

# PRELIMINARY REPORT OF 060913

last update on Wed Sep 13 16:35:53 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 2006-09-12 00:00:00 to 2006-09-13 16:35:53

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	24	39	5	9	1
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	24	39	5	9	1
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	24	39	5	9	1
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	24	39	5	9	1

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	17	37	23	9	66
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	17	37	23	9	66
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	17	37	23	9	66
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	17	37	23	9	66

### 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	20060912 085027
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
☒	☒
☒	☒
☒	☒
☒	☒

## 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
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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	-3.939933	0.009662	0.017127
7	P1	-3.049223	0.011490	-0.025947
11	P1	-4.057546	0.016761	0.022952
15	P1	-6.179783	0.014925	0.011643
19	P1	-3.504377	0.049941	-0.128395
22	P1	-4.565498	0.026688	0.010267
26	P1	-3.936181	0.020195	-0.040807
30	P1	-5.785806	0.148587	-0.112285
3	P1	-16.568689	0.258962	-0.144986
7	P1	-16.790051	0.666769	-0.704153
11	P1	-16.807444	0.327794	0.057593
15	P1	-12.940748	0.106216	0.206635
19	P1	-14.598421	0.447729	-0.278685
22	P1	-15.752947	0.563074	0.400580
26	P1	-15.193459	0.209718	-0.078641
30	P1	-16.953968	0.410390	0.235923

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.837698	0.083494	0.108564
7	P2	-21.861383	0.097704	-0.002953
11	P2	-15.744998	0.109600	-0.012606
15	P2	-7.092484	0.097829	0.033208
19	P2	-9.112286	0.091172	0.003720
22	P2	-18.122639	0.085591	0.047420
26	P2	-16.398829	0.092487	-0.005736
30	P2	-19.469961	0.090350	0.028113

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.174077	0.004271	0.001598
7	P3	-8.174077	0.004271	0.001598
11	P3	-8.174077	0.004271	0.001598
15	P3	-8.174077	0.004271	0.001598
19	P3	-8.174077	0.004271	0.001598
22	P3	-8.174077	0.004271	0.001598
26	P3	-8.174137	0.004270	0.001884
30	P3	-8.174137	0.004270	0.001884

**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	-3.841101	0.023260	-0.013370
7	P1	-2.445954	0.175059	-0.228572
11	P1	-2.876555	0.033433	-0.020658
15	P1	-3.644661	0.035903	-0.045445
19	P1	-3.456263	0.082034	-0.094559
22	P1	-5.093098	0.036920	-0.051784
26	P1	-5.867846	0.030518	0.053369
30	P1	-5.196343	0.086174	-0.040897
3	P1	-11.630558	0.072743	-0.000400
7	P1	-9.910309	0.196220	-0.203748
11	P1	-10.324600	0.082955	-0.087681
15	P1	-10.860033	0.181220	-0.026223
19	P1	-15.673669	3.662013	-0.568633
22	P1	-20.831978	1.733122	0.250494

26	P1	-15.994278	0.414712	0.350989
30	P1	-18.015625	0.838041	-0.184416

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.428019	0.077115	0.105358
7	P2	-22.209738	0.203117	0.097032
11	P2	-10.907189	0.059078	0.079134
15	P2	-4.866548	0.040587	0.072106
19	P2	-6.849538	0.041249	0.044406
22	P2	-8.165934	0.066163	0.091315
26	P2	-24.160496	0.134696	0.011099
30	P2	-21.960415	0.081026	0.018269

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.018040	0.003705	0.000114
7	P3	-8.017898	0.003705	0.000274
11	P3	-8.017777	0.003716	0.000453
15	P3	-8.017876	0.003722	0.000902
19	P3	-8.017990	0.003732	0.000879
22	P3	-8.018051	0.003696	0.000515
26	P3	-8.017946	0.003711	-0.000087
30	P3	-8.017890	0.003707	0.000046

## 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	0.000547214
	stdev	1.79373e-07
MEAN Q	mean	0.000526561
	stdev	2.18062e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.135794
	stdev	0.00110244
STDEV Q	mean	0.136138
	stdev	0.00111877



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006091[123]

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_1PNPDE20060912_192317_000000512051_00113_23714_5669.N1	1	0
ASA_IMM_1PNPDE20060912_201158_000000372051_00114_23715_5671.N1	0	3
ASA_WSM_1PNPDE20060912_000911_000003242051_00102_23703_1588.N1	0	34
ASA_WSM_1PNPDE20060912_233734_000003242051_00116_23717_1761.N1	0	34





## 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	
	

### 7.4 - Unbiased Doppler Error for GM1



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

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

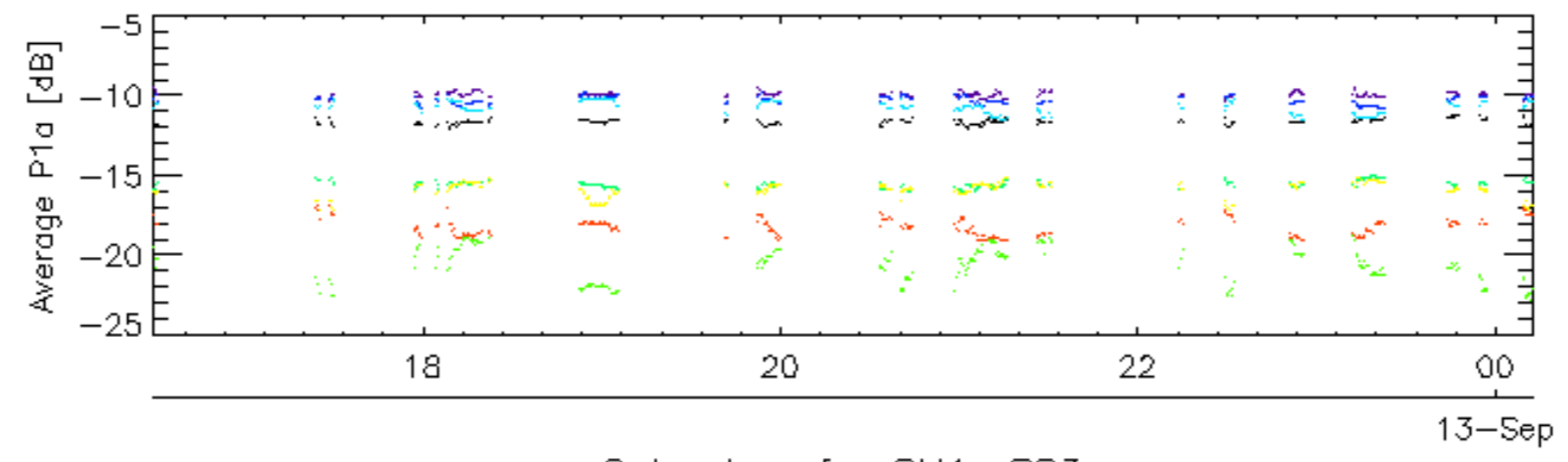
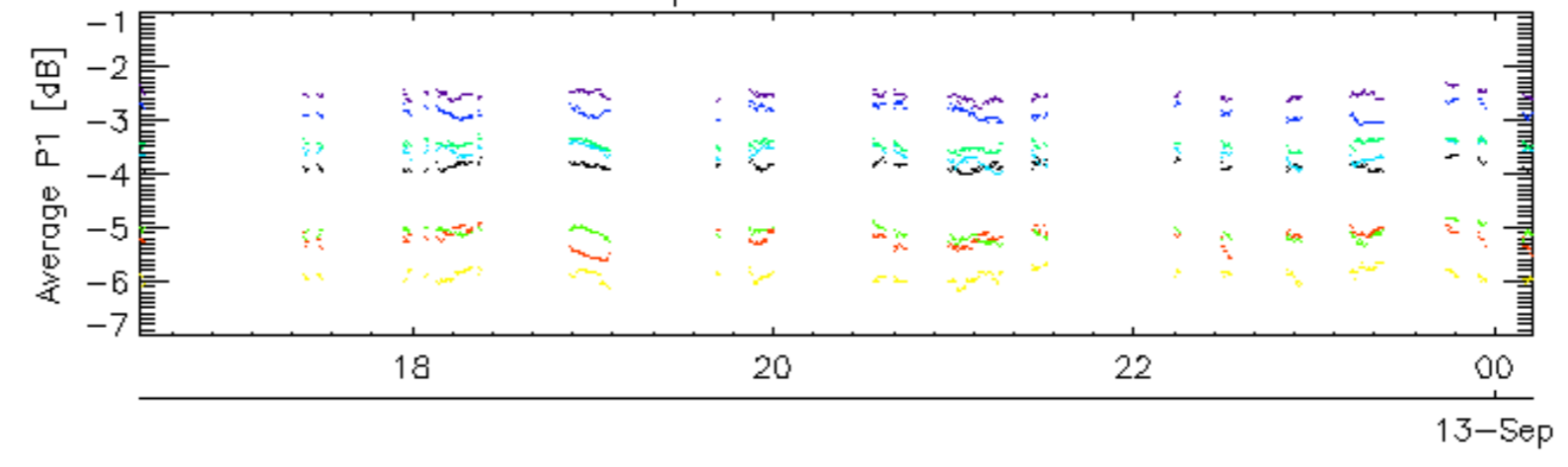
**7.5 - Absolute Doppler for GM1****Evolution of Absolute Doppler**

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

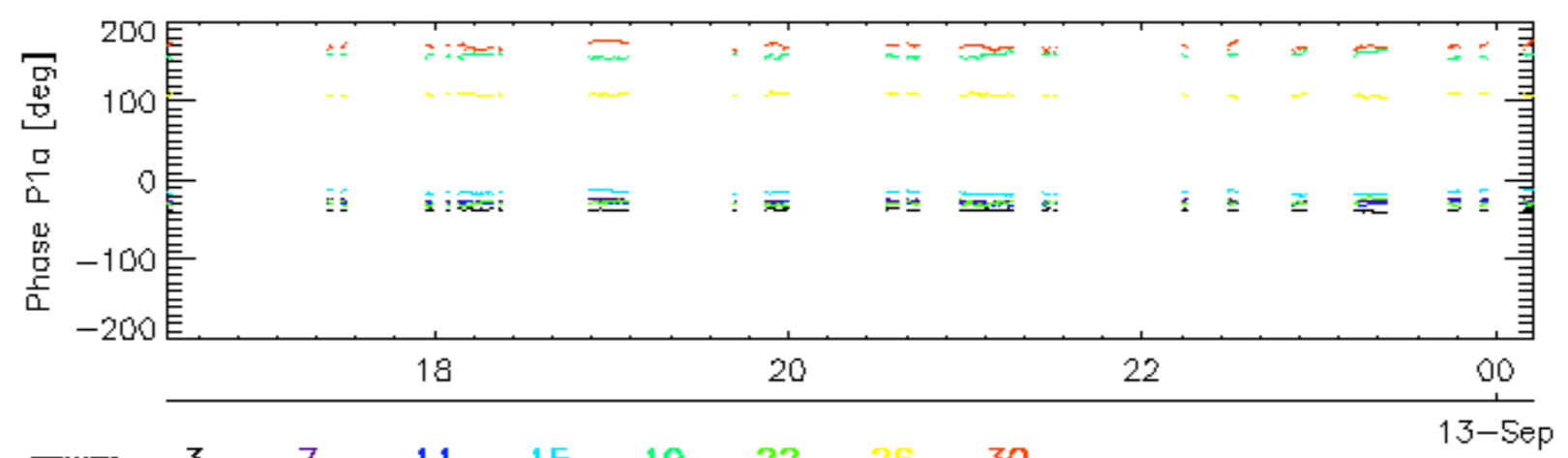
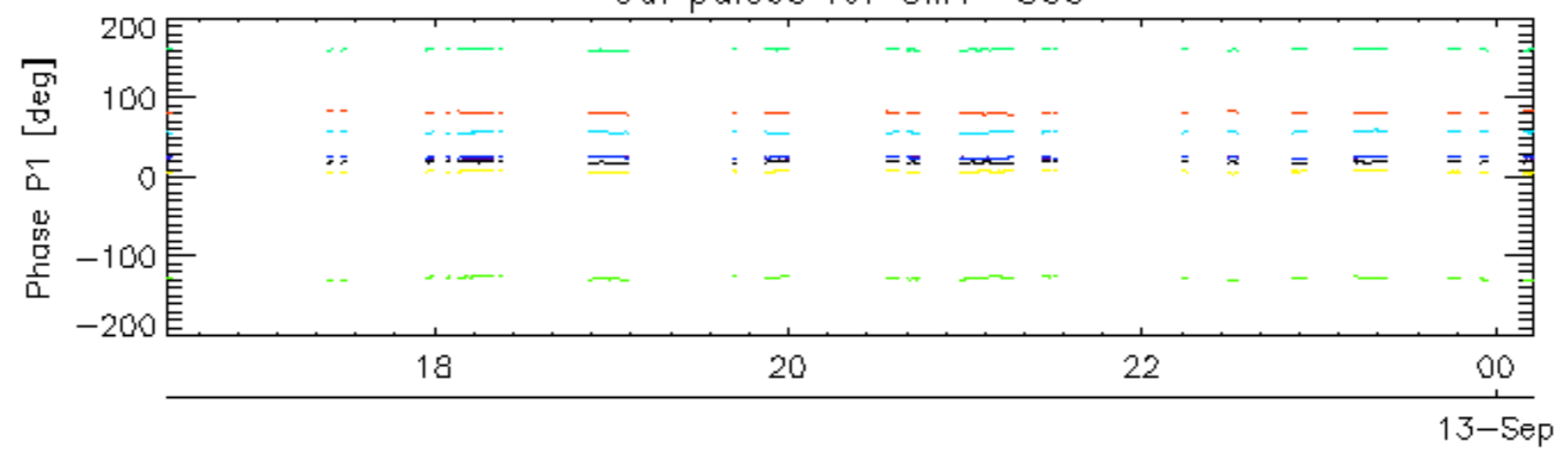
**7.6 - Doppler evolution versus ANX for GM1****Evolution Doppler error versus ANX**

