

# PRELIMINARY REPORT OF 060131

last update on Tue Jan 31 10:00:10 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 2006-01-30 00:00:00 to 2006-01-31 10:00:10

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	33	0	8	1	13
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	33	0	8	1	13
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	33	0	8	1	13
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	33	0	8	1	13

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	23	35	20	9	52
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	23	35	20	9	52
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	23	35	20	9	52
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	23	35	20	9	52

### 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	20060129 053204
H	20060130 050027

### 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
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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	-4.029981	0.007529	0.056134
7	P1	-3.003861	0.014041	-0.032142
11	P1	-4.100251	0.022425	0.001627
15	P1	-6.063778	0.017276	-0.003989
19	P1	-3.250836	0.006123	-0.032498
22	P1	-4.484149	0.019681	0.011069
26	P1	-4.206992	0.012950	0.037311
30	P1	-5.773127	0.009818	-0.013982
3	P1	-16.924759	0.266264	0.195940
7	P1	-16.622576	0.127127	-0.121652
11	P1	-16.608480	0.304572	-0.042567
15	P1	-13.229874	0.115052	0.072560
19	P1	-13.888769	0.075567	-0.047606
22	P1	-15.891344	0.566904	0.151434
26	P1	-15.761666	0.254750	0.030432
30	P1	-16.603157	0.333512	-0.044379

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.601135	0.093957	0.115879
7	P2	-22.467419	0.097283	0.093252
11	P2	-16.296814	0.103278	0.090595
15	P2	-7.214117	0.103441	0.039012
19	P2	-9.173246	0.098512	0.016789
22	P2	-17.943060	0.094171	-0.033842
26	P2	-16.221645	0.100899	-0.012828
30	P2	-19.653521	0.084190	0.018380

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.212847	0.007305	0.014733
7	P3	-8.212847	0.007305	0.014733
11	P3	-8.212847	0.007305	0.014733
15	P3	-8.212847	0.007305	0.014733
19	P3	-8.212847	0.007305	0.014733
22	P3	-8.212847	0.007305	0.014733
26	P3	-8.212847	0.007305	0.014733
30	P3	-8.212847	0.007305	0.014733

**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	-3.725599	0.010899	-0.014583
7	P1	-2.747761	0.007611	0.041735
11	P1	-2.866991	0.011241	-0.009190
15	P1	-3.466711	0.018750	-0.053711
19	P1	-3.379841	0.012796	-0.012893
22	P1	-5.125238	0.021432	-0.020544
26	P1	-5.856339	0.015645	-0.014592
30	P1	-5.246002	0.029303	0.020978
3	P1	-11.527038	0.039019	-0.039639
7	P1	-9.919086	0.049501	0.025438
11	P1	-10.082542	0.049774	-0.074784
15	P1	-10.625095	0.086071	-0.046726
19	P1	-15.475622	0.060026	0.001193
22	P1	-20.596081	1.211532	0.342230

26	P1	-16.789068	0.337118	0.354309
30	P1	-18.159538	0.317174	-0.048758

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.413750	0.032594	0.183996
7	P2	-22.853127	0.059853	0.170419
11	P2	-11.426694	0.019720	0.109208
15	P2	-4.916195	0.024986	0.053394
19	P2	-6.918459	0.022464	0.039473
22	P2	-8.194765	0.022606	-0.005105
26	P2	-23.970465	0.024405	0.033126
30	P2	-22.096054	0.018581	0.019670

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.052127	0.002486	0.029700
7	P3	-8.052056	0.002483	0.029642
11	P3	-8.052168	0.002481	0.030180
15	P3	-8.052129	0.002501	0.029828
19	P3	-8.052176	0.002486	0.029431
22	P3	-8.052135	0.002485	0.029190
26	P3	-8.052086	0.002478	0.028480
30	P3	-8.052144	0.002494	0.029922

## 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	0.000561485
	stdev	1.68214e-07
MEAN Q	mean	0.000520666
	stdev	2.14137e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.139570
	stdev	0.00118648
STDEV Q	mean	0.139936
	stdev	0.00120607



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006013[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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## 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


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### 7.4 - Unbiased Doppler Error for GM1

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


Ascending




Descending

### 7.5 - Absolute Doppler for GM1

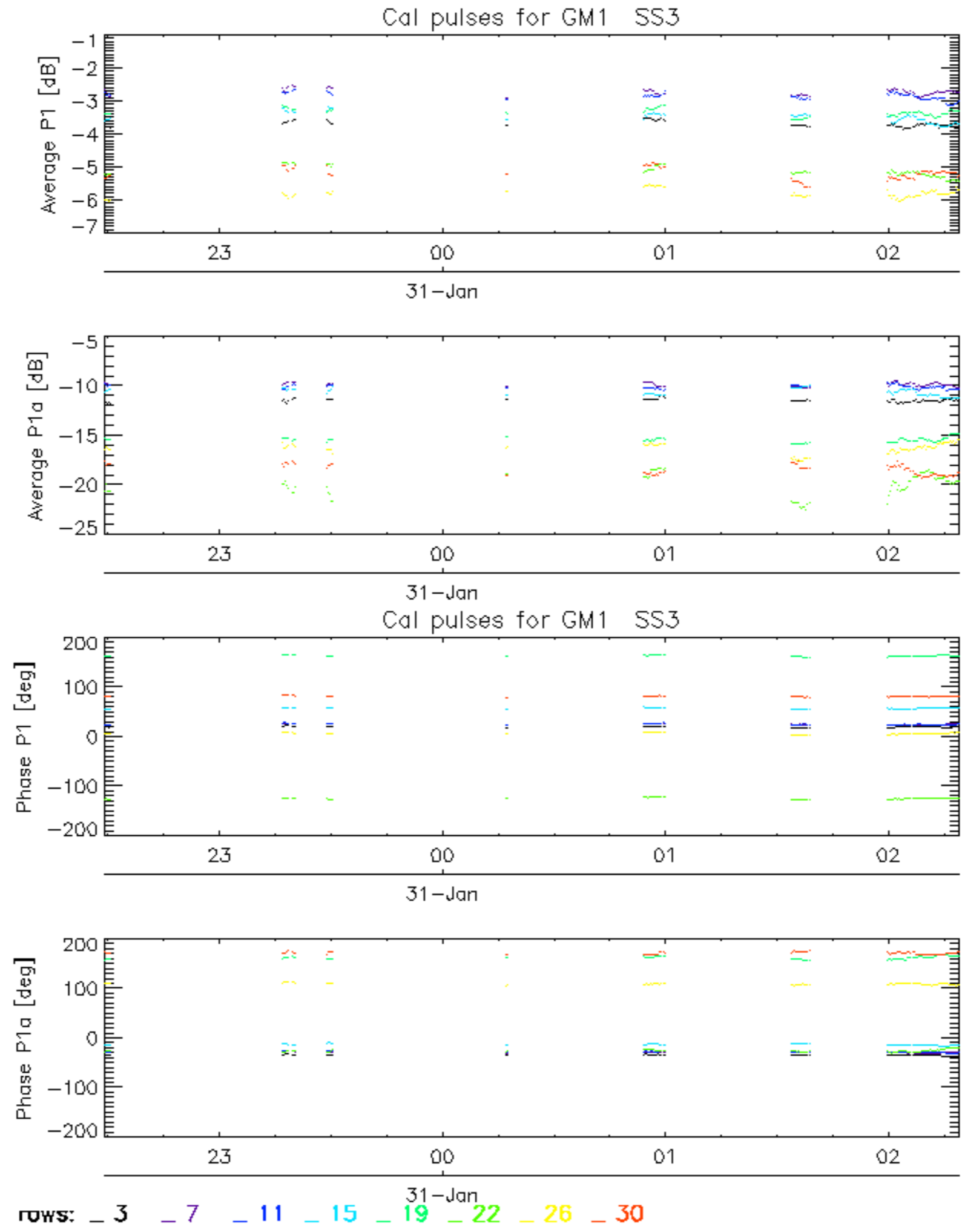
Evolution of Absolute Doppler

Ascending

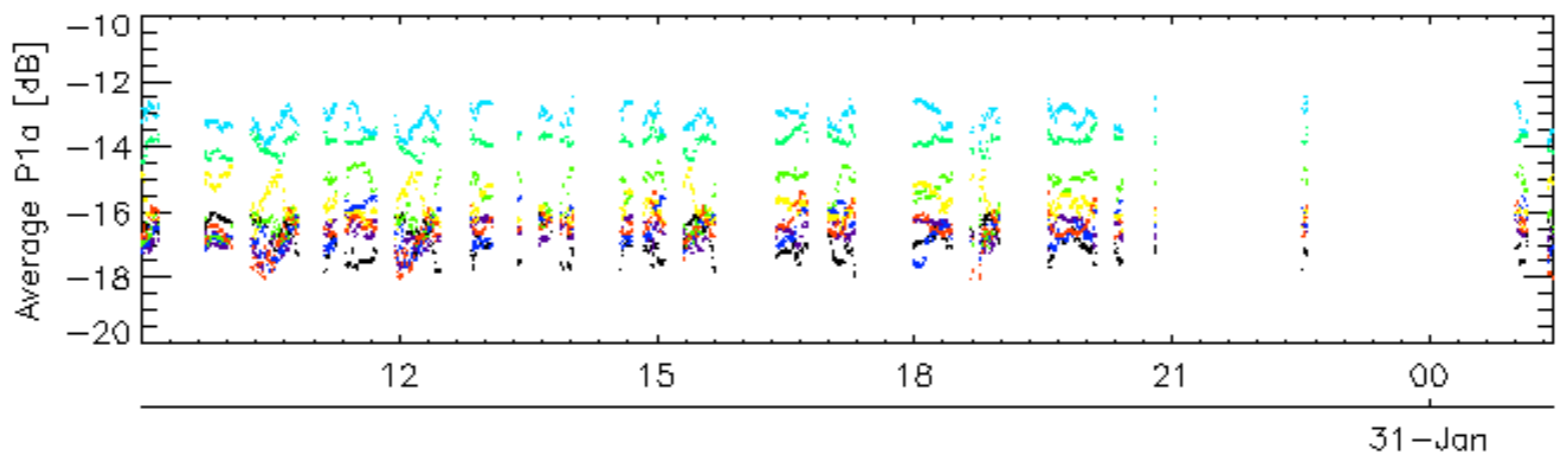
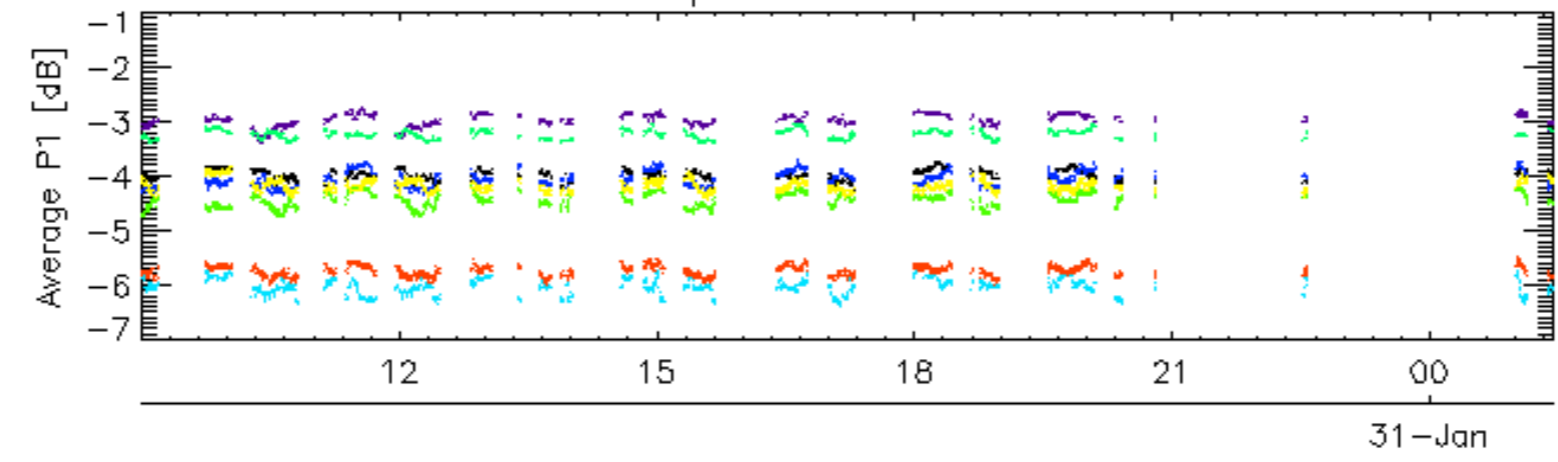
Descending

### 7.6 - Doppler evolution versus ANX for GM1

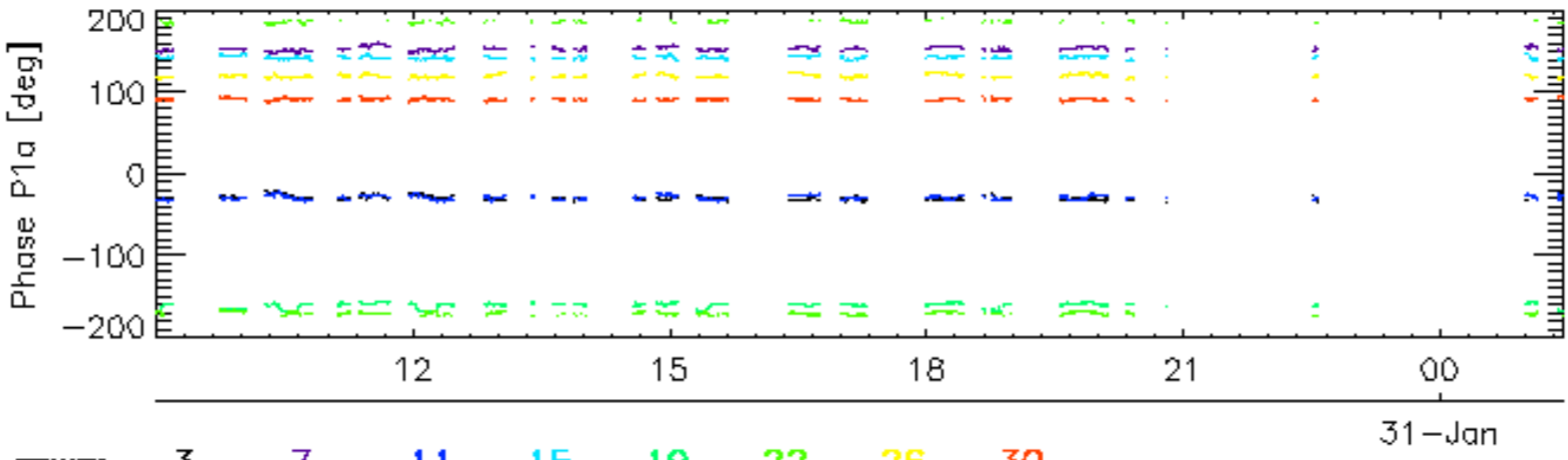
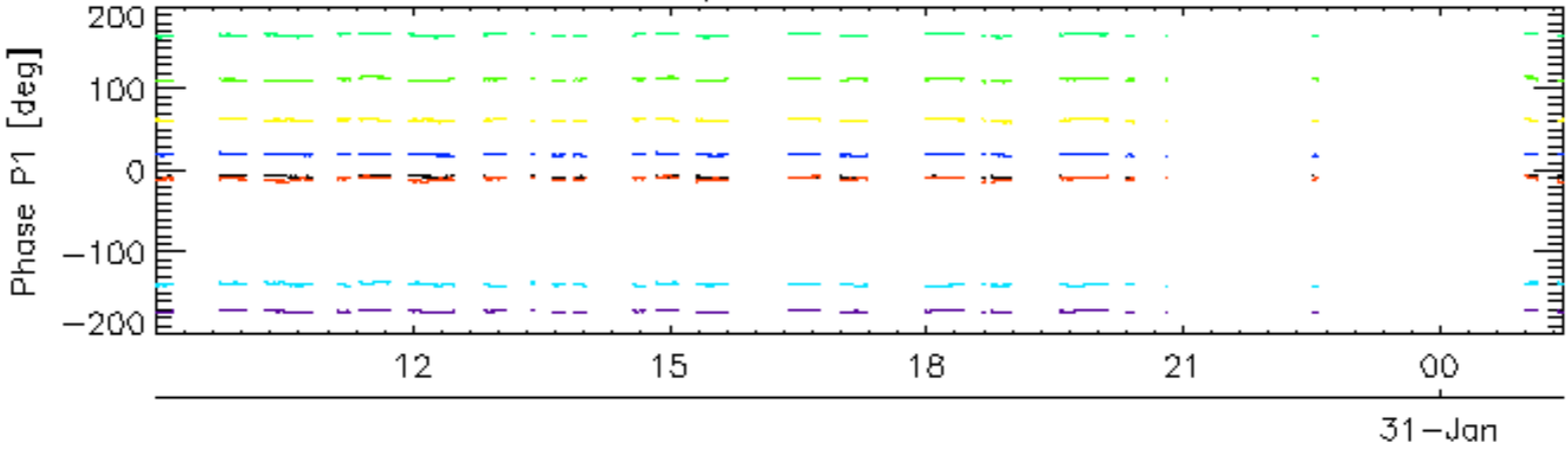
Evolution Doppler error versus ANX



