

# PRELIMINARY REPORT OF 050122

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

**last update on Thu Jan 27 09:23:38 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 2005-01-26 00:00:00 to 2005-01-27 09:23:38

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	8	0	0	0	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	8	0	0	0	0
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	8	0	0	0	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	8	0	0	0	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	16	14	0	2	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	16	14	0	2	0
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	16	14	0	2	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	16	14	0	2	0

## 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	20050121 055512
H	20050120 062649

### 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	-3.420328	0.007424	0.033022
7	P1	-3.083786	0.010266	0.012454
11	P1	-4.648194	0.019735	-0.005372
15	P1	-5.646184	0.039218	0.009185
19	P1	-3.664141	0.006259	0.001974
22	P1	-4.569779	0.016234	0.013760
26	P1	-4.942439	0.025448	0.022867
30	P1	-7.130225	0.014826	-0.019096
3	P1	-15.921524	0.105965	0.041174
7	P1	-15.509074	0.097216	0.043870
11	P1	-20.808376	0.311767	-0.069542
15	P1	-11.624353	0.073721	0.034619
19	P1	-14.177711	0.033048	0.008883
22	P1	-16.002396	0.424318	0.139263
26	P1	-17.673801	0.229204	0.116030
30	P1	-17.873842	0.323424	-0.037140

#### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.295828	0.086469	0.113527
7	P2	-22.482857	0.169765	0.103000
11	P2	-14.748134	0.178555	0.180238
15	P2	-7.134354	0.113026	0.071257
19	P2	-9.723857	0.209047	0.108528
22	P2	-17.097450	0.098297	0.121749
26	P2	-16.517881	0.113922	0.076759

30	P2	-18.935778	0.082478	0.052242
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**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.198931	0.006904	0.020692
7	P3	-8.198955	0.006903	0.020835
11	P3	-8.199001	0.006906	0.021119
15	P3	-8.198985	0.006904	0.021040
19	P3	-8.198960	0.006902	0.020883
22	P3	-8.198934	0.006904	0.020695
26	P3	-8.198939	0.006903	0.020767
30	P3	-8.199320	0.006911	0.019185

**4.2.2 - Evolution for GM1**

<b>Evolution of cal pulses for GM1</b>
<input type="checkbox"/>

**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	-2.817292	0.011930	0.030897
7	P1	-2.954365	0.023766	0.017963
11	P1	-3.946540	0.025765	-0.025333
15	P1	-3.511998	0.029706	-0.042567
19	P1	-3.607630	0.012537	0.011048
22	P1	-5.647511	0.067855	-0.079887
26	P1	-6.647796	0.101163	-0.614334
30	P1	-6.297370	0.043644	-0.012095
3	P1	-10.770198	0.048318	0.033344
7	P1	-10.143028	0.136036	0.044420
11	P1	-12.513124	0.107136	-0.100307

15	P1	-11.750556	0.054547	-0.021276
19	P1	-15.631118	0.045237	0.064310
22	P1	-24.074257	1.830507	0.108017
26	P1	-14.998059	0.422667	-0.430834
30	P1	-20.042999	0.856537	0.216895

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.984869	0.036086	0.054574
7	P2	-22.540009	0.034690	0.107634
11	P2	-10.559055	0.038712	0.193604
15	P2	-5.039445	0.024534	0.031029
19	P2	-6.931539	0.036039	0.045829
22	P2	-7.252282	0.028451	0.068499
26	P2	-23.940592	0.020003	0.048674
30	P2	-21.981459	0.024973	0.037500

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.033681	0.002899	0.015137
7	P3	-8.033710	0.002902	0.015205
11	P3	-8.033696	0.002897	0.014905
15	P3	-8.033838	0.002898	0.015523
19	P3	-8.033707	0.002911	0.014985
22	P3	-8.033771	0.002884	0.015147
26	P3	-8.033685	0.002899	0.015517
30	P3	-8.033712	0.002893	0.015216

## 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	0.000468604
	stdev	2.18487e-07
MEAN Q	mean	0.000543661
	stdev	2.33110e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.128508
	stdev	0.000962426
STDEV Q	mean	0.128741
	stdev	0.000973203



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005012[012]

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)


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)


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Ascending
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<input type="checkbox"/>
Descending

### 7.5 - Absolute Doppler for GM1

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

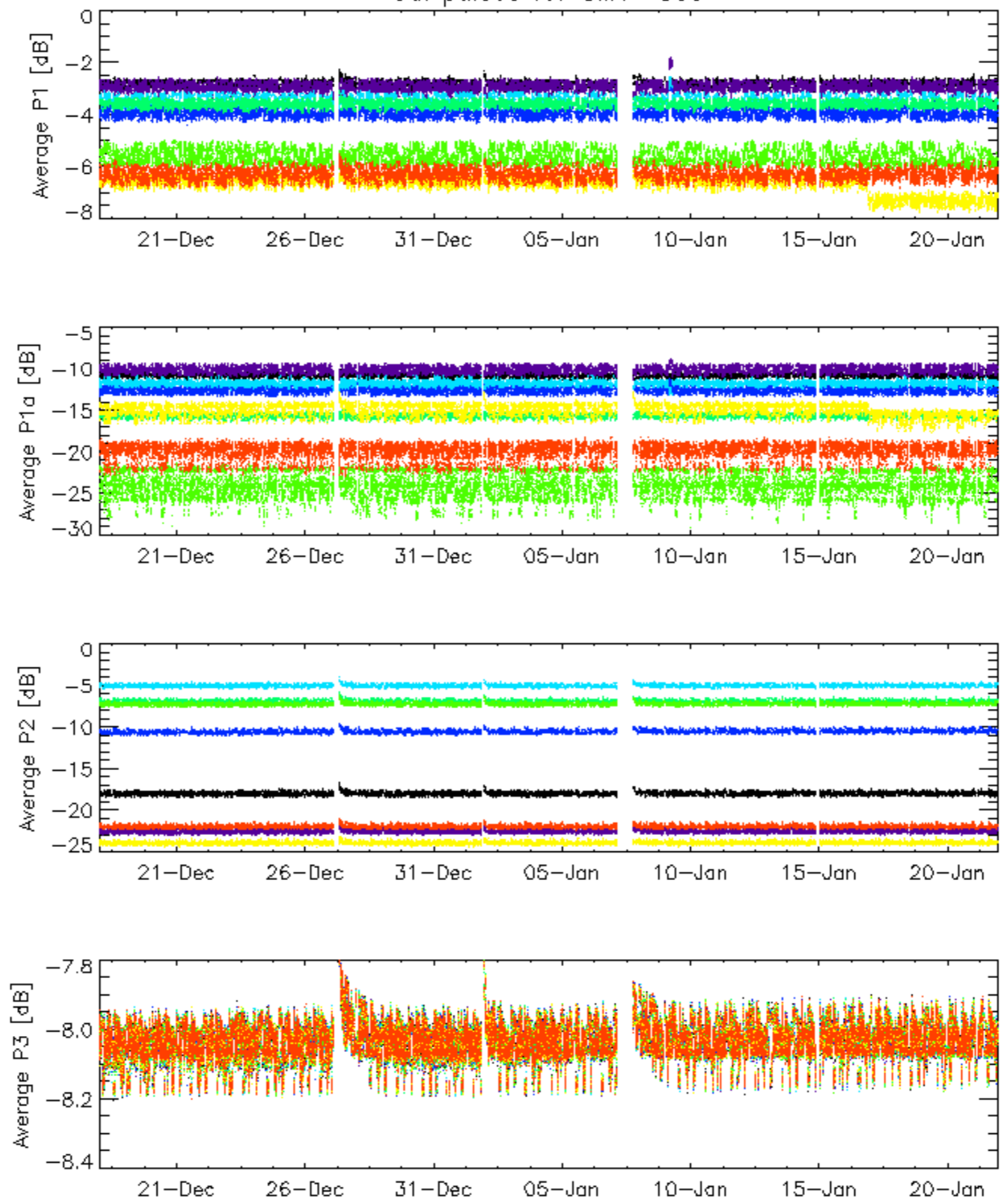
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Descending

### 7.6 - Doppler evolution versus ANX for GM1

<b>Evolution Doppler error versus ANX</b>
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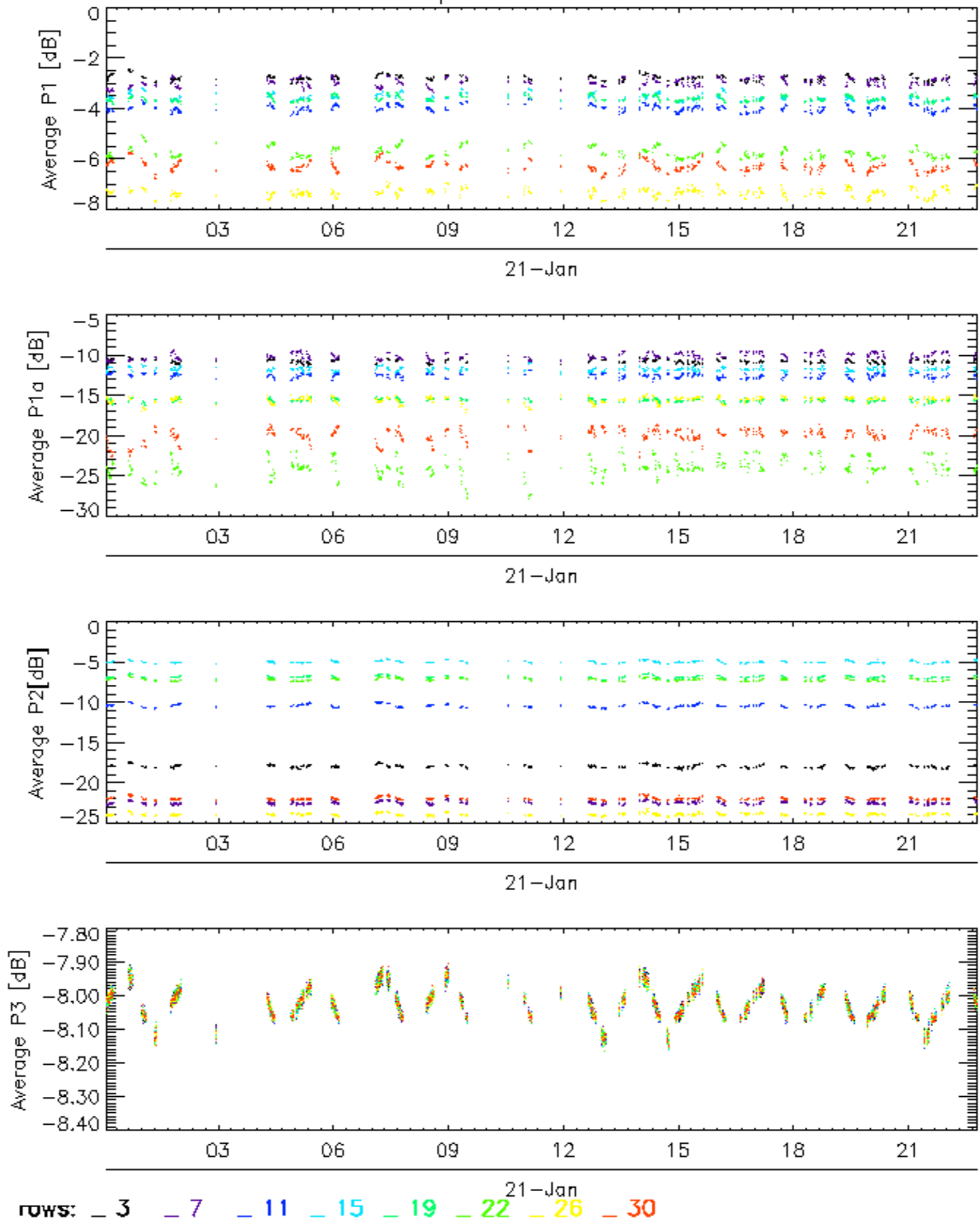
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Cal pulses for GM1 SS3

