

# PRELIMINARY REPORT OF 050918

last update on Sun Sep 18 10:50:02 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 2005-09-17 00:00:00 to 2005-09-18 10:50:02

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	25	49	13	0	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	25	49	13	0	0
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	25	49	13	0	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	25	49	13	0	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	36	60	30	14	47
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	36	60	30	14	47
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	36	60	30	14	47
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	36	60	30	14	47

## 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	20050917 204908
H	20050916 143821

### 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	-3.377694	0.087483	-0.462446
7	P1	-3.179733	0.017286	-0.015477
11	P1	-4.724896	0.057228	0.043488
15	P1	-5.677730	0.057637	-0.258642
19	P1	-3.660788	0.210774	0.768501
22	P1	-4.618181	0.015818	-0.002513
26	P1	-4.829039	0.043992	-0.001967
30	P1	-7.042618	0.392433	1.105218
3	P1	-15.931698	1.885409	-1.833371
7	P1	-16.326473	5.764947	-3.551781
11	P1	-22.057425	4.944541	-1.024746
15	P1	-12.449247	12.194919	-5.369973
19	P1	-14.356063	0.258548	0.825245
22	P1	-16.989513	26.563906	-7.210765
26	P1	-18.524008	21.969412	-6.212470
30	P1	-18.634638	8.062366	-3.616605

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.725710	0.094328	-0.067229
7	P2	-21.976208	0.240402	-0.678916
11	P2	-13.865981	1.717127	-2.294430
15	P2	-7.089448	0.124253	-0.290032
19	P2	-9.444245	0.237686	0.613607
22	P2	-16.853523	0.140752	-0.312484
26	P2	-16.479151	0.112625	0.084393
30	P2	-18.932272	0.210029	-0.650229

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.156908	0.004294	-0.023638
7	P3	-8.156908	0.004294	-0.023638
11	P3	-8.156908	0.004294	-0.023638
15	P3	-8.156908	0.004294	-0.023638
19	P3	-8.156908	0.004294	-0.023638
22	P3	-8.156908	0.004294	-0.023638
26	P3	-8.156914	0.004294	-0.023621
30	P3	-8.156914	0.004294	-0.023621

#### 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	-2.746731	0.087754	0.096591
7	P1	-3.018720	0.083395	-0.306620
11	P1	-3.982275	0.085630	0.311553
15	P1	-3.626936	0.027514	0.024154
19	P1	-3.533896	0.089766	0.480139
22	P1	-5.551063	0.246533	0.826565
26	P1	-7.009520	0.855098	1.698628
30	P1	-6.026871	0.531446	1.262272
3	P1	-11.218517	0.602306	-1.292703
7	P1	-11.929778	21.282507	-6.832911
11	P1	-14.436347	35.908382	-8.417974
15	P1	-13.477312	35.119087	-8.652005
19	P1	-15.320770	0.223333	0.641297
22	P1	-24.937428	3.057706	1.895047
26	P1	-16.041212	7.032162	-4.338936
30	P1	-20.268955	2.024181	-0.917335

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.426710	0.054331	-0.084166
7	P2	-22.123466	0.213871	-0.782894
11	P2	-9.734491	0.643485	-1.402887
15	P2	-5.062162	0.037412	0.017452
19	P2	-6.741652	0.132707	0.413403
22	P2	-7.076406	0.091573	-0.345824
26	P2	-23.950035	0.037650	-0.040302
30	P2	-21.990068	0.082983	-0.361443

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.001225	0.004080	-0.018056
7	P3	-8.001233	0.004094	-0.017868
11	P3	-8.001156	0.004080	-0.017768
15	P3	-8.001156	0.004093	-0.017901
19	P3	-8.001241	0.004078	-0.018144
22	P3	-8.001139	0.004081	-0.017858
26	P3	-8.001122	0.004091	-0.018365
30	P3	-8.001066	0.004093	-0.018291

## 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	0.000465256
	stdev	2.13232e-07
MEAN Q	mean	0.000497207
	stdev	2.26089e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129059
	stdev	0.000960166
STDEV Q	mean	0.129312
	stdev	0.000970339



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005091[678]

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_1PNPDE20050916_004346_000001222040_00446_18536_5720.N1	1	0
ASA_IMM_1PNPDK20050916_083400_000000352040_00451_18541_4097.N1	0	18
ASA_IMM_1PNPDK20050916_185109_000000602040_00457_18547_4120.N1	0	1
ASA_WSM_1PNPDE20050916_005515_000002792040_00446_18536_8936.N1	0	46
ASA_WSM_1PNPDE20050917_194140_000003242040_00471_18561_9188.N1	0	1







## 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)


Acsending

Descending

### 7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler


Acsending

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)


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Ascending
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Descending
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### 7.5 - Absolute Doppler for GM1

<b>Evolution of Absolute Doppler</b>
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Ascending
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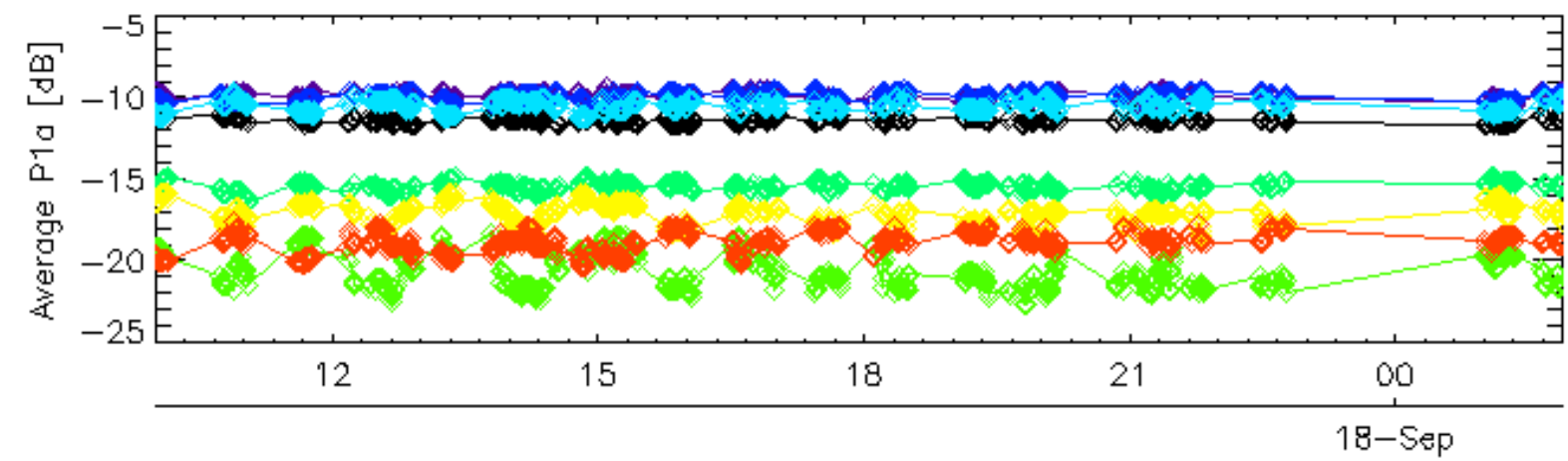
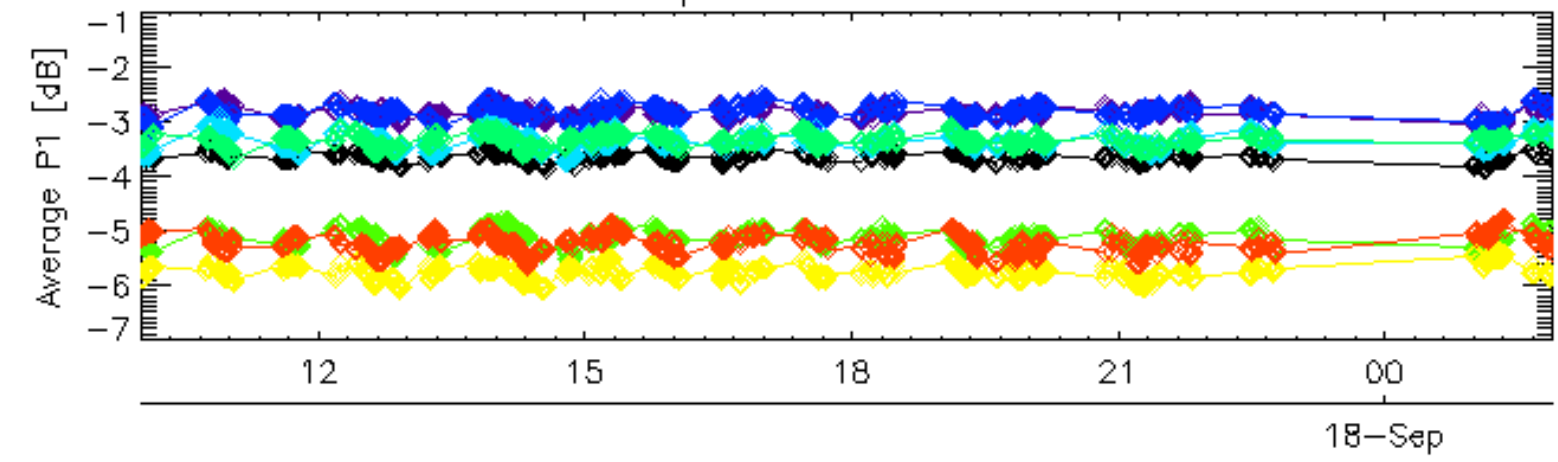
Descending
------------

### 7.6 - Doppler evolution versus ANX for GM1

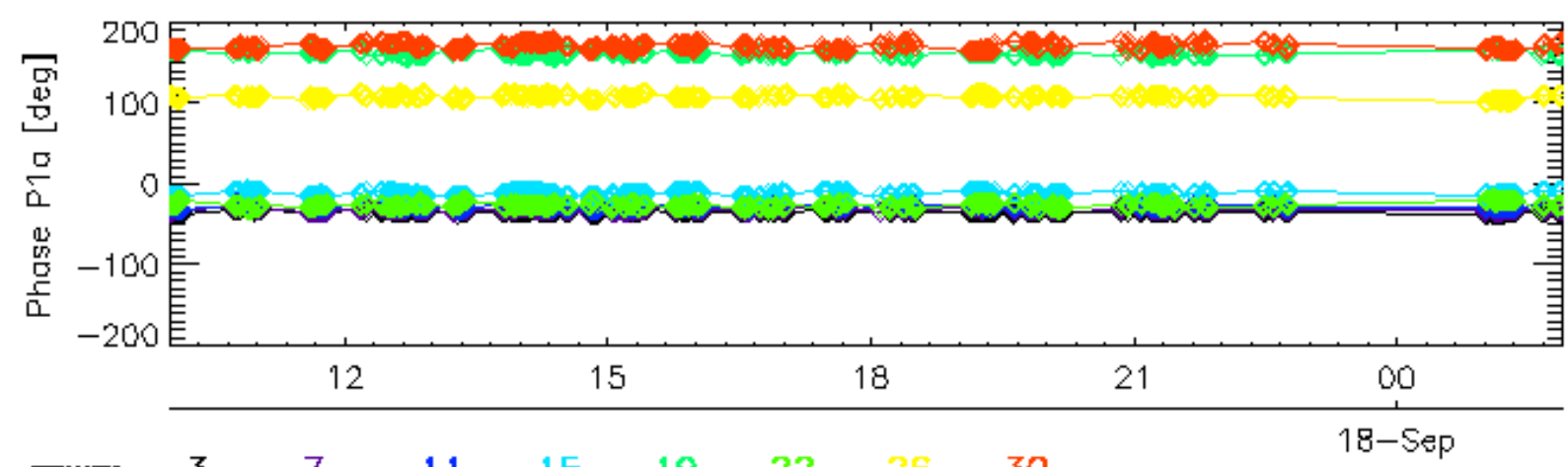
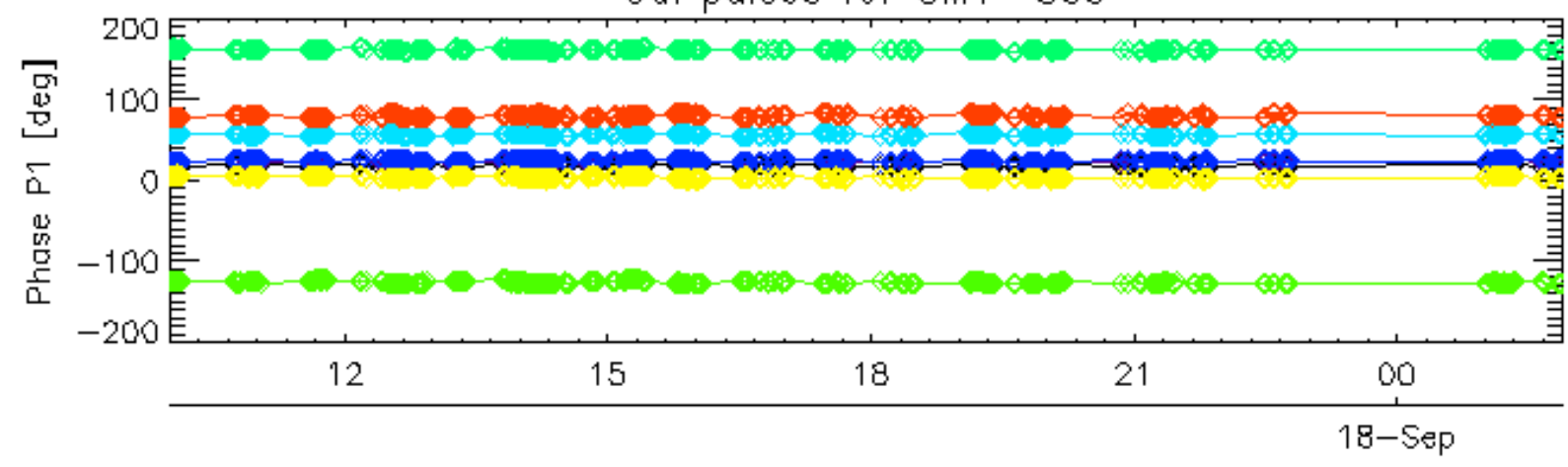
<b>Evolution Doppler error versus ANX</b>
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Cal pulses for GM1 SS3

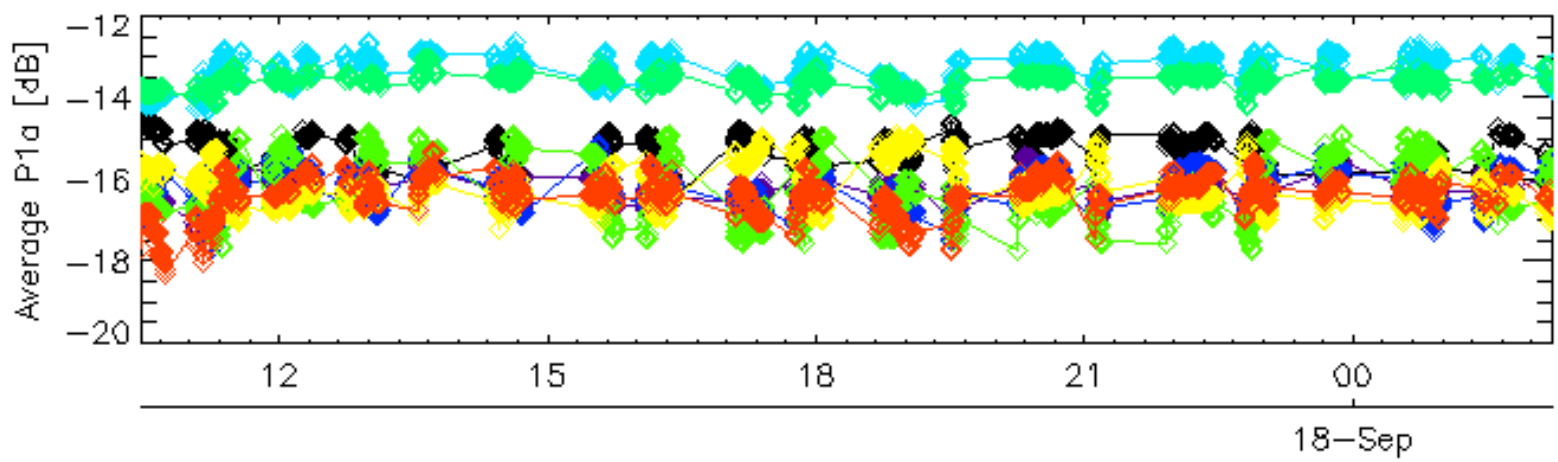
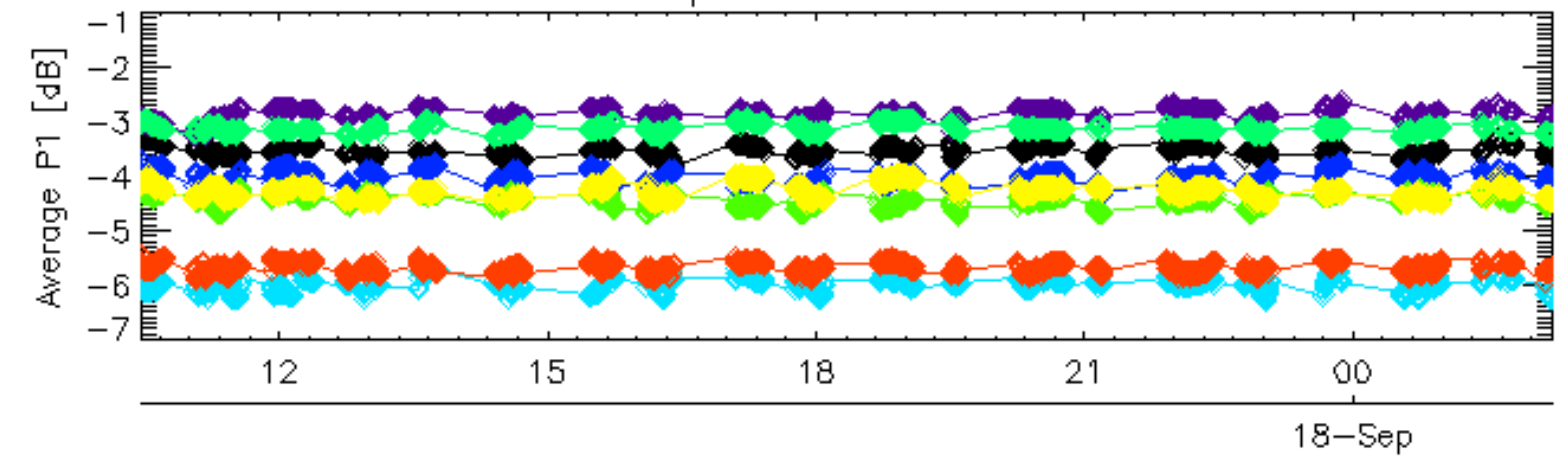