Cal pulses for WVS IS2

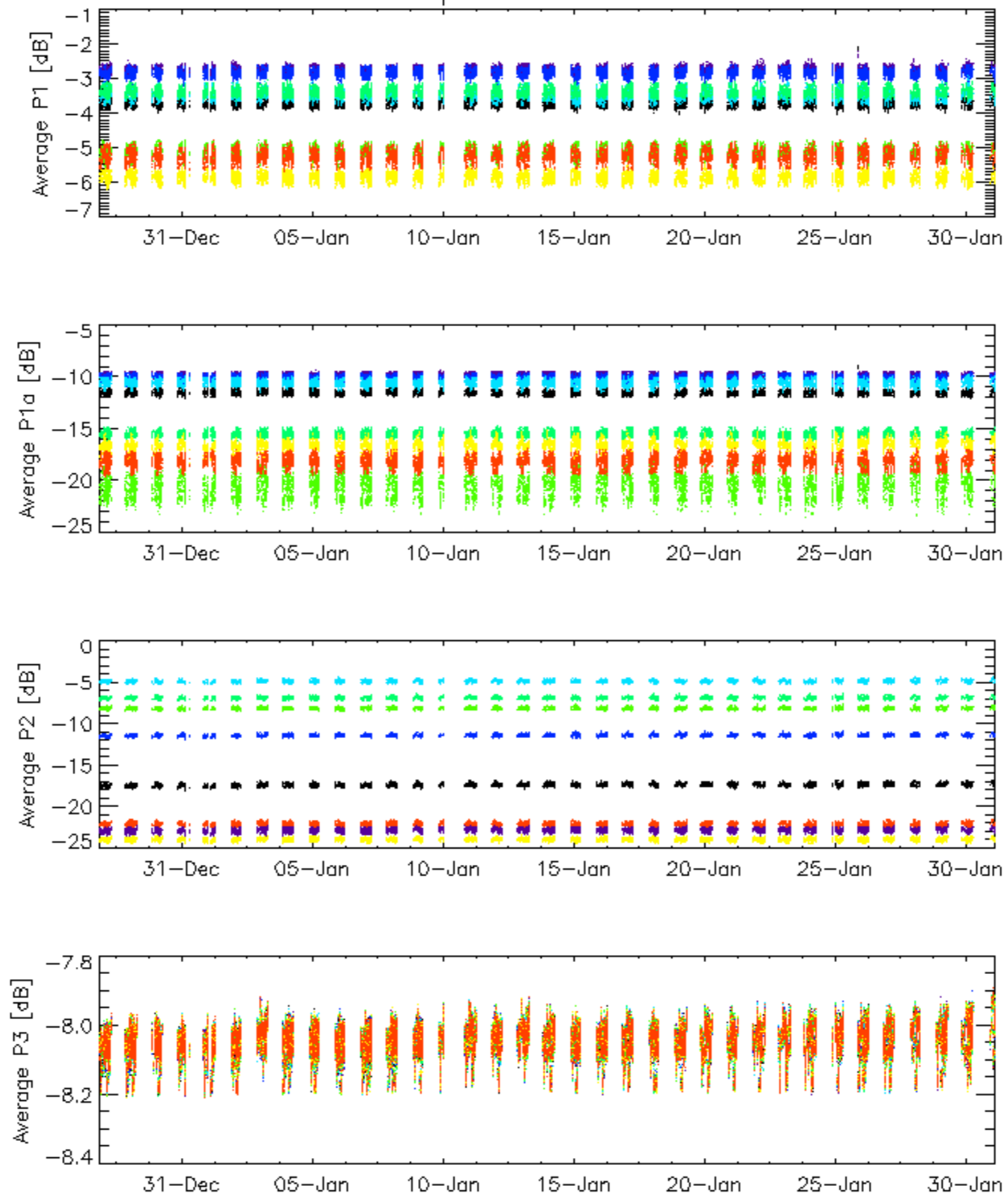


Cal pulses for WVS IS2



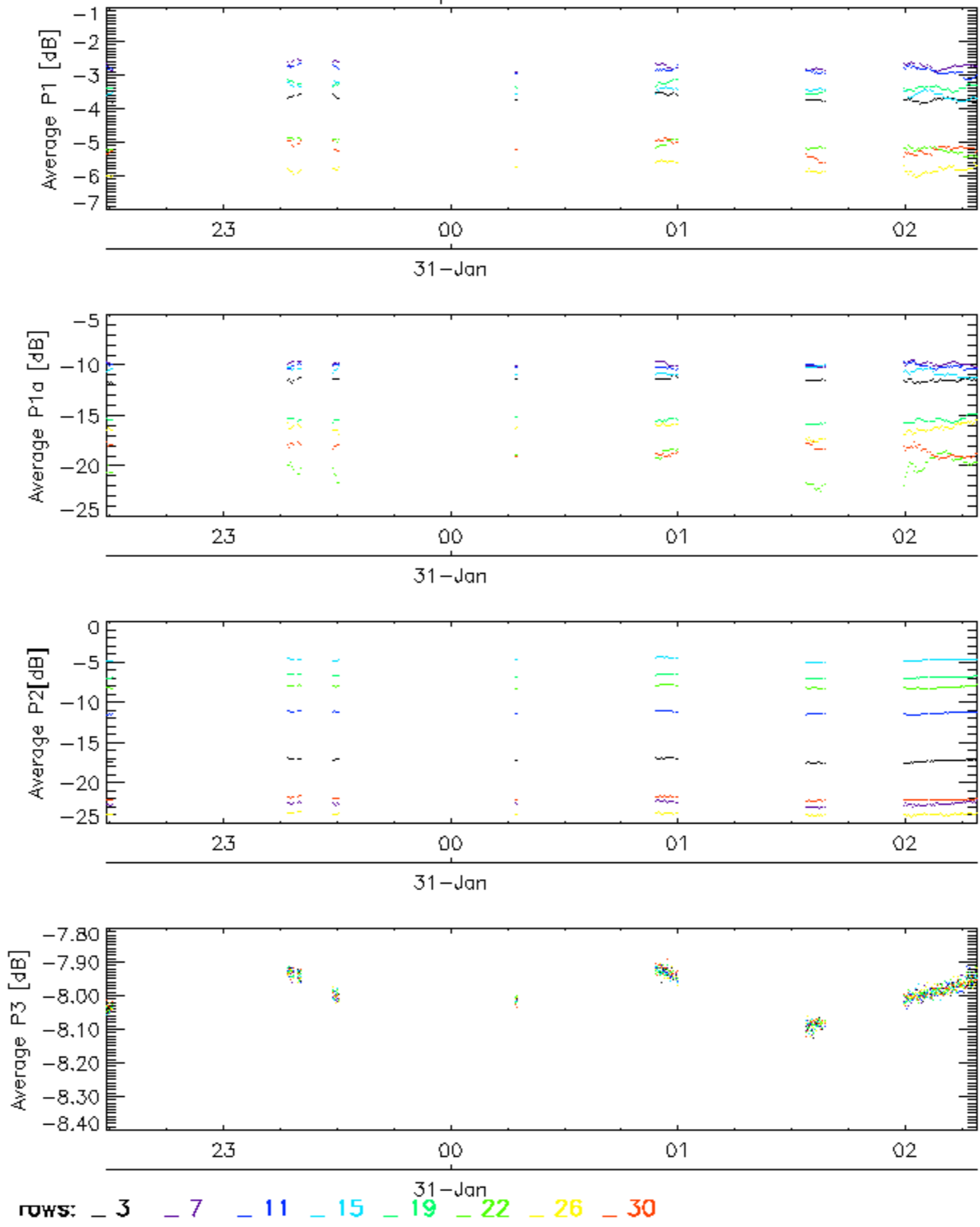
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

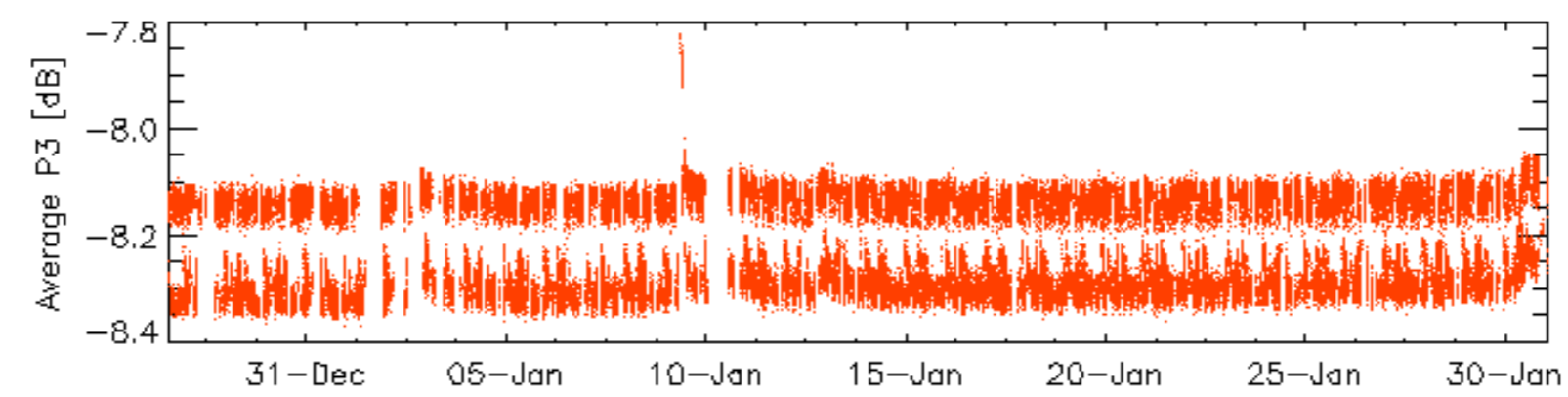
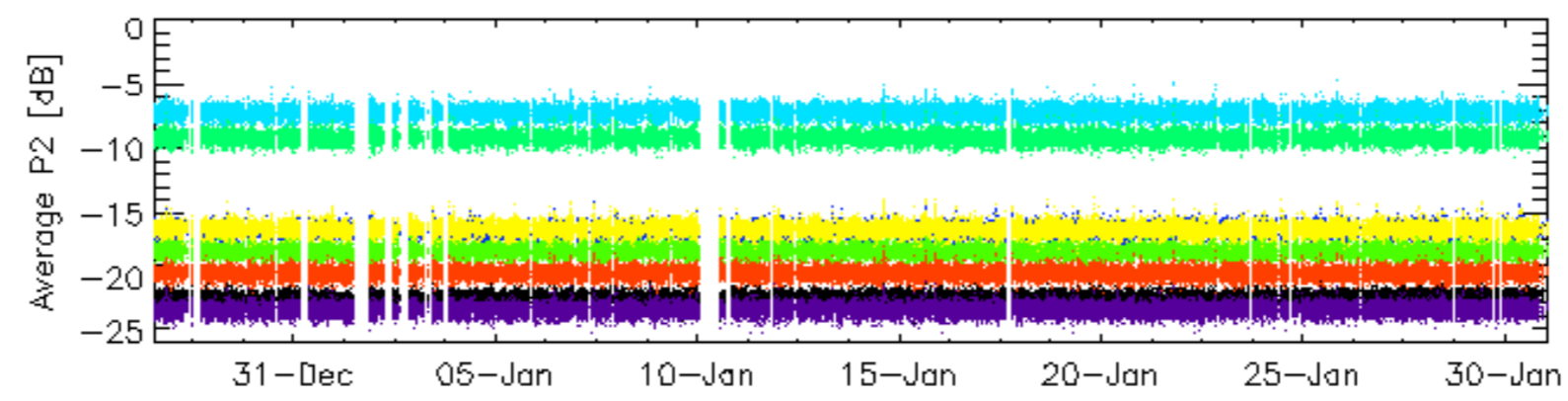
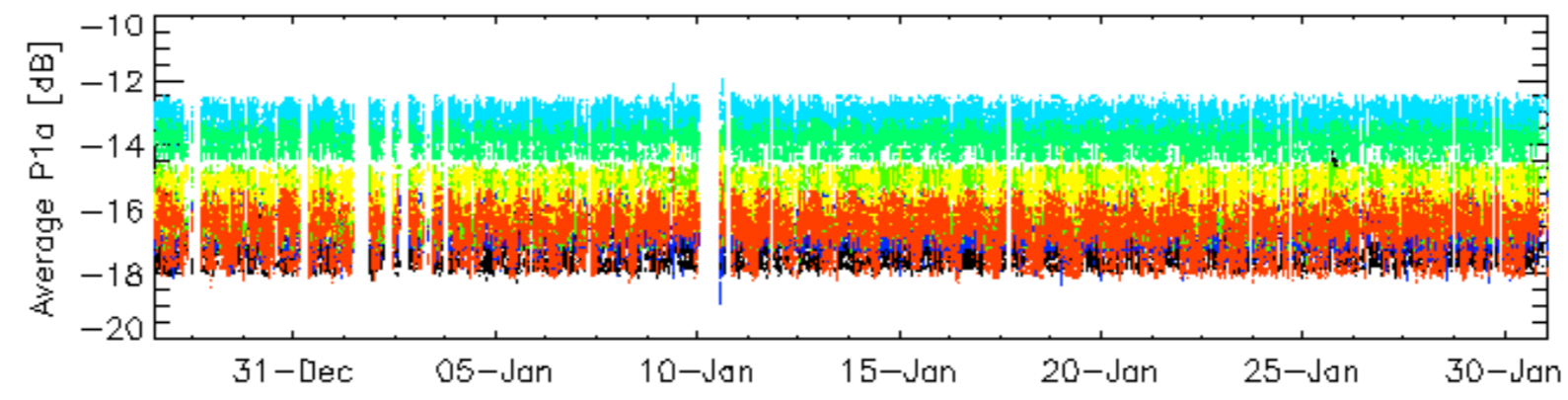
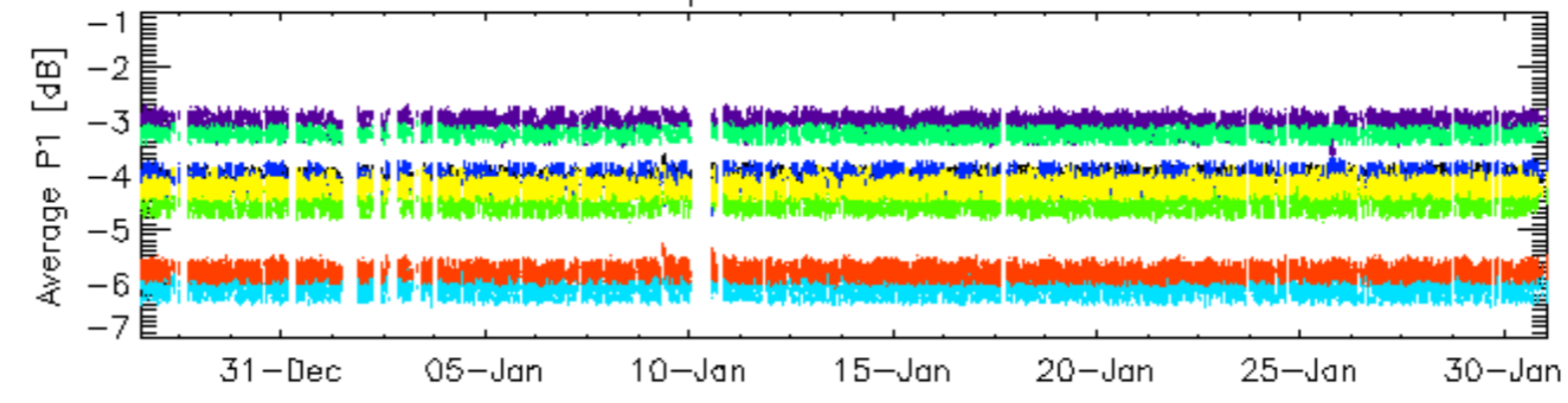


