

# PRELIMINARY REPORT OF 050723

last update on Sat Jul 23 10:59:35 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 2005-07-22 00:00:00 to 2005-07-23 10:59:35

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	28	45	14	5	1
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	28	45	14	5	1
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	28	45	14	5	1
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	28	45	14	5	1

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	41	58	23	4	26
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	41	58	23	4	26
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	41	58	23	4	26
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	41	58	23	4	26

## 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	20050723 064410
H	20050722 071547

### 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	-3.321179	0.006627	0.025192
7	P1	-3.137095	0.015094	0.010845
11	P1	-4.680500	0.032902	-0.058759
15	P1	-5.549534	0.047325	-0.055545
19	P1	-3.788050	0.045702	-0.023932
22	P1	-4.612365	0.066650	-0.018149
26	P1	-4.847486	0.071497	0.020500
30	P1	-7.211164	0.159980	-0.060314
3	P1	-15.571591	0.081684	-0.001430
7	P1	-15.534540	0.107733	0.076777
11	P1	-21.599310	0.259842	-0.247320
15	P1	-11.292397	0.043952	0.006522
19	P1	-14.494577	0.259564	-0.035609
22	P1	-15.788750	0.357111	0.175954
26	P1	-17.492702	0.245985	0.237844
30	P1	-17.757664	0.363519	0.067225

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.878736	0.082656	0.113175
7	P2	-22.054766	0.105065	0.164624
11	P2	-13.715142	0.105394	0.258680
15	P2	-7.098607	0.093455	0.074364
19	P2	-9.597490	0.094188	0.034838
22	P2	-16.858526	0.094571	0.024886
26	P2	-16.507175	0.097051	0.022670
30	P2	-18.789797	0.083703	0.000688

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.158597	0.002745	0.015358
7	P3	-8.158597	0.002745	0.015358
11	P3	-8.158597	0.002745	0.015358
15	P3	-8.158597	0.002745	0.015358
19	P3	-8.158597	0.002745	0.015358
22	P3	-8.158597	0.002745	0.015358
26	P3	-8.158597	0.002745	0.015358
30	P3	-8.158597	0.002745	0.015358

#### 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	-2.784553	0.013779	0.026810
7	P1	-2.952342	0.031718	0.004684
11	P1	-3.993200	0.017078	-0.017455
15	P1	-3.563258	0.023553	-0.047925
19	P1	-3.670541	0.117037	0.022390
22	P1	-5.673330	0.111227	-0.011776
26	P1	-7.381032	0.196212	-0.039566
30	P1	-6.321103	0.119511	-0.049869
3	P1	-10.821373	0.039164	0.040205
7	P1	-10.442840	0.157229	-0.031676
11	P1	-12.607038	0.110429	-0.047168
15	P1	-11.617255	0.074575	0.018804
19	P1	-15.670581	1.354507	0.121585
22	P1	-25.843735	3.449926	0.345703
26	P1	-15.429806	0.413999	0.169858
30	P1	-20.141340	1.283300	0.203887

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.627647	0.046688	0.123922
7	P2	-22.060163	0.040319	0.071140
11	P2	-9.720975	0.061764	0.179438
15	P2	-5.127906	0.046484	0.024431
19	P2	-6.906613	0.063443	0.012096
22	P2	-7.086812	0.039402	0.038919
26	P2	-23.967173	0.043697	-0.018021
30	P2	-21.958406	0.042105	0.021800

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.998529	0.004135	0.002024
7	P3	-7.998497	0.004126	0.002100
11	P3	-7.998463	0.004125	0.002472
15	P3	-7.998603	0.004131	0.002195
19	P3	-7.998554	0.004140	0.001917
22	P3	-7.998602	0.004117	0.002001
26	P3	-7.998586	0.004125	0.002170
30	P3	-7.998538	0.004123	0.002390

## 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	0.000468833
	stdev	2.15361e-07
MEAN Q	mean	0.000502184
	stdev	2.32248e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127928
	stdev	0.000987254
STDEV Q	mean	0.128168
	stdev	0.000997836



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005072[123]

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_1PNPDE20050722_042651_000000522039_00147_17736_0317.N1	1	0
ASA_IMM_1PNPDK20050721_184623_000000092039_00142_17731_0091.N1	0	5



## 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)

<input type="checkbox"/>
Acsending
<input type="checkbox"/>
Descending

### 7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler

<input type="checkbox"/>
Acsending
<input type="checkbox"/>
Descending

### 7.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX

<input type="checkbox"/>
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### 7.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)

<input type="checkbox"/>
Acsending
<input type="checkbox"/>
Descending



### 7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

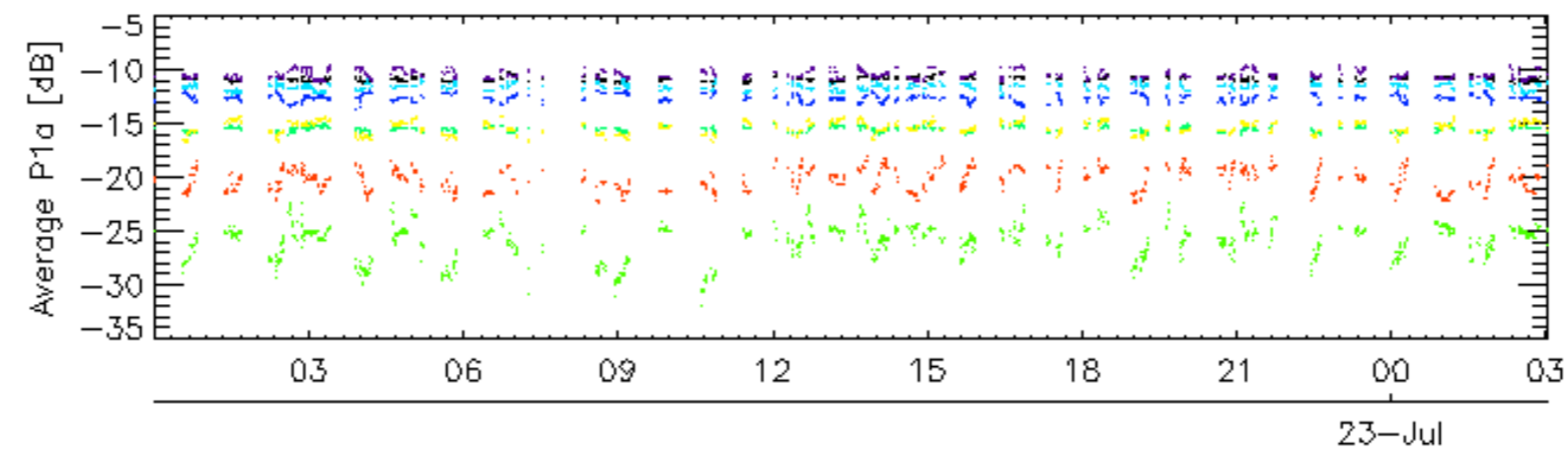
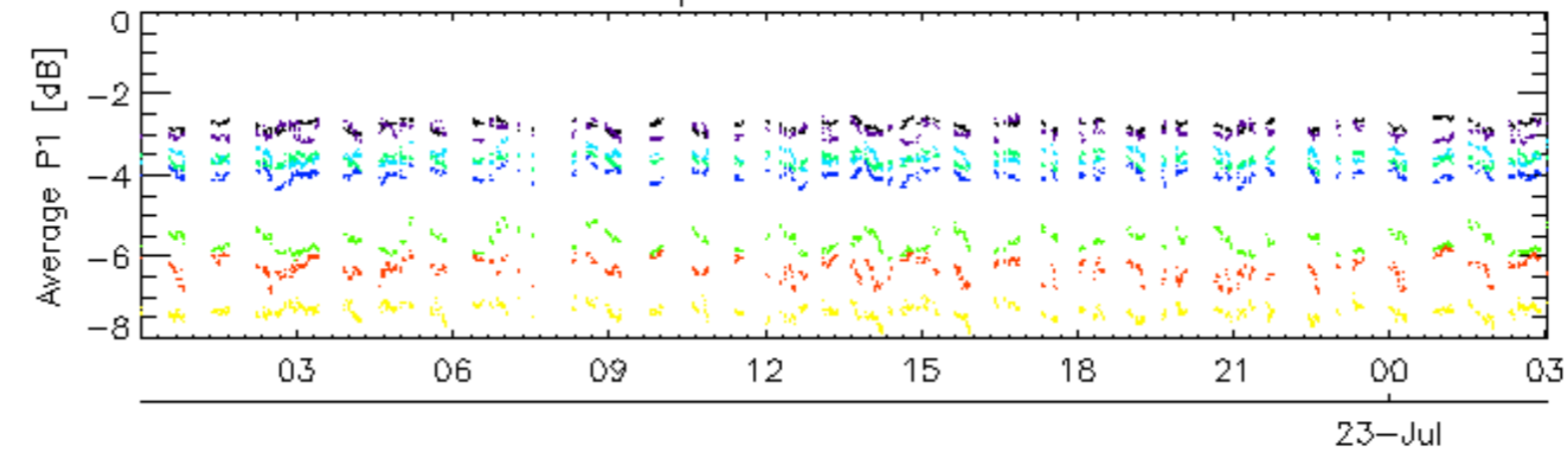
Ascending

Descending

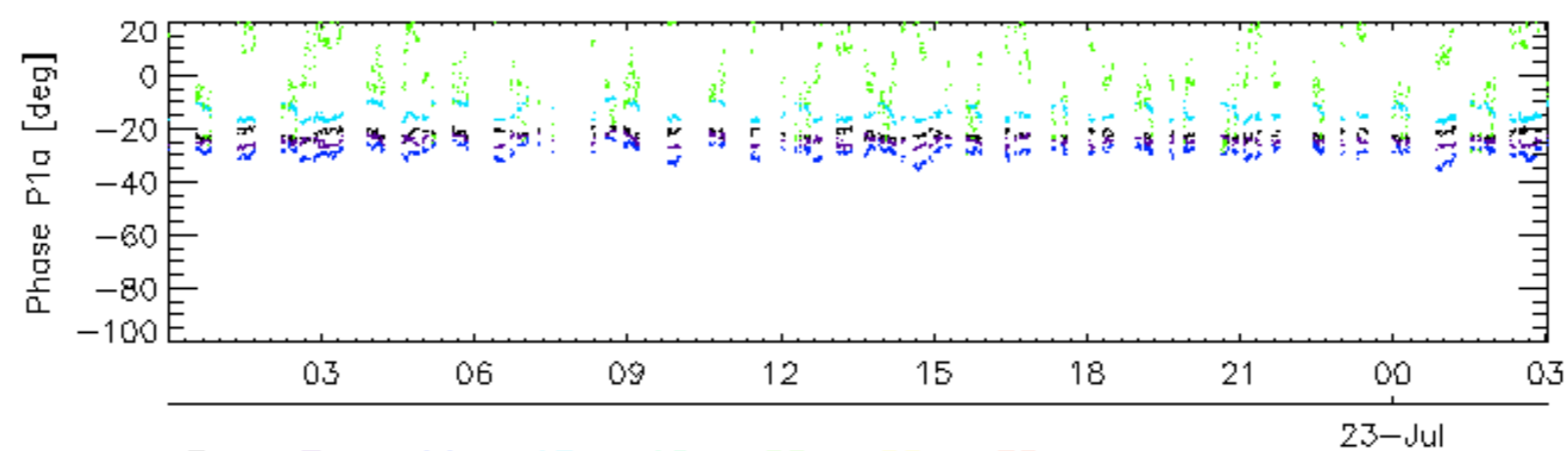
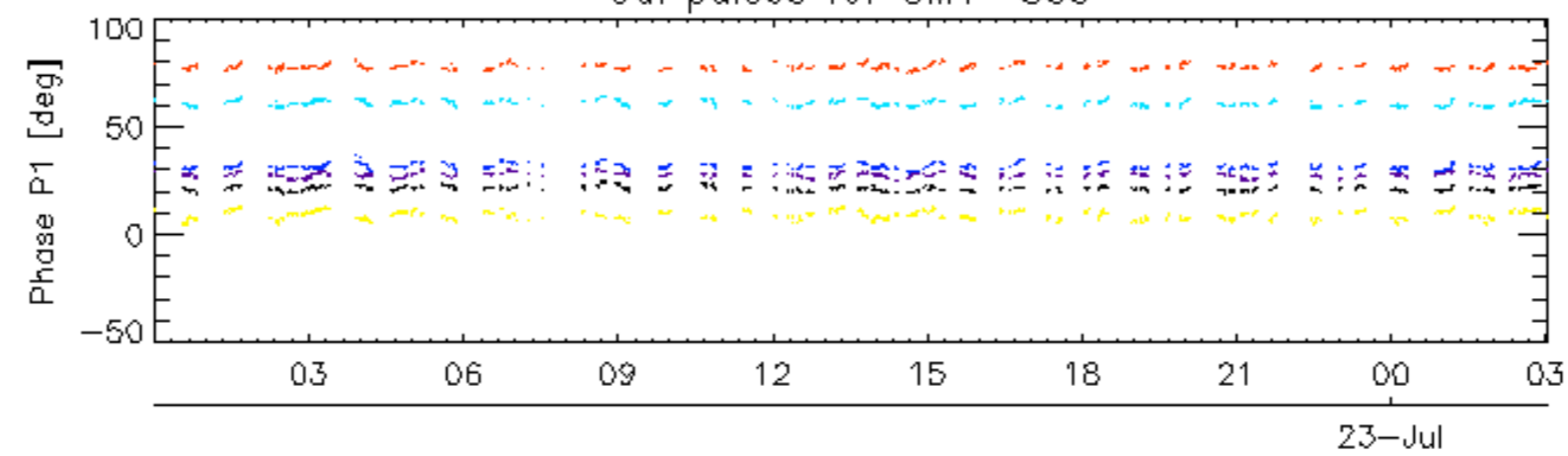
### 7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

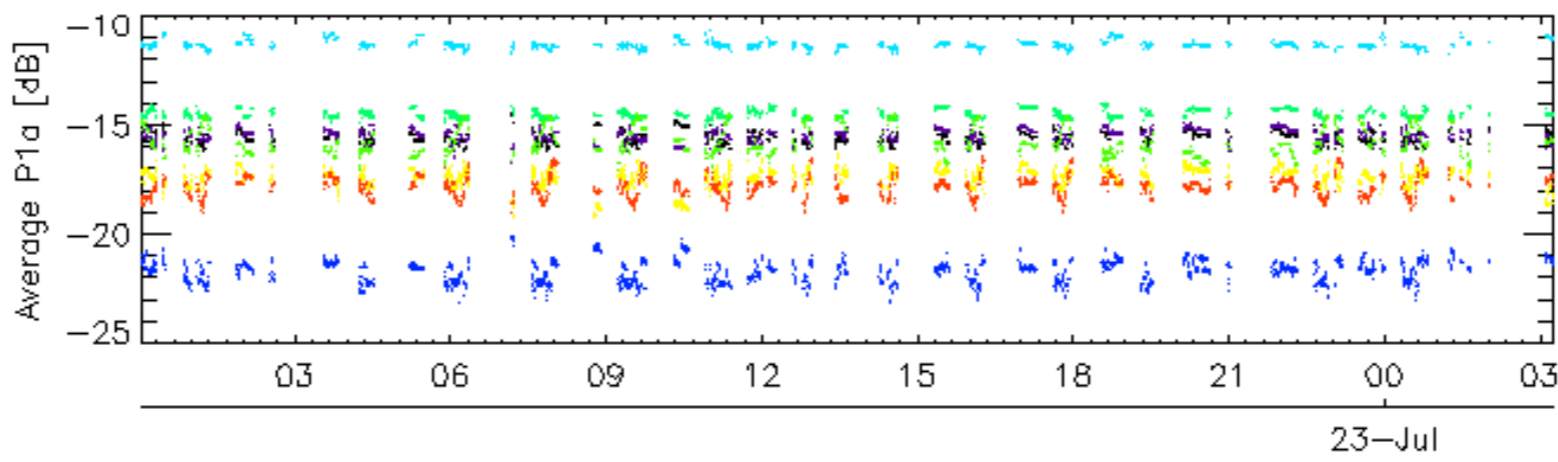
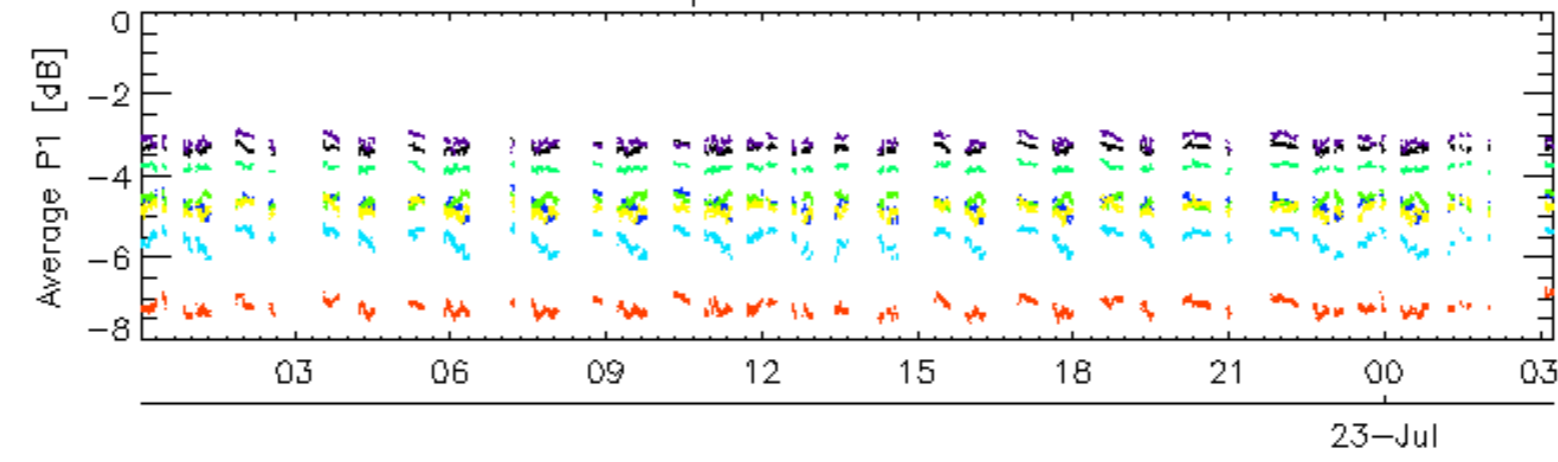