Cal pulses for GM1 SS3

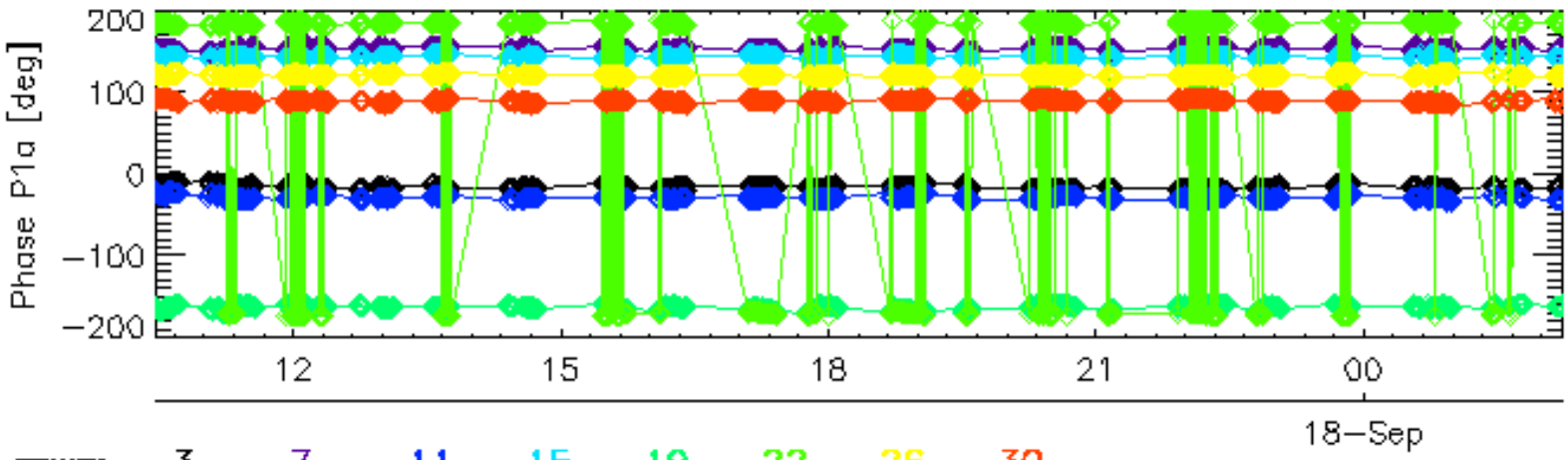
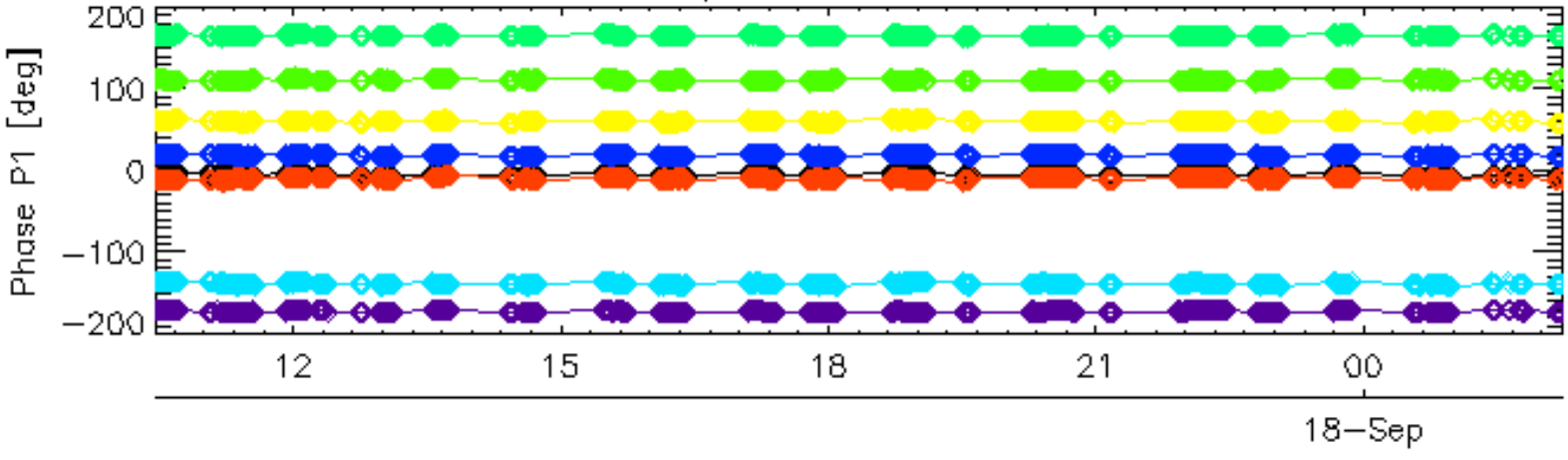


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

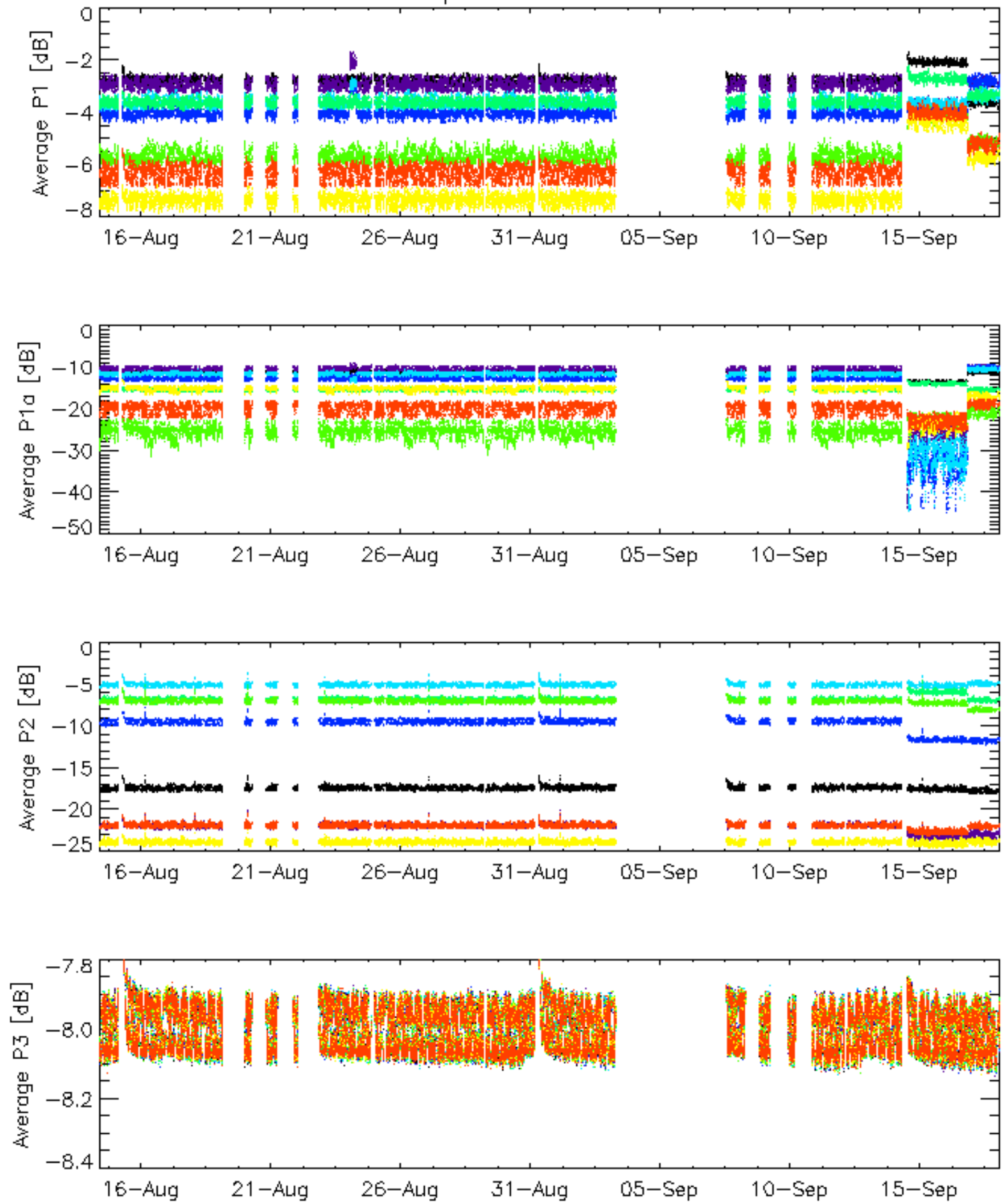


Cal pulses for WVS IS2



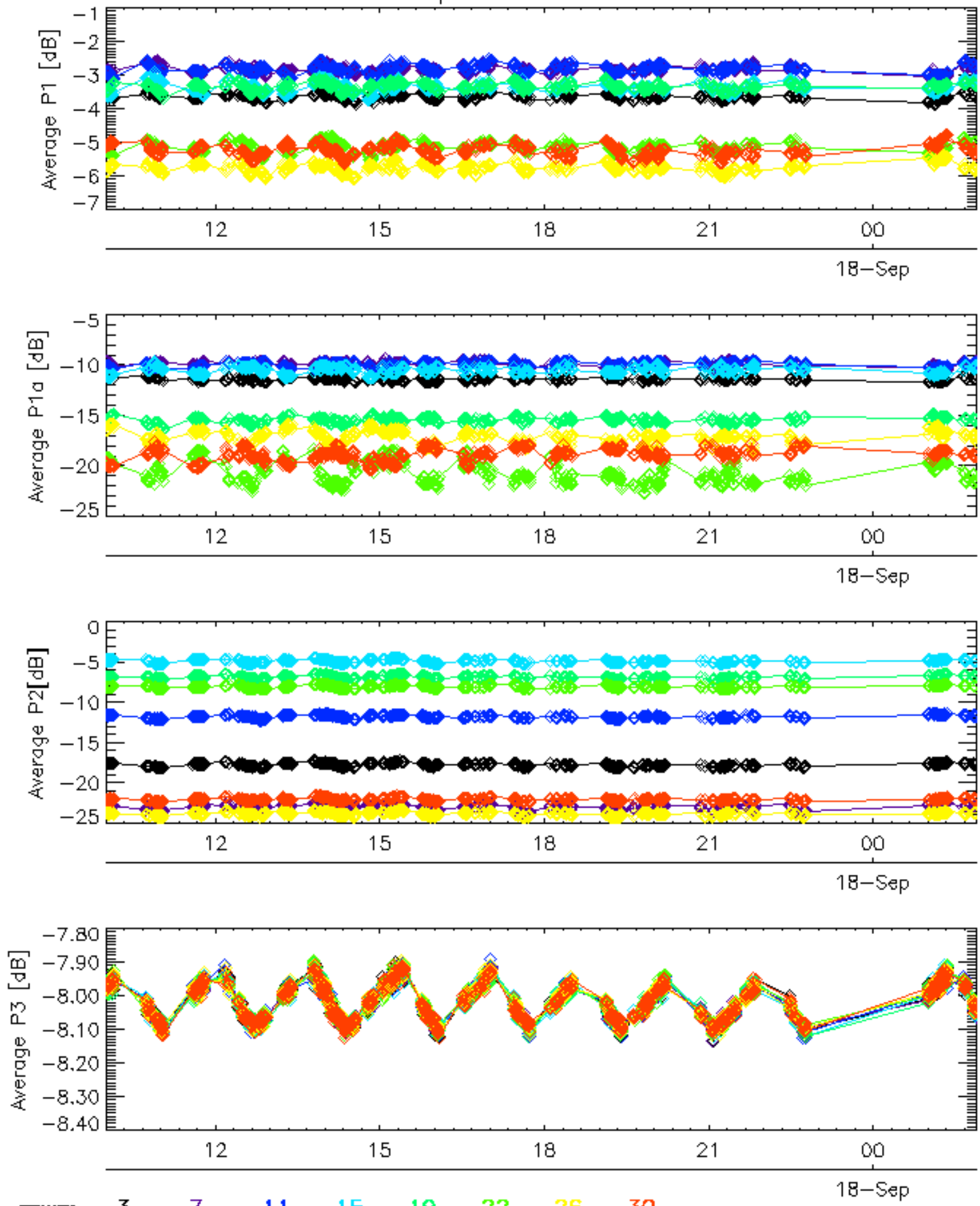
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3



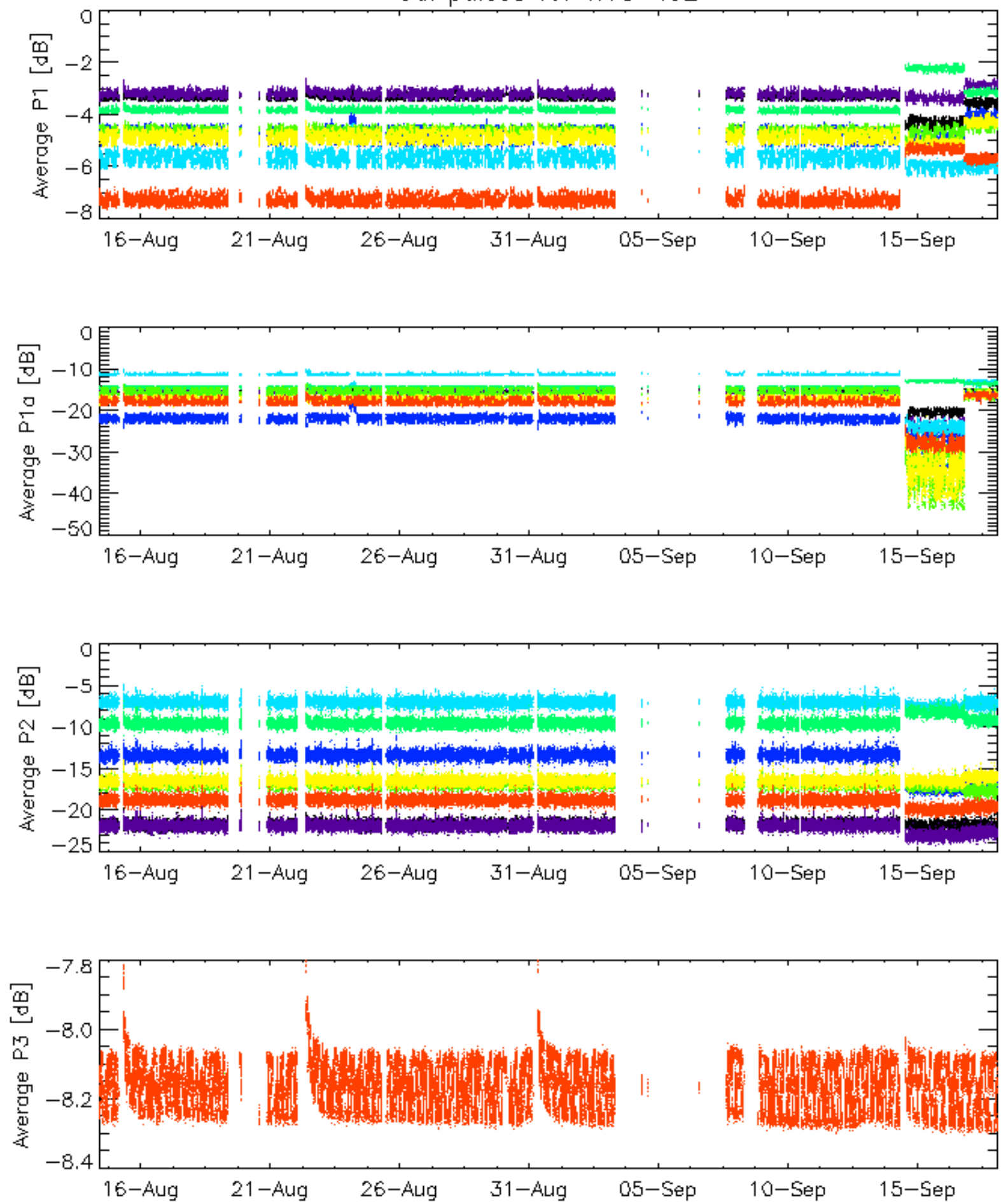
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3



