

# PRELIMINARY REPORT OF 051002

last update on Sun Oct 2 10:50:01 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 2005-10-01 00:00:00 to 2005-10-02 10:50:02

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	26	56	2	6	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	26	56	2	6	0
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	26	56	2	6	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	26	56	2	6	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	36	53	26	10	66
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	36	53	26	10	66
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	36	53	26	10	66
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	36	53	26	10	66

## 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	20051001 064406
H	20051002 061229

### 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)
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**P1 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.494477	0.080961	-0.371940
7	P1	-3.041739	0.040412	0.450333
11	P1	-4.407300	0.163631	1.028287
15	P1	-5.858311	0.056687	-0.540388
19	P1	-3.355813	0.224070	0.978308
22	P1	-4.531119	0.024748	0.282498
26	P1	-4.579009	0.113677	0.790032
30	P1	-6.324230	0.680711	2.302823
3	P1	-15.880883	1.905750	0.147842
7	P1	-16.596872	5.242255	-0.821207
11	P1	-19.426439	14.001799	8.428801
15	P1	-13.322181	10.794609	-2.856926
19	P1	-13.924549	0.331753	1.380794
22	P1	-17.187414	25.038921	-0.686944
26	P1	-18.031849	22.569265	1.505435
30	P1	-17.910410	9.308426	2.370674

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.796513	0.102720	-0.256793
7	P2	-22.380171	0.326335	-1.301782
11	P2	-15.412331	3.150687	-4.972901
15	P2	-7.168219	0.122396	-0.240567
19	P2	-9.258355	0.222599	0.594729
22	P2	-17.264742	0.283884	-1.306647
26	P2	-16.281708	0.143335	0.634112
30	P2	-19.308666	0.273618	-1.177249

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.168562	0.004622	-0.032797
7	P3	-8.168562	0.004622	-0.032797
11	P3	-8.168562	0.004622	-0.032797
15	P3	-8.168562	0.004622	-0.032797
19	P3	-8.168562	0.004622	-0.032797
22	P3	-8.168562	0.004622	-0.032797
26	P3	-8.168562	0.004622	-0.032797
30	P3	-8.168562	0.004622	-0.032797

#### 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	-3.141780	0.293679	-1.252508
7	P1	-2.972058	0.073151	0.156352
11	P1	-3.456670	0.366867	1.730637
15	P1	-3.523530	0.035879	0.375984
19	P1	-3.405635	0.081759	0.411574
22	P1	-5.302804	0.229551	0.816862
26	P1	-6.301509	0.975302	2.262898
30	P1	-5.546750	0.544653	1.535647
3	P1	-11.414048	0.524573	-0.593292
7	P1	-11.637651	21.605076	0.805283
11	P1	-13.214365	40.995026	3.793584
15	P1	-12.954797	36.372681	1.473631
19	P1	-15.317291	0.226778	0.007601
22	P1	-22.753115	7.208009	7.095697
26	P1	-16.858265	6.418527	-2.766161
30	P1	-19.767967	2.041585	1.564497

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.556509	0.070811	-0.465931
7	P2	-22.594273	0.376734	-1.558736
11	P2	-10.750690	1.379059	-3.355604
15	P2	-4.970779	0.051773	0.269743
19	P2	-6.764482	0.122408	-0.091519
22	P2	-7.554107	0.307344	-1.548858
26	P2	-23.896152	0.042824	0.156791
30	P2	-22.045080	0.070713	-0.192889

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.010808	0.003428	-0.030347
7	P3	-8.010745	0.003435	-0.030584
11	P3	-8.010556	0.003432	-0.029966
15	P3	-8.010605	0.003434	-0.030373
19	P3	-8.010834	0.003423	-0.030249
22	P3	-8.010576	0.003428	-0.030172
26	P3	-8.010800	0.003430	-0.030632
30	P3	-8.010736	0.003440	-0.030595

## 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	0.000515335
	stdev	1.92130e-07
MEAN Q	mean	0.000517332
	stdev	2.19622e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.133889
	stdev	0.00106207
STDEV Q	mean	0.134192
	stdev	0.00107601



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005100[012]

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_1PNPDE20051002_004100_00000622041_00174_18765_7164.N1	1	0
ASA_WSM_1PNPDE20051002_023154_000002082041_00175_18766_1825.N1	0	67



## 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

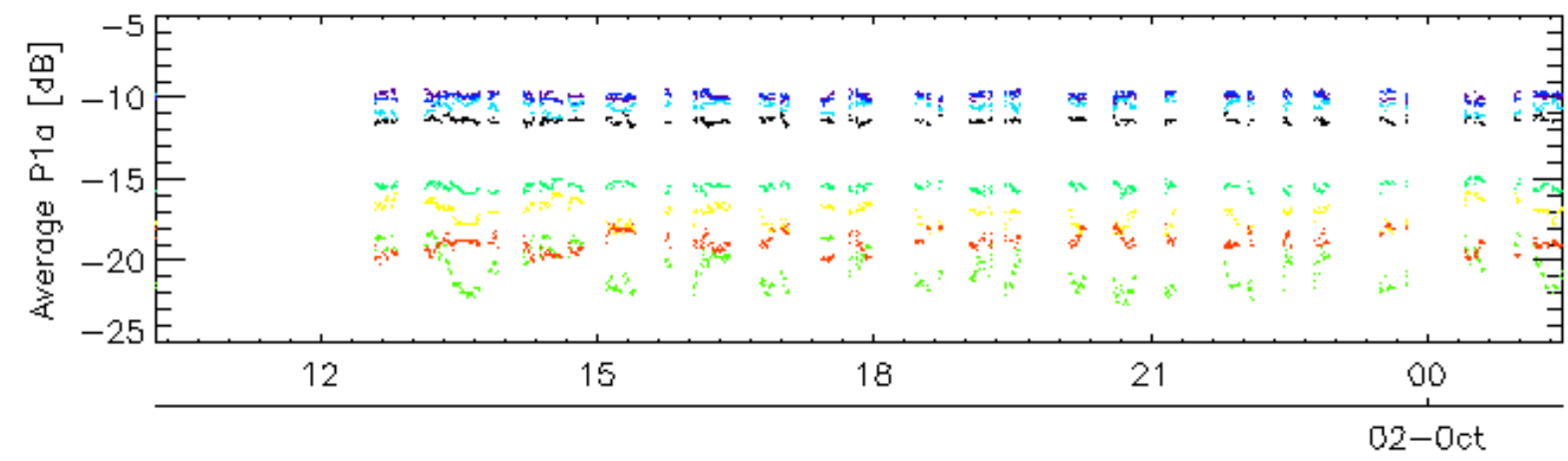
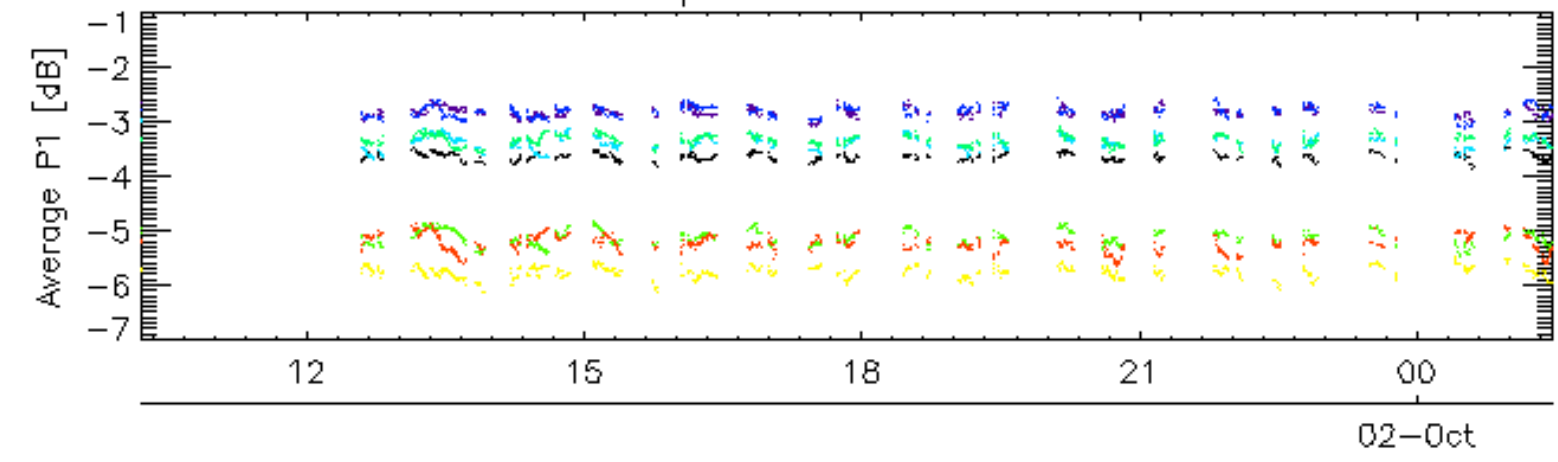
Ascending

Descending

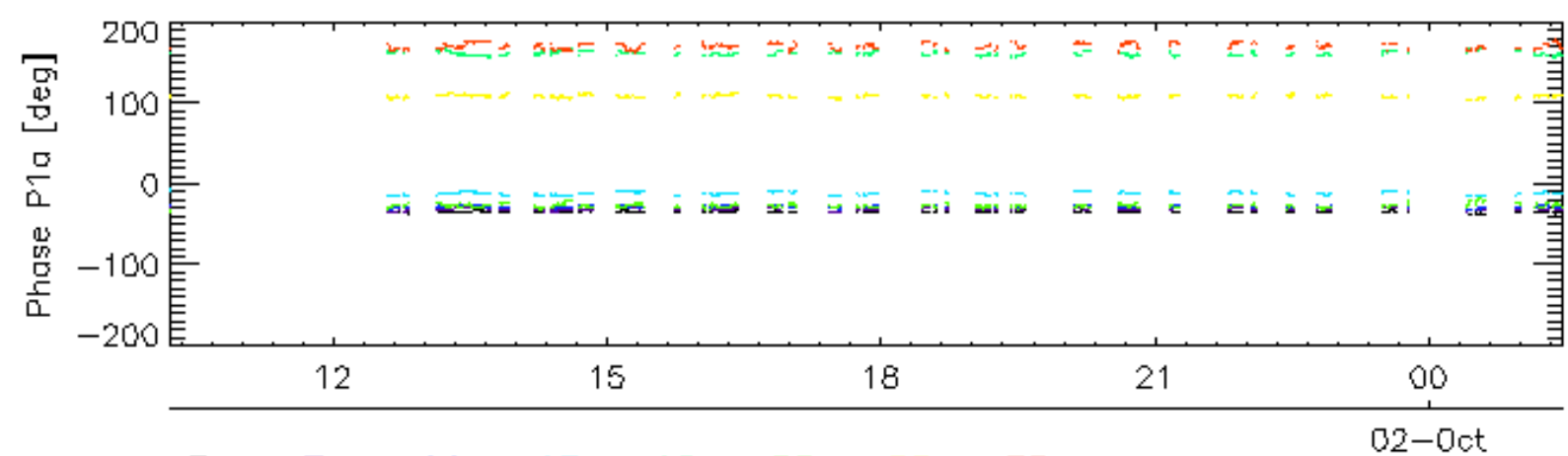
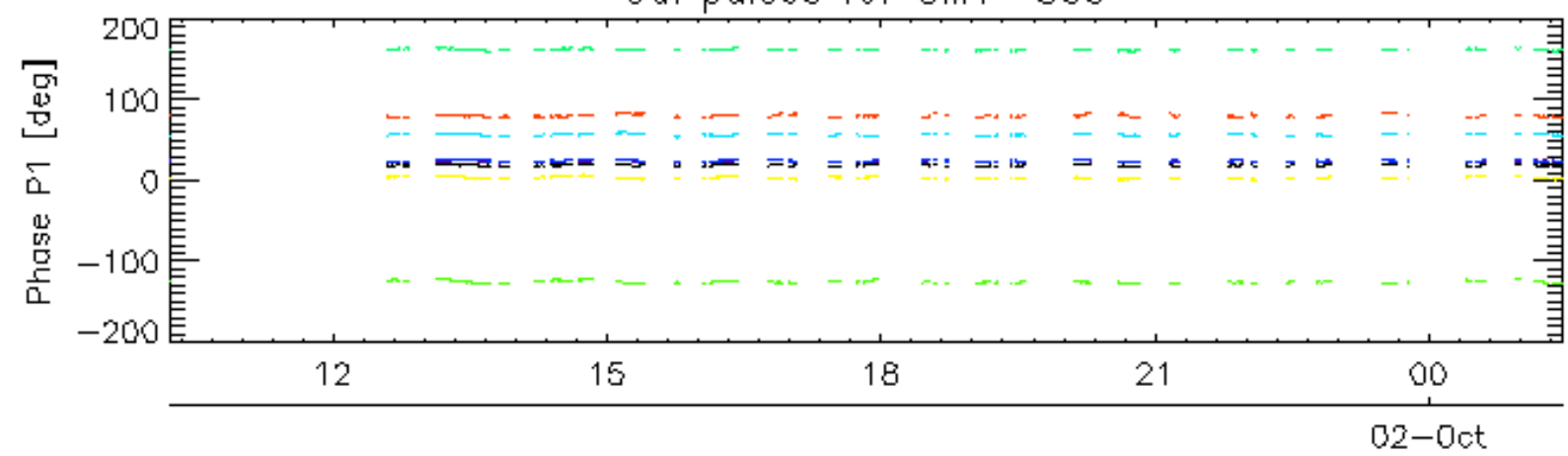
### 7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

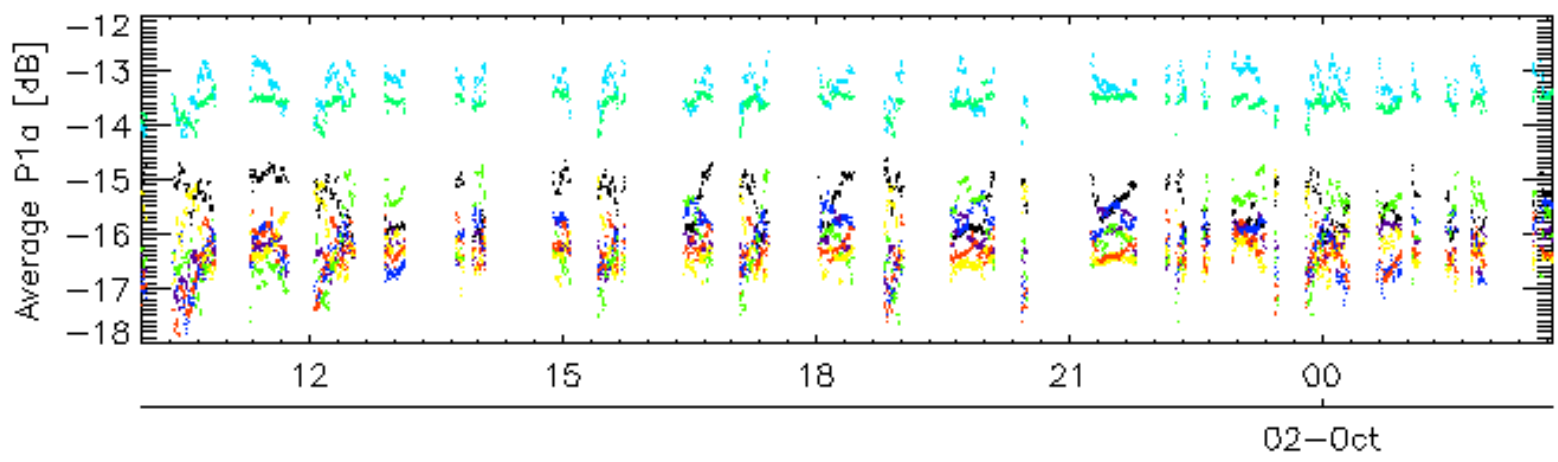
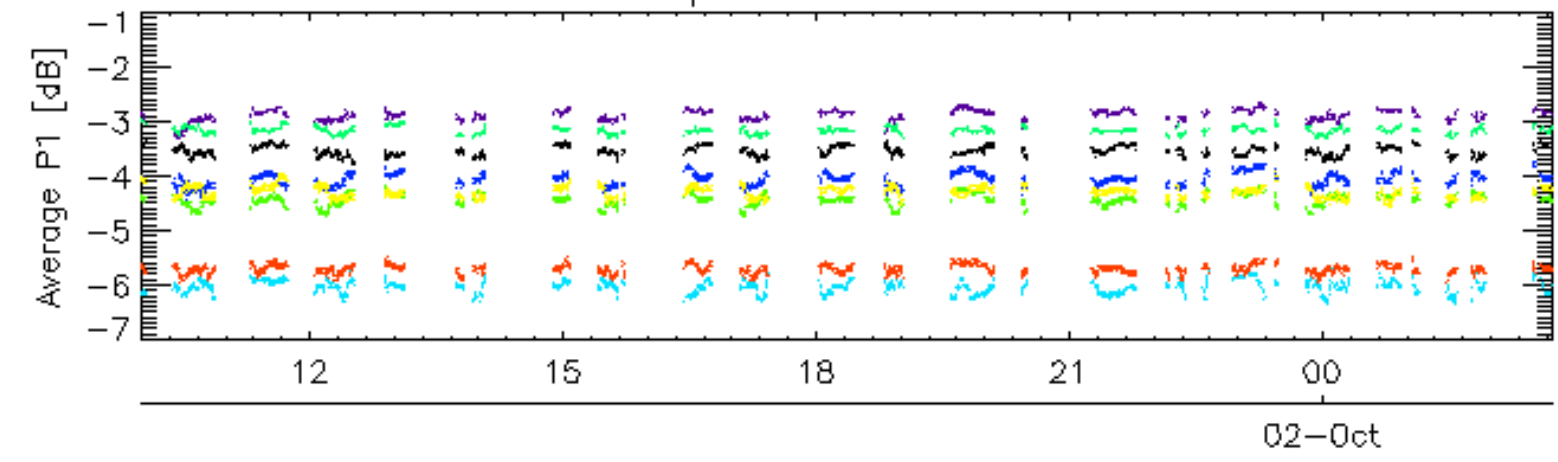