Cal pulses for GM1 SS3

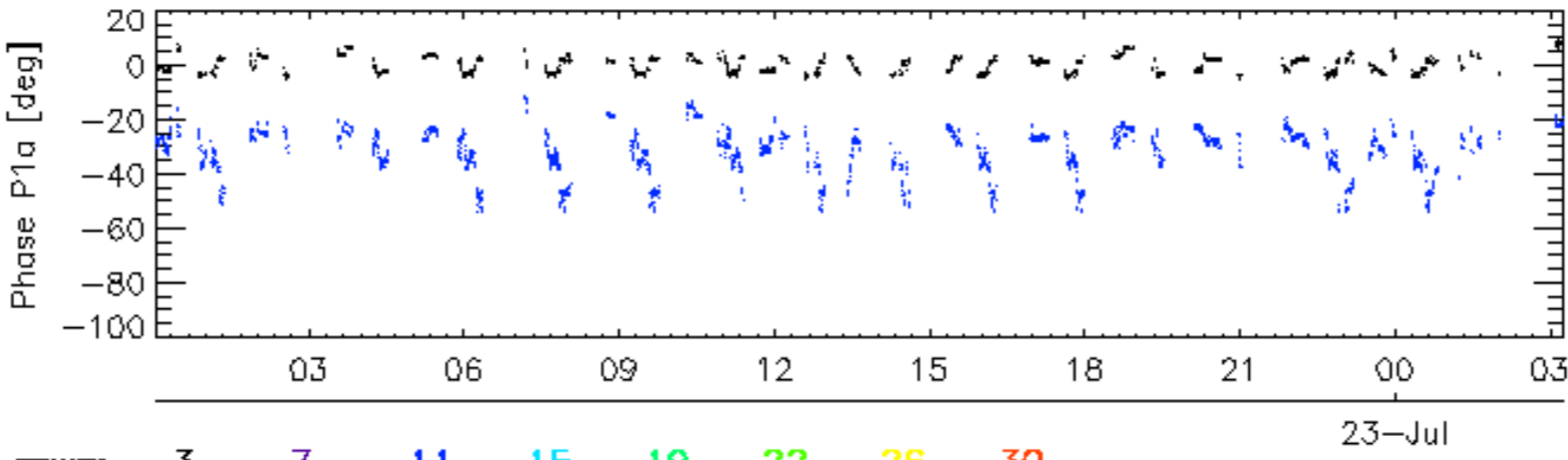
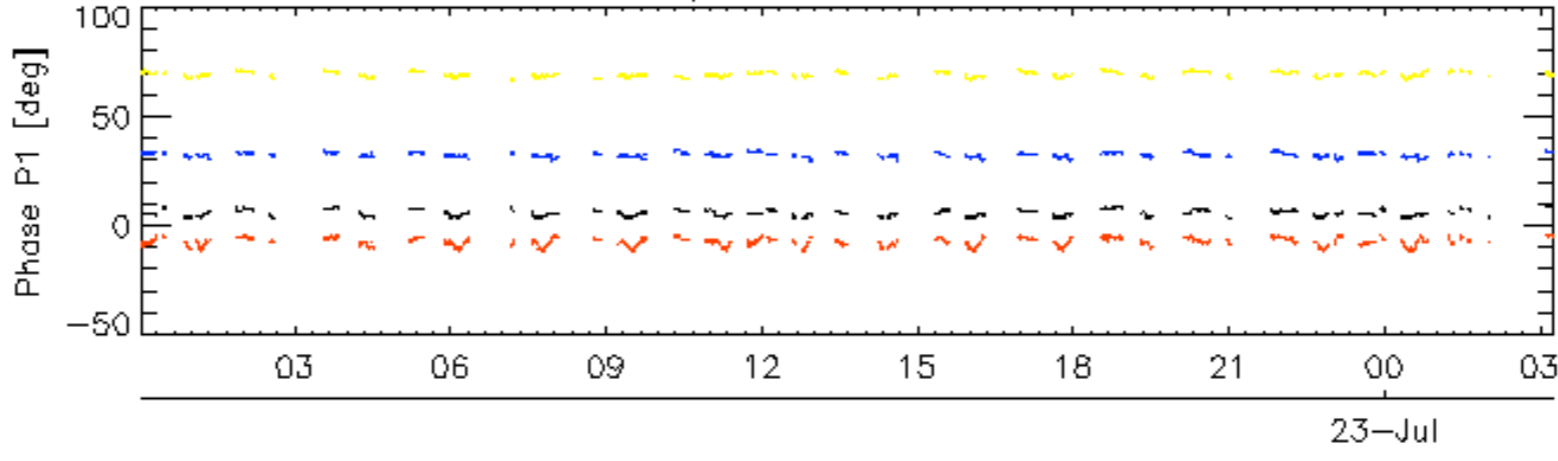


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

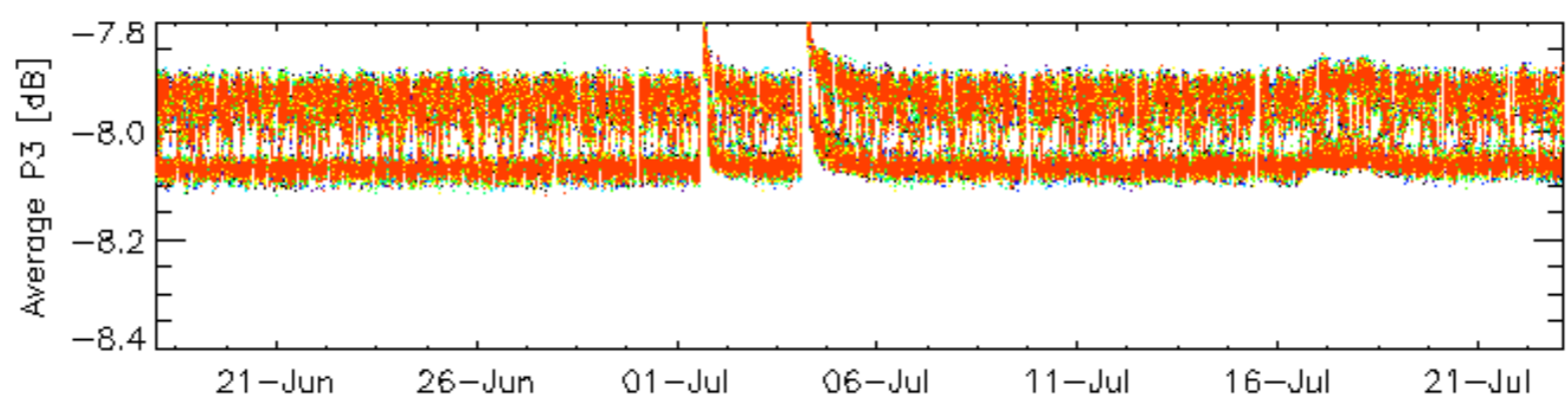
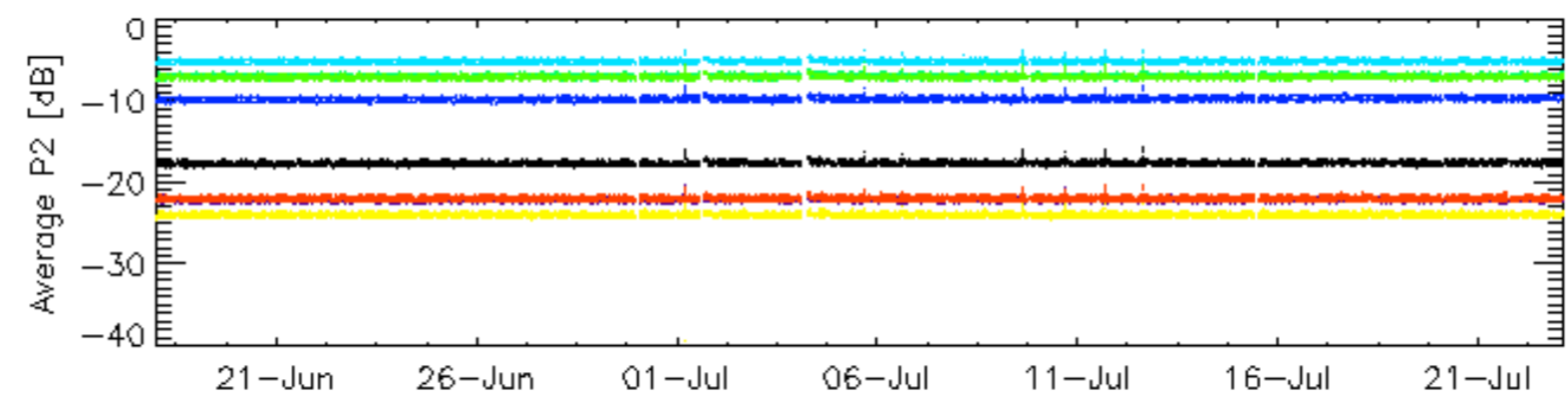
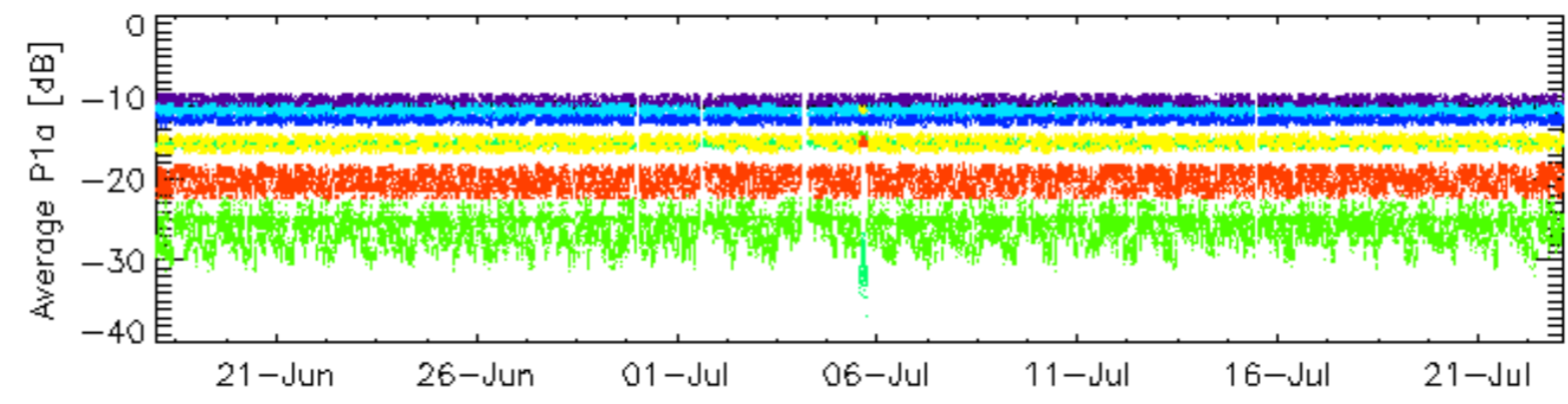
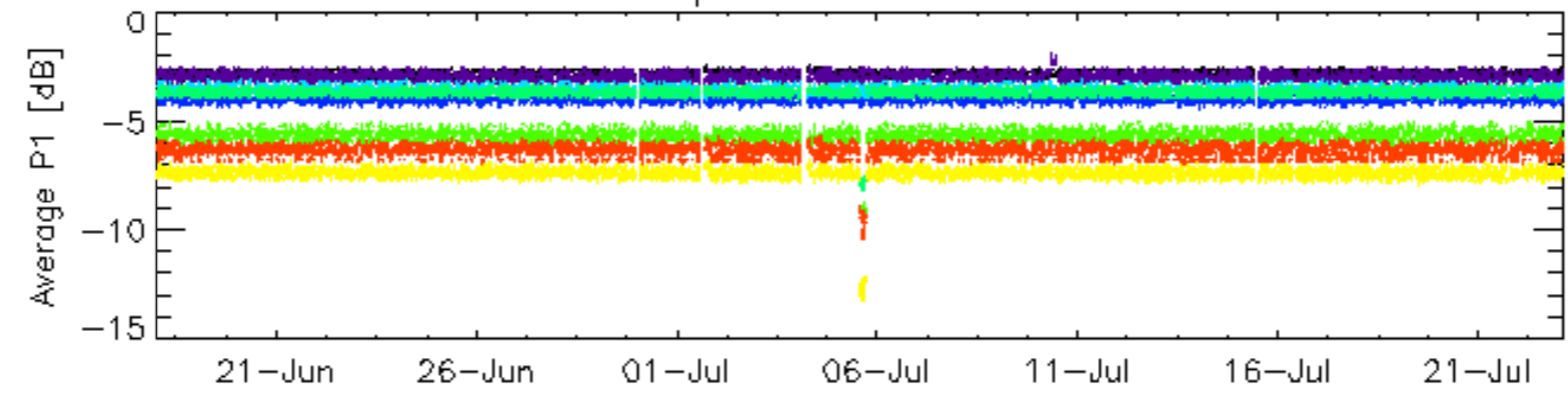


Cal pulses for WVS IS2



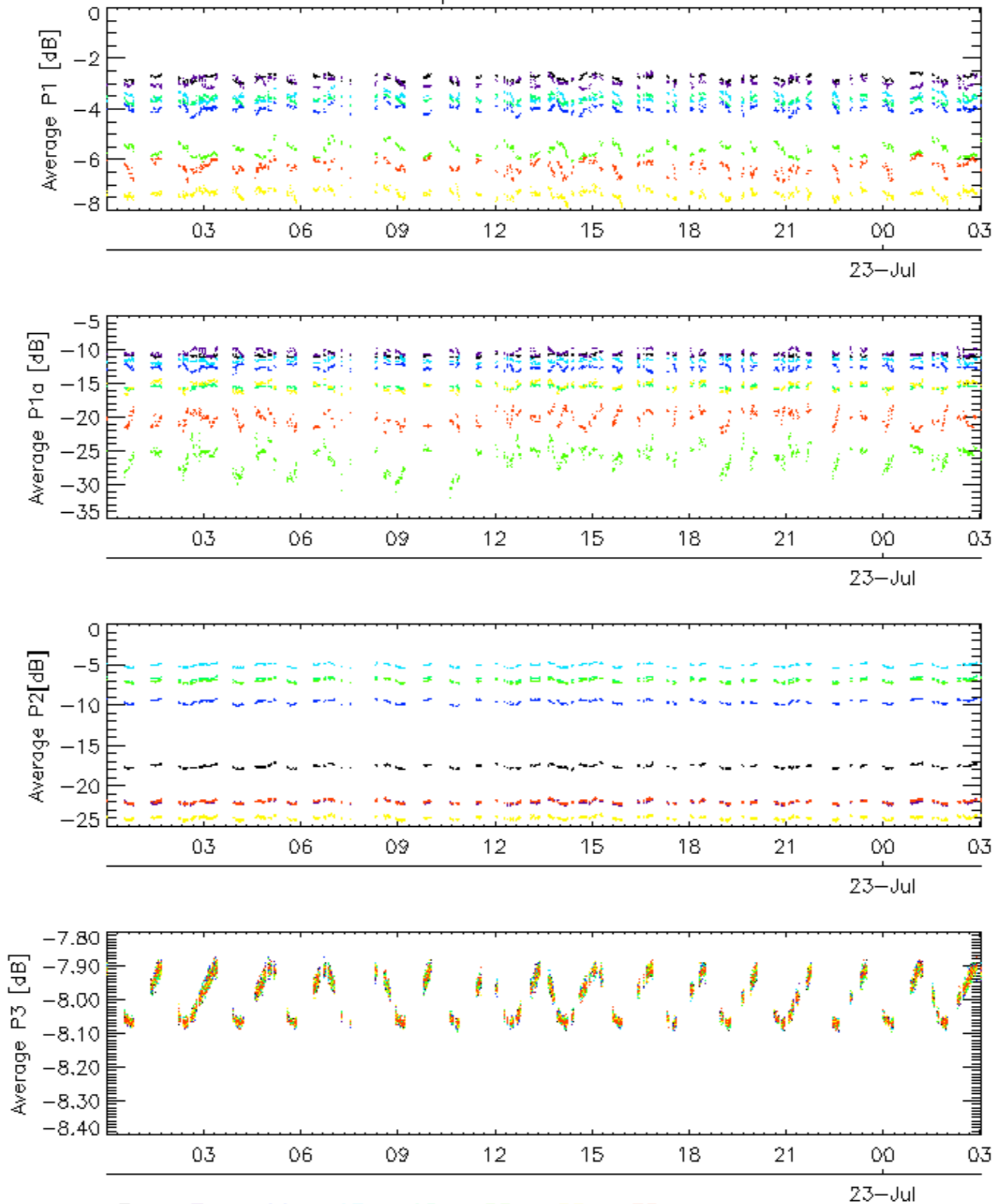
rows: **3** **7** **11** **15** **19** **22** **26** **30**

