

# PRELIMINARY REPORT OF 050131

ATTENTION: This report is automatically generated no comments are provided on data analysis

**last update on Mon Jan 31 11:05:42 GMT 2005**

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## 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 2005-01-30 00:00:00 to 2005-01-31 11:05:42

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	30	50	4	1	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	30	50	4	1	4
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	30	50	4	1	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	30	50	4	1	4

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	19	15	4	9	5
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	19	15	4	9	5
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	19	15	4	9	5
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	19	15	4	9	5

## 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

The MS mode provides an internal health check on an individual module basis. The purpose of this mode is to identify any malfunctioning modules and to identify modules for which calibration offsets are to be applied. No anomalies observed on available MS products:

Polarisation	Start Time
V	20050129 064404
H	20050130 061227

### MSM in V/V polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
☒	☒
☒	☒

⊗	
⊗	

### 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)
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#### P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.408307	0.008372	0.033616
7	P1	-3.085594	0.017039	0.041889
11	P1	-4.658758	0.024482	-0.009277
15	P1	-5.632393	0.064699	-0.101427
19	P1	-3.670666	0.010911	0.036737
22	P1	-4.564364	0.016271	0.045425
26	P1	-4.963430	0.066495	0.135023
30	P1	-7.141777	0.015955	-0.050477
3	P1	-15.913691	0.104610	0.053591
7	P1	-15.525106	0.167106	0.105091
11	P1	-20.776512	0.713887	-0.388952
15	P1	-11.629711	0.099920	0.100655
19	P1	-14.190003	0.045813	0.064528
22	P1	-15.959002	0.423558	0.333525
26	P1	-17.642859	0.227474	0.148617
30	P1	-17.893934	0.330247	-0.160185

#### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.256195	0.087311	0.133371
7	P2	-22.420345	0.324452	-0.008949
11	P2	-14.656491	0.430917	0.002585
15	P2	-7.129648	0.140368	0.165110
19	P2	-9.762753	0.549173	0.402645
22	P2	-17.055208	0.102172	0.095161
26	P2	-16.527359	0.163459	0.216768

30	P2	-18.925028	0.080335	0.050140
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**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.189427	0.006592	0.015418
7	P3	-8.189167	0.006692	0.013952
11	P3	-8.189082	0.006664	0.013337
15	P3	-8.189145	0.006651	0.013672
19	P3	-8.189256	0.006610	0.014330
22	P3	-8.189369	0.006592	0.014929
26	P3	-8.189223	0.006620	0.014419
30	P3	-8.191832	0.006285	0.019306

**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	-2.805463	0.019076	0.046845
7	P1	-2.960822	0.068797	-0.023764
11	P1	-3.950300	0.030464	-0.026913
15	P1	-3.519789	0.030312	-0.046200
19	P1	-3.601383	0.013730	0.022120
22	P1	-5.664986	0.066704	-0.087841
26	P1	-6.833287	0.175560	-1.120863
30	P1	-6.284883	0.045591	0.015705
3	P1	-10.770742	0.086124	0.038346
7	P1	-10.152380	0.184892	-0.016047
11	P1	-12.532354	0.130885	-0.087181

15	P1	-11.759131	0.076650	-0.030868
19	P1	-15.610905	0.054264	0.099225
22	P1	-24.072403	1.727151	0.023781
26	P1	-15.136738	0.461754	-1.058644
30	P1	-20.031706	0.861225	0.138960

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.956287	0.049586	0.103241
7	P2	-22.496172	0.120148	0.148193
11	P2	-10.497883	0.051689	0.232907
15	P2	-5.023112	0.023875	0.047915
19	P2	-6.908771	0.035677	0.070774
22	P2	-7.226867	0.049271	0.082315
26	P2	-23.915146	0.087877	0.084433
30	P2	-21.963417	0.054818	0.049003

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.025169	0.002850	0.017669
7	P3	-8.025282	0.002853	0.017606
11	P3	-8.025275	0.002850	0.017452
15	P3	-8.025339	0.002851	0.018054
19	P3	-8.025292	0.002860	0.017355
22	P3	-8.025272	0.002842	0.017616
26	P3	-8.025171	0.002857	0.017374
30	P3	-8.025290	0.002858	0.017514

## 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	0.000472715
	stdev	2.15643e-07
MEAN Q	mean	0.000544835
	stdev	2.30243e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129065
	stdev	0.000972291
STDEV Q	mean	0.129301
	stdev	0.000983747



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005013[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
ASA_WVS_1PNPDE20050130_042523_000000602034_00176_15260_6214.N1	0	192
ASA_GM1_1PNPDE20050130_203400_000003802034_00186_15270_8240.N1	0	79
ASA_GM1_1PNPDE20050130_212317_000005432034_00186_15270_8239.N1	0	35
ASA_GM1_1PNPDE20050130_234936_000000662034_00188_15272_8256.N1	0	6

ASA_GM1_1PNPDE20050131_002626_000002892034_00188_15272_8257.N1	0	21
ASA_GM1_1PNPDE20050131_004040_000007732034_00188_15272_8253.N1	0	93
ASA_WSM_1PNPDE20050130_033025_000001642034_00176_15260_2404.N1	0	2





## 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"/>	
	Ascending
<input type="checkbox"/>	
	Descending

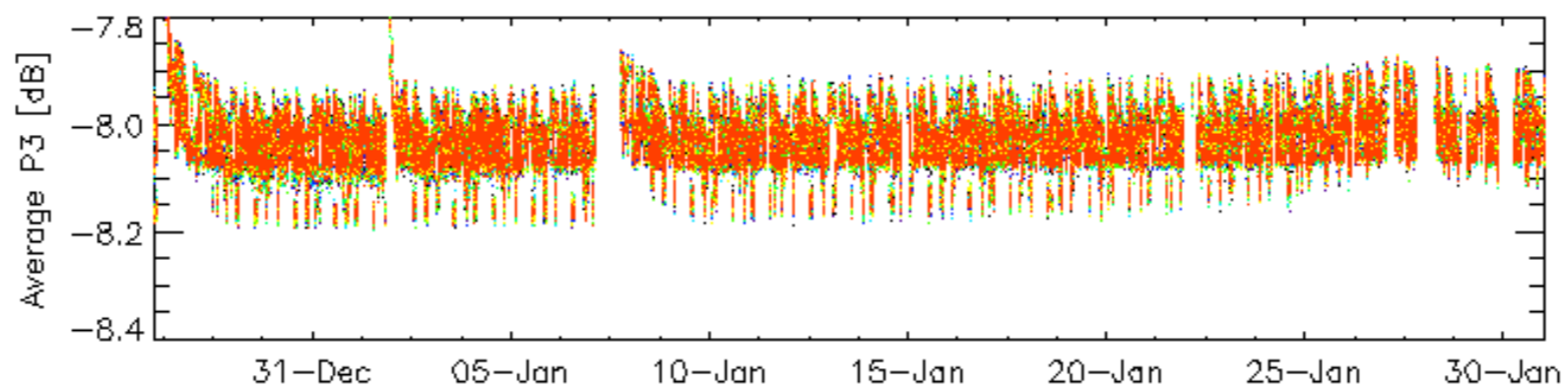
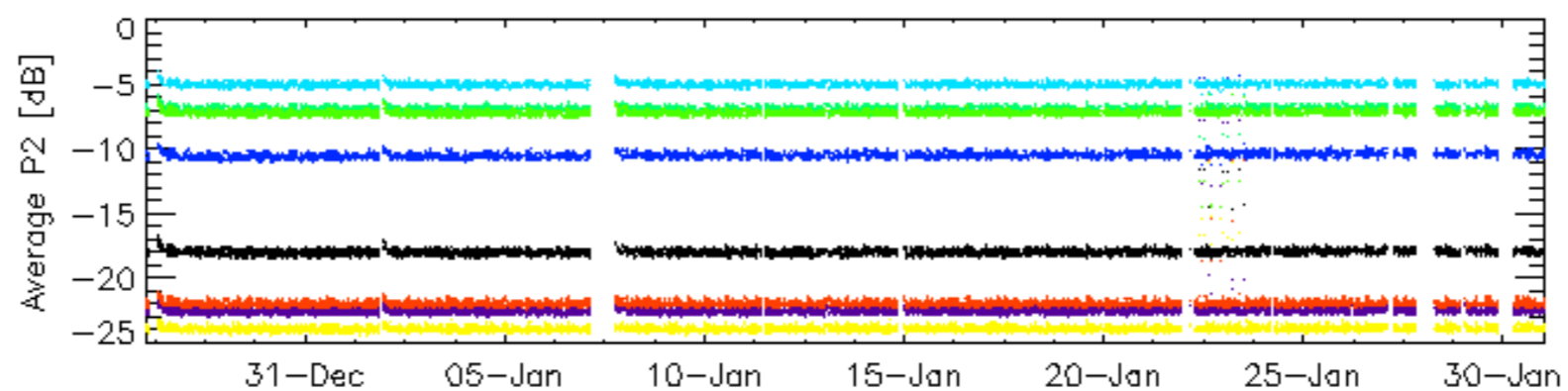
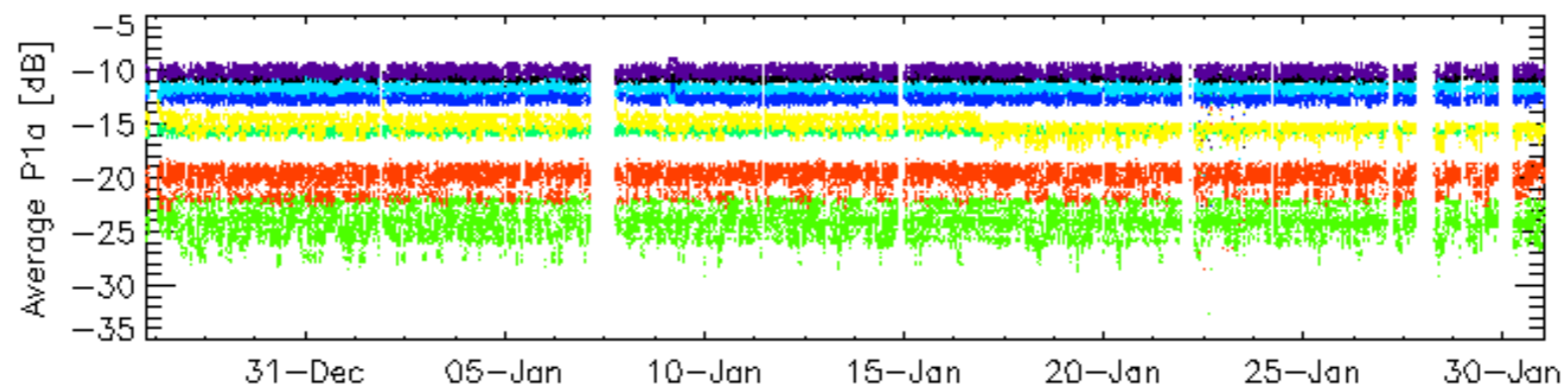
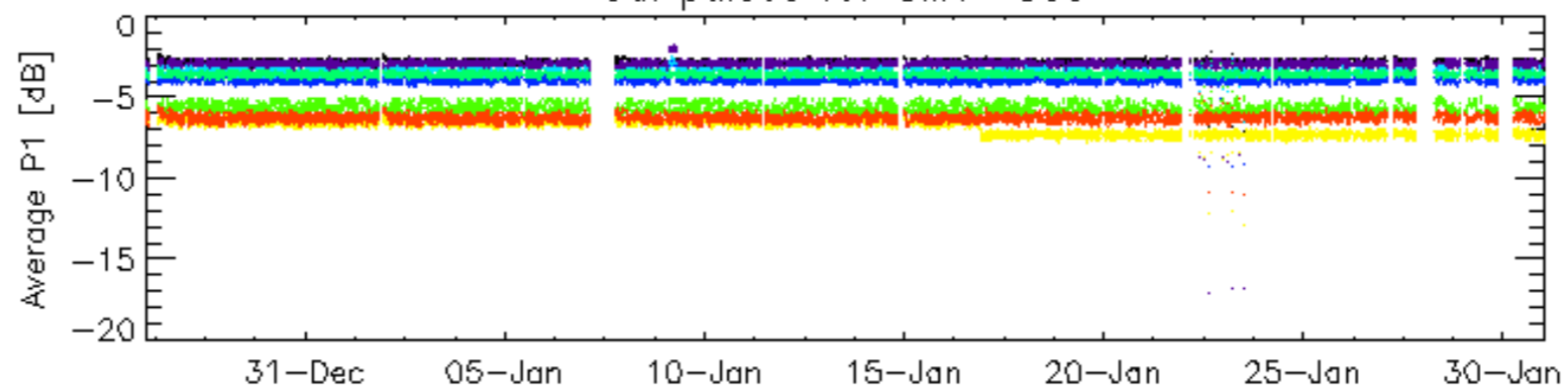
### 7.5 - Absolute Doppler for GM1

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

### 7.6 - Doppler evolution versus ANX for GM1

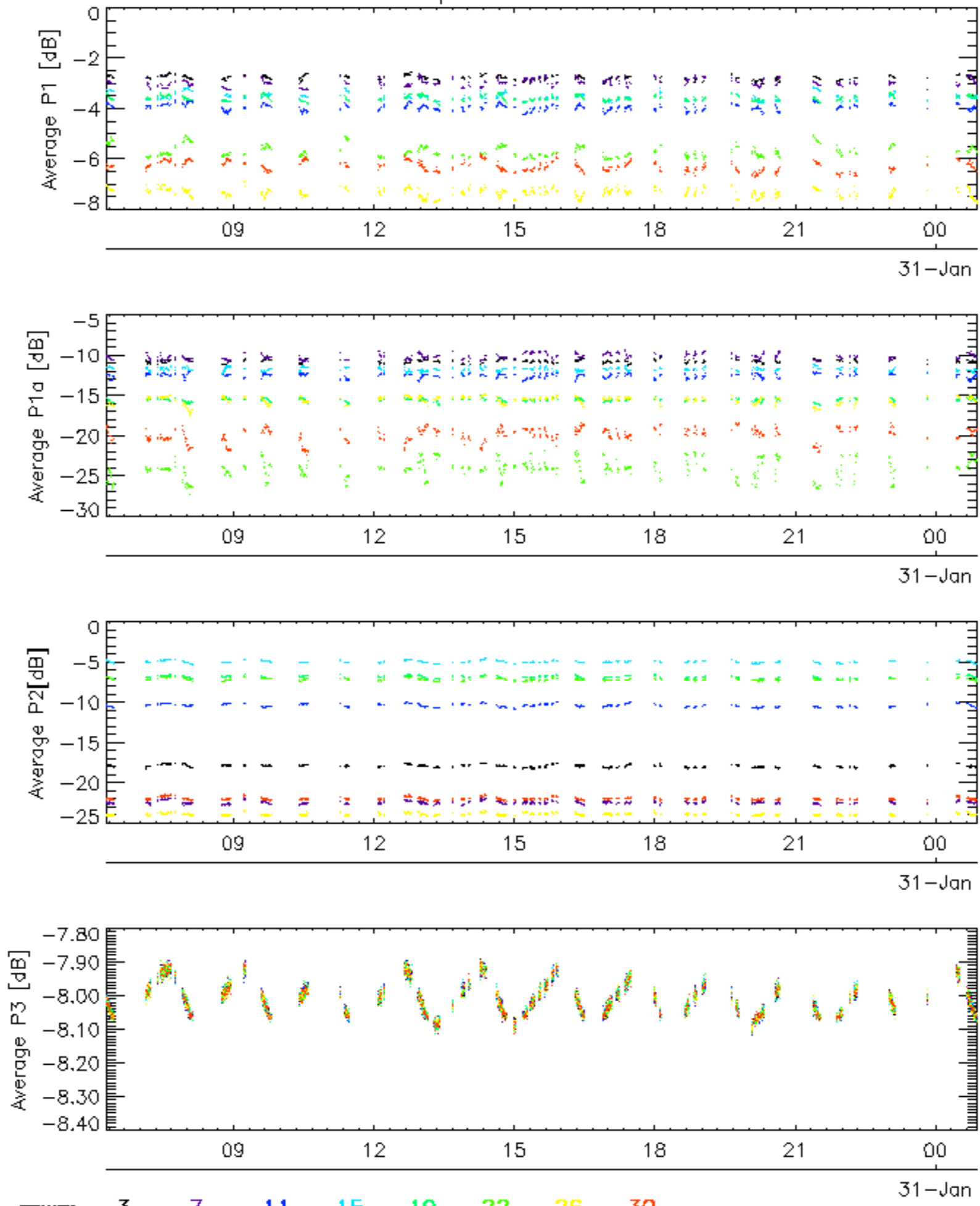
Evolution Doppler error versus ANX	
<input type="checkbox"/>	

