

# PRELIMINARY REPORT OF 050806

last update on Sat Aug 6 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 2005-08-05 00:00:00 to 2005-08-06 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	25	52	13	9	15
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	25	52	13	9	15
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	25	52	13	9	15
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	25	52	13	9	15

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	30	43	36	12	47
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	30	43	36	12	47
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	30	43	36	12	47
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	30	43	36	12	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	20050805 063530
H	20050806 060353

### 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	-3.322993	0.032169	-0.062279
7	P1	-3.155223	0.031710	-0.106240
11	P1	-4.708600	0.032620	-0.035232
15	P1	-5.586586	0.052312	-0.088420
19	P1	-3.792194	0.004153	-0.045669
22	P1	-4.643394	0.117884	-0.028114
26	P1	-4.855690	0.152759	0.019151
30	P1	-7.246612	0.154392	-0.008257
3	P1	-15.556499	0.075967	0.086310
7	P1	-15.504312	0.164263	0.131983
11	P1	-21.724550	0.257750	-0.202858
15	P1	-11.286242	0.080740	0.076730
19	P1	-14.483139	0.036496	-0.028059
22	P1	-15.714427	0.348095	0.129993
26	P1	-17.362658	0.201053	0.288080
30	P1	-17.749067	0.436437	-0.113307

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.826193	0.083757	0.092936
7	P2	-21.985565	0.101522	0.126197
11	P2	-13.585052	0.105786	0.212619
15	P2	-7.072161	0.092240	0.033078
19	P2	-9.588645	0.095604	-0.017996
22	P2	-16.841623	0.097125	0.052599
26	P2	-16.507204	0.099331	-0.014020
30	P2	-18.795395	0.087711	-0.039299

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.156428	0.002493	-0.002234
7	P3	-8.156428	0.002493	-0.002234
11	P3	-8.156428	0.002493	-0.002234
15	P3	-8.156428	0.002493	-0.002234
19	P3	-8.156428	0.002493	-0.002234
22	P3	-8.156428	0.002493	-0.002234
26	P3	-8.156428	0.002493	-0.002234
30	P3	-8.156428	0.002493	-0.002234

#### 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	-2.809731	0.112469	-0.196088
7	P1	-2.973666	0.065929	-0.118142
11	P1	-4.006855	0.015762	-0.046138
15	P1	-3.610770	0.070103	-0.192100
19	P1	-3.631076	0.016288	0.040117
22	P1	-5.692823	0.115348	-0.065066
26	P1	-7.401256	0.209361	0.020532
30	P1	-6.334082	0.105361	0.040385
3	P1	-10.878661	0.053497	-0.307615
7	P1	-10.459366	0.172405	0.022007
11	P1	-12.639419	0.103487	-0.077346
15	P1	-11.595591	0.104825	0.103188
19	P1	-15.513484	0.070286	0.160789
22	P1	-25.625513	3.031752	0.570366
26	P1	-15.317695	0.329534	0.297251
30	P1	-20.037374	1.252086	0.089562

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.563652	0.043623	0.166692
7	P2	-22.028254	0.039923	0.066141
11	P2	-9.620957	0.062602	0.223443
15	P2	-5.109148	0.042754	0.068665
19	P2	-6.890996	0.063468	0.074495
22	P2	-7.062424	0.037252	0.070423
26	P2	-23.968620	0.037982	0.026171
30	P2	-21.949436	0.043309	0.036397

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.997930	0.004102	0.007952
7	P3	-7.997789	0.004099	0.008339
11	P3	-7.997743	0.004104	0.008011
15	P3	-7.997725	0.004098	0.008508
19	P3	-7.997819	0.004101	0.008726
22	P3	-7.997793	0.004091	0.008564
26	P3	-7.997864	0.004084	0.008003
30	P3	-7.997725	0.004085	0.008140

## 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	0.000470859
	stdev	2.16620e-07
MEAN Q	mean	0.000499394
	stdev	2.31644e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129009
	stdev	0.000989018
STDEV Q	mean	0.129269
	stdev	0.000999813



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005080[456]

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_1PNPDK20050804_125413_000001212039_00339_17928_0953.N1	1	0
ASA_WVS_1PNPDE20050804_223406_000000002039_00344_17933_0457.N1	1	0
ASA_WSM_1PNPDE20050804_200837_000000862039_00343_17932_3001.N1	0	34
ASA_WSM_1PNPDK20050805_191219_000000852039_00357_17946_1331.N1	0	19







## 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

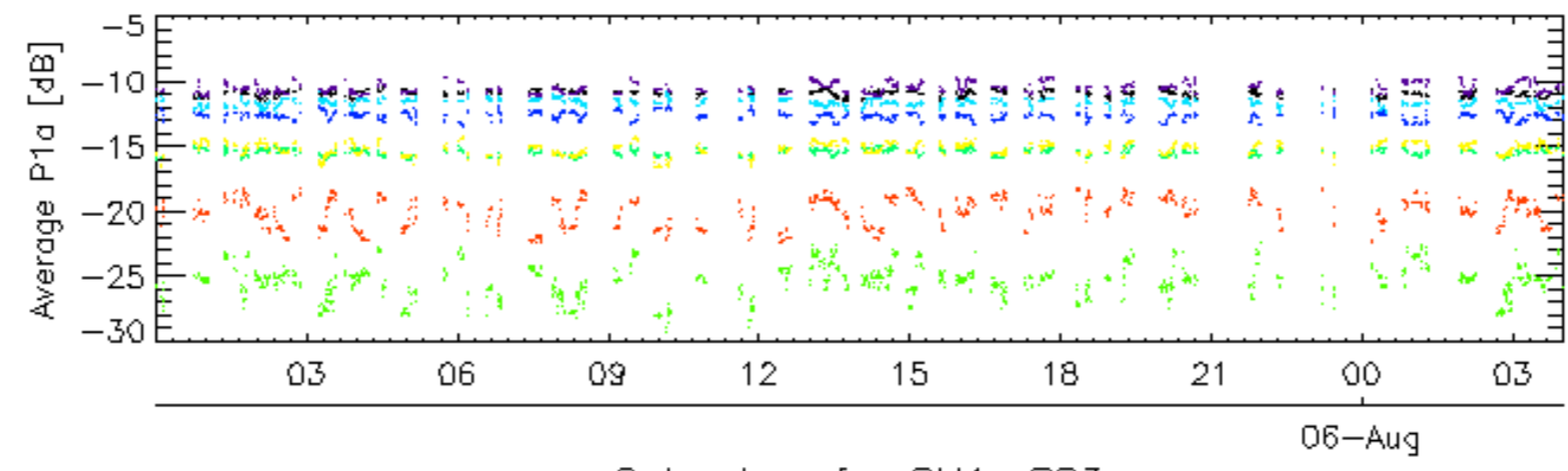
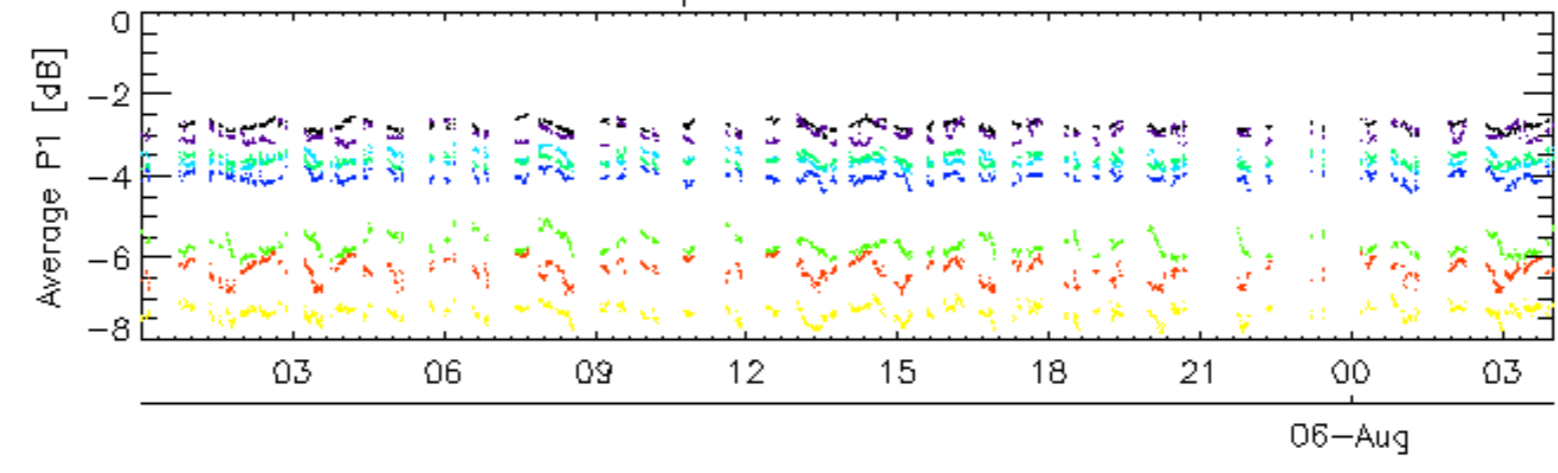
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Ascending
<input type="checkbox"/>
Descending

### 7.6 - Doppler evolution versus ANX for GM1

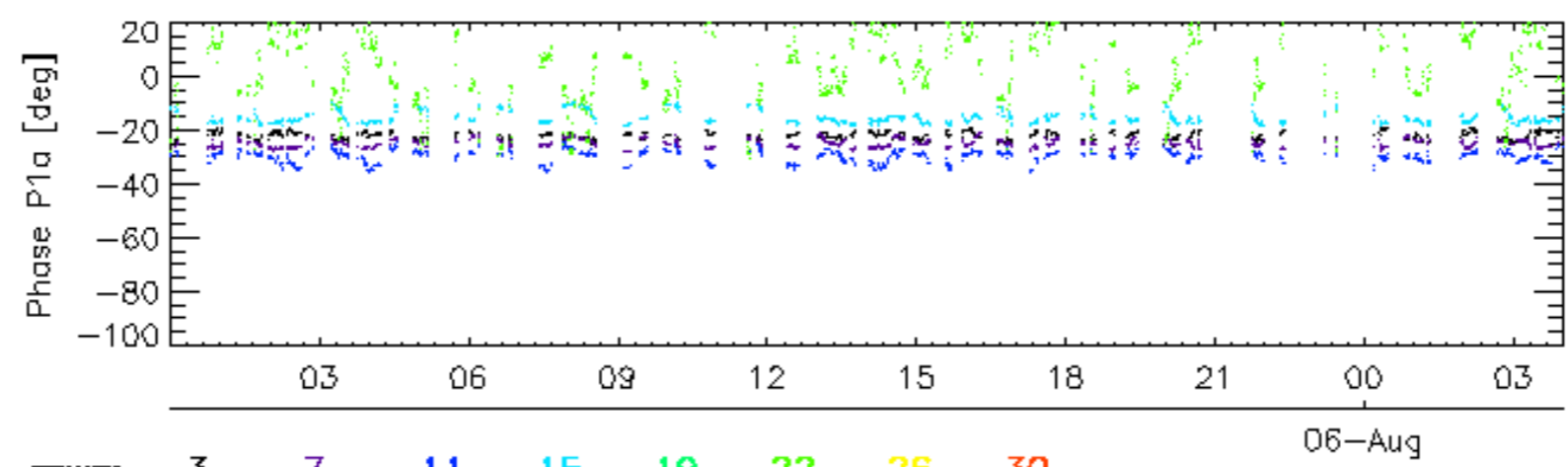
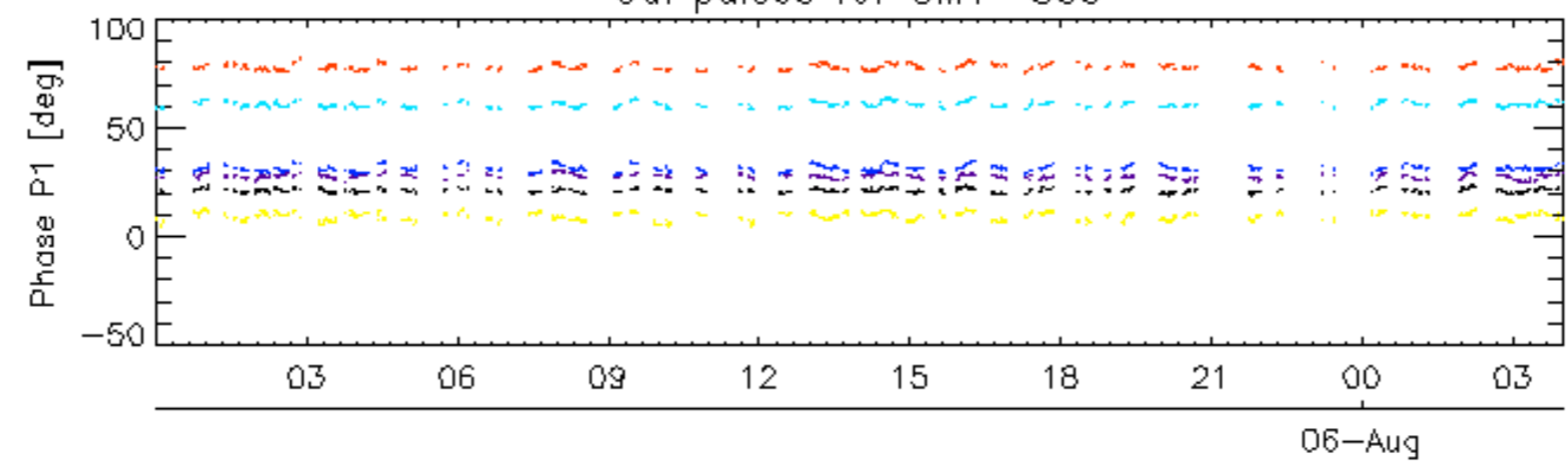
#### Evolution Doppler error versus ANX

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

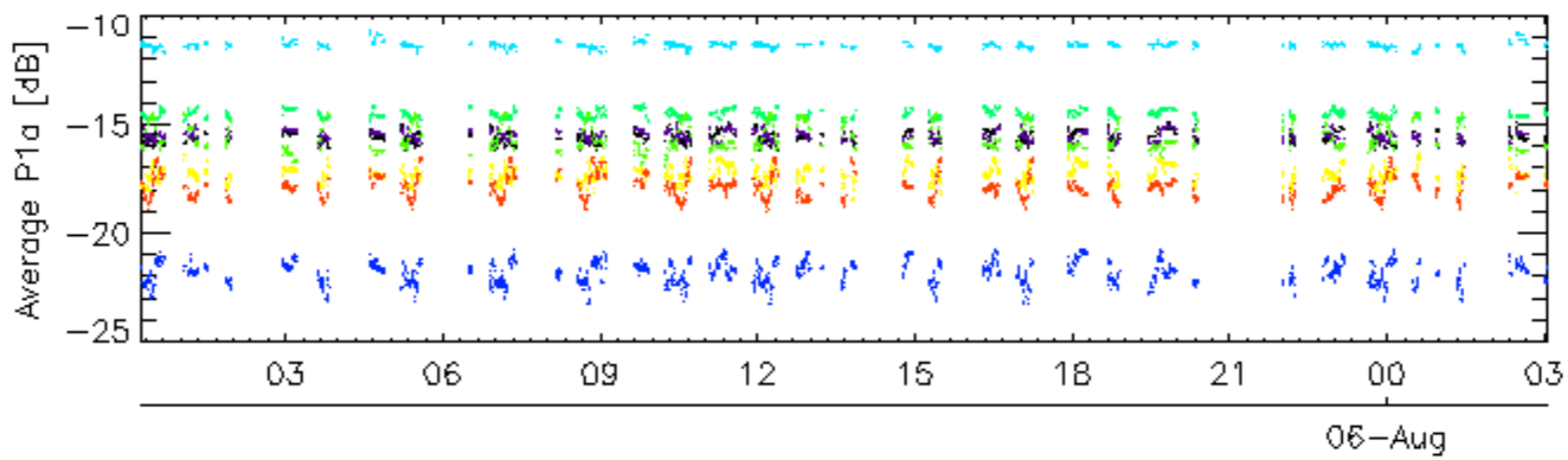
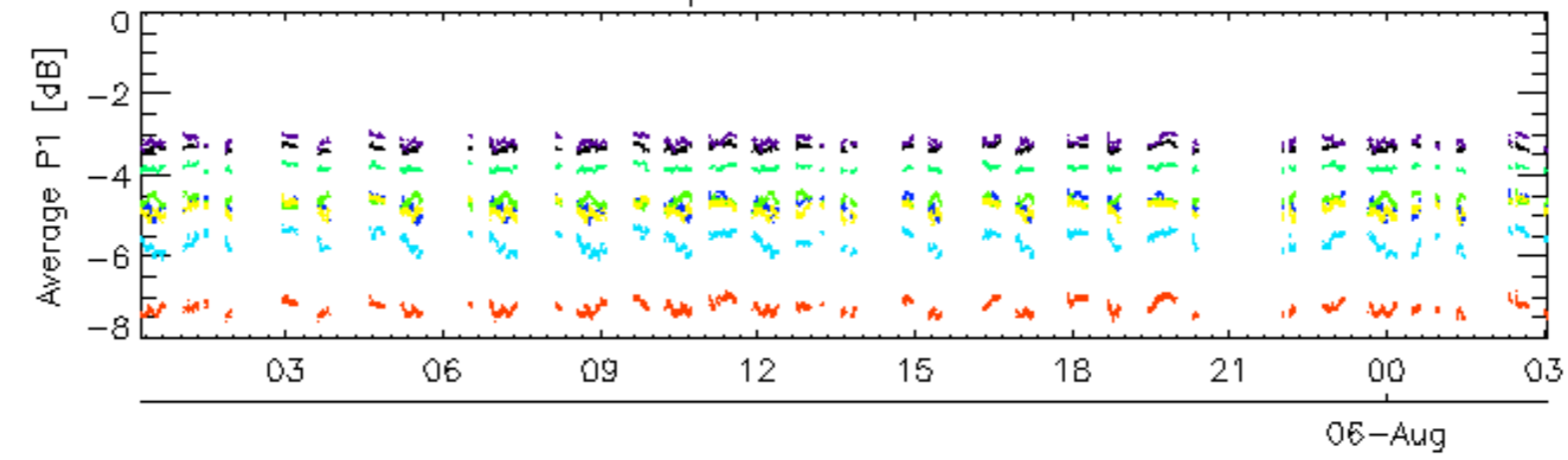


