

# PRELIMINARY REPORT OF 060307

last update on Tue Mar 7 16:23:40 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 2006-03-06 00:00:00 to 2006-03-07 16:23:40

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	36	56	12	1	0
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	36	56	12	1	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	36	56	12	1	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	36	56	12	1	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	34	36	35	11	30
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	34	36	35	11	30
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	34	36	35	11	30
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	34	36	35	11	30

### 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	20060305 053205
H	20060306 050028

### 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
☒	☒
☒	☒
☒	☒
☒	☒

## 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
☒
☒

### 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	-4.002363	0.009648	-0.013756
7	P1	-3.002094	0.008843	-0.035207
11	P1	-4.071859	0.021184	0.052075
15	P1	-6.073563	0.021874	-0.048691
19	P1	-3.282773	0.006745	-0.039229
22	P1	-4.459723	0.015160	0.003773
26	P1	-4.211116	0.123376	0.020031
30	P1	-5.810426	0.176420	-0.135469
3	P1	-16.972973	0.250073	-0.054442
7	P1	-16.696669	0.104261	-0.134600
11	P1	-16.513968	0.331843	0.134568
15	P1	-13.060658	0.095656	0.019880
19	P1	-13.916662	0.057111	-0.087459
22	P1	-15.601516	0.480801	0.078776
26	P1	-15.759890	0.332678	-0.067721
30	P1	-16.477900	0.336932	0.041827

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.425297	0.087055	0.132613
7	P2	-22.394798	0.093600	0.050373
11	P2	-16.233538	0.099866	0.044525
15	P2	-7.167974	0.098823	0.009031
19	P2	-9.136092	0.091105	0.004019
22	P2	-17.933542	0.090734	-0.036200
26	P2	-16.207729	0.094249	-0.019342
30	P2	-19.640369	0.084024	-0.037438

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.193815	0.006361	-0.011160
7	P3	-8.193815	0.006361	-0.011160
11	P3	-8.193815	0.006361	-0.011160
15	P3	-8.193815	0.006361	-0.011160
19	P3	-8.193815	0.006361	-0.011160
22	P3	-8.193815	0.006361	-0.011160
26	P3	-8.193815	0.006361	-0.011160
30	P3	-8.193817	0.006361	-0.011161

**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	-3.879115	4.609064	0.010239
7	P1	-2.881562	4.835635	0.056523
11	P1	-3.065134	4.865863	0.010681
15	P1	-3.712056	4.821453	-0.001434
19	P1	-3.505164	4.679791	-0.011245
22	P1	-5.295867	4.293569	-0.012357
26	P1	-6.021601	4.554095	0.069358
30	P1	-5.340961	4.340589	-0.032914
3	P1	-11.673622	3.014955	0.047407
7	P1	-10.068810	3.336399	0.007160
11	P1	-10.359528	3.321429	-0.097680
15	P1	-10.902484	3.309673	-0.069775
19	P1	-15.489964	2.437781	-0.042551
22	P1	-20.316818	2.921059	0.136626

26	P1	-16.344164	3.060817	0.185284
30	P1	-18.383369	2.171890	-0.118091

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.127455	3.173352	0.146567
7	P2	-22.548429	3.693725	0.030191
11	P2	-11.303928	3.450963	0.092403
15	P2	-4.952493	4.486084	0.025704
19	P2	-6.959007	4.038262	0.023337
22	P2	-8.241685	3.789229	-0.012412
26	P2	-23.854052	3.802987	-0.048344
30	P2	-22.015306	3.597389	-0.028254

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.023869	0.002698	-0.002325
7	P3	-8.023894	0.002692	-0.002583
11	P3	-8.023880	0.002702	-0.002171
15	P3	-8.023980	0.002696	-0.002598
19	P3	-8.023868	0.002714	-0.001529
22	P3	-8.023978	0.002691	-0.002383
26	P3	-8.023955	0.002701	-0.001894
30	P3	-8.023873	0.002696	-0.002363

## 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	0.000553347
	stdev	1.77202e-07
MEAN Q	mean	0.000511568
	stdev	2.22498e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.137976
	stdev	0.00119820
STDEV Q	mean	0.138337
	stdev	0.00121623



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006030[567]

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_IMM_1PNPDE20060305_201438_000000522045_00386_20981_5480.N1	0	20







## 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



<input type="checkbox"/>
Descending

### 7.5 - Absolute Doppler for GM1

#### Evolution of Absolute Doppler

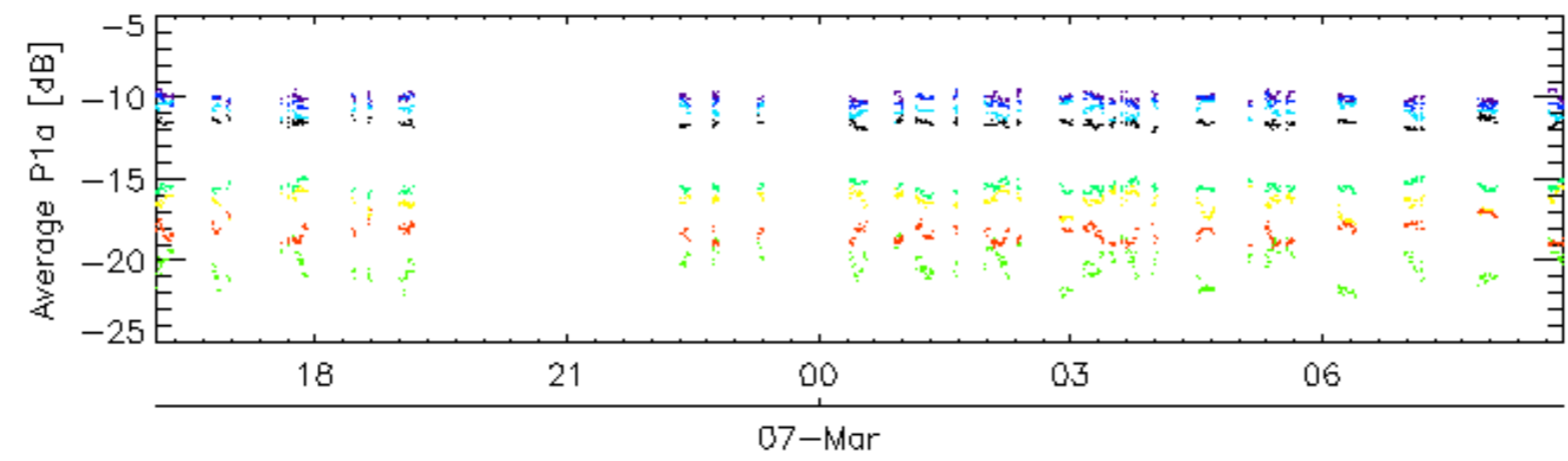
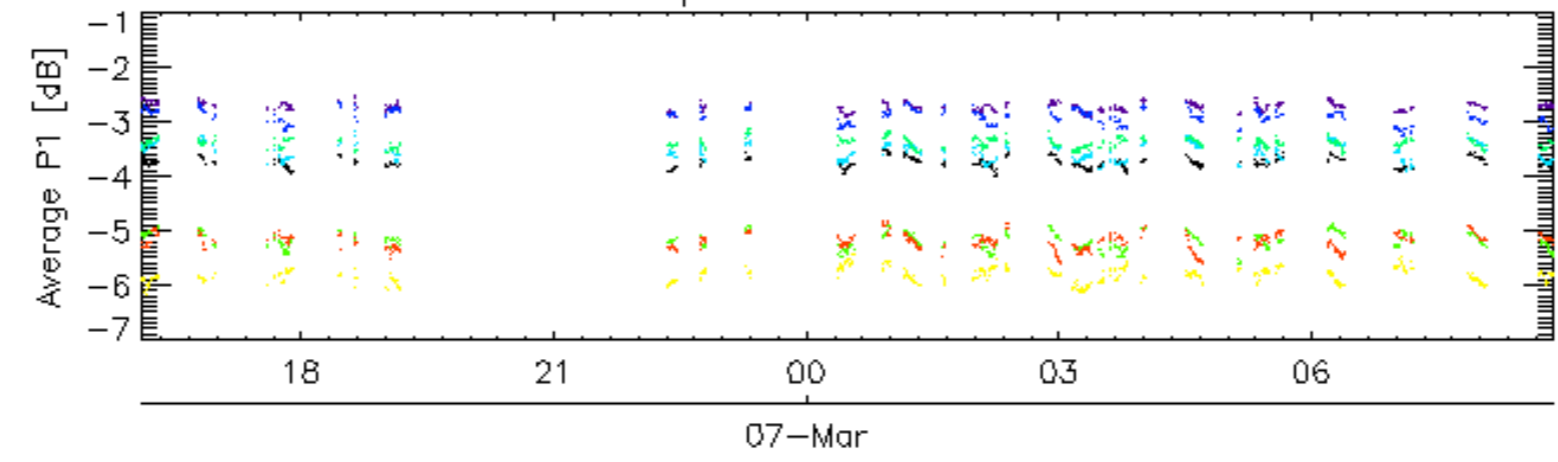
<input type="checkbox"/>
Ascending
<input type="checkbox"/>
Descending

### 7.6 - Doppler evolution versus ANX for GM1

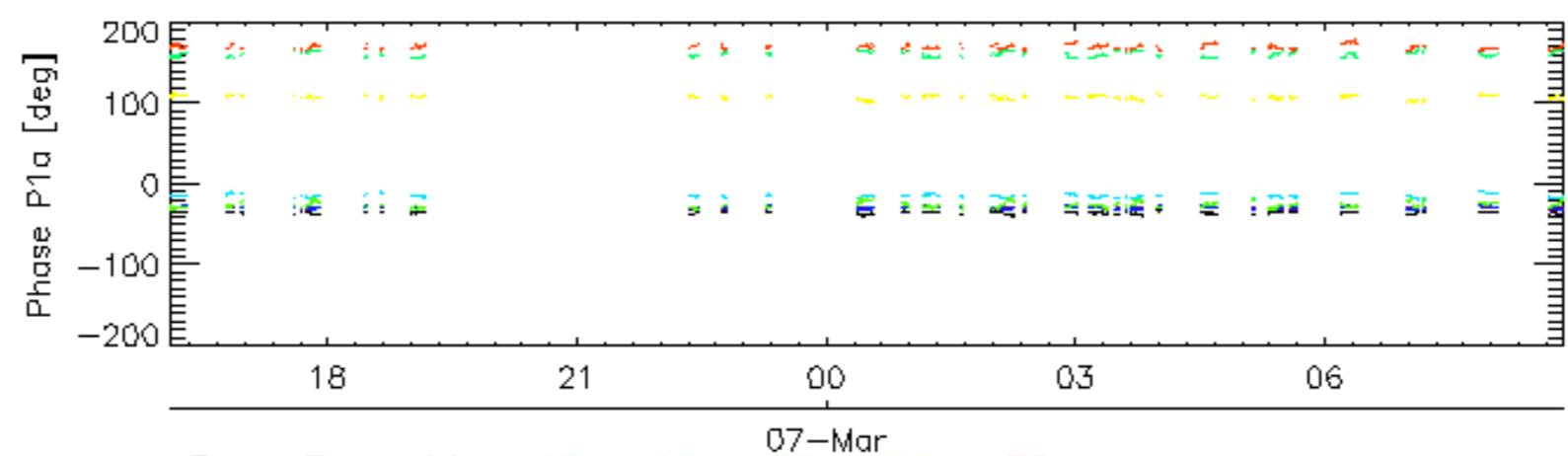
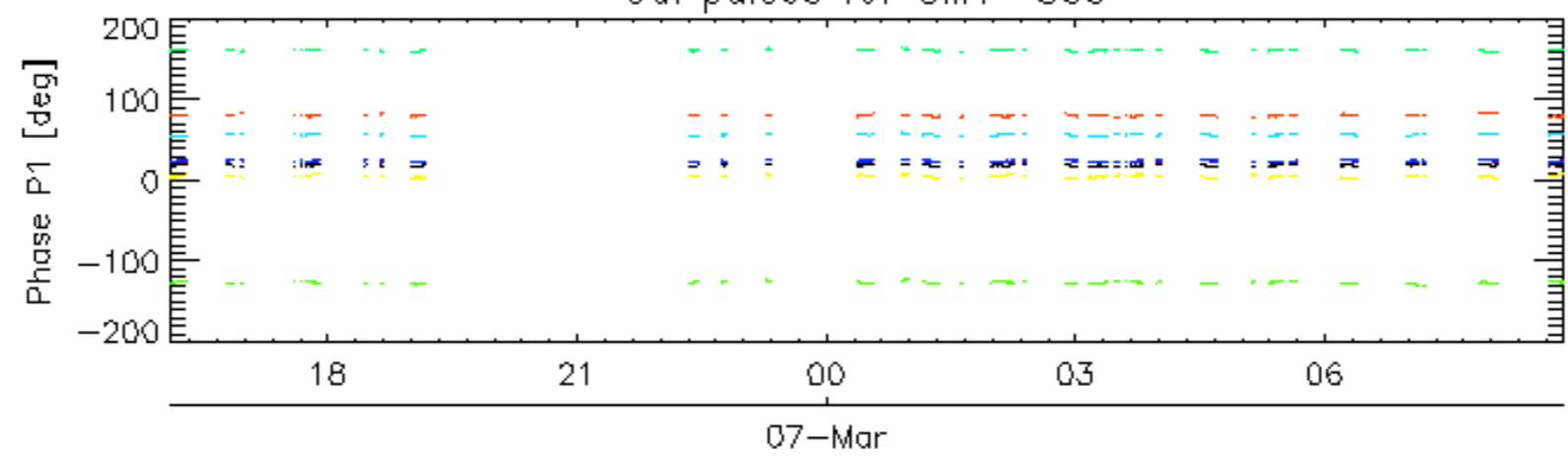
#### Evolution Doppler error versus ANX

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

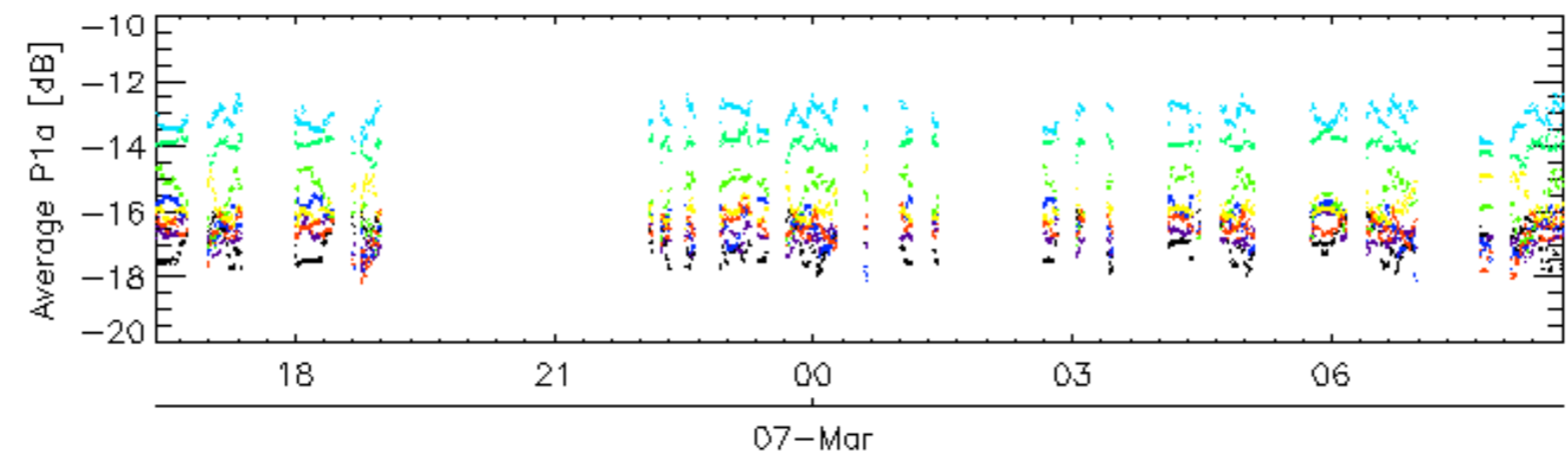
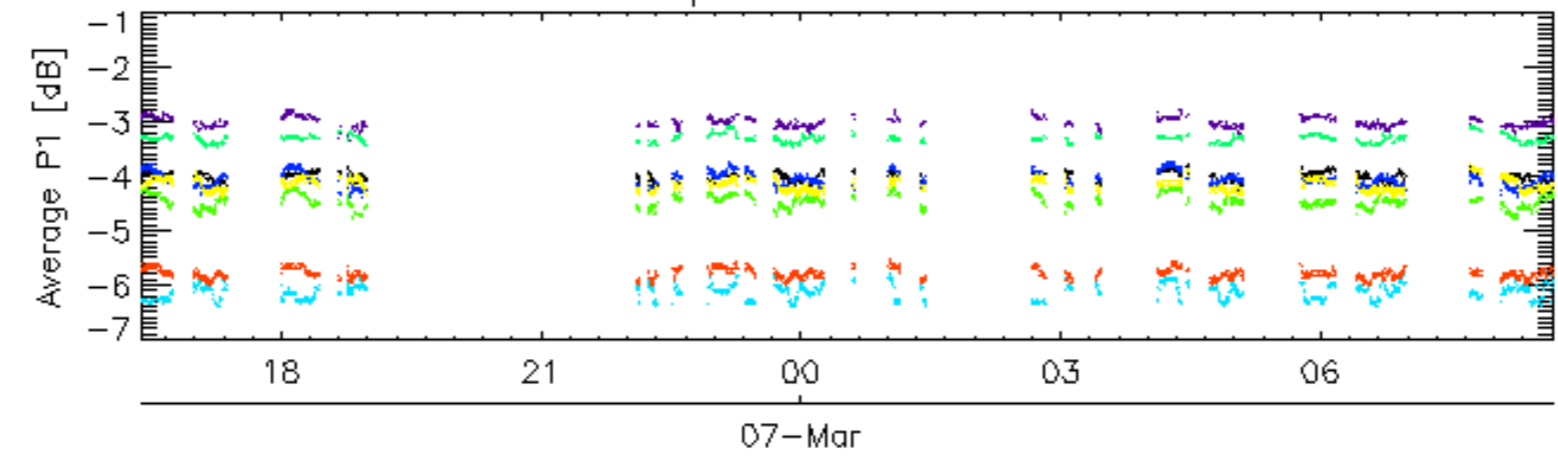


