

# PRELIMINARY REPORT OF 060203

last update on Fri Feb 3 16:38:48 GMT 2006

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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 2006-02-02 00:00:00 to 2006-02-03 16:38:48

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	46	0	10	1	31
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	46	0	10	1	31
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	46	0	10	1	31
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	46	0	10	1	31

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	46	42	31	11	41
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	46	42	31	11	41
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	46	42	31	11	41
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	46	42	31	11	41

### 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	20060202 100800
H	20060201 071825

### 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	-4.024030	0.007837	0.057546
7	P1	-3.002622	0.013655	-0.010910
11	P1	-4.096174	0.022415	0.017547
15	P1	-6.060723	0.017517	0.009717
19	P1	-3.252173	0.006261	-0.020989
22	P1	-4.479050	0.019284	0.022953
26	P1	-4.204894	0.013009	0.041634
30	P1	-5.771609	0.010068	-0.000793
3	P1	-16.920078	0.265511	0.131312
7	P1	-16.630646	0.125757	-0.093296
11	P1	-16.600866	0.299626	-0.010340
15	P1	-13.208978	0.114602	0.120062
19	P1	-13.885535	0.073402	-0.023953
22	P1	-15.854329	0.566647	0.233421
26	P1	-15.766115	0.250516	0.041044
30	P1	-16.590548	0.325013	0.009882

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.586321	0.093856	0.133975
7	P2	-22.456860	0.097195	0.103532
11	P2	-16.289656	0.103726	0.089829
15	P2	-7.206250	0.104186	0.052837
19	P2	-9.167481	0.098628	0.028876
22	P2	-17.940111	0.094333	-0.015891
26	P2	-16.217197	0.101587	0.006068
30	P2	-19.648020	0.084808	0.030659

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.208230	0.007379	0.027286
7	P3	-8.208230	0.007379	0.027286
11	P3	-8.208230	0.007379	0.027286
15	P3	-8.208230	0.007379	0.027286
19	P3	-8.208230	0.007379	0.027286
22	P3	-8.208230	0.007379	0.027286
26	P3	-8.208230	0.007379	0.027286
30	P3	-8.208230	0.007379	0.027286

**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	-3.725682	0.010957	-0.023439
7	P1	-2.744843	0.007551	0.032273
11	P1	-2.868322	0.011460	-0.032209
15	P1	-3.470606	0.019142	-0.065547
19	P1	-3.378304	0.012459	-0.011621
22	P1	-5.126803	0.021431	-0.043987
26	P1	-5.852826	0.015806	-0.002086
30	P1	-5.241526	0.028924	0.031191
3	P1	-11.527588	0.038942	-0.033714
7	P1	-9.918297	0.048197	0.000109
11	P1	-10.091098	0.050124	-0.104737
15	P1	-10.631401	0.088284	-0.073002
19	P1	-15.470565	0.060258	0.033931
22	P1	-20.563145	1.240095	0.350118

26	P1	-16.750265	0.340078	0.381147
30	P1	-18.166256	0.322239	-0.090677

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.390175	0.034726	0.200932
7	P2	-22.828588	0.064394	0.188100
11	P2	-11.411572	0.021641	0.124934
15	P2	-4.906263	0.026766	0.060388
19	P2	-6.911108	0.023276	0.042002
22	P2	-8.189409	0.023589	0.003950
26	P2	-23.963484	0.025448	0.032146
30	P2	-22.091402	0.019159	0.017208

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.047641	0.002563	0.035375
7	P3	-8.047550	0.002563	0.034755
11	P3	-8.047651	0.002553	0.035283
15	P3	-8.047751	0.002581	0.035173
19	P3	-8.047740	0.002563	0.035039
22	P3	-8.047658	0.002560	0.034672
26	P3	-8.047627	0.002564	0.034530
30	P3	-8.047636	0.002575	0.035310

## 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	0.000564876
	stdev	1.65829e-07
MEAN Q	mean	0.000524186
	stdev	2.12421e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.139820
	stdev	0.00117109
STDEV Q	mean	0.140185
	stdev	0.00119054



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006020[123]

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)


Acsending




Descending

### 7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

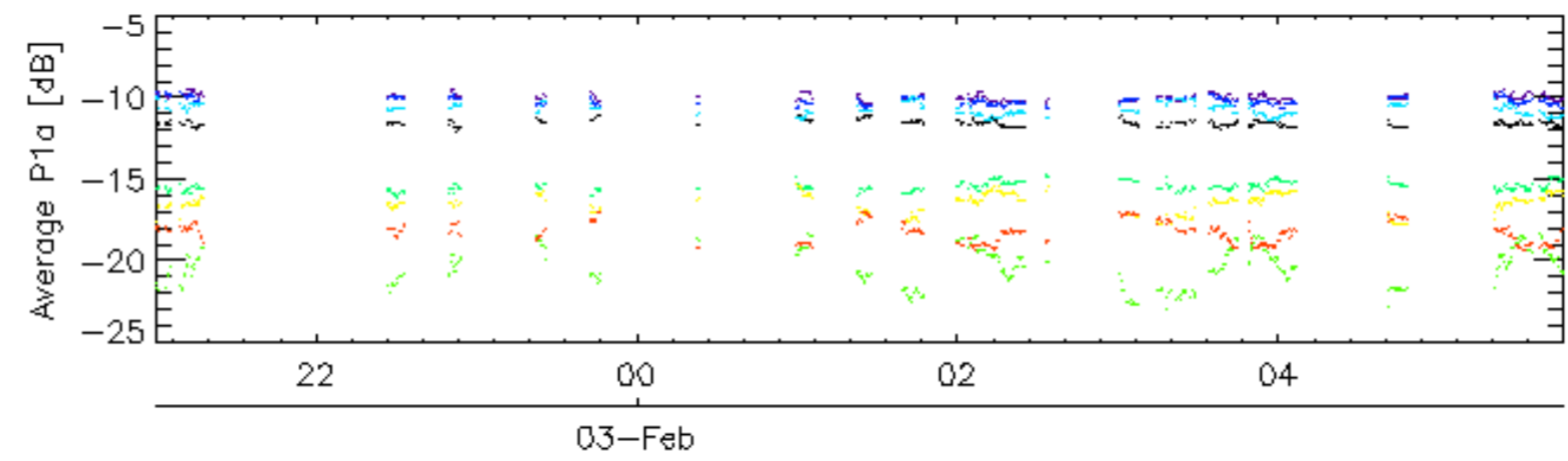
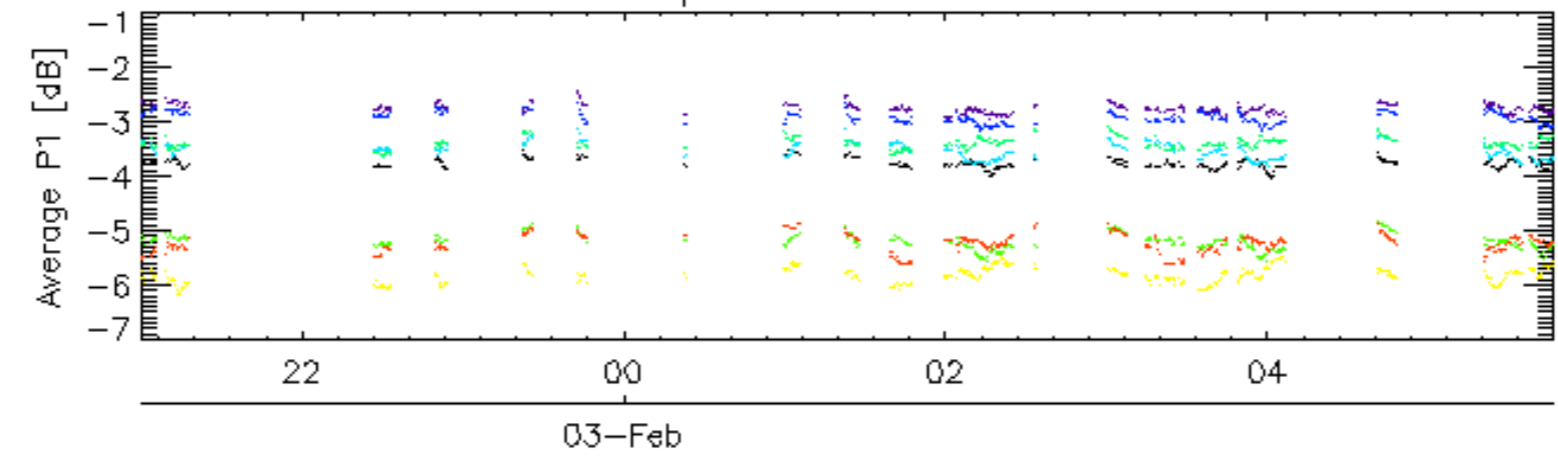
Ascending

Descending

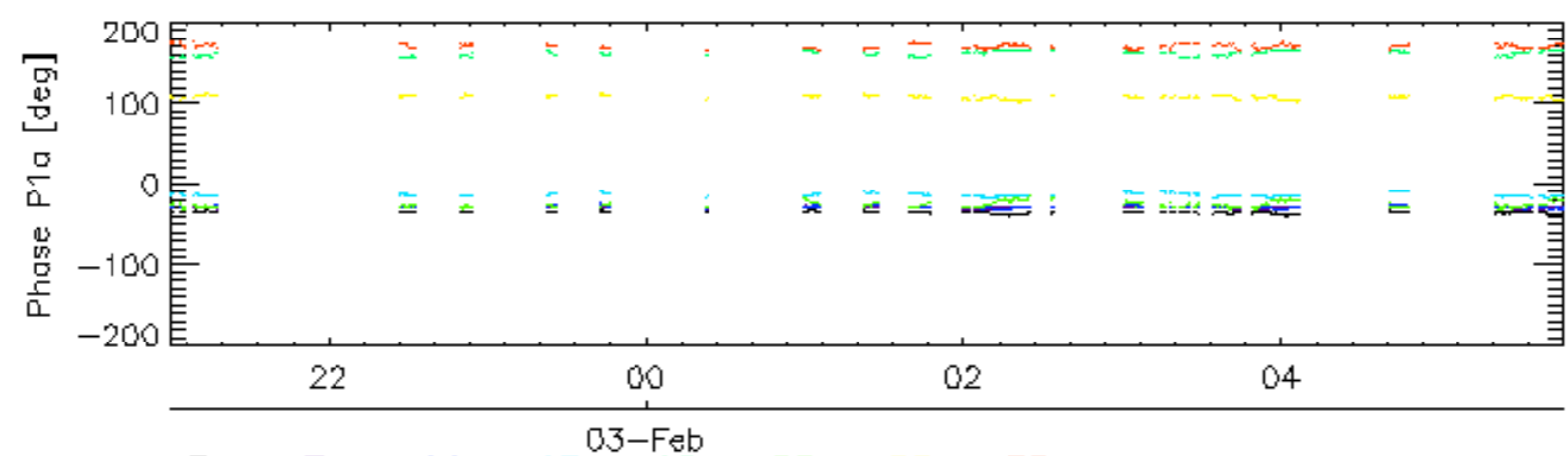
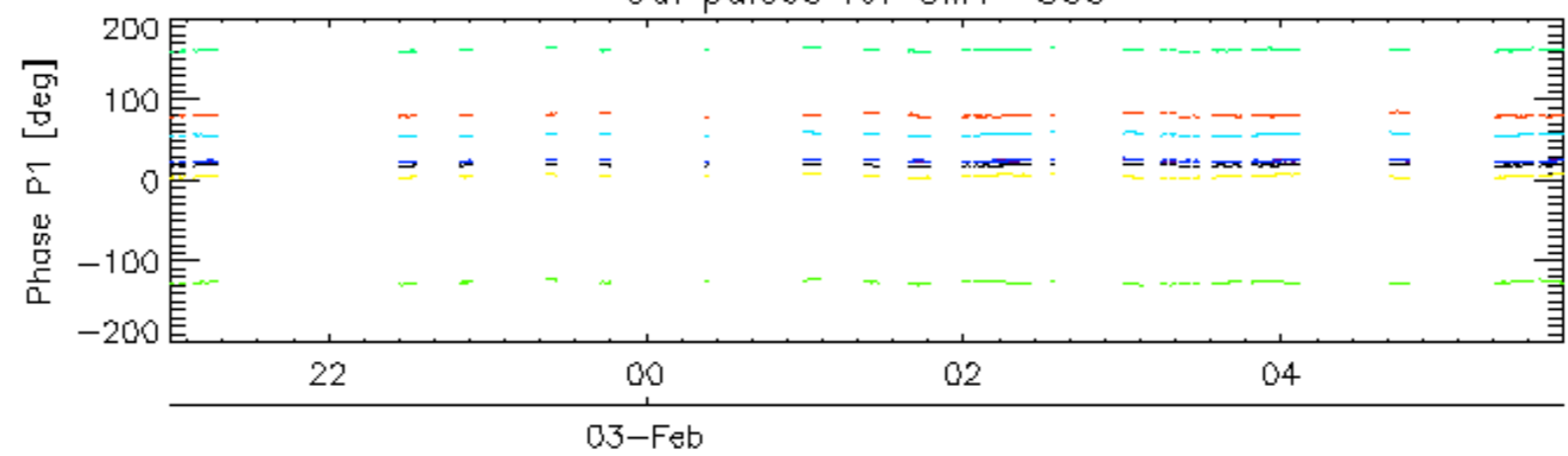
### 7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

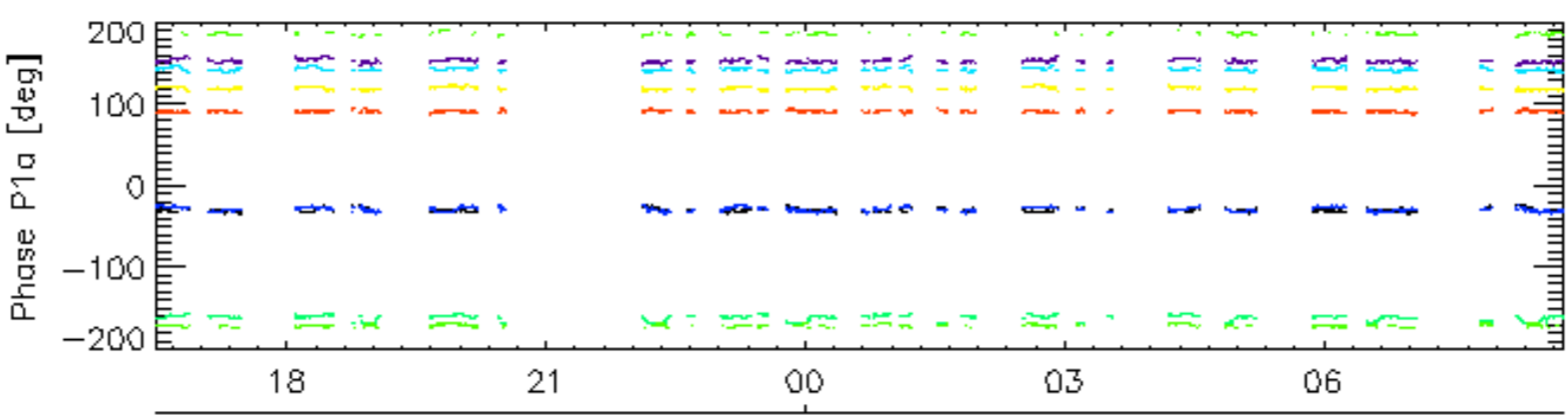
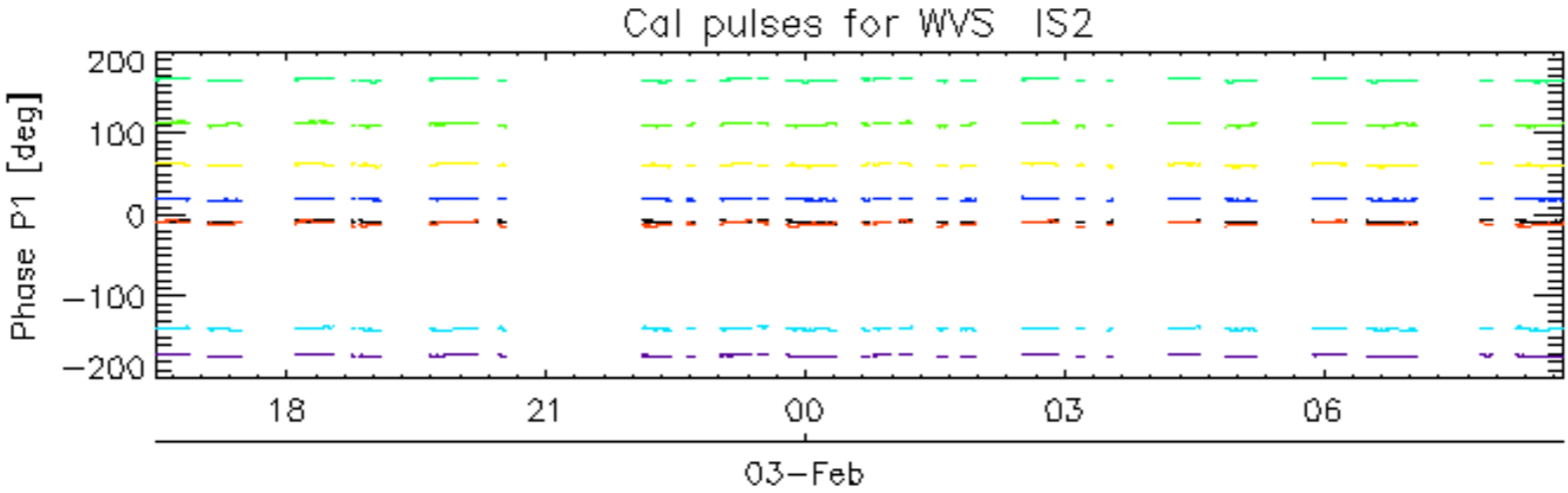
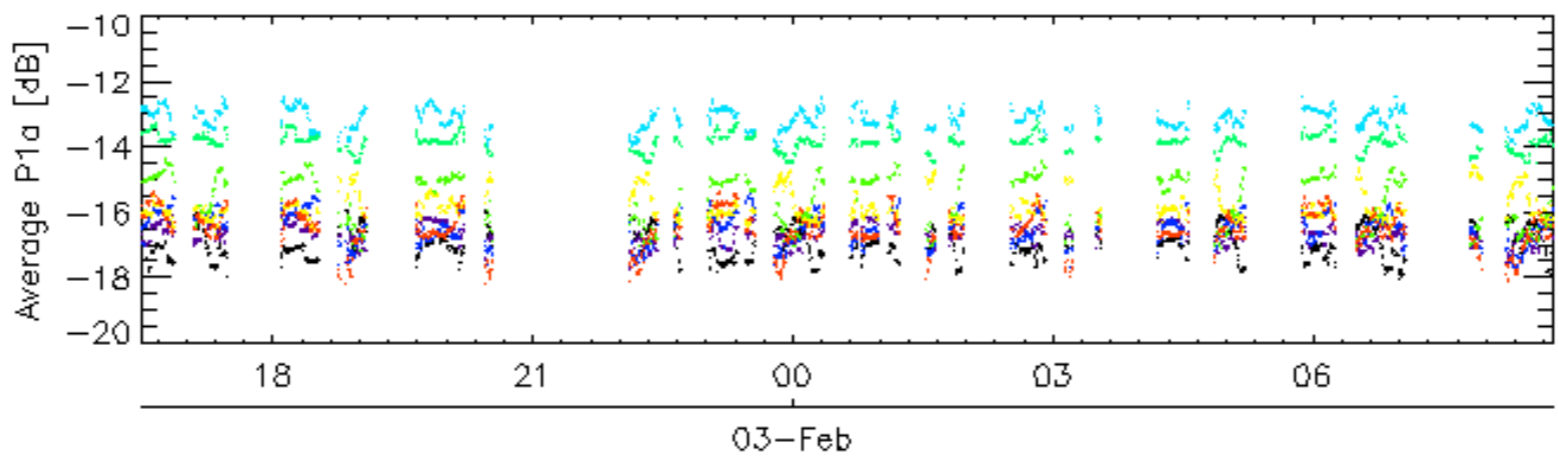
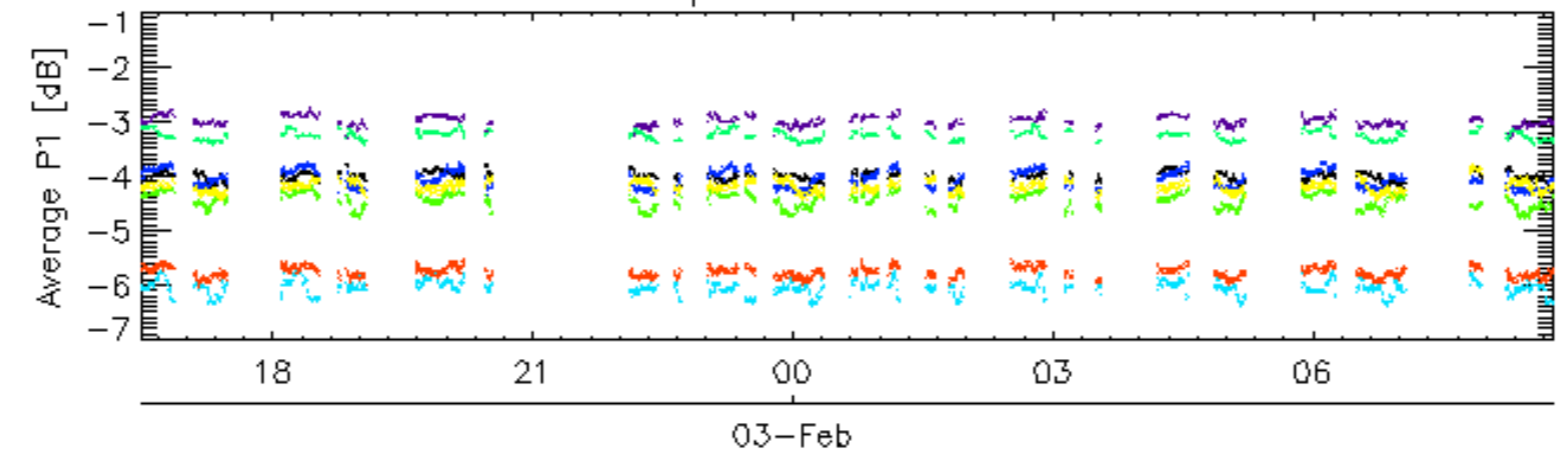


