

# PRELIMINARY REPORT OF 060124

last update on Tue Jan 24 16:47:26 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 2006-01-23 00:00:00 to 2006-01-24 16:47:26

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	41	0	9	0	23
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	41	0	9	0	23
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	41	0	9	0	23
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	41	0	9	0	23

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	46	56	55	8	41
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	46	56	55	8	41
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	46	56	55	8	41
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	46	56	55	8	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	20060123 084145
H	20060124 081008

### 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	-4.040278	0.007376	0.060244
7	P1	-3.000388	0.014054	-0.021401
11	P1	-4.102971	0.022508	-0.009537
15	P1	-6.066001	0.016955	0.006026
19	P1	-3.246544	0.005809	-0.029002
22	P1	-4.487015	0.020029	0.002022
26	P1	-4.214606	0.012576	0.033306
30	P1	-5.773828	0.009822	-0.015440
3	P1	-16.957275	0.249605	0.209346
7	P1	-16.600153	0.129946	-0.142857
11	P1	-16.609577	0.315084	-0.077624
15	P1	-13.251903	0.120155	0.093864
19	P1	-13.882852	0.075466	-0.043434
22	P1	-15.928497	0.565768	0.104314
26	P1	-15.768922	0.259688	0.030201
30	P1	-16.616297	0.344915	-0.010919

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.628689	0.095781	0.123720
7	P2	-22.484232	0.097829	0.097149
11	P2	-16.315592	0.103603	0.099337
15	P2	-7.223243	0.103317	0.041138
19	P2	-9.181982	0.098512	0.035078
22	P2	-17.943443	0.095344	-0.013387
26	P2	-16.225935	0.100521	0.012627
30	P2	-19.658995	0.084411	0.036507

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.217288	0.007438	0.016428
7	P3	-8.217288	0.007438	0.016428
11	P3	-8.217288	0.007438	0.016428
15	P3	-8.217288	0.007438	0.016428
19	P3	-8.217288	0.007438	0.016428
22	P3	-8.217288	0.007438	0.016428
26	P3	-8.217288	0.007438	0.016428
30	P3	-8.217288	0.007438	0.016428

**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	-3.723194	0.008613	-0.012276
7	P1	-2.754316	0.007747	0.048074
11	P1	-2.866569	0.010967	0.022229
15	P1	-3.455592	0.018417	-0.044867
19	P1	-3.381784	0.013393	0.012988
22	P1	-5.122032	0.021481	0.005795
26	P1	-5.857222	0.015658	0.000772
30	P1	-5.252121	0.030026	0.026759
3	P1	-11.519701	0.033936	-0.057296
7	P1	-9.925190	0.049967	0.063626
11	P1	-10.073384	0.050826	-0.011300
15	P1	-10.616887	0.080850	-0.030643
19	P1	-15.483661	0.062737	0.032399
22	P1	-20.665001	1.150336	0.314054

26	P1	-16.867577	0.323597	0.364450
30	P1	-18.149269	0.310304	0.034006

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.453772	0.031538	0.207981
7	P2	-22.895117	0.057998	0.216399
11	P2	-11.453751	0.019249	0.135650
15	P2	-4.932443	0.023580	0.077220
19	P2	-6.929962	0.021912	0.064962
22	P2	-8.199133	0.022767	0.021482
26	P2	-23.986162	0.025245	0.081154
30	P2	-22.104456	0.017441	0.047019

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.059195	0.002403	0.036847
7	P3	-8.059115	0.002407	0.037484
11	P3	-8.059255	0.002410	0.037573
15	P3	-8.059081	0.002414	0.036906
19	P3	-8.059290	0.002413	0.036979
22	P3	-8.059155	0.002404	0.036438
26	P3	-8.059079	0.002400	0.036511
30	P3	-8.059228	0.002412	0.037020

## 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	0.000556446
	stdev	1.72779e-07
MEAN Q	mean	0.000518110
	stdev	2.16987e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.138778
	stdev	0.00121217
STDEV Q	mean	0.139135
	stdev	0.00123161



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006012[234]

The assumptions 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_1PNPDE20060123_004758_000002002044_00288_20382_0815.N1	1	0
ASA_IMM_1PNPDE20060123_155721_000002312044_00298_20392_0902.N1	1	0
ASA_WSM_1PNPDE20060122_152526_000001462044_00283_20377_2004.N1	0	1
ASA_WSM_1PNPDE20060122_181420_000001522044_00285_20379_2017.N1	0	64
ASA_WSM_1PNPDE20060123_160304_000001282044_00298_20392_2090.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)

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

### 7.2 - Absolute Doppler for WVS

#### Evolution of Absolute Doppler

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

### 7.3 - Doppler evolution versus ANX for WVS

#### Evolution Doppler error versus ANX

<input type="checkbox"/>
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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

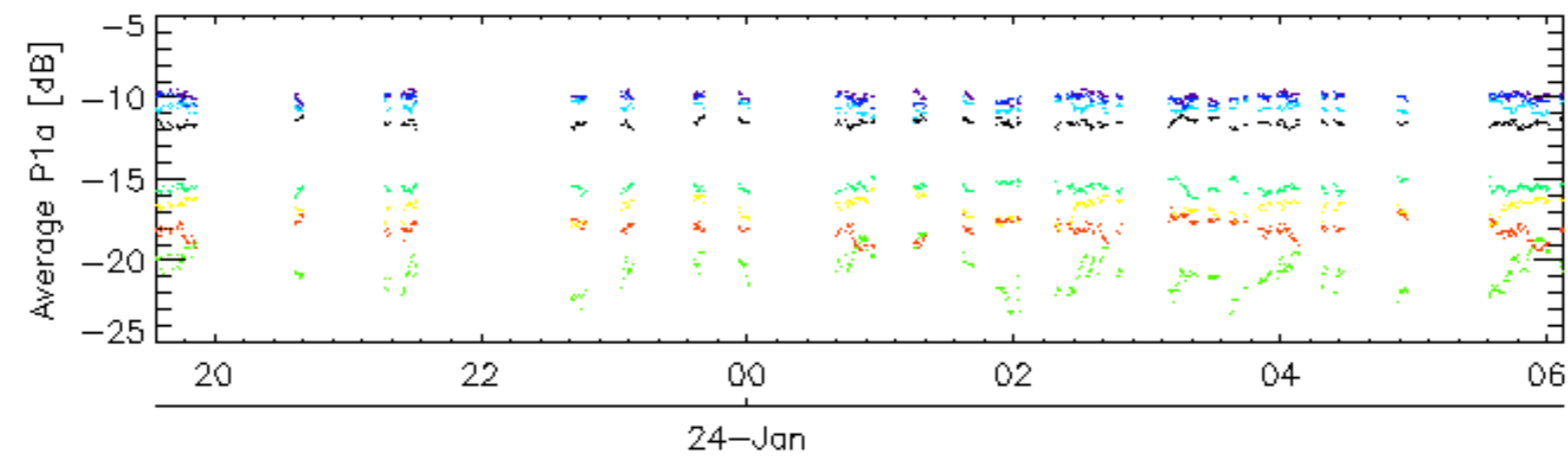
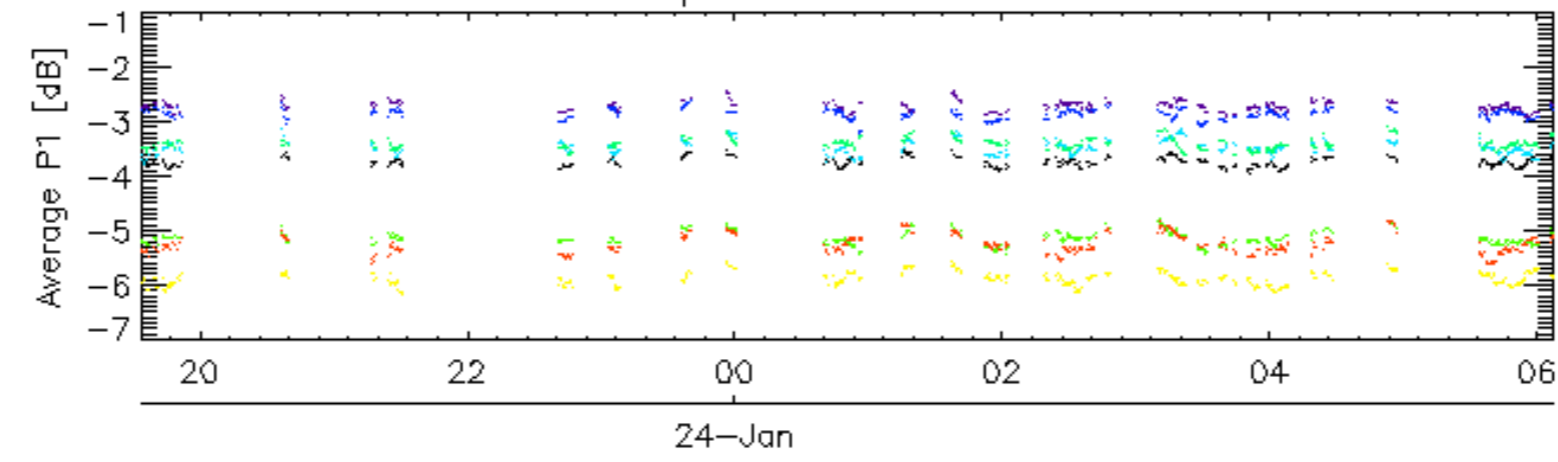
Ascending

Descending

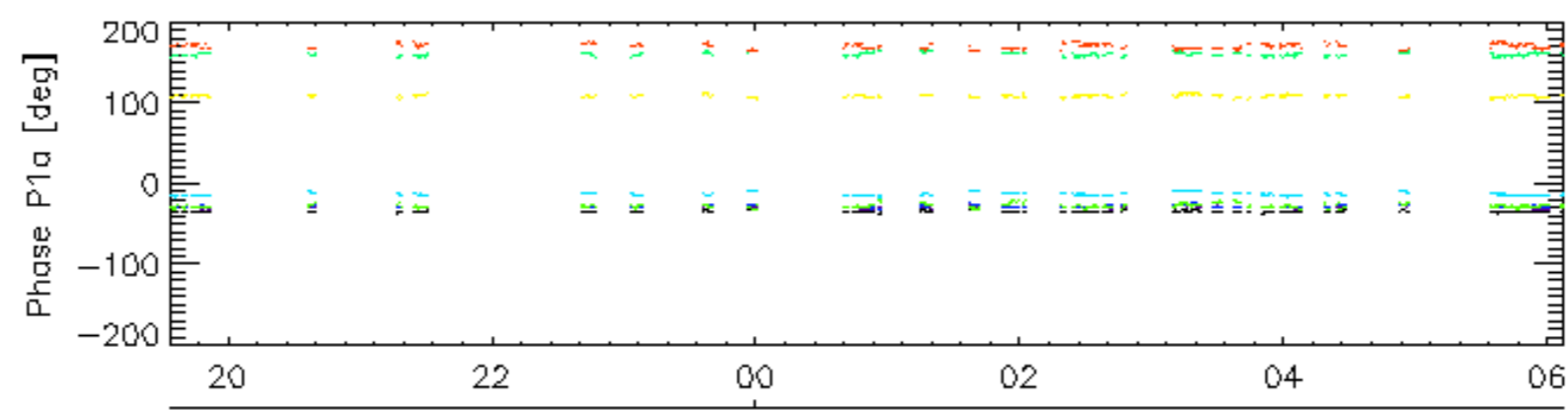
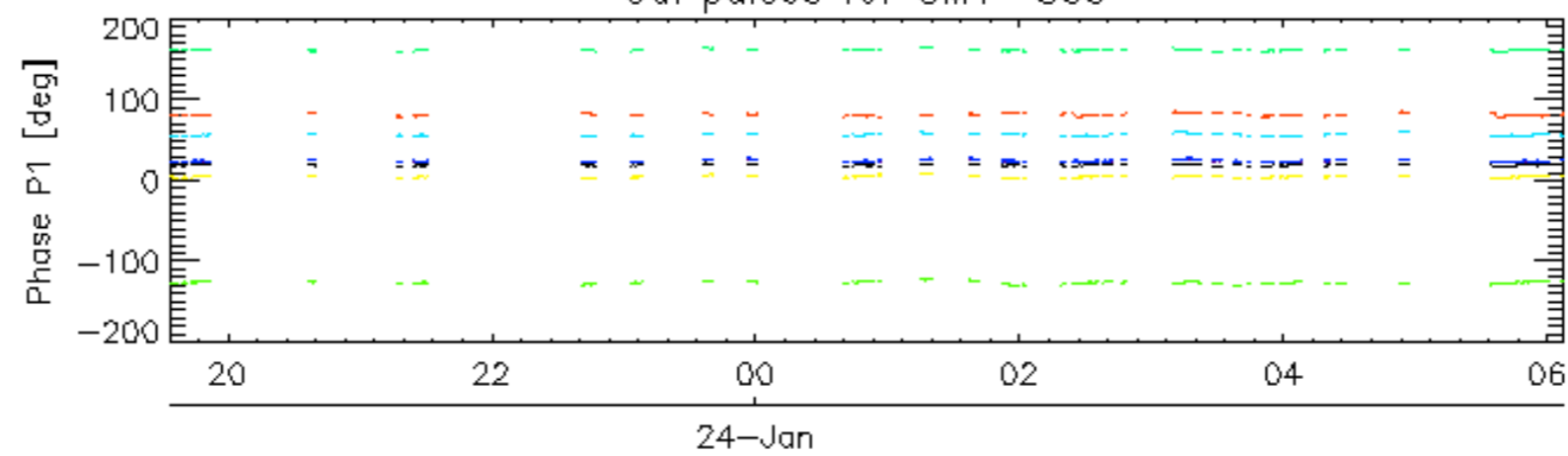
### 7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

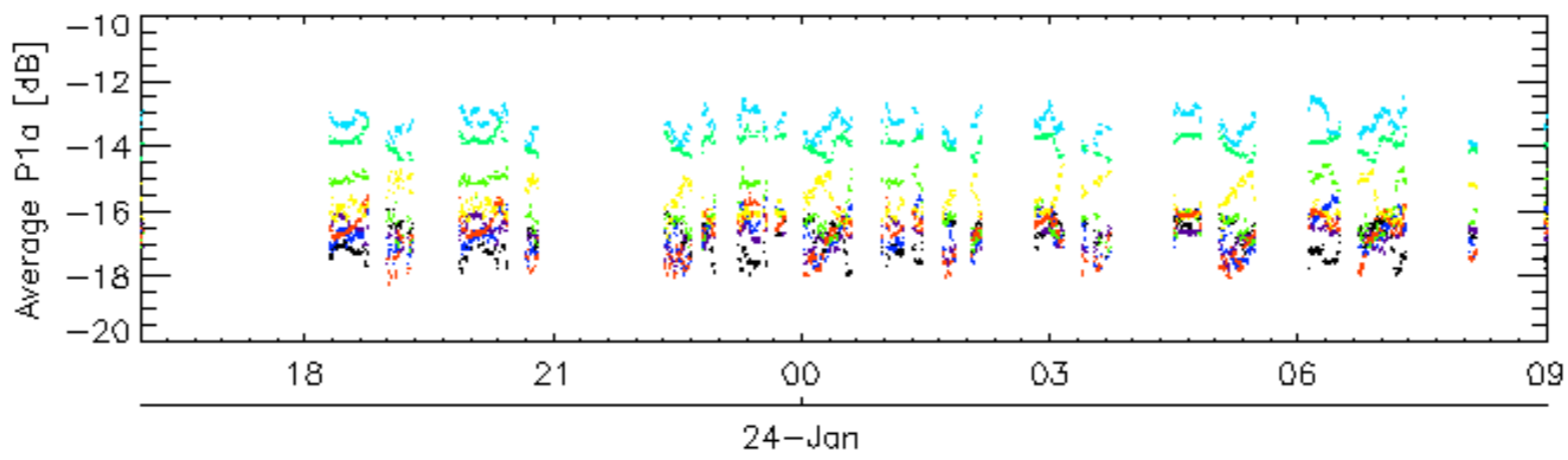
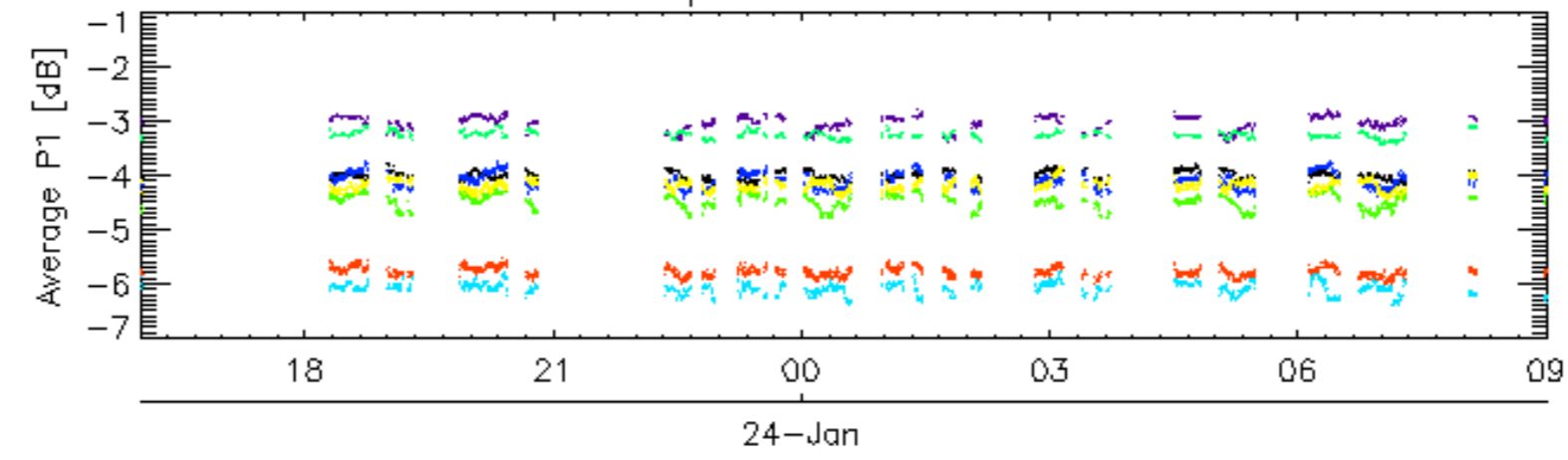