Cal pulses for GM1 SS3



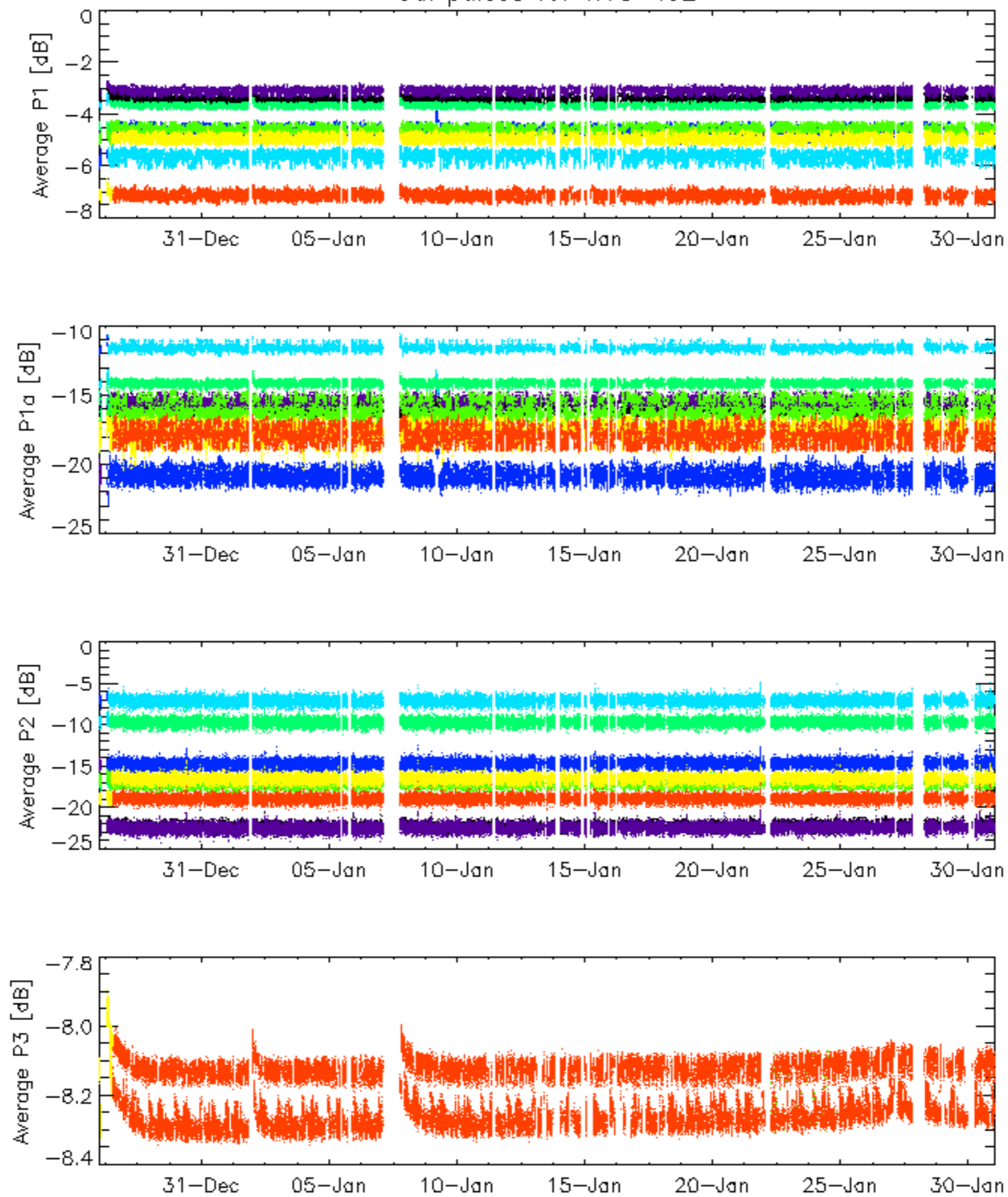
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3



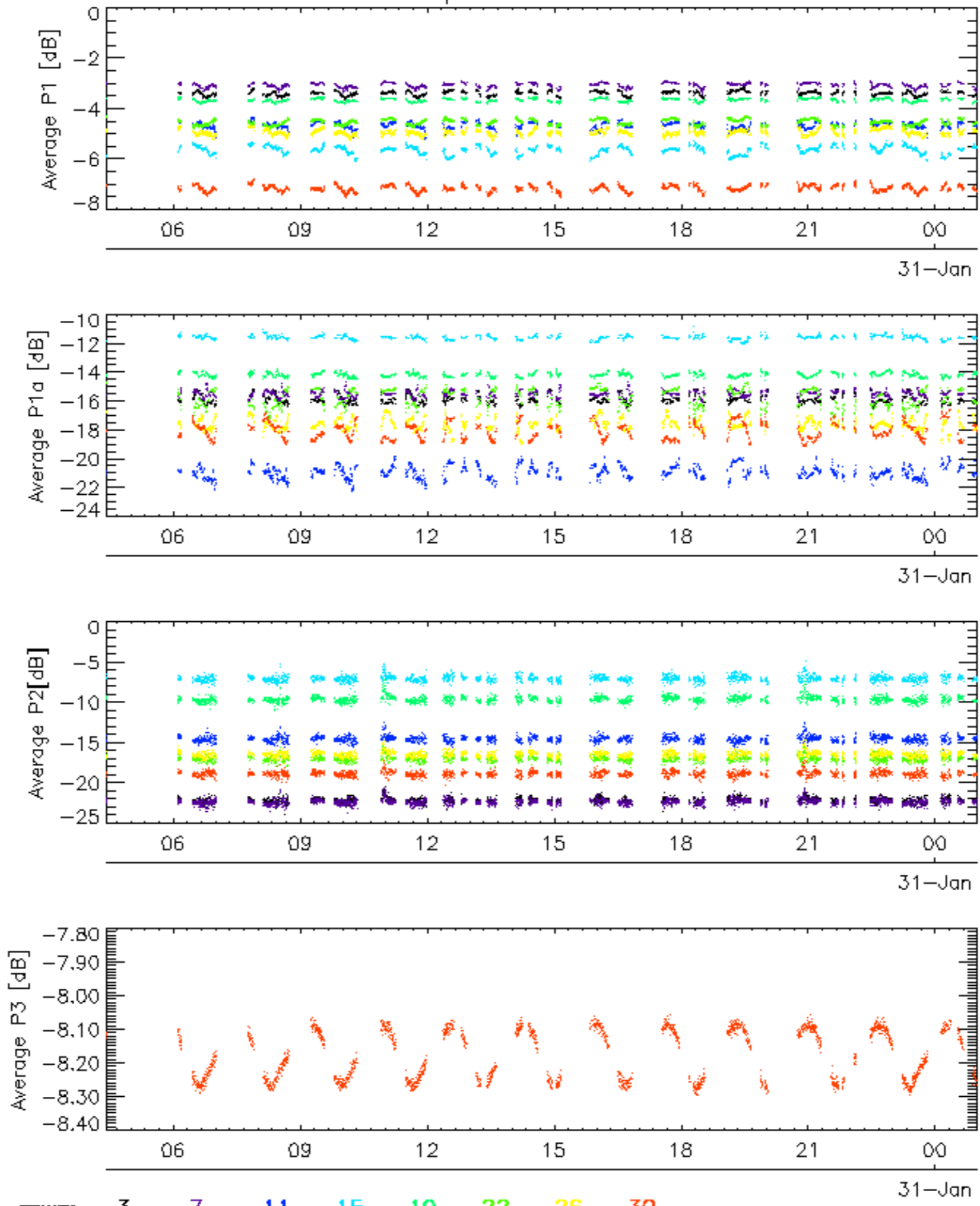
rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

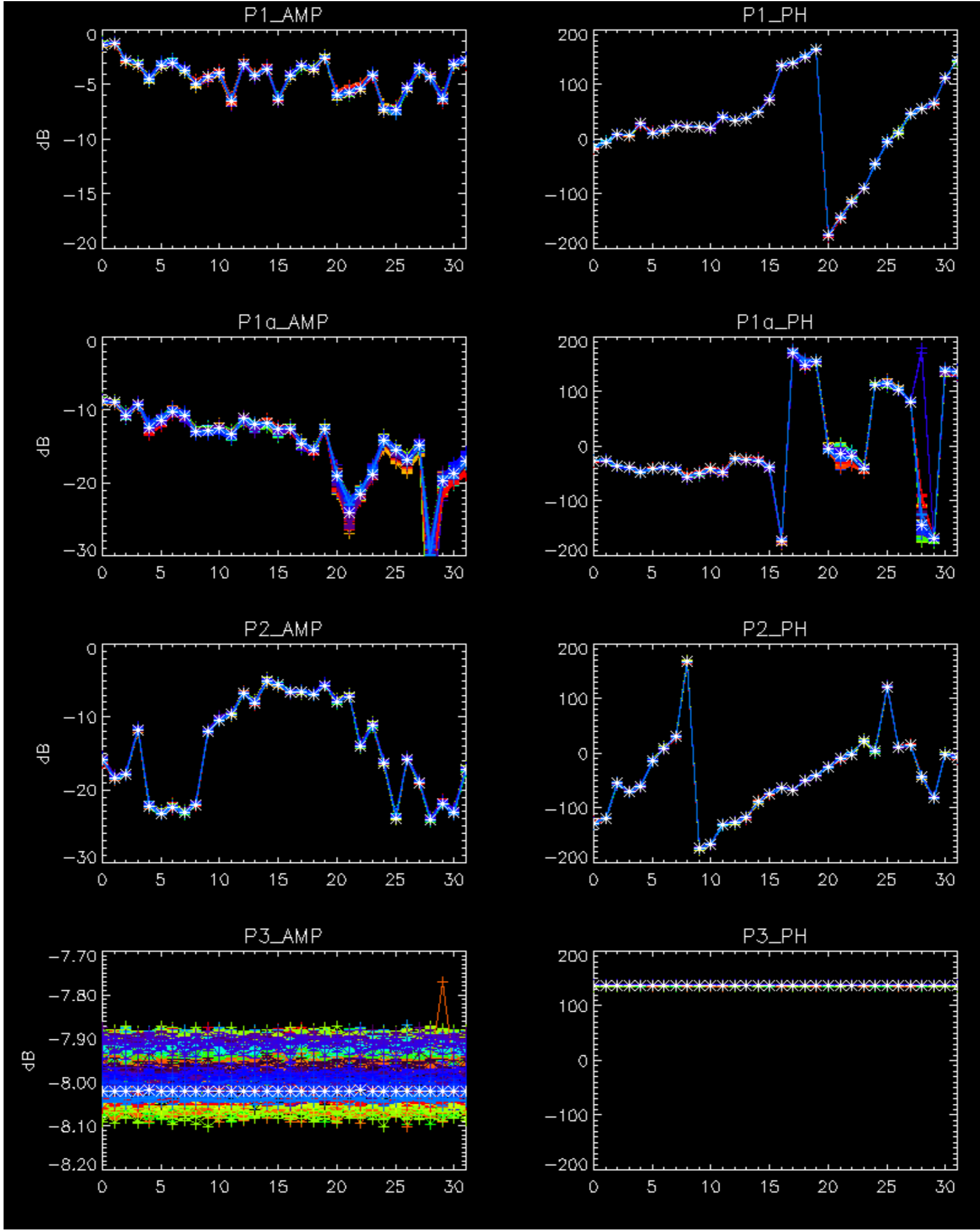


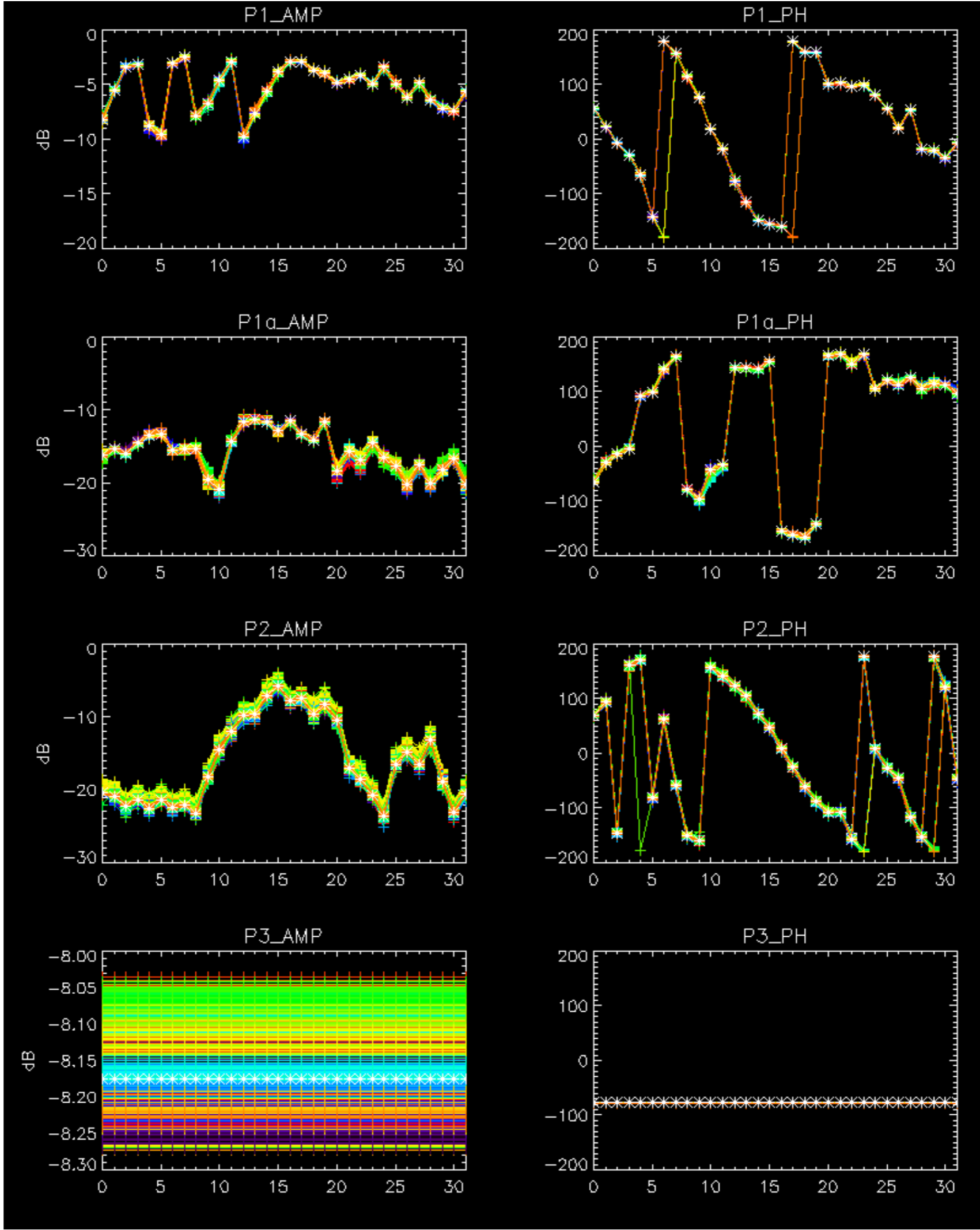
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2



No anomalies observed.



