

# PRELIMINARY REPORT OF 060912

last update on Tue Sep 12 16:38:45 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 2006-09-11 00:00:00 to 2006-09-12 16:38:45

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	22	37	2	7	6
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	22	37	2	7	6
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	22	37	2	7	6
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	22	37	2	7	6

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	19	26	8	8	51
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	19	26	8	8	51
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	19	26	8	8	51
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	19	26	8	8	51

### 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	-3.940485	0.009698	0.015865
7	P1	-3.050191	0.011517	-0.021000
11	P1	-4.058535	0.016638	0.019992
15	P1	-6.179984	0.014871	0.003903
19	P1	-3.502595	0.049412	-0.136016
22	P1	-4.565622	0.026443	0.012216
26	P1	-3.935082	0.020336	-0.040225
30	P1	-5.784659	0.146350	-0.112894
3	P1	-16.567066	0.259653	-0.145438
7	P1	-16.797745	0.660889	-0.586741
11	P1	-16.810509	0.325063	0.061082
15	P1	-12.945190	0.106217	0.194890
19	P1	-14.595439	0.441339	-0.286447
22	P1	-15.761392	0.563772	0.417538
26	P1	-15.190592	0.211122	-0.083556
30	P1	-16.957066	0.410043	0.247152

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.840466	0.083520	0.105380
7	P2	-21.861483	0.097827	-0.007560
11	P2	-15.745606	0.109891	-0.014925
15	P2	-7.093815	0.098039	0.033123
19	P2	-9.112265	0.091300	0.001526
22	P2	-18.123978	0.085777	0.044189
26	P2	-16.399191	0.092427	-0.004741
30	P2	-19.470522	0.090294	0.027549

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.174458	0.004247	-0.001928
7	P3	-8.174458	0.004247	-0.001928
11	P3	-8.174458	0.004247	-0.001928
15	P3	-8.174458	0.004247	-0.001928
19	P3	-8.174458	0.004247	-0.001928
22	P3	-8.174458	0.004247	-0.001928
26	P3	-8.174515	0.004246	-0.001671
30	P3	-8.174515	0.004246	-0.001671

**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	-3.840627	0.023027	-0.015090
7	P1	-2.447927	0.172640	-0.185481
11	P1	-2.876197	0.033099	-0.019860
15	P1	-3.643646	0.035643	-0.058237
19	P1	-3.454836	0.080992	-0.105499
22	P1	-5.092453	0.036653	-0.050525
26	P1	-5.867391	0.030159	0.047654
30	P1	-5.195399	0.085141	-0.042640
3	P1	-11.631369	0.072145	-0.006829
7	P1	-9.911052	0.193622	-0.169972
11	P1	-10.323155	0.082495	-0.083180
15	P1	-10.859867	0.179908	-0.047596
19	P1	-15.669440	3.606019	-0.624196
22	P1	-20.834890	1.733181	0.243406

26	P1	-16.001459	0.417090	0.370367
30	P1	-18.010242	0.834240	-0.166852

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.430079	0.077620	0.101533
7	P2	-22.213394	0.202507	0.103431
11	P2	-10.909420	0.059011	0.080215
15	P2	-4.866970	0.040926	0.067634
19	P2	-6.849290	0.041714	0.037253
22	P2	-8.166800	0.065869	0.086299
26	P2	-24.161263	0.135212	0.007219
30	P2	-21.960611	0.080972	0.019062

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.017802	0.003691	-0.002538
7	P3	-8.017648	0.003695	-0.002249
11	P3	-8.017554	0.003706	-0.002120
15	P3	-8.017633	0.003716	-0.001942
19	P3	-8.017742	0.003720	-0.001978
22	P3	-8.017857	0.003685	-0.002176
26	P3	-8.017719	0.003704	-0.002803
30	P3	-8.017646	0.003698	-0.002574

## 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	0.000547532
	stdev	1.79252e-07
MEAN Q	mean	0.000526880
	stdev	2.17724e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.135818
	stdev	0.00109947
STDEV Q	mean	0.136161
	stdev	0.00111571



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006091[012]

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_WSM_1PNPDE20060912_000911_000003242051_00102_23703_1588.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)


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)


Acsending



<input type="checkbox"/>
Descending

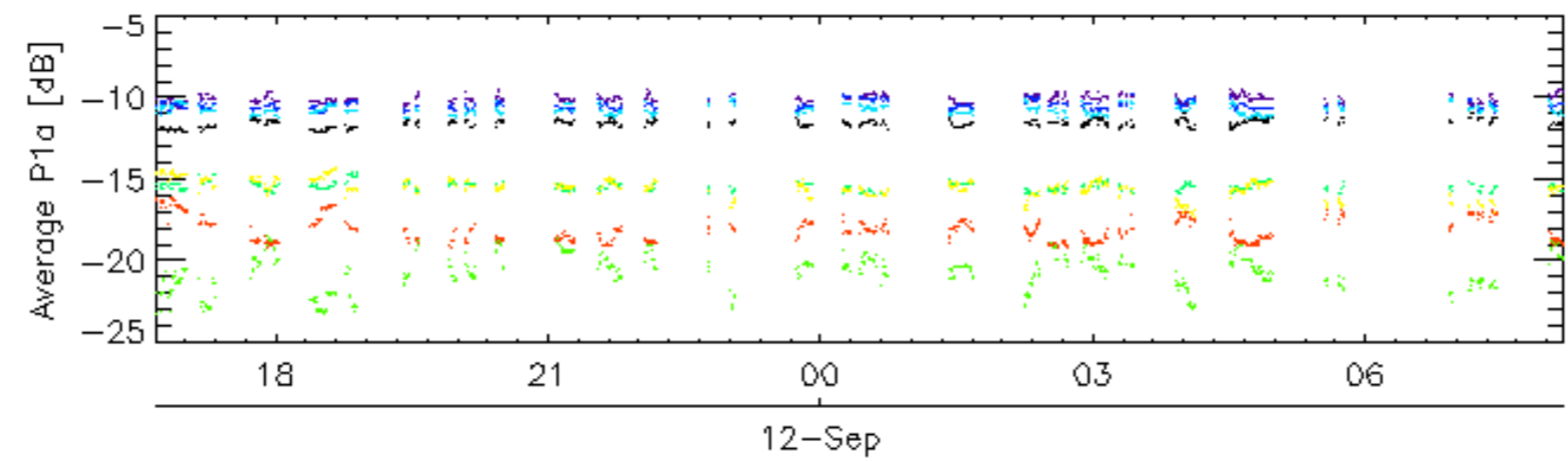
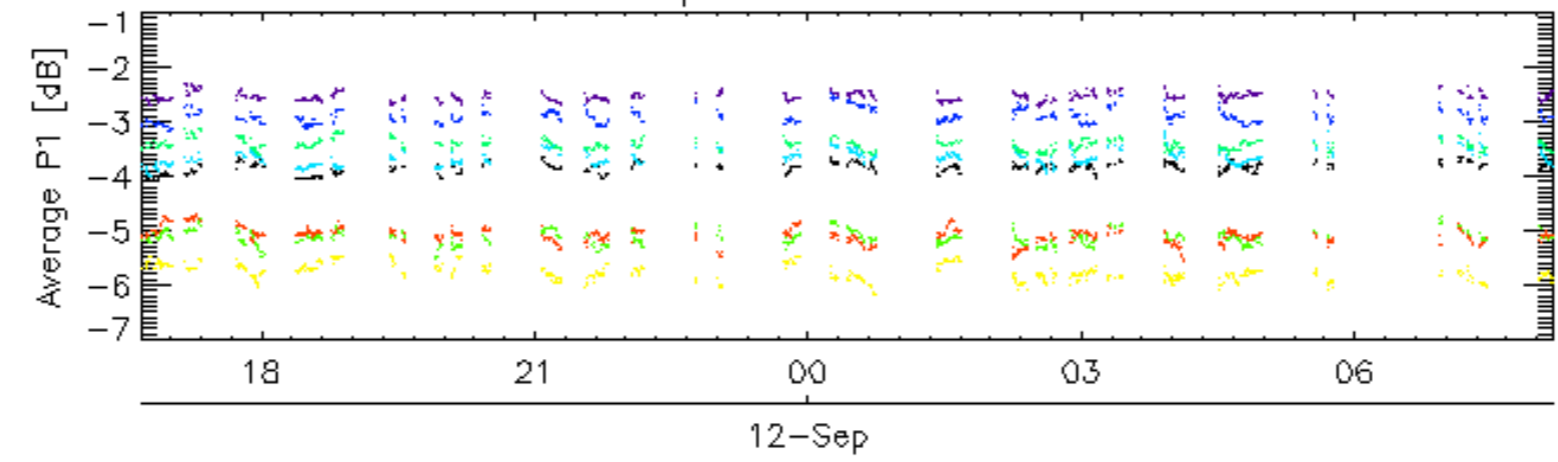
### 7.5 - Absolute Doppler for GM1

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

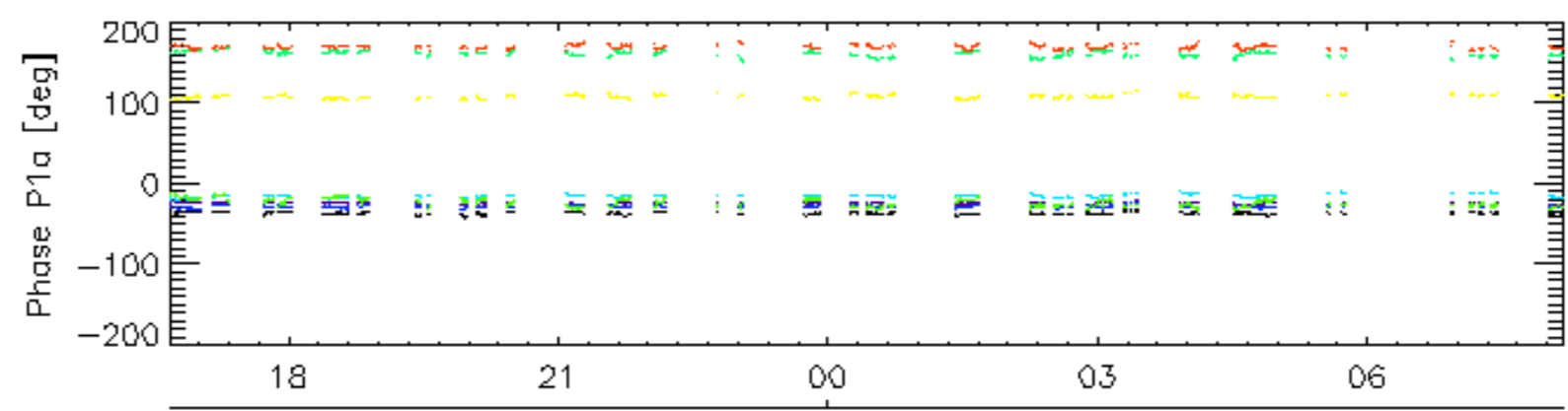
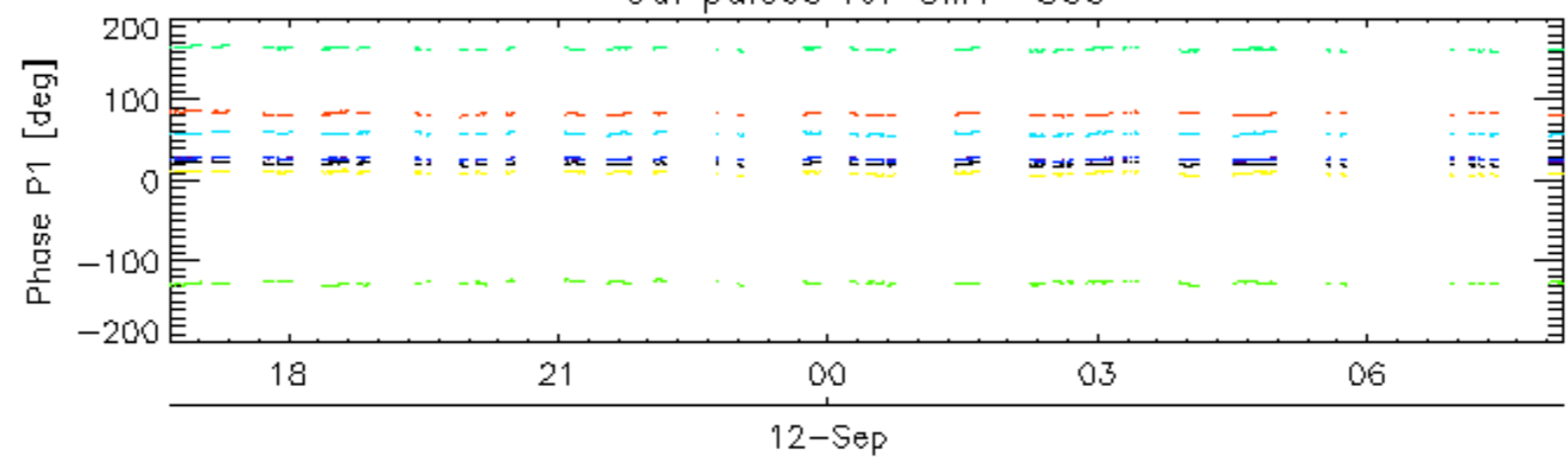
### 7.6 - Doppler evolution versus ANX for GM1

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

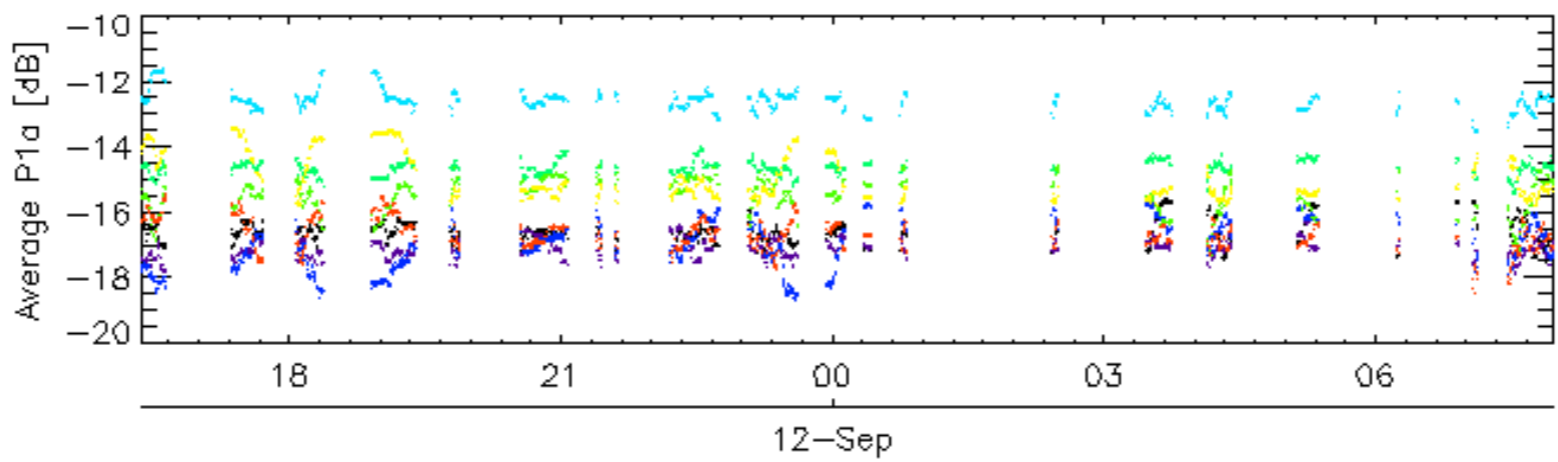
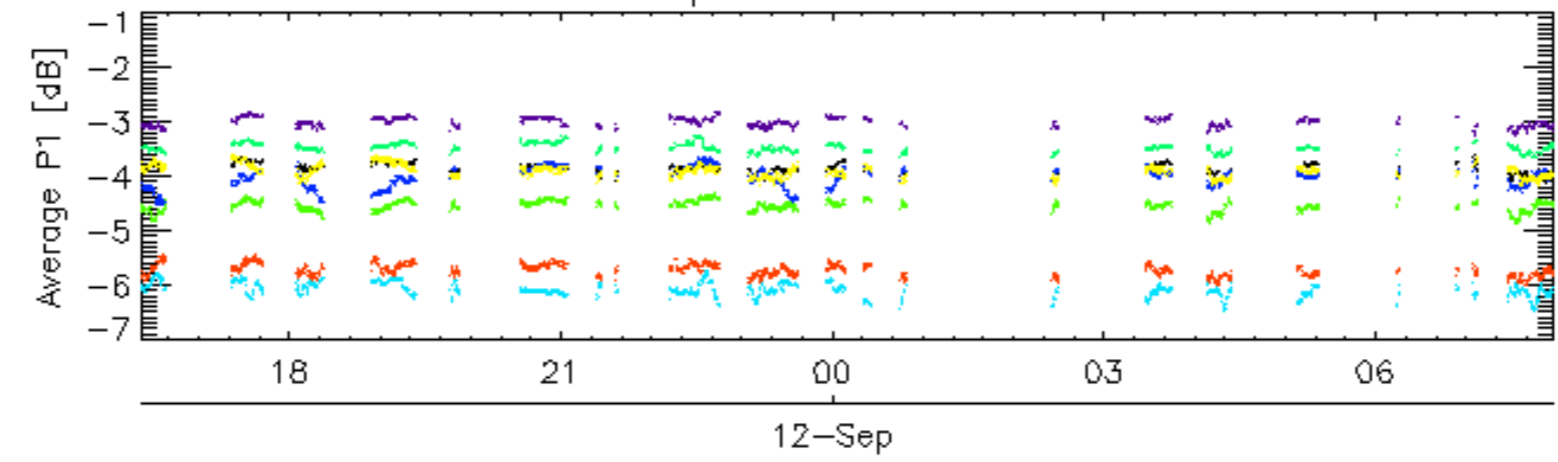