### Cal pulses for GM1 SS3



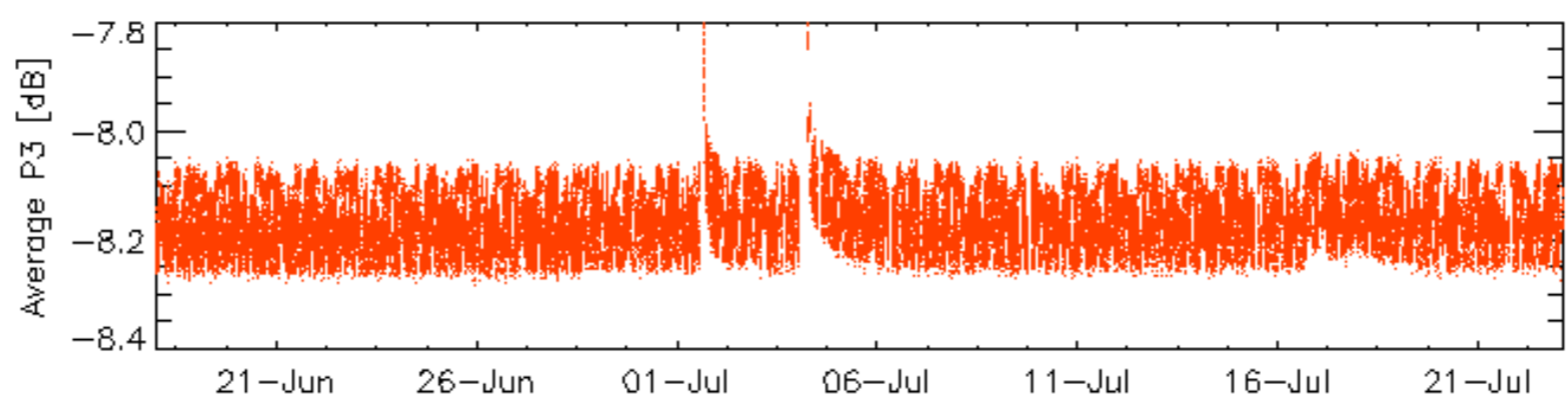
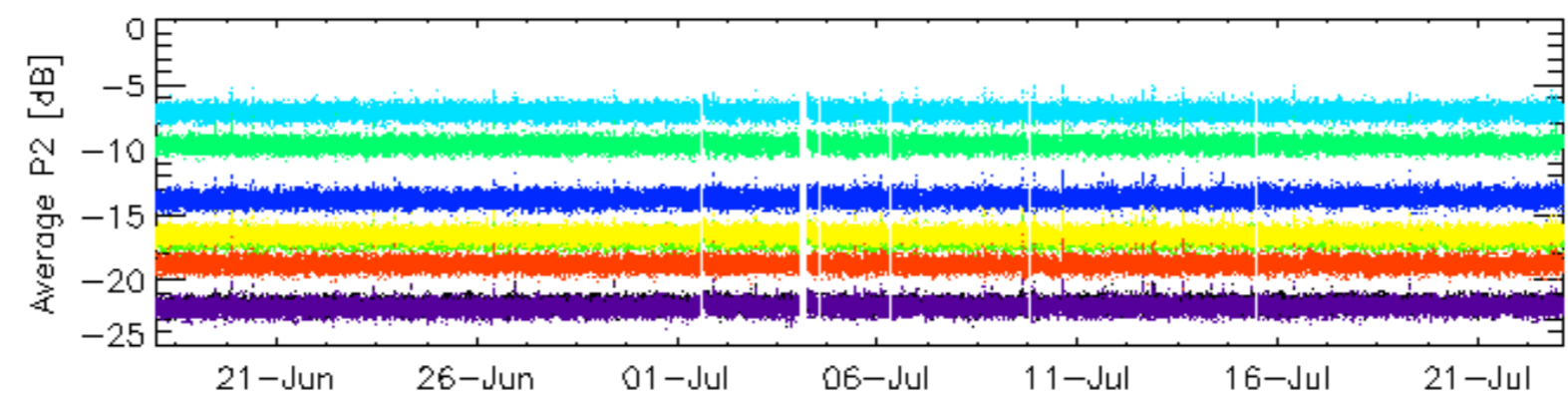
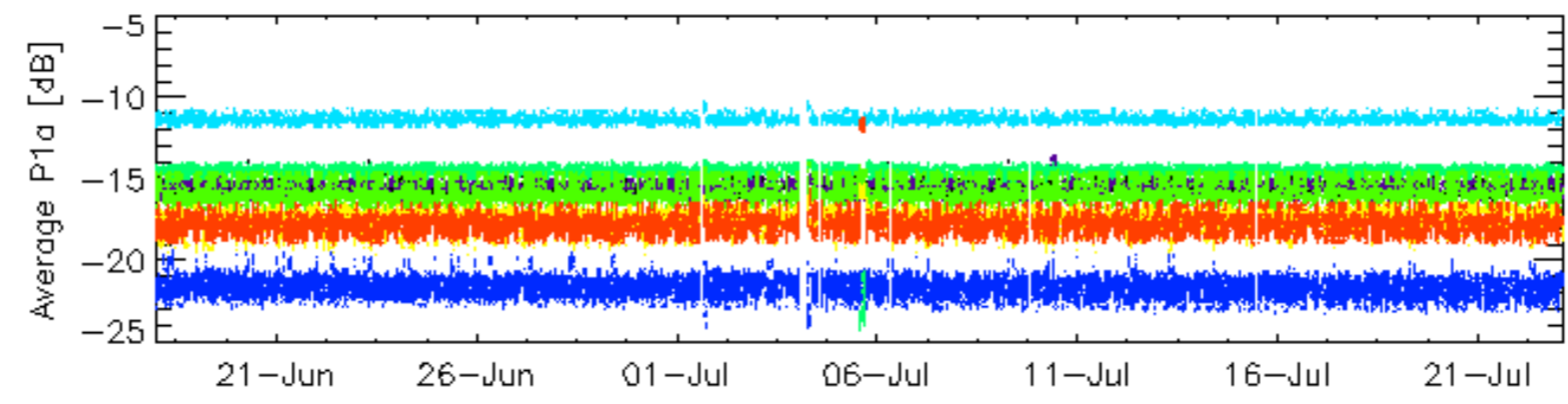
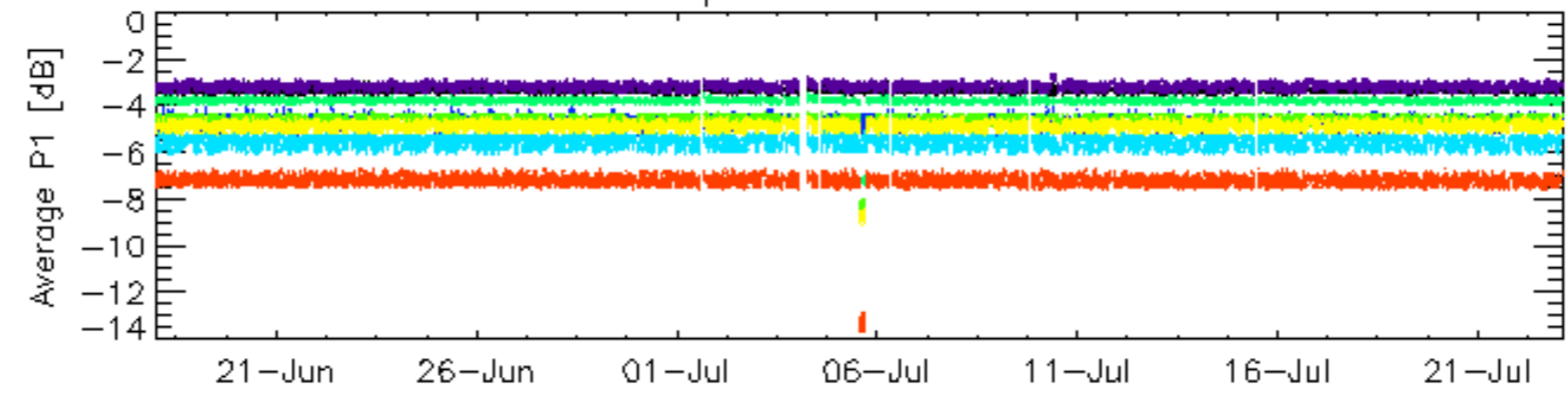
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3



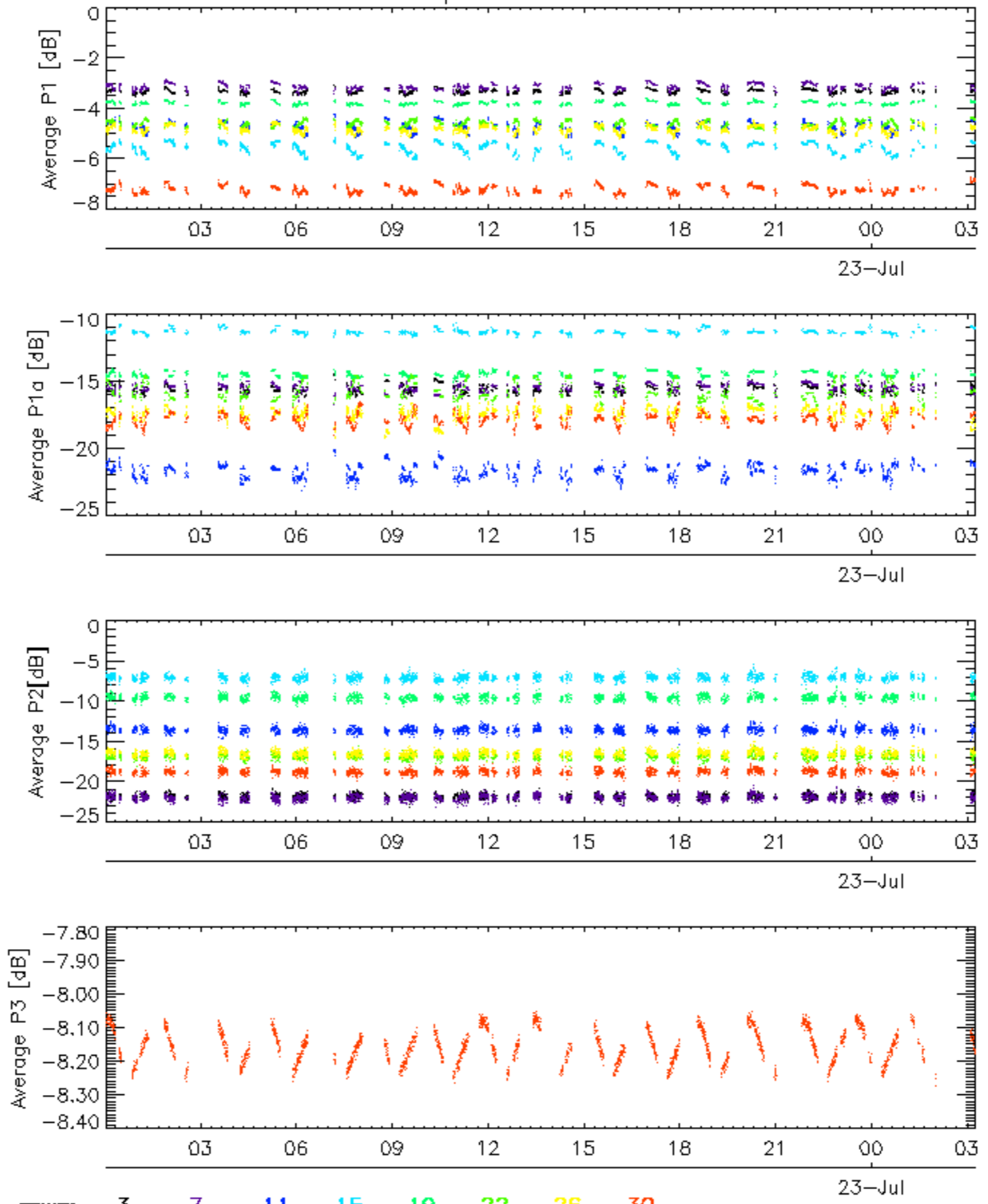
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2



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

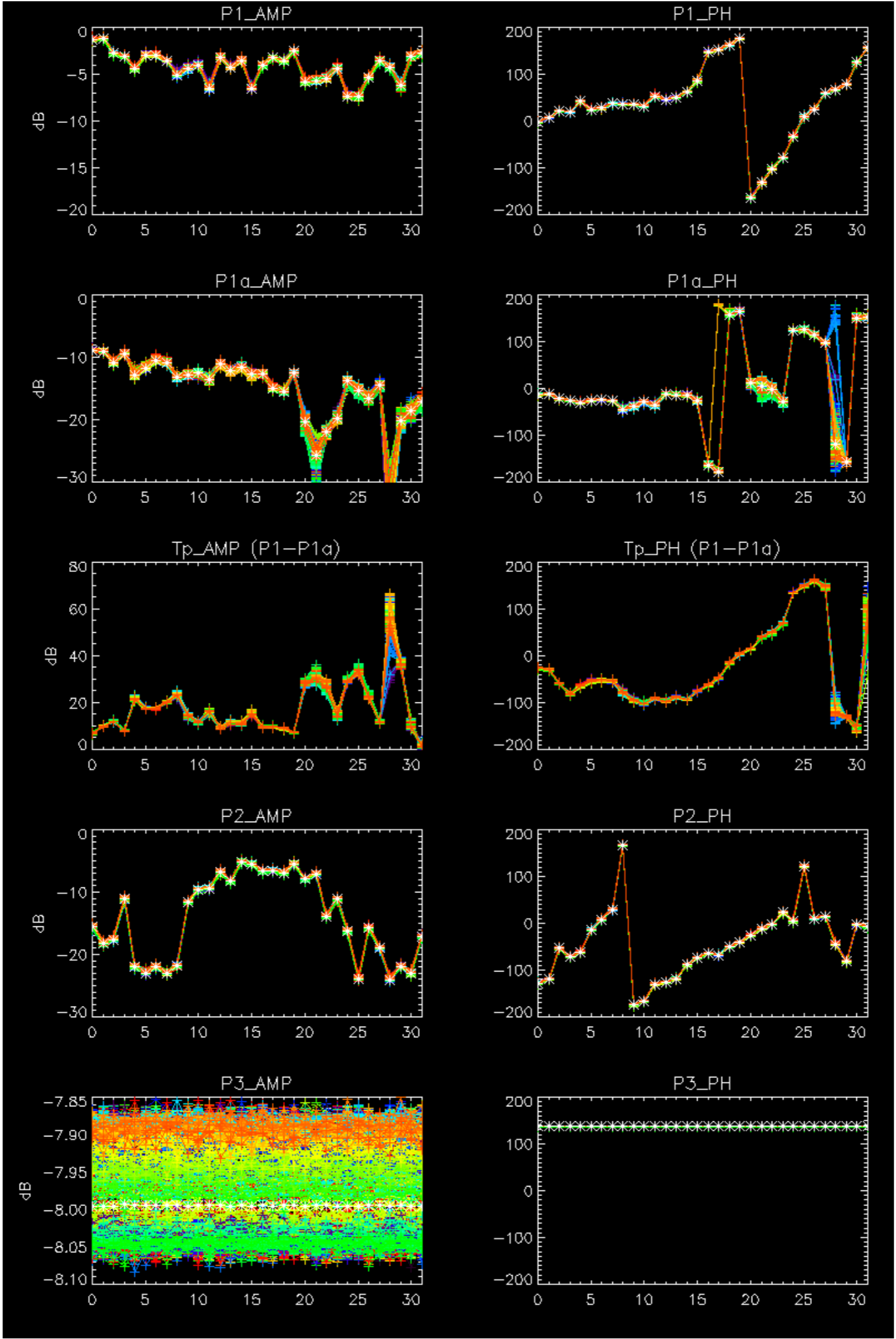
Cal pulses for WVS IS2

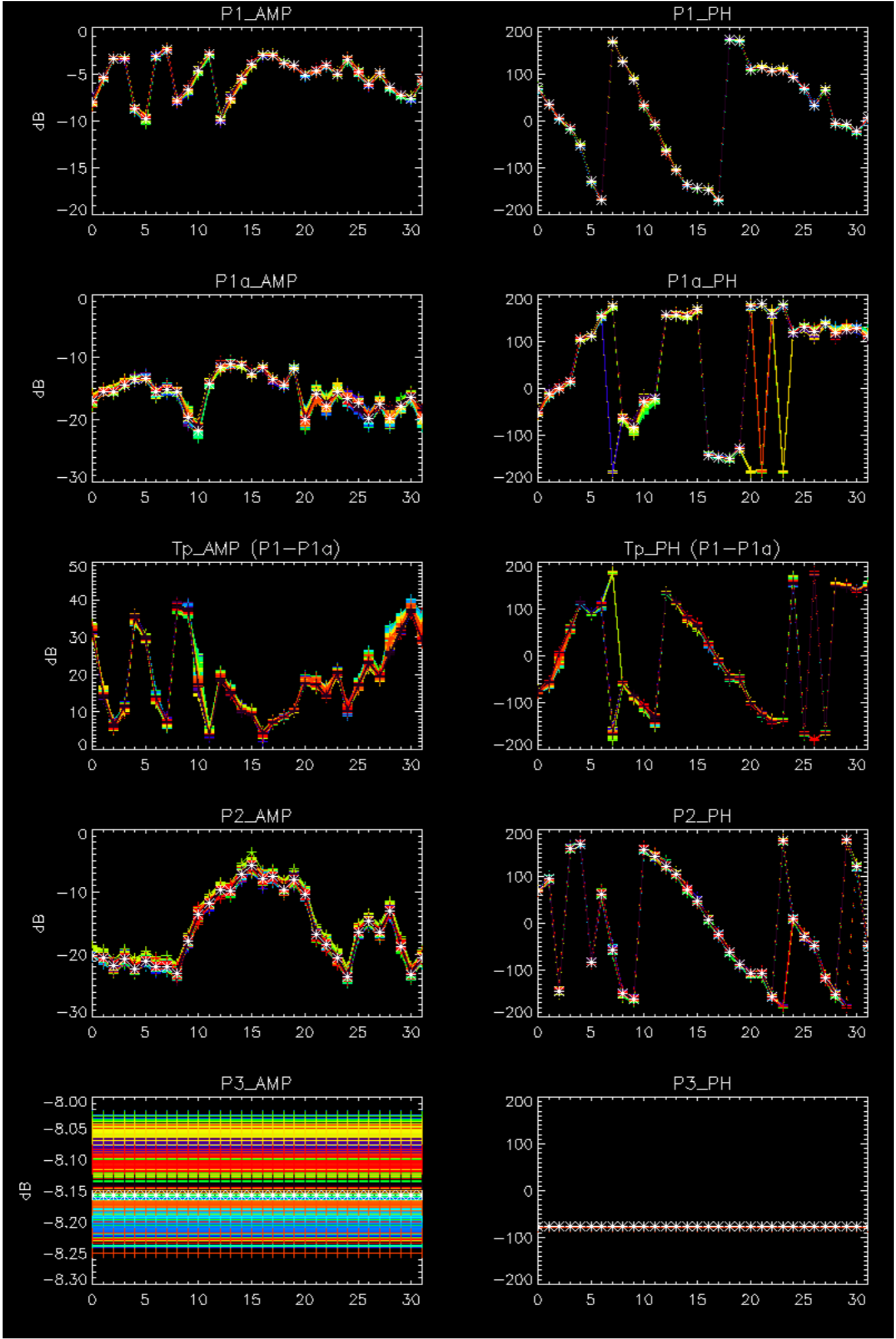


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

No anomalies observed.



