

# PRELIMINARY REPORT OF 060814

last update on Mon Aug 14 12:05:30 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 2006-08-13 00:00:00 to 2006-08-14 12:05:30

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	29	46	4	2	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	29	46	4	2	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	29	46	4	2	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	29	46	4	2	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	35	29	15	11	36
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	35	29	15	11	36
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	35	29	15	11	36
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	35	29	15	11	36

## 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	20060812 064406
H	20060813 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	-3.942005	0.010206	-0.009261
7	P1	-3.111307	0.048847	-0.034368
11	P1	-4.099500	0.062212	-0.059139
15	P1	-6.197396	0.092319	-0.100813
19	P1	-3.429314	0.009878	-0.067238
22	P1	-4.559680	0.010105	-0.025143
26	P1	-3.923146	0.019960	0.009938
30	P1	-5.763892	0.009770	-0.007158
3	P1	-16.534702	0.251113	-0.022476
7	P1	-17.181137	0.131096	0.061458
11	P1	-16.934578	0.284386	0.170067
15	P1	-13.041060	0.173182	0.200143
19	P1	-14.489579	0.054606	-0.057487
22	P1	-15.970020	0.442360	0.159546
26	P1	-15.122692	0.228245	-0.027407
30	P1	-17.086674	0.336525	0.096759

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.922838	0.085899	0.109270
7	P2	-21.880121	0.102784	0.080714
11	P2	-15.773350	0.119074	0.041154
15	P2	-7.118350	0.098260	0.030017
19	P2	-9.126551	0.090618	0.027215
22	P2	-18.147821	0.086001	0.014246
26	P2	-16.401354	0.092188	0.006273
30	P2	-19.502464	0.091683	0.047534

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.173060	0.003214	0.003659
7	P3	-8.173060	0.003214	0.003659
11	P3	-8.173060	0.003214	0.003659
15	P3	-8.173060	0.003214	0.003659
19	P3	-8.173060	0.003214	0.003659
22	P3	-8.173060	0.003214	0.003659
26	P3	-8.173060	0.003214	0.003659
30	P3	-8.173060	0.003214	0.003659

#### 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	-3.825095	0.008782	-0.009493
7	P1	-2.588734	0.125307	-0.134199
11	P1	-2.888031	0.124227	-0.147788
15	P1	-3.619107	0.141106	-0.184304
19	P1	-3.425777	0.023768	-0.004977
22	P1	-5.084874	0.019356	-0.008997
26	P1	-5.862351	0.016107	-0.008466
30	P1	-5.194649	0.033510	0.010728
3	P1	-11.620193	0.043163	-0.007056
7	P1	-9.973705	0.047434	-0.045991
11	P1	-10.265121	0.061222	-0.084142
15	P1	-10.764981	0.146892	-0.069637
19	P1	-15.554997	0.500058	0.035086
22	P1	-20.918865	1.298995	-0.015876
26	P1	-16.211740	0.392978	0.213891
30	P1	-17.963867	0.416050	-0.128014

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.539148	0.071722	0.165068
7	P2	-22.337240	0.116013	0.132555
11	P2	-11.008365	0.041501	0.105875
15	P2	-4.895549	0.044057	0.033245
19	P2	-6.862884	0.039298	0.020893
22	P2	-8.188735	0.034565	0.008676
26	P2	-24.178358	0.058904	0.002437
30	P2	-21.992714	0.047229	0.038863

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.011240	0.003704	0.000043
7	P3	-8.011134	0.003703	0.000092
11	P3	-8.011228	0.003708	-0.000205
15	P3	-8.011249	0.003707	-0.000101
19	P3	-8.011095	0.003713	-0.000017
22	P3	-8.011341	0.003697	-0.000117
26	P3	-8.011190	0.003698	-0.000014
30	P3	-8.011214	0.003707	-0.000234

## 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	0.000563357
	stdev	1.70591e-07
MEAN Q	mean	0.000536051
	stdev	2.14228e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.137662
	stdev	0.00107798
STDEV Q	mean	0.138019
	stdev	0.00109503



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006081[234]

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_1PNPDK20060813_083110_00000372050_00179_23279_1276.N1	0	14
ASA_GM1_1PNPDK20060813_133905_000008762050_00182_23282_2737.N1	0	60
ASA_WSM_1PNPDE20060812_112329_000001152050_00166_23266_7355.N1	0	75
ASA_WSM_1PNPDE20060812_172251_000001842050_00170_23270_7388.N1	0	3
ASA_WSM_1PNPDE20060813_005024_000002632050_00174_23274_7469.N1	0	36
ASA_WSM_1PNPDE20060813_165038_000001712050_00184_23284_7565.N1	0	35





## 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

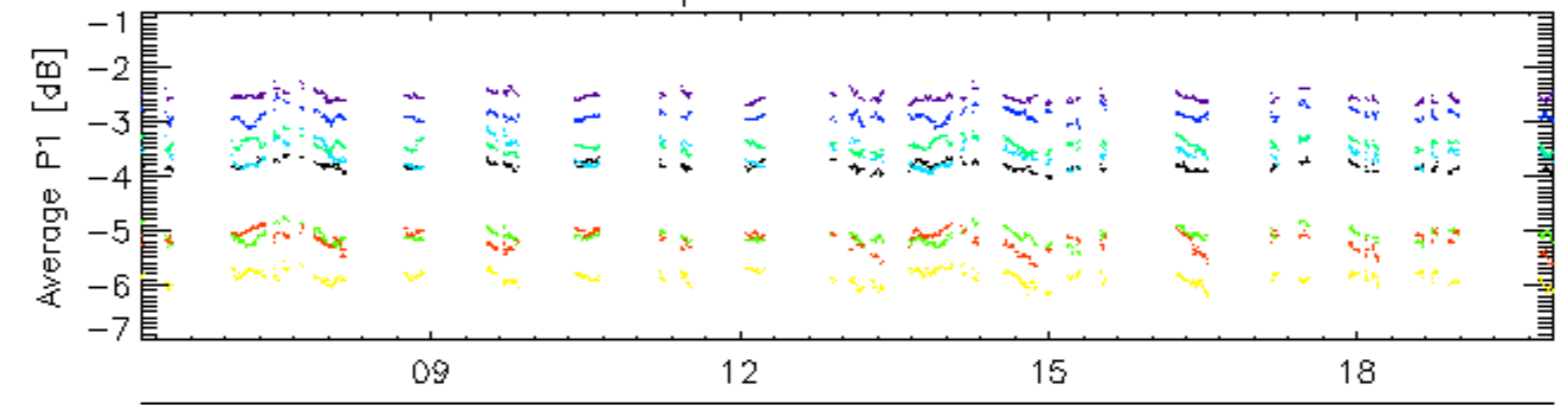
### 7.5 - Absolute Doppler for GM1

<b>Evolution of Absolute Doppler</b>
<input type="checkbox"/>
Ascending
<input type="checkbox"/>
Descending

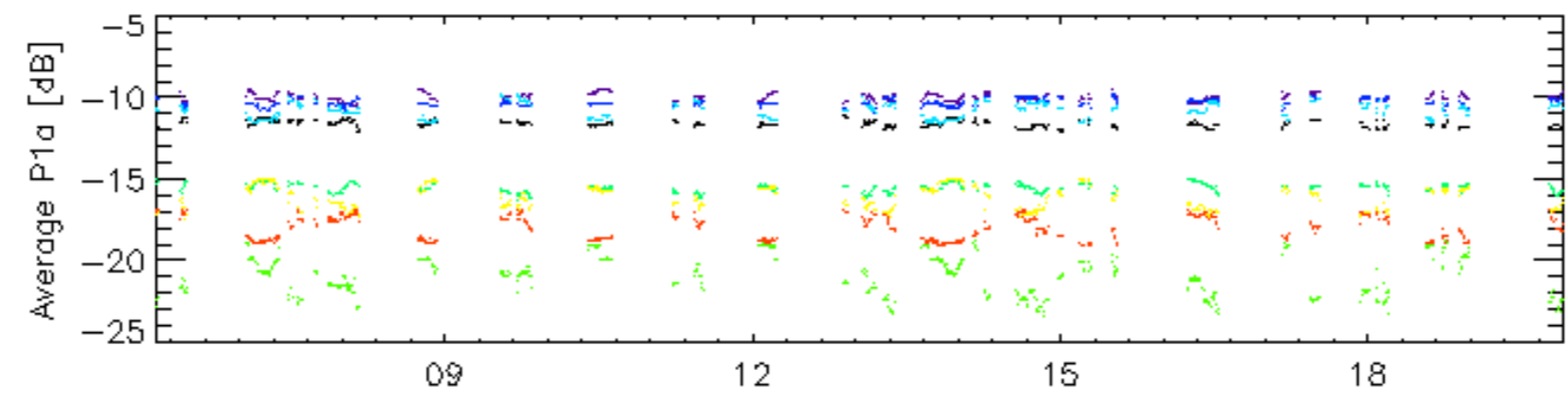
### 7.6 - Doppler evolution versus ANX for GM1

<b>Evolution Doppler error versus ANX</b>
<input type="checkbox"/>

Cal pulses for GM1 SS3

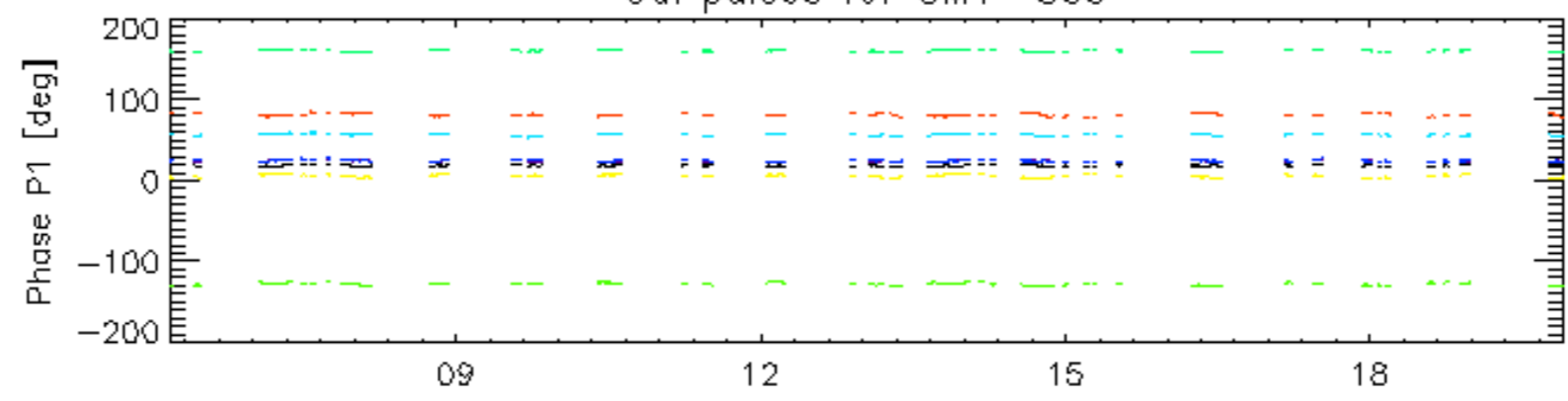


13-Aug

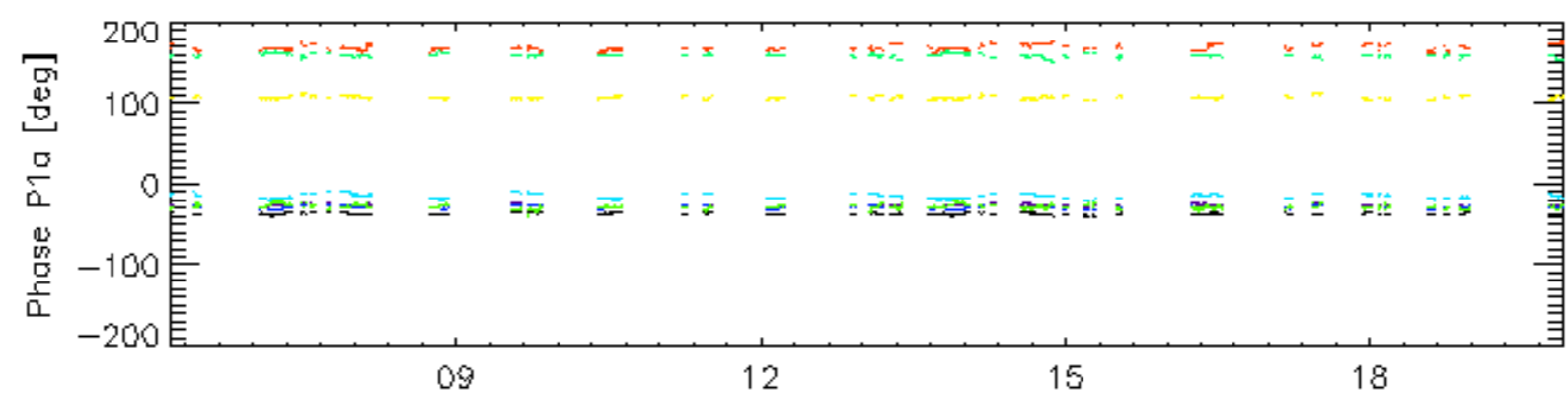


13-Aug

Cal pulses for GM1 SS3

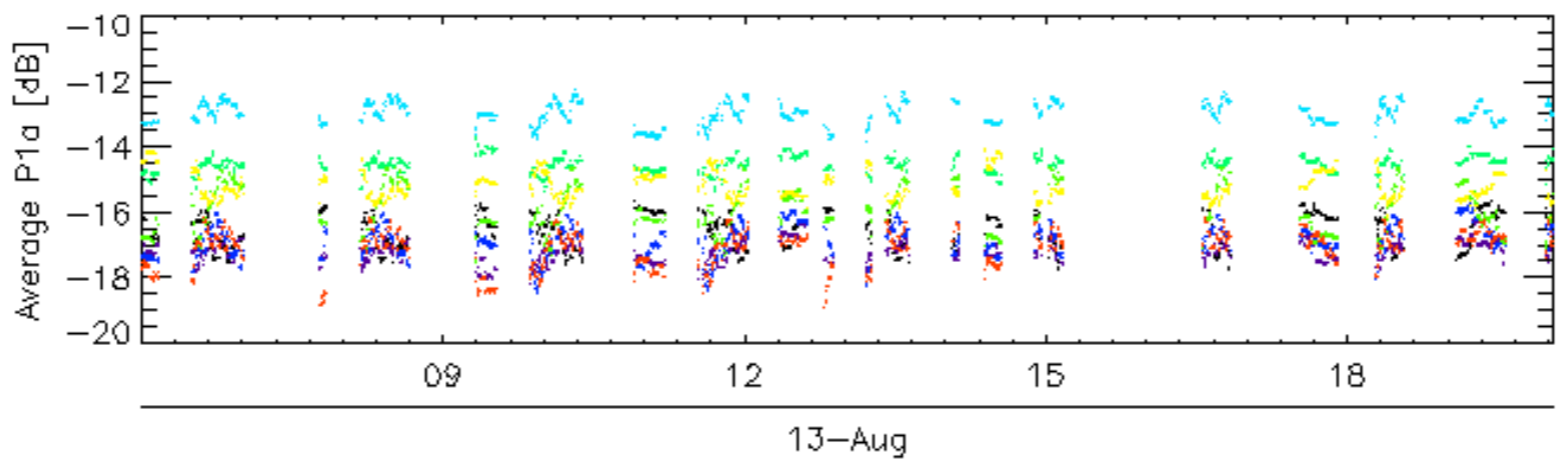
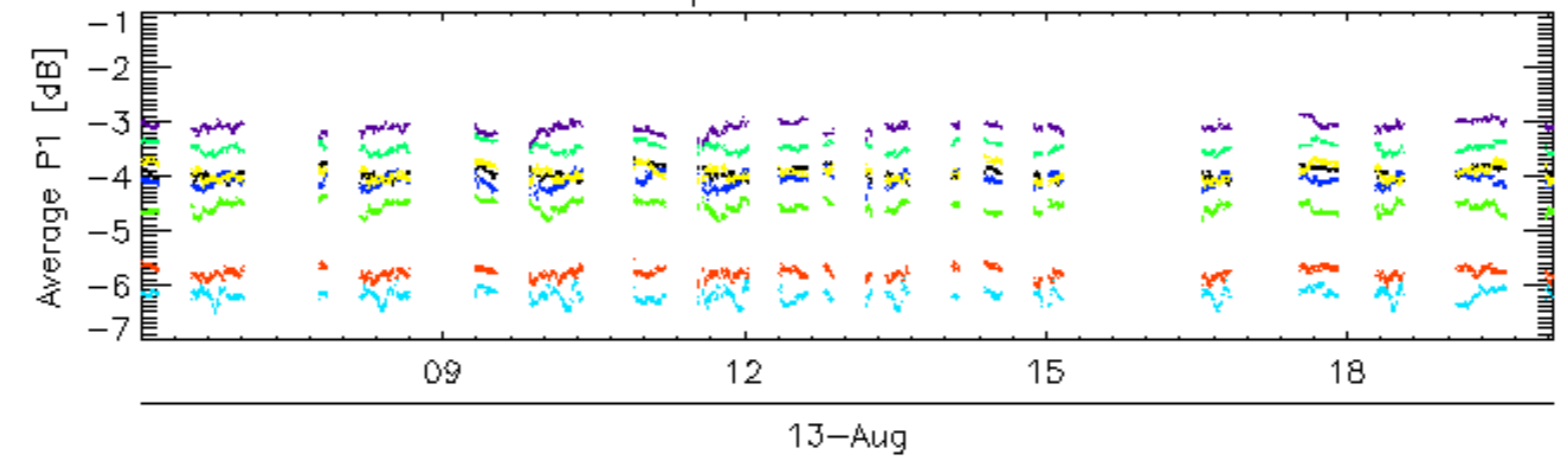