Cal pulses for GM1 SS3

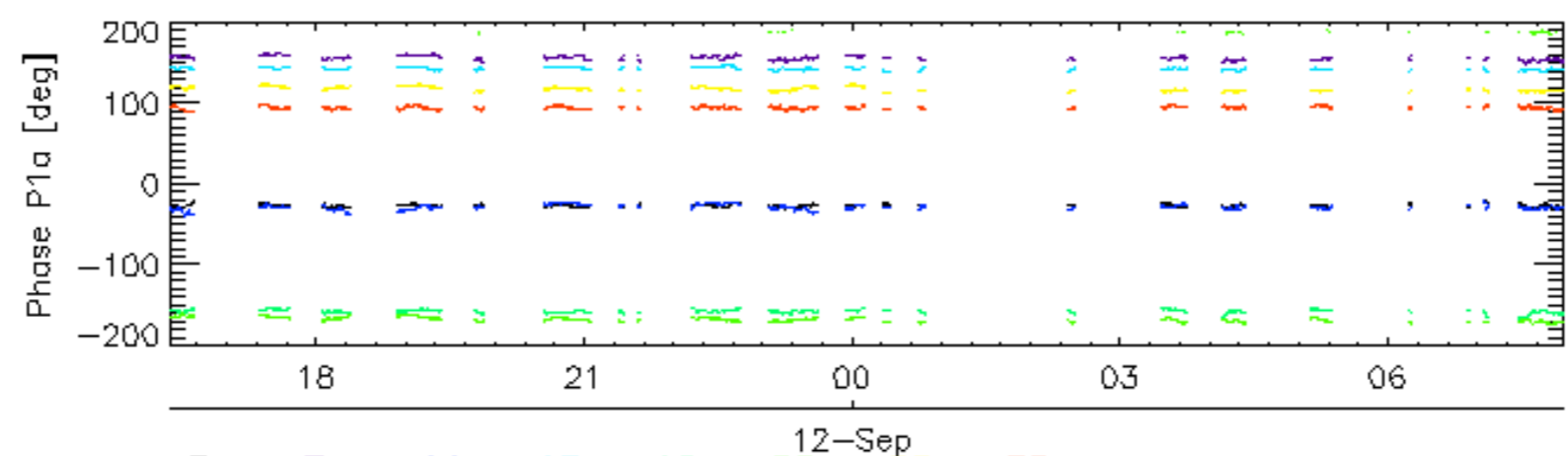
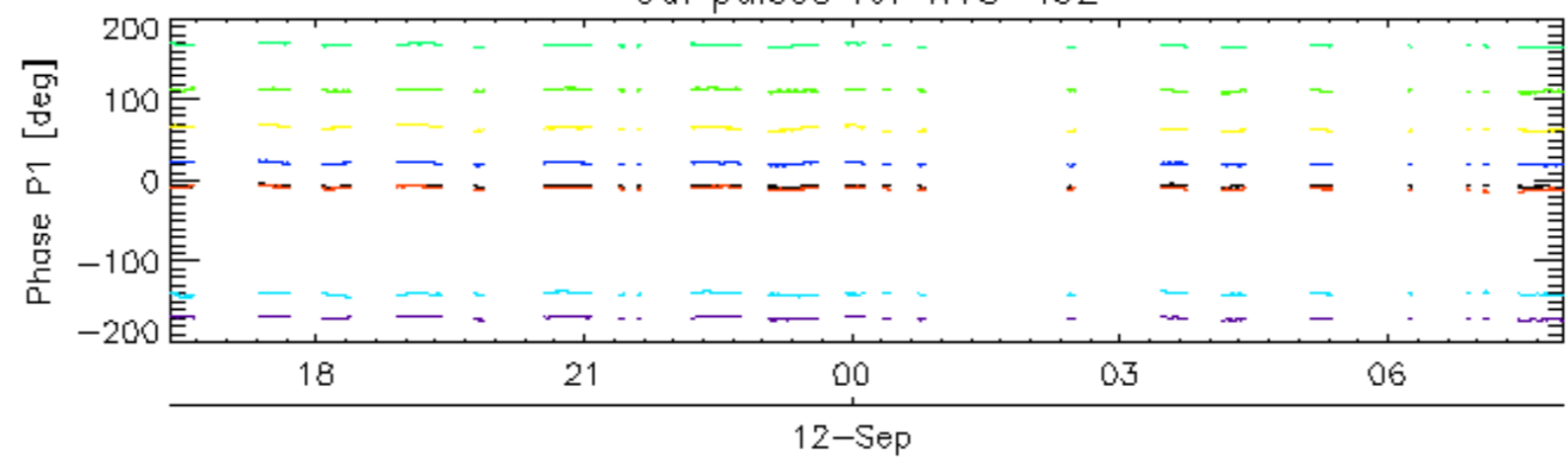


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

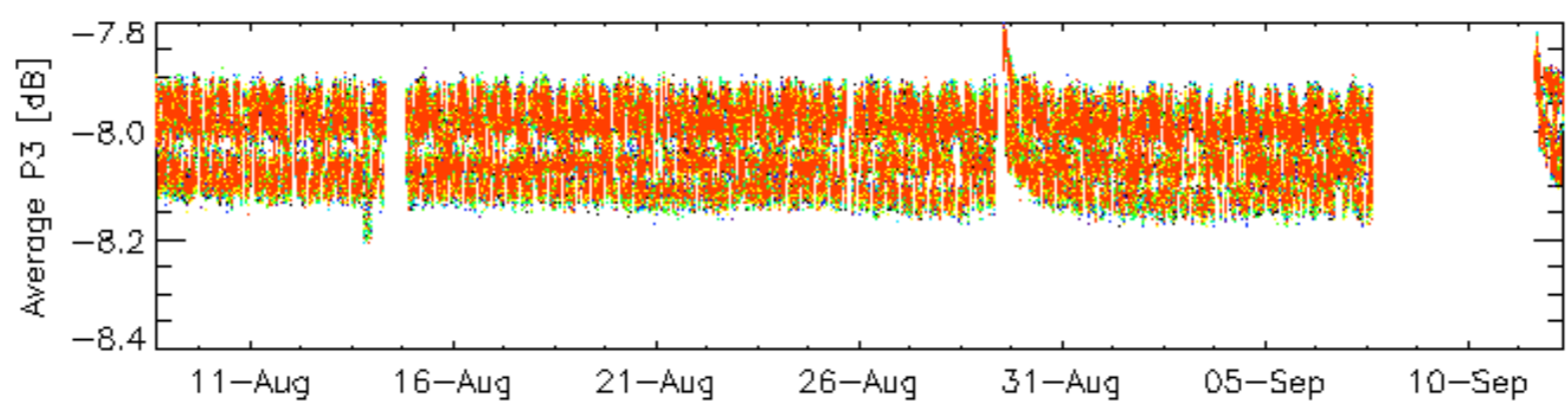
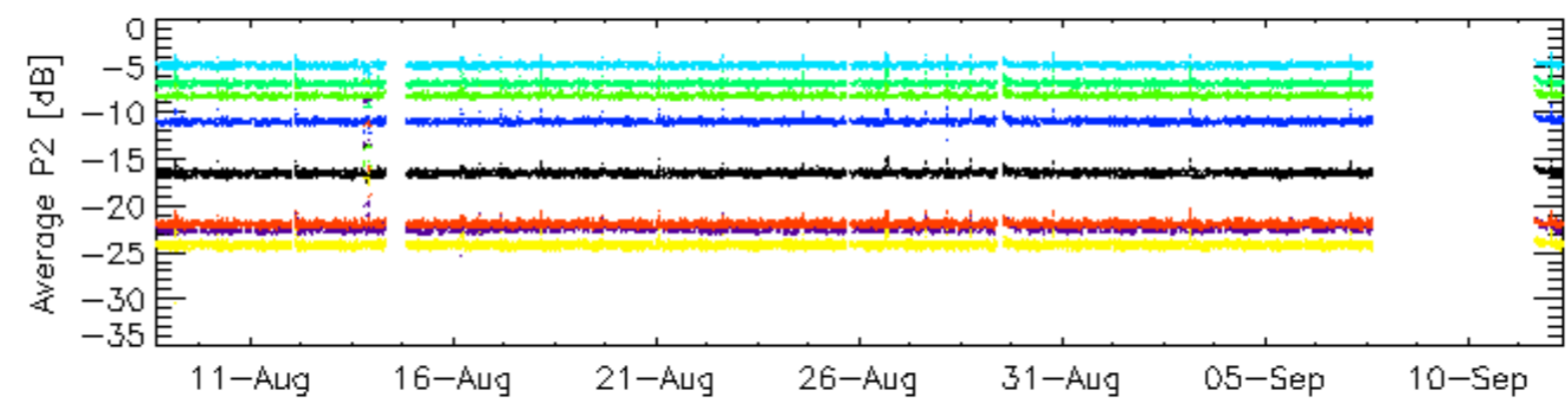
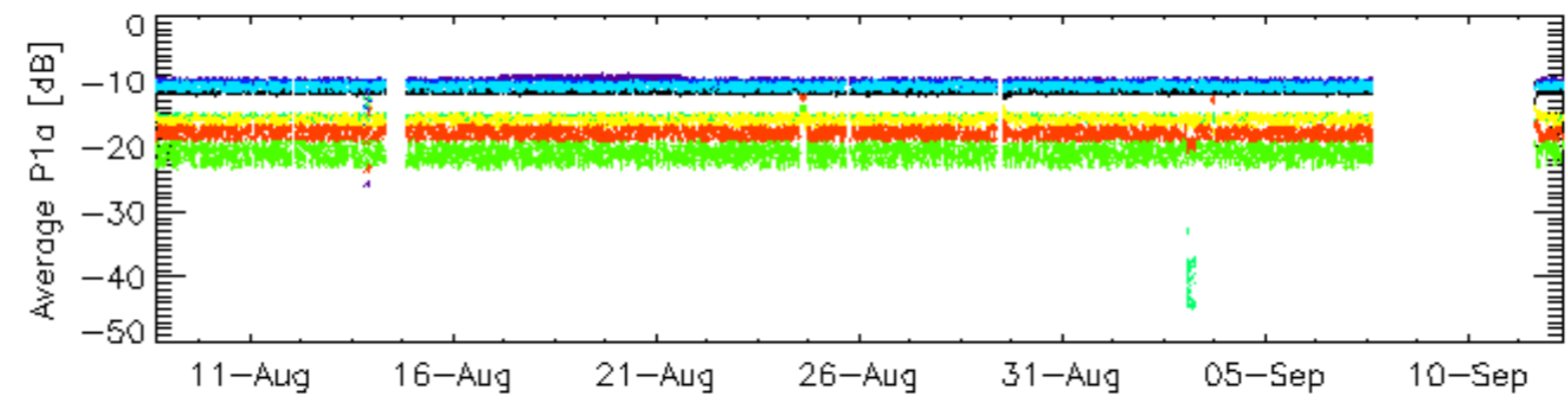
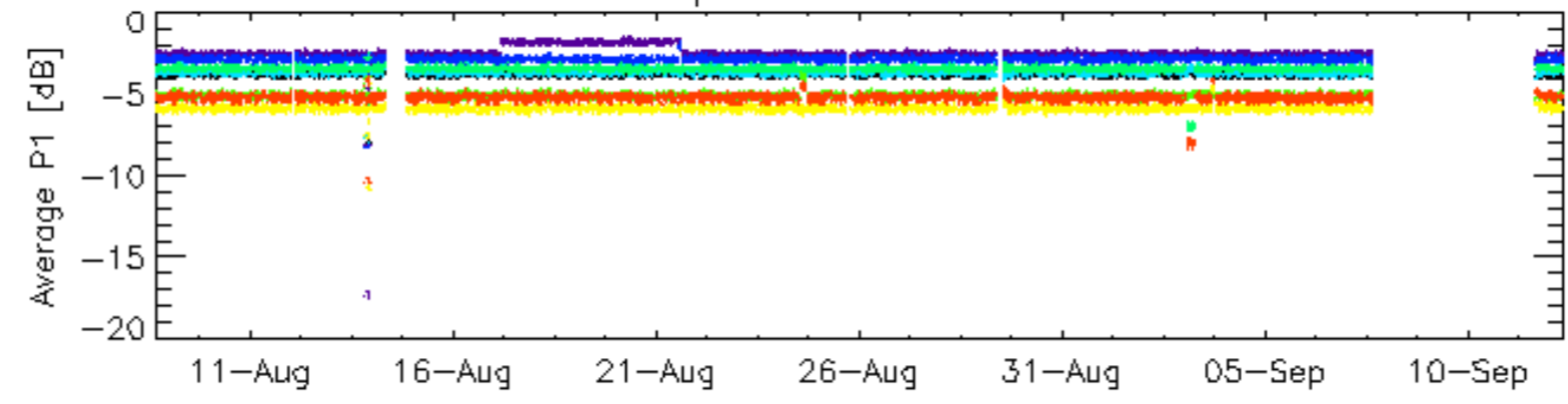


Cal pulses for WVS IS2



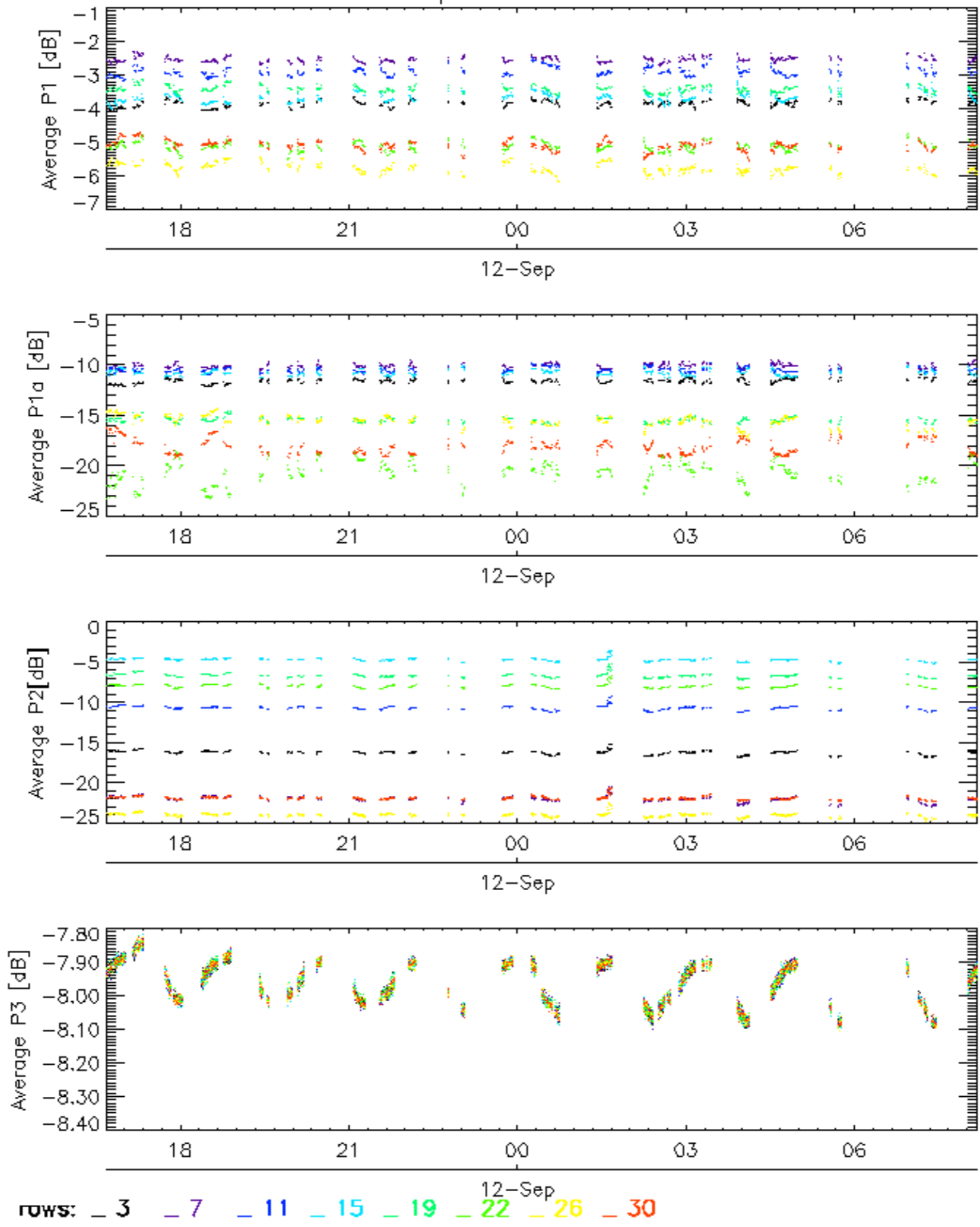
rows: - 3 - 7 - 11 - 15 - 19 - 22 - 26 - 30