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

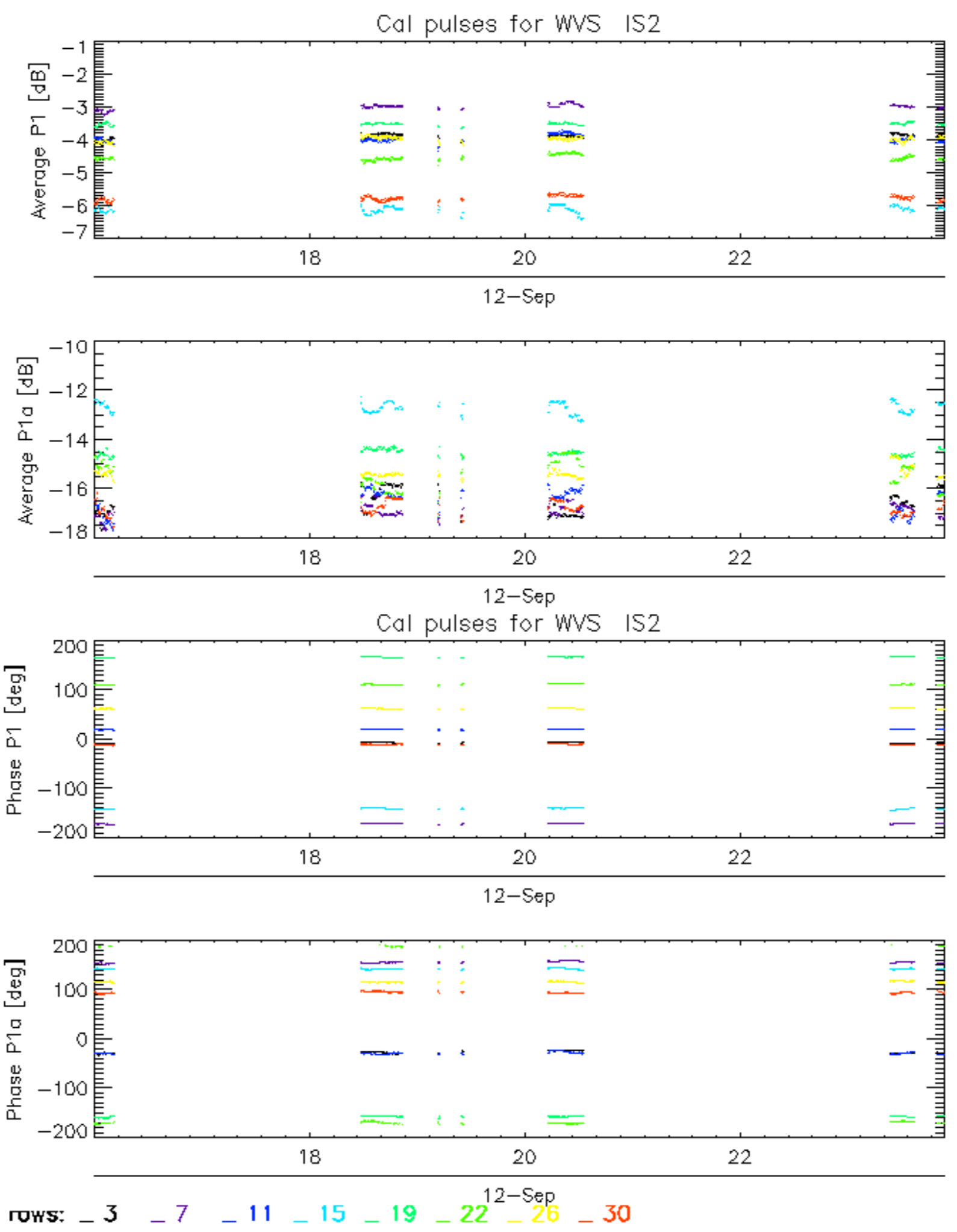


Cal pulses for GM1 SS3

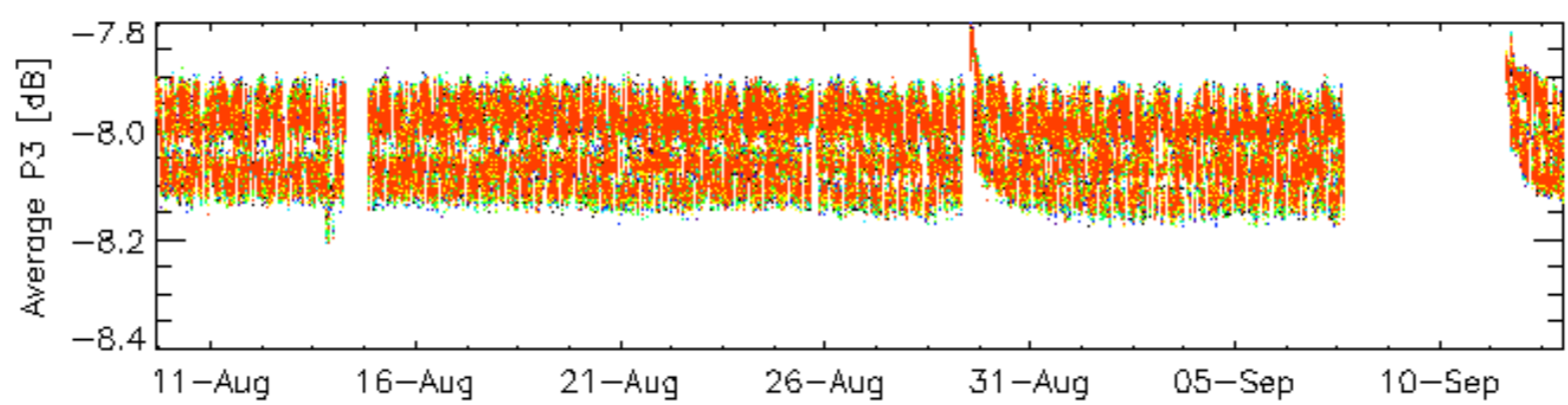
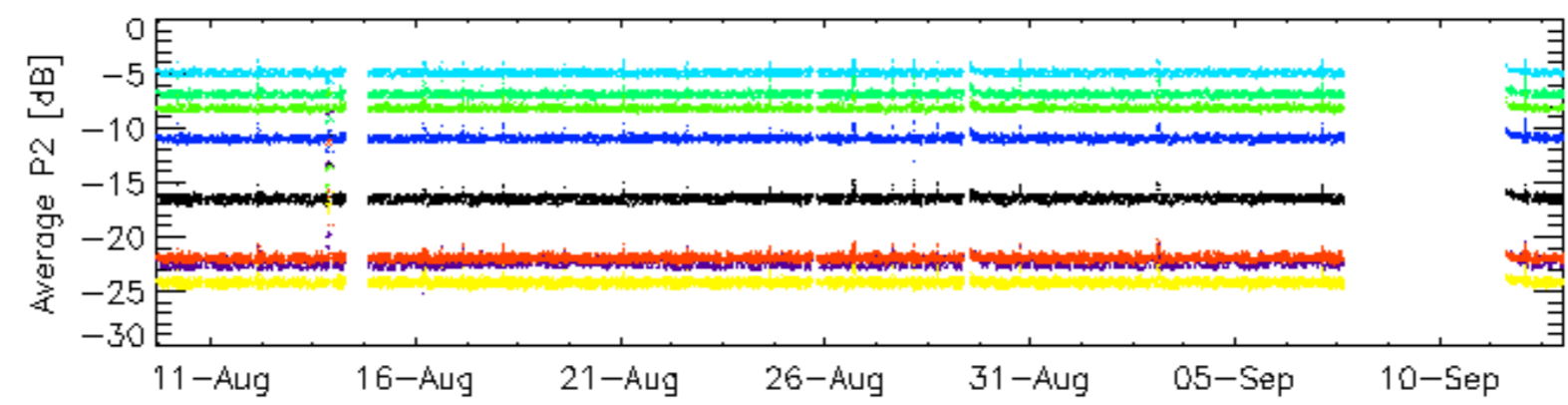
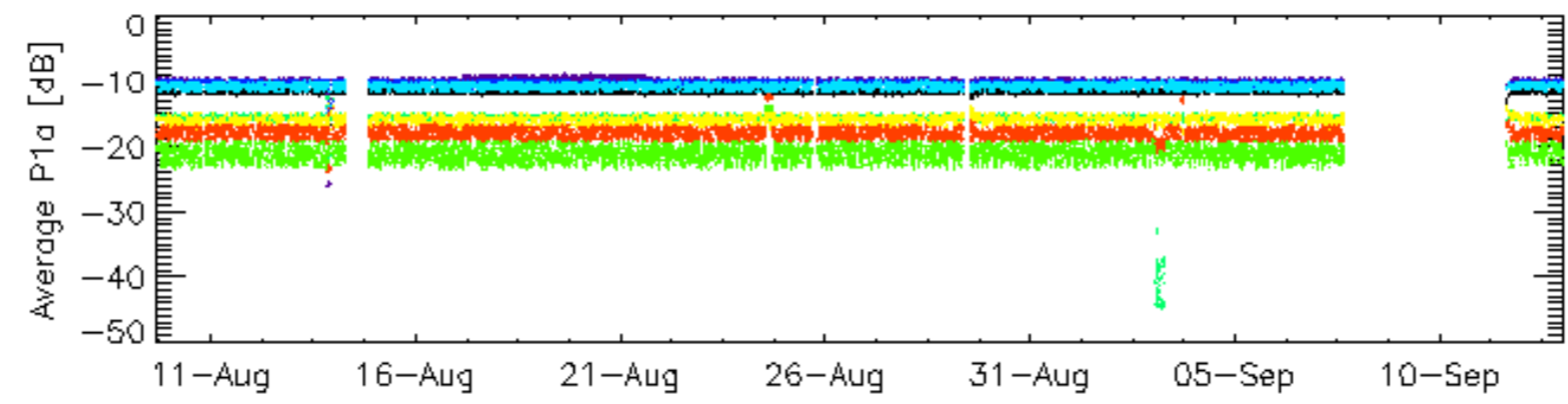
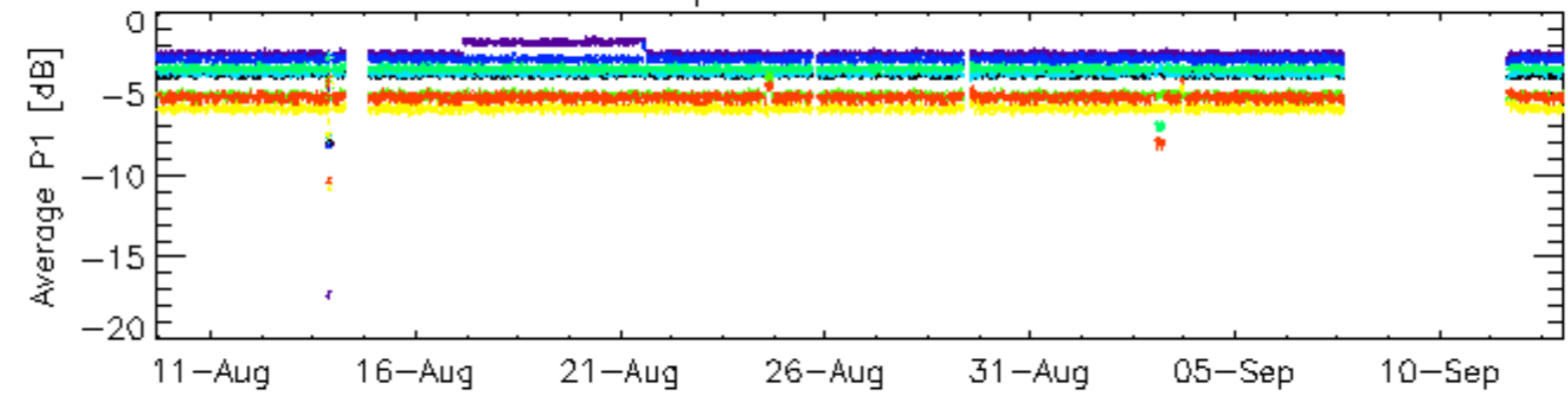


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

13-Sep

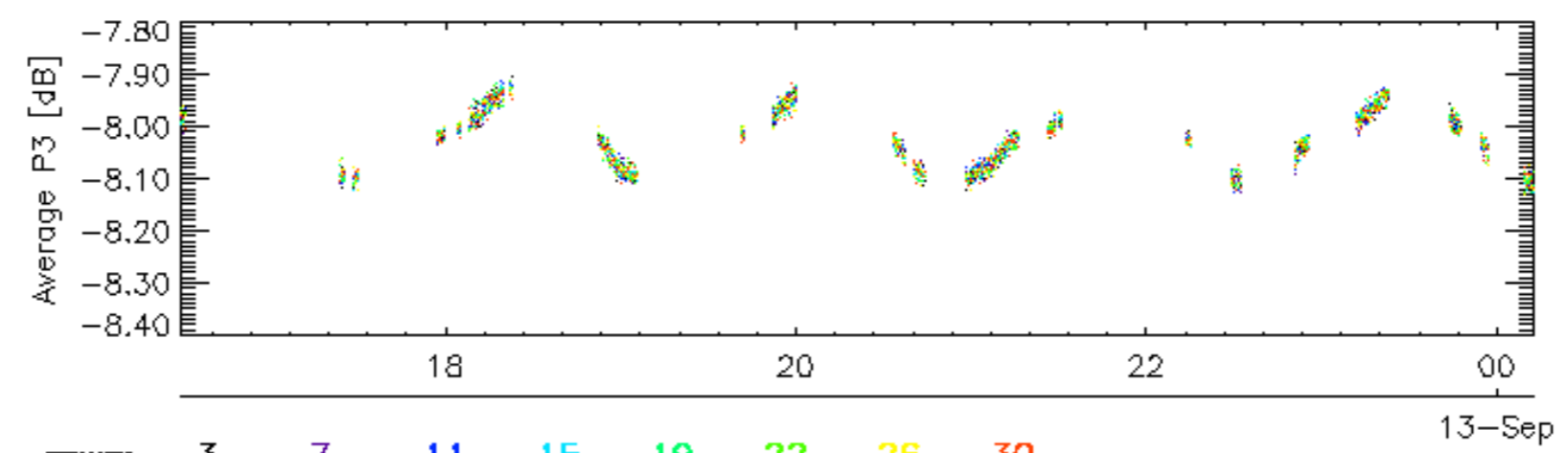
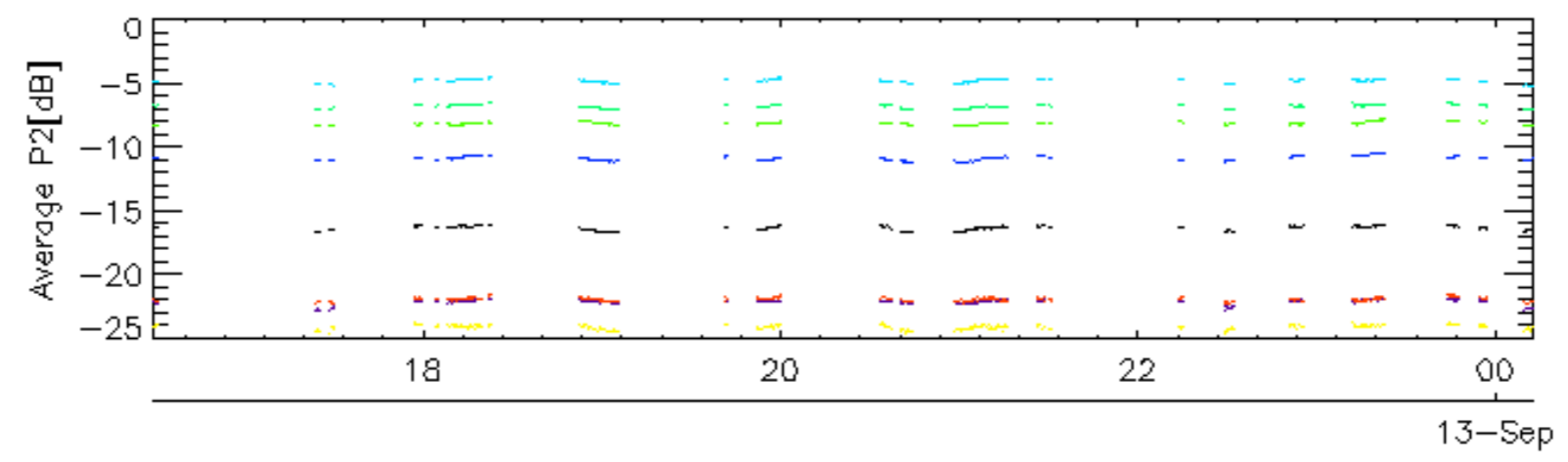
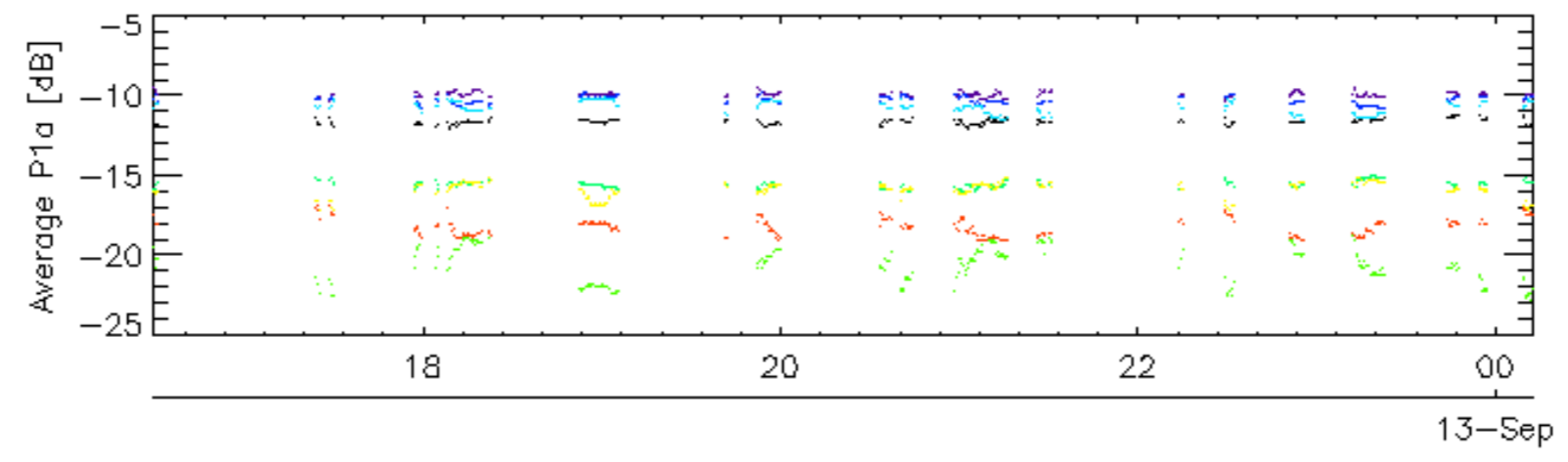
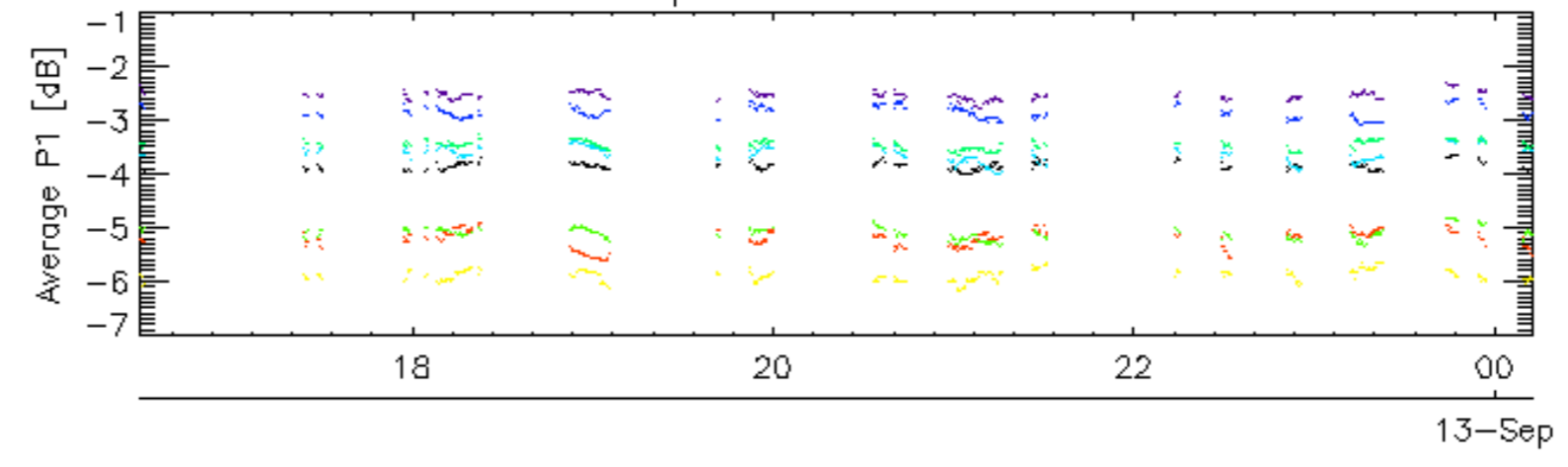


