

# PRELIMINARY REPORT OF 060613

last update on Tue Jun 13 16:43:49 GMT 2006

1. [Introduction](#)
2. [Summary](#)
  - [Instrument Unavailability](#)
  - [Auxiliary files used](#)
  - [Browse Visual Inspection](#)
  - [Module Stepping Results](#)
  - [Data Analysis](#)
3. [Module Stepping](#)
4. [Internal Calibration pulses](#)
  - [Daily statistics](#)
  - [Cyclic statistics](#)
  - [cal pulses monitoring \(all rows\)](#)
5. [Raw Data Statistics](#)
  - [raw data mean I and Q](#)
  - [raw data stdev I and Q](#)
  - [raw gain imbalance](#)
6. [TLM analysis](#)
7. [Wave Doppler analysis](#)
  - [Unbiased Doppler Error for WVS](#)
  - [Absolute Doppler for WVS](#)
  - [Doppler evolution versus ANX for WVS](#)
  - [Unbiased Doppler Error for GM1](#)
  - [Absolute Doppler for GM1](#)
  - [Doppler evolution versus ANX for GM1](#)

## 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 2006-06-12 00:00:00 to 2006-06-13 16:43:49

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	40	61	14	0	5
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	40	61	14	0	5
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	40	61	14	0	5
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	40	61	14	0	5

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	41	47	53	14	25
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	41	47	53	14	25
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	41	47	53	14	25
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	41	47	53	14	25

## 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	20060612 084154
H	20060613 081017

### MSM in V/V 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"/>

### 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)
-----	-------	-----------	------------	-----------------

**P1 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.943103	0.018185	0.051112
7	P1	-3.125361	0.017032	-0.055351
11	P1	-4.109007	0.018897	0.000753
15	P1	-6.140683	0.020179	-0.022181
19	P1	-3.337791	0.008360	-0.056583
22	P1	-4.514024	0.011544	0.005034
26	P1	-3.977757	0.017329	0.019917
30	P1	-5.747643	0.008936	-0.003011
3	P1	-16.528111	0.263556	0.072390
7	P1	-17.197863	0.150560	-0.163895
11	P1	-16.943184	0.310565	-0.086363
15	P1	-13.203379	0.218092	0.052675
19	P1	-14.300582	0.050182	-0.134546
22	P1	-16.163939	0.377288	-0.003784
26	P1	-15.244799	0.236040	0.106522
30	P1	-17.079277	0.401092	-0.238661

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.170958	0.079582	0.122356
7	P2	-22.051086	0.095833	0.110464
11	P2	-15.901914	0.109156	0.128253
15	P2	-7.160718	0.091667	0.009625
19	P2	-9.168859	0.083784	-0.018966
22	P2	-18.145208	0.081870	-0.072818
26	P2	-16.387926	0.086315	-0.060399
30	P2	-19.565132	0.085146	0.042167

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.184971	0.004104	0.003347
7	P3	-8.184971	0.004104	0.003347
11	P3	-8.184971	0.004104	0.003347
15	P3	-8.184971	0.004104	0.003347
19	P3	-8.184971	0.004104	0.003347
22	P3	-8.184971	0.004104	0.003347
26	P3	-8.184971	0.004104	0.003347
30	P3	-8.184971	0.004104	0.003347

#### 4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1

✕
---

#### P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
-----	-------	-----------	------------	-----------------

#### P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.787689	0.064414	-0.052368
7	P1	-2.595417	0.031586	0.023575
11	P1	-2.863131	0.023470	0.000894
15	P1	-3.502955	0.050146	-0.034047
19	P1	-3.403293	0.014433	-0.025047
22	P1	-5.082264	0.019776	0.001350
26	P1	-5.847177	0.015760	-0.024595
30	P1	-5.190163	0.027051	0.002769
3	P1	-11.611803	0.082613	-0.027274
7	P1	-9.969471	0.053203	-0.023331
11	P1	-10.211625	0.087206	-0.089941
15	P1	-10.638213	0.152157	-0.145964
19	P1	-15.526598	0.076417	-0.047778
22	P1	-20.921242	1.196947	-0.122447
26	P1	-16.483982	0.338261	0.046872
30	P1	-17.951815	0.379163	0.197816

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.860088	0.070030	0.128723
7	P2	-22.499256	0.128155	0.048055
11	P2	-11.165902	0.047954	0.076648
15	P2	-4.912699	0.048201	-0.024129
19	P2	-6.879478	0.052900	-0.010792
22	P2	-8.202065	0.043216	-0.021577
26	P2	-24.122347	0.067421	-0.077302
30	P2	-22.064123	0.055345	-0.001878

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.018808	0.004781	-0.001482
7	P3	-8.018950	0.004771	-0.001416
11	P3	-8.018931	0.004758	-0.001336
15	P3	-8.018805	0.004771	-0.001765
19	P3	-8.018874	0.004774	-0.001559
22	P3	-8.019004	0.004763	-0.001524
26	P3	-8.018896	0.004763	-0.001602
30	P3	-8.018932	0.004765	-0.001836

## 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	0.000533344
	stdev	1.89287e-07
MEAN Q	mean	0.000508289
	stdev	2.28946e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.134523
	stdev	0.00119378
STDEV Q	mean	0.134866
	stdev	0.00121069



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006061[123]

The assumptions 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_1PNPDE20060612_064716_000000372048_00292_22390_7200.N1	1	0
ASA_IMM_1PNPDE20060613_010016_000000842048_00303_22401_7335.N1	1	0
ASA_IMM_1PNPDE20060613_061630_000000812048_00306_22404_7368.N1	1	0
ASA_WVS_1PNPDE20060611_225739_000000002048_00287_22385_2590.N1	1	0
ASA_WSM_1PNPDE20060611_021040_000000862048_00275_22373_3687.N1	0	2
ASA_WSM_1PNPDE20060611_231431_000000972048_00288_22386_3740.N1	0	62
ASA_WSM_1PNPDE20060612_041708_000002082048_00291_22389_3765.N1	0	39
ASA_WSM_1PNPDE20060612_142133_000000852048_00297_22395_3784.N1	0	16
ASA_WSM_1PNPDK20060611_165629_000000122048_00284_22382_7379.N1	0	9



## 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"/>
--------------------------



### 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

Evolution of Absolute Doppler

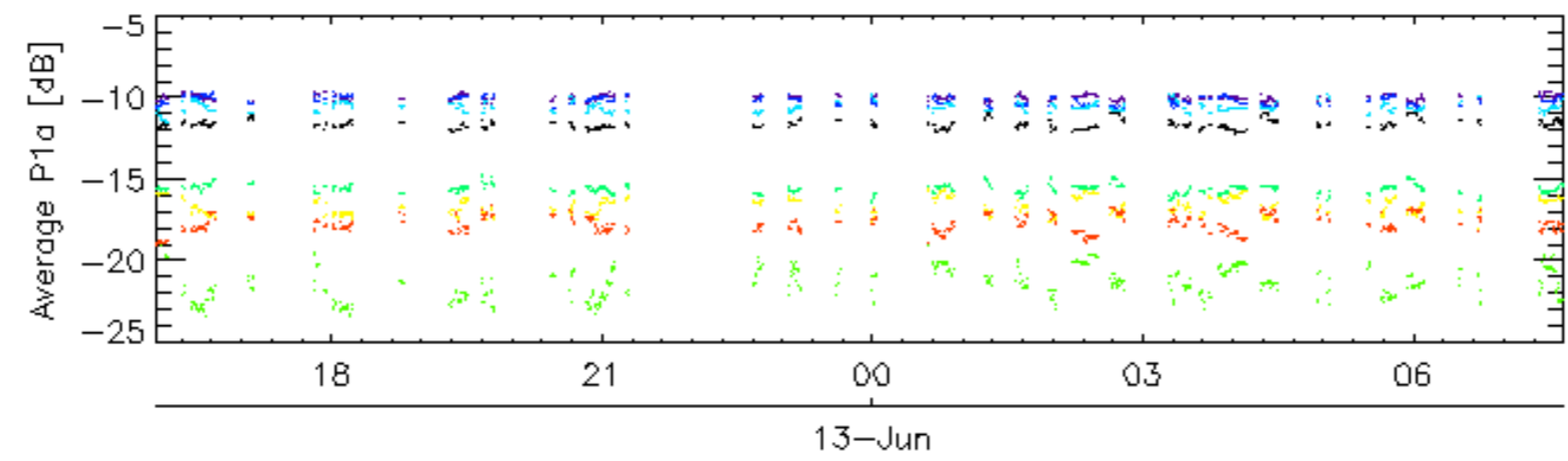
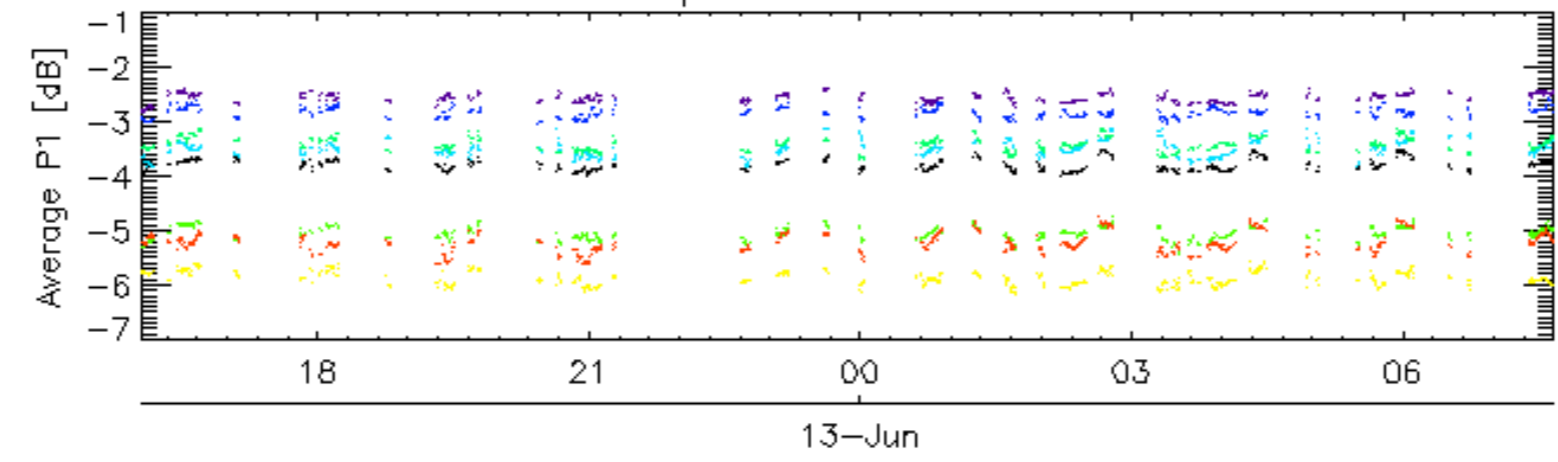
<input type="checkbox"/>
Ascending
<input type="checkbox"/>
Descending

### 7.6 - Doppler evolution versus ANX for GM1

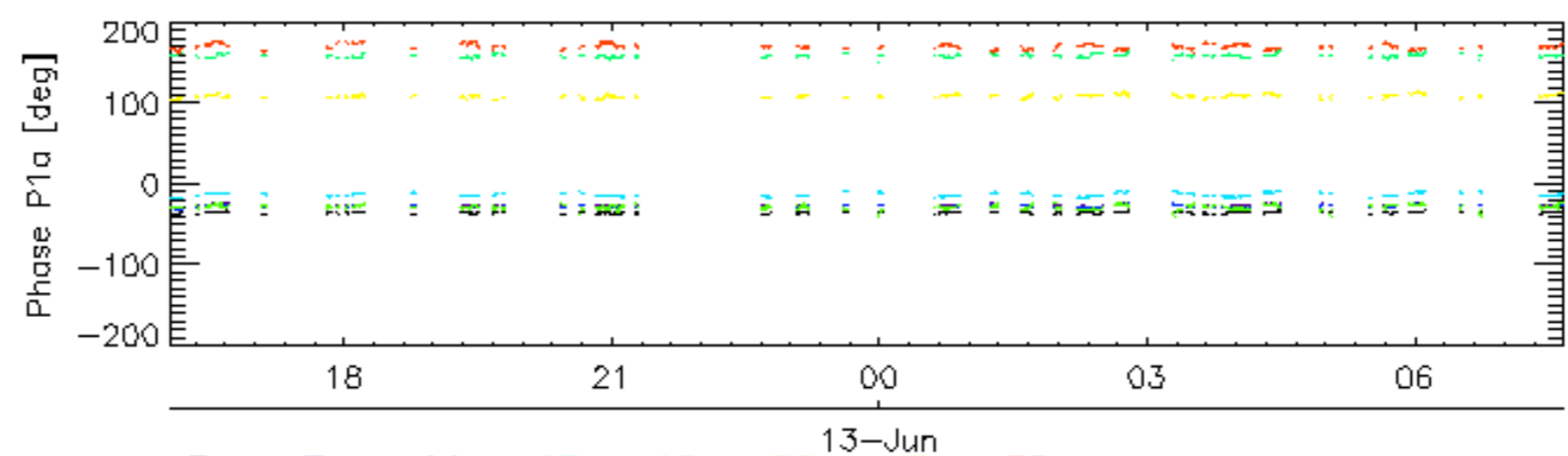
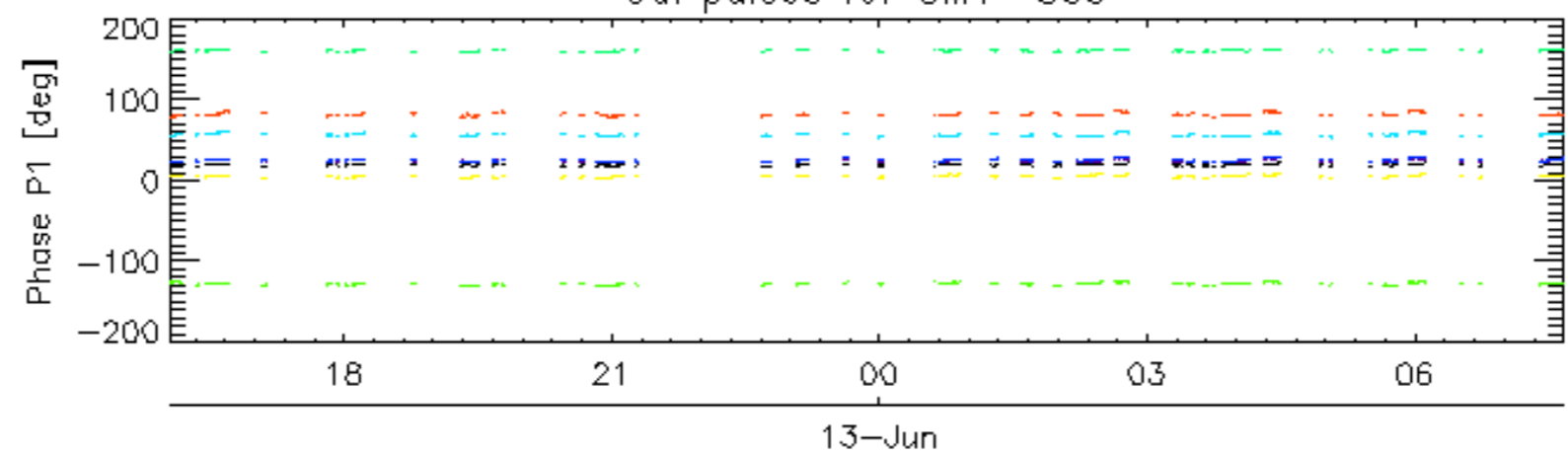
Evolution Doppler error versus ANX

<input type="checkbox"/>
--------------------------

Cal pulses for GM1 SS3

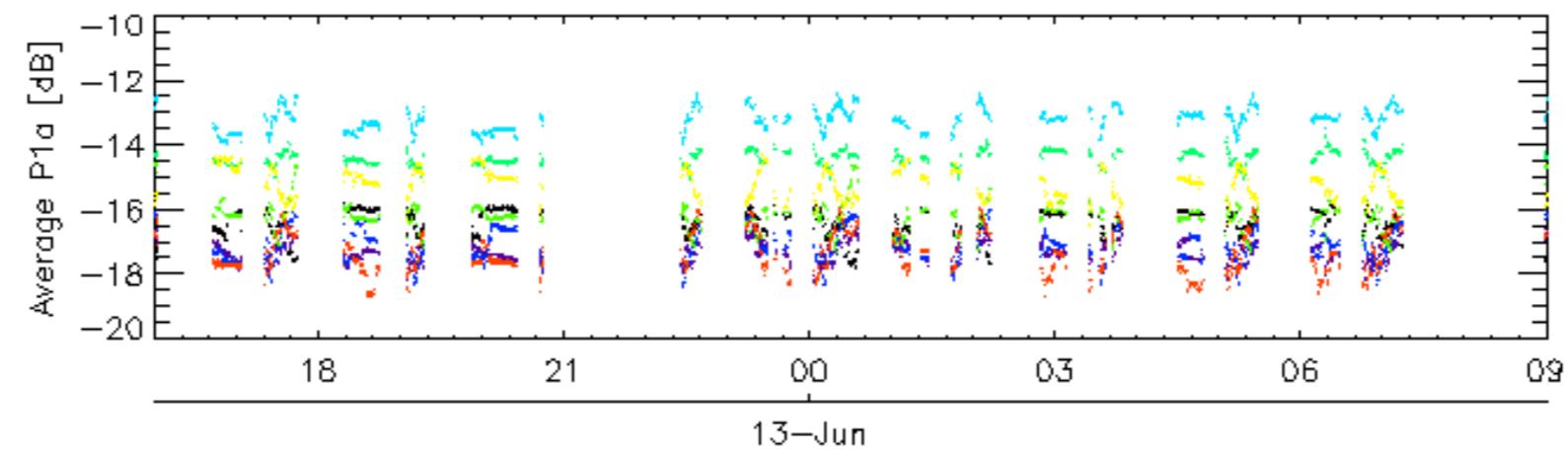
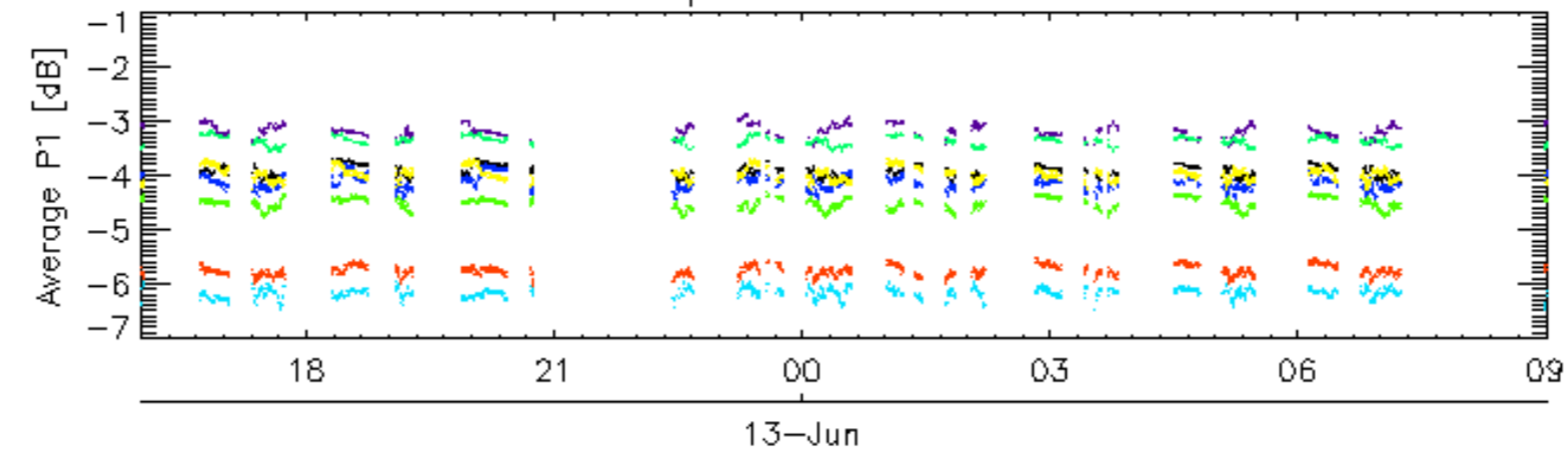