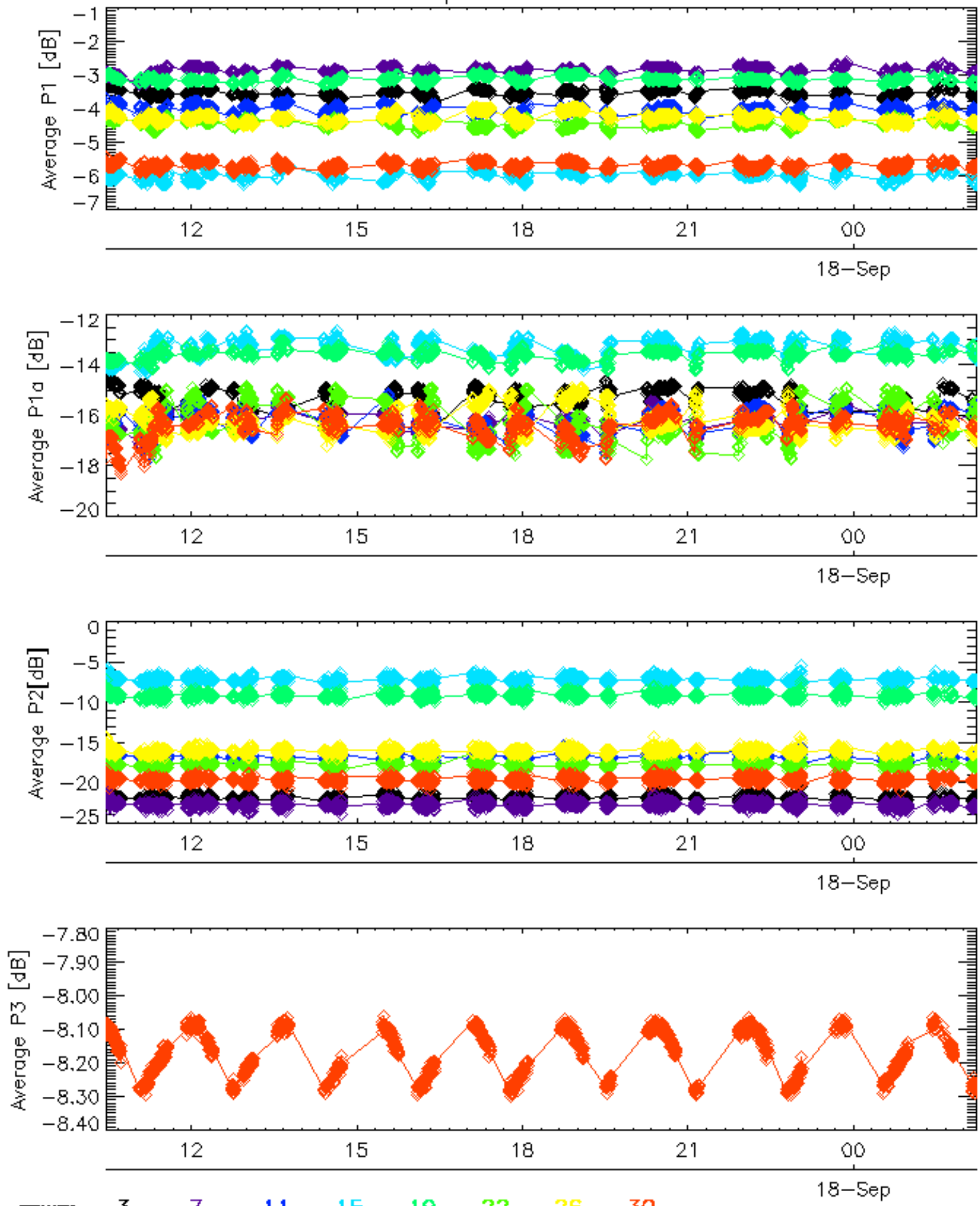


Cal pulses for WVS IS2



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

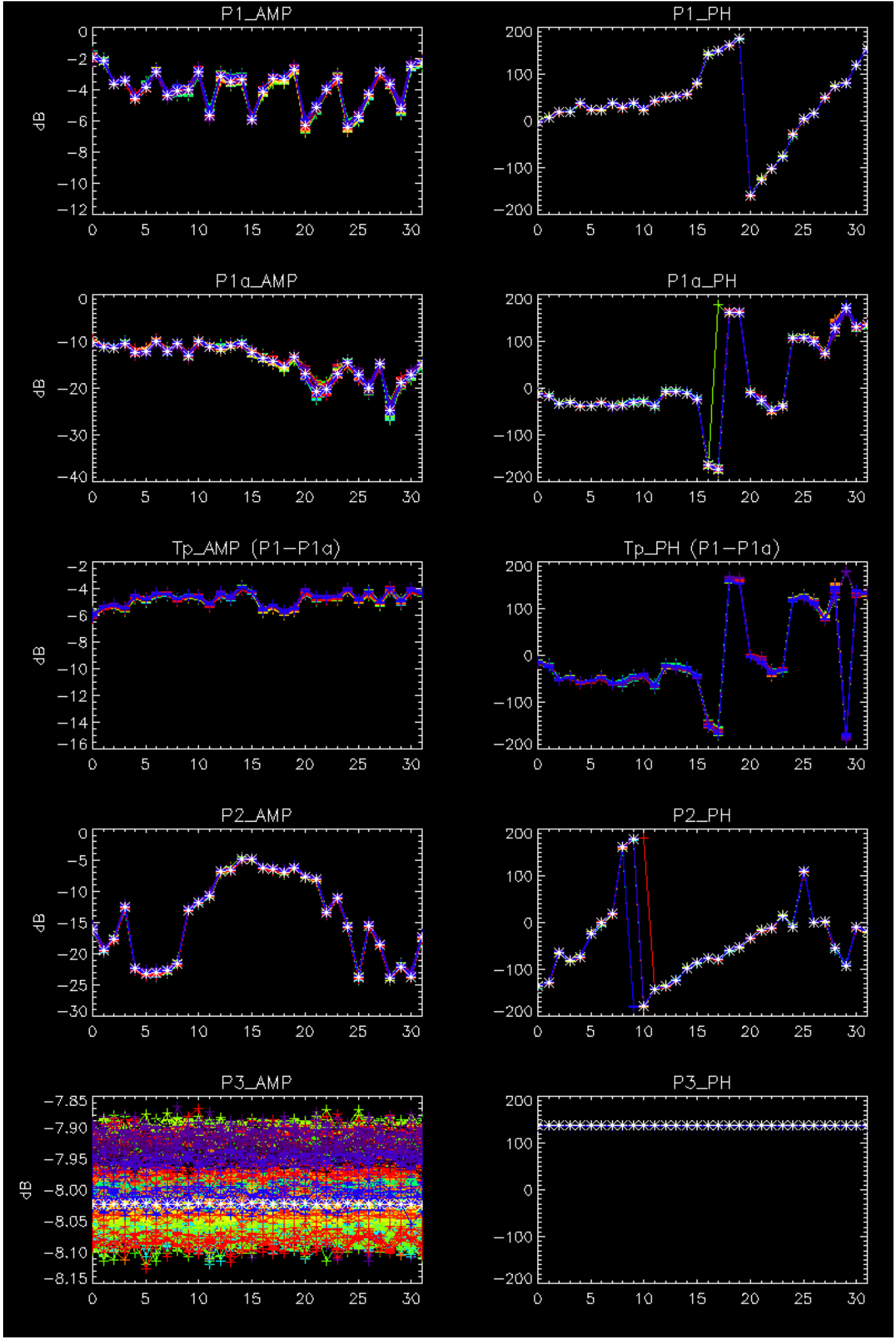
Cal pulses for WVS IS2

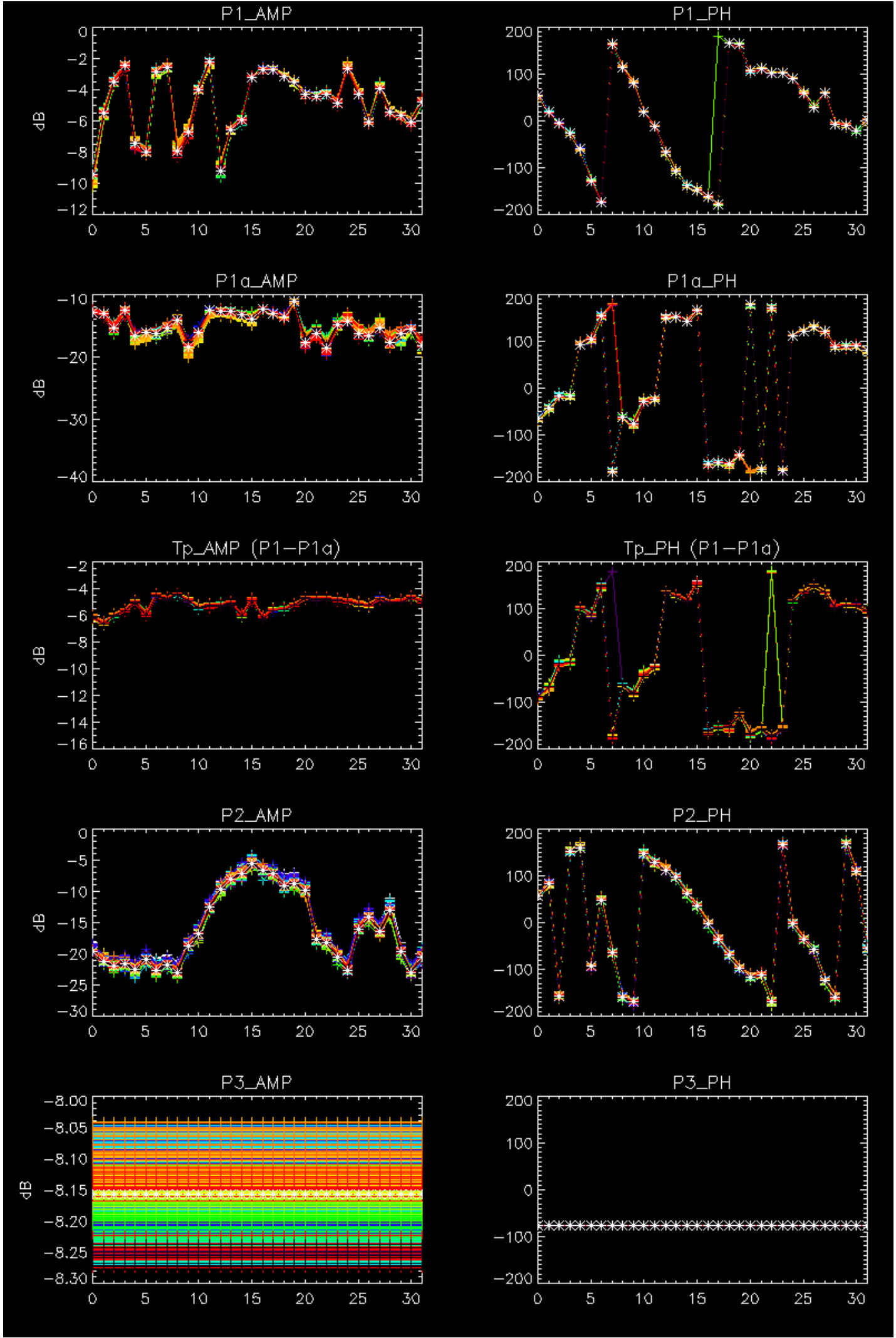


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

No anomalies observed.