### Cal pulses for GM1 SS3



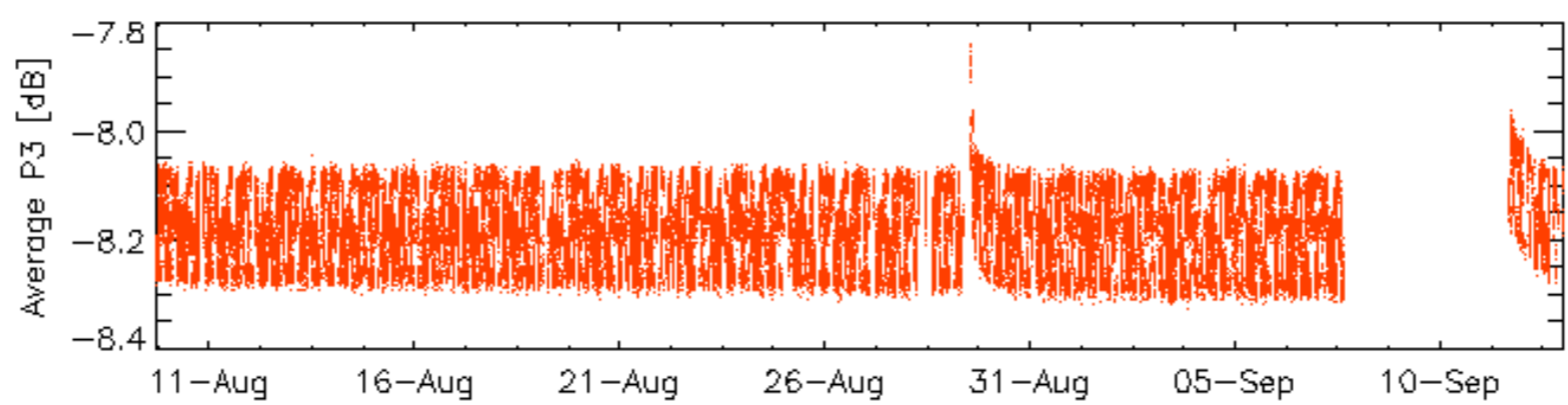
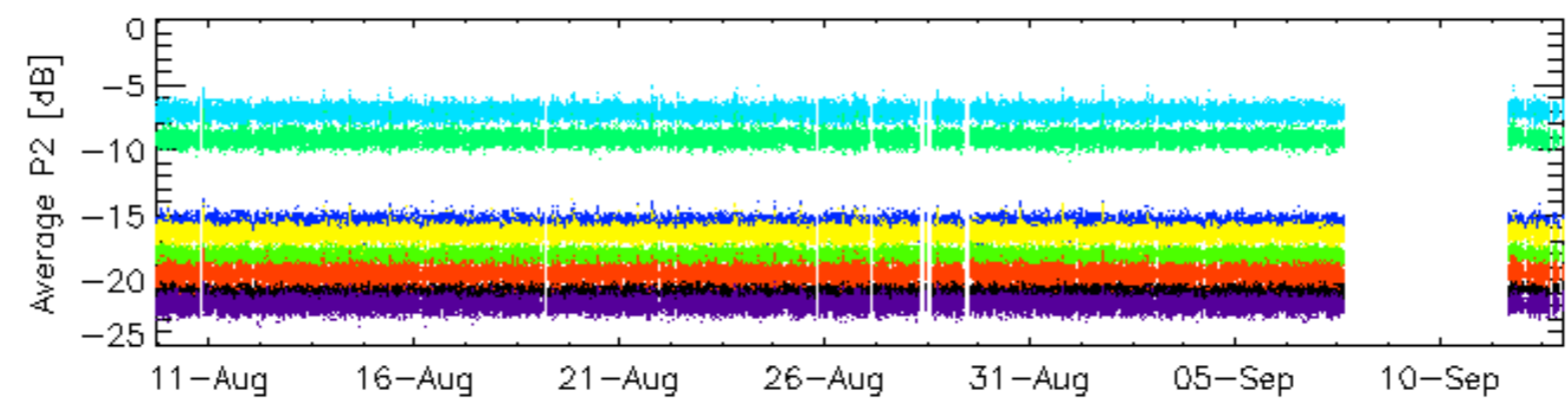
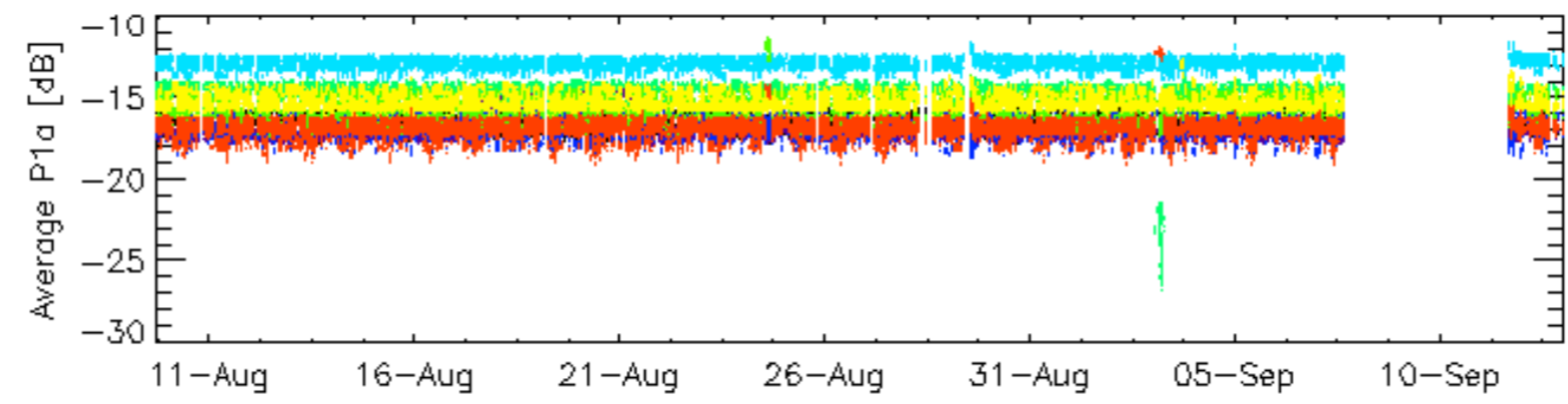
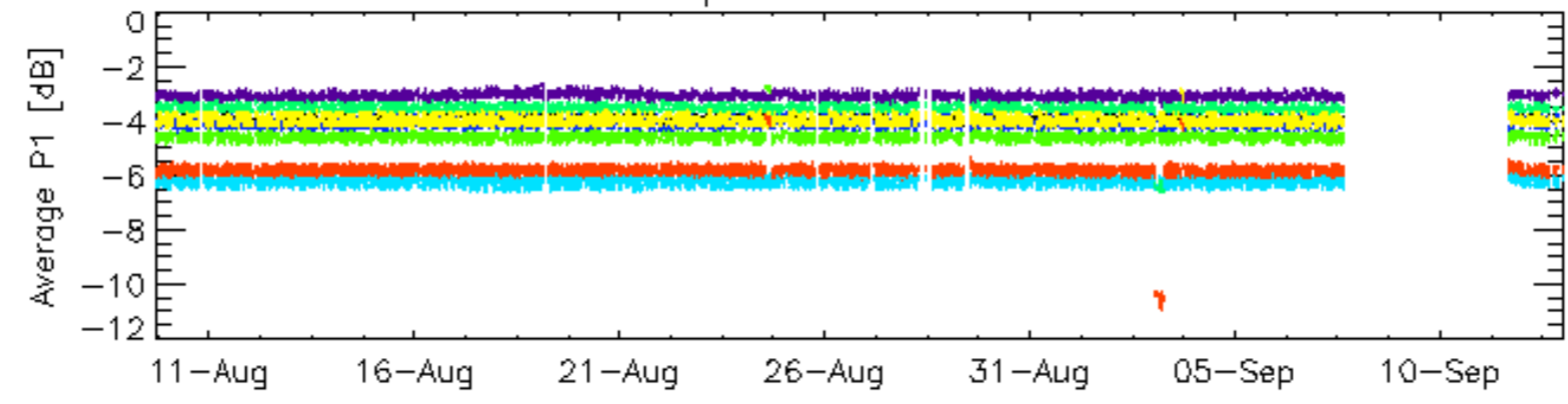
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3



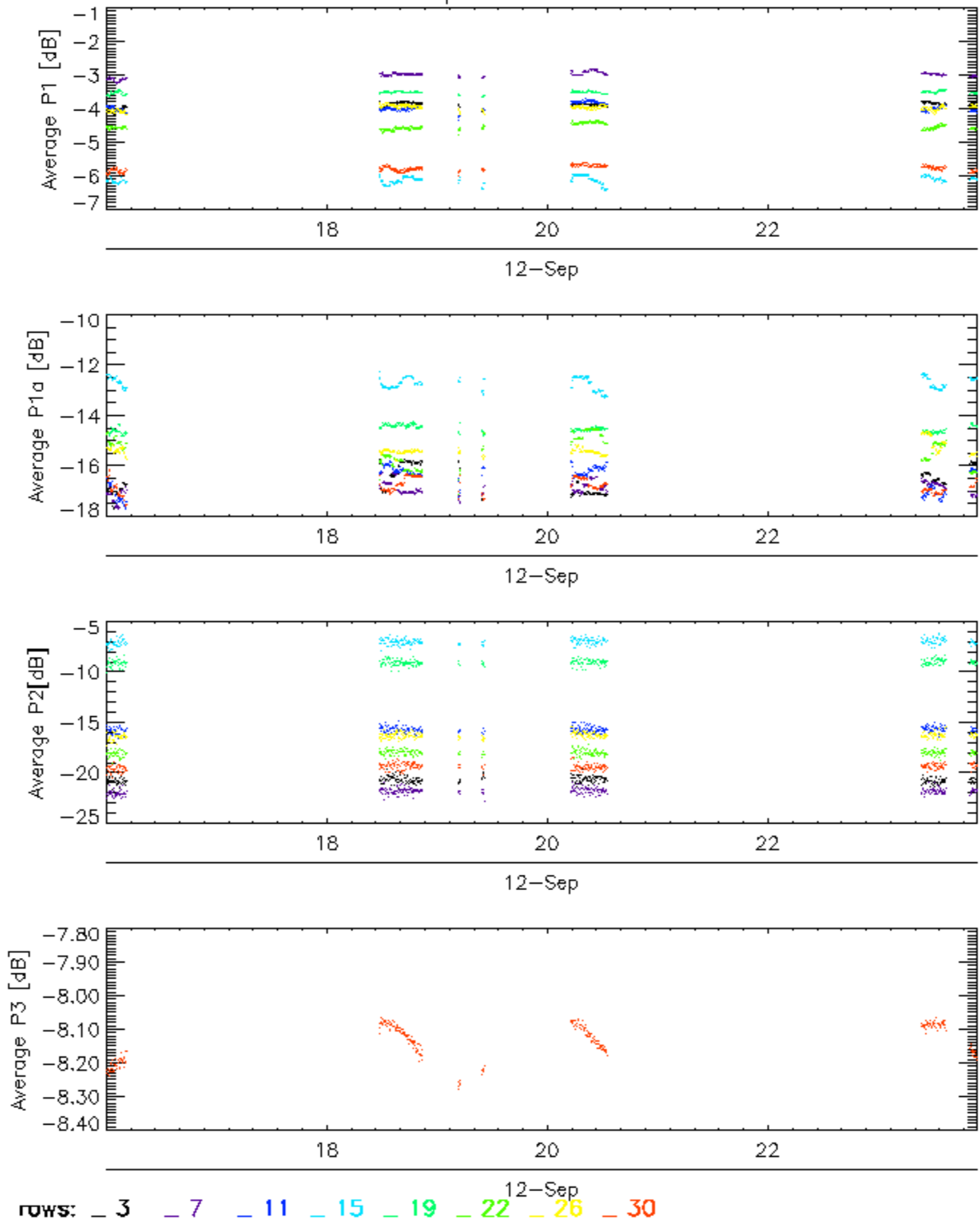
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2



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

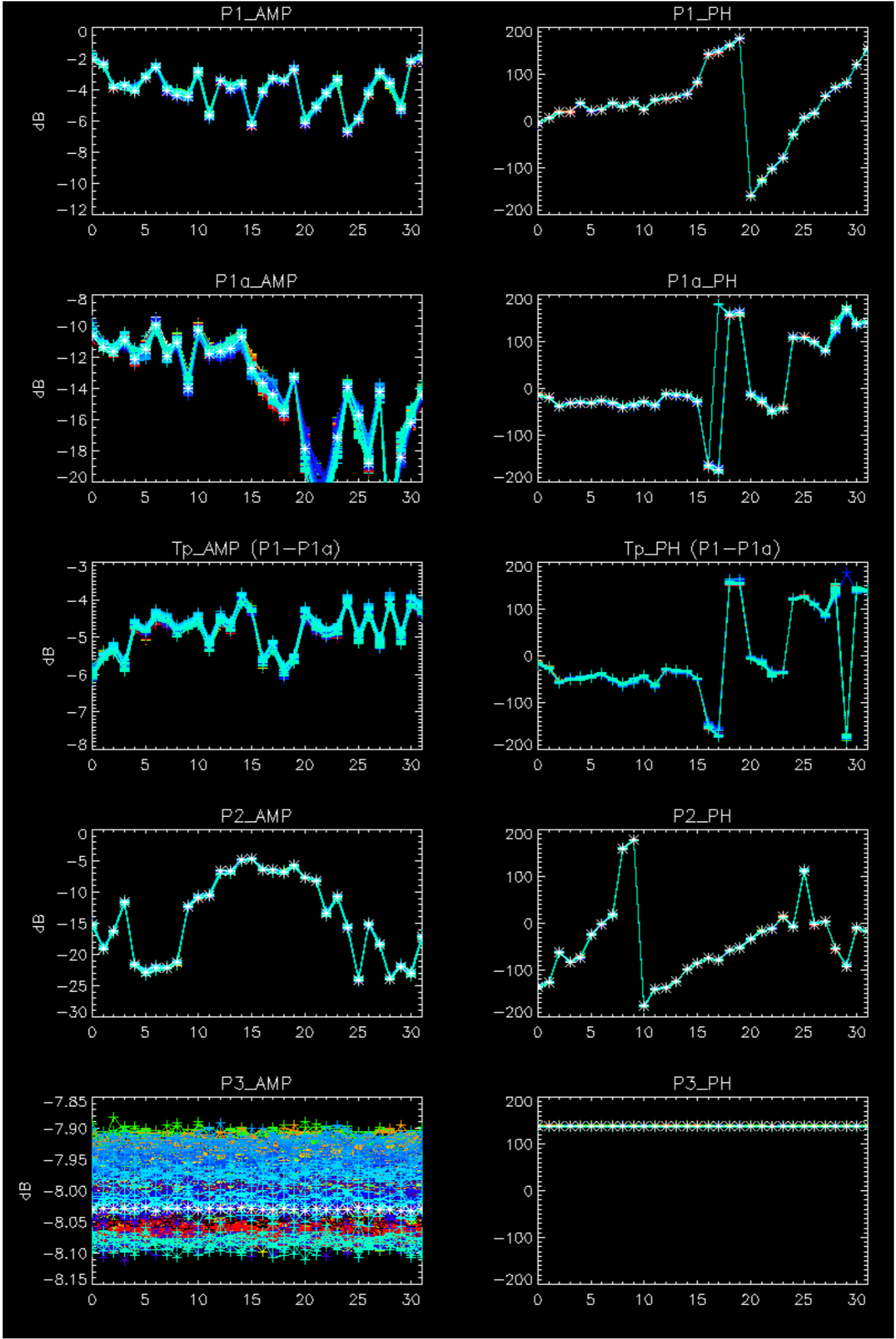
Cal pulses for WVS IS2

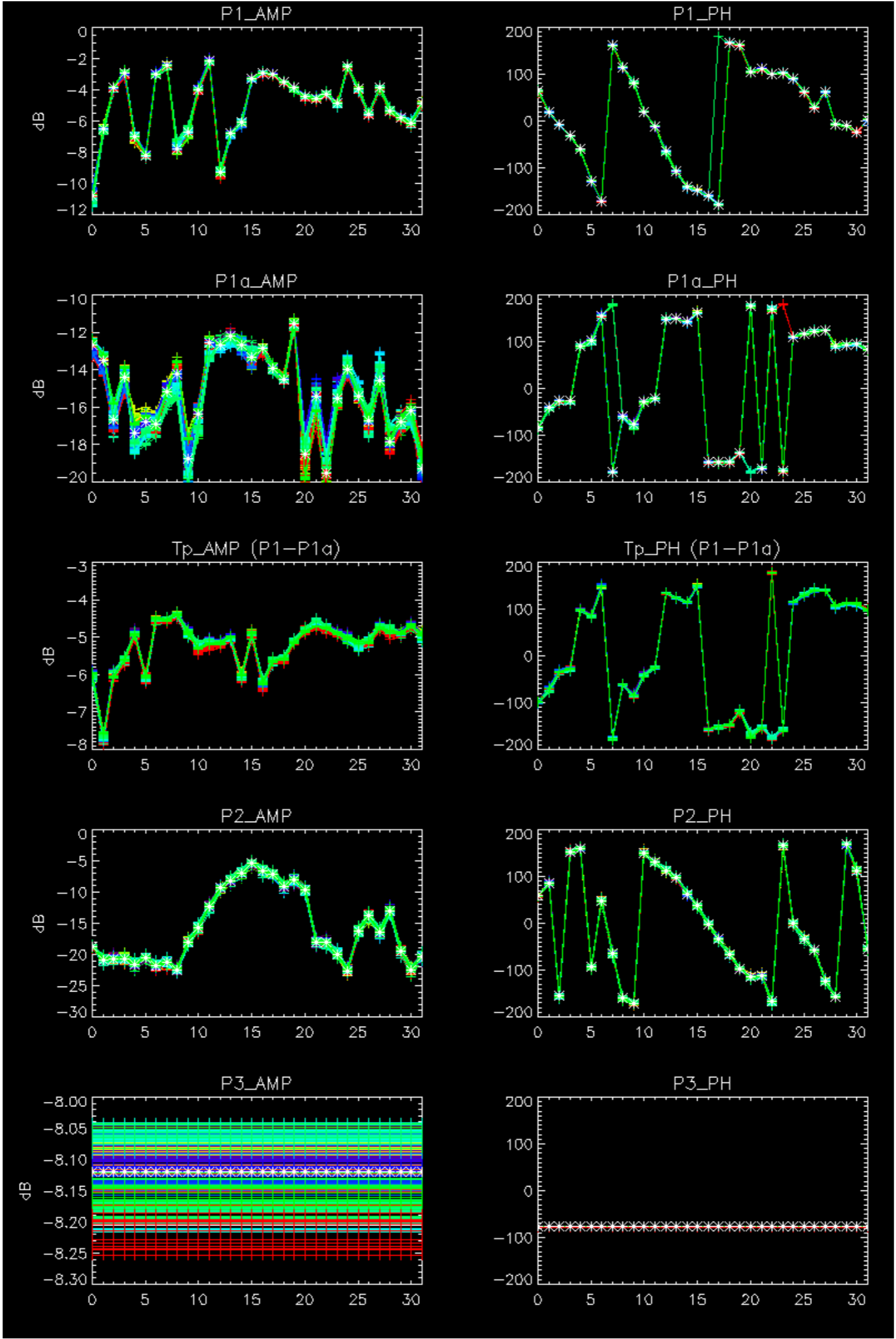


No anomalies observed on available browse products



No anomalies observed.