Cal pulses for GM1 SS3

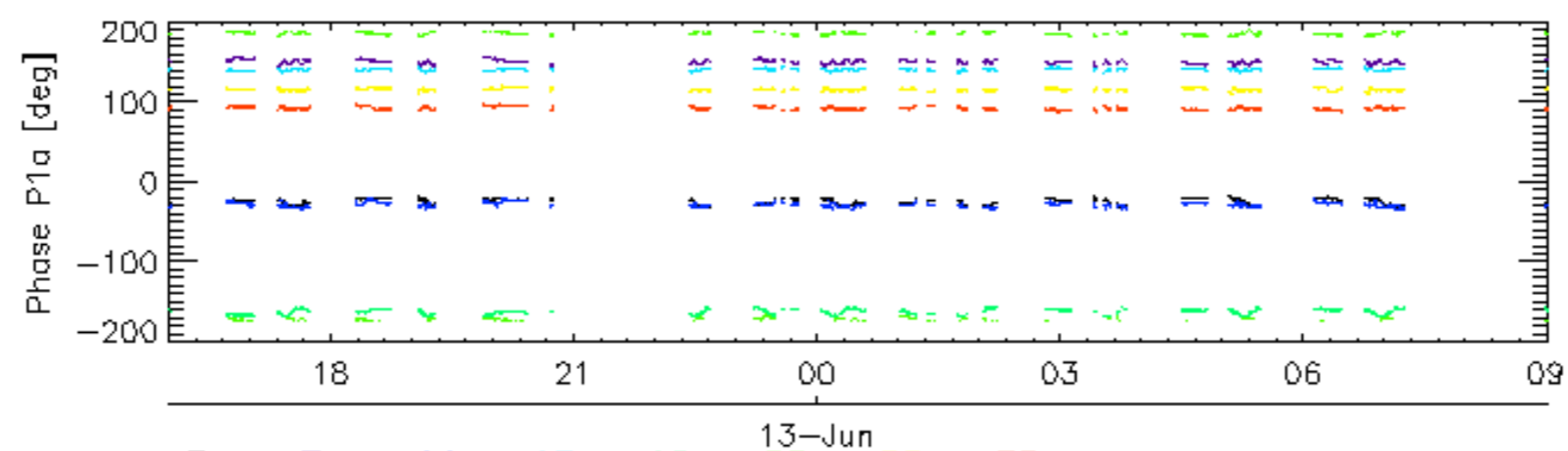
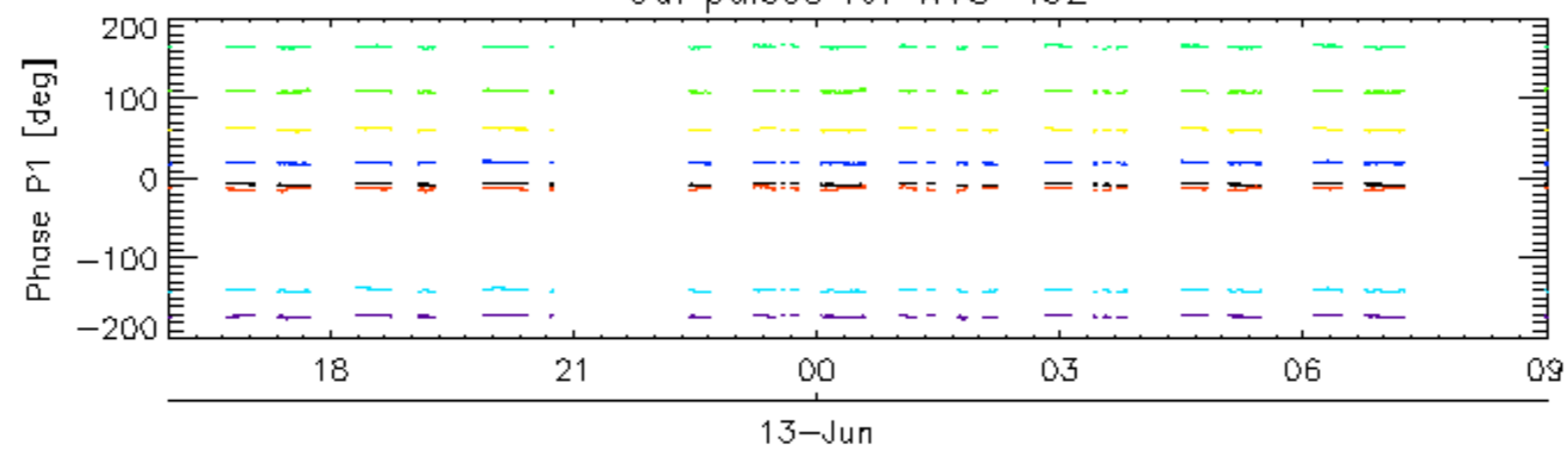


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

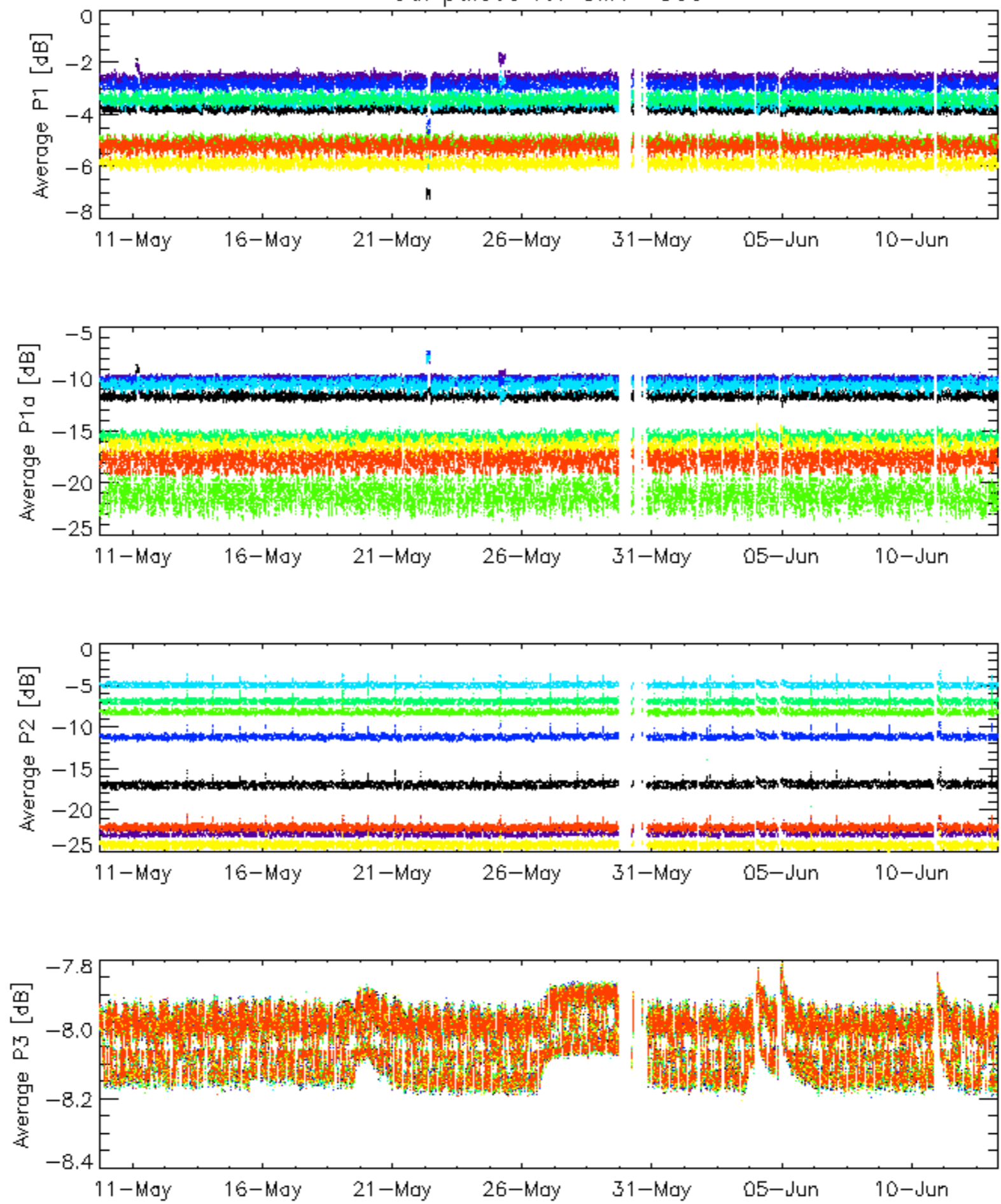


Cal pulses for WVS IS2



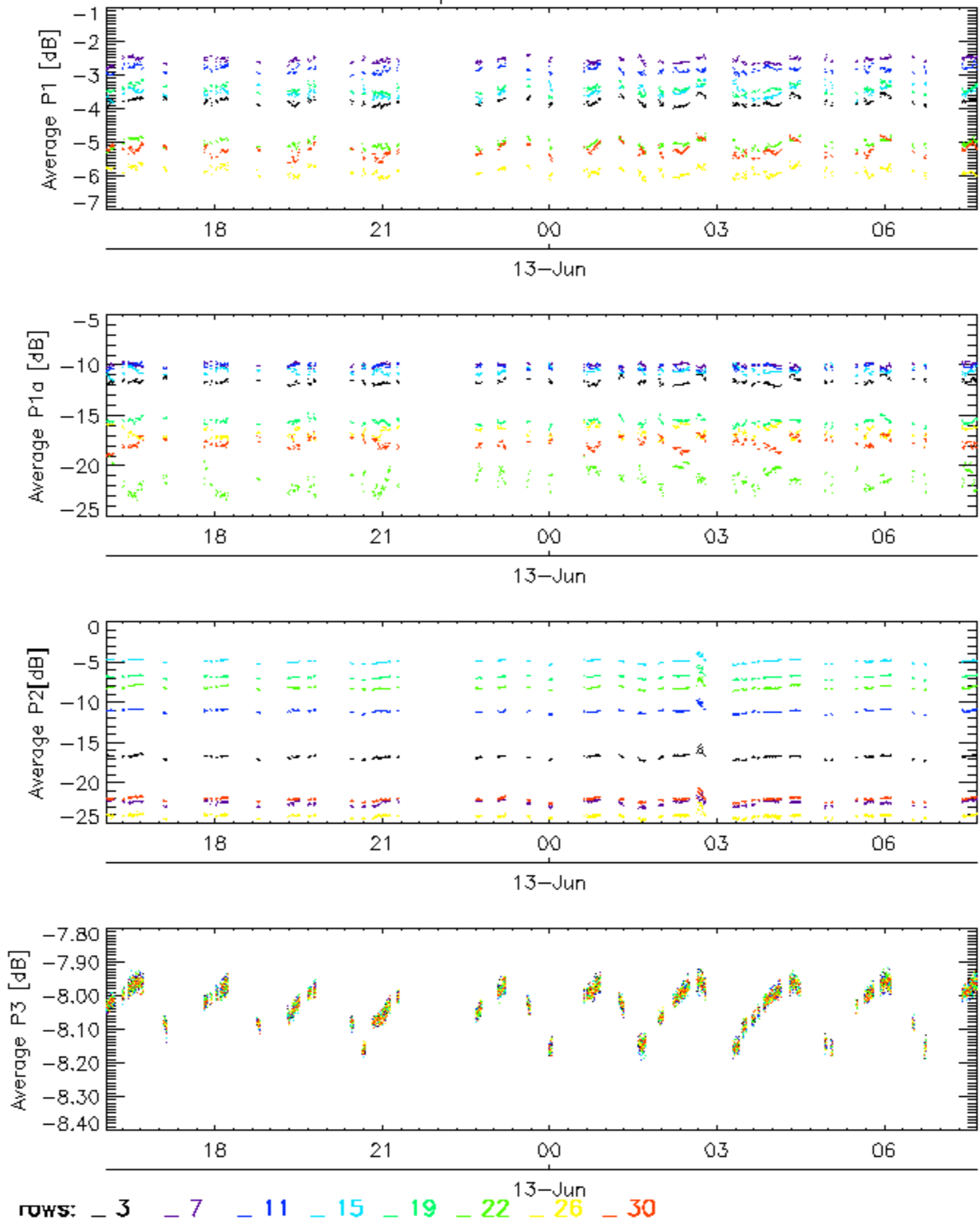
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

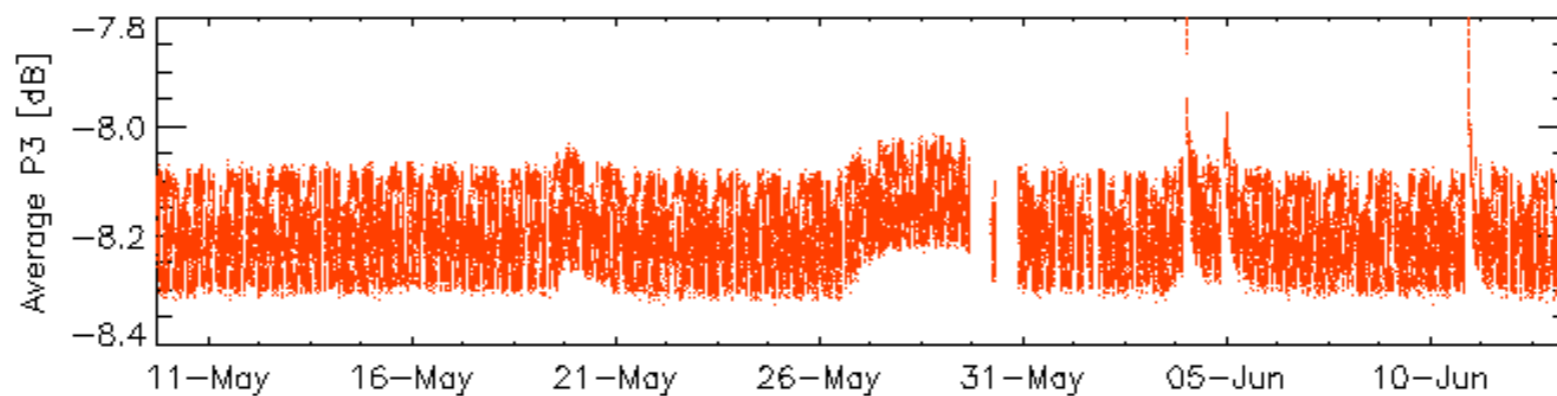
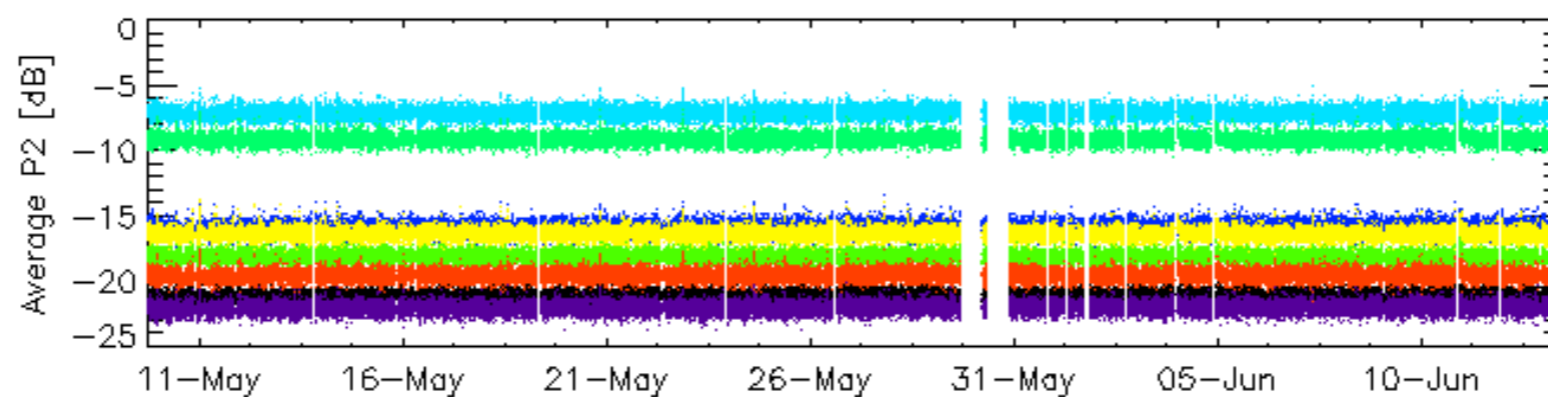
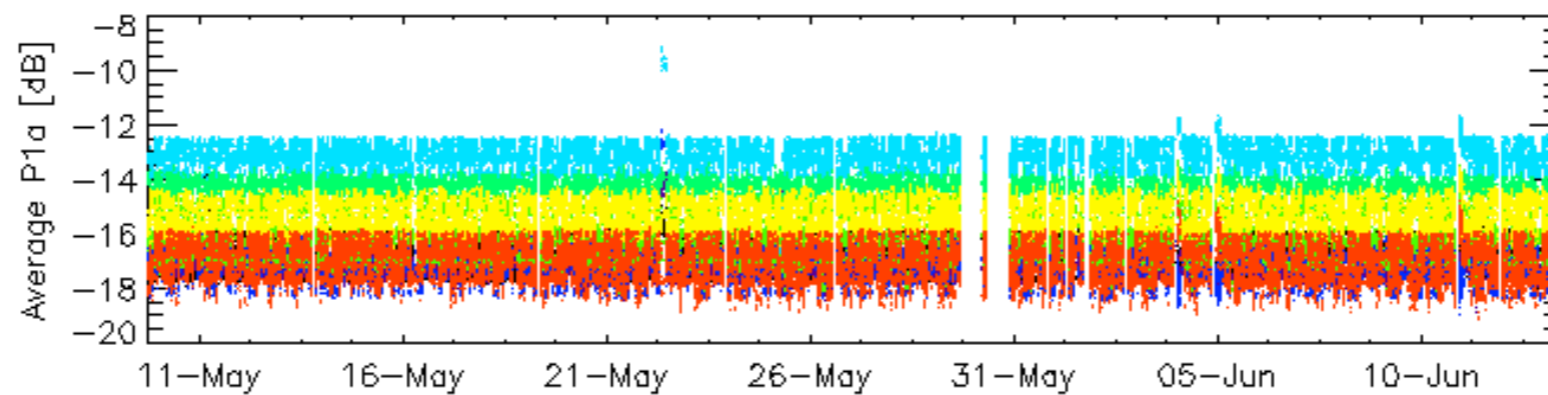
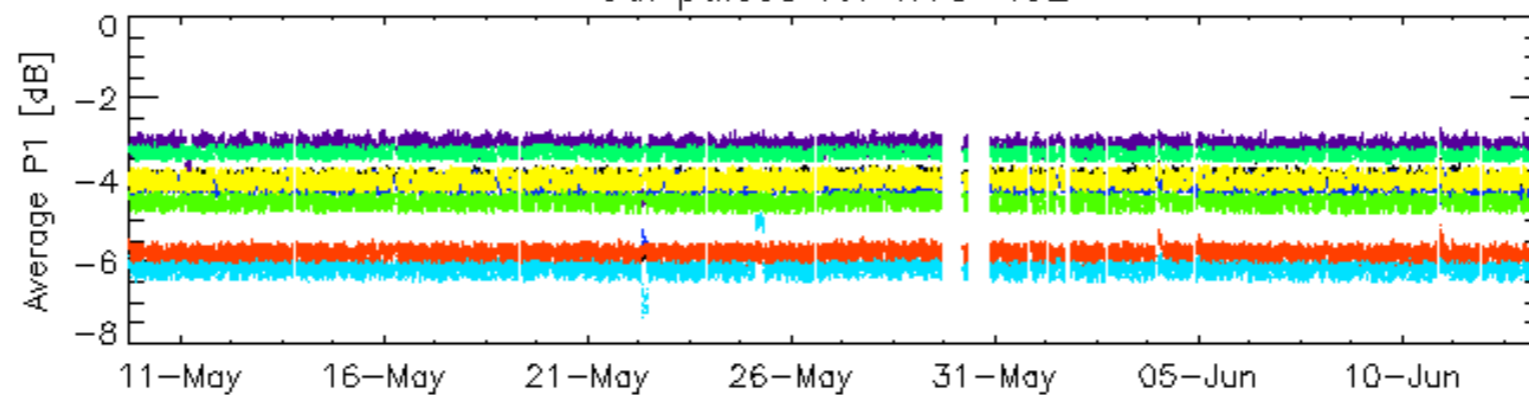