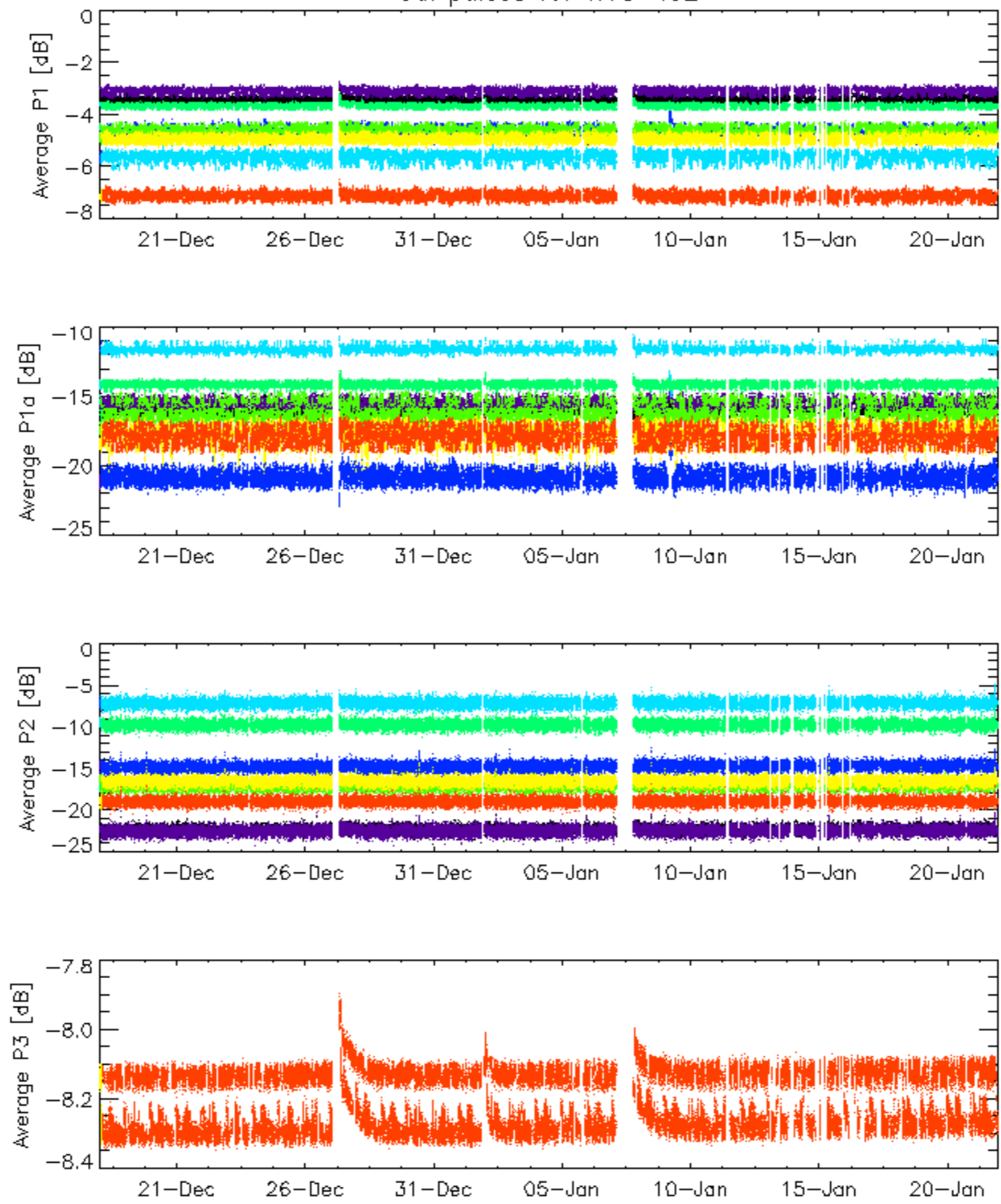


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

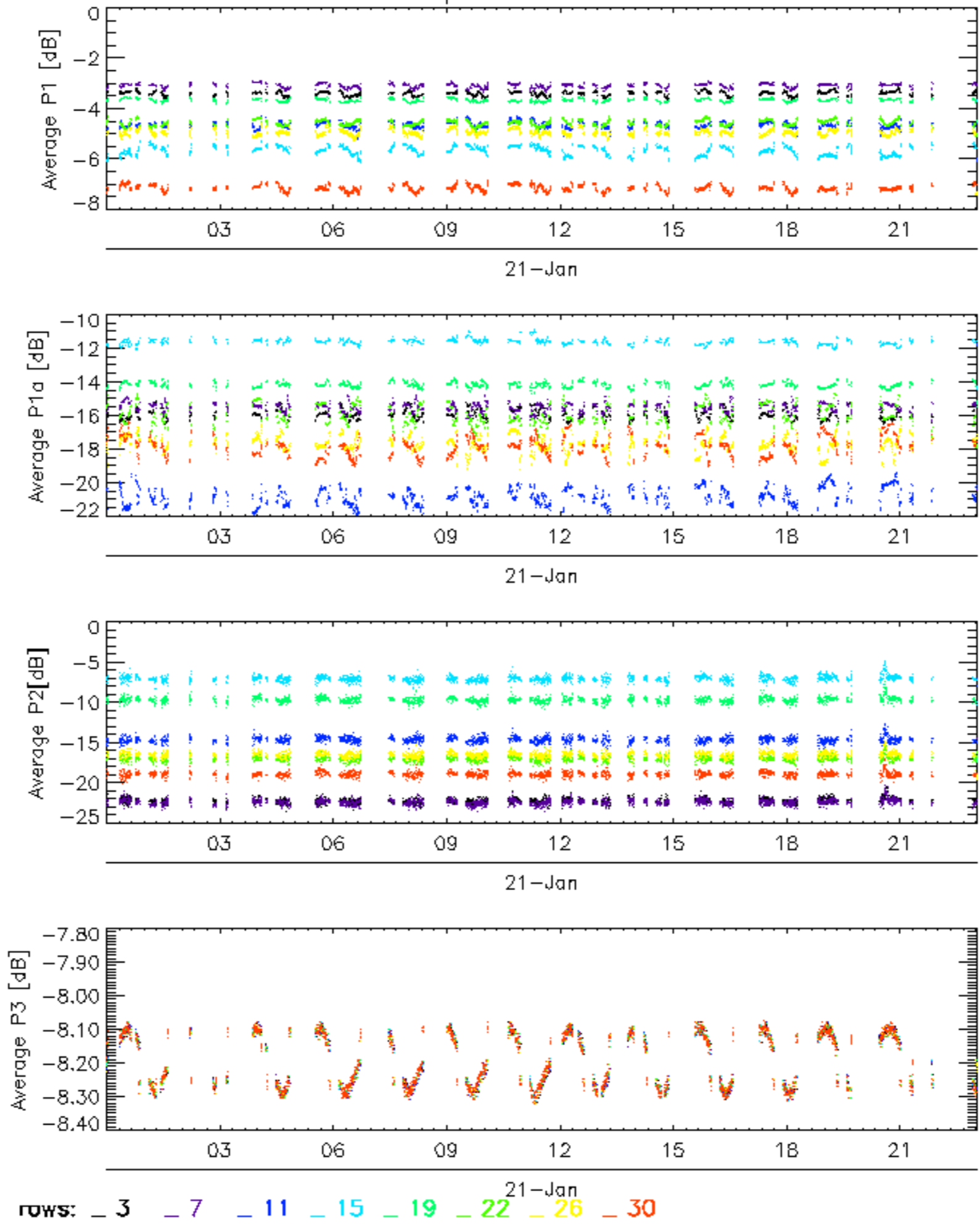


### Cal pulses for WVS IS2

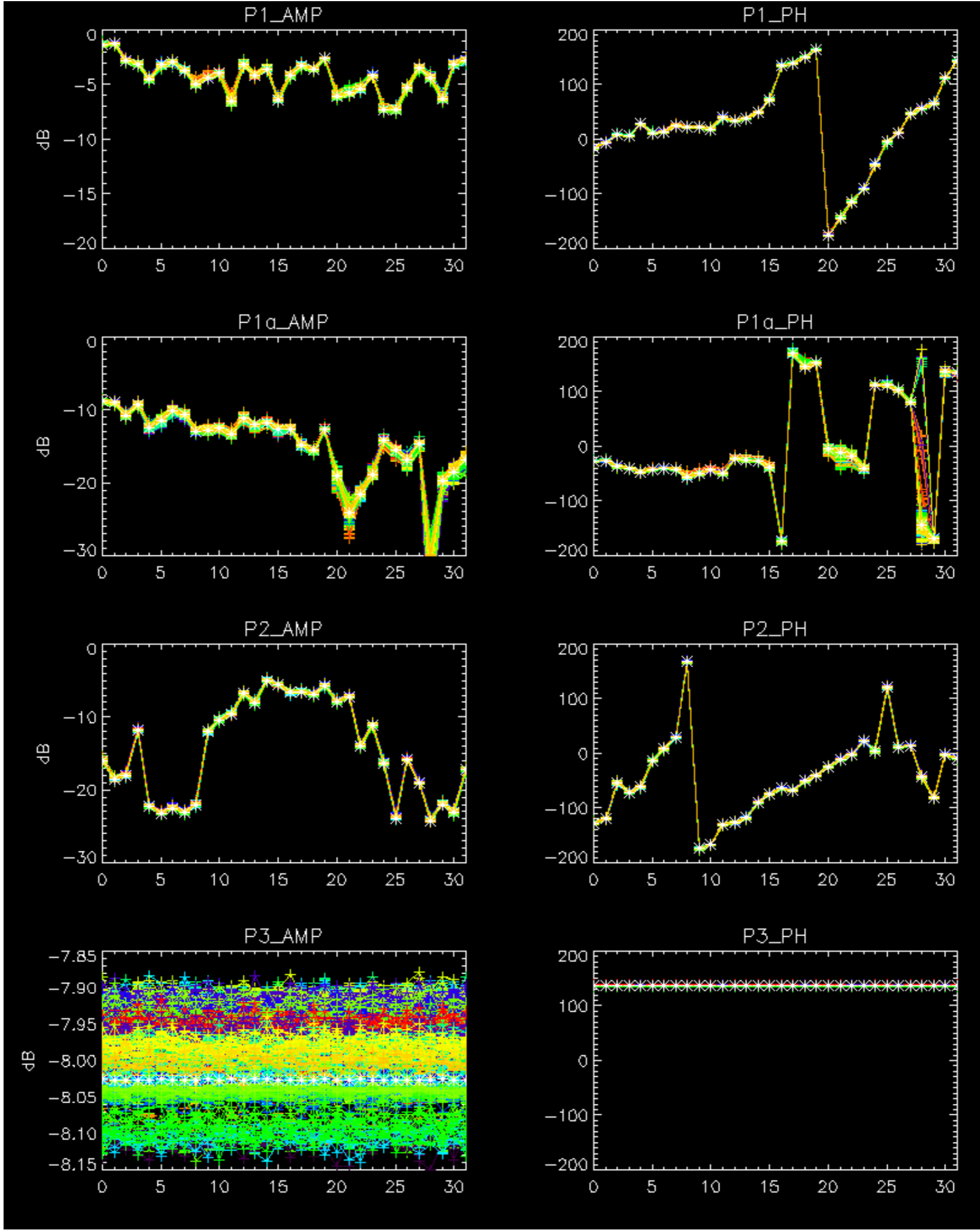


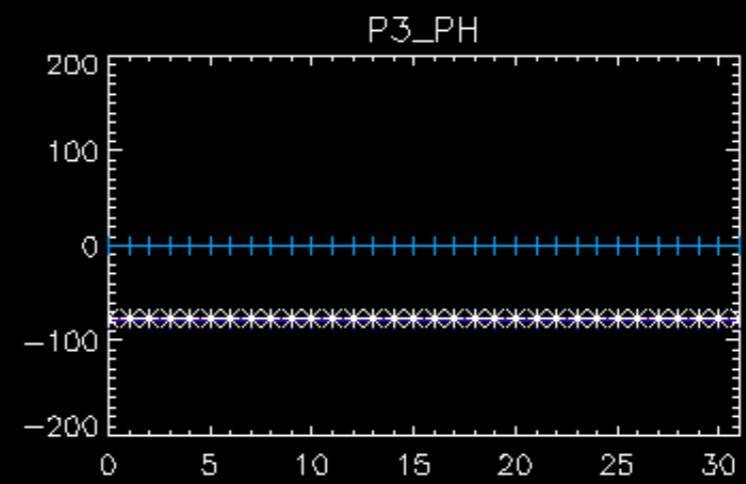
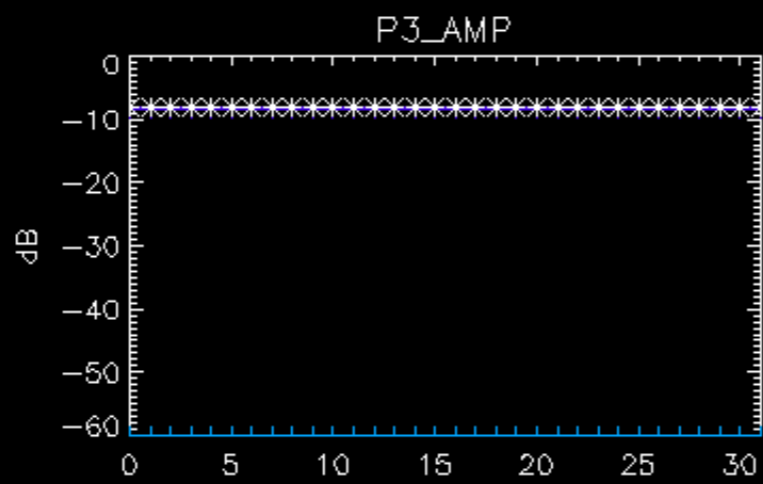
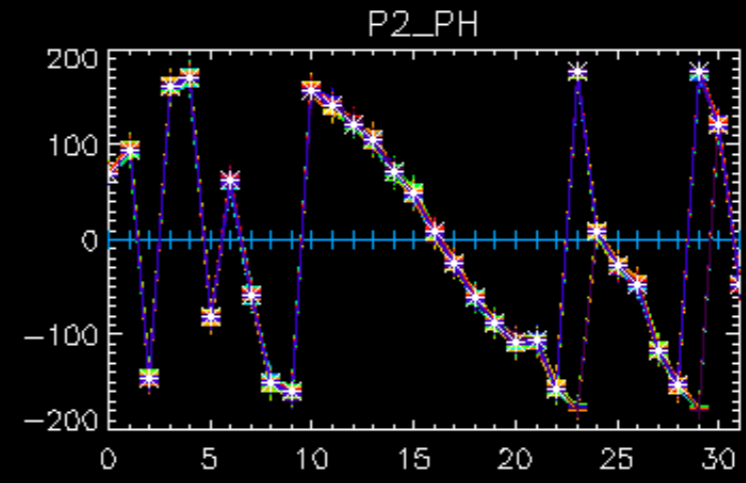
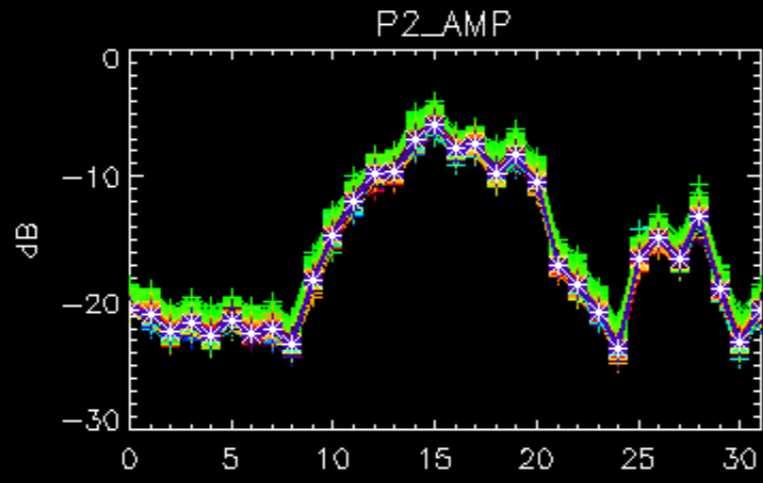
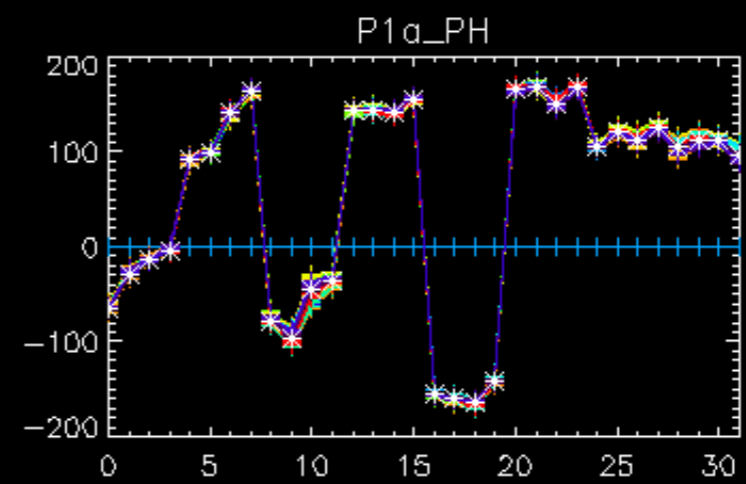
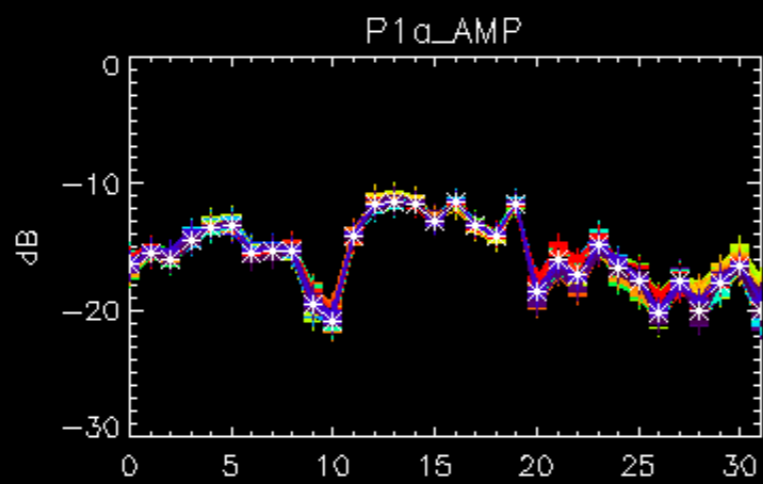
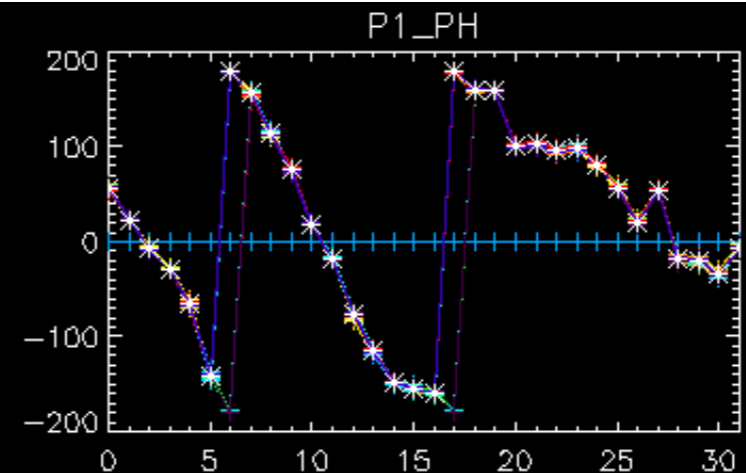
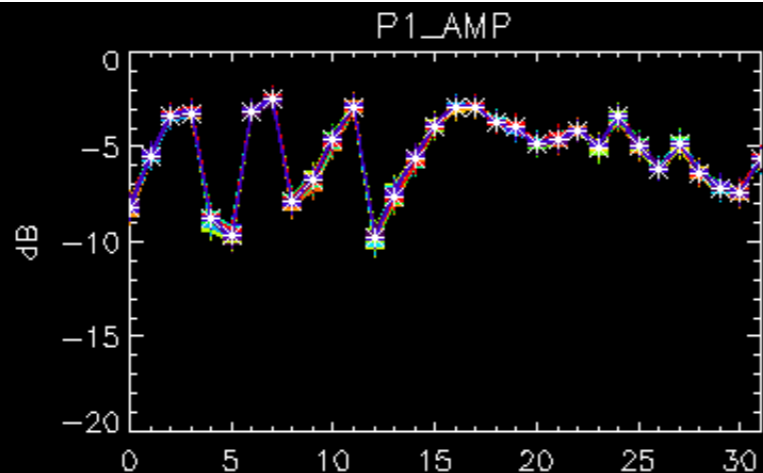
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2



No anomalies observed.