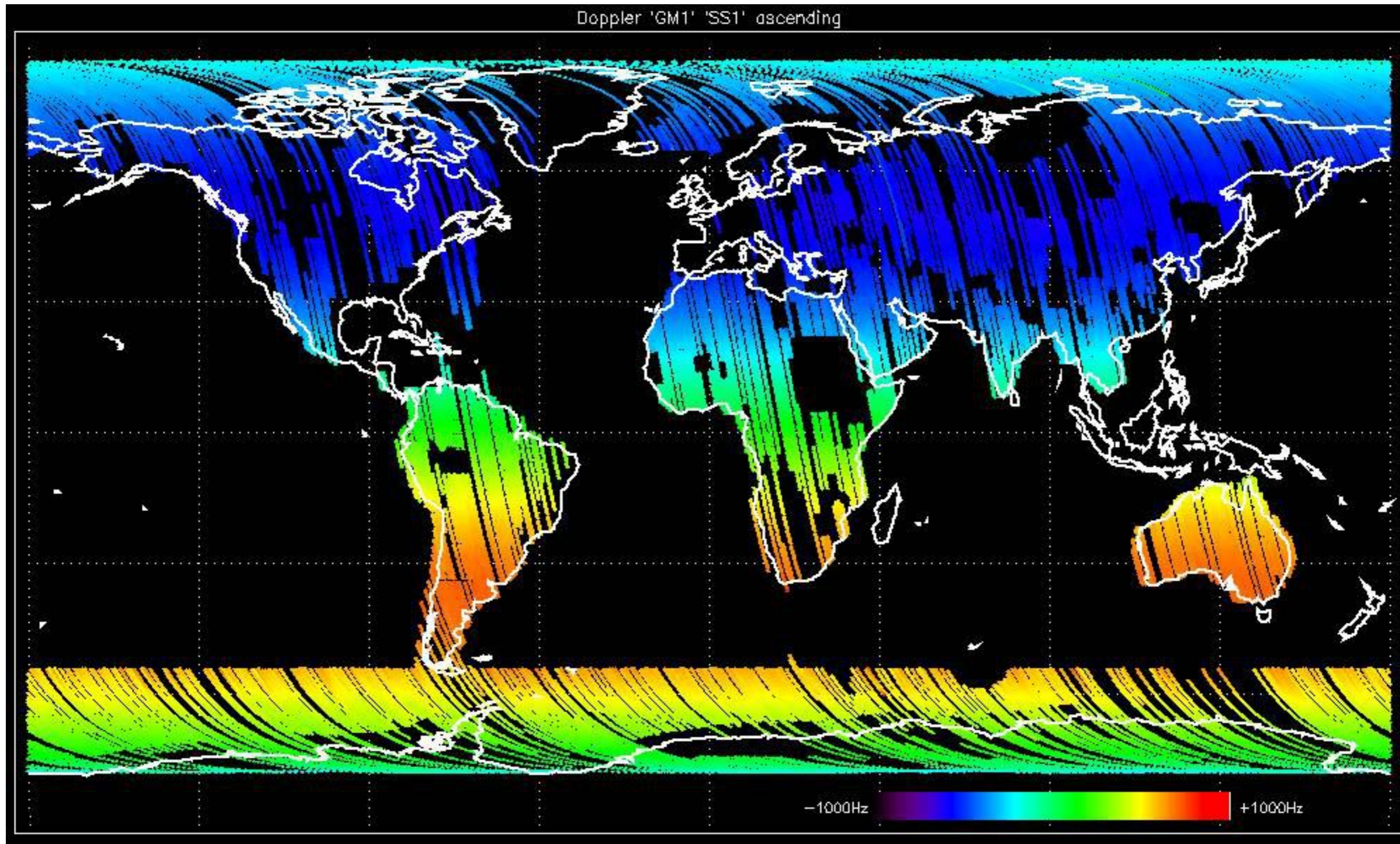




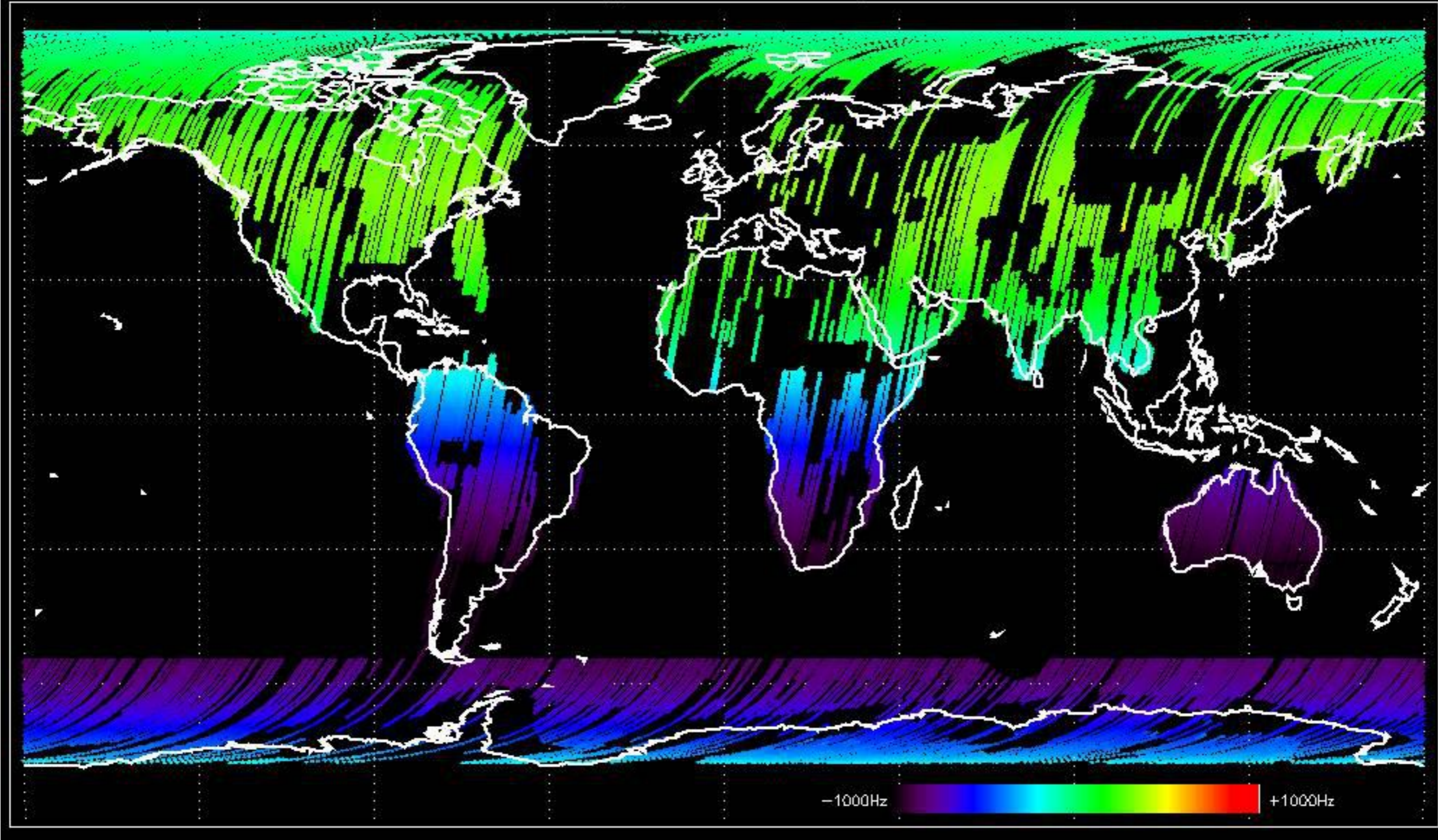
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



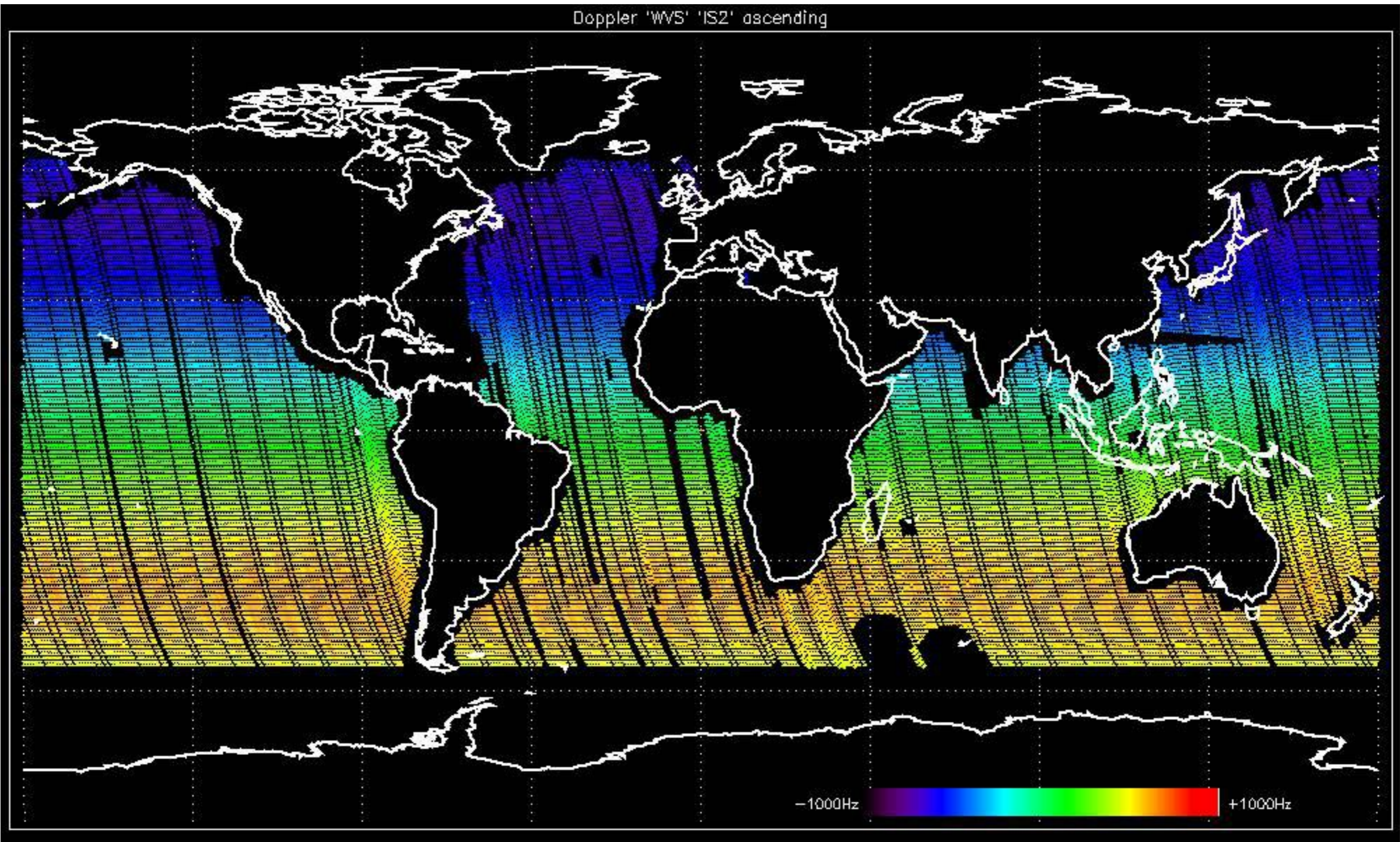
Doppler 'GM1' 'SS1' ascending



Doppler 'GM1' 'SS1' descending

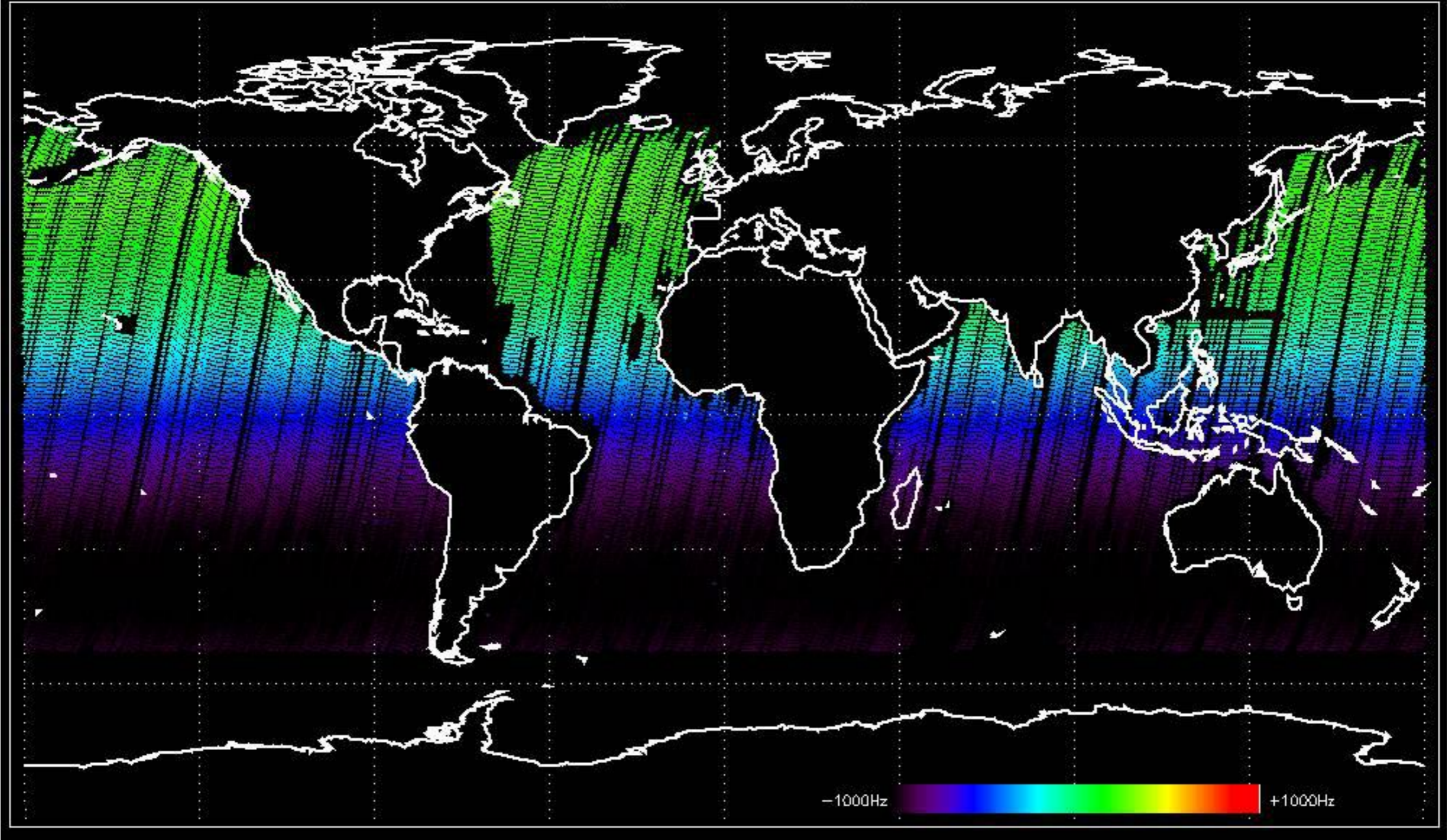


Doppler 'WVS' 'IS2' ascending

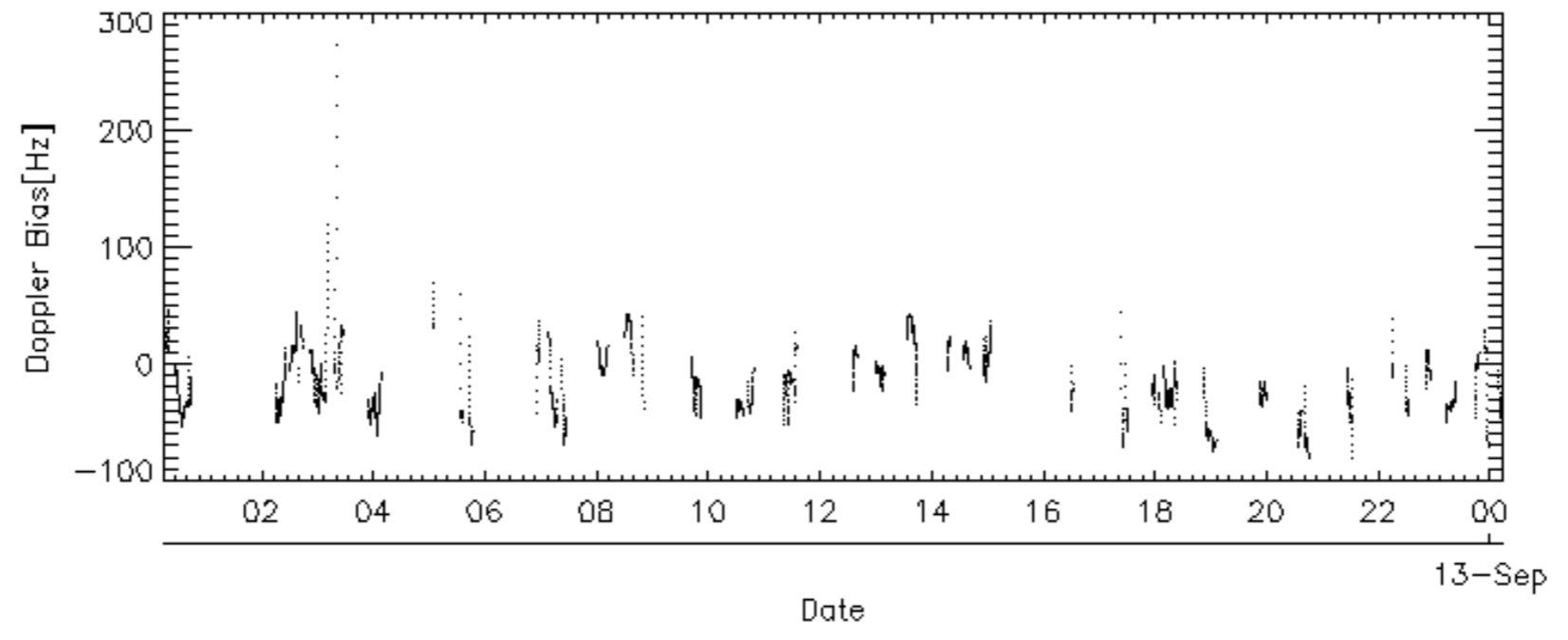
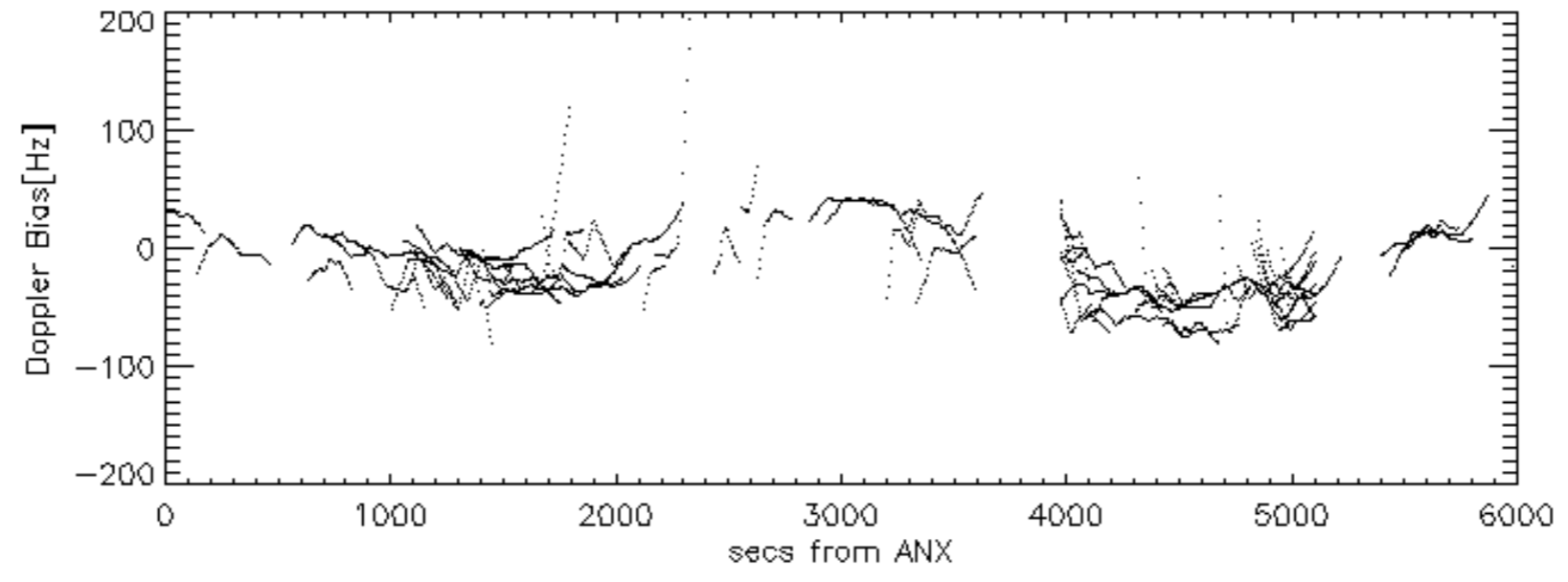
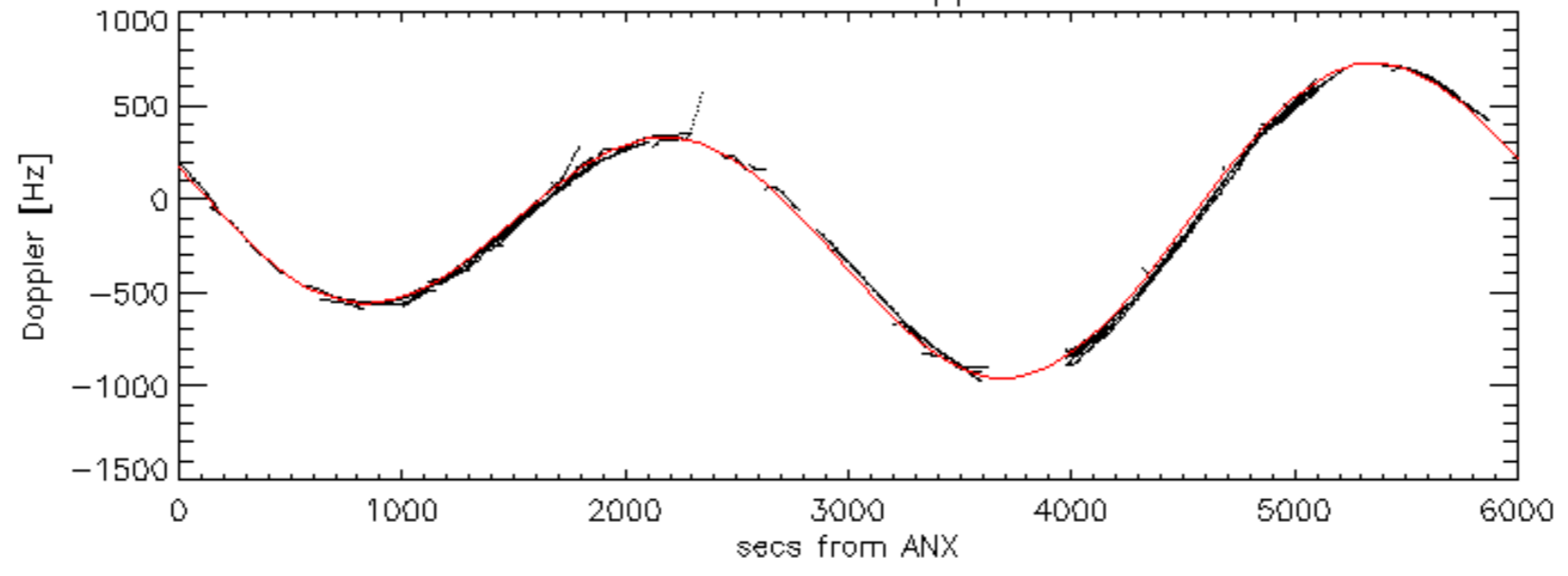


