

# PRELIMINARY REPORT OF 050930

last update on Fri Sep 30 10:50:01 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 2005-09-29 00:00:00 to 2005-09-30 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	29	48	10	2	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	29	48	10	2	0
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	29	48	10	2	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	29	48	10	2	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	38	54	28	6	65
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	38	54	28	6	65
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	38	54	28	6	65
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	38	54	28	6	65

## 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	20050929 074720
H	20050928 081857

### 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	-3.477151	0.083374	-0.419279
7	P1	-3.060972	0.039680	0.417051
11	P1	-4.454835	0.162439	0.973956
15	P1	-5.831513	0.059181	-0.533348
19	P1	-3.403263	0.234606	1.037460
22	P1	-4.543540	0.024688	0.272917
26	P1	-4.618118	0.110758	0.726898
30	P1	-6.435037	0.706764	2.320961
3	P1	-15.891912	1.890580	-0.206413
7	P1	-16.547222	5.312304	-1.337746
11	P1	-19.823195	13.514832	7.648977
15	P1	-13.180819	11.064960	-3.527989
19	P1	-13.990603	0.347458	1.433326
22	P1	-17.141161	25.184328	-1.753844
26	P1	-18.106260	22.389997	0.347969
30	P1	-18.021305	9.150645	1.638842

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.785387	0.101651	-0.238475
7	P2	-22.320288	0.332836	-1.302894
11	P2	-15.174926	3.248025	-4.981569
15	P2	-7.155487	0.122901	-0.251703
19	P2	-9.287752	0.229676	0.663489
22	P2	-17.200325	0.280681	-1.243857
26	P2	-16.311102	0.144684	0.615787
30	P2	-19.250160	0.282289	-1.198642

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.166996	0.004470	-0.025413
7	P3	-8.166996	0.004470	-0.025413
11	P3	-8.166996	0.004470	-0.025413
15	P3	-8.166996	0.004470	-0.025413
19	P3	-8.166996	0.004470	-0.025413
22	P3	-8.166996	0.004470	-0.025413
26	P3	-8.166996	0.004470	-0.025413
30	P3	-8.166996	0.004470	-0.025413

#### 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	-3.077627	0.278844	-1.124792
7	P1	-2.980552	0.072547	0.089846
11	P1	-3.546079	0.357847	1.634990
15	P1	-3.541929	0.035147	0.341416
19	P1	-3.428428	0.084384	0.455044
22	P1	-5.346083	0.237893	0.869684
26	P1	-6.423086	1.020210	2.362193
30	P1	-5.630264	0.570925	1.619613
3	P1	-11.376352	0.536133	-0.755943
7	P1	-11.664186	21.247530	-0.398908
11	P1	-13.390056	39.783371	2.067103
15	P1	-13.009036	35.675751	-0.134052
19	P1	-15.320854	0.224329	0.110761
22	P1	-23.127577	7.210963	6.839756
26	P1	-16.708895	6.526106	-3.215132
30	P1	-19.855160	2.047527	1.257995

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.536745	0.069412	-0.427655
7	P2	-22.513073	0.378420	-1.547823
11	P2	-10.579131	1.401047	-3.302038
15	P2	-4.987110	0.051661	0.264313
19	P2	-6.763295	0.122878	-0.001842
22	P2	-7.475433	0.300504	-1.462096
26	P2	-23.904331	0.042113	0.143079
30	P2	-22.037287	0.071464	-0.221845

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.009727	0.003443	-0.024196
7	P3	-8.009694	0.003446	-0.024177
11	P3	-8.009574	0.003445	-0.023829
15	P3	-8.009584	0.003454	-0.024358
19	P3	-8.009711	0.003437	-0.024205
22	P3	-8.009604	0.003440	-0.024080
26	P3	-8.009739	0.003443	-0.024519
30	P3	-8.009617	0.003459	-0.024486

## 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	0.000511192
	stdev	1.93213e-07
MEAN Q	mean	0.000517356
	stdev	2.19137e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.133391
	stdev	0.00103837
STDEV Q	mean	0.133687
	stdev	0.00105183



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005092[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_WVS_1PNPDK20050920_115938_000000002041_00009_18600_1504.N1	1	0
ASA_WSM_1PNPDE20050920_162919_000001842041_00012_18603_9656.N1	0	59
ASA_WSM_1PNPDE20050920_181151_000001282041_00013_18604_9832.N1	0	15
ASA_WSM_1PNPDE20050928_062907_000001402041_00120_18711_1053.N1	0	24







## 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

#### Evolution of Absolute Doppler

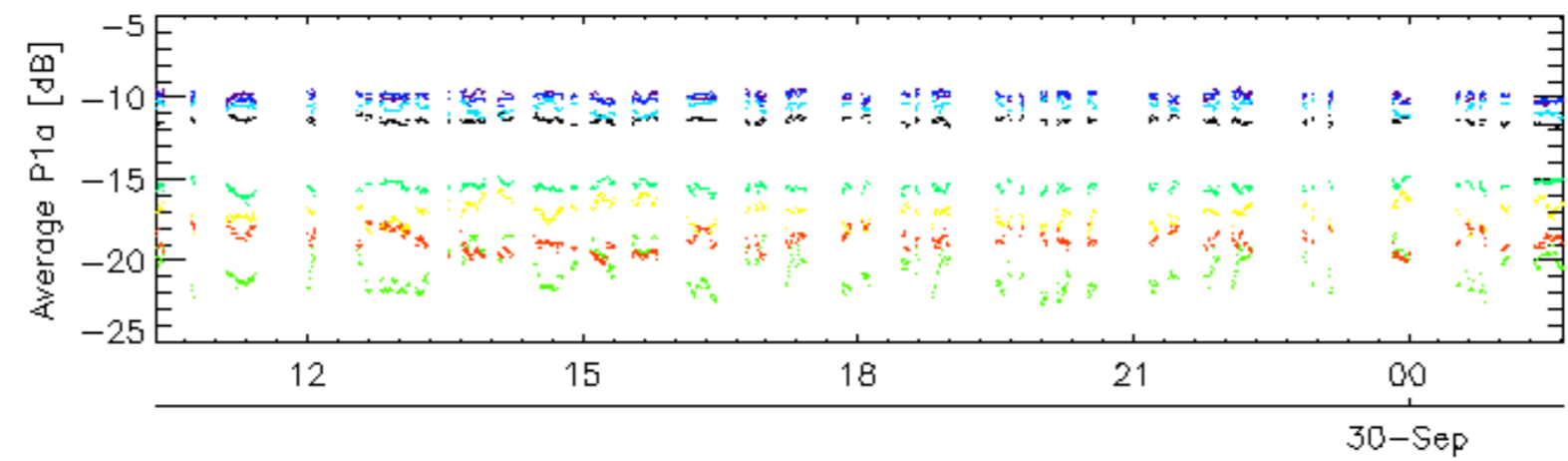
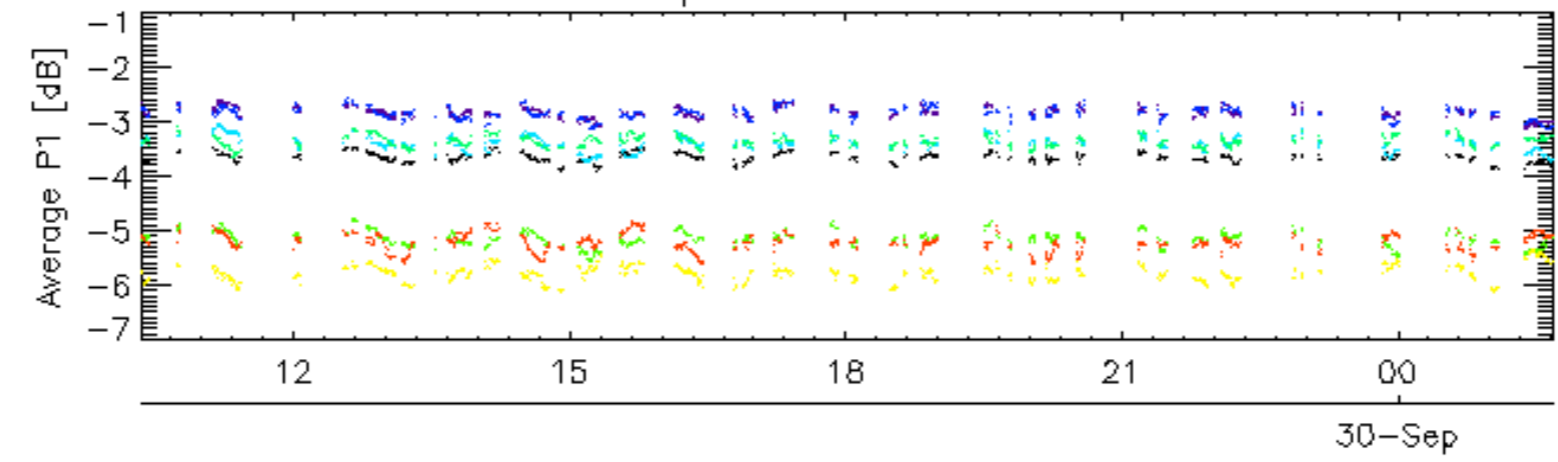
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Ascending
<input type="checkbox"/>
Descending

### 7.6 - Doppler evolution versus ANX for GM1

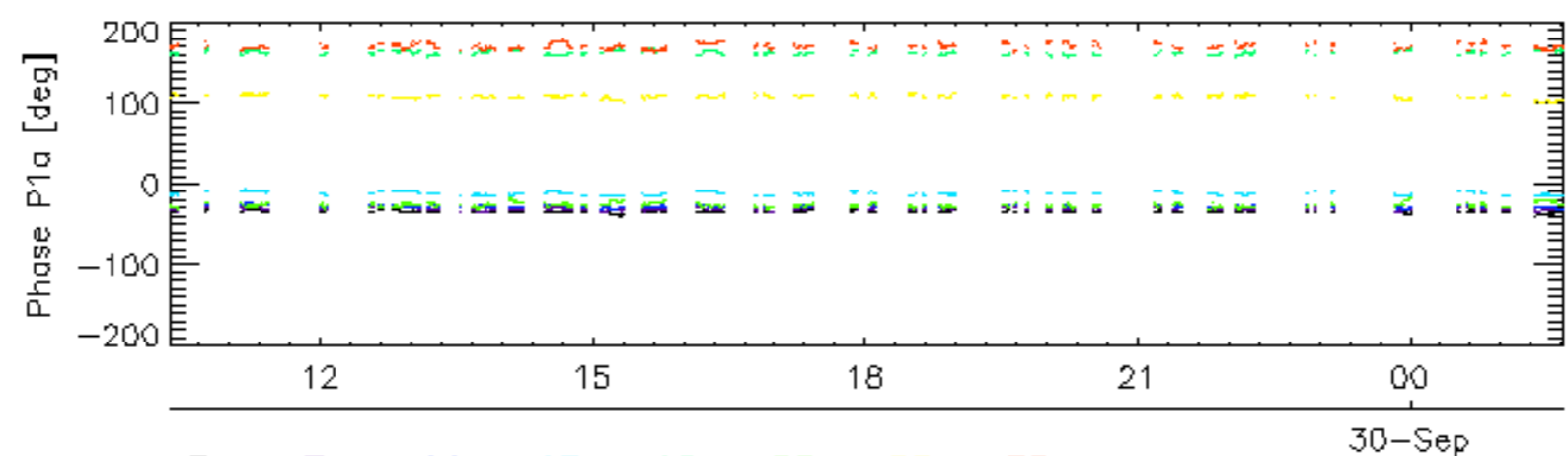
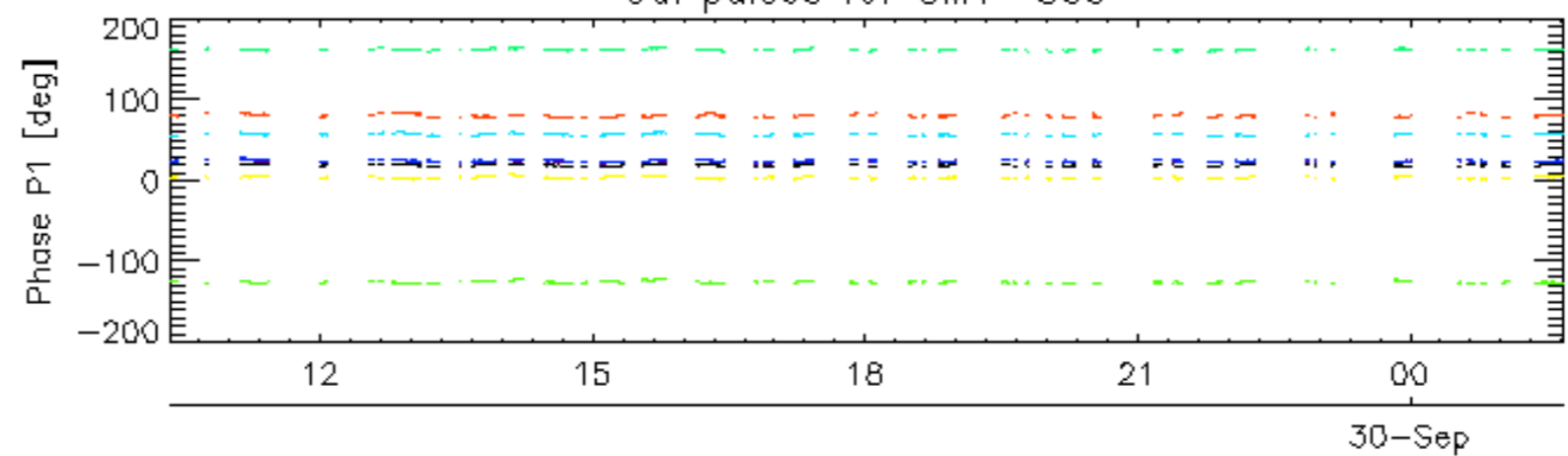
#### Evolution Doppler error versus ANX

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Cal pulses for GM1 SS3

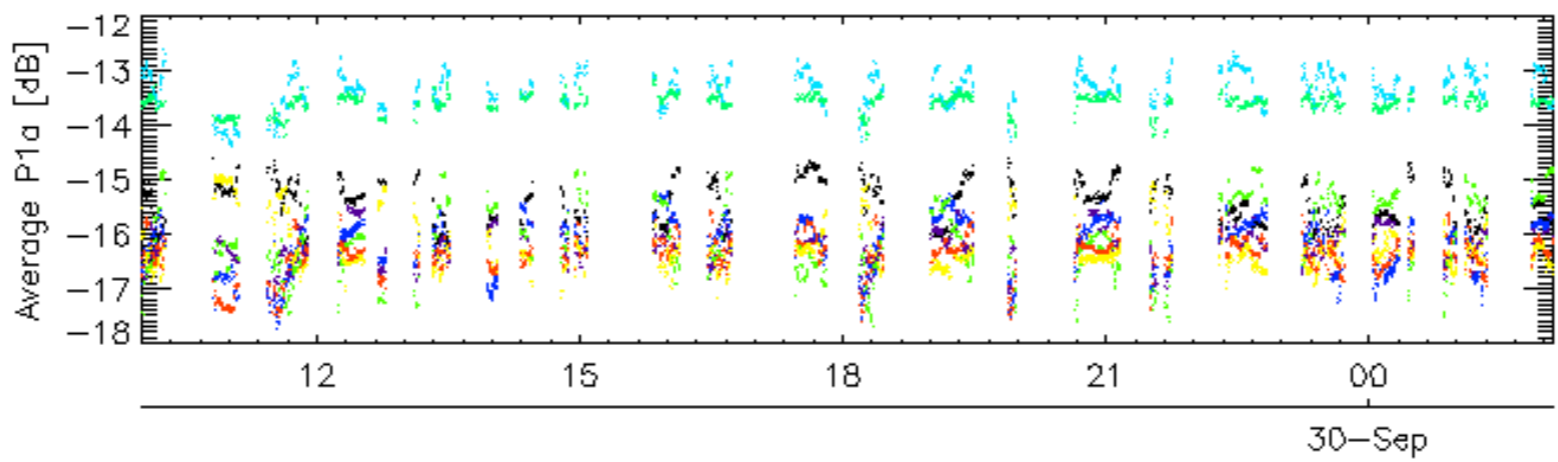
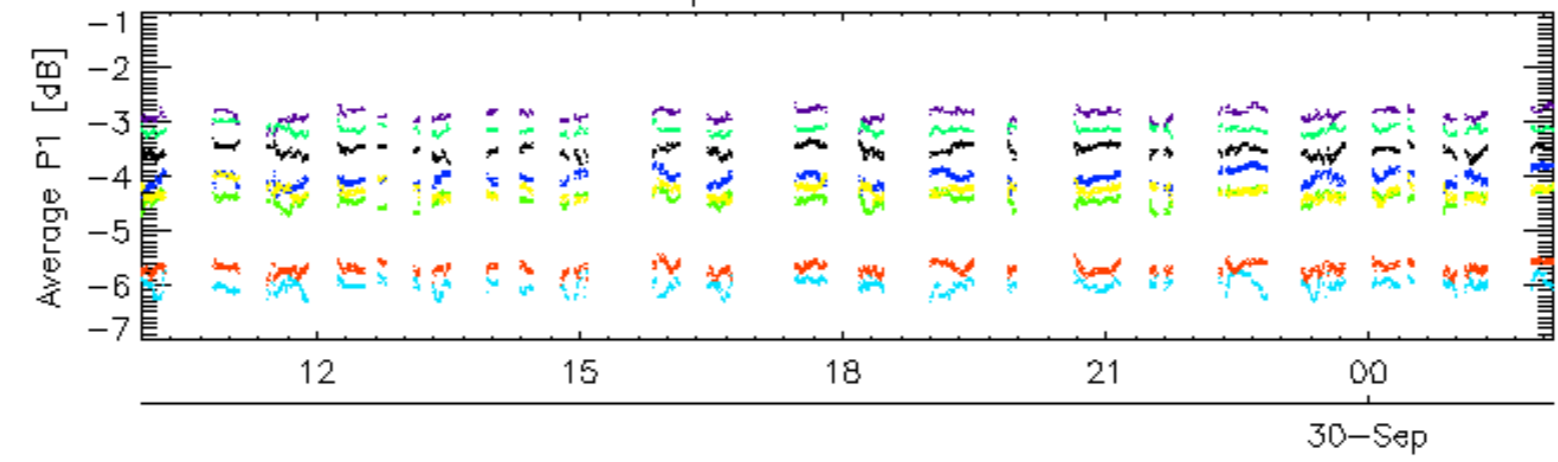