Cal pulses for GM1 SS3

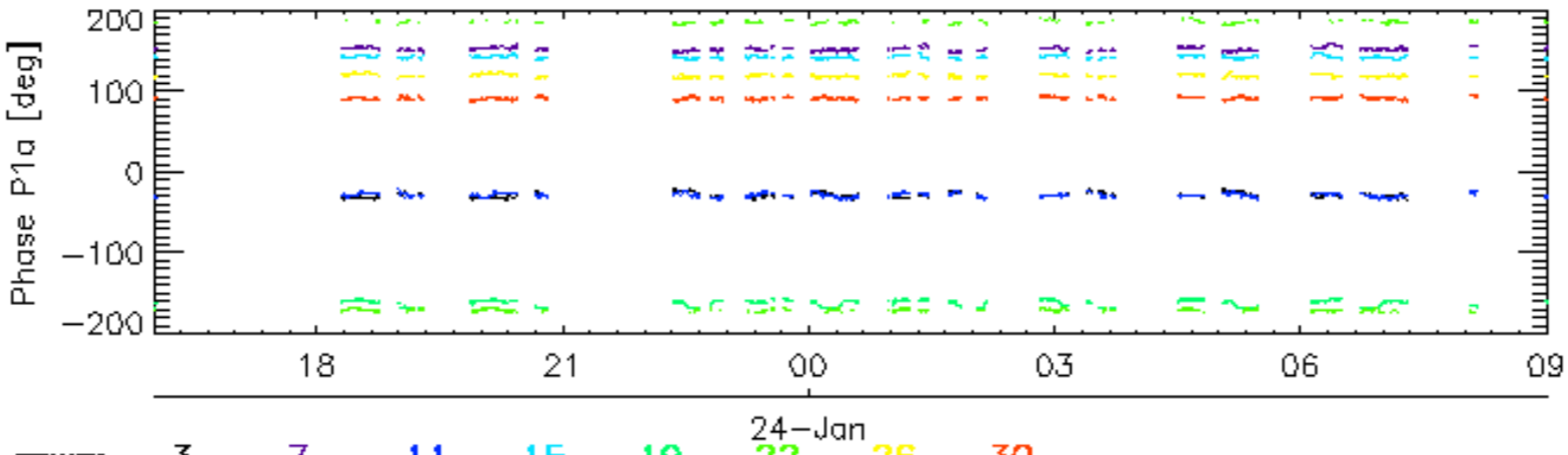
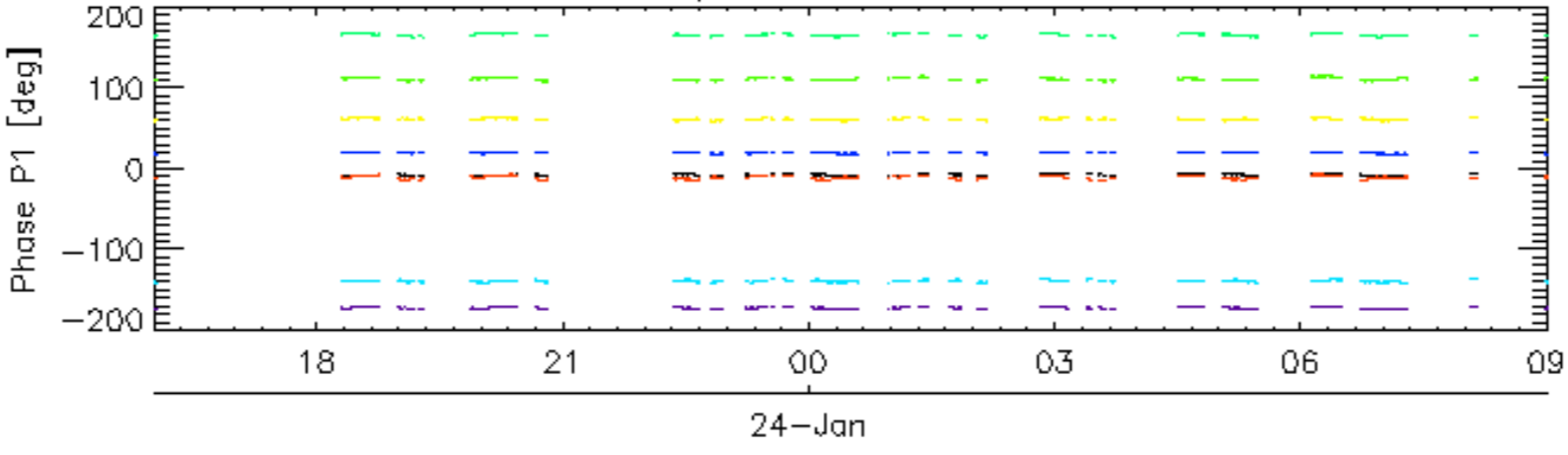


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

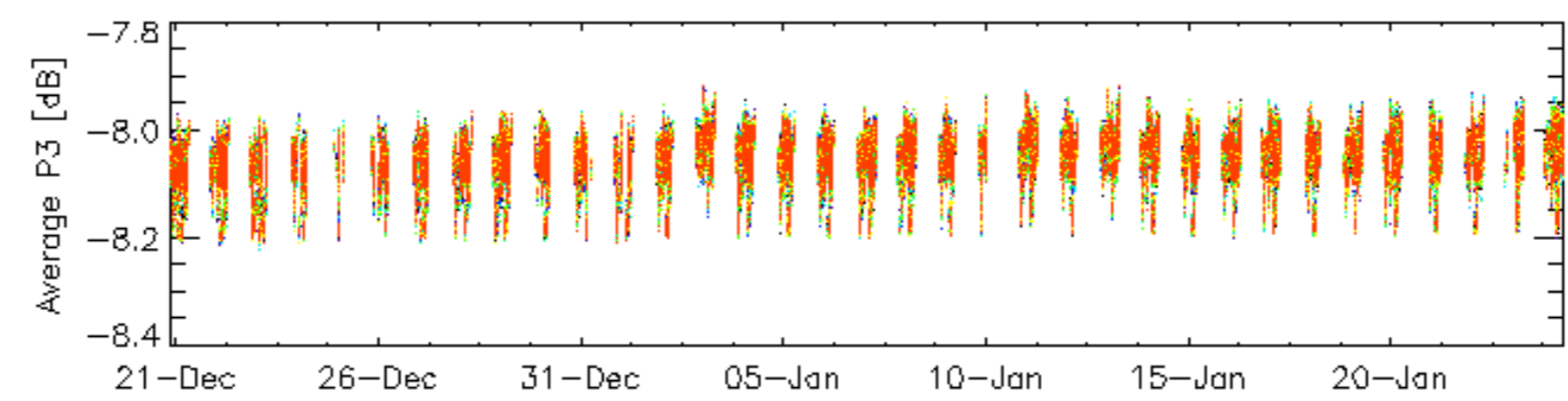
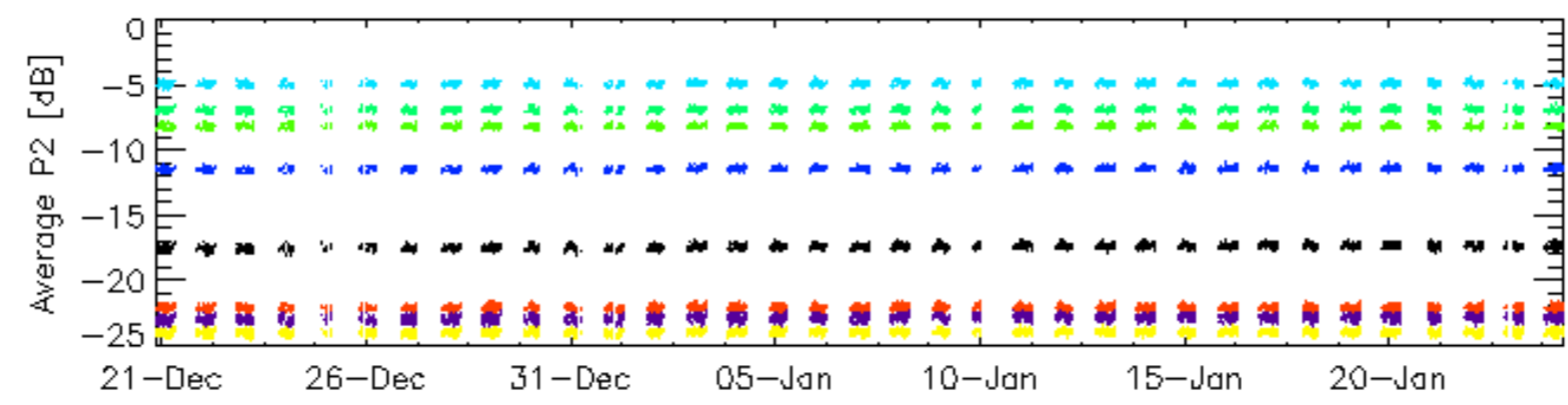
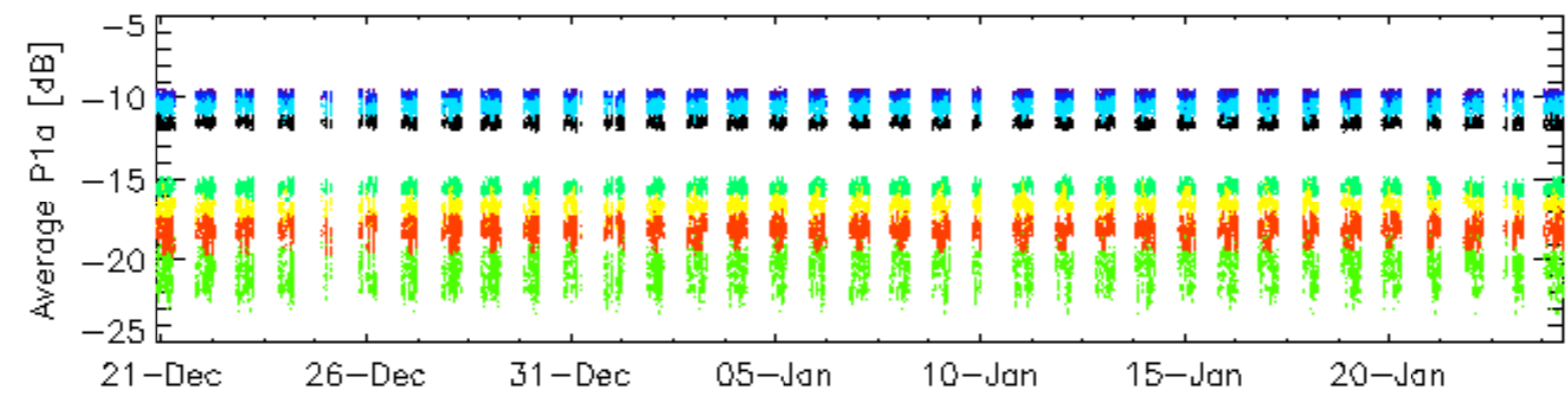
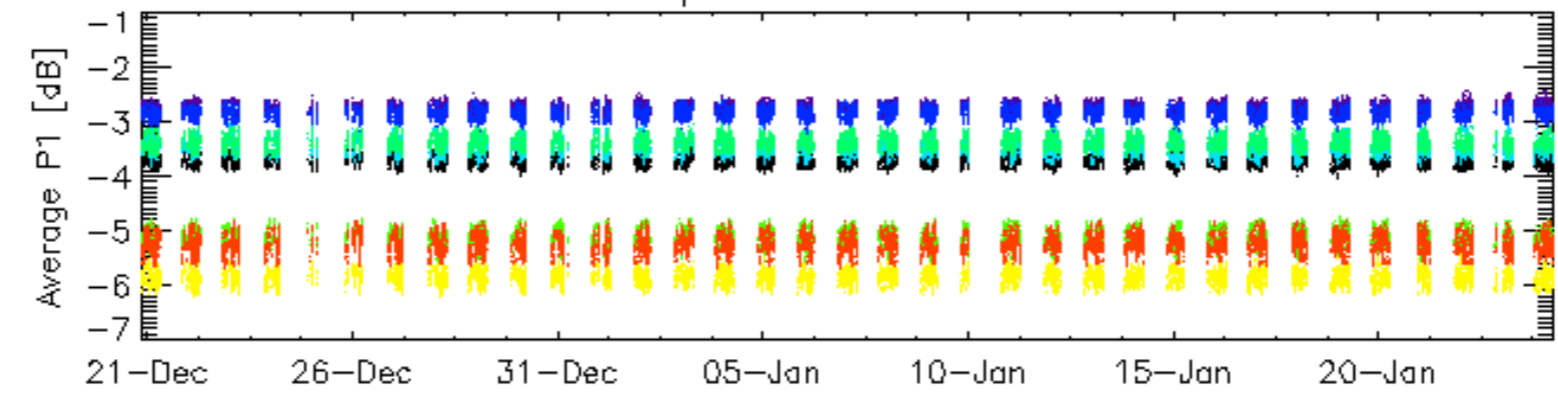


Cal pulses for WVS IS2



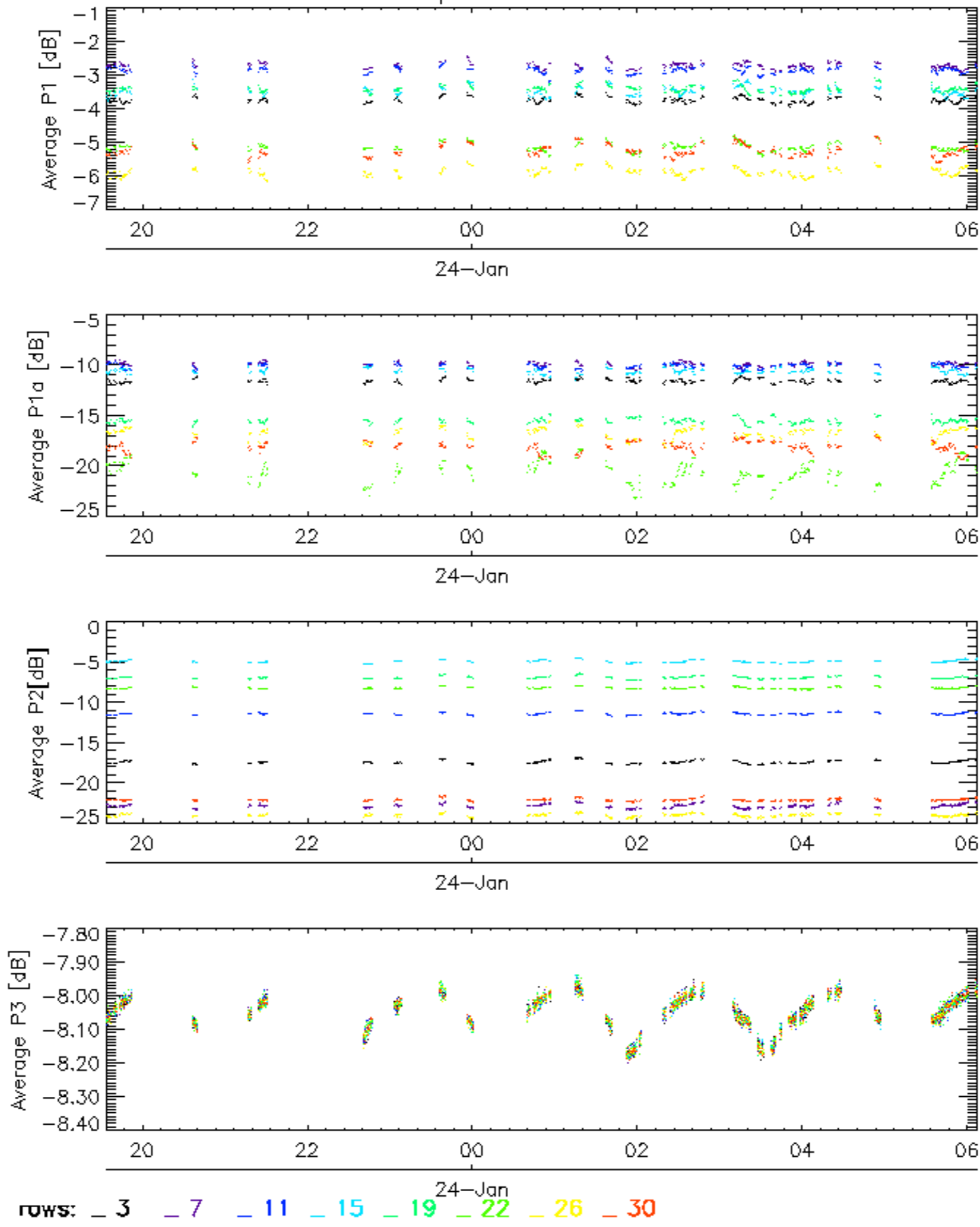
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