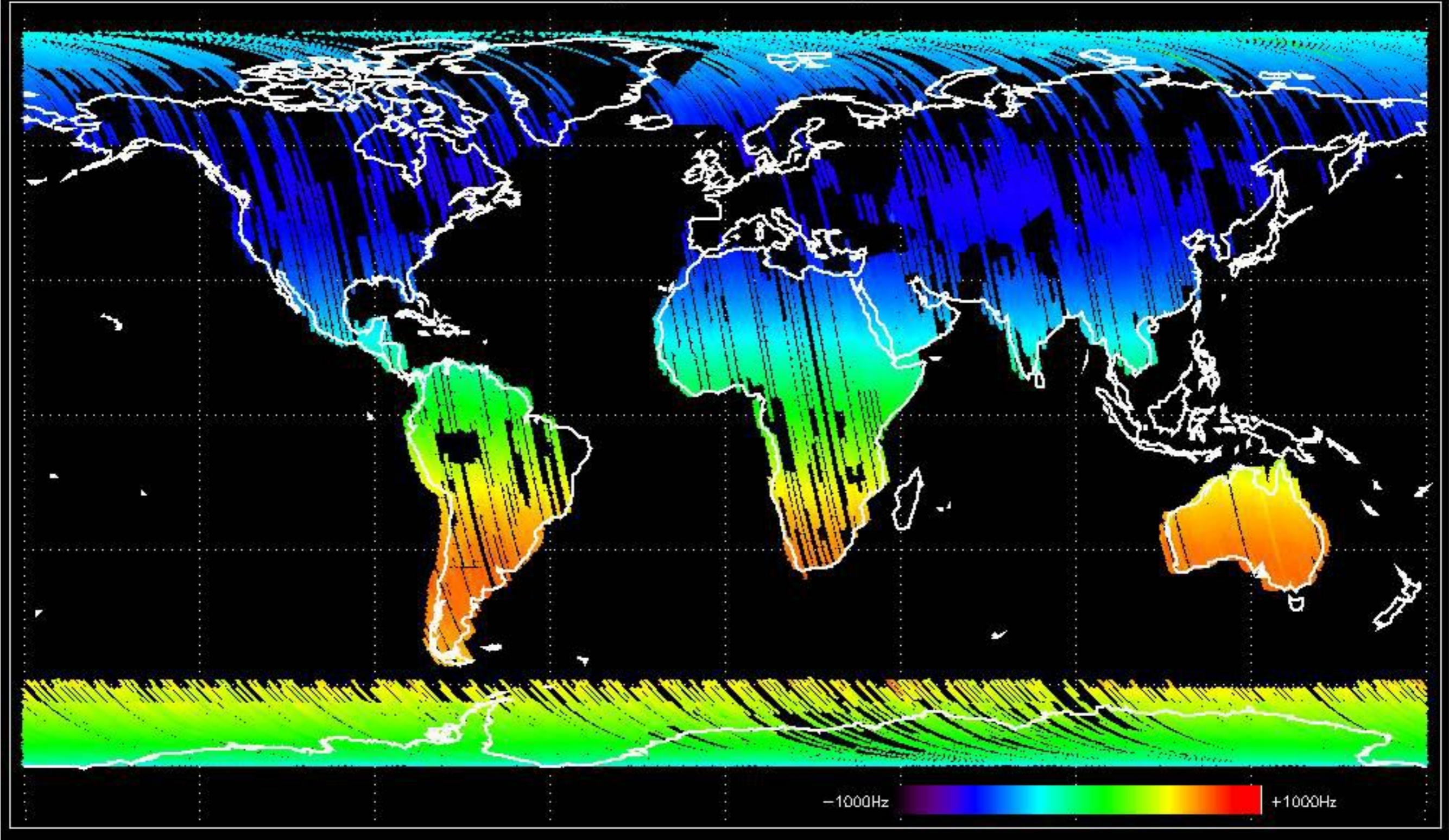




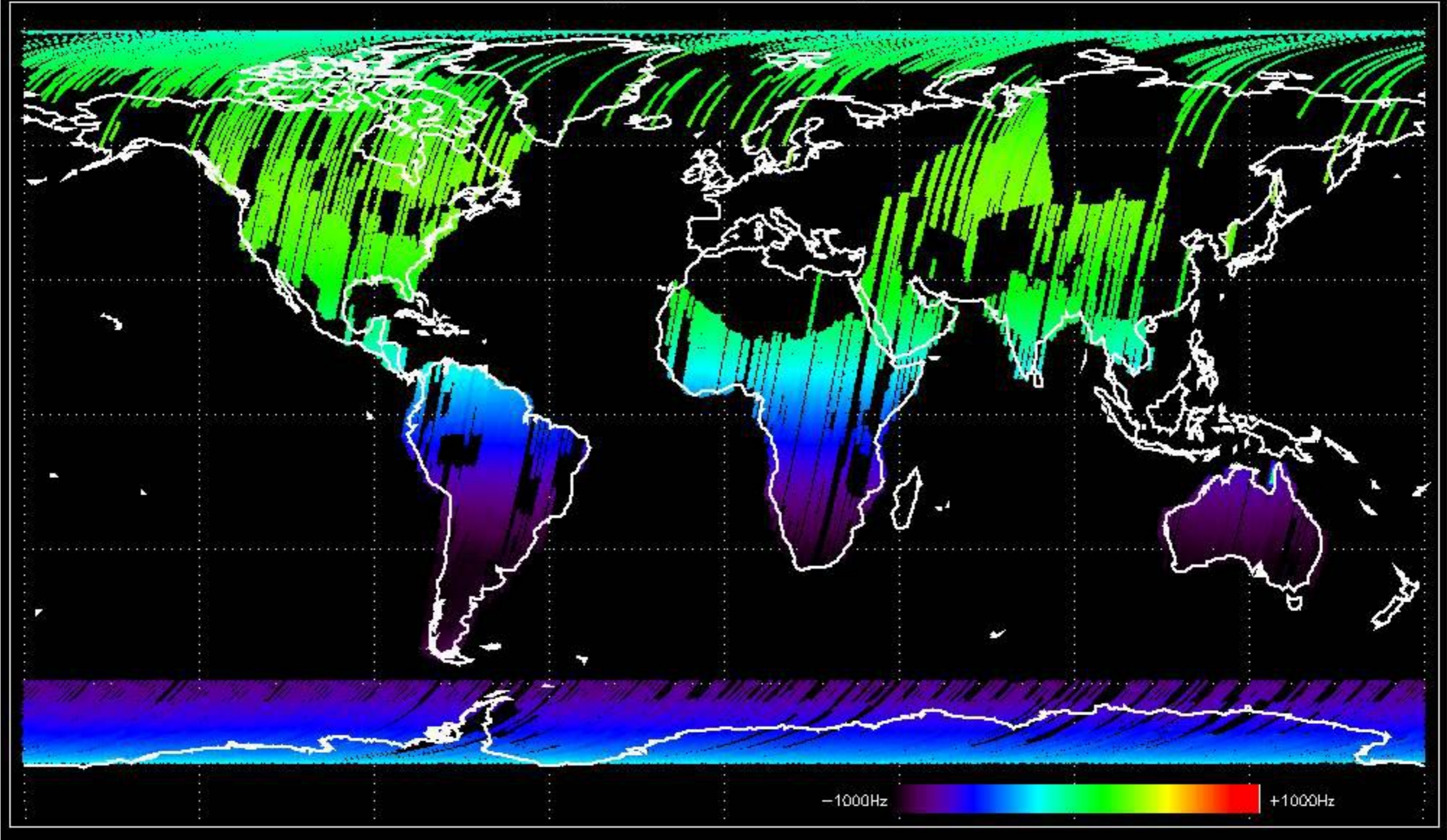
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



