

# PRELIMINARY REPORT OF 061013

last update on Fri Oct 13 16:43:50 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 2006-10-12 00:00:00 to 2006-10-13 16:43:50

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	43	81	21	9	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	43	81	21	9	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	43	81	21	9	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	43	81	21	9	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	24	51	9	6	10
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	24	51	9	6	10
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	24	51	9	6	10
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	24	51	9	6	10

## 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	20061013 055513
H	20061012 062650

### 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	-3.945977	0.010531	-0.016108
7	P1	-3.074163	0.010355	-0.012118
11	P1	-4.082338	0.022702	-0.030429
15	P1	-6.197807	0.016169	-0.041584
19	P1	-3.547399	0.008092	-0.052826
22	P1	-4.601574	0.010750	0.001905
26	P1	-3.987999	0.062866	-0.079198
30	P1	-5.842231	0.099186	-0.109632
3	P1	-16.630426	0.220849	-0.087474
7	P1	-17.113005	0.105538	0.021209
11	P1	-16.925993	0.386005	-0.285588
15	P1	-12.840126	0.104130	0.034397
19	P1	-14.663159	0.053217	-0.035918
22	P1	-15.634049	0.472833	0.336304
26	P1	-15.145909	0.257023	0.211571
30	P1	-16.941931	0.465868	0.142493

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.816389	0.086572	-0.028840
7	P2	-21.794704	0.097043	0.096160
11	P2	-15.736319	0.108344	0.011410
15	P2	-7.077811	0.106138	0.046927
19	P2	-9.125650	0.097277	0.021081
22	P2	-18.131546	0.093922	-0.009426
26	P2	-16.424683	0.101029	0.022179
30	P2	-19.467262	0.093664	0.004413

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.194814	0.006564	-0.020639
7	P3	-8.194814	0.006564	-0.020639
11	P3	-8.194814	0.006564	-0.020639
15	P3	-8.194814	0.006564	-0.020639
19	P3	-8.194814	0.006564	-0.020639
22	P3	-8.194814	0.006564	-0.020639
26	P3	-8.194697	0.006568	-0.020300
30	P3	-8.194697	0.006568	-0.020300

#### 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	-3.880339	0.028269	-0.048465
7	P1	-2.550854	0.116549	-0.031773
11	P1	-2.903728	0.029638	-0.039438
15	P1	-3.692719	0.040135	-0.111169
19	P1	-3.460715	0.013591	0.003743
22	P1	-5.101066	0.023009	0.009468
26	P1	-5.901073	0.106748	-0.057287
30	P1	-5.227095	0.115715	-0.064922
3	P1	-11.681399	0.087869	-0.085767
7	P1	-10.049922	0.170240	-0.088855
11	P1	-10.398171	0.088106	-0.072929
15	P1	-10.890909	0.176556	-0.224005
19	P1	-15.552811	0.101180	0.088666
22	P1	-20.974670	1.289732	-0.252785
26	P1	-15.817796	0.435629	0.306891
30	P1	-18.081852	0.415461	0.100533

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.367491	0.067610	0.078005
7	P2	-22.103415	0.218096	0.196761
11	P2	-10.862526	0.060912	0.118944
15	P2	-4.851491	0.033217	0.038134
19	P2	-6.829192	0.040424	0.070623
22	P2	-8.155615	0.070326	0.021126
26	P2	-24.178413	0.150703	0.002250
30	P2	-21.941307	0.093055	0.090242

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.043310	0.003501	-0.007599
7	P3	-8.043267	0.003495	-0.007824
11	P3	-8.043288	0.003494	-0.007477
15	P3	-8.043327	0.003502	-0.007867
19	P3	-8.043354	0.003499	-0.007835
22	P3	-8.043350	0.003498	-0.007653
26	P3	-8.043251	0.003507	-0.007399
30	P3	-8.043196	0.003499	-0.007419

## 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	0.000570734
	stdev	1.61954e-07
MEAN Q	mean	0.000527191
	stdev	2.13102e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.139084
	stdev	0.00113409
STDEV Q	mean	0.139460
	stdev	0.00115259



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006101[123]

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_1PNPDE20061011_060049_000001152052_00020_24122_7000.N1	1	0
ASA_GM1_1PNPDK20061011_152004_000006522052_00025_24127_6288.N1	0	6
ASA_GM1_1PNPDK20061012_113231_000008212052_00037_24139_6353.N1	0	14







## 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

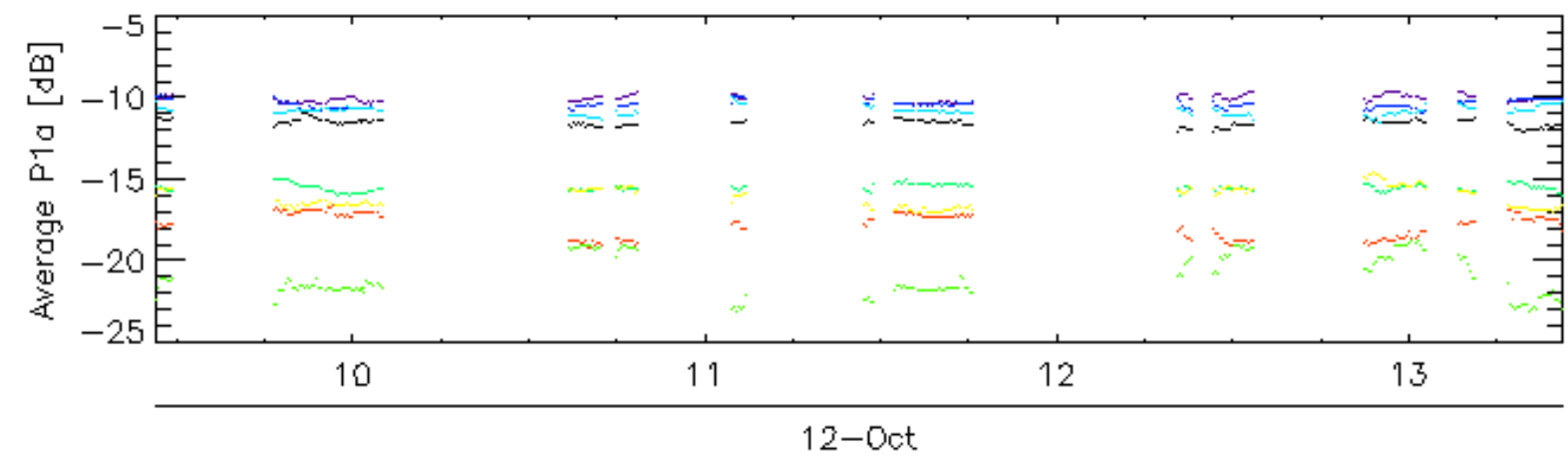
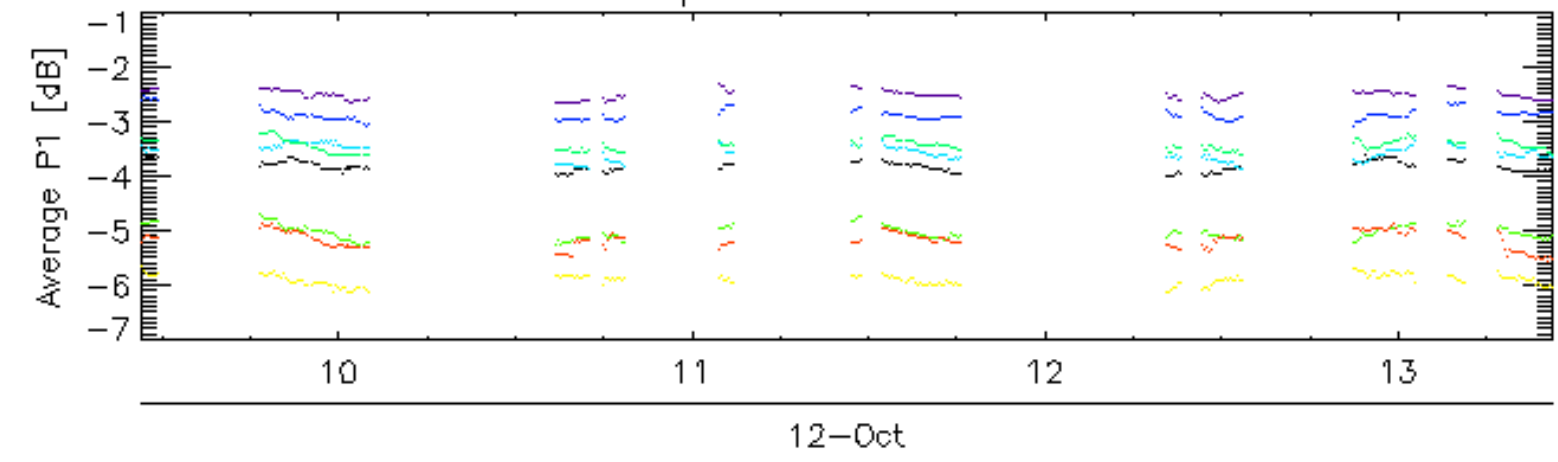
Ascending

Descending

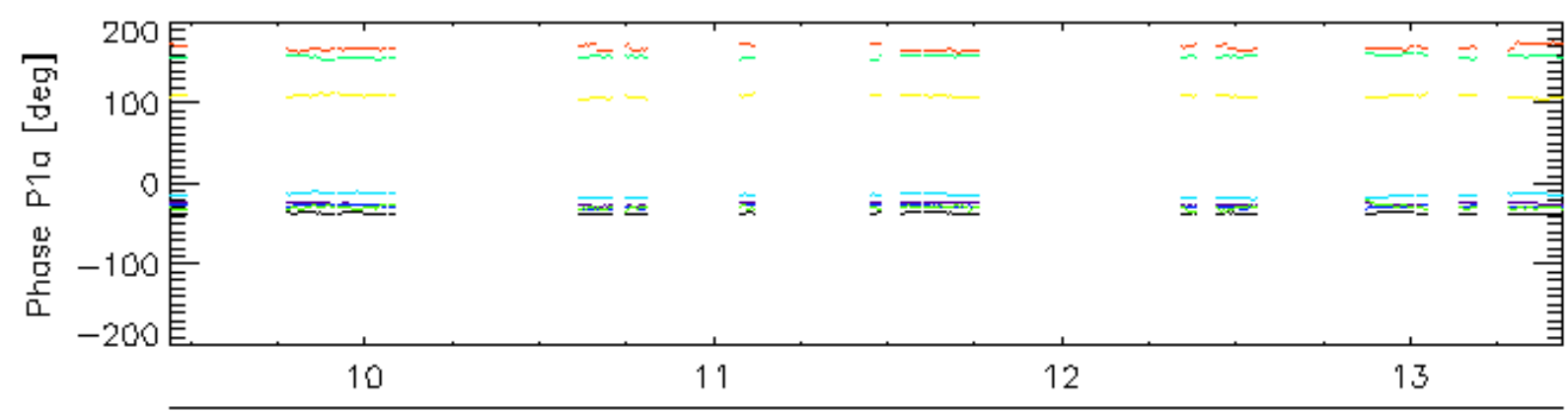
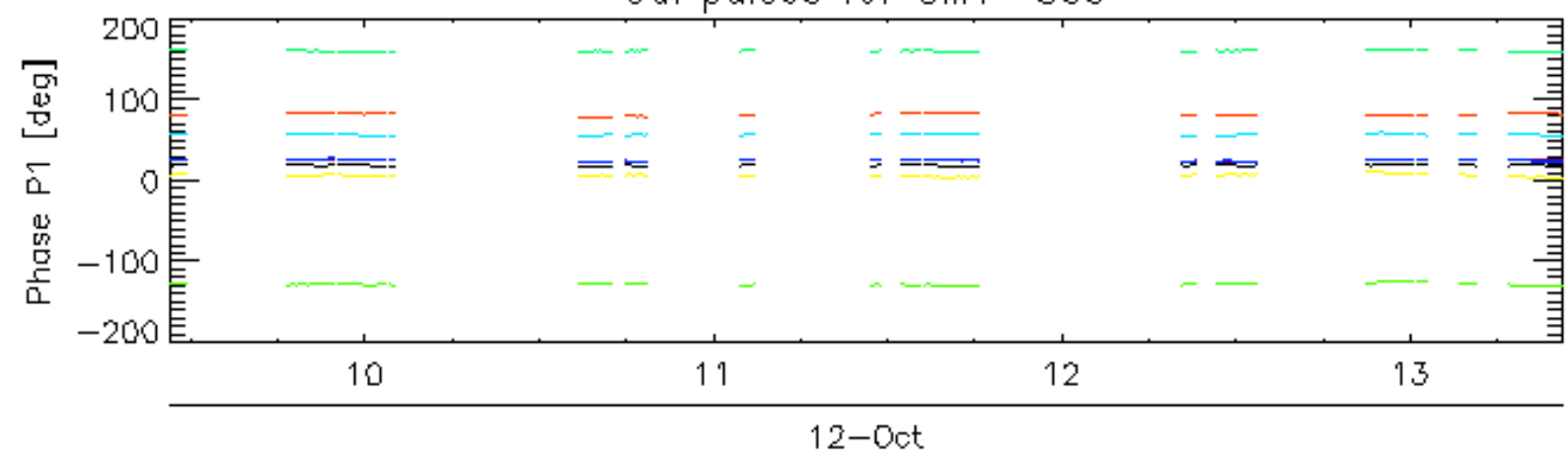
### 7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

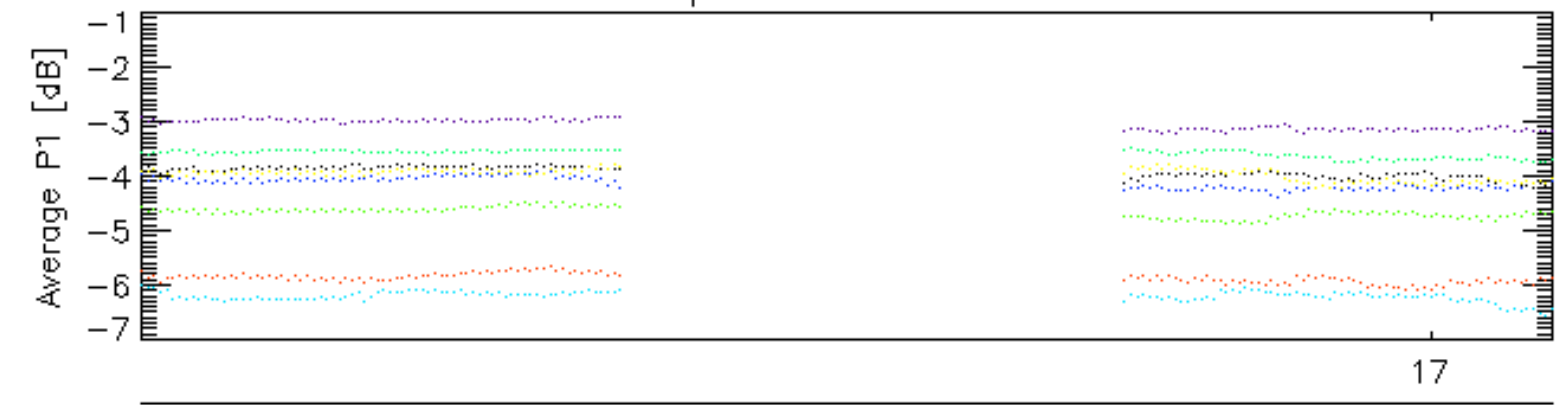


Cal pulses for GM1 SS3

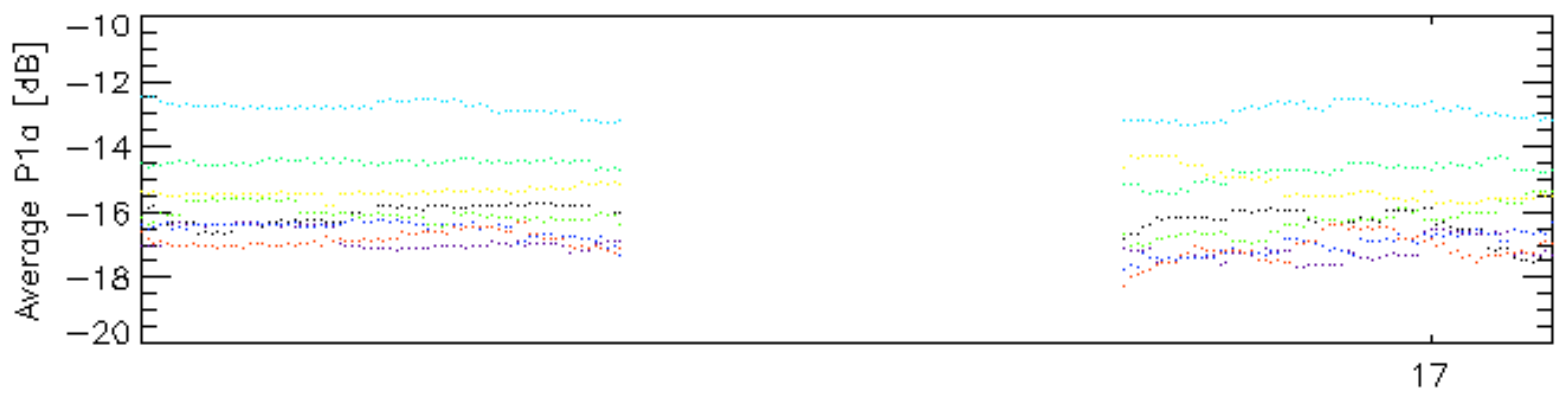


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 <sup>12-Oct</sup> \_ 26 \_ 30

