

# PRELIMINARY REPORT OF 061229

last update on Fri Dec 29 16:22:33 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 2006-12-28 00:00:00 to 2006-12-29 16:22:33

PDHS-K
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AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
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PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	46	53	39	8	66
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	46	53	39	8	66
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	46	53	39	8	66
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	46	53	39	8	66

## 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	20061228 074716
H	20061229 071539

### 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"/>

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## 4 - Internal calibration Results

No anomalies observed.

### 4.1 - Daily statistics

#### 4.1.1 - Evolution for WVS

##### Evolution of cal pulses for WVS

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#### 4.1.2 - Evolution for GM1

##### Evolution of cal pulses for GM1

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### 4.2 - Cyclic statistics

#### 4.2.1 - Evolution for WVS

##### Evolution of cal pulses for WVS

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**P1 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
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row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.962331	0.008000	-0.019882
7	P1	-3.138952	0.024908	0.043071
11	P1	-4.118133	0.026685	0.023637
15	P1	-6.325620	0.016675	-0.029646
19	P1	-3.655118	0.005806	-0.060656
22	P1	-4.658020	0.014198	-0.020104
26	P1	-3.959030	0.009319	-0.022374
30	P1	-5.894958	0.009471	-0.045213
3	P1	-16.548325	0.257094	-0.149728
7	P1	-17.284306	0.192021	0.082736
11	P1	-17.188107	0.487081	0.081484
15	P1	-13.047894	0.137706	0.083677
19	P1	-14.996367	0.094907	-0.073491
22	P1	-15.813764	0.548438	0.095773
26	P1	-15.079588	0.189336	0.009041
30	P1	-17.506186	0.475332	0.093735

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.798946	0.095329	0.036270
7	P2	-21.719587	0.094185	0.060453
11	P2	-15.574237	0.103311	0.042671
15	P2	-7.110569	0.109775	0.023429
19	P2	-9.188850	0.106459	0.006501
22	P2	-18.229679	0.099348	0.035038
26	P2	-16.588549	0.112918	-0.048373
30	P2	-19.455338	0.090196	0.010182

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.239673	0.009087	0.011212
7	P3	-8.239673	0.009087	0.011212
11	P3	-8.239673	0.009087	0.011212

15	P3	-8.239673	0.009087	0.011212
19	P3	-8.239673	0.009087	0.011212
22	P3	-8.239673	0.009087	0.011212
26	P3	-8.239709	0.009087	0.011044
30	P3	-8.239709	0.009087	0.011044

#### 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	-3.918472	0.014631	-0.019429
7	P1	-2.473326	0.015881	0.011152
11	P1	-2.851092	0.017543	-0.008291
15	P1	-3.687434	0.031765	-0.035901
19	P1	-3.543926	0.019267	-0.006423
22	P1	-5.025403	0.024119	0.007900
26	P1	-6.028265	0.028923	-0.022099
30	P1	-5.344441	0.039760	0.000069
3	P1	-11.740543	0.083453	-0.005627
7	P1	-10.067043	0.086085	-0.045517
11	P1	-10.344123	0.126999	-0.069077
15	P1	-10.711219	0.118629	-0.062555
19	P1	-15.726886	0.124118	0.025267
22	P1	-21.601028	1.405724	0.044204
26	P1	-16.066910	0.345147	0.052046
30	P1	-17.879126	0.367636	-0.054891

#### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.466398	0.119126	0.015042
7	P2	-22.224953	0.265429	0.054128
11	P2	-10.871856	0.118483	0.065313
15	P2	-4.982983	0.209293	-0.001280
19	P2	-6.964390	0.273478	-0.014737
22	P2	-8.248156	0.125941	0.001155
26	P2	-24.317547	0.172508	-0.008961
30	P2	-21.948702	0.139046	0.014549

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.088615	0.005134	-0.003530
7	P3	-8.088546	0.005113	-0.003412
11	P3	-8.088629	0.005131	-0.003042
15	P3	-8.088481	0.005121	-0.002727
19	P3	-8.088493	0.005133	-0.003307
22	P3	-8.088455	0.005125	-0.003060
26	P3	-8.088654	0.005129	-0.003630
30	P3	-8.088482	0.005099	-0.003998

## 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	0.000561442
	stdev	1.65848e-07
MEAN Q	mean	0.000507031
	stdev	2.14388e-07



## 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.139687
	stdev	0.00120271
STDEV Q	mean	0.140083
	stdev	0.00122293



## 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006122[789]

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

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20061229_042632_000000762054_00147_25251_2047.N1	1	0
ASA_GM1_1PNPDE20061227_205519_000005192054_00129_25233_9869.N1	7	280
ASA_GM1_1PNPDE20061227_224834_000000902054_00130_25234_9940.N1	5	0
ASA_WSM_1PNPDE20061227_011513_000004412054_00117_25221_8723.N1	0	41
ASA_WSM_1PNPDE20061228_004637_000001412054_00131_25235_0200.N1	0	36
ASA_WSM_1PNPDE20061228_022833_000001222054_00132_25236_0262.N1	4	126
ASA_WSM_1PNPDE20061228_032459_000001282054_00133_25237_0362.N1	0	61
ASA_WSM_1PNPDE20061228_182821_000000852054_00142_25246_1151.N1	0	72
ASA_WSM_1PNPDE20061229_001400_000005752054_00145_25249_1910.N1	0	36
ASA_WSM_1PNPDE20061229_015235_000002022054_00146_25250_1940.N1	0	40





## 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)**

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

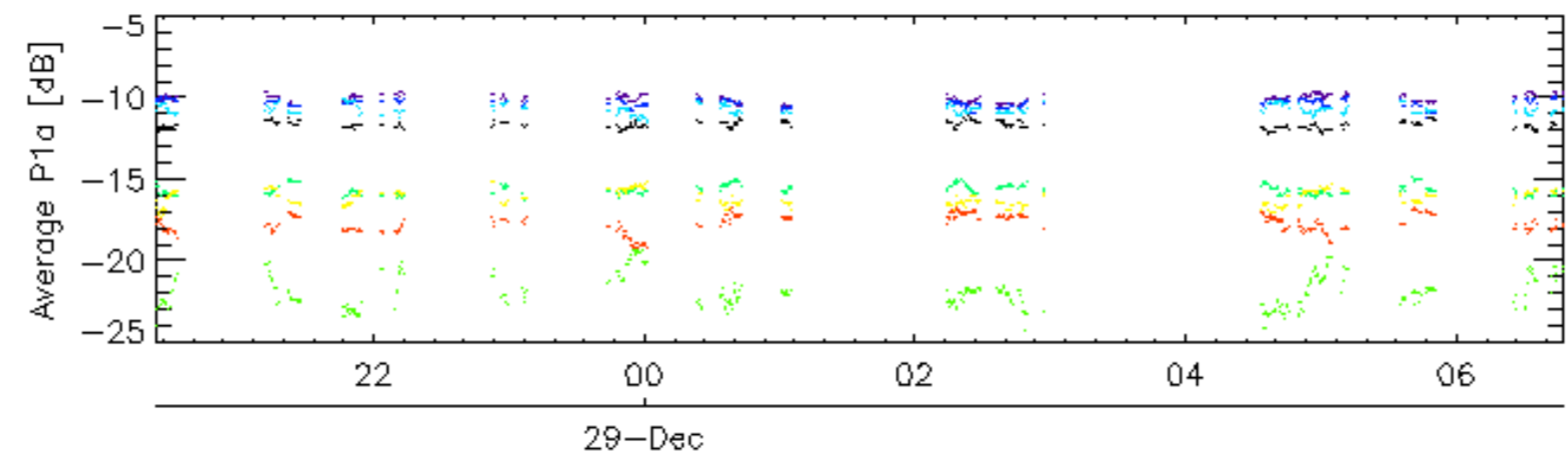
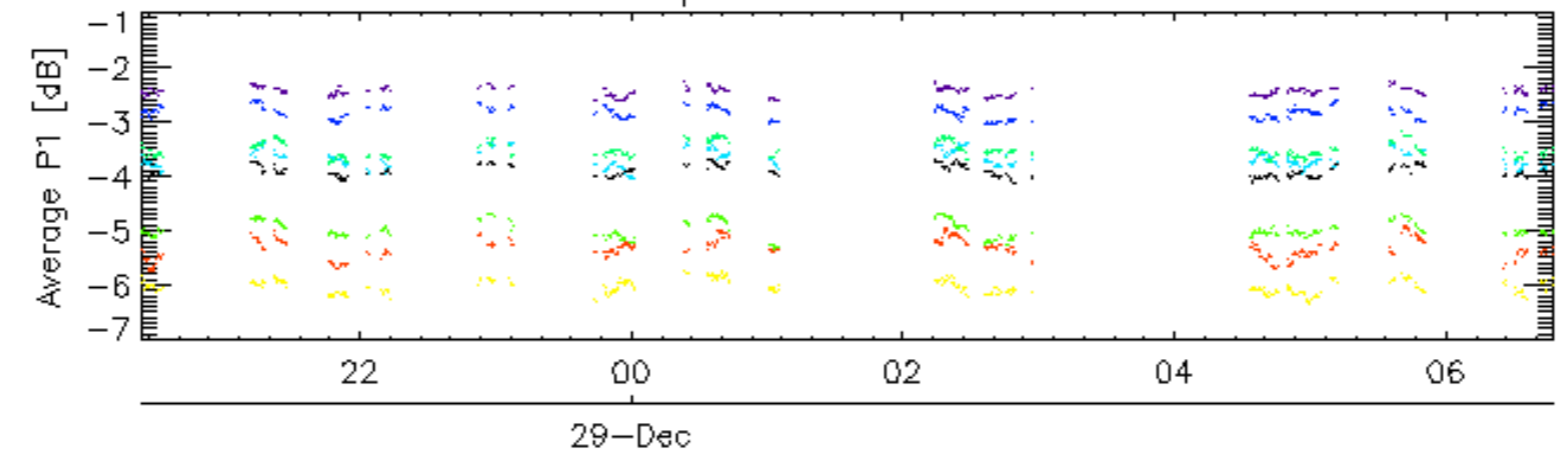
**7.5 - Absolute Doppler for GM1****Evolution of Absolute Doppler**

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

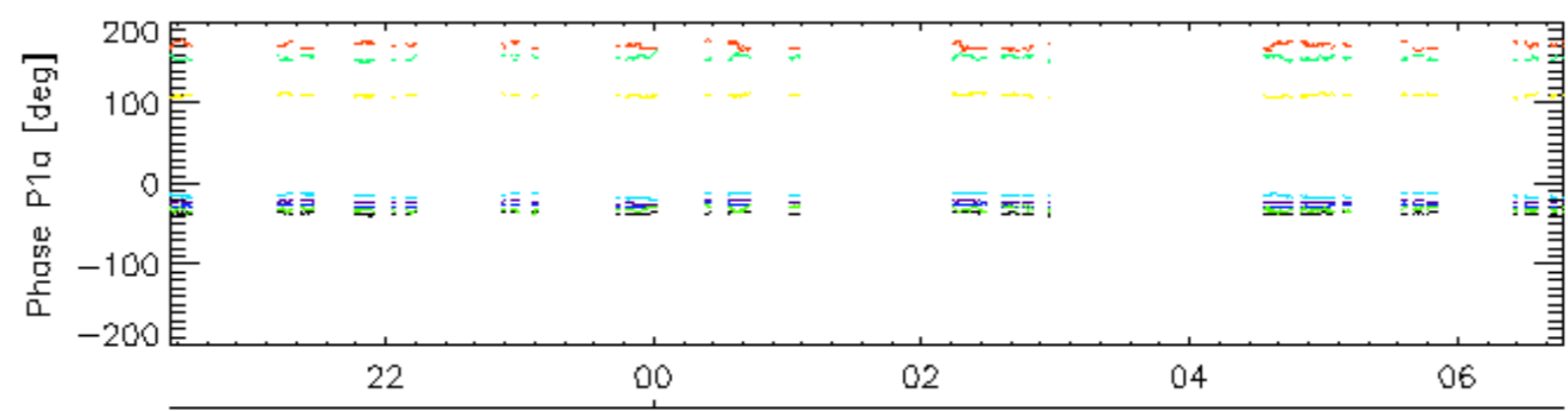
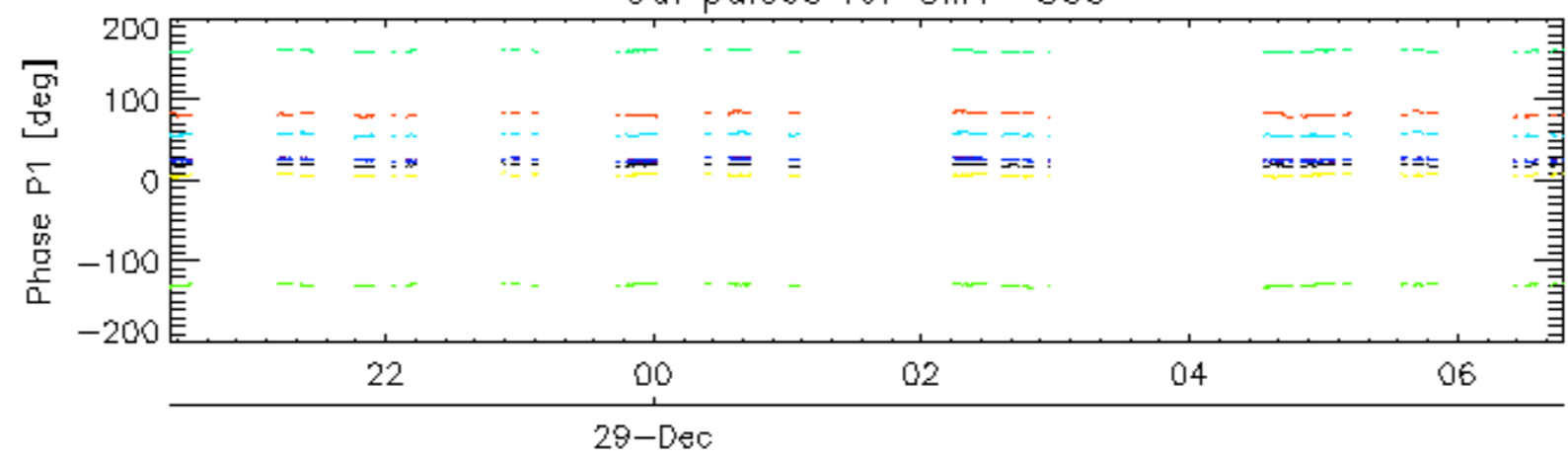
**7.6 - Doppler evolution versus ANX for GM1****Evolution Doppler error versus ANX**

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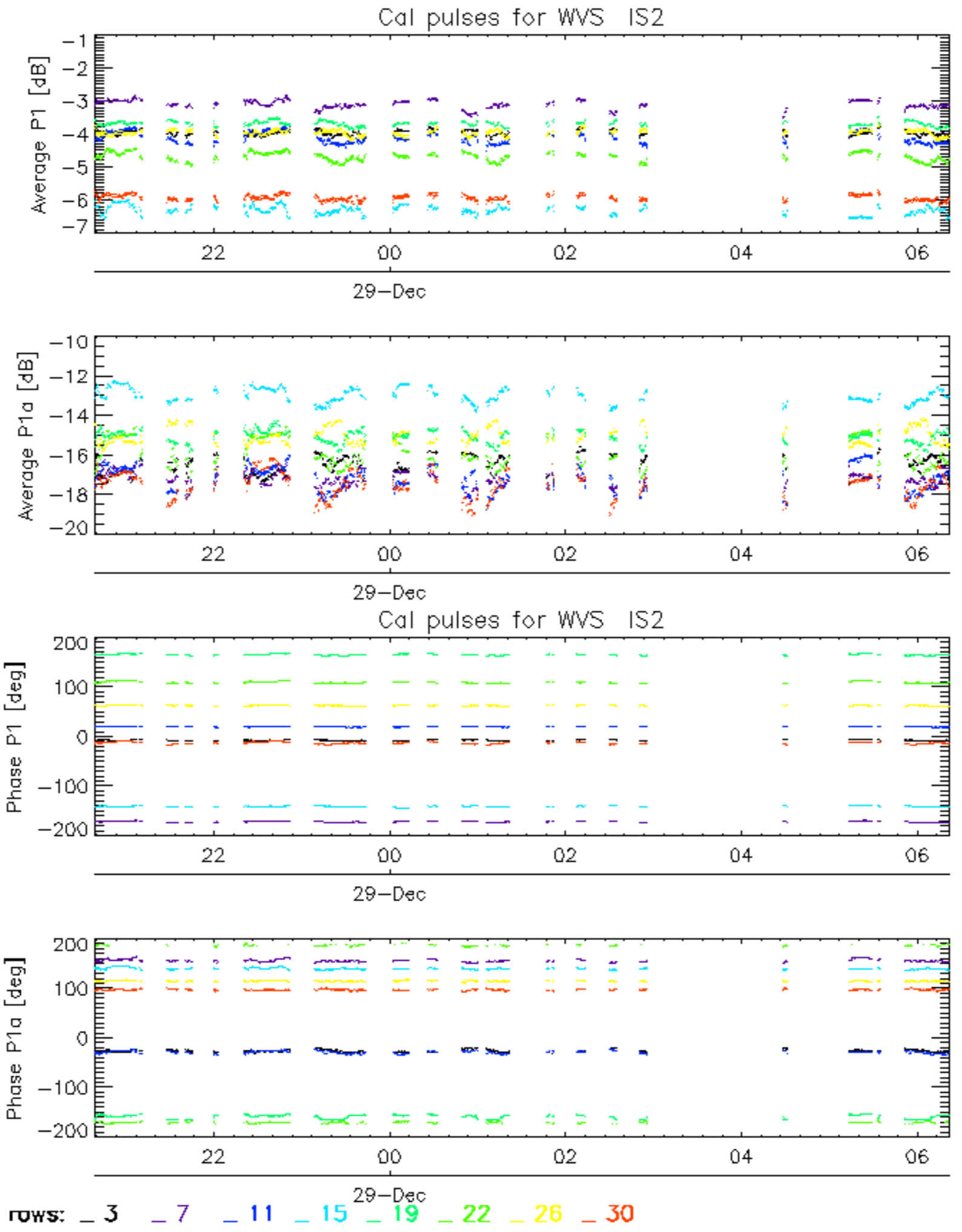
Cal pulses for GM1 SS3