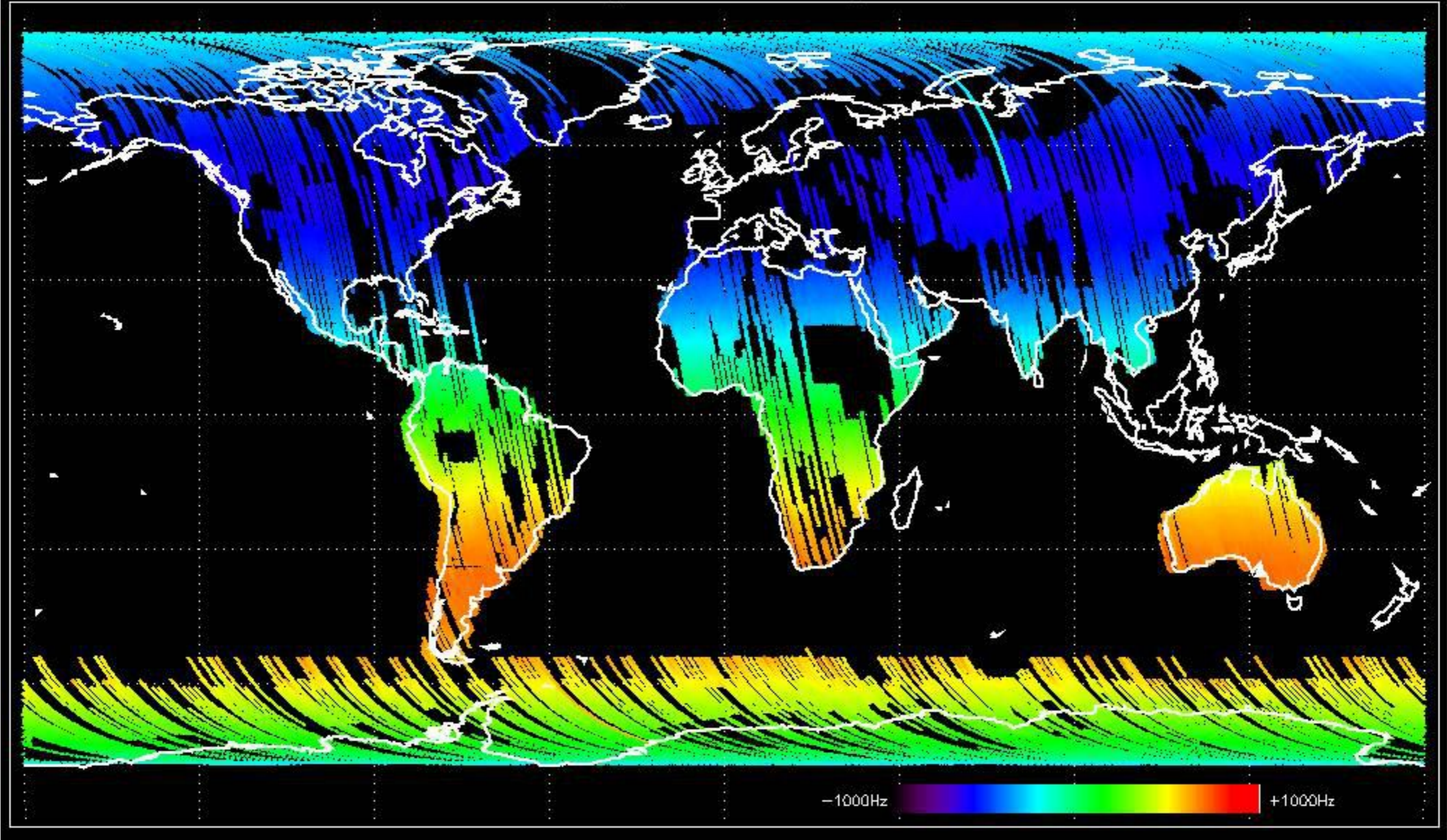




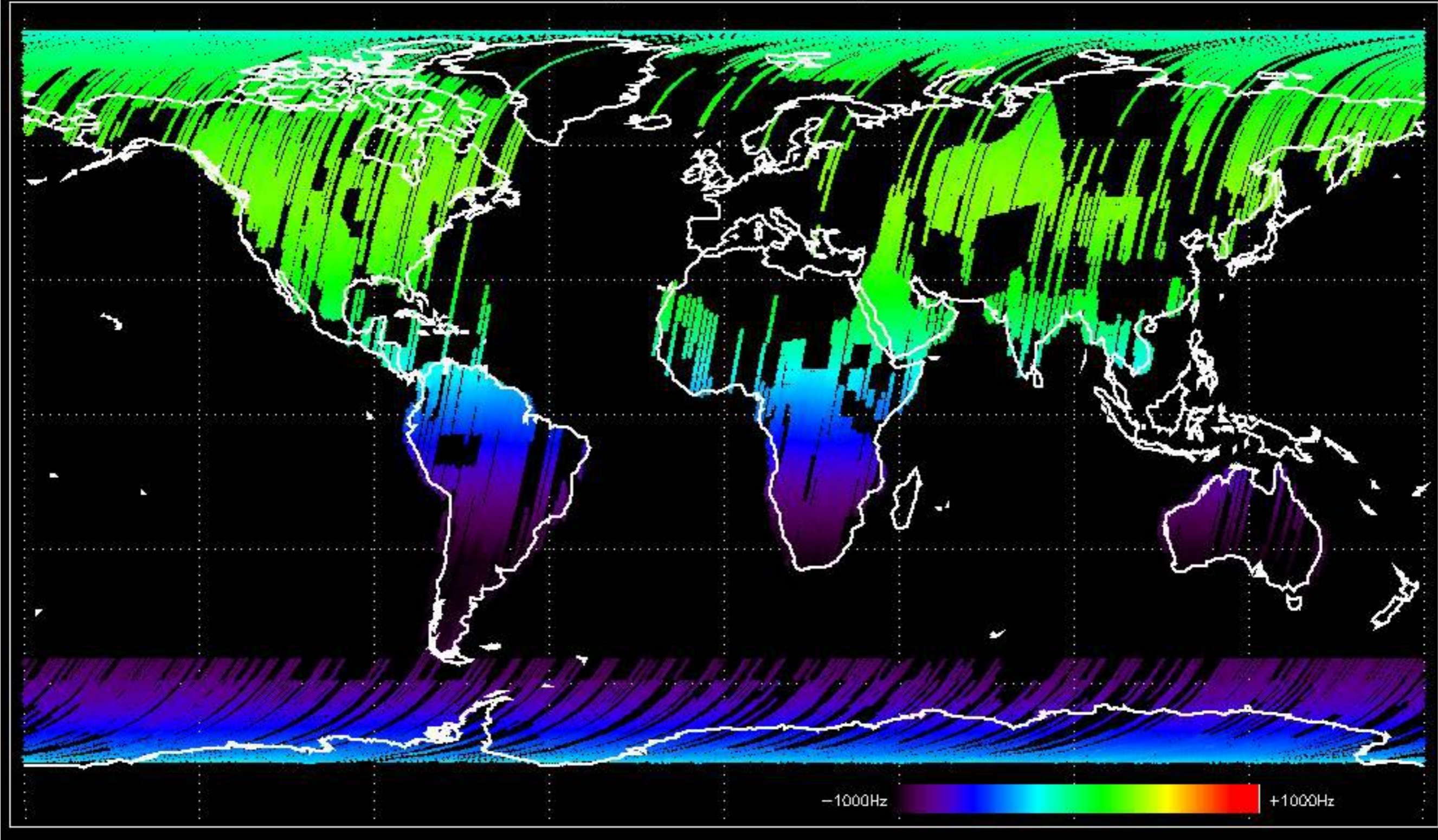
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



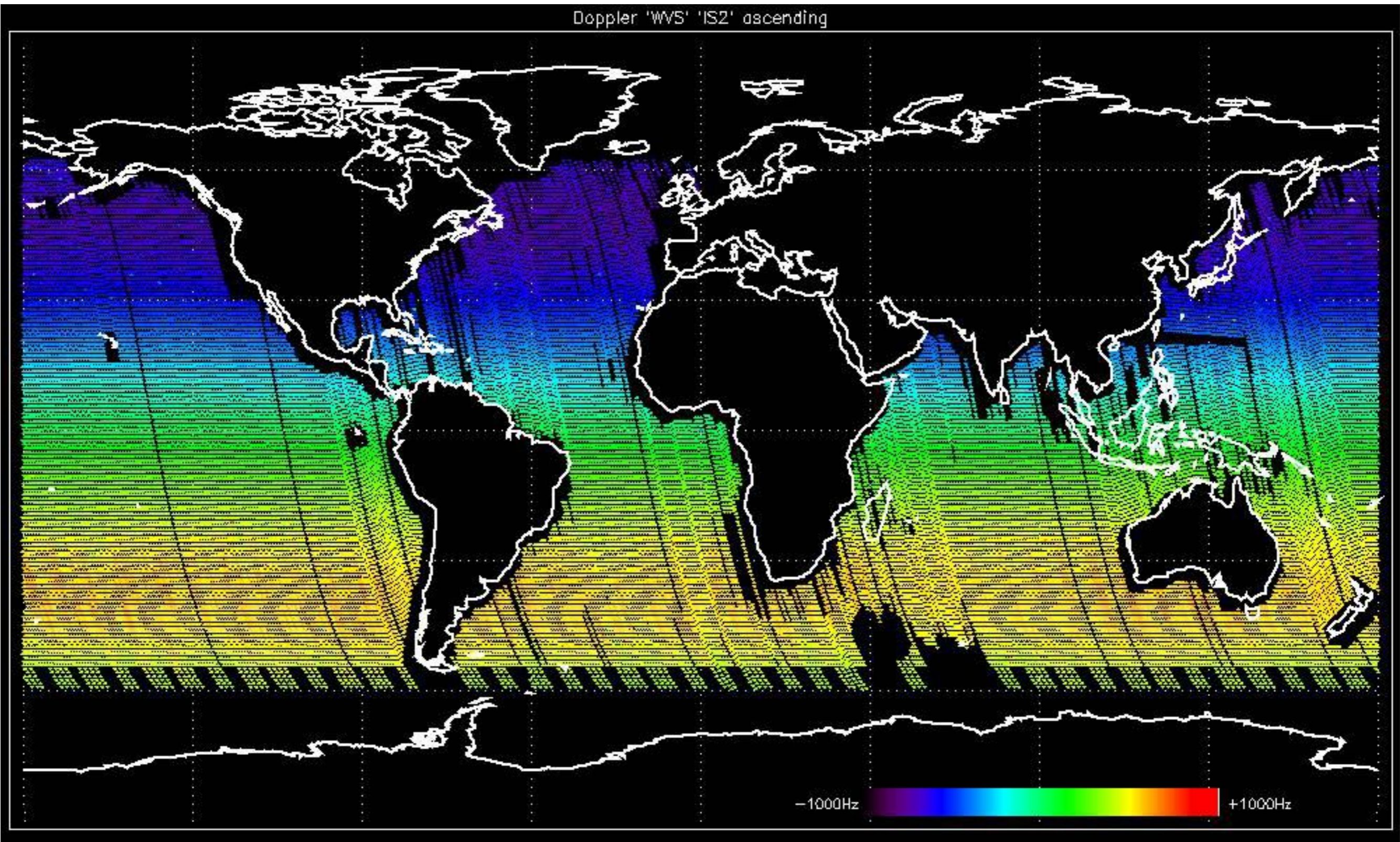
Doppler 'GM1' 'SS1' ascending



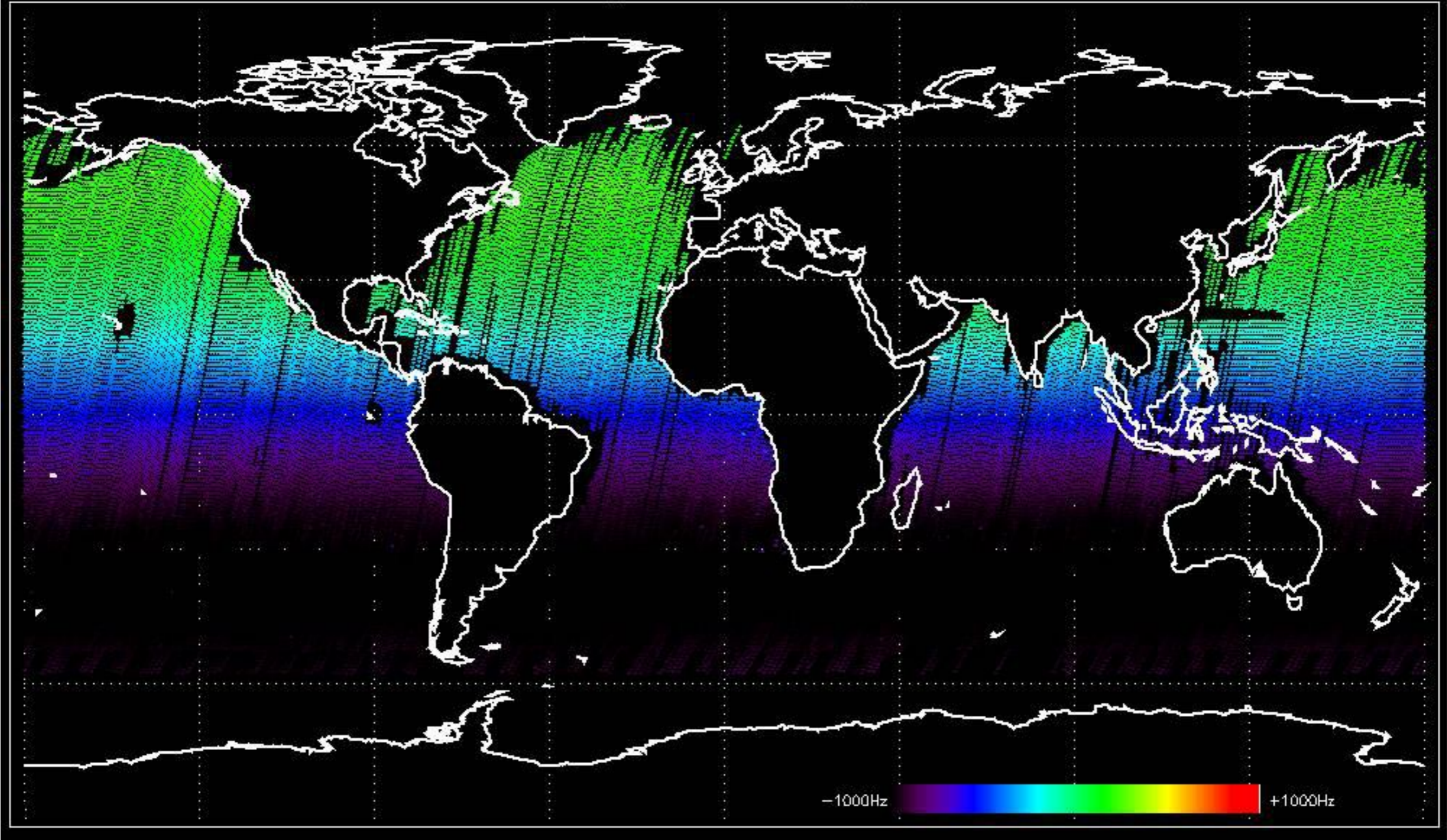
Doppler 'GM1' 'SS1' descending



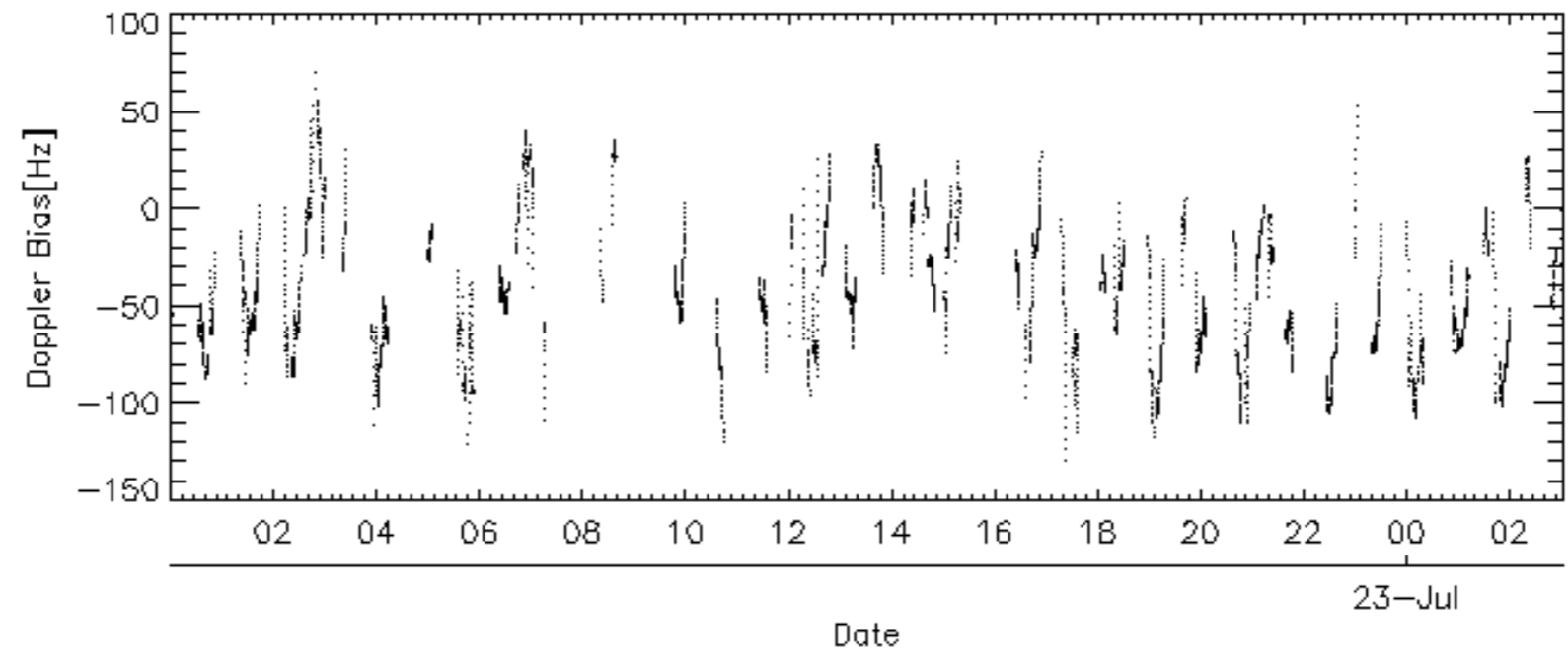
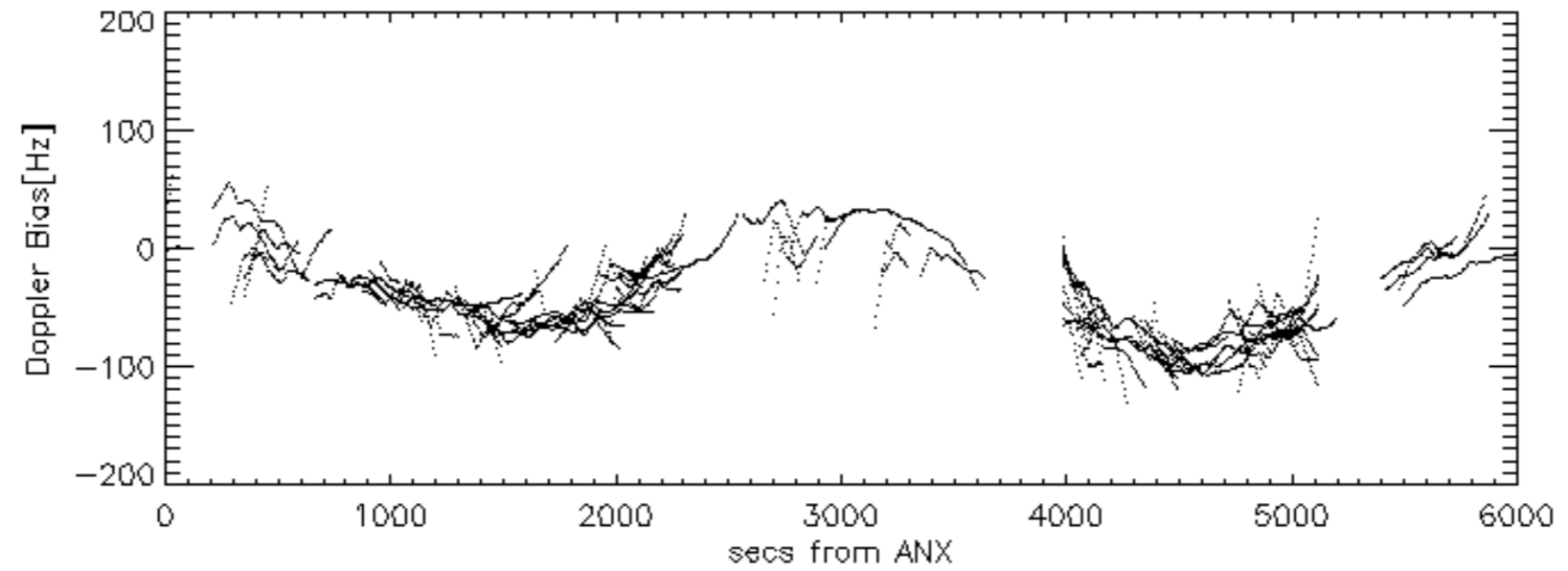
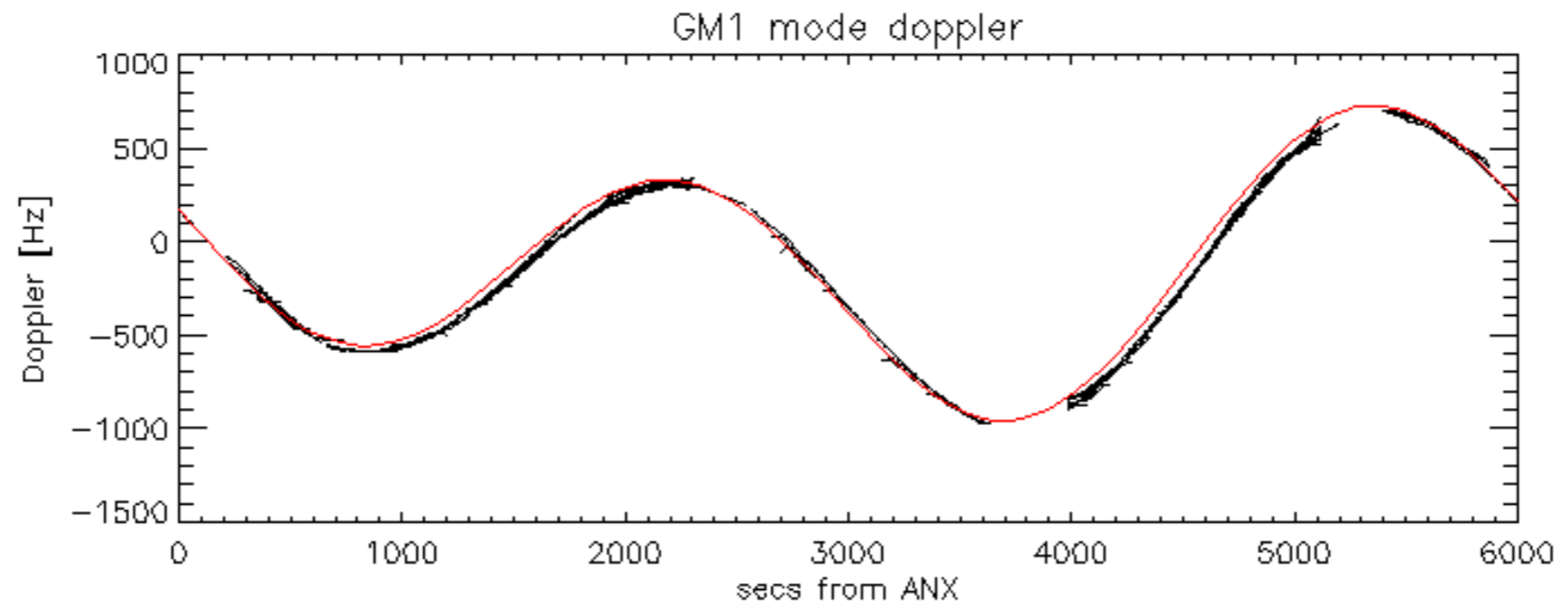
Doppler 'WVS' 'IS2' ascending