Cal pulses for GM1 SS3

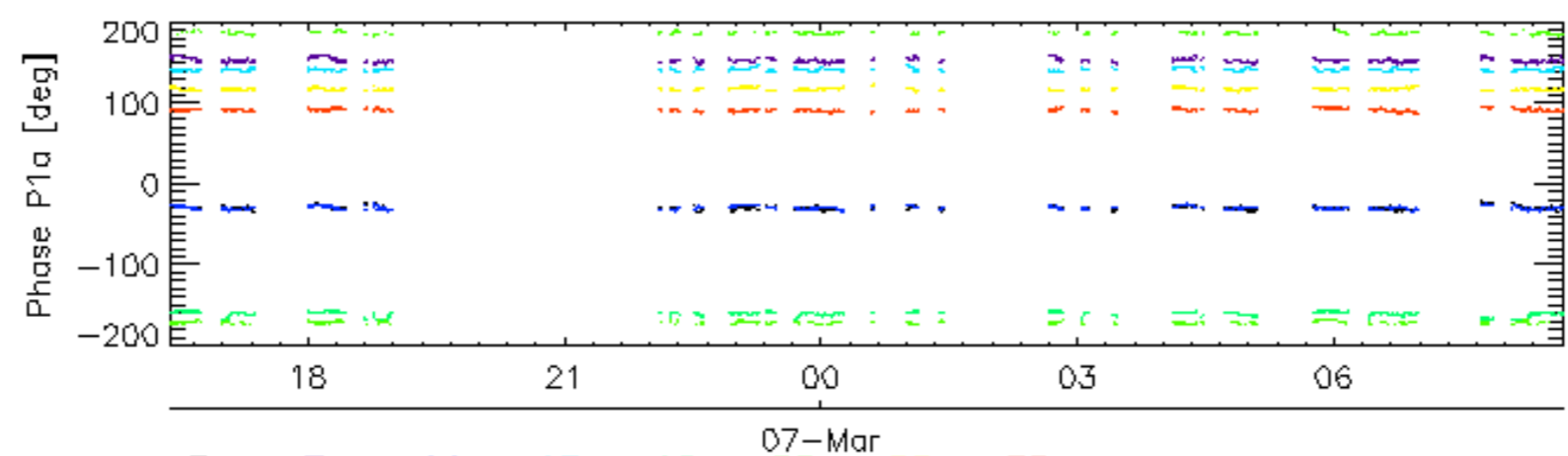
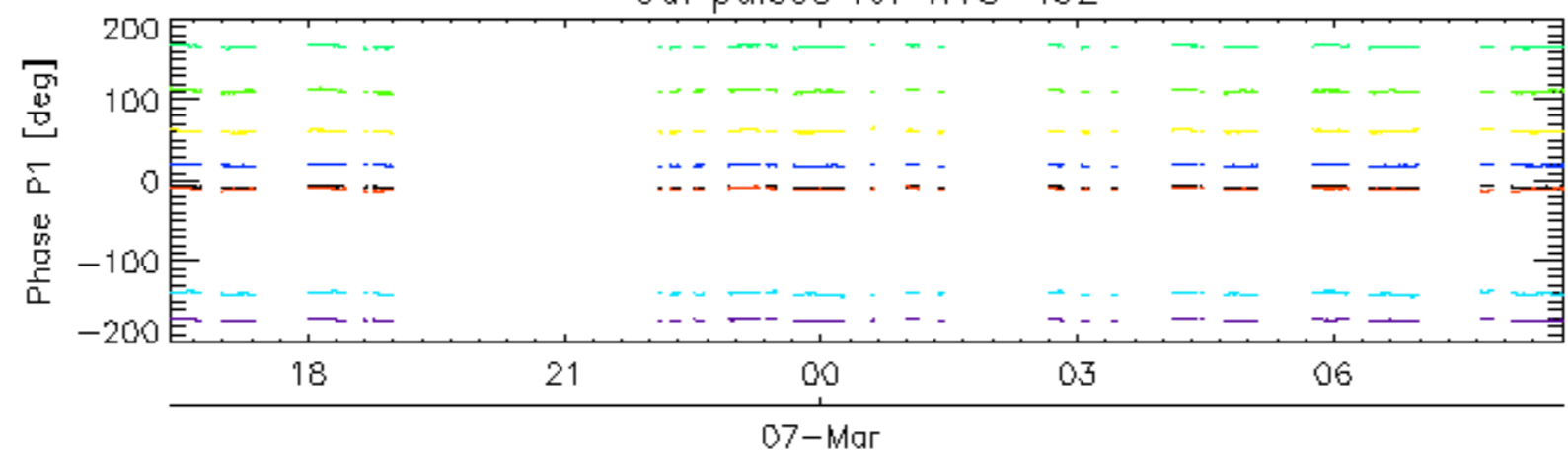


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

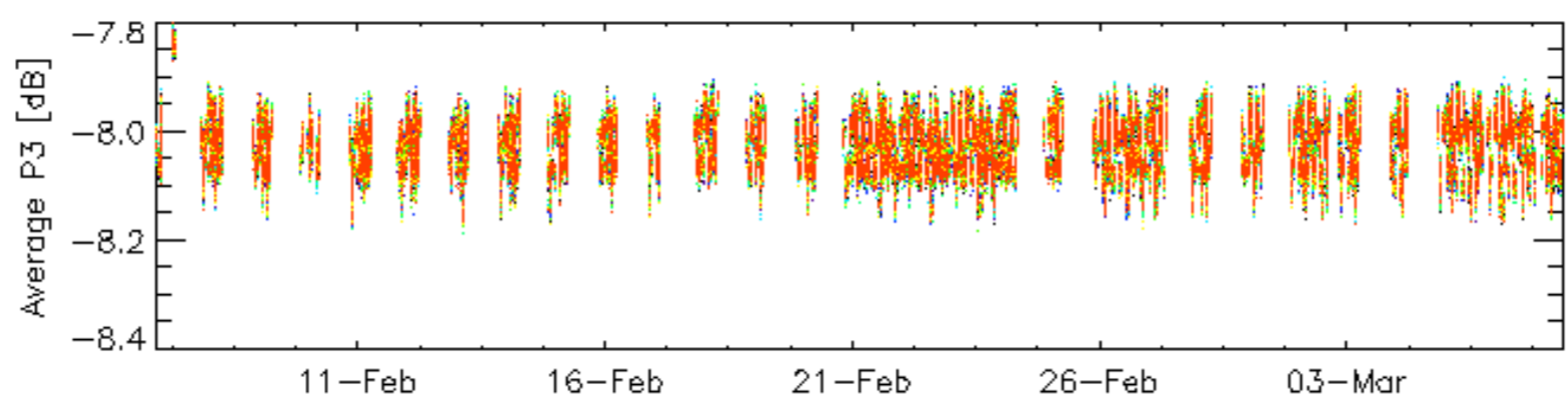
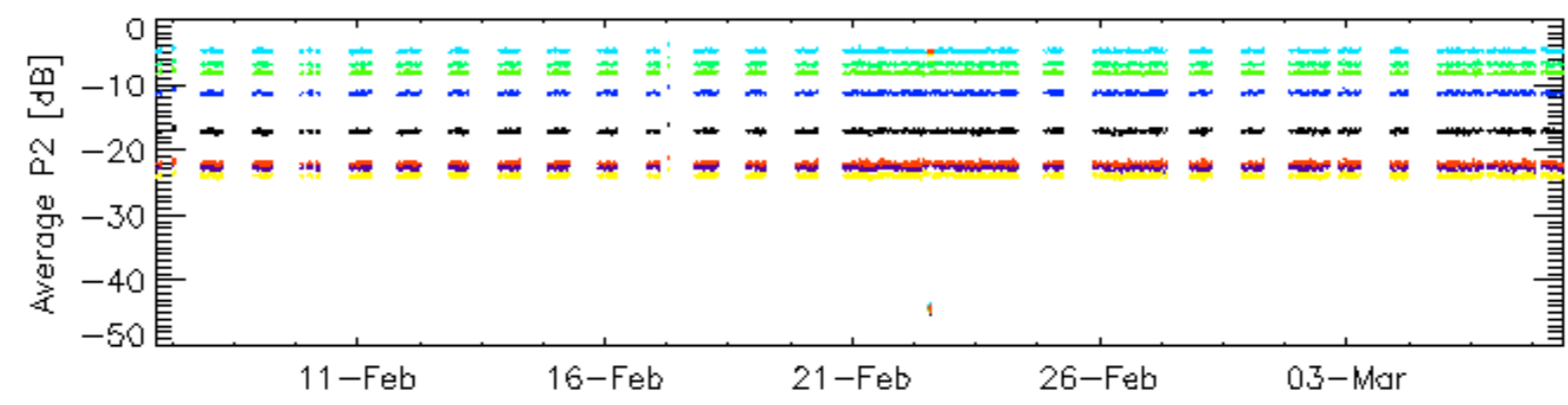
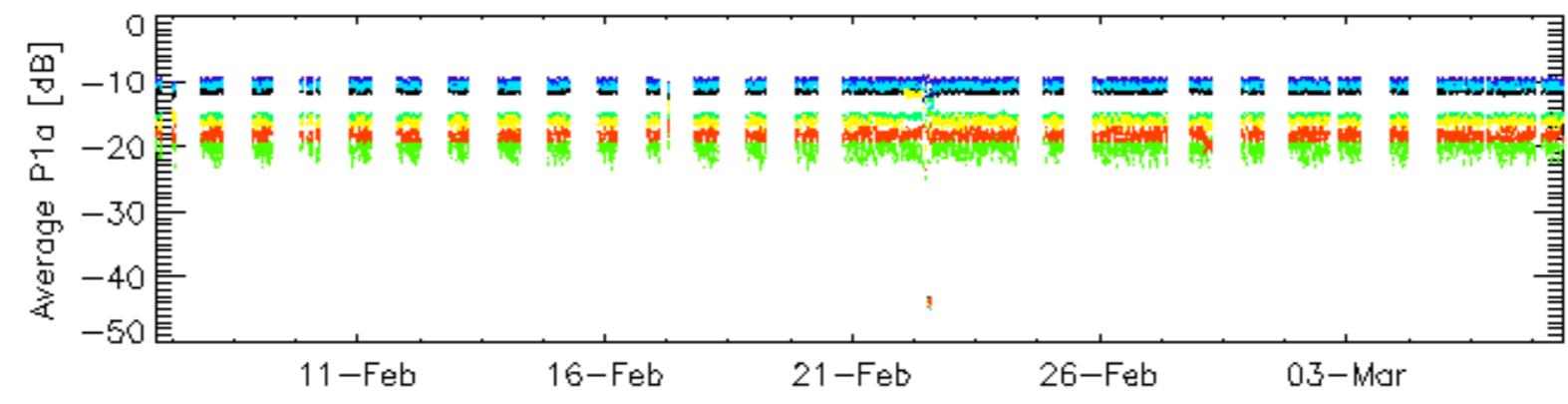
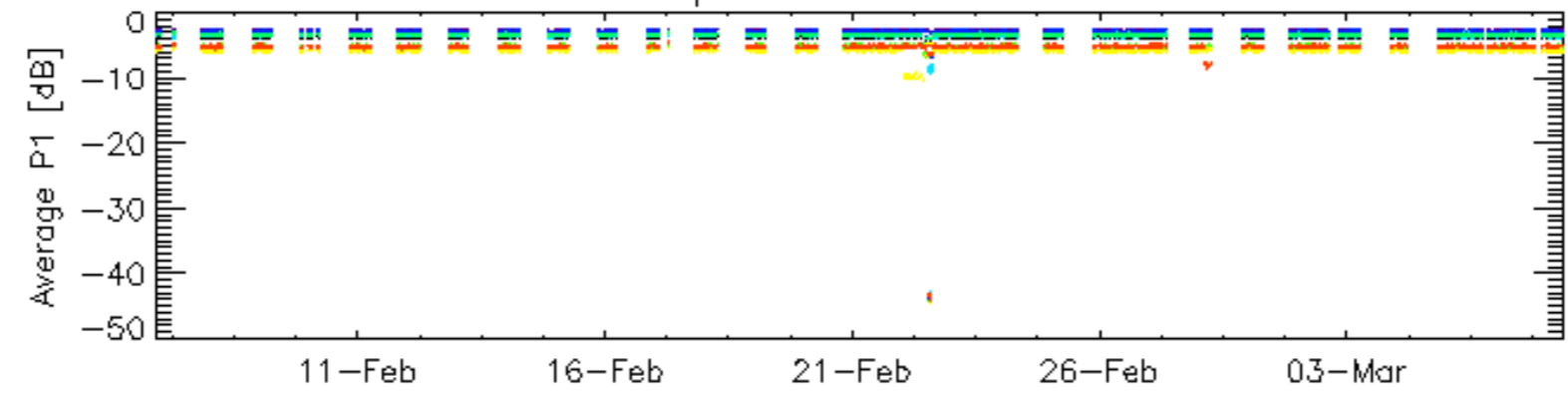


Cal pulses for WVS IS2



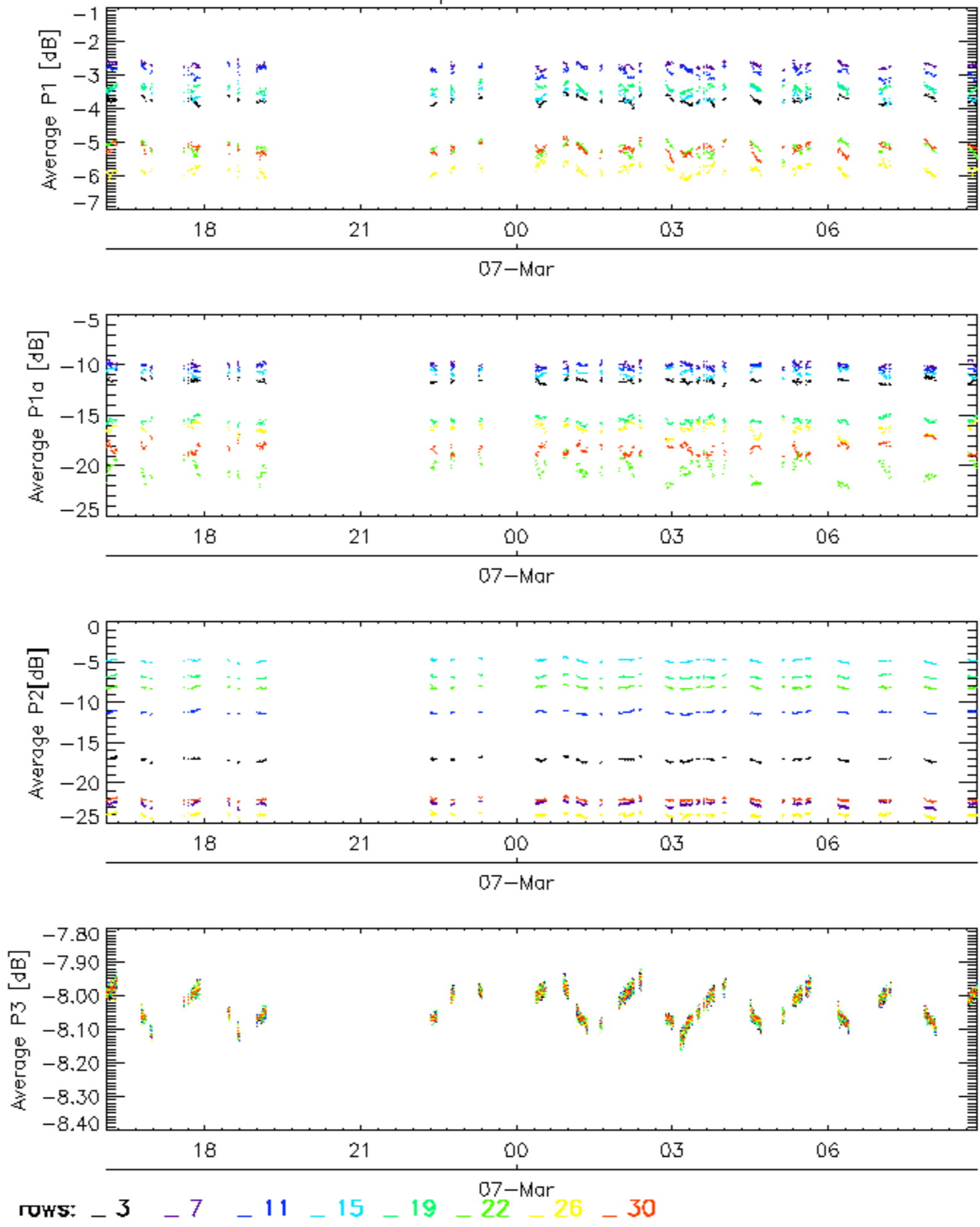
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

