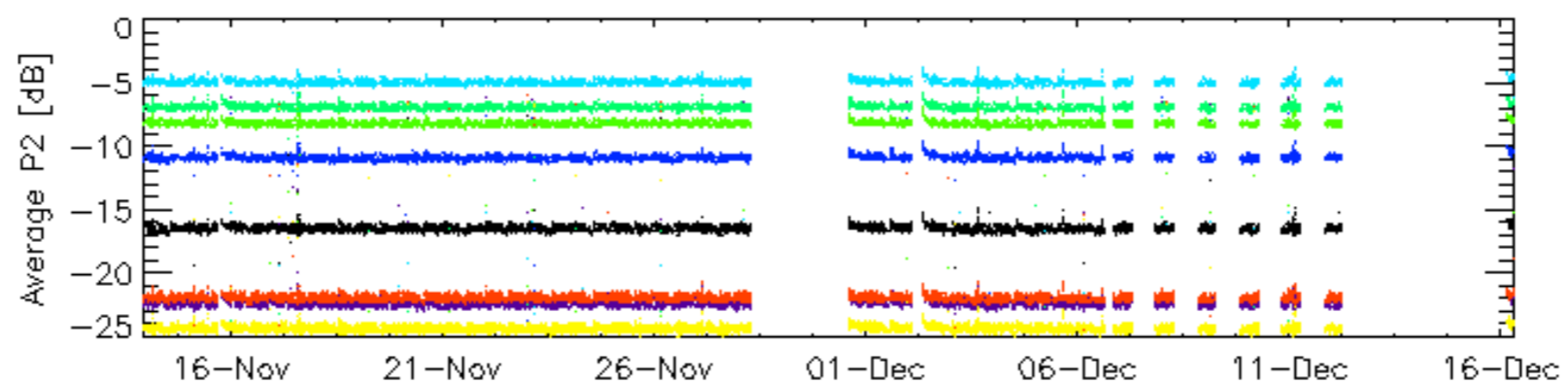
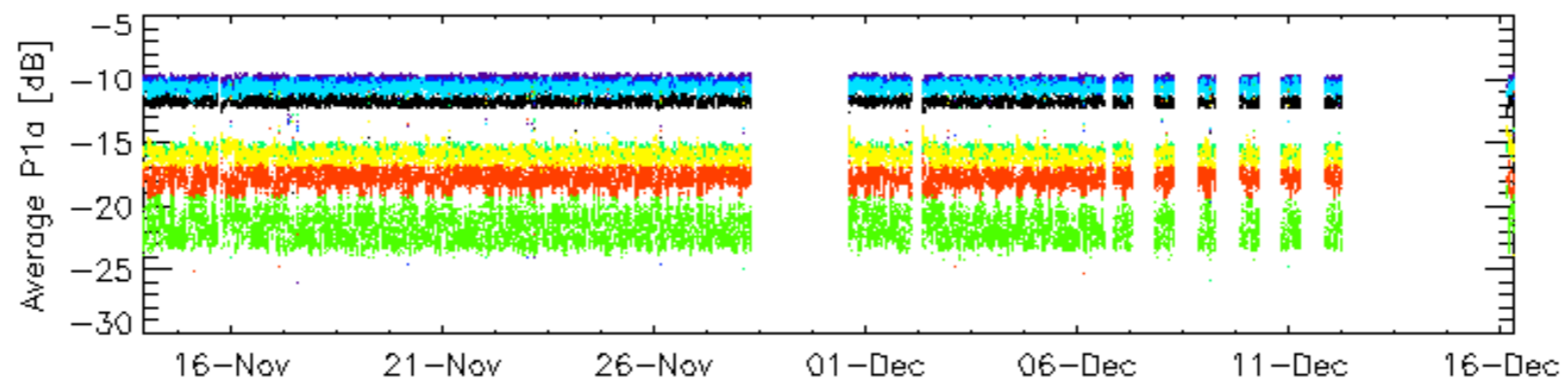
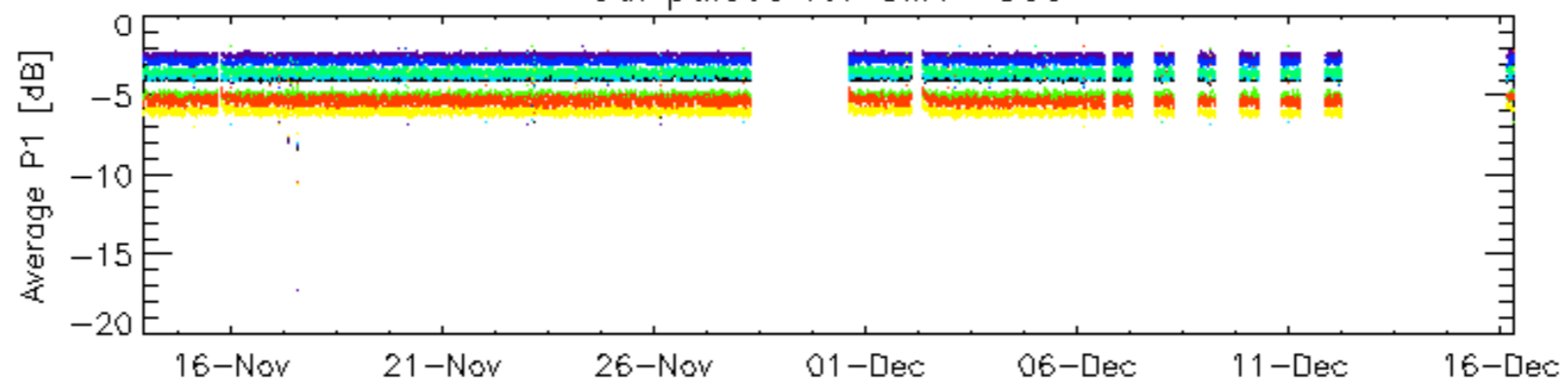


Cal pulses for WVS IS2



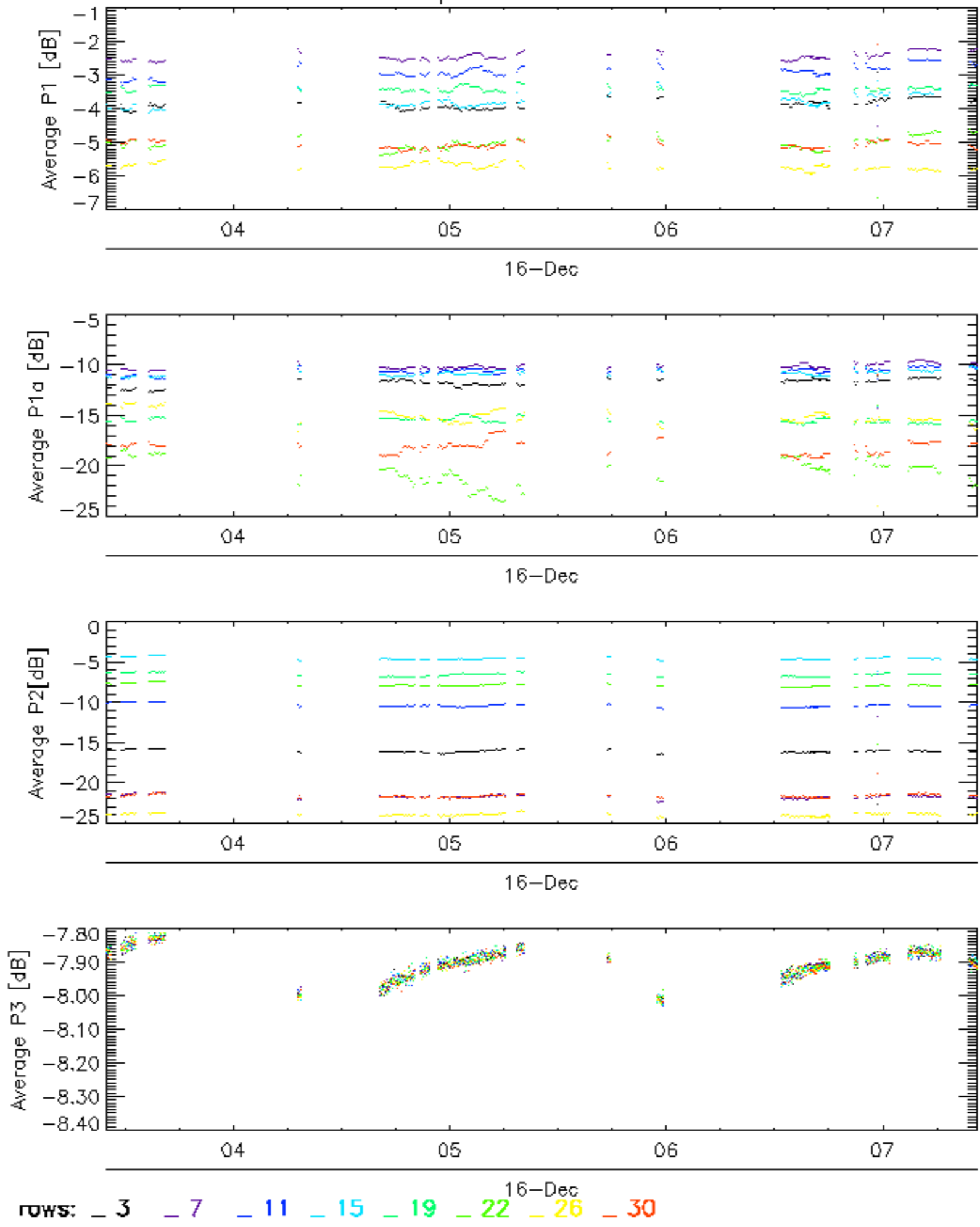
rows: 3 7 11 15 19 22 26 30

Cal pulses for GM1 SS3

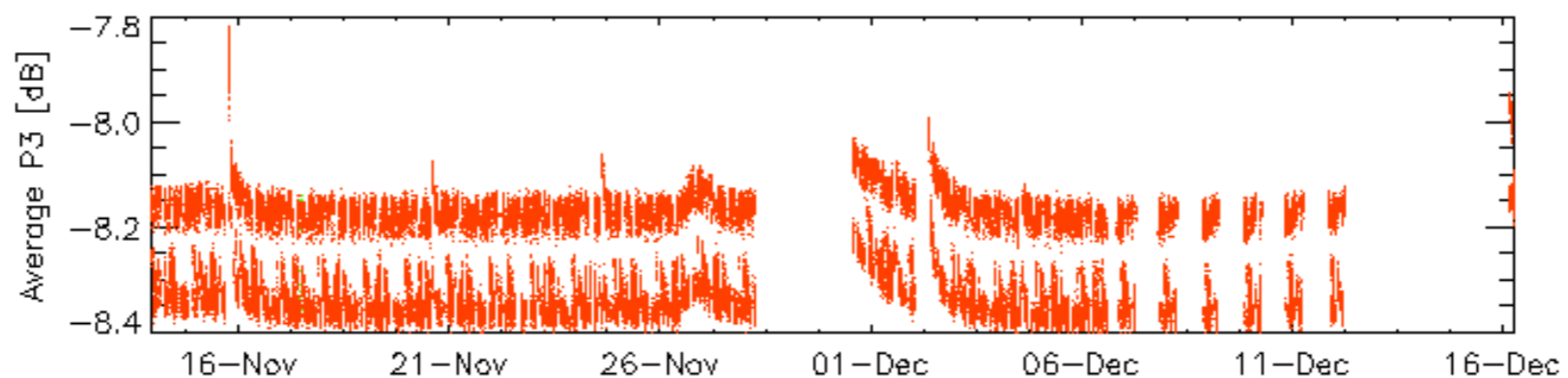
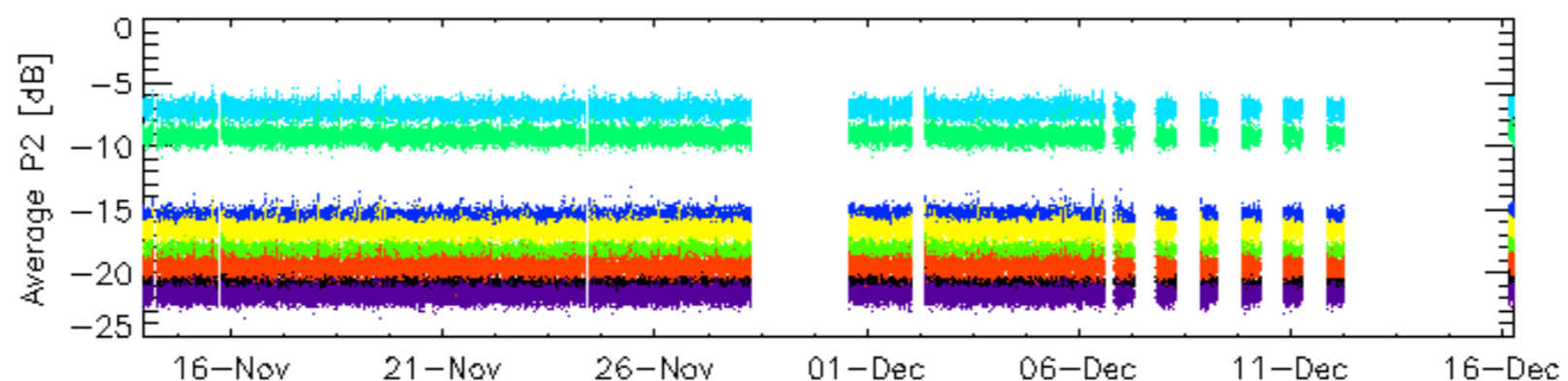
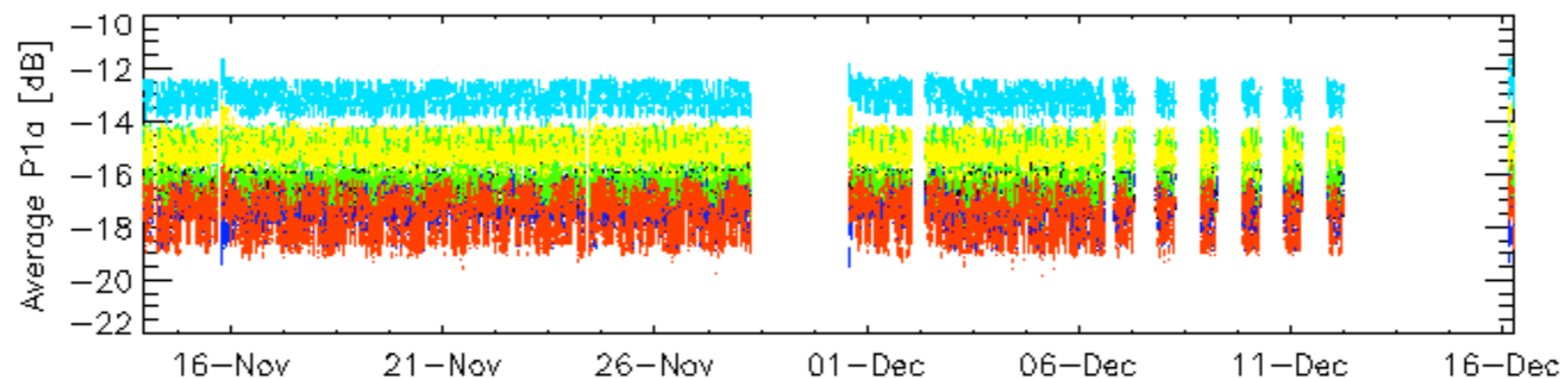
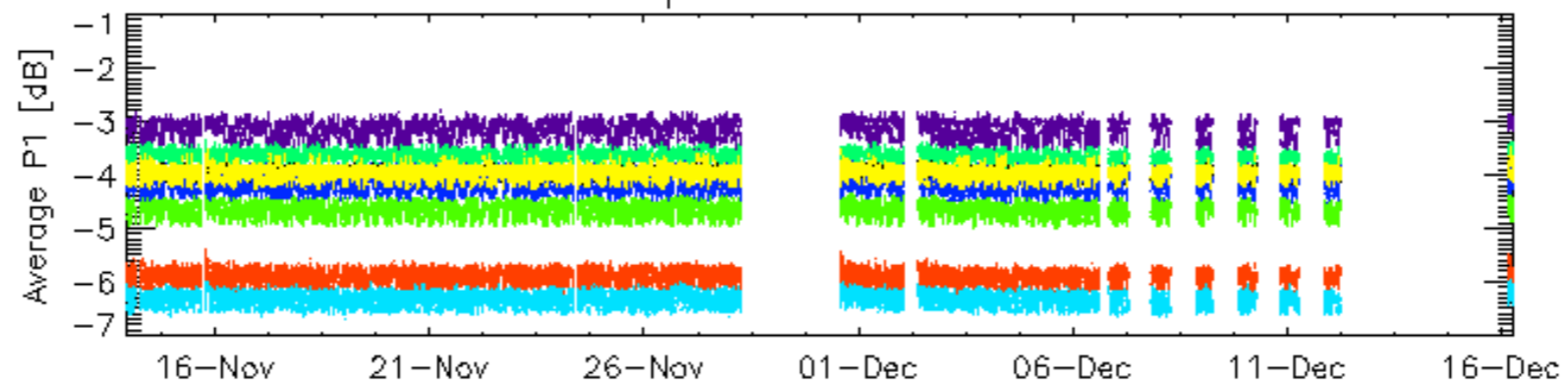


