

# PRELIMINARY REPORT OF 061110

last update on Fri Nov 10 16:37:02 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 2006-11-09 00:00:00 to 2006-11-10 16:37:02

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	41	79	21	6	25
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	41	79	21	6	25
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	41	79	21	6	25
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	41	79	21	6	25

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	31	41	33	5	40
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	31	41	33	5	40
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	31	41	33	5	40
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	31	41	33	5	40

### 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	20061109 100809
H	20061108 071834

### 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	-3.954910	0.009128	0.002940
7	P1	-3.118060	0.019781	-0.111519
11	P1	-4.115813	0.024589	-0.067275
15	P1	-6.253285	0.015235	-0.105561
19	P1	-3.600177	0.065584	-0.049561
22	P1	-4.653317	0.131064	-0.065378
26	P1	-3.983184	0.089271	0.039907
30	P1	-5.874938	0.171875	-0.041941
3	P1	-16.547665	0.224987	0.262066
7	P1	-17.189575	0.186916	-0.303129
11	P1	-17.093544	0.428363	-0.226420
15	P1	-12.973049	0.119912	-0.325949
19	P1	-14.833947	0.373337	-0.291841
22	P1	-15.747951	0.503127	-0.541925
26	P1	-15.087721	0.218402	0.084599
30	P1	-17.232418	0.552480	-0.688513

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.840691	0.088491	-0.045221
7	P2	-21.742342	0.093841	0.043852
11	P2	-15.684128	0.106031	0.098098
15	P2	-7.098902	0.107491	-0.093795
19	P2	-9.162939	0.101525	-0.112760
22	P2	-18.190891	0.095299	-0.136443
26	P2	-16.489435	0.107544	-0.185592
30	P2	-19.471327	0.089775	-0.015893

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.219699	0.007675	-0.048433
7	P3	-8.219699	0.007675	-0.048433
11	P3	-8.219699	0.007675	-0.048433
15	P3	-8.219699	0.007675	-0.048433
19	P3	-8.219699	0.007675	-0.048433
22	P3	-8.219699	0.007675	-0.048433
26	P3	-8.219658	0.007695	-0.048355
30	P3	-8.219658	0.007695	-0.048355

**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	-3.923401	0.172126	0.072559
7	P1	-2.610420	1.107341	0.363832
11	P1	-2.898126	0.137887	0.147624
15	P1	-3.699030	0.126783	0.094586
19	P1	-3.522699	0.135712	-0.059096
22	P1	-5.066653	0.101608	0.015767
26	P1	-5.998448	0.256668	-0.075739
30	P1	-5.300908	0.171521	-0.099092
3	P1	-11.751025	0.420663	0.184121
7	P1	-10.149957	1.405712	0.406216
11	P1	-10.411210	0.383372	0.363227
15	P1	-10.875473	0.521110	0.480279
19	P1	-15.746122	2.386024	-0.147243
22	P1	-21.166700	1.642887	-0.706673

26	P1	-15.948854	0.443795	-0.417327
30	P1	-17.977379	0.533026	0.294753

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.390976	0.262223	-0.272993
7	P2	-22.059336	1.453227	-0.669035
11	P2	-10.882164	0.234244	-0.243015
15	P2	-4.922761	0.078503	-0.140465
19	P2	-6.908183	0.156956	-0.162382
22	P2	-8.265383	0.482495	0.052458
26	P2	-24.183464	1.096431	-0.558031
30	P2	-21.884907	0.559101	-0.280871

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.070032	0.003275	-0.044910
7	P3	-8.069948	0.003253	-0.044850
11	P3	-8.069948	0.003260	-0.045361
15	P3	-8.069852	0.003256	-0.044674
19	P3	-8.069940	0.003259	-0.044903
22	P3	-8.069798	0.003263	-0.045166
26	P3	-8.069774	0.003250	-0.045734
30	P3	-8.069837	0.003261	-0.045829

## 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	0.000551201
	stdev	1.74254e-07
MEAN Q	mean	0.000519137
	stdev	2.18975e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.137104
	stdev	0.00112211
STDEV Q	mean	0.137471
	stdev	0.00113957



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006110[890]

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_1PNPDK20061108_143314_000000352052_00425_24527_3678.N1	1	0
ASA_IMM_1PNPDK20061108_202032_000000362052_00429_24531_3691.N1	1	0
ASA_GM1_1PNPDK20061109_091832_000006582052_00437_24539_8301.N1	0	9
ASA_GM1_1PNPDK20061109_151003_000008032052_00440_24542_8321.N1	0	120
ASA_WSM_1PNPDE20061108_001656_000002632052_00417_24519_0001.N1	0	29



## 7 - Doppler Analysis

Preliminary report. The data is not yet controlled

### 7.1 - Unbiased Doppler Error for WVS

<b>Evolution of unbiased Doppler error (Real - Expected)</b>
--

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

### 7.2 - Absolute Doppler for WVS

<b>Evolution of Absolute Doppler</b>
--------------------------------------

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

### 7.3 - Doppler evolution versus ANX for WVS

<b>Evolution Doppler error versus ANX</b>
---

<input type="checkbox"/>
--------------------------



### 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

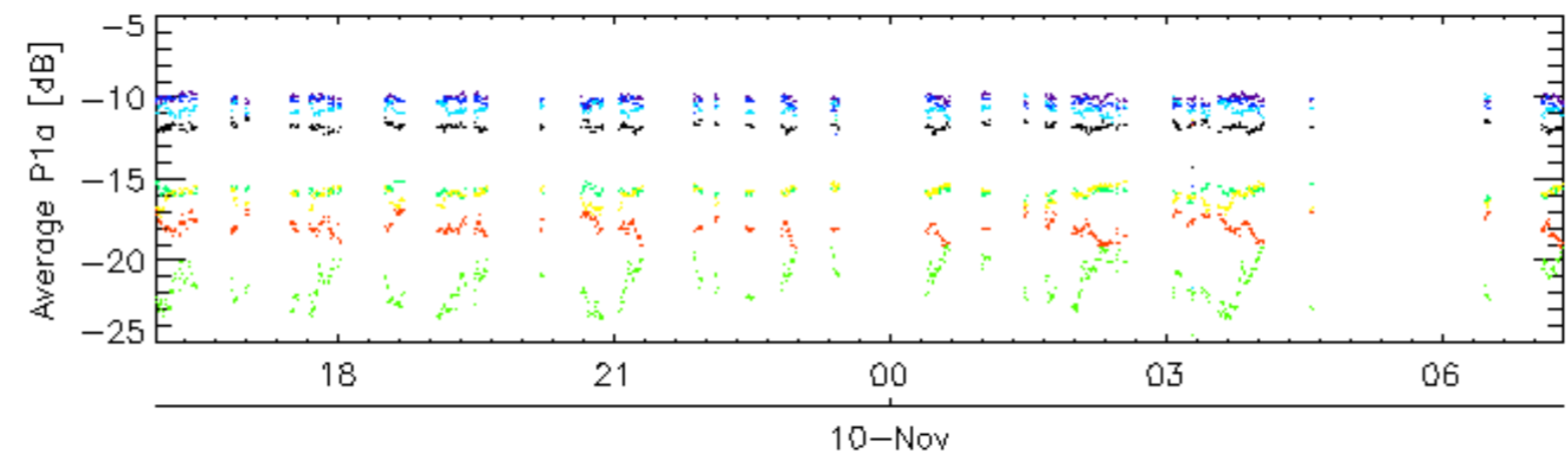
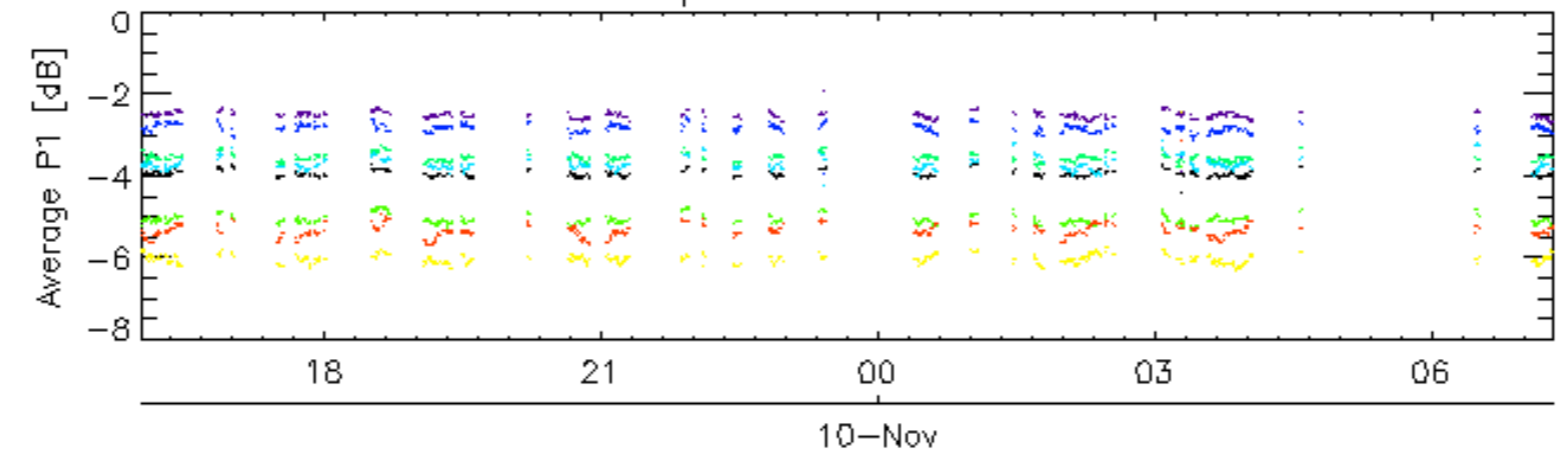
<input type="checkbox"/>	
	Ascending
<input type="checkbox"/>	
	Descending

### 7.6 - Doppler evolution versus ANX for GM1

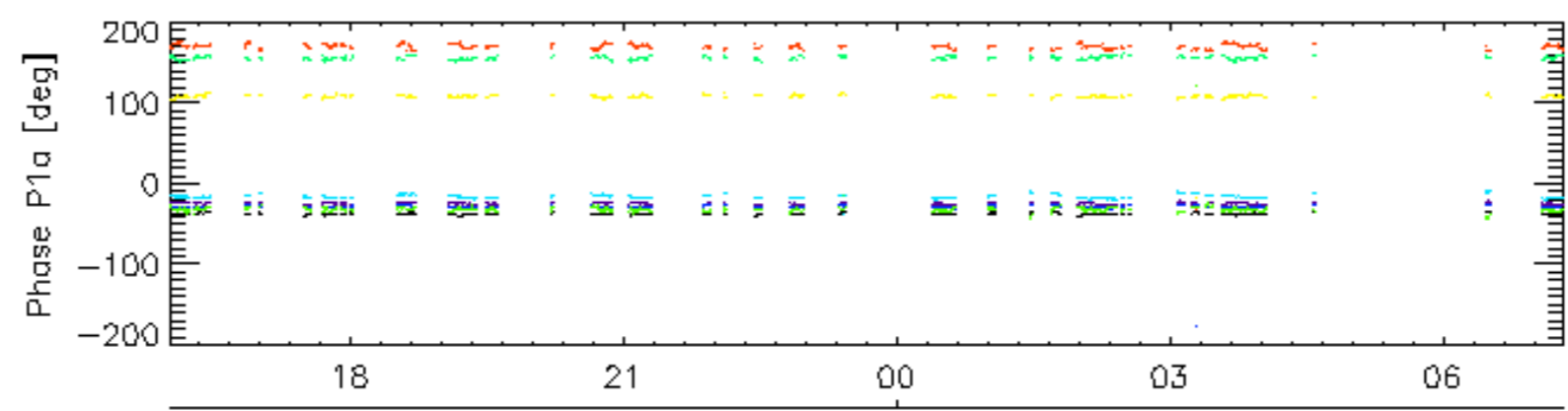
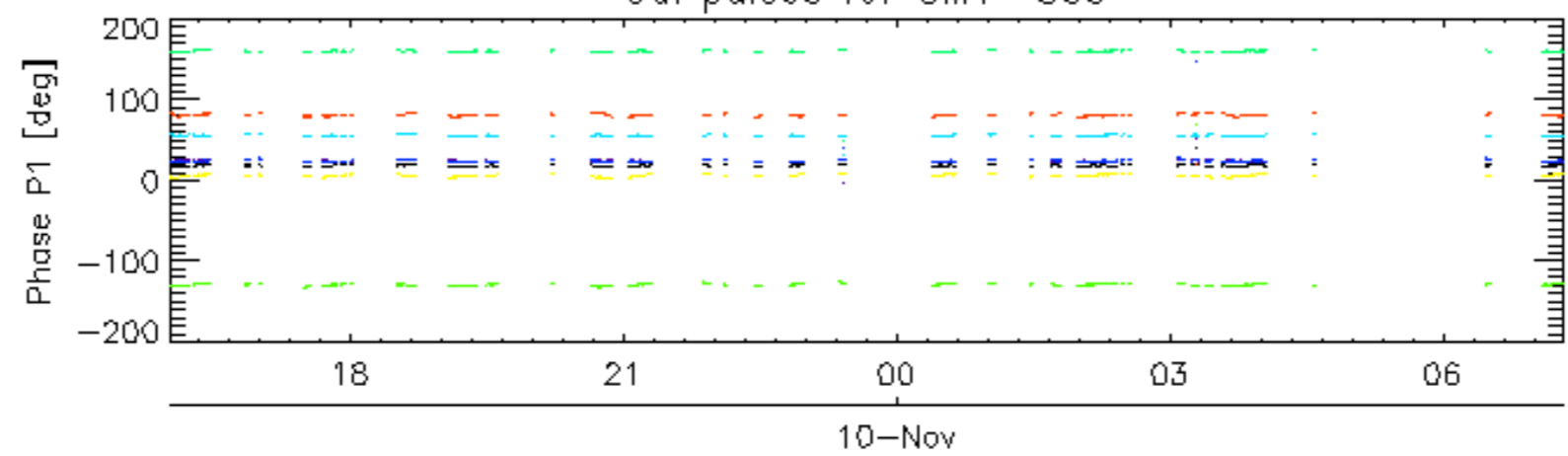
Evolution Doppler error versus ANX

<input type="checkbox"/>	
--------------------------	--

Cal pulses for GM1 SS3

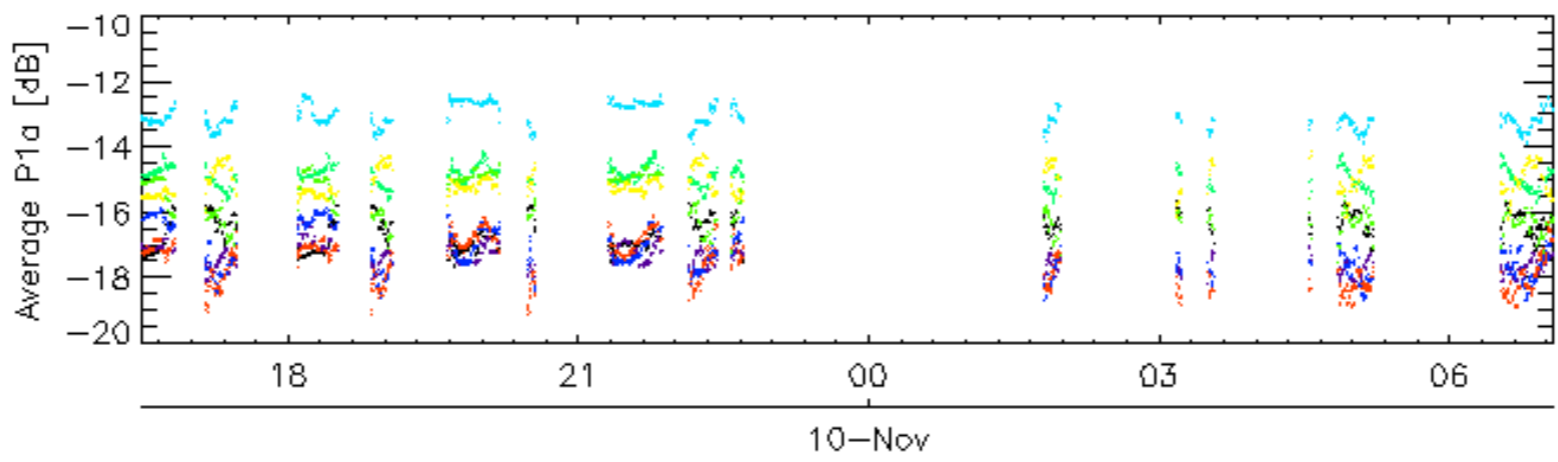
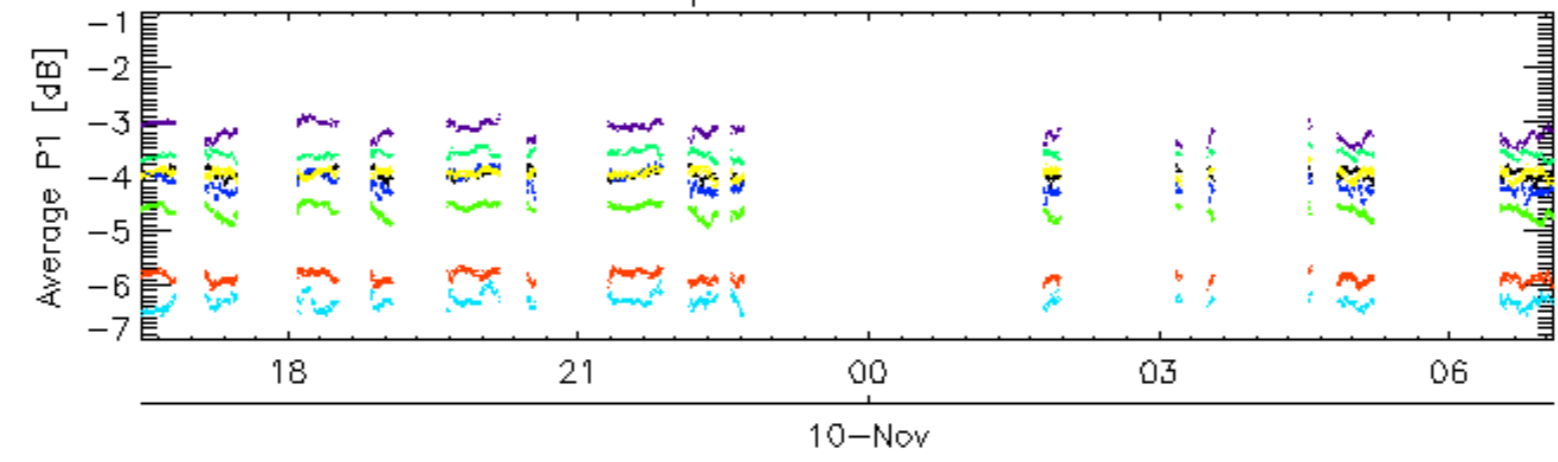