Cal pulses for GM1 SS3

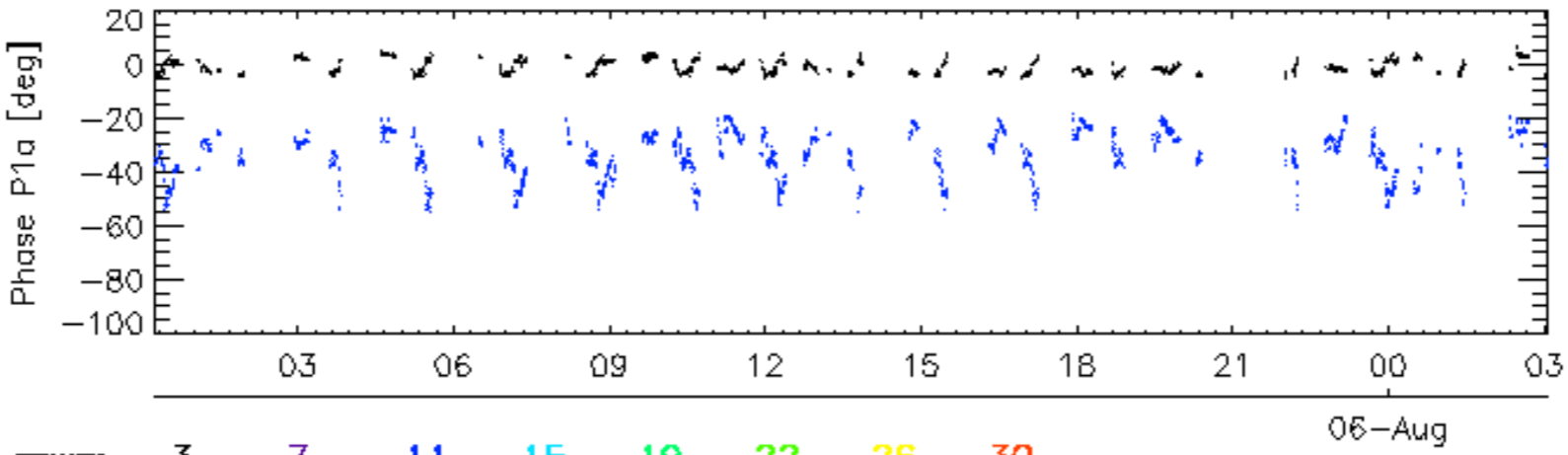
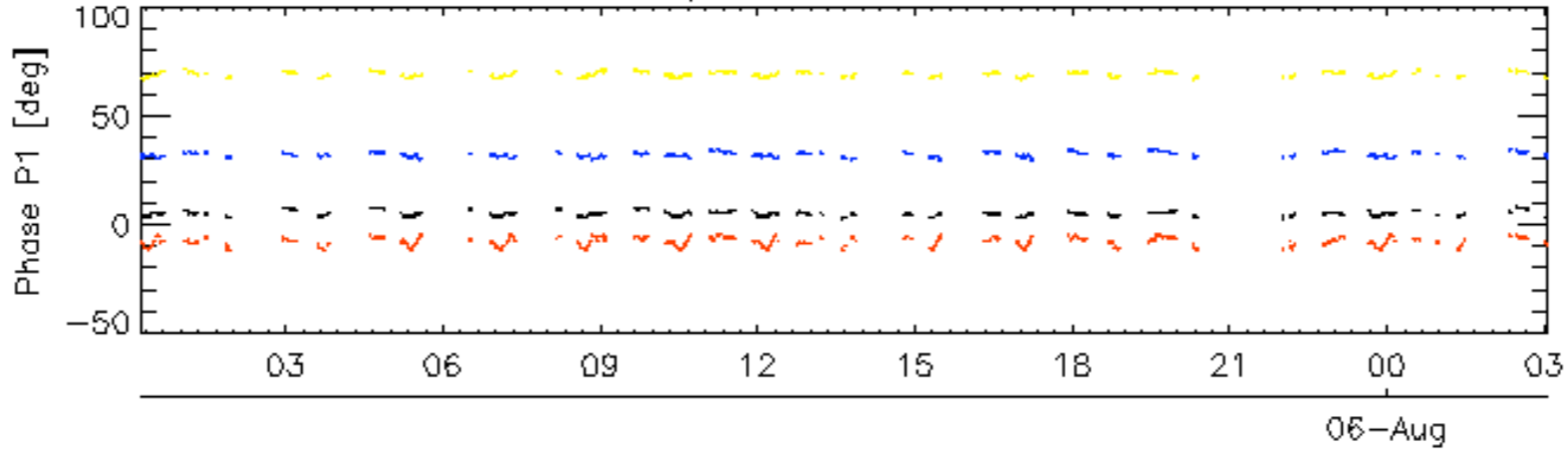


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

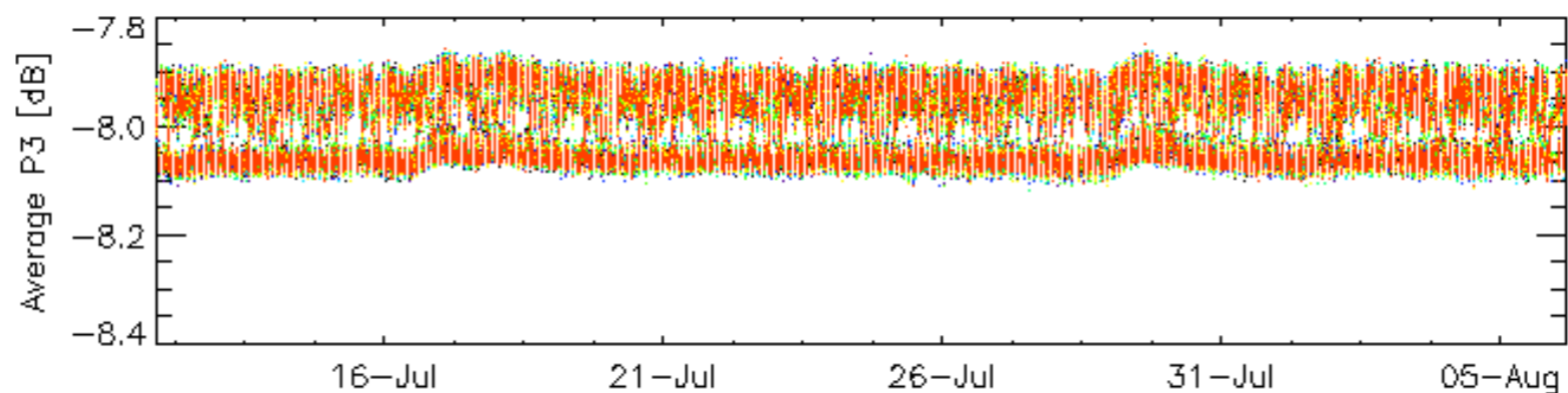
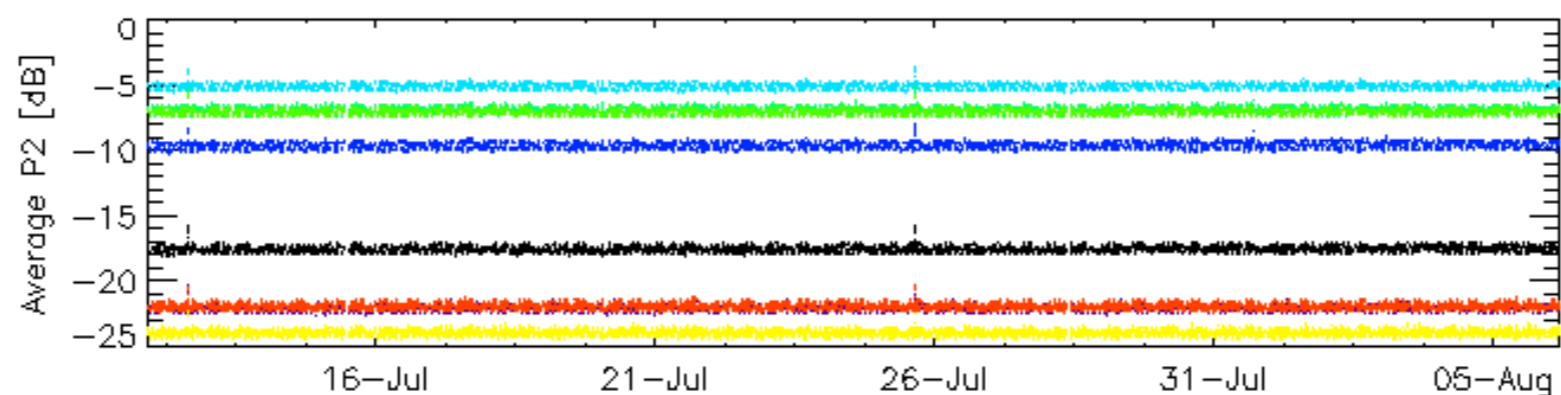
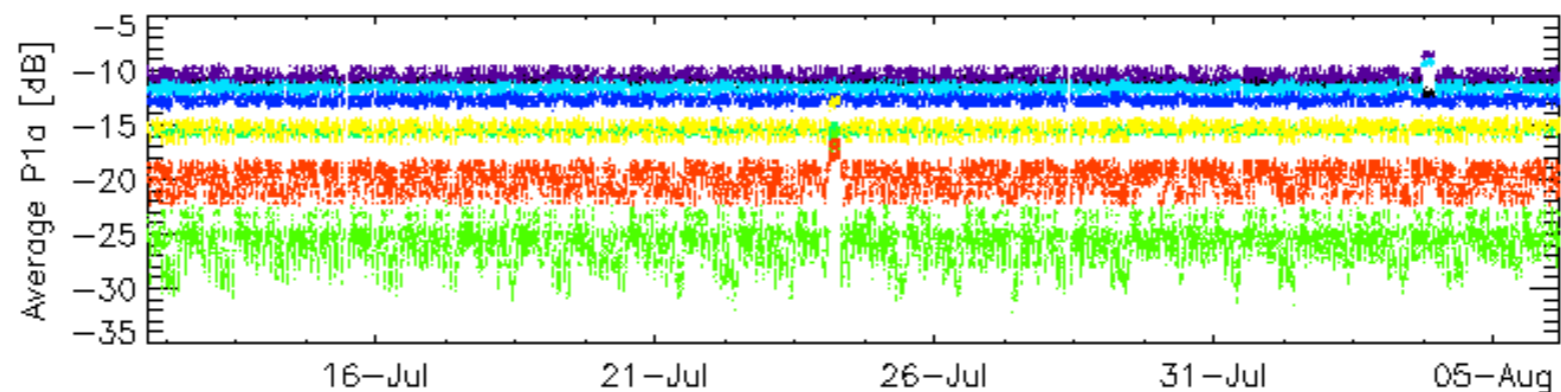
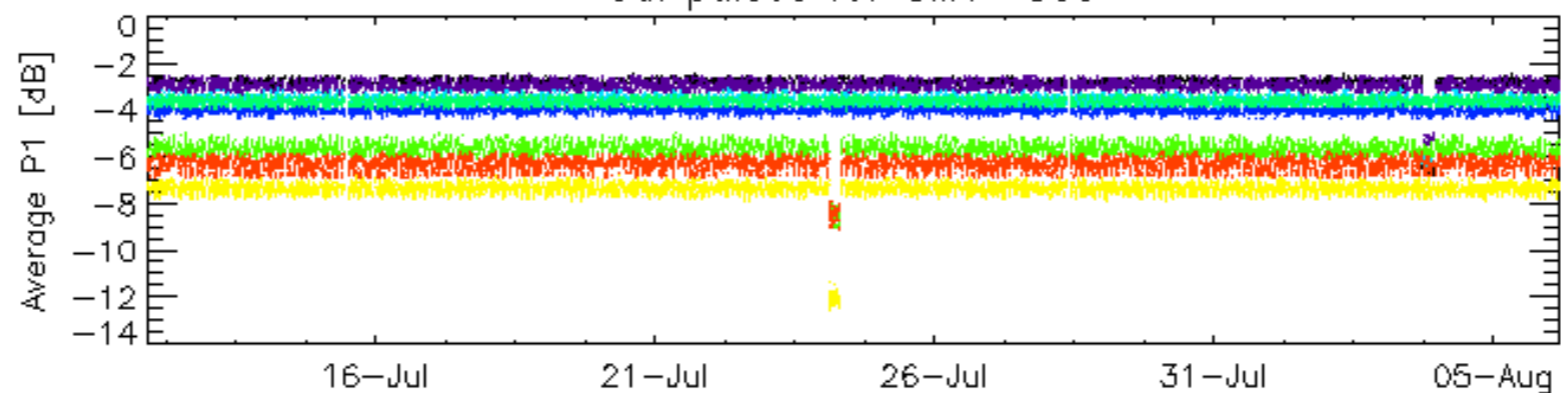


Cal pulses for WVS IS2



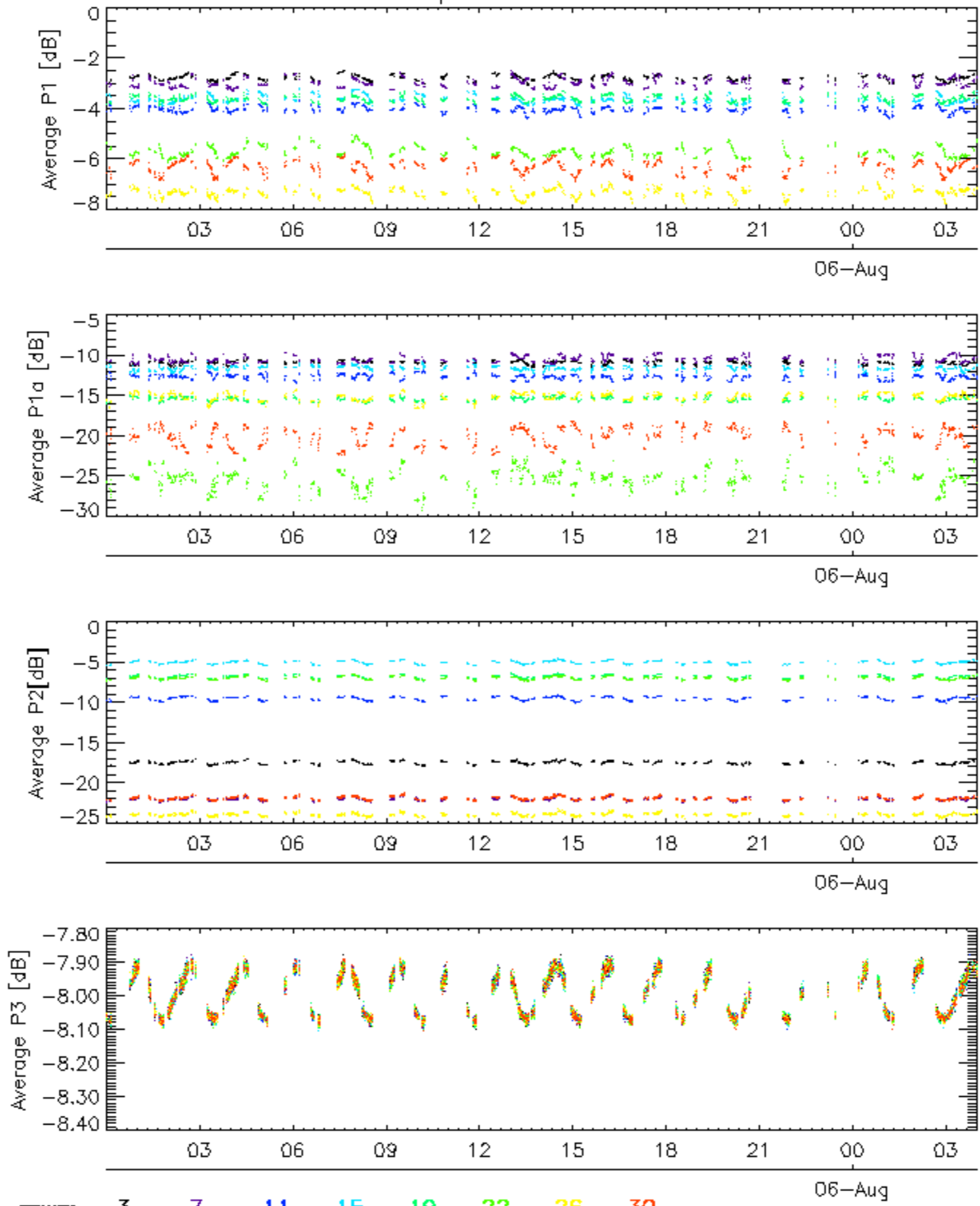
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3