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

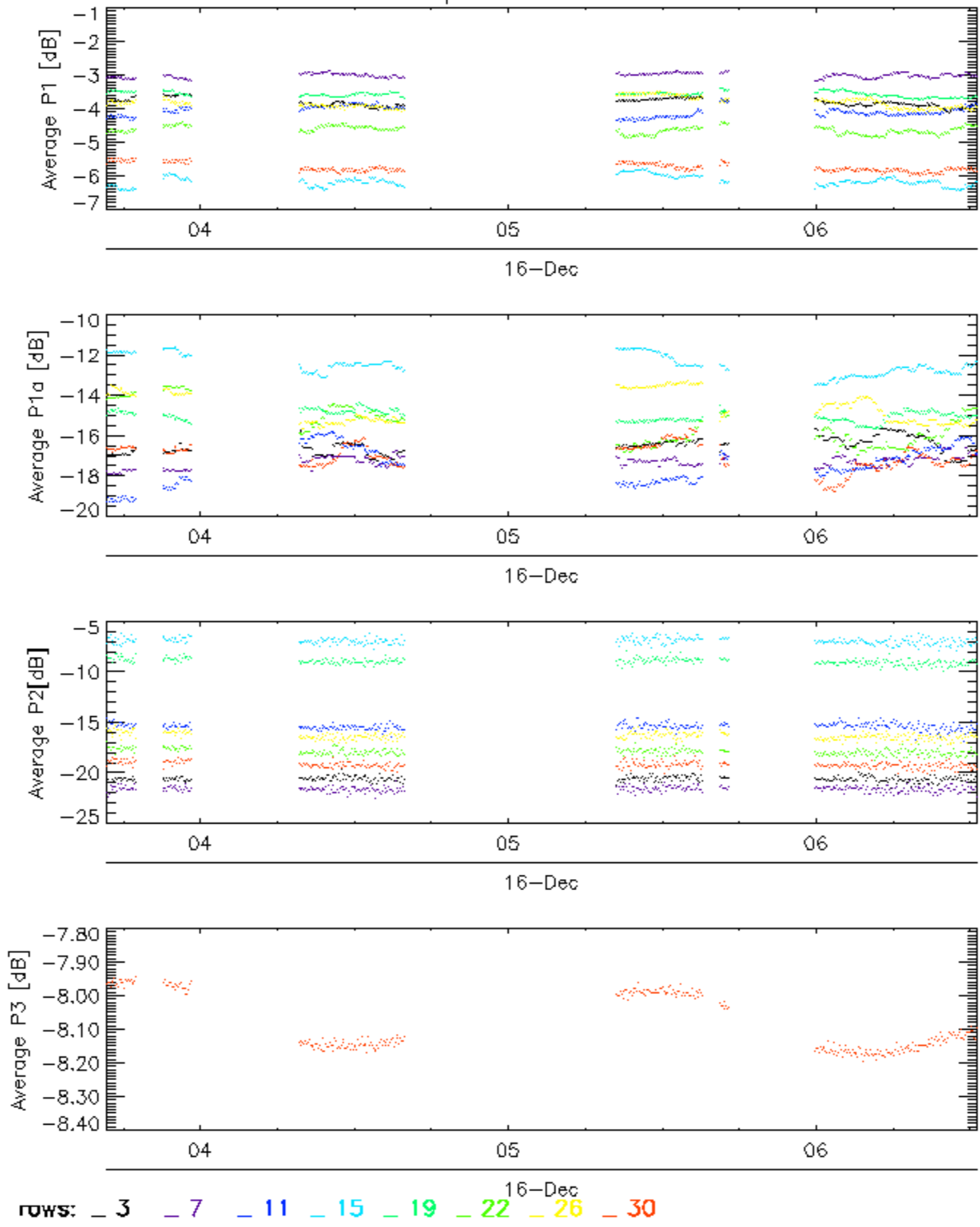


Cal pulses for WVS IS2



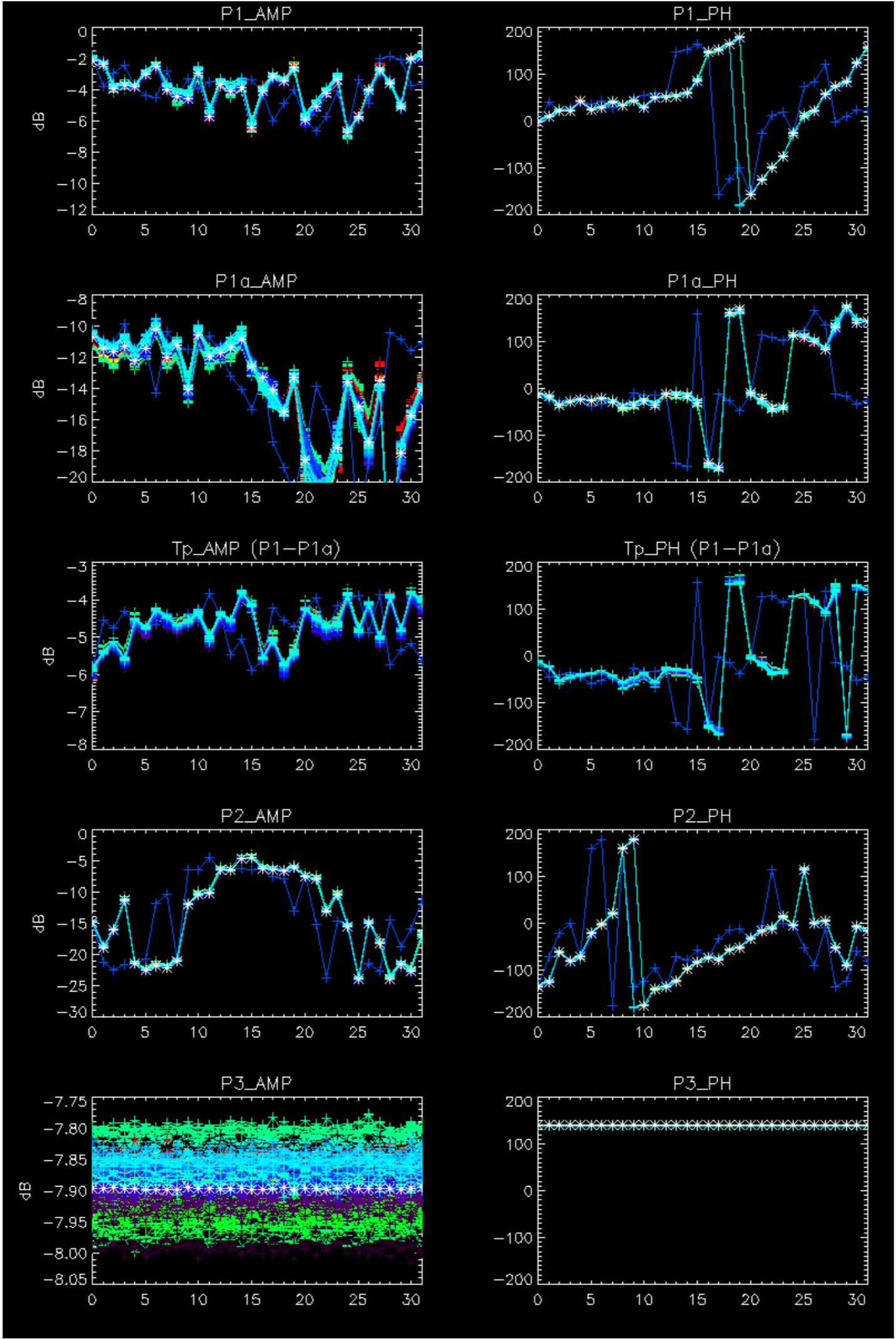
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

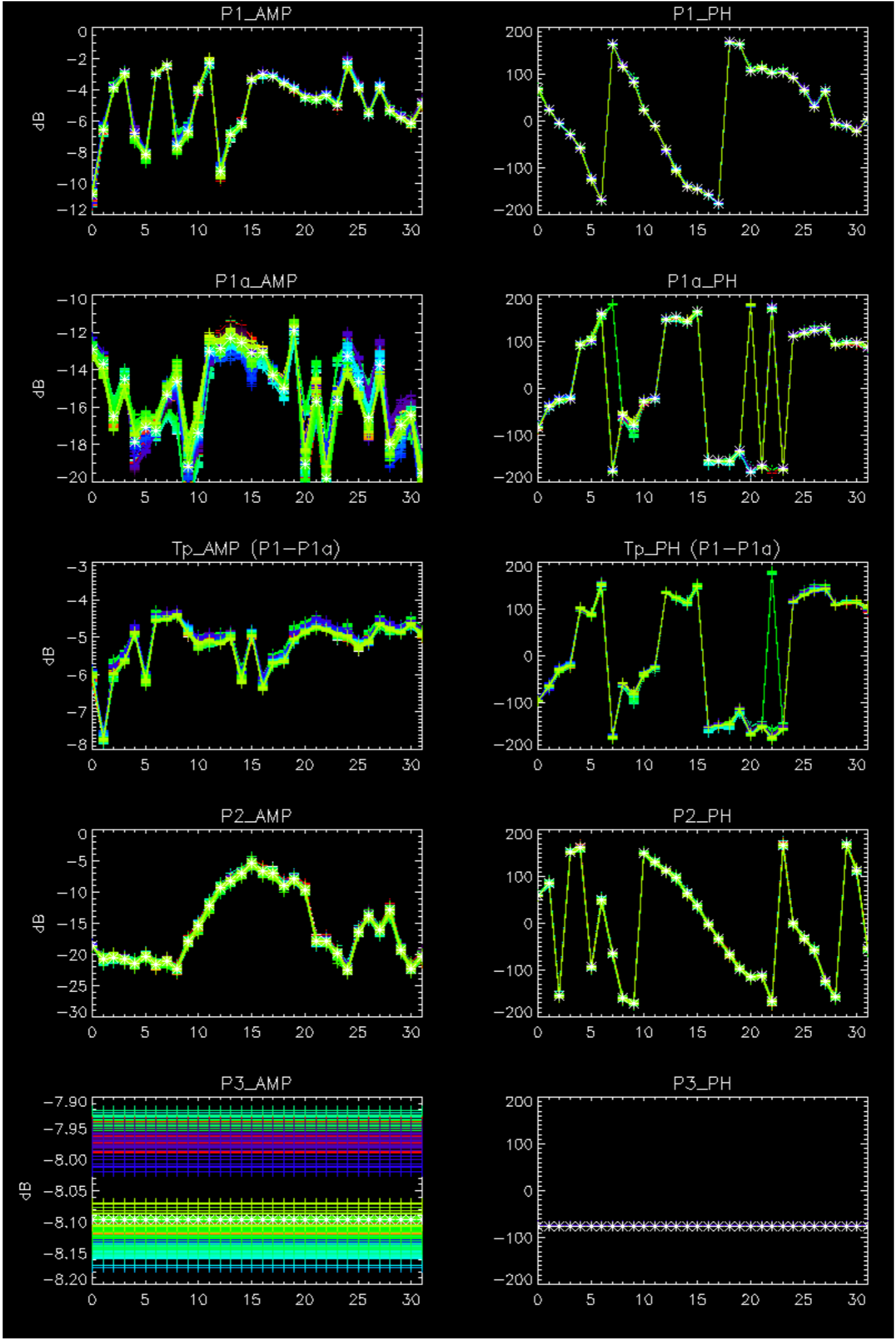
Cal pulses for WVS IS2



No anomalies observed.