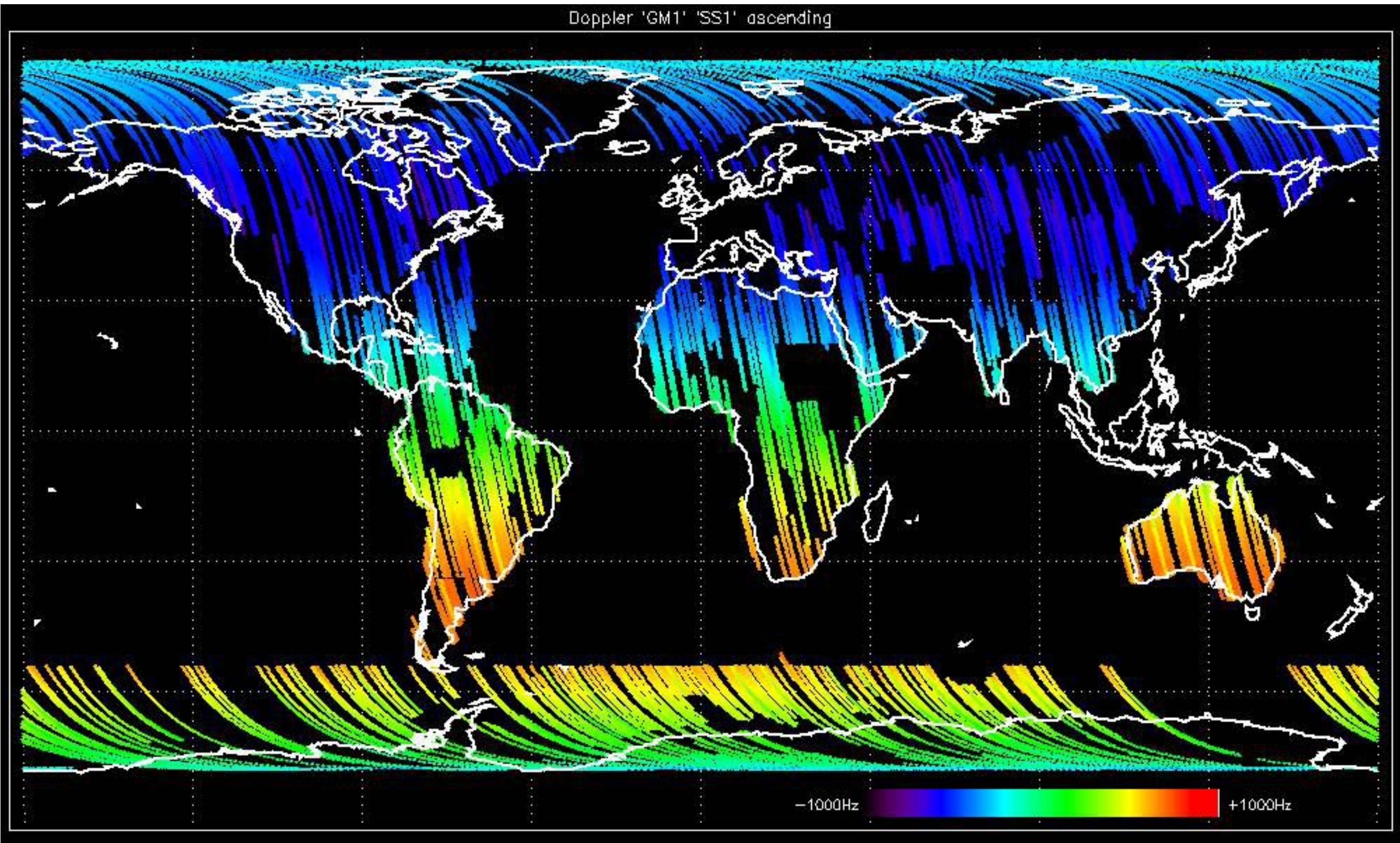


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



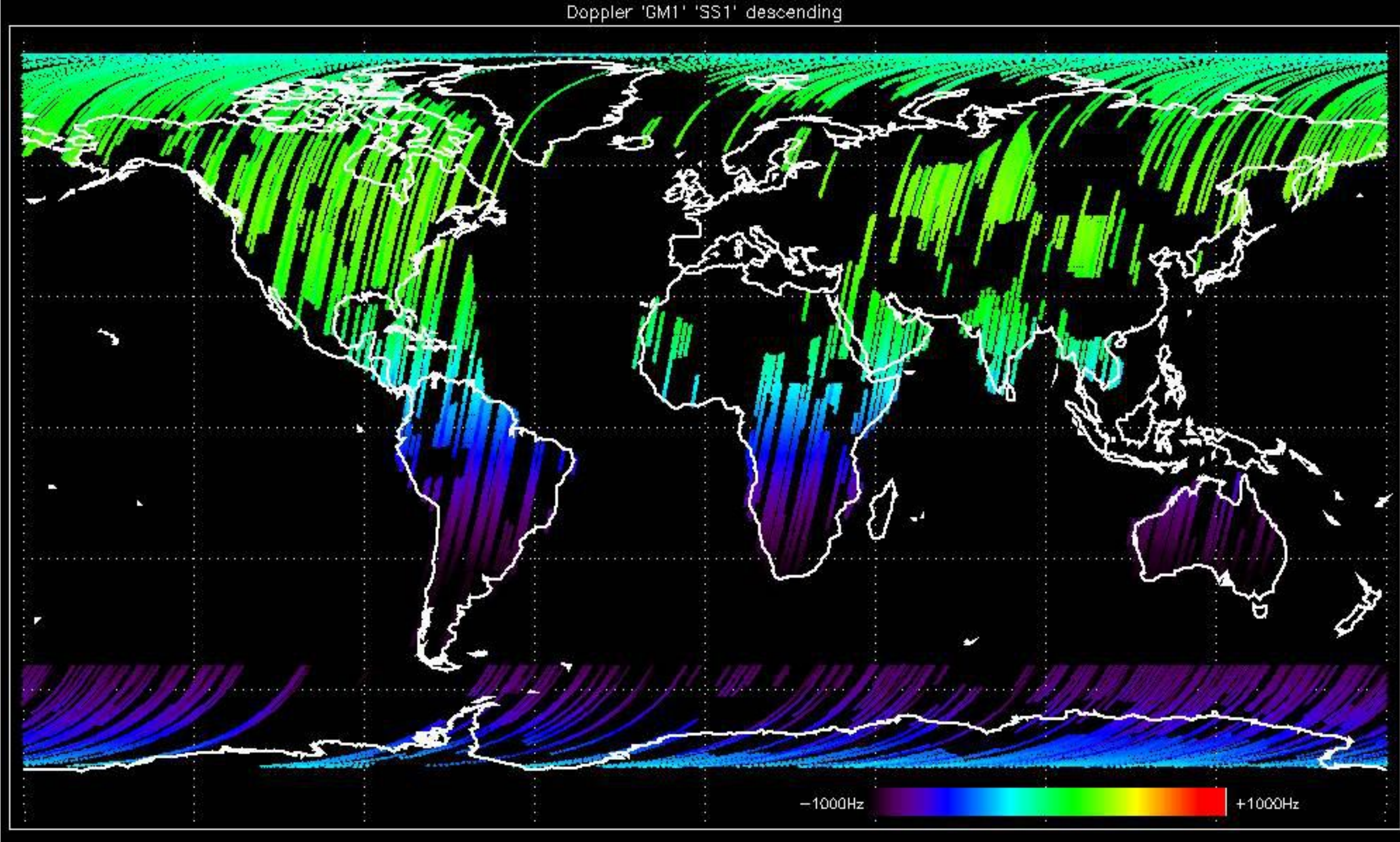


Doppler 'GM1' 'SS1' ascending



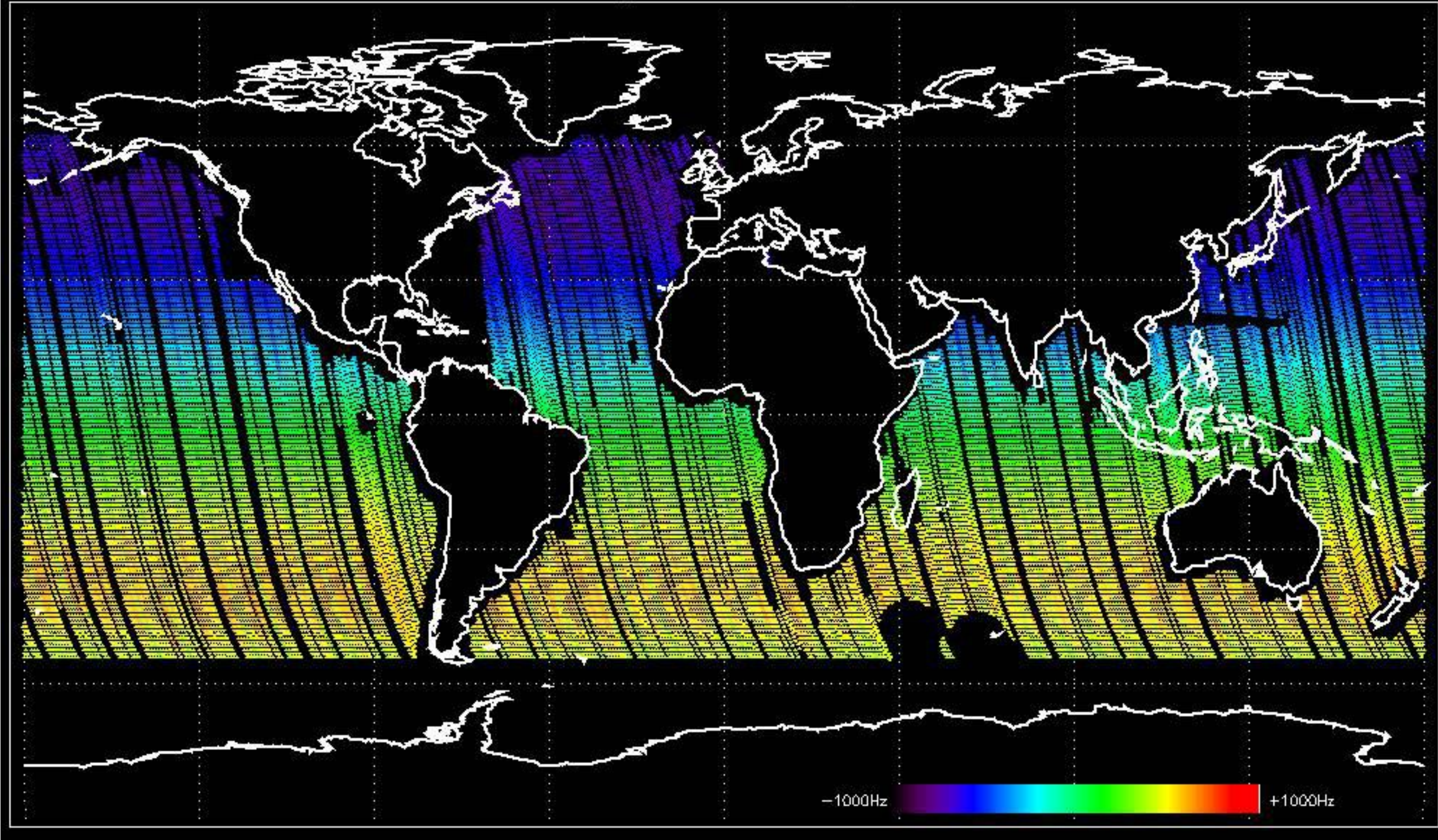


Doppler 'GM1' 'SS1' descending



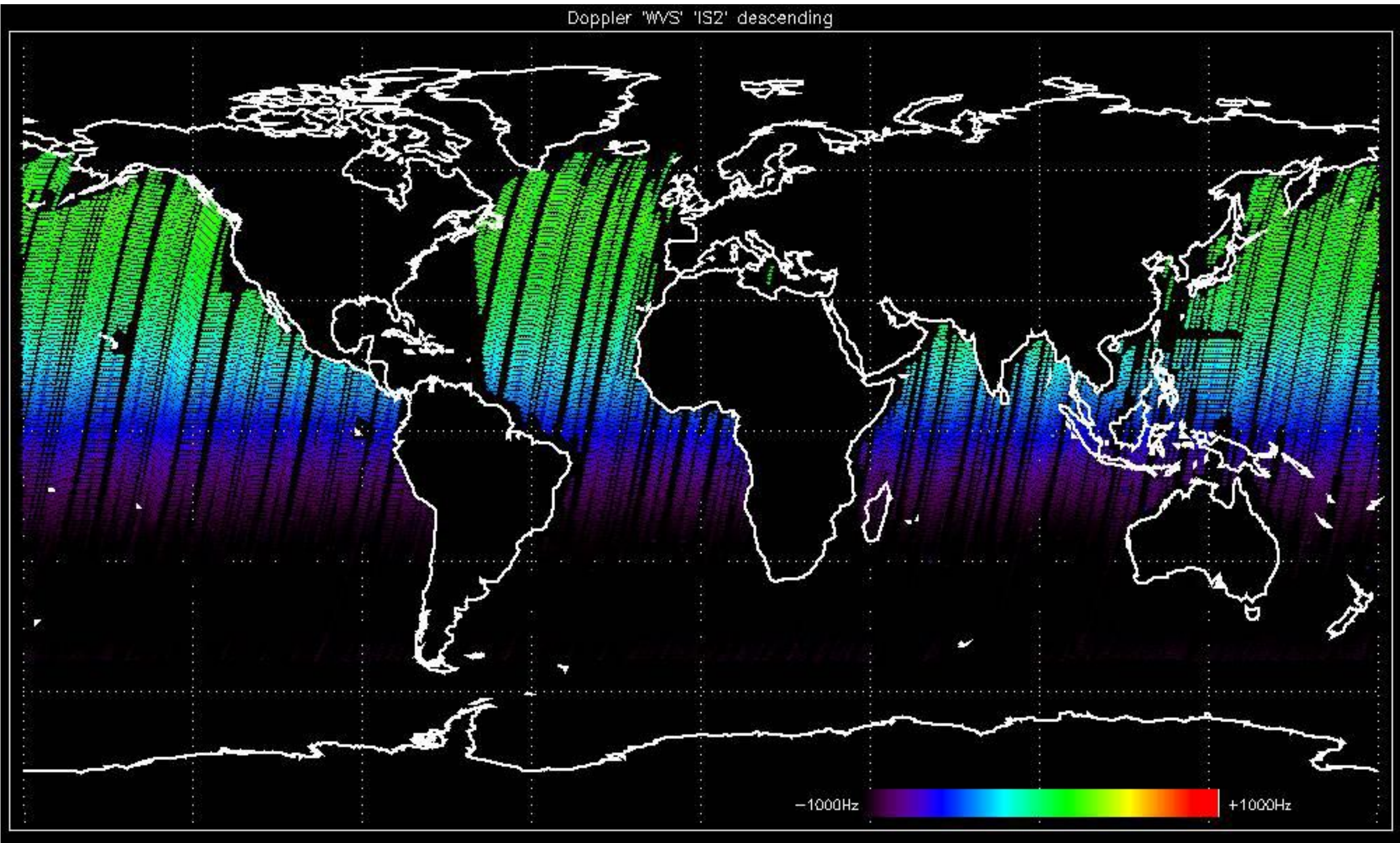


Doppler 'WVS' 'IS2' ascending



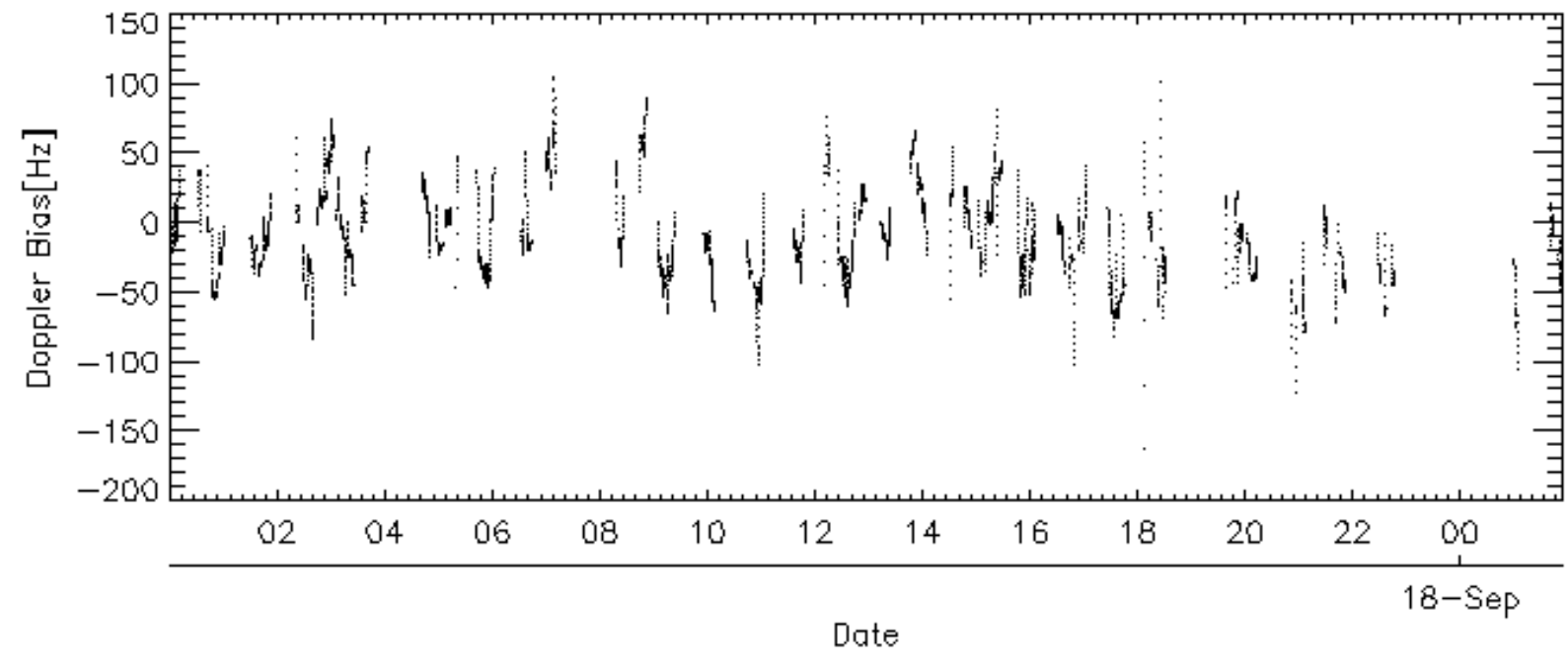
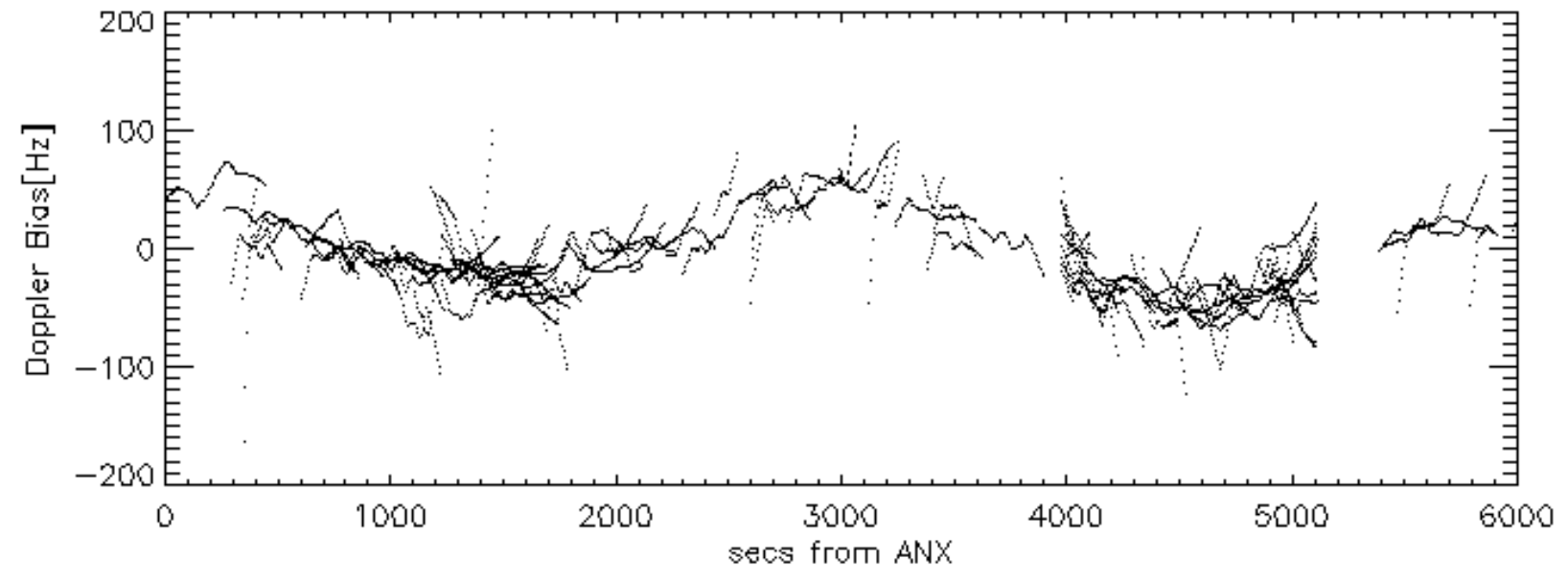
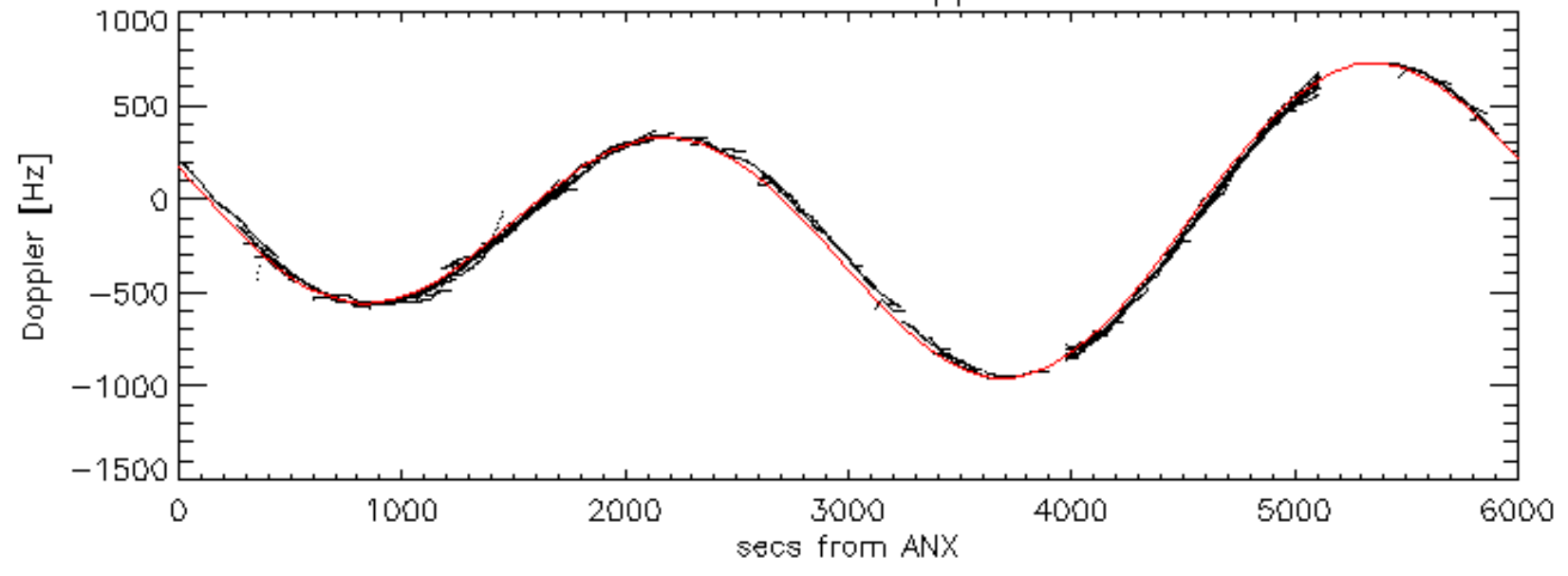