Cal pulses for GM1 SS3

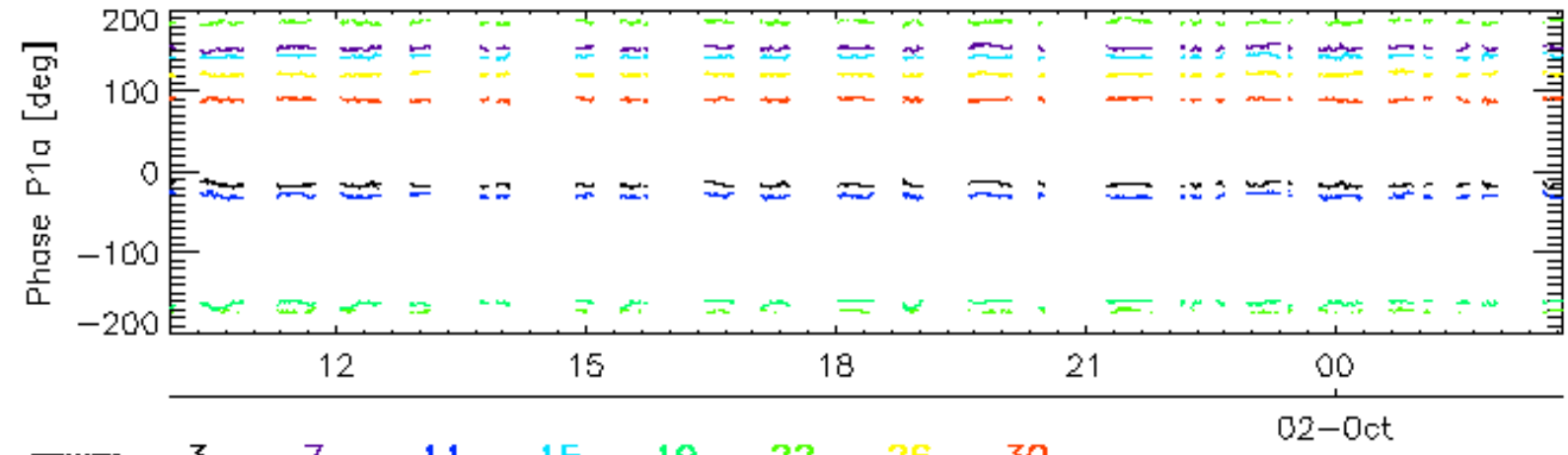
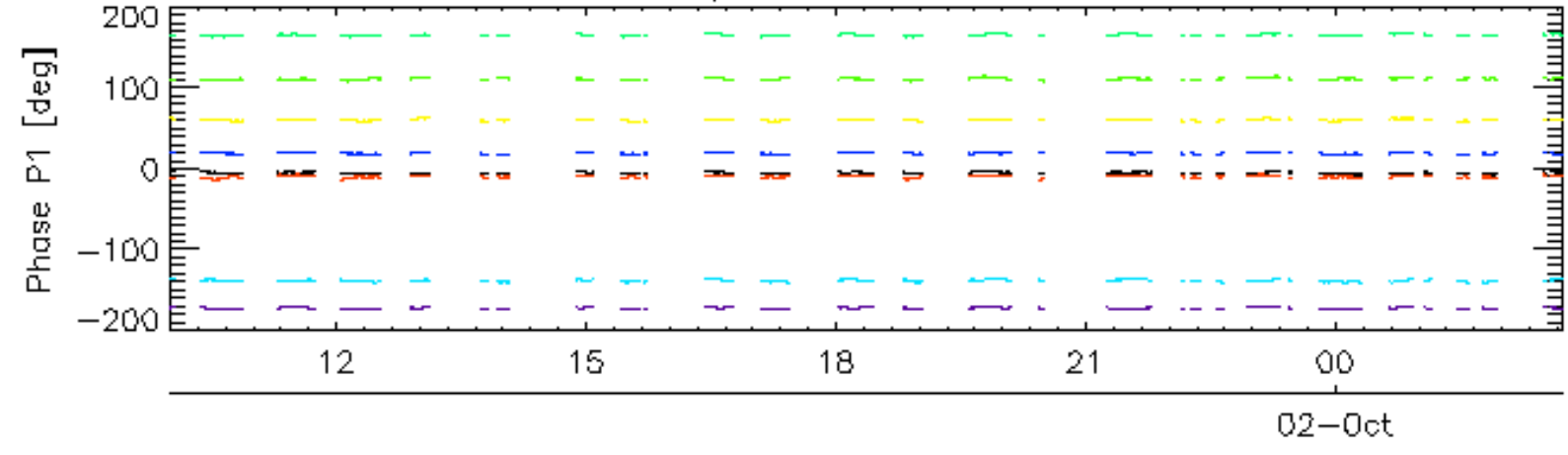


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

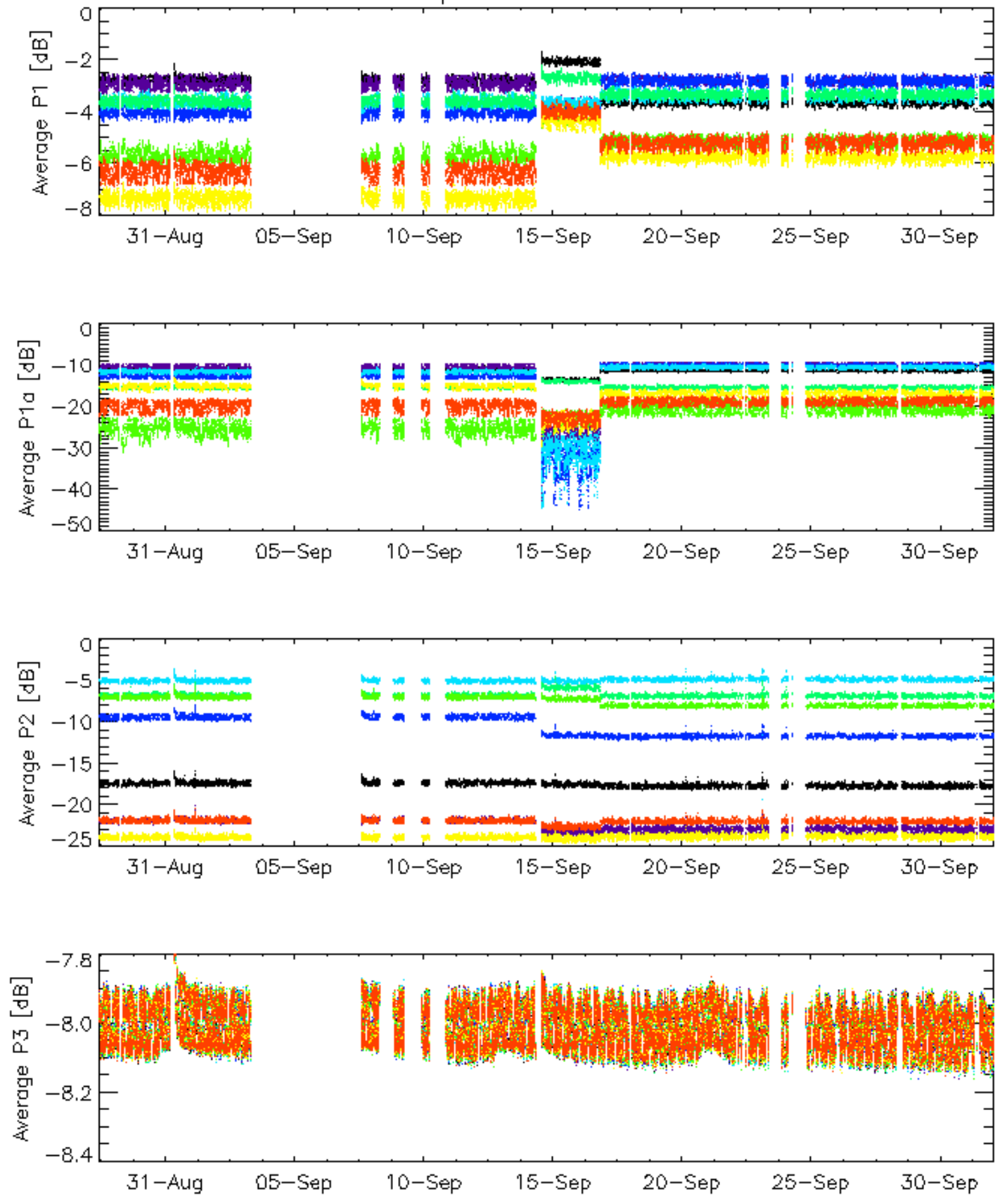


Cal pulses for WVS IS2



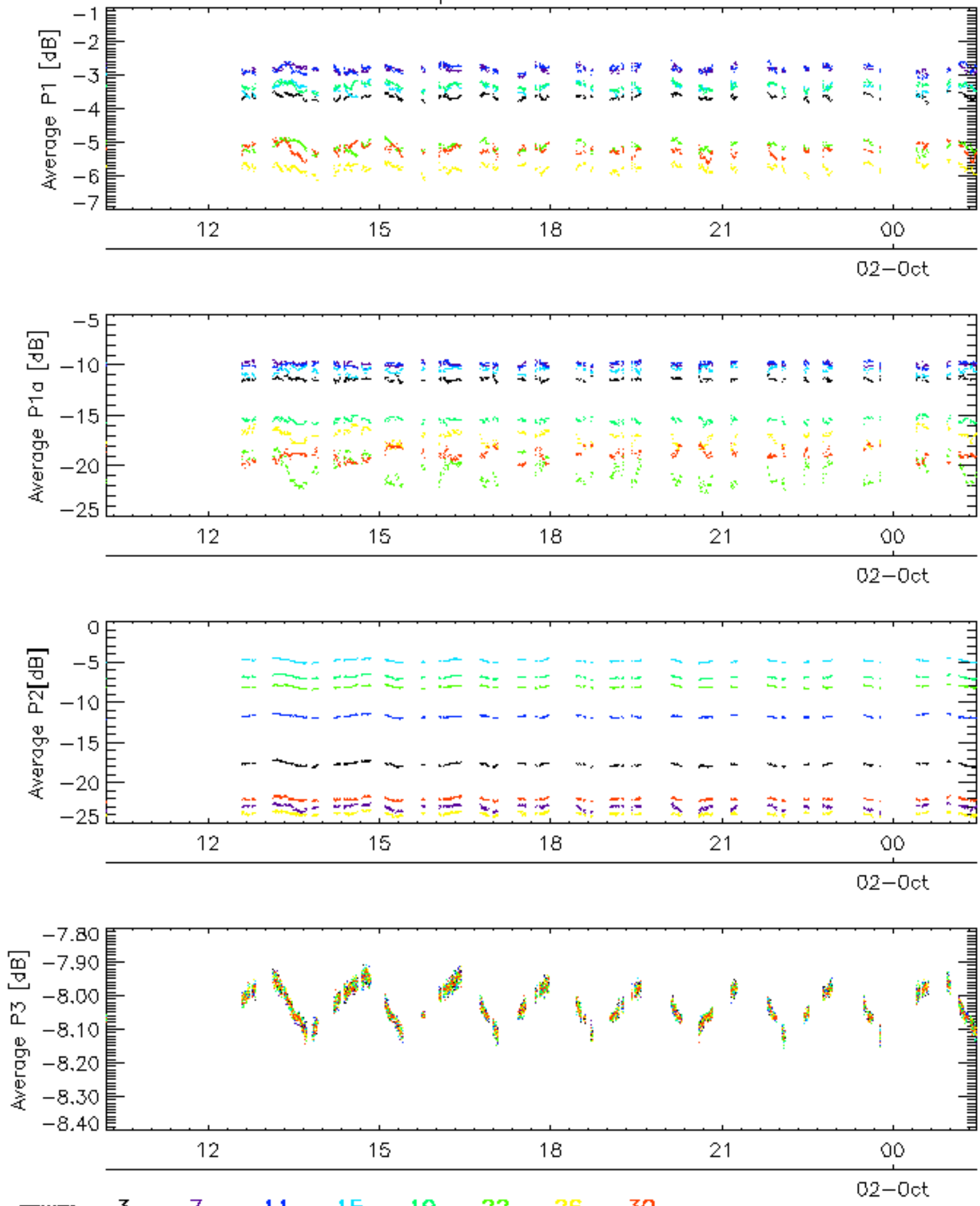
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3



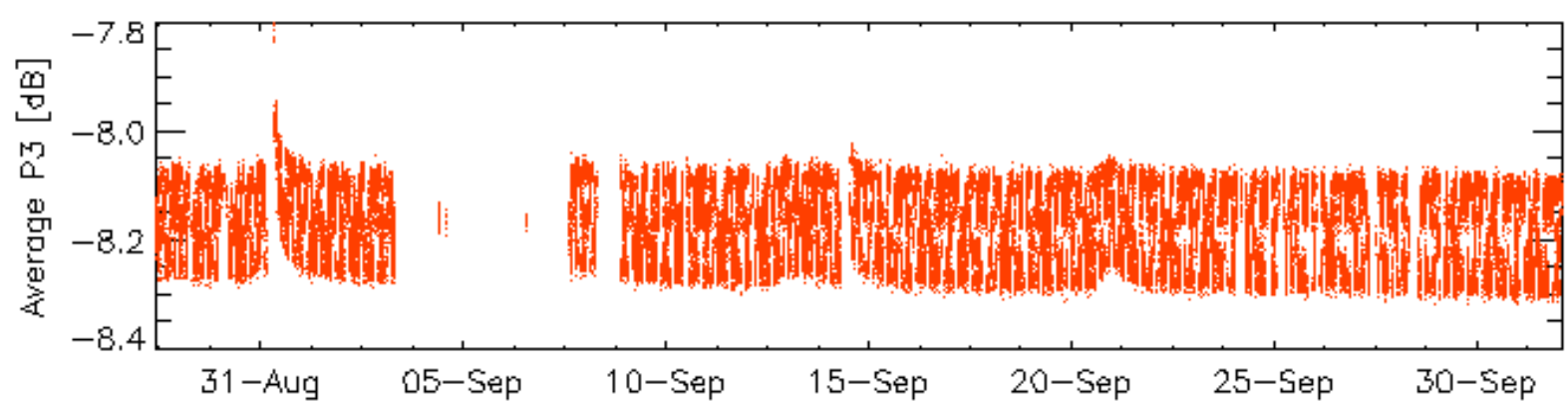
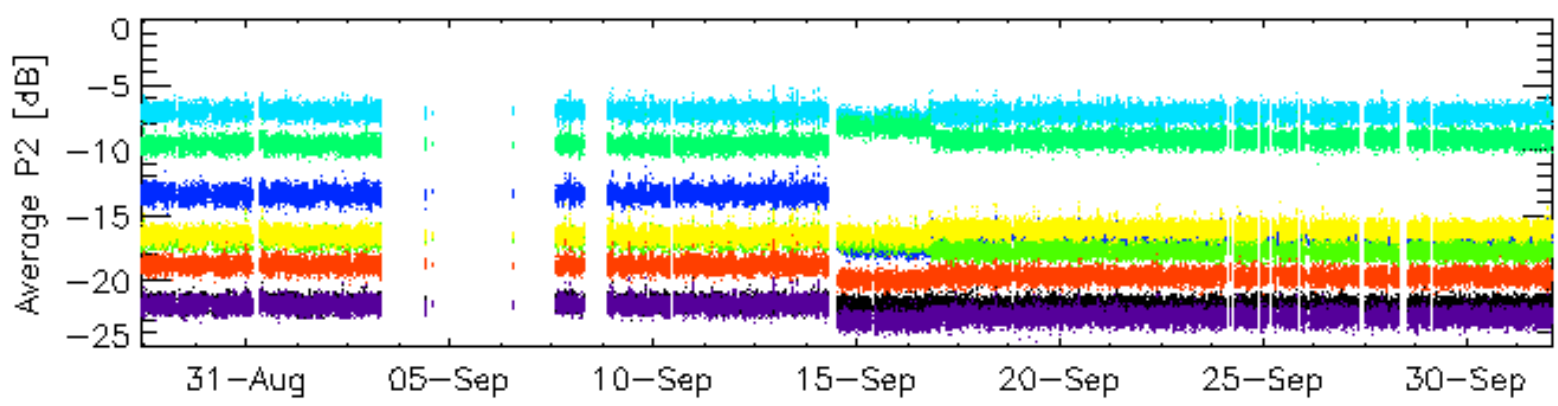
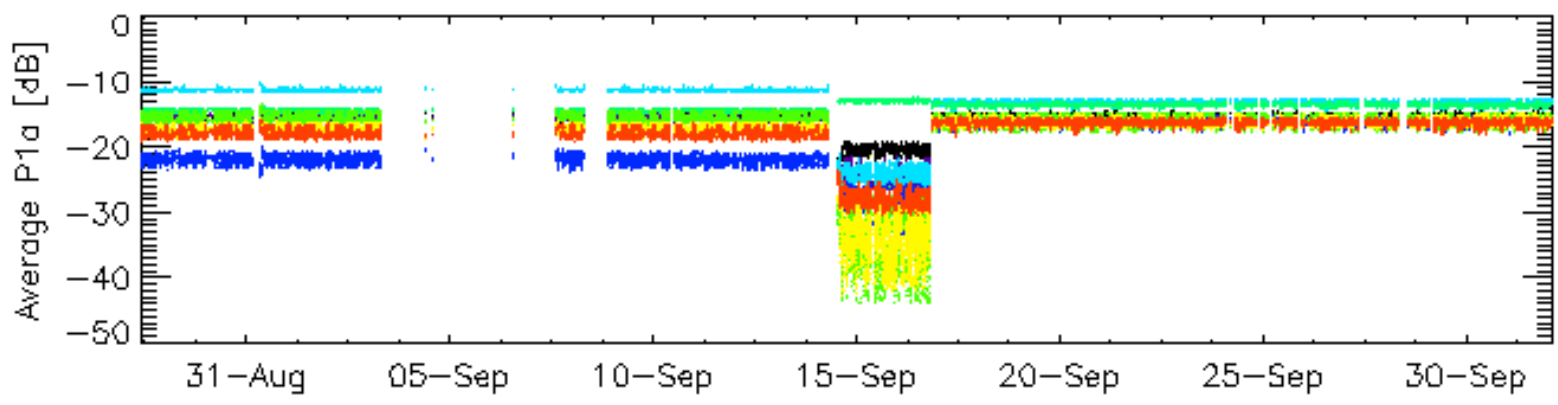
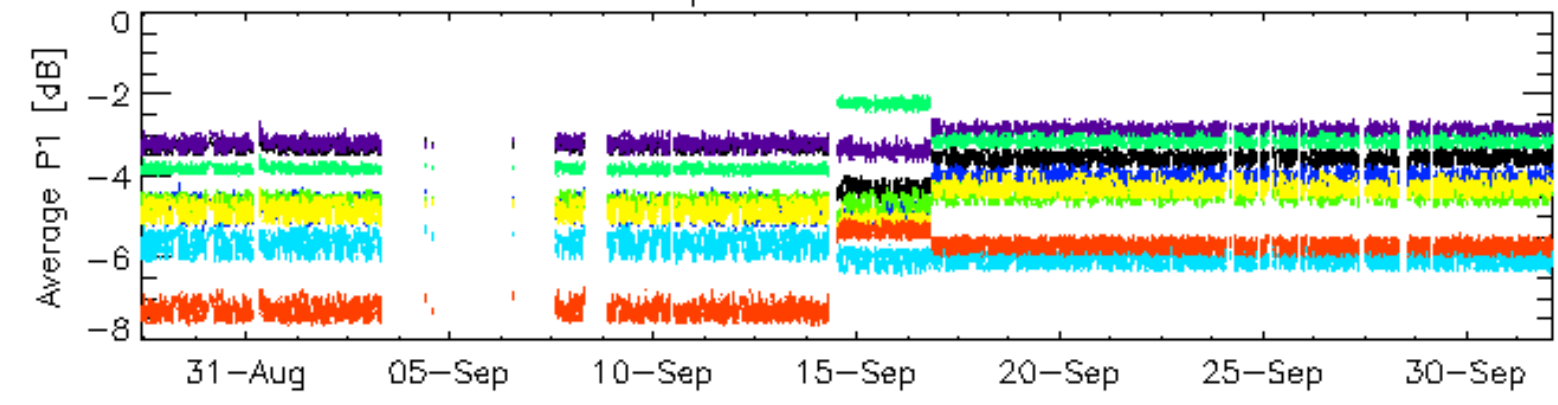
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3