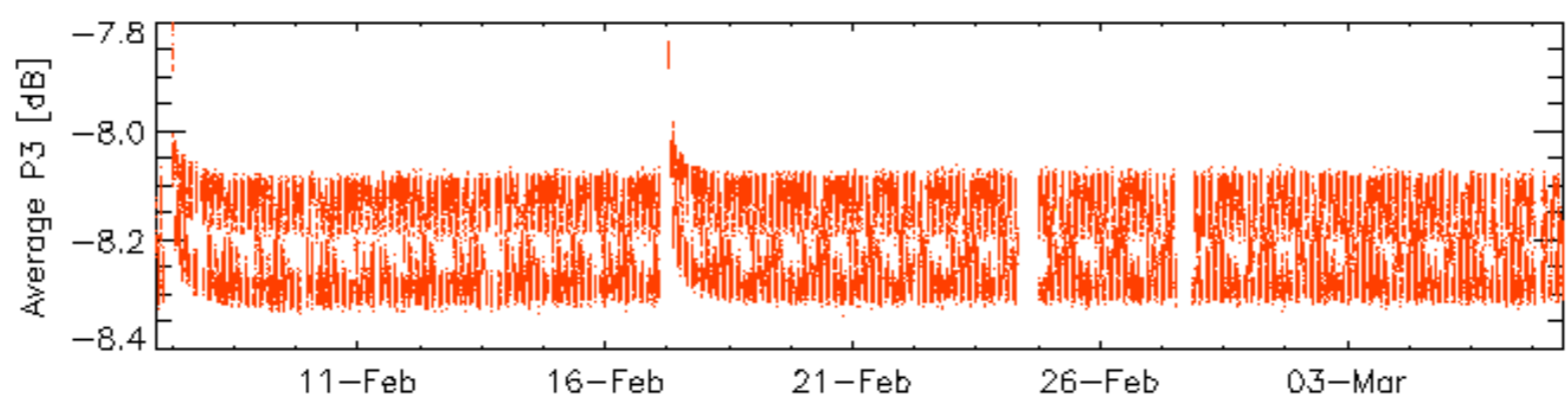
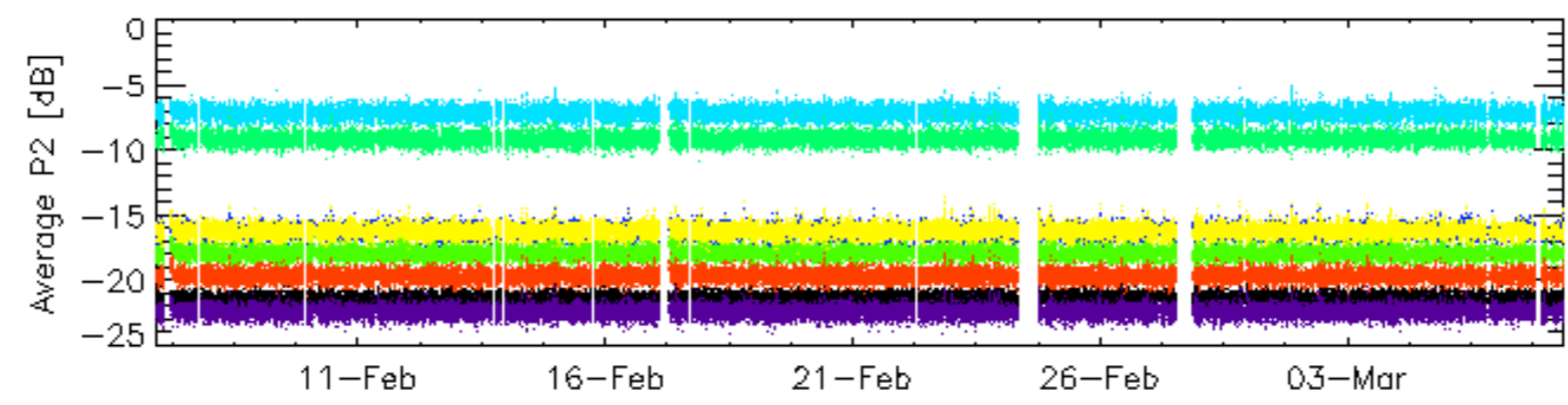
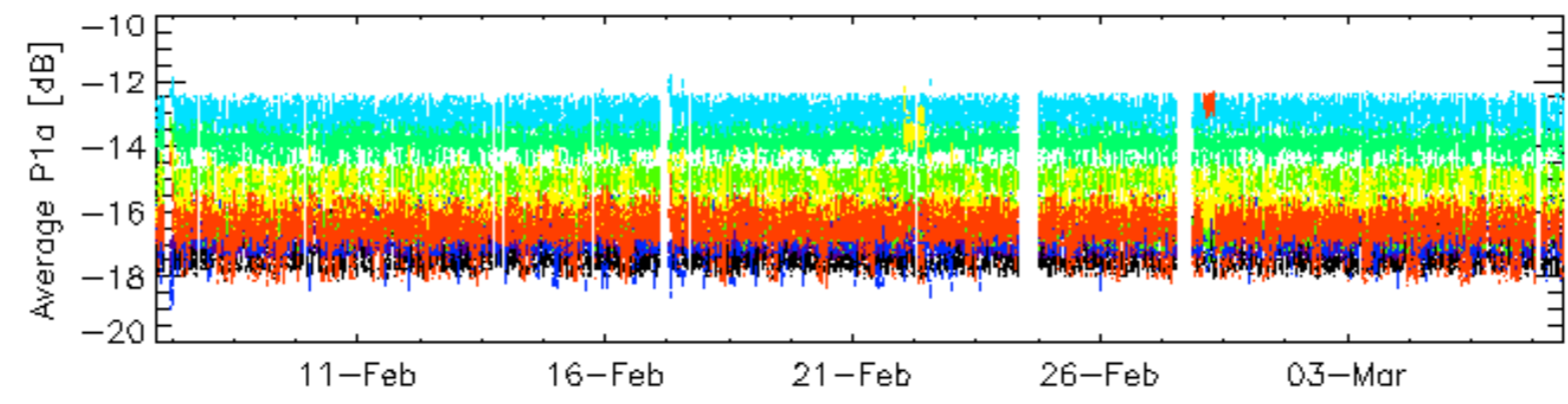
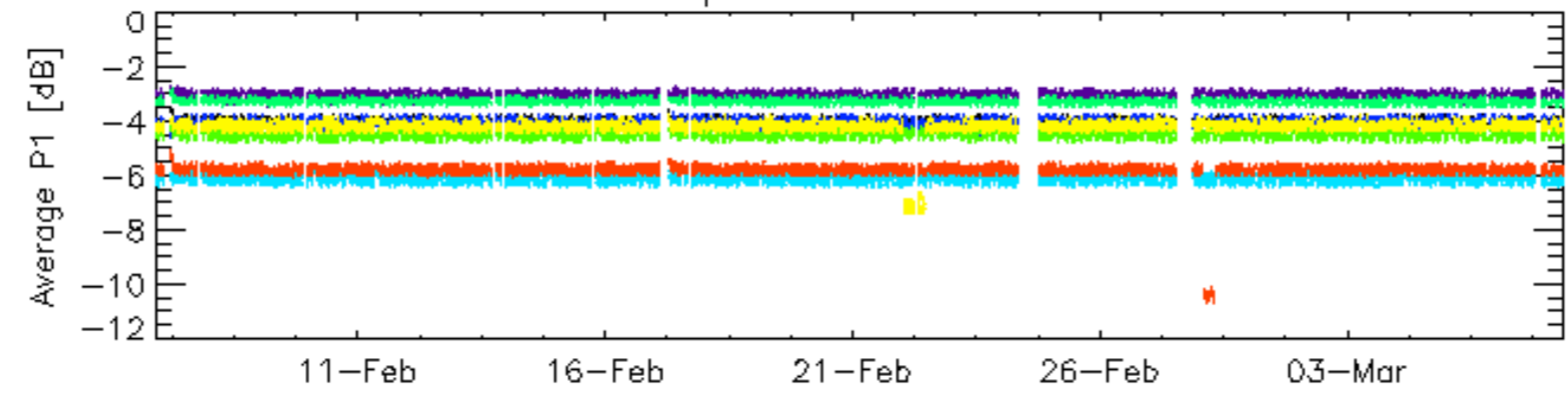


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

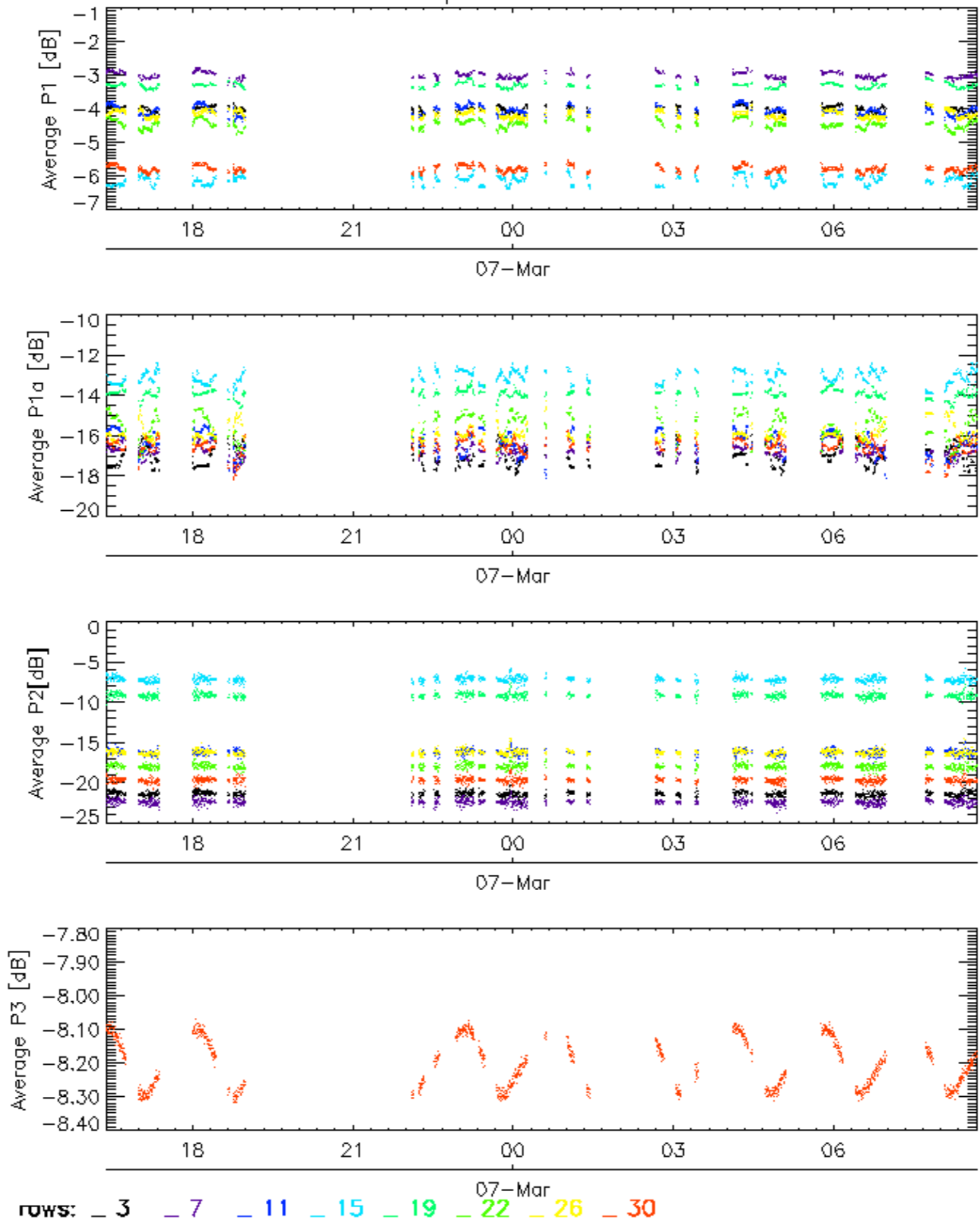


Cal pulses for WVS IS2



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

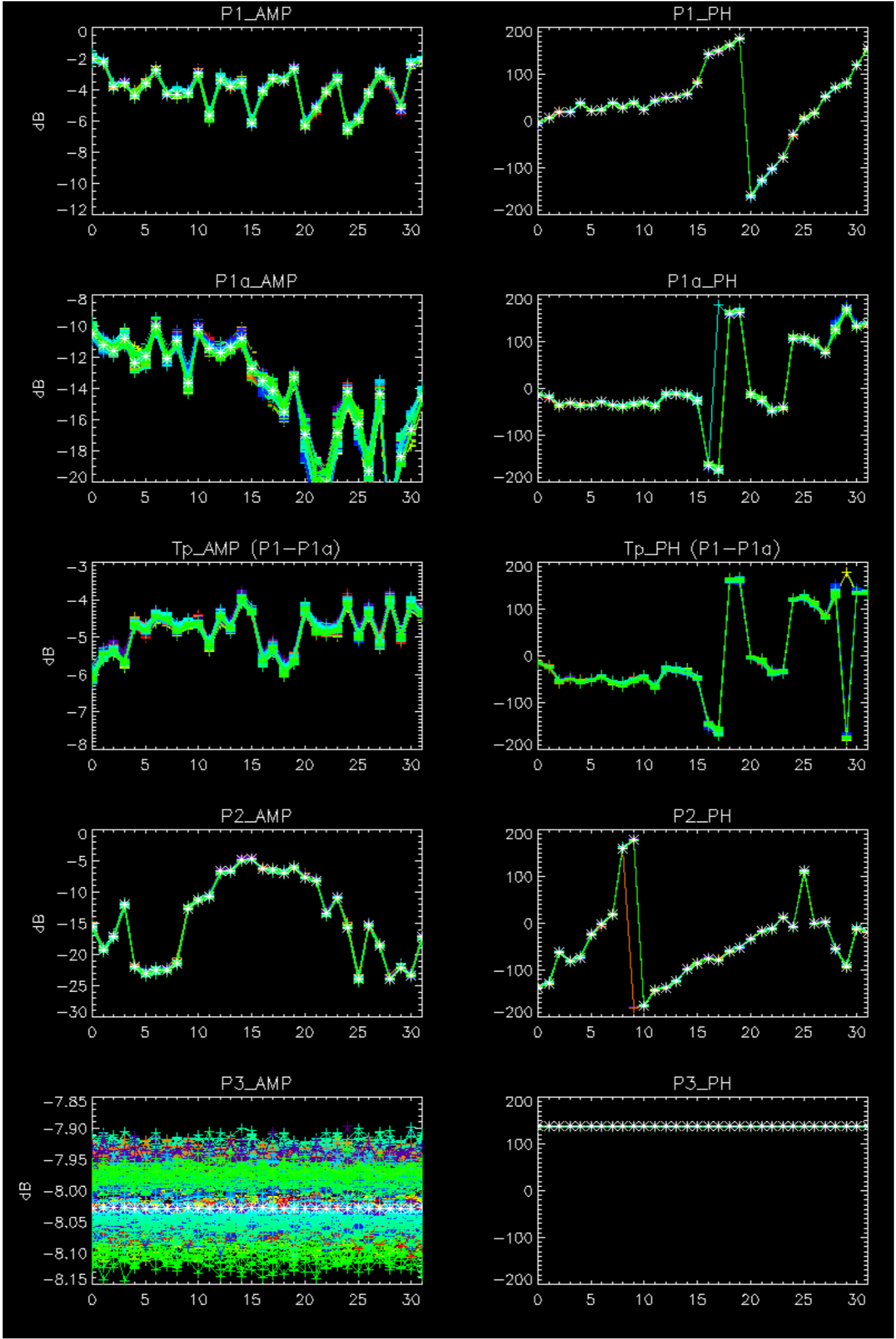
Cal pulses for WVS IS2

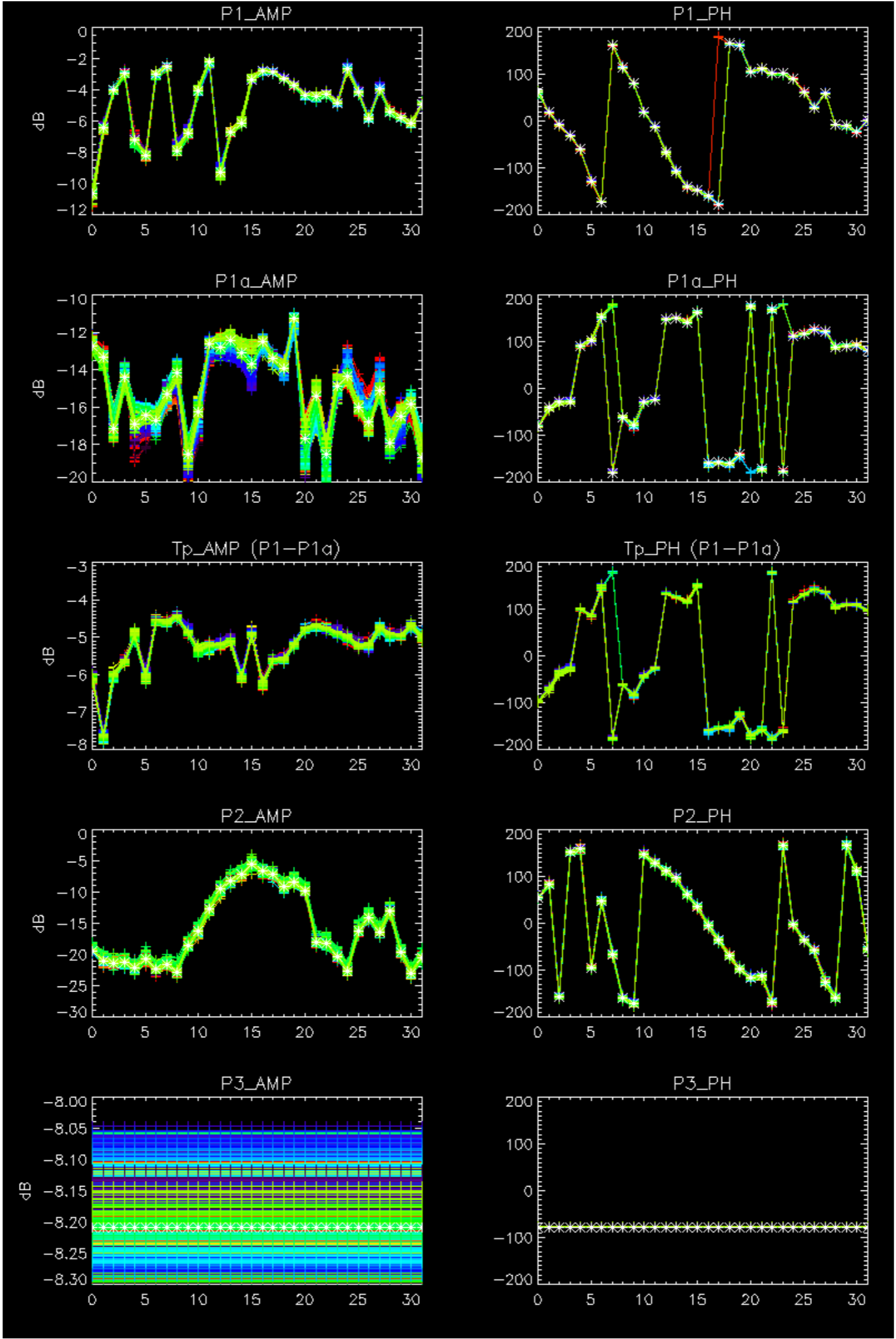


No anomalies observed on available browse products



No anomalies observed.

