

# PRELIMINARY REPORT OF 060916

last update on Sat Sep 16 16:39:15 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 2006-09-15 00:00:00 to 2006-09-16 16:39:15

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	38	60	14	5	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	38	60	14	5	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	38	60	14	5	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	38	60	14	5	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	22	42	28	15	74
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	22	42	28	15	74
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	22	42	28	15	74
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	22	42	28	15	74

## 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	20060916 064400
H	20060907 062647

### 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)
-----	-------	-----------	------------	-----------------

**P1 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.939673	0.009689	0.009132
7	P1	-3.048165	0.011467	-0.052091
11	P1	-4.056652	0.017339	0.003741
15	P1	-6.179052	0.015186	0.011535
19	P1	-3.510430	0.049979	-0.102768
22	P1	-4.567677	0.026984	-0.015142
26	P1	-3.940811	0.019982	-0.055013
30	P1	-5.789575	0.150009	-0.105733
3	P1	-16.578392	0.257037	-0.150472
7	P1	-16.784050	0.668778	-1.023811
11	P1	-16.802418	0.336533	0.026934
15	P1	-12.923804	0.105762	0.215940
19	P1	-14.609890	0.451085	-0.216091
22	P1	-15.733741	0.563797	0.304924
26	P1	-15.202012	0.209197	-0.089428
30	P1	-16.944780	0.404350	0.163896

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.829302	0.082735	0.088470
7	P2	-21.861311	0.096736	0.007686
11	P2	-15.744309	0.107781	-0.022621
15	P2	-7.091434	0.097762	0.012469
19	P2	-9.113309	0.090831	-0.010660
22	P2	-18.120943	0.085418	0.033223
26	P2	-16.401857	0.092453	-0.022702
30	P2	-19.469671	0.089637	0.011183

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.175048	0.004434	-0.005532
7	P3	-8.175048	0.004434	-0.005532
11	P3	-8.175048	0.004434	-0.005532
15	P3	-8.175048	0.004434	-0.005532
19	P3	-8.175048	0.004434	-0.005532
22	P3	-8.175048	0.004434	-0.005532
26	P3	-8.175106	0.004433	-0.005217
30	P3	-8.175106	0.004433	-0.005217

#### 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	-3.843499	0.023746	-0.017718
7	P1	-2.445202	0.176271	-0.338174
11	P1	-2.878086	0.034160	-0.025138
15	P1	-3.649459	0.036573	-0.035838
19	P1	-3.458797	0.082365	-0.064002
22	P1	-5.094948	0.037482	-0.063185
26	P1	-5.866954	0.030740	0.042583
30	P1	-5.197979	0.086596	-0.031900
3	P1	-11.632479	0.073986	0.001298
7	P1	-9.914594	0.199336	-0.293440
11	P1	-10.332084	0.084536	-0.102353
15	P1	-10.859878	0.181128	0.011374
19	P1	-15.680090	3.685071	-0.342074
22	P1	-20.815407	1.739274	0.208533
26	P1	-15.973380	0.409202	0.346744
30	P1	-18.034513	0.837932	-0.291852

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.418674	0.076387	0.105807
7	P2	-22.197678	0.201188	0.077609
11	P2	-10.900634	0.059116	0.060164
15	P2	-4.861670	0.039722	0.068707
19	P2	-6.848670	0.041294	0.046782
22	P2	-8.160880	0.066157	0.085120
26	P2	-24.158854	0.134669	0.004065
30	P2	-21.957529	0.080667	0.005369

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.019580	0.003702	-0.003846
7	P3	-8.019485	0.003704	-0.003487
11	P3	-8.019436	0.003711	-0.003710
15	P3	-8.019464	0.003728	-0.003422
19	P3	-8.019547	0.003731	-0.003081
22	P3	-8.019625	0.003695	-0.003340
26	P3	-8.019535	0.003714	-0.003813
30	P3	-8.019436	0.003710	-0.003966

## 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	0.000548618
	stdev	1.78534e-07
MEAN Q	mean	0.000526841
	stdev	2.17055e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.135927
	stdev	0.00110599
STDEV Q	mean	0.136272
	stdev	0.00112266



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006091[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
ASA_IMM_1PNPDE20060915_201740_000000362051_00157_23758_5807.N1	1	0
ASA_WSM_1PNPDE20060914_004533_000002072051_00131_23732_1899.N1	0	34
ASA_WSM_1PNPDE20060915_015531_000001282051_00146_23747_2075.N1	0	39
ASA_WSM_1PNPDE20060915_021350_000000672051_00146_23747_2061.N1	4	196
ASA_WSM_1PNPDE20060915_021500_000000362051_00146_23747_2169.N1	27	2559
ASA_WSM_1PNPDE20060915_033458_000000852051_00147_23748_2087.N1	0	7
ASA_WSM_1PNPDE20060915_234319_000003242051_00159_23760_2251.N1	0	34
ASA_APM_1PNPDE20060915_143623_000000892051_00154_23755_2658.N1	0	9



## 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"/>
--------------------------

### 7.4 - Unbiased Doppler Error for GM1



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

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

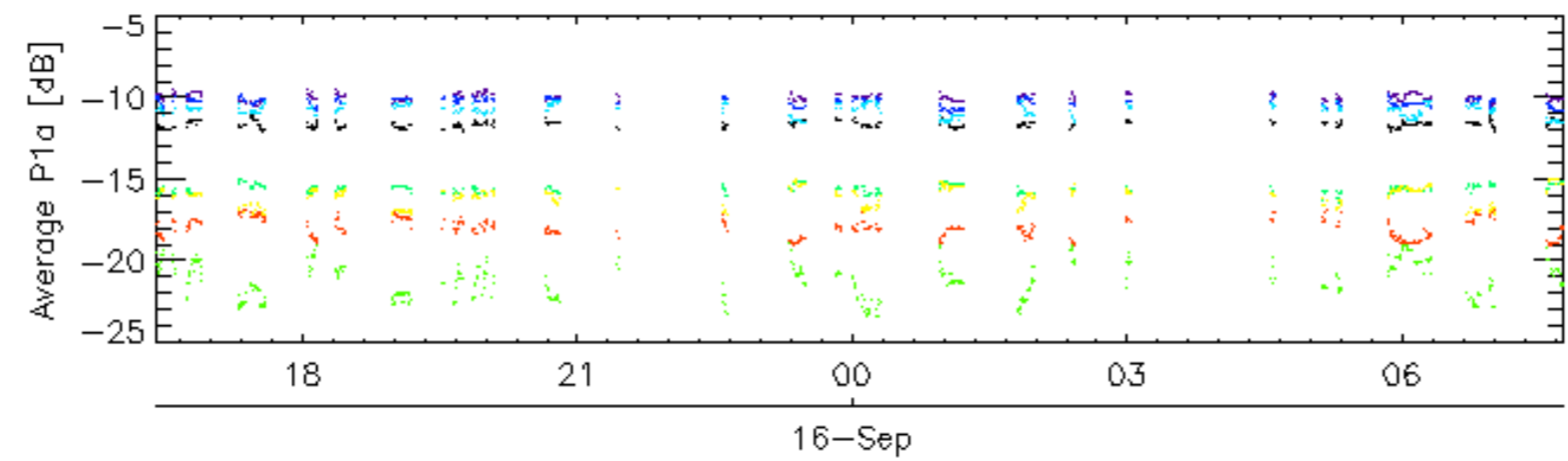
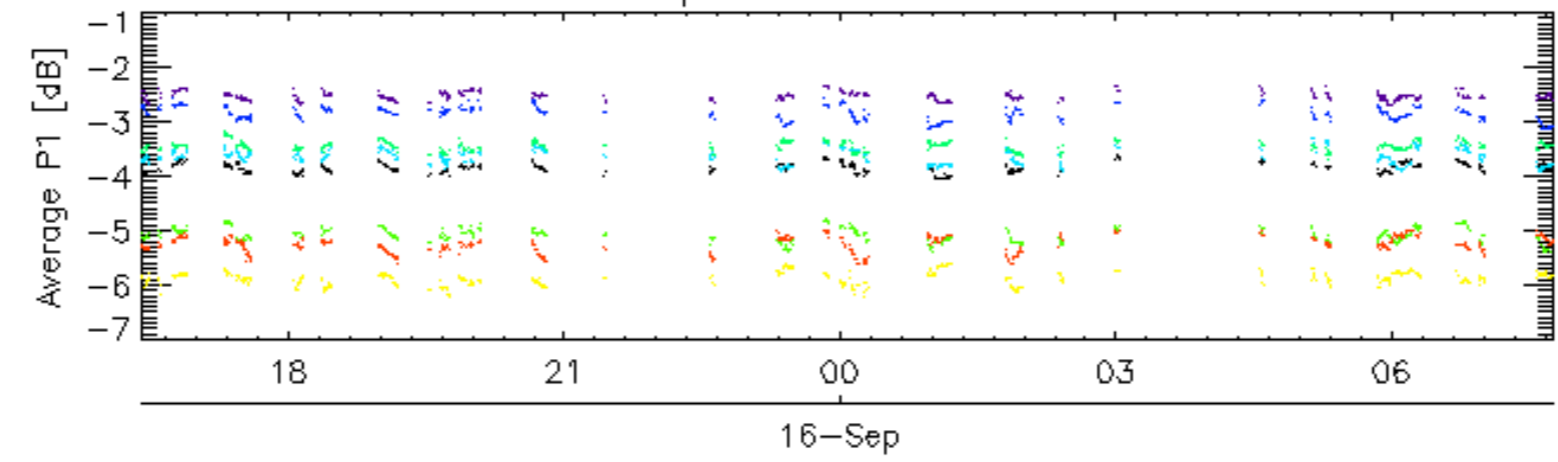
**7.5 - Absolute Doppler for GM1****Evolution of Absolute Doppler**

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

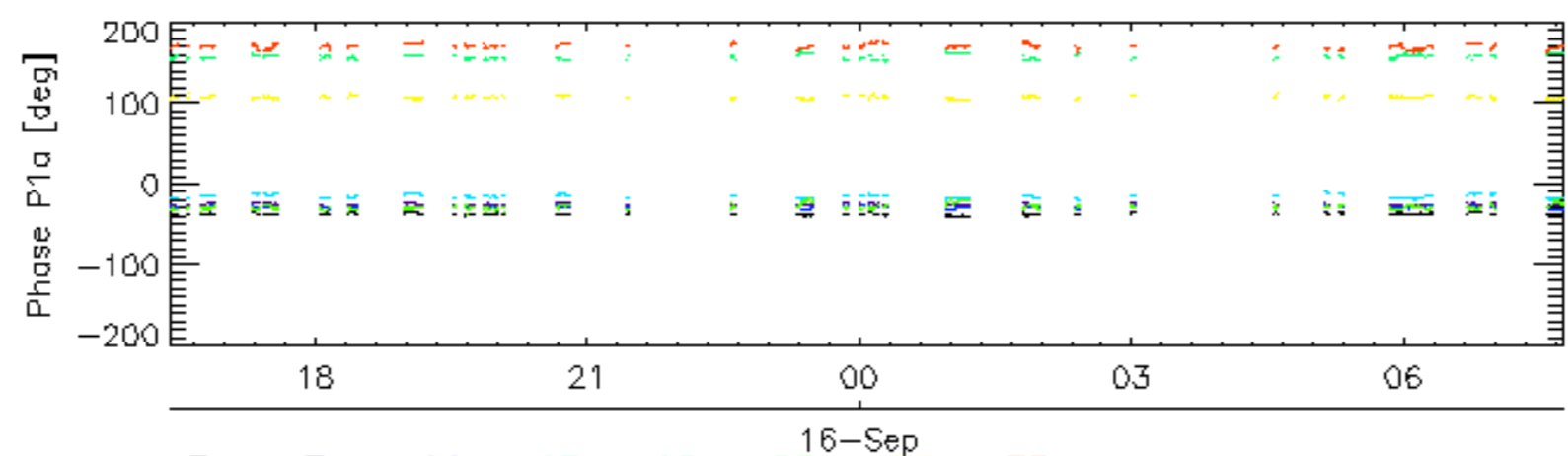
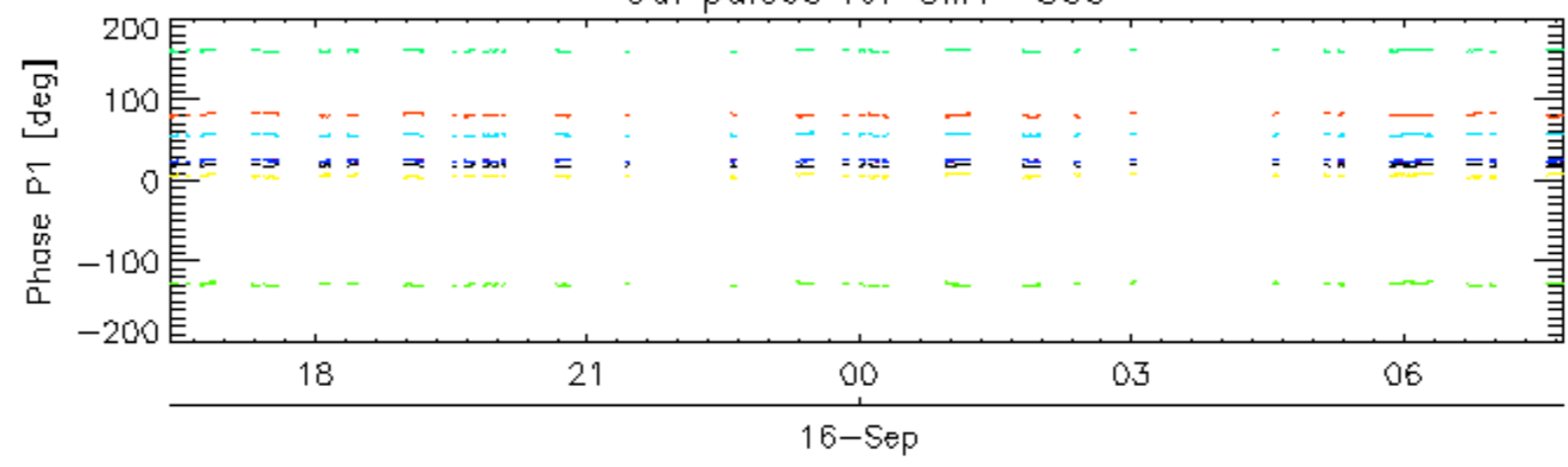
**7.6 - Doppler evolution versus ANX for GM1****Evolution Doppler error versus ANX**

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

Cal pulses for GM1 SS3

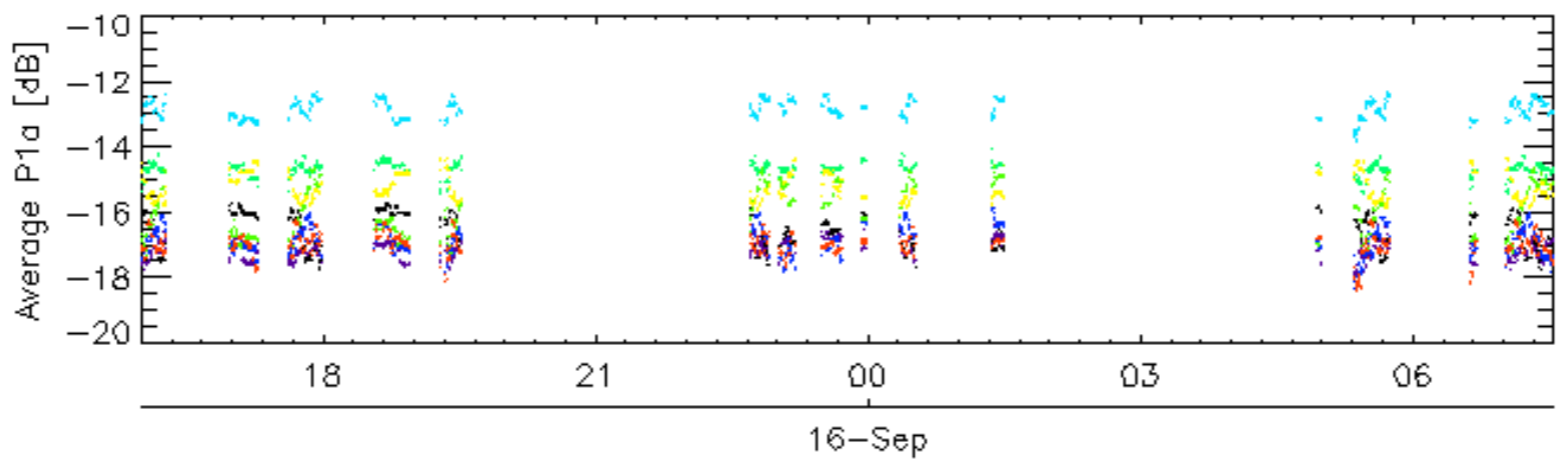
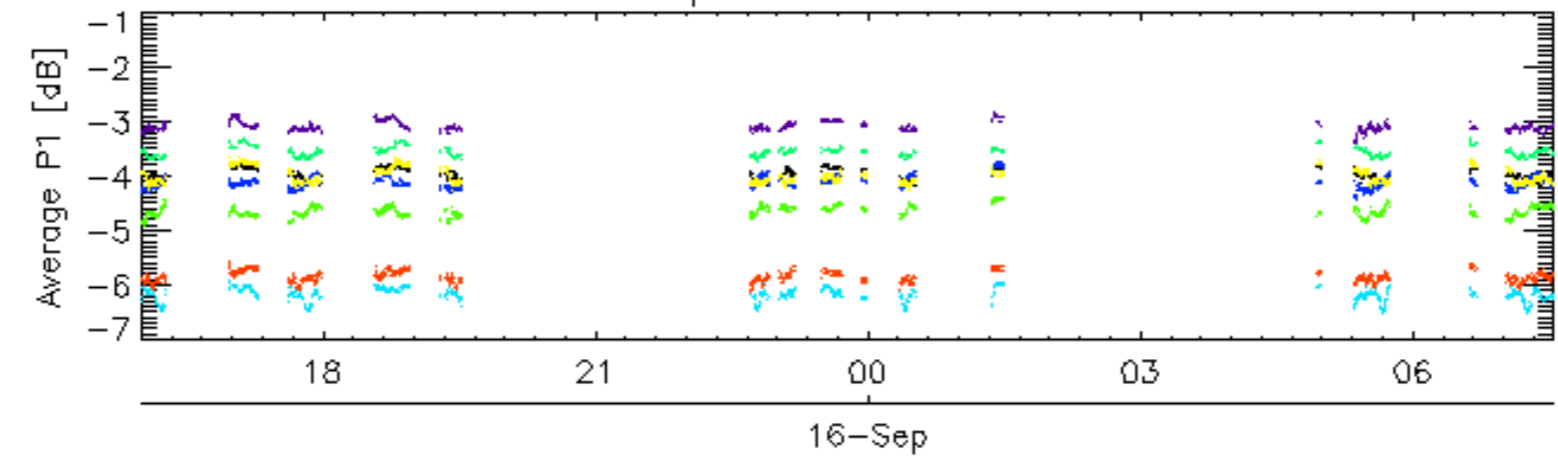