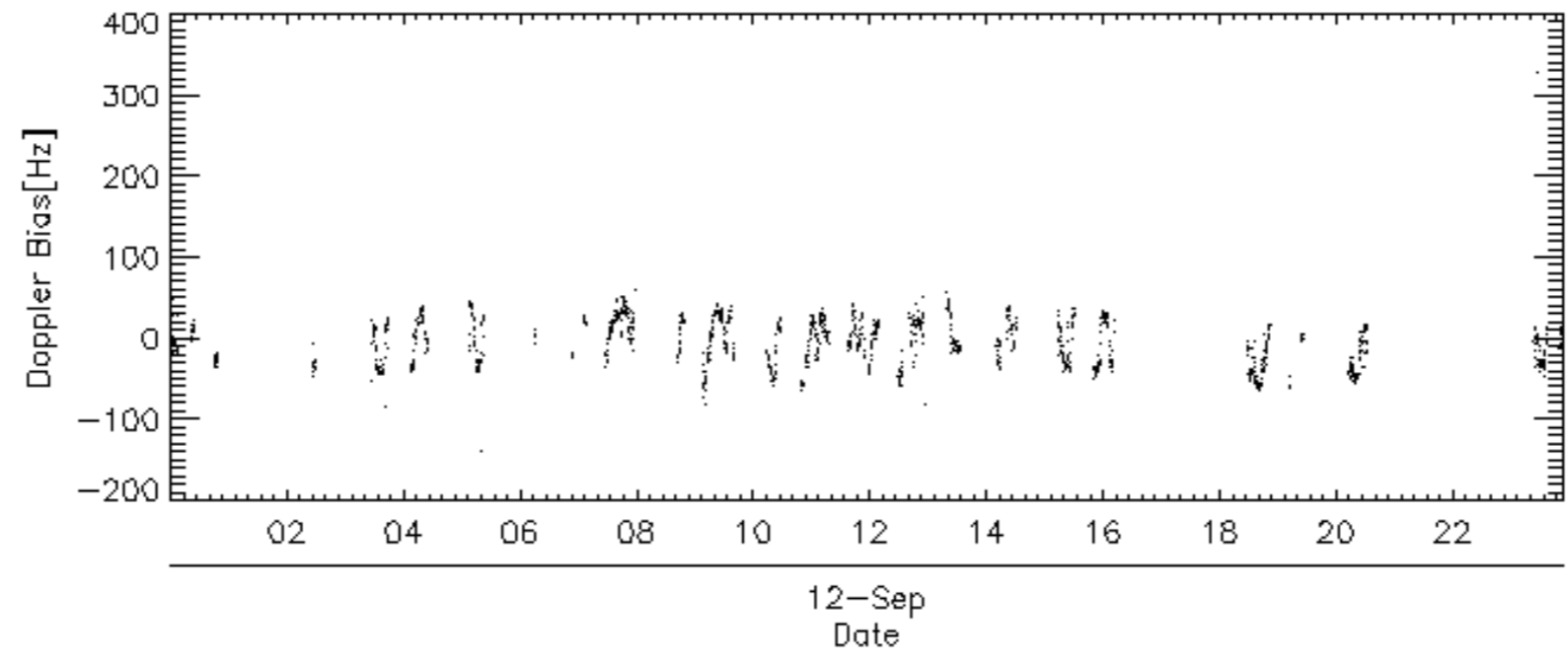
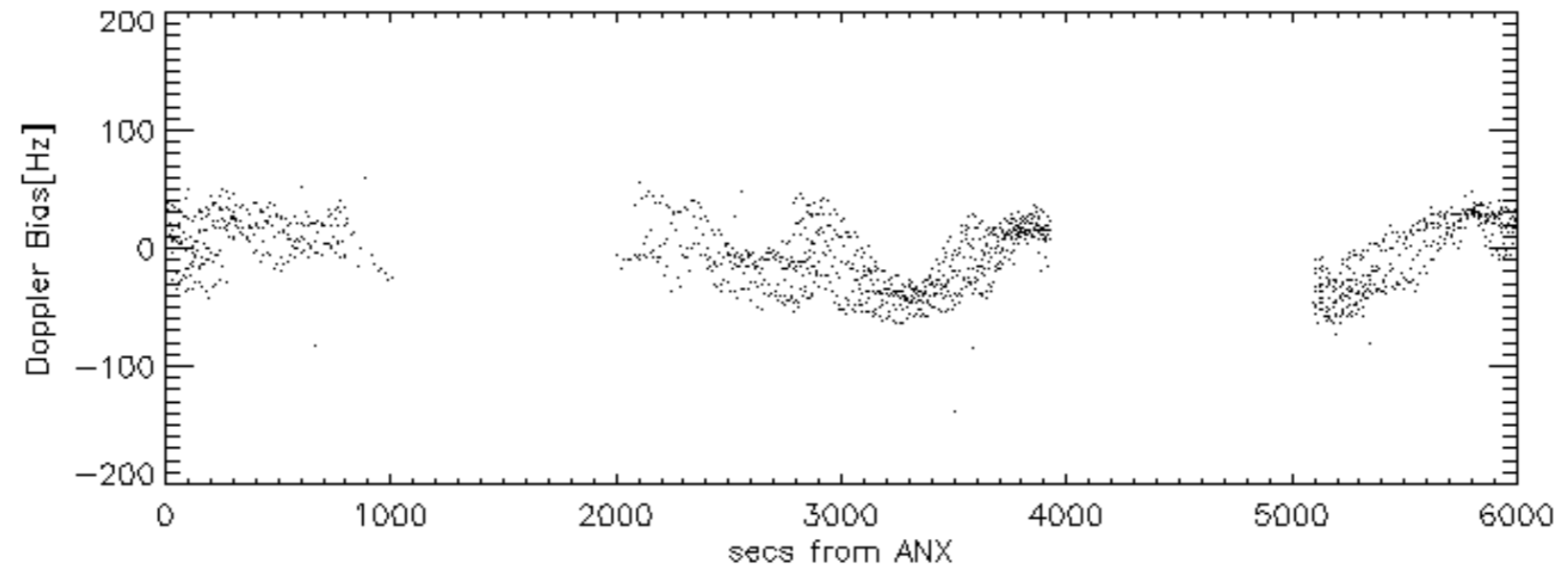
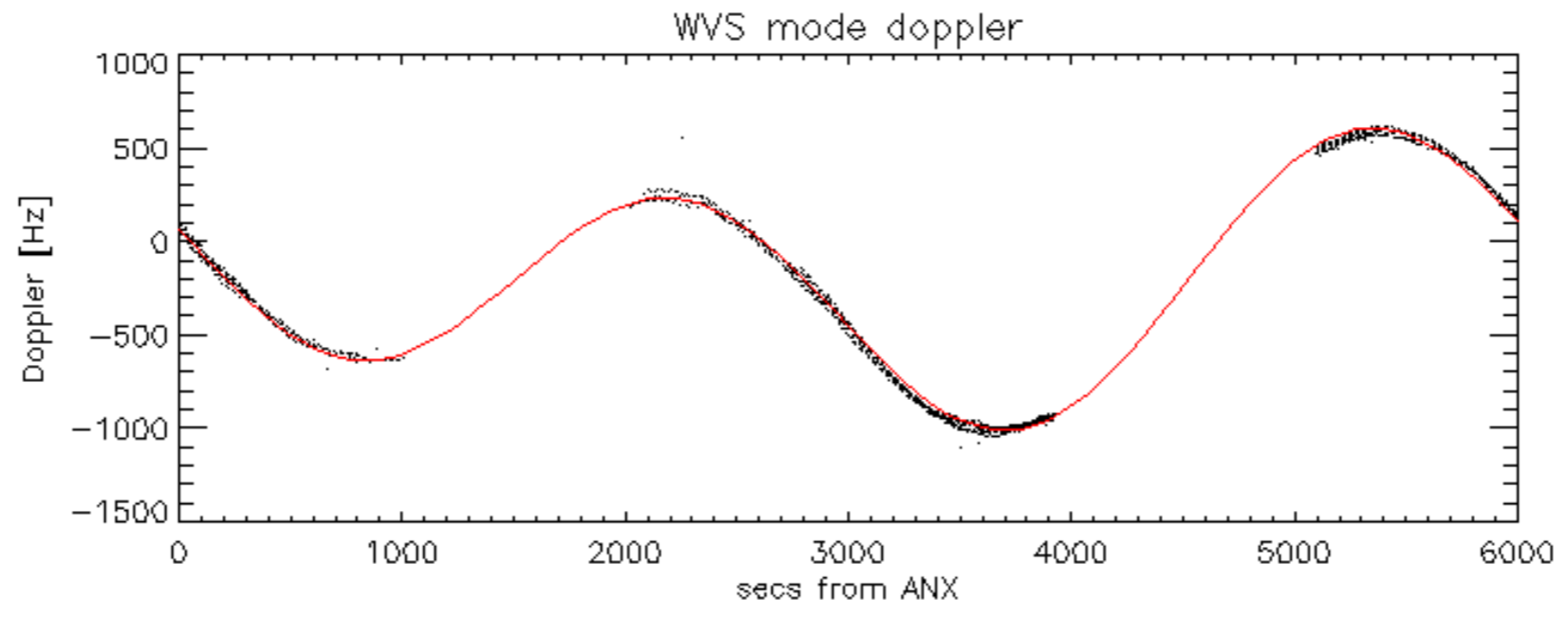