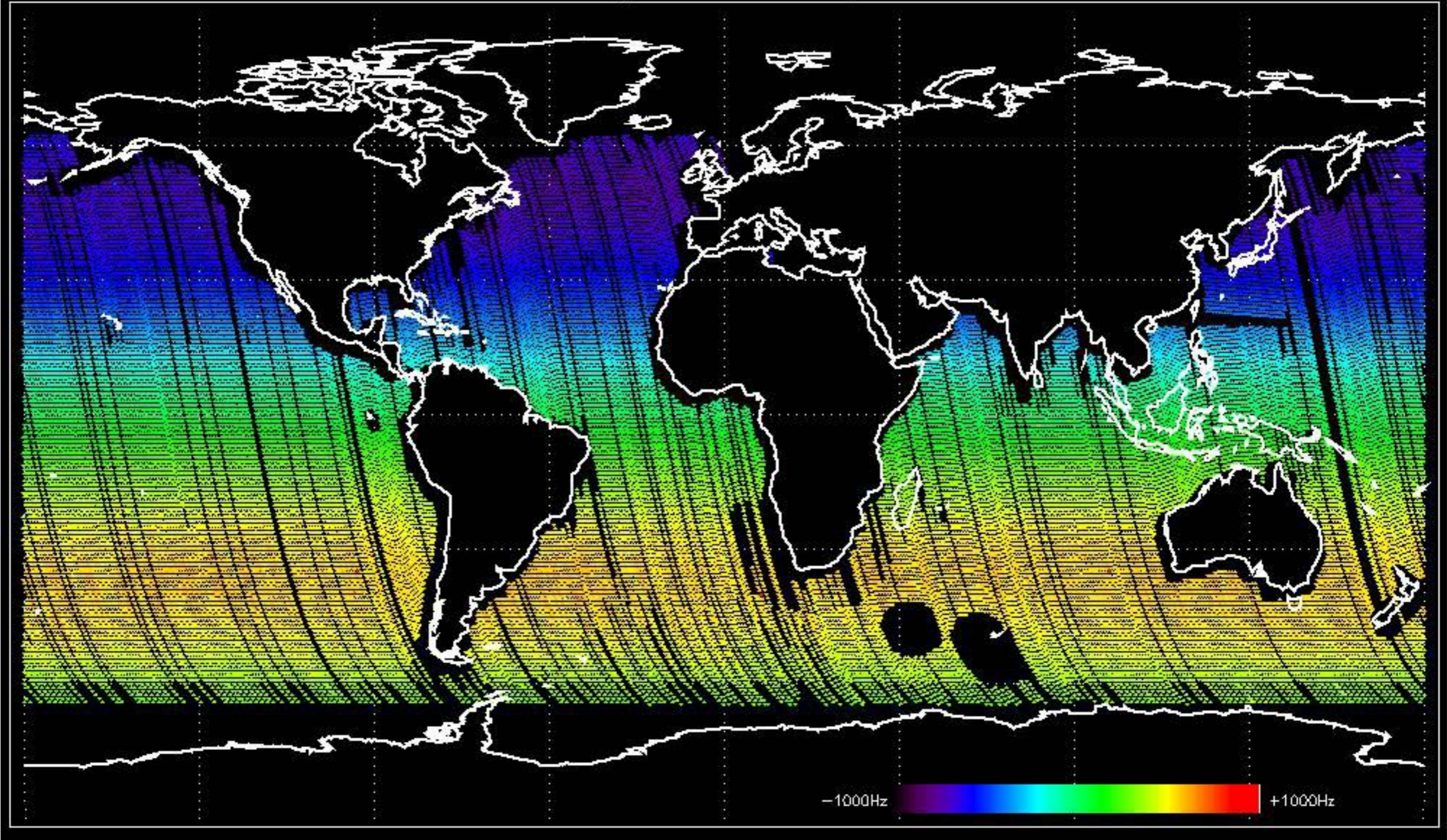
Doppler 'GM1' 'SS1' ascending



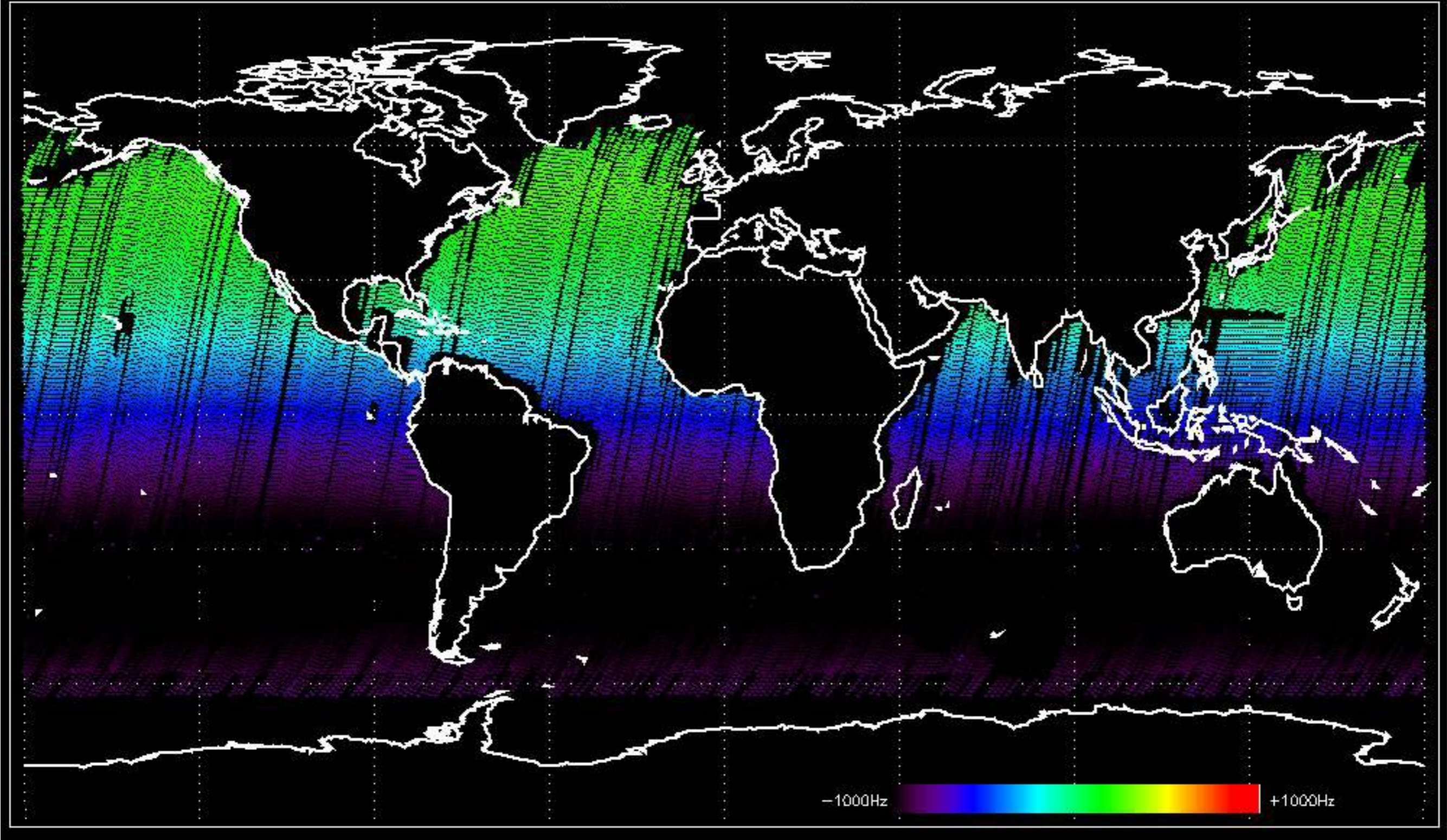
Doppler 'GM1' 'SS1' descending



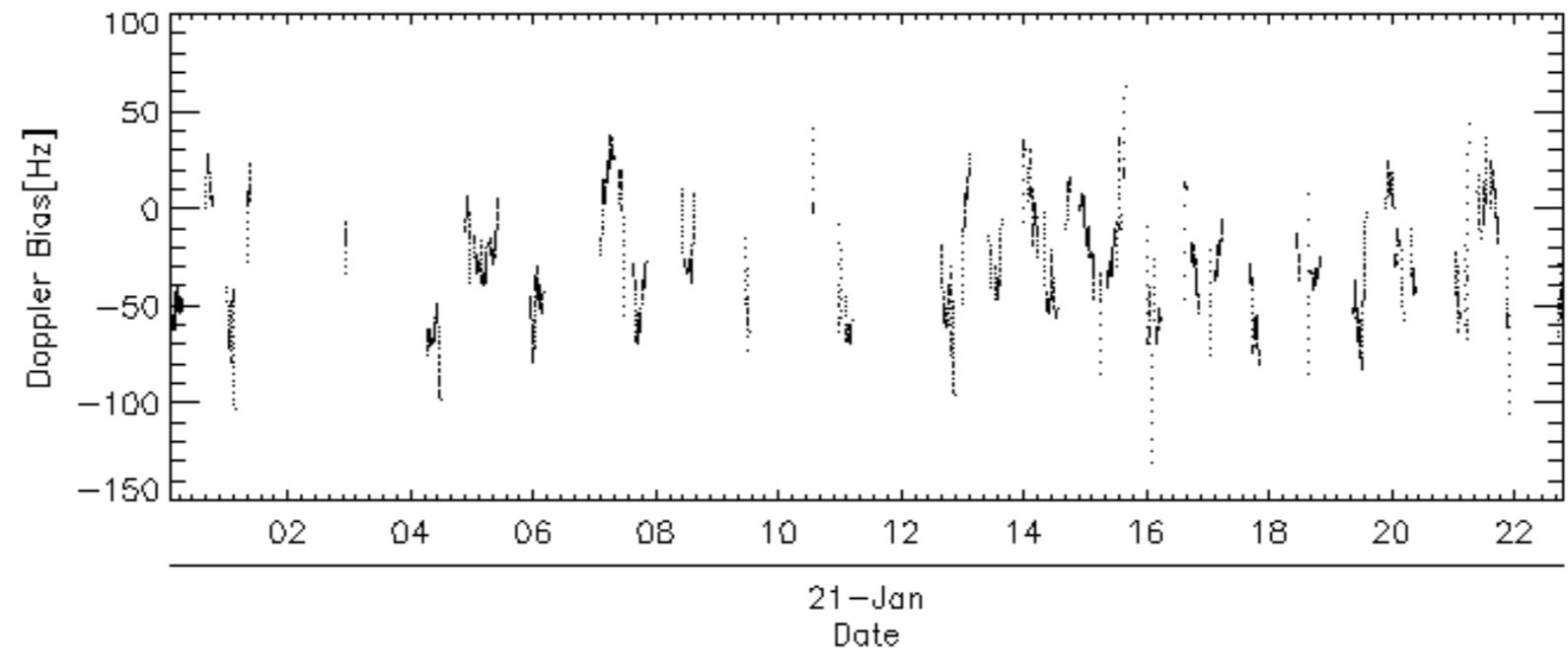
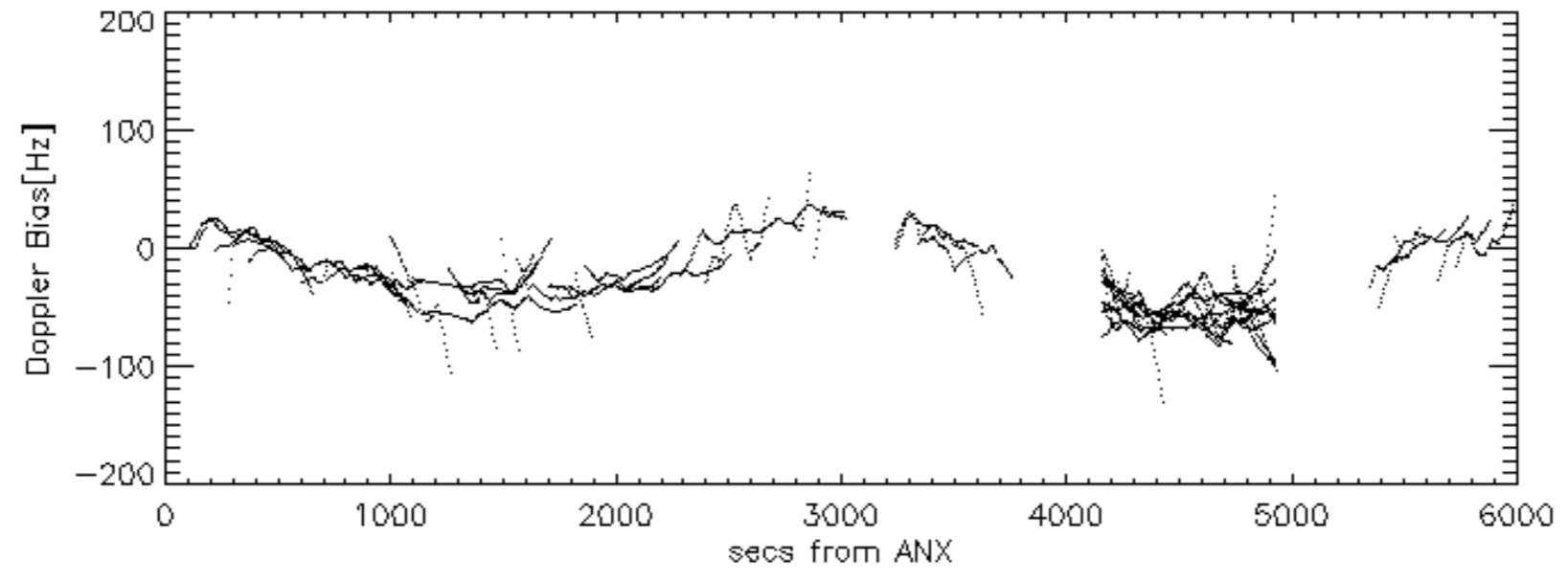
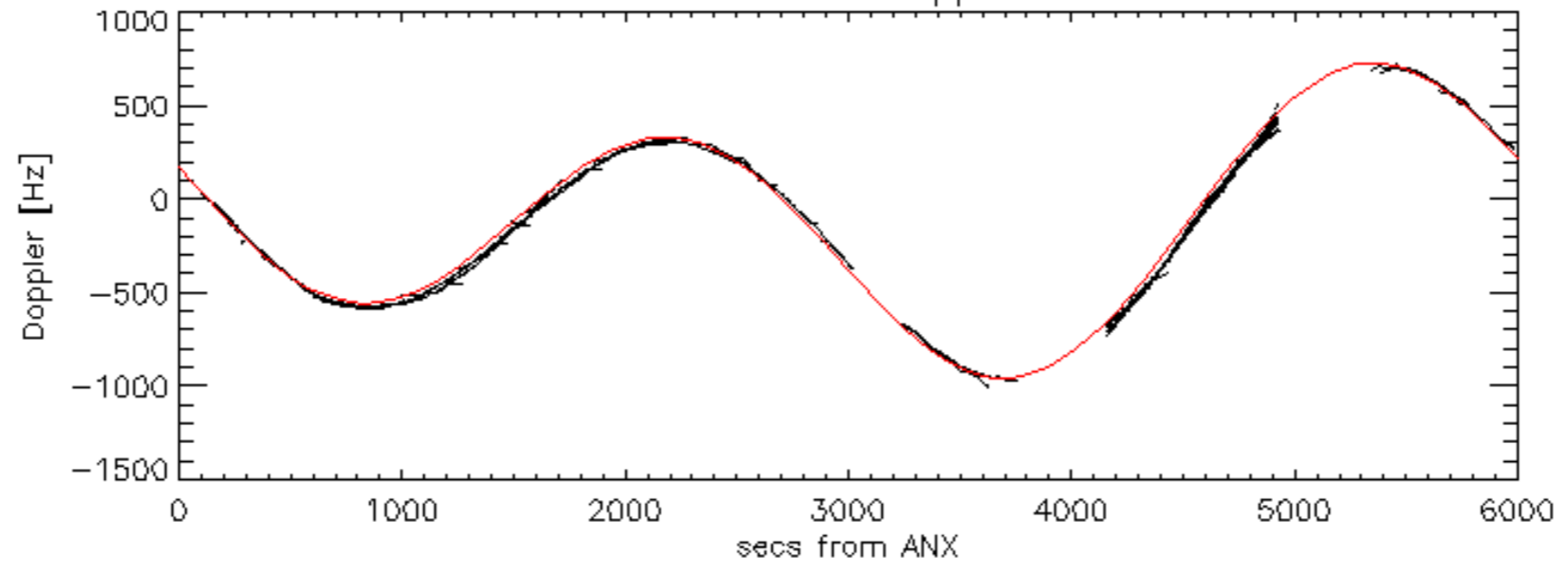
Doppler 'WVS' 'IS2' ascending

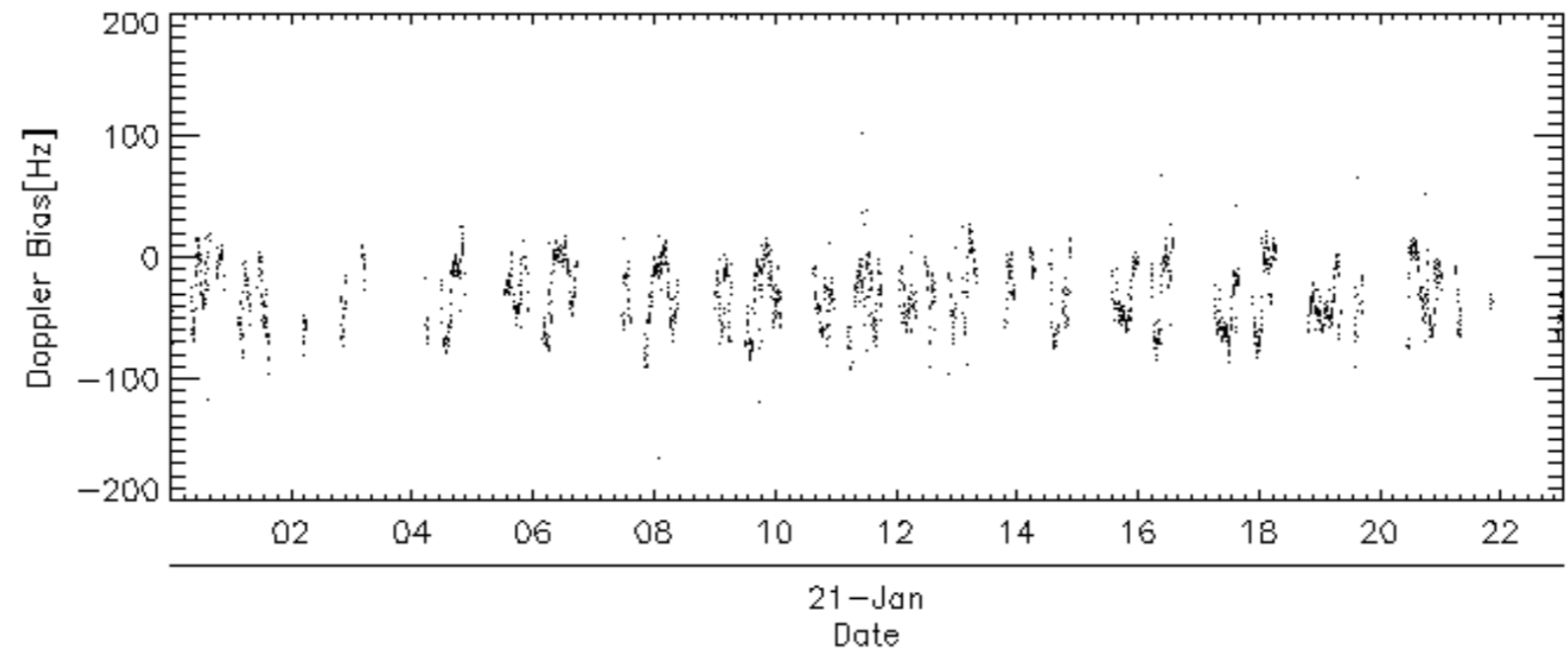
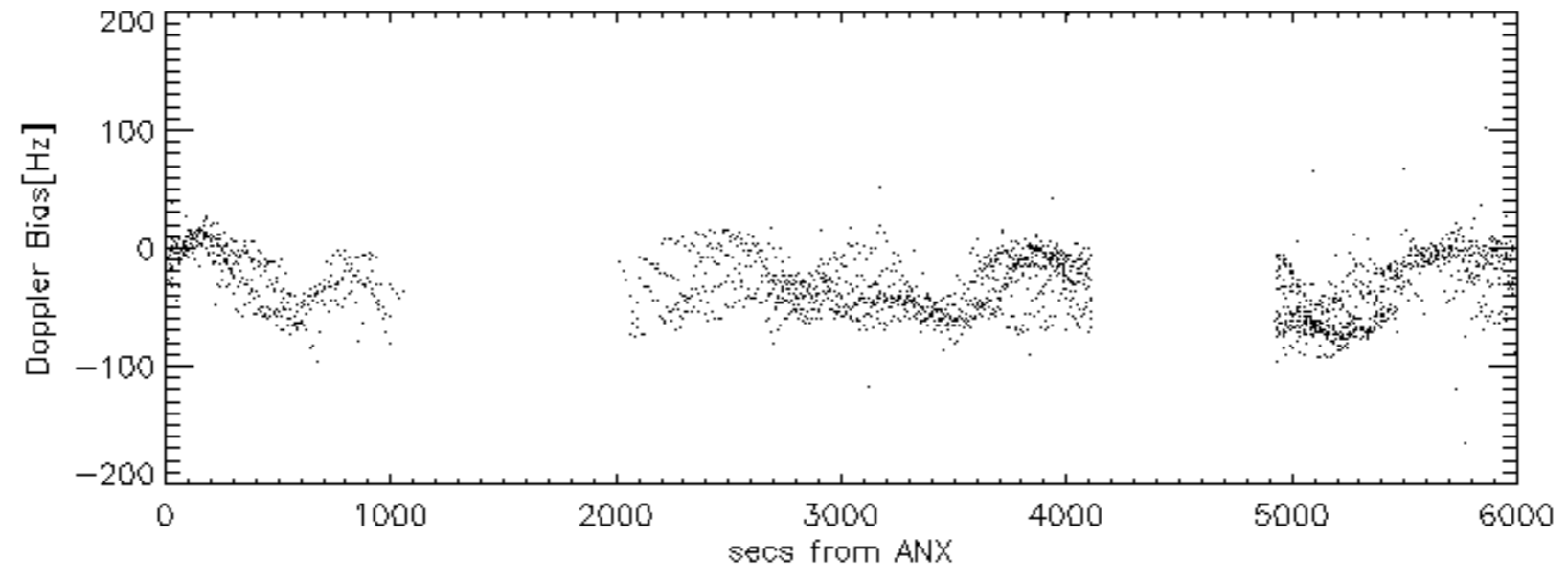
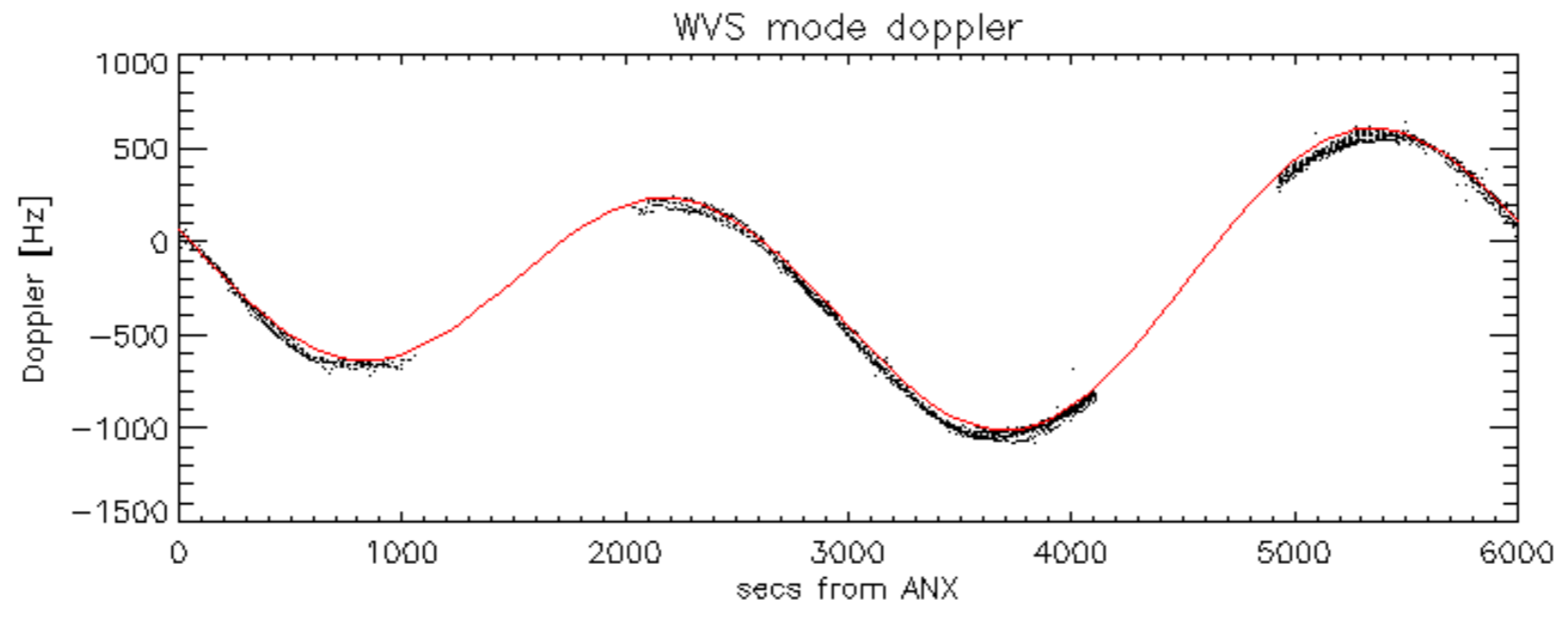