Cal pulses for GM1 SS3

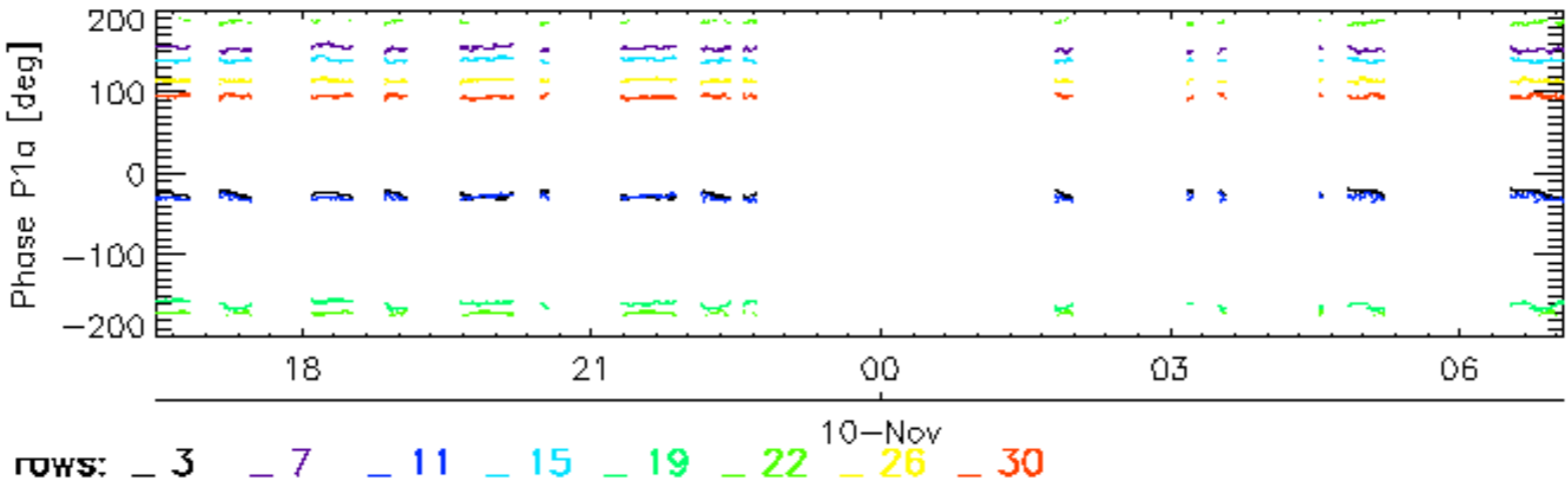
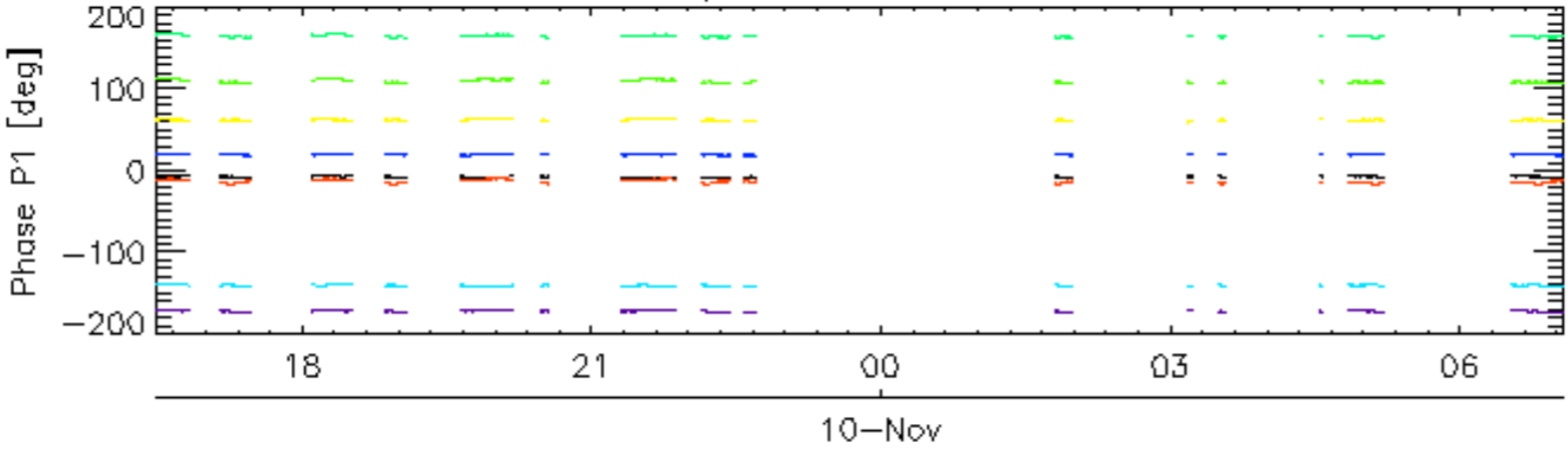


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30 10-Nov

Cal pulses for WVS IS2

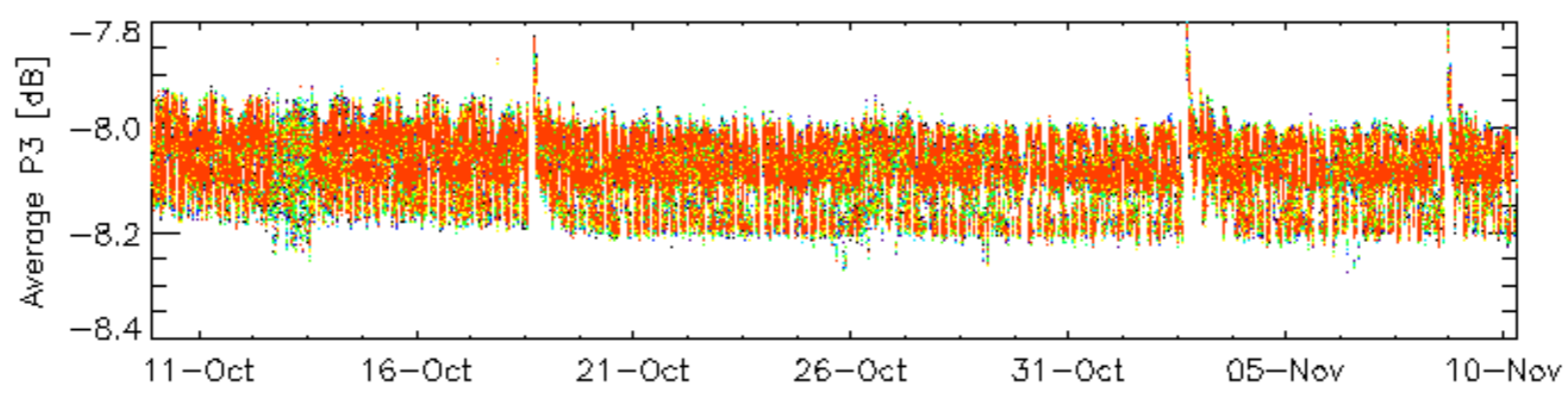
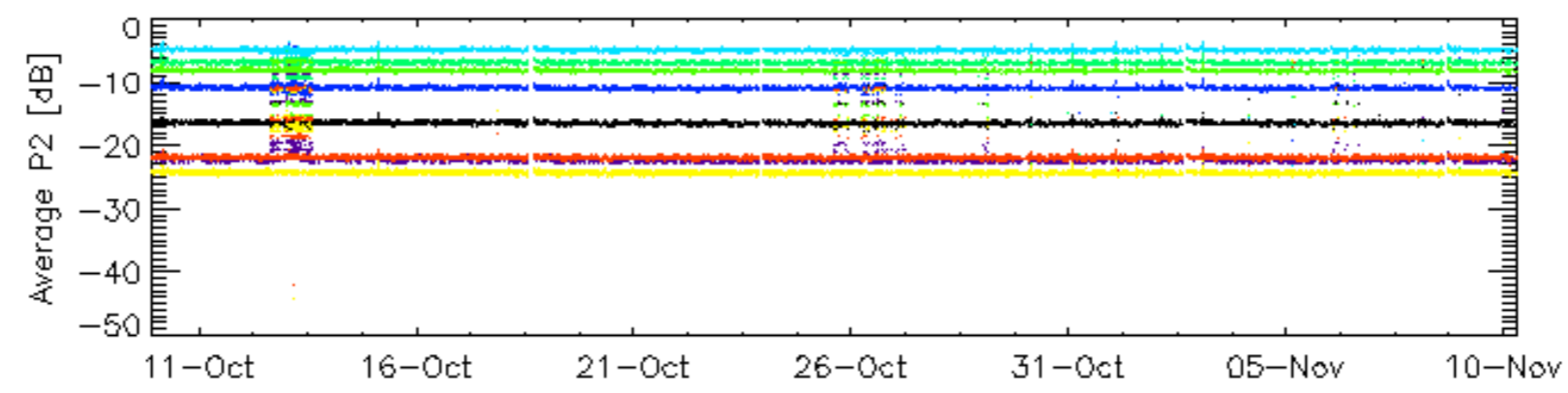
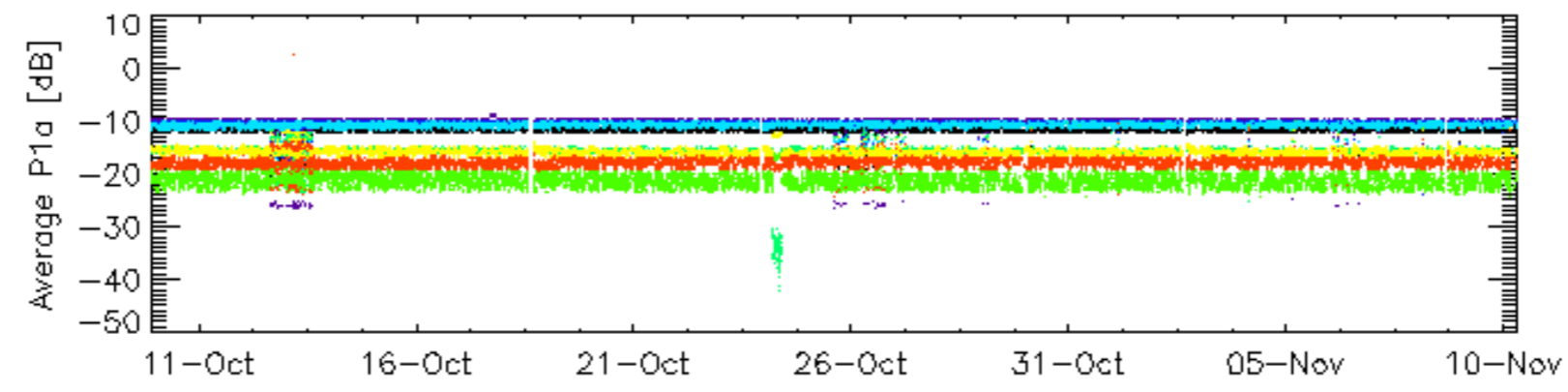
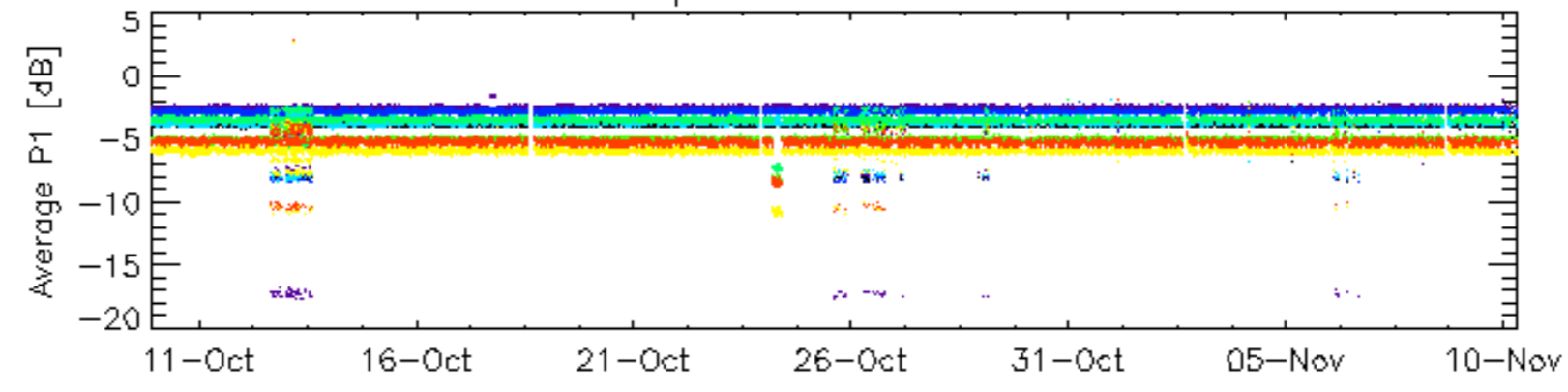


Cal pulses for WVS IS2



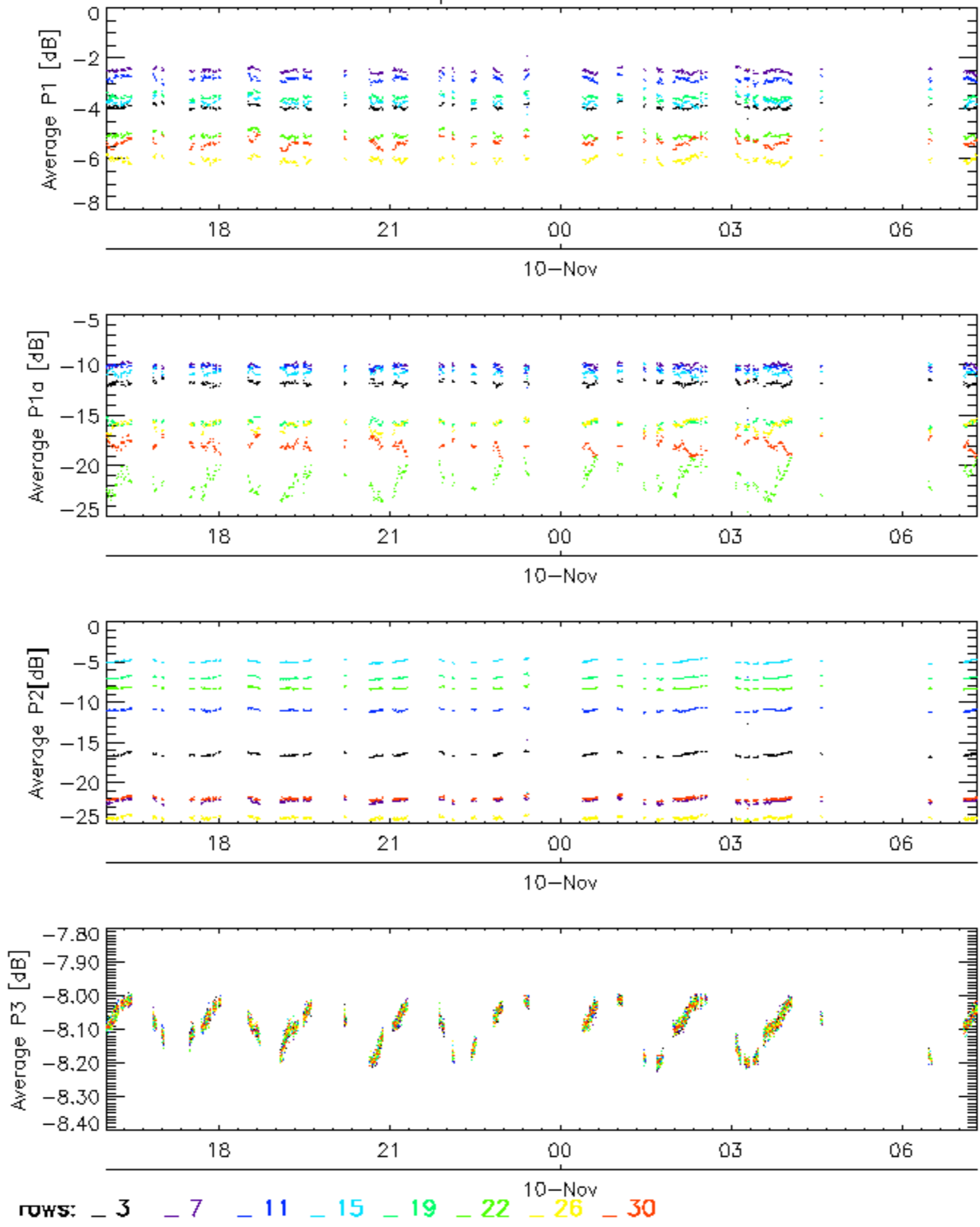
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

