

# PRELIMINARY REPORT OF 060714

last update on Fri Jul 14 16:21:17 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 2006-07-13 00:00:00 to 2006-07-14 16:21:17

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	38	72	12	5	0
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	38	72	12	5	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	38	72	12	5	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	38	72	12	5	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	34	61	24	15	71
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	34	61	24	15	71
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	34	61	24	15	71
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	34	61	24	15	71

### 2.3 - Browse Visual Inspection

No anomalies observed on available browse products

### 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	20060712 043739
H	20060713 040602

### 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
☒	☒
☒	☒
☒	☒
☒	☒

## 4 - Internal calibration Results

No anomalies observed.

### 4.1 - Daily statistics

#### 4.1.1 - Evolution for WVS

Evolution of cal pulses for WVS
☒
☒

#### 4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1
☒
☒

### 4.2 - Cyclic statistics

#### 4.2.1 - Evolution for WVS

Evolution of cal pulses for WVS
---------------------------------

**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	-3.928893	0.013252	-0.012839
7	P1	-3.103418	0.009856	-0.027210
11	P1	-4.086431	0.013492	-0.001089
15	P1	-6.174435	0.011671	-0.042968
19	P1	-3.391565	0.009400	-0.049801
22	P1	-4.541624	0.010229	0.006396
26	P1	-3.934098	0.019819	0.027675
30	P1	-5.763523	0.007956	-0.026011
3	P1	-16.505583	0.367693	-0.068246
7	P1	-17.190945	0.099819	-0.114497
11	P1	-16.988987	0.277190	-0.148046
15	P1	-13.121265	0.157969	-0.038719
19	P1	-14.435600	0.048075	-0.164131
22	P1	-16.012241	0.417489	0.109639
26	P1	-15.135986	0.241036	0.109193
30	P1	-17.093887	0.341221	-0.075610

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.000370	0.087719	0.132650
7	P2	-21.927973	0.105126	0.097497
11	P2	-15.804832	0.122135	0.052324
15	P2	-7.134394	0.102219	0.009309
19	P2	-9.137105	0.090980	-0.026723
22	P2	-18.151041	0.085835	-0.019869
26	P2	-16.398010	0.093759	-0.050919
30	P2	-19.529392	0.094294	0.033772

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.175157	0.002929	0.005019
7	P3	-8.175157	0.002929	0.005019
11	P3	-8.175157	0.002929	0.005019
15	P3	-8.175157	0.002929	0.005019
19	P3	-8.175157	0.002929	0.005019
22	P3	-8.175157	0.002929	0.005019
26	P3	-8.175157	0.002929	0.005019
30	P3	-8.175157	0.002929	0.005019

**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	-3.794228	0.035288	-0.138751
7	P1	-2.564202	0.007914	0.000455
11	P1	-2.861428	0.014658	0.006636
15	P1	-3.564143	0.028786	-0.066988
19	P1	-3.416288	0.013532	-0.016115
22	P1	-5.094396	0.020418	0.013120
26	P1	-5.856198	0.015906	0.004228
30	P1	-5.192956	0.026408	-0.045659
3	P1	-11.576558	0.111425	-0.216257
7	P1	-9.976922	0.033891	-0.008747
11	P1	-10.248379	0.059189	0.020017
15	P1	-10.757564	0.141436	-0.060242
19	P1	-15.527935	0.074924	-0.026125
22	P1	-20.922123	1.218915	-0.178969

26	P1	-16.340923	0.378067	0.062051
30	P1	-17.882128	0.408819	-0.039532

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.656862	0.071523	0.168547
7	P2	-22.423300	0.129758	0.084401
11	P2	-11.063986	0.042804	0.080450
15	P2	-4.918468	0.046638	0.020633
19	P2	-6.880732	0.042568	0.006653
22	P2	-8.199512	0.037921	0.028777
26	P2	-24.191036	0.064297	-0.022299
30	P2	-22.023314	0.050237	0.040792

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.015931	0.003738	0.009000
7	P3	-8.015882	0.003738	0.010725
11	P3	-8.015754	0.003755	0.009754
15	P3	-8.015841	0.003741	0.010605
19	P3	-8.015879	0.003741	0.010304
22	P3	-8.015891	0.003742	0.009917
26	P3	-8.015814	0.003741	0.010437
30	P3	-8.015850	0.003729	0.010809

## 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	0.000569725
	stdev	1.63797e-07
MEAN Q	mean	0.000544522
	stdev	2.11063e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.138385
	stdev	0.00108504
STDEV Q	mean	0.138745
	stdev	0.00110323



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006071[234]

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_1PNPDE20060714_004241_000001742049_00245_22844_0772.N1	1	0
ASA_IMM_1PNPDE20060714_005914_000000452049_00246_22845_0771.N1	1	0
ASA_WSM_1PNPDE20060712_005610_000000852049_00217_22816_2627.N1	0	33
ASA_WSM_1PNPDE20060712_015512_000000852049_00218_22817_2628.N1	0	54
ASA_WSM_1PNPDE20060712_041730_000000672049_00219_22818_2642.N1	0	69

ASA_WSM_1PNPDE20060712_165619_000001592049_00227_22826_2716.N1	0	59
ASA_WSM_1PNPDE20060713_162646_000001032049_00241_22840_2889.N1	0	38
ASA_WSM_1PNPDE20060713_230852_000001032049_00245_22844_2962.N1	0	55
ASA_WSM_1PNPDE20060713_235456_000003302049_00245_22844_2976.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)

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

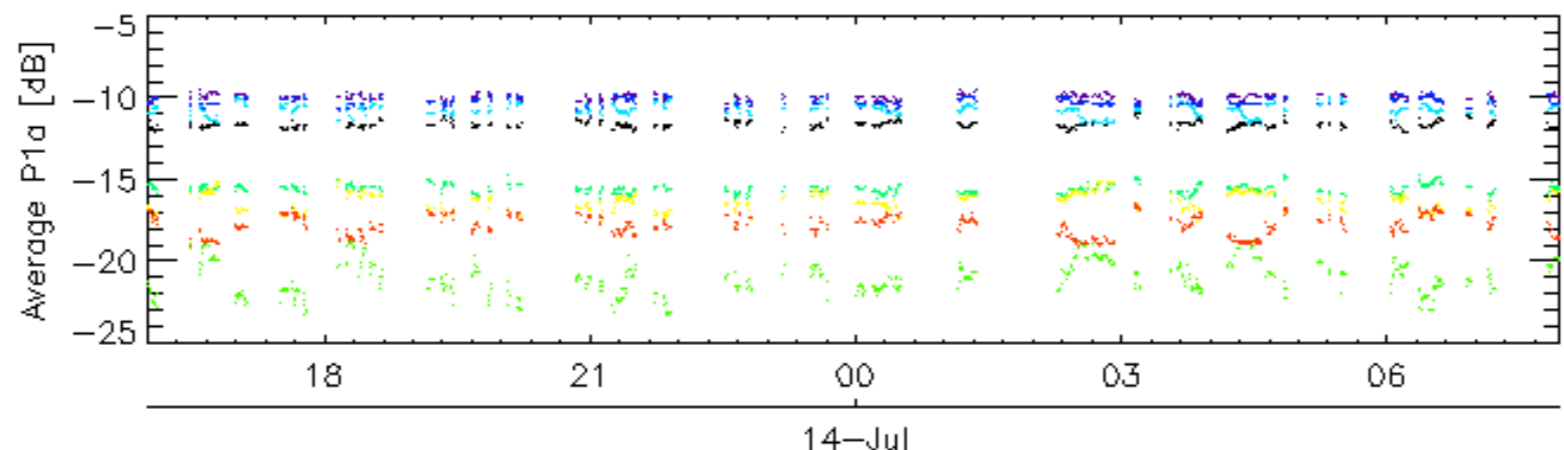
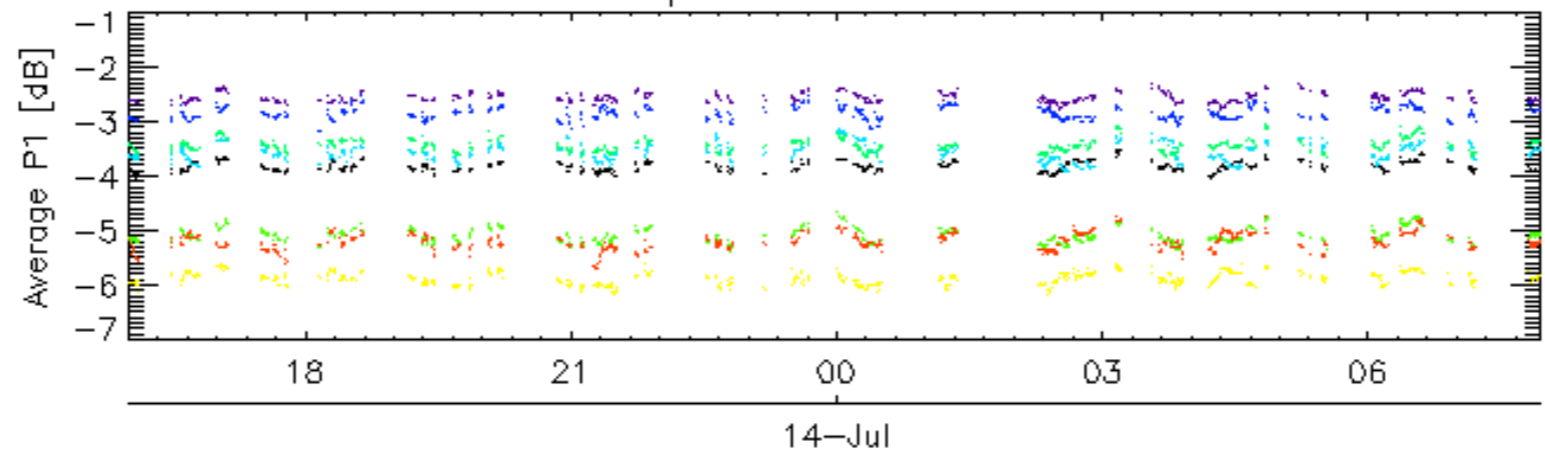
### 7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler
<input type="checkbox"/>
Acsending
<input type="checkbox"/>
Descending

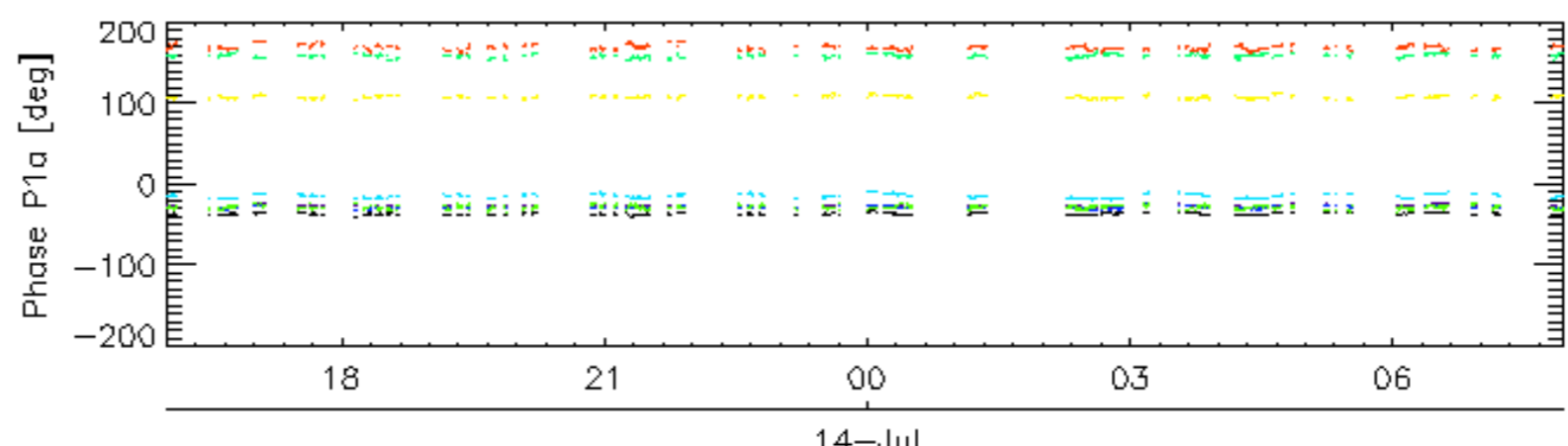
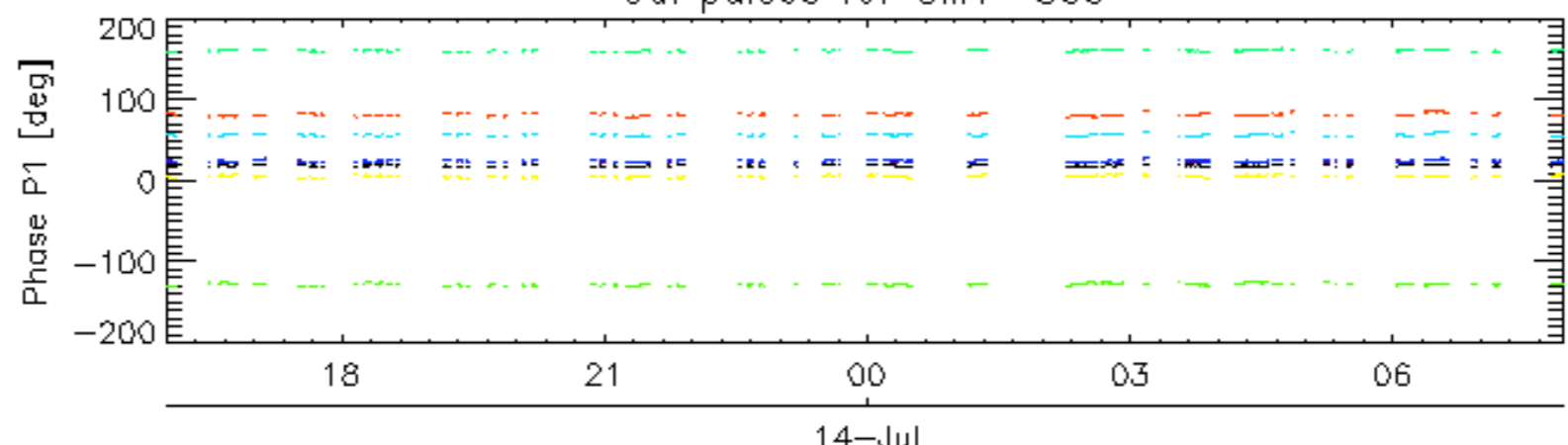
### 7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX
<input type="checkbox"/>

Cal pulses for GM1 SS3

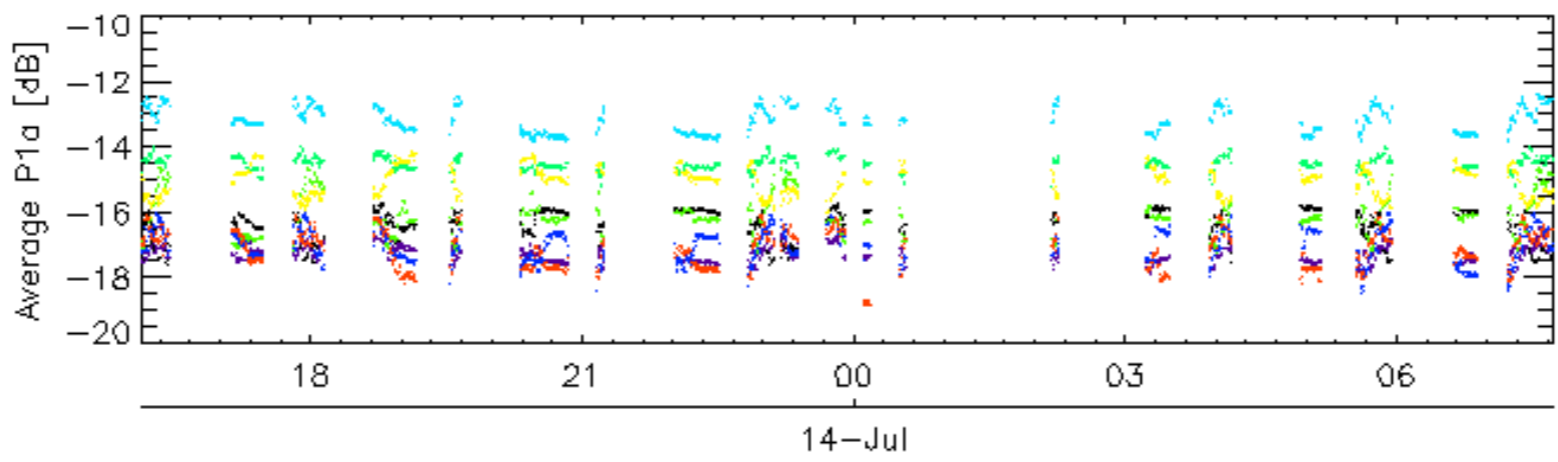
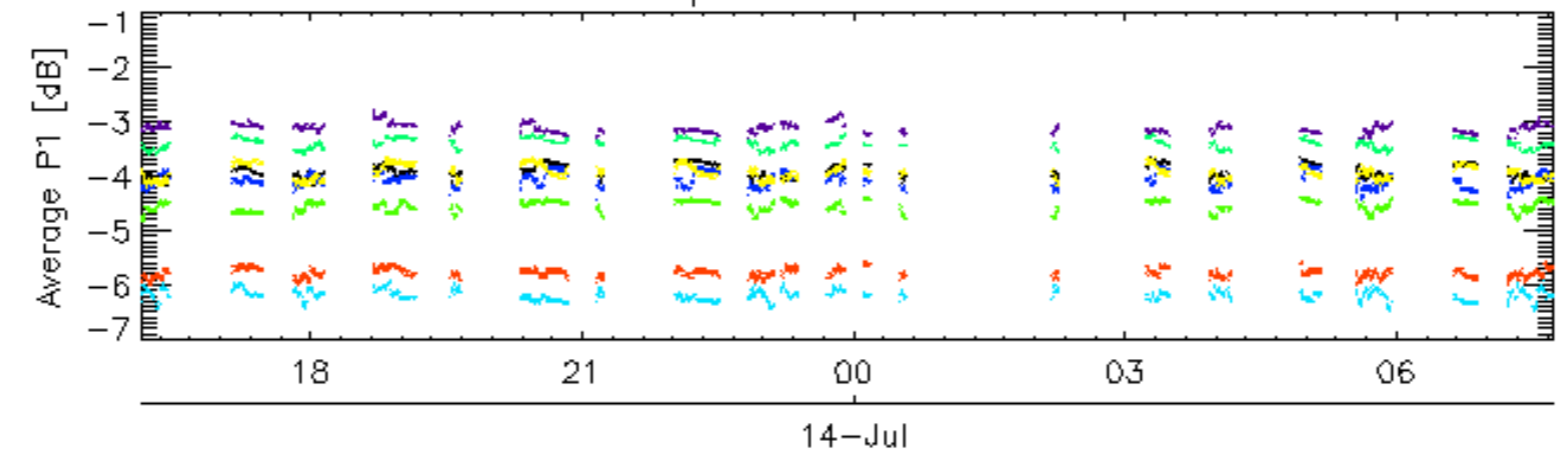