Cal pulses for GM1 SS3



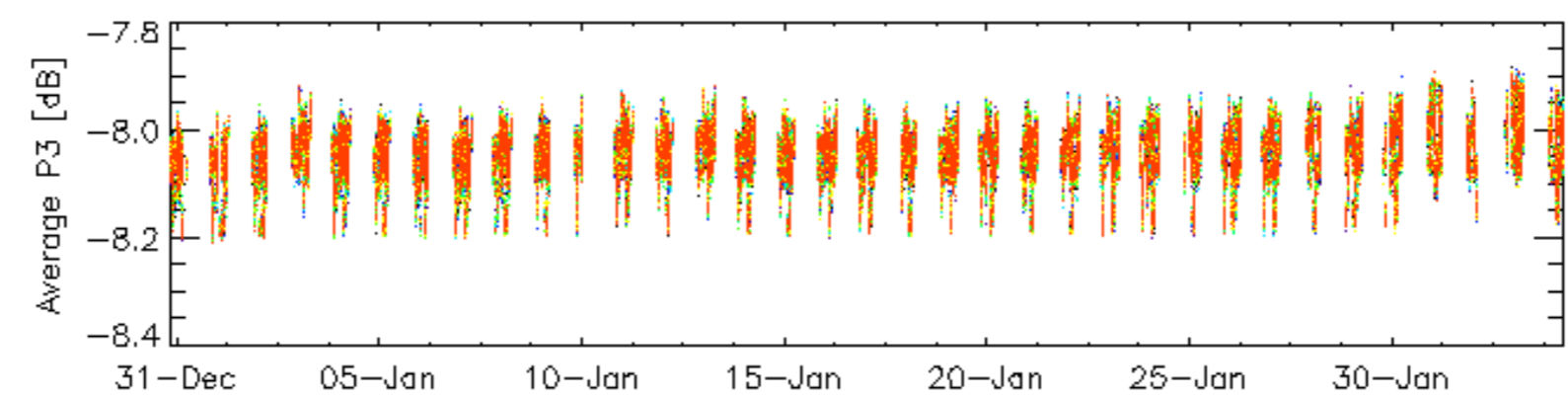
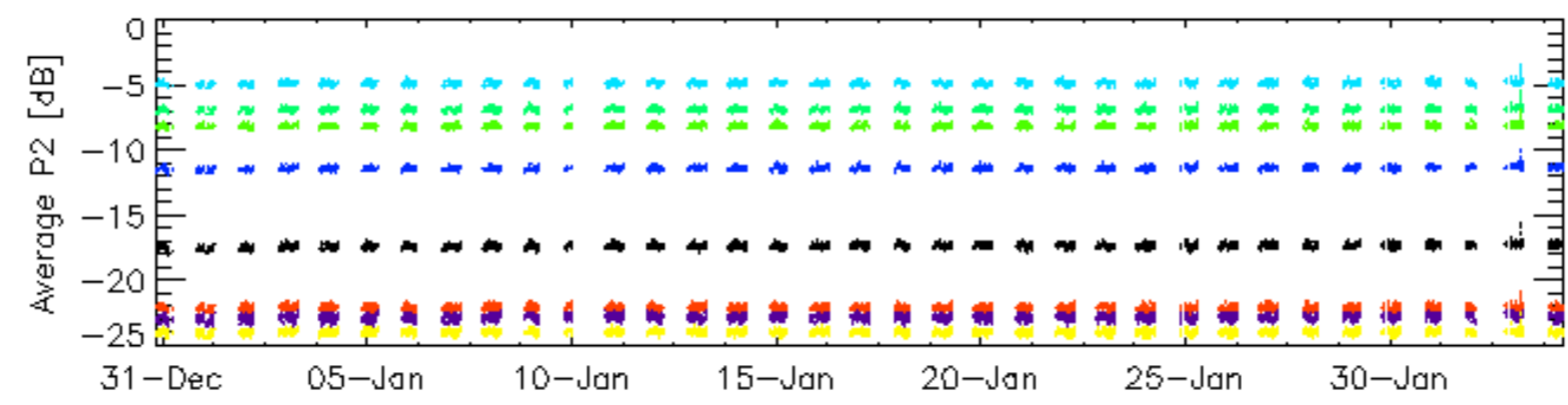
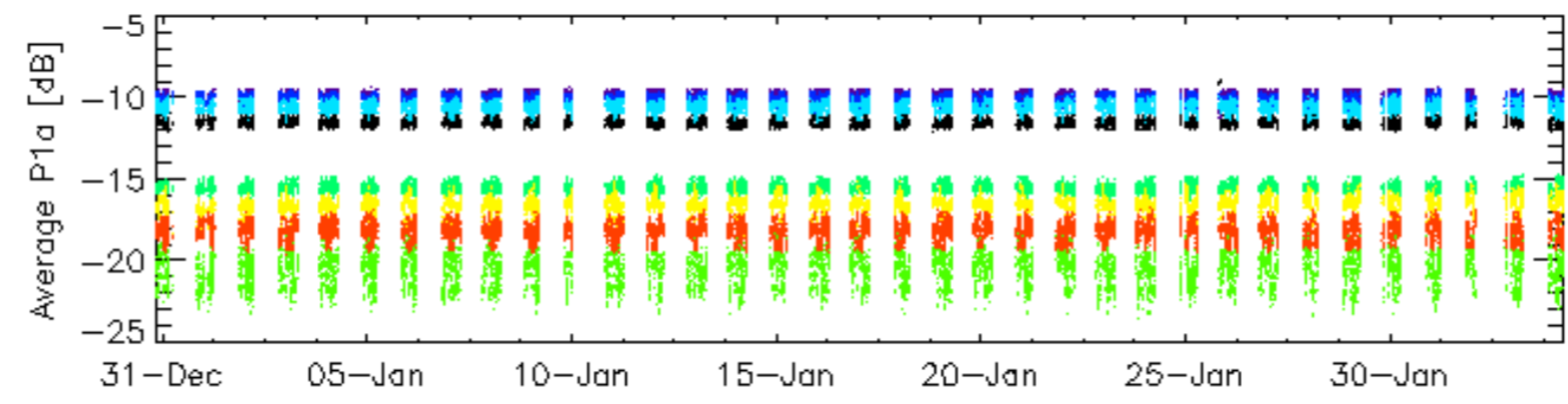
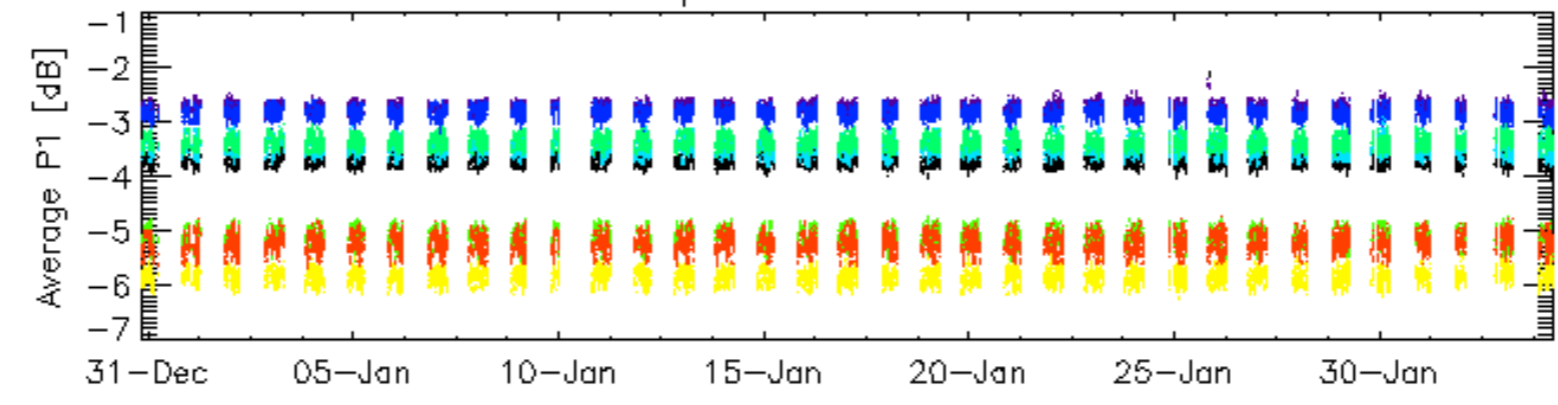
rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2



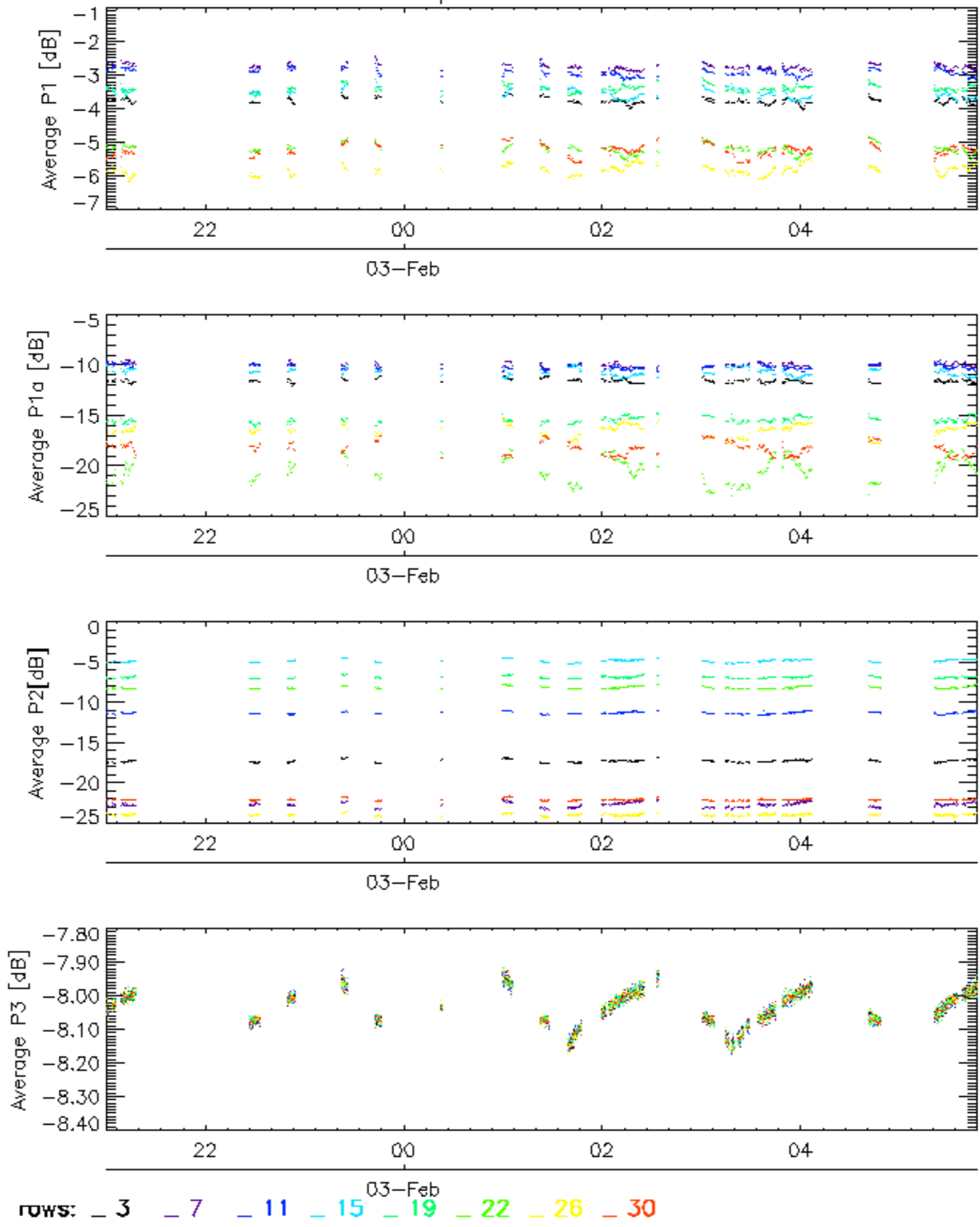
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### Cal pulses for GM1 SS3

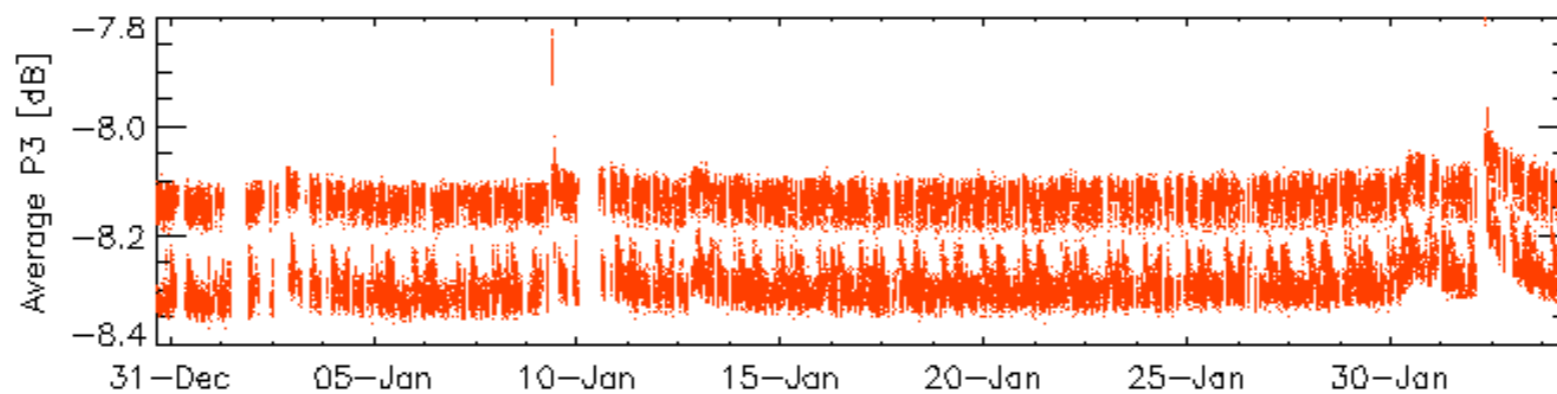
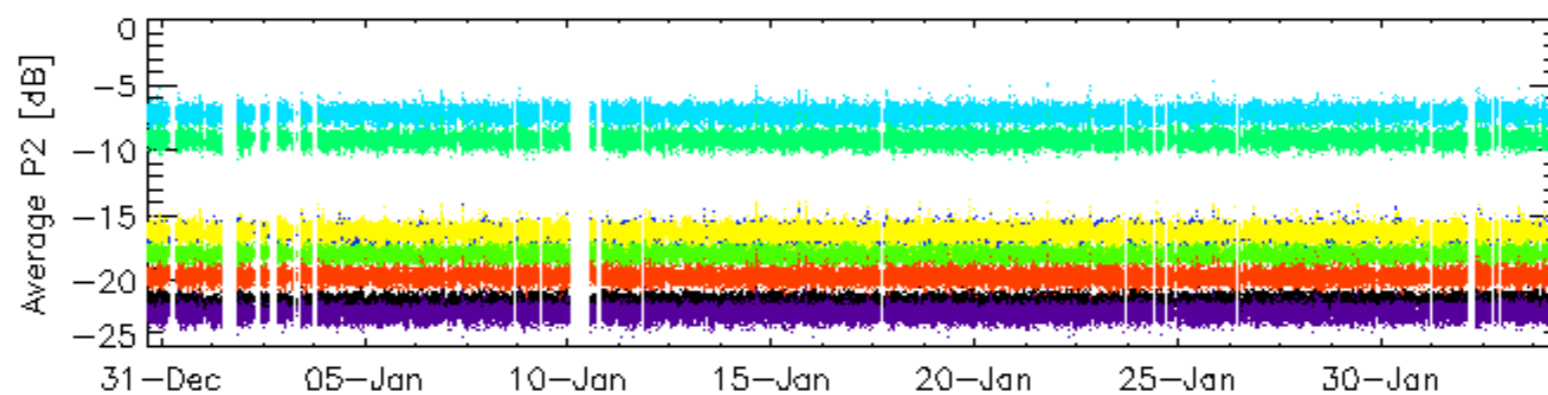
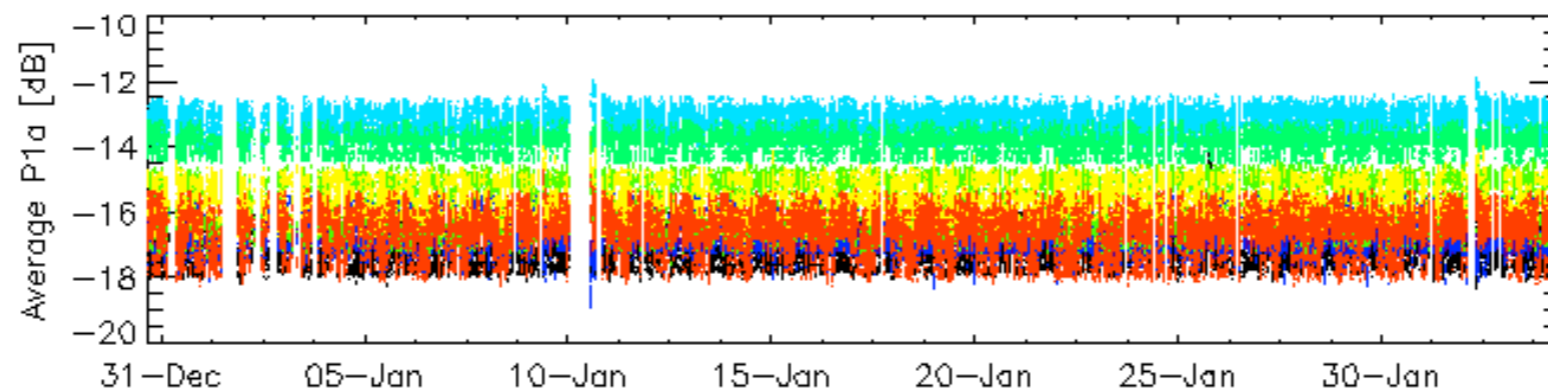
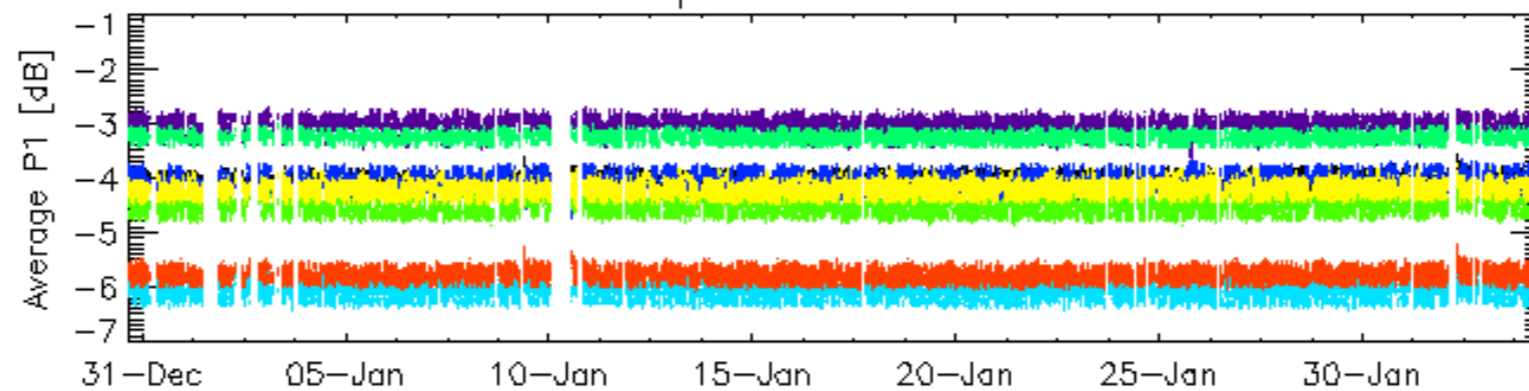