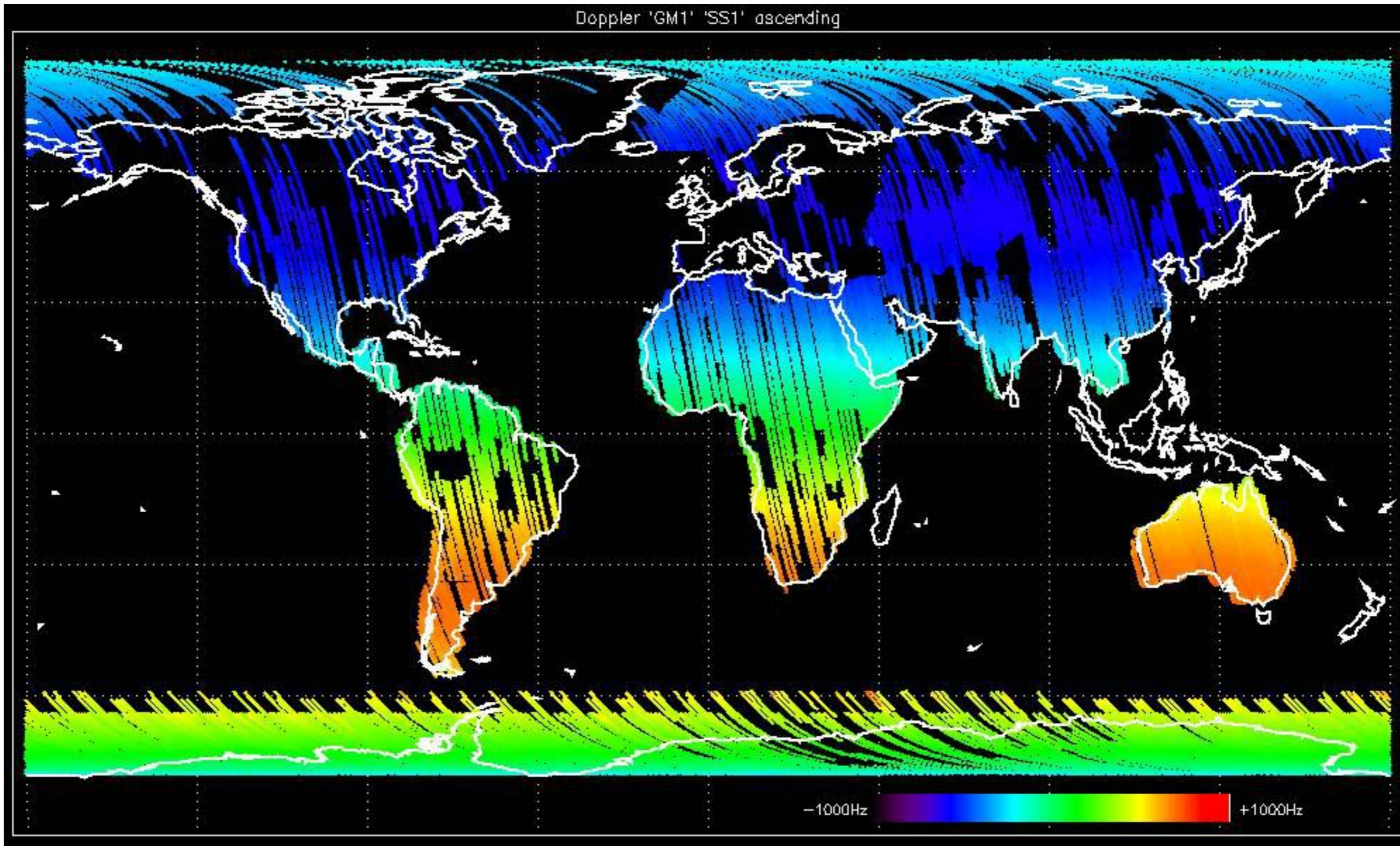




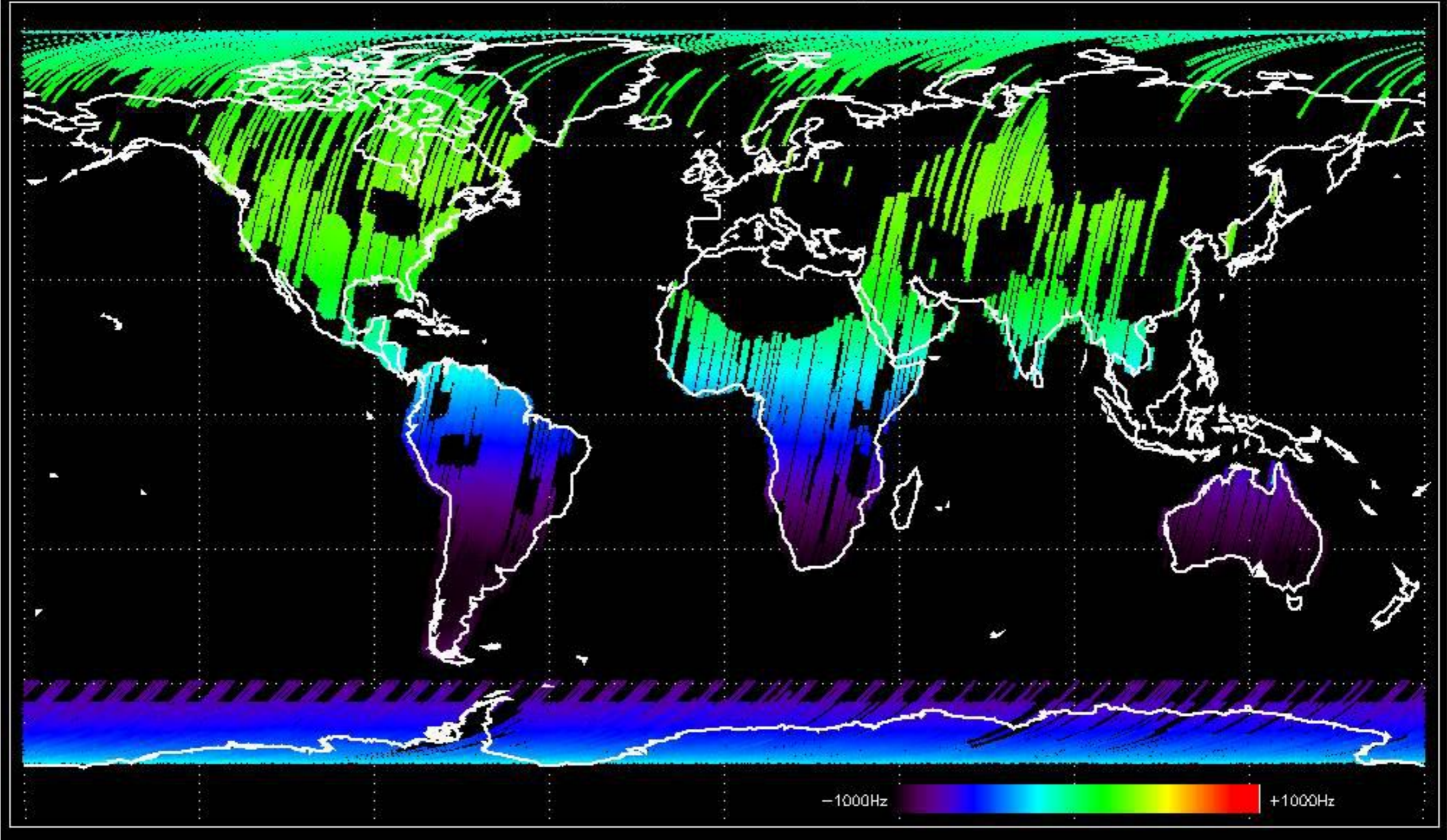
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