Cal pulses for GM1 SS3

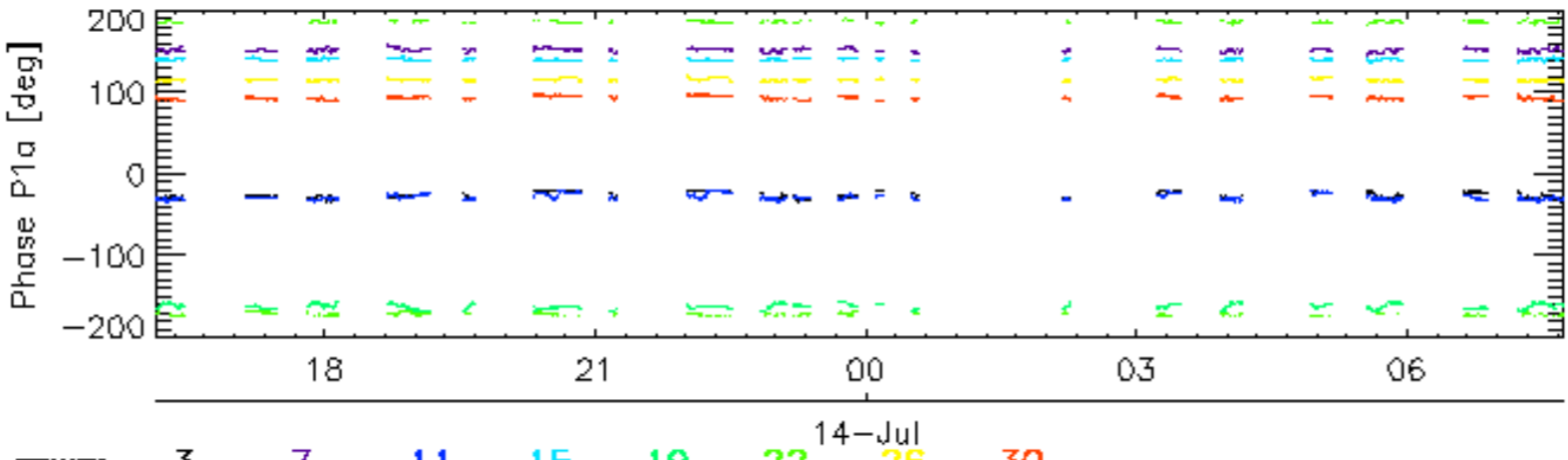
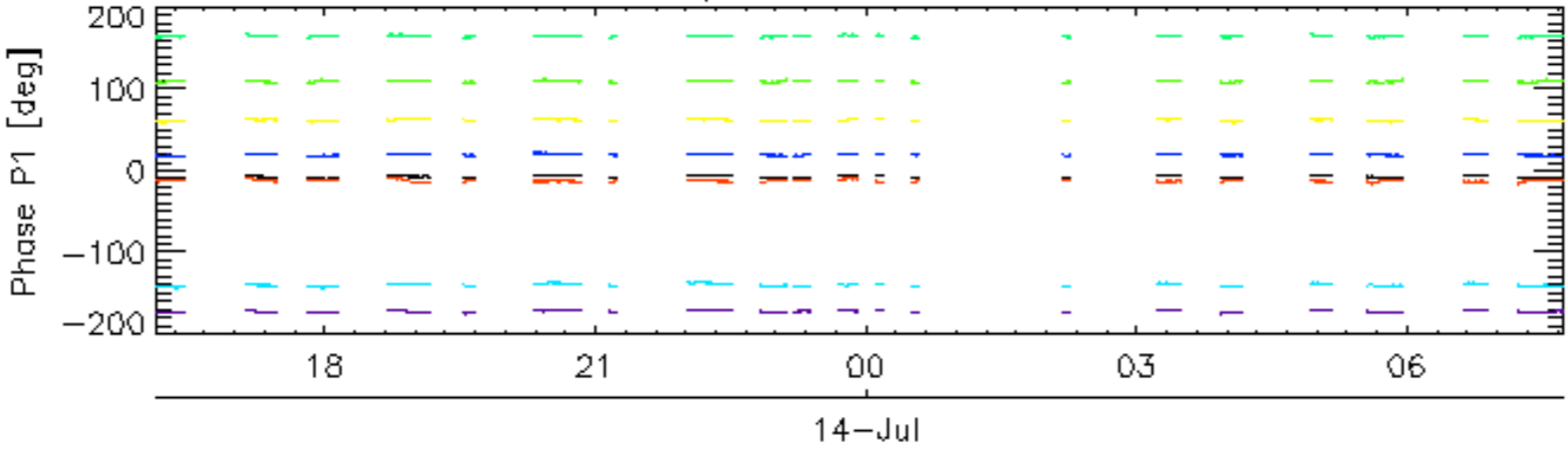


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

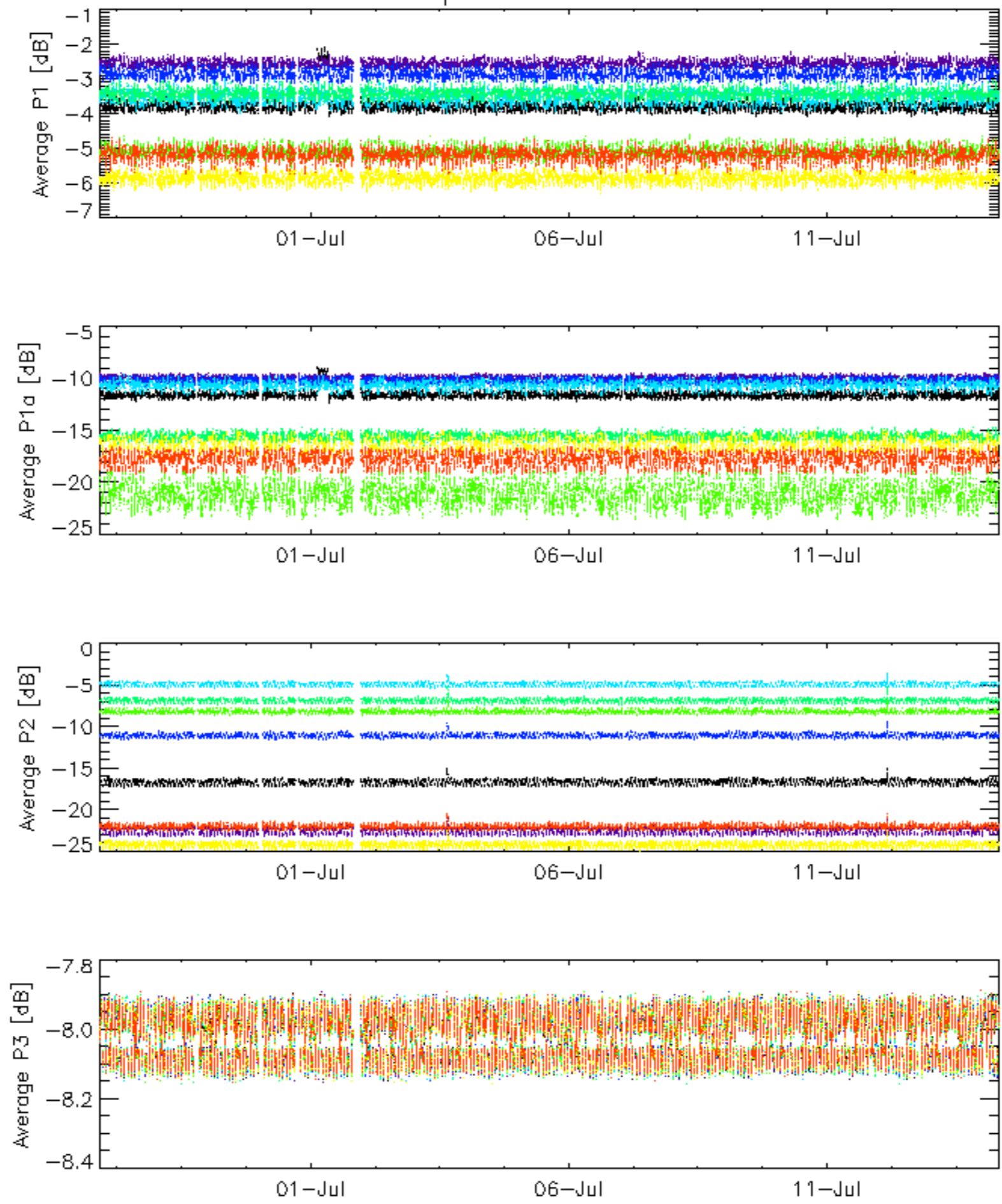


Cal pulses for WVS IS2



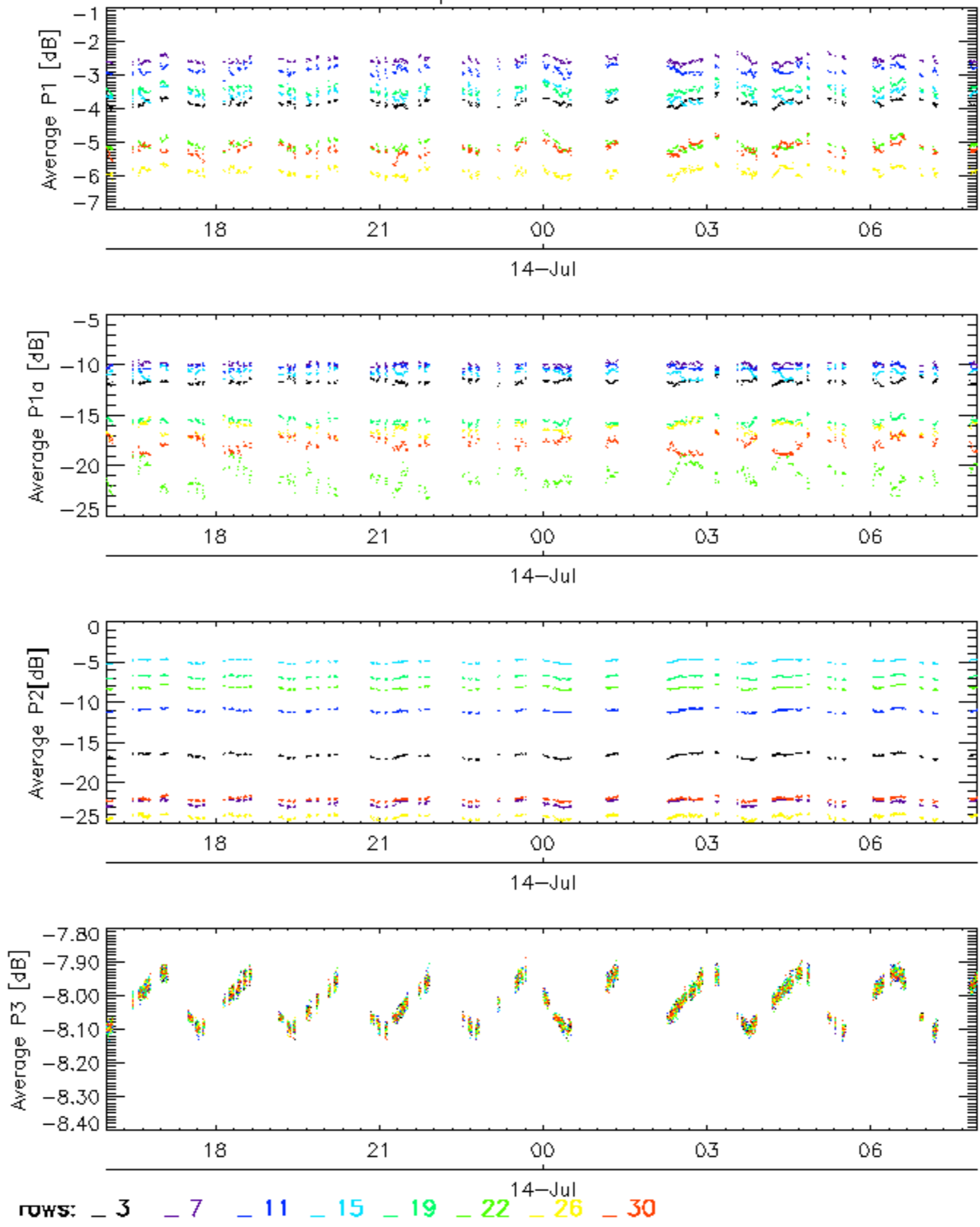
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

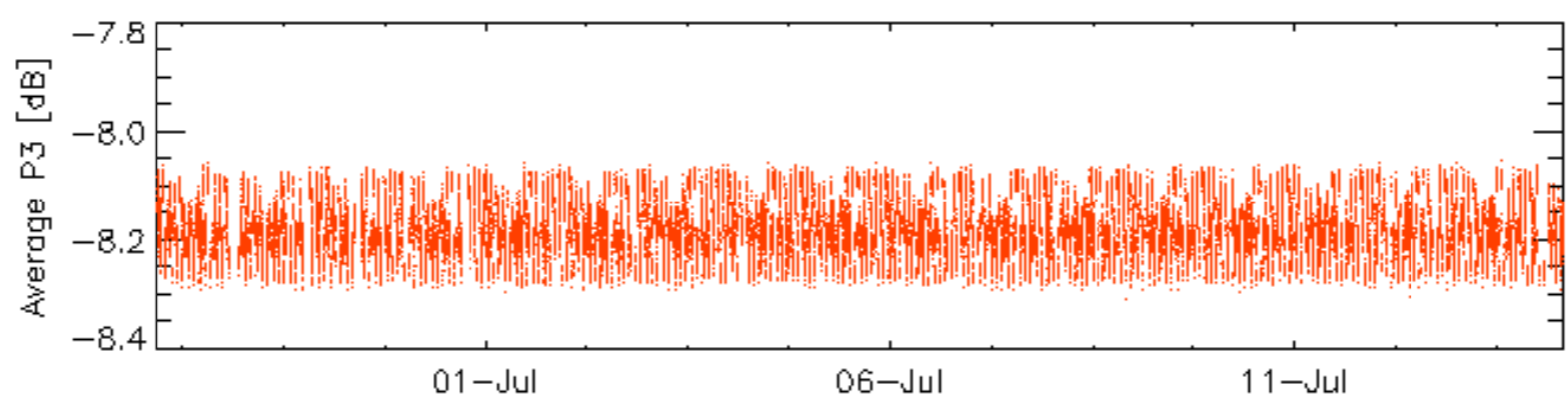
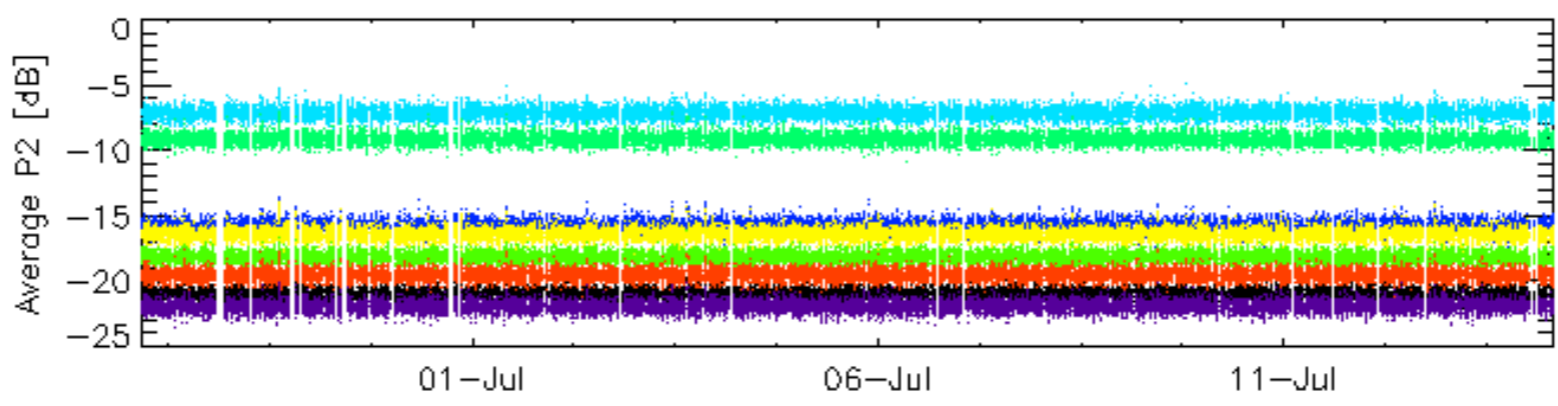
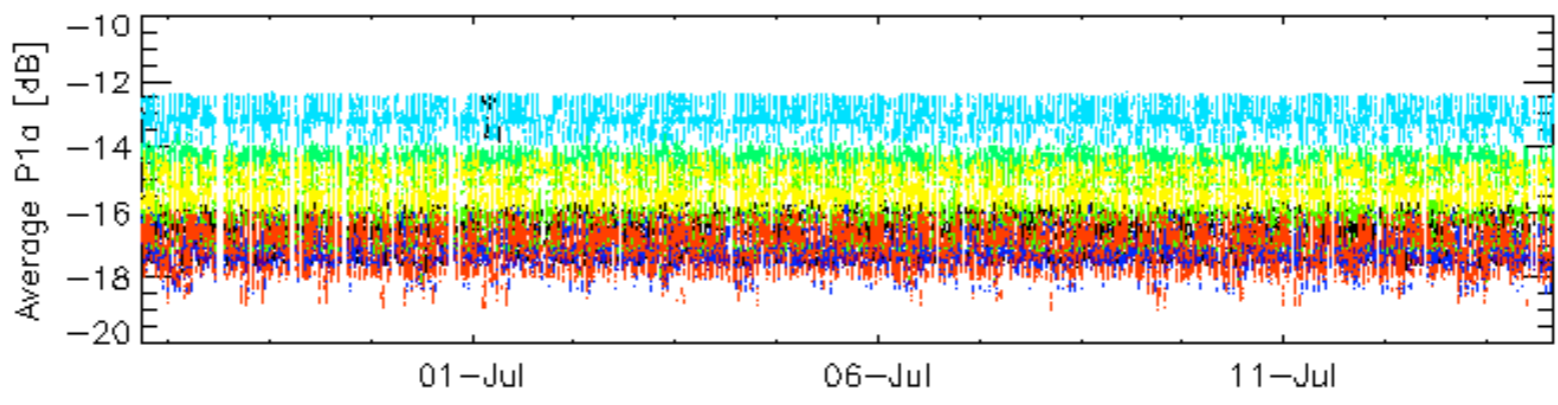
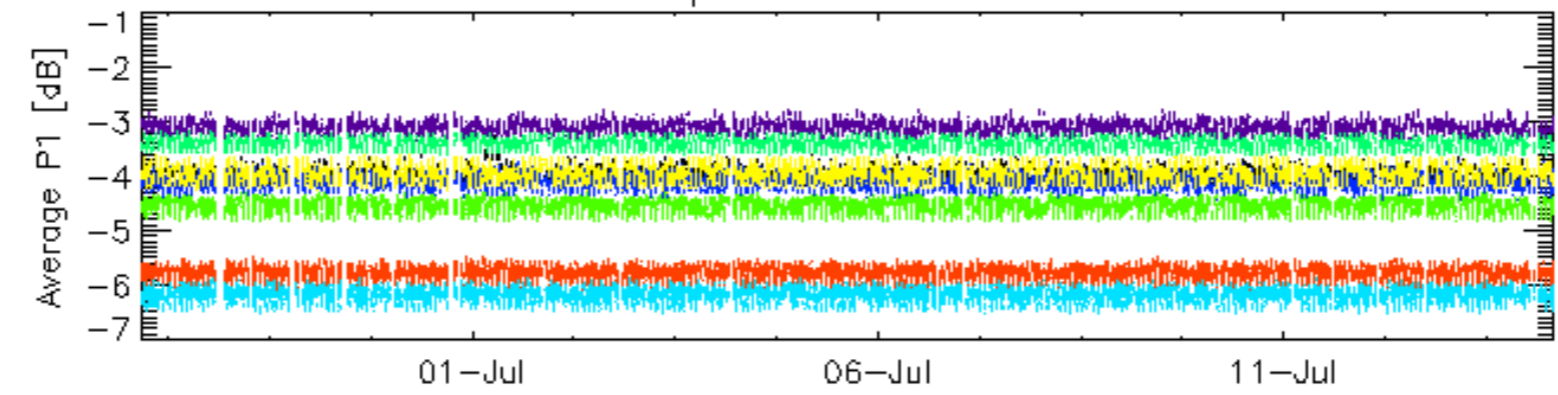