13-Aug

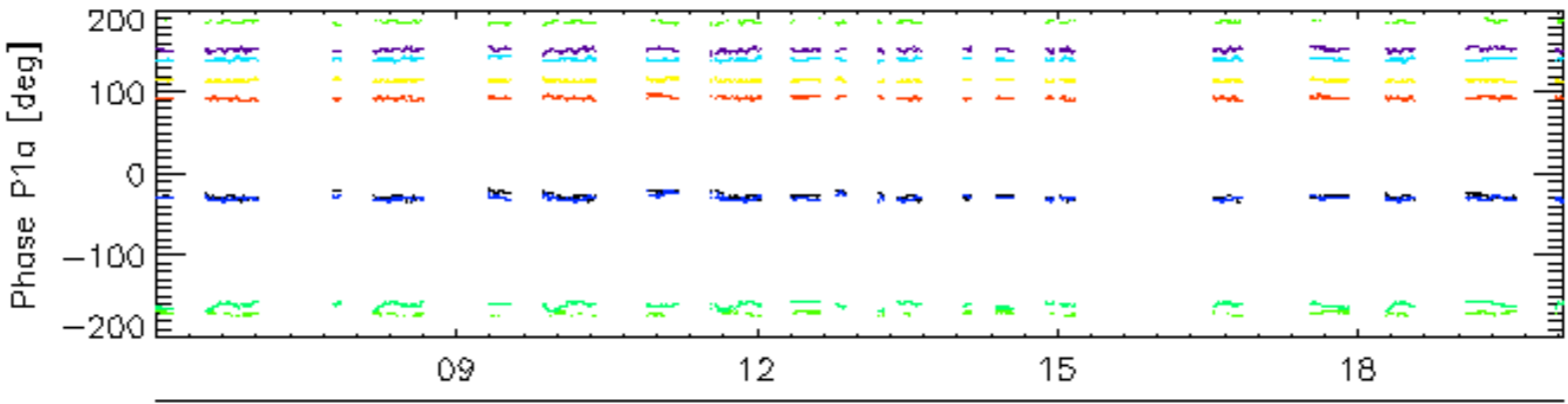
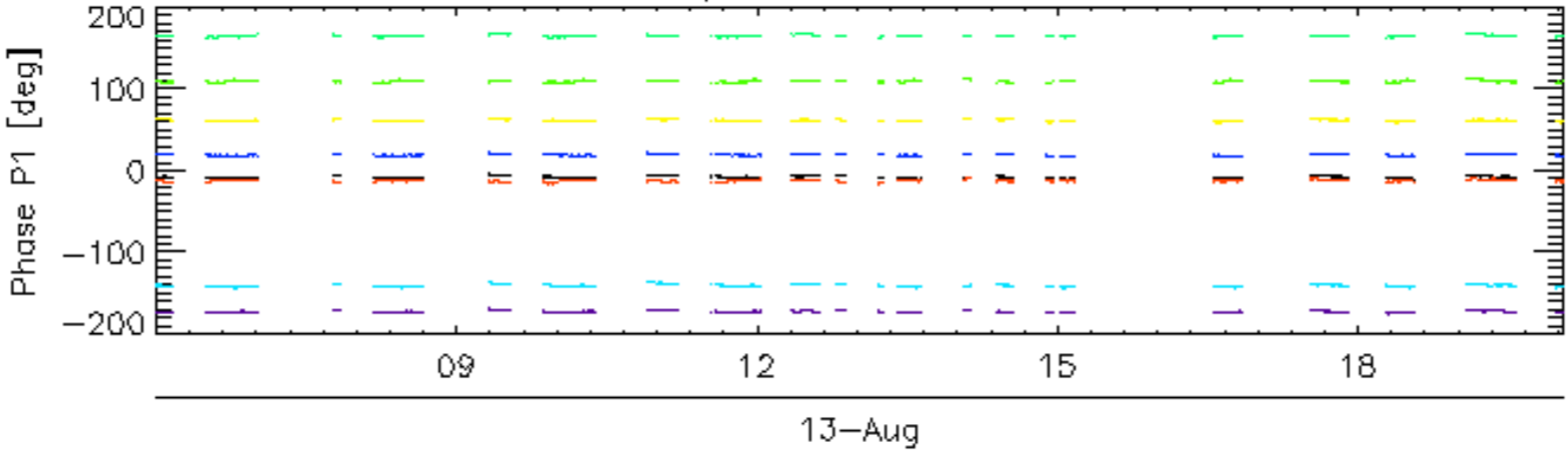


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

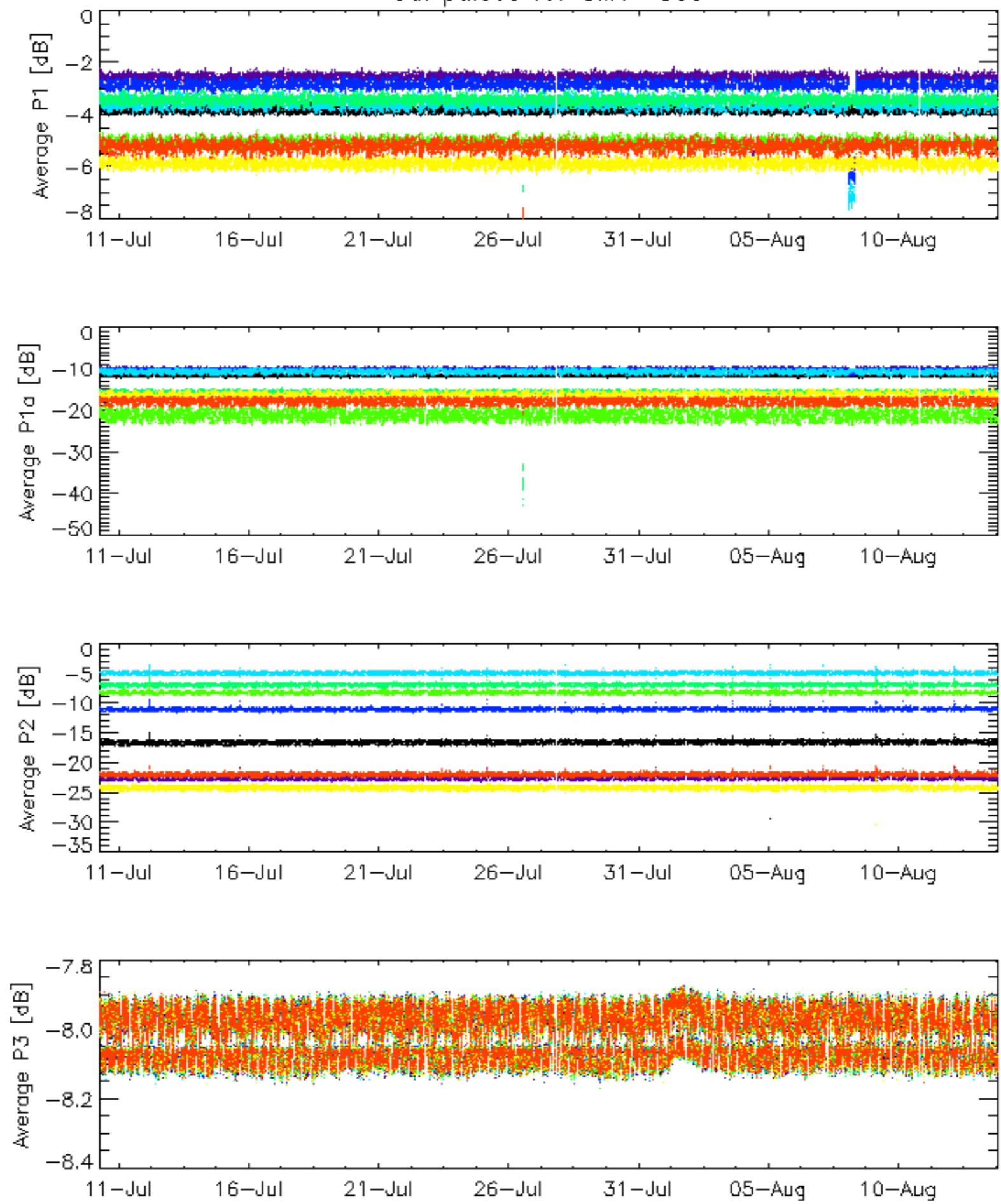


Cal pulses for WVS IS2



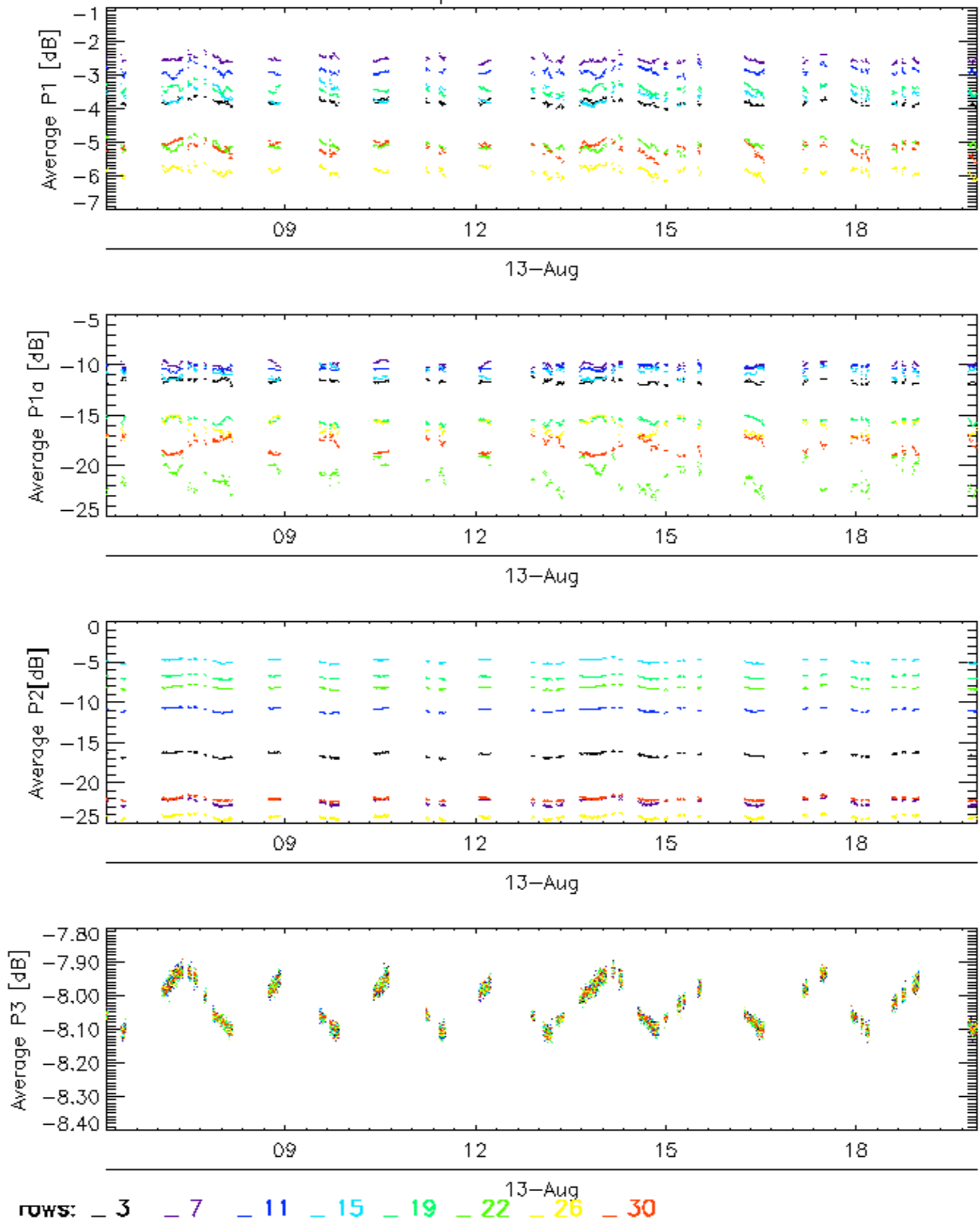
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 <sup>13-Aug</sup> \_ 26 \_ 30

Cal pulses for GM1 SS3

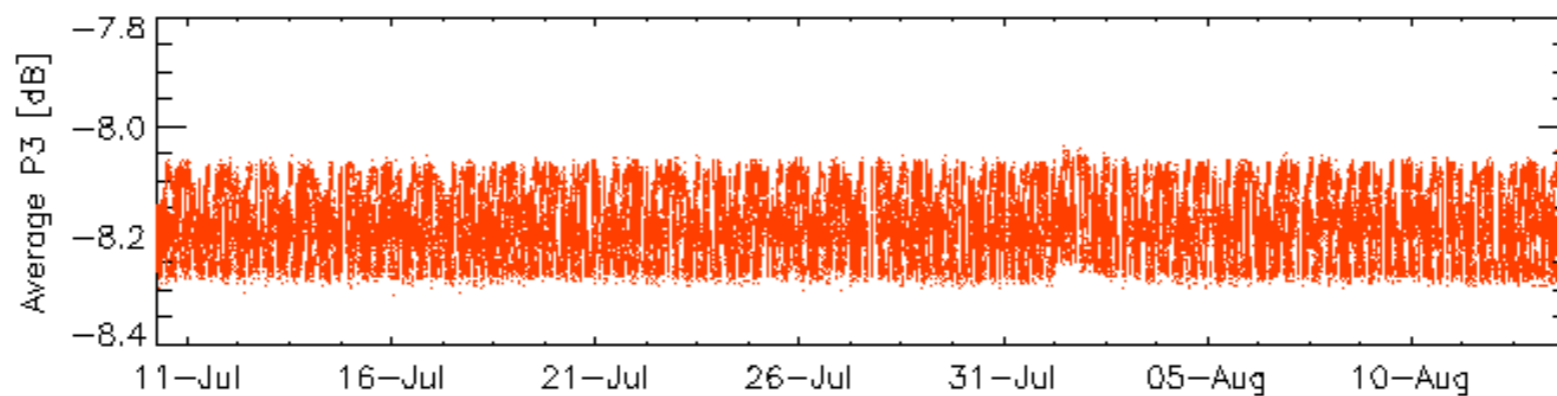
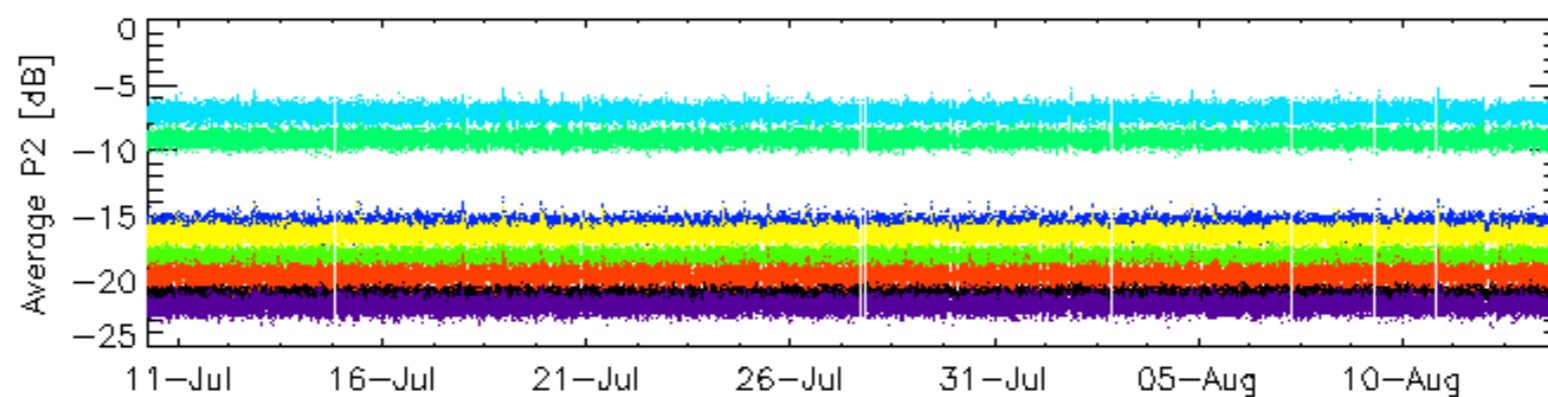
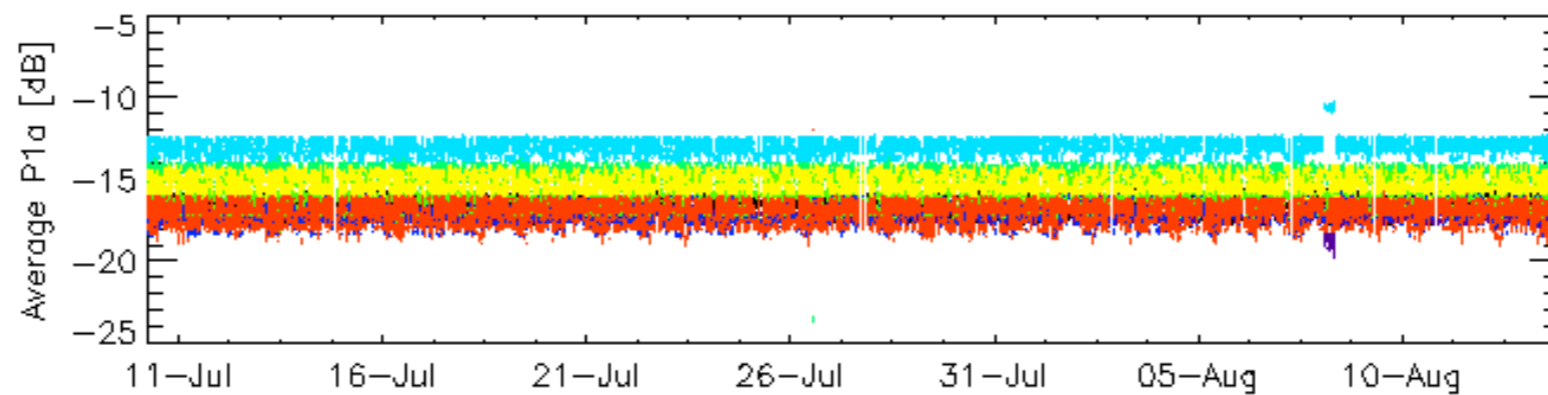
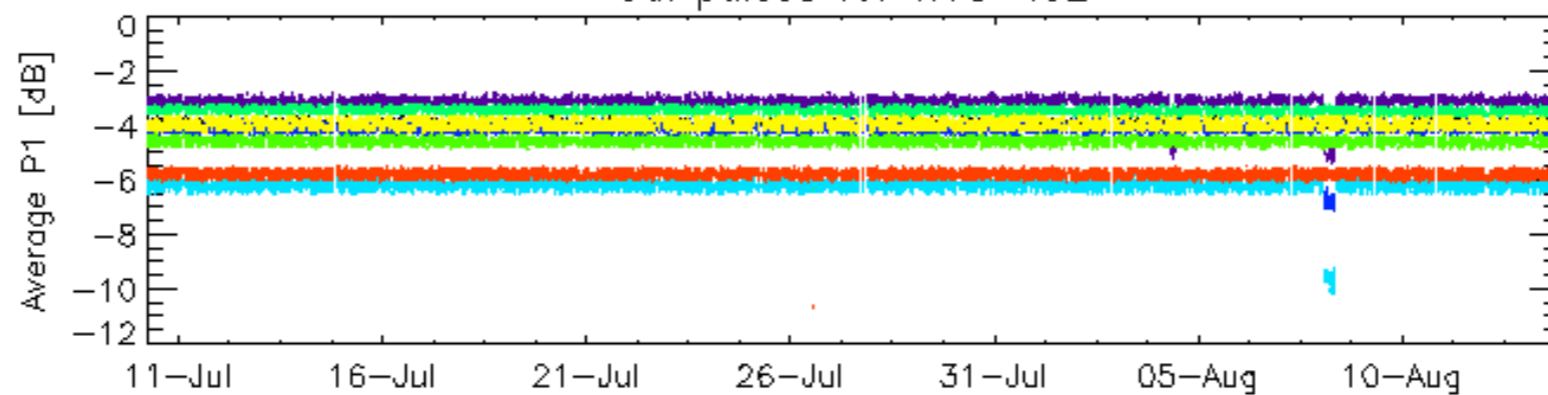