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

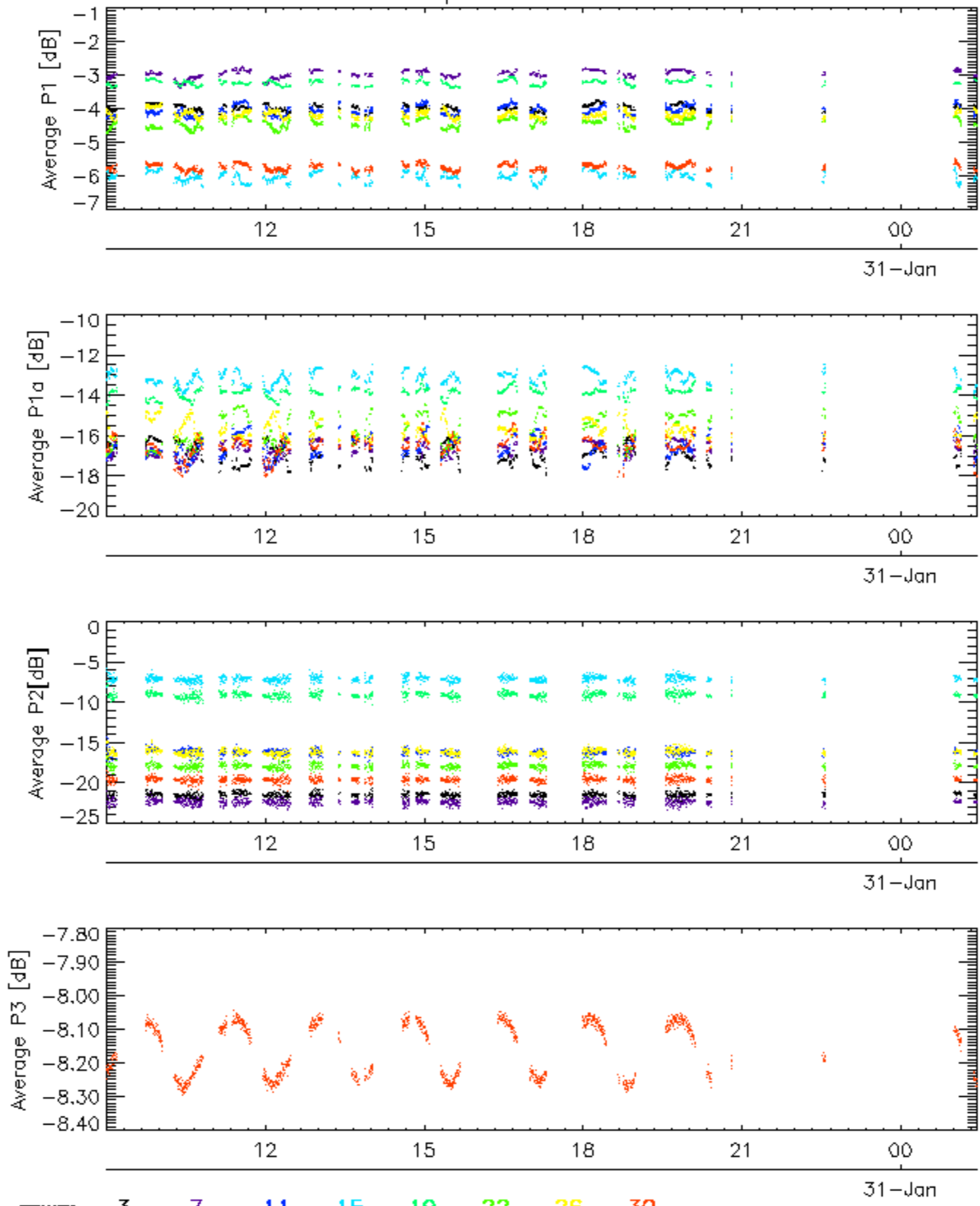


Cal pulses for WVS IS2



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

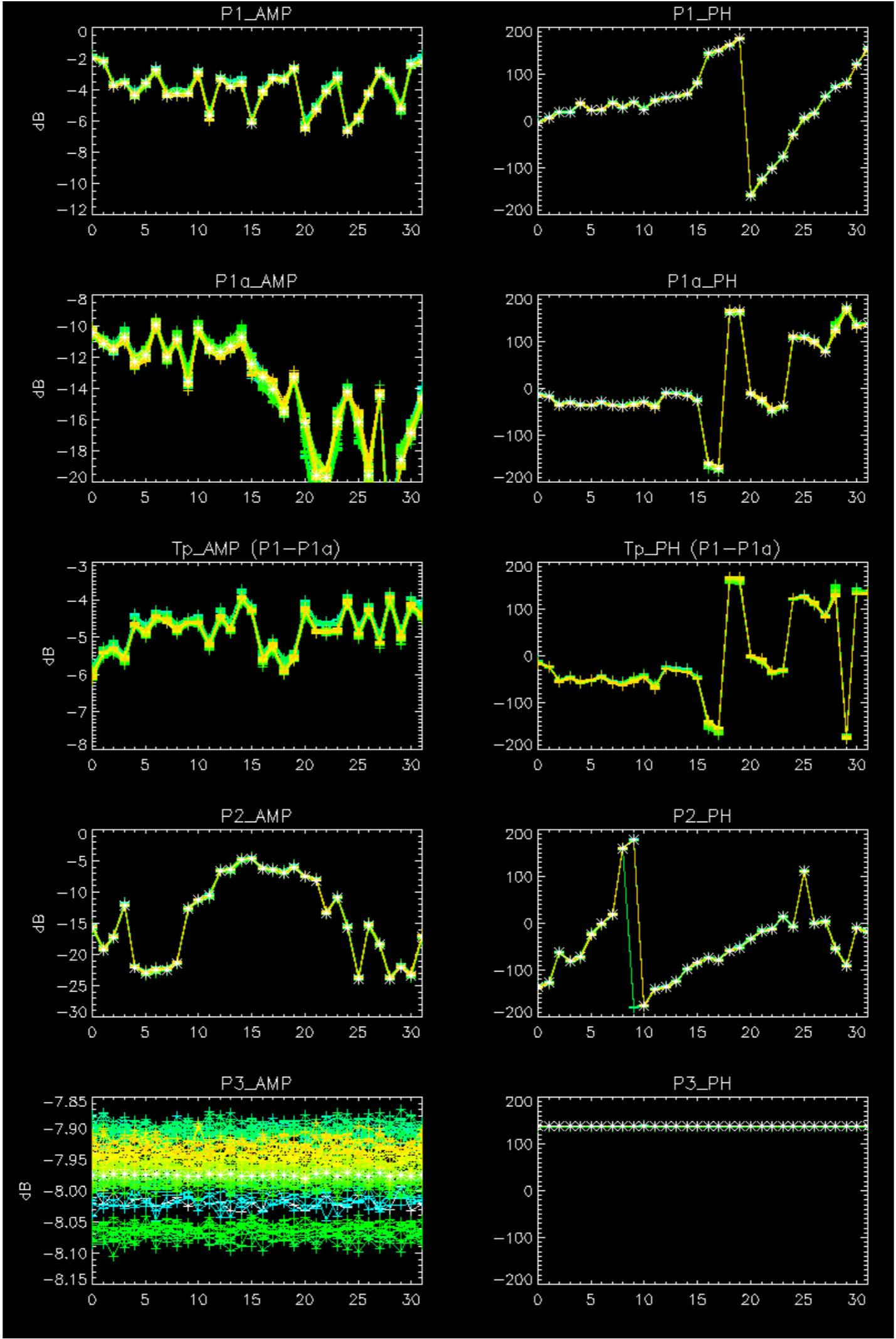
Cal pulses for WVS IS2

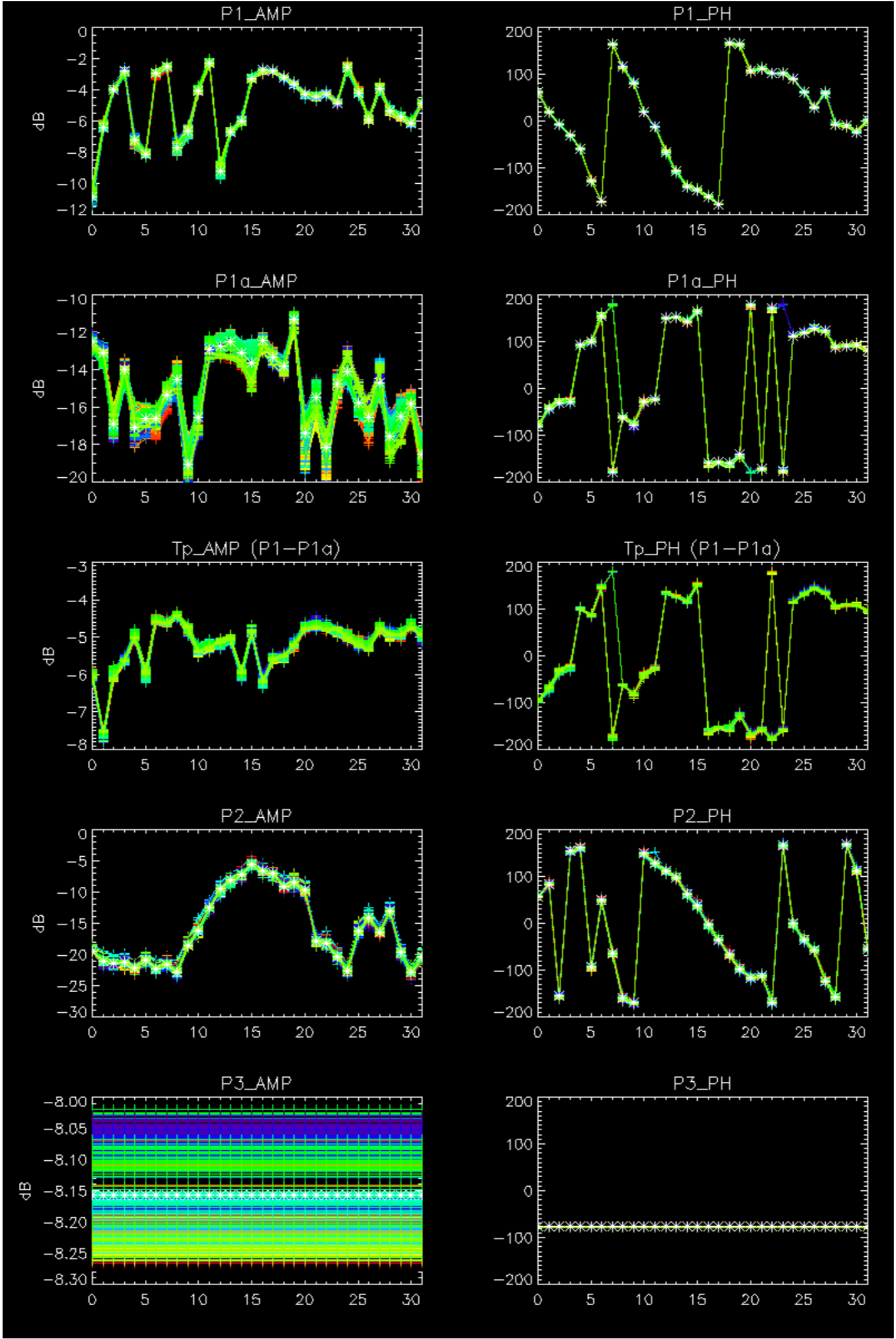


No anomalies observed on available browse products



No anomalies observed.

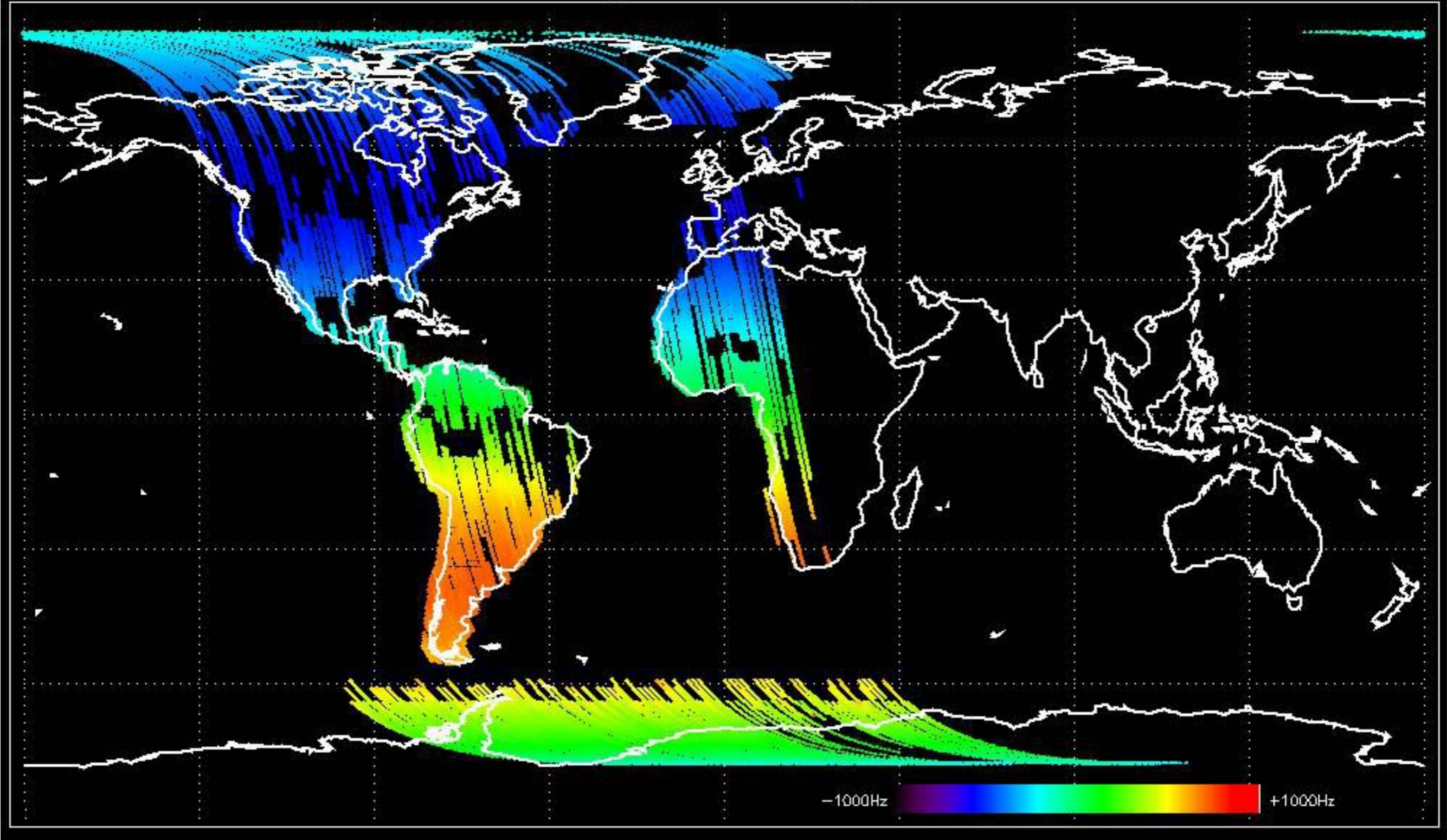




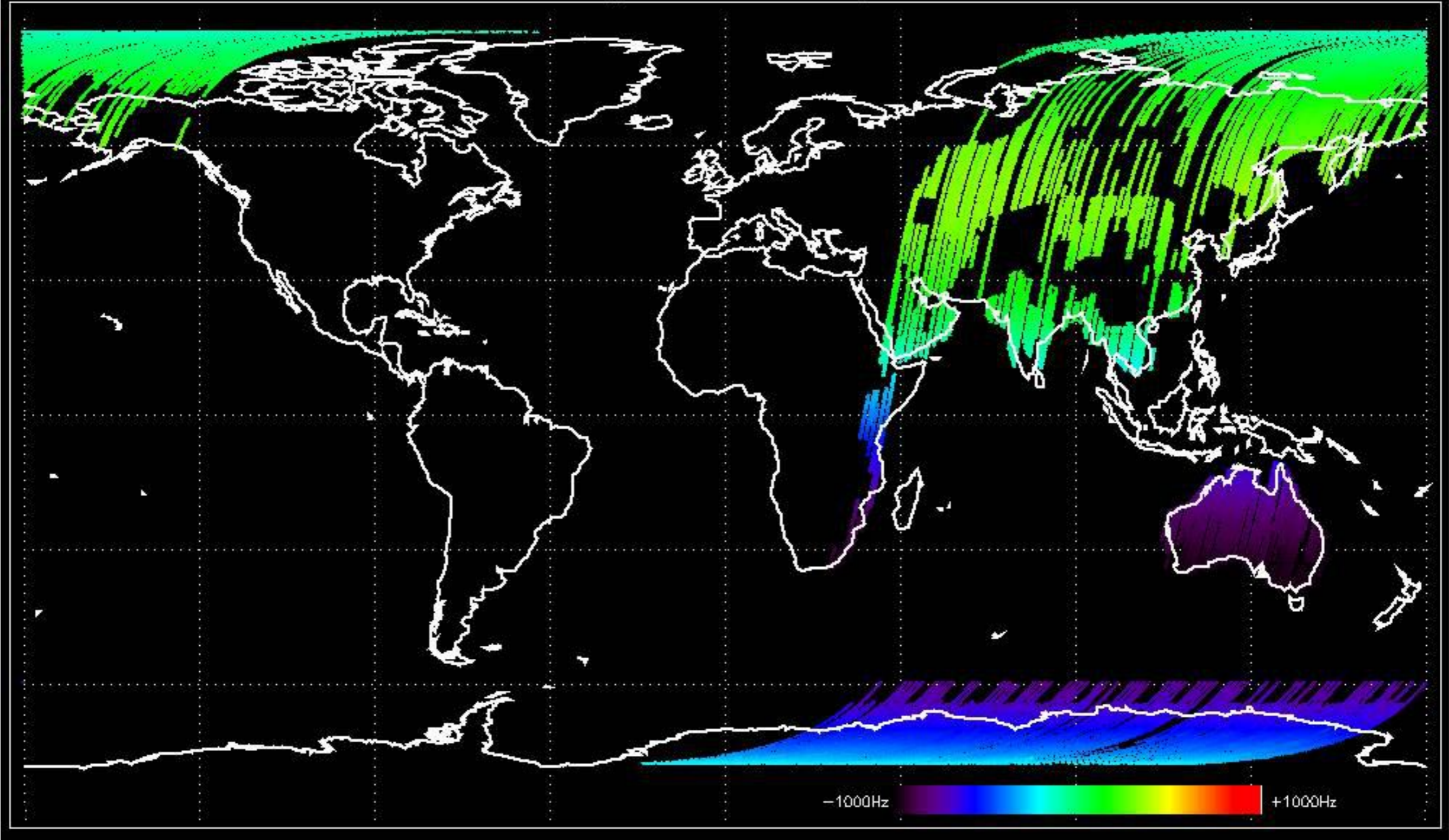
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