Cal pulses for WVS IS2



12-Oct



12-Oct

Cal pulses for WVS IS2

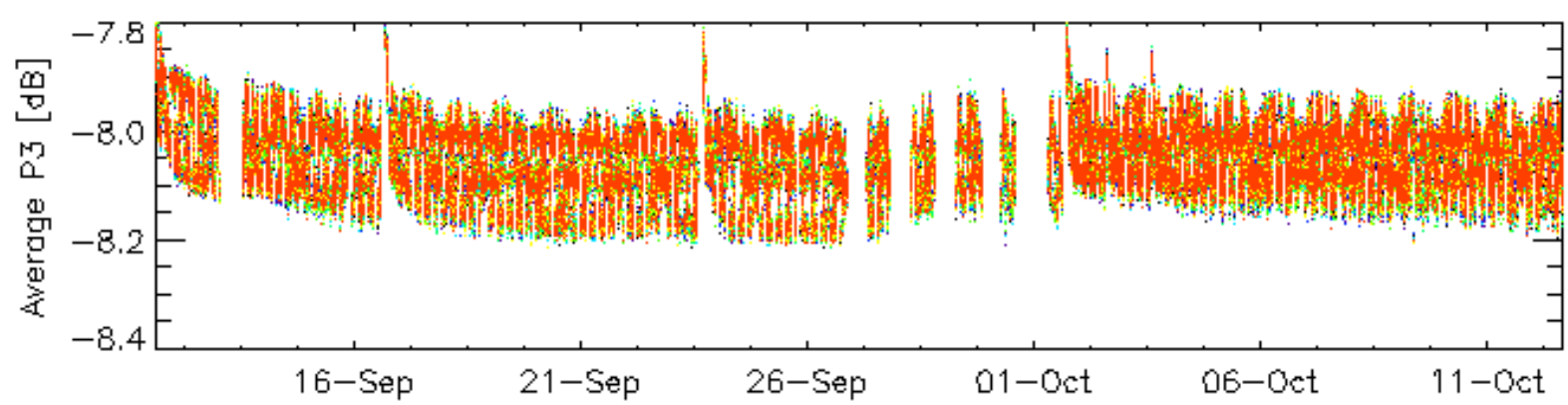
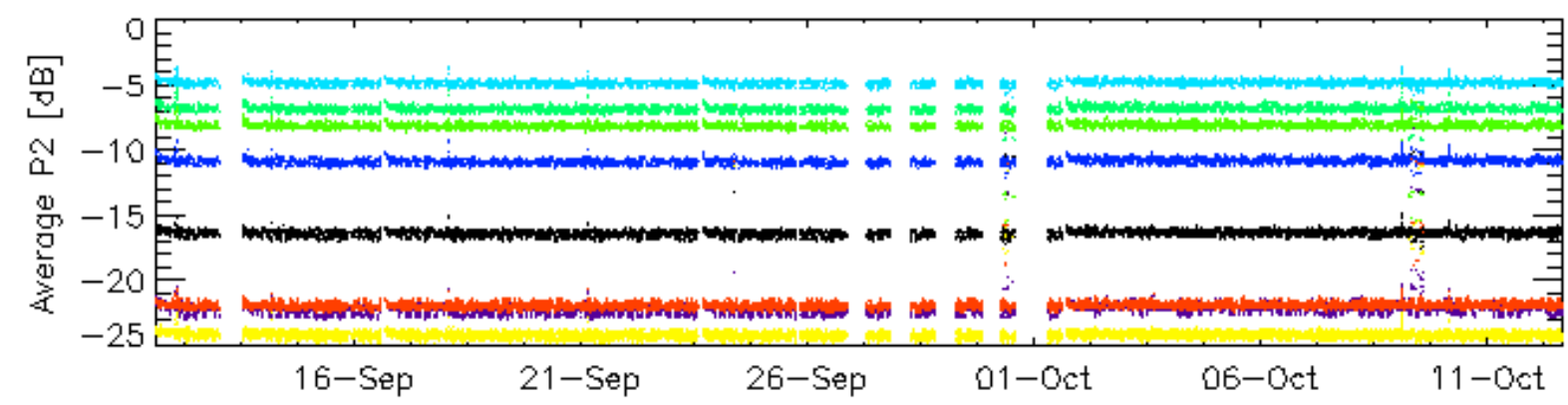
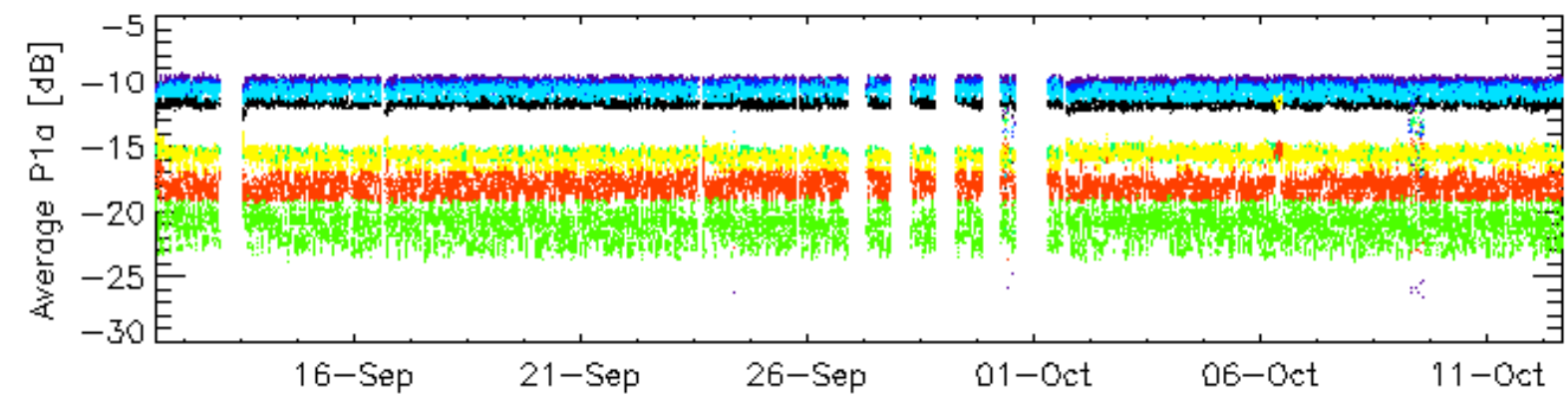
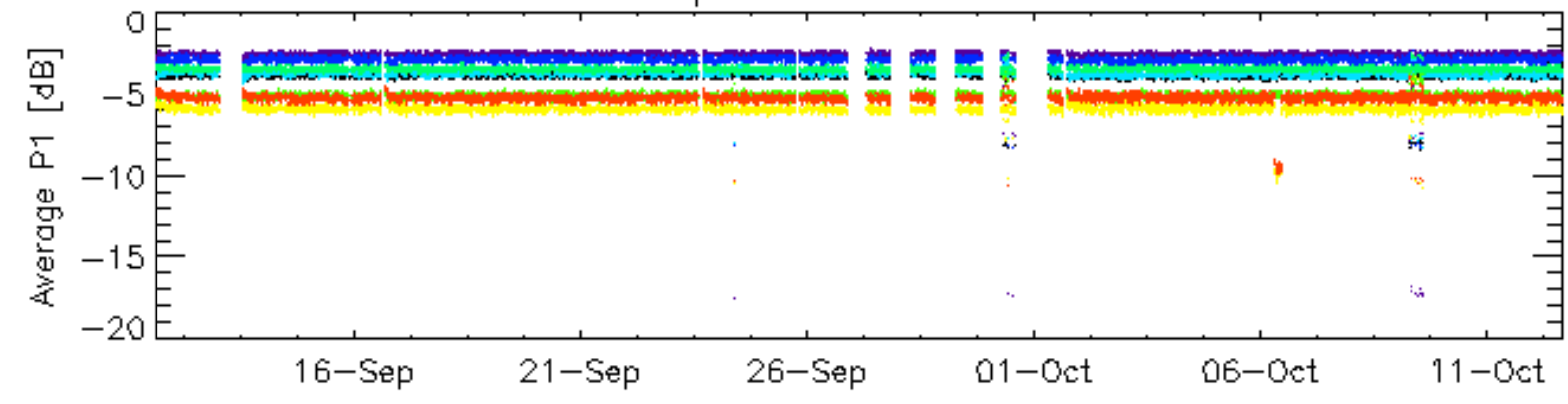


12-Oct



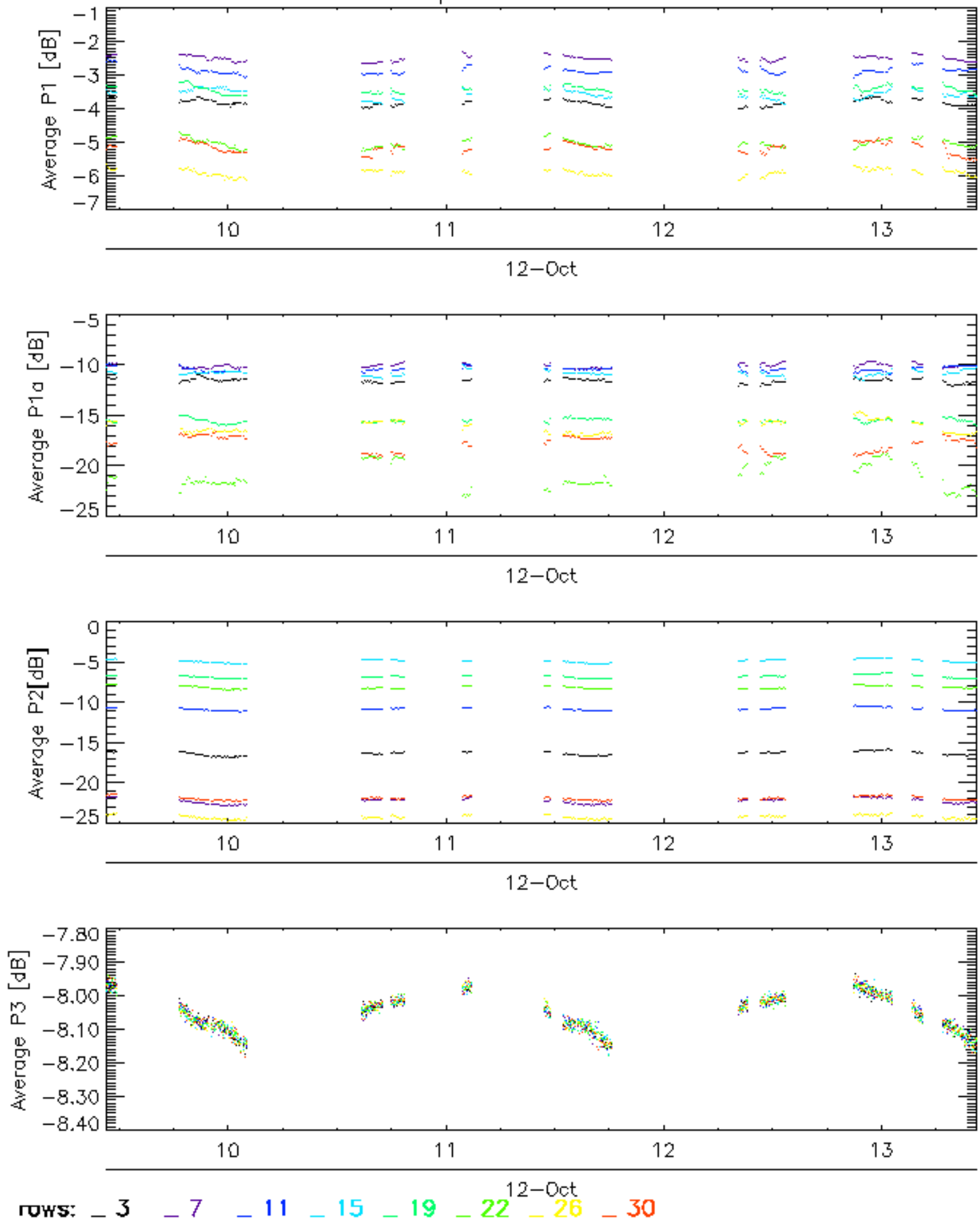
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 <sup>12-Oct</sup> \_ 26 \_ 30

### Cal pulses for GM1 SS3

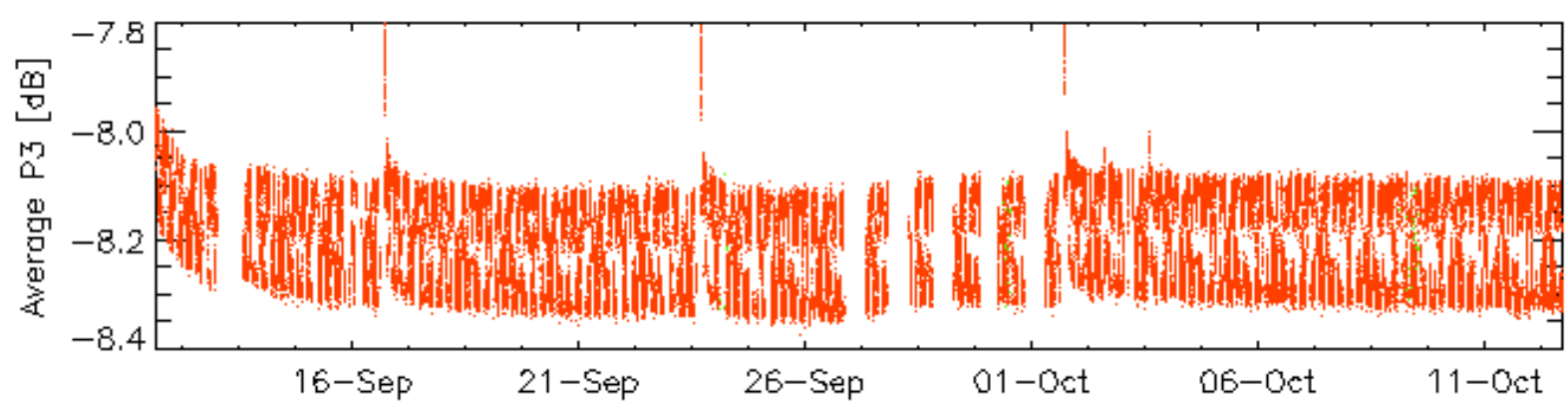
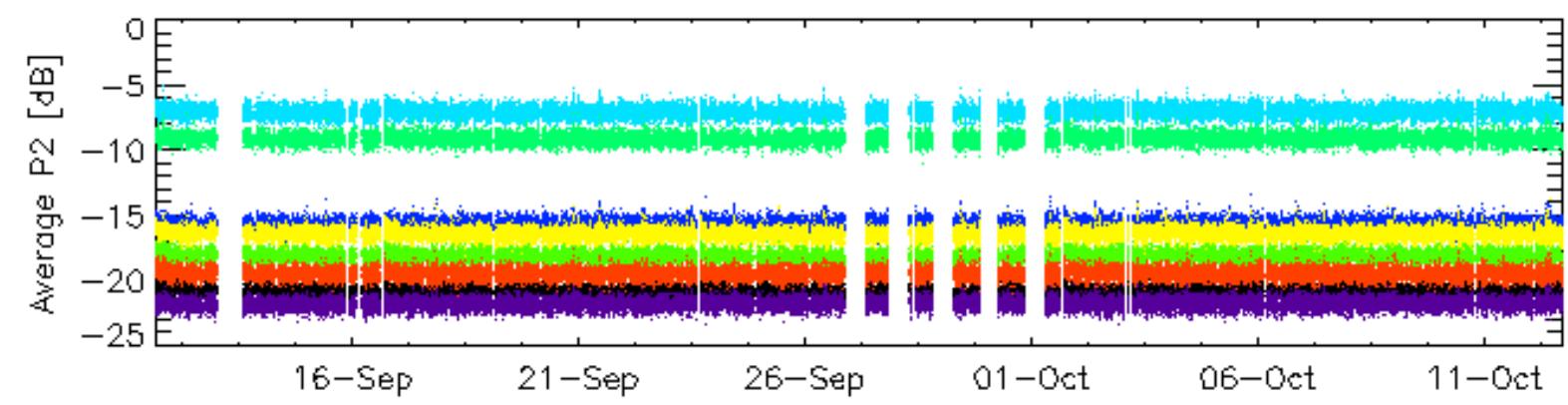
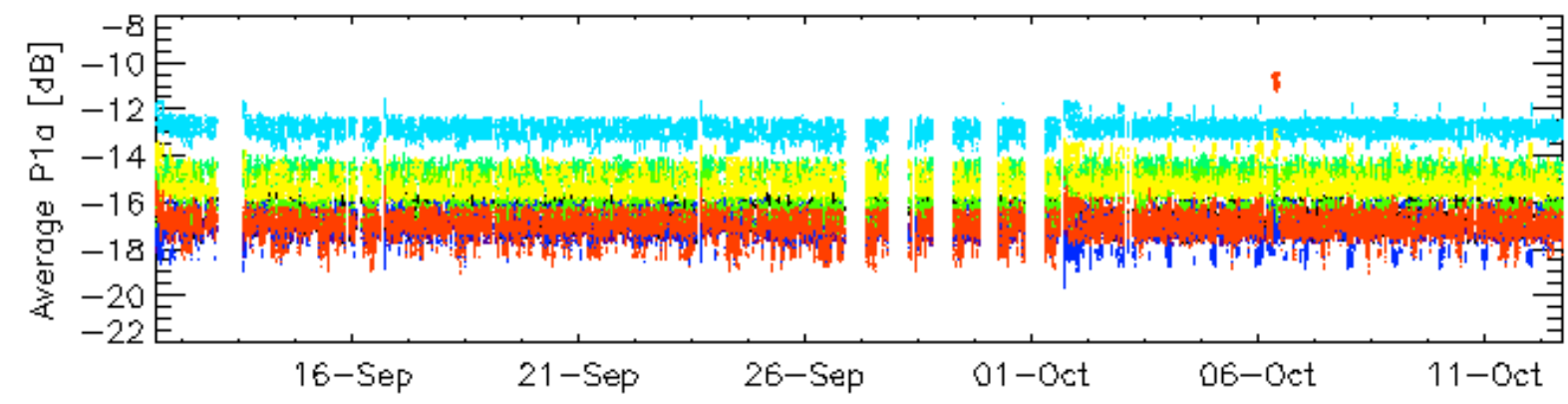
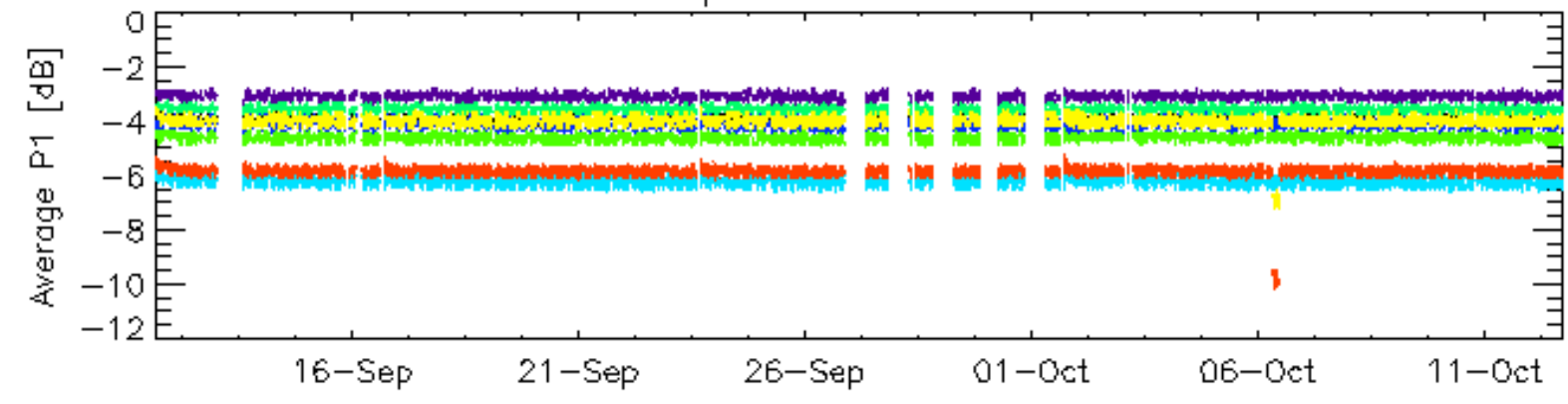