Cal pulses for GM1 SS3

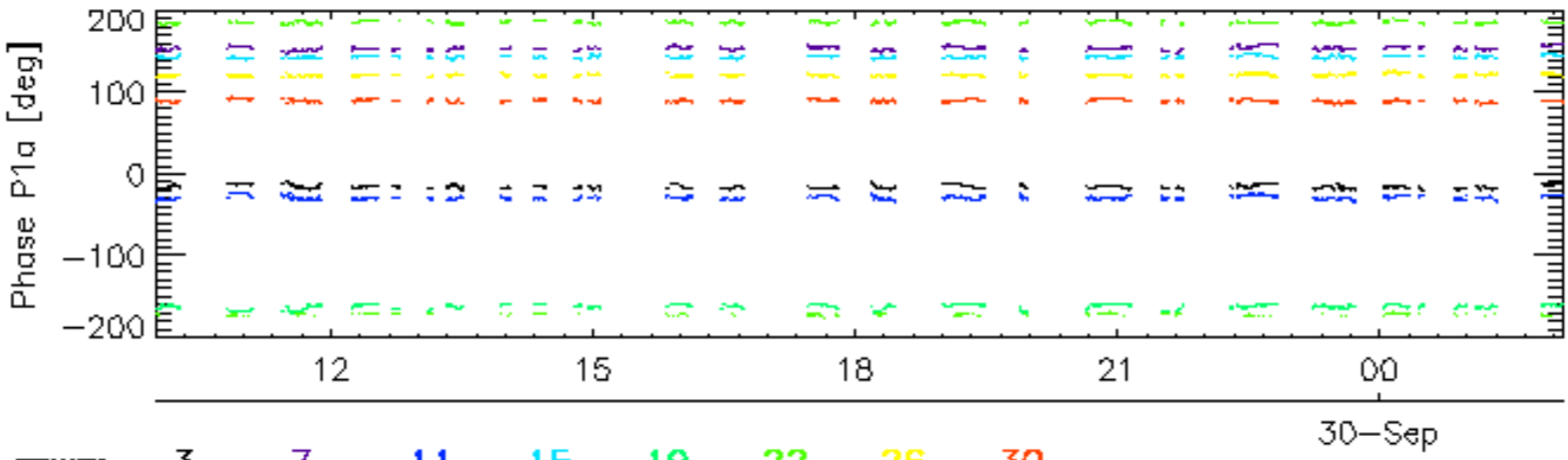
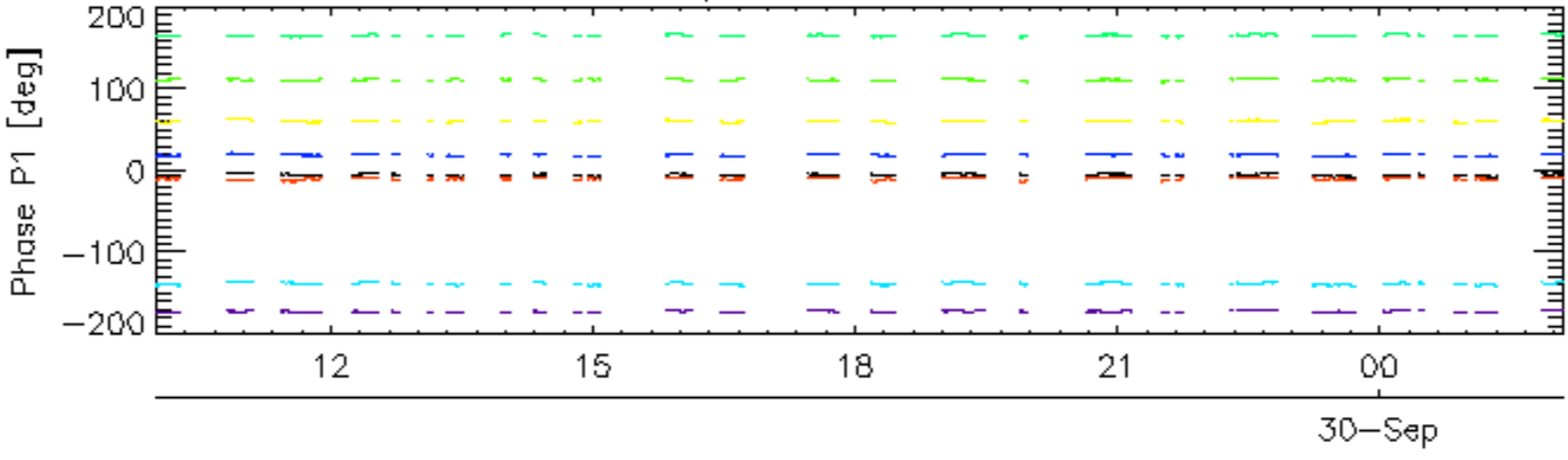


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

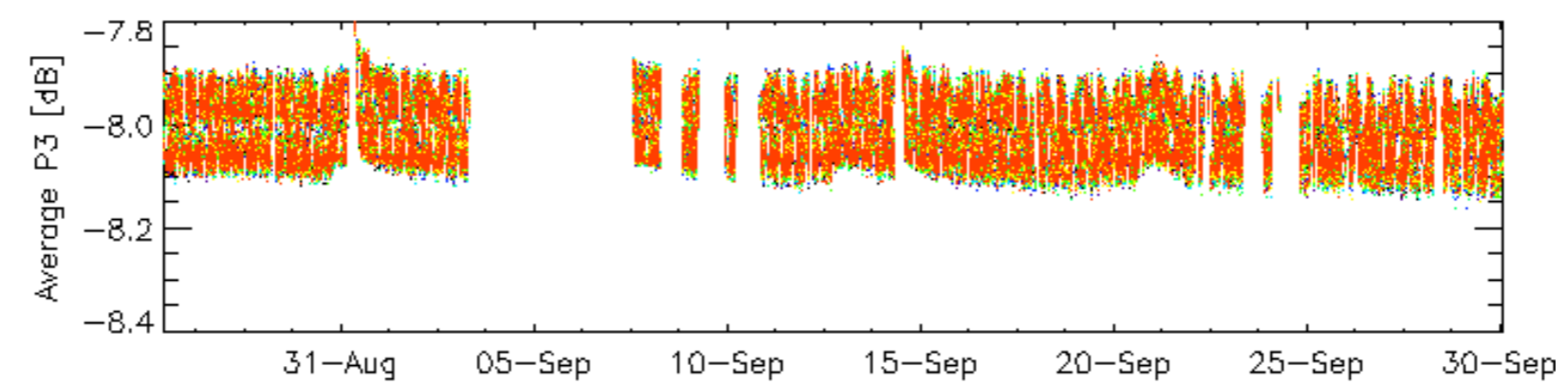
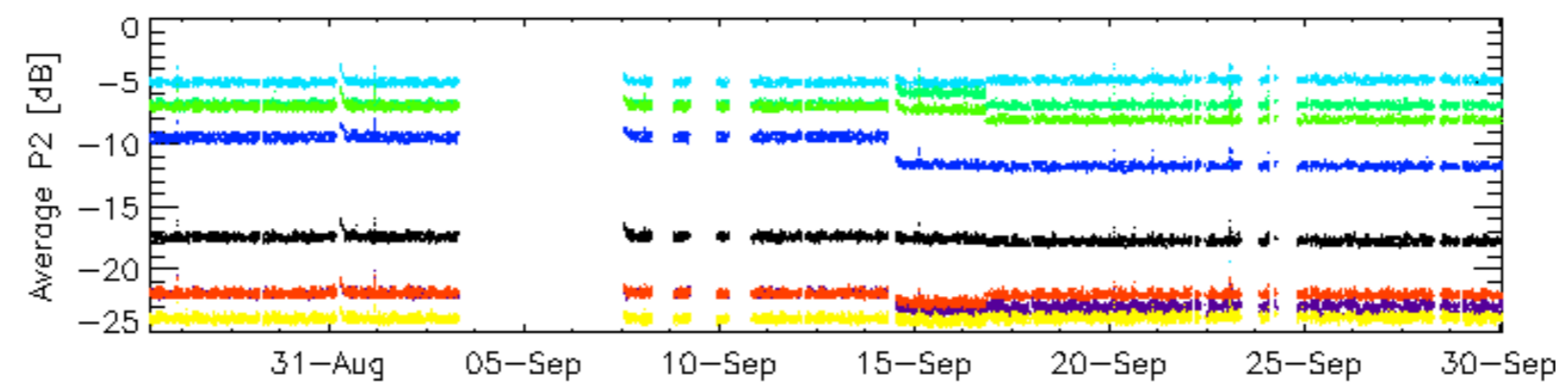
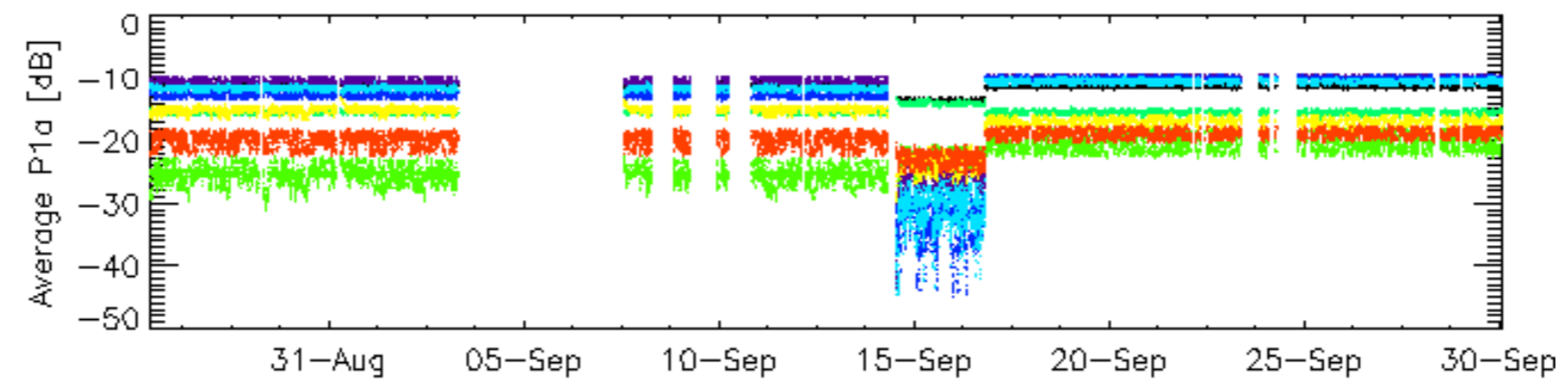
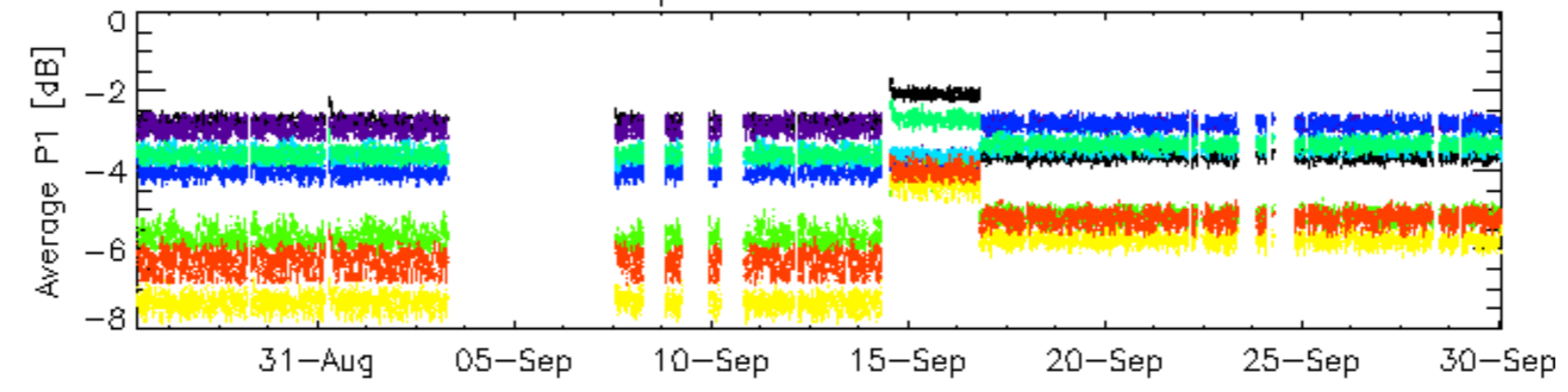


Cal pulses for WVS IS2



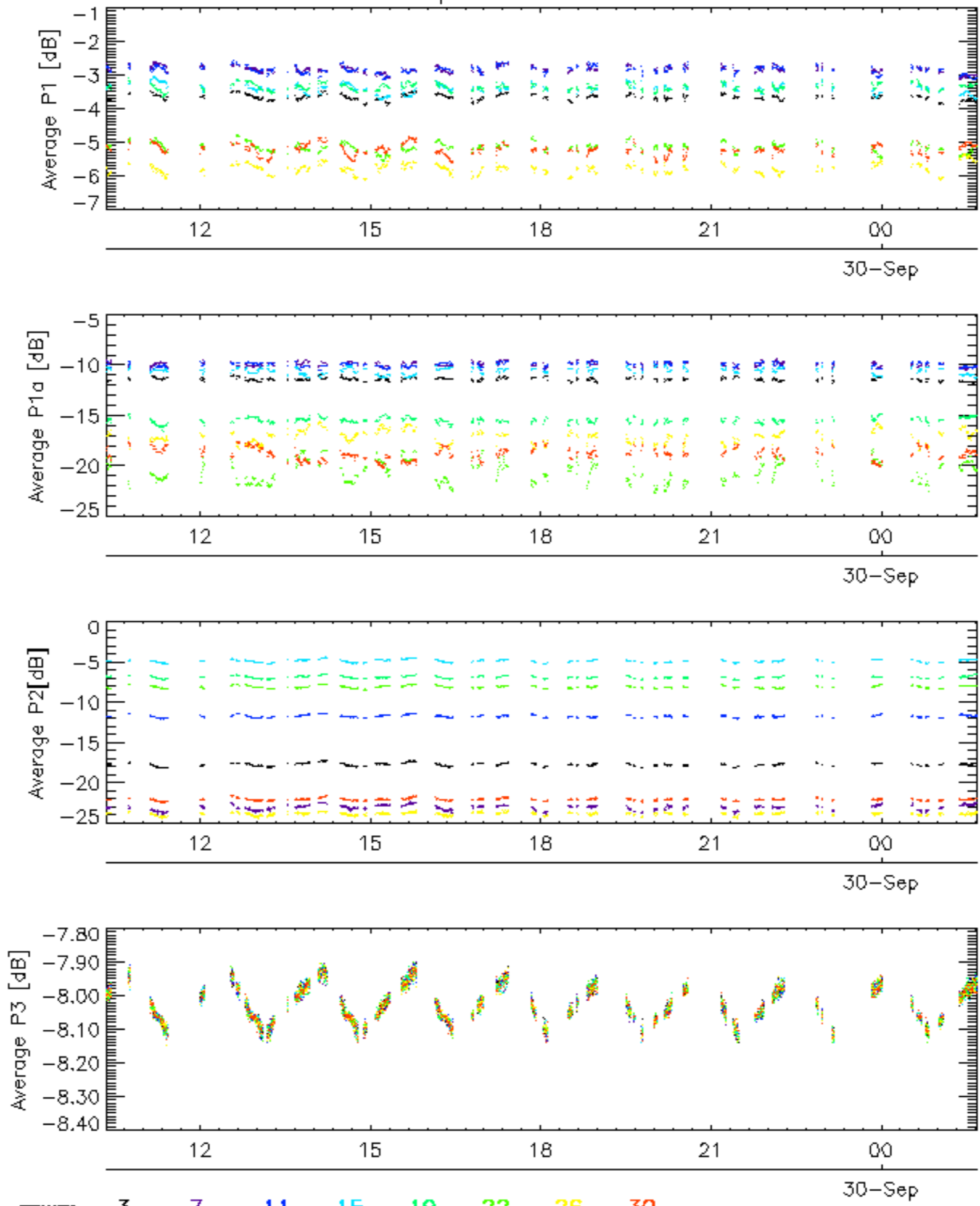
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3



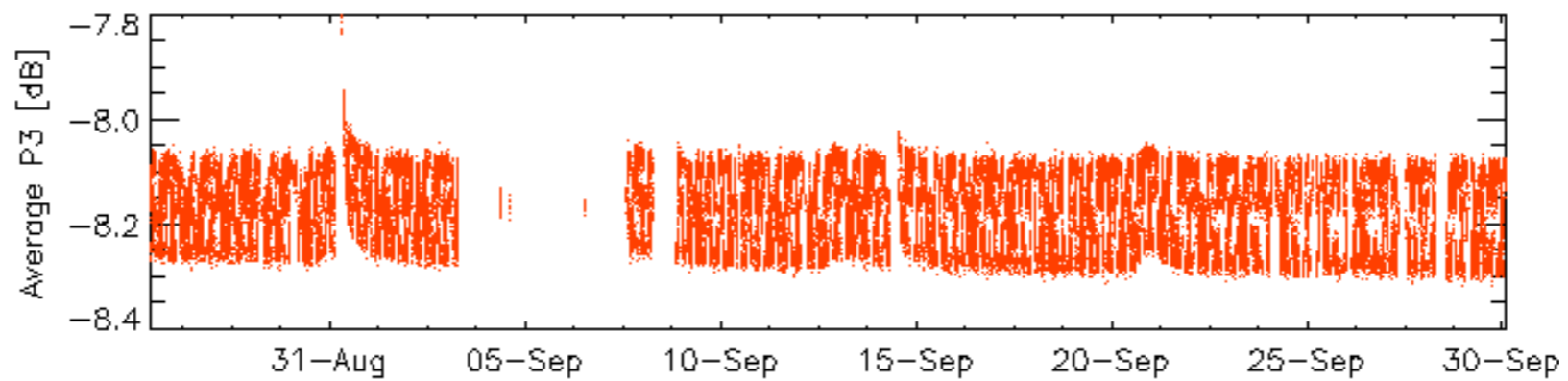
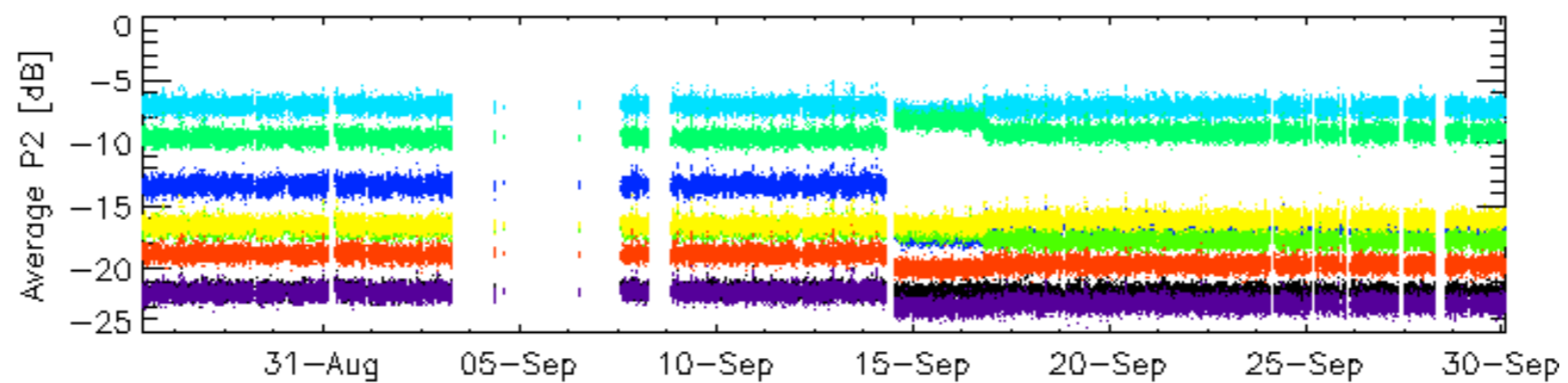
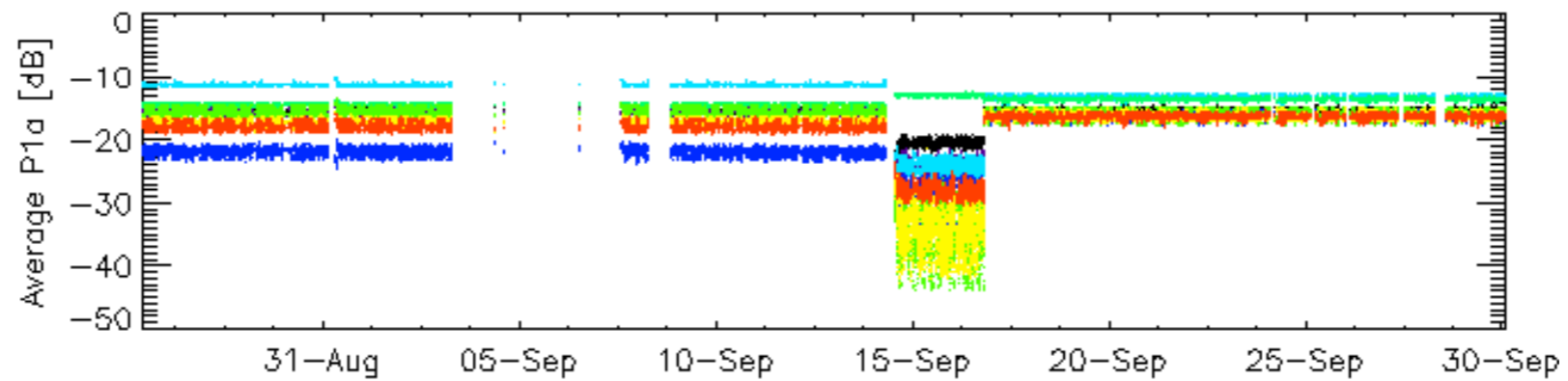
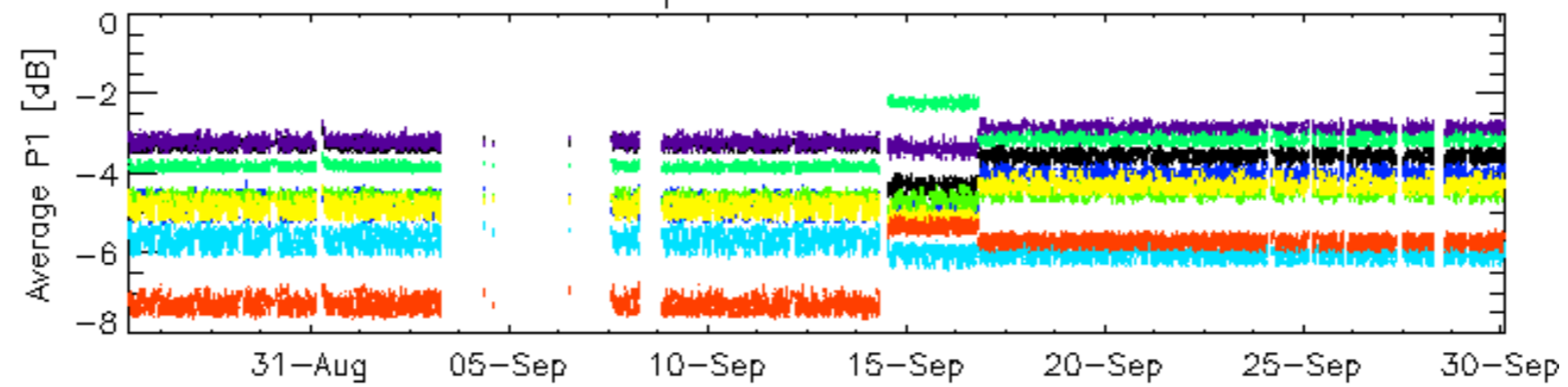
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3