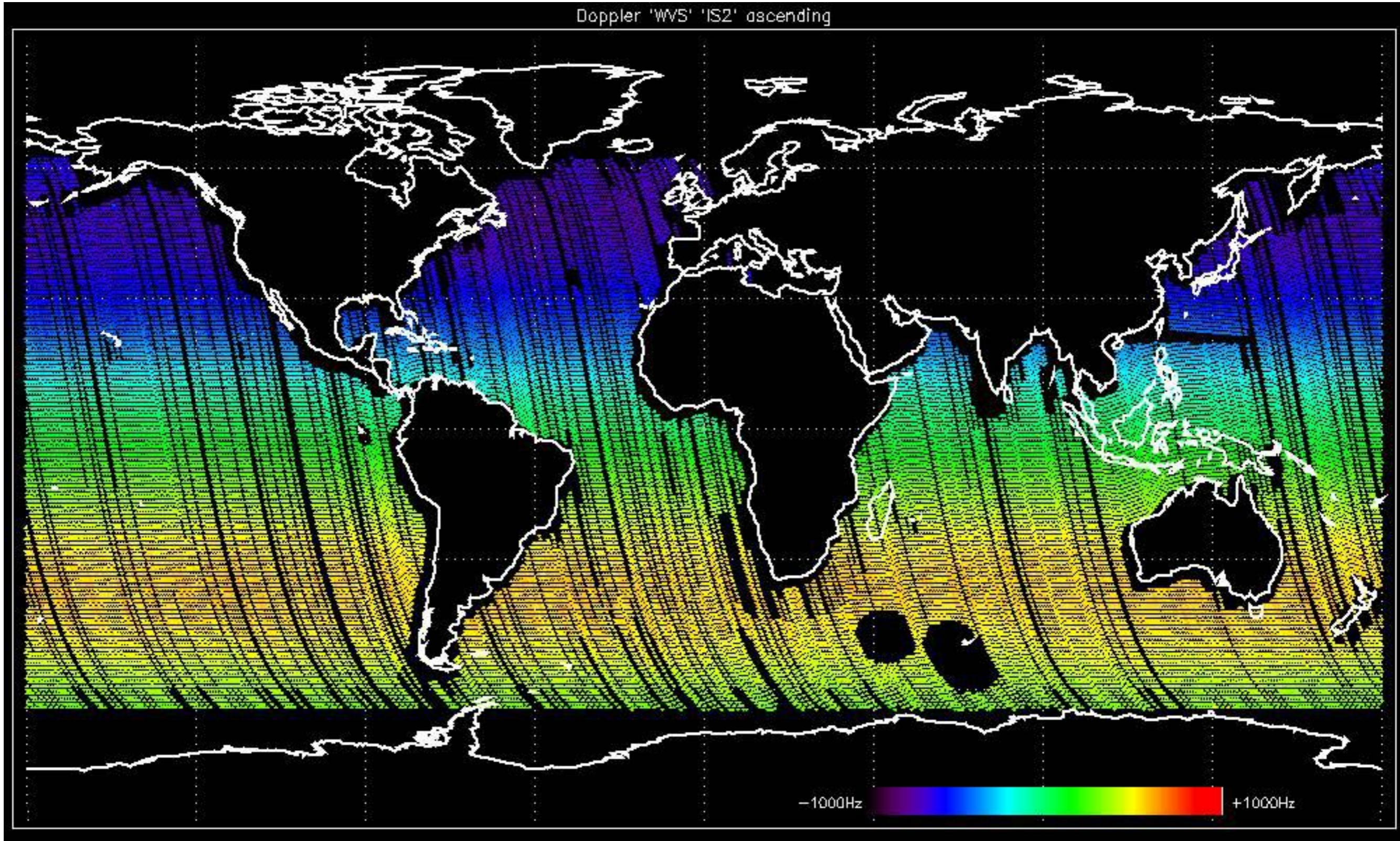
Doppler 'GM1' 'SS1' ascending



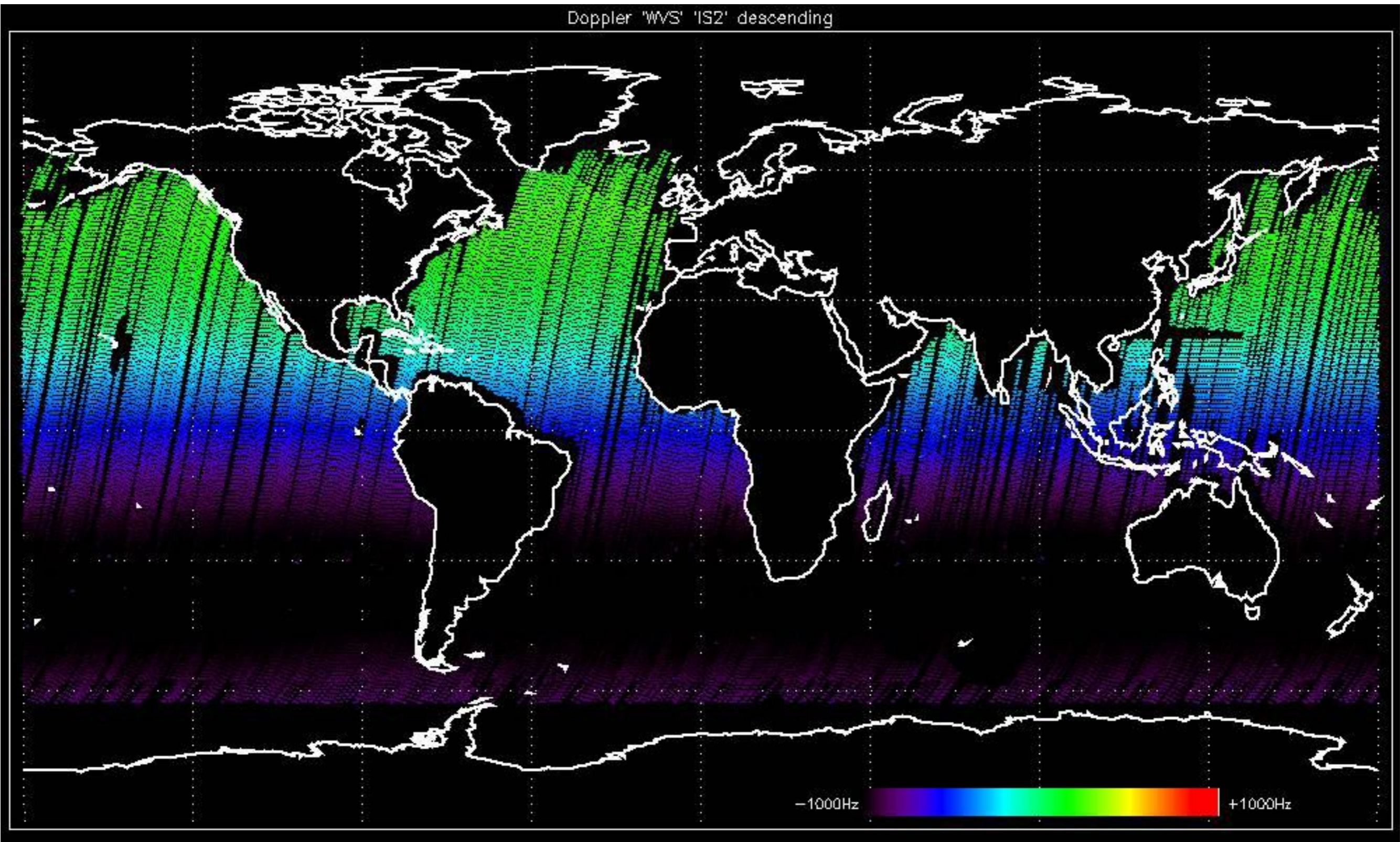
Doppler 'GM1' 'SS1' descending



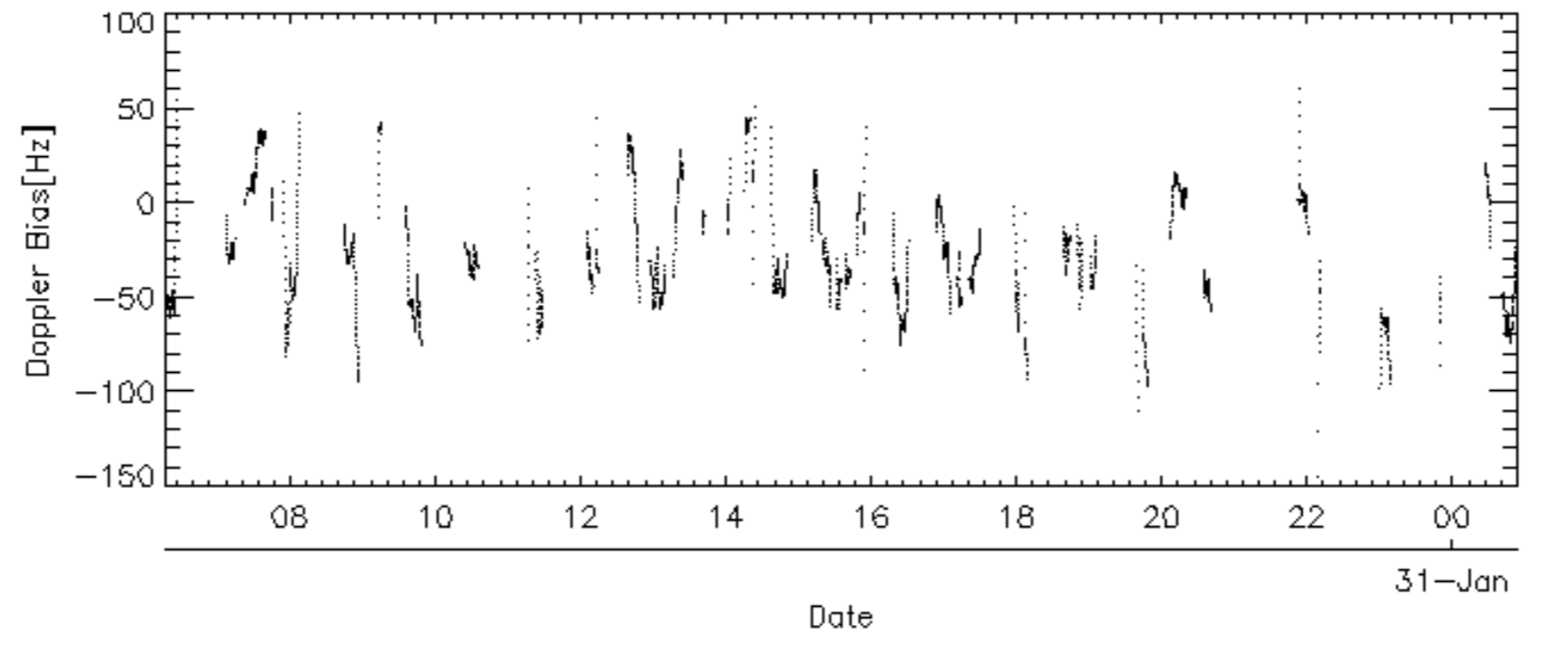
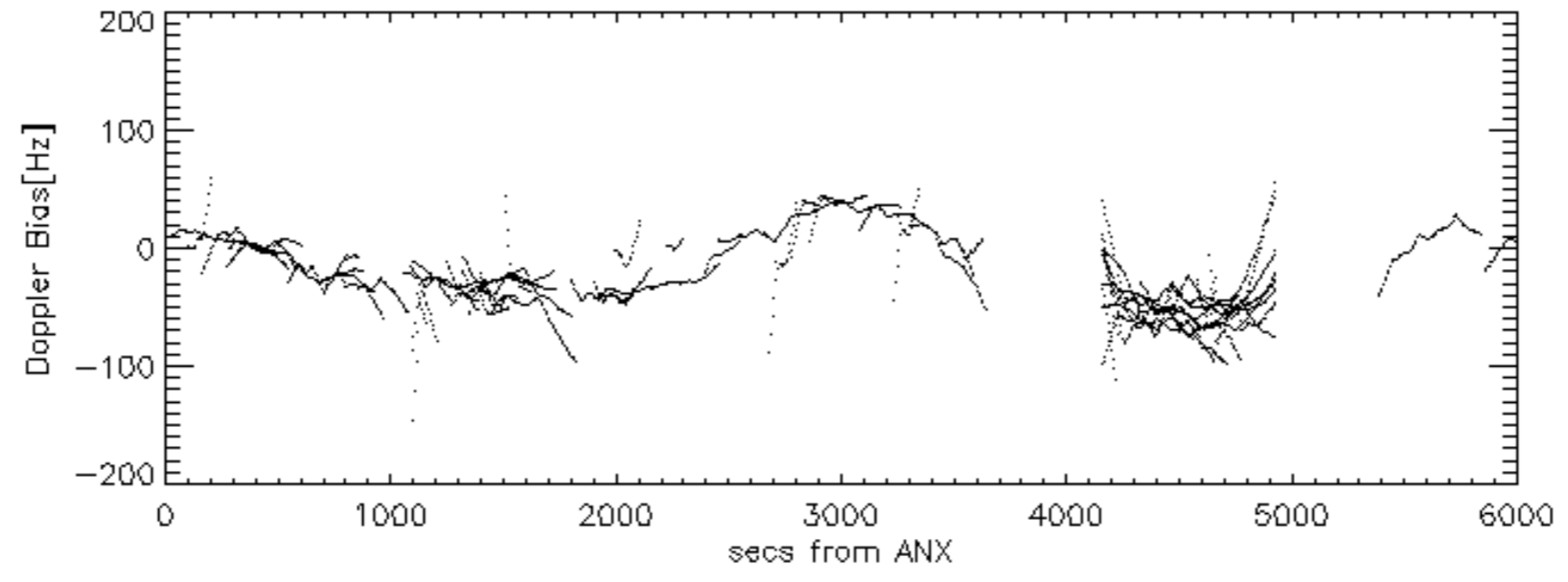
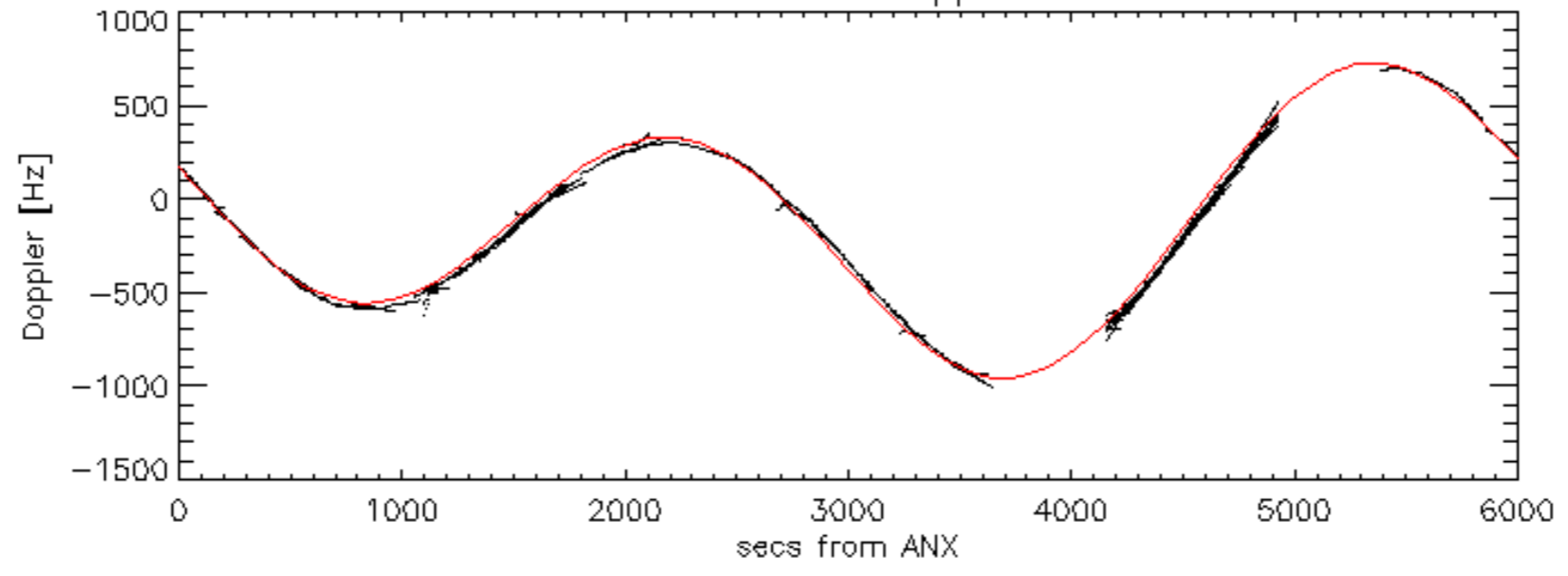
Doppler 'WVS' 'IS2' ascending

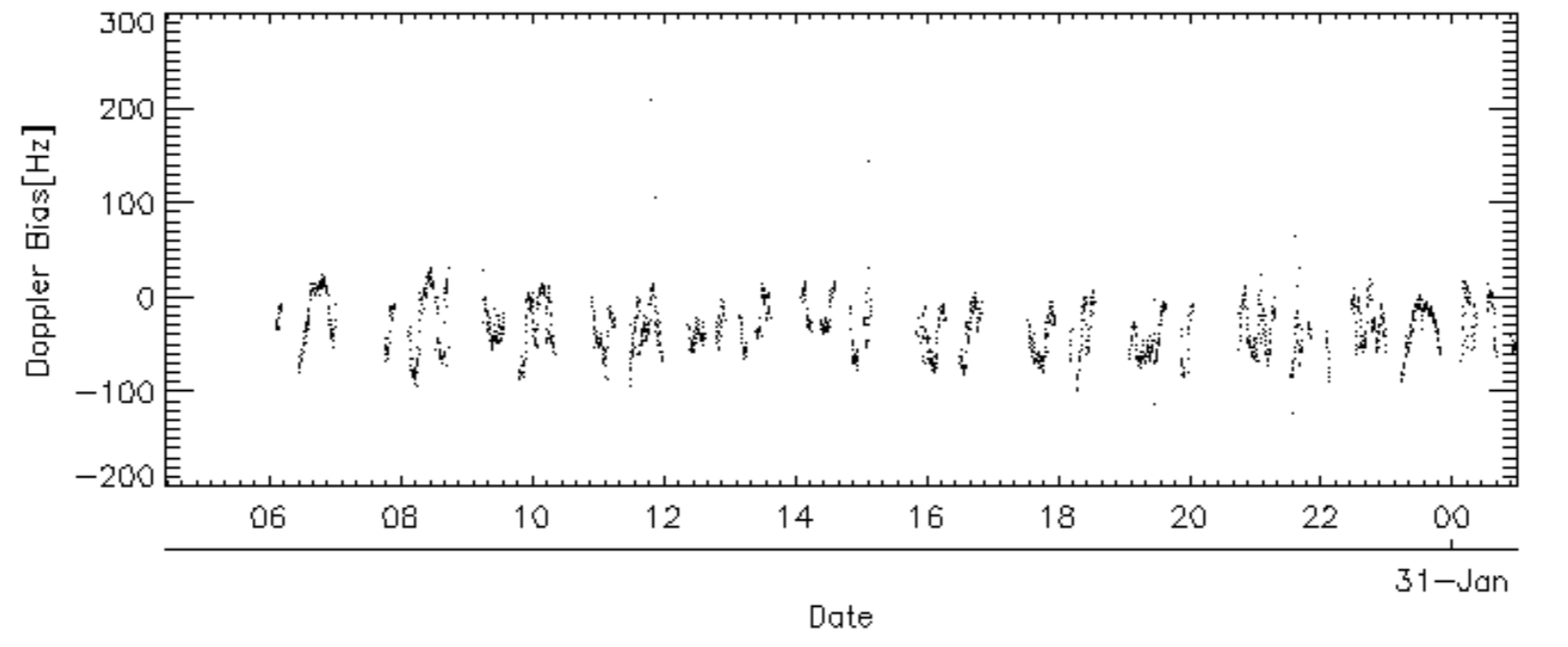
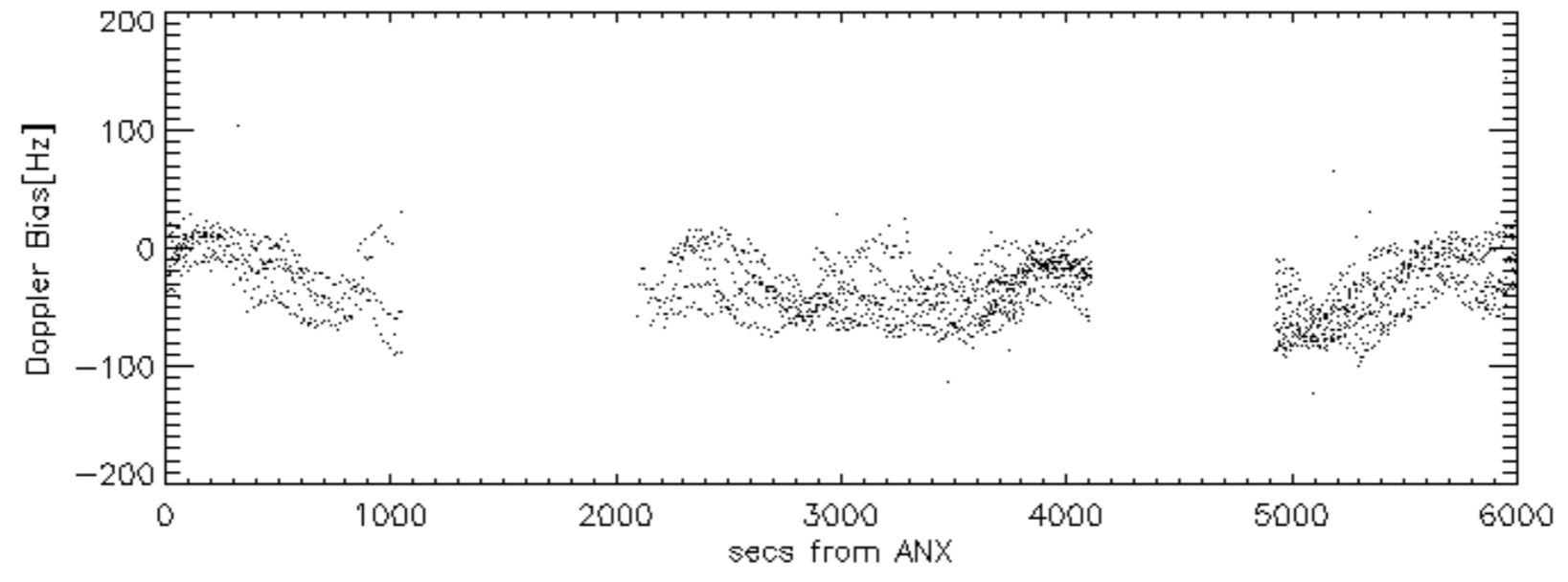
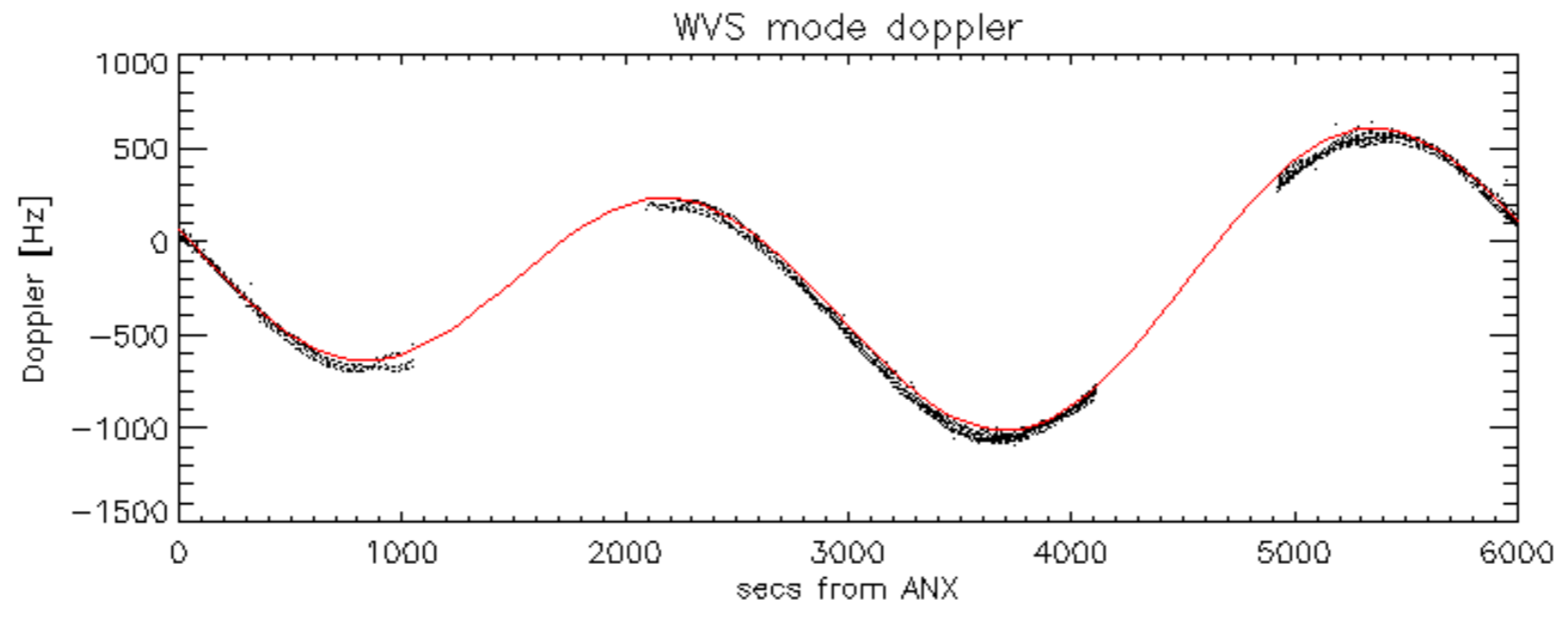