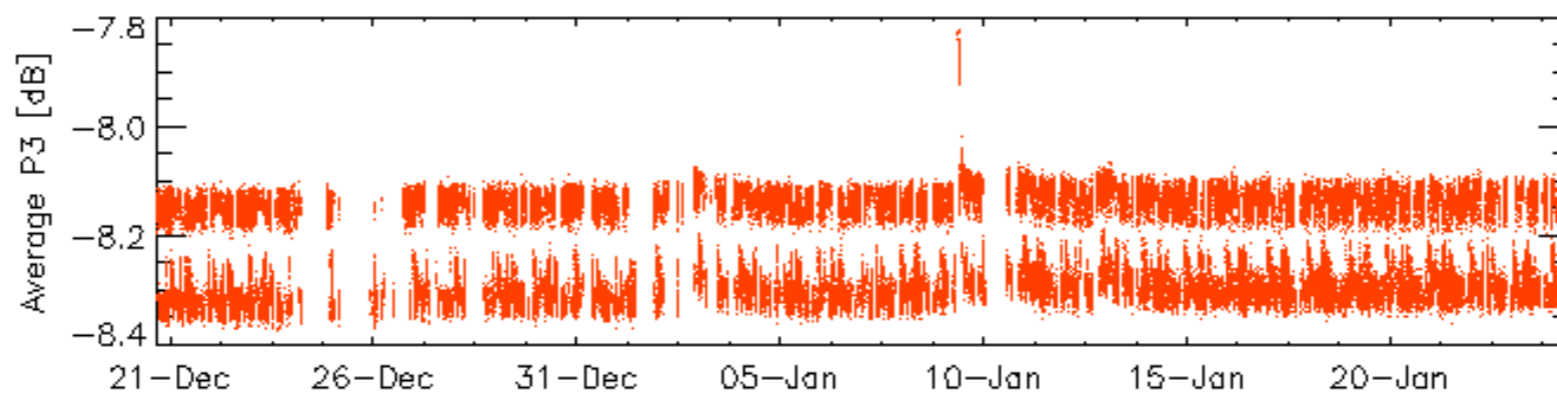
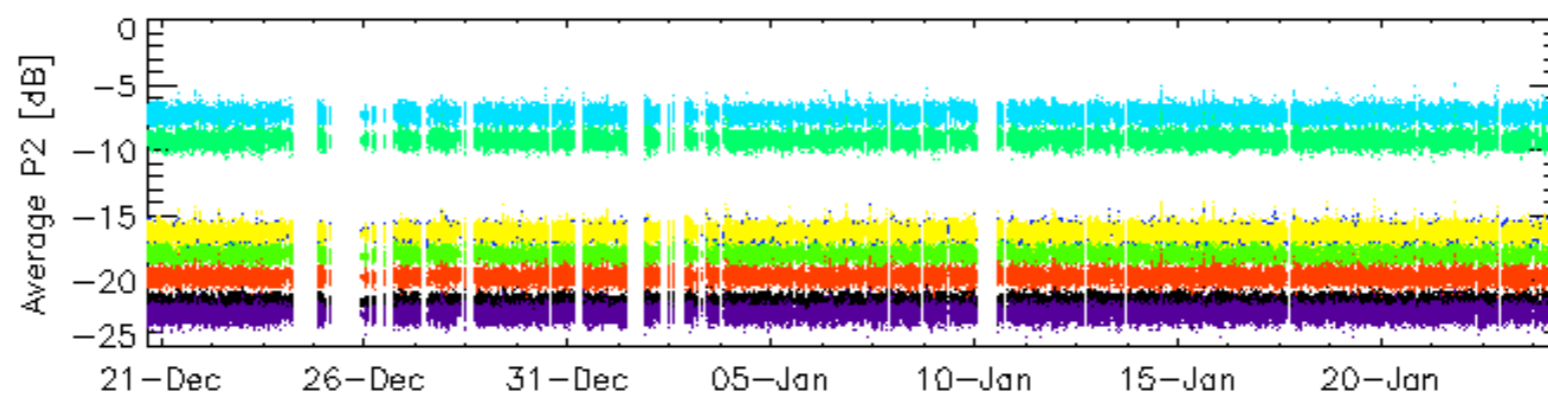
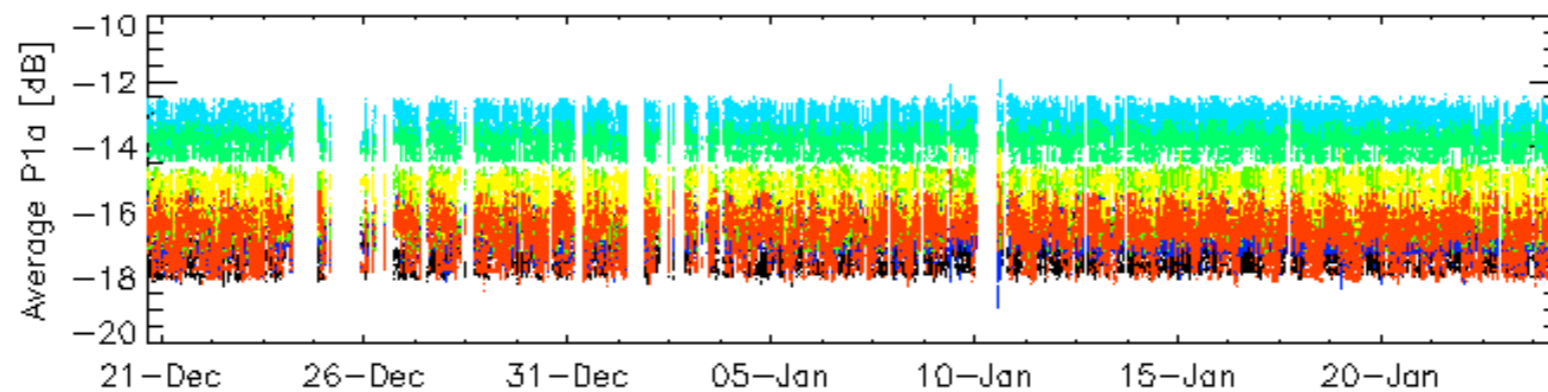
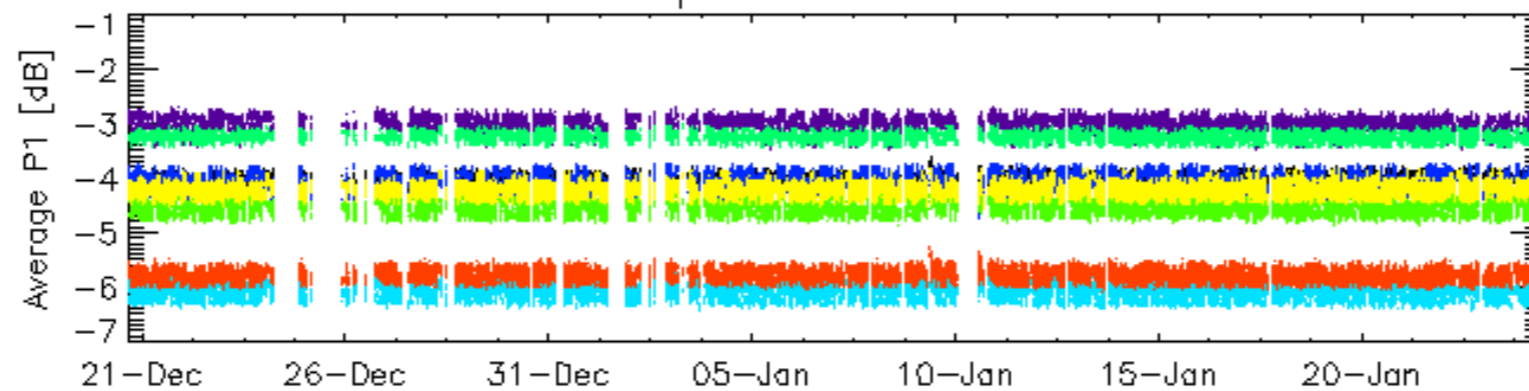


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

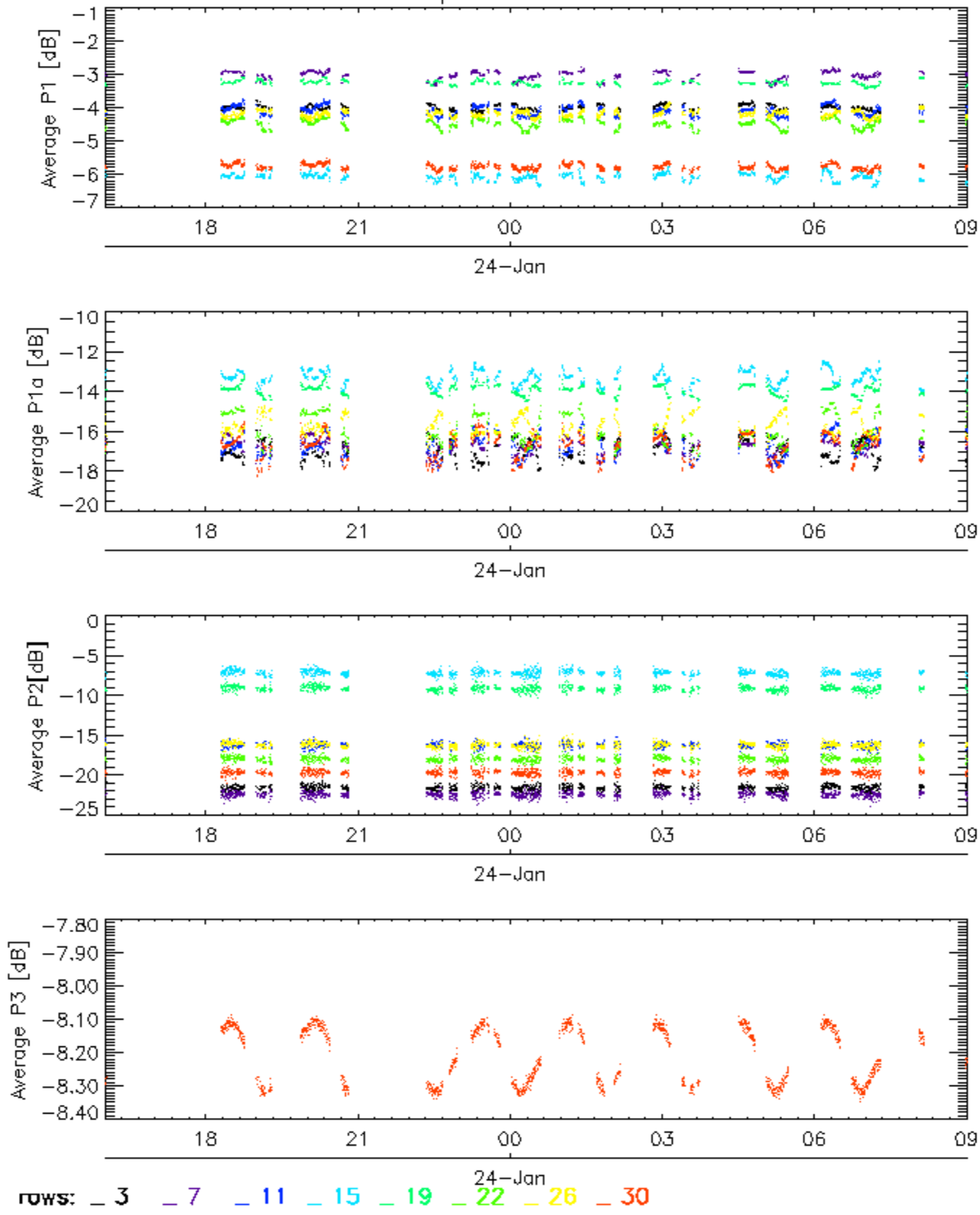


Cal pulses for WVS IS2



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

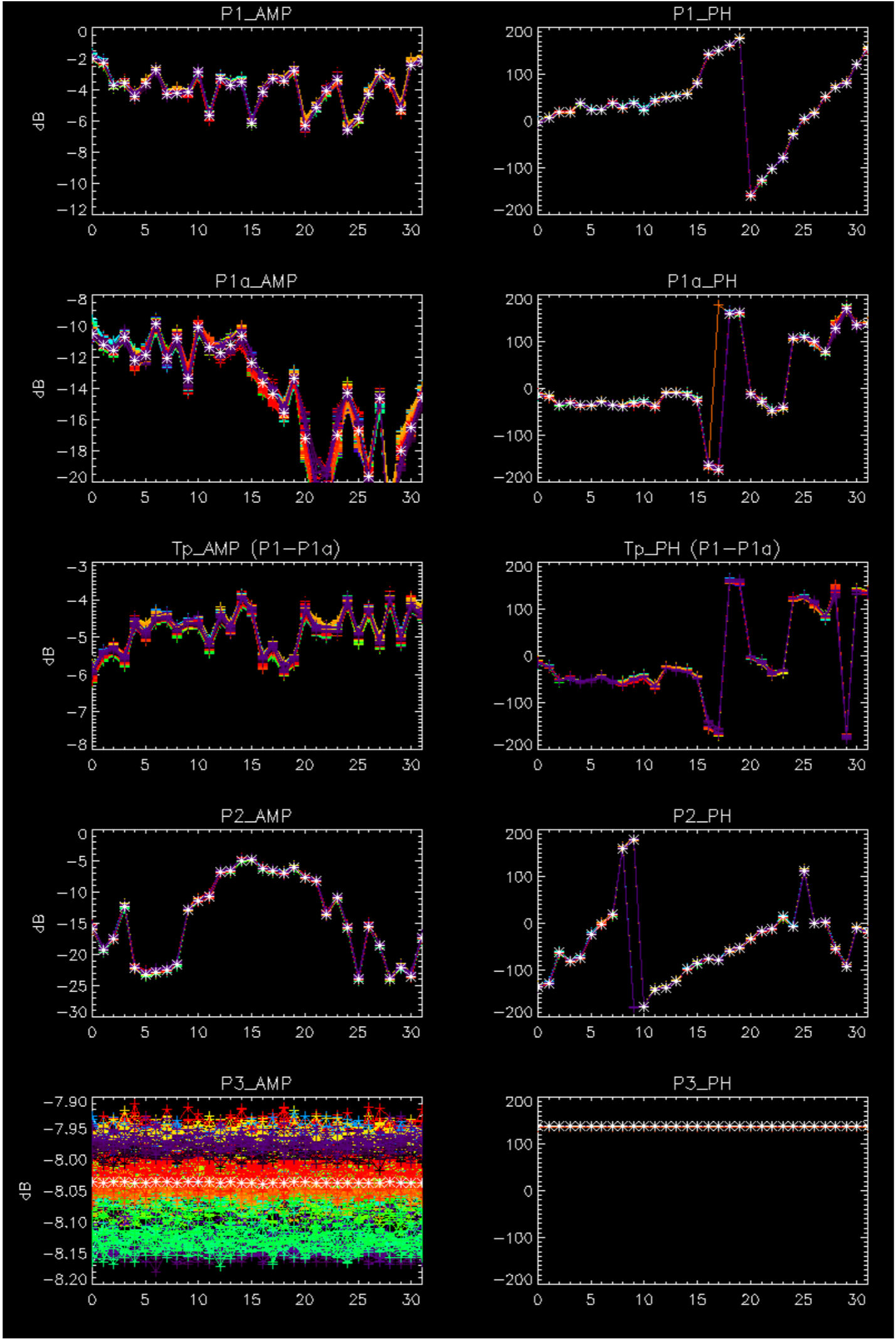
### Cal pulses for WVS IS2

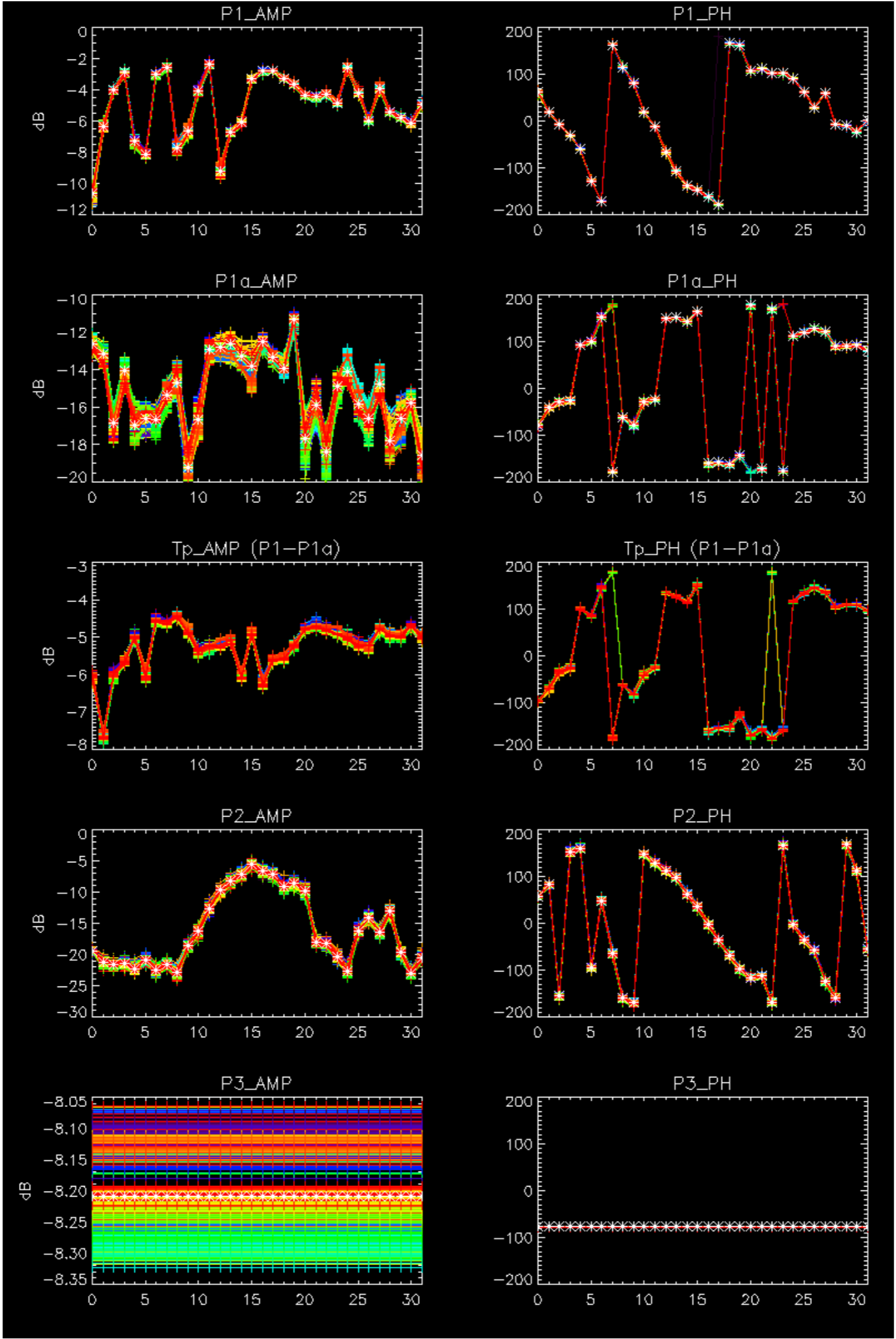


No anomalies observed on available browse products



No anomalies observed.



