

# PRELIMINARY REPORT OF 060722

last update on Sat Jul 22 16:27:48 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 2006-07-21 00:00:00 to 2006-07-22 16:27:48

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	42	77	20	5	7
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	42	77	20	5	7
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	42	77	20	5	7
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	42	77	20	5	7

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	32	46	41	15	53
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	32	46	41	15	53
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	32	46	41	15	53
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	32	46	41	15	53

## 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	20060721 063530
H	20060722 060353

### 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)
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**P1 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.932727	0.012281	-0.028758
7	P1	-3.102493	0.010205	-0.001976
11	P1	-4.086334	0.013667	0.000542
15	P1	-6.172590	0.011533	-0.003733
19	P1	-3.398933	0.009330	-0.060542
22	P1	-4.546956	0.010237	-0.028974
26	P1	-3.932604	0.019711	0.016253
30	P1	-5.763098	0.008075	-0.007985
3	P1	-16.513538	0.328813	-0.078506
7	P1	-17.192892	0.103229	-0.044216
11	P1	-16.978754	0.277279	0.013338
15	P1	-13.108047	0.150125	0.072543
19	P1	-14.446700	0.048532	-0.116760
22	P1	-16.016161	0.423334	0.038378
26	P1	-15.134899	0.235085	0.035905
30	P1	-17.094252	0.343160	-0.013166

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.985682	0.088103	0.133894
7	P2	-21.921955	0.106070	0.068955
11	P2	-15.798626	0.122180	0.052133
15	P2	-7.131479	0.101497	0.023688
19	P2	-9.134573	0.092217	0.009422
22	P2	-18.150158	0.086906	0.000229
26	P2	-16.398899	0.094598	-0.019403
30	P2	-19.525911	0.093724	0.030192

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.175491	0.002956	-0.000235
7	P3	-8.175491	0.002956	-0.000235
11	P3	-8.175491	0.002956	-0.000235
15	P3	-8.175491	0.002956	-0.000235
19	P3	-8.175491	0.002956	-0.000235
22	P3	-8.175491	0.002956	-0.000235
26	P3	-8.175491	0.002956	-0.000235
30	P3	-8.175491	0.002956	-0.000235

#### 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	-3.804132	0.027135	-0.100991
7	P1	-2.561713	0.007934	0.013546
11	P1	-2.858935	0.014549	0.015762
15	P1	-3.568767	0.029131	-0.053057
19	P1	-3.417761	0.013260	-0.012559
22	P1	-5.090603	0.020071	0.022122
26	P1	-5.858864	0.015707	-0.012745
30	P1	-5.193203	0.026539	-0.012481
3	P1	-11.590336	0.090140	-0.142788
7	P1	-9.970778	0.034067	0.031980
11	P1	-10.247999	0.057423	0.006921
15	P1	-10.757556	0.144679	-0.030740
19	P1	-15.530783	0.073992	-0.019484
22	P1	-20.913157	1.227848	0.003179
26	P1	-16.309446	0.382766	0.211481
30	P1	-17.904959	0.411356	-0.153984

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.628660	0.071068	0.219878
7	P2	-22.405226	0.127555	0.135268
11	P2	-11.052087	0.042128	0.096730
15	P2	-4.912966	0.046028	0.041980
19	P2	-6.875221	0.041380	0.032340
22	P2	-8.196882	0.037000	0.025792
26	P2	-24.184404	0.062566	0.028023
30	P2	-22.015656	0.049642	0.057450

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.014181	0.003747	0.014033
7	P3	-8.014200	0.003748	0.014068
11	P3	-8.014055	0.003761	0.013719
15	P3	-8.014151	0.003756	0.014189
19	P3	-8.014194	0.003749	0.013913
22	P3	-8.014177	0.003742	0.014014
26	P3	-8.014204	0.003745	0.013447
30	P3	-8.014167	0.003742	0.014113

## 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	0.000567411
	stdev	1.65468e-07
MEAN Q	mean	0.000544931
	stdev	2.11560e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.138034
	stdev	0.00107543
STDEV Q	mean	0.138392
	stdev	0.00109329



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006072[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_IMM_1PNPDE20060720_200916_000000372049_00343_22942_1445.N1	0	28
ASA_IMM_1PNPDE20060721_010621_000000822049_00346_22945_1459.N1	1	0
ASA_GM1_1PNPDK20060721_072534_000007552049_00350_22949_1372.N1	0	163
ASA_WSM_1PNPDE20060720_142714_000000852049_00340_22939_3788.N1	0	60
ASA_WSM_1PNPDE20060720_233449_000003302049_00345_22944_3858.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)


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Ascending
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Descending
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### 7.5 - Absolute Doppler for GM1

<b>Evolution of Absolute Doppler</b>
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Ascending
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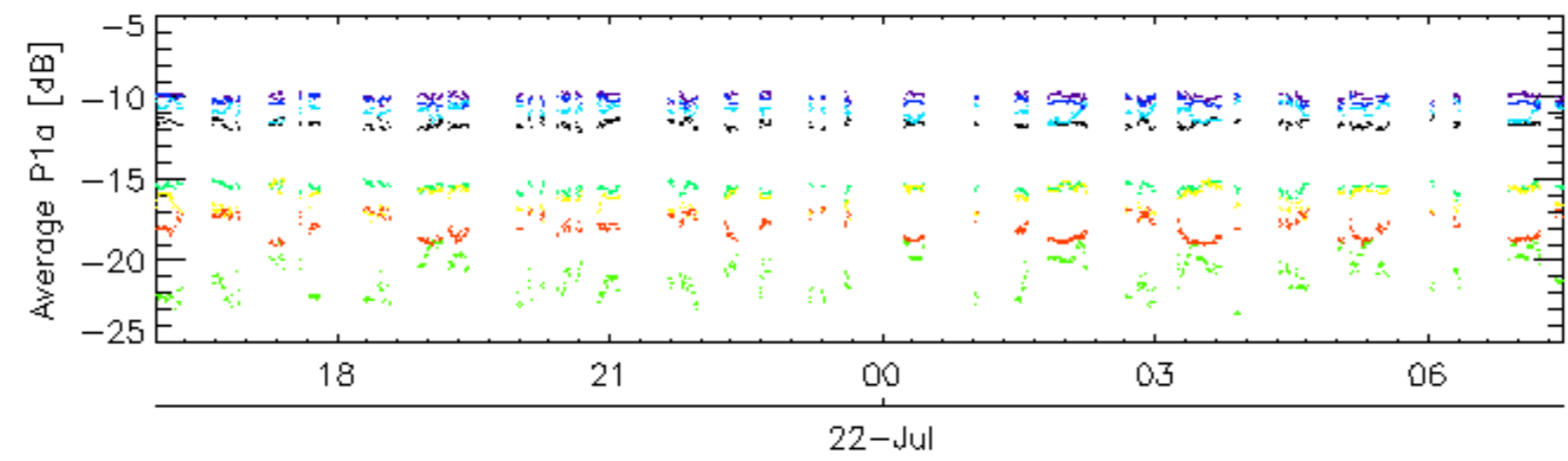
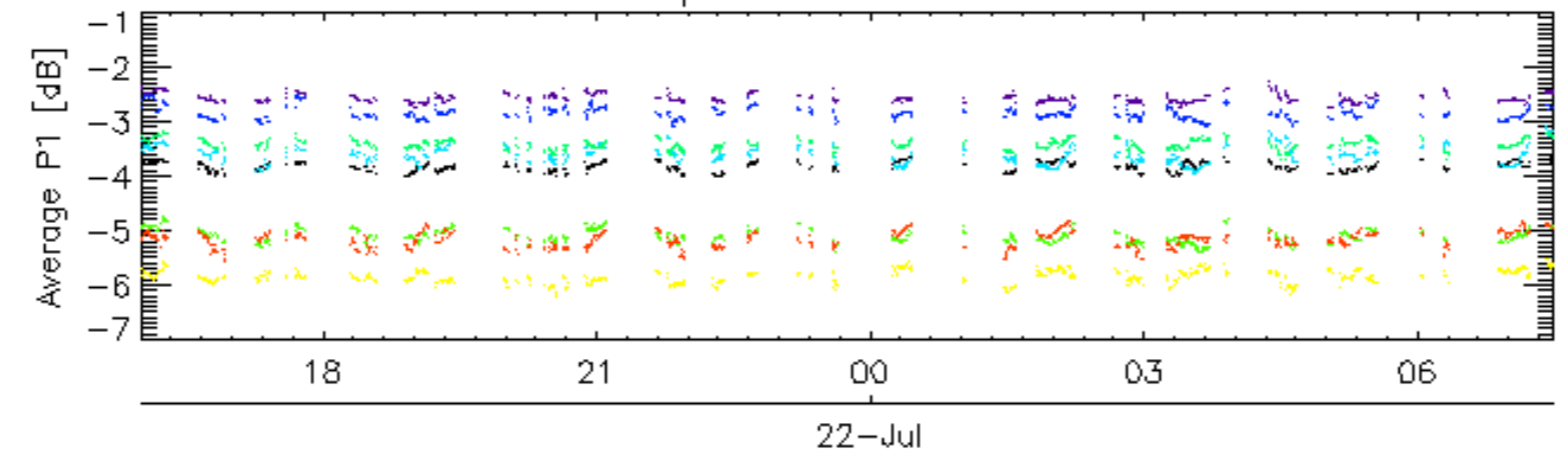
Descending
------------

### 7.6 - Doppler evolution versus ANX for GM1

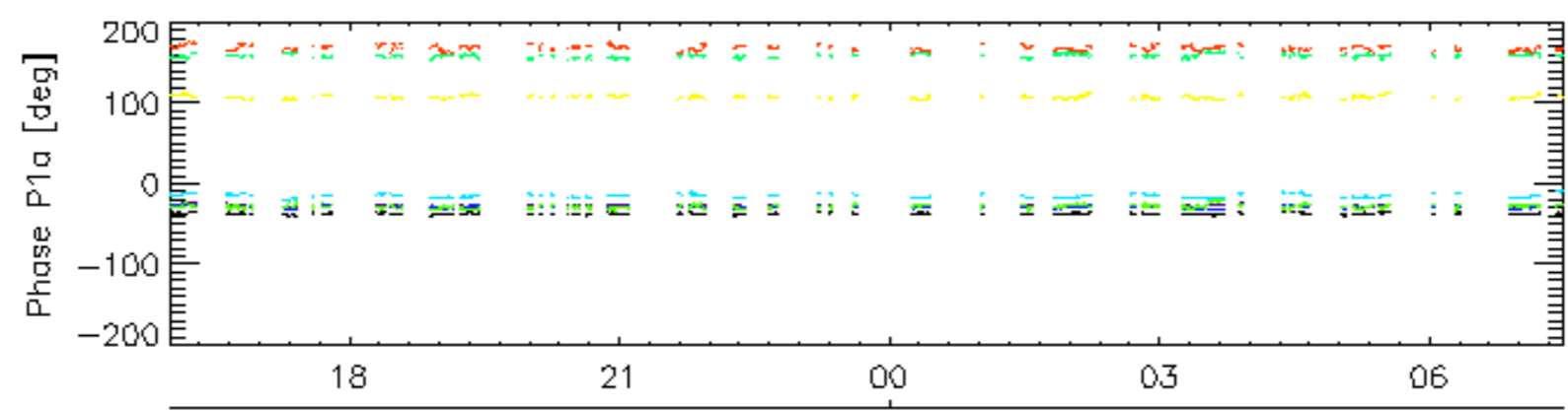
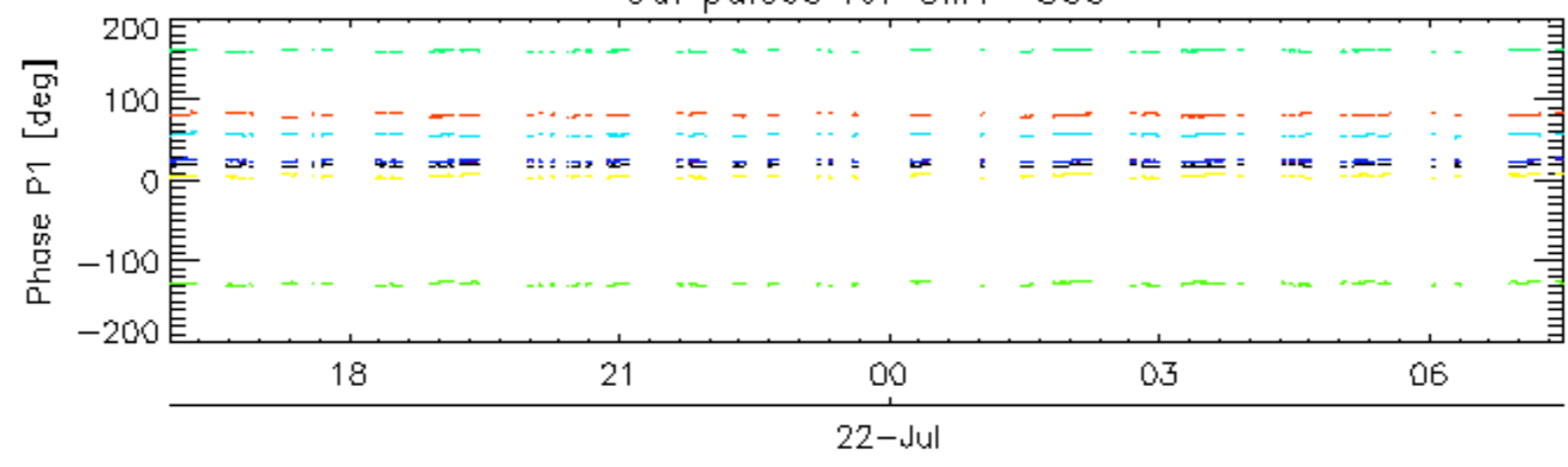
<b>Evolution Doppler error versus ANX</b>
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Cal pulses for GM1 SS3

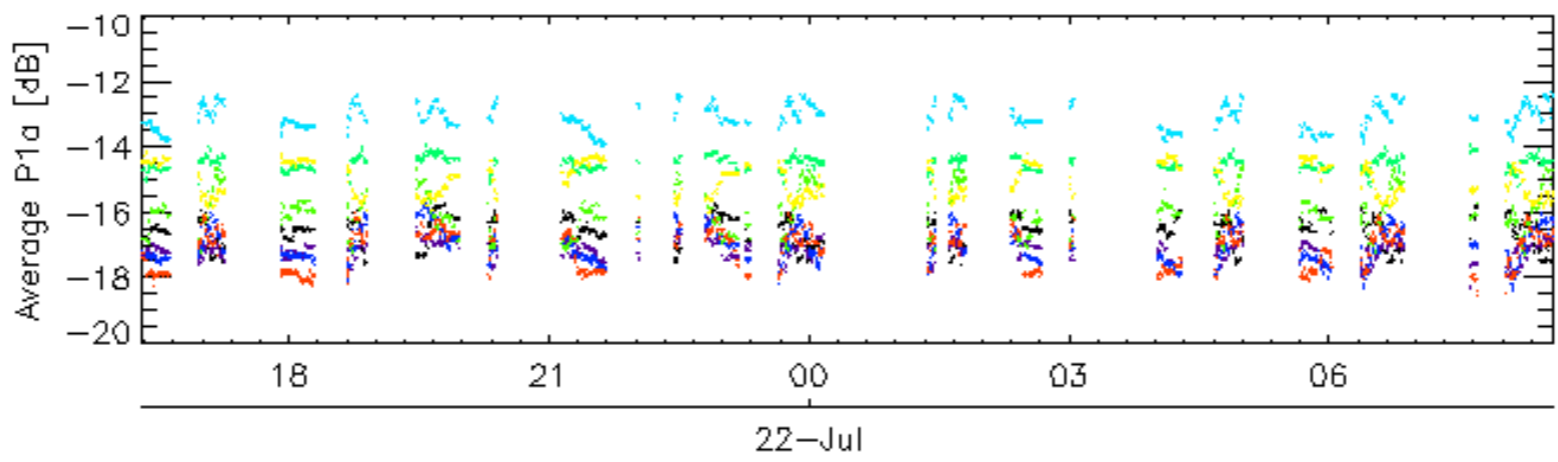
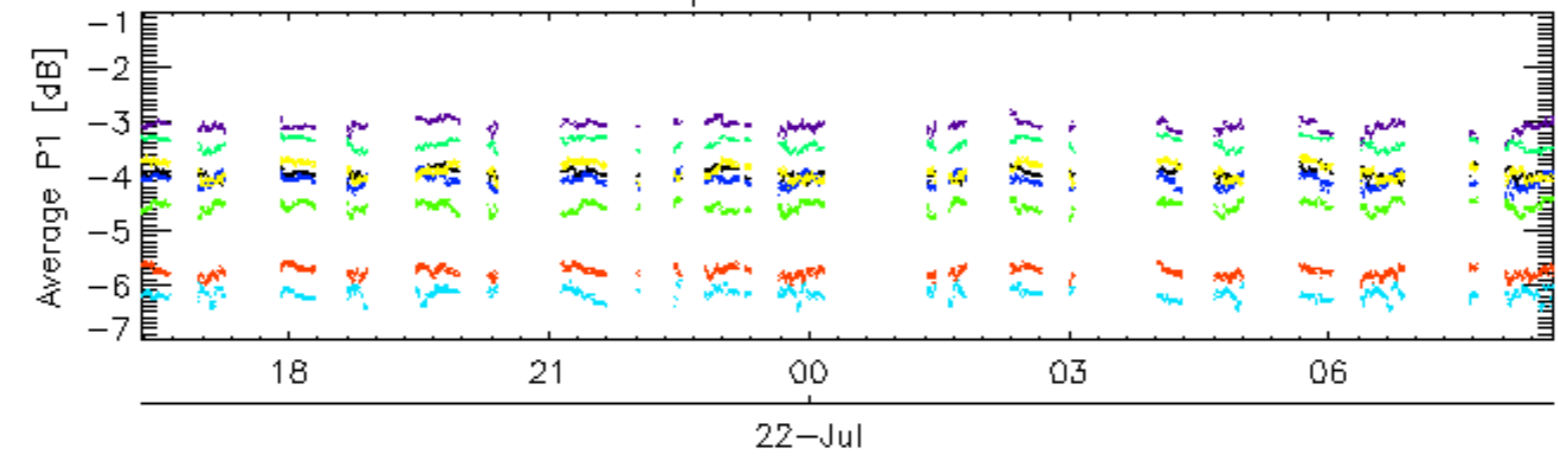