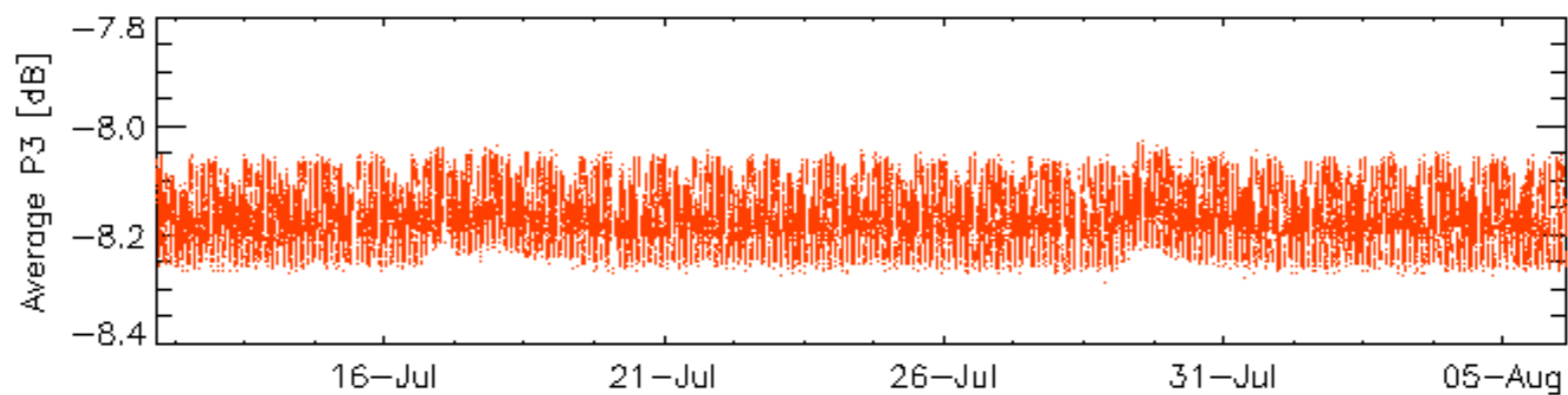
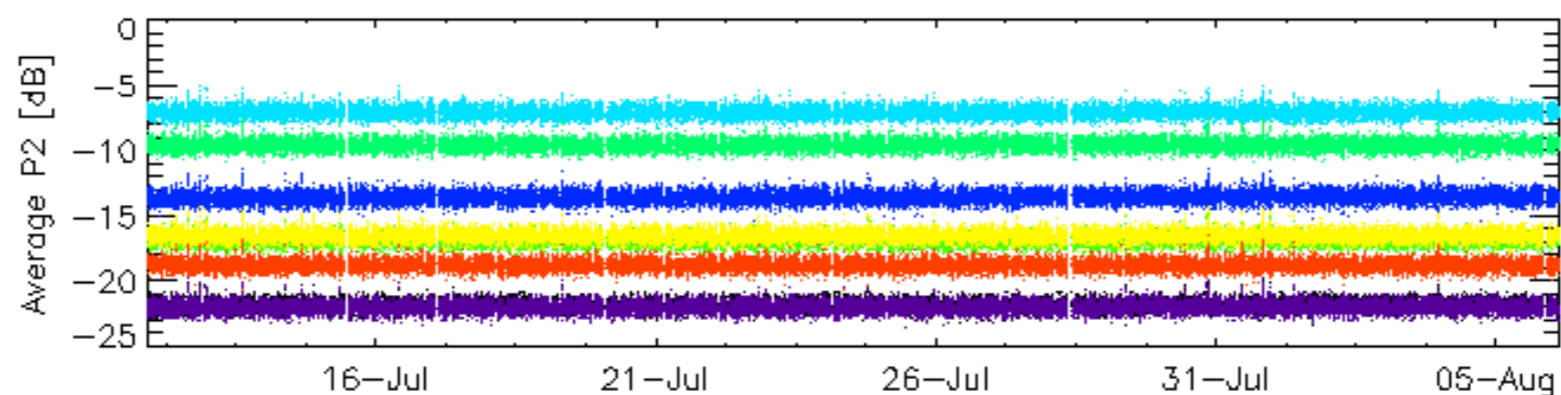
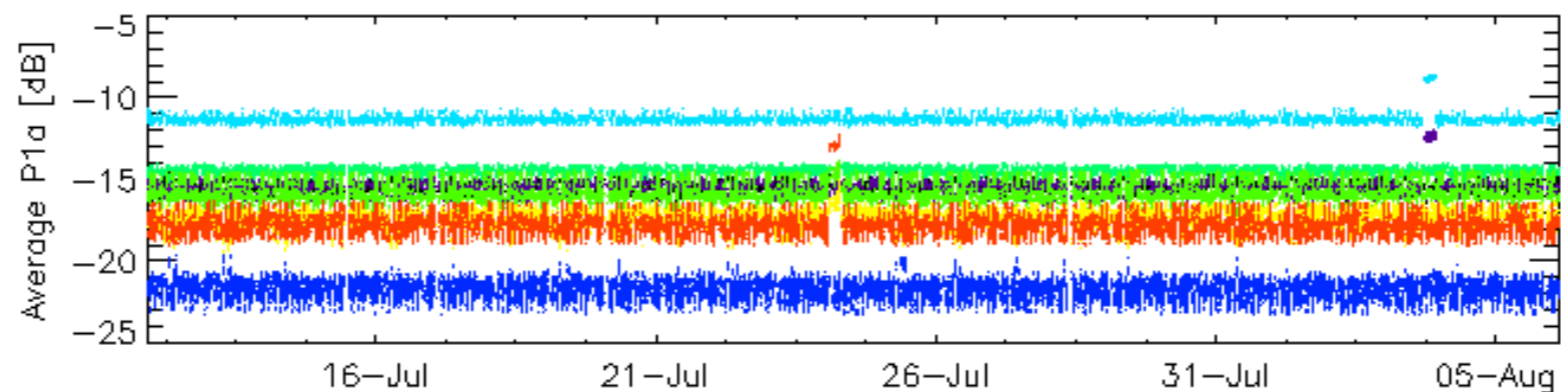
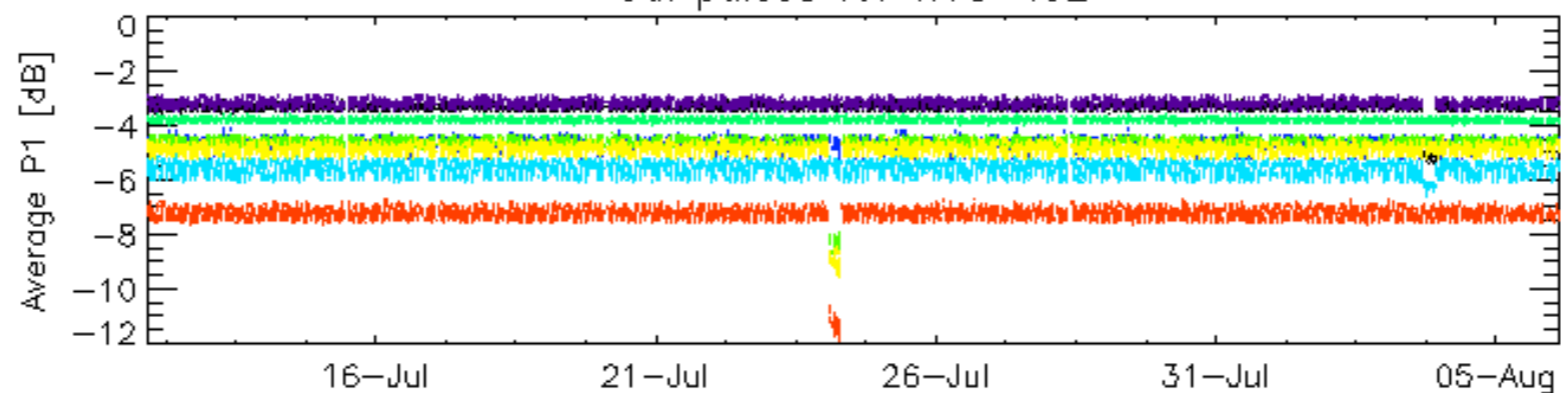
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3



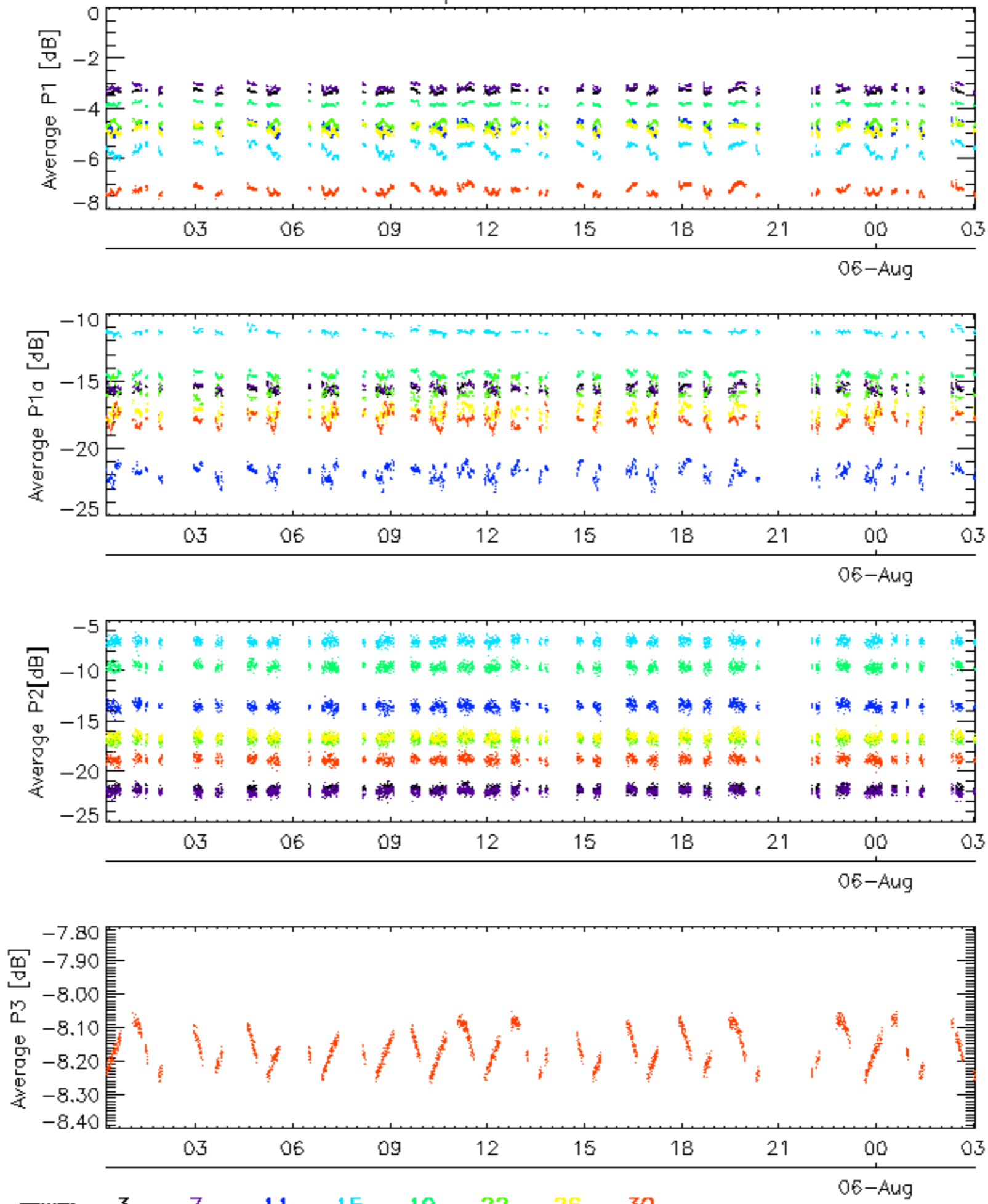
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2



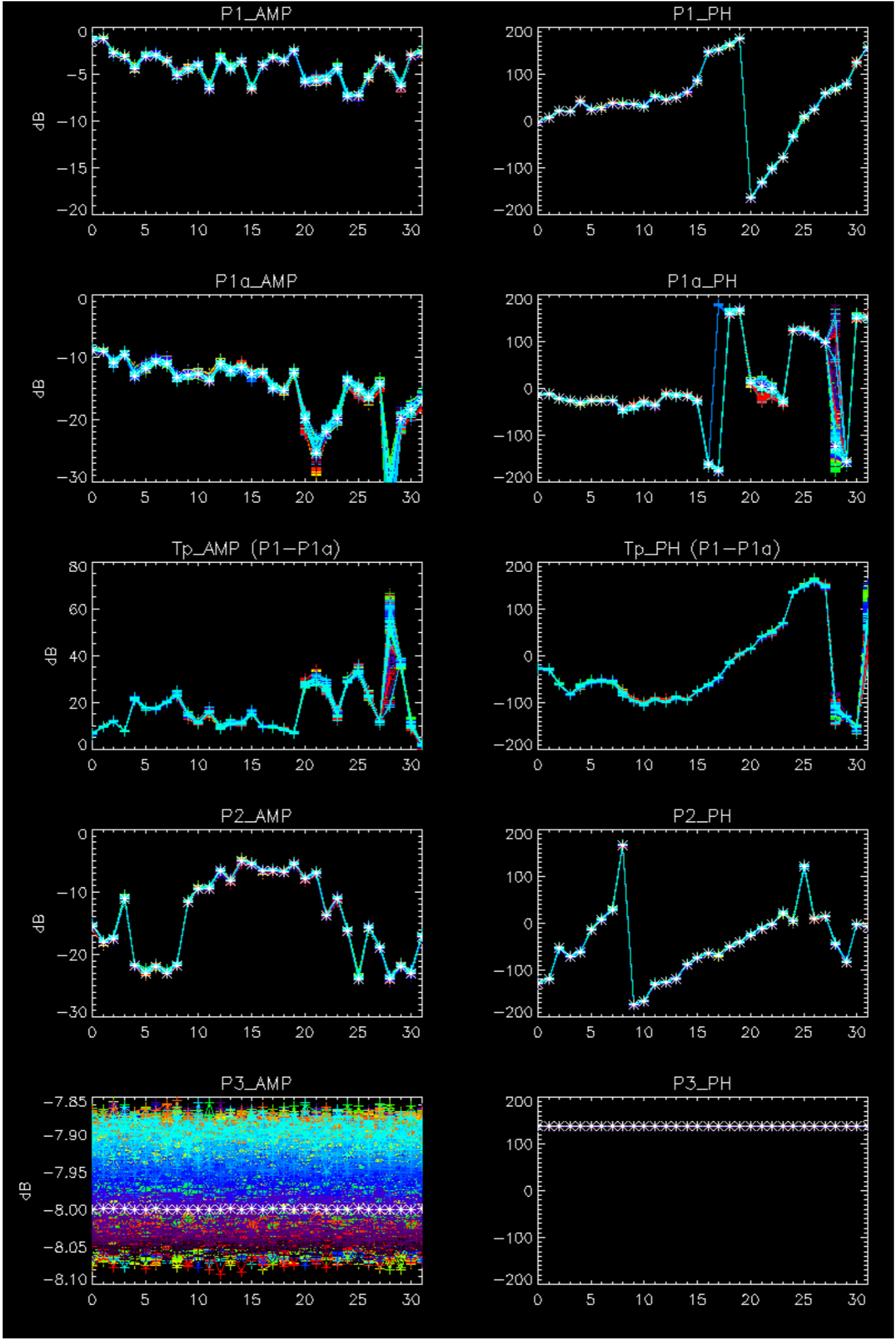
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

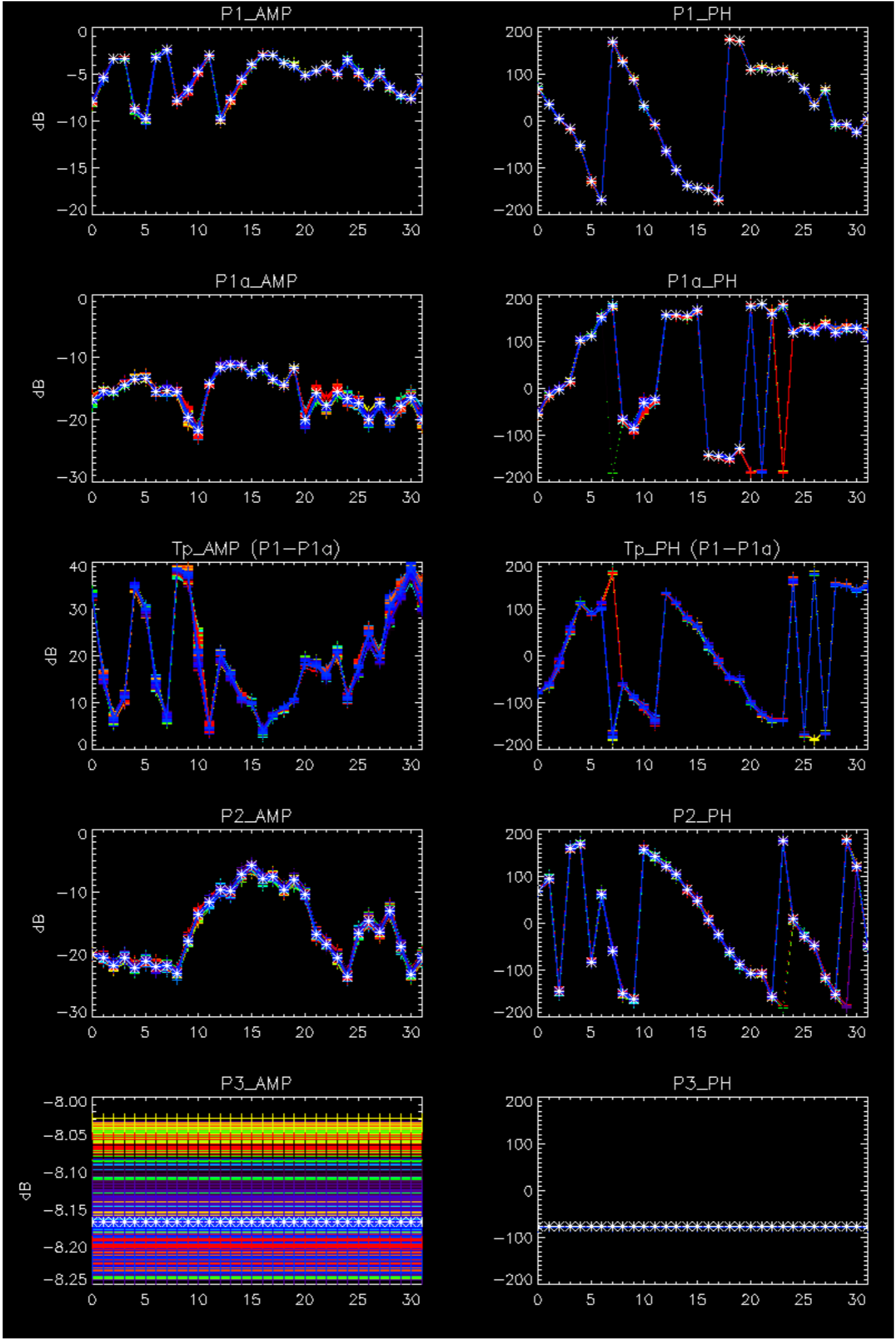
Cal pulses for WVS IS2



No anomalies observed.