Cal pulses for GM1 SS3

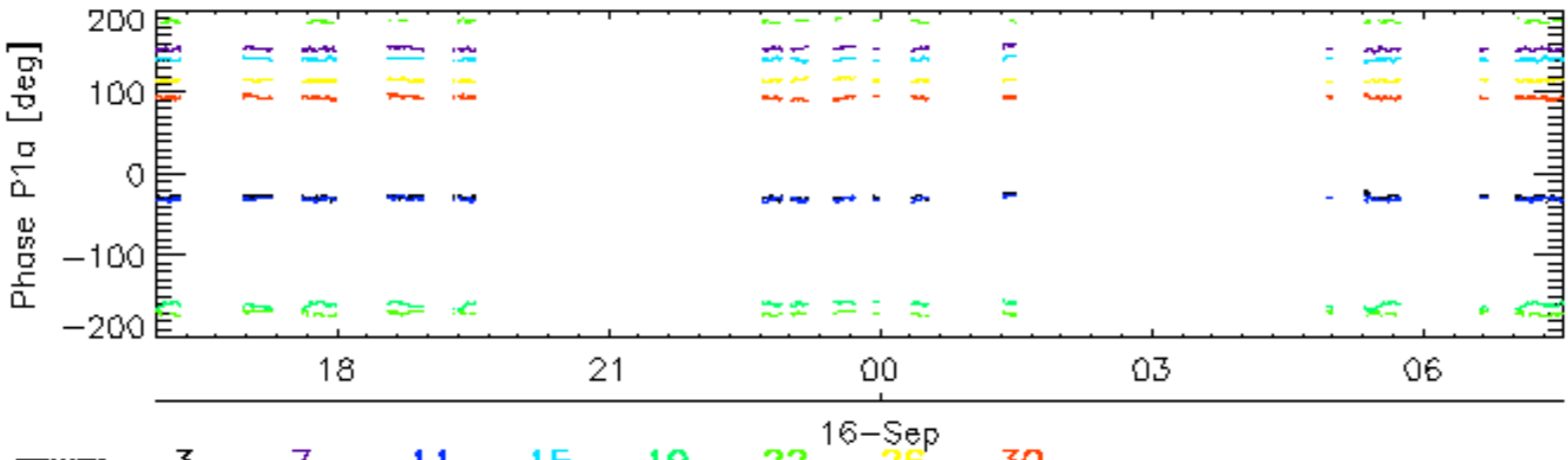
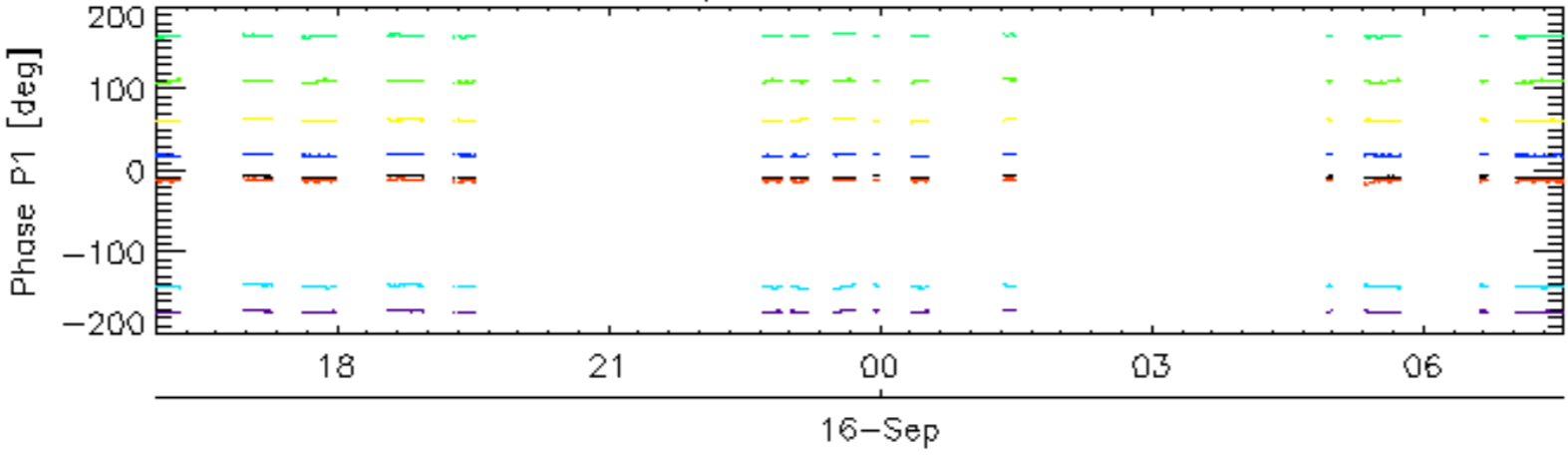


rows: 3 7 11 15 19 22 26 30

Cal pulses for WVS IS2

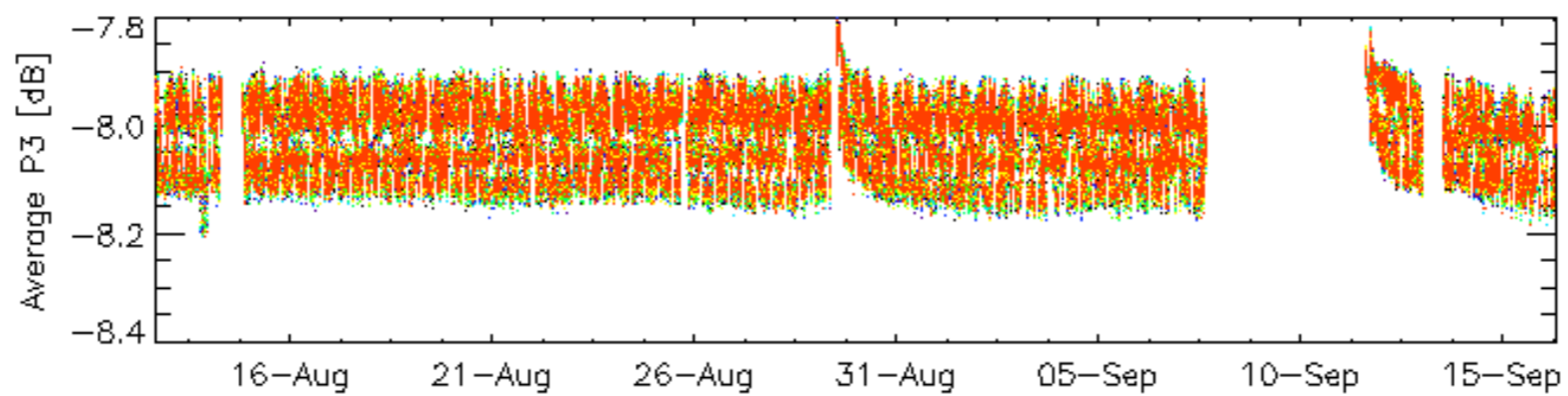
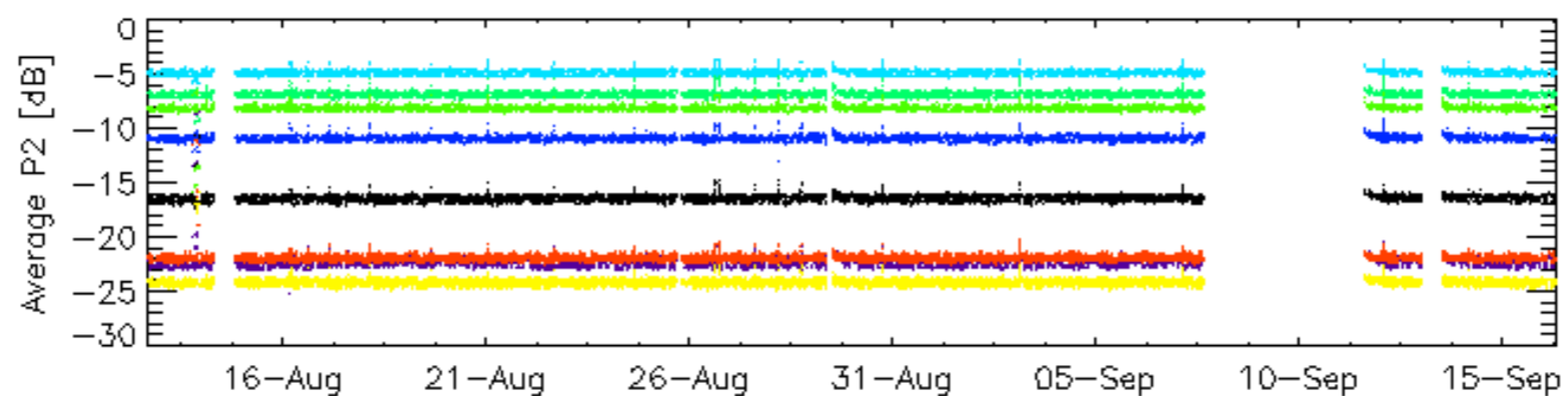
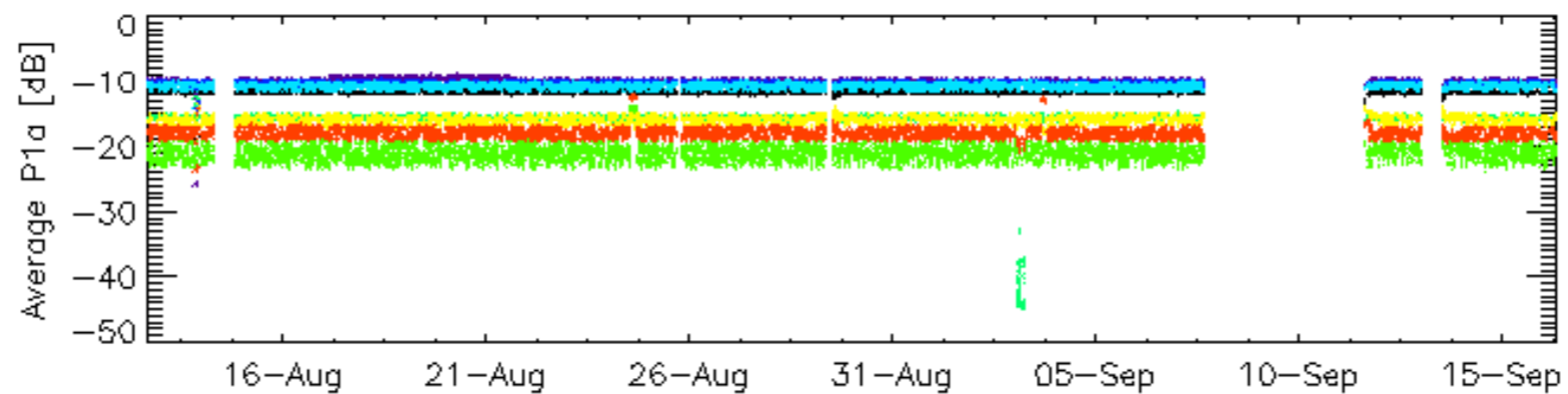
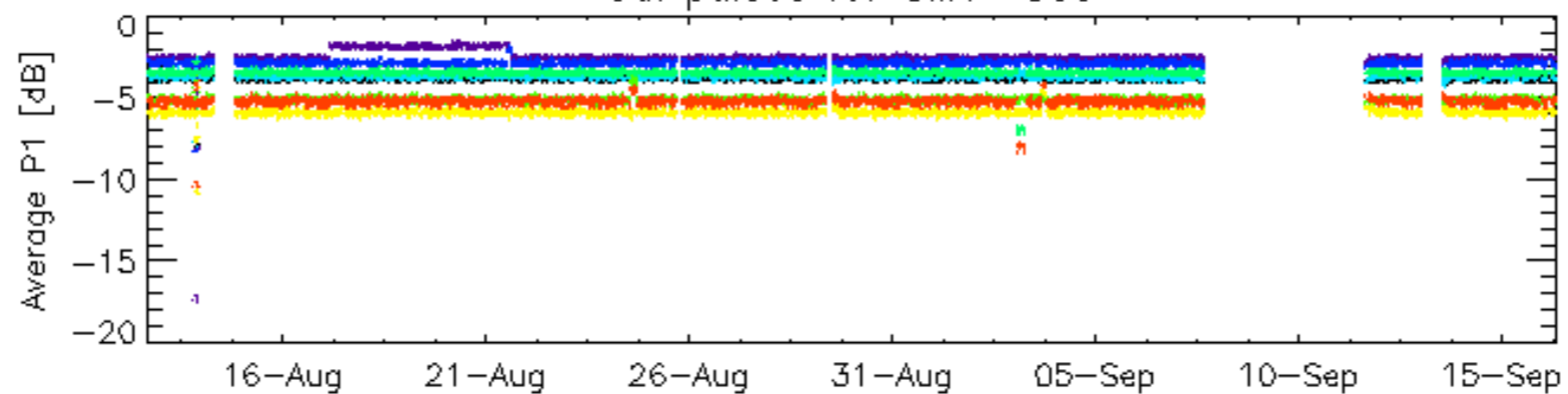


Cal pulses for WVS IS2



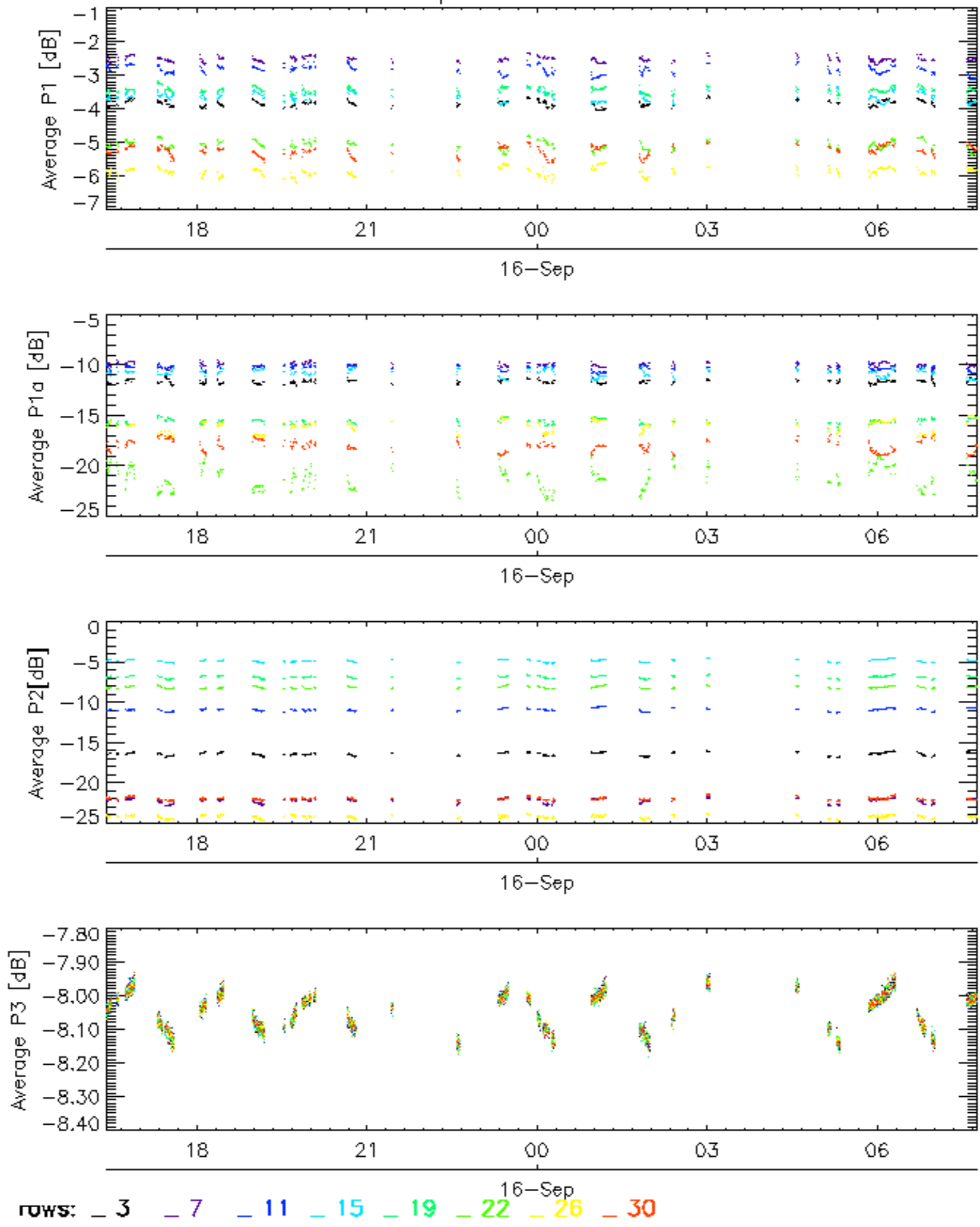
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