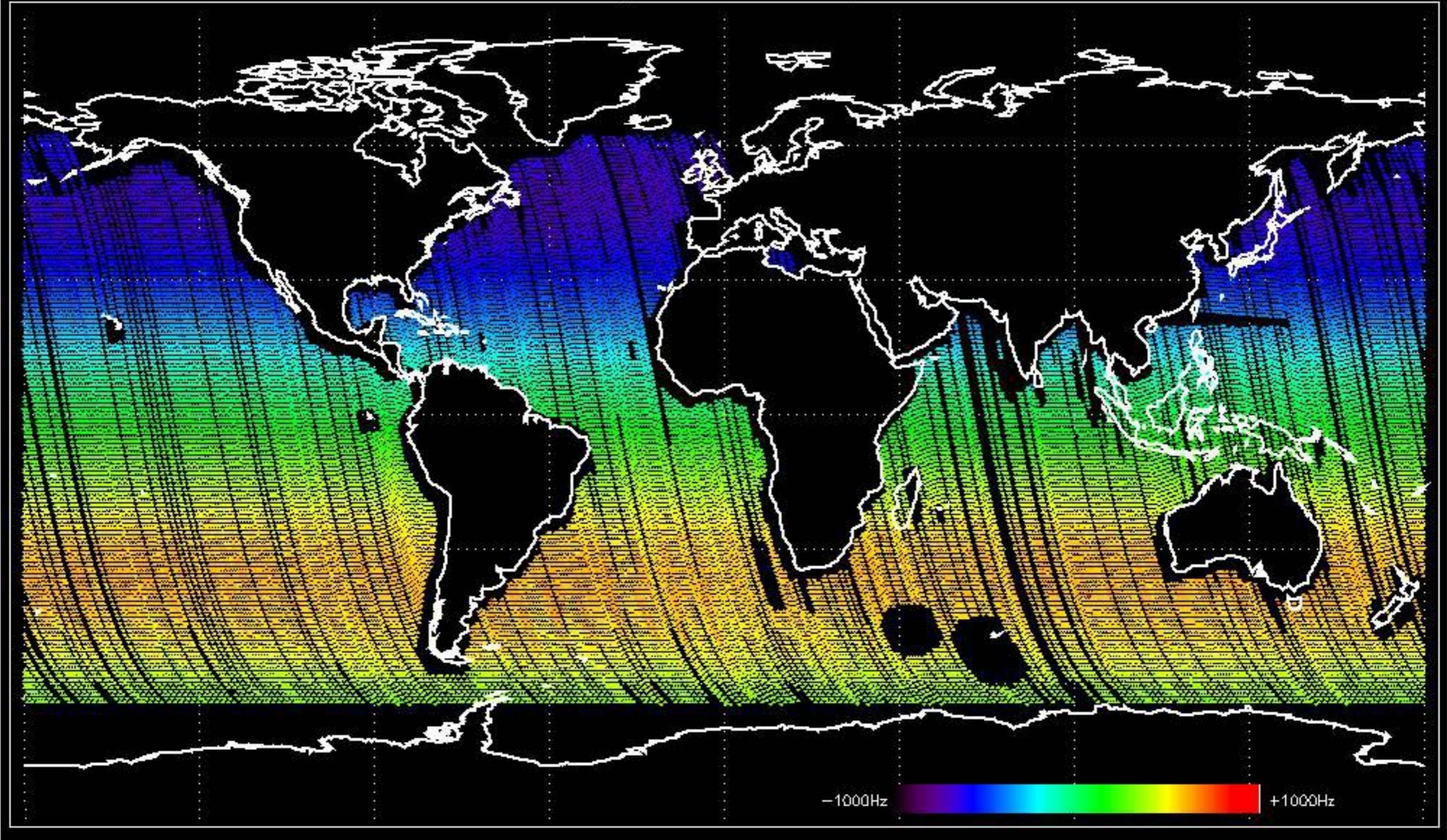
Doppler 'GM1' 'SS1' ascending



Doppler 'GM1' 'SS1' descending

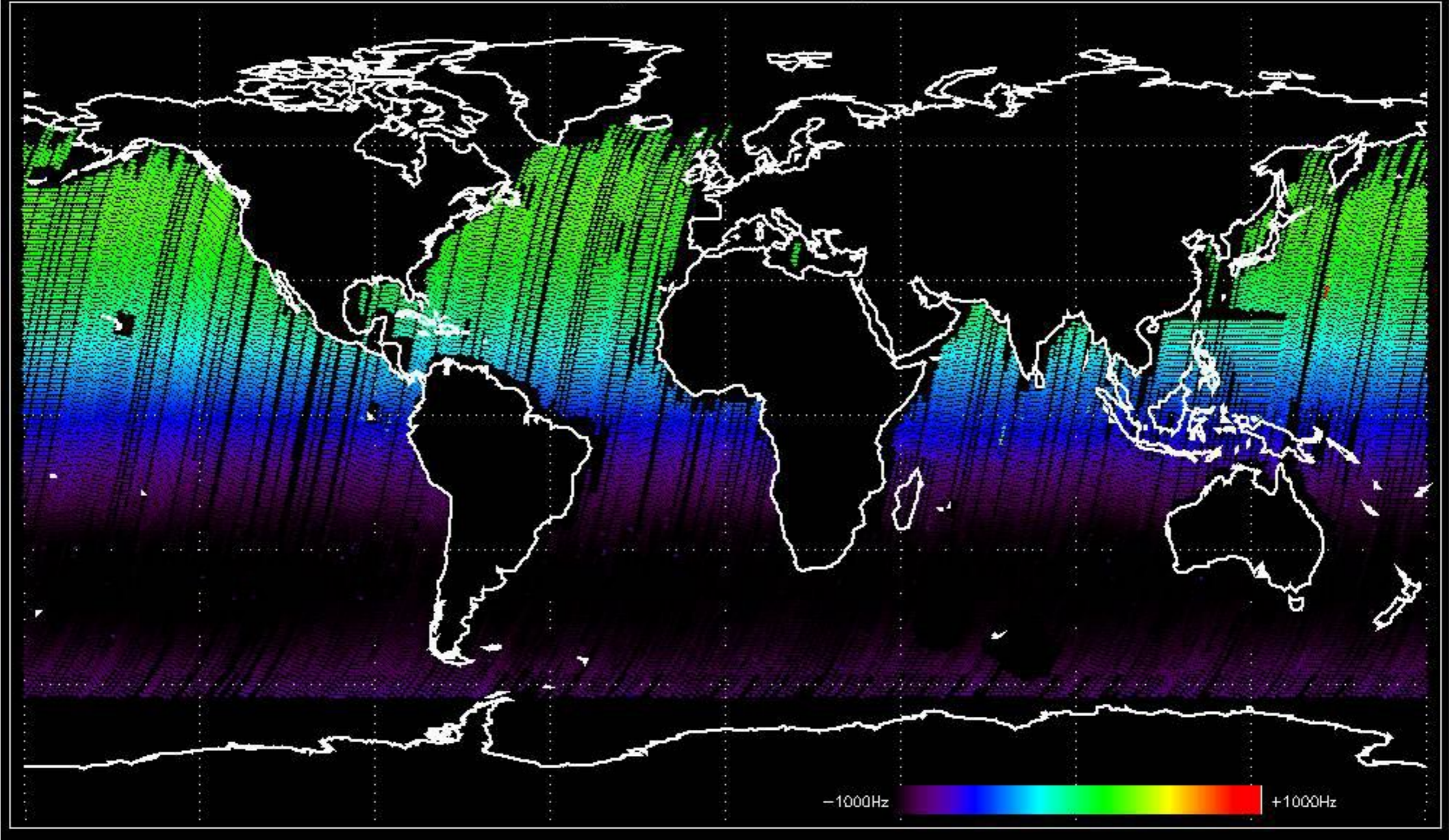


Doppler 'WVS' 'IS2' ascending

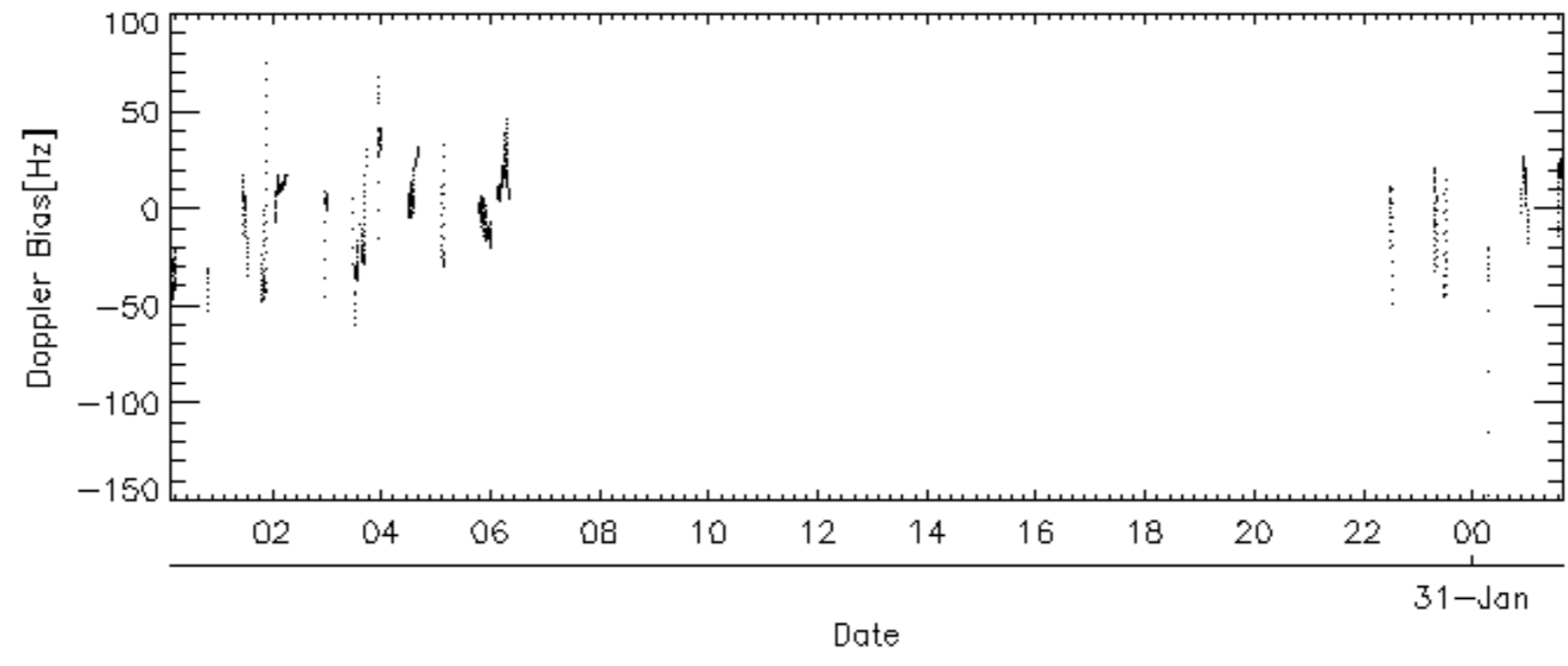
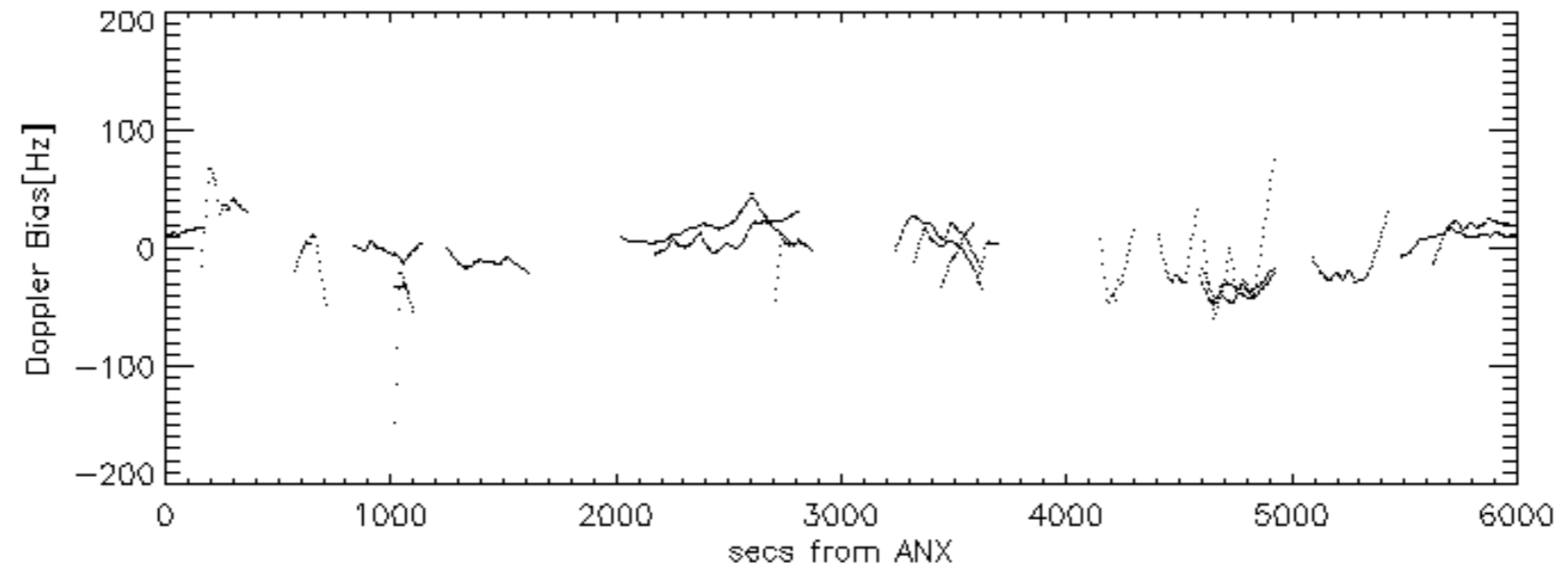
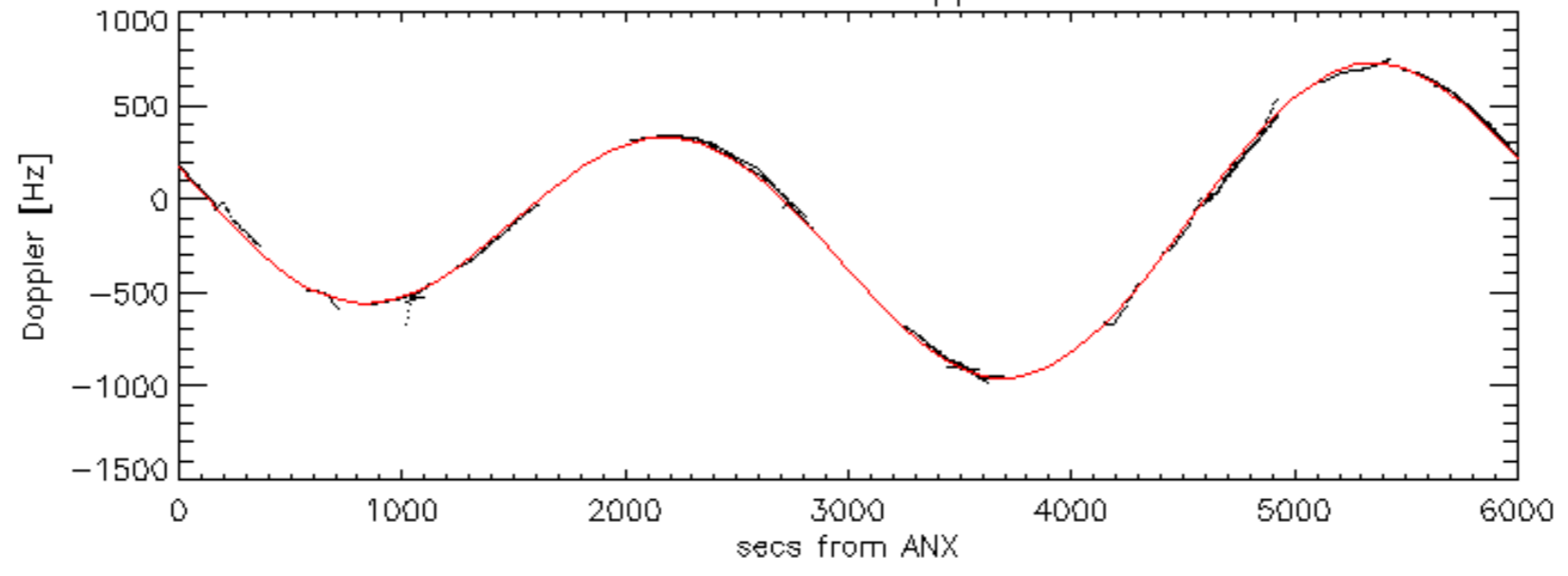


