

# PRELIMINARY REPORT OF 051031

last update on Mon Oct 31 10:50:02 GMT 2005

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 2005-10-30 00:00:00 to 2005-10-31 10:50:02

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	19	29	19	4	12
ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	19	29	19	4	12
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	19	29	19	4	12
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	19	29	19	4	12

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	42	51	32	15	42
ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	42	51	32	15	42
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	42	51	32	15	42
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	42	51	32	15	42

### 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	20051028 055516
H	20051027 062653

### 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
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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	-3.524817	0.008779	0.038972
7	P1	-2.914935	0.012783	-0.089374
11	P1	-4.086357	0.017200	-0.093369
15	P1	-6.036252	0.014441	-0.042122
19	P1	-3.163196	0.005473	-0.037693
22	P1	-4.460096	0.013804	-0.064547
26	P1	-4.262464	0.014605	0.051023
30	P1	-5.716028	0.008800	-0.049121
3	P1	-15.341246	0.178954	0.295813
7	P1	-16.313463	0.121070	-0.183677
11	P1	-16.297413	0.308670	-0.378165
15	P1	-13.367901	0.113922	-0.128433
19	P1	-13.652193	0.046278	-0.174710
22	P1	-16.195782	0.469796	-0.355181
26	P1	-16.078718	0.260415	0.372921
30	P1	-16.449917	0.215207	-0.226705

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.865356	0.098903	-0.004538
7	P2	-22.682108	0.103798	0.078666
11	P2	-16.714863	0.113528	0.159522
15	P2	-7.230338	0.101515	-0.047048
19	P2	-9.185080	0.094504	-0.064234
22	P2	-17.751850	0.100517	-0.145110
26	P2	-16.122711	0.096250	-0.128096
30	P2	-19.627792	0.090482	-0.023209

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.197566	0.006046	-0.039248
7	P3	-8.197566	0.006046	-0.039248
11	P3	-8.197566	0.006046	-0.039248
15	P3	-8.197566	0.006046	-0.039248
19	P3	-8.197566	0.006046	-0.039248
22	P3	-8.197566	0.006046	-0.039248
26	P3	-8.197566	0.006046	-0.039248
30	P3	-8.197566	0.006046	-0.039248

**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	-3.663247	0.007045	-0.006406
7	P1	-2.816031	0.011934	0.084262
11	P1	-2.851995	0.012054	-0.006034
15	P1	-3.381873	0.018280	0.028066
19	P1	-3.354158	0.011304	-0.030315
22	P1	-5.135864	0.019420	0.053631
26	P1	-5.788085	0.016858	-0.042292
30	P1	-5.215899	0.026466	-0.039557
3	P1	-11.407129	0.034478	-0.026002
7	P1	-9.927420	0.041587	-0.004587
11	P1	-10.018754	0.057801	-0.022721
15	P1	-10.564734	0.091261	0.082928
19	P1	-15.471302	0.069593	-0.093473
22	P1	-20.544785	1.152854	-0.577560

26	P1	-17.136084	0.371359	-0.277939
30	P1	-18.664715	0.387825	0.606132

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.706881	0.037146	-0.005855
7	P2	-23.070454	0.088003	-0.107513
11	P2	-11.746175	0.026470	0.024327
15	P2	-4.910382	0.029031	-0.107213
19	P2	-6.910759	0.025074	-0.056965
22	P2	-8.119635	0.024694	-0.068008
26	P2	-23.887667	0.038772	-0.140733
30	P2	-22.070648	0.026826	-0.064586

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.040908	0.002814	-0.041925
7	P3	-8.041019	0.002820	-0.041629
11	P3	-8.040983	0.002817	-0.041821
15	P3	-8.040944	0.002815	-0.041776
19	P3	-8.040998	0.002827	-0.041600
22	P3	-8.040986	0.002832	-0.042194
26	P3	-8.041079	0.002831	-0.041720
30	P3	-8.040998	0.002821	-0.041880

## 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	0.000560380
	stdev	1.70362e-07
MEAN Q	mean	0.000544150
	stdev	2.13816e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.137664
	stdev	0.00111357
STDEV Q	mean	0.138007
	stdev	0.00113004



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005103[901]

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_1PNPDE20051030_011735_000002502042_00074_19166_9780.N1	1	0
ASA_IMM_1PNPDE20051031_004612_000002632042_00088_19180_9868.N1	1	0
ASA_WSM_1PNPDE20051030_010811_000001102042_00074_19166_6956.N1	0	73
ASA_WSM_1PNPDE20051031_022049_000002912042_00089_19181_7160.N1	0	30





## 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)	
	
	Ascending
	
	Descending

### 7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler	
	
	Ascending
	
	Descending

### 7.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX	
	

### 7.4 - Unbiased Doppler Error for GM1



**Evolution of unbiased Doppler error (Real - Expected)**

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

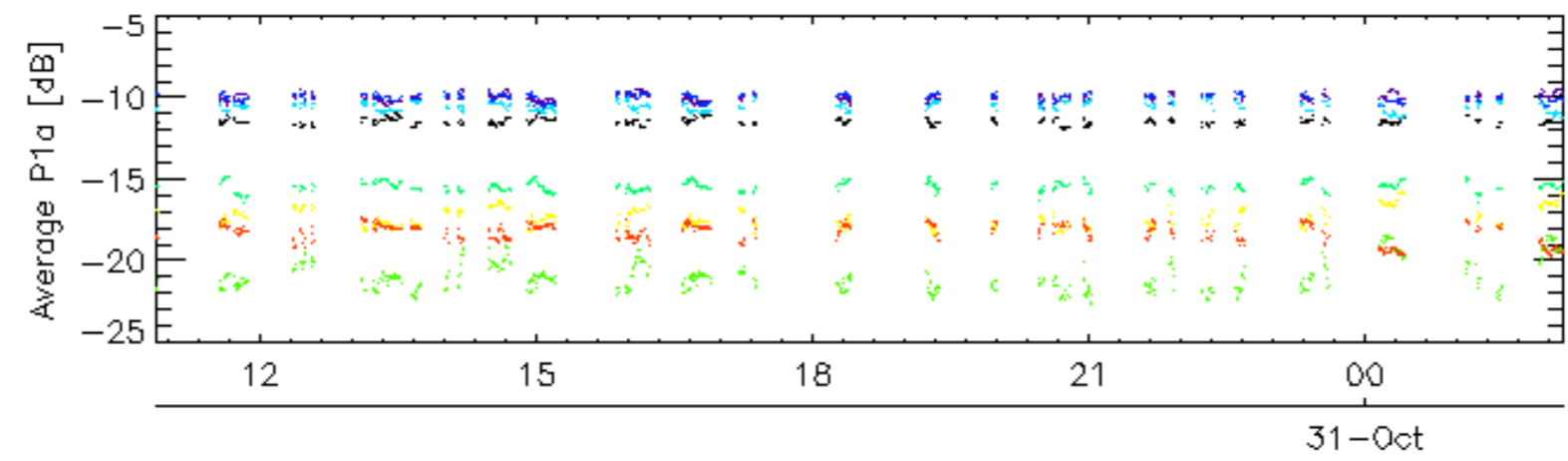
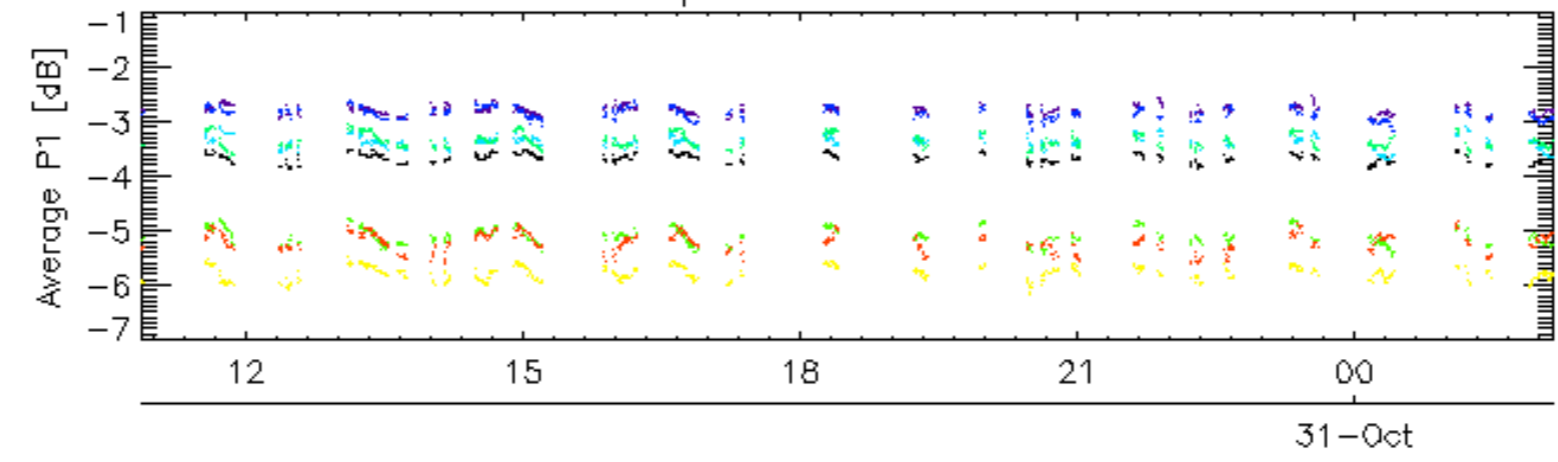
**7.5 - Absolute Doppler for GM1****Evolution of Absolute Doppler**

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

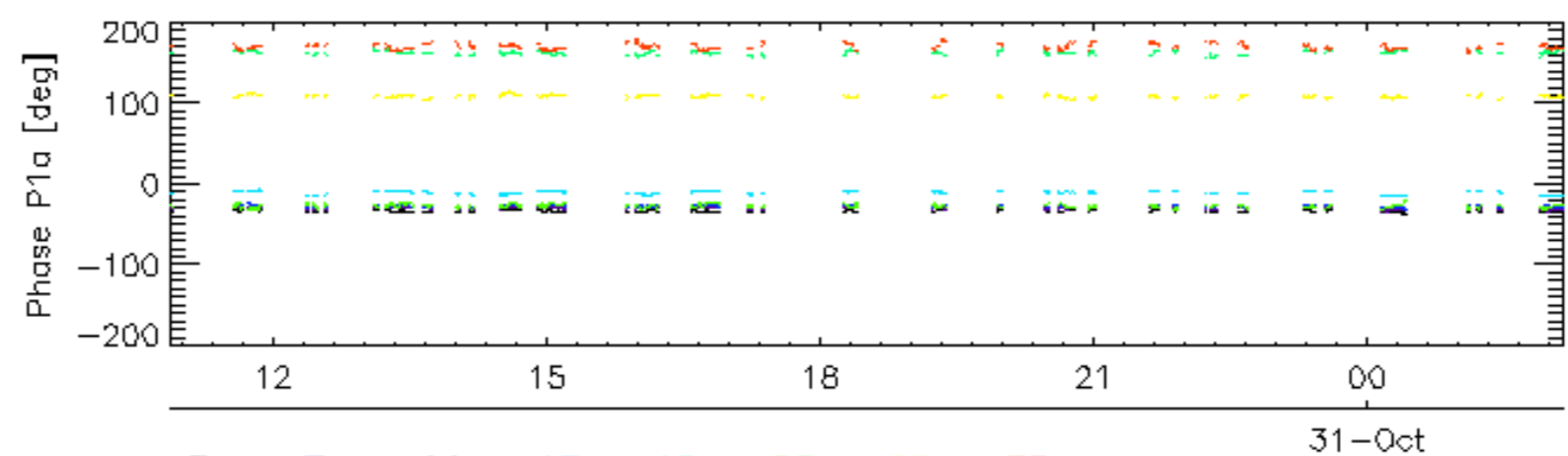
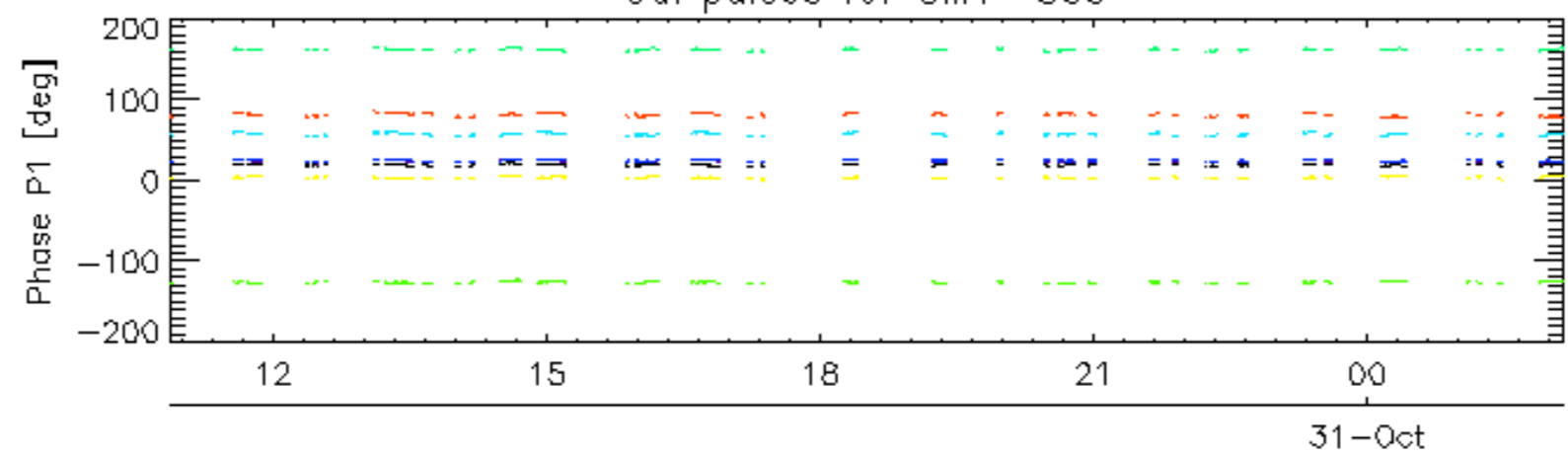
**7.6 - Doppler evolution versus ANX for GM1****Evolution Doppler error versus ANX**

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

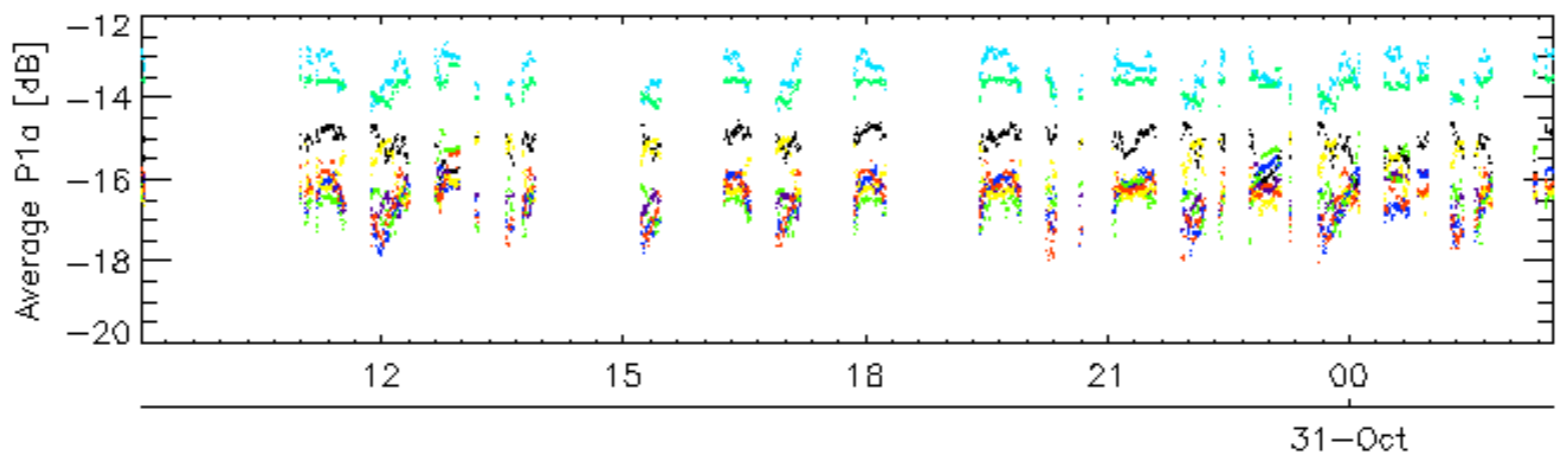
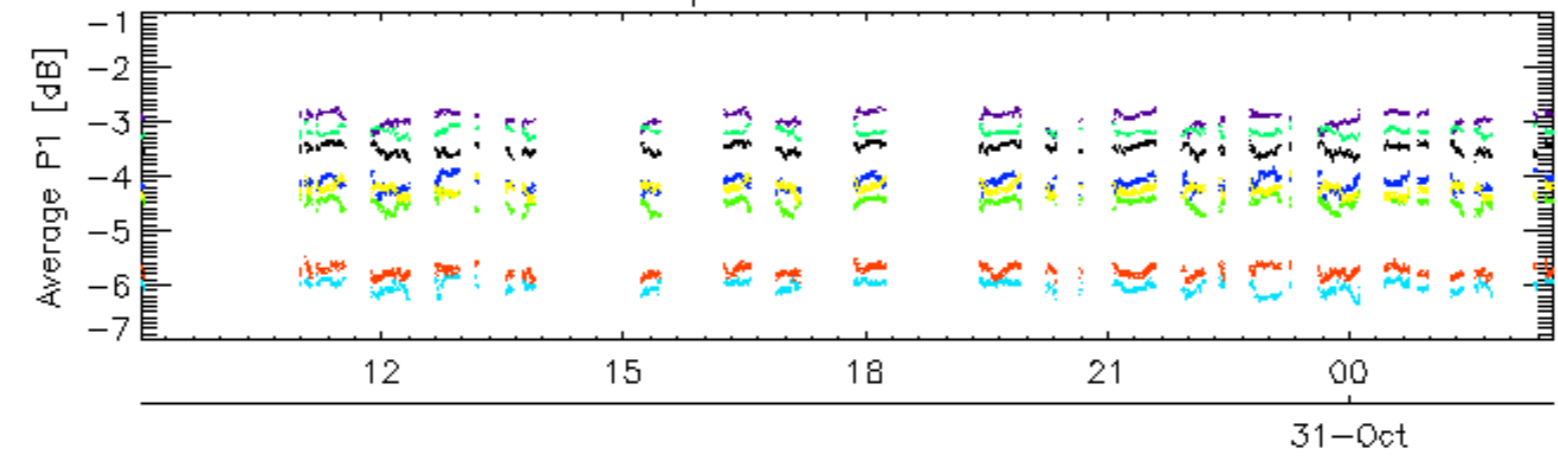