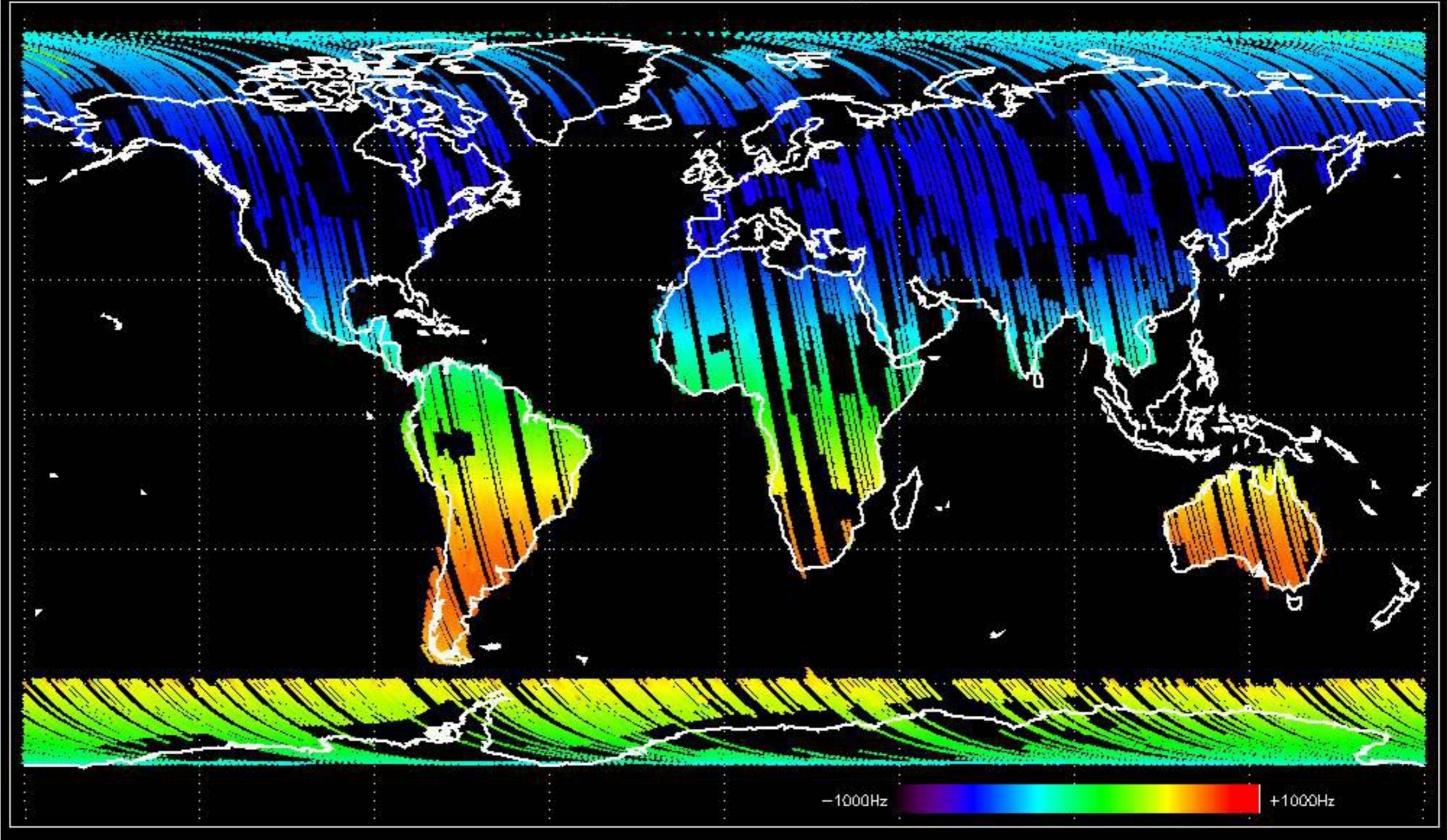




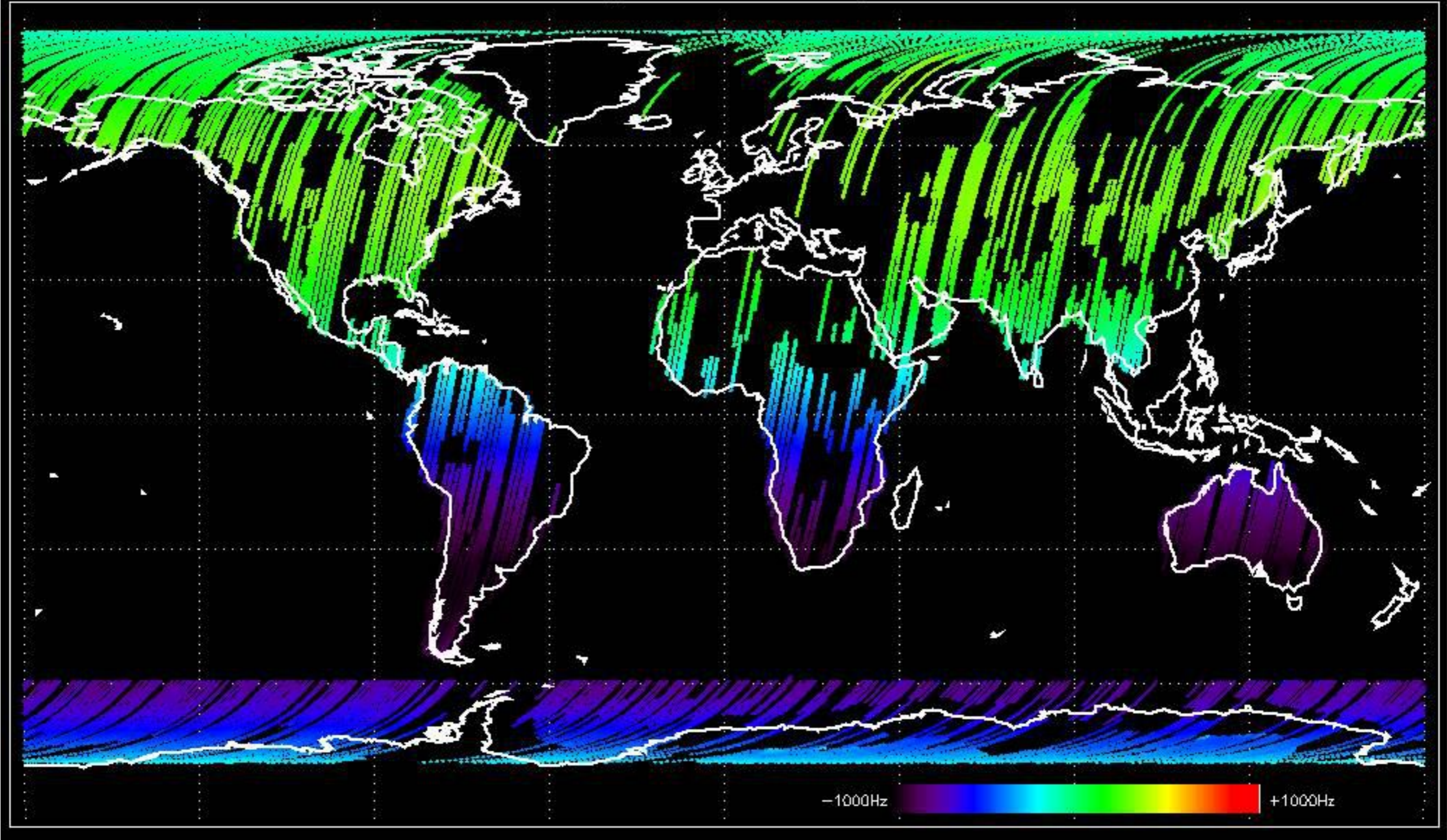
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



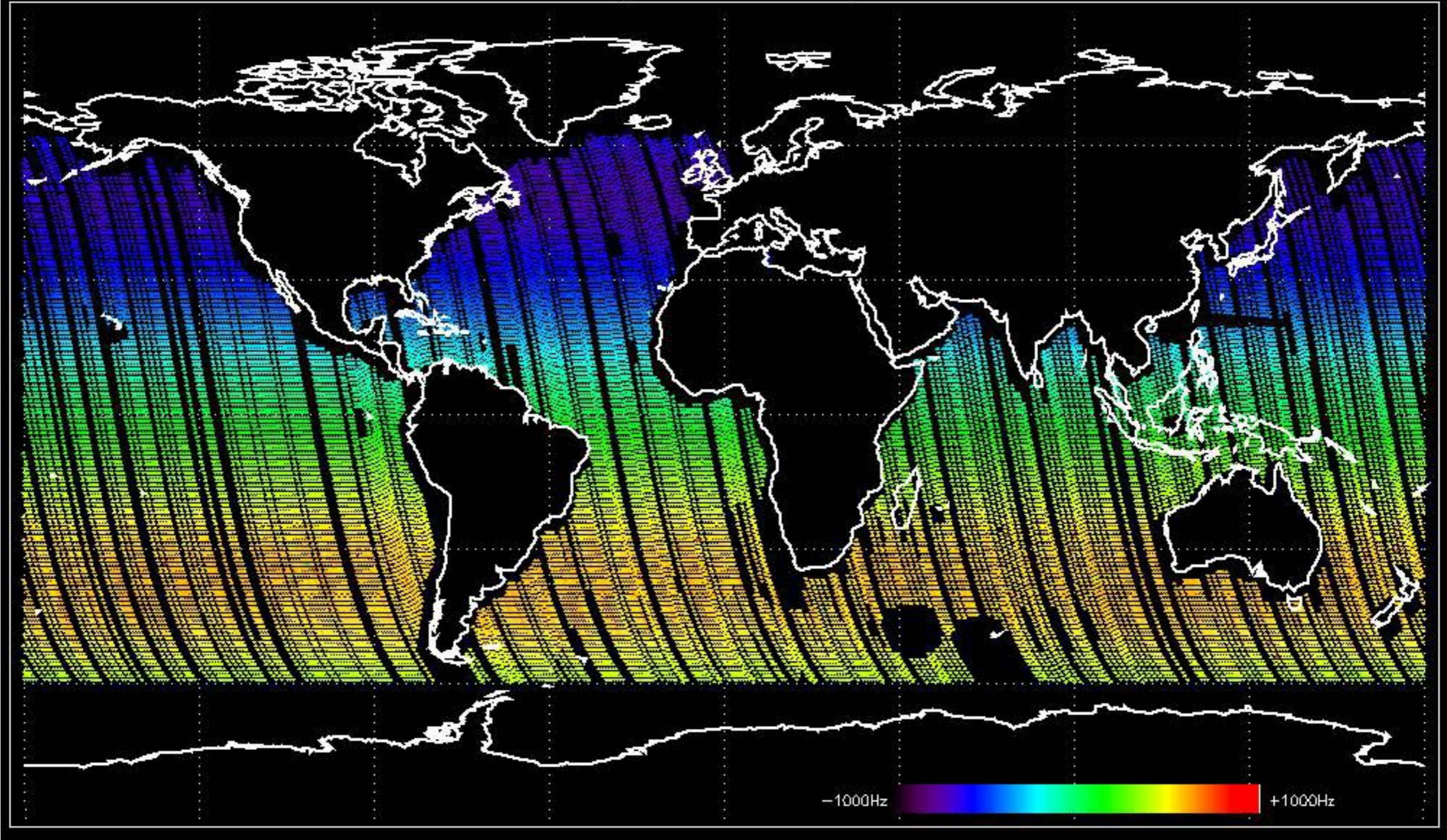
Doppler 'GM1' 'SS1' ascending



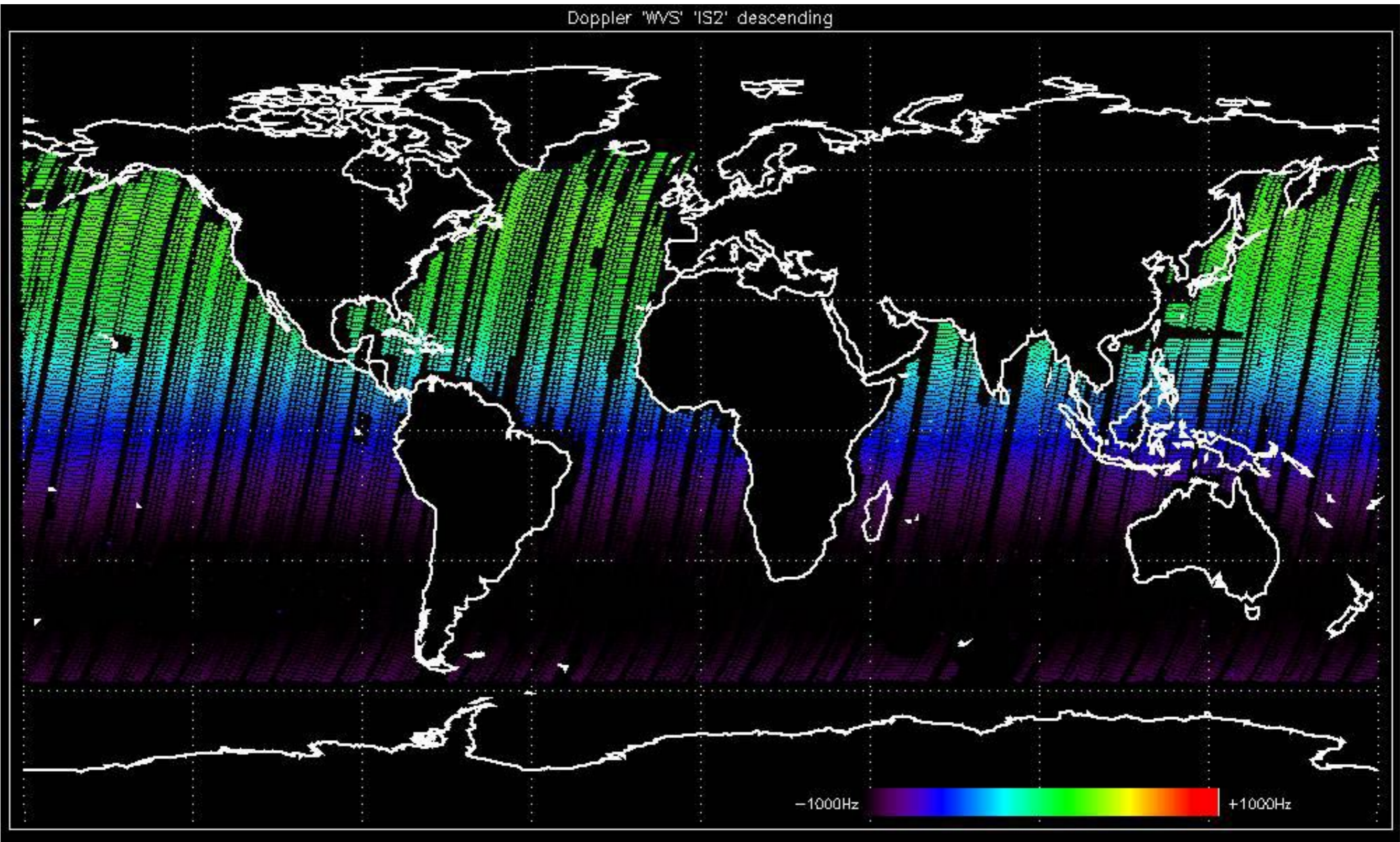
Doppler 'GM1' 'SS1' descending



Doppler 'WVS' 'IS2' ascending

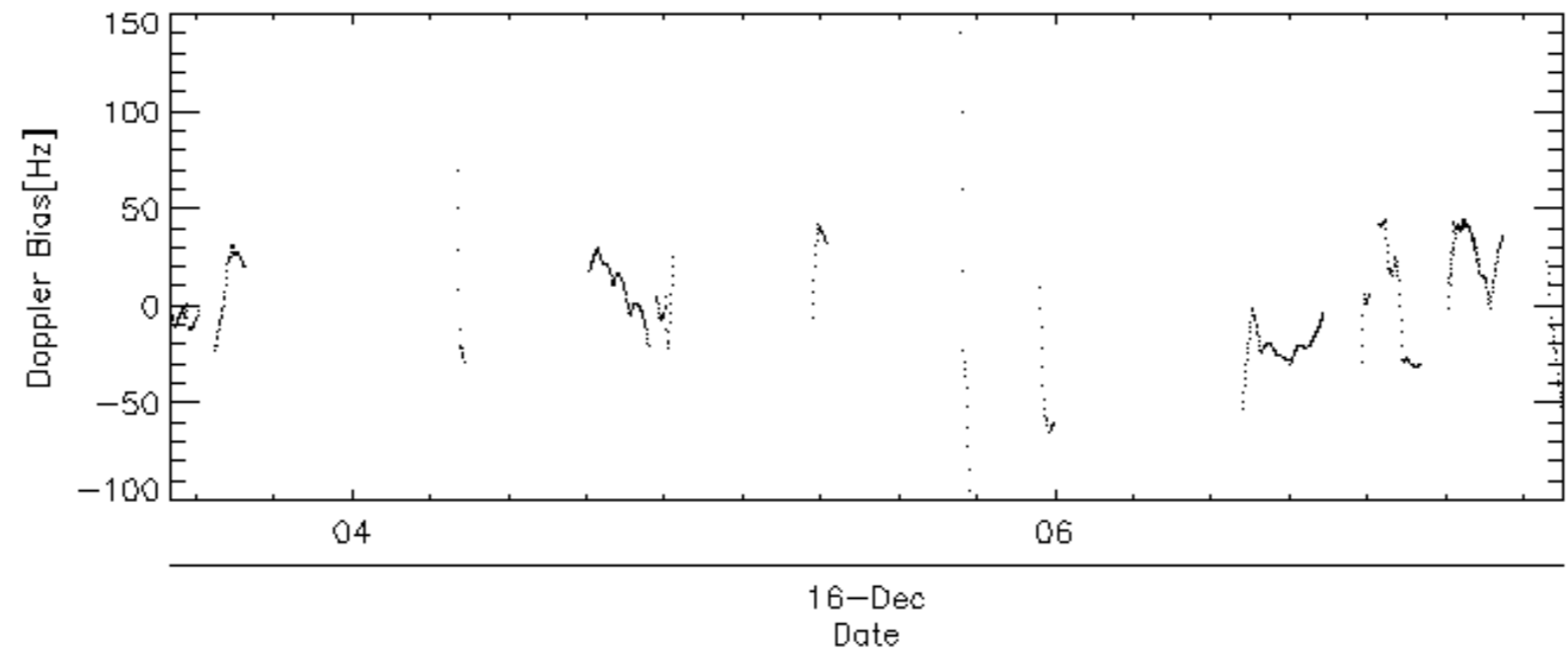
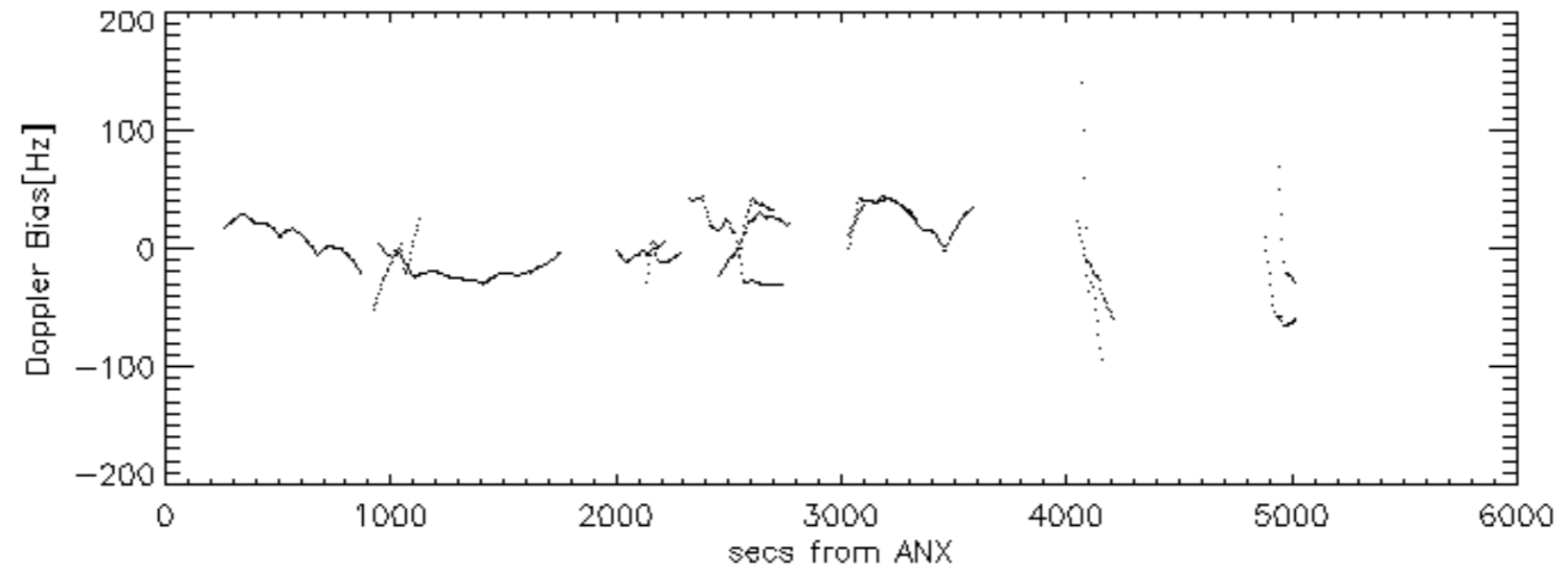
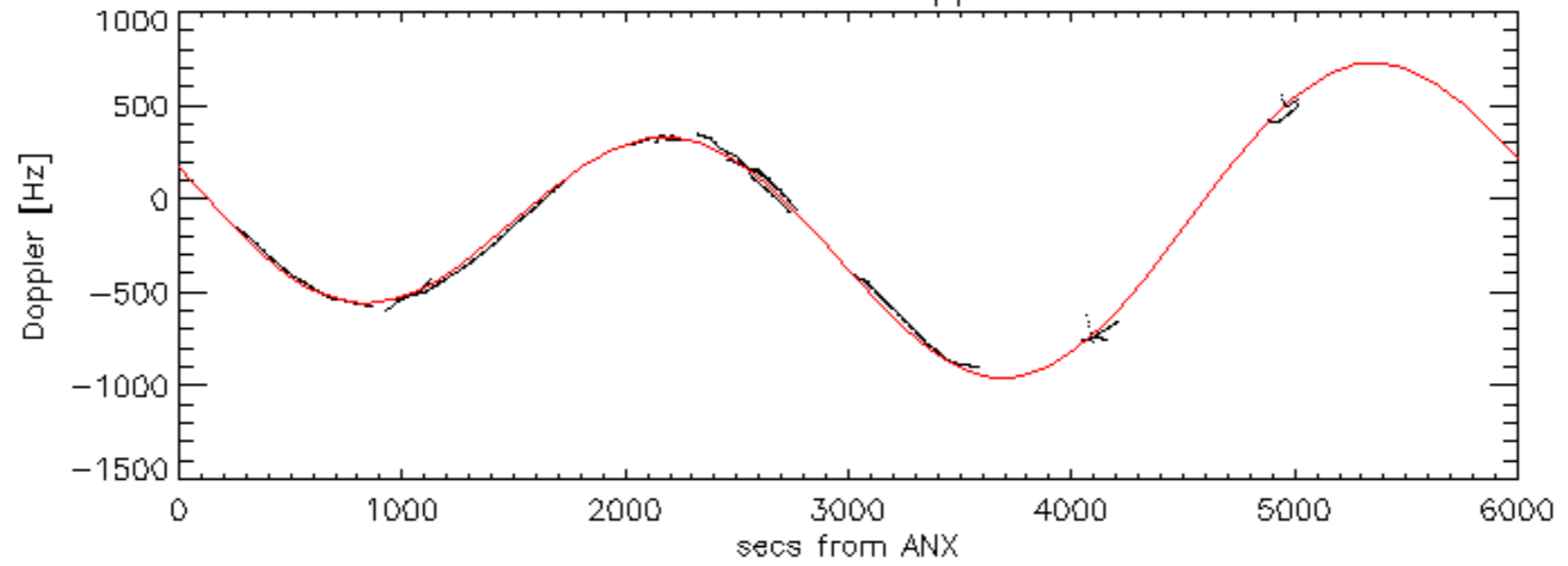