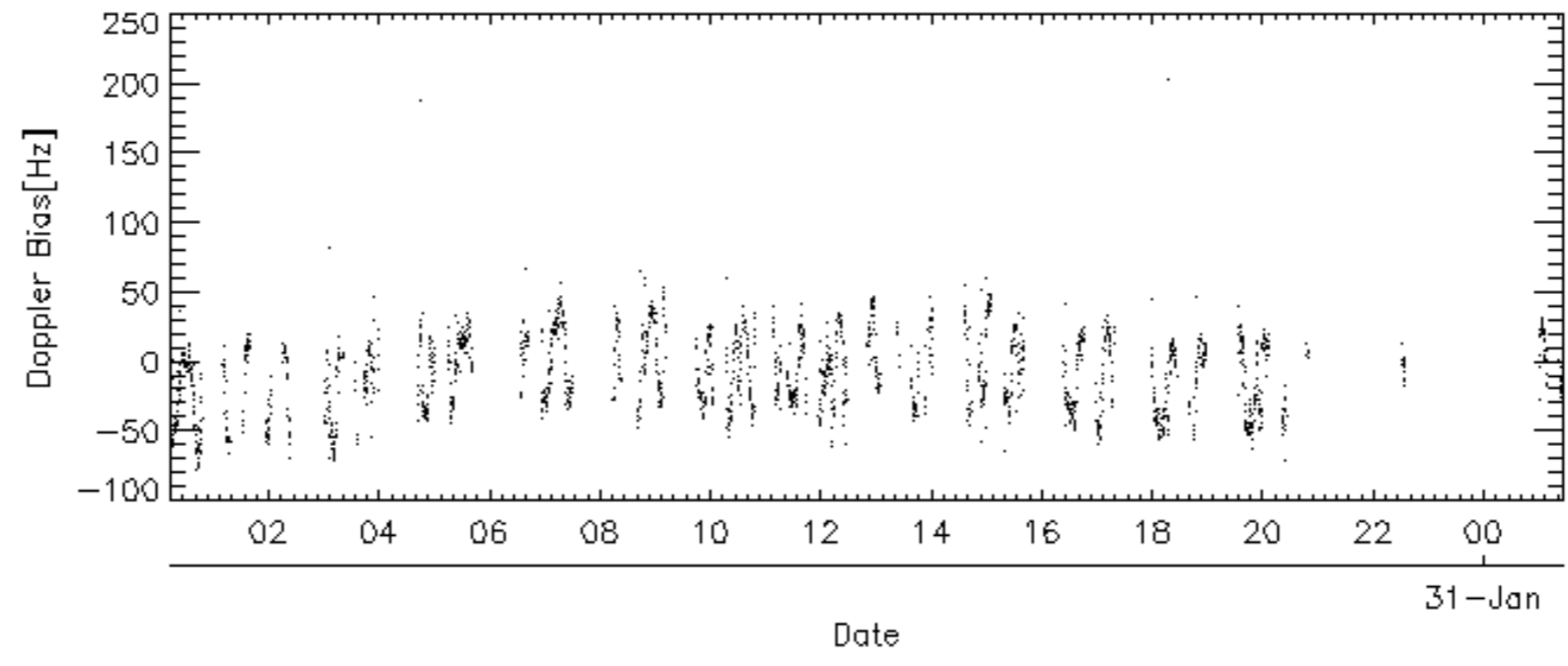
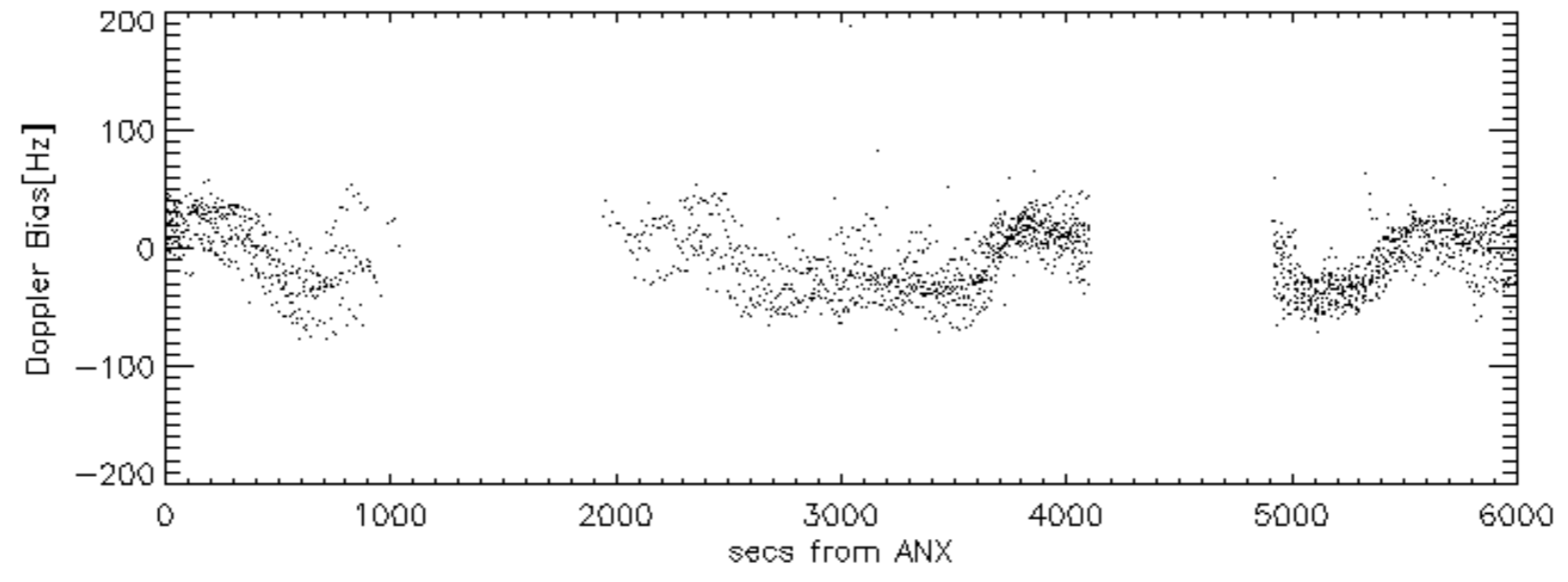
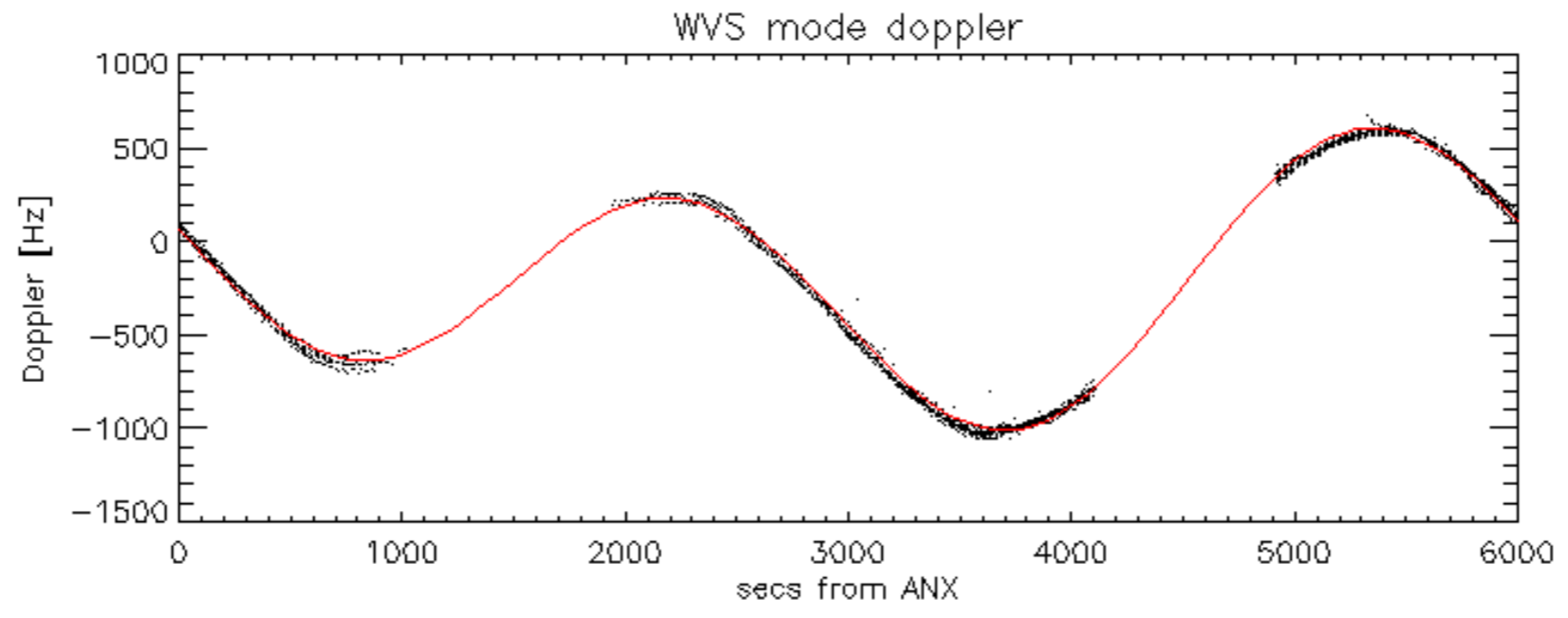


Doppler 'WVS' 'IS2' descending

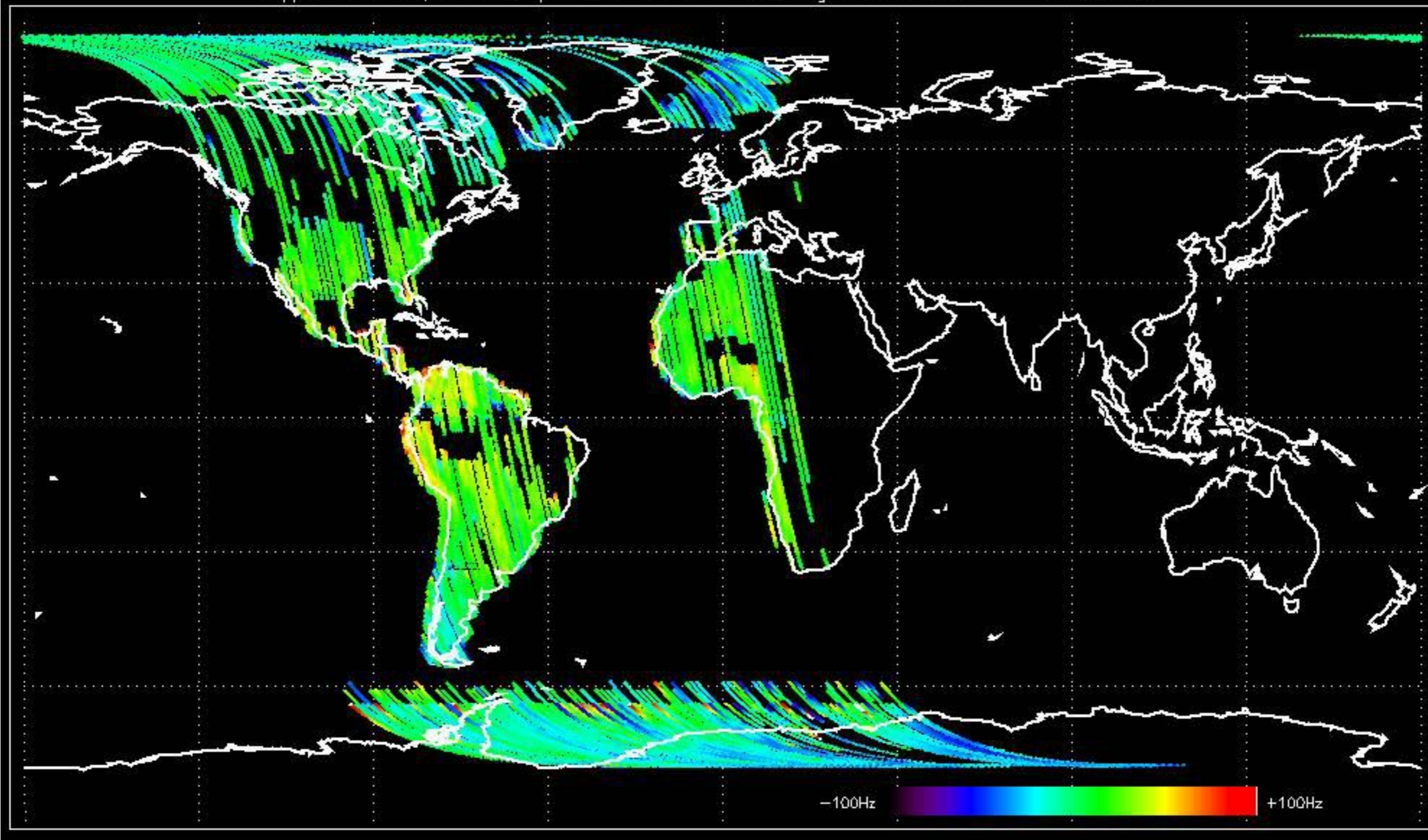


GM1 mode doppler

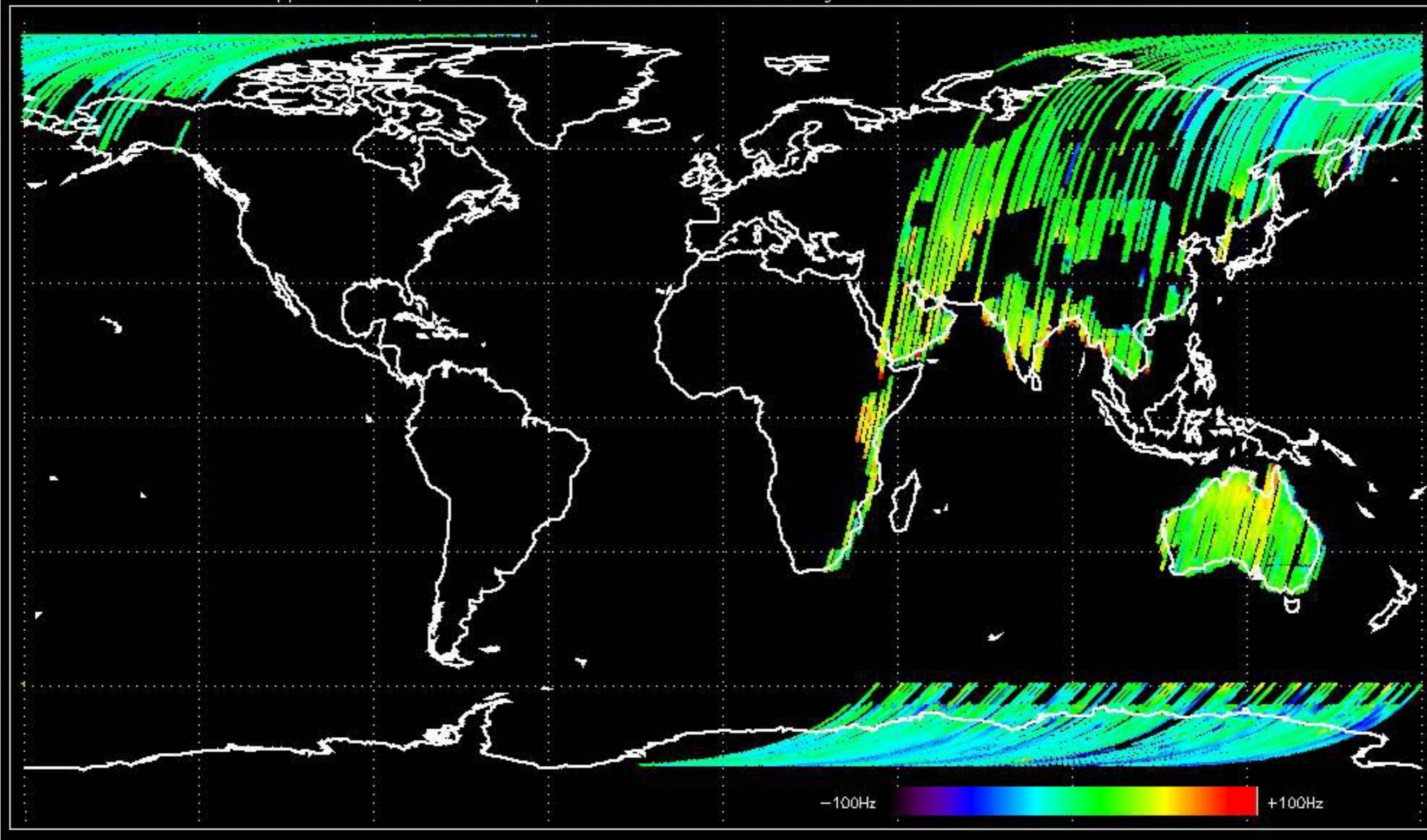




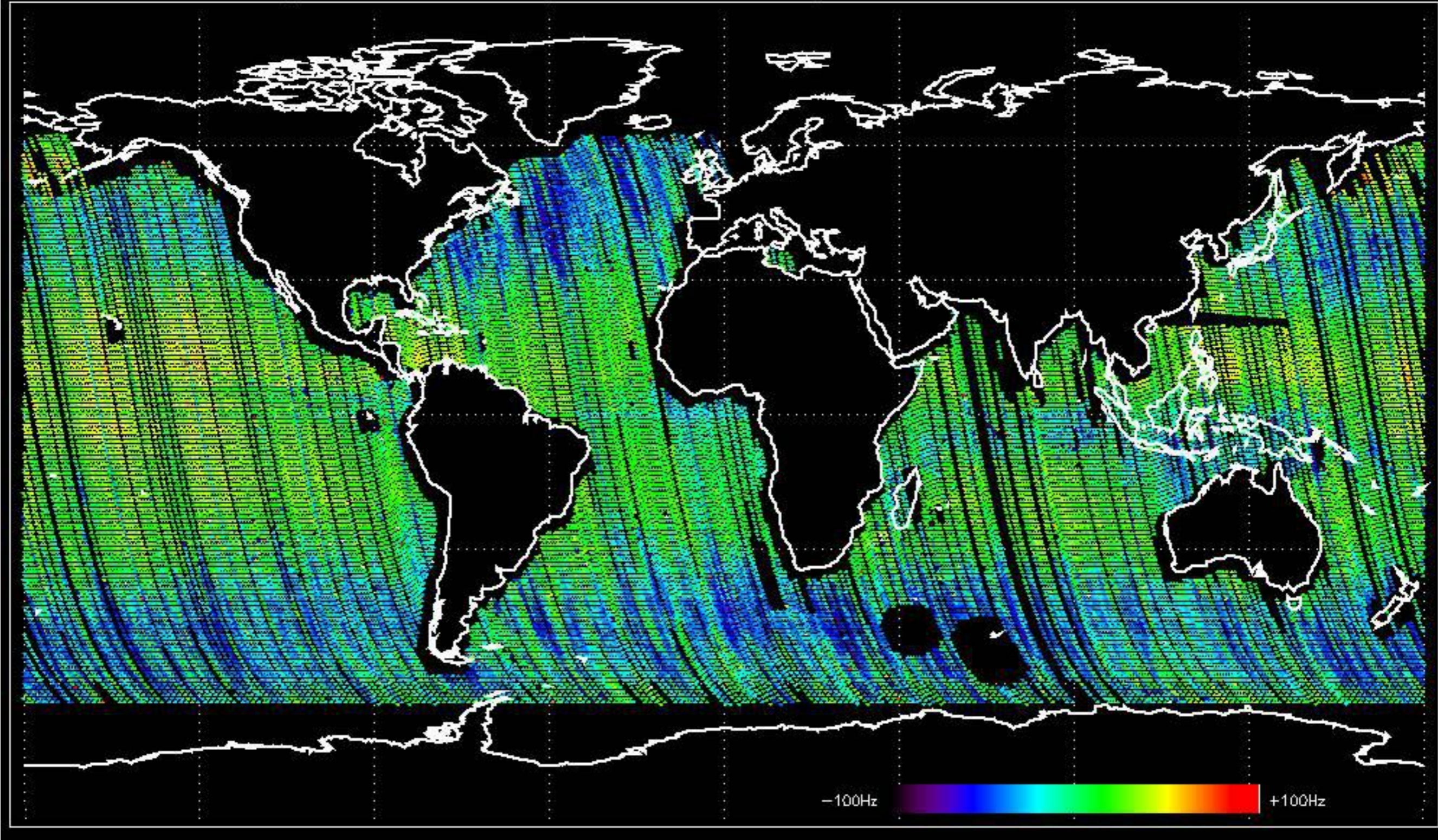
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -10.732051 Hz



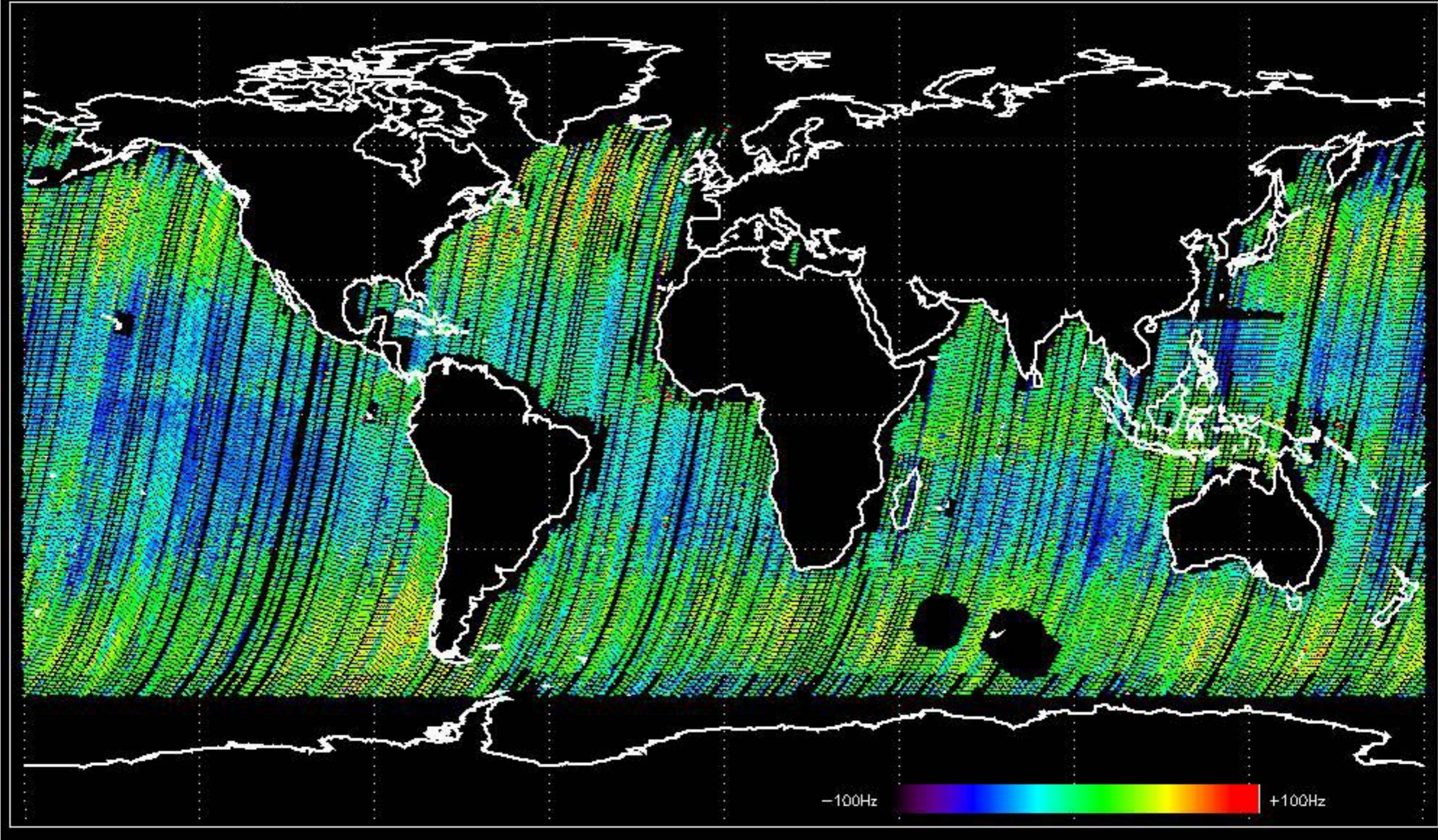
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -15.323609 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -8.6835587 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -10.221823 Hz



No anomalies observed on available MS products:



No anomalies observed.