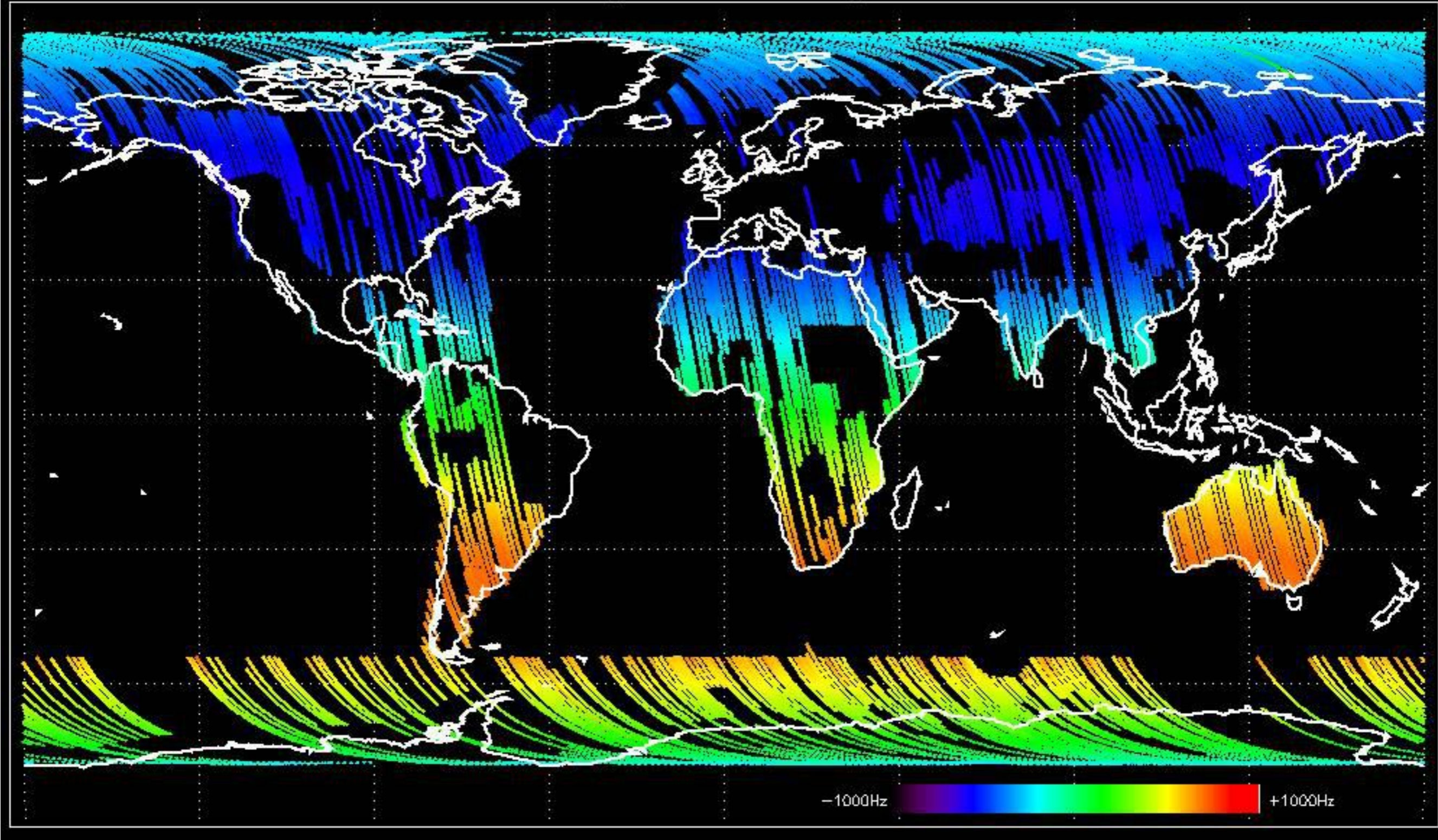




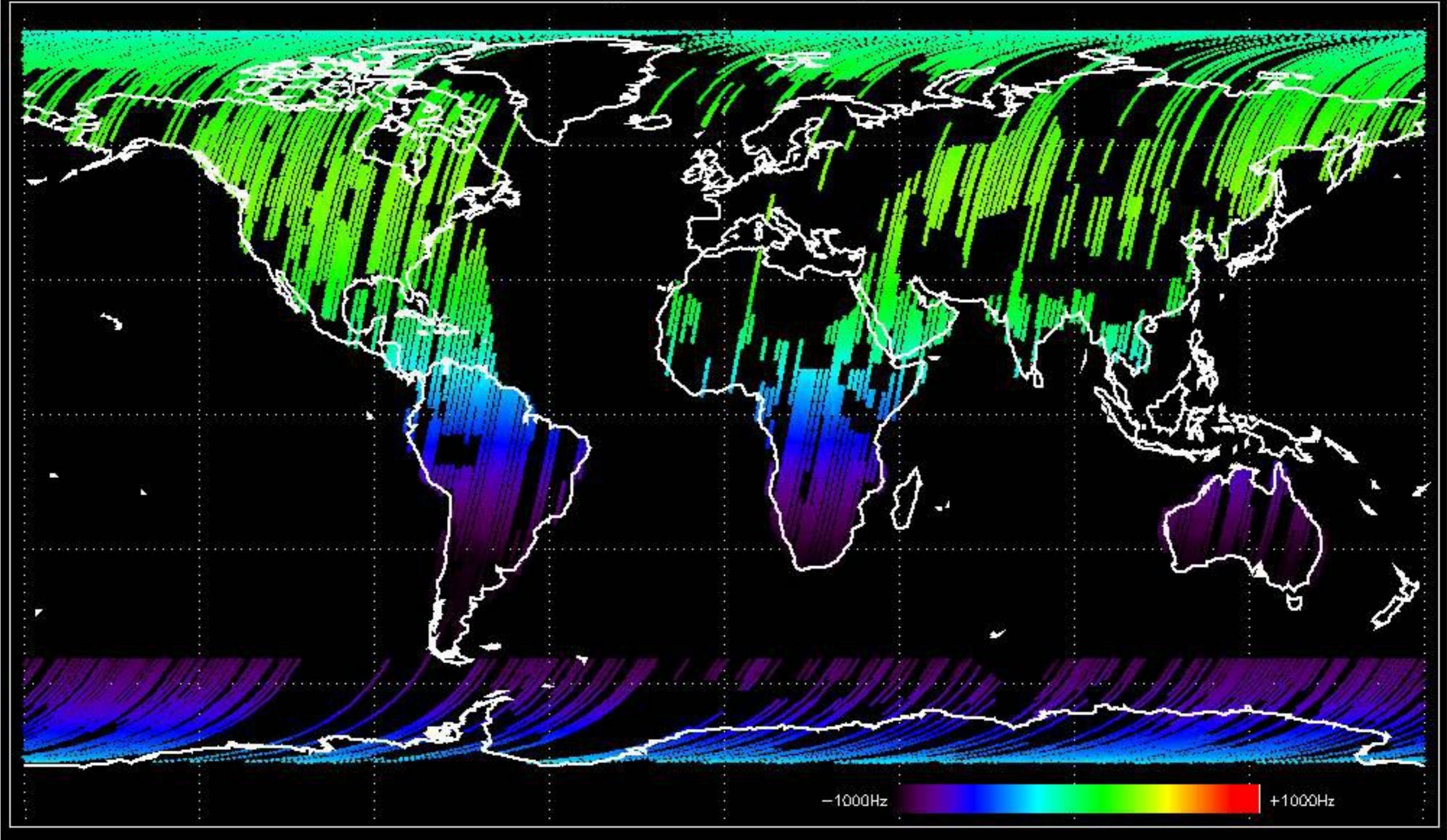
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



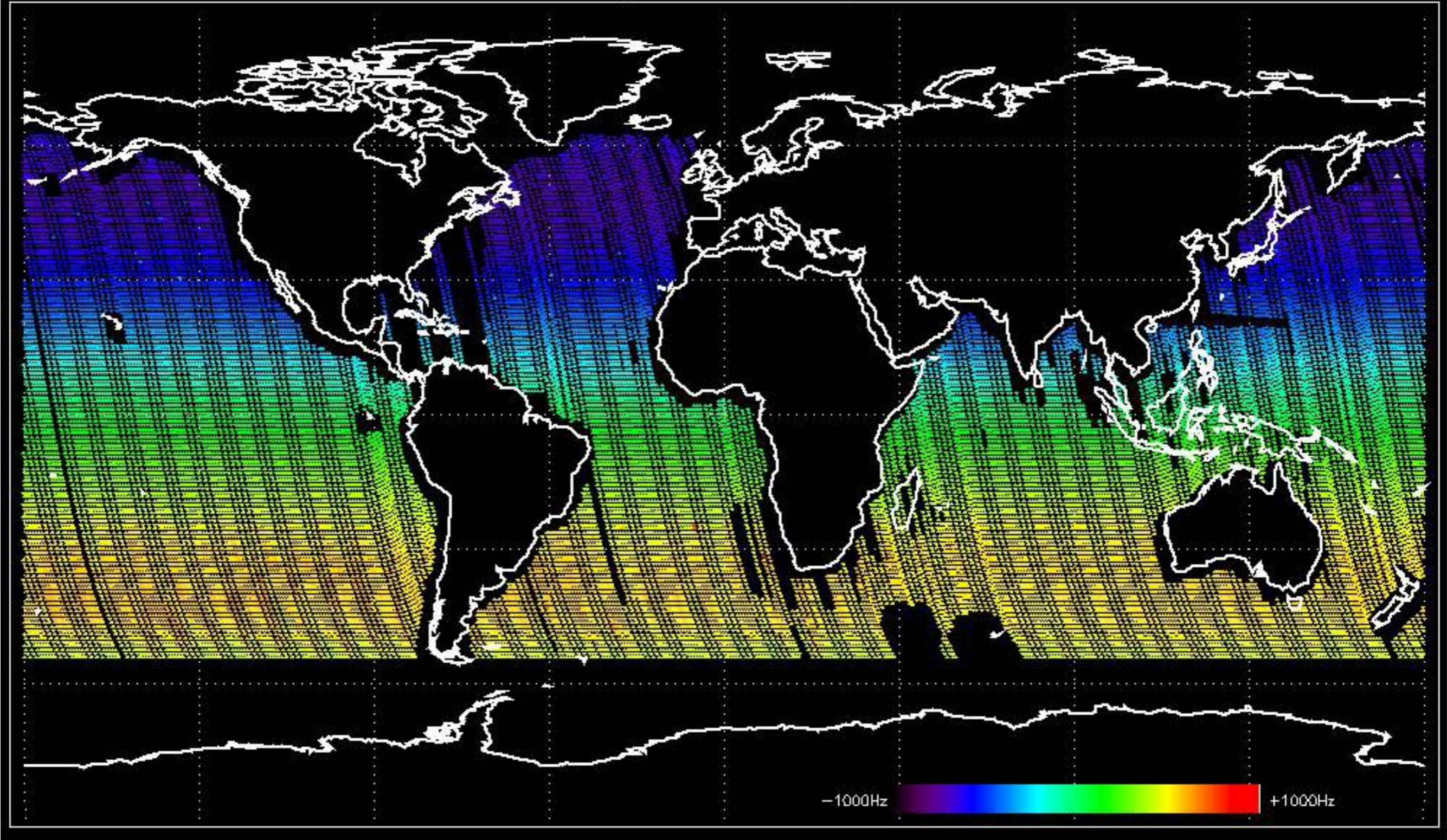
Doppler 'GM1' 'SS1' ascending



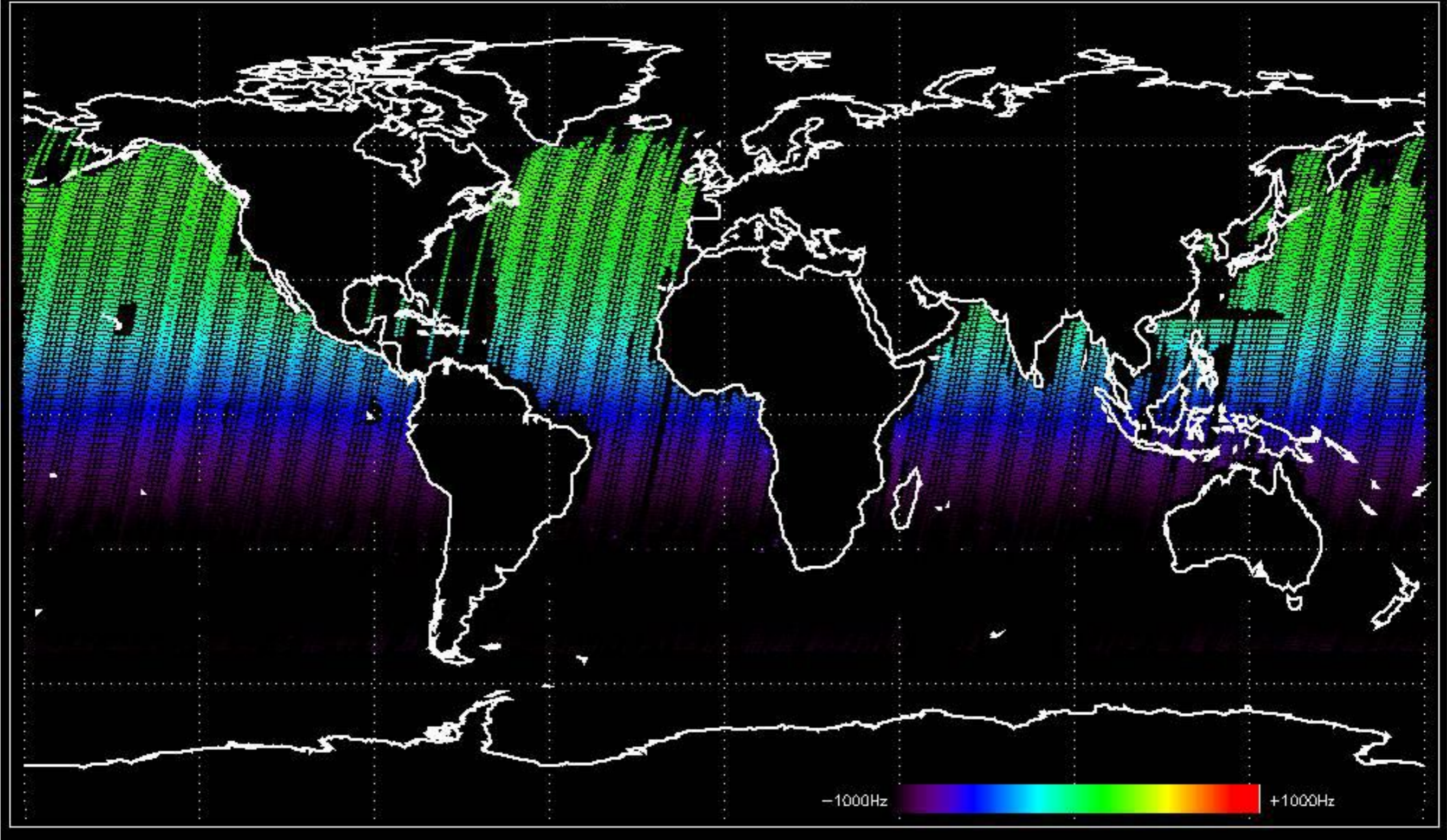
Doppler 'GM1' 'SS1' descending



Doppler 'WVS' 'IS2' ascending

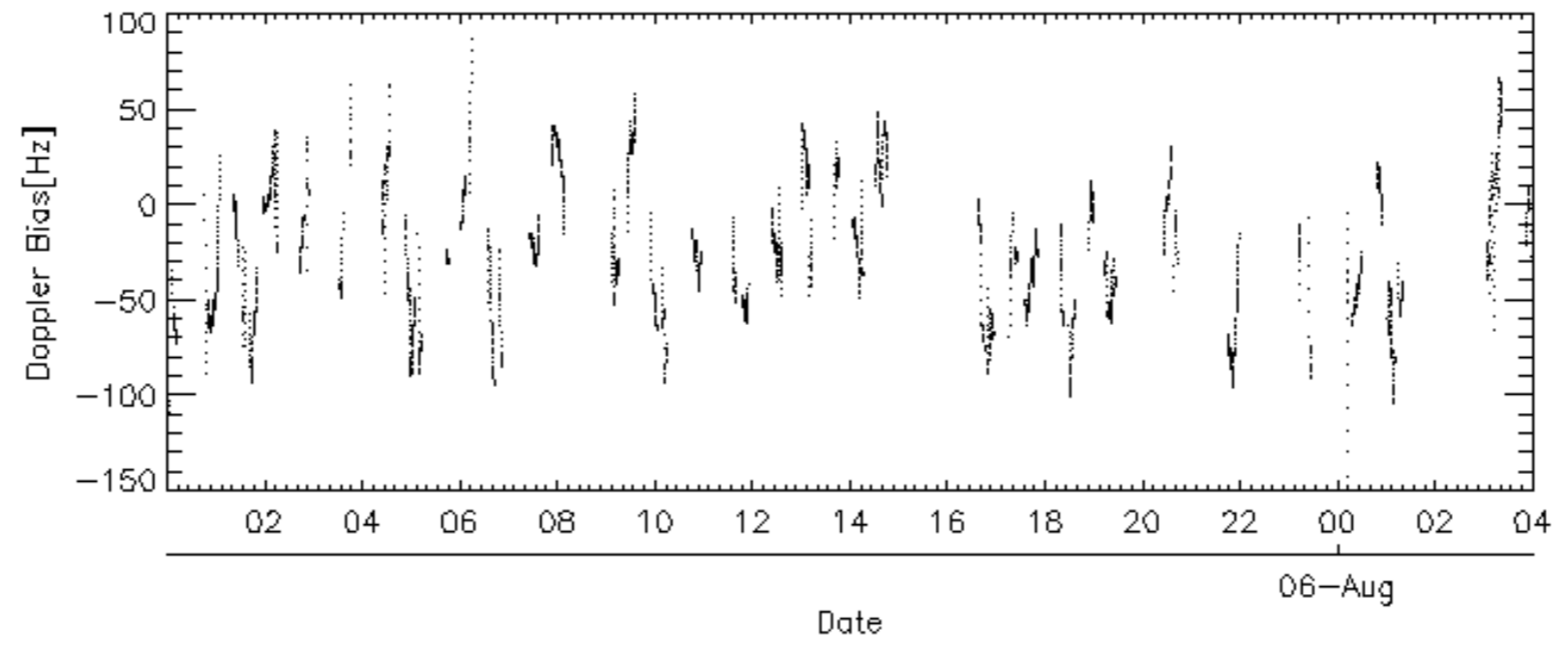
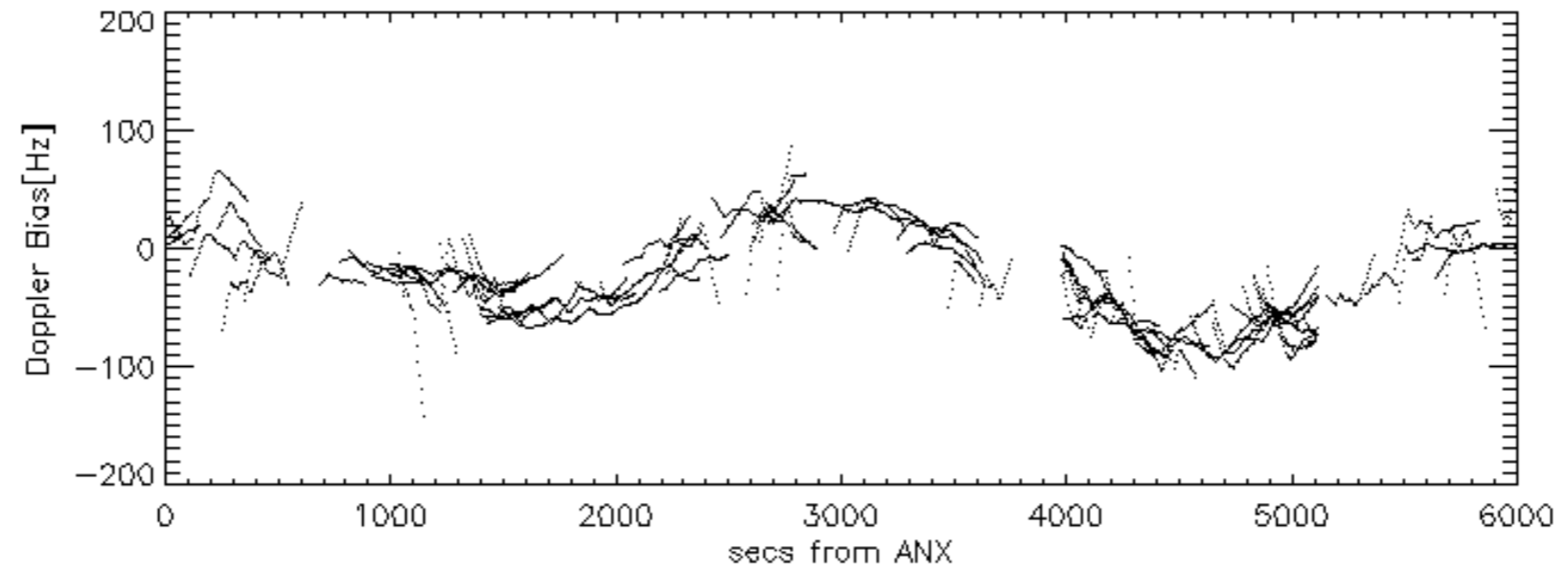
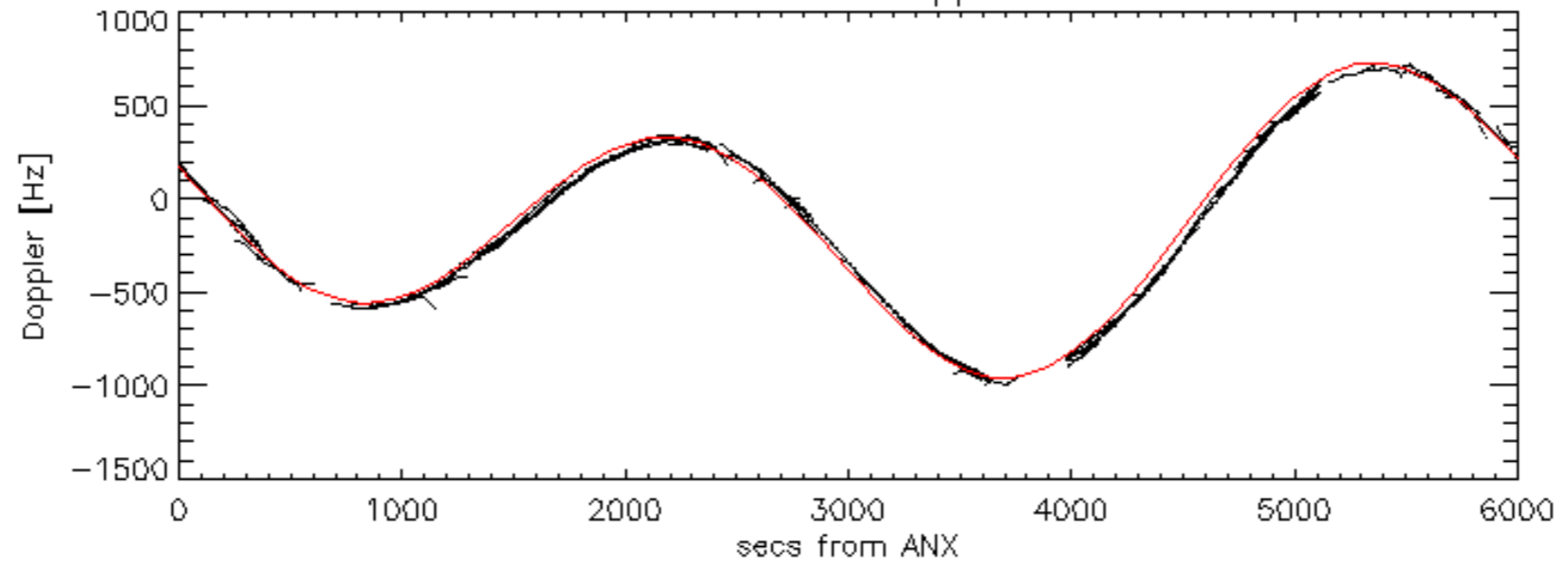


