

# PRELIMINARY REPORT OF 061010

last update on Tue Oct 10 16:33:43 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 2006-10-09 00:00:00 to 2006-10-10 16:33:43

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	45	84	19	8	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	45	84	19	8	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	45	84	19	8	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	45	84	19	8	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	25	21	2	2	4
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	25	21	2	2	4
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	25	21	2	2	4
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	25	21	2	2	4

## 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	20061009 180516
H	20061008 183653

### 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

**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	-3.944998	0.010447	-0.009320
7	P1	-3.073523	0.010541	-0.016342
11	P1	-4.079969	0.022414	-0.037238
15	P1	-6.196380	0.016232	-0.034199
19	P1	-3.544339	0.008036	-0.046693
22	P1	-4.599283	0.010729	-0.008354
26	P1	-3.987306	0.063405	-0.083451
30	P1	-5.839643	0.099886	-0.125776
3	P1	-16.630733	0.224647	-0.062013
7	P1	-17.113813	0.106632	-0.013686
11	P1	-16.910566	0.385195	-0.306240
15	P1	-12.844956	0.104198	0.047665
19	P1	-14.656867	0.053303	-0.061498
22	P1	-15.638579	0.473980	0.256621
26	P1	-15.155438	0.255111	0.250646
30	P1	-16.939907	0.466948	0.144451

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.816257	0.085724	-0.020269
7	P2	-21.803743	0.096988	0.111106
11	P2	-15.740039	0.108186	0.025433
15	P2	-7.079775	0.105244	0.049816
19	P2	-9.125867	0.095644	0.017240
22	P2	-18.131044	0.092557	-0.007335
26	P2	-16.423996	0.099950	0.011736
30	P2	-19.468294	0.093259	0.012417

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.193474	0.006430	-0.018058
7	P3	-8.193474	0.006430	-0.018058
11	P3	-8.193474	0.006430	-0.018058
15	P3	-8.193474	0.006430	-0.018058
19	P3	-8.193474	0.006430	-0.018058
22	P3	-8.193474	0.006430	-0.018058
26	P3	-8.193350	0.006433	-0.017648
30	P3	-8.193350	0.006433	-0.017648

**4.2.2 - Evolution for GM1**

Evolution of cal pulses for GM1

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**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	-3.877886	0.028698	-0.059034
7	P1	-2.552141	0.120293	-0.036603
11	P1	-2.903390	0.030386	-0.038657
15	P1	-3.688878	0.039984	-0.073541
19	P1	-3.458808	0.013608	-0.008439
22	P1	-5.102621	0.023367	0.041110
26	P1	-5.898545	0.109059	-0.092088
30	P1	-5.227125	0.119144	-0.086124
3	P1	-11.677818	0.088354	-0.114724
7	P1	-10.047265	0.175036	-0.093339
11	P1	-10.394140	0.089913	-0.092871
15	P1	-10.886379	0.179451	-0.122031
19	P1	-15.552129	0.102762	0.038675
22	P1	-20.963531	1.271061	-0.230871

26	P1	-15.828515	0.441655	0.272206
30	P1	-18.079029	0.418261	0.187957

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.372337	0.069445	0.079656
7	P2	-22.110704	0.223955	0.202637
11	P2	-10.869007	0.062425	0.107812
15	P2	-4.852965	0.033268	0.021218
19	P2	-6.831723	0.040827	0.078077
22	P2	-8.155709	0.071299	-0.001255
26	P2	-24.174507	0.154783	0.027356
30	P2	-21.944586	0.095189	0.077743

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.041644	0.003582	-0.012244
7	P3	-8.041554	0.003569	-0.012479
11	P3	-8.041645	0.003576	-0.012416
15	P3	-8.041616	0.003582	-0.012483
19	P3	-8.041590	0.003586	-0.012504
22	P3	-8.041771	0.003576	-0.012455
26	P3	-8.041571	0.003588	-0.011912
30	P3	-8.041493	0.003574	-0.012049

## 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	0.000566776
	stdev	1.64766e-07
MEAN Q	mean	0.000528292
	stdev	2.13456e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.138440
	stdev	0.00111984
STDEV Q	mean	0.138810
	stdev	0.00113769



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006100[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_1PNPDK20061009_211251_000000572051_00501_24102_2627.N1	1	0
ASA_GM1_1PNPDK20061008_092411_000007792051_00480_24081_6027.N1	0	9
ASA_GM1_1PNPDK20061009_103920_000003022051_00495_24096_61111.N1	0	37





## 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)



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

### 7.5 - Absolute Doppler for GM1

#### Evolution of Absolute Doppler

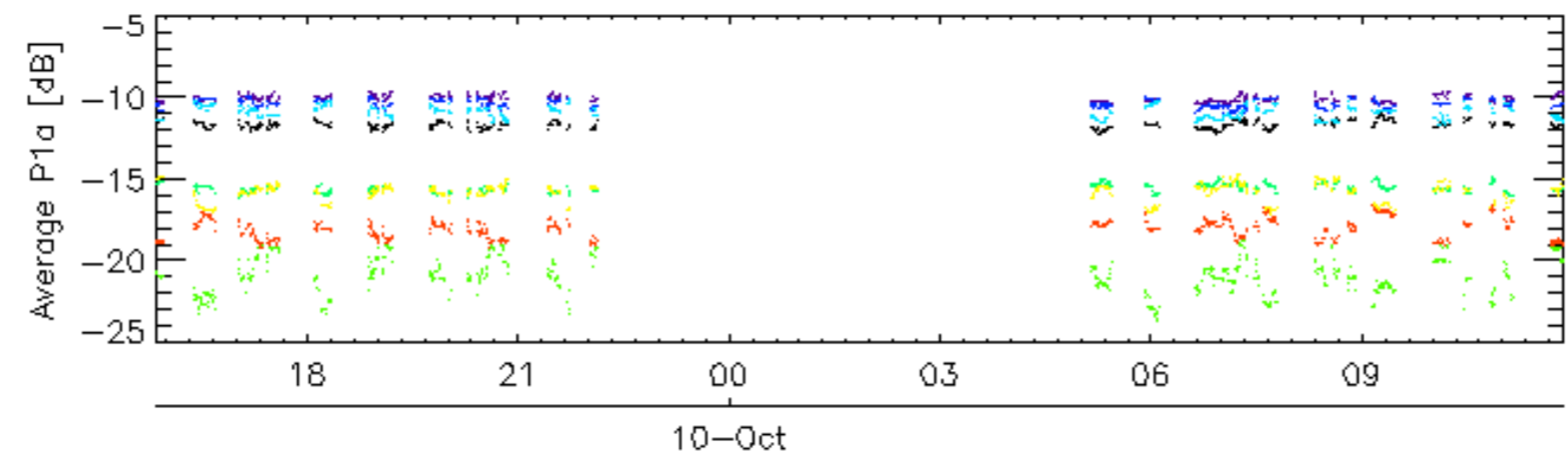
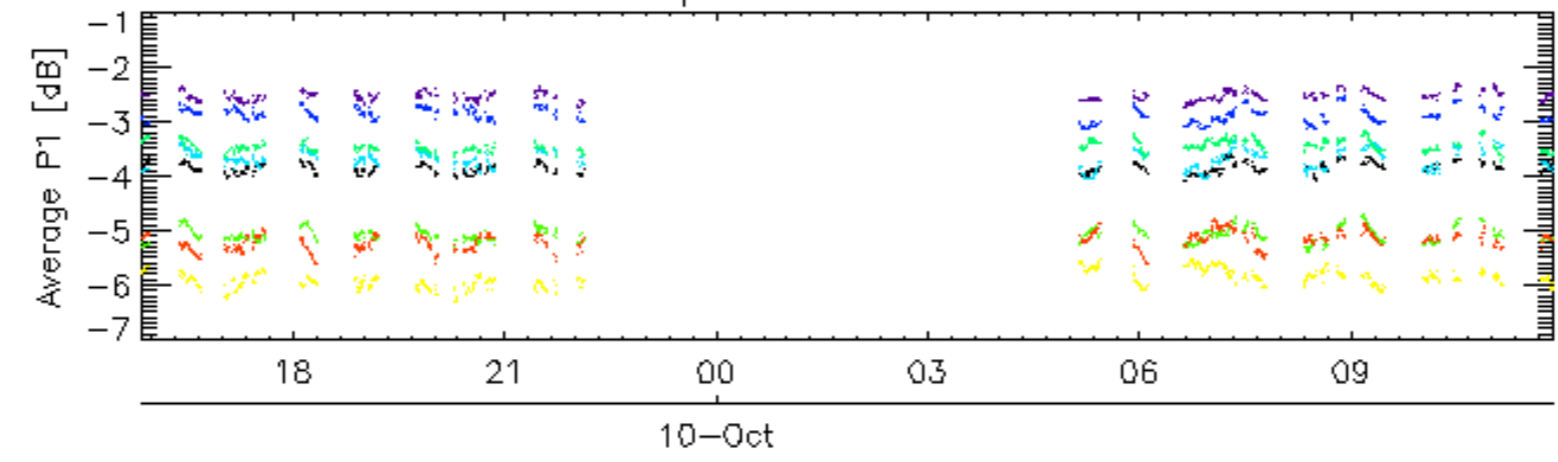
<input type="checkbox"/>
Ascending
<input type="checkbox"/>
Descending

### 7.6 - Doppler evolution versus ANX for GM1

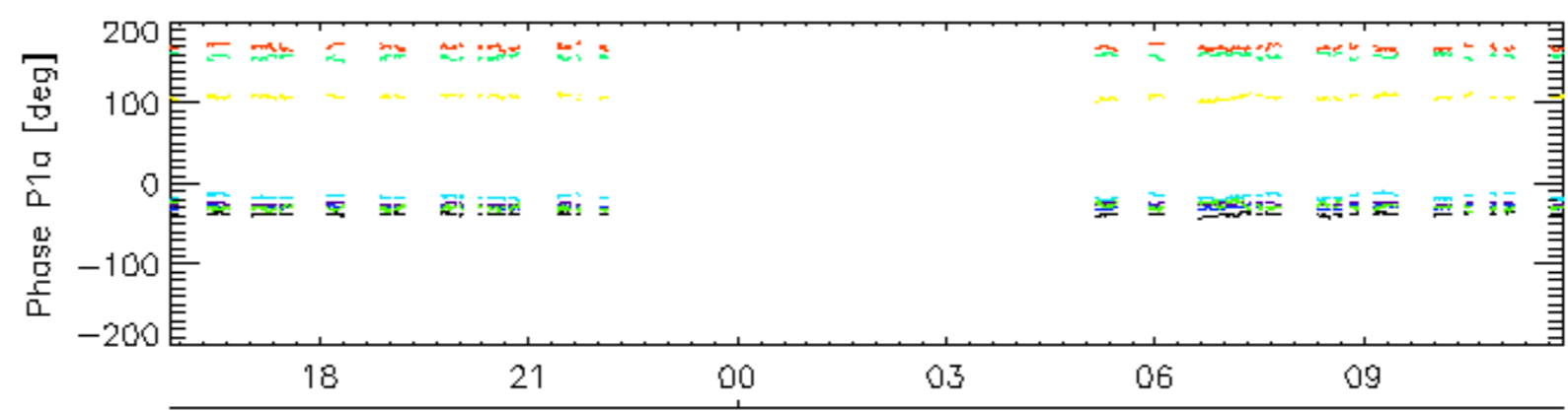
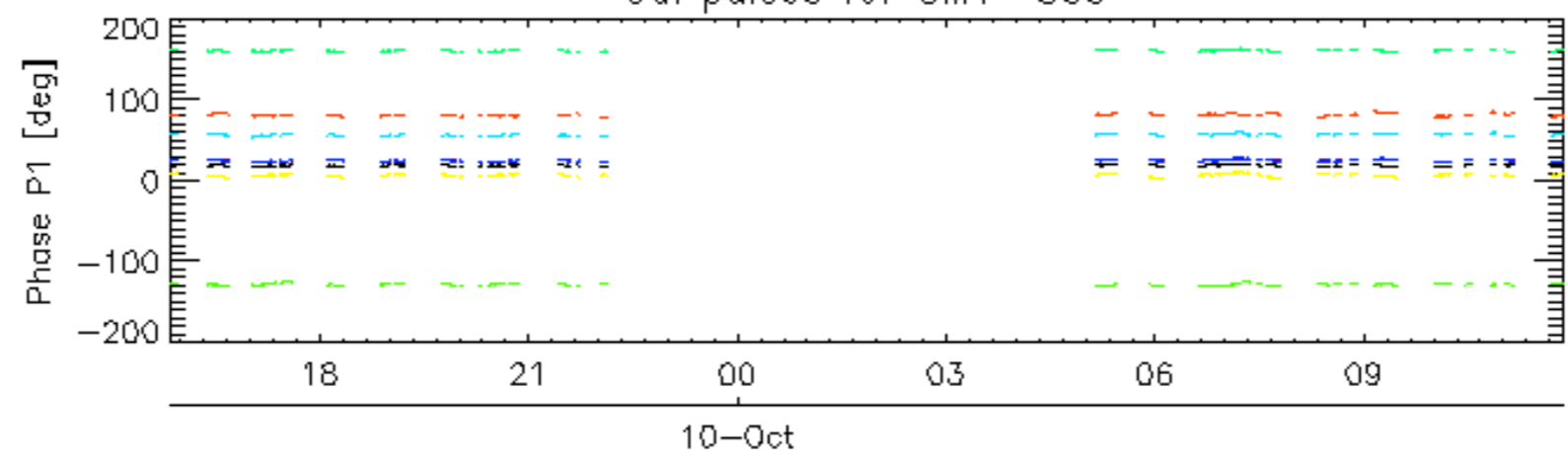
#### Evolution Doppler error versus ANX

<input type="checkbox"/>
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Cal pulses for GM1 SS3

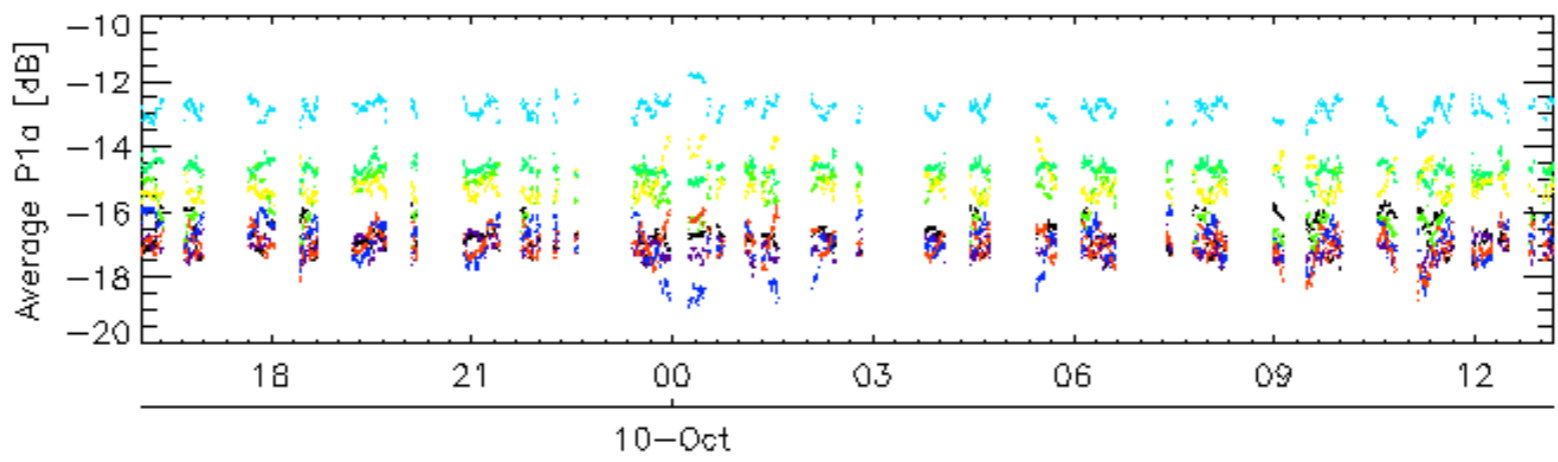
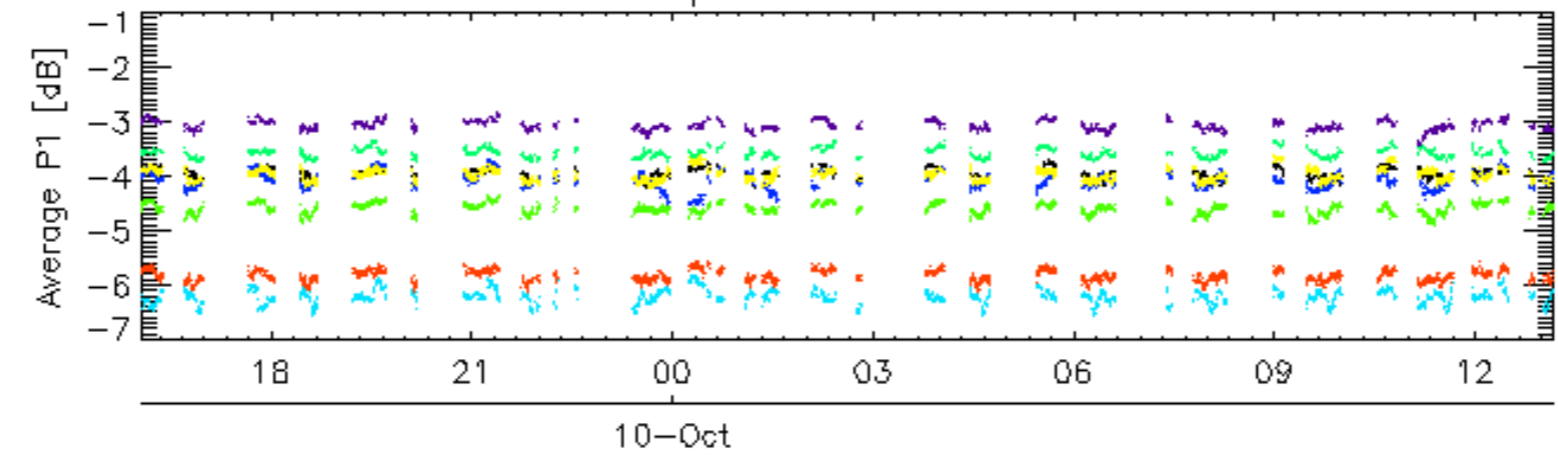