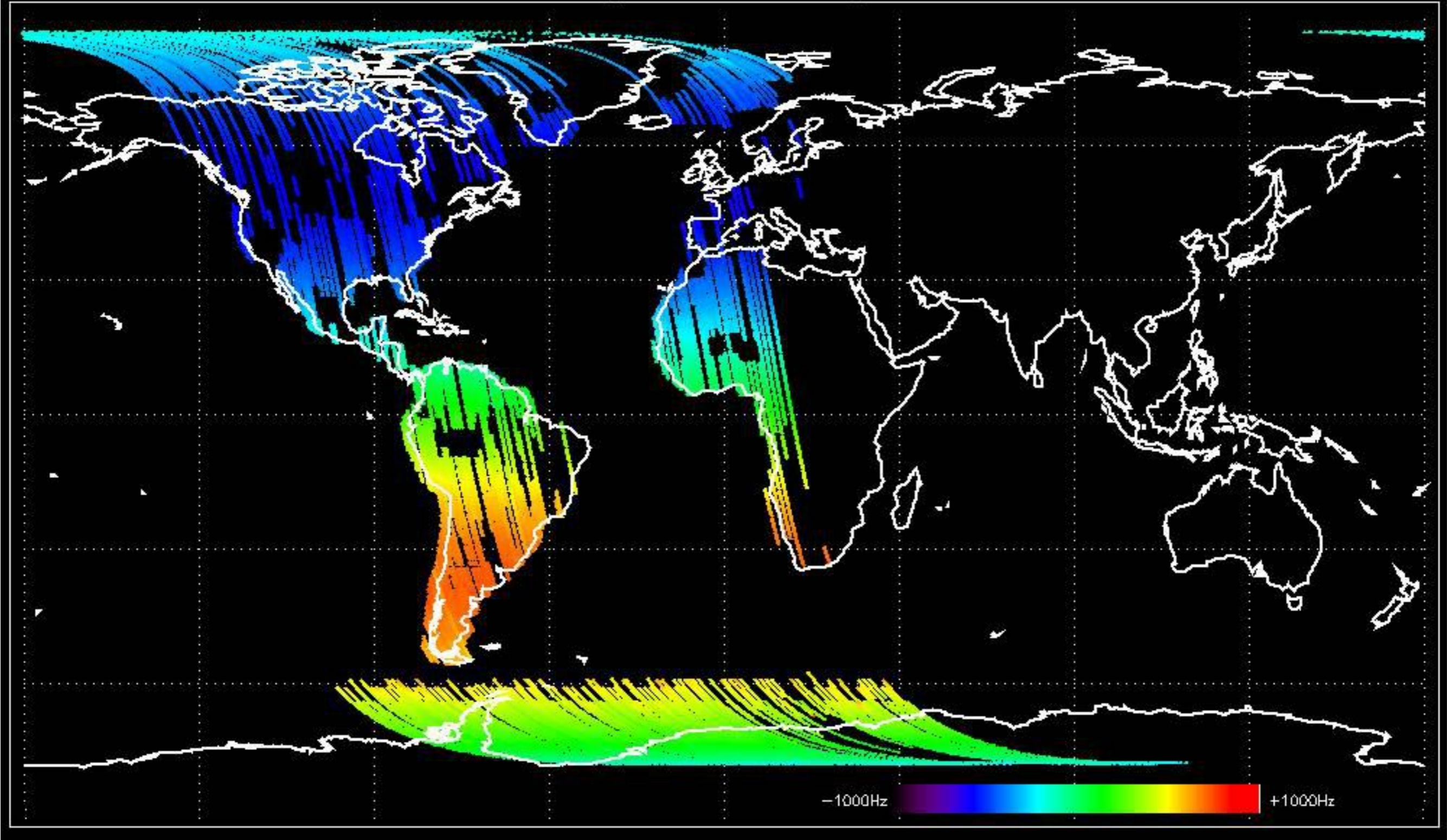


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



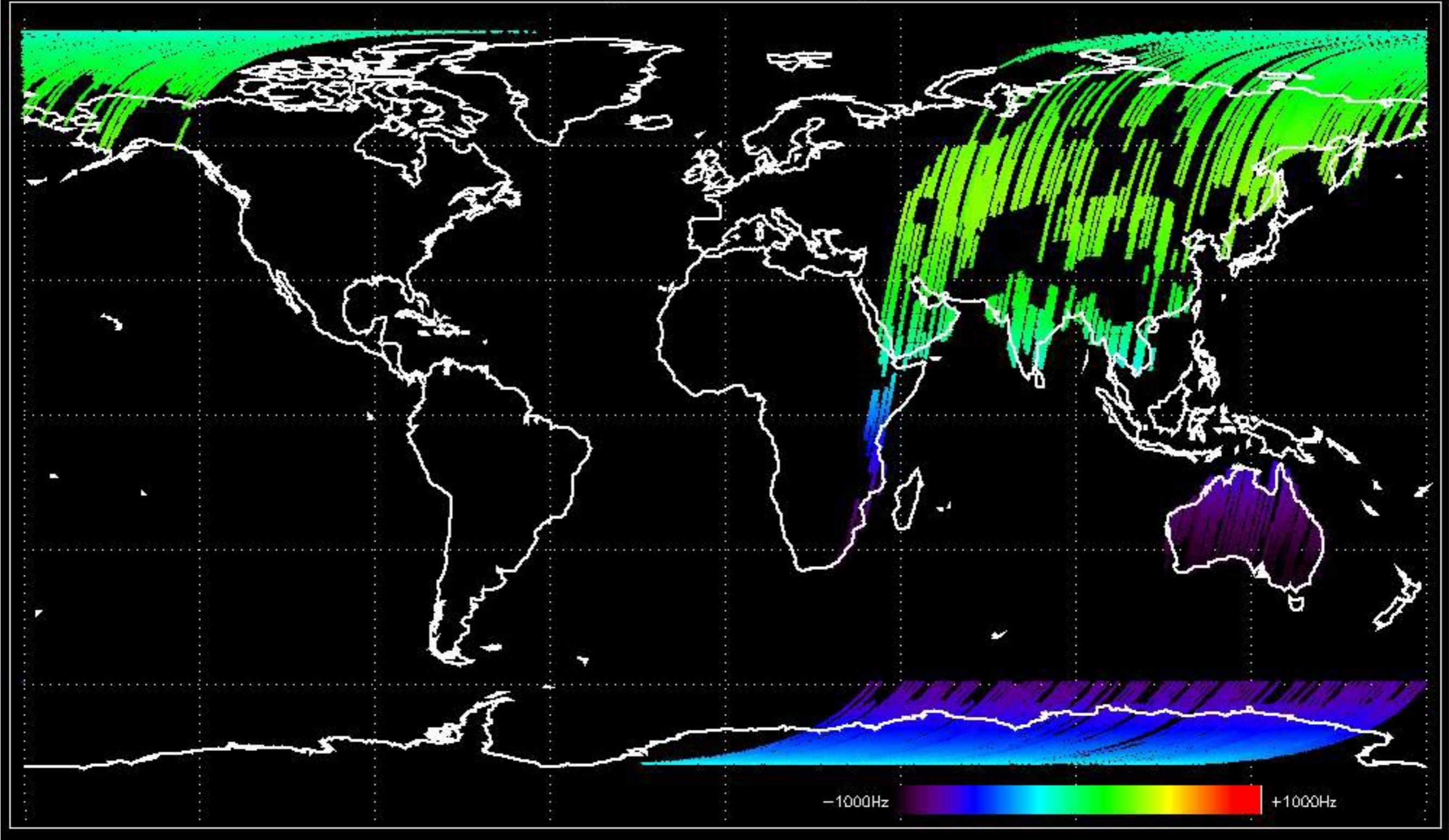


Doppler 'GM1' 'SS1' ascending



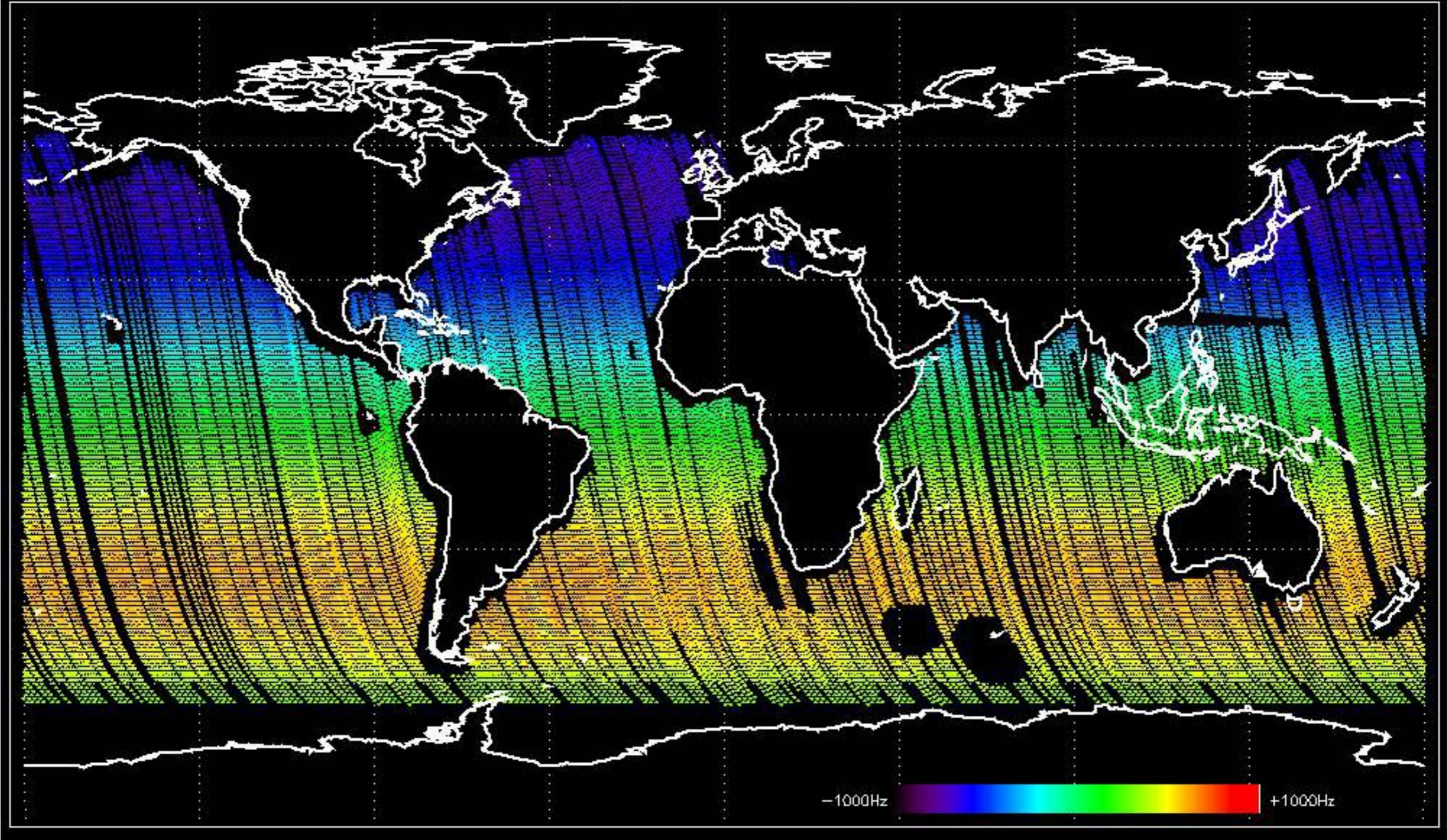


Doppler 'GM1' 'SS1' descending



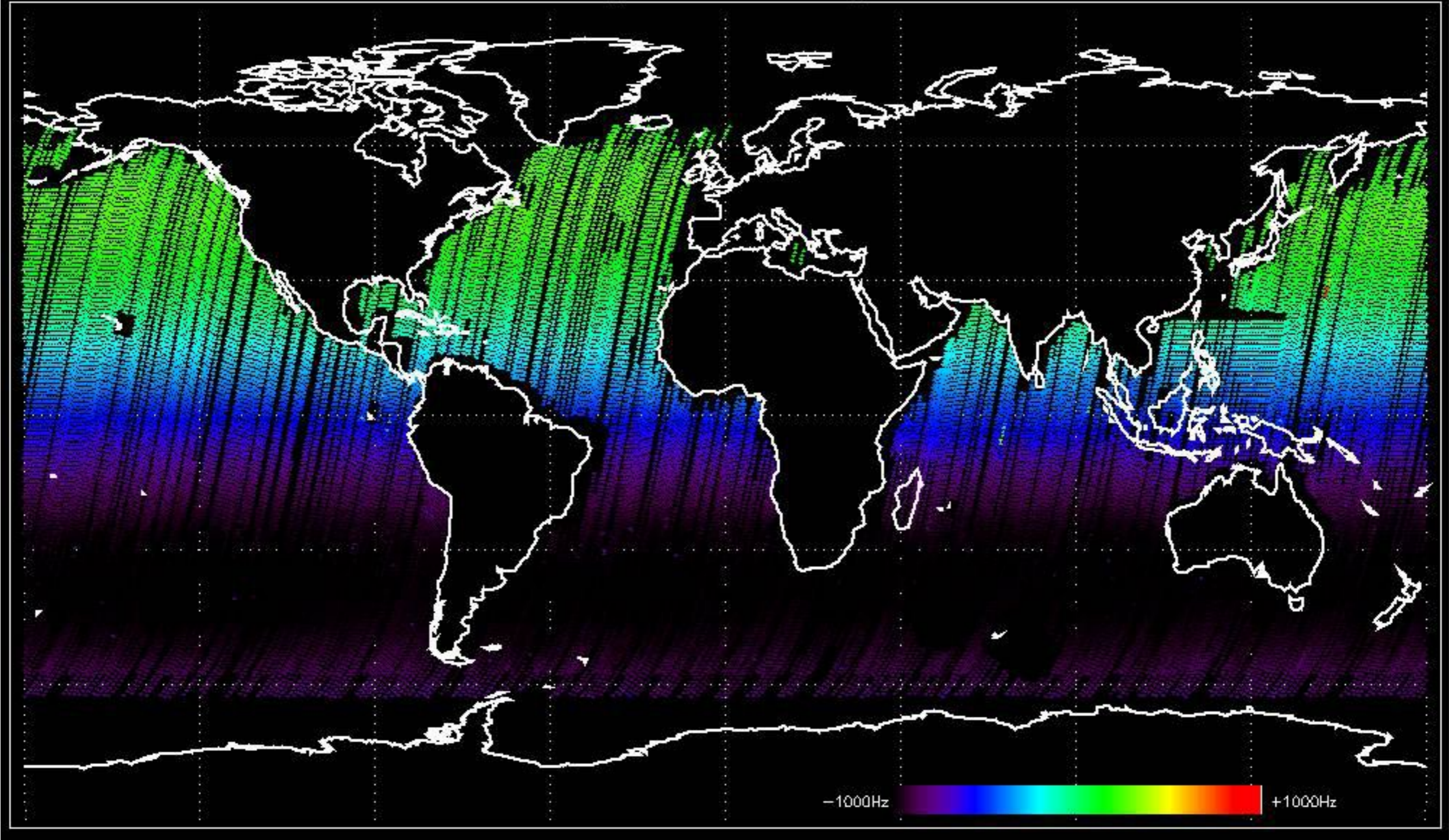