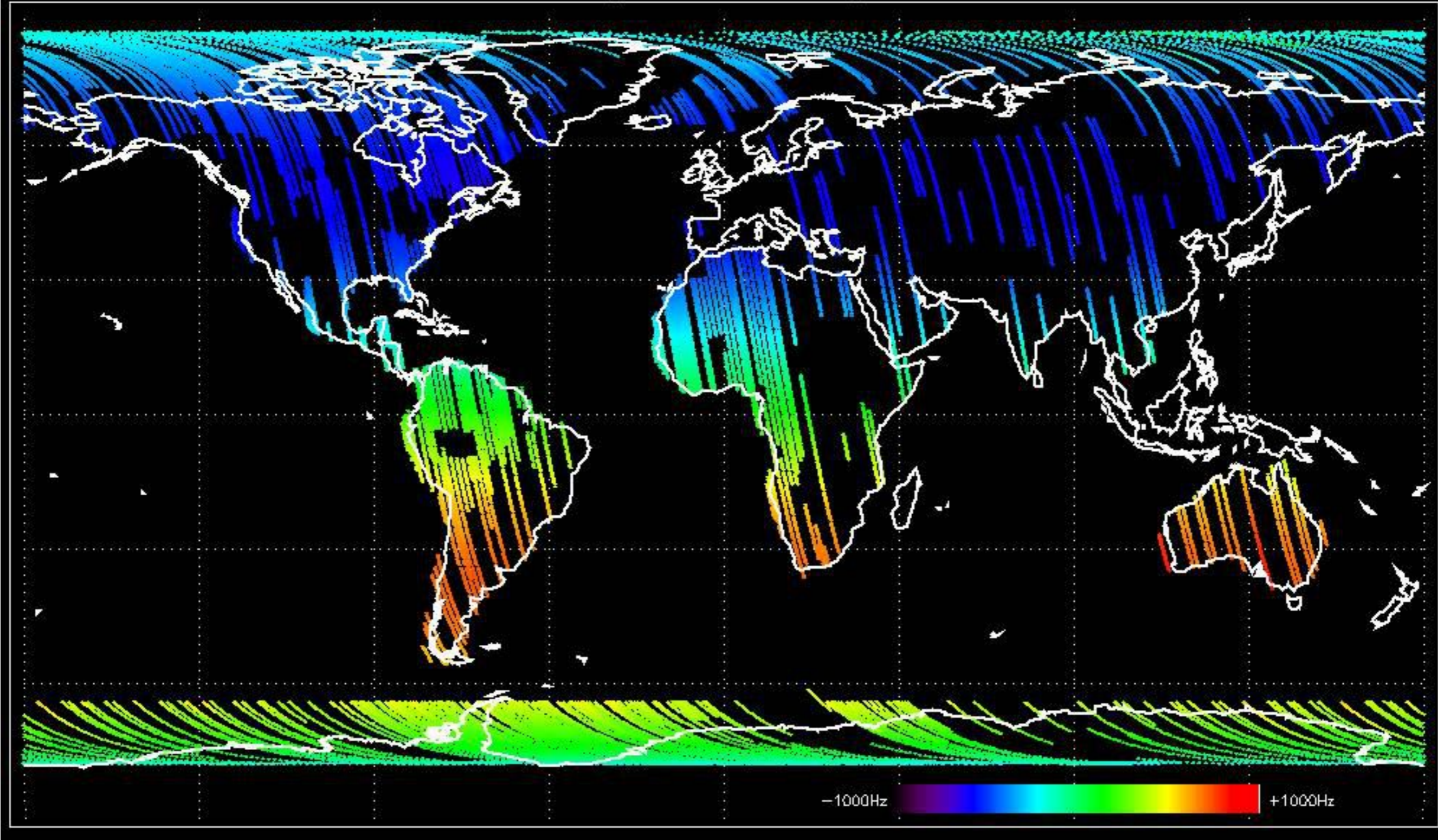




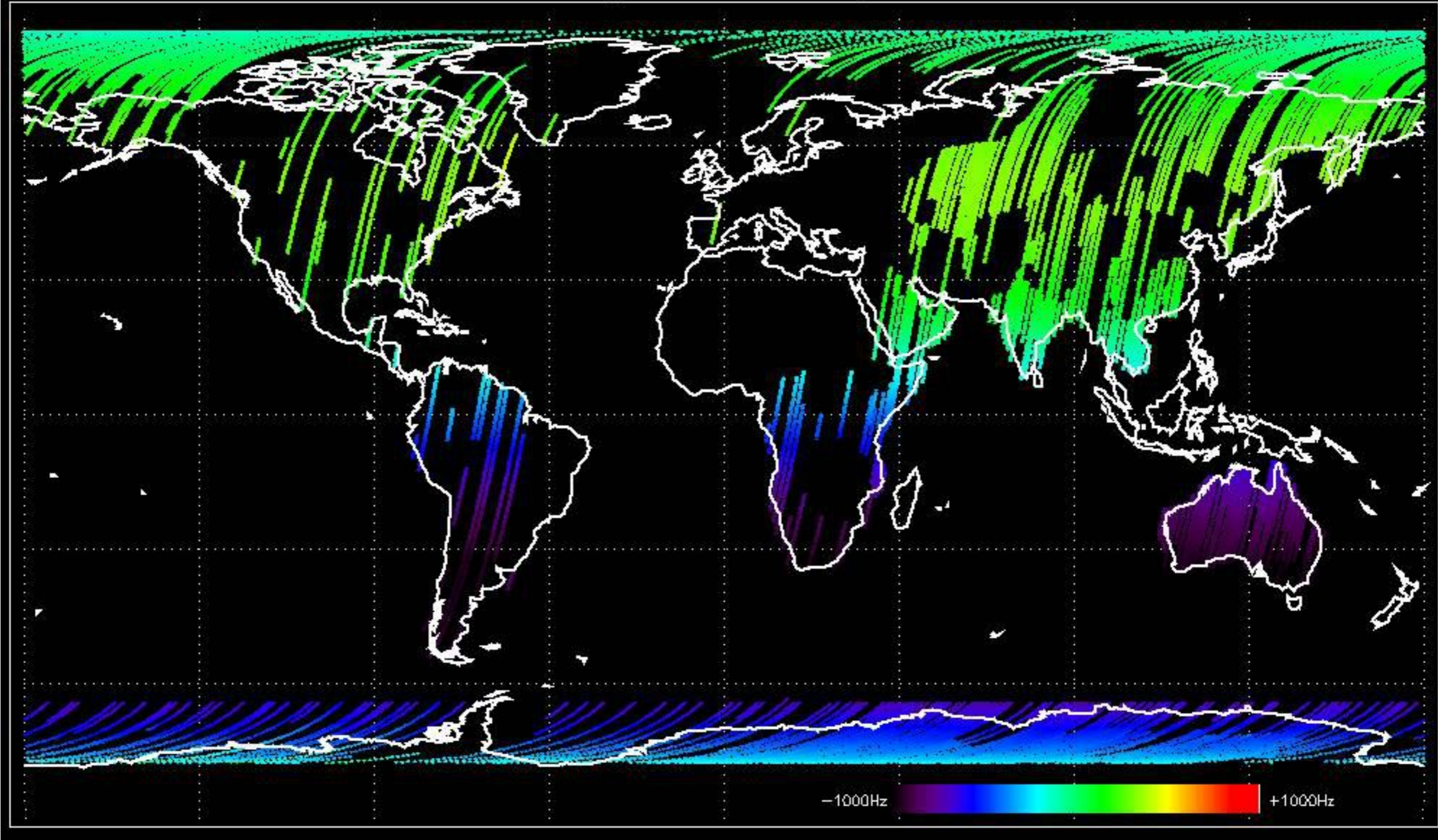
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



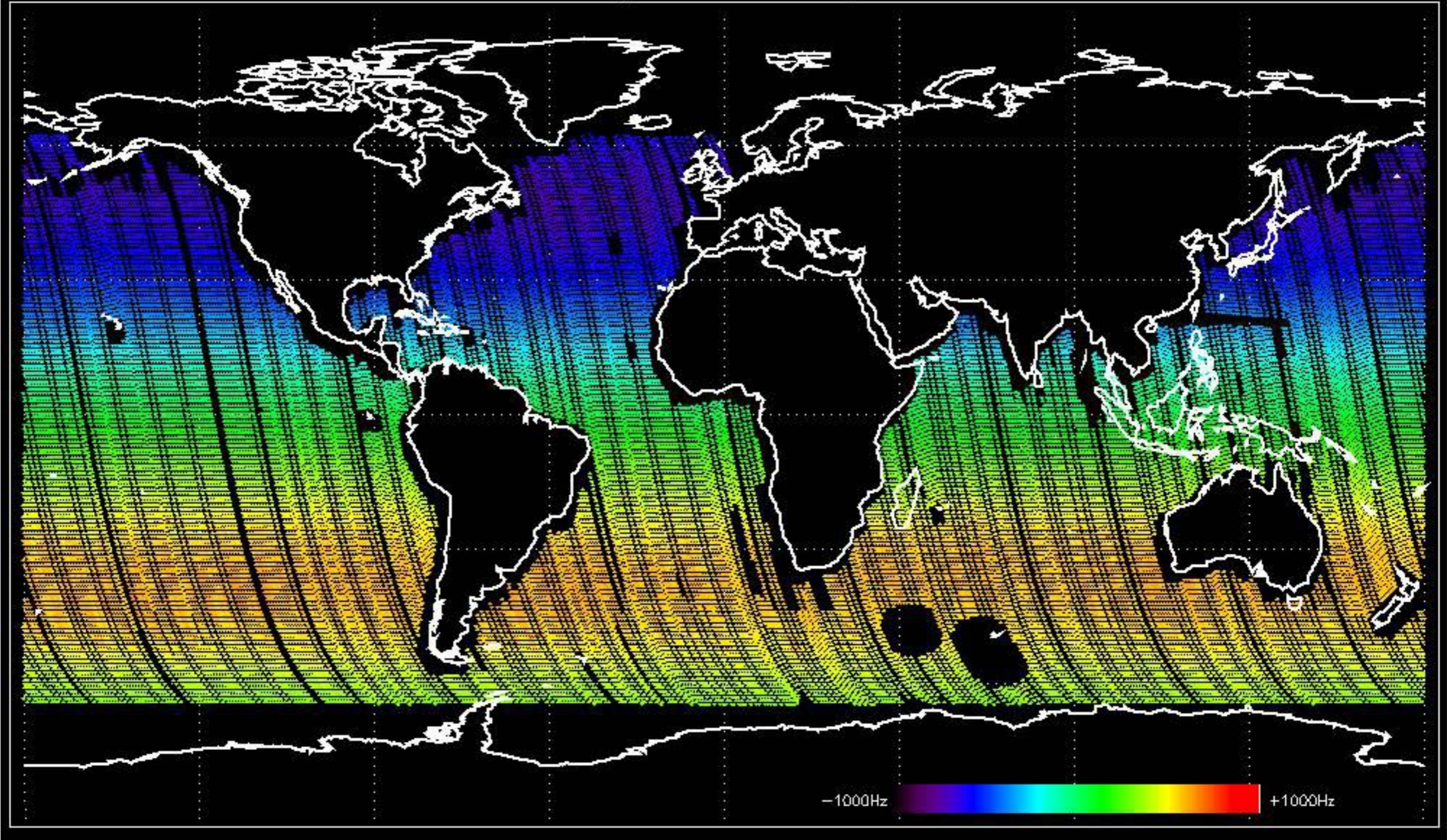
Doppler 'GM1' 'SS1' ascending



Doppler 'GM1' 'SS1' descending

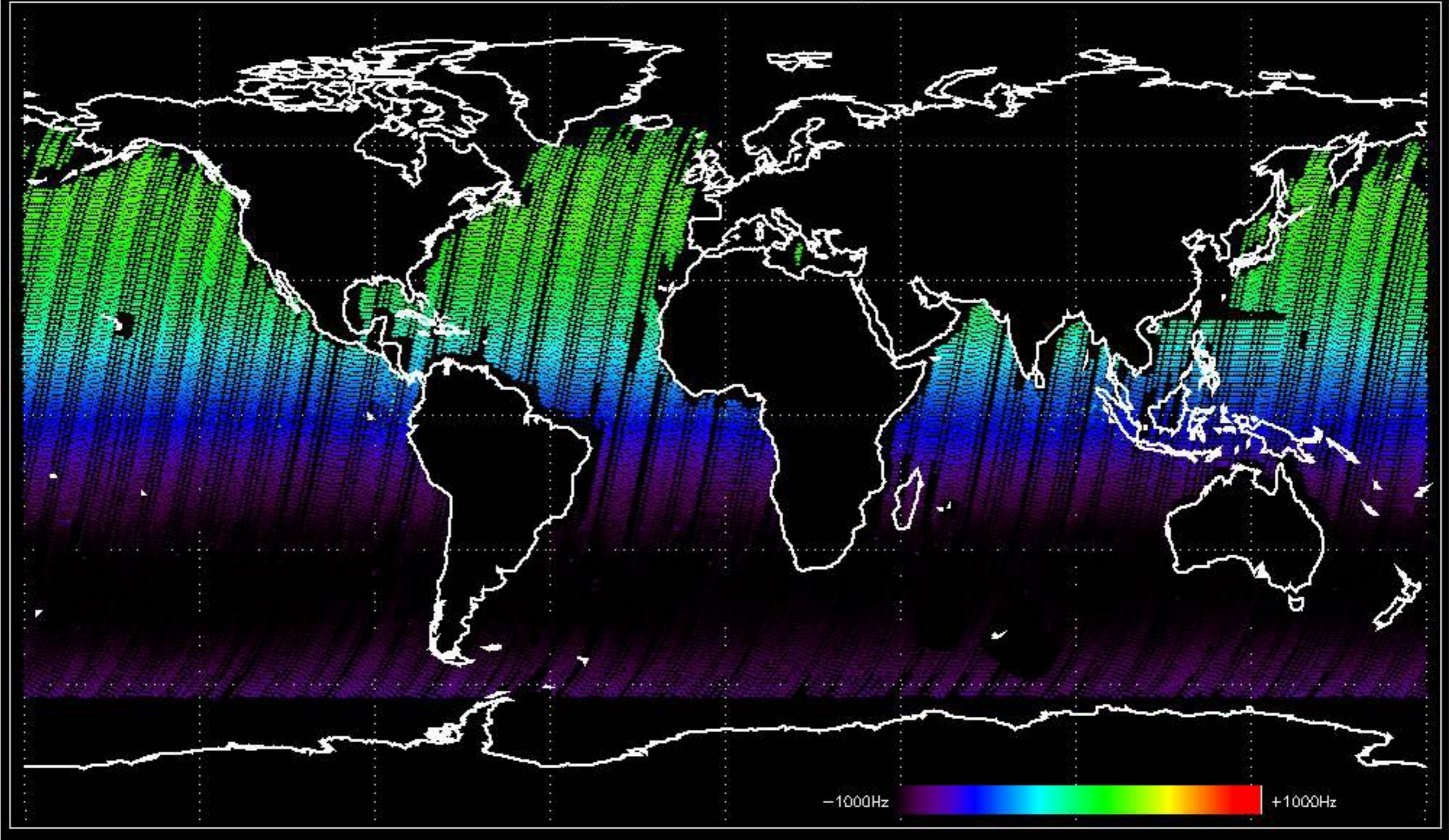


Doppler 'WVS' 'IS2' ascending

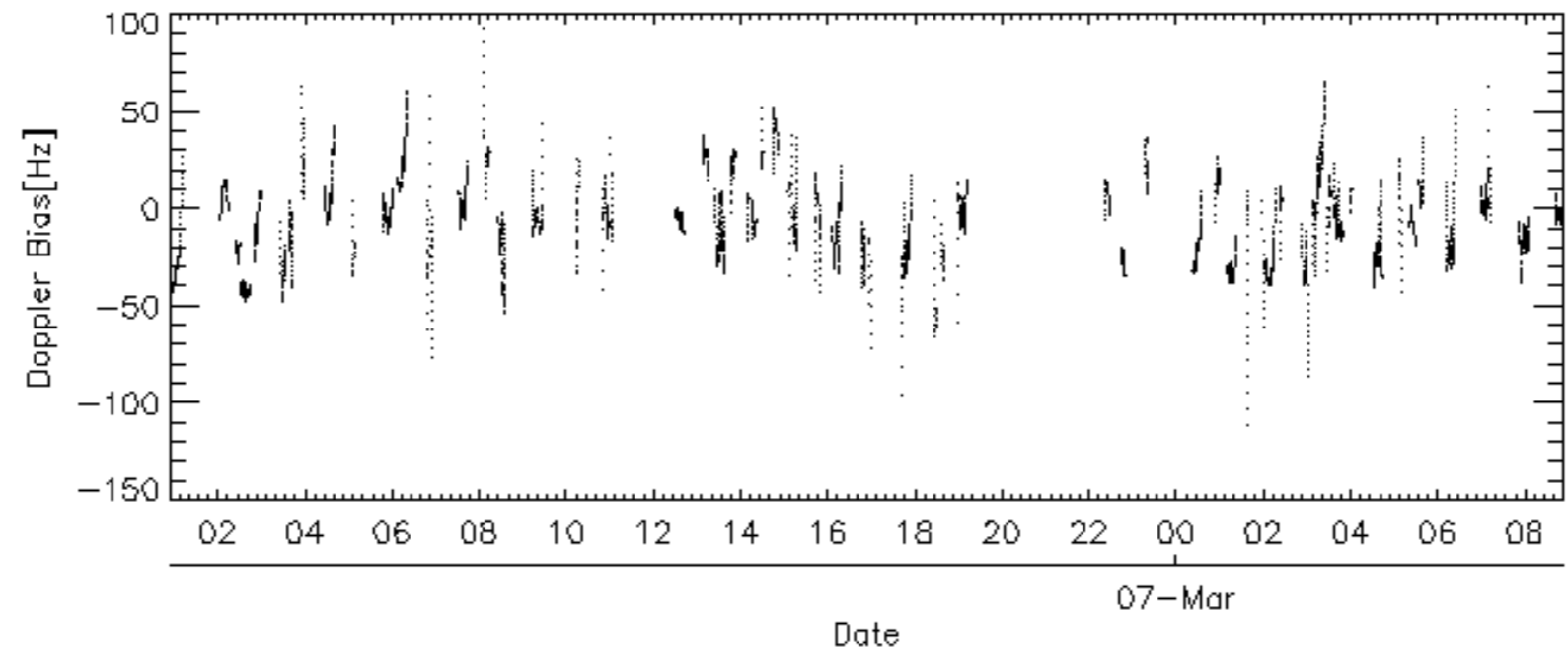
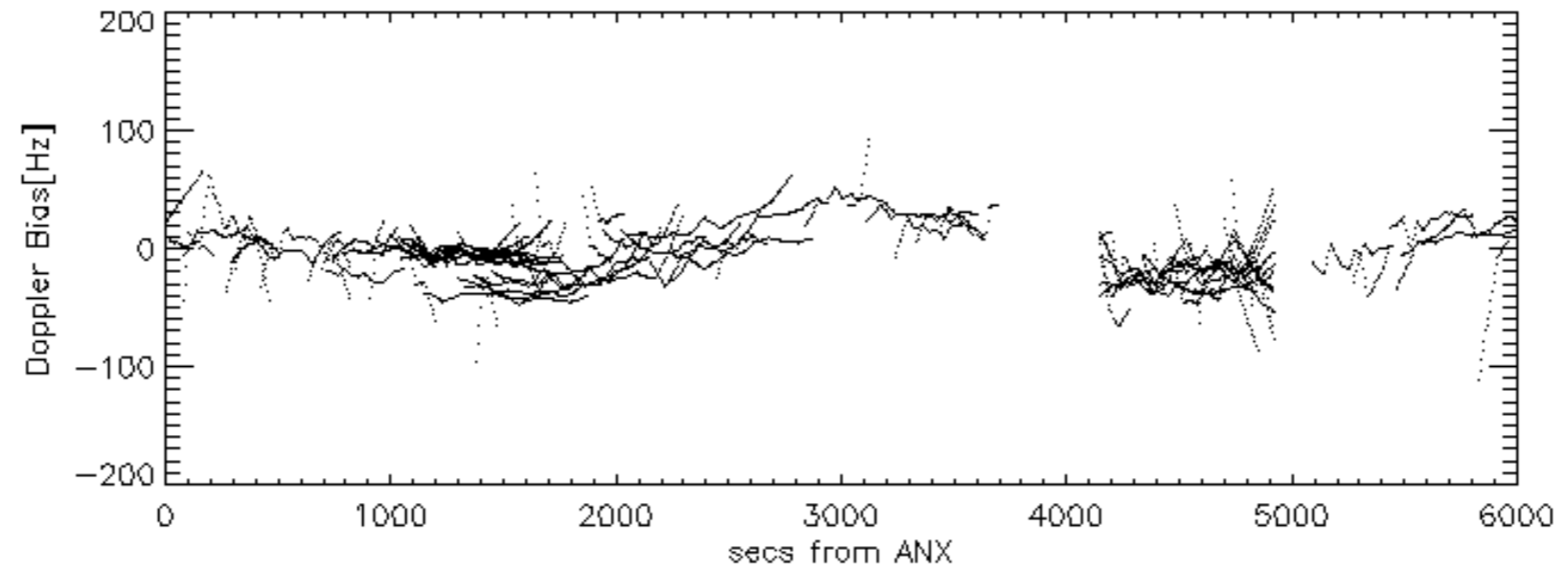
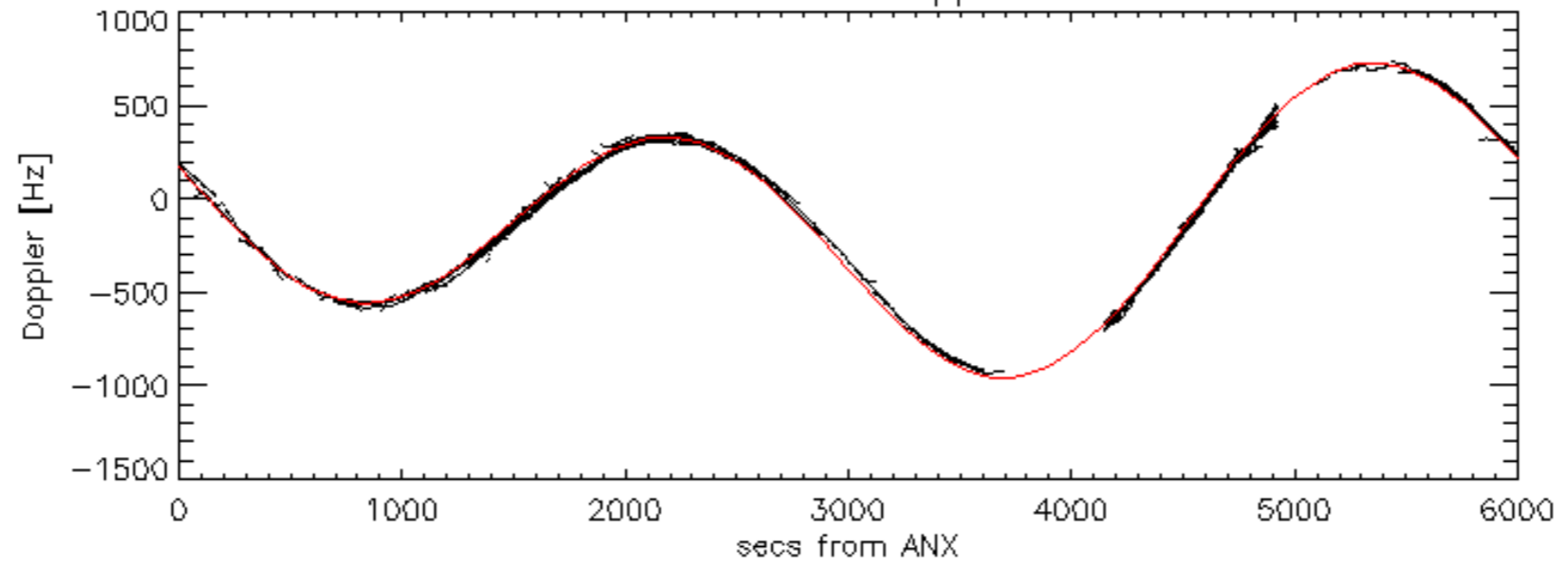