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

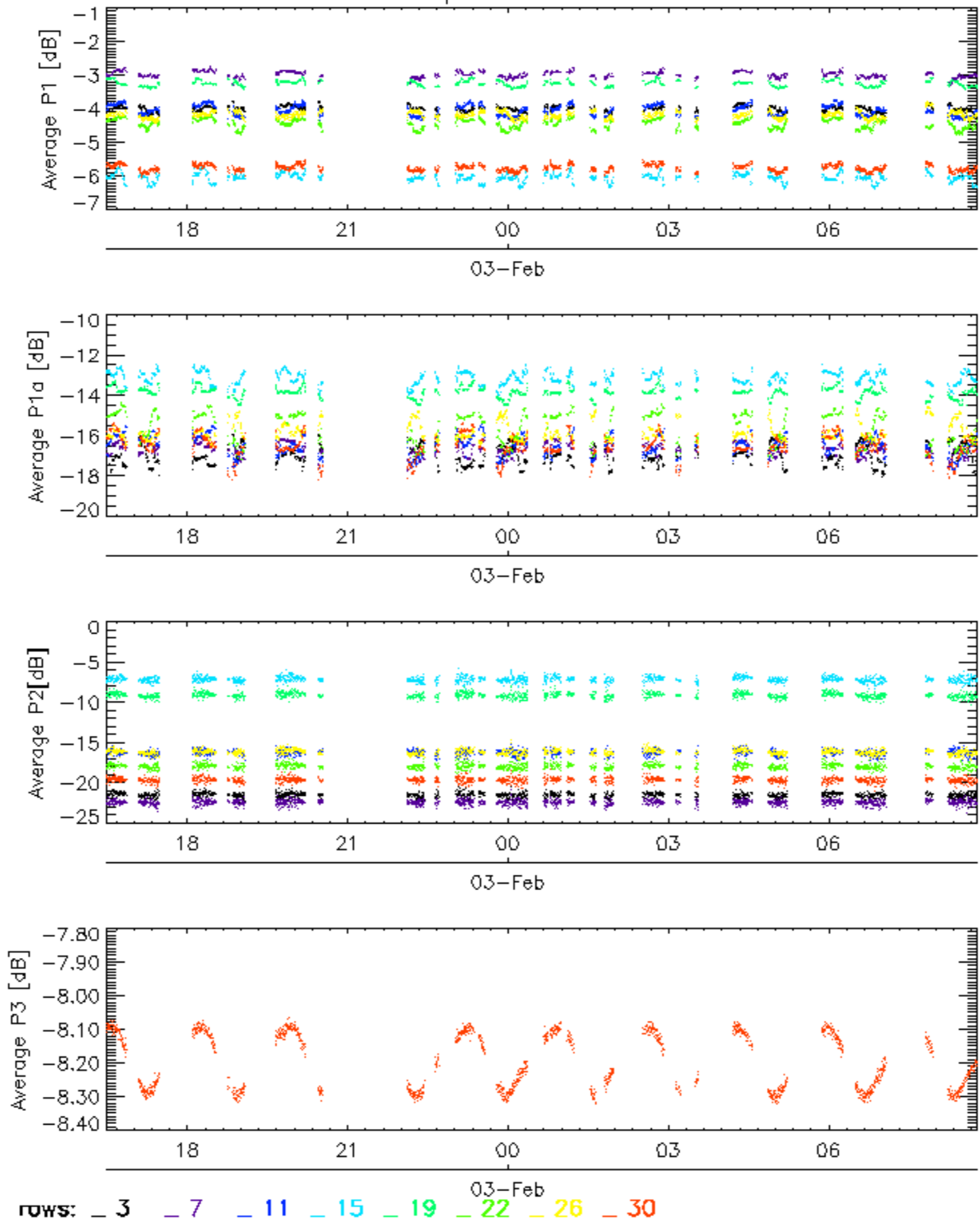


Cal pulses for WVS IS2



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

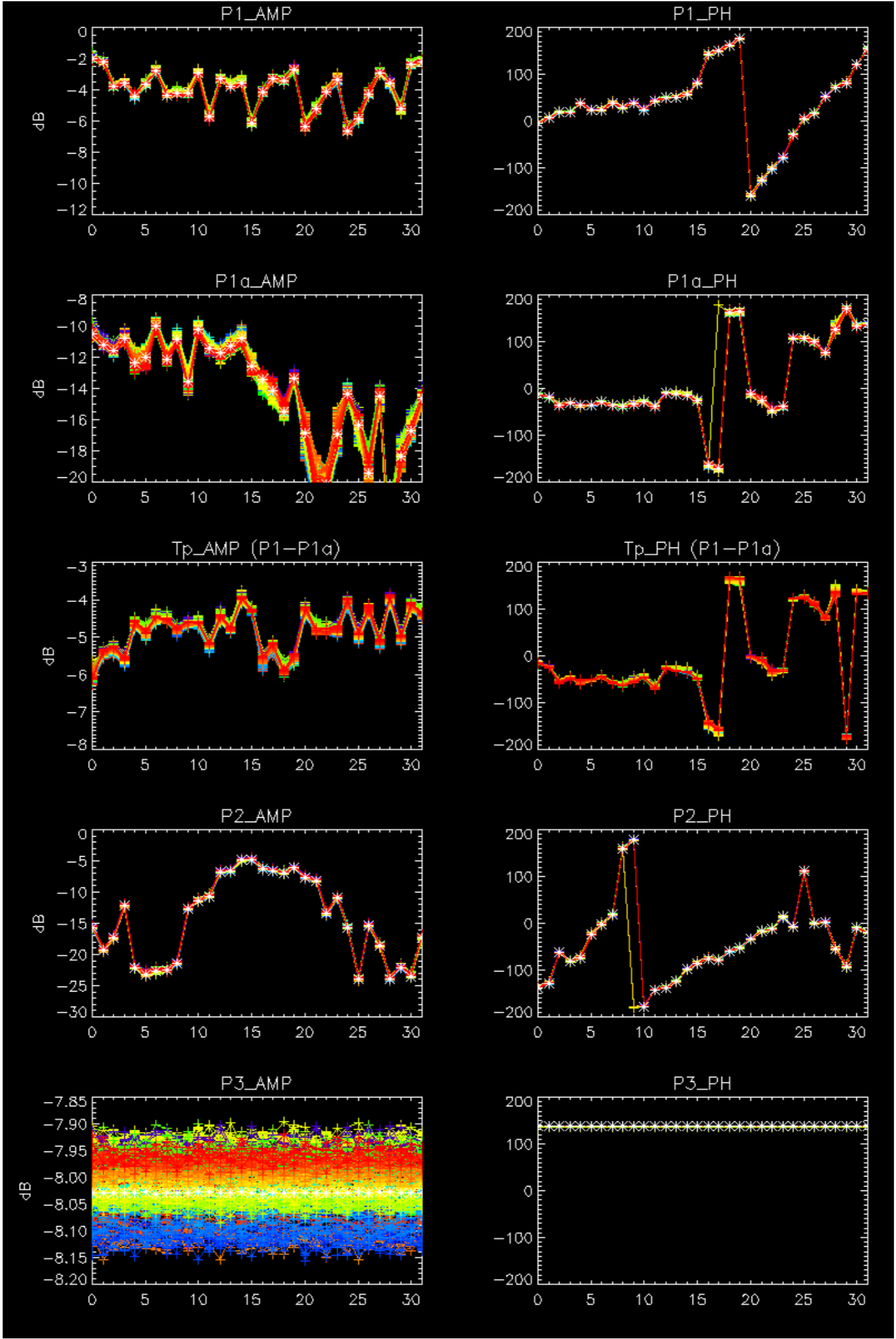
Cal pulses for WVS IS2

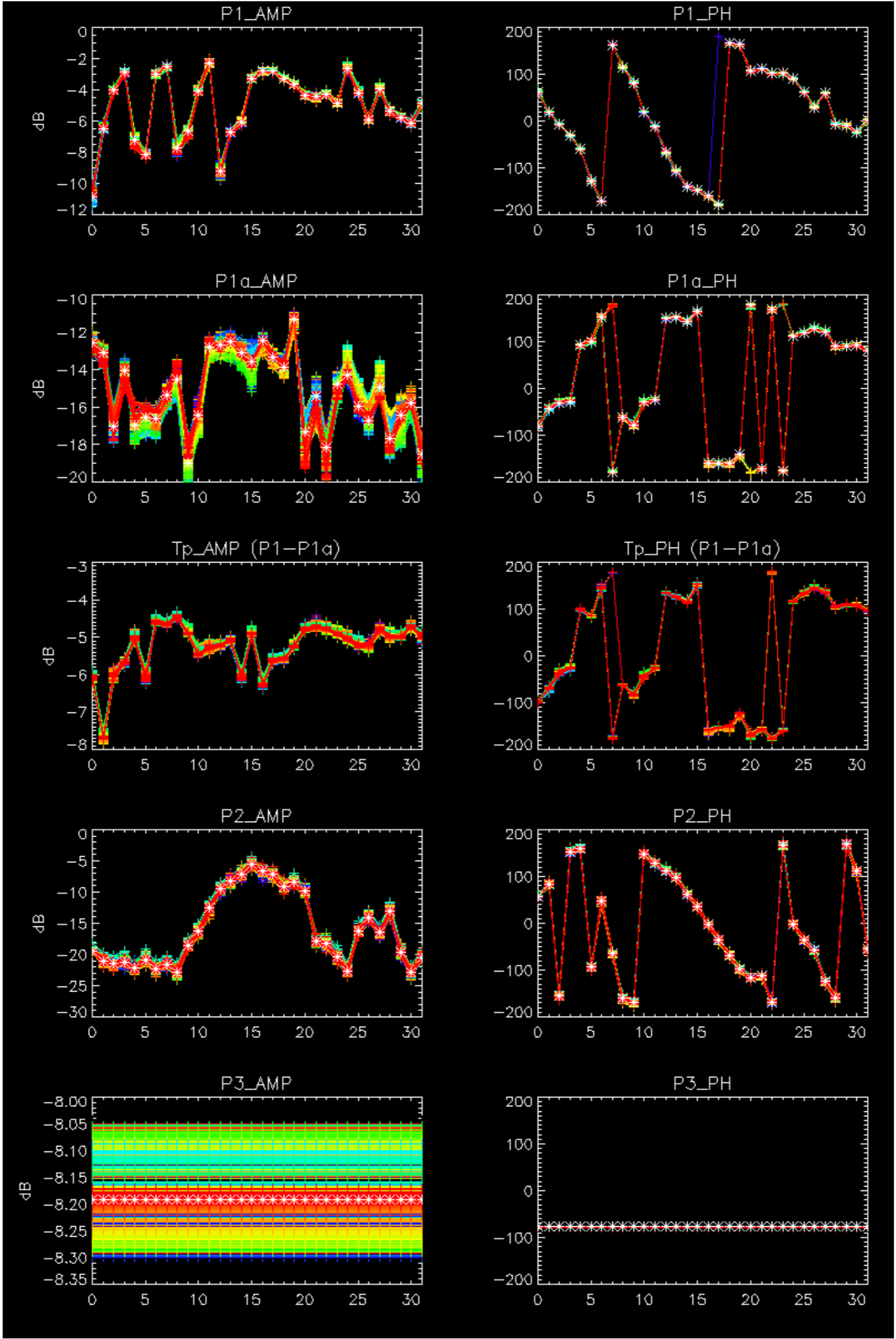


No anomalies observed on available browse products



No anomalies observed.

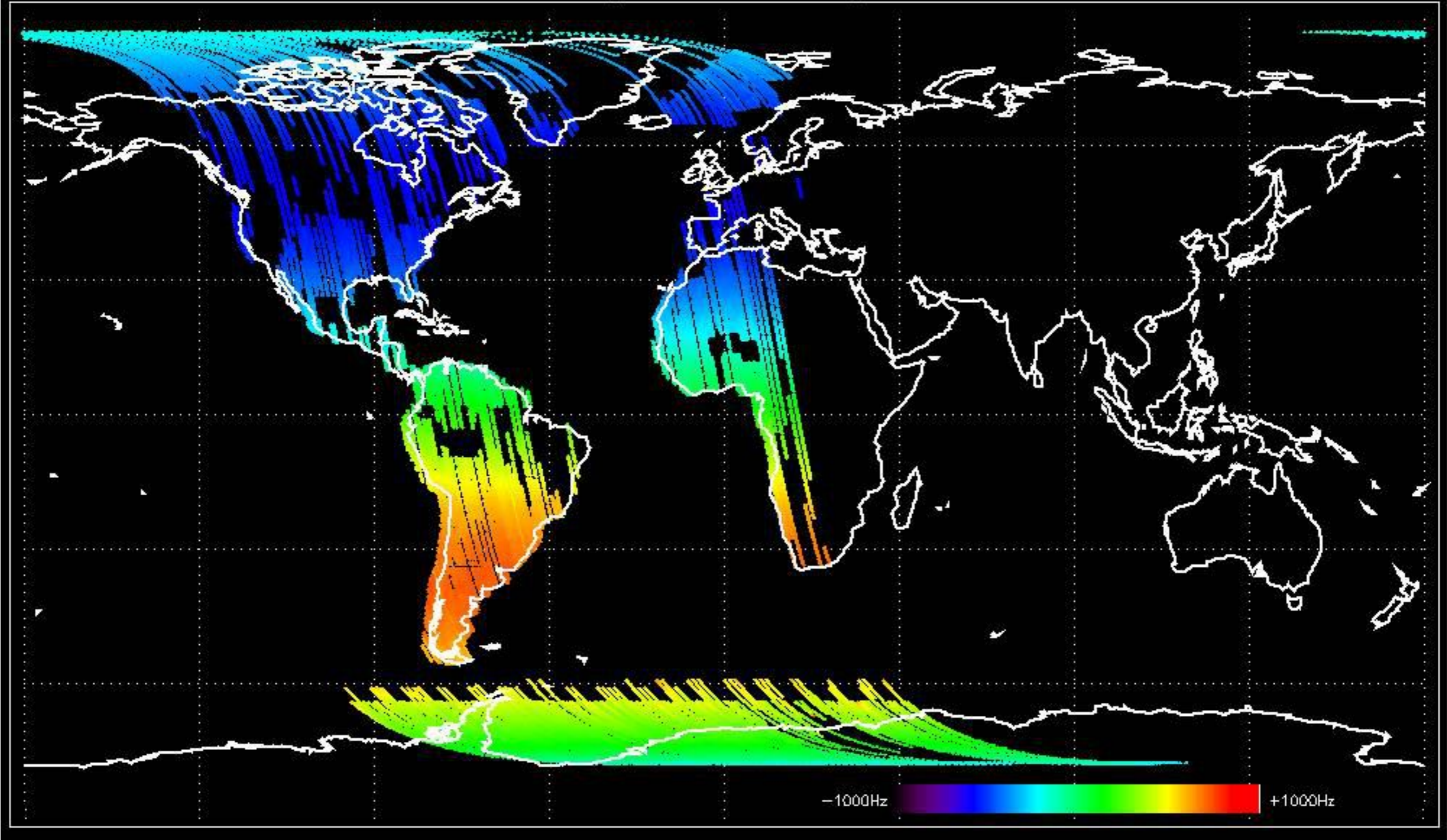




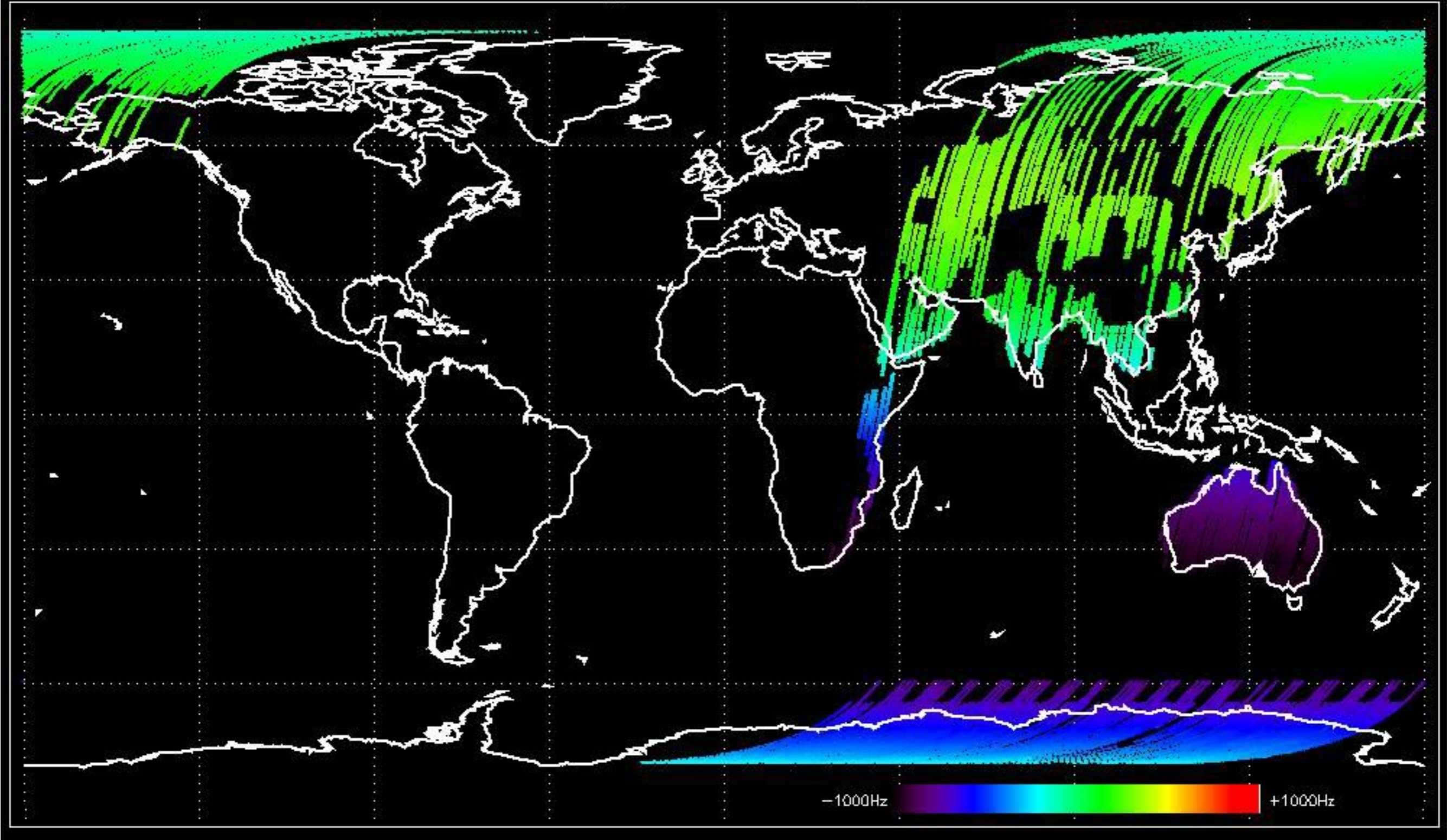
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