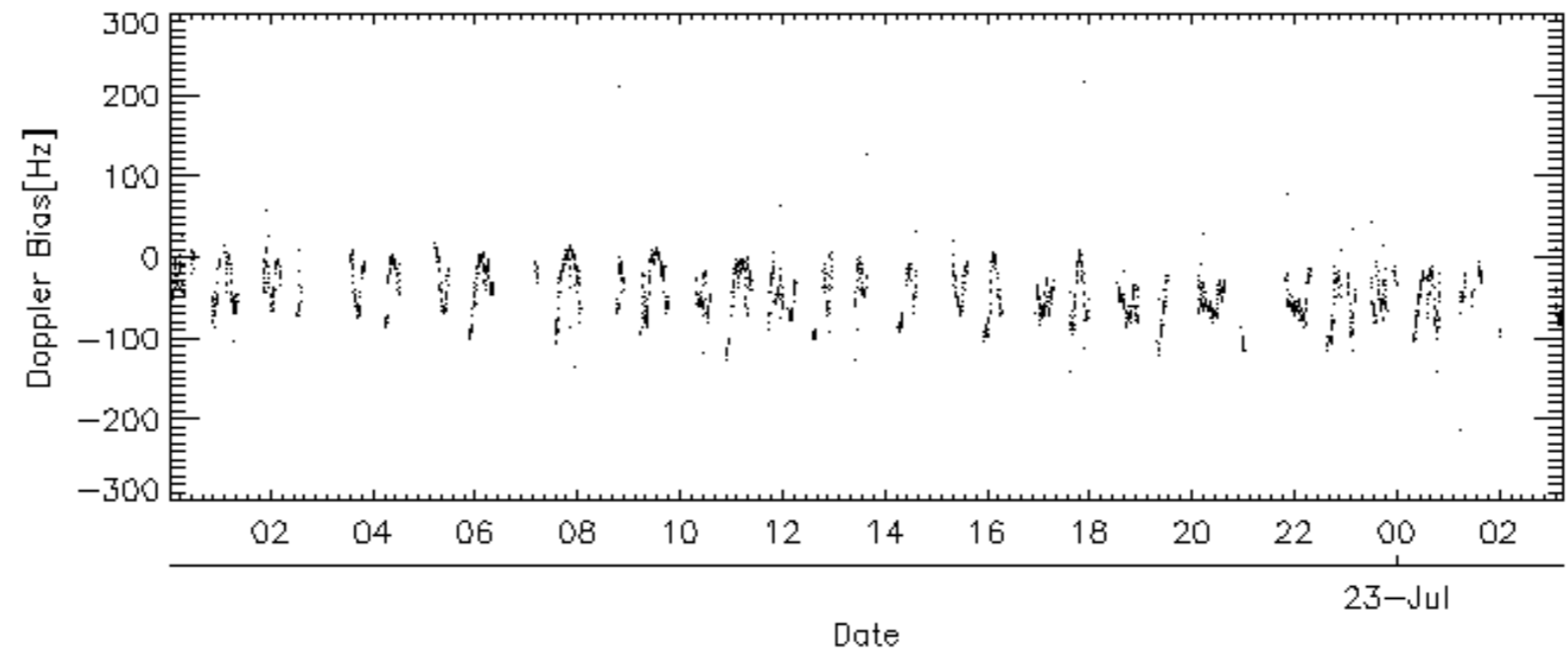
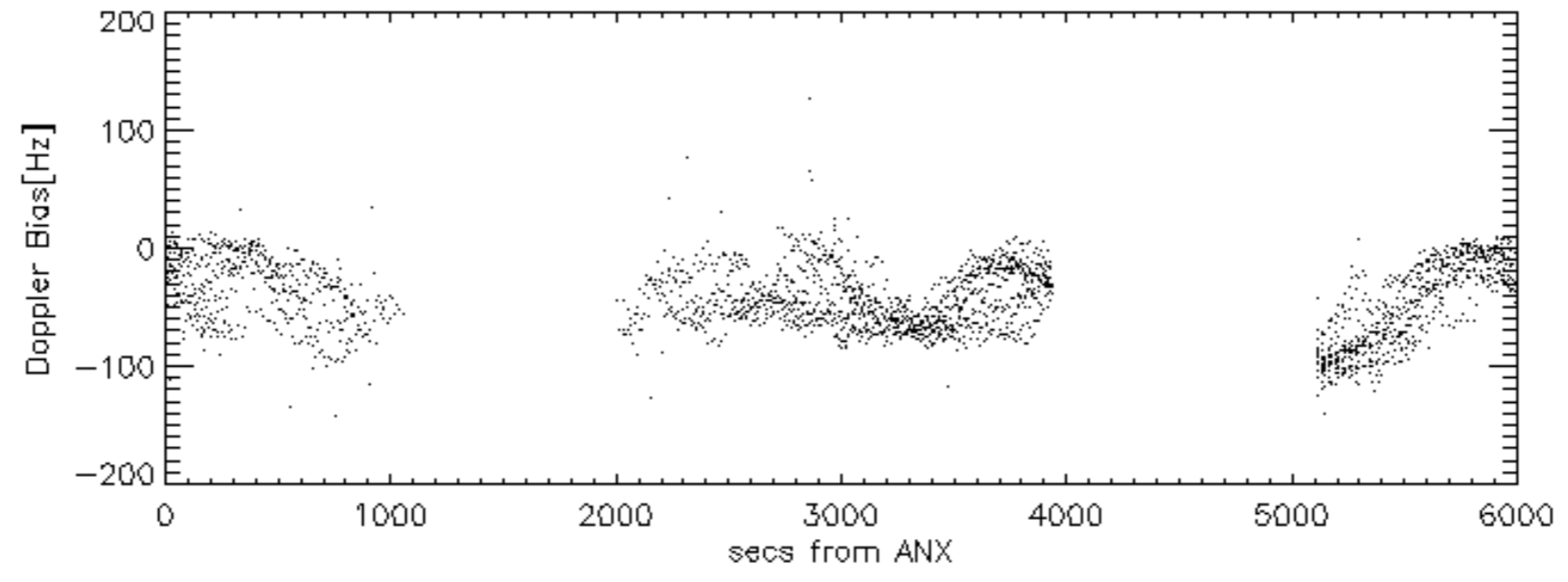
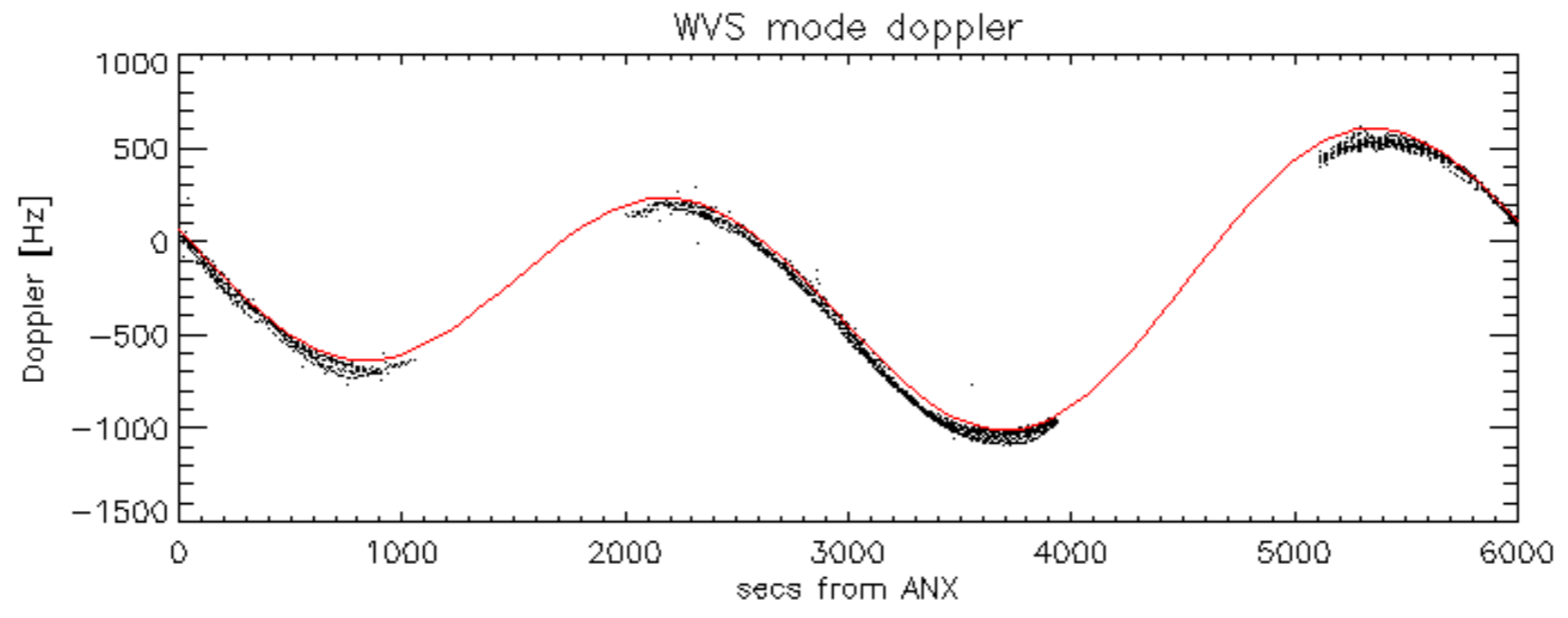