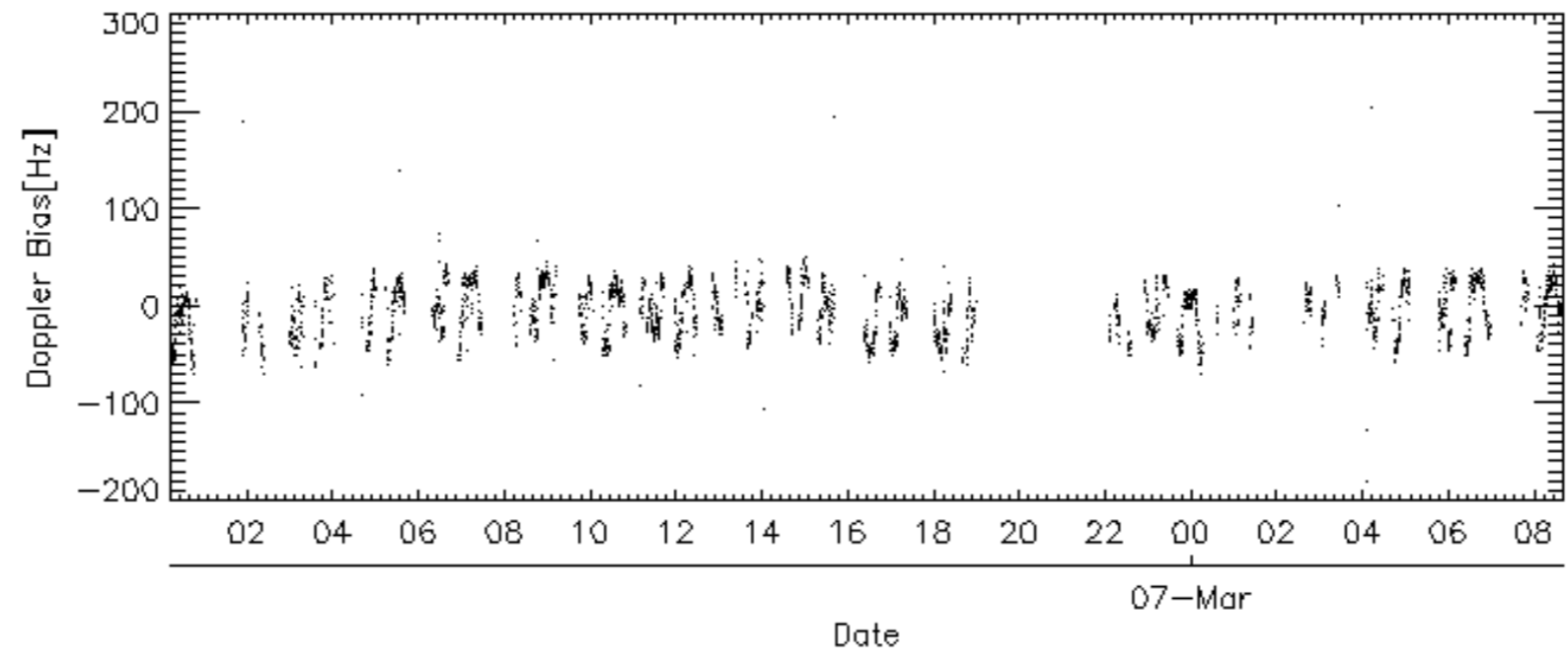
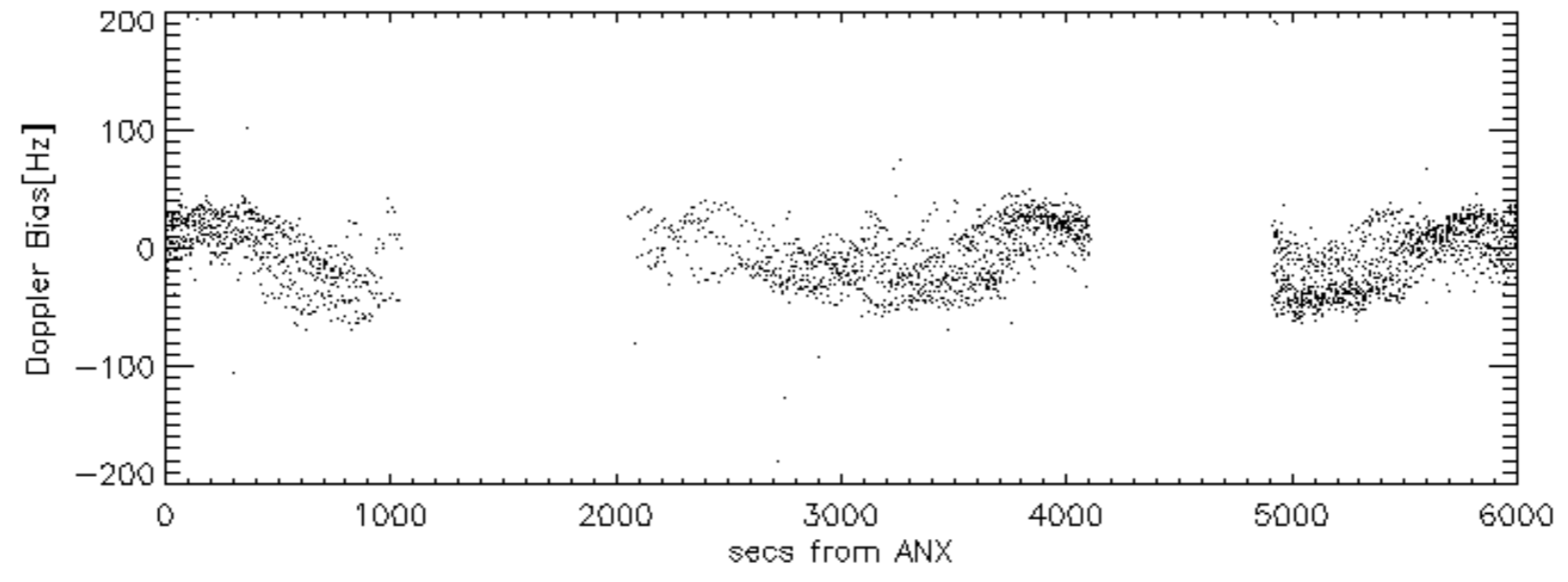
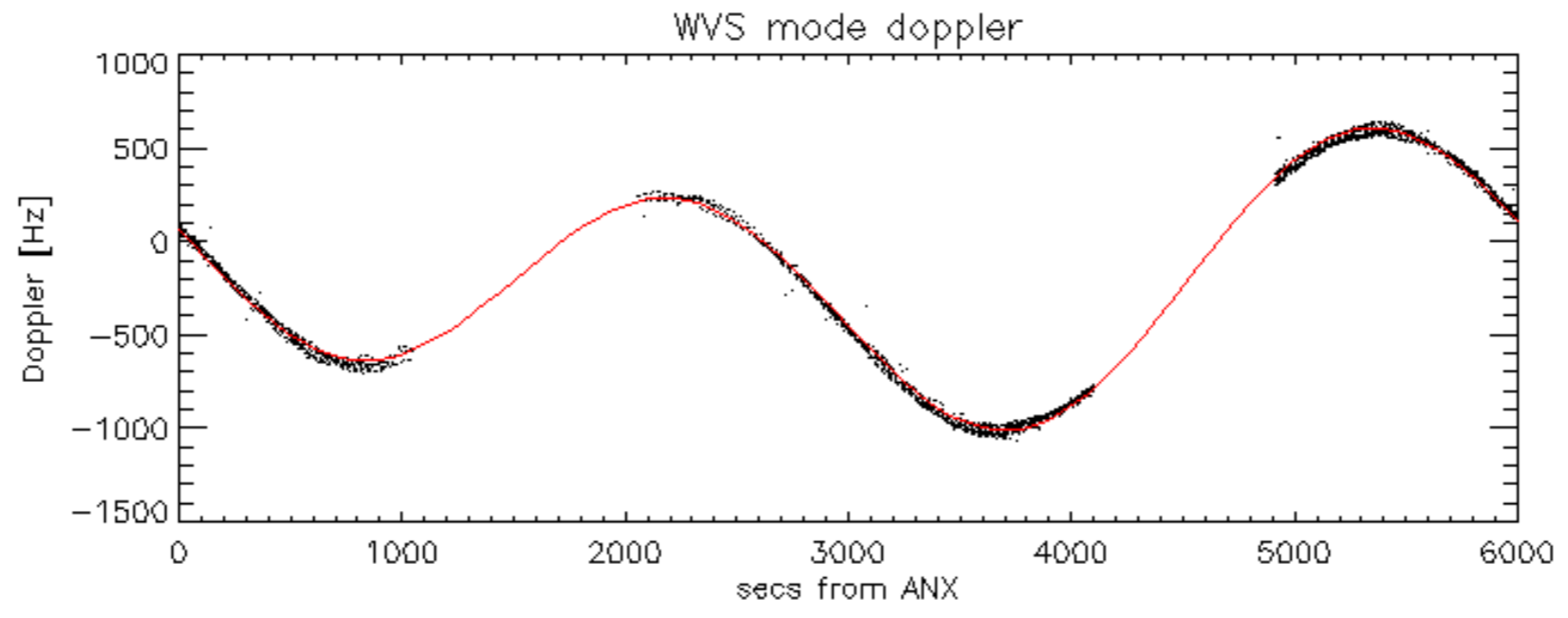


Doppler 'WVS' 'IS2' descending

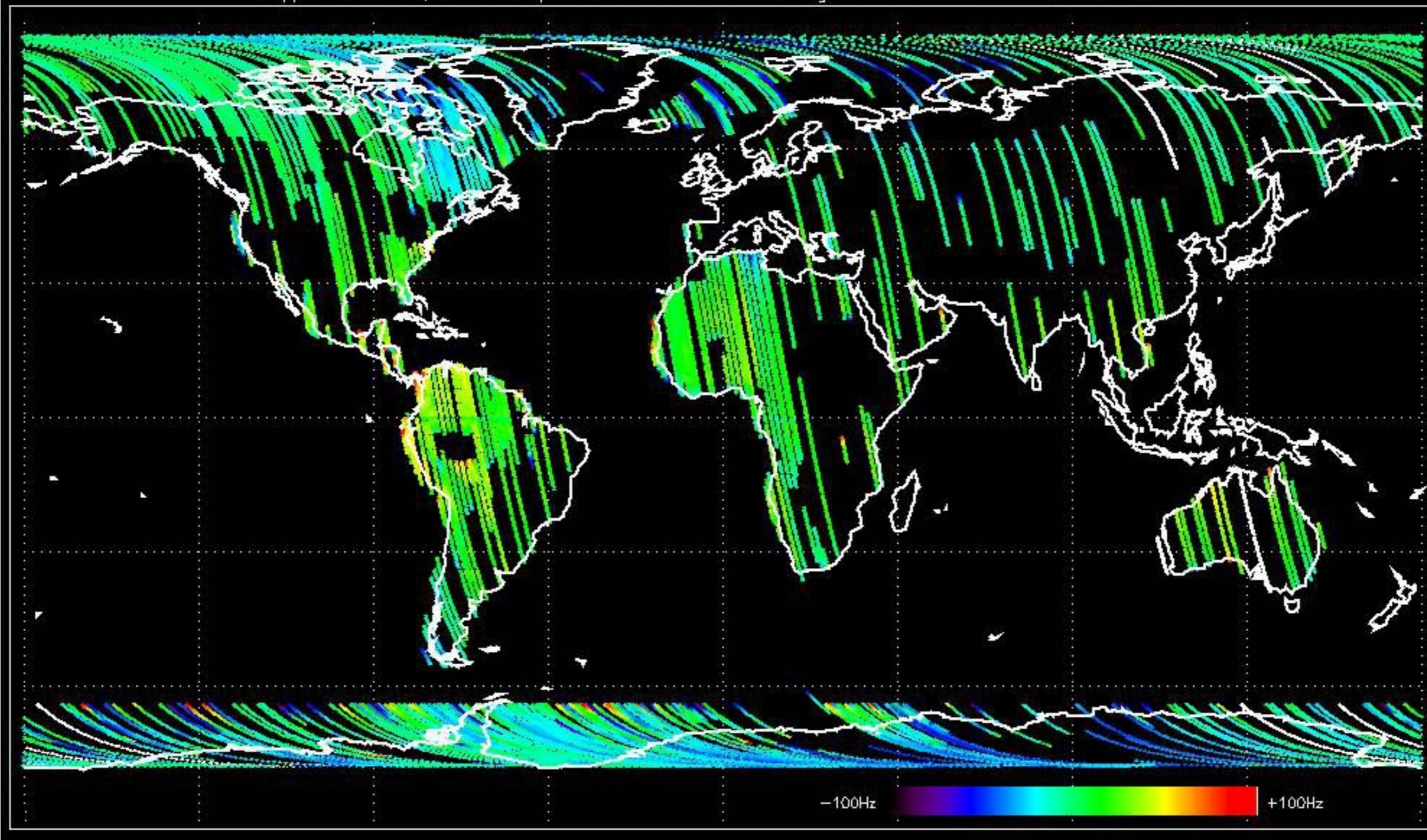


GM1 mode doppler

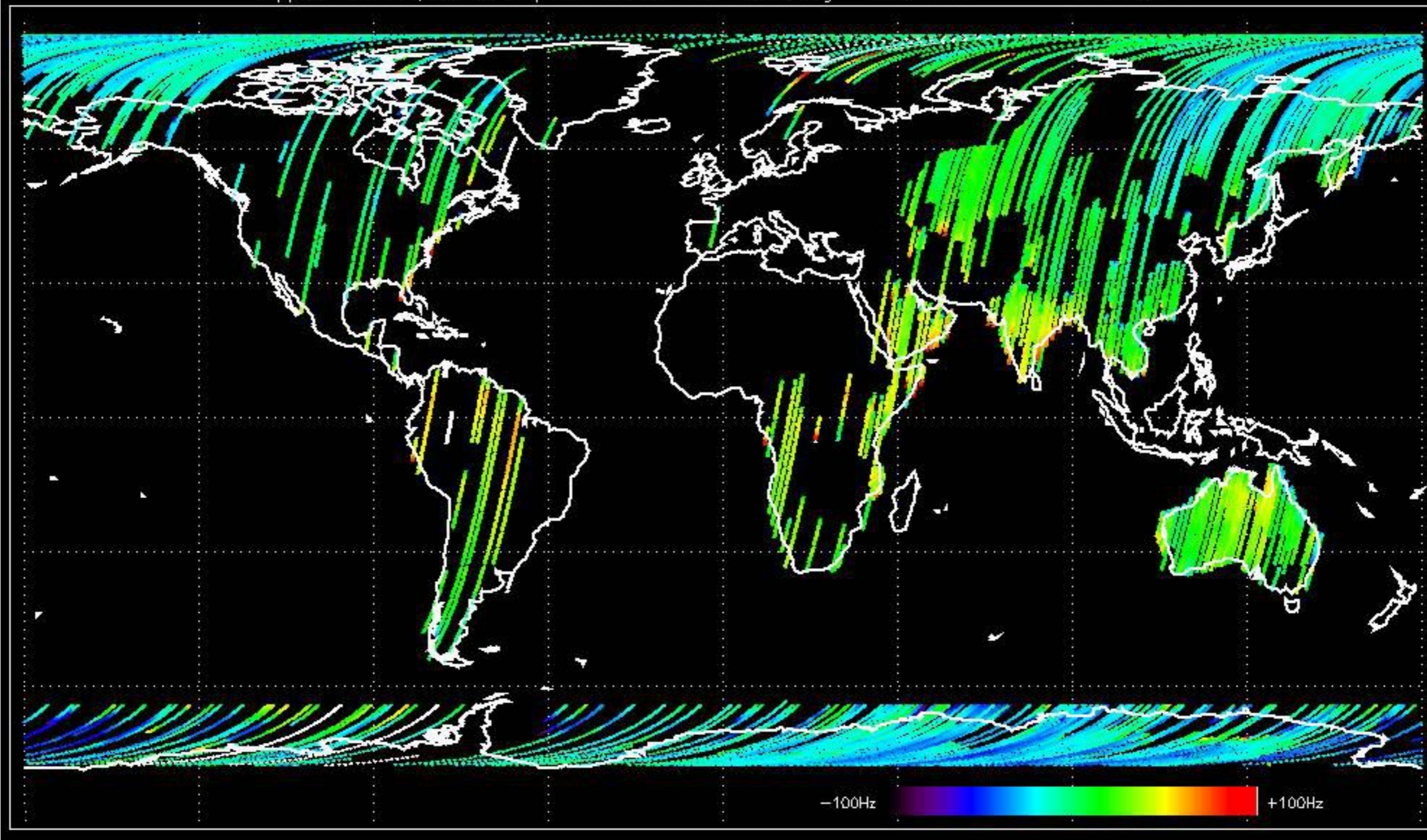




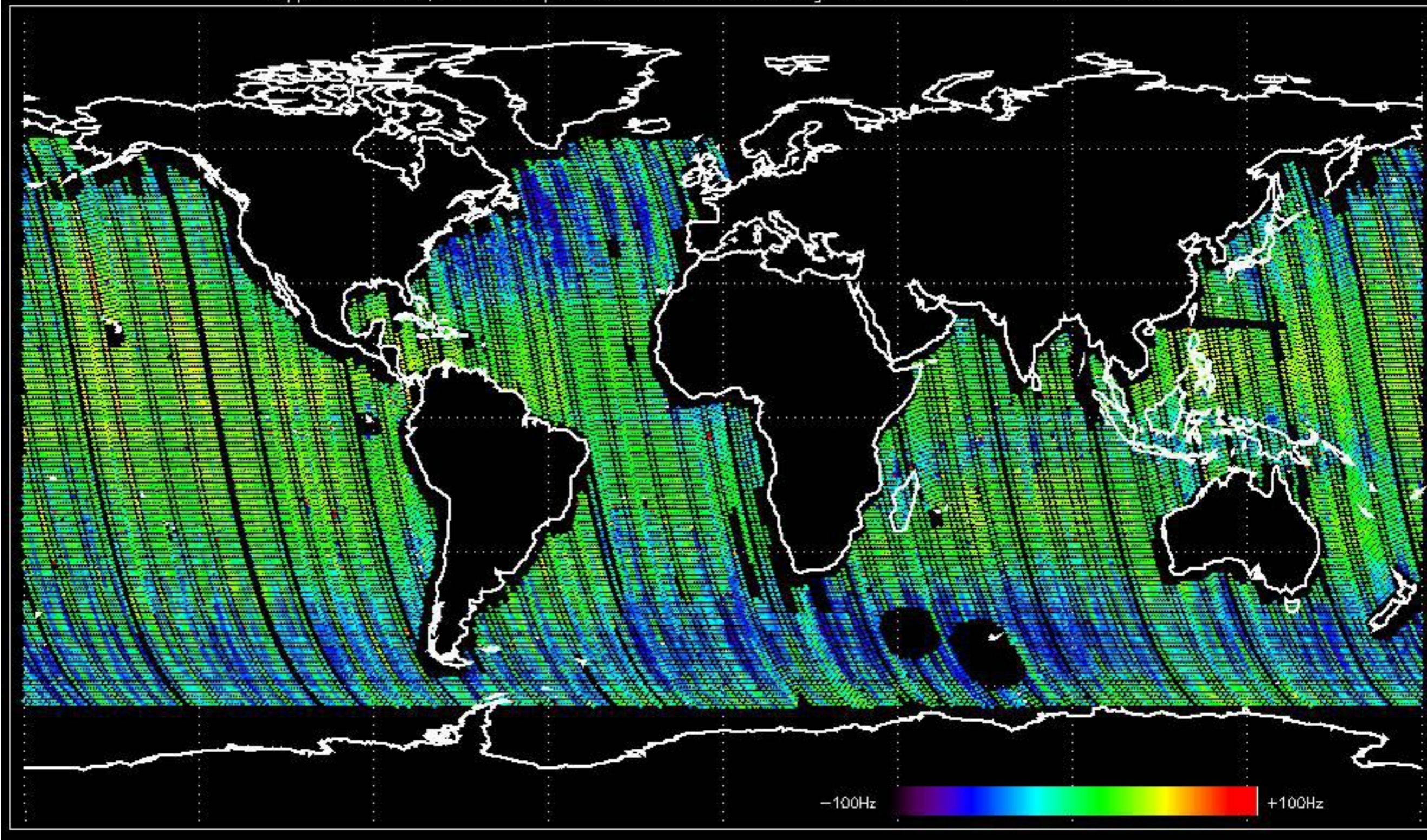
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -8.9315651 Hz