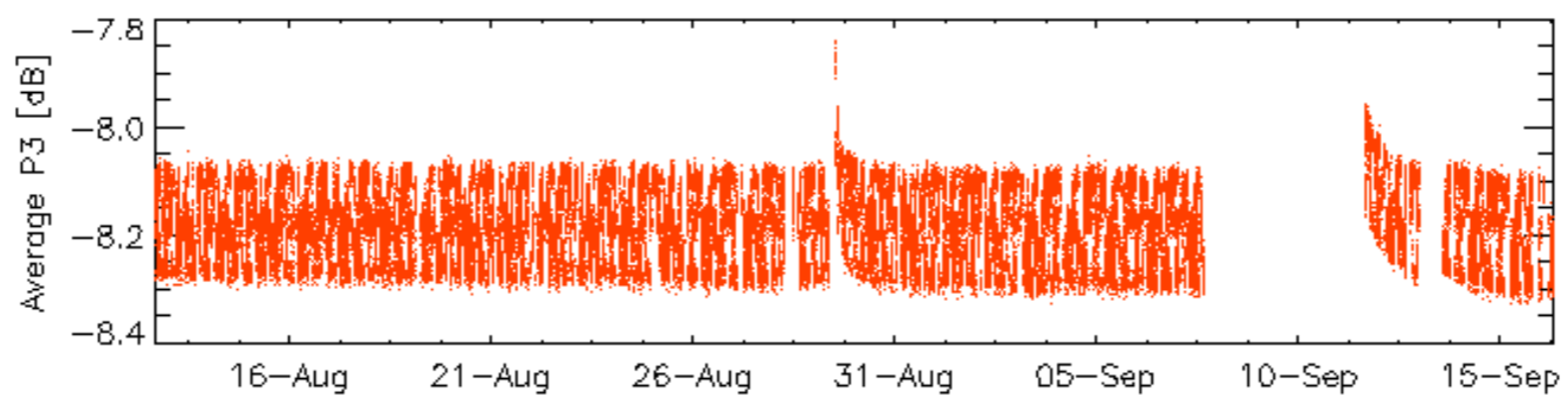
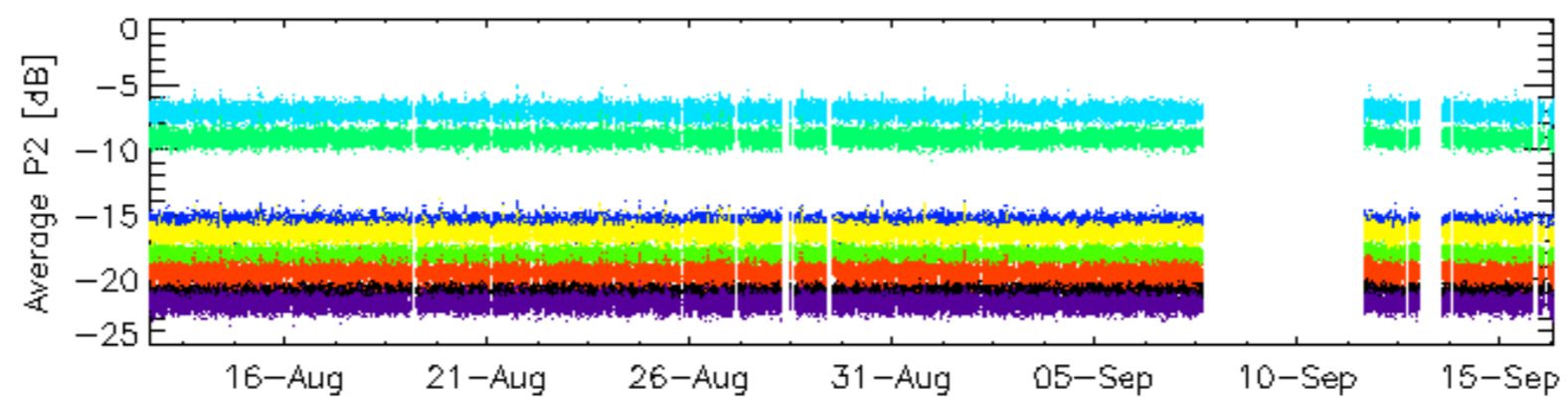
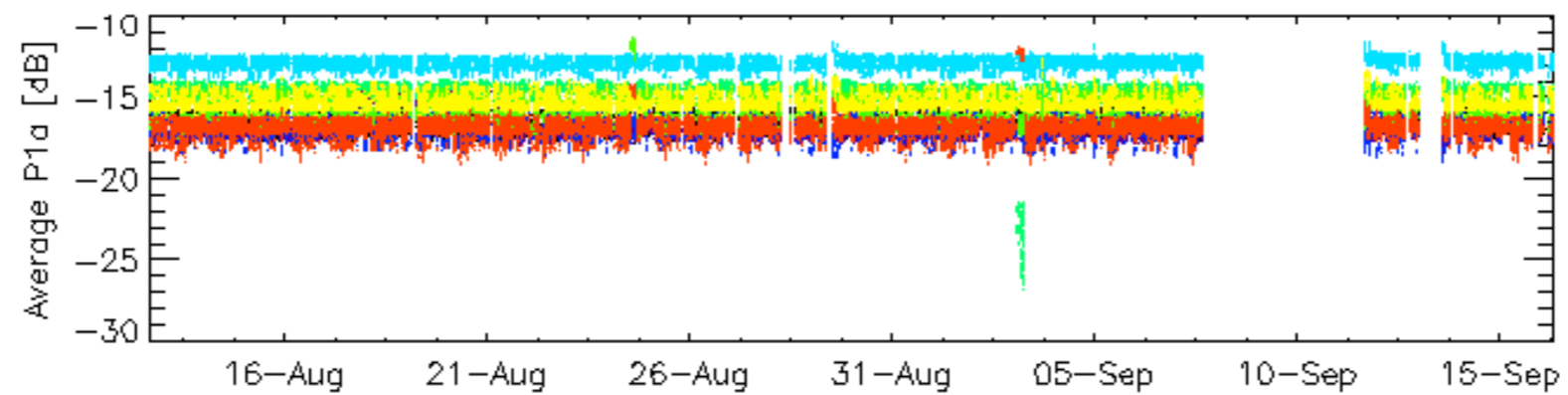
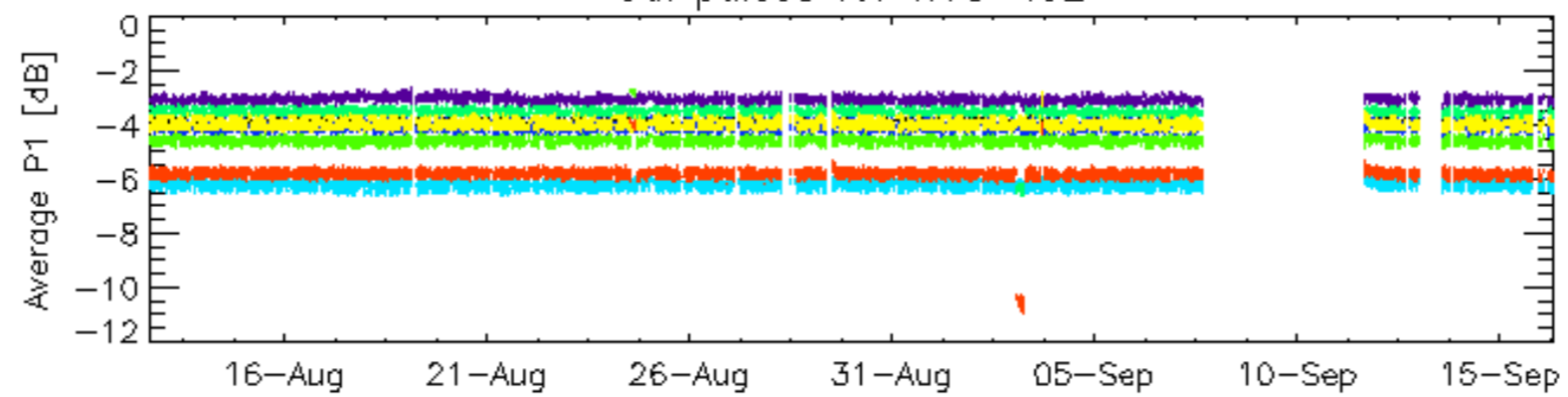


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

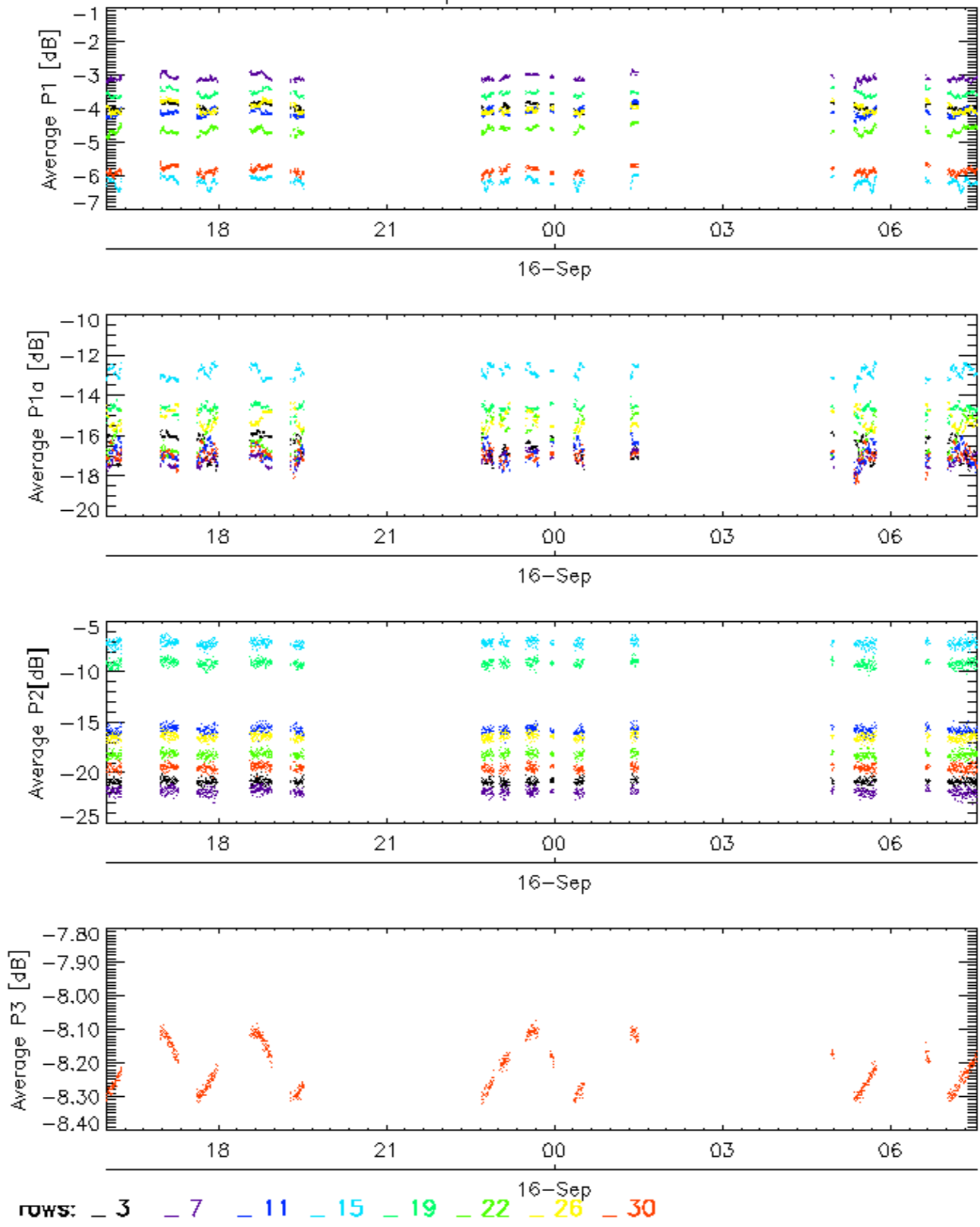


Cal pulses for WVS IS2



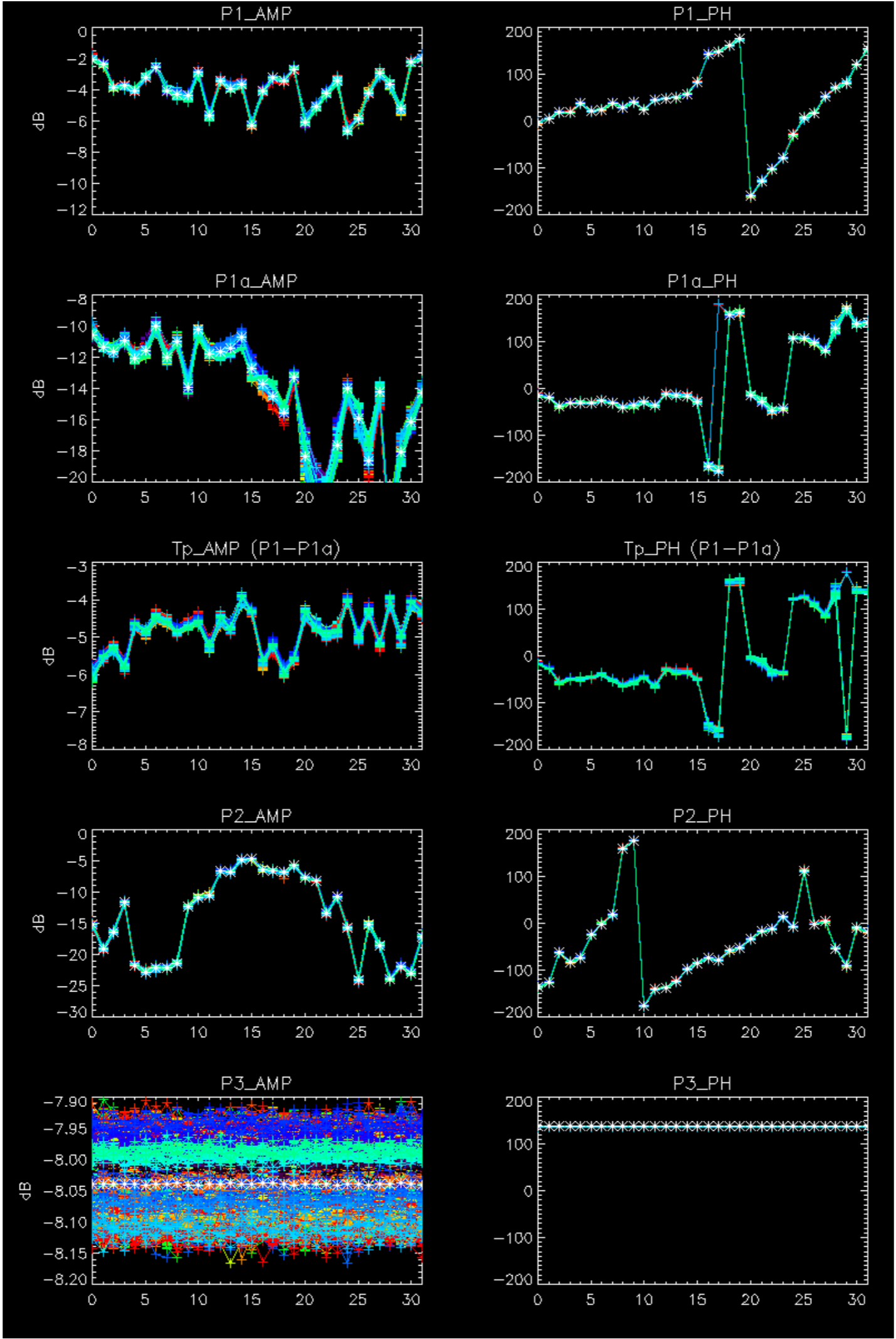
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

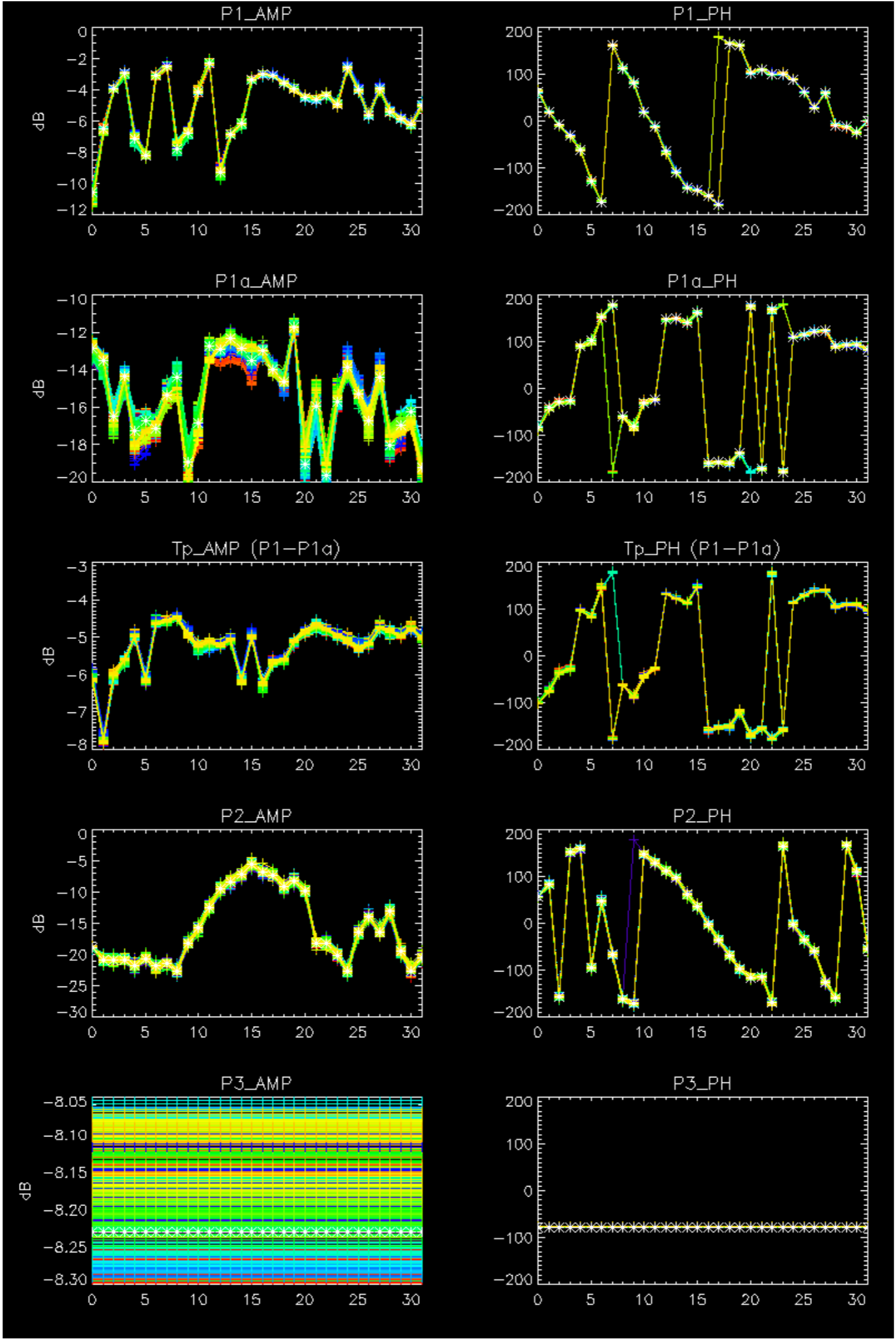
Cal pulses for WVS IS2



No anomalies observed.