Doppler 'WVS' 'IS2' descending

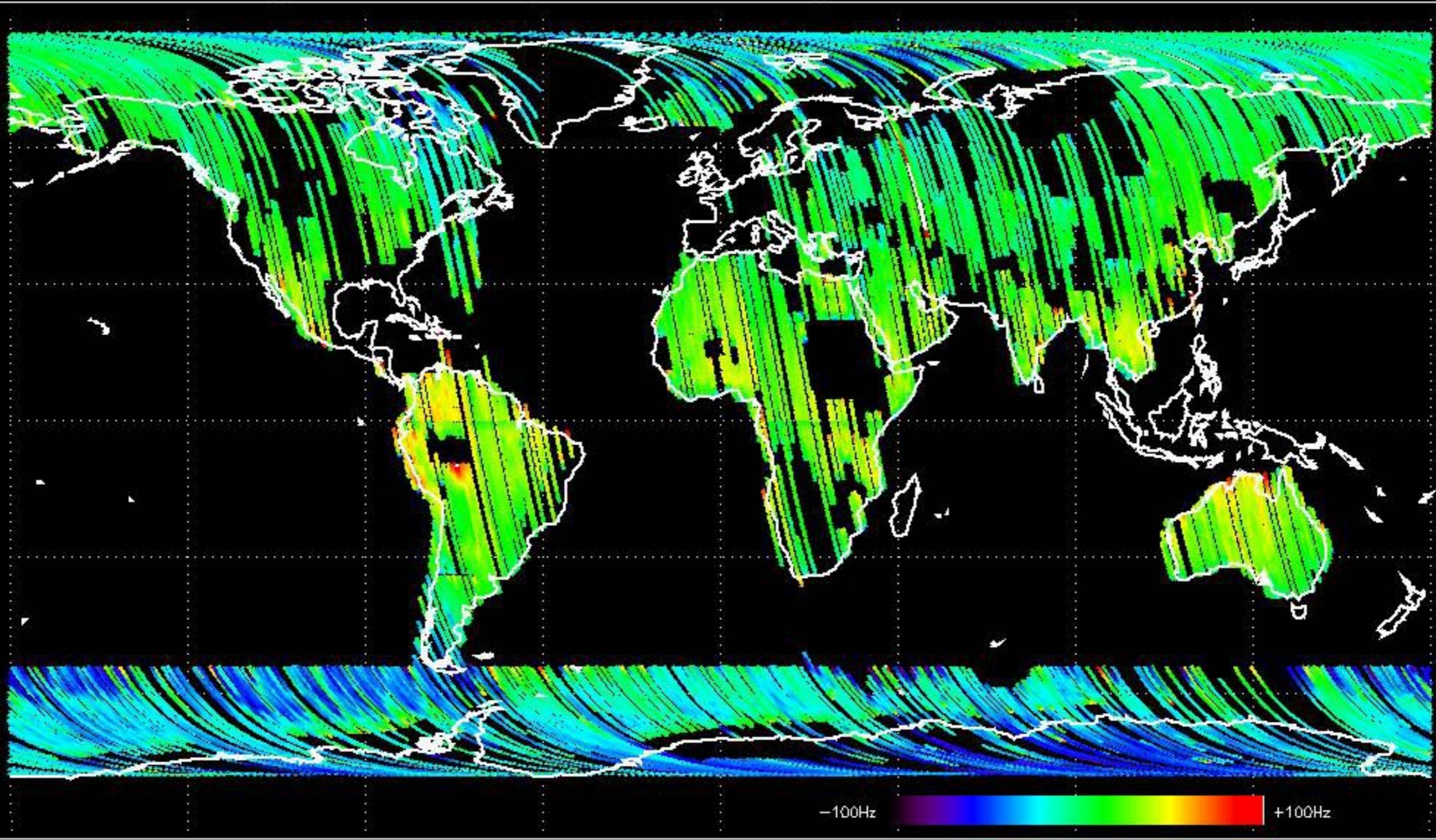


GM1 mode doppler

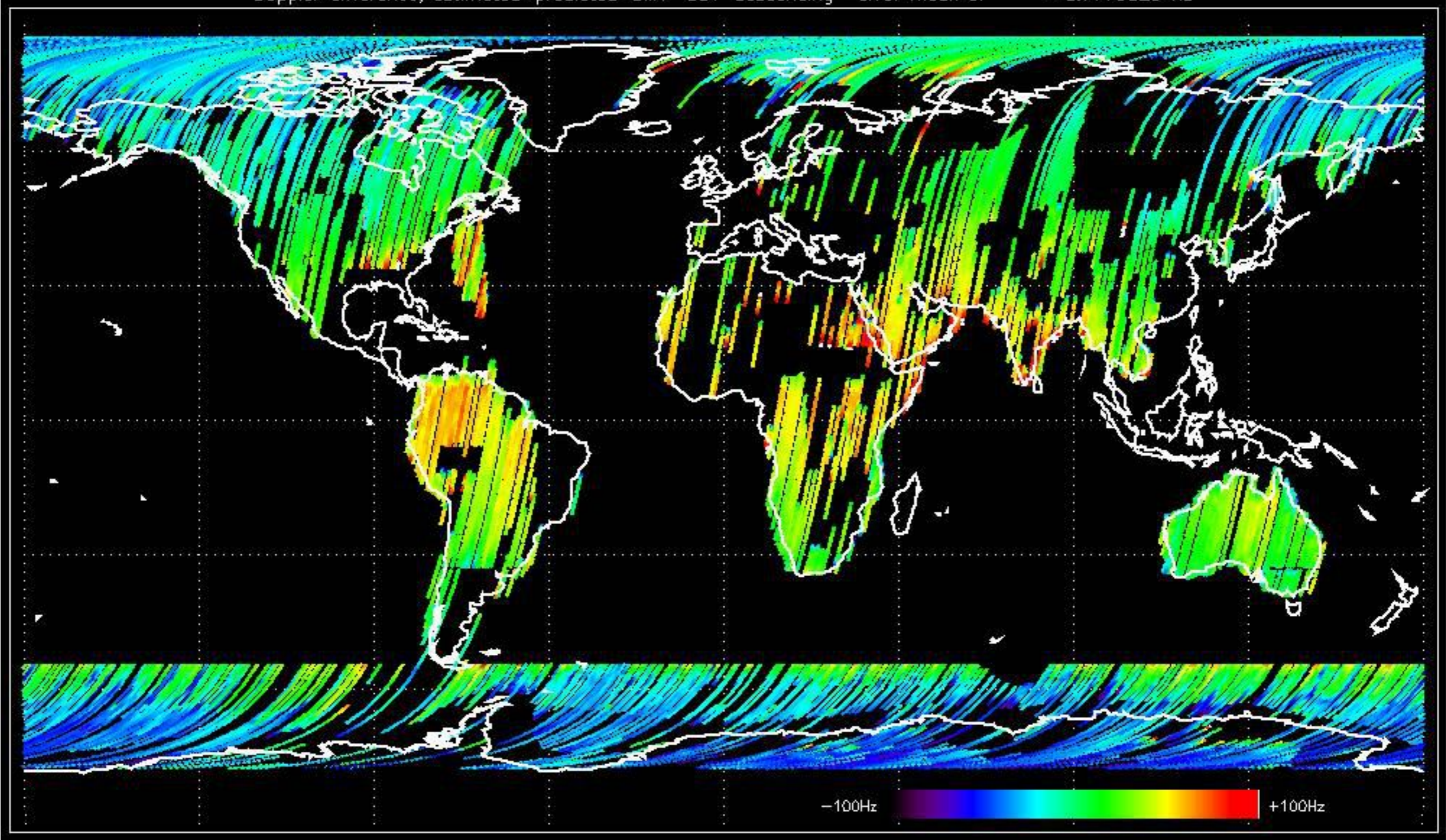




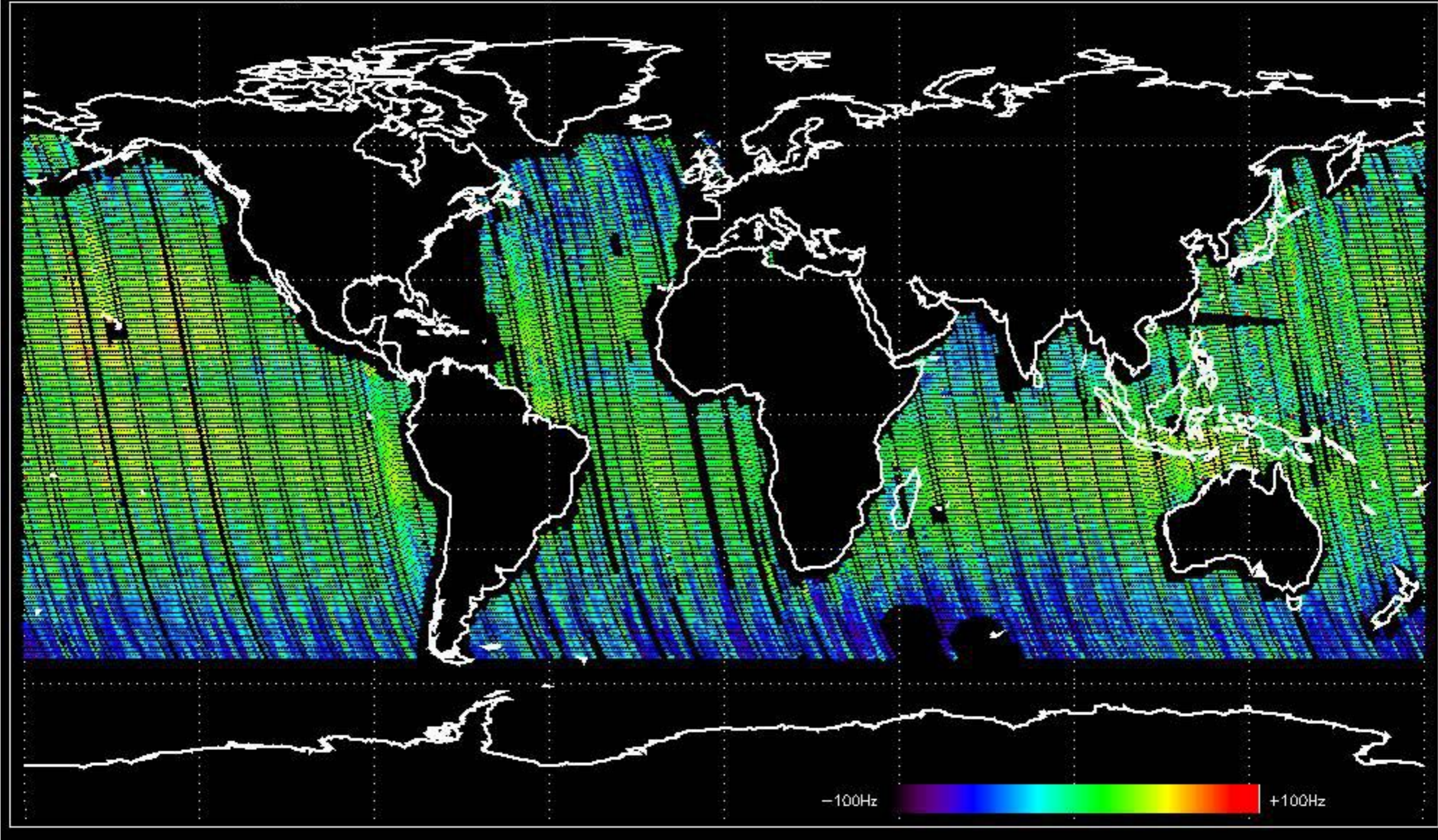
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -18.662196 Hz



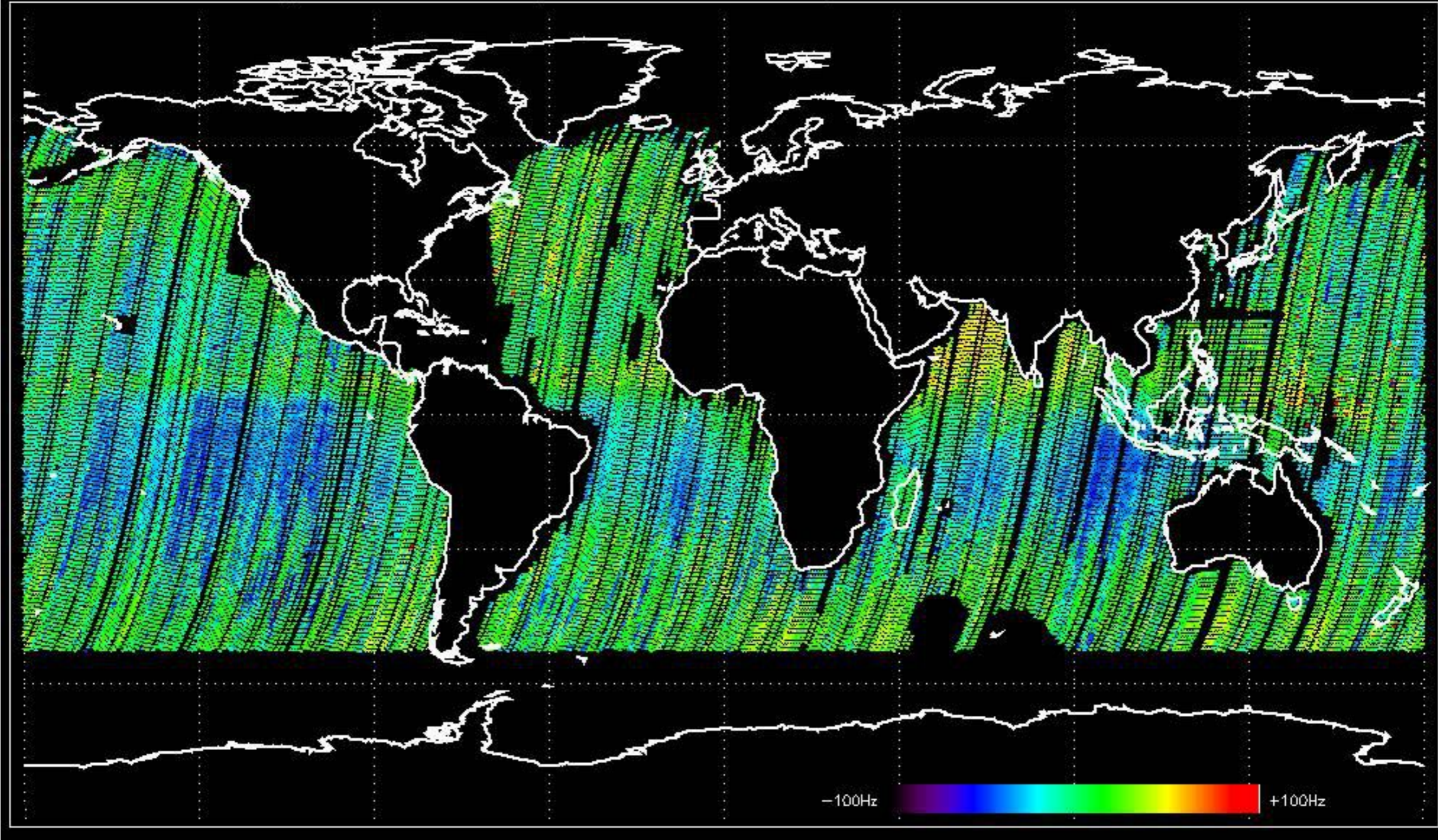
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -8.7779825 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -6.3357291 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -7.7794619 Hz



No anomalies observed on available MS products:



No anomalies observed.









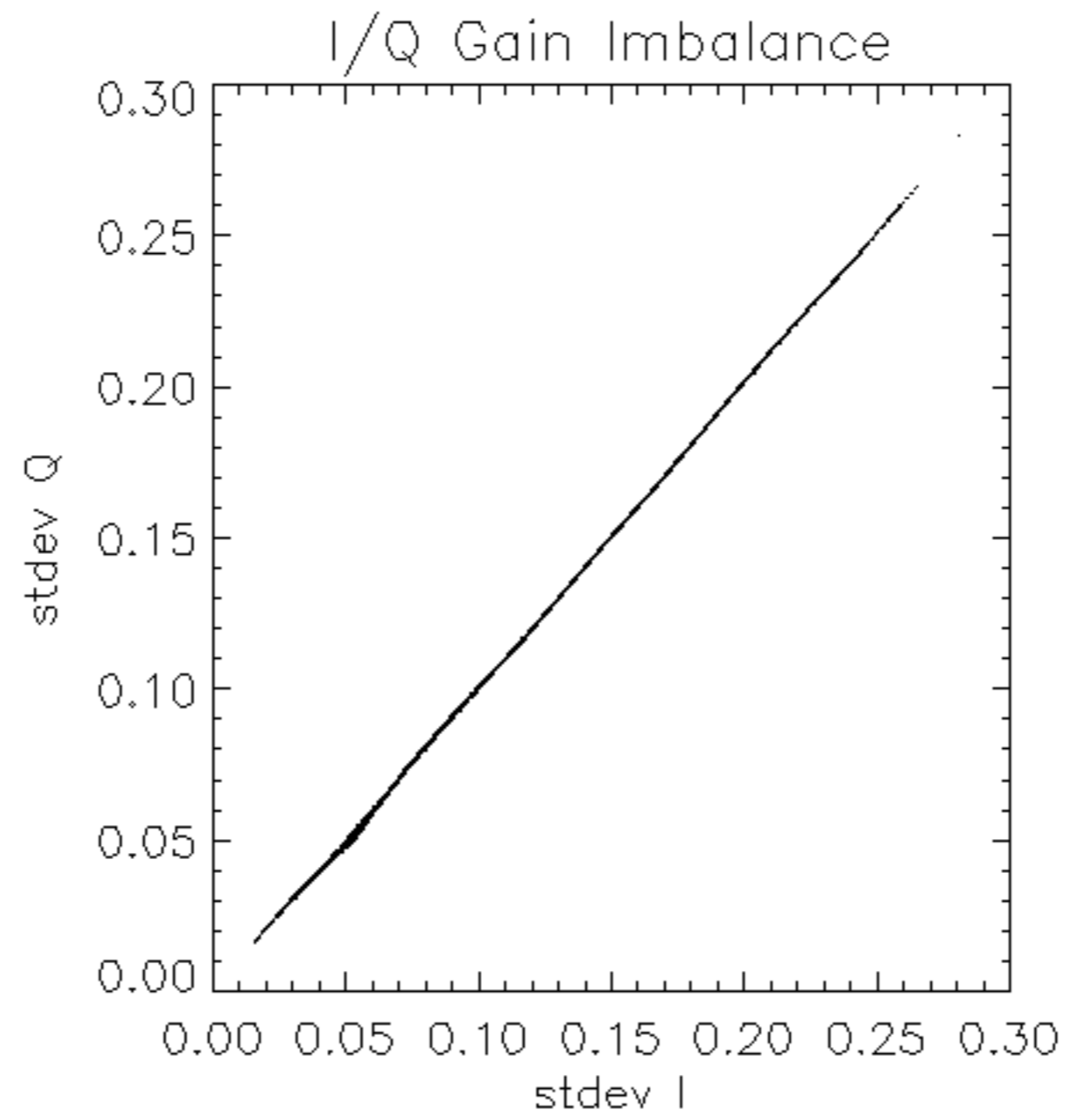


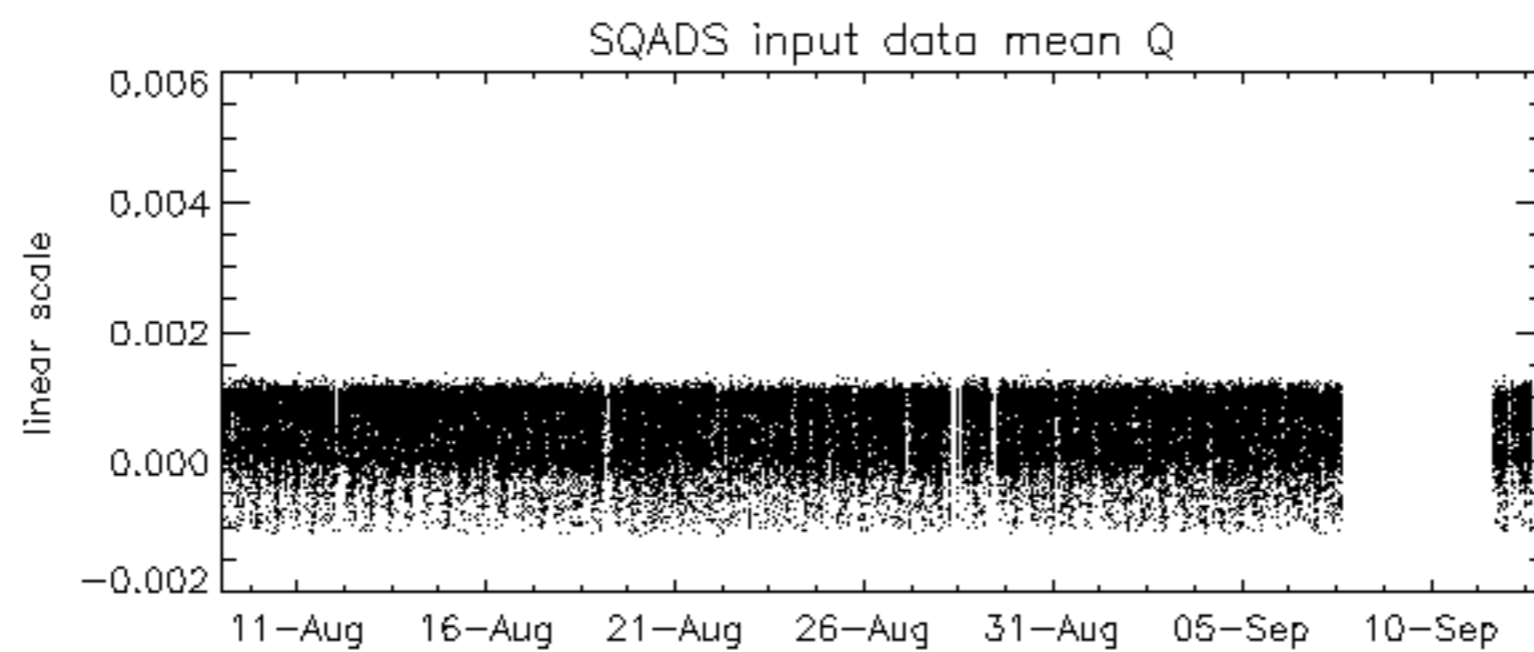
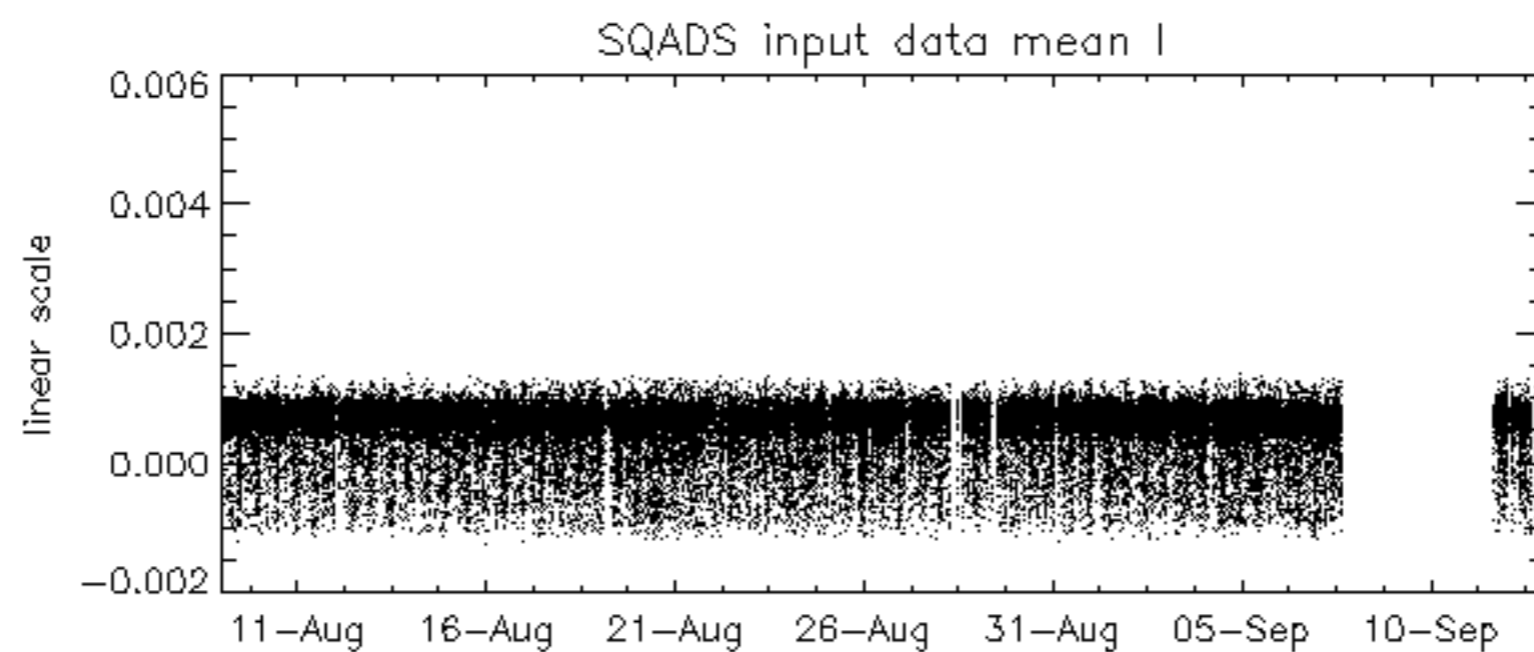
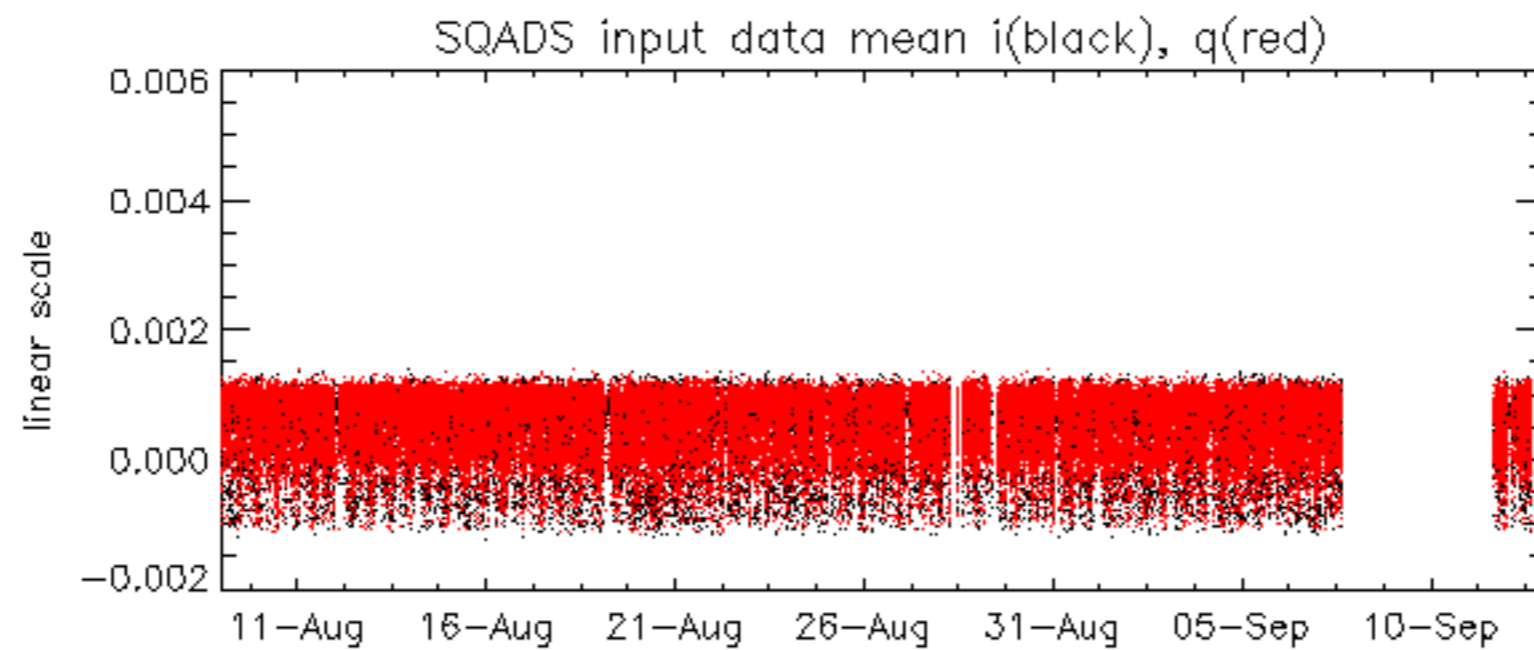