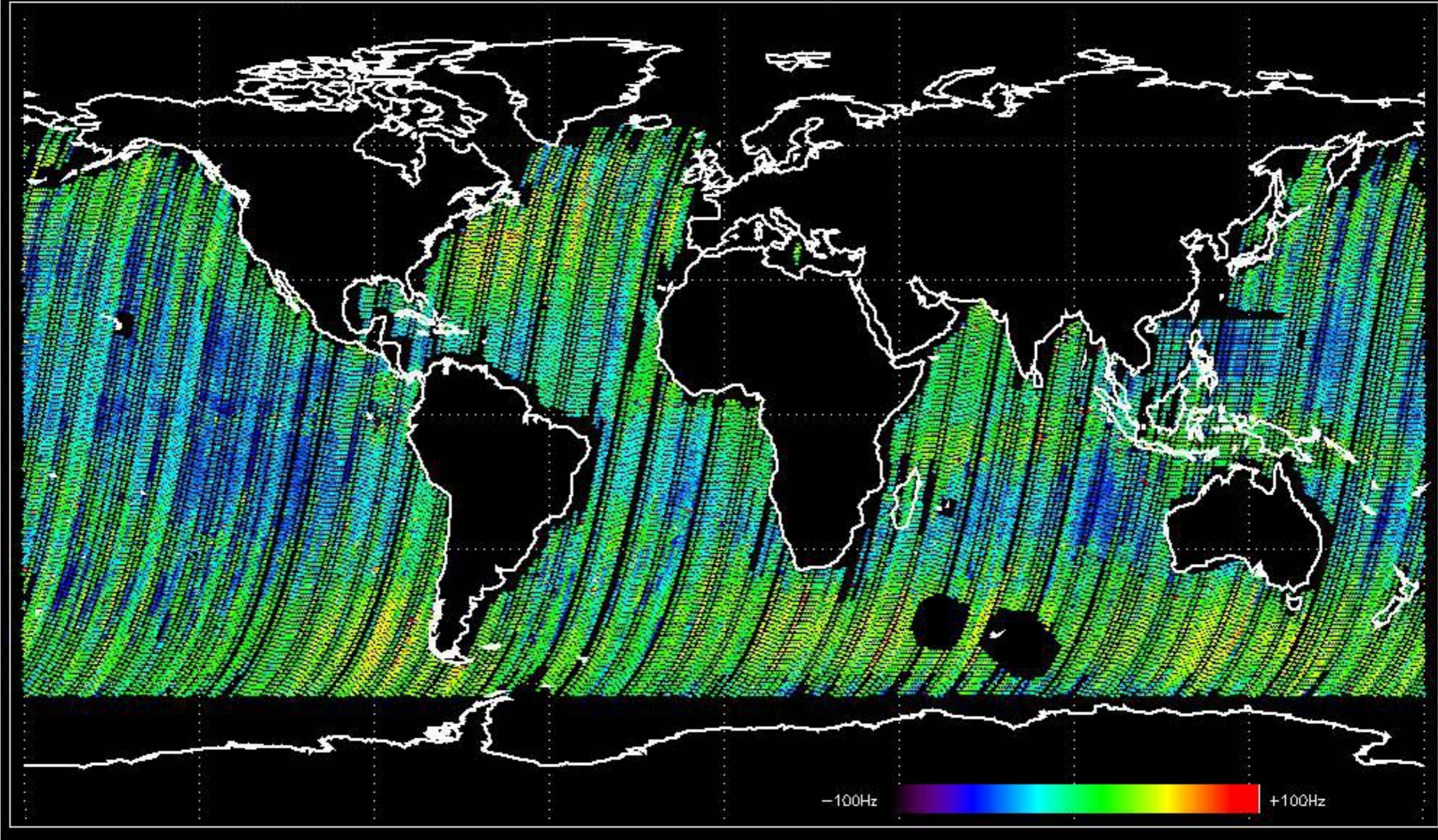
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -8.8829265 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -5.8320123 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -7.2940817 Hz



No anomalies observed on available MS products:



No anomalies observed.











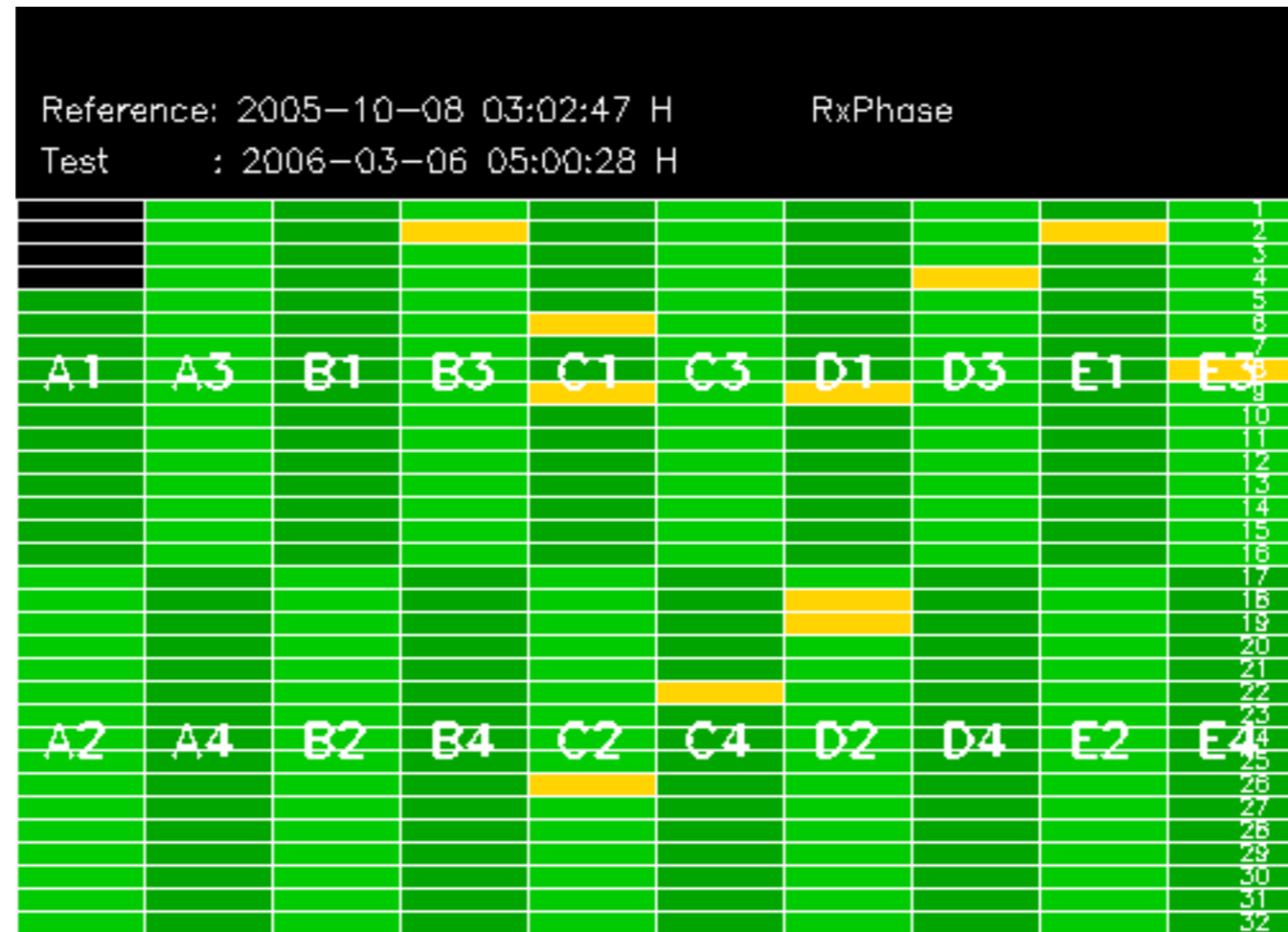






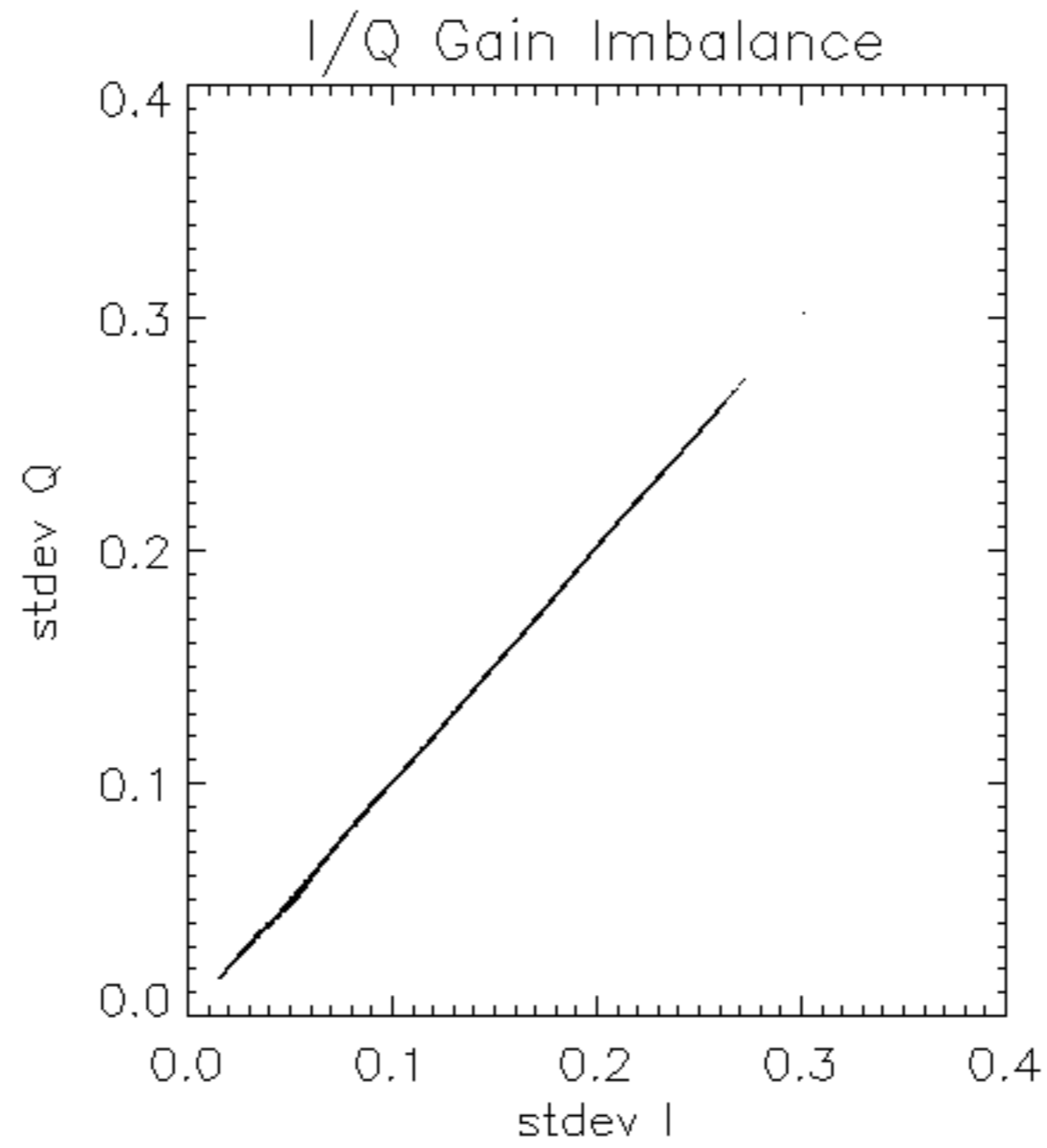


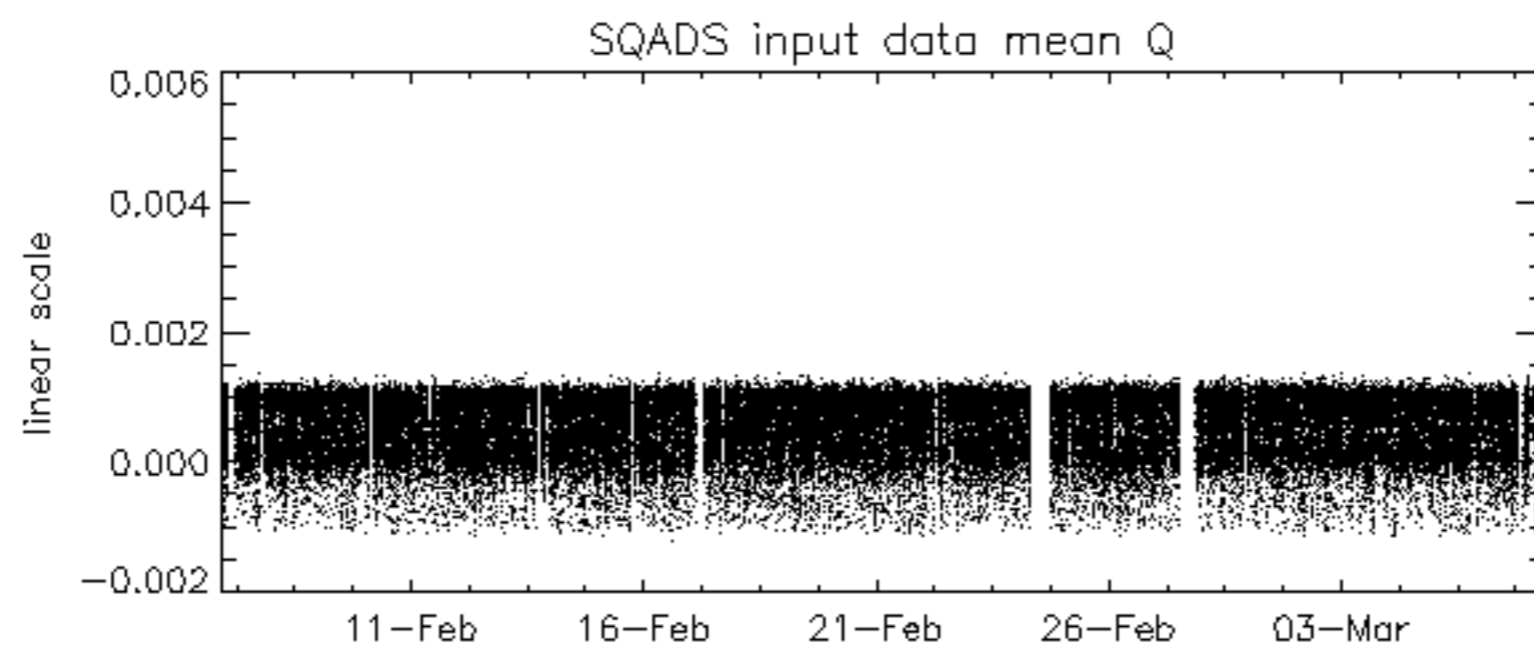
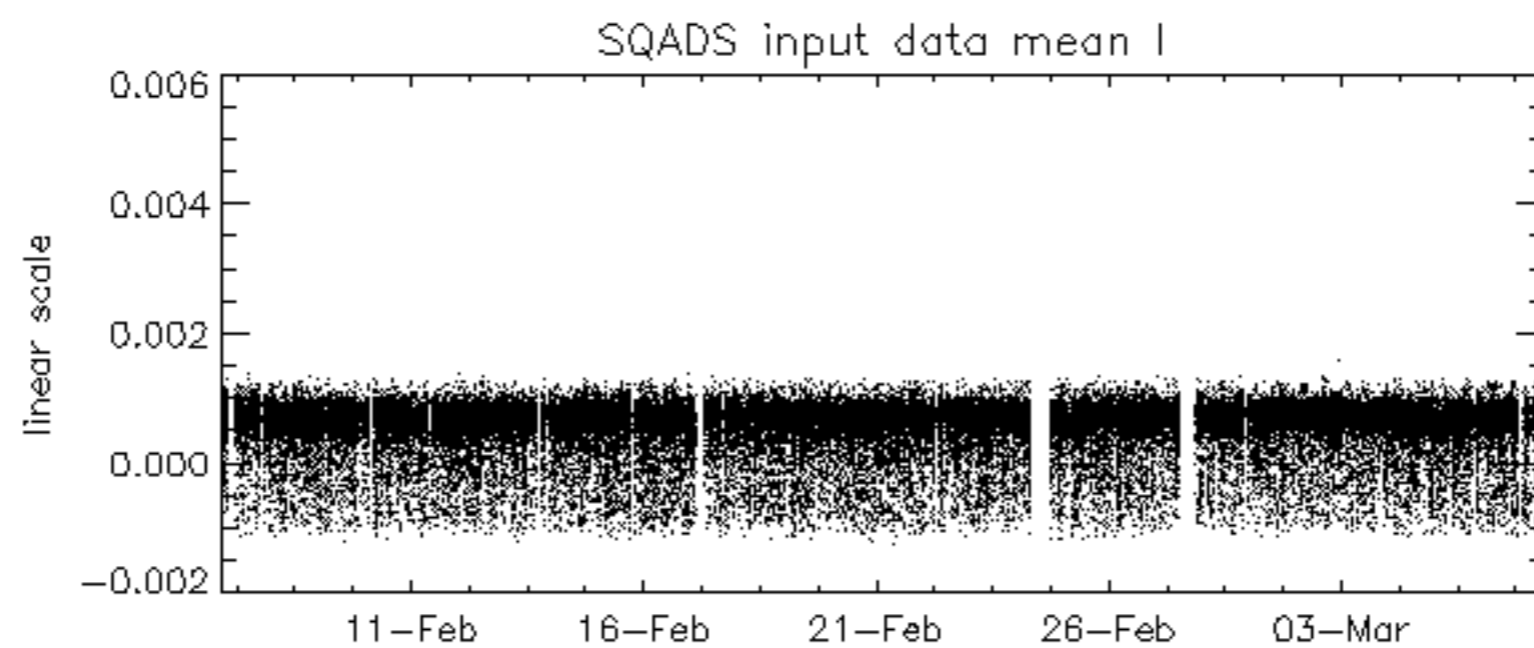
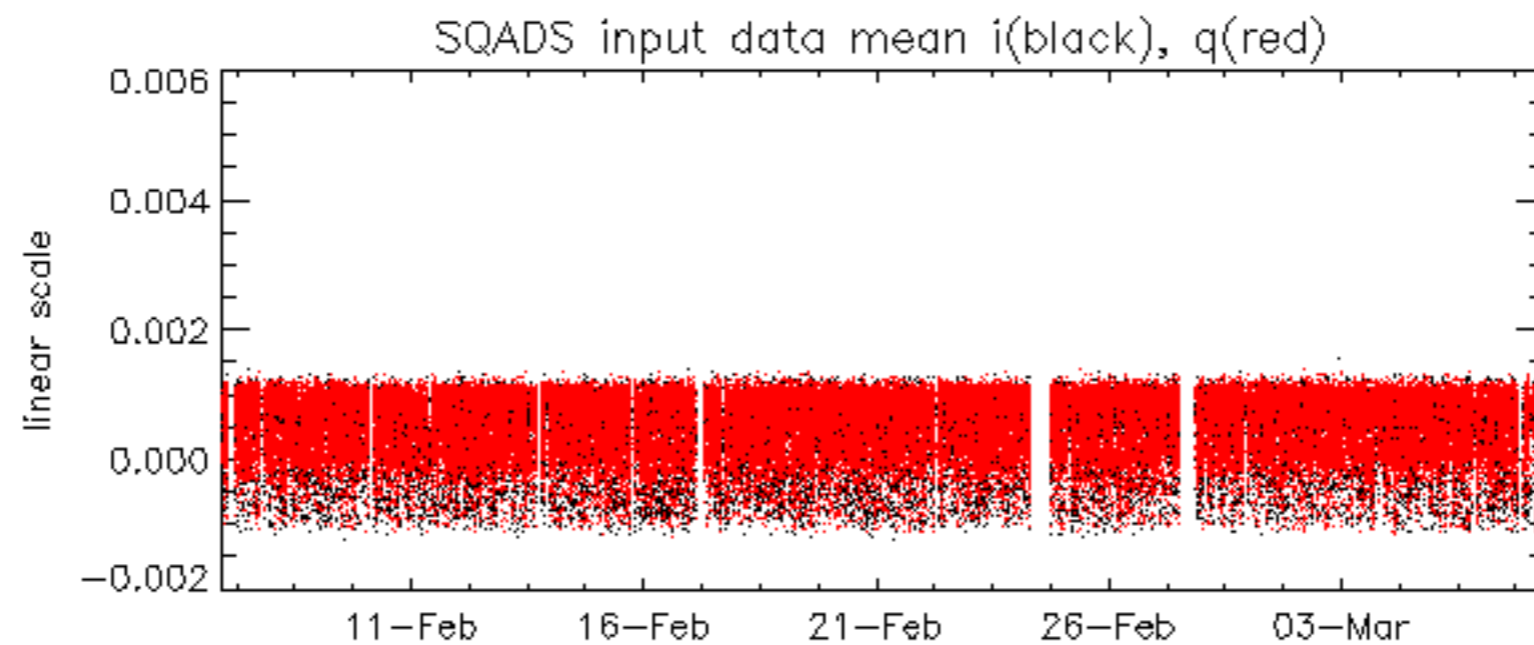