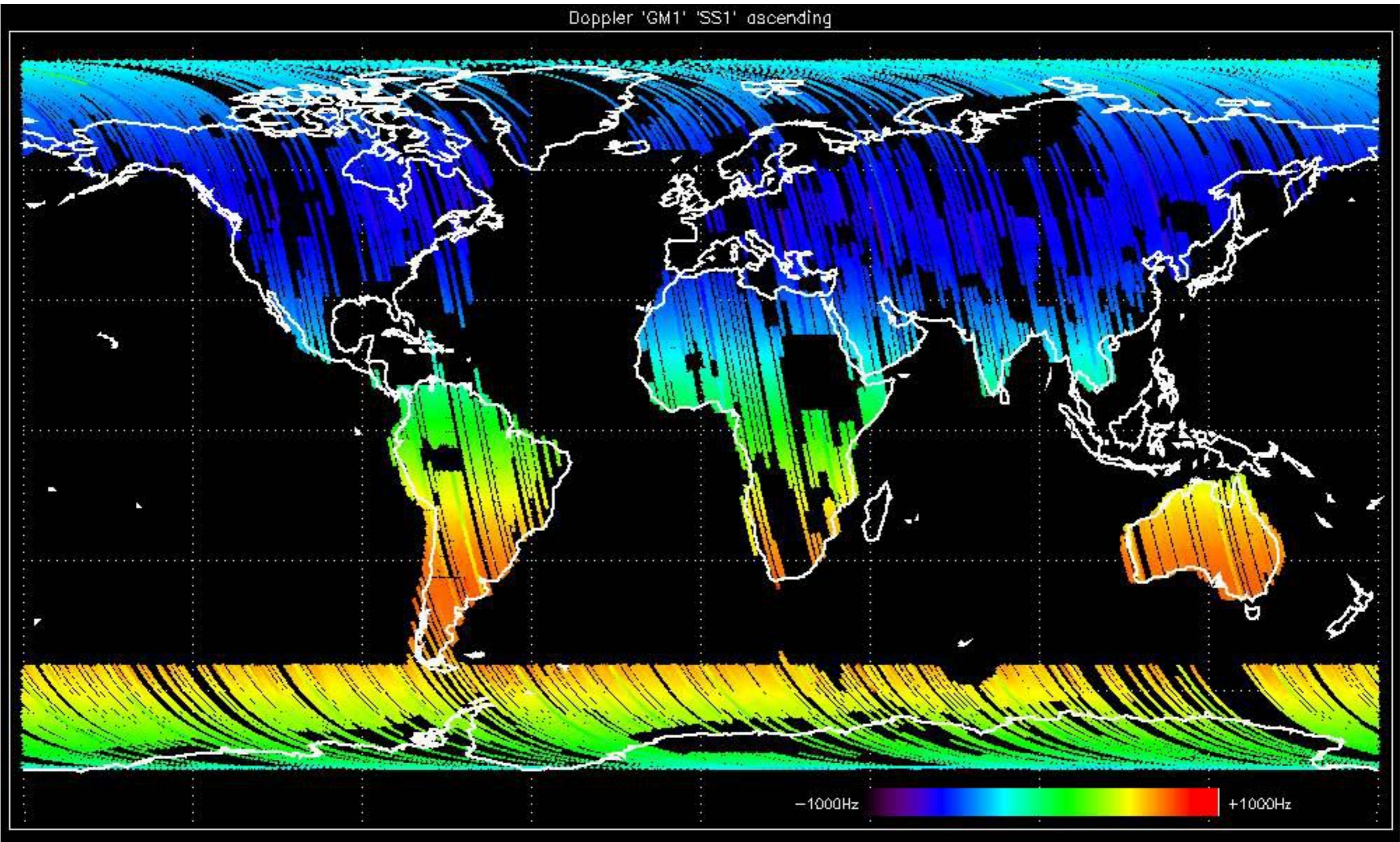


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



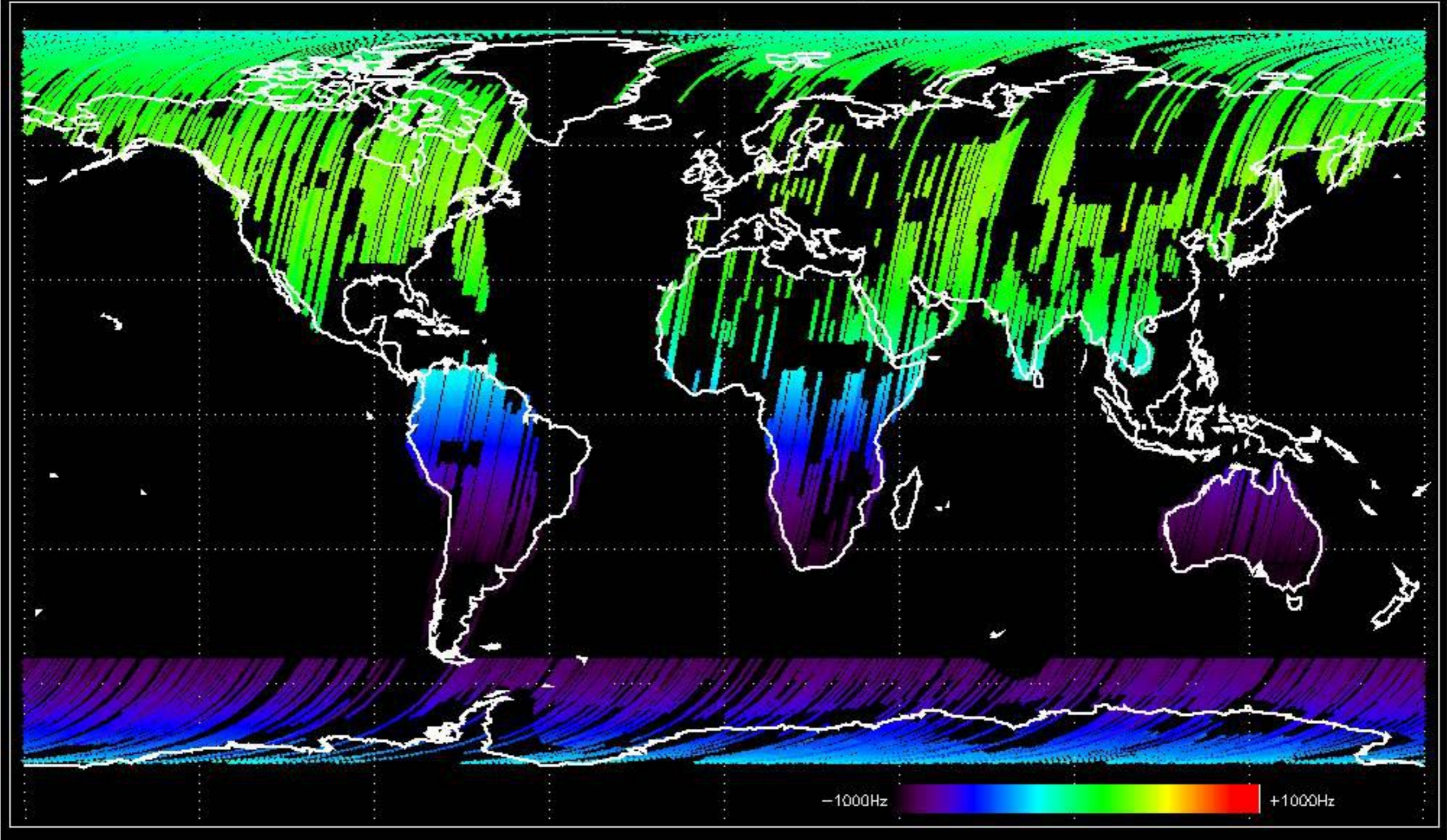


Doppler 'GM1' 'SS1' ascending



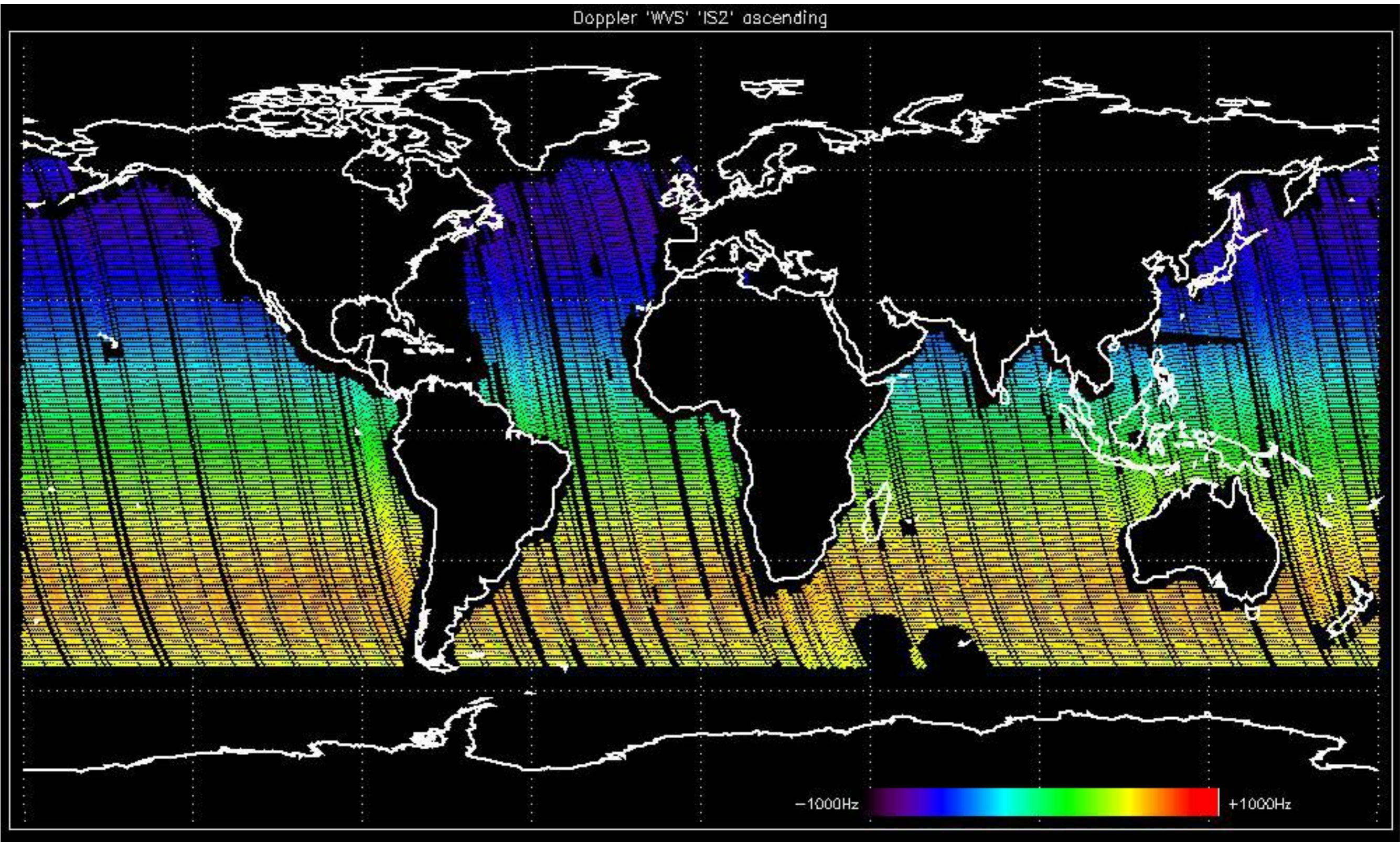


Doppler 'GM1' 'SS1' descending



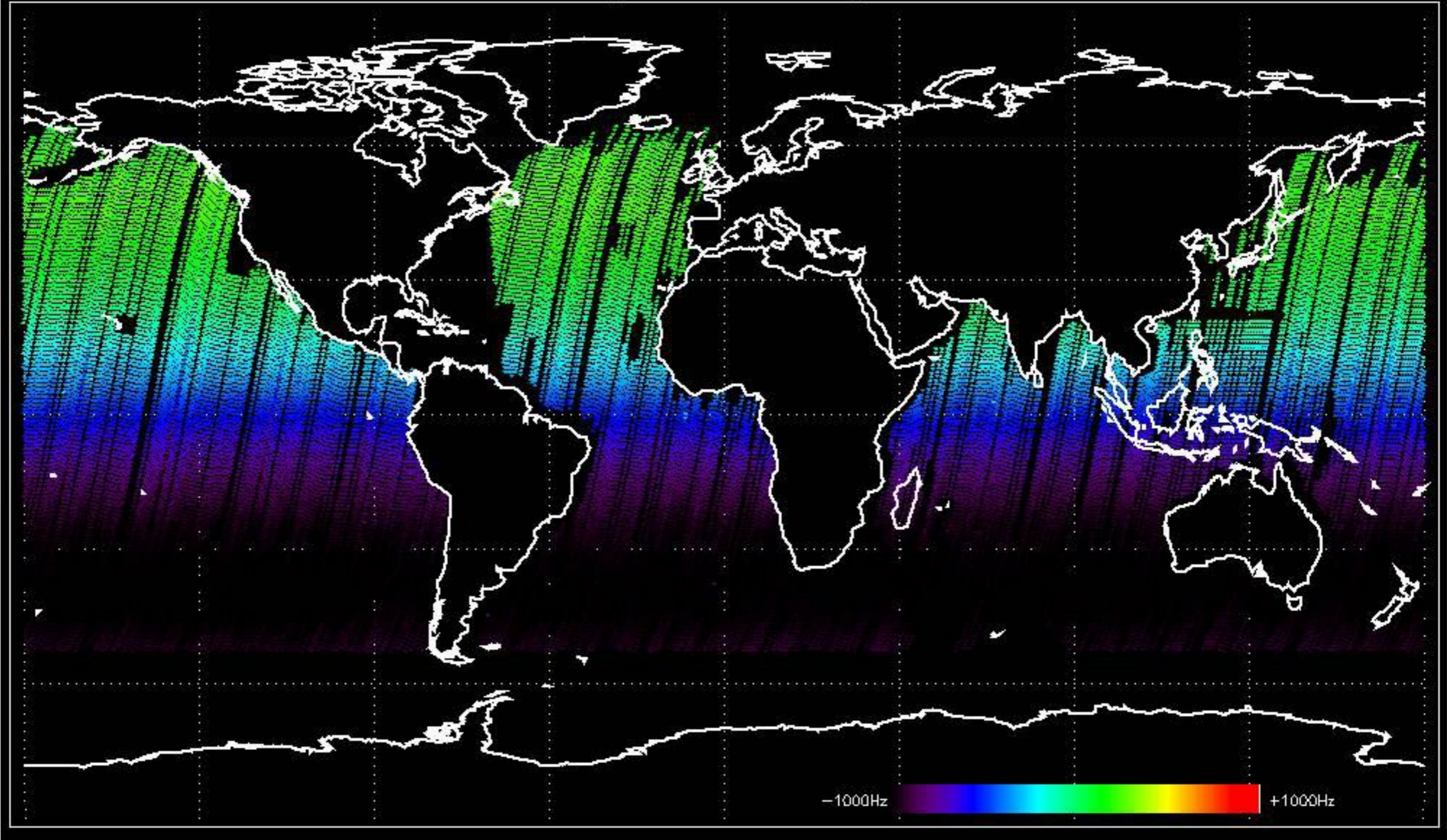


Doppler 'WVS' 'IS2' ascending

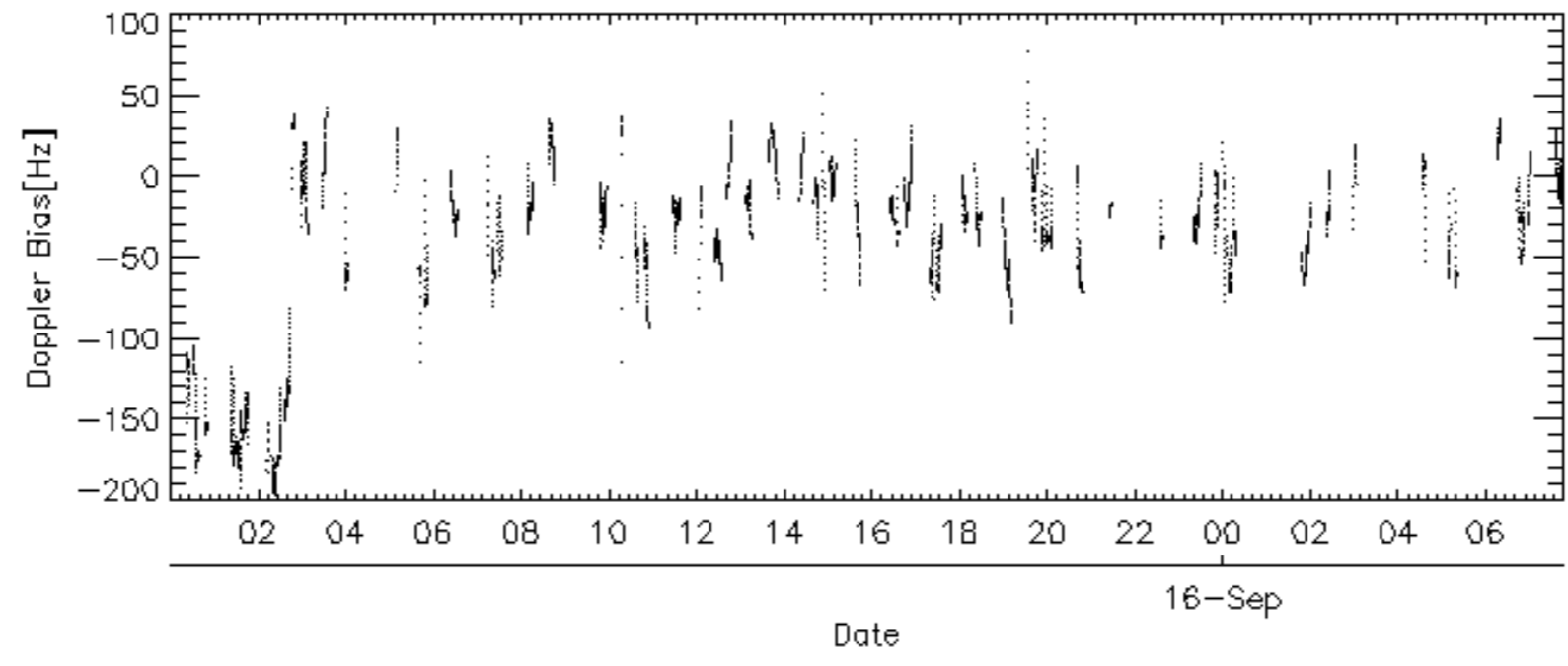
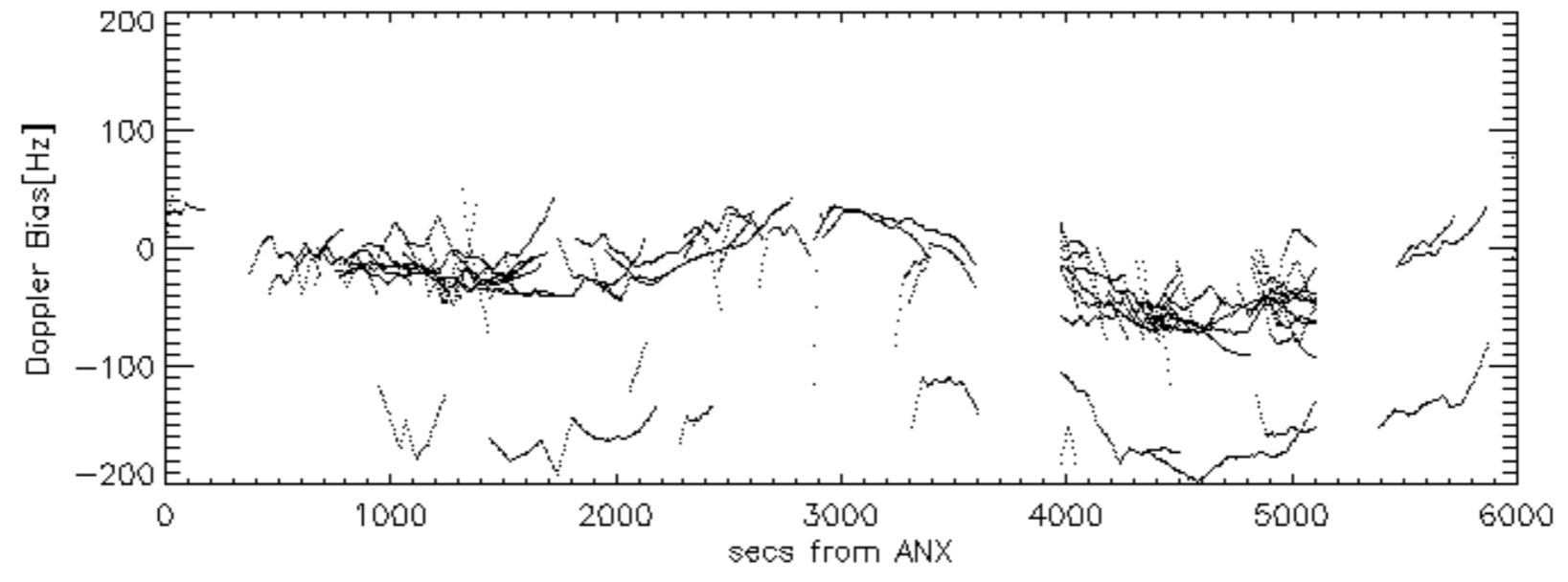
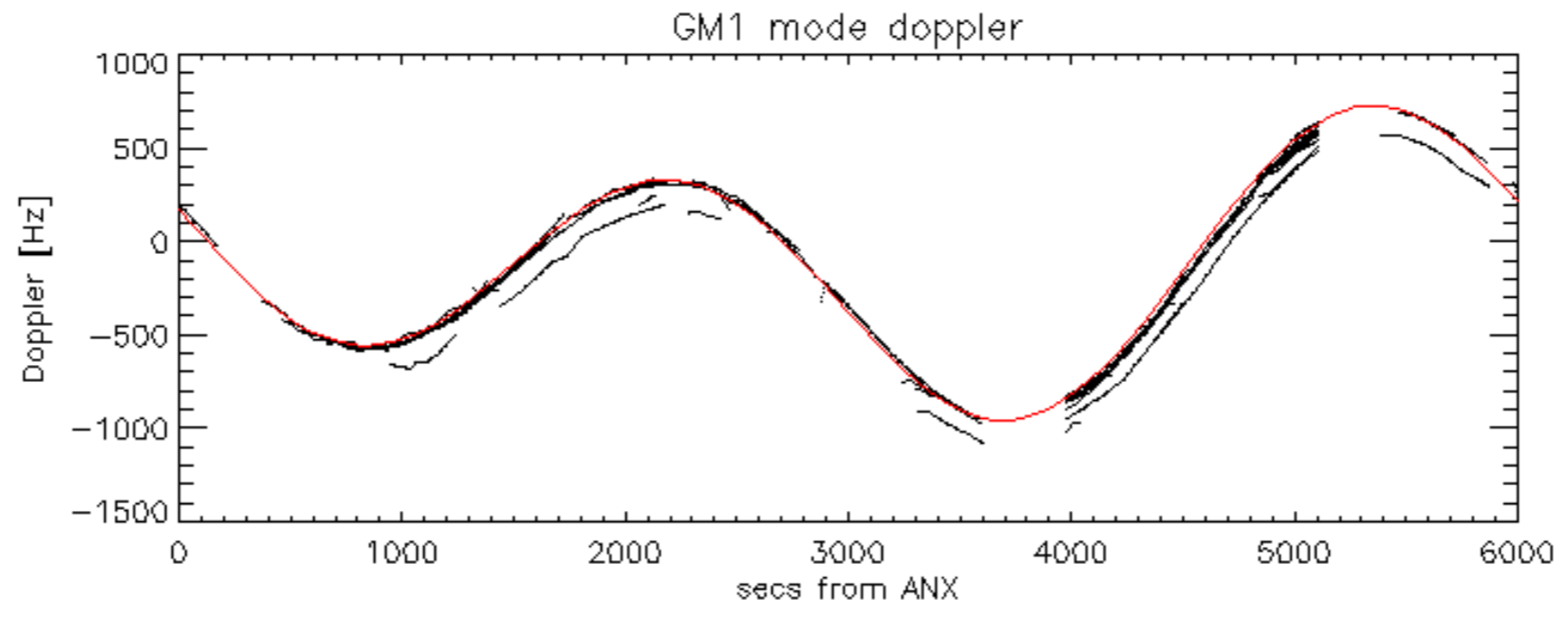