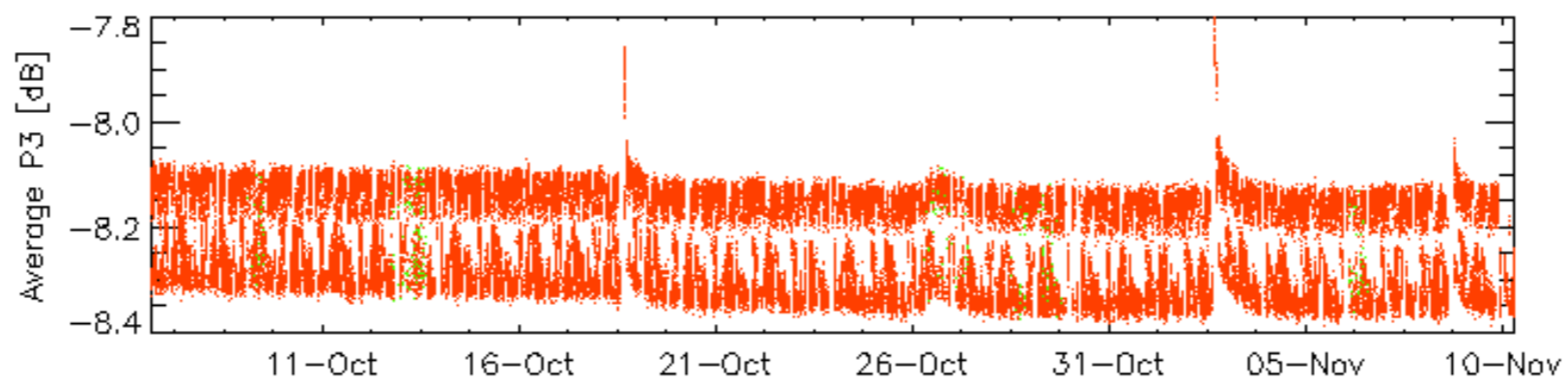
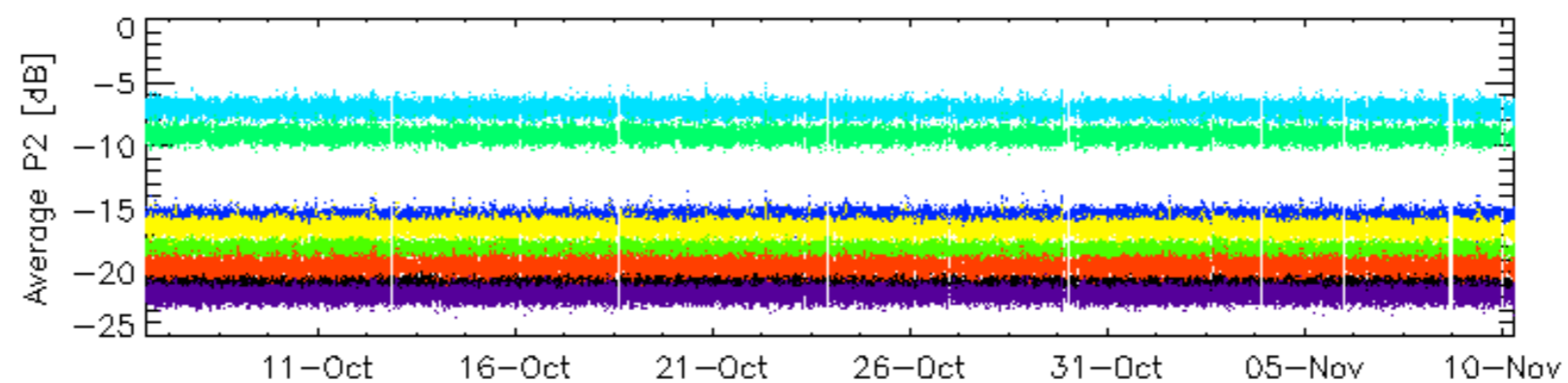
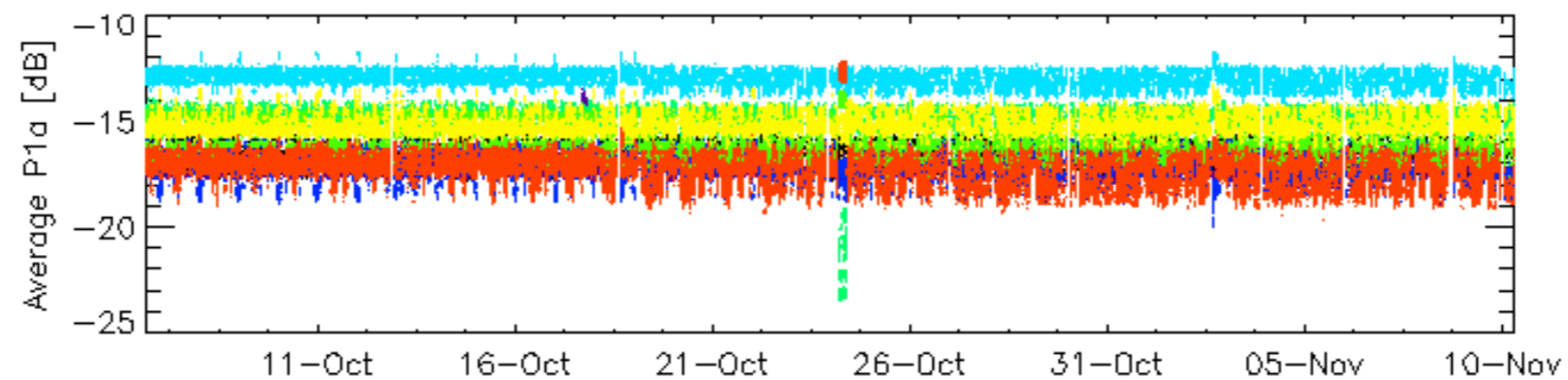
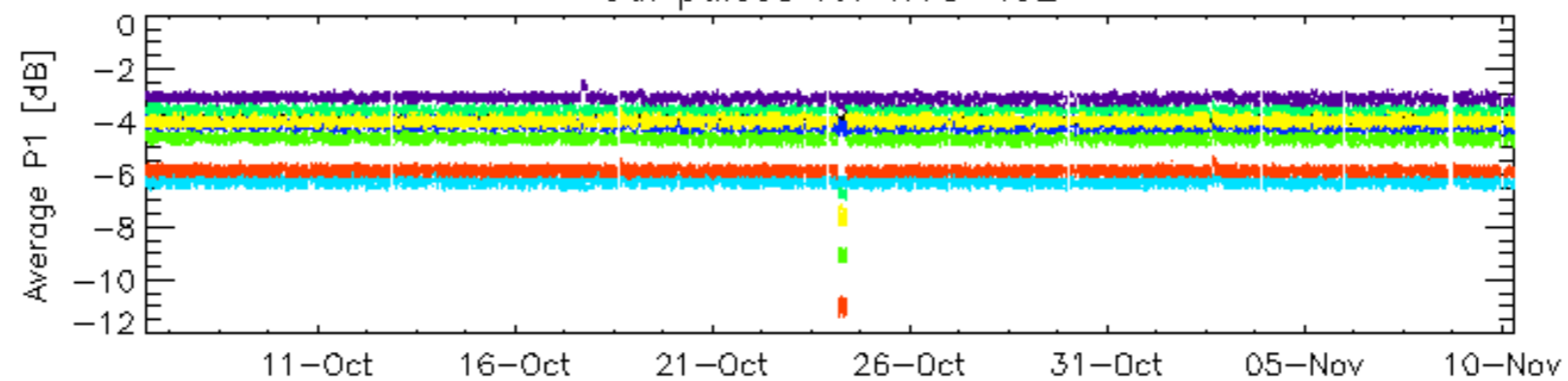


rows: [\\_ 3](#) [\\_ 7](#) [\\_ 11](#) [\\_ 15](#) [\\_ 19](#) [\\_ 22](#) [\\_ 26](#) [\\_ 30](#)

### Cal pulses for GM1 SS3

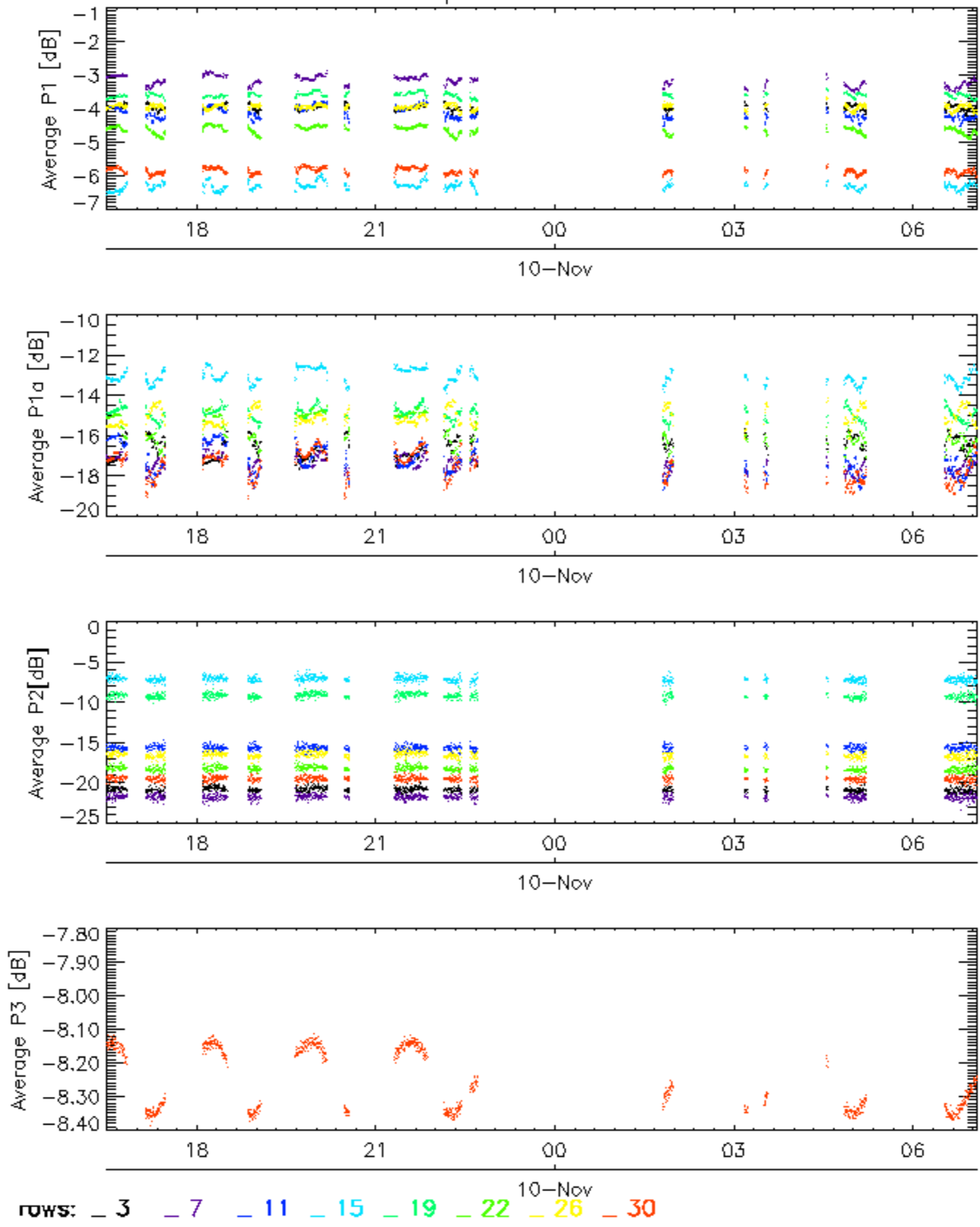


Cal pulses for WVS IS2



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

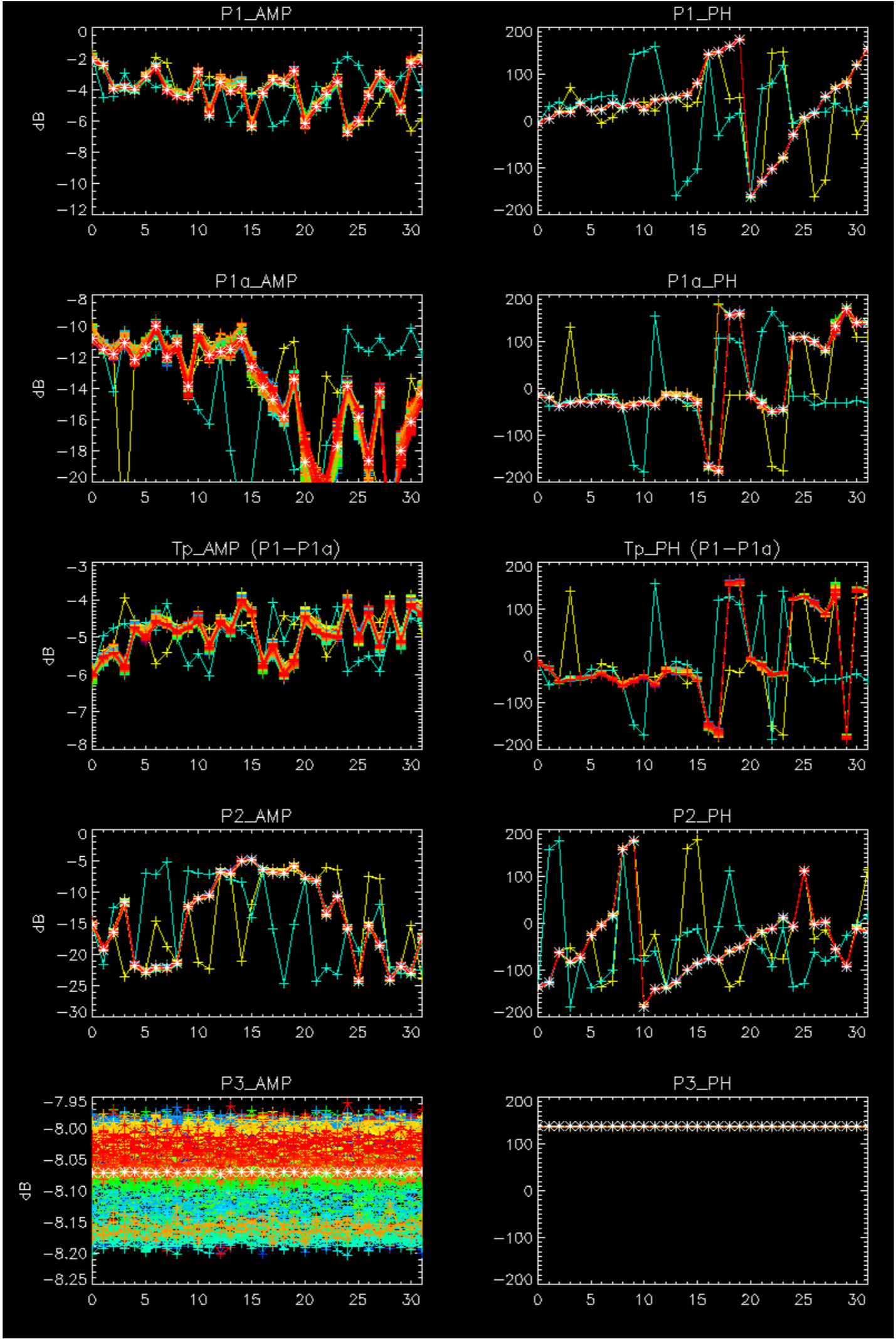
Cal pulses for WVS IS2

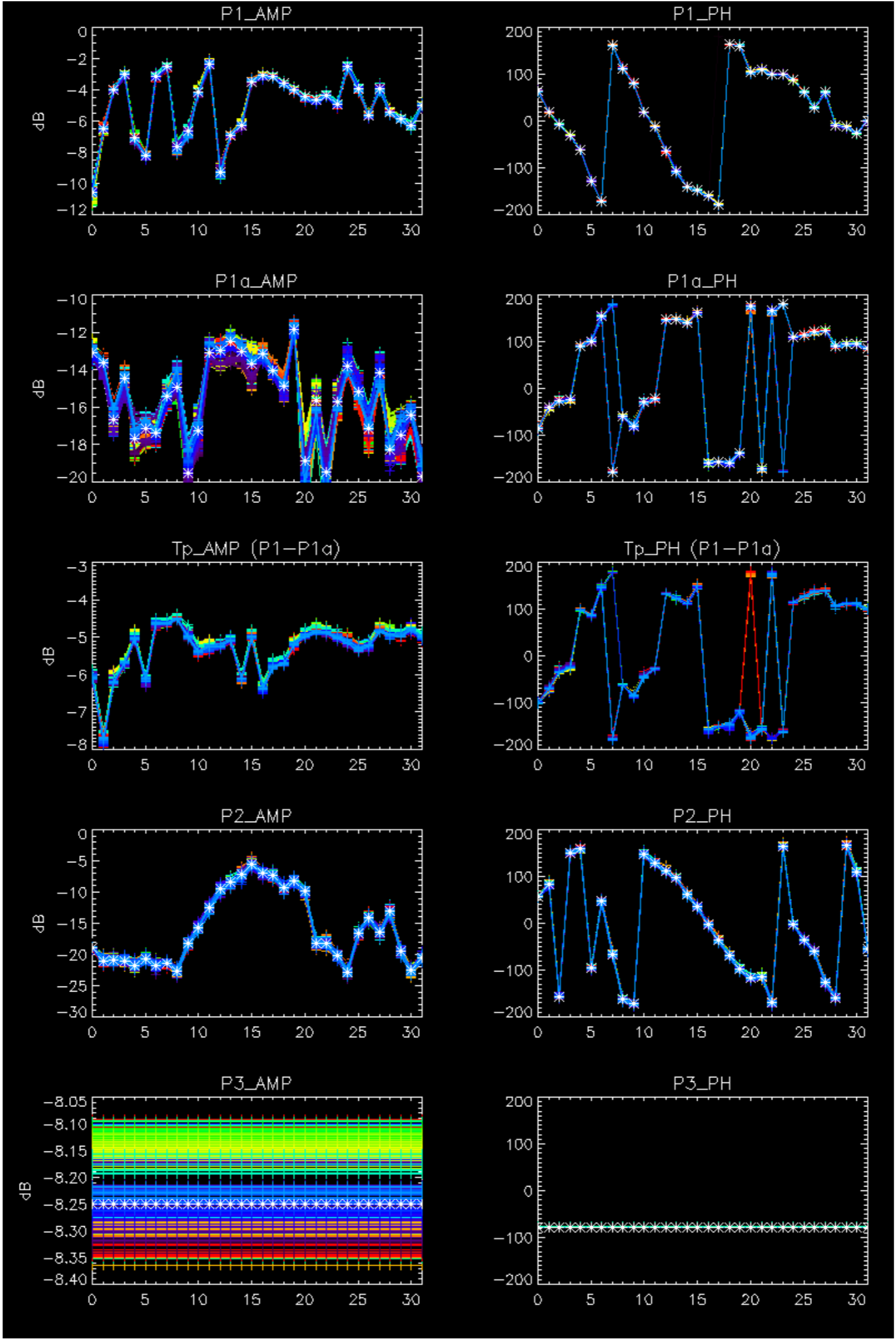


No anomalies observed on available browse products



No anomalies observed.