Doppler 'WVS' 'IS2' descending



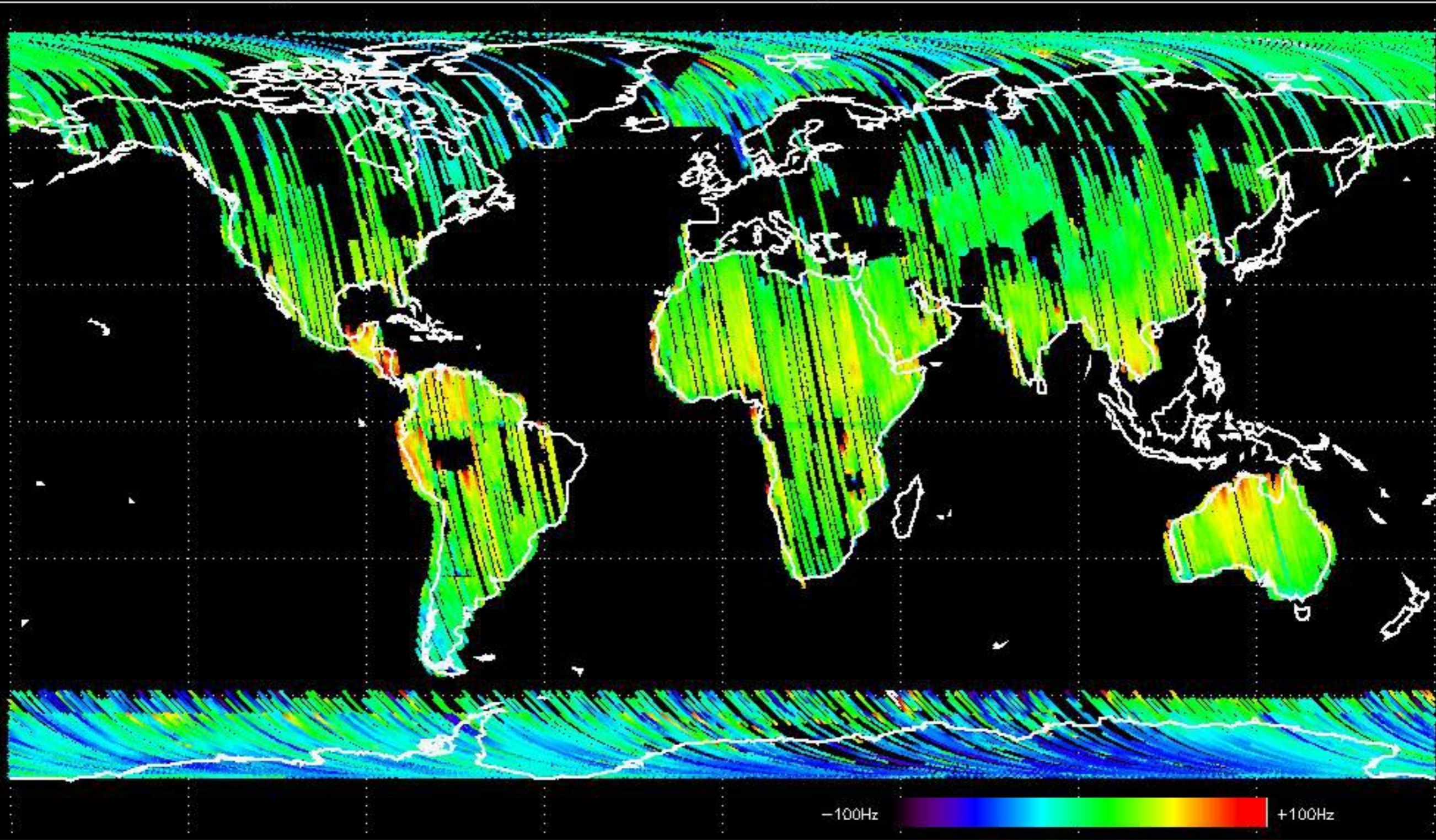
GM1 mode doppler



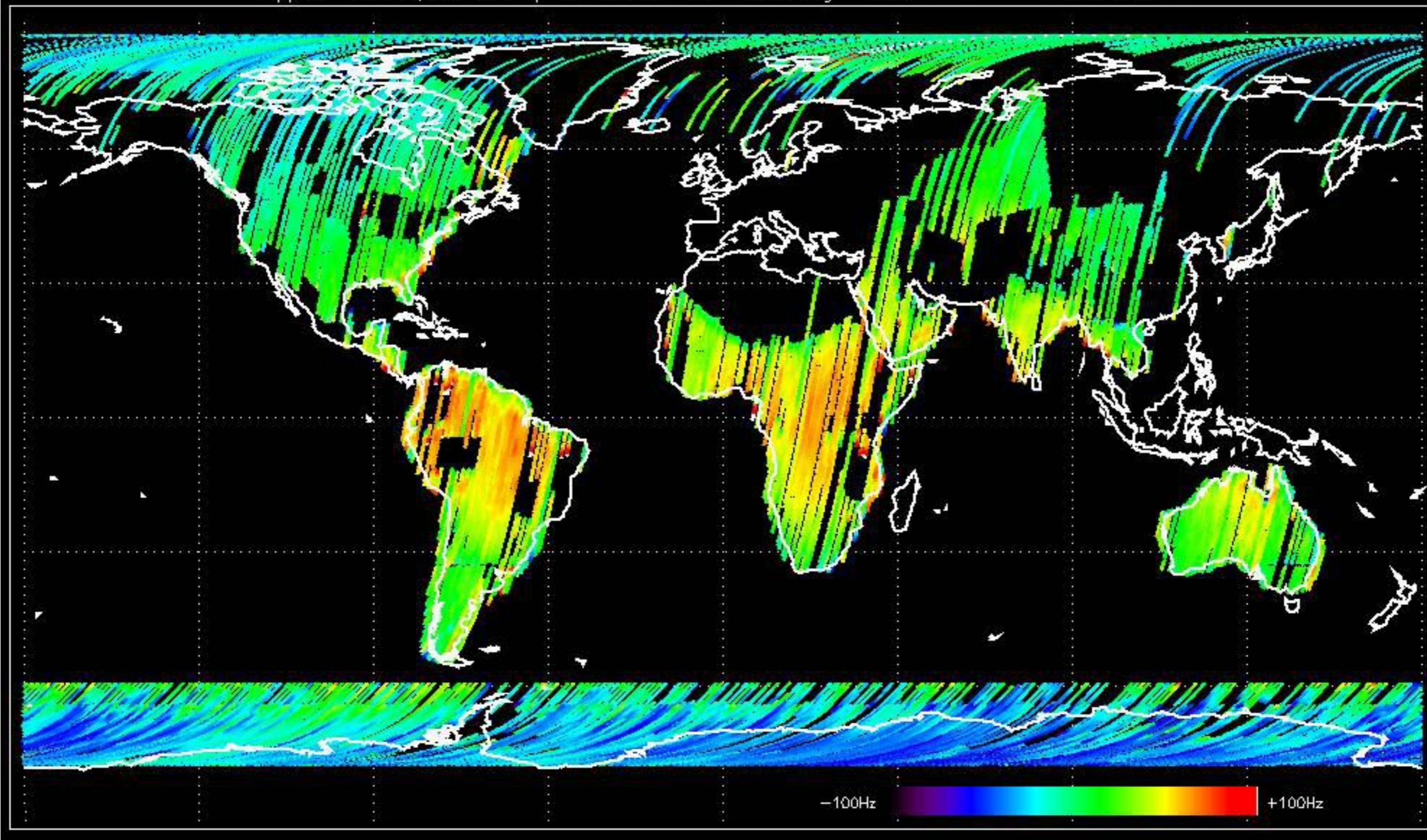




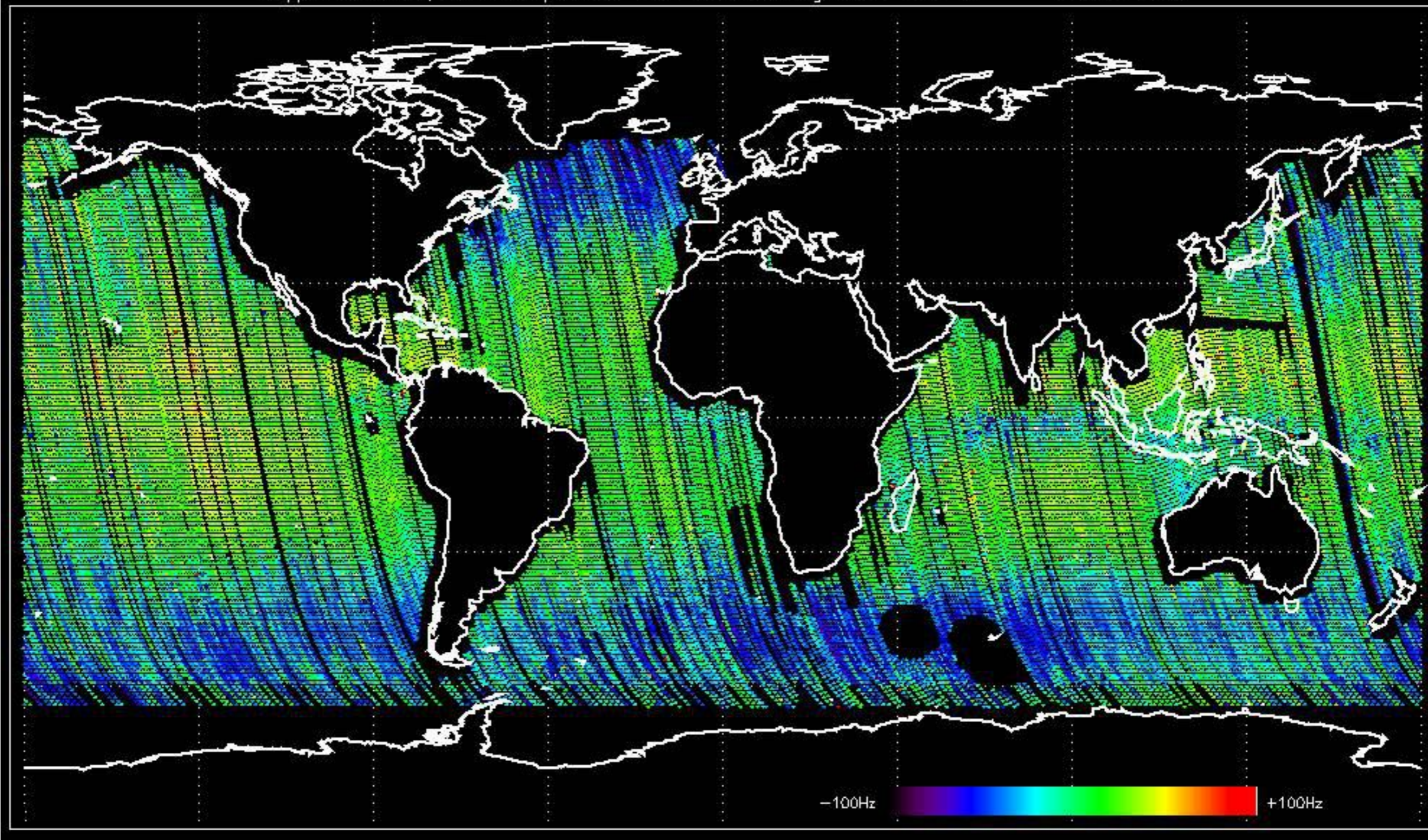
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -32.836876 Hz



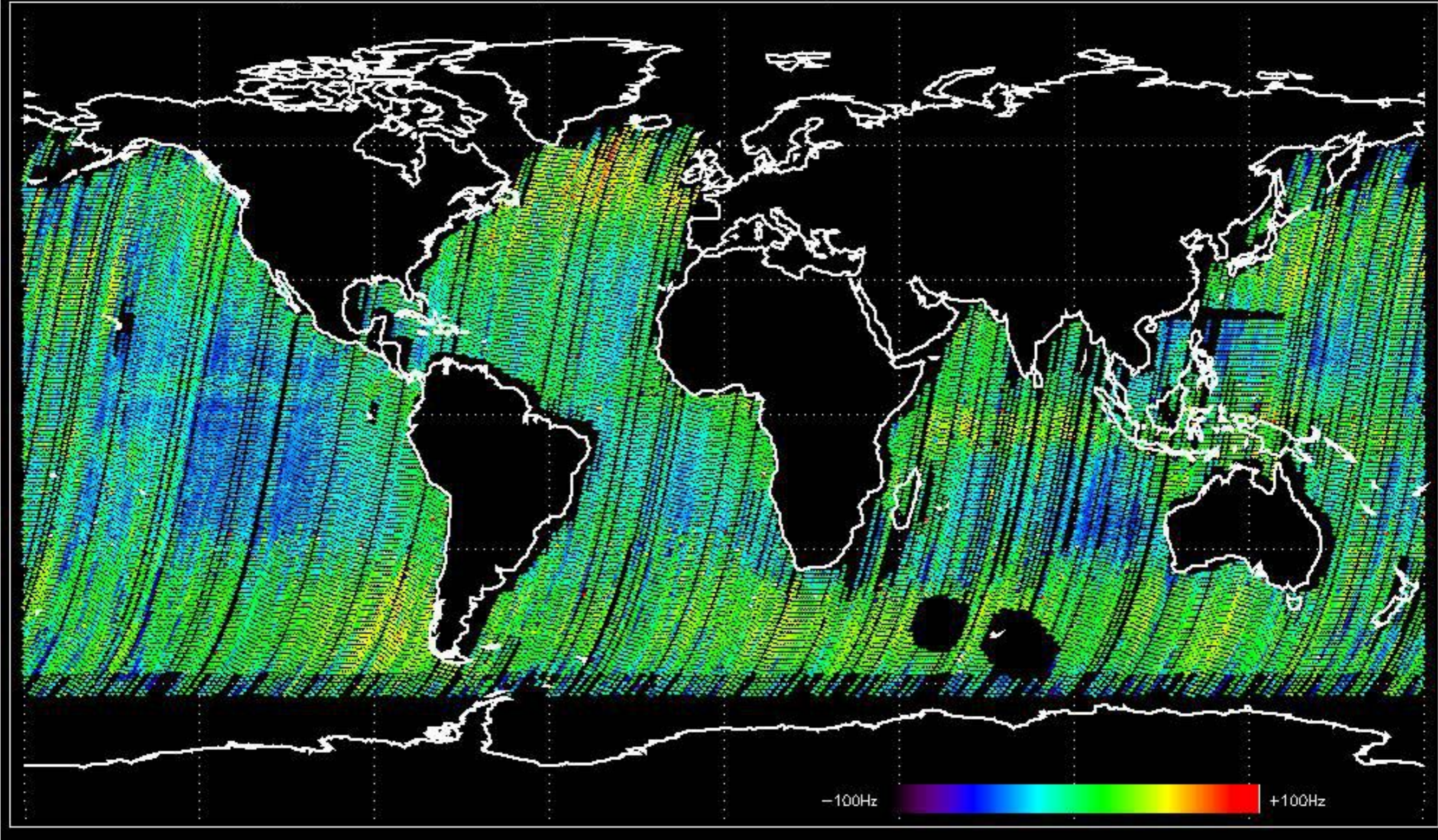
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -28.546754 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -34.902904 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -37.523683 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.