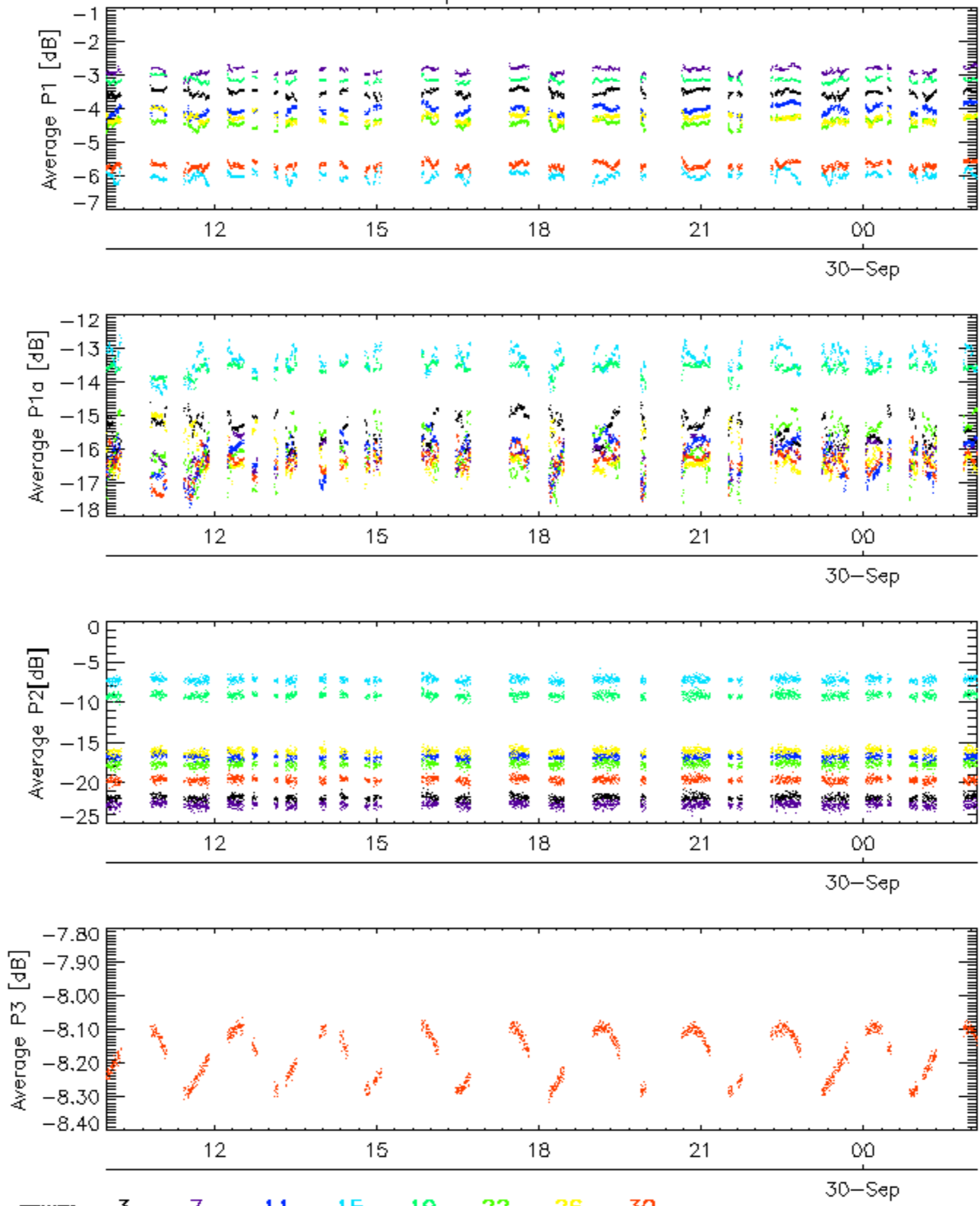
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2



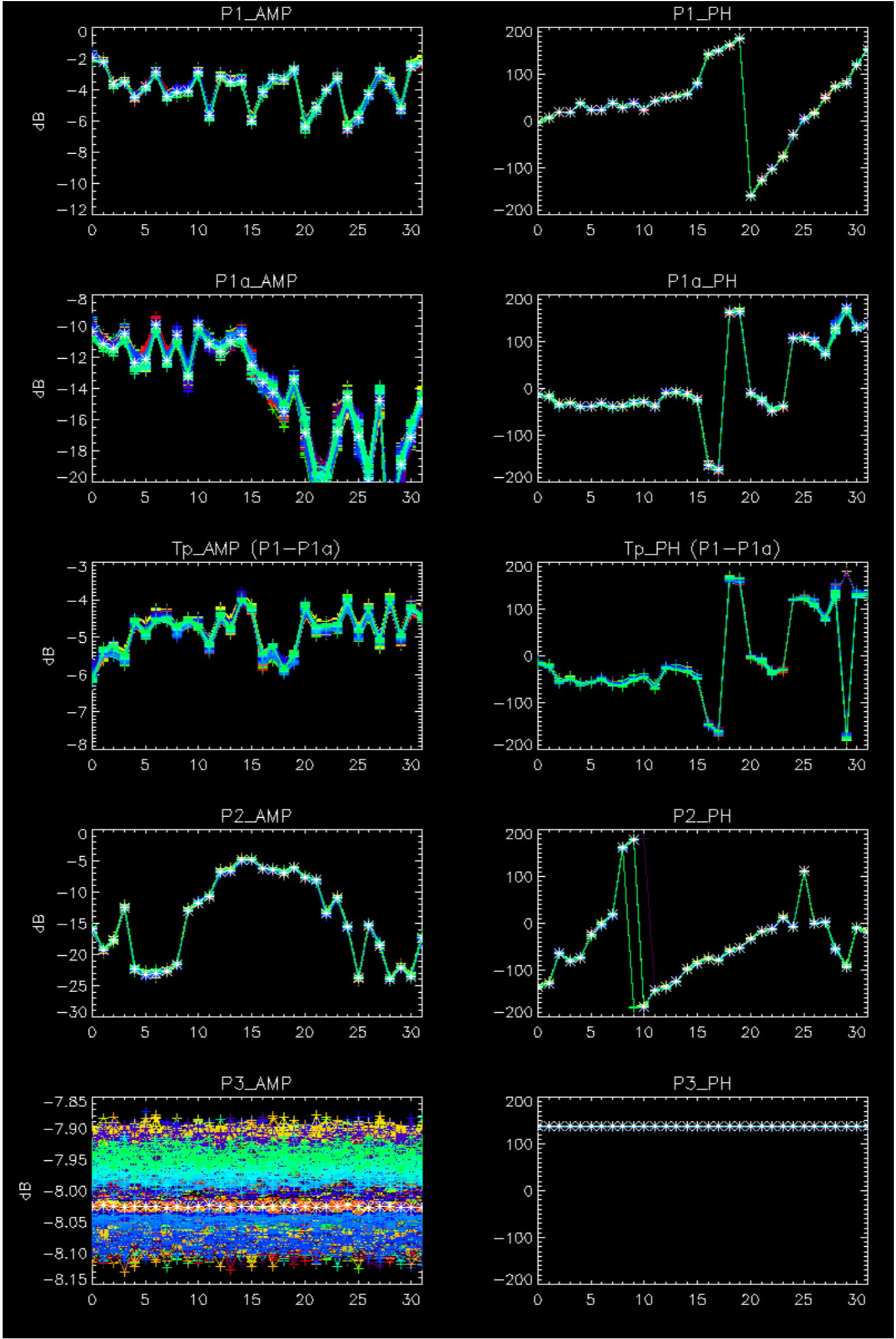
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

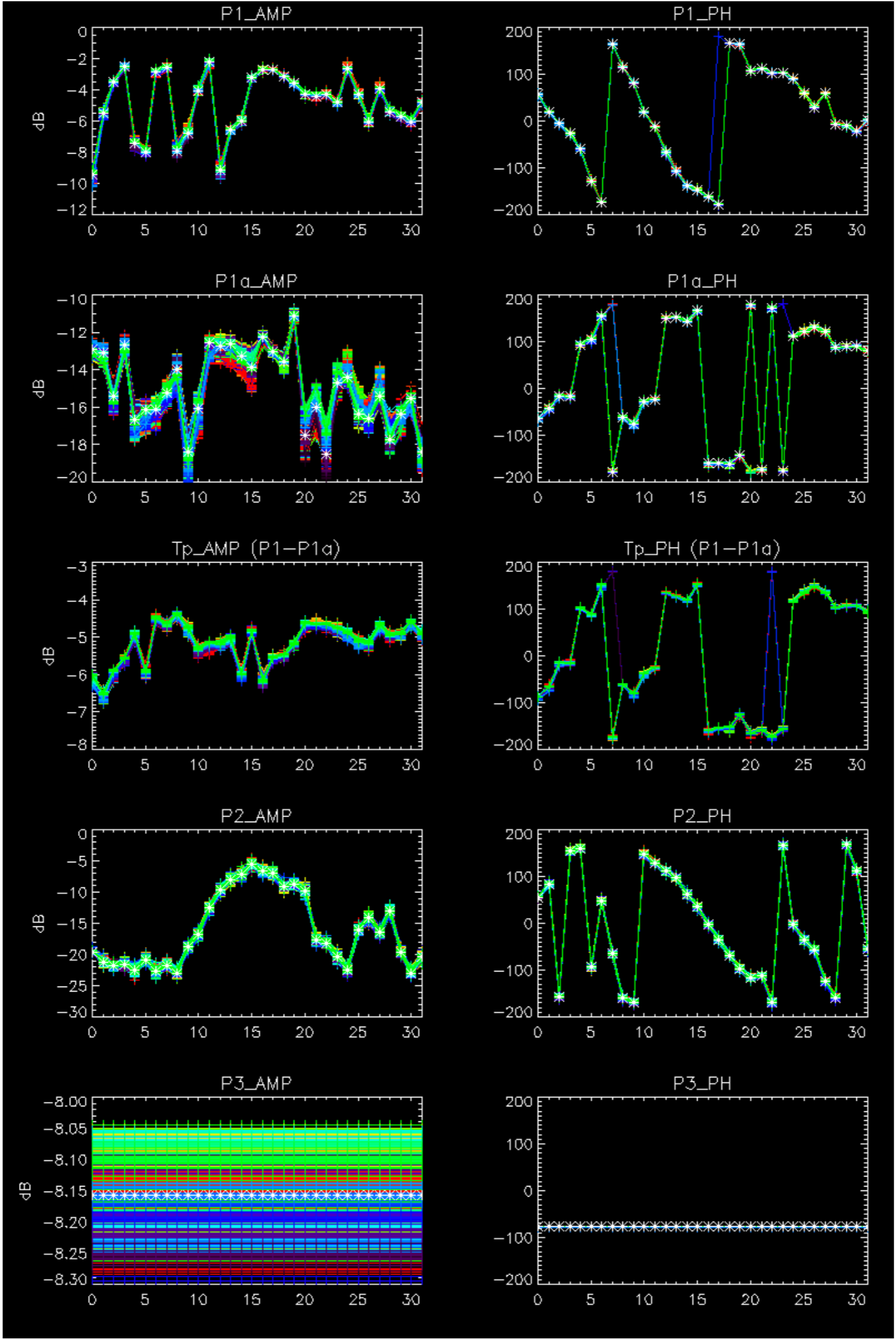
Cal pulses for WVS IS2



No anomalies observed.



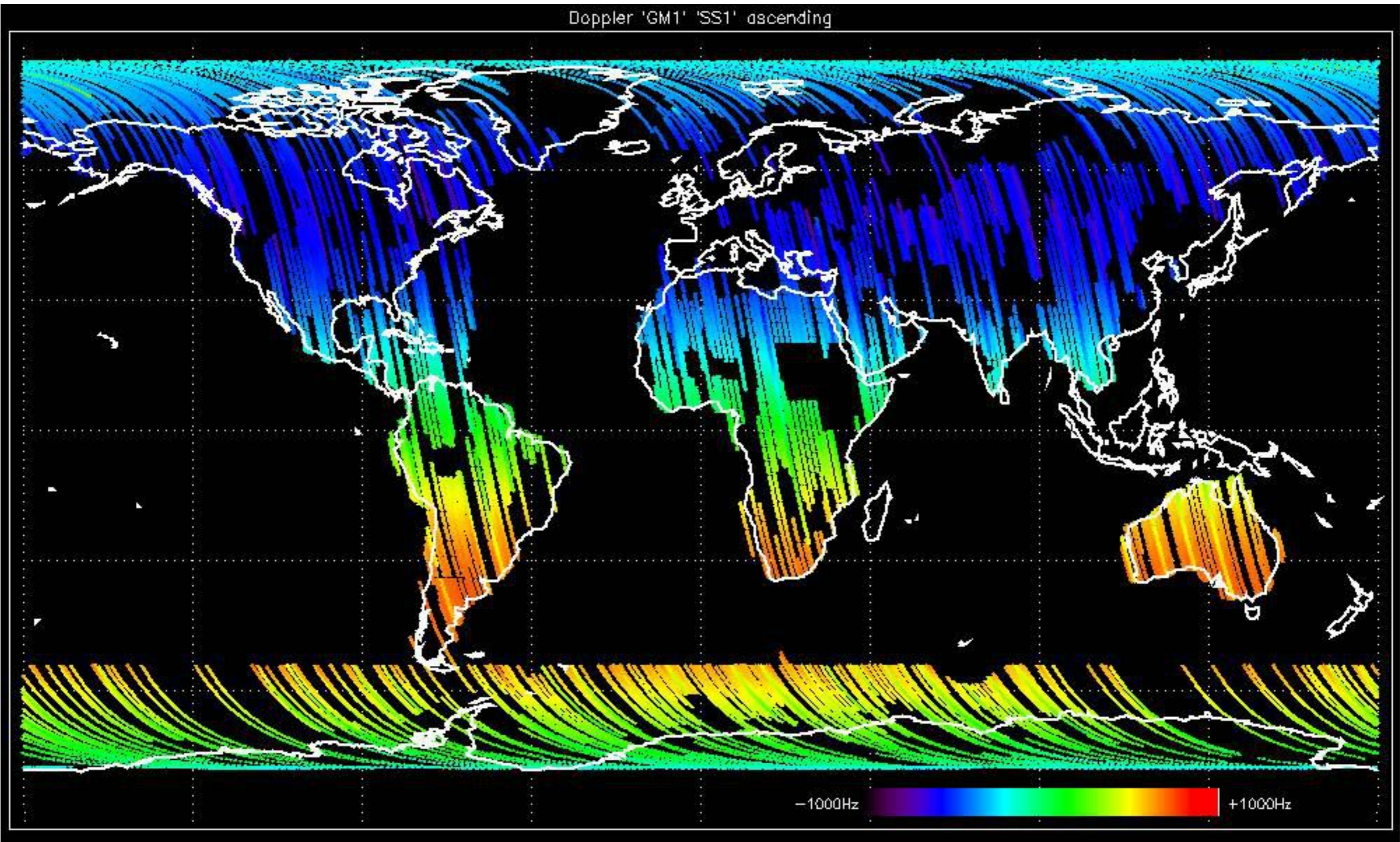




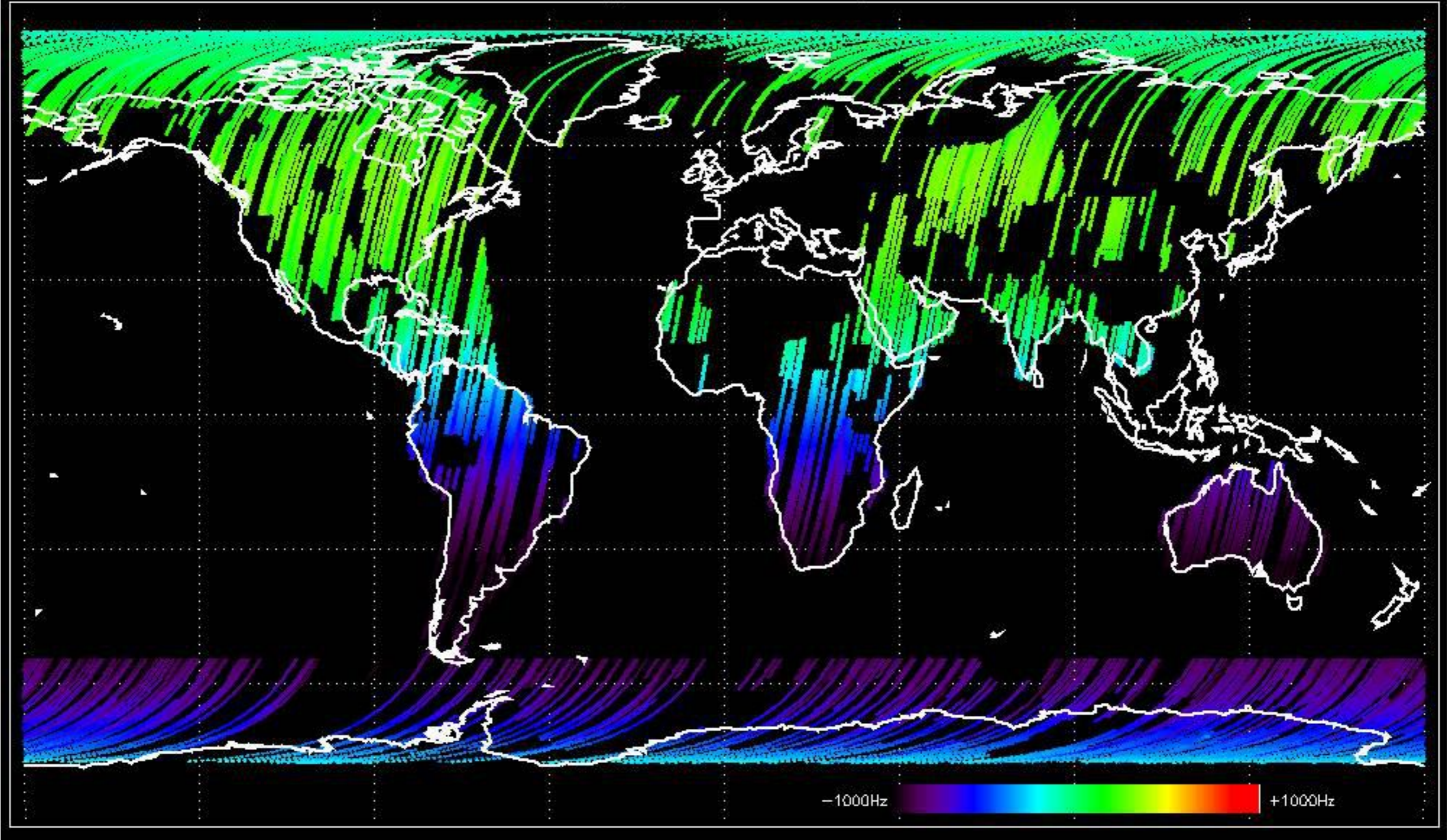
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