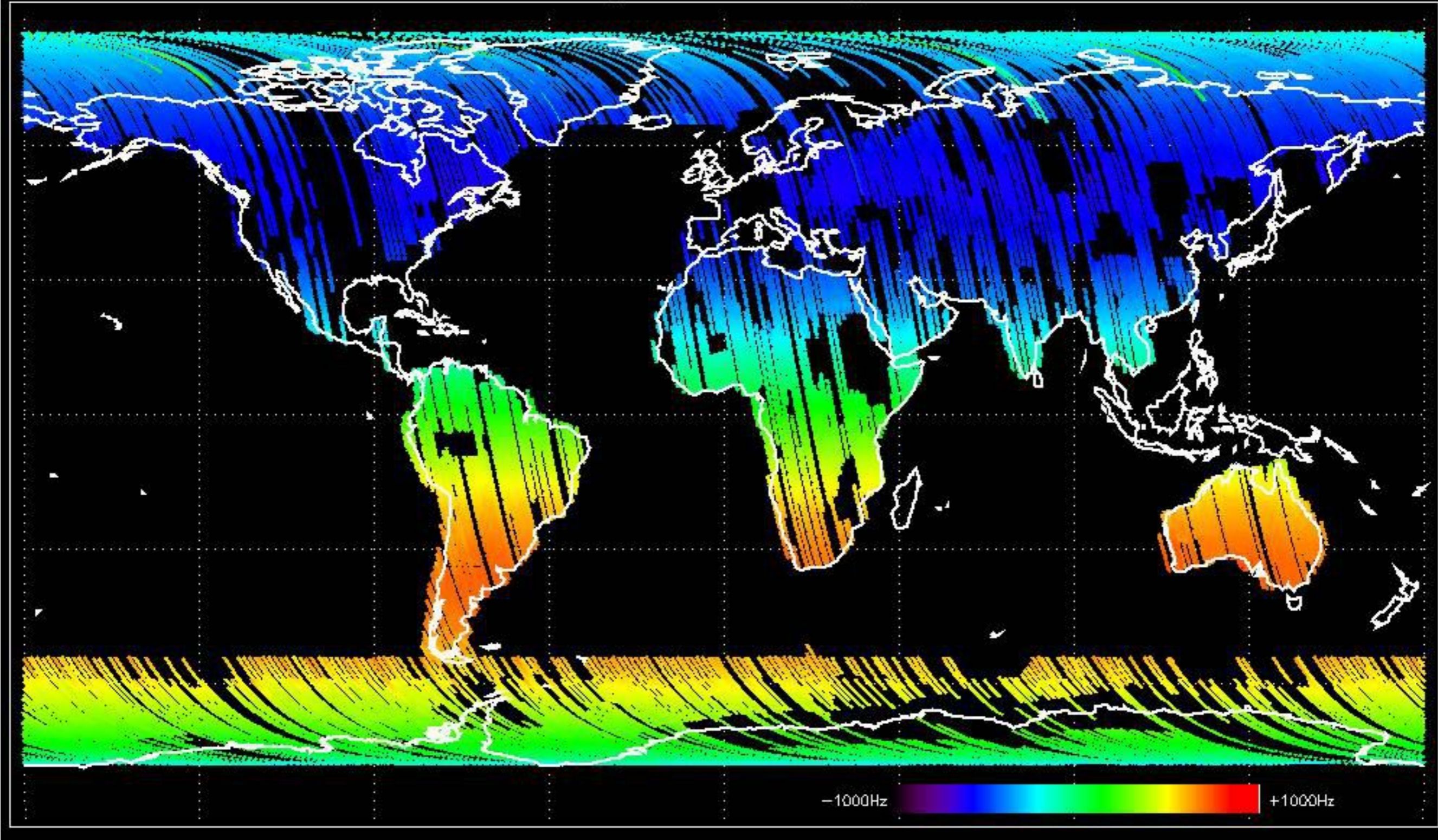




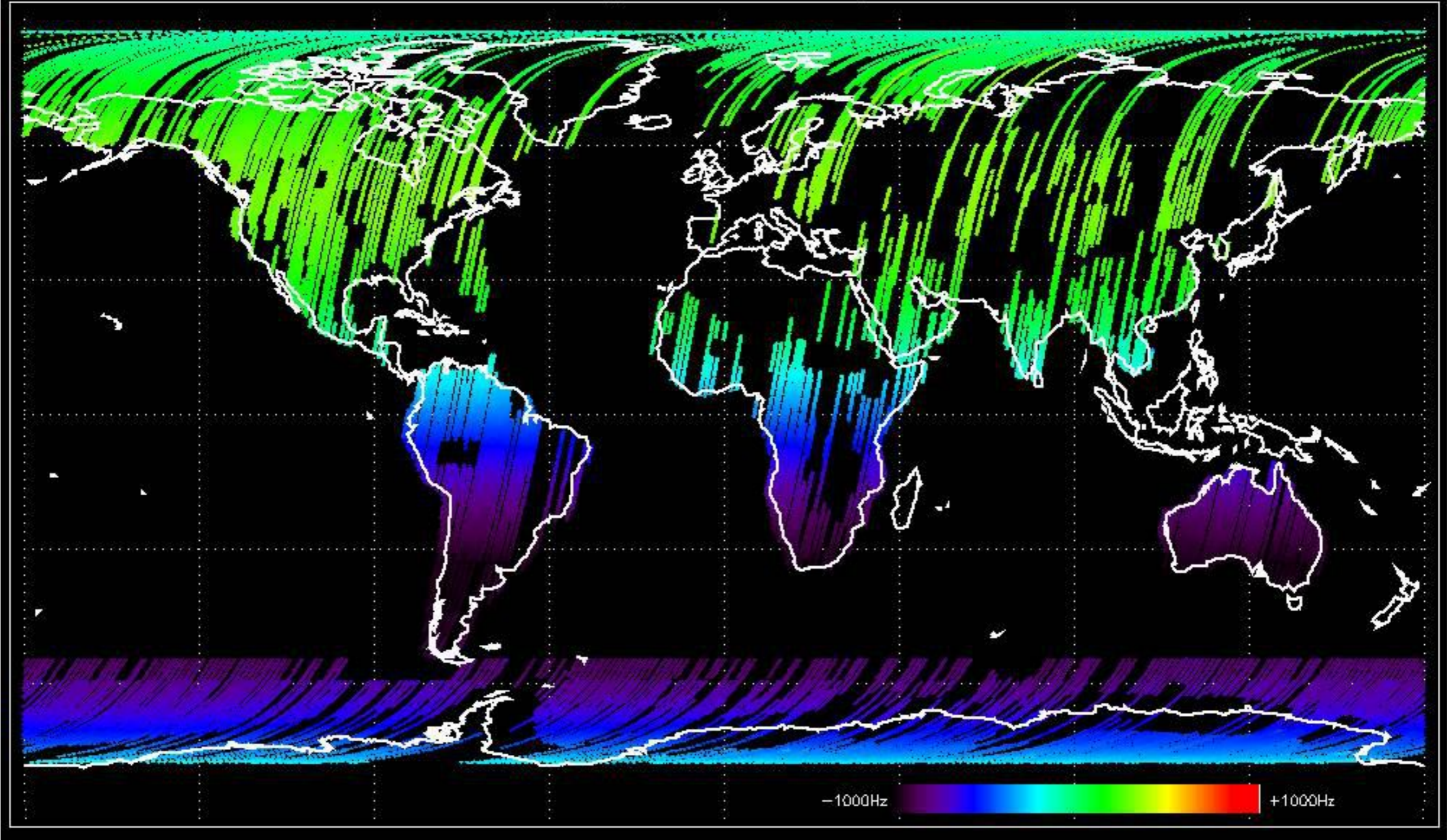
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



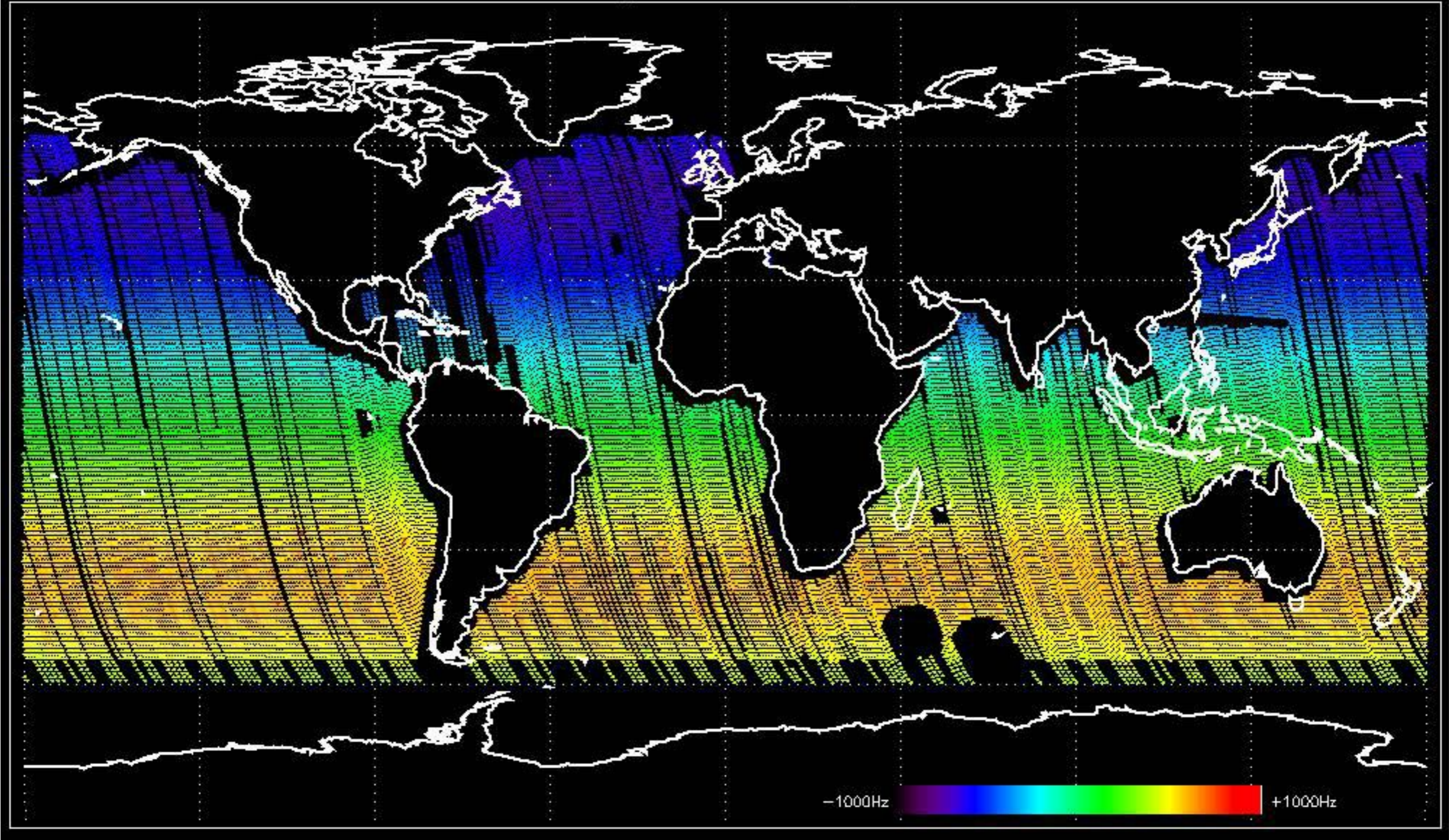
Doppler 'GM1' 'SS1' ascending



Doppler 'GM1' 'SS1' descending

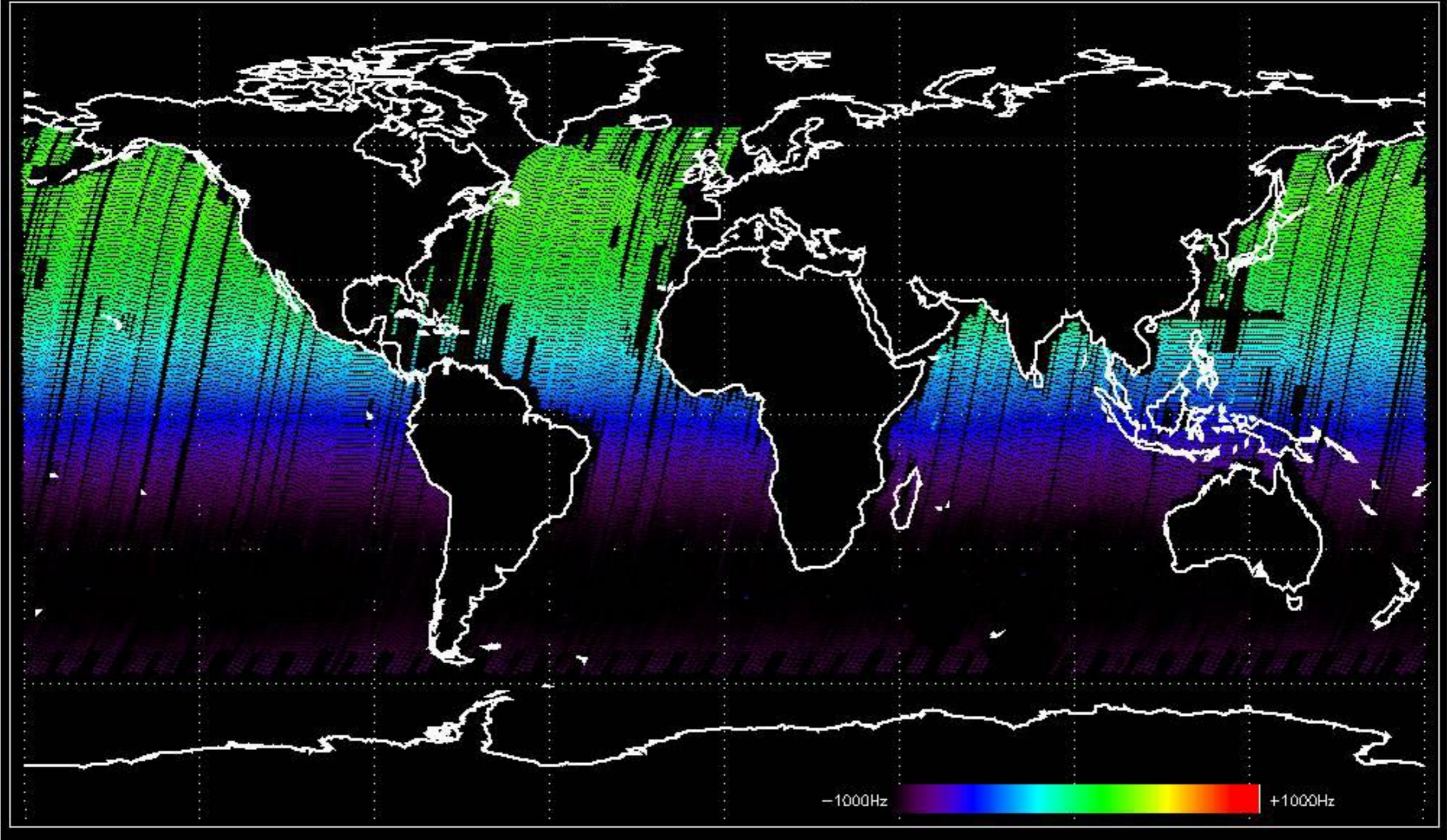


Doppler 'WVS' 'IS2' ascending

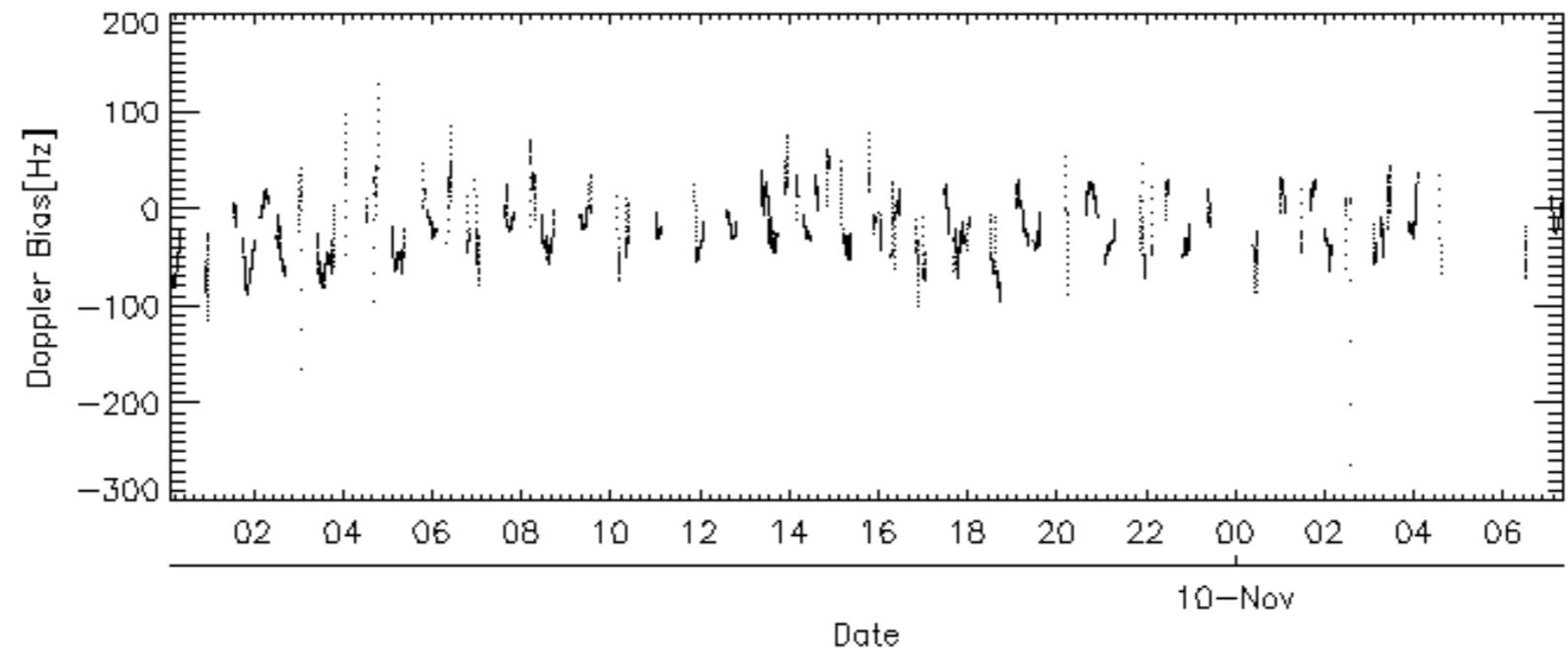
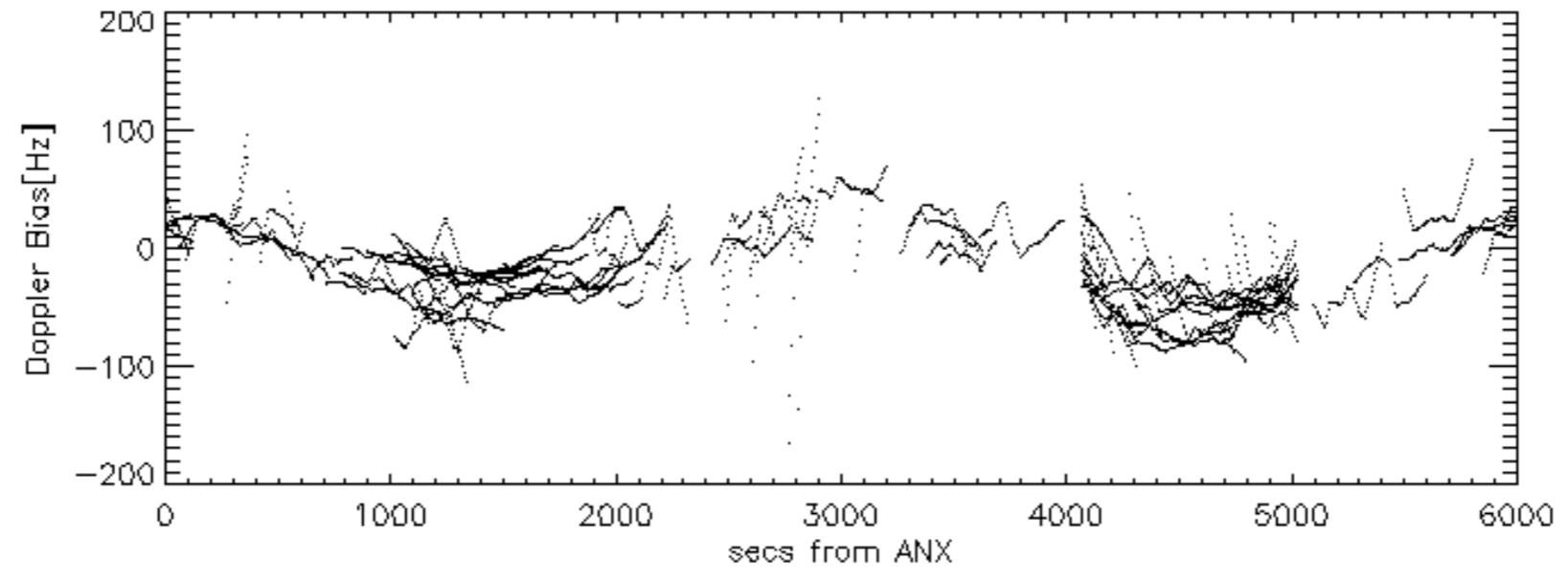
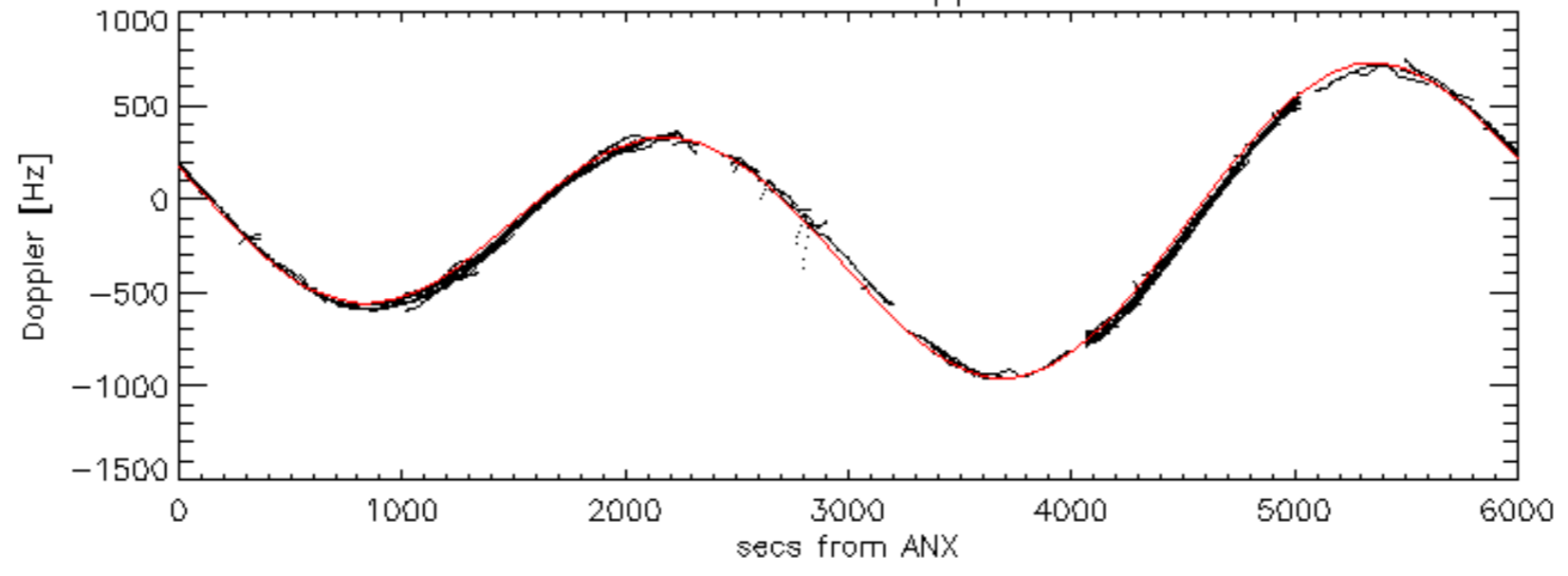