Doppler 'WVS' 'IS2' ascending

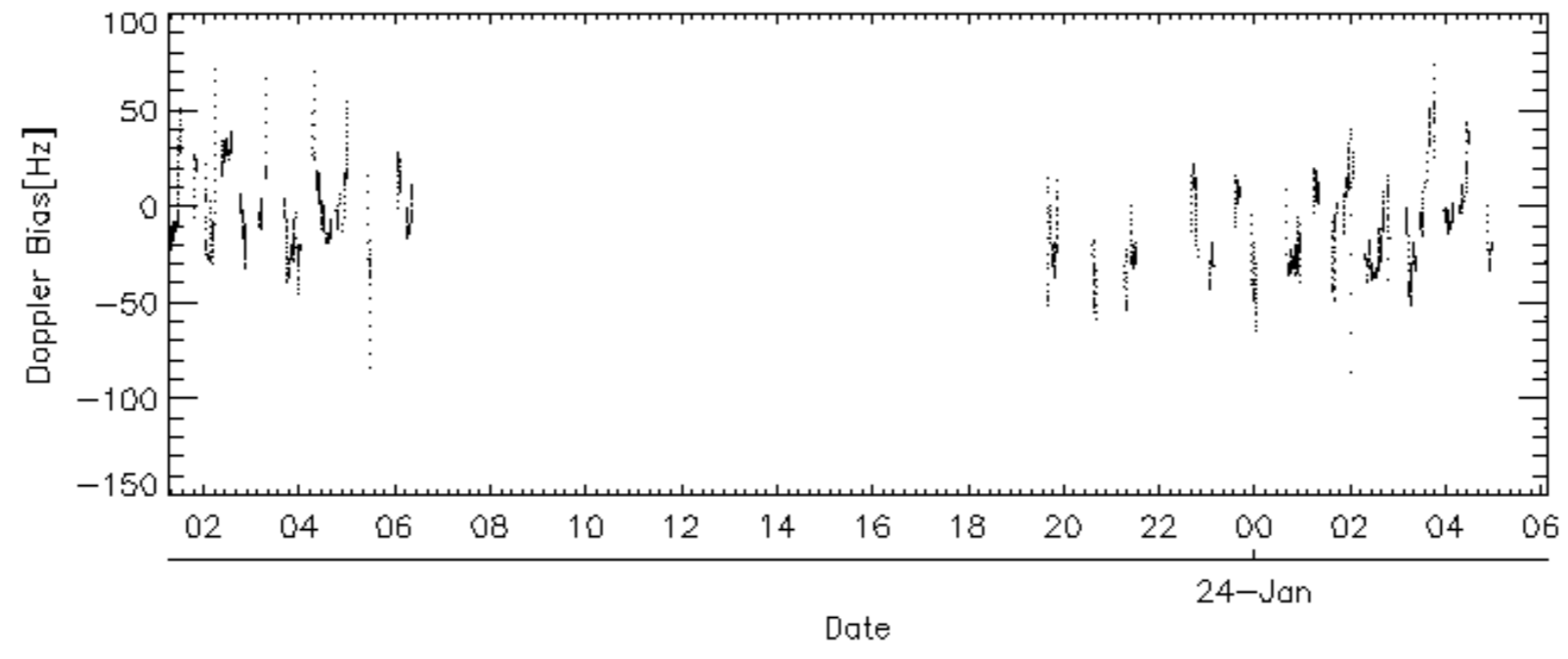
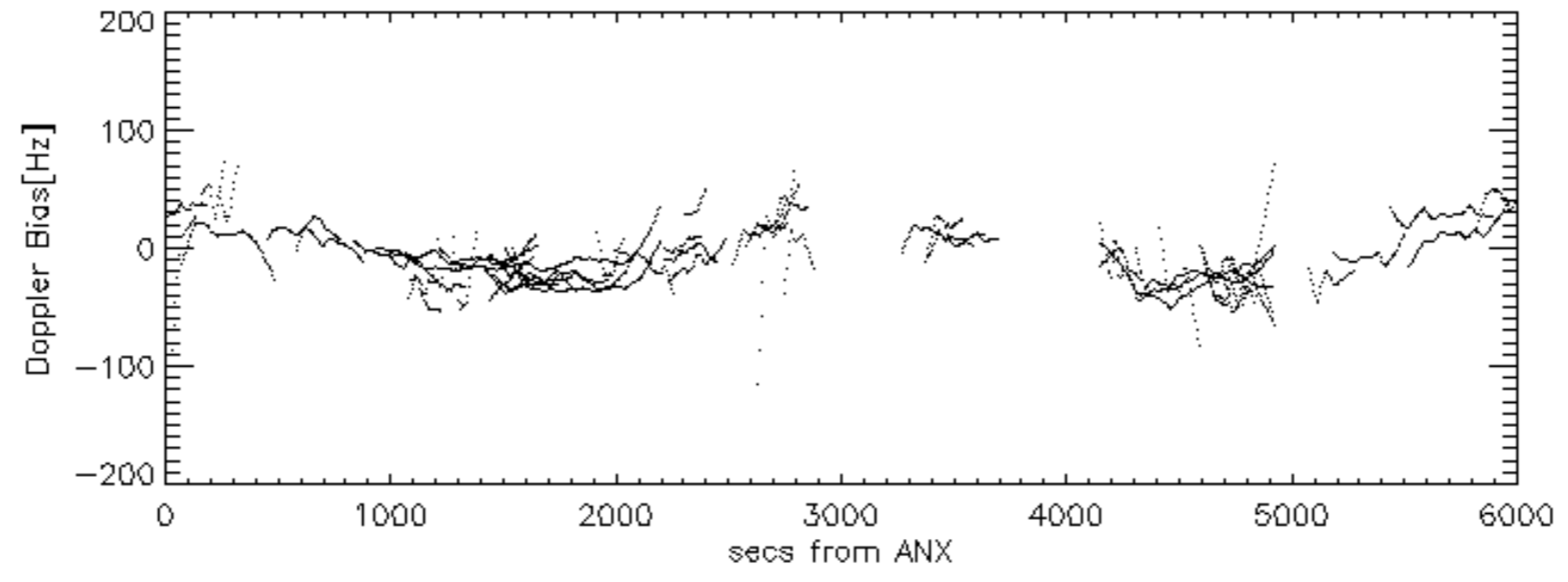
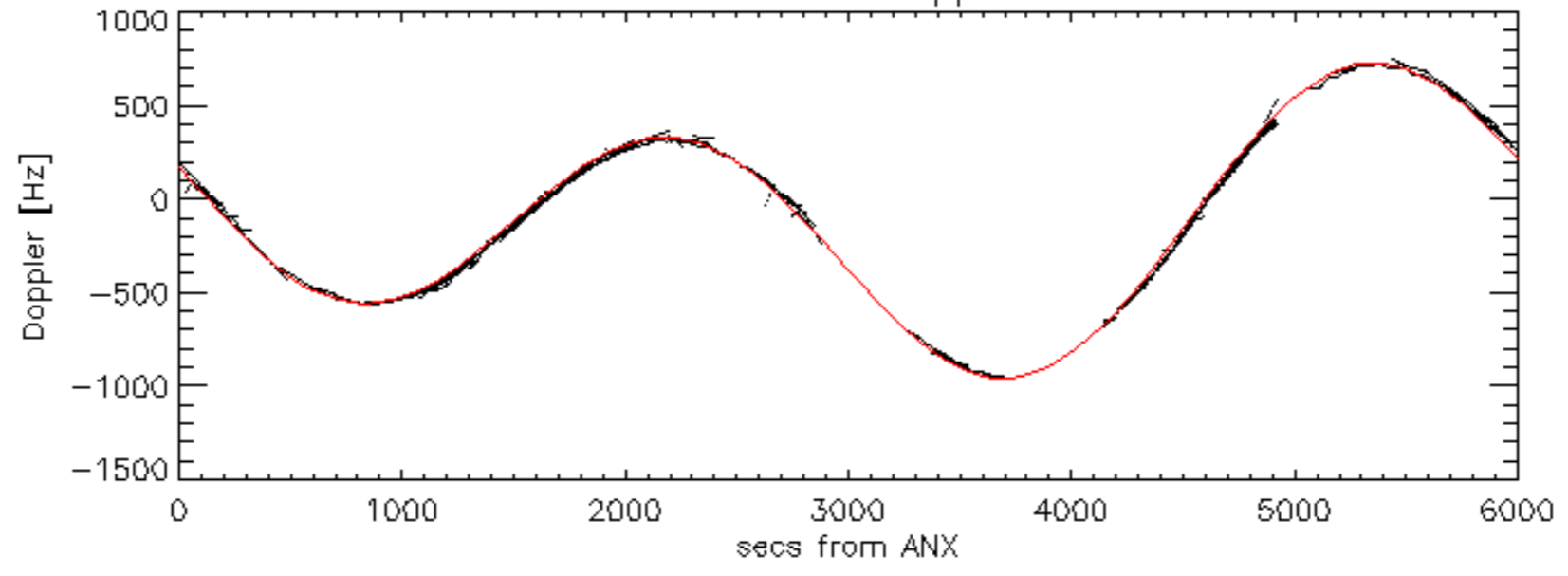




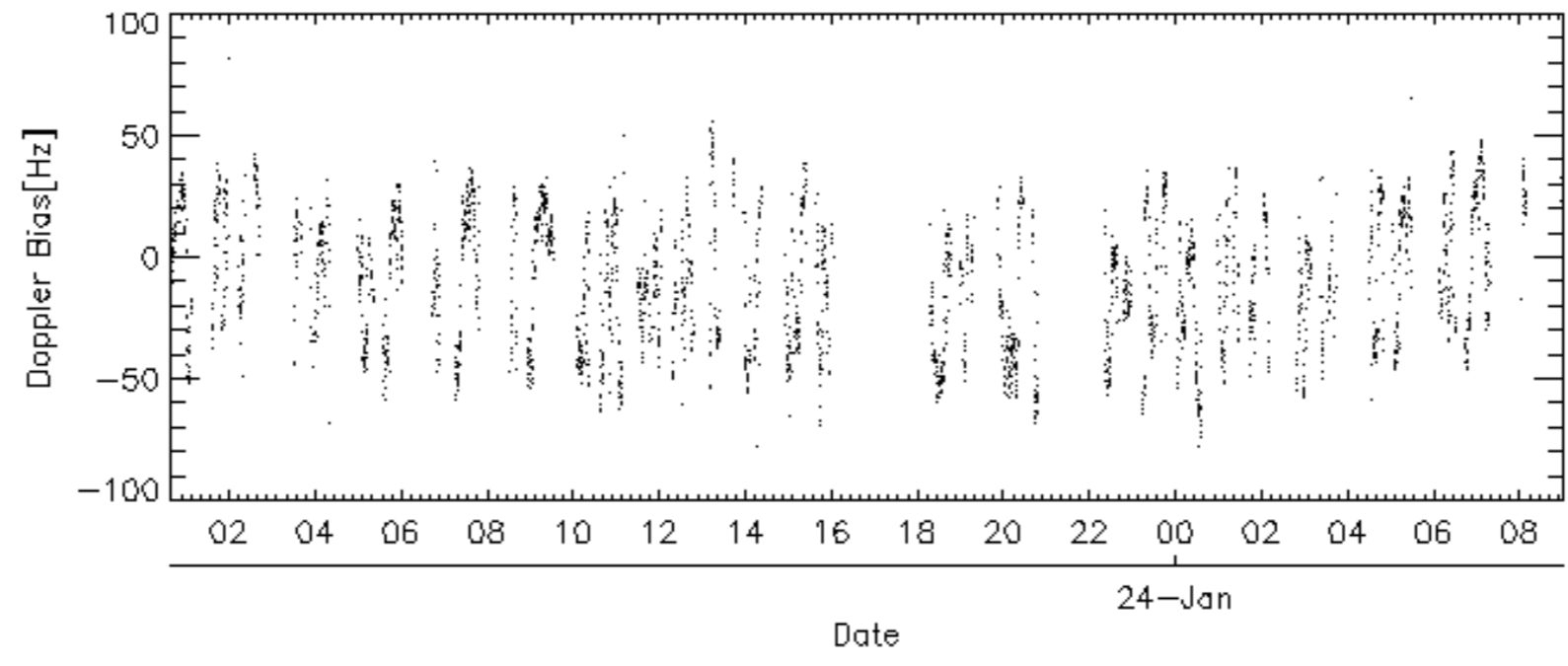
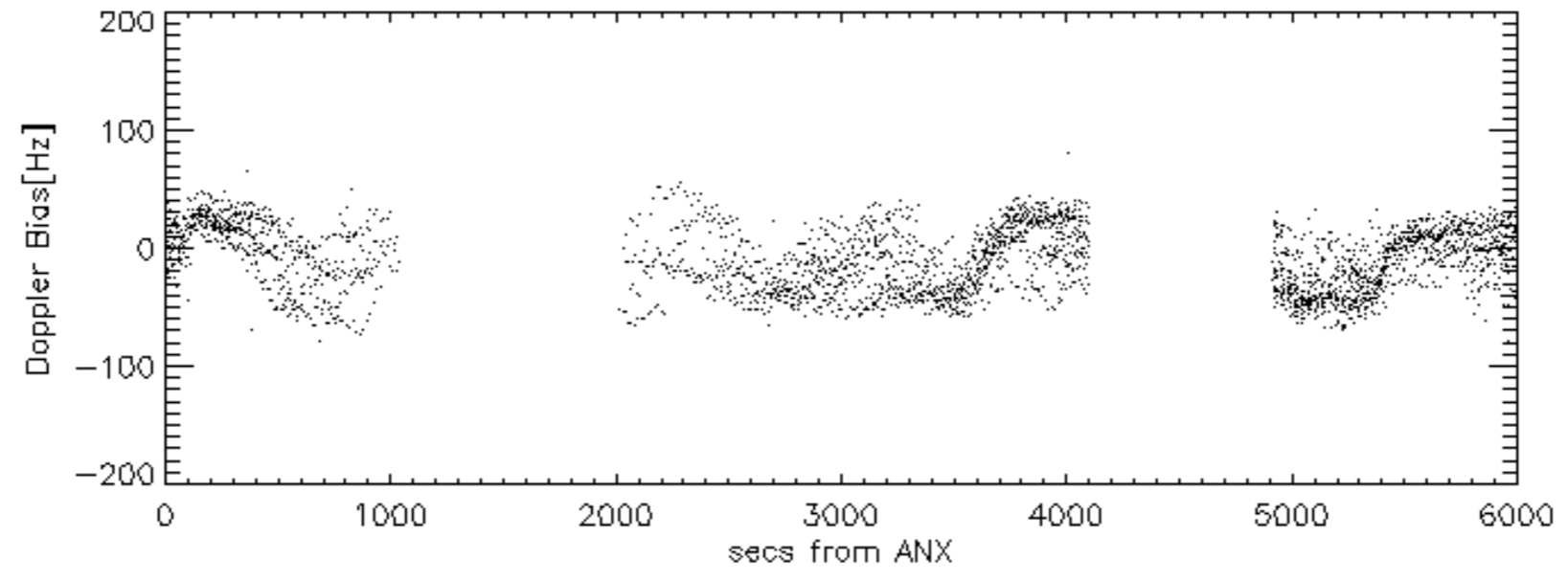
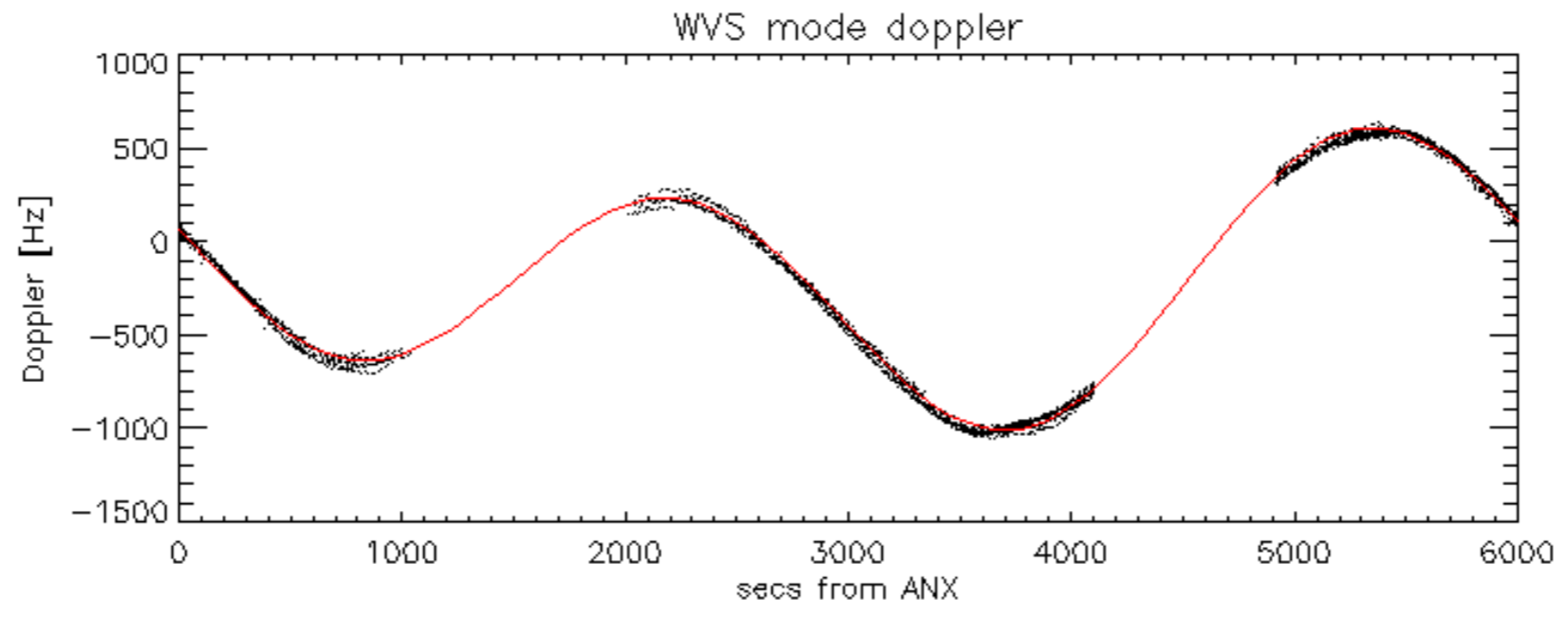
Doppler 'WVS' 'IS2' descending