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

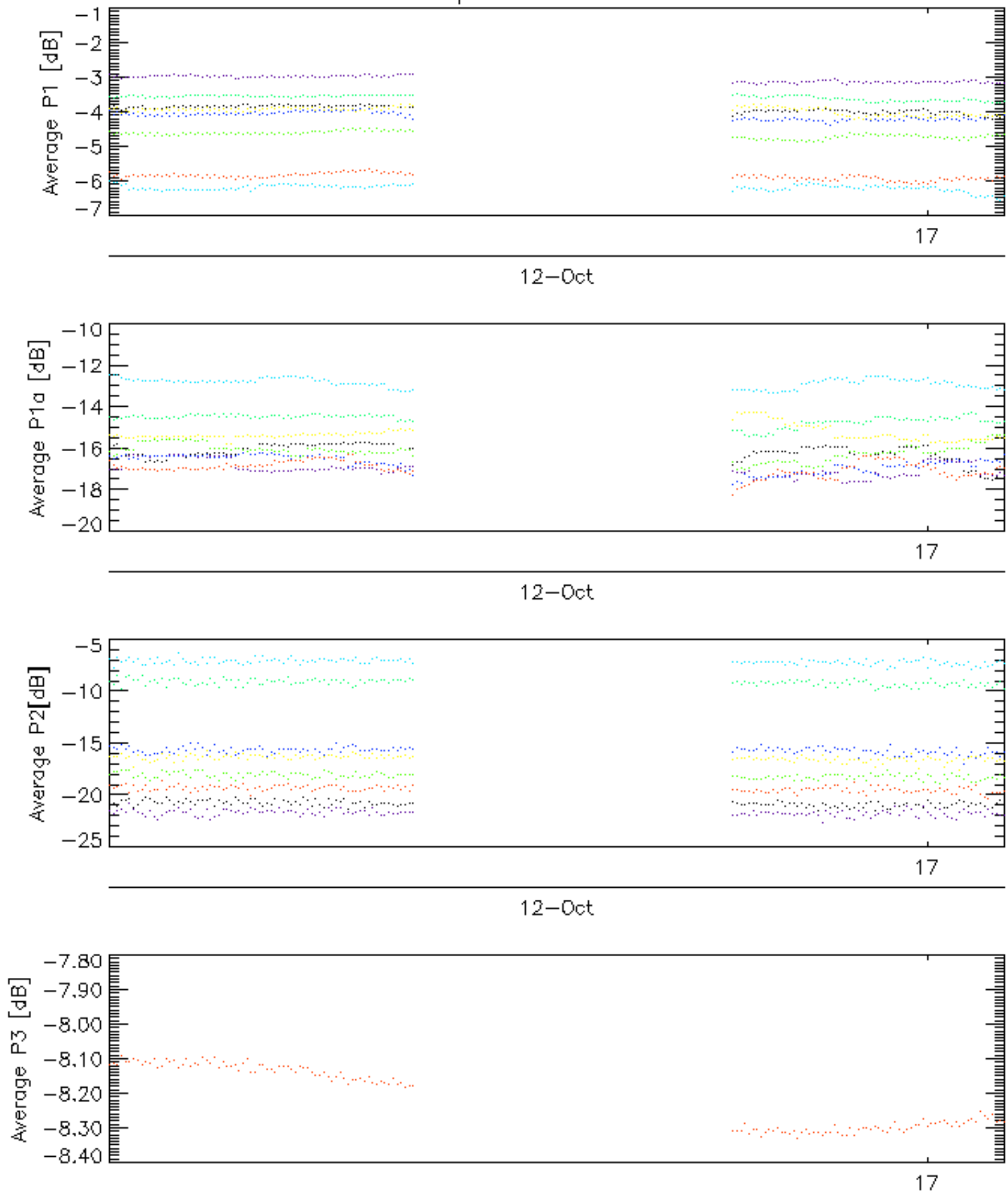


Cal pulses for WVS IS2



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

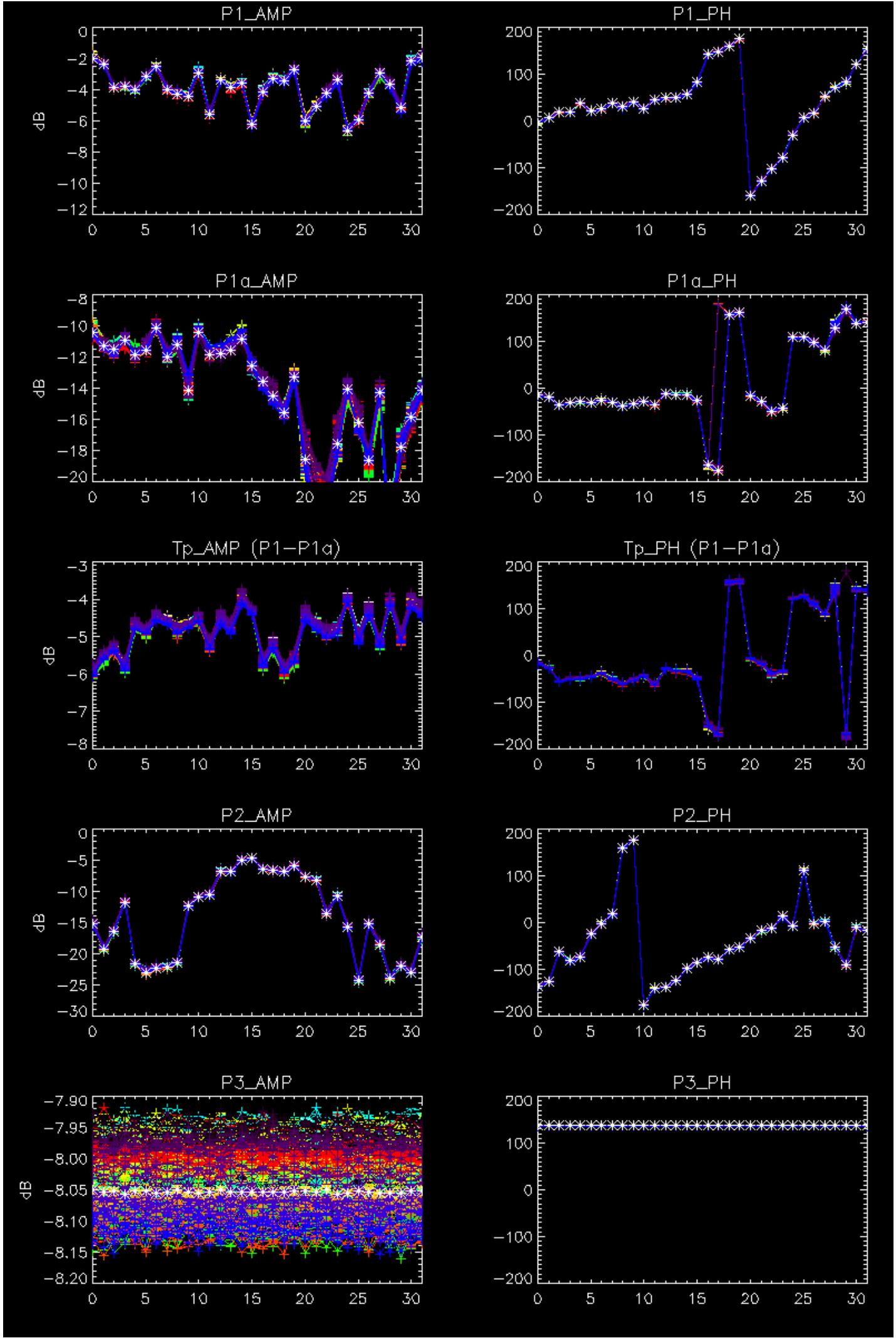
Cal pulses for WVS IS2

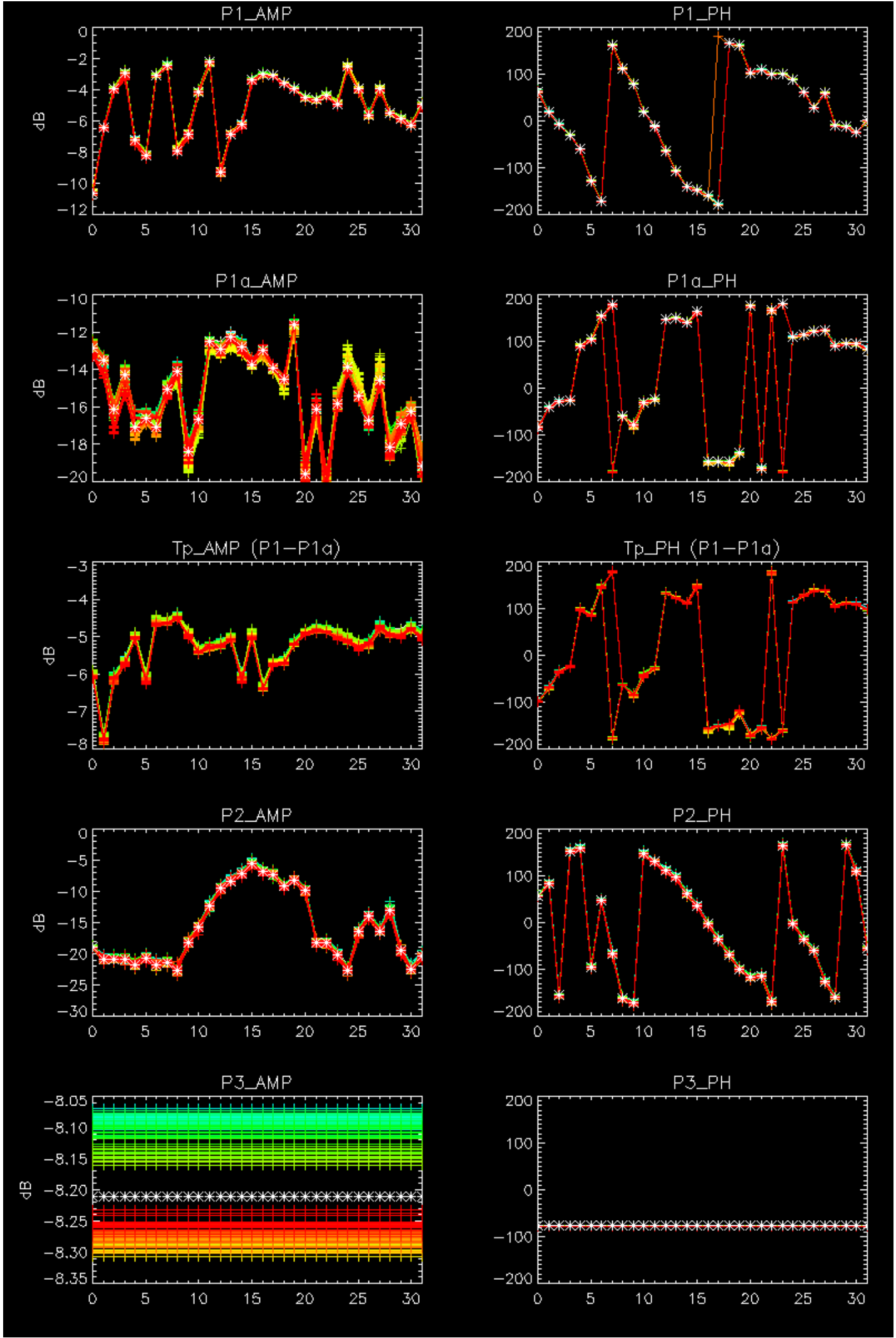


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 <sup>12-Oct</sup> \_ 26 \_ 30

No anomalies observed.