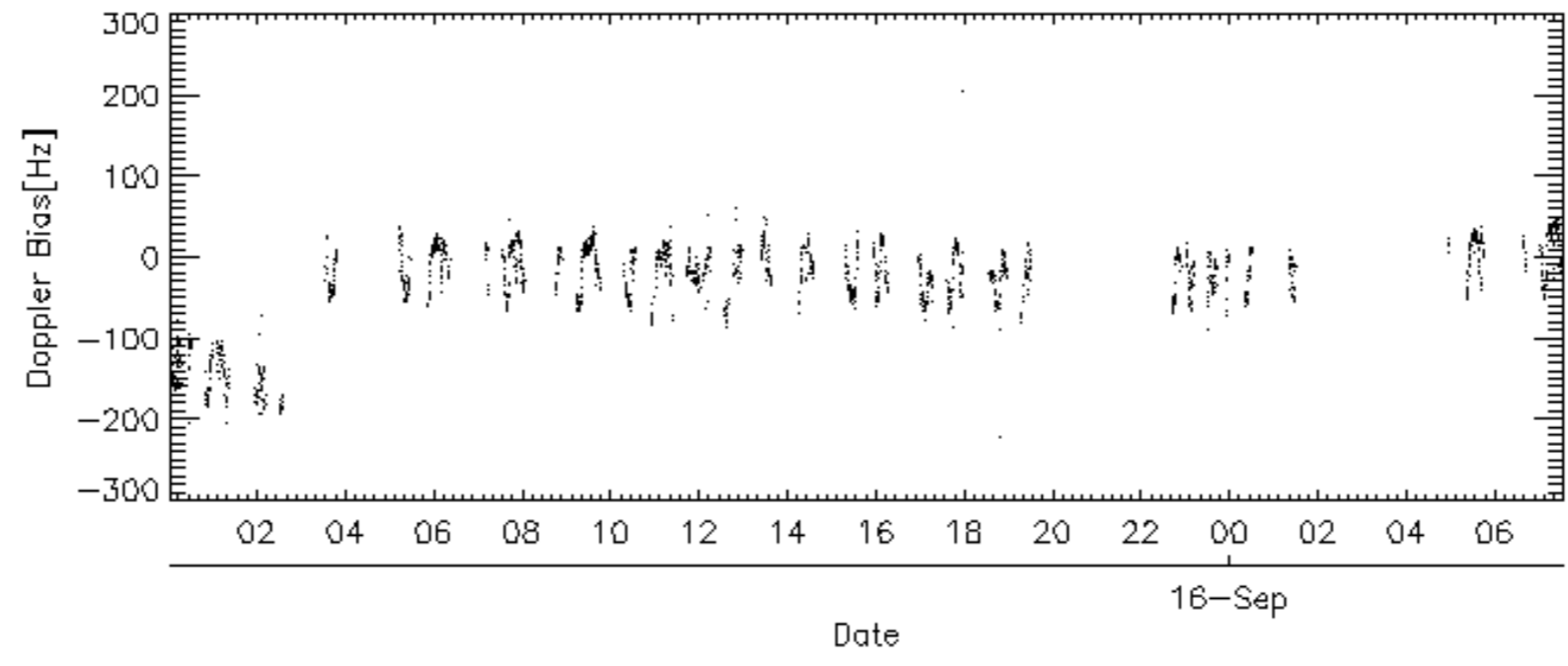
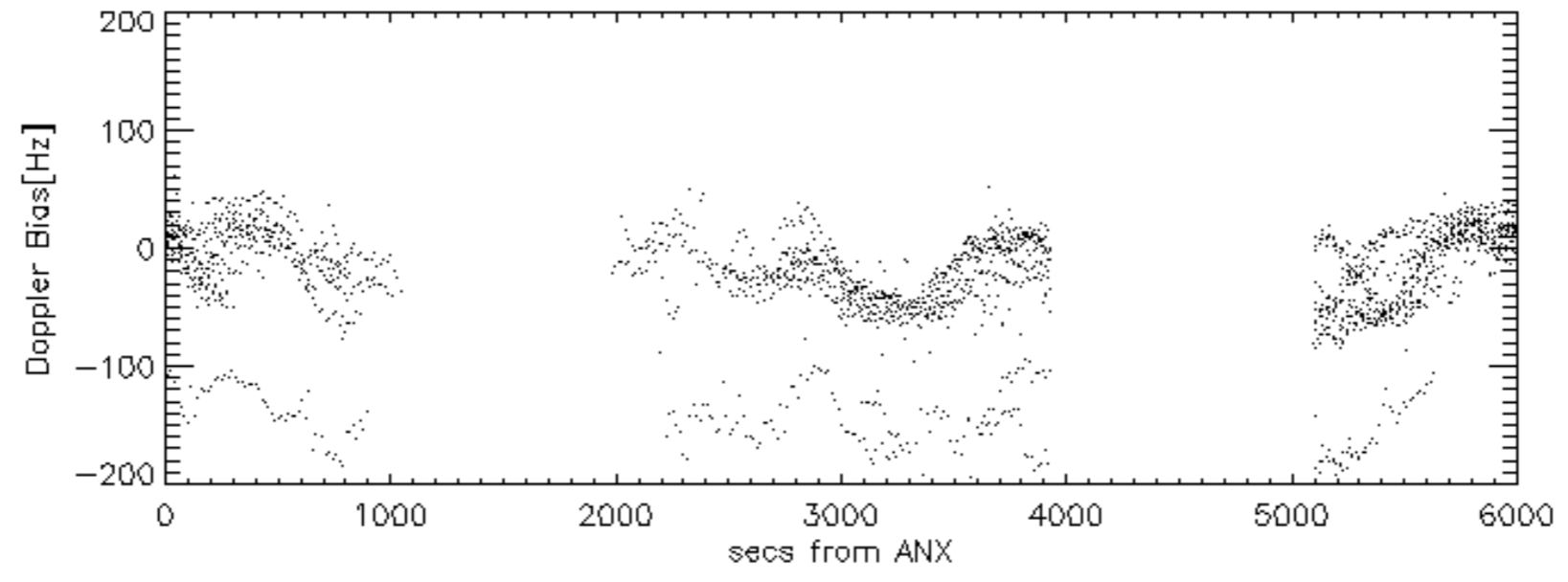
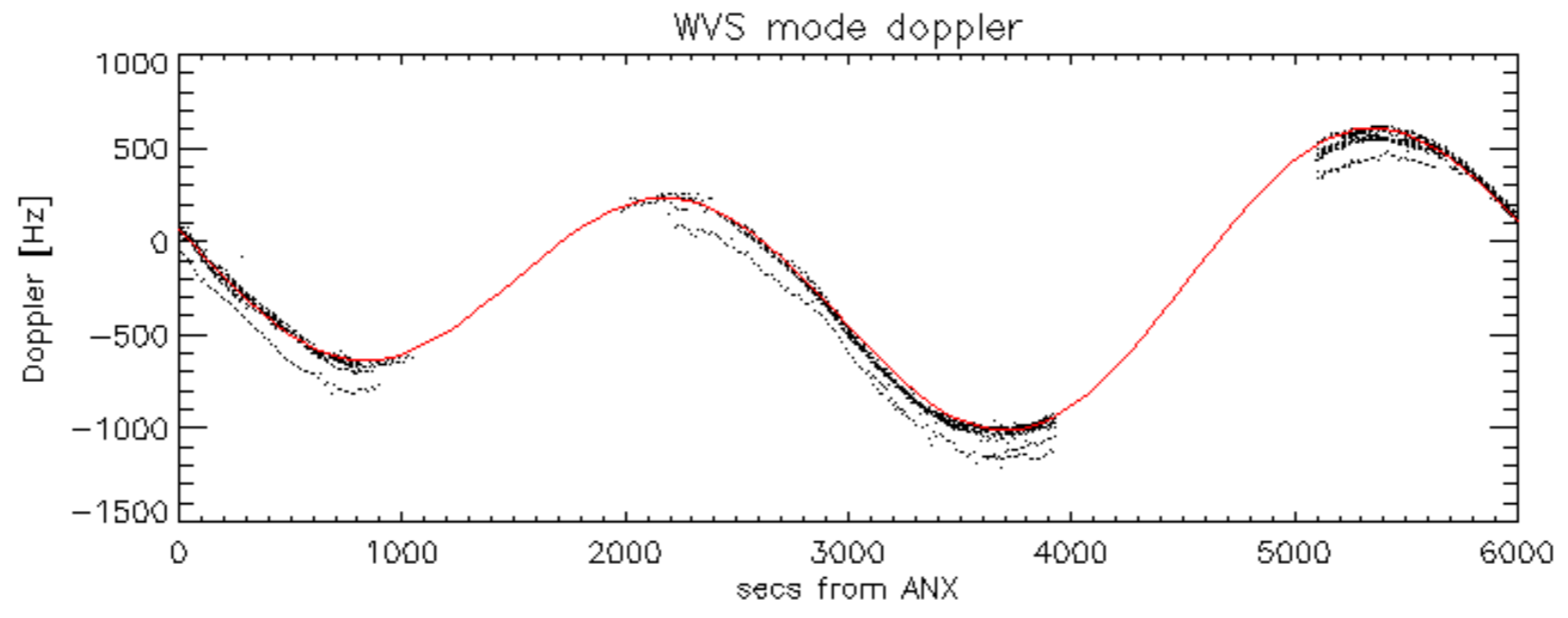