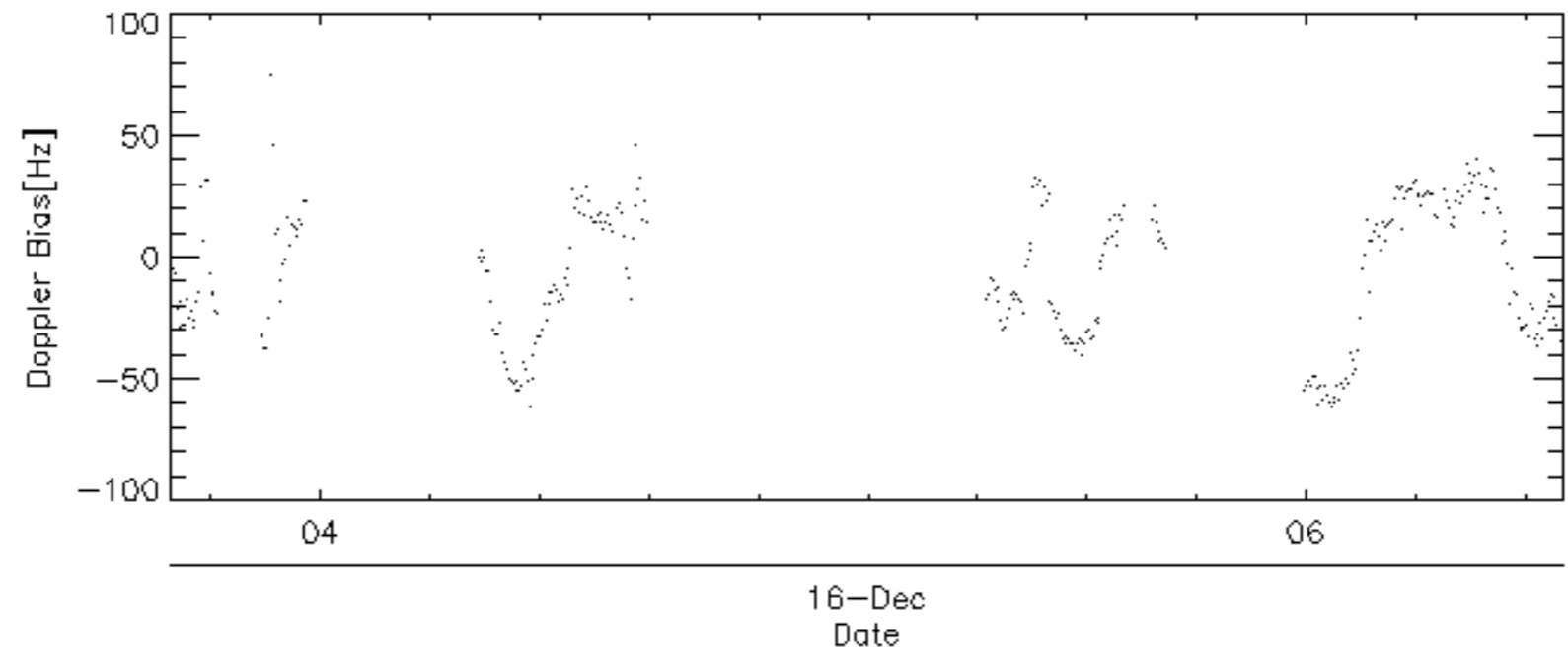
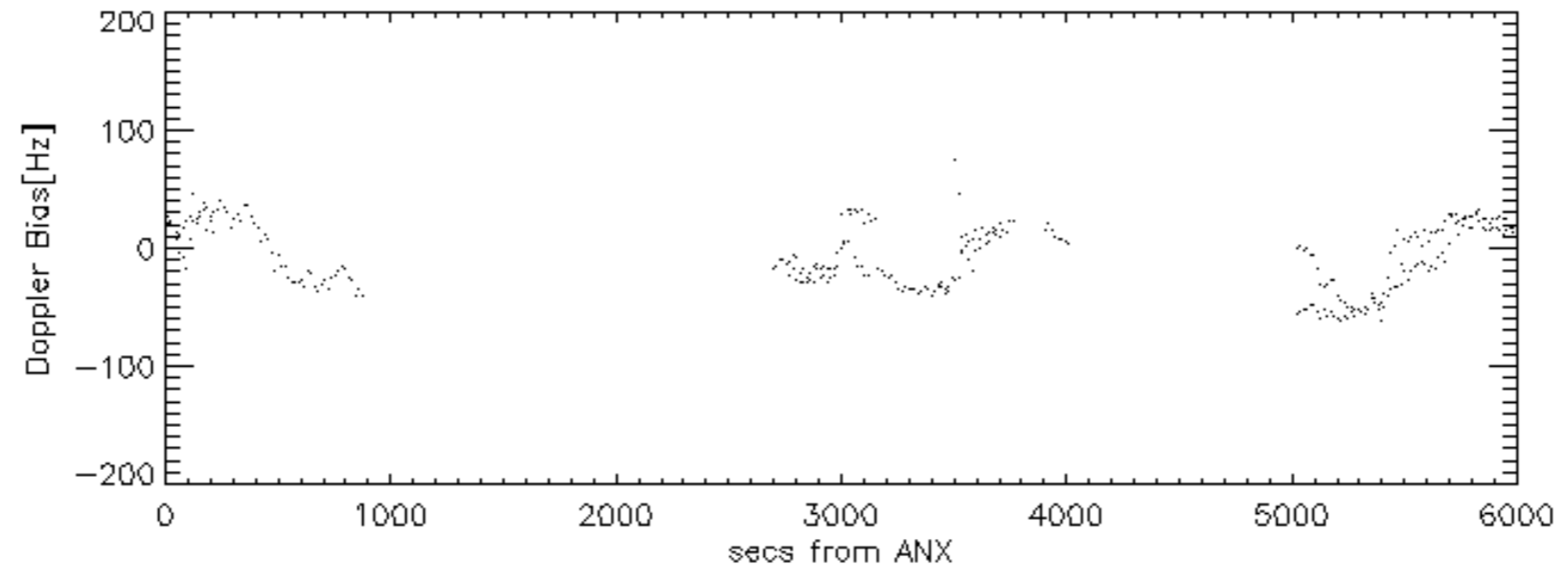
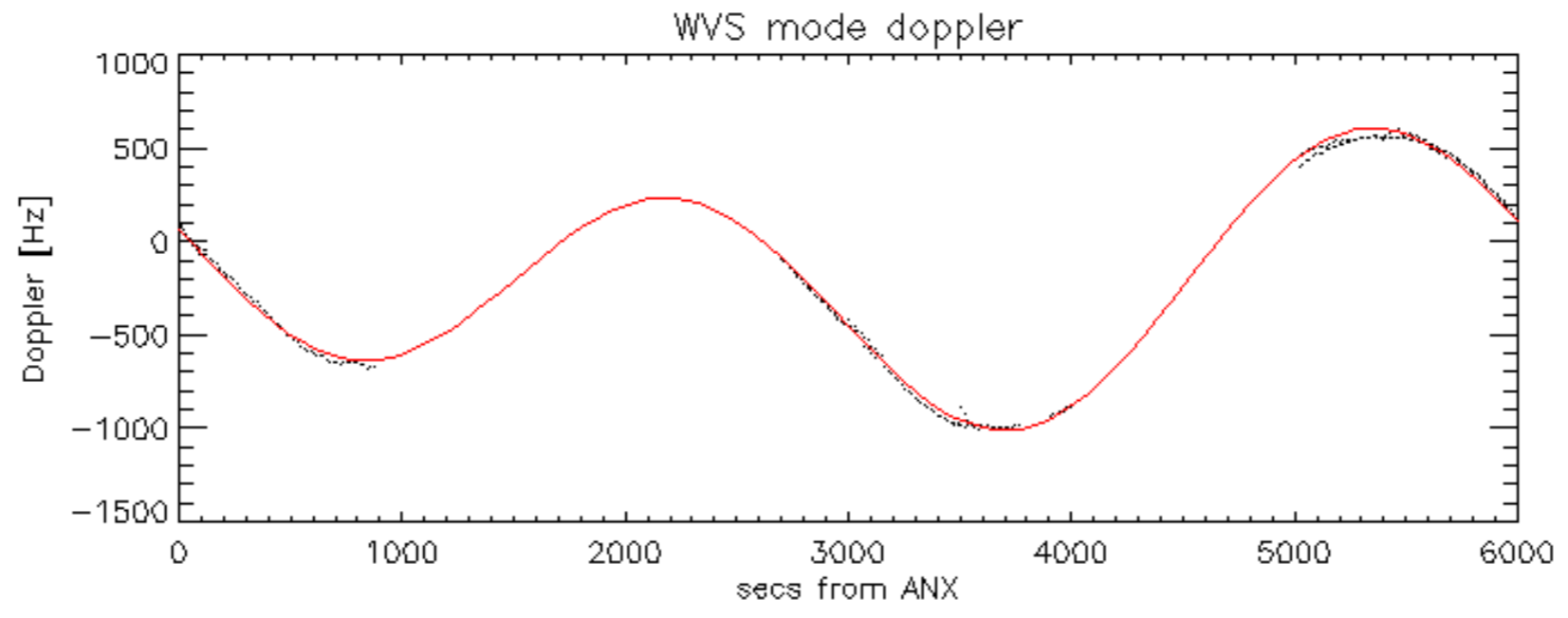
Doppler 'WVS' 'IS2' descending