Doppler 'WVS' 'IS2' descending



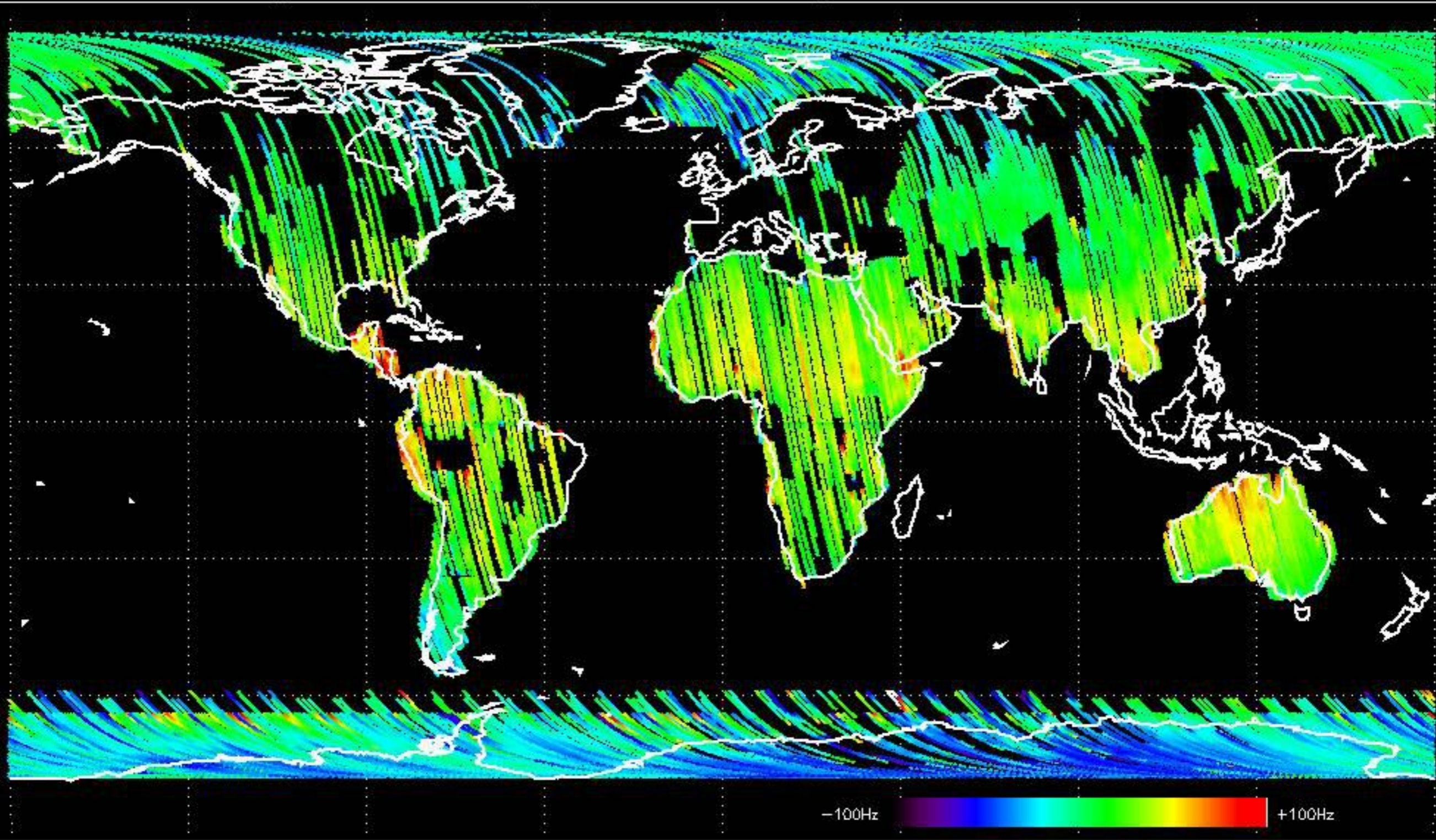
GM1 mode doppler



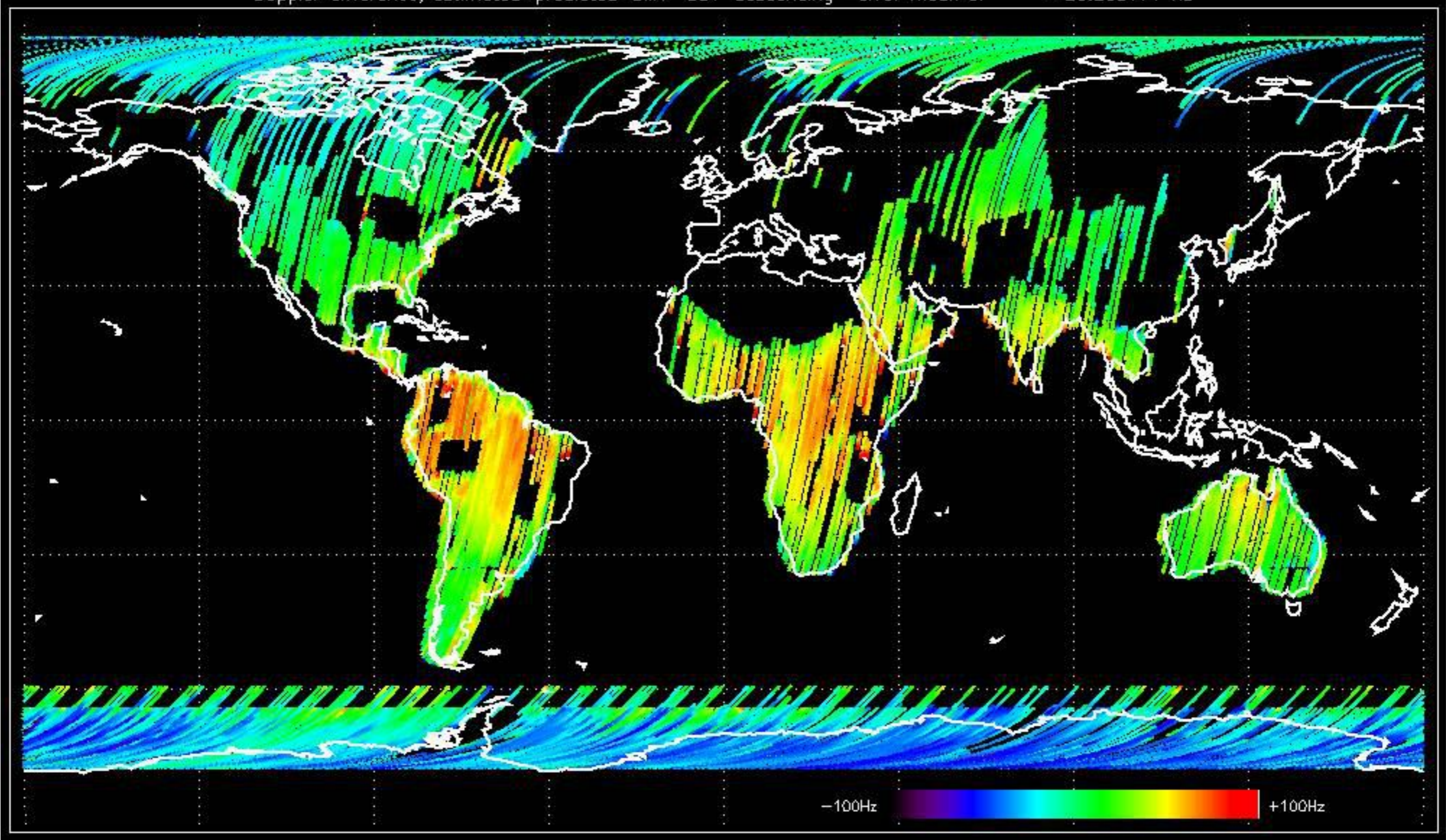




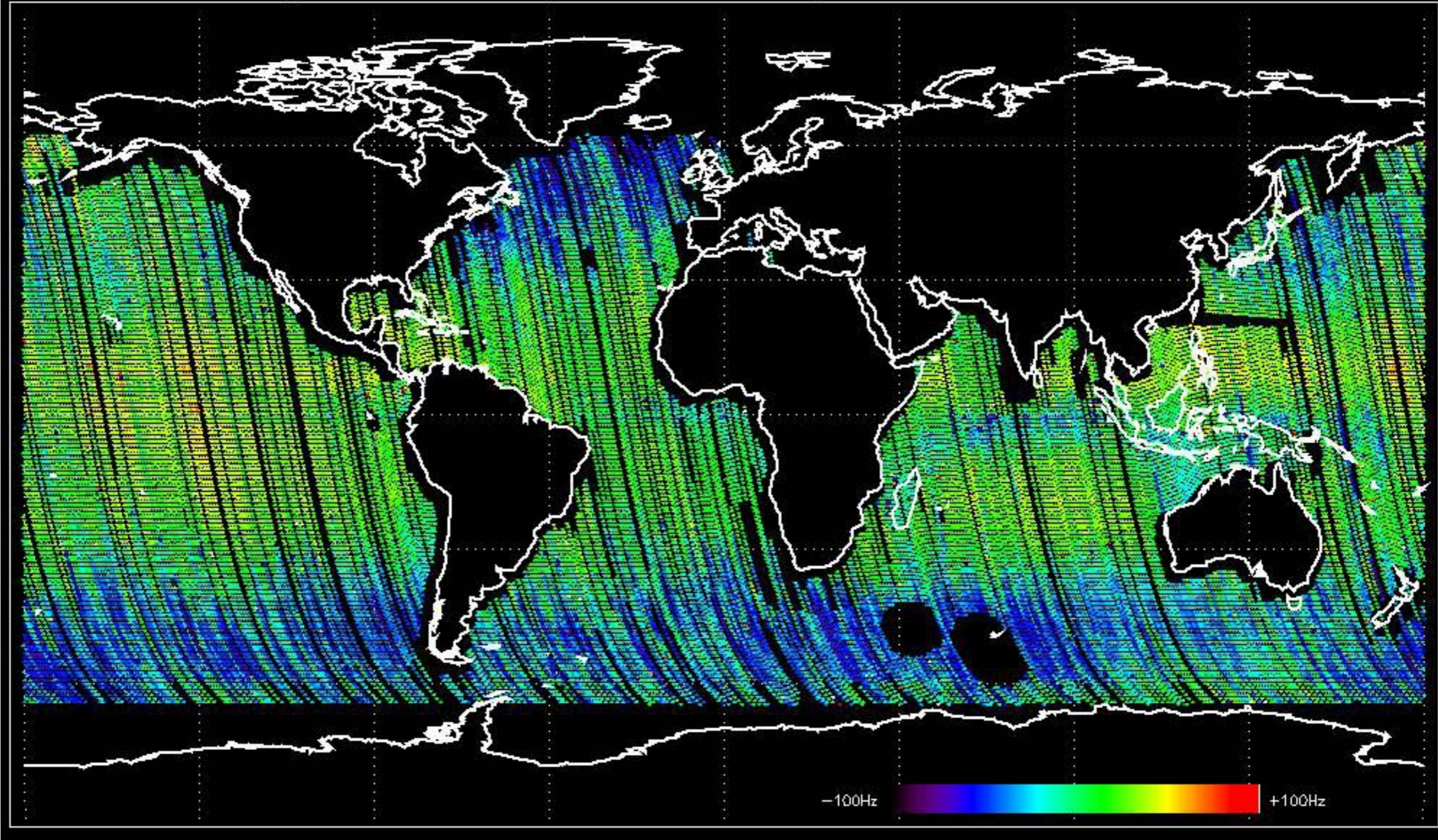
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -32.829390 Hz