Cal pulses for GM1 SS3

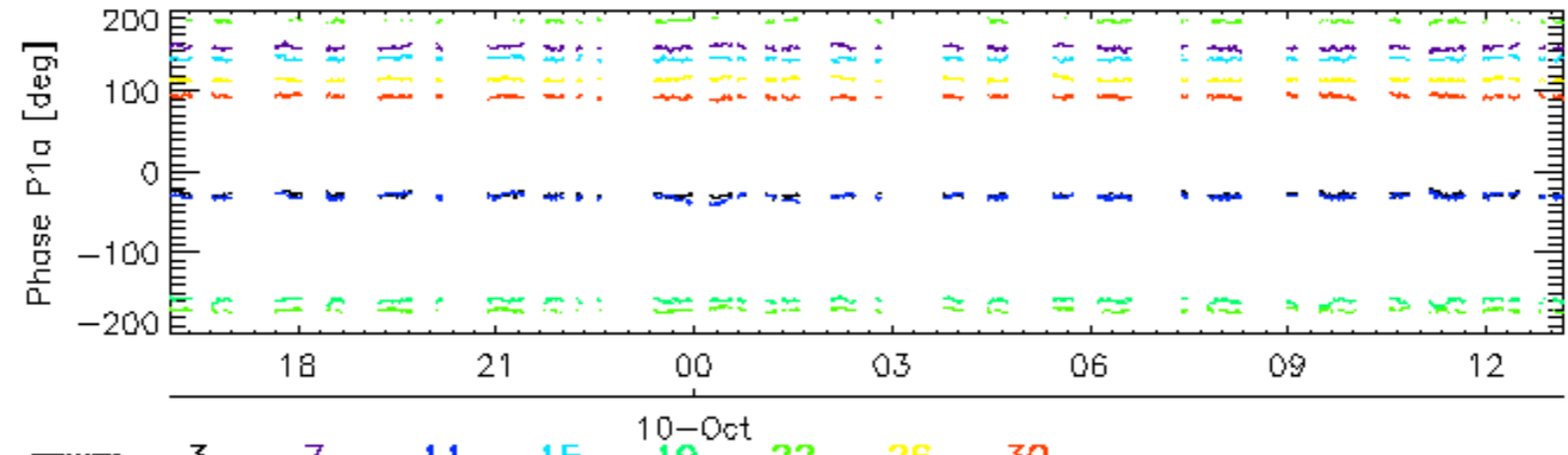
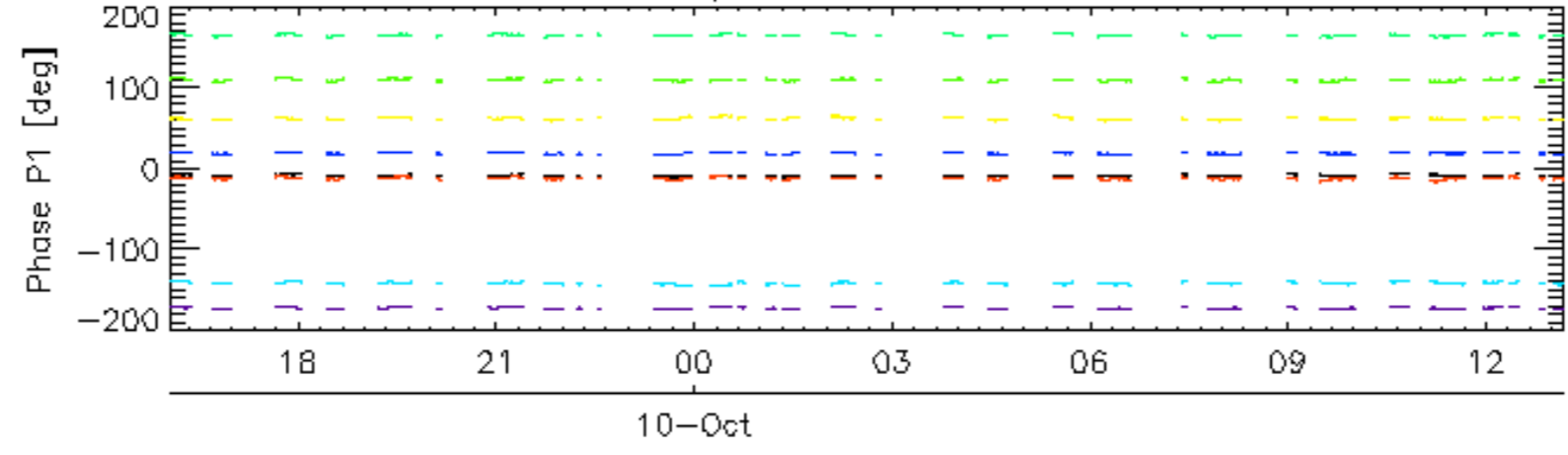


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

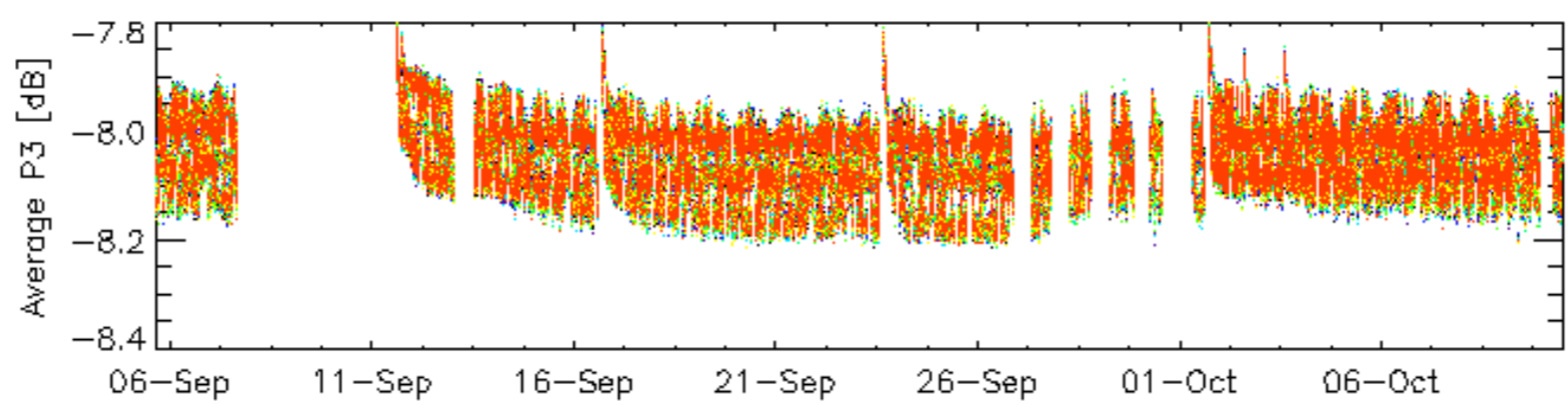
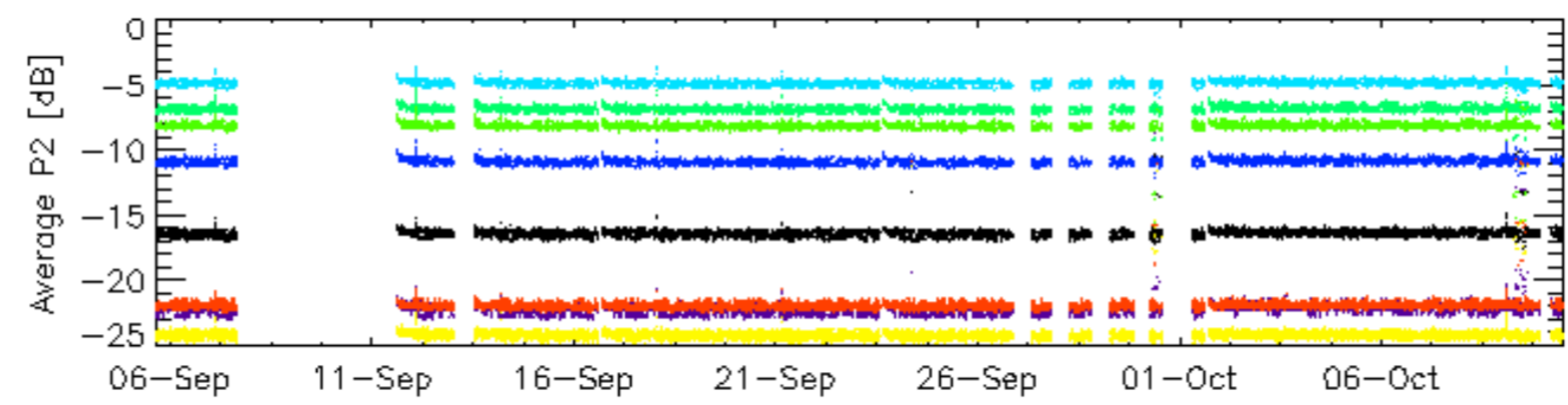
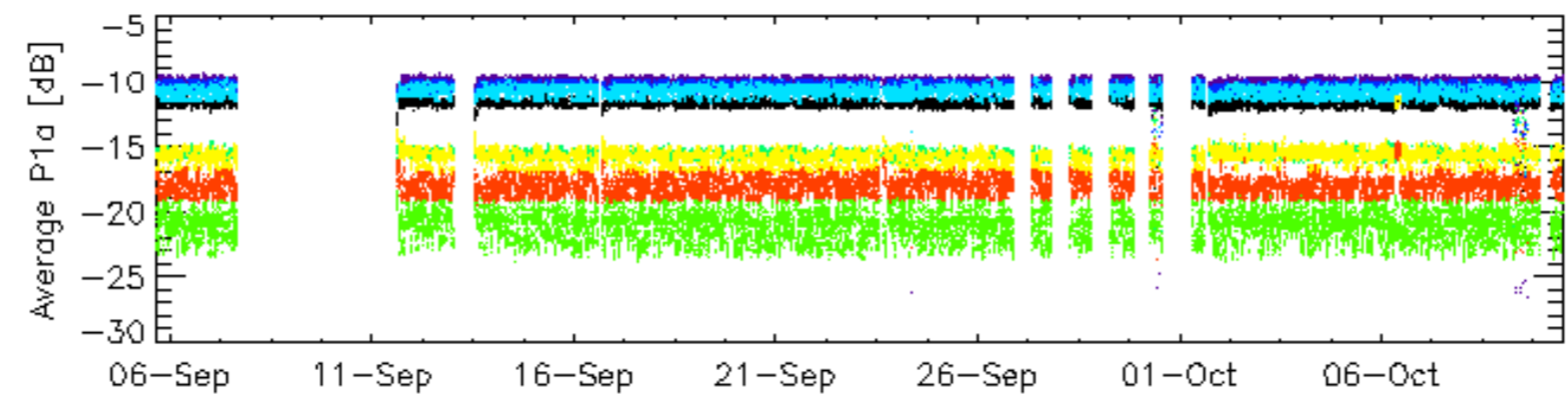
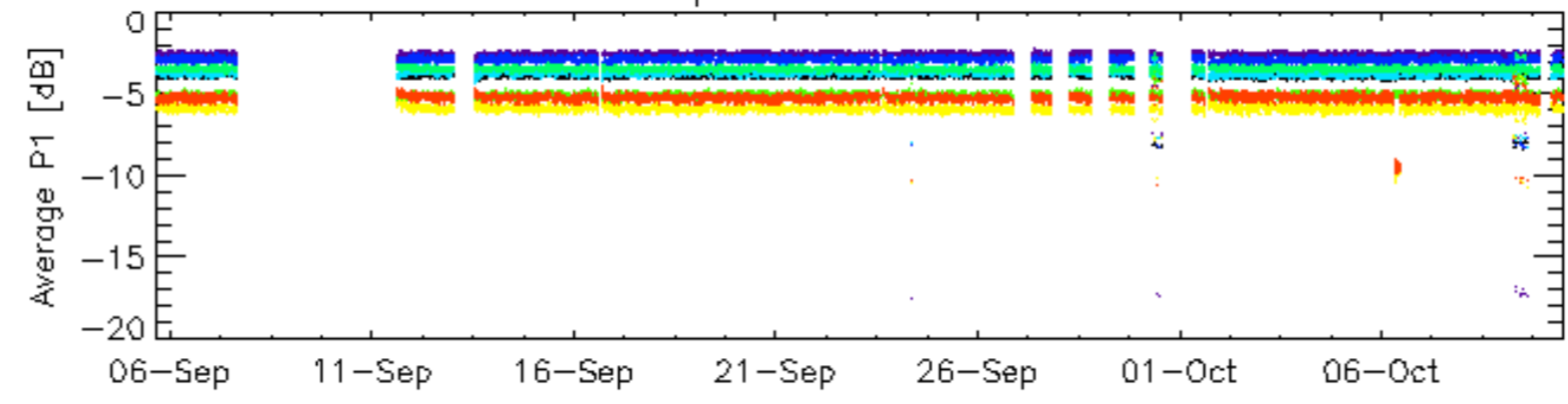


Cal pulses for WVS IS2



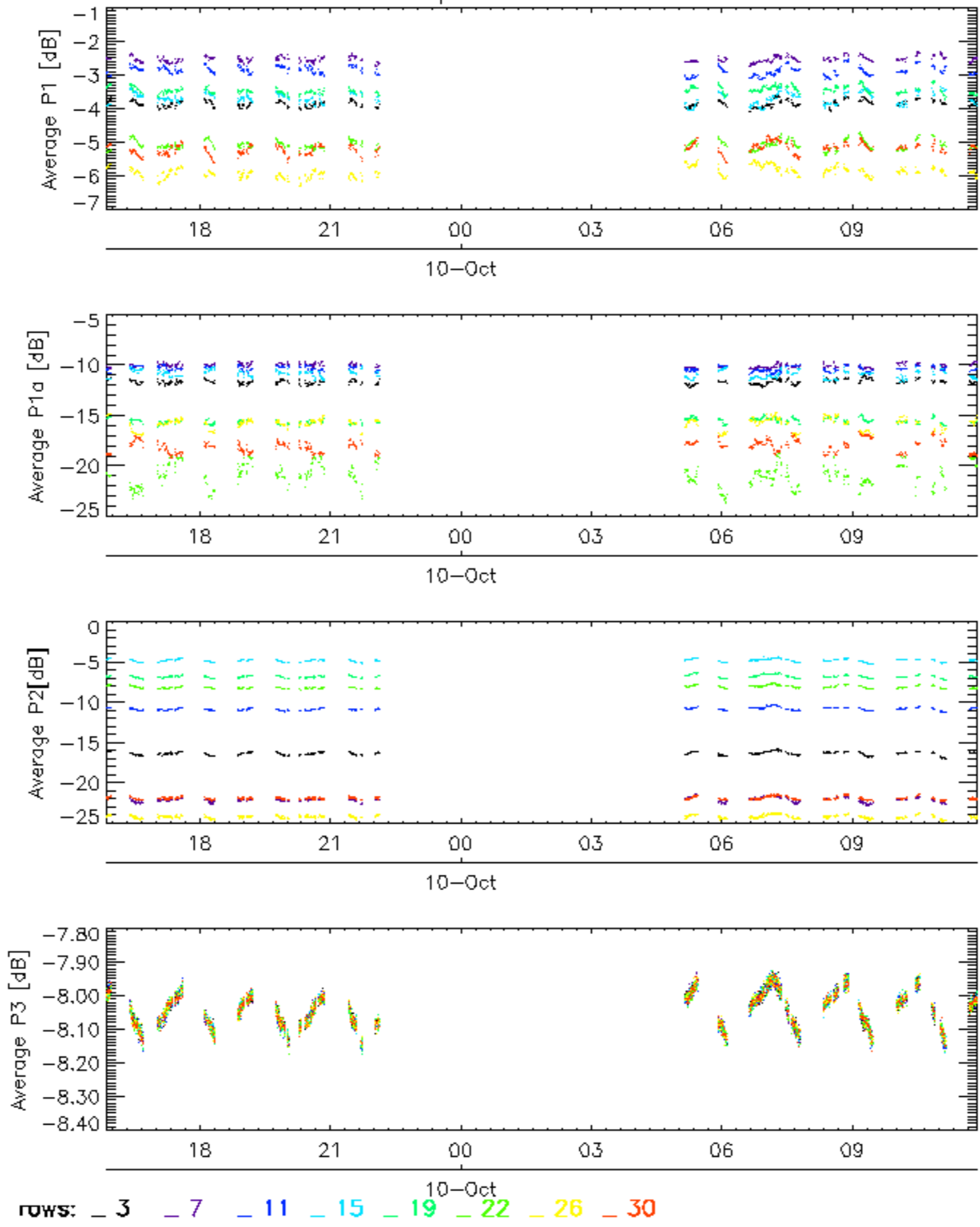
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

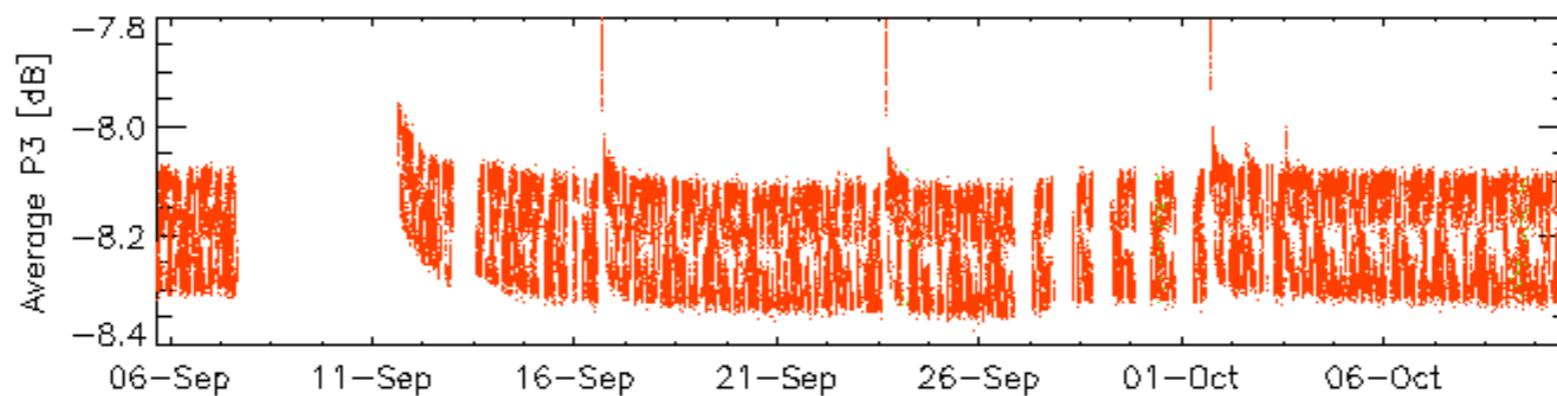
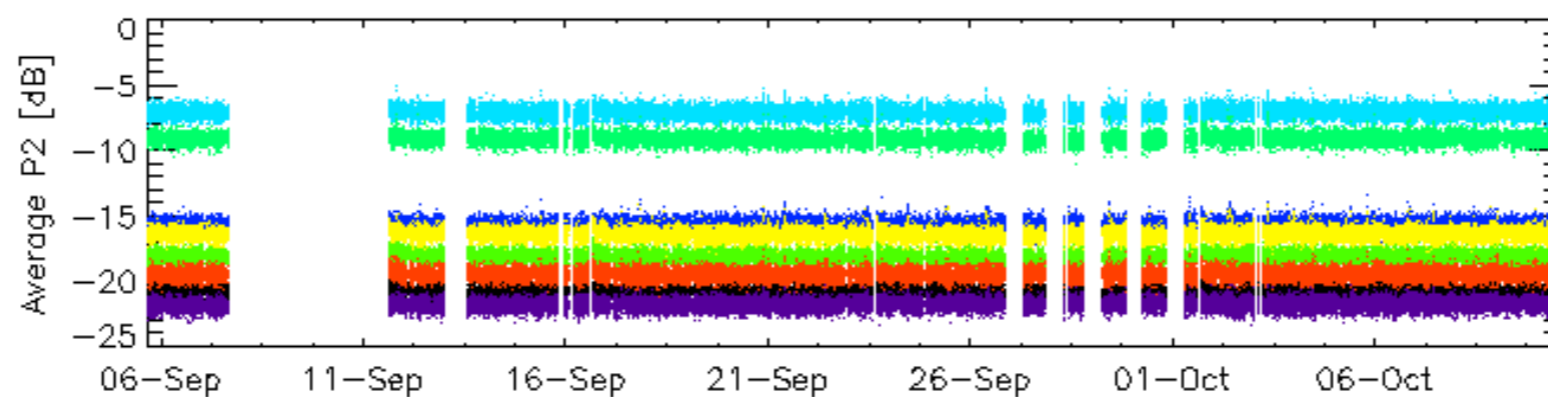
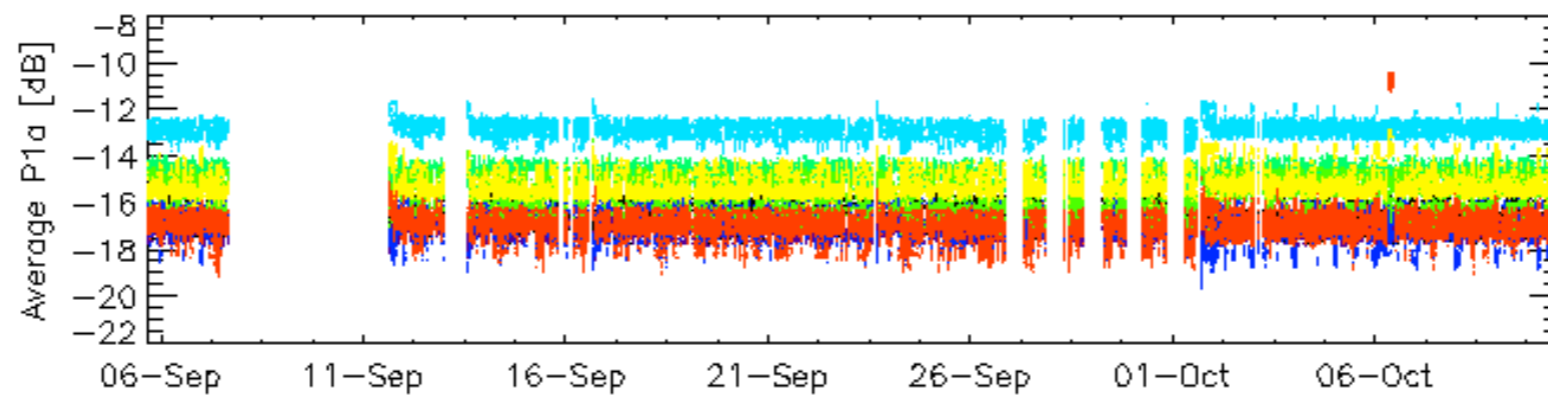
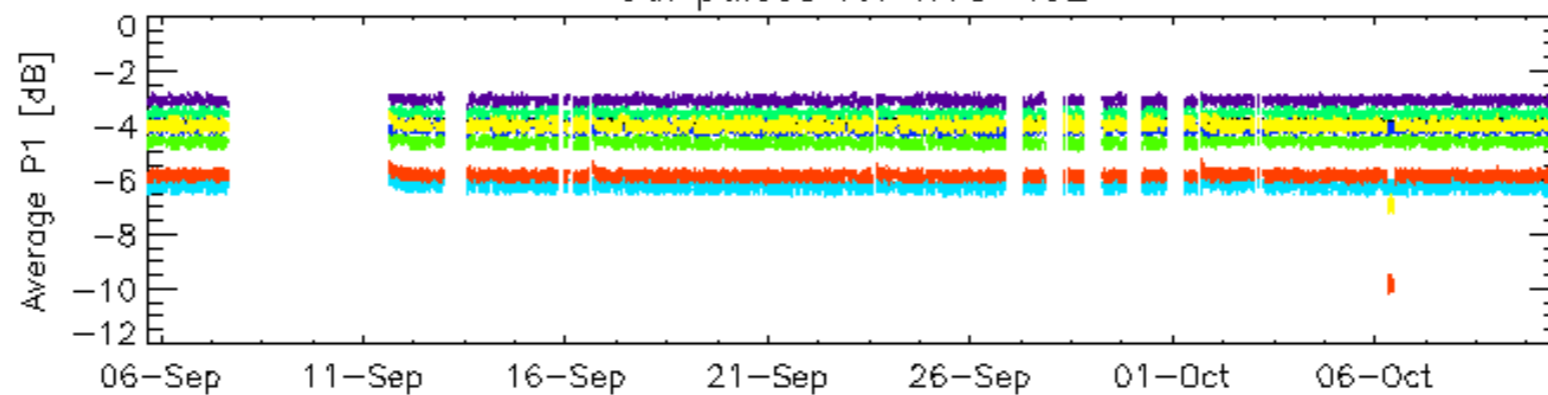