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

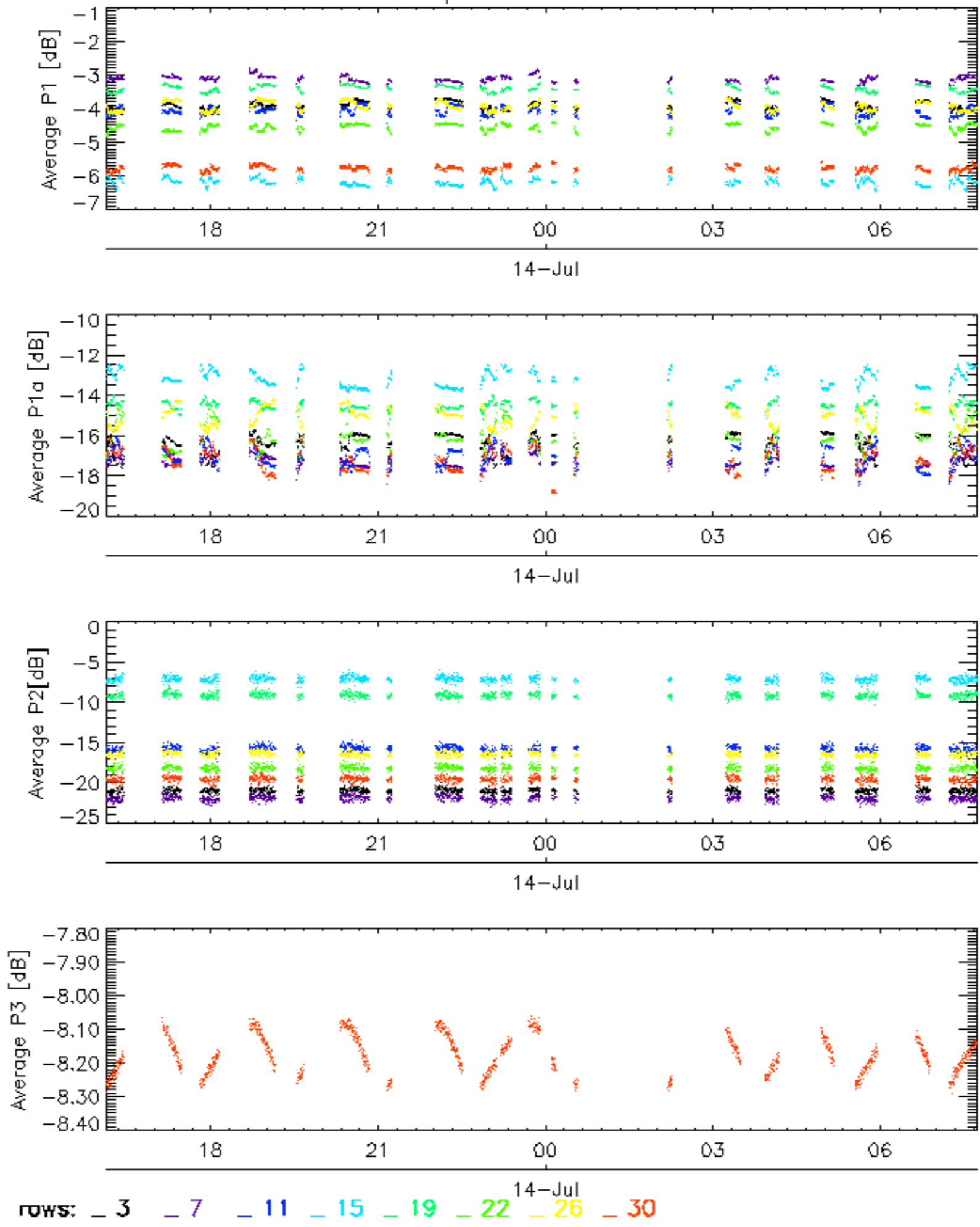


Cal pulses for WVS IS2



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

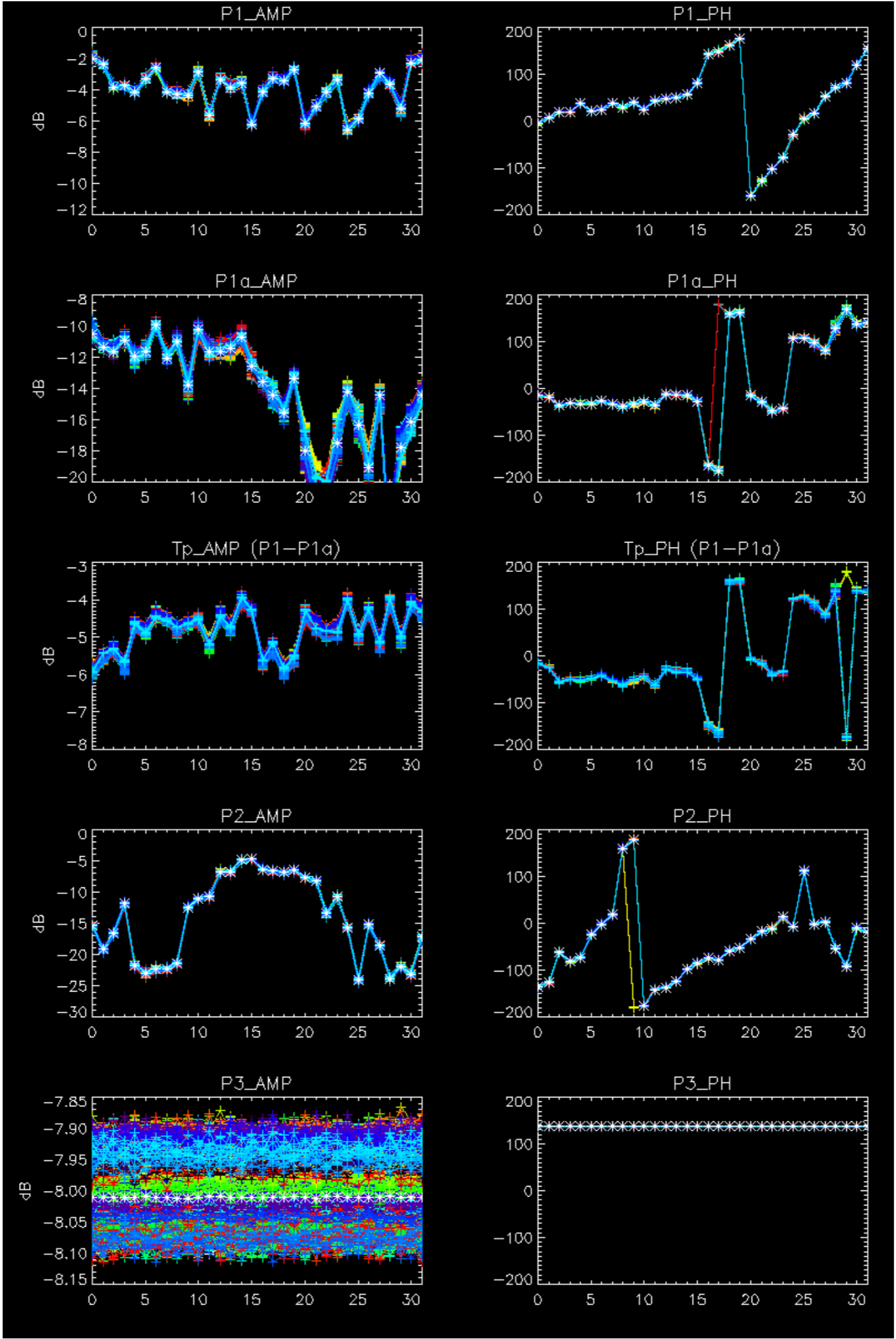
Cal pulses for WVS IS2

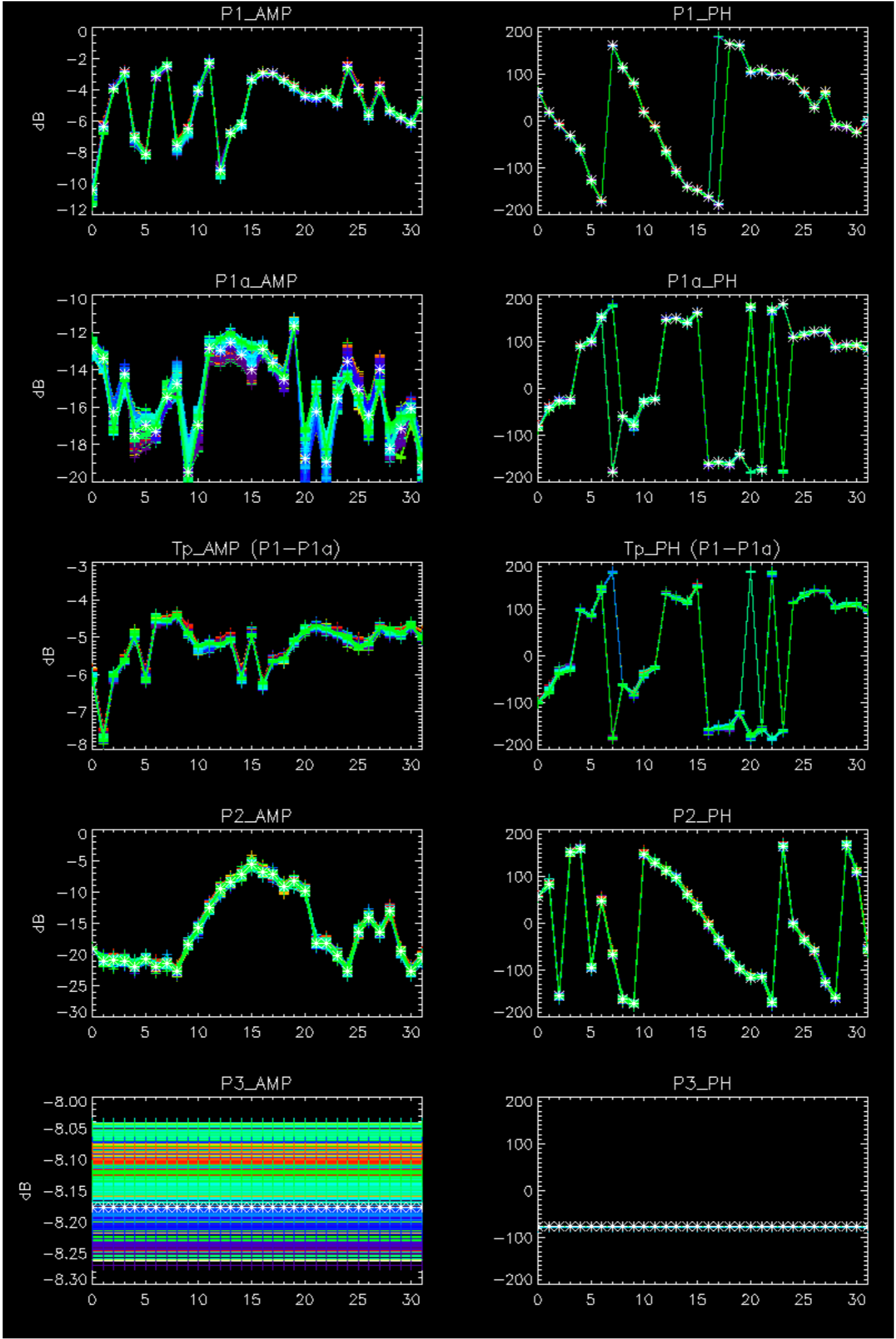


No anomalies observed on available browse products



No anomalies observed.

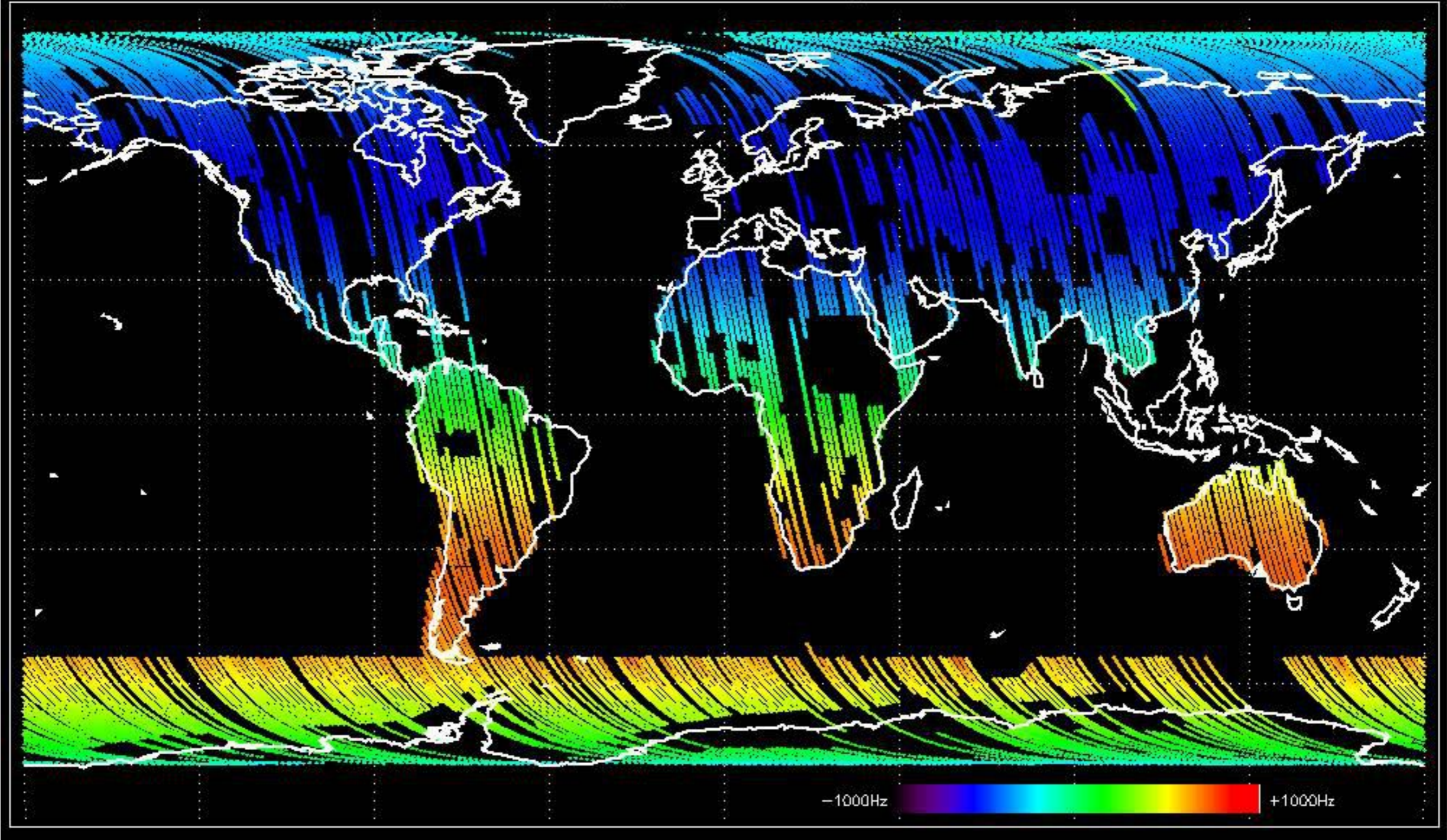




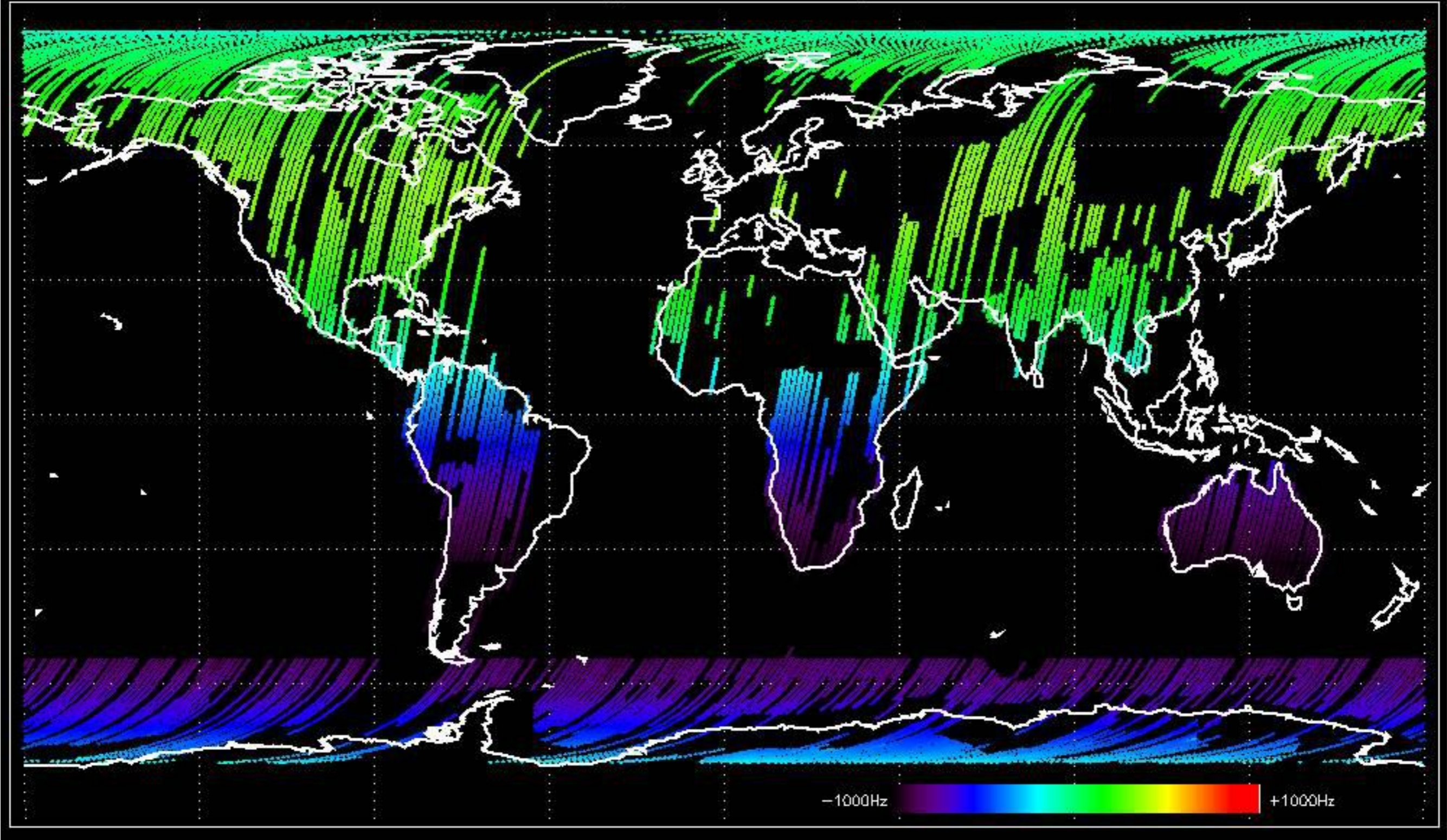
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