### Cal pulses for GM1 SS3

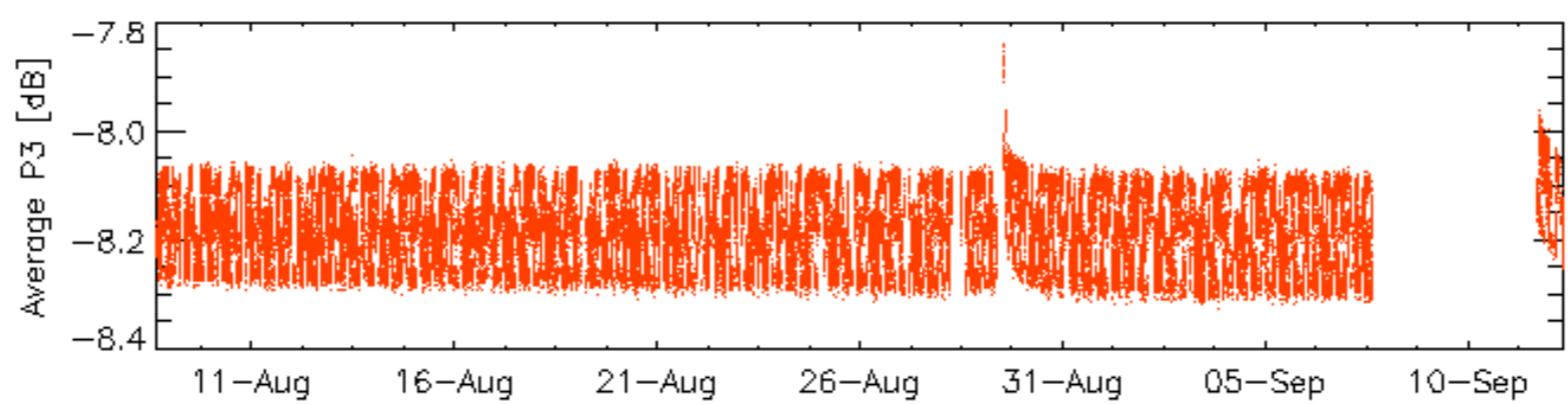
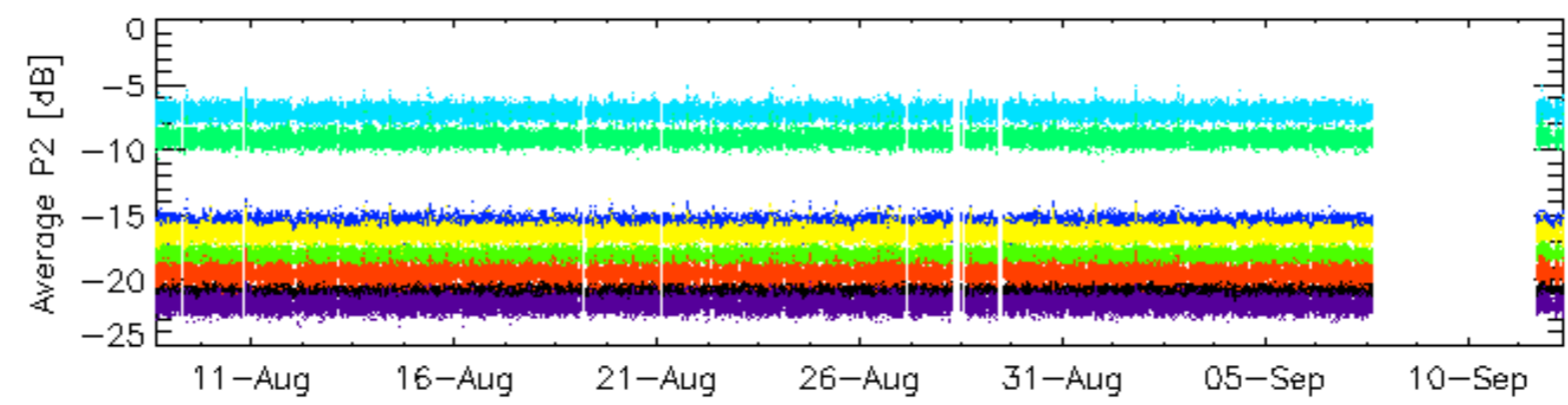
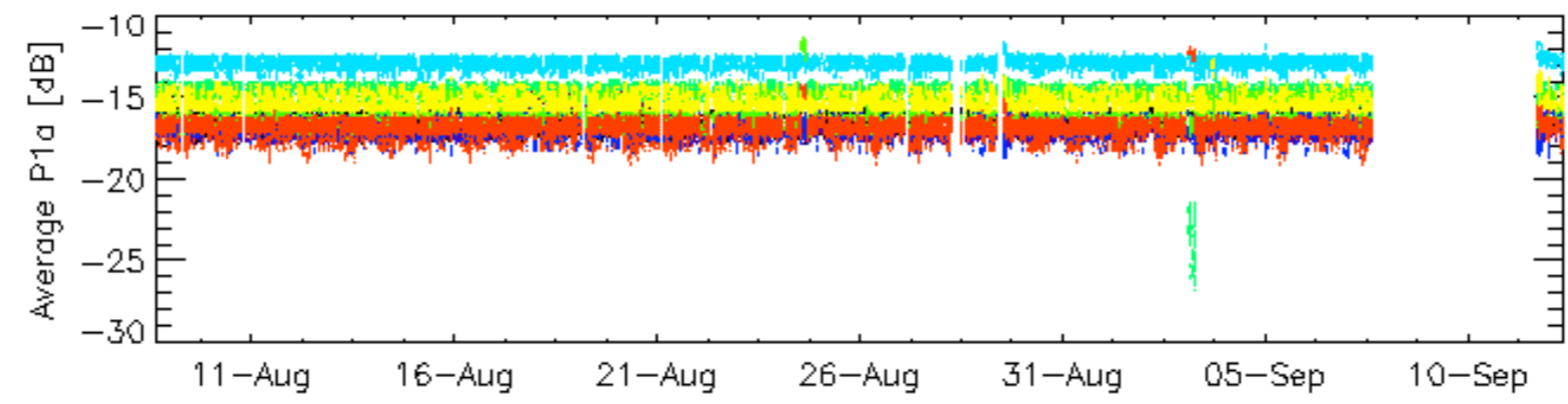
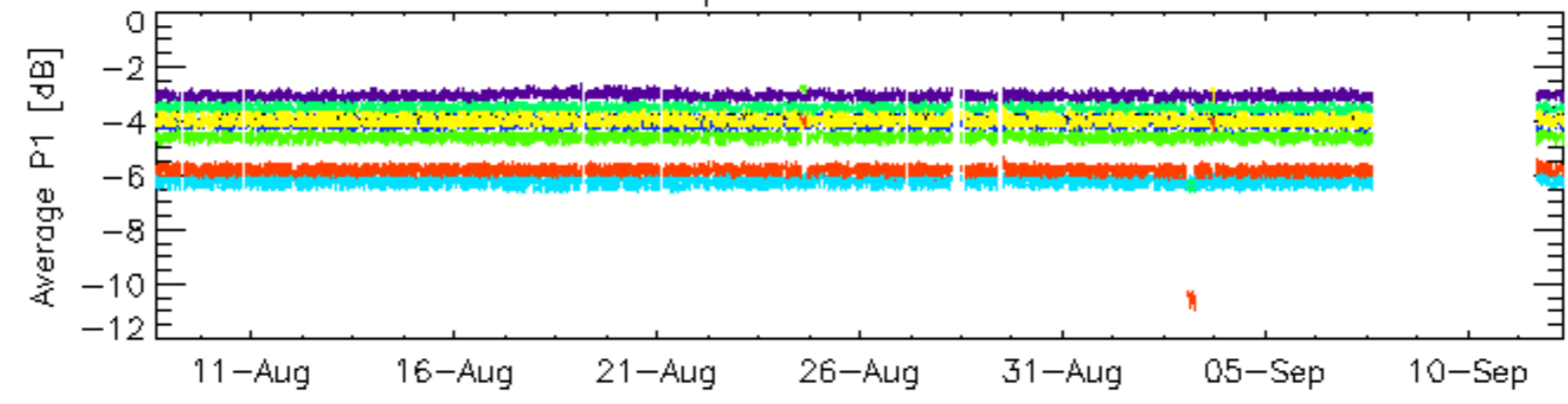


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

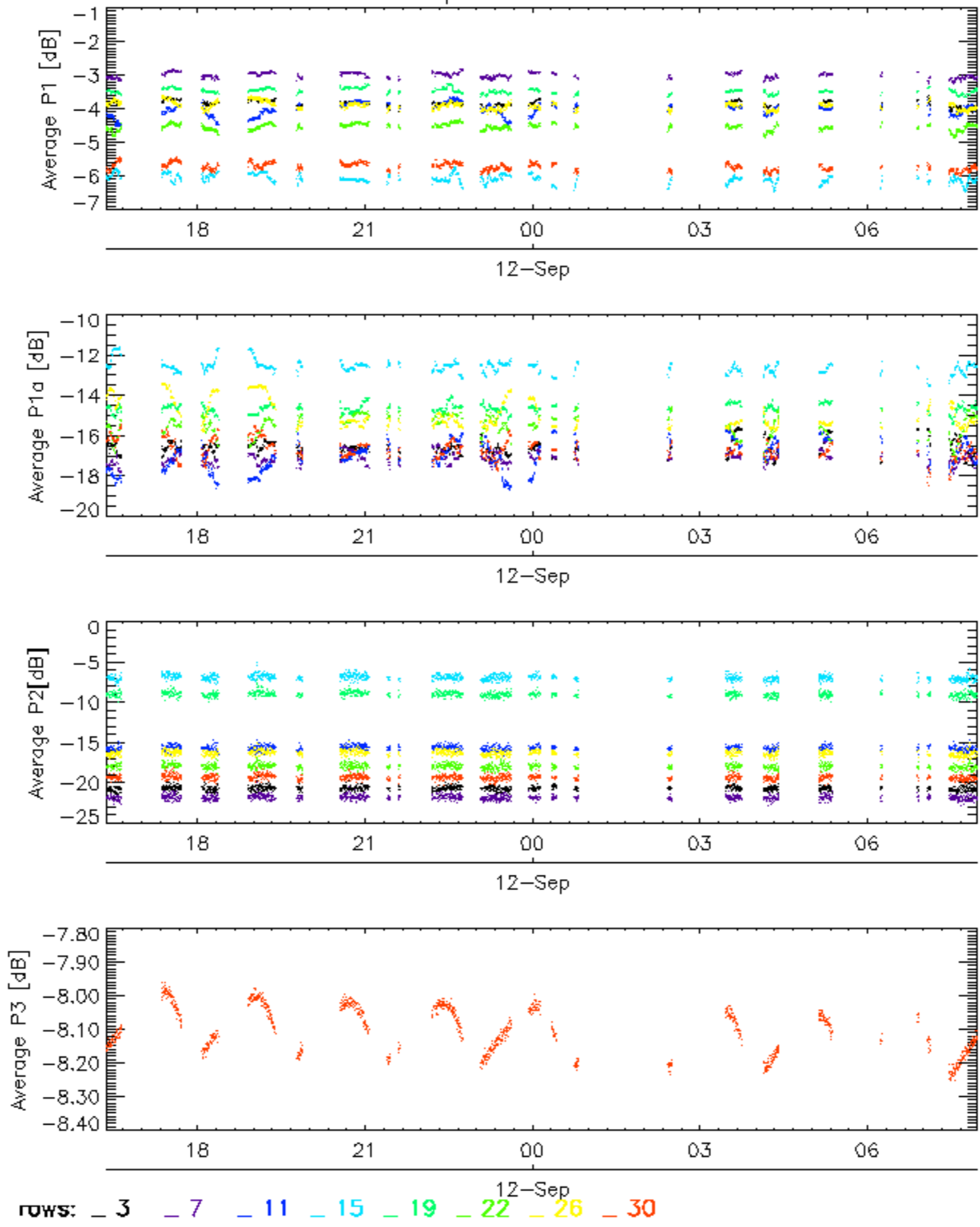


Cal pulses for WVS IS2



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

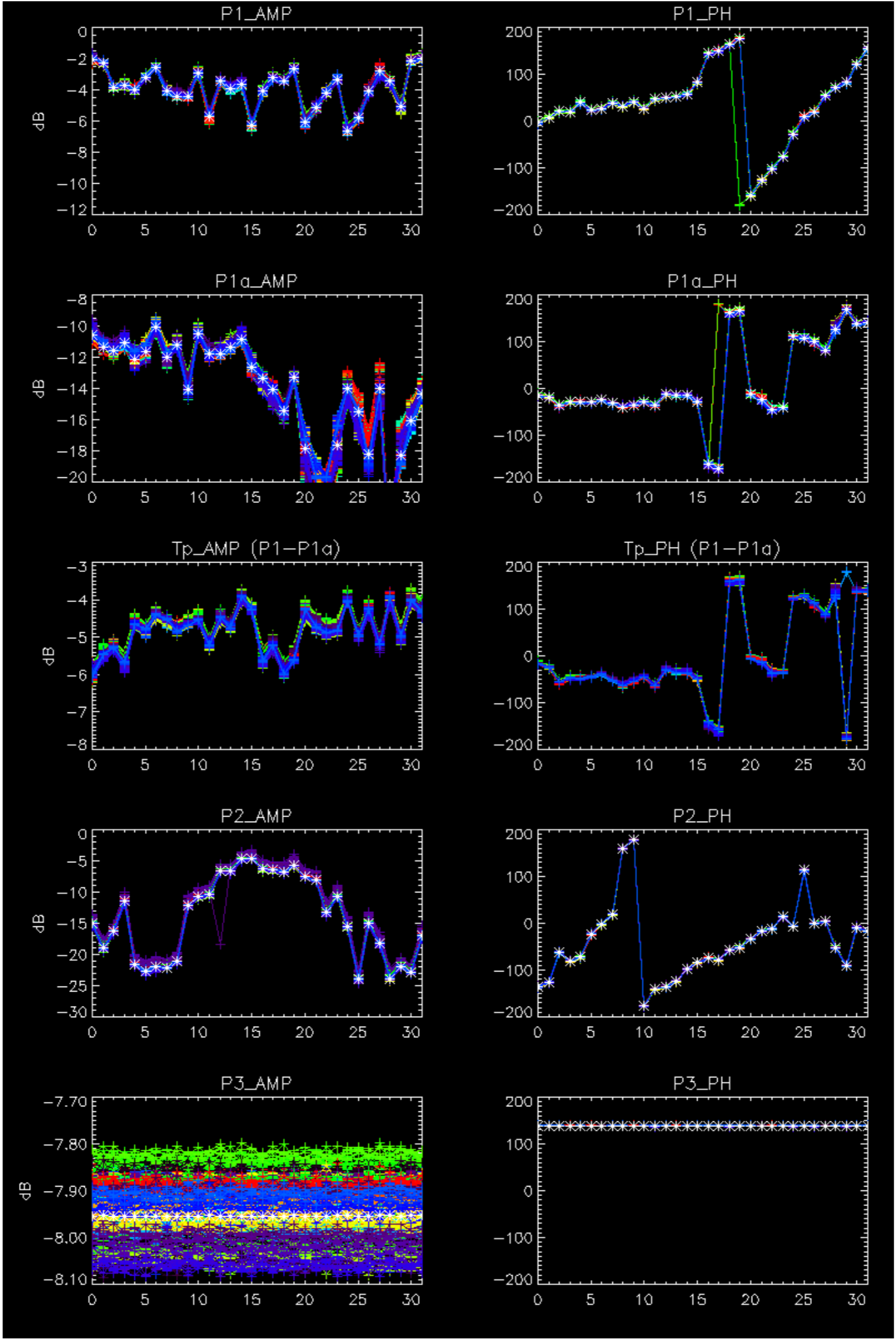
Cal pulses for WVS IS2

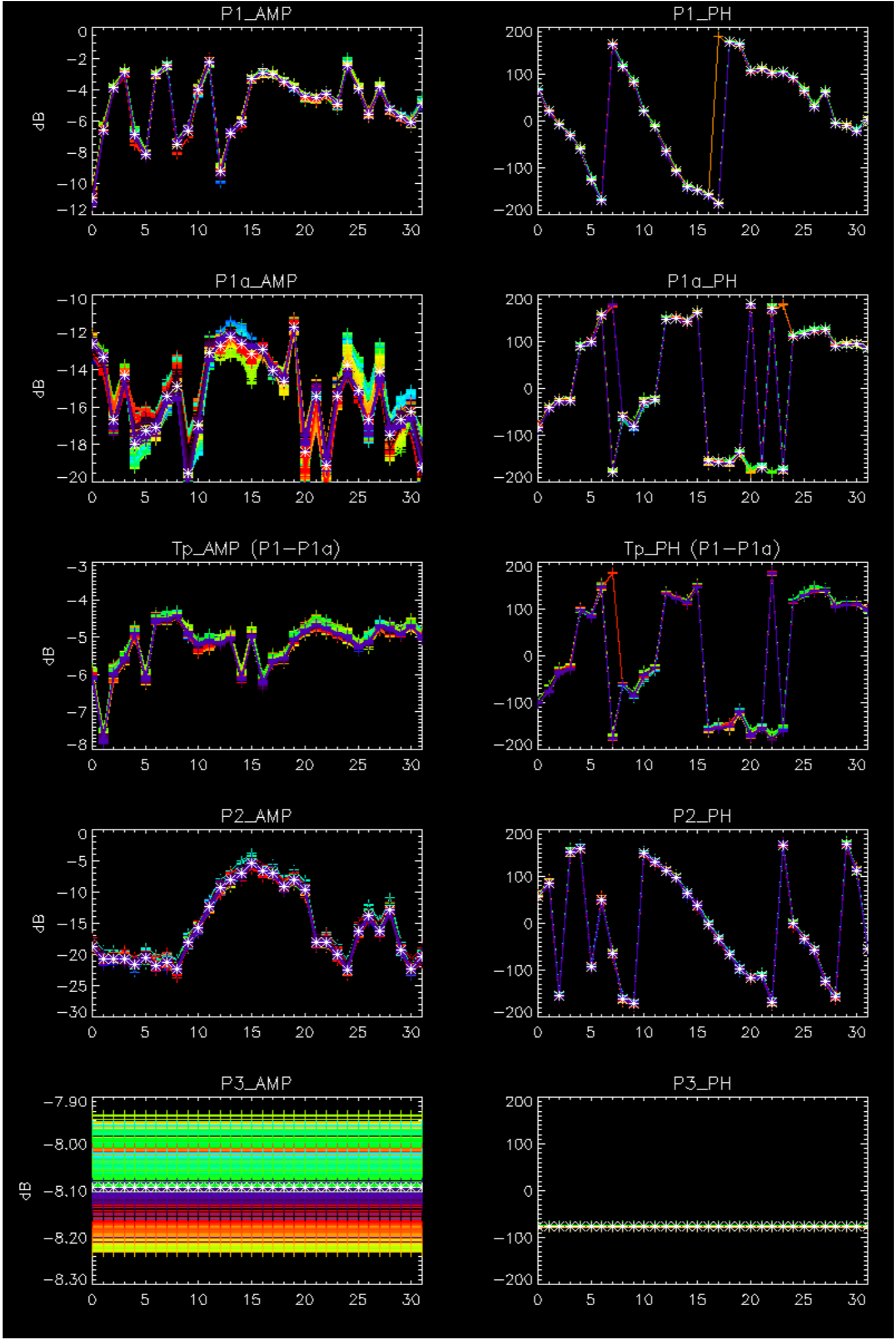


No anomalies observed on available browse products



No anomalies observed.