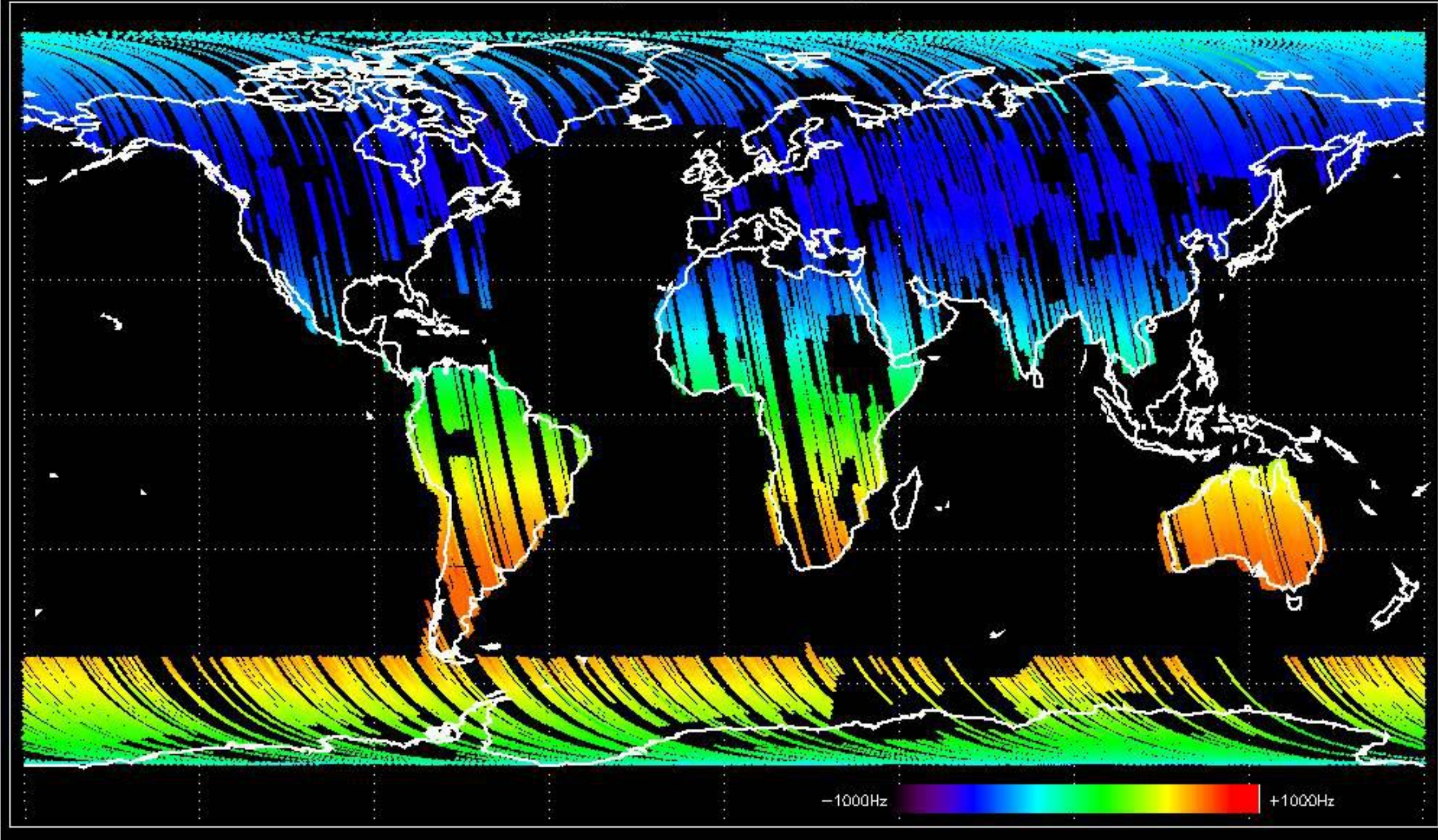


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



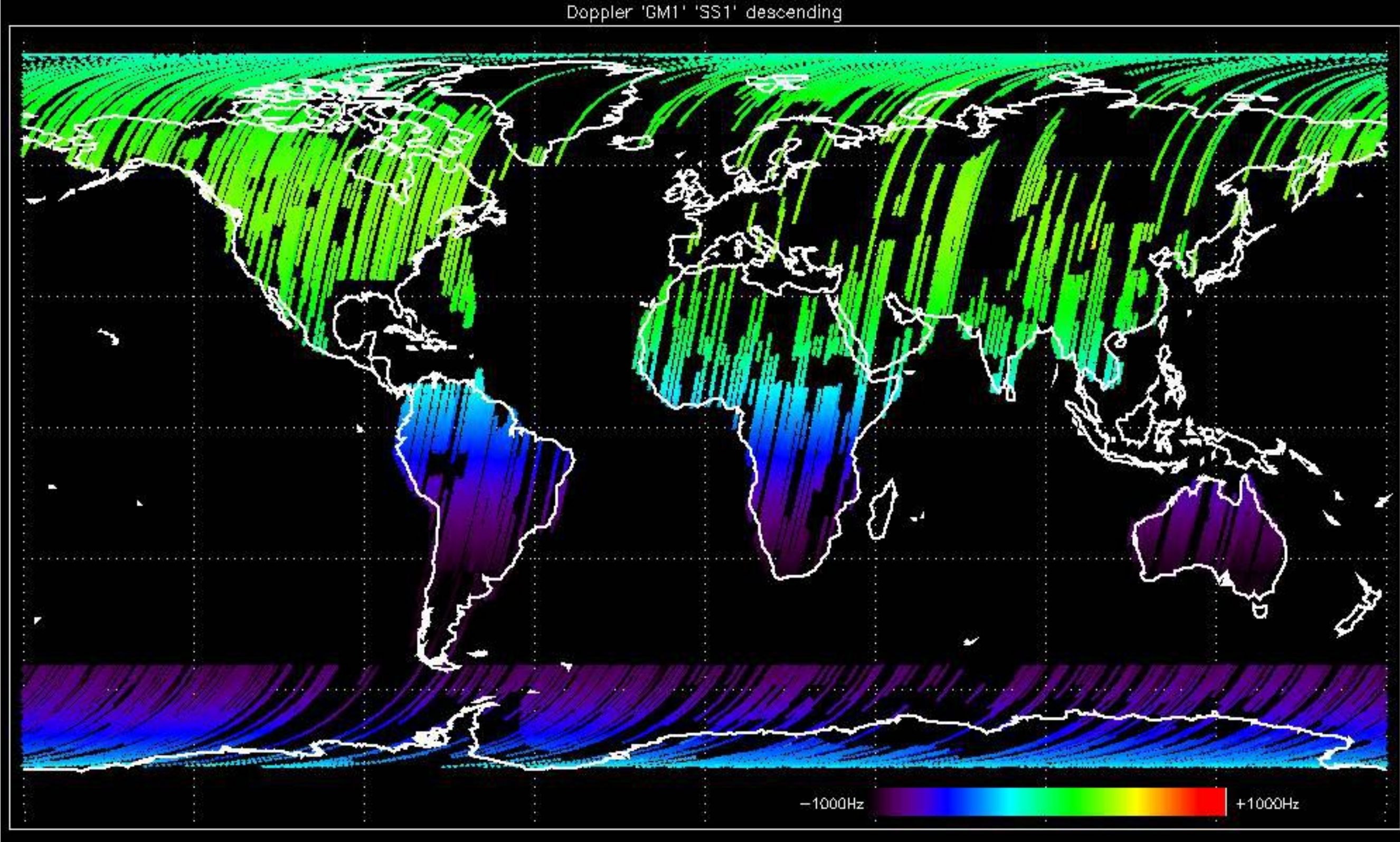


Doppler 'GM1' 'SS1' ascending



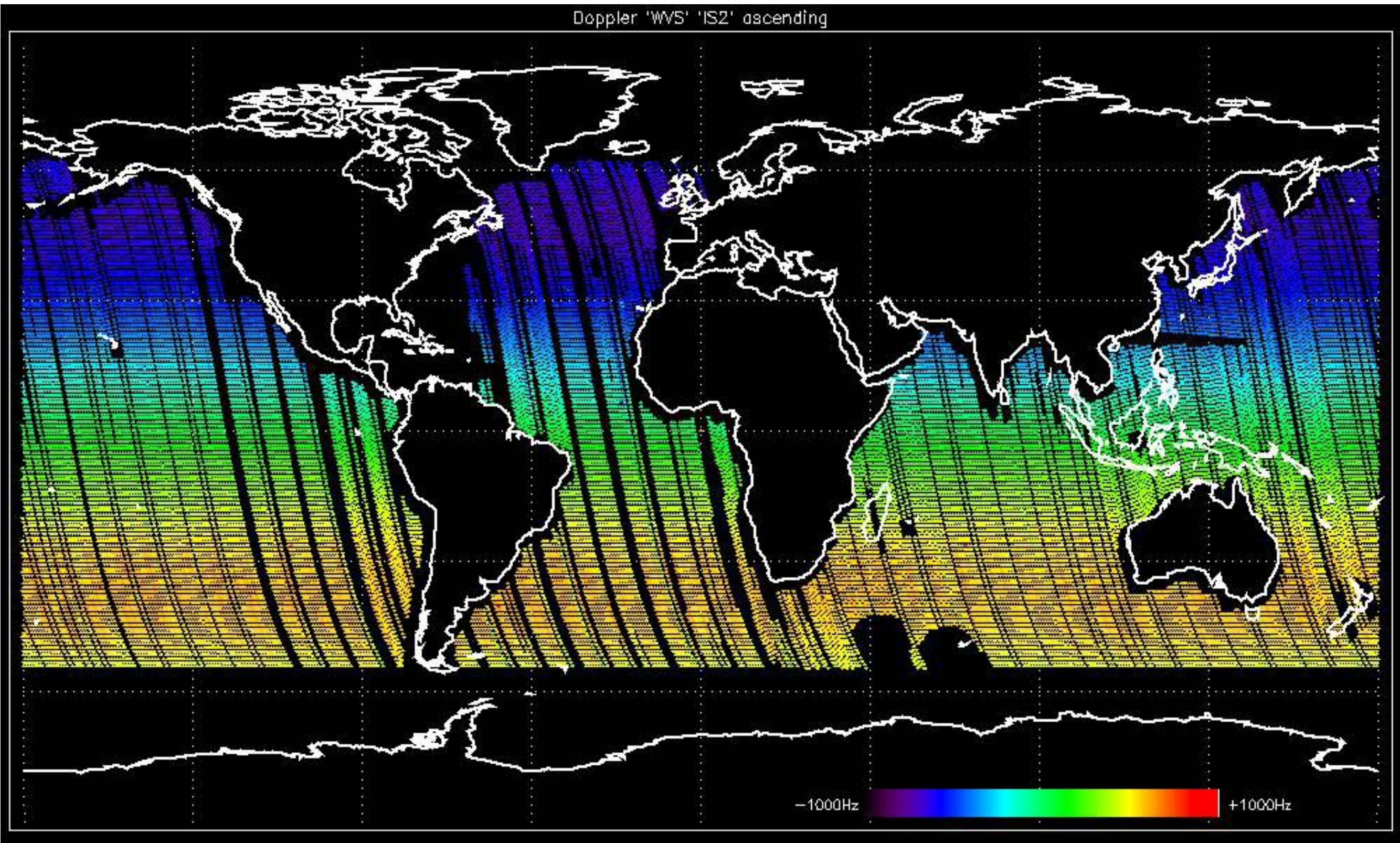


Doppler 'GM1' 'SS1' descending



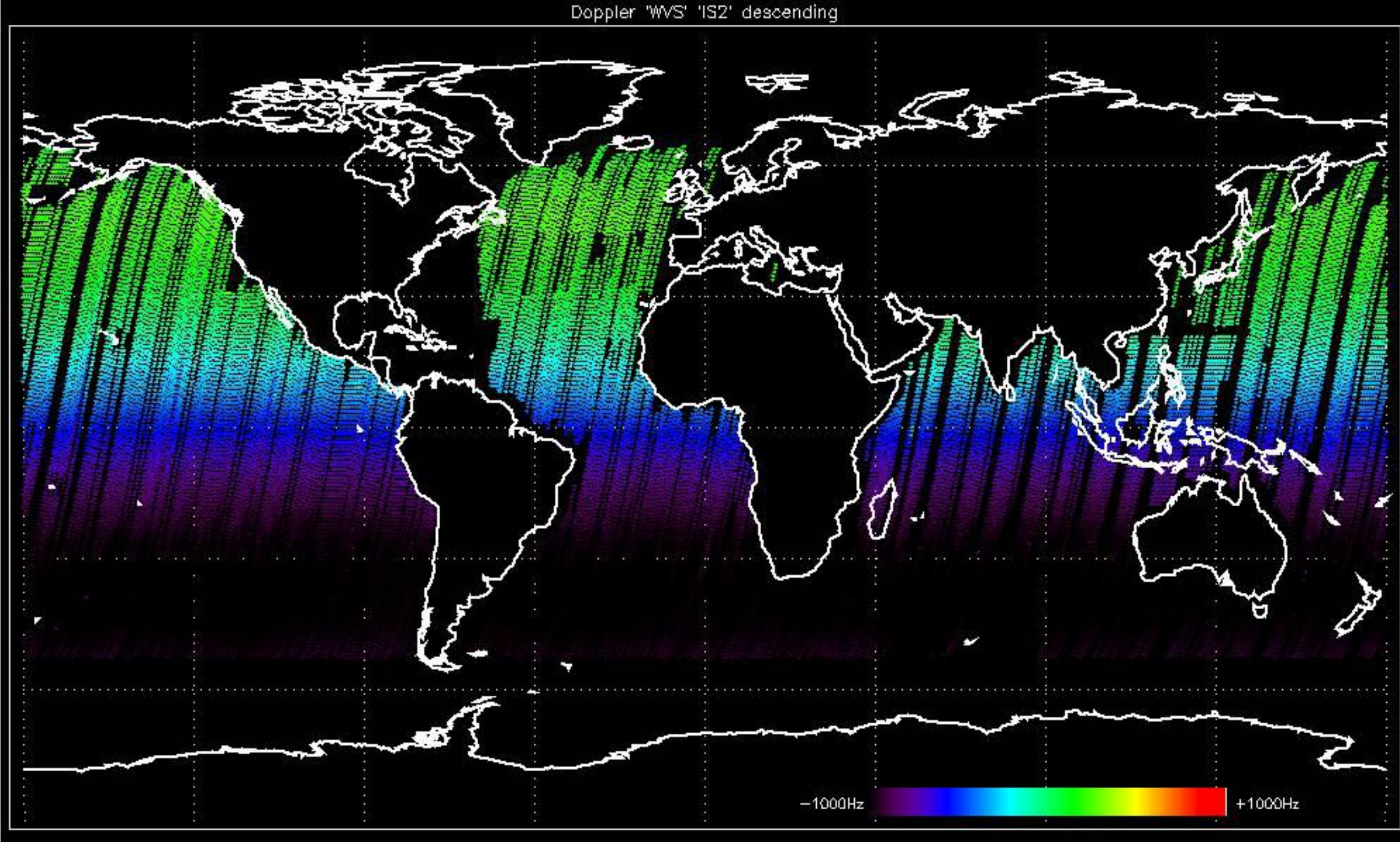


Doppler 'WVS' 'IS2' ascending



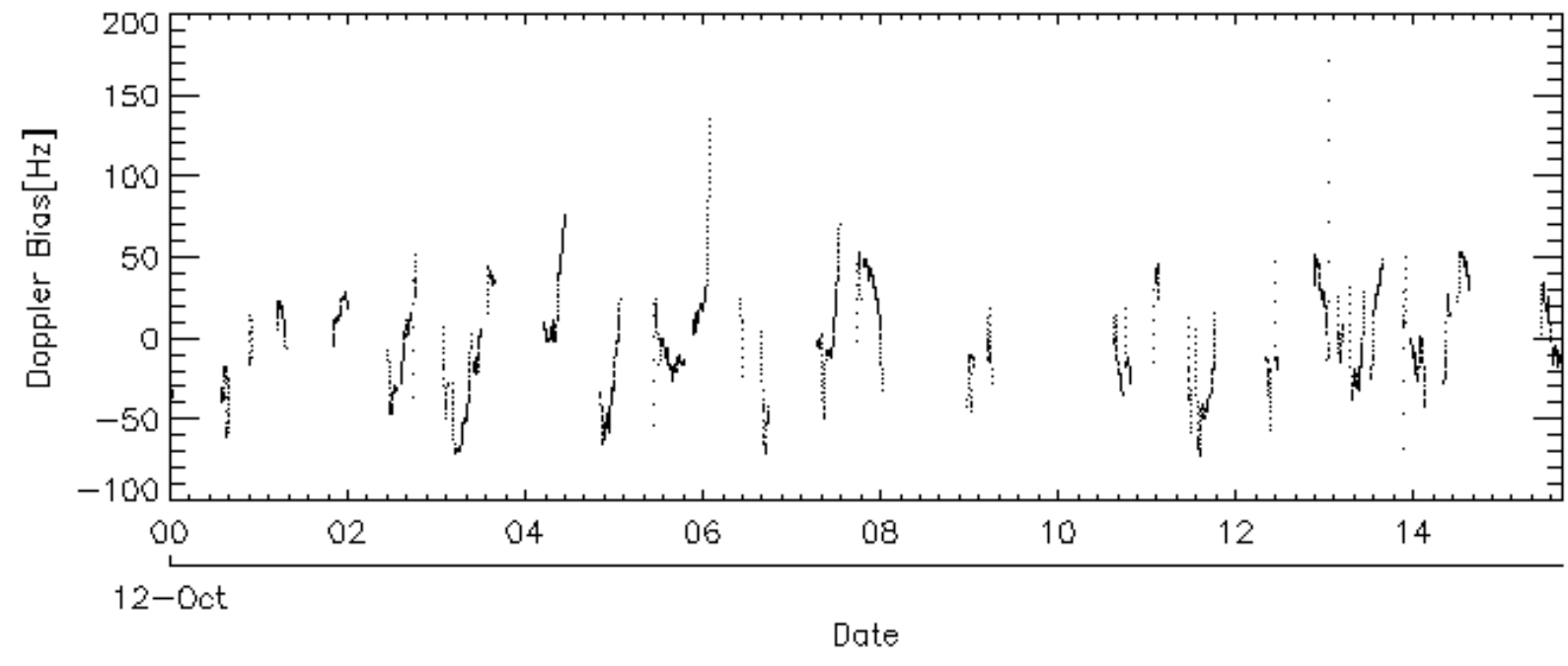
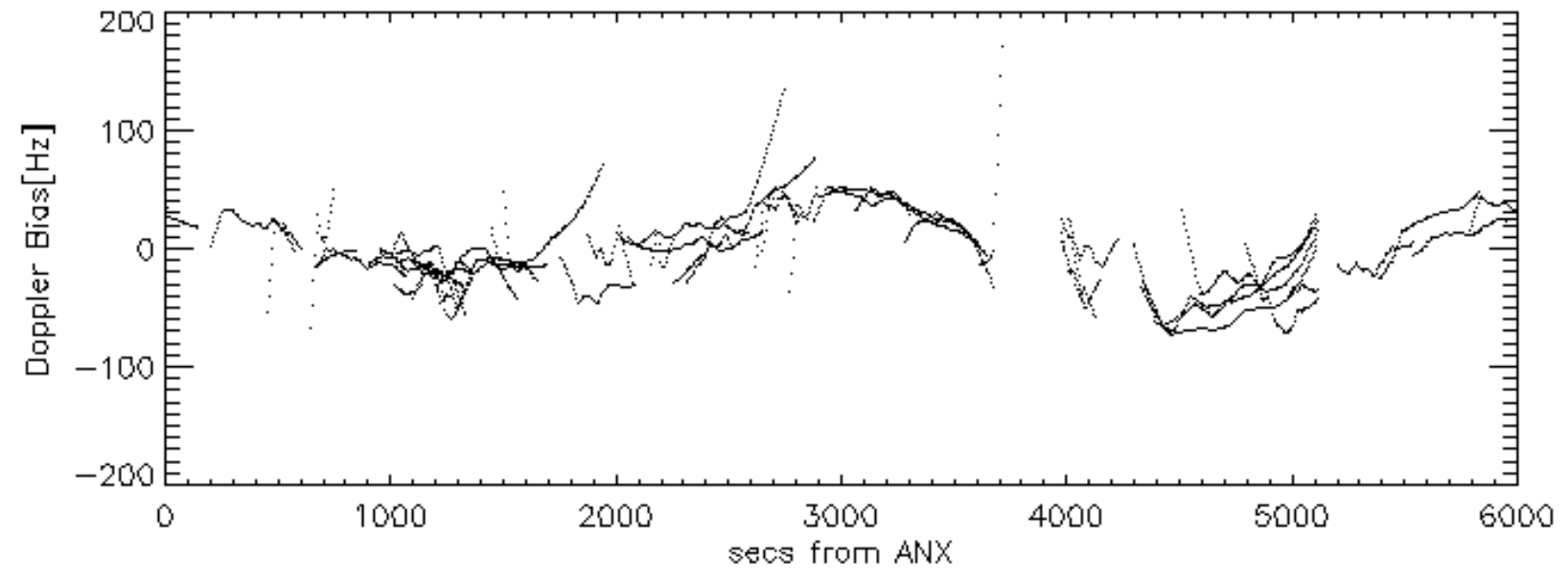
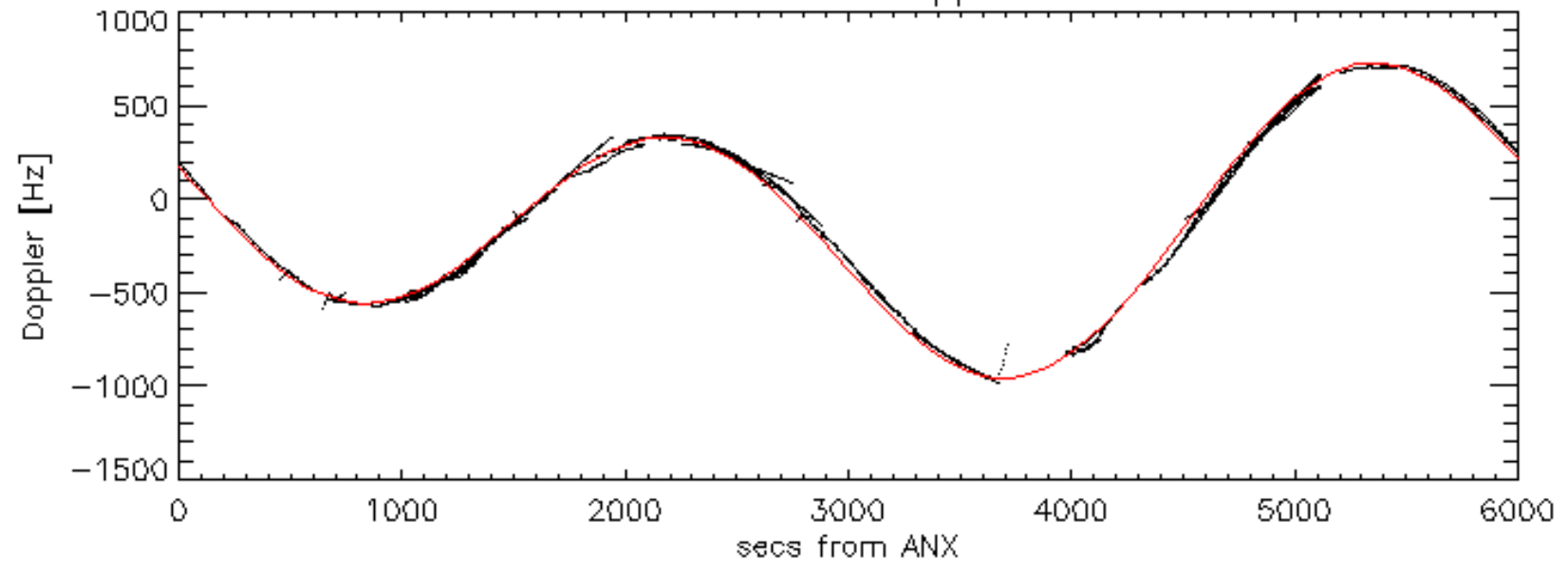