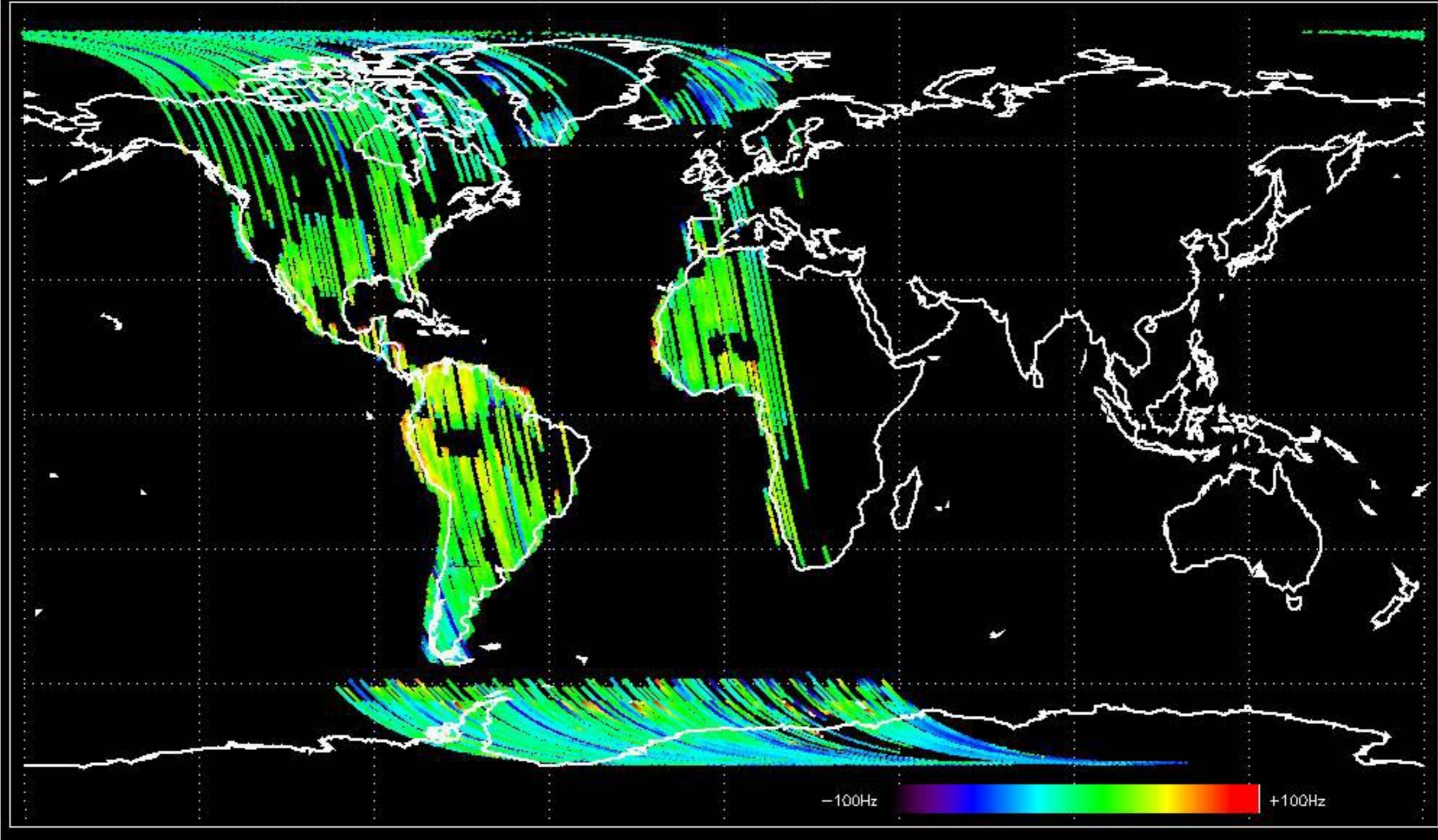
GM1 mode doppler





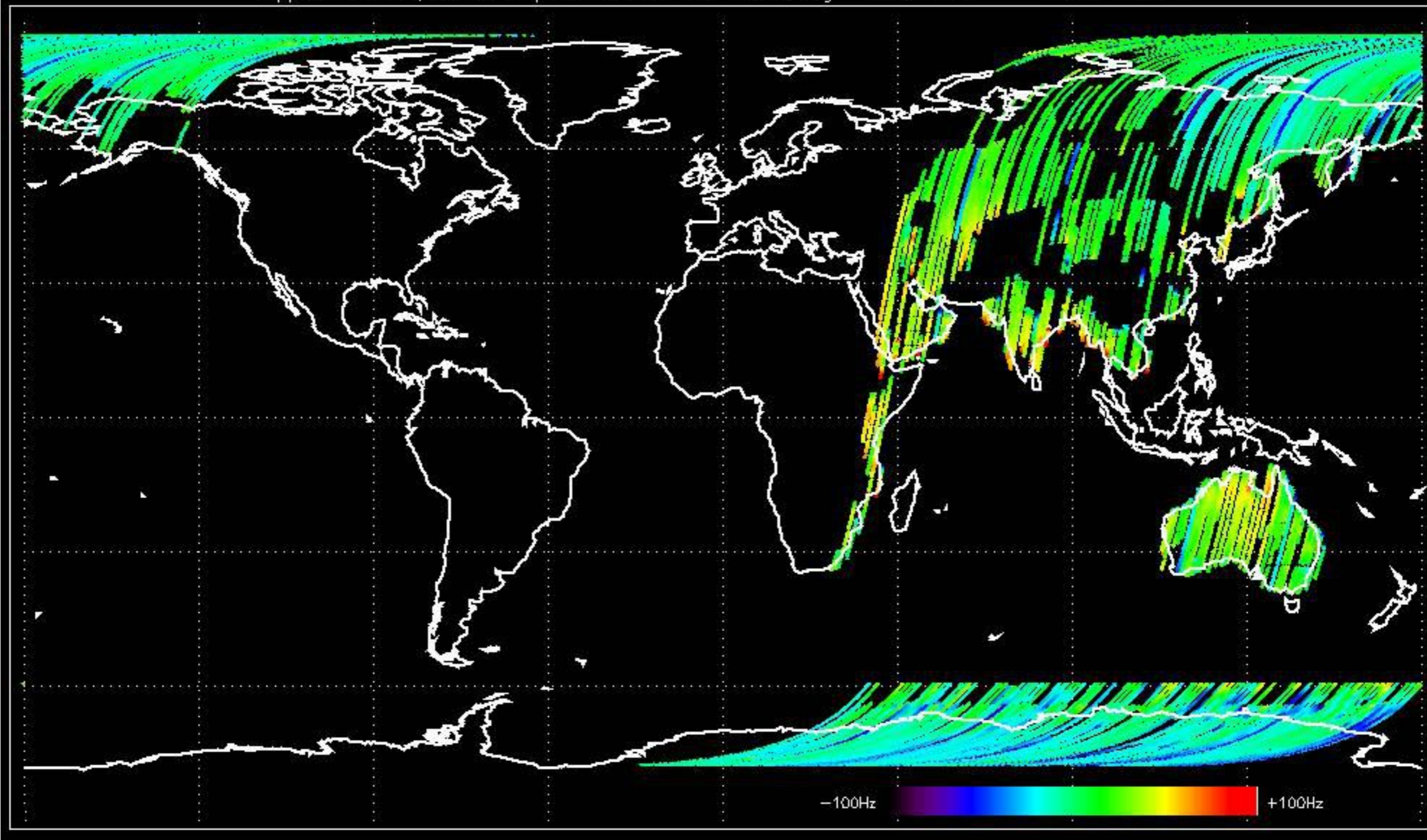


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -11.897772 Hz



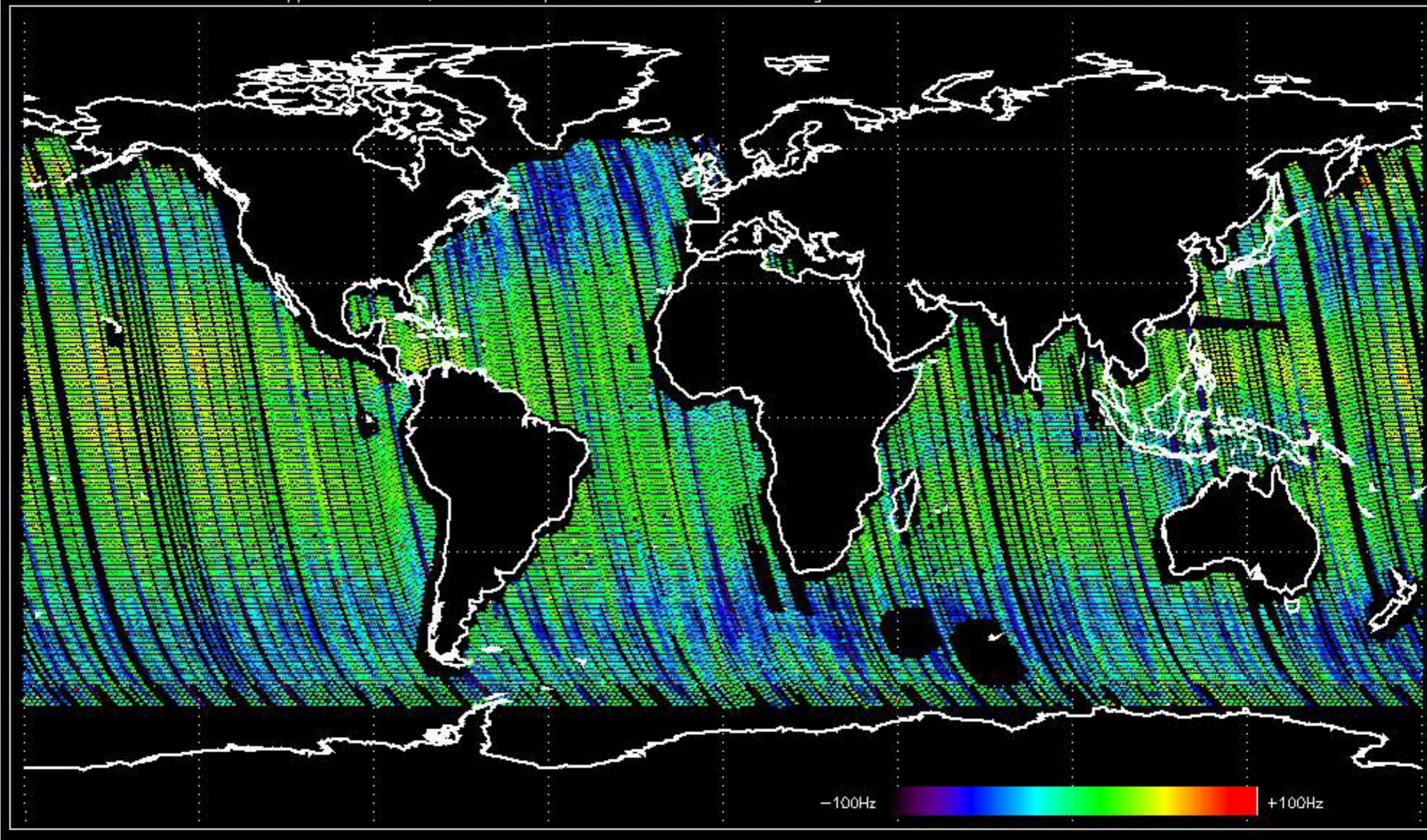


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -17.053656 Hz



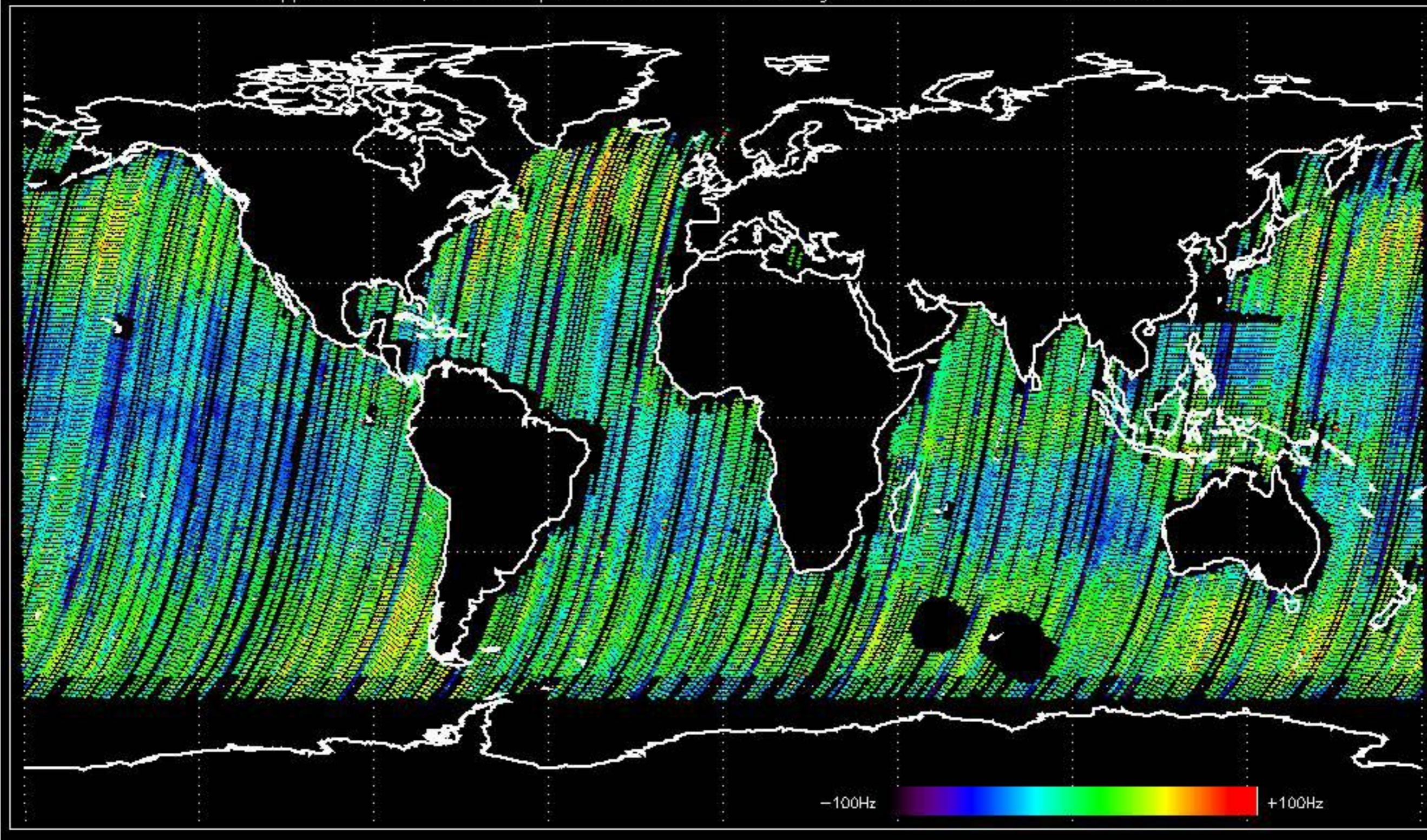


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -8.3904573 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -10.015711 Hz





No anomalies observed on available MS products:



No anomalies observed.