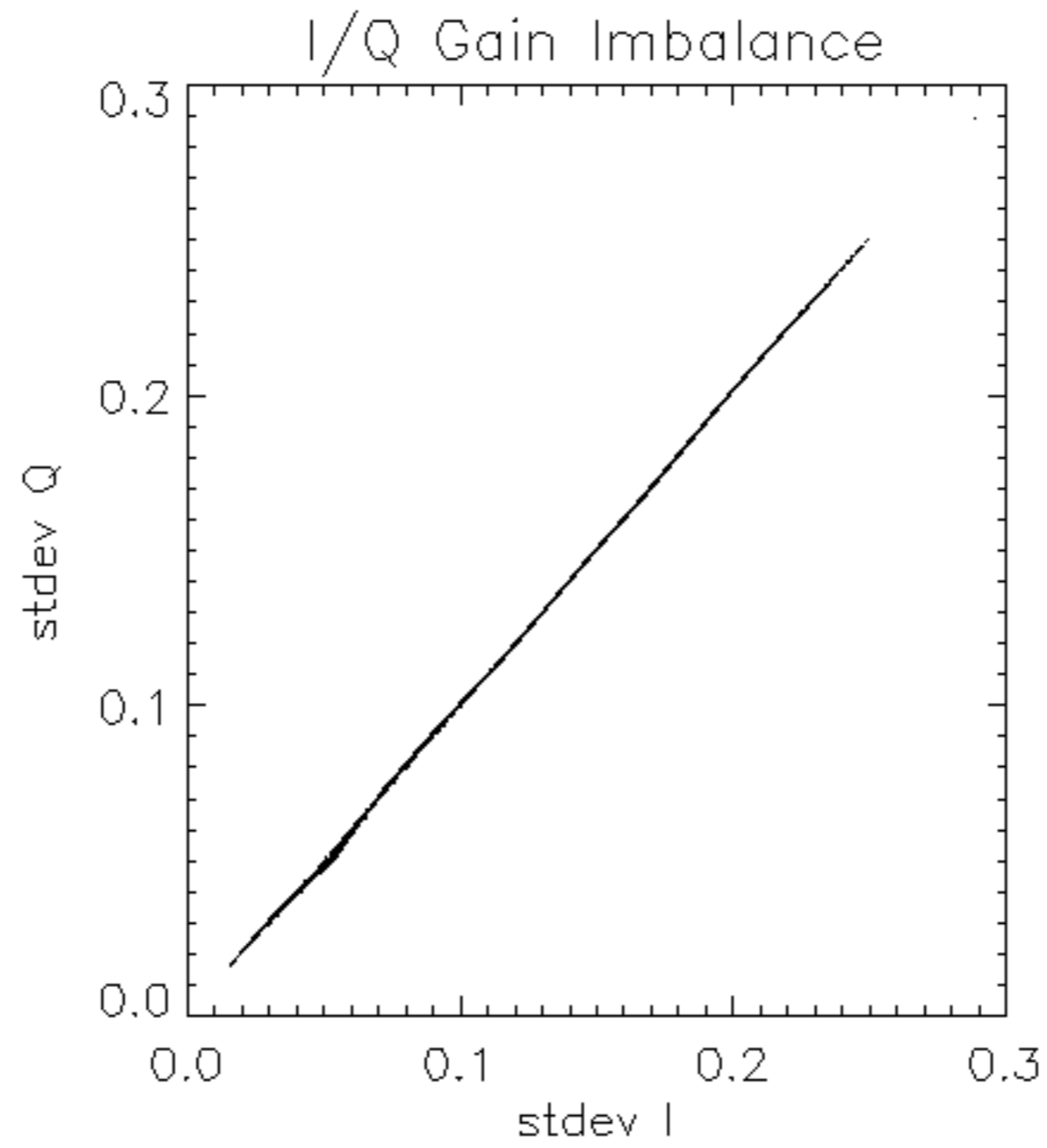


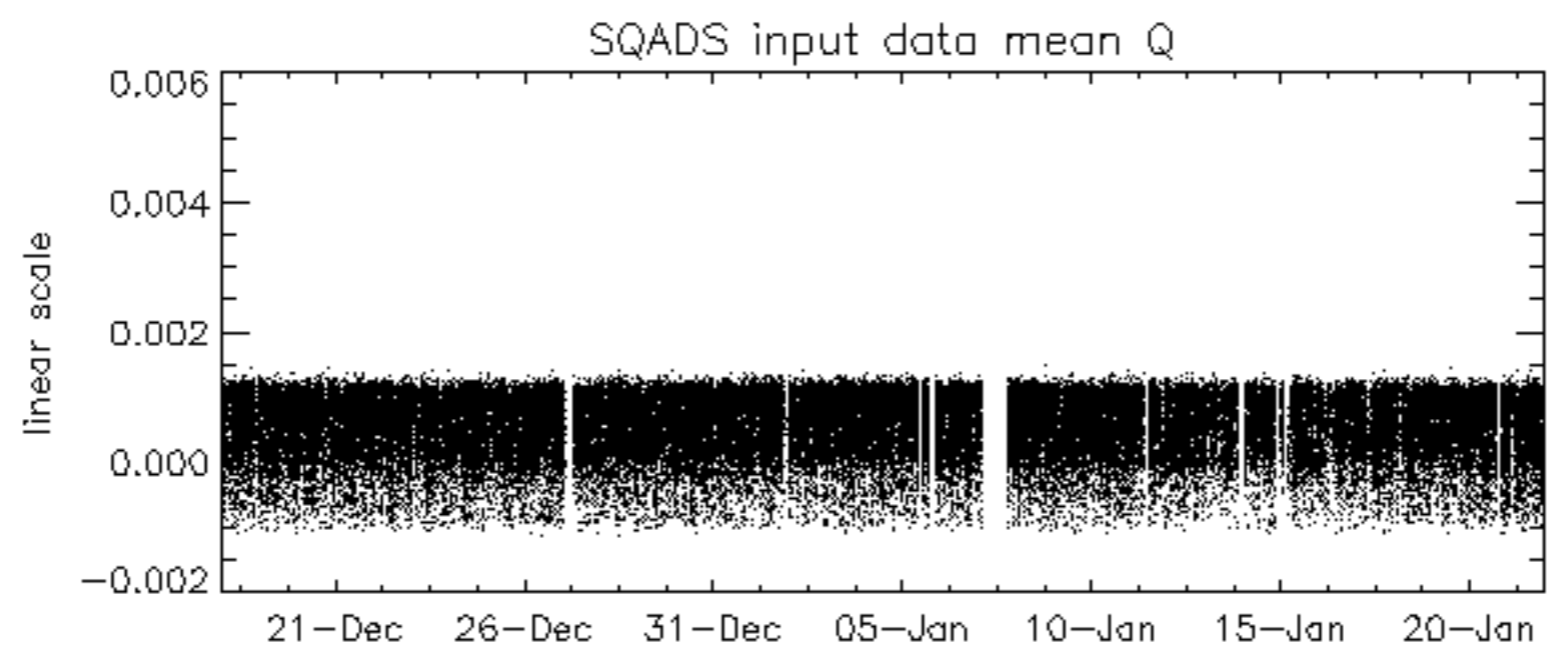
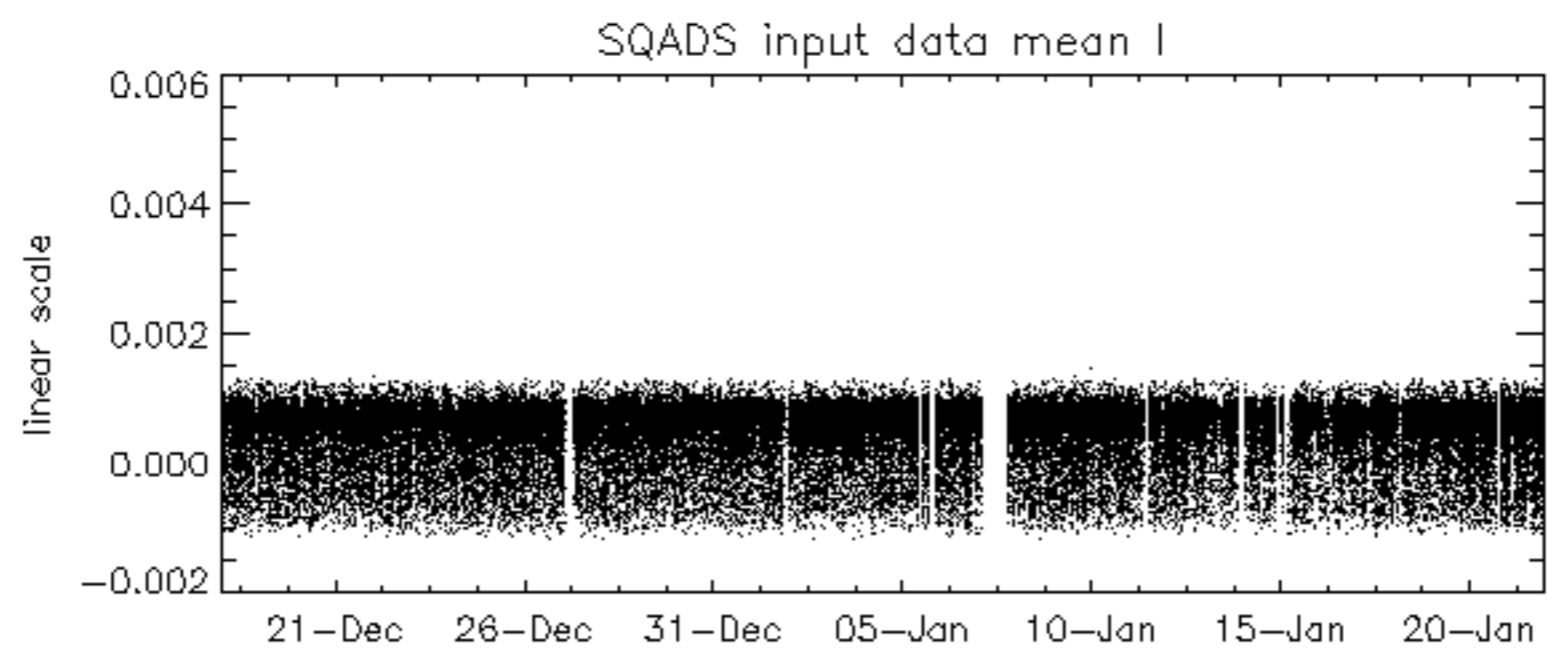
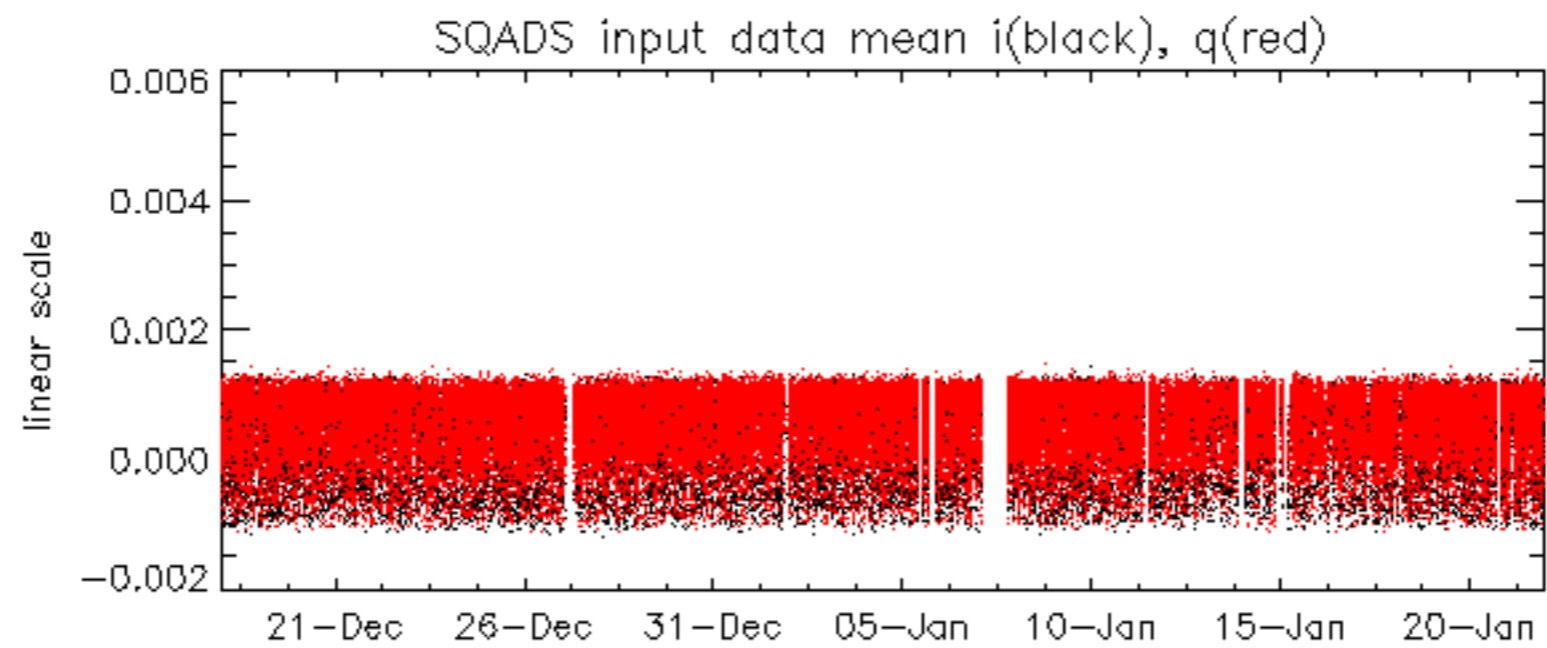