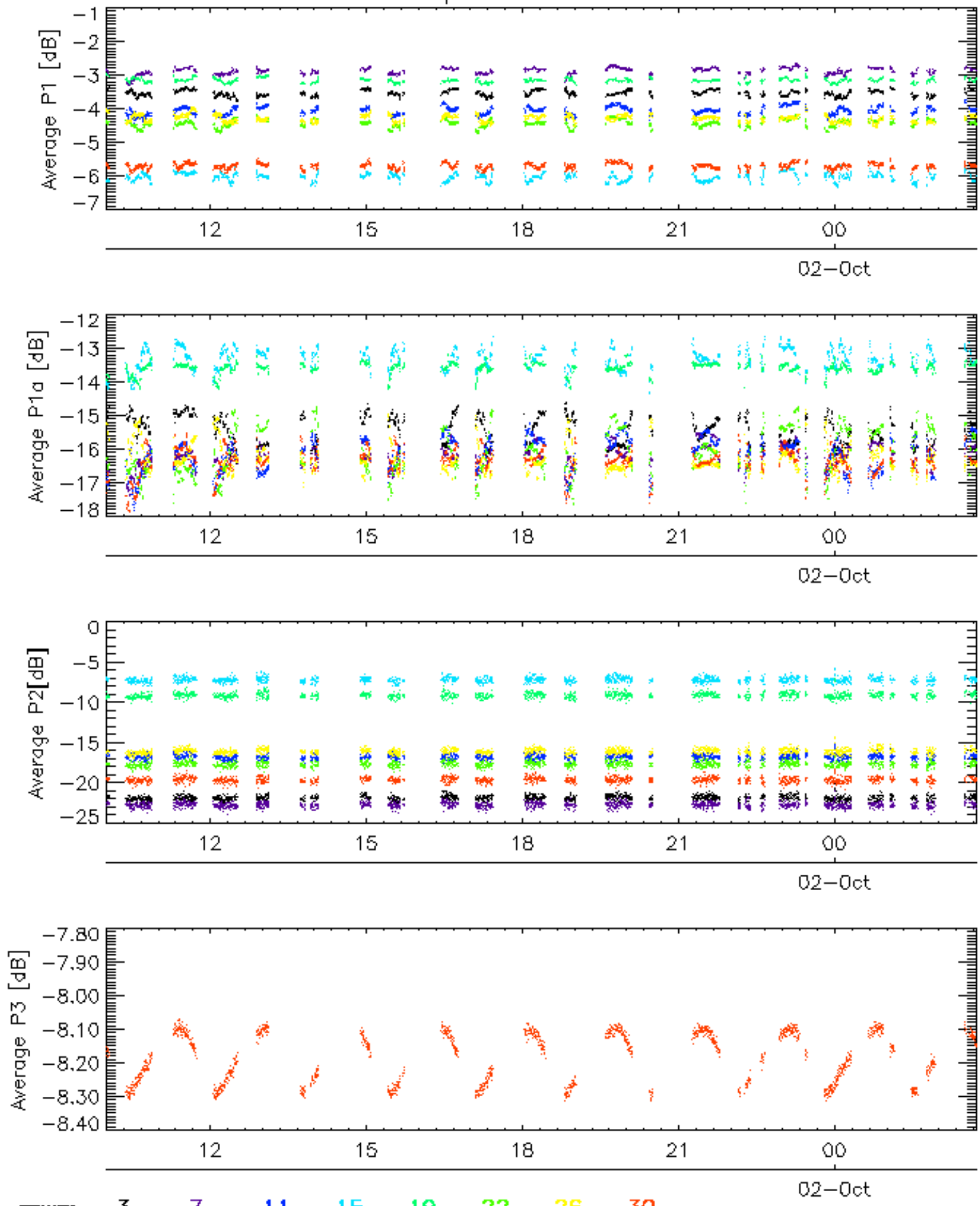
rows: 3 7 11 15 19 22 26 30

Cal pulses for WVS IS2



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

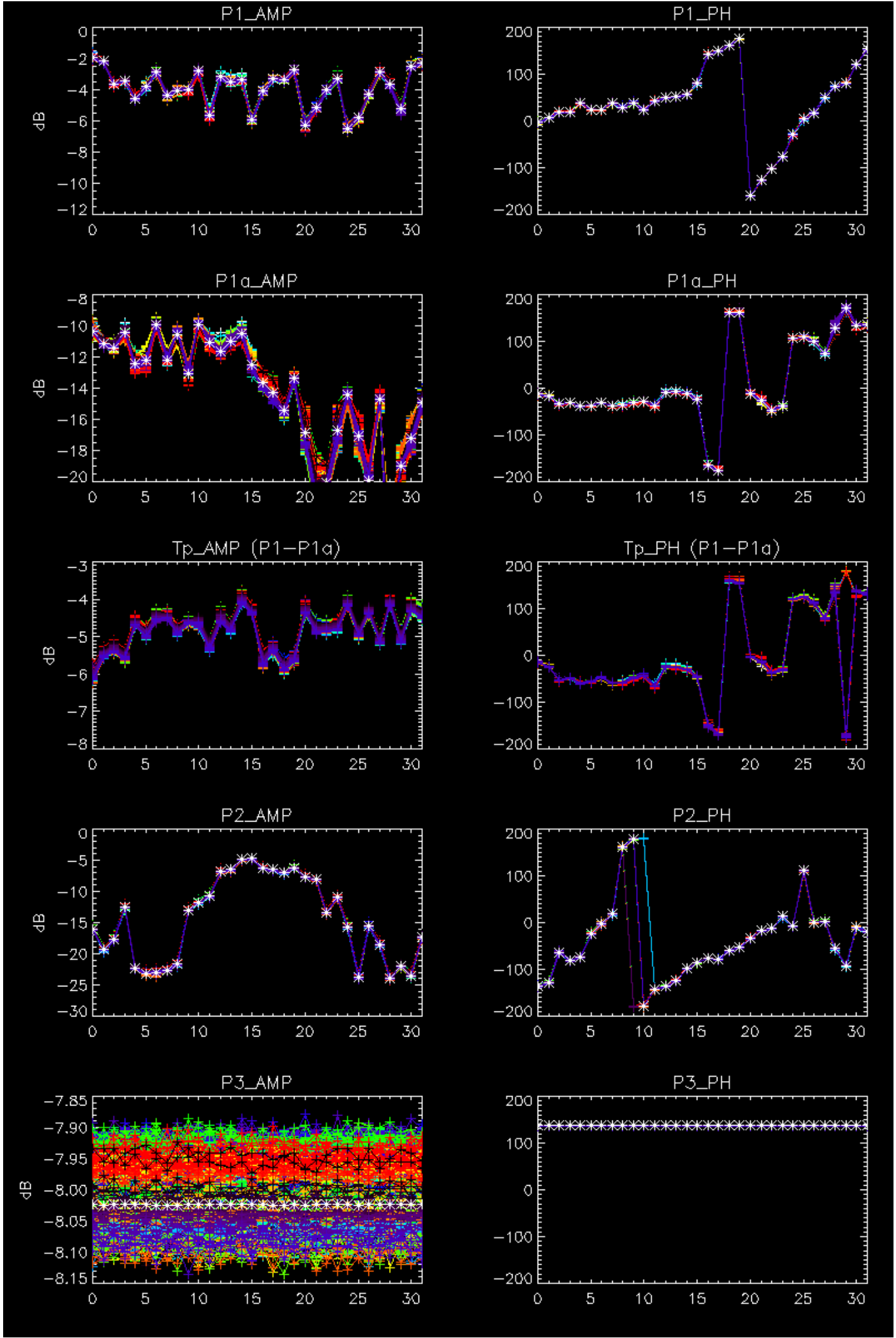
Cal pulses for WVS IS2

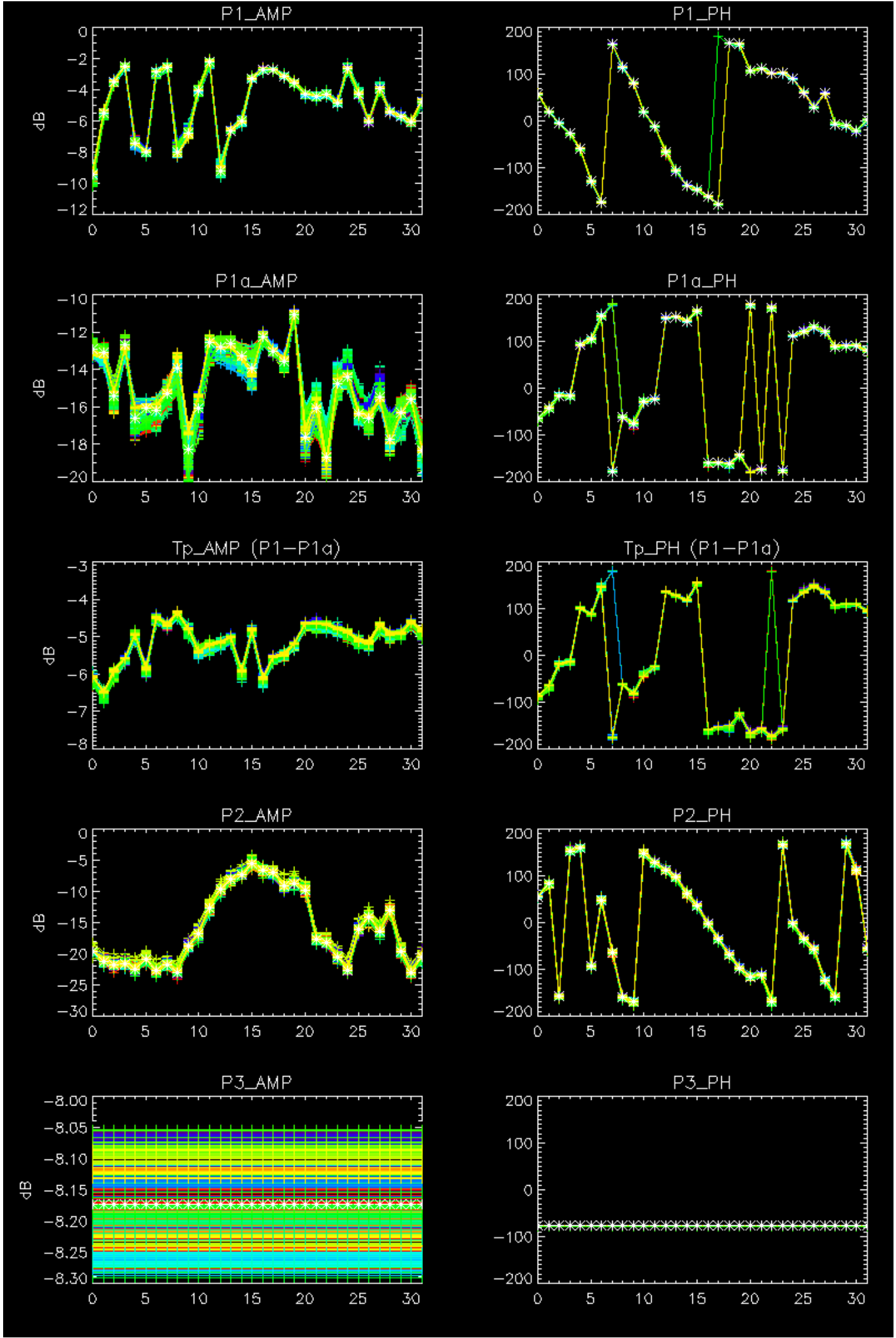


rows: 3 7 11 15 19 22 26 30

No anomalies observed.