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3



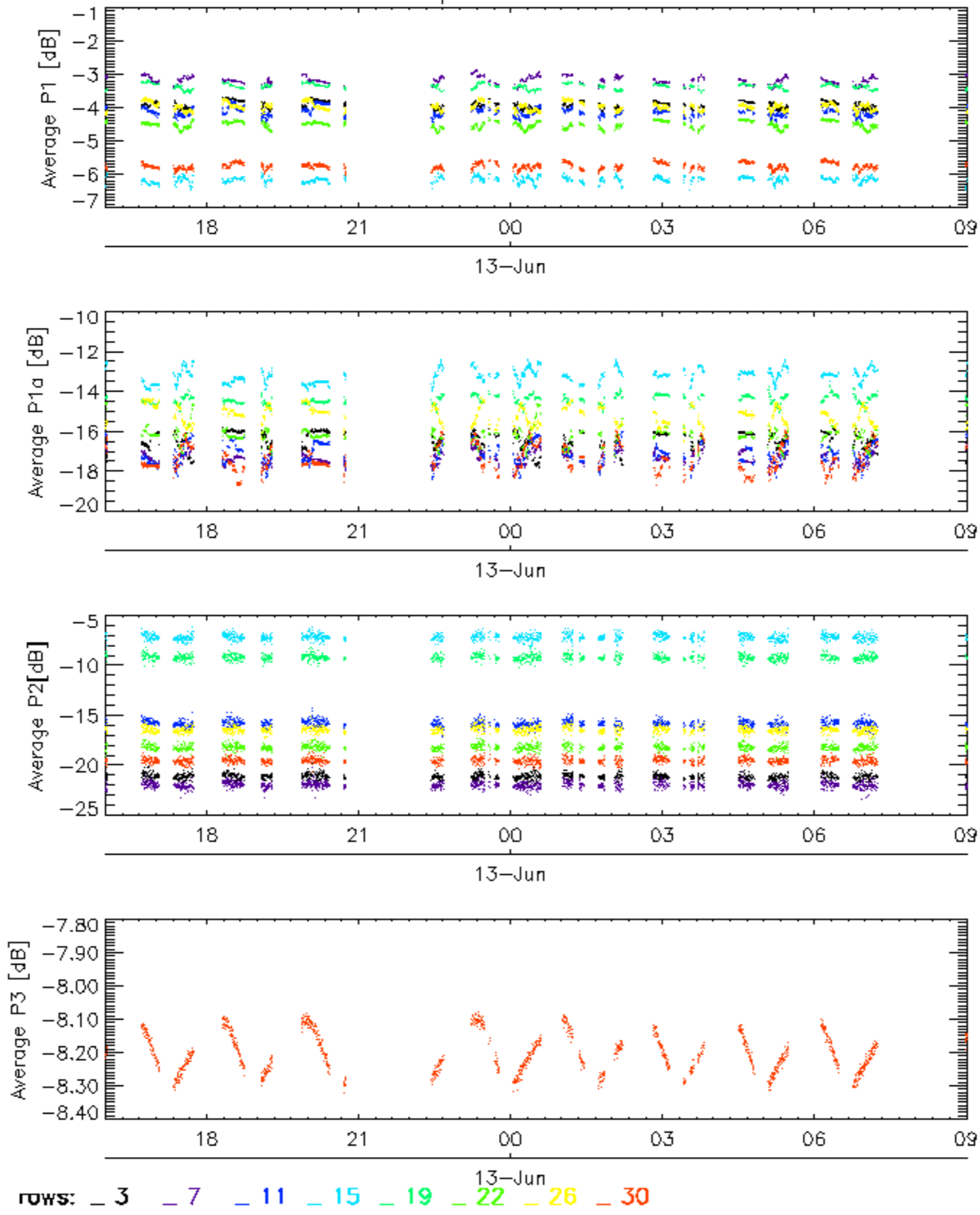
Cal pulses for WVS IS2



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

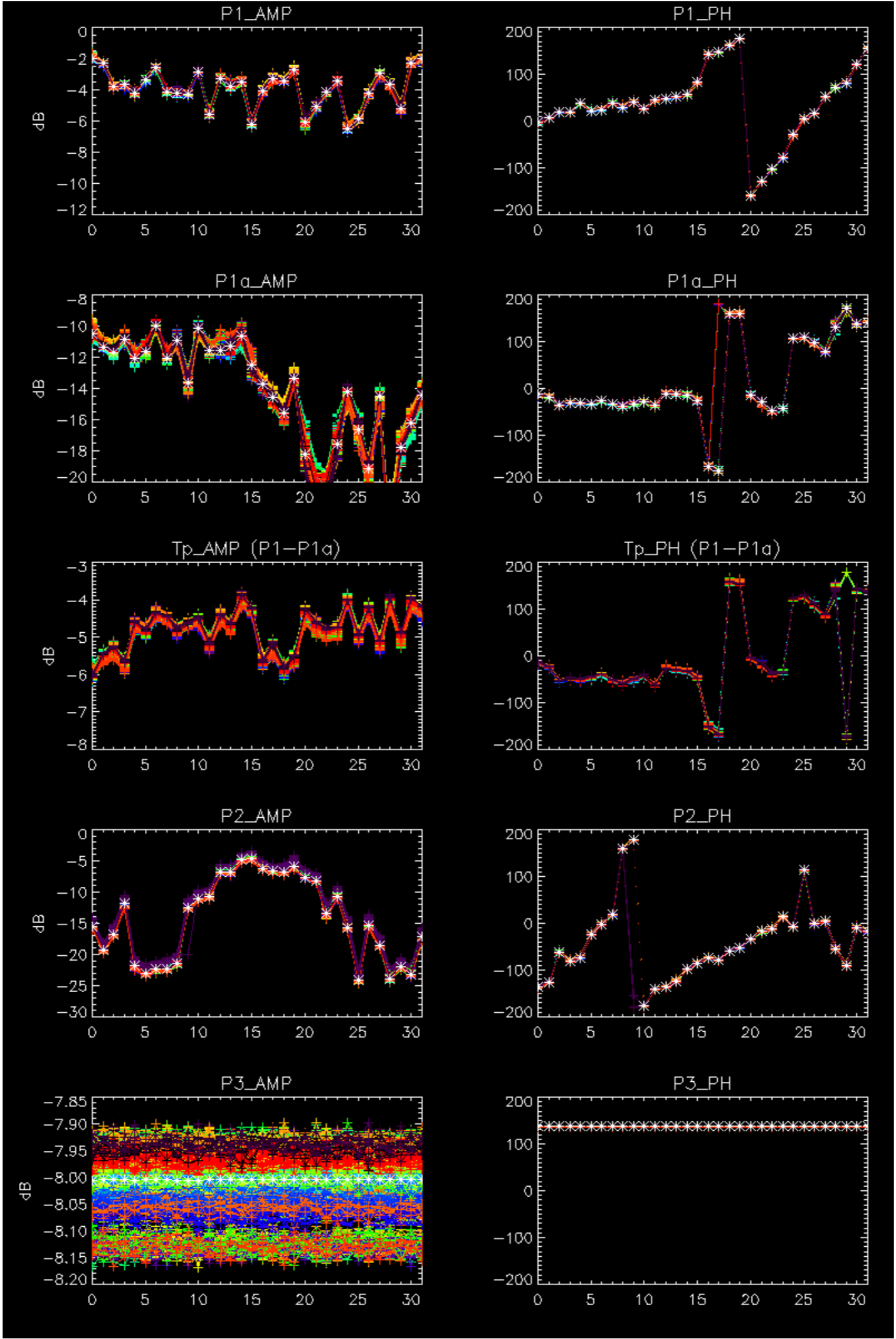


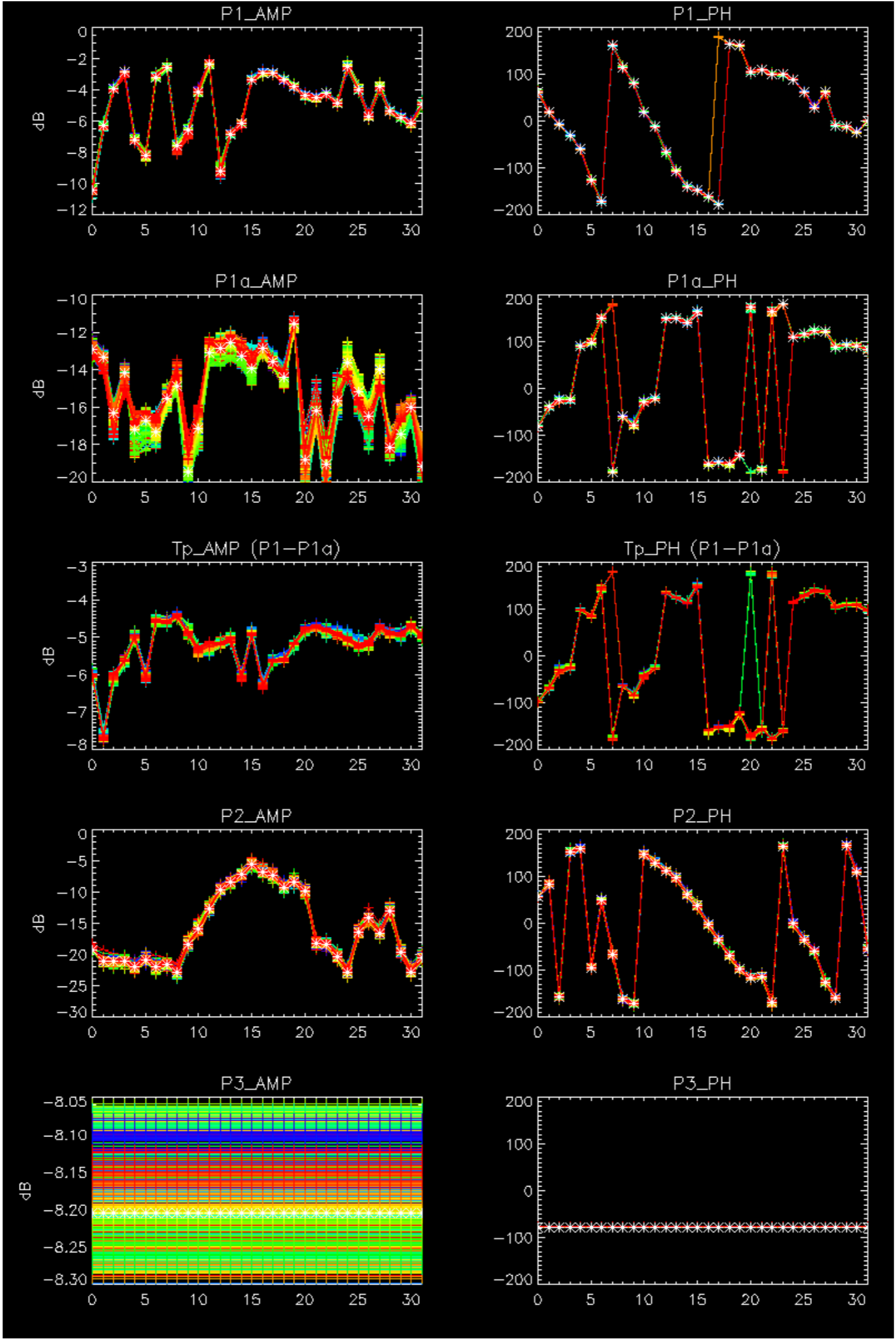
Cal pulses for WVS IS2



No anomalies observed.