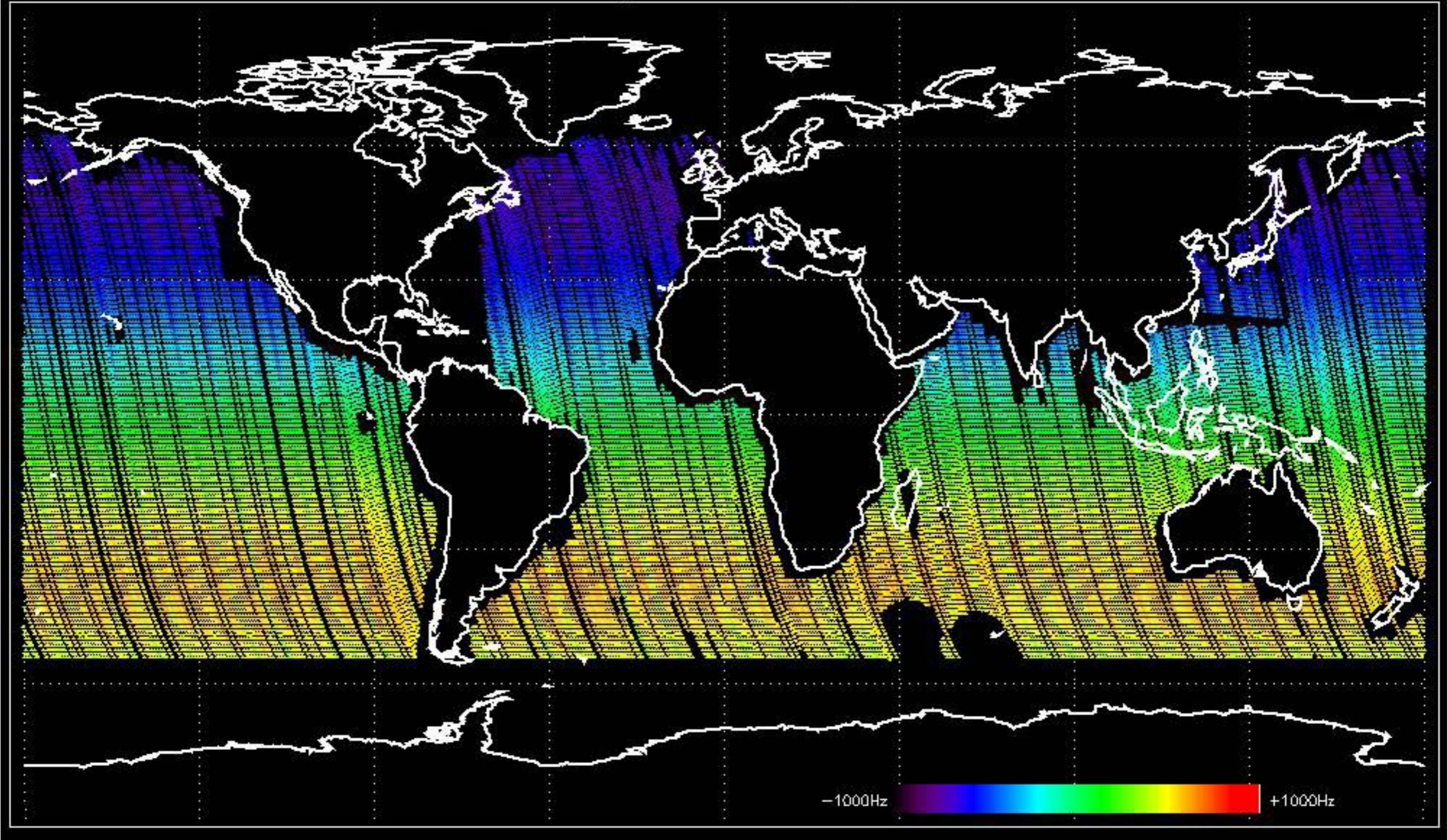
Doppler 'GM1' 'SS1' ascending



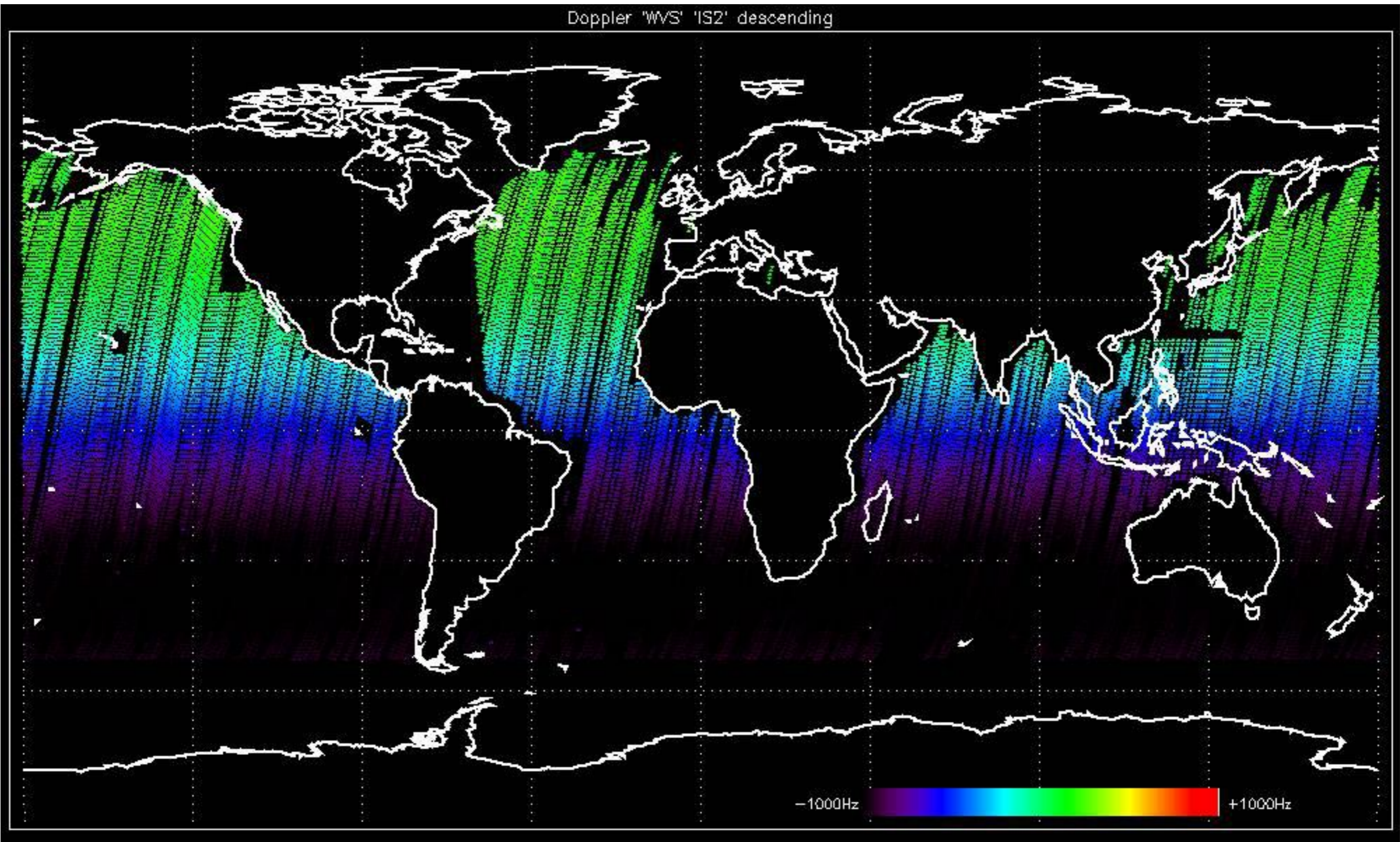
Doppler 'GM1' 'SS1' descending



Doppler 'WVS' 'IS2' ascending

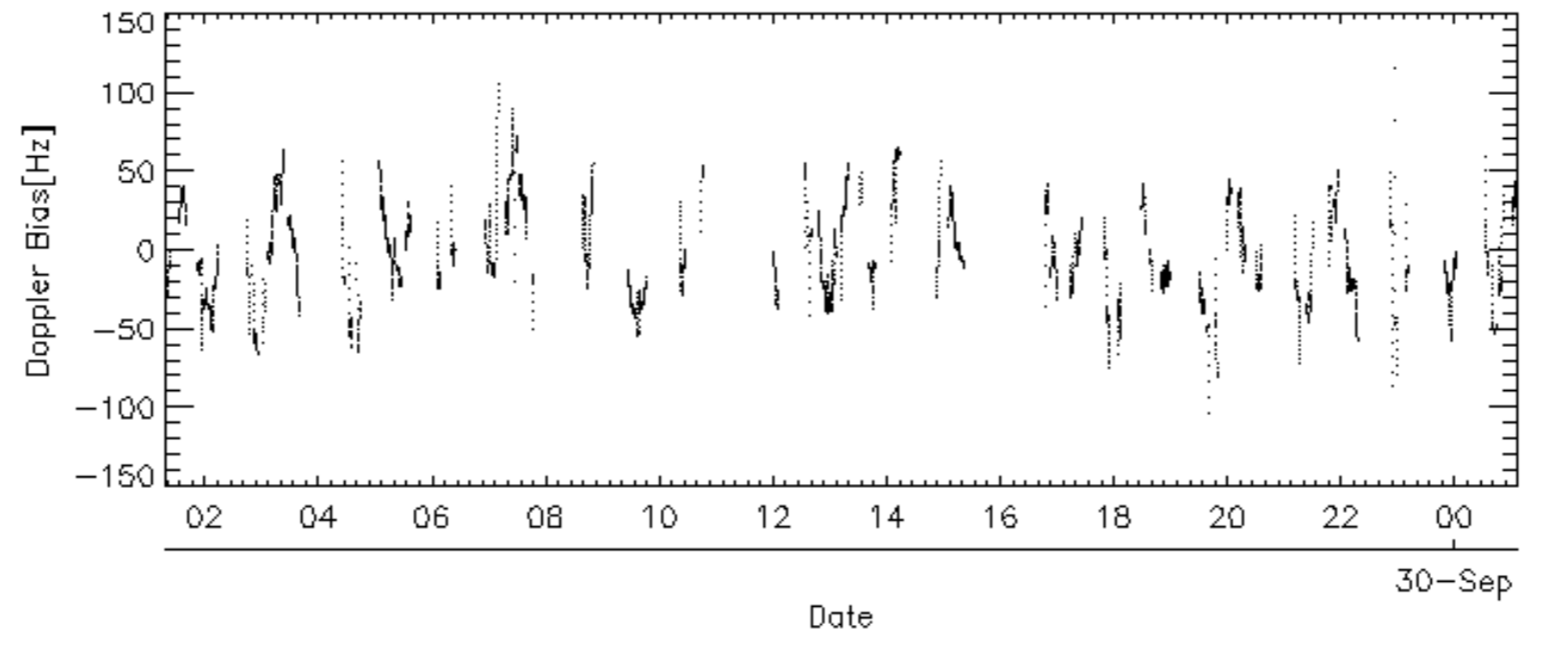
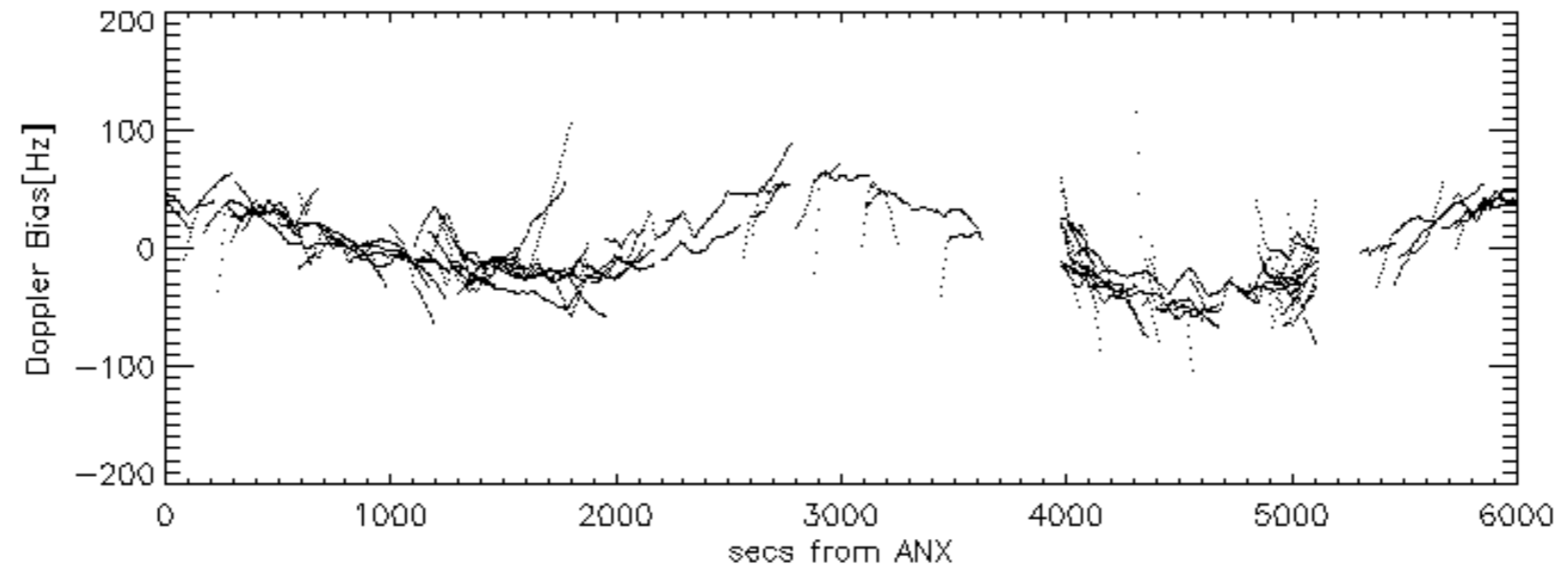
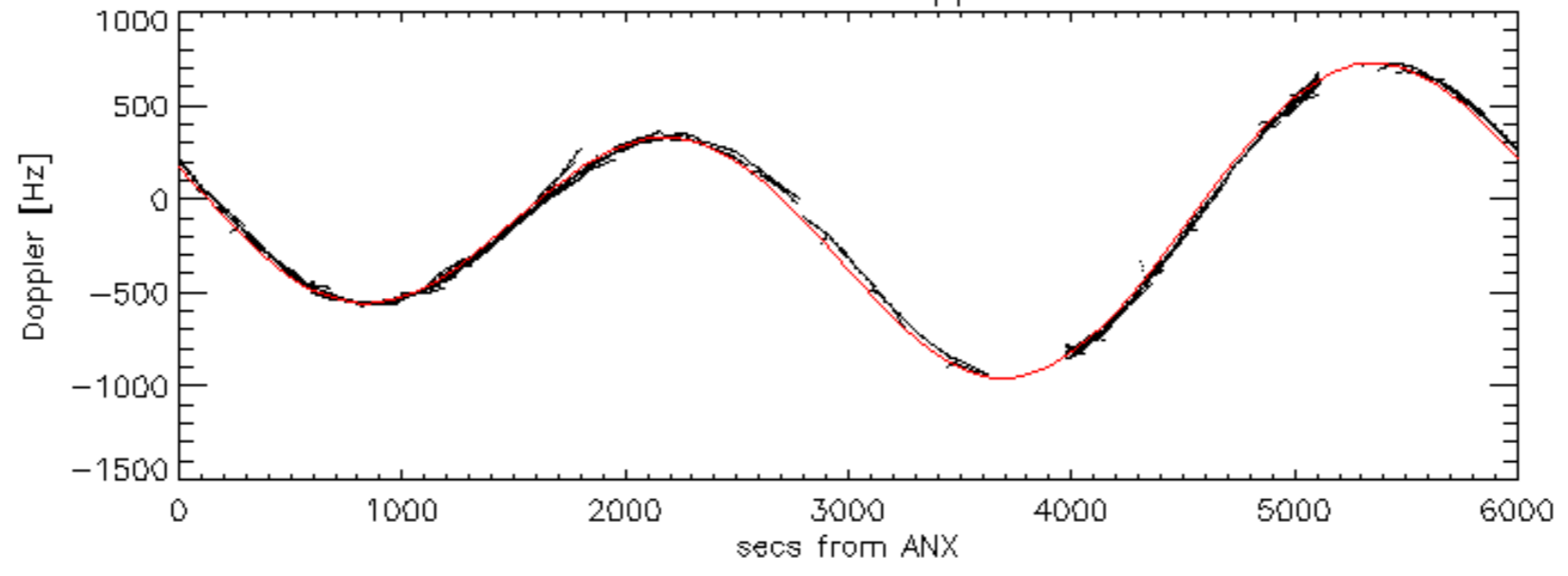