Cal pulses for GM1 SS3

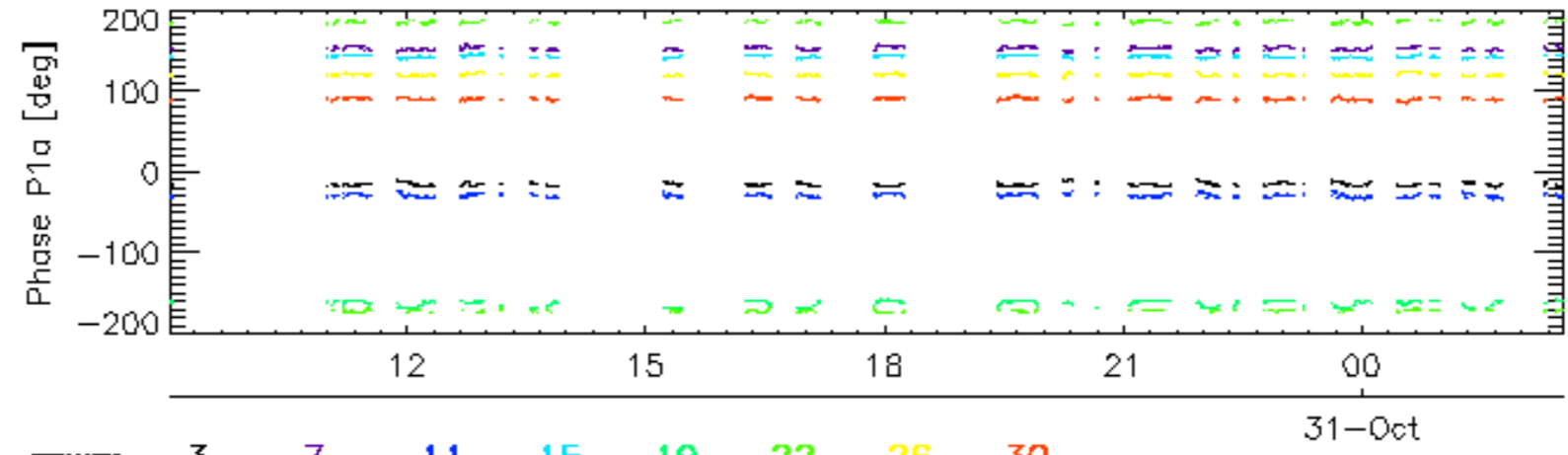
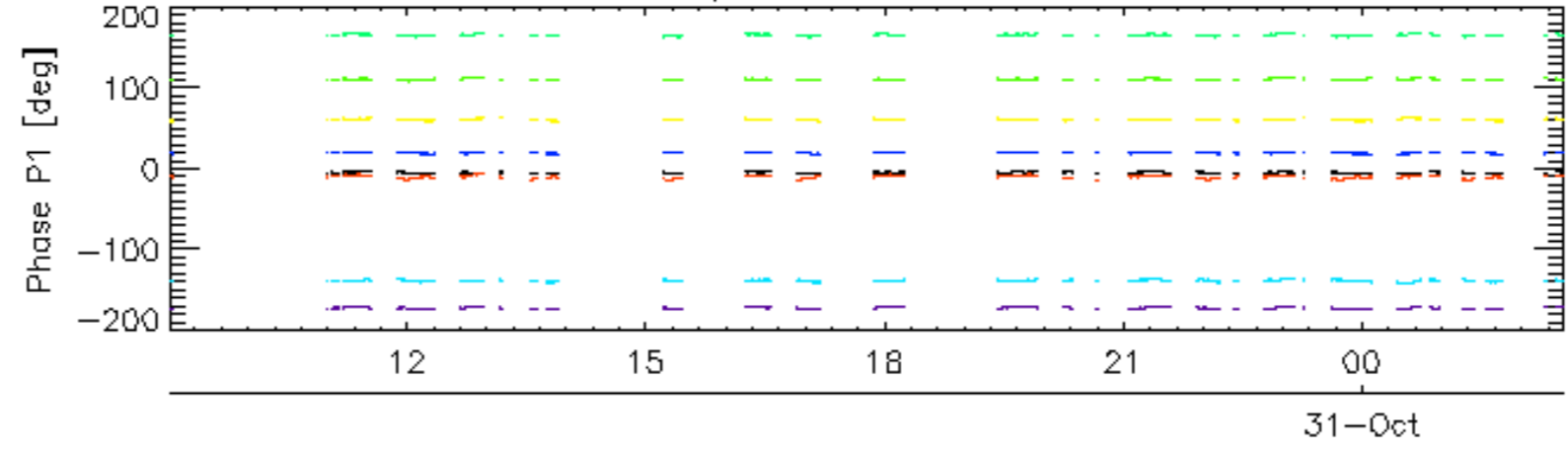


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

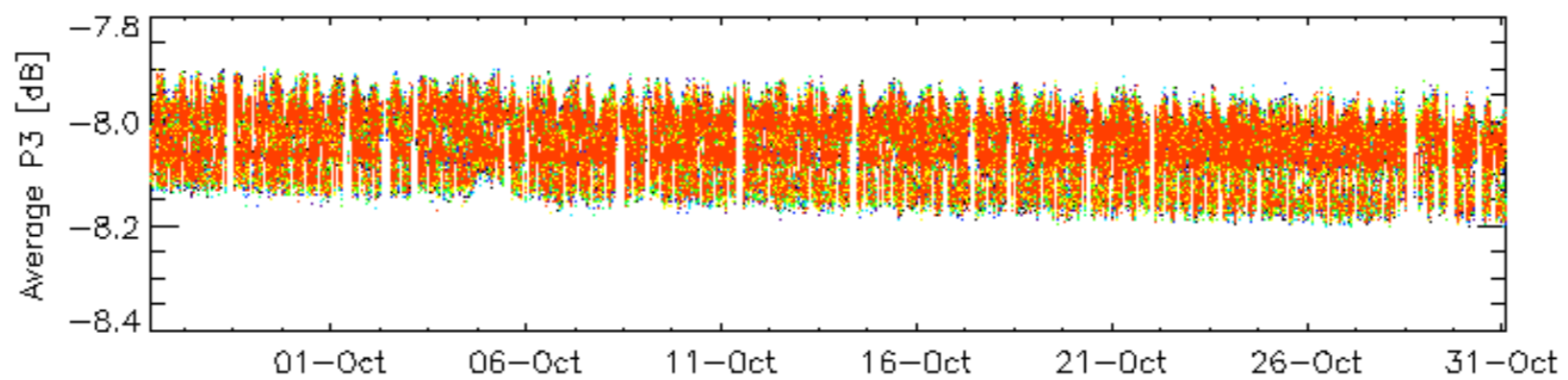
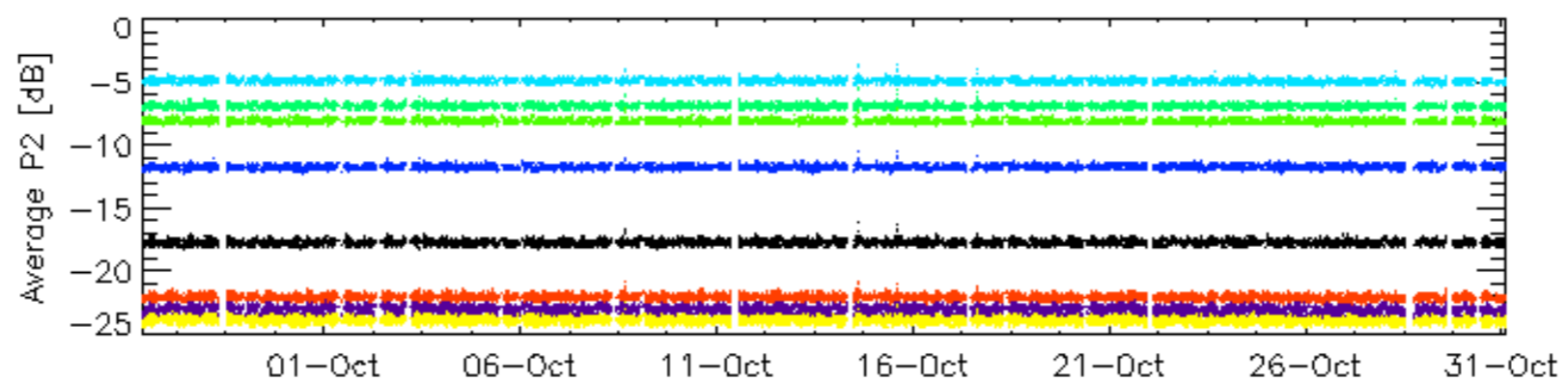
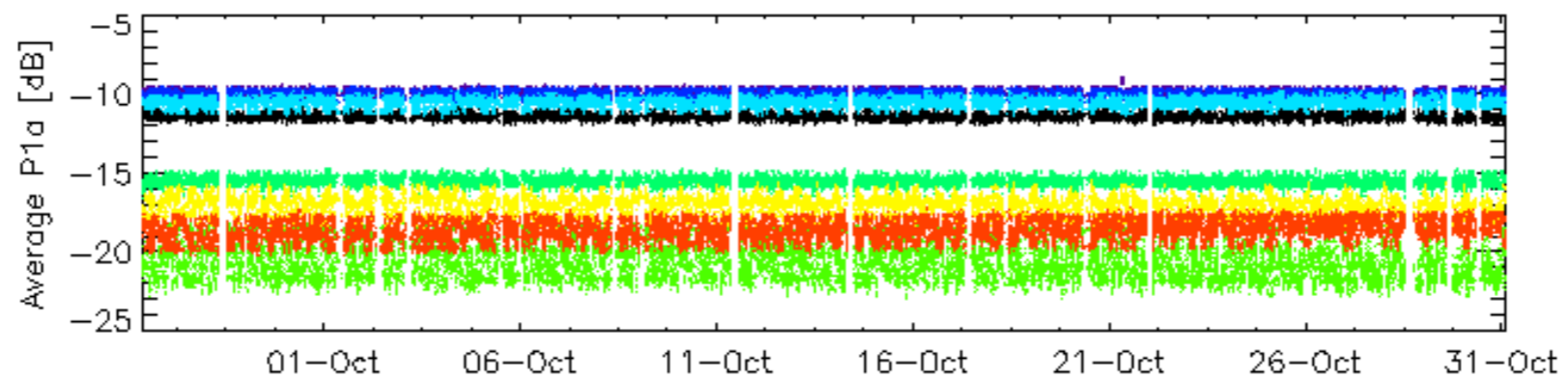
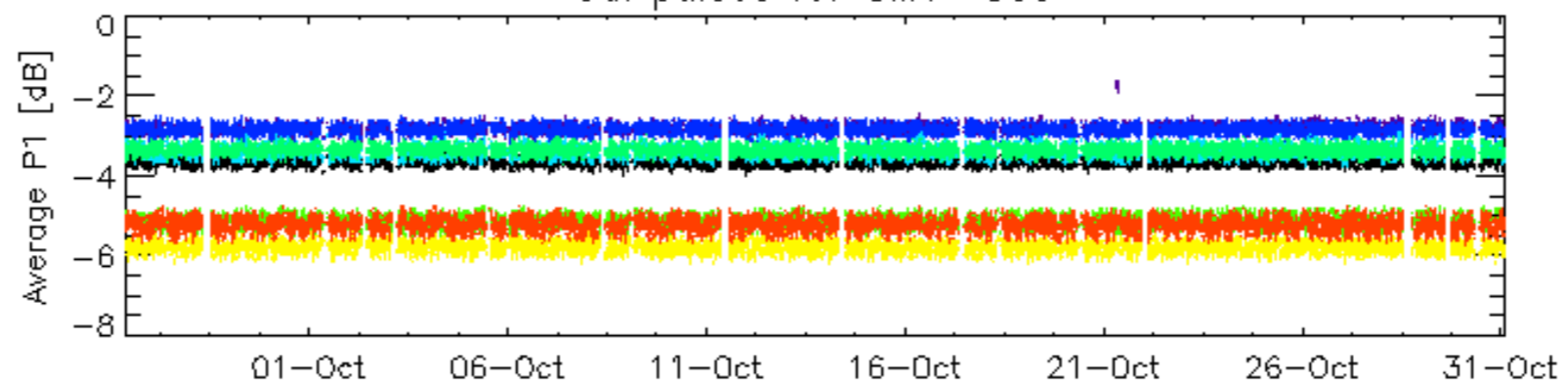


Cal pulses for WVS IS2



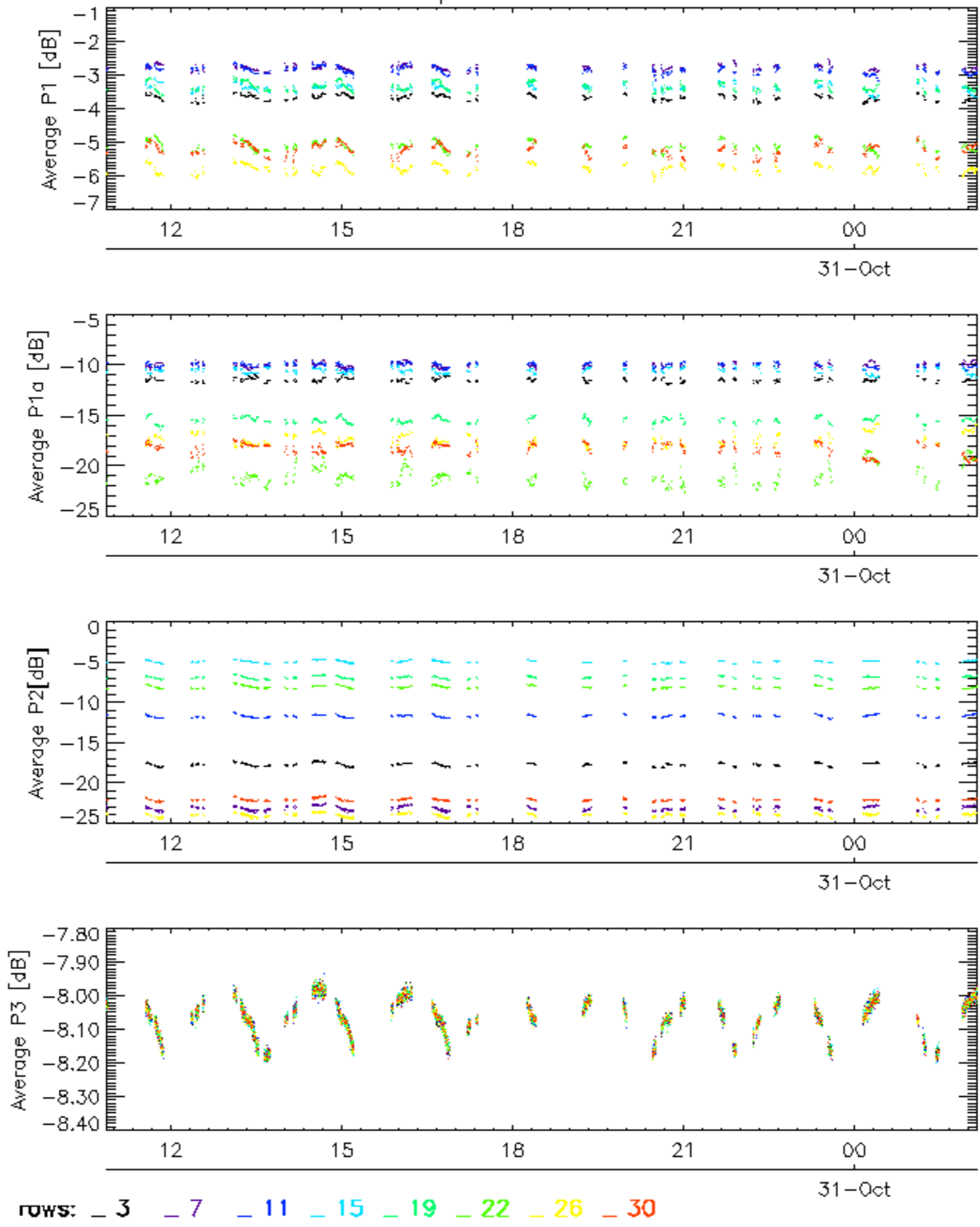
rows: **- 3** **- 7** **- 11** **- 15** **- 19** **- 22** **- 26** **- 30**