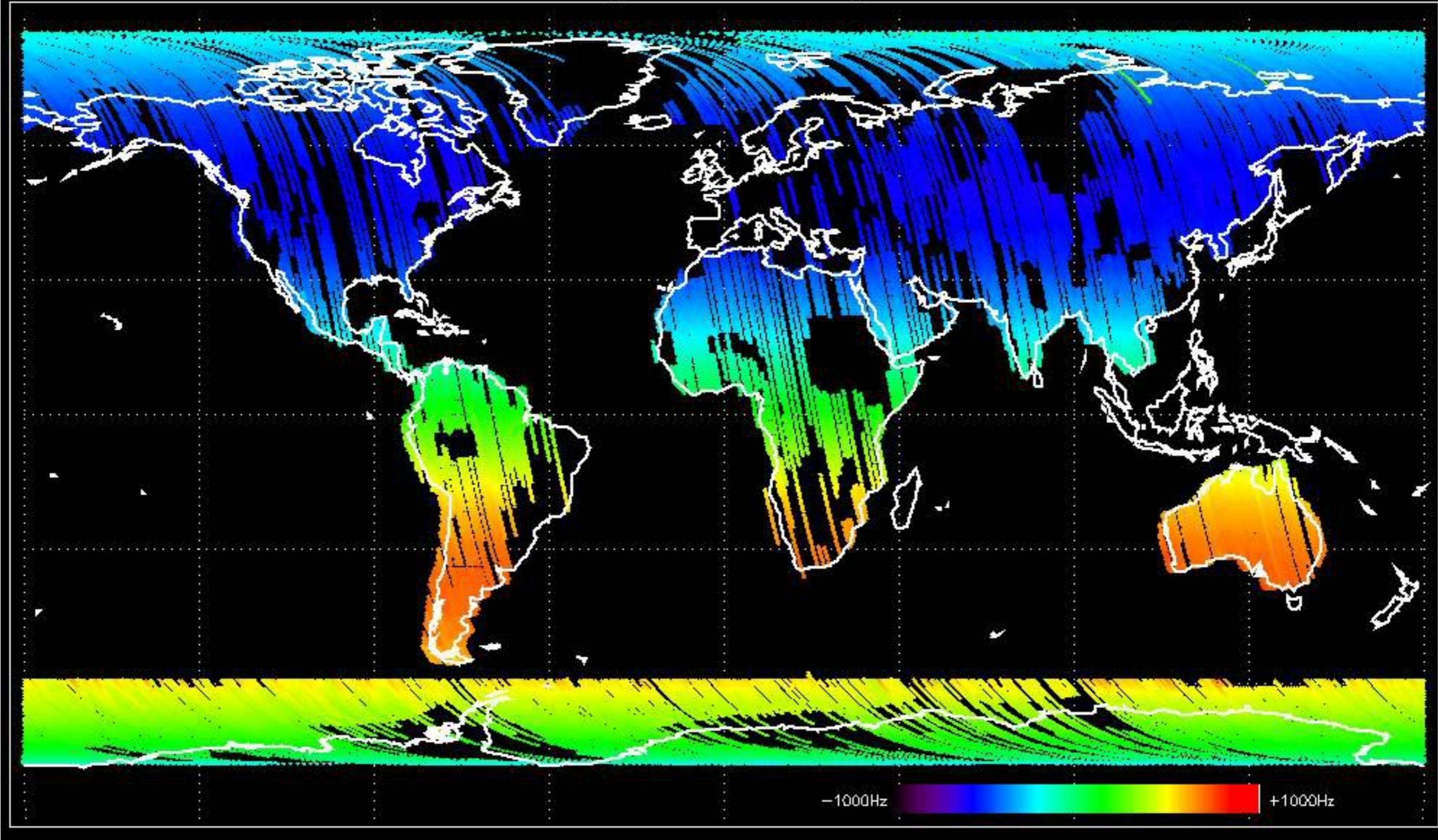


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



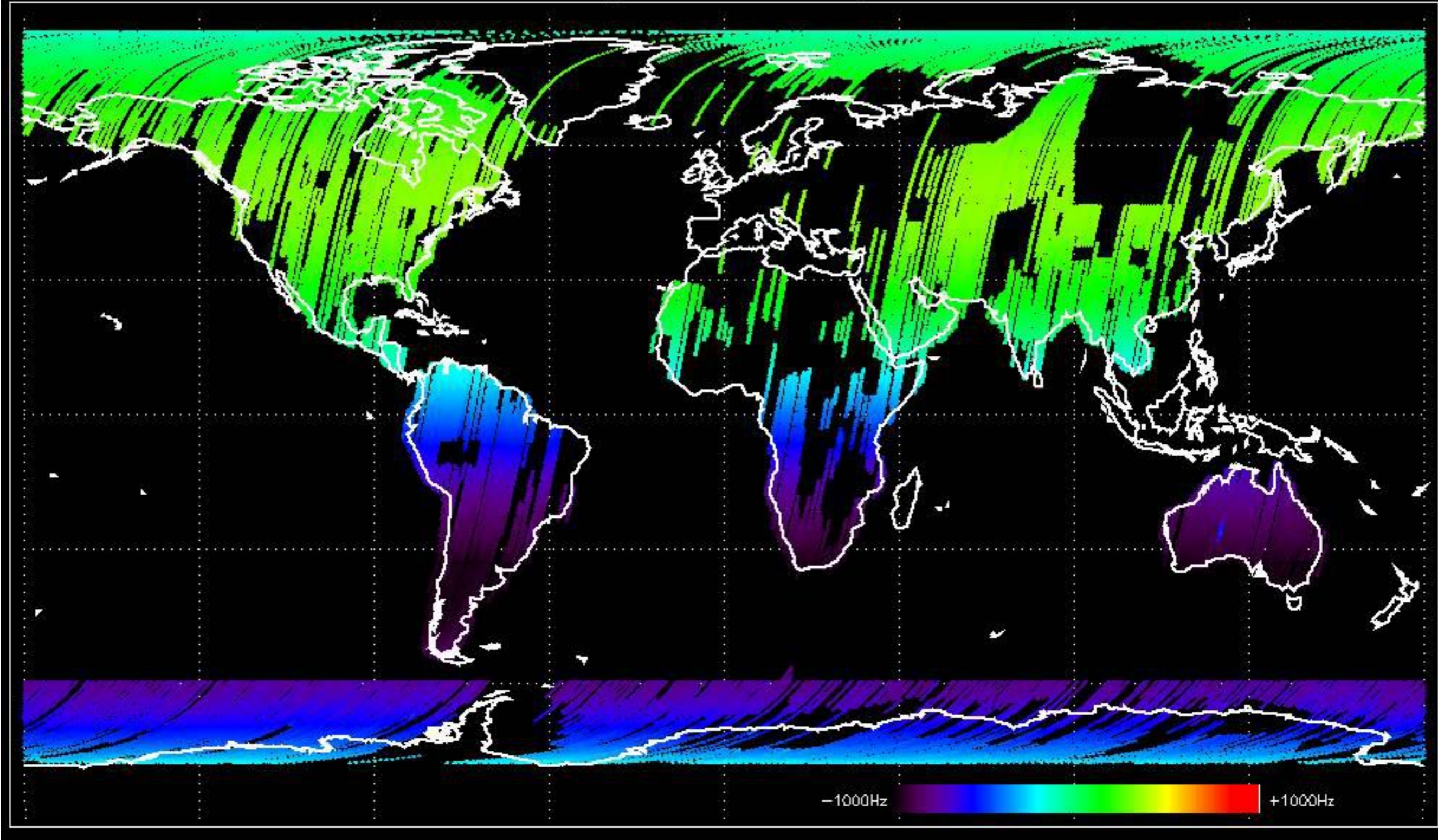


Doppler 'GM1' 'SS1' ascending



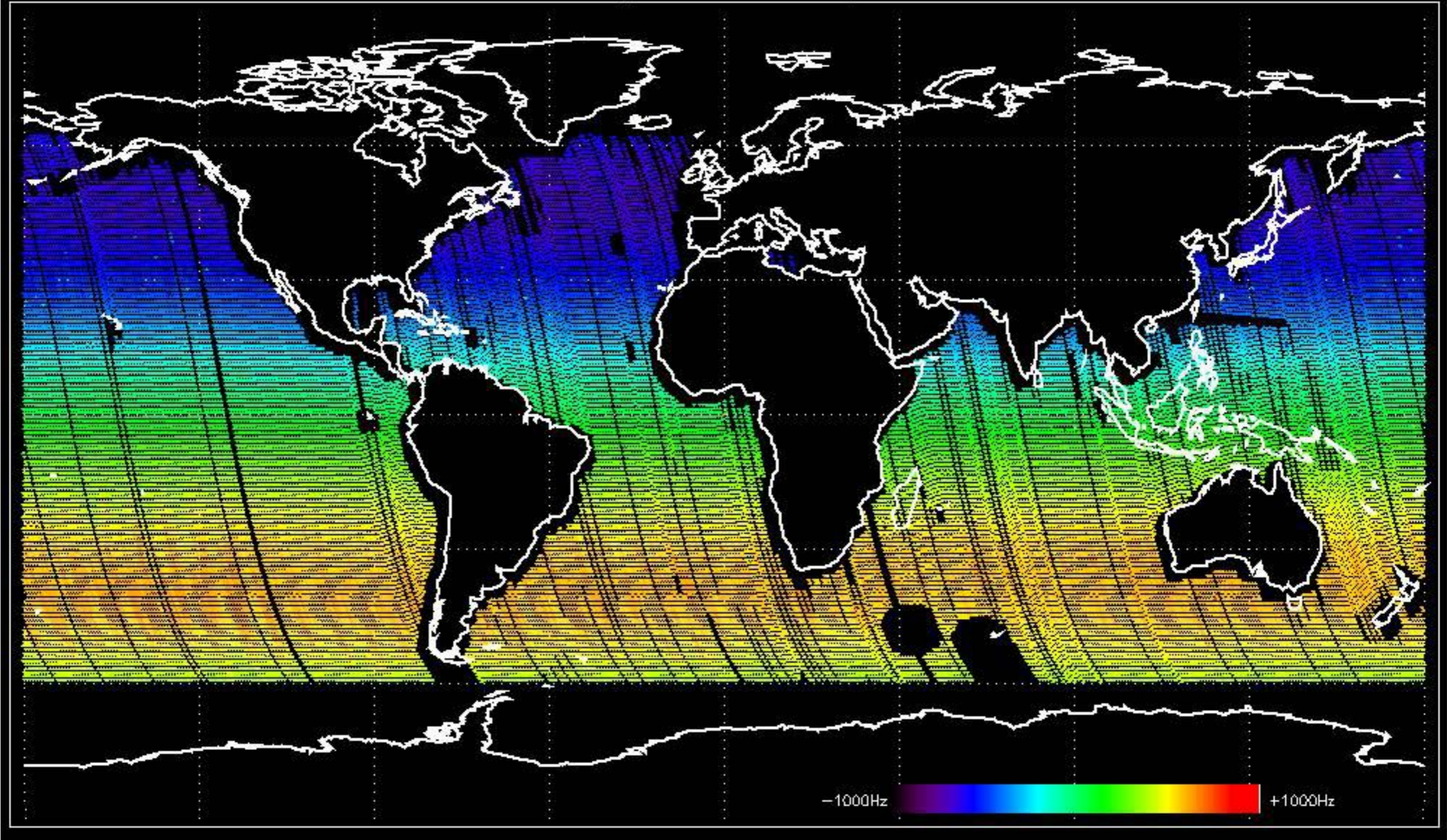


Doppler 'GM1' 'SS1' descending



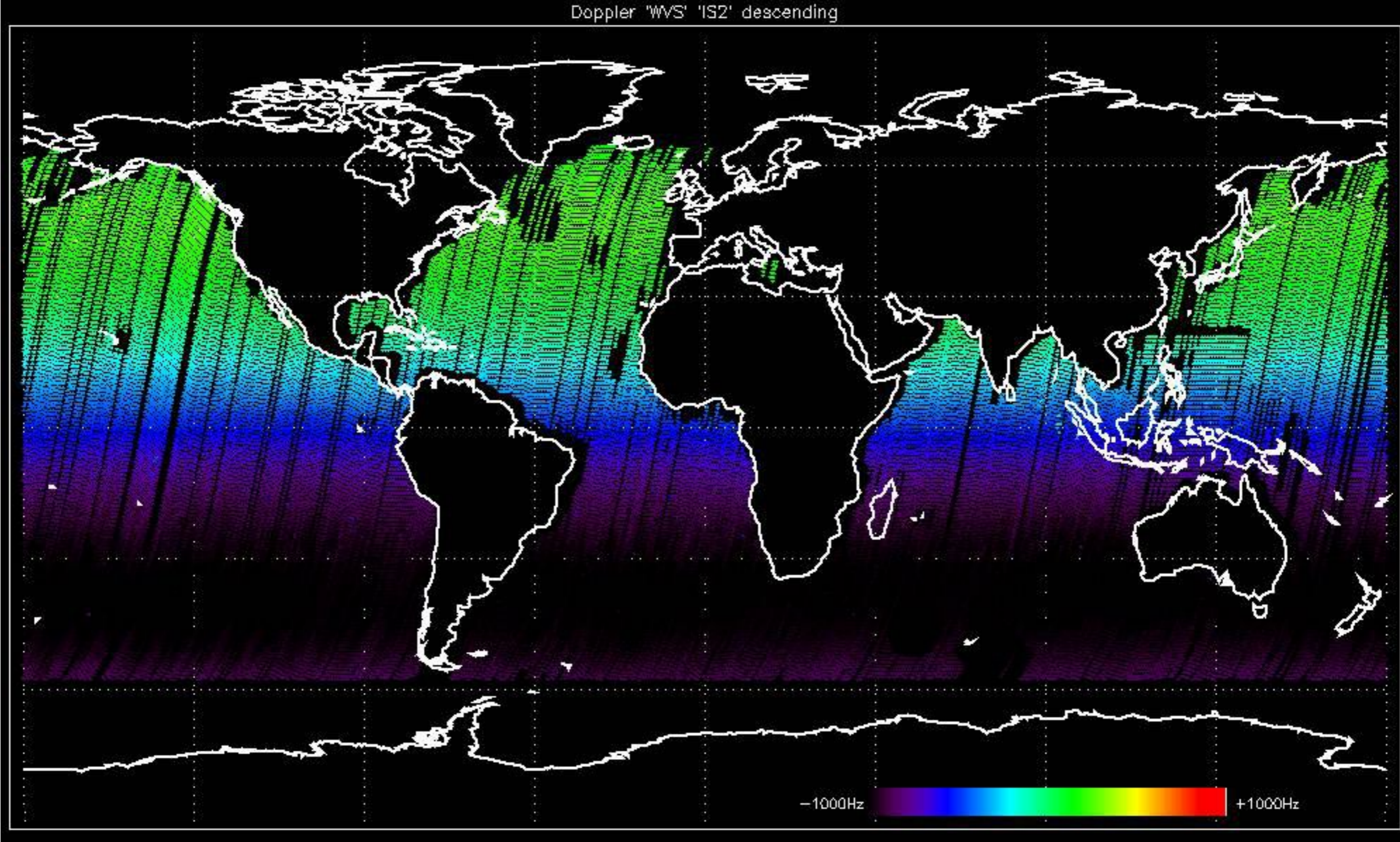


Doppler 'WVS' 'IS2' ascending



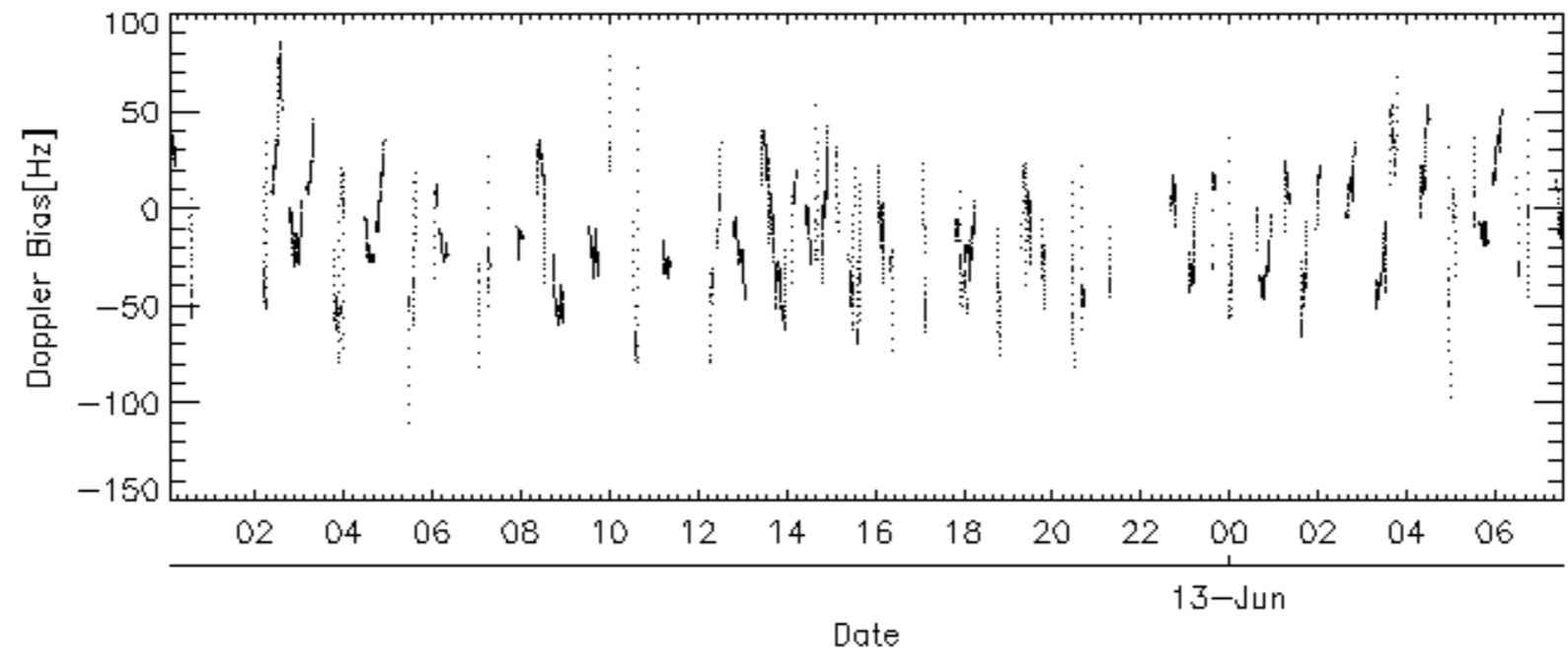
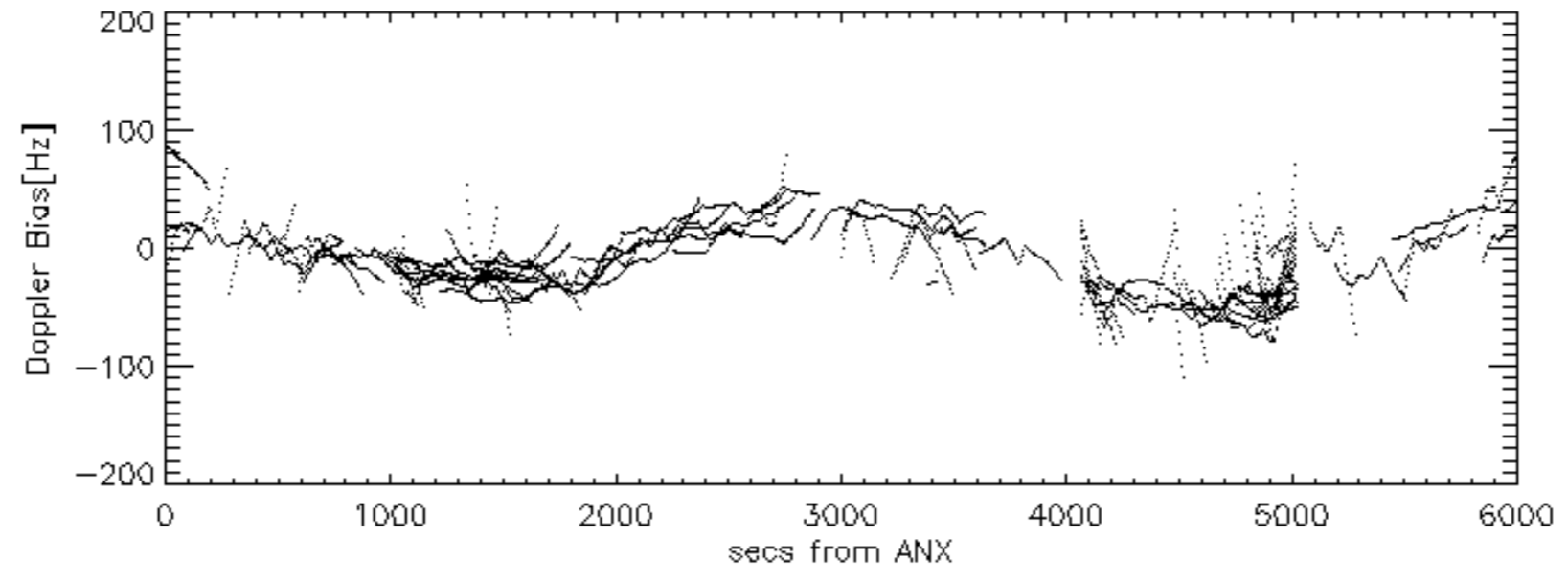
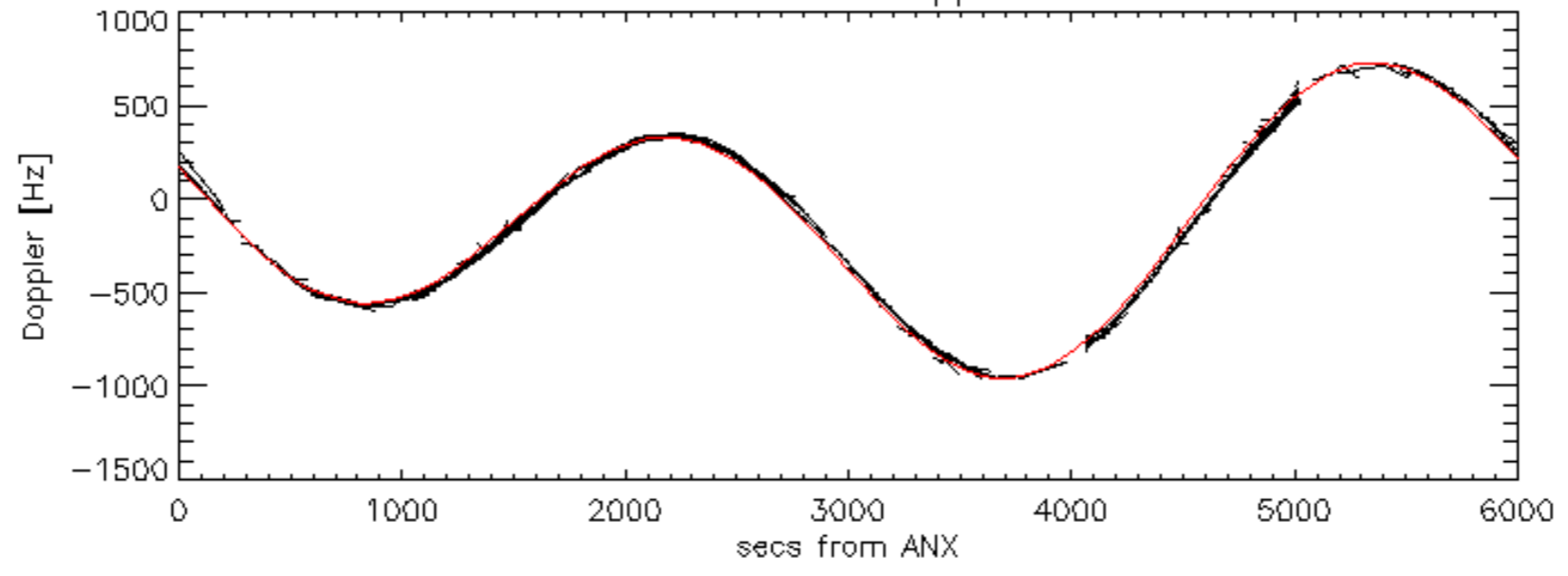