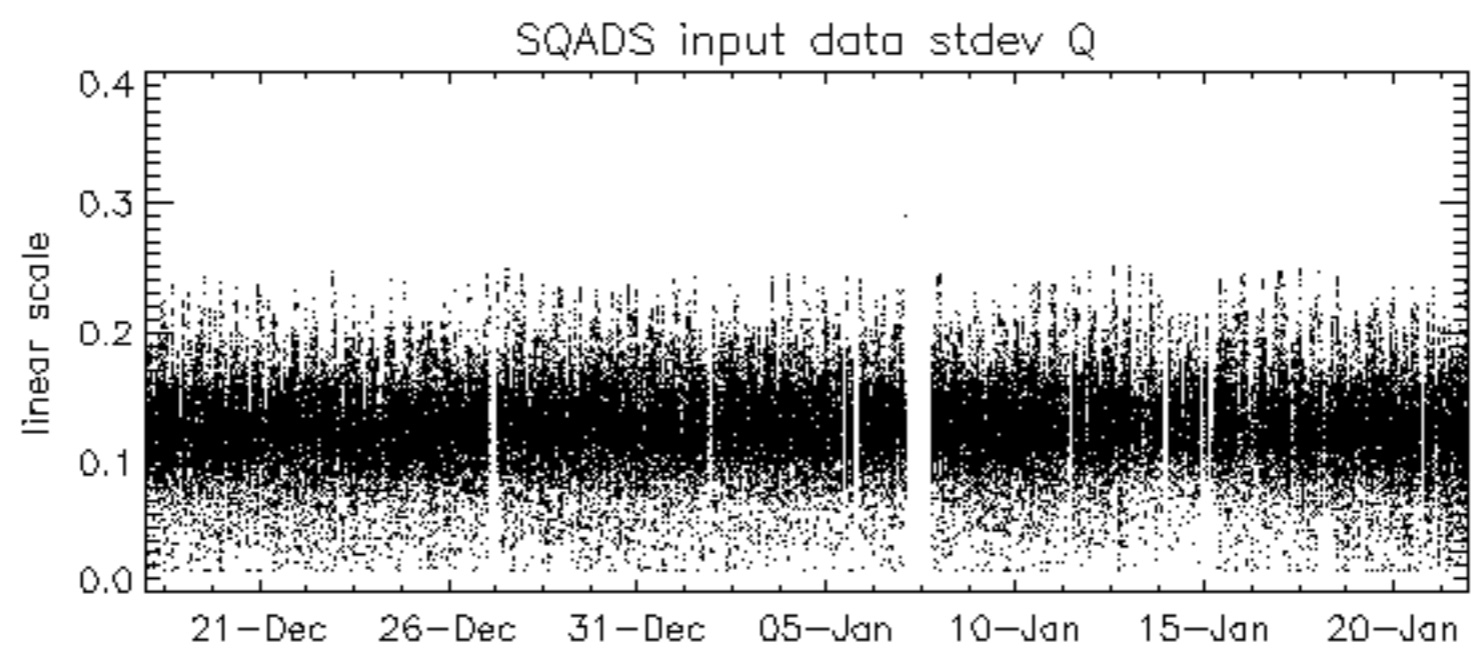
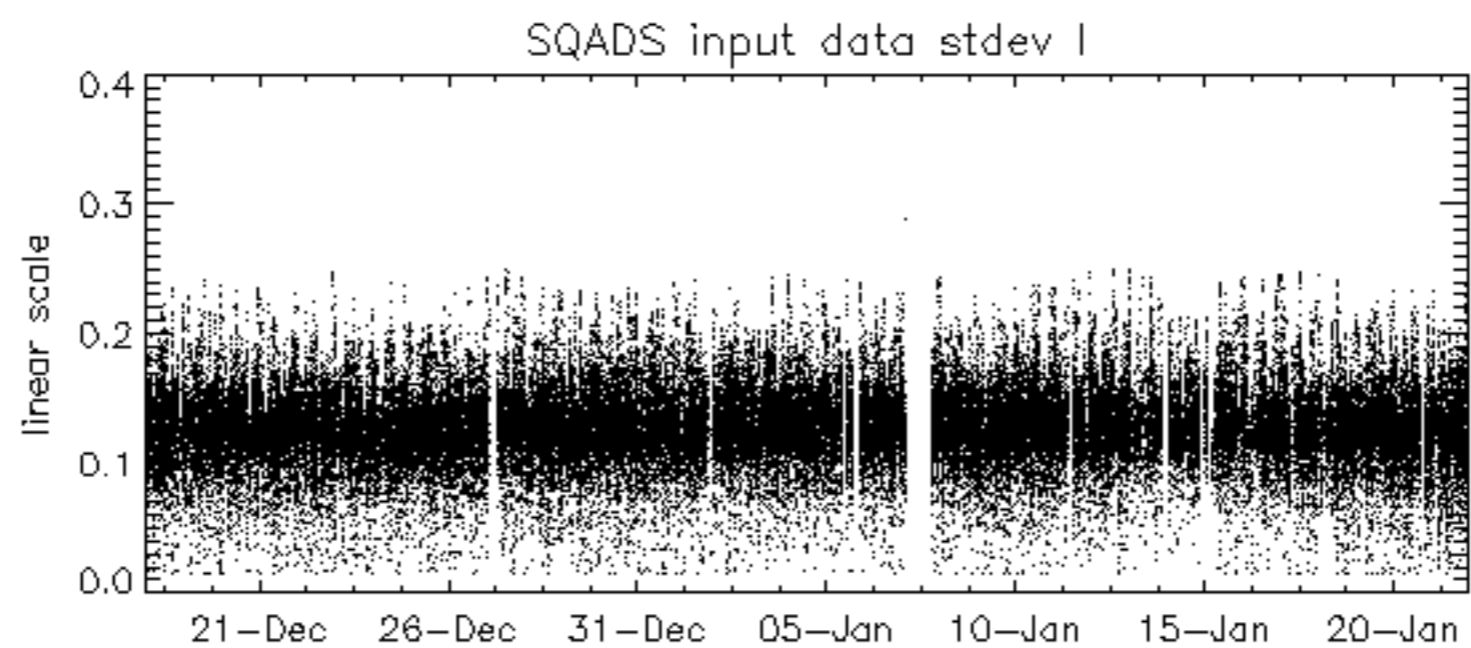
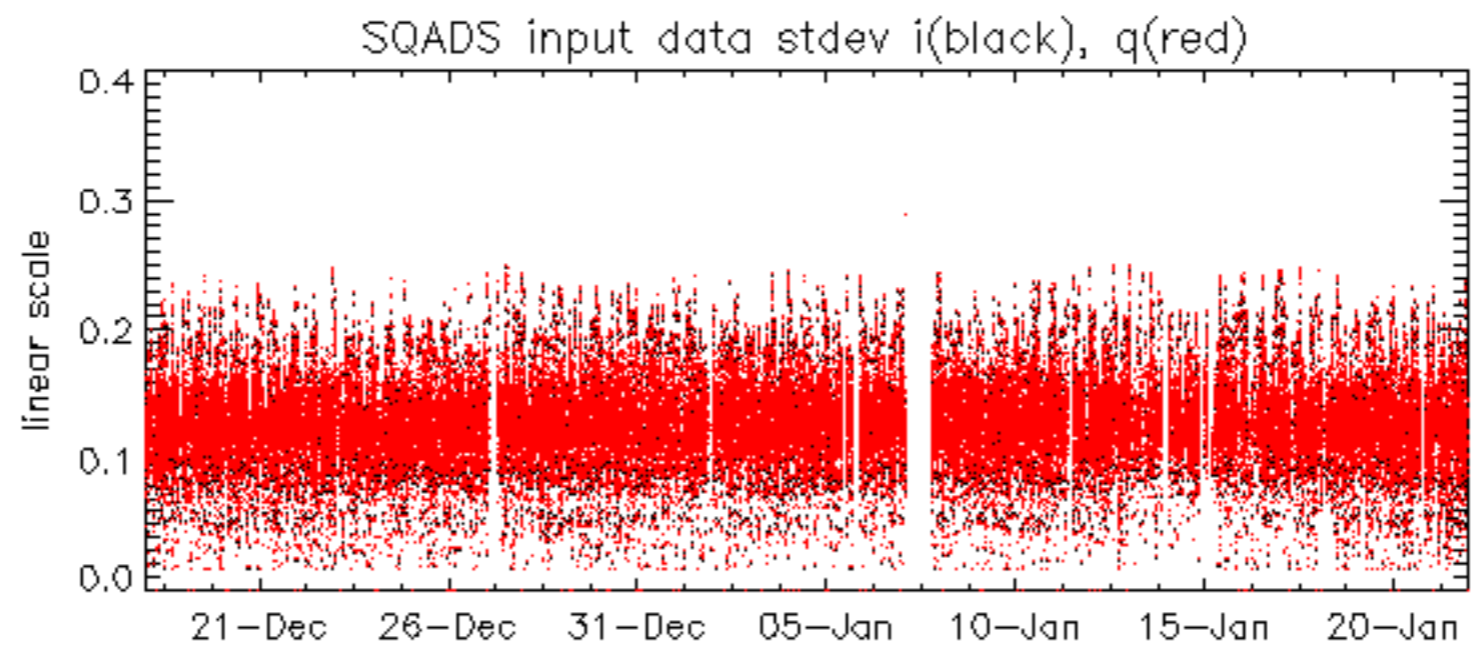
















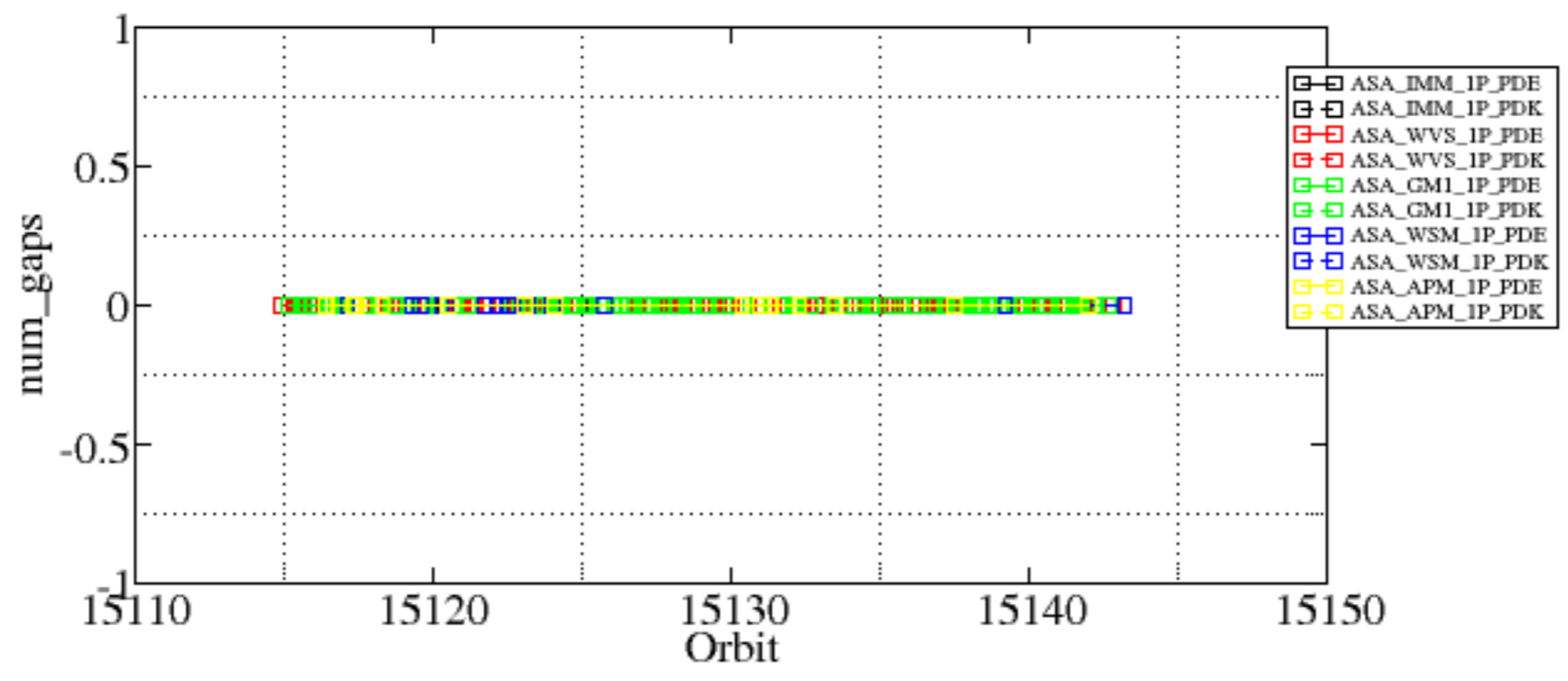


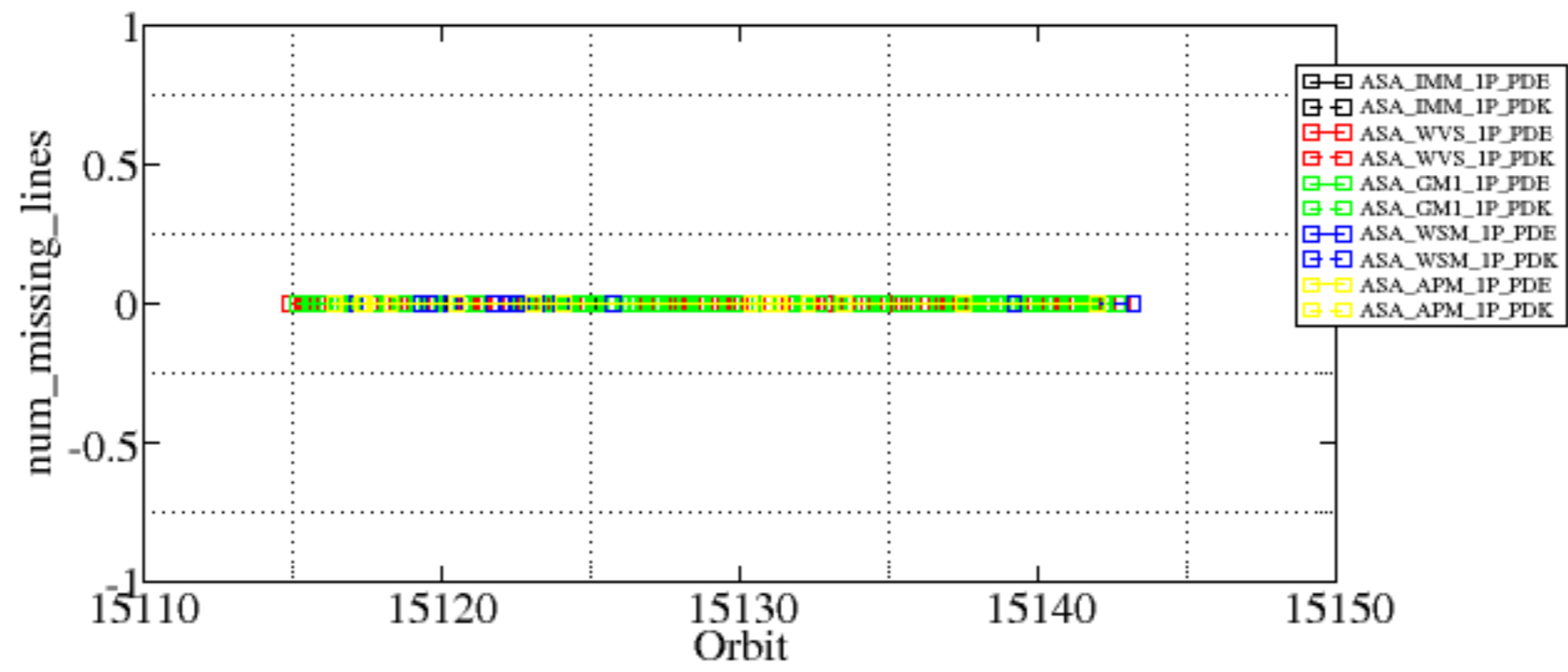


Summary of analysis for the last 3 days 2005012[012]