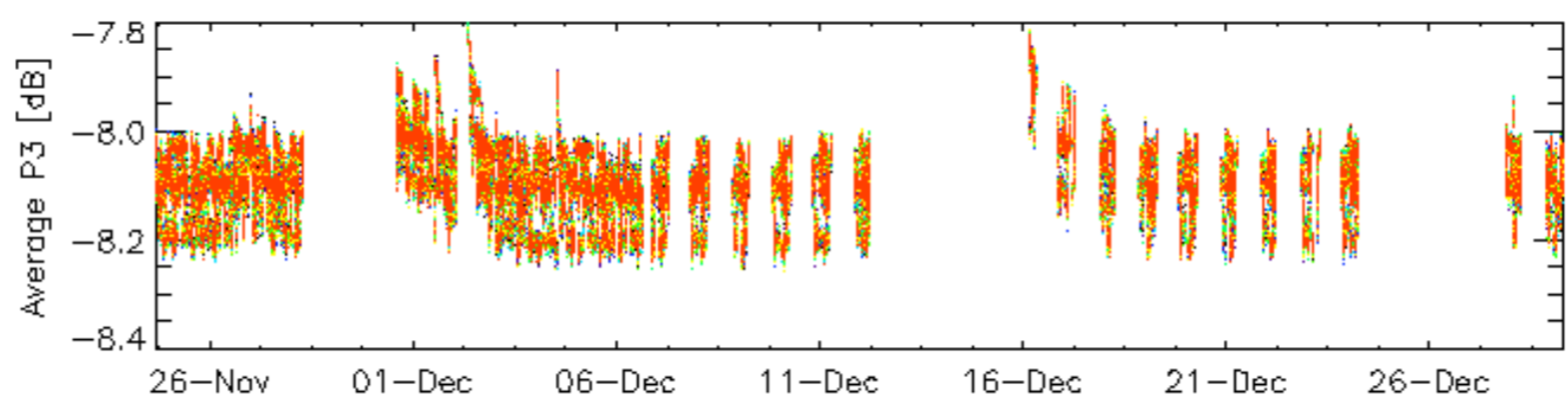
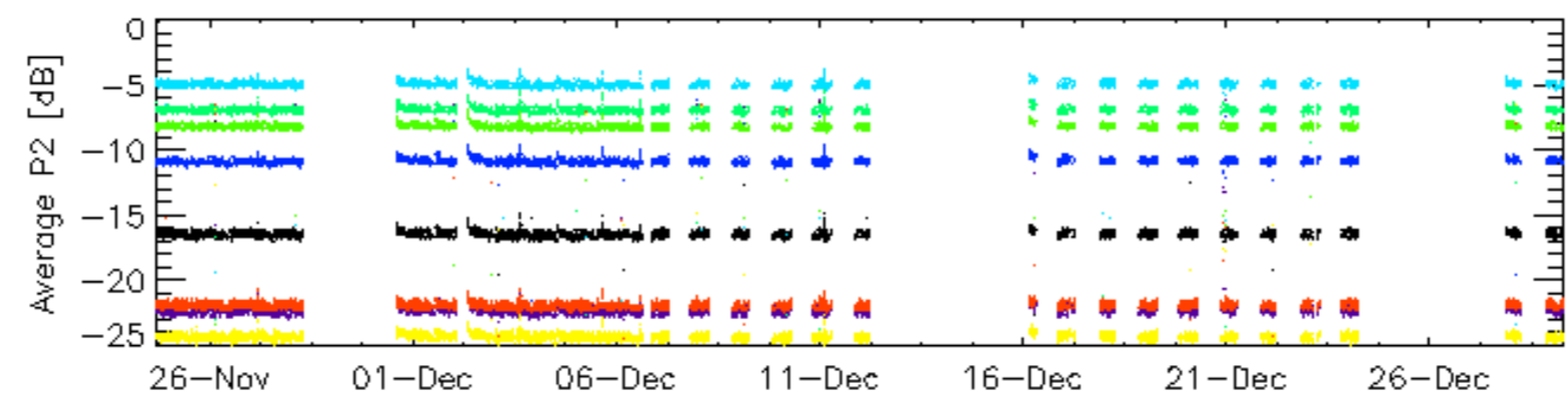
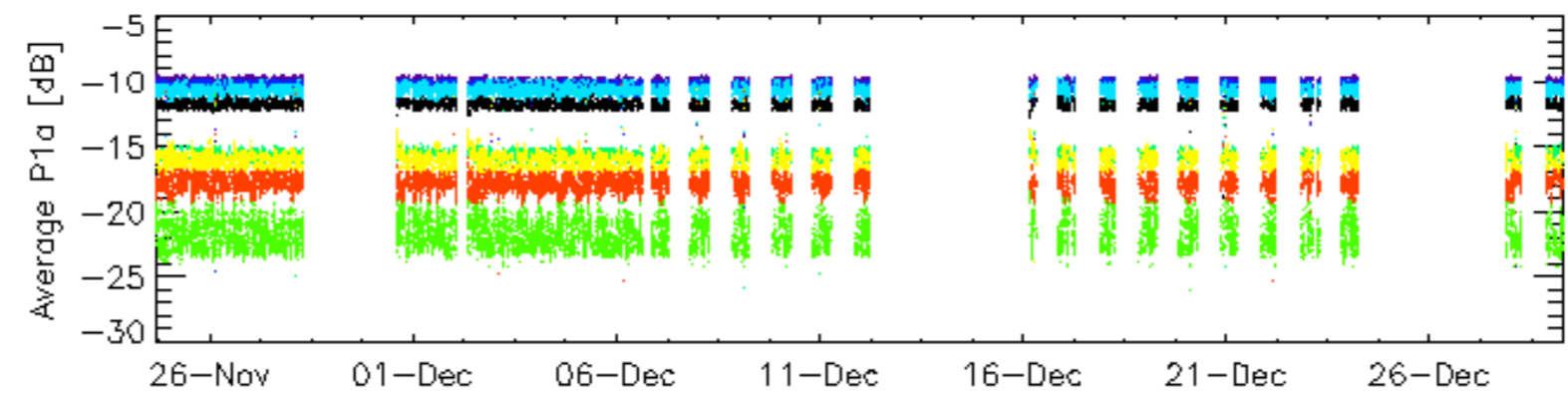
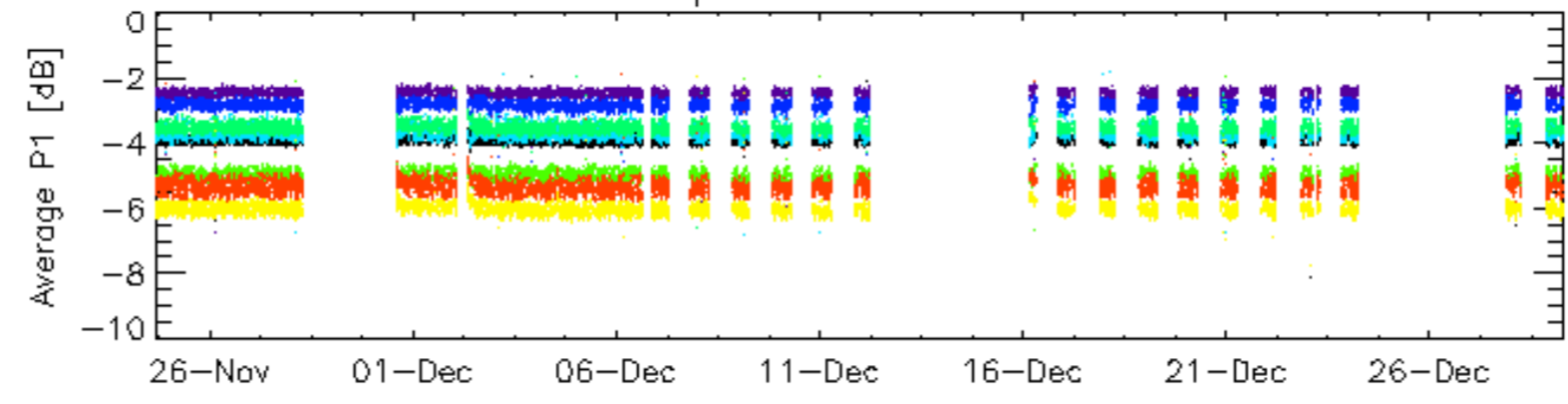
Cal pulses for GM1 SS3



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

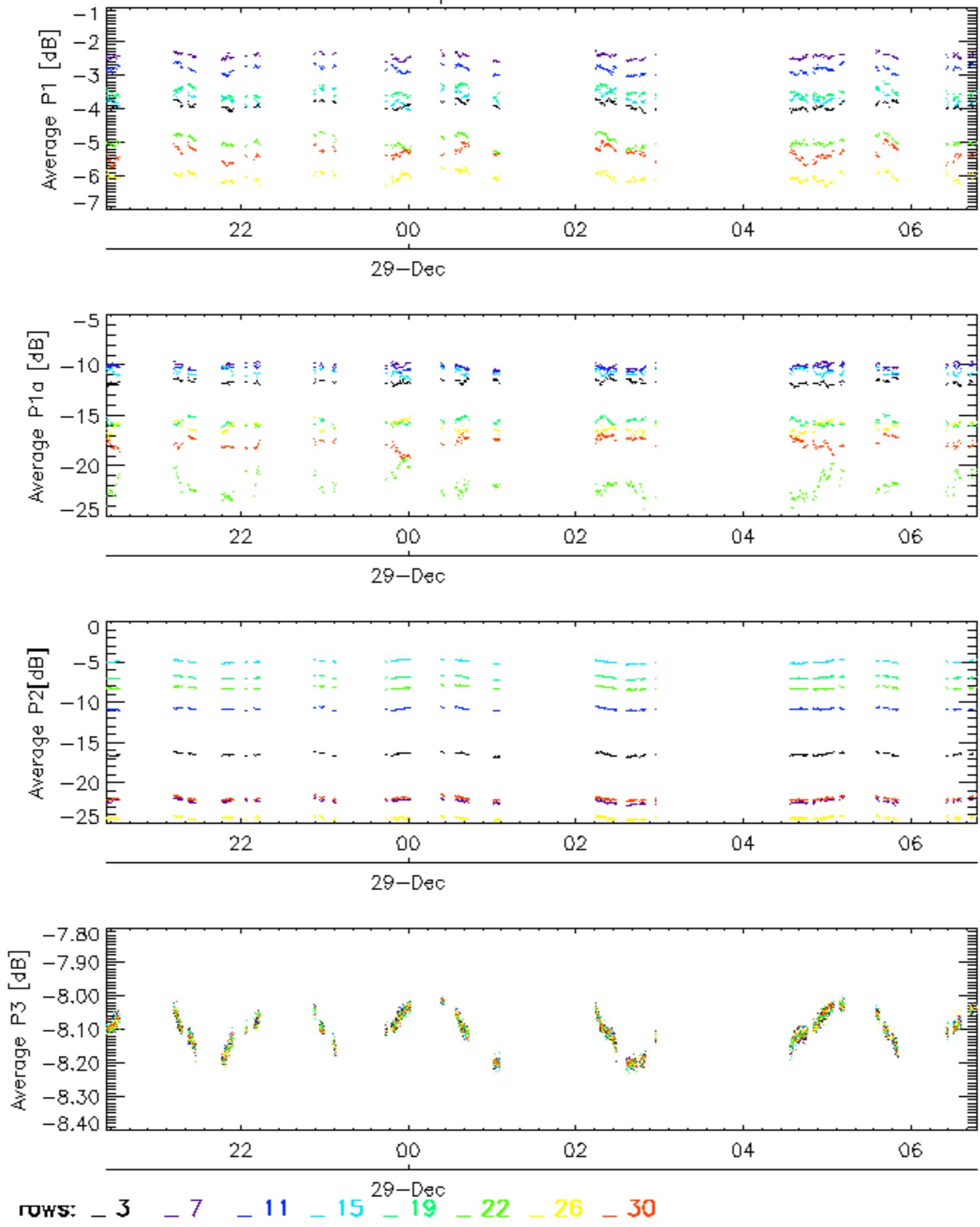


Cal pulses for GM1 SS3

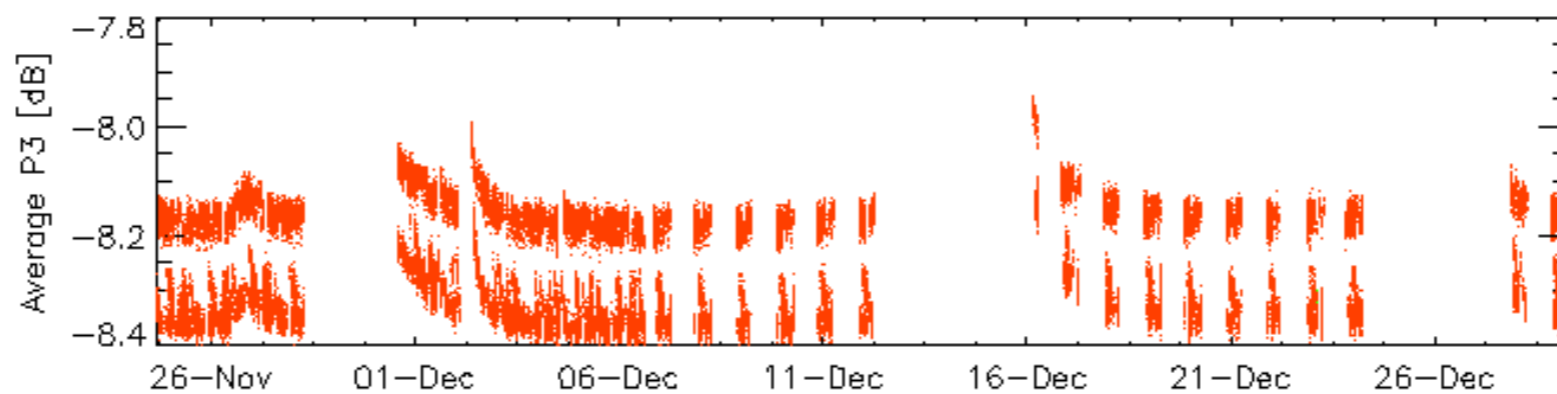
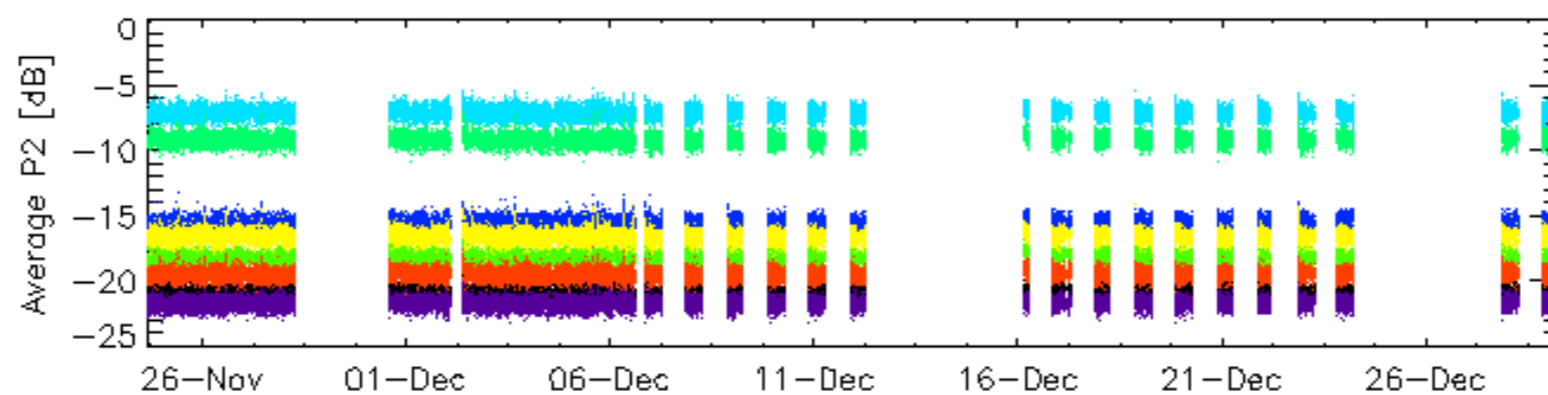
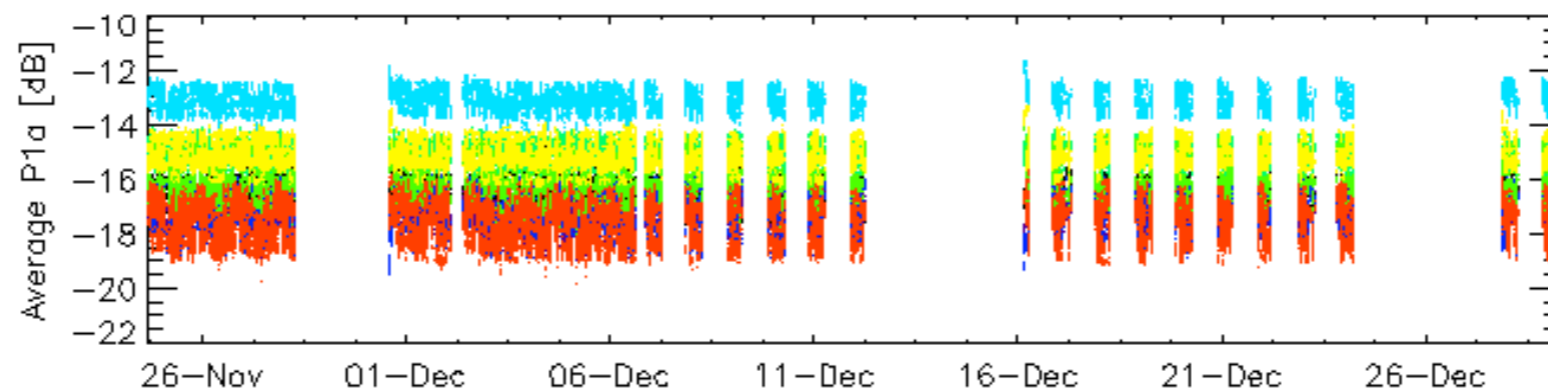
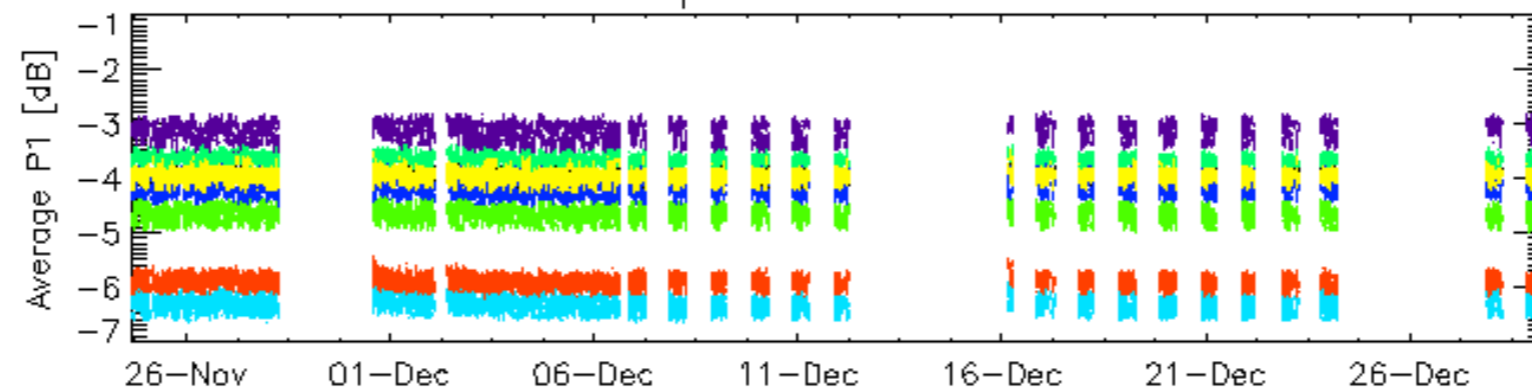