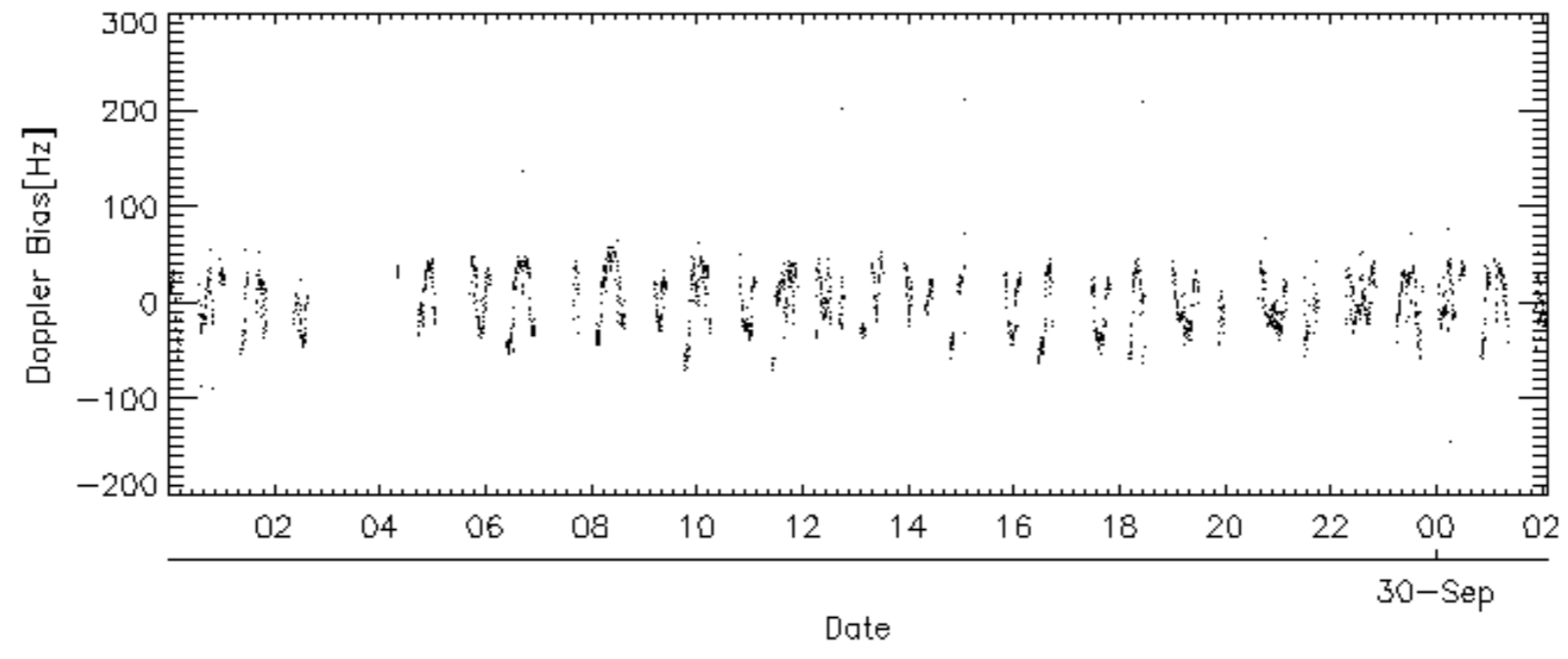
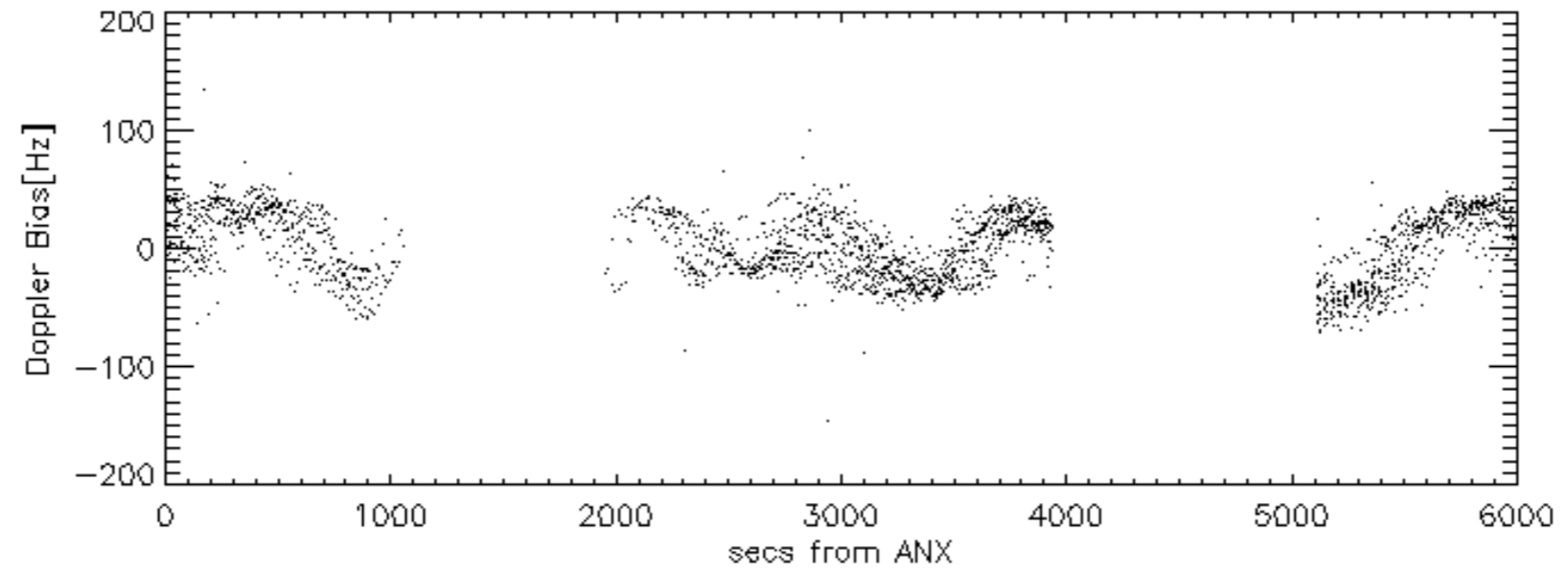
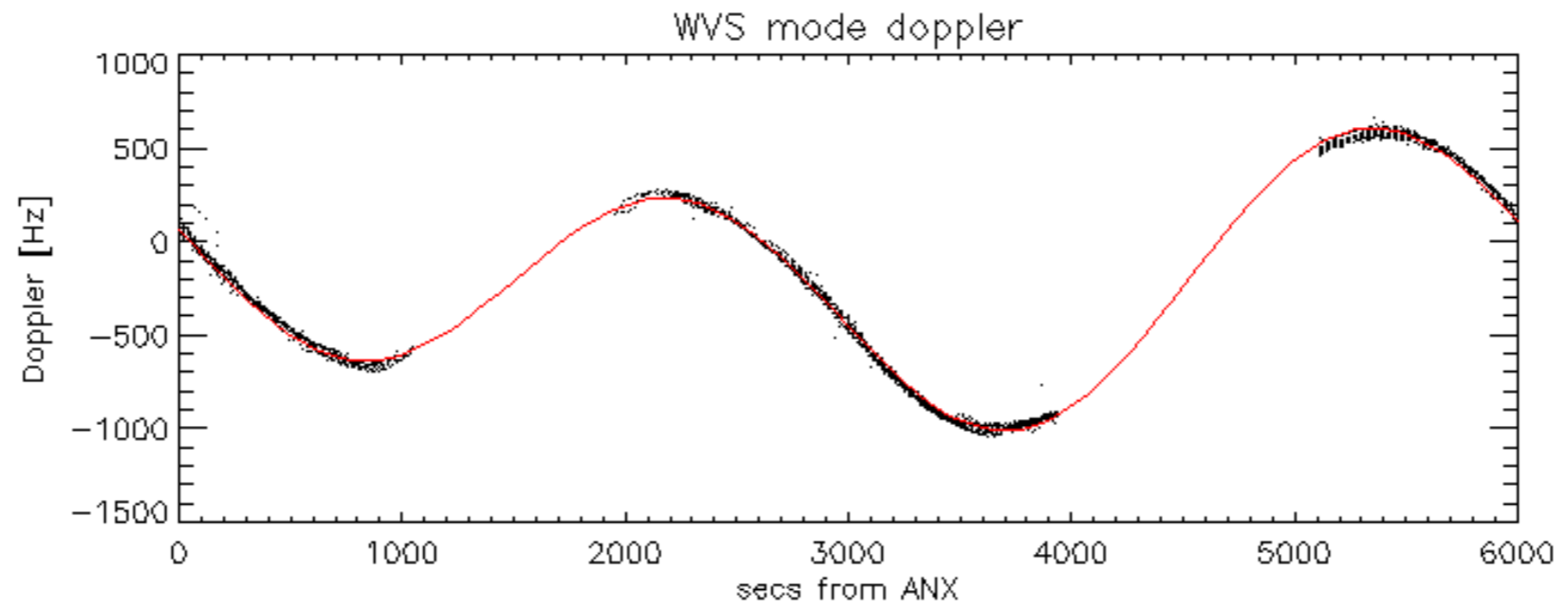
Doppler 'WVS' 'IS2' descending



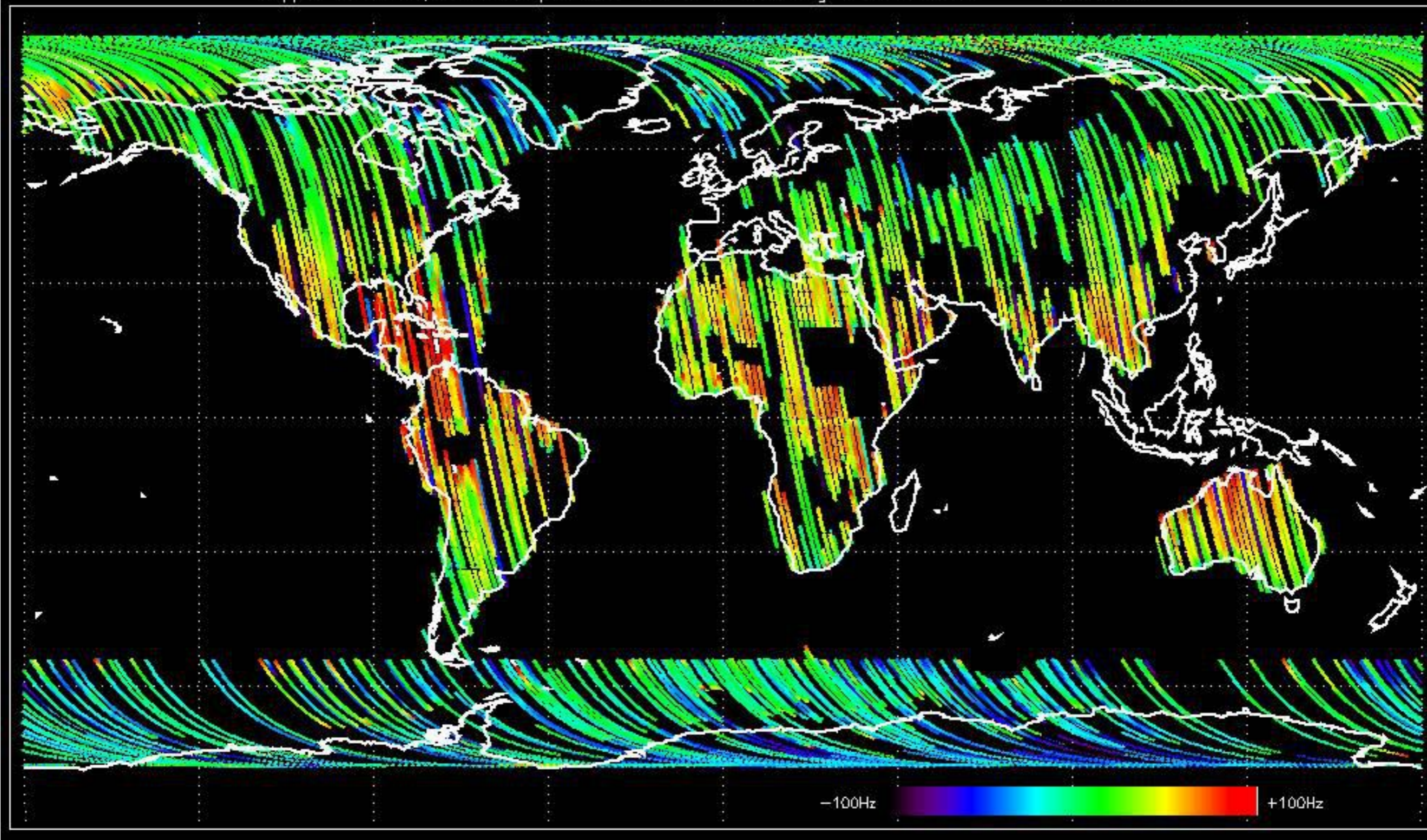


GM1 mode doppler

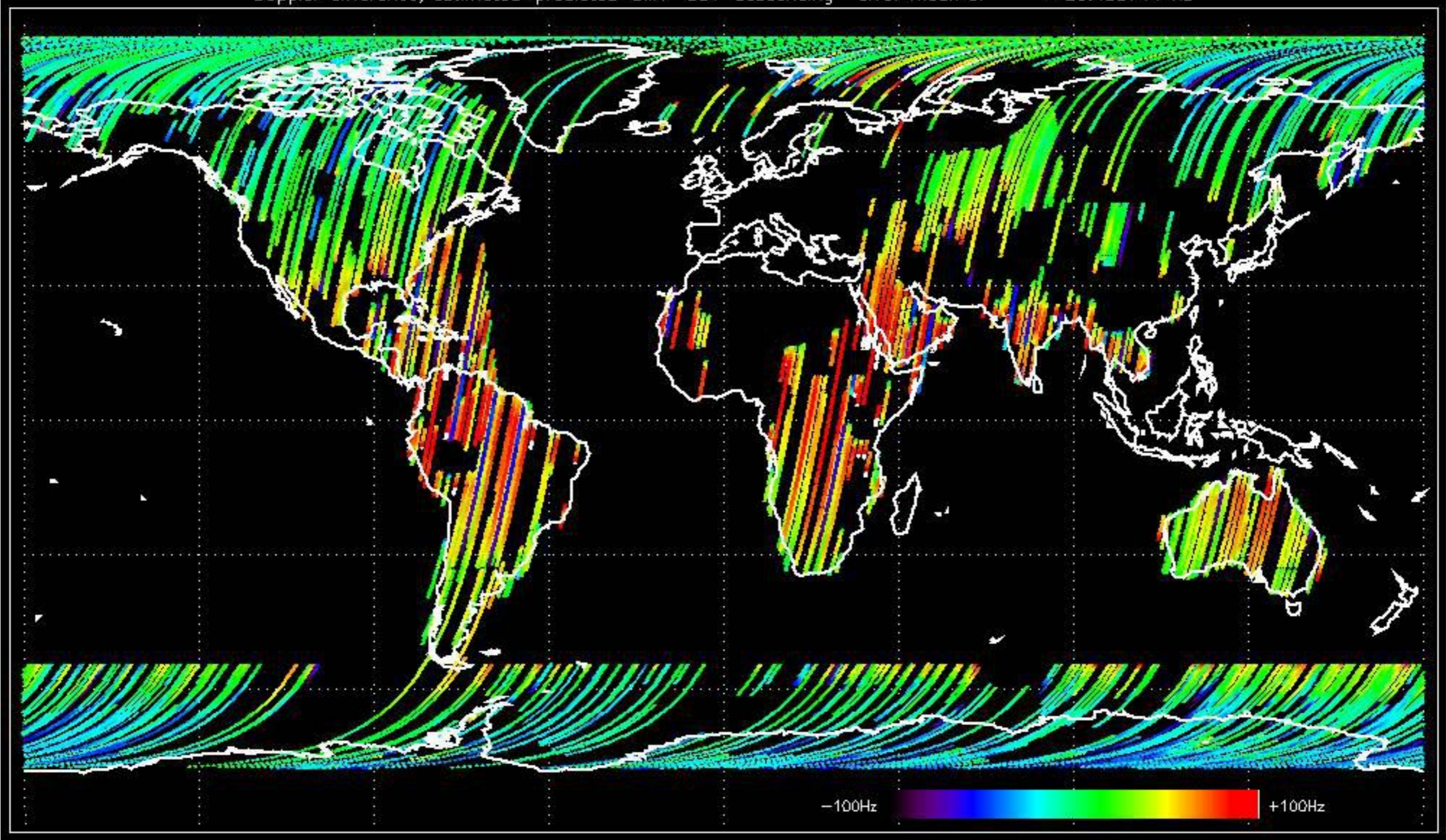




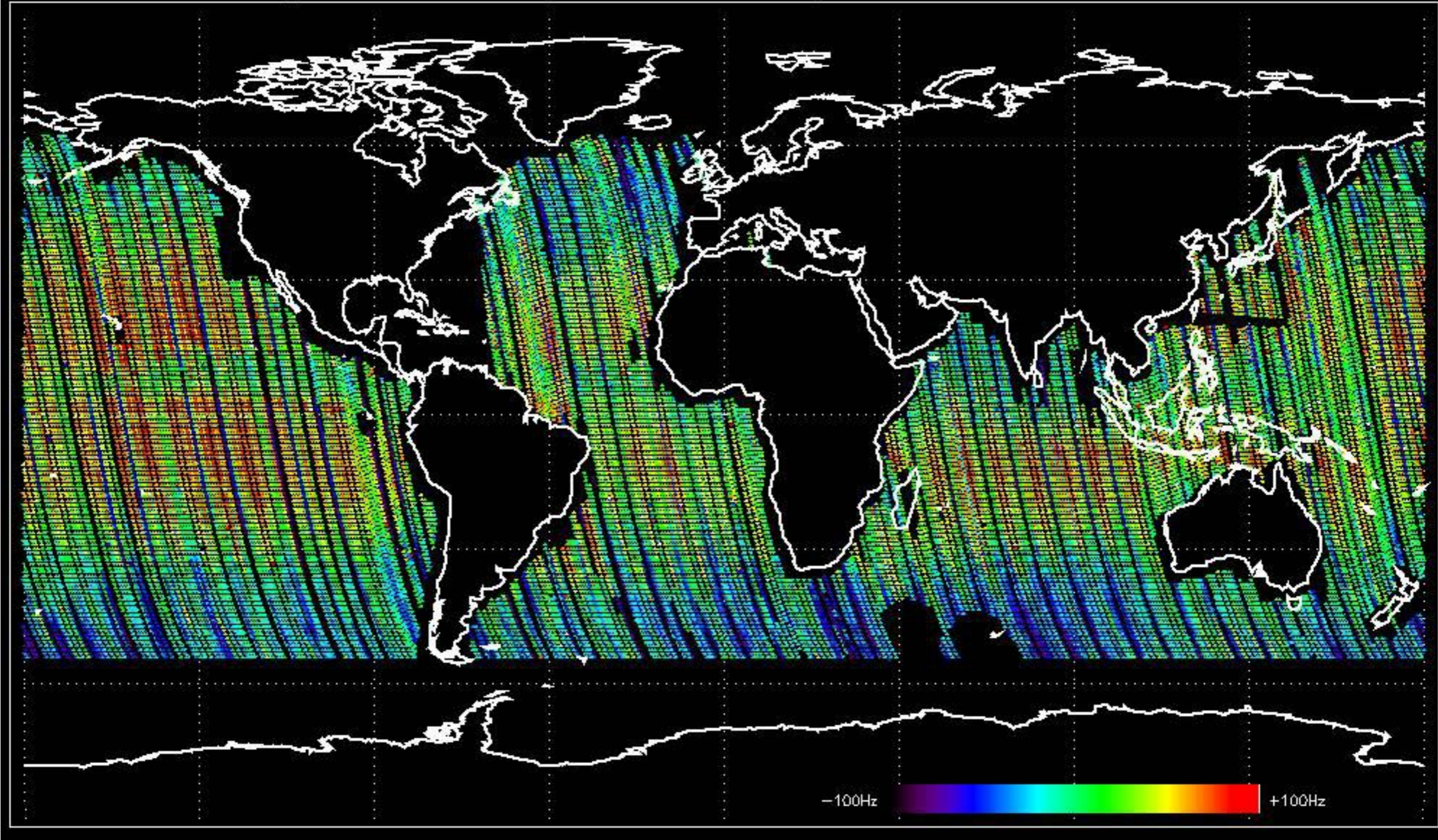
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -30.831936 Hz