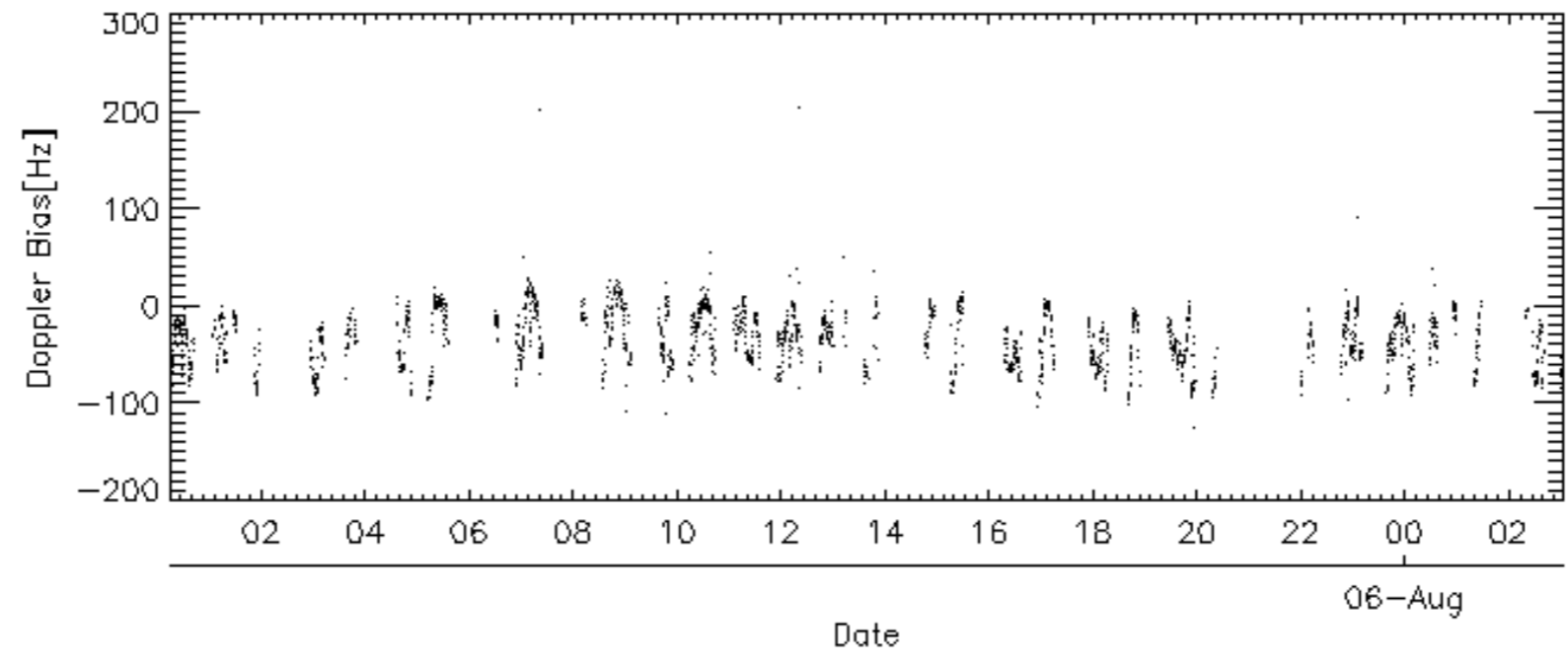
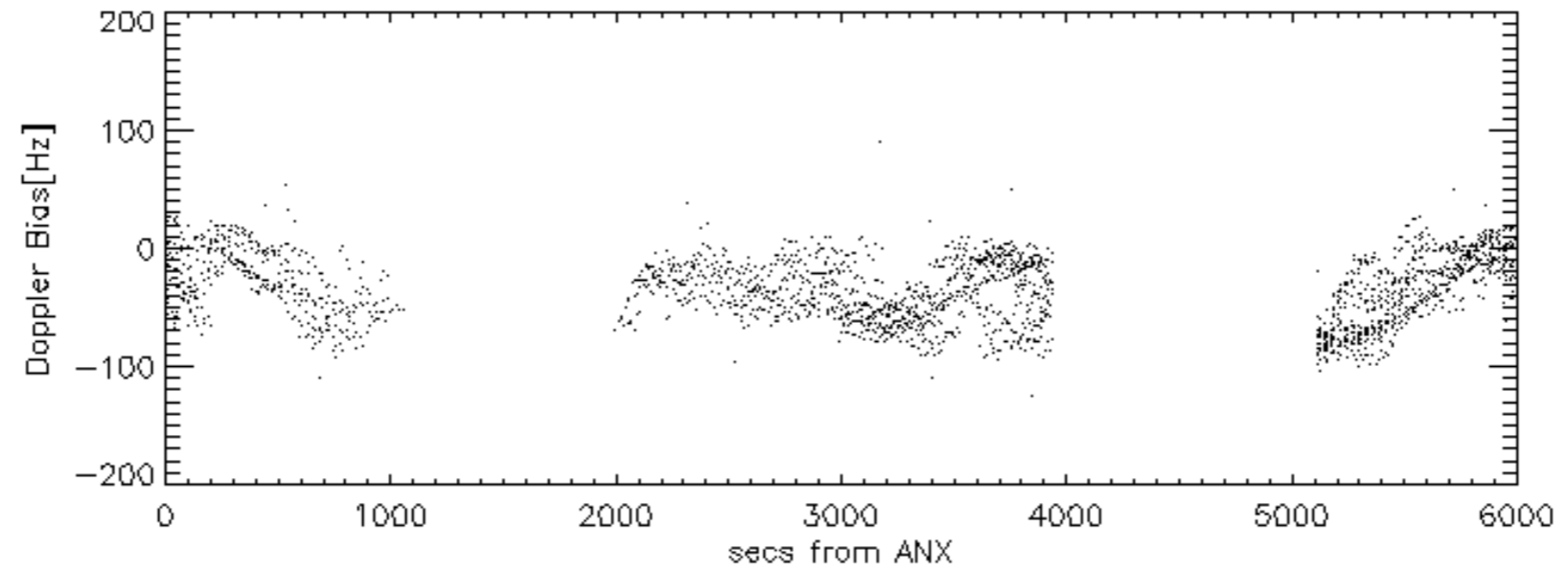
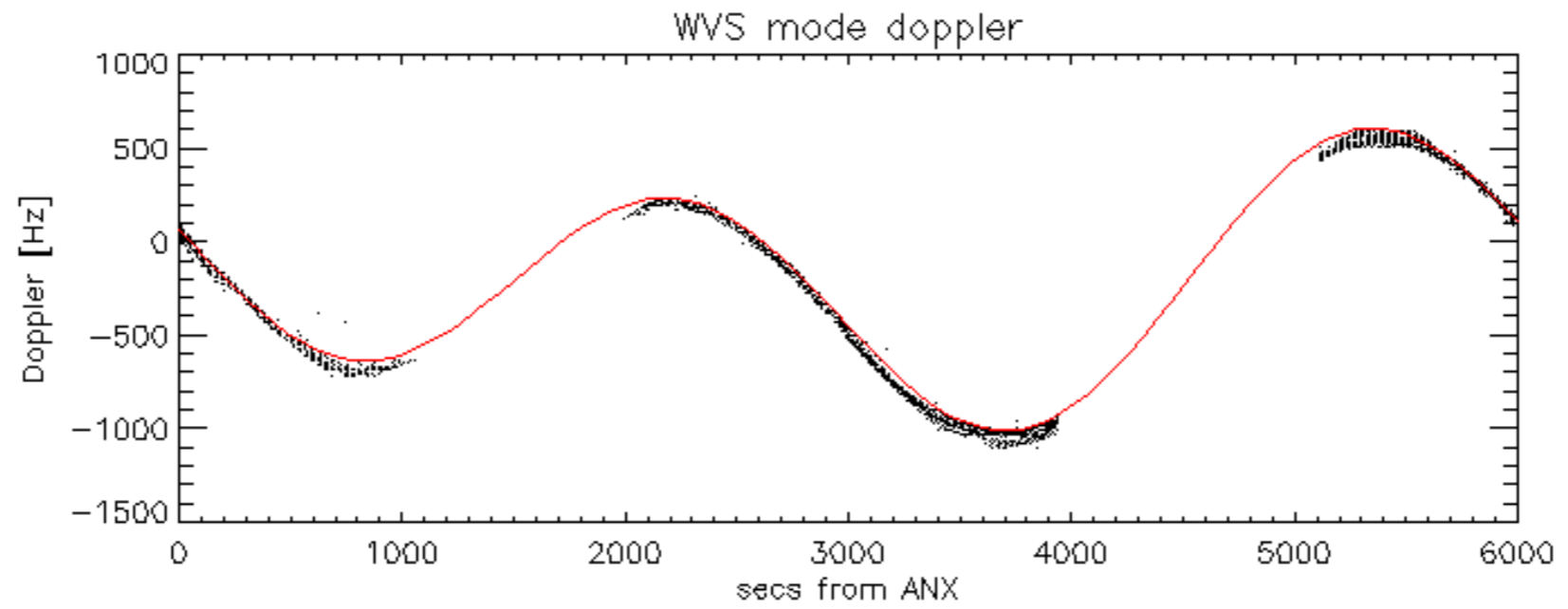
Doppler 'WVS' 'IS2' descending