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

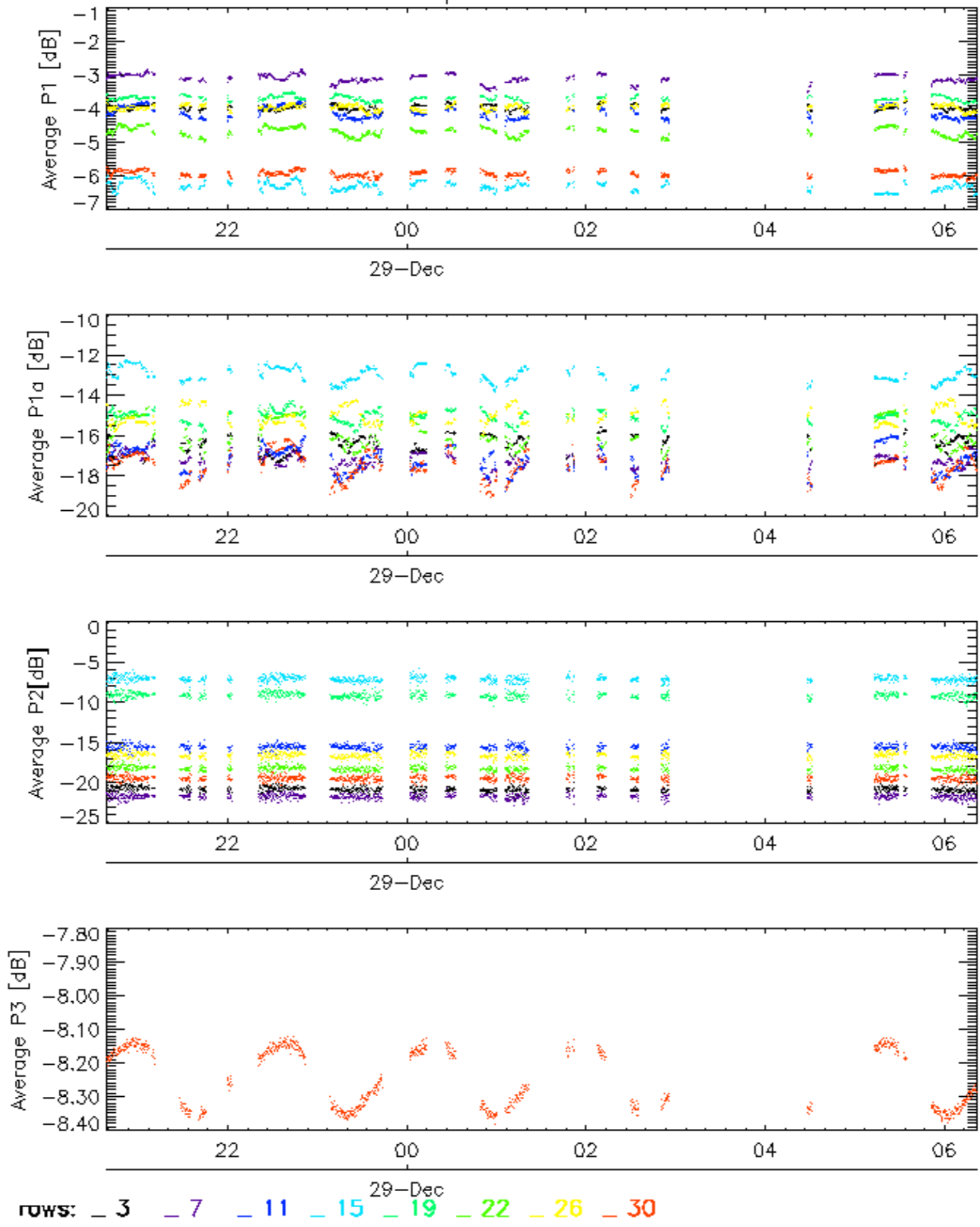


Cal pulses for WVS IS2



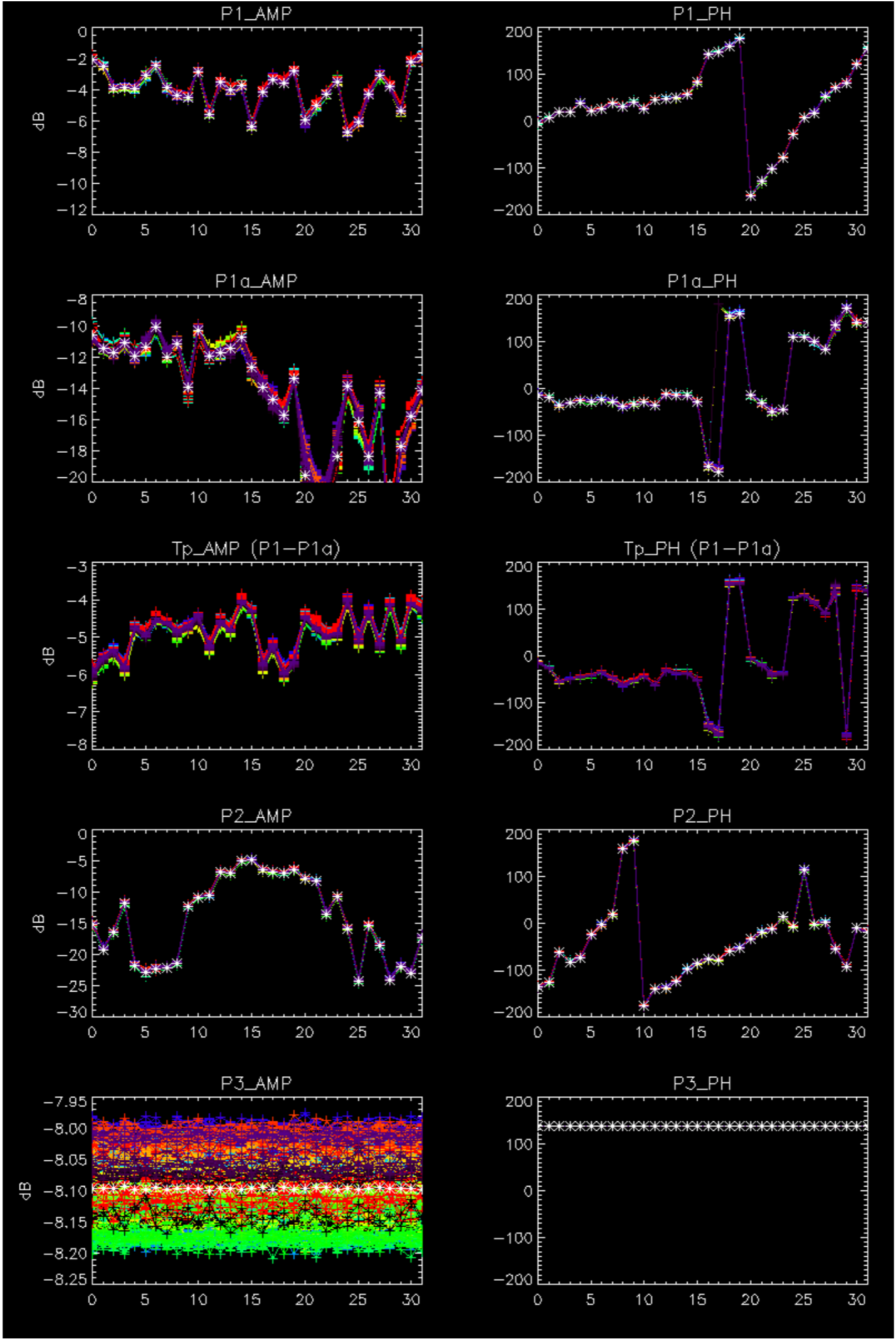
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

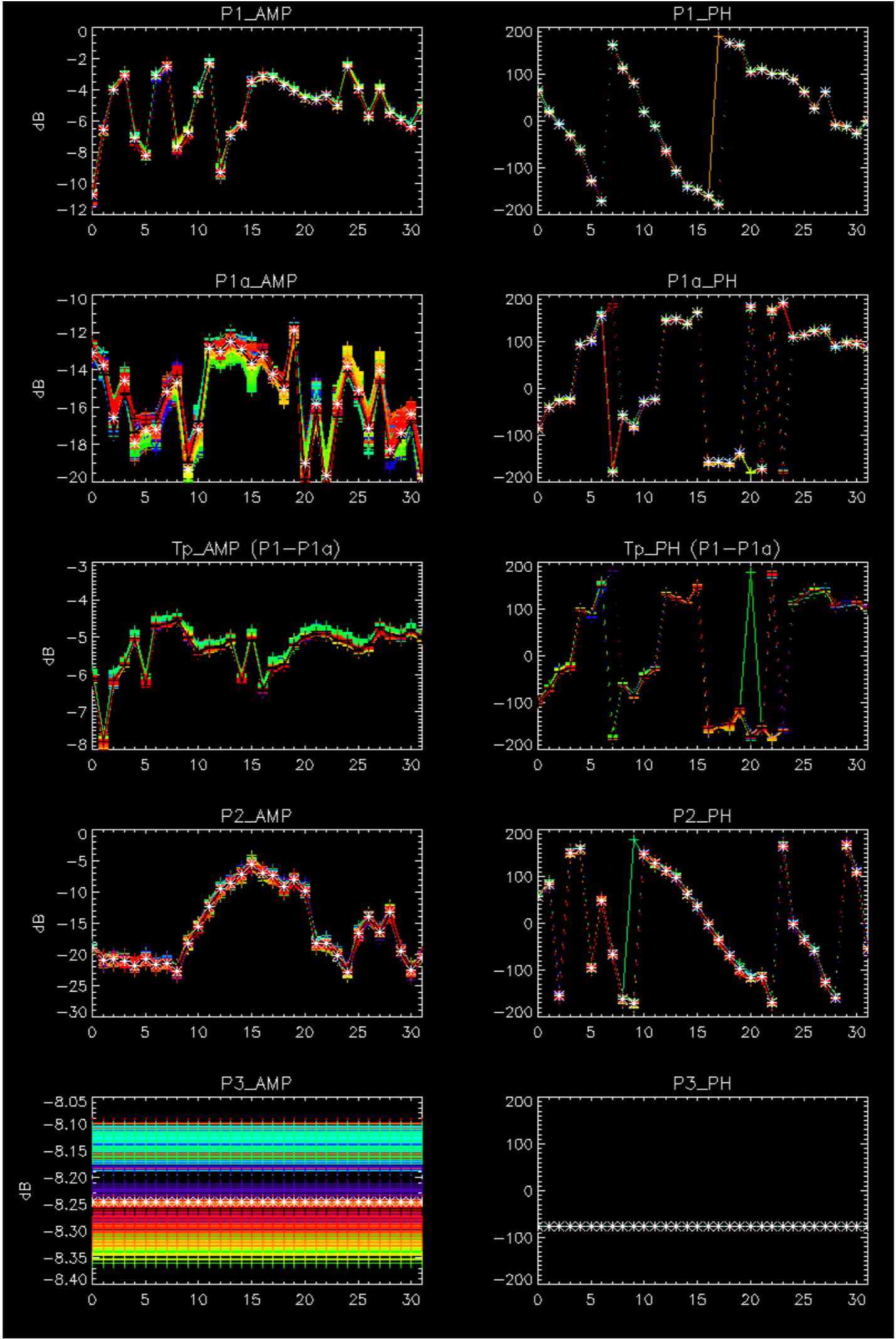
Cal pulses for WVS IS2



No anomalies observed.



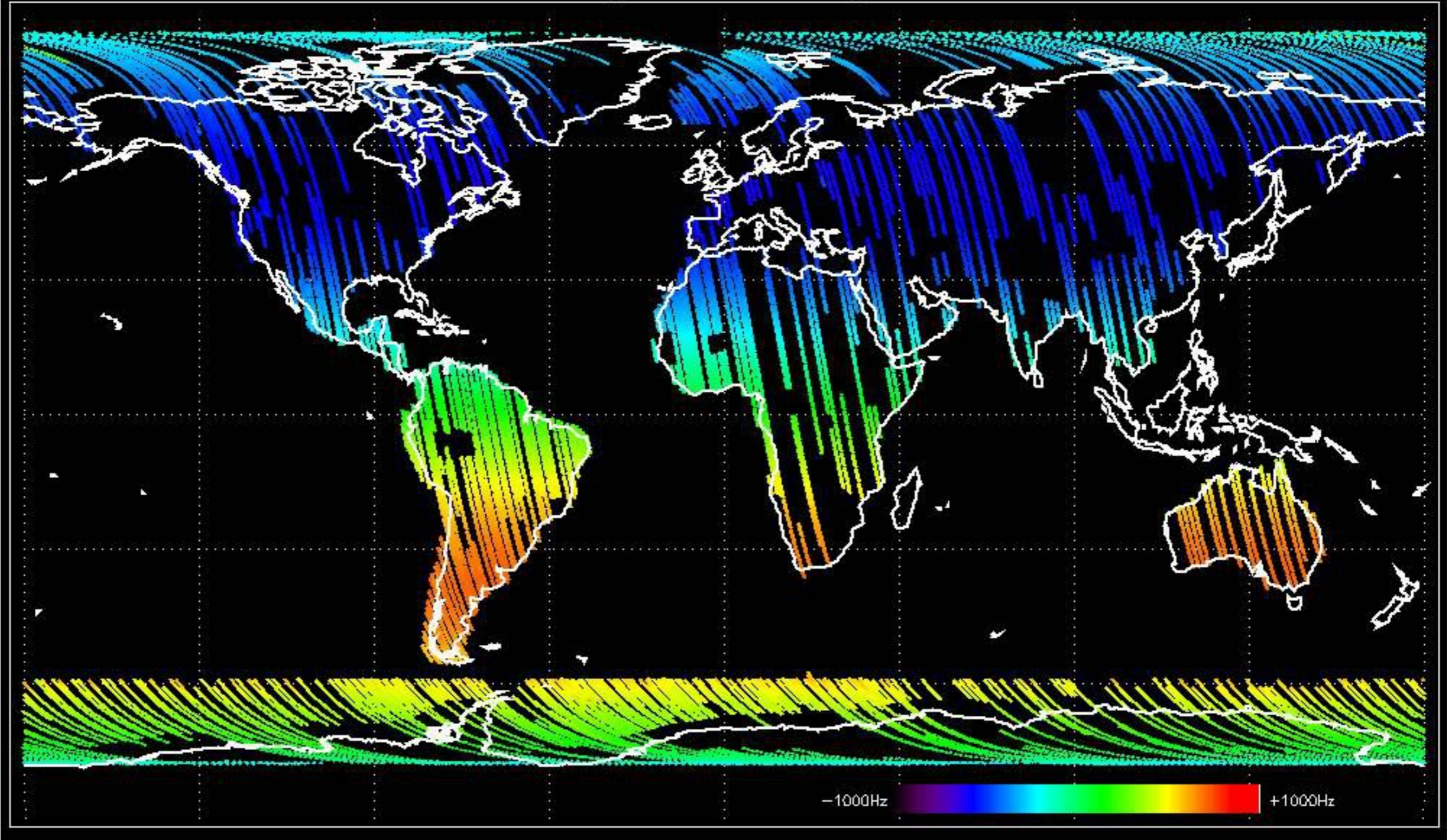




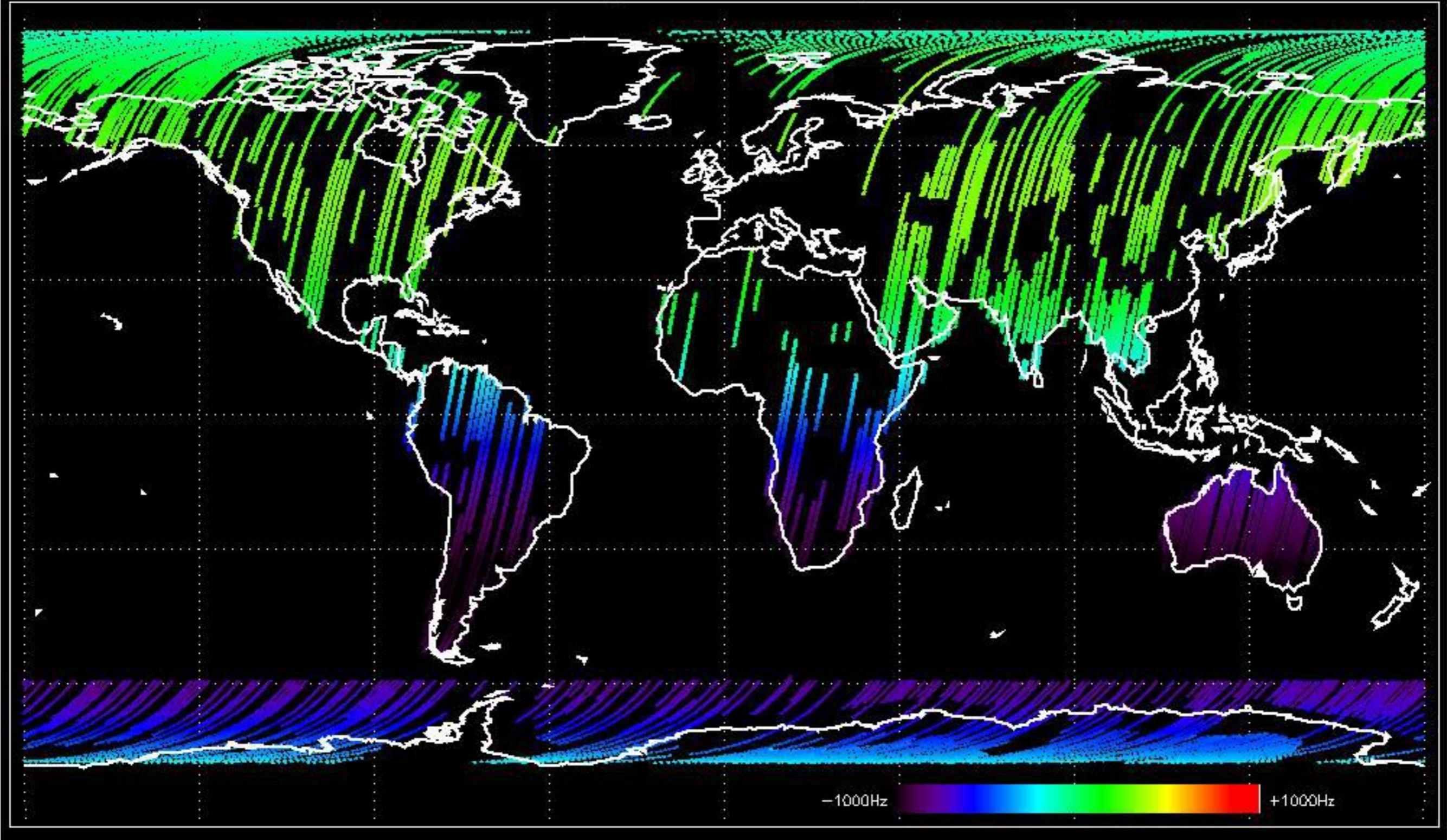
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