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

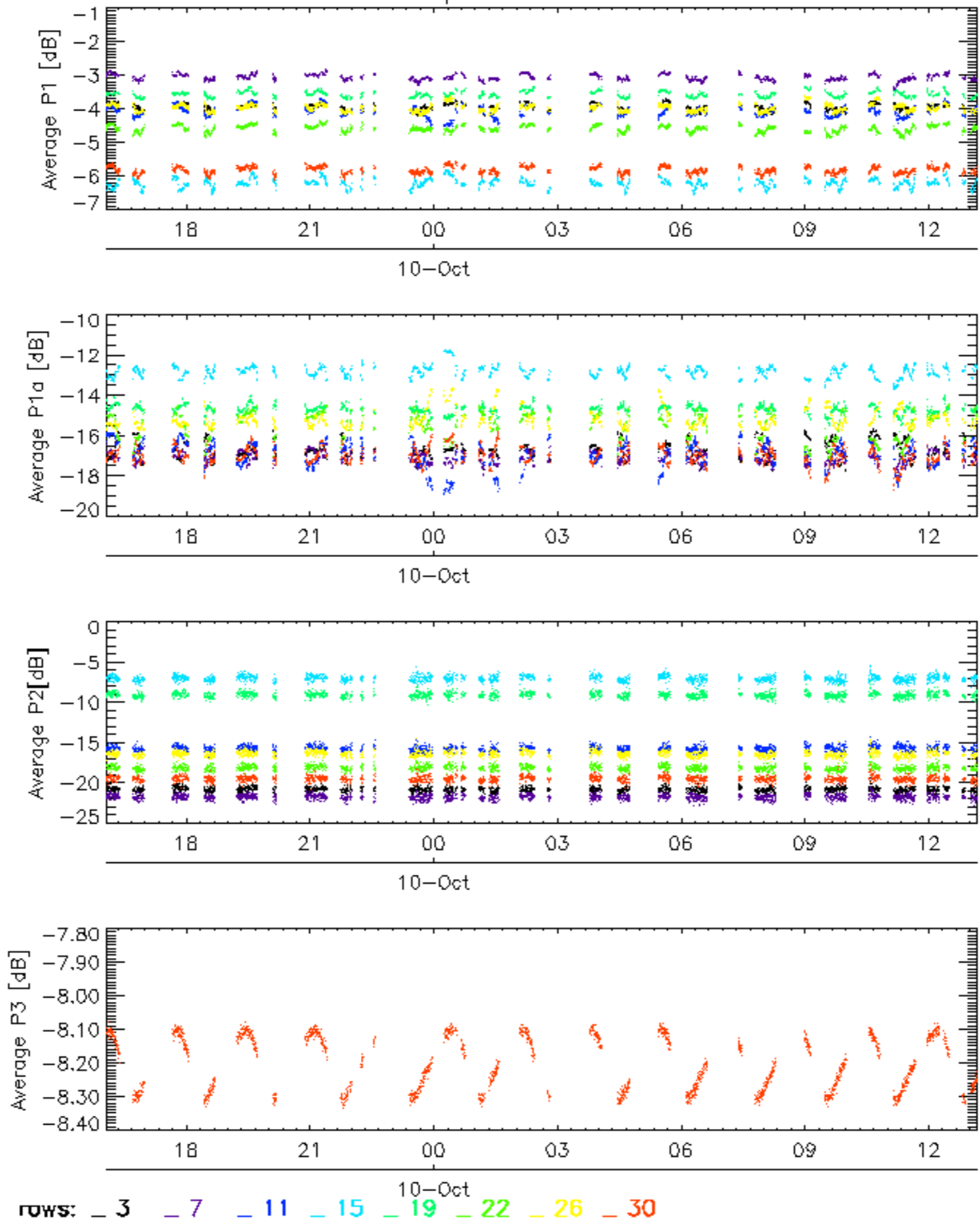


Cal pulses for WVS IS2



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

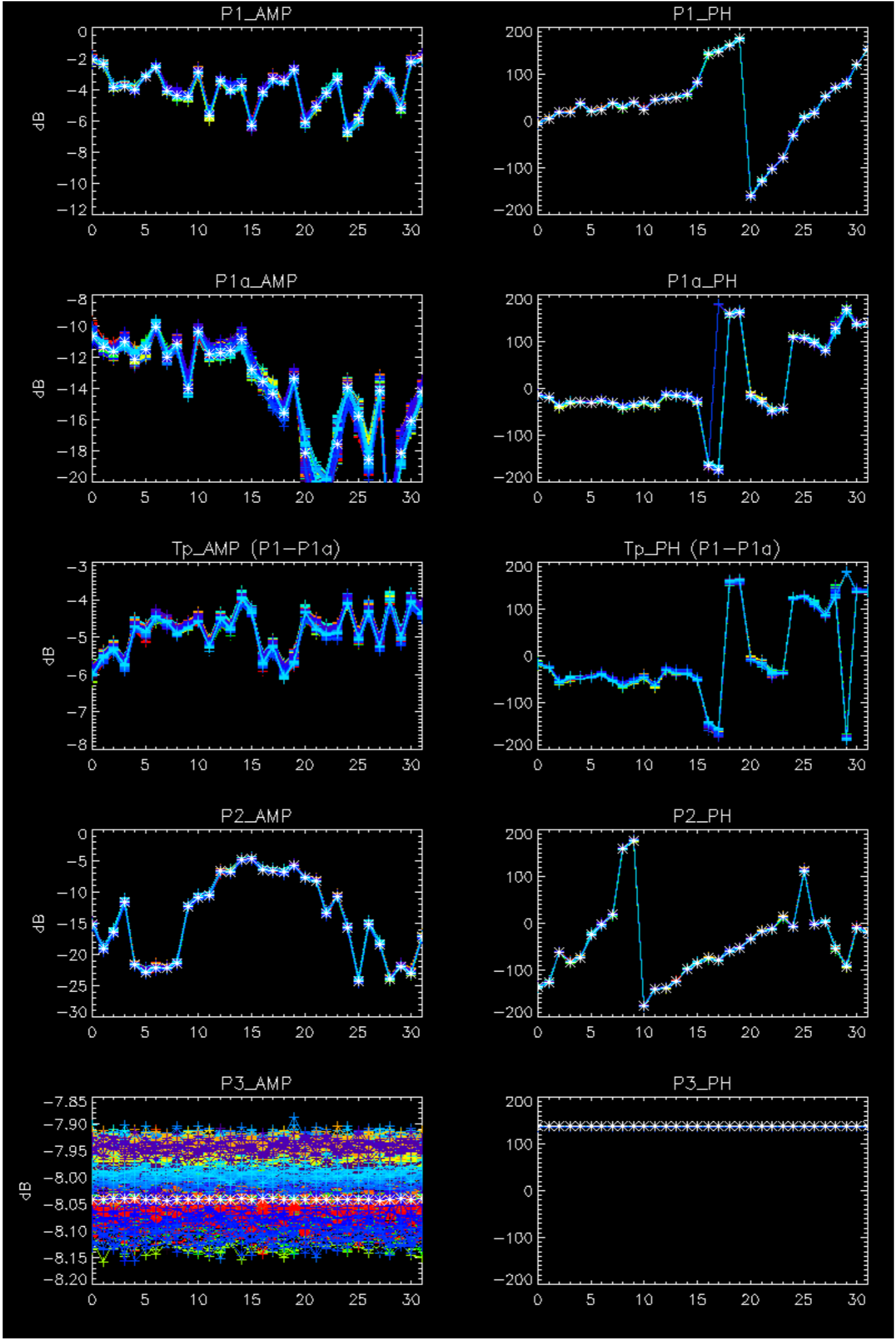
Cal pulses for WVS IS2

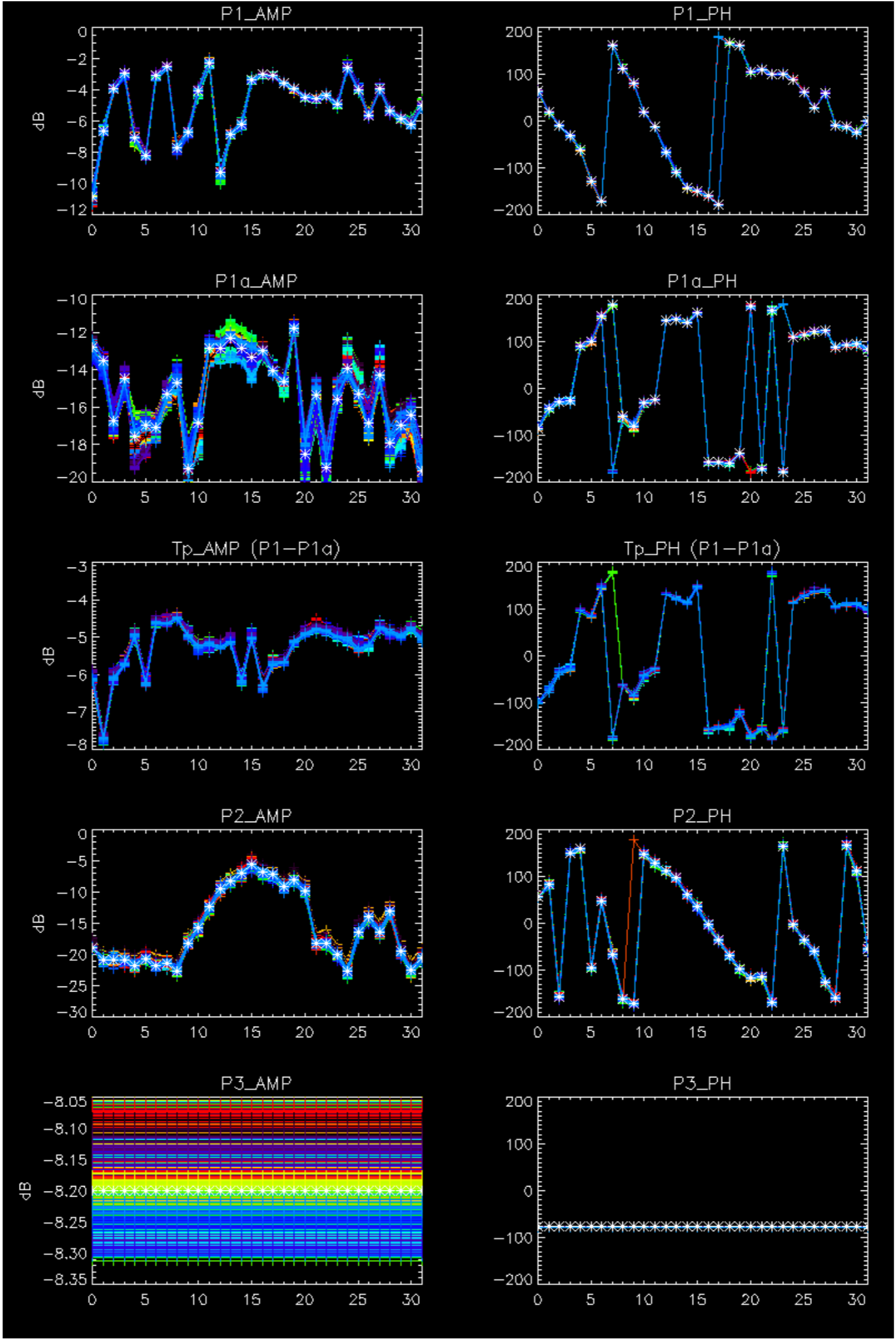


No anomalies observed on available browse products



No anomalies observed.