Cal pulses for GM1 SS3

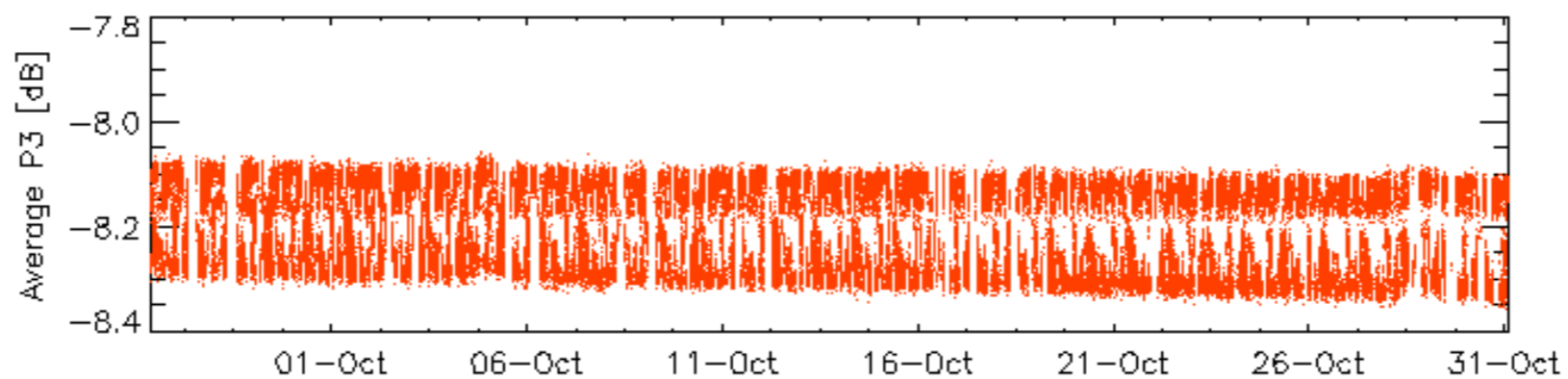
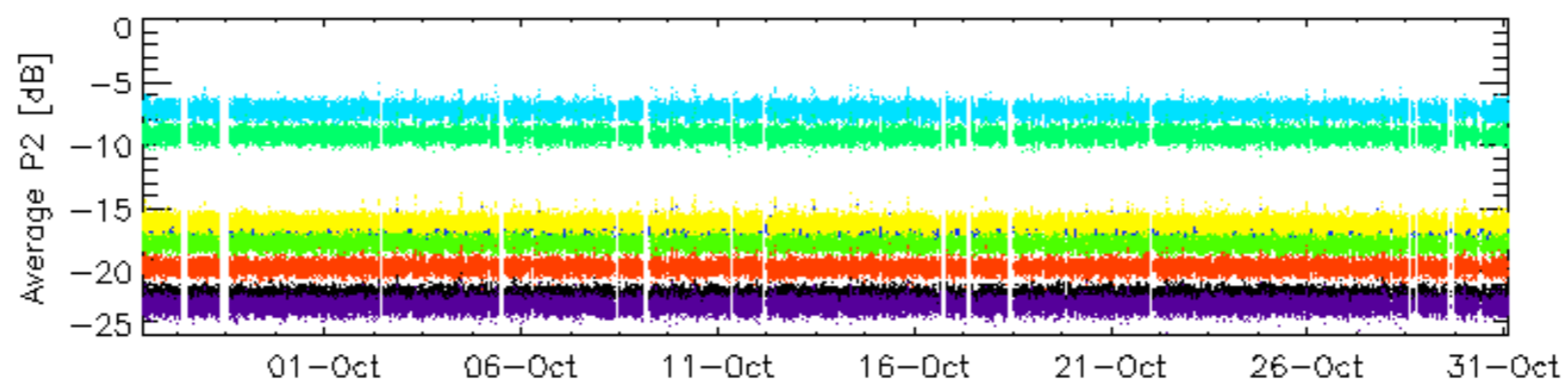
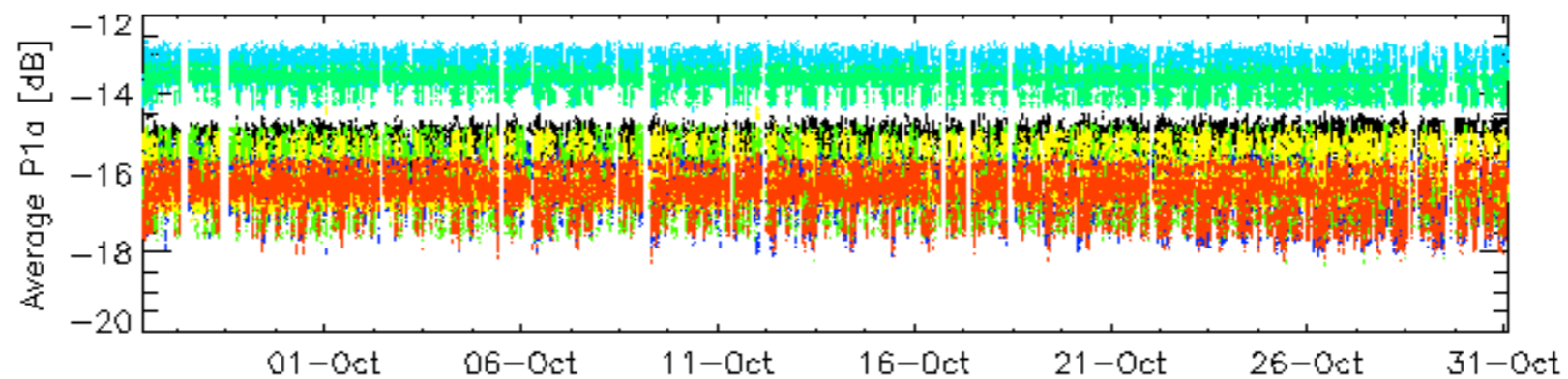
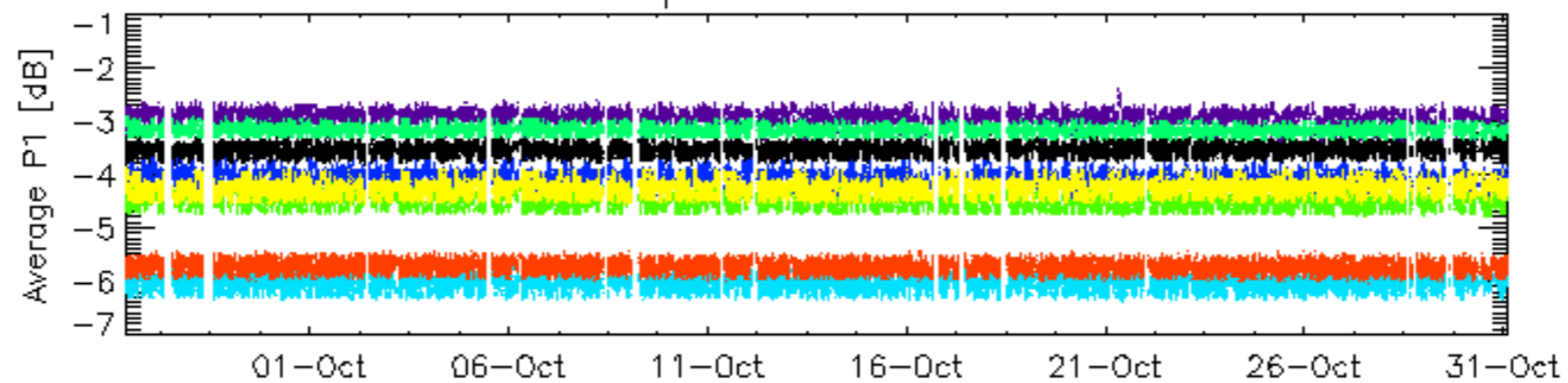


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

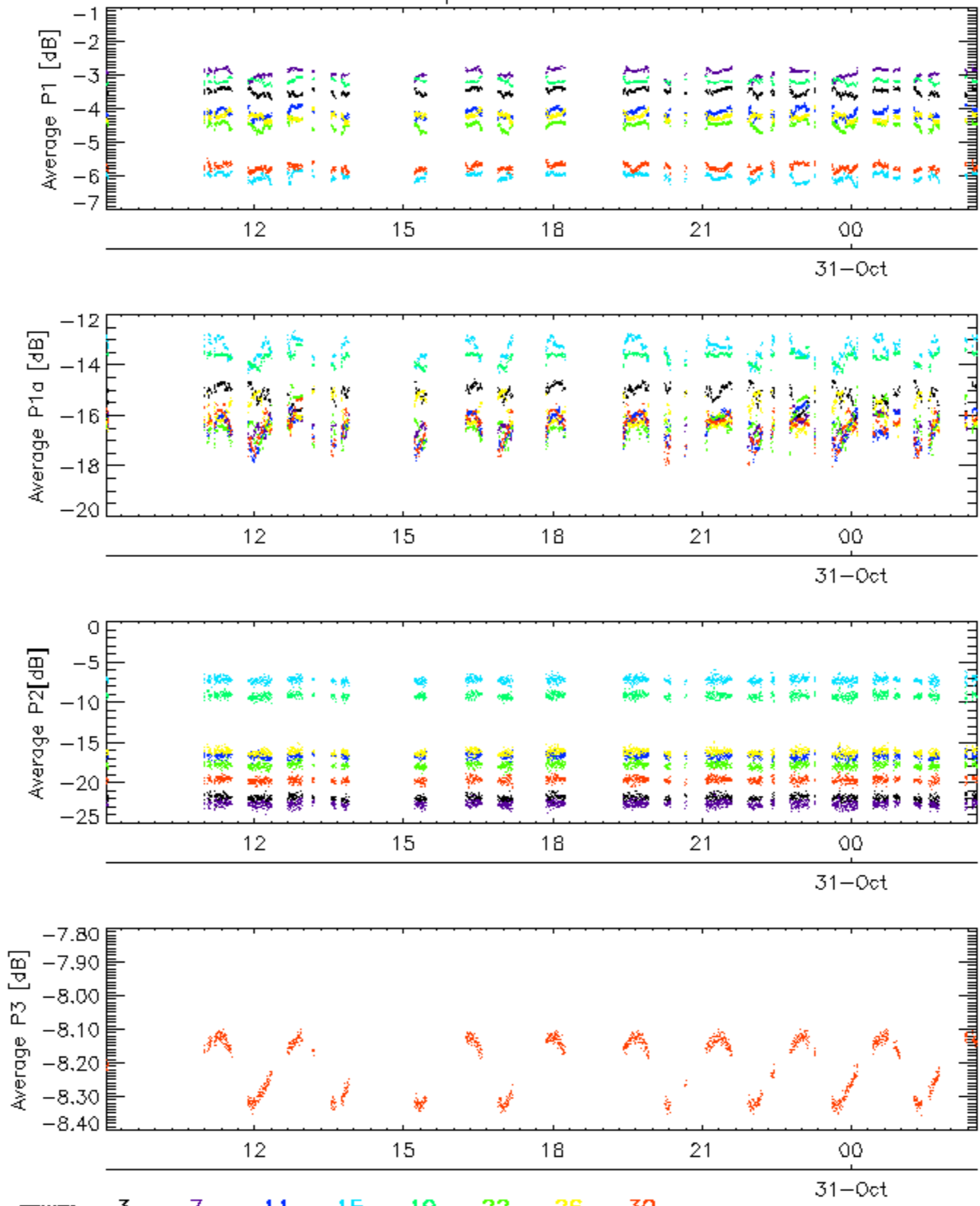


Cal pulses for WVS IS2



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

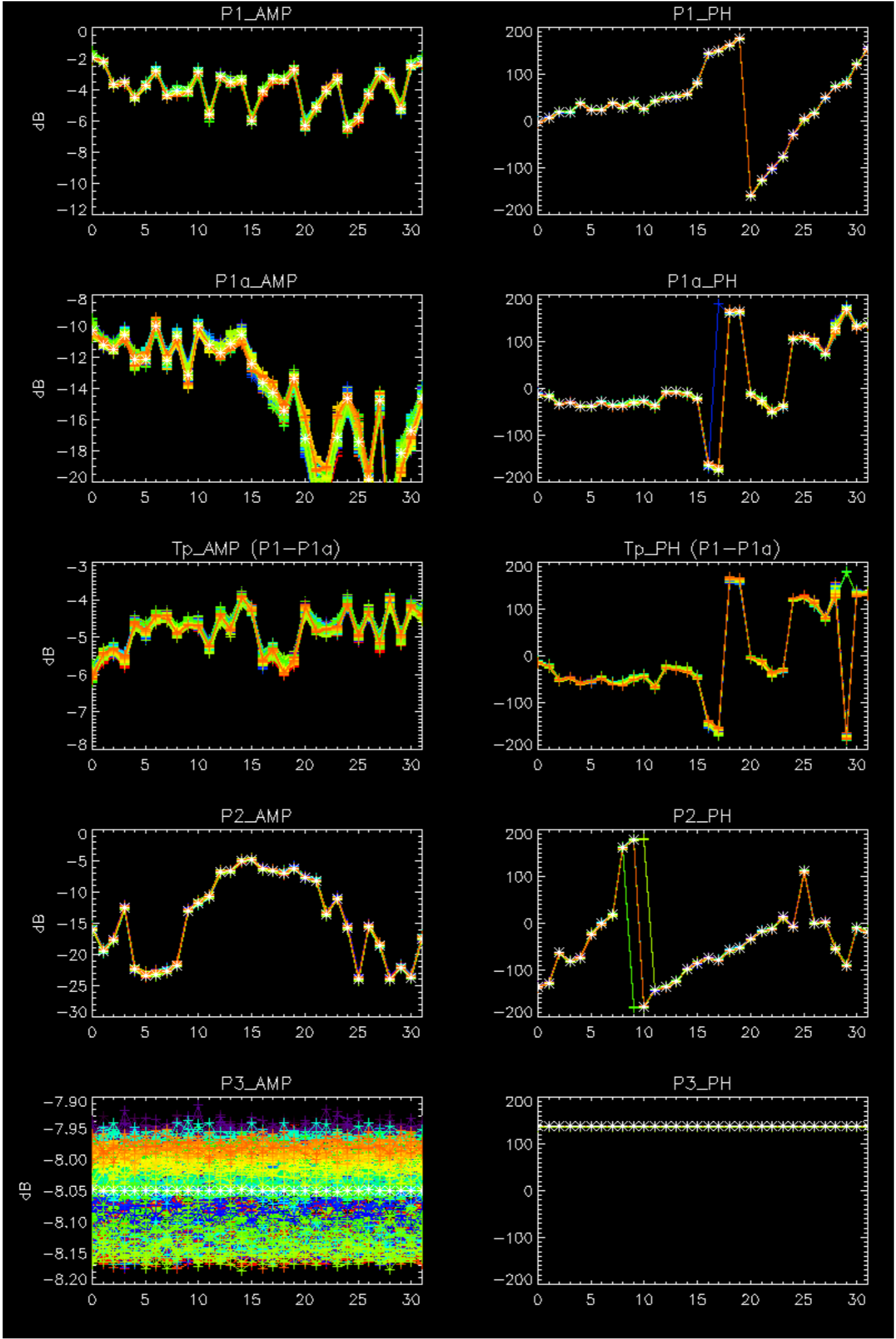
Cal pulses for WVS IS2

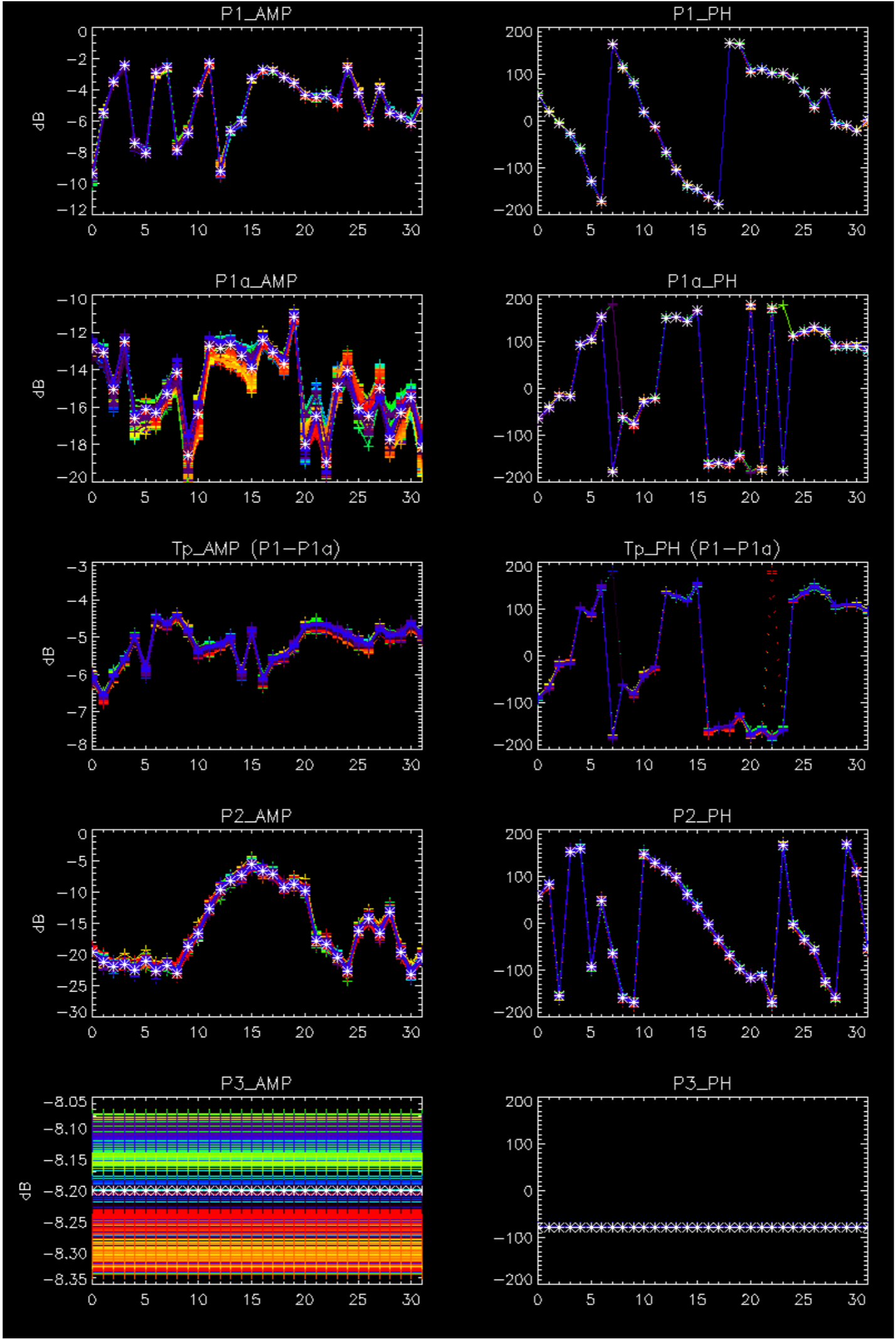


No anomalies observed on available browse products



No anomalies observed.