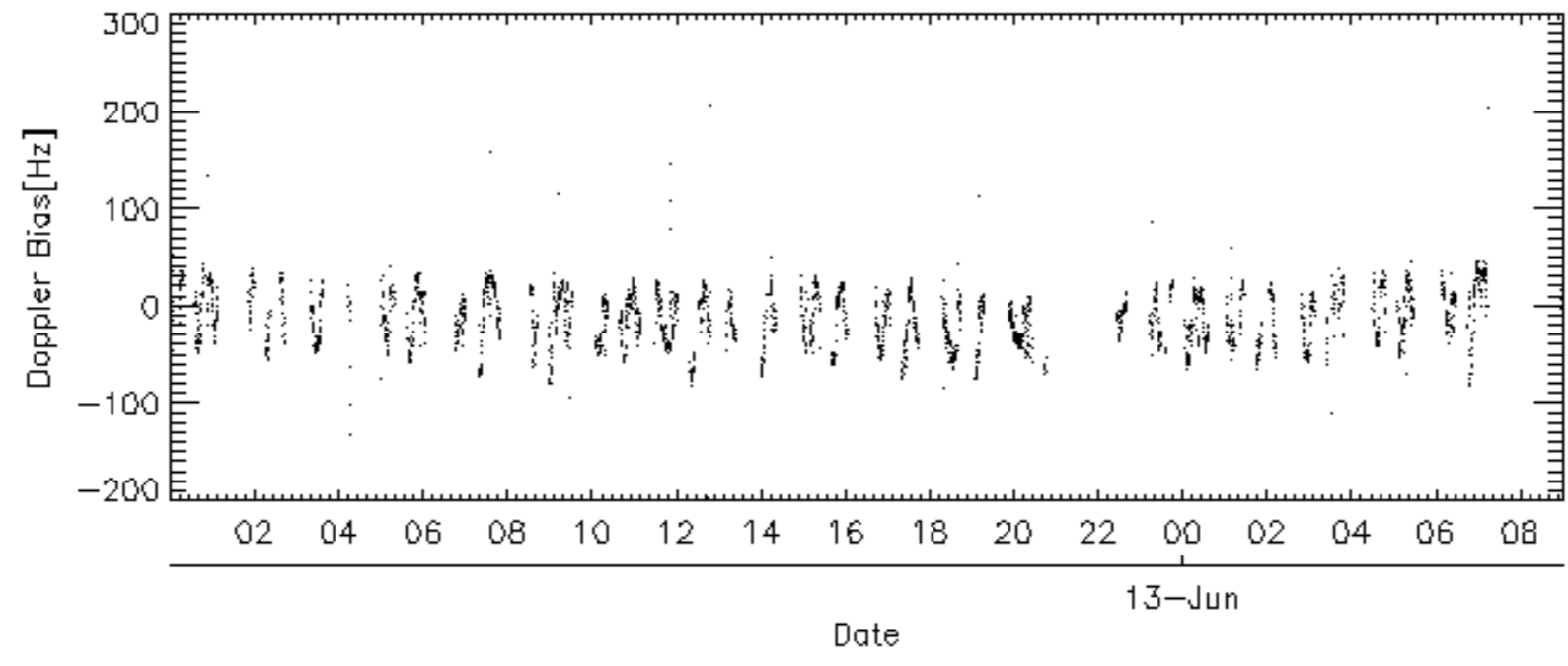
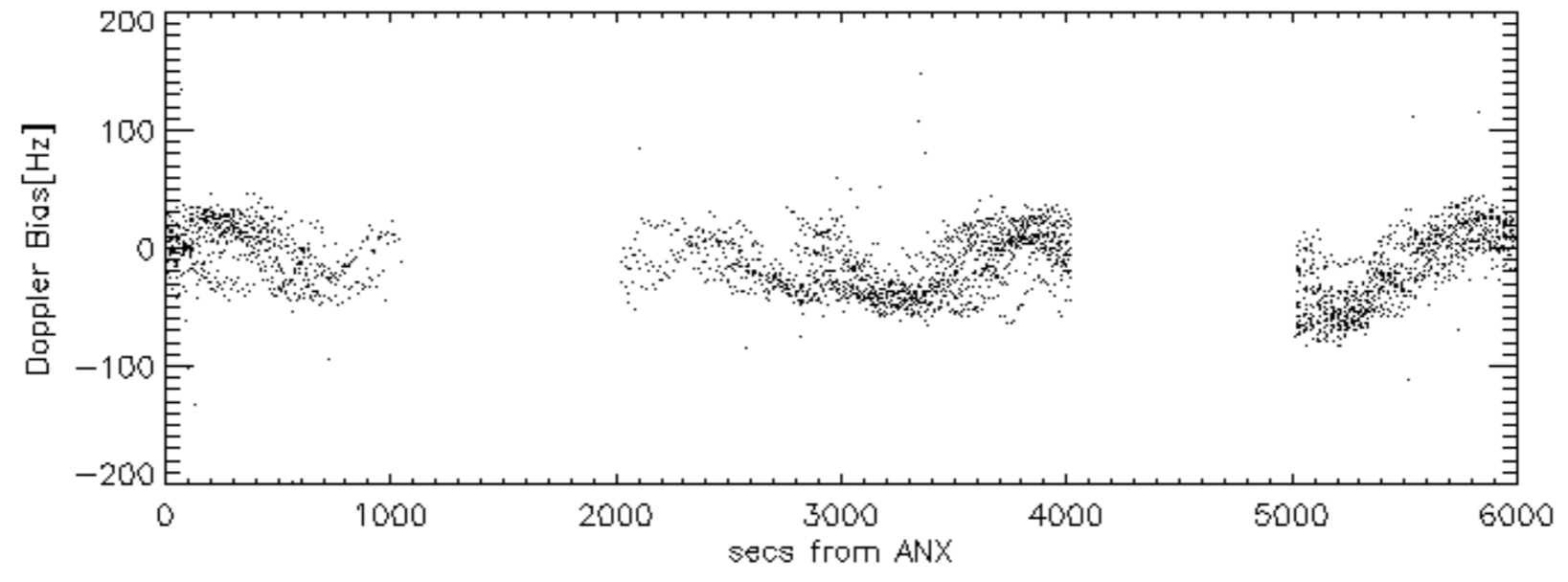
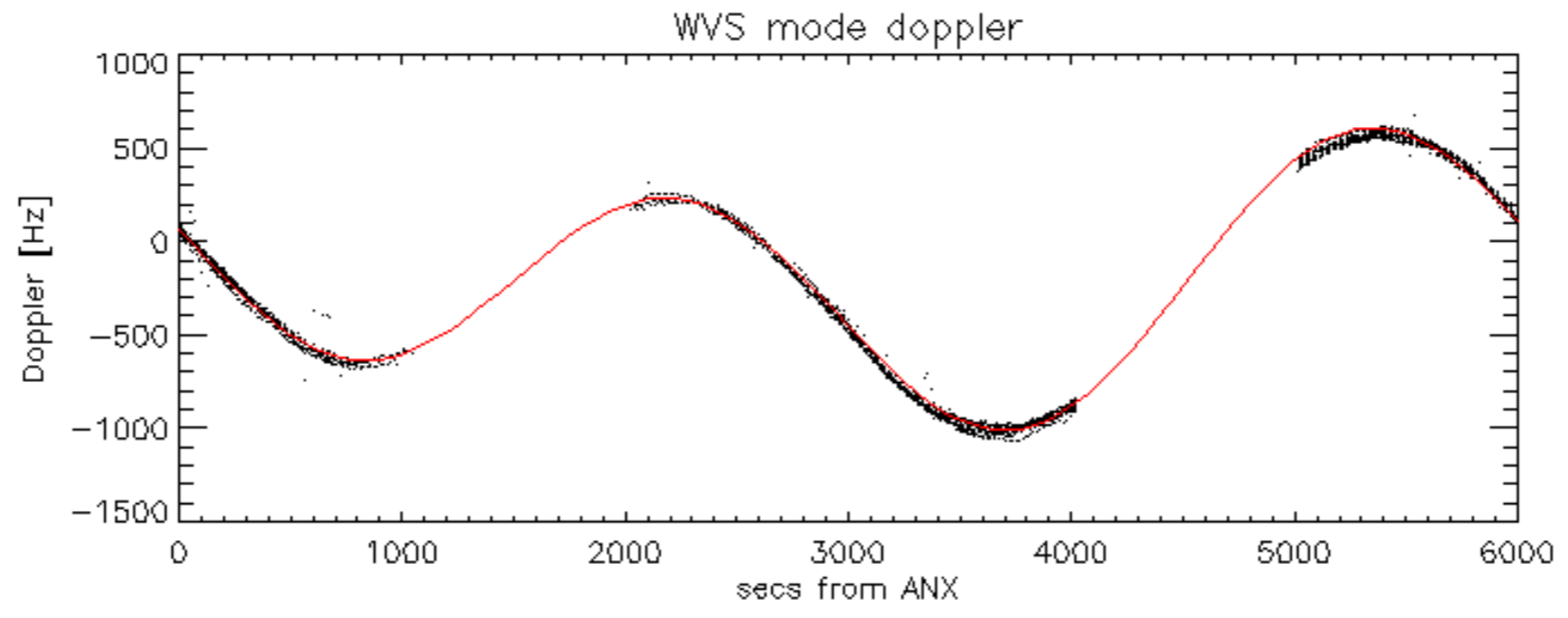
Doppler 'WVS' 'IS2' descending