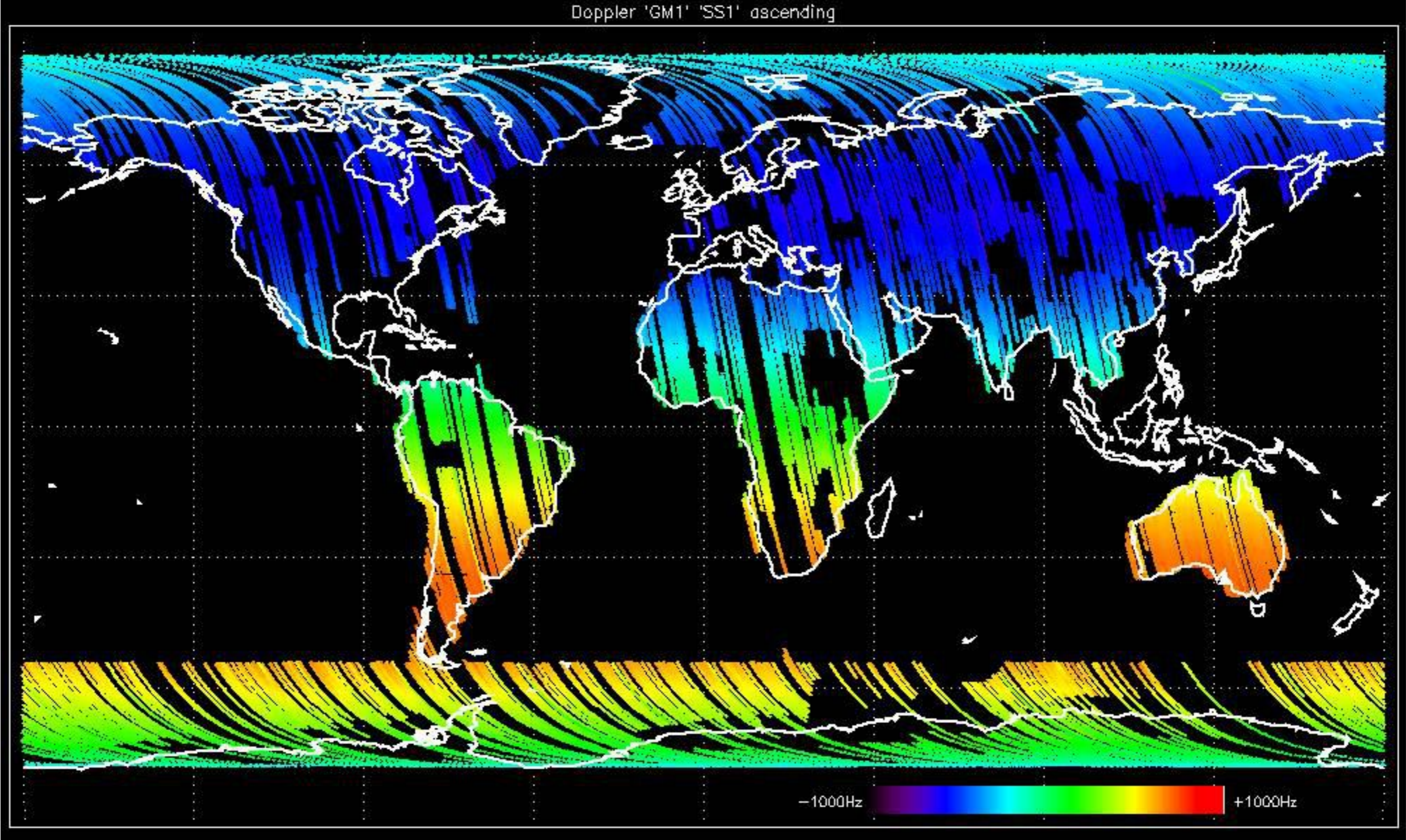


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



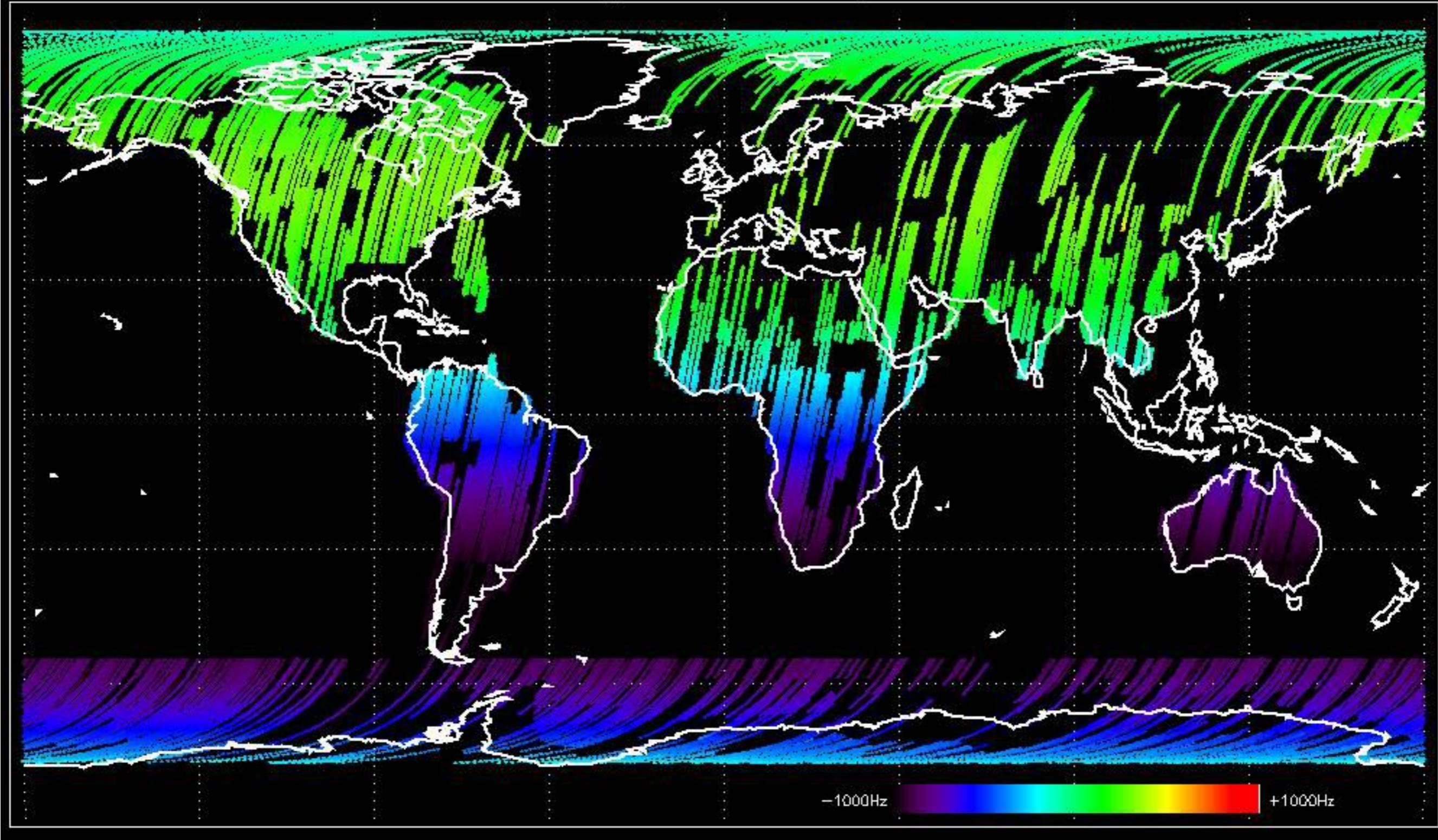


Doppler 'GM1' 'SS1' ascending



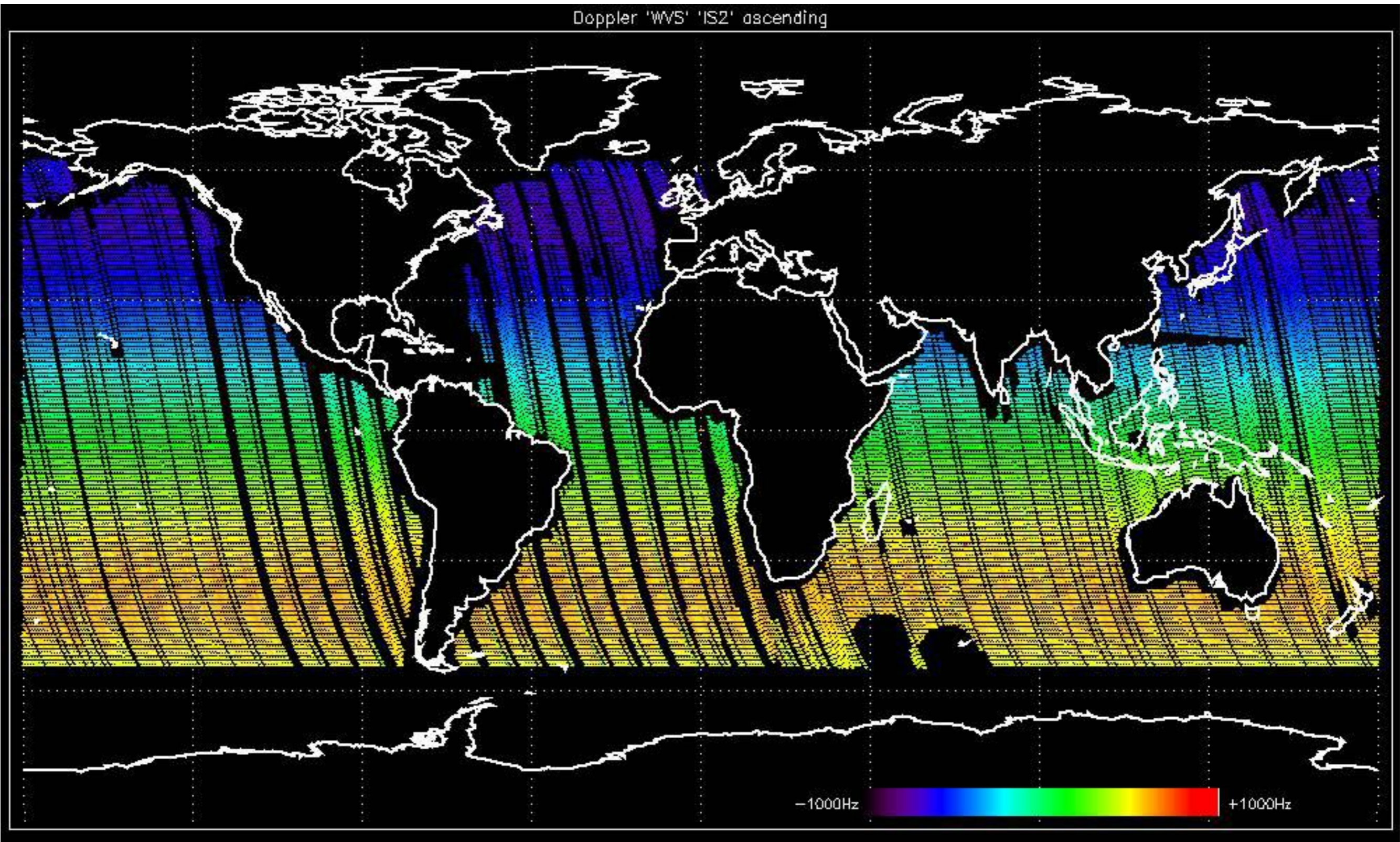


Doppler 'GM1' 'SS1' descending



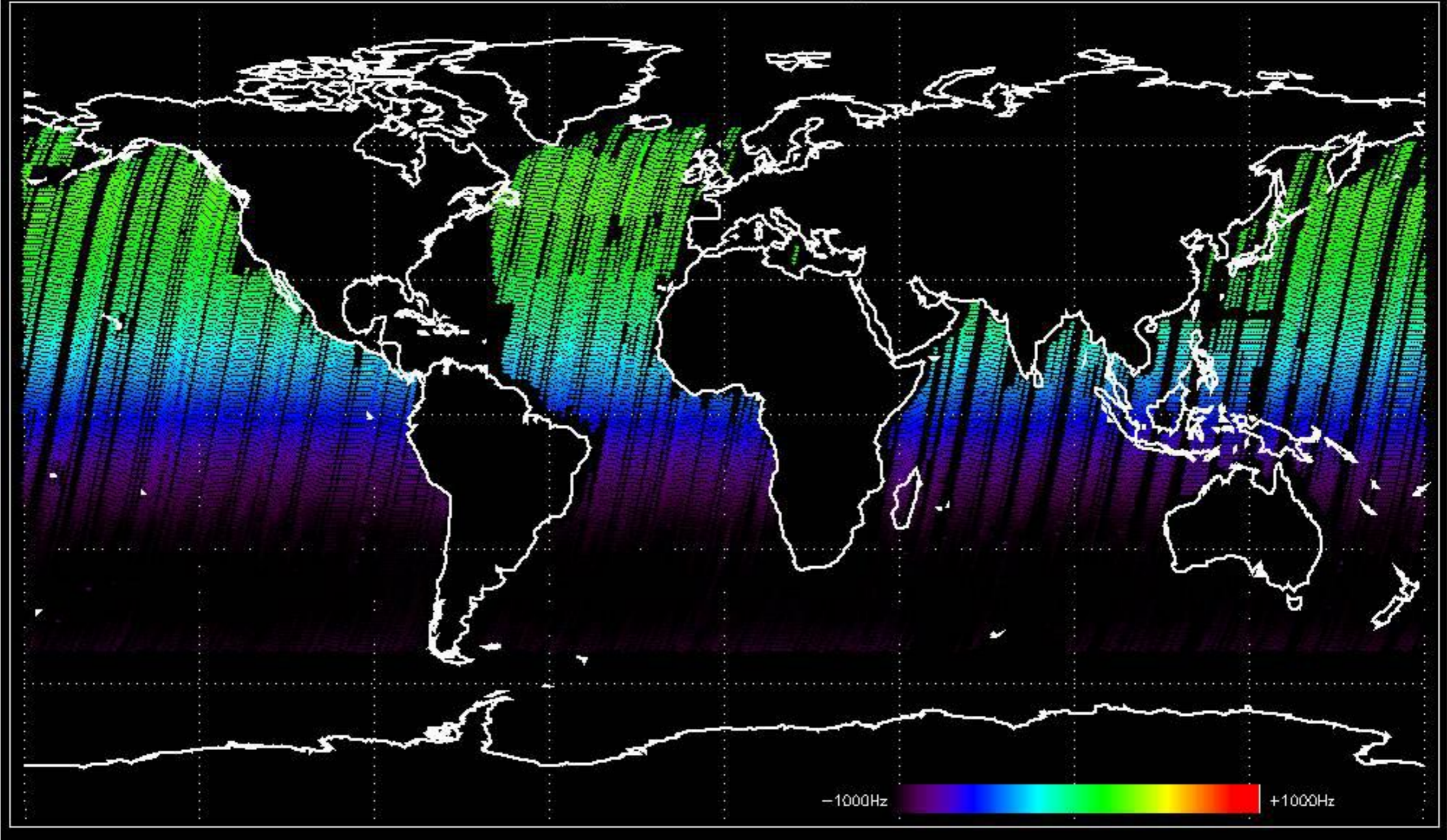


Doppler 'WVS' 'IS2' ascending

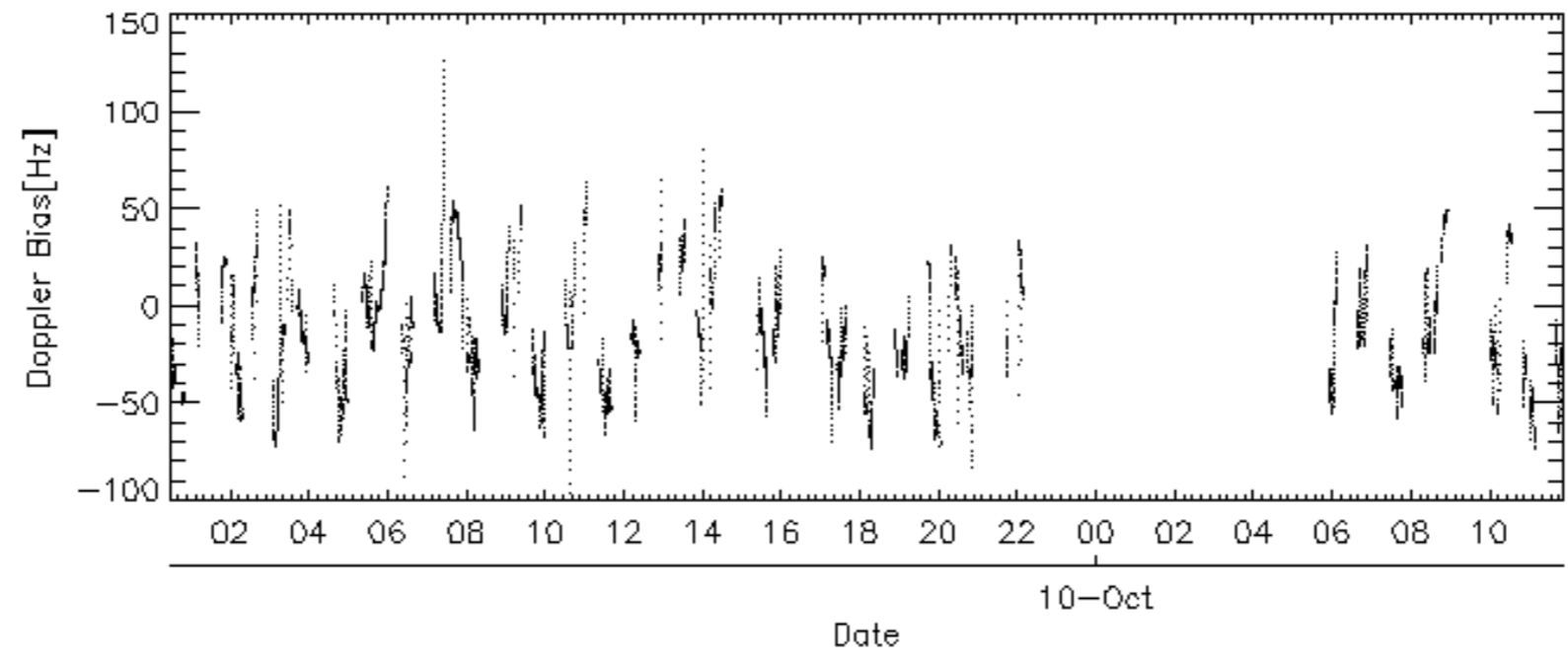
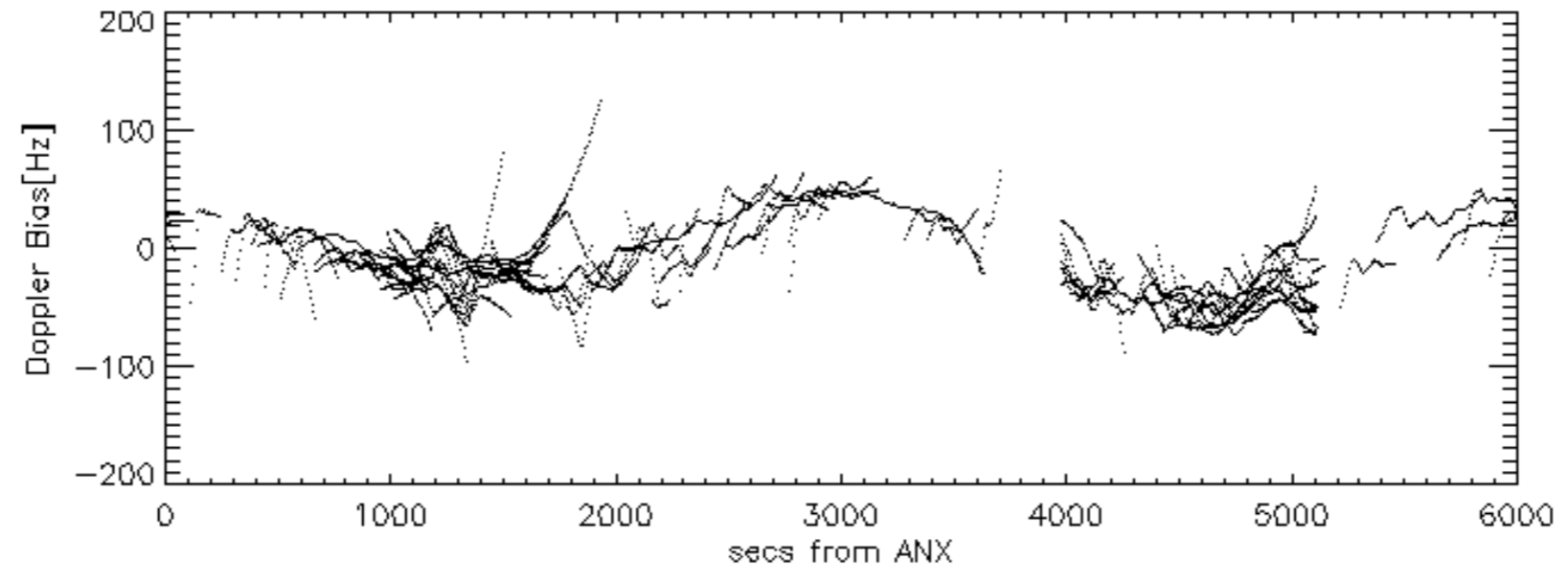
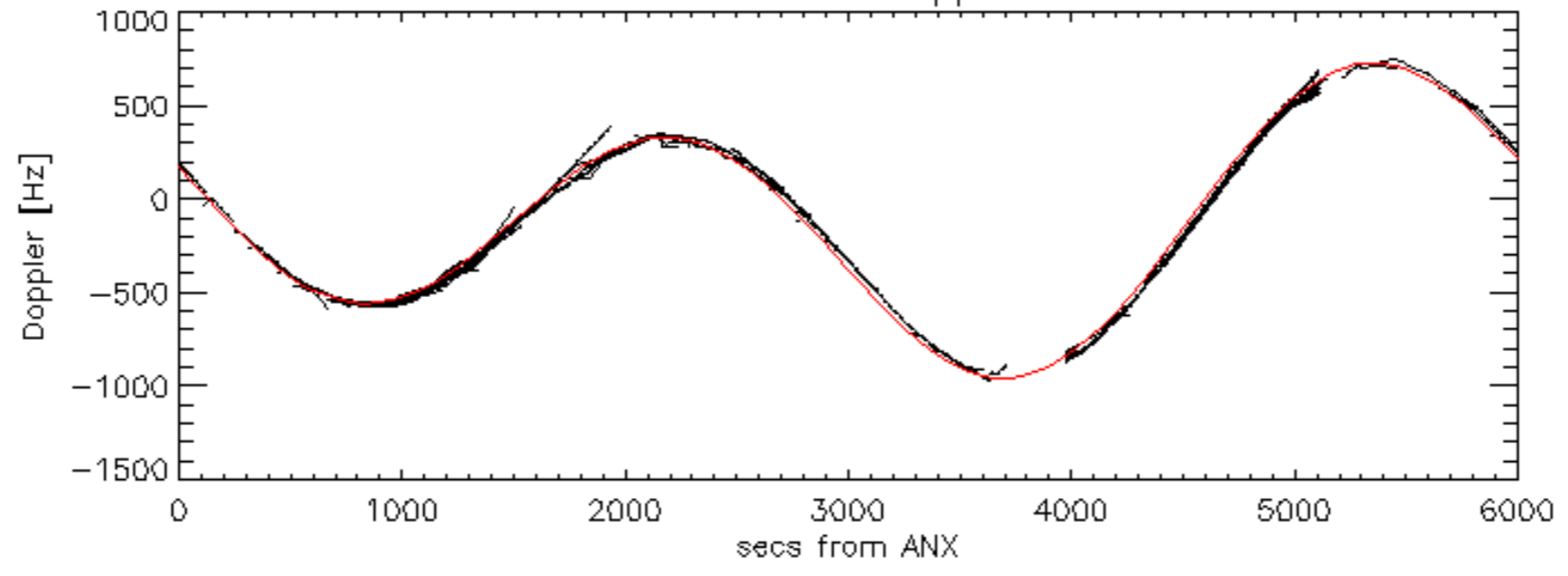