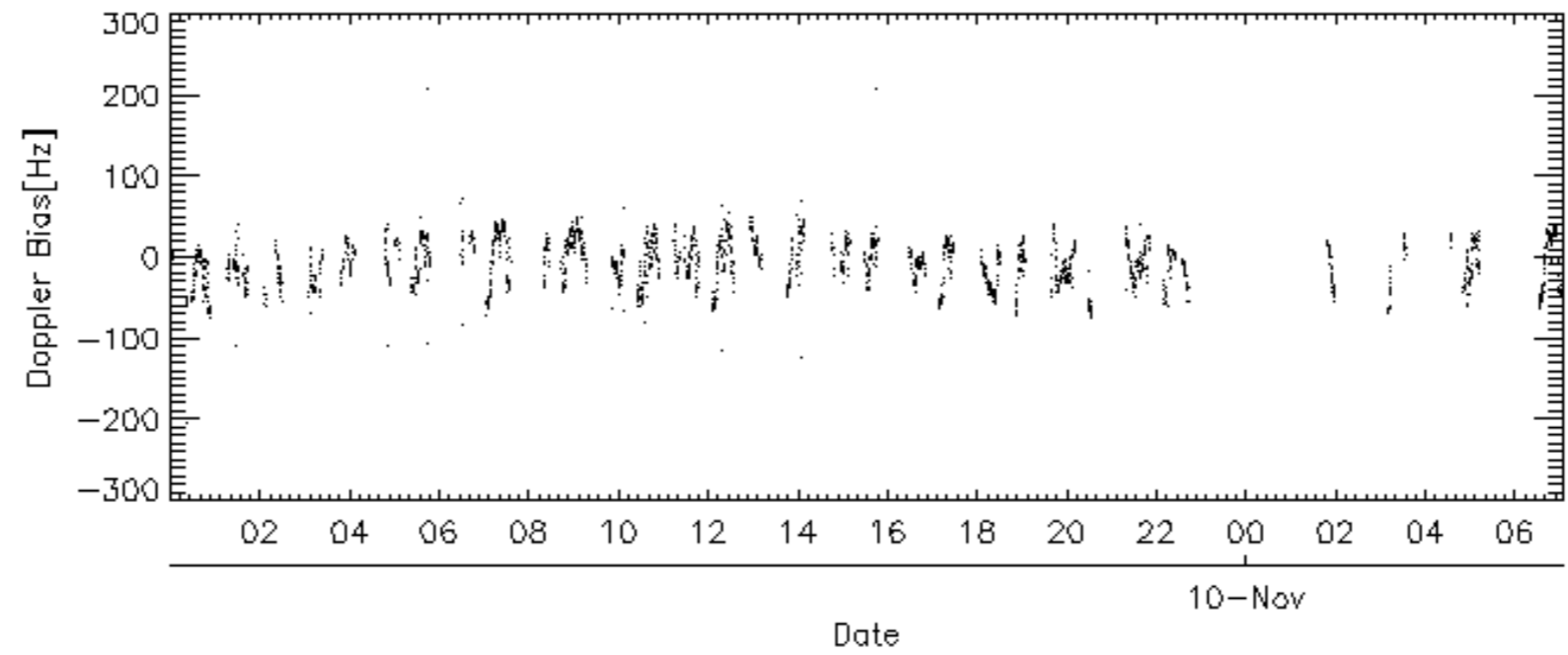
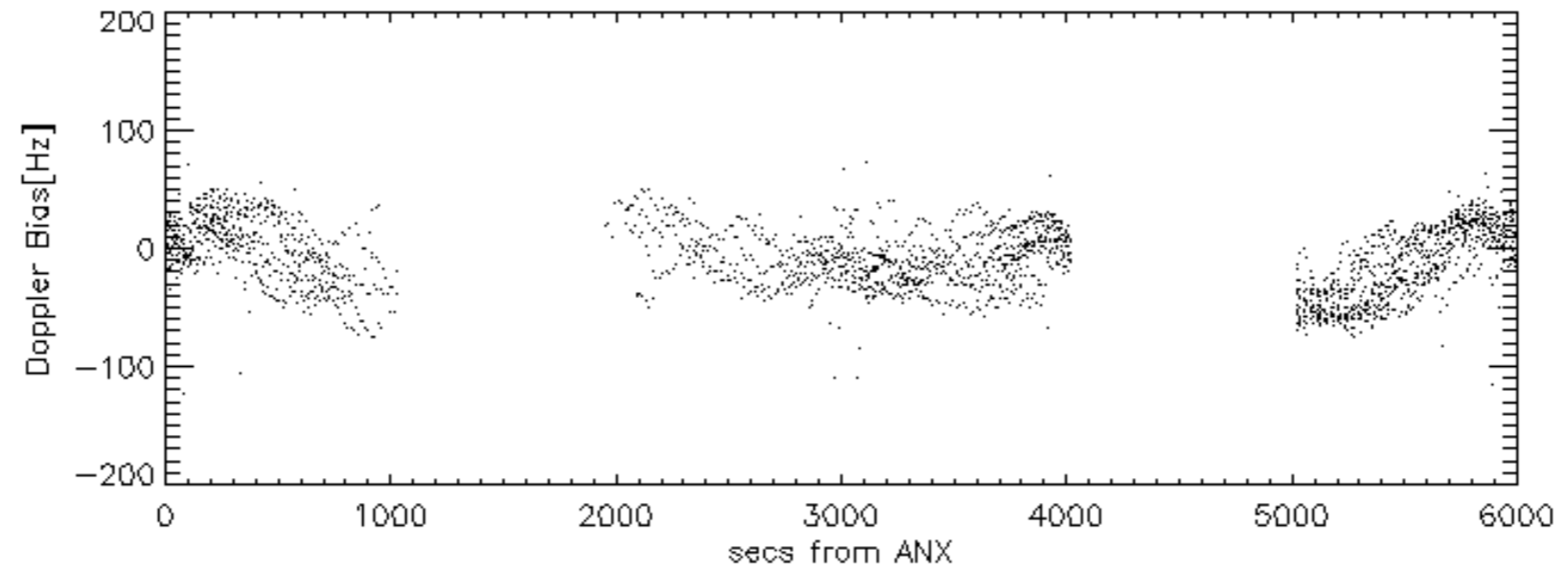
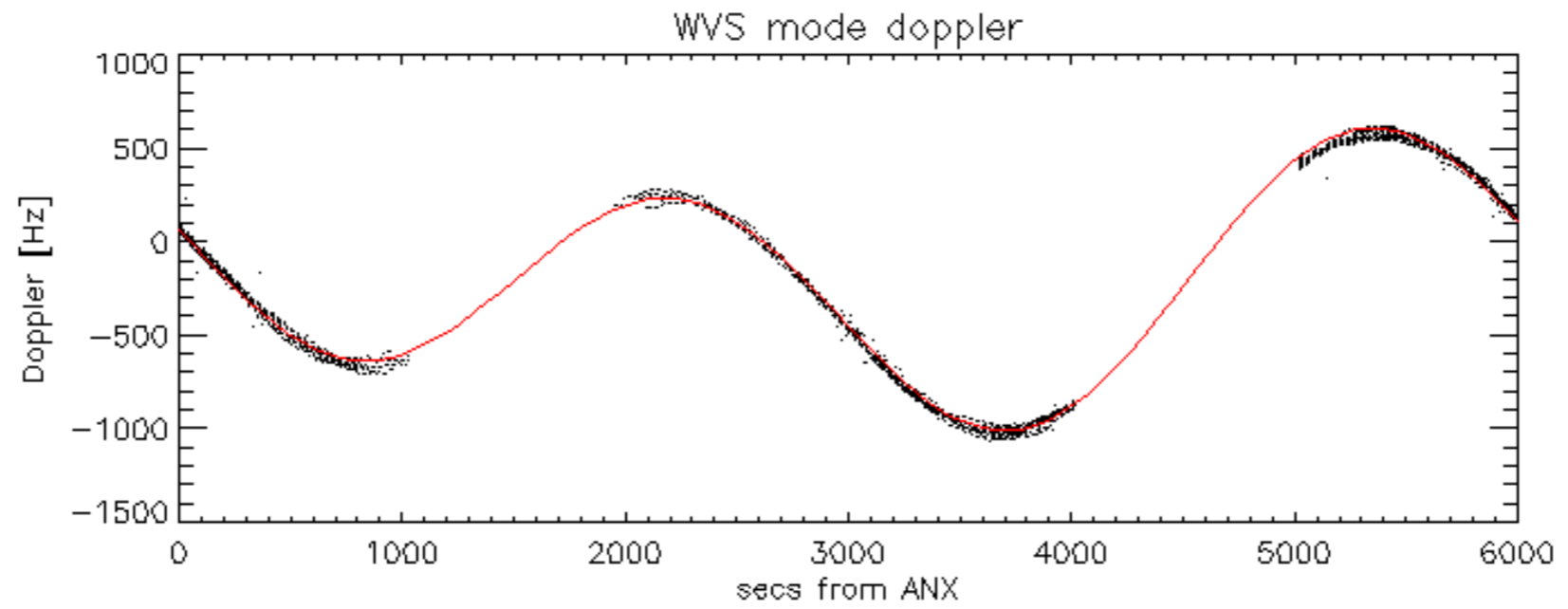