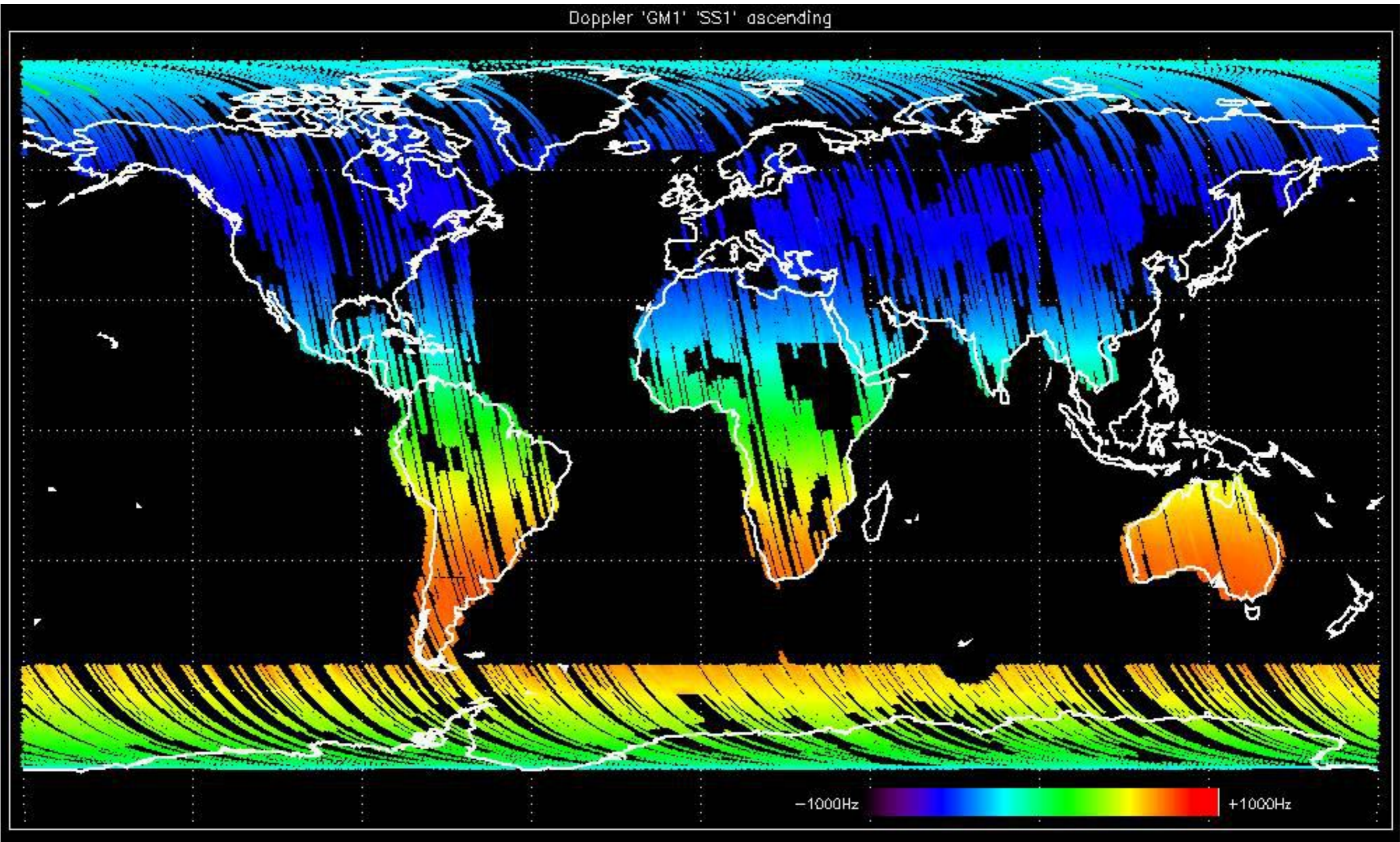




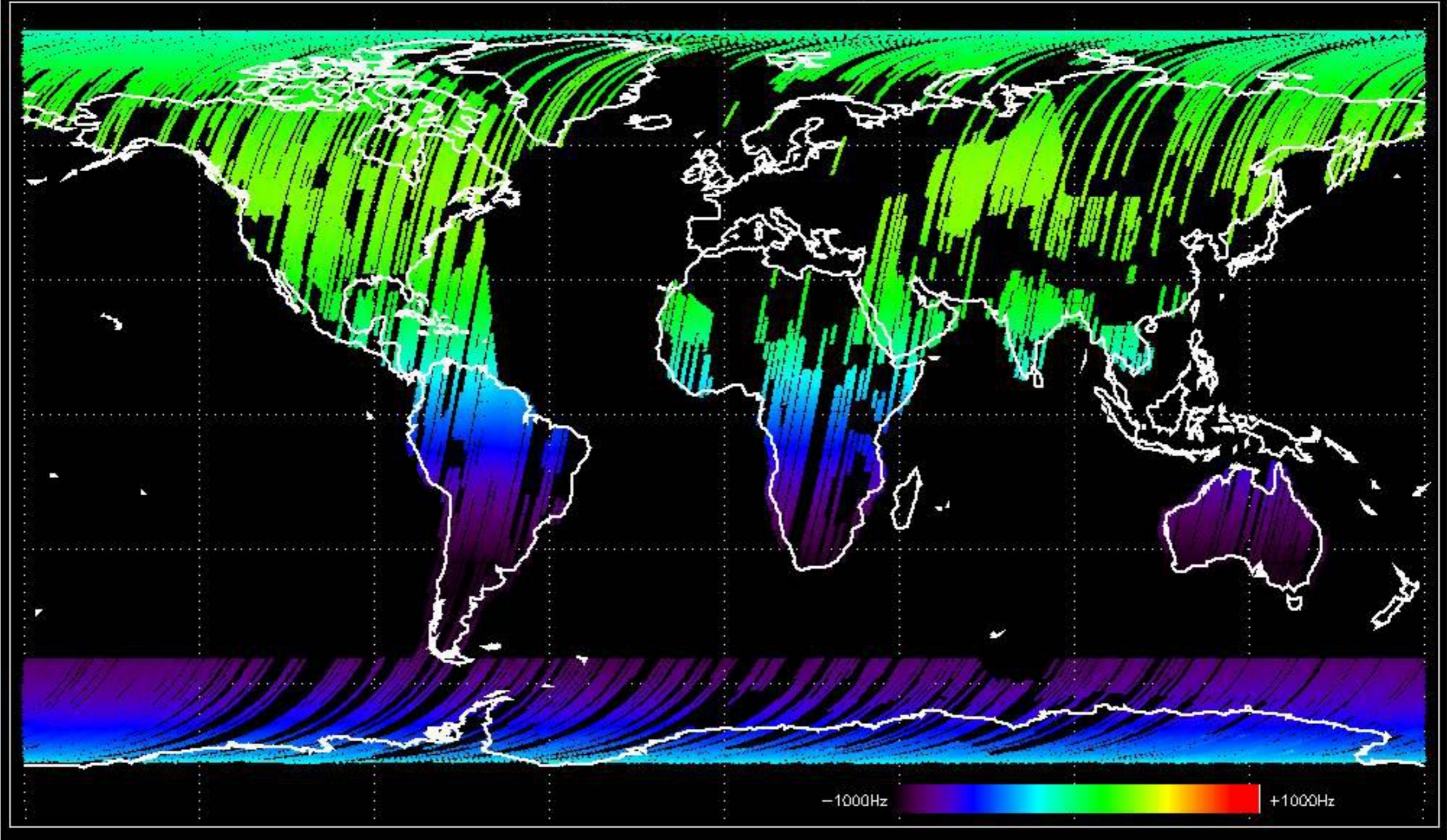
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



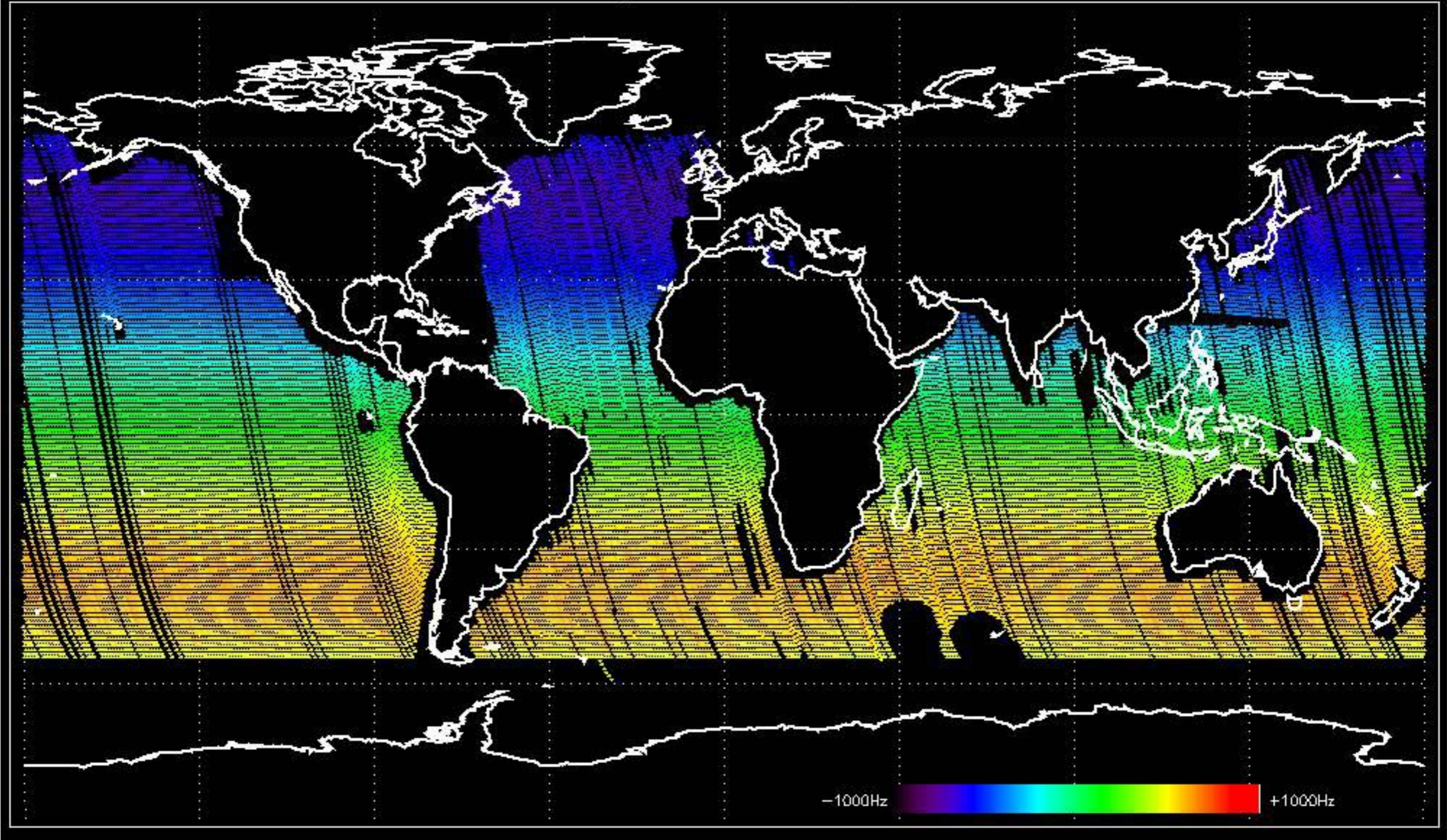
Doppler 'GM1' 'SS1' ascending



Doppler 'GM1' 'SS1' descending

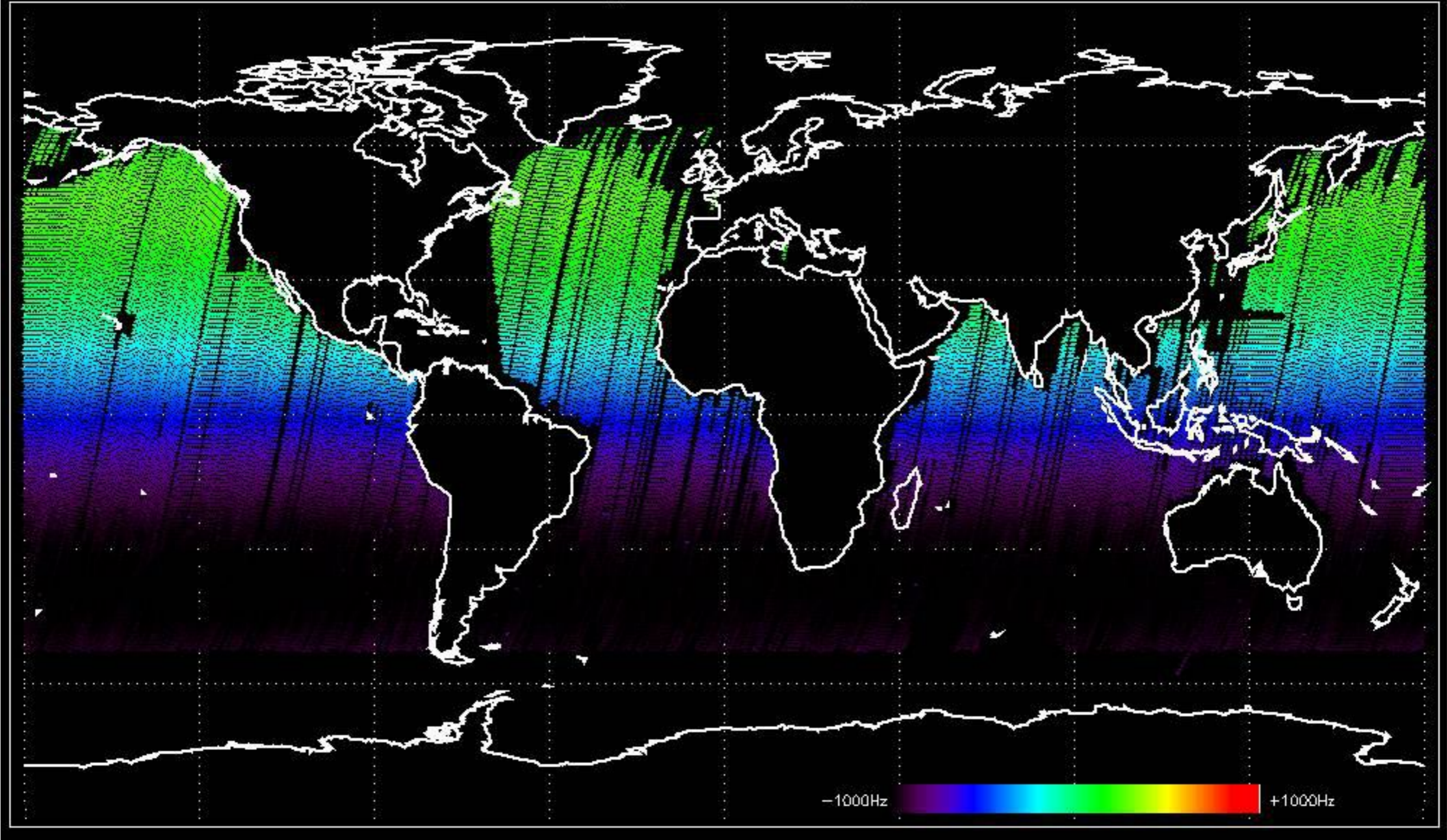


Doppler 'WVS' 'IS2' ascending

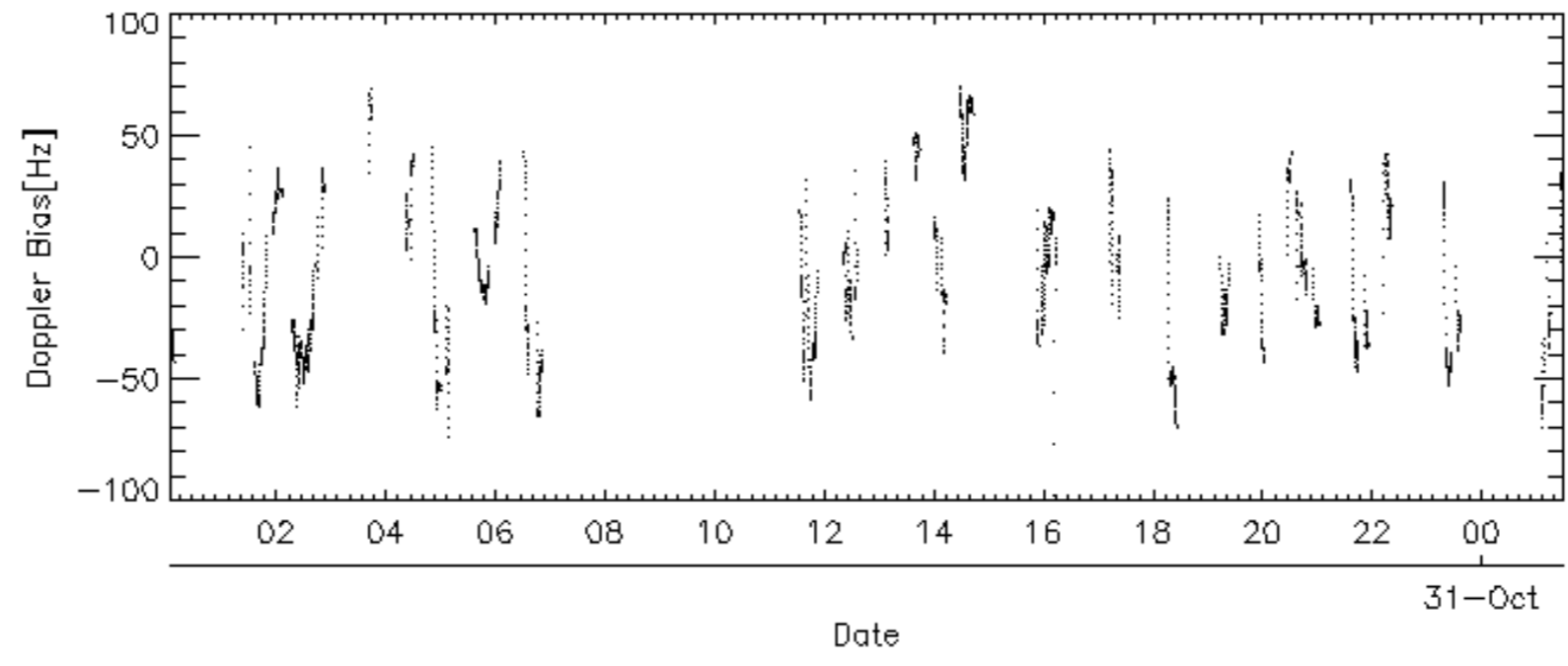
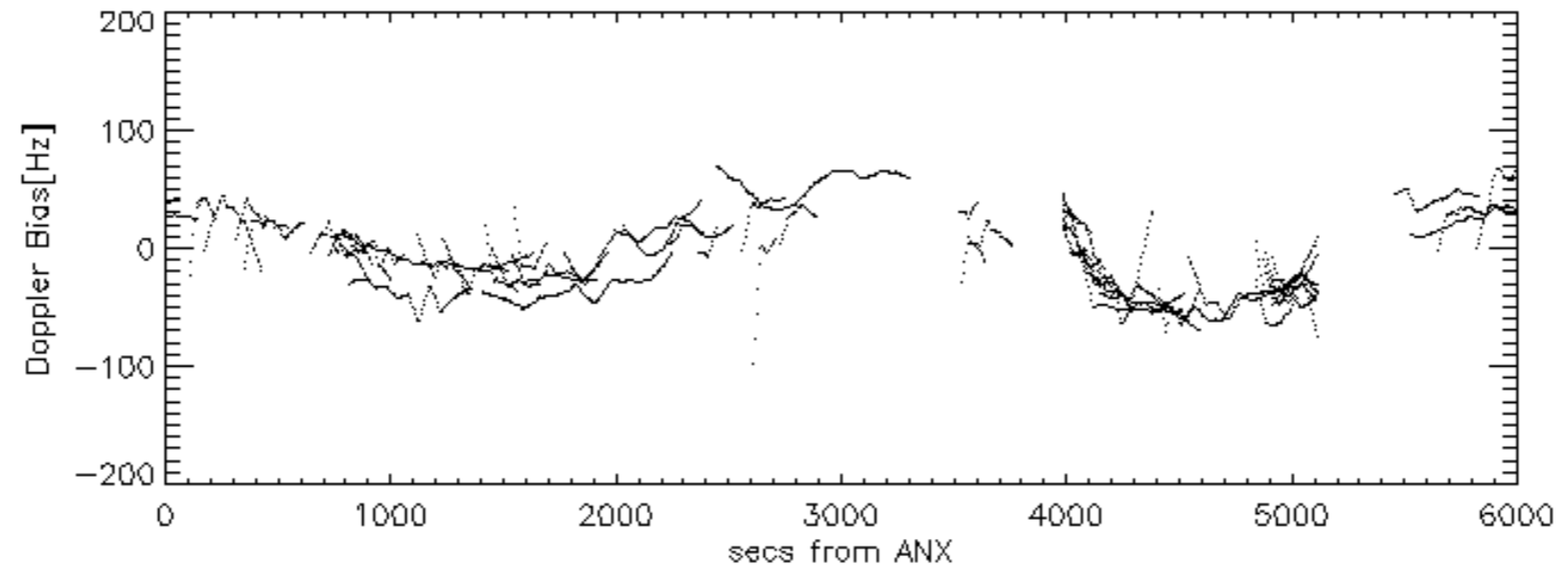
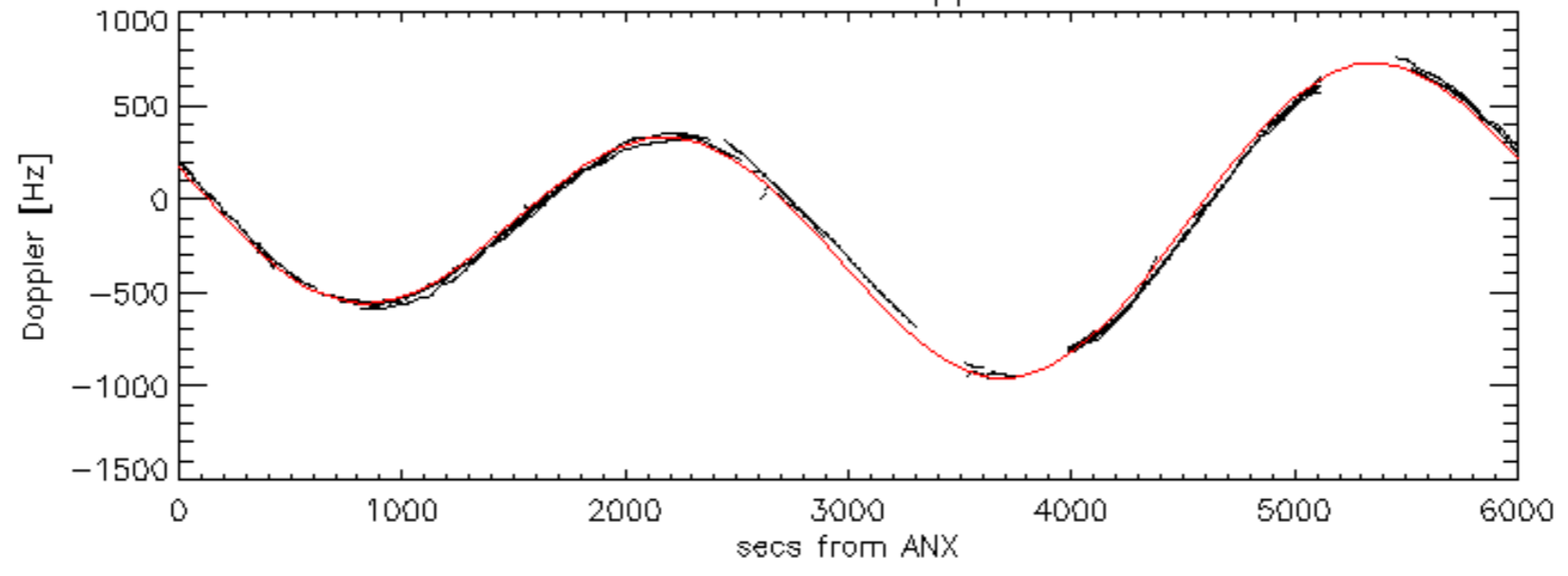