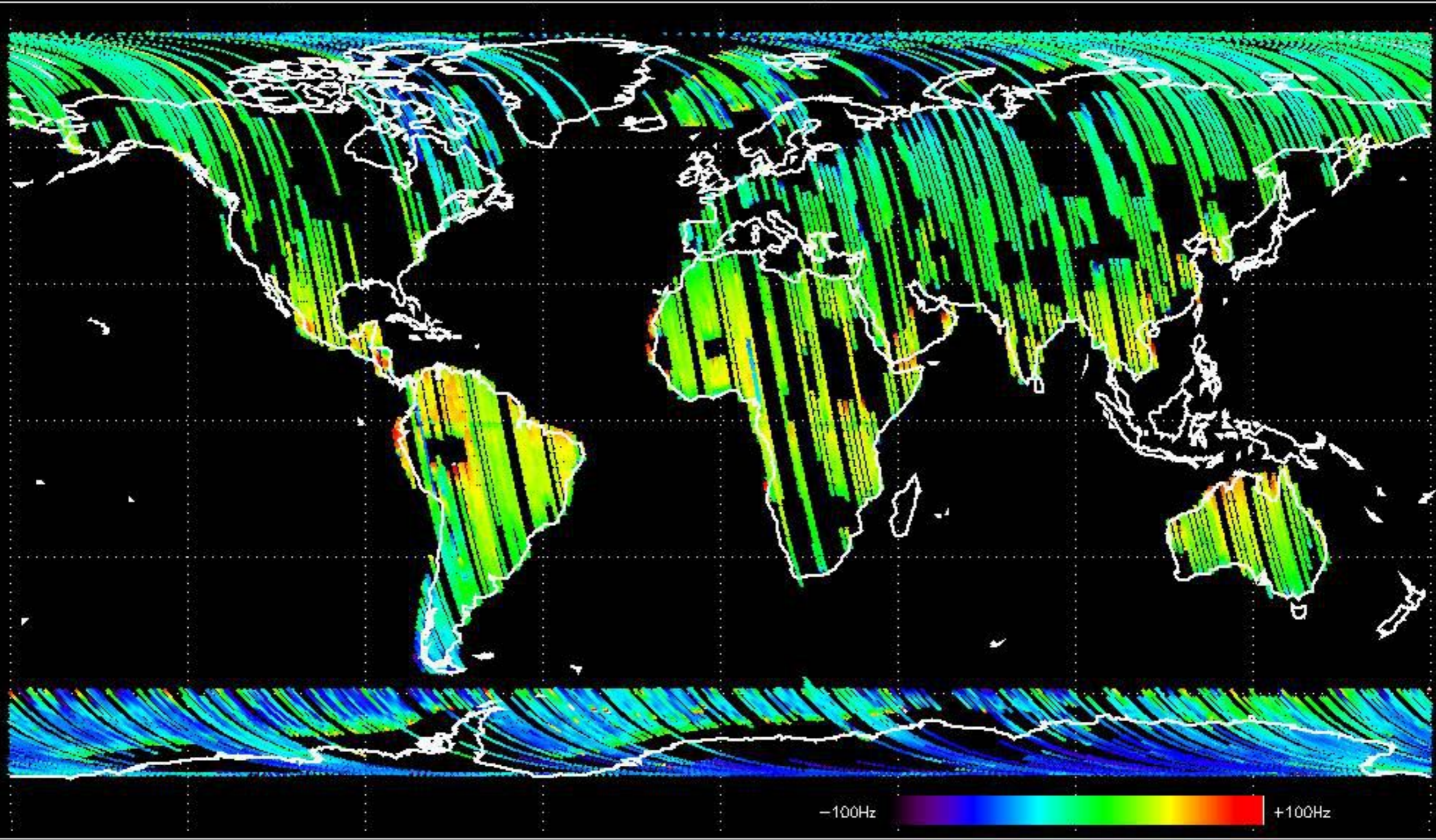


GM1 mode doppler

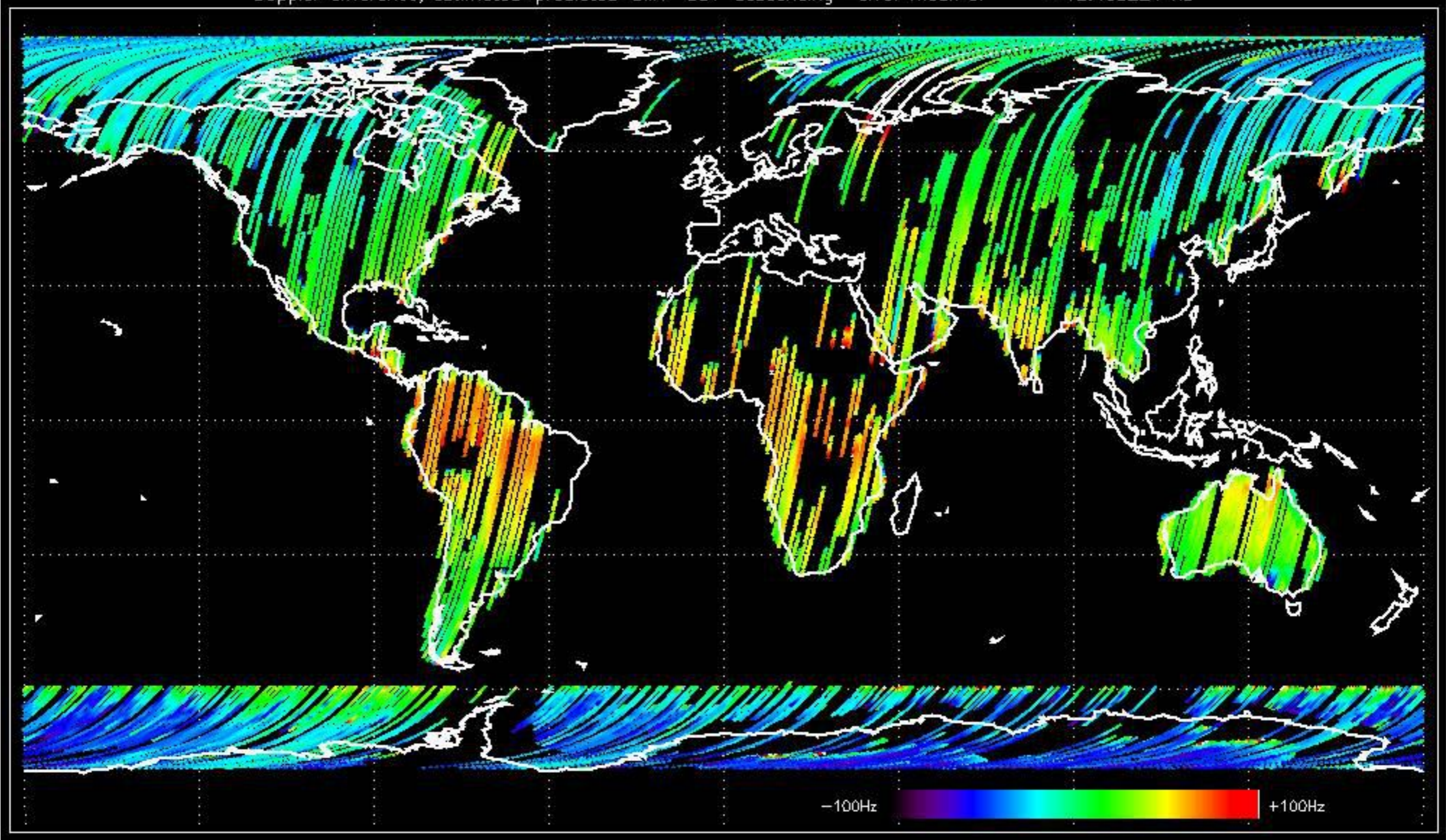




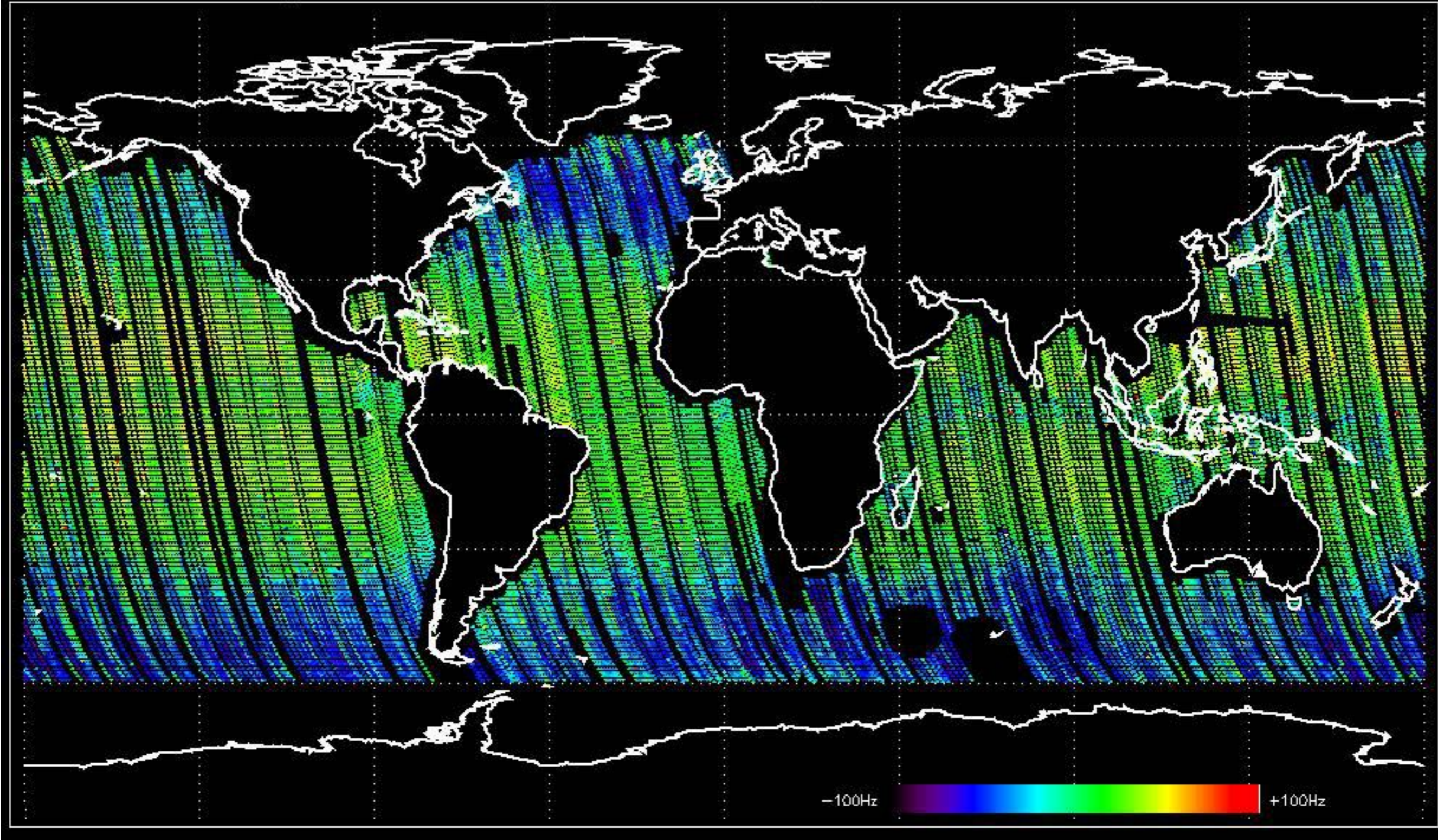
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -17.598830 Hz



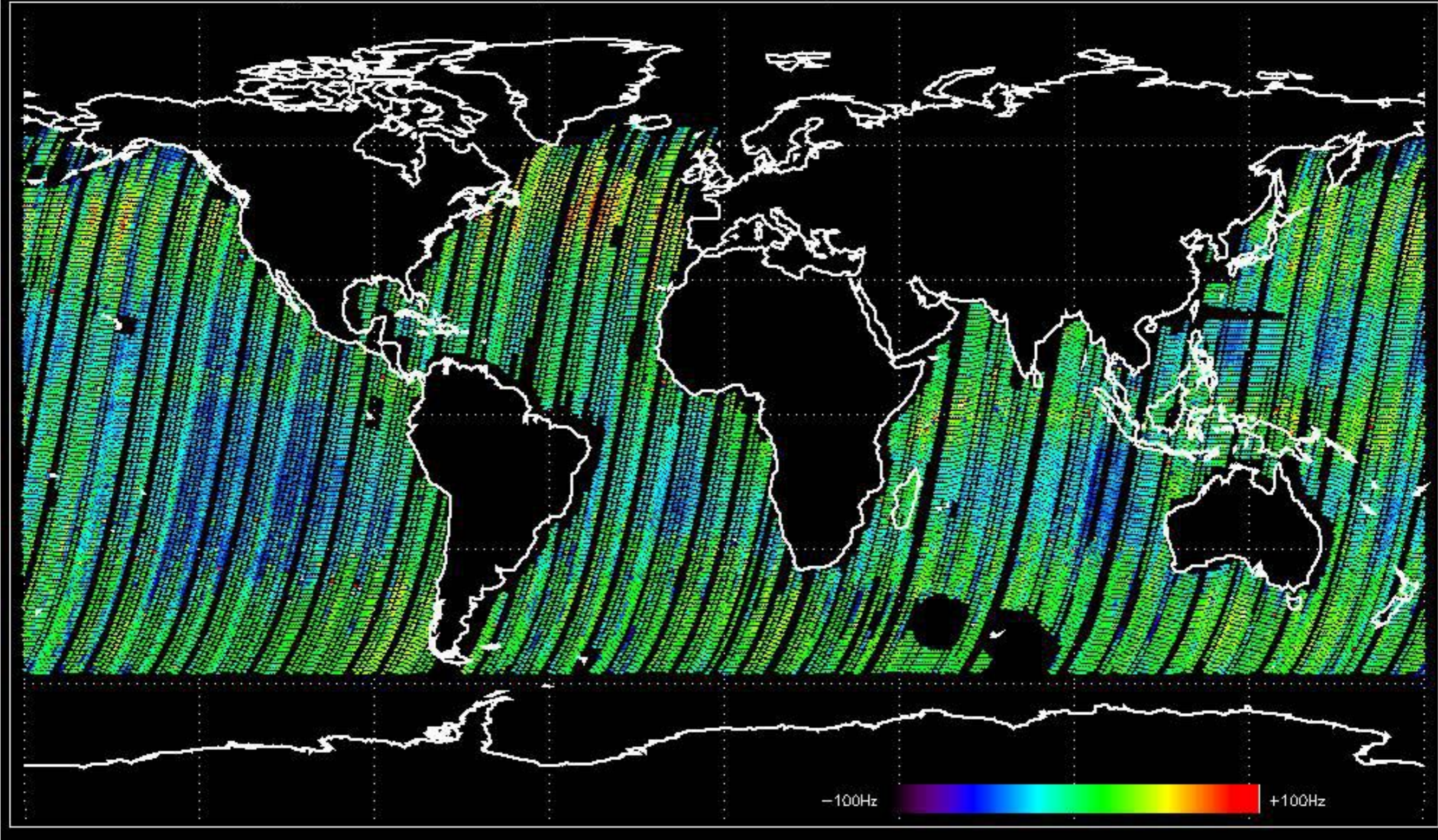
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -12.463224 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -9.6901098 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -6.9644865 Hz



No anomalies observed on available MS products:

No anomalies observed.



