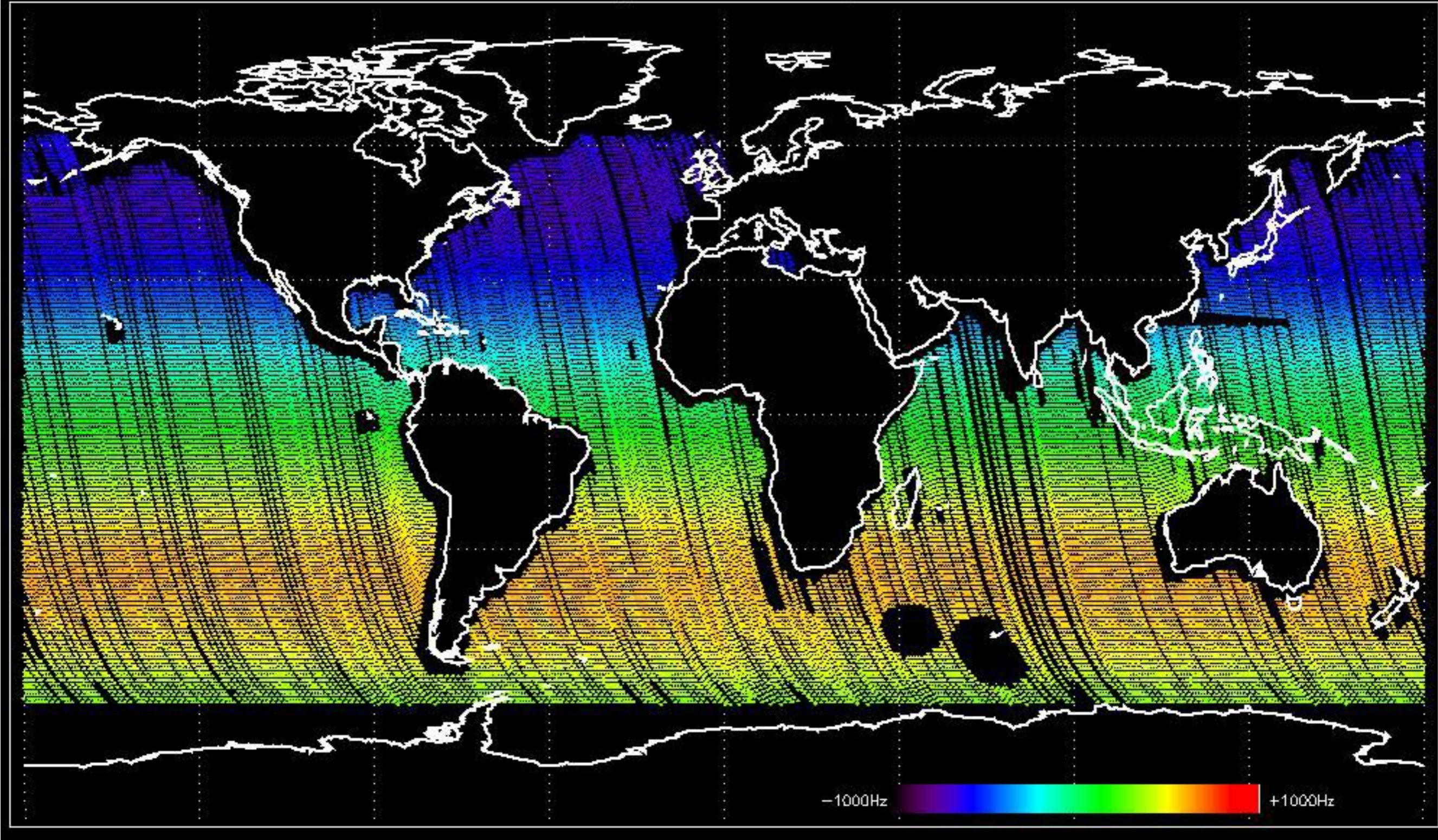
Doppler 'GM1' 'SS1' ascending



Doppler 'GM1' 'SS1' descending

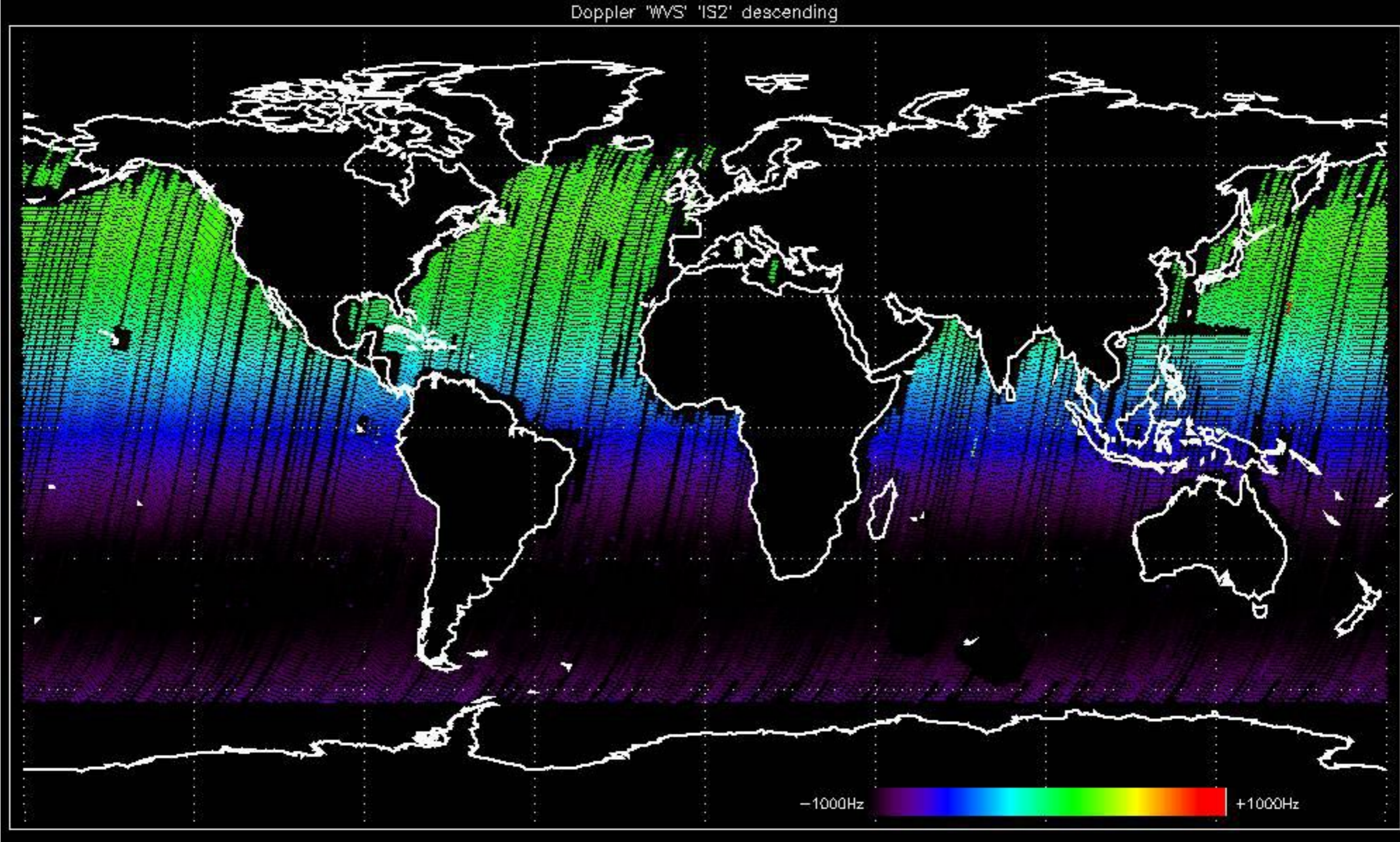


Doppler 'WVS' 'IS2' ascending

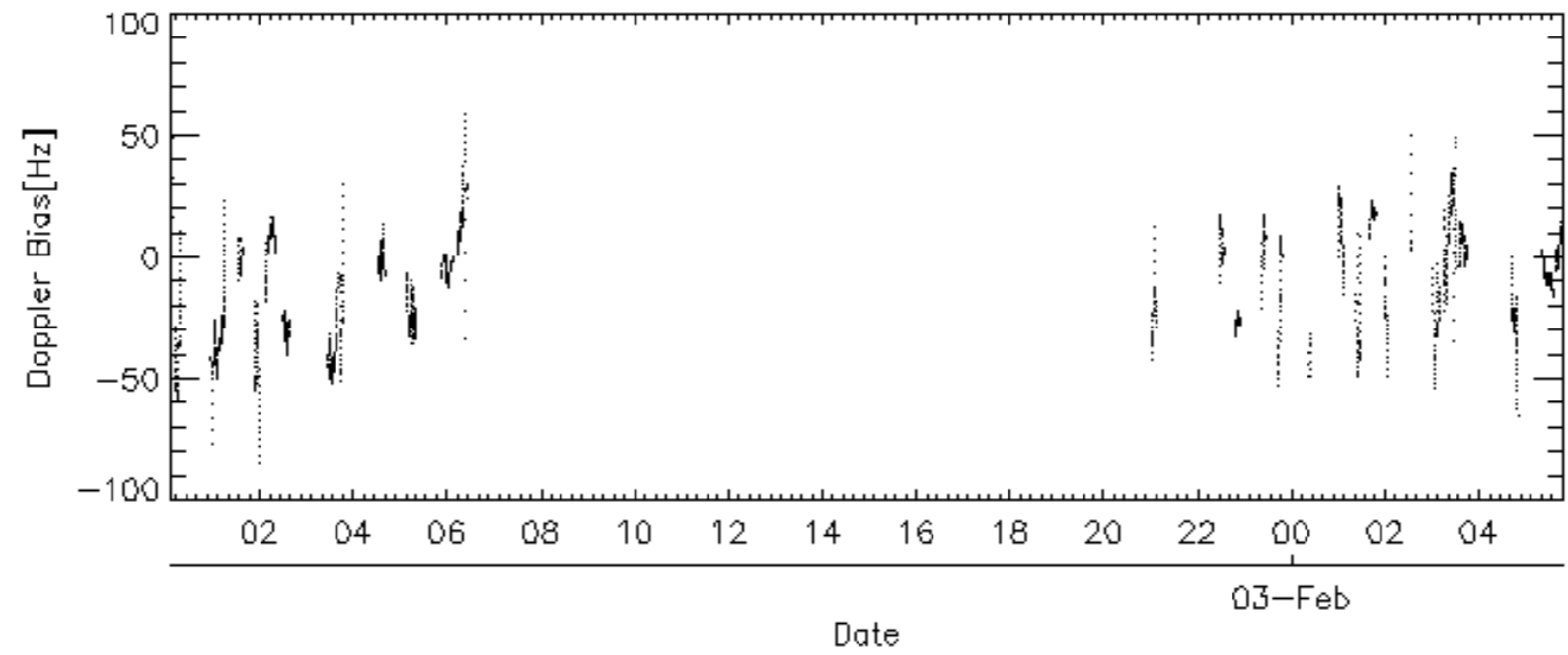
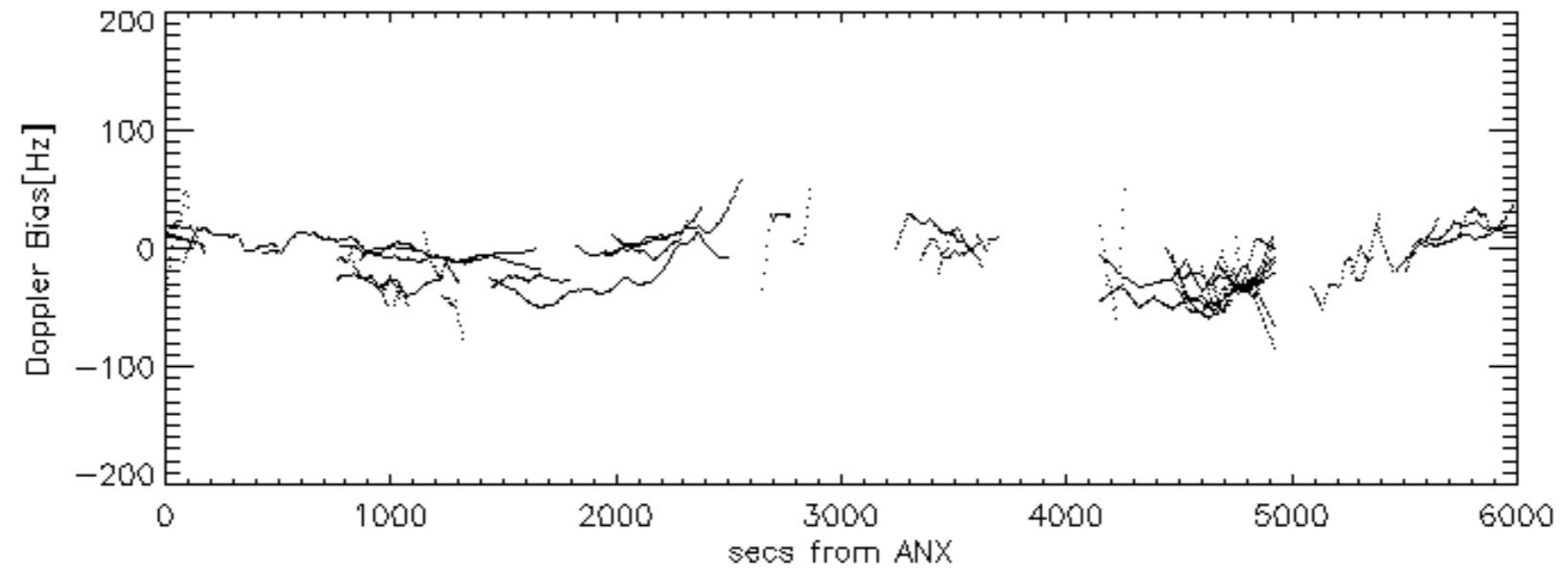
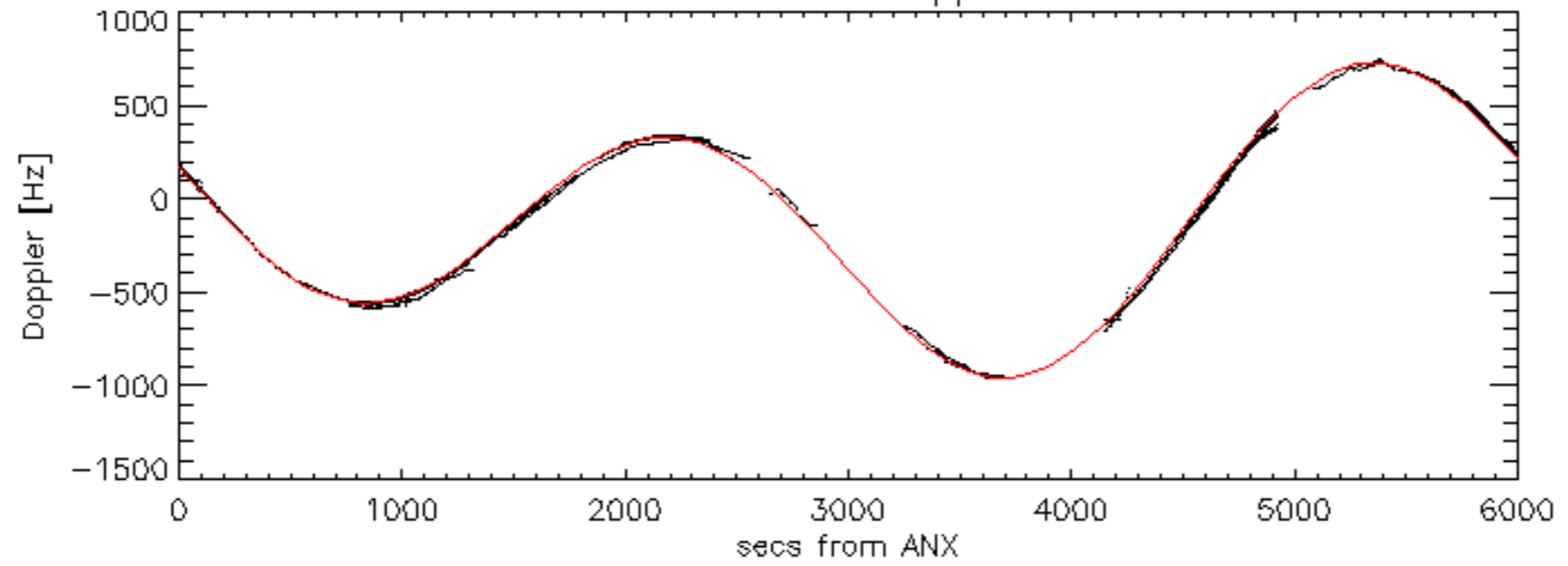