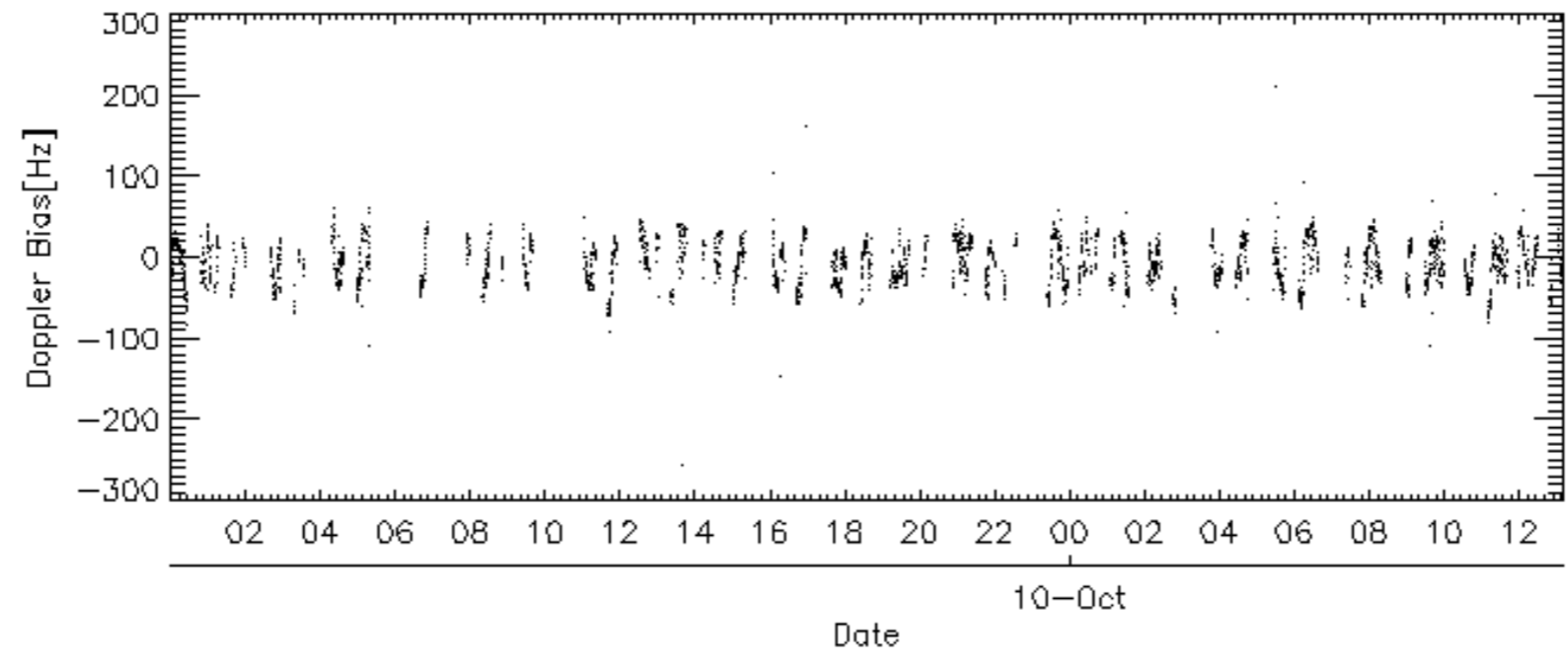
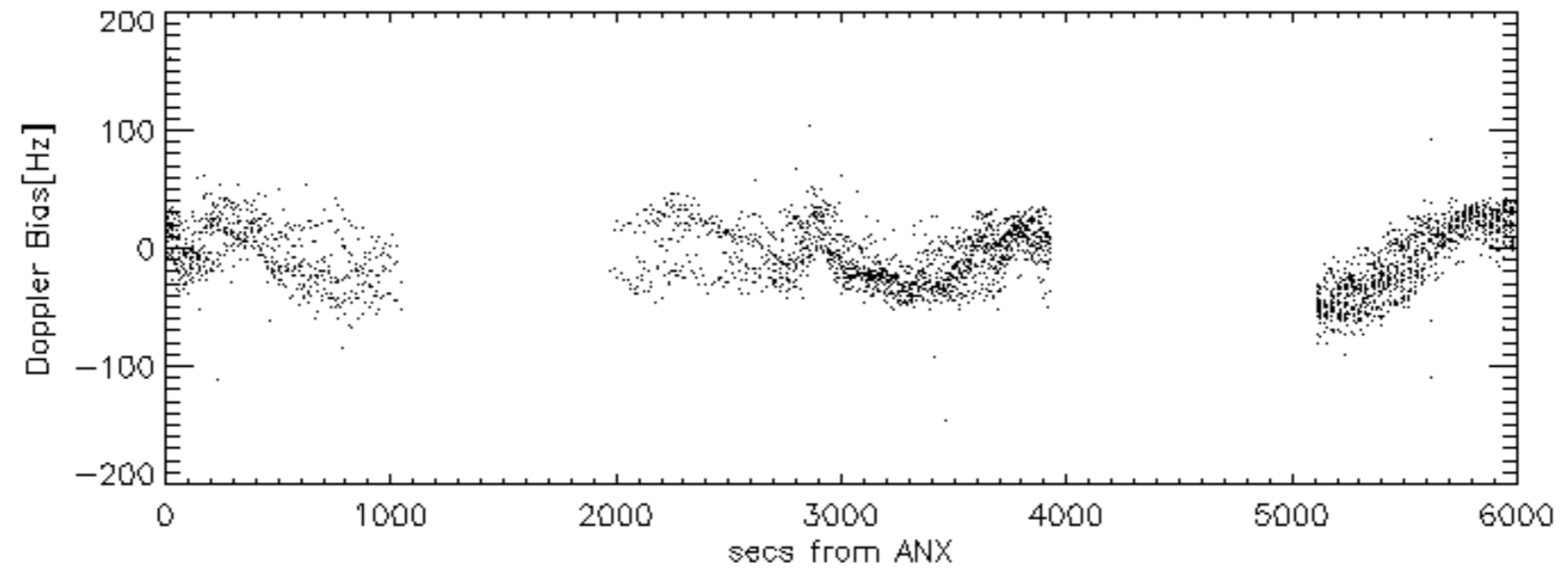
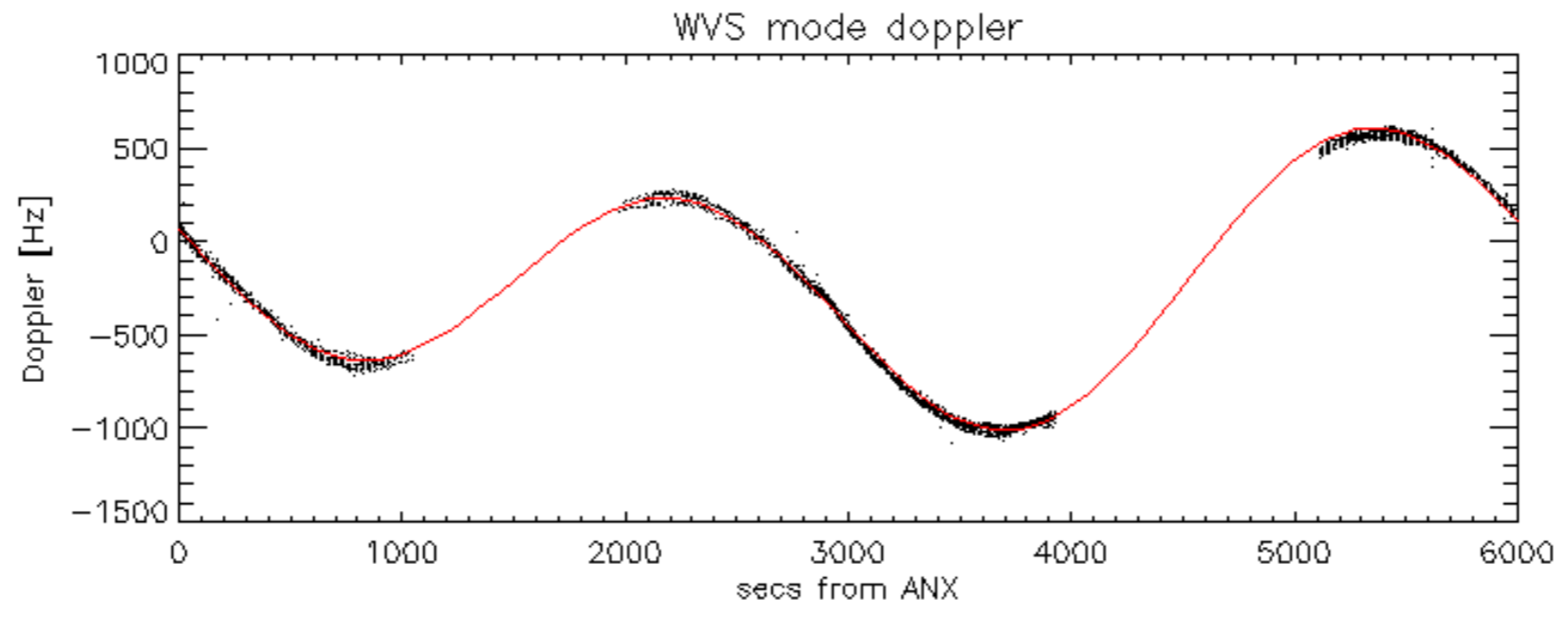
Doppler 'WVS' 'IS2' descending