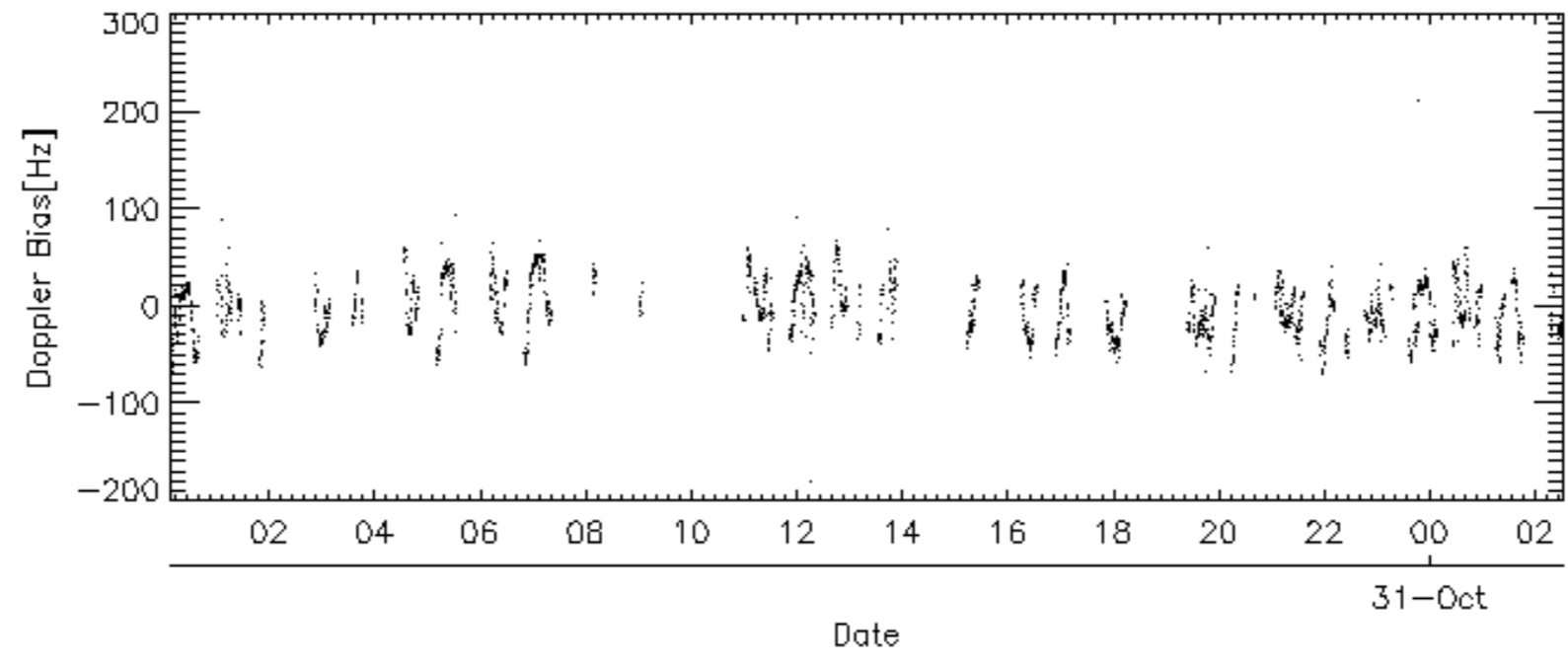
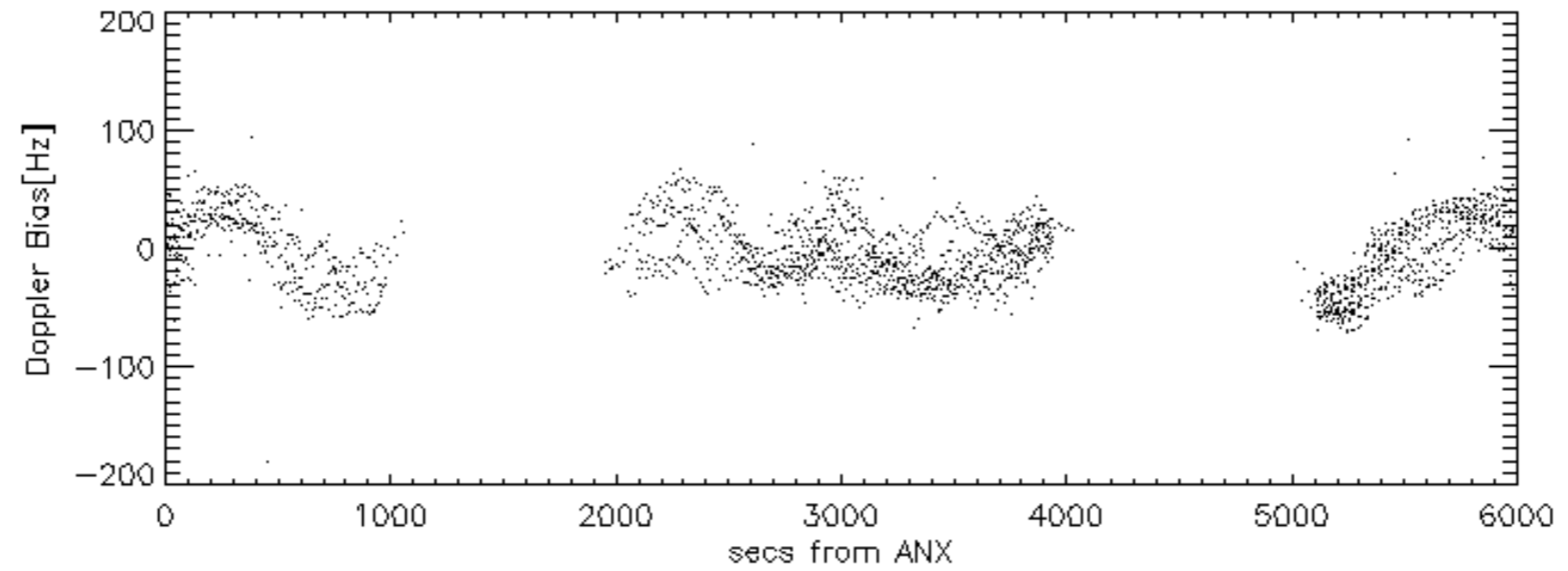
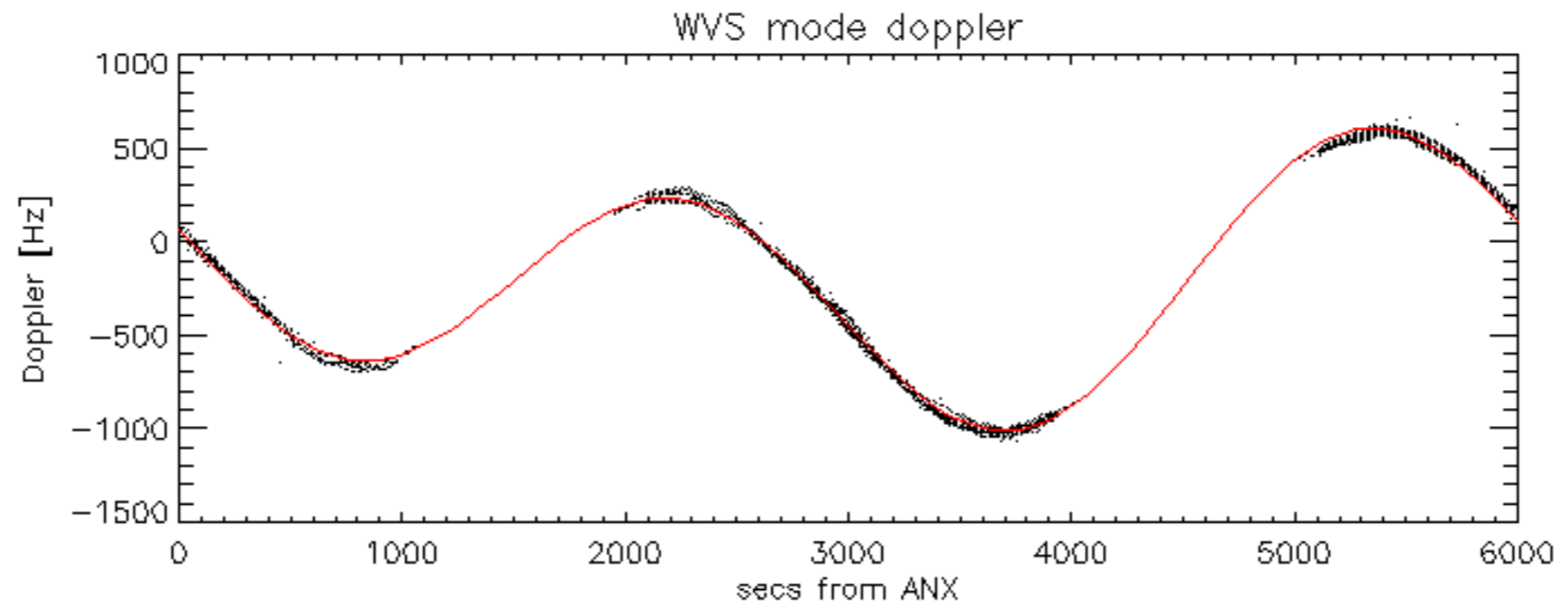