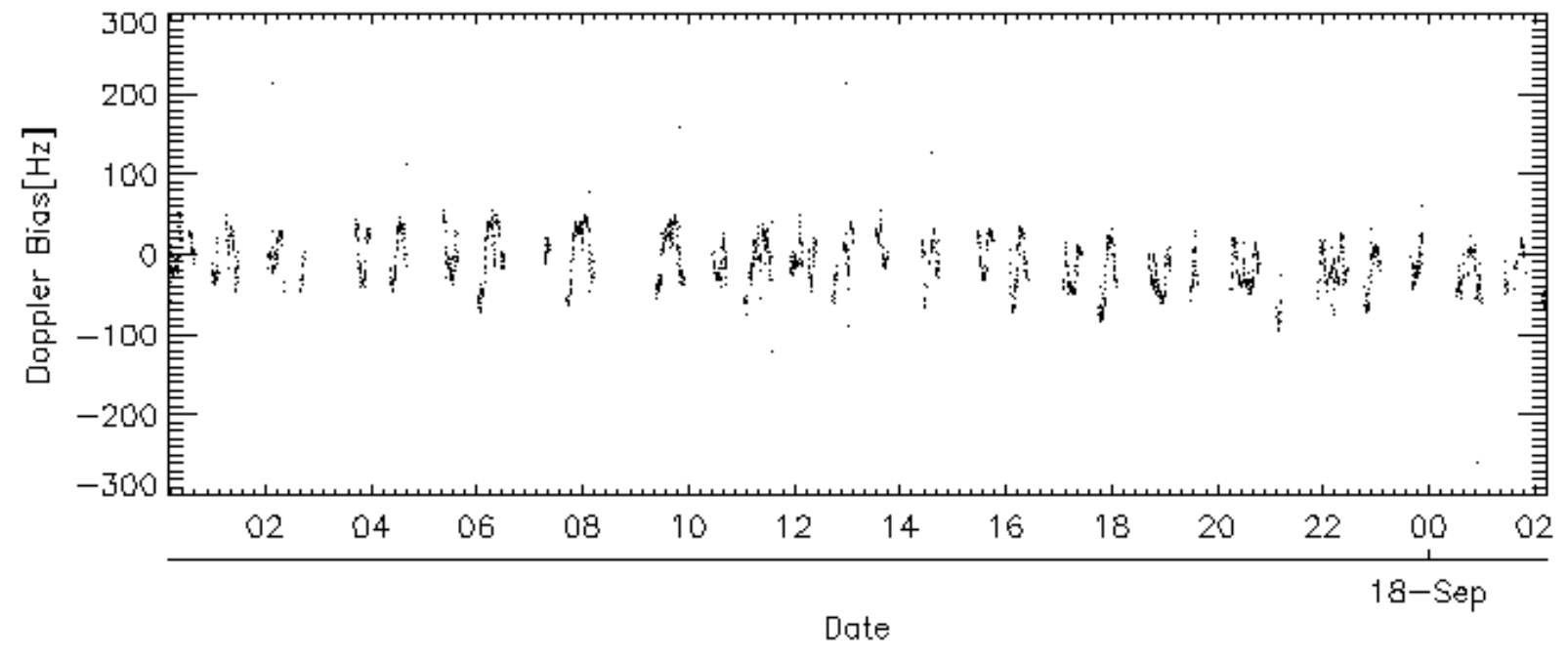
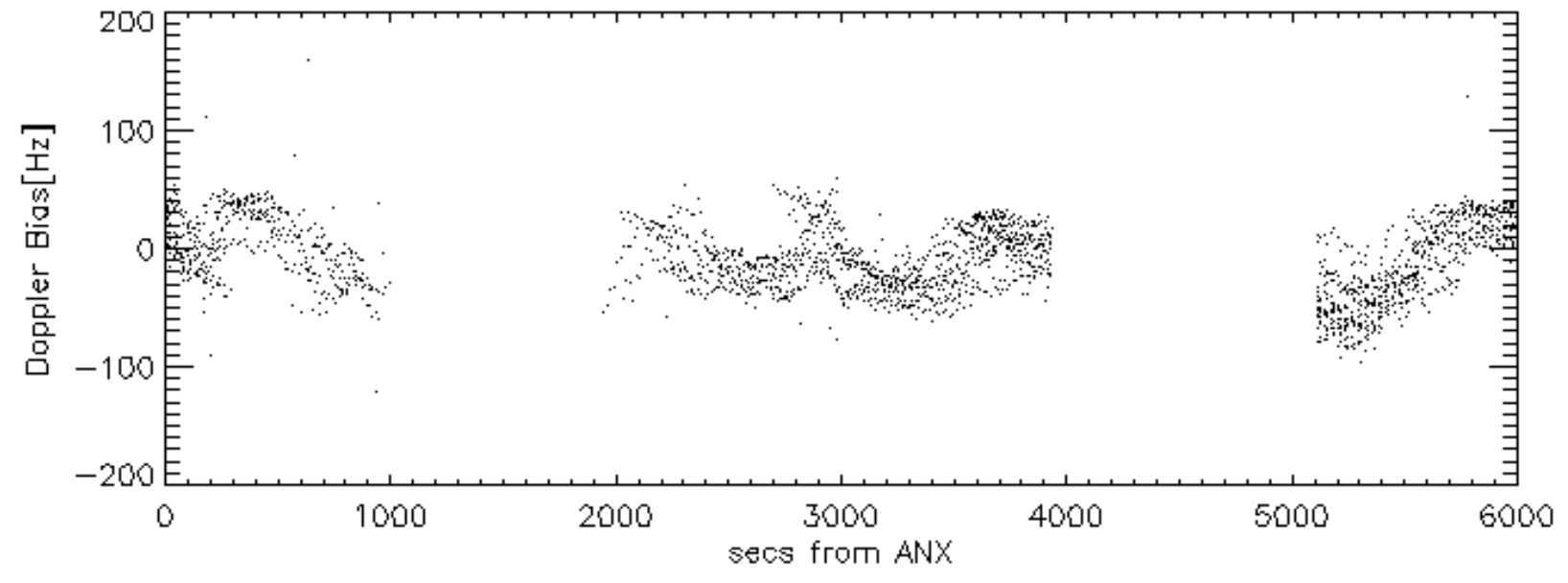
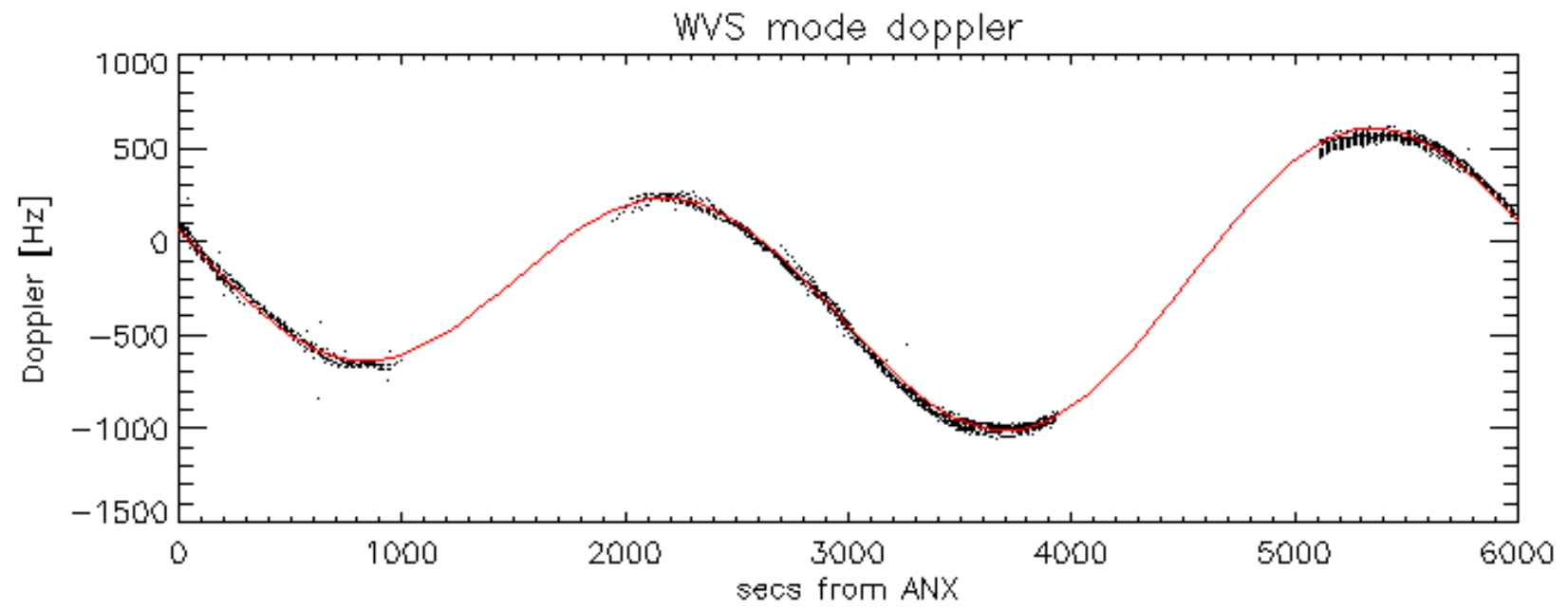
Doppler 'WVS' 'IS2' descending