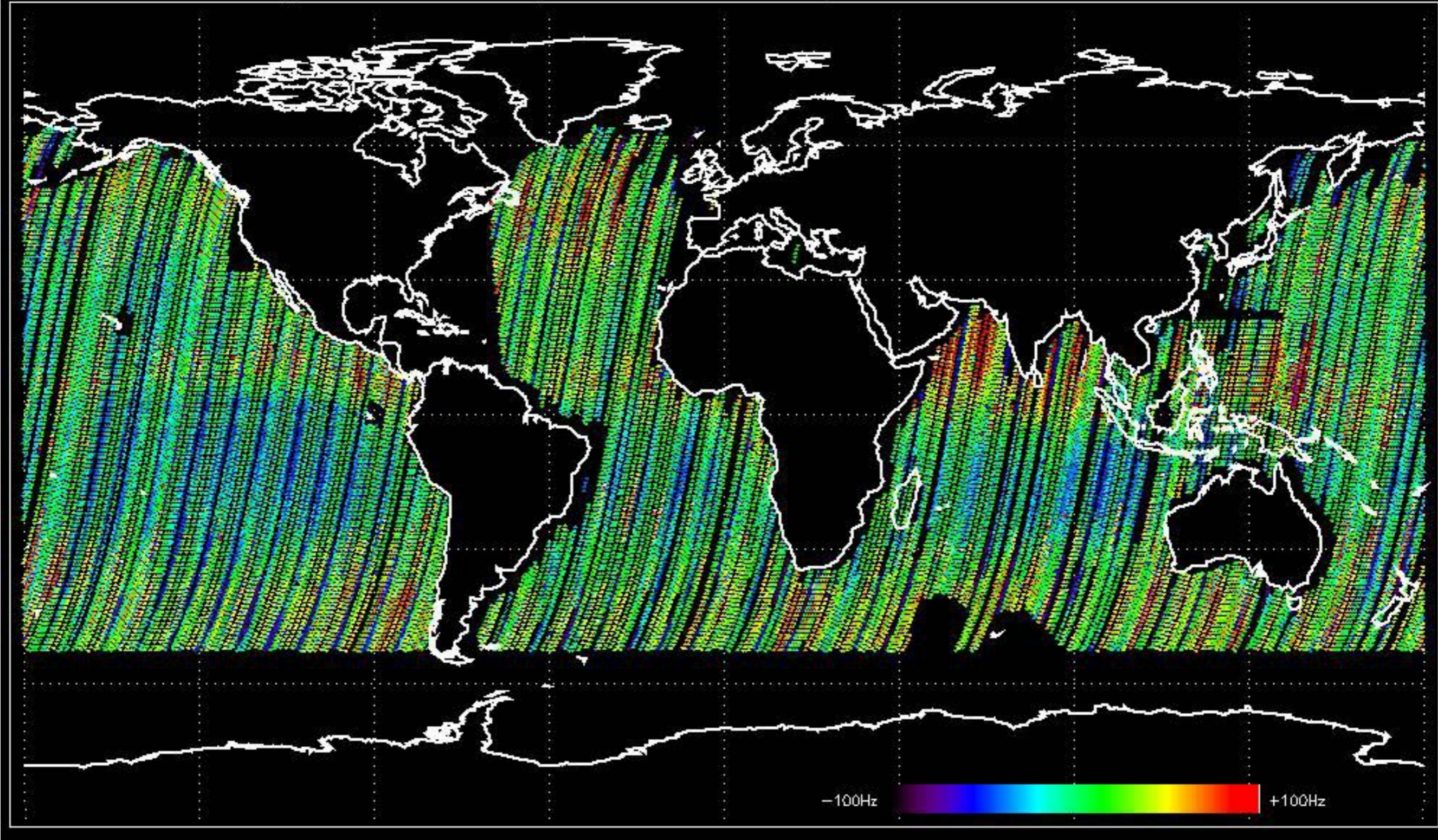
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -28.435744 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -28.074128 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -33.305811 Hz

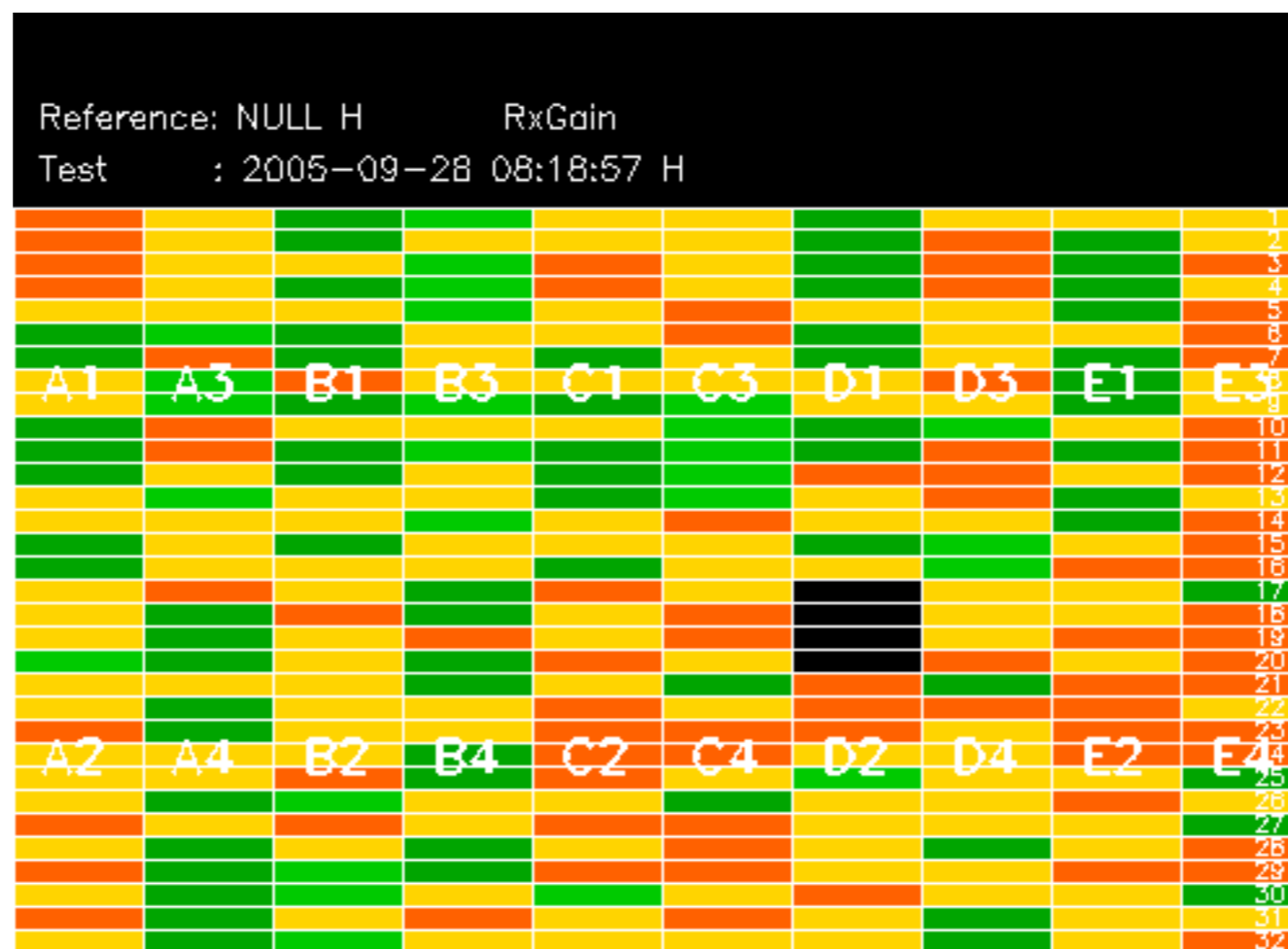


No anomalies observed on available MS products:

No anomalies observed.











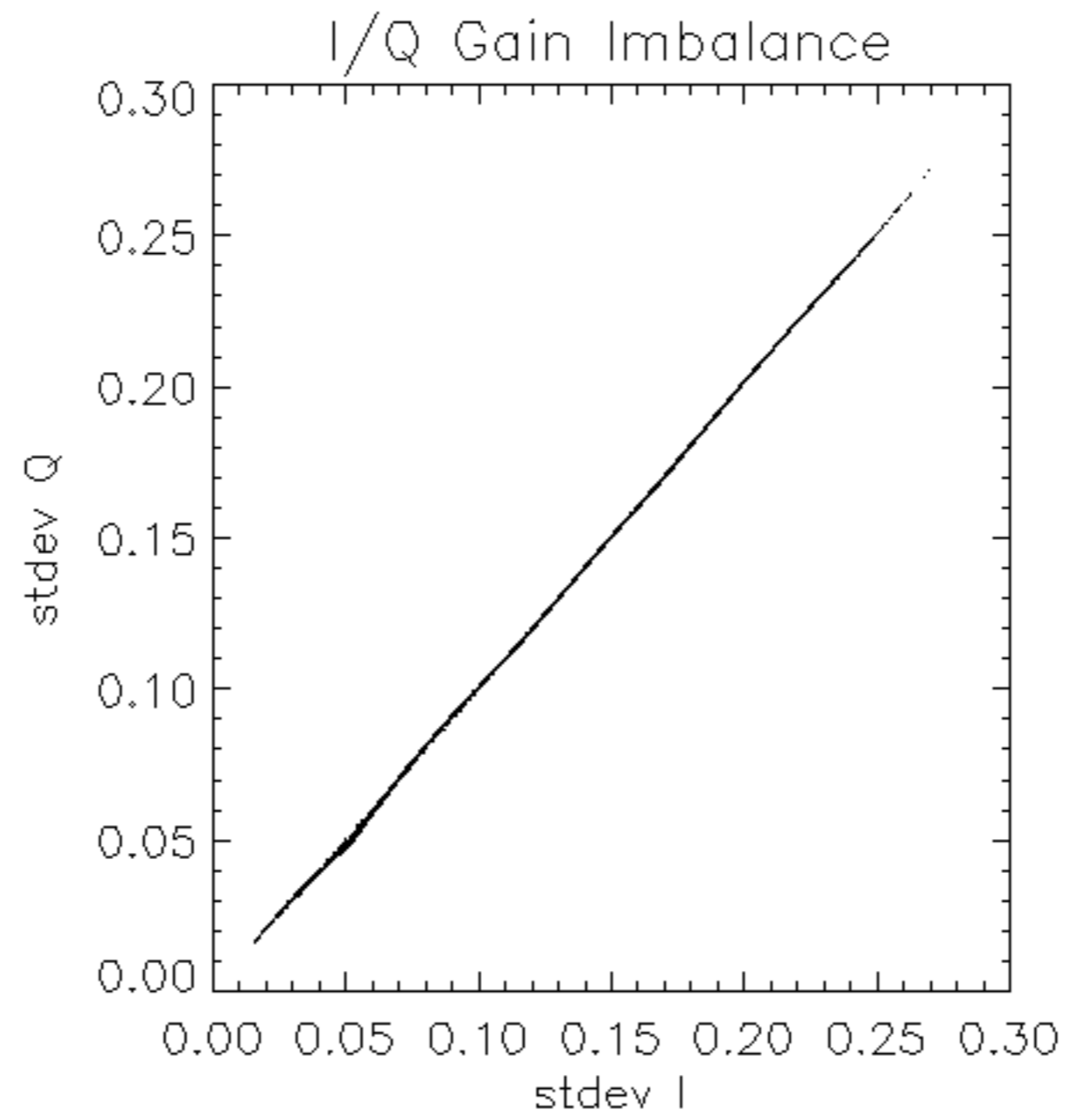


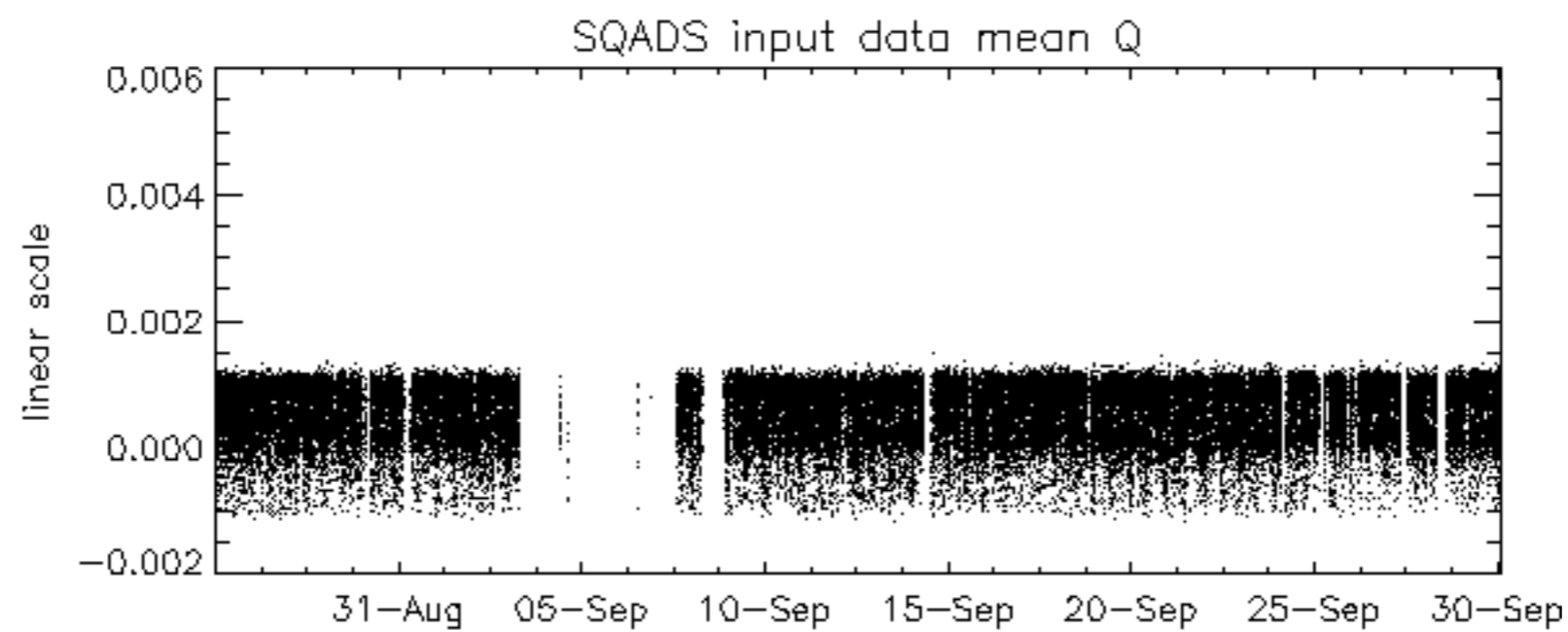
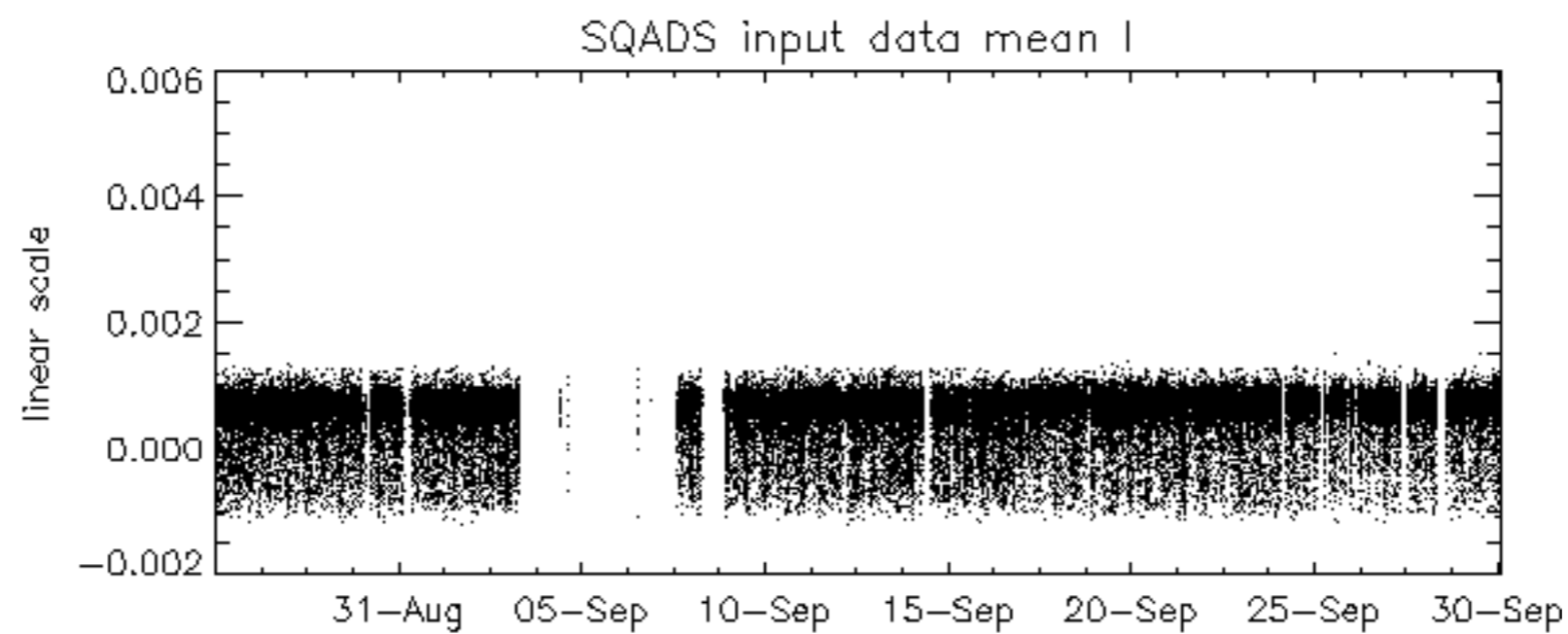
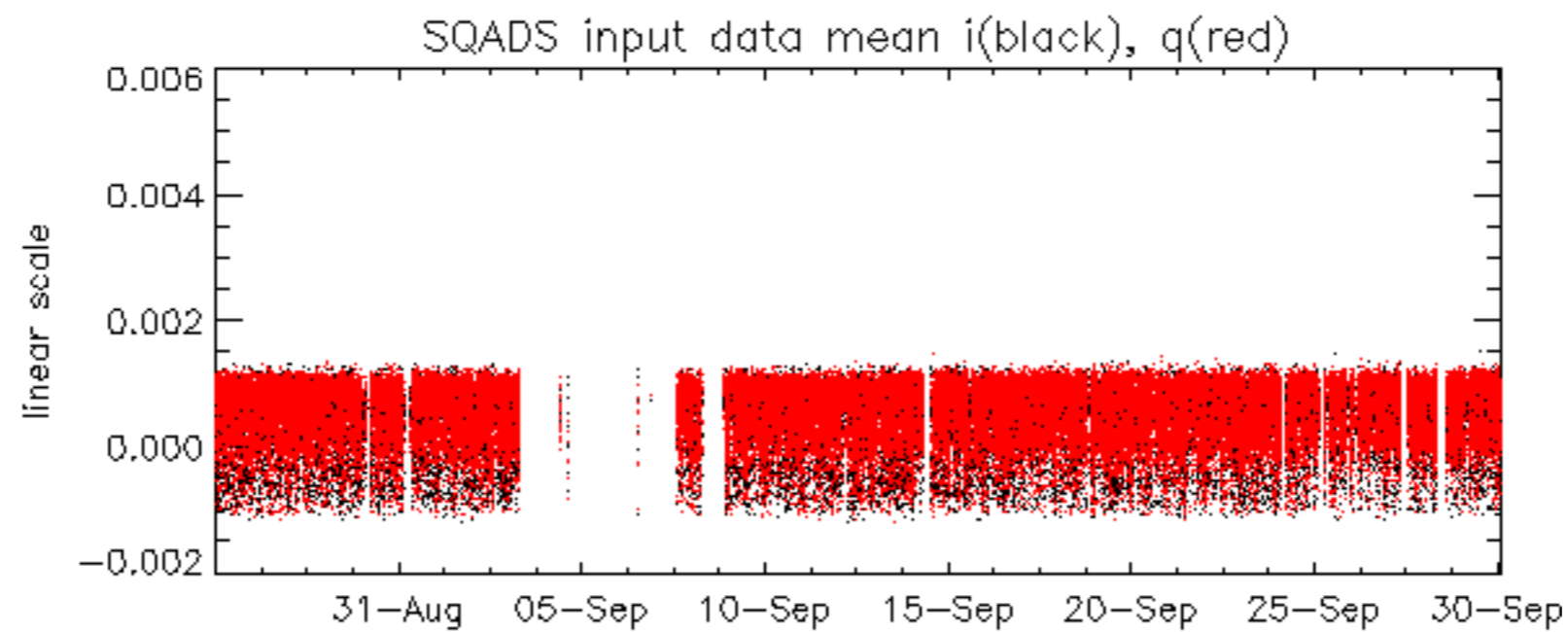