Doppler 'WVS' 'IS2' descending

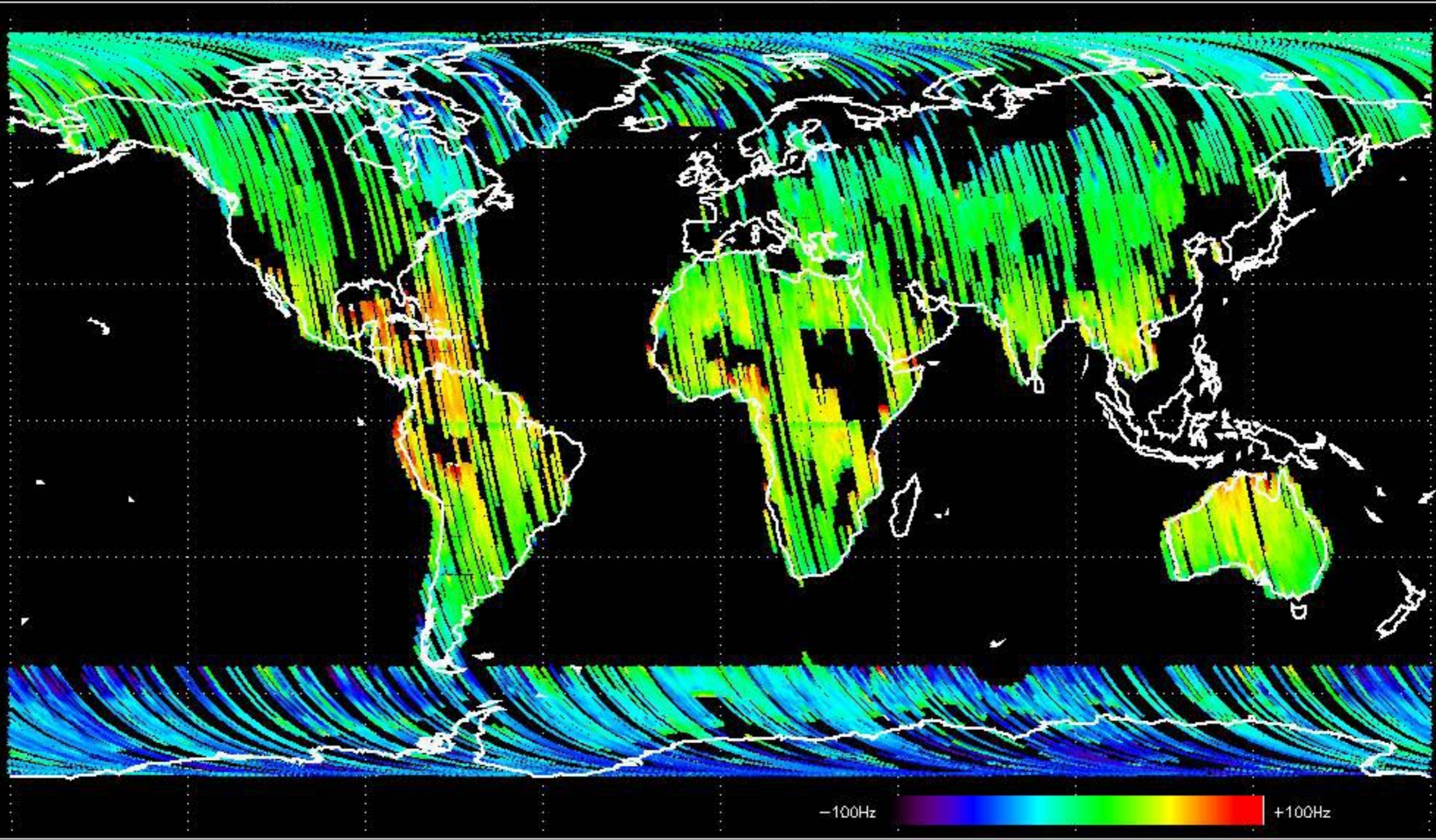


GM1 mode doppler

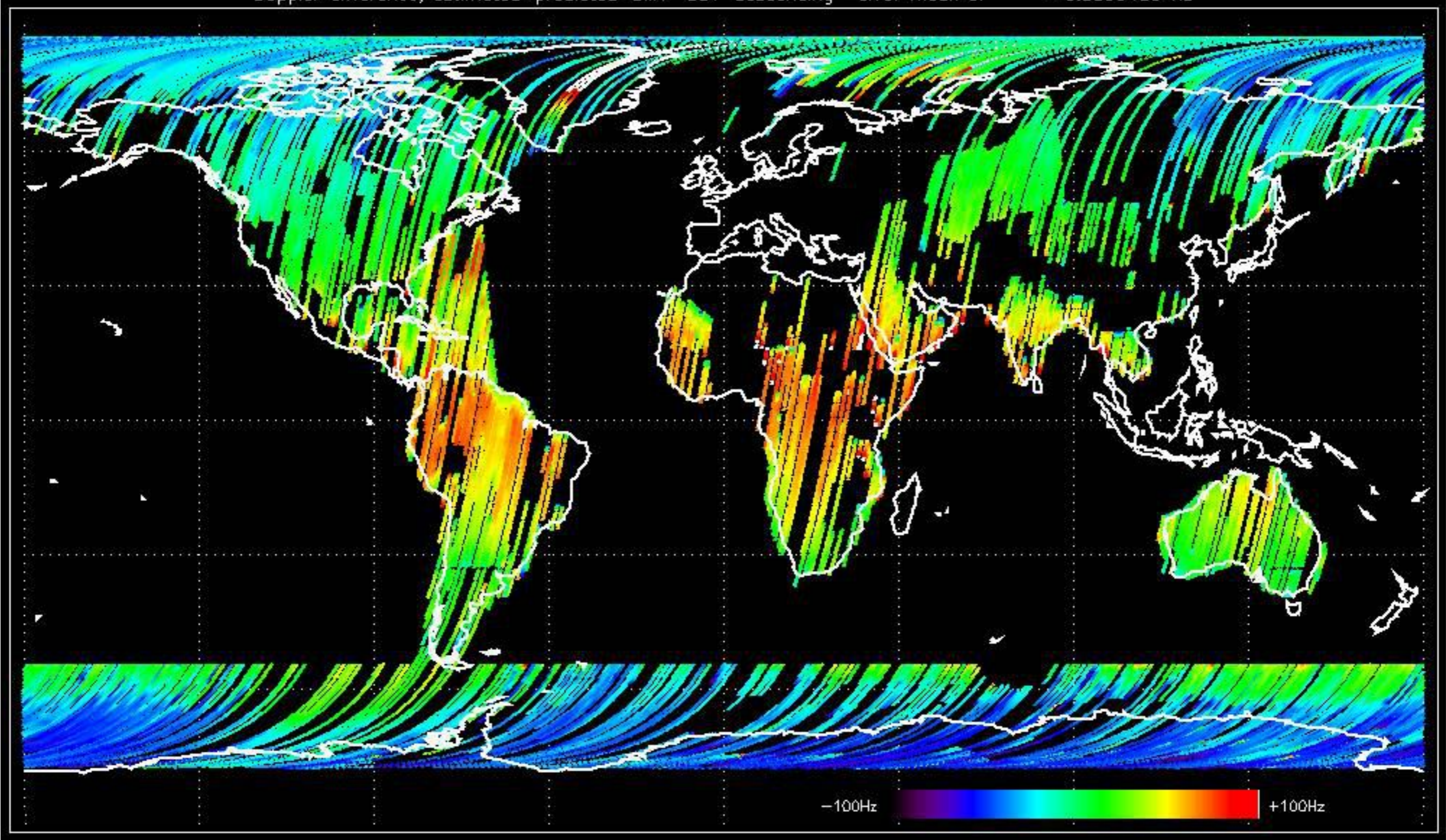




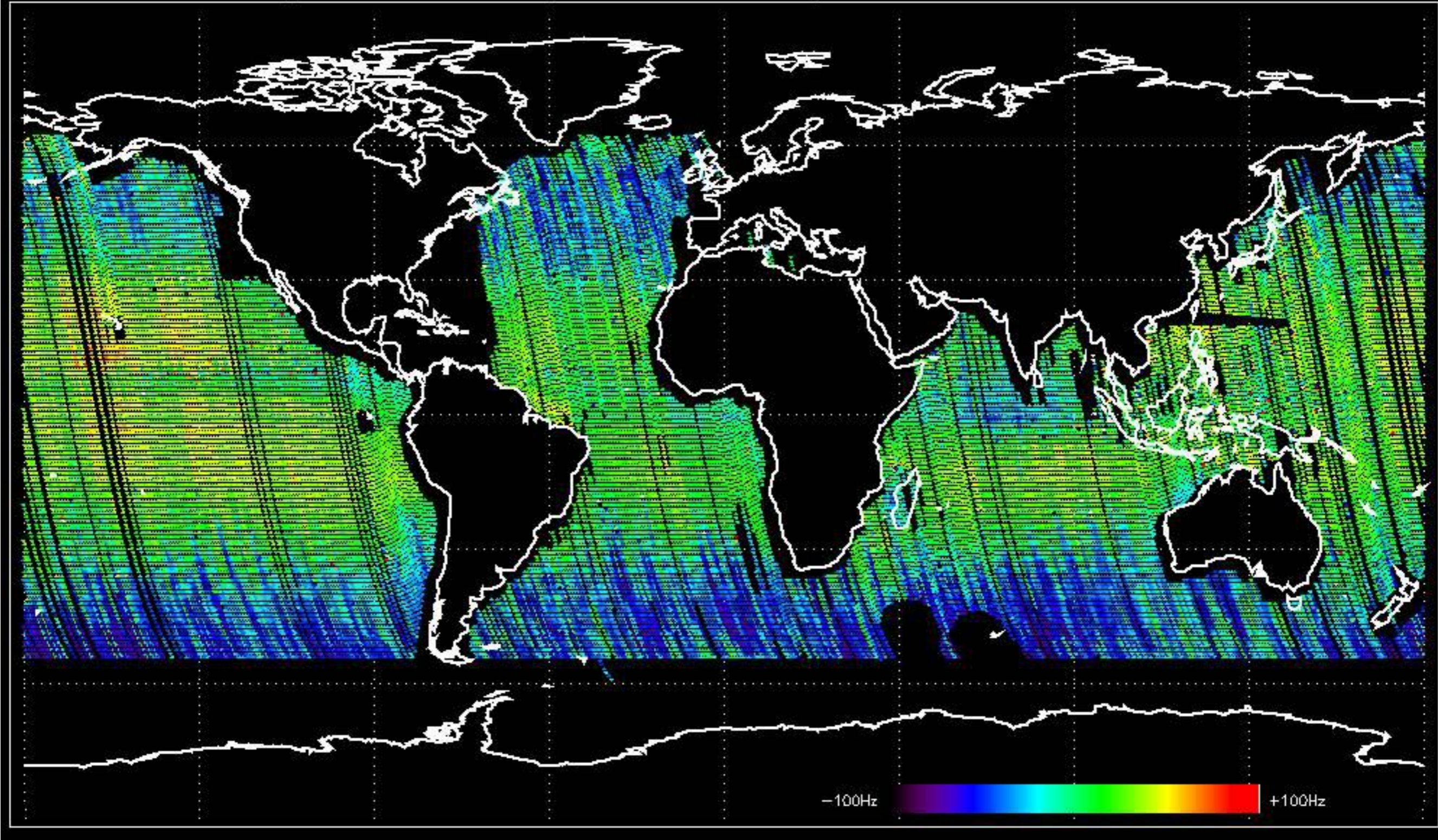
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -9.2168596 Hz



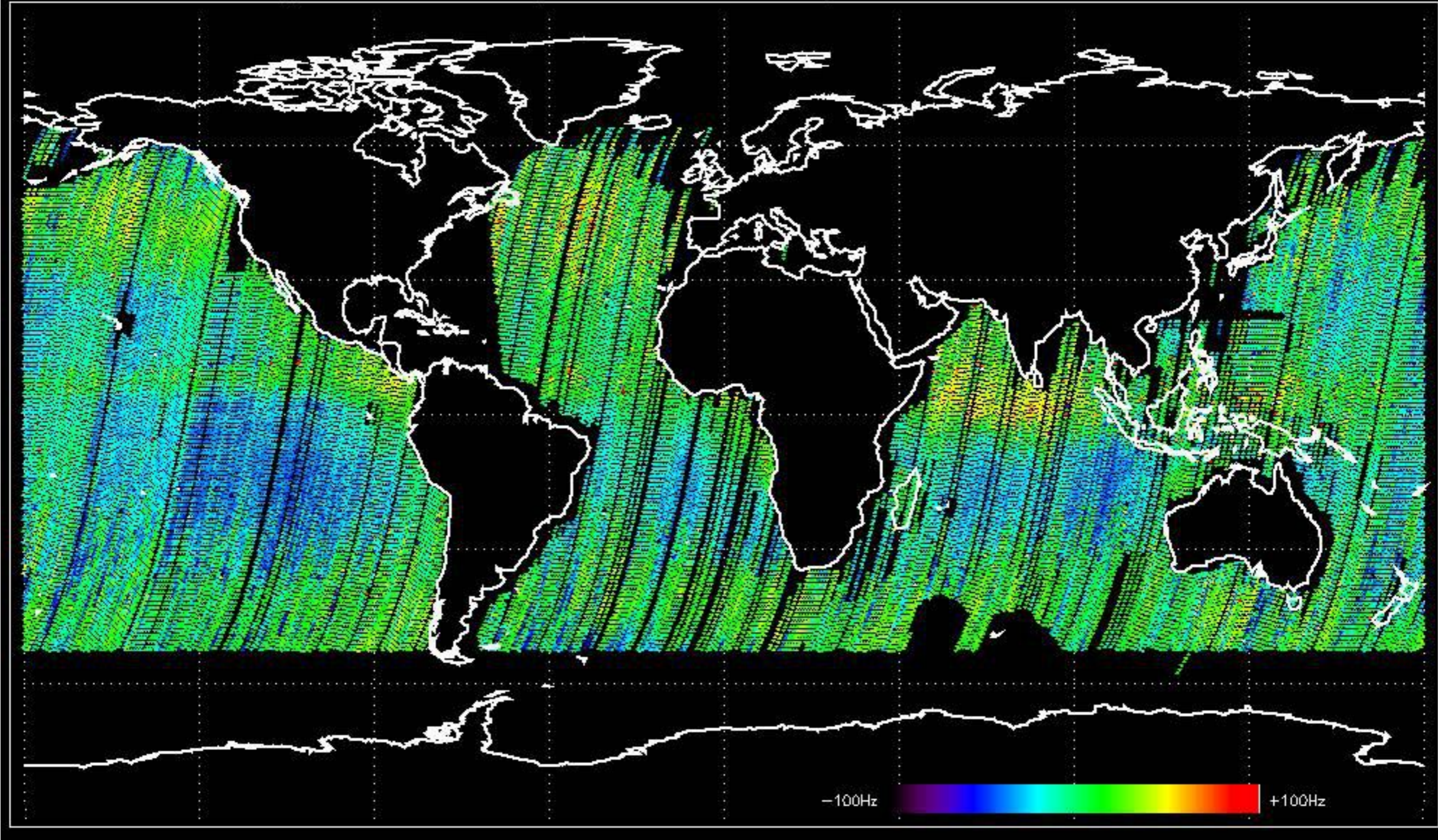
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -5.3999450 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of 0.022393016 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -4.0855847 Hz



No anomalies observed on available MS products:



No anomalies observed.









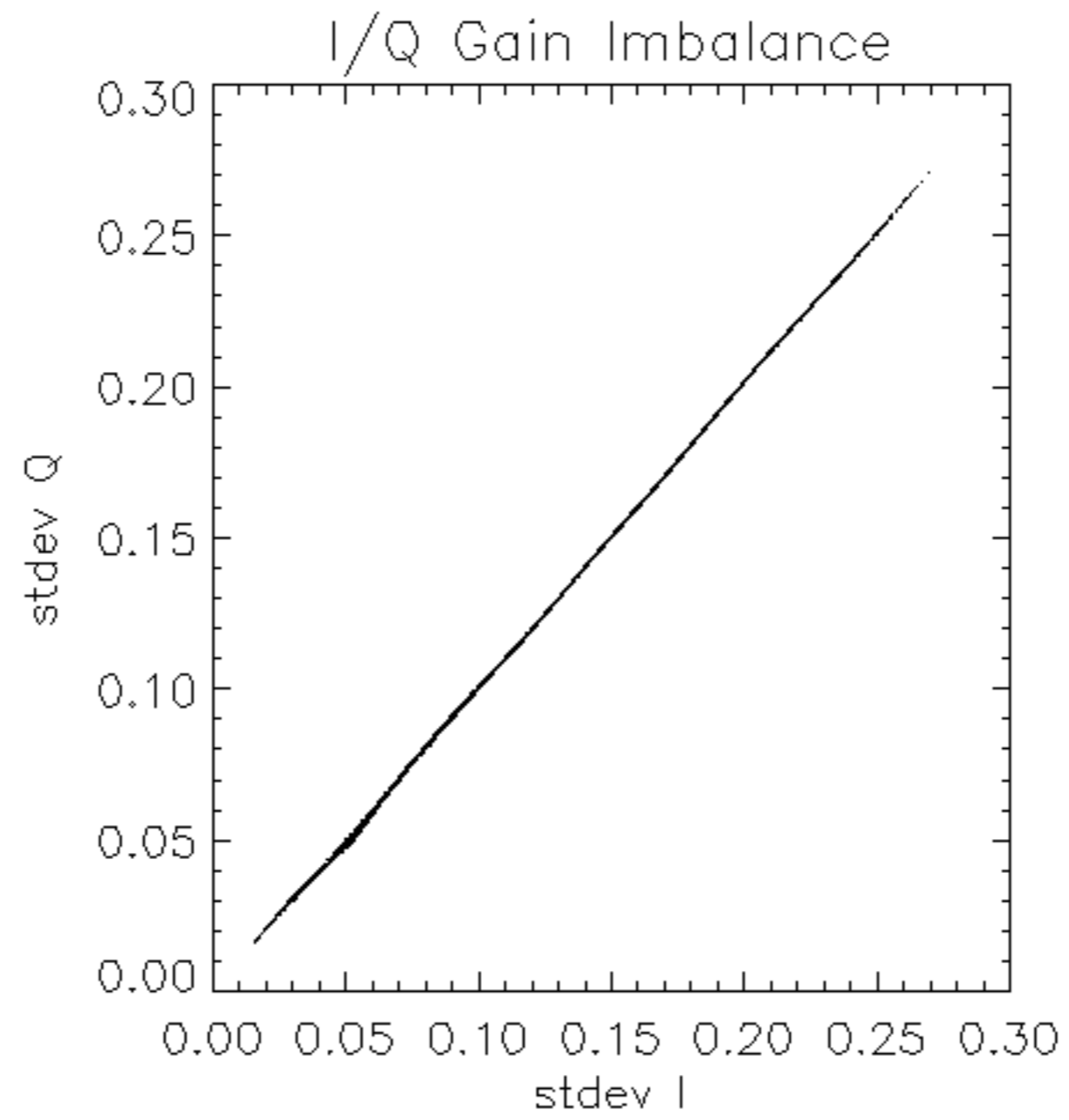


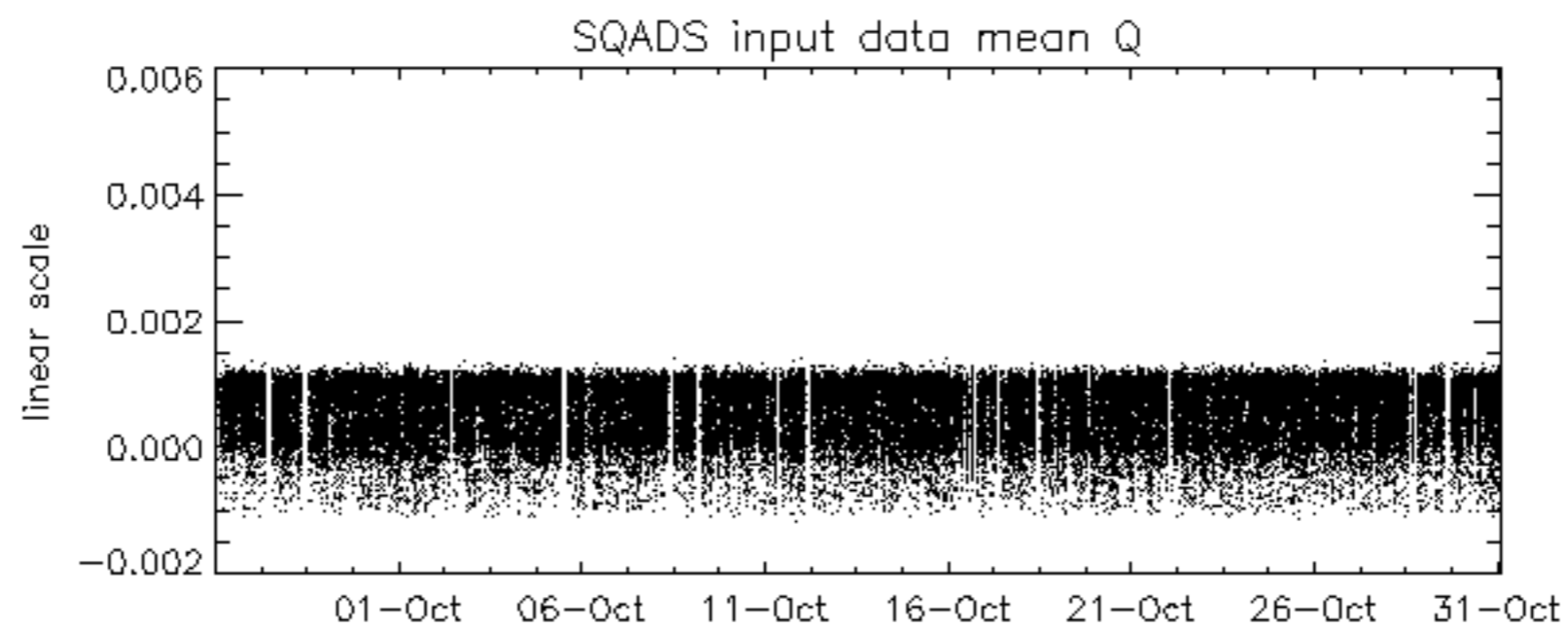
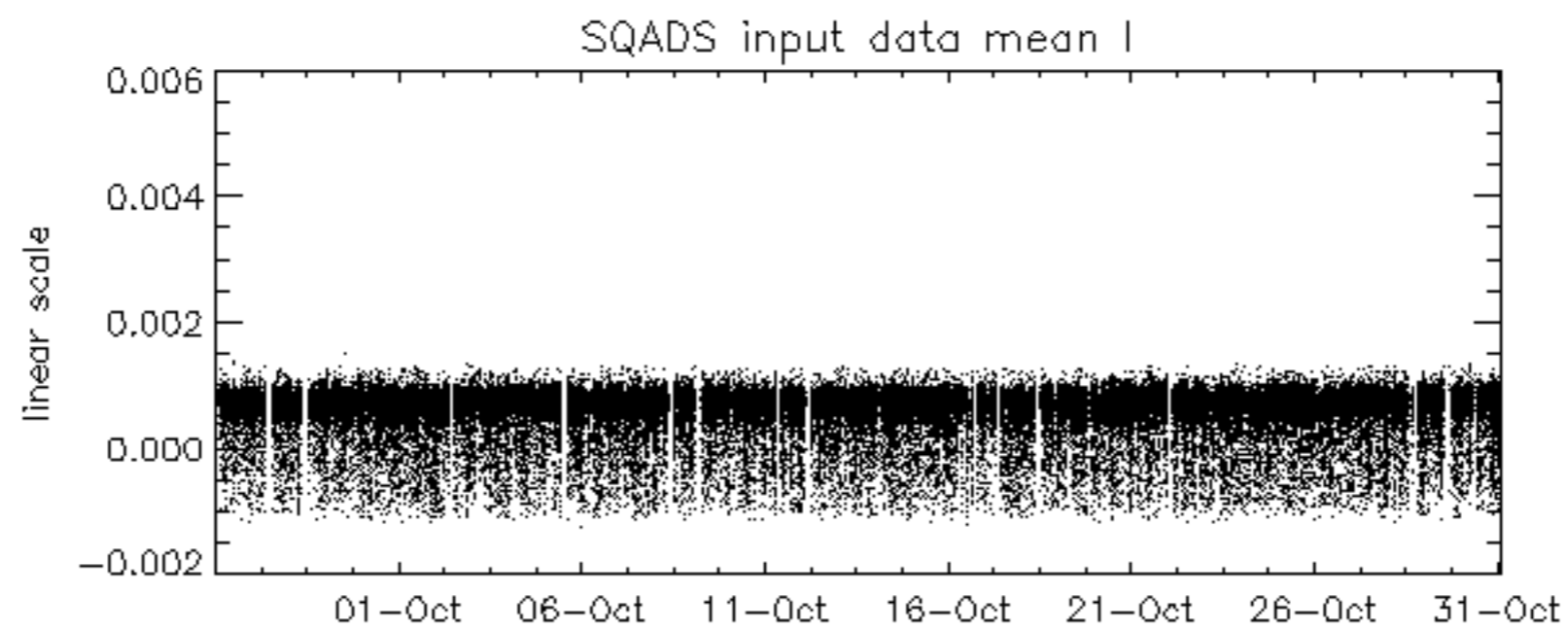
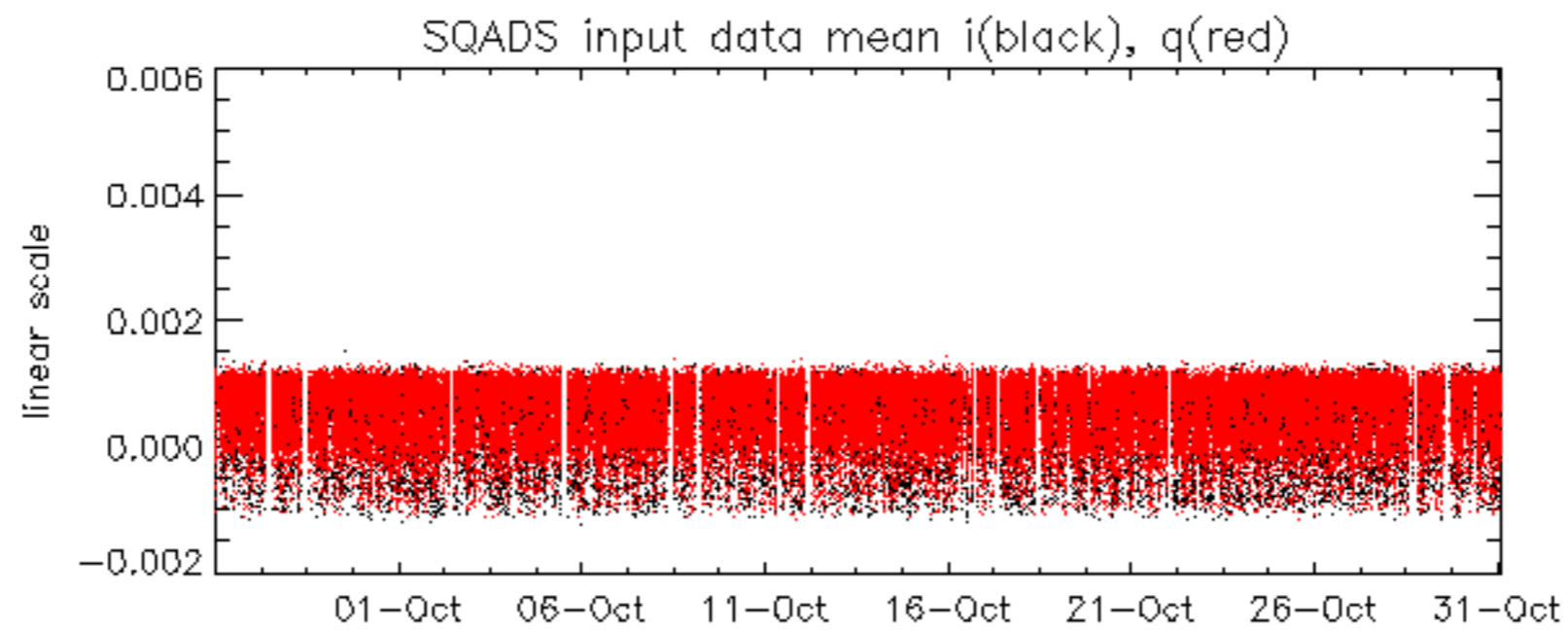