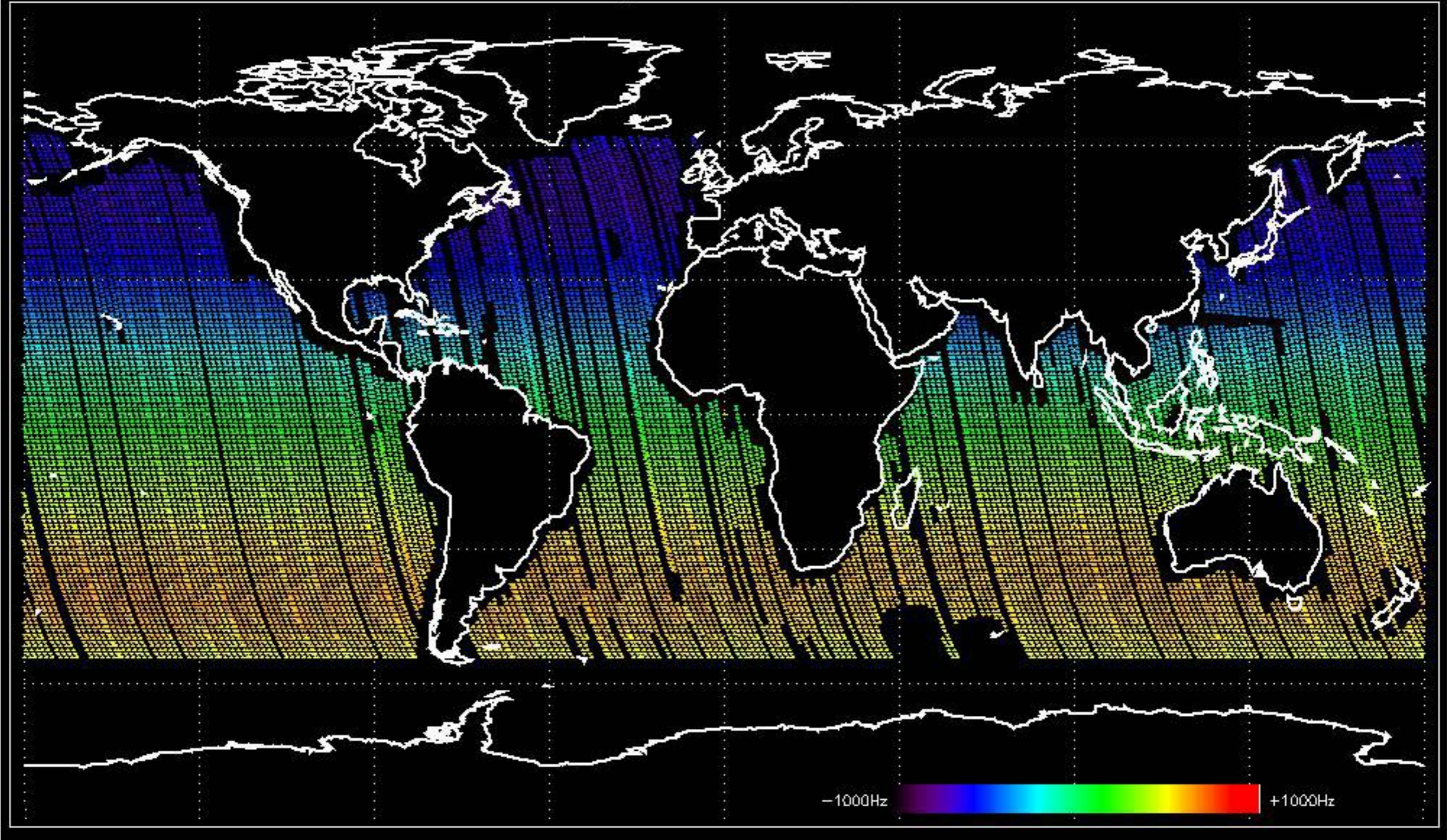
Doppler 'GM1' 'SS1' ascending



Doppler 'GM1' 'SS1' descending

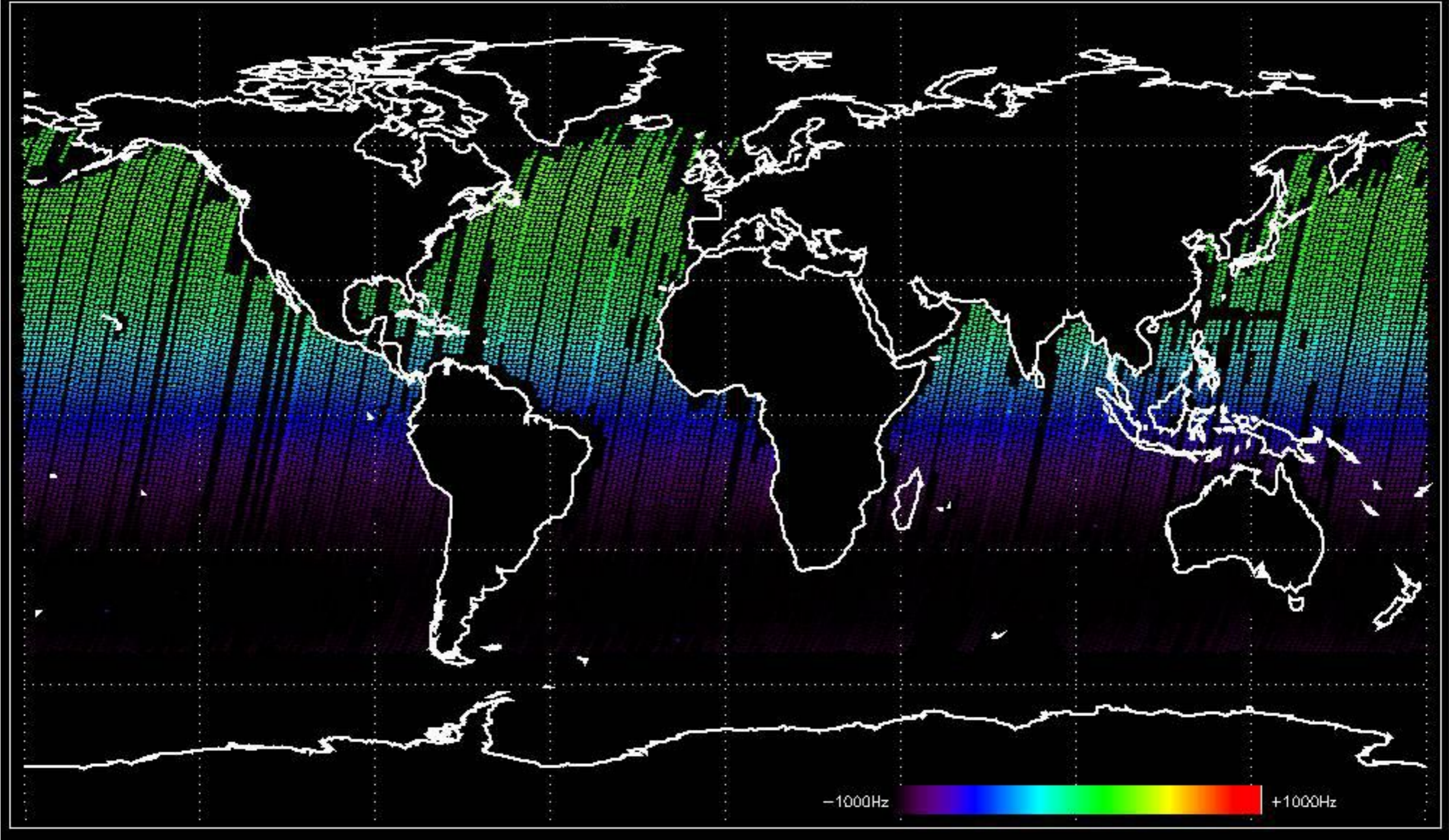


Doppler 'WVS' 'IS2' ascending

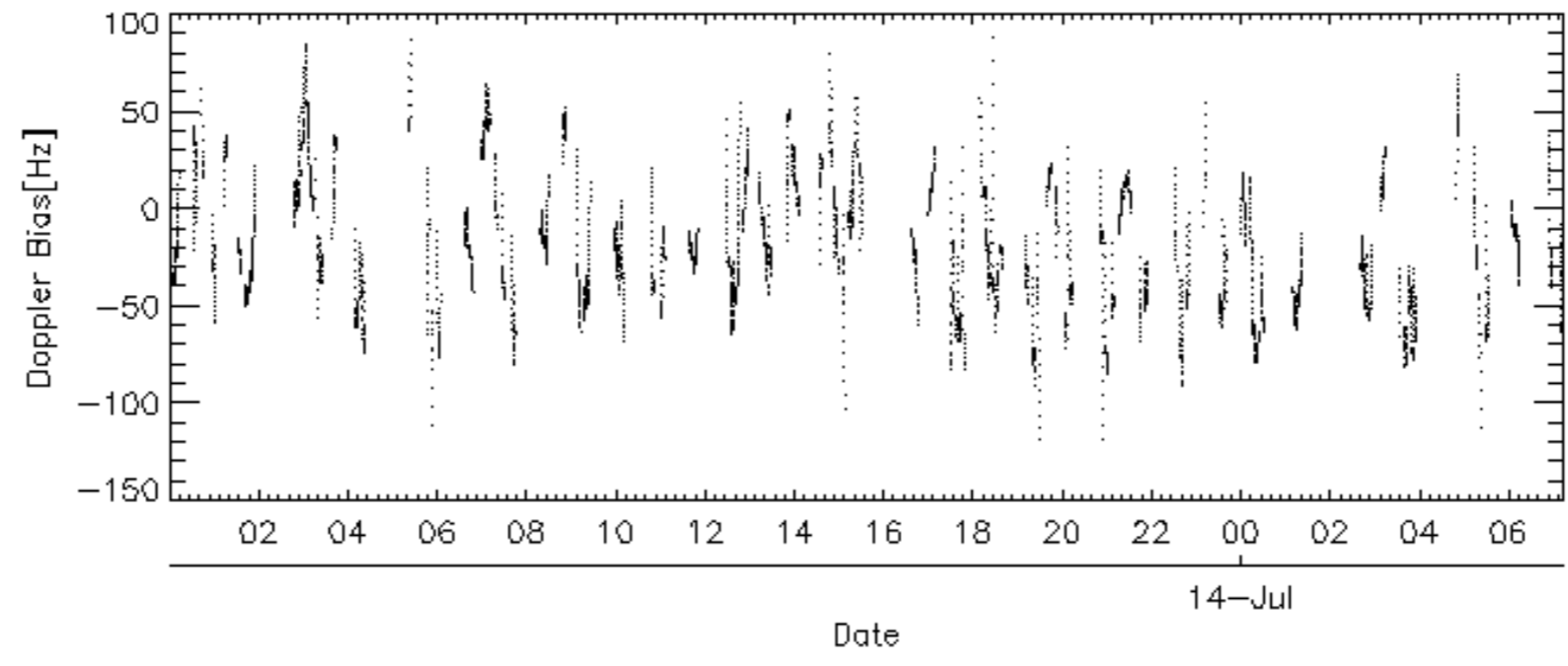
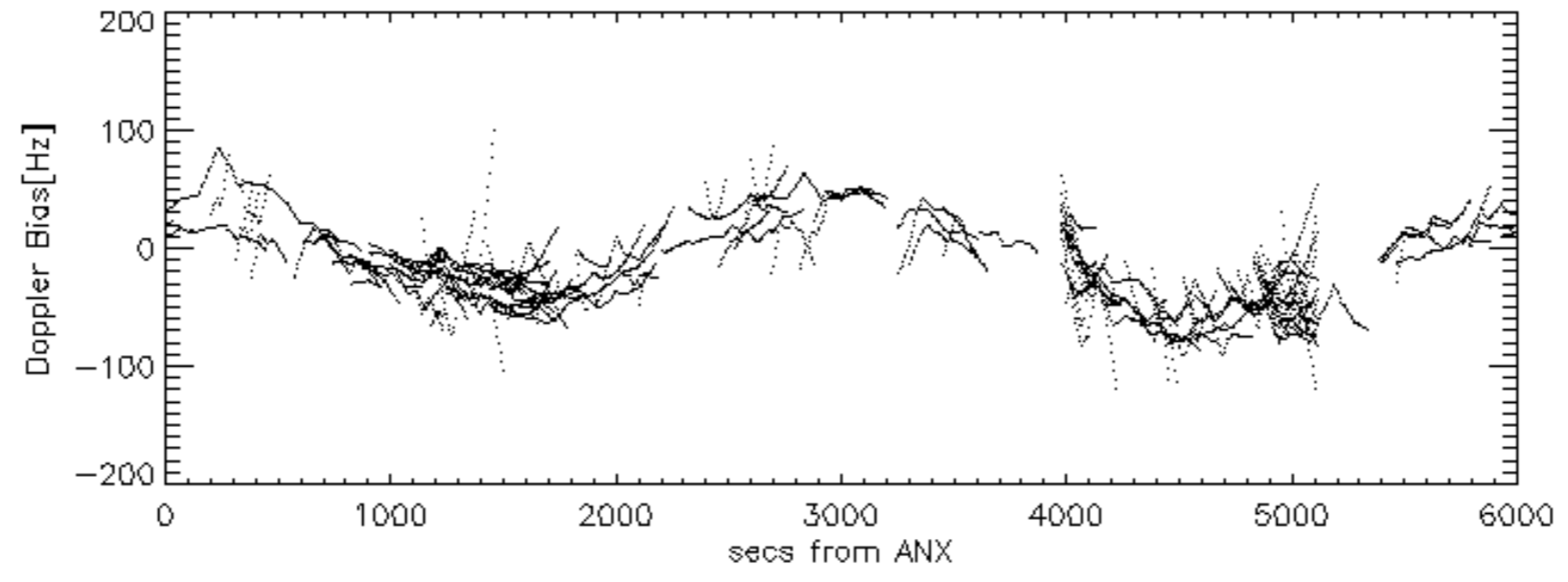
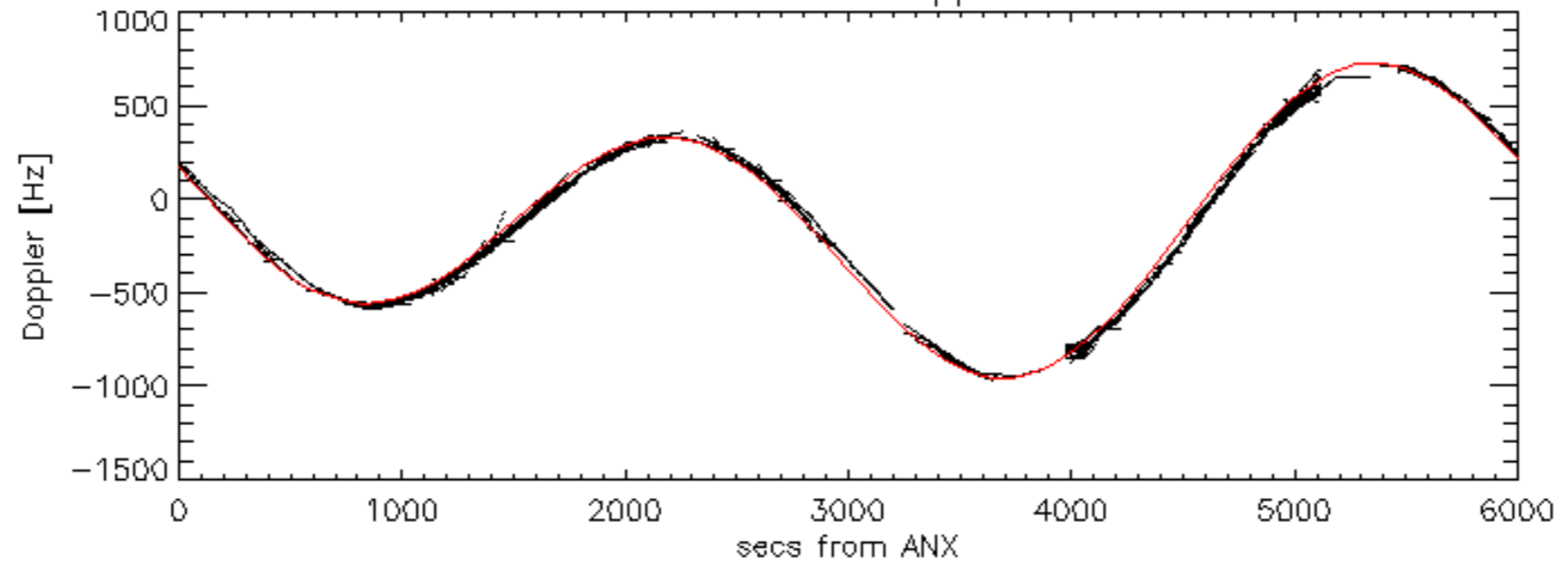