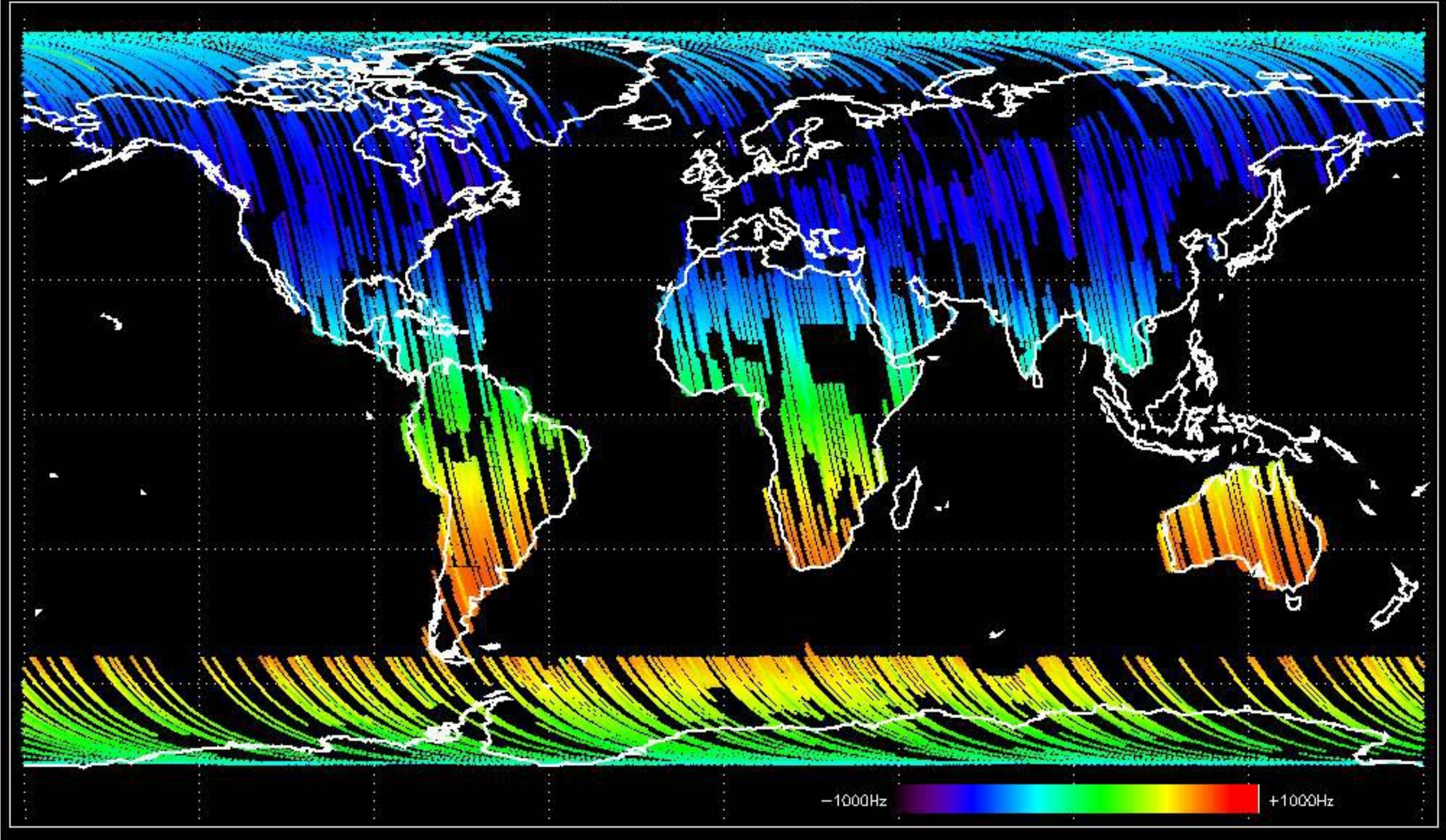


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



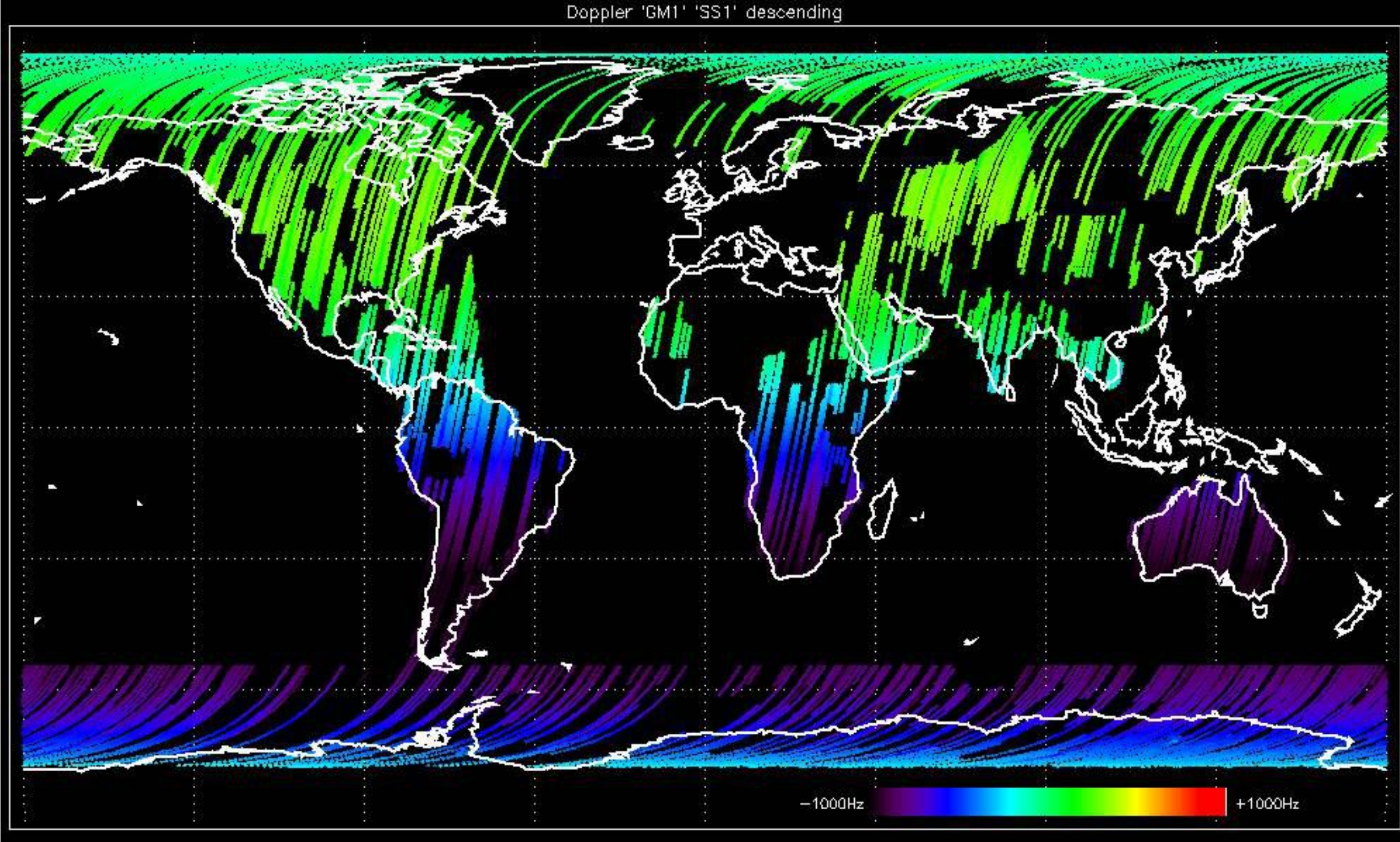


Doppler 'GM1' 'SS1' ascending



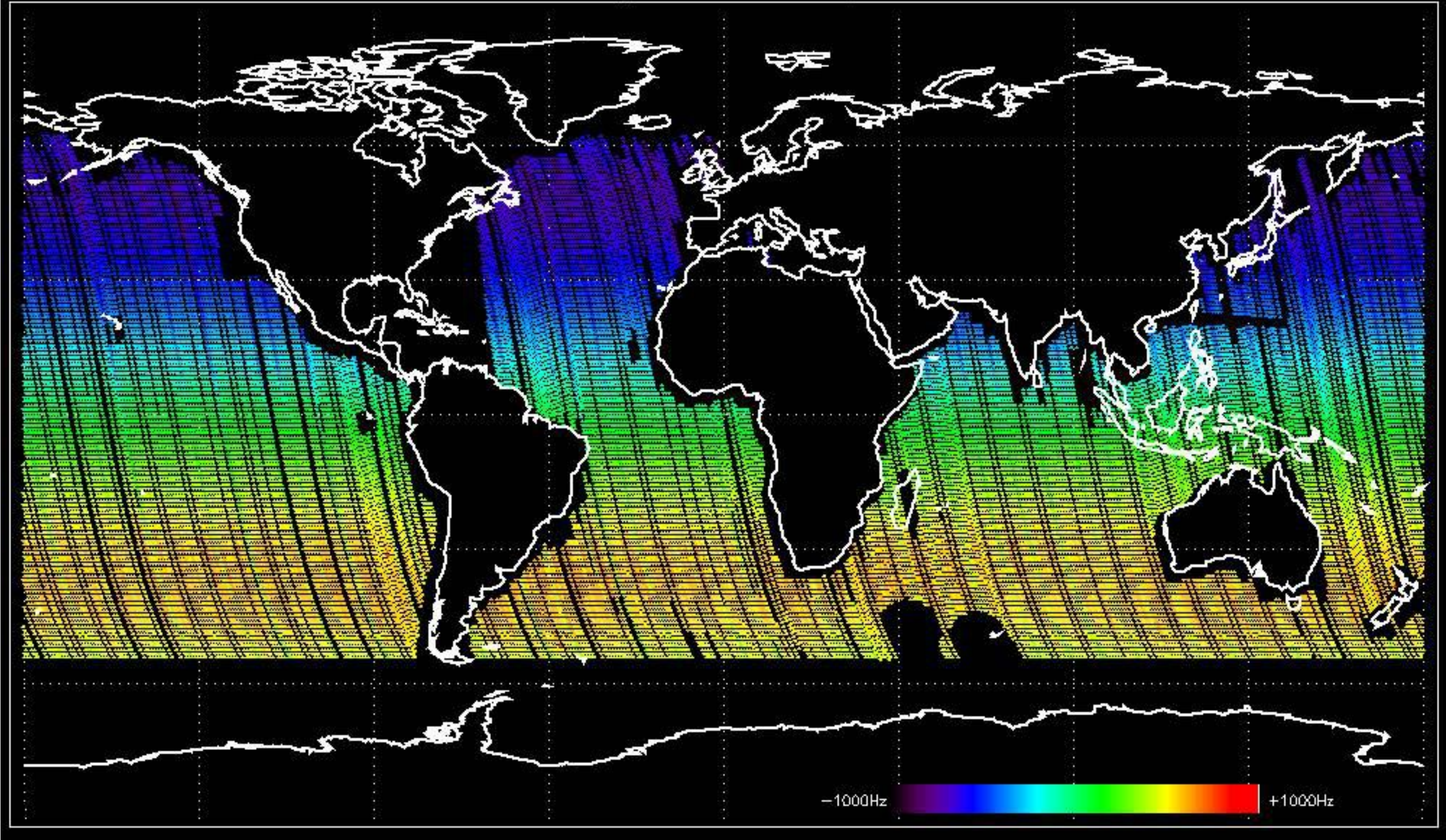


Doppler 'GM1' 'SS1' descending



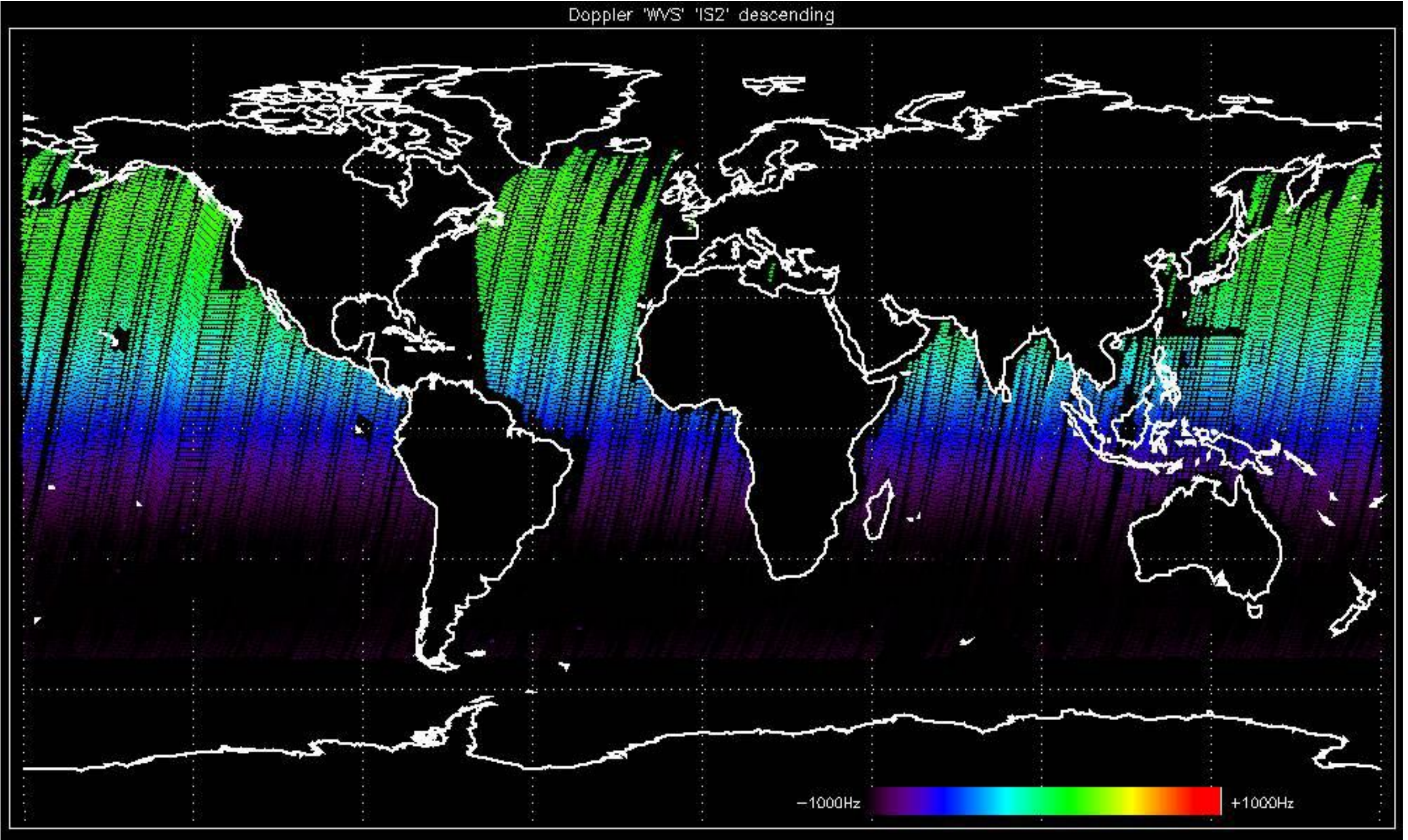


Doppler 'WVS' 'IS2' ascending



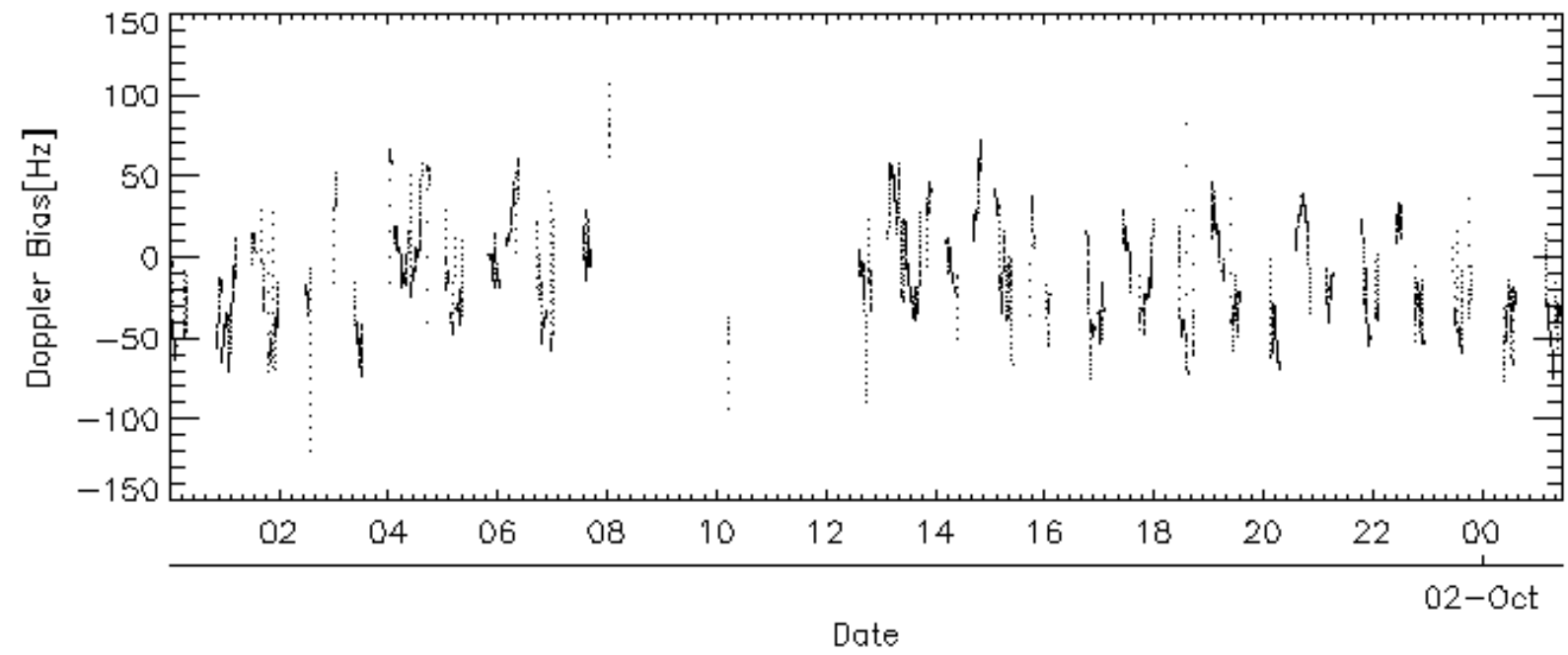
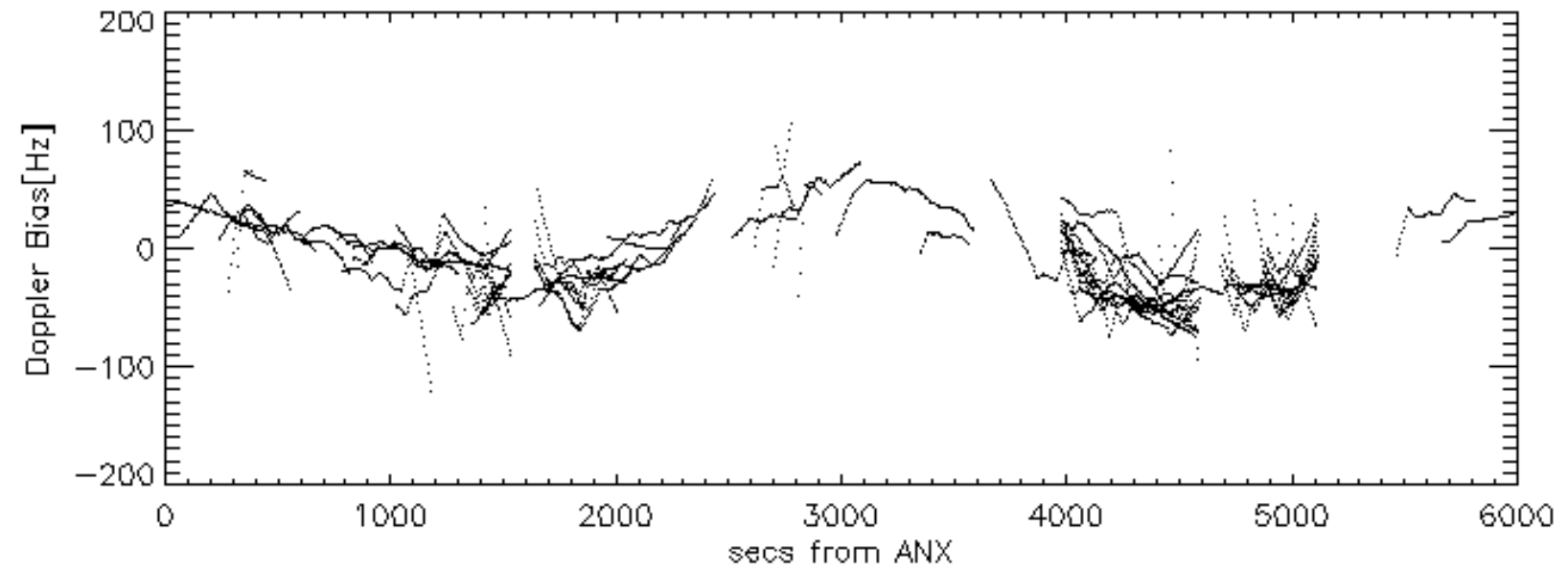
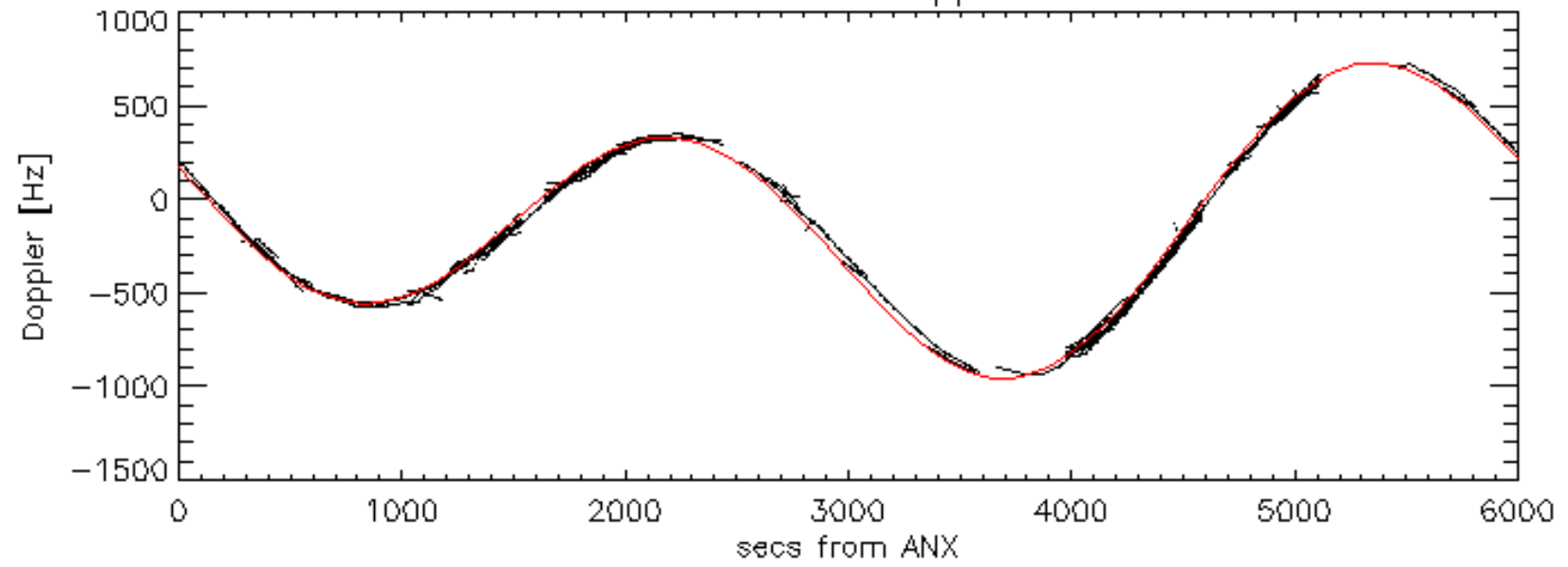