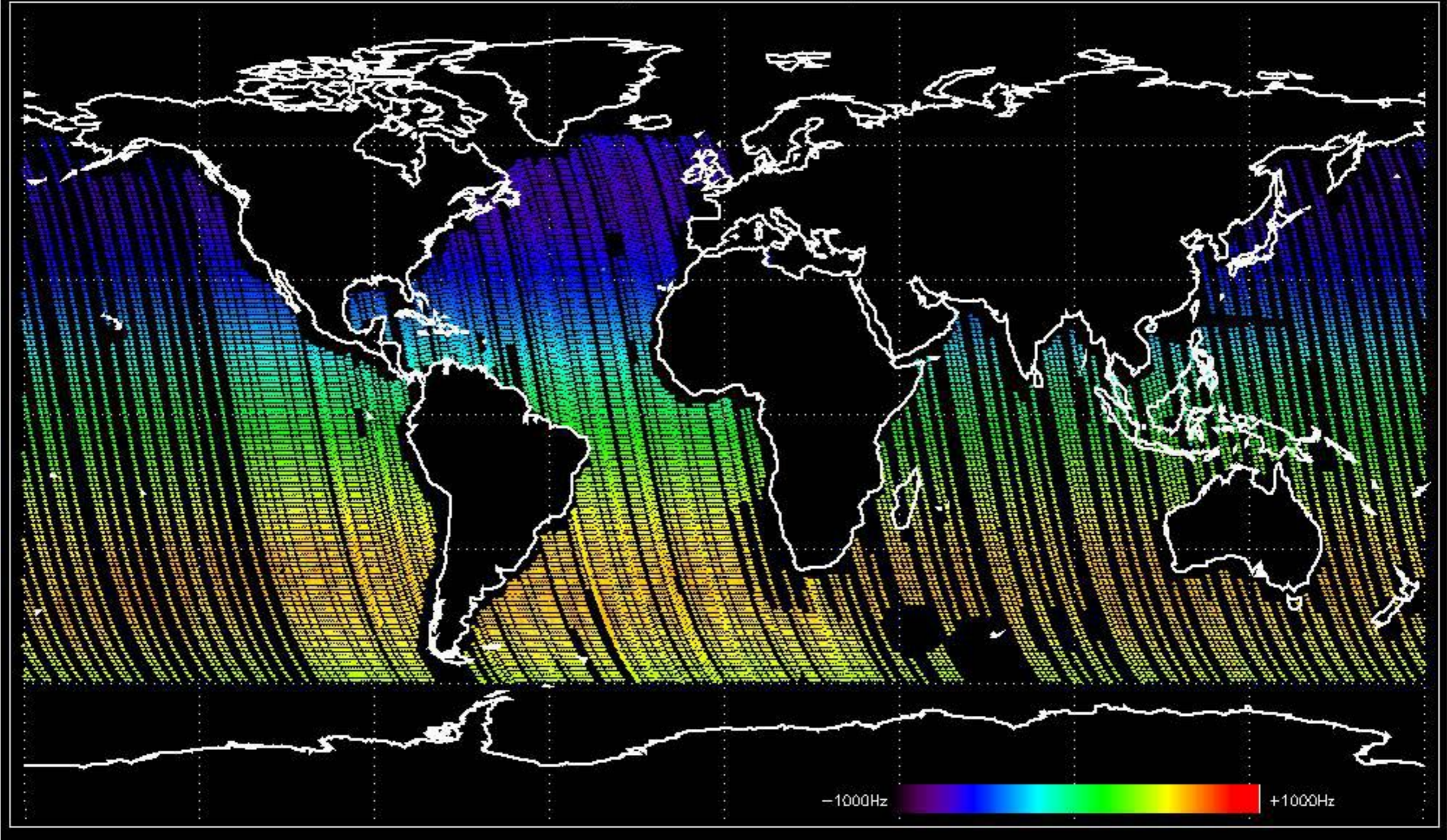
Doppler 'GM1' 'SS1' ascending



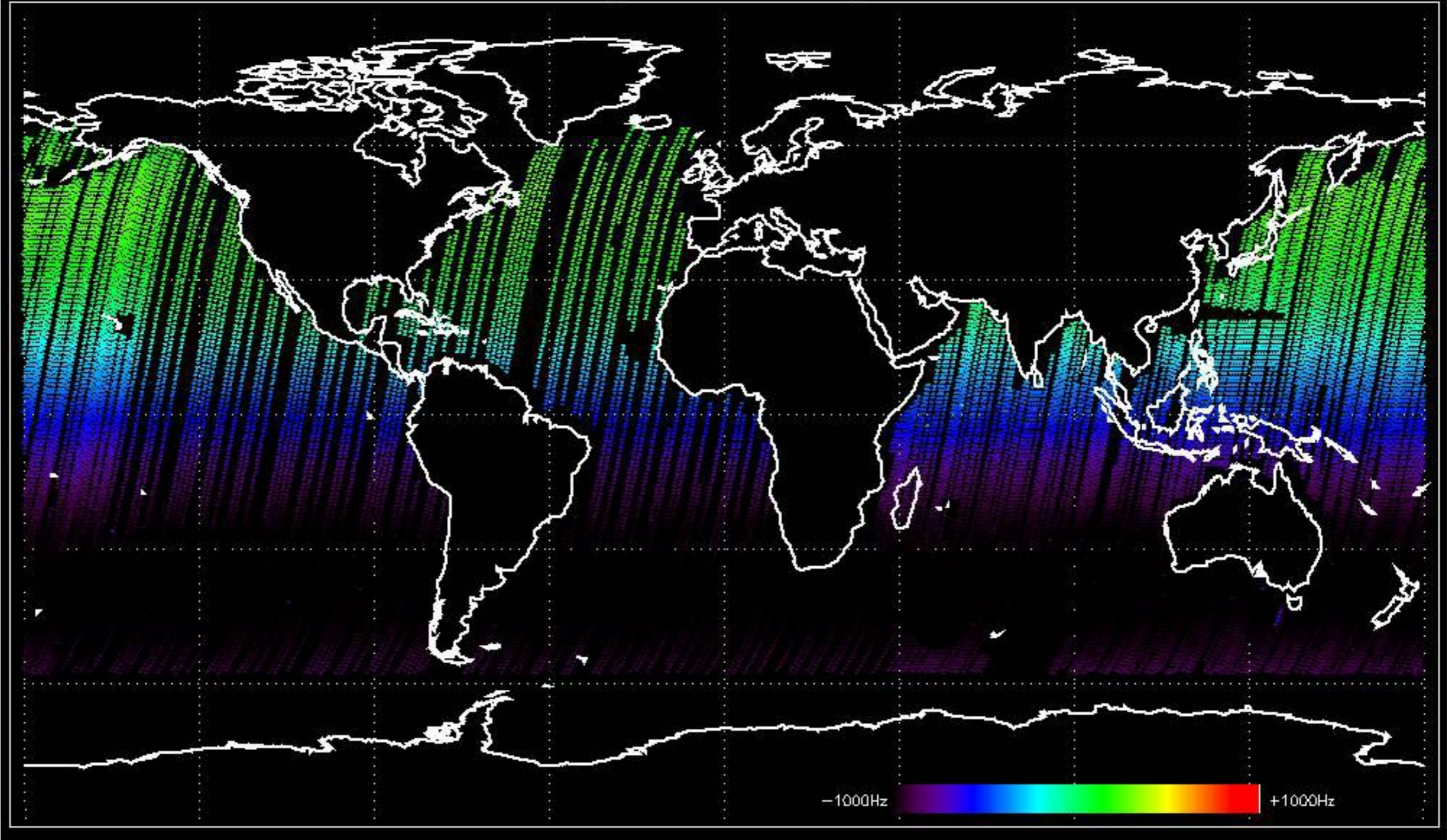
Doppler 'GM1' 'SS1' descending



Doppler 'WVS' 'IS2' ascending

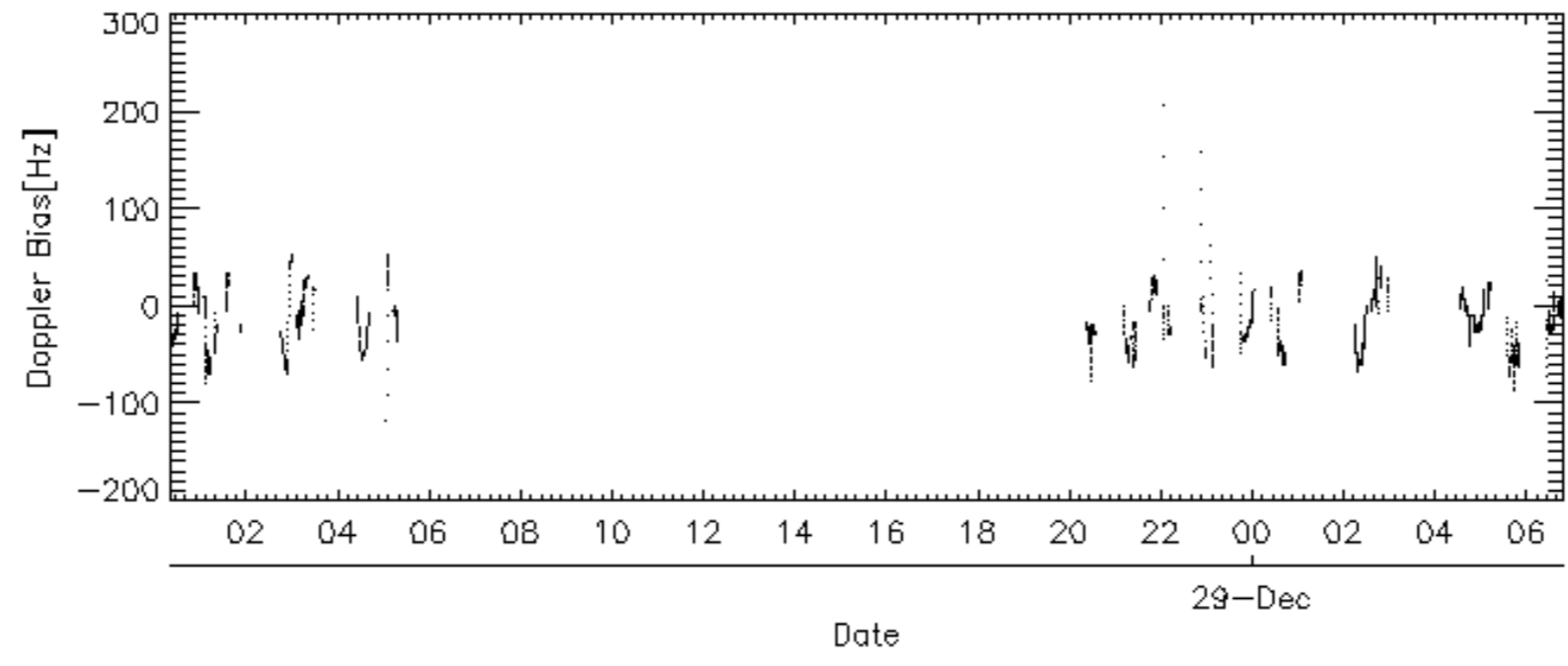
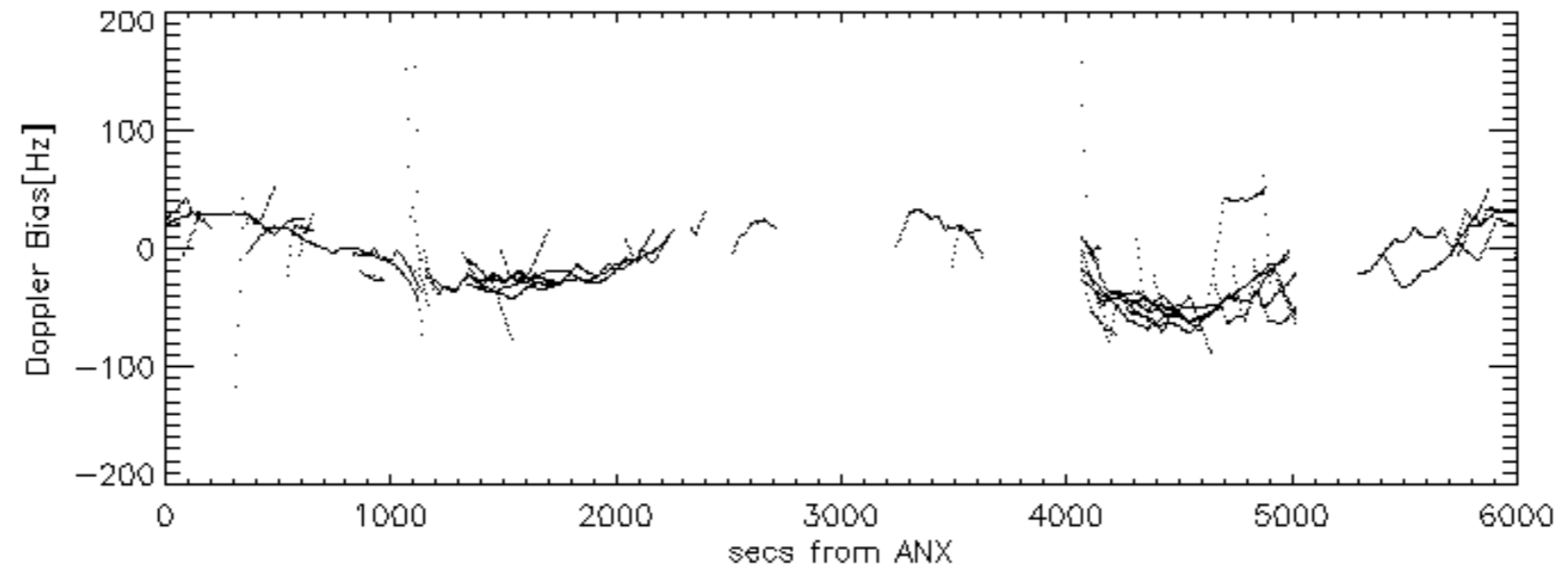
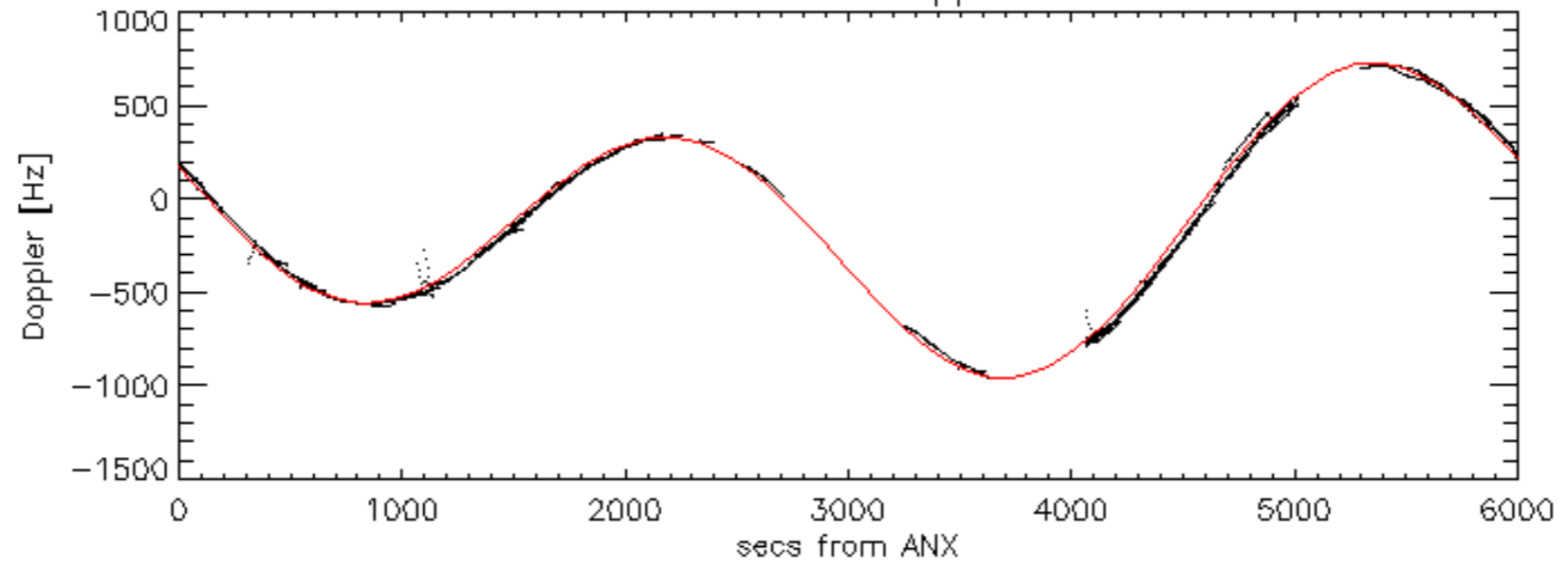