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

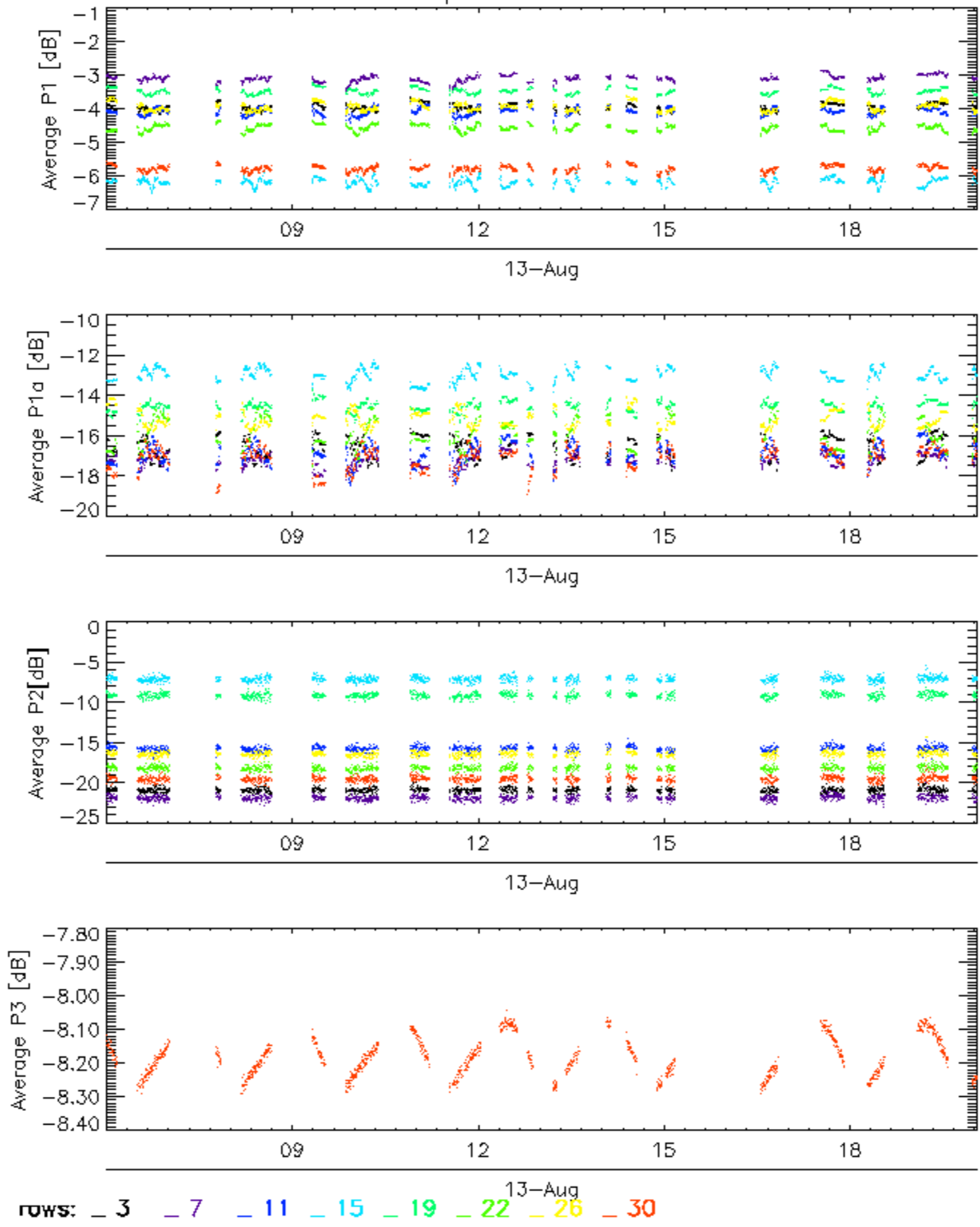


Cal pulses for WVS IS2



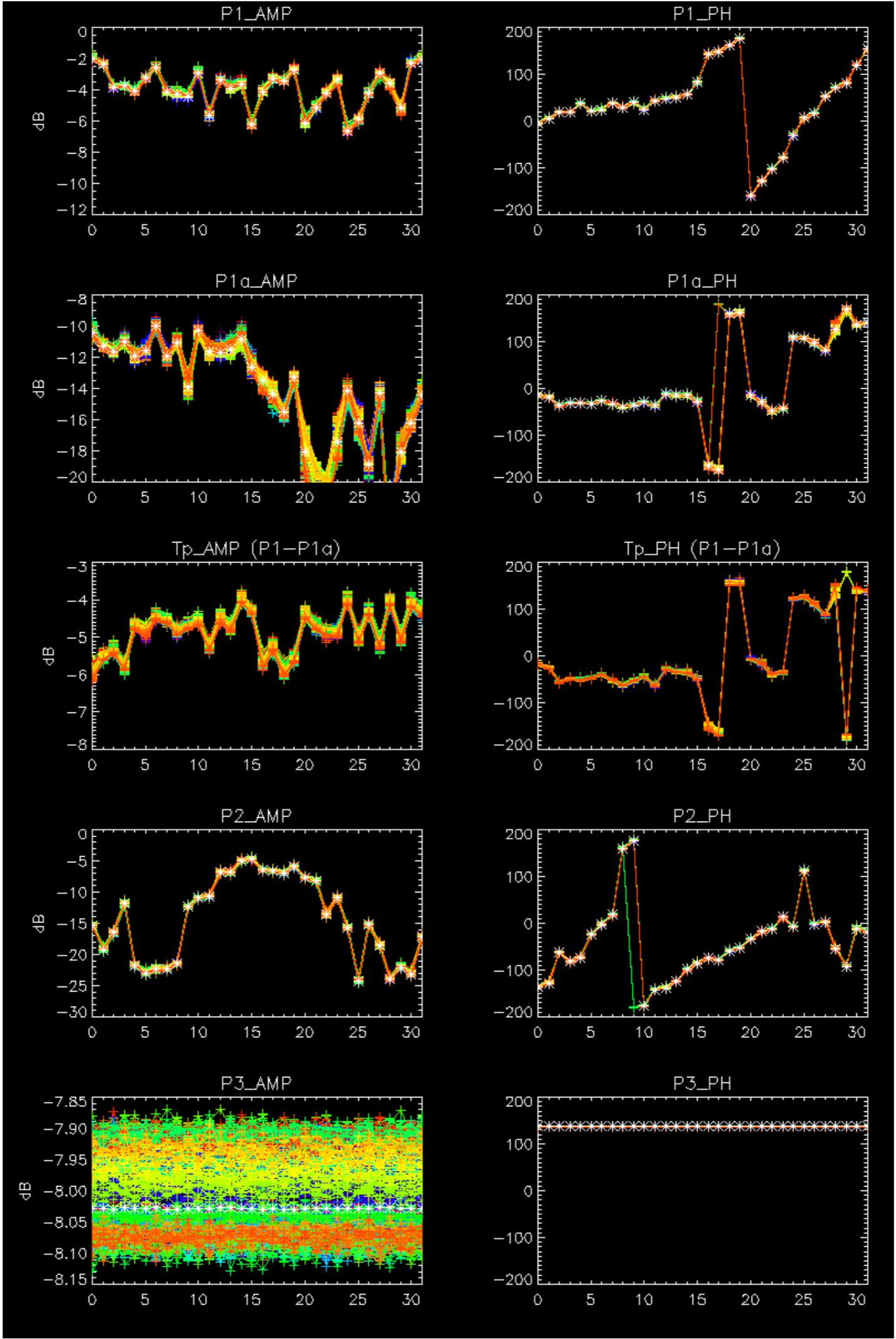
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

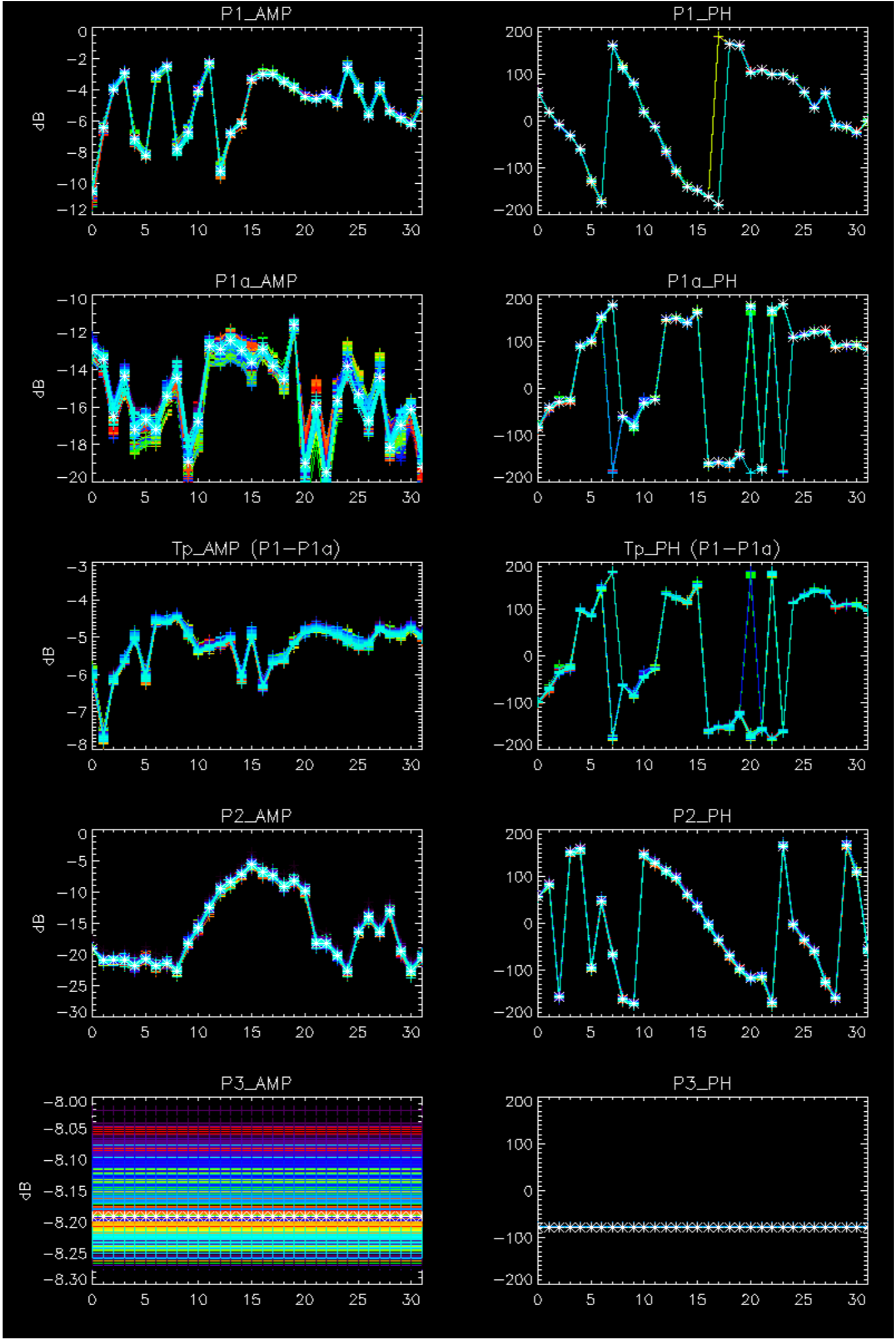
Cal pulses for WVS IS2



No anomalies observed.