Doppler 'WVS' 'IS2' descending



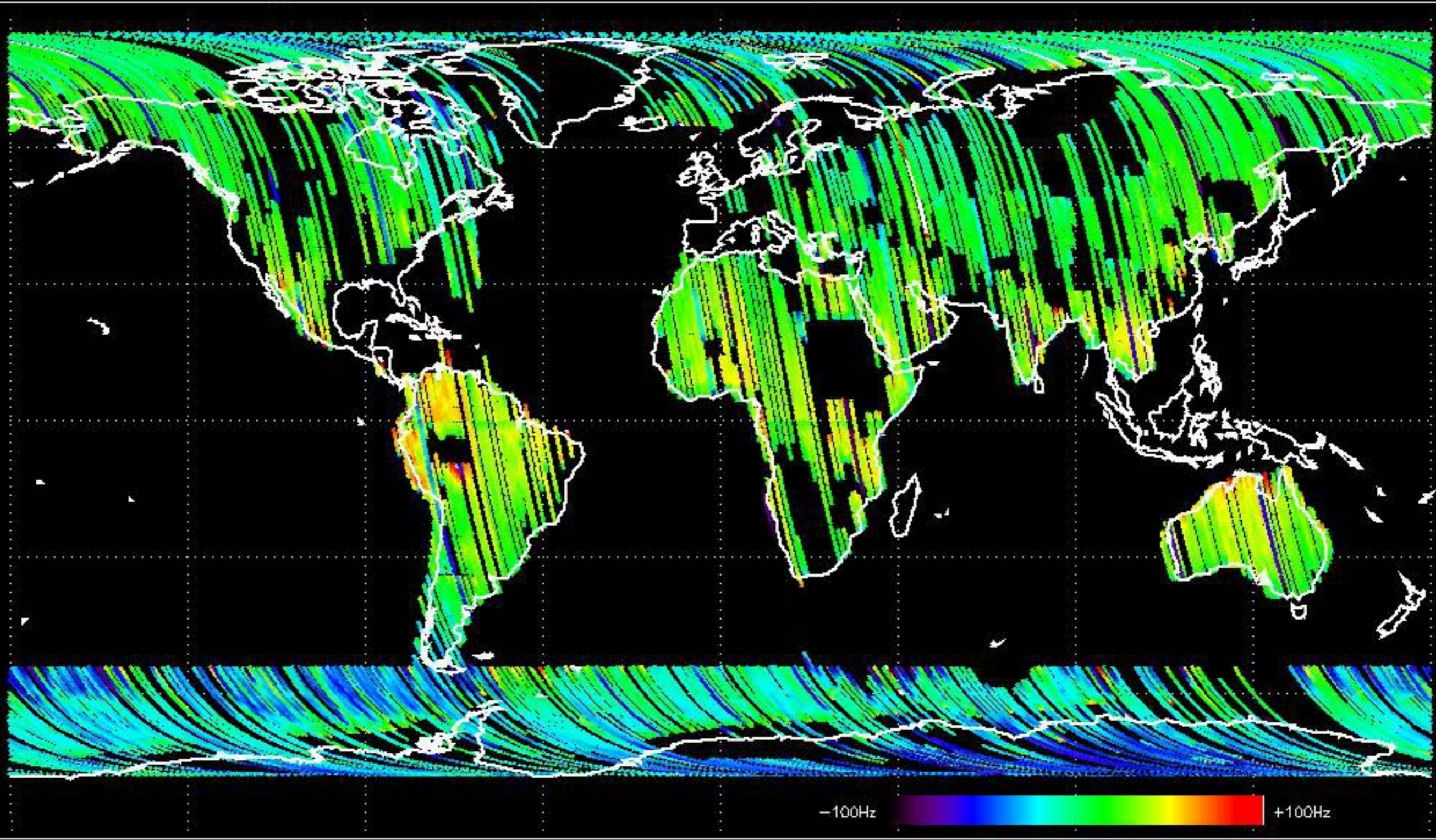






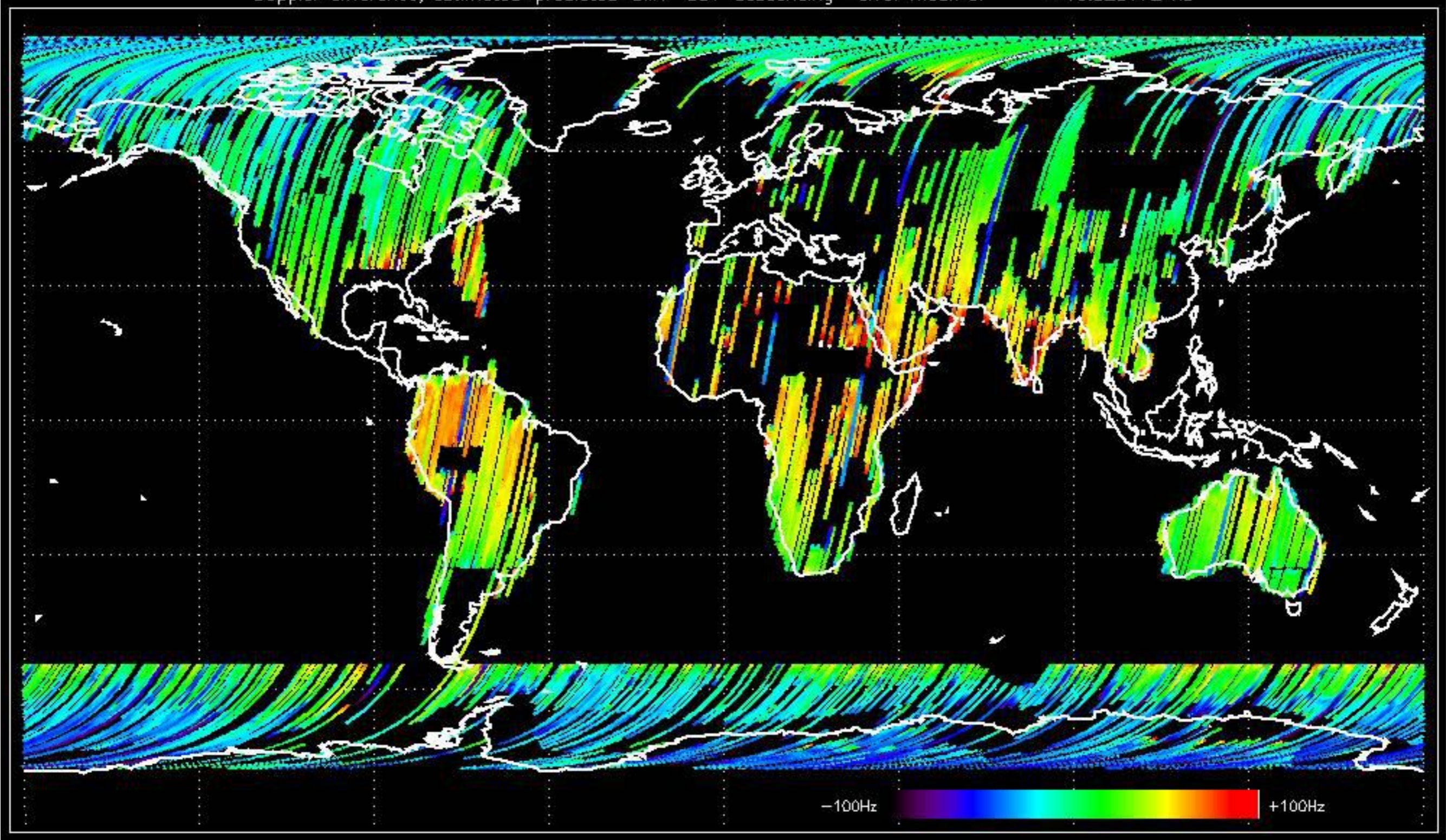


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -22.885116 Hz



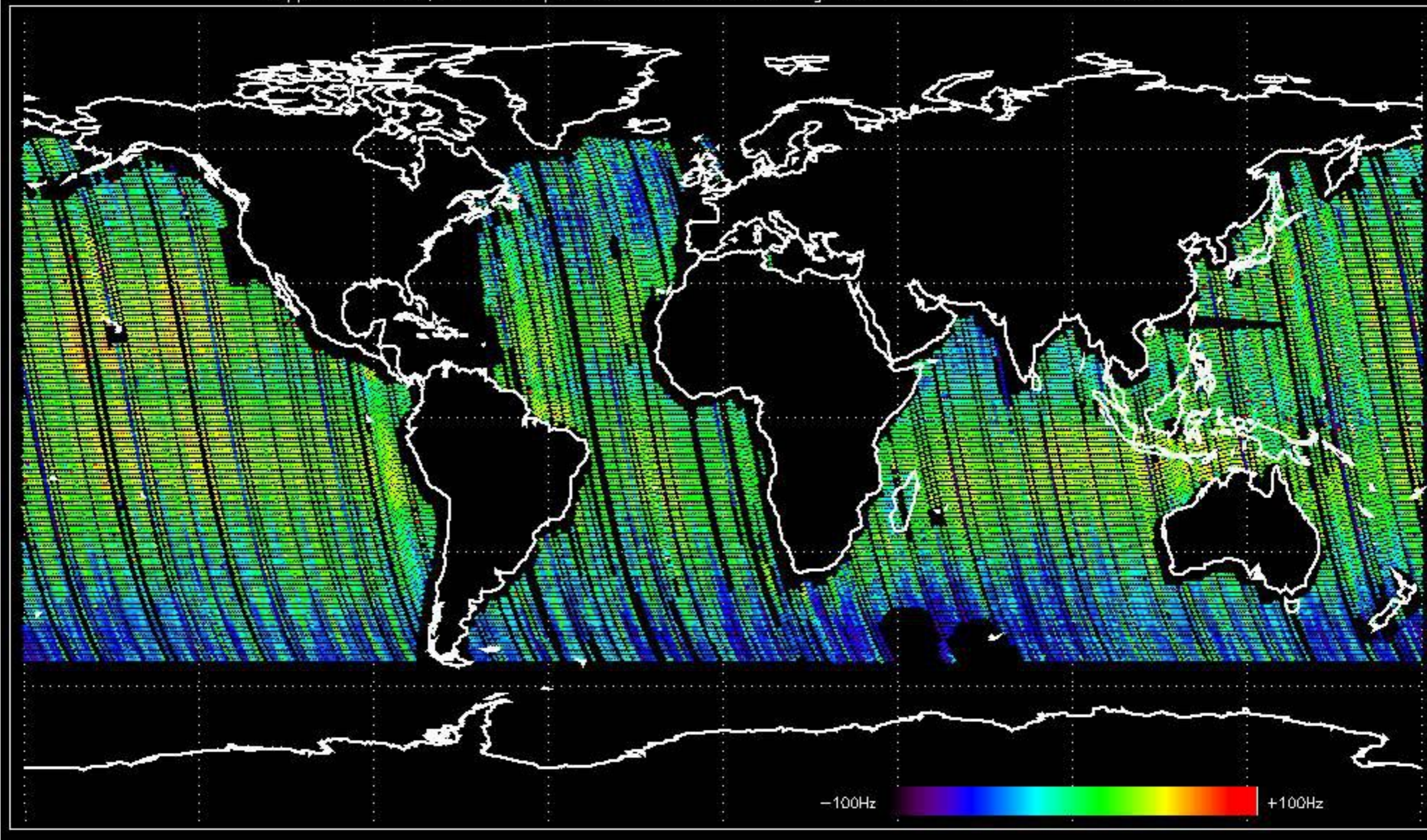


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -13.928172 Hz



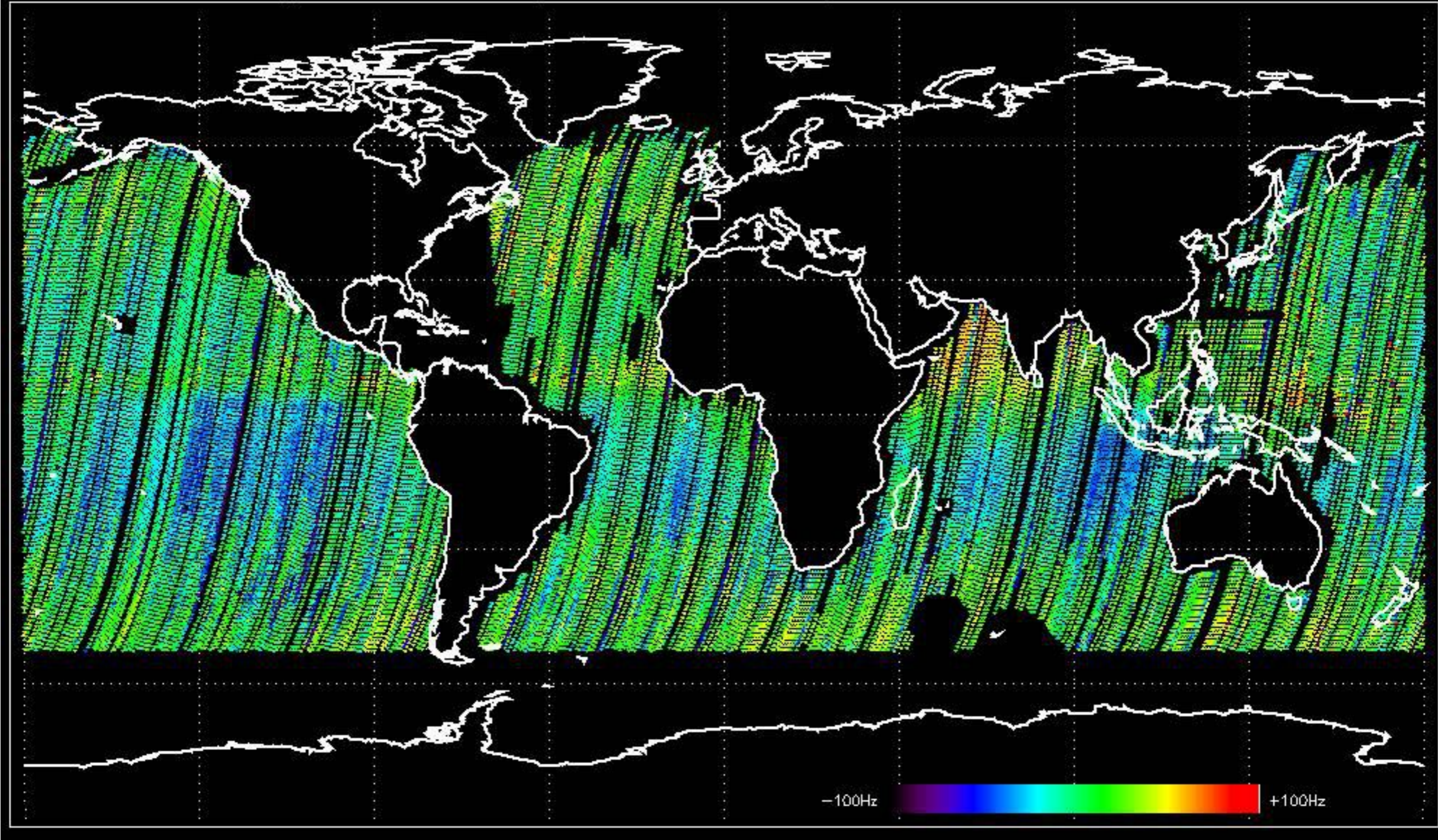


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -10.760100 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -12.930755 Hz





No anomalies observed on available MS products:

No anomalies observed.