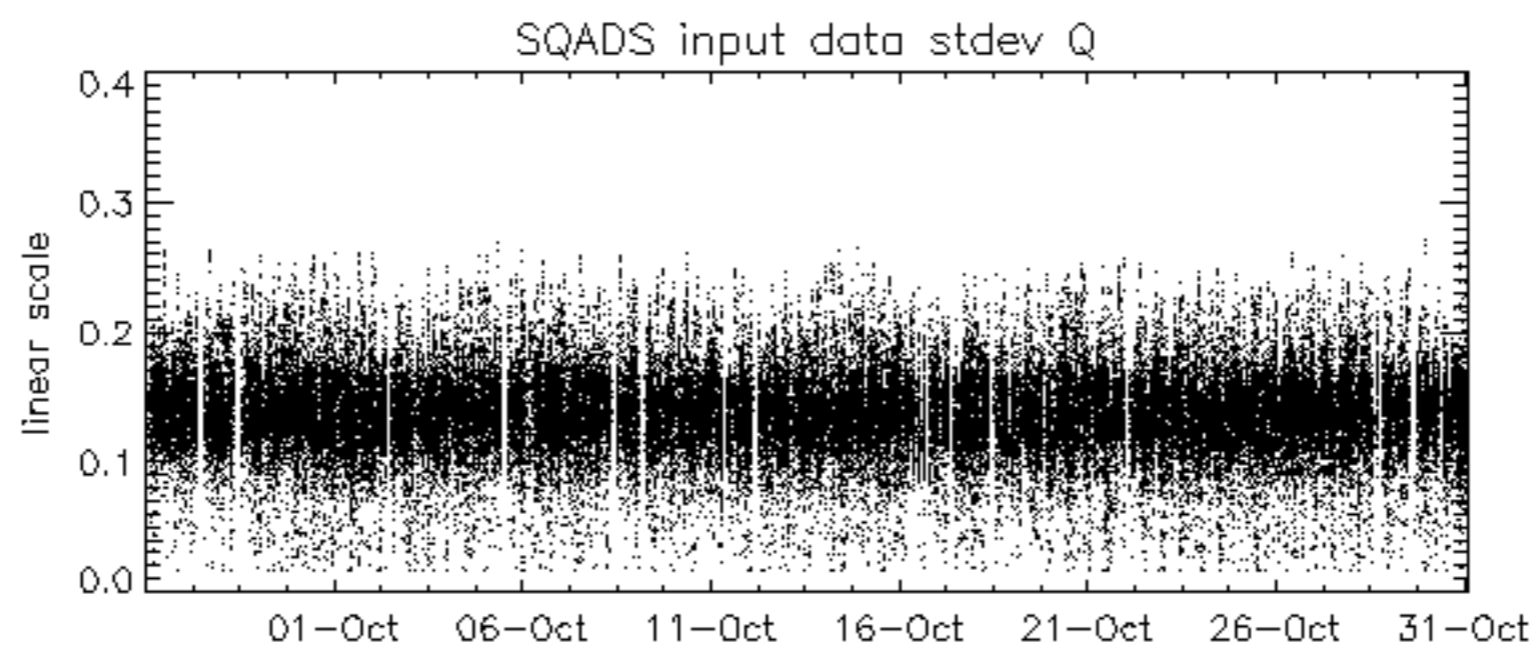
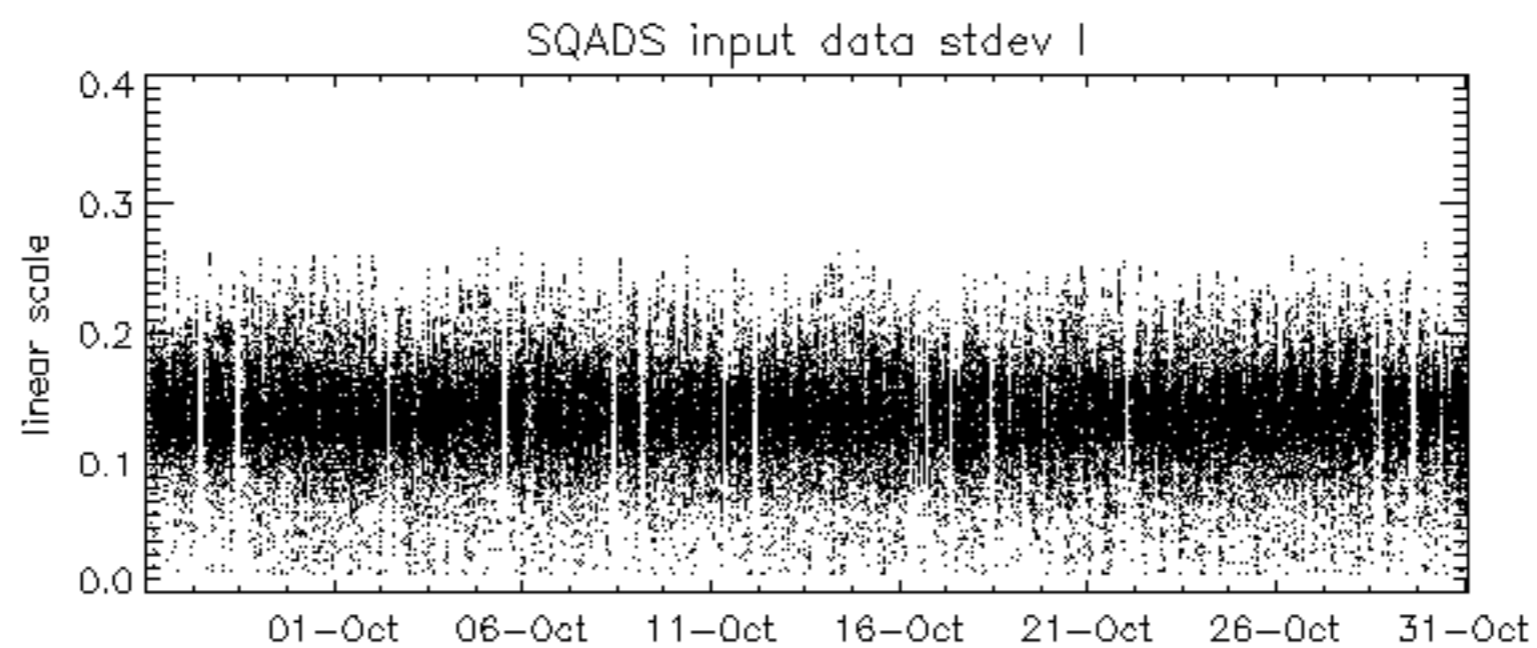
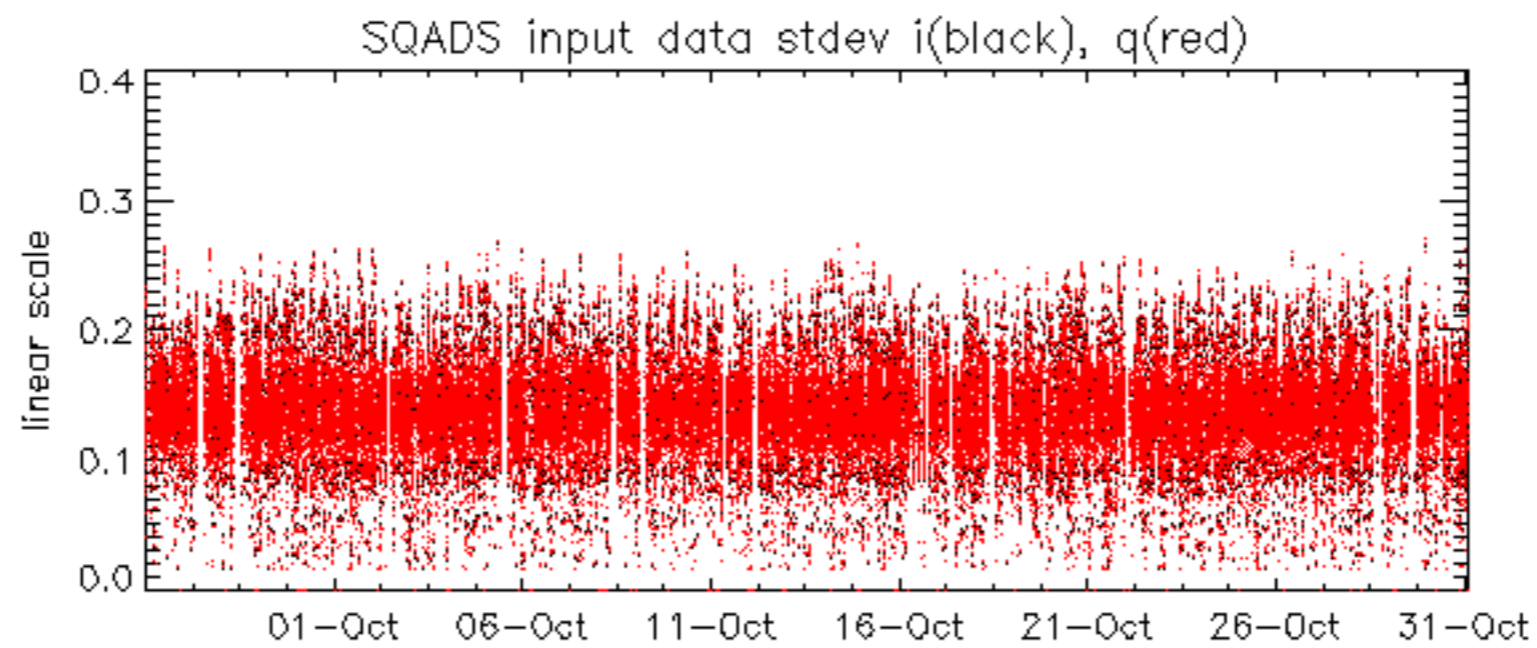






















Summary of analysis for the last 3 days 2005103[901]

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

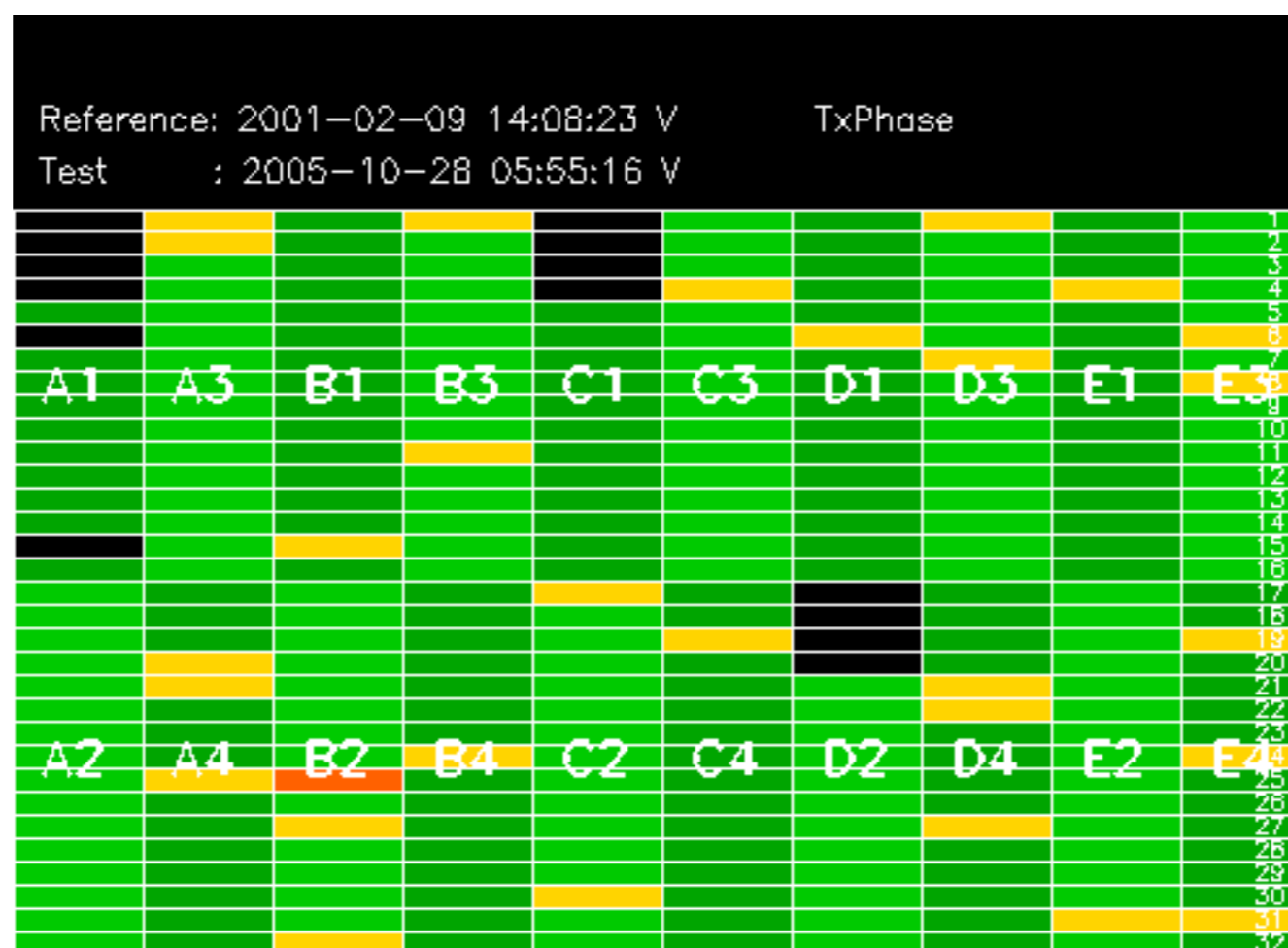
Filename	num_gaps	num_missing_lines
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ASA_IMM_1PNPDE20051031_004612_000002632042_00088_19180_9868.N1	1	0
ASA_WSM_1PNPDE20051030_010811_000001102042_00074_19166_6956.N1	0	73
ASA_WSM_1PNPDE20051031_022049_000002912042_00089_19181_7160.N1	0	30