Doppler 'WVS' 'IS2' descending

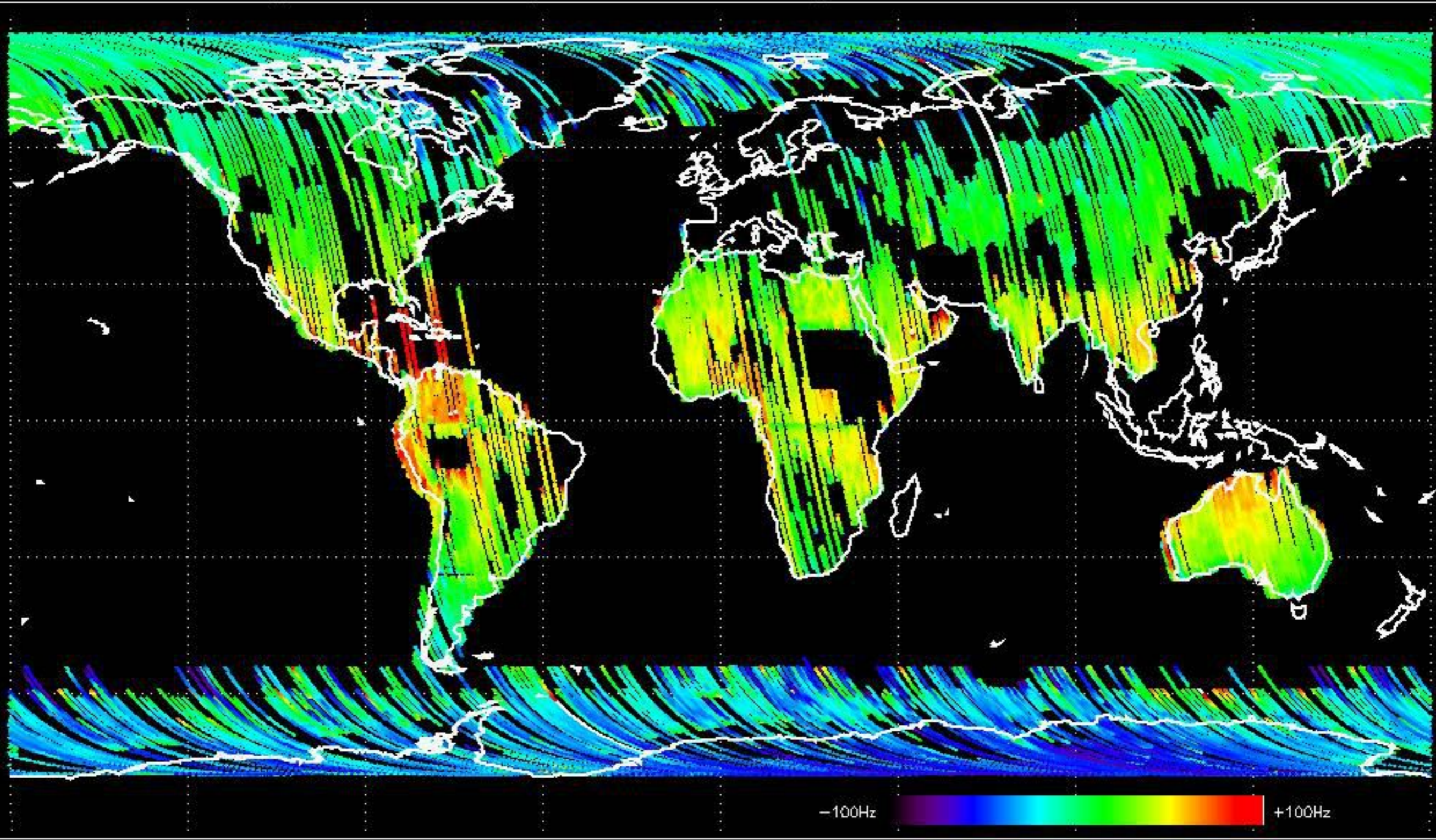




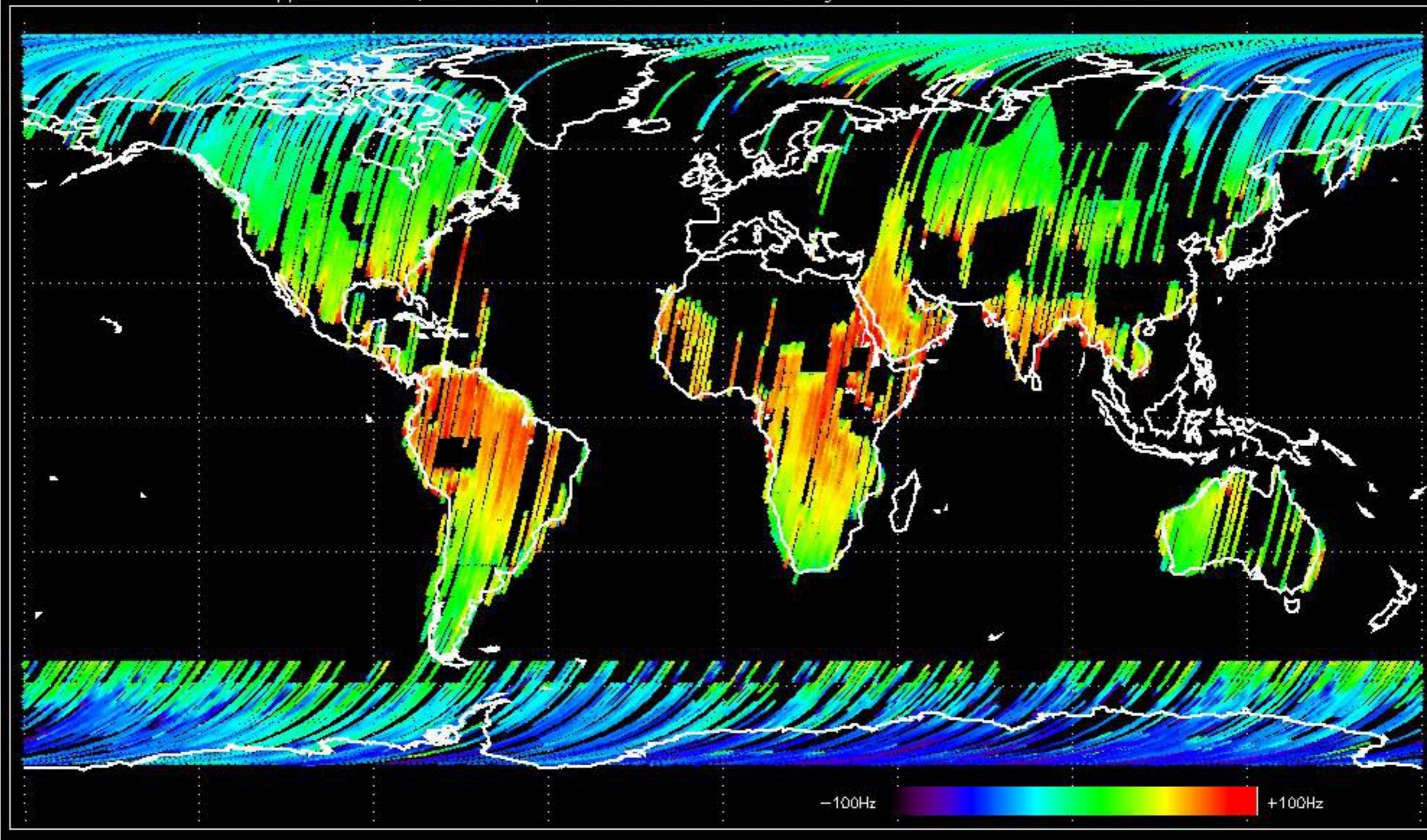




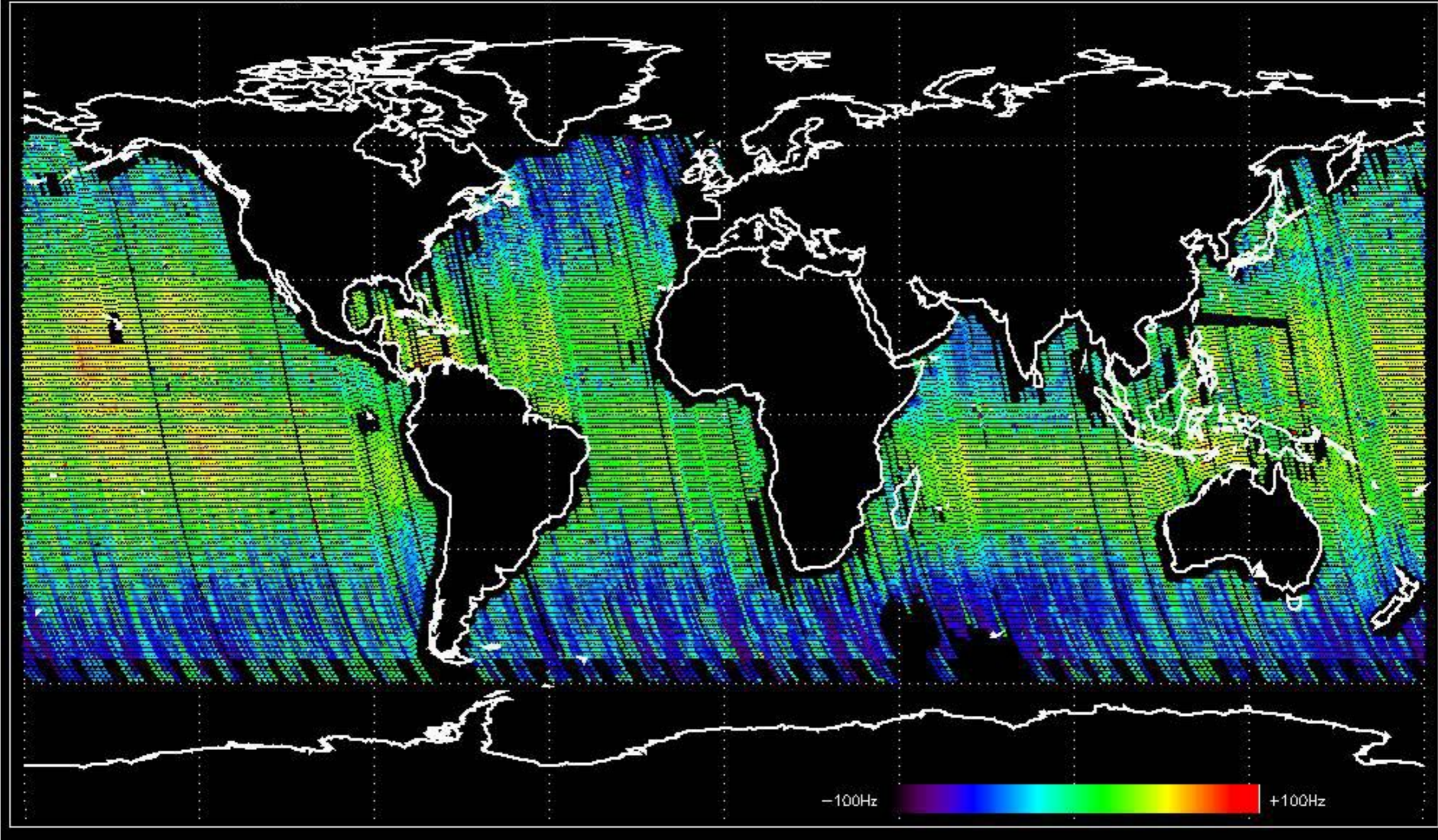
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -37.760058 Hz



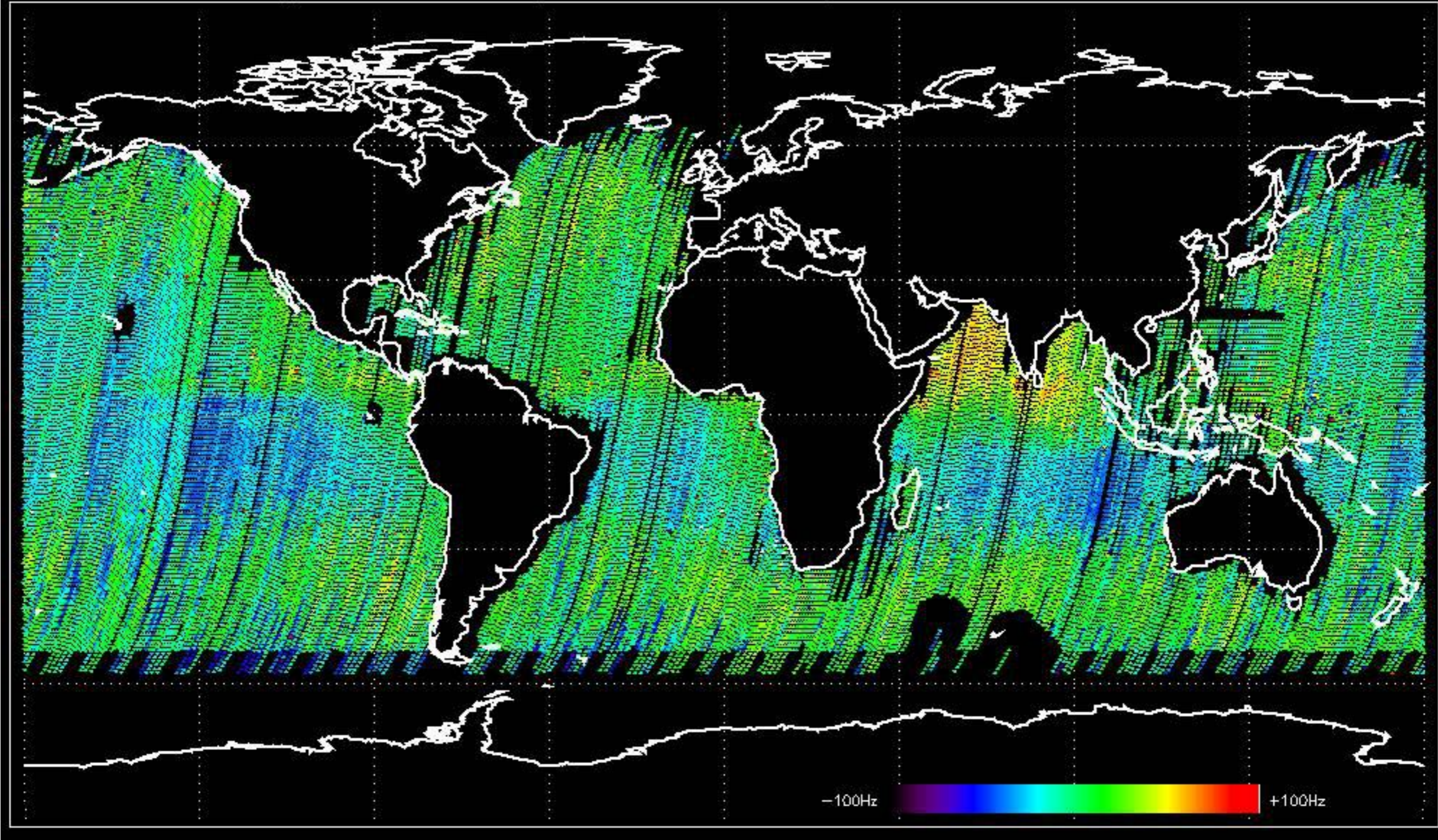
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -31.758509 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -32.867015 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -35.713425 Hz



No anomalies observed on available MS products:

No anomalies observed.



















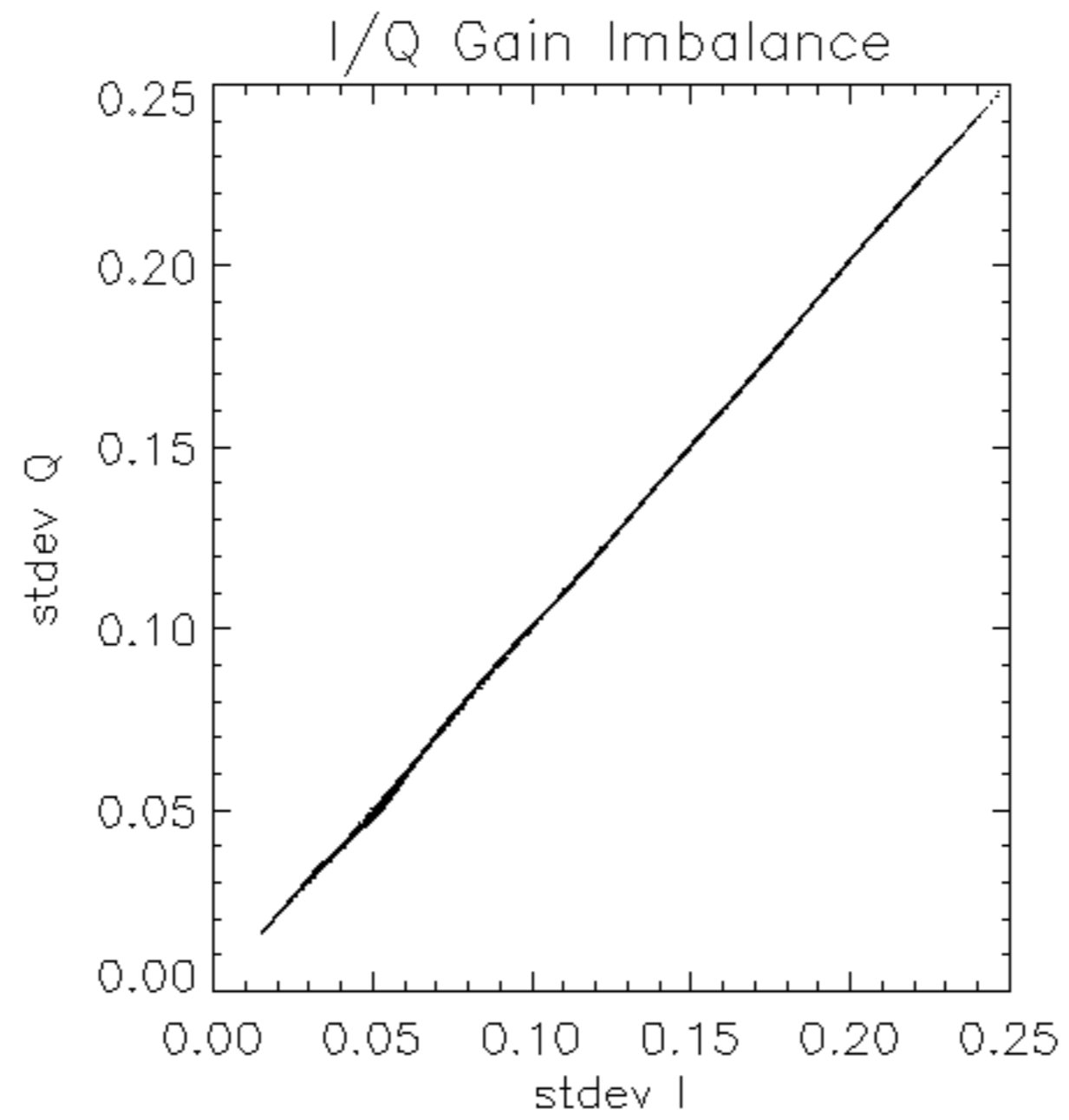


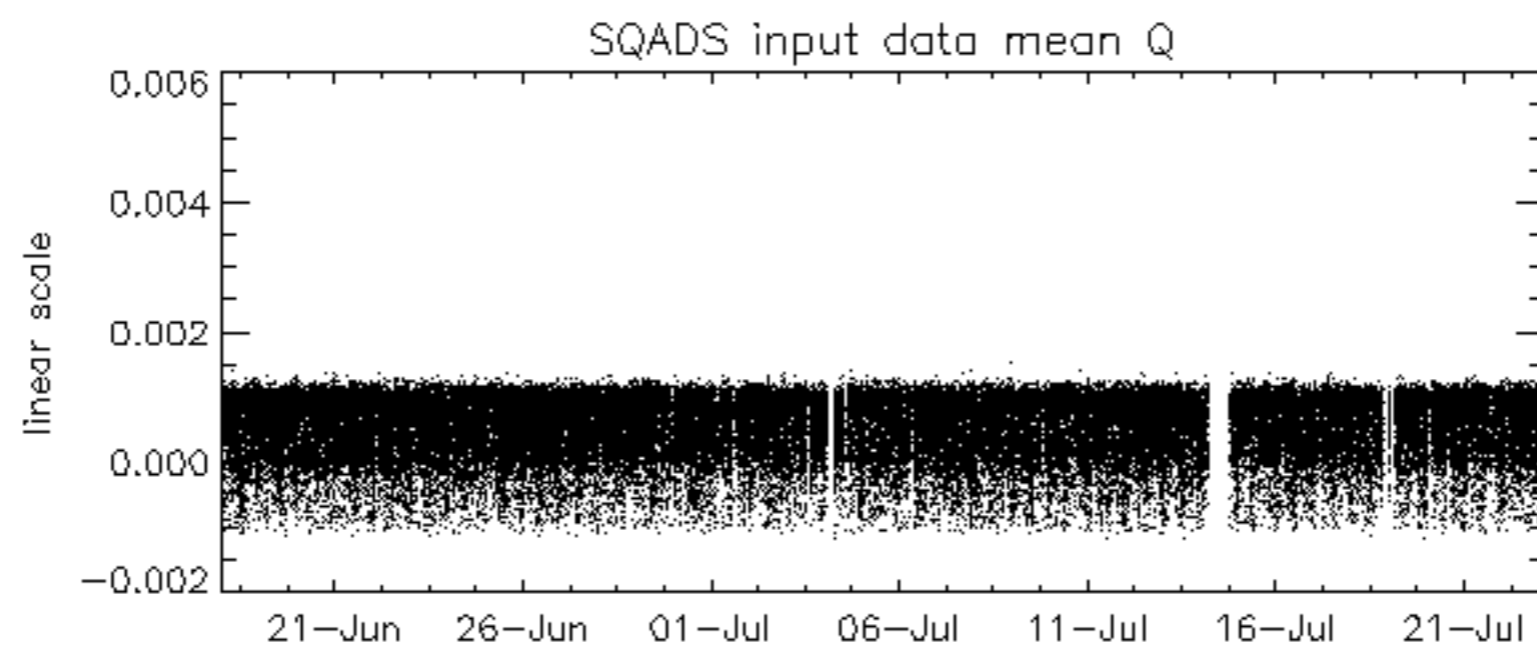
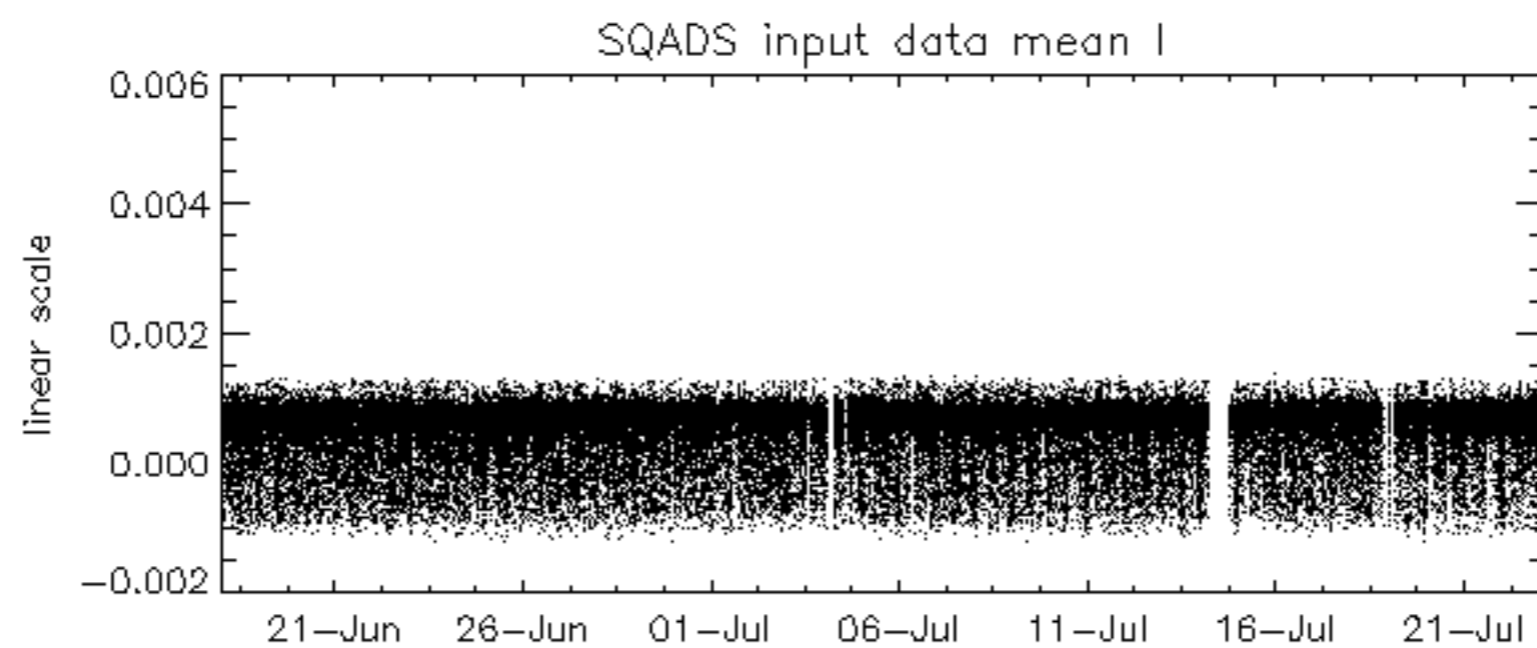
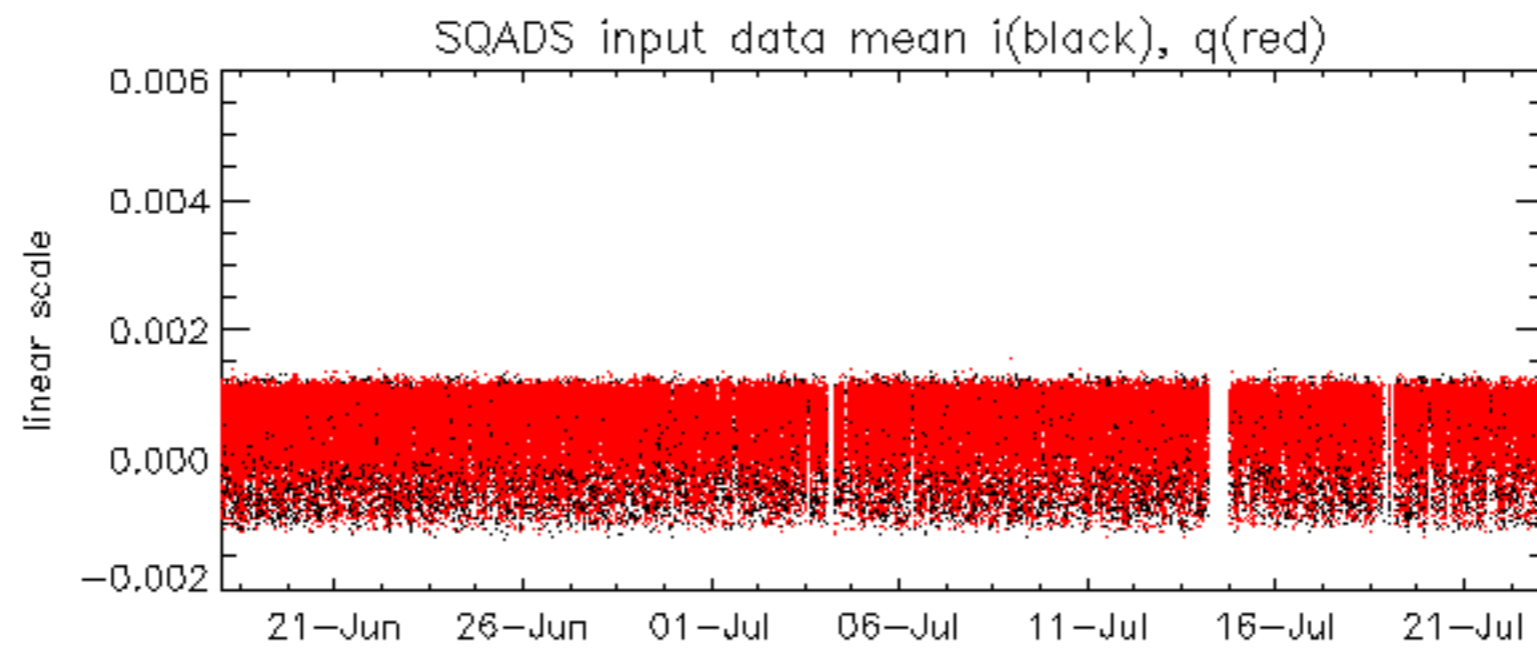