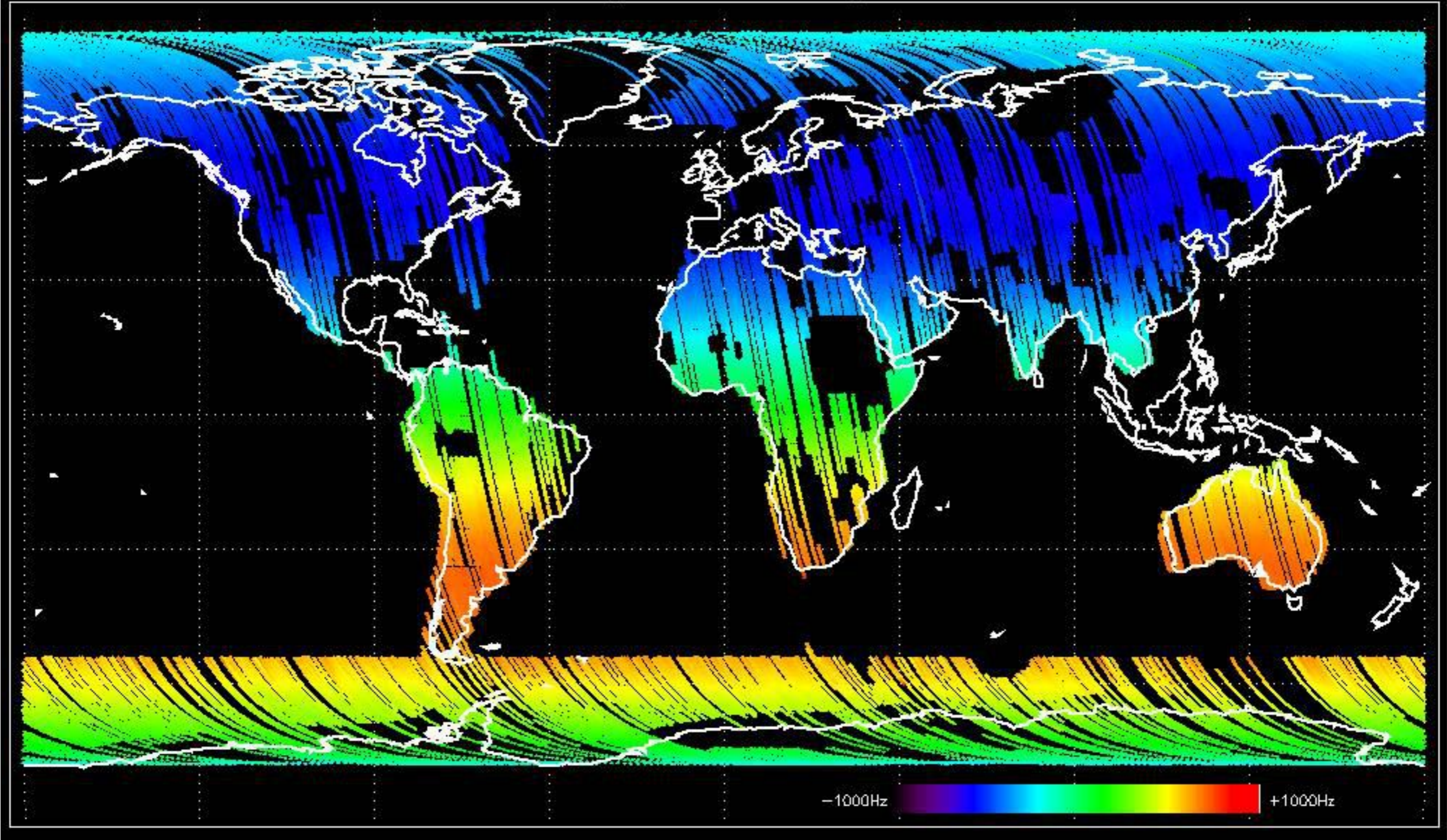




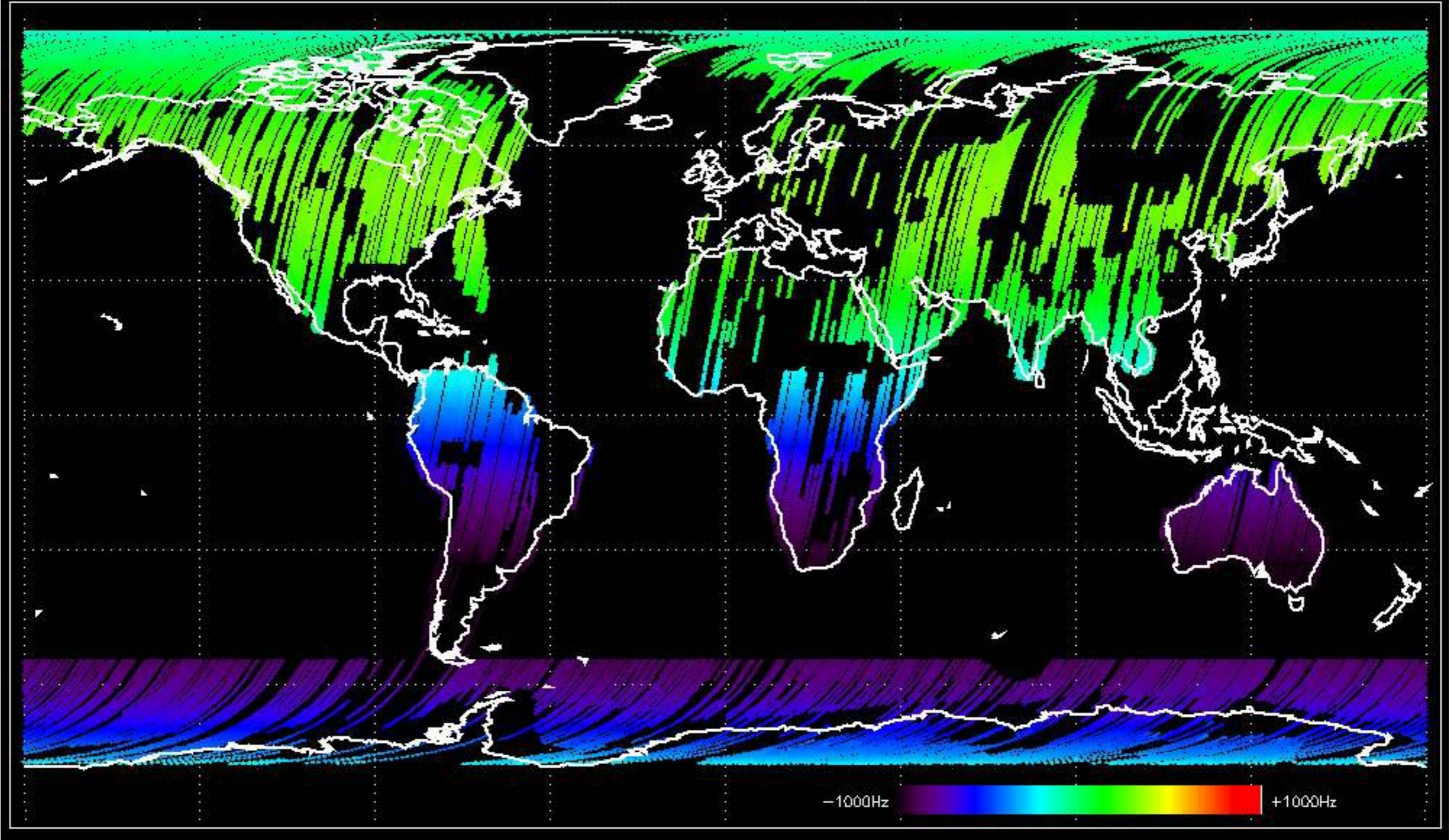
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



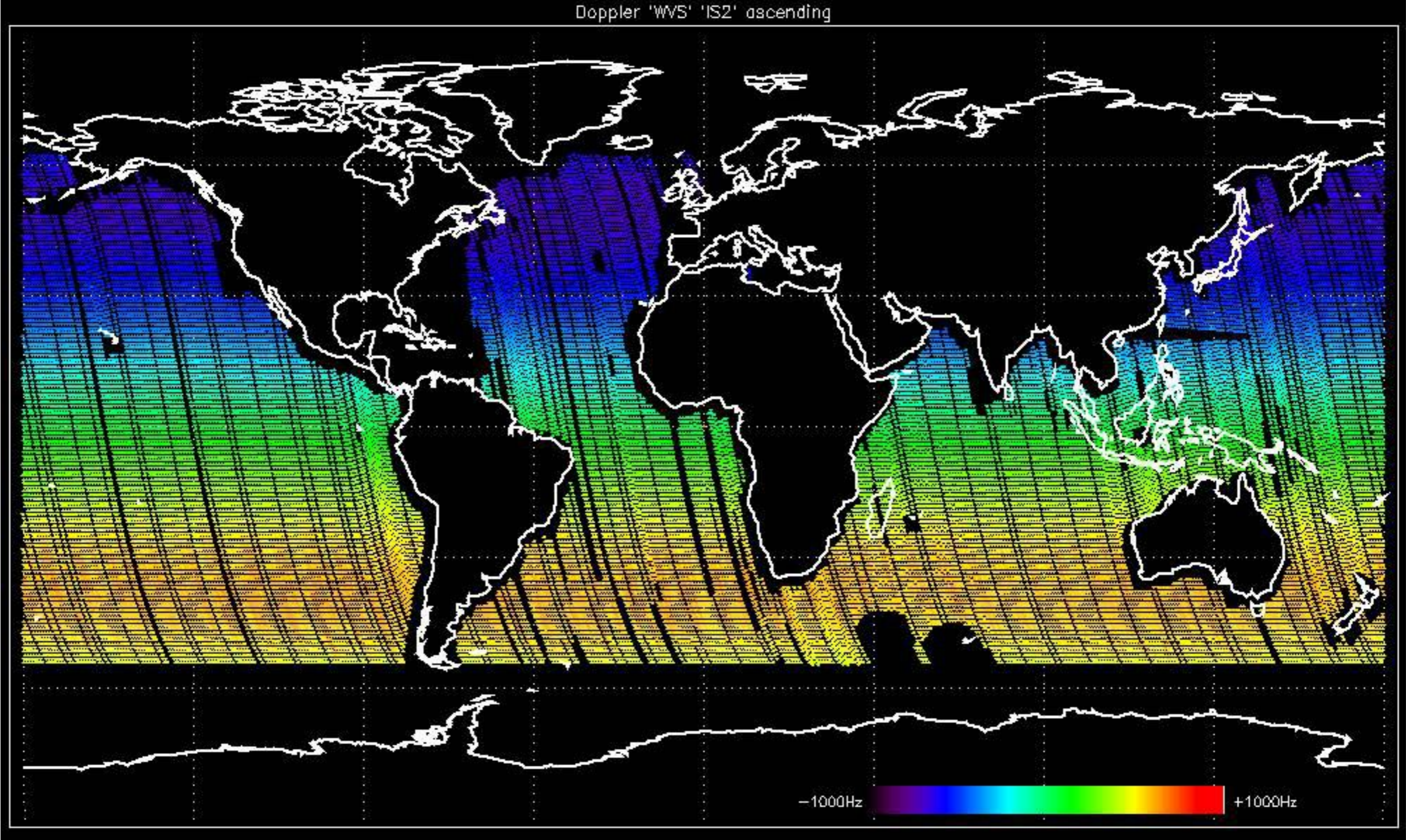
Doppler 'GM1' 'SS1' ascending



Doppler 'GM1' 'SS1' descending

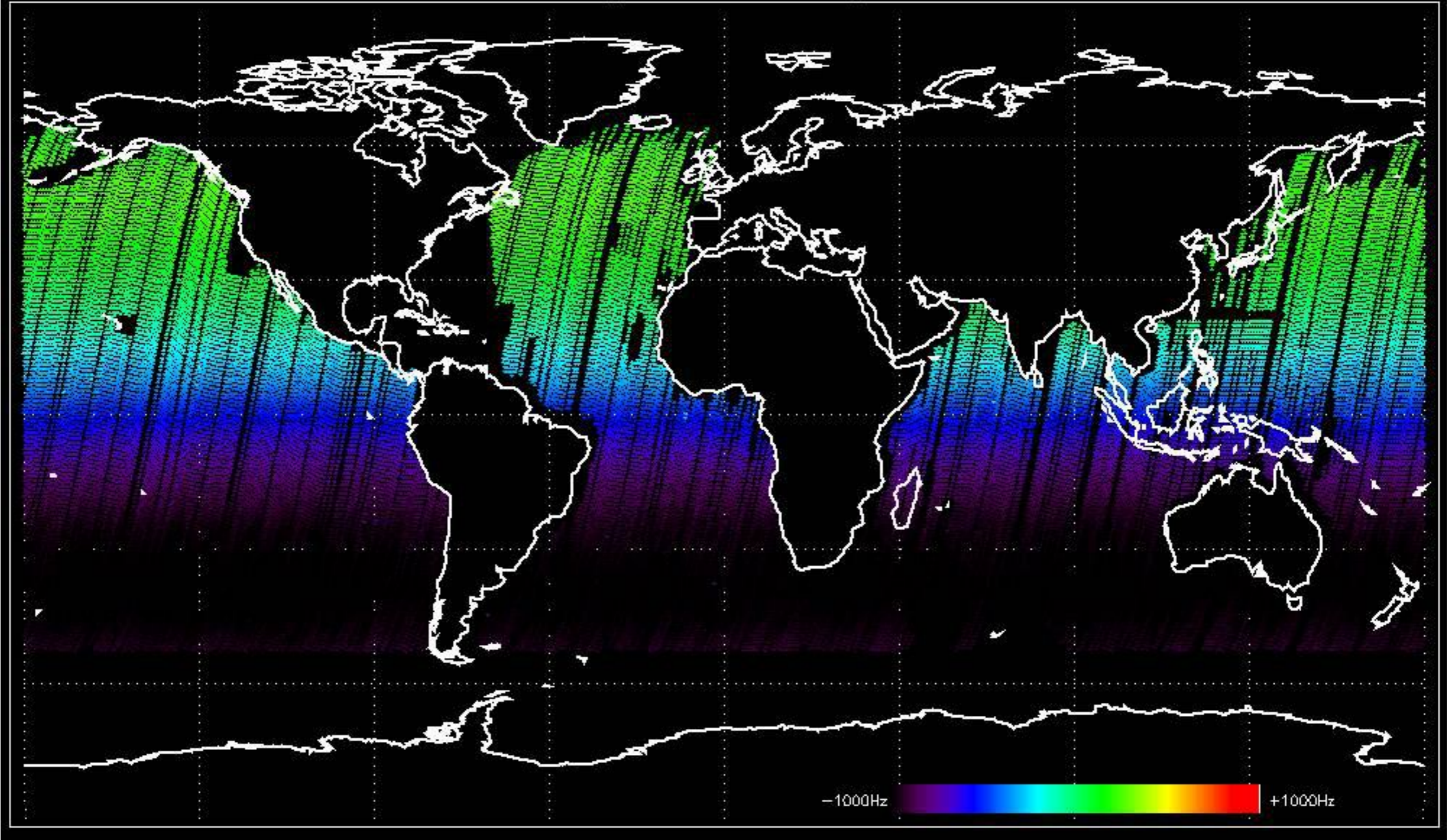


Doppler 'WVS' 'IS2' ascending

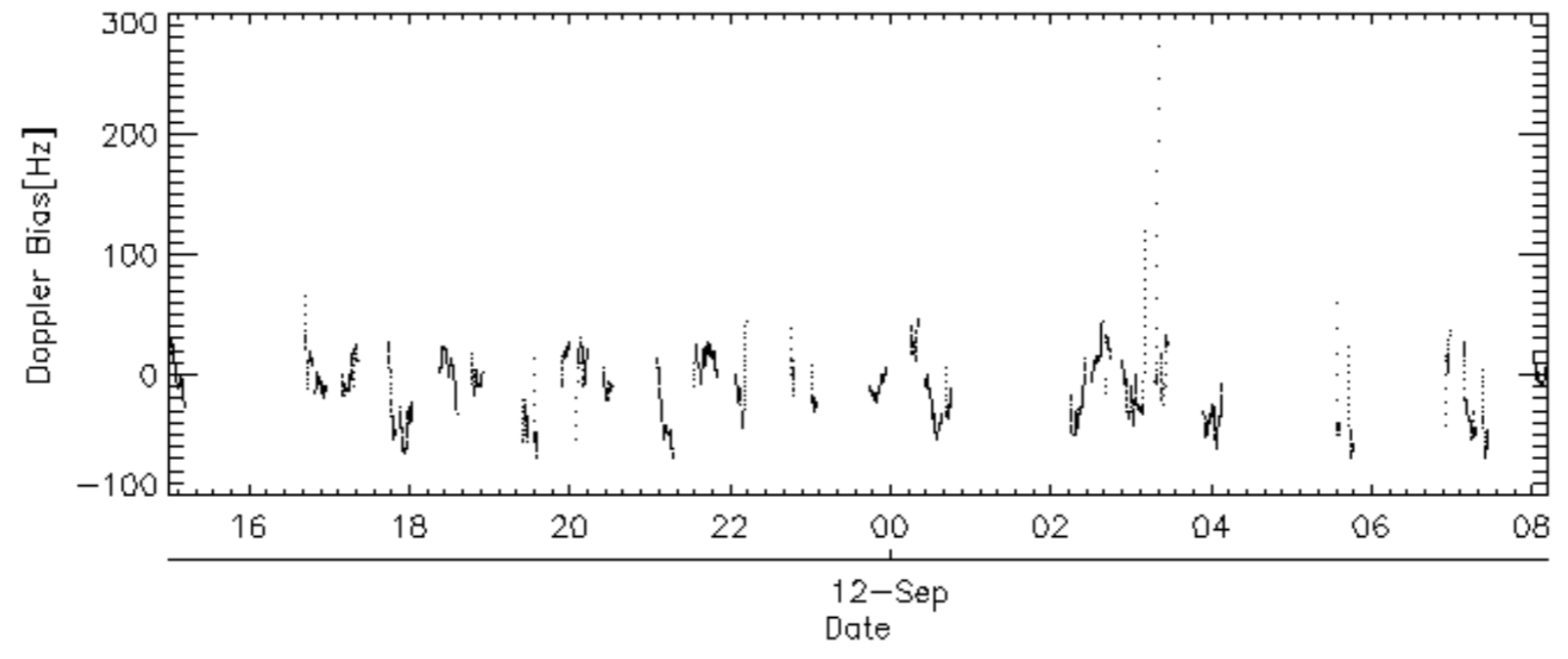
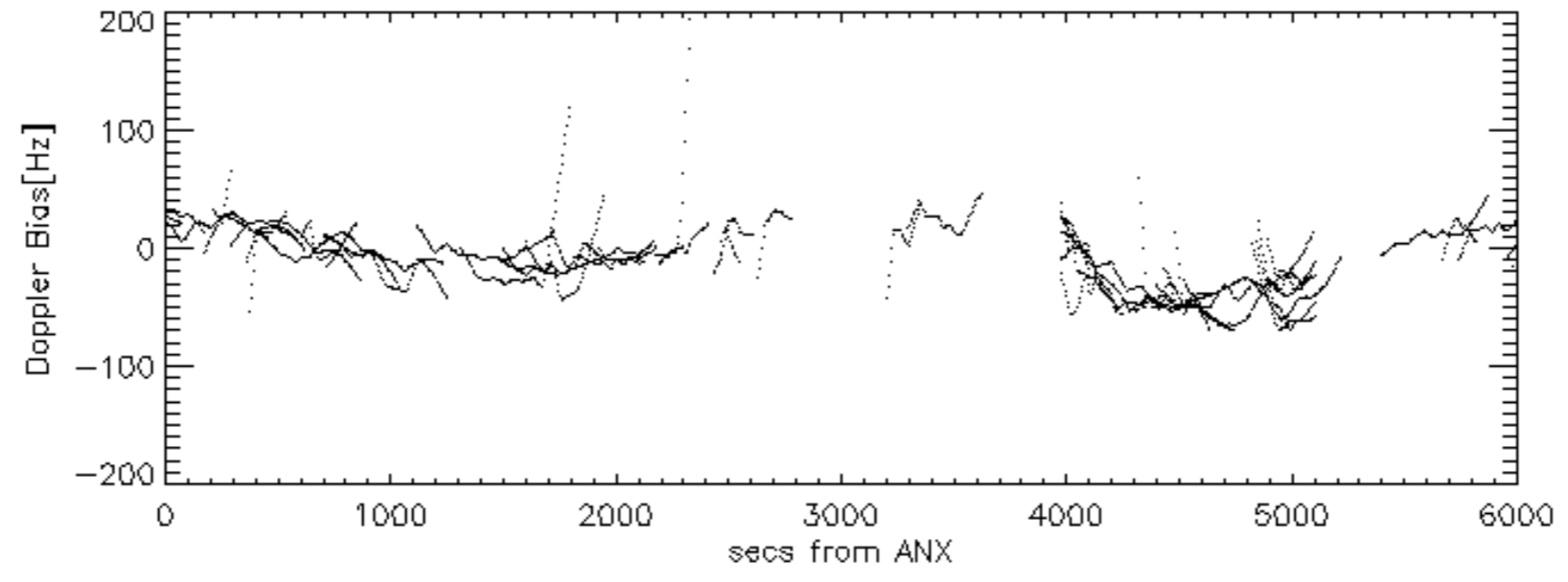
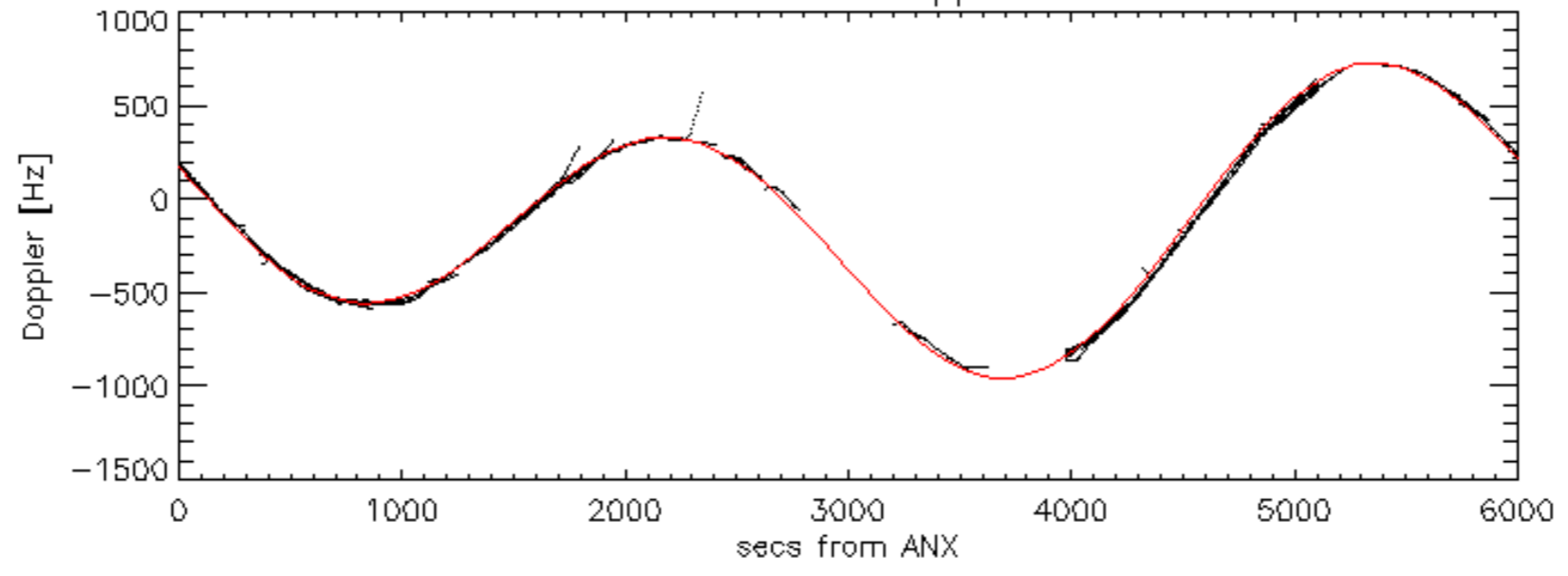