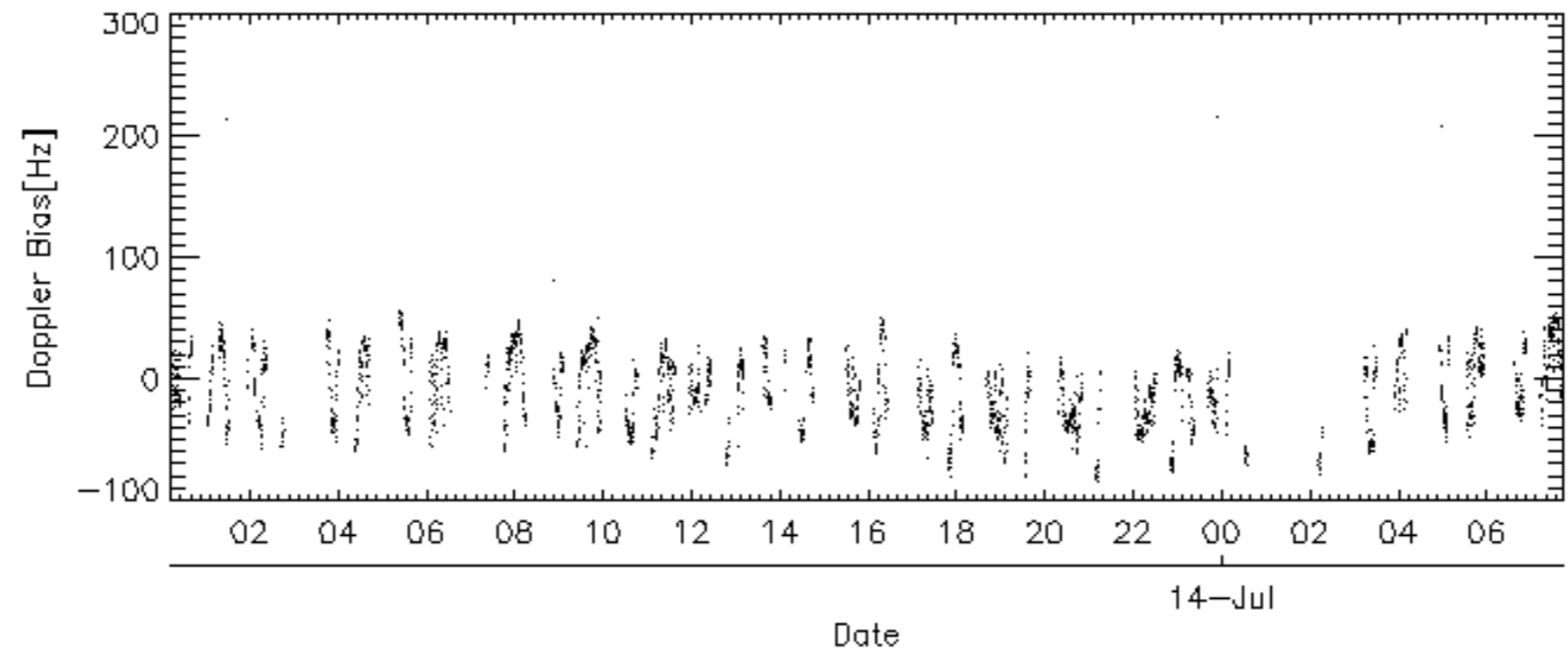
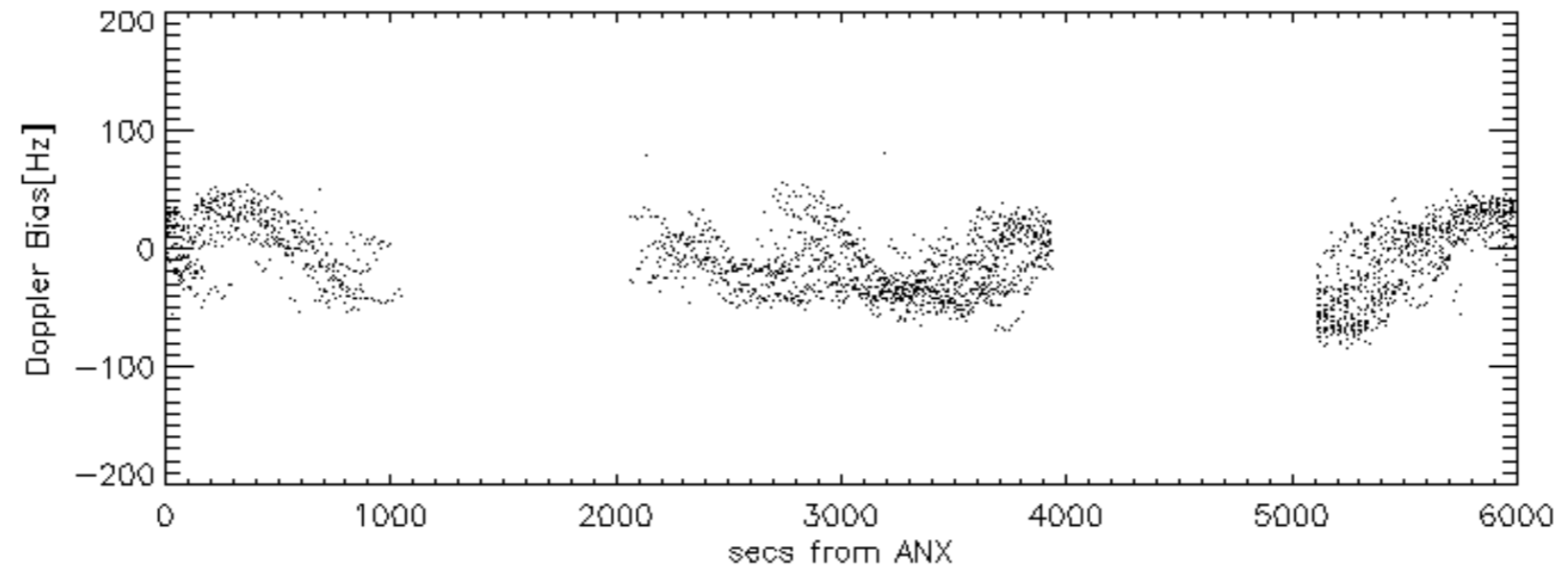
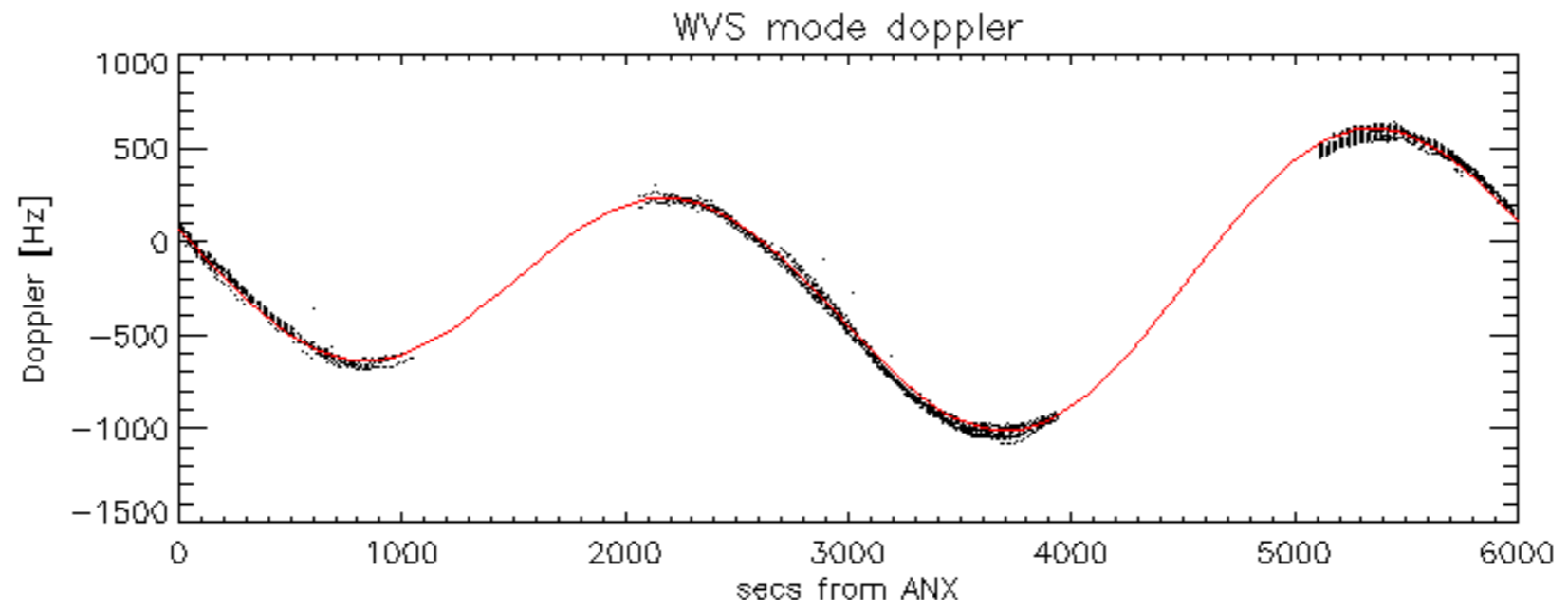


Doppler 'WVS' 'IS2' descending

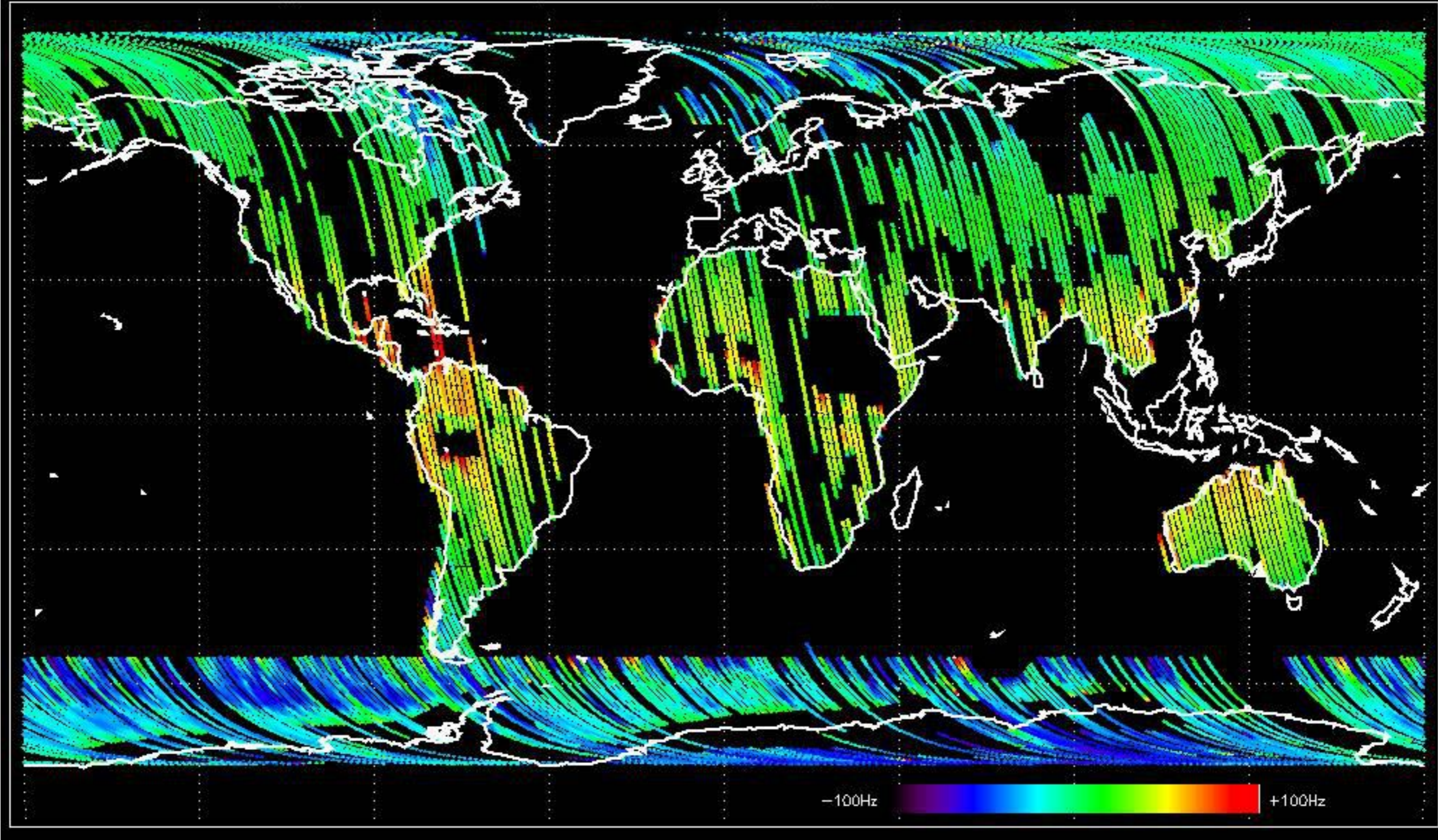


GM1 mode doppler

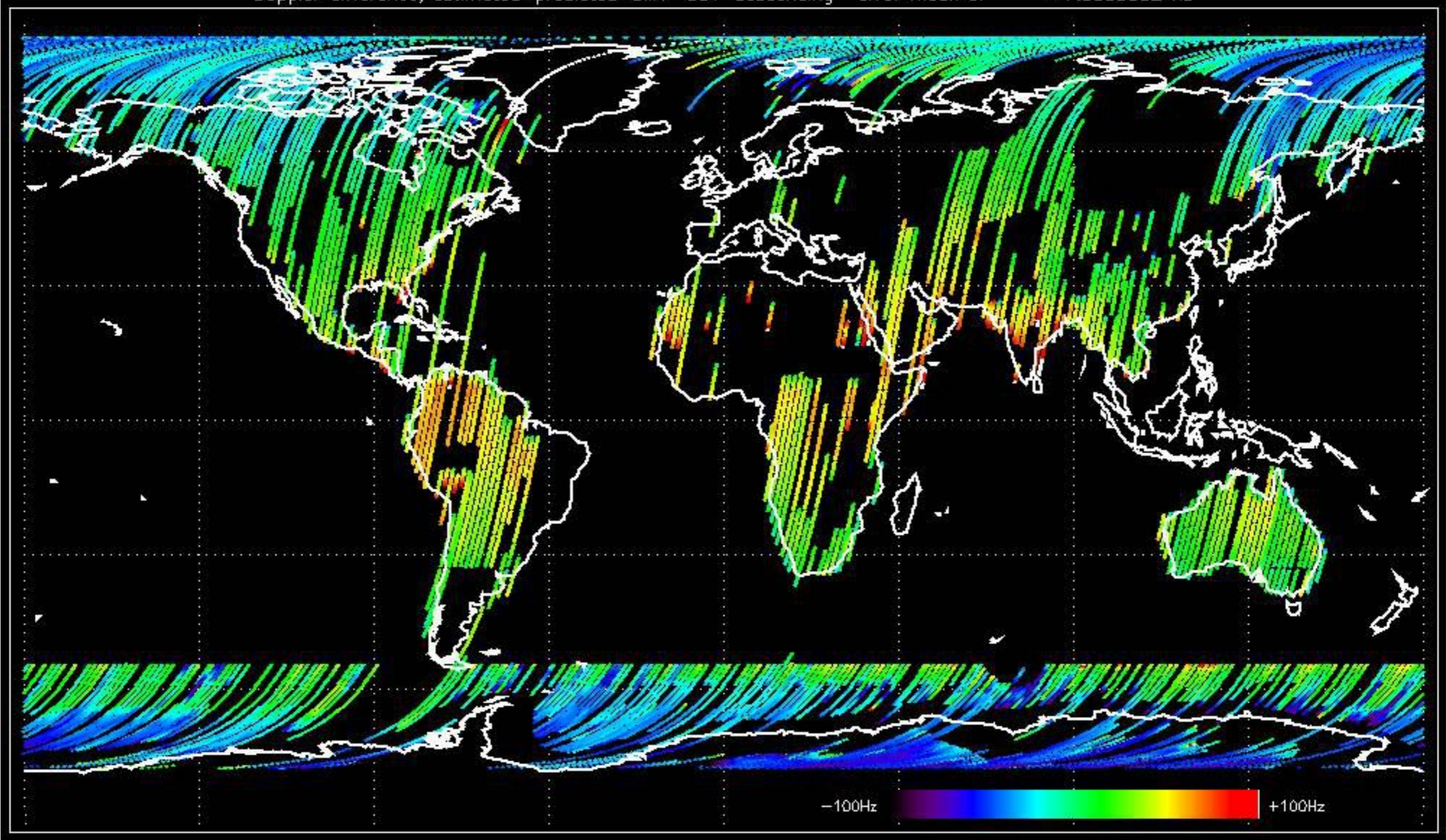




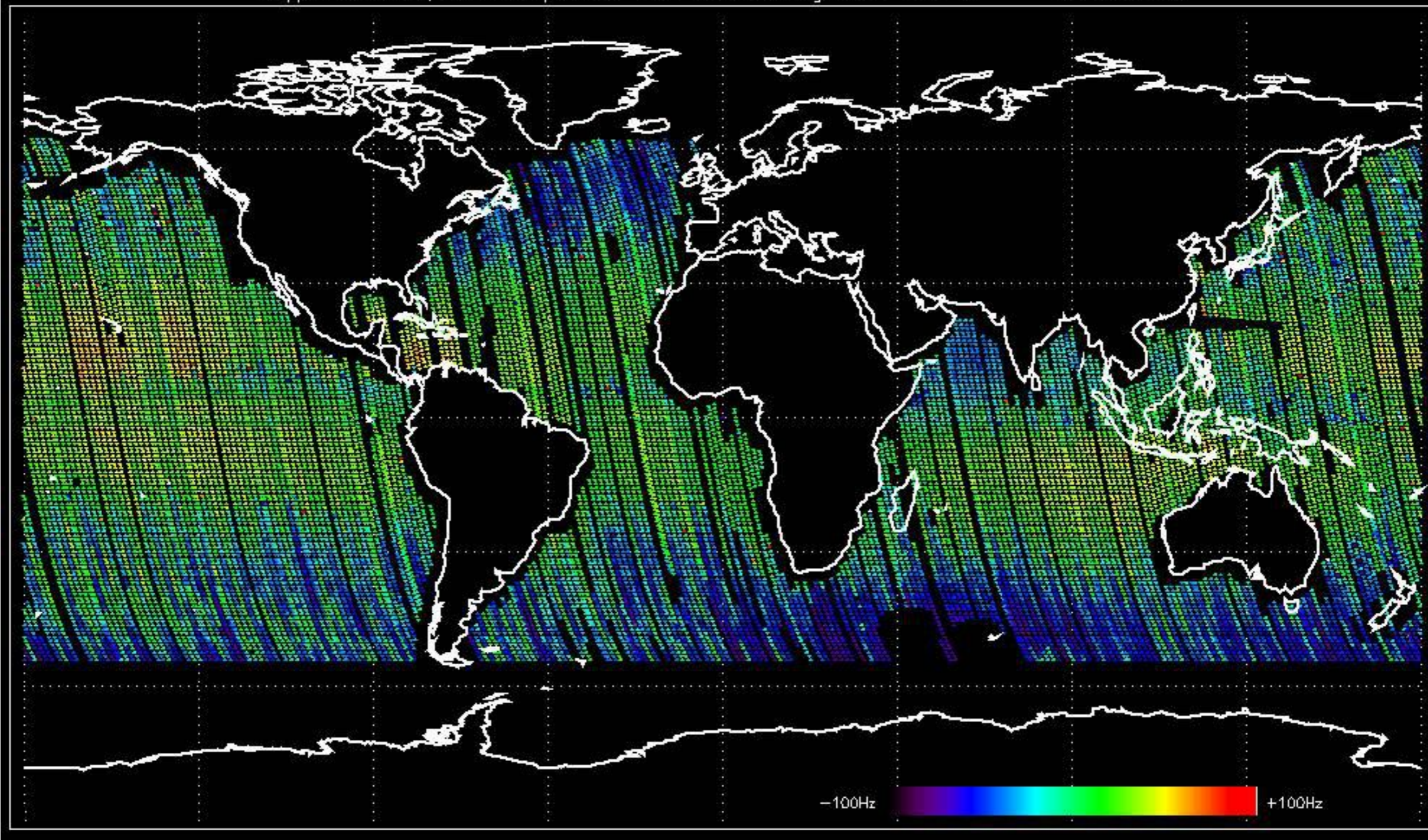
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -18.127021 Hz