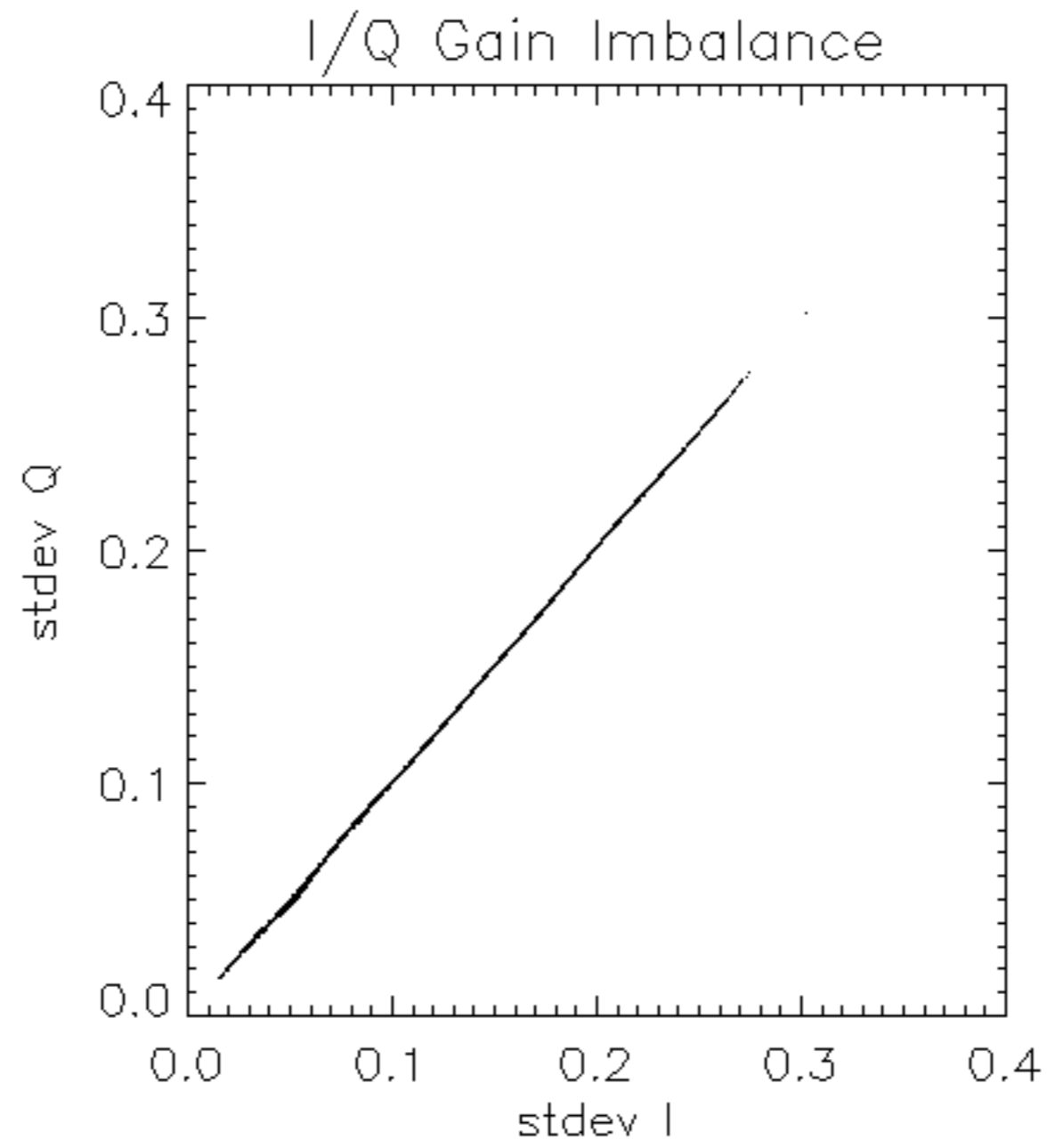


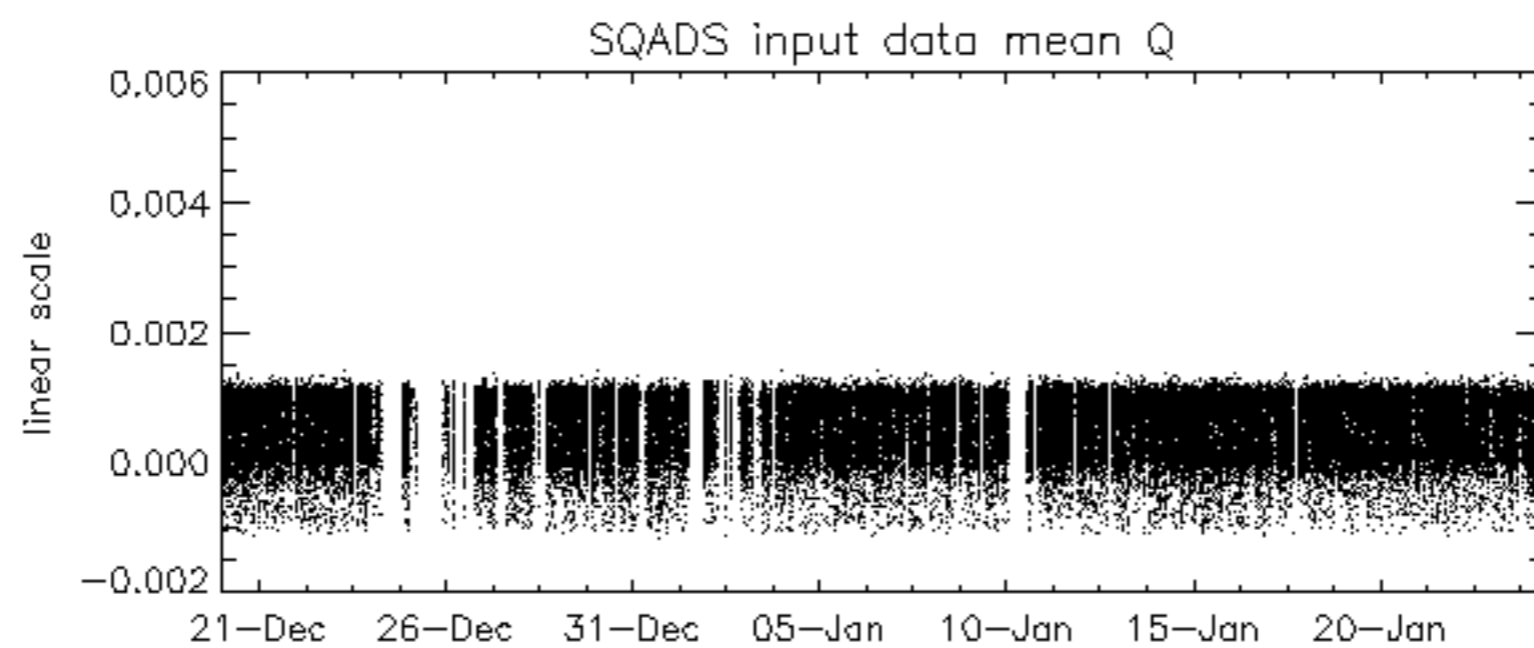
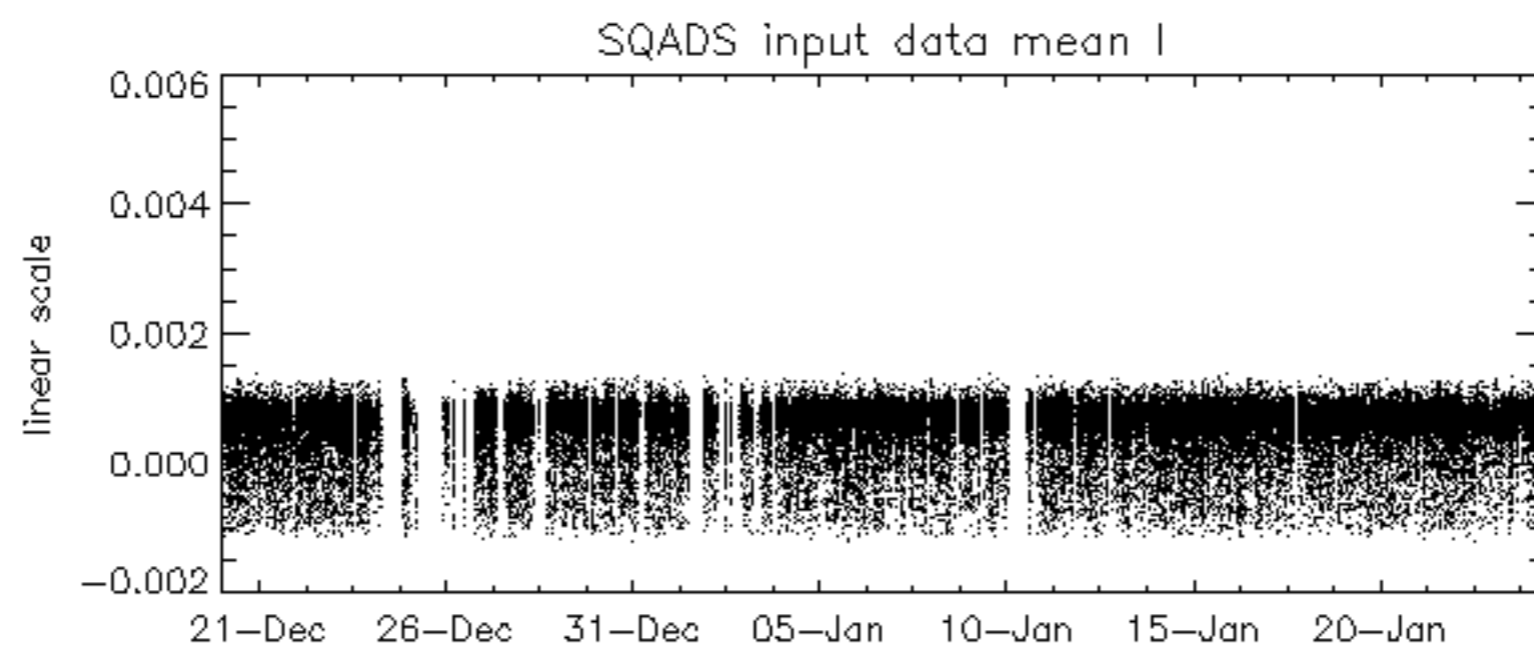
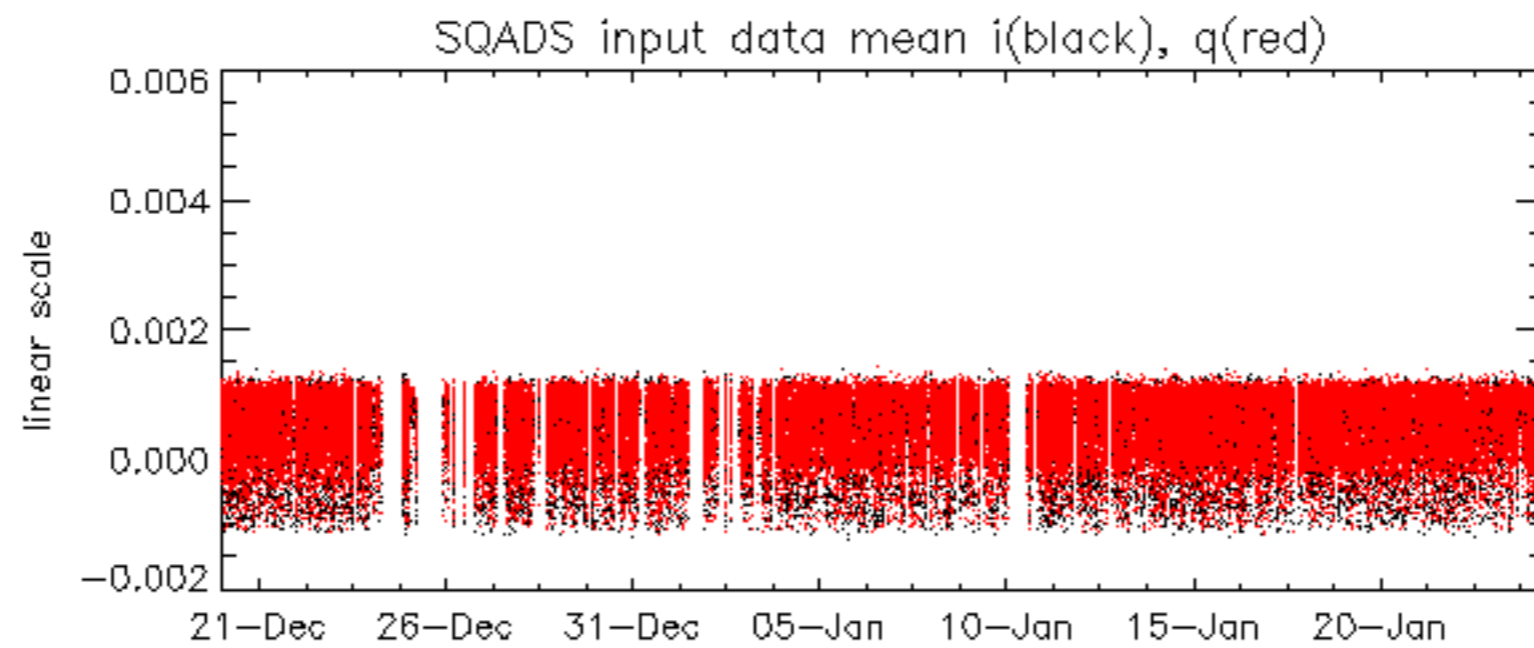


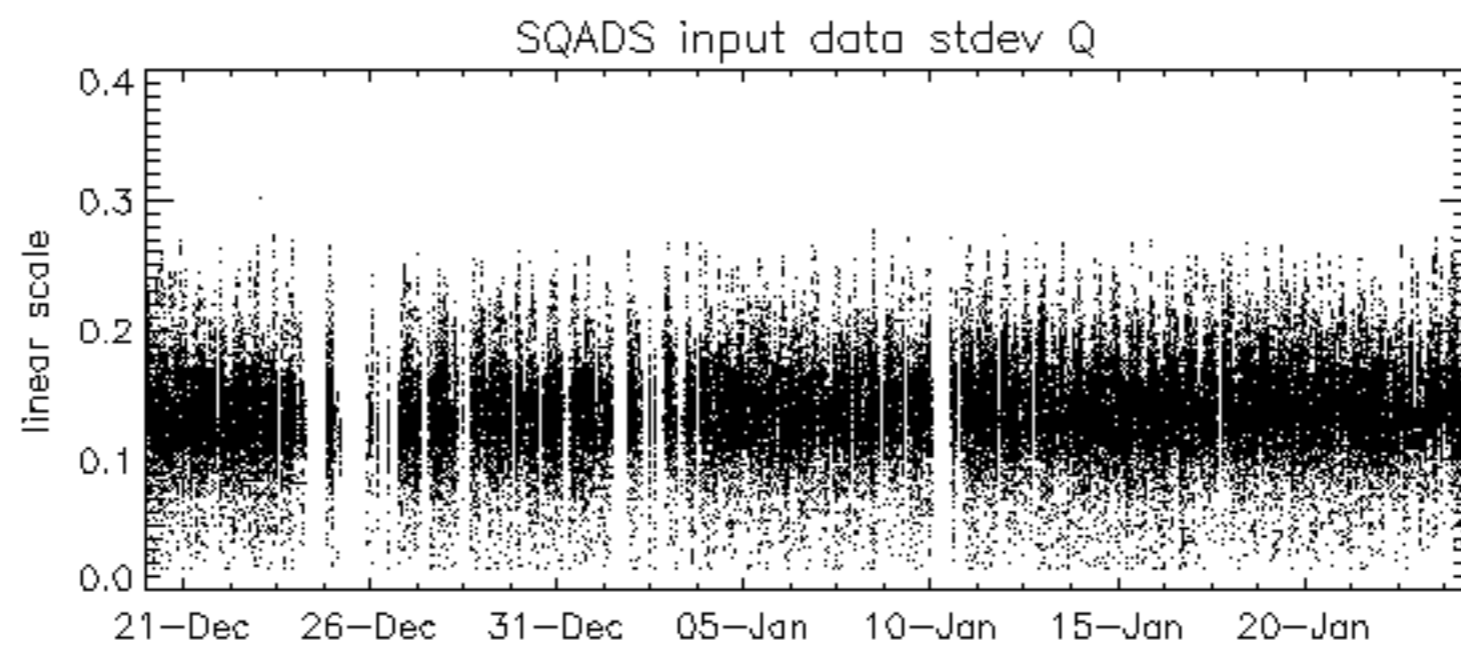
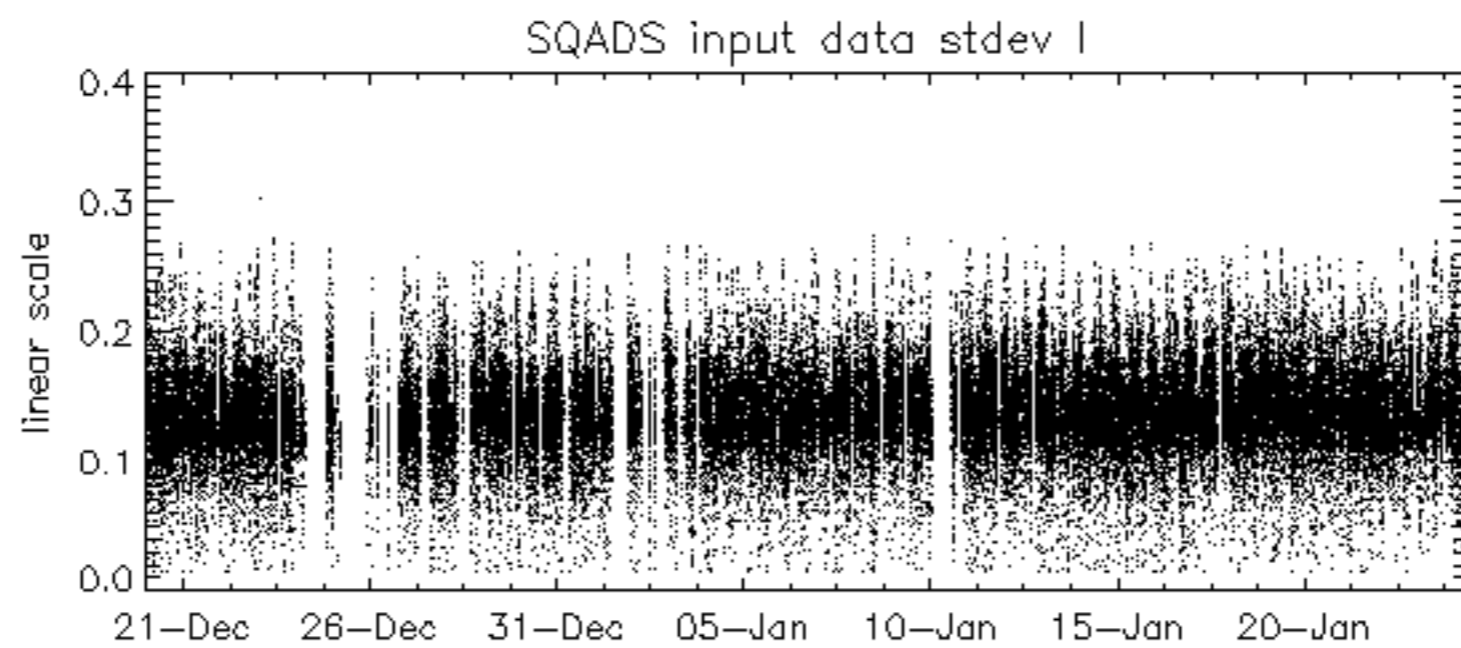
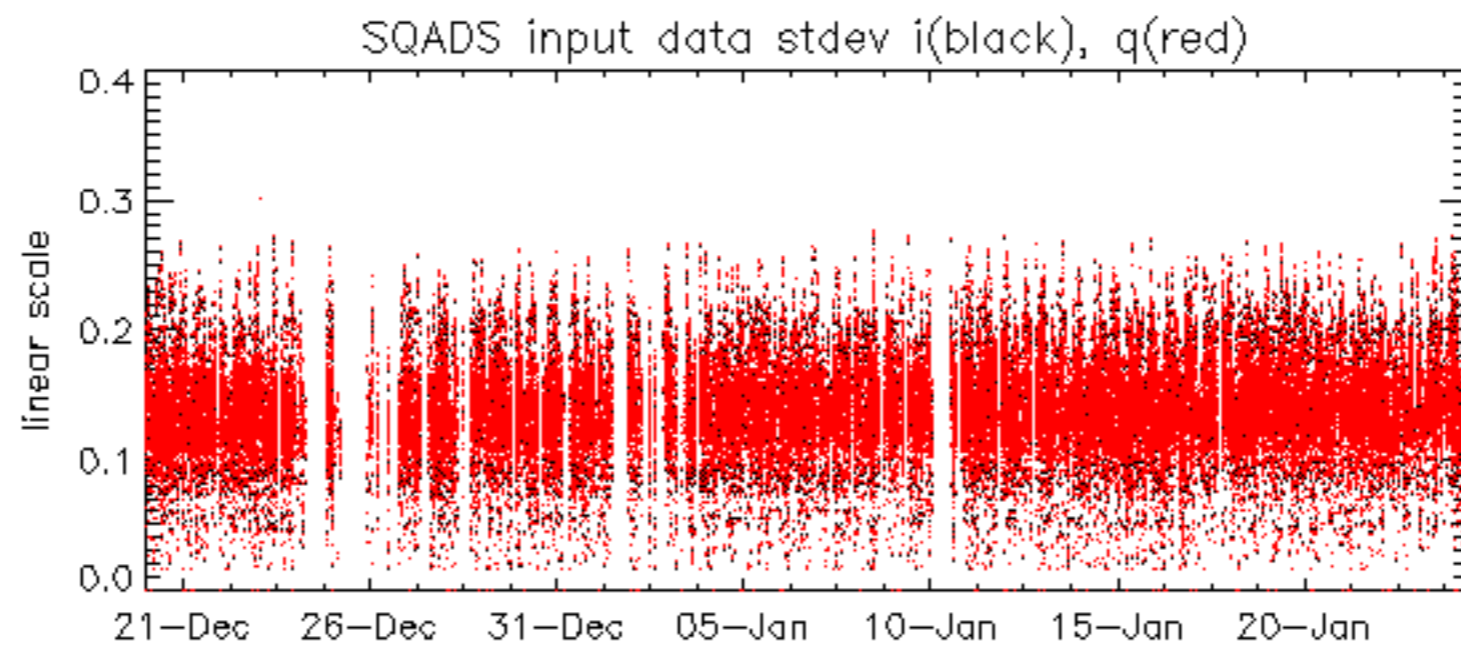
