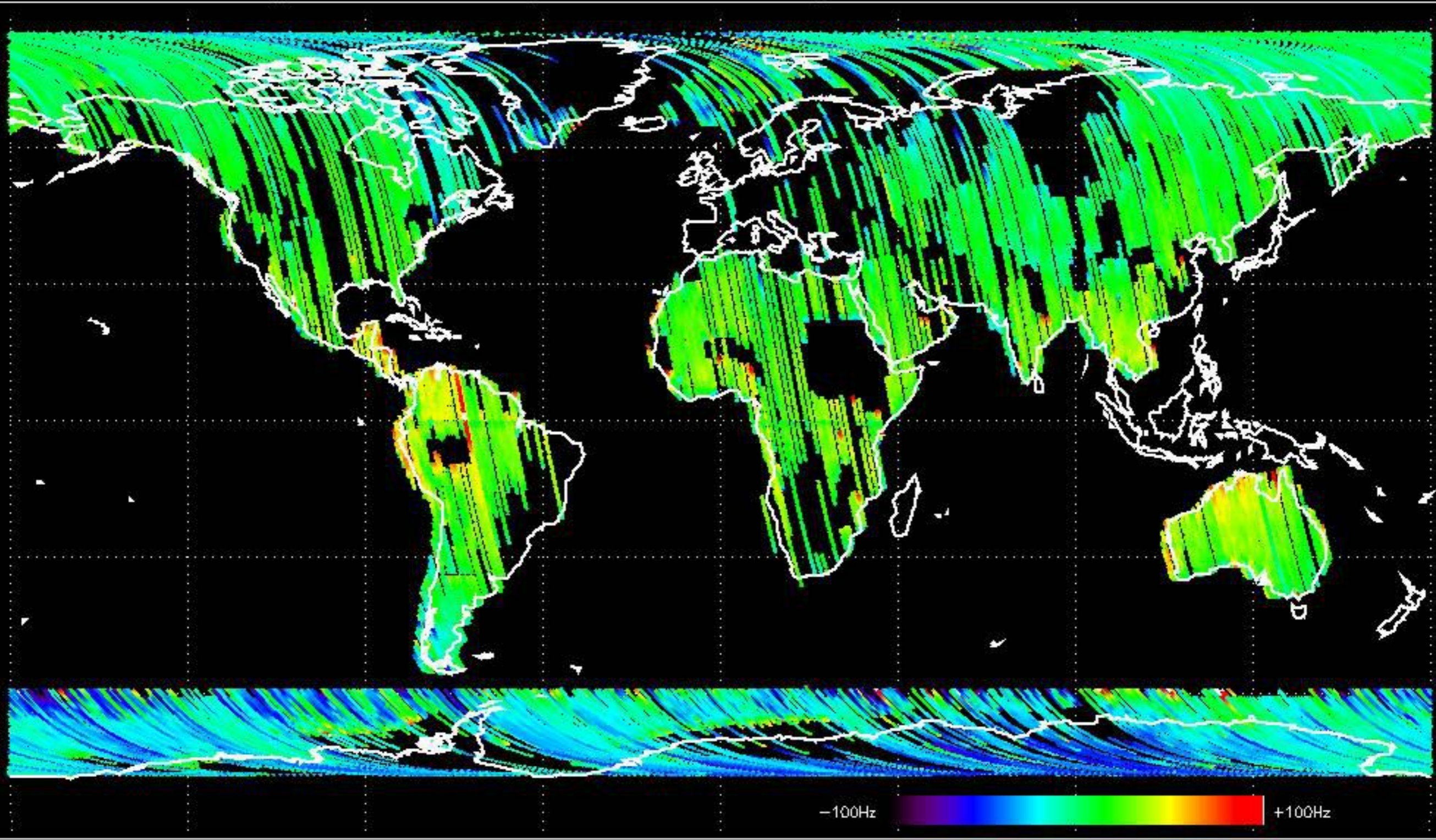
GM1 mode doppler





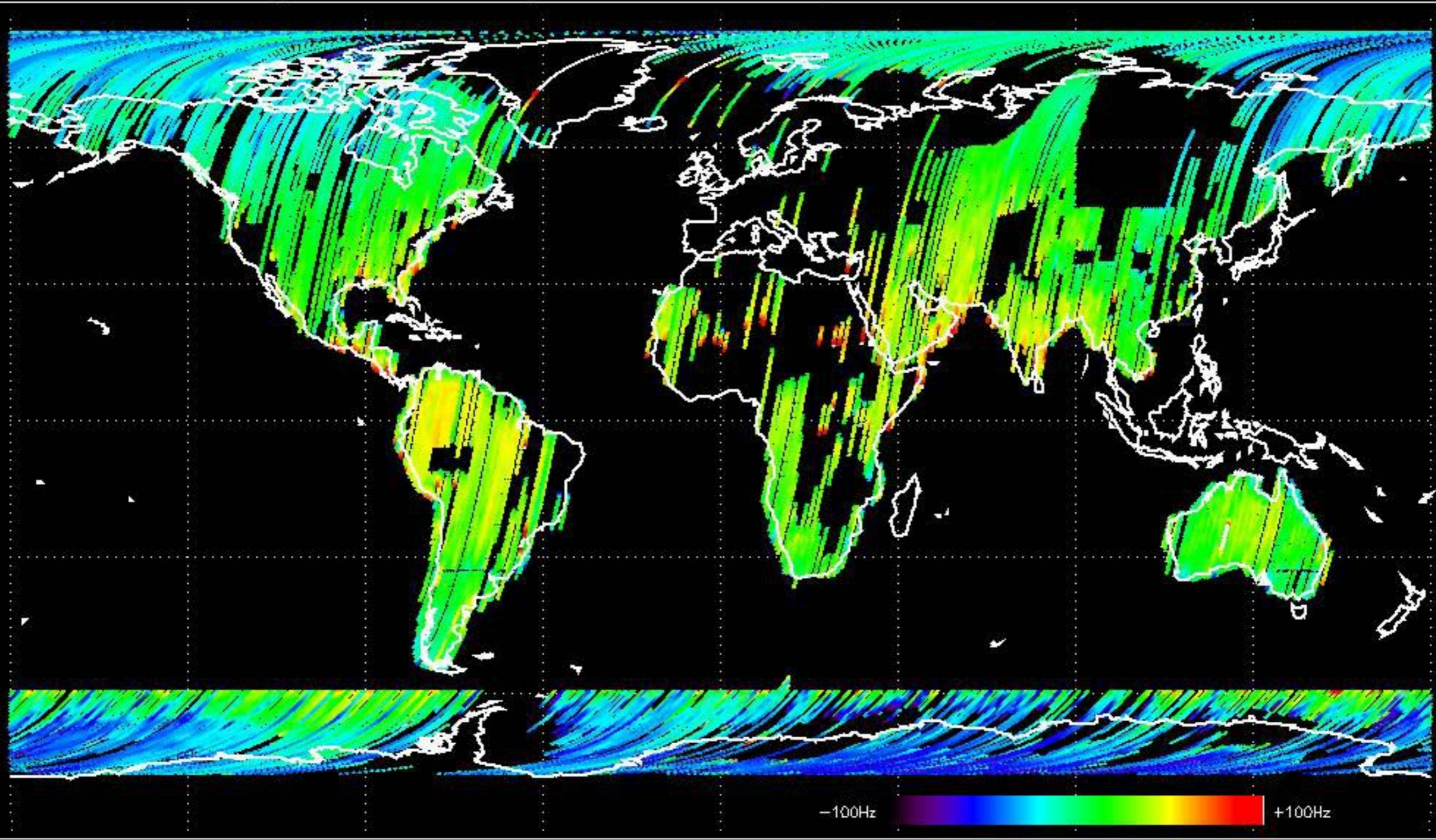


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -17.068655 Hz



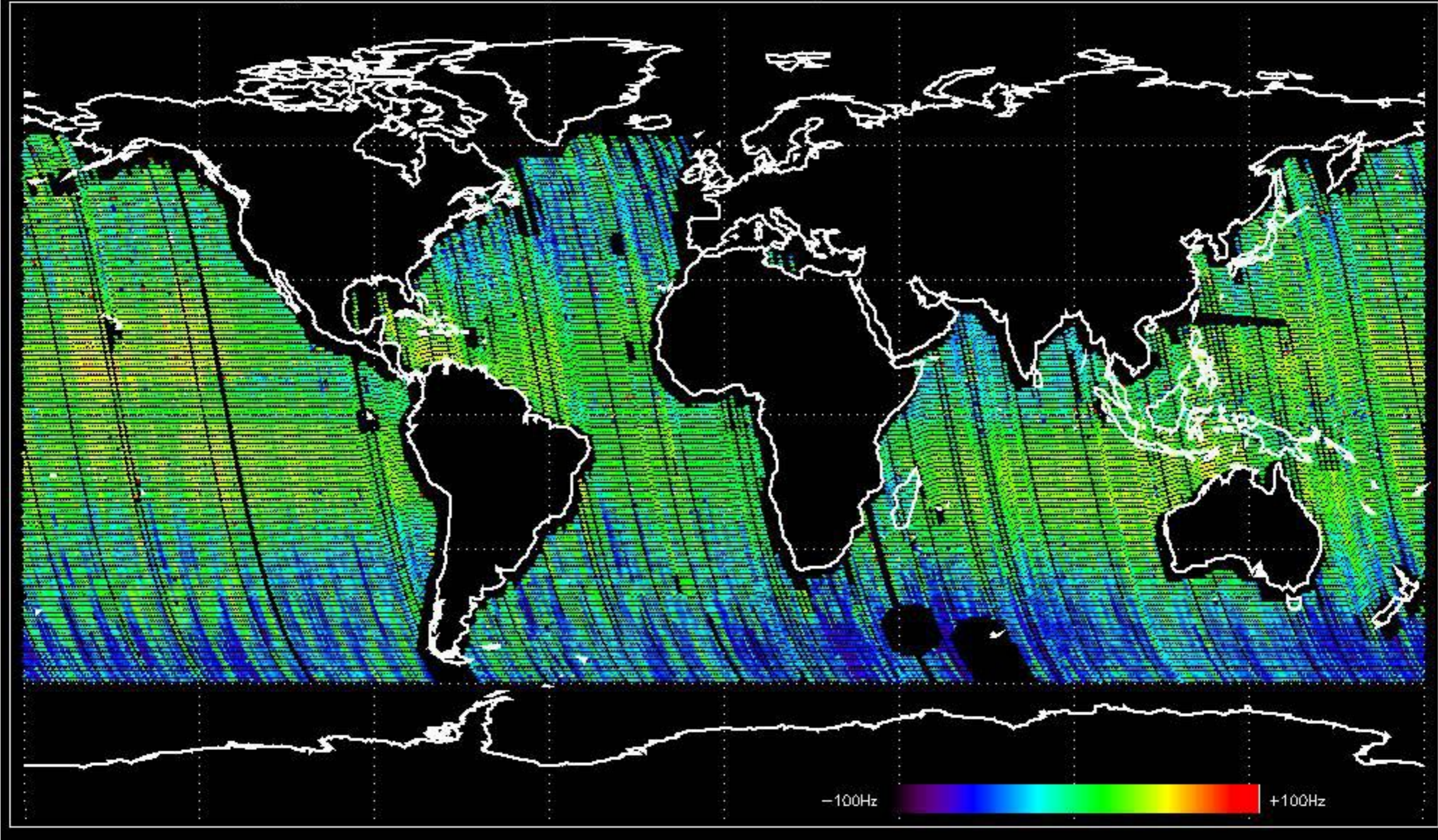


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -5.7730992 Hz



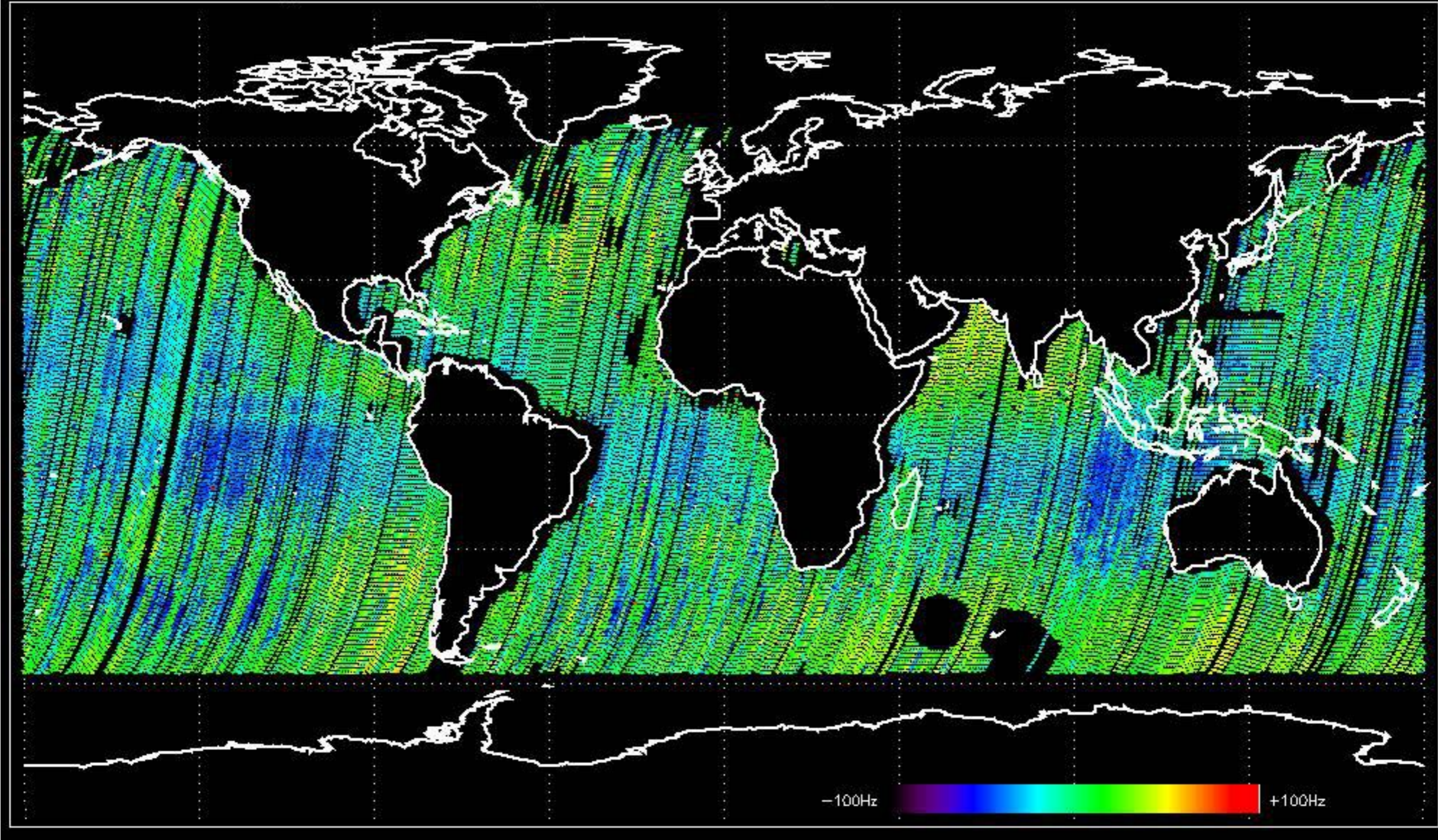


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -8.5088521 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -10.906861 Hz





No anomalies observed on available MS products:

No anomalies observed.





















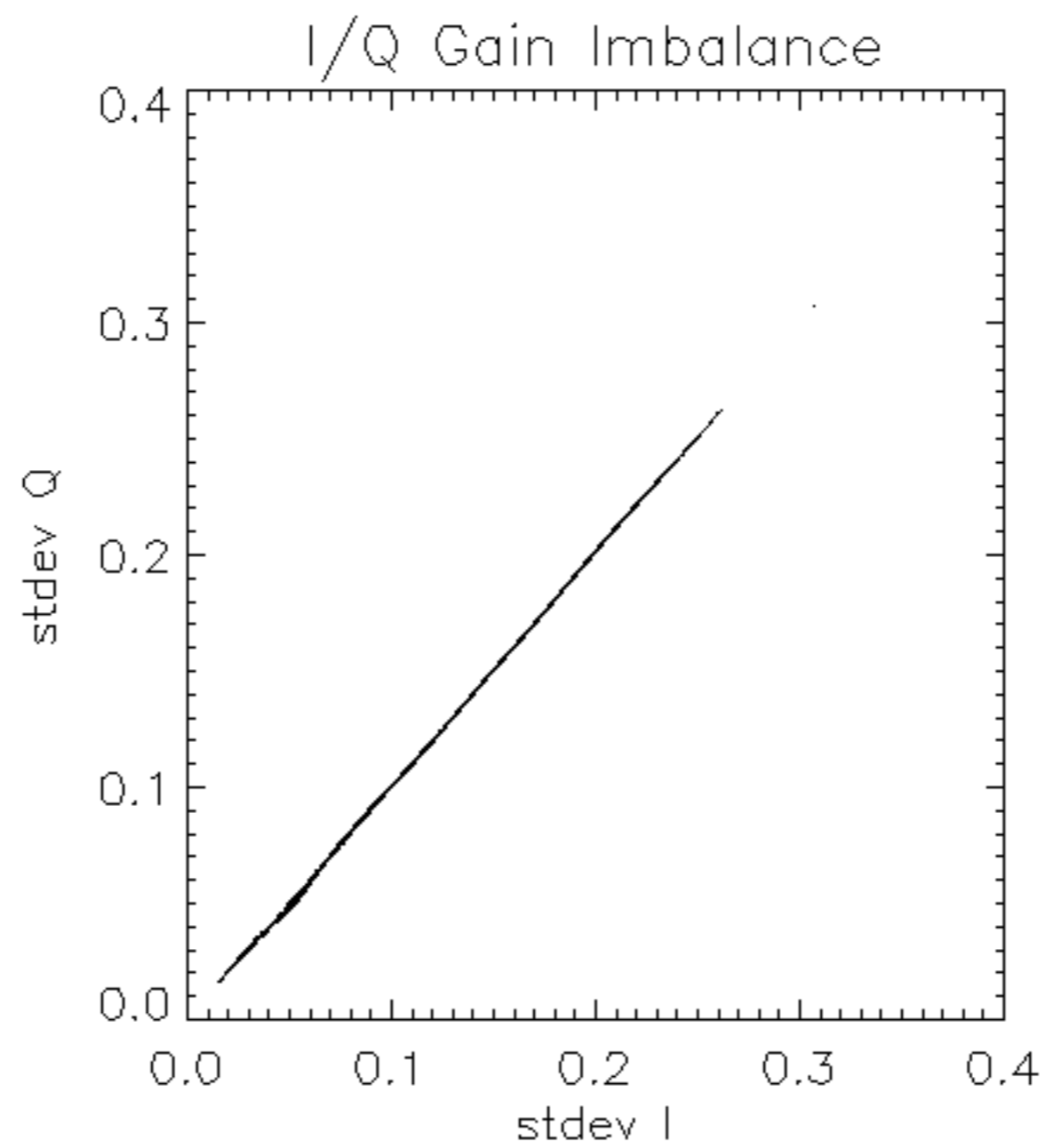


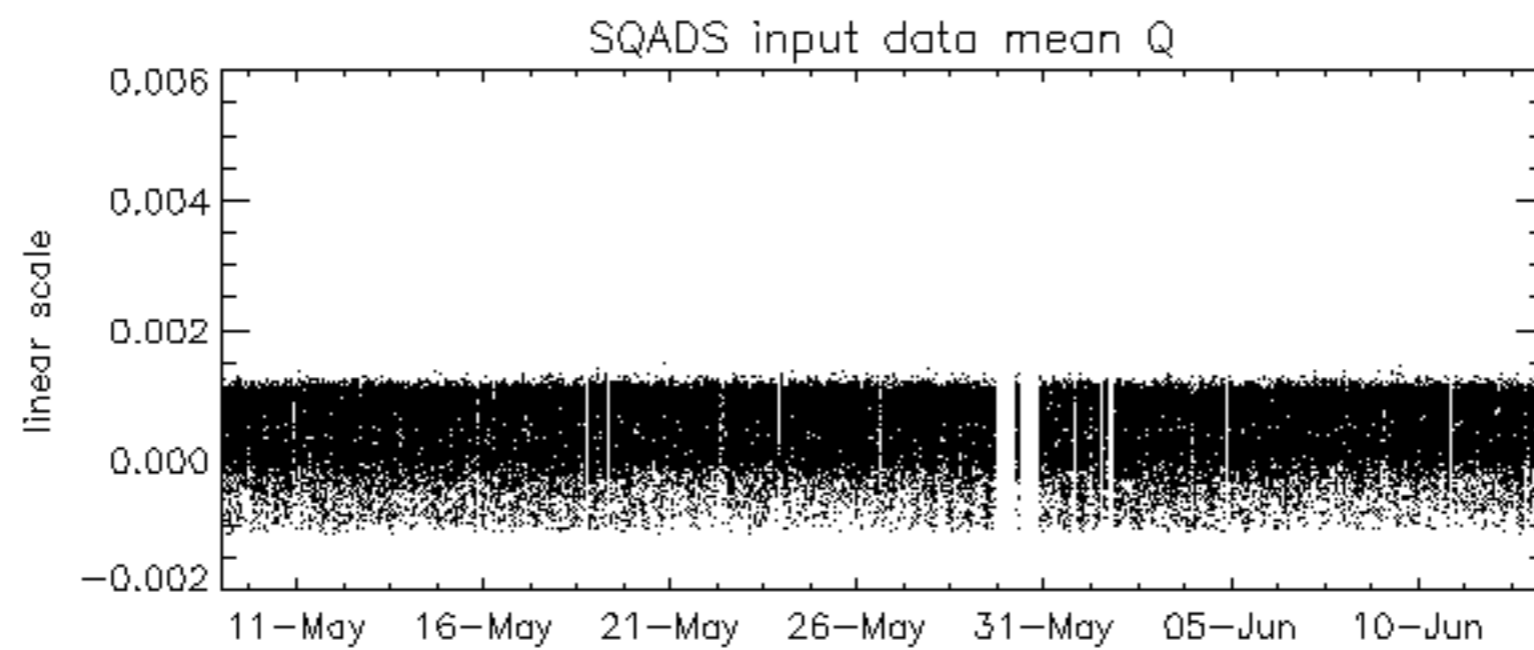
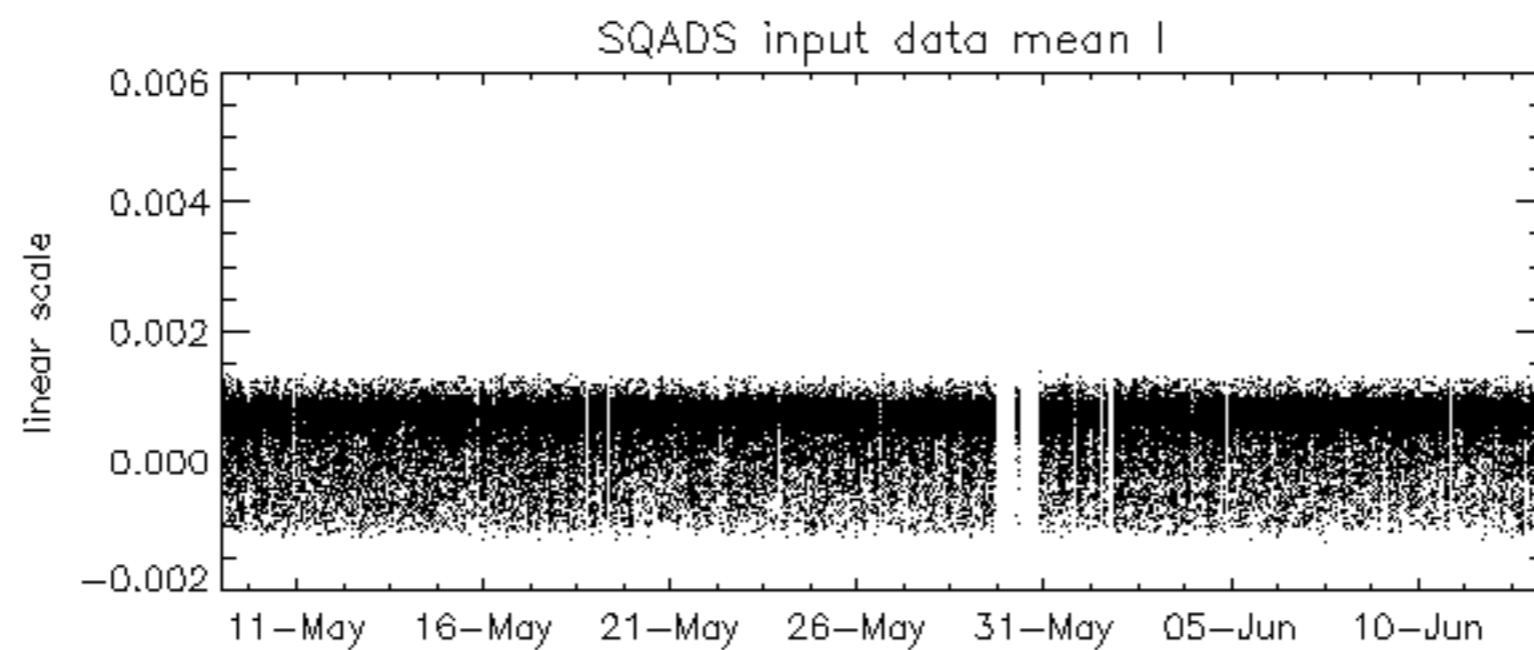
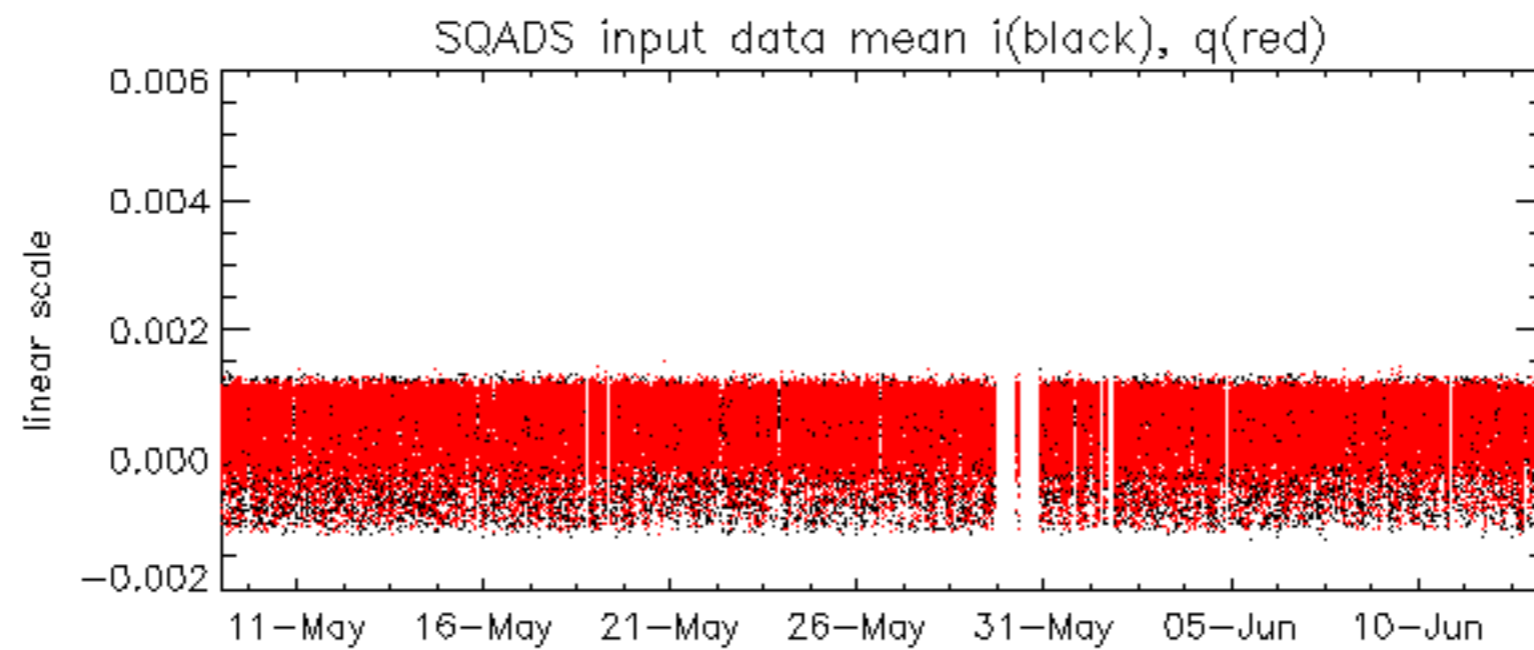