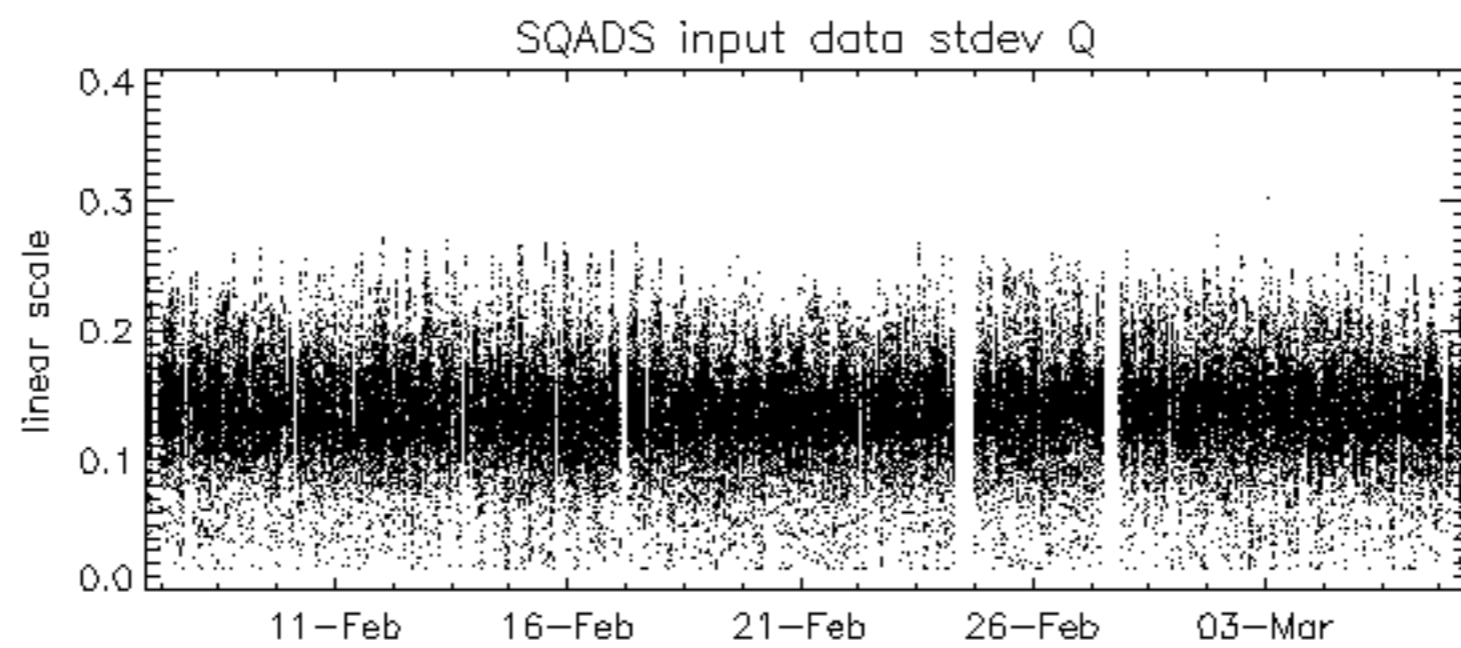
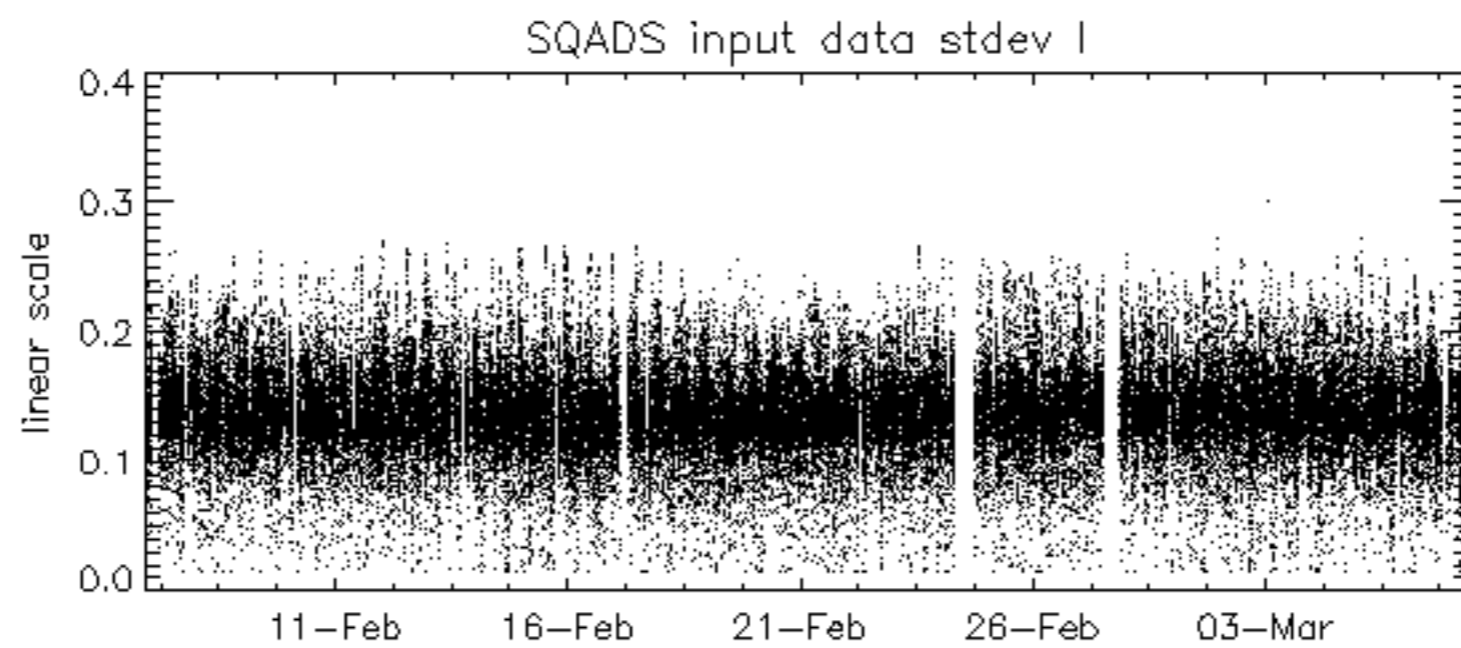
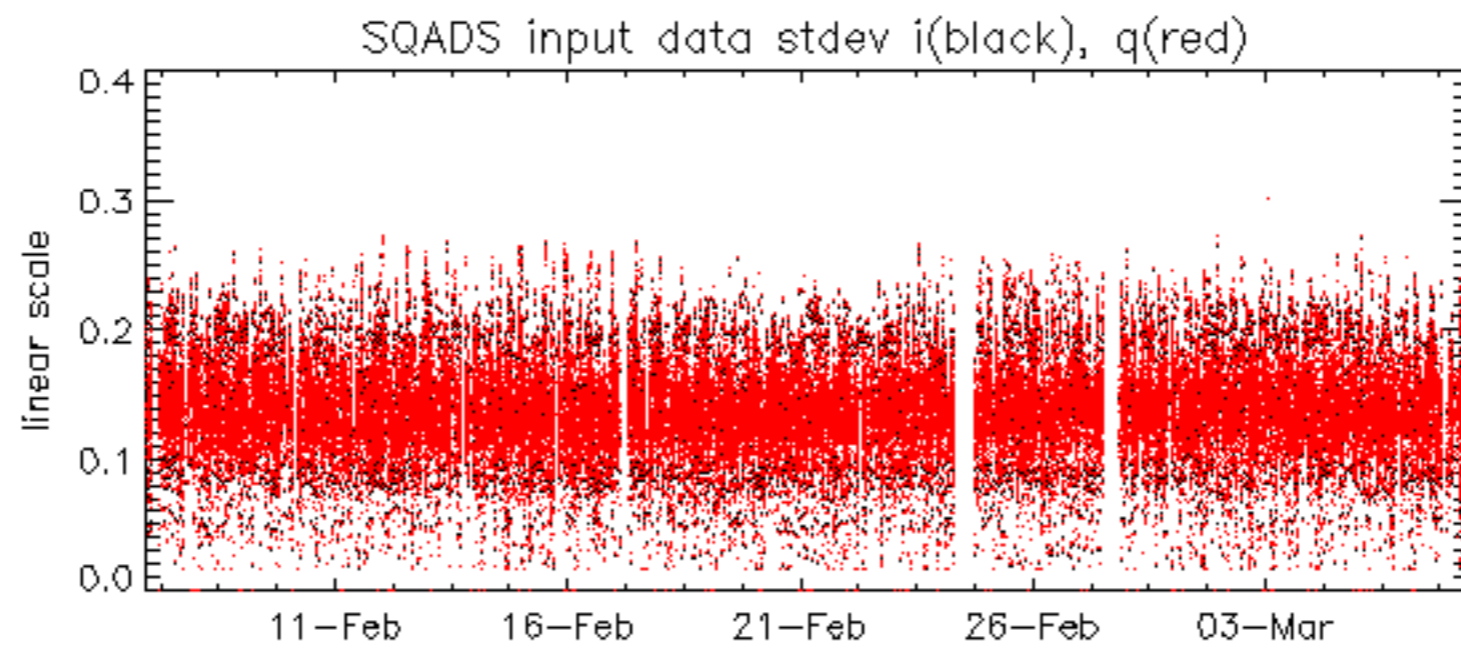






















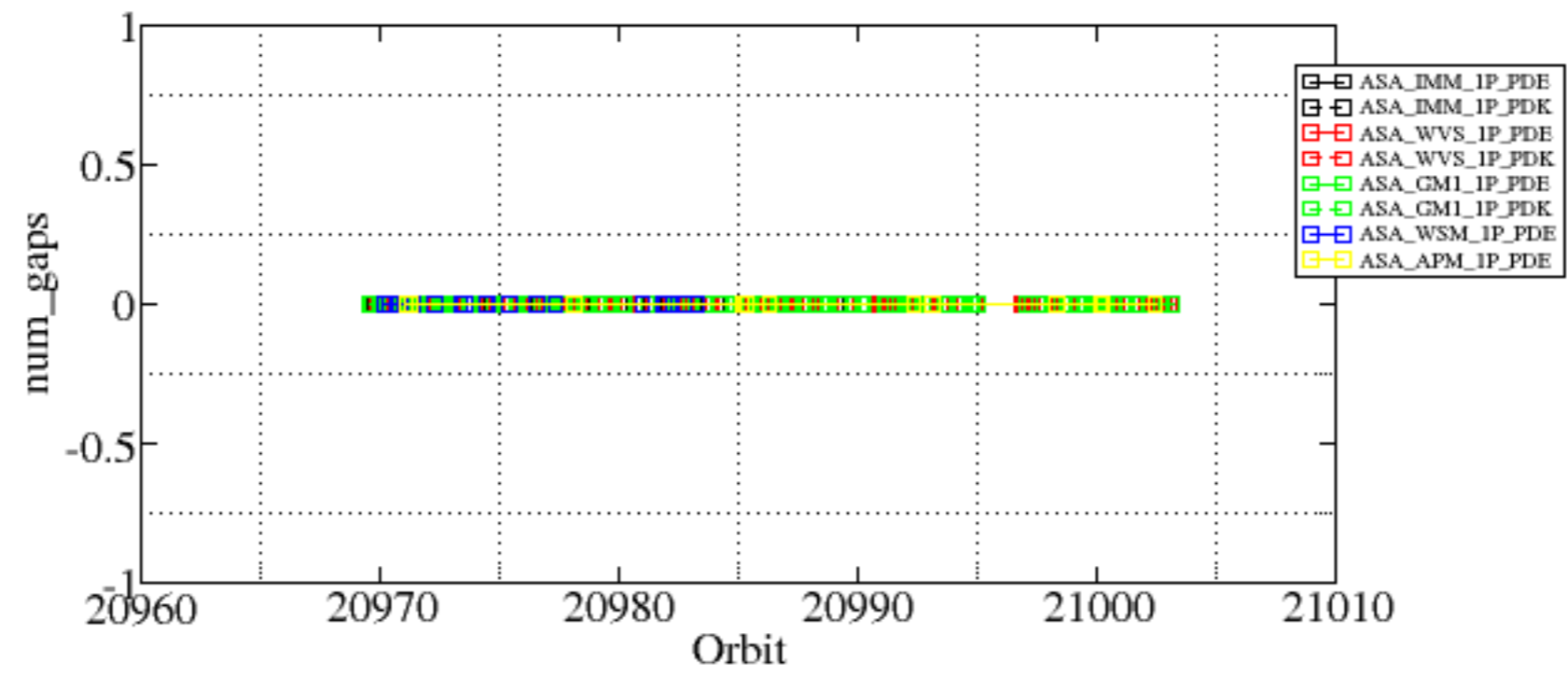




Summary of analysis for the last 3 days 2006030[567]

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_IMM_1PNPDE20060305_201438_00000522045_00386_20981_5480.N1	0	20