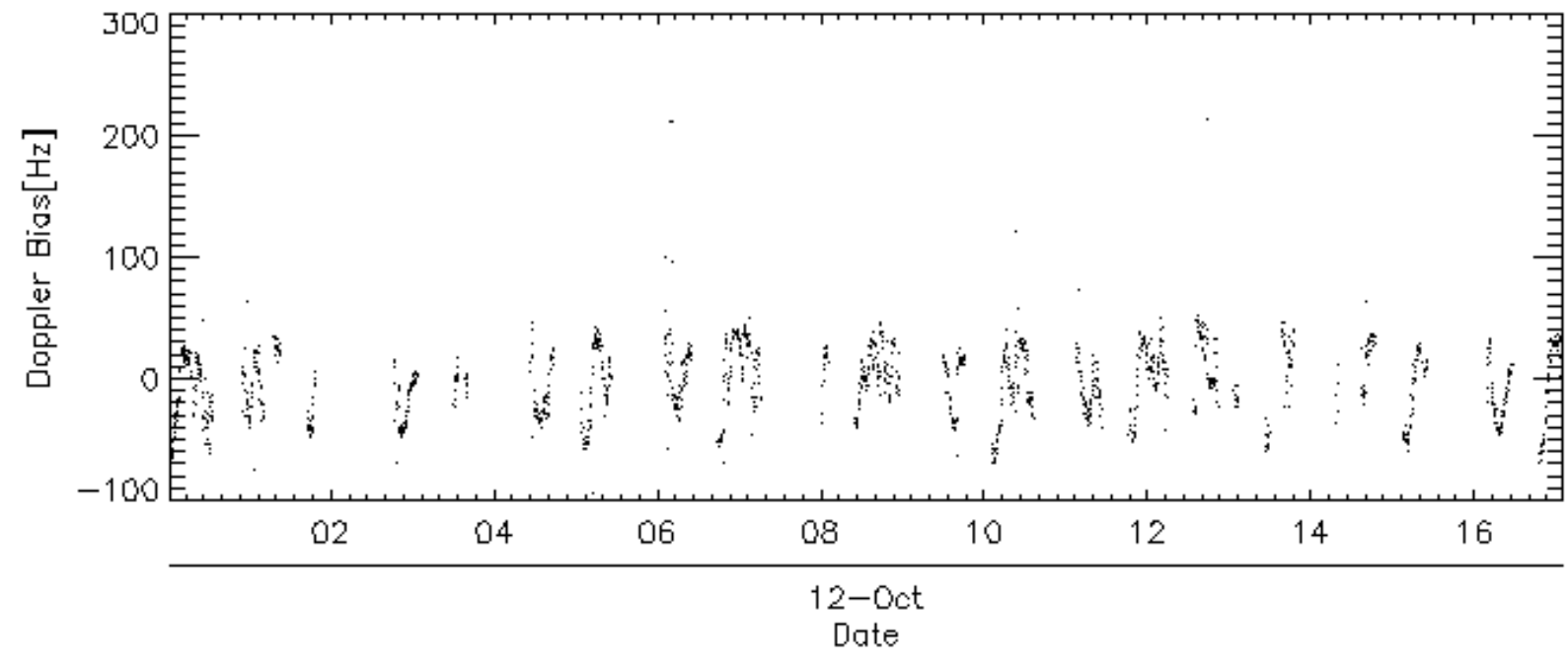
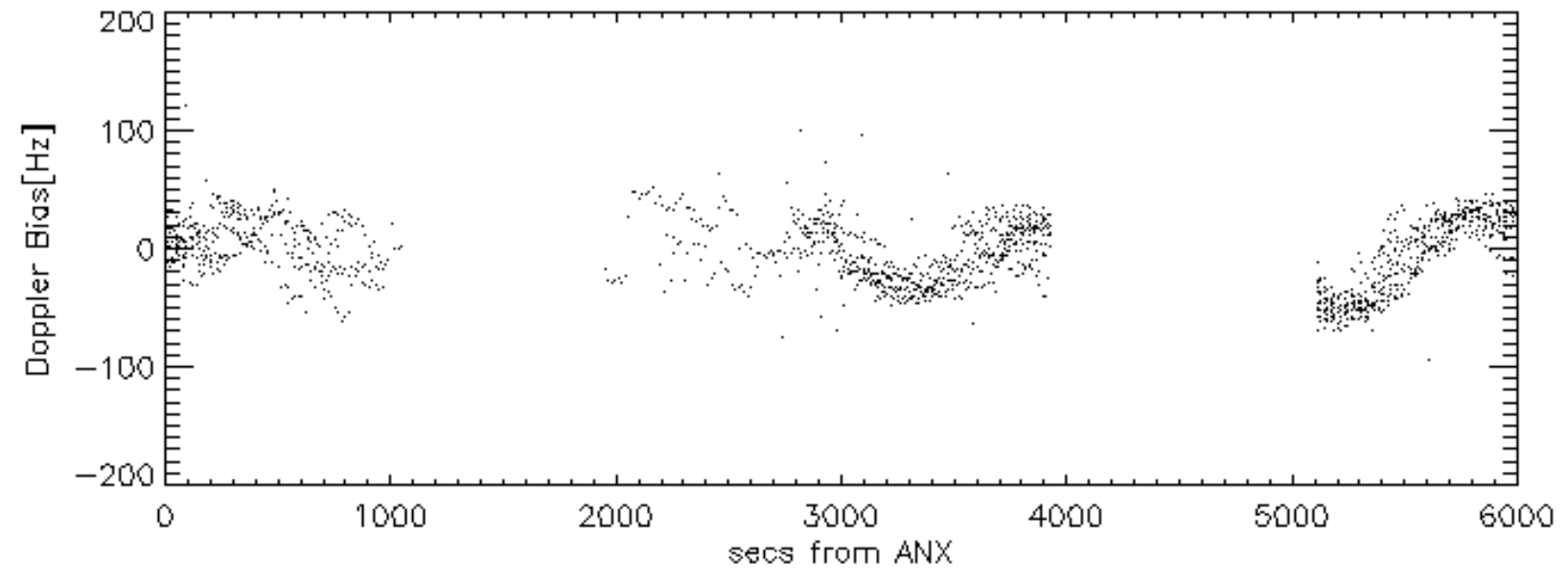
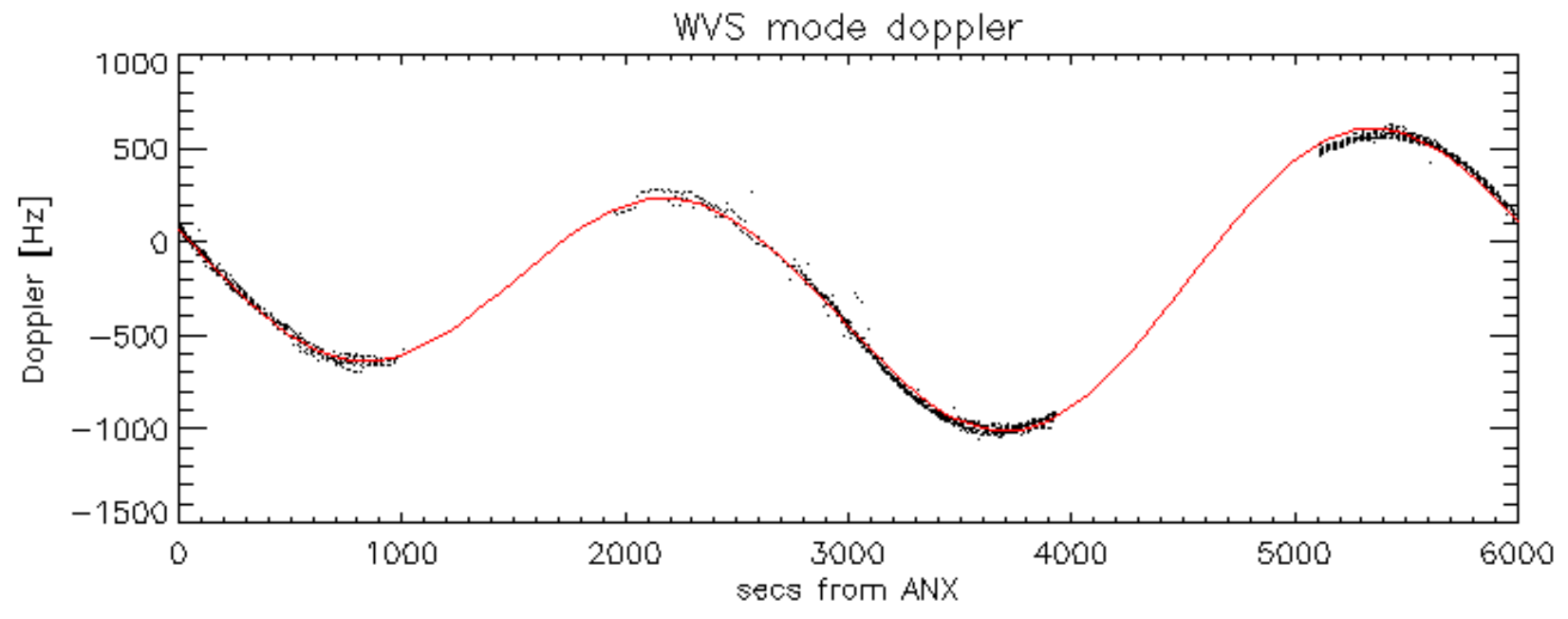
Doppler 'WVS' 'IS2' descending