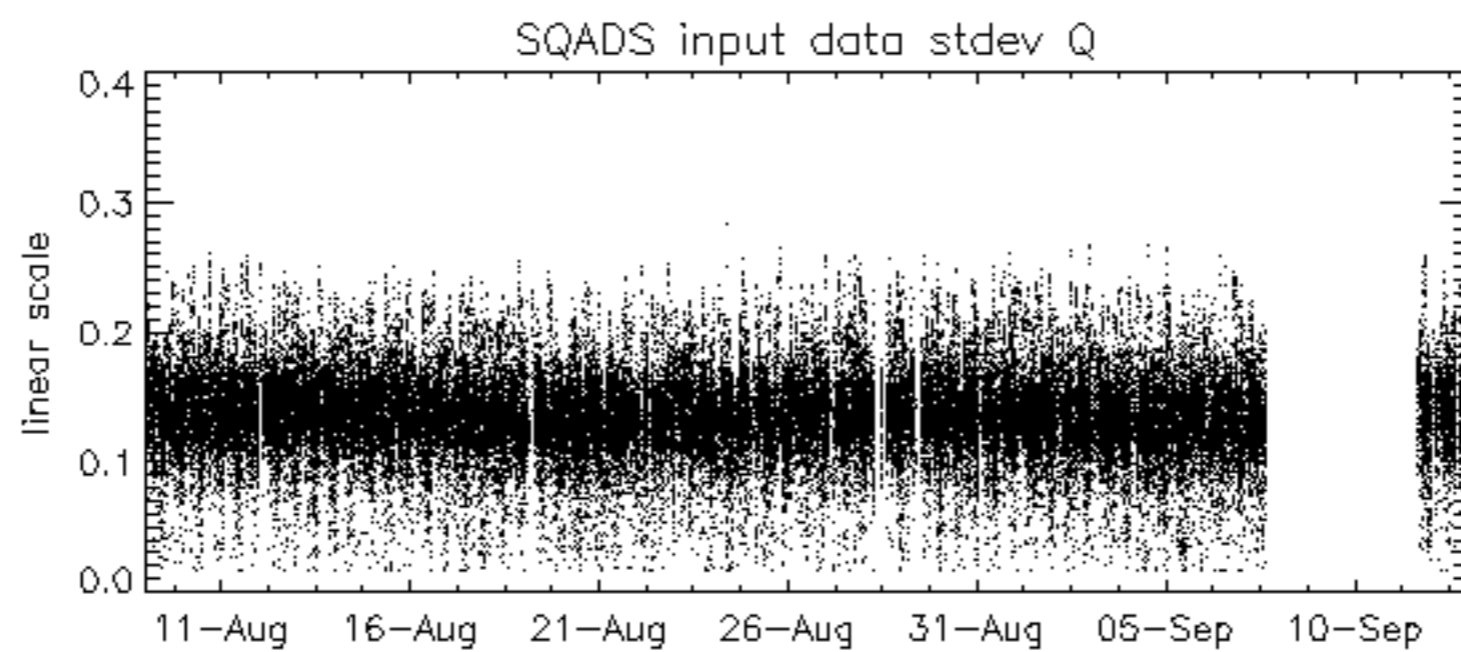
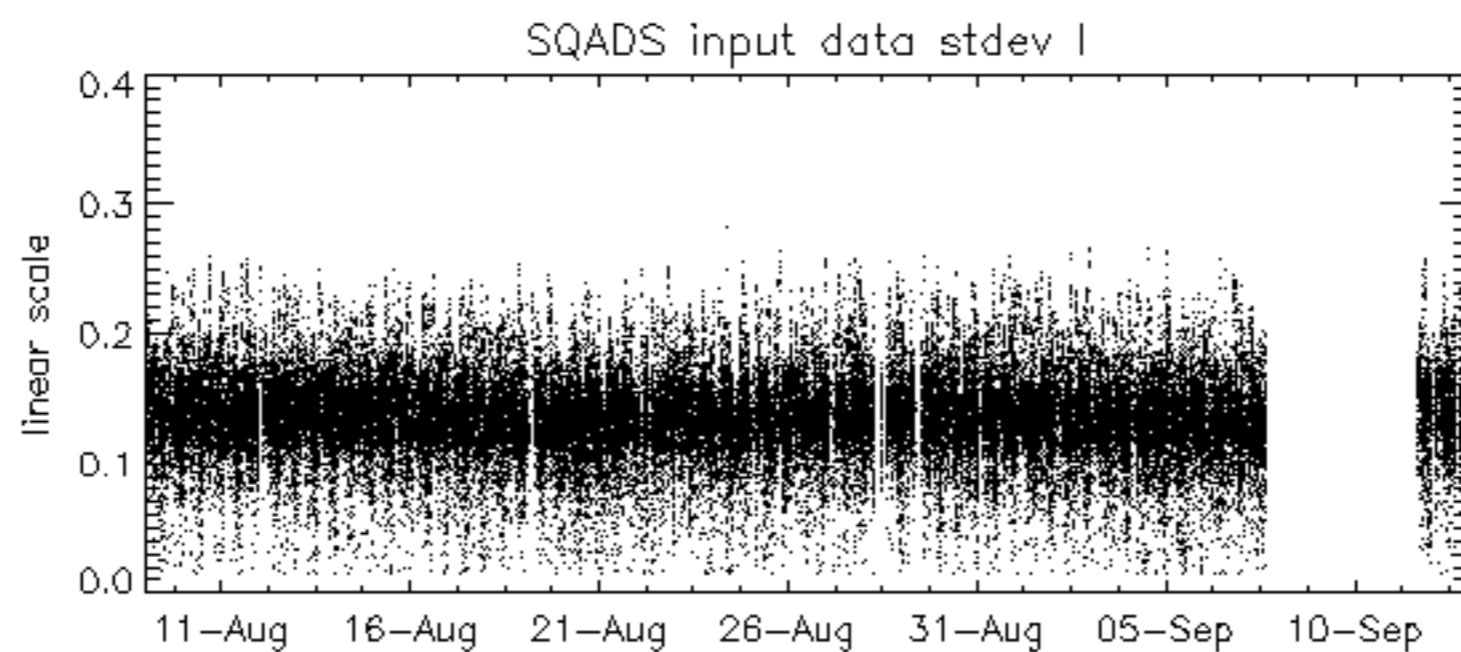
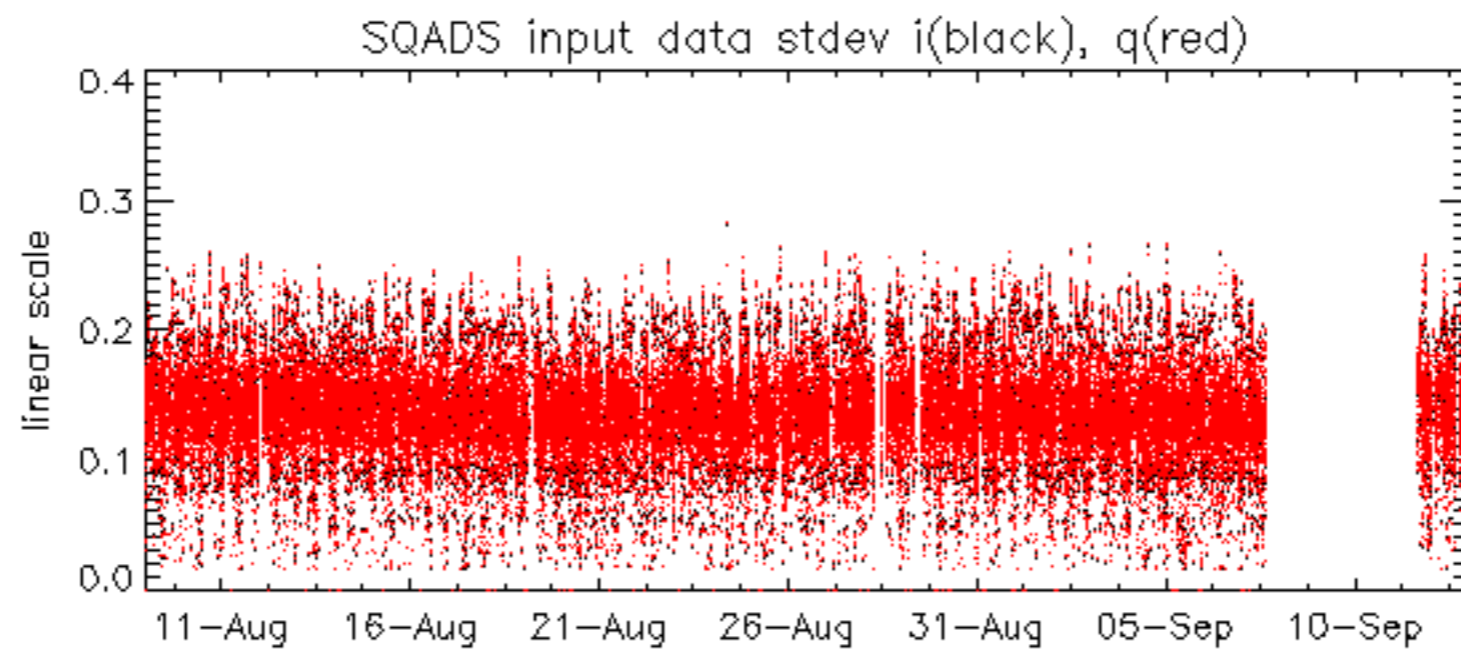




















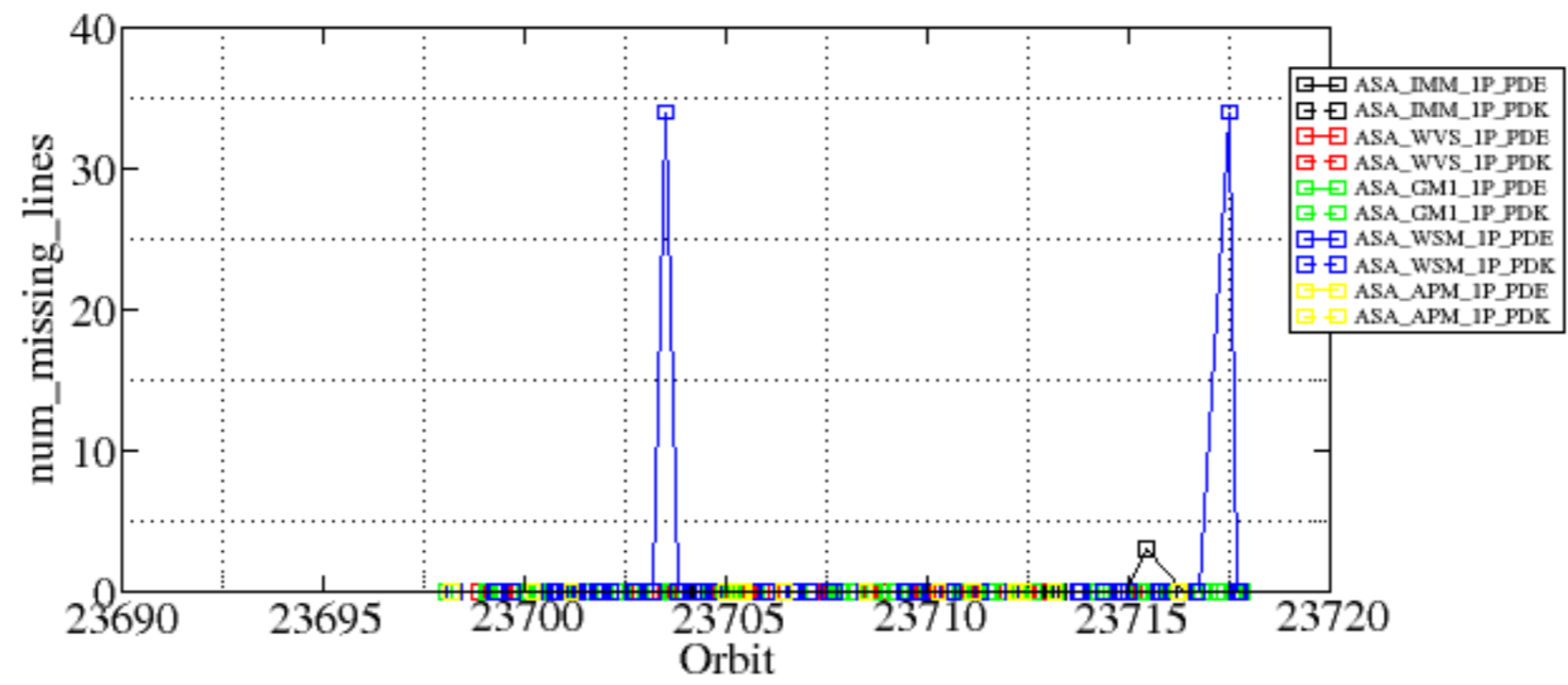


Summary of analysis for the last 3 days 2006091[123]

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_1PNPDE20060912_192317_00000512051_00113_23714_5669.N1	1	0
ASA_IMM_1PNPDE20060912_201158_00000372051_00114_23715_5671.N1	0	3
ASA_WSM_1PNPDE20060912_000911_000003242051_00102_23703_1588.N1	0	34
ASA_WSM_1PNPDE20060912_233734_000003242051_00116_23717_1761.N1	0	34