Cal pulses for GM1 SS3

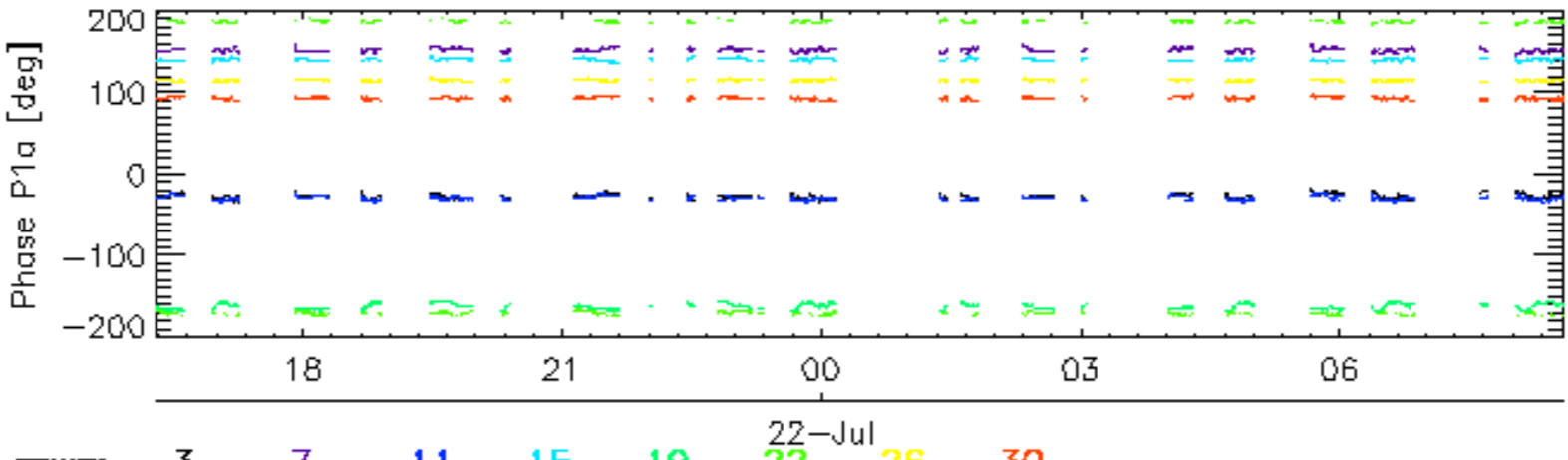
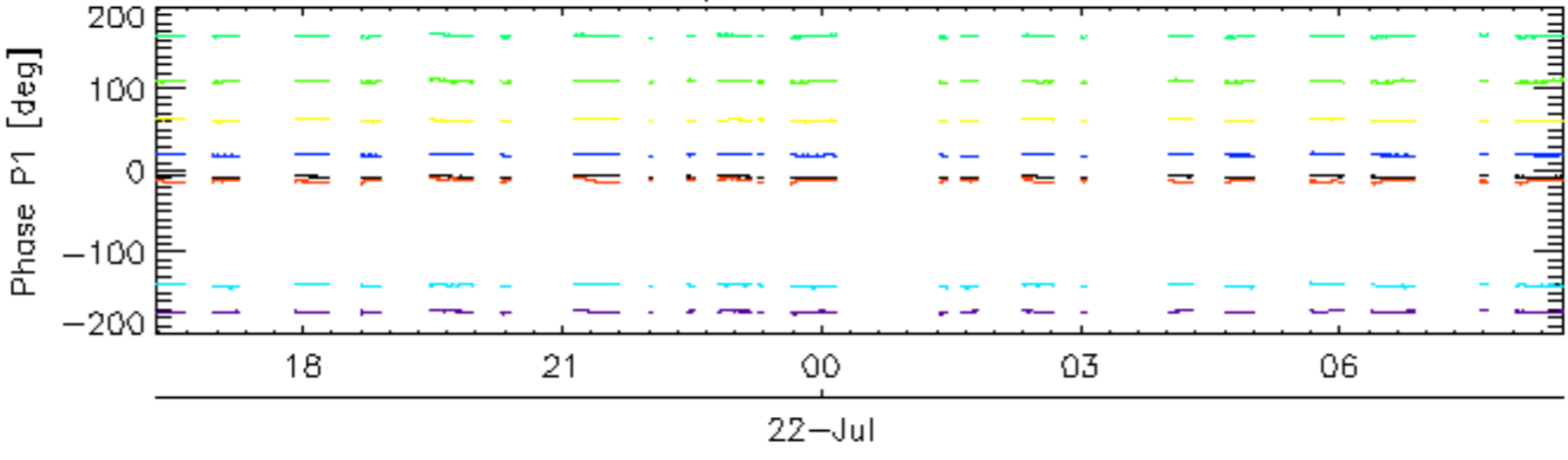


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

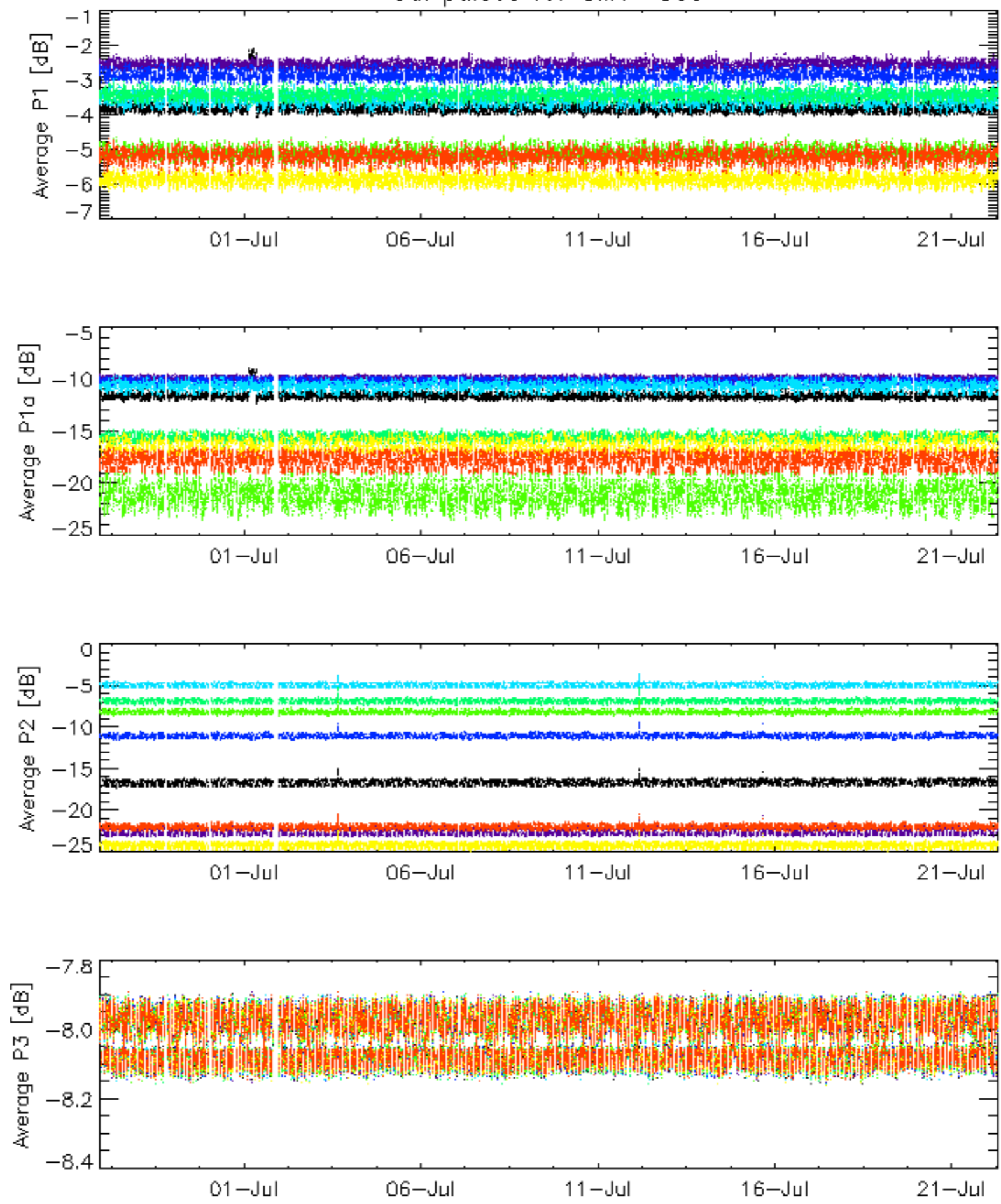


Cal pulses for WVS IS2



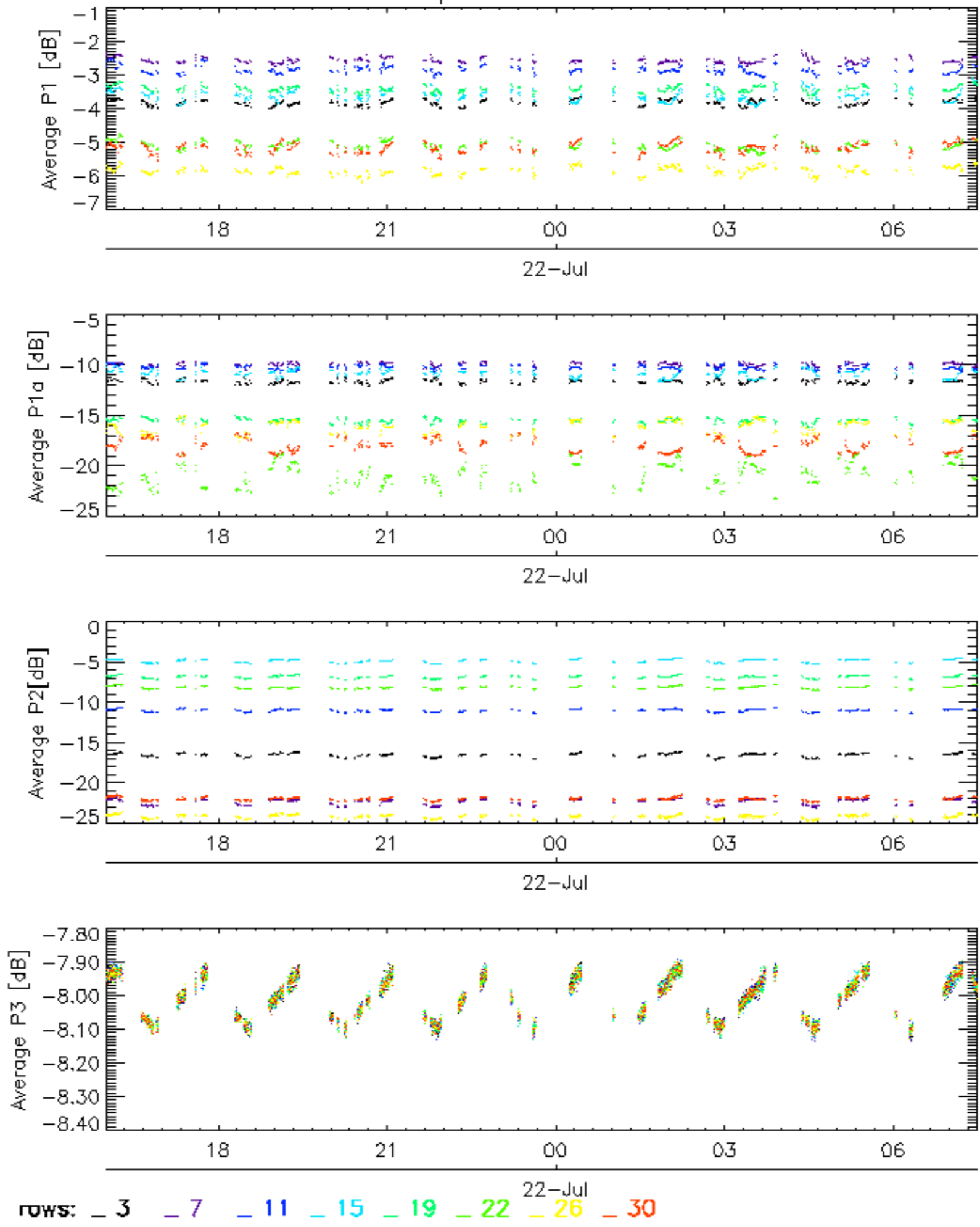
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

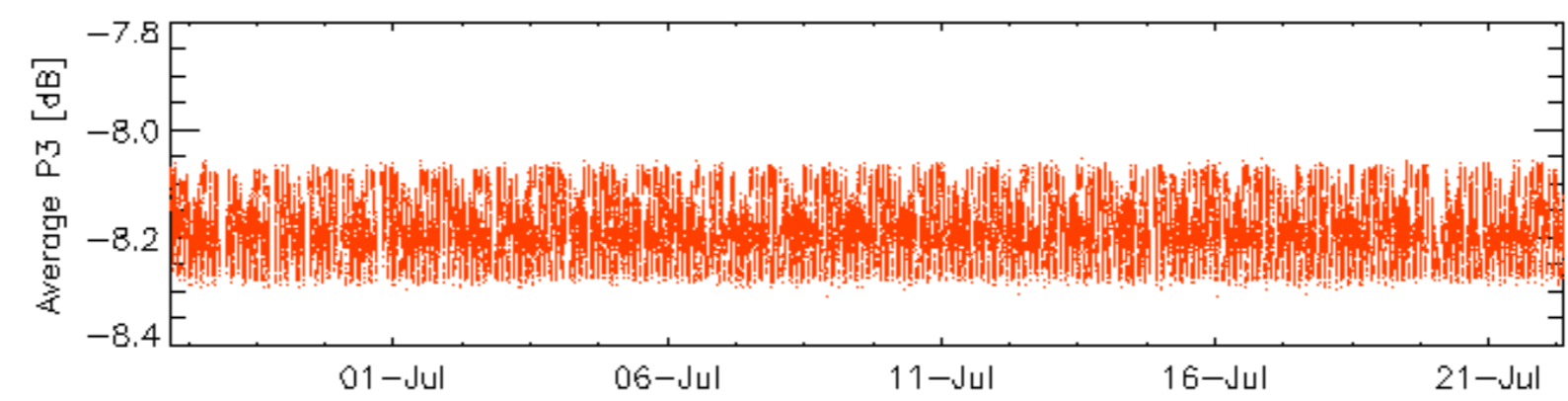
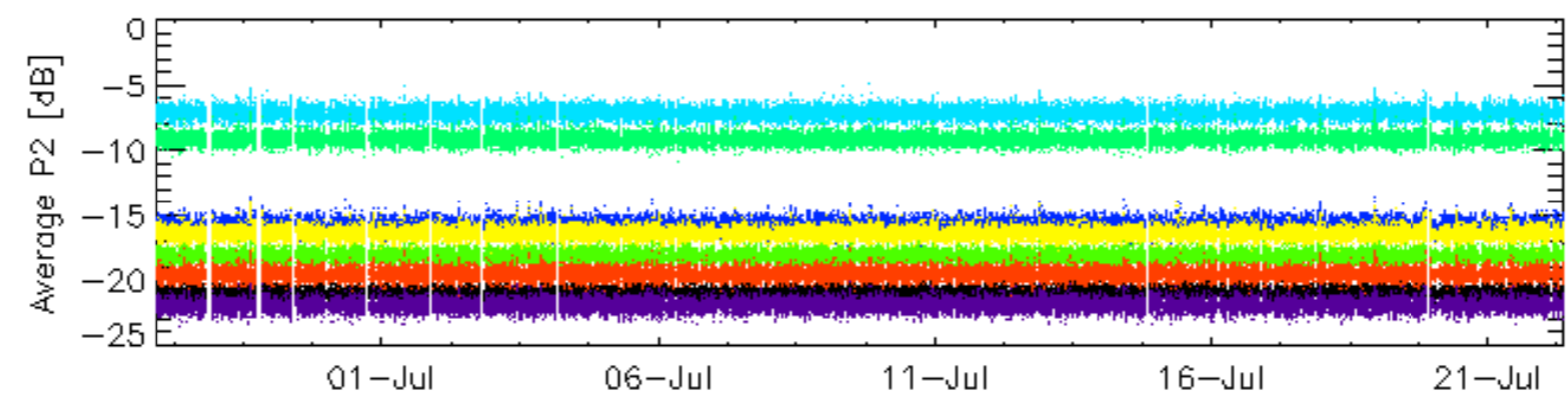
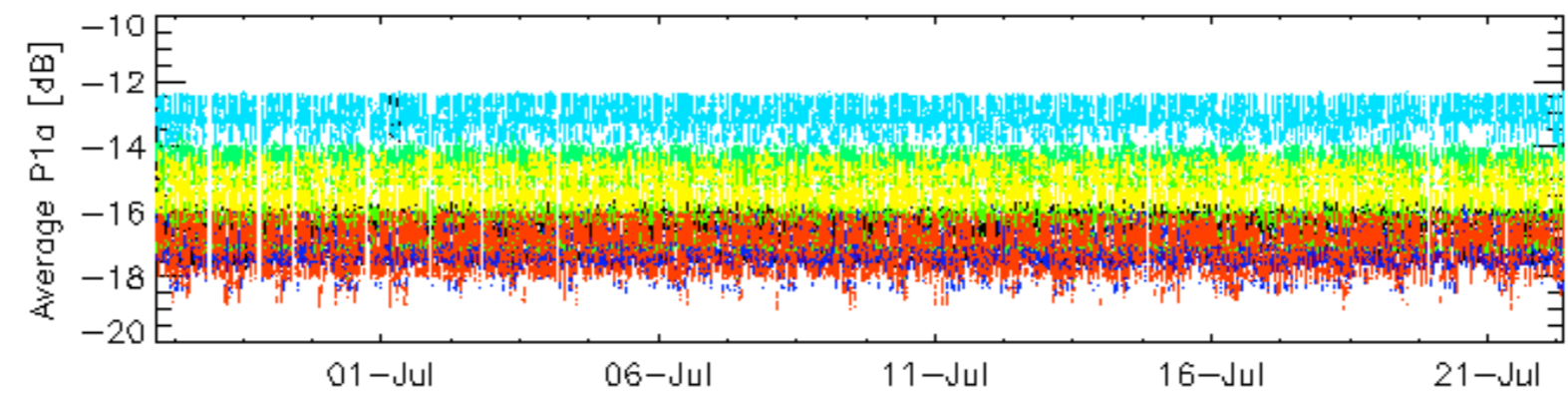
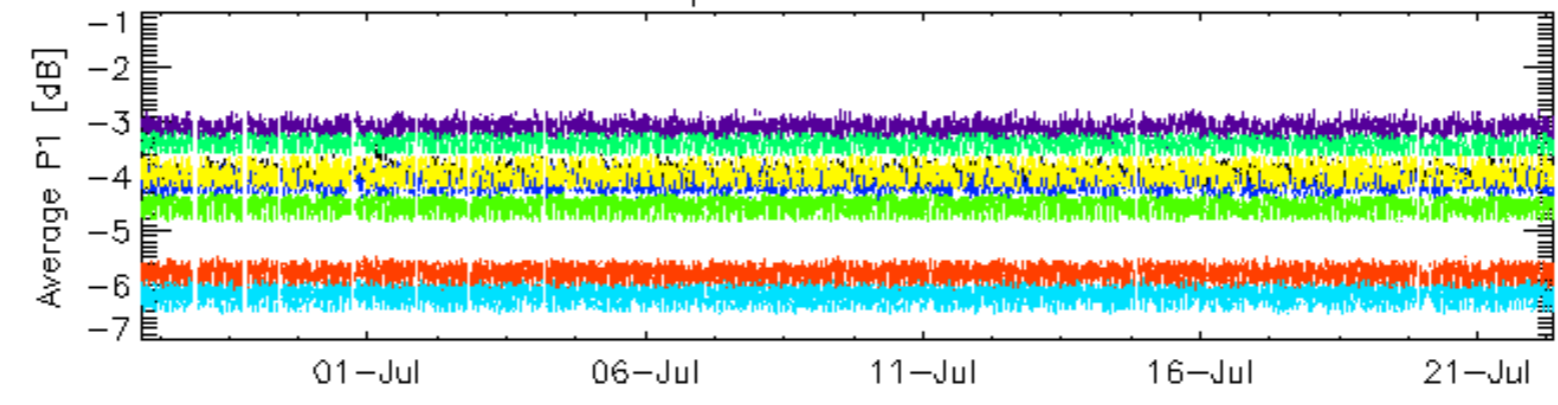