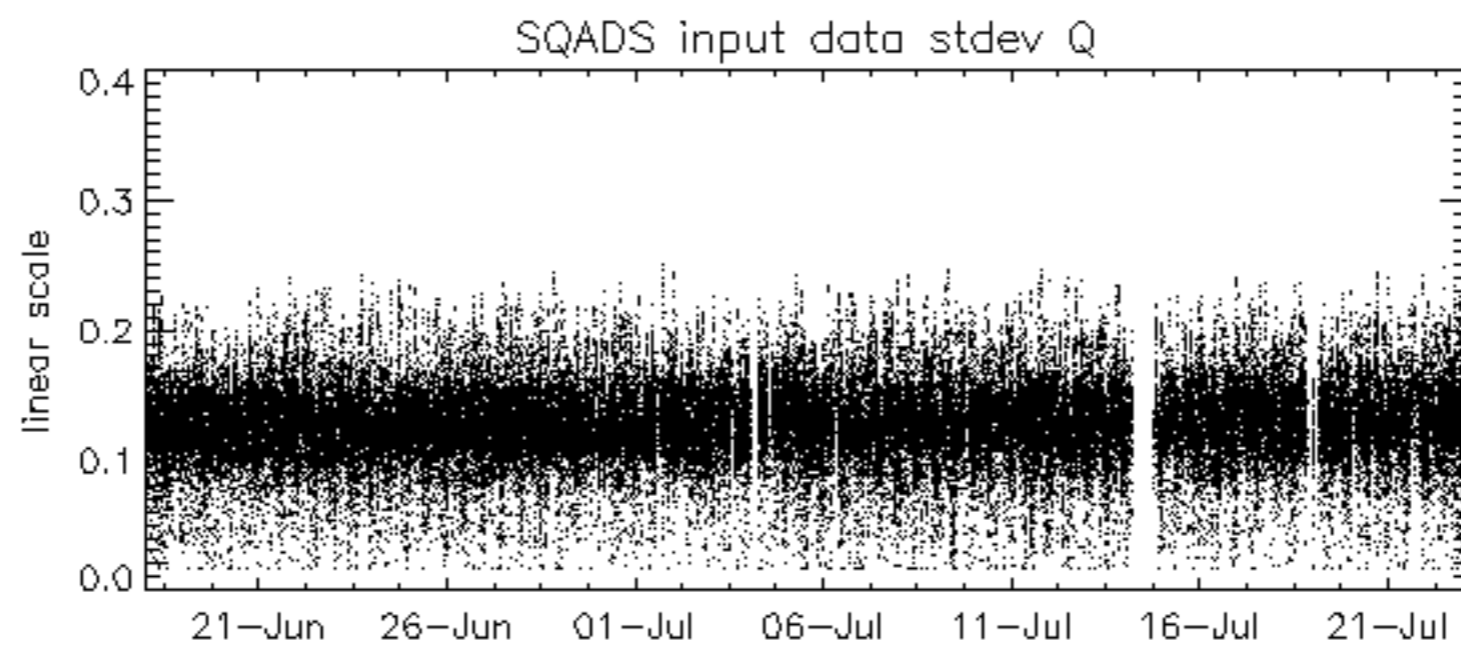
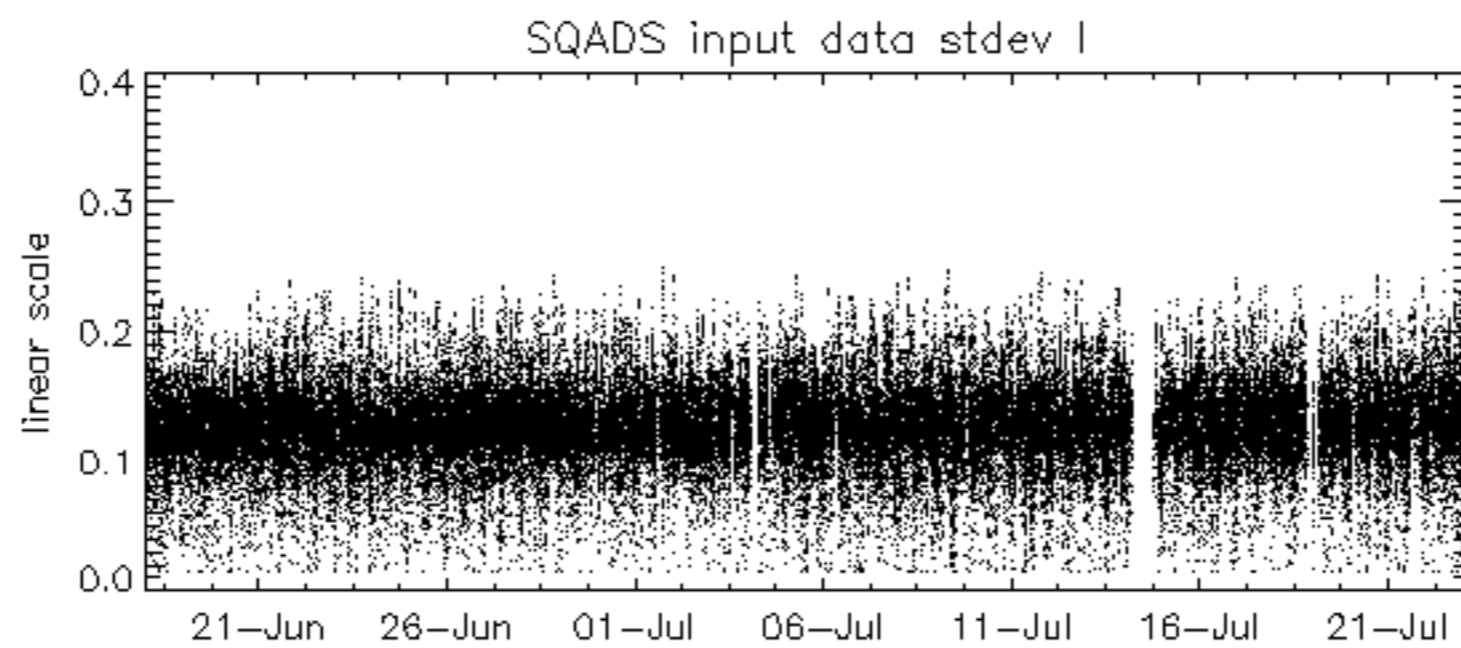
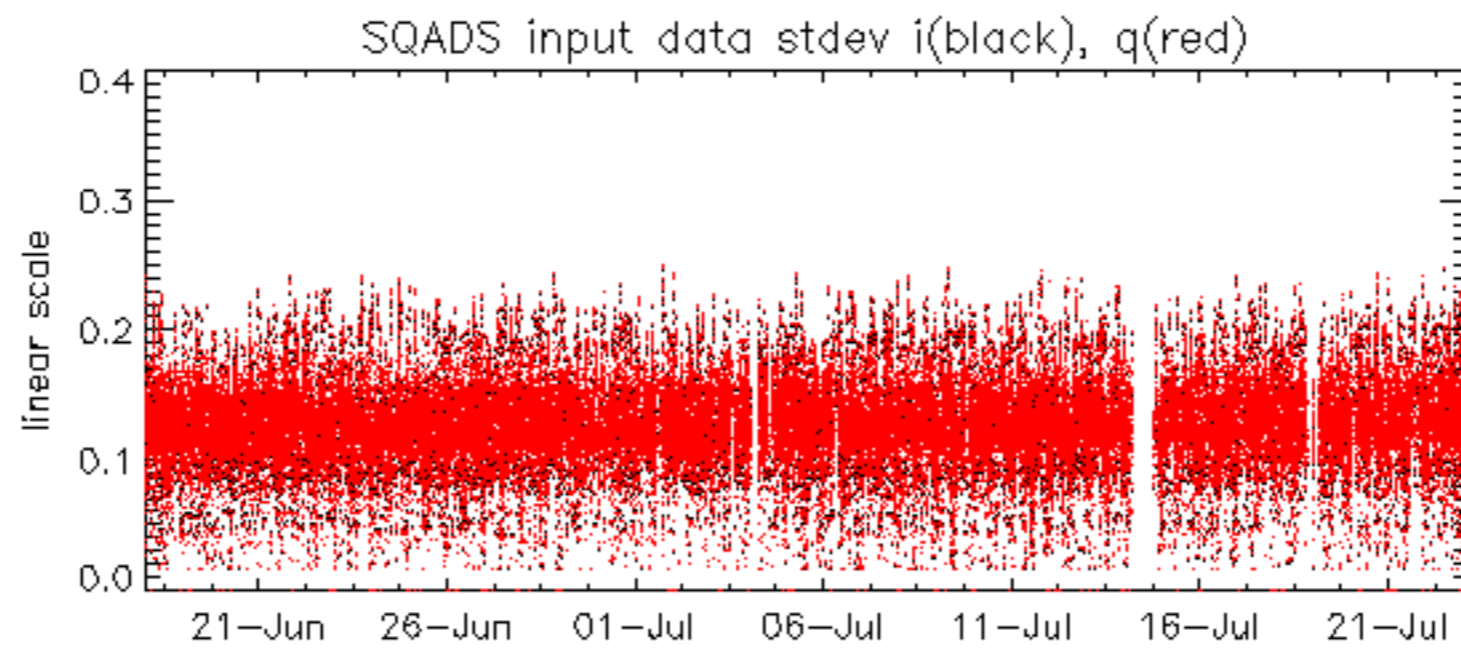








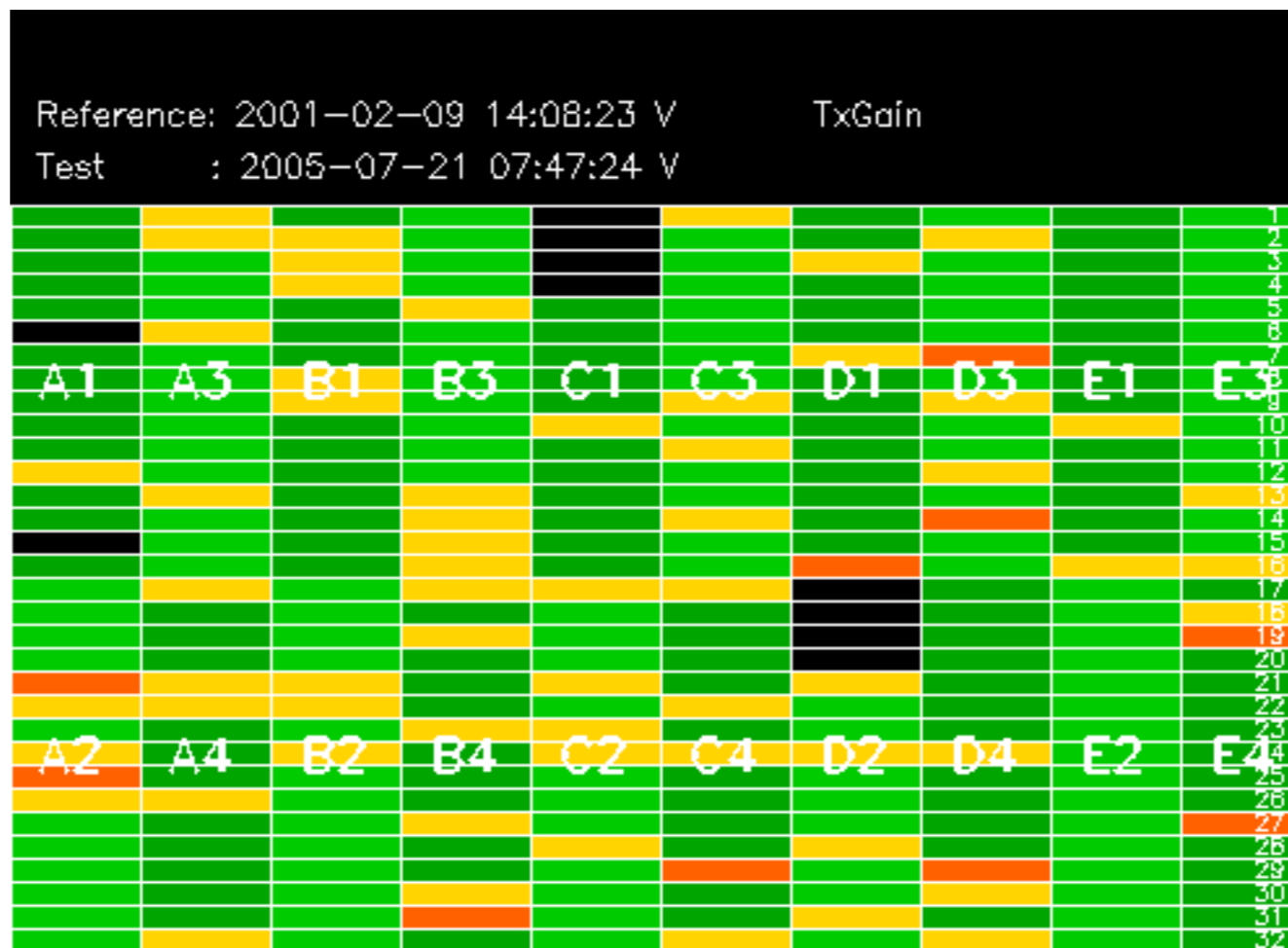
















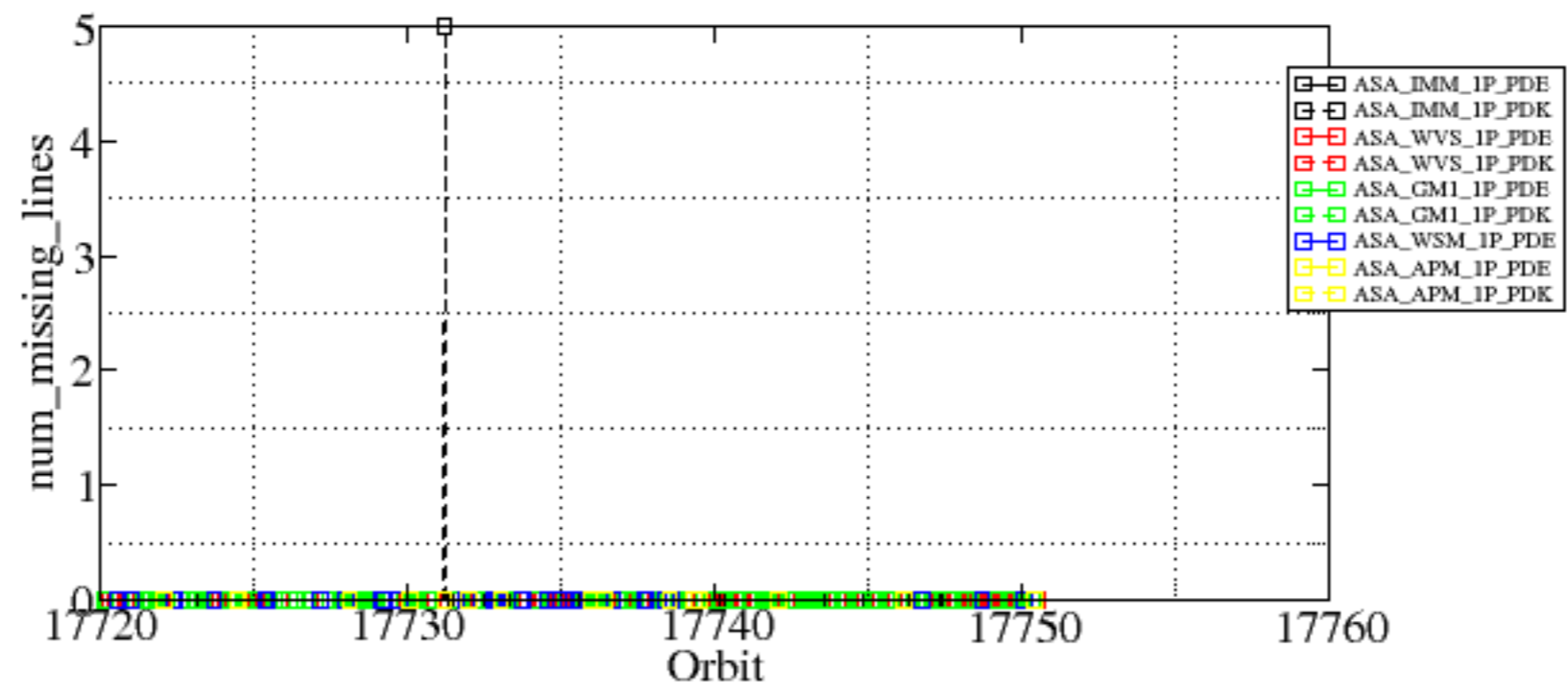


Summary of analysis for the last 3 days 2005072[123]