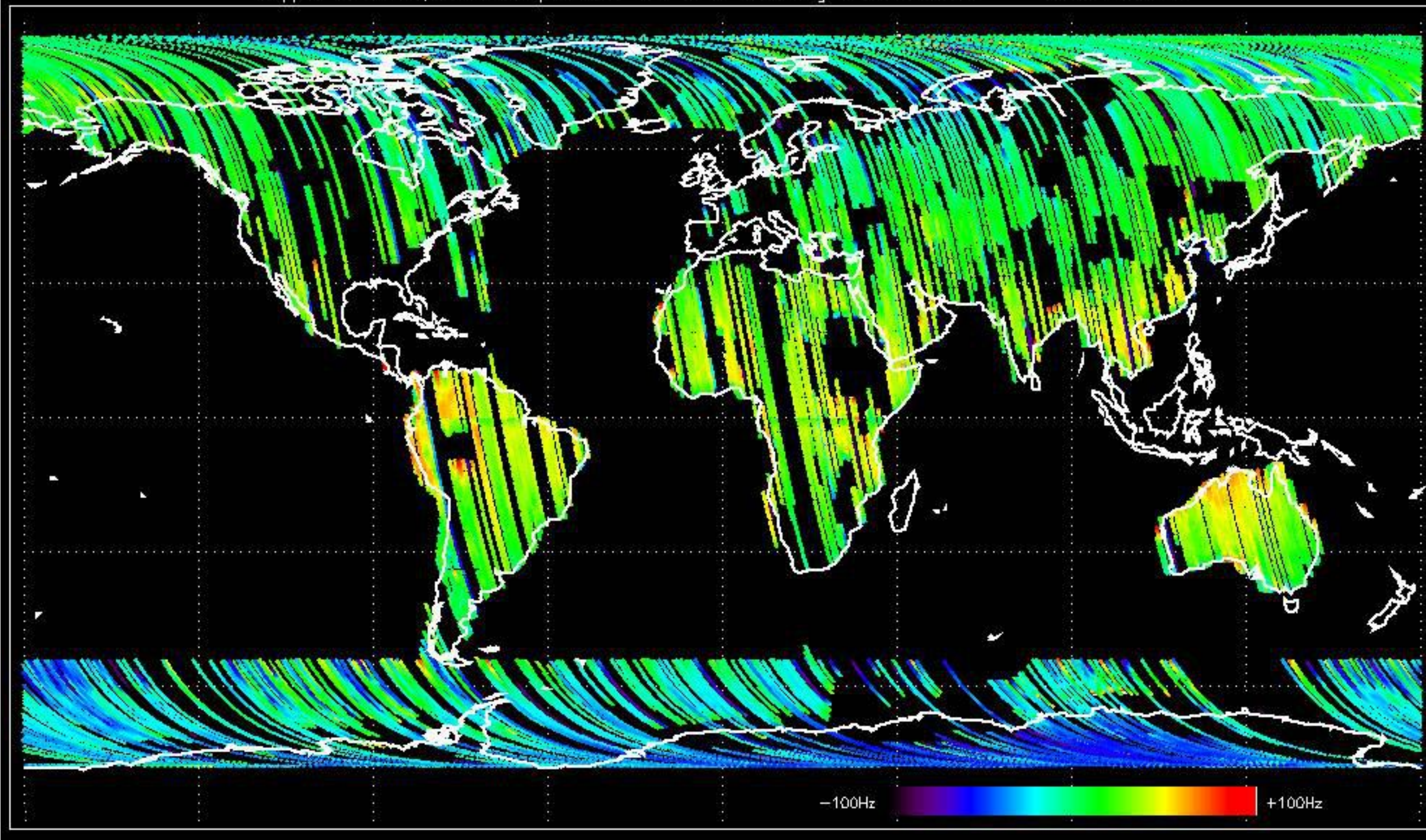
GM1 mode doppler





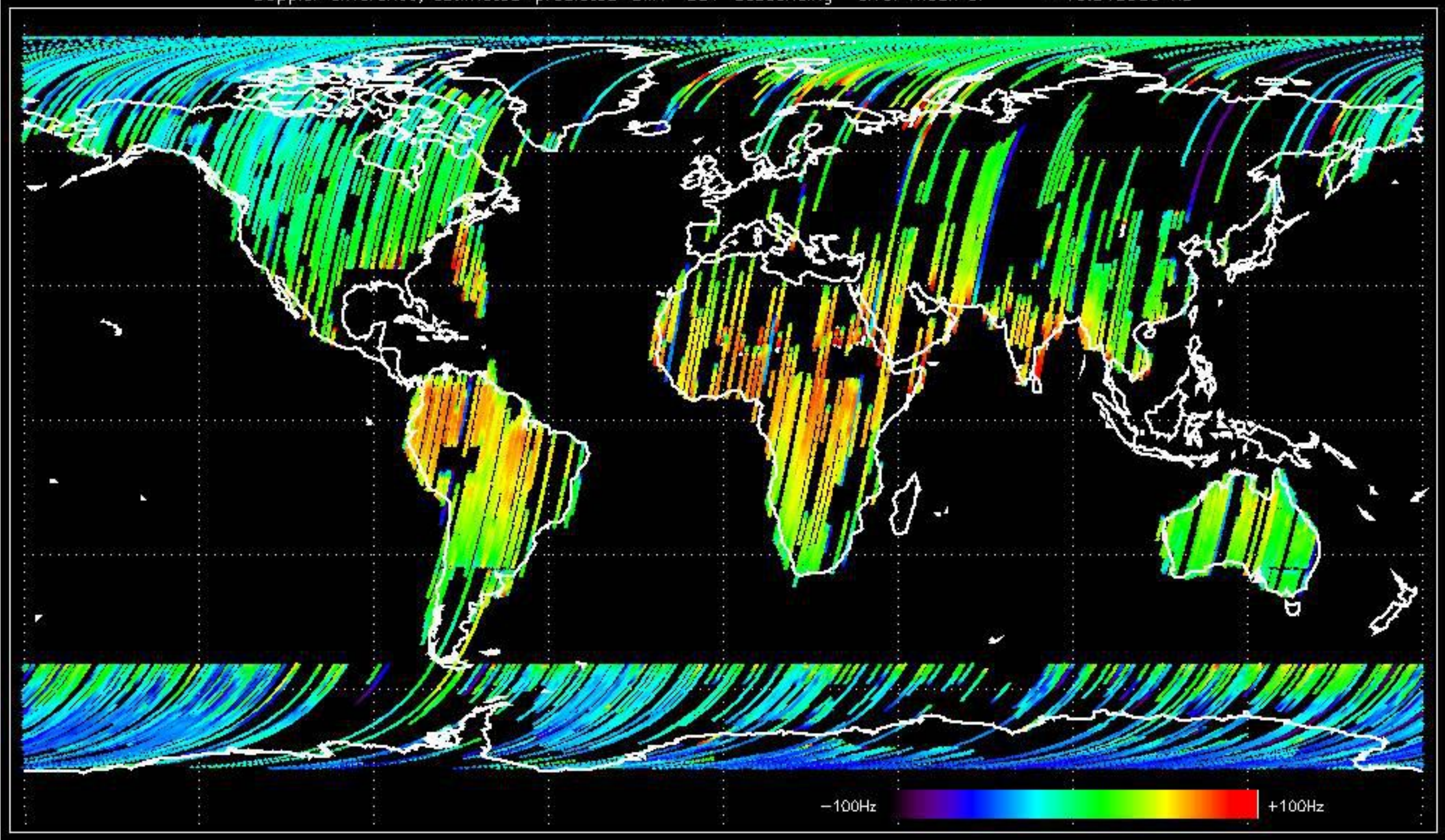


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -20.788153 Hz



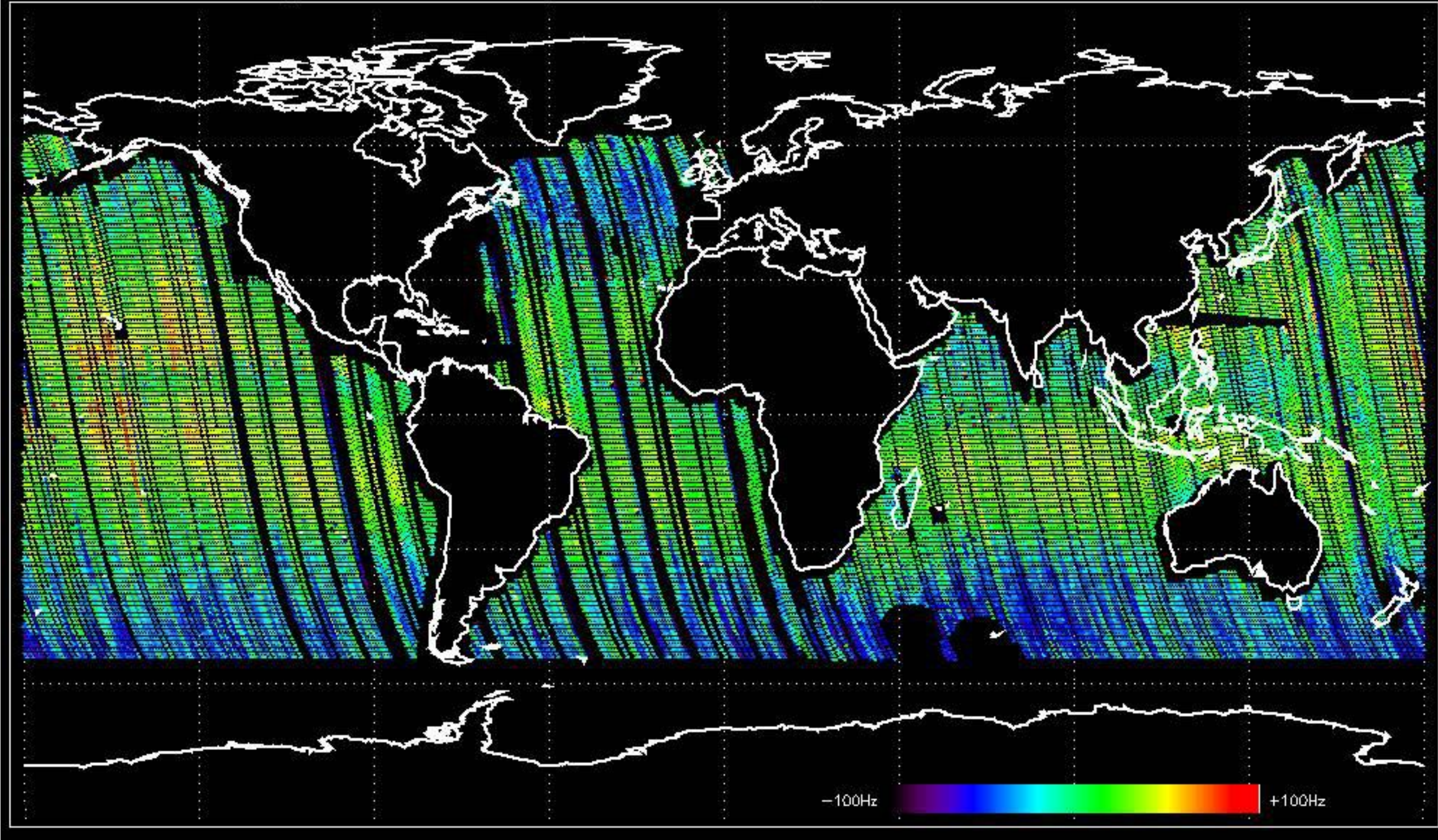


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -15.513983 Hz



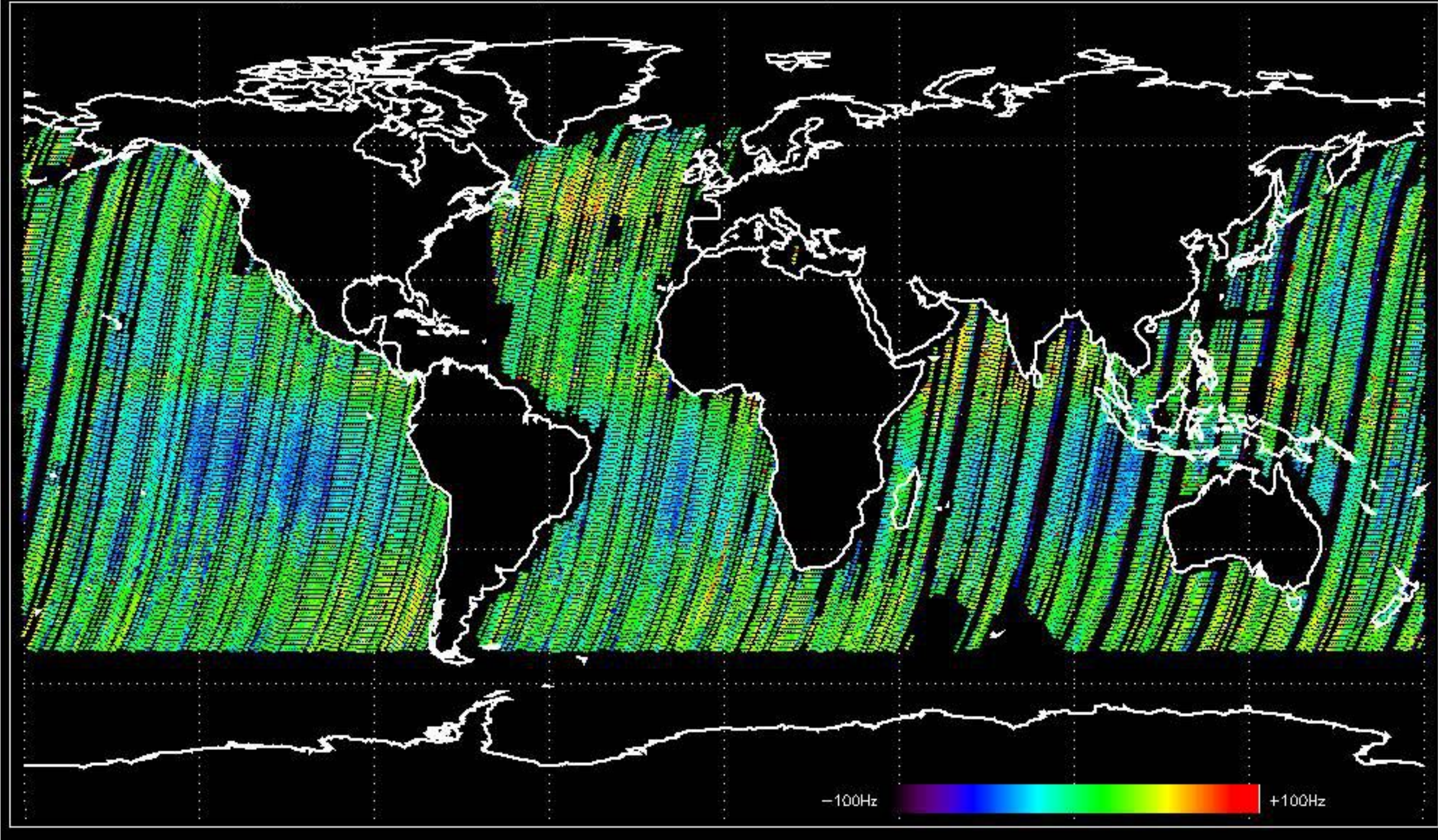


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -9.0552988 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -16.122419 Hz





No anomalies observed on available MS products:

No anomalies observed.



















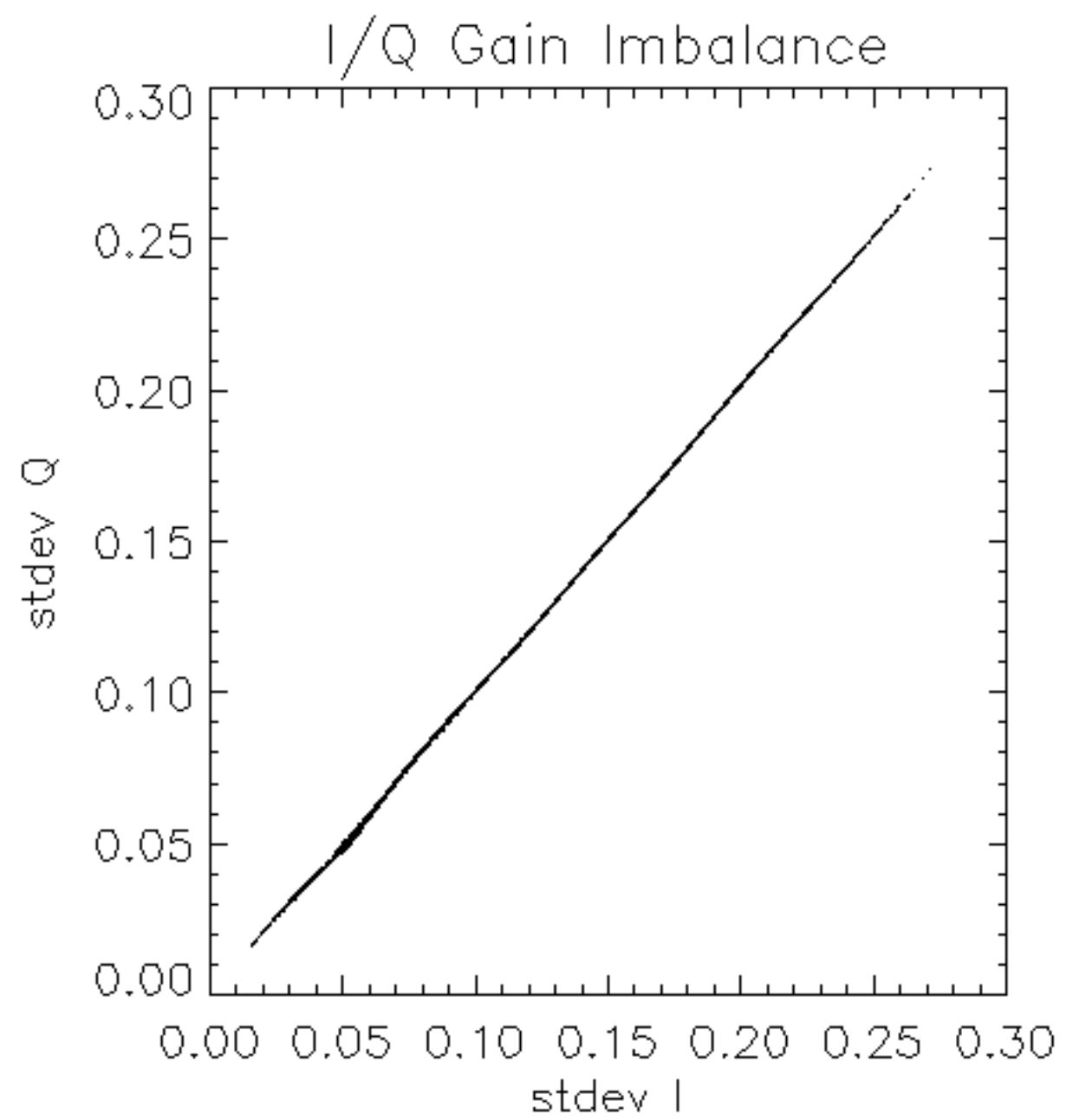


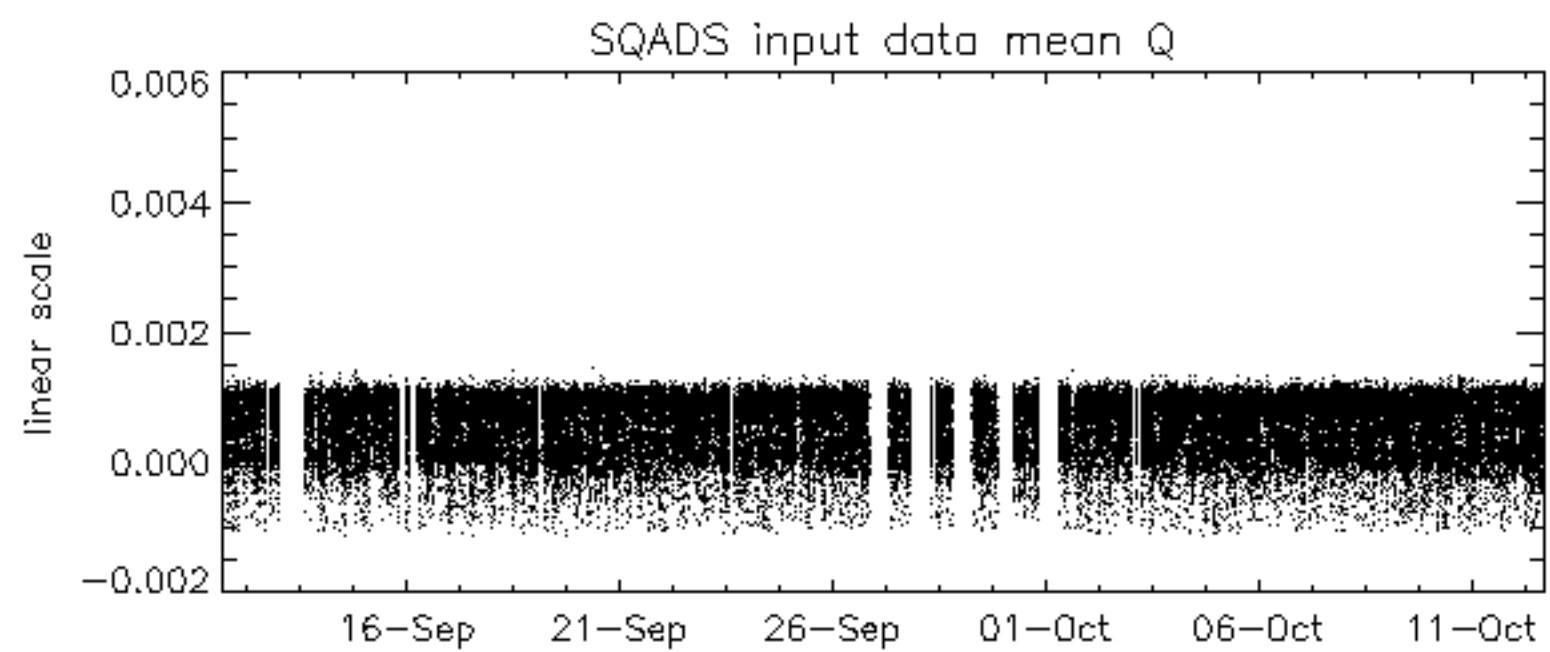
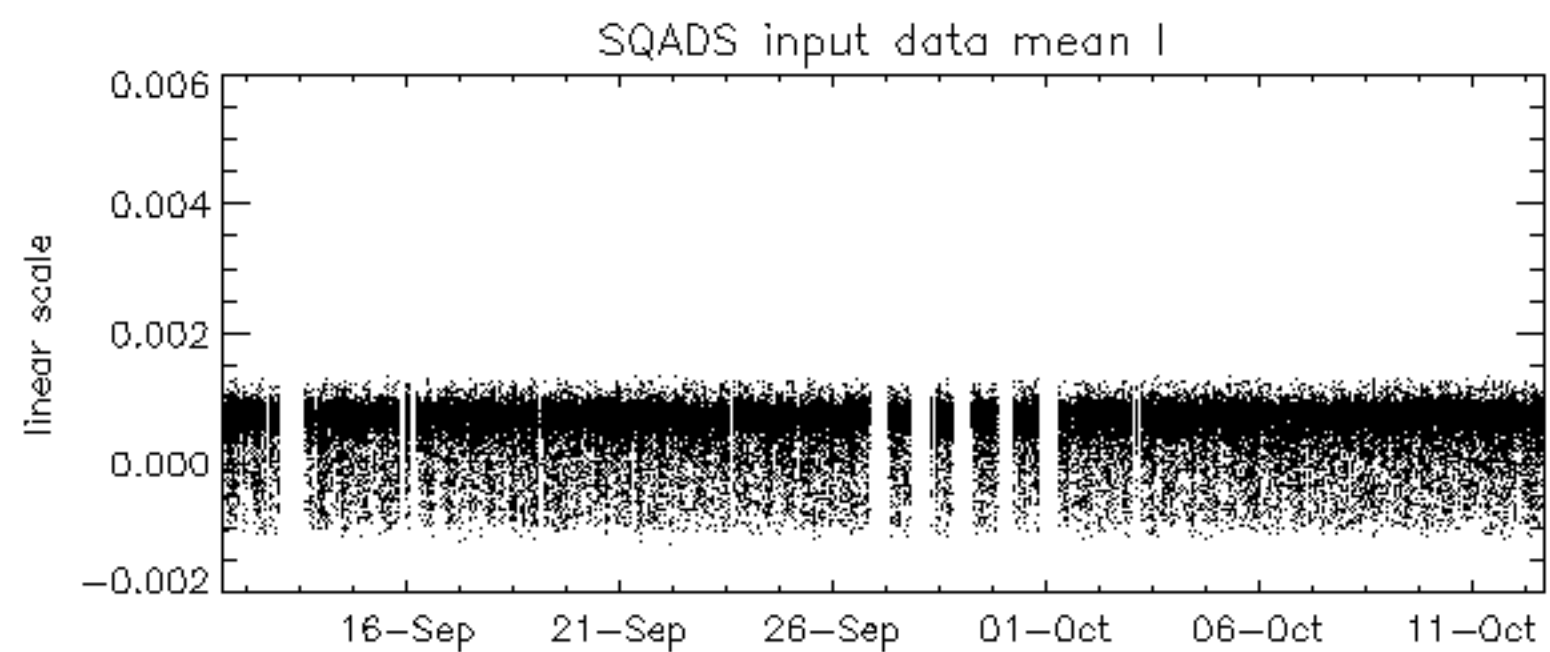
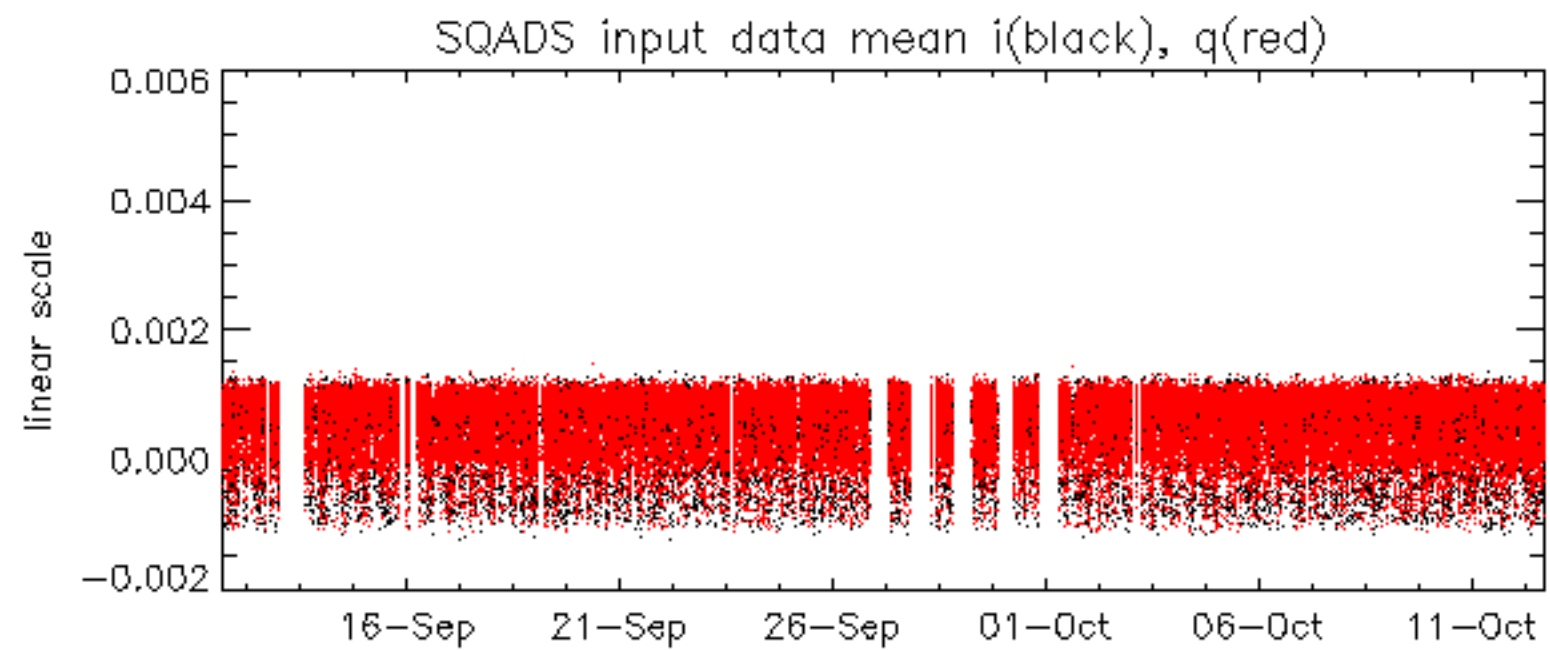