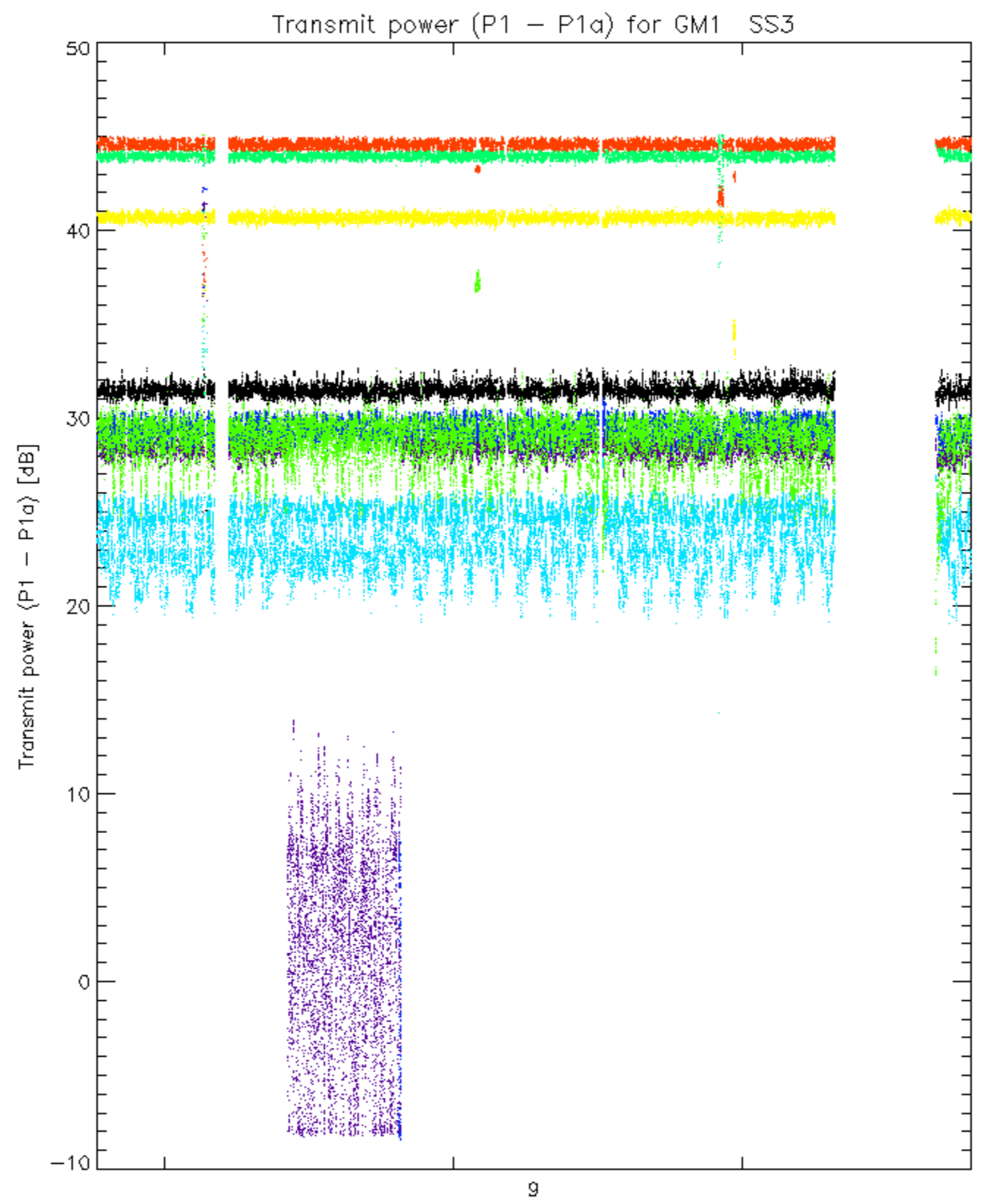




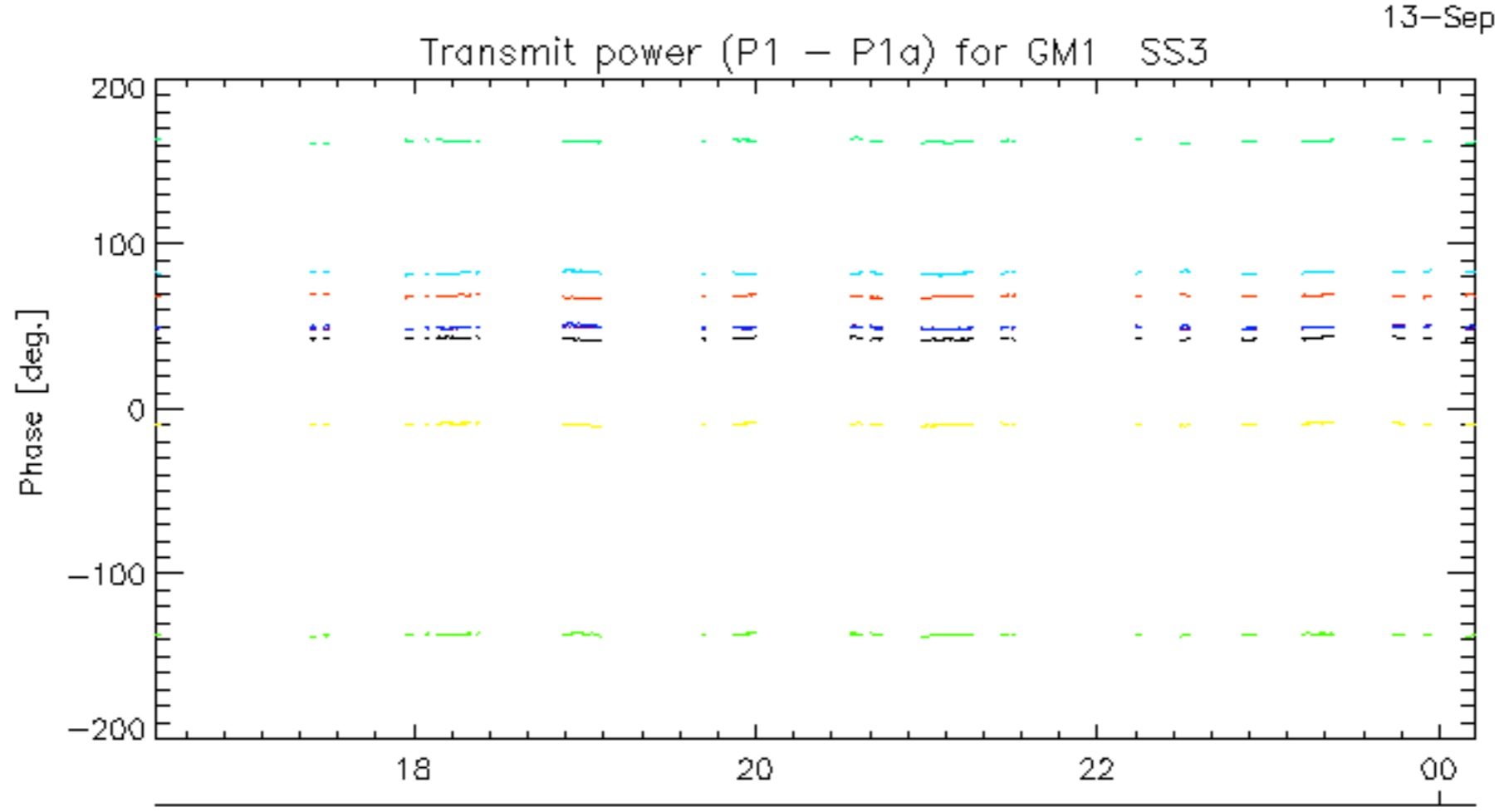
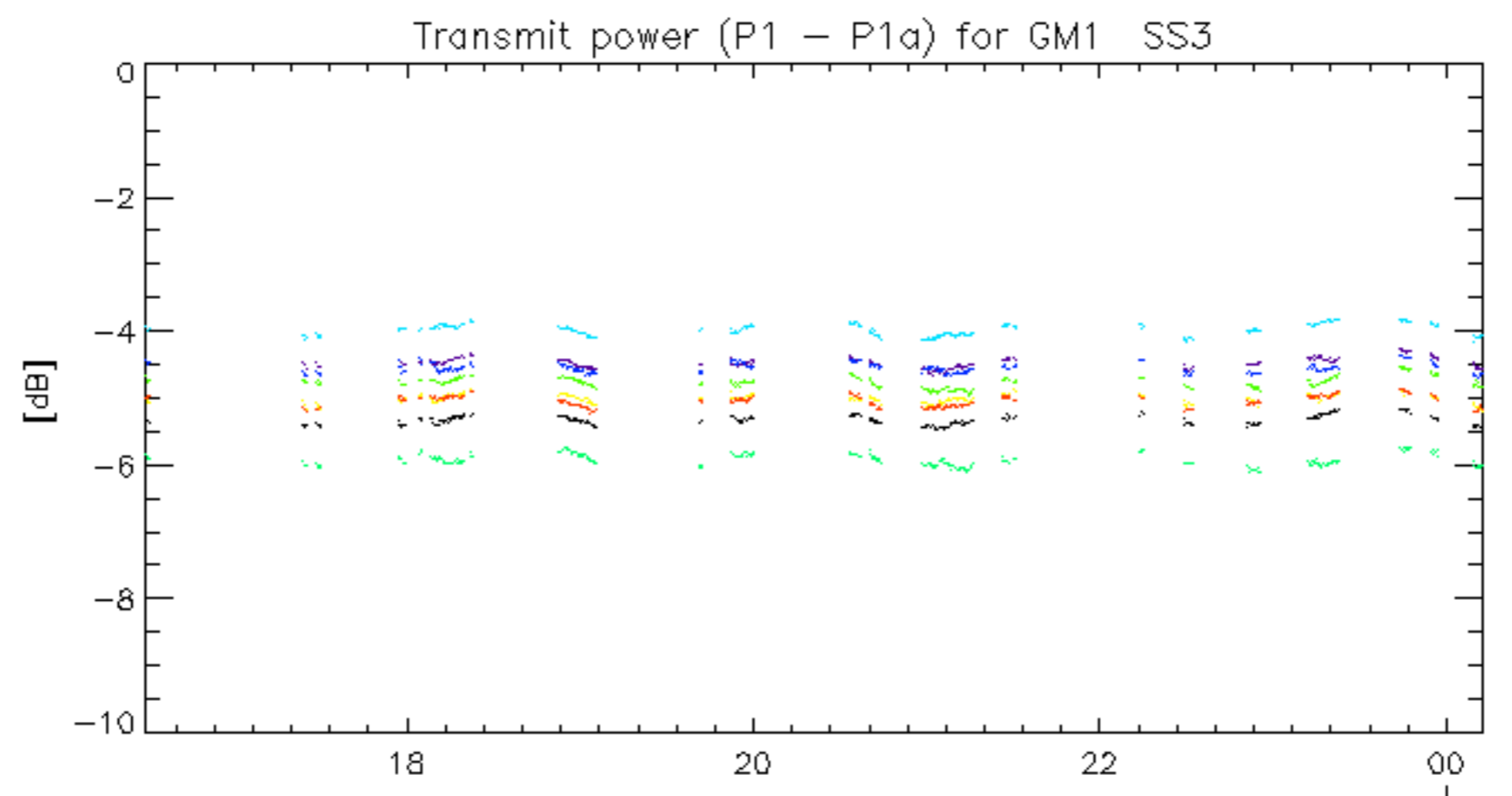




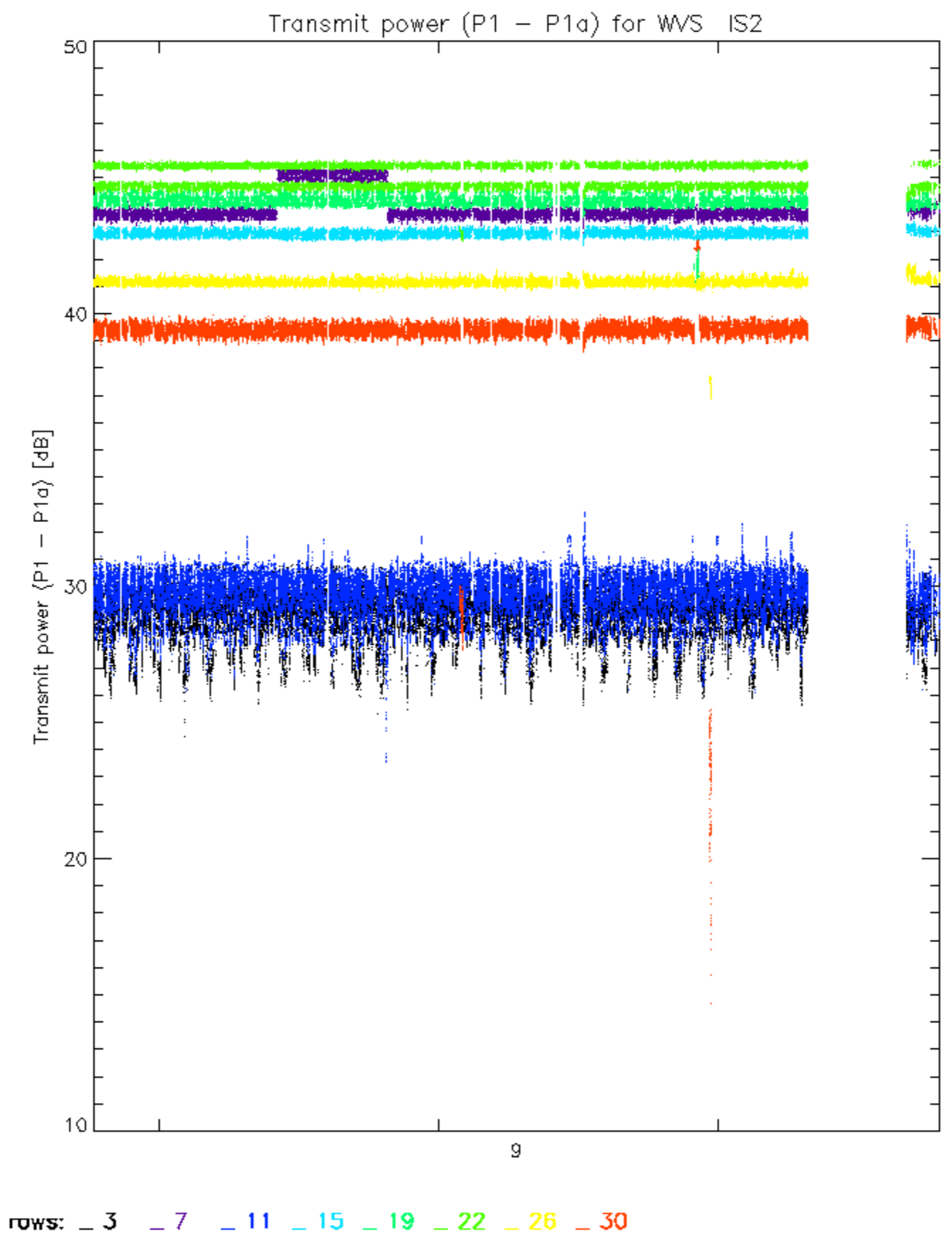


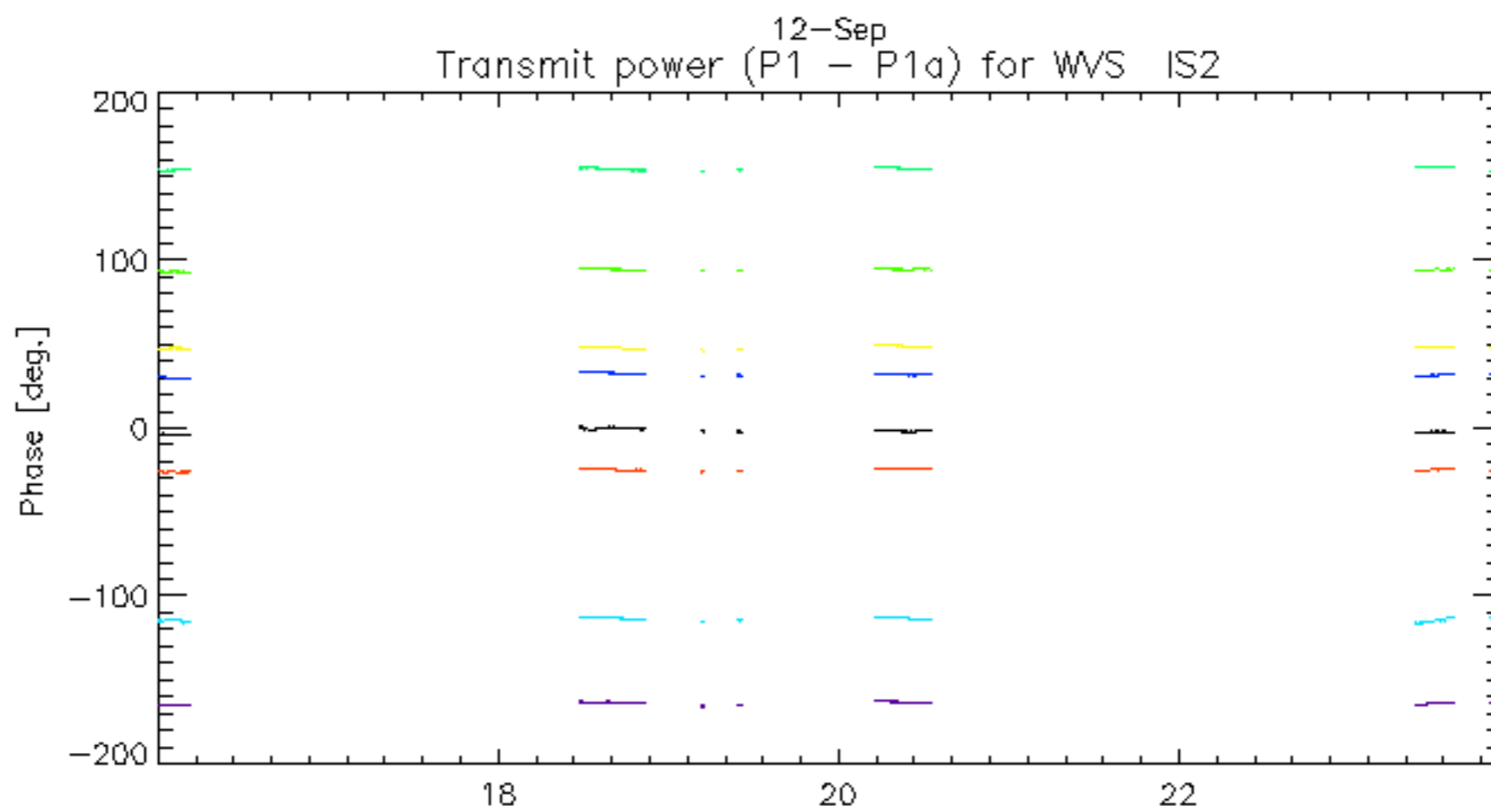
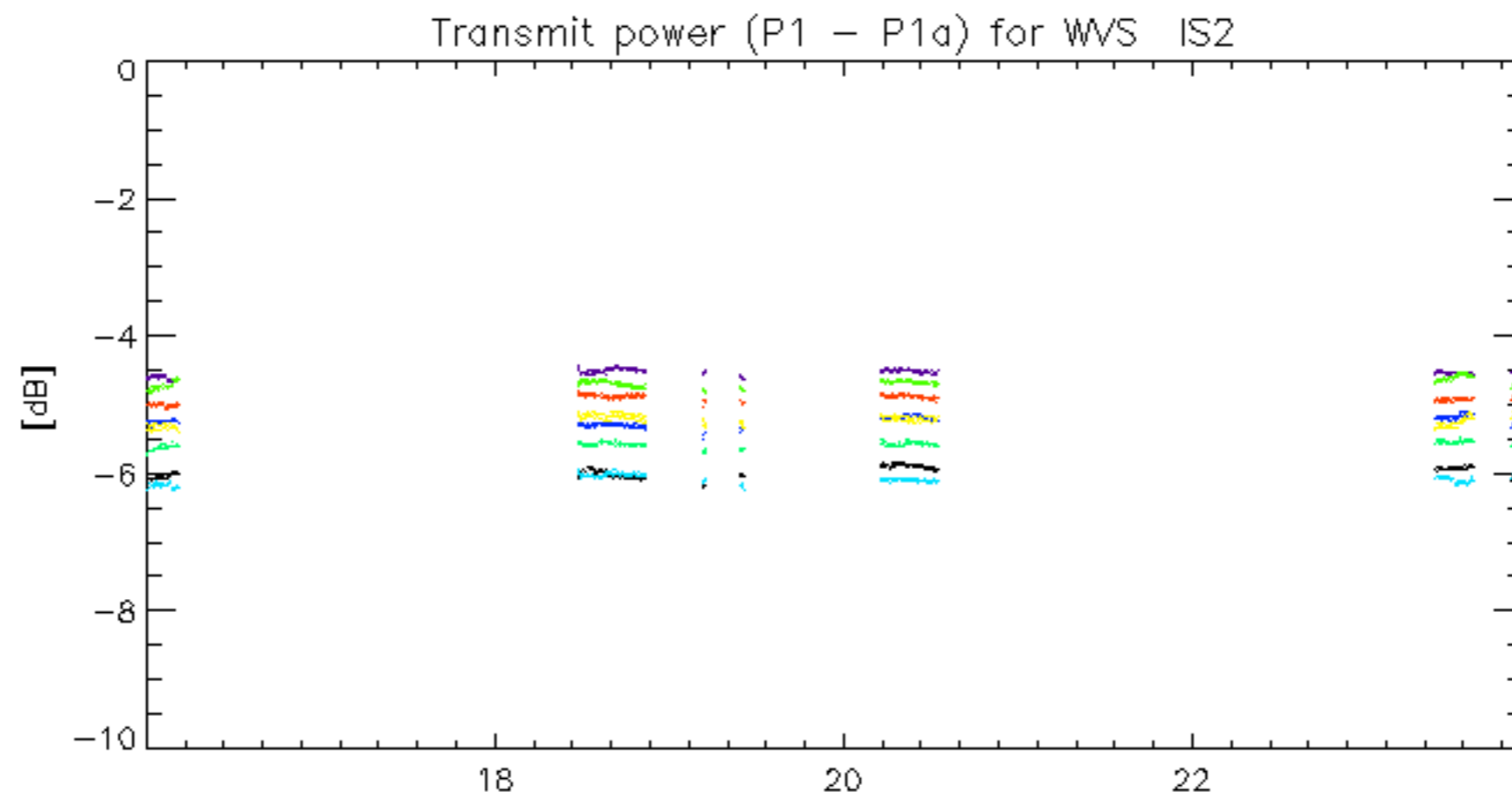






rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30





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

No unavailabilities during the reported period.