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

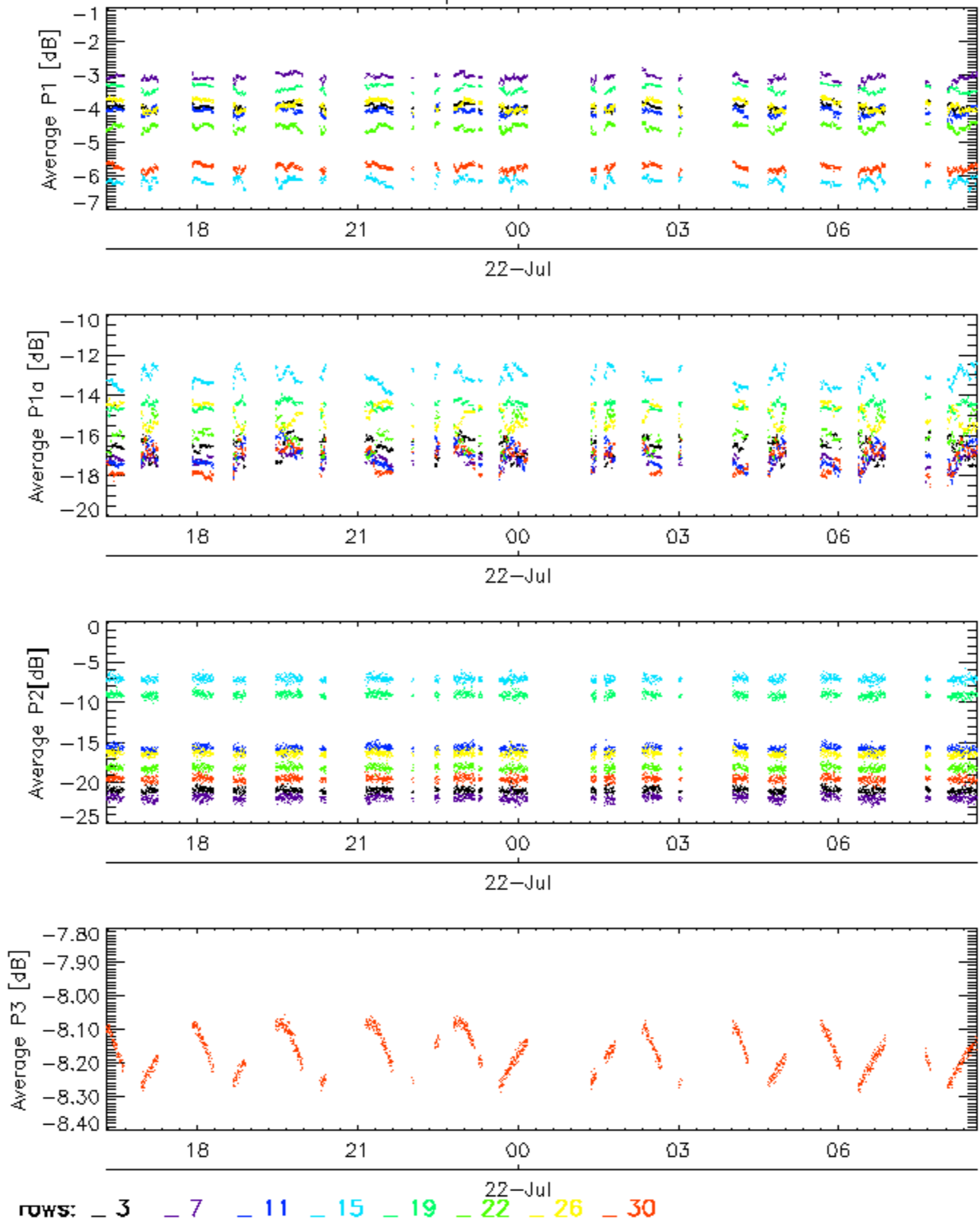


Cal pulses for WVS IS2



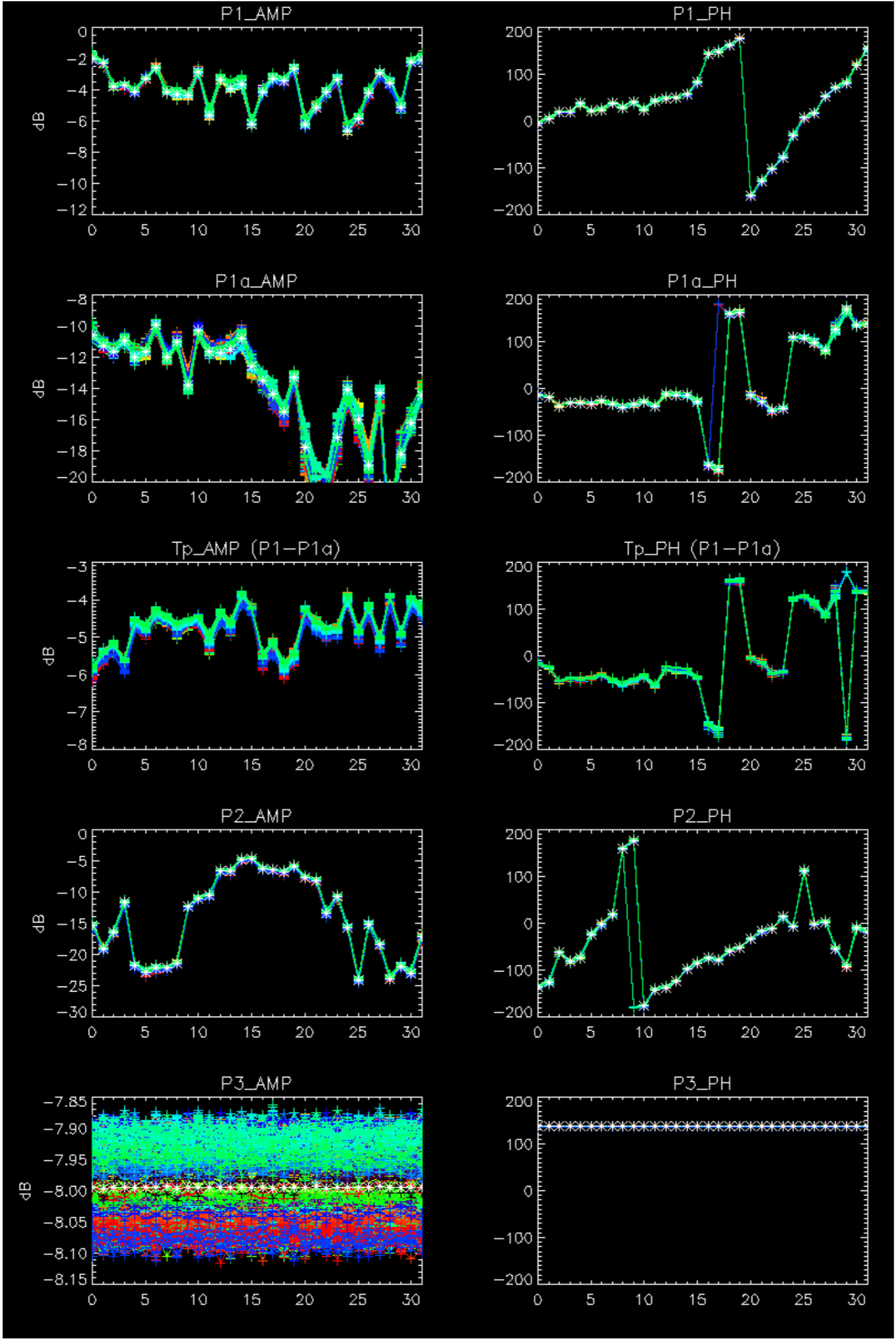
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

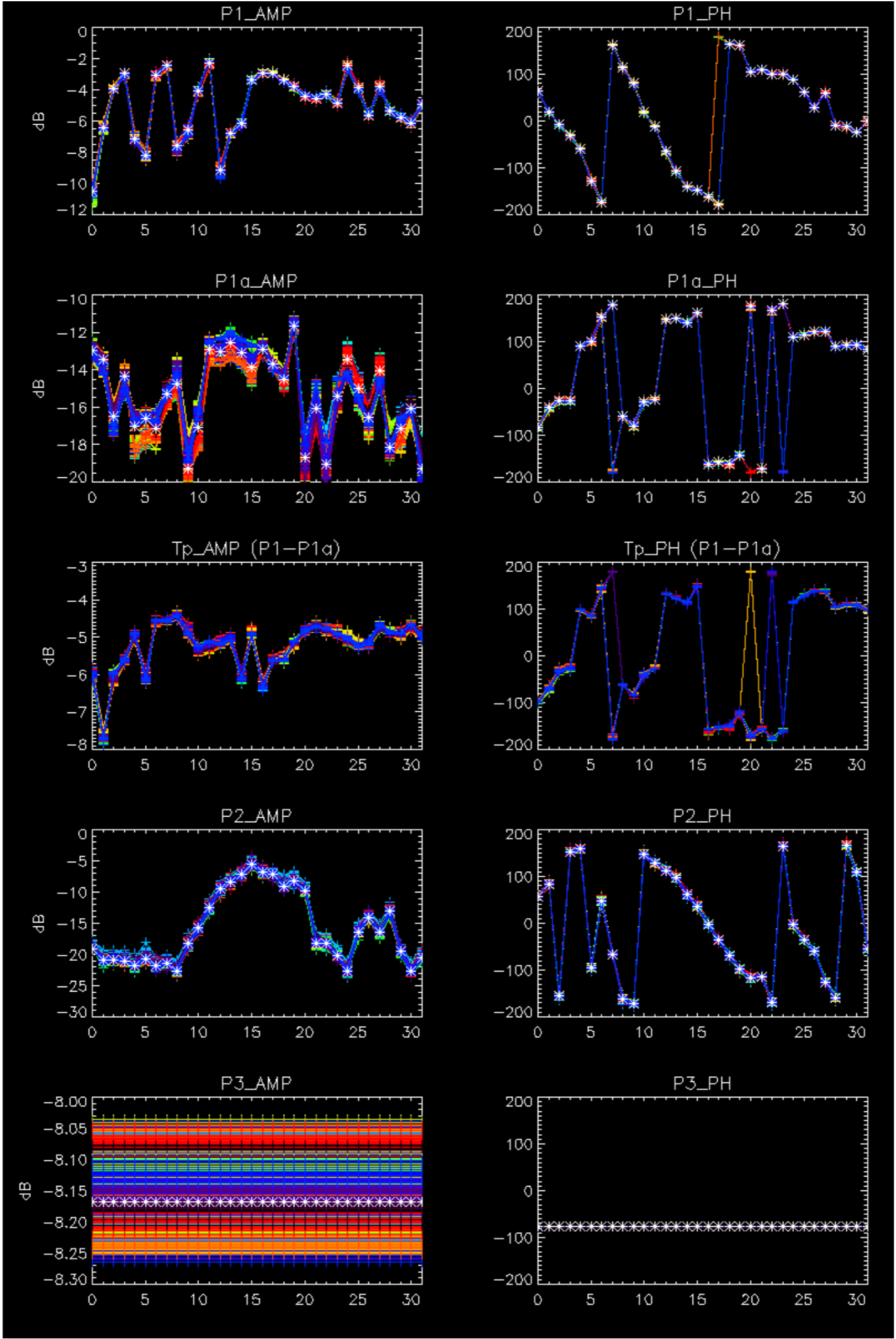
Cal pulses for WVS IS2



No anomalies observed.



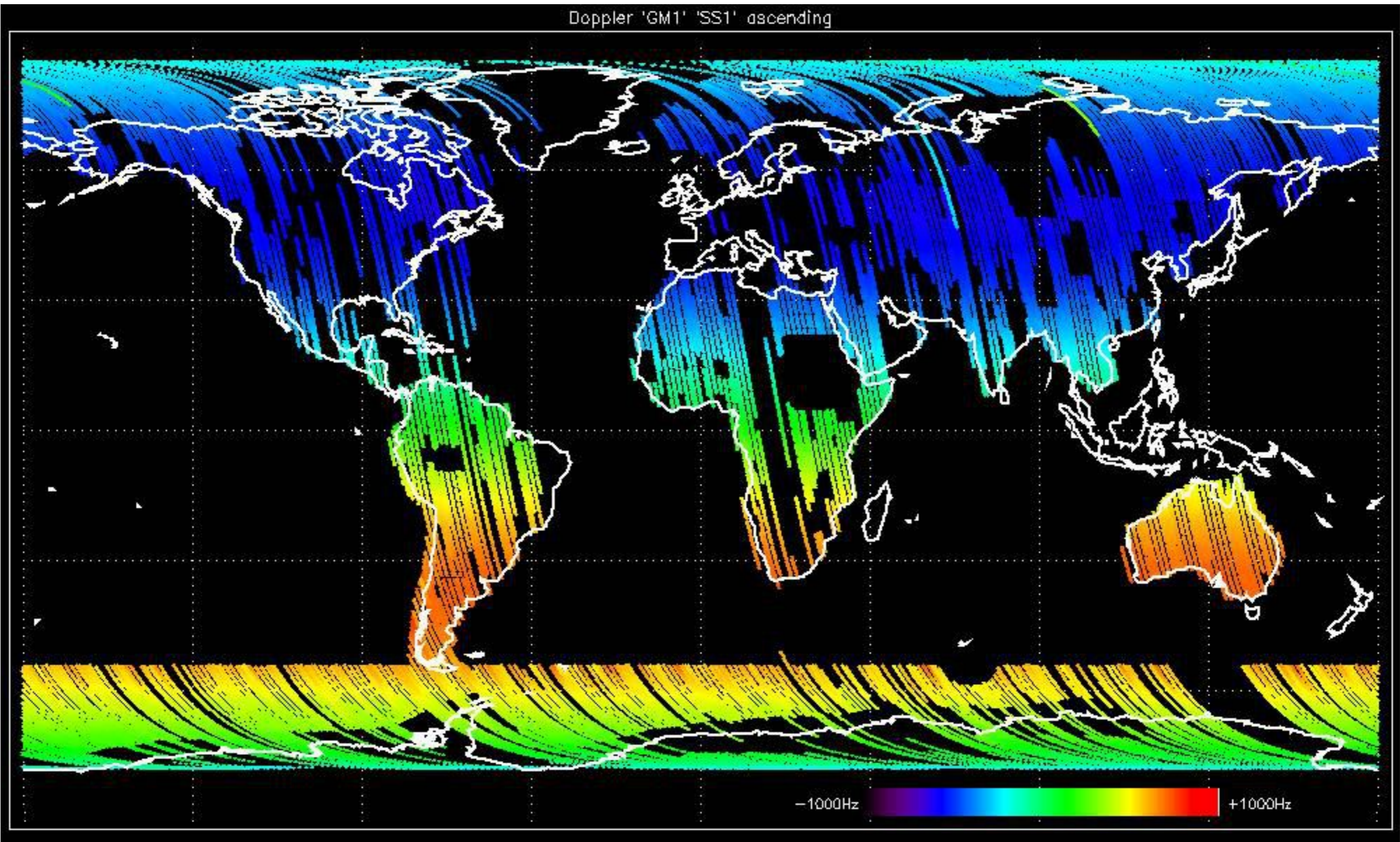




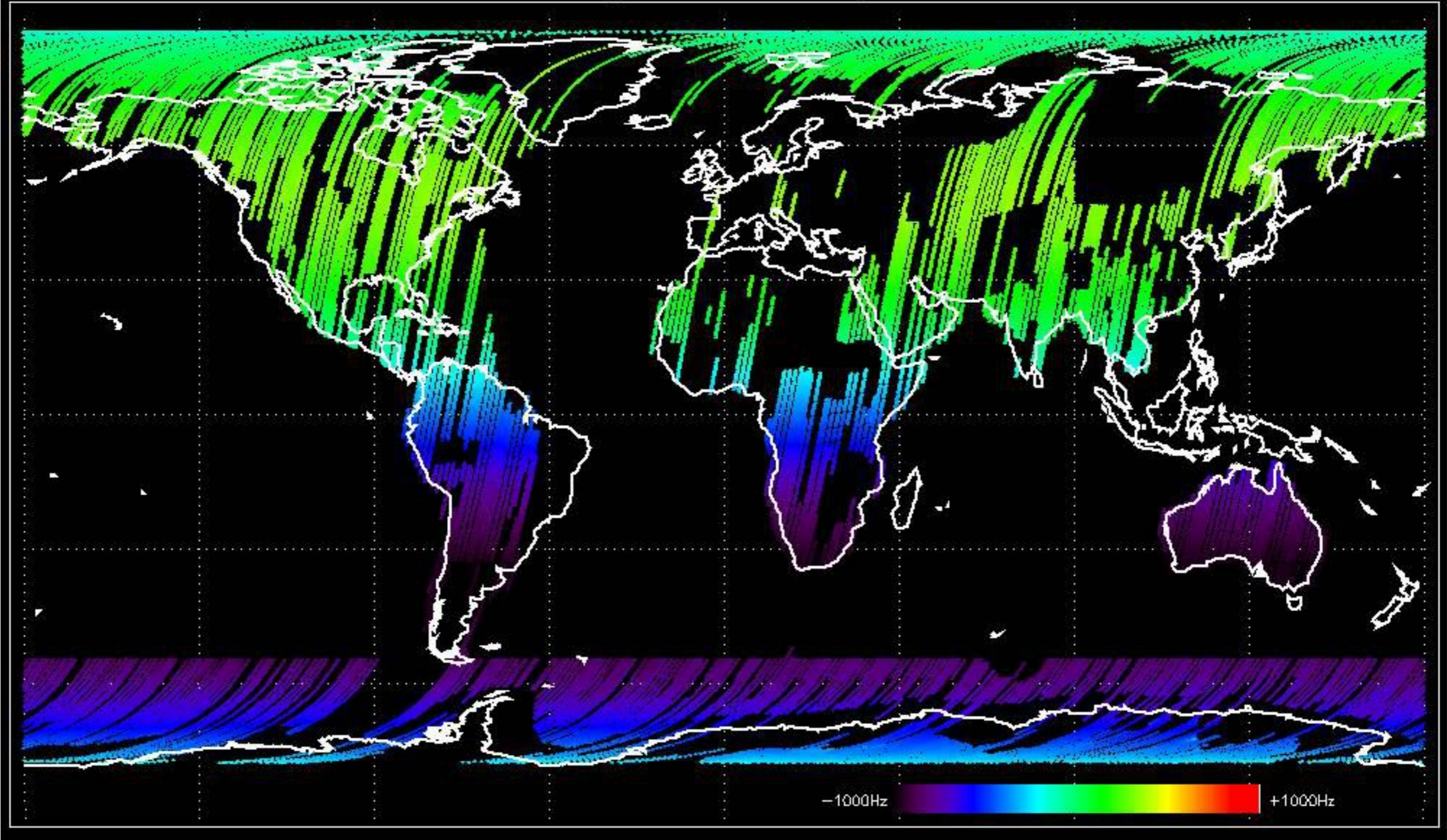
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