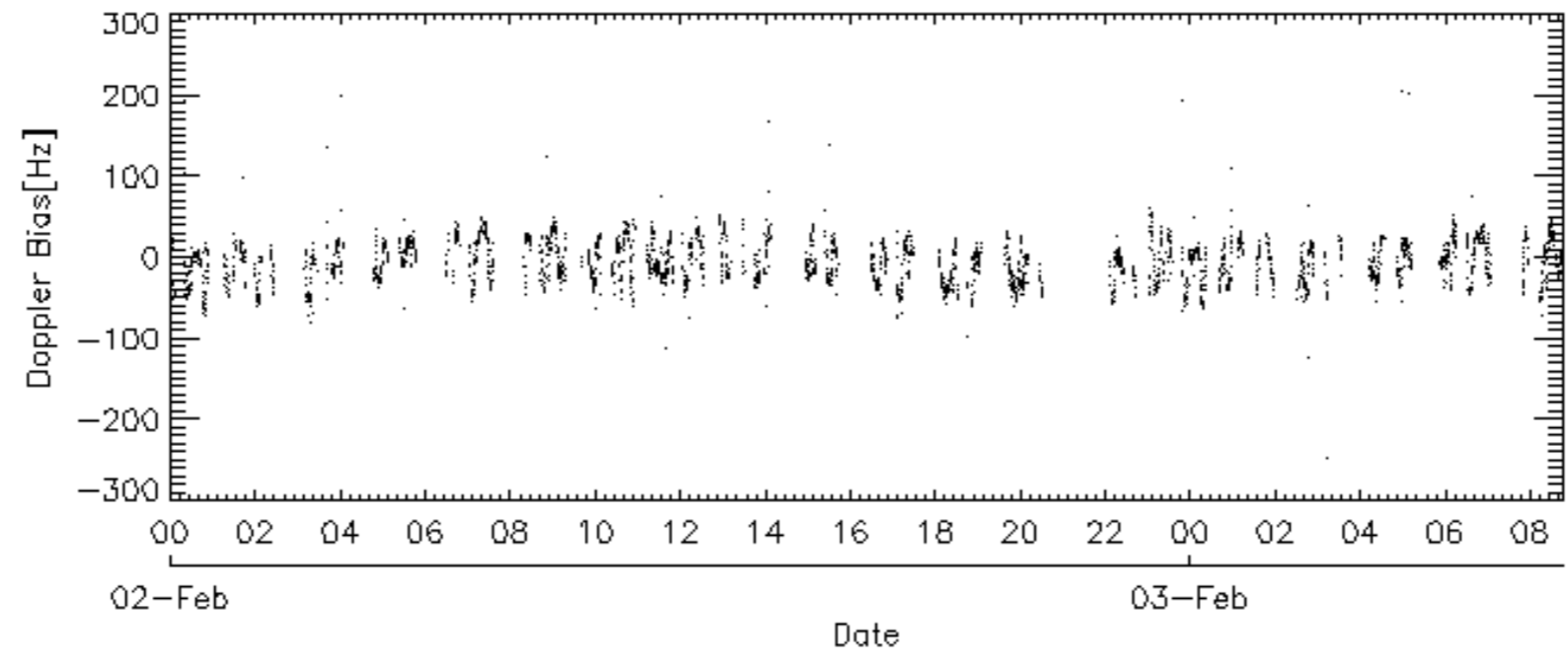
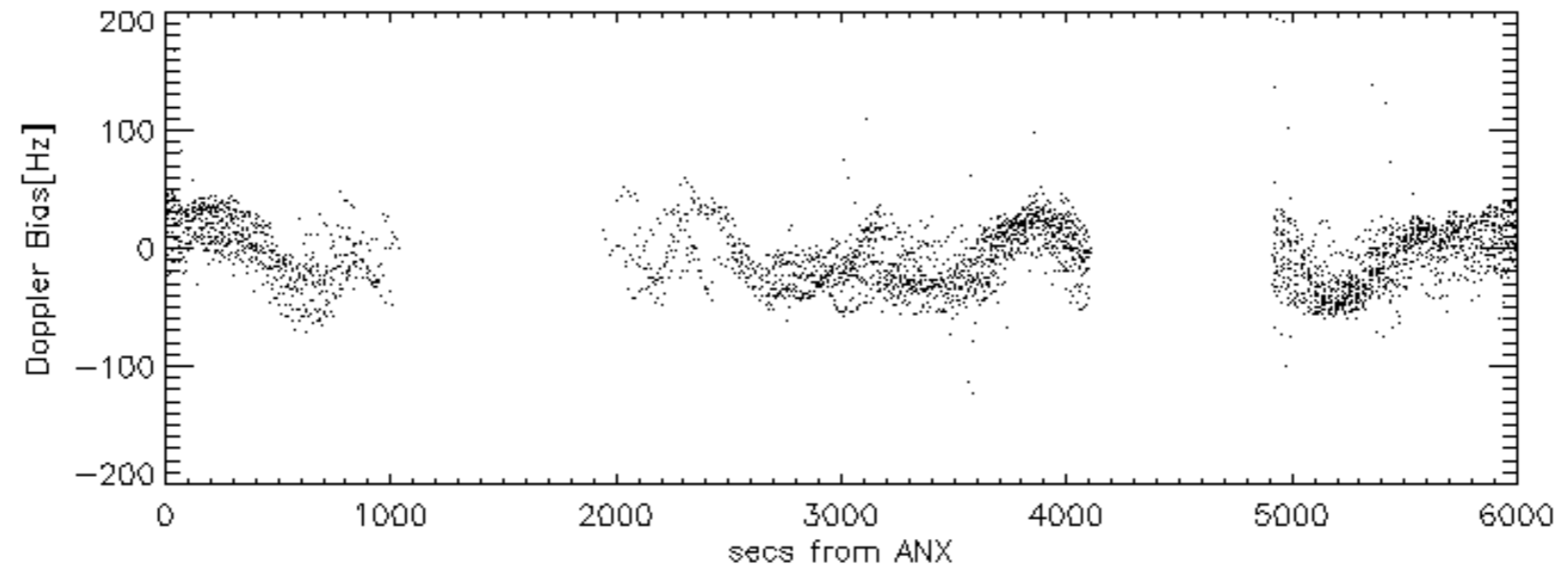
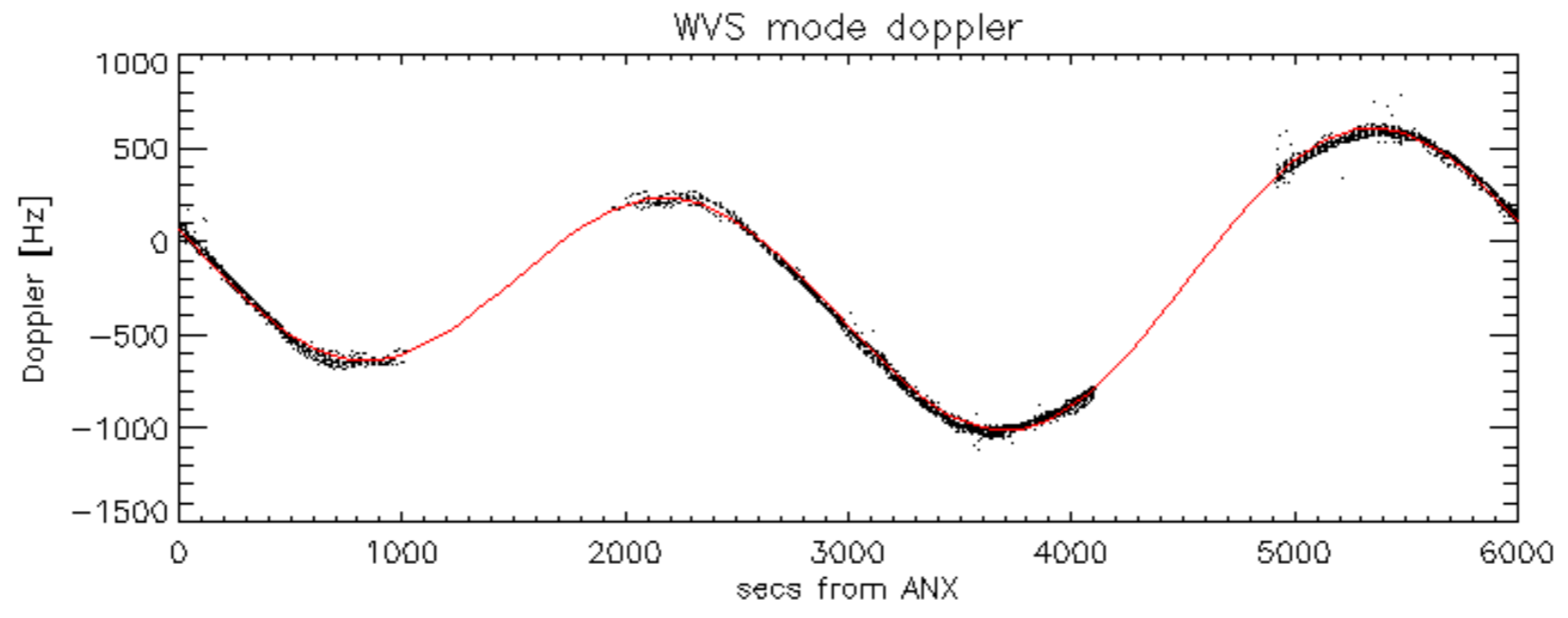


Doppler 'WVS' 'IS2' descending

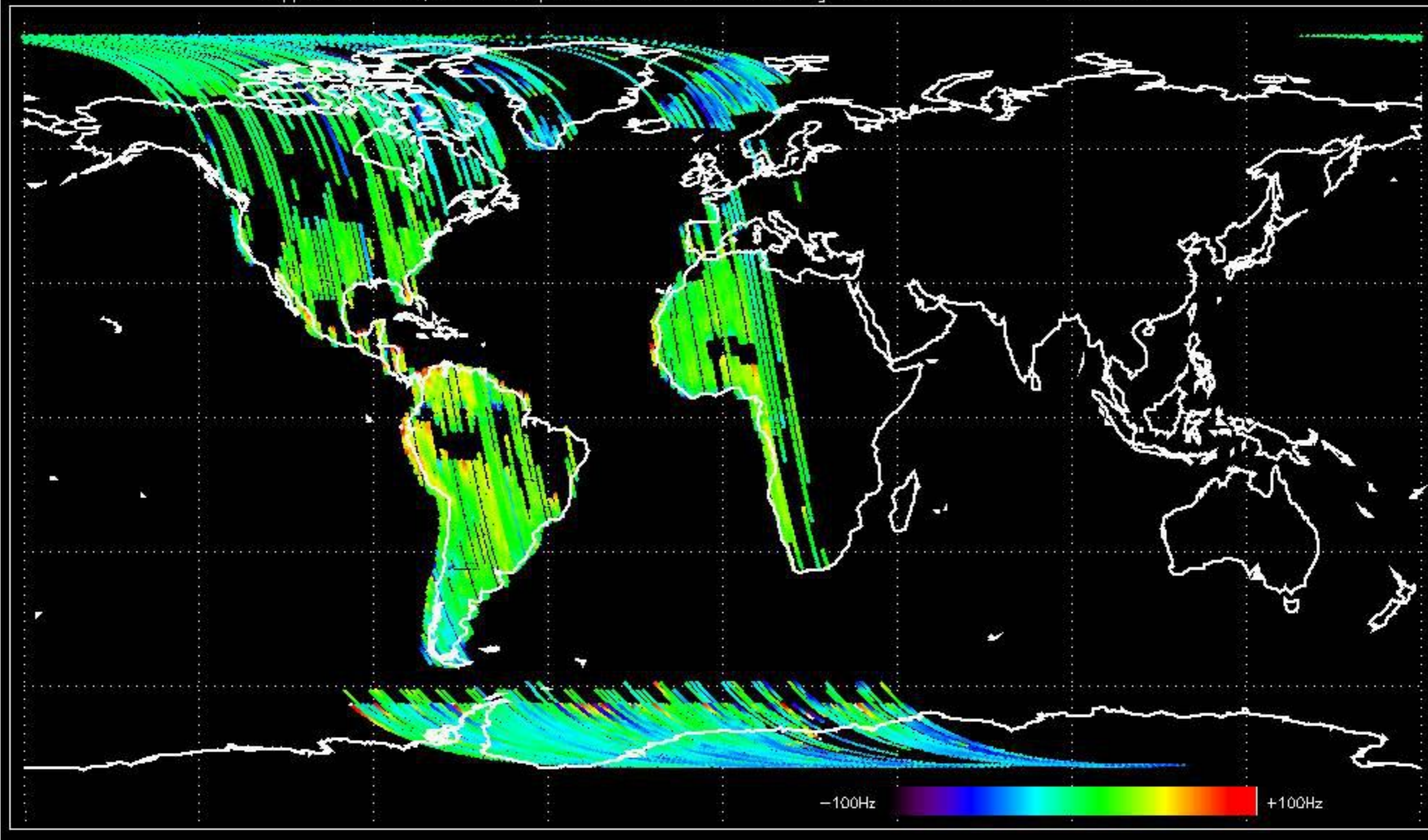


GM1 mode doppler

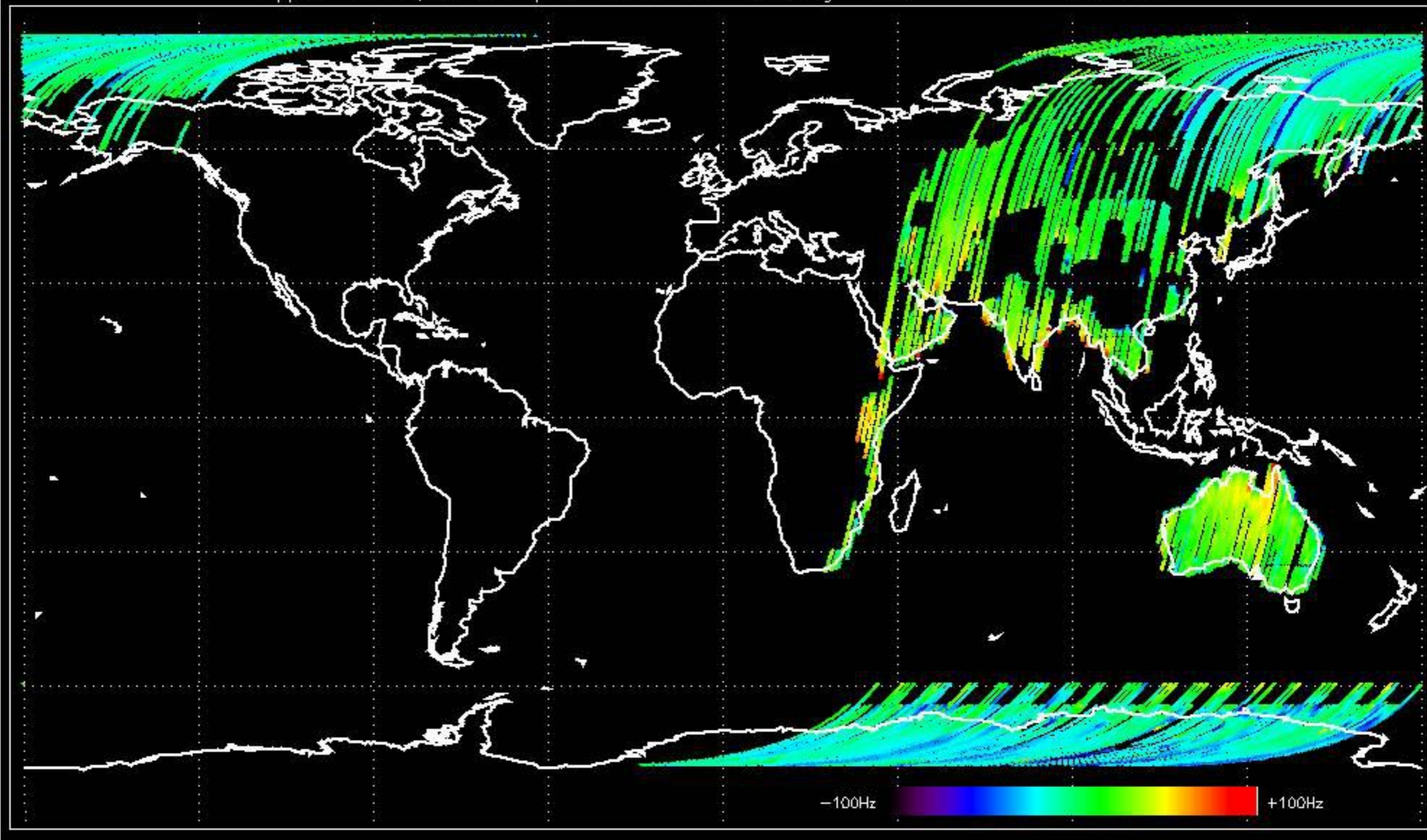




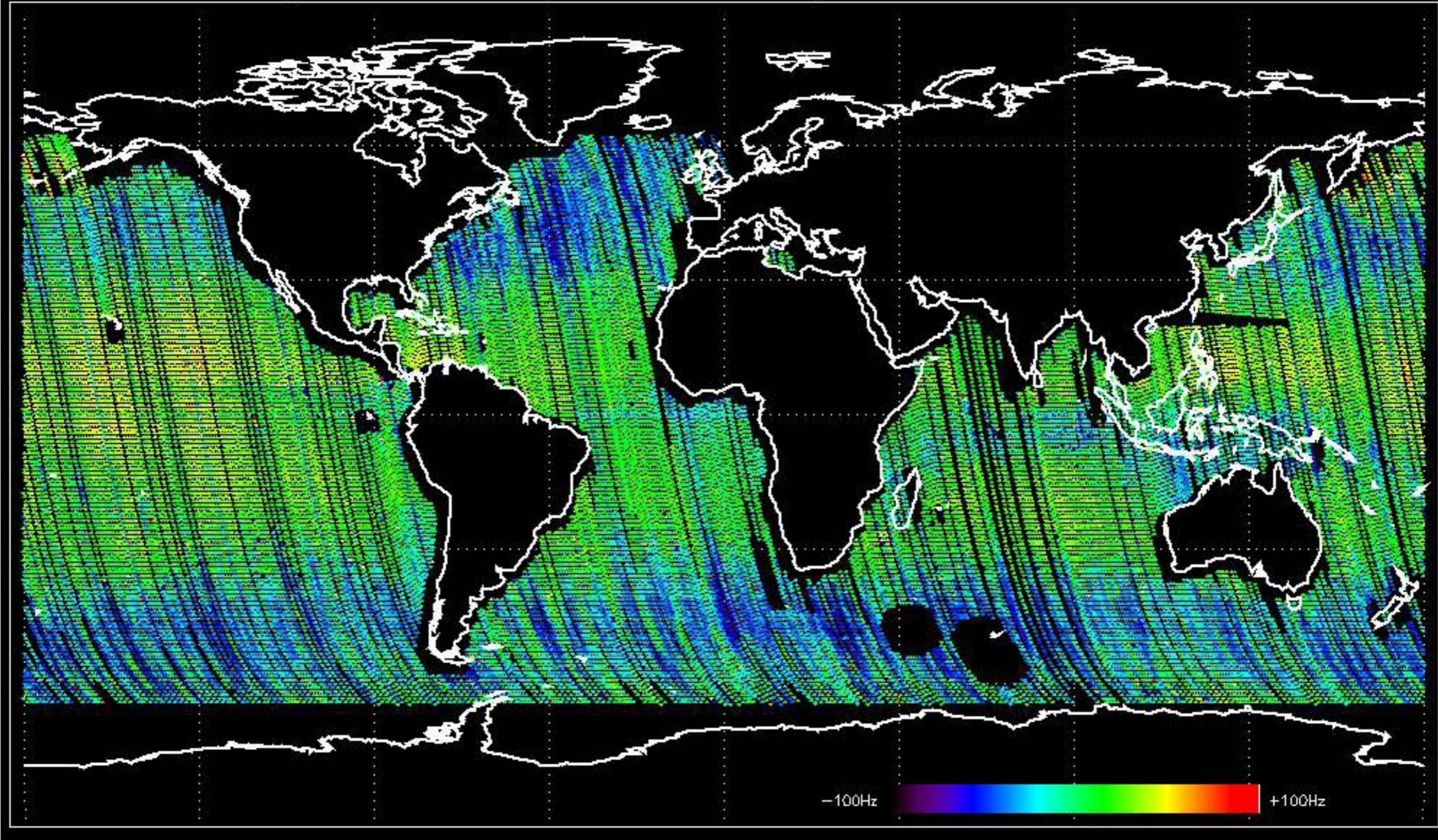
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -10.496762 Hz