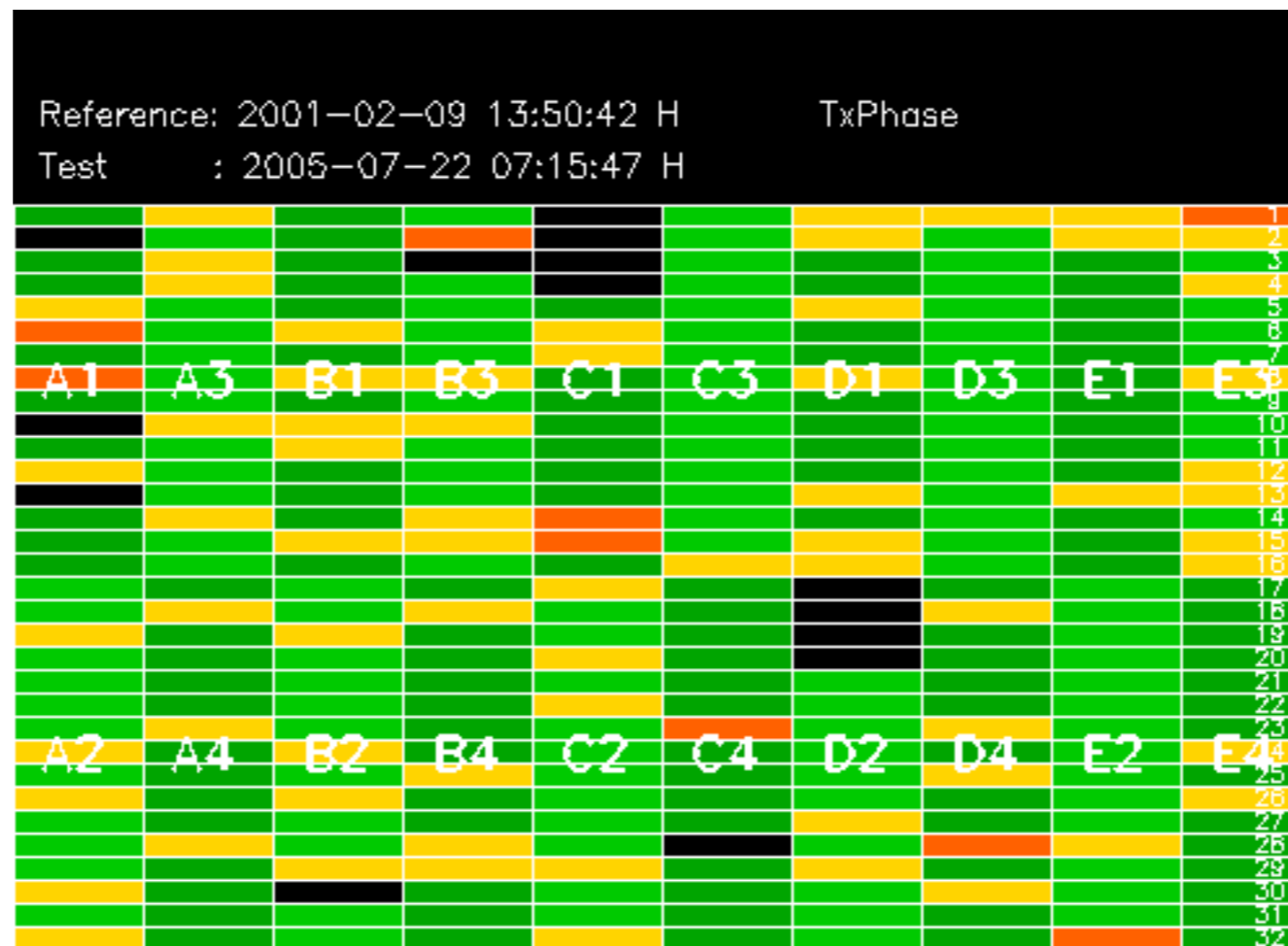
The assumption is taken that the SQADS num\_gaps and num\_missing\_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20050722_042651_00000522039_00147_17736_0317.N1	1	0
ASA_IMM_1PNPK20050721_184623_0000092039_00142_17731_0091.N1	0	5









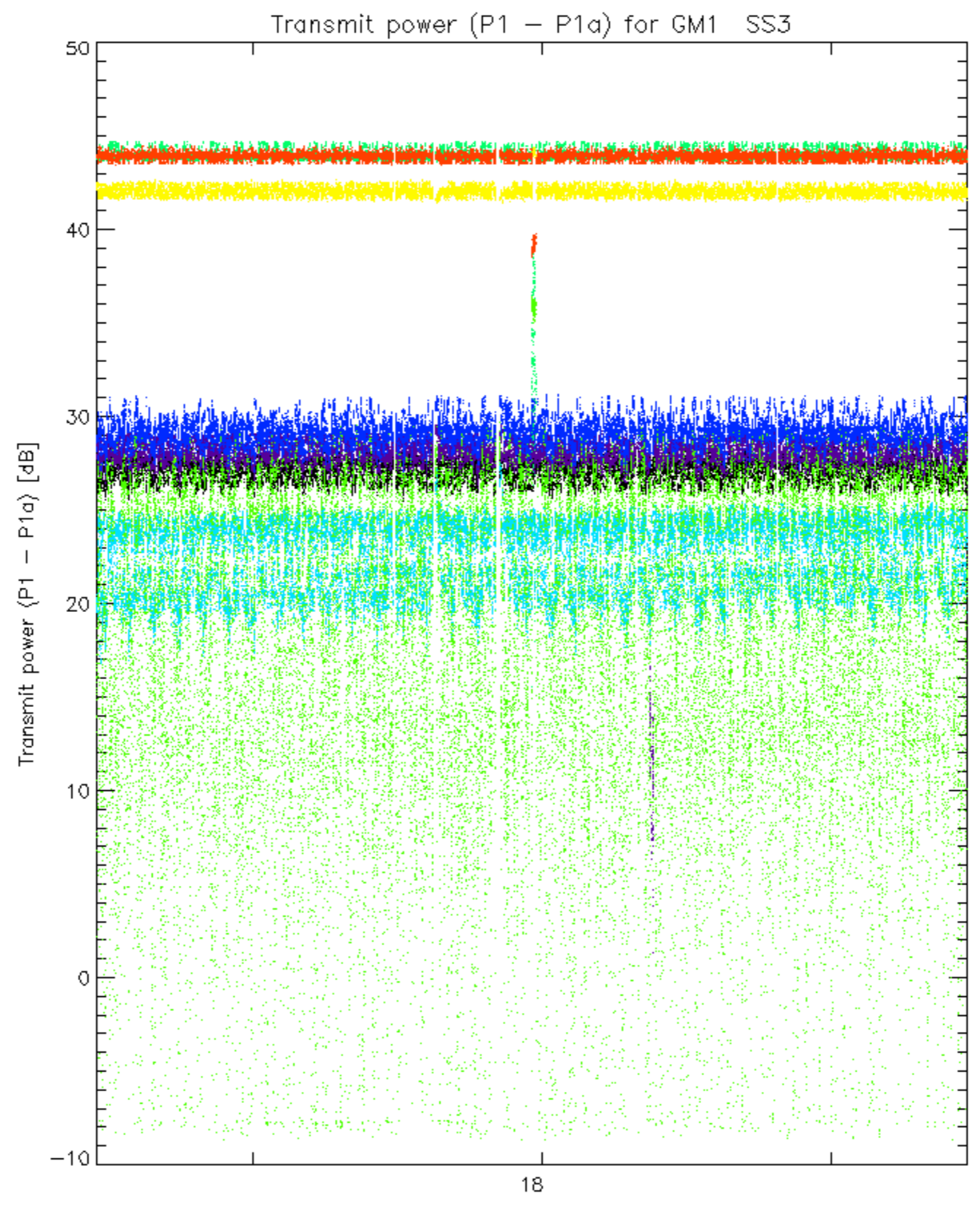




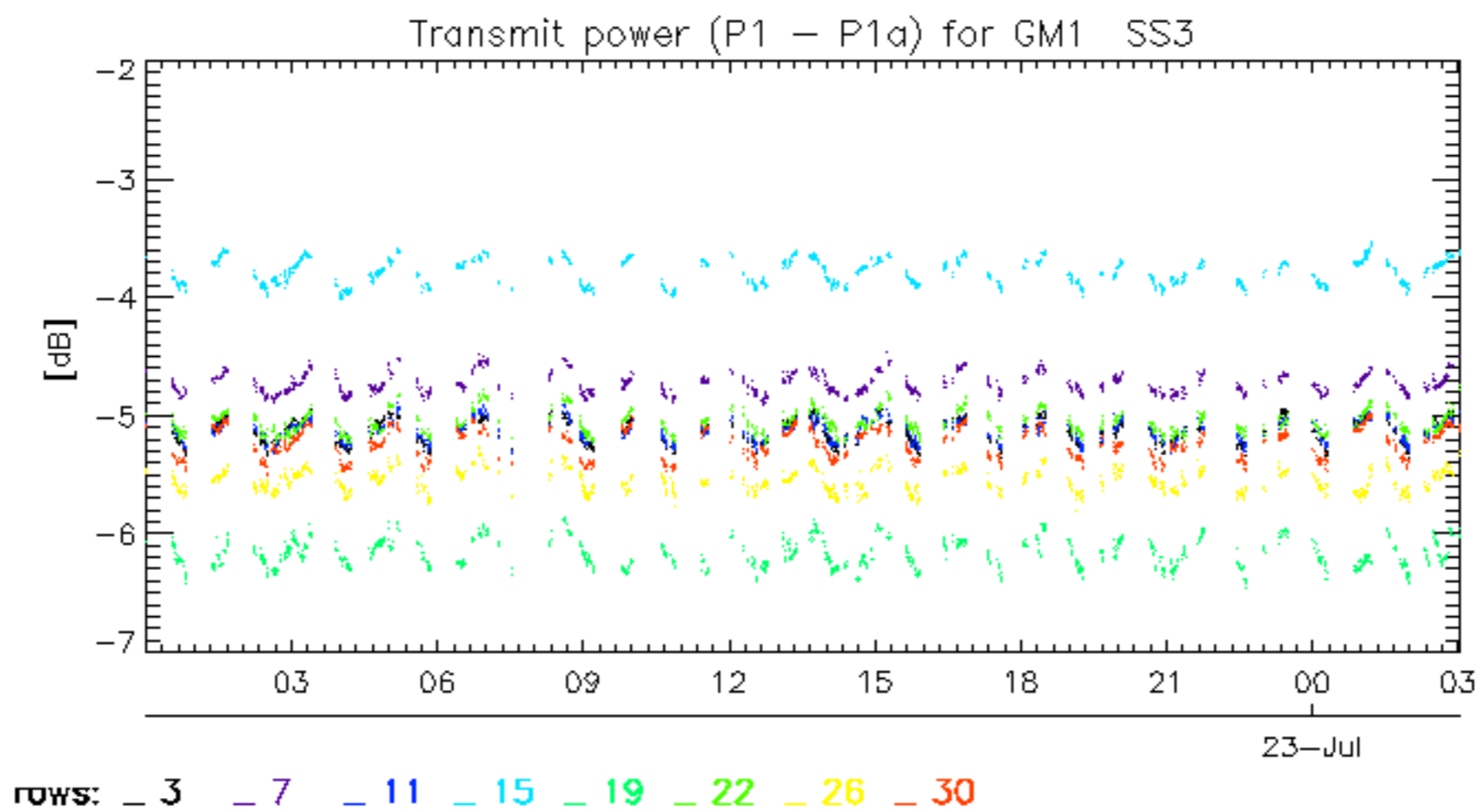




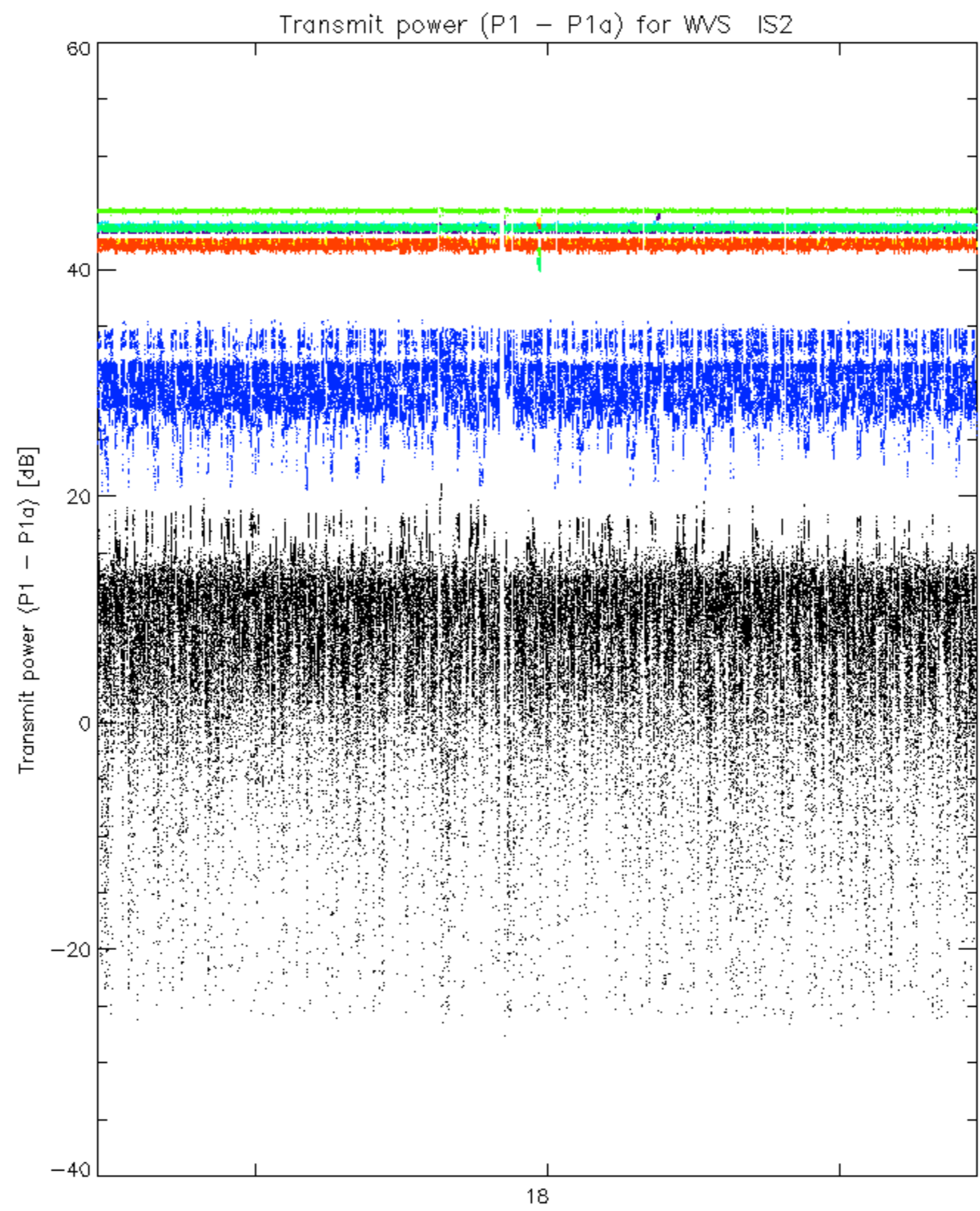




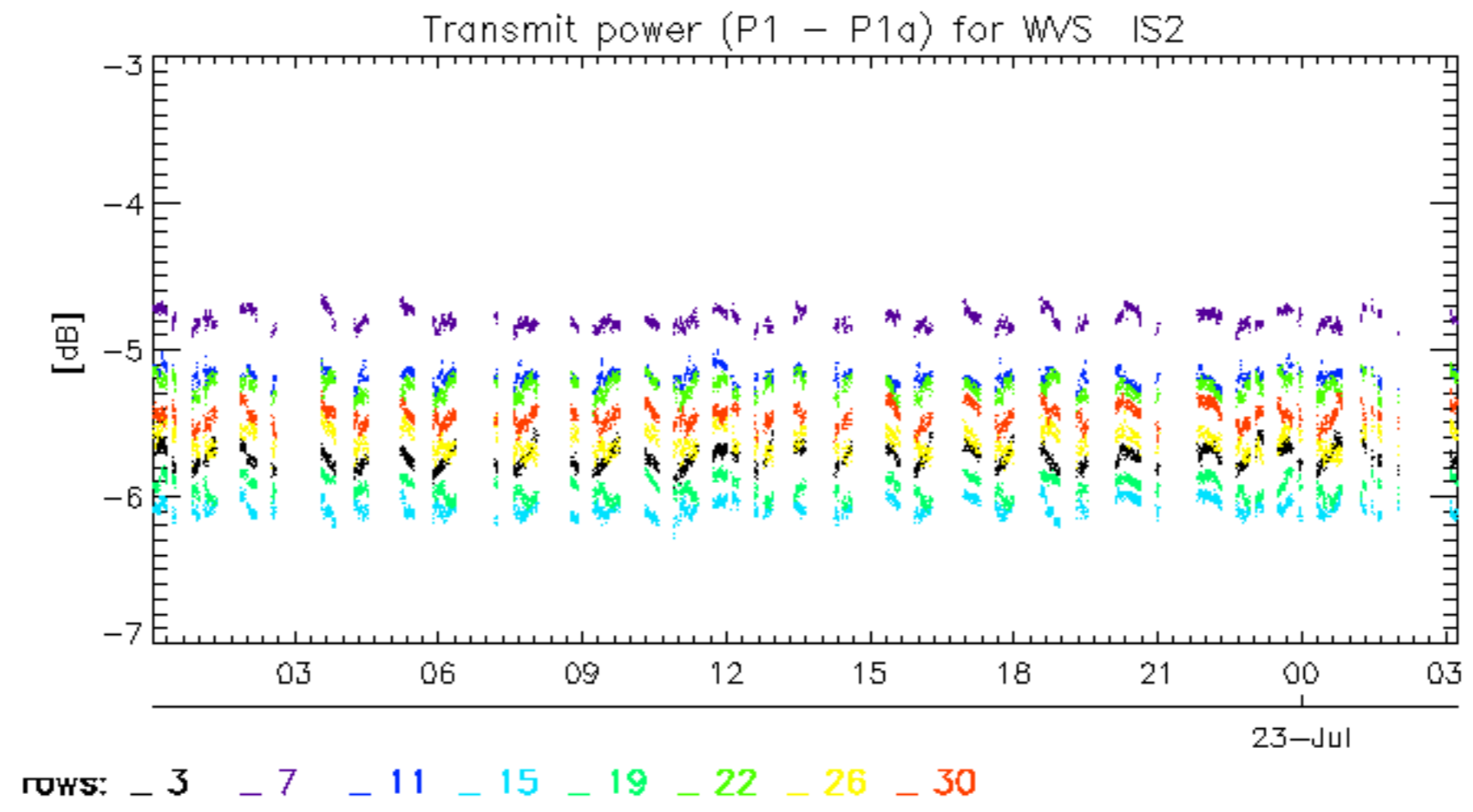
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30







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



No unavailabilities during the reported period.