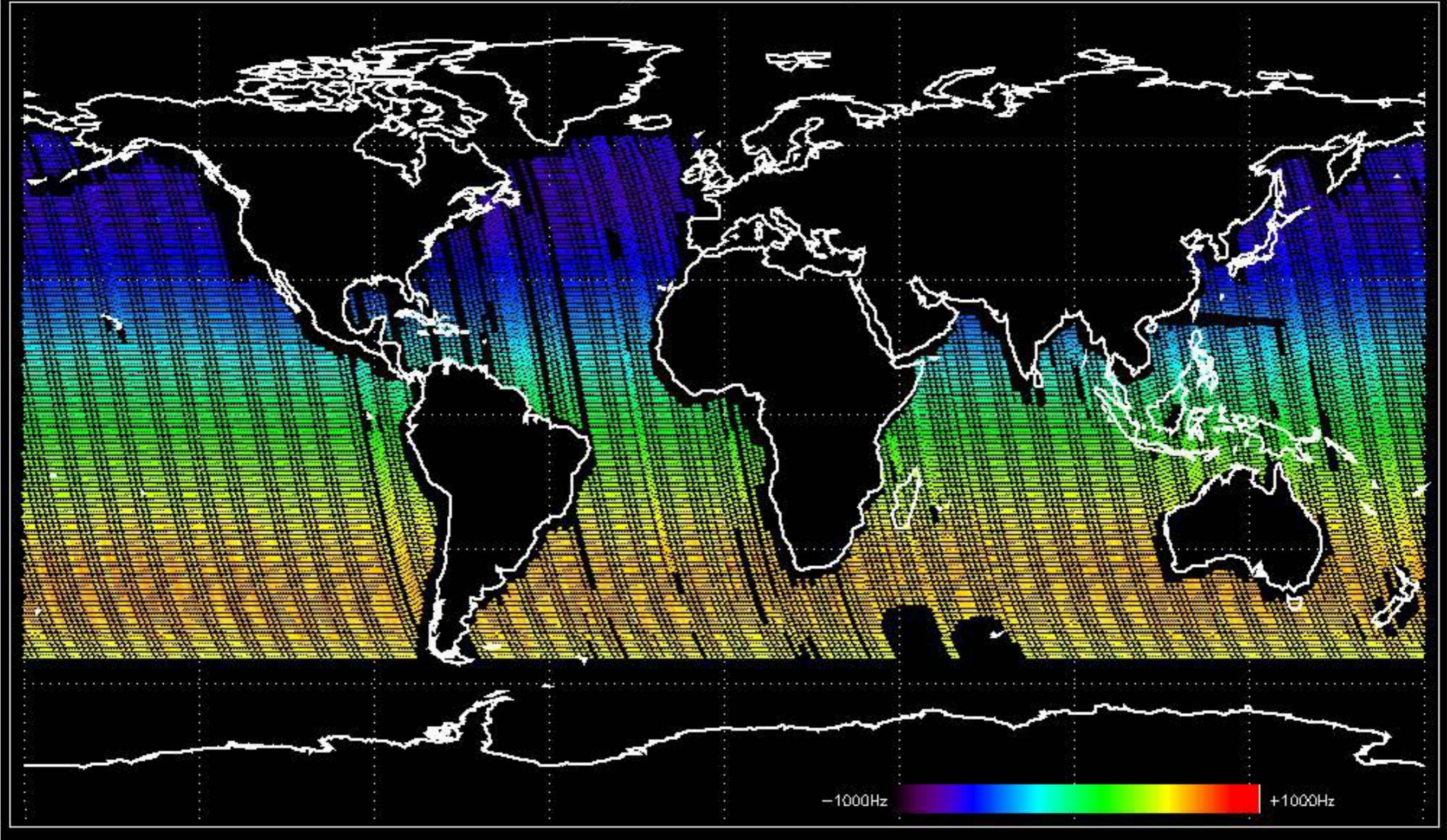
Doppler 'GM1' 'SS1' ascending



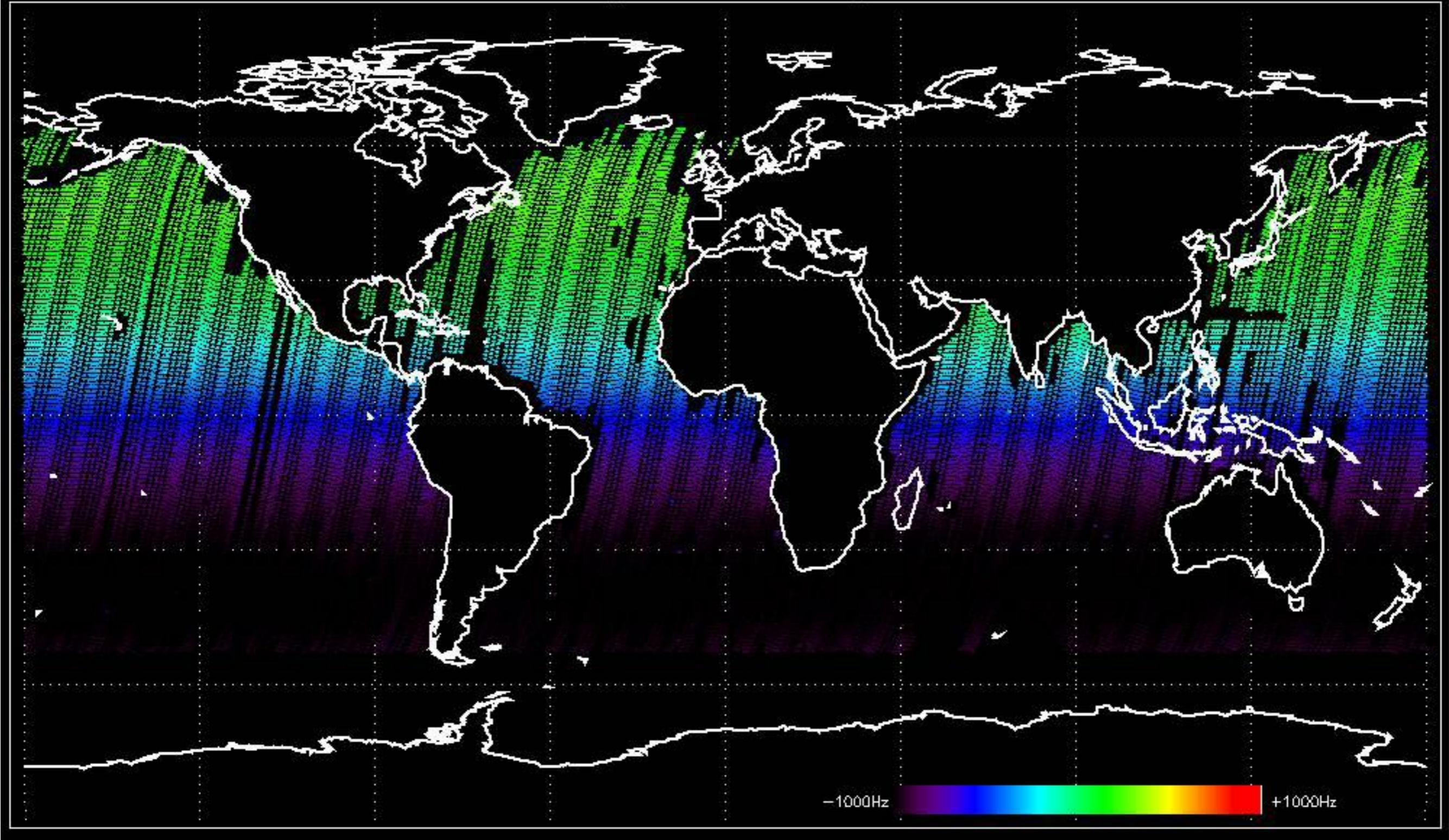
Doppler 'GM1' 'SS1' descending



Doppler 'WVS' 'IS2' ascending

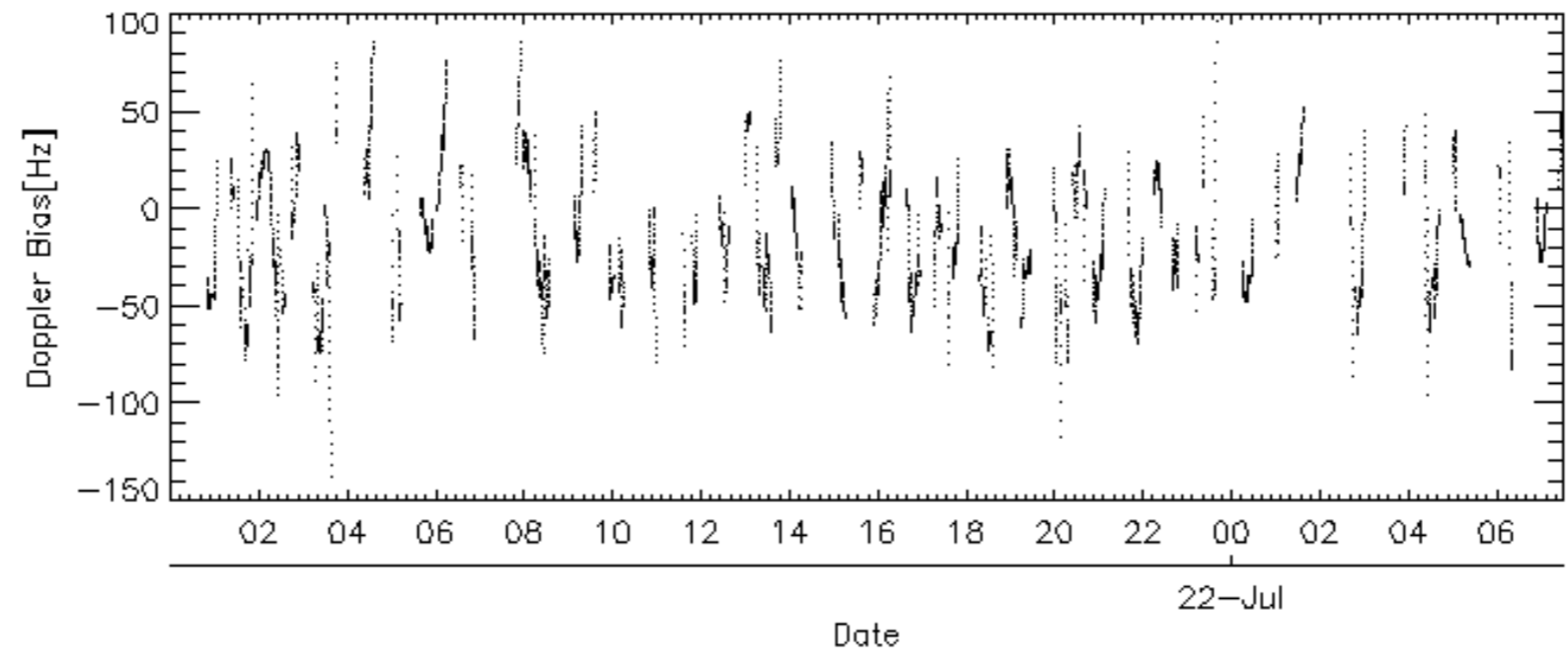
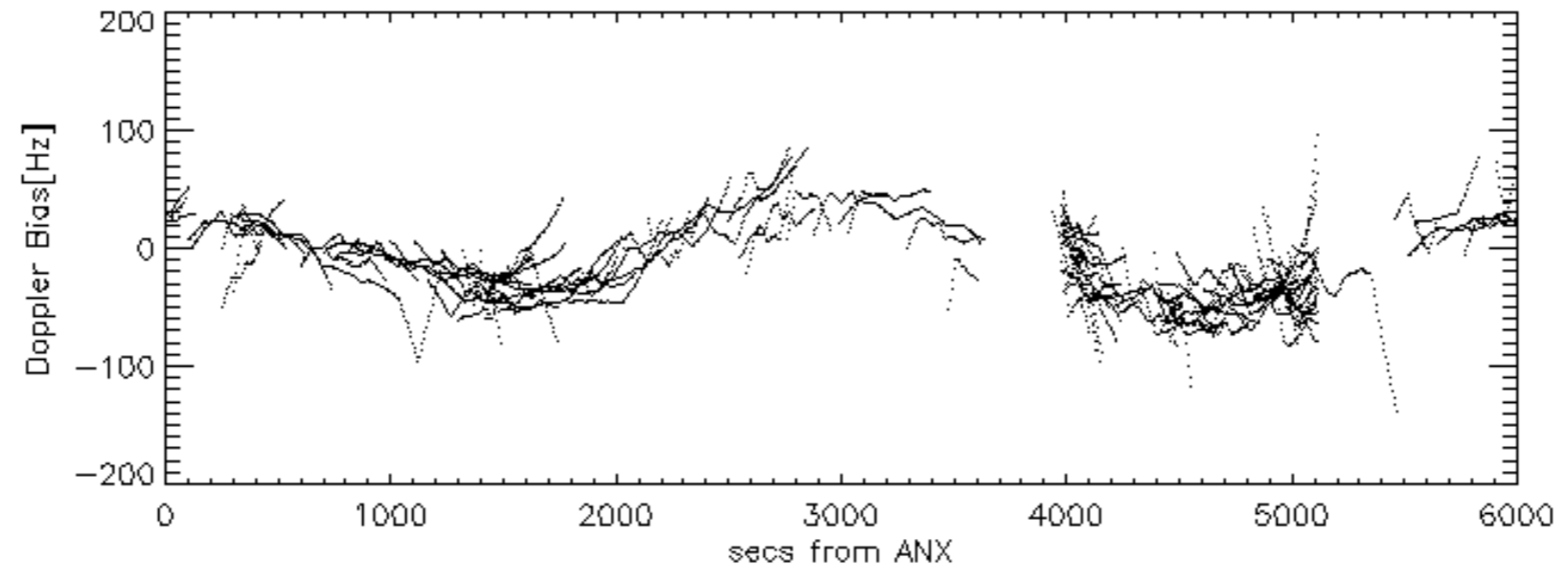
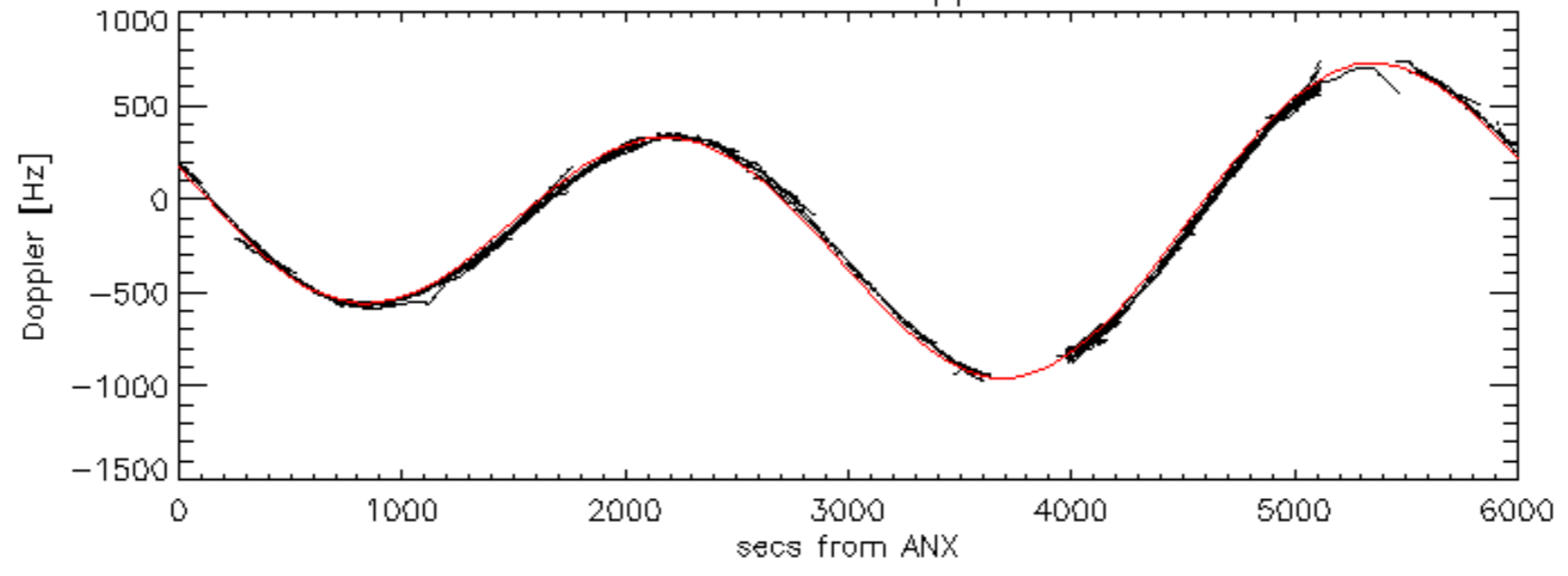