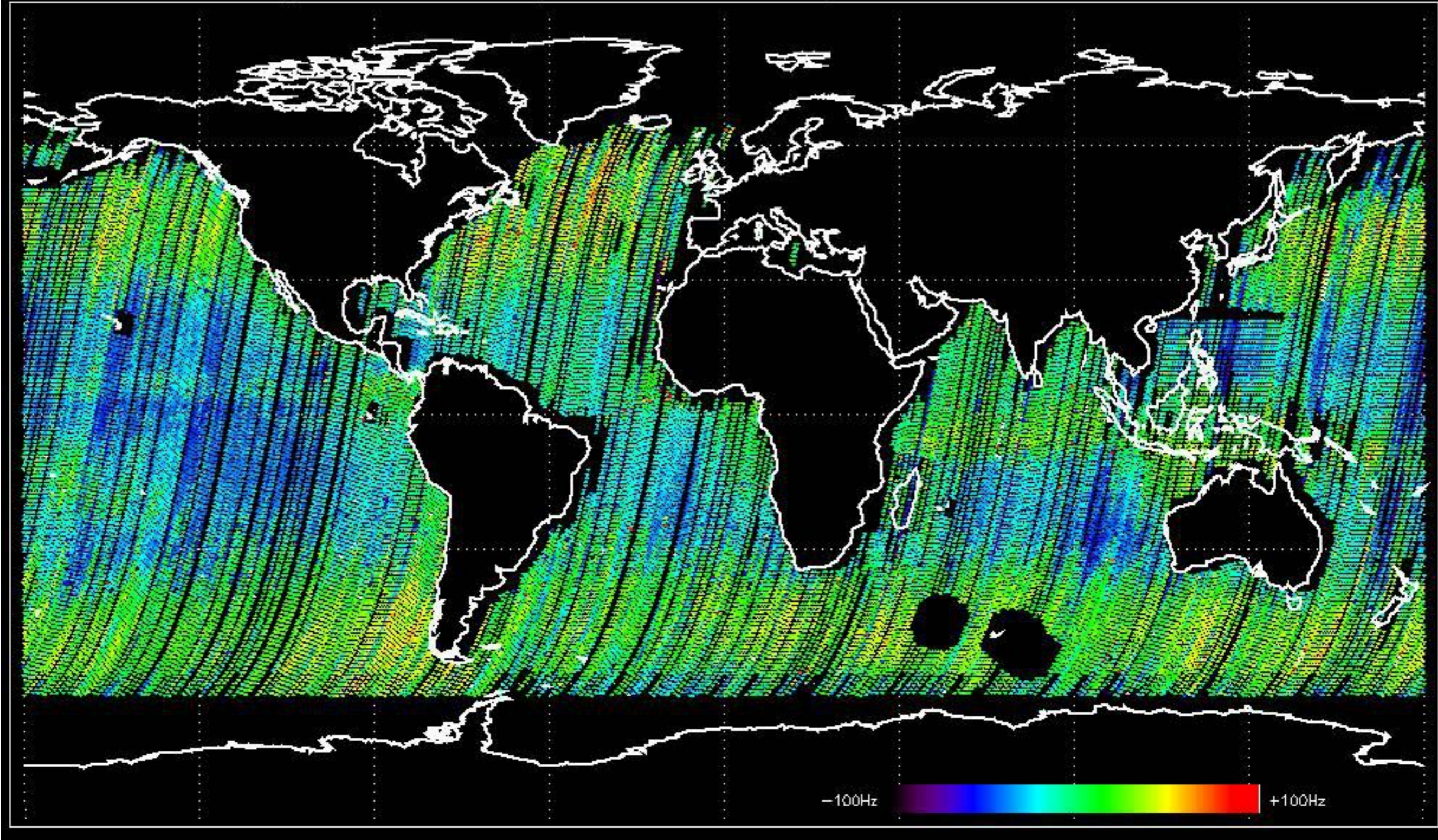
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -14.796945 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -8.5068055 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -10.275542 Hz



No anomalies observed on available MS products:



No anomalies observed.









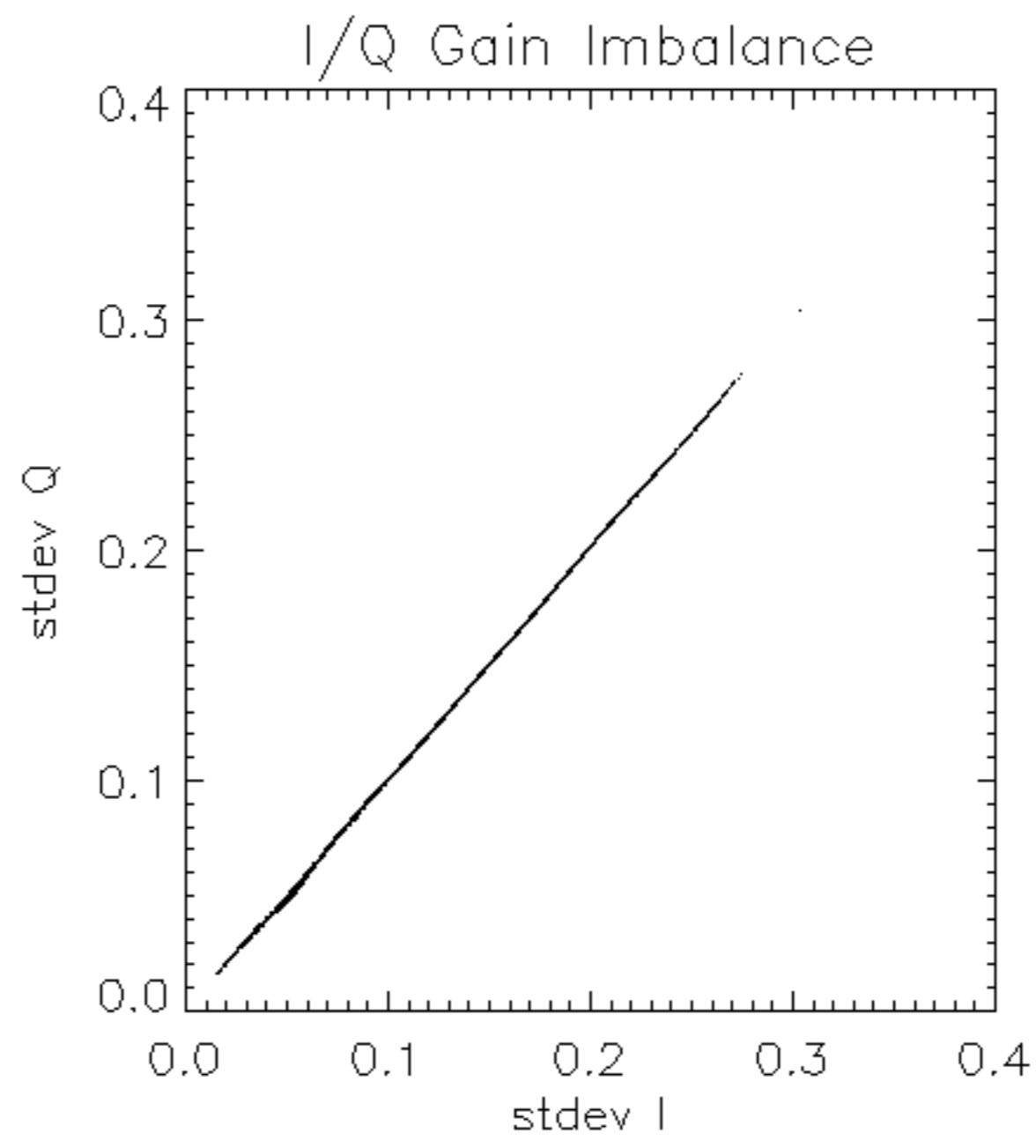


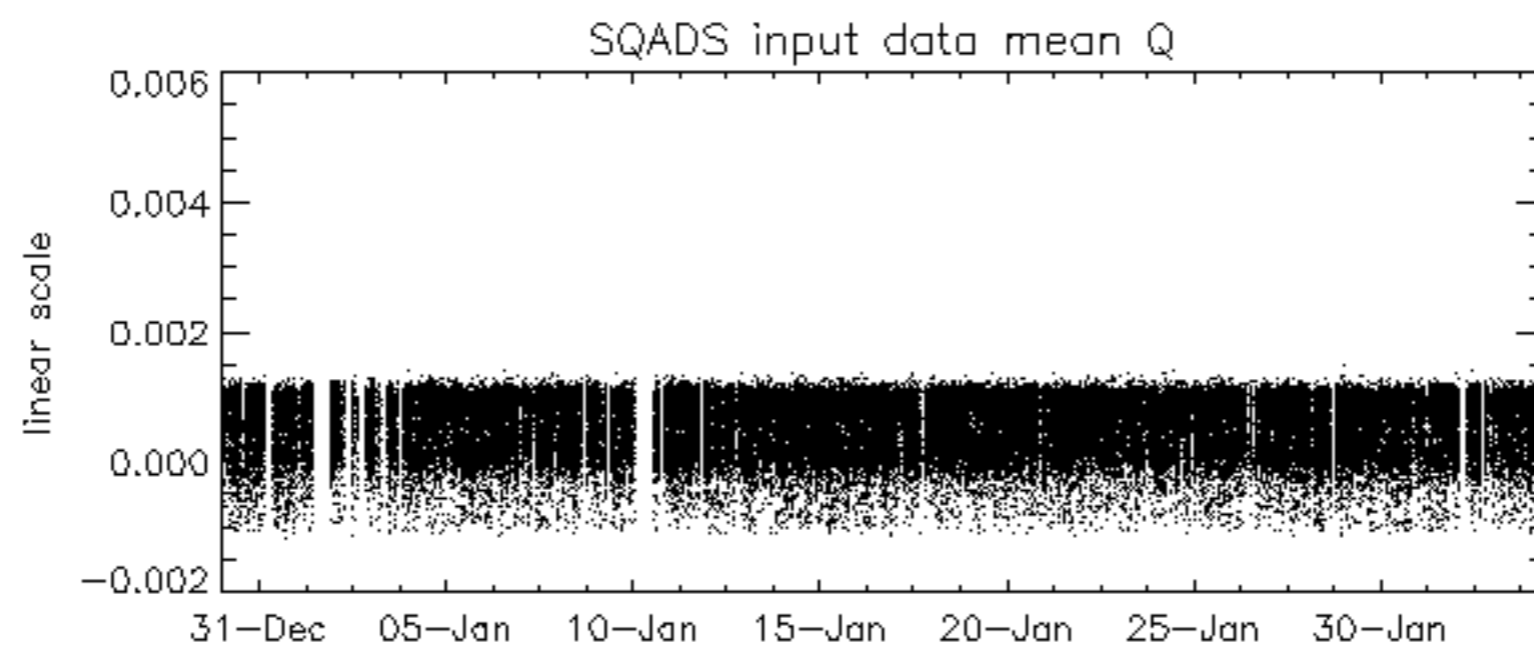
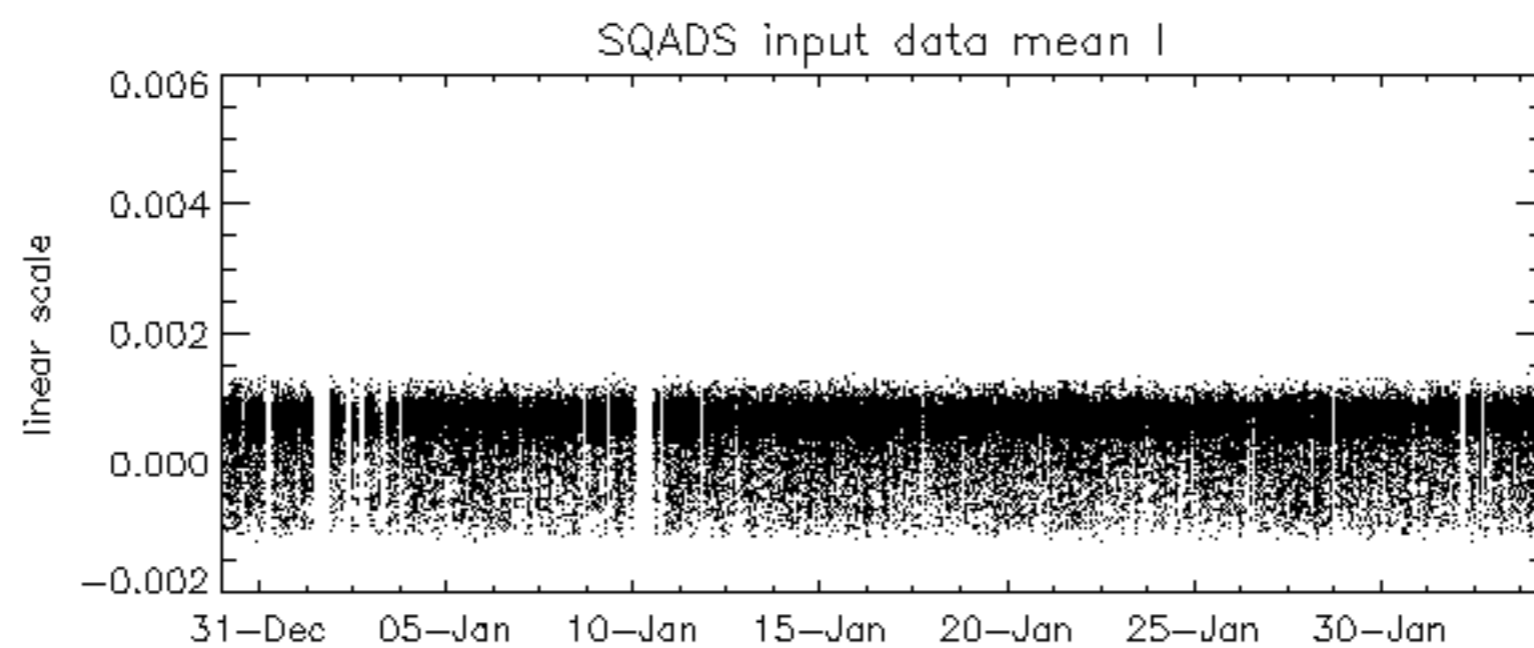
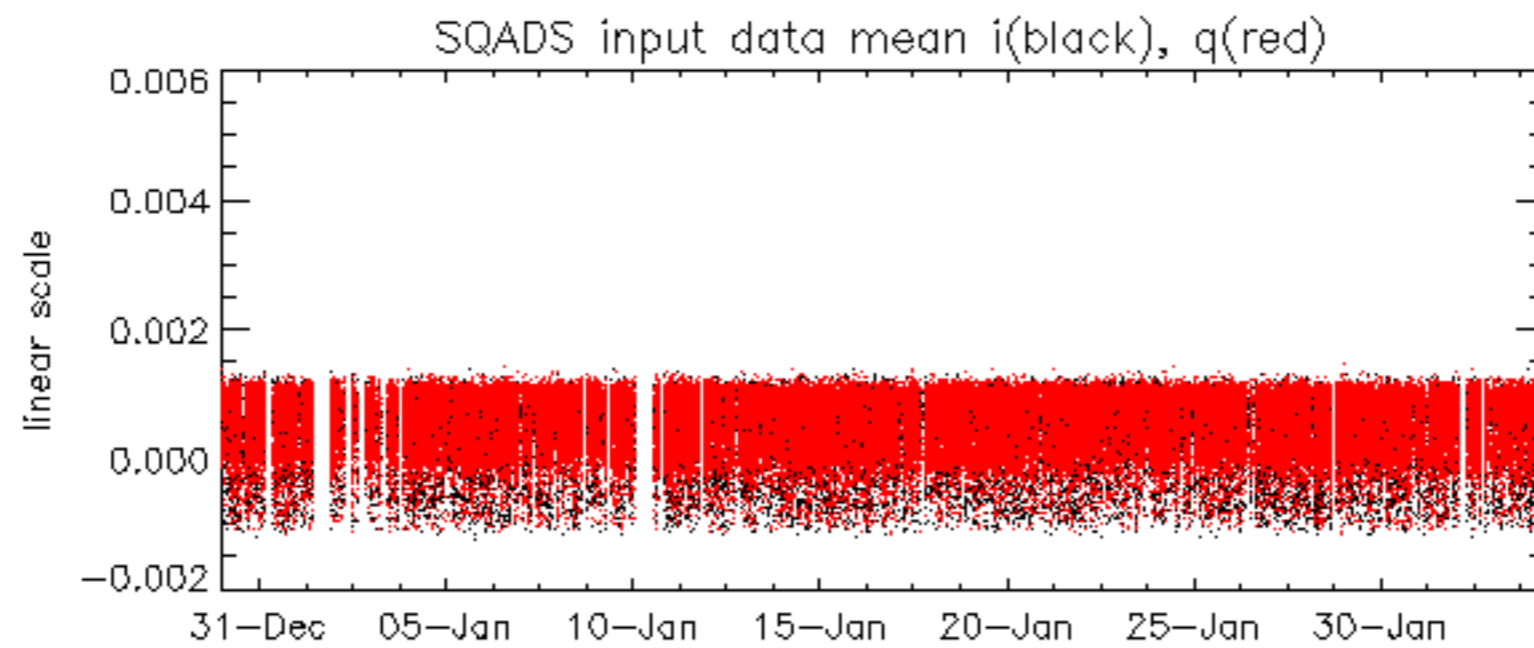