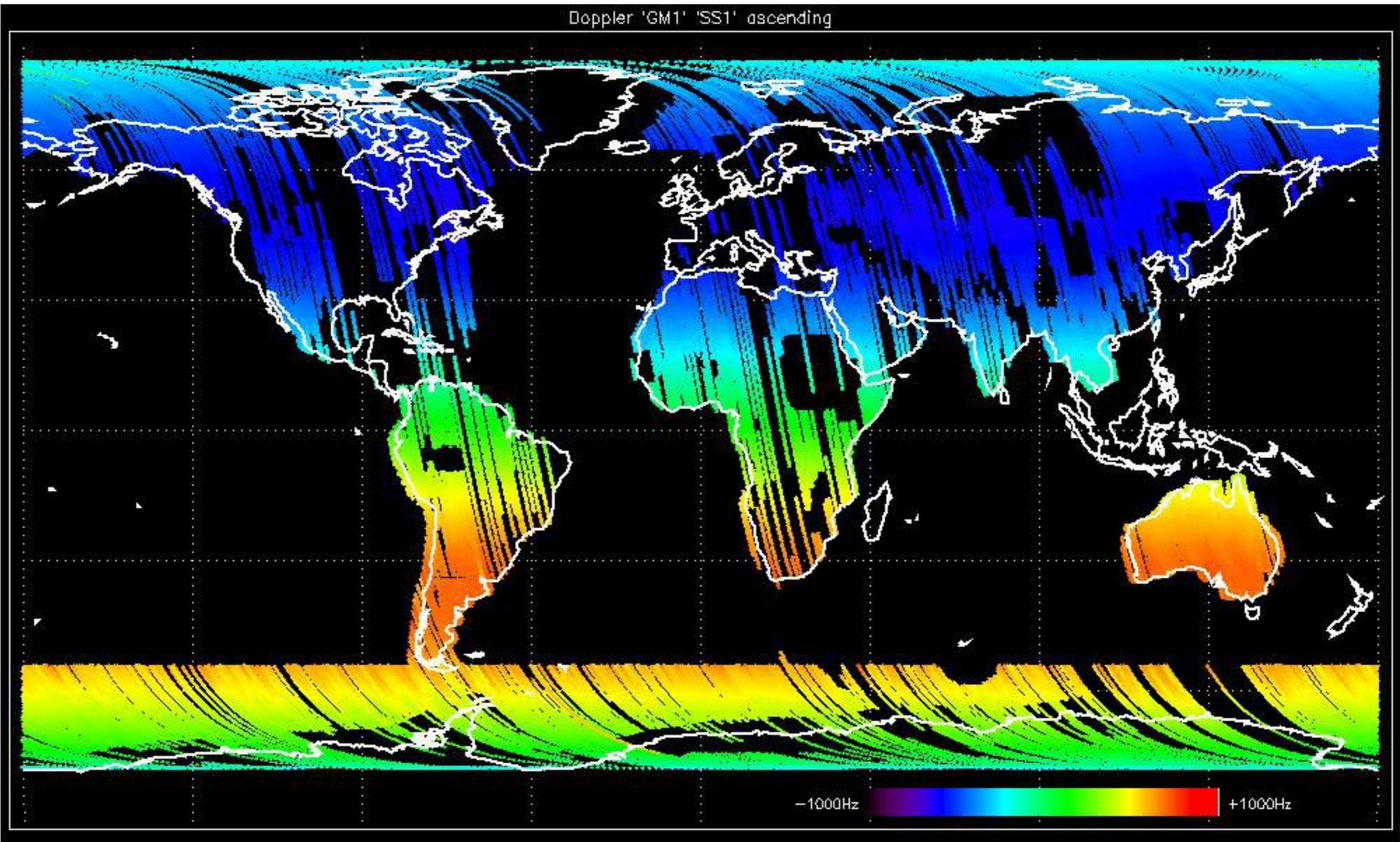




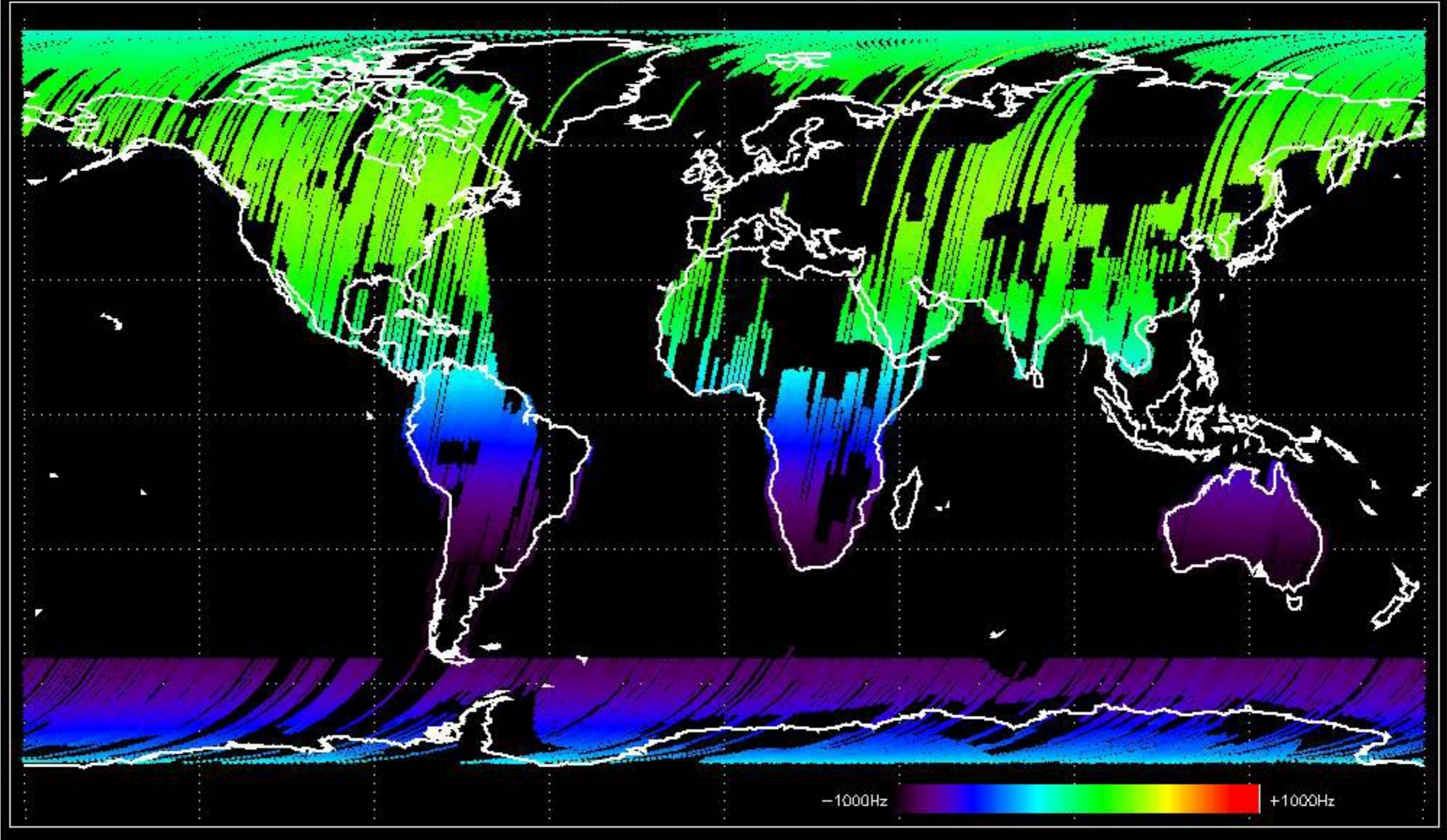
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



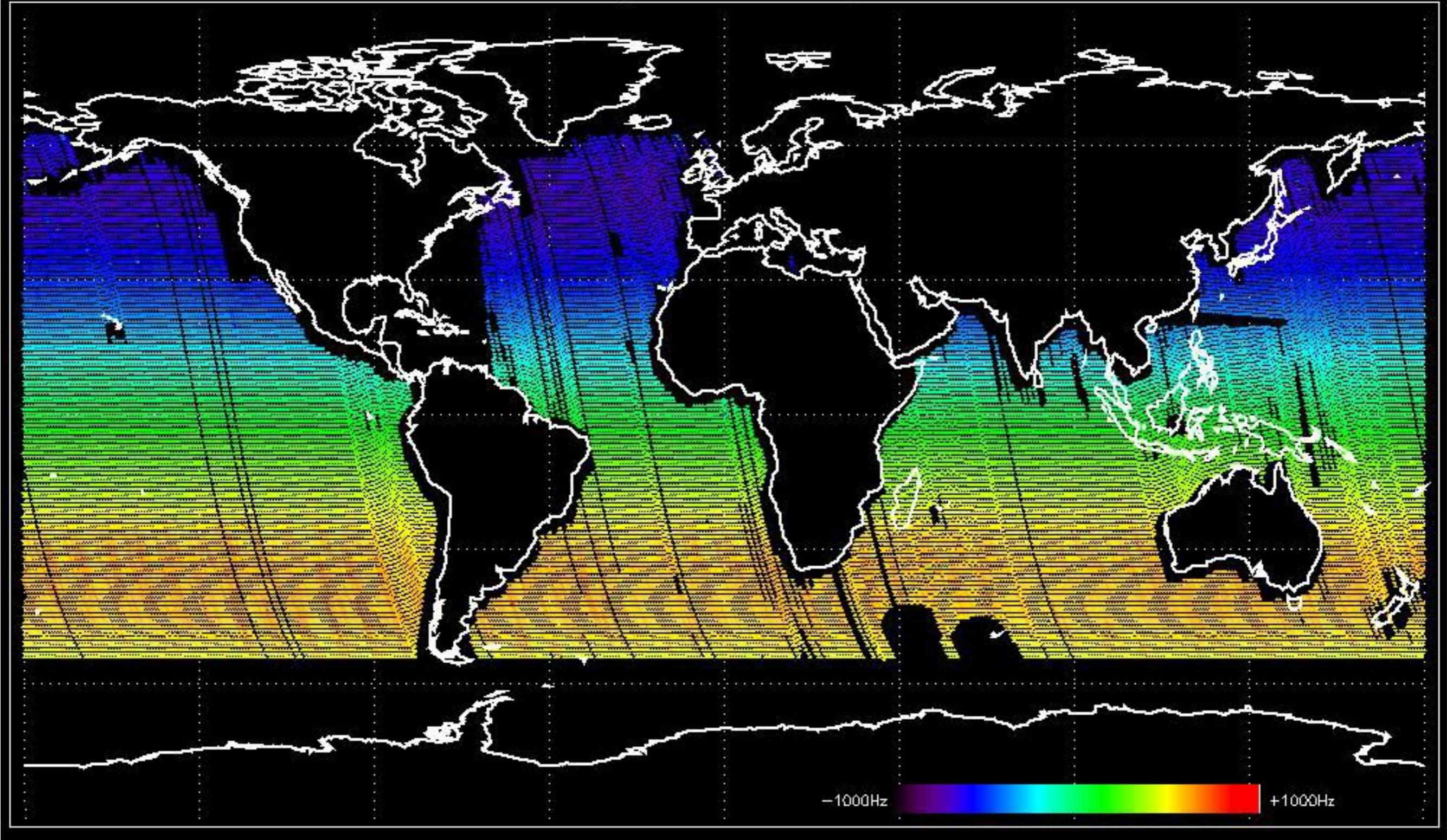
Doppler 'GM1' 'SS1' ascending



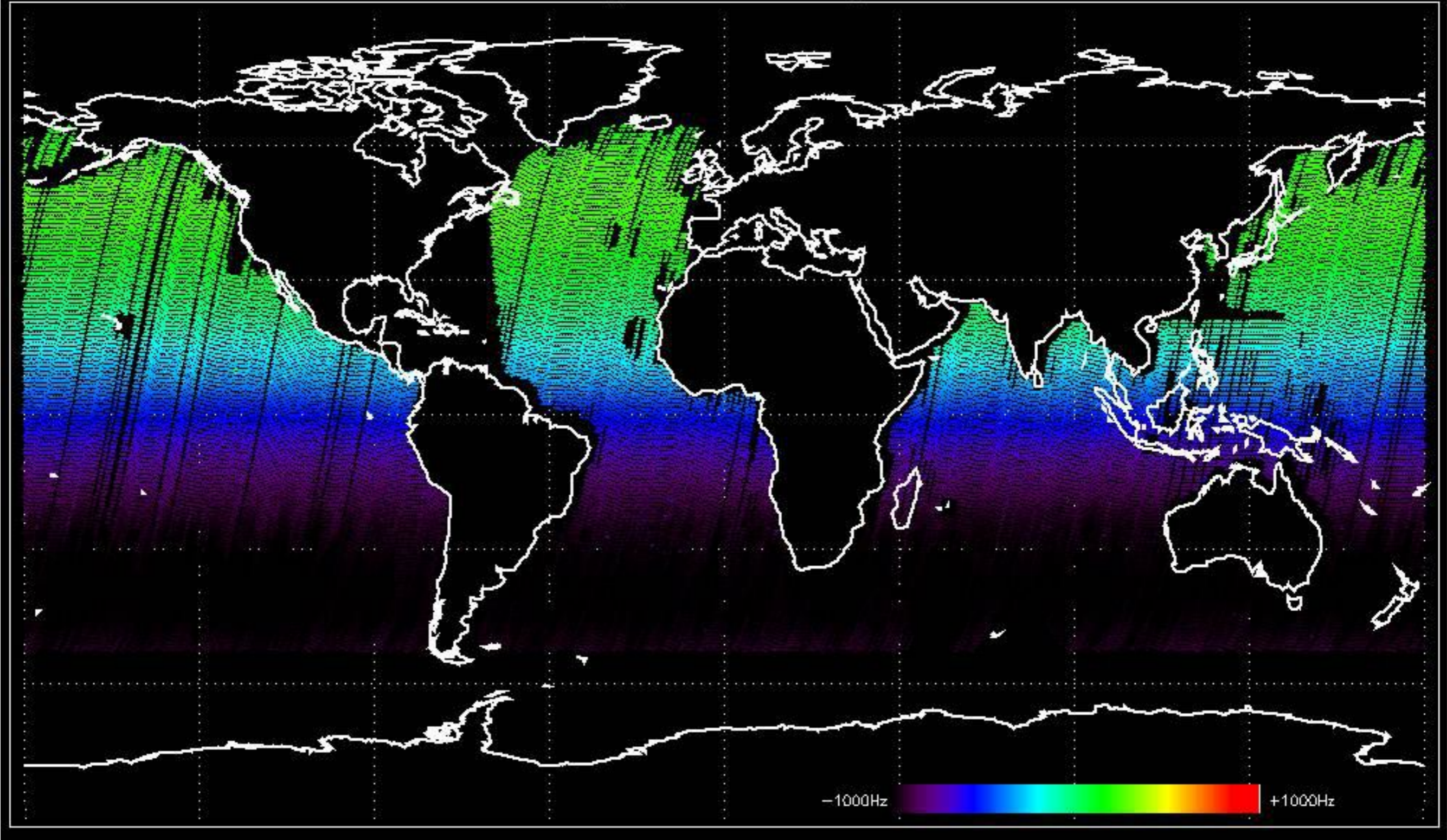
Doppler 'GM1' 'SS1' descending



Doppler 'WVS' 'IS2' ascending

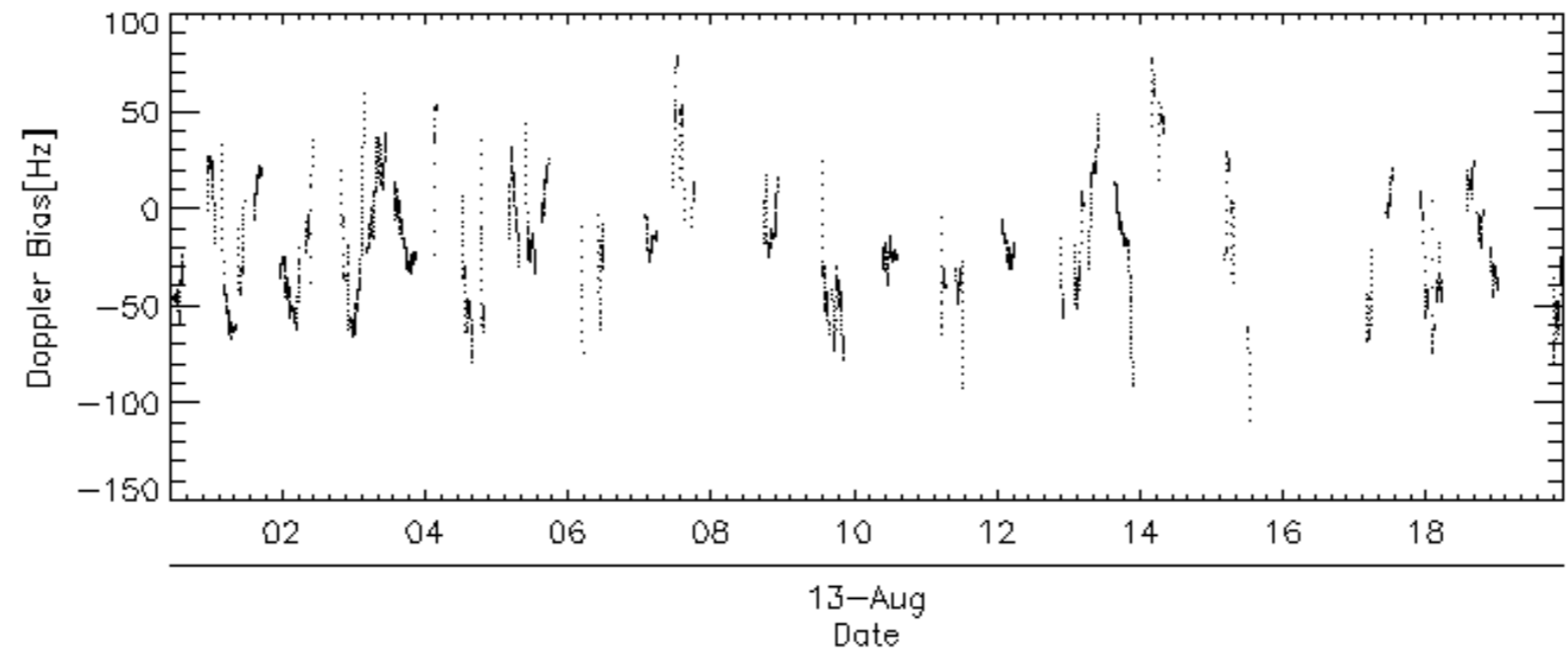
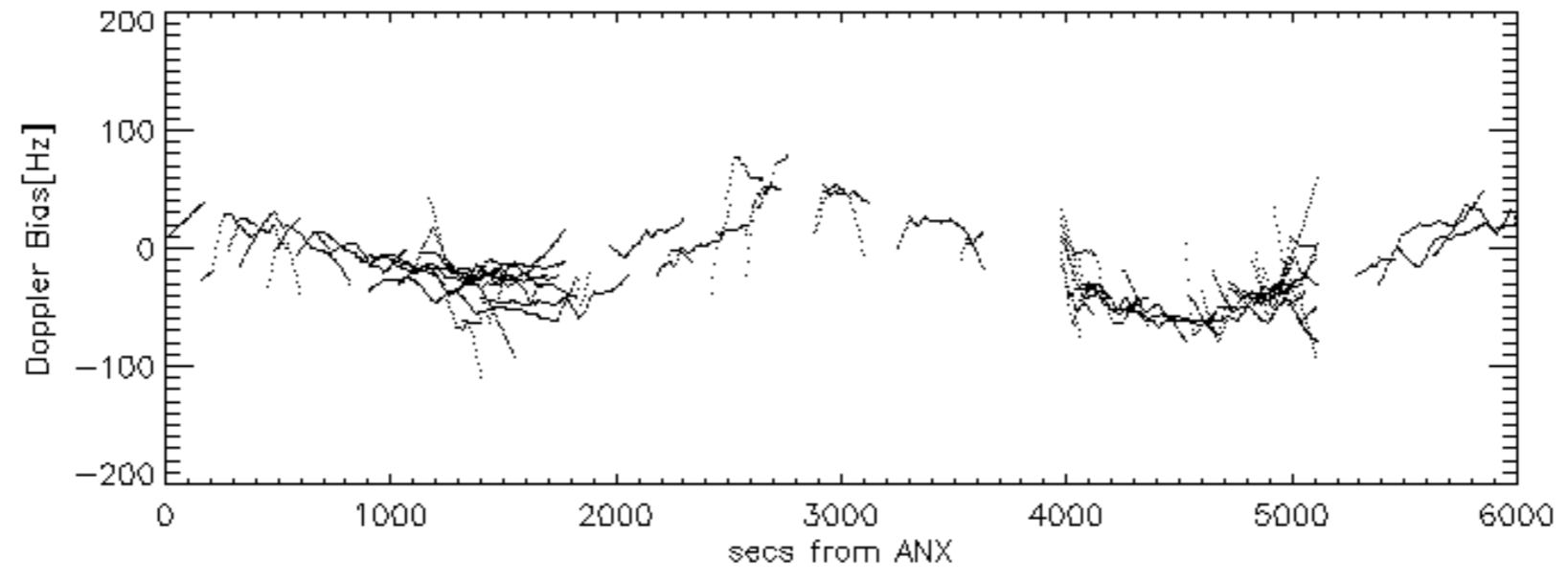
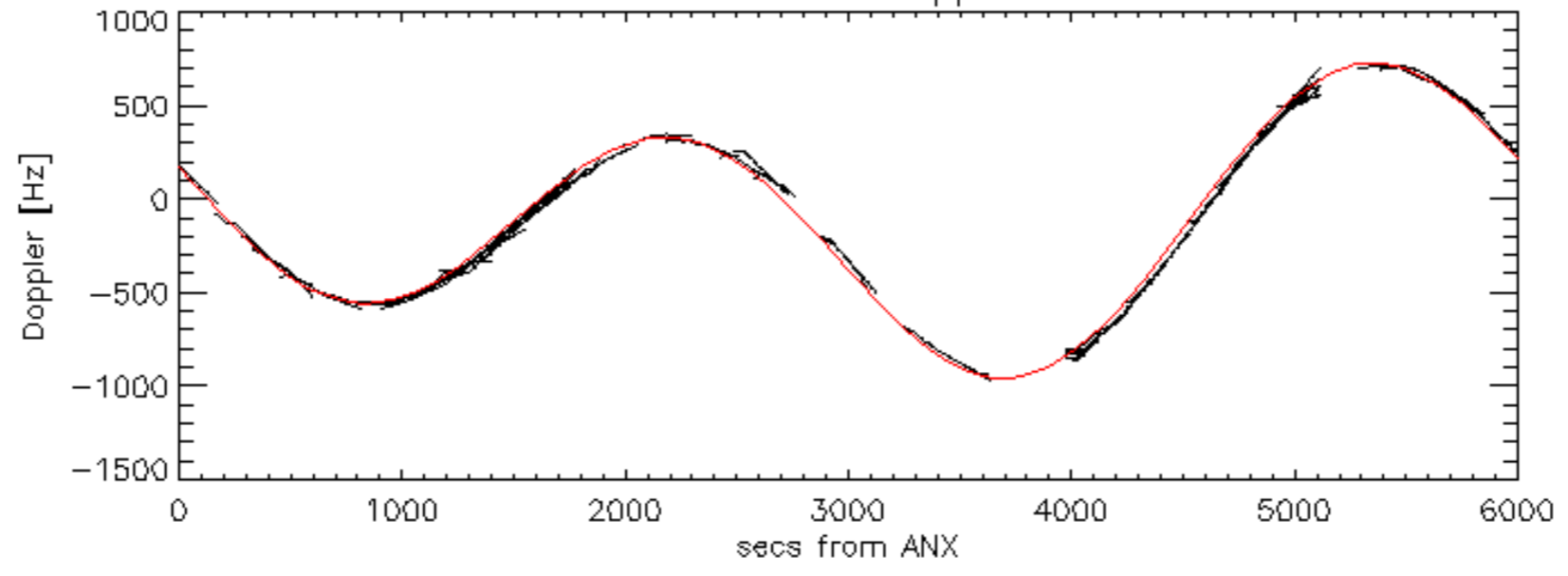