Doppler 'WVS' 'IS2' descending

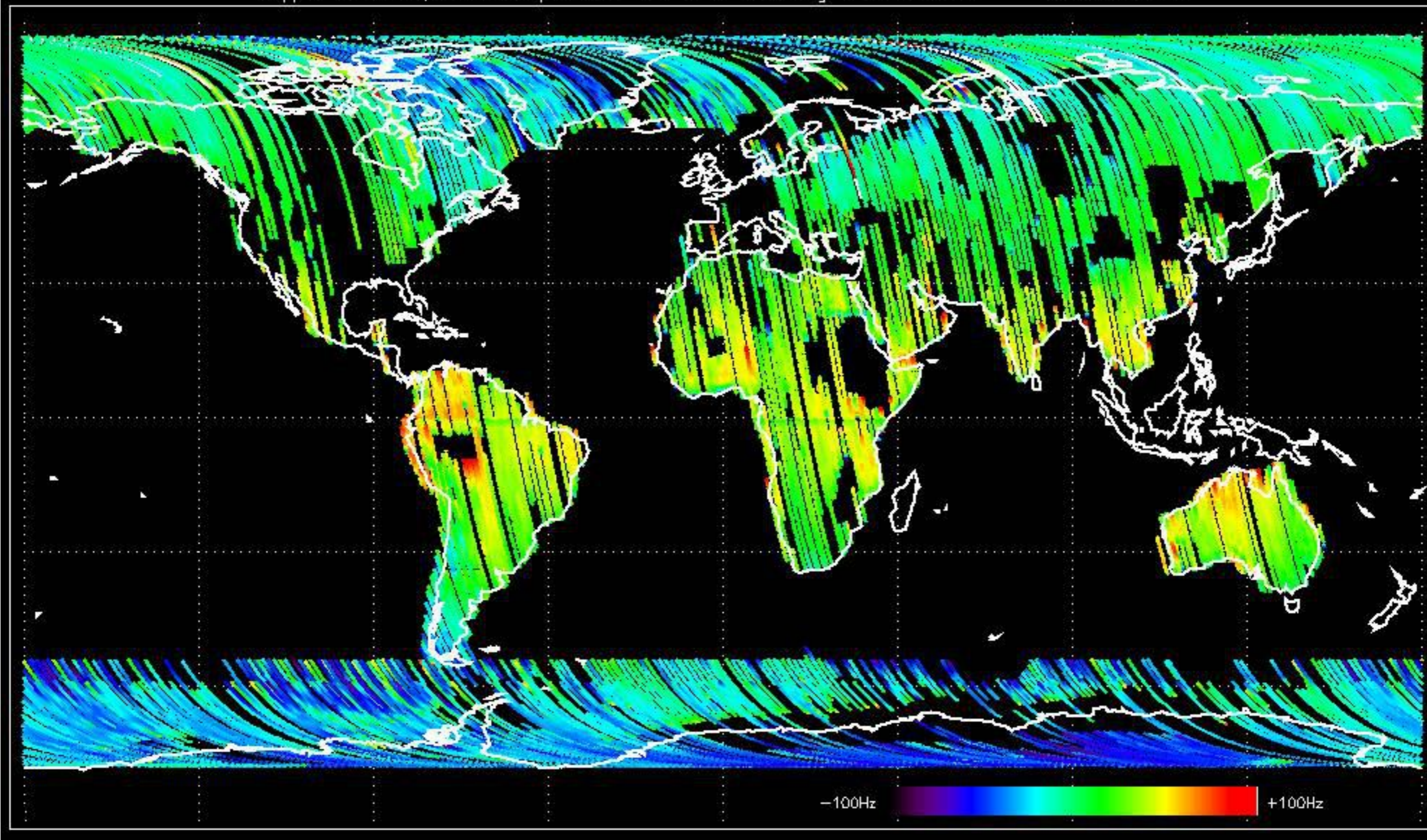


GM1 mode doppler

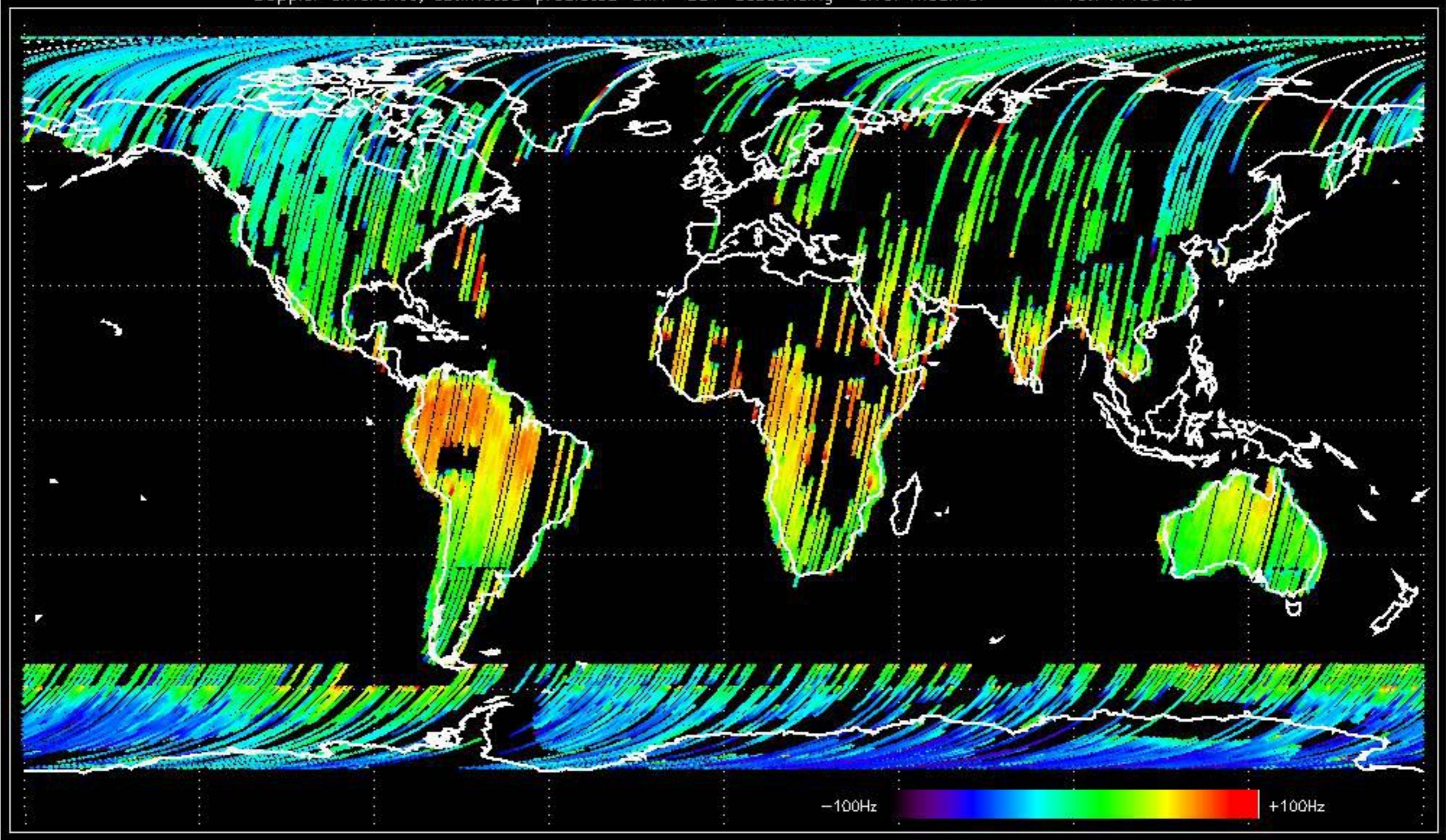




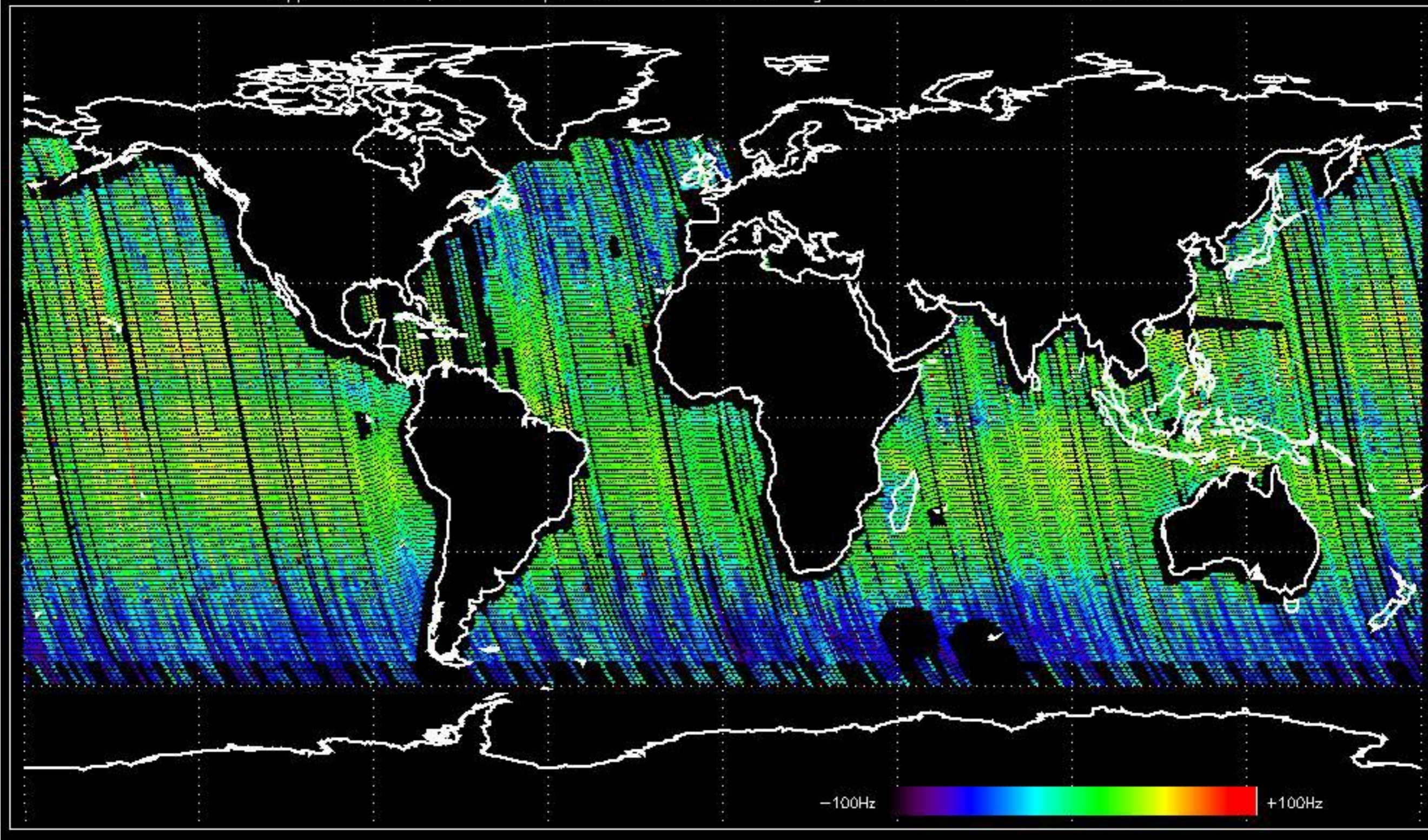
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -20.404722 Hz



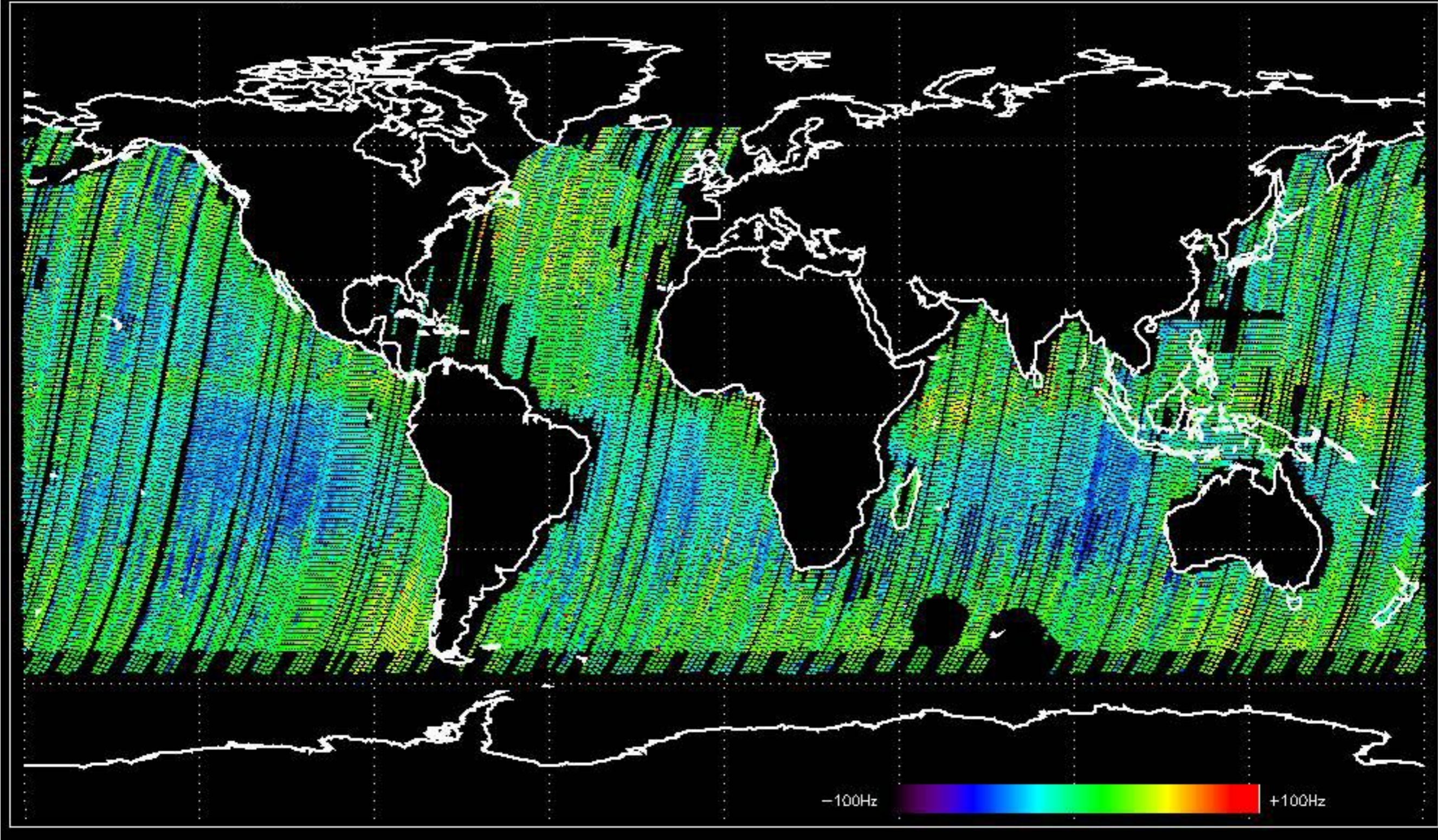
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -13.744485 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -6.1245721 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -9.6762034 Hz



No anomalies observed on available MS products:



No anomalies observed.