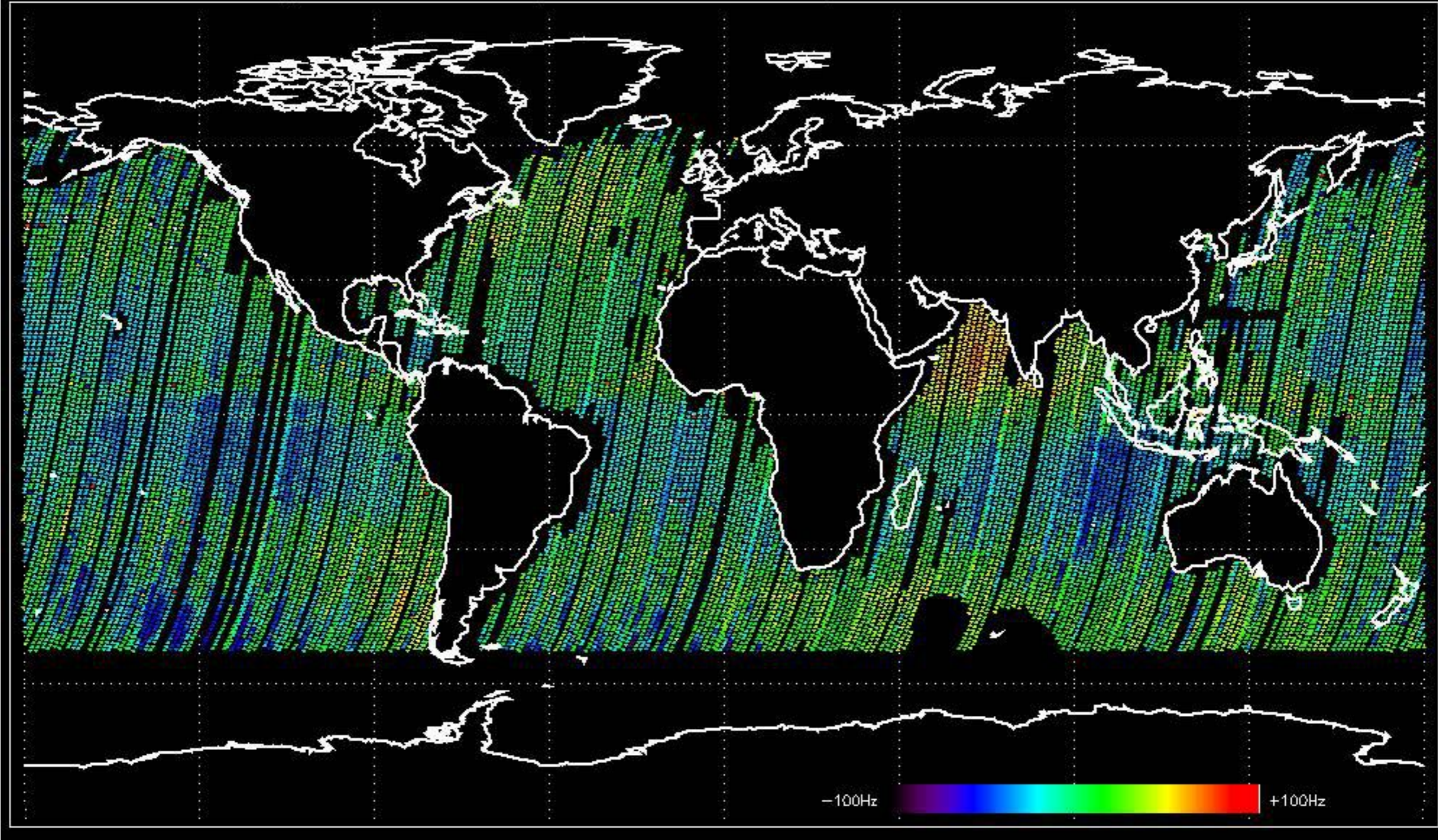
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -7.9985032 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -2.3888665 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -10.683969 Hz



No anomalies observed on available MS products:



No anomalies observed.









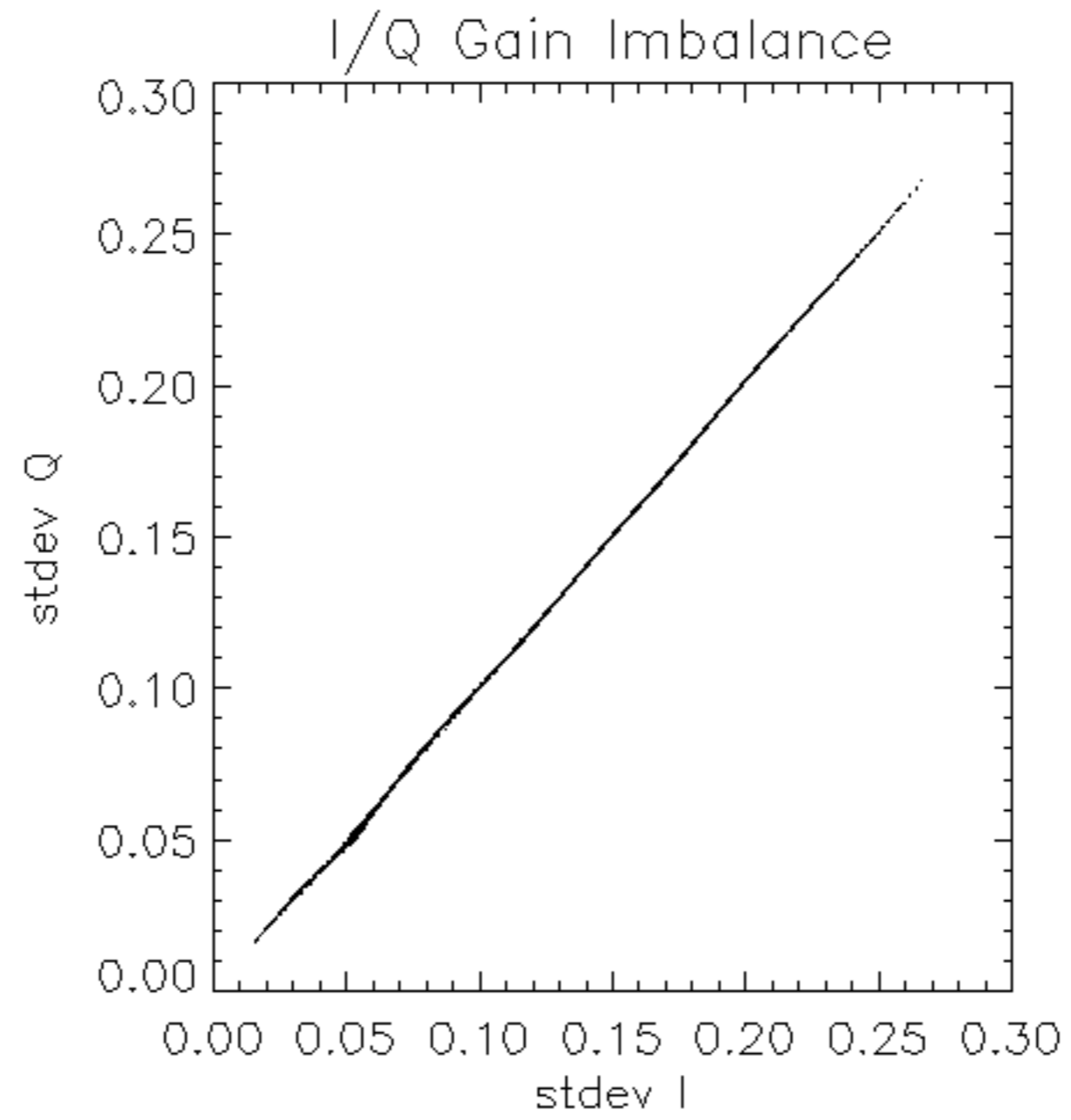


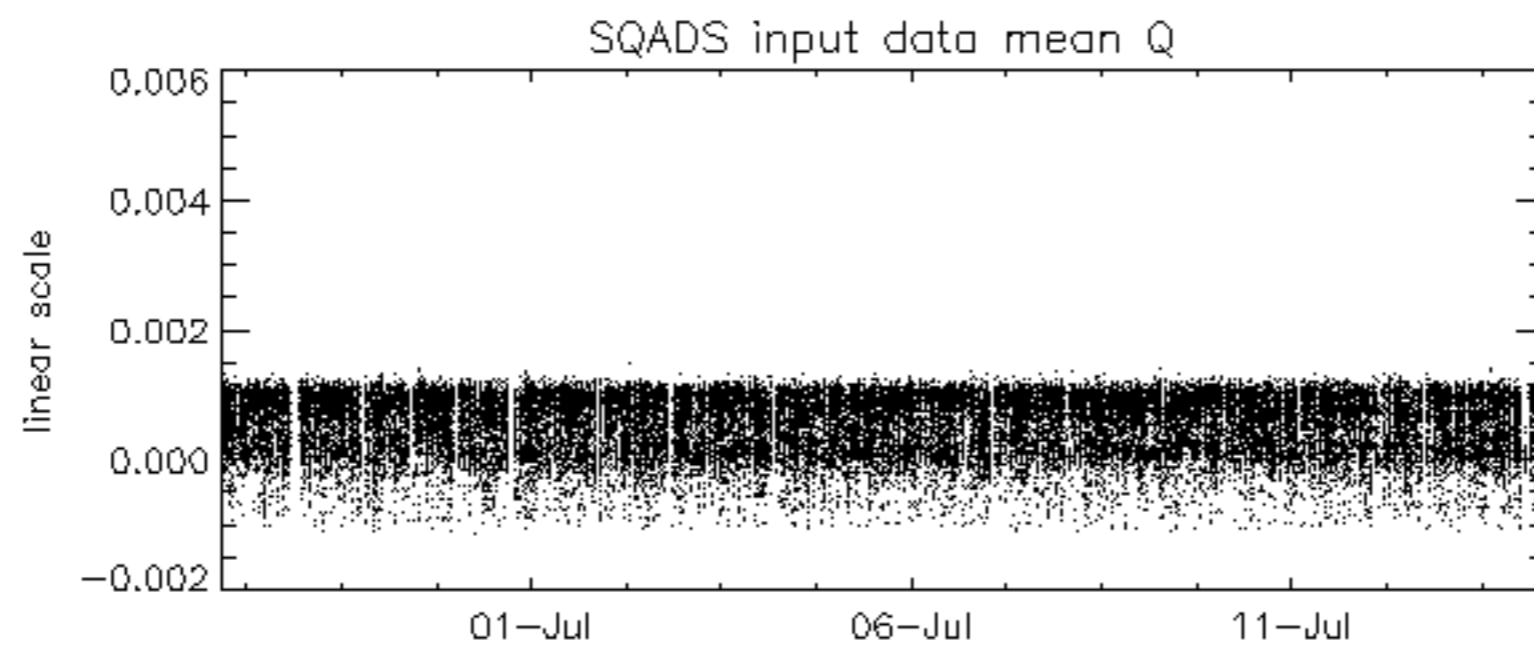
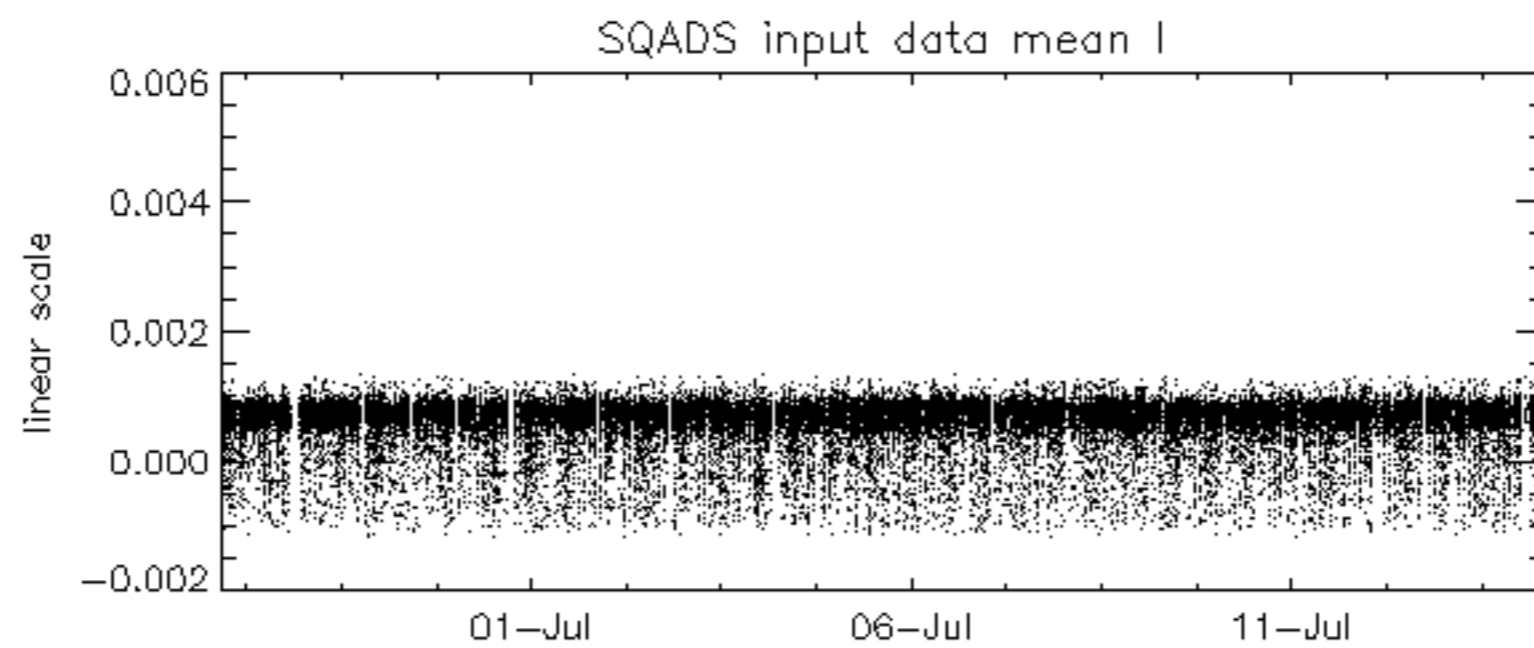
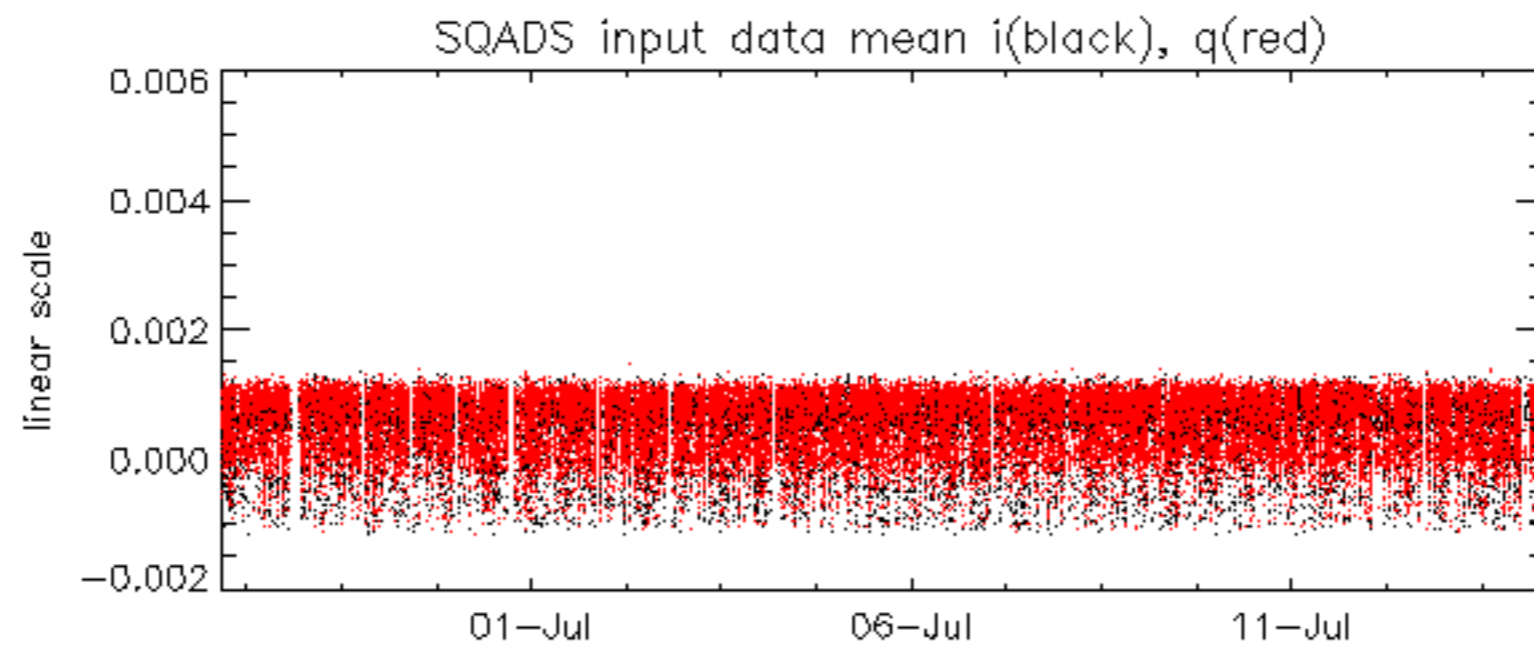