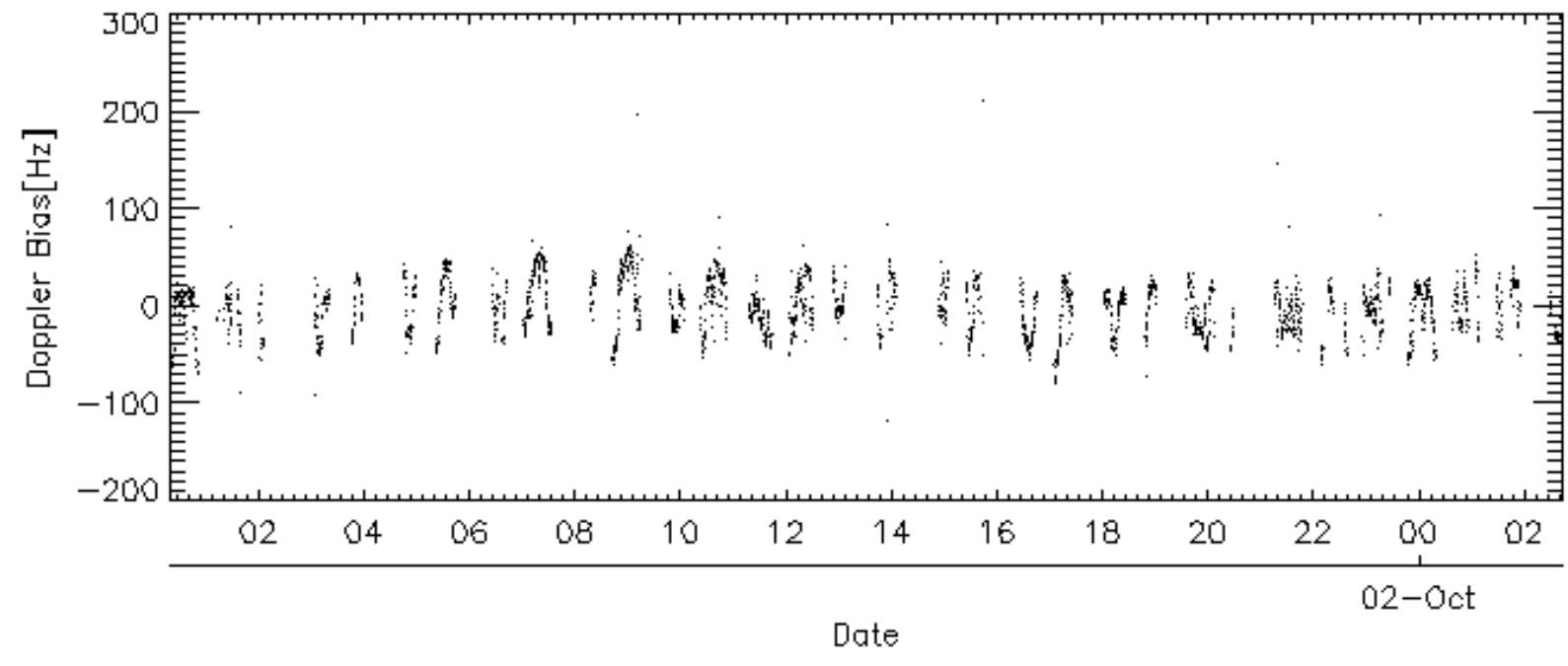
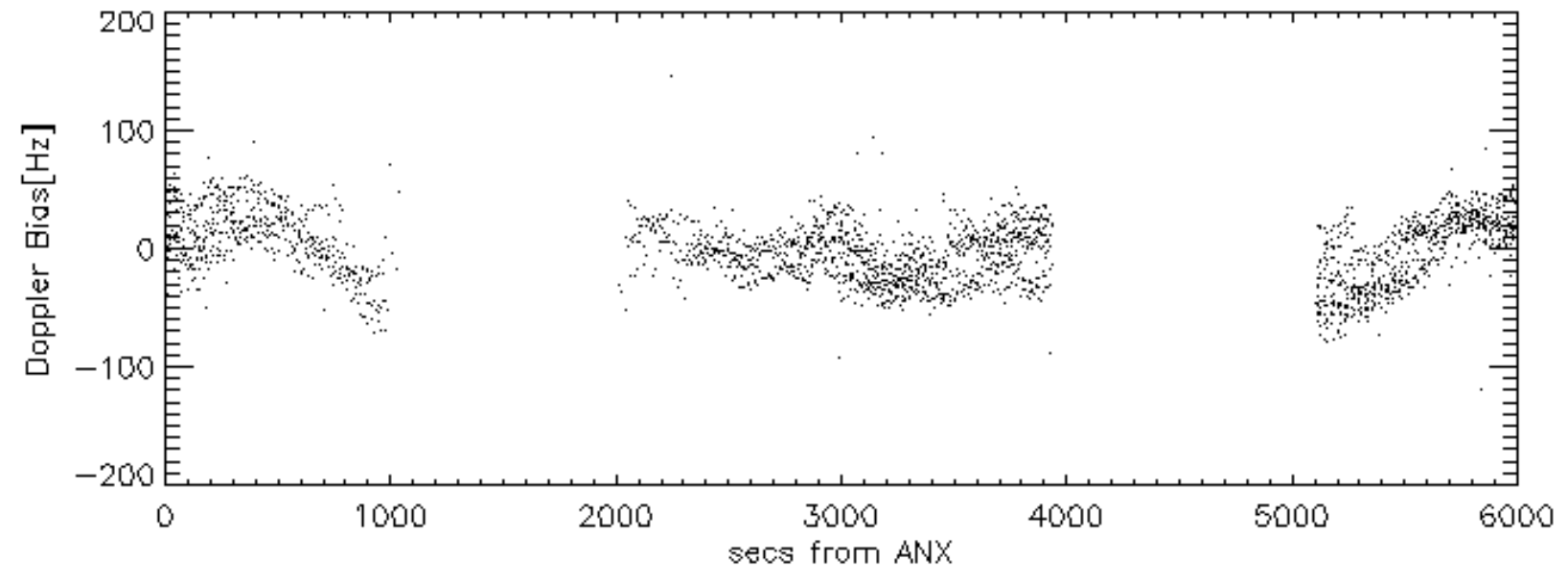
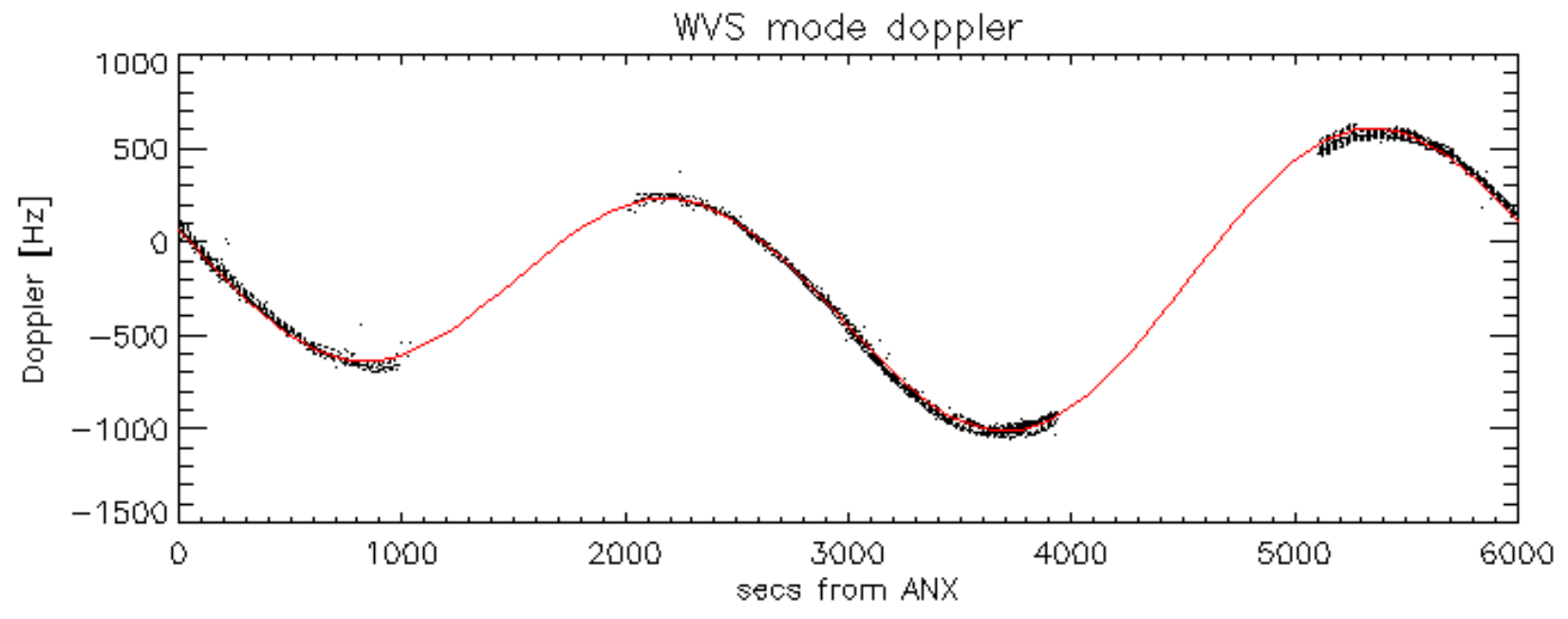
Doppler 'WVS' 'IS2' descending





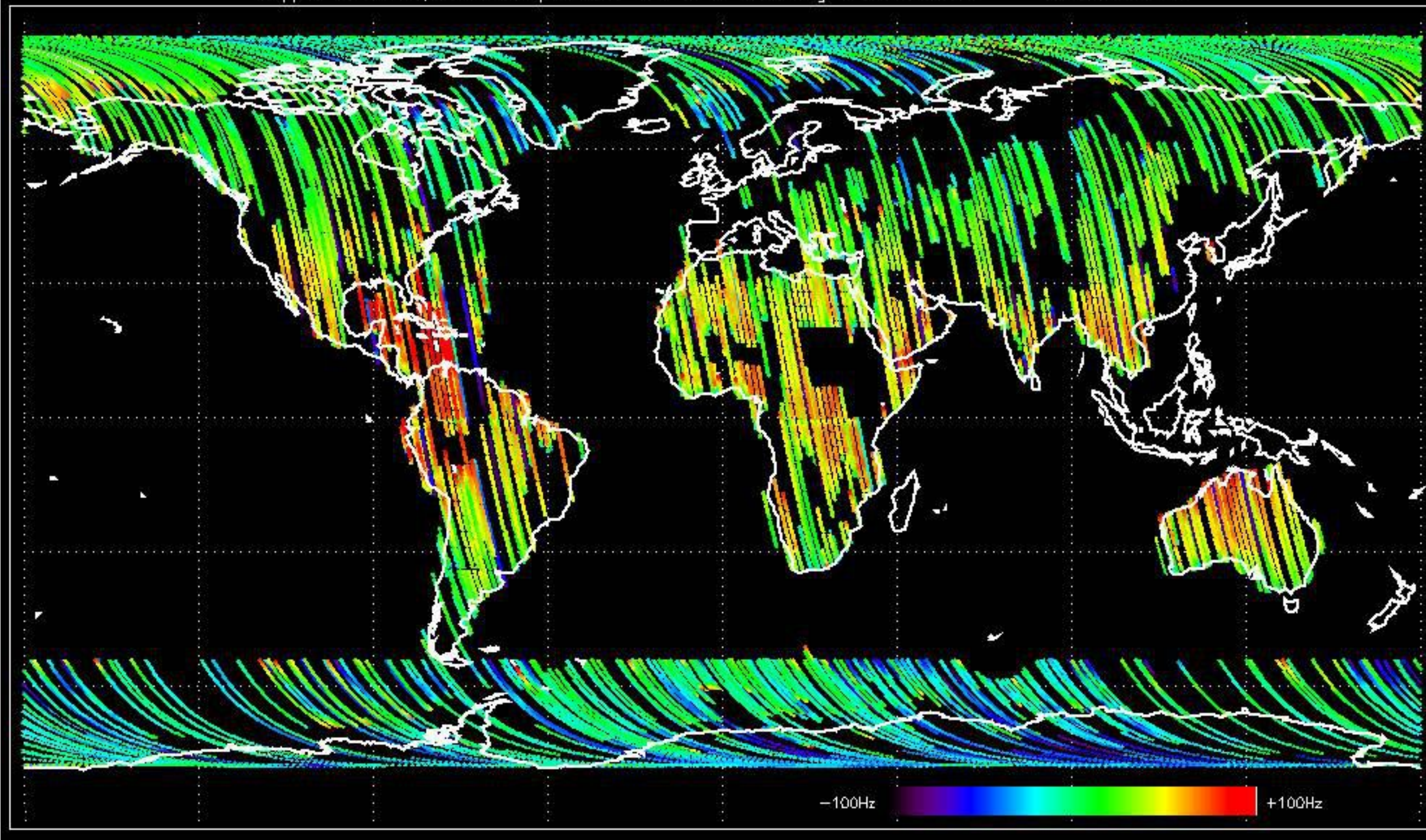
GM1 mode doppler





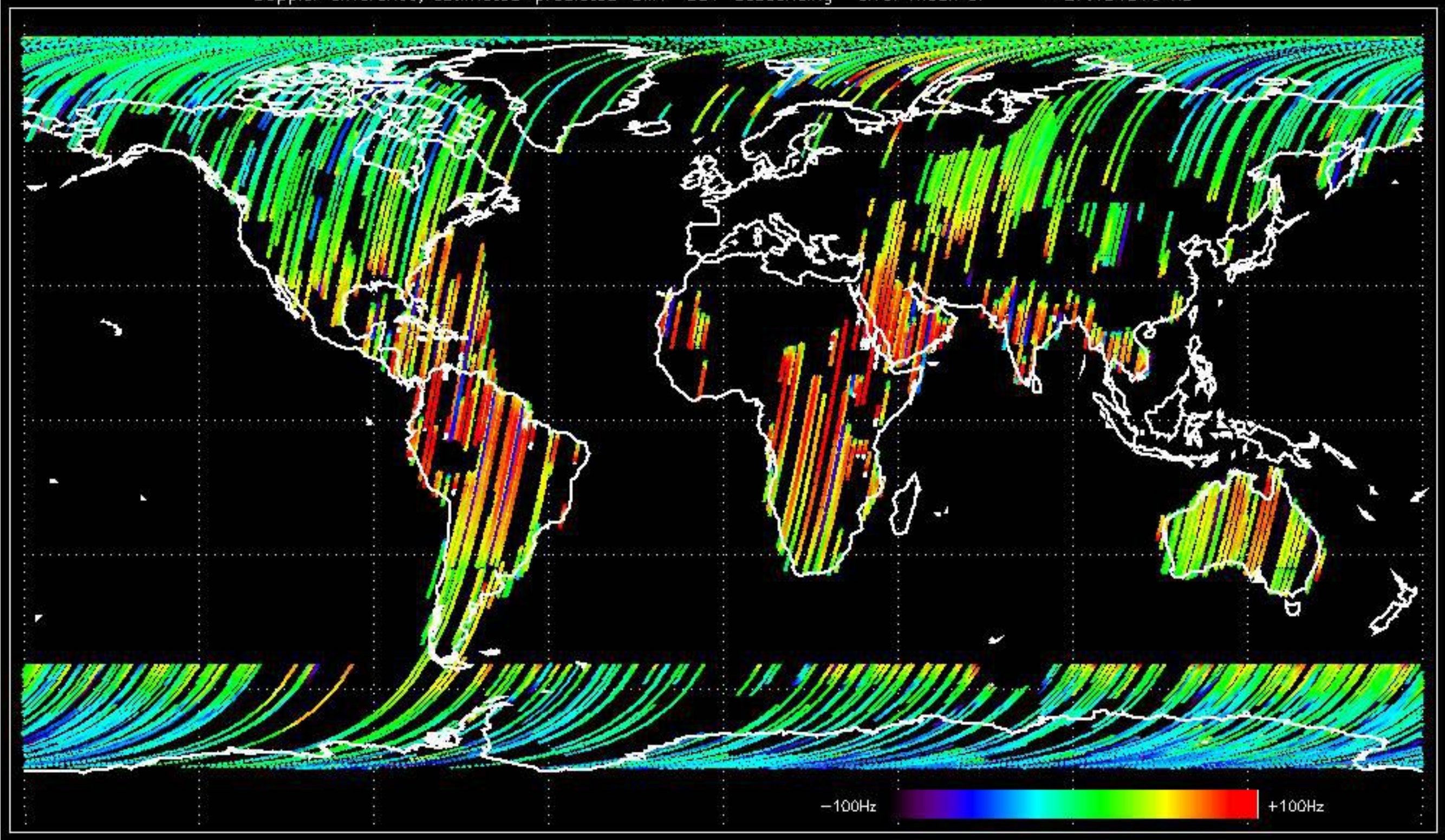


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -29.416672 Hz



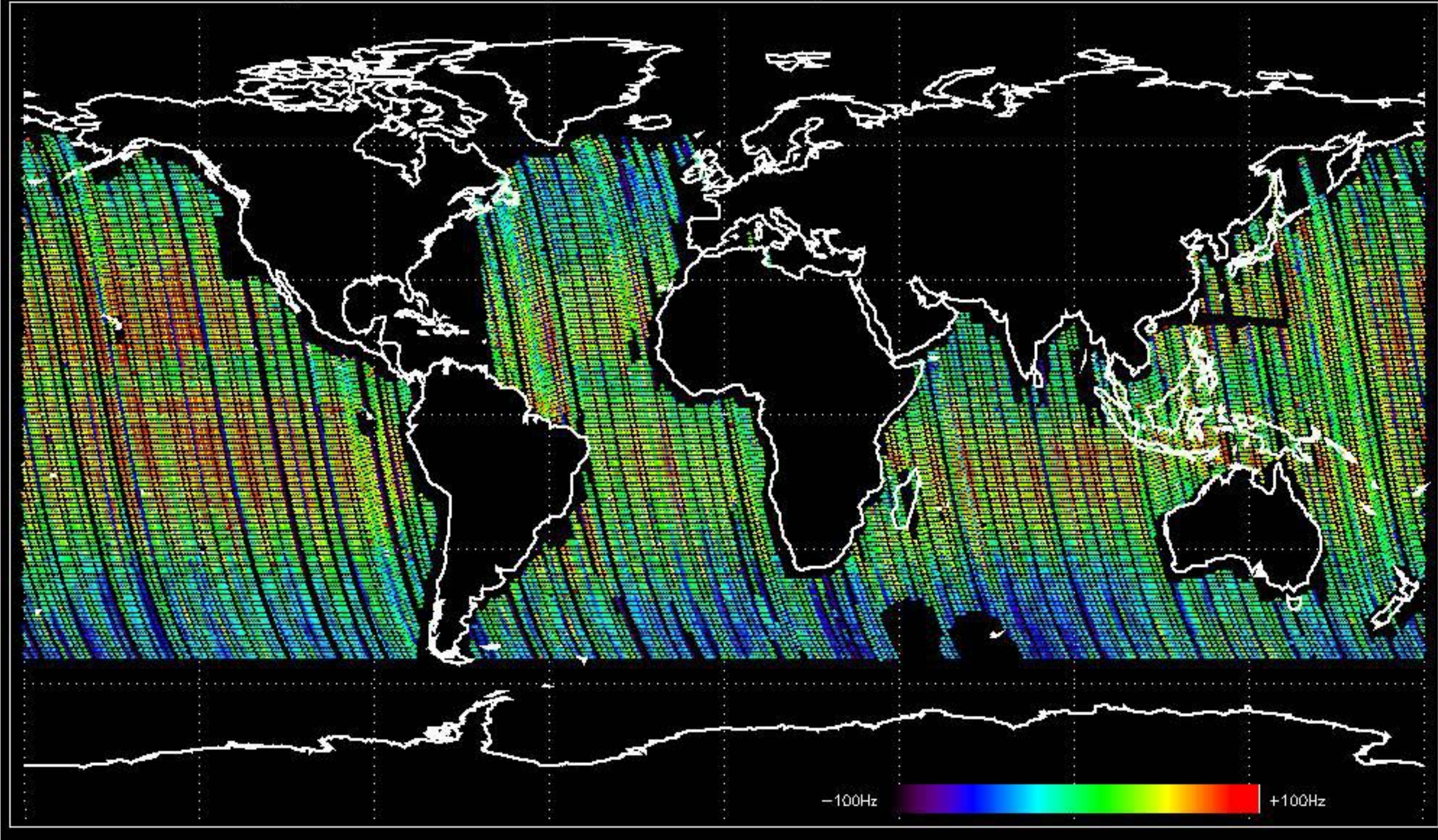


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -27.134316 Hz



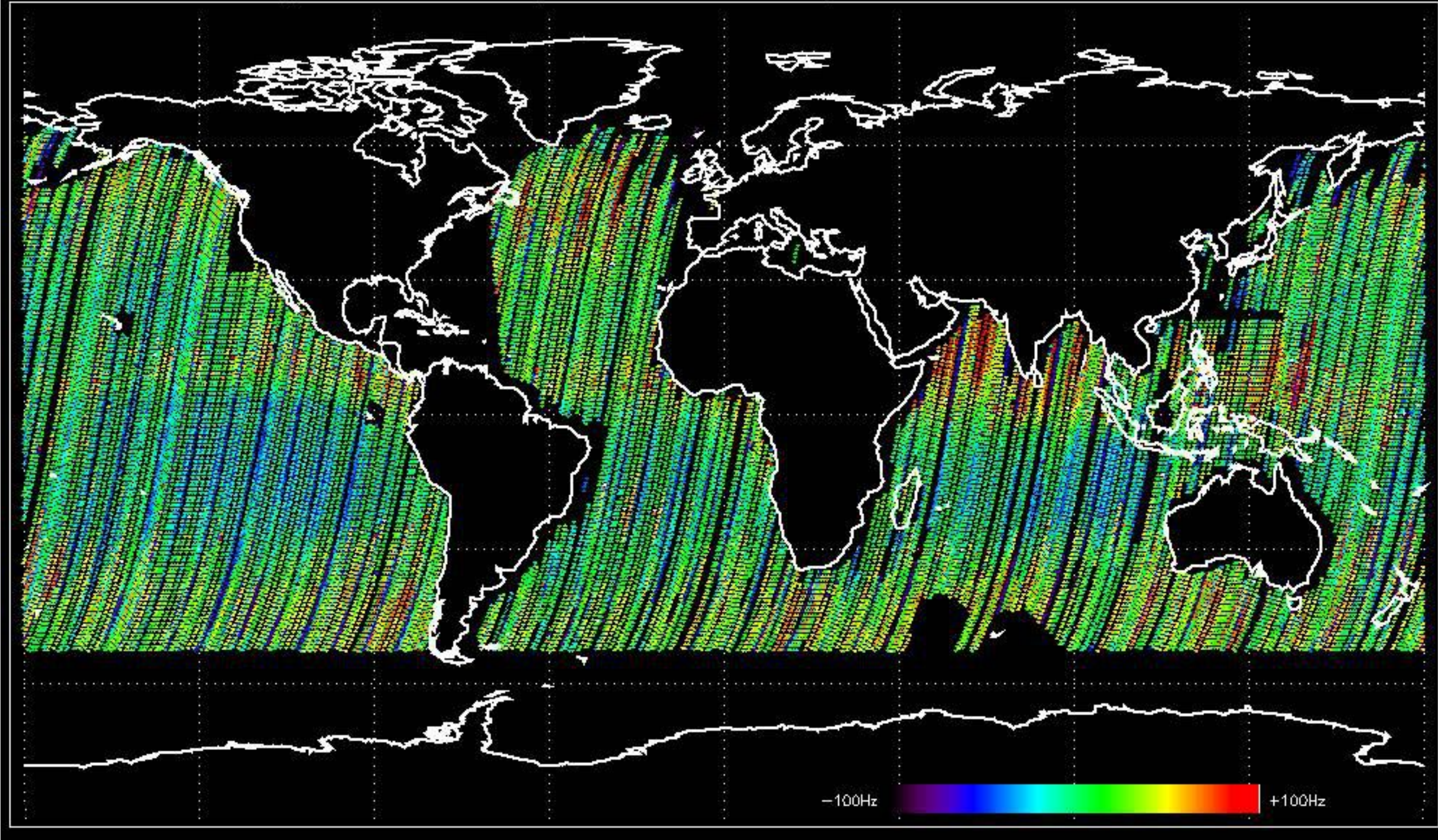


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -25.574287 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -30.966094 Hz