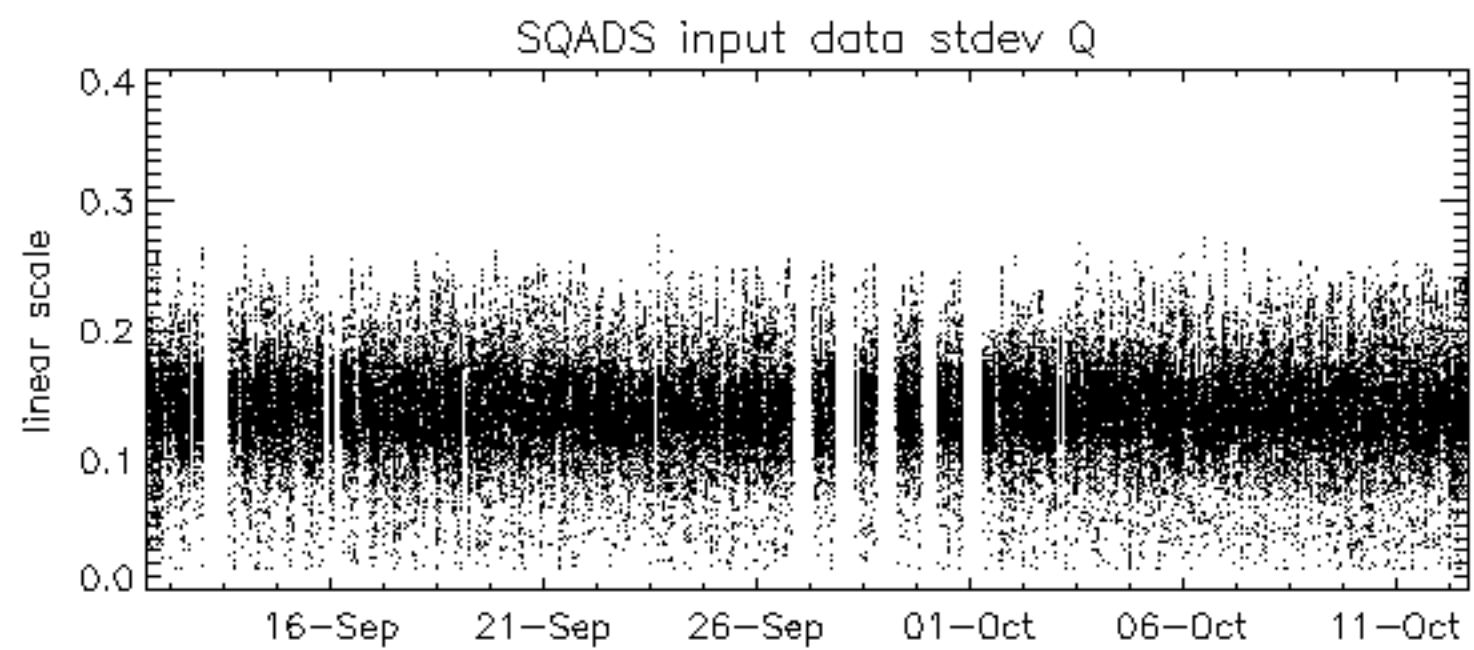
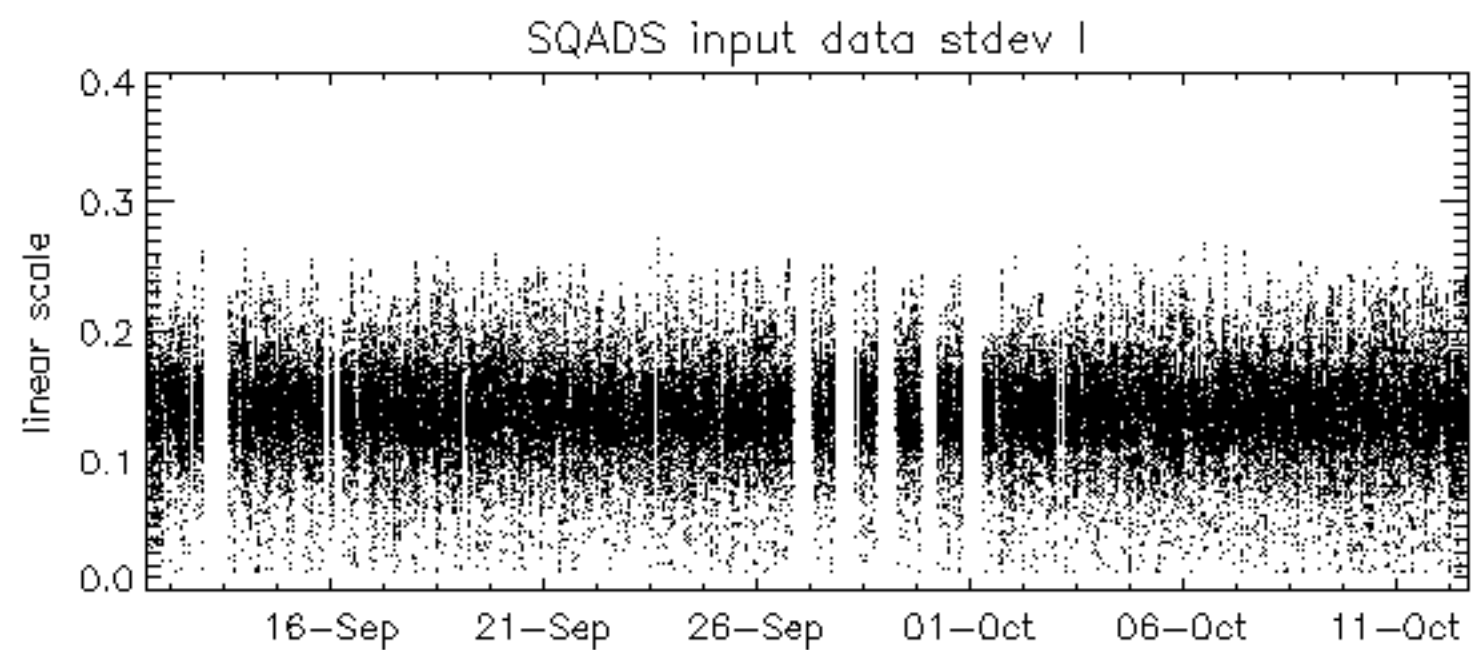
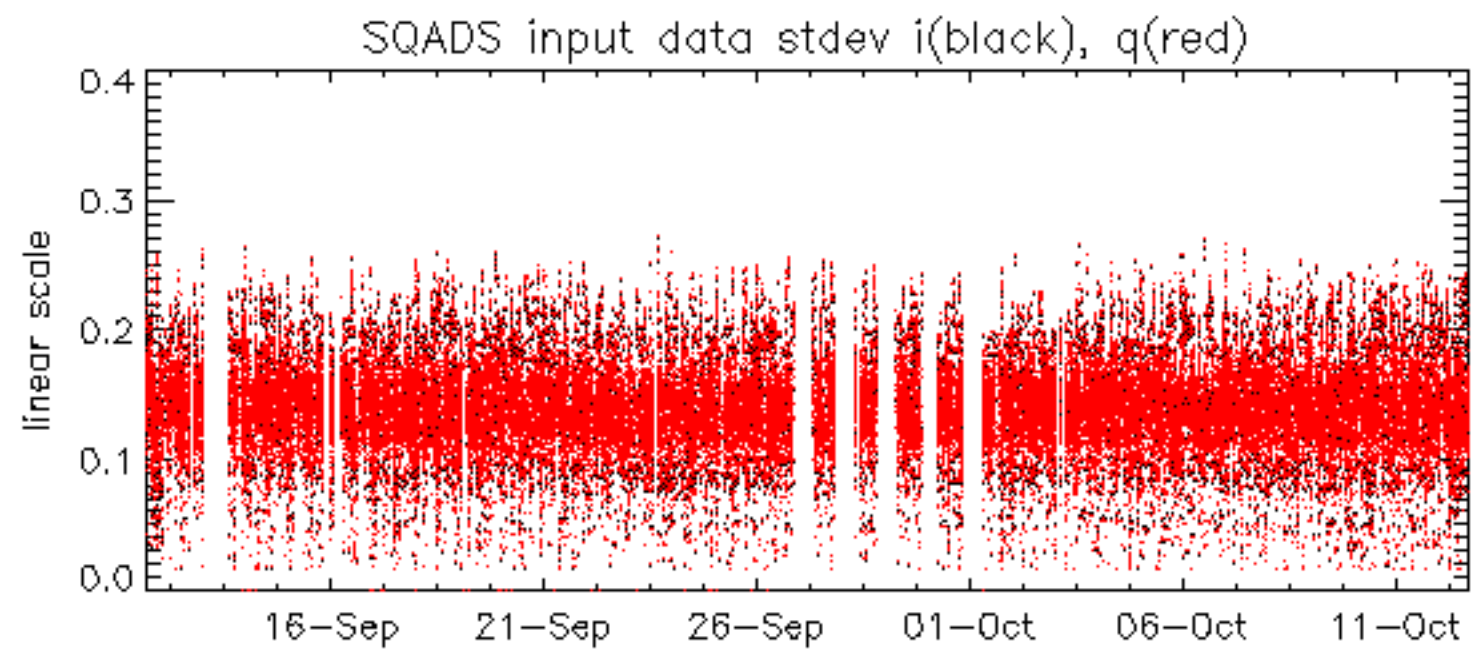
























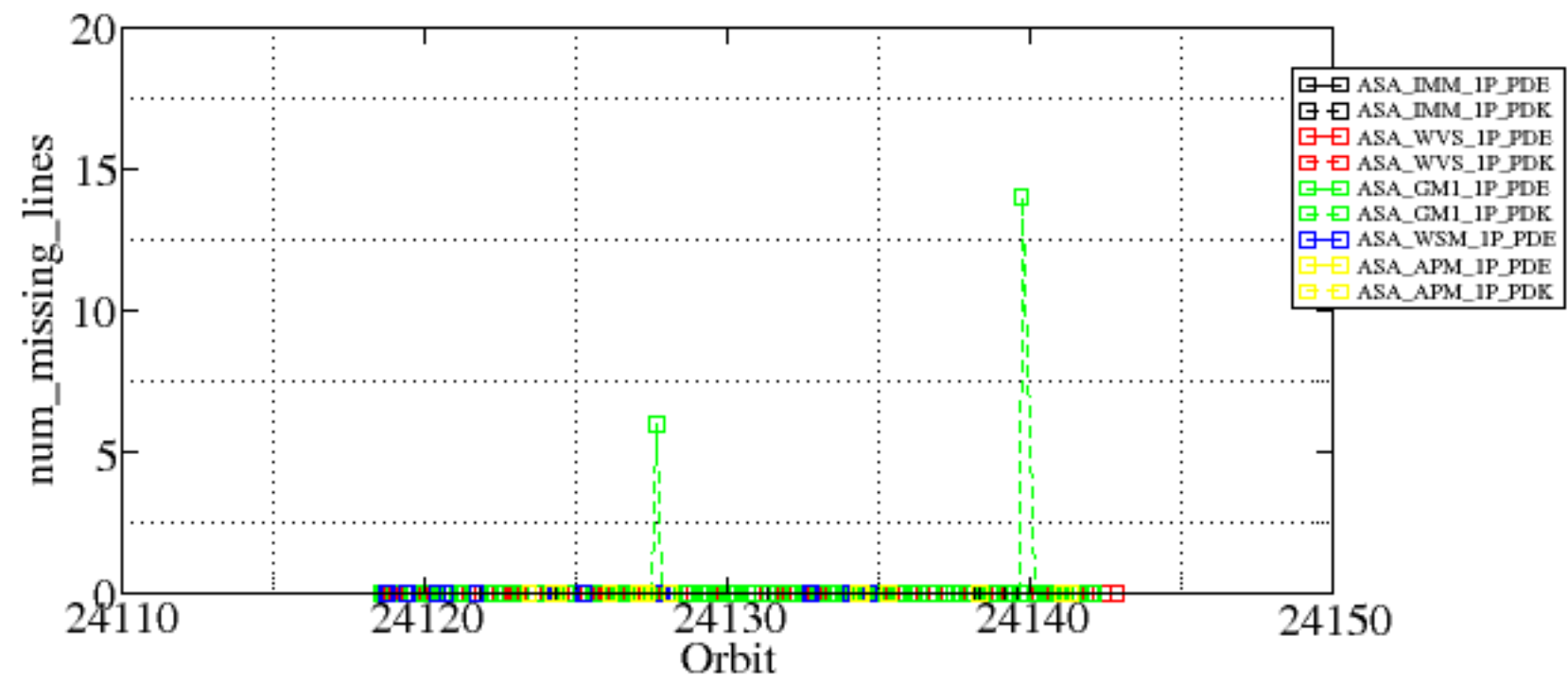


Summary of analysis for the last 3 days 2006101[123]

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_1PNPDE20061011_060049_000001152052_00020_24122_7000.N1	1	0
ASA_GM1_1PNPDK20061011_152004_000006522052_00025_24127_6288.N1	0	6
ASA_GM1_1PNPDK20061012_113231_000008212052_00037_24139_6353.N1	0	14