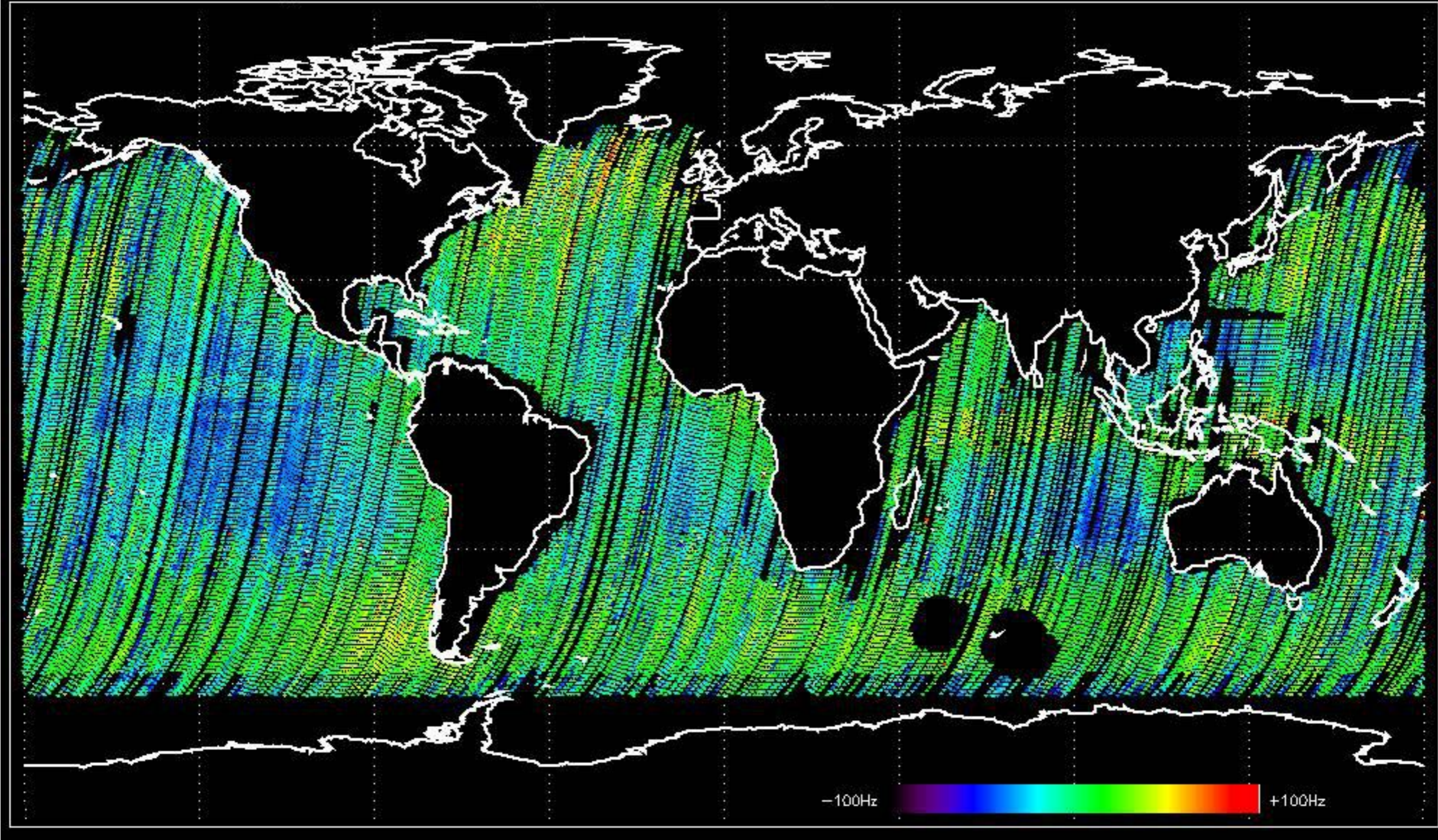
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -28.203171 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -35.430784 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -37.064262 Hz



The MS mode provides an internal health check on an individual module basis.  
The purpose of this mode is to identify to identify any malfunctioning modules and  
to identify modules for which calibration offsets are to be applied.  
No anomalies observed on available MS products:

No anomalies observed.









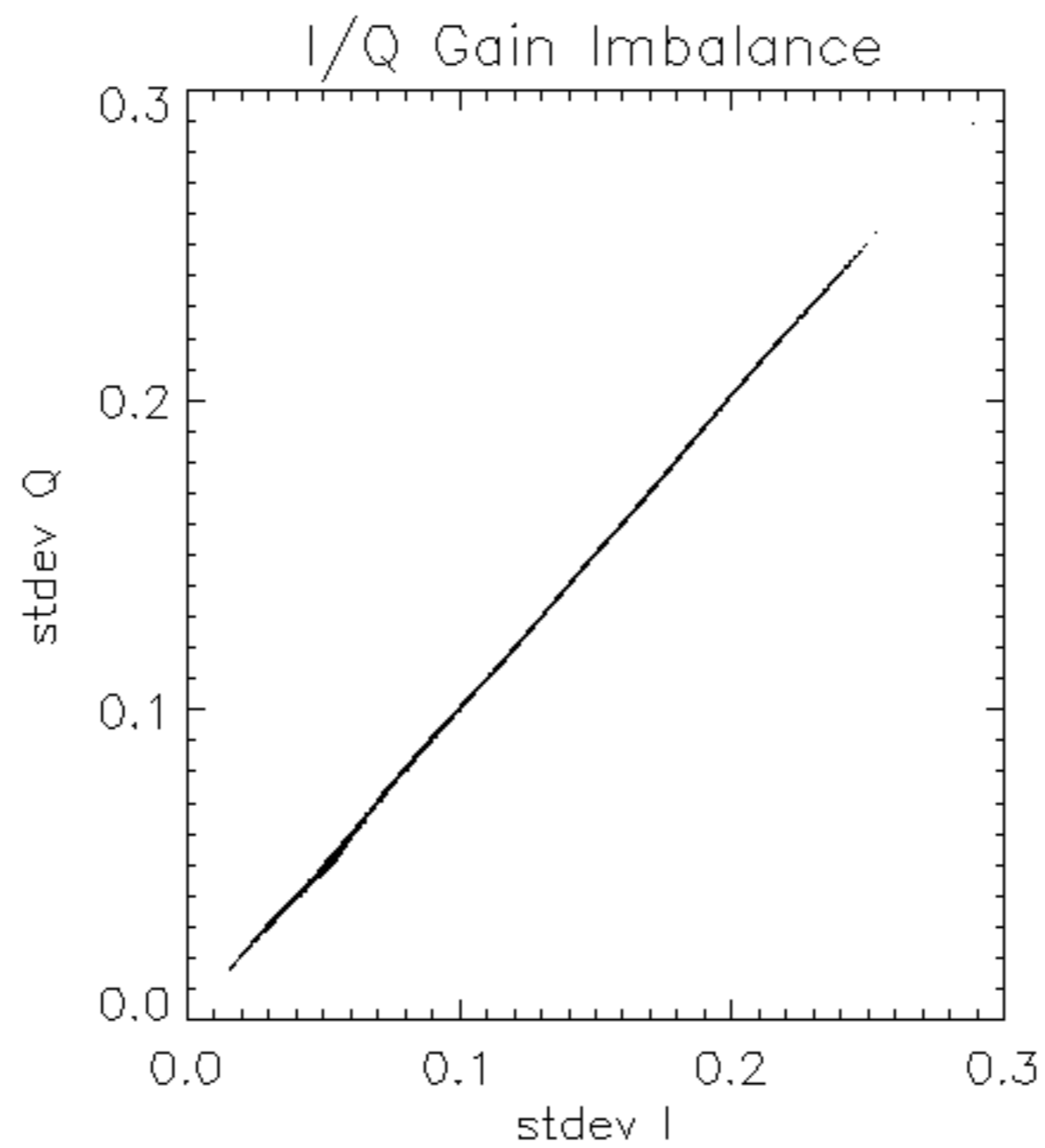


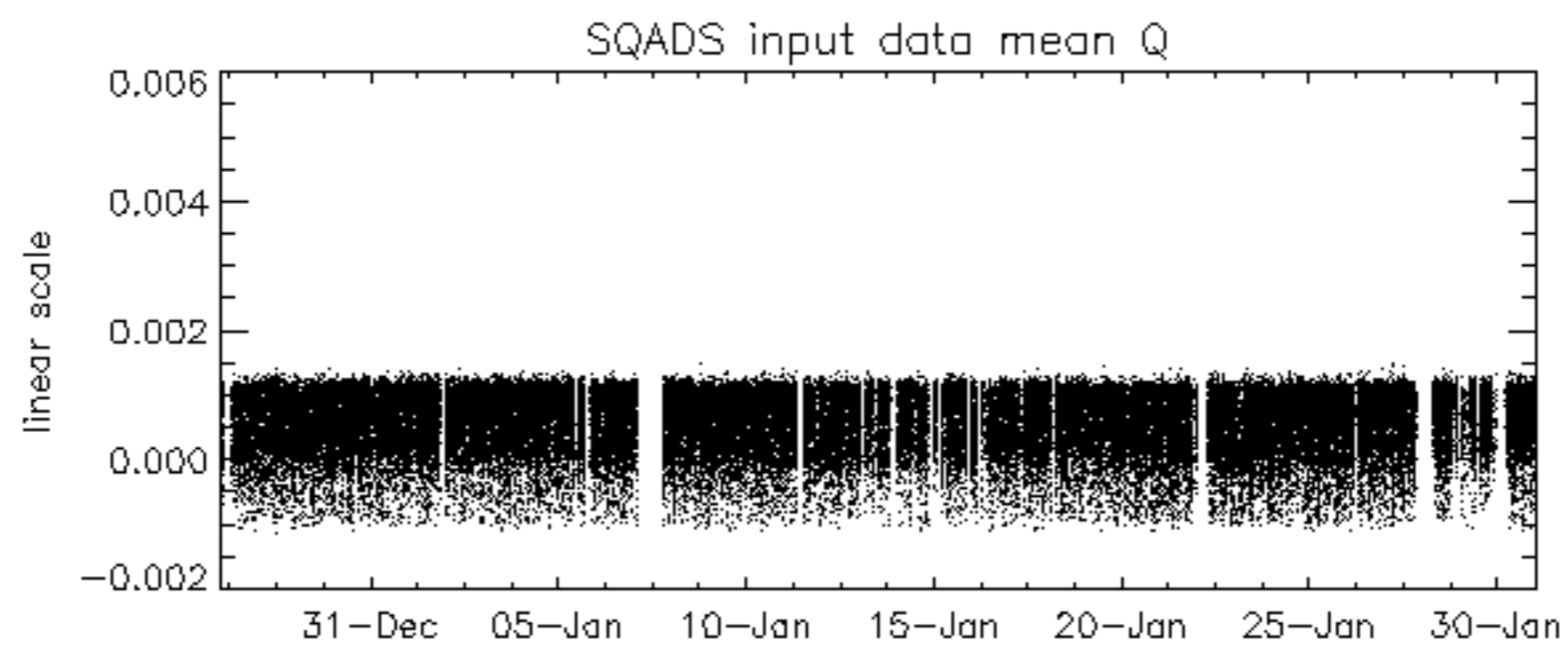
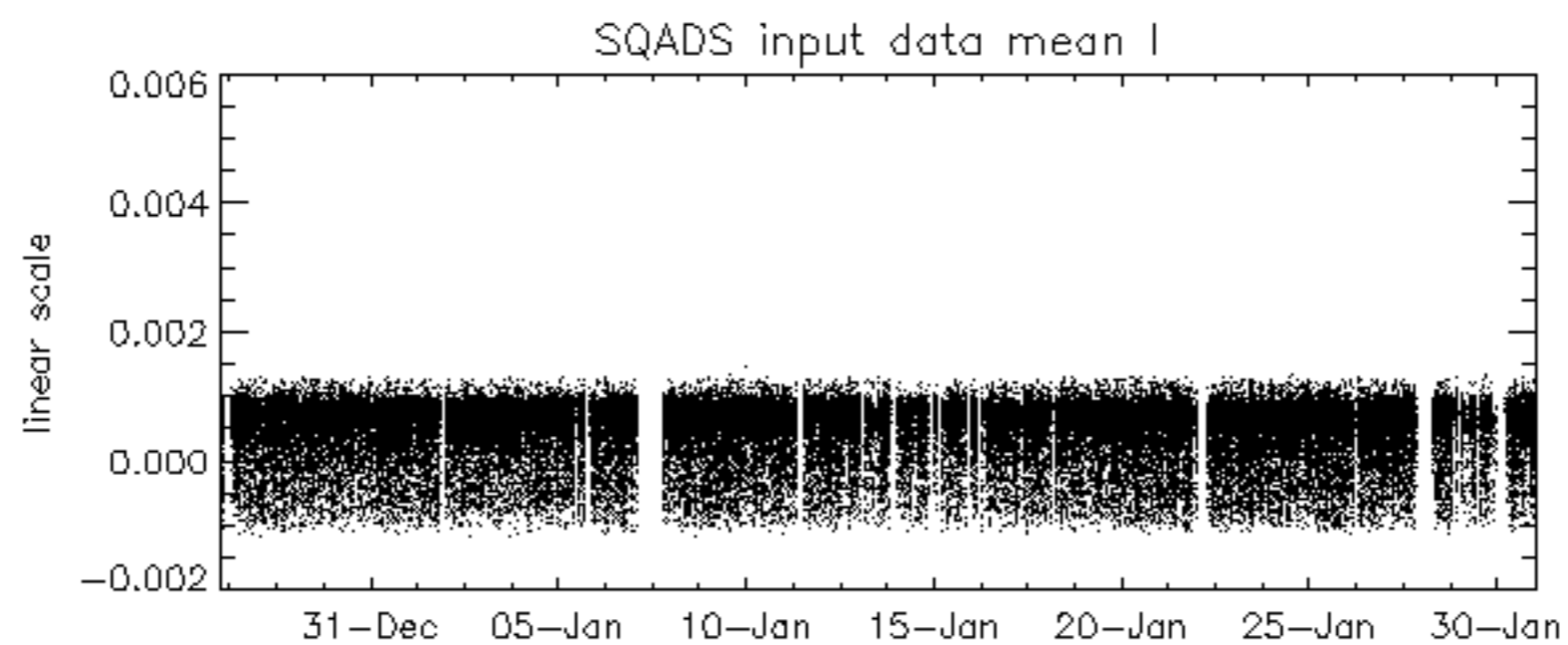
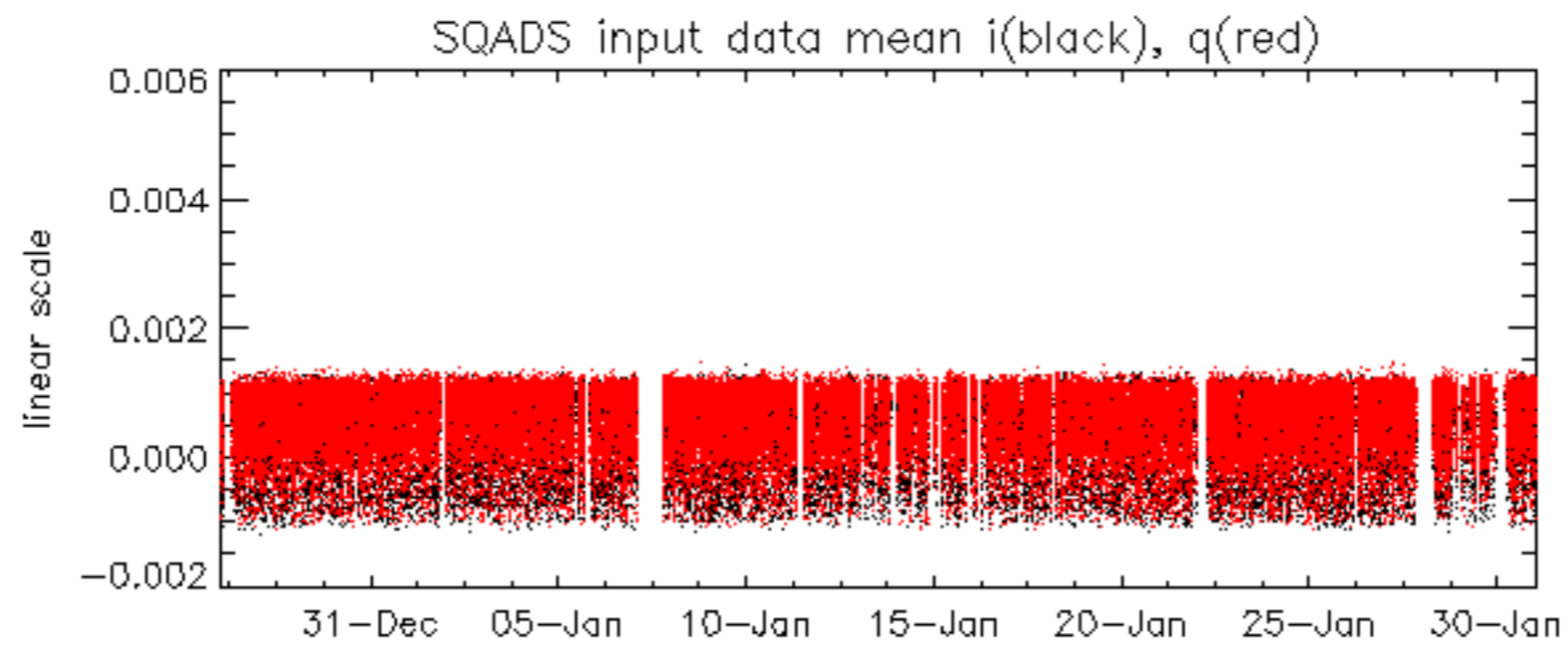