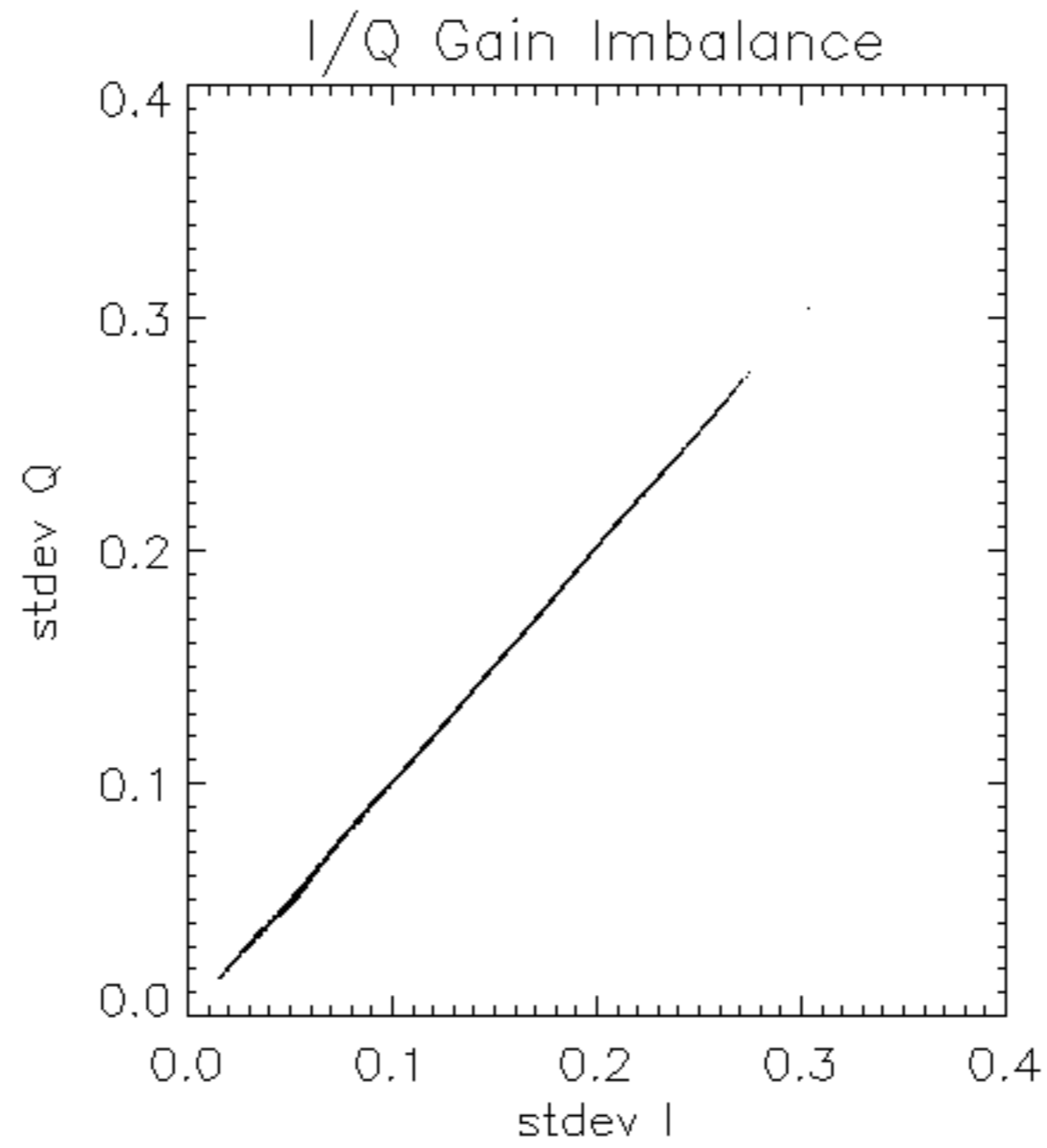


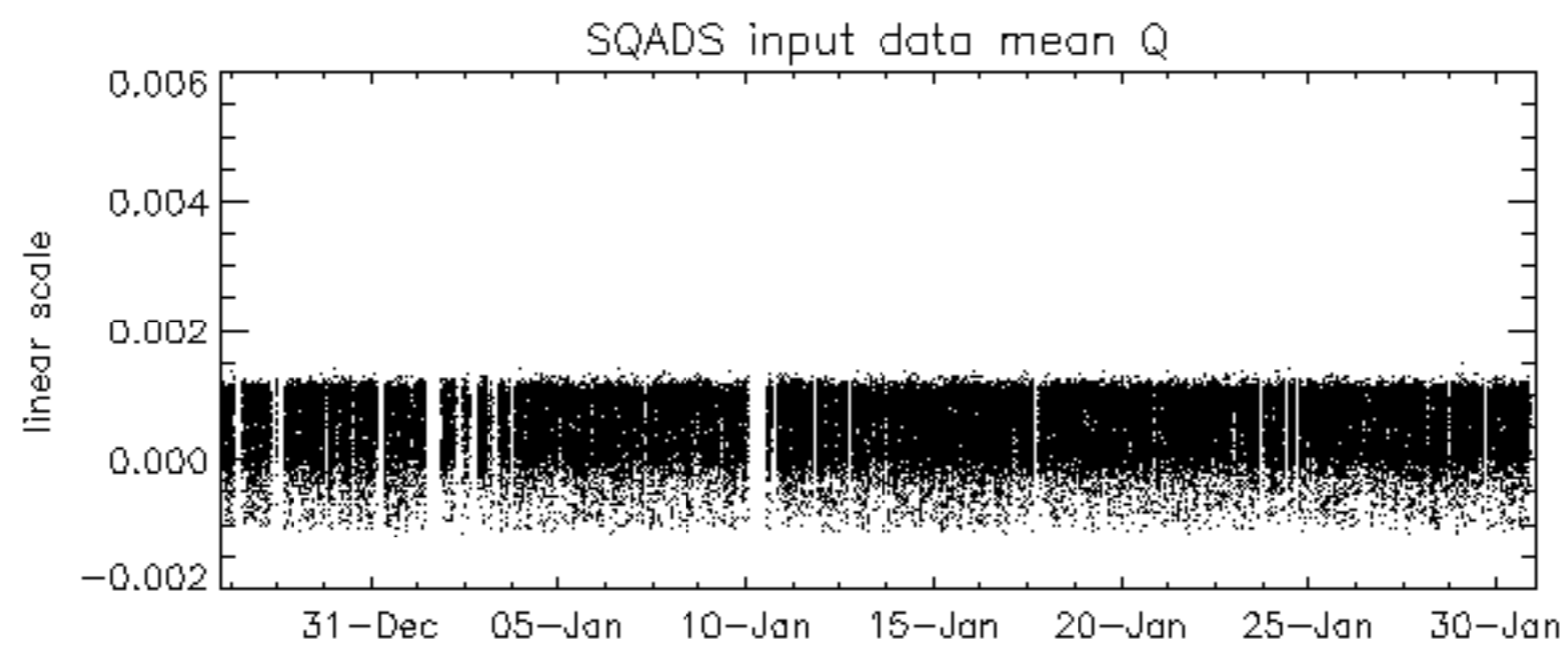
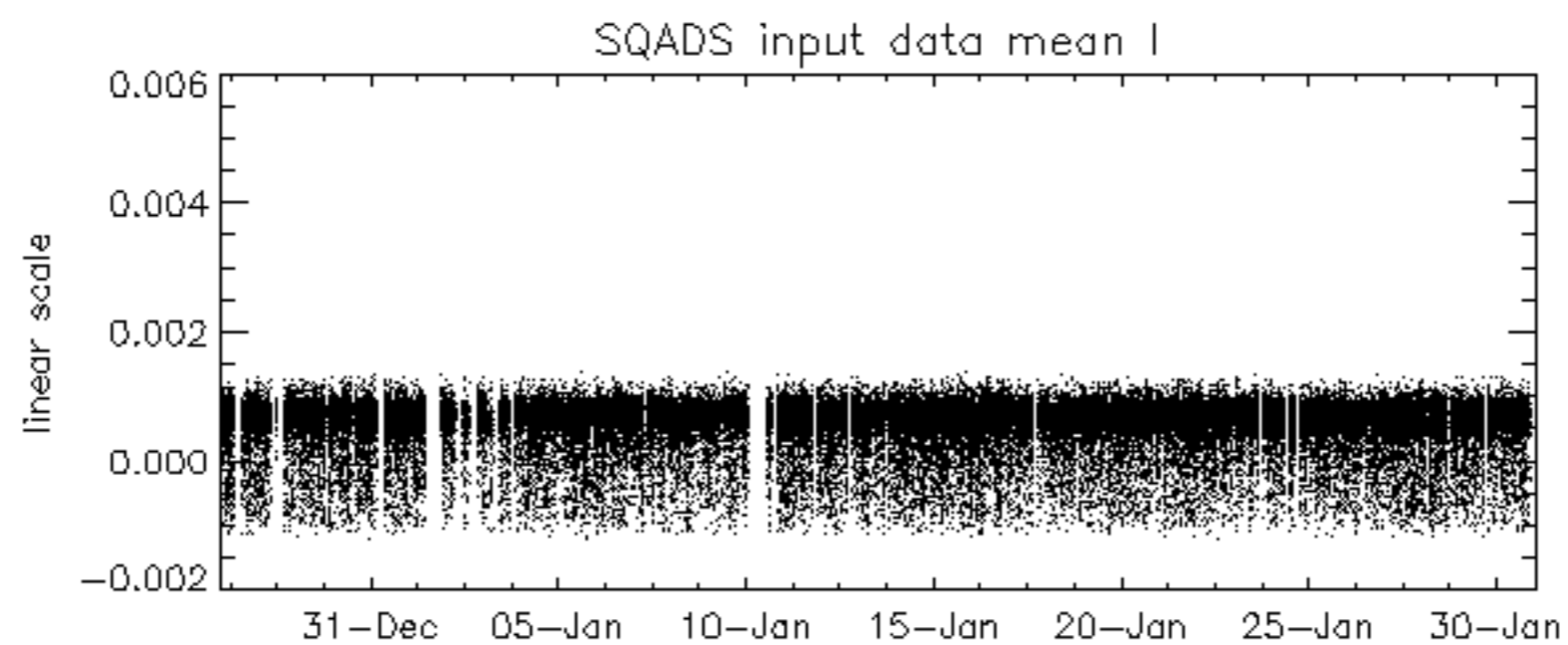
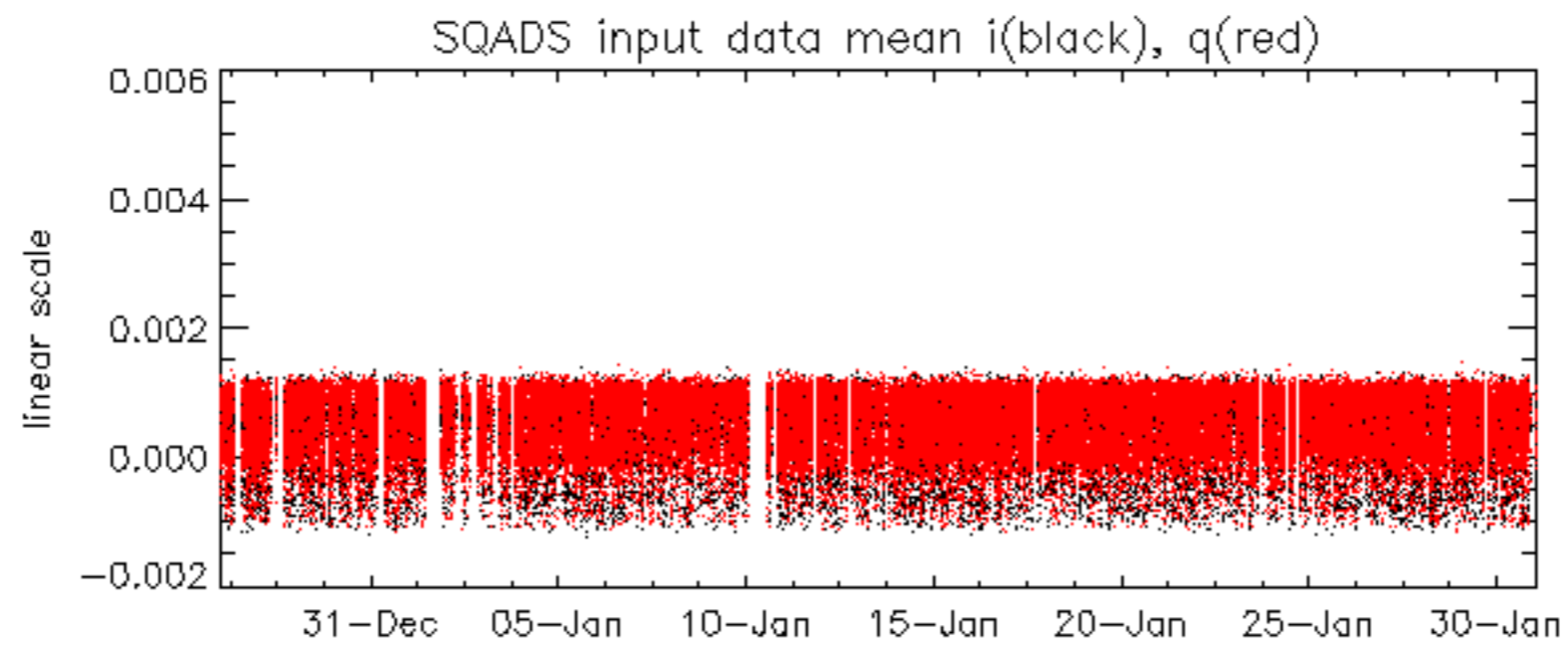