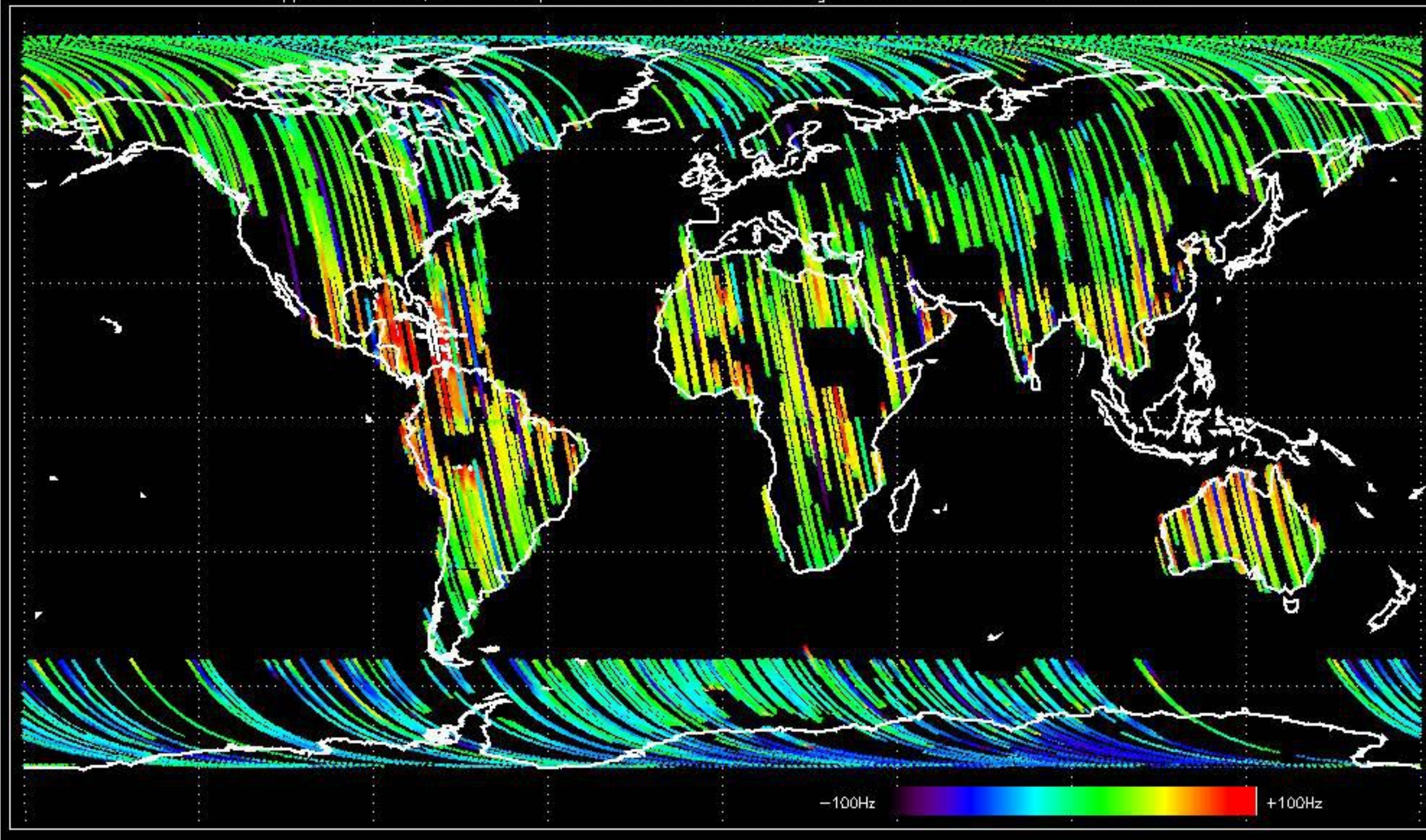
GM1 mode doppler





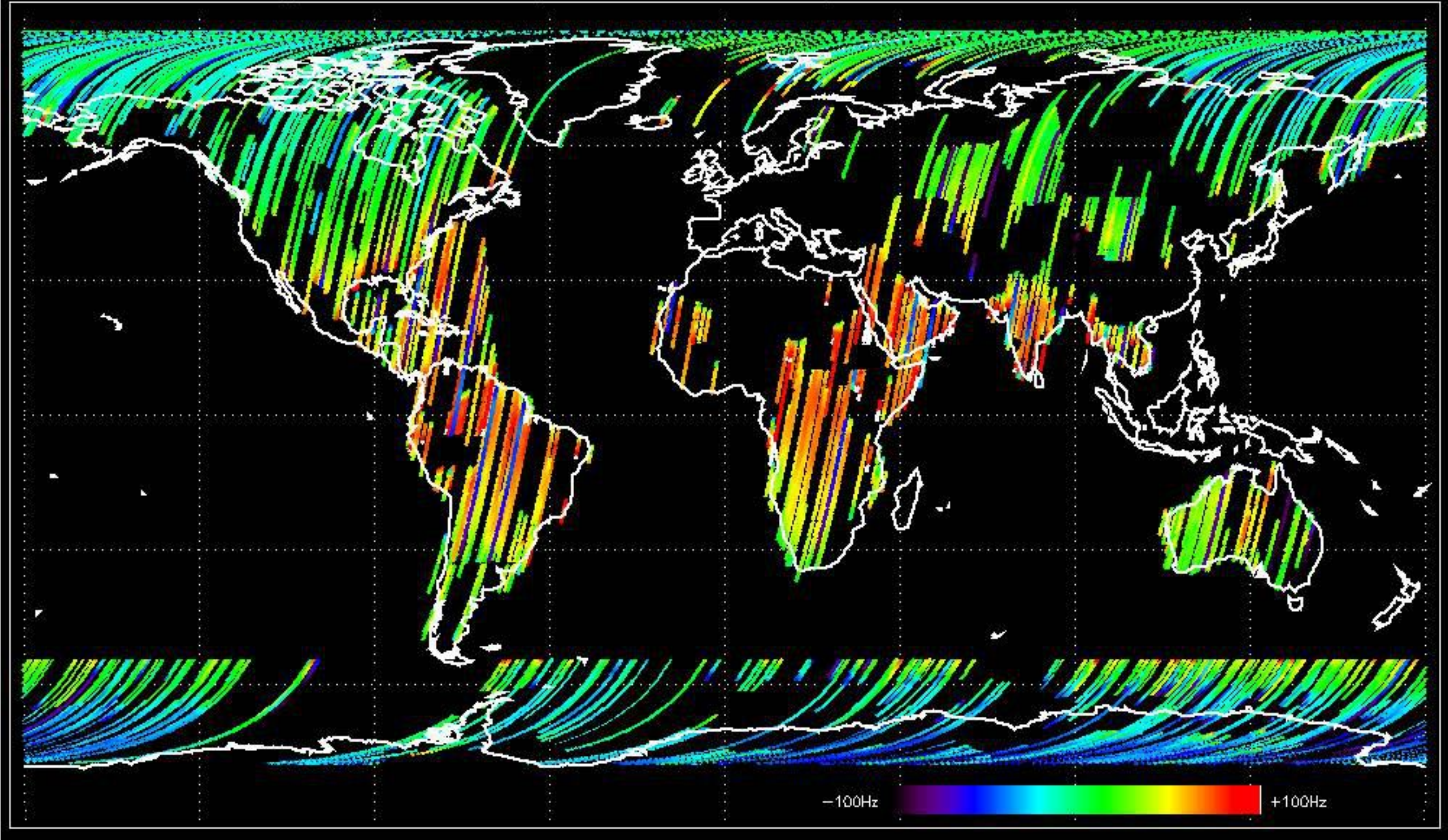


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -42.767913 Hz



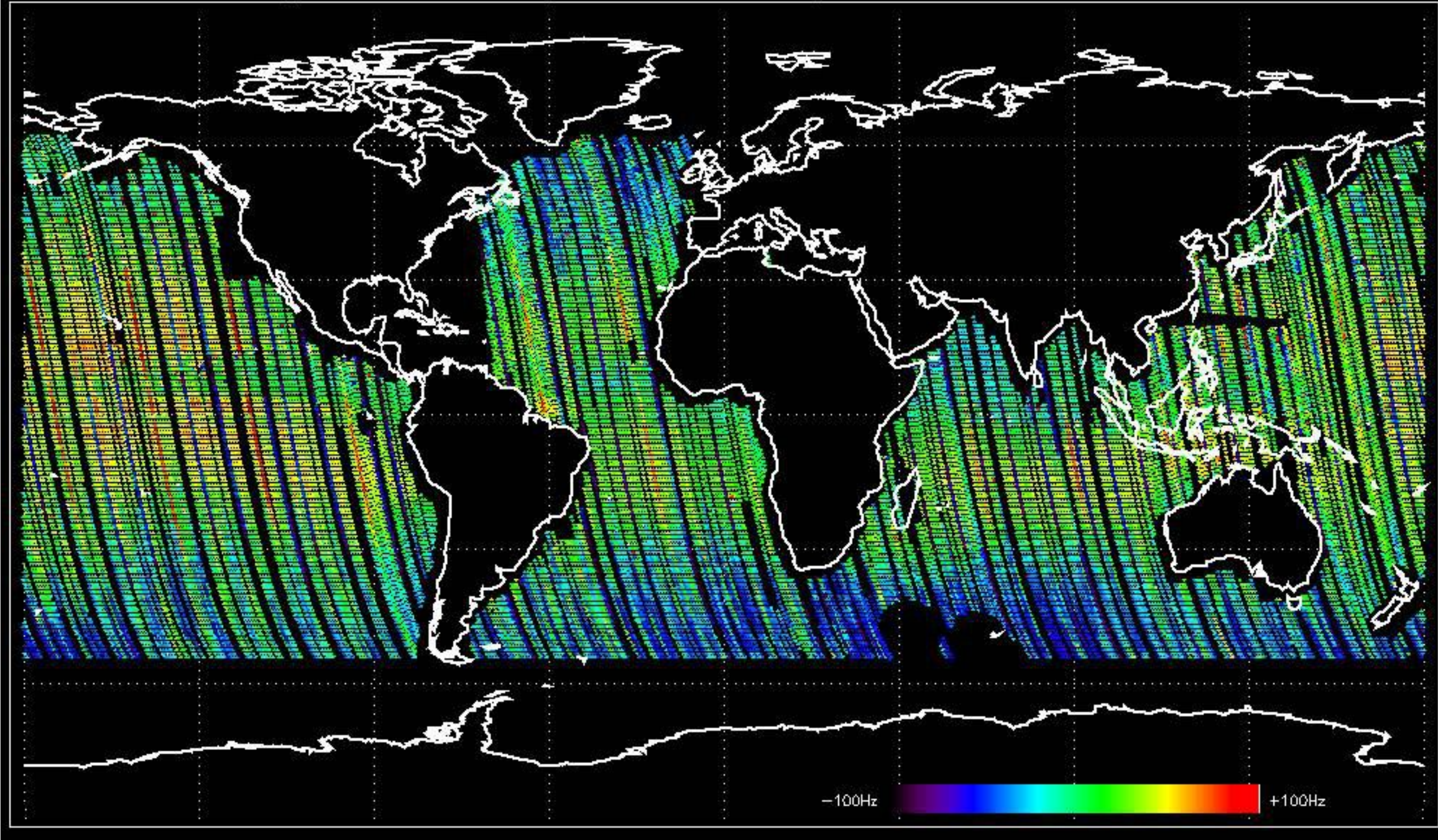


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -36.600449 Hz



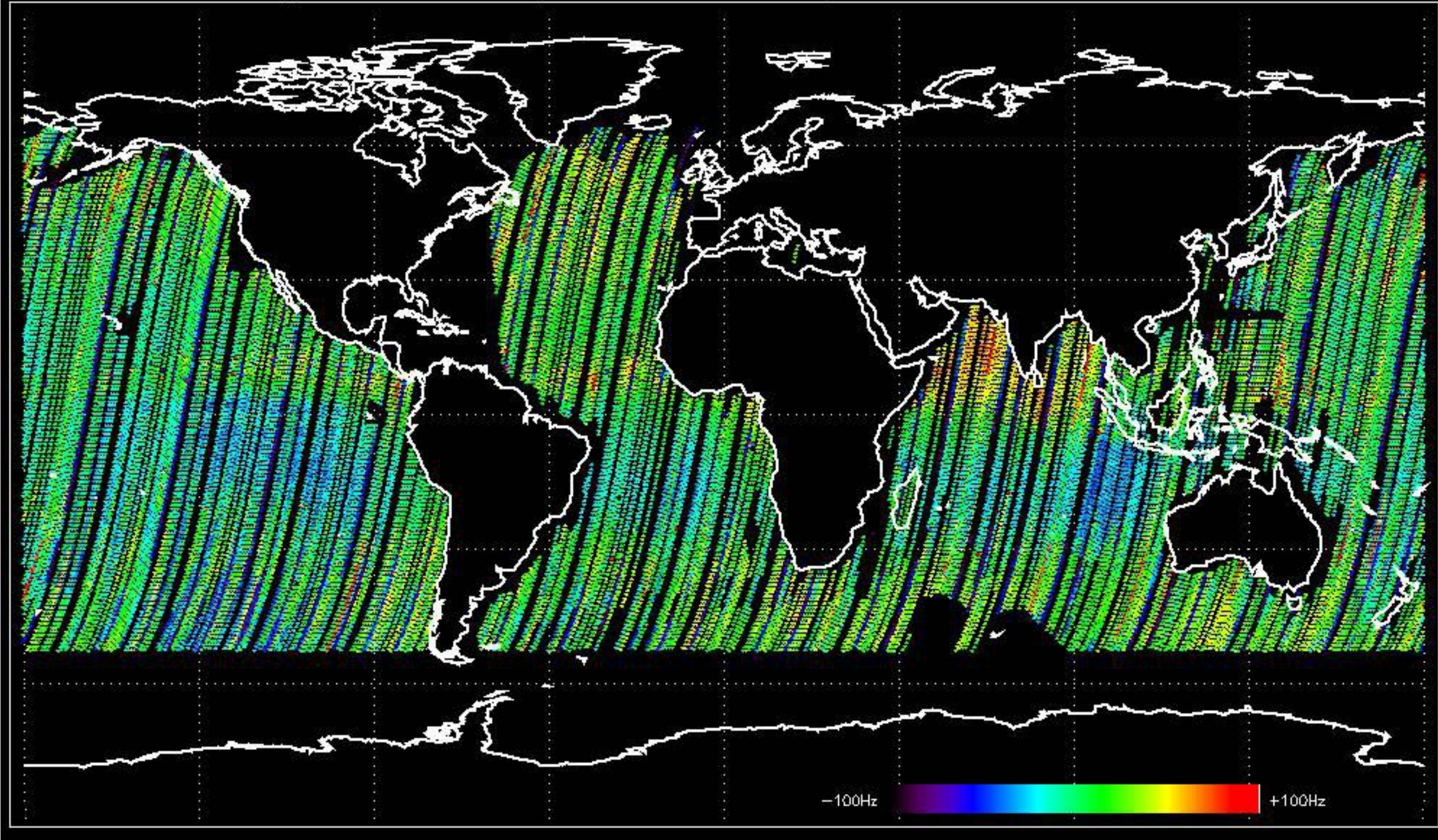


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -42.398981 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -47.095626 Hz





No anomalies observed on available MS products:

No anomalies observed.











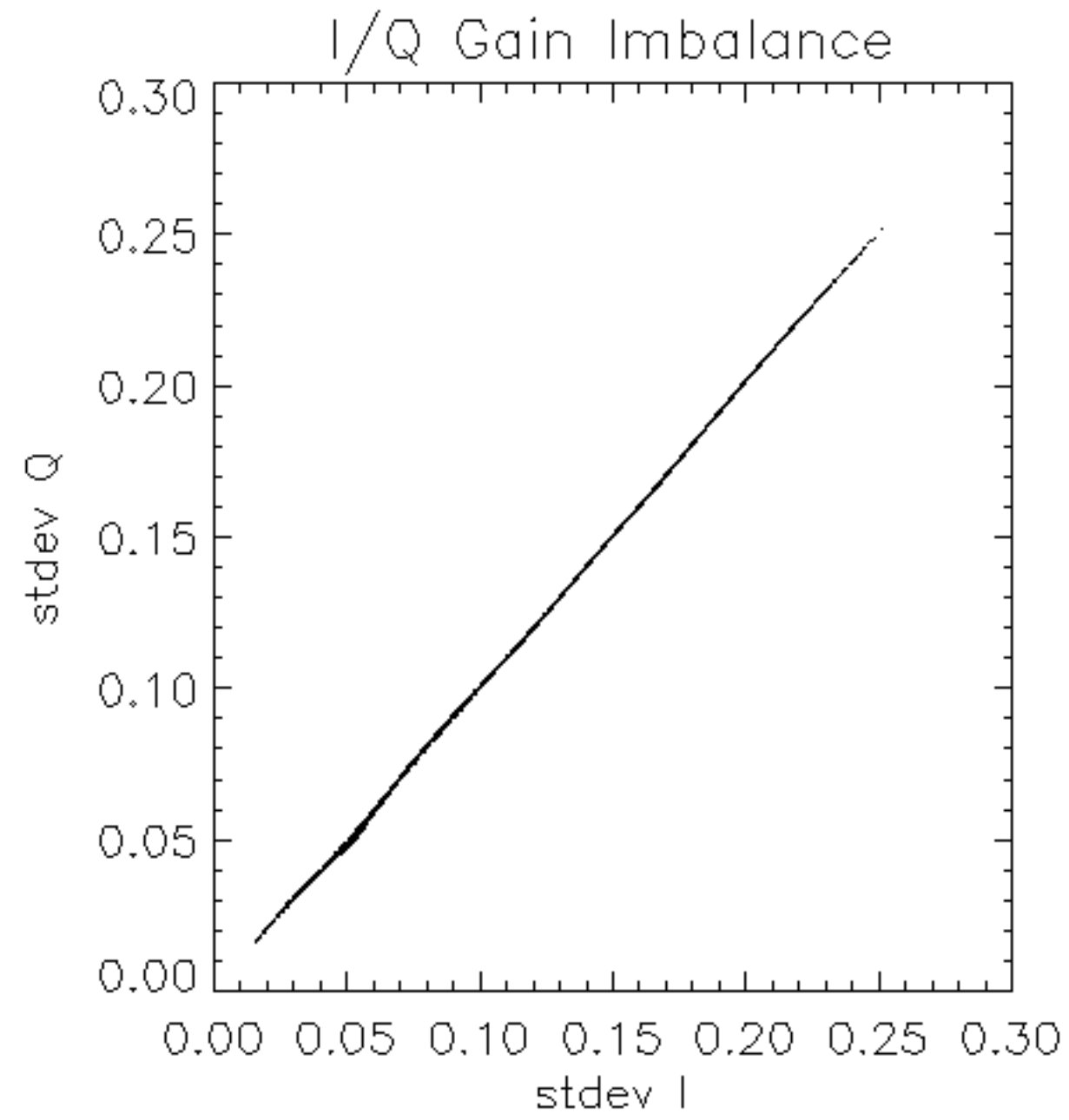


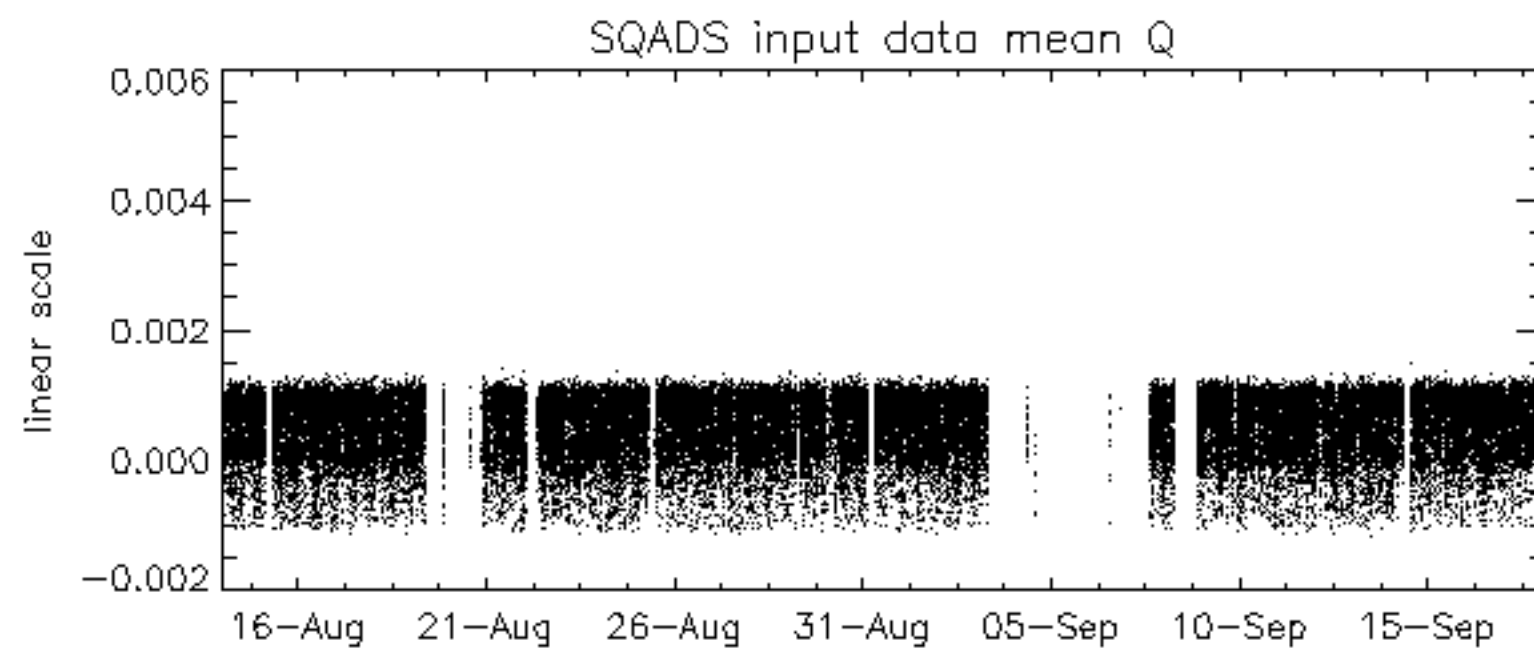
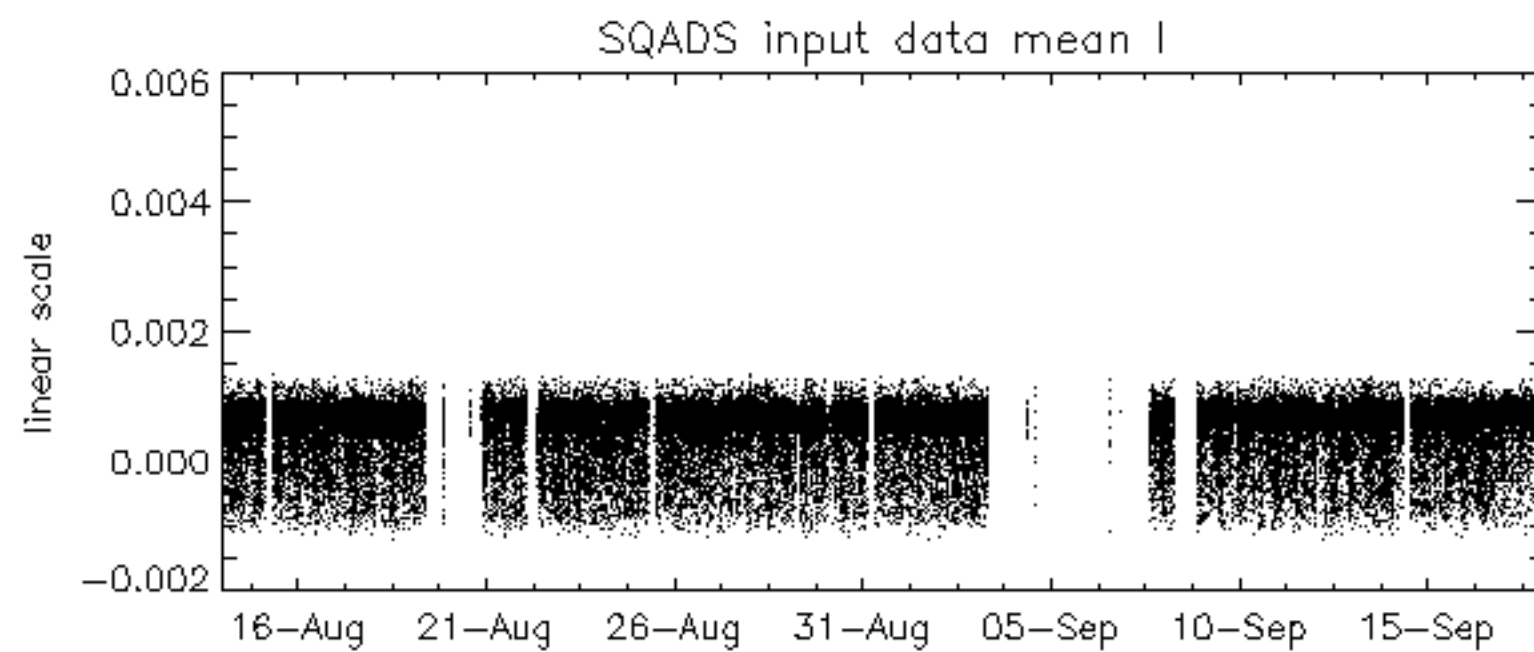
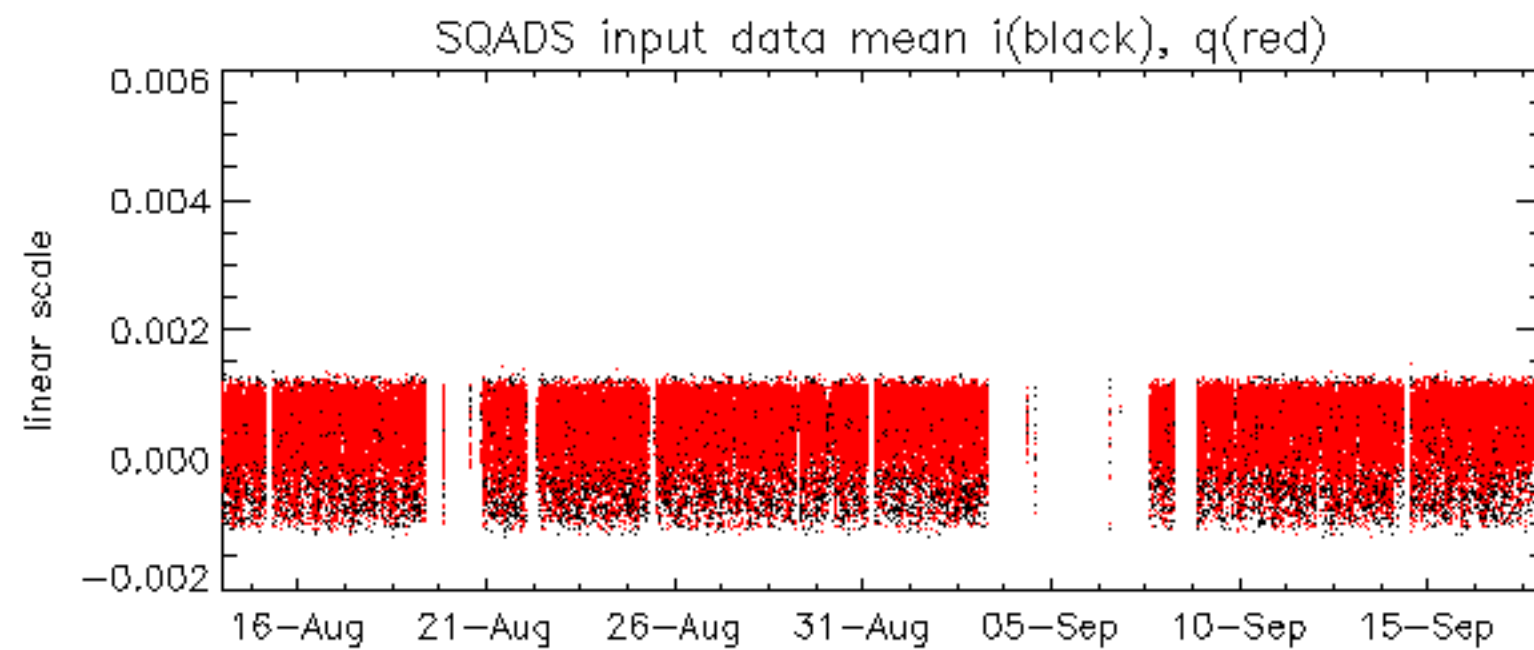