GM1 mode doppler

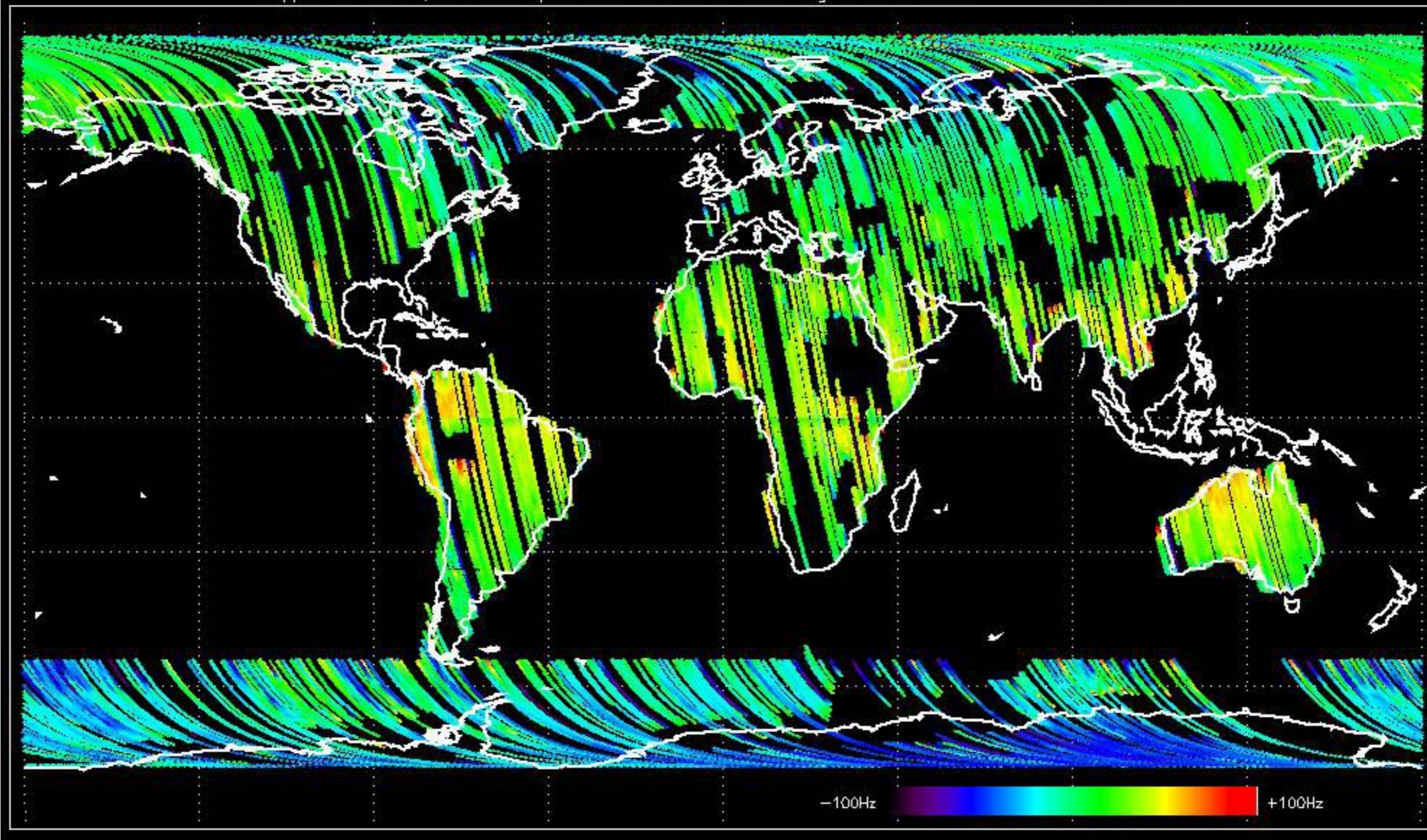






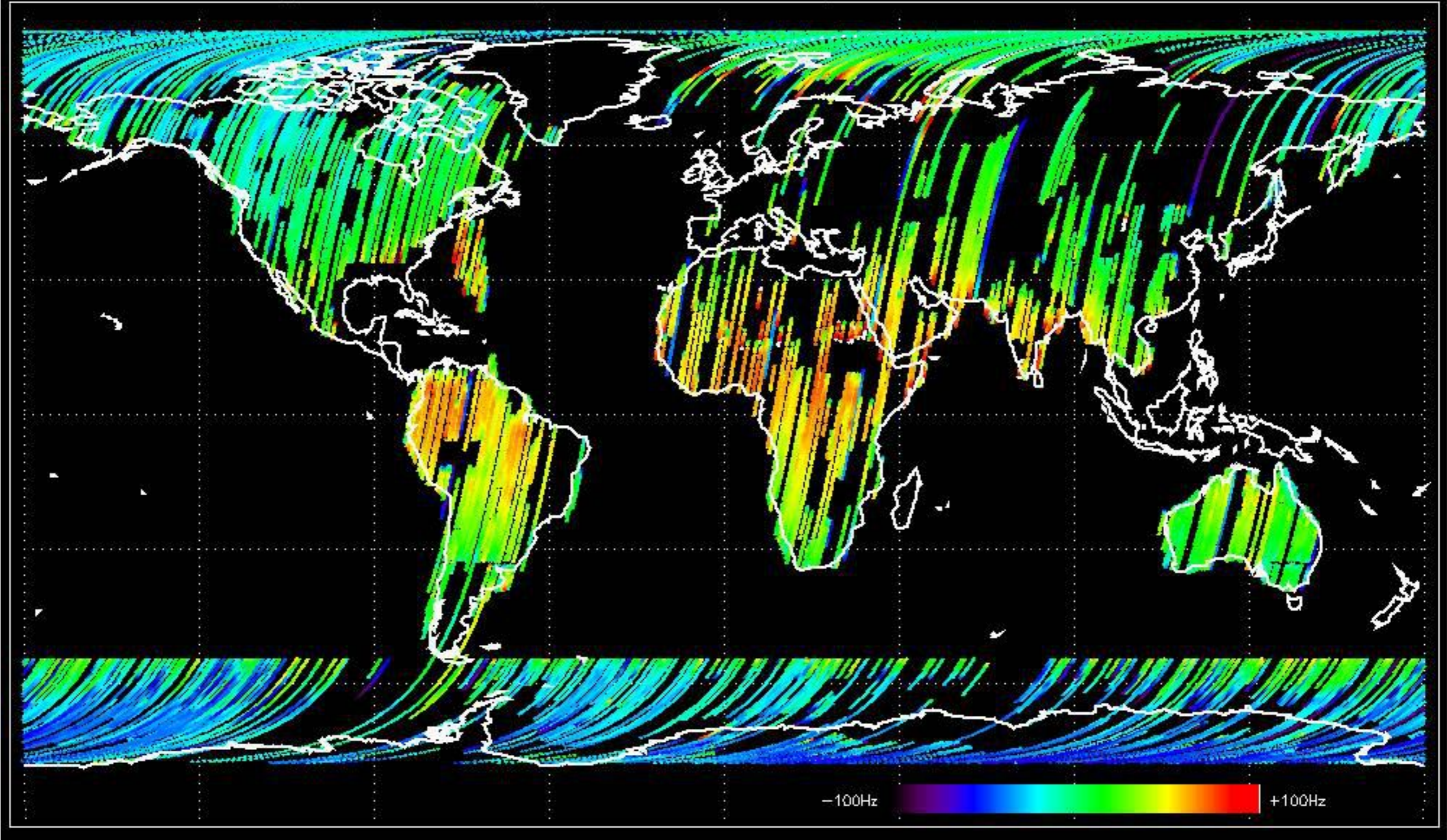


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -20.783711 Hz



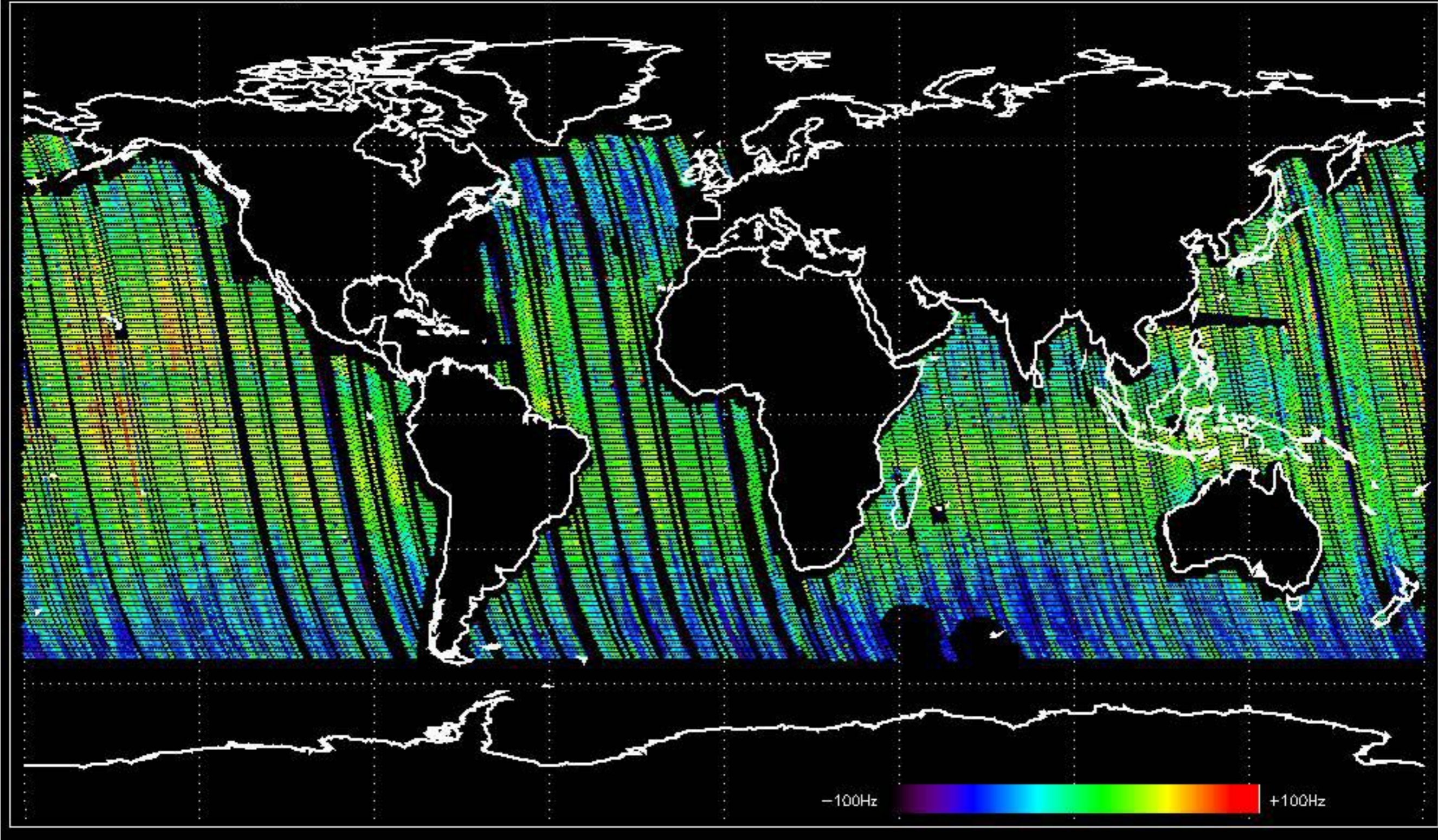


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -14.759700 Hz



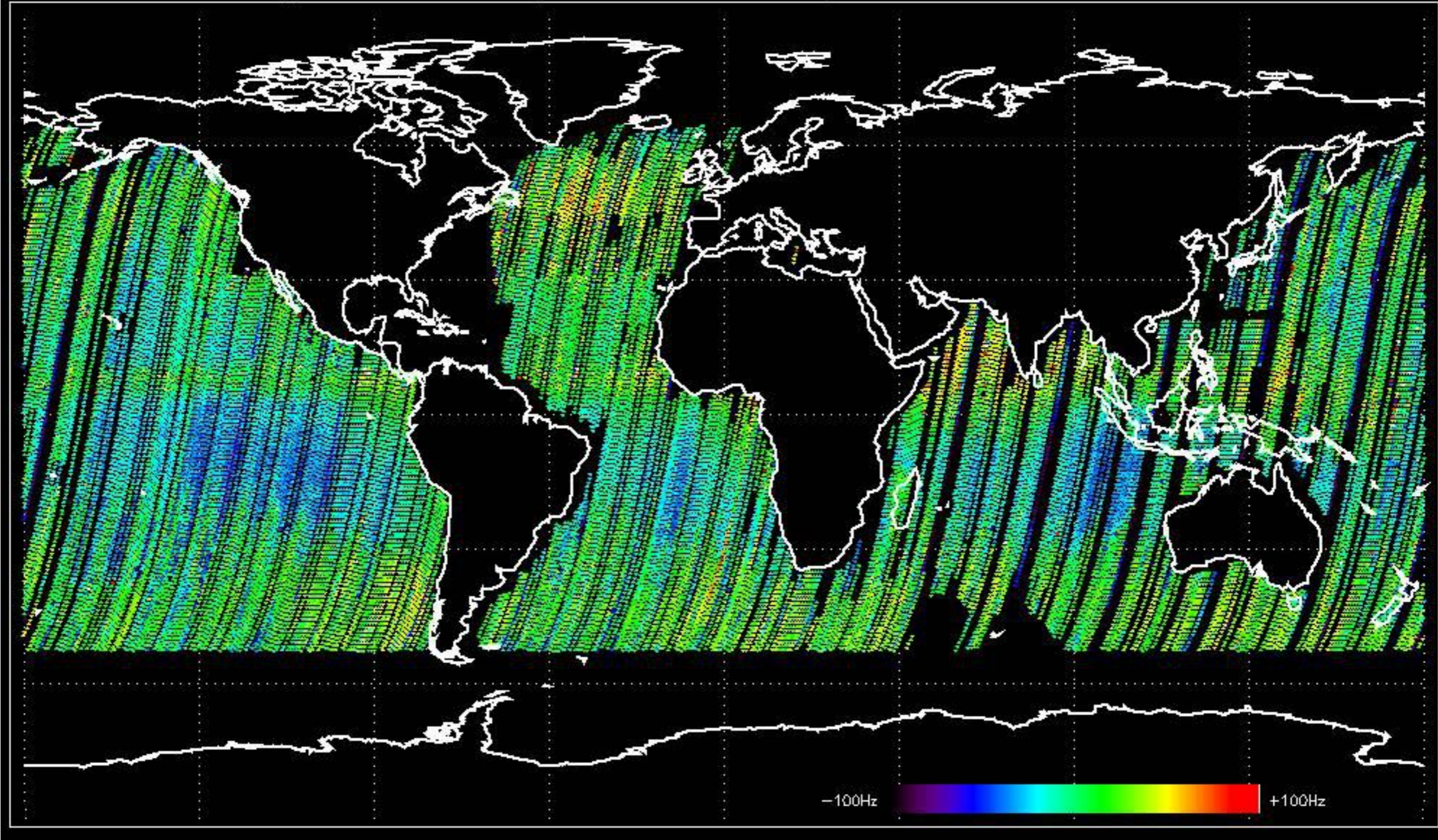


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -9.3205781 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -16.258708 Hz





No anomalies observed on available MS products:



No anomalies observed.



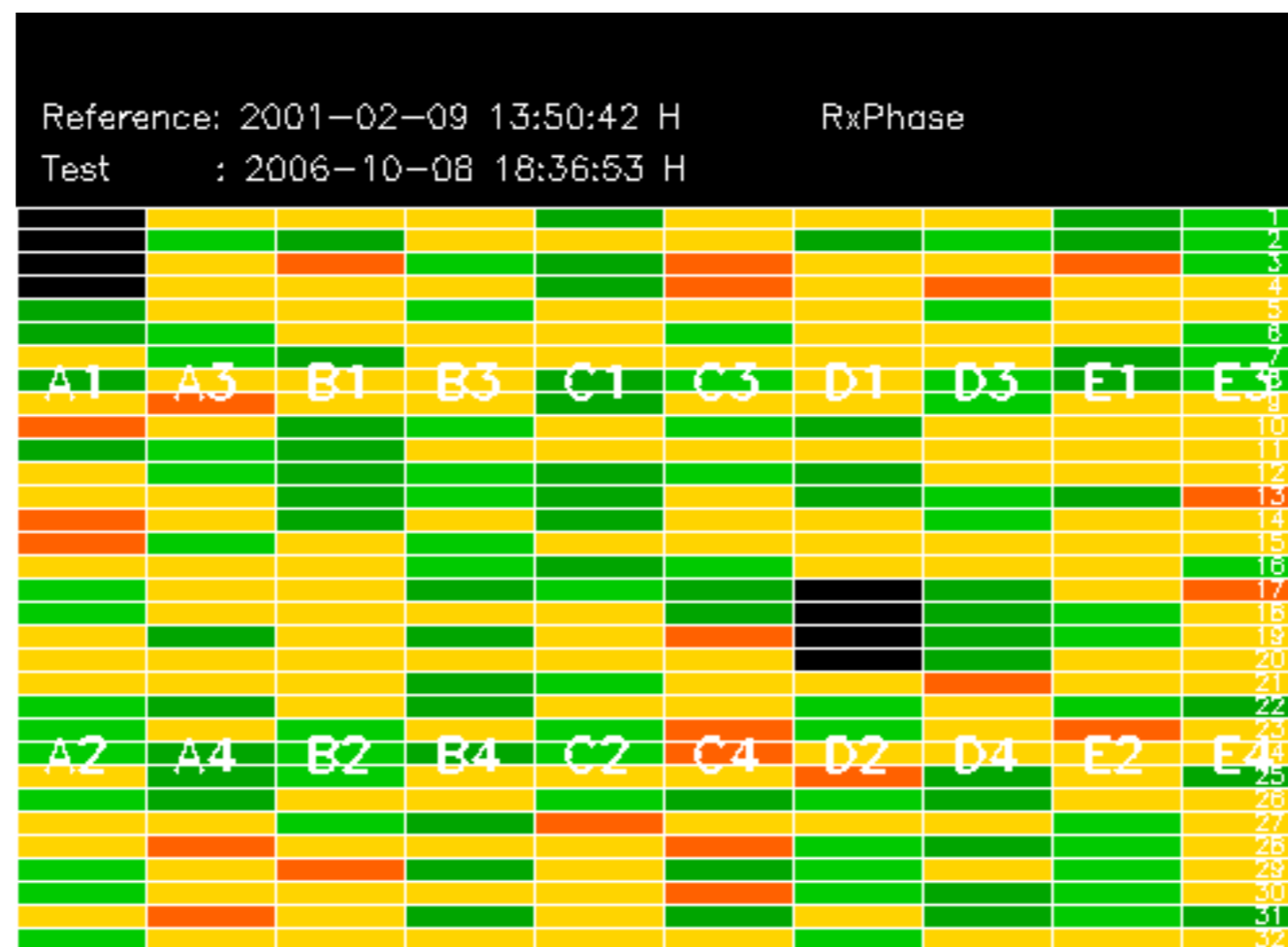






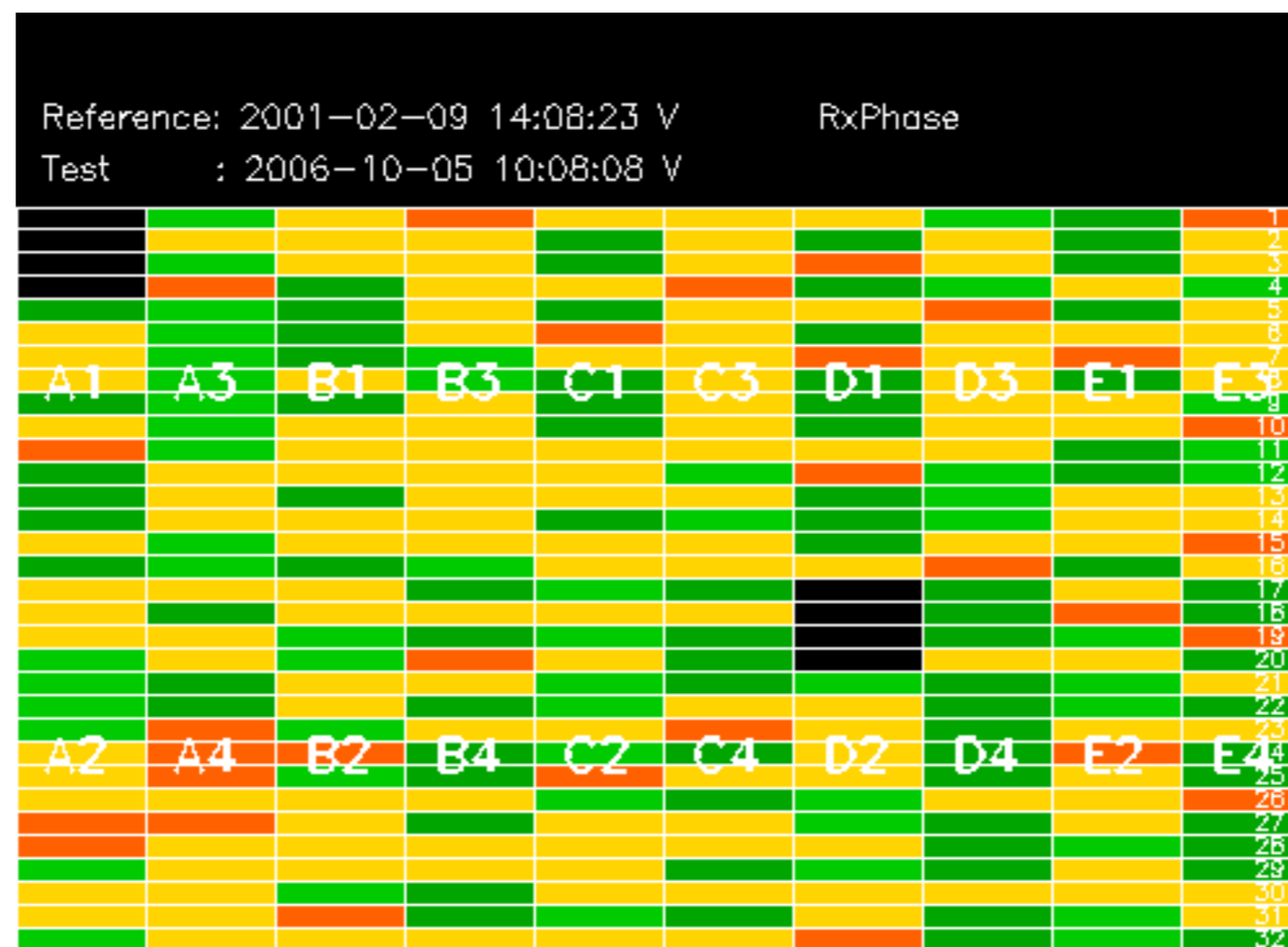










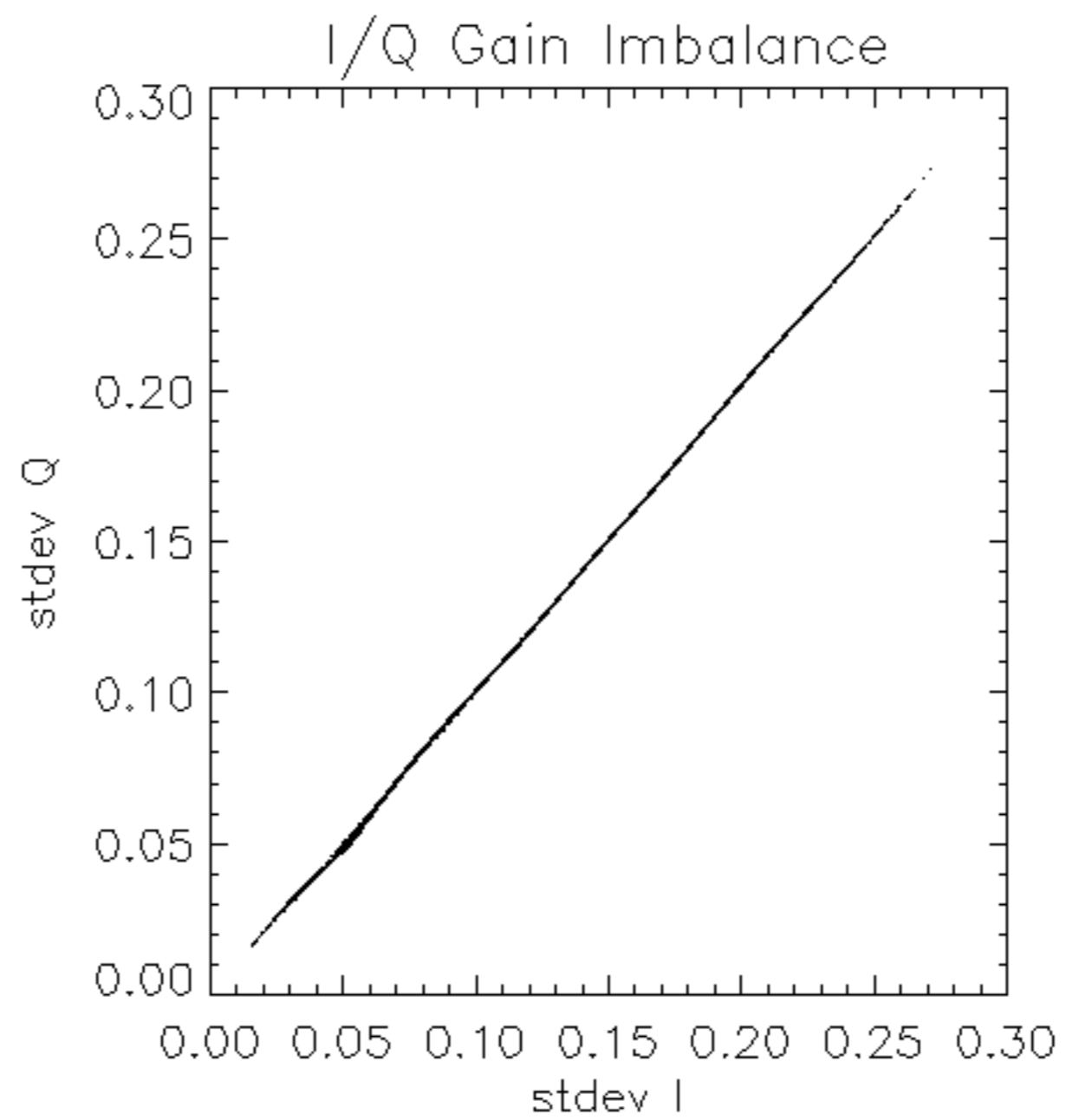


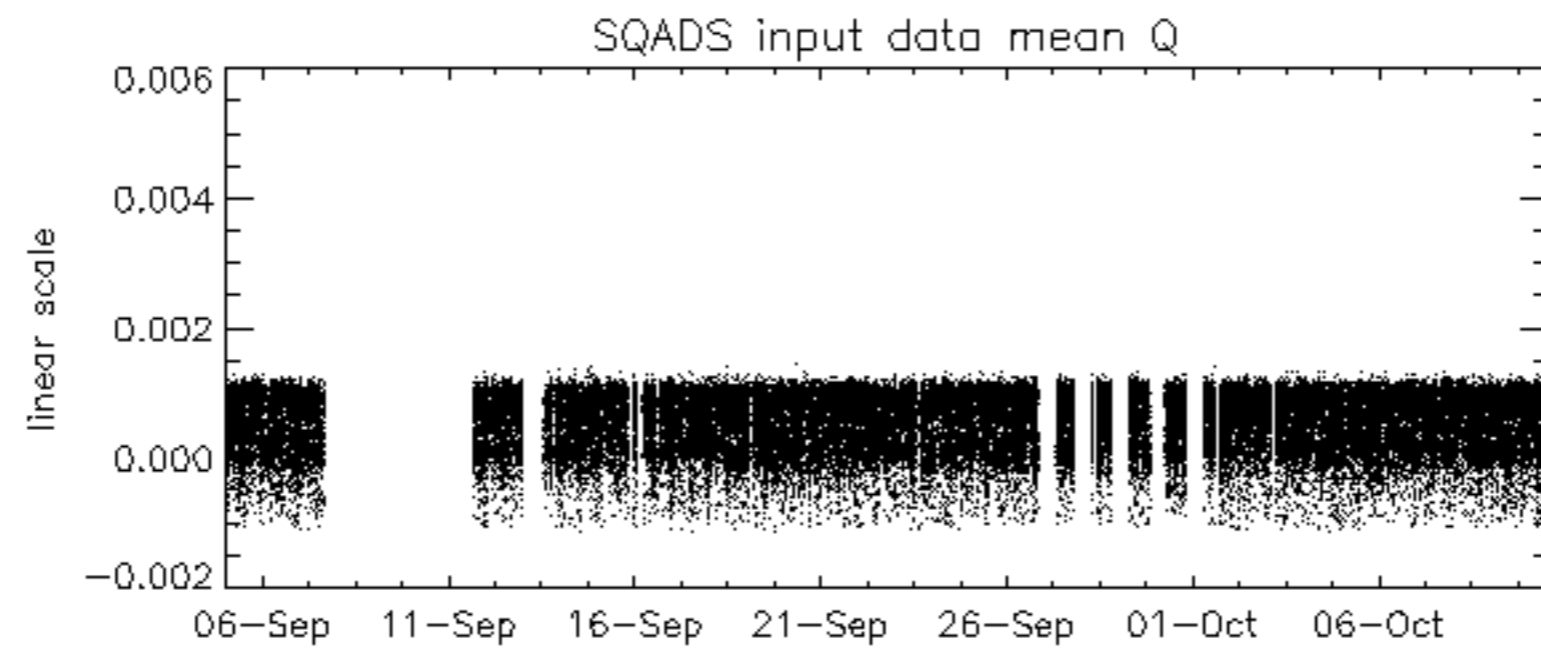
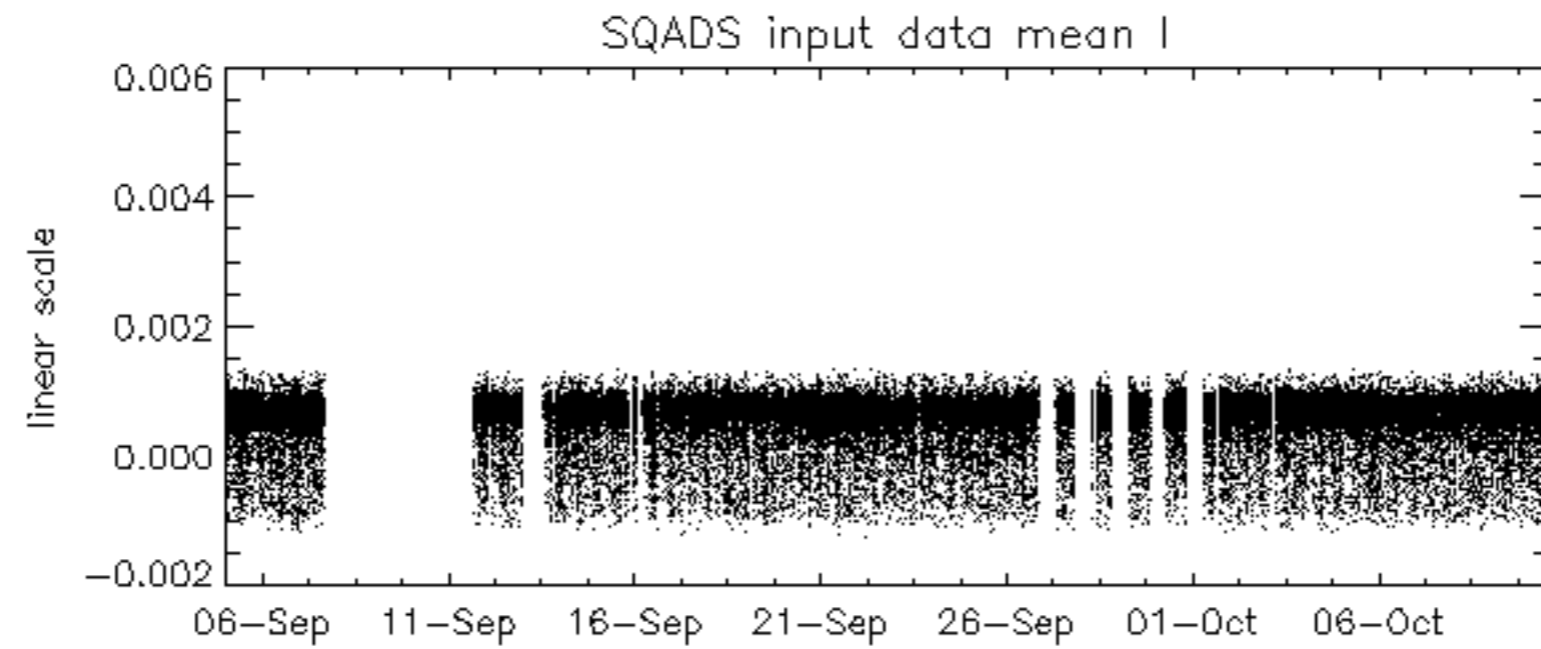
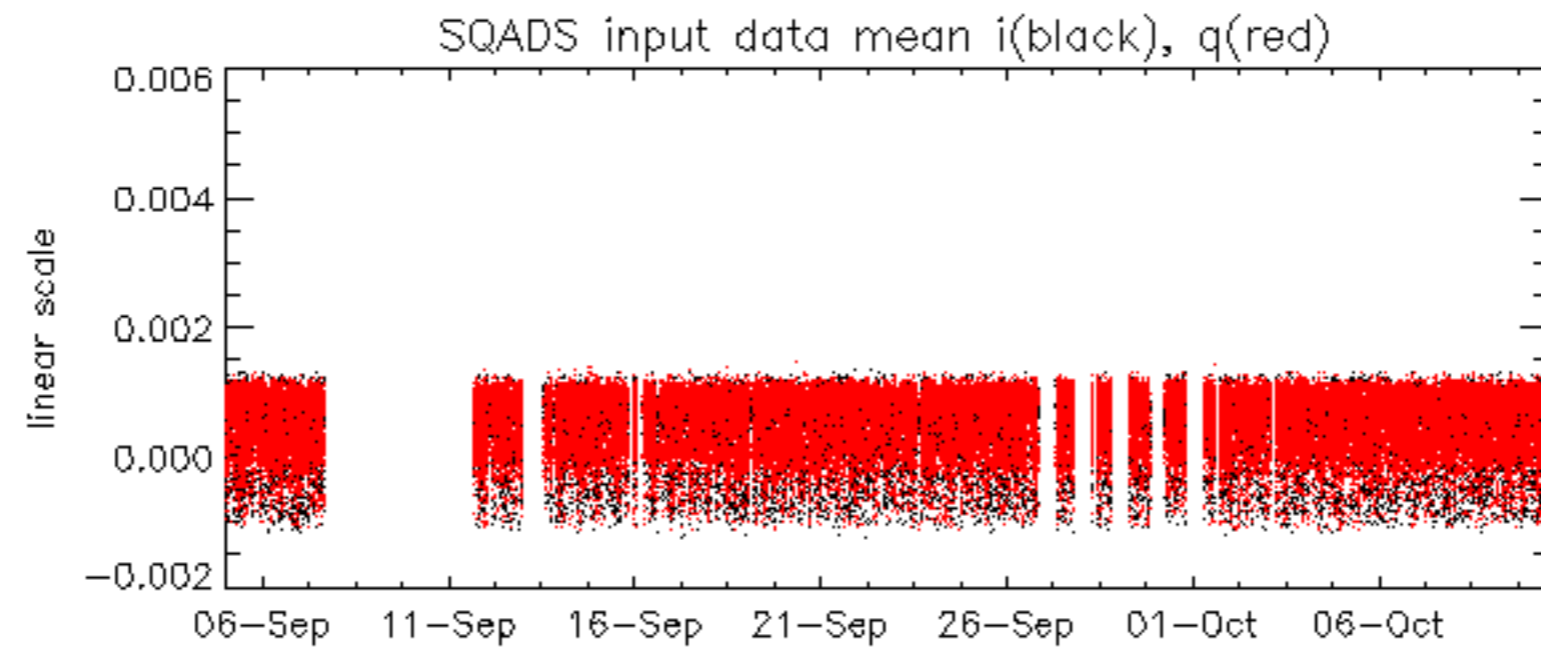