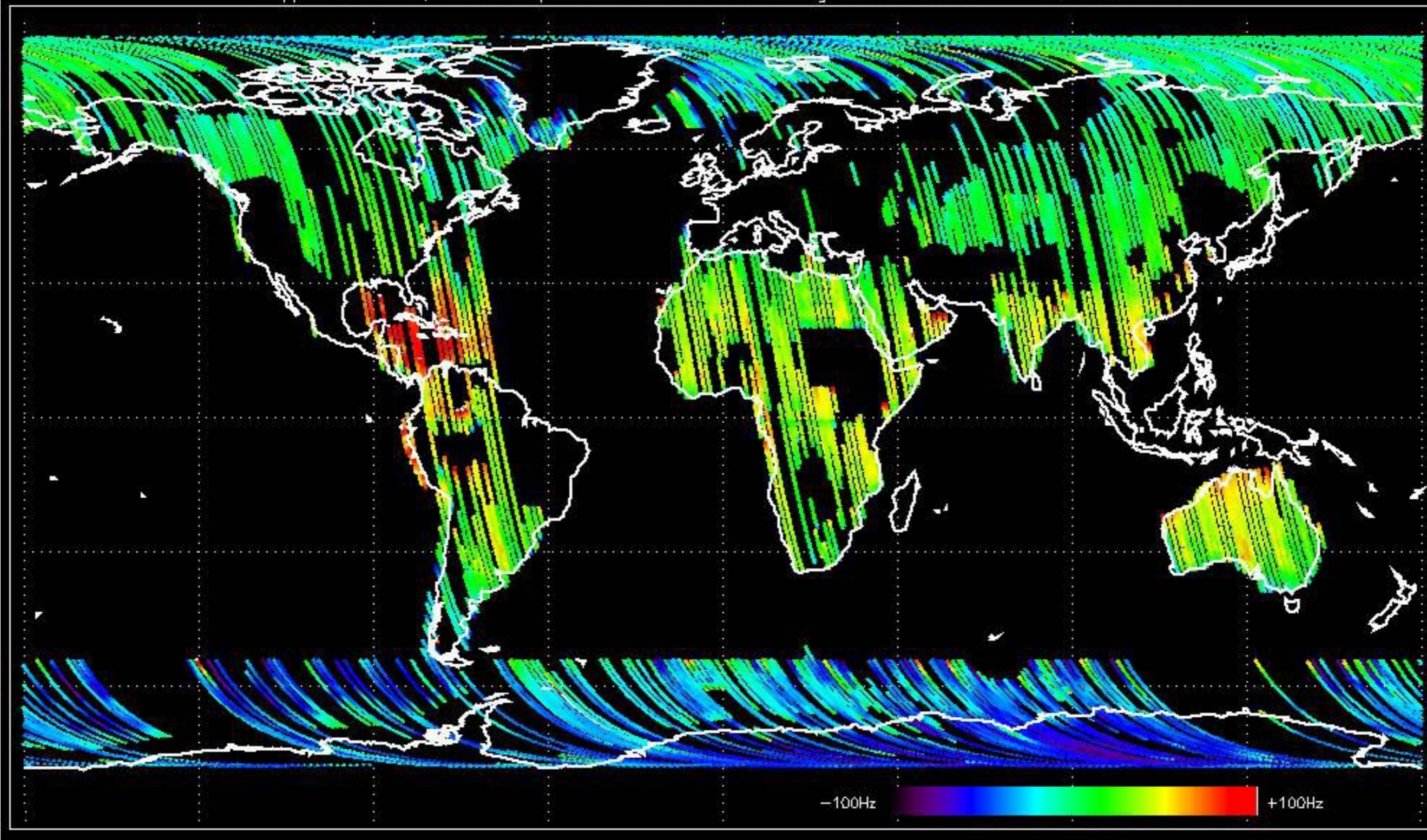


GM1 mode doppler

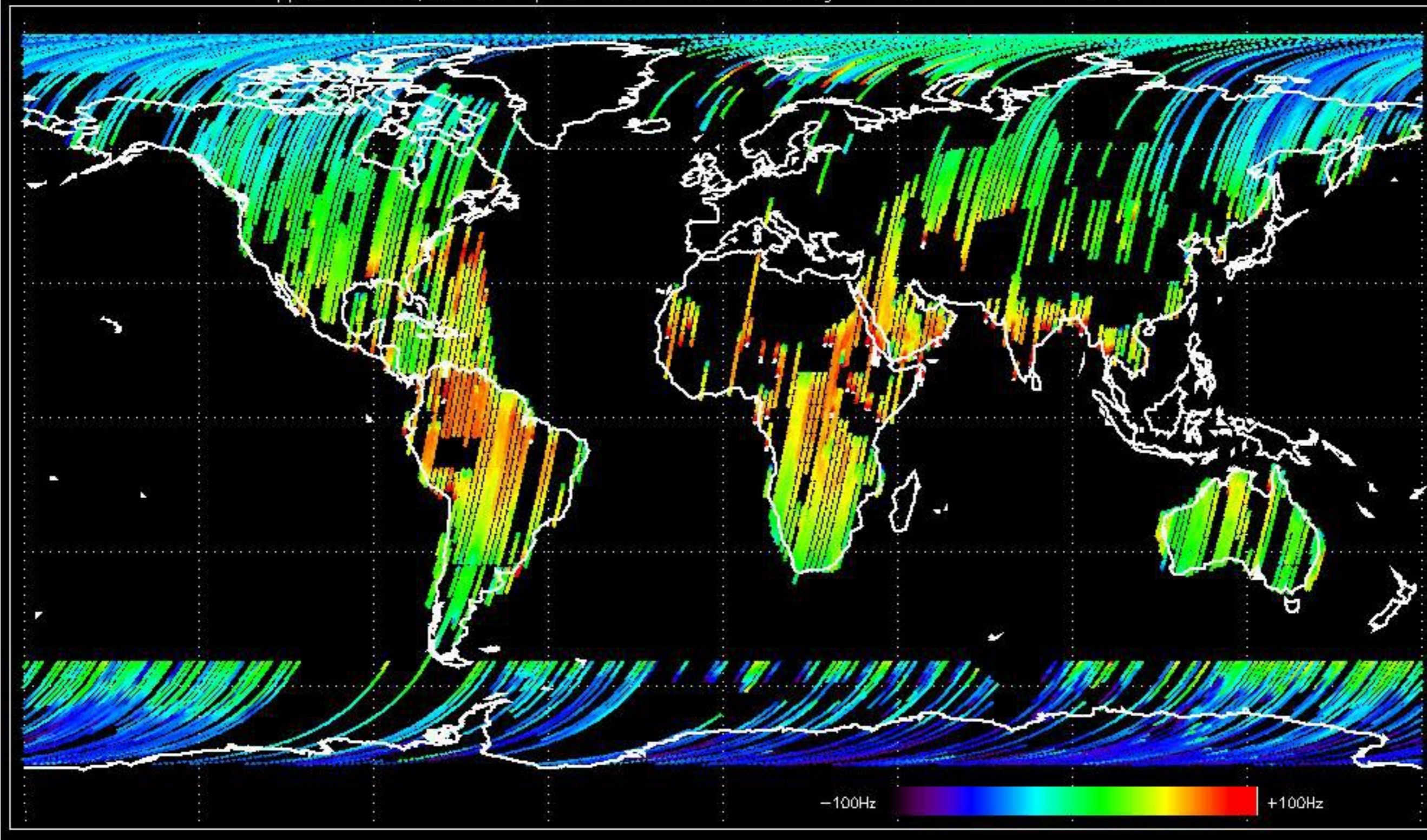




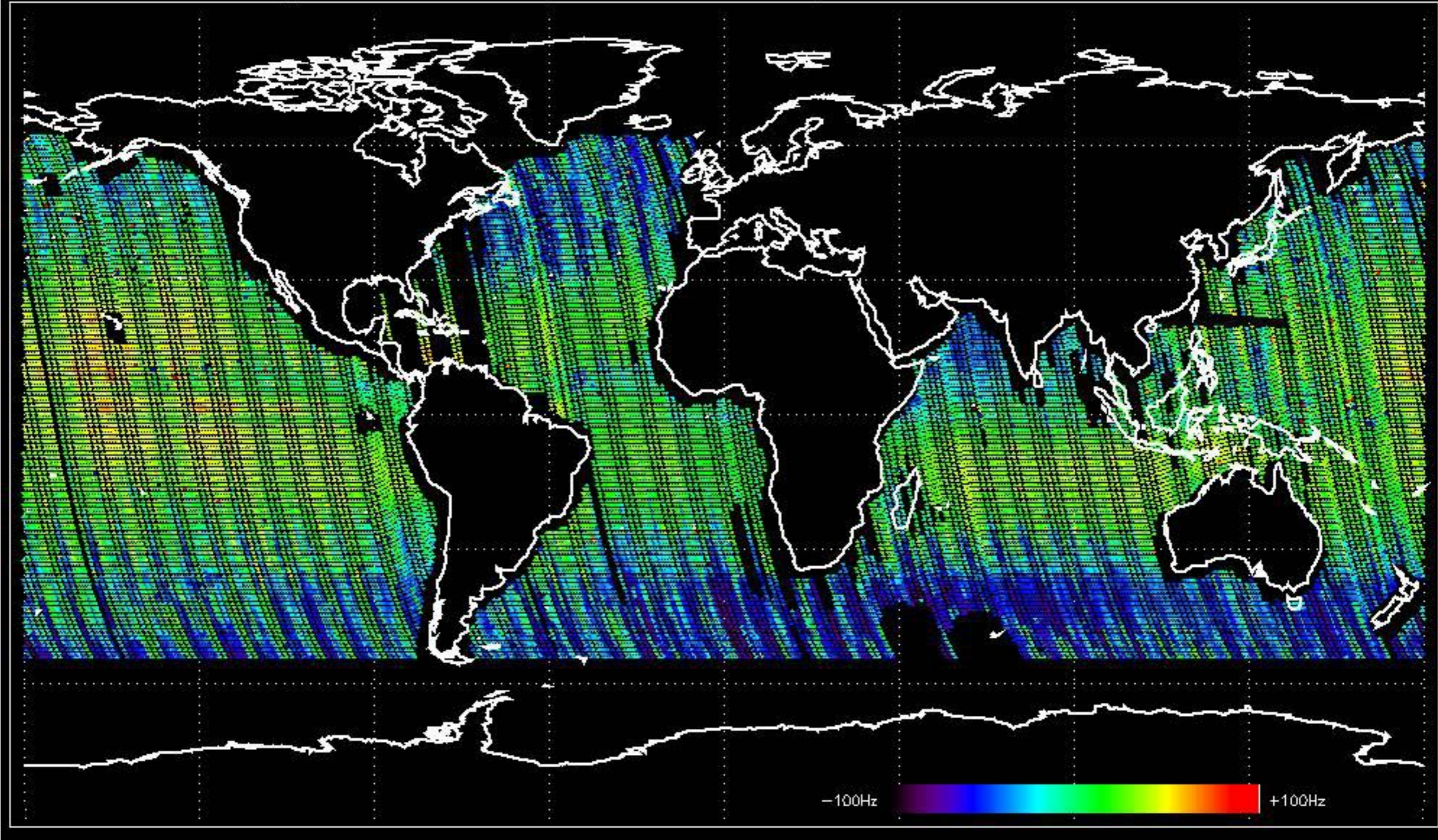
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -33.771711 Hz



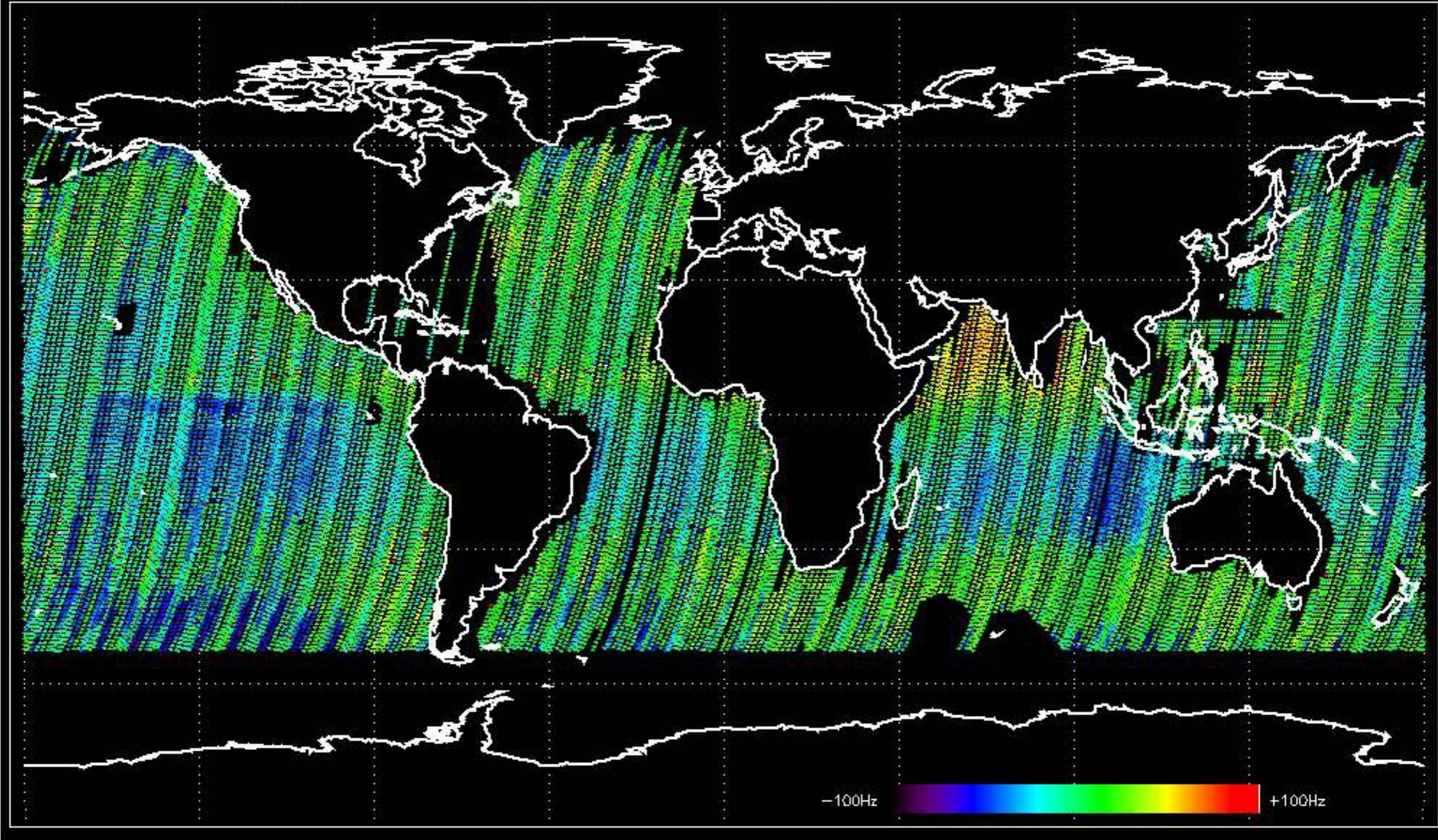
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -25.944719 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -33.011104 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -36.315234 Hz



No anomalies observed on available MS products:

No anomalies observed.



















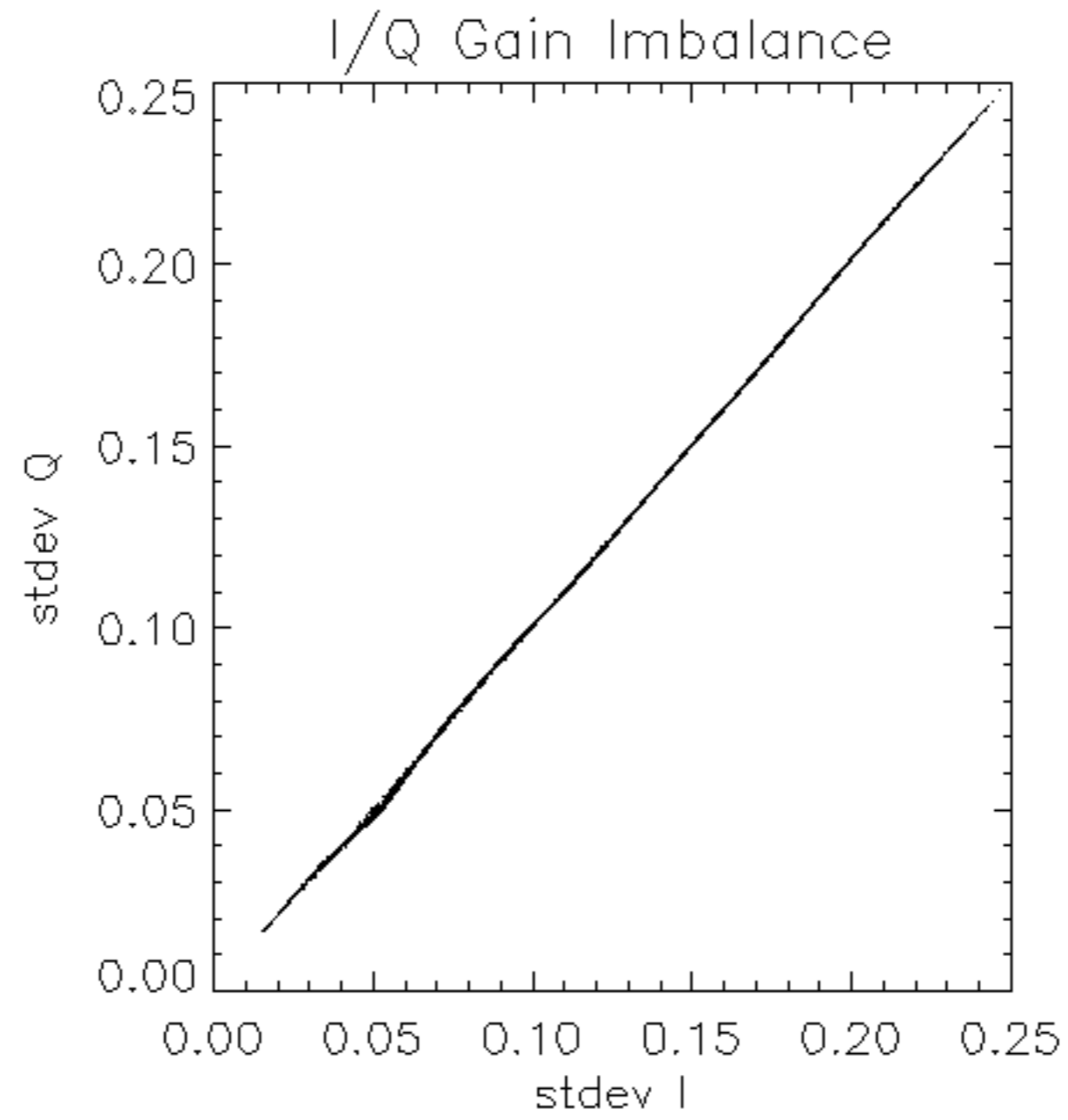


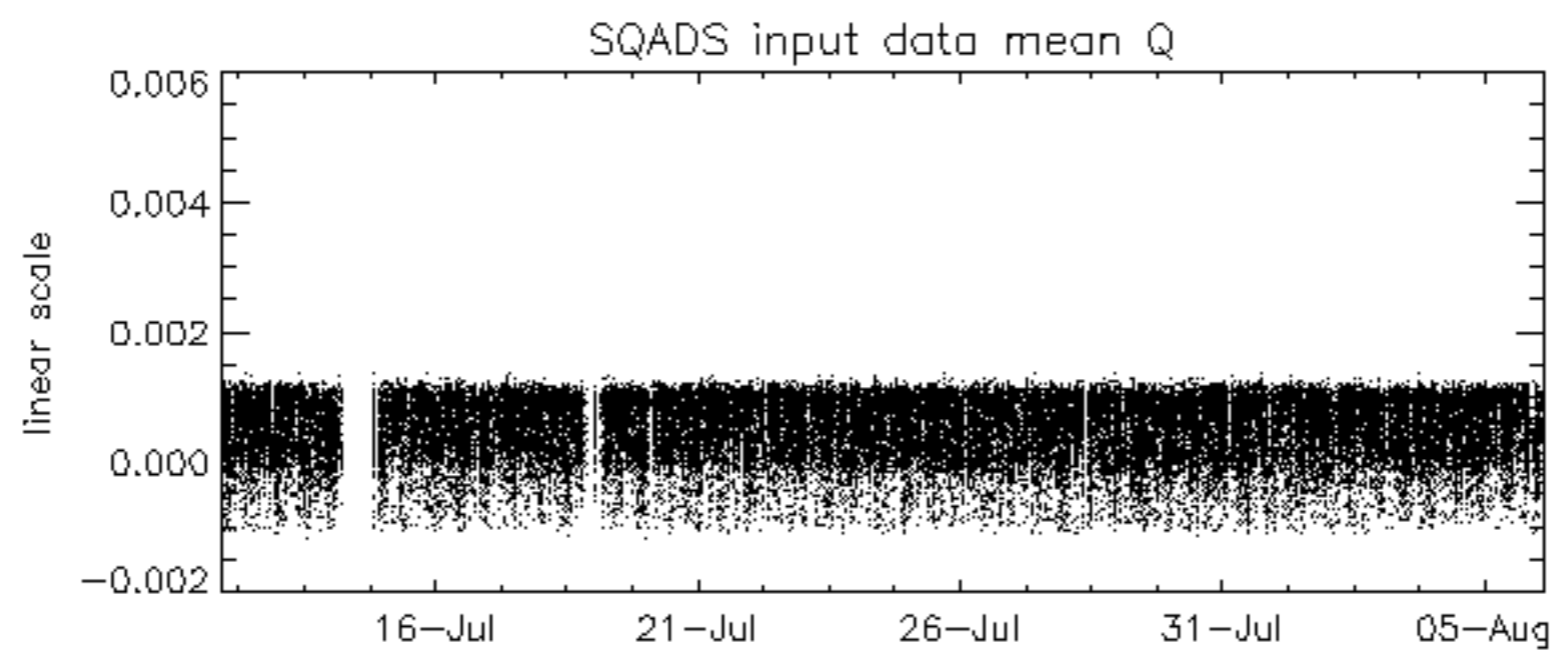
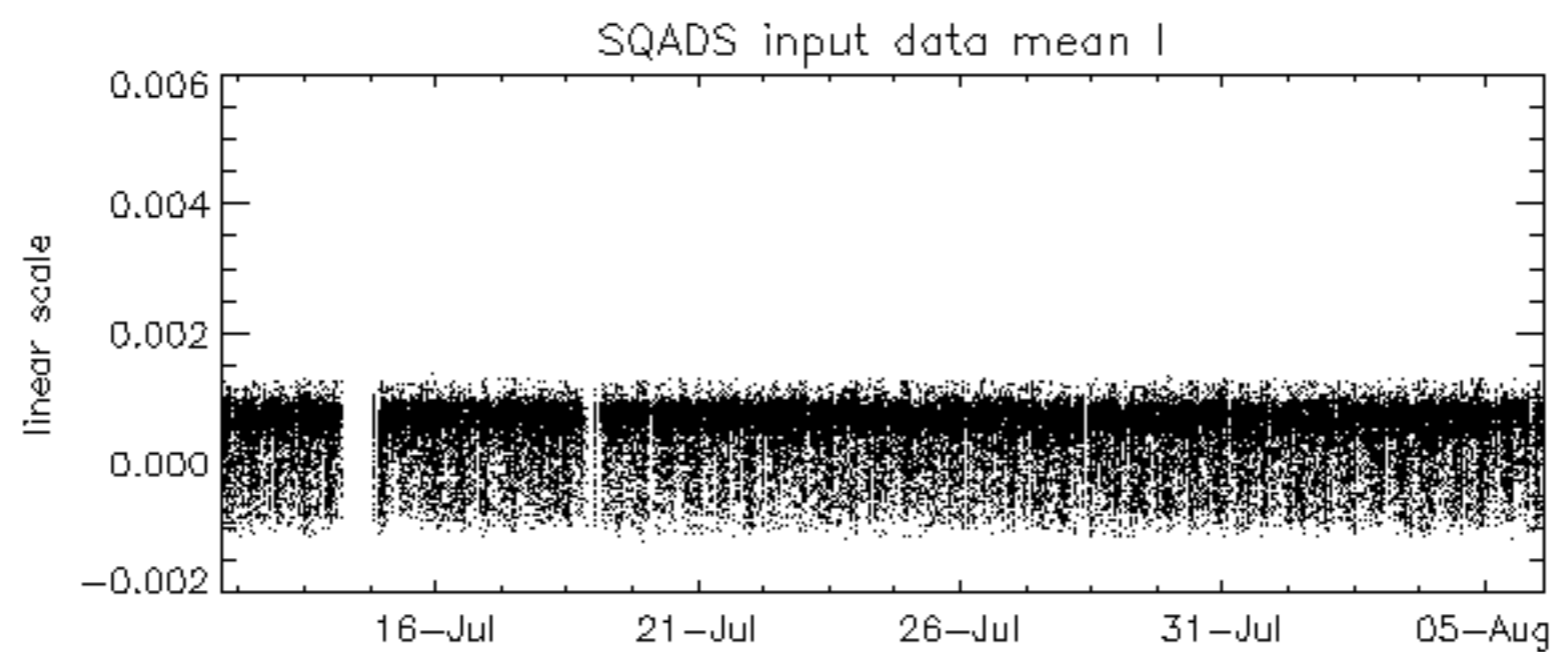
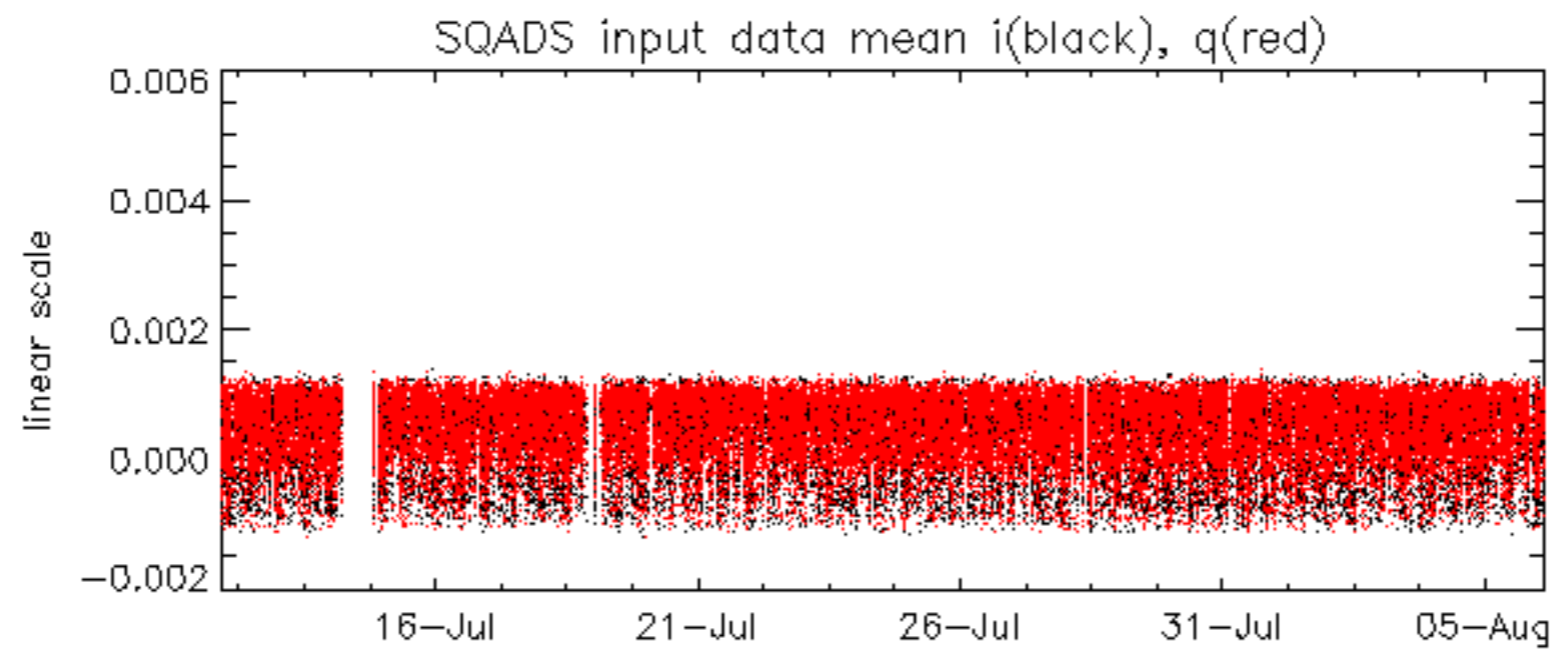