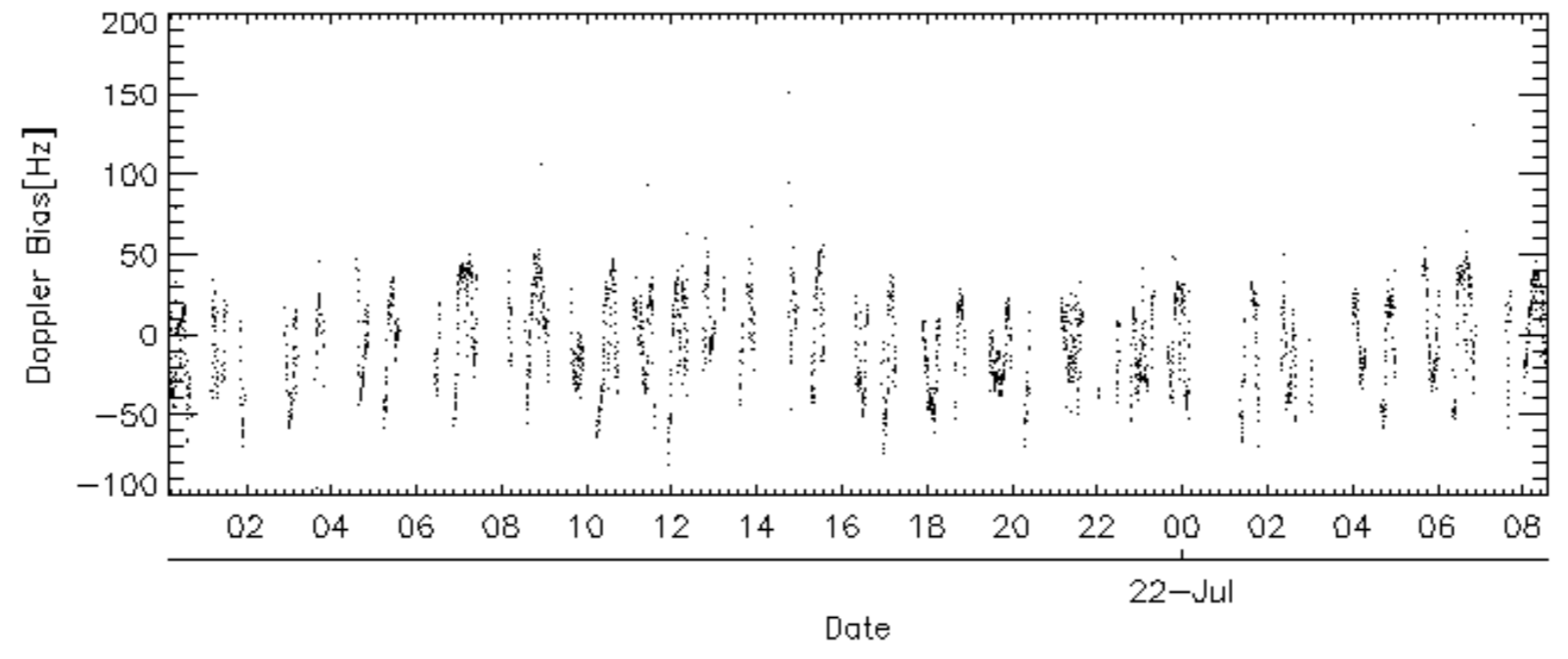
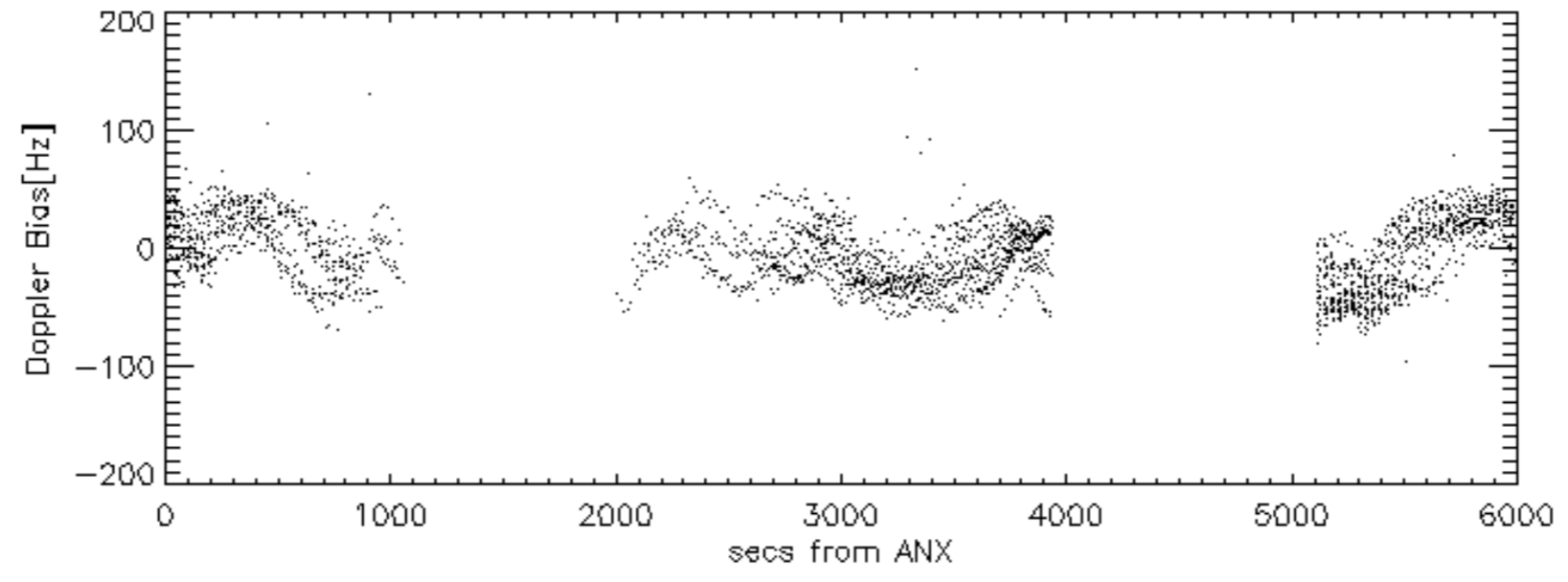
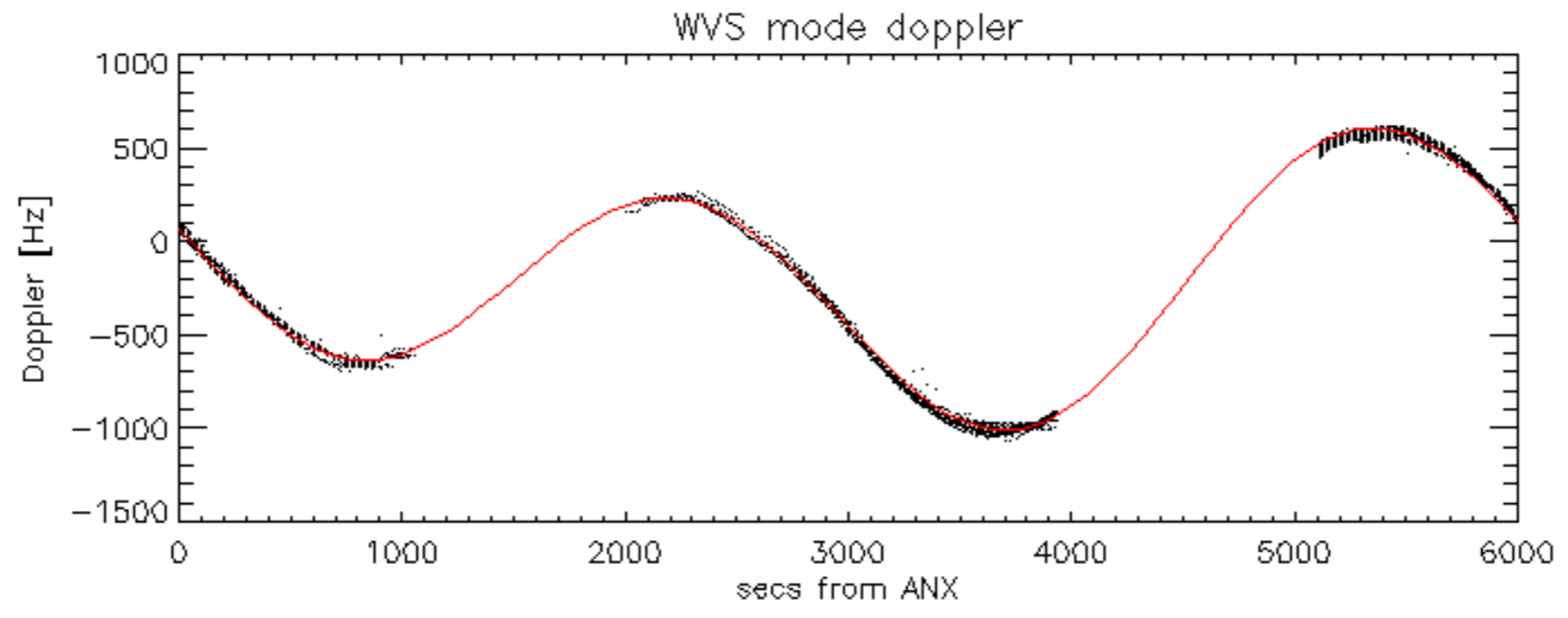
Doppler 'WVS' 'IS2' descending



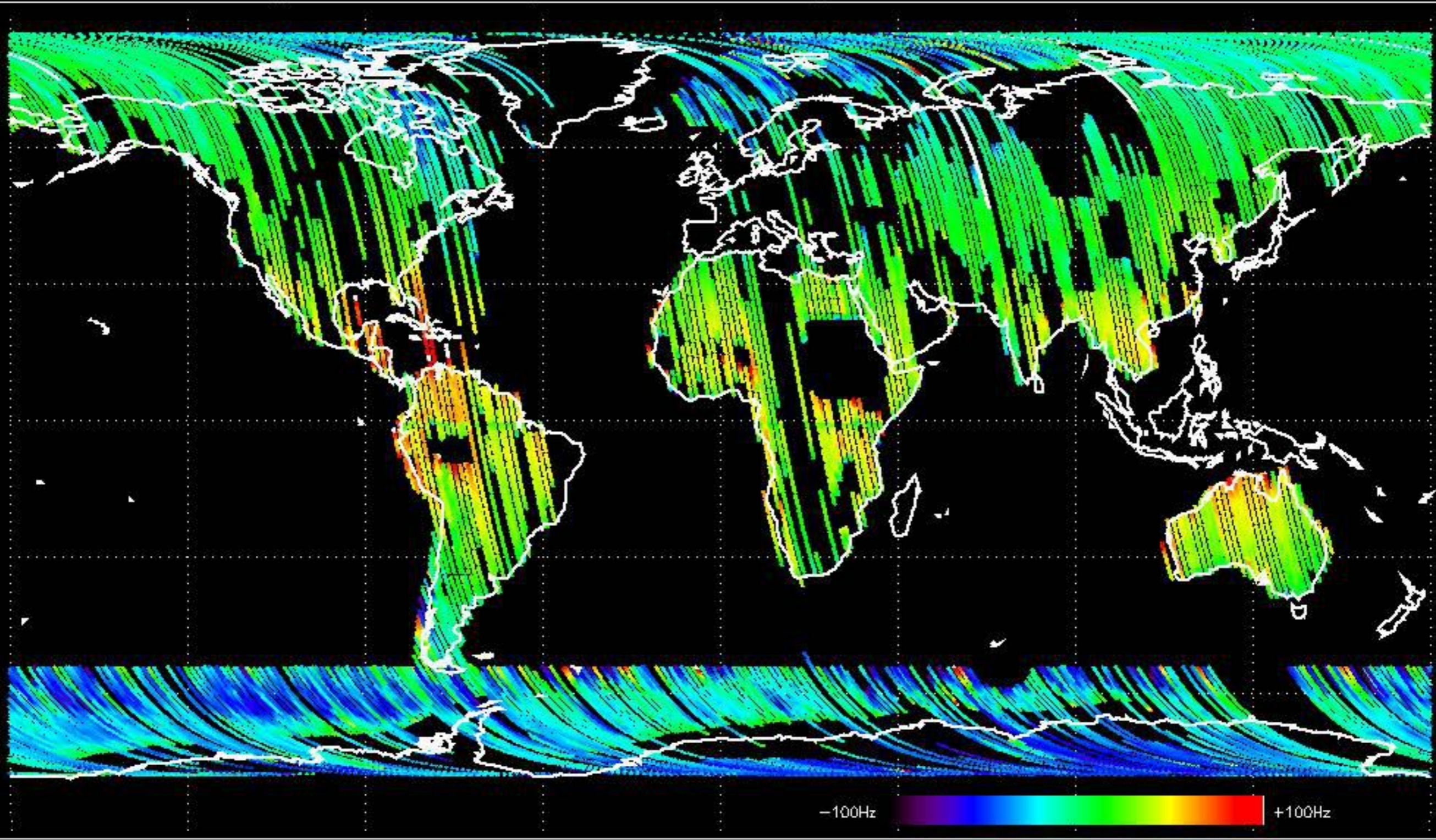


GM1 mode doppler

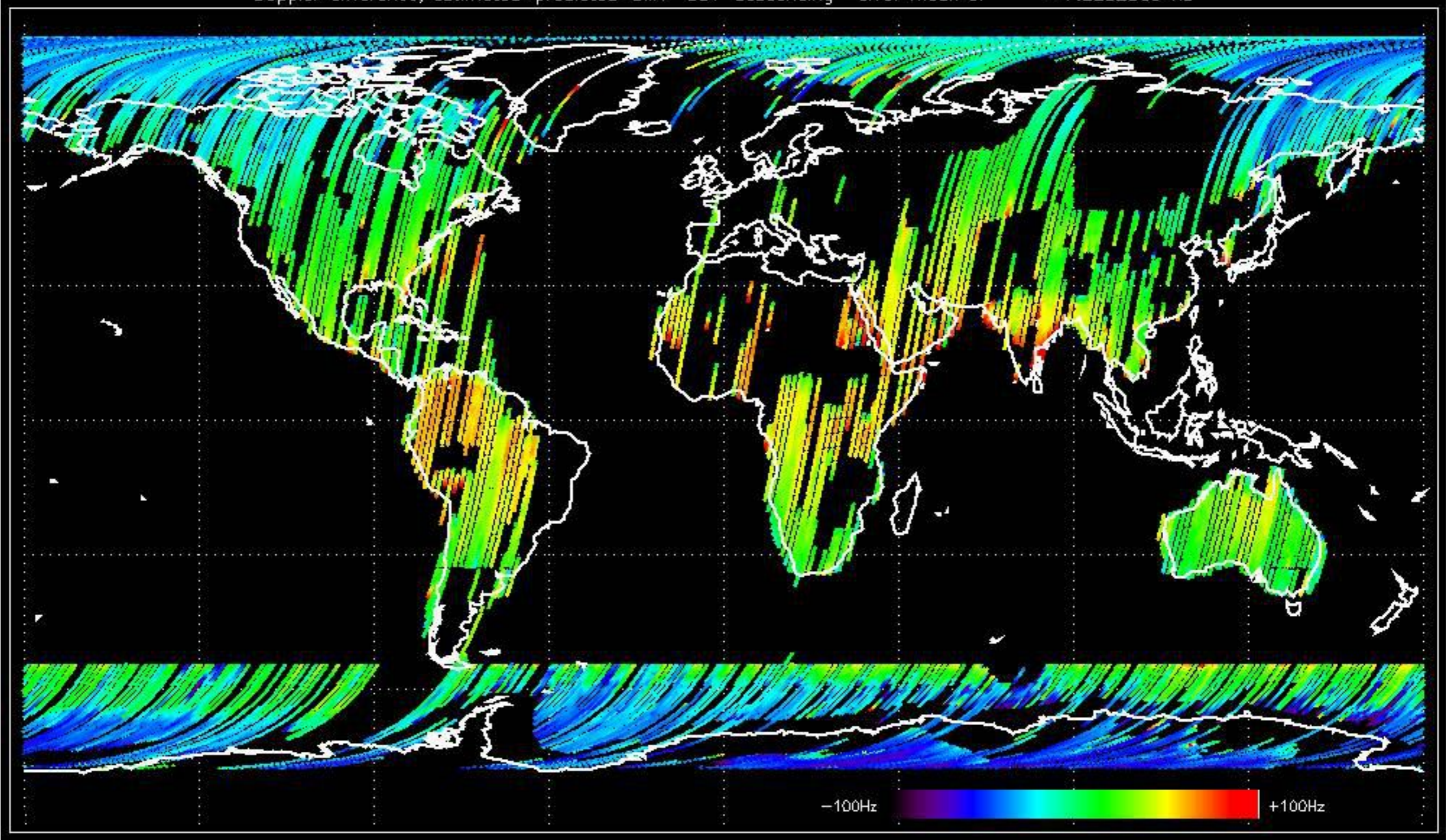




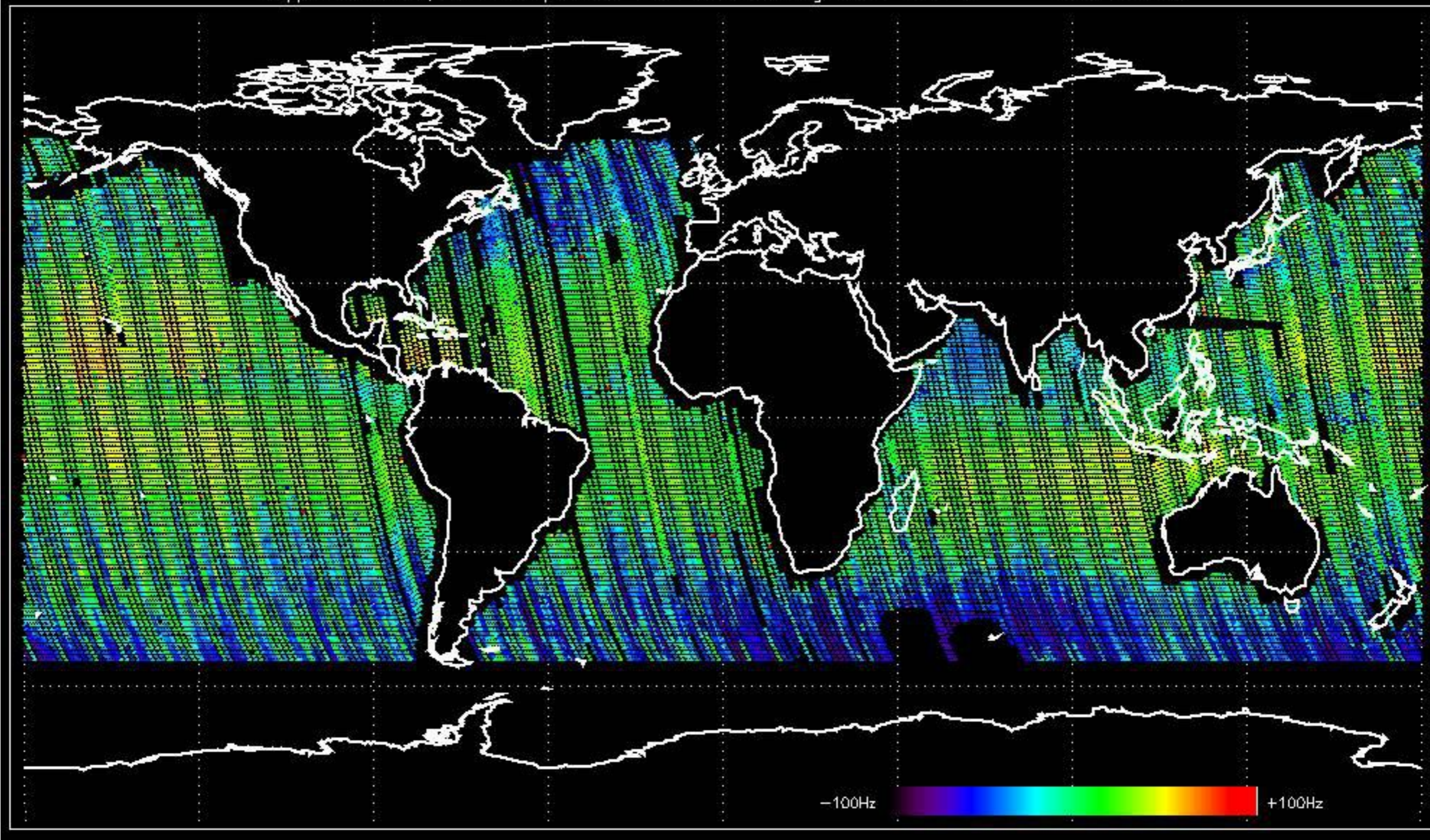
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -18.203420 Hz