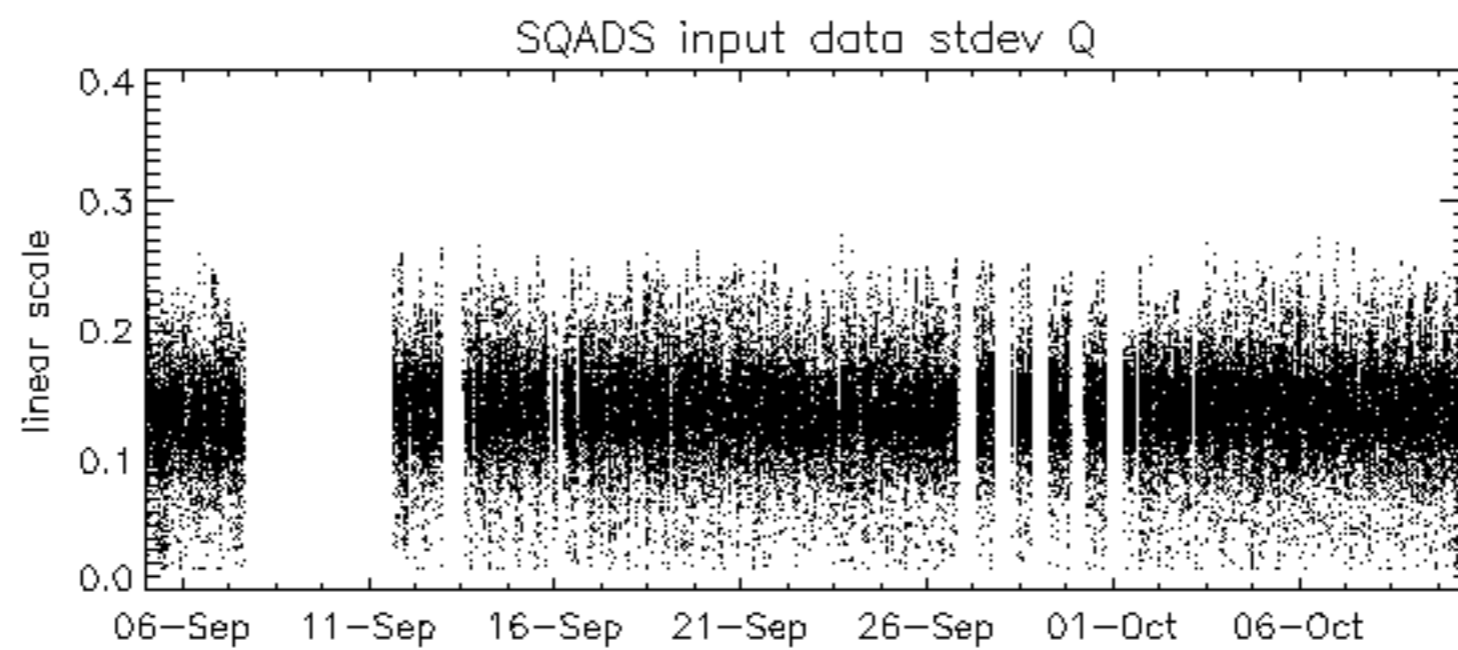
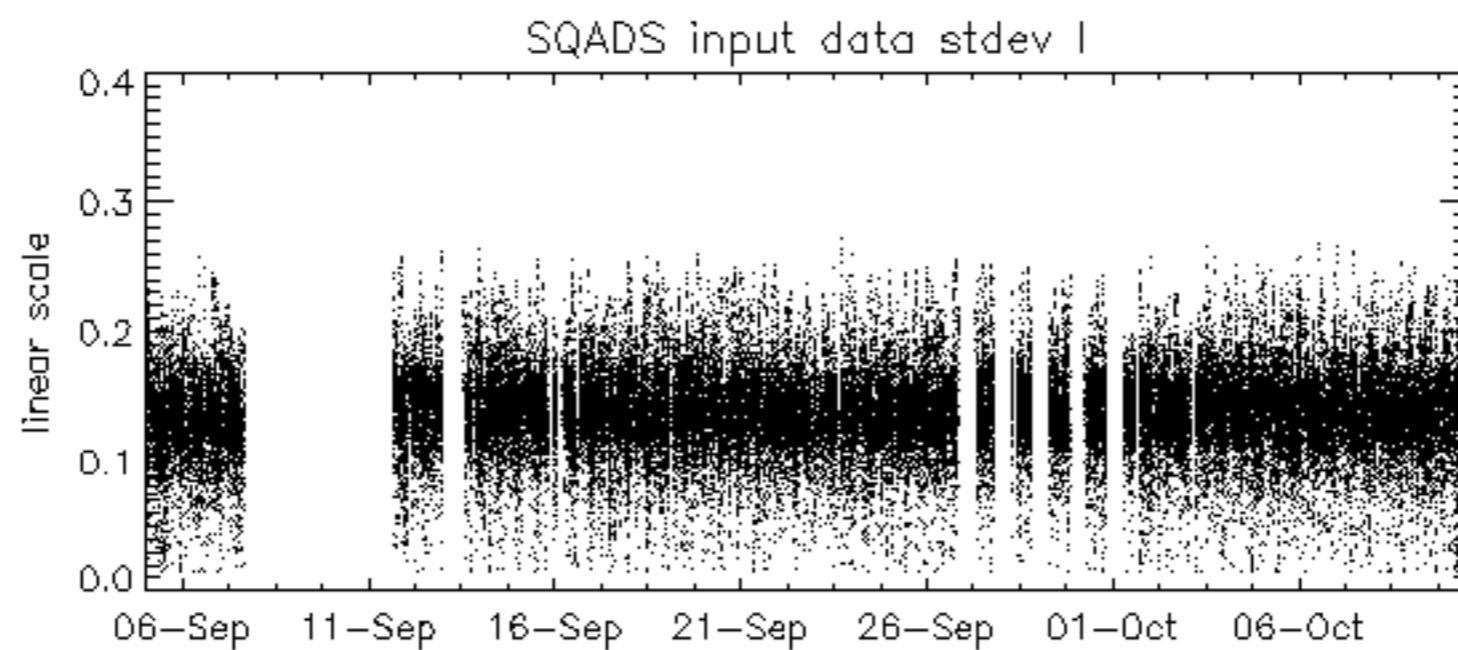
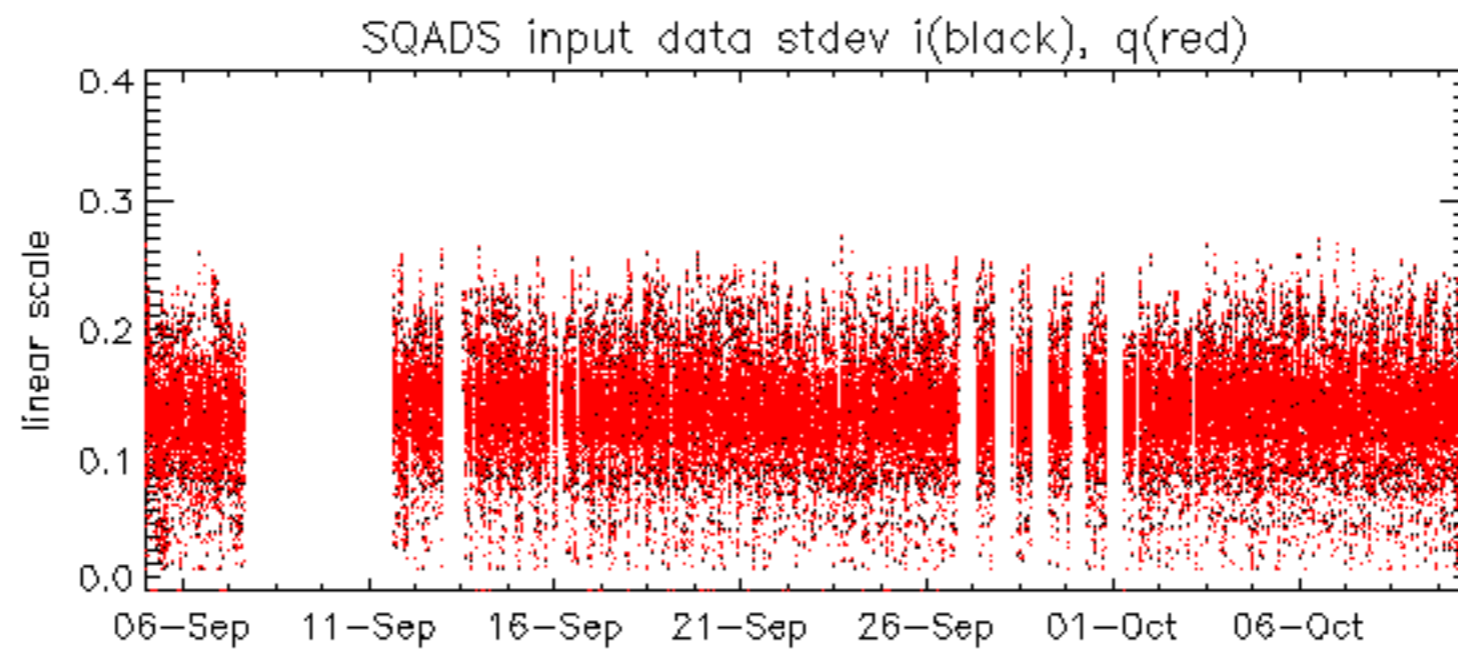
























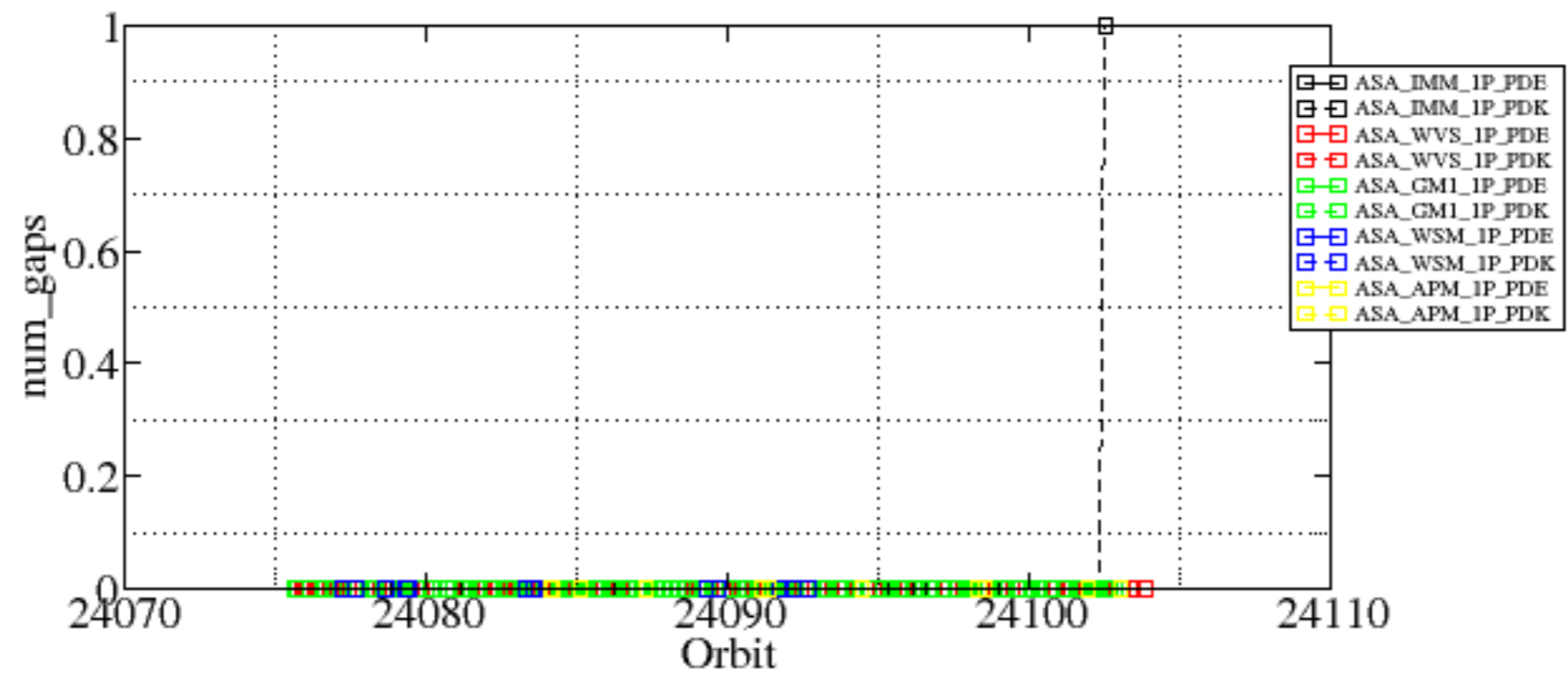


Summary of analysis for the last 3 days 2006100[890]

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_1PNPDK20061009_211251_000000572051_00501_24102_2627.N1	1	0
ASA_GM1_1PNPDK20061008_092411_000007792051_00480_24081_6027.N1	0	9
ASA_GM1_1PNPDK20061009_103920_000003022051_00495_24096_6111.N1	0	37