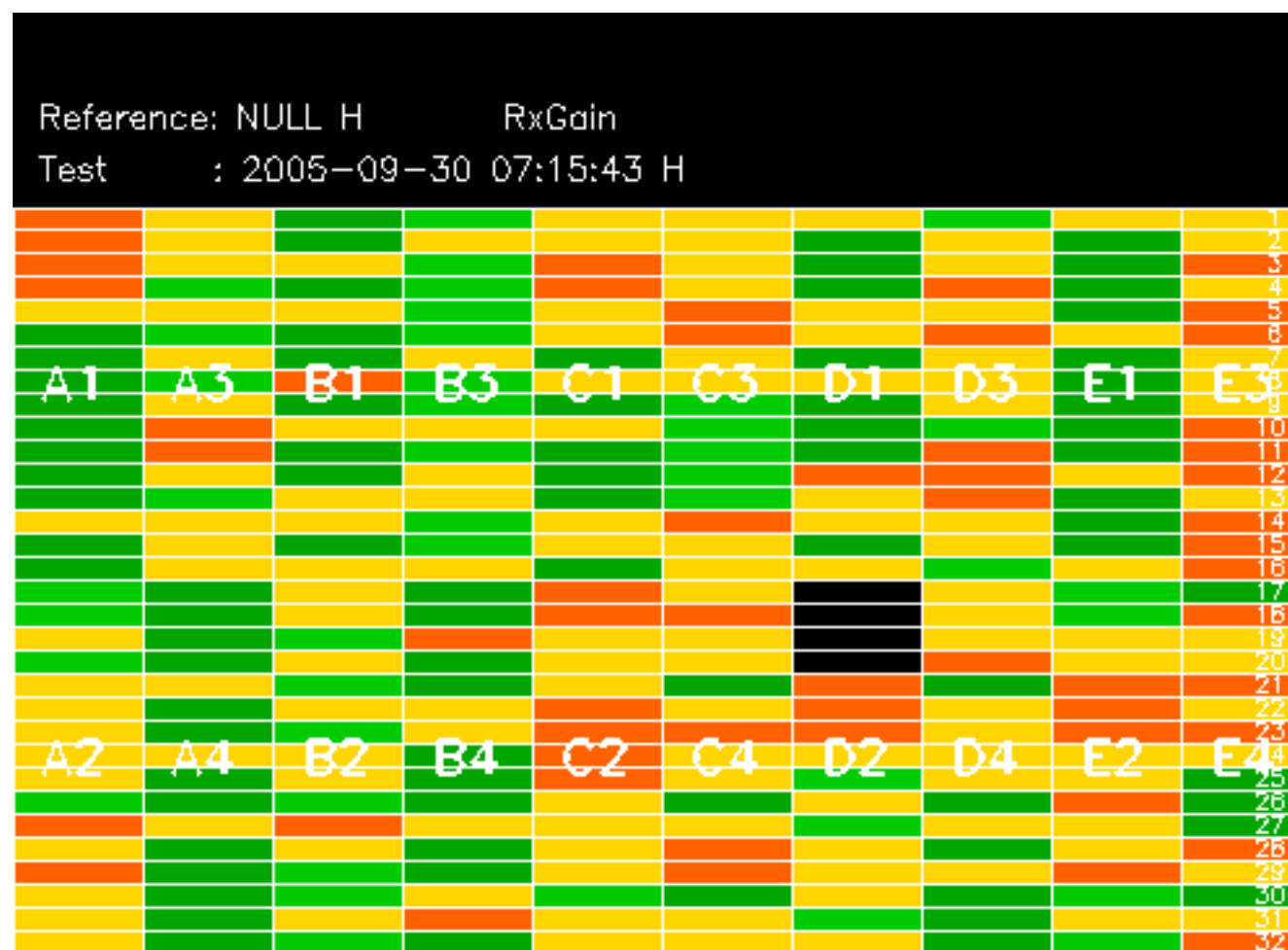


No anomalies observed on available MS products:

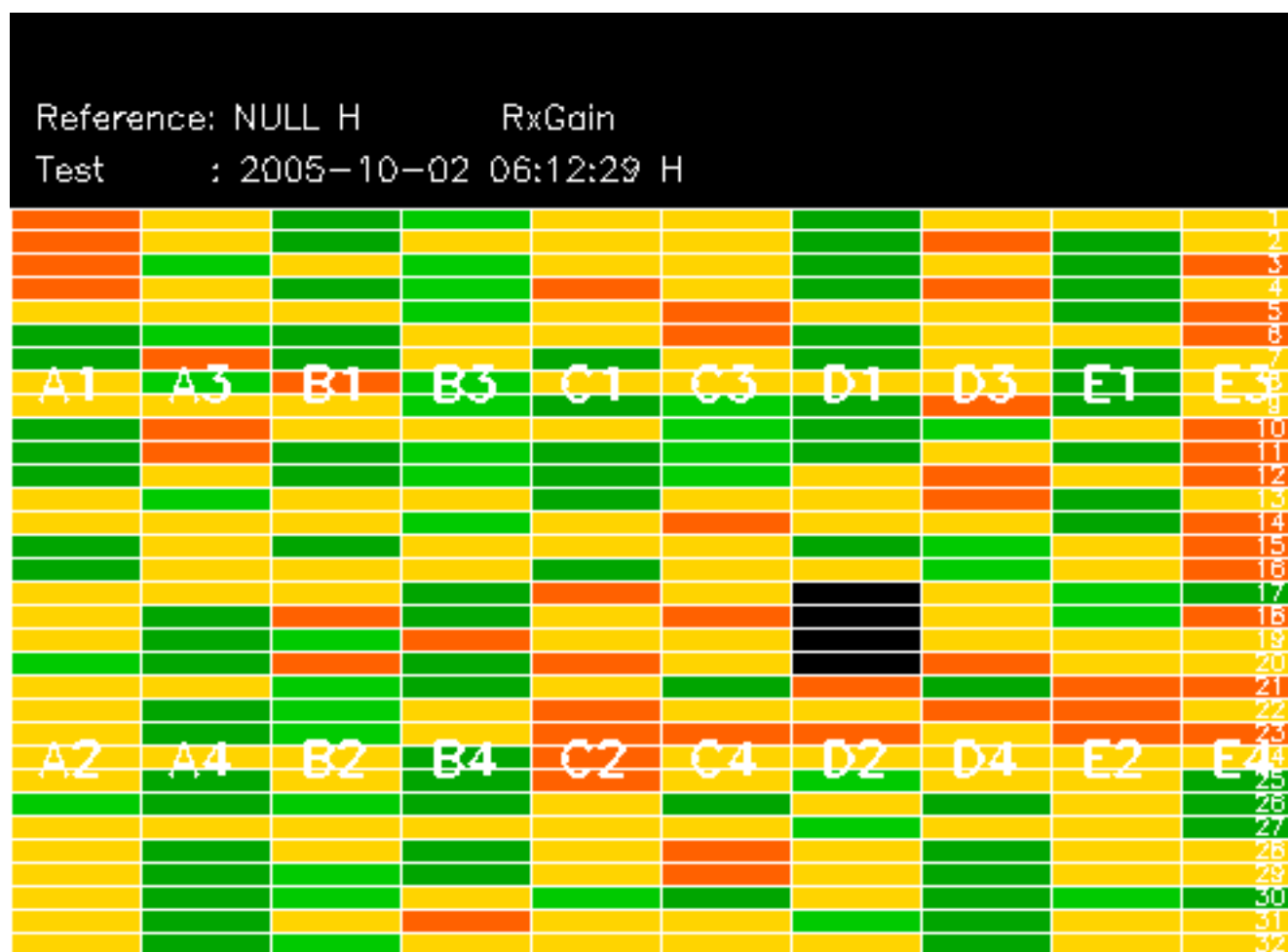
No anomalies observed.



















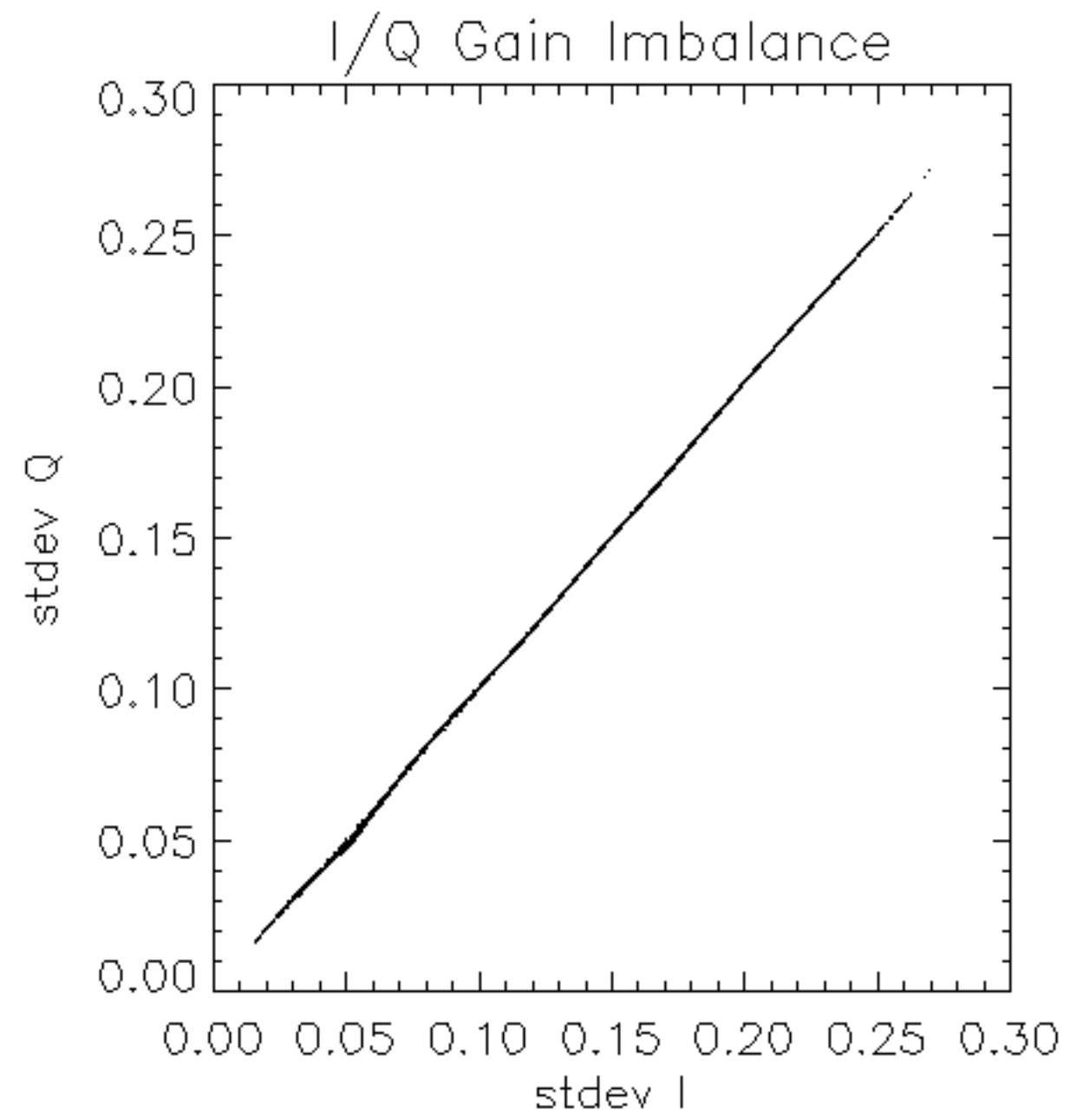


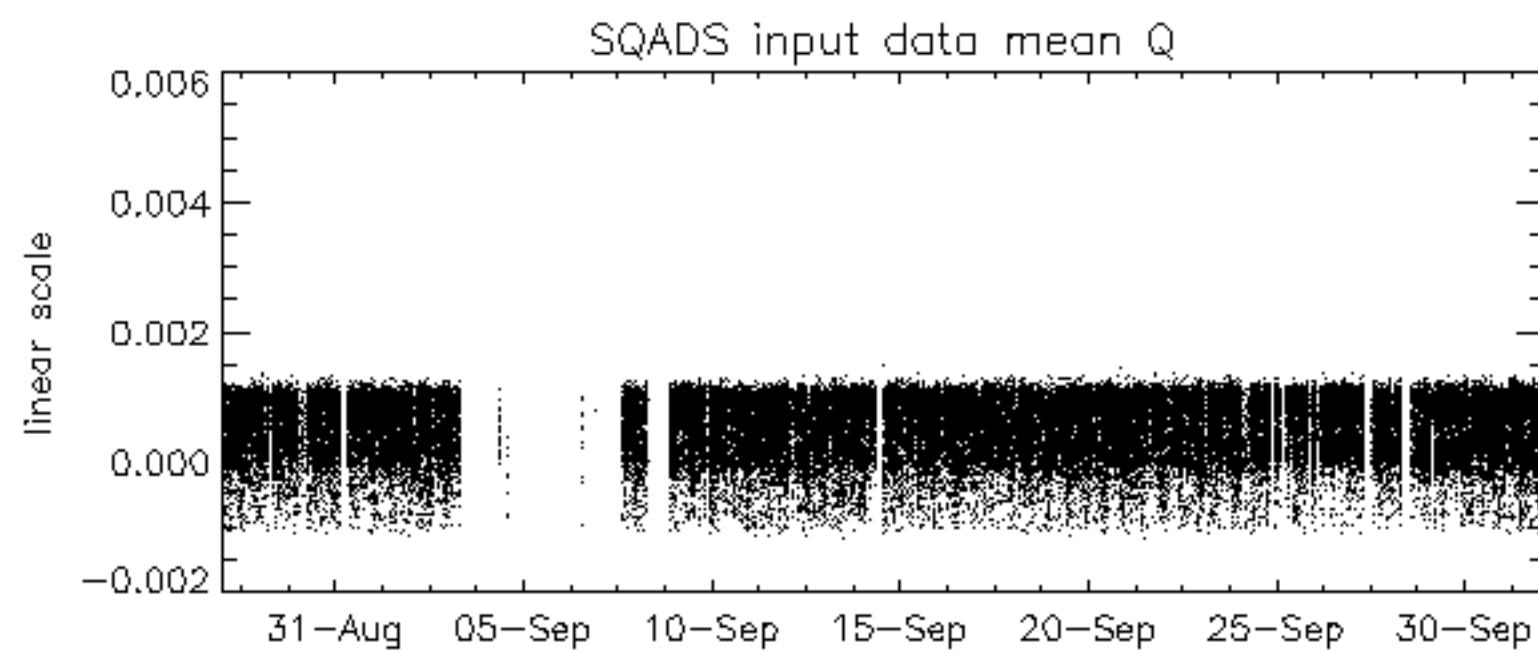
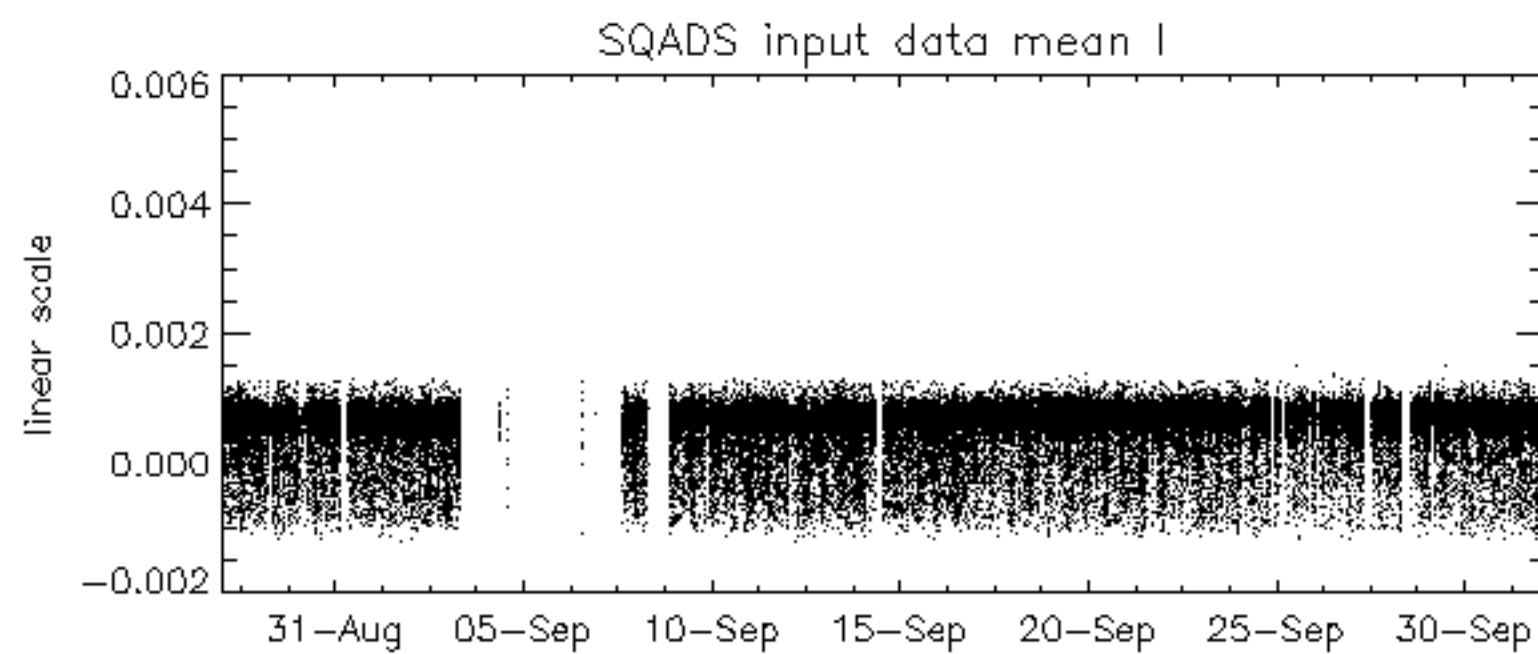
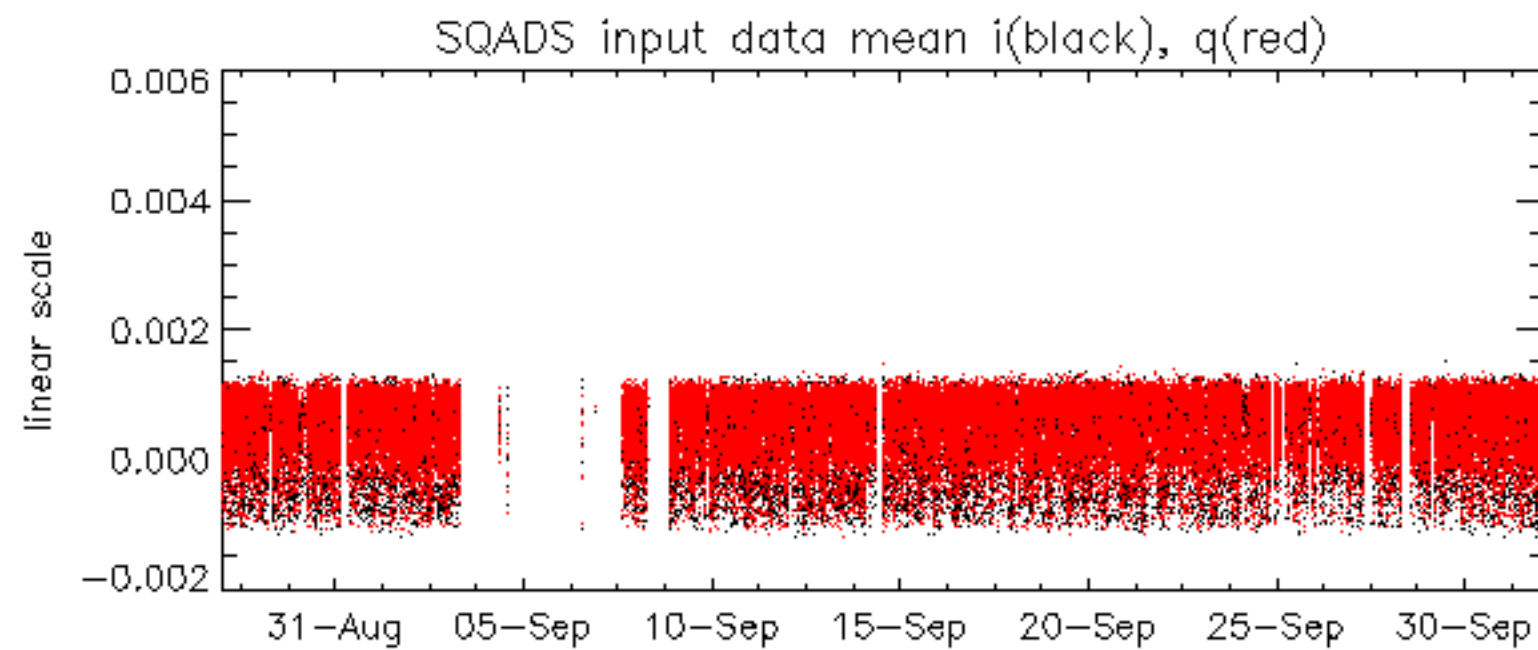