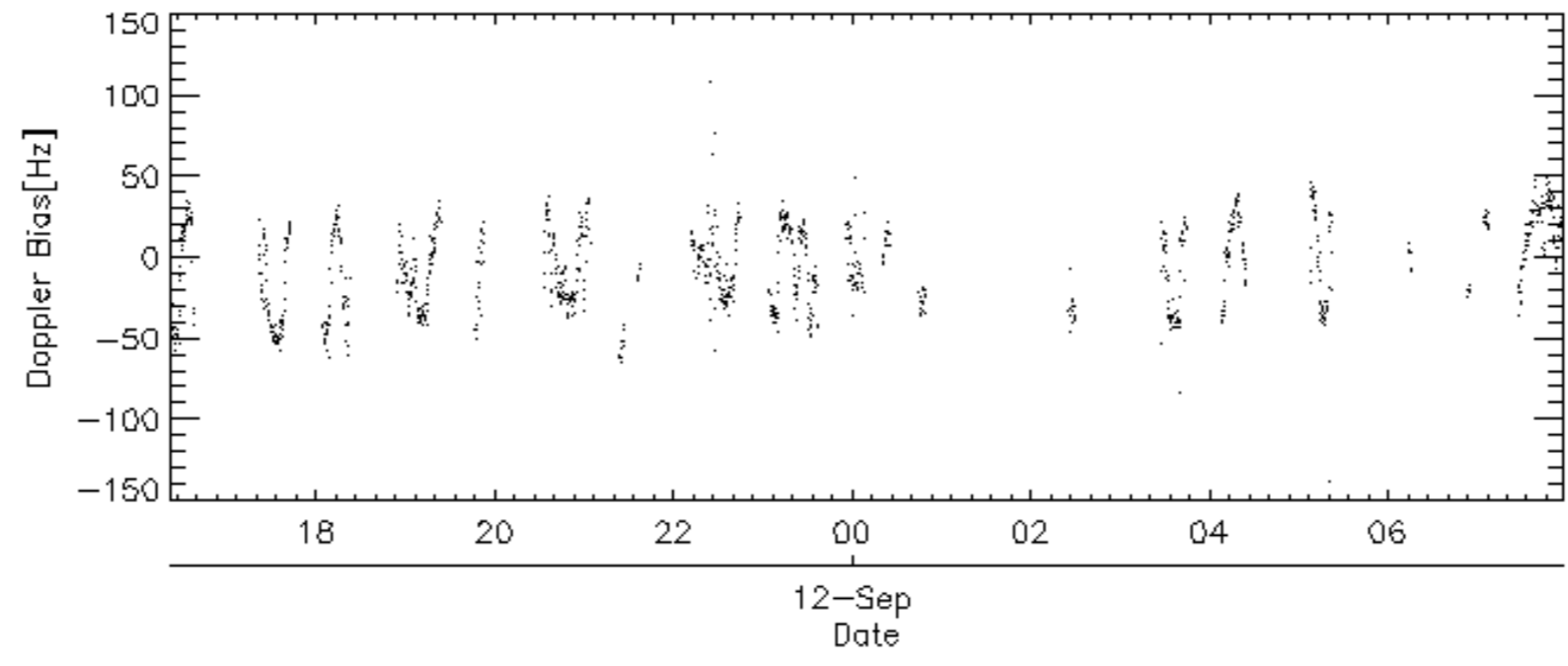
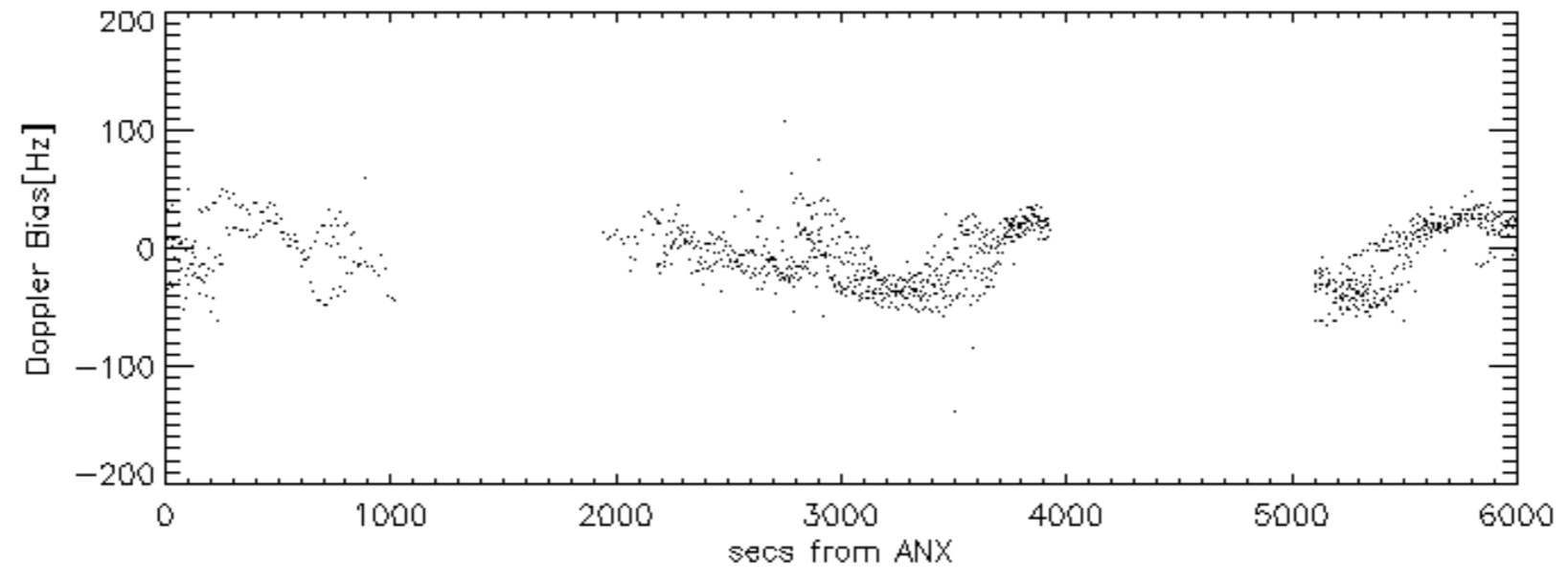
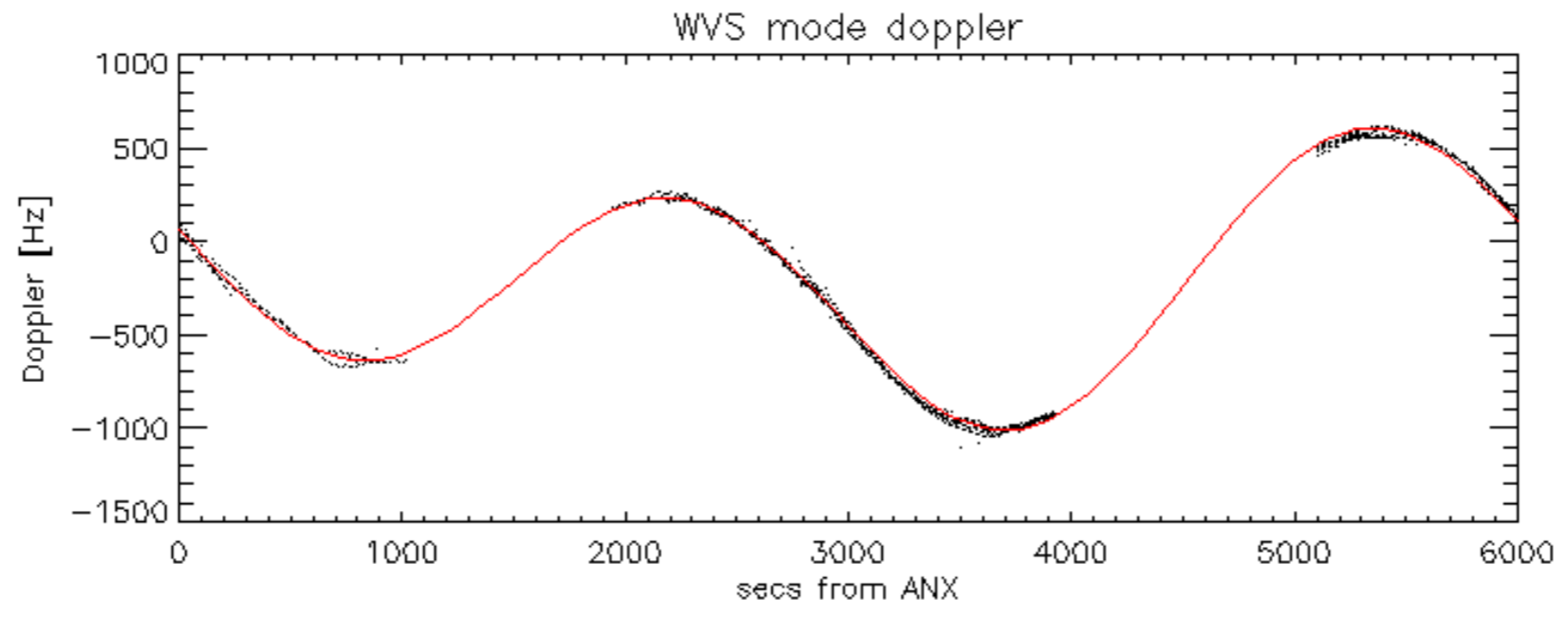