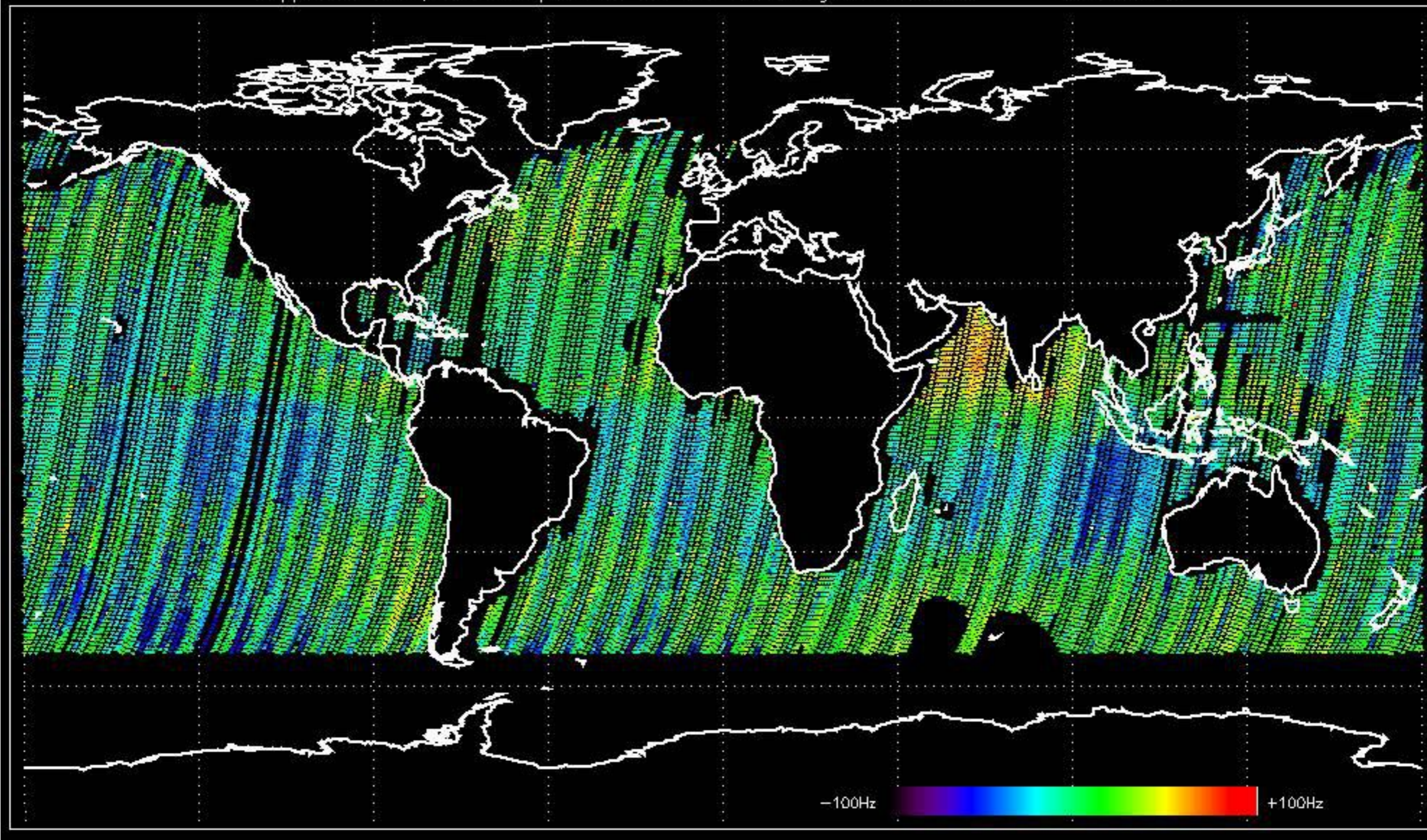
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -7.2252565 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -2.4732341 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -10.227449 Hz



No anomalies observed on available MS products:

No anomalies observed.





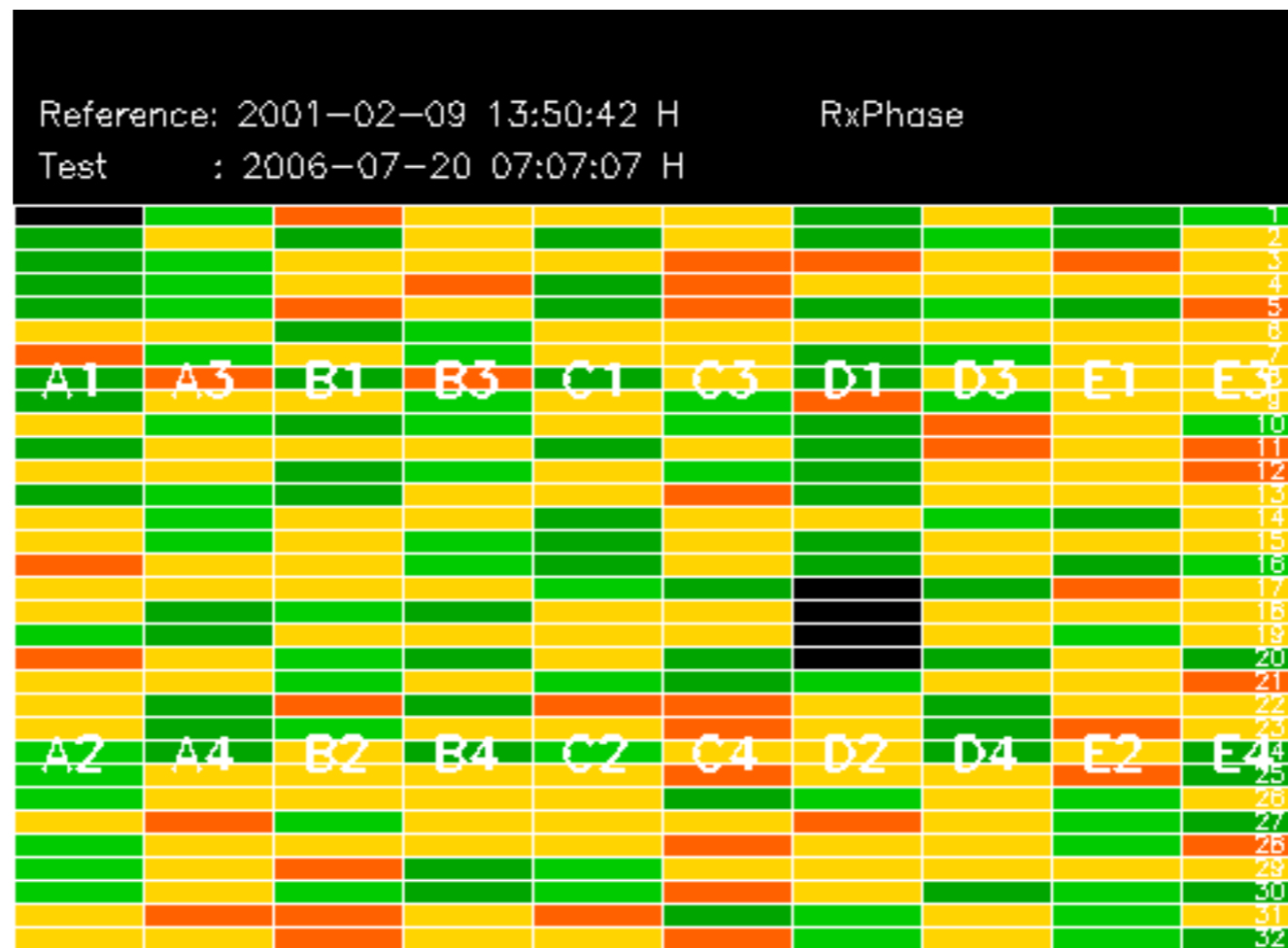














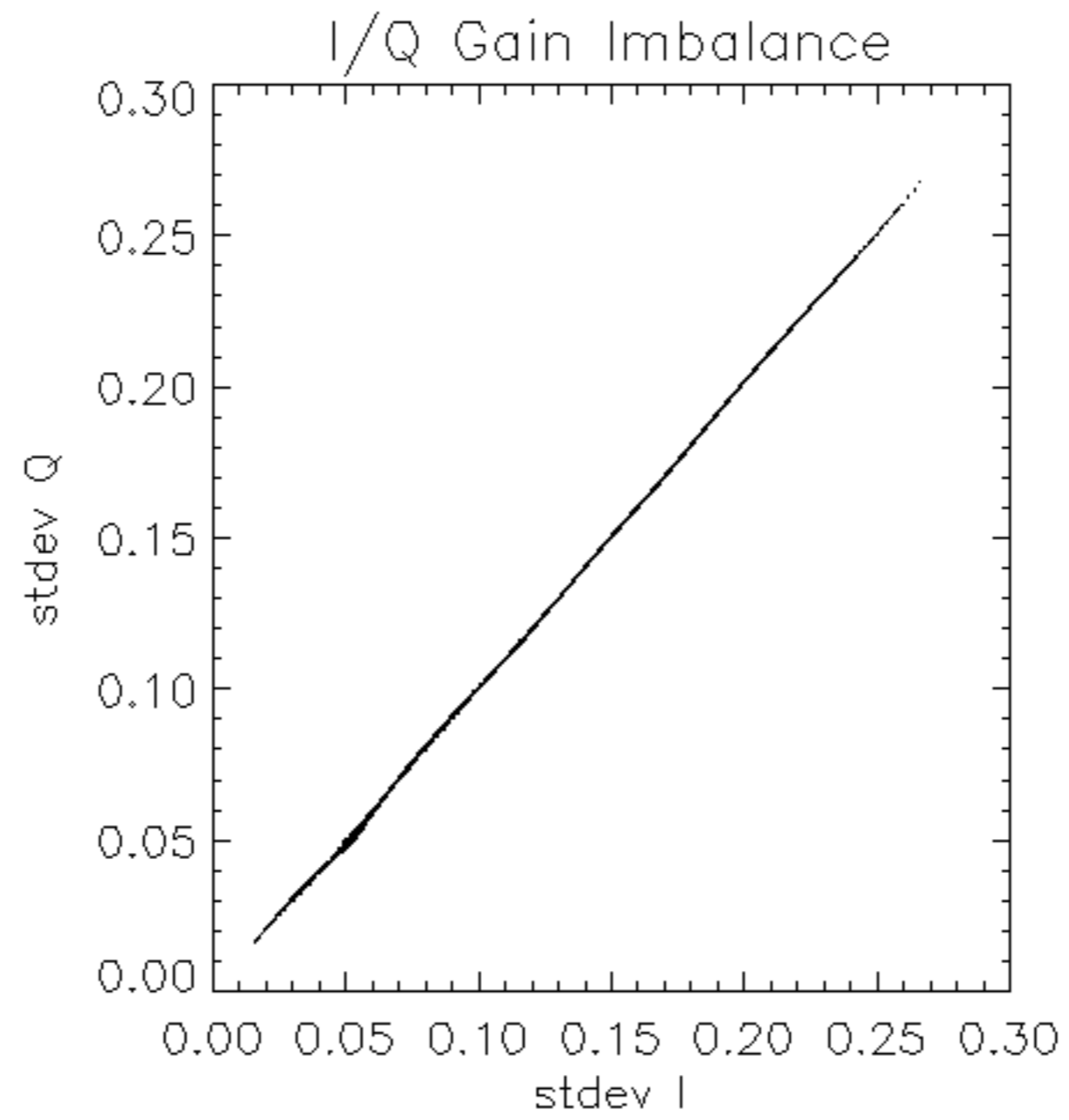


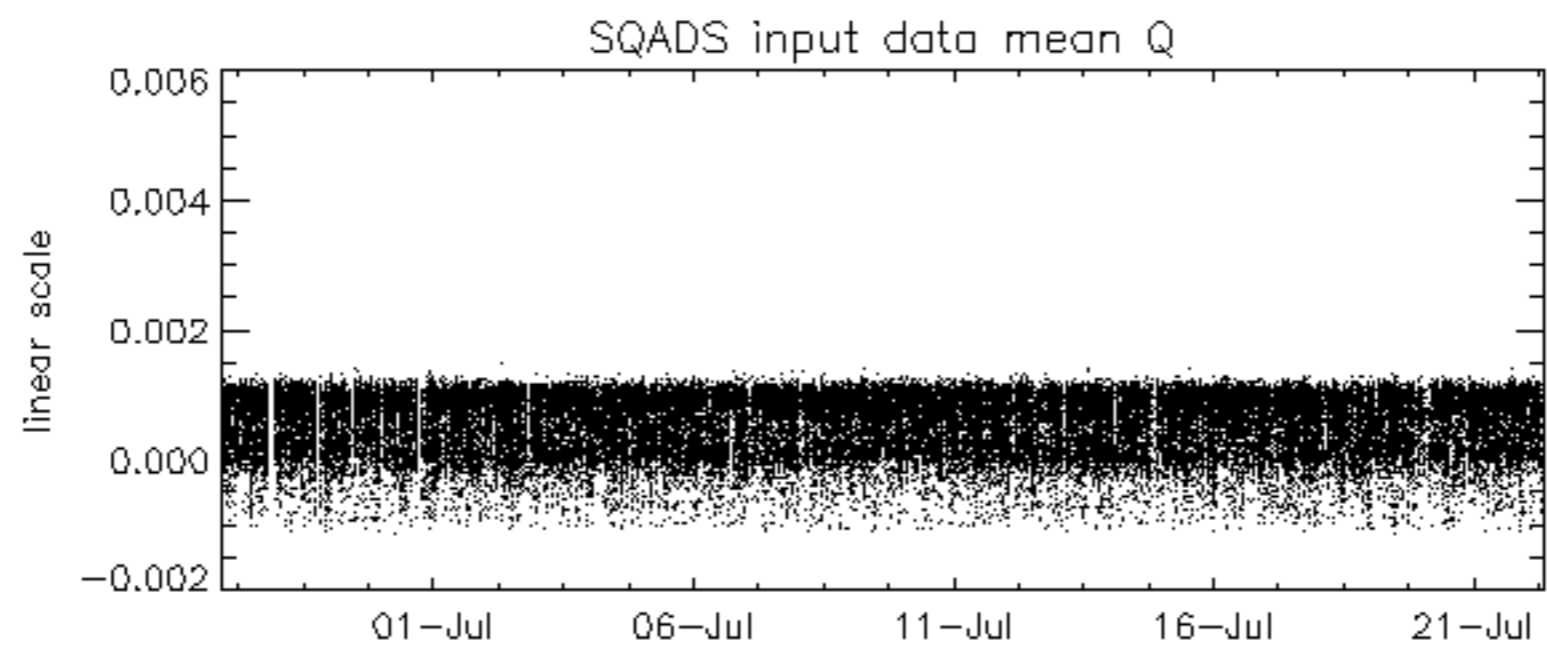
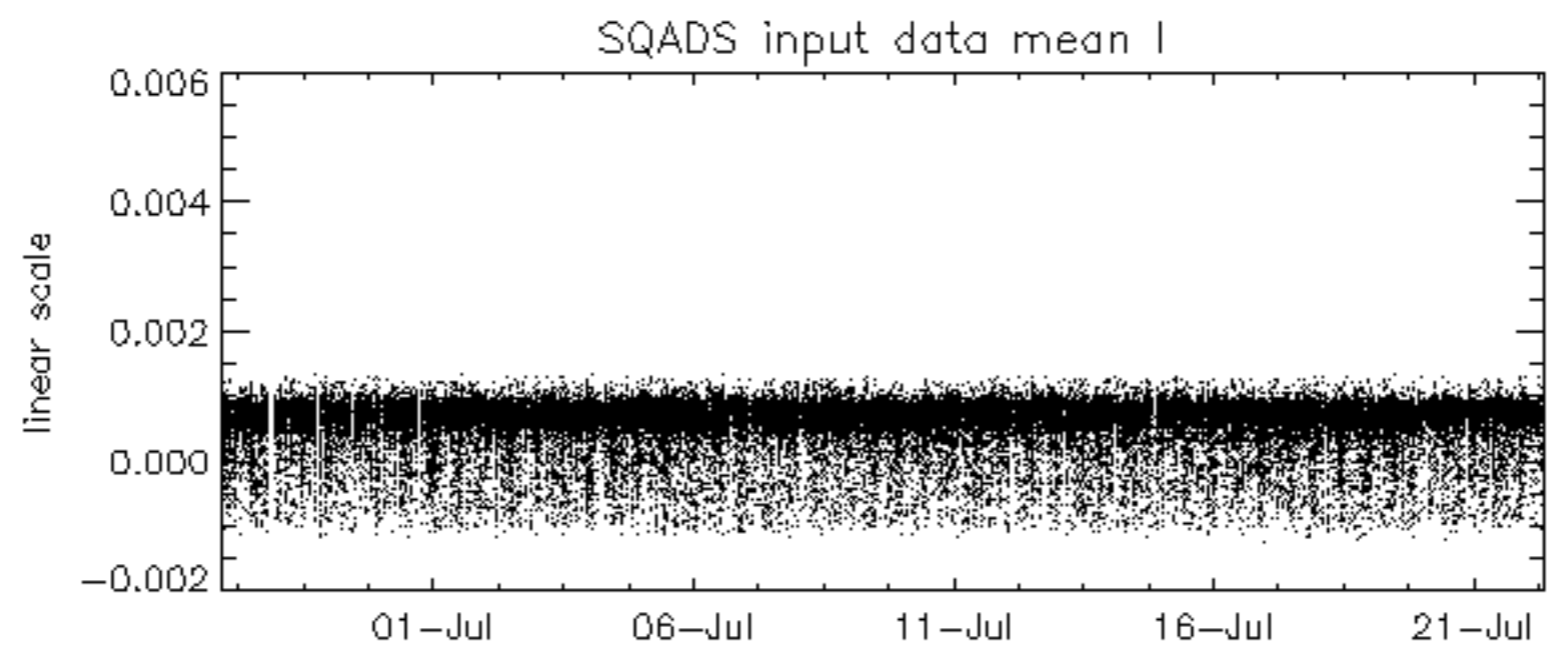
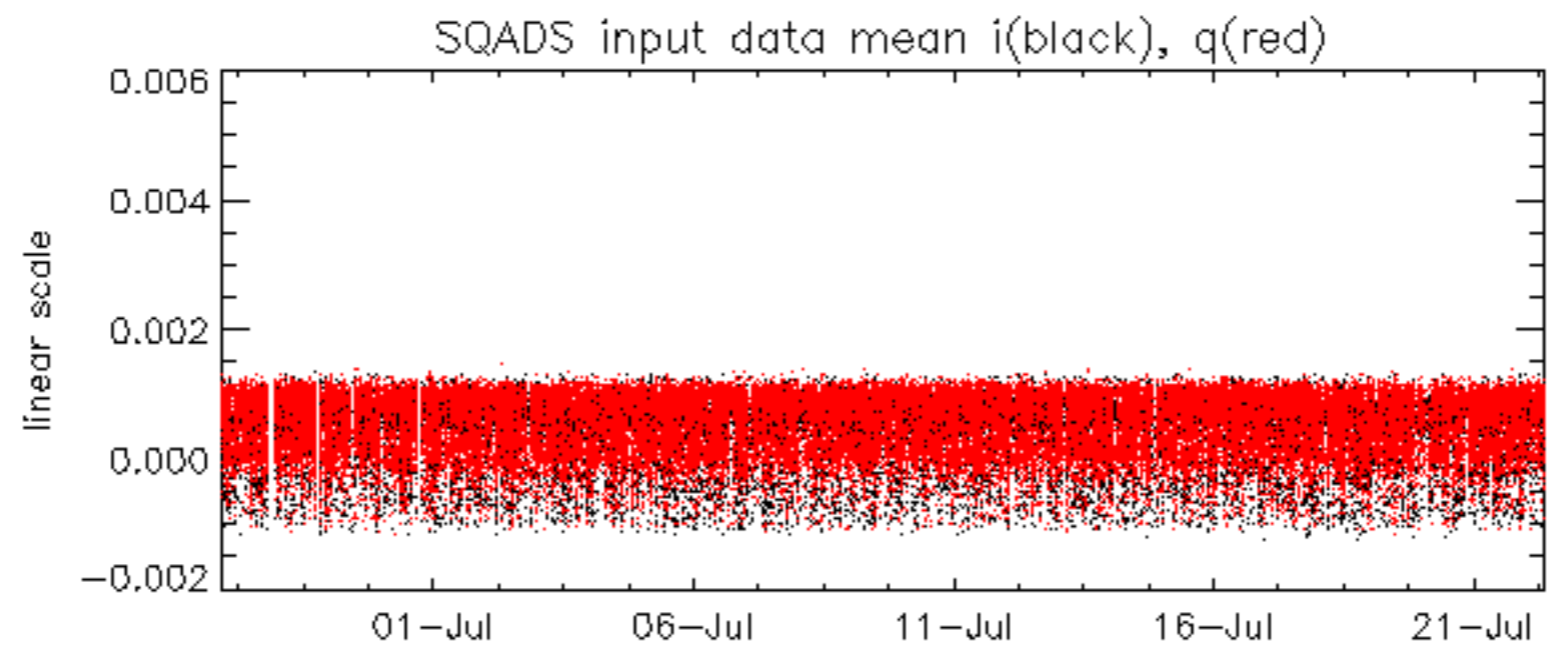