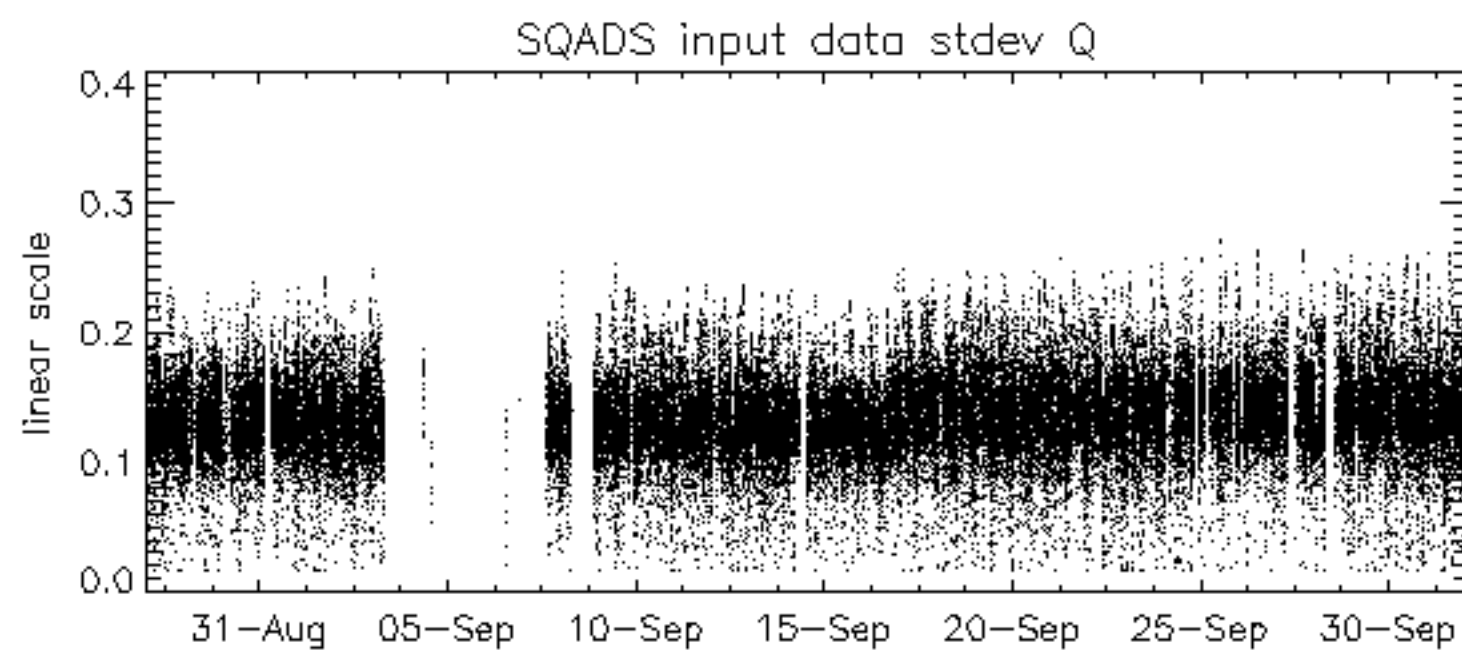
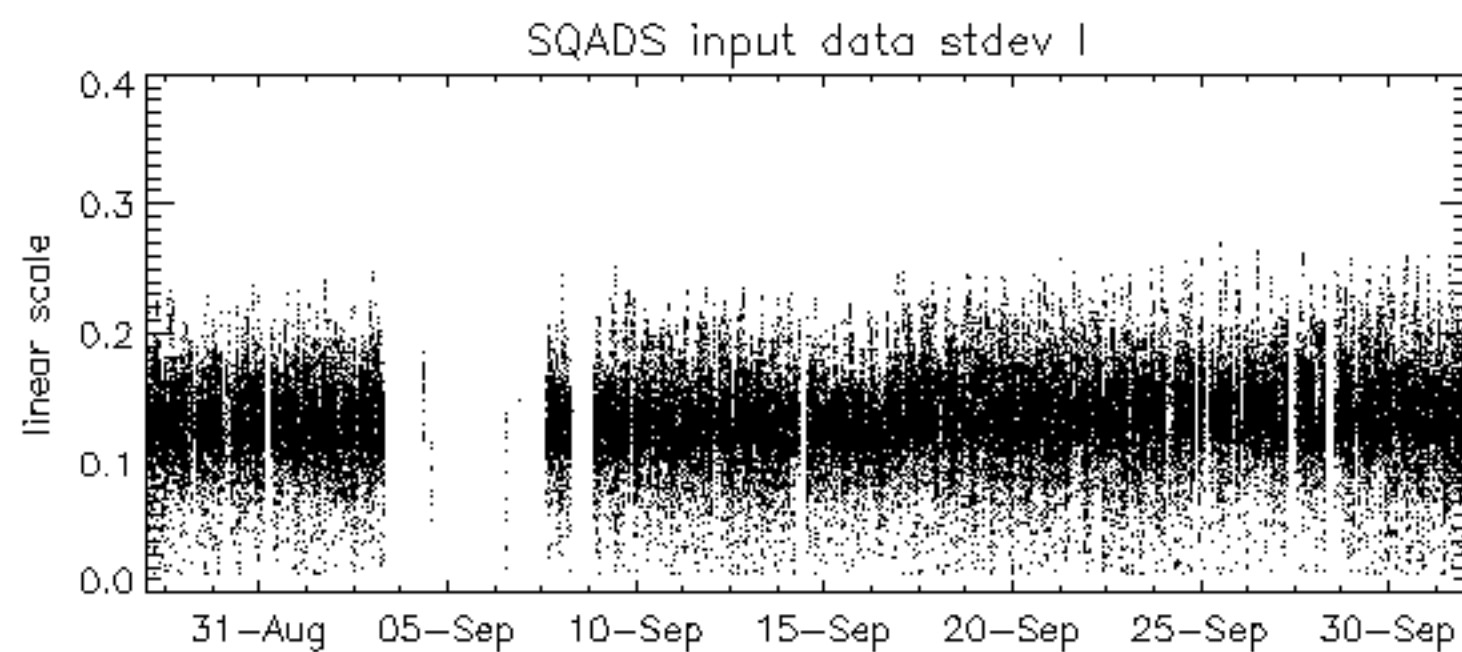
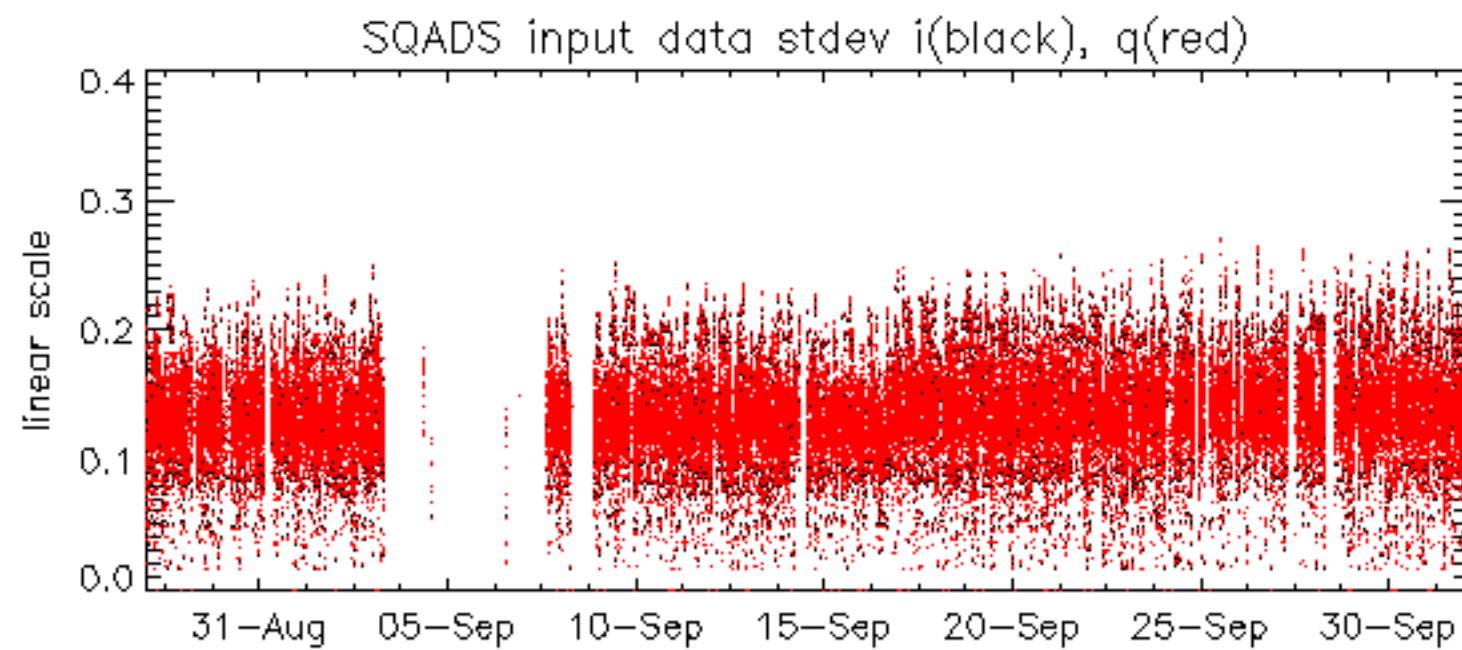


























Summary of analysis for the last 3 days 2005100[012]

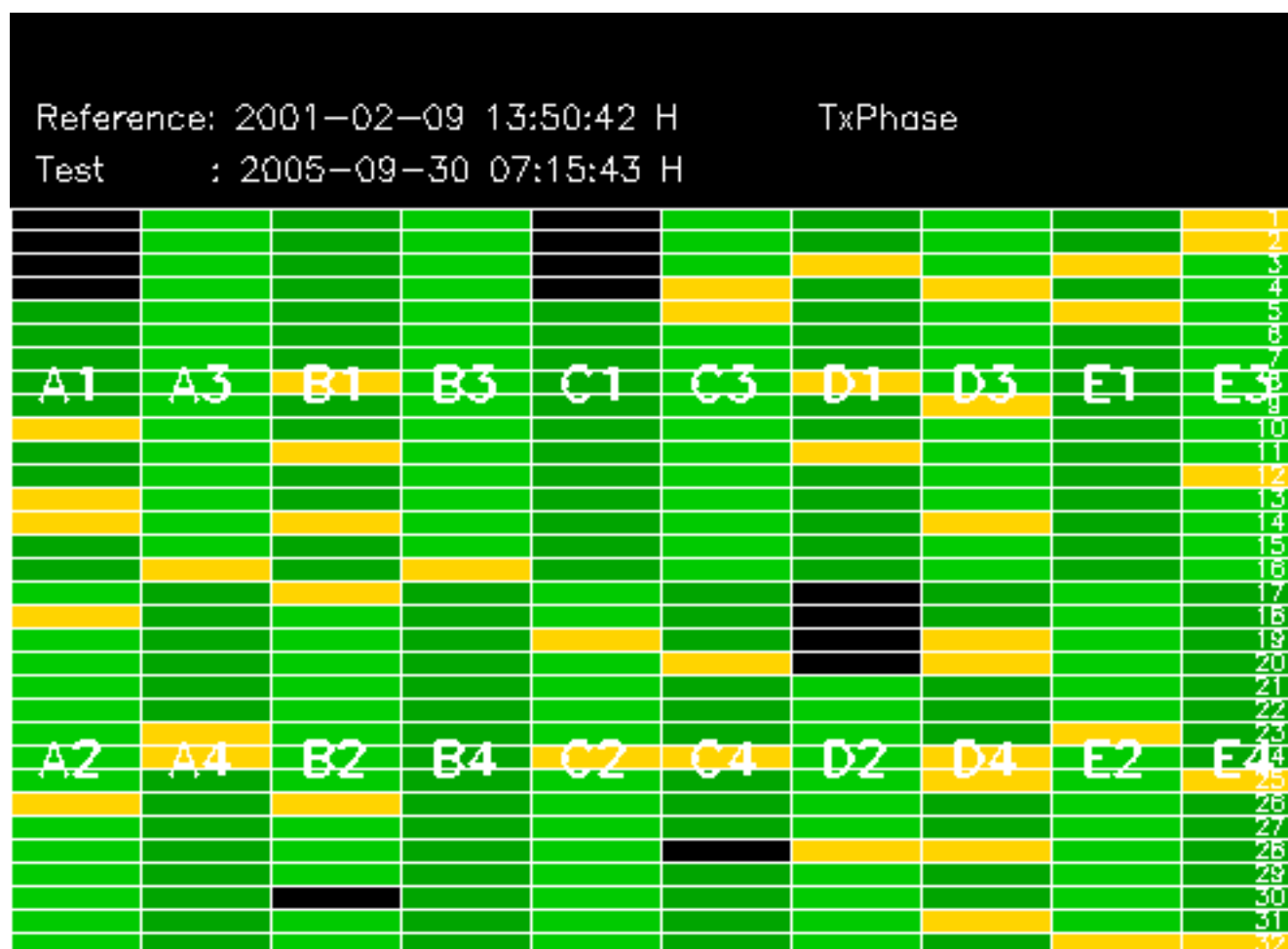
The assumption is taken that the SQADS num\_gaps and num\_missing\_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20051002_004100_000000622041_00174_18765_7164.N1	1	0
ASA_WSM_1PNPDE20051002_023154_000002082041_00175_18766_1825.N1	0	67