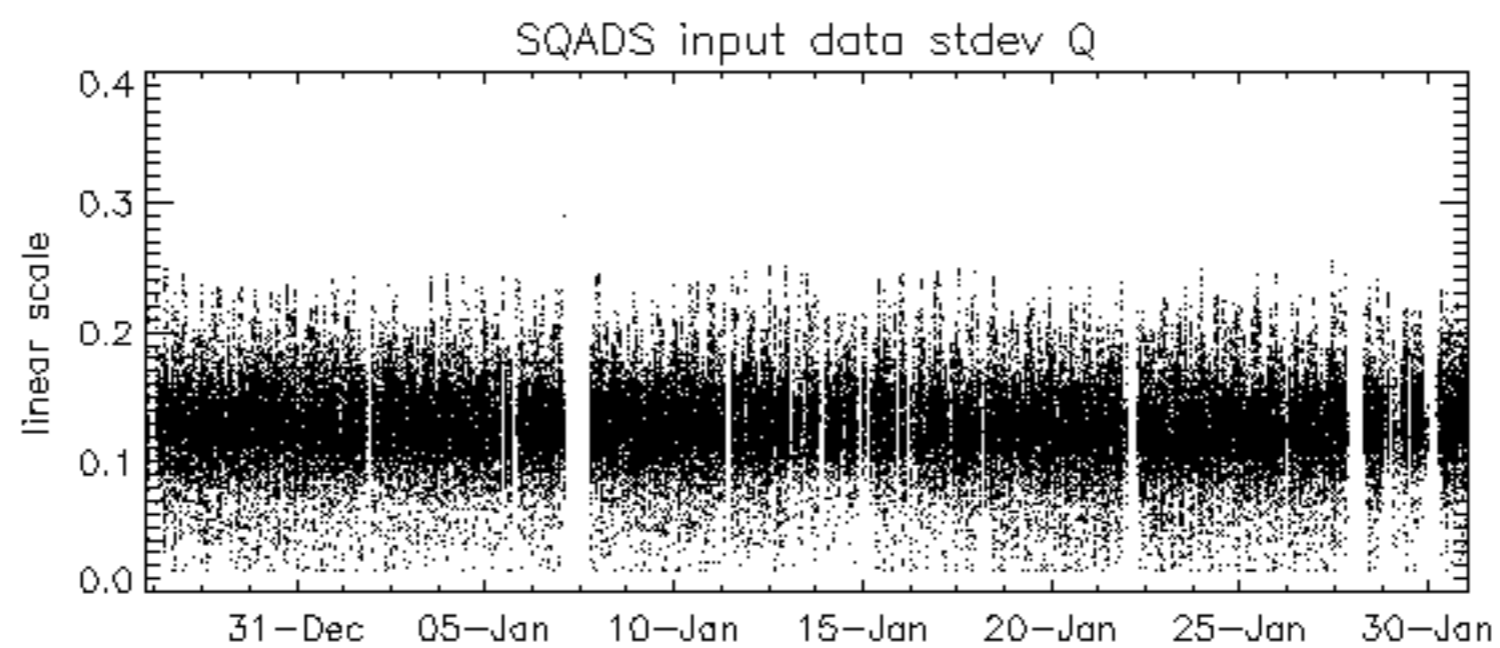
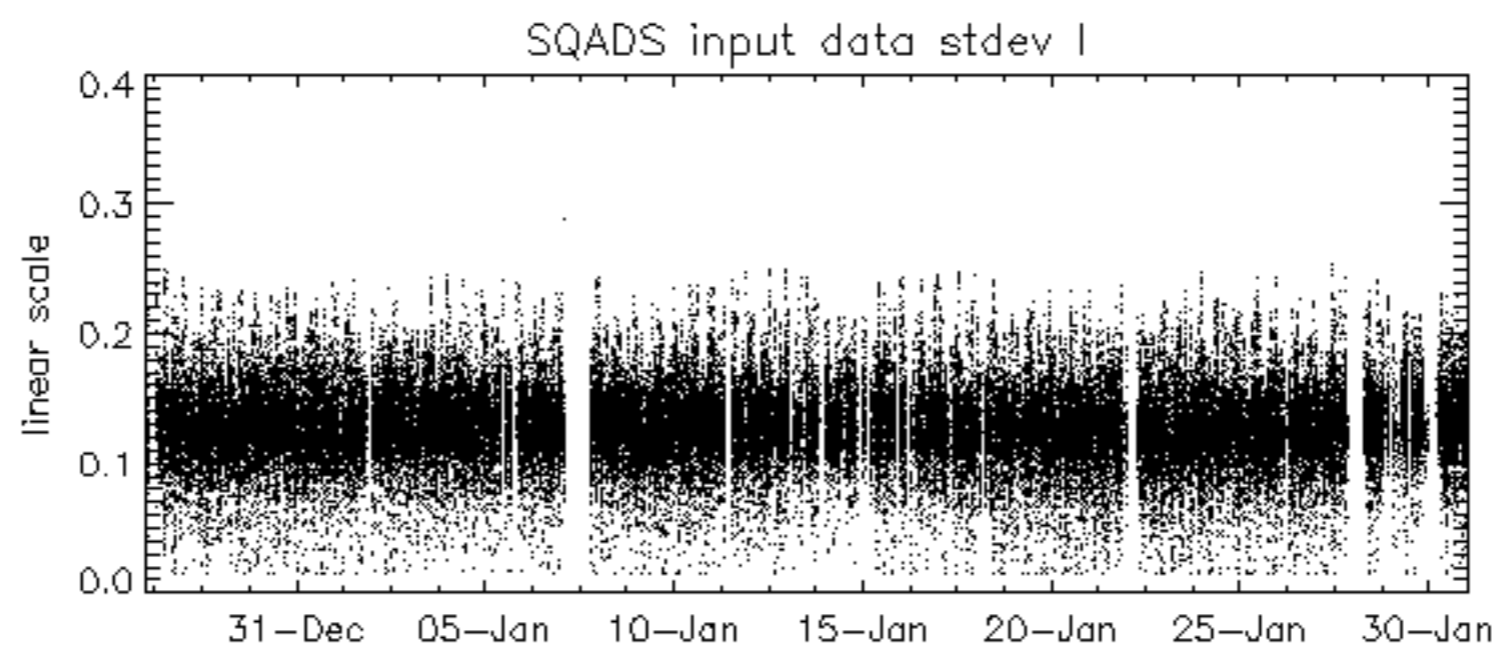
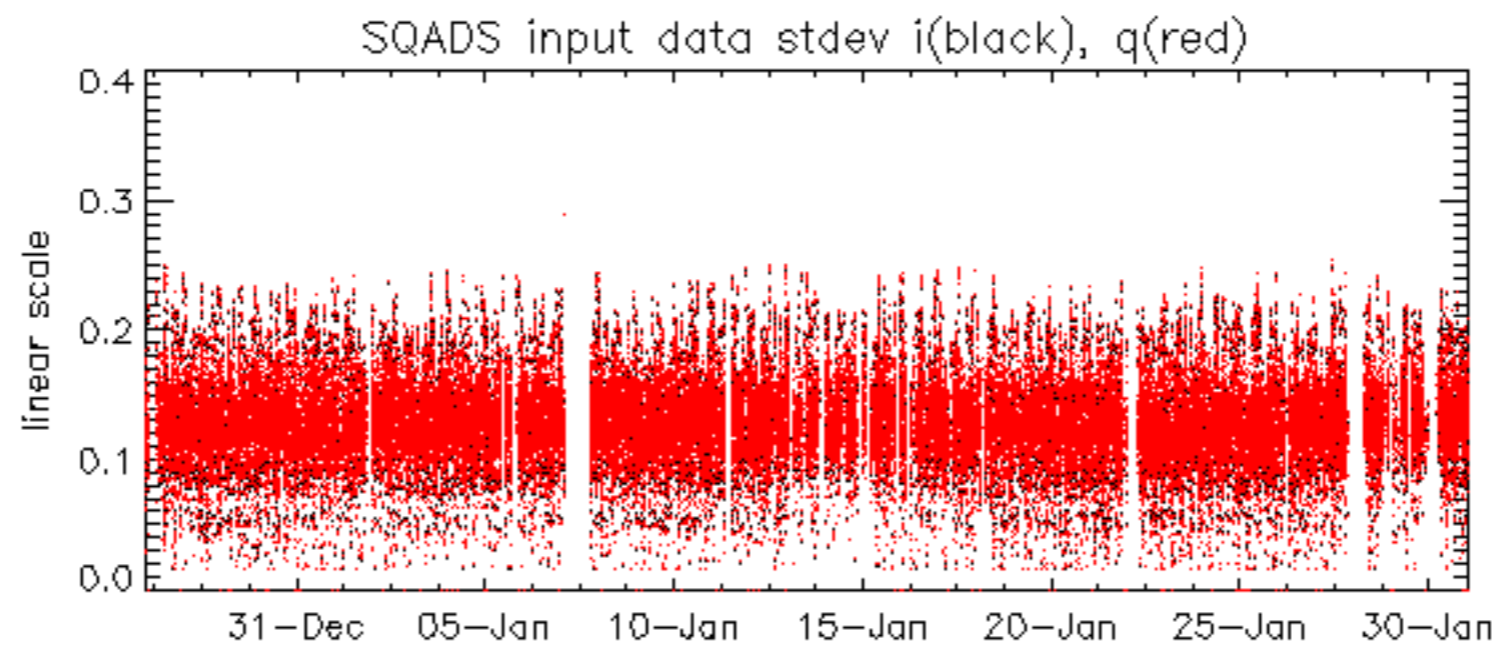




















Summary of analysis for the last 3 days 2005013[901]

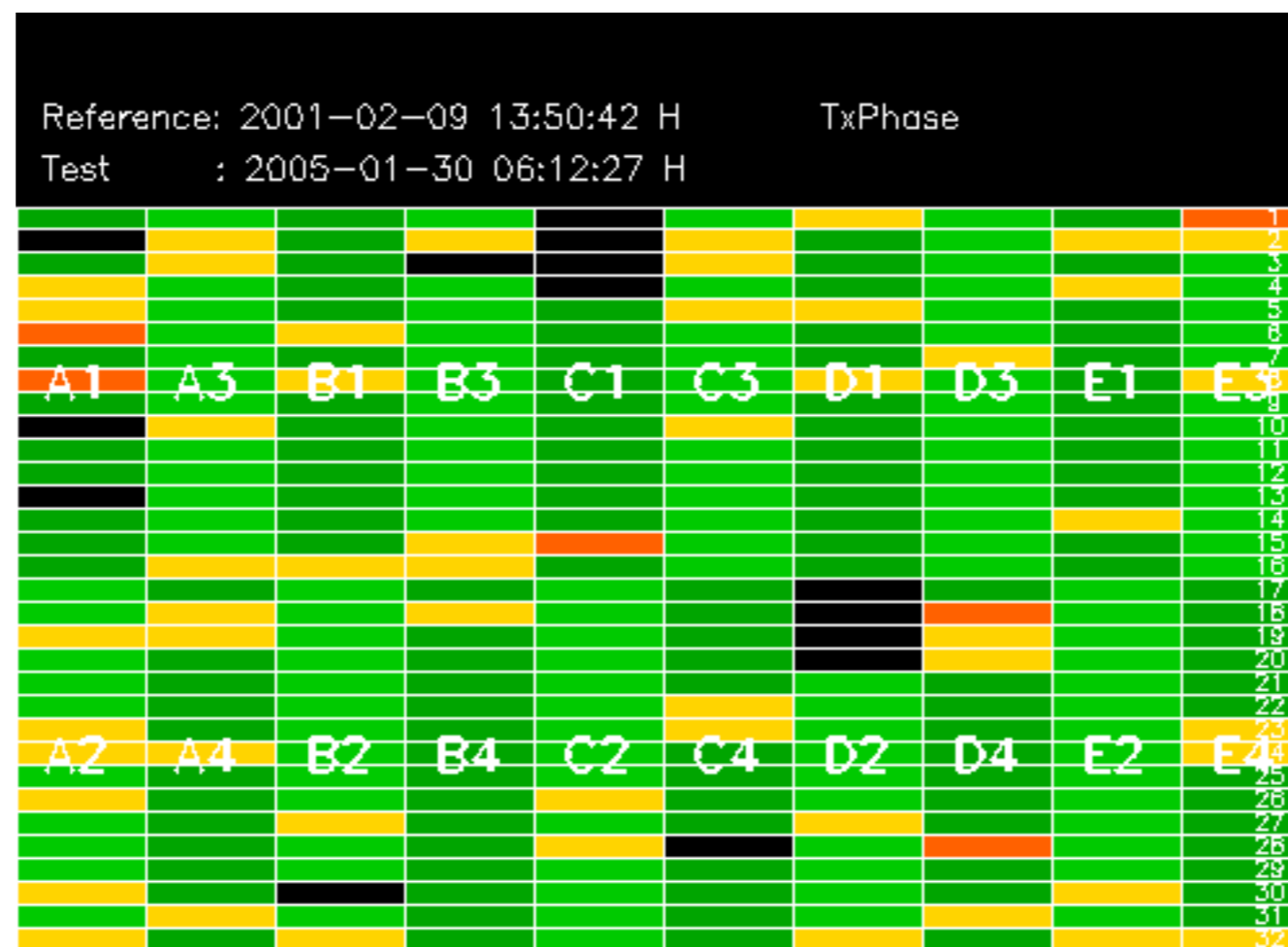
The assumption is taken that the SQADS num\_gaps and num\_missing\_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_WVS_1PNPDE20050130_042523_00000602034_00176_15260_6214.N1	0	192
ASA_GM1_1PNPDE20050130_203400_000003802034_00186_15270_8240.N1	0	79
ASA_GM1_1PNPDE20050130_212317_000005432034_00186_15270_8239.N1	0	35
ASA_GM1_1PNPDE20050130_234936_00000662034_00188_15272_8256.N1	0	6
ASA_GM1_1PNPDE20050131_002626_000002892034_00188_15272_8257.N1	0	21
ASA_GM1_1PNPDE20050131_004040_000007732034_00188_15272_8253.N1	0	93
ASA_WSM_1PNPDE20050130_033025_000001642034_00176_15260_2404.N1	0	2