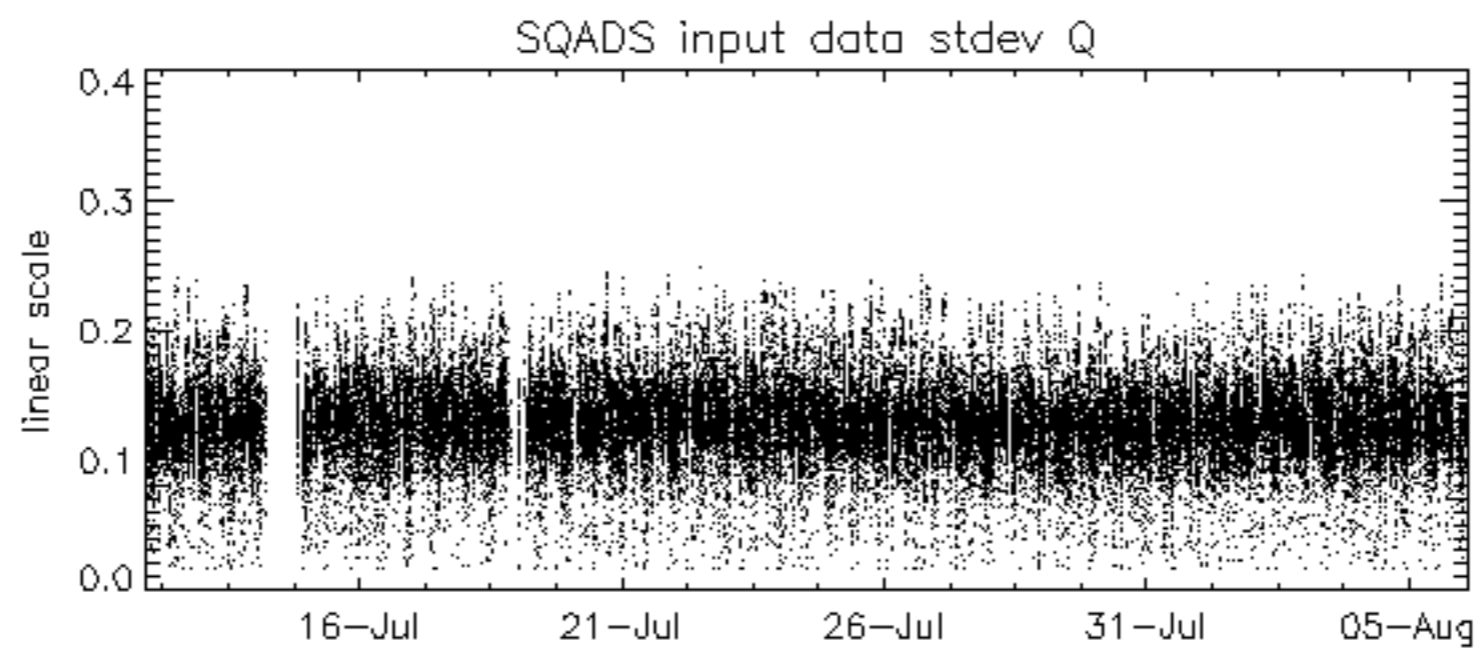
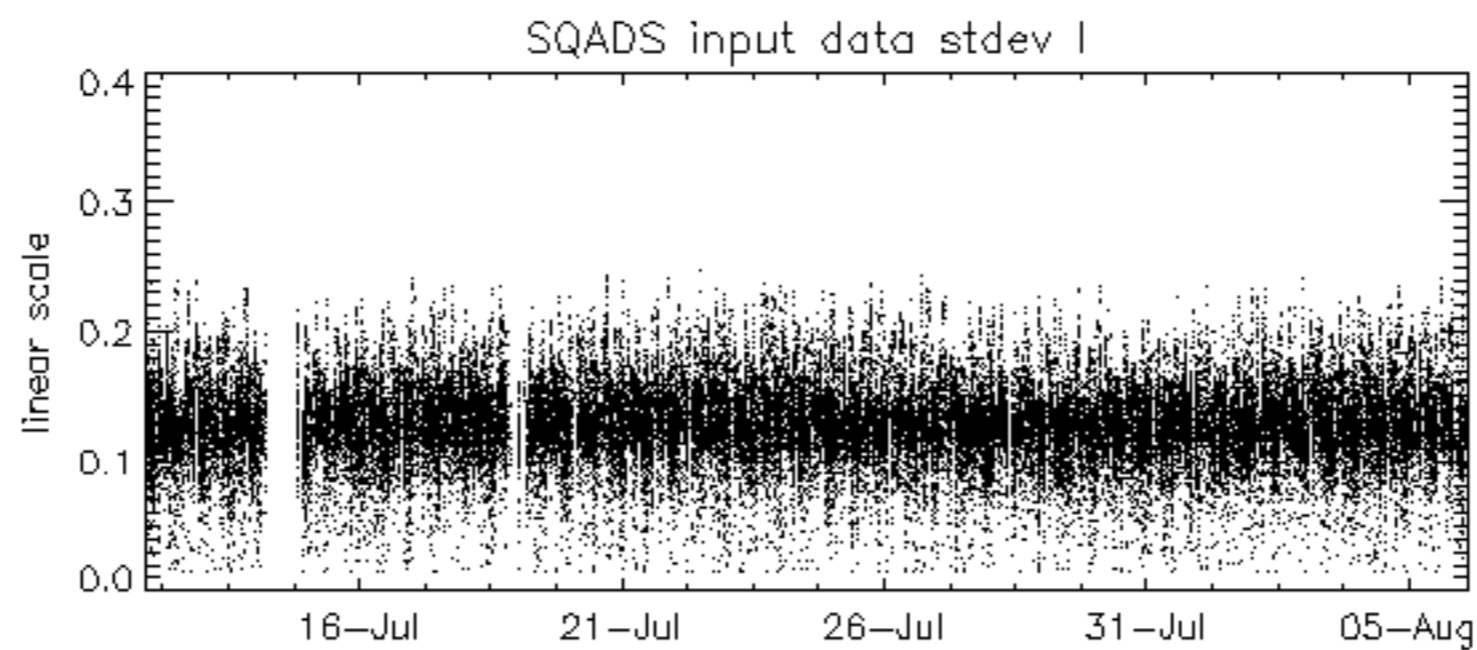
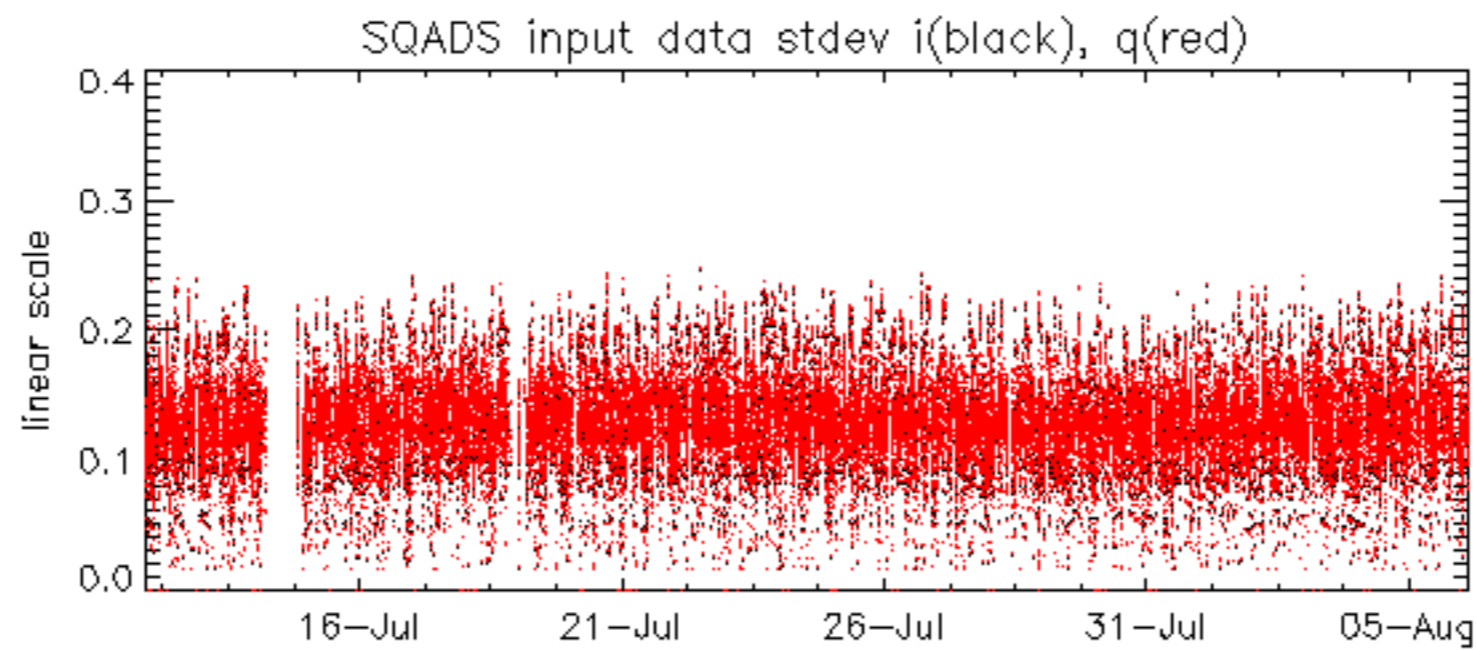
























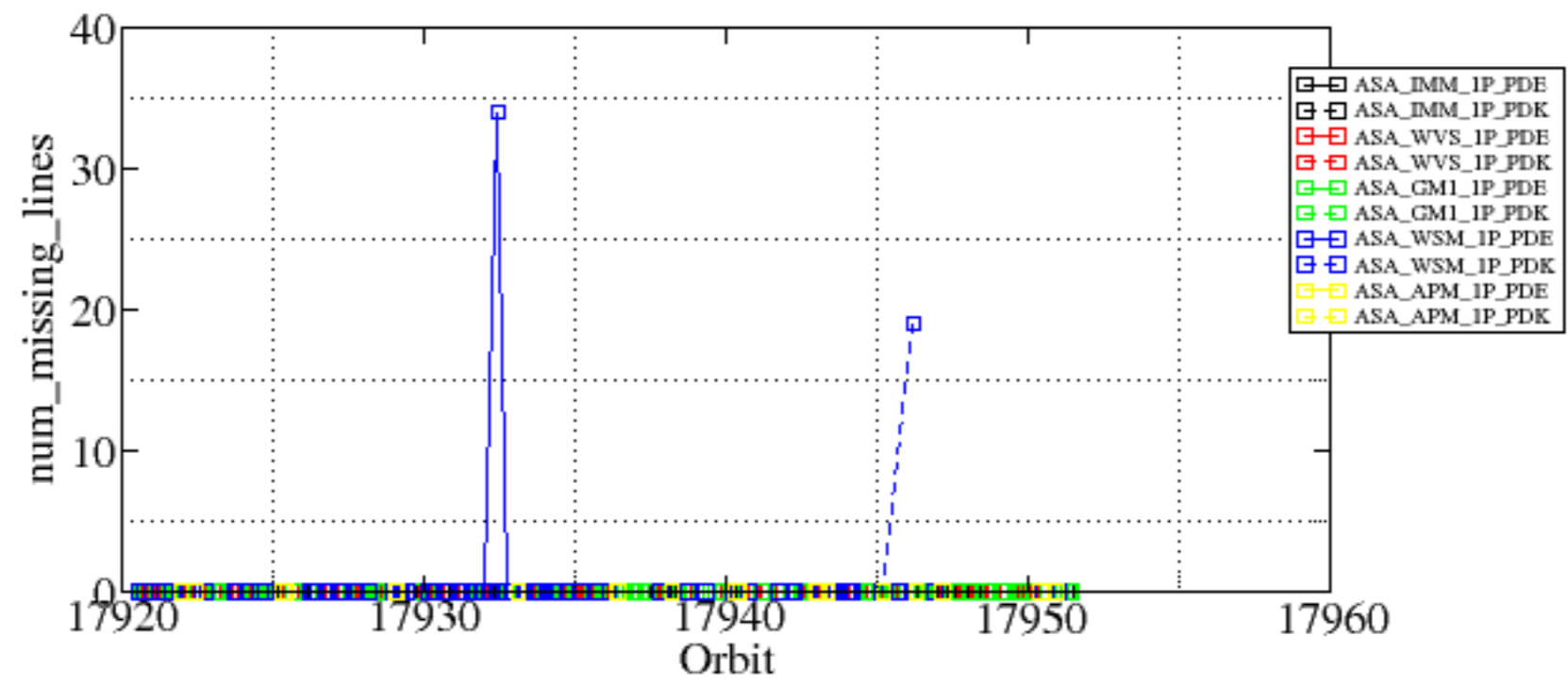


Summary of analysis for the last 3 days 2005080[456]

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

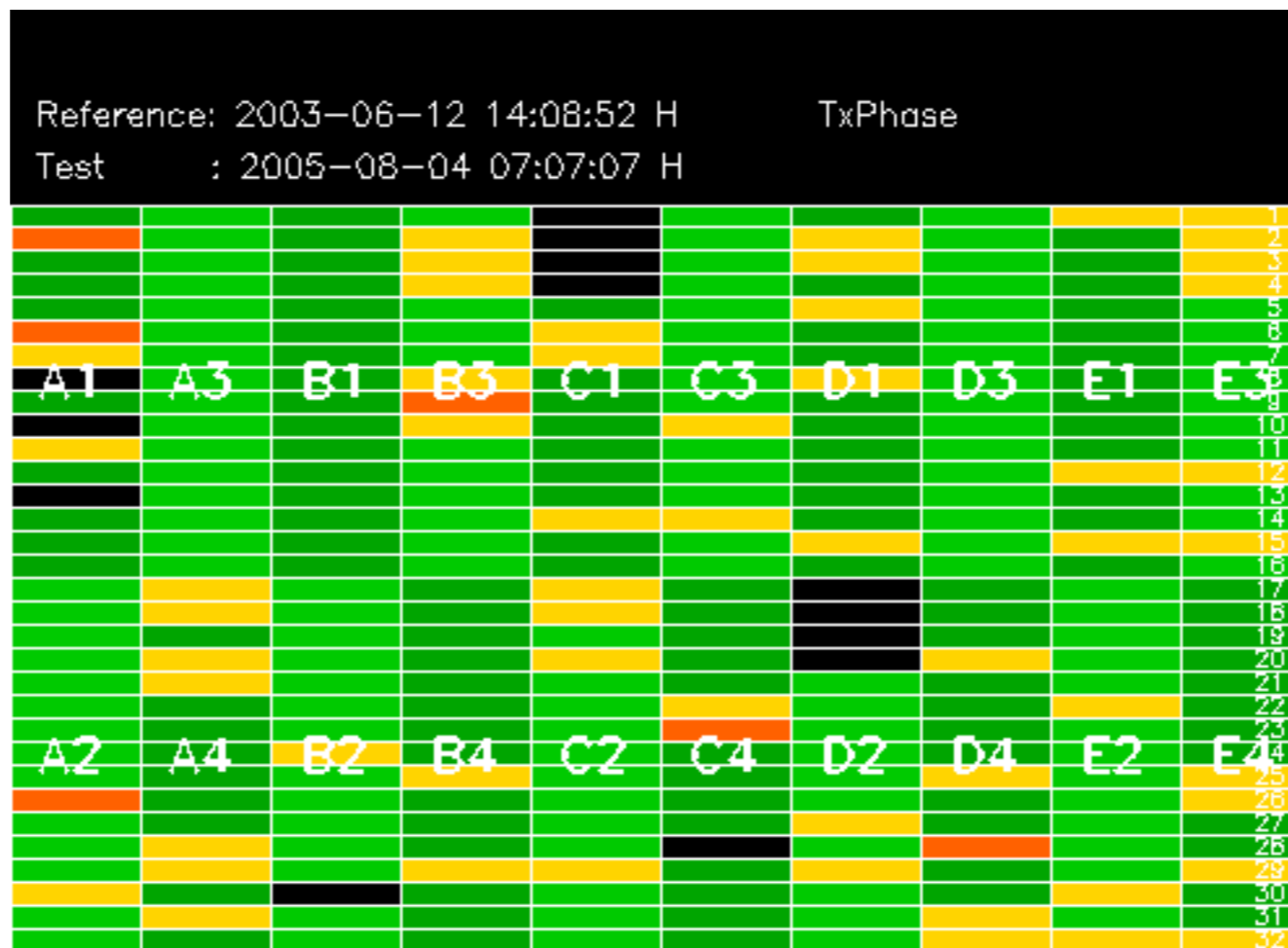
Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDK20050804_125413_000001212039_00339_17928_0953.N1	1	0
ASA_WVS_1PNPDE20050804_223406_00000002039_00344_17933_0457.N1	1	0
ASA_WSM_1PNPDE20050804_200837_000000862039_00343_17932_3001.N1	0	34
ASA_WSM_1PNPDK20050805_191219_000000852039_00357_17946_1331.N1	0	19