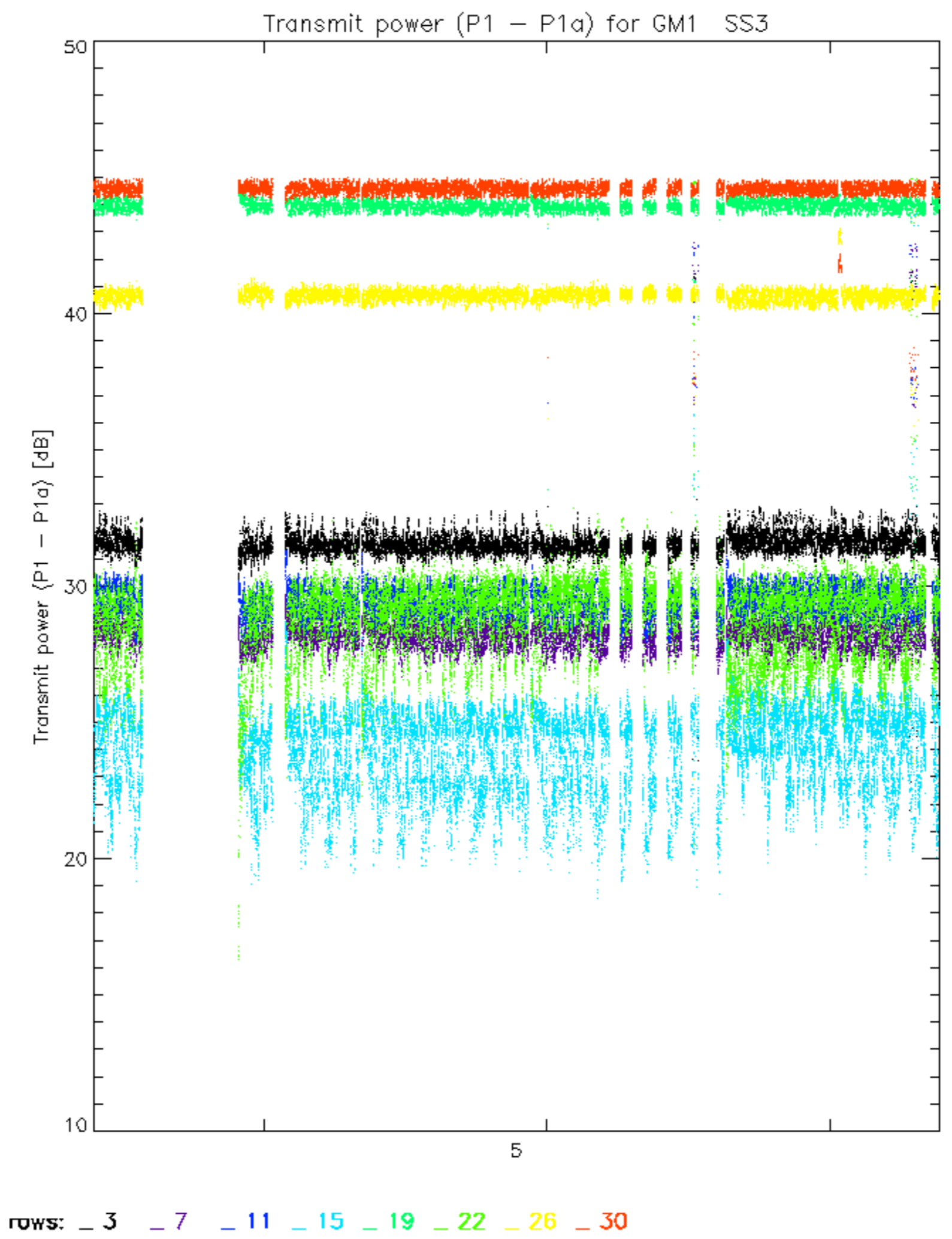


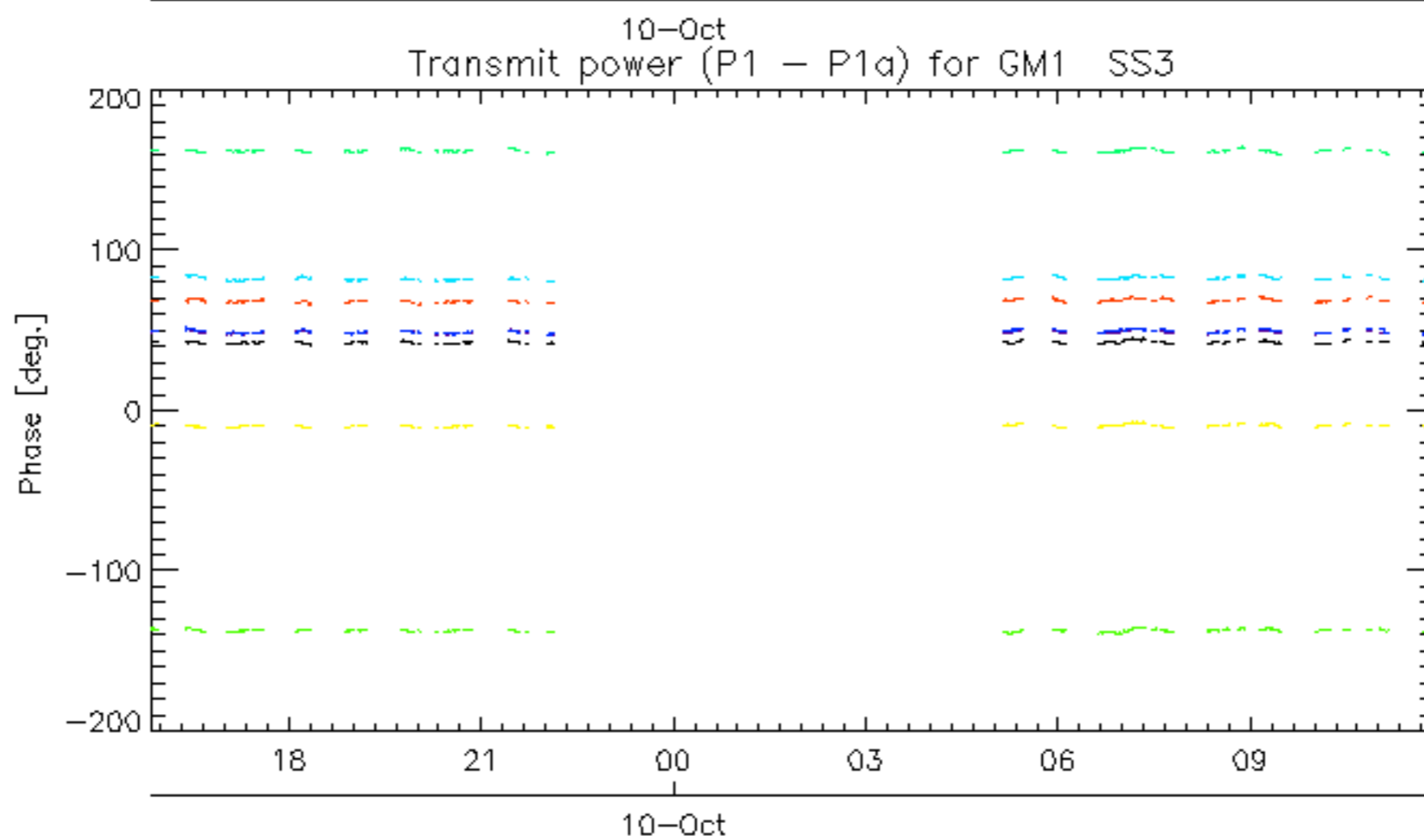
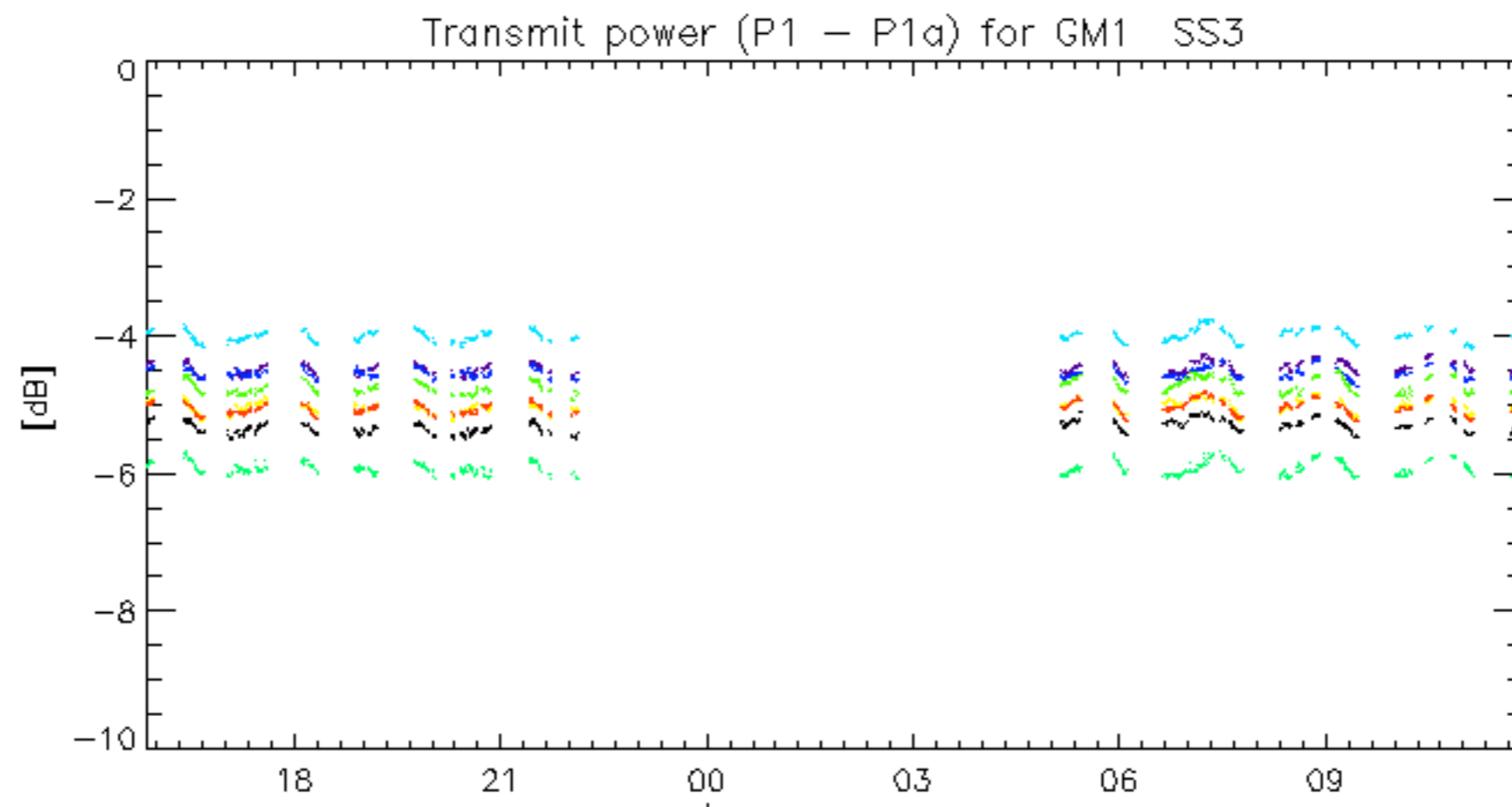




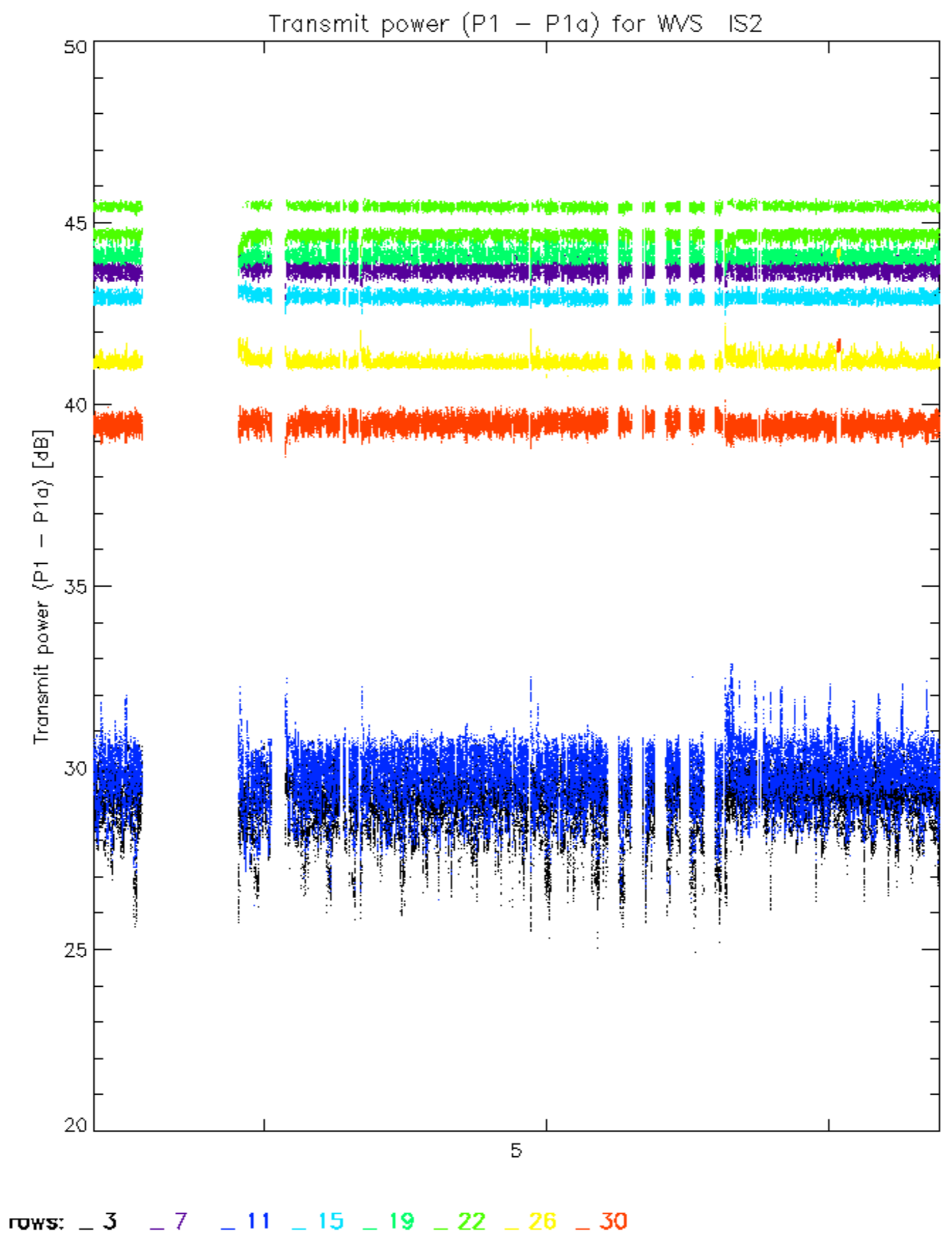


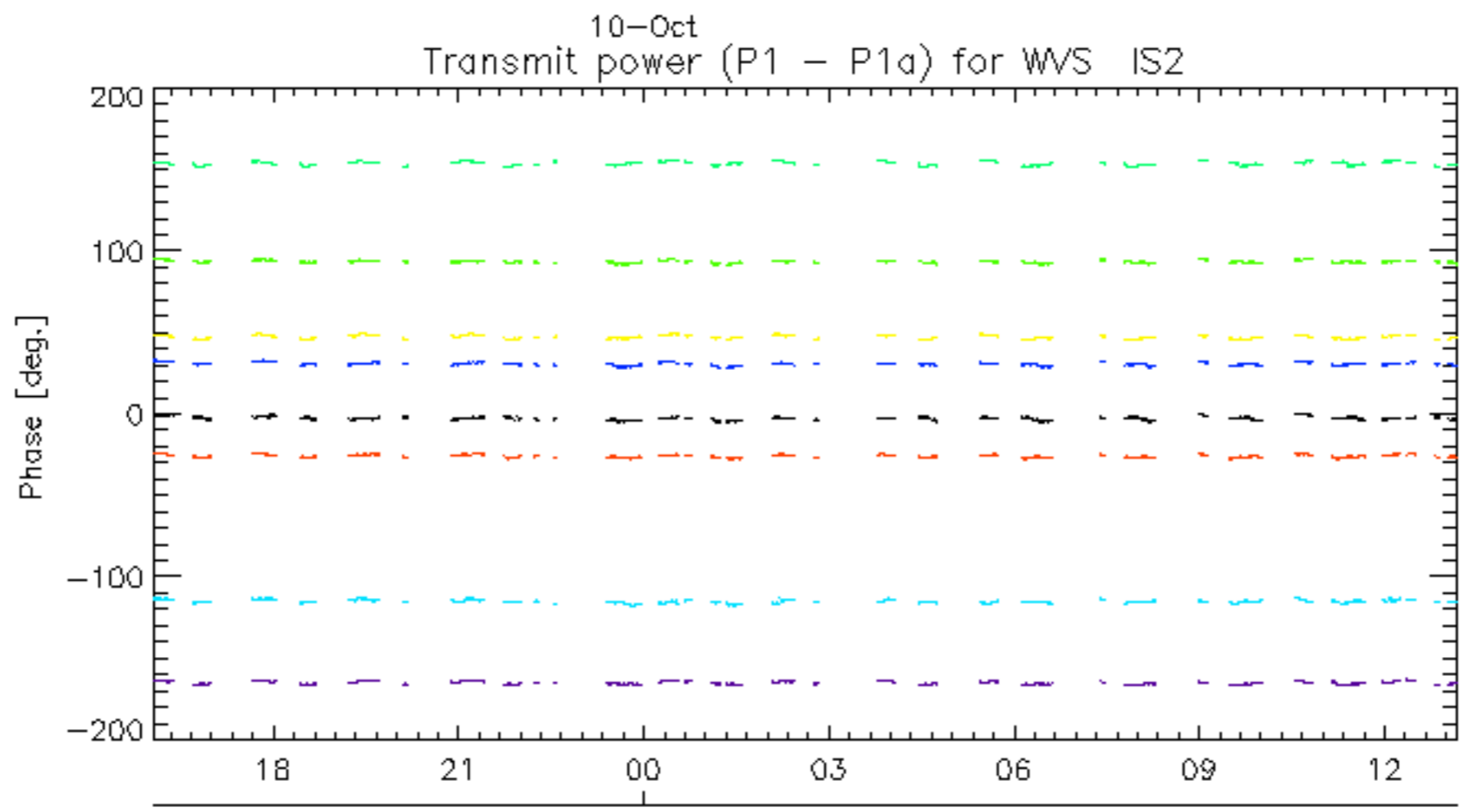
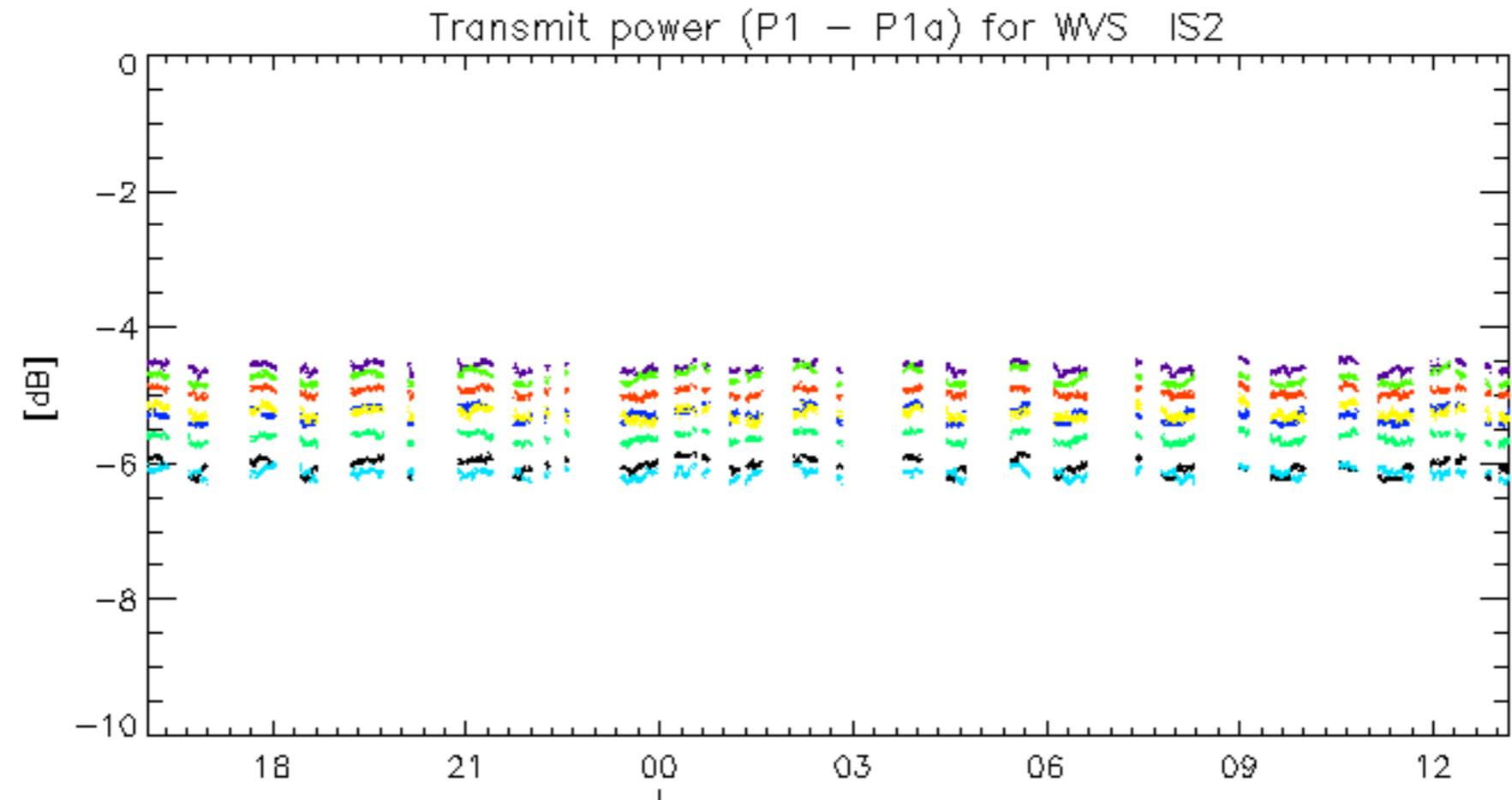






rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30





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No unavailabilities during the reported period.