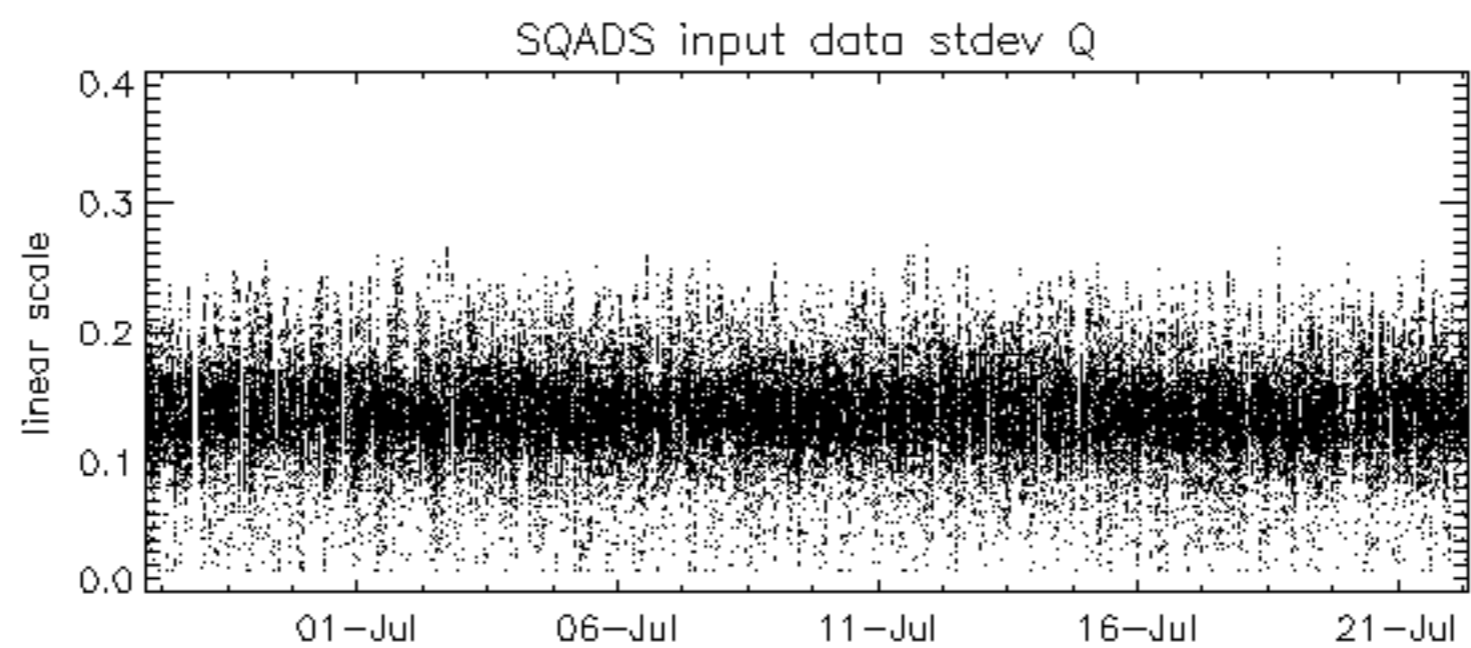
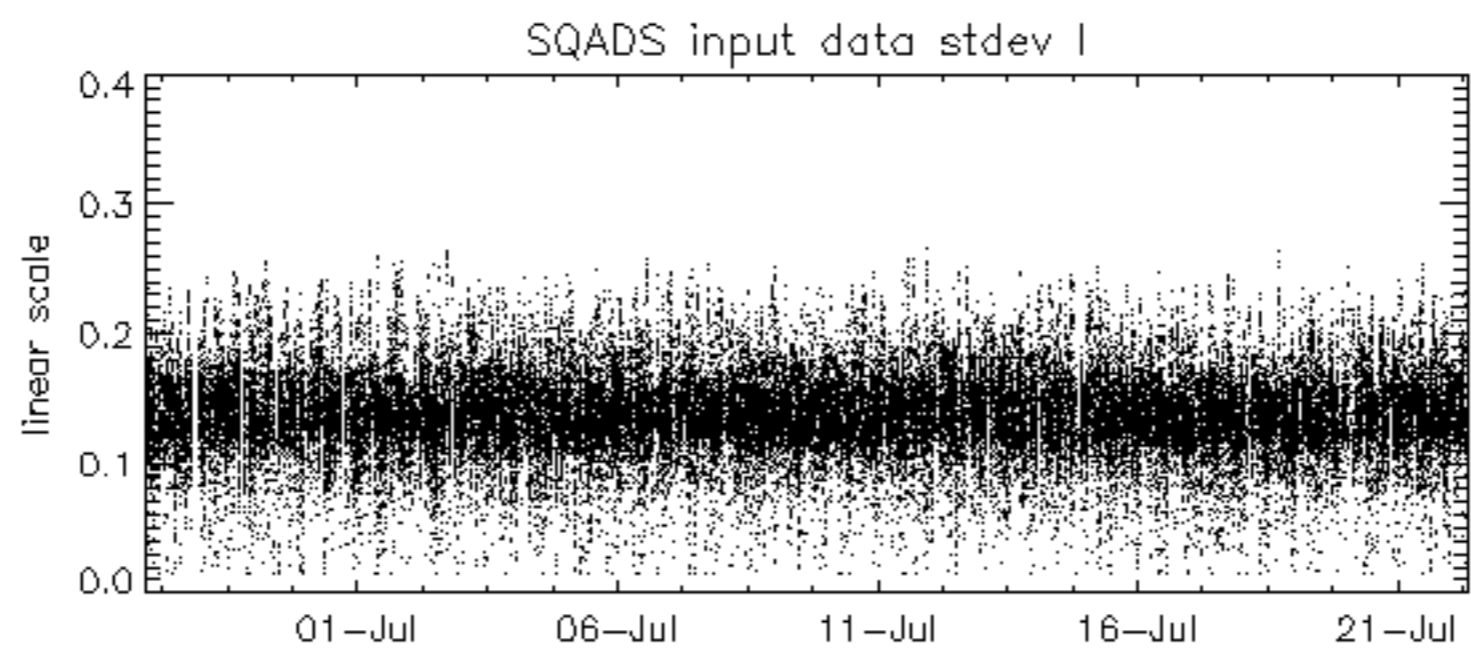
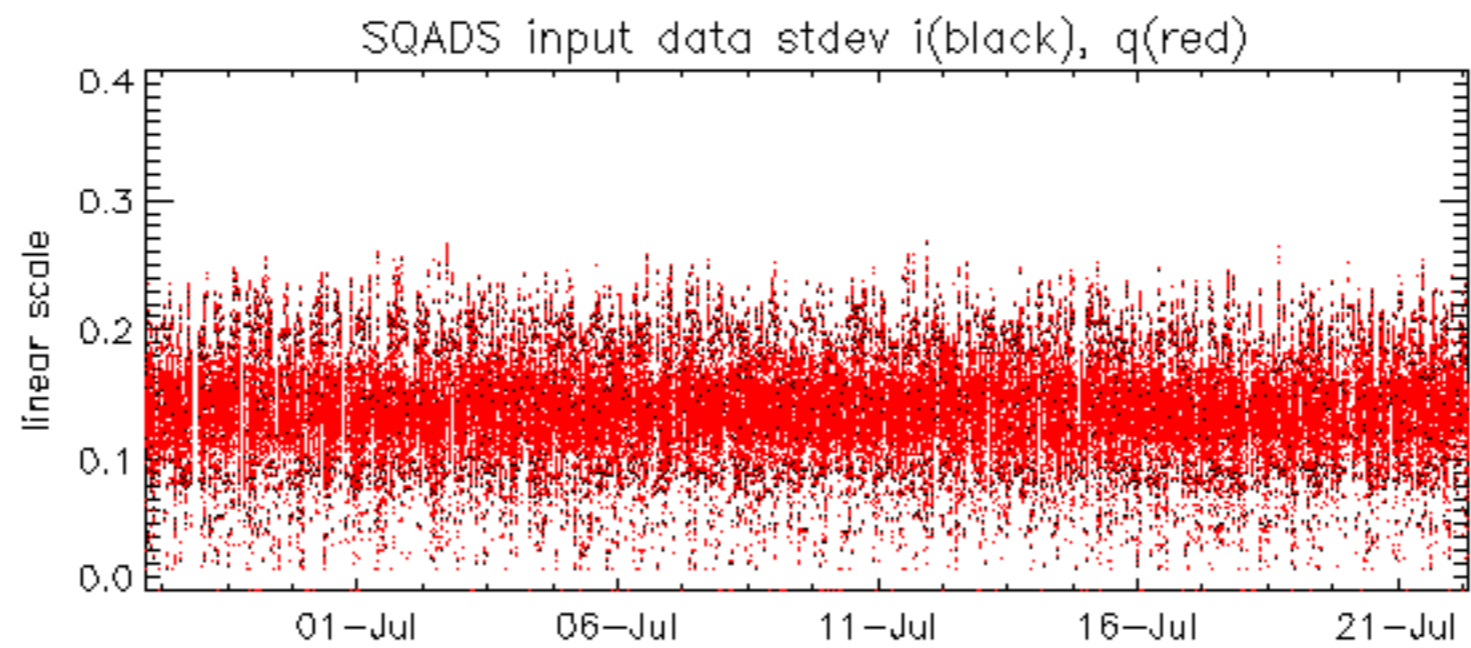






















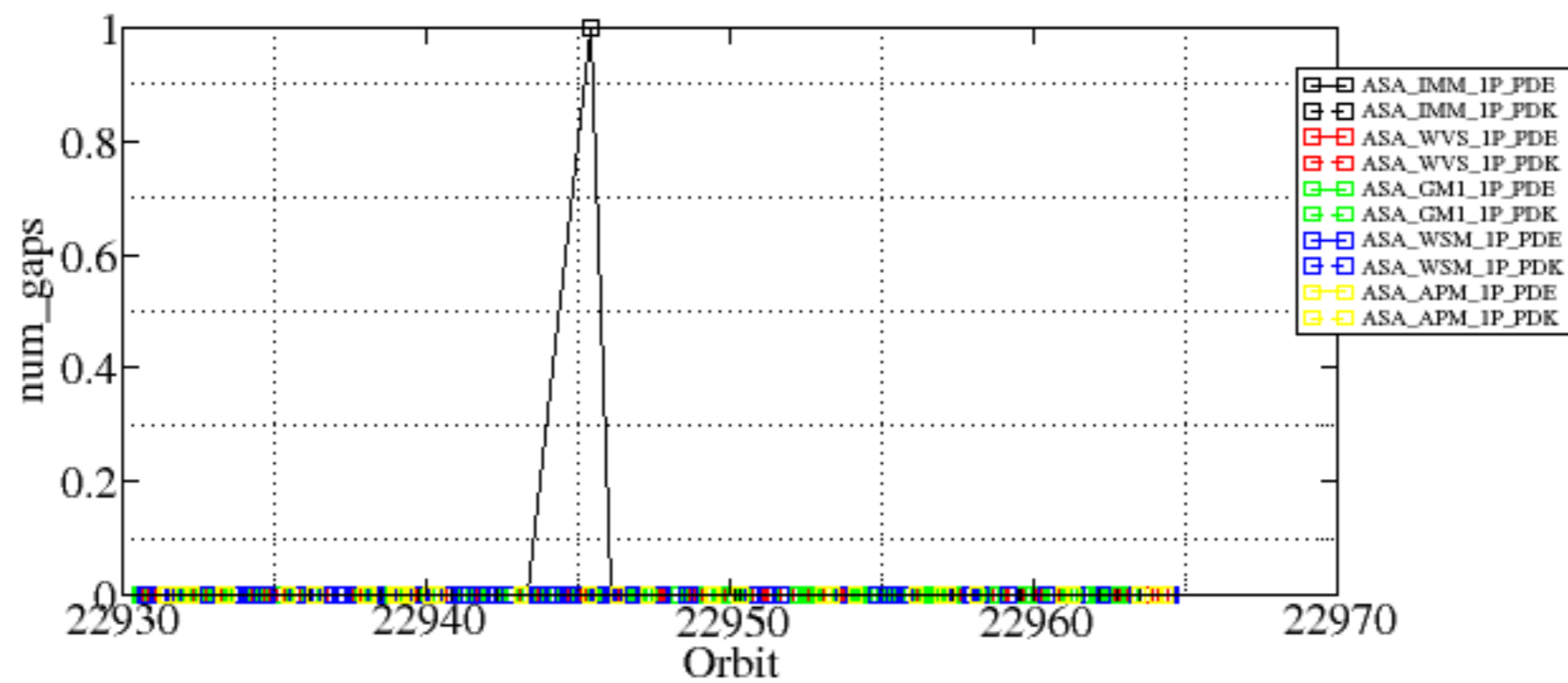




Summary of analysis for the last 3 days 2006072[012]

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_IMM_1PNPDE20060720_200916_000000372049_00343_22942_1445.N1	0	28
ASA_IMM_1PNPDE20060721_010621_000000822049_00346_22945_1459.N1	1	0
ASA_GM1_1PNPDK20060721_072534_0000007552049_00350_22949_1372.N1	0	163
ASA_WSM_1PNPDE20060720_142714_000000852049_00340_22939_3788.N1	0	60
ASA_WSM_1PNPDE20060720_233449_0000003302049_00345_22944_3858.N1	0	34