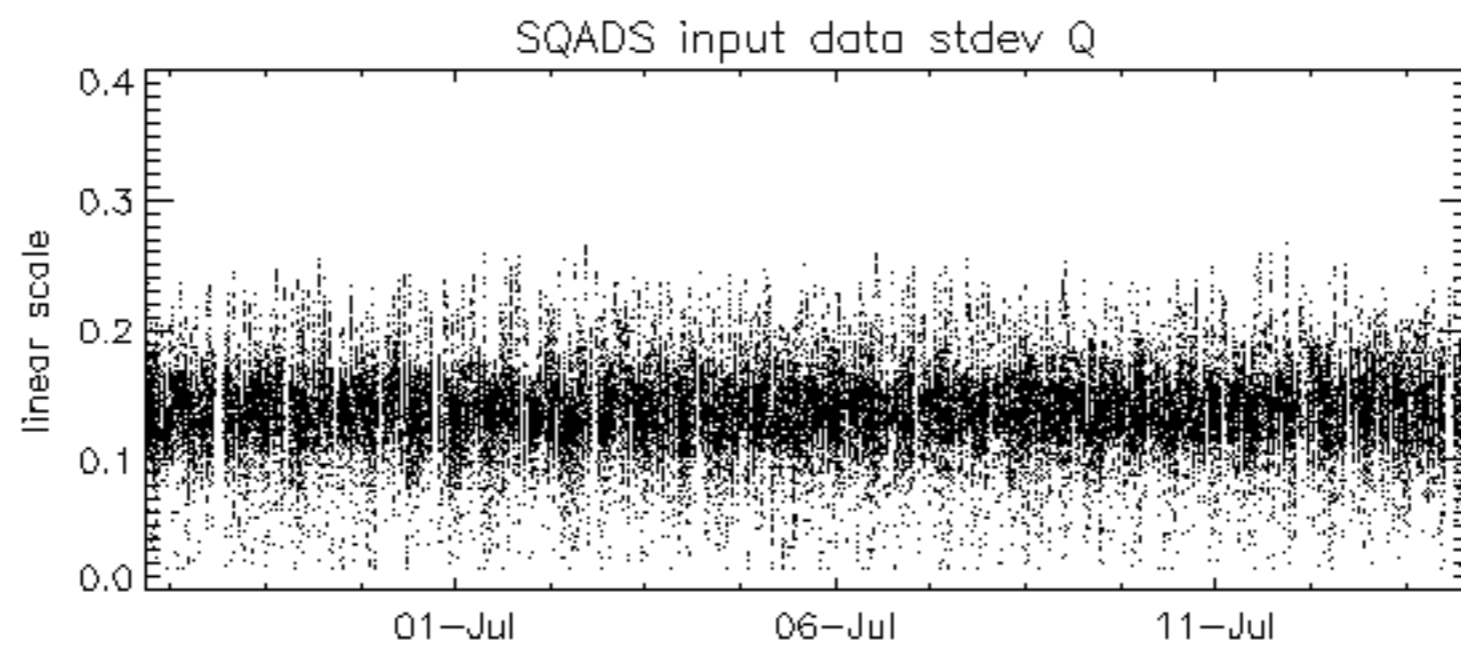
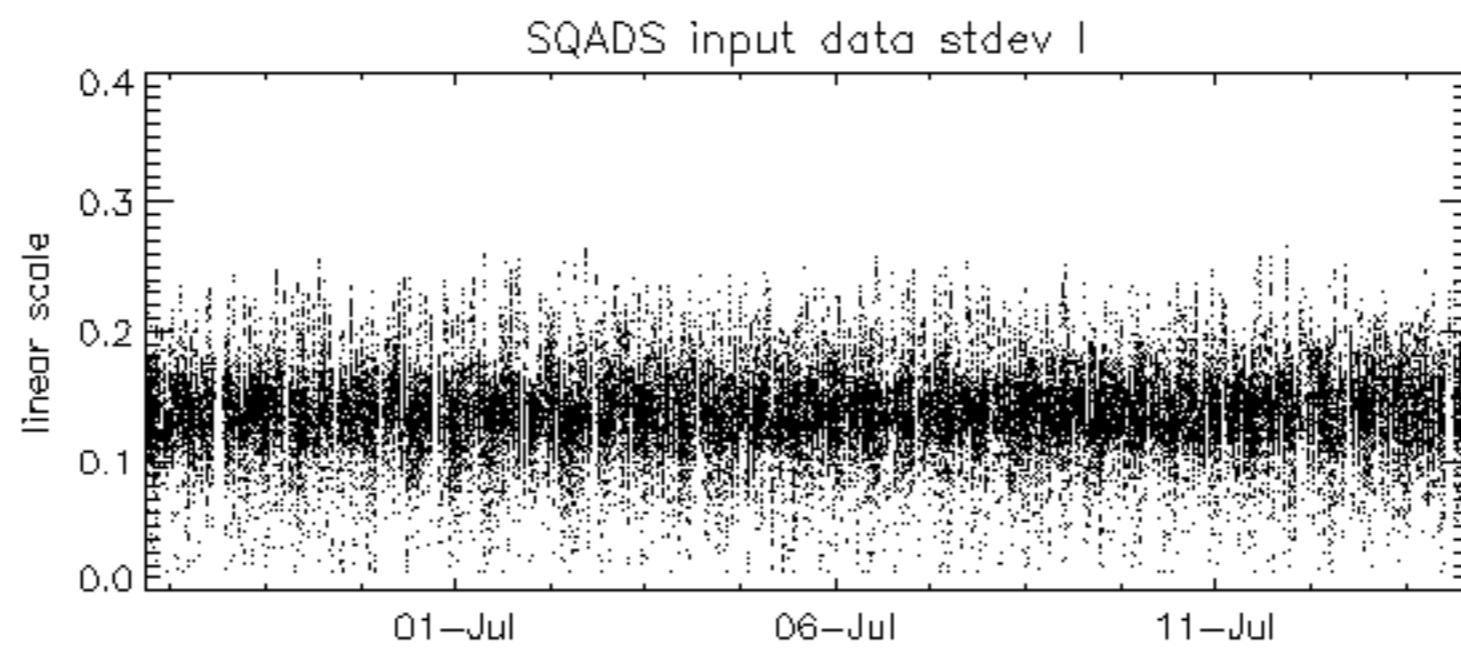
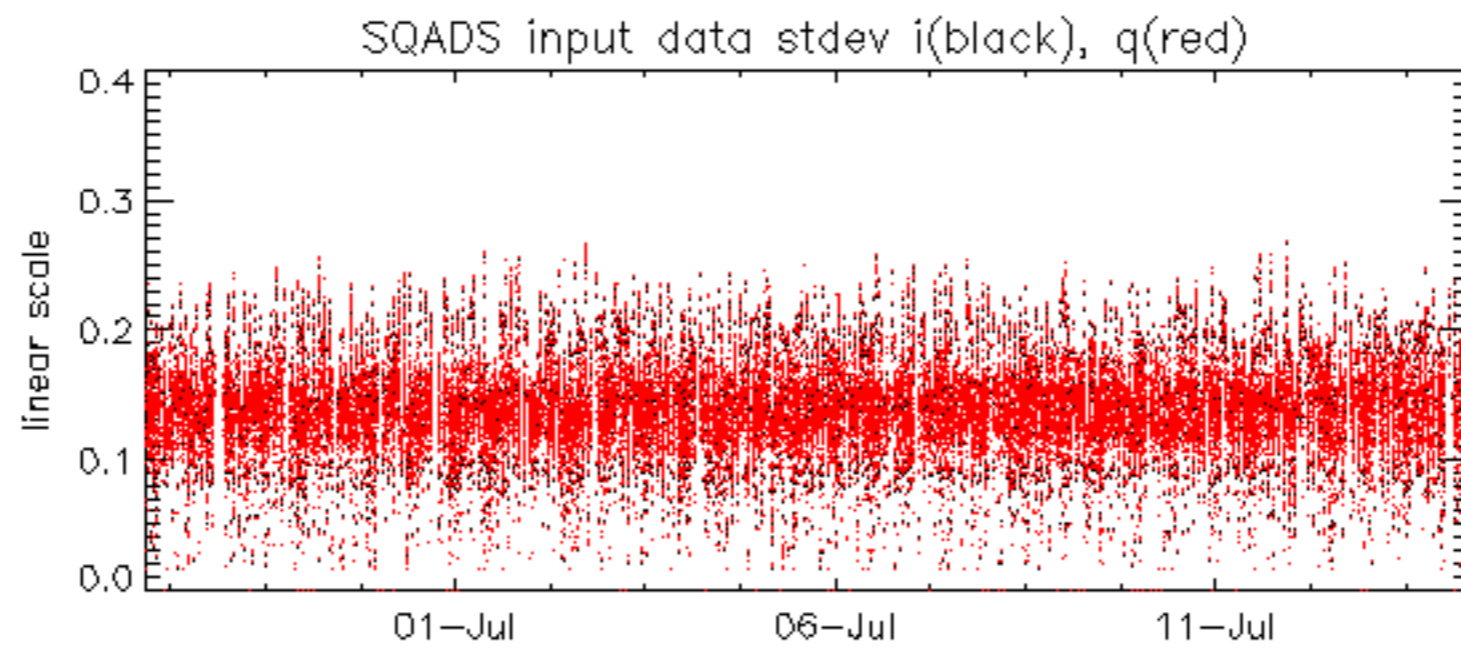


















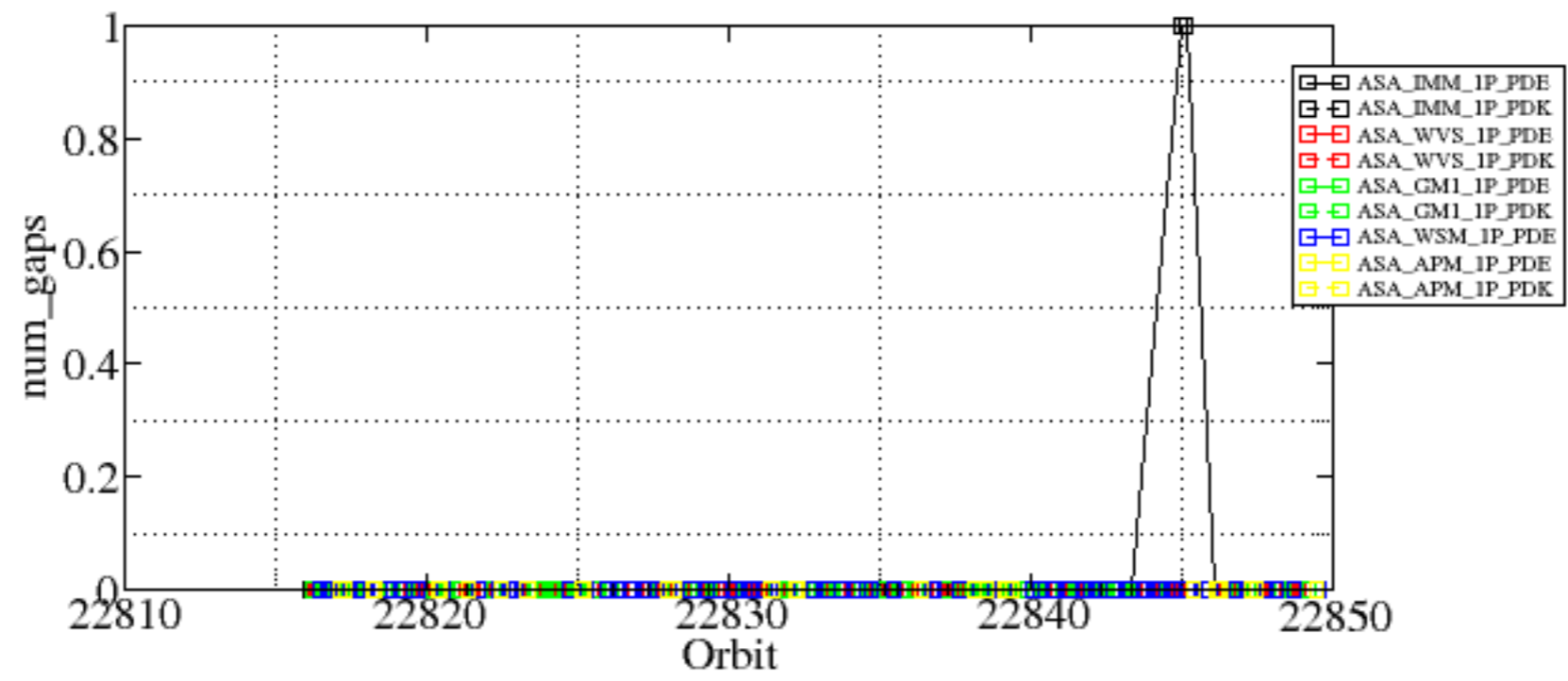


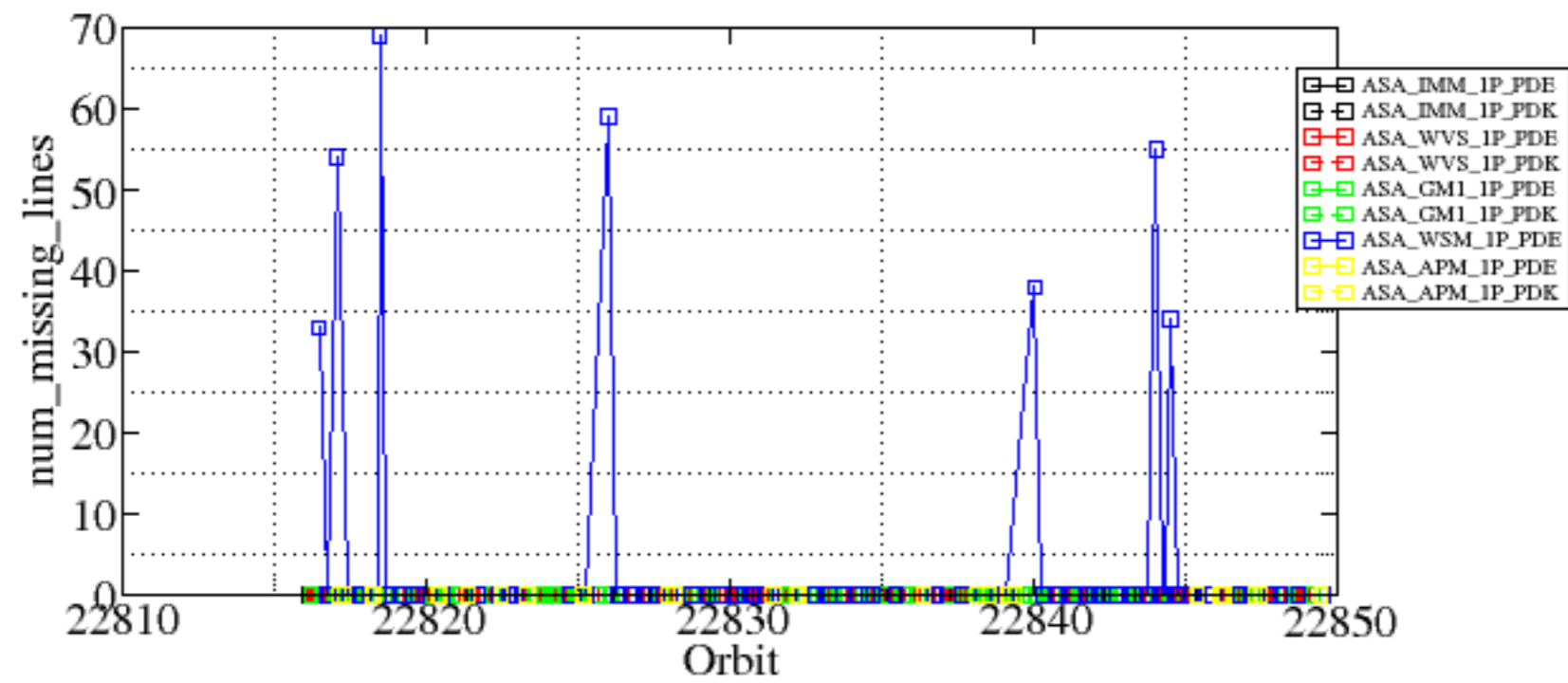


Summary of analysis for the last 3 days 2006071[234]

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_1PNPDE20060714_004241_000001742049_00245_22844_0772.N1	1	0
ASA_IMM_1PNPDE20060714_005914_000000452049_00246_22845_0771.N1	1	0
ASA_WSM_1PNPDE20060712_005610_000000852049_00217_22816_2627.N1	0	33
ASA_WSM_1PNPDE20060712_015512_000000852049_00218_22817_2628.N1	0	54
ASA_WSM_1PNPDE20060712_041730_000000672049_00219_22818_2642.N1	0	69
ASA_WSM_1PNPDE20060712_165619_000001592049_00227_22826_2716.N1	0	59
ASA_WSM_1PNPDE20060713_162646_000001032049_00241_22840_2889.N1	0	38
ASA_WSM_1PNPDE20060713_230852_000001032049_00245_22844_2962.N1	0	55
ASA_WSM_1PNPDE20060713_235456_000003302049_00245_22844_2976.N1	0	34