Doppler 'WVS' 'IS2' descending

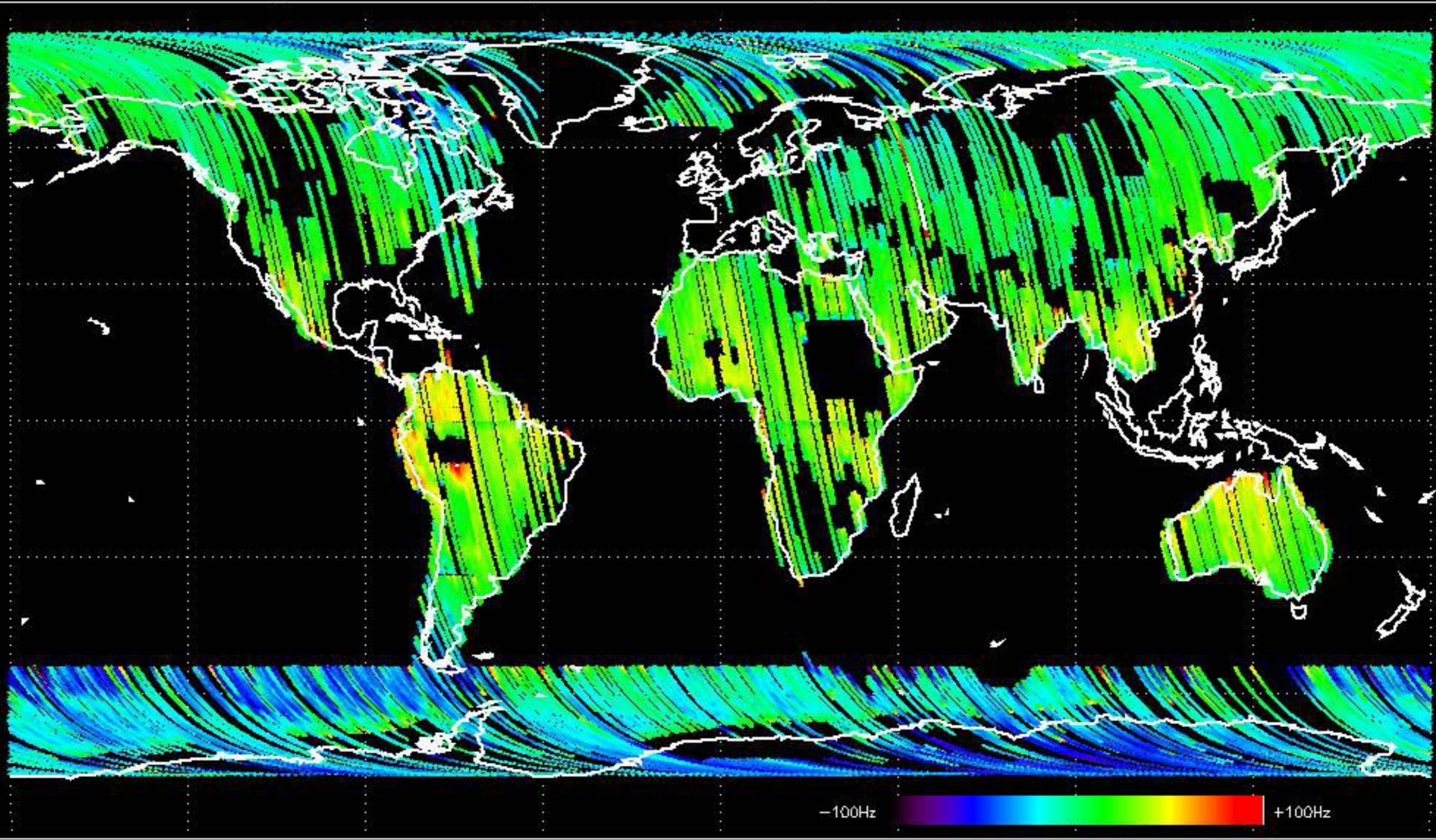


GM1 mode doppler

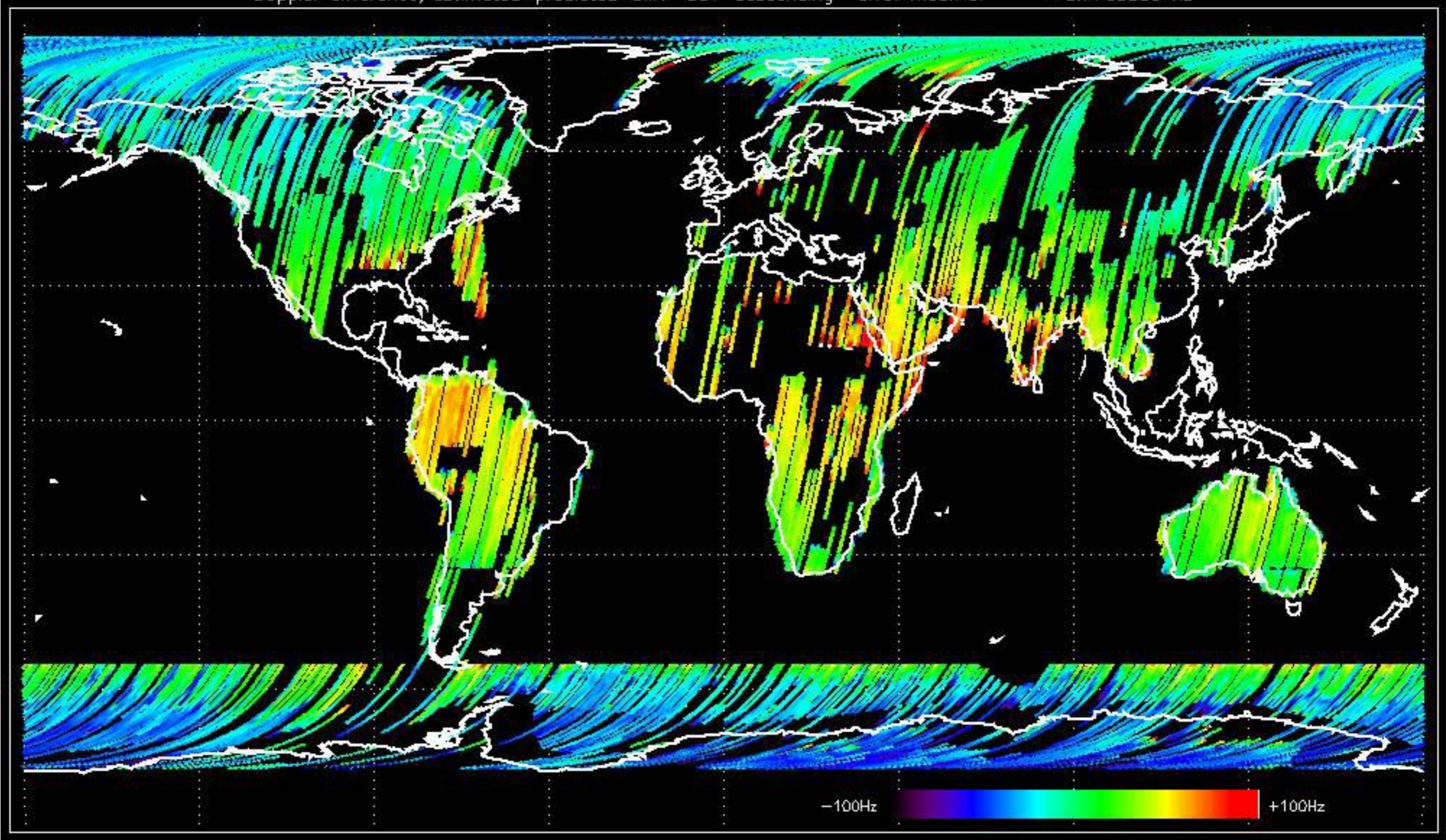




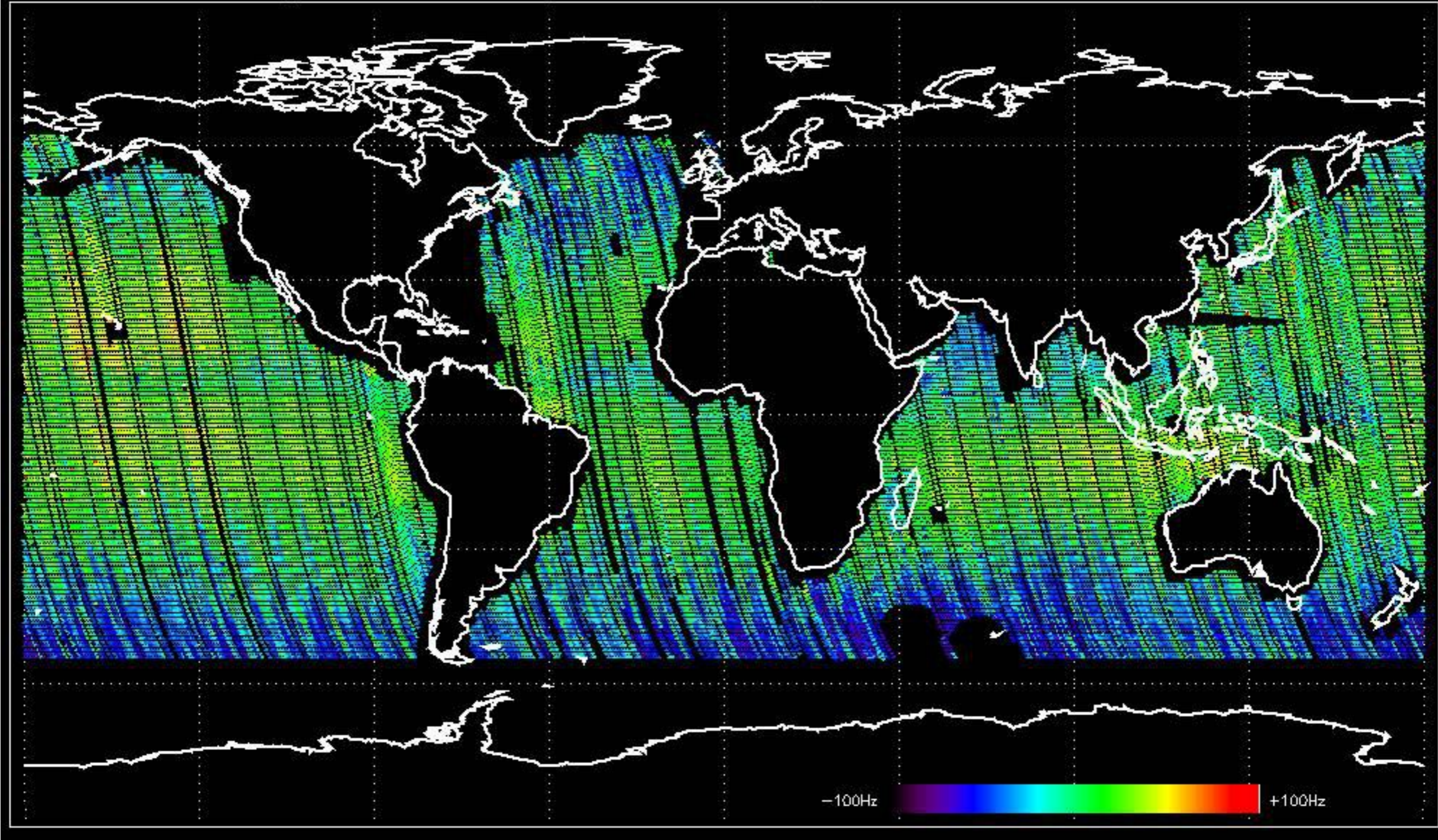
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -18.880744 Hz



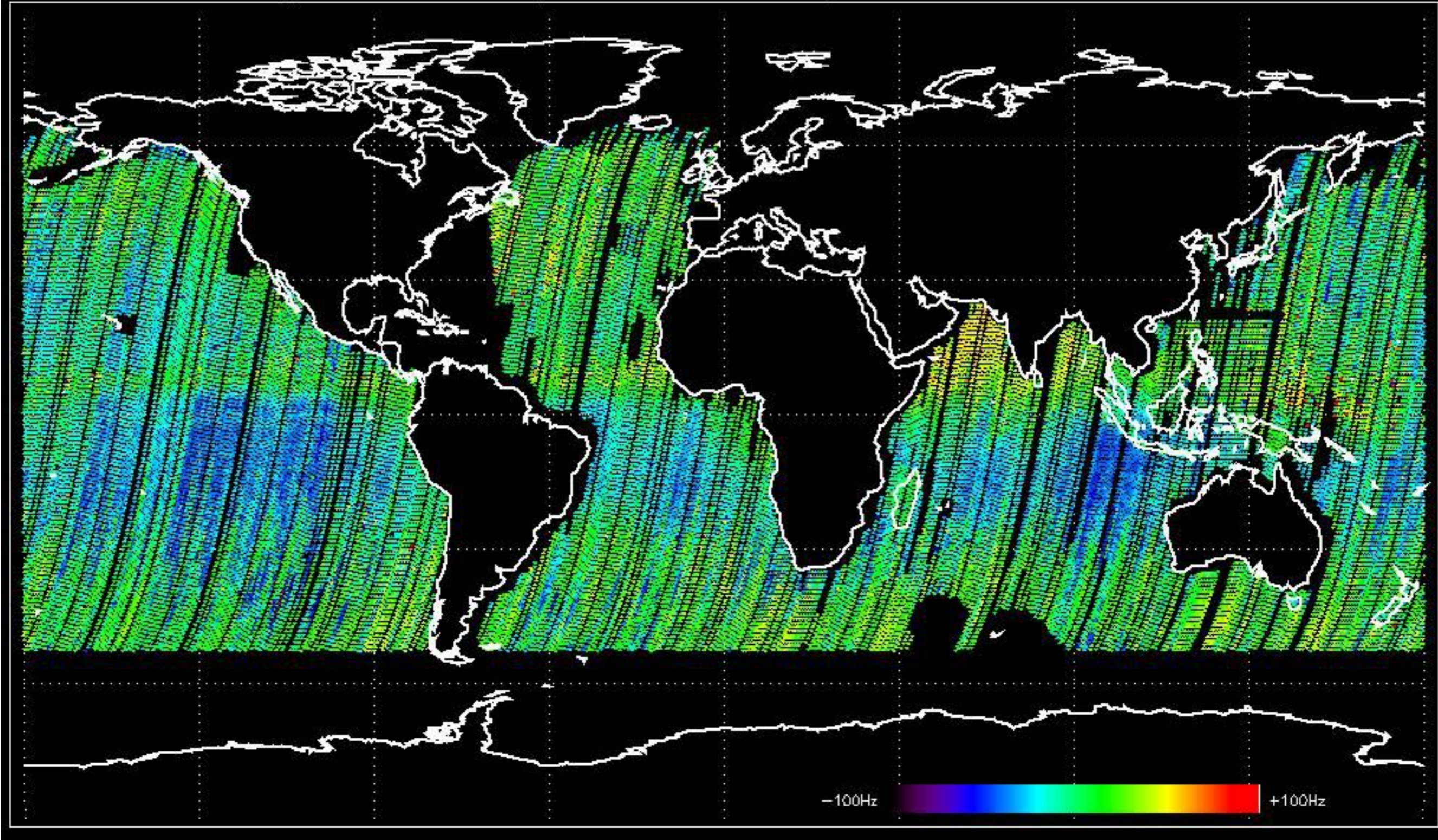
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -8.7768585 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -6.4892694 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -7.8562838 Hz



No anomalies observed on available MS products:



No anomalies observed.

















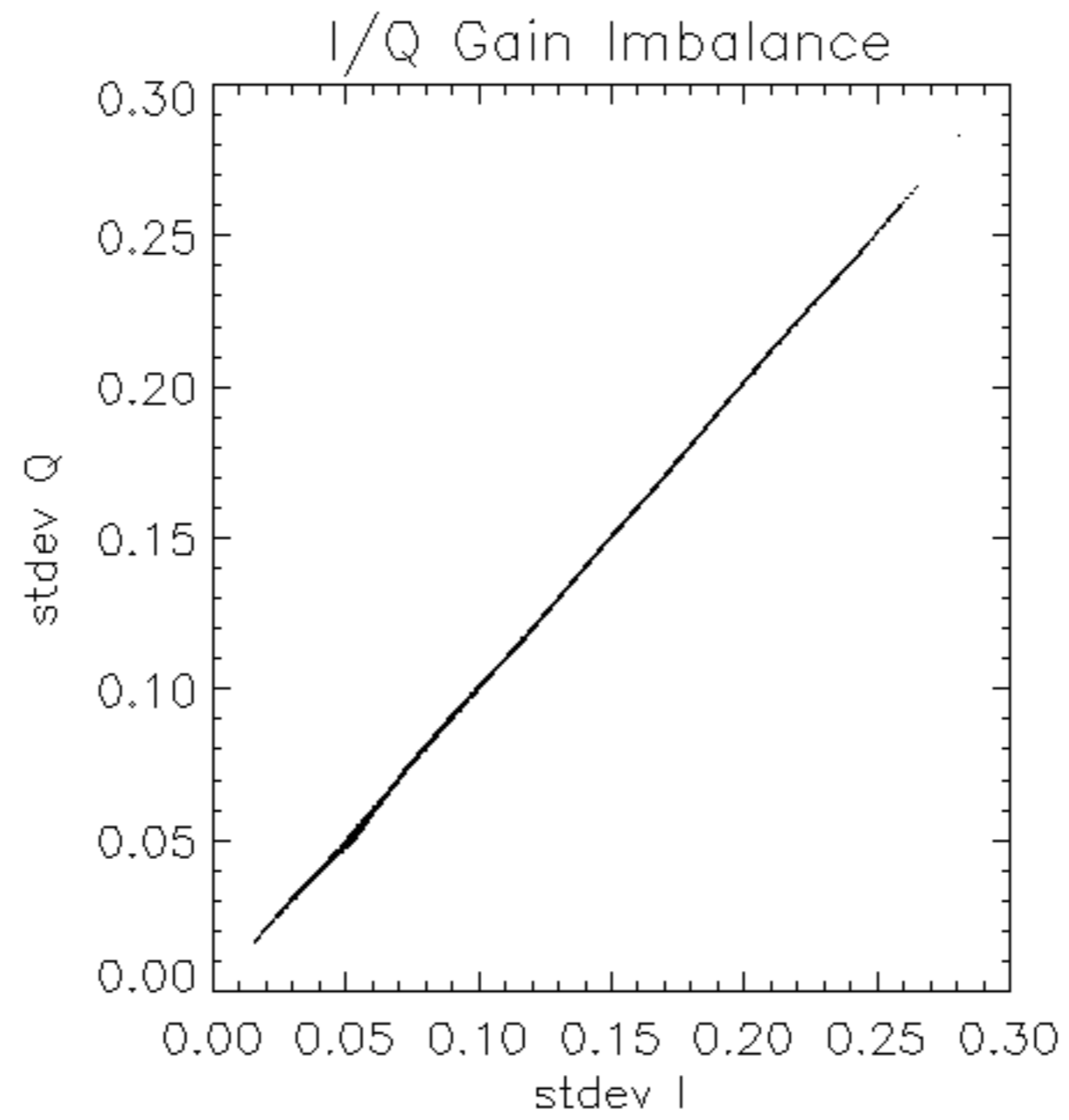


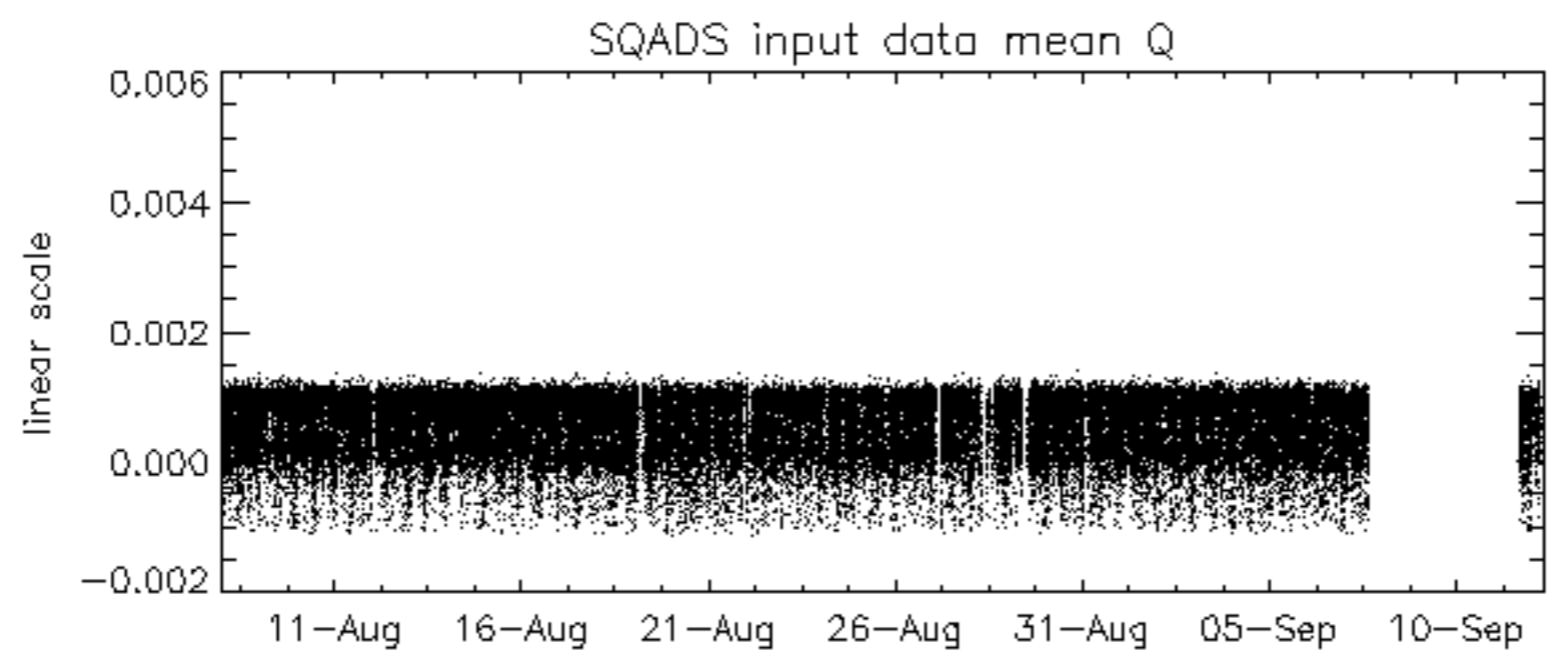
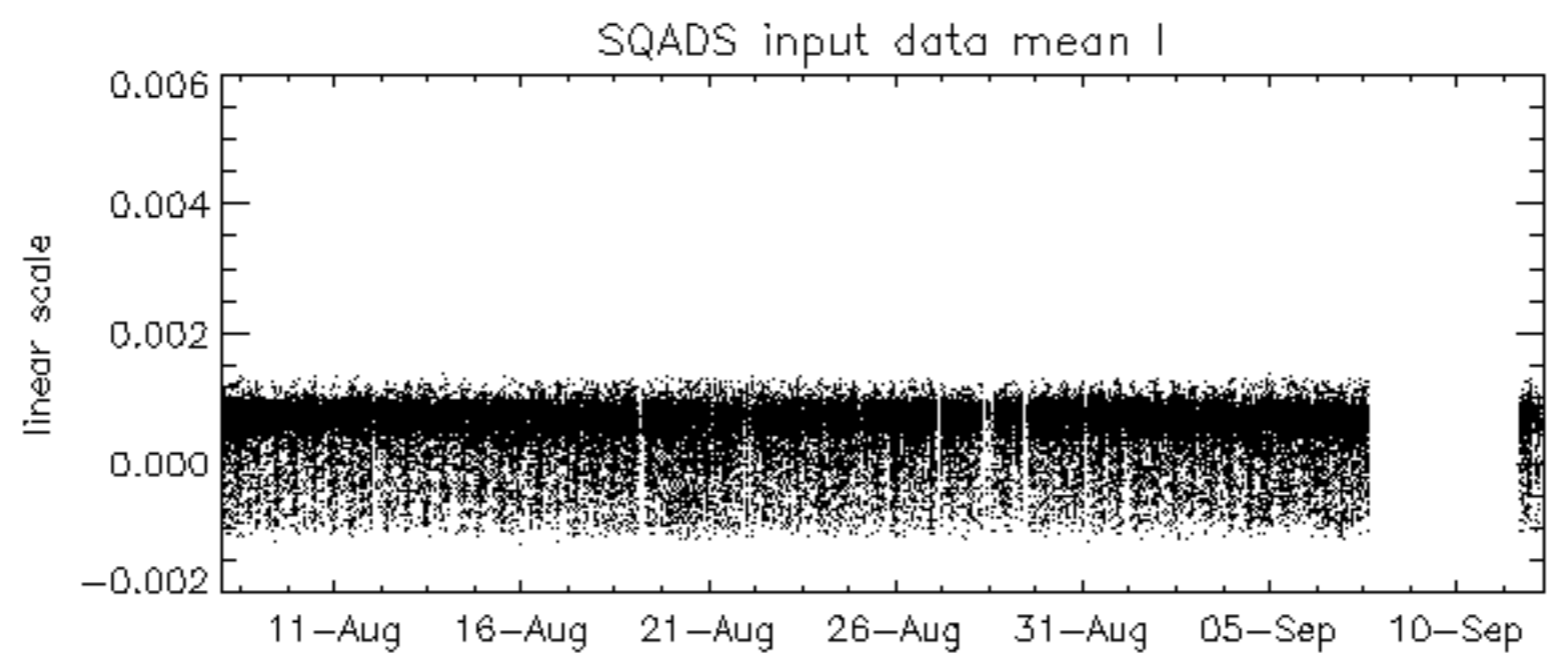
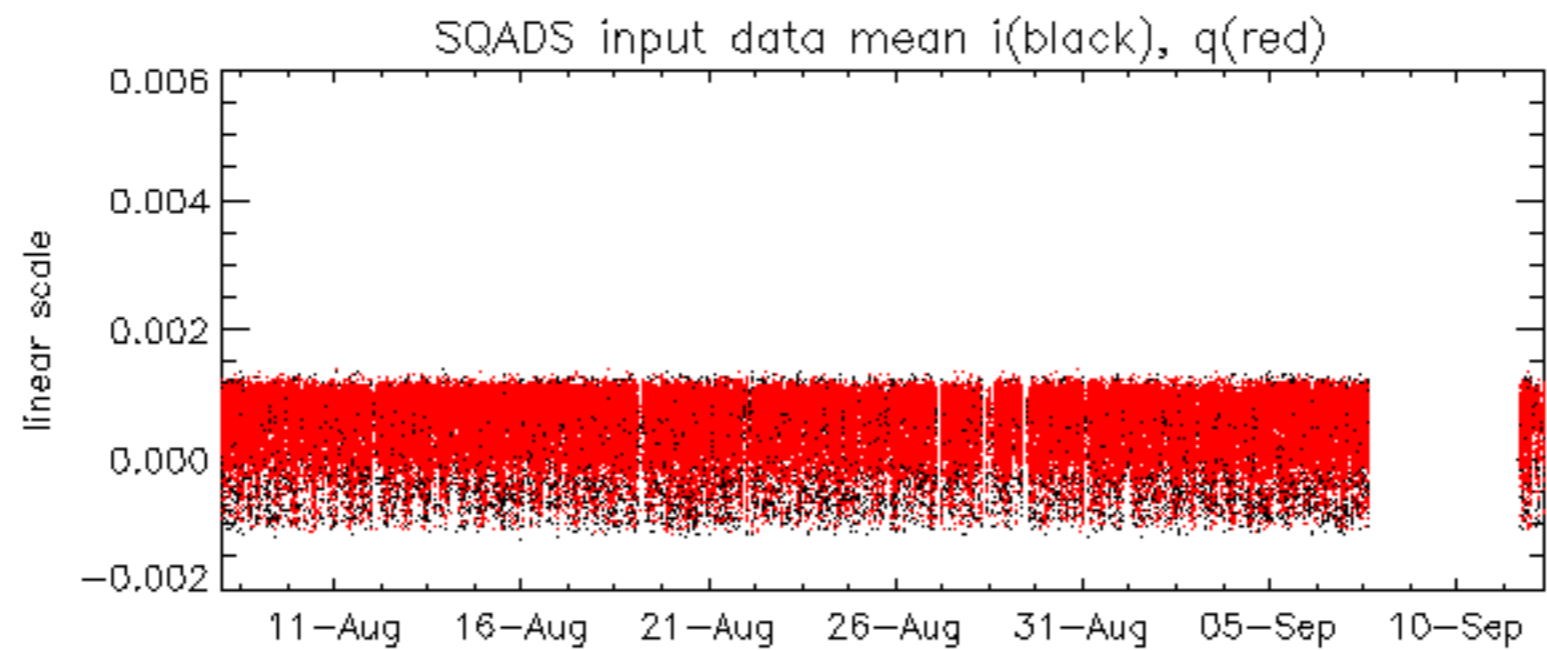