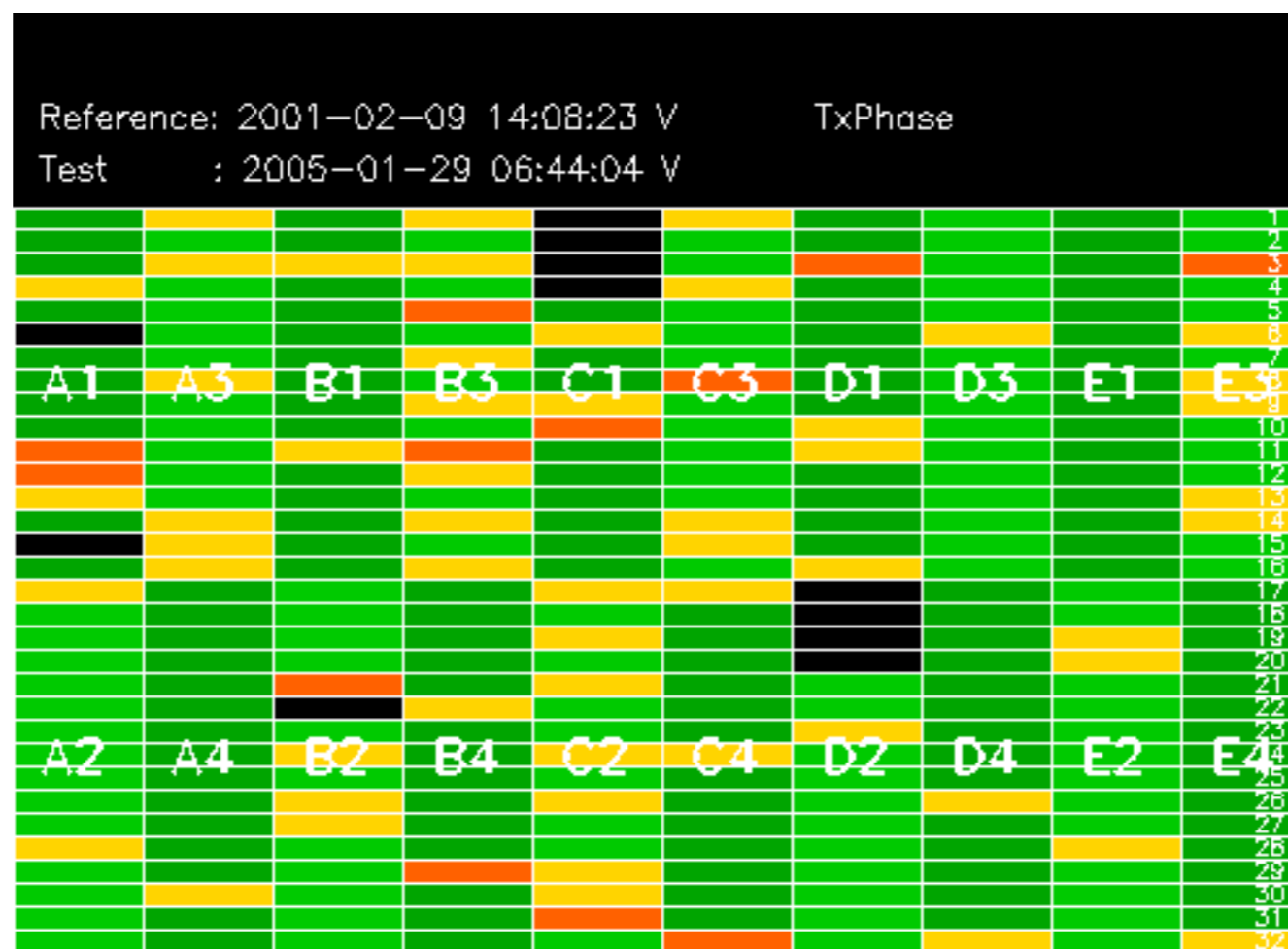




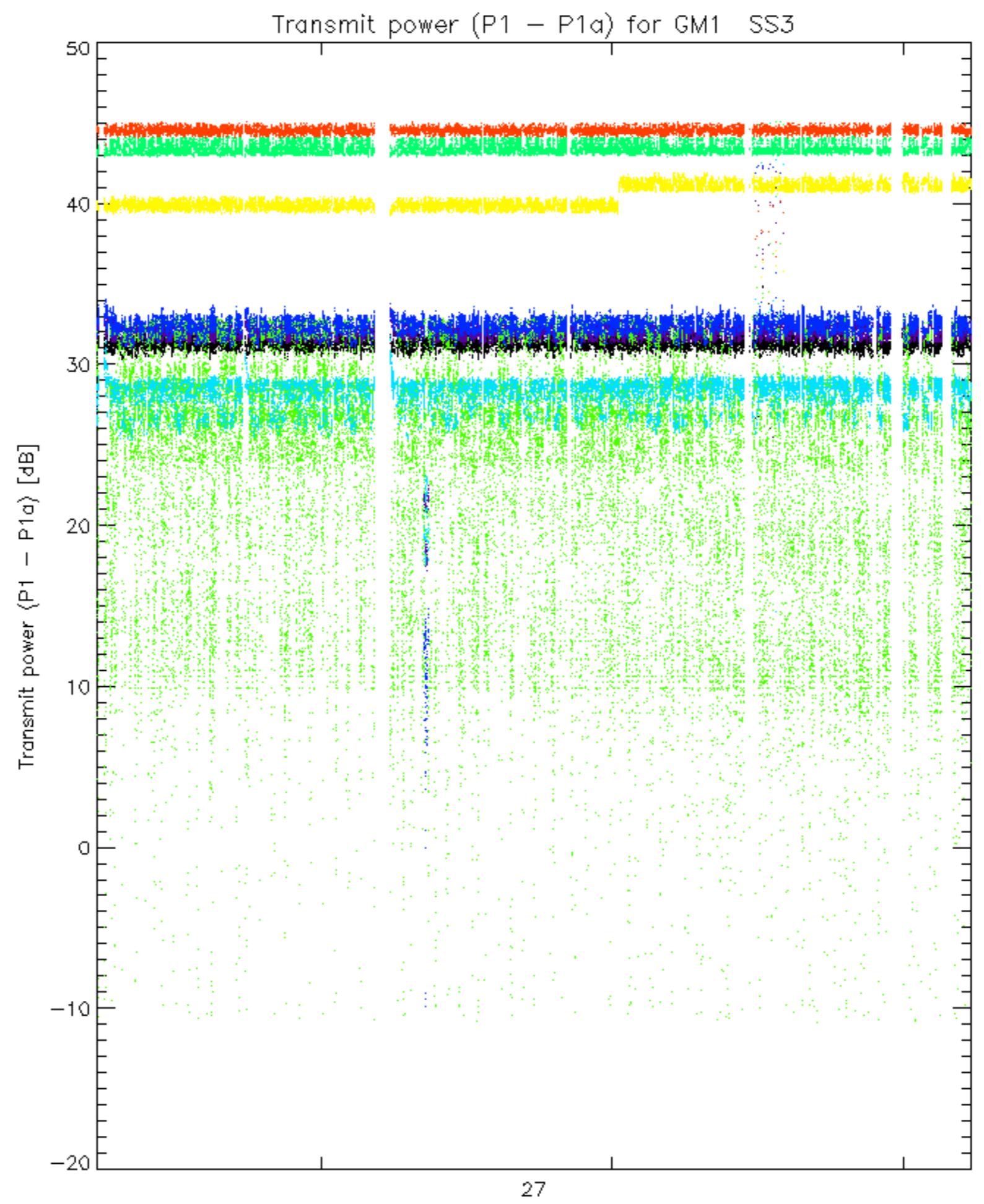




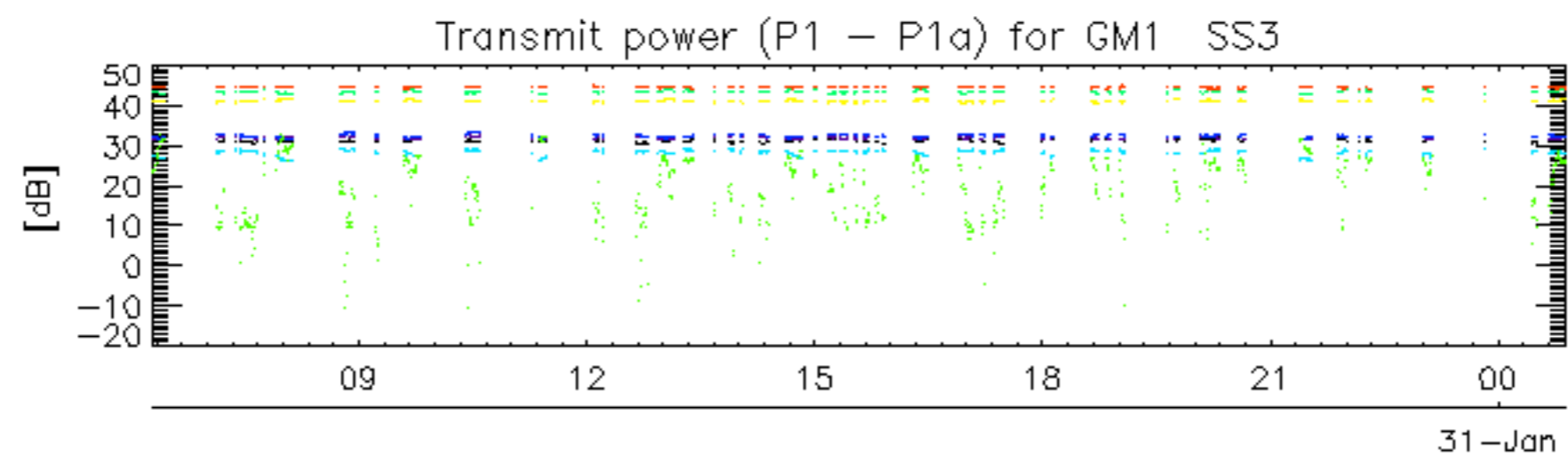






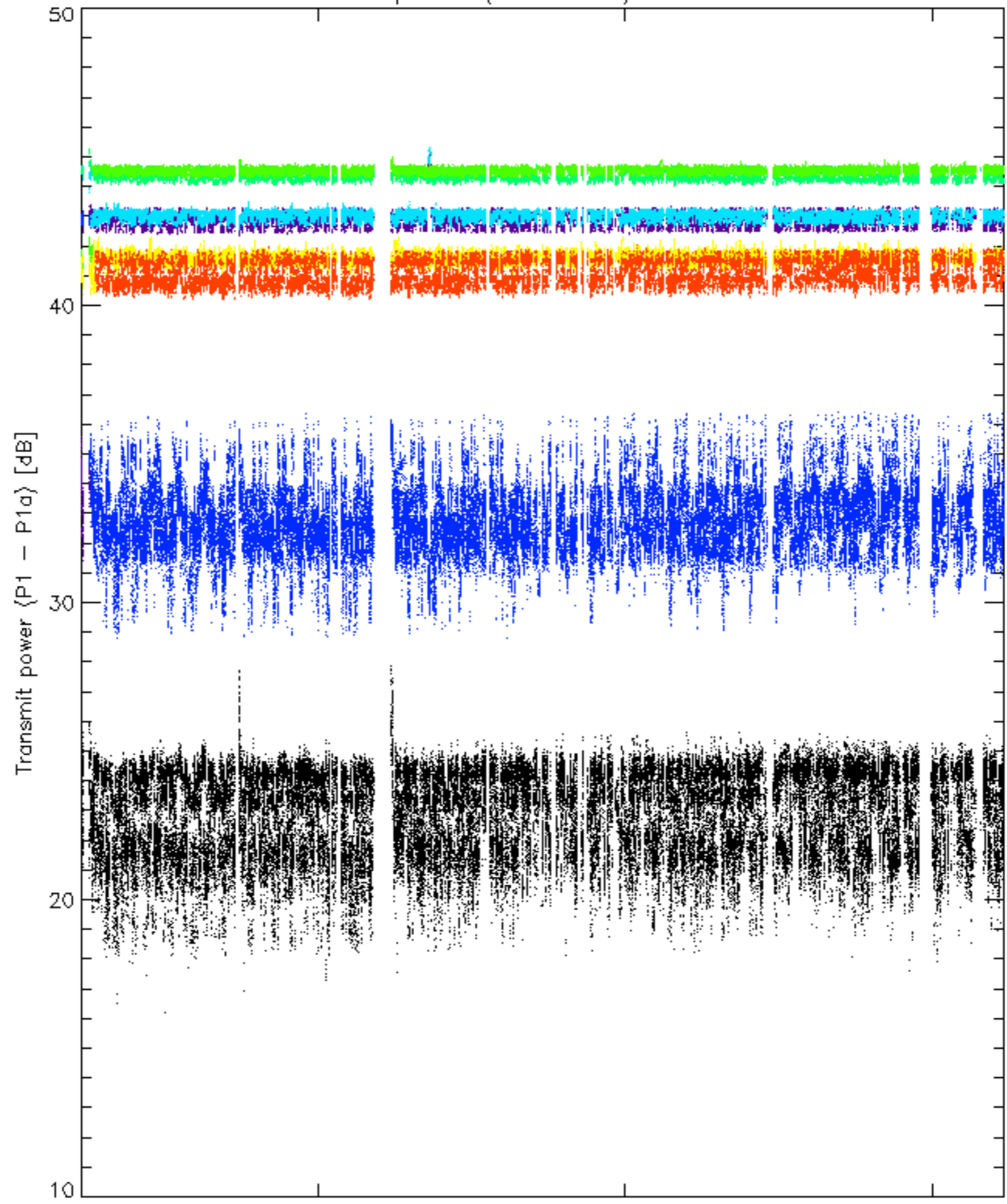


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

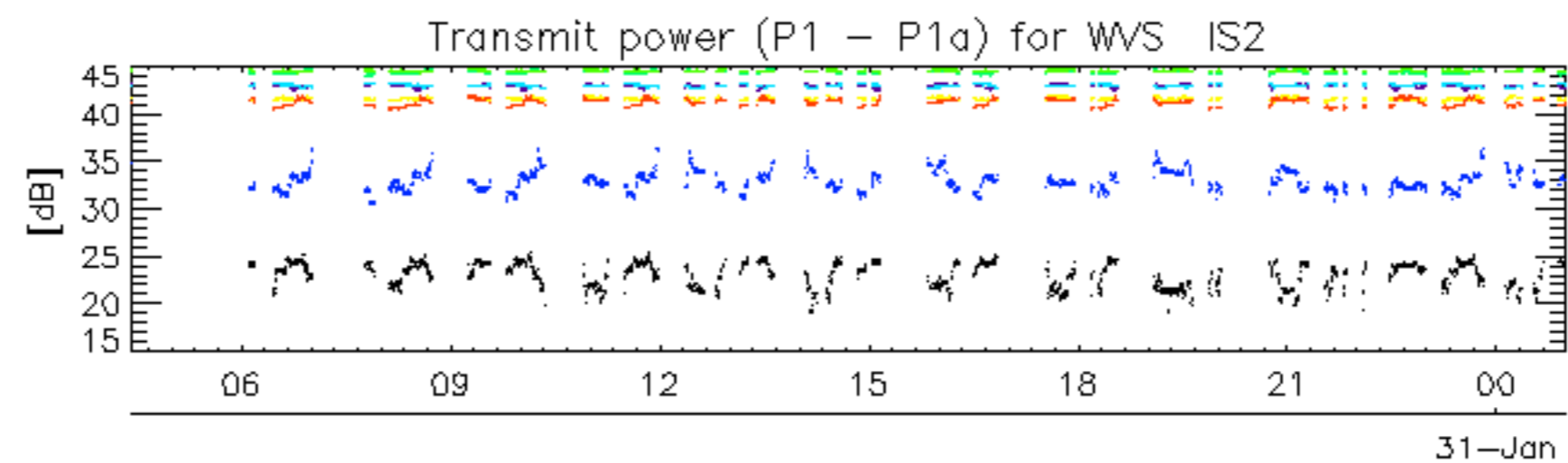


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Transmit power (P1 - P1a) for WVS IS2



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



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



No unavailabilities during the reported period.