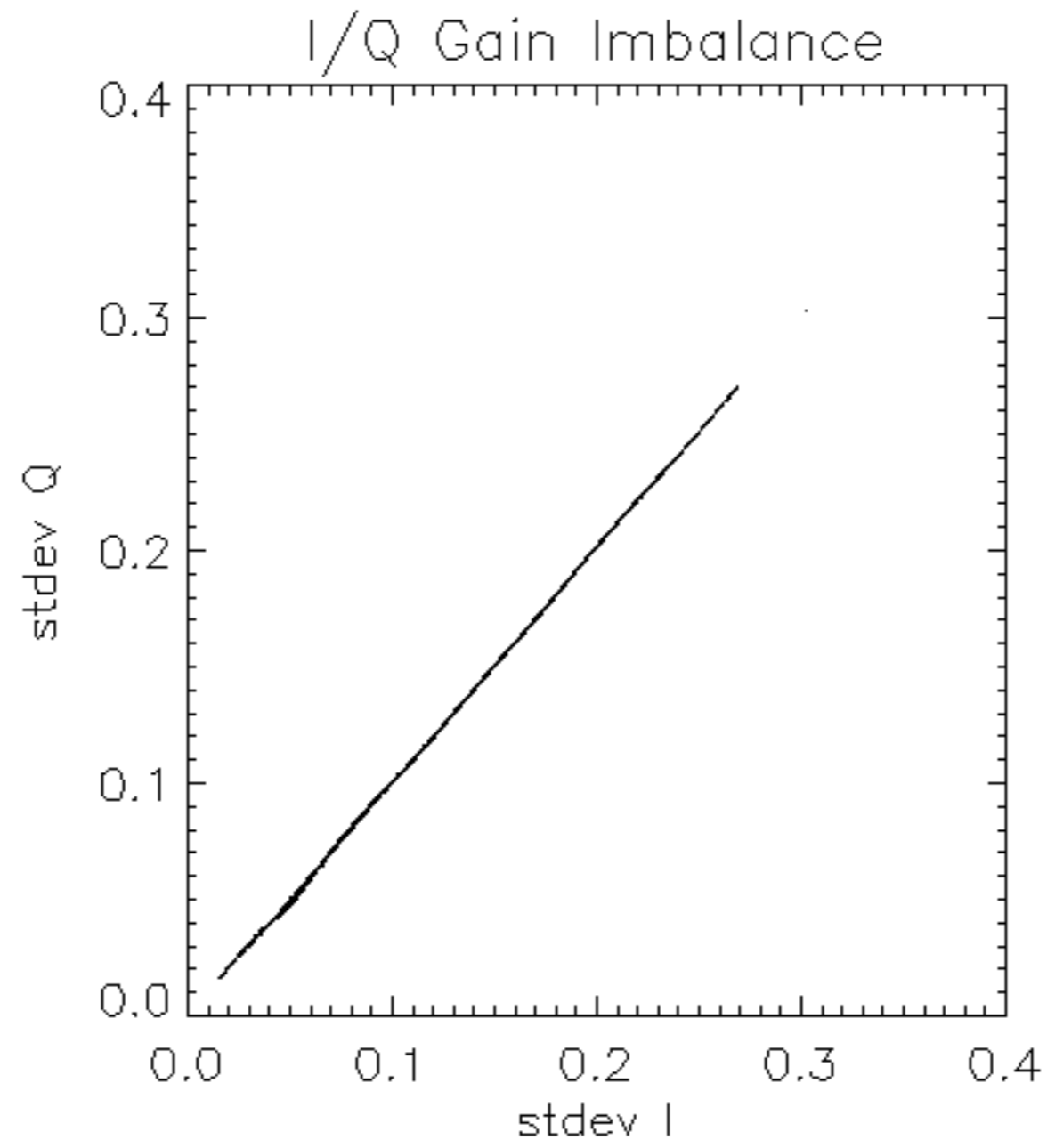


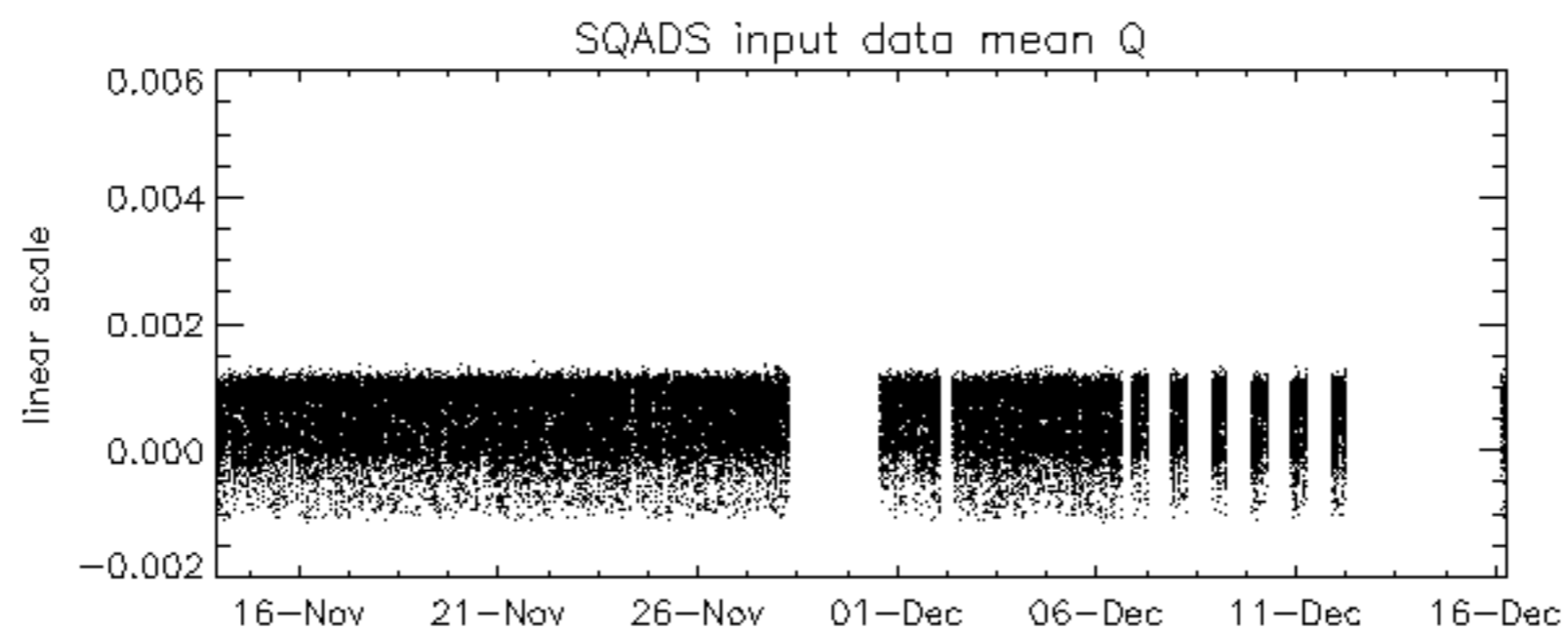
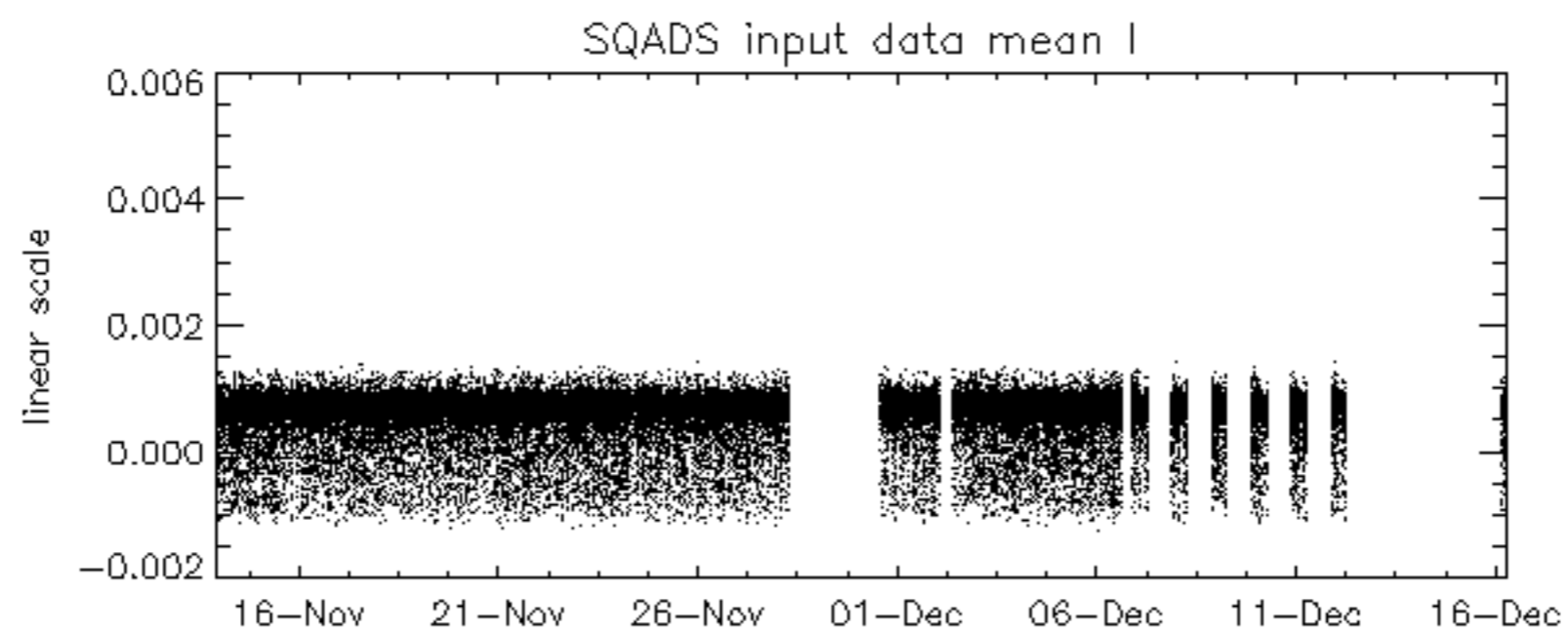
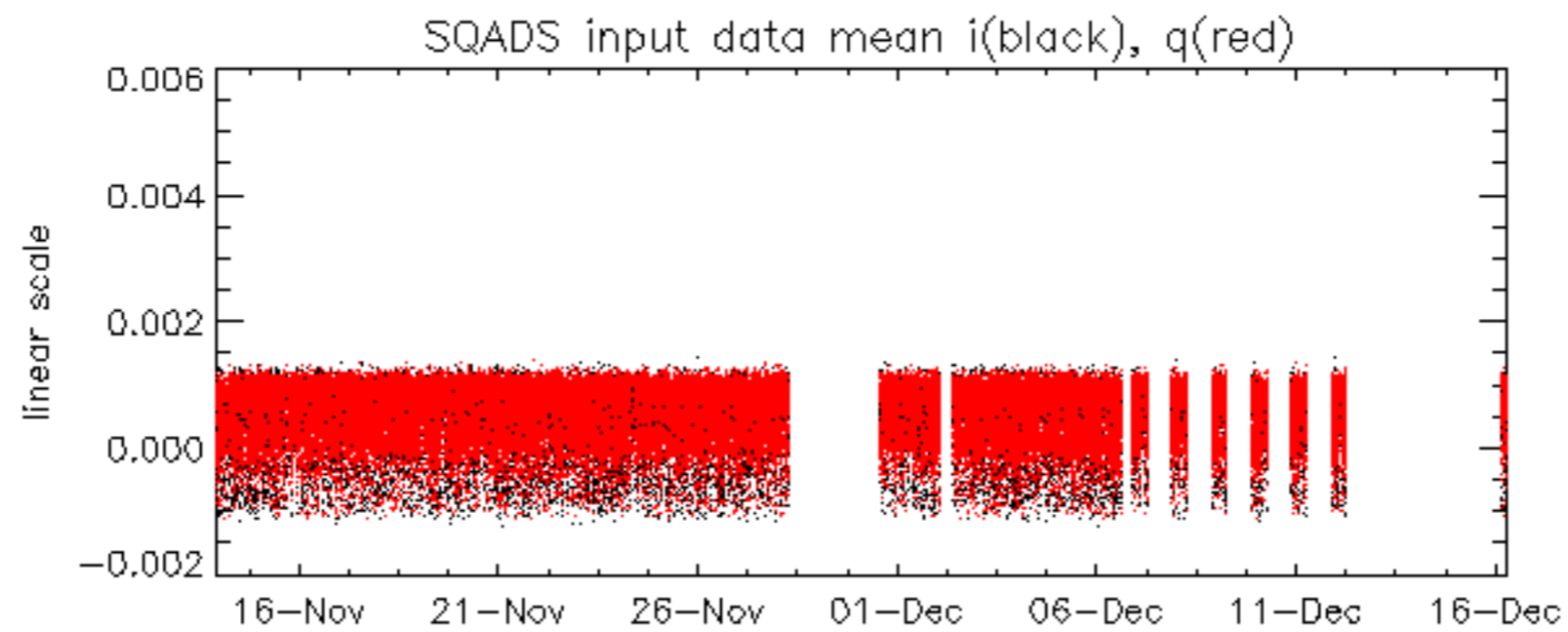


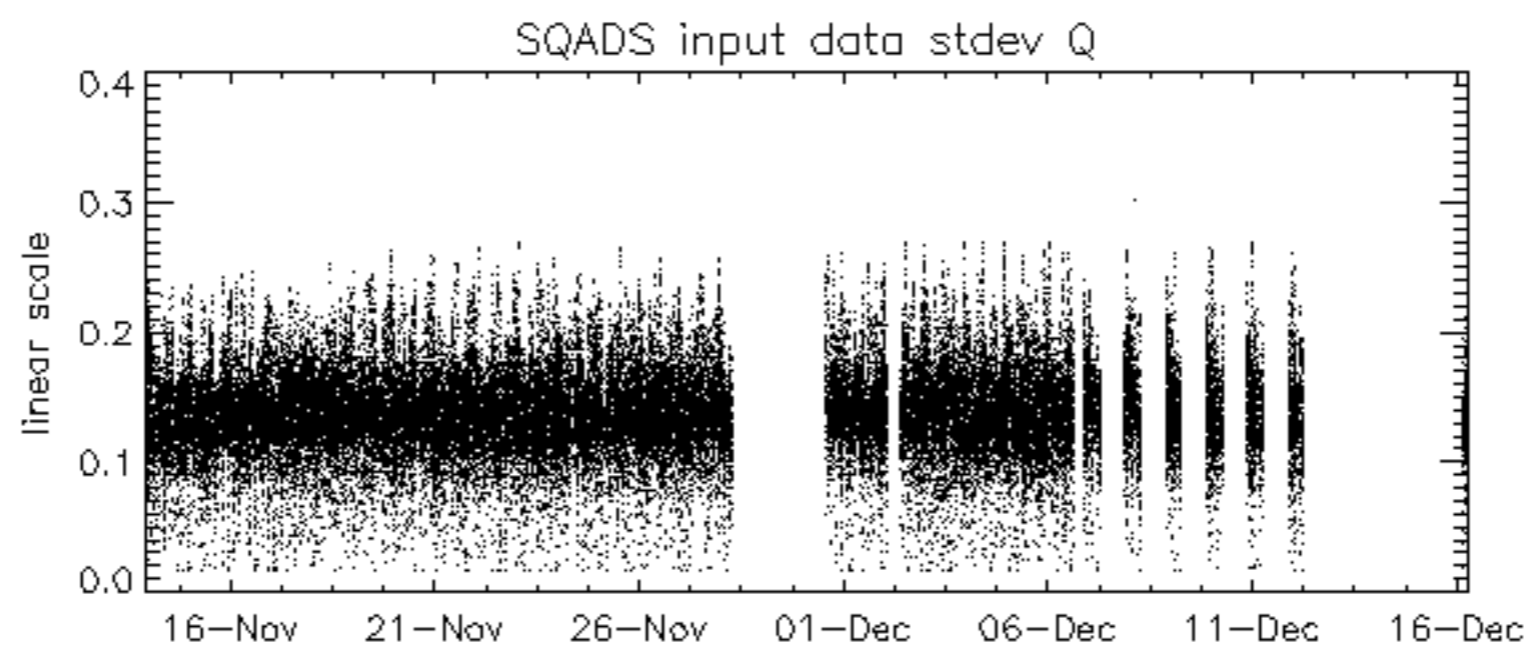
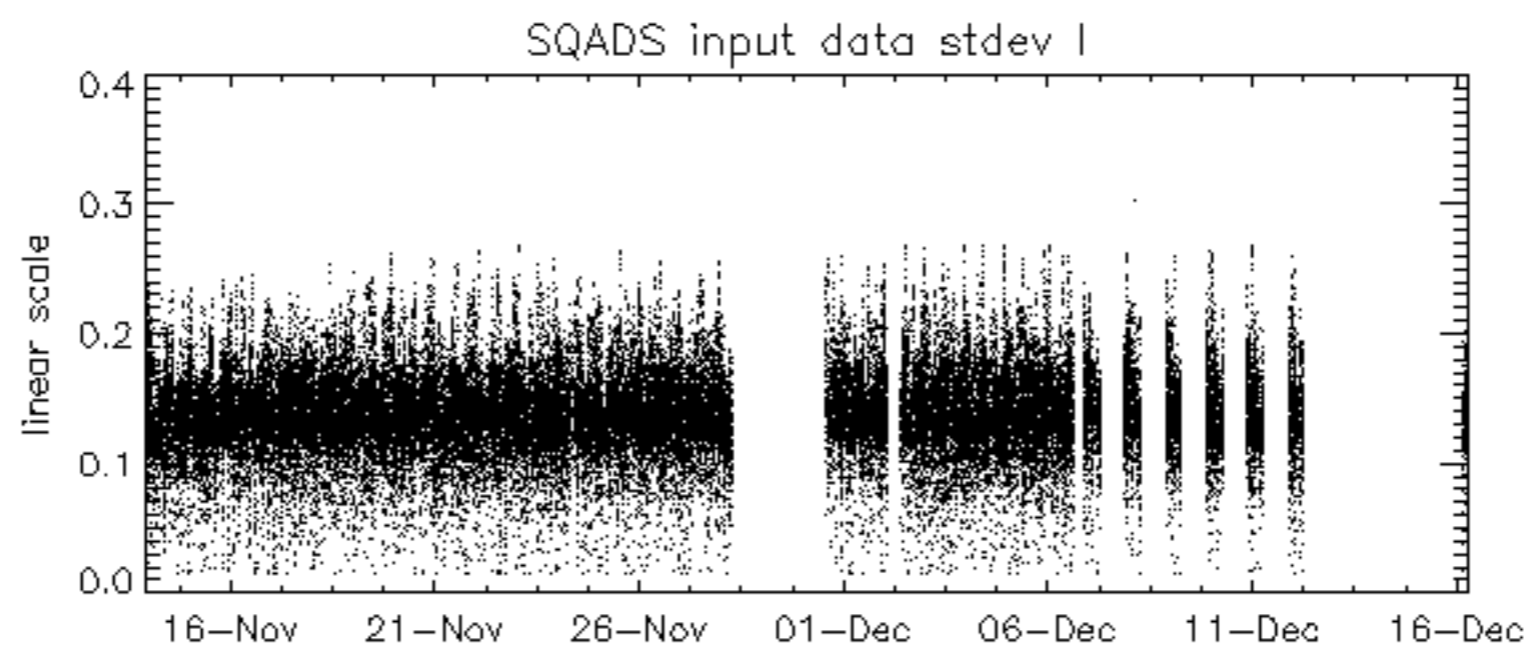
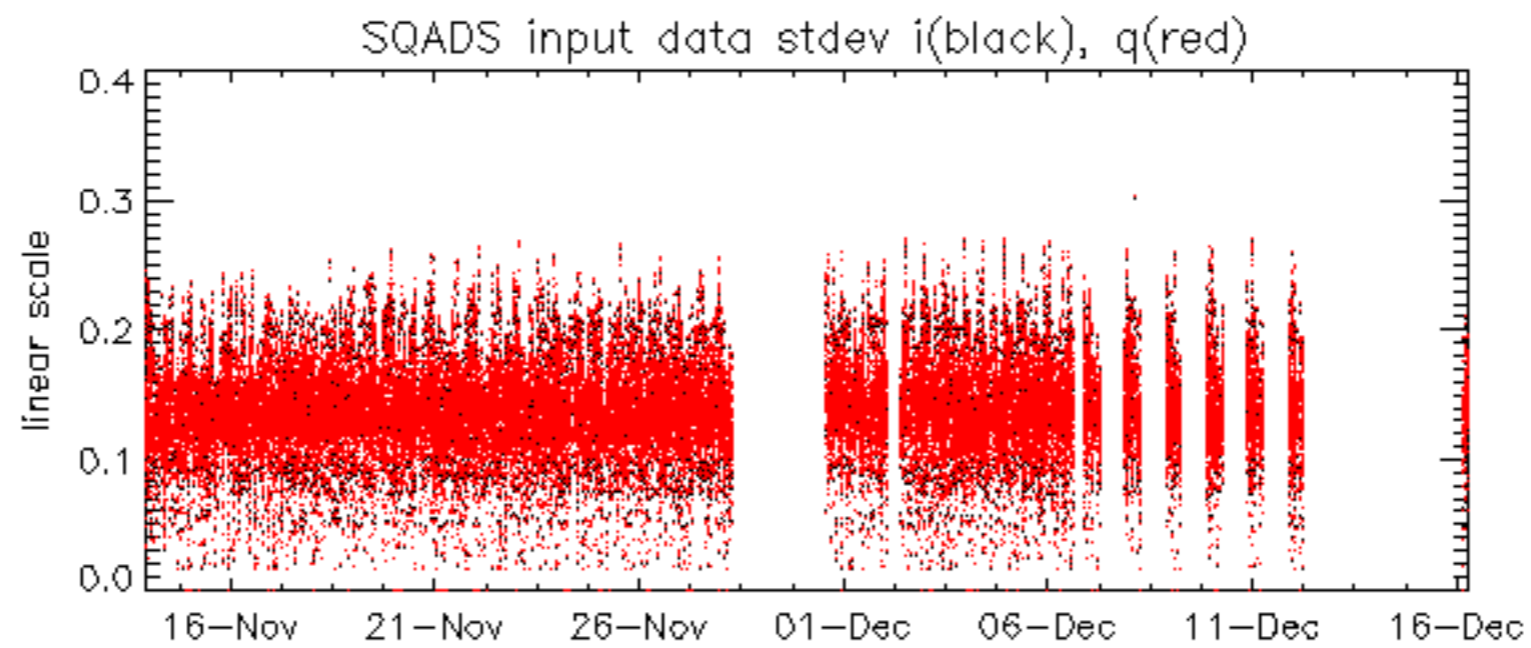