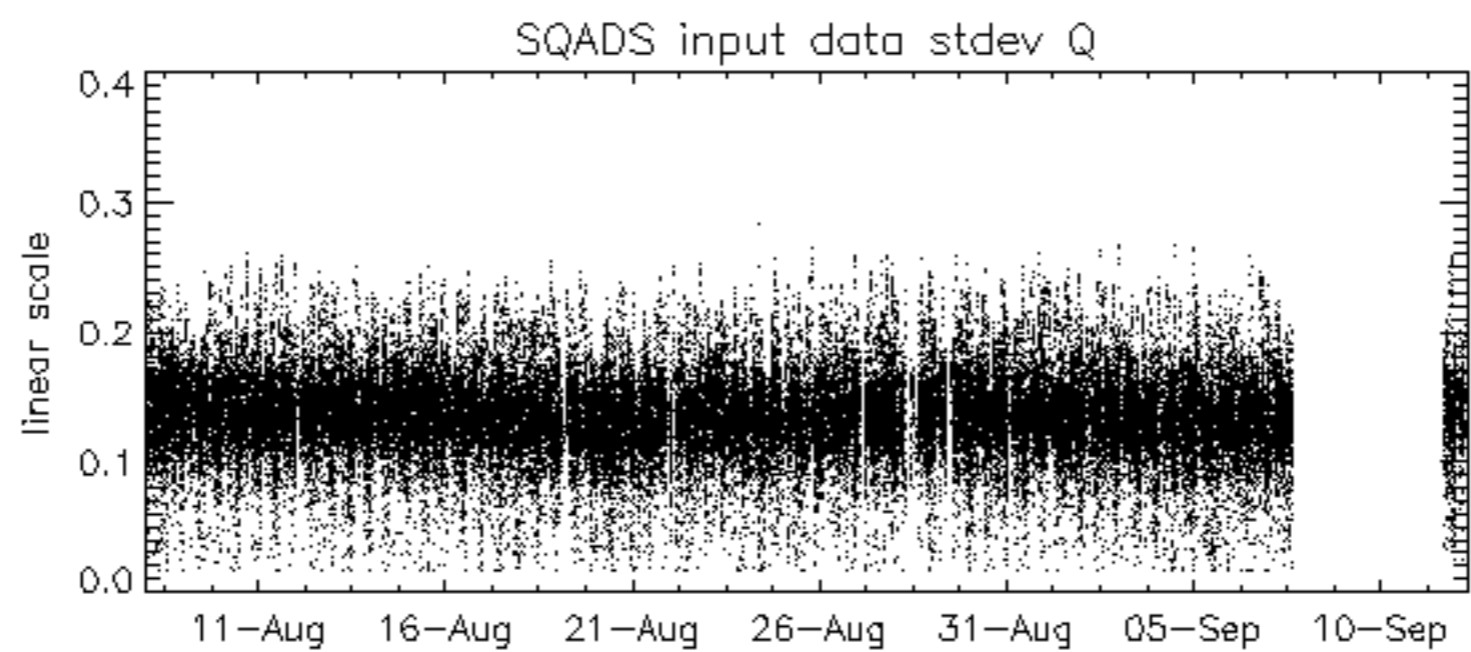
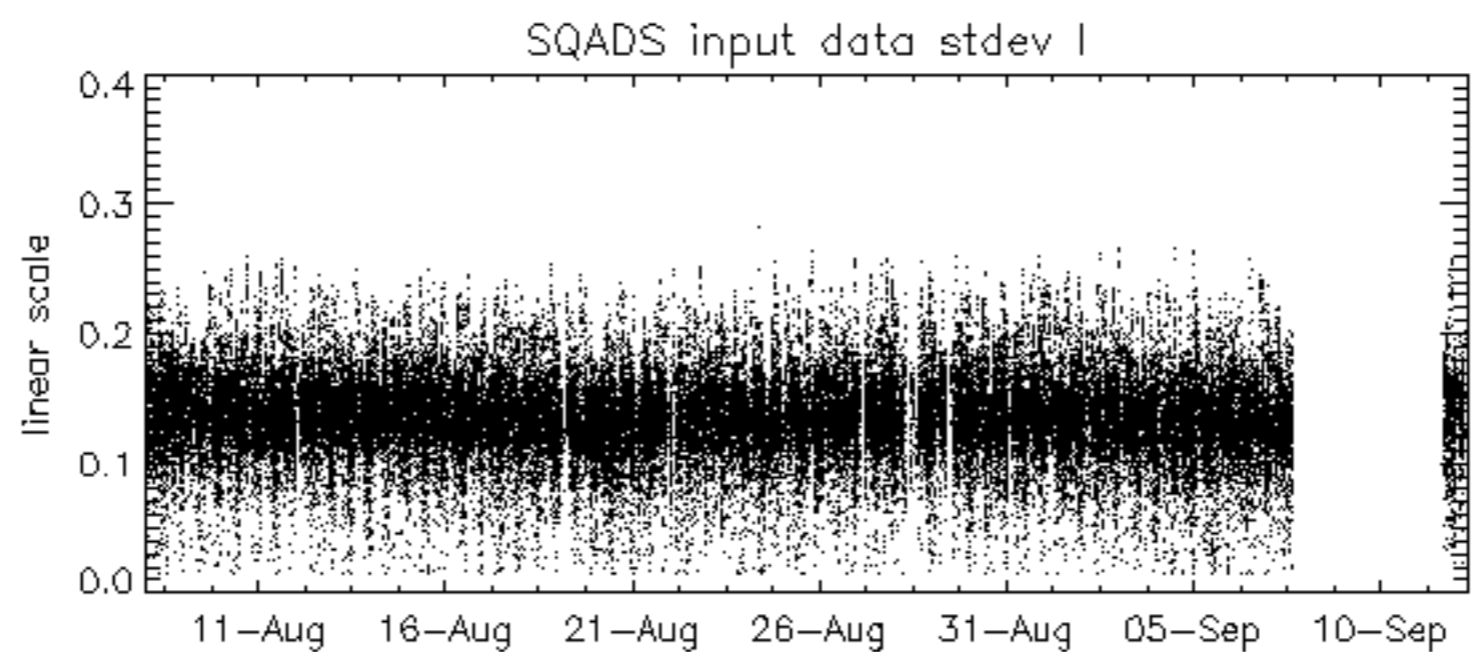
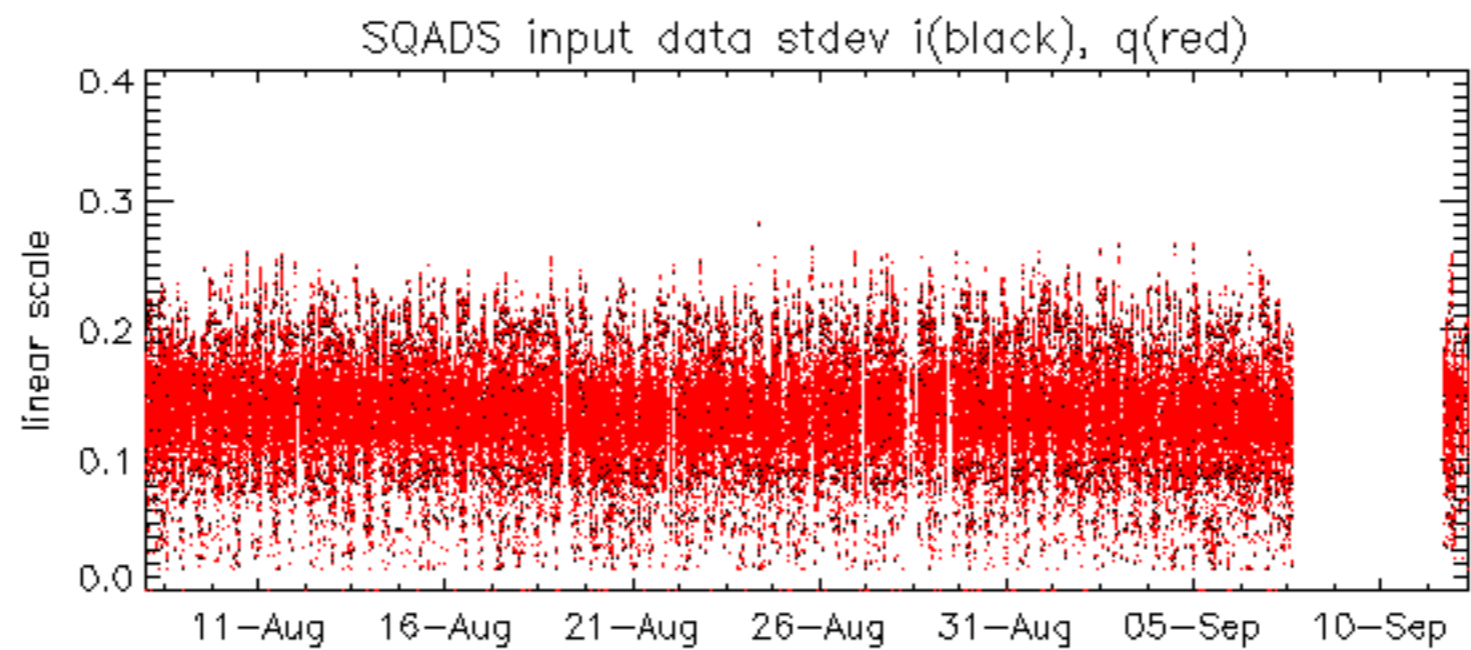






















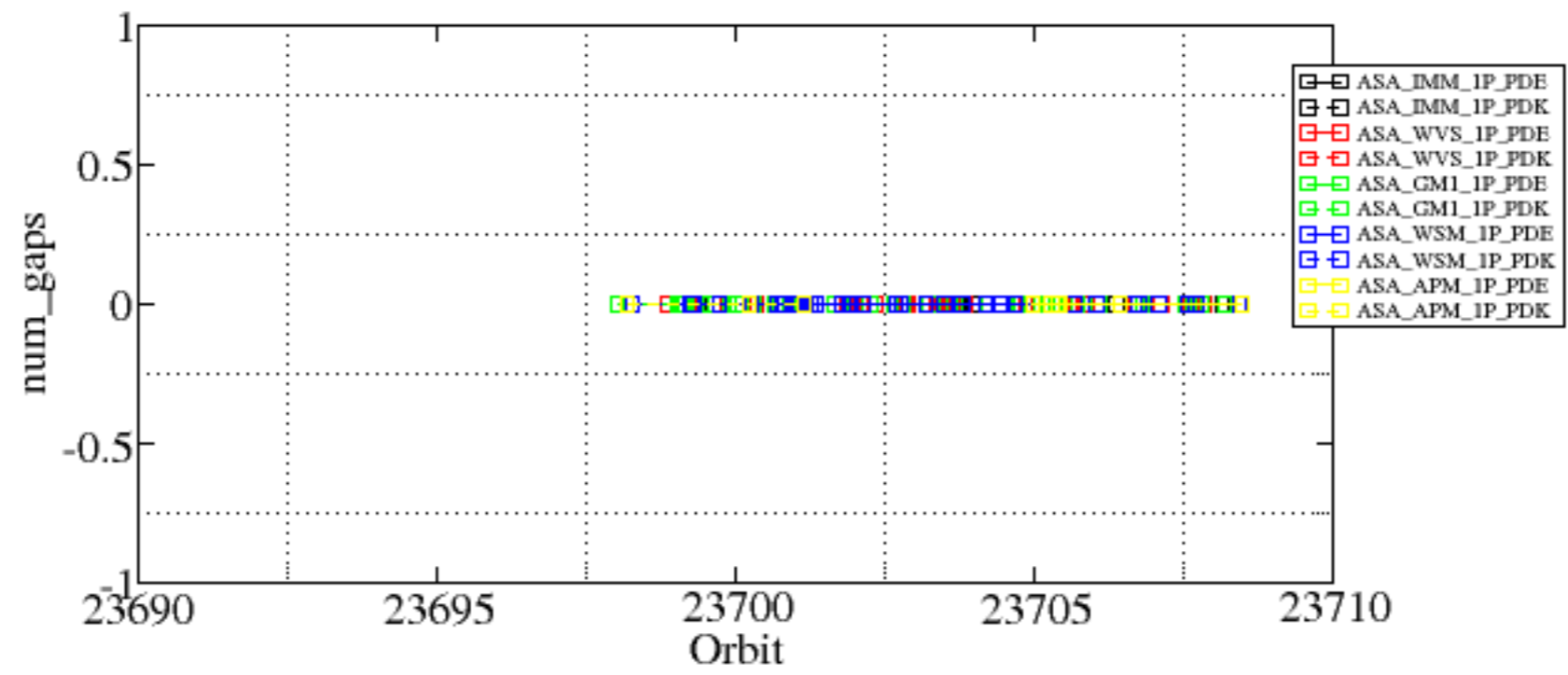




Summary of analysis for the last 3 days 2006091[012]

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_WSM_1PNPDE20060912_000911_000003242051_00102_23703_1588.N1	0	34