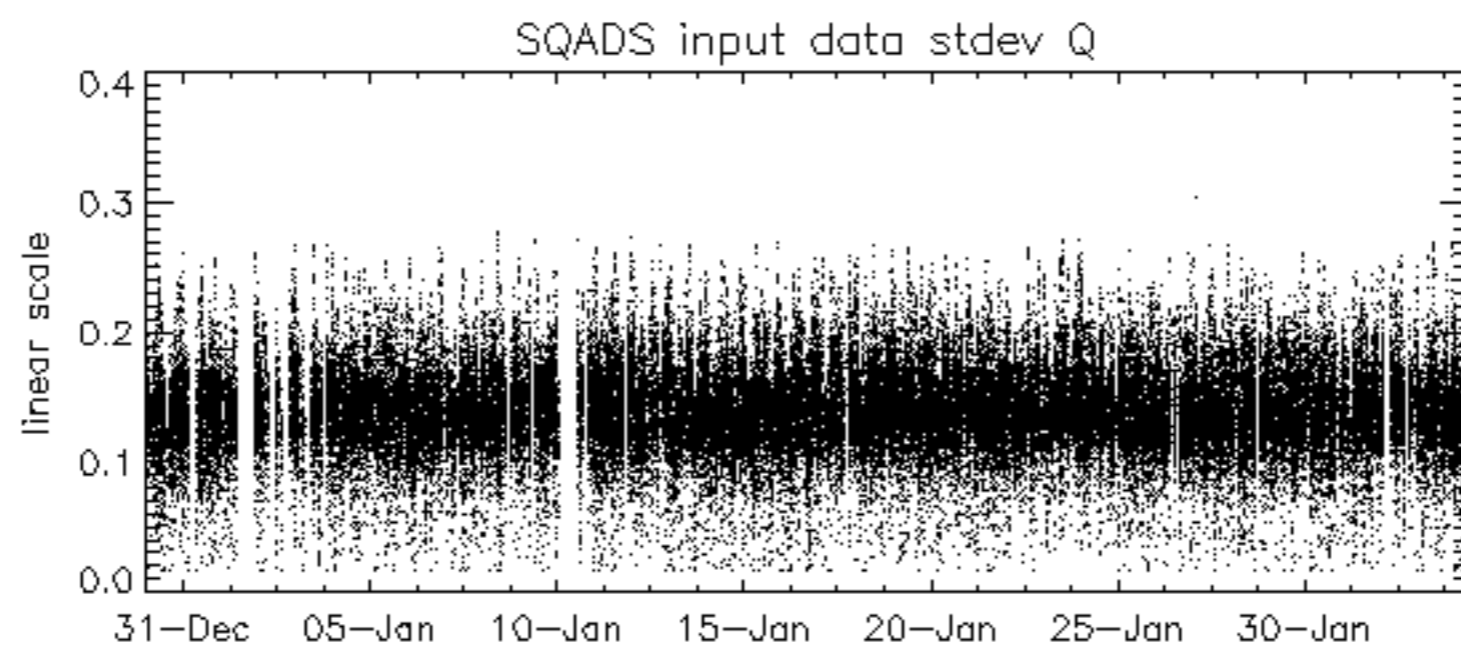
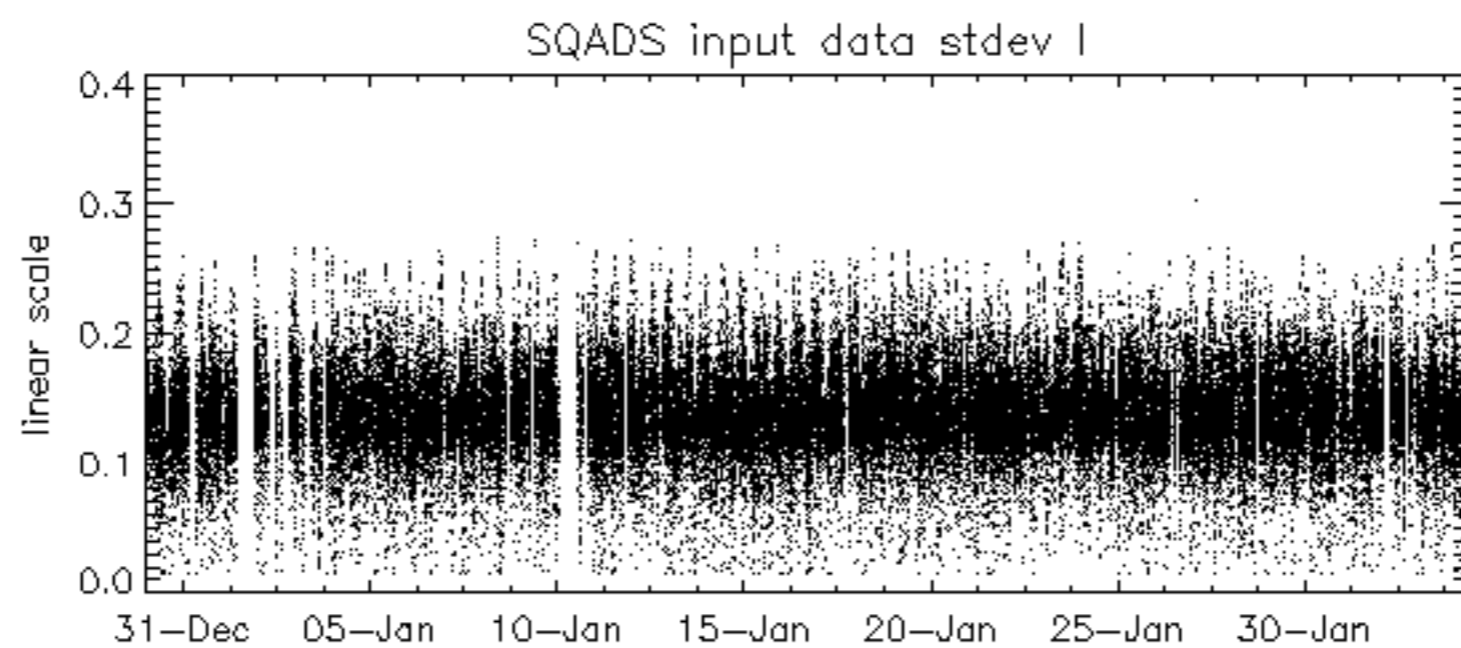
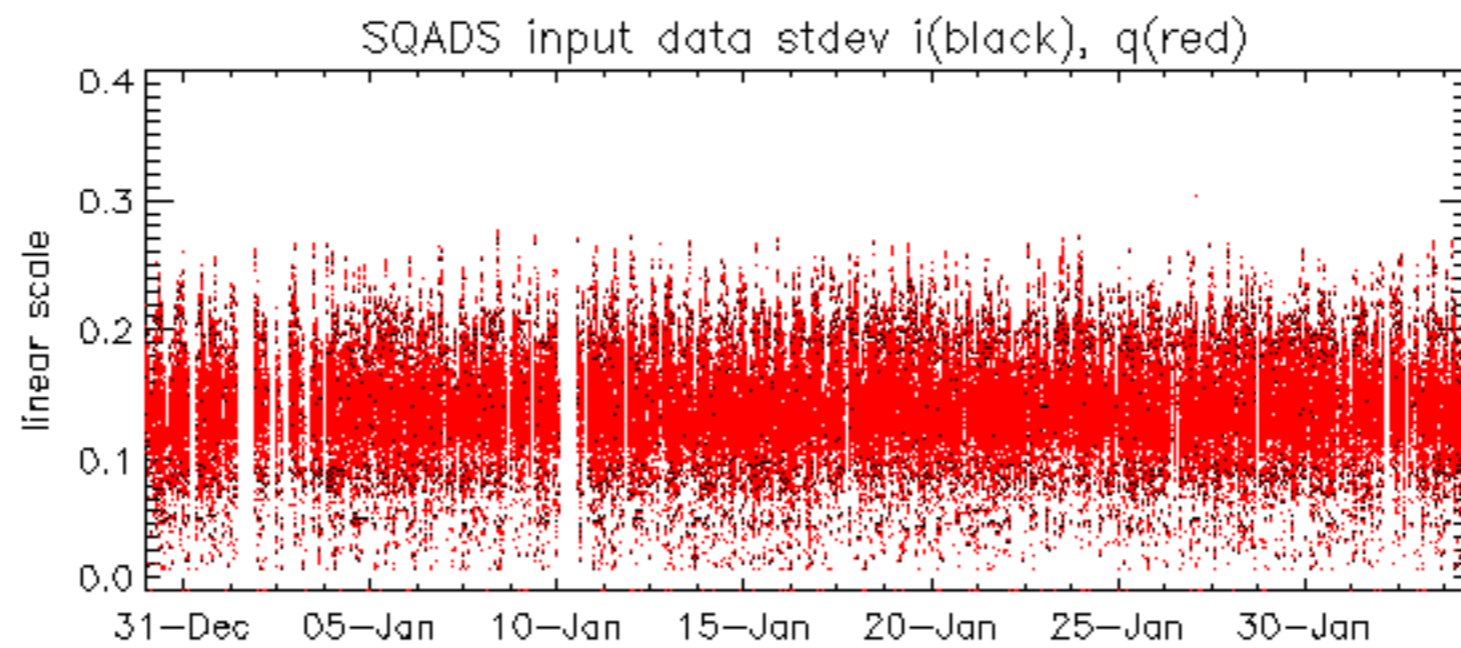


















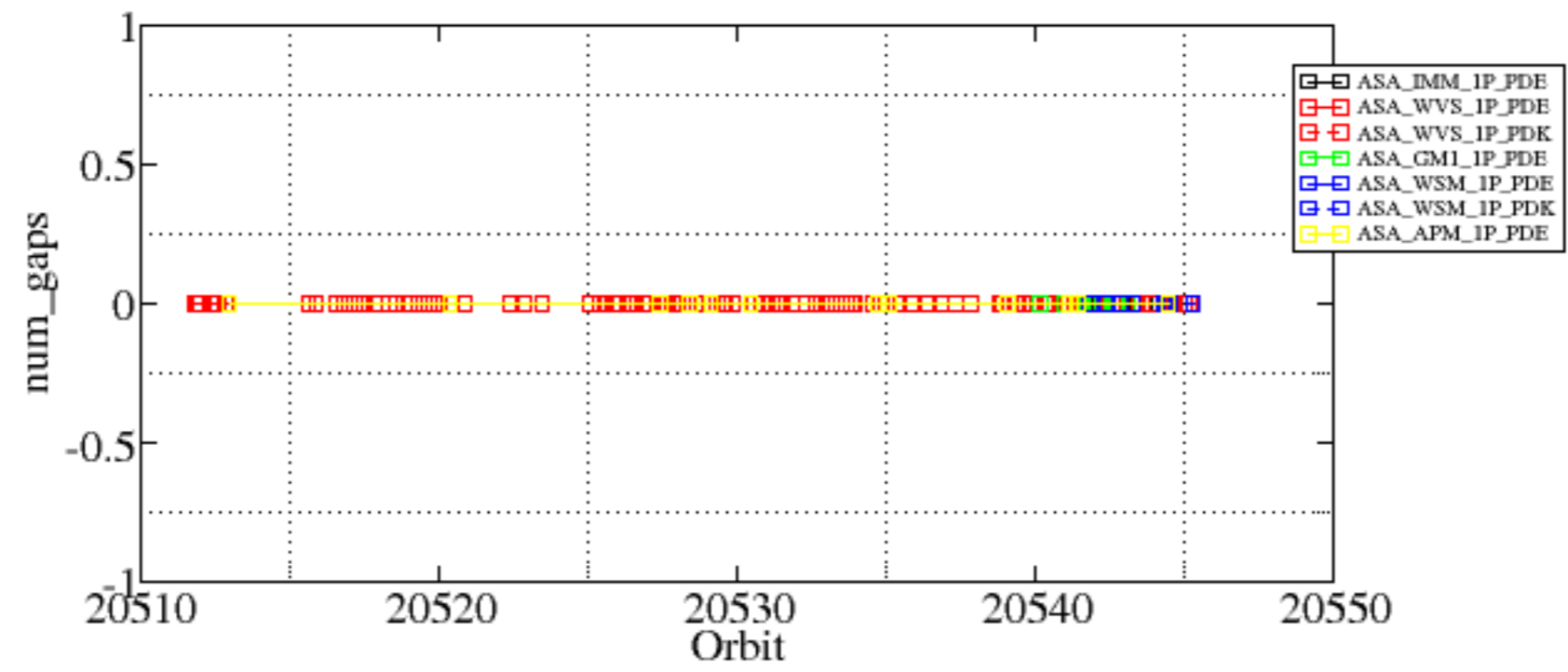


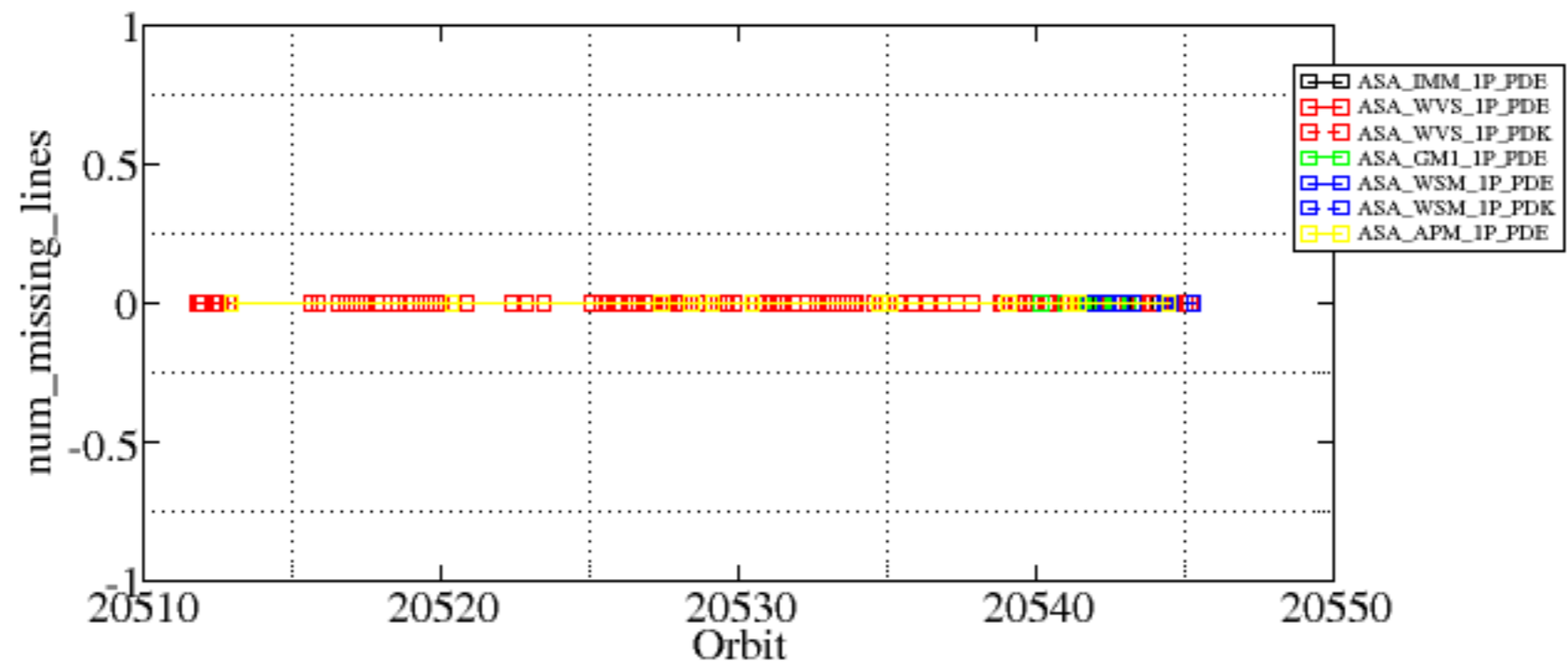


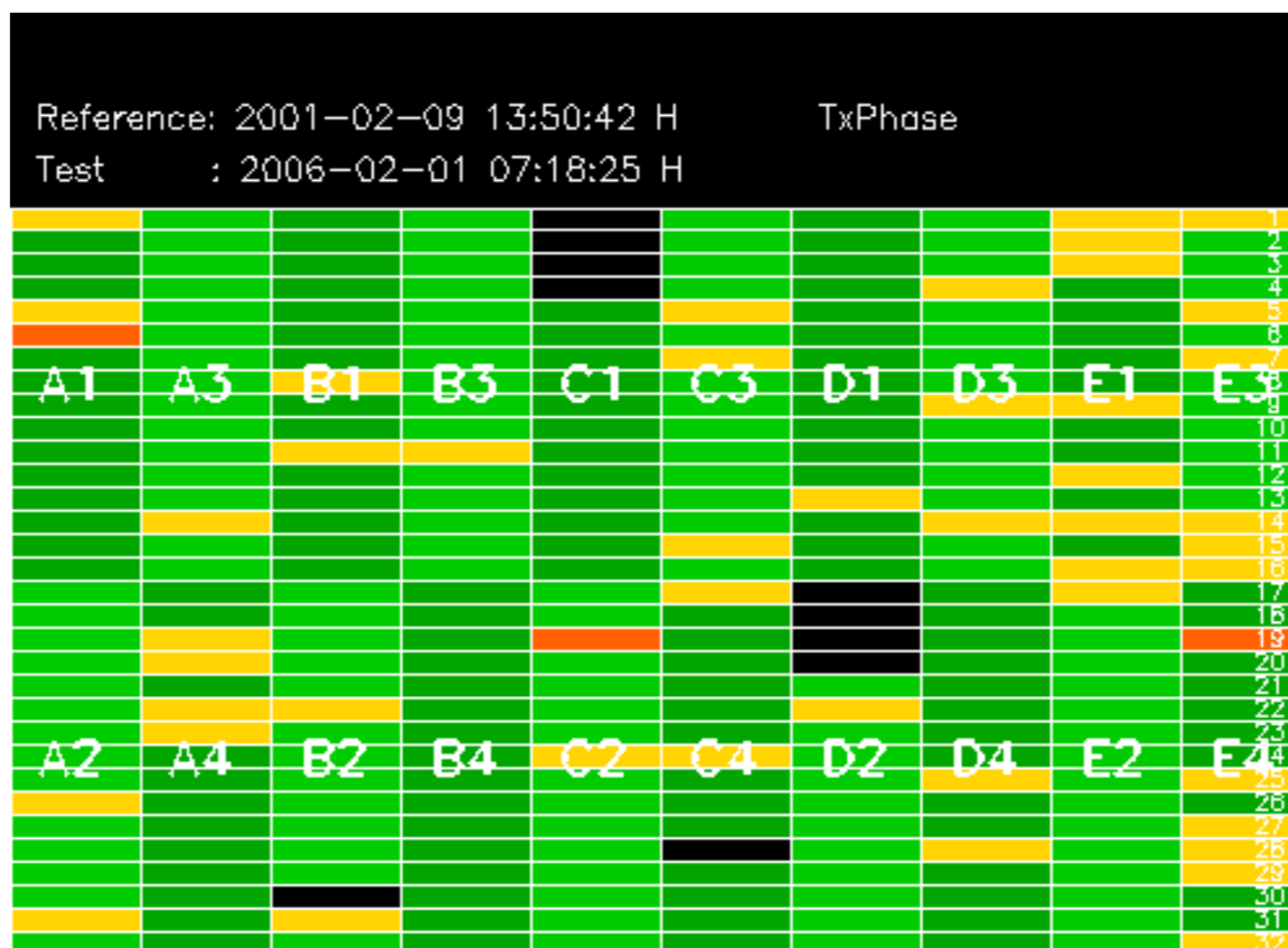
Summary of analysis for the last 3 days 2006020[123]

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

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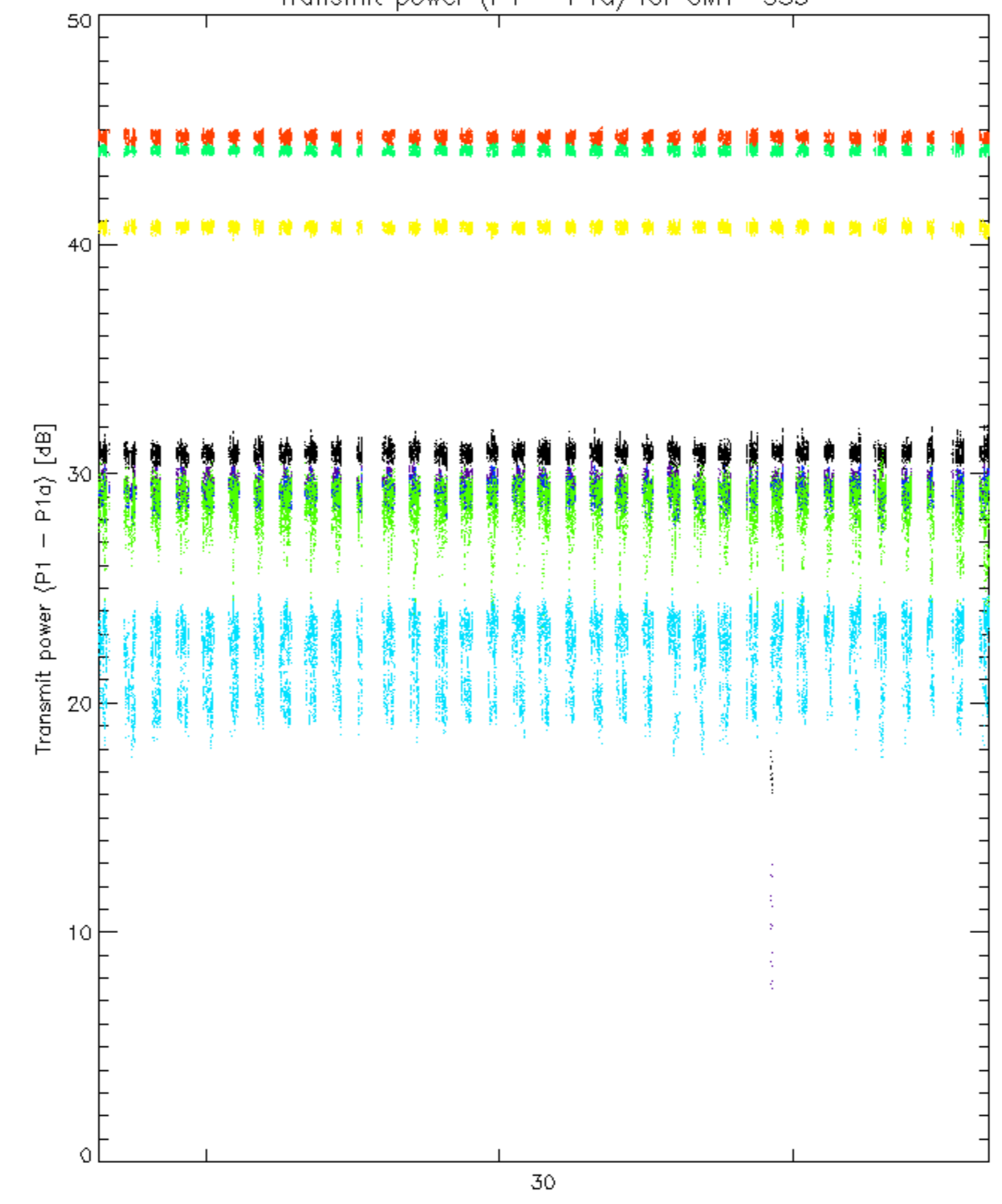