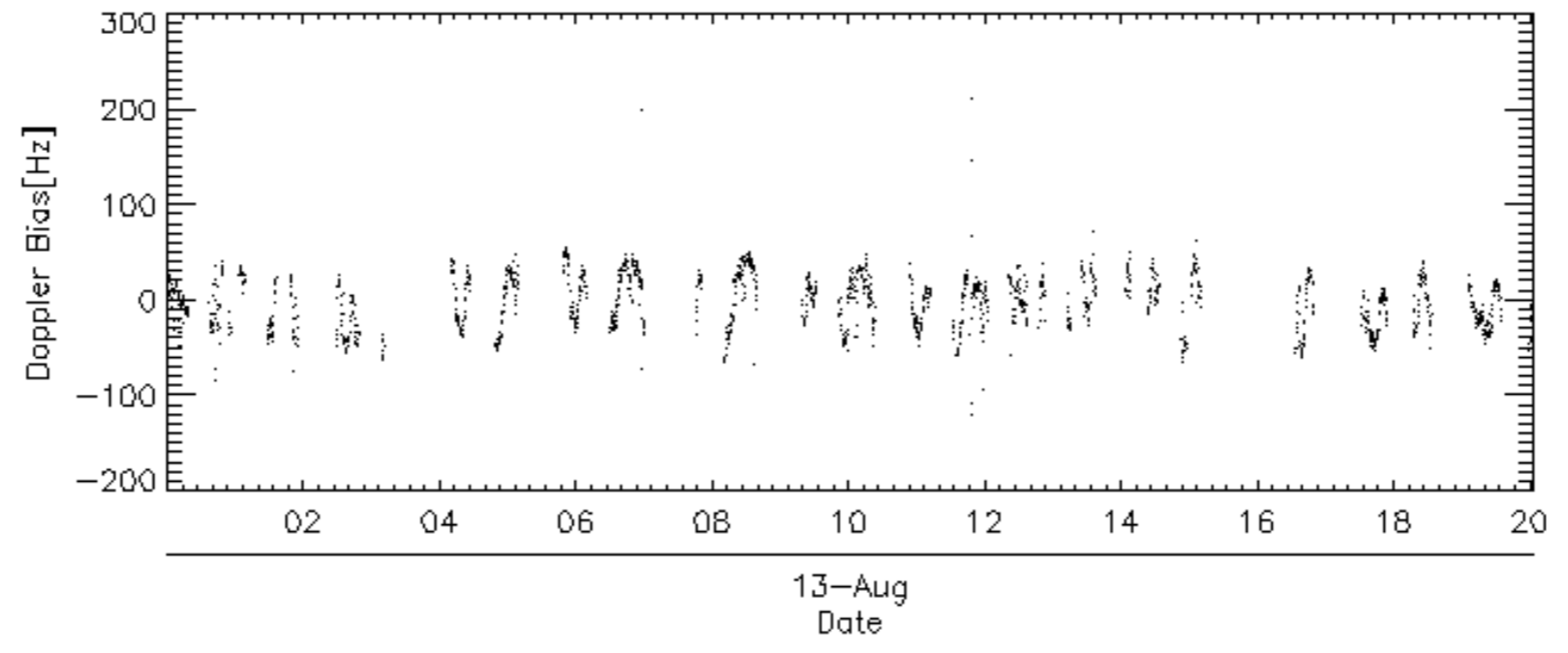
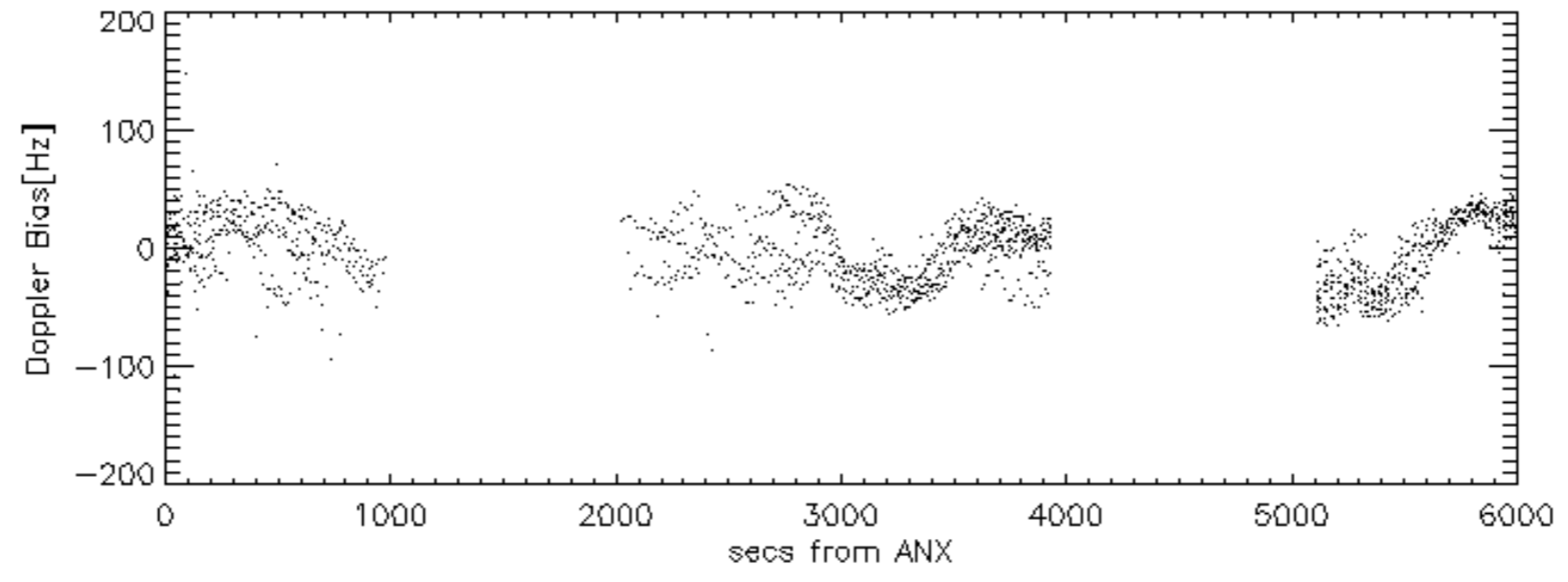
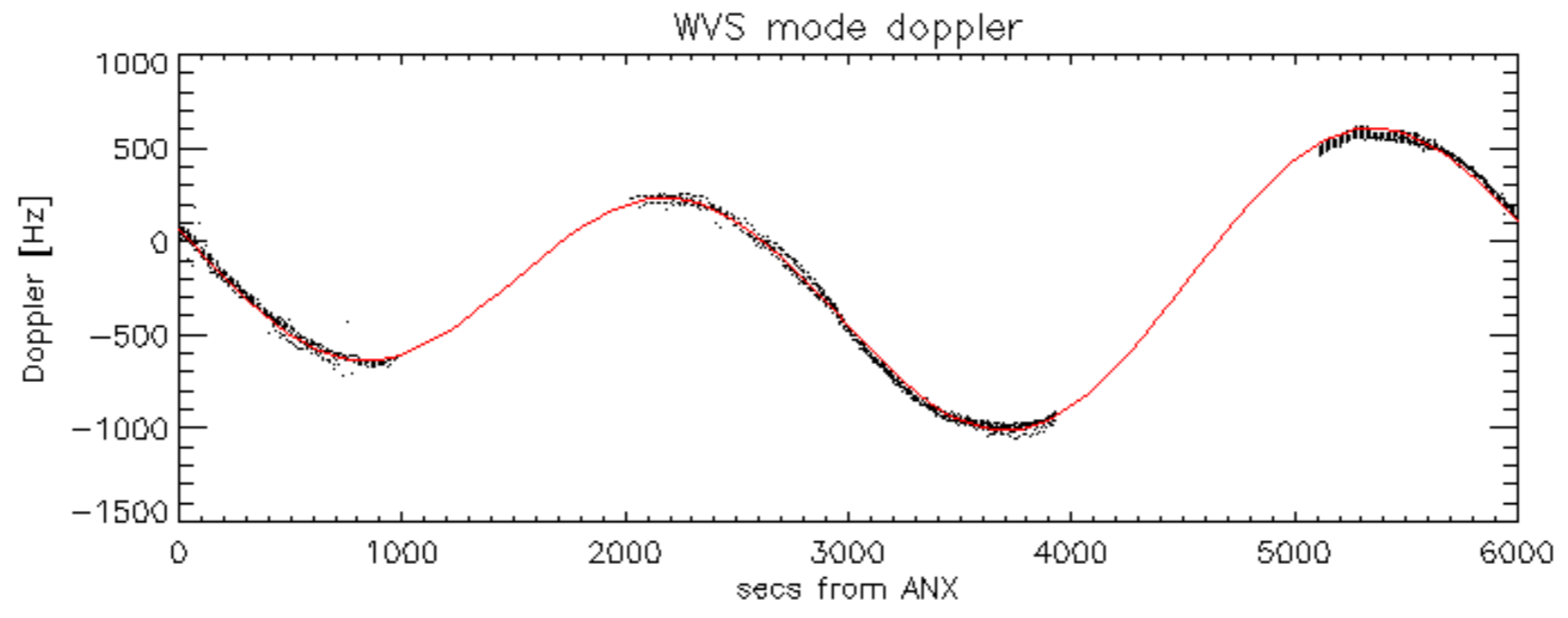
Doppler 'WVS' 'IS2' descending