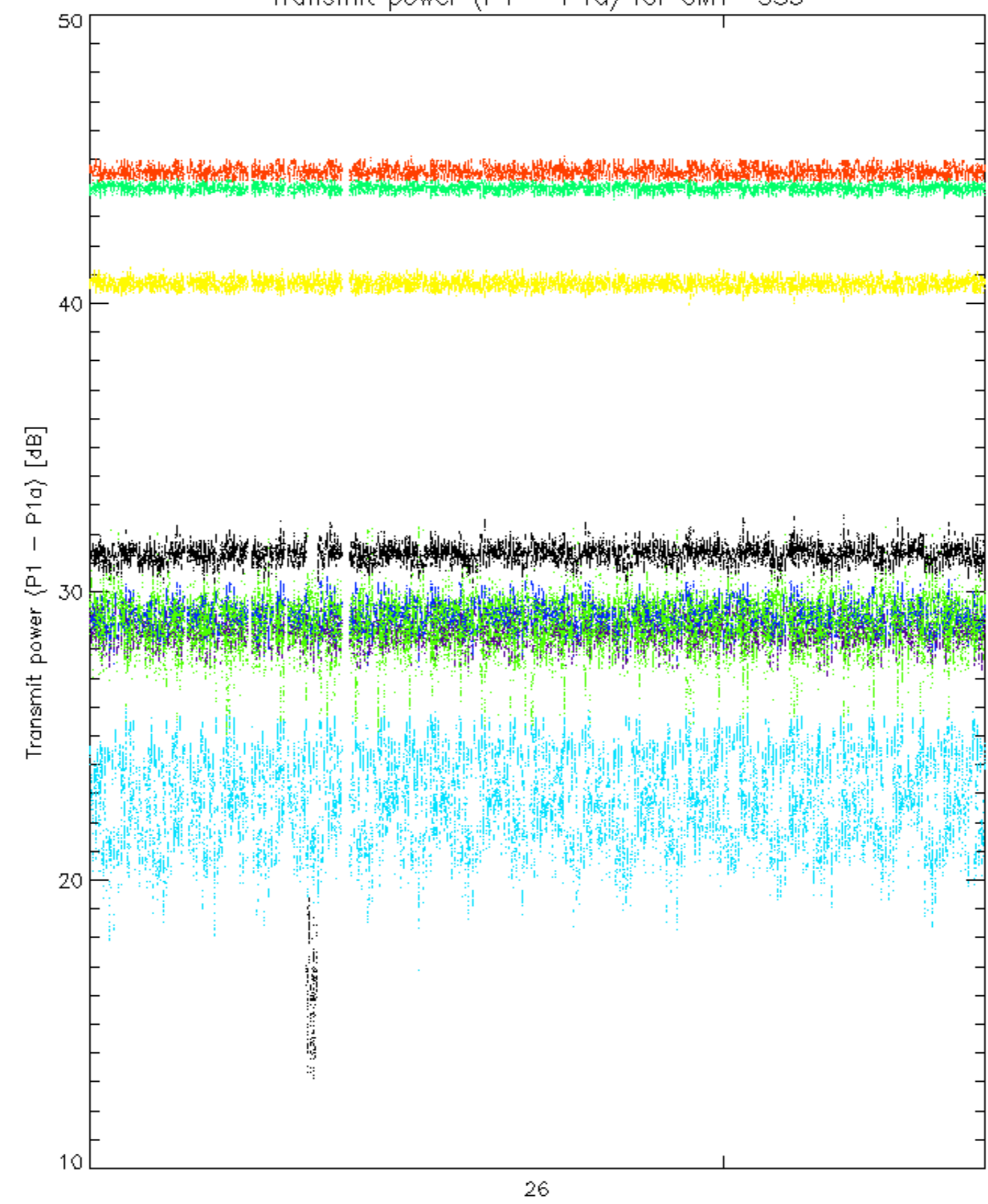






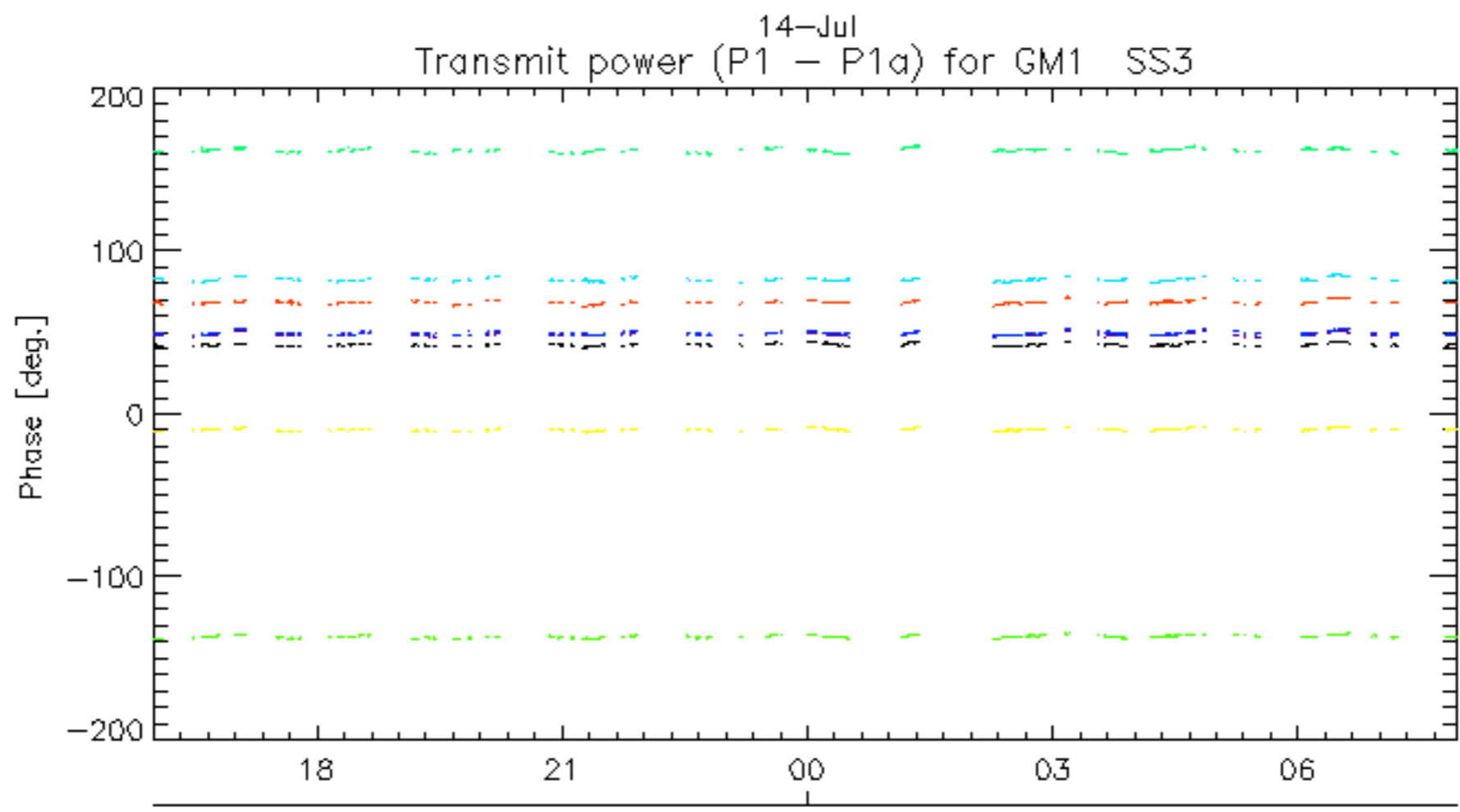
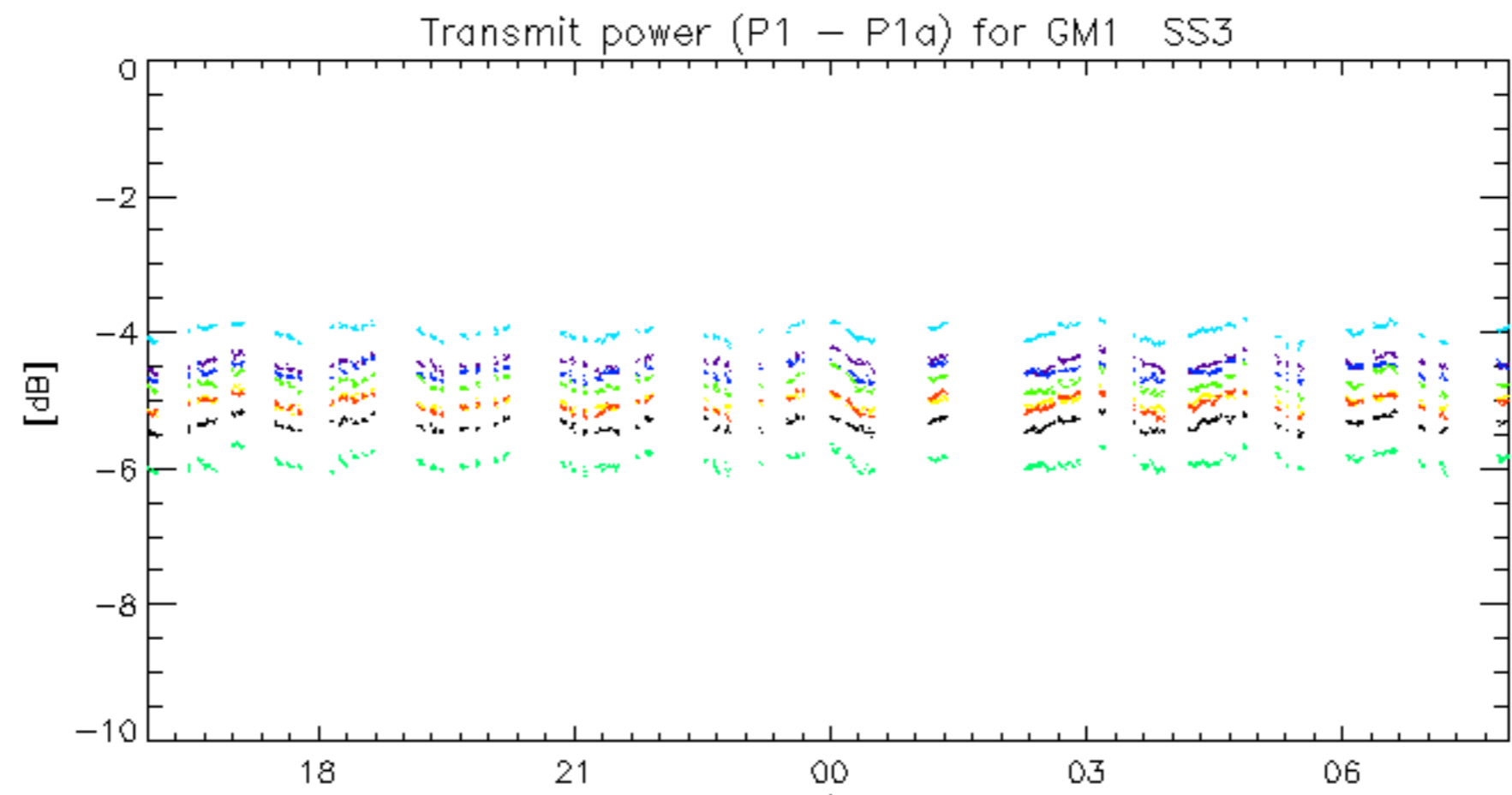


Transmit power (P1 - P1a) for GM1 SS3

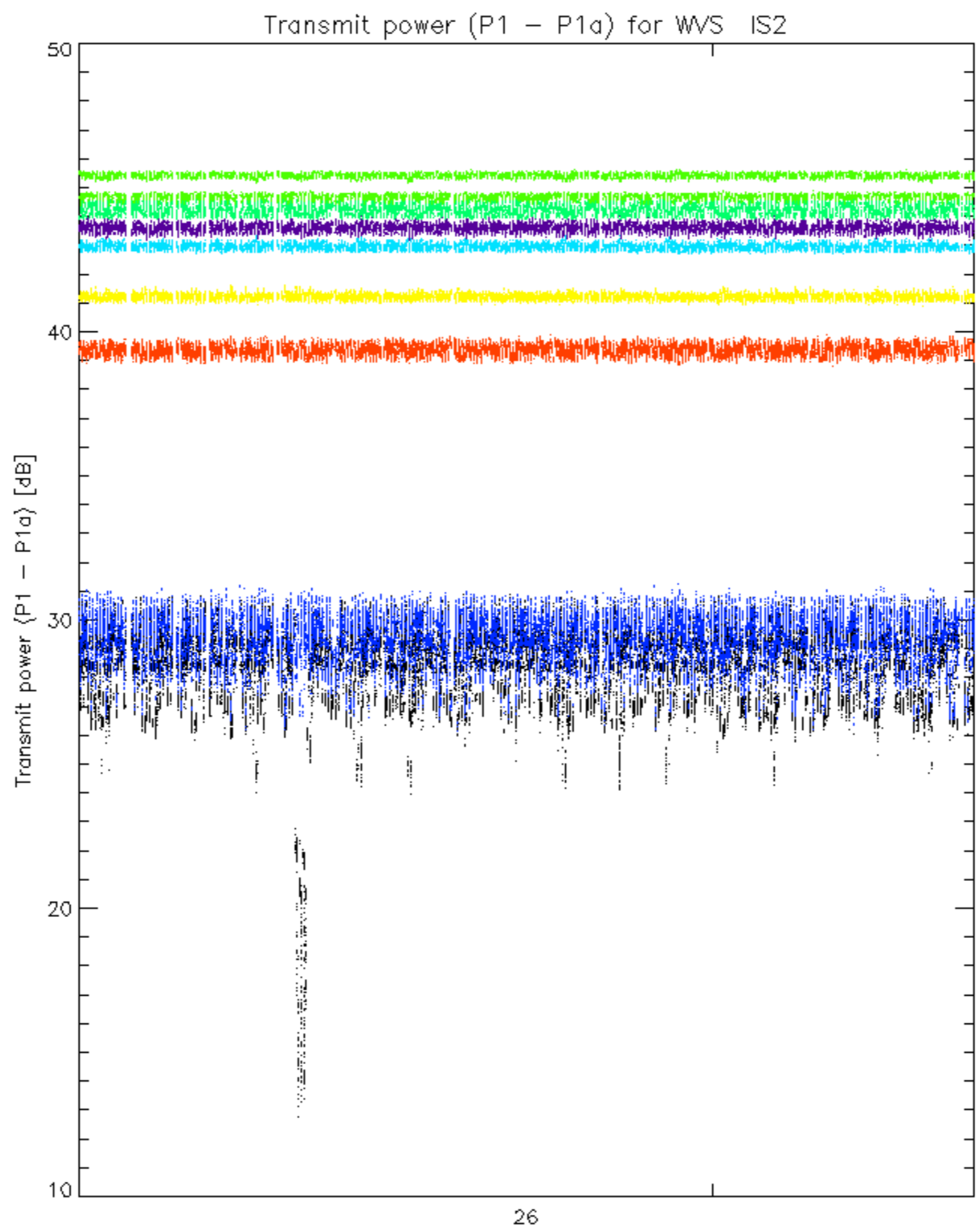


rows: 3 7 11 15 19 22 26 30

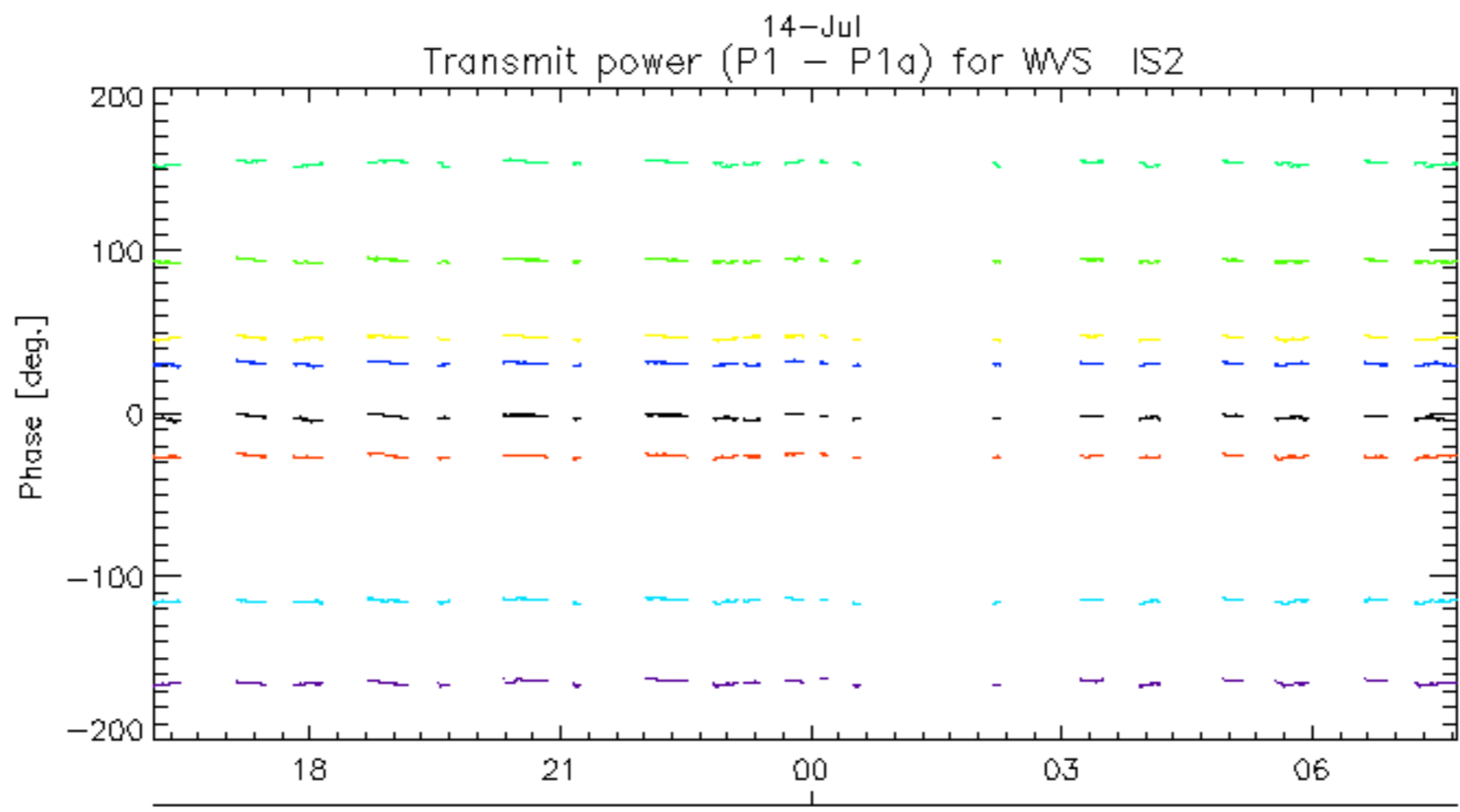
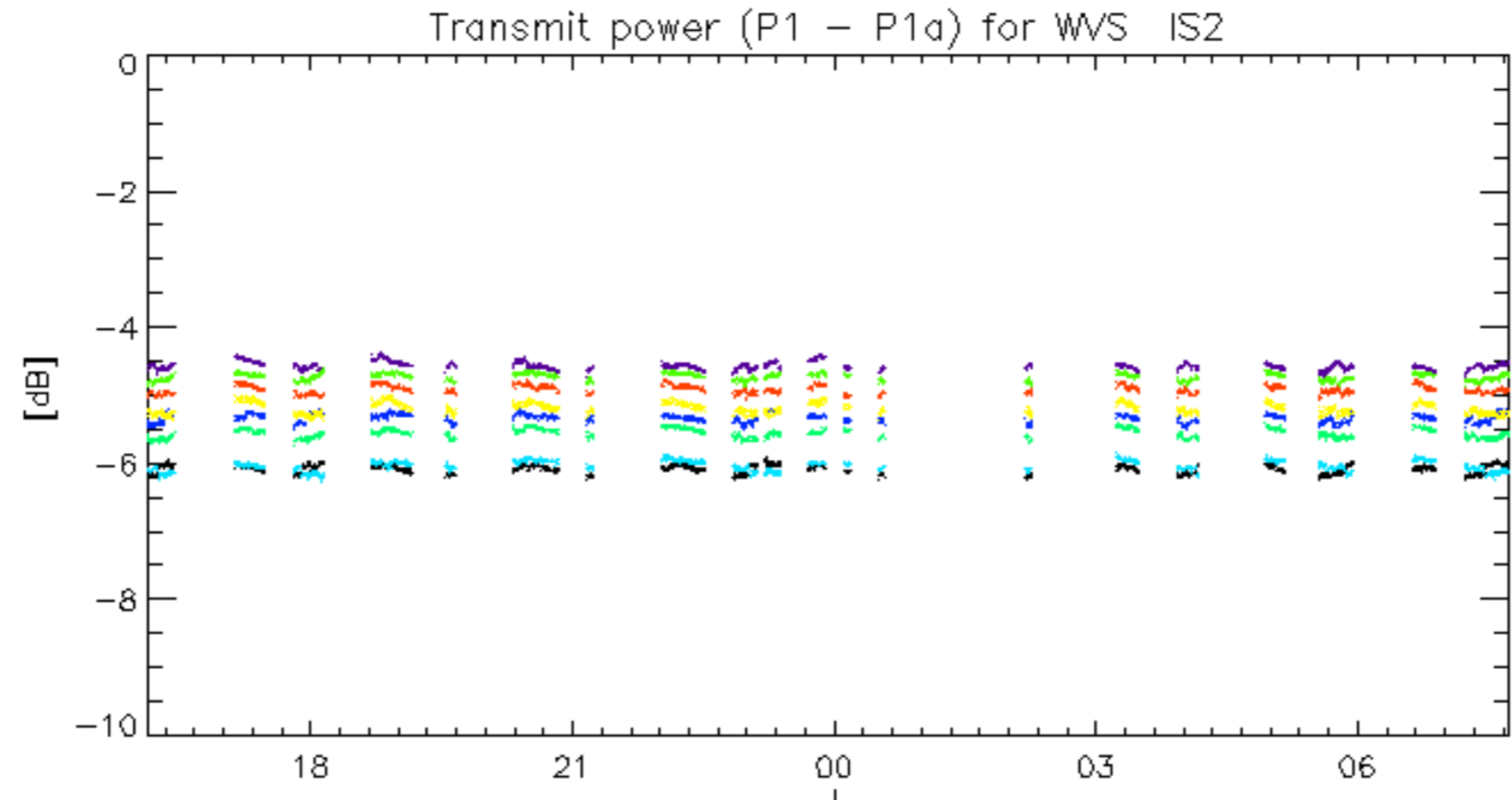




14-Jul  
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



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



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

No unavailabilities during the reported period.