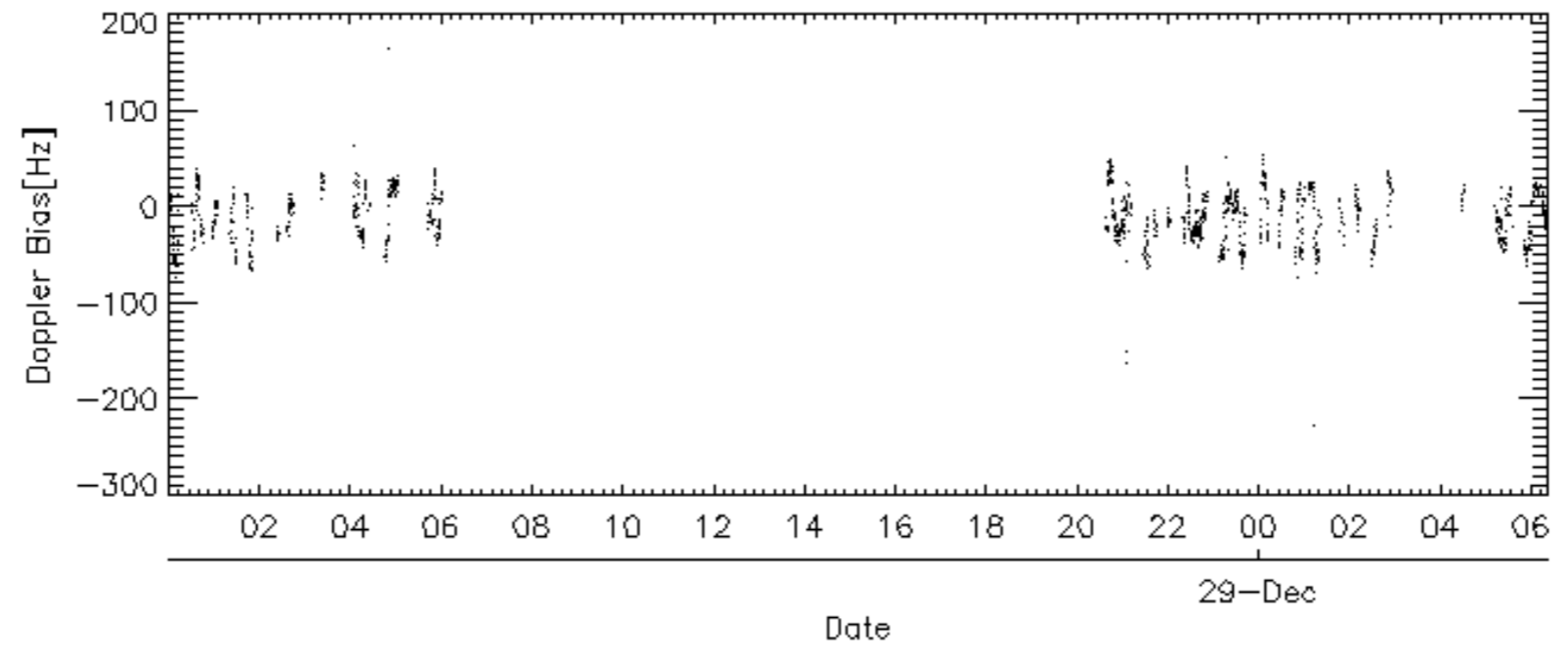
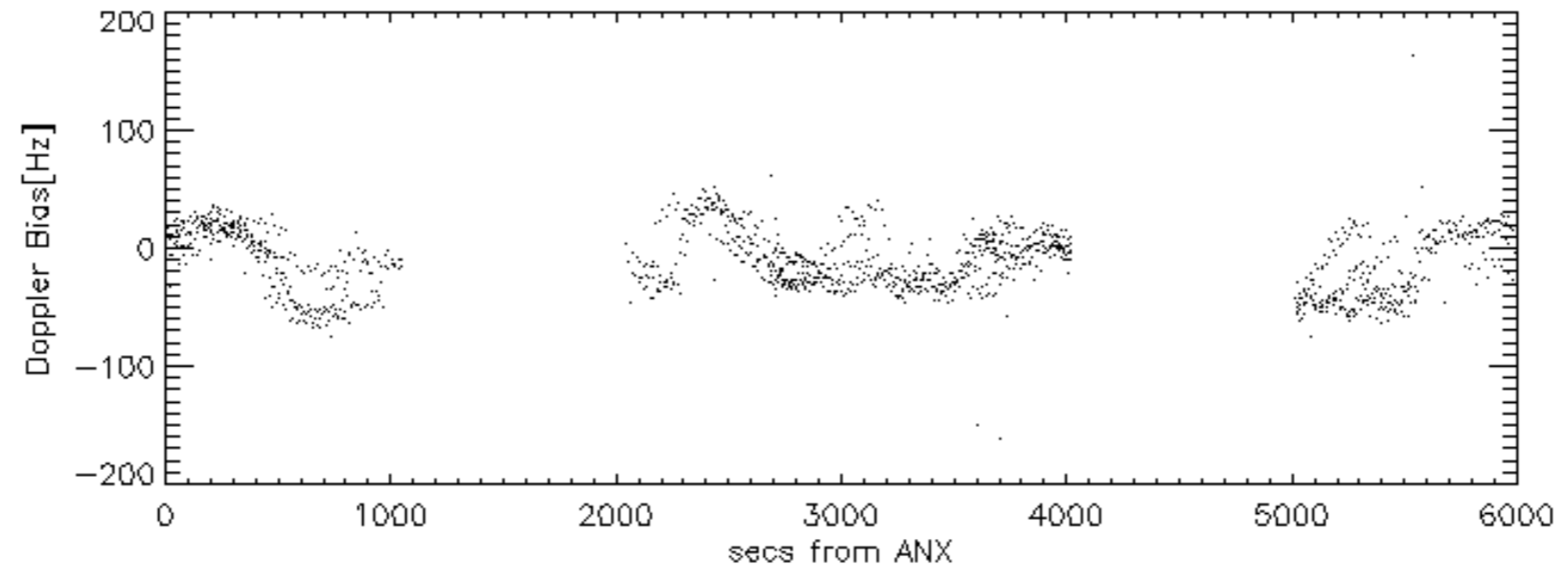
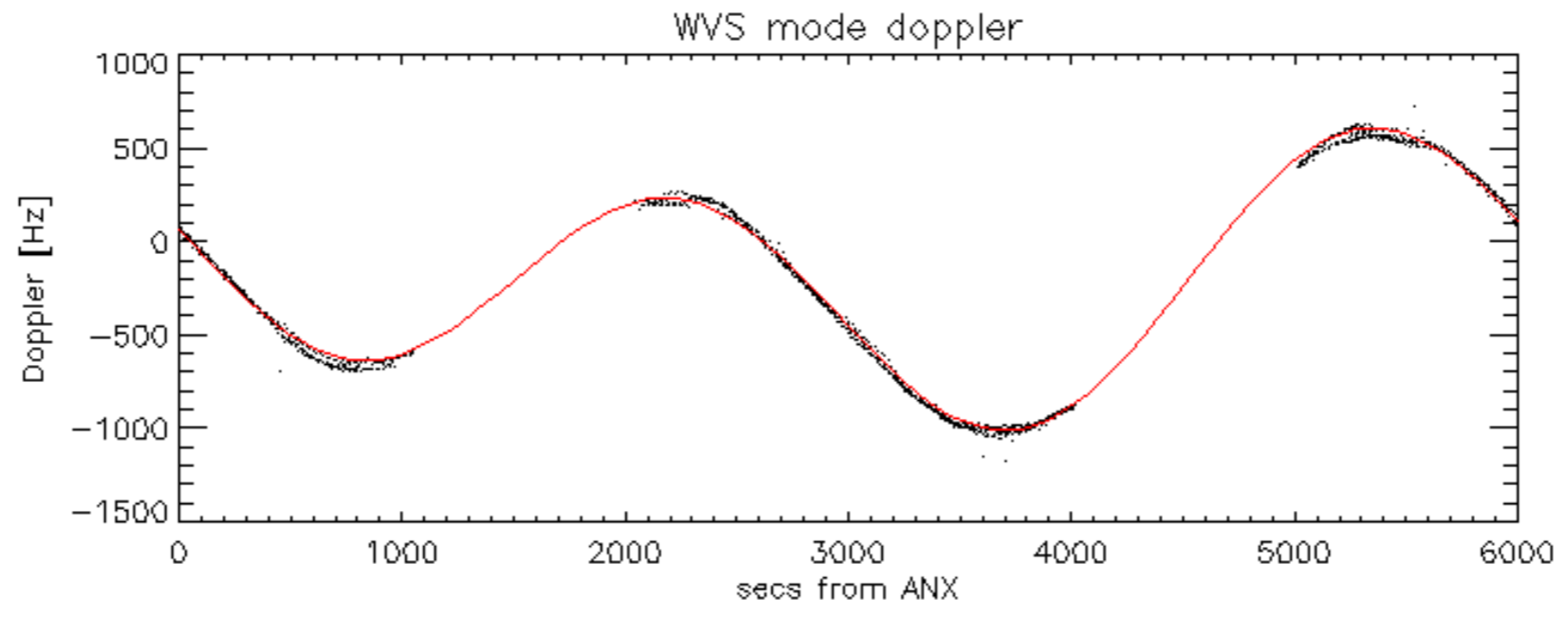
Doppler 'WVS' 'IS2' descending



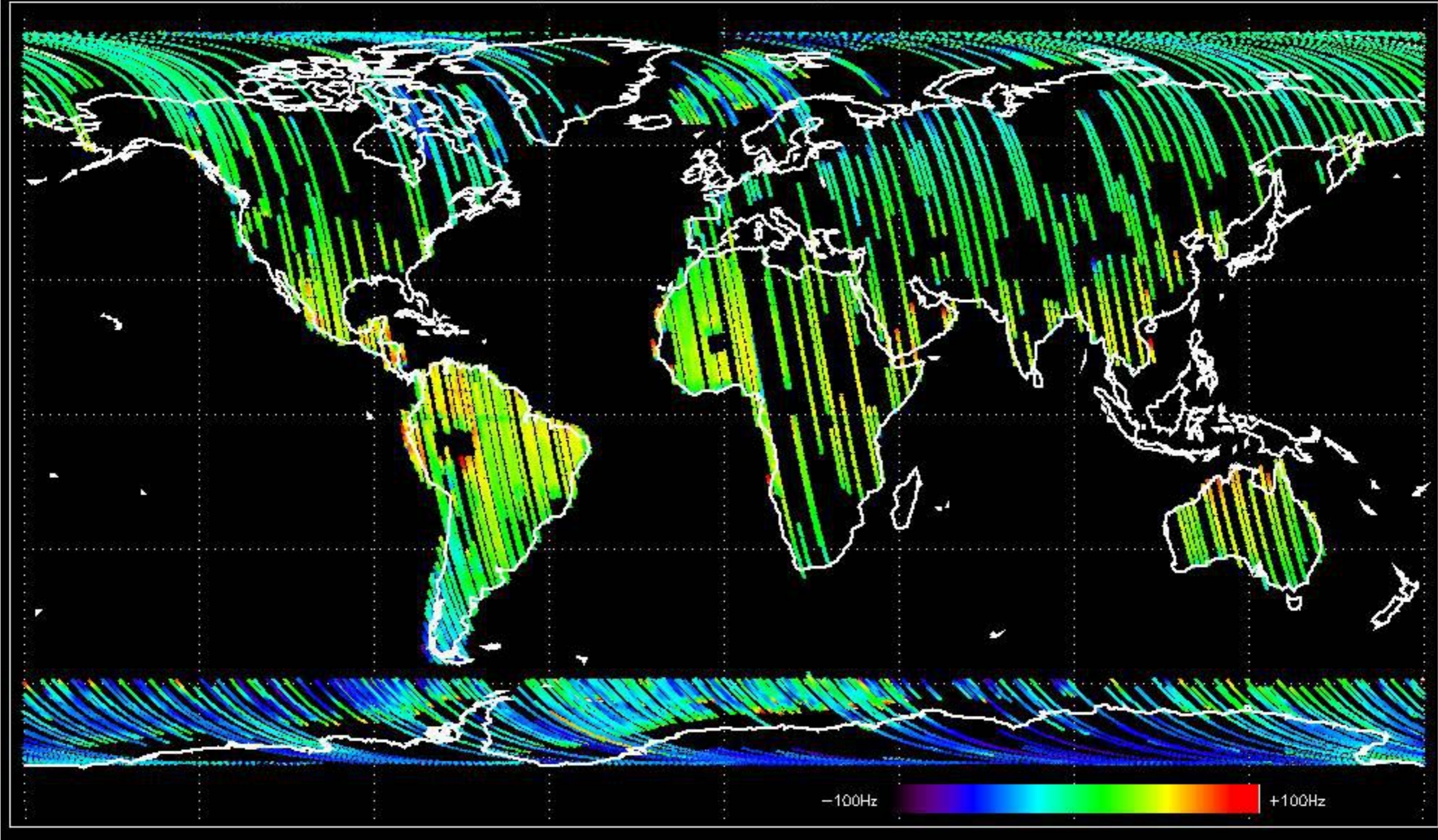


GM1 mode doppler

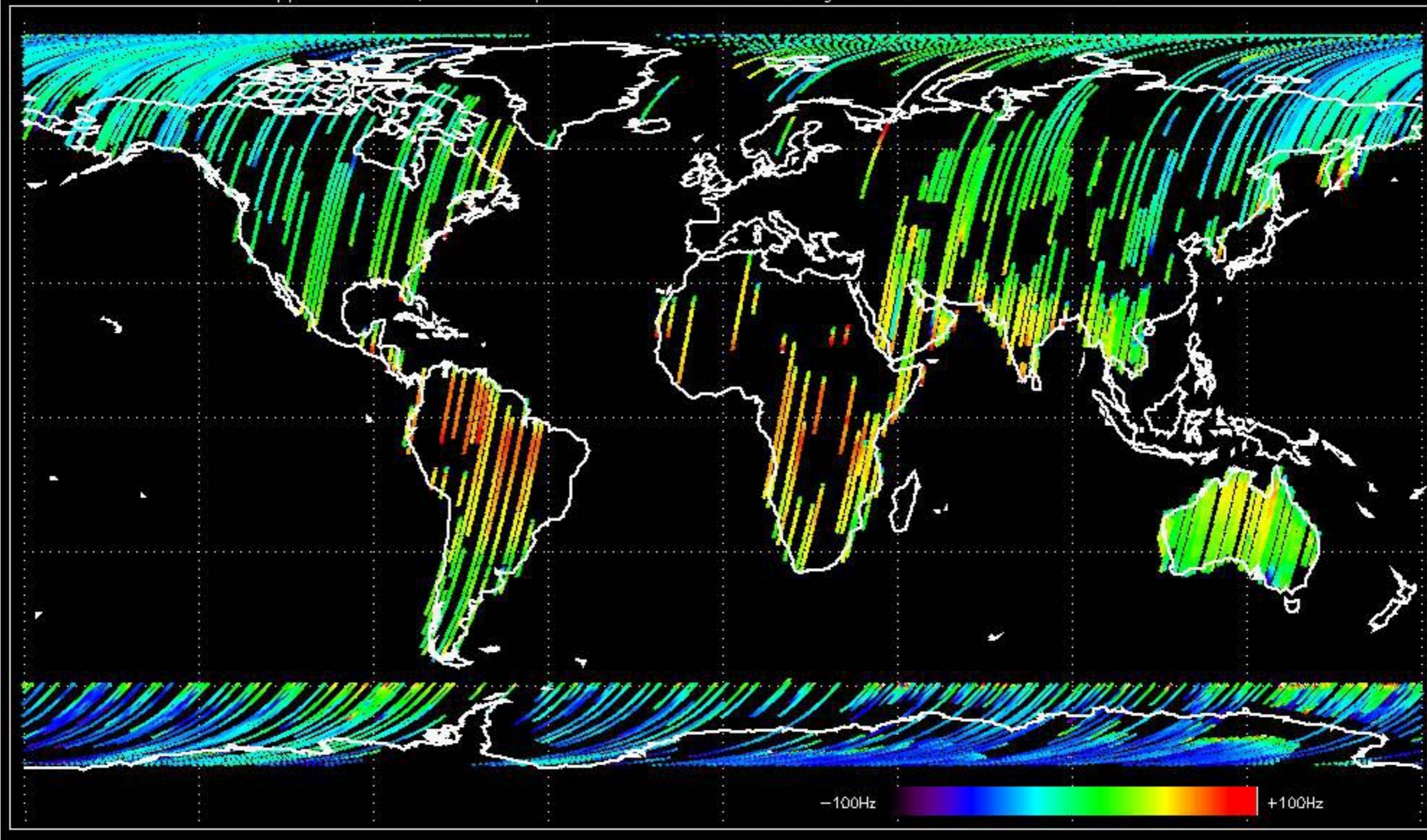




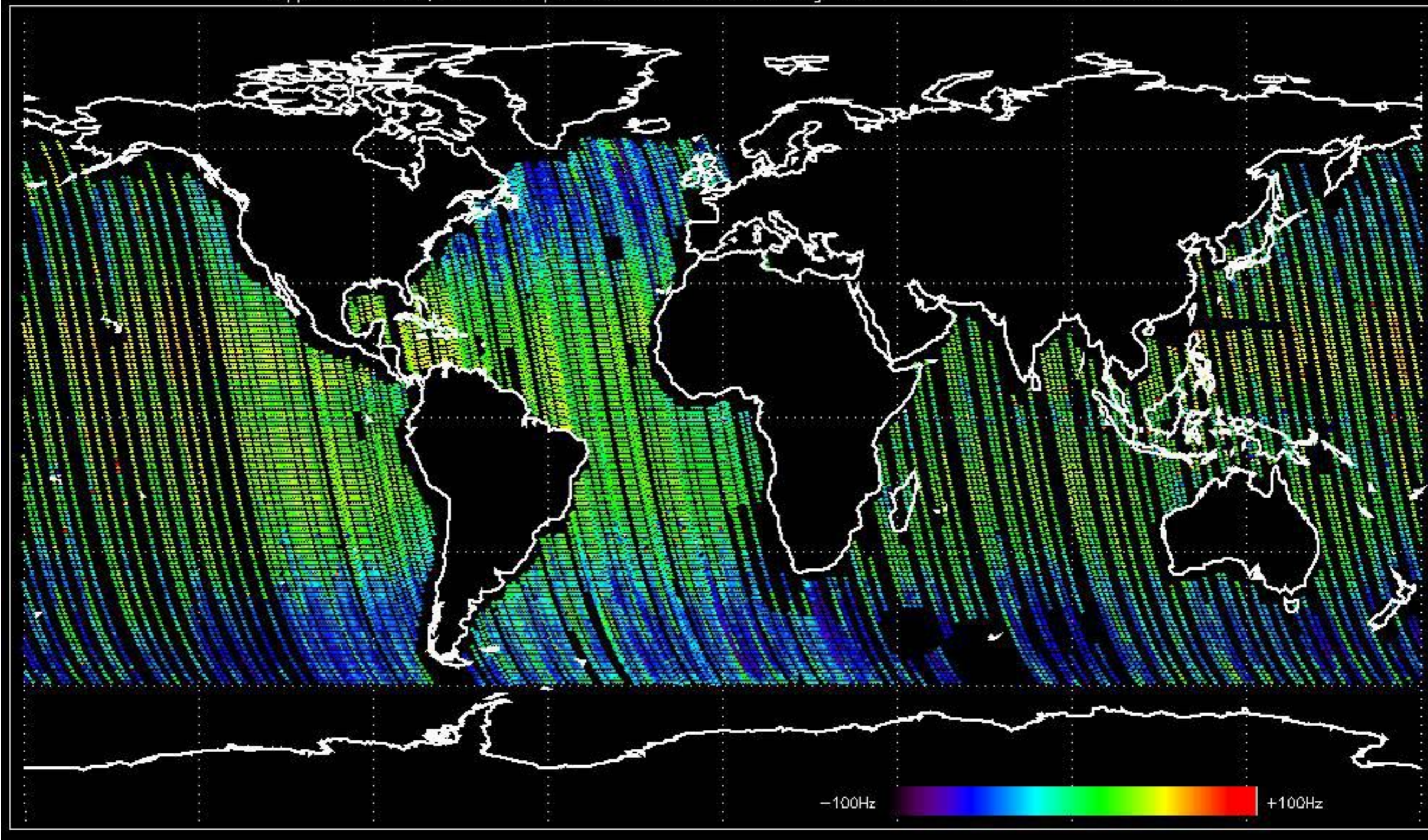
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -16.783156 Hz