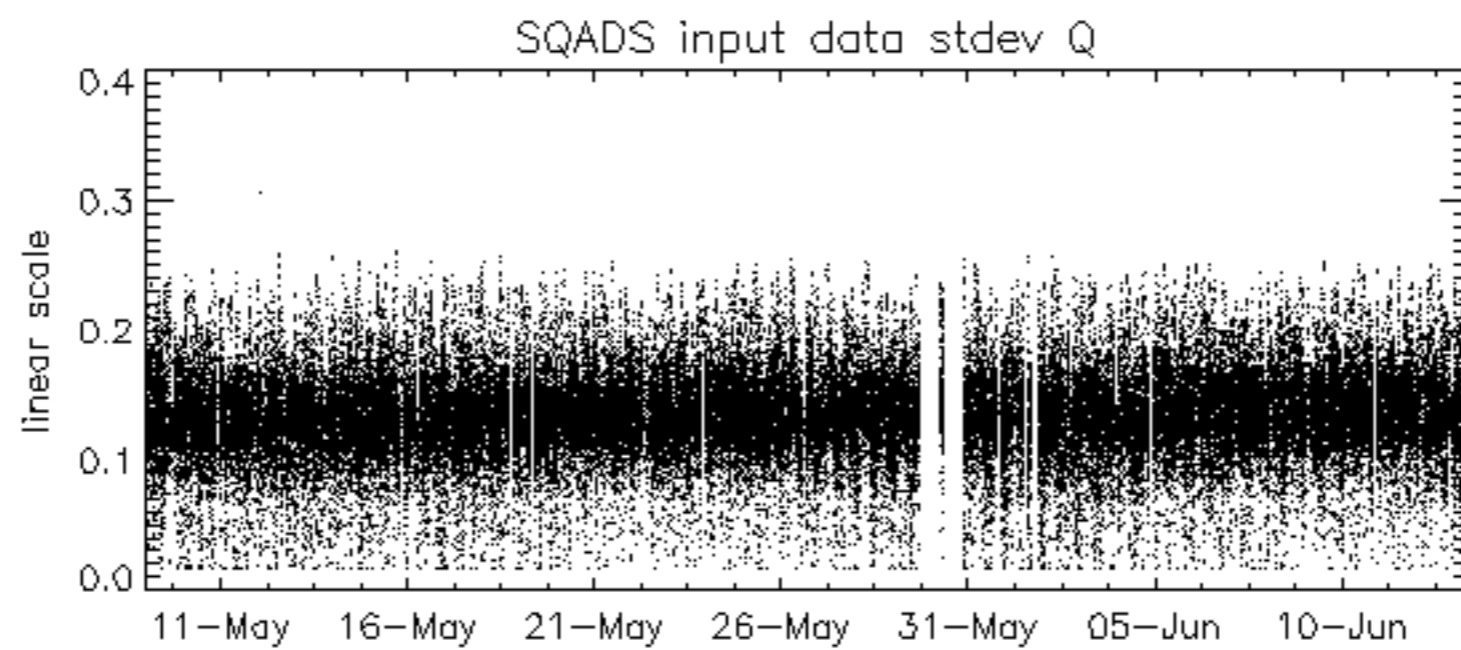
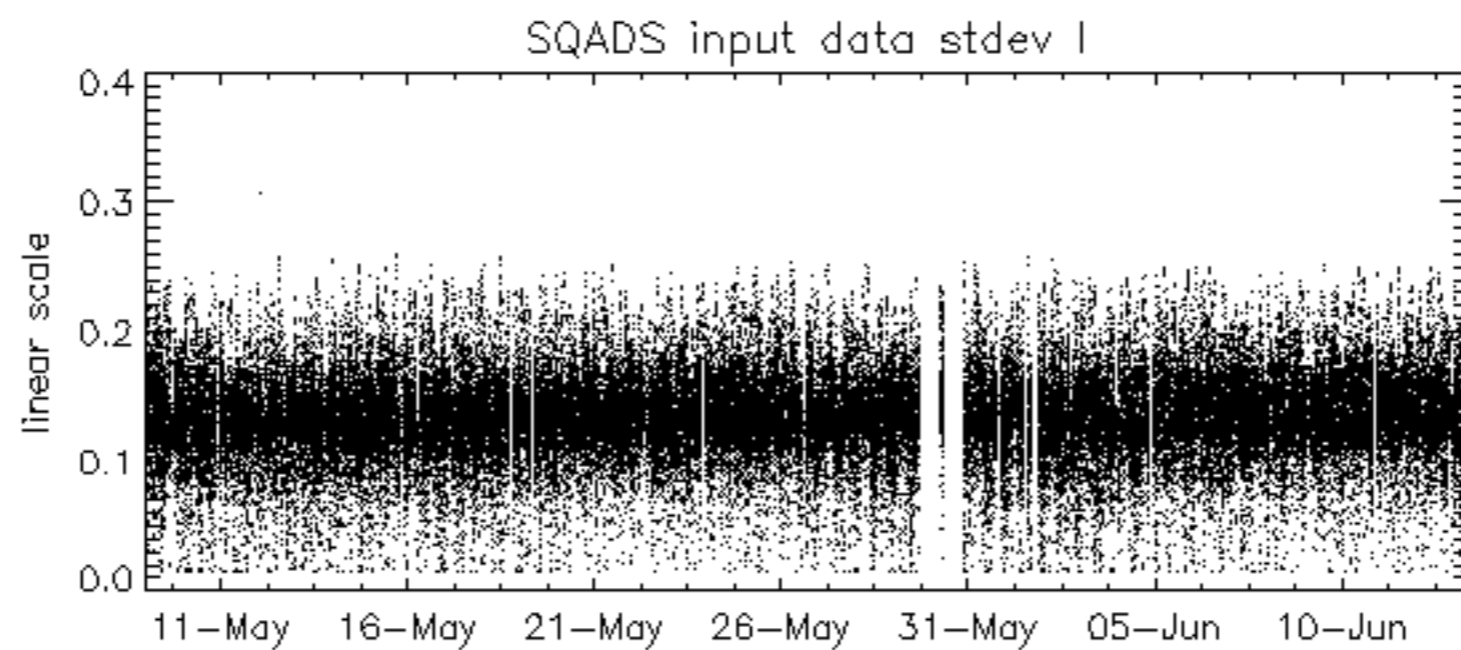
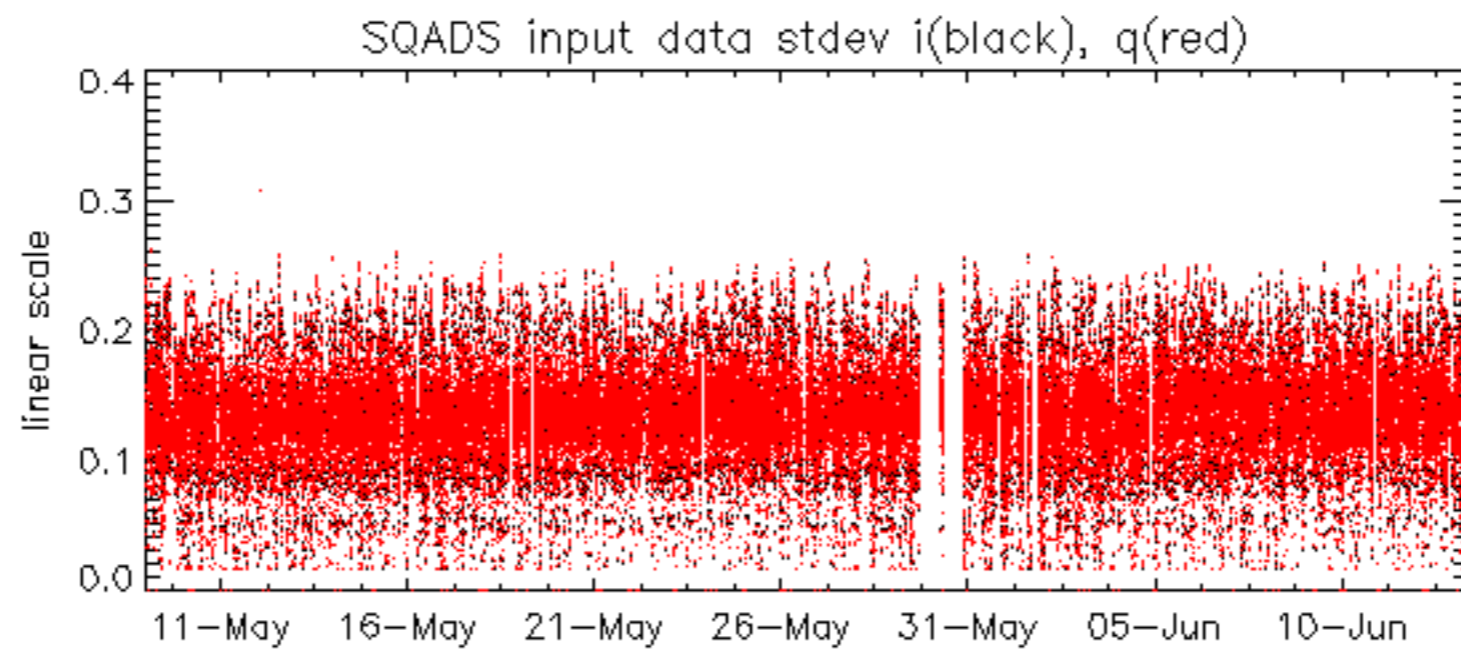
























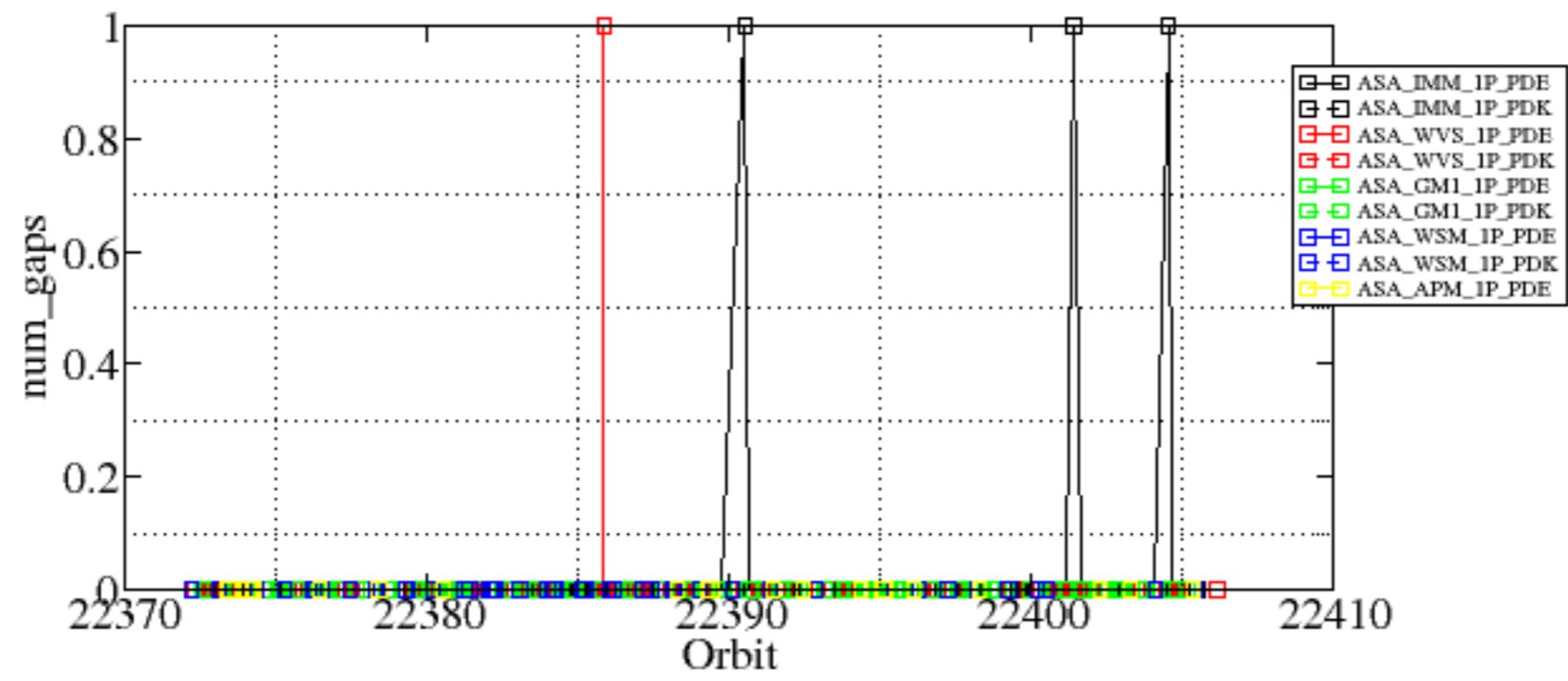


Summary of analysis for the last 3 days 2006061[123]

The assumptions 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_1PNPDE20060612_064716_000000372048_00292_22390_7200.N1	1	0
ASA_IMM_1PNPDE20060613_010016_000000842048_00303_22401_7335.N1	1	0
ASA_IMM_1PNPDE20060613_061630_000000812048_00306_22404_7368.N1	1	0
ASA_WVS_1PNPDE20060611_225739_00000002048_00287_22385_2590.N1	1	0
ASA_WSM_1PNPDE20060611_021040_000000862048_00275_22373_3687.N1	0	2
ASA_WSM_1PNPDE20060611_231431_000000972048_00288_22386_3740.N1	0	62
ASA_WSM_1PNPDE20060612_041708_000002082048_00291_22389_3765.N1	0	39
ASA_WSM_1PNPDE20060612_142133_000000852048_00297_22395_3784.N1	0	16
ASA_WSM_1PNPDK20060611_165629_000000122048_00284_22382_7379.N1	0	9