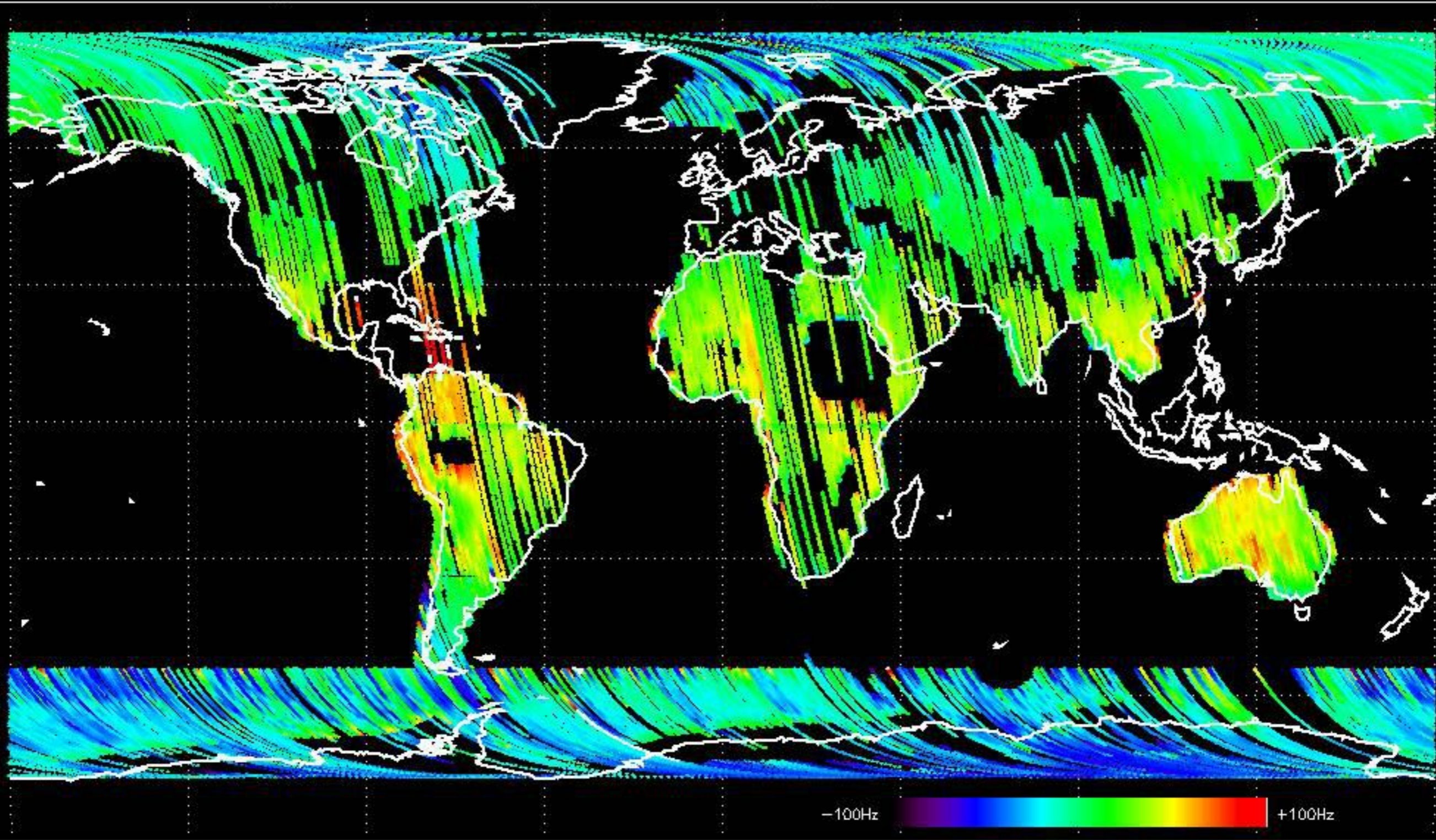


GM1 mode doppler

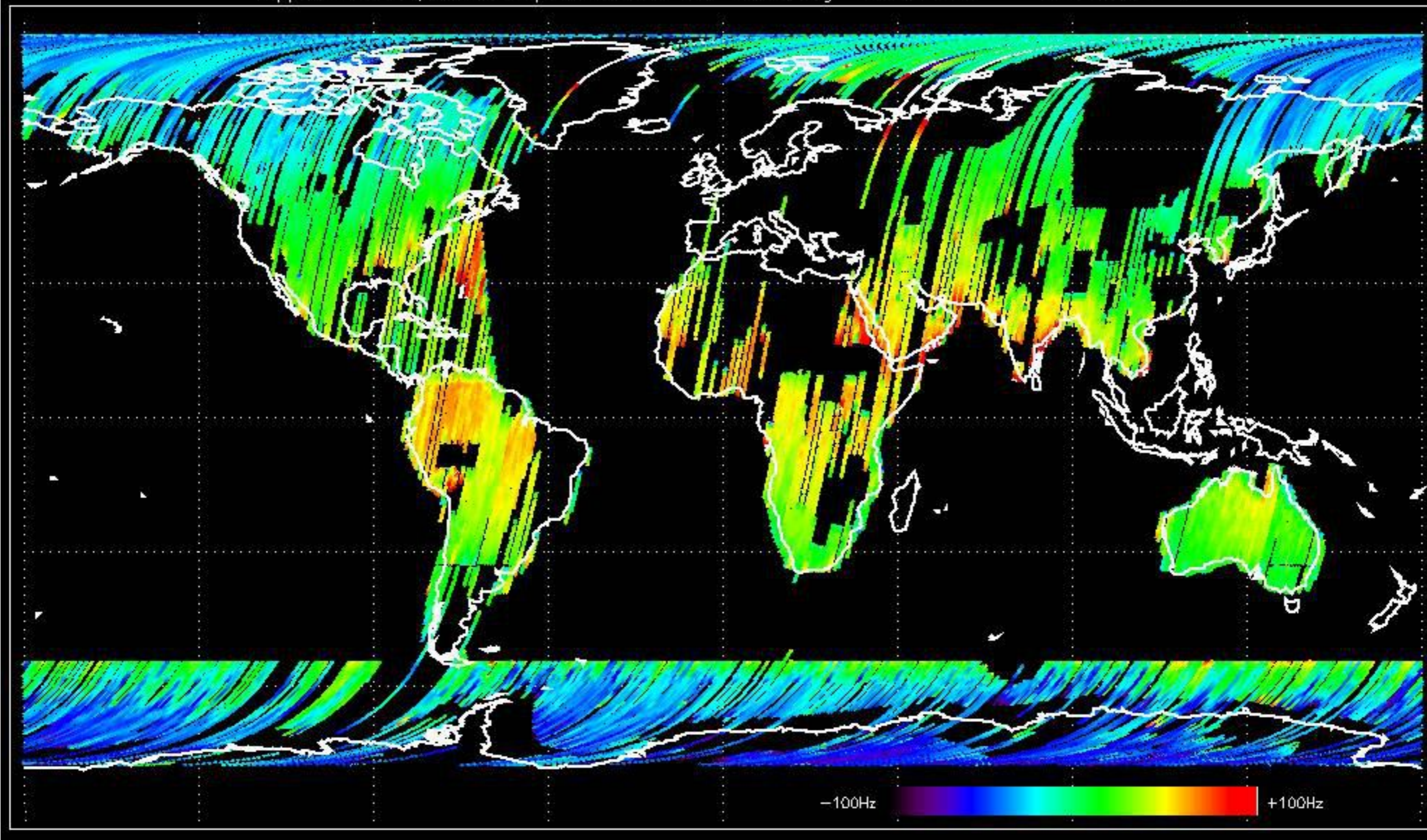




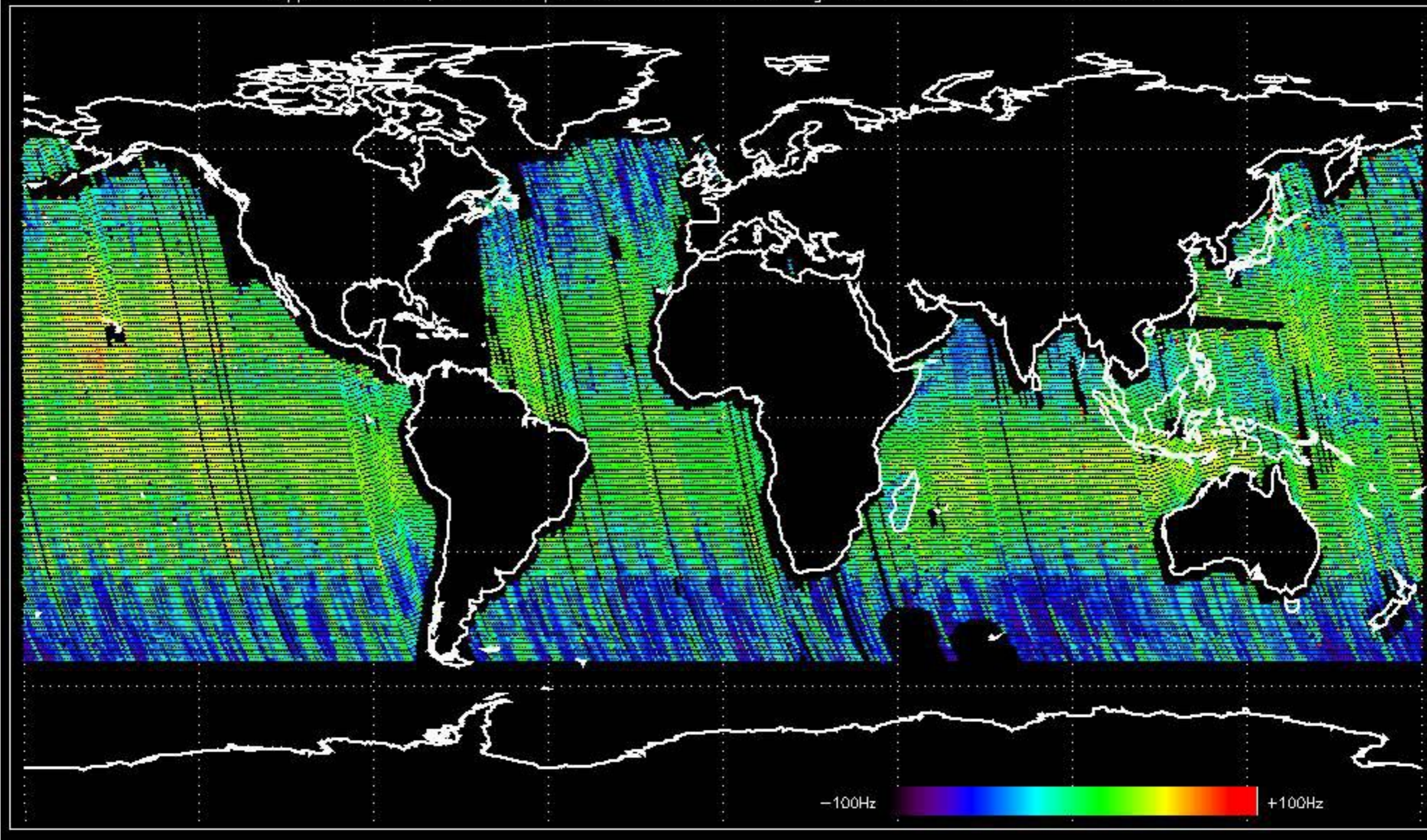
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -18.804069 Hz



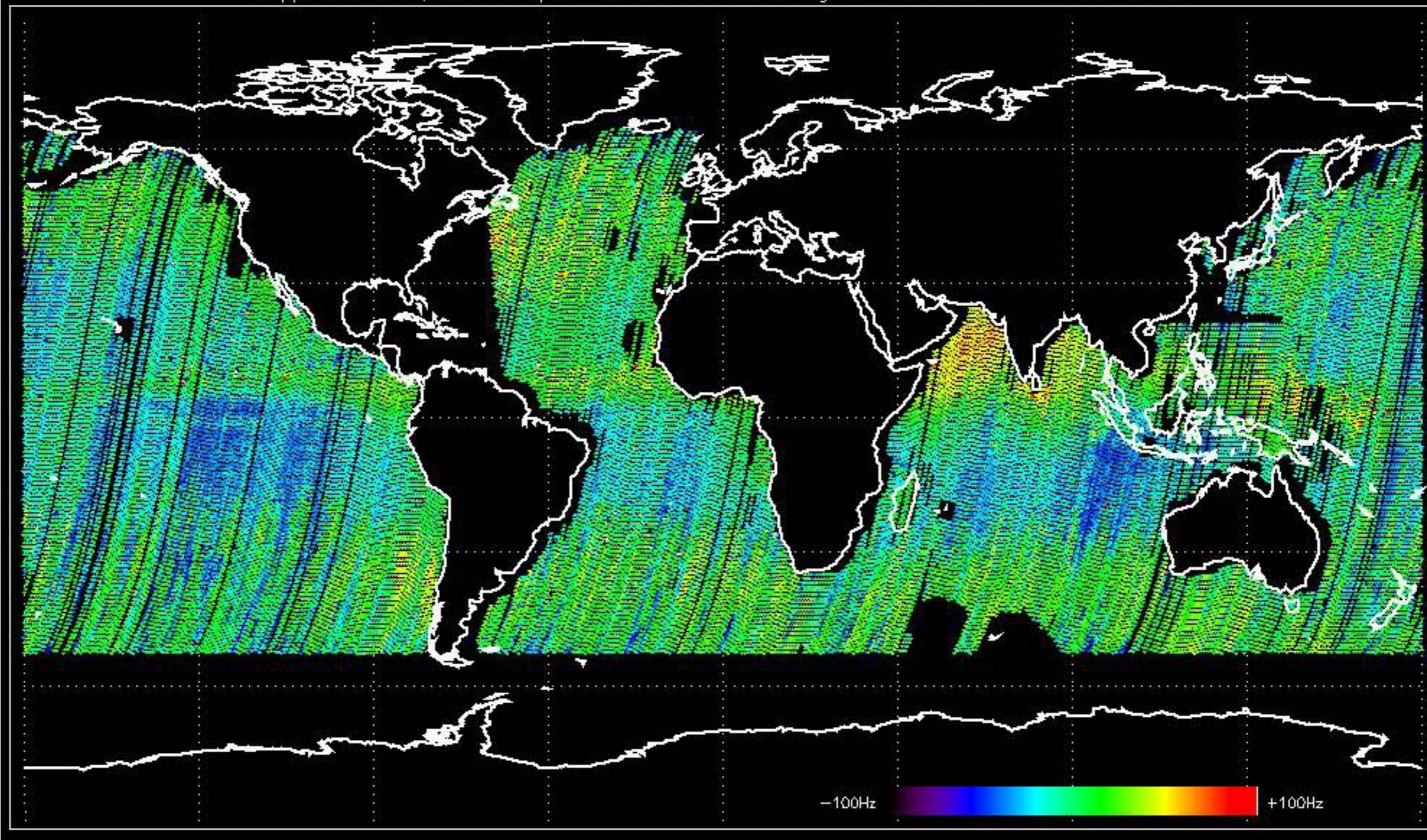
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -8.4915511 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -2.4659554 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -9.0078275 Hz



No anomalies observed on available MS products:

No anomalies observed.











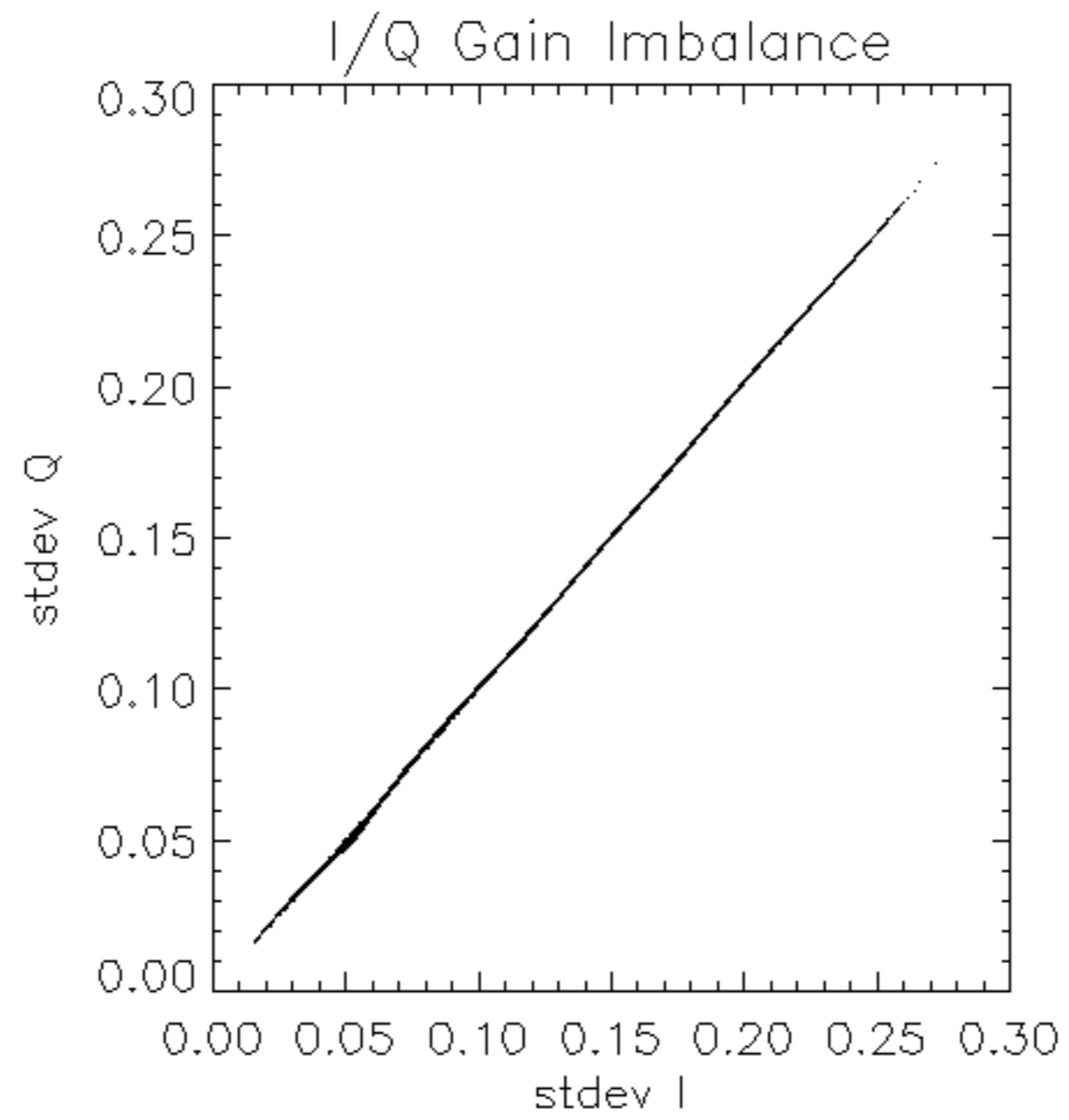


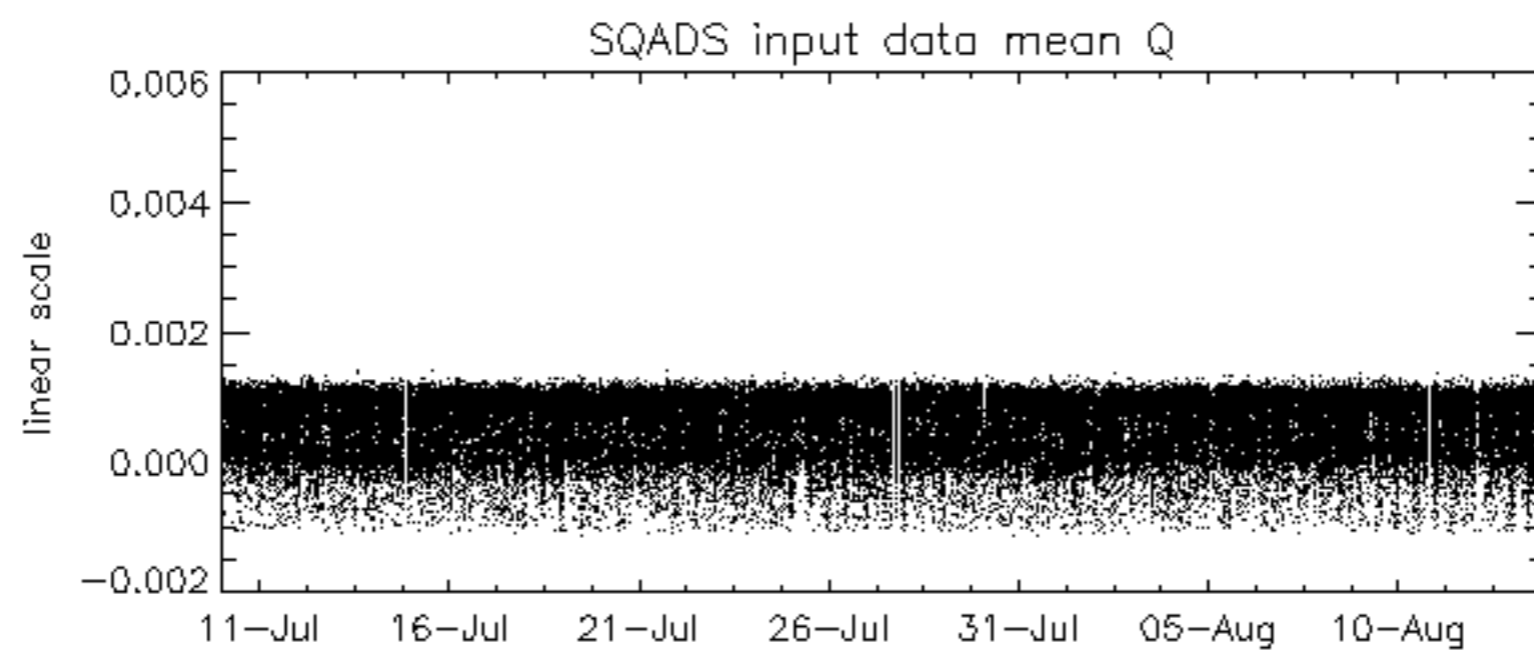
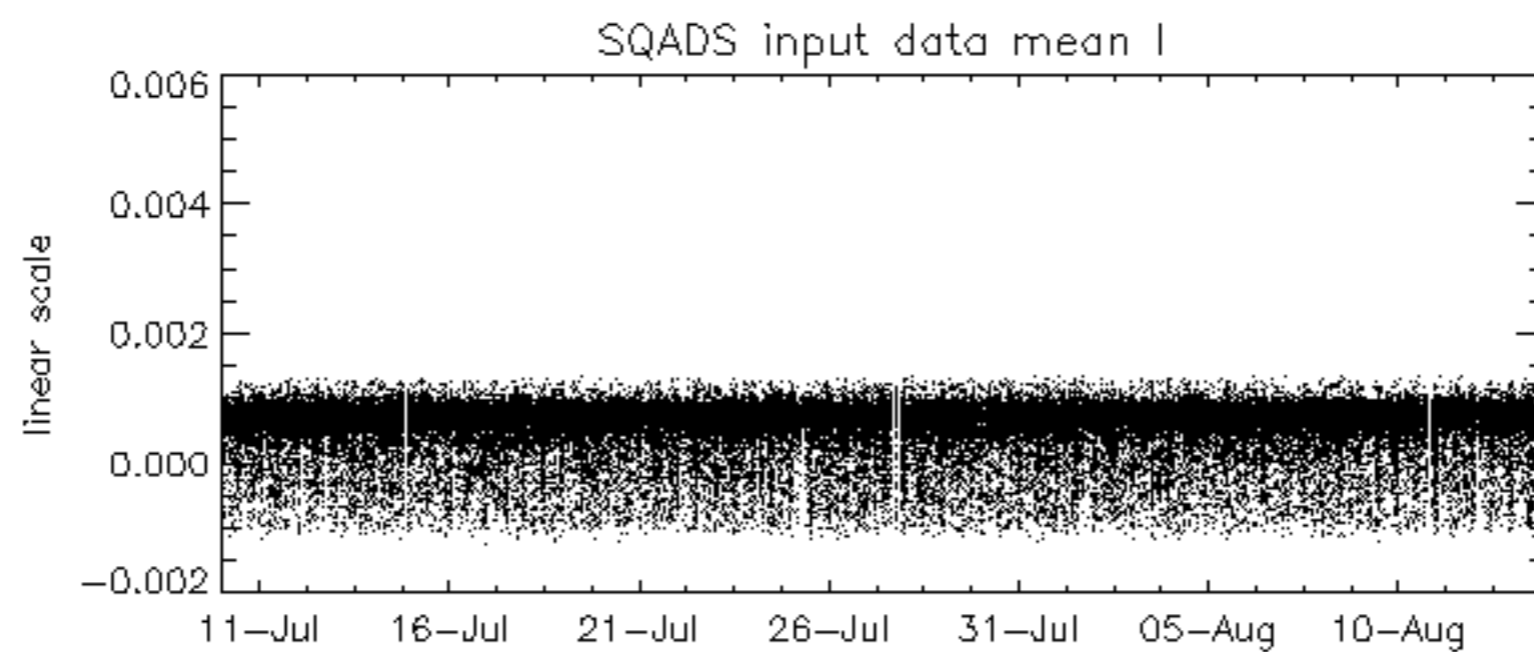
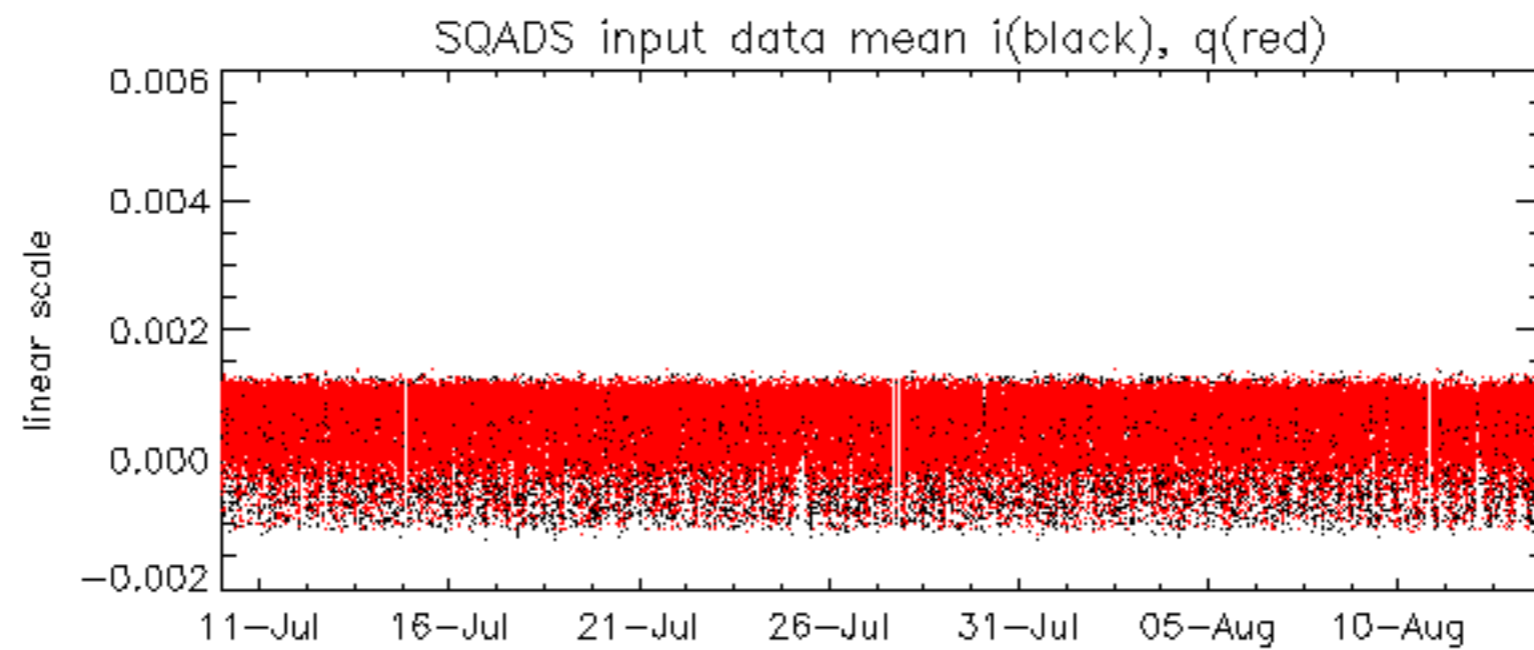