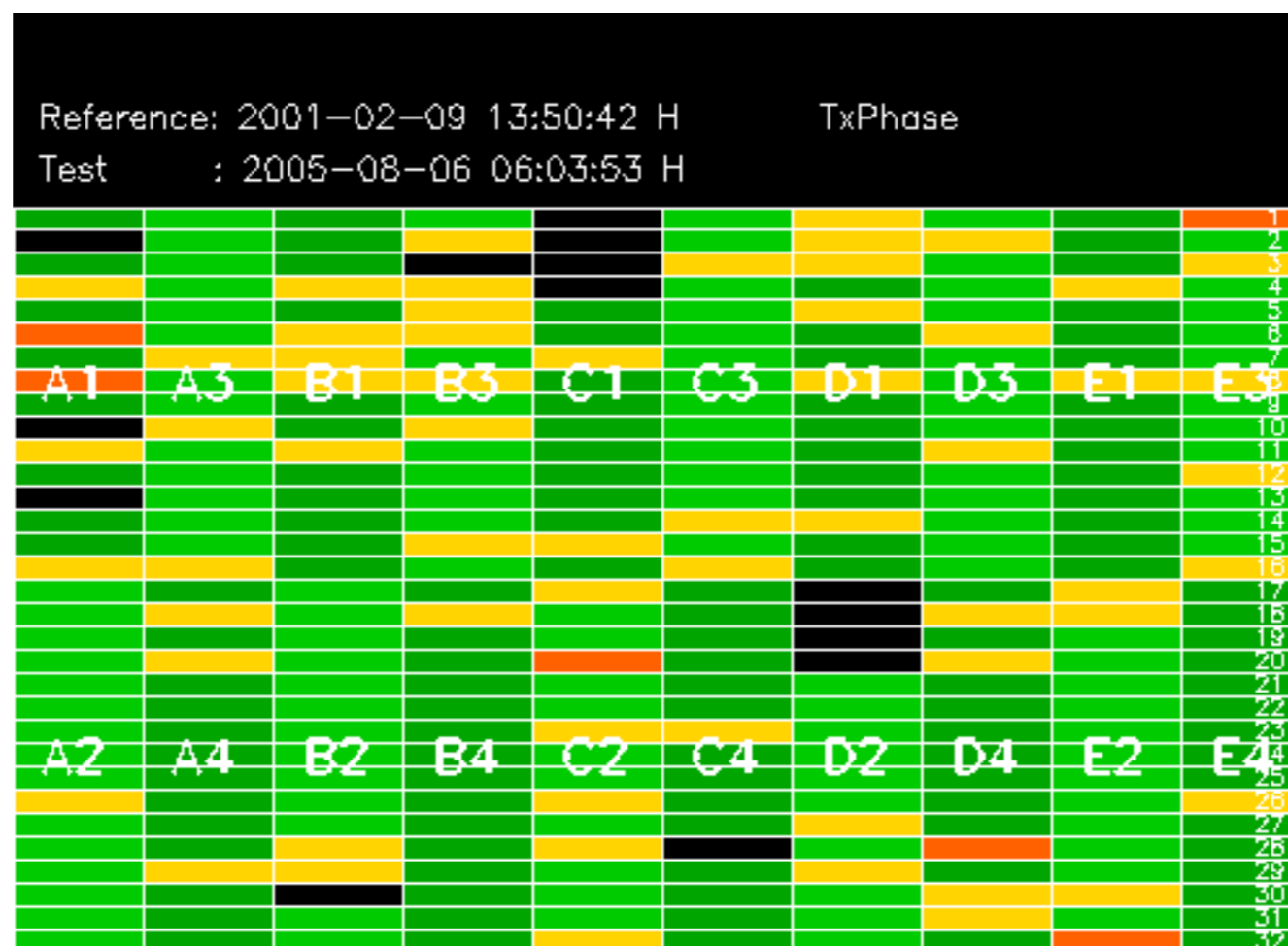








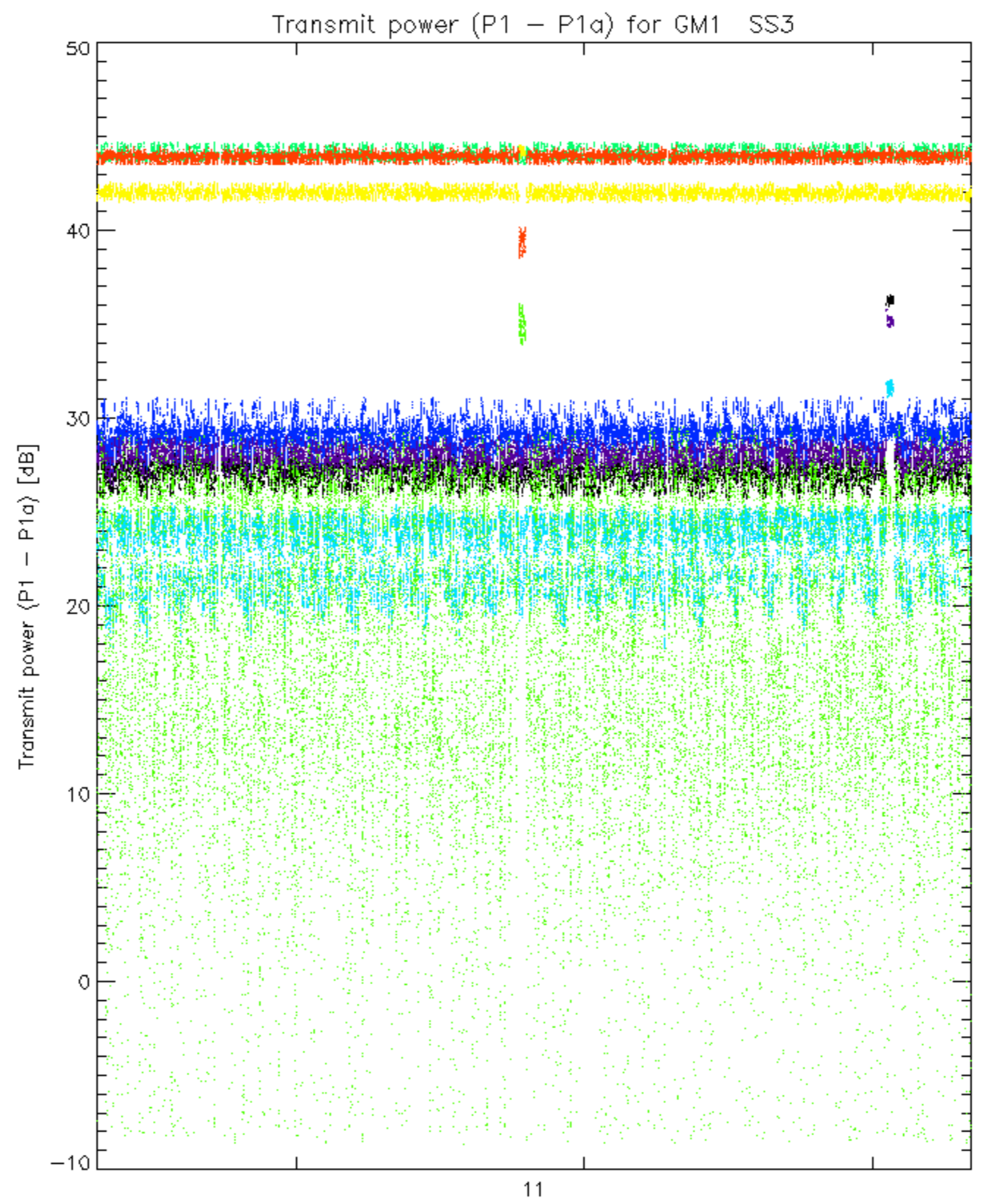




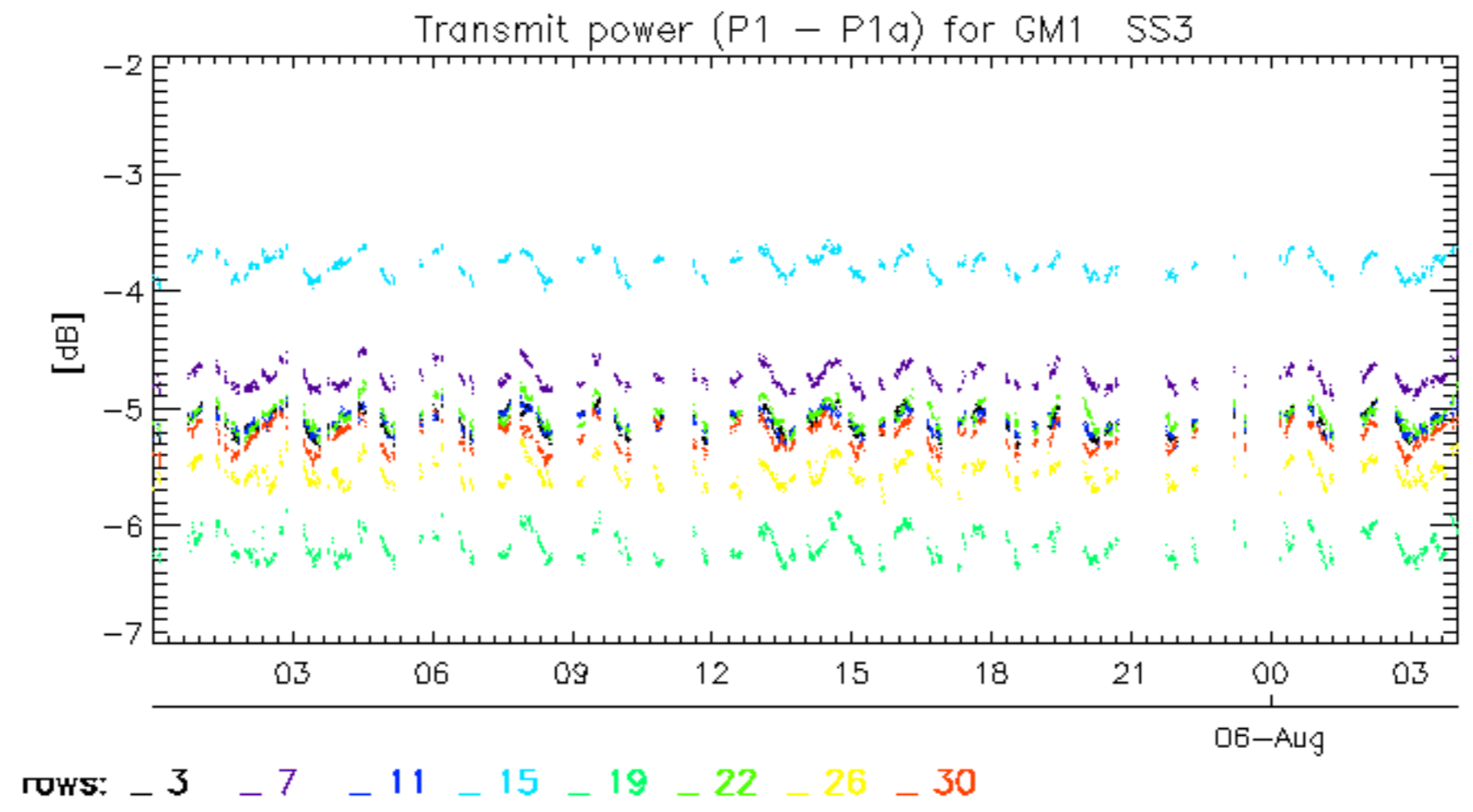




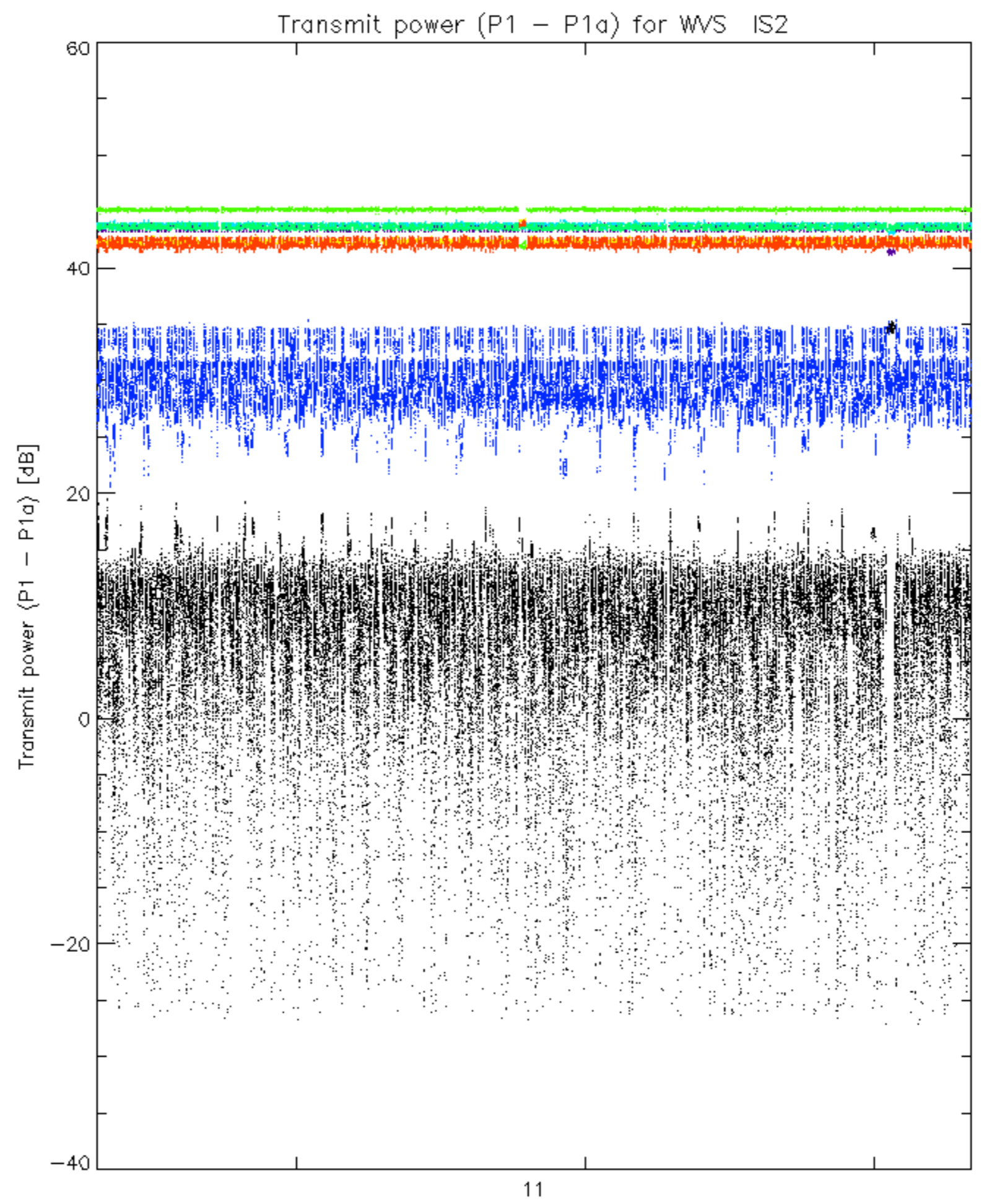




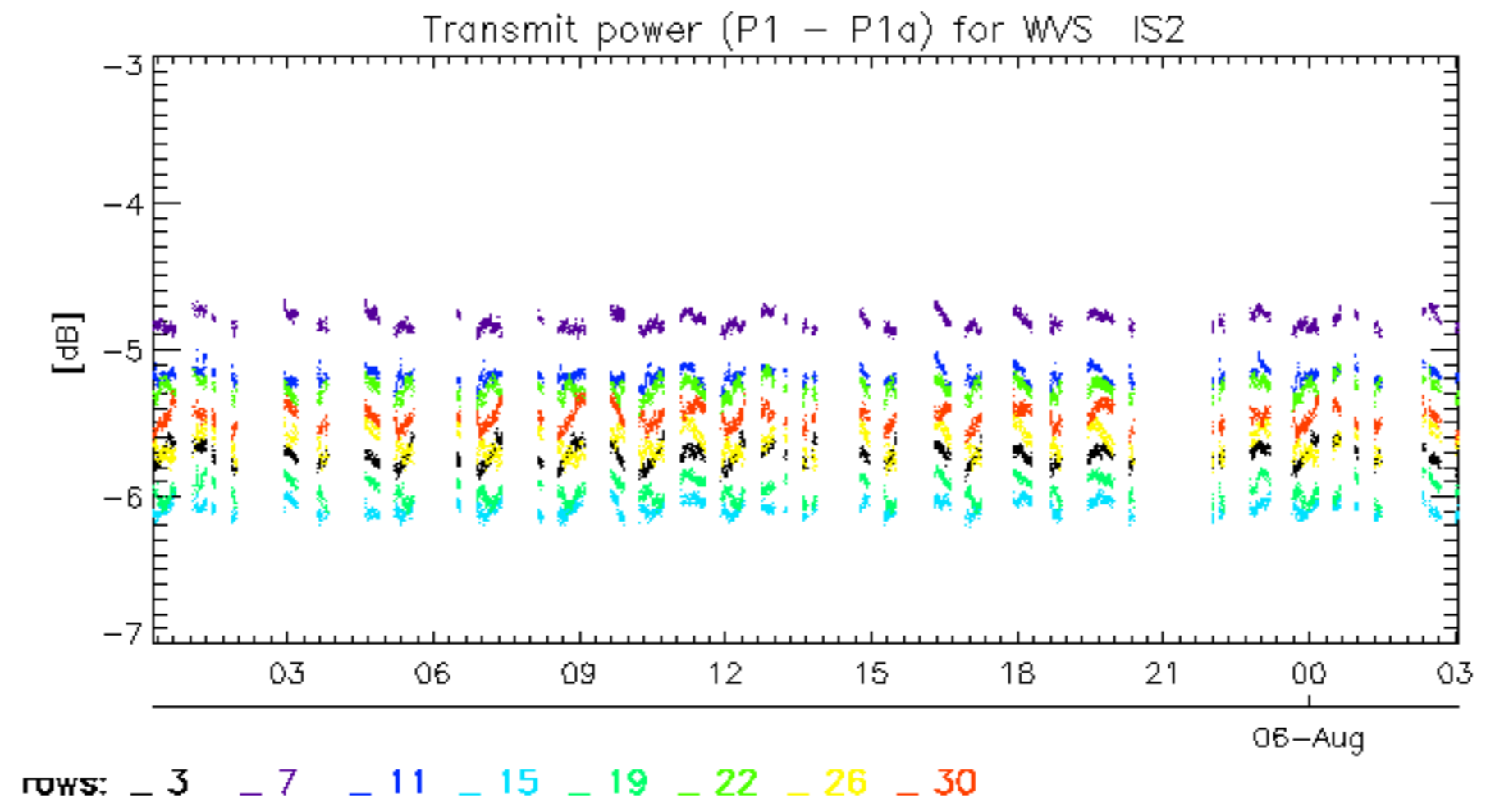
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30







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



No unavailabilities during the reported period.