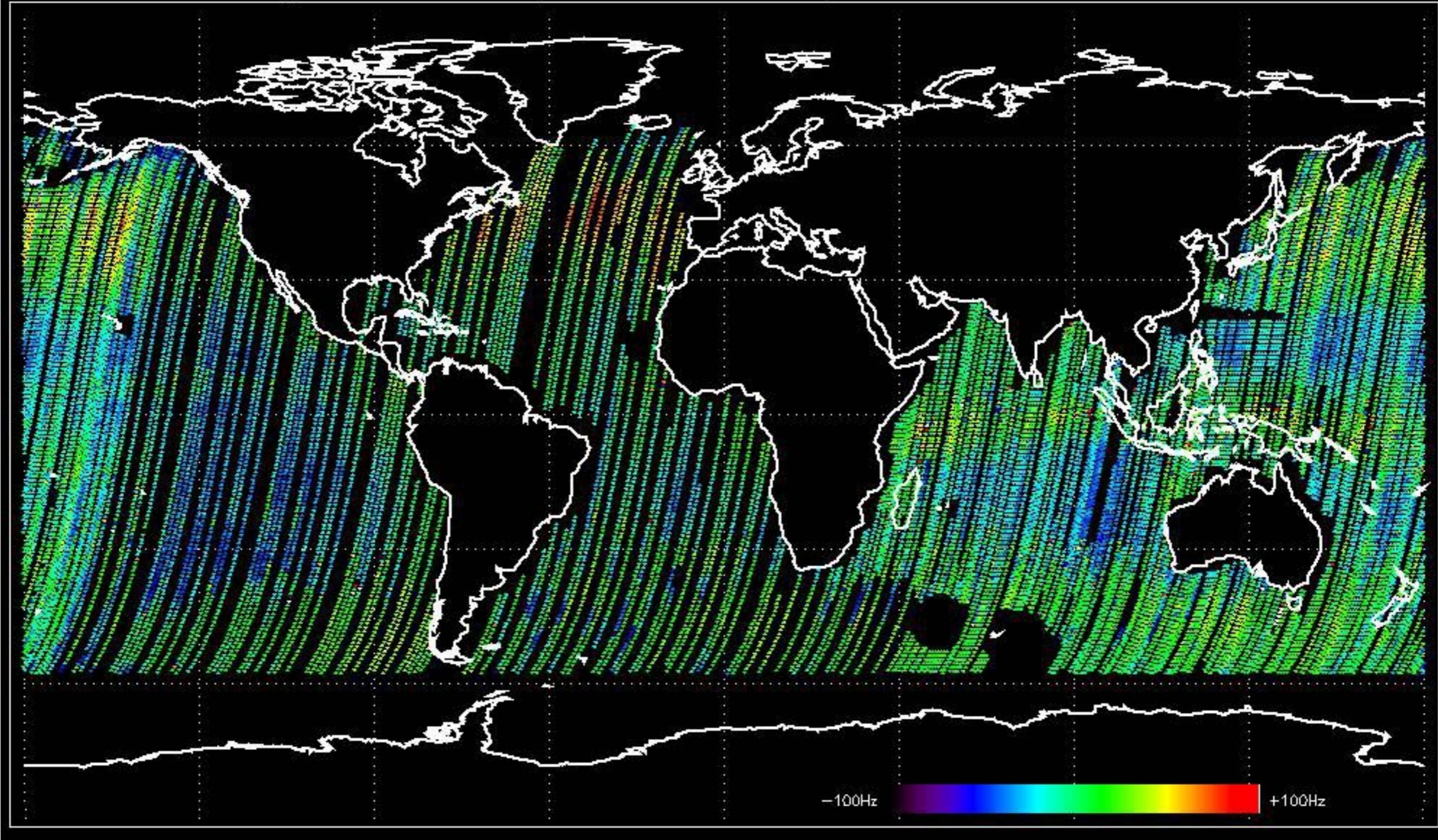
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -14.378740 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -11.896183 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -8.6862326 Hz



No anomalies observed on available MS products:

No anomalies observed.



















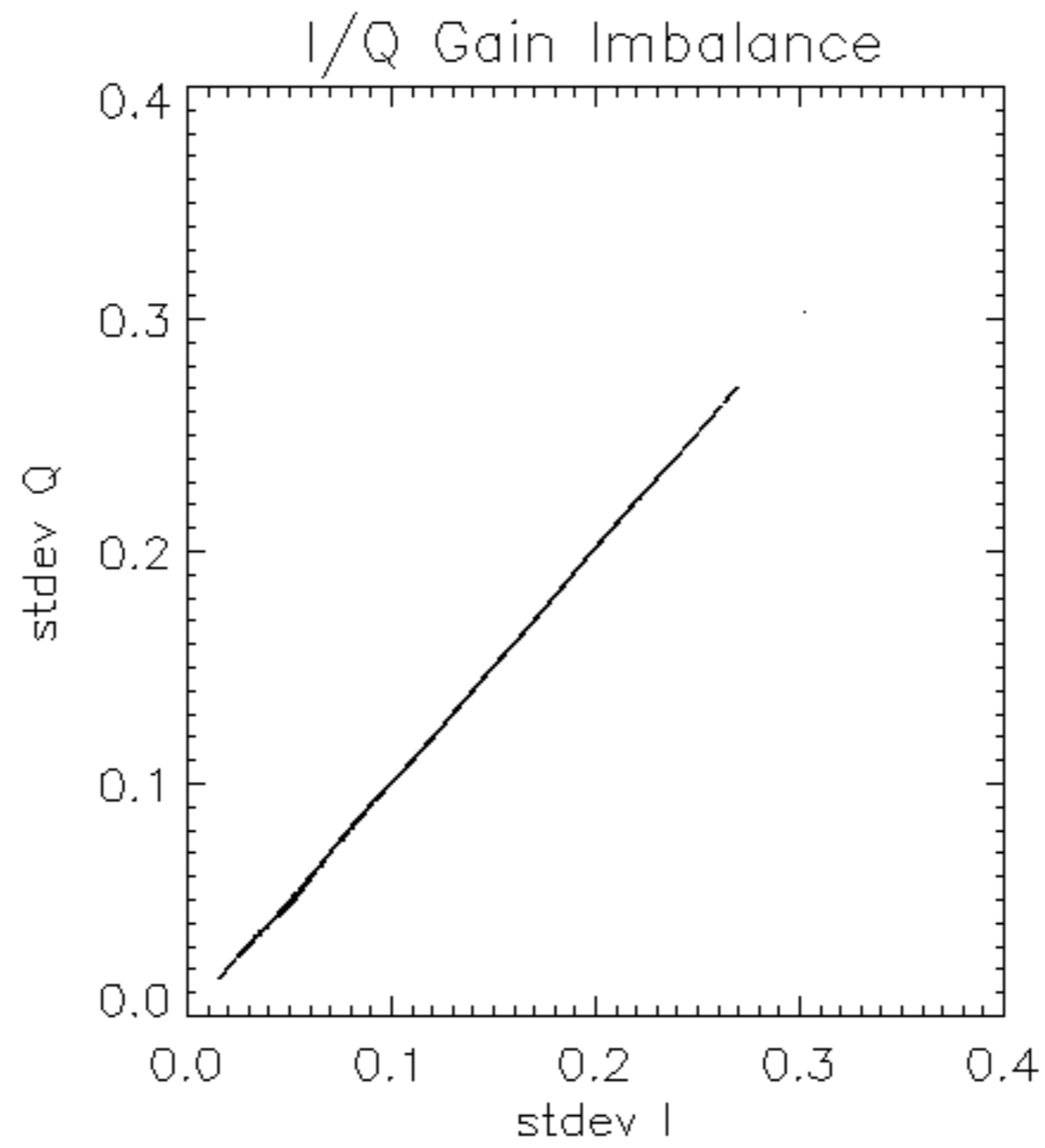


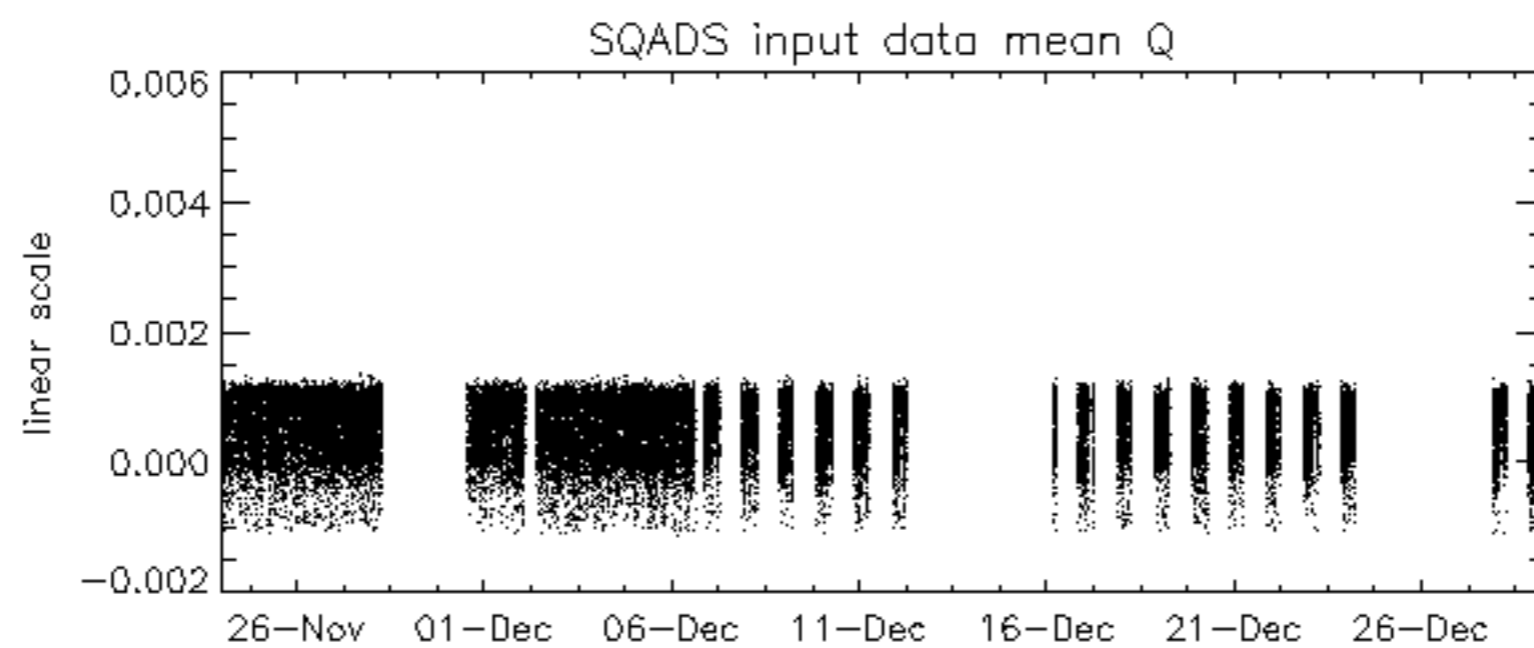
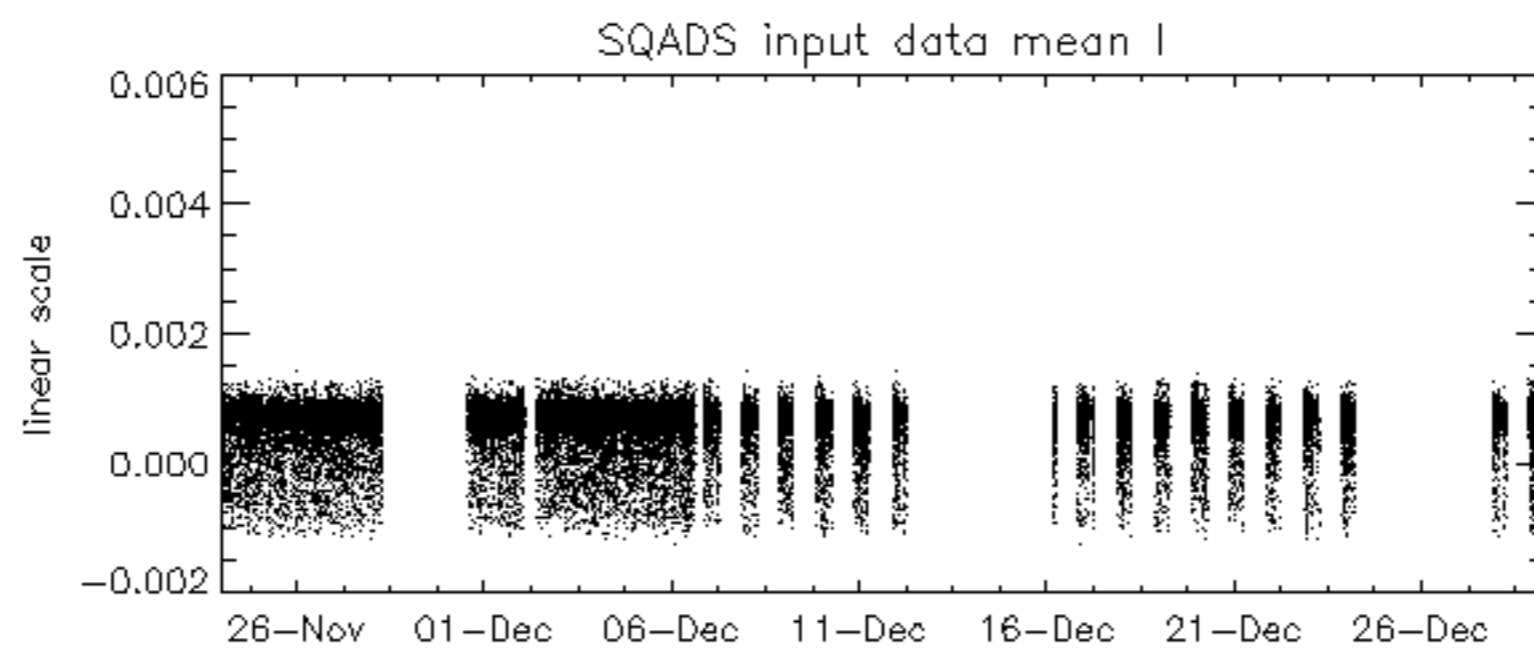
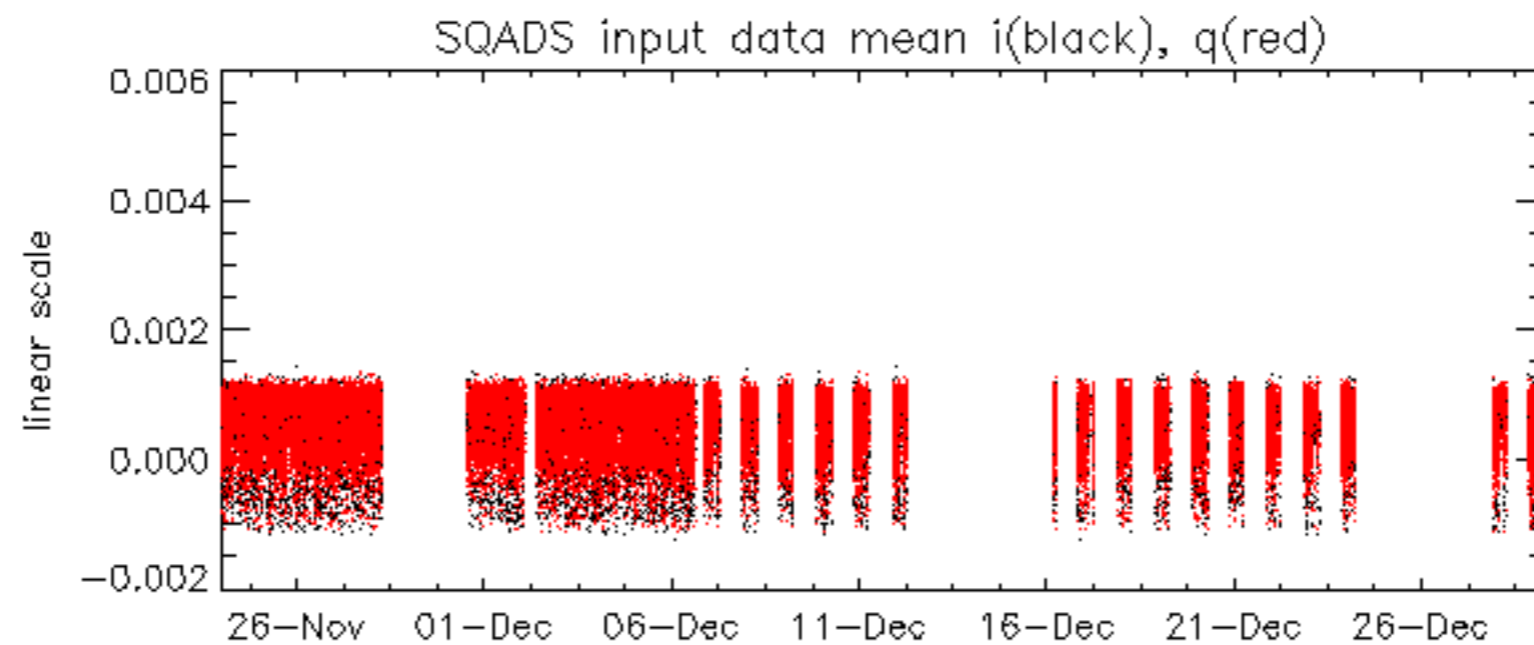