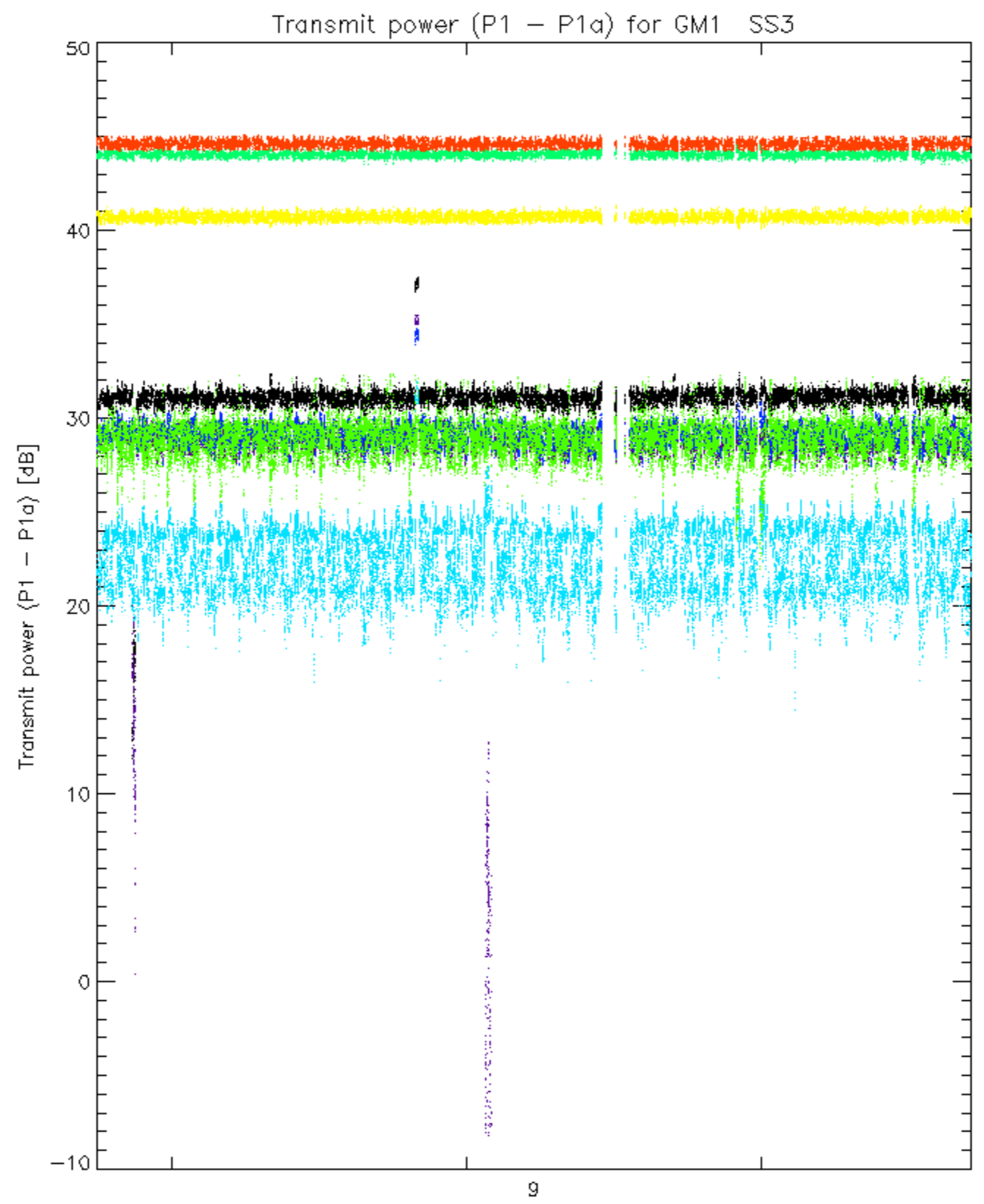




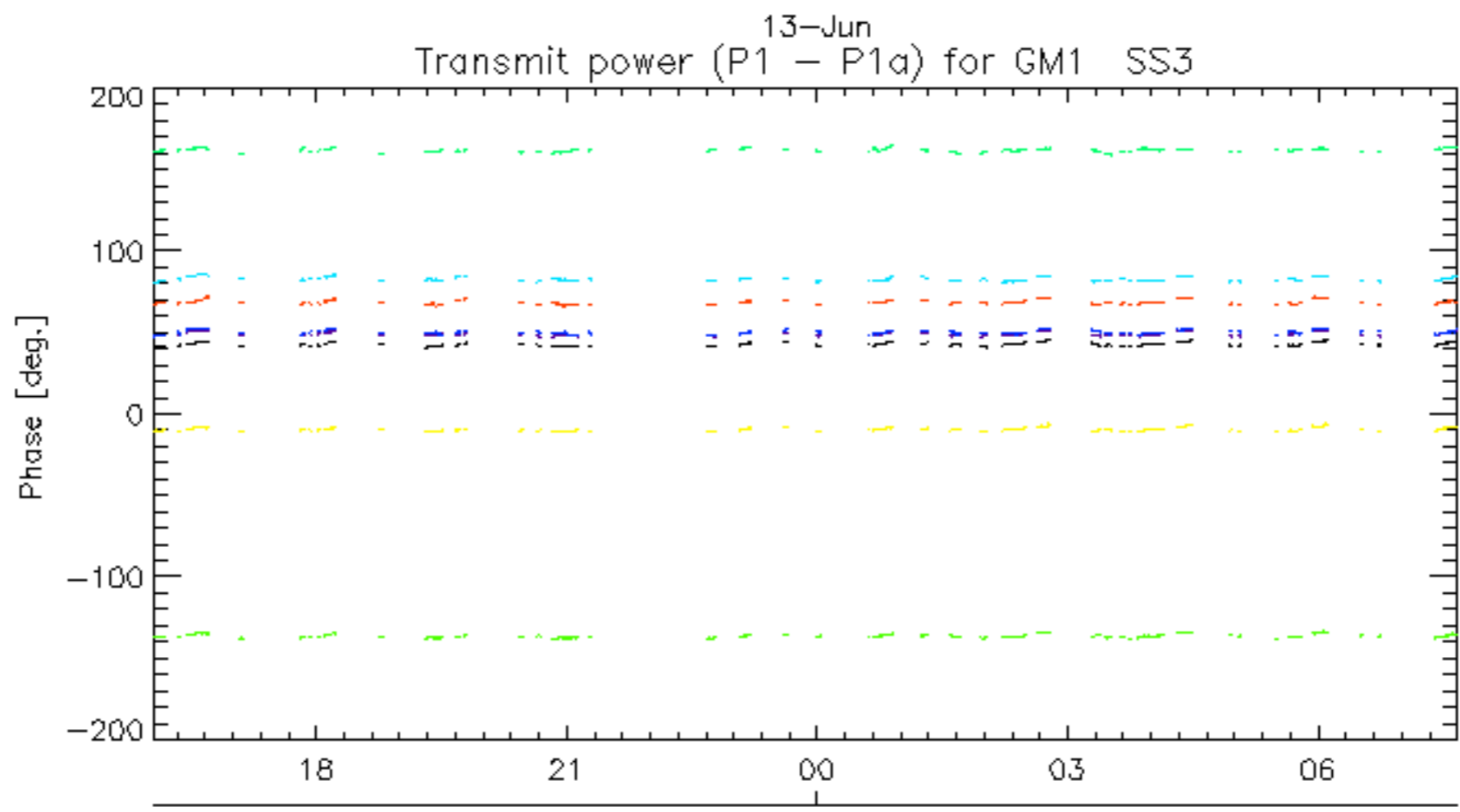
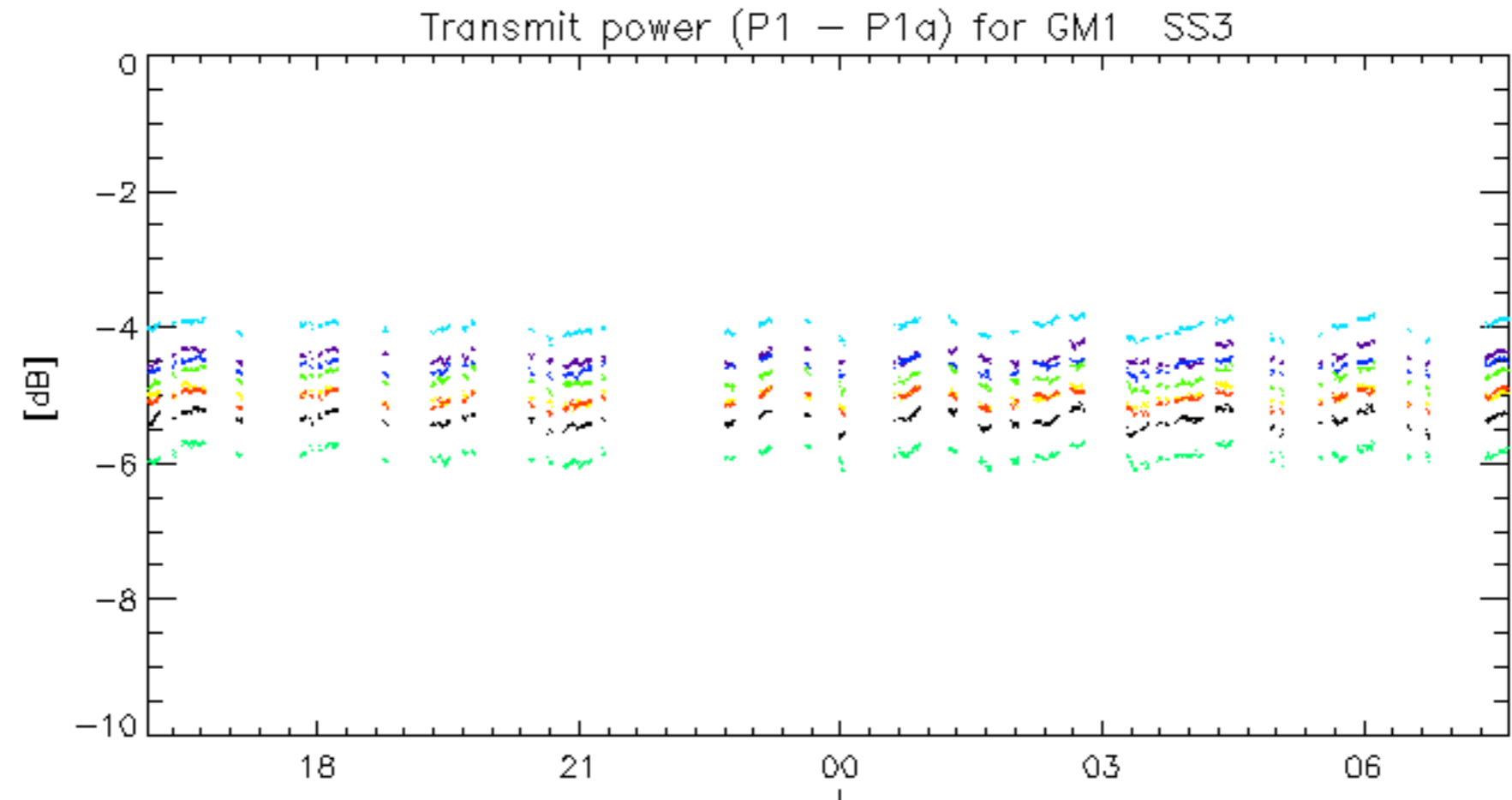




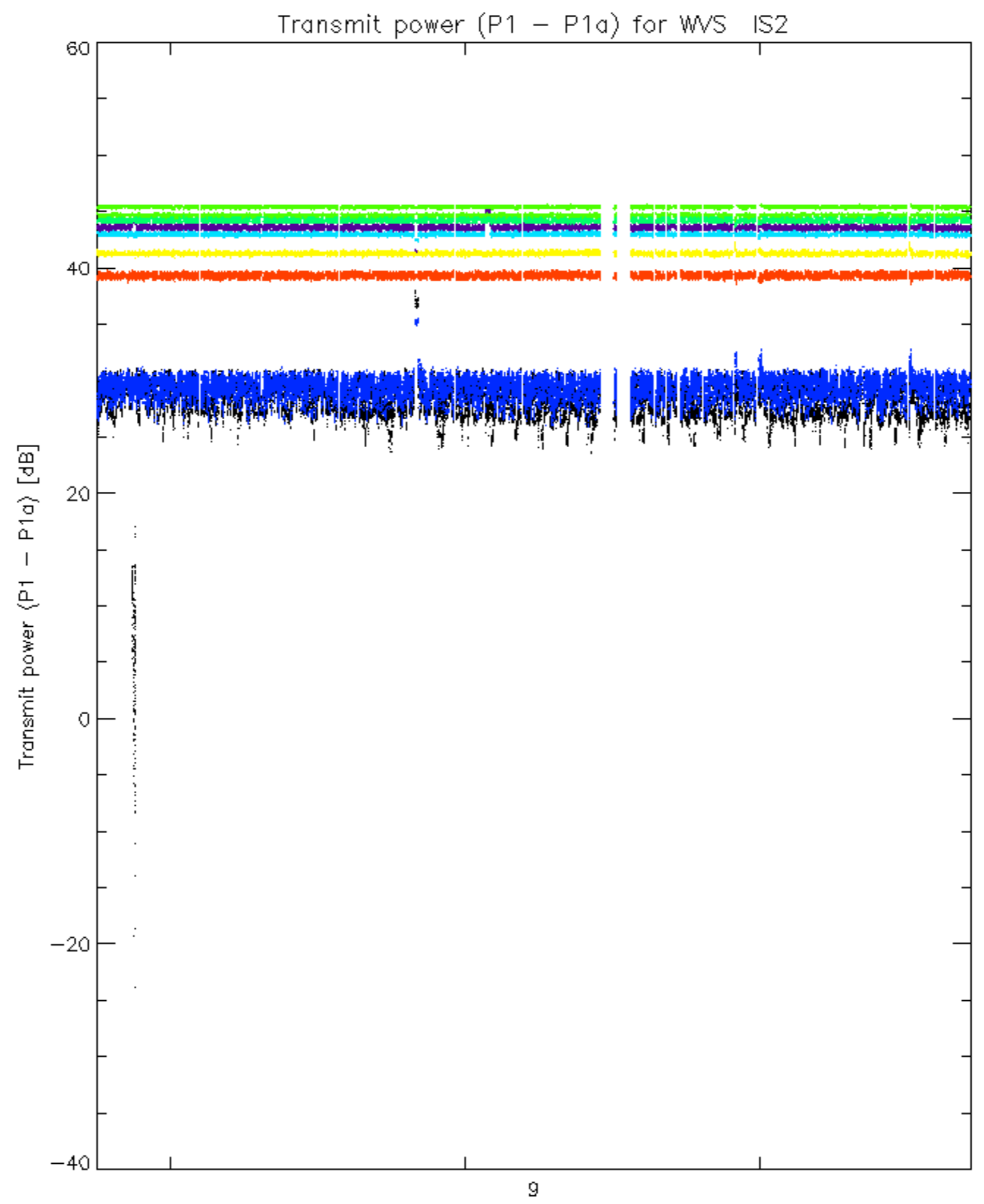




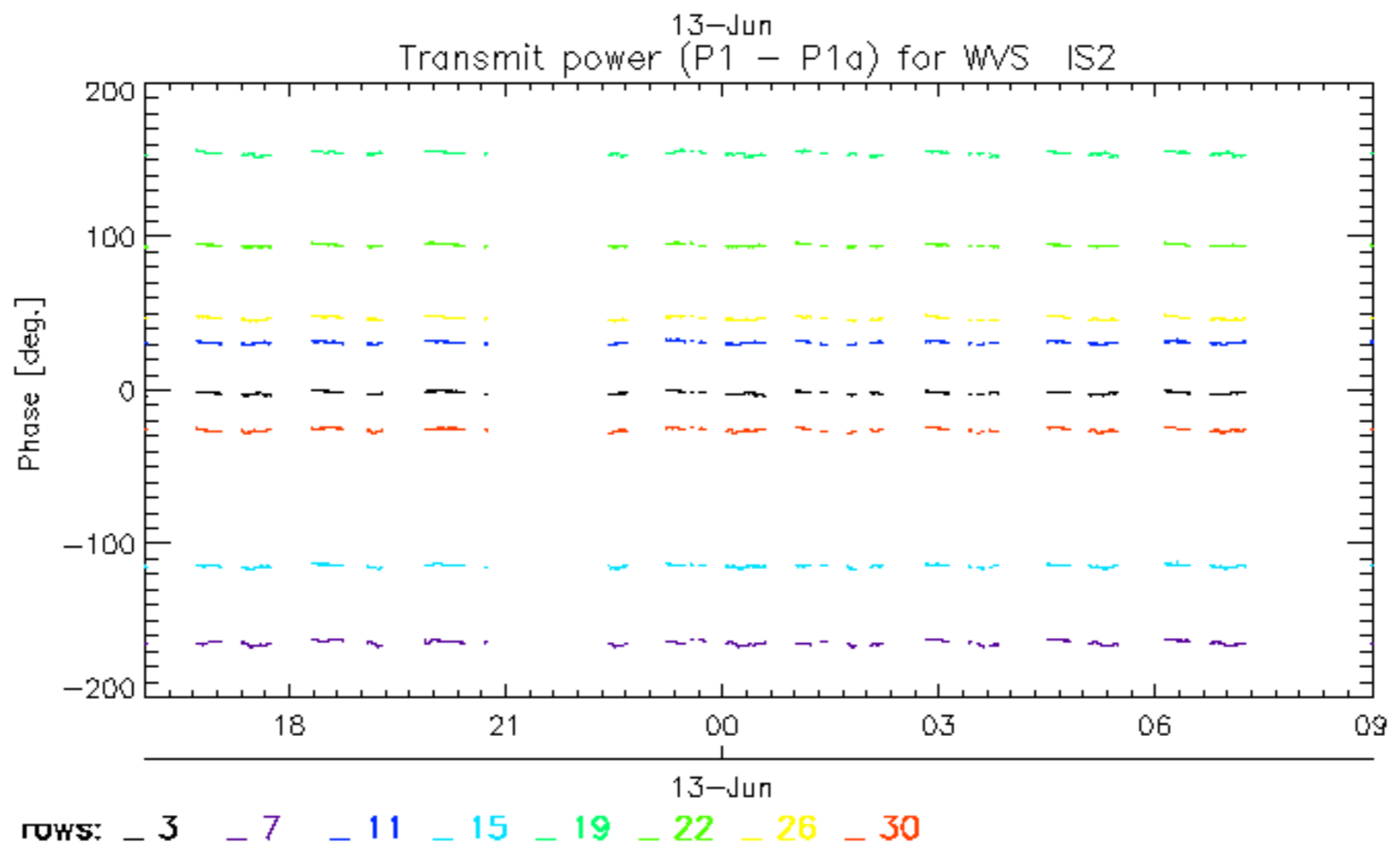
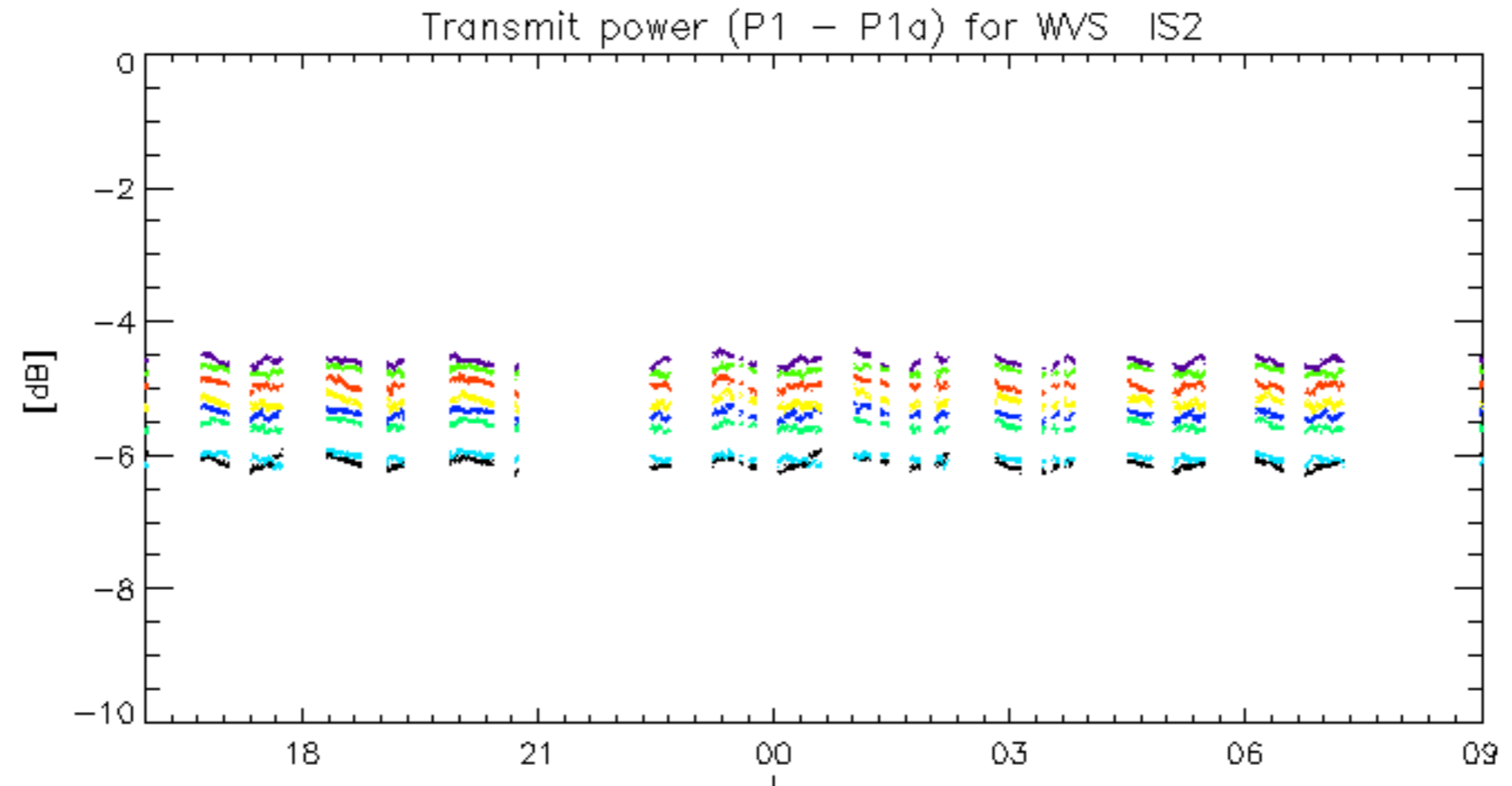
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



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



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





No unavailabilities during the reported period.