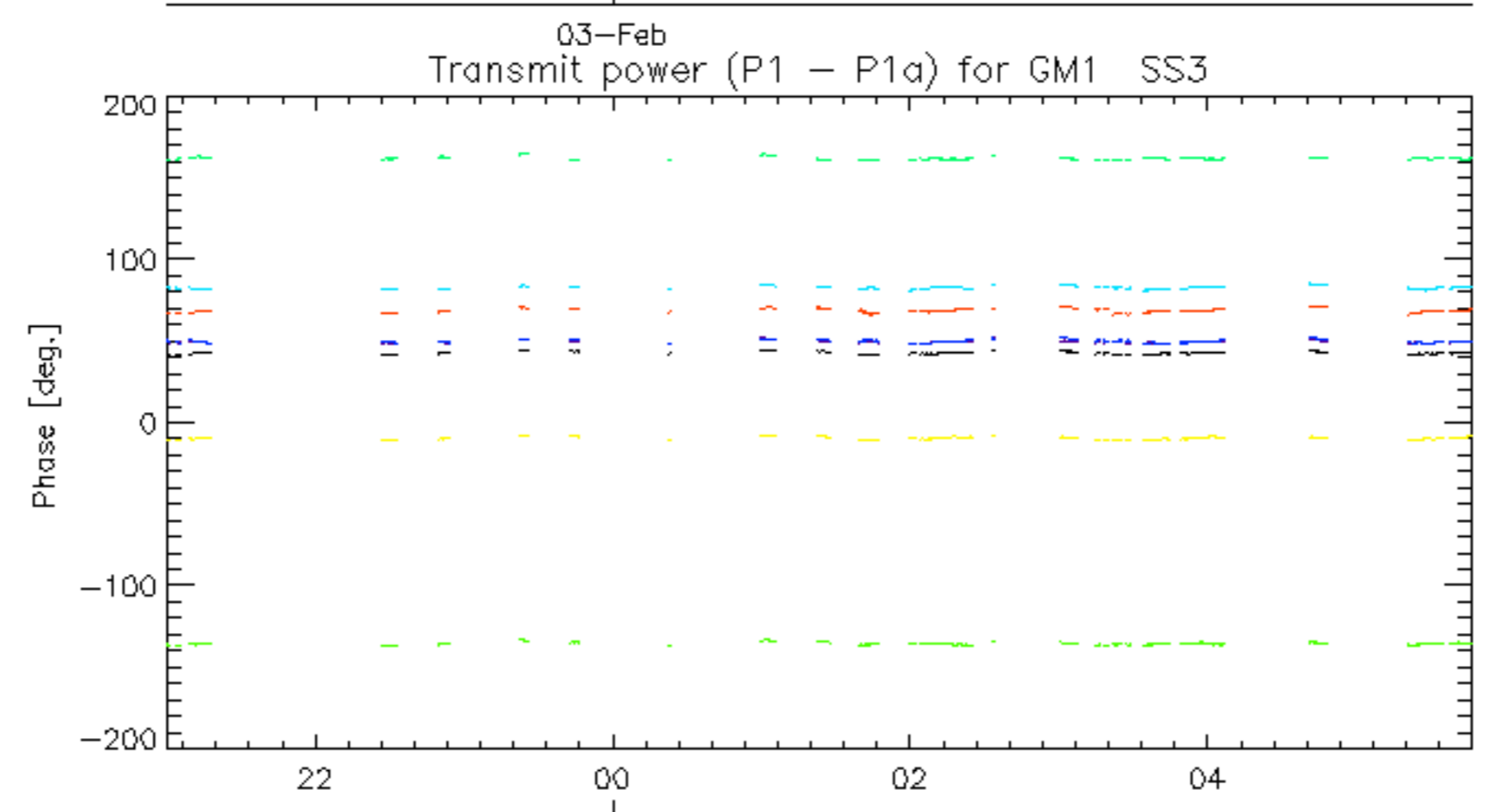
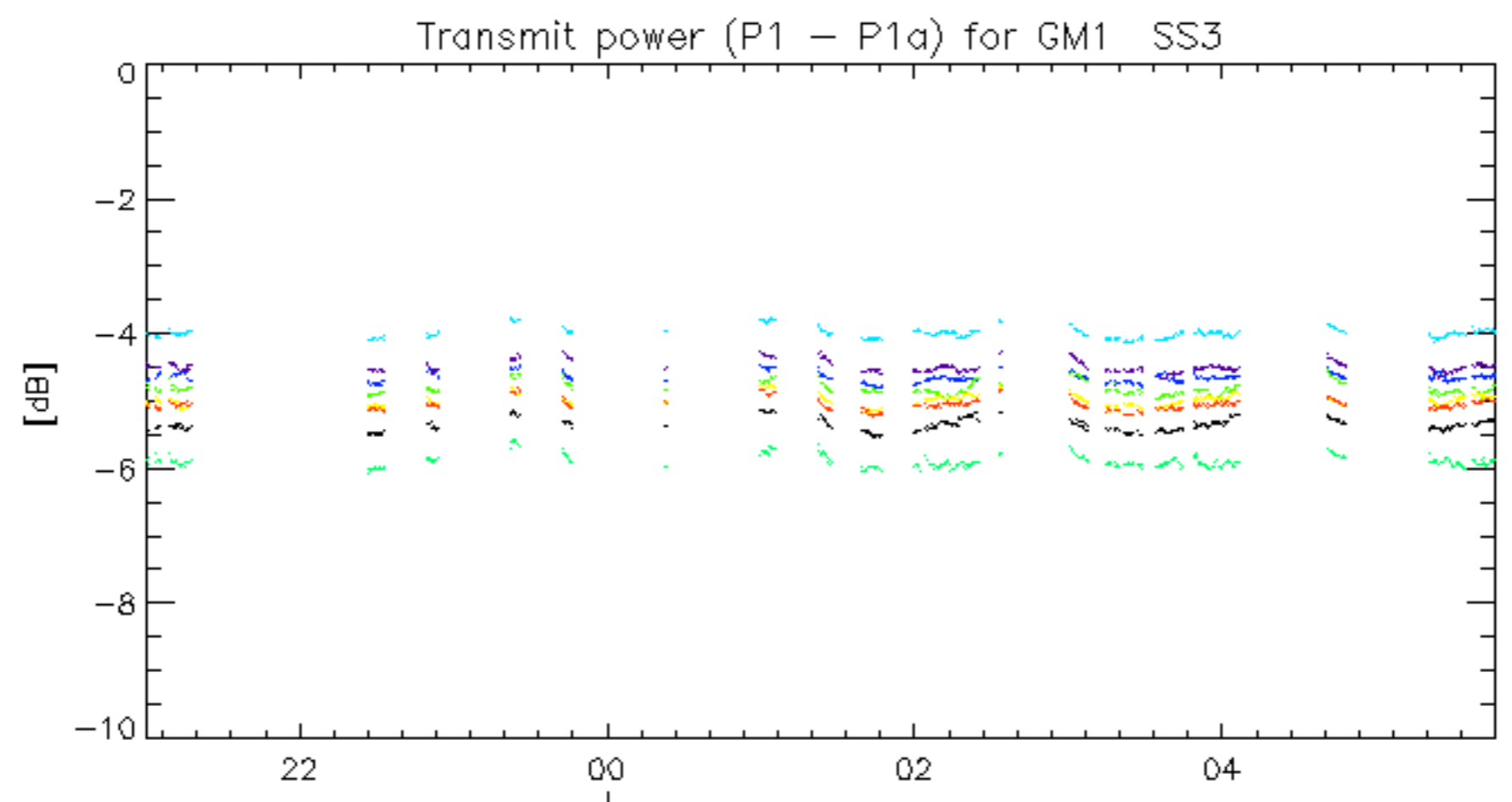


Transmit power (P1 - P1a) for GM1 SS3

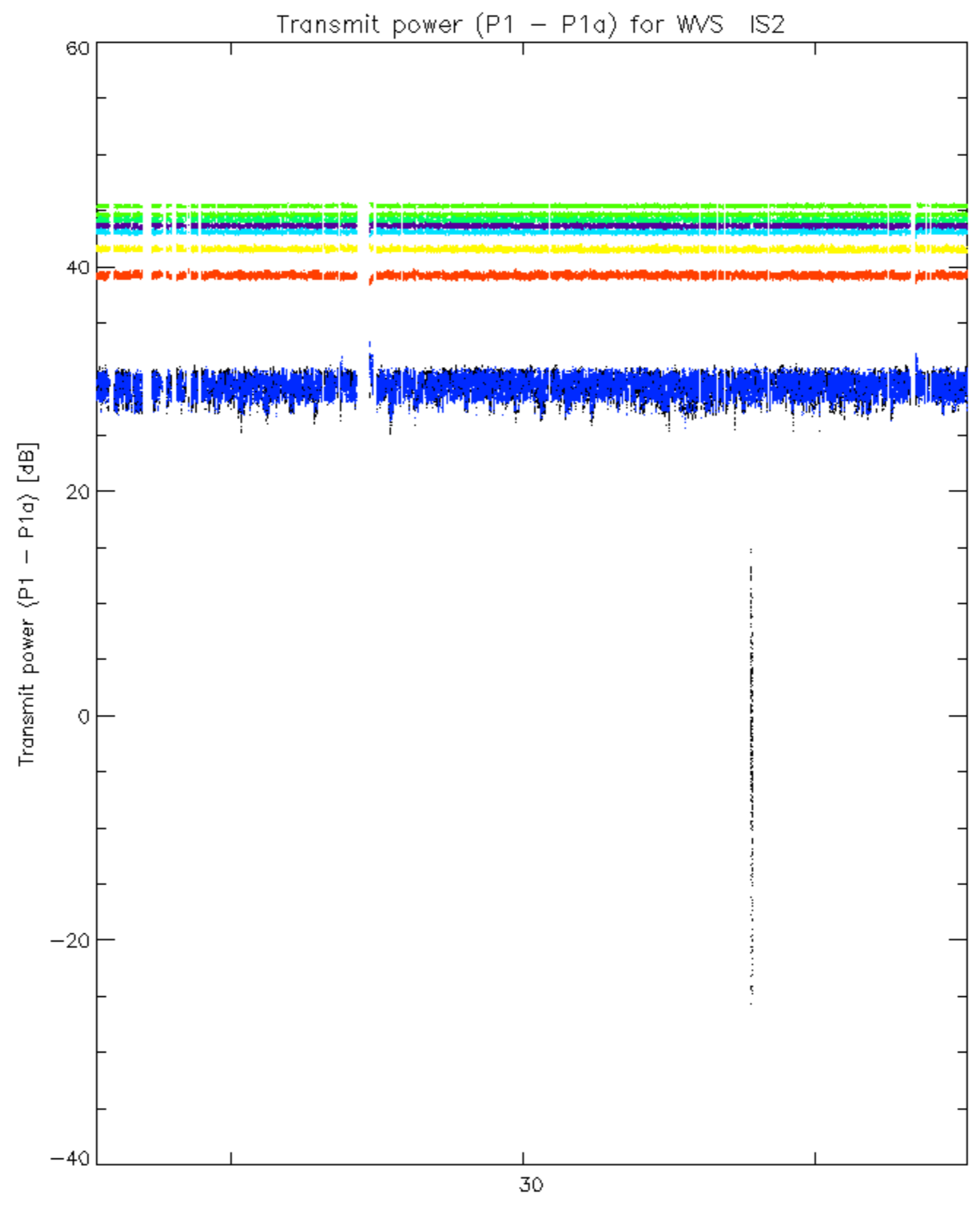


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

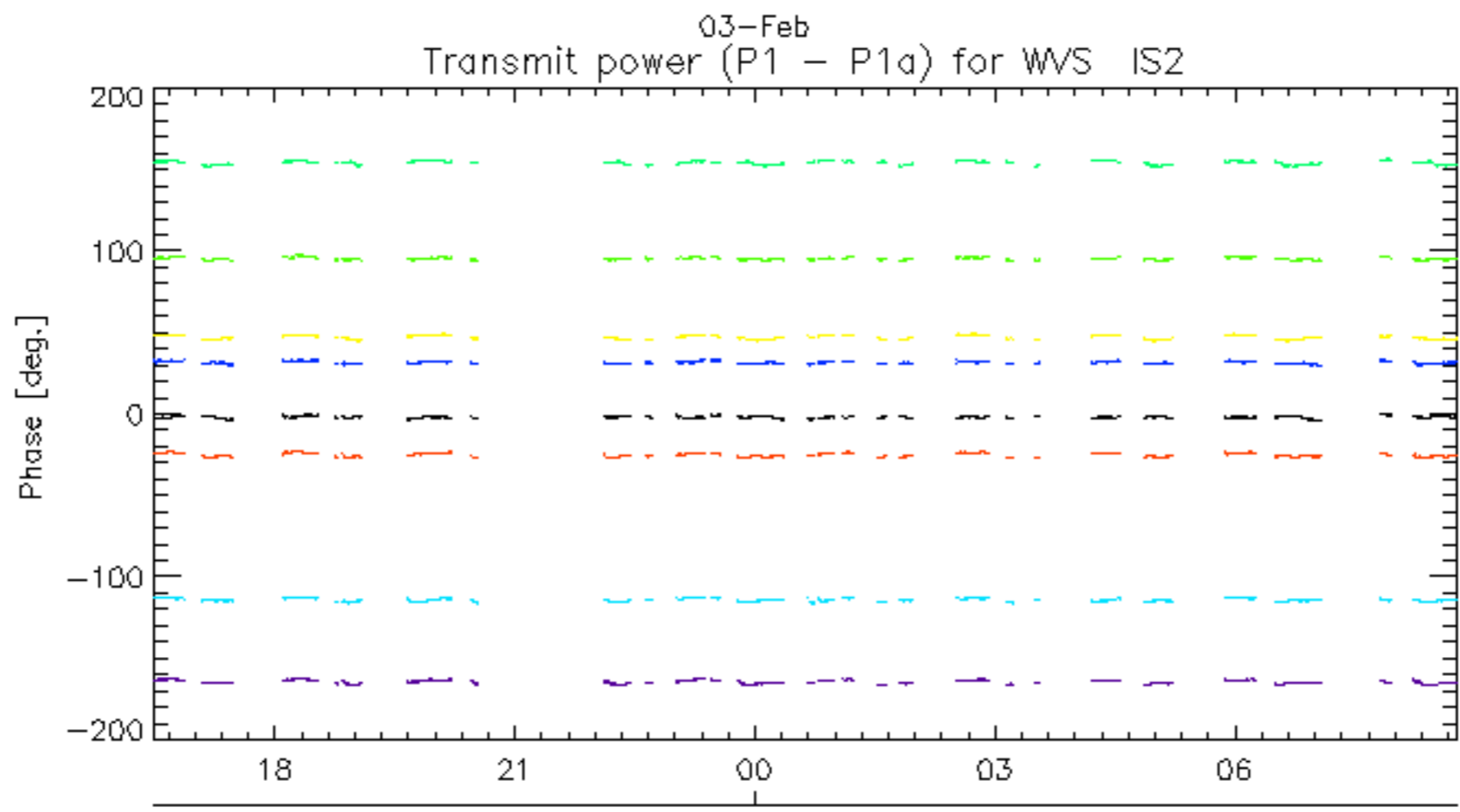
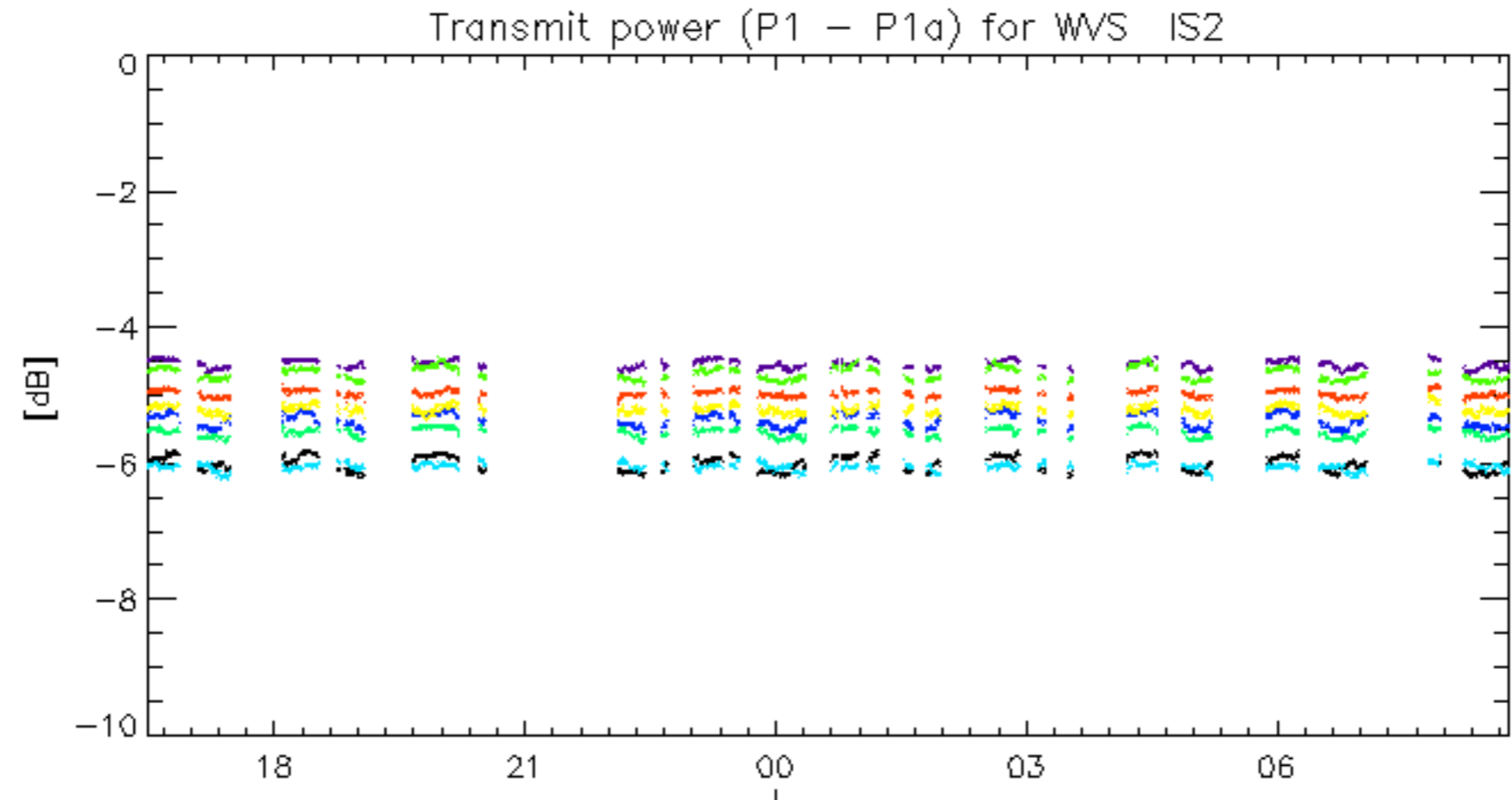




rows: **3** **7** **11** **15** **19** **22** **26** **30**



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



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

No unavailabilities during the reported period.