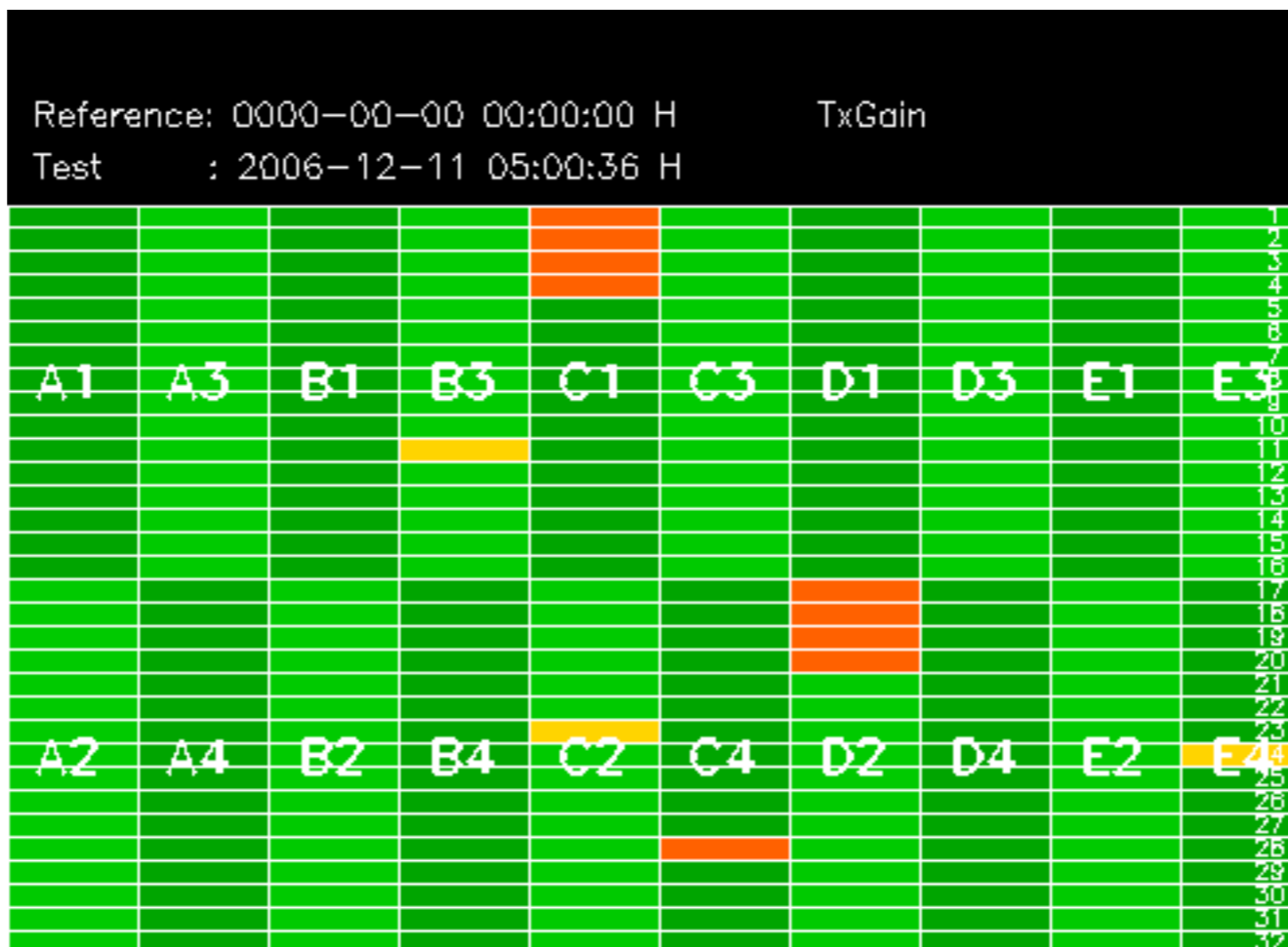
















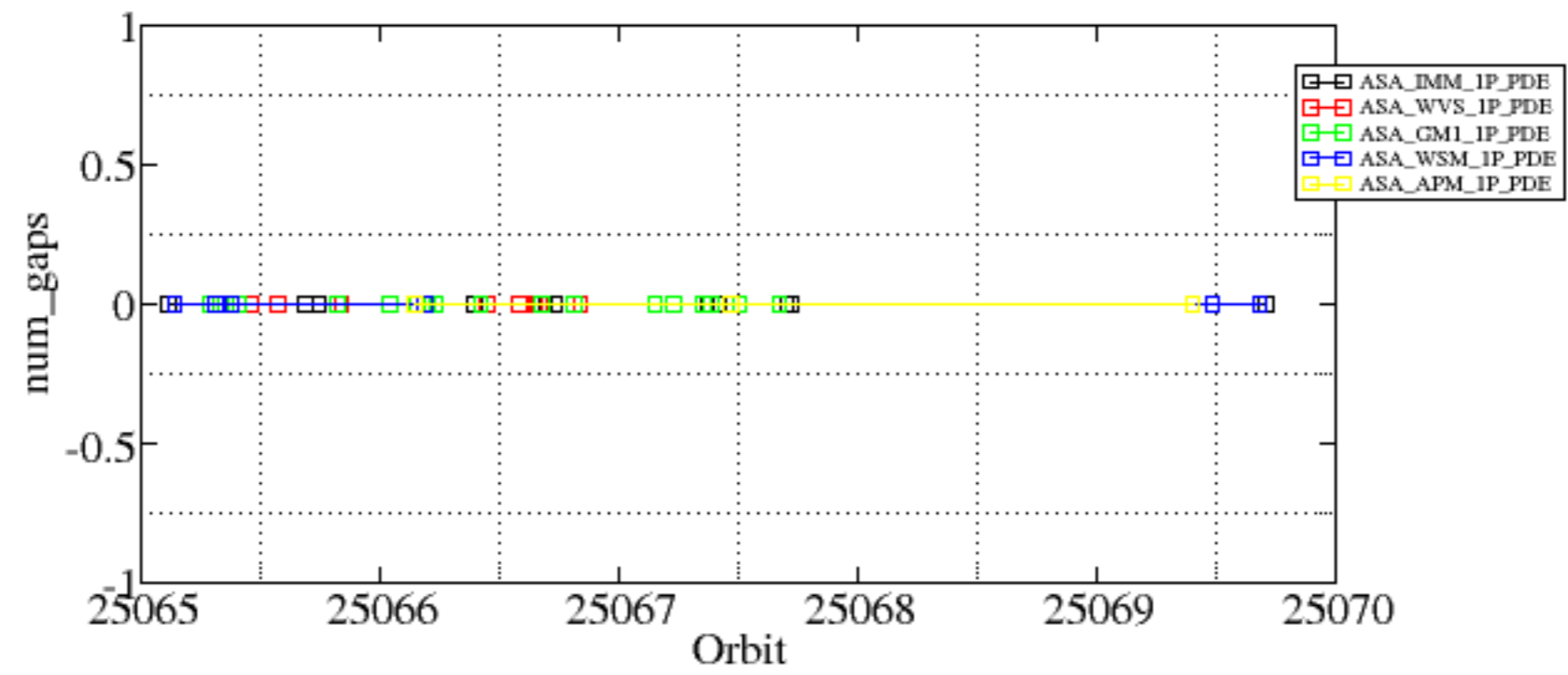


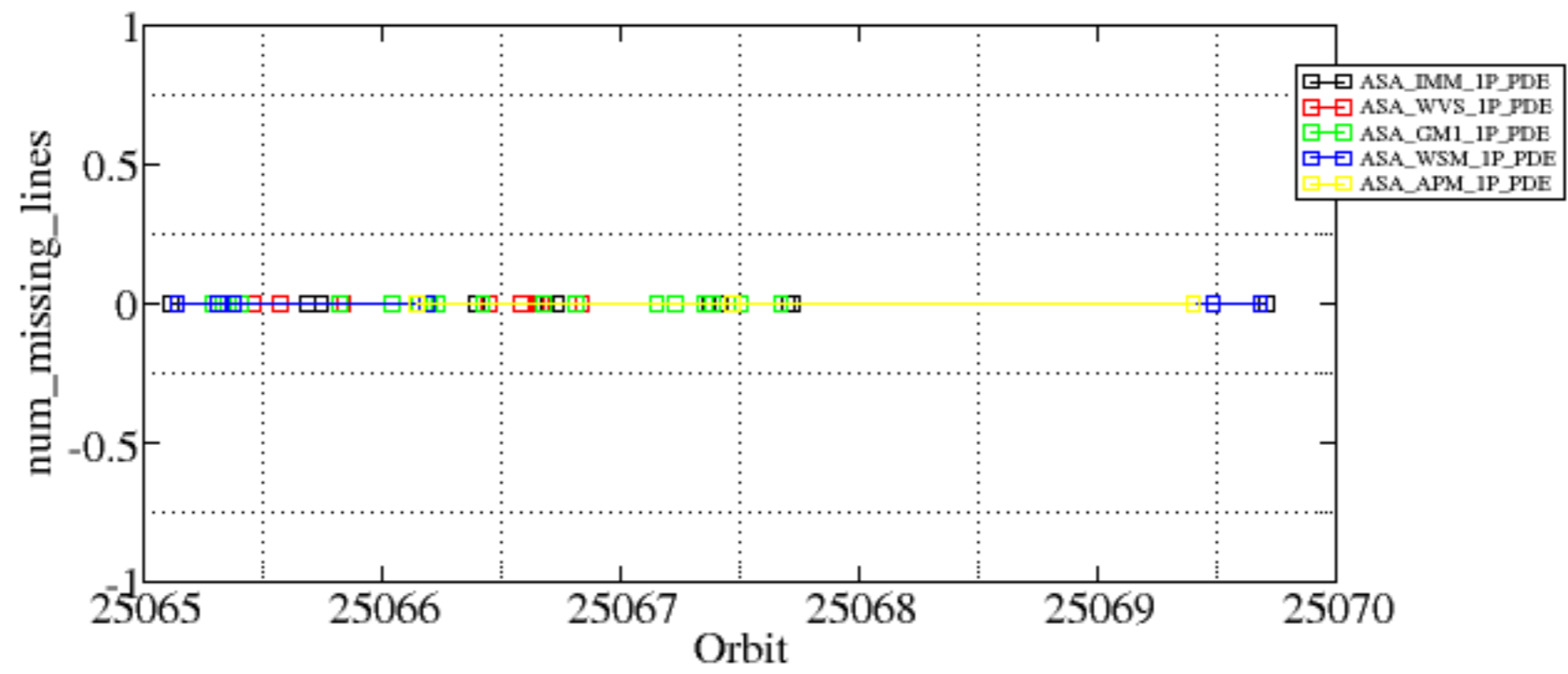


Summary of analysis for the last 3 days 2006121[456]