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

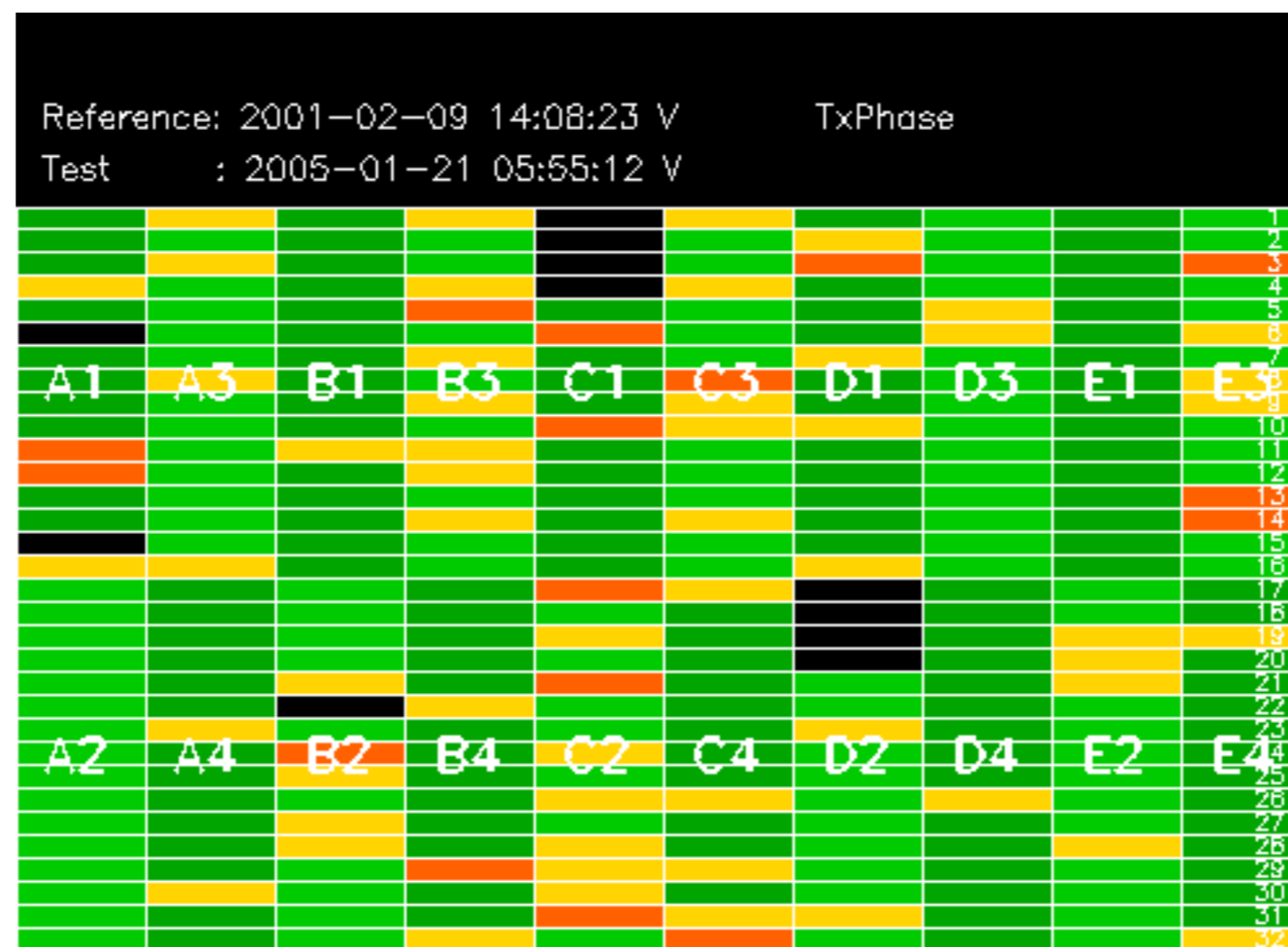




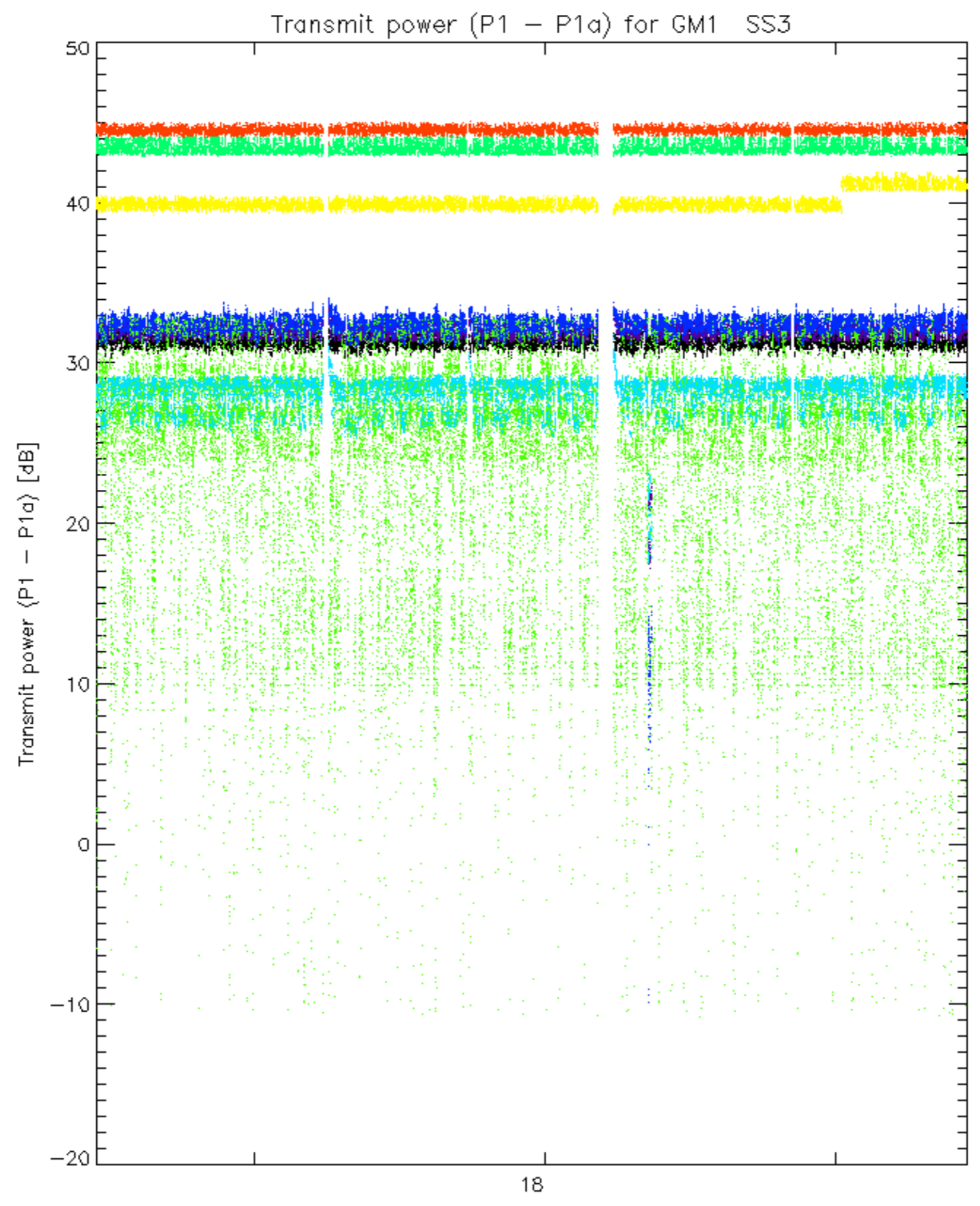




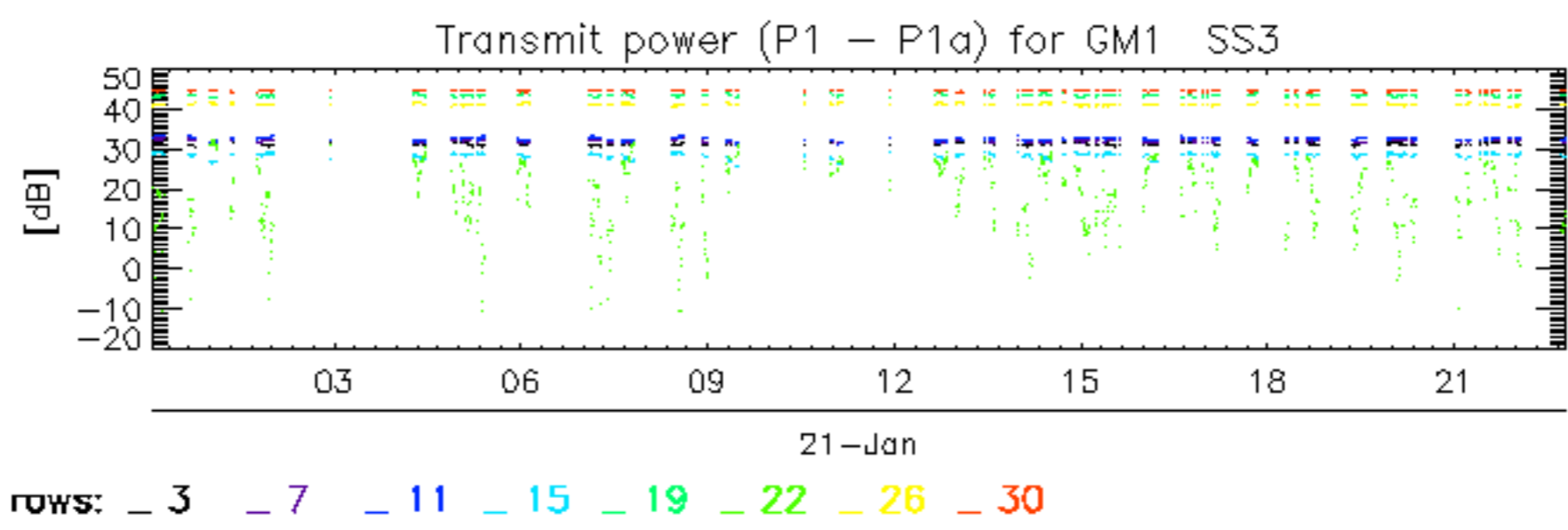




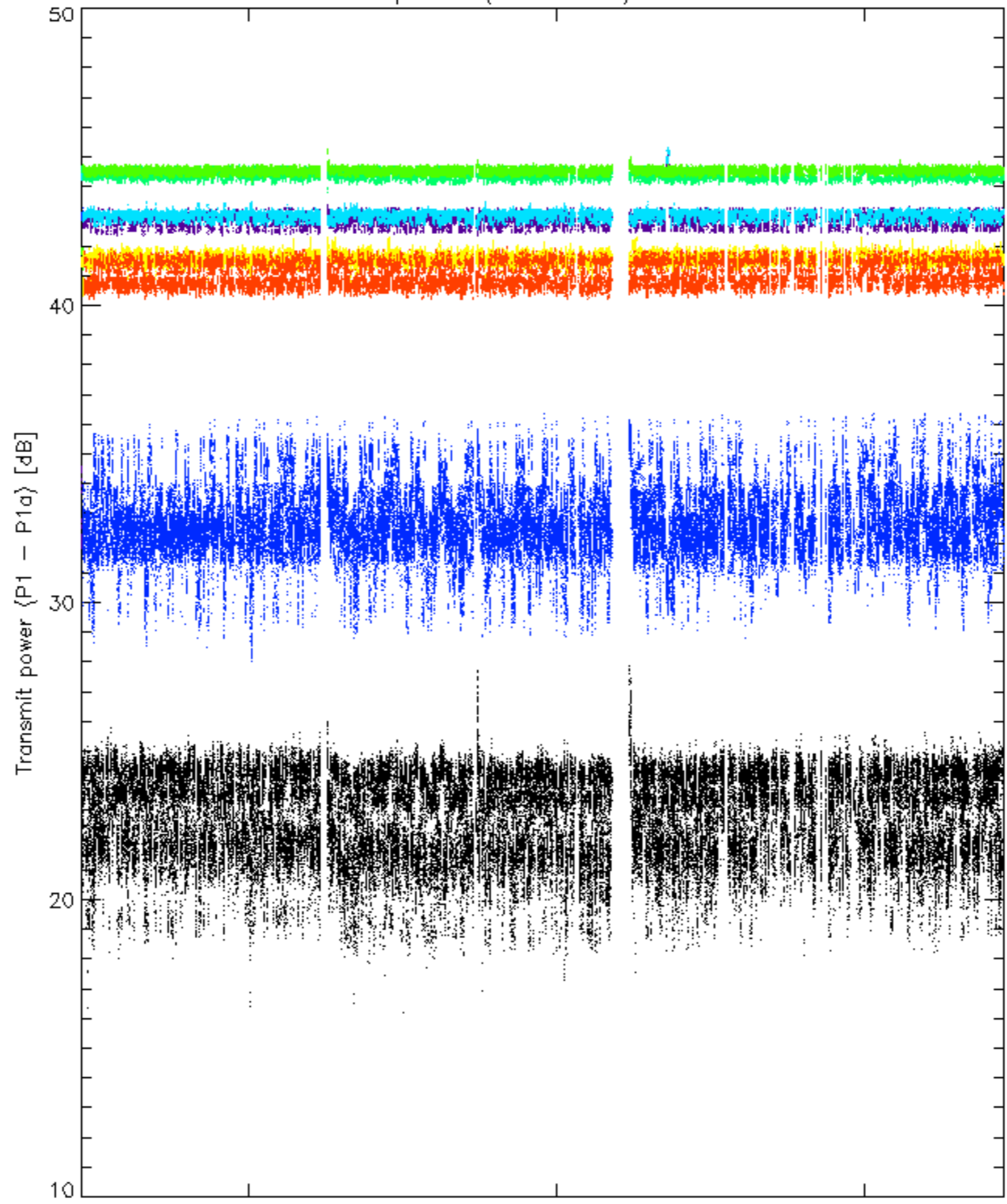




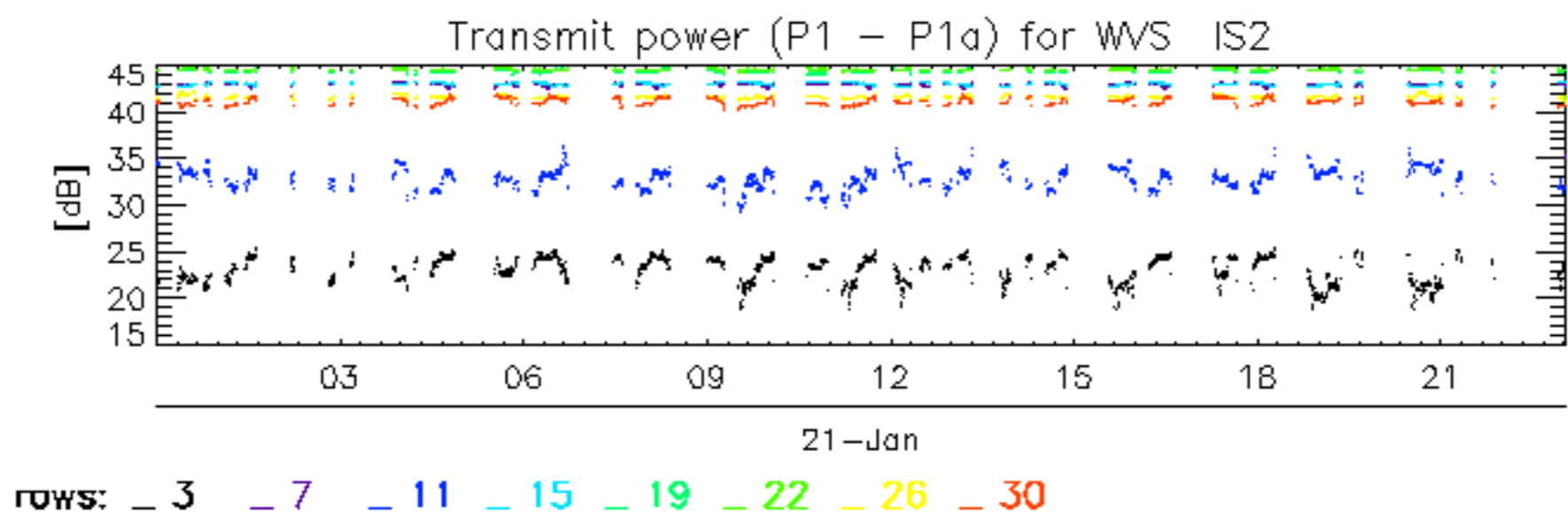
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



Transmit power (P1 - P1a) for WVS IS2



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





No unavailabilities during the reported period.