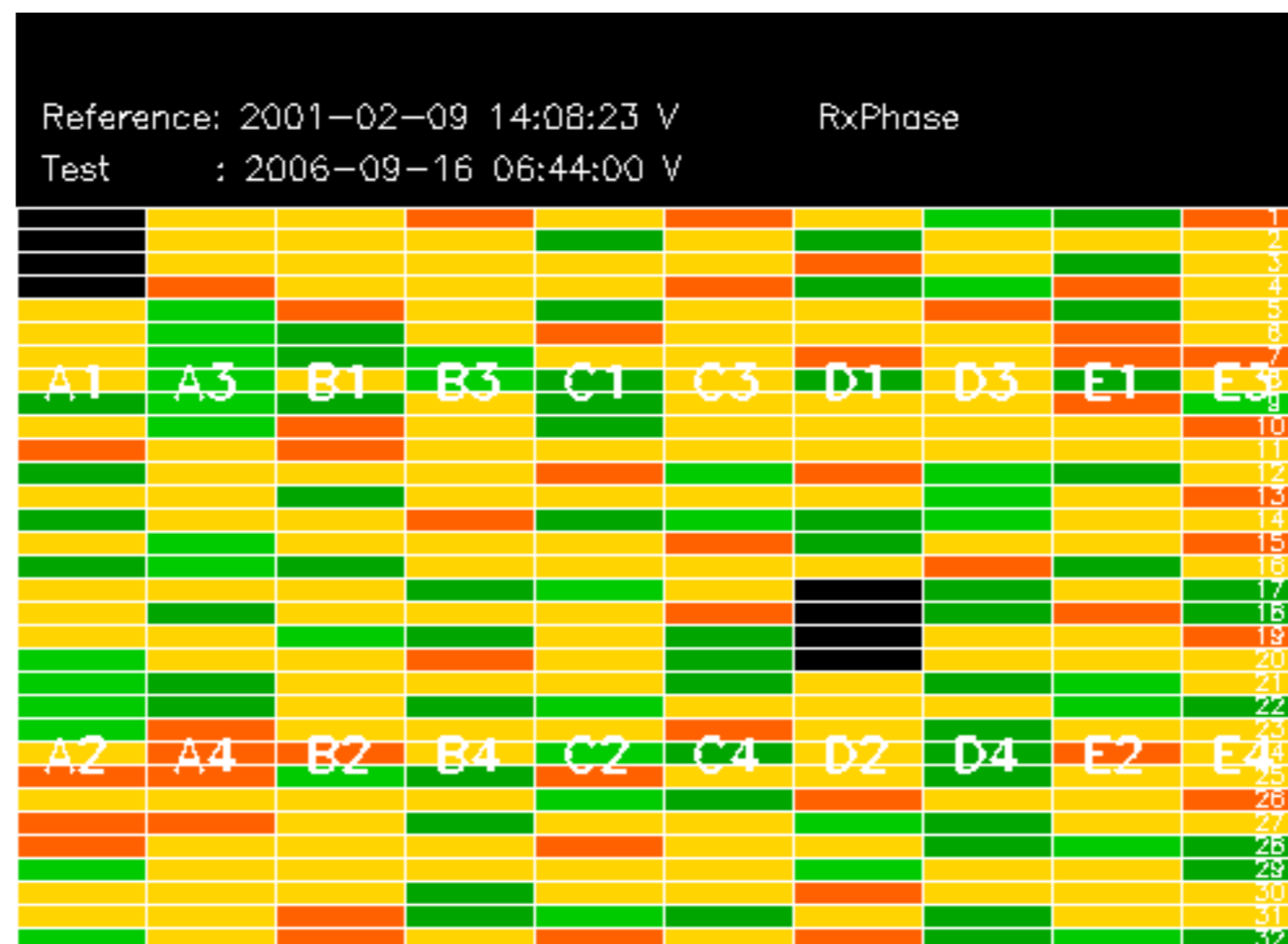






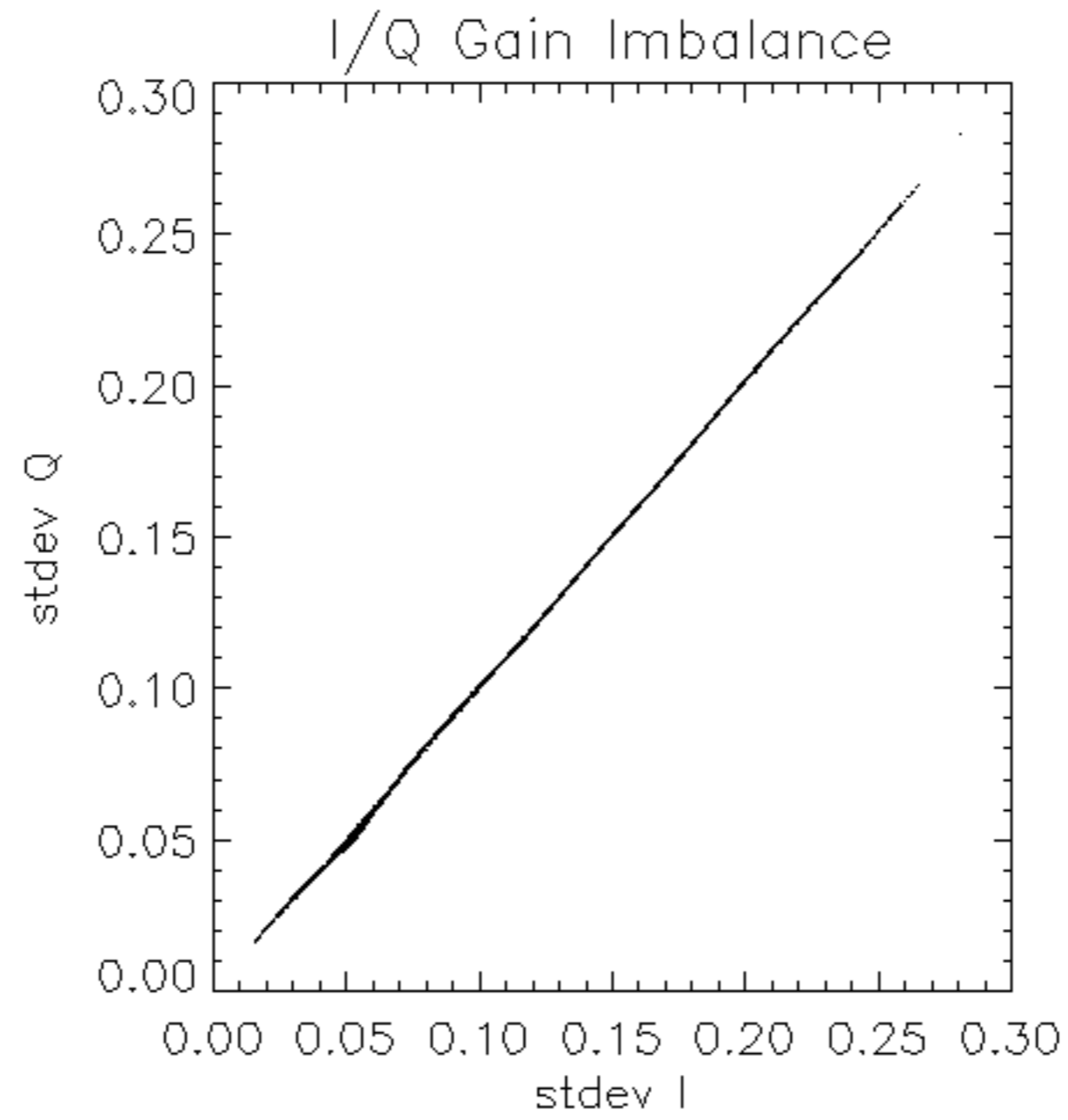


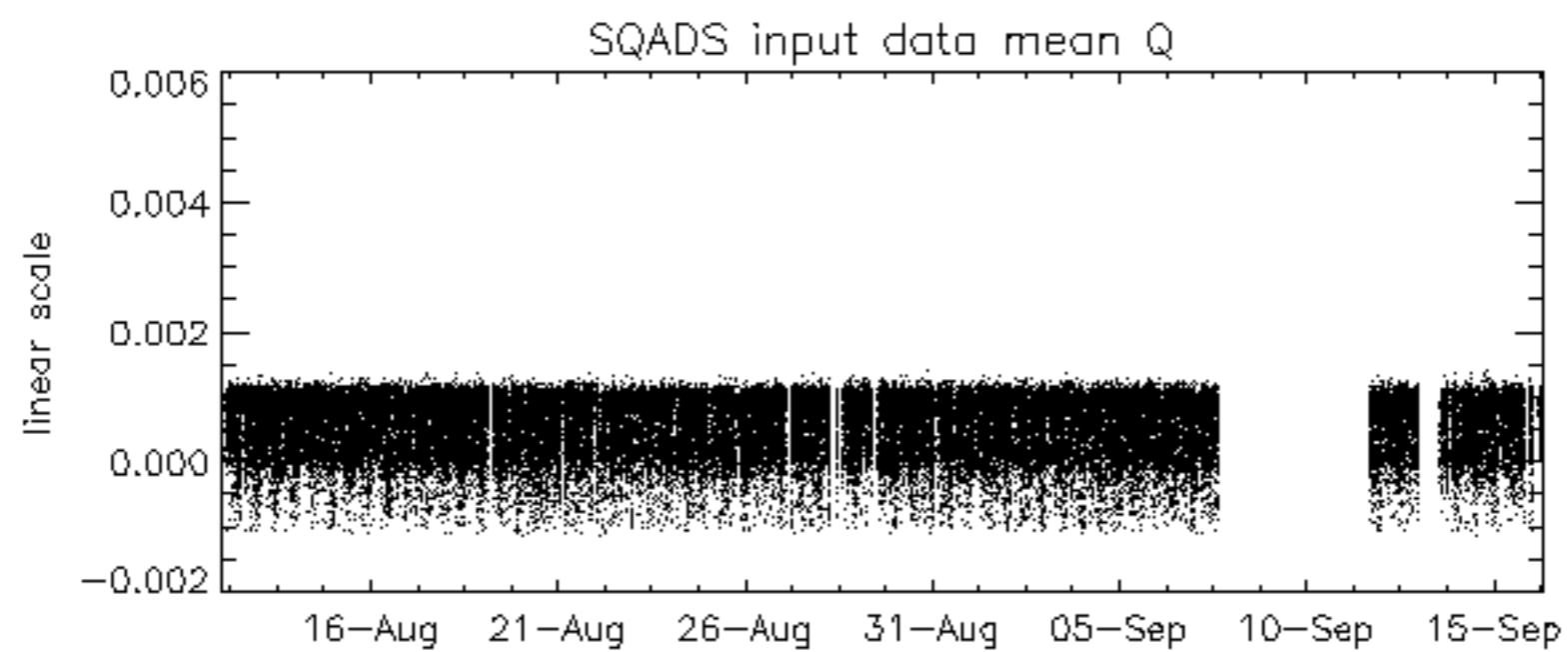
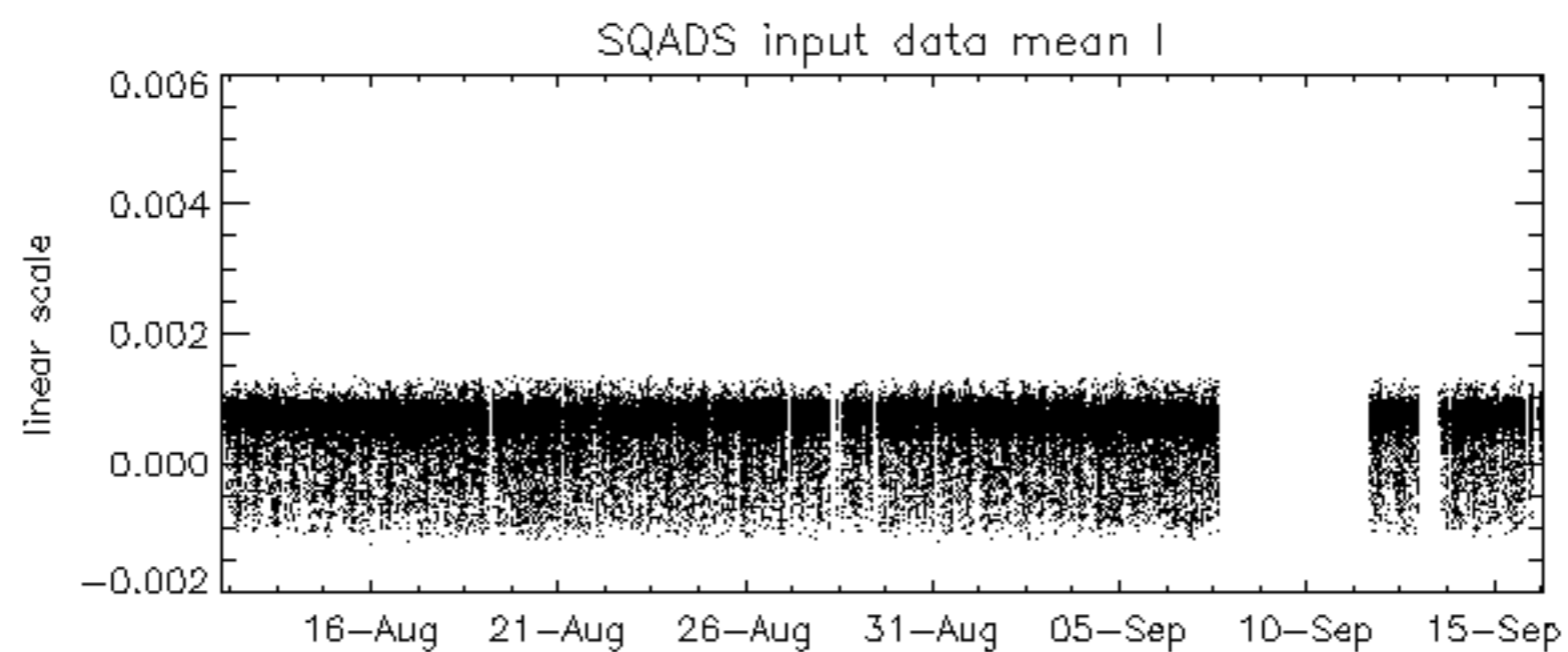
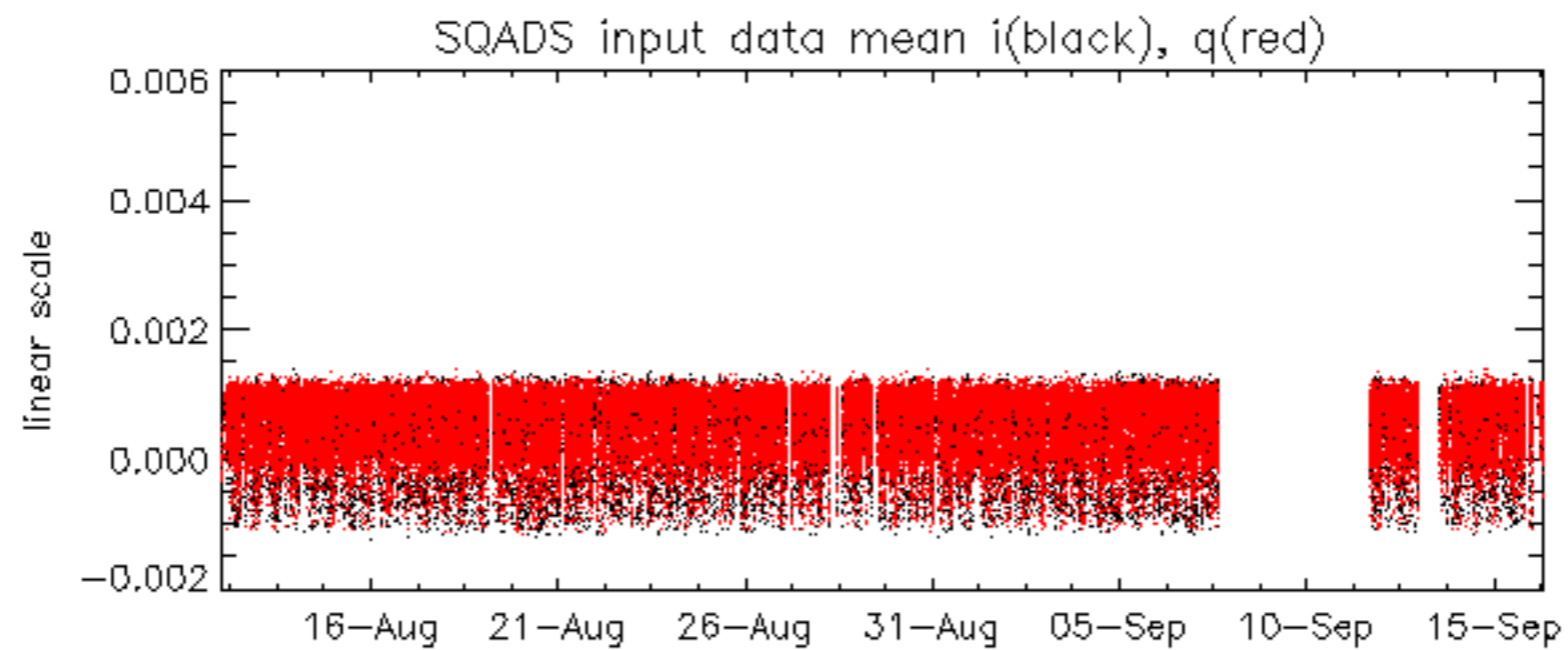


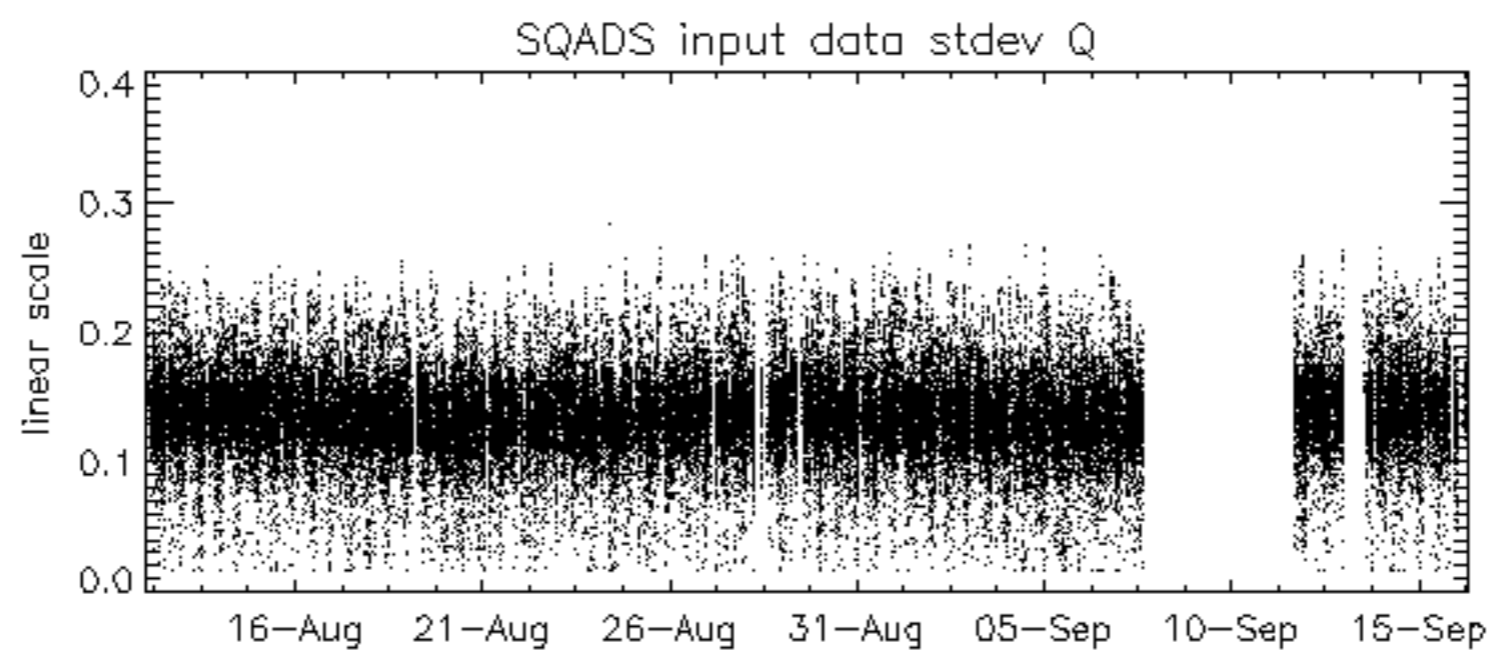
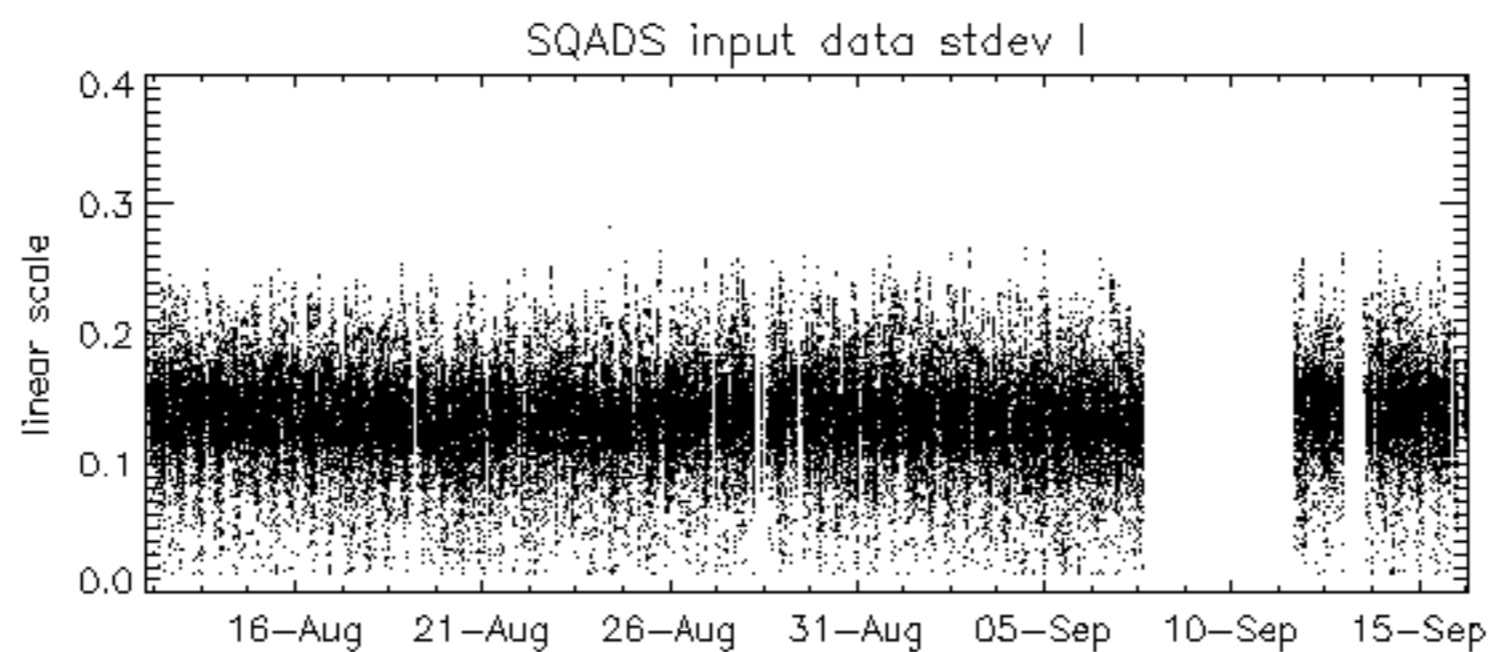
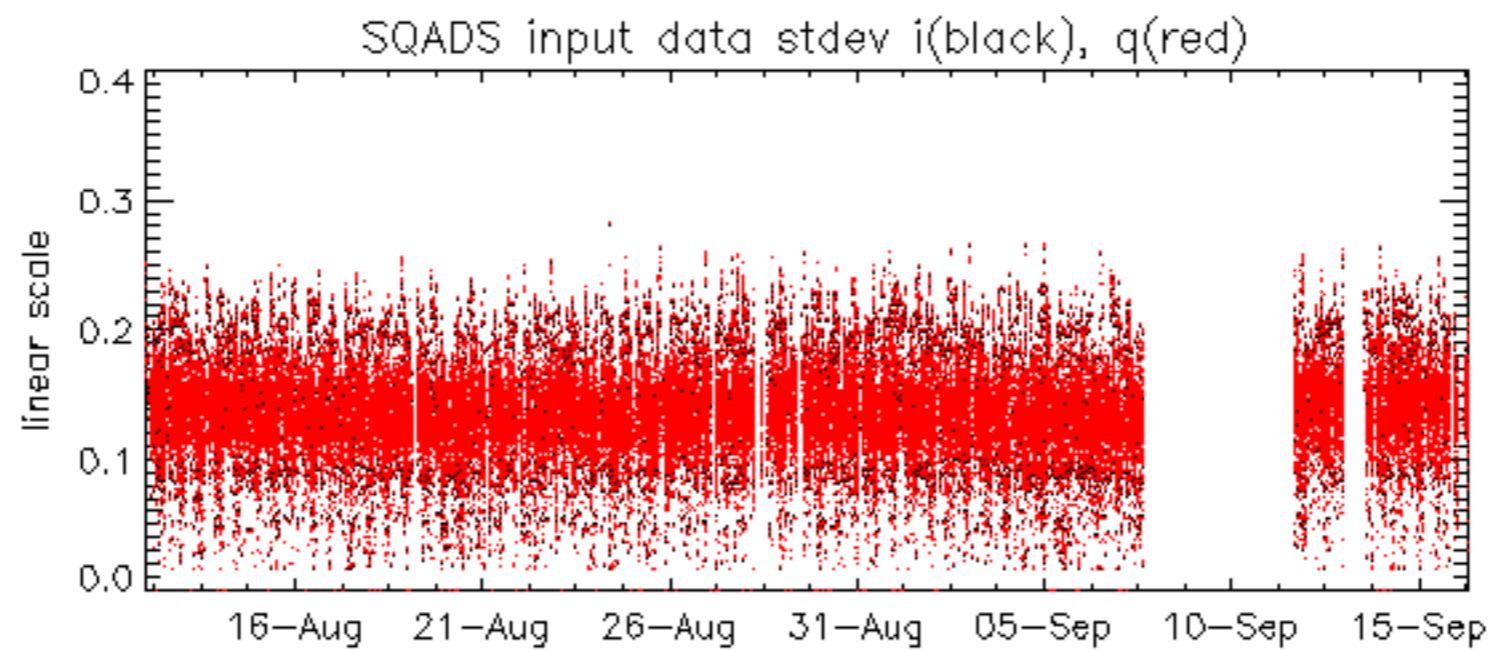




























Summary of analysis for the last 3 days 2006091[456]

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
ASA_IMM_1PNPDE20060915_201740_000000362051_00157_23758_5807.N1	1	0
ASA_WSM_1PNPDE20060914_004533_000002072051_00131_23732_1899.N1	0	34
ASA_WSM_1PNPDE20060915_015531_000001282051_00146_23747_2075.N1	0	39
ASA_WSM_1PNPDE20060915_021350_000000672051_00146_23747_2061.N1	4	196
ASA_WSM_1PNPDE20060915_021500_000000362051_00146_23747_2169.N1	27	2559
ASA_WSM_1PNPDE20060915_033458_000000852051_00147_23748_2087.N1	0	7
ASA_WSM_1PNPDE20060915_234319_000003242051_00159_23760_2251.N1	0	34
ASA_APM_1PNPDE20060915_143623_000000892051_00154_23755_2658.N1	0	9