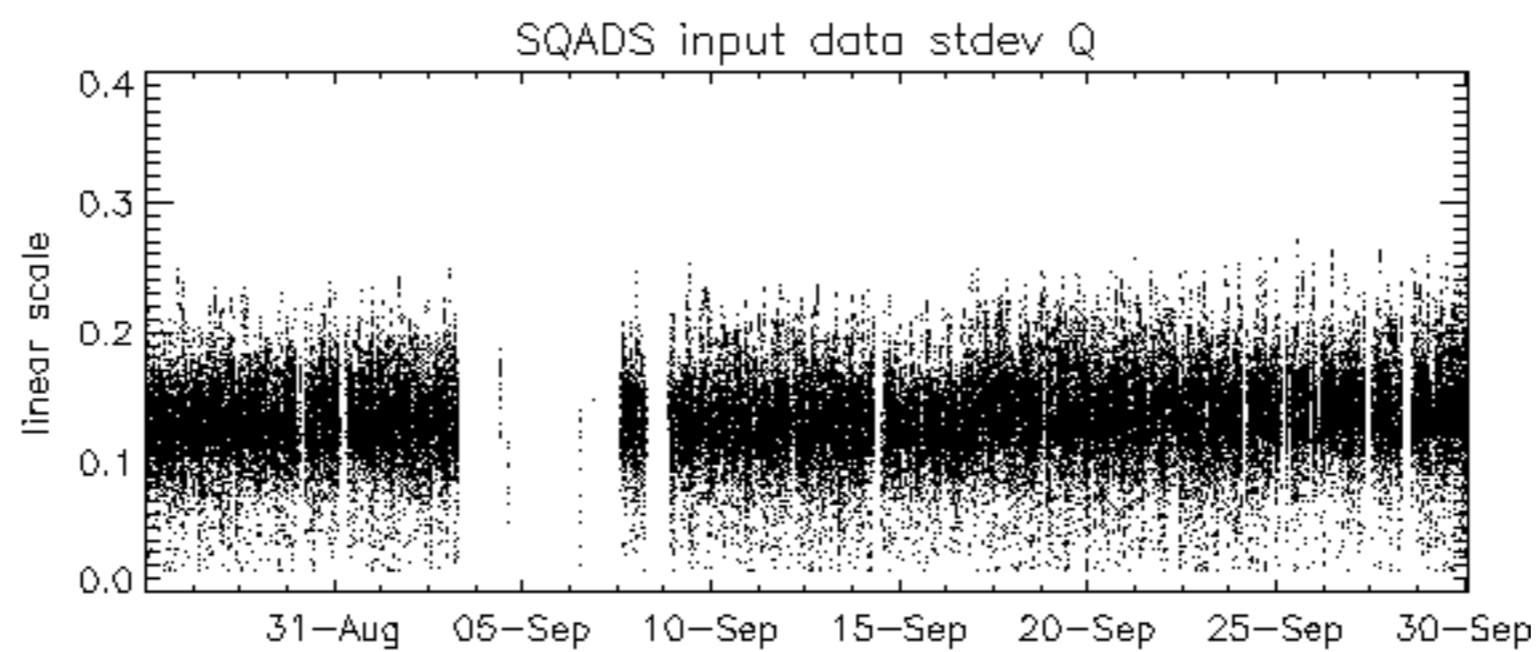
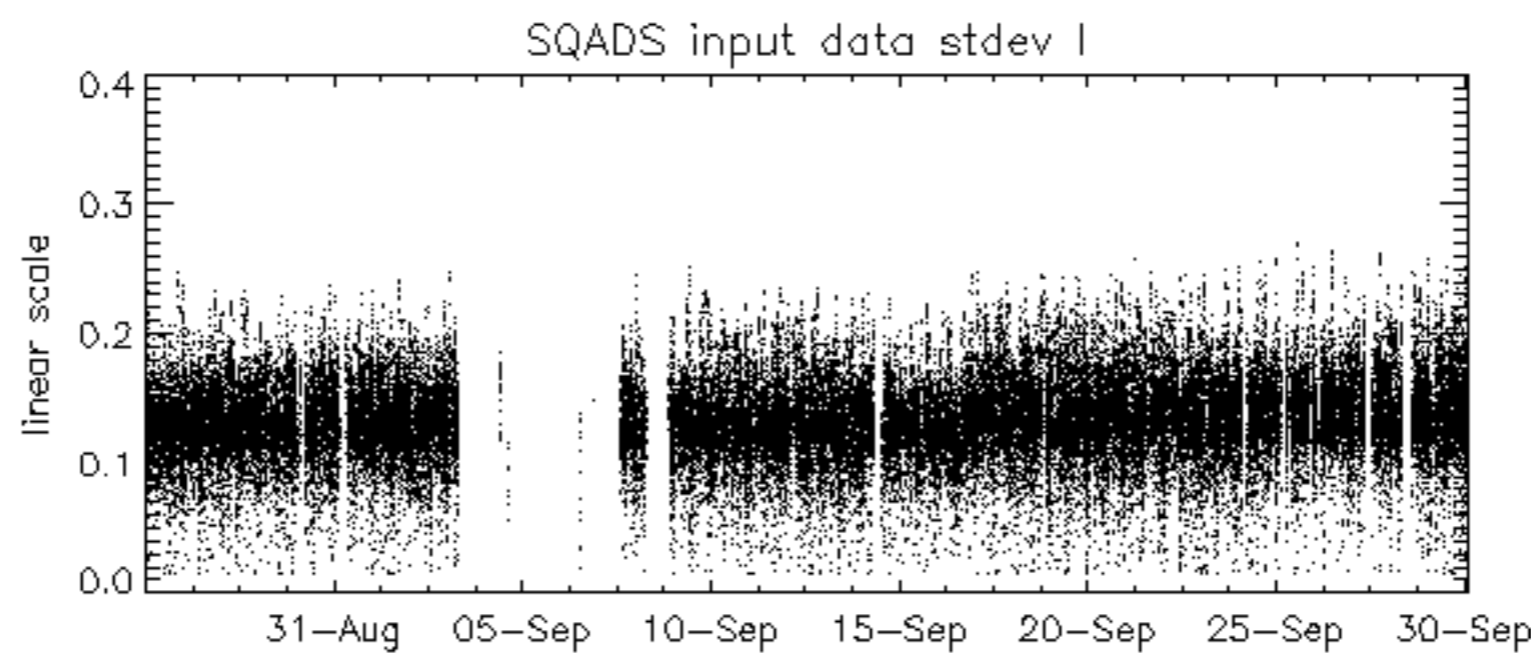
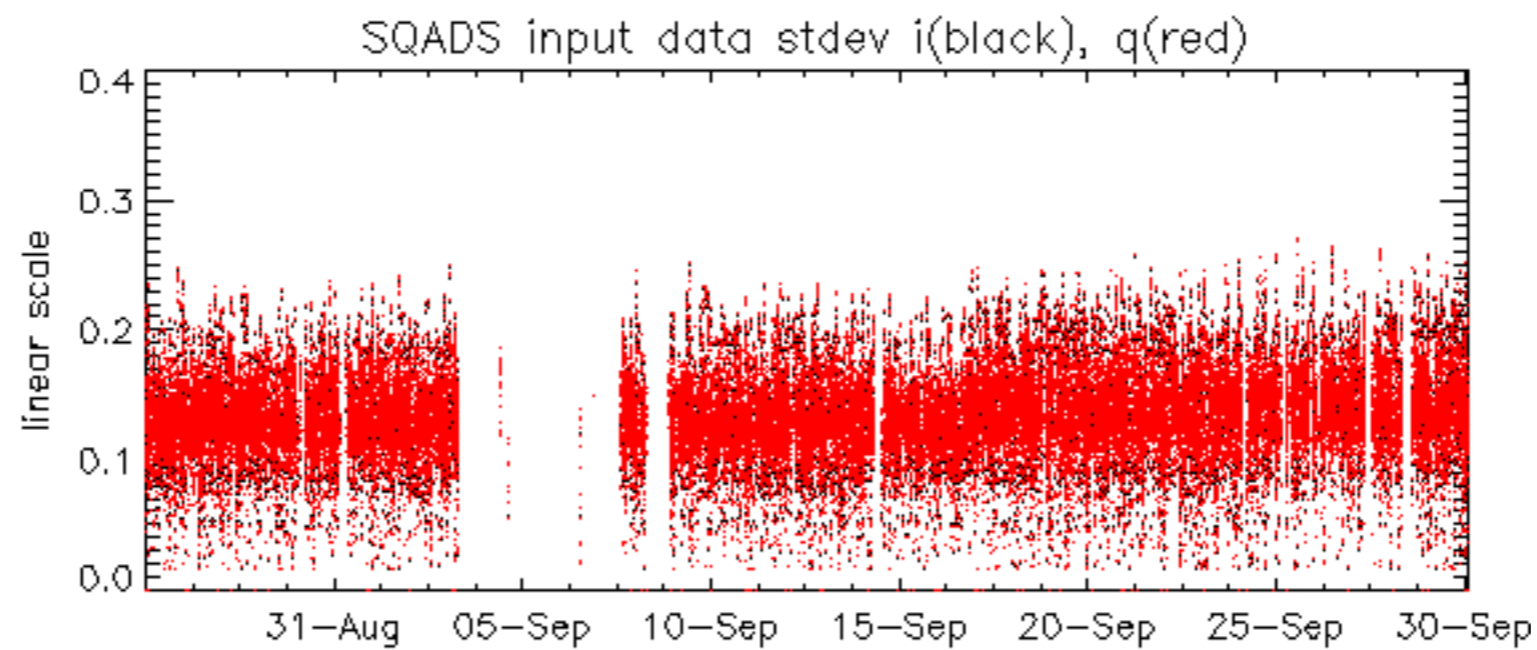


















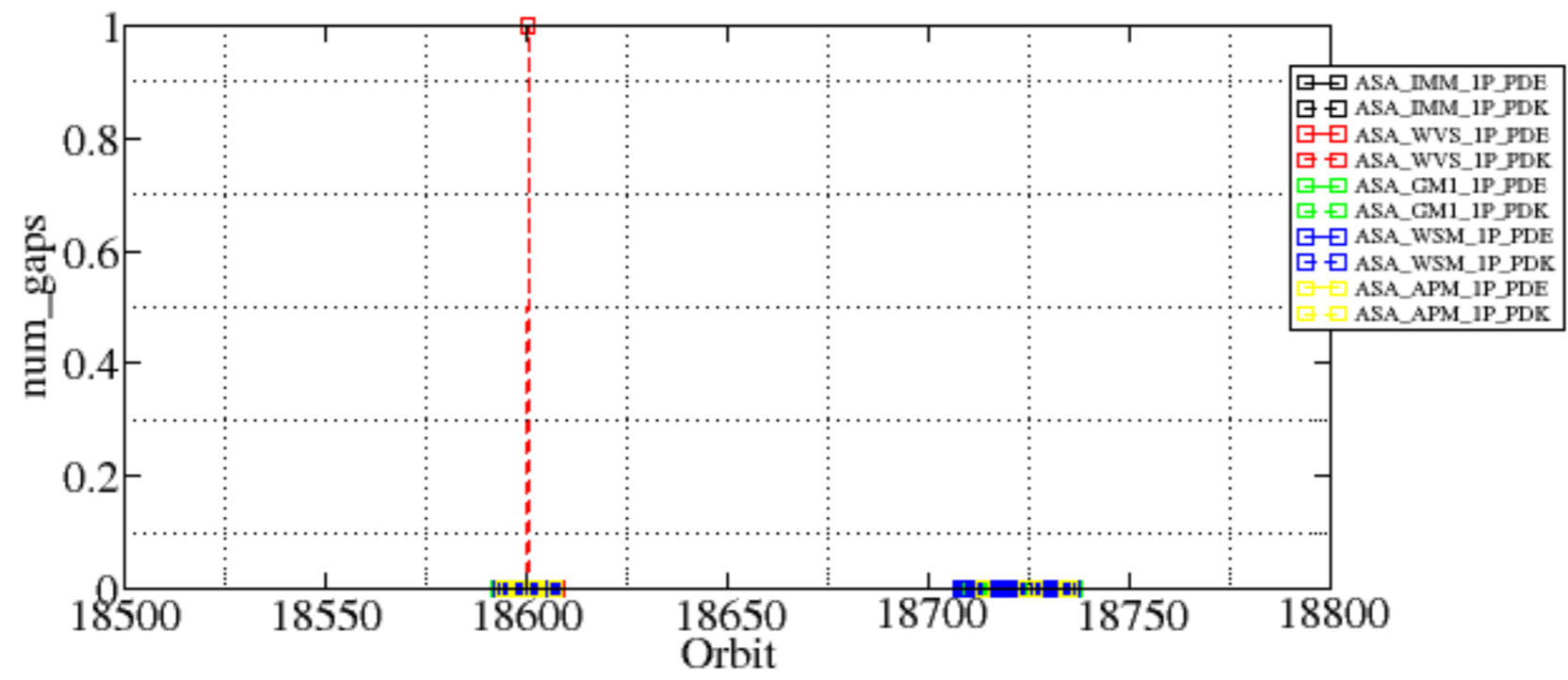


Summary of analysis for the last 3 days 2005092[890]

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_WVS_1PNPDK20050920_115938_00000002041_00009_18600_1504.N1	1	0
ASA_WSM_1PNPDE20050920_162919_000001842041_00012_18603_9656.N1	0	59
ASA_WSM_1PNPDE20050920_181151_000001282041_00013_18604_9832.N1	0	15
ASA_WSM_1PNPDE20050928_062907_000001402041_00120_18711_1053.N1	0	24