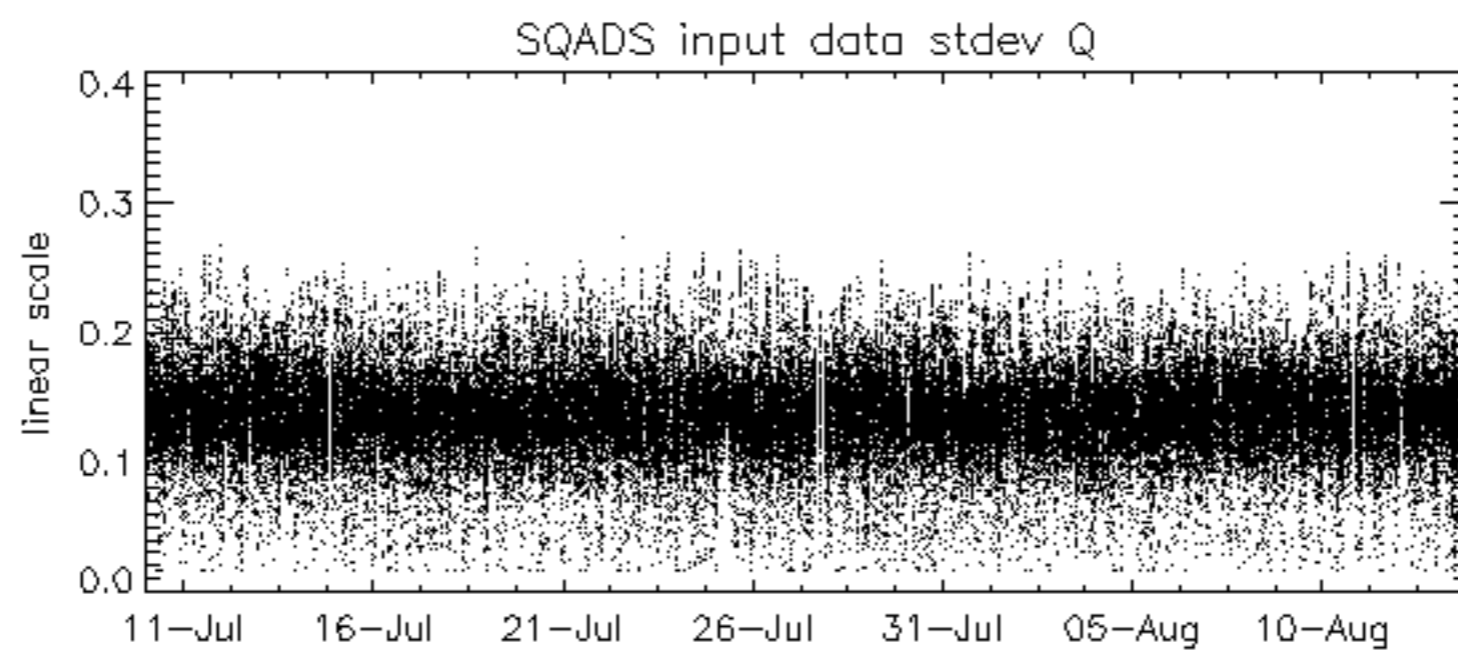
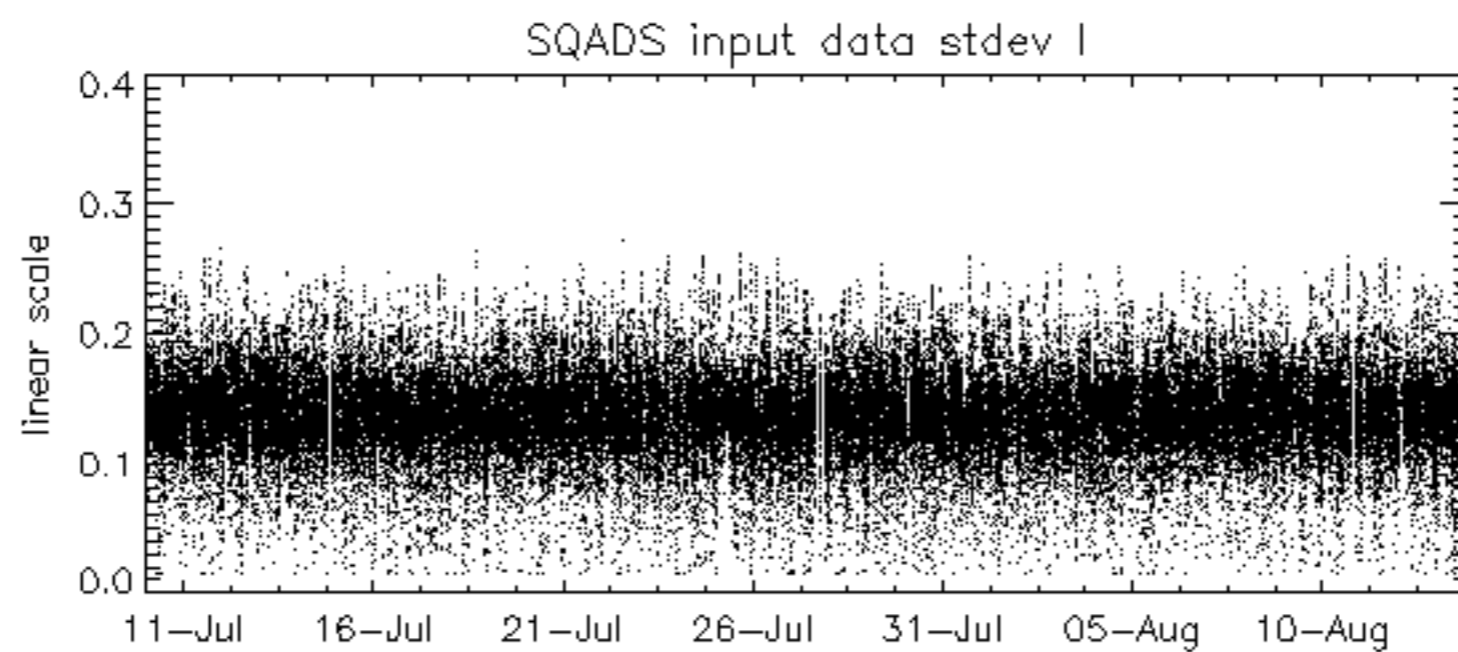
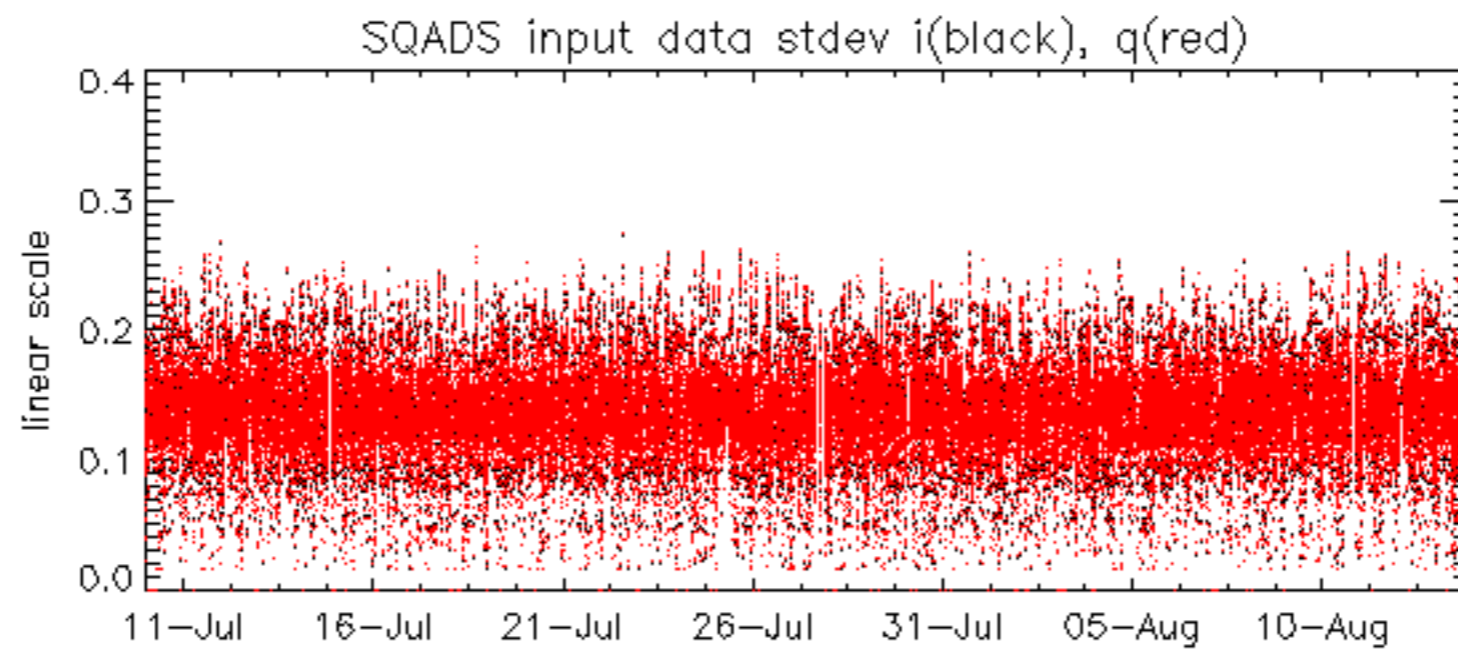




















Summary of analysis for the last 3 days 2006081[234]

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

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDK20060813_083110_00000372050_00179_23279_1276.N1	0	14
ASA_GM1_1PNPDK20060813_133905_000008762050_00182_23282_2737.N1	0	60
ASA_WSM_1PNPDE20060812_112329_000001152050_00166_23266_7355.N1	0	75
ASA_WSM_1PNPDE20060812_172251_000001842050_00170_23270_7388.N1	0	3
ASA_WSM_1PNPDE20060813_005024_000002632050_00174_23274_7469.N1	0	36
ASA_WSM_1PNPDE20060813_165038_000001712050_00184_23284_7565.N1	0	35