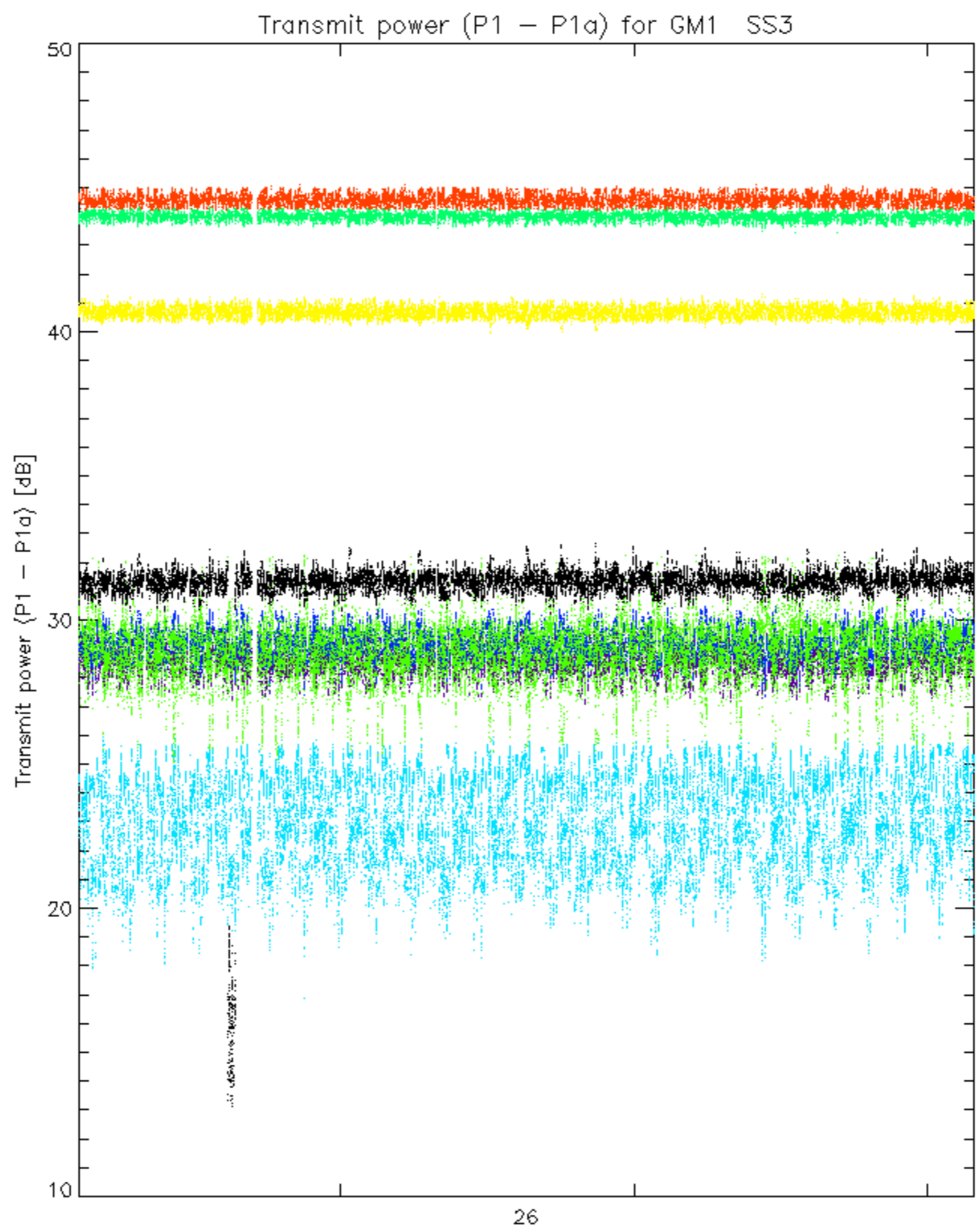


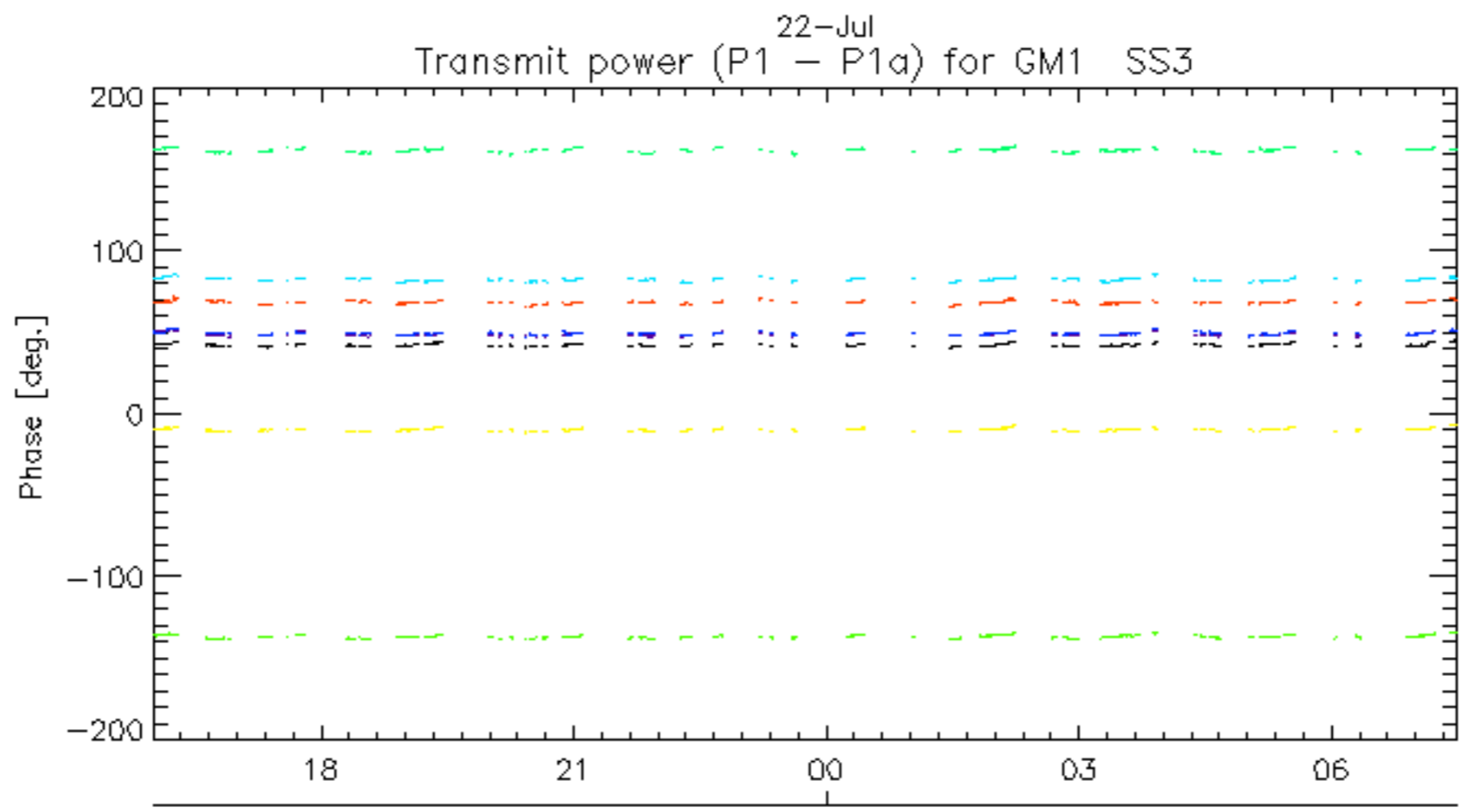
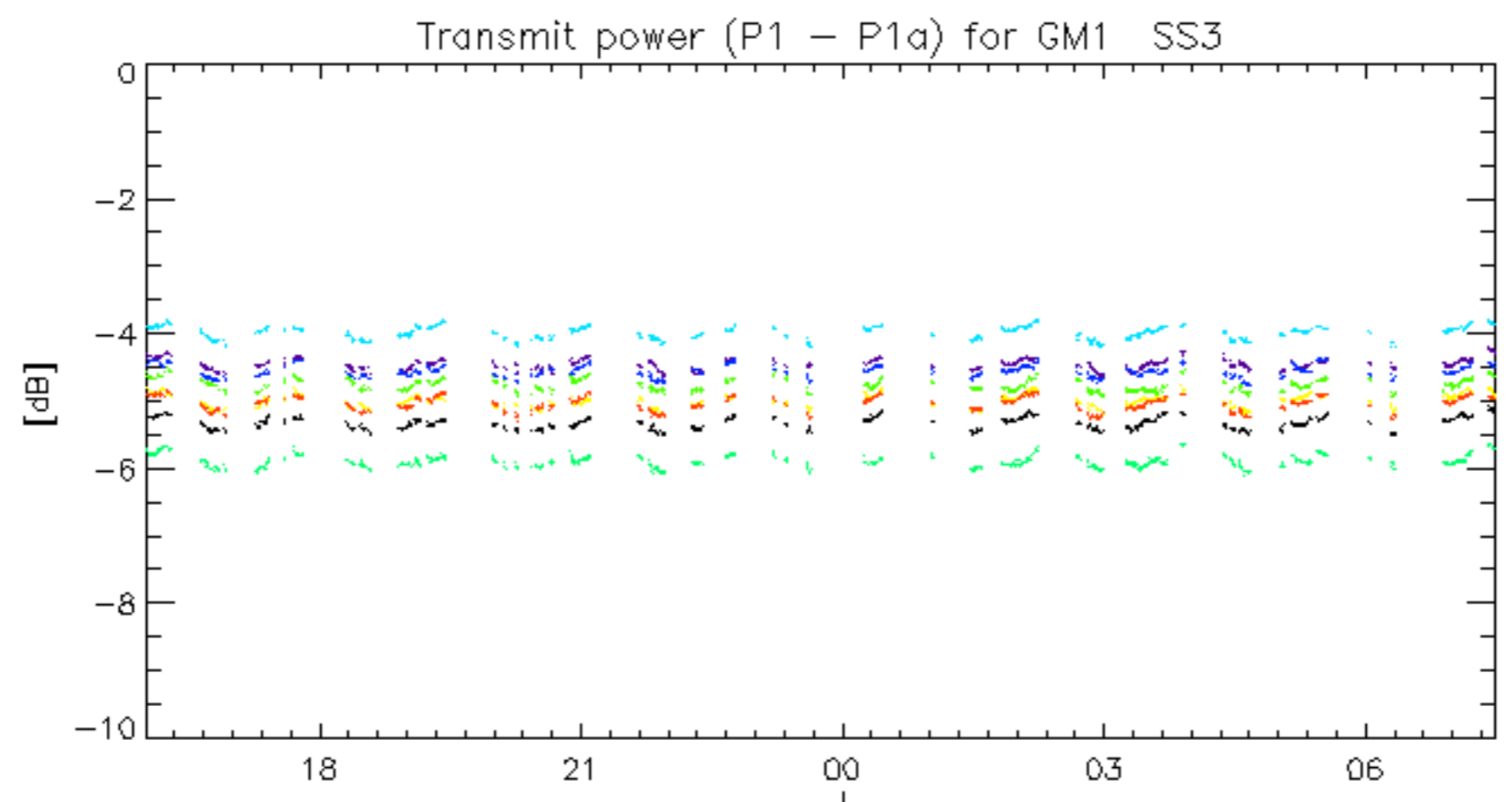






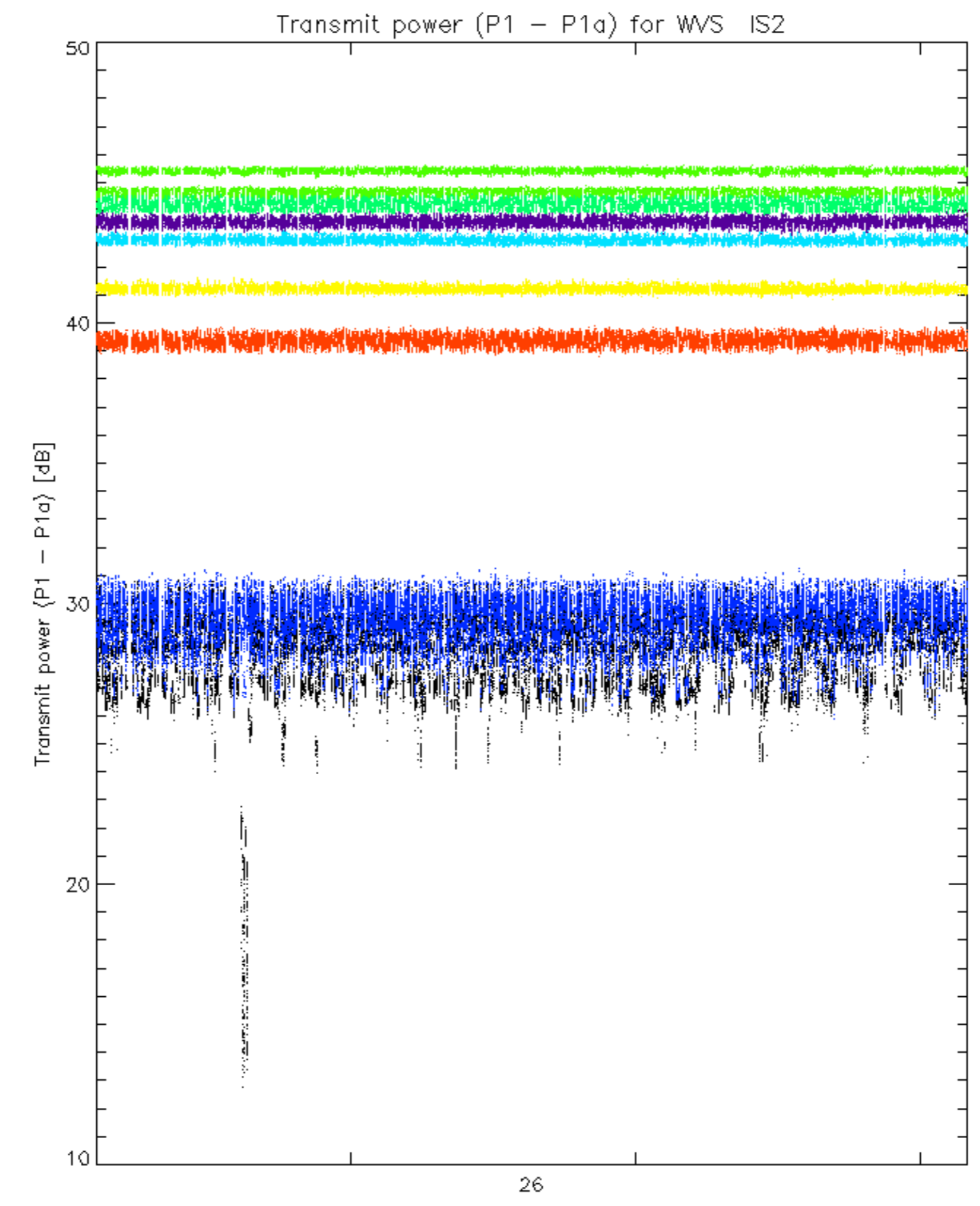




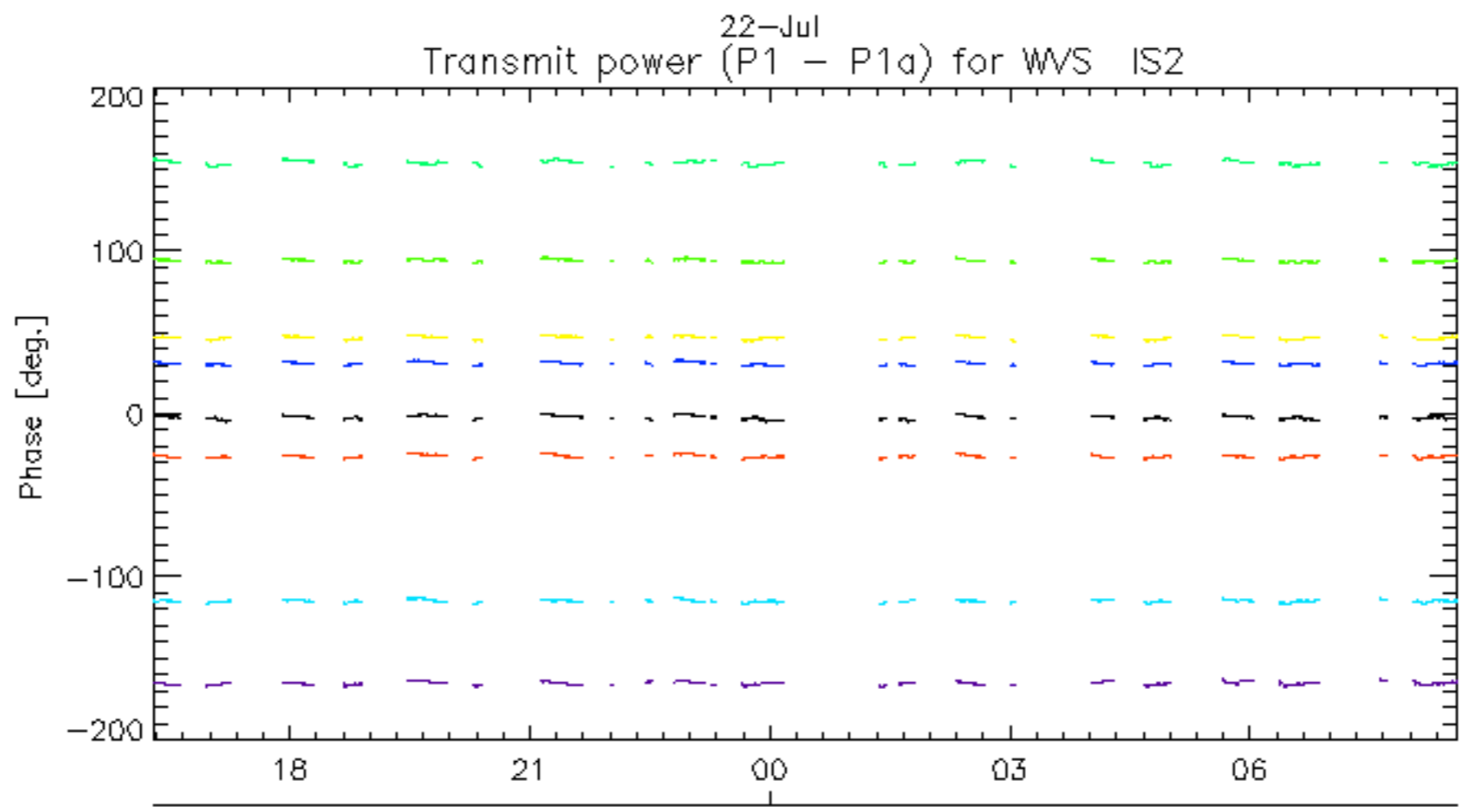
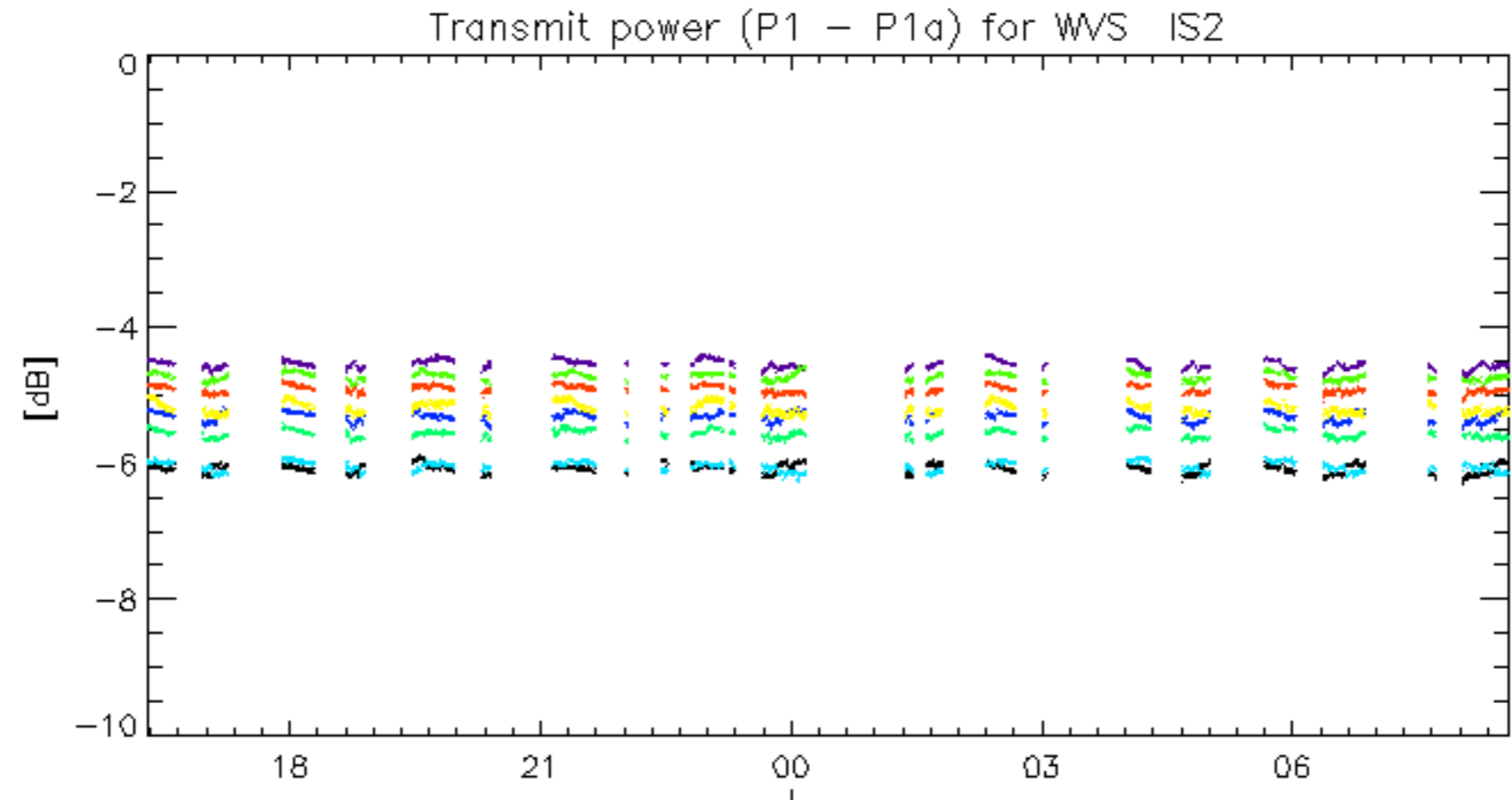


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30





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



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

No unavailabilities during the reported period.