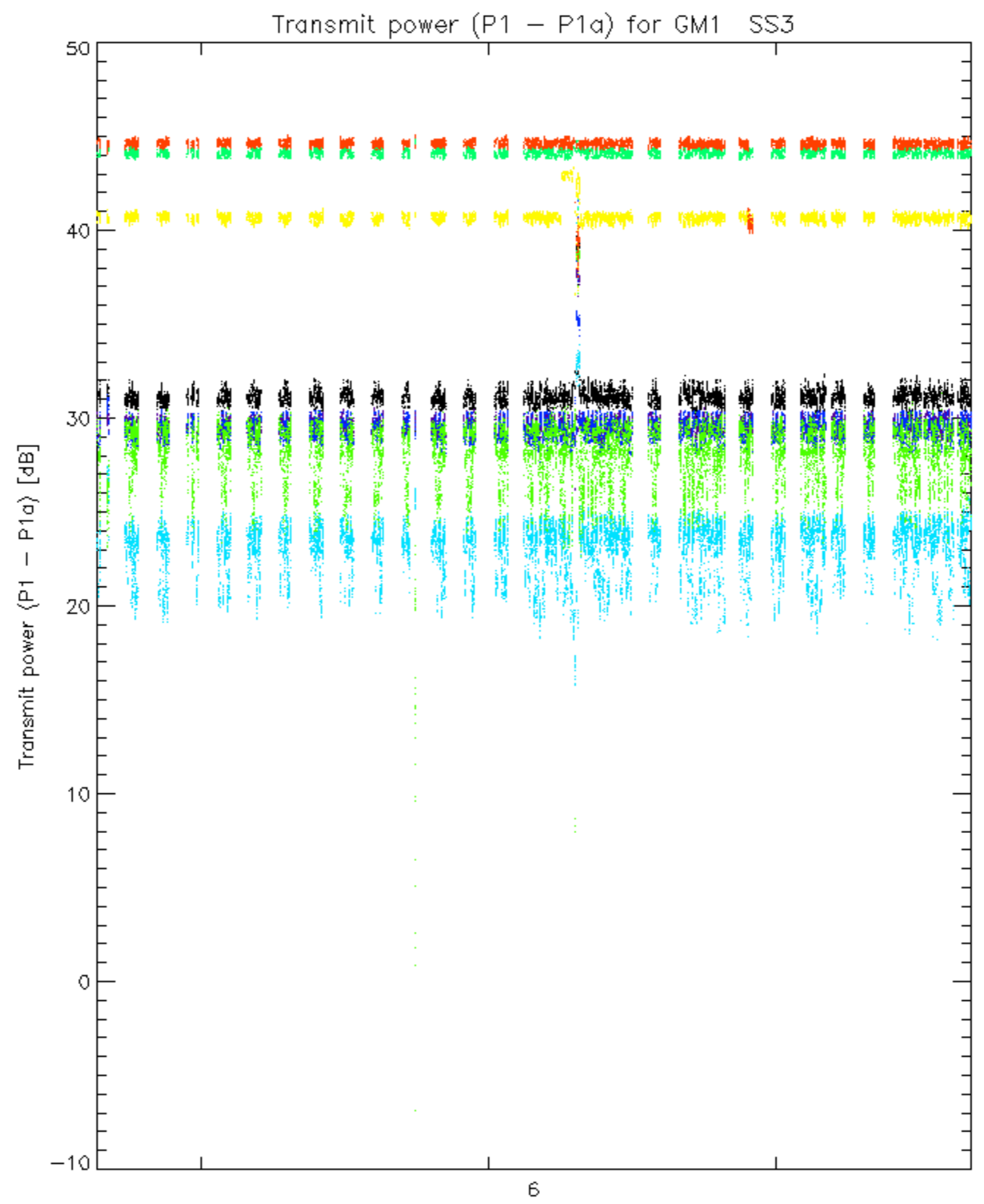






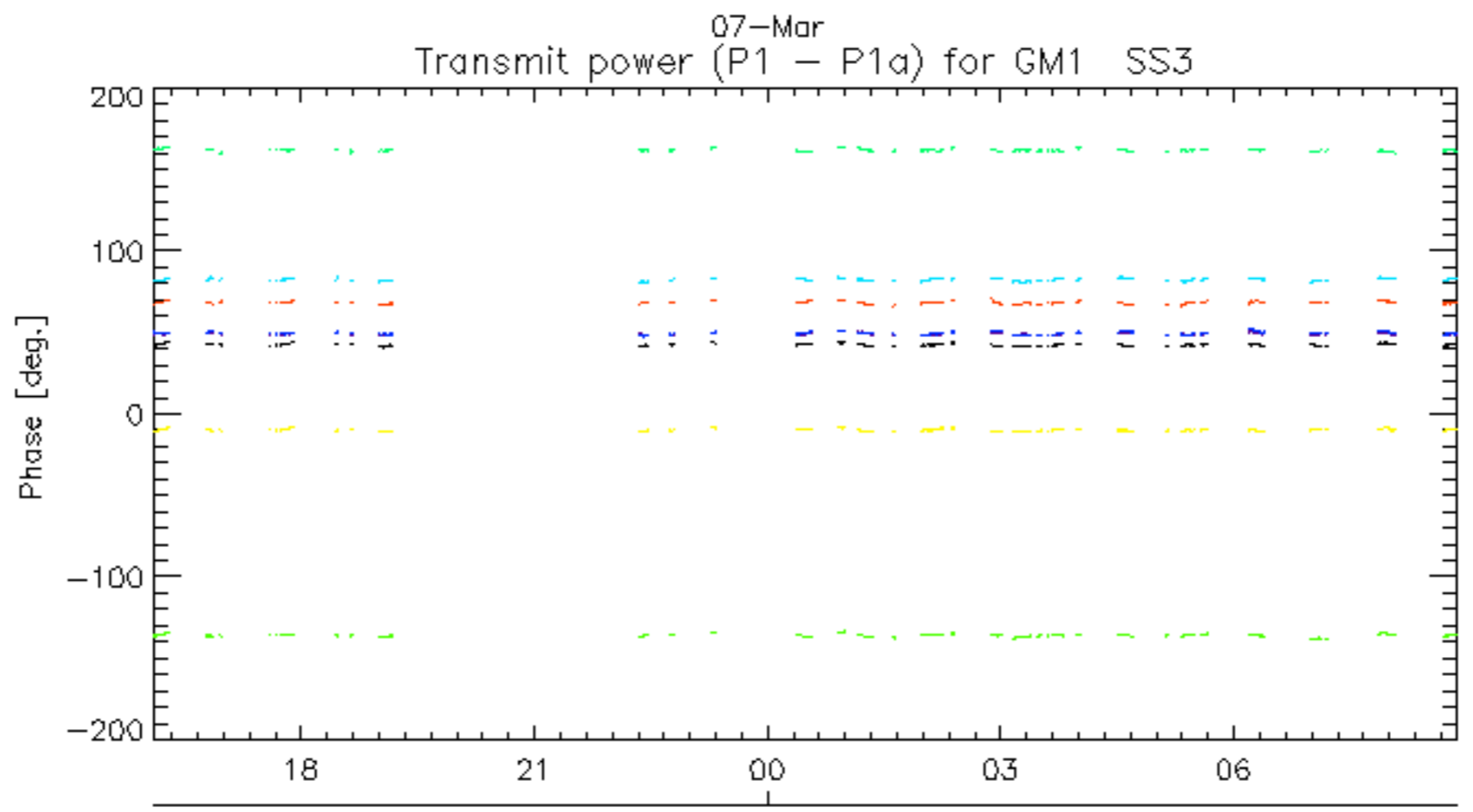
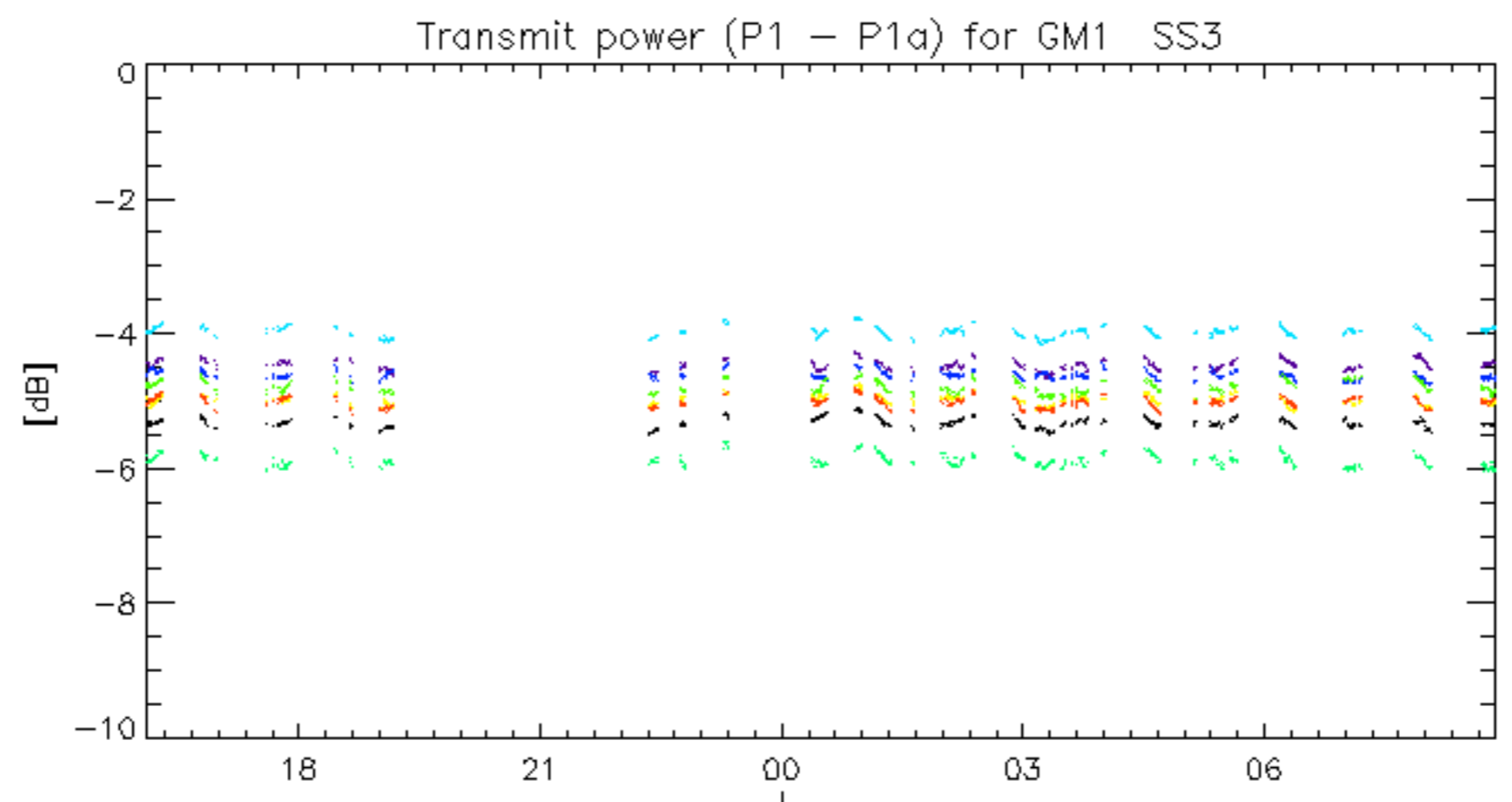




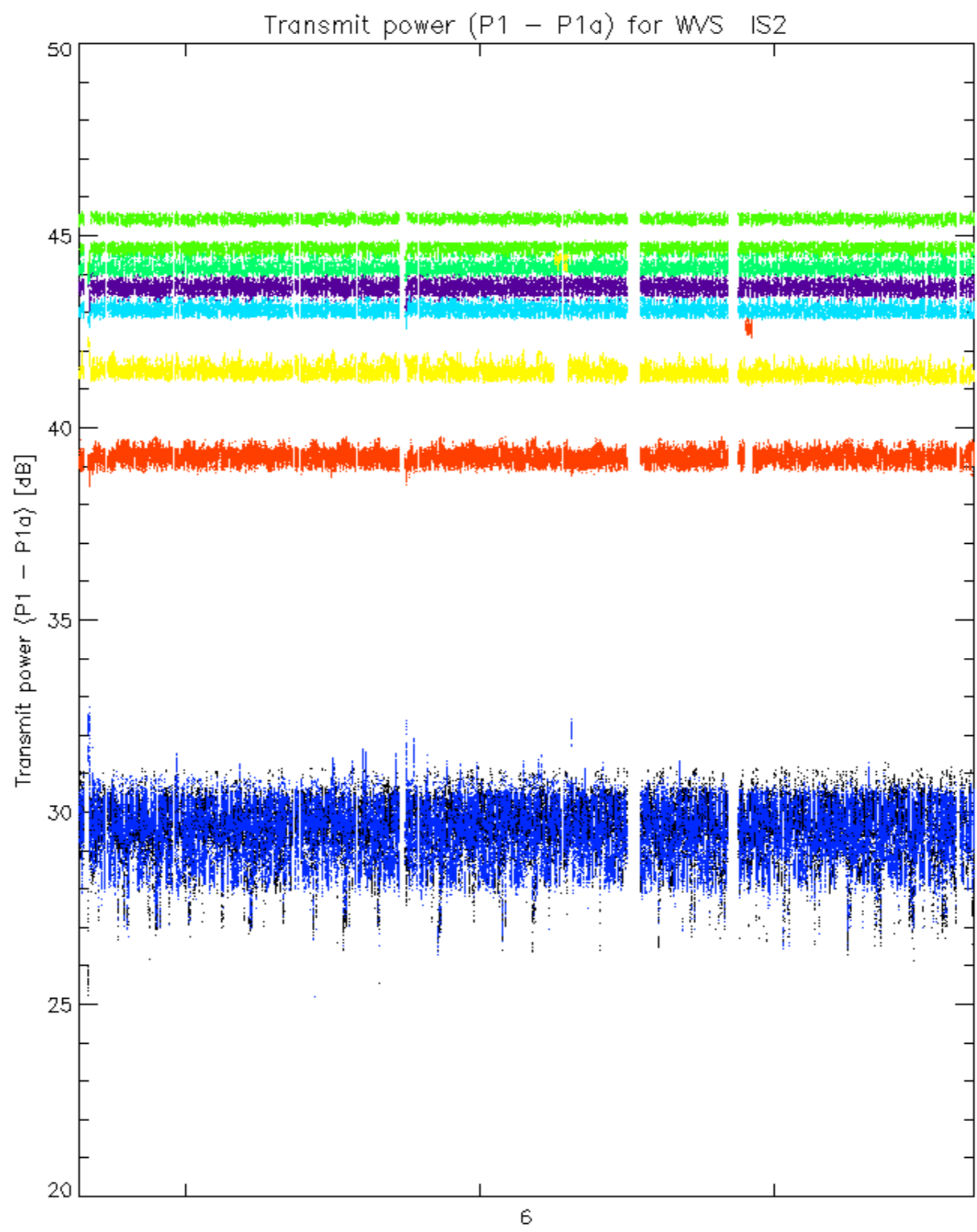


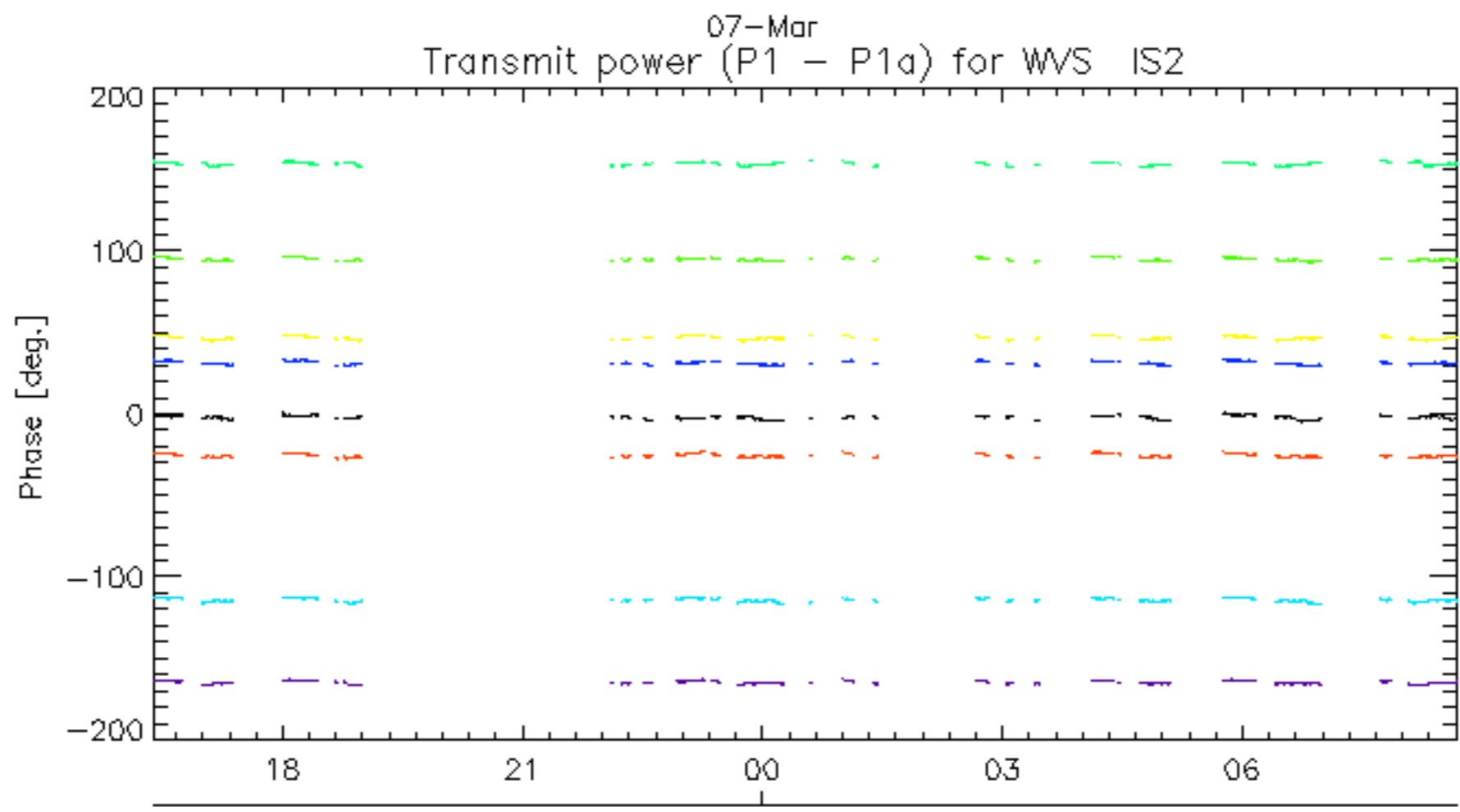
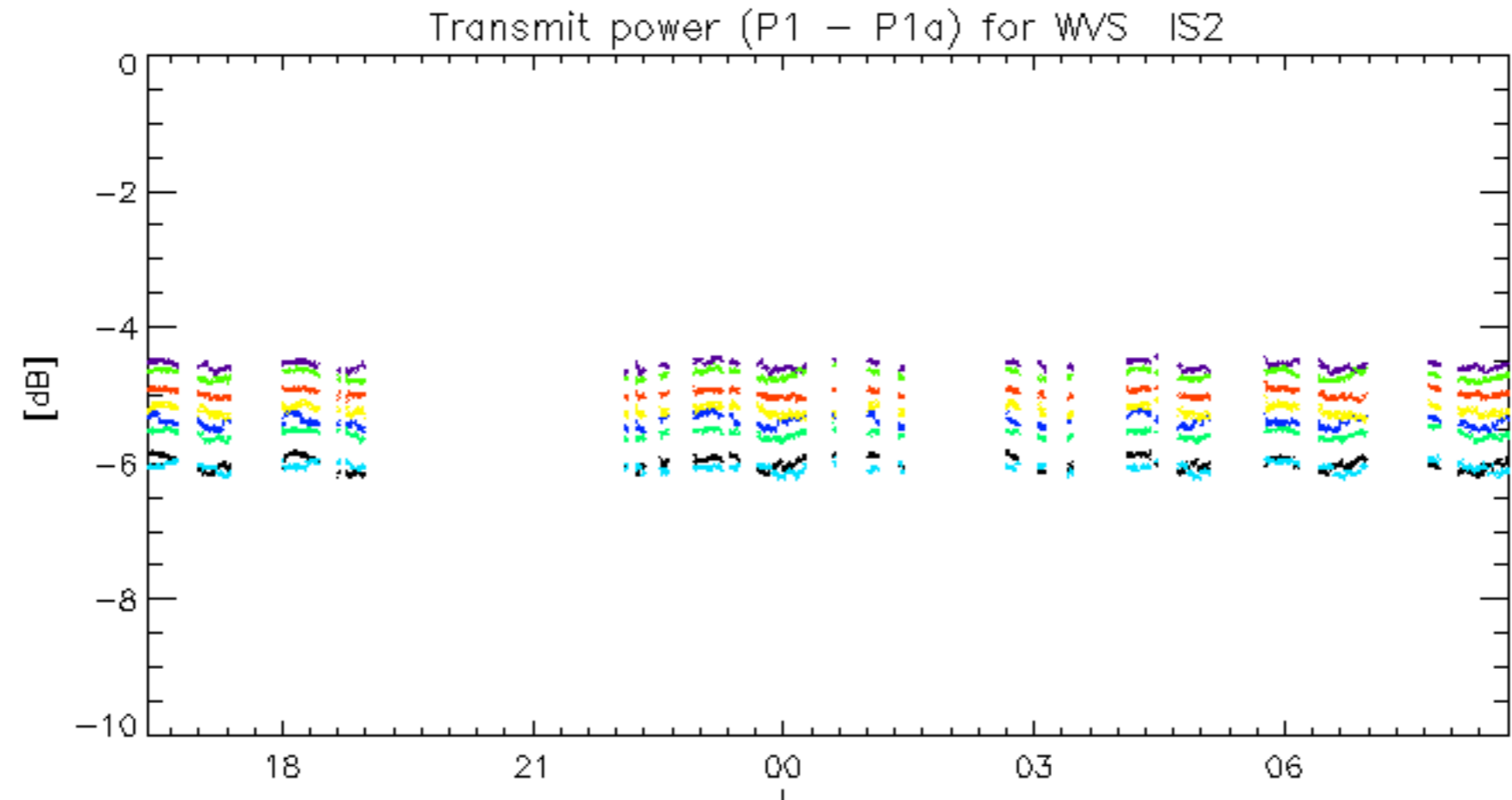
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30





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





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

No unavailabilities during the reported period.