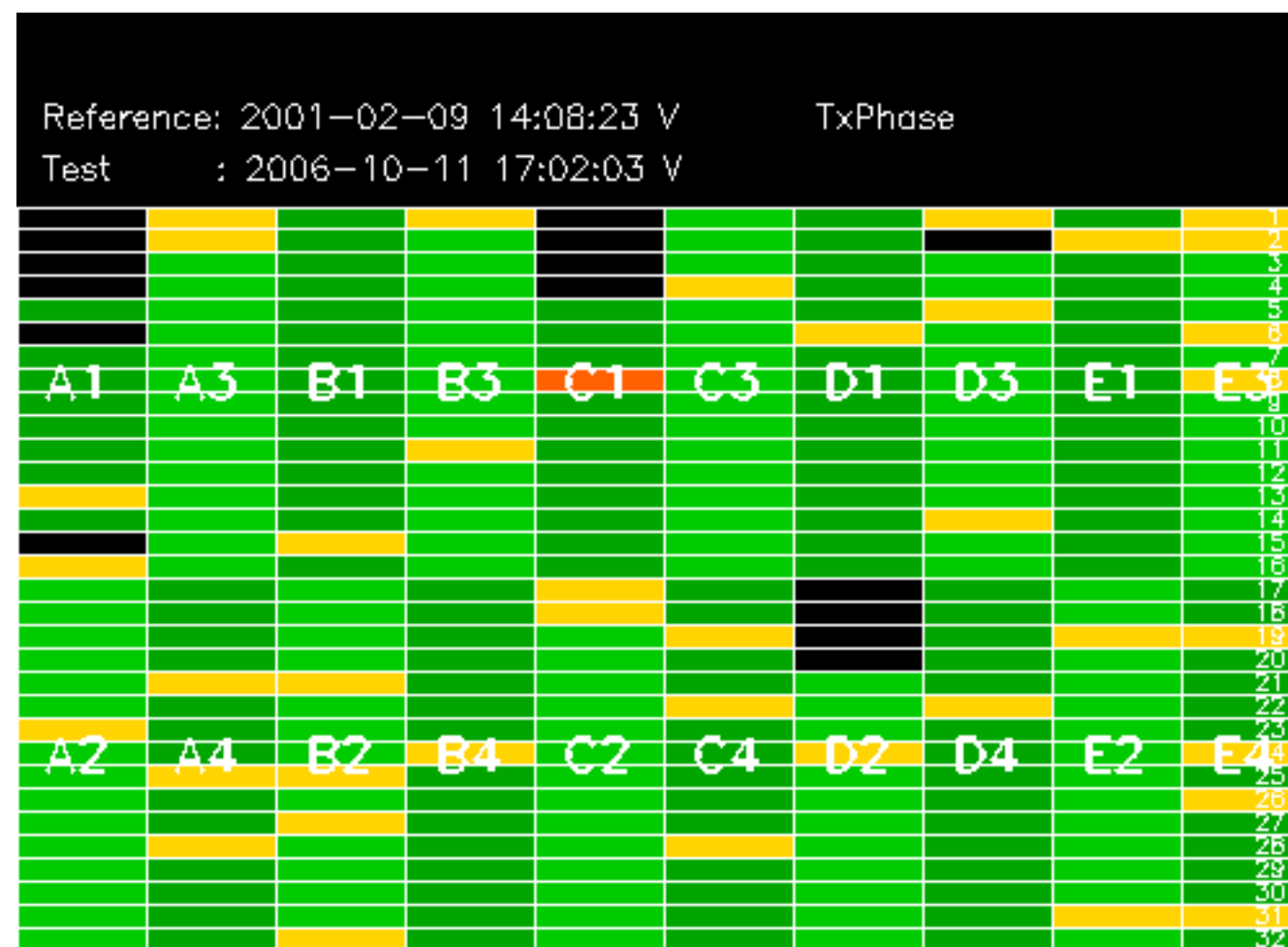














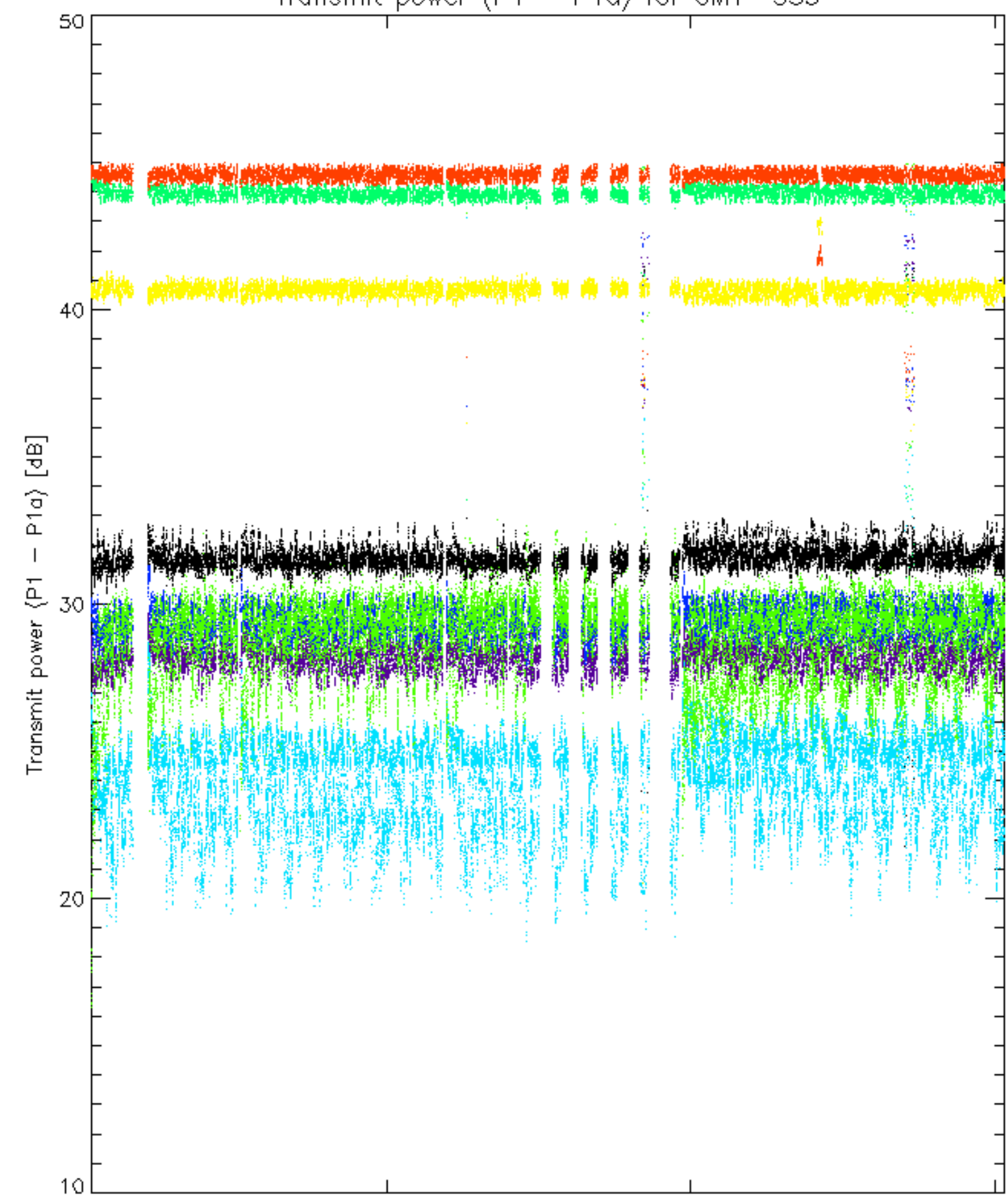




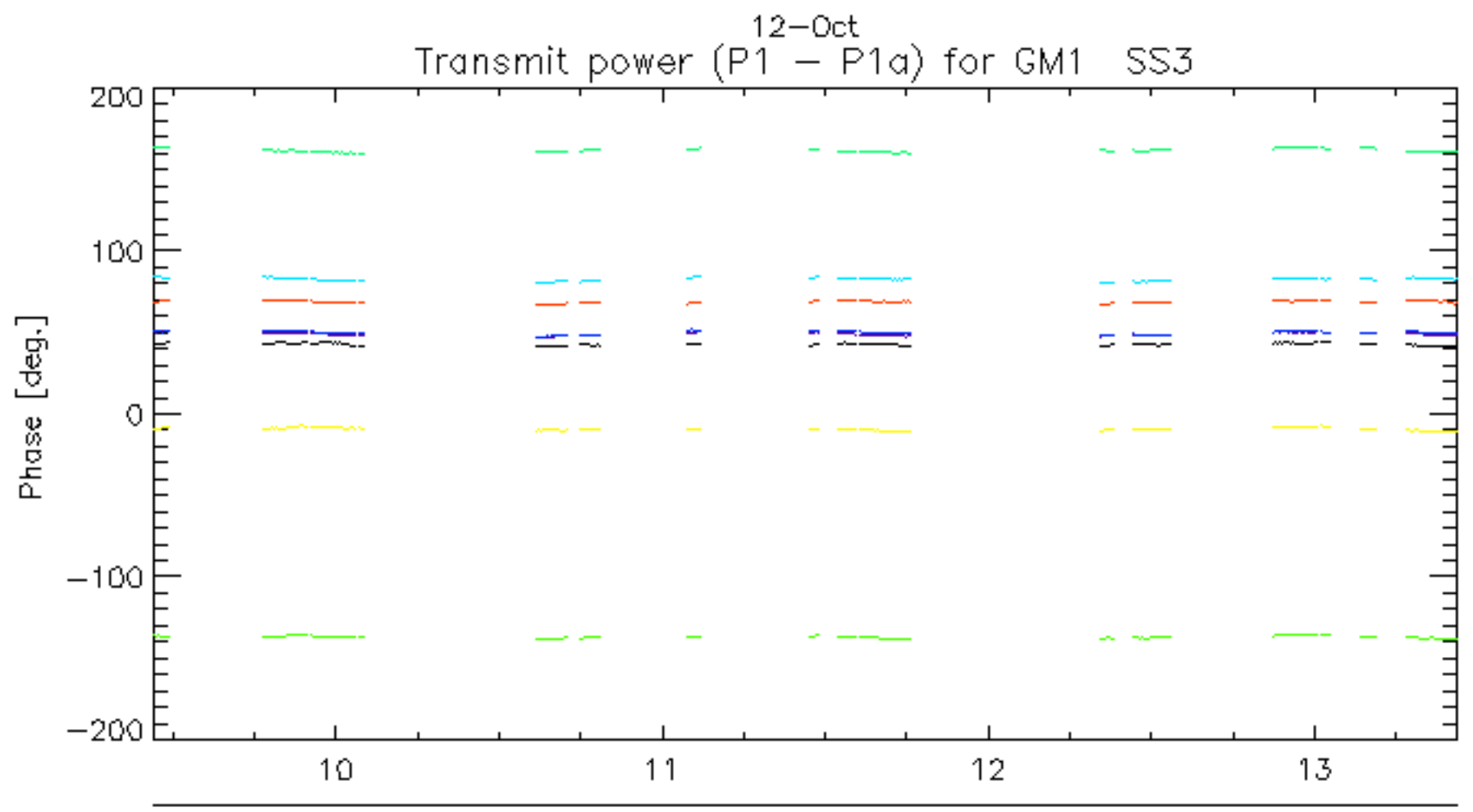
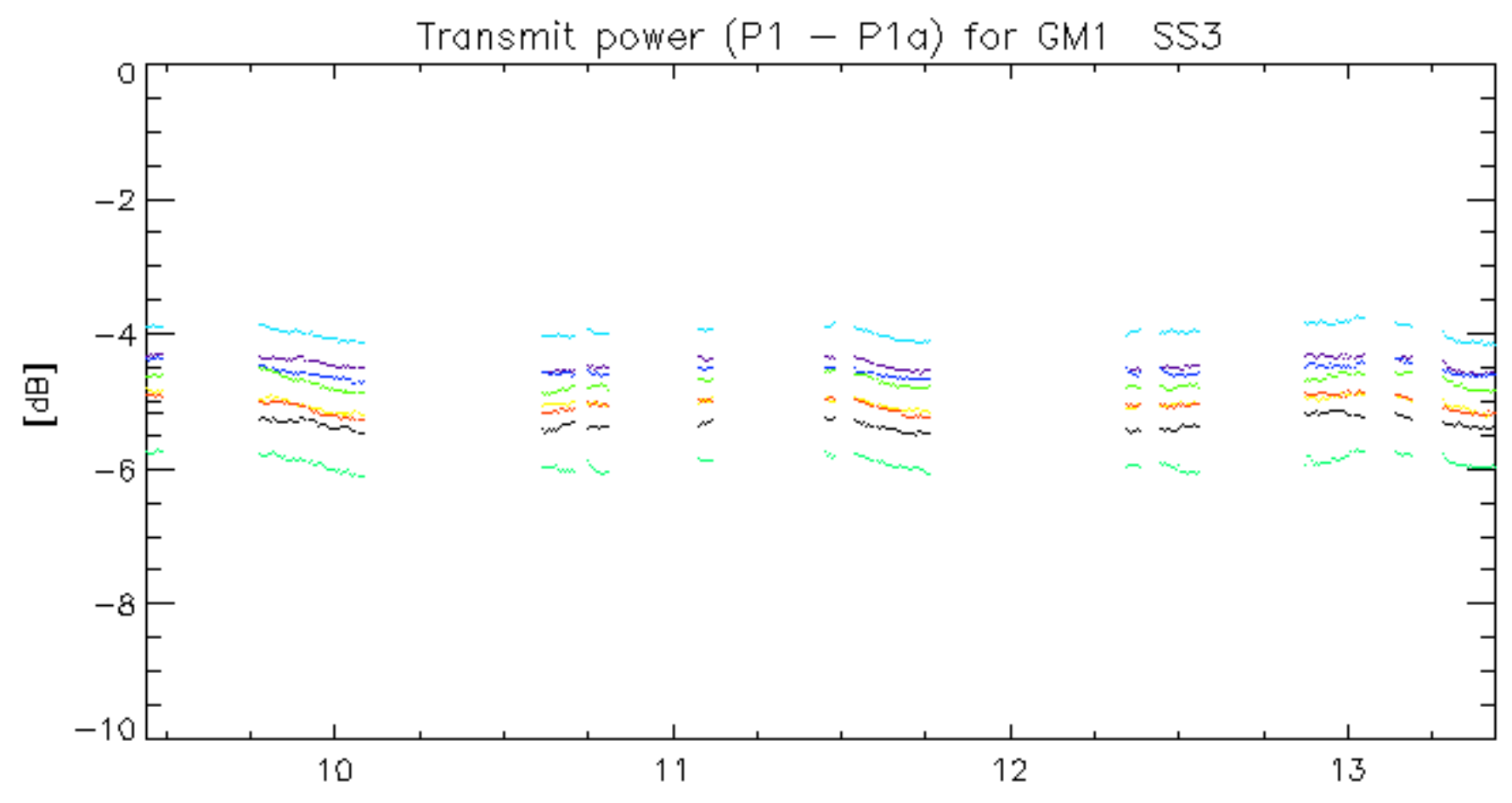




Transmit power (P1 - P1a) for GM1 SS3

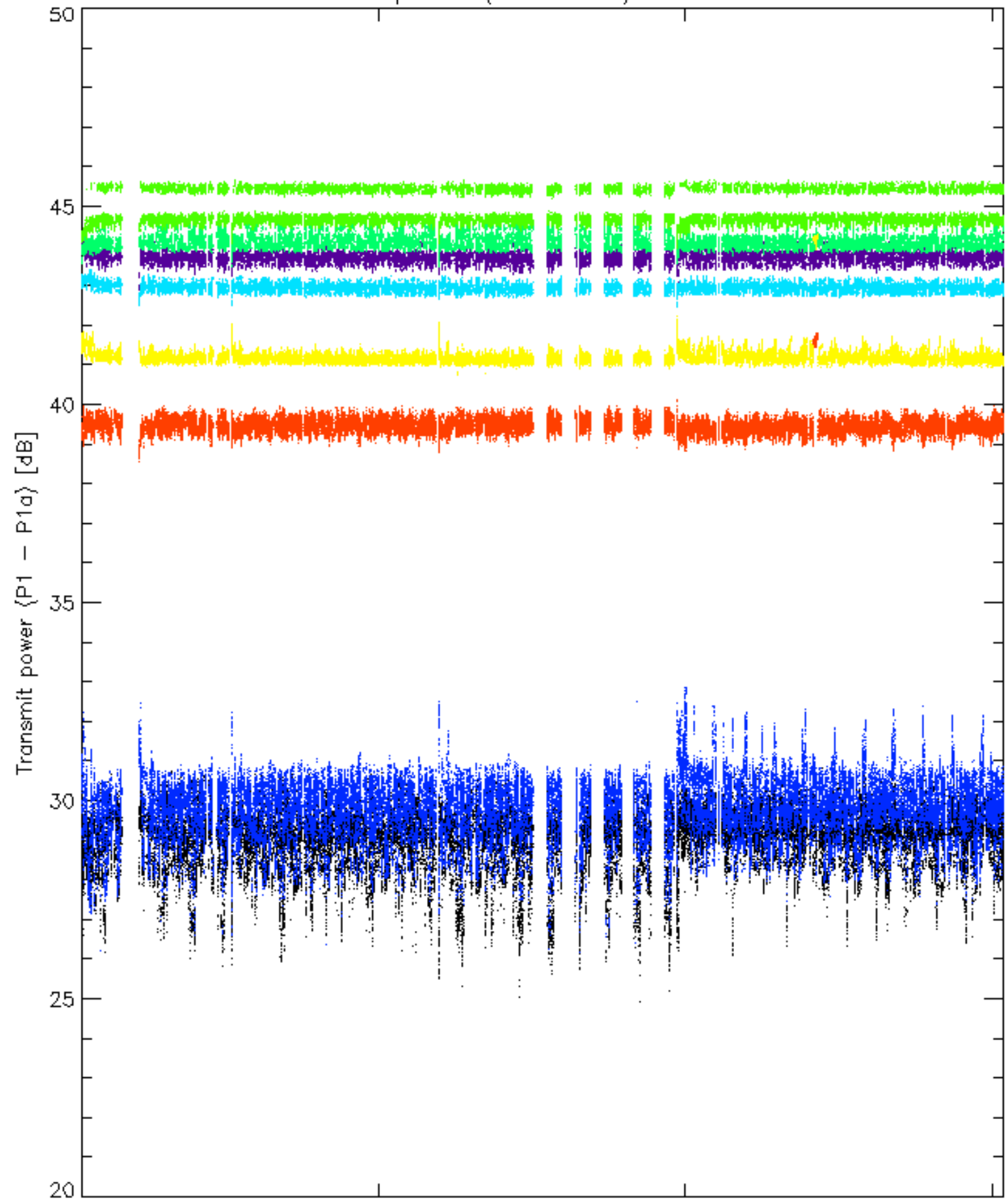


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

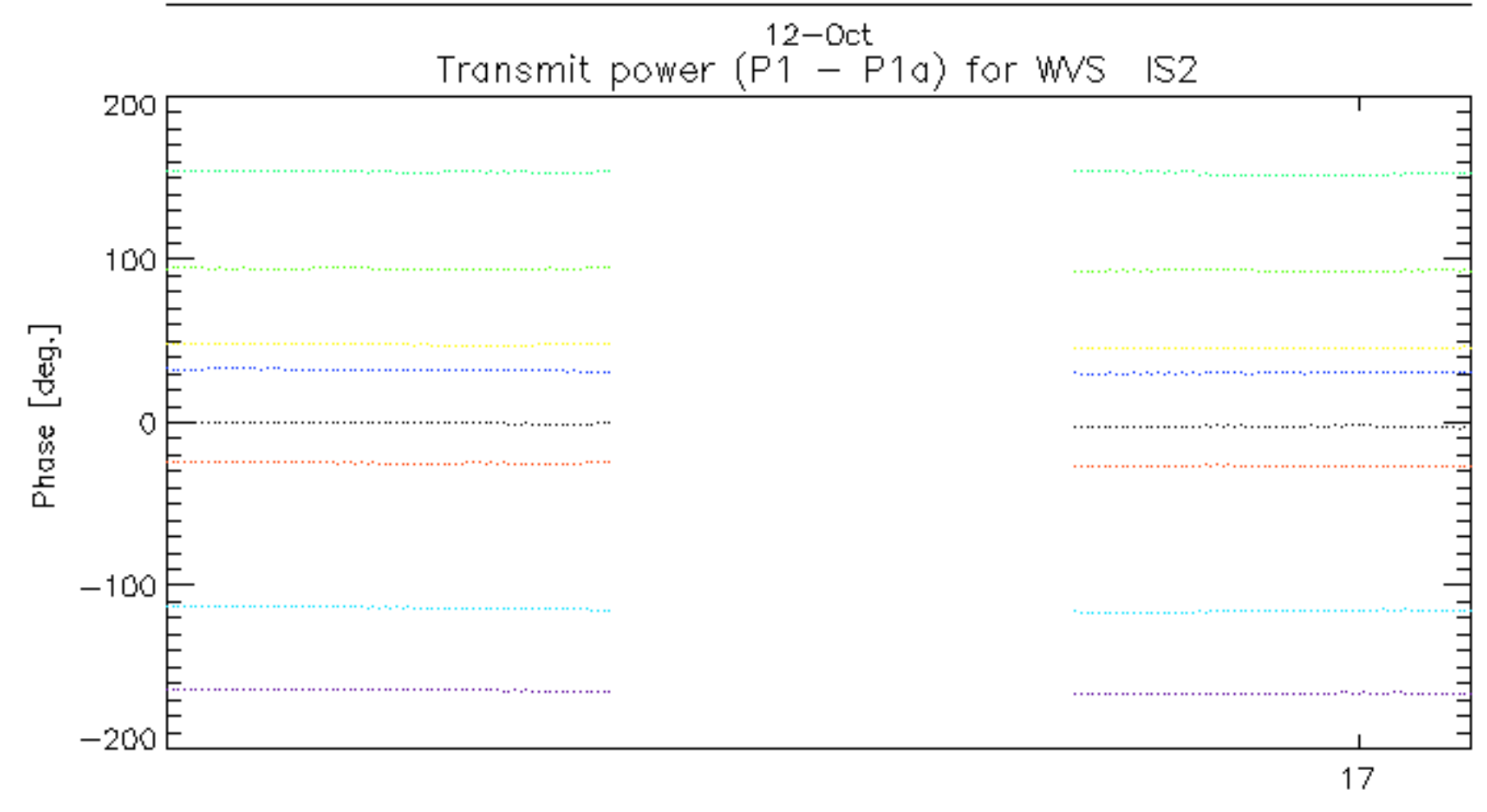
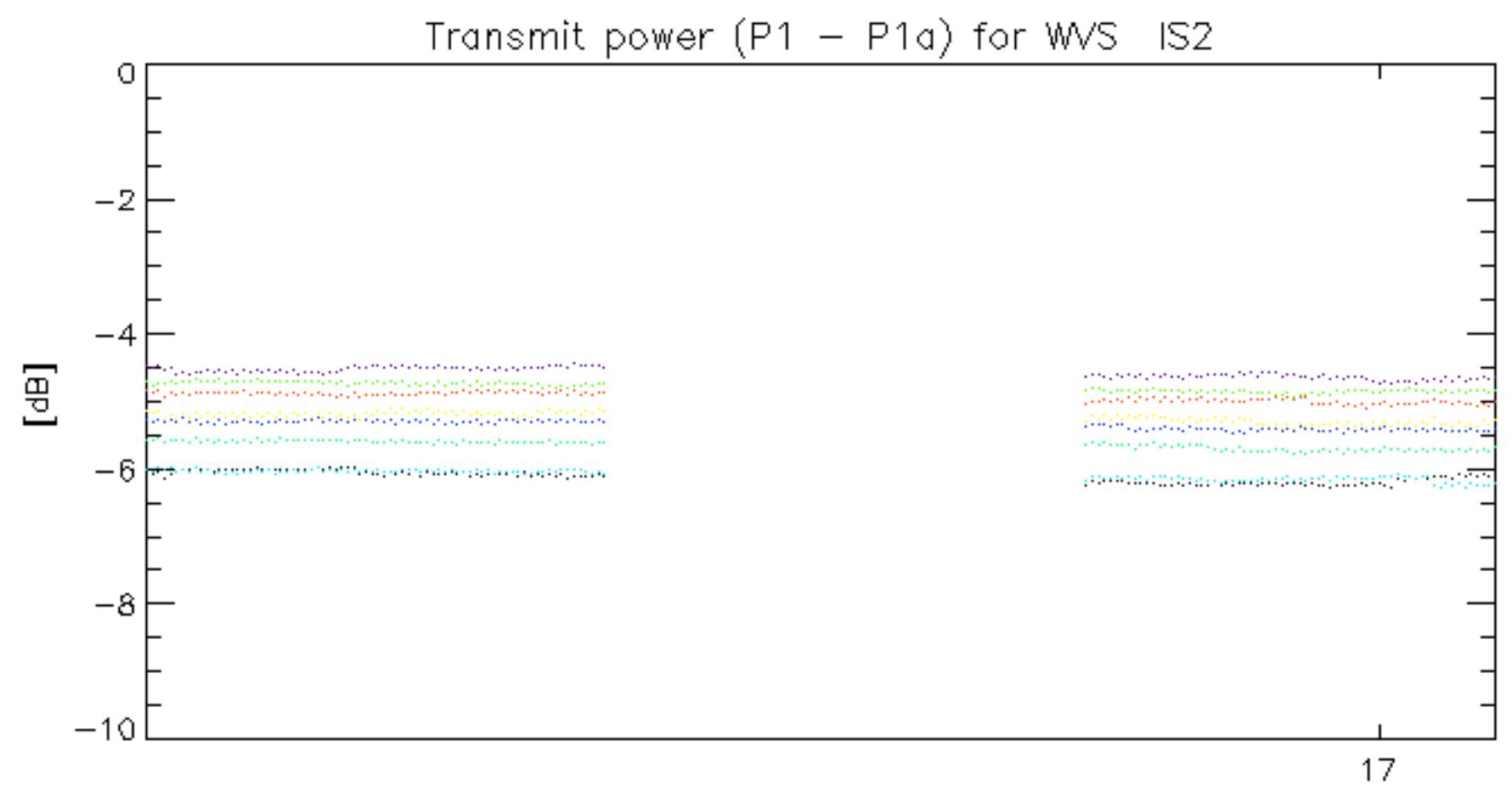


12-Oct  
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Transmit power (P1 - P1a) for WWS IS2



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



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



No unavailabilities during the reported period.