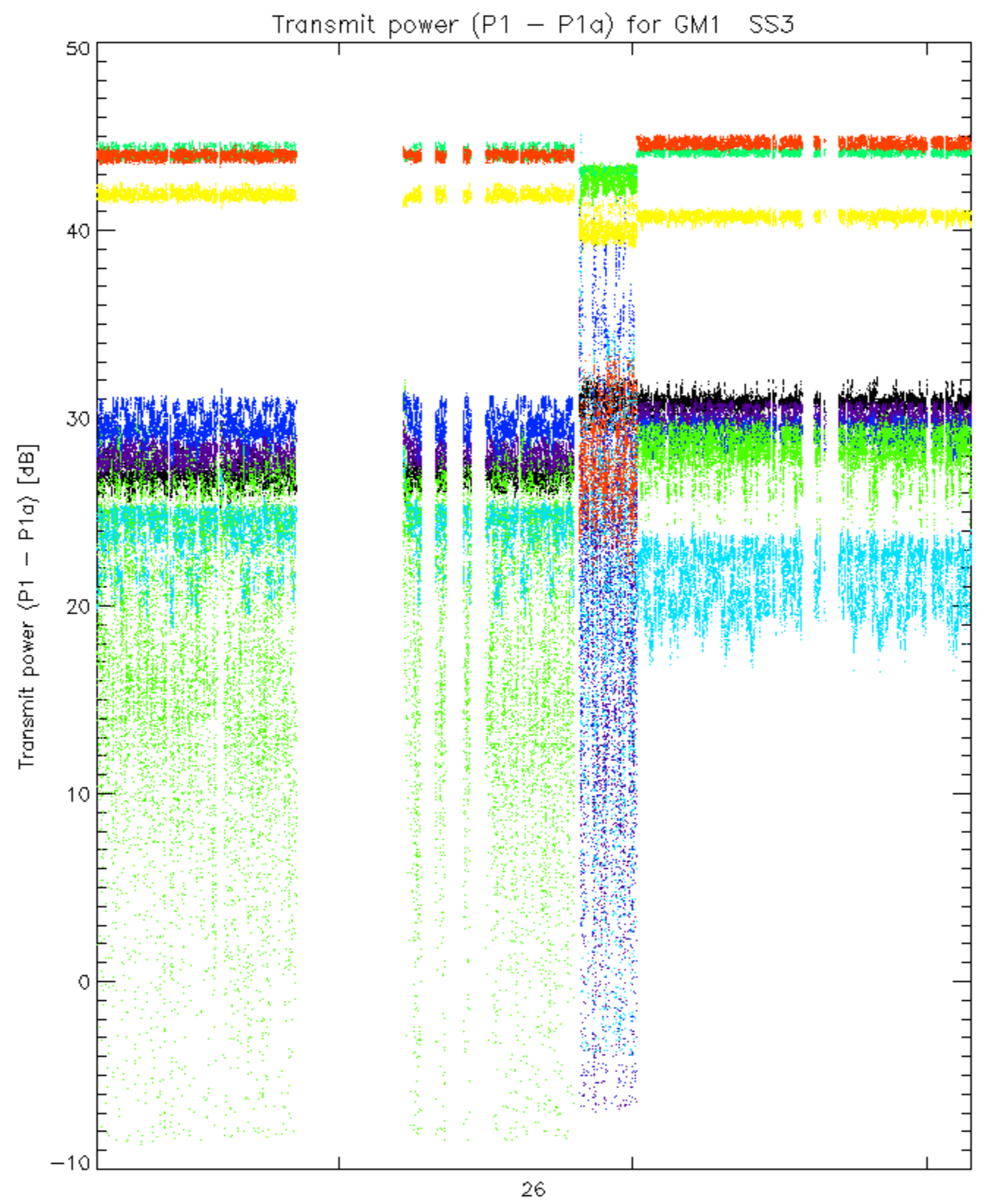




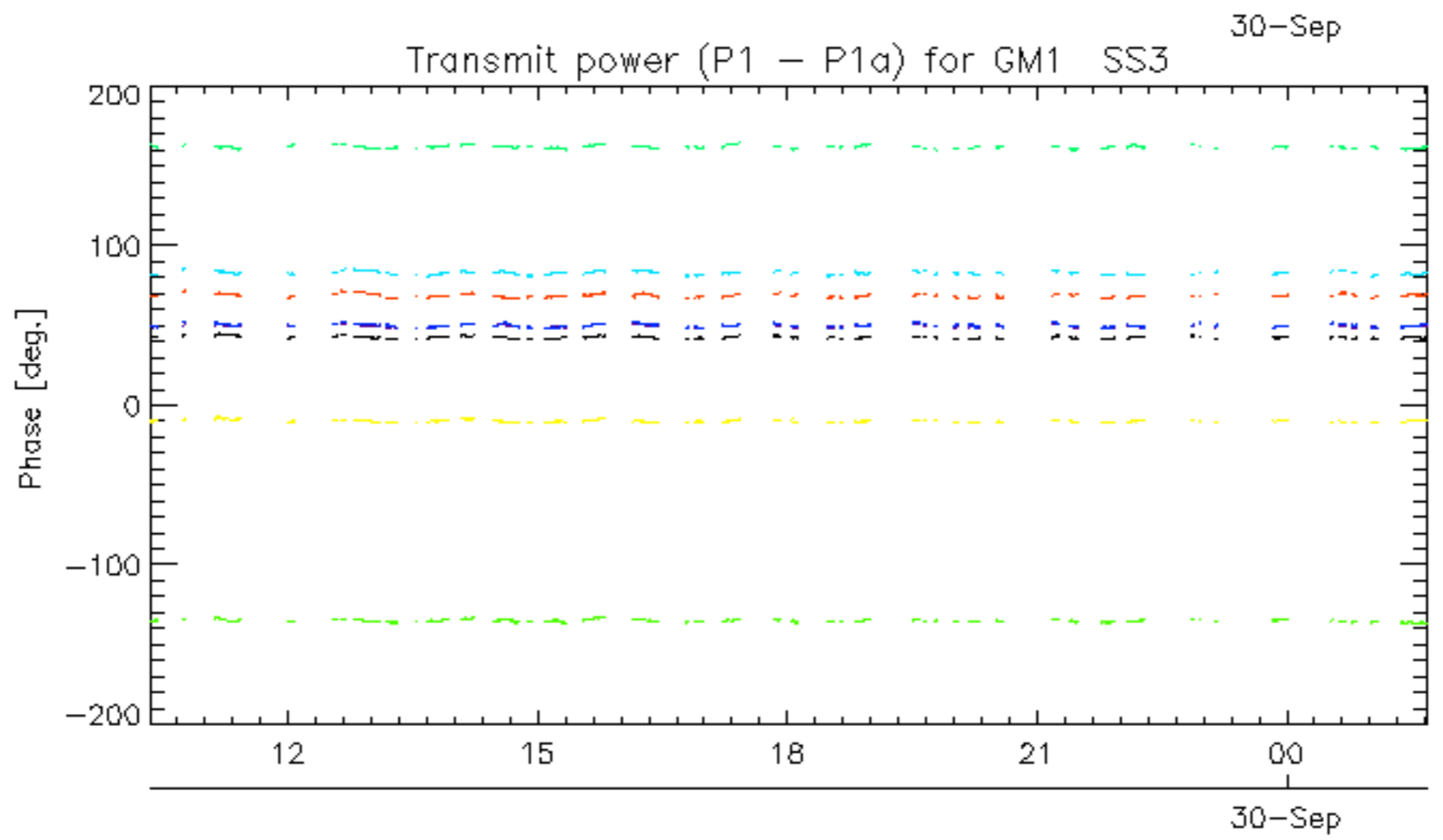
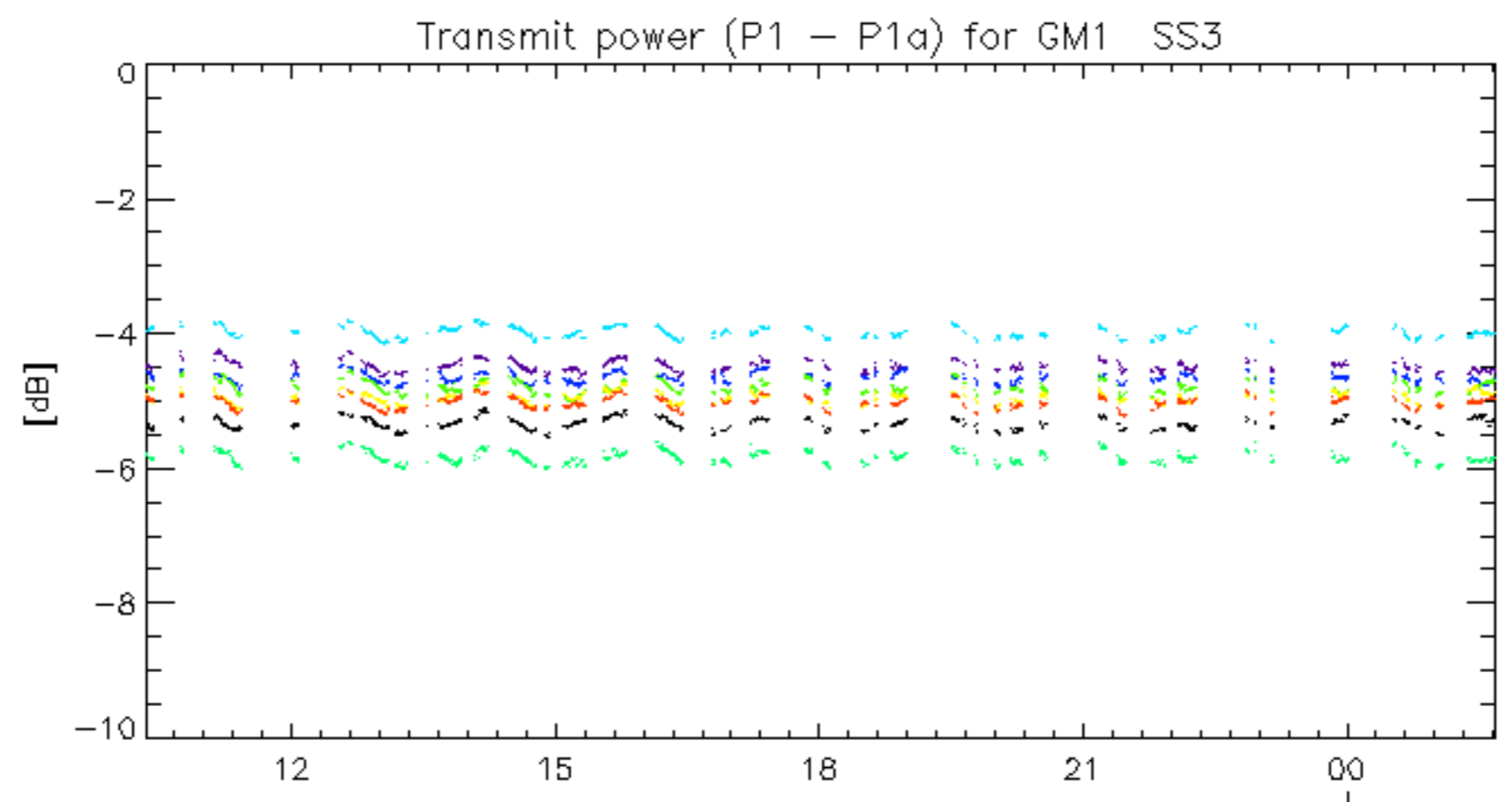






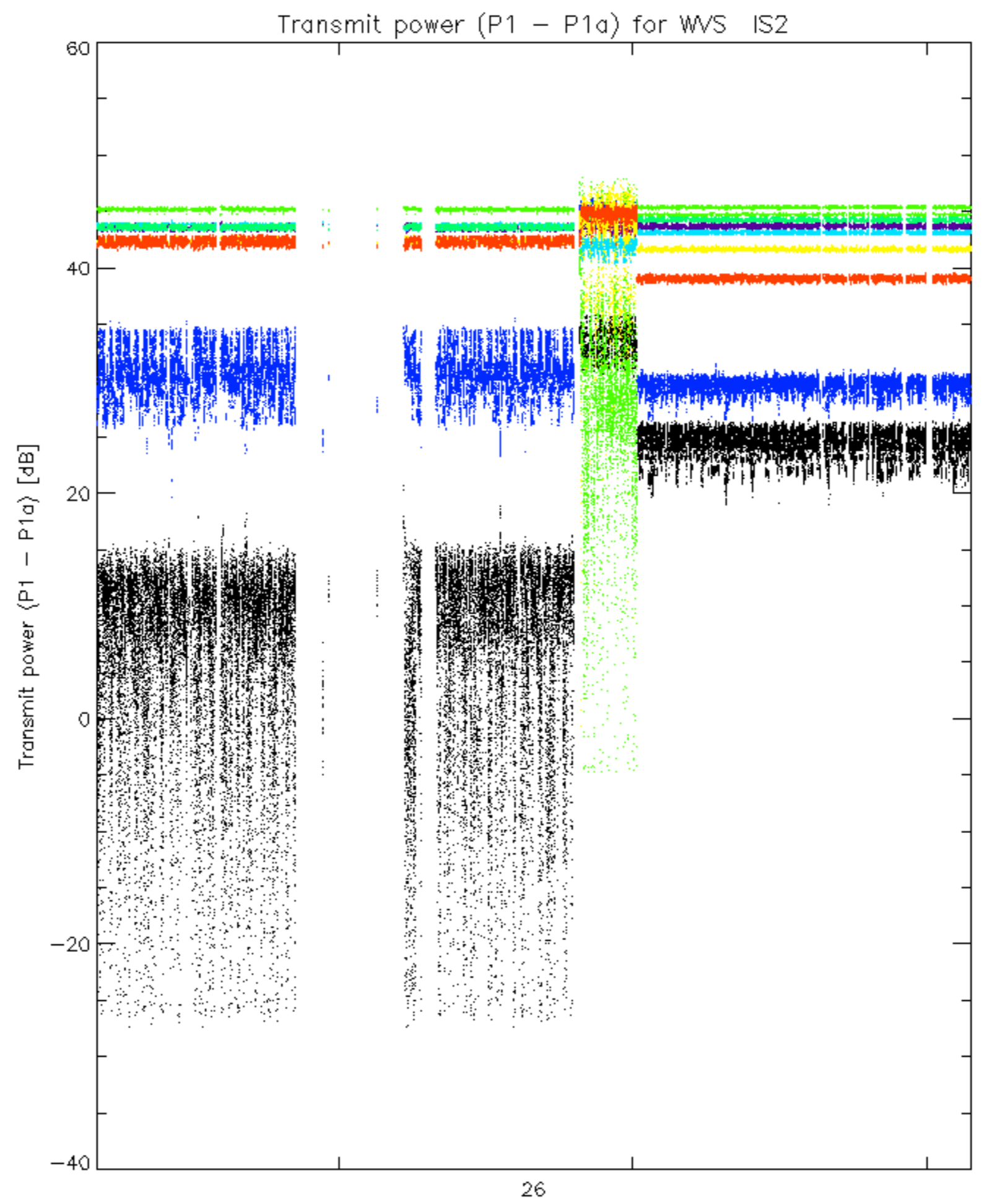


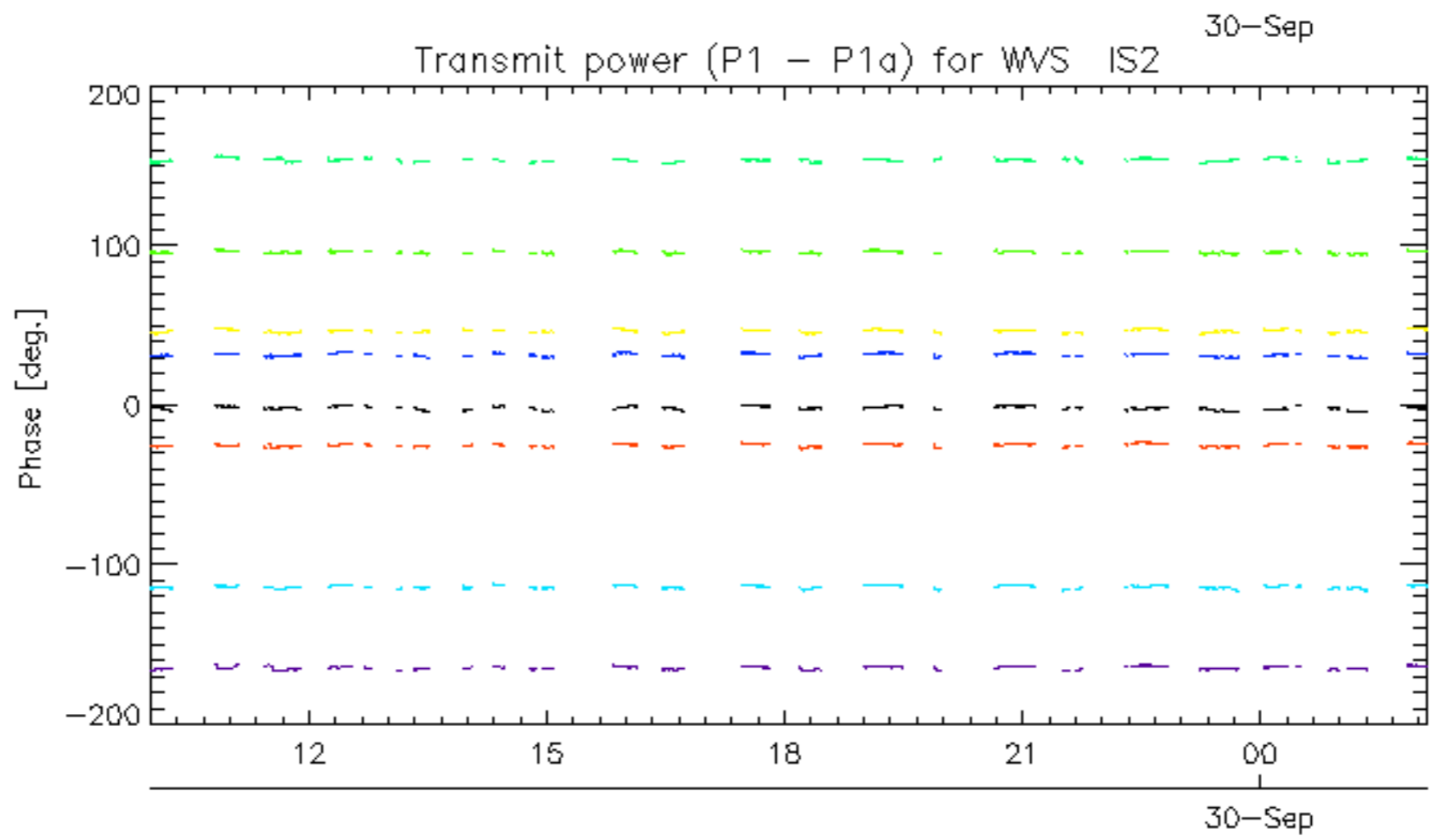
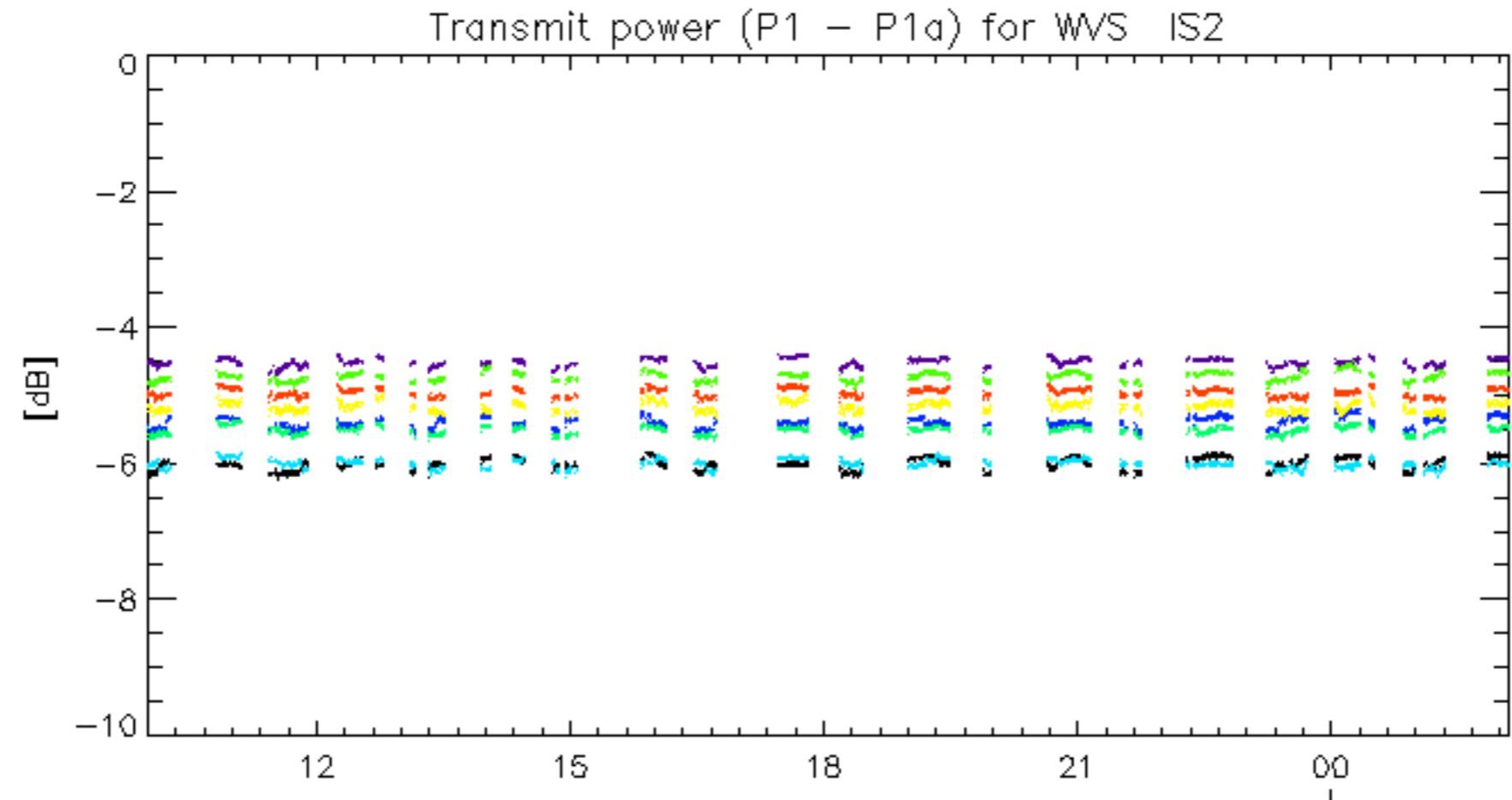
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



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







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

No unavailabilities during the reported period.