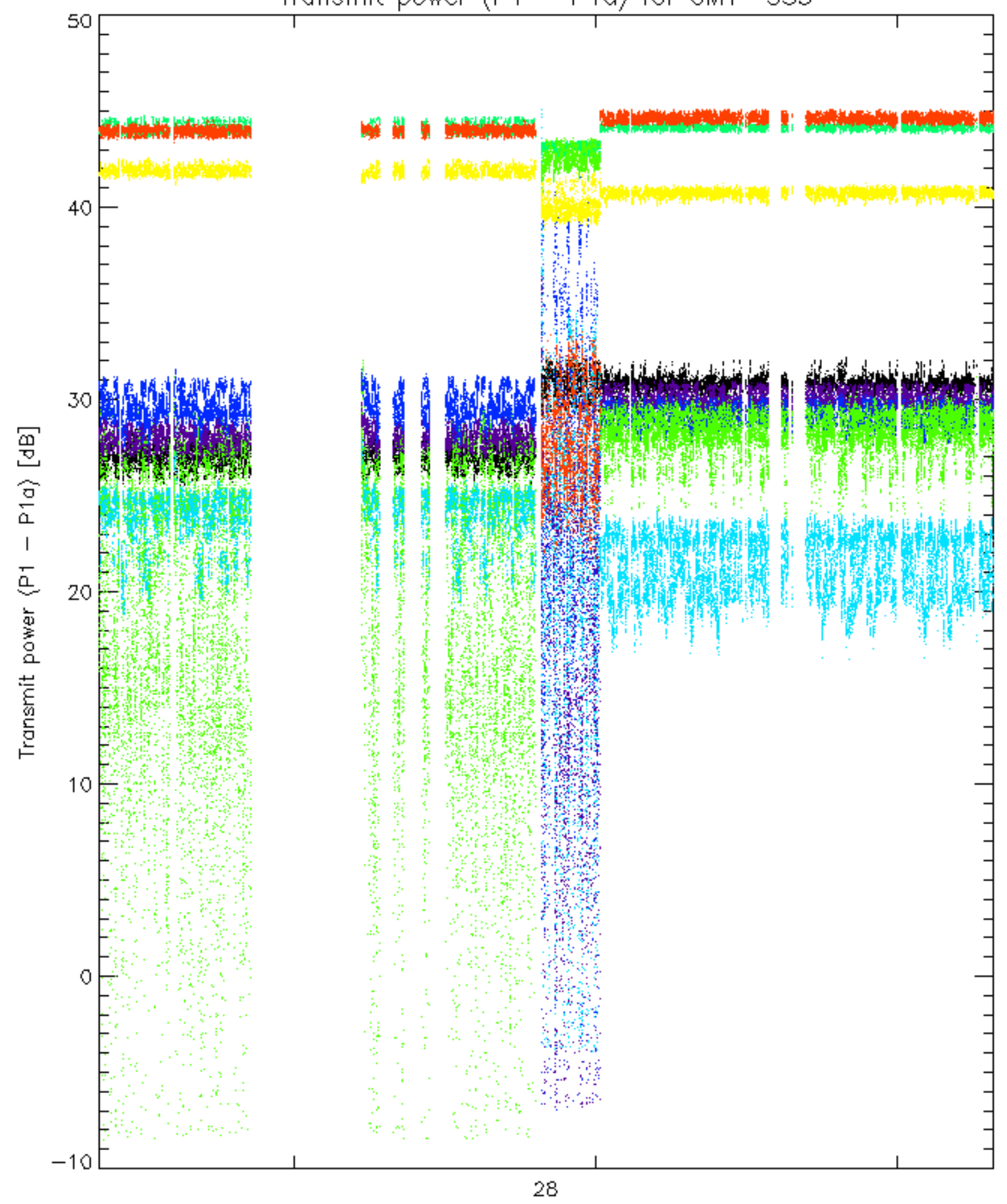






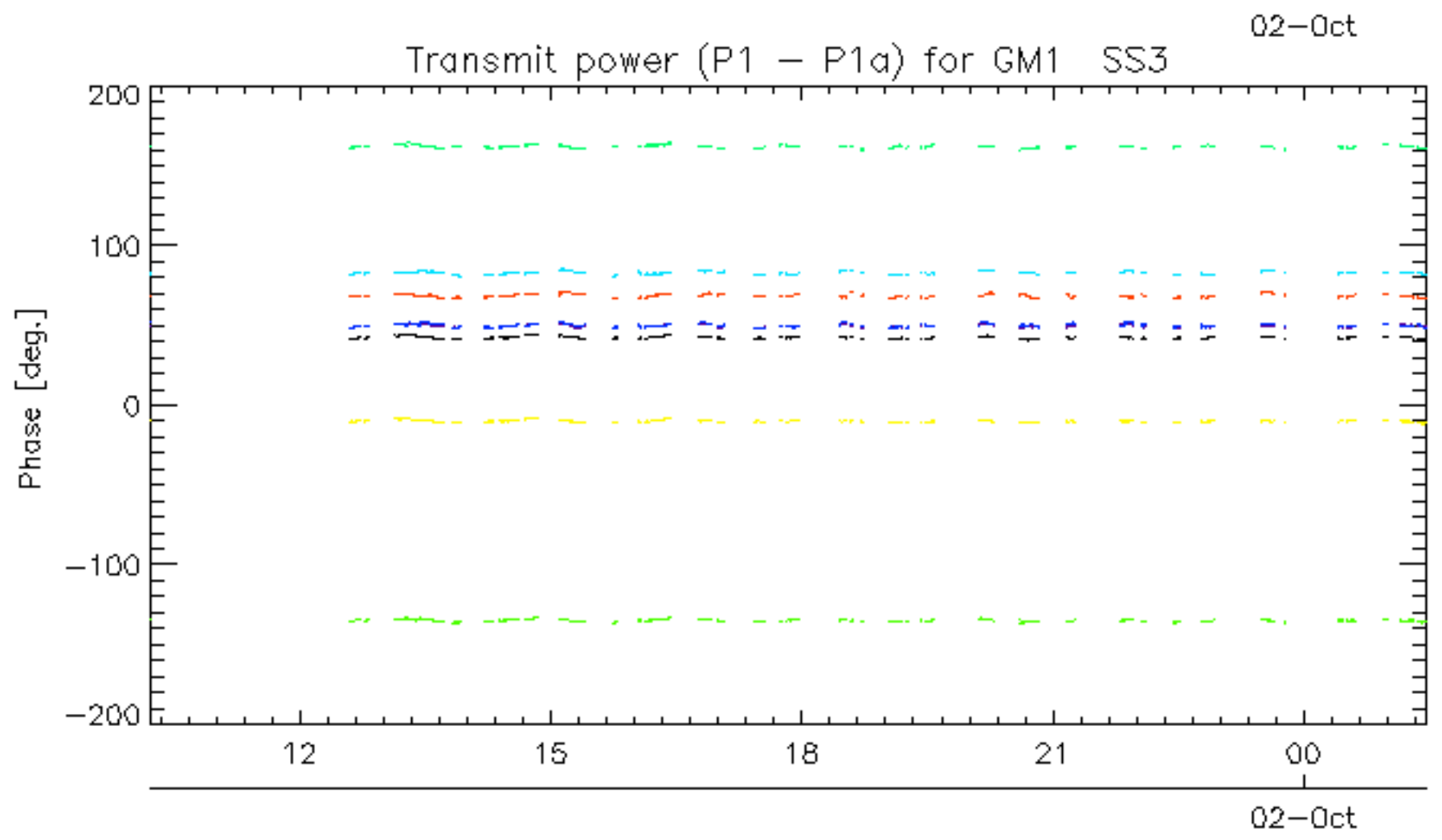
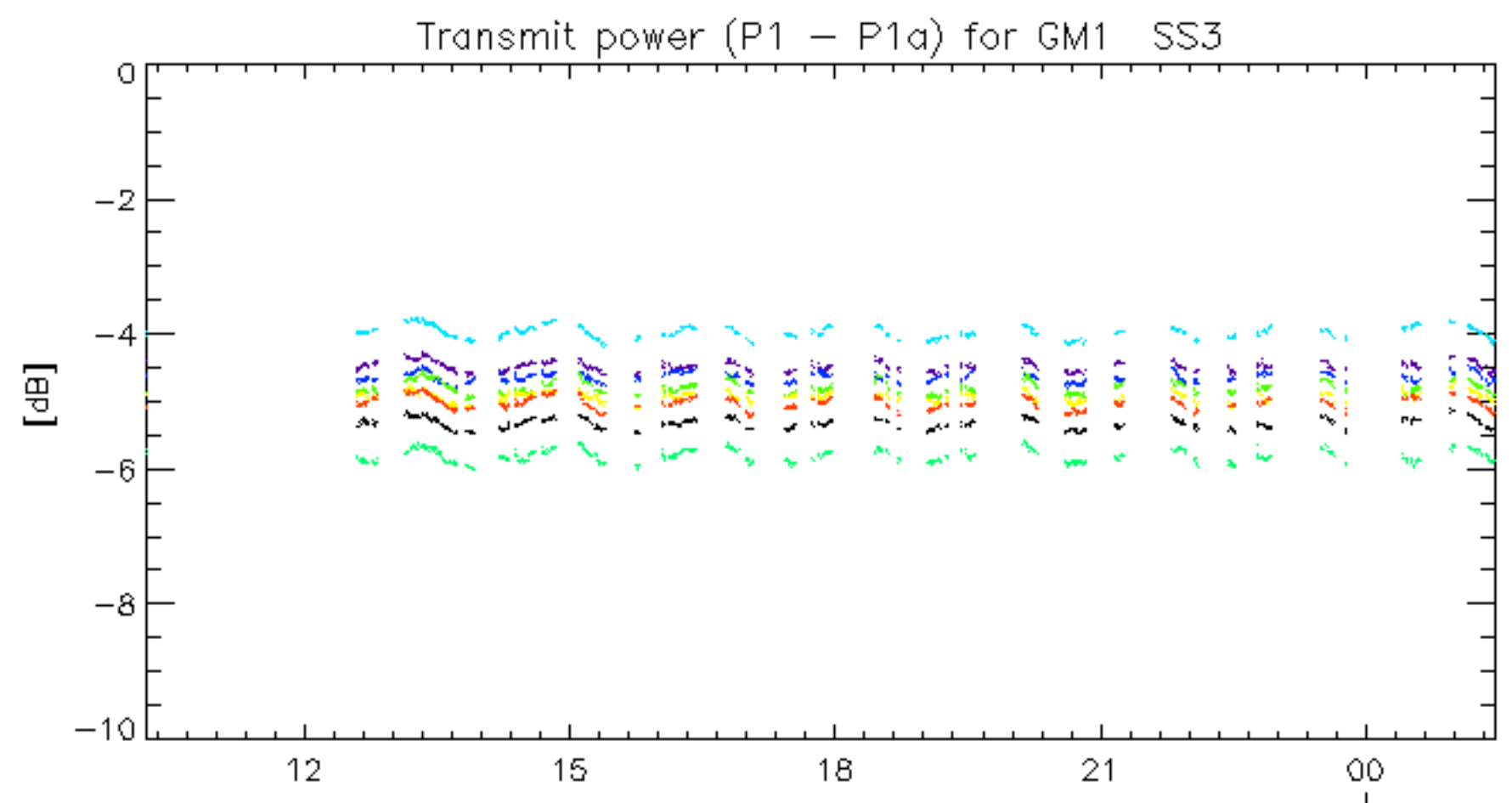


Transmit power (P1 - P1a) for GM1 SS3

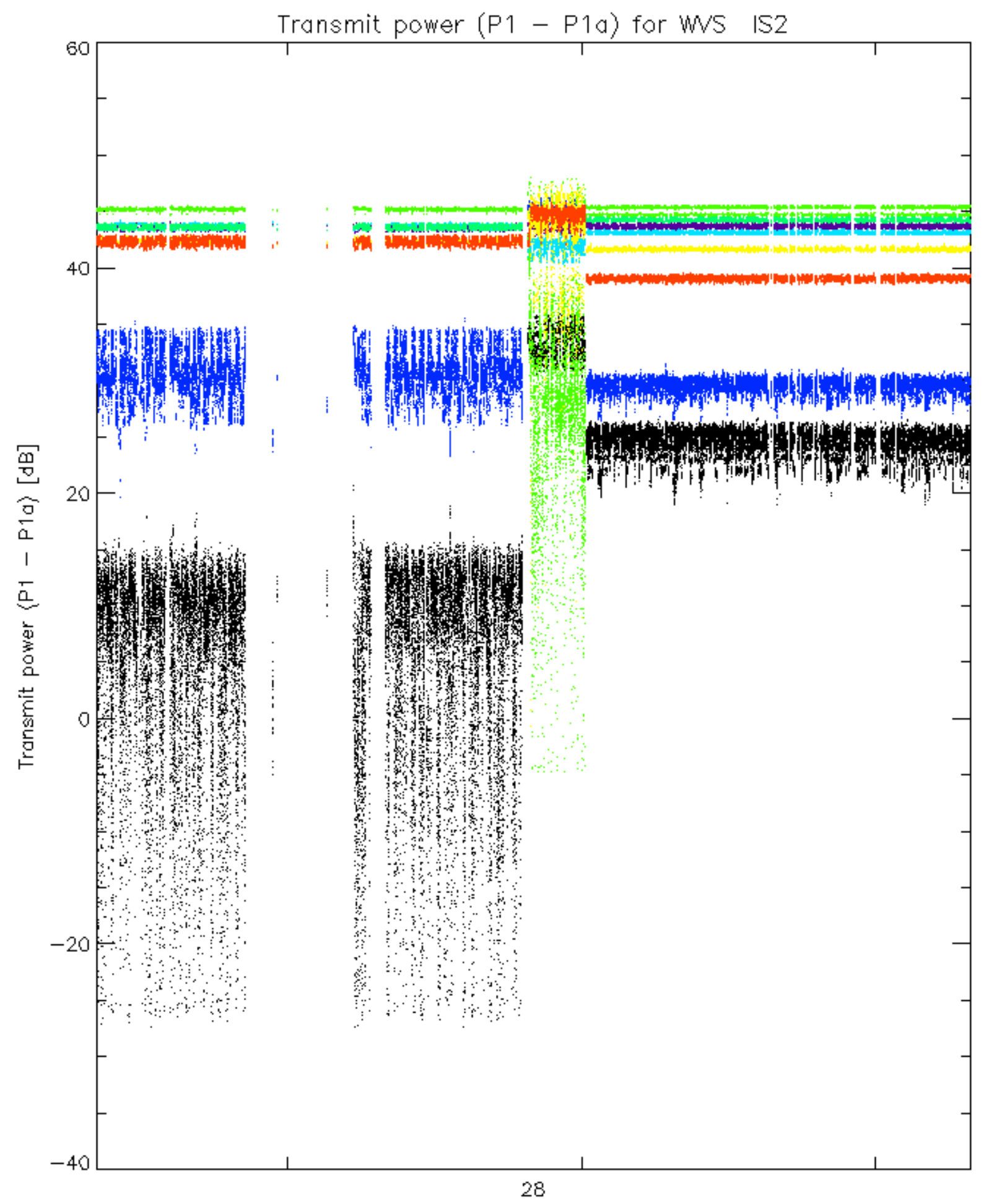


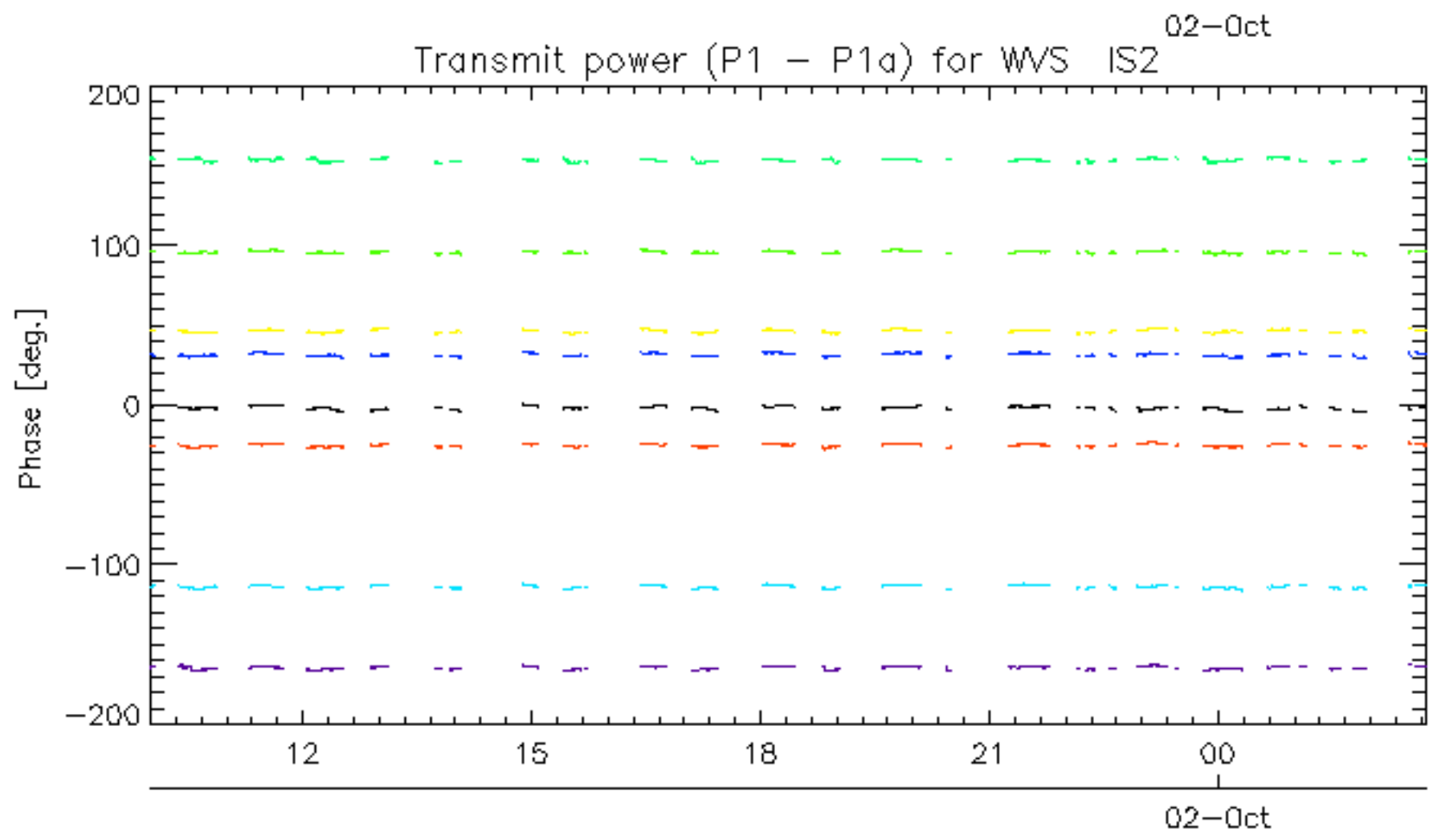
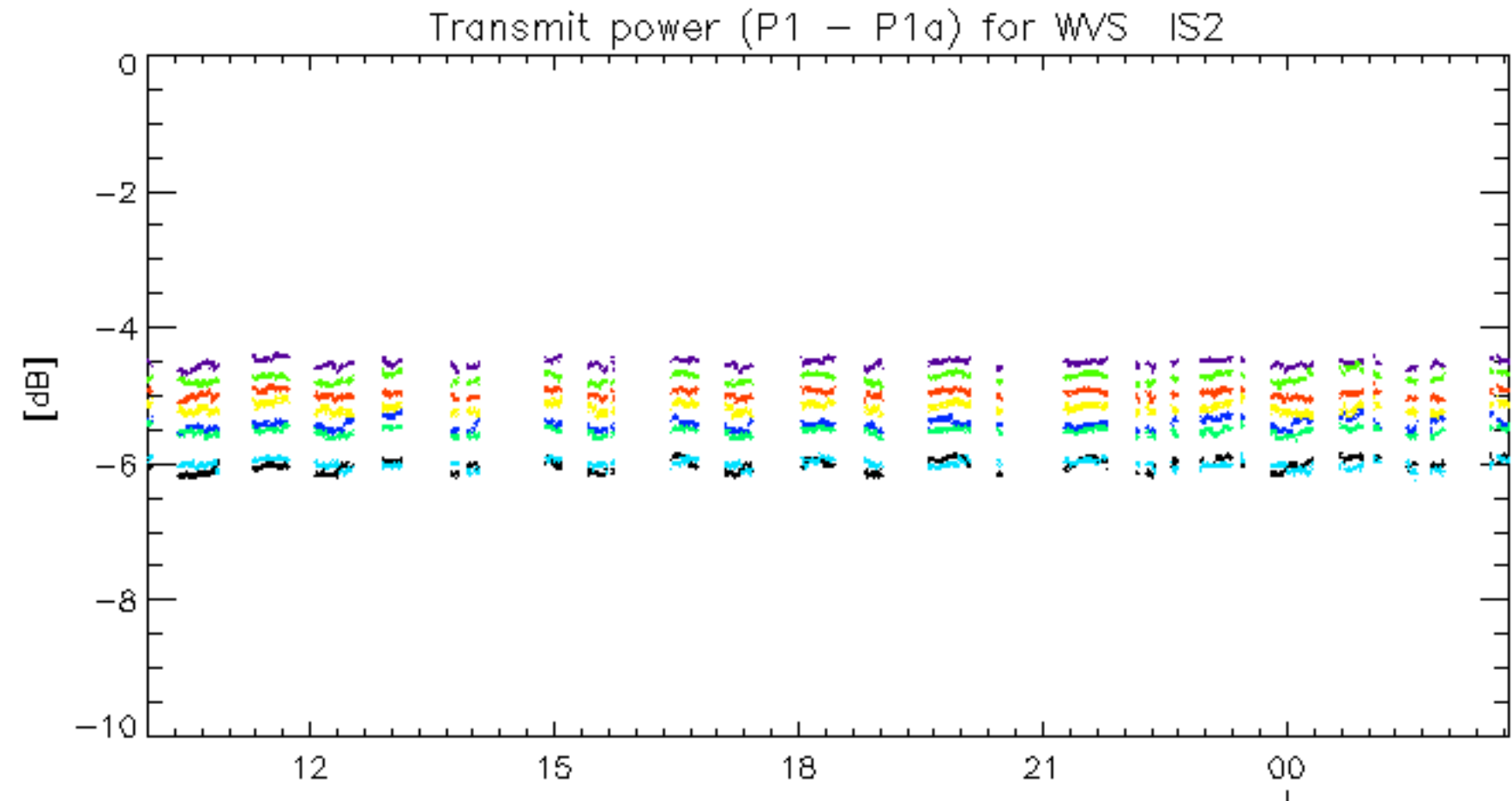
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30





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





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

No unavailabilities during the reported period.