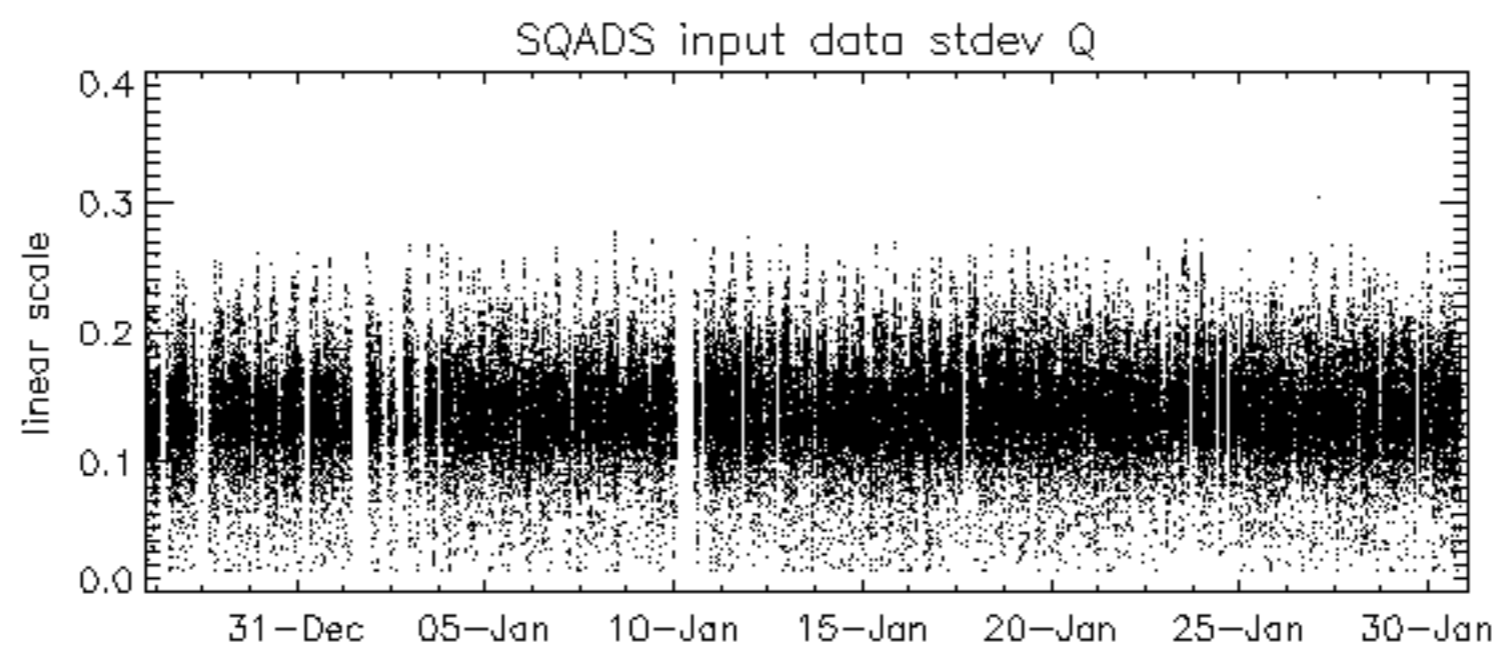
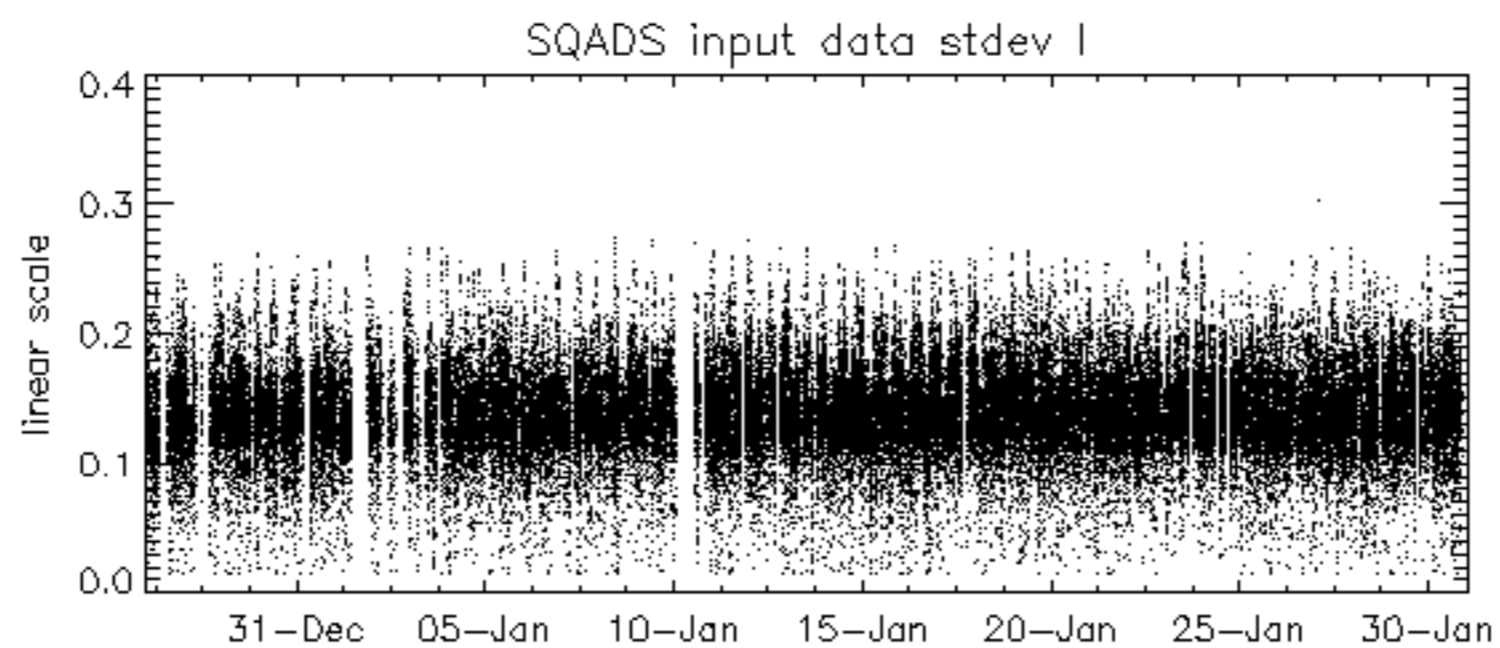
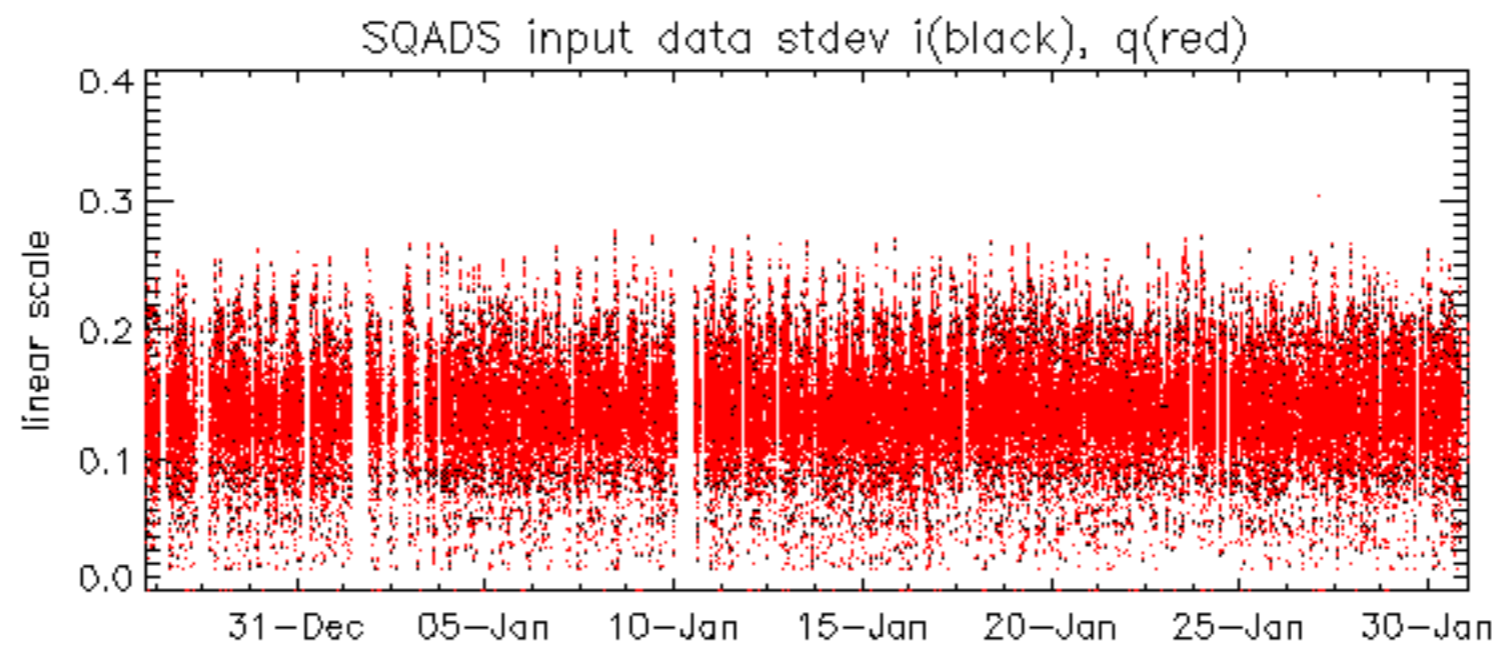


















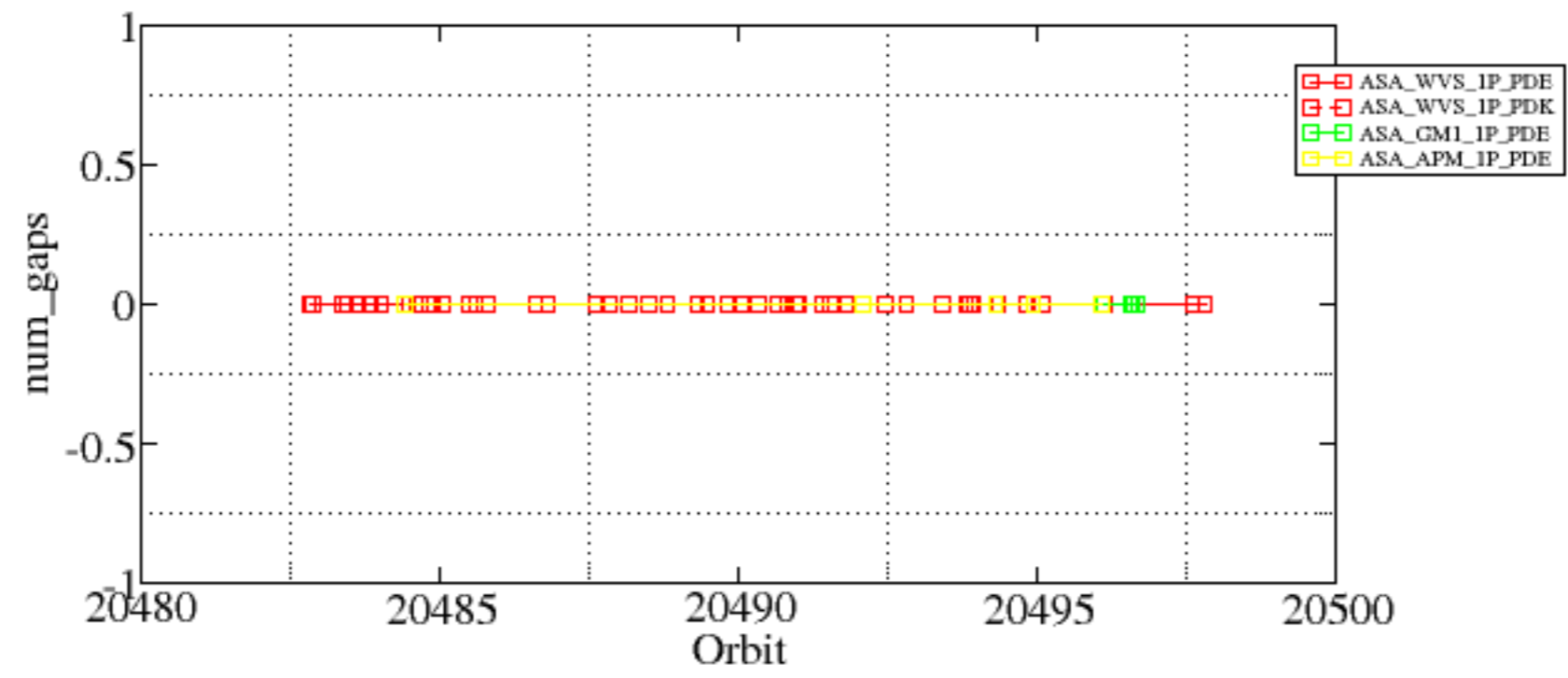


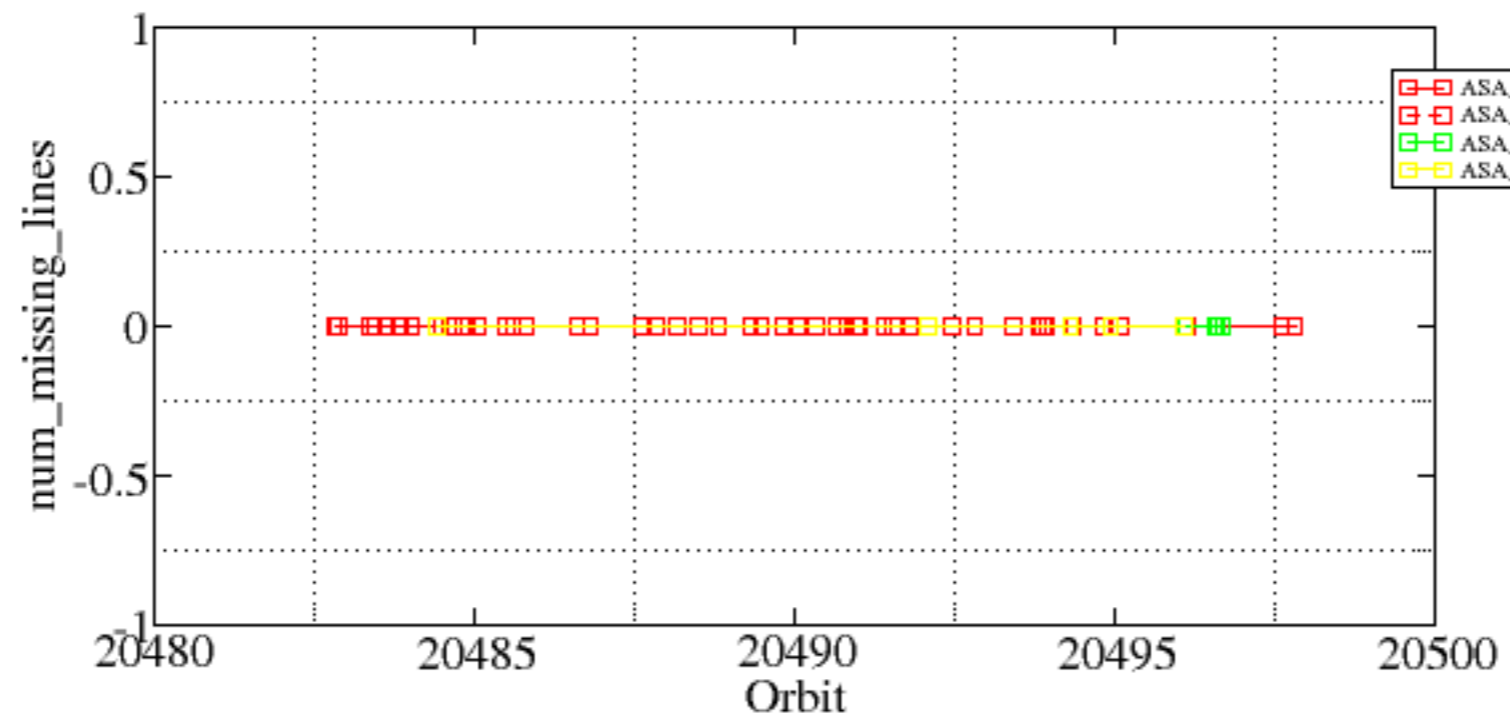


Summary of analysis for the last 3 days 2006013[901]

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

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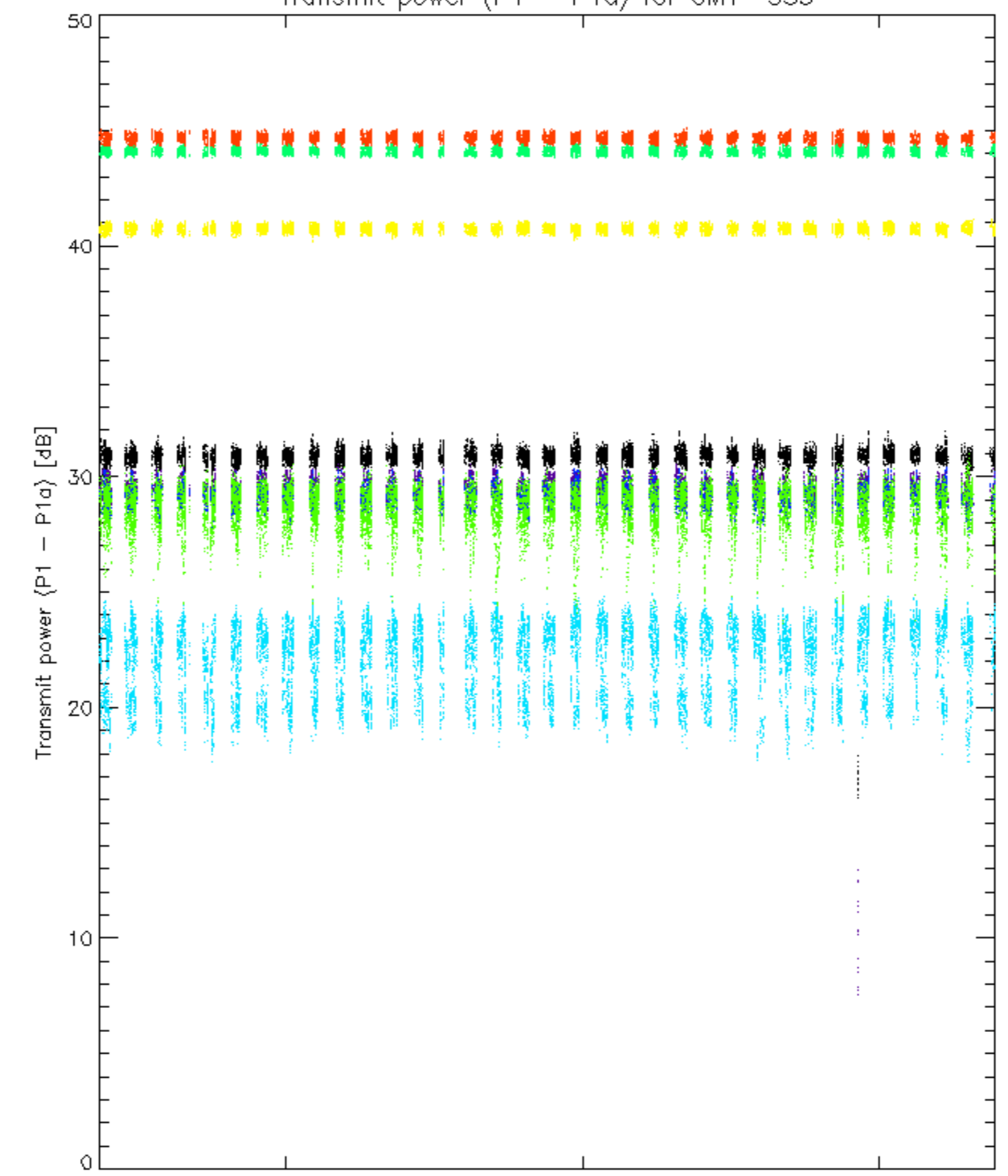