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









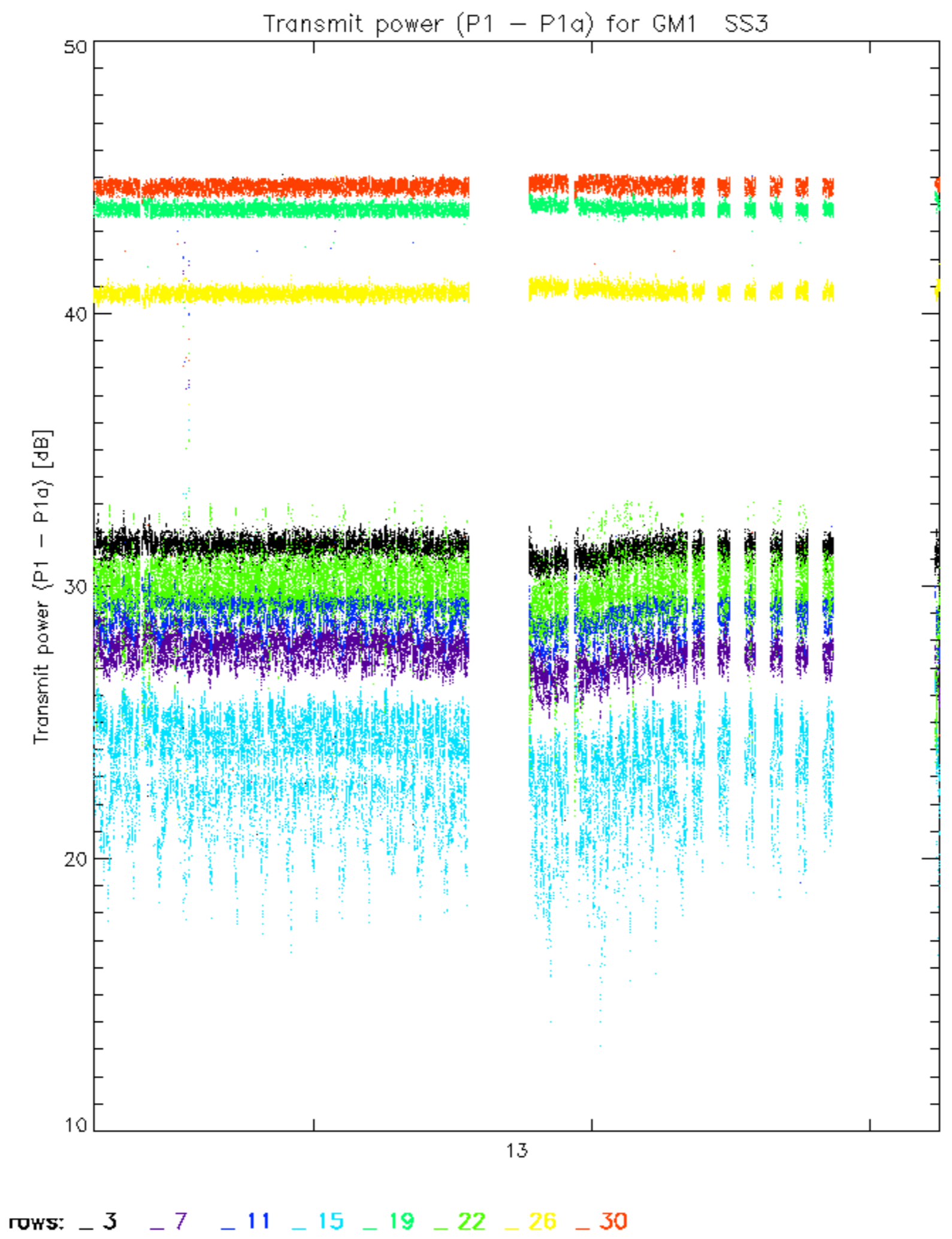


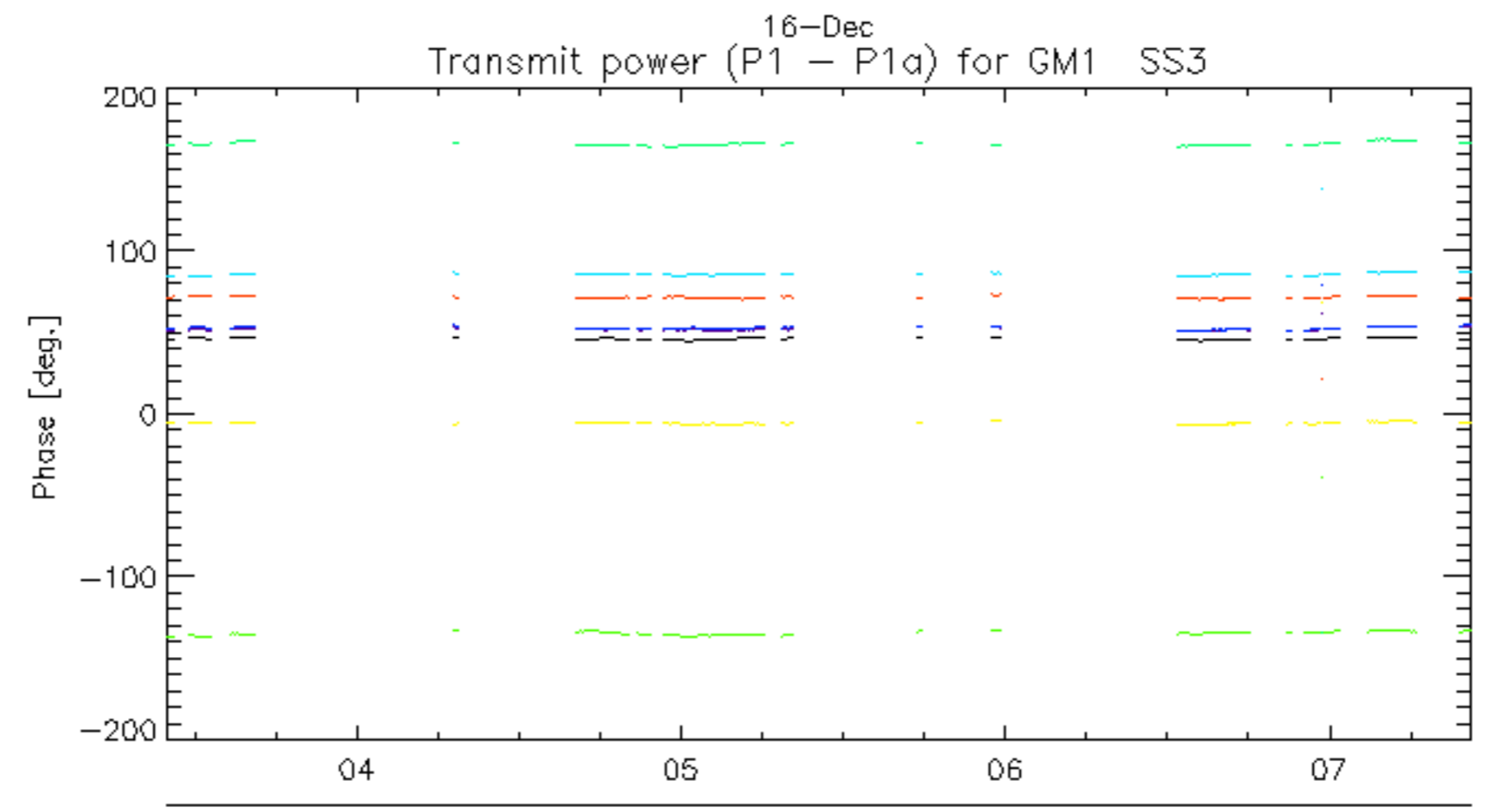
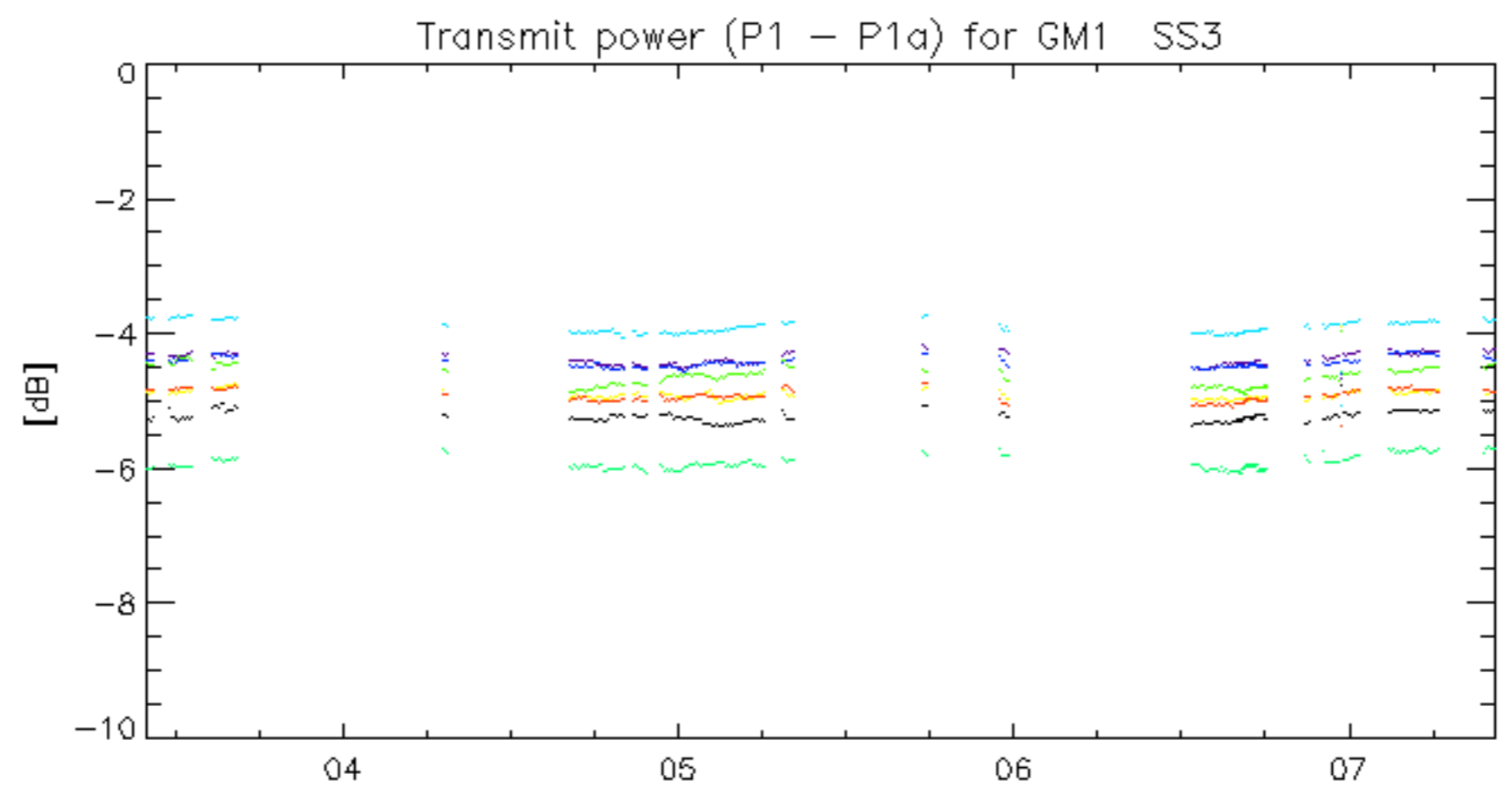






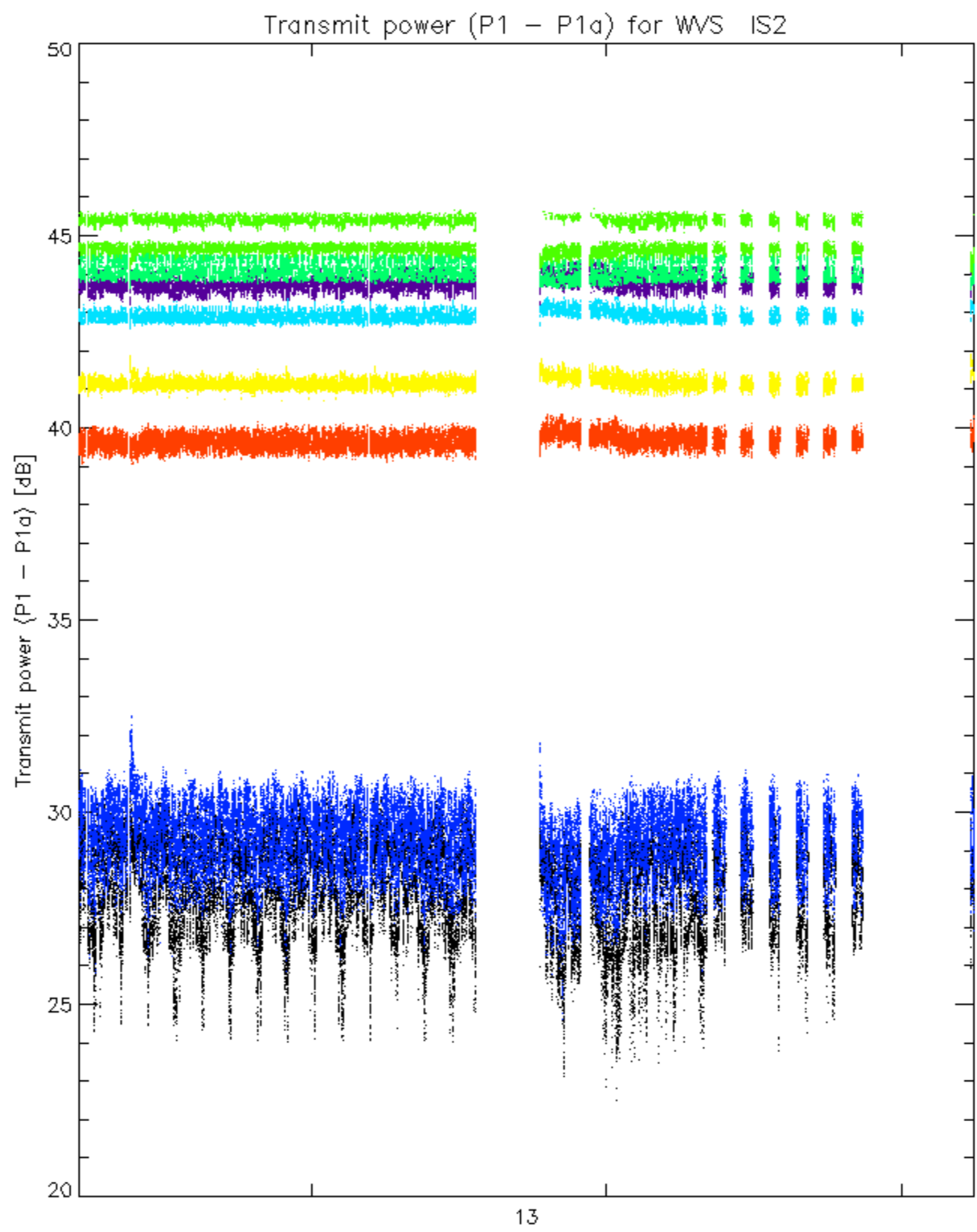




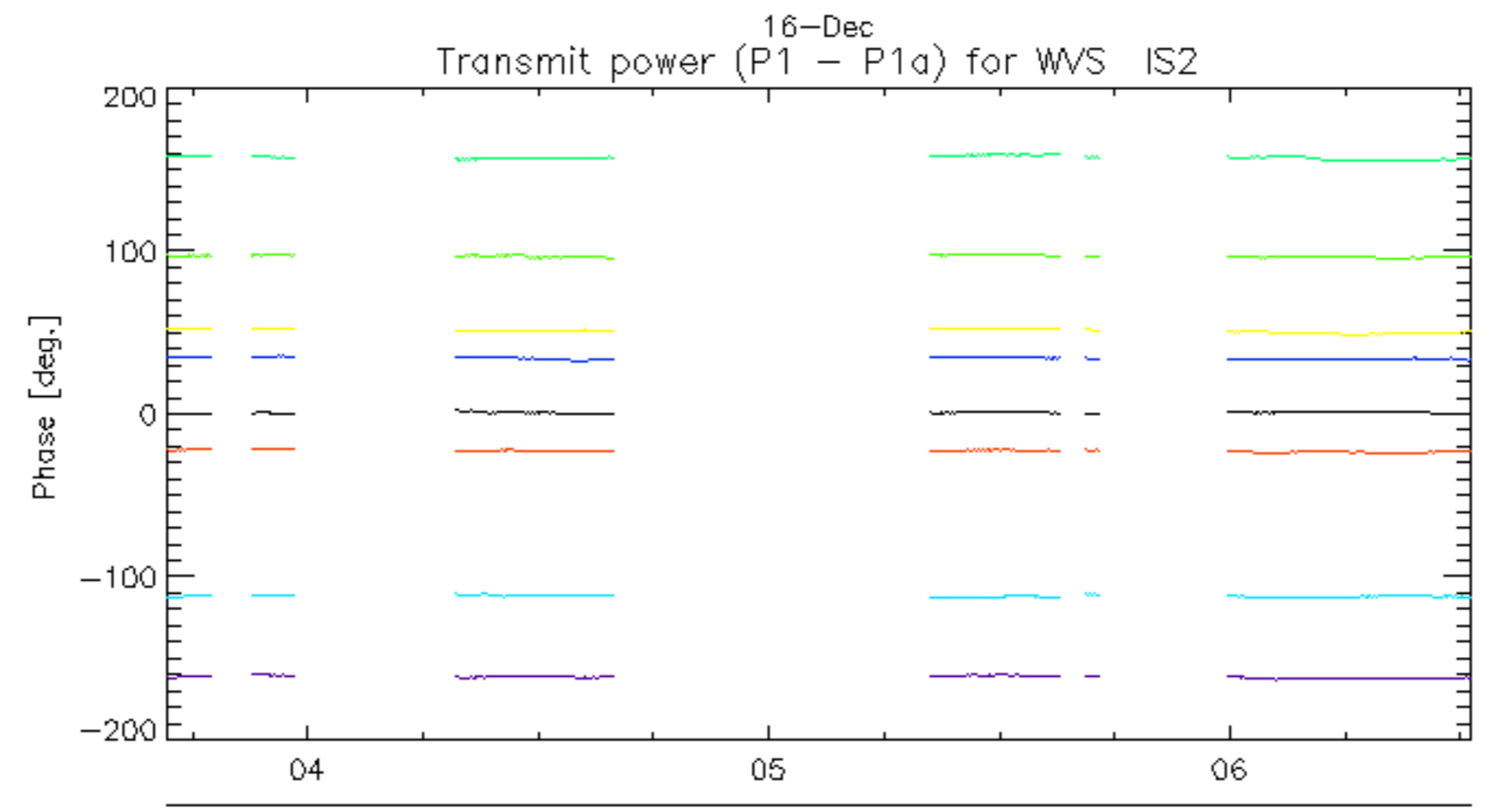
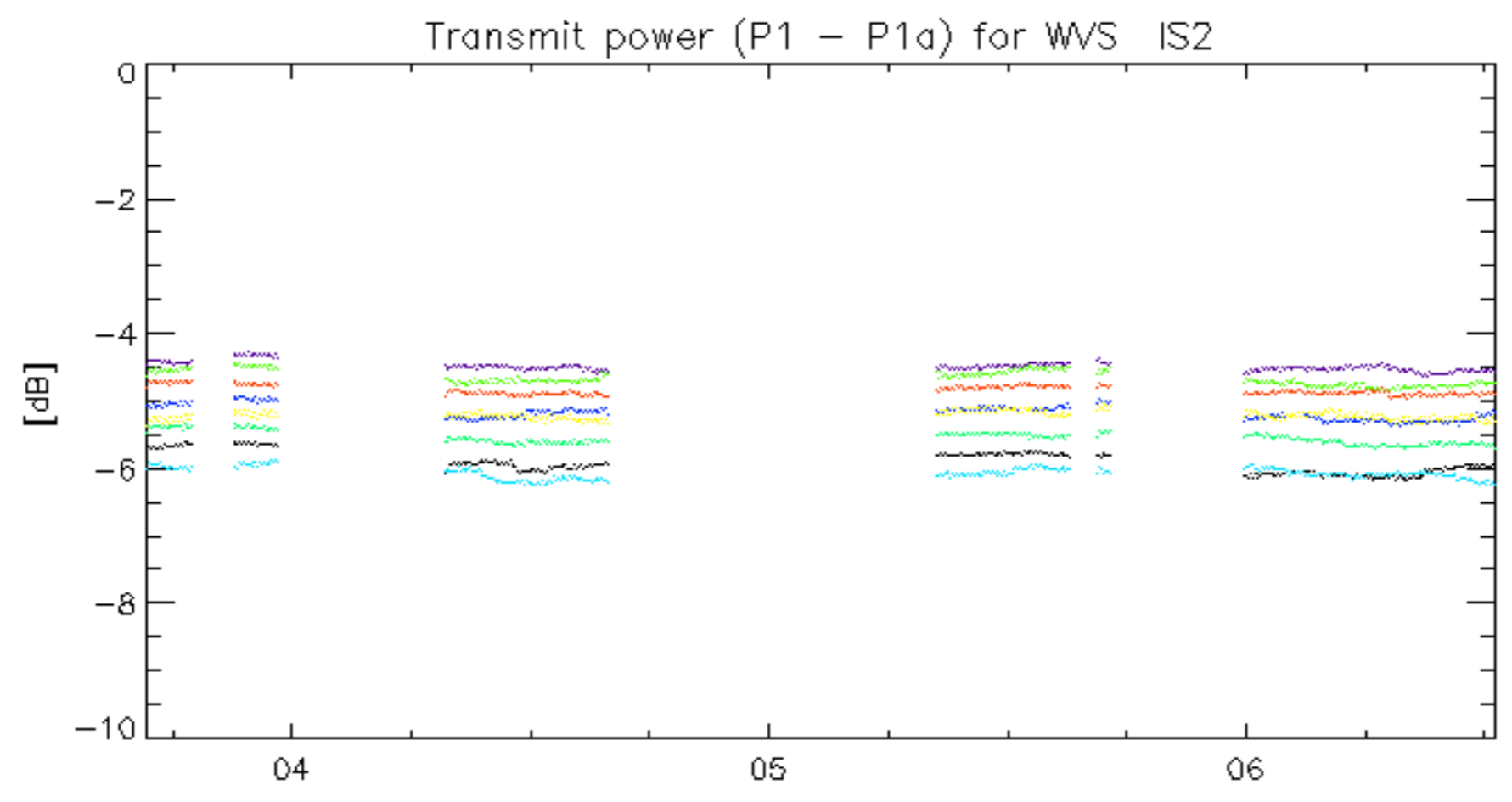


16-Dec  
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30





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



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

No unavailabilities during the reported period.