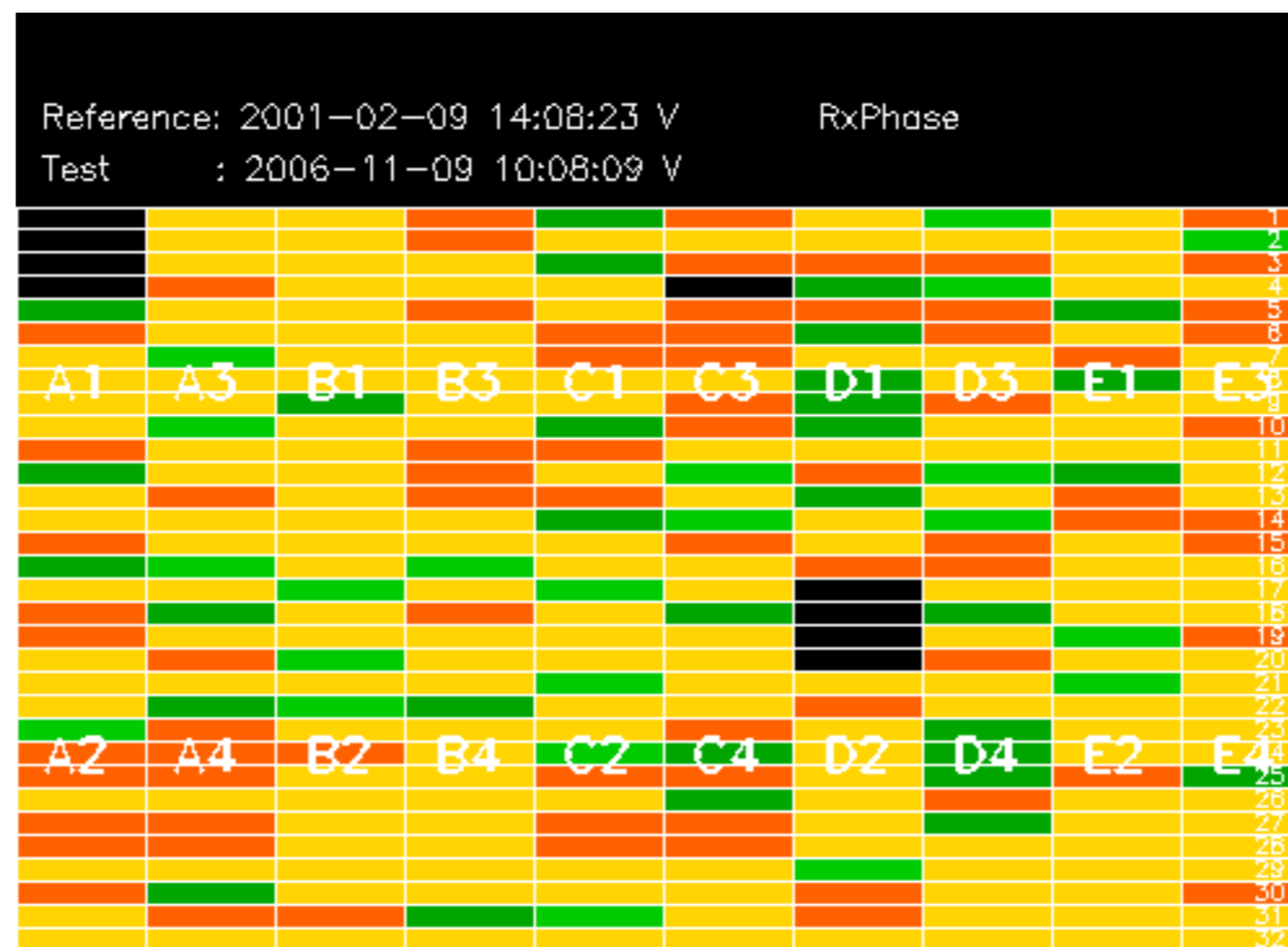






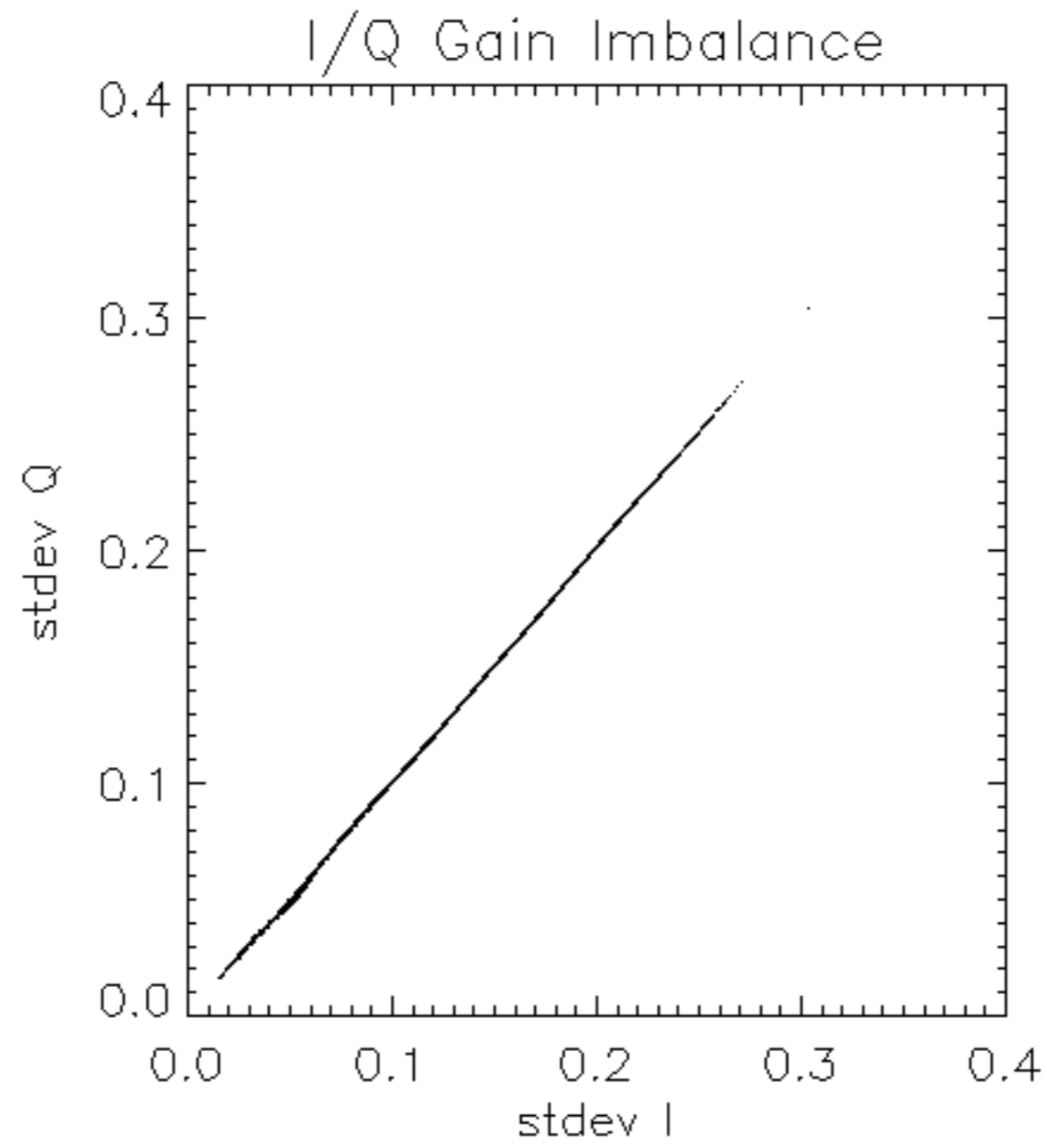


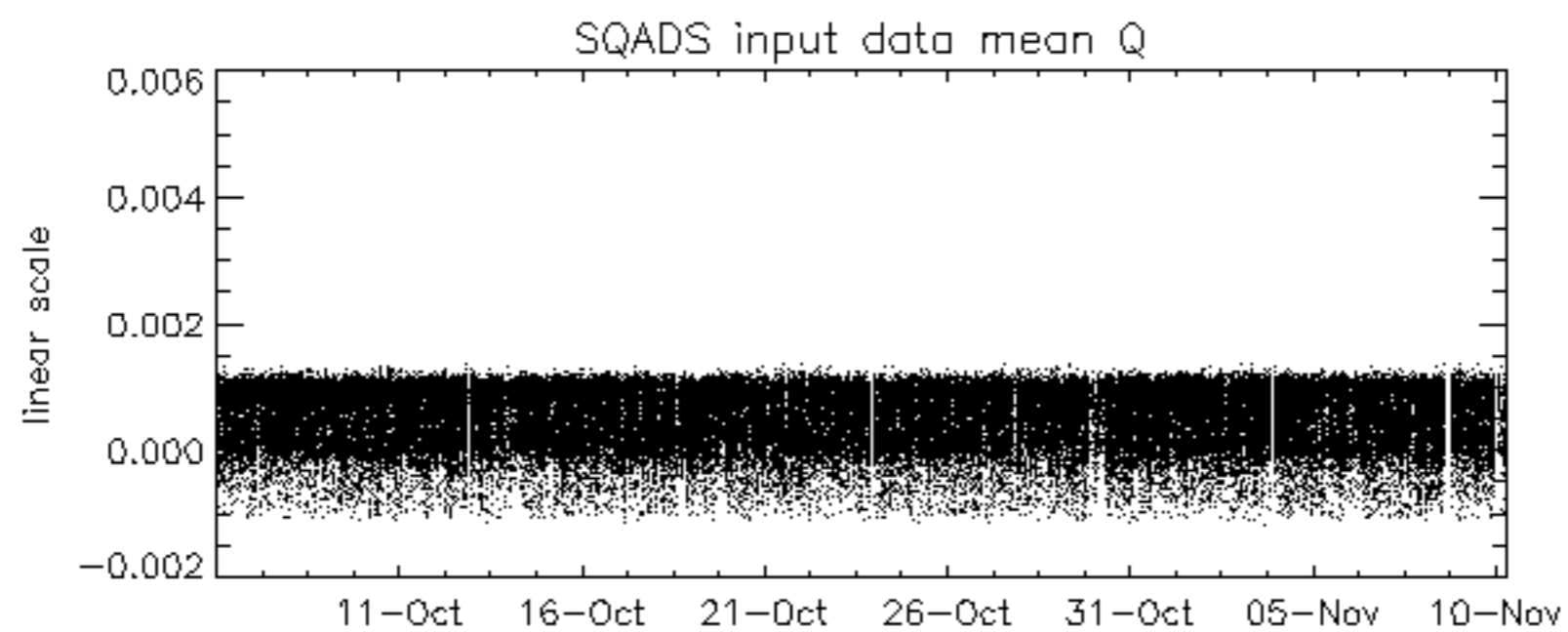
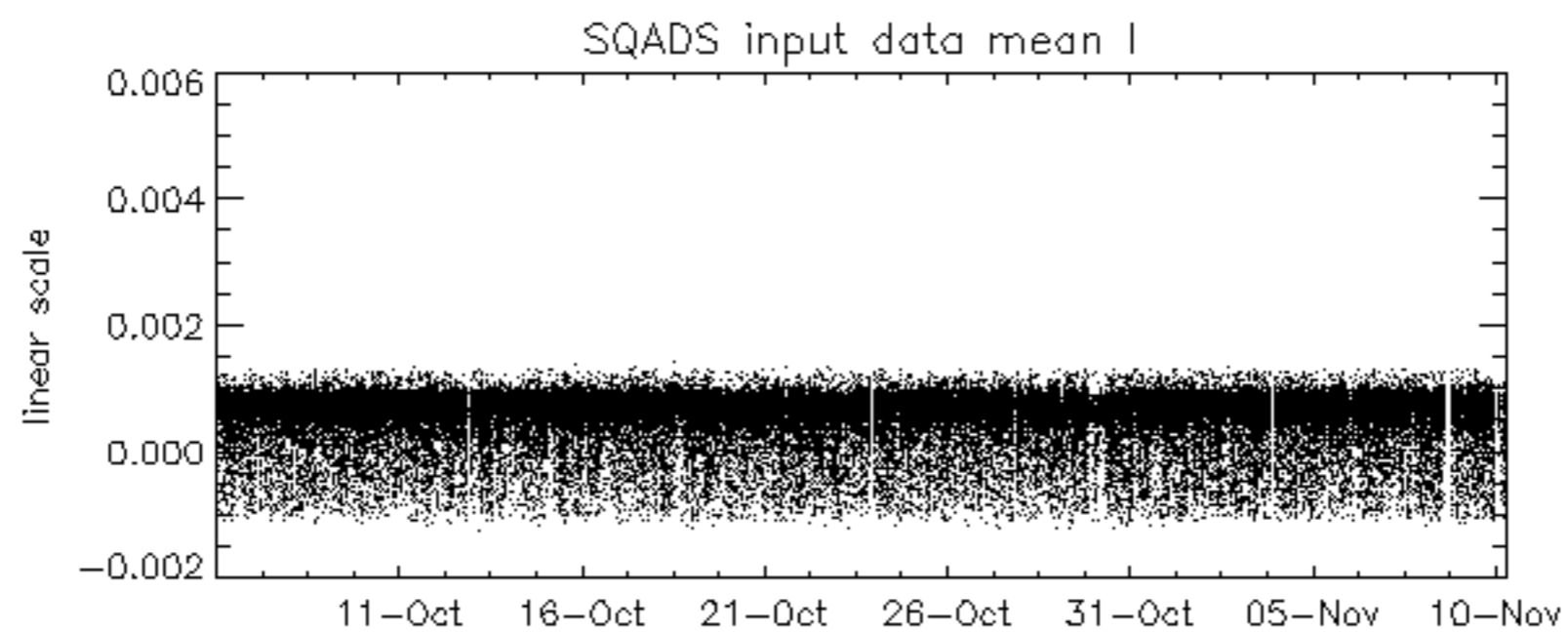
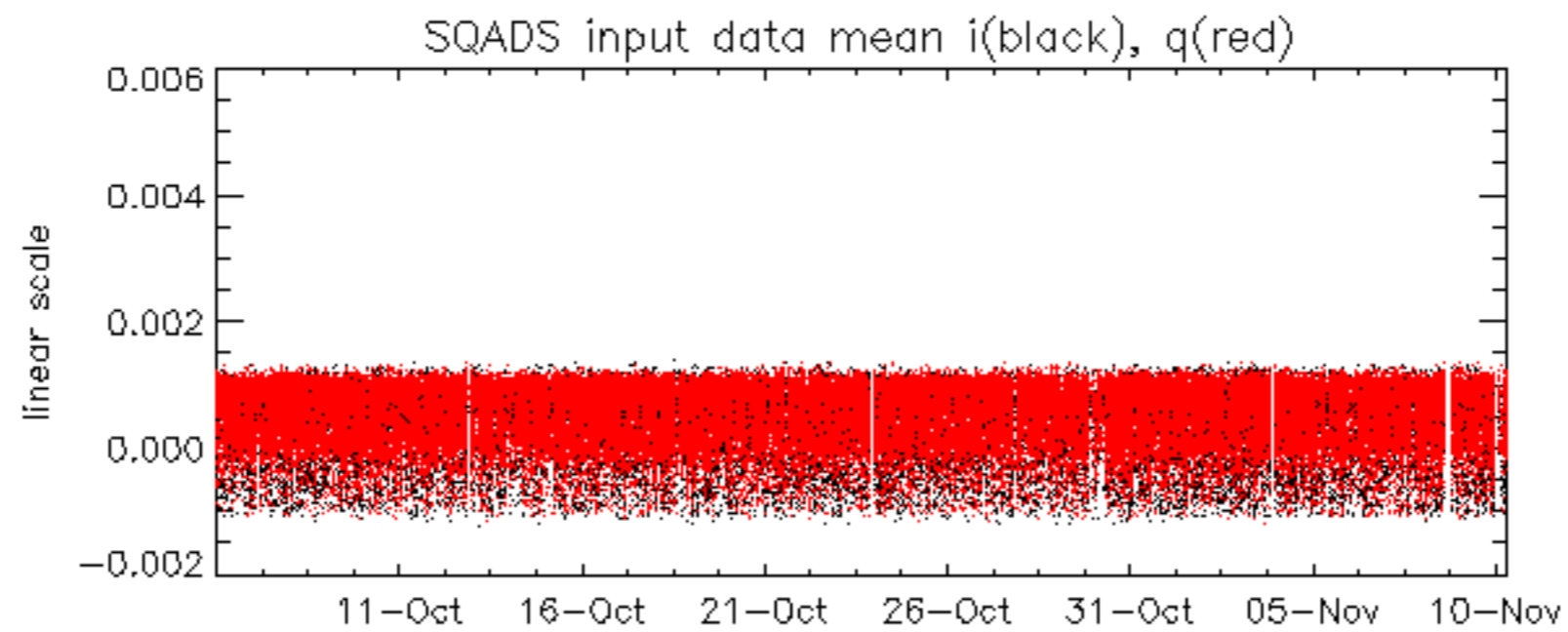


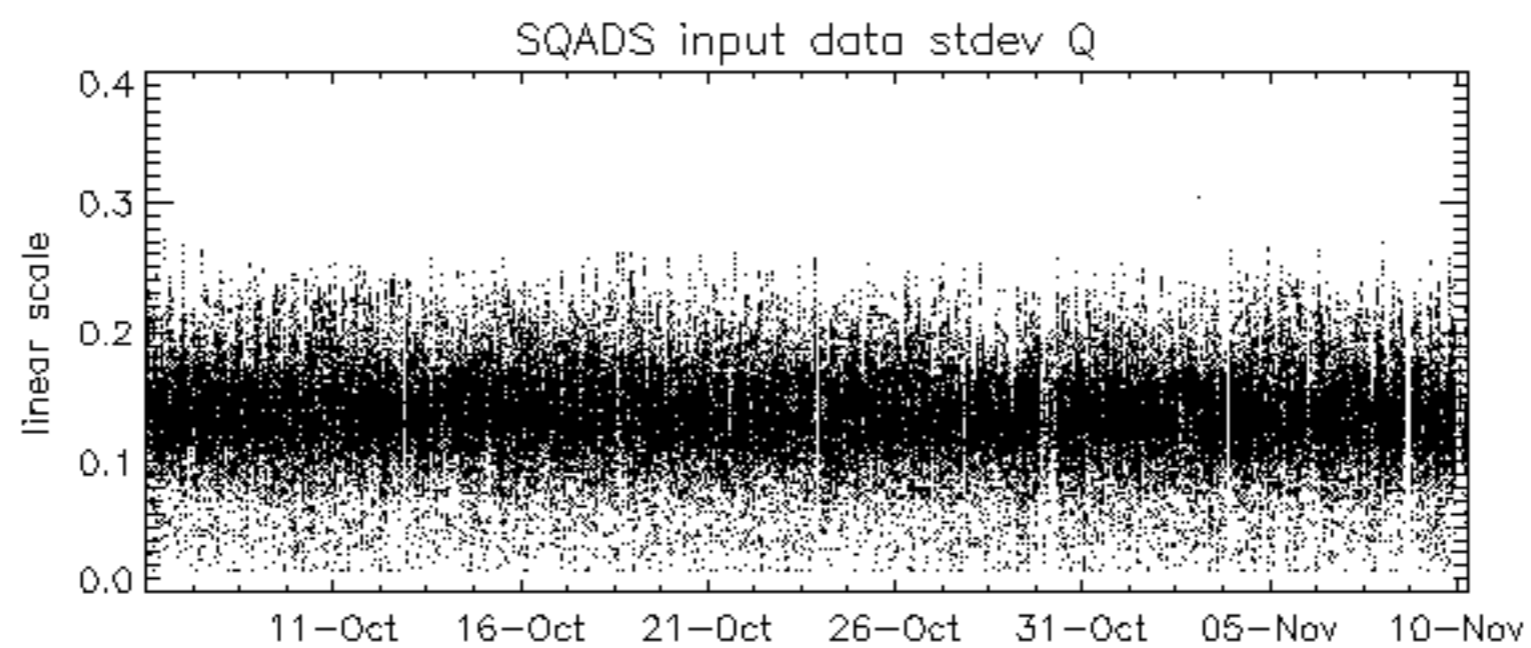
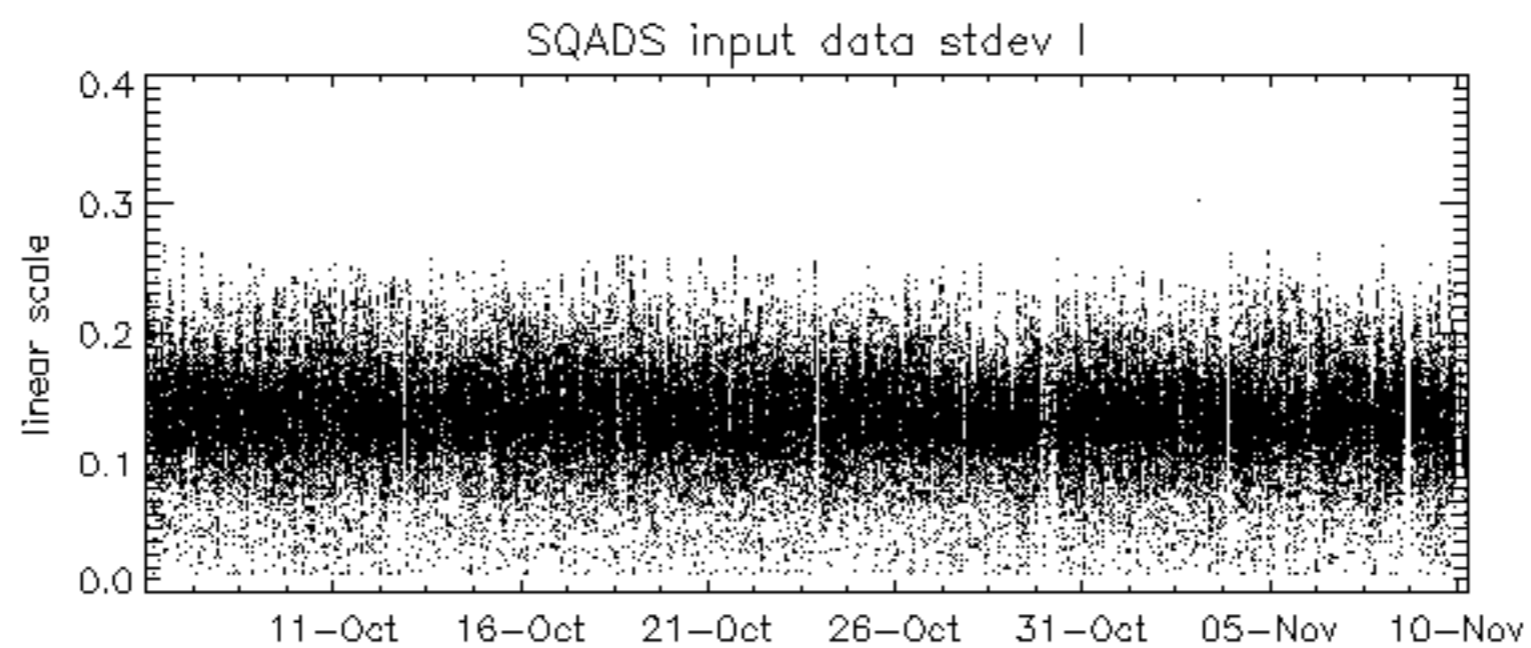
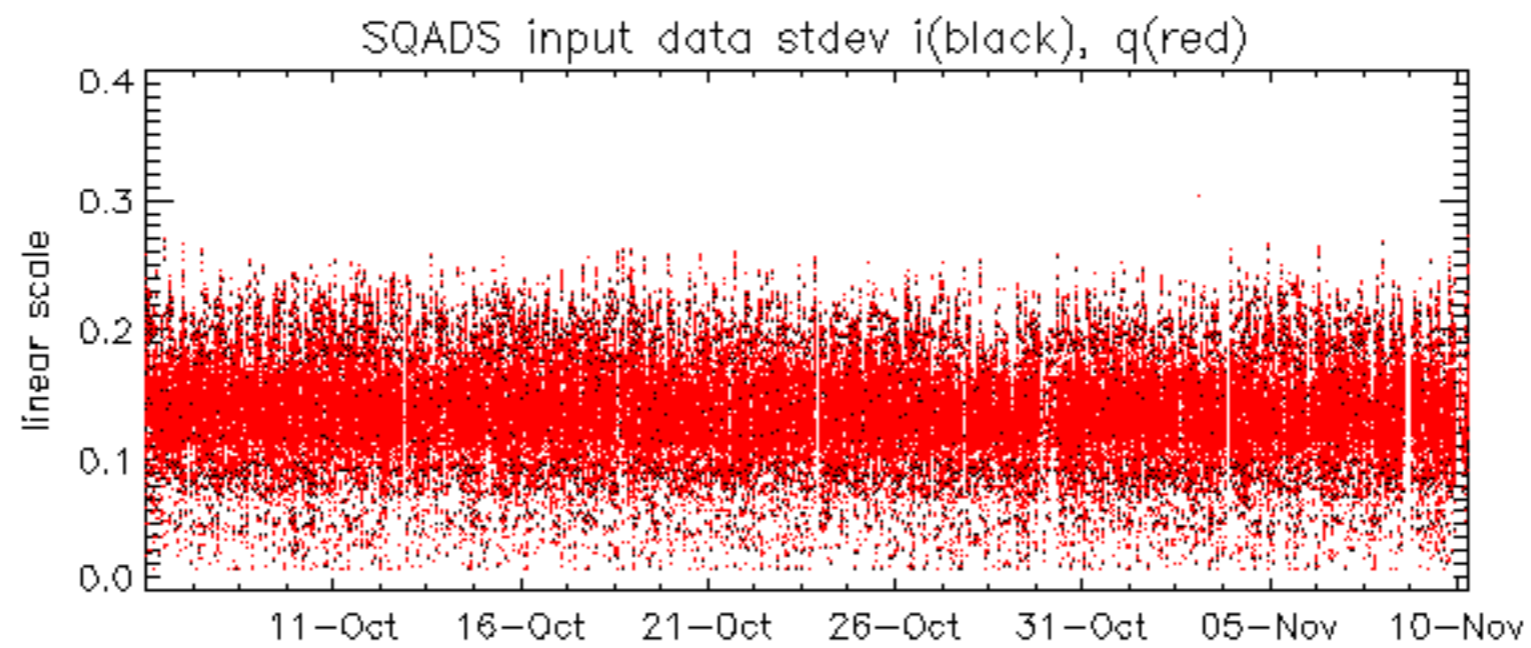






















Summary of analysis for the last 3 days 2006110[890]

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_1PNPDK20061108_143314_00000352052_00425_24527_3678.N1	1	0
ASA_IMM_1PNPDK20061108_202032_00000362052_00429_24531_3691.N1	1	0
ASA_GM1_1PNPDK20061109_091832_000006582052_00437_24539_8301.N1	0	9
ASA_GM1_1PNPDK20061109_151003_000008032052_00440_24542_8321.N1	0	120
ASA_WSM_1PNPDE20061108_001656_000002632052_00417_24519_0001.N1	0	29
ASA_WSM_1PNPDE20061108_234619_000002632052_00431_24533_0001.N1	0	29