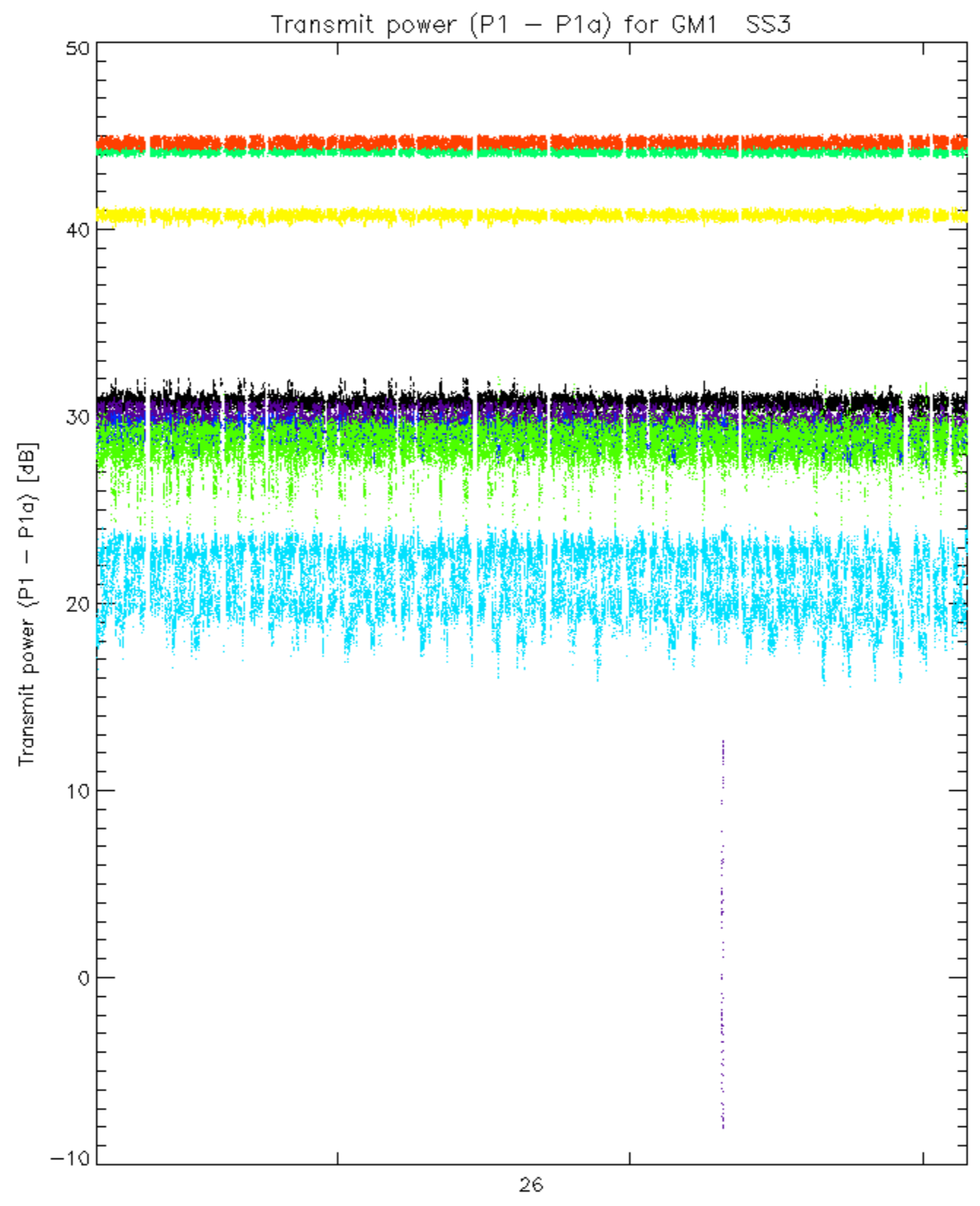






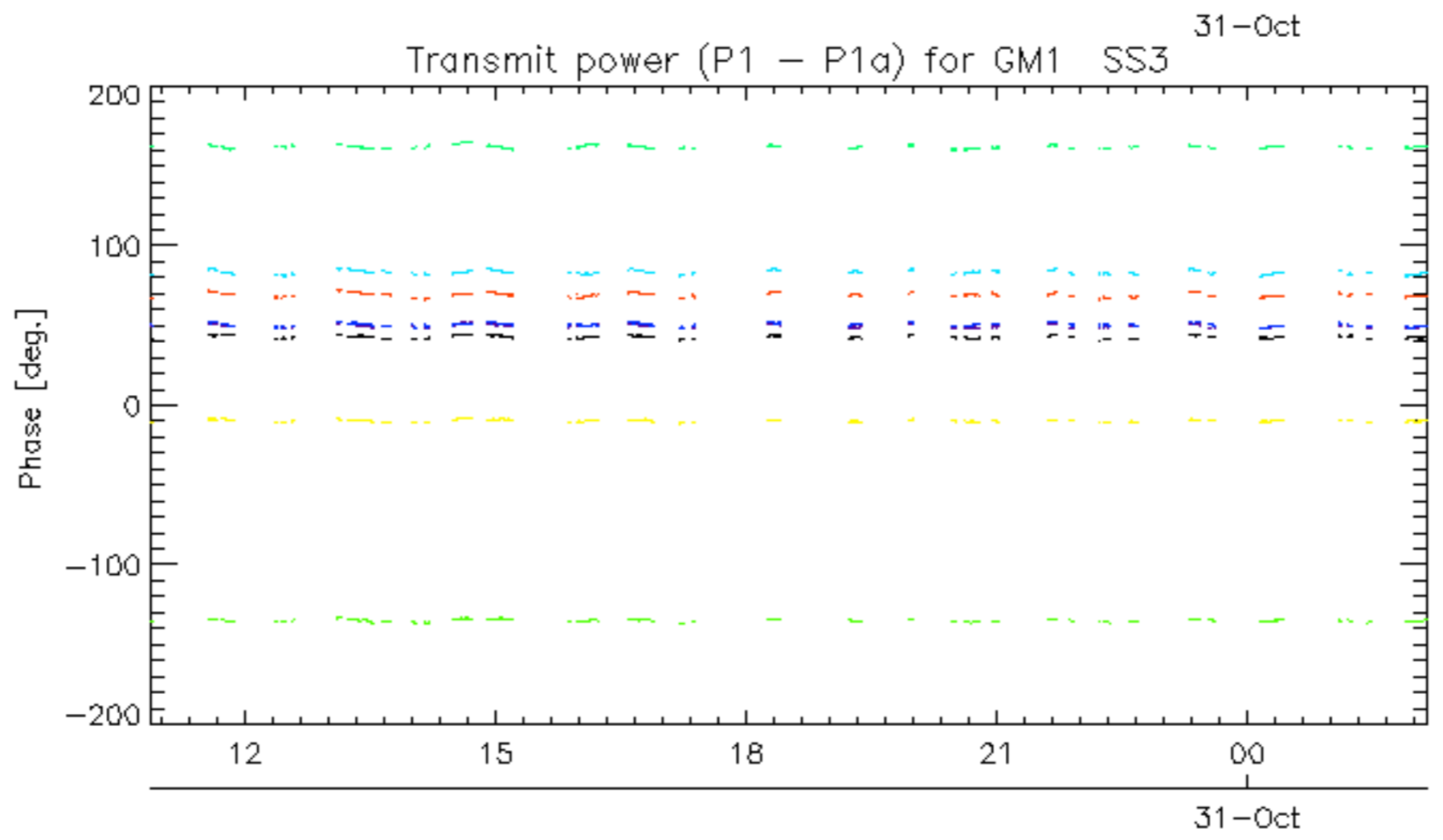
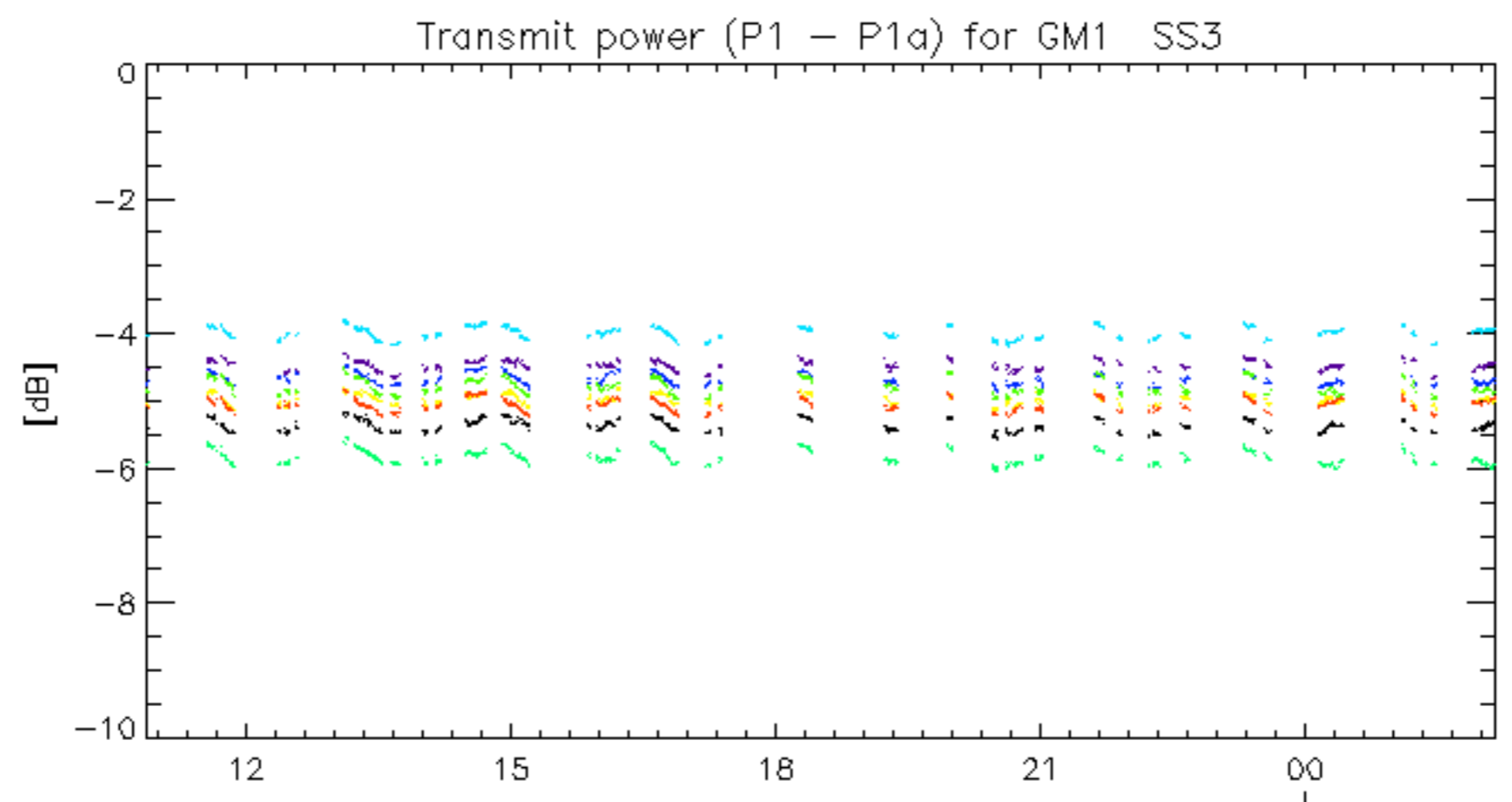




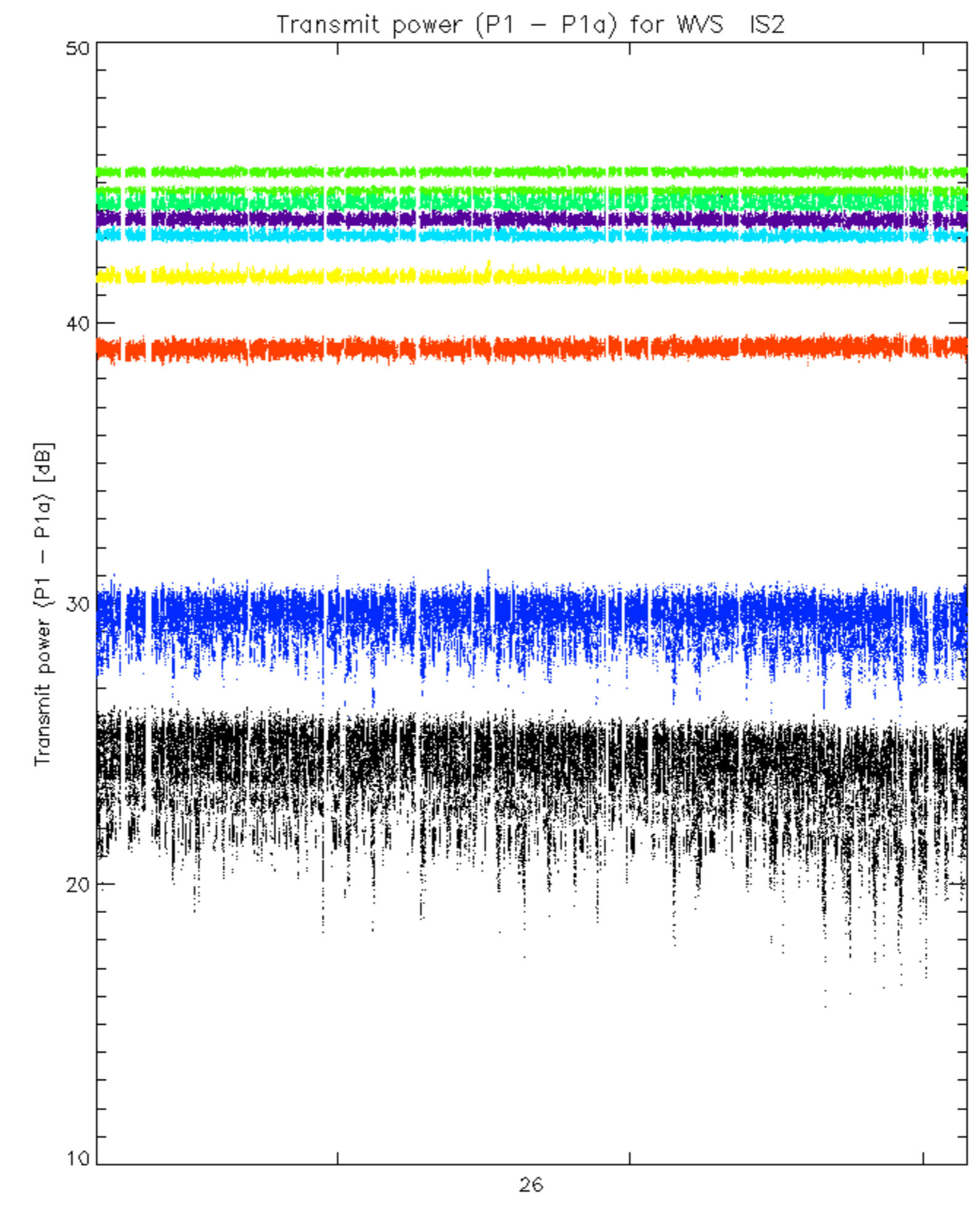


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

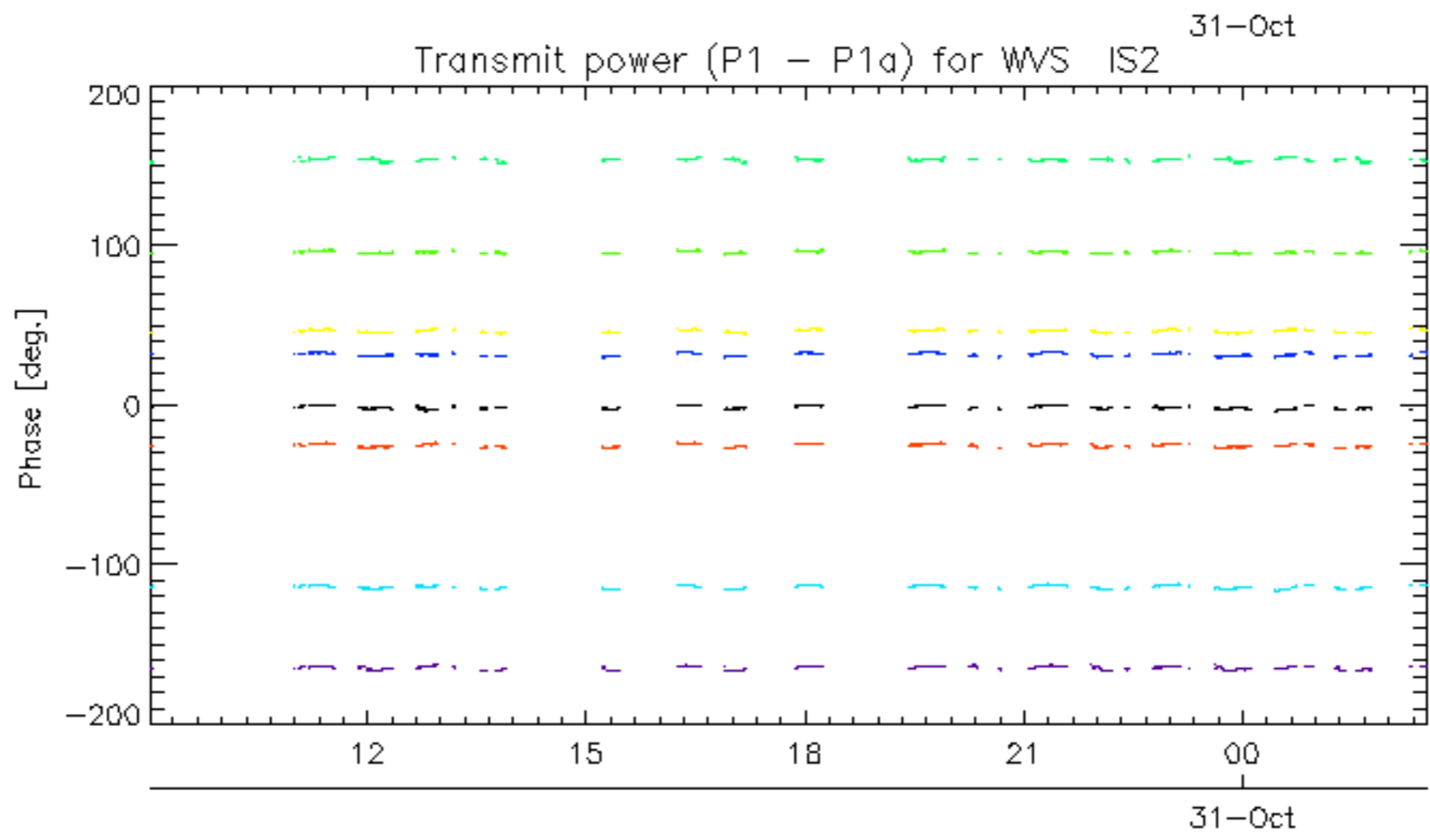
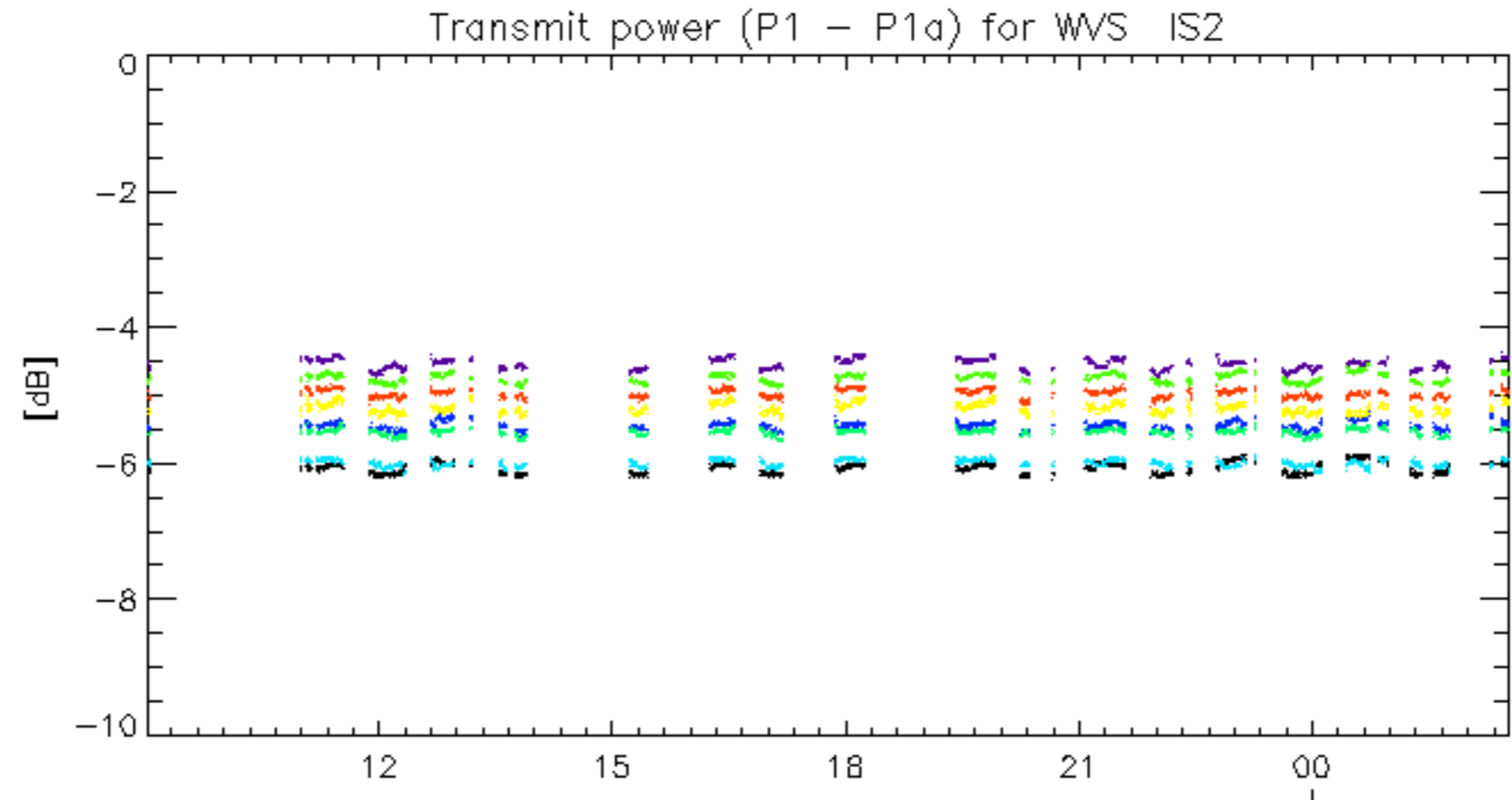




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rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



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

No unavailabilities during the reported period.