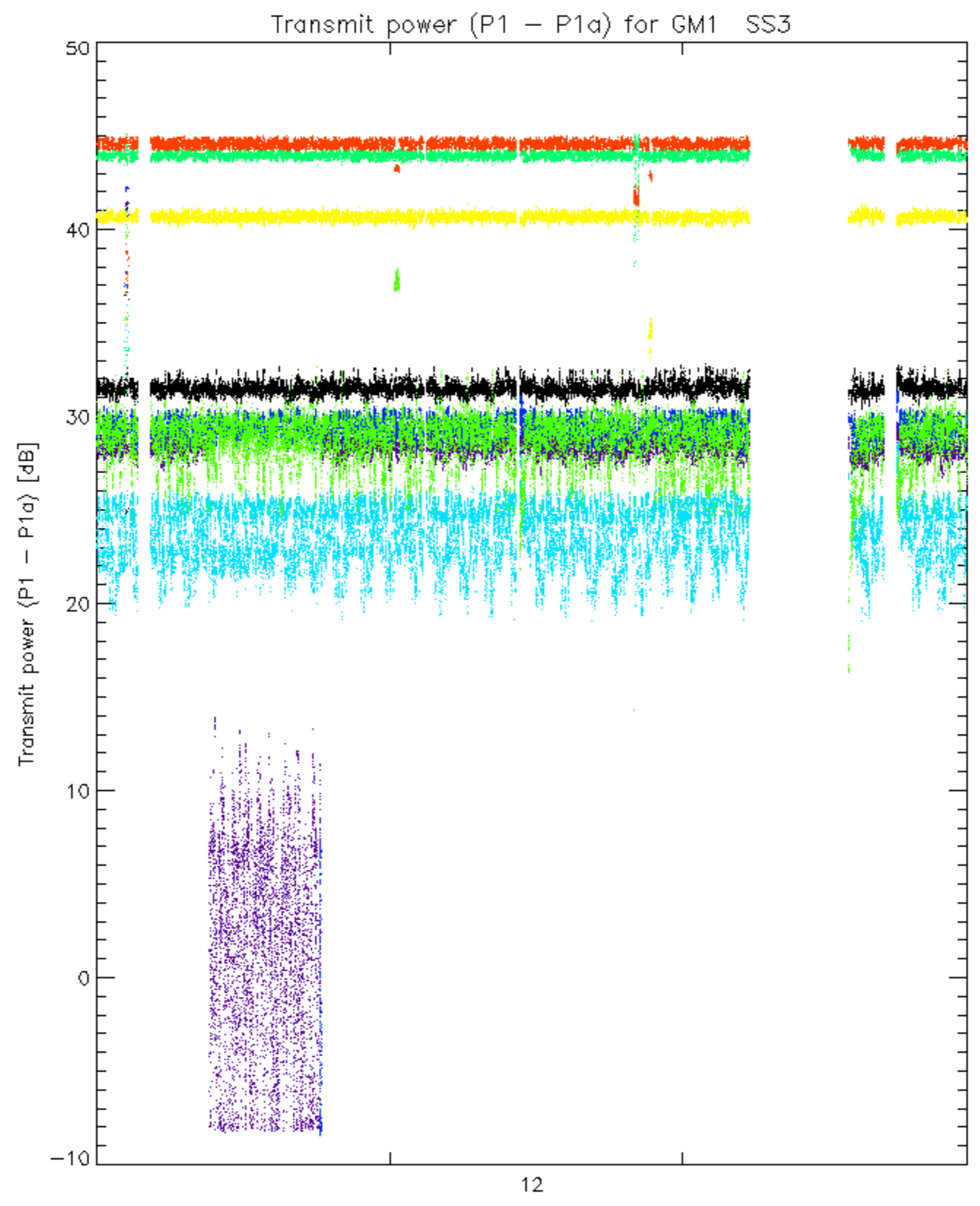




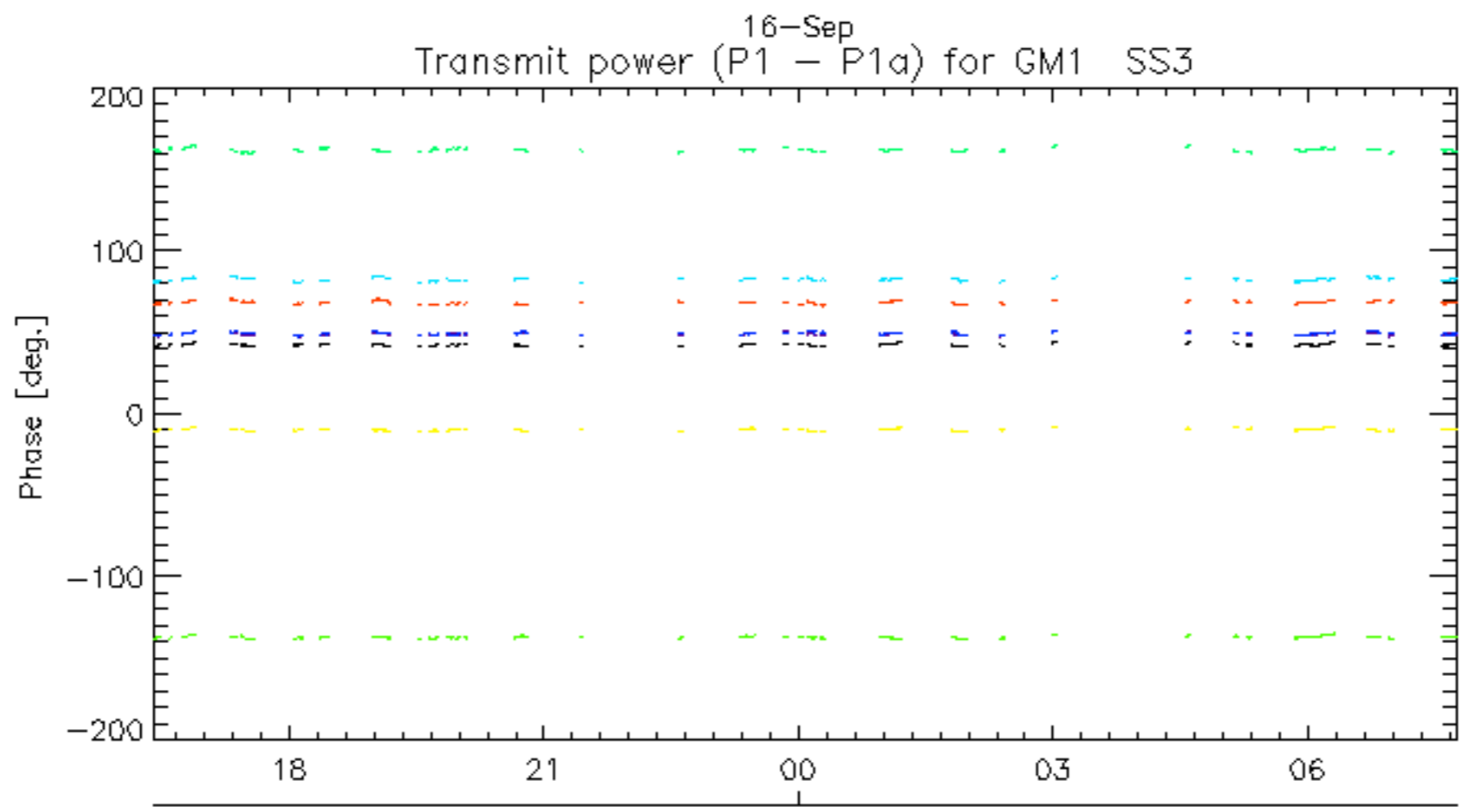
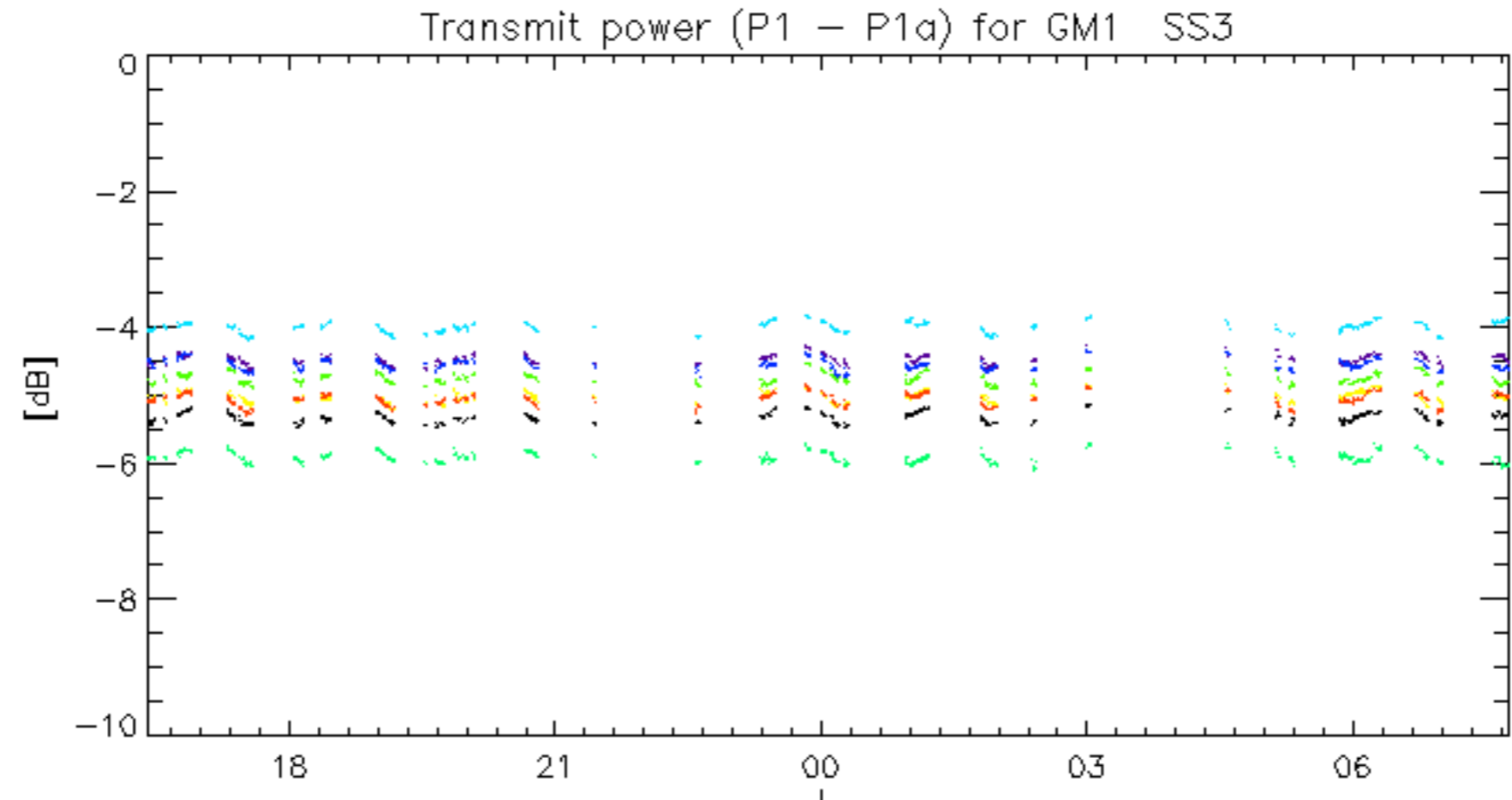




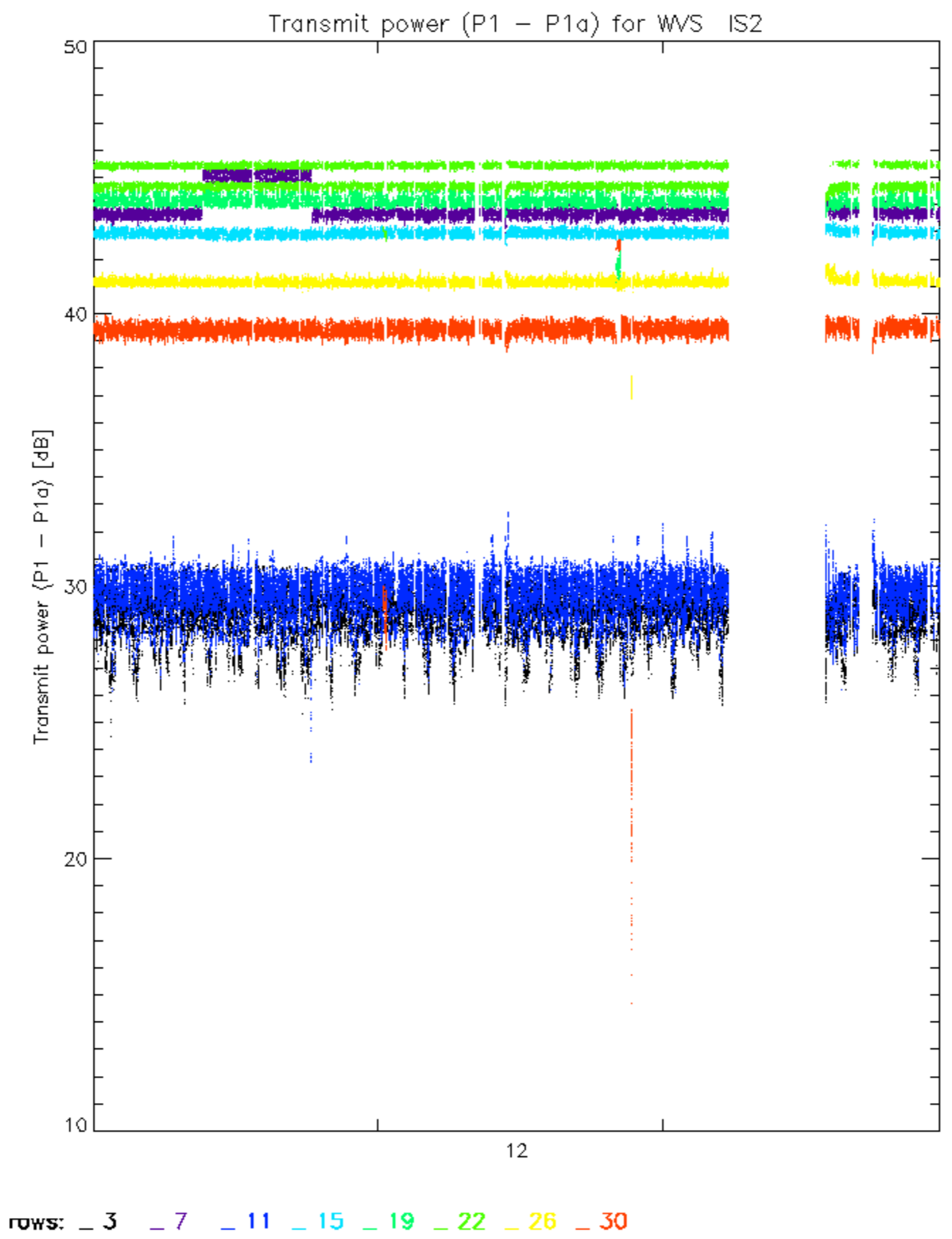


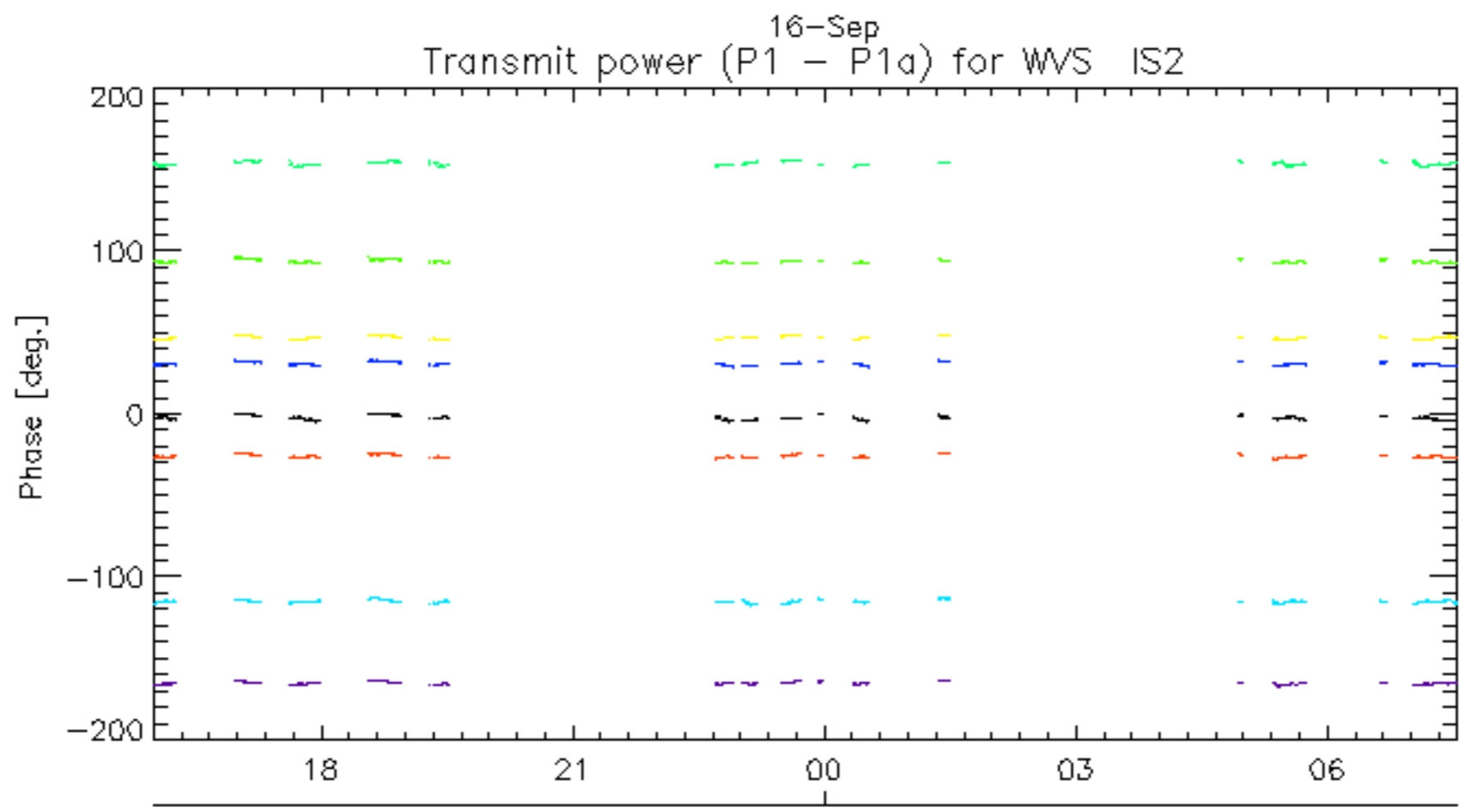
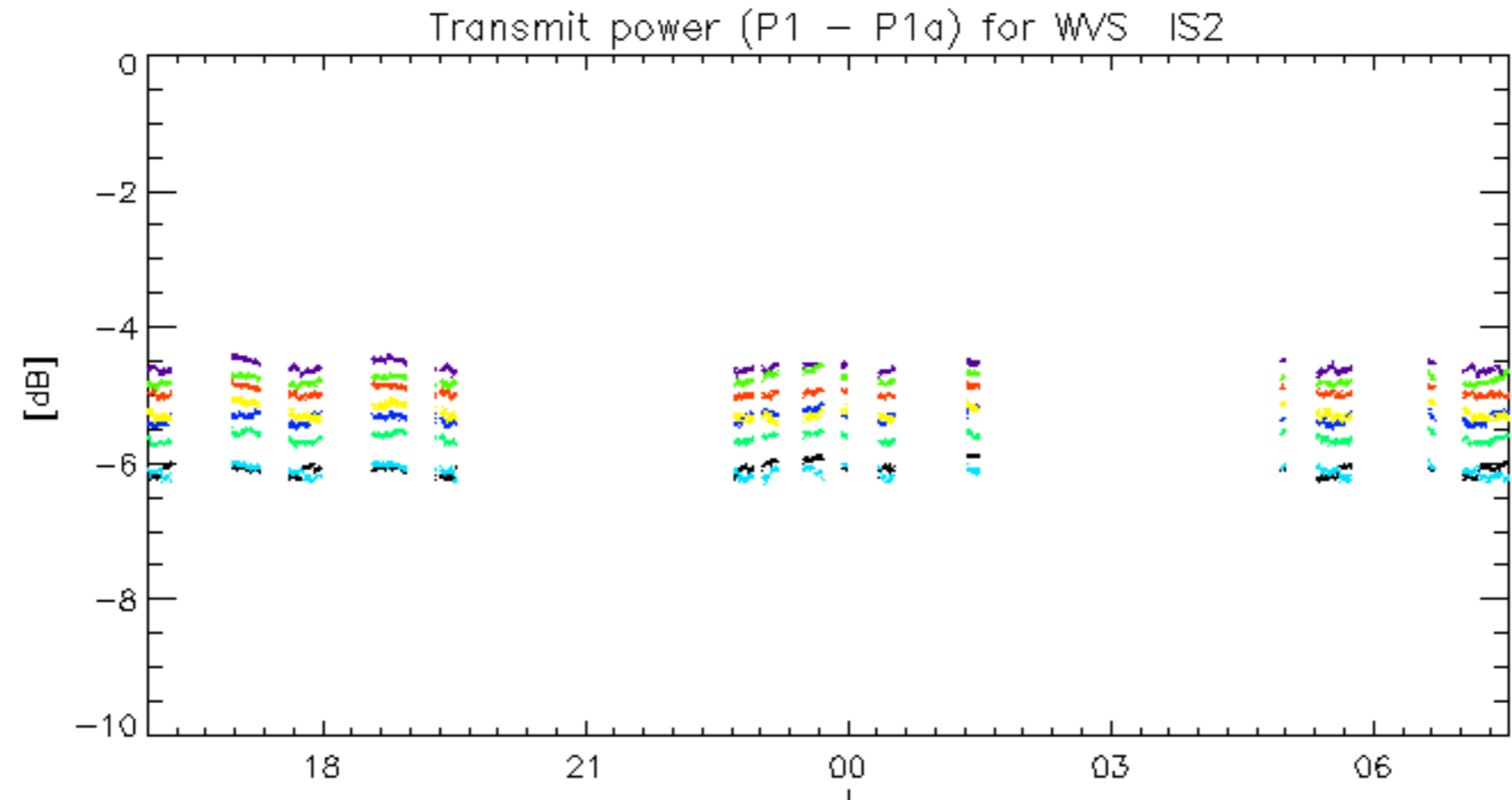






16-Sep  
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30





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

No unavailabilities during the reported period.