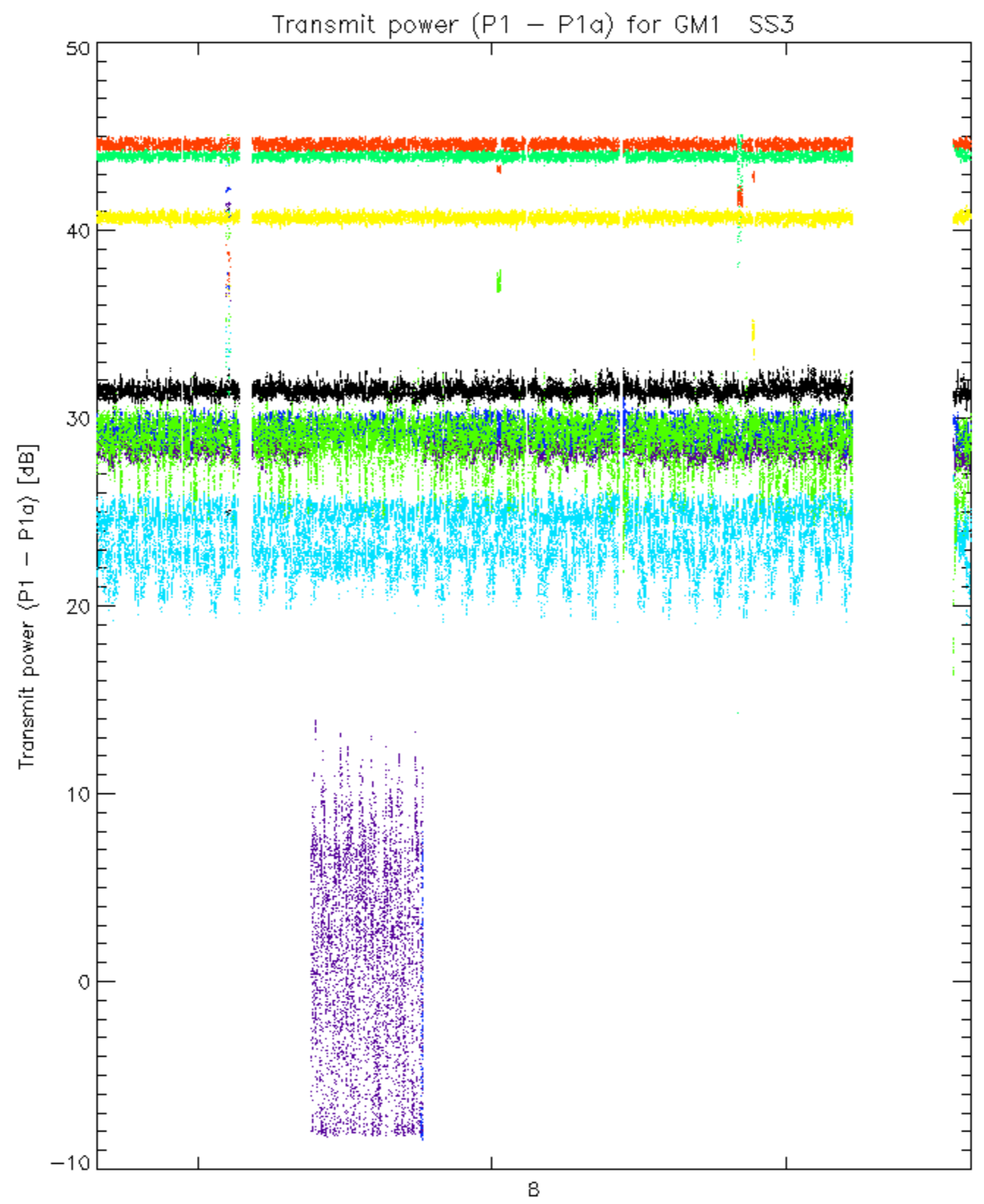






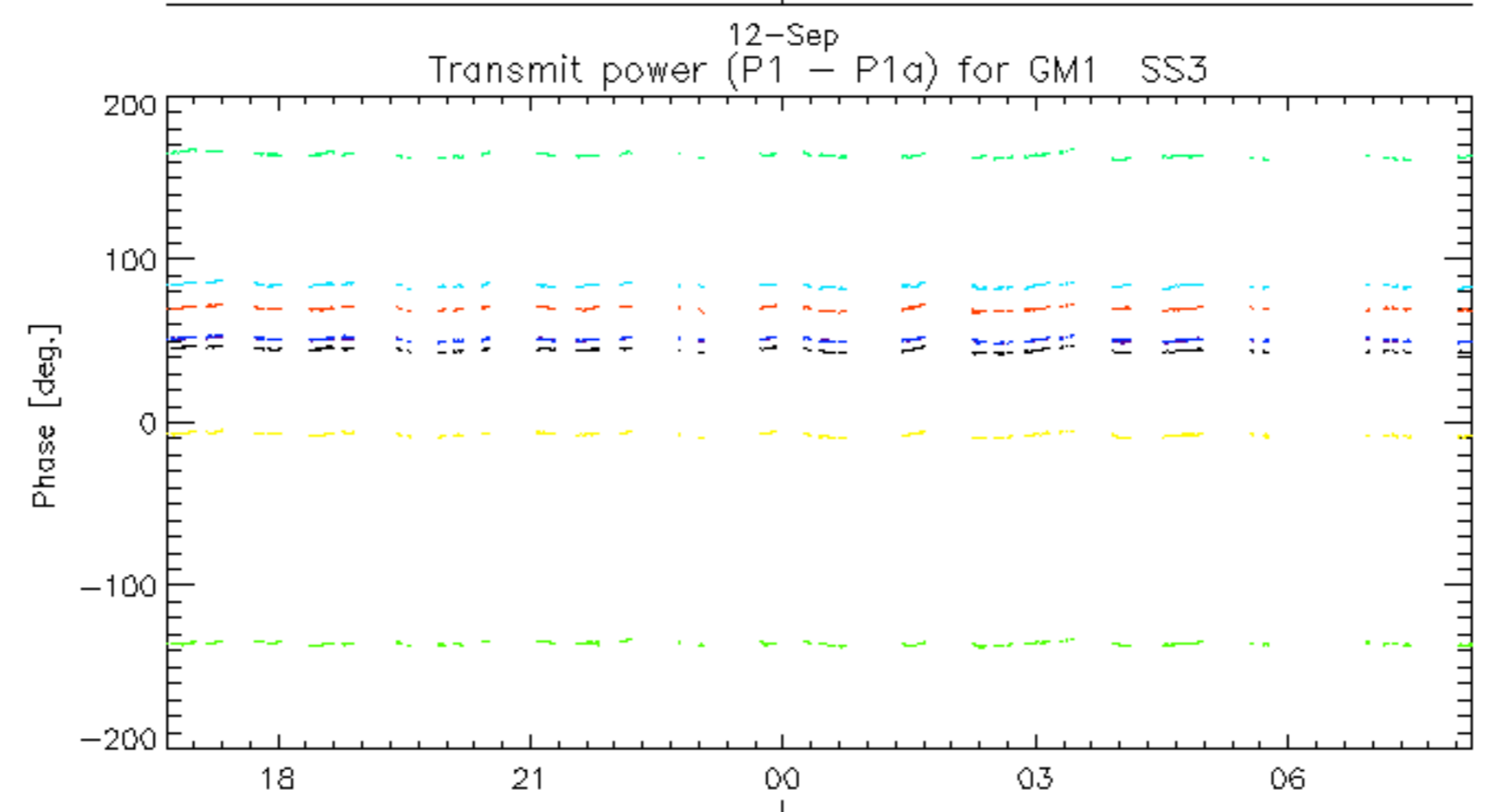
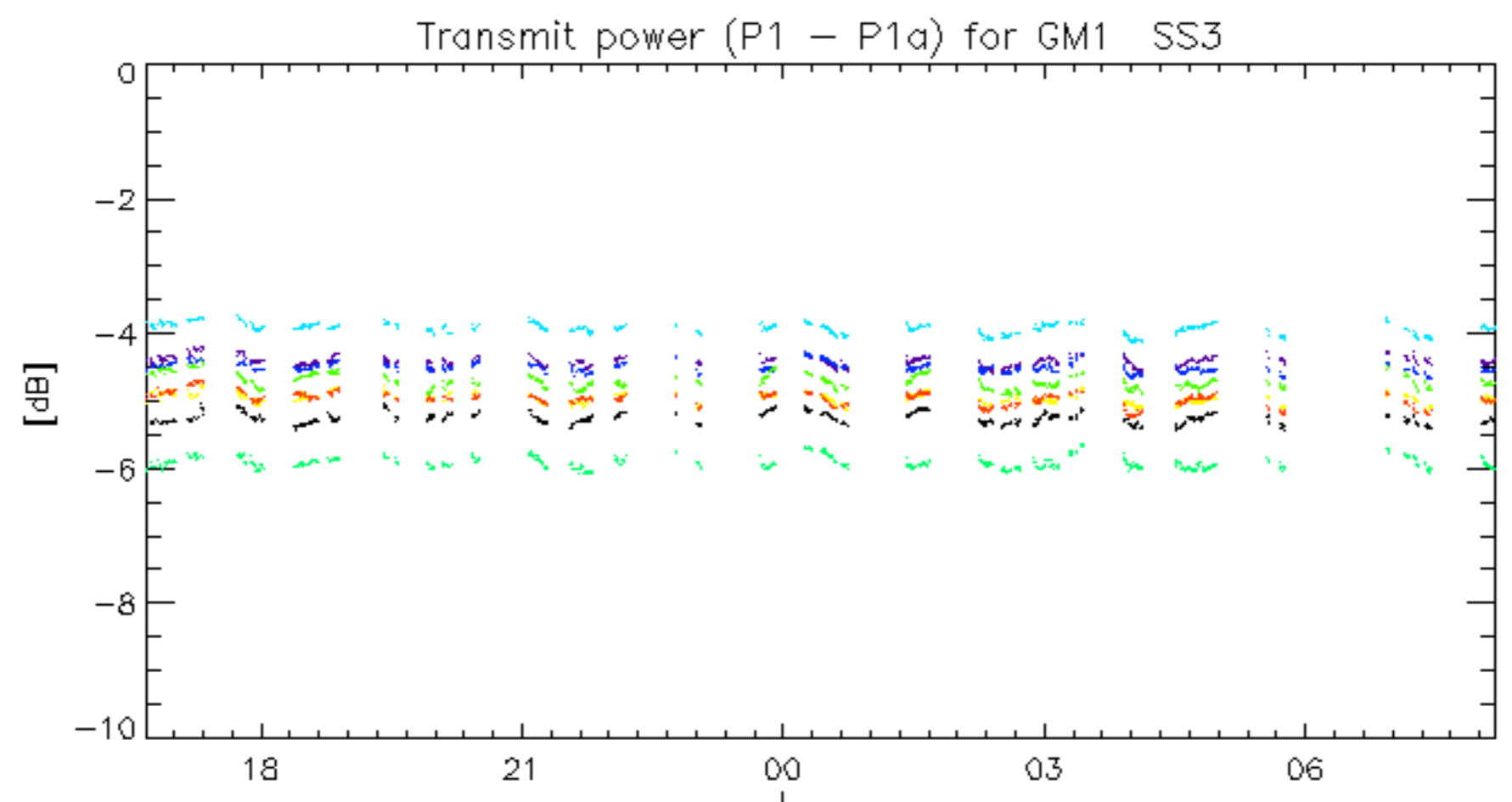




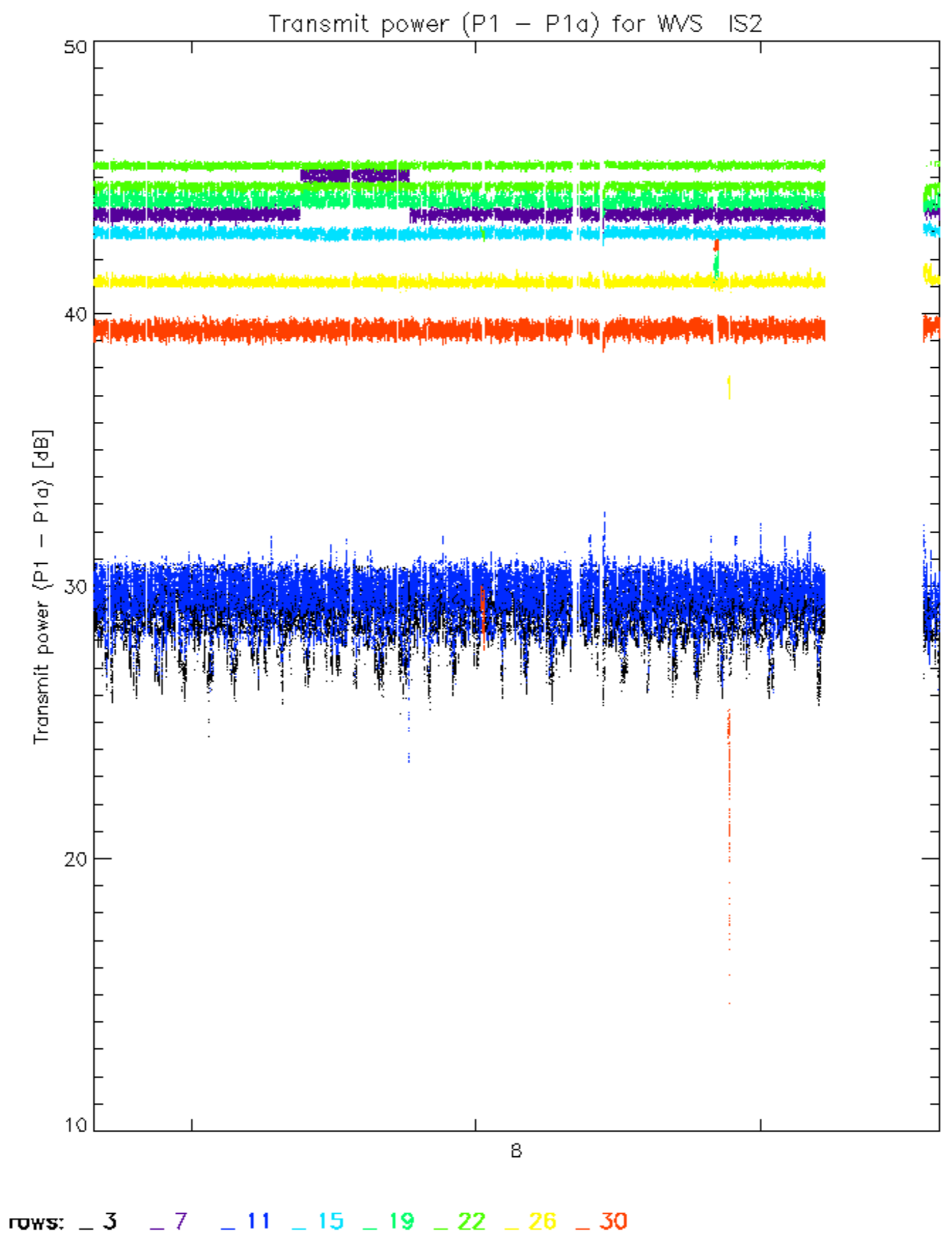


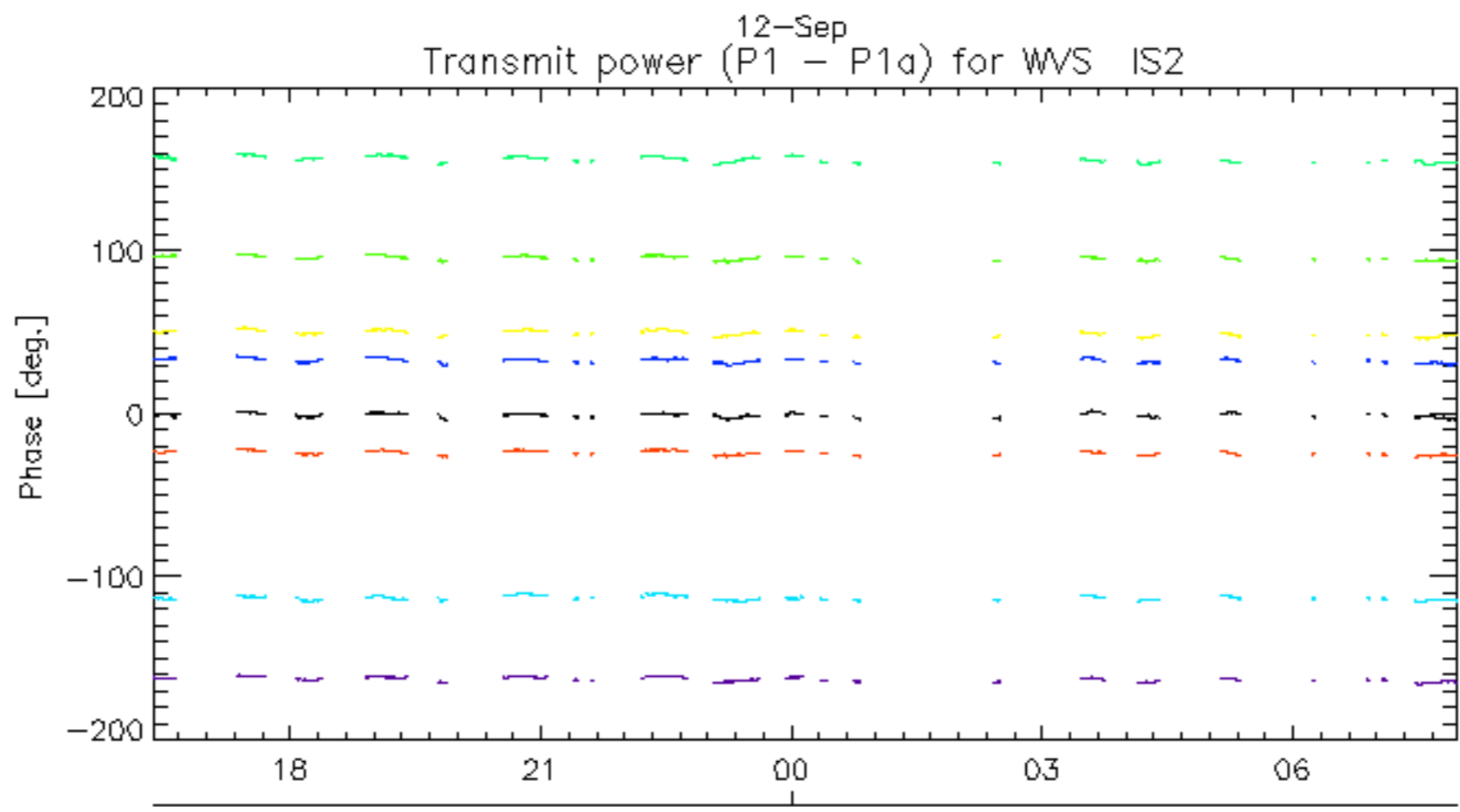
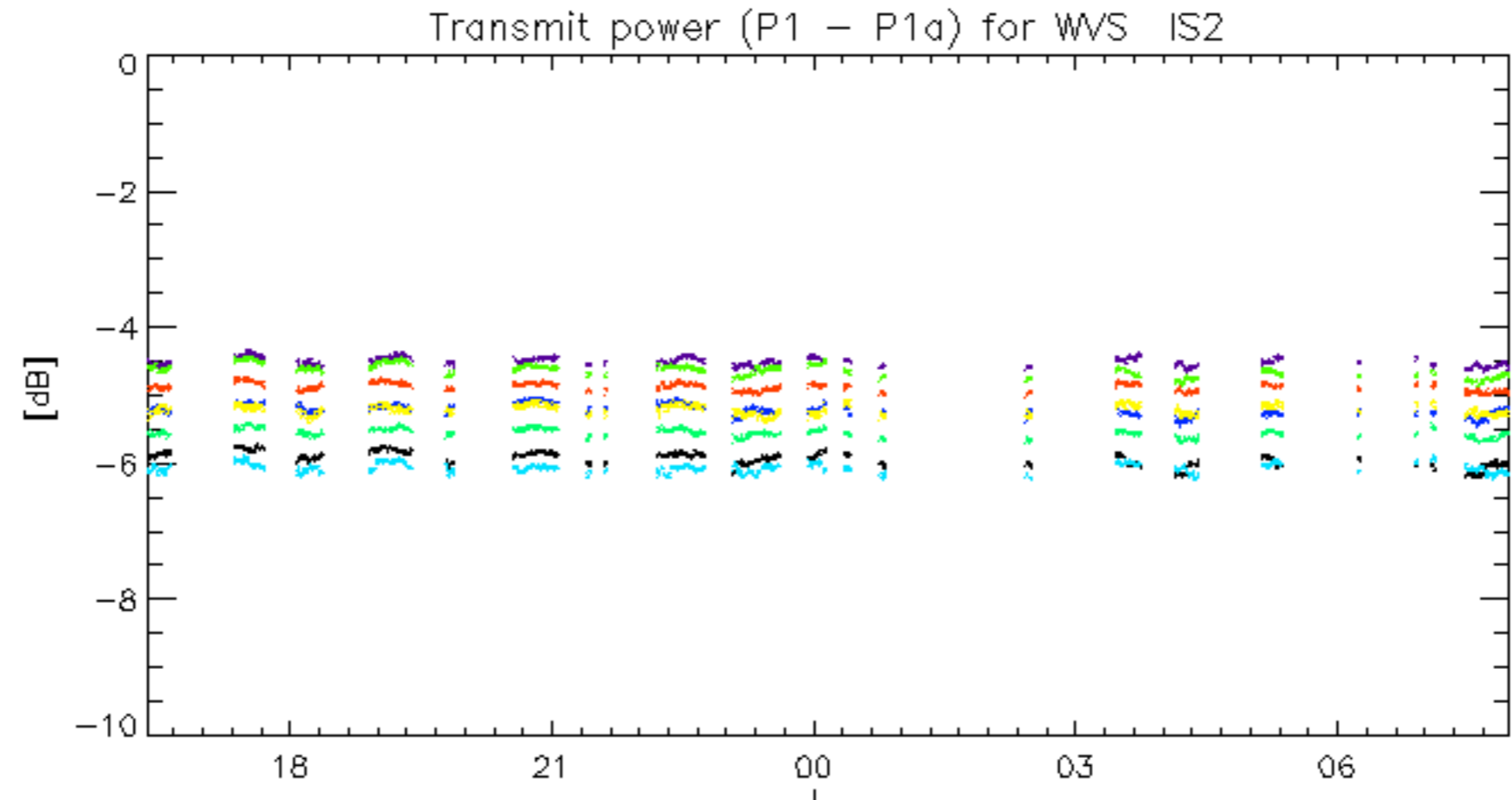
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30





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





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

No unavailabilities during the reported period.