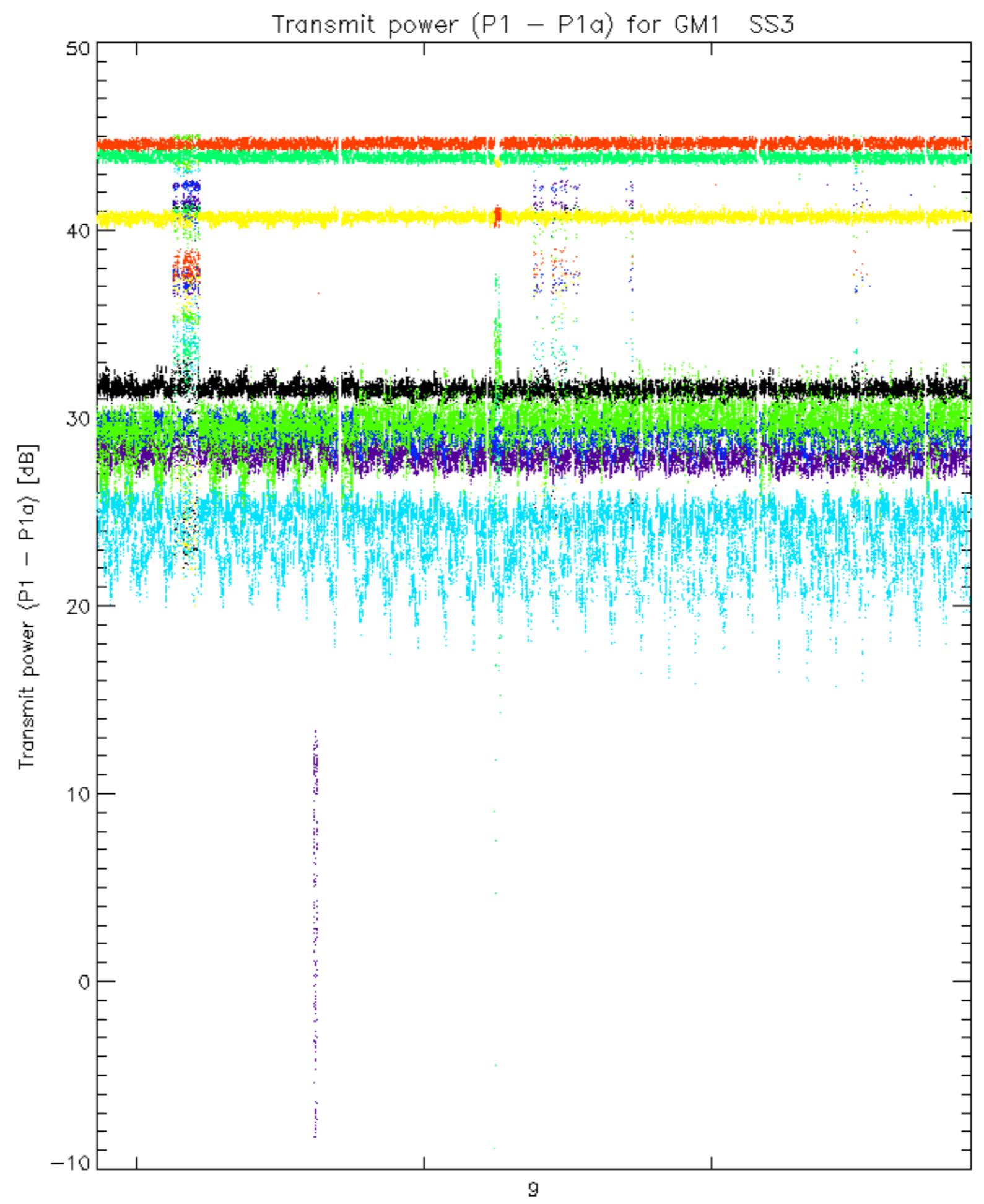






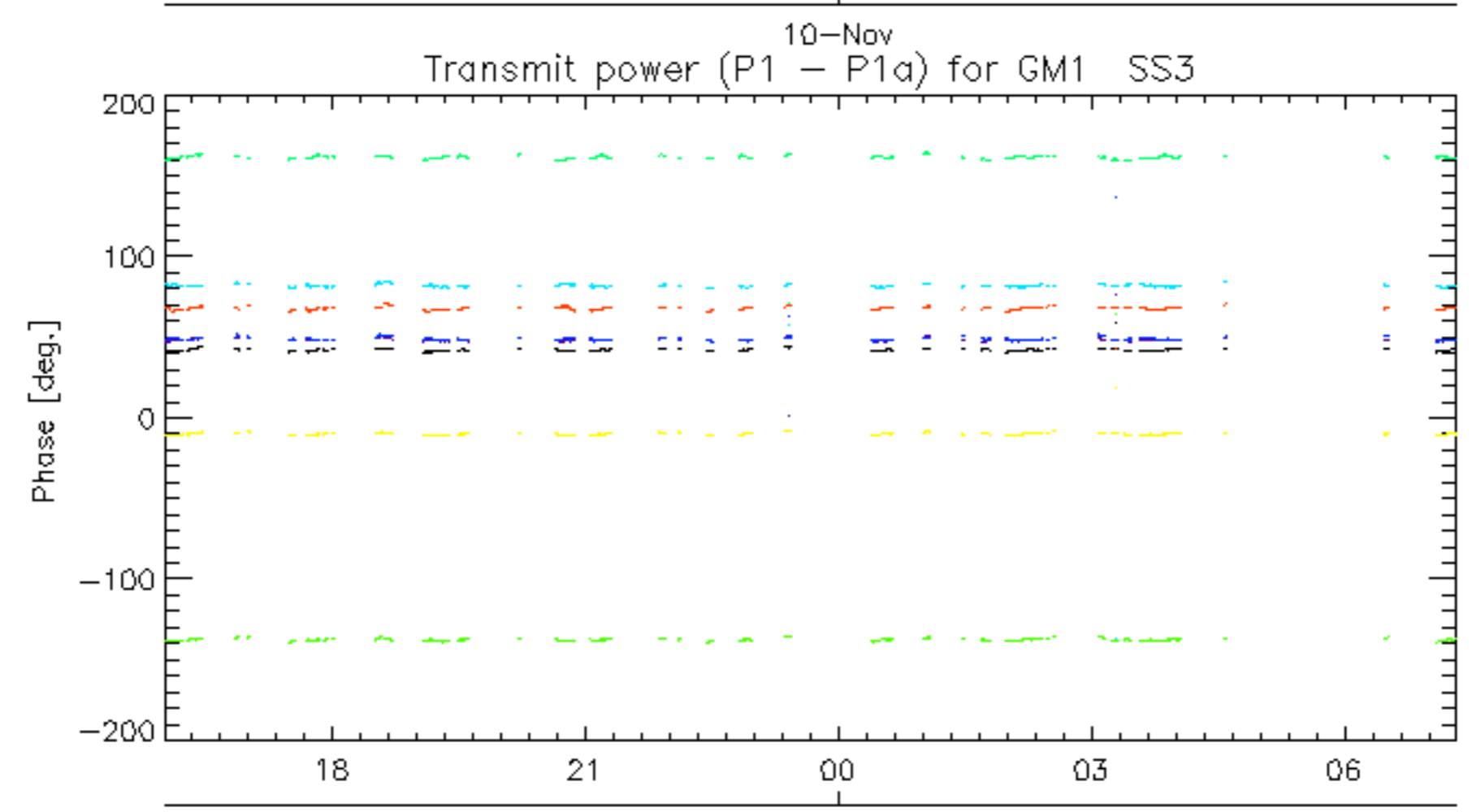
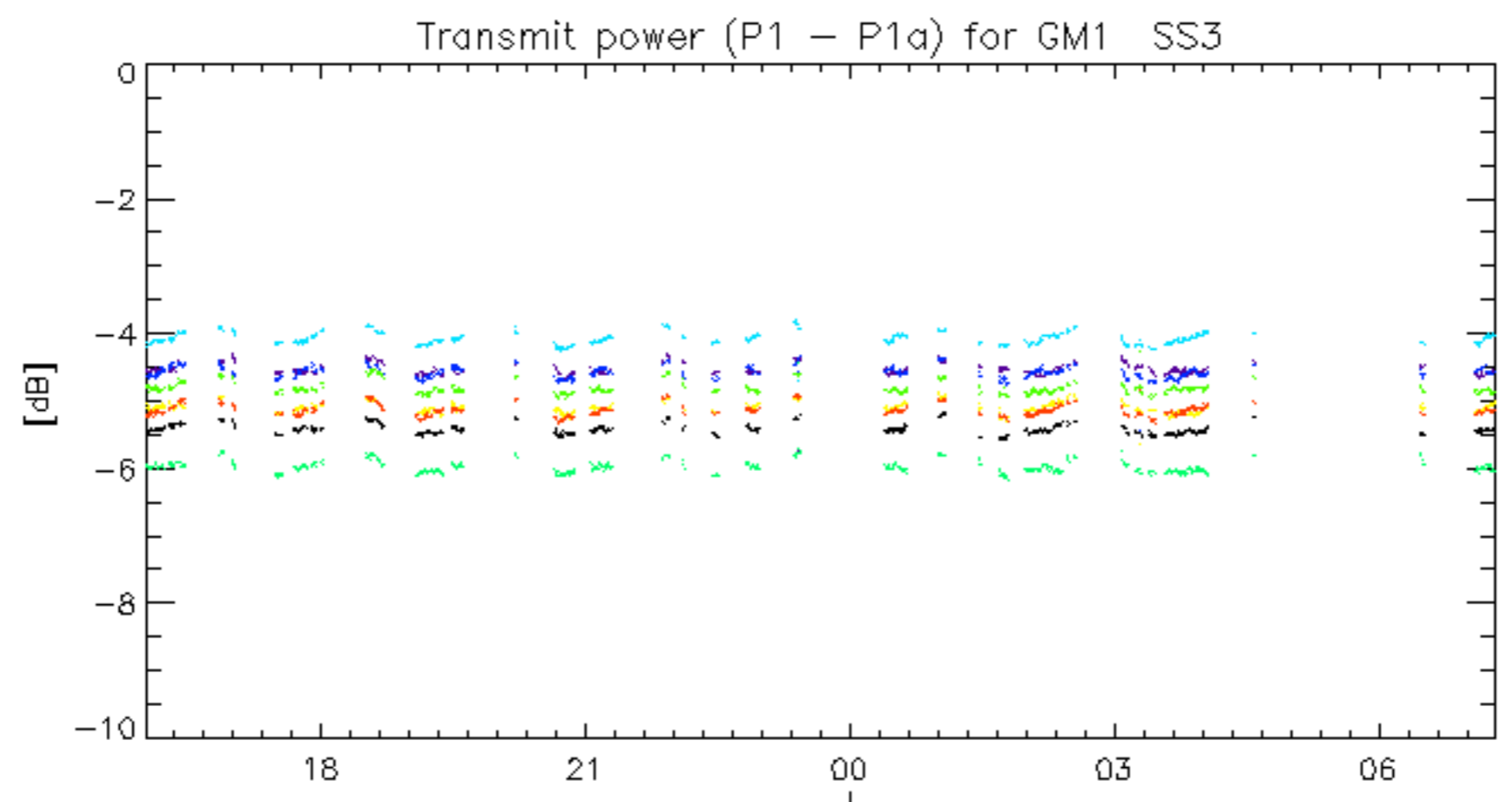




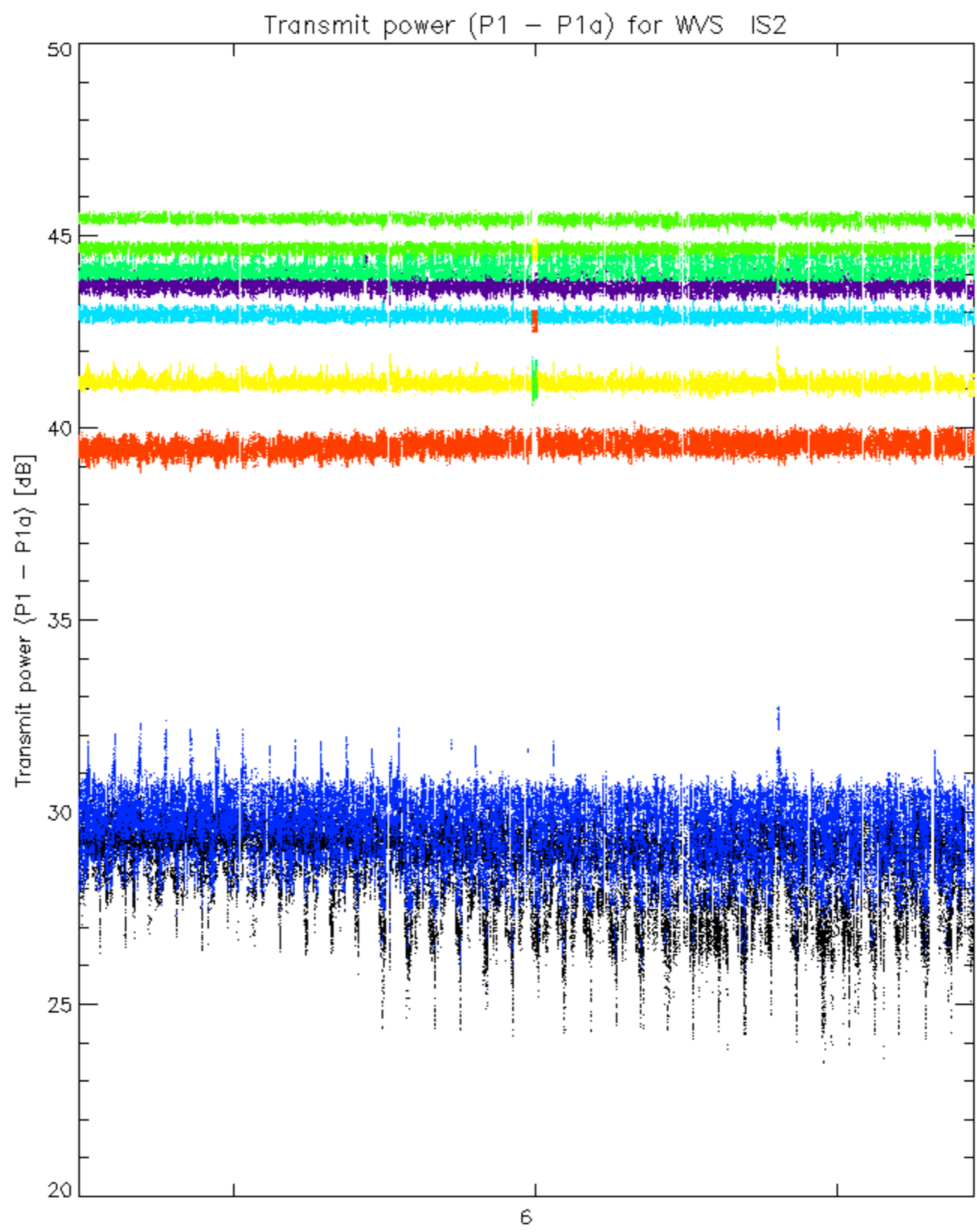


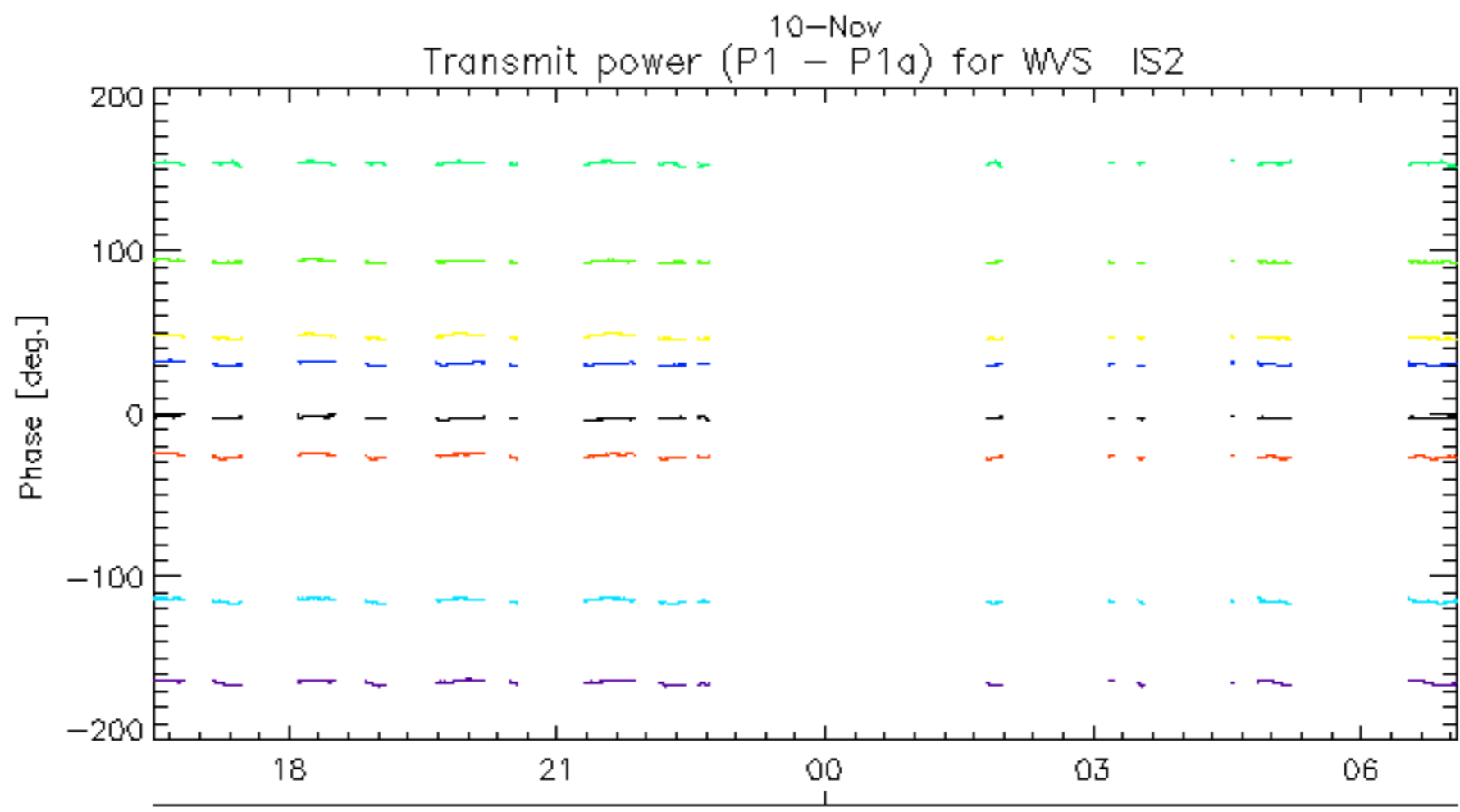
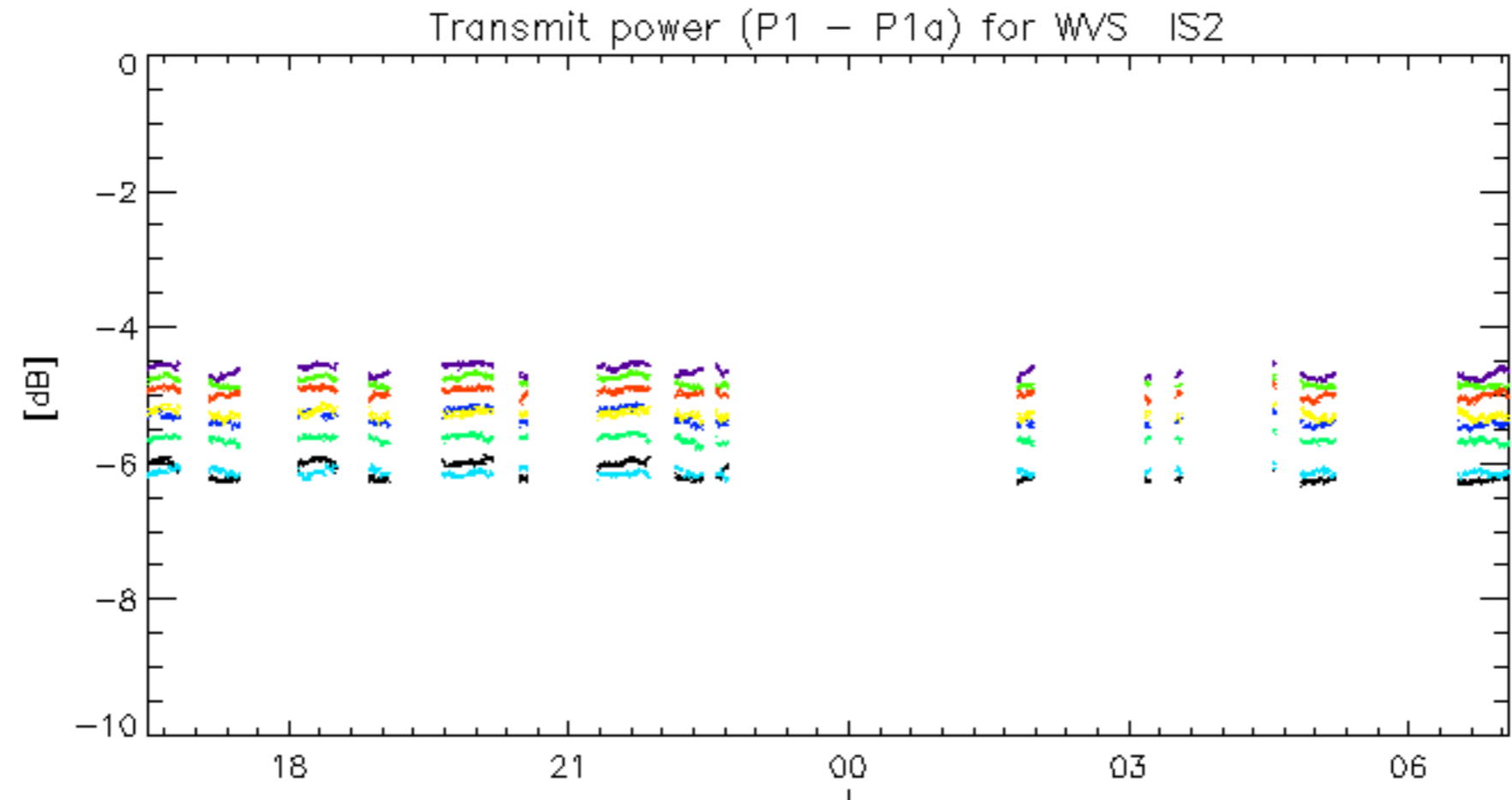
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30





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





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

No unavailabilities during the reported period.