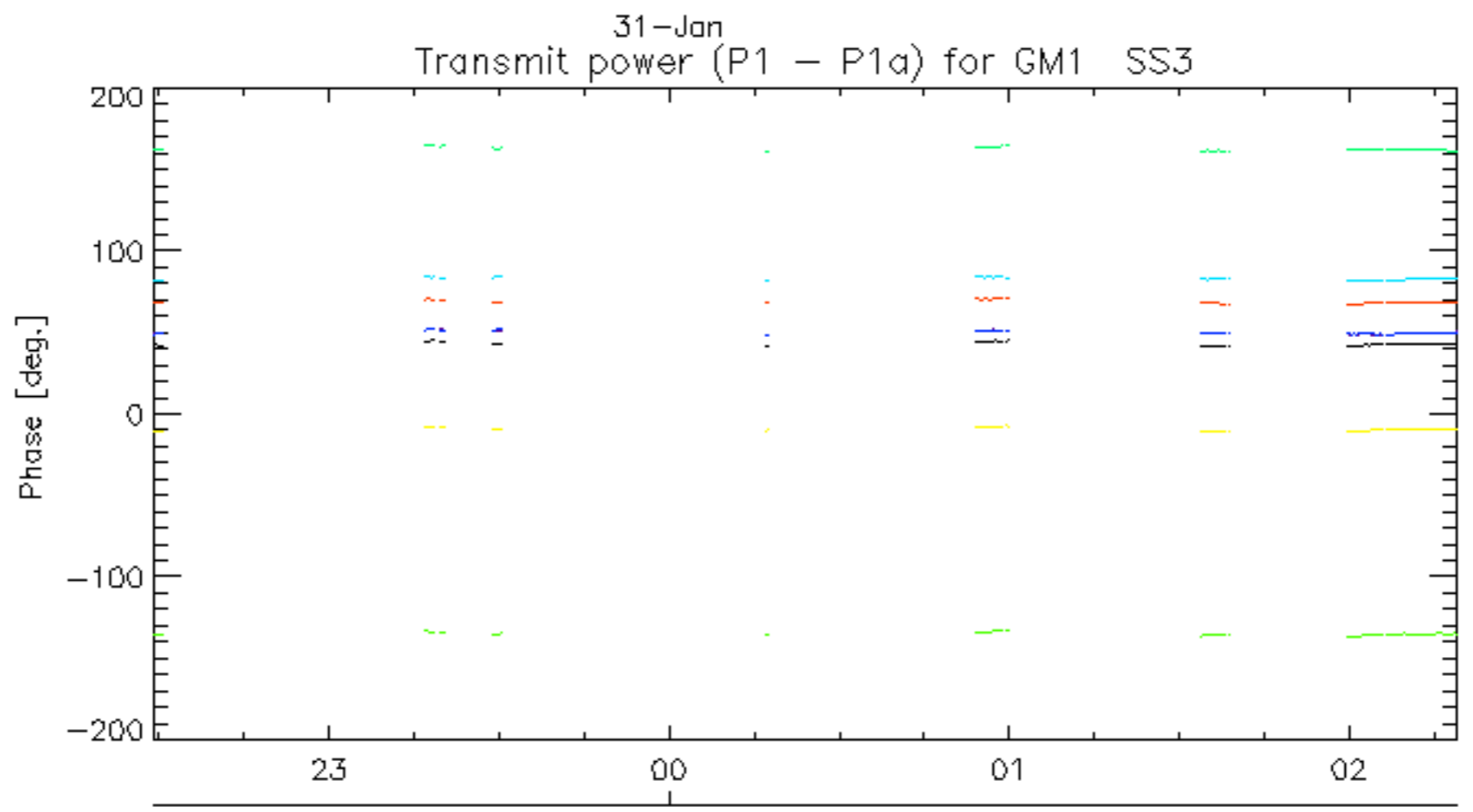
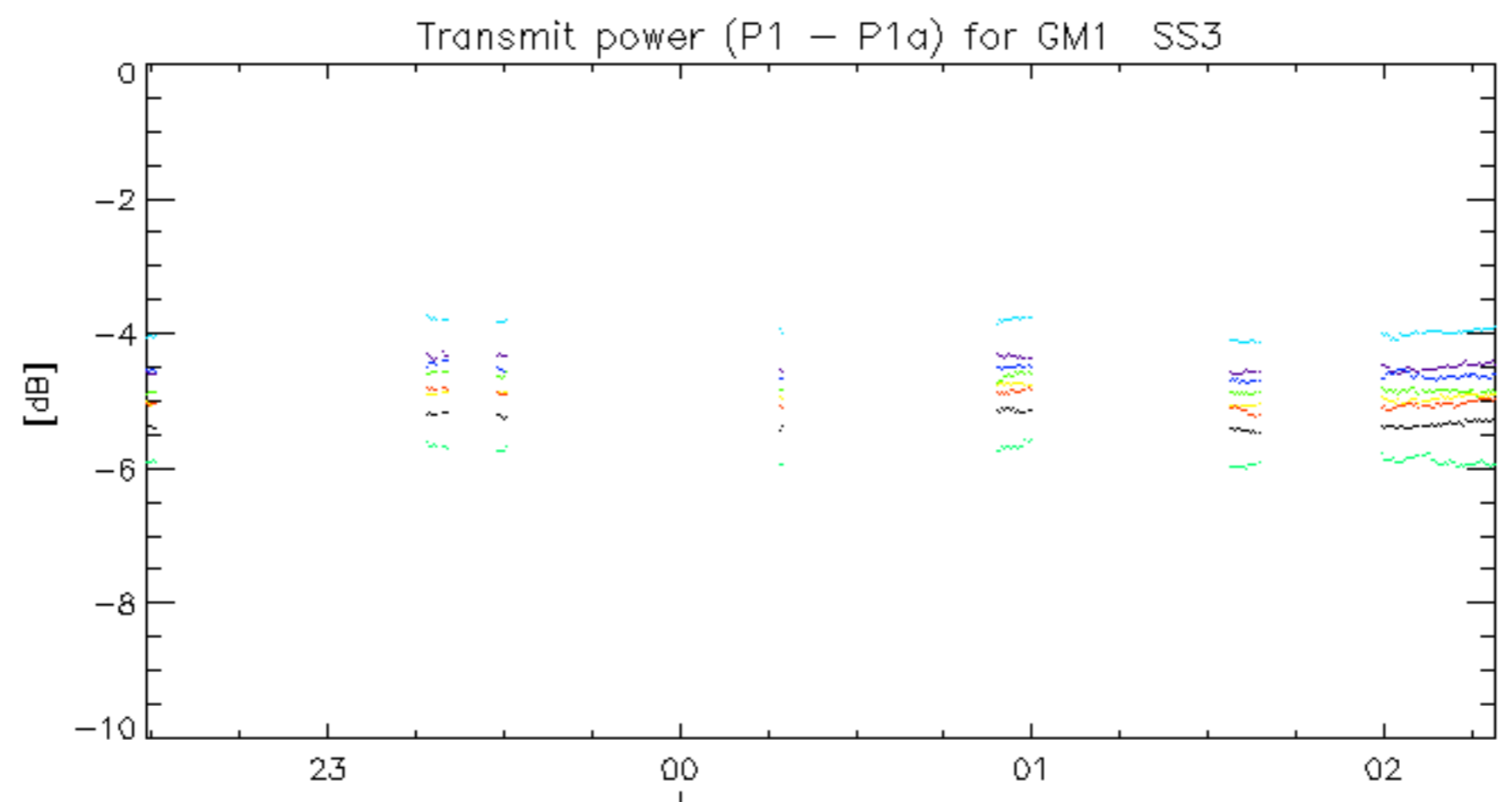


Transmit power (P1 - P1a) for GM1 SS3

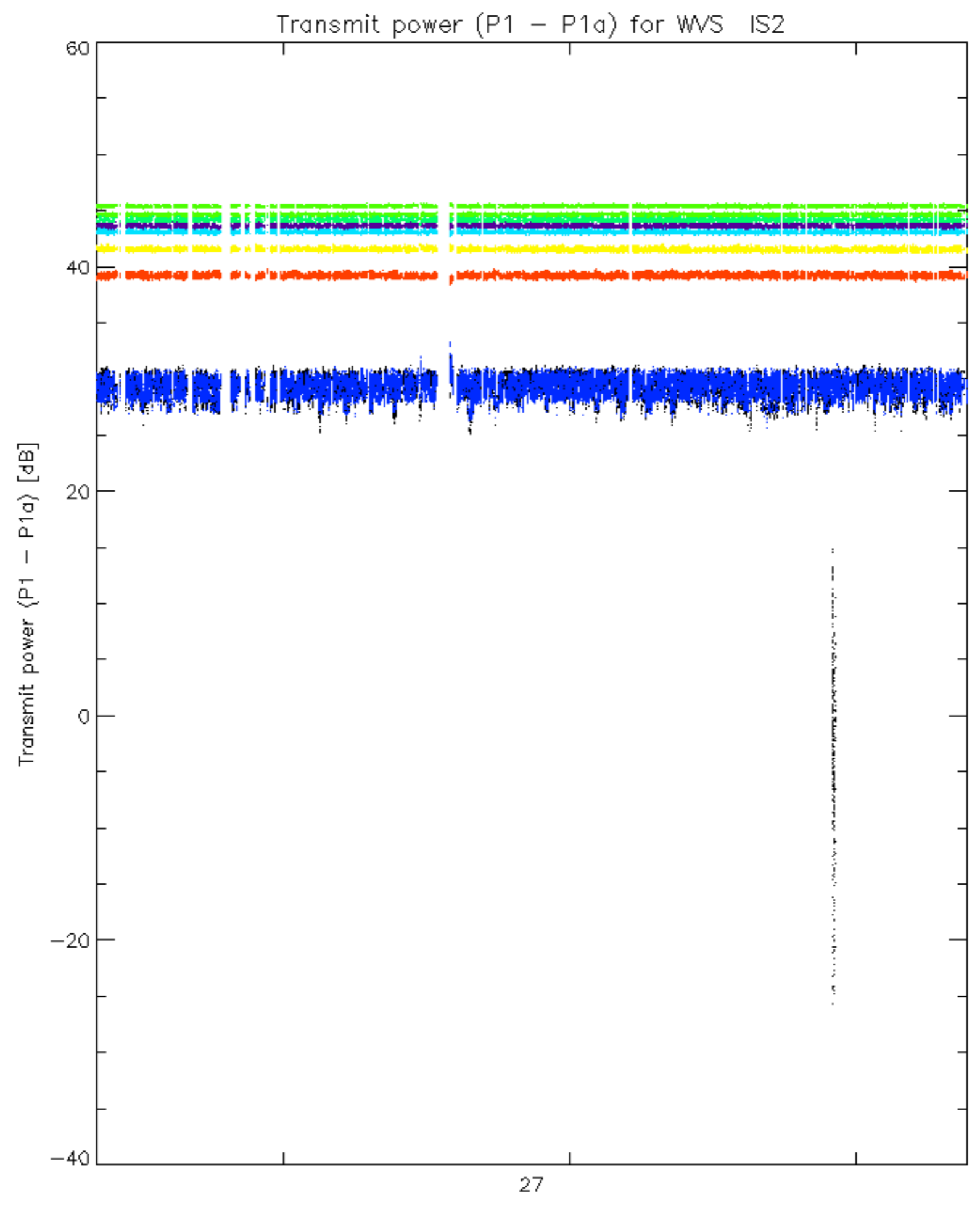


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

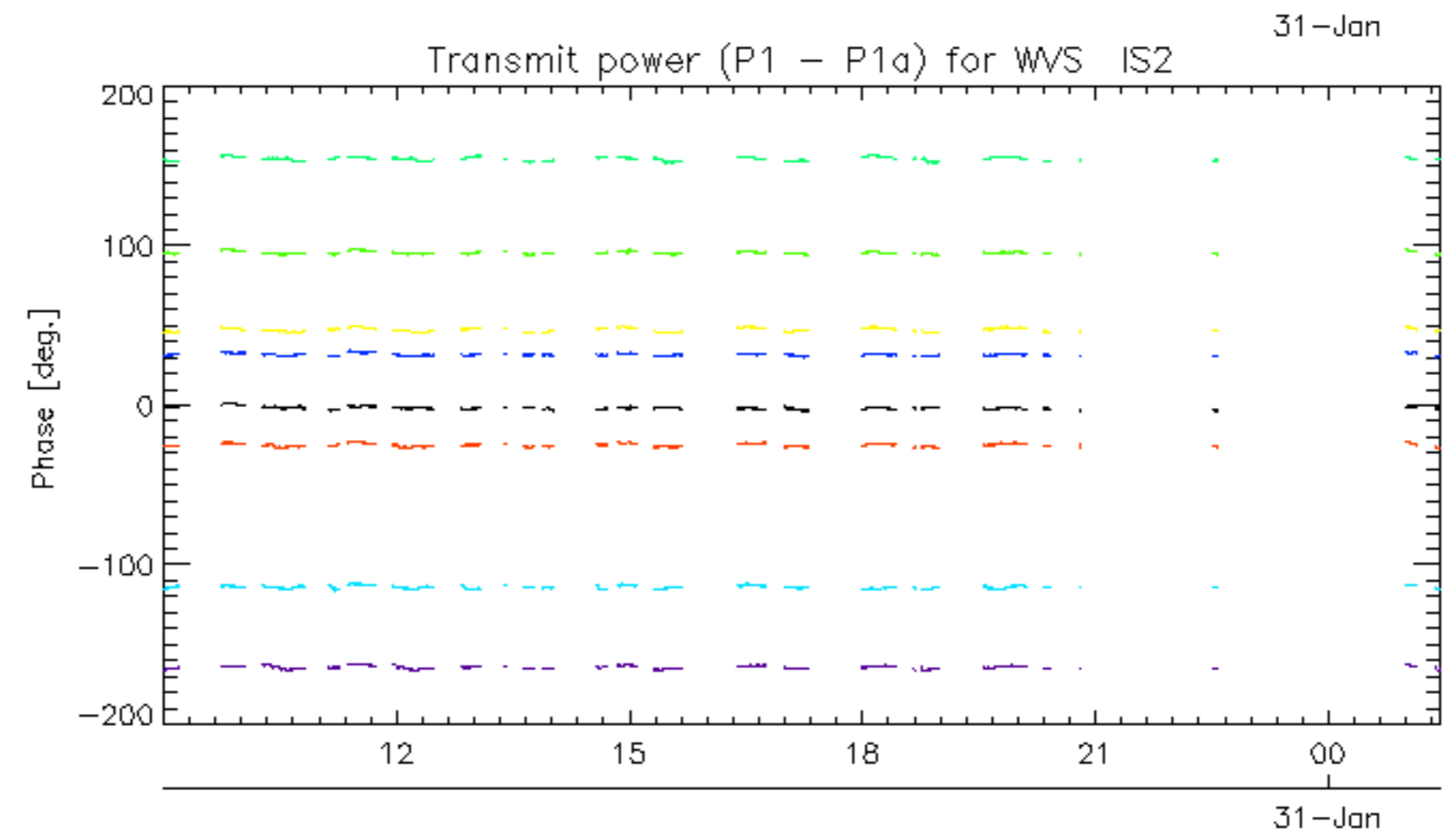
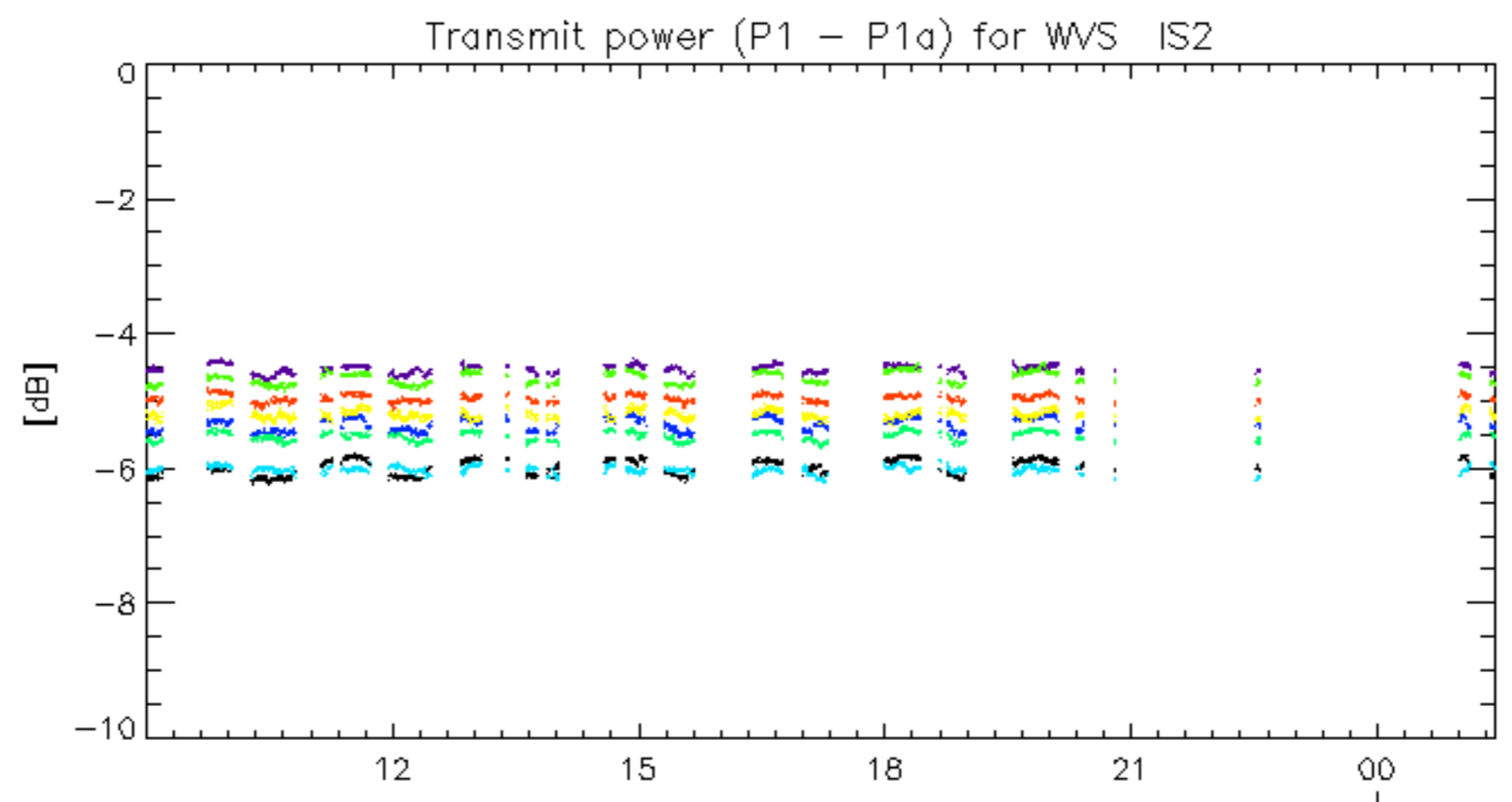




rows: **3** **7** **11** **15** **19** **22** **26** **30**



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



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

No unavailabilities during the reported period.