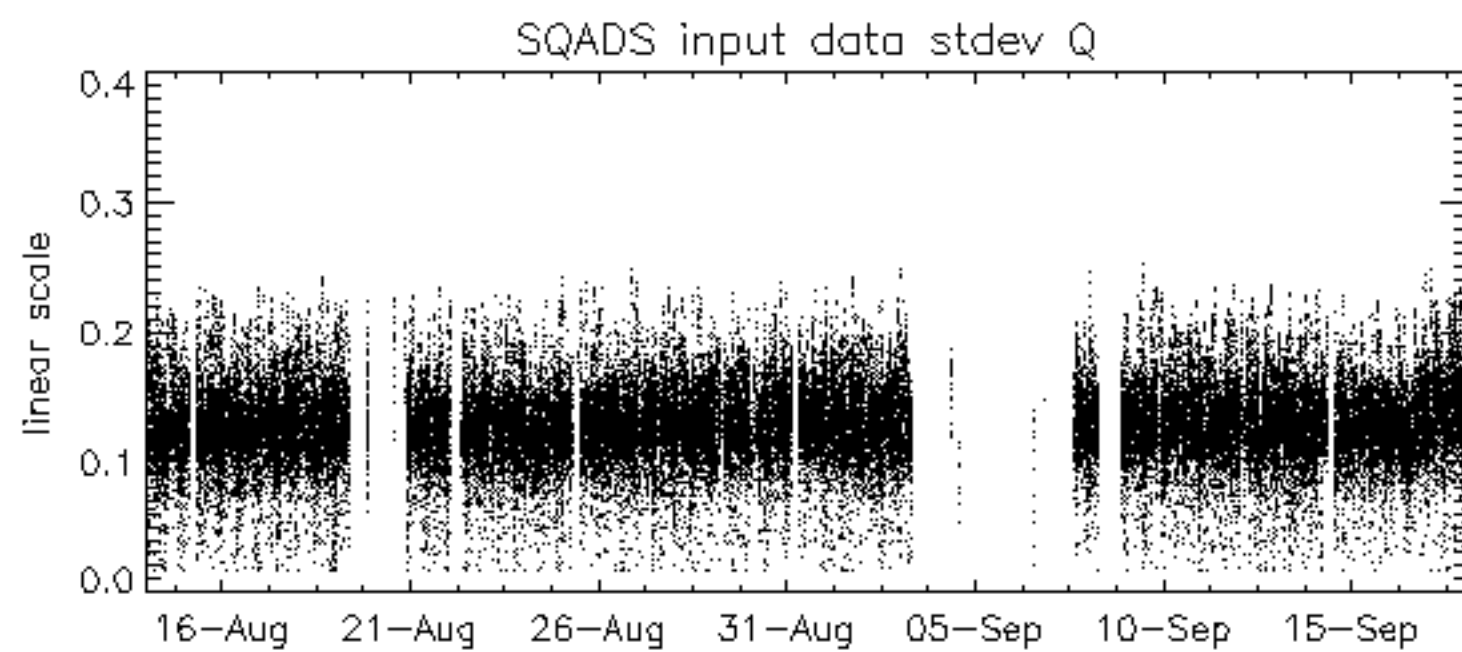
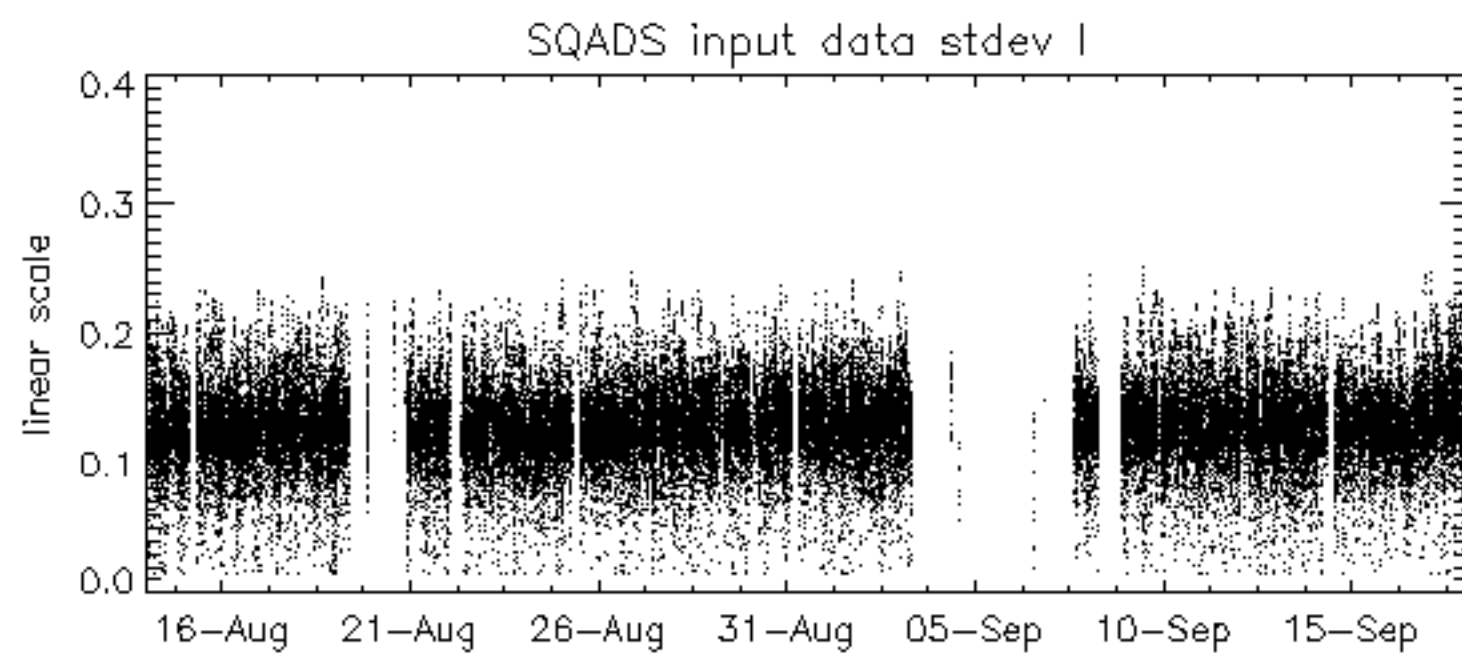
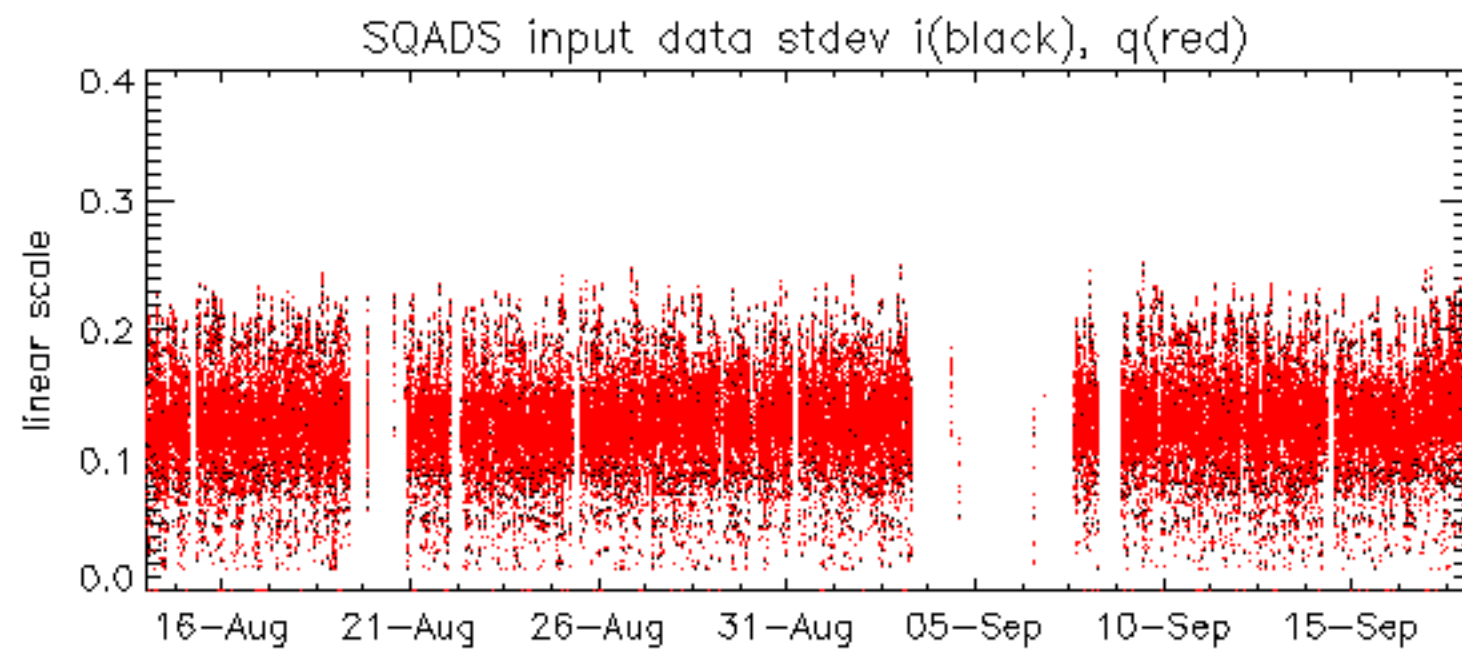


















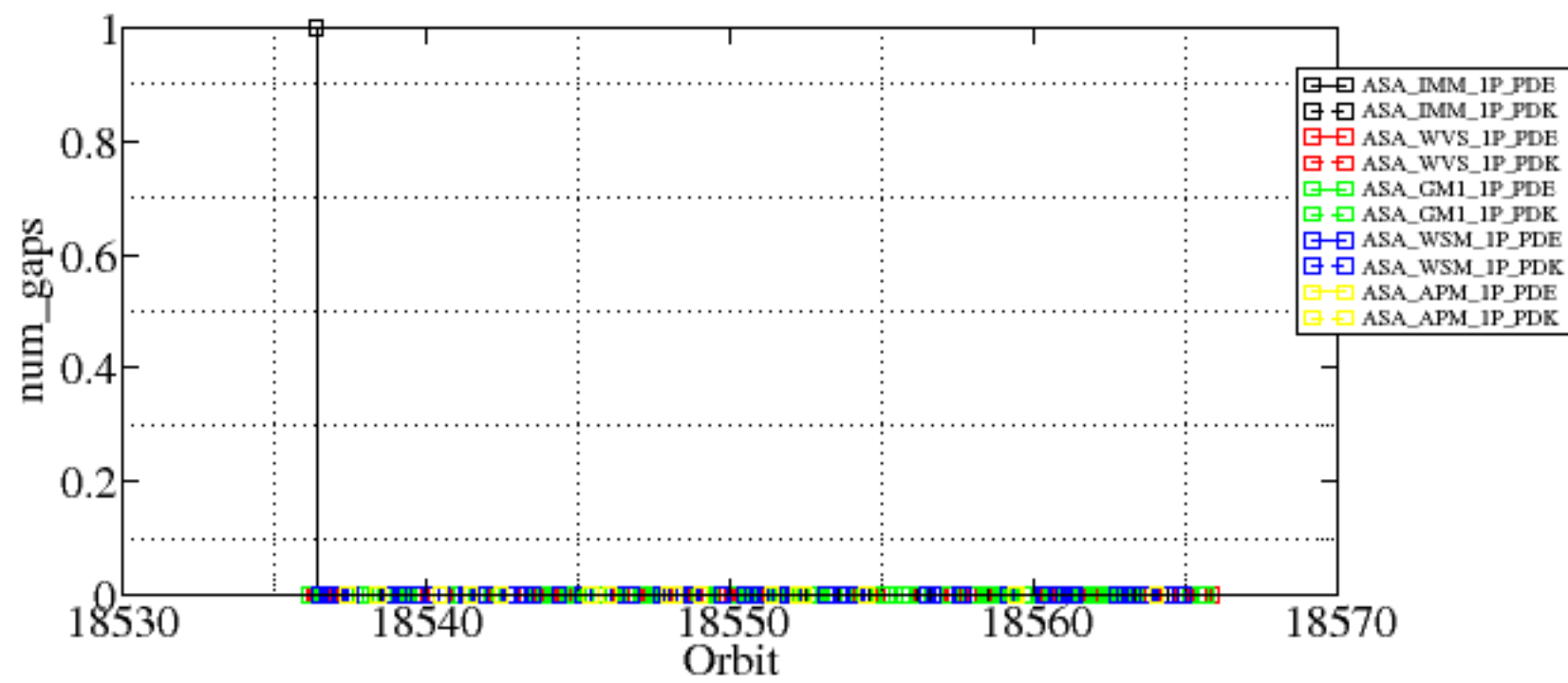


Summary of analysis for the last 3 days 2005091[678]

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_1PNPDE20050916_004346_000001222040_00446_18536_5720.N1	1	0
ASA_IMM_1PNPDK20050916_083400_000000352040_00451_18541_4097.N1	0	18
ASA_IMM_1PNPDK20050916_185109_000000602040_00457_18547_4120.N1	0	1
ASA_WSM_1PNPDE20050916_005515_000002792040_00446_18536_8936.N1	0	46
ASA_WSM_1PNPDE20050917_194140_000003242040_00471_18561_9188.N1	0	1