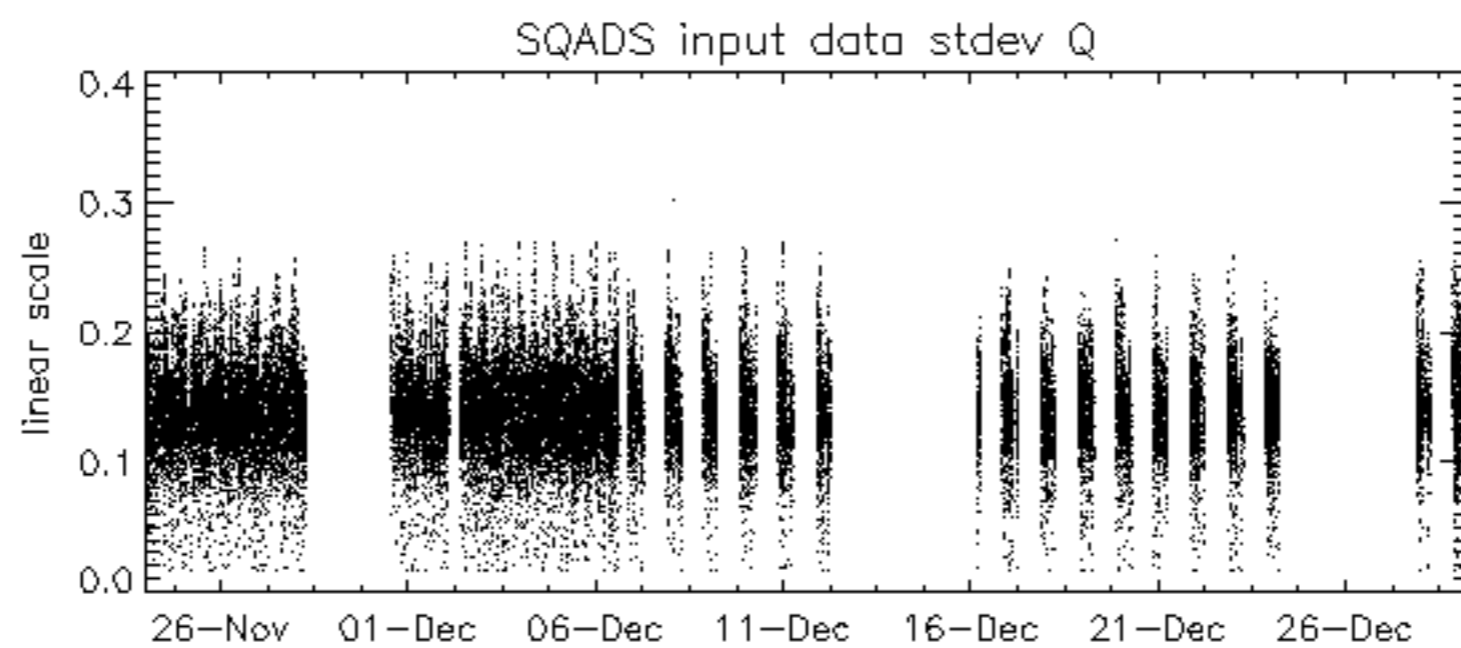
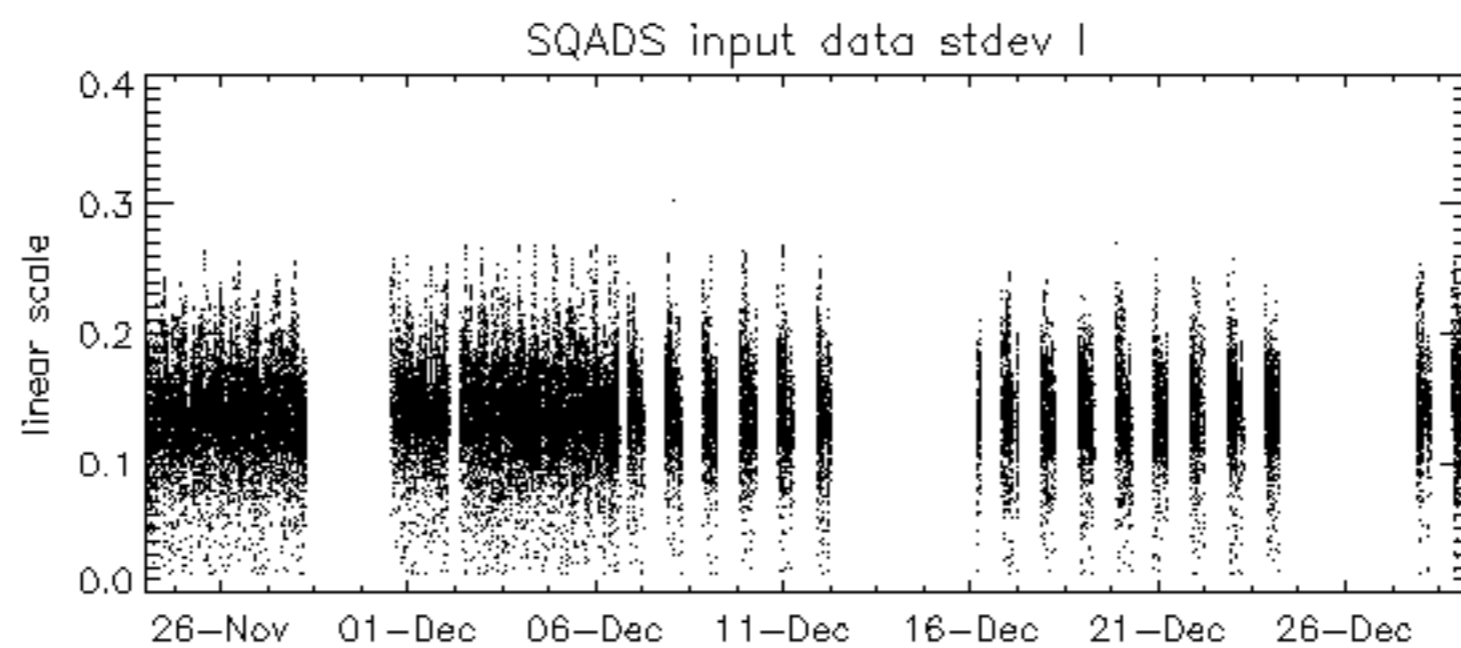
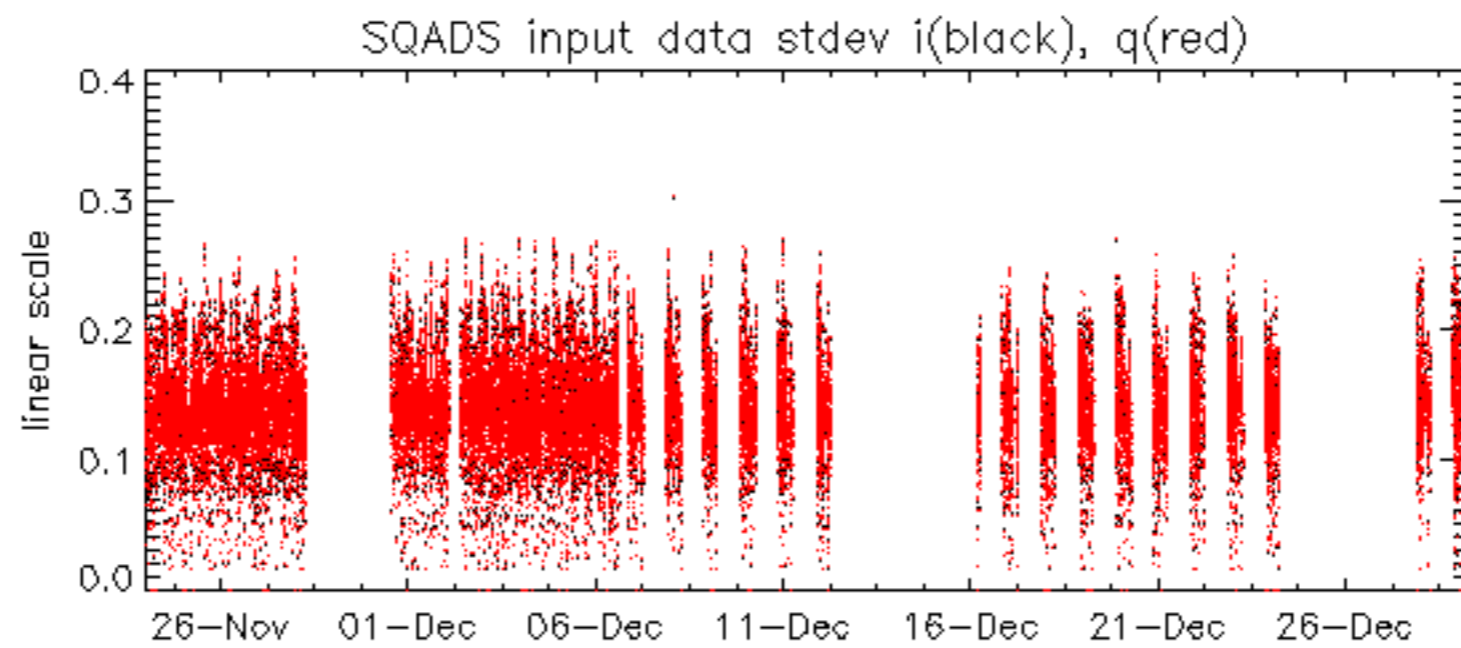






















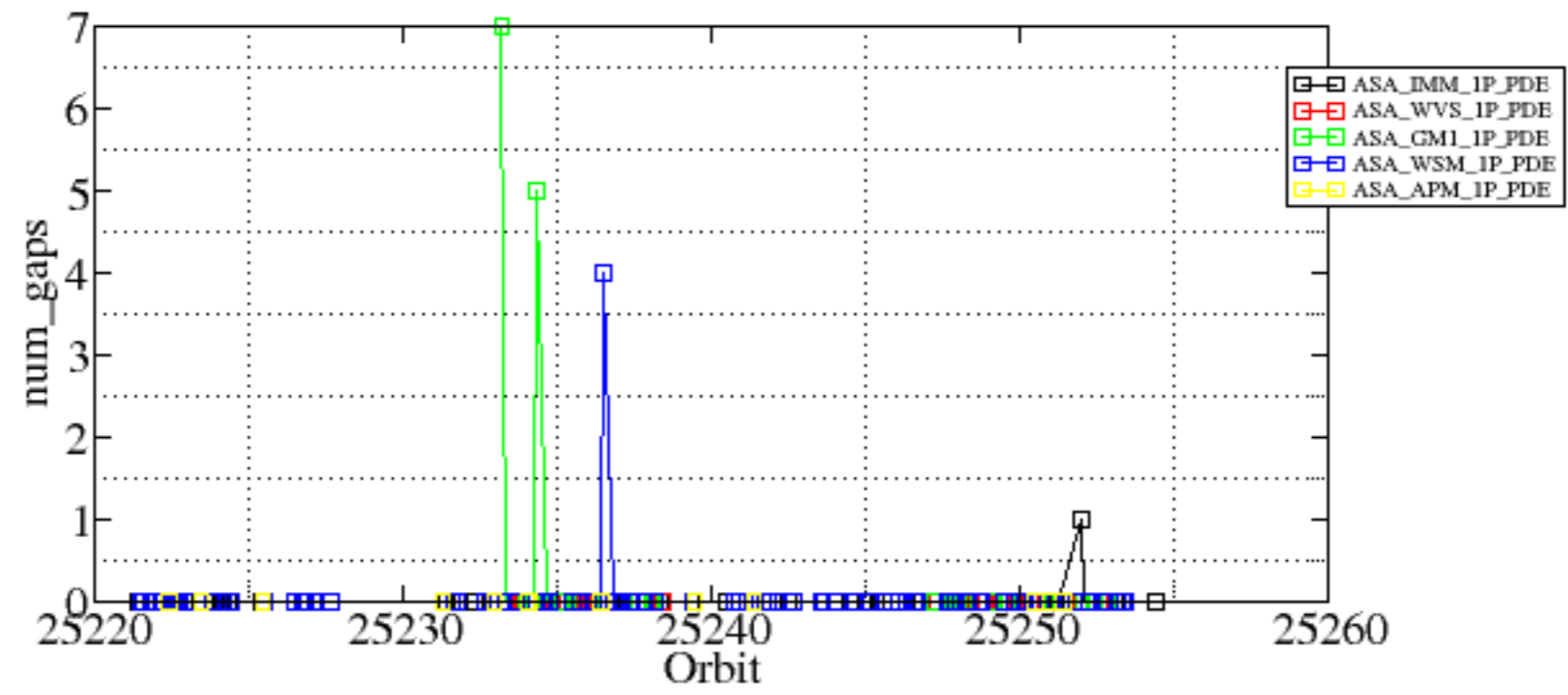


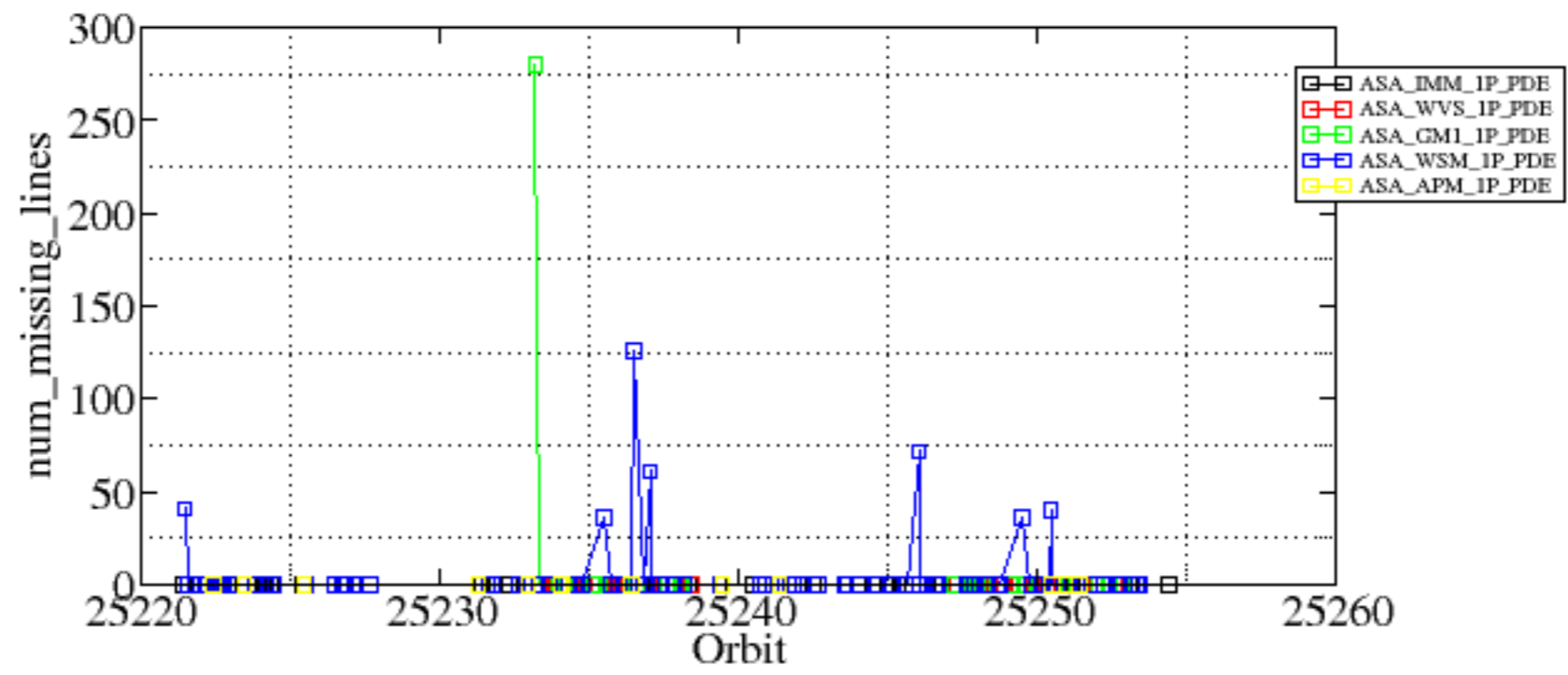


Summary of analysis for the last 3 days 2006122[789]

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_1PNPDE20061229_042632_000000762054_00147_25251_2047.N1	1	0
ASA_GM1_1PNPDE20061227_205519_000005192054_00129_25233_9869.N1	7	280
ASA_GM1_1PNPDE20061227_224834_000000902054_00130_25234_9940.N1	5	0
ASA_WSM_1PNPDE20061227_011513_000004412054_00117_25221_8723.N1	0	41
ASA_WSM_1PNPDE20061228_004637_000001412054_00131_25235_0200.N1	0	36
ASA_WSM_1PNPDE20061228_022833_000001222054_00132_25236_0262.N1	4	126
ASA_WSM_1PNPDE20061228_032459_000001282054_00133_25237_0362.N1	0	61
ASA_WSM_1PNPDE20061228_182821_000000852054_00142_25246_1151.N1	0	72
ASA_WSM_1PNPDE20061229_001400_000005752054_00145_25249_1910.N1	0	36
ASA_WSM_1PNPDE20061229_015235_000002022054_00146_25250_1940.N1	0	40