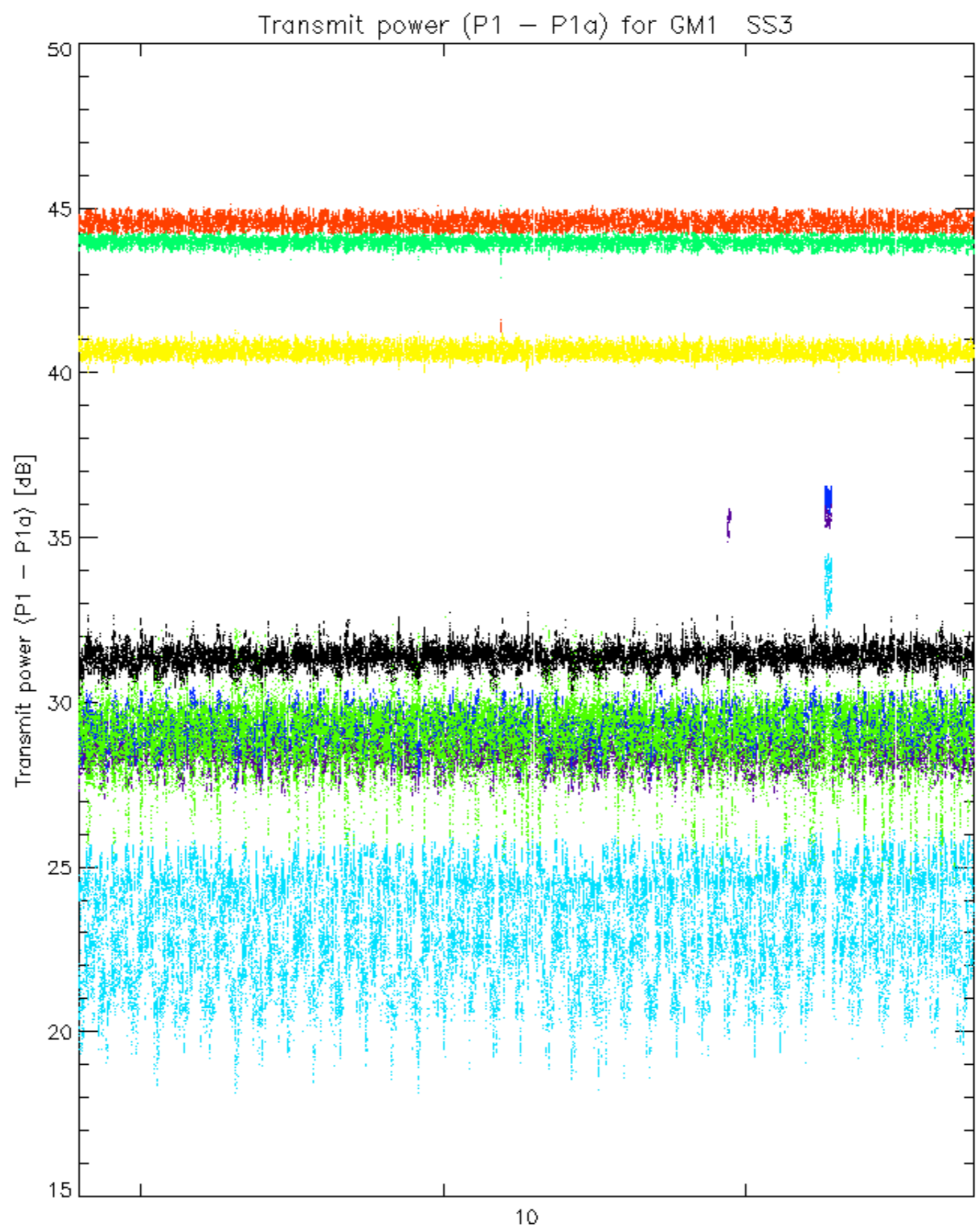


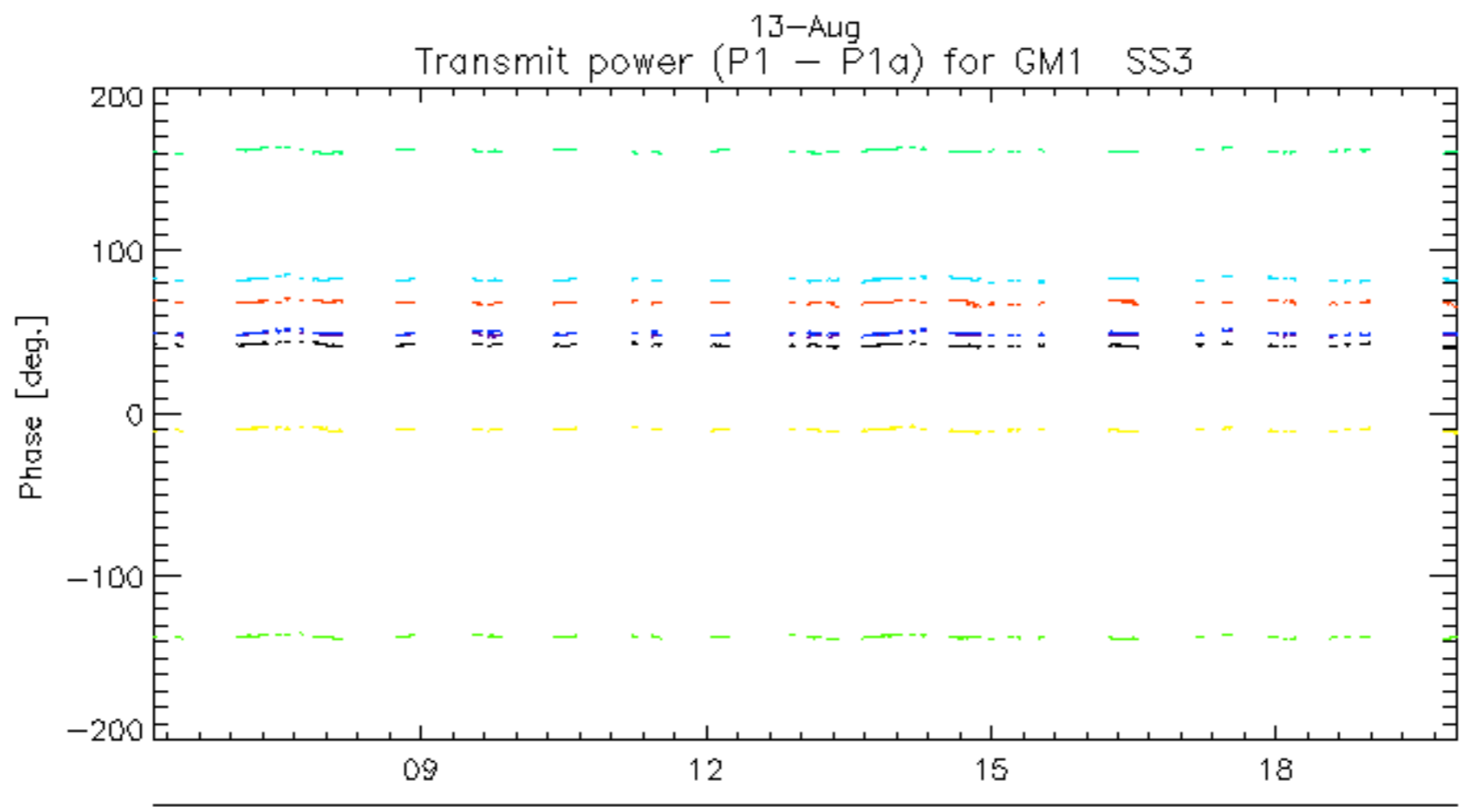
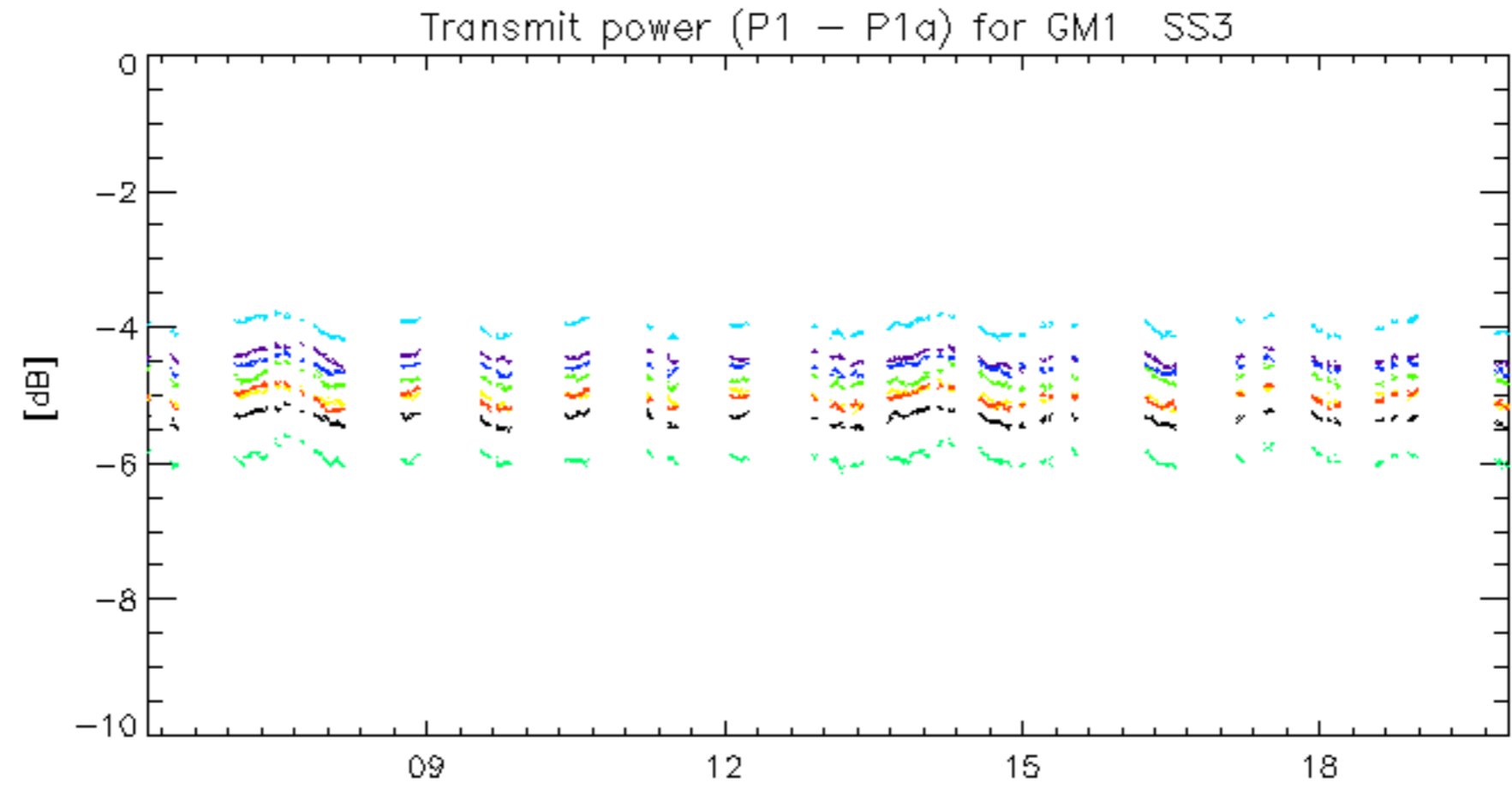






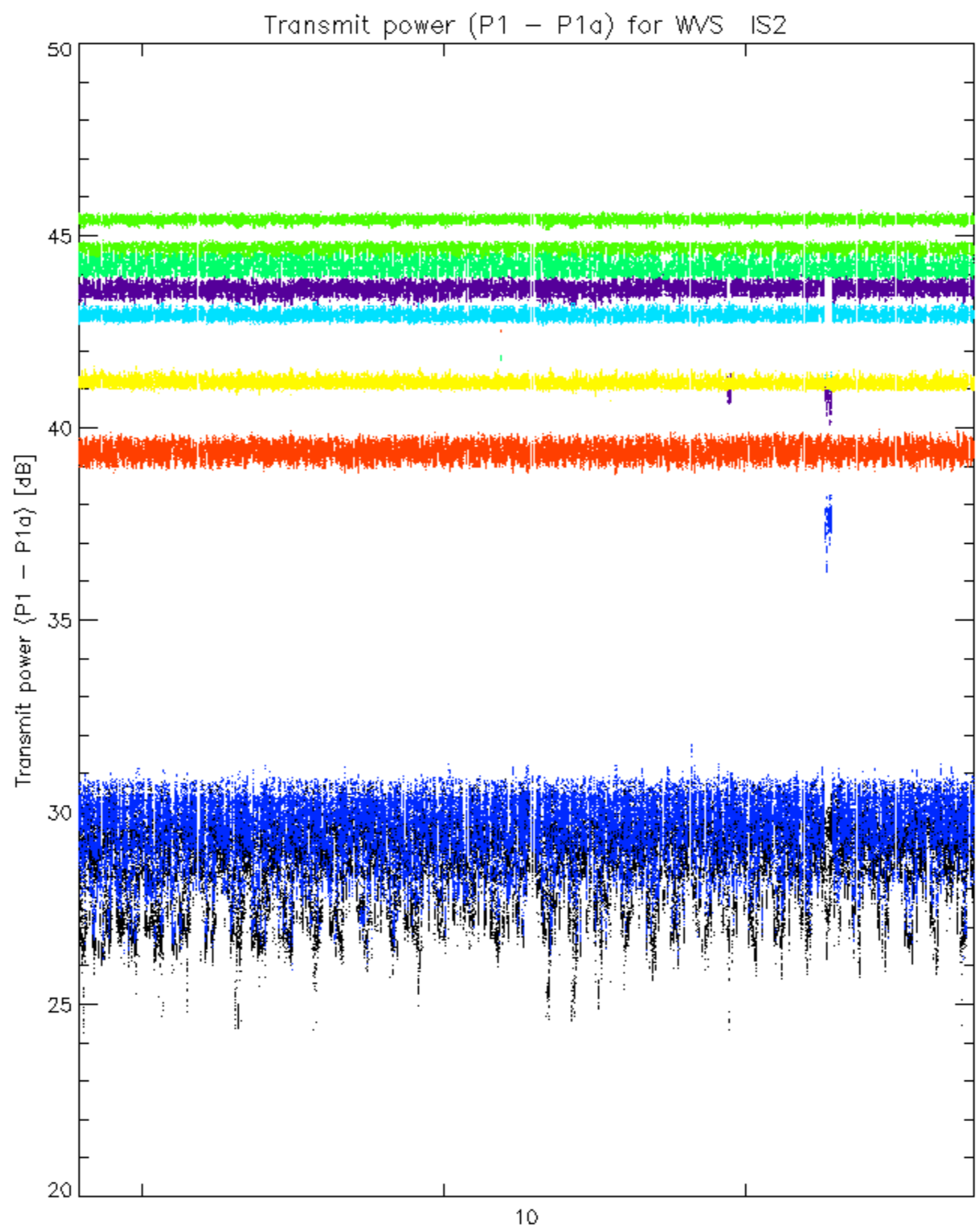




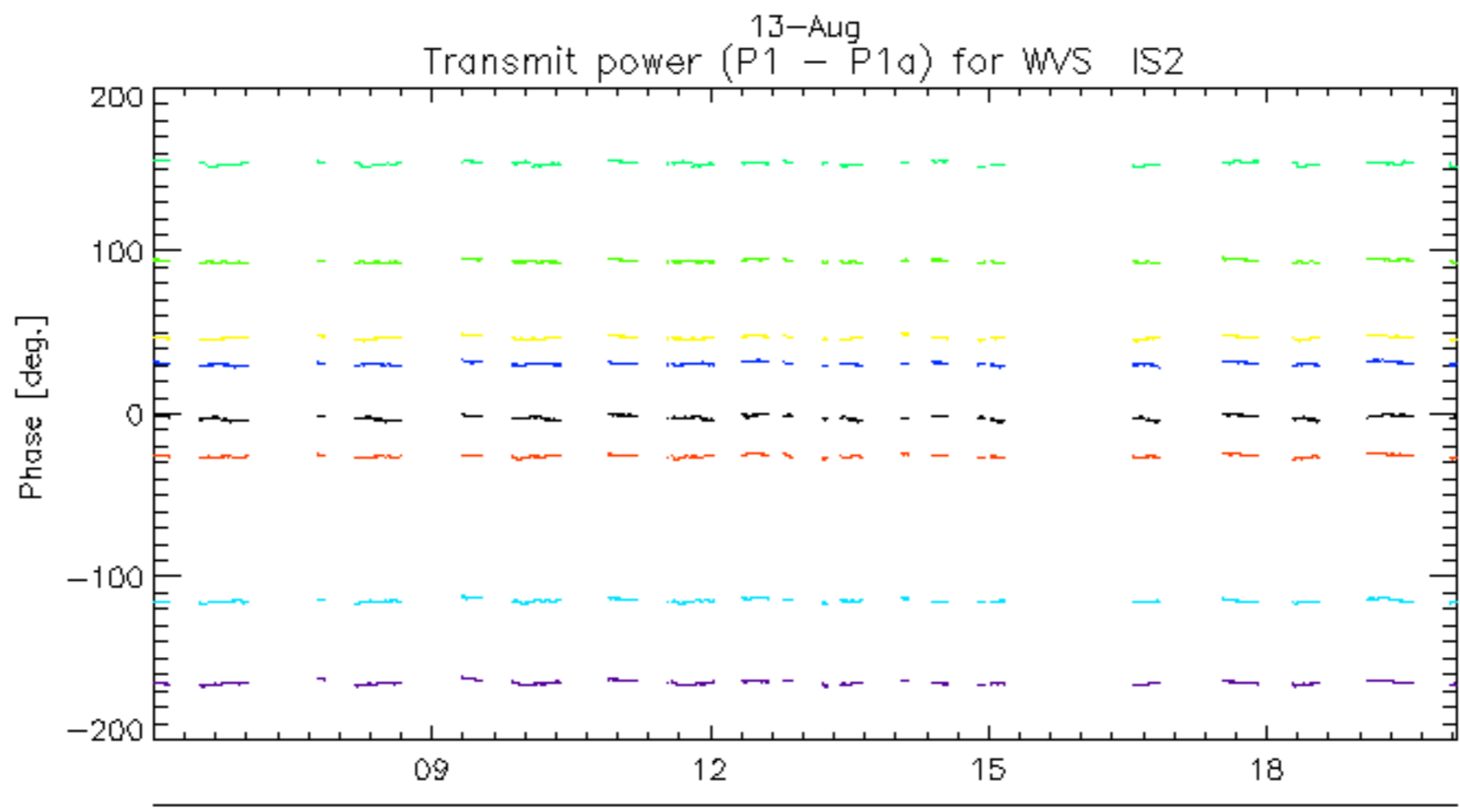
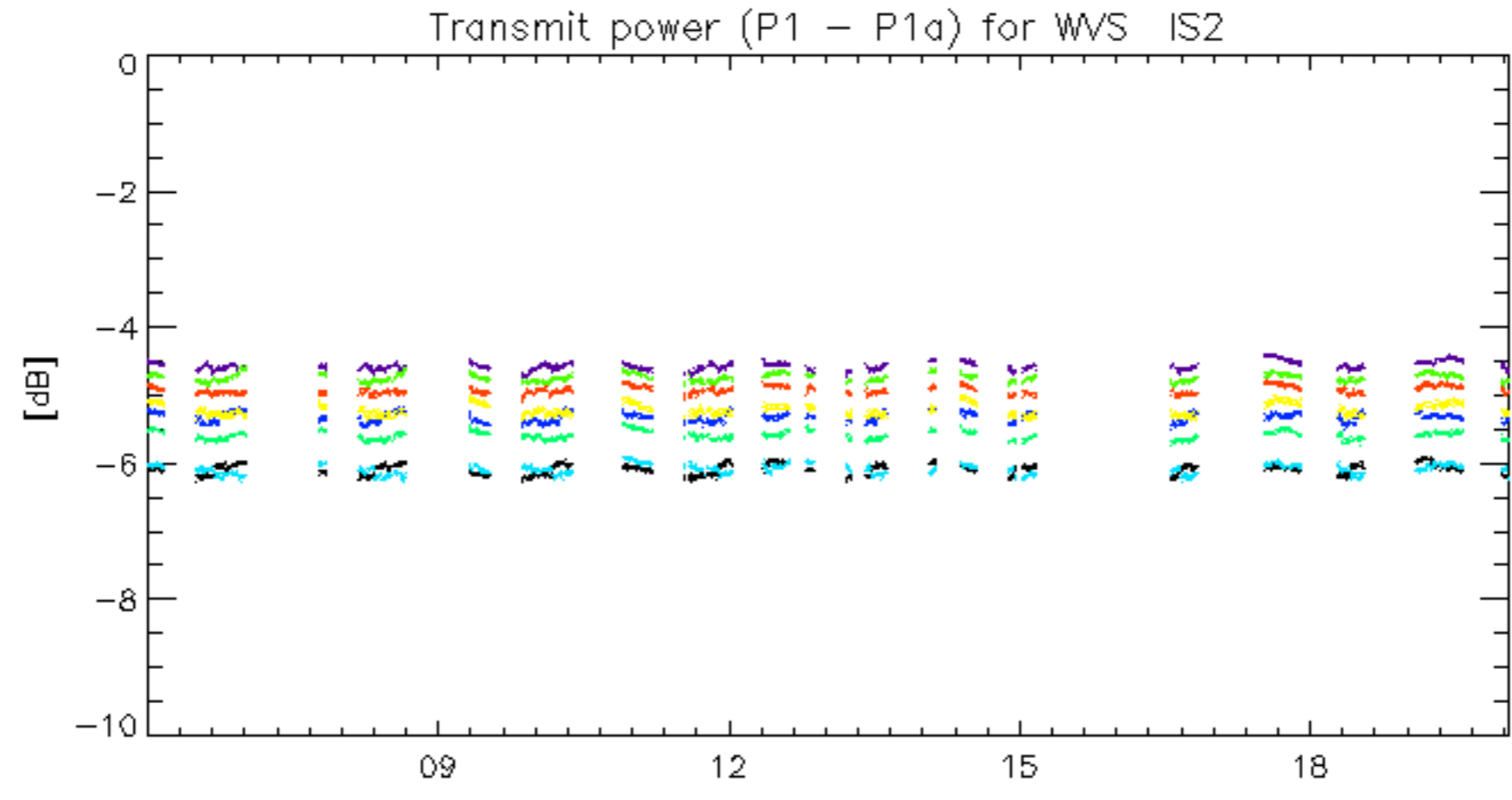


13-Aug  
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30





rows: 3 7 11 15 19 22 26 30



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

No unavailabilities during the reported period.