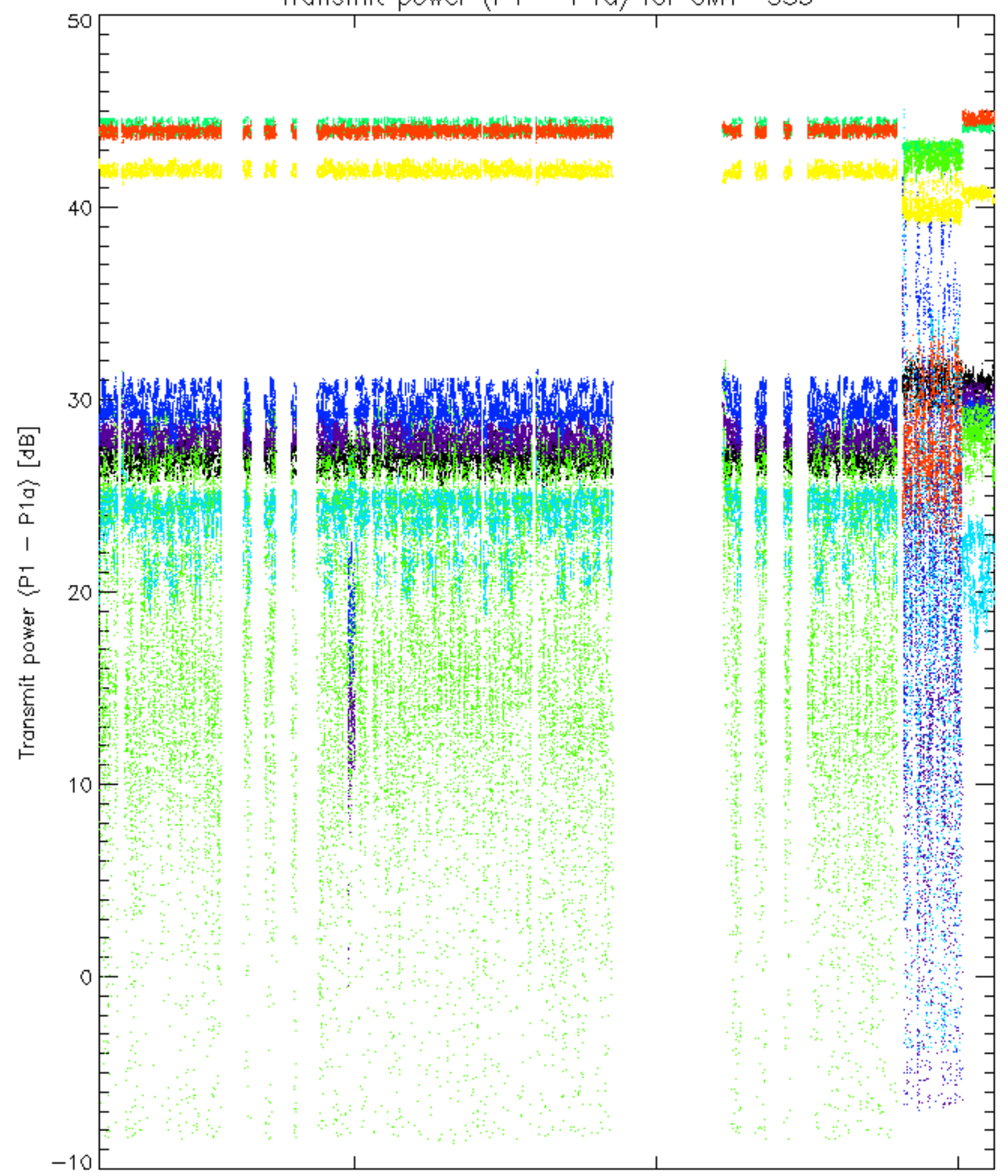




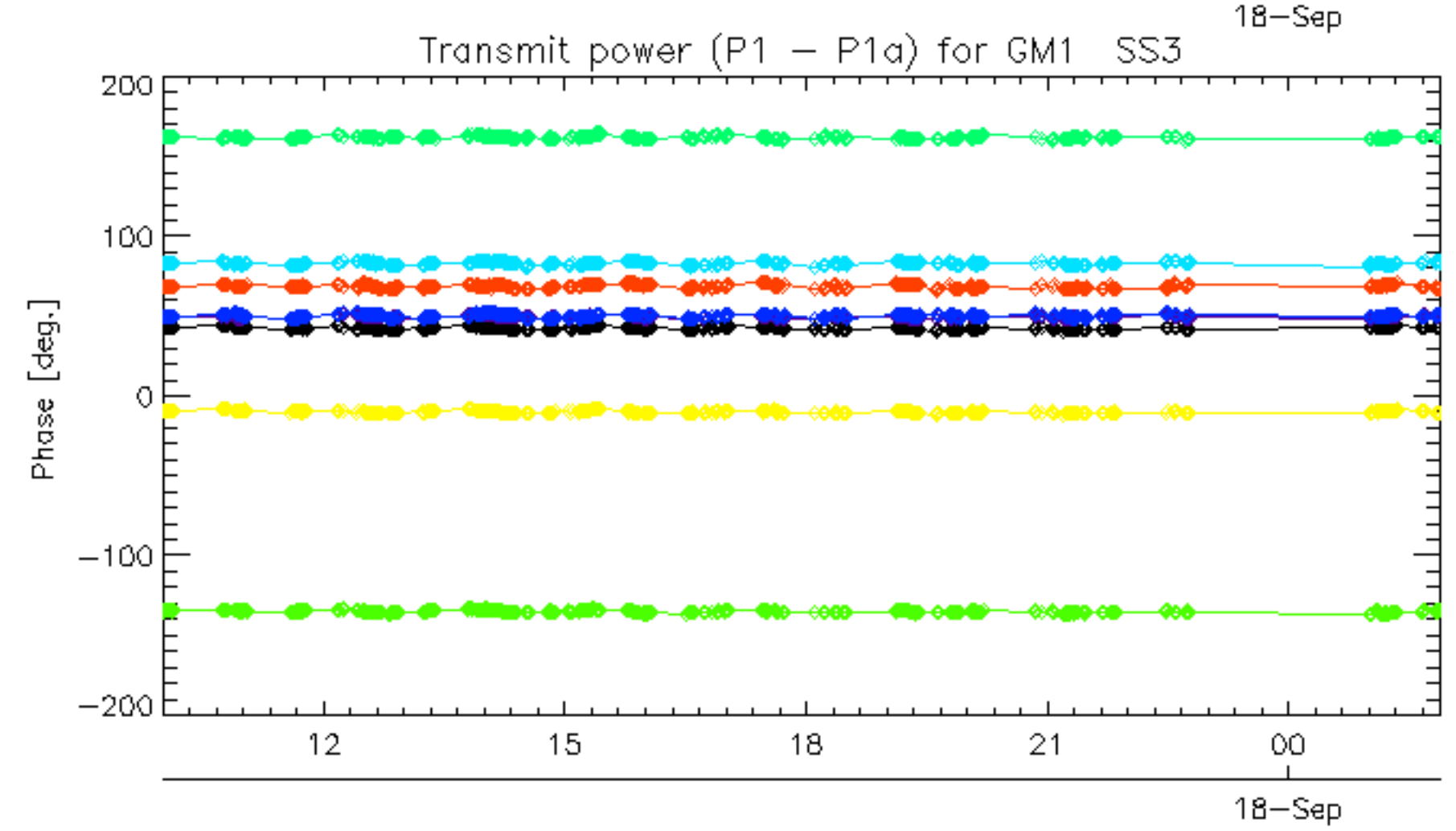
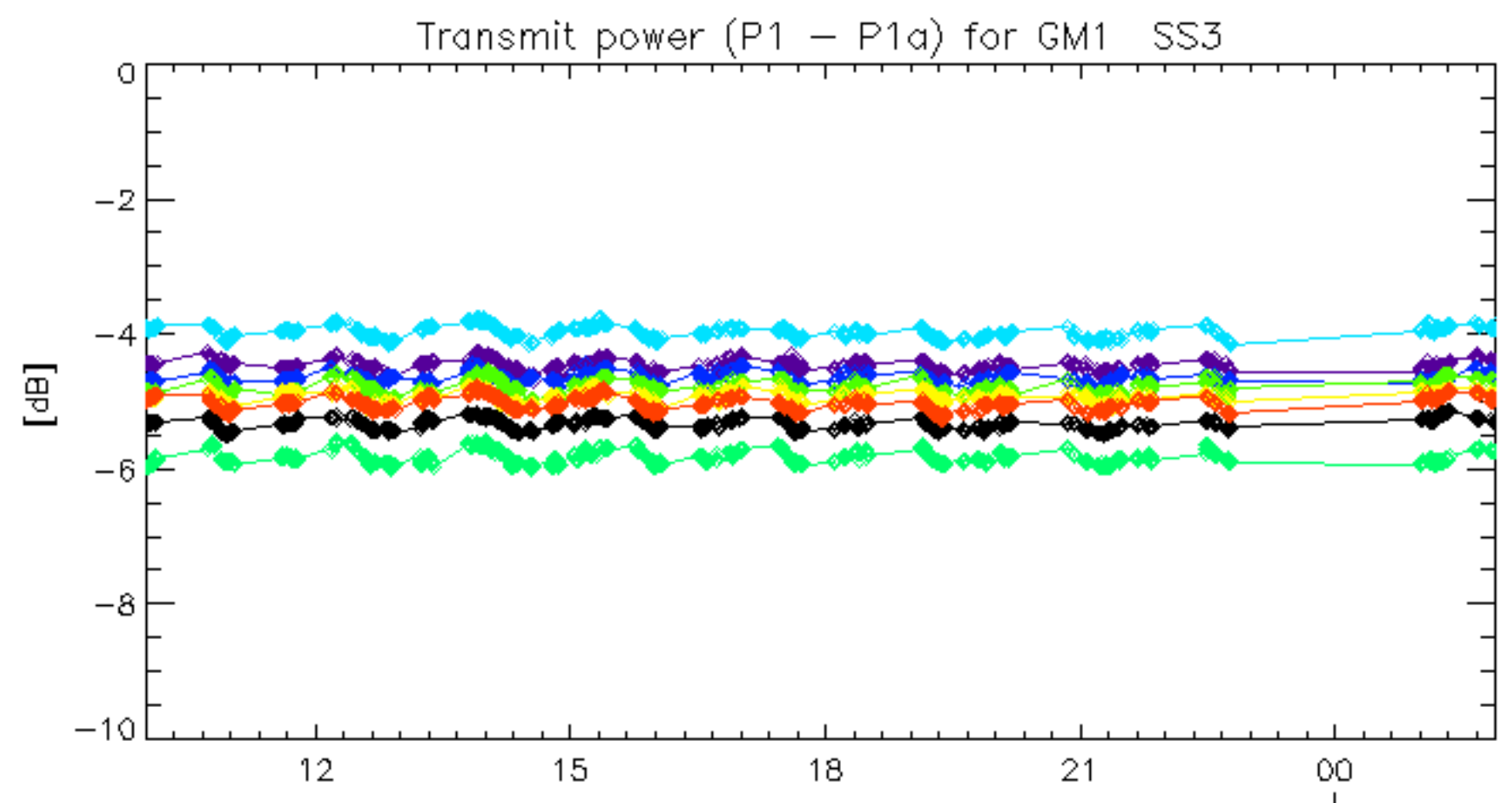




Transmit power (P1 - P1a) for GM1 SS3

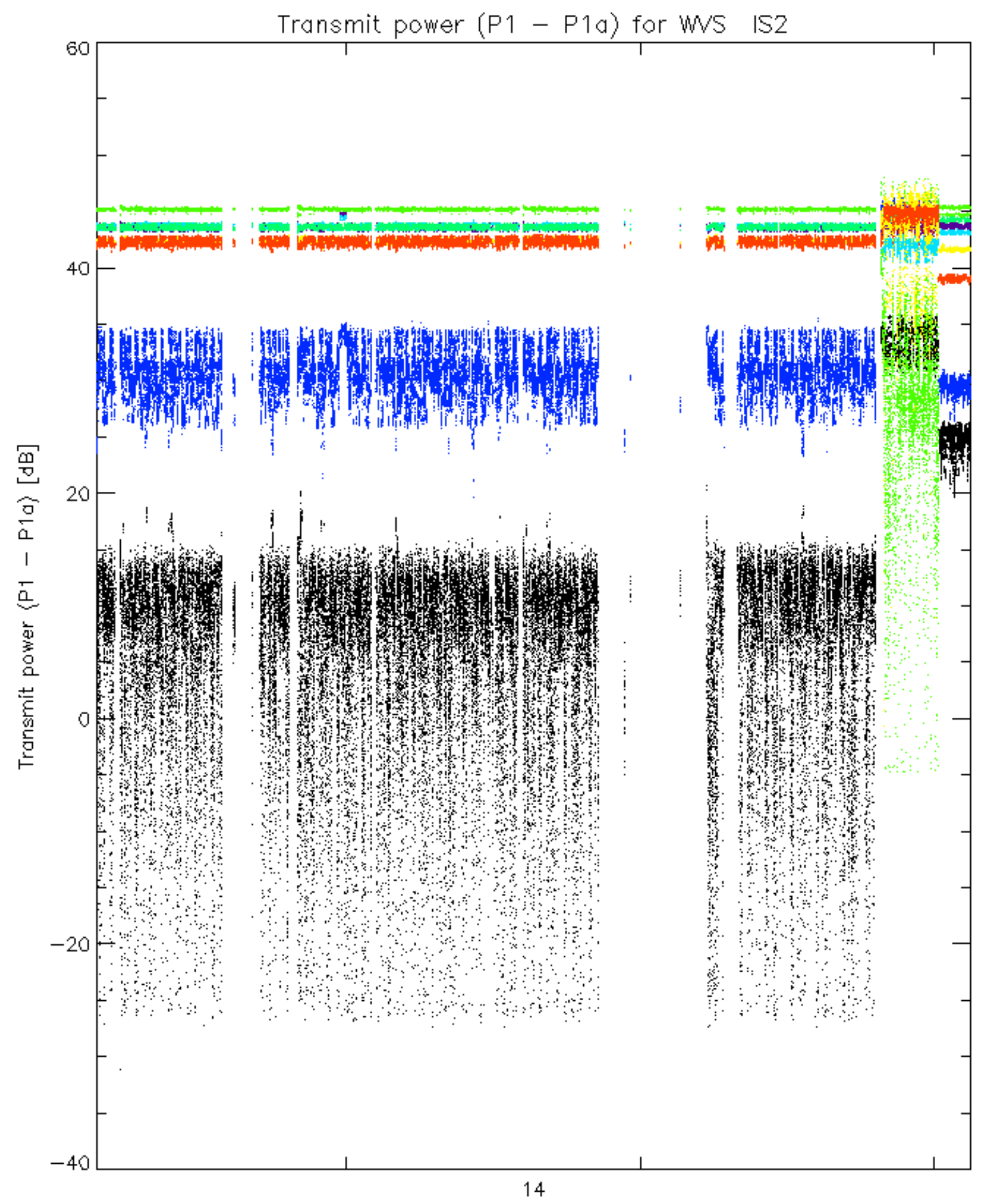


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

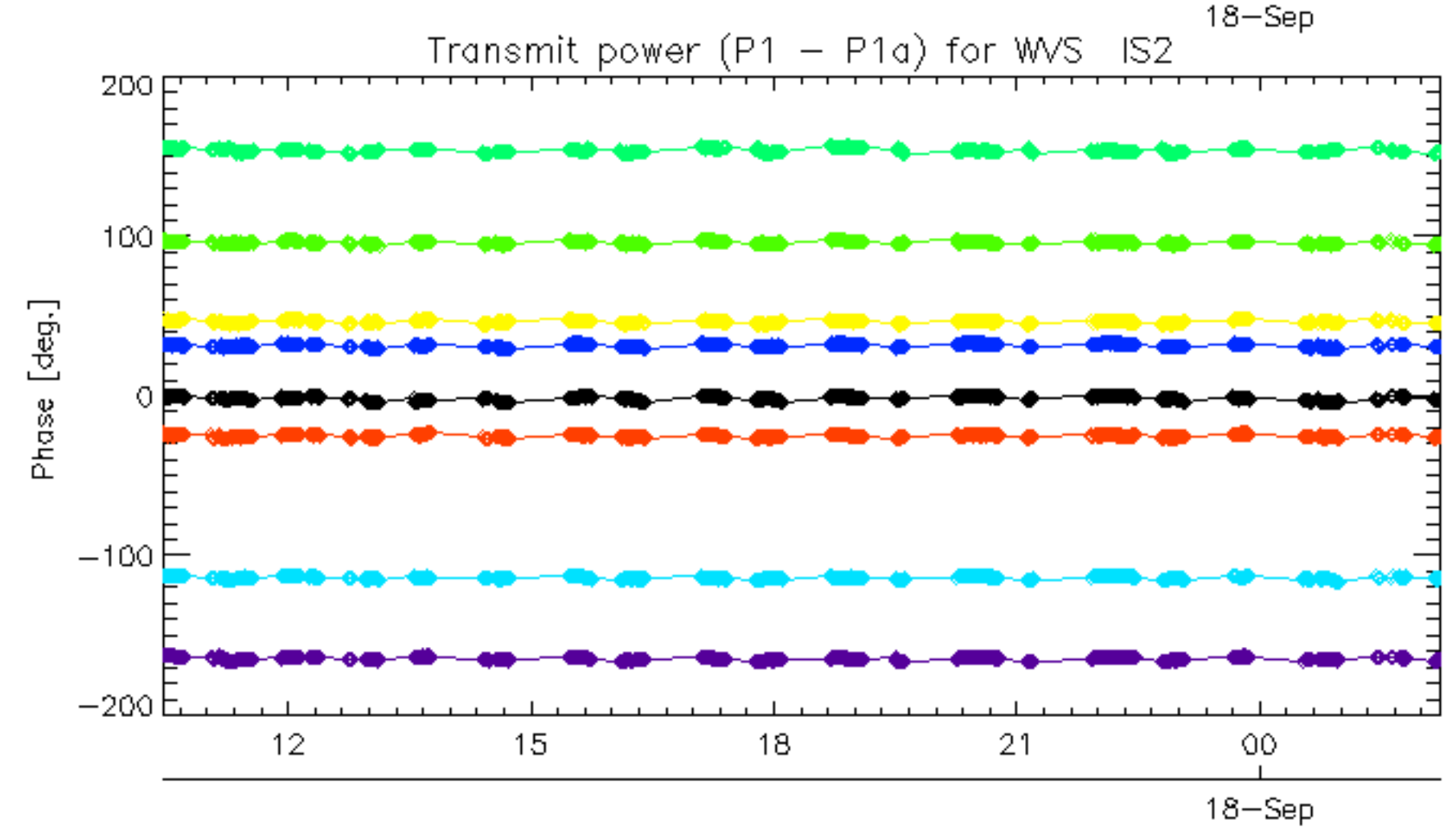
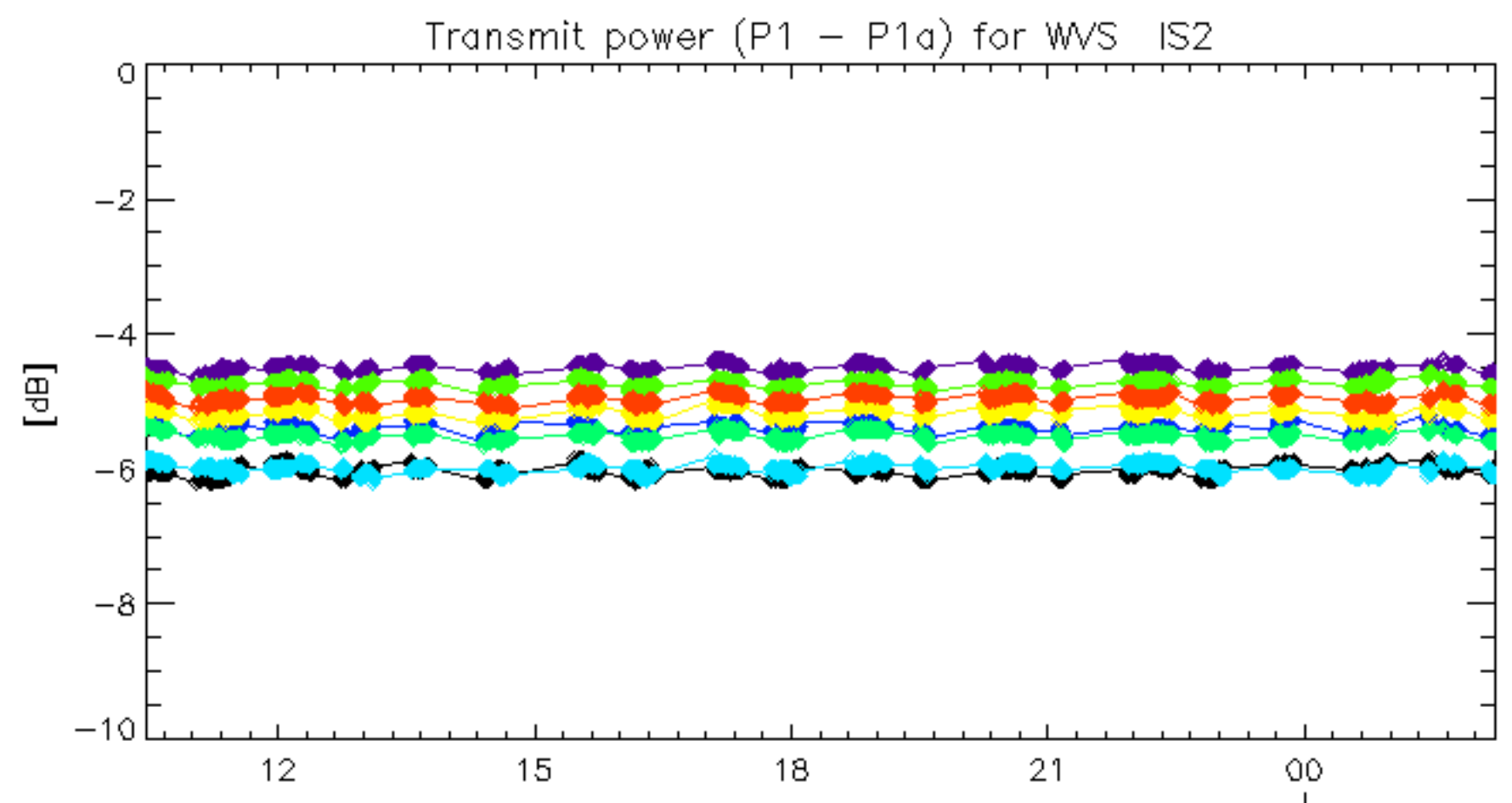


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30





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



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

No unavailabilities during the reported period.