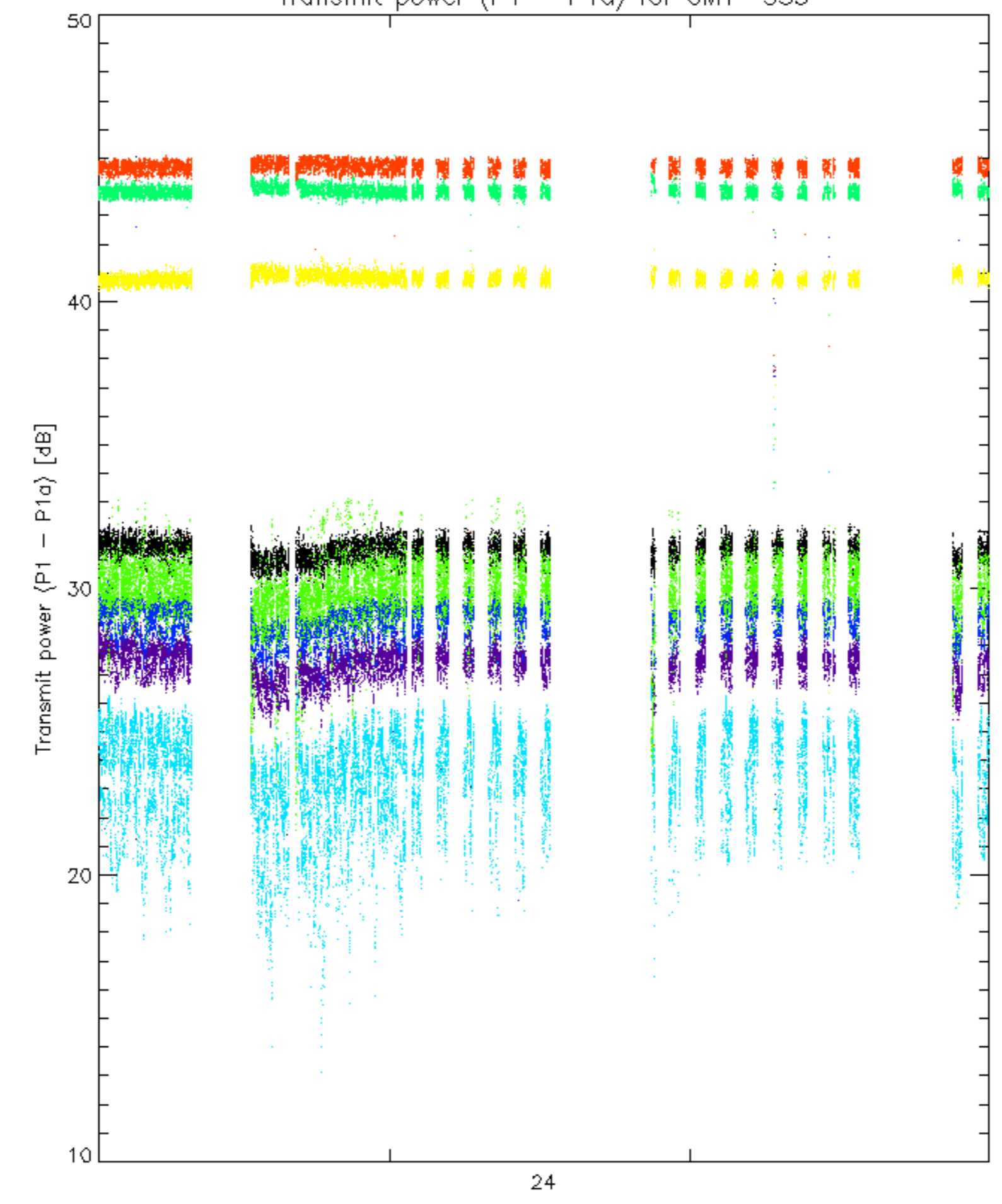




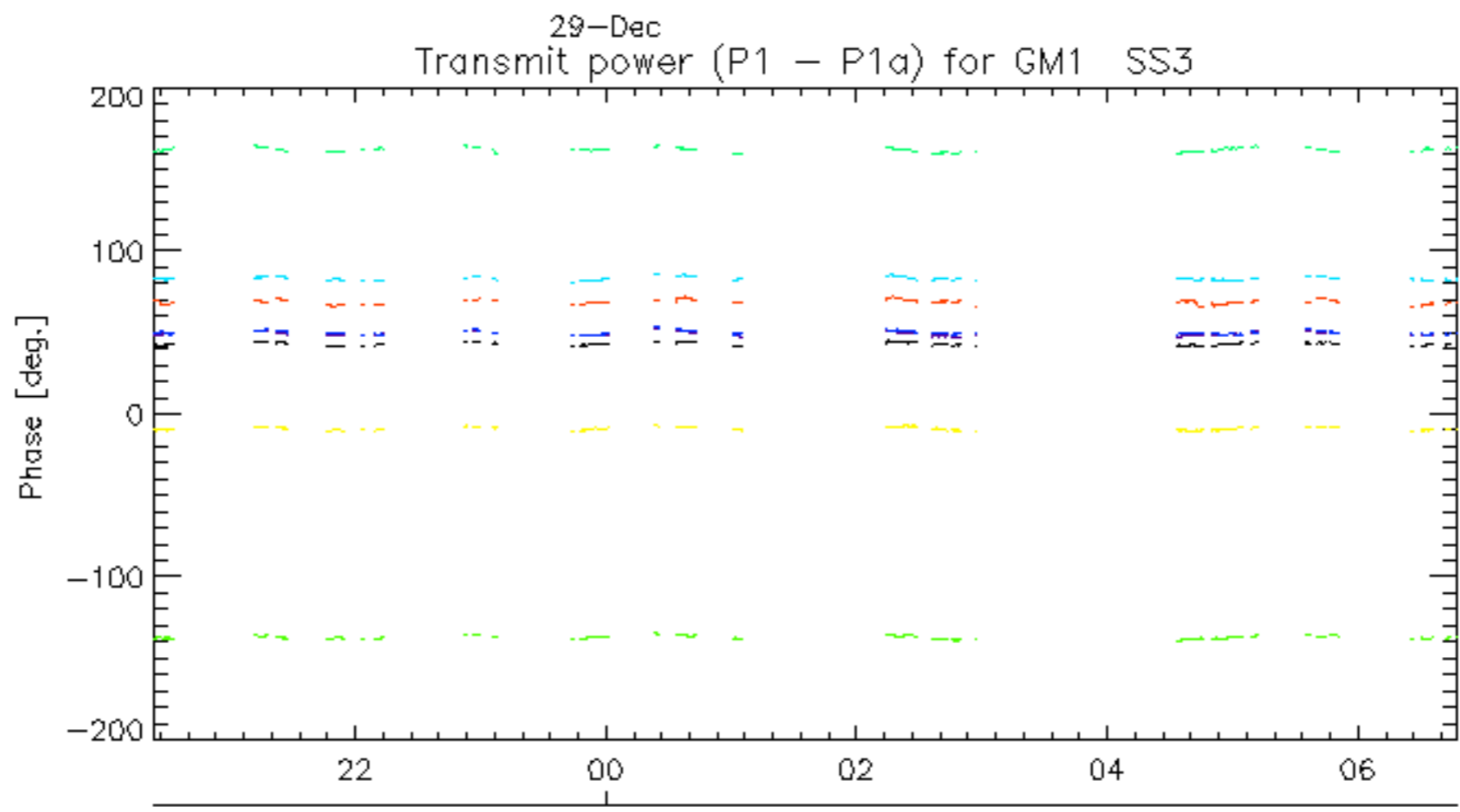
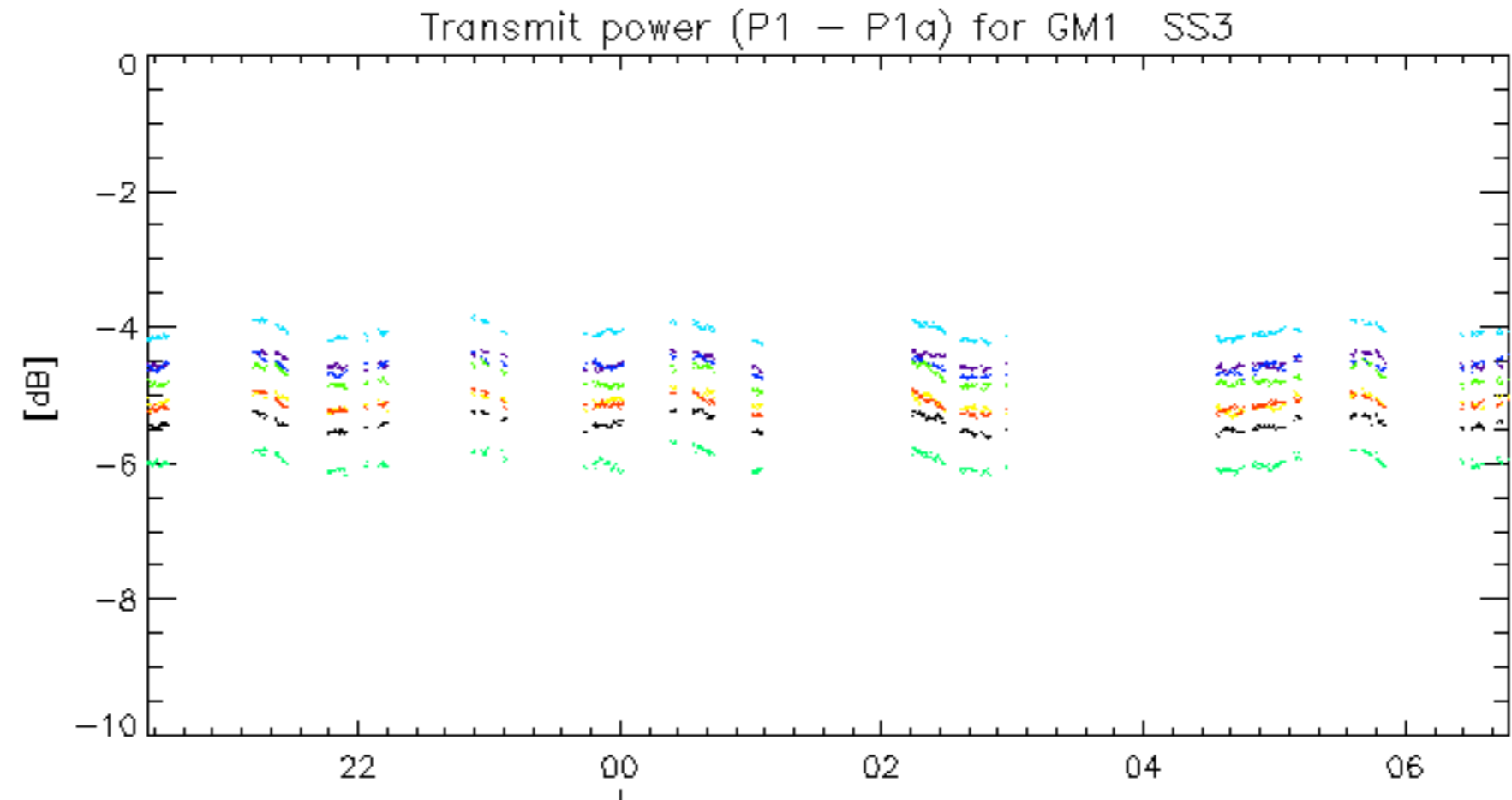




Transmit power (P1 - P1a) for GM1 SS3

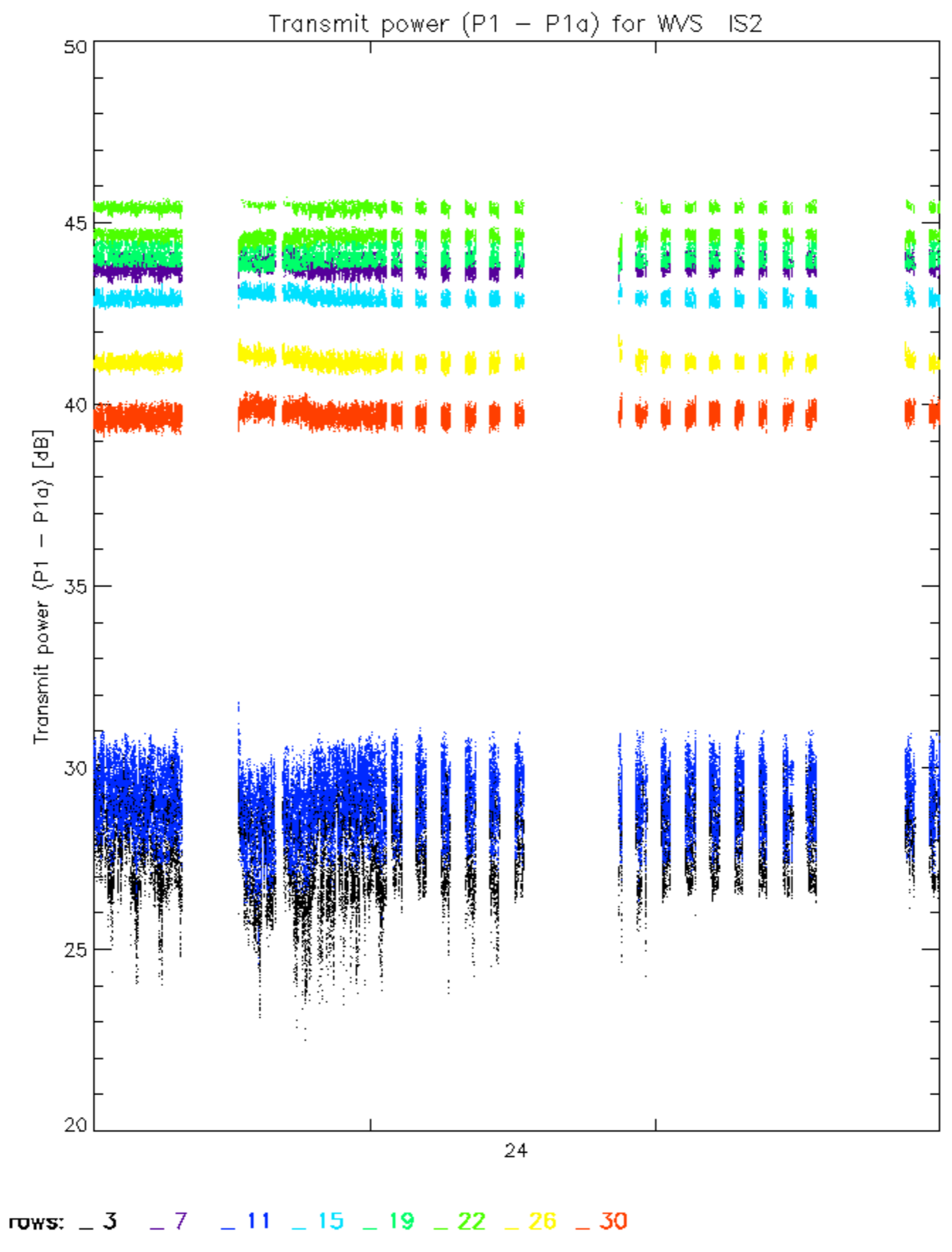


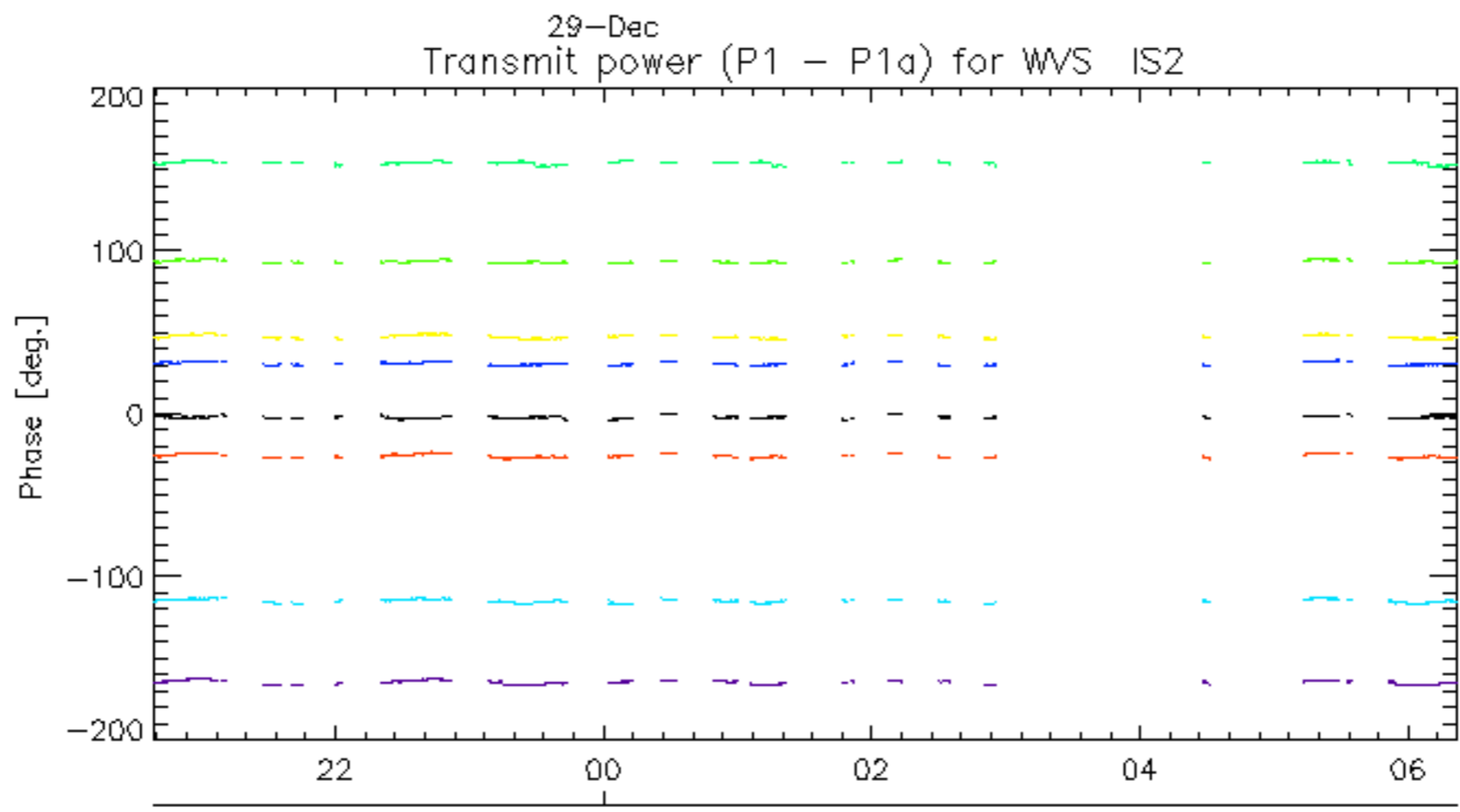
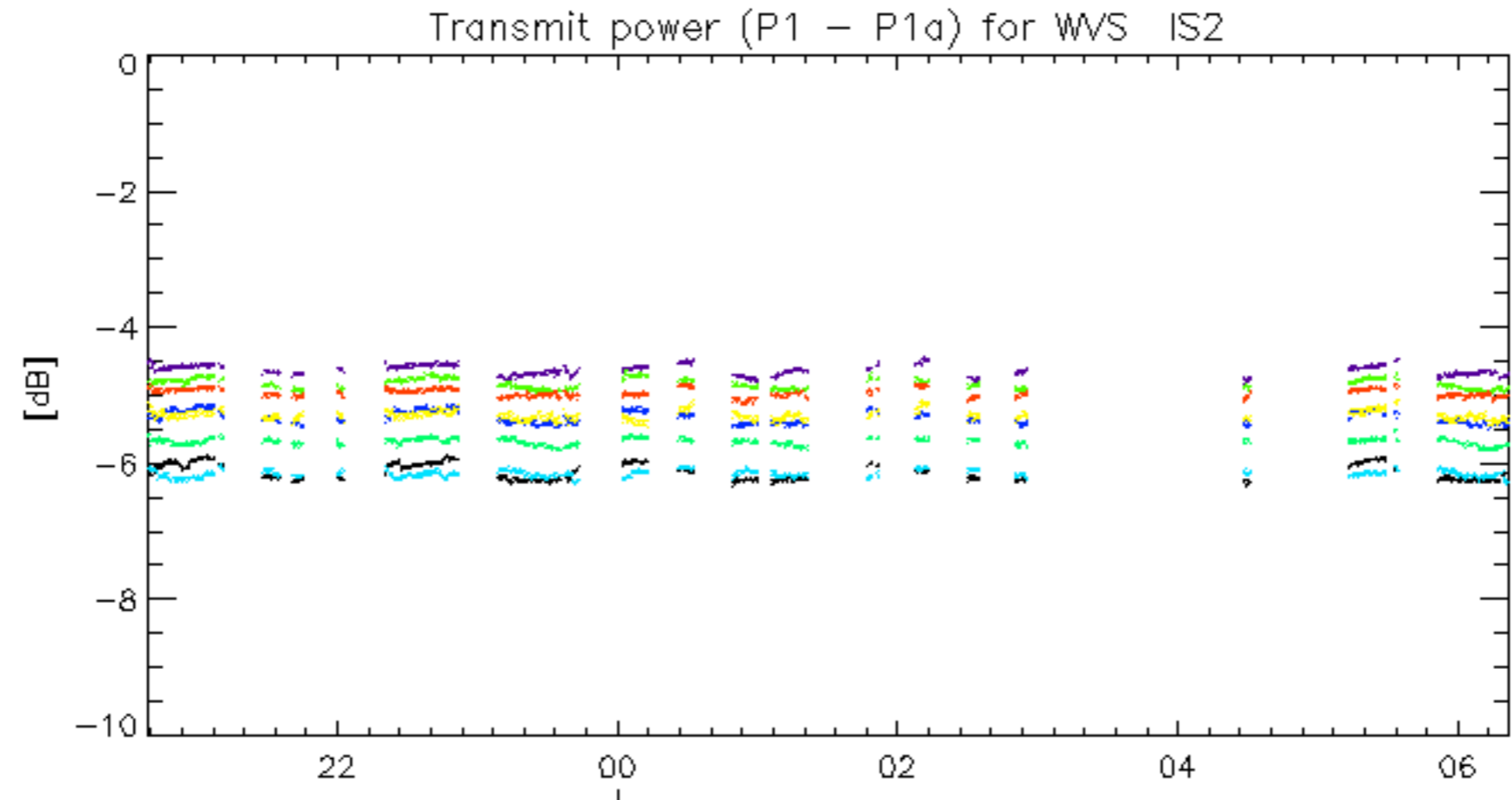
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



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







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

No unavailabilities during the reported period.