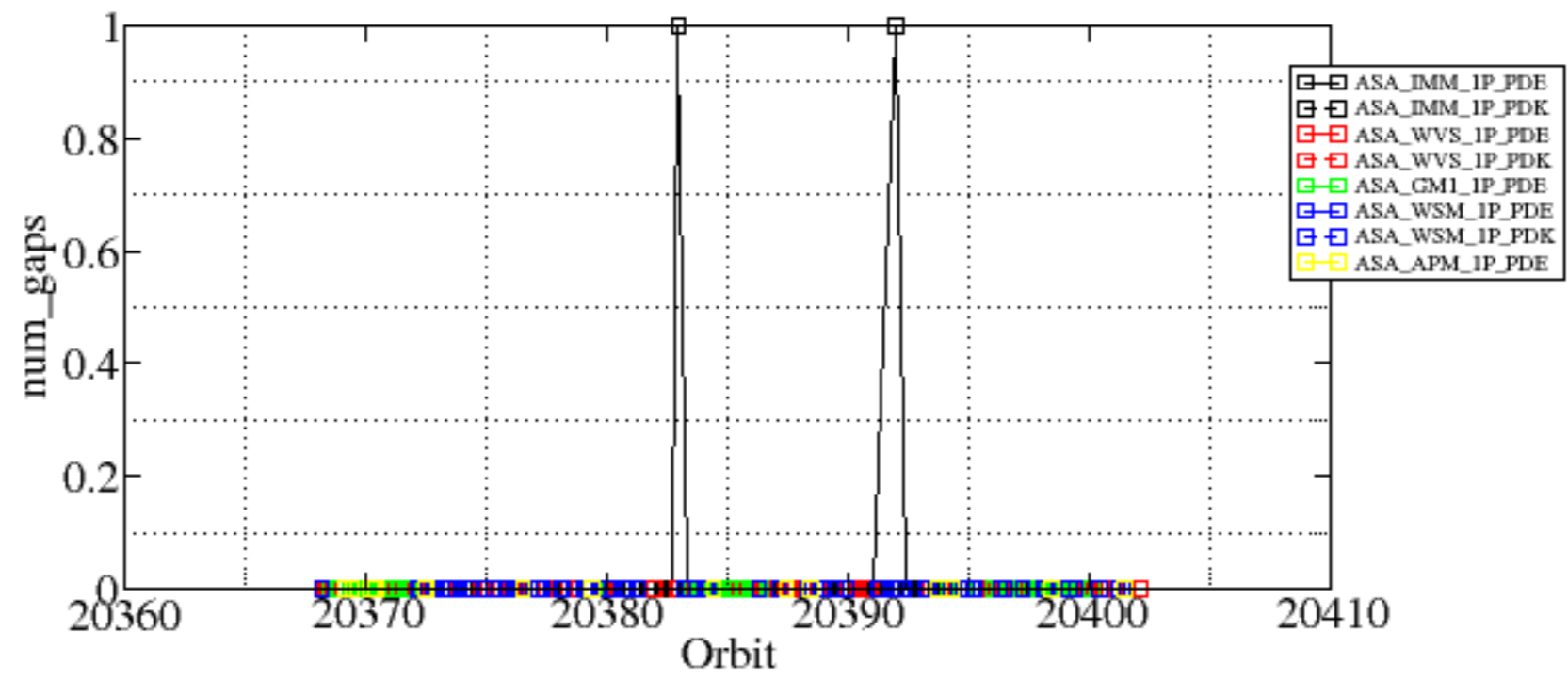




Summary of analysis for the last 3 days 2006012[234]

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_1PNPDE20060123_004758_000002002044_00288_20382_0815.N1	1	0
ASA_IMM_1PNPDE20060123_155721_000002312044_00298_20392_0902.N1	1	0
ASA_WSM_1PNPDE20060122_152526_000001462044_00283_20377_2004.N1	0	1
ASA_WSM_1PNPDE20060122_181420_000001522044_00285_20379_2017.N1	0	64
ASA_WSM_1PNPDE20060123_160304_000001282044_00298_20392_2090.N1	0	2













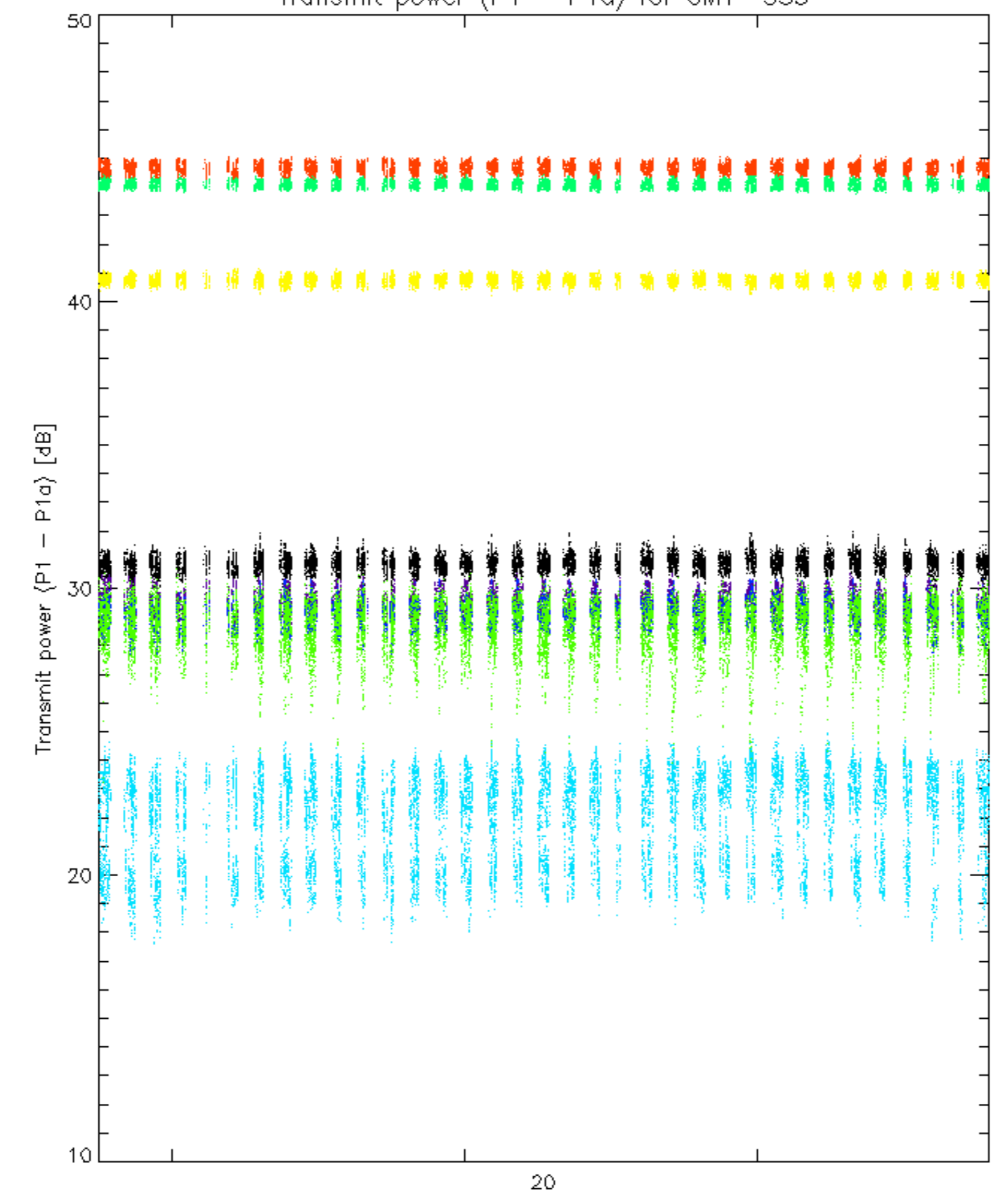




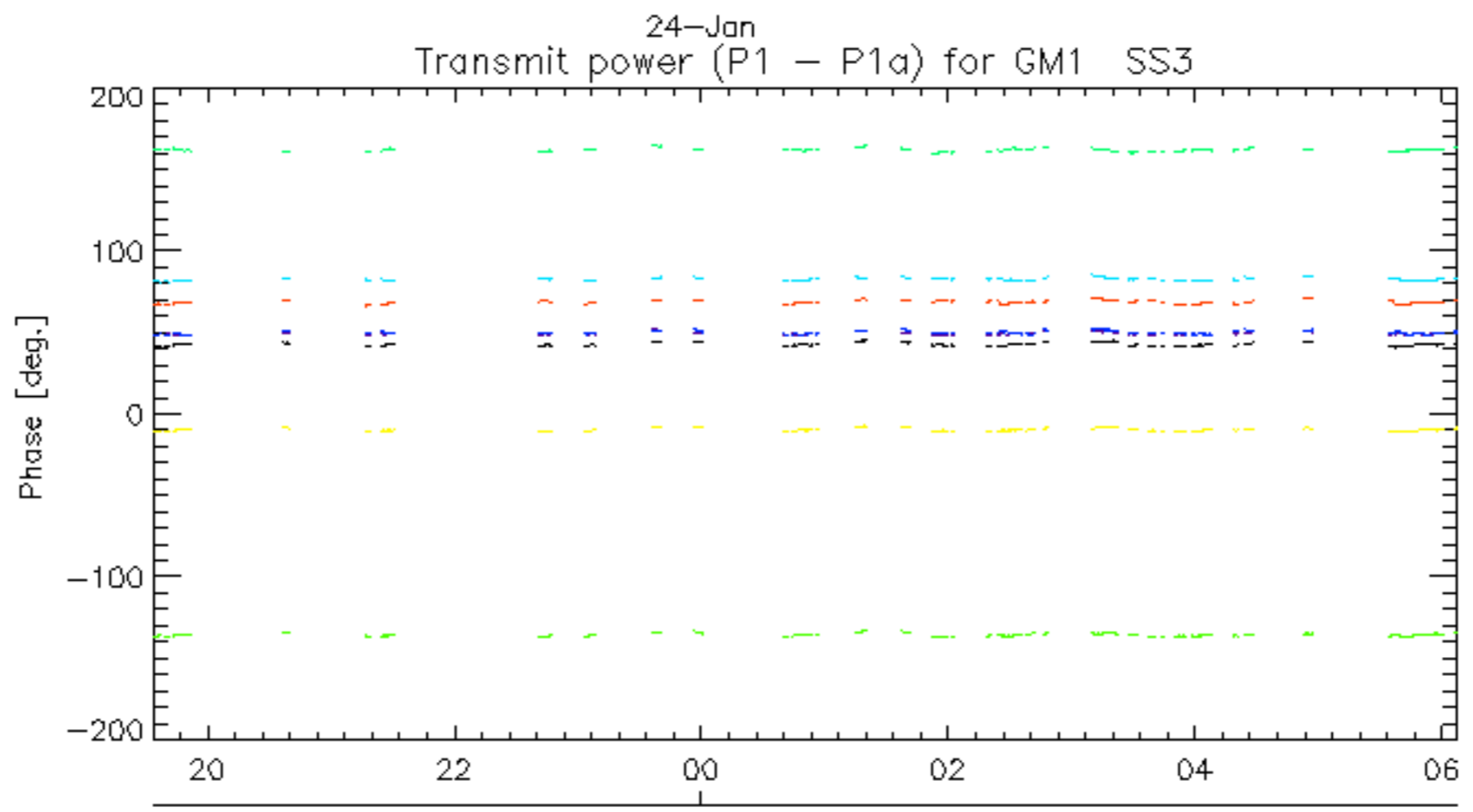
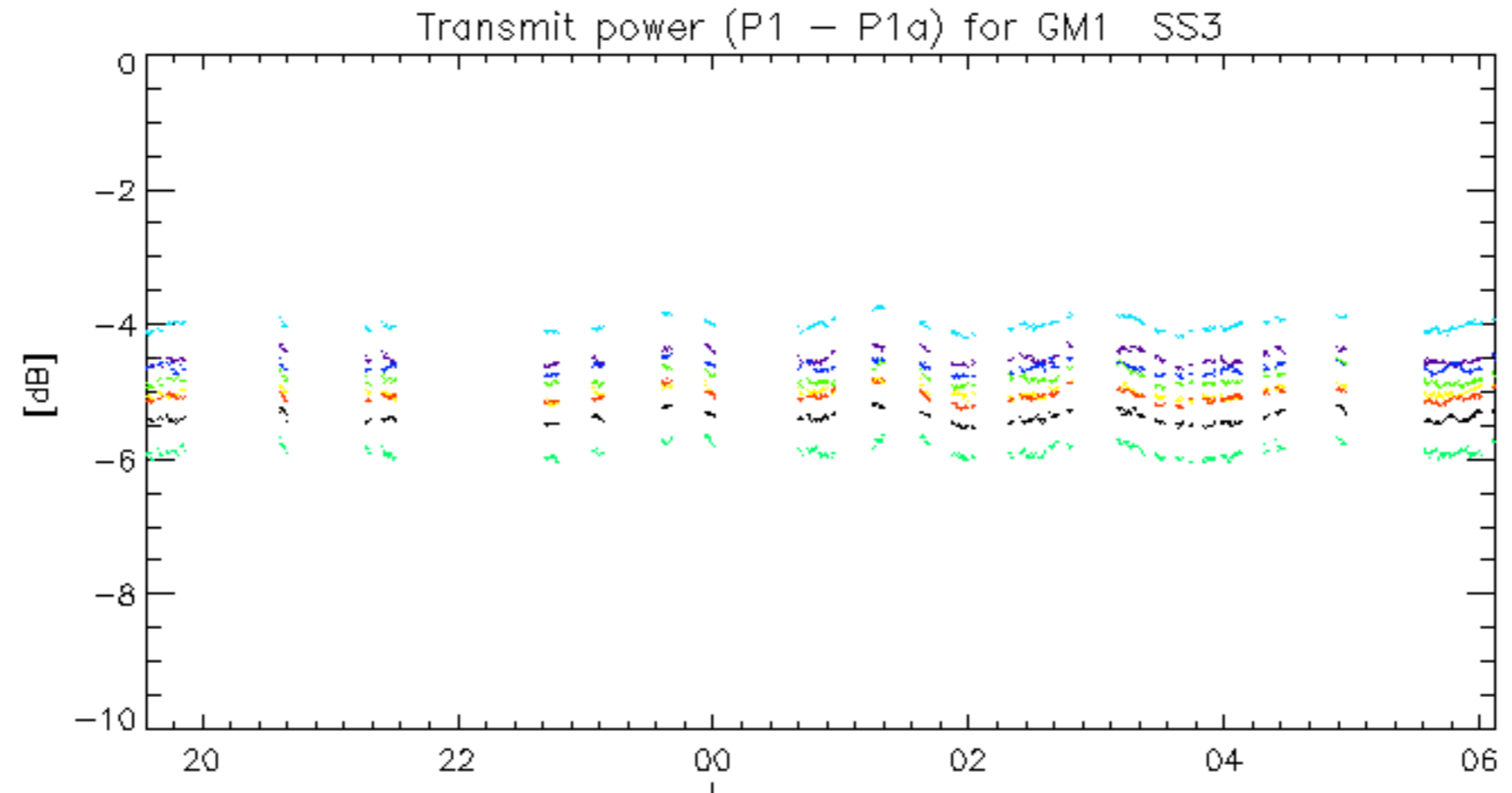




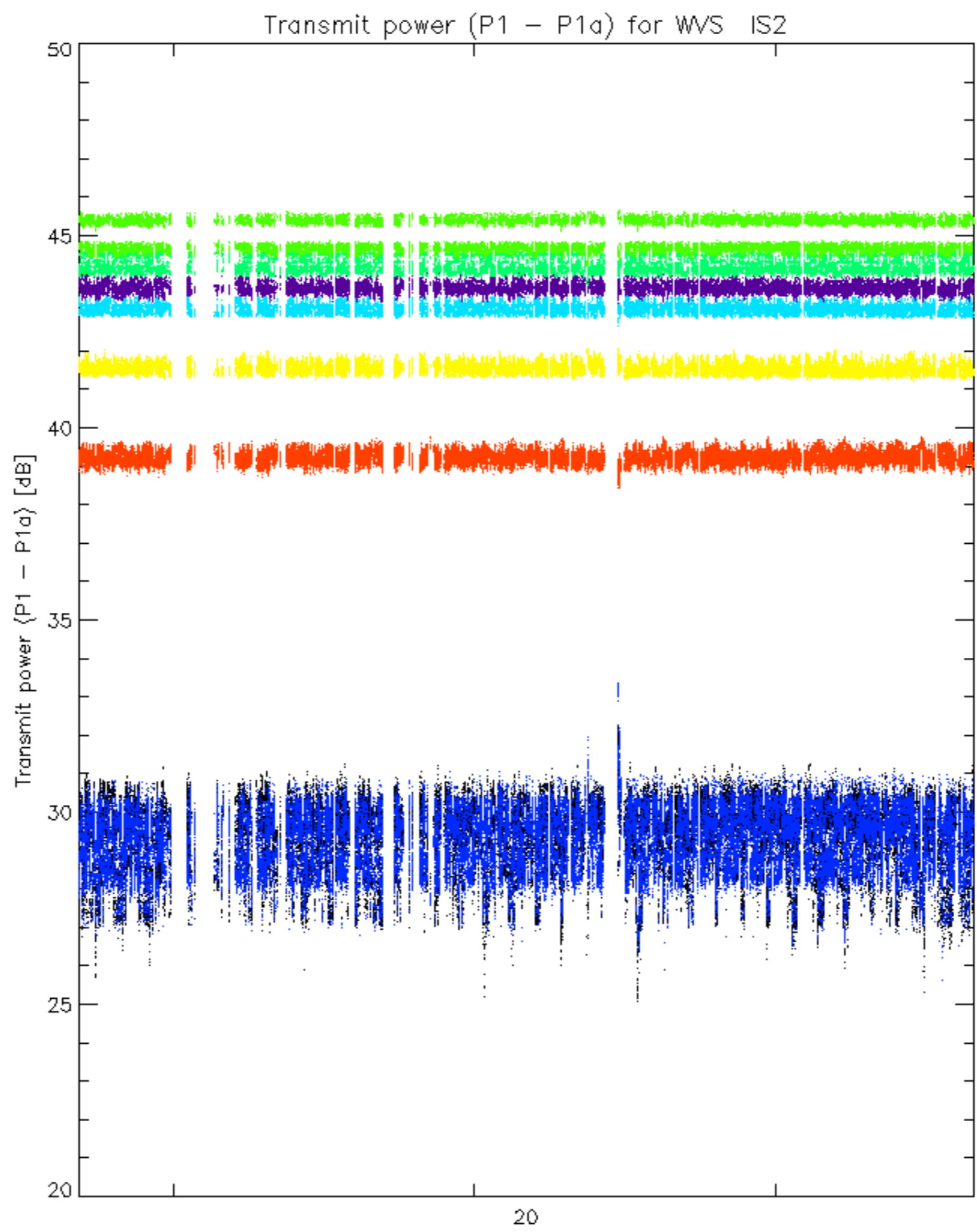
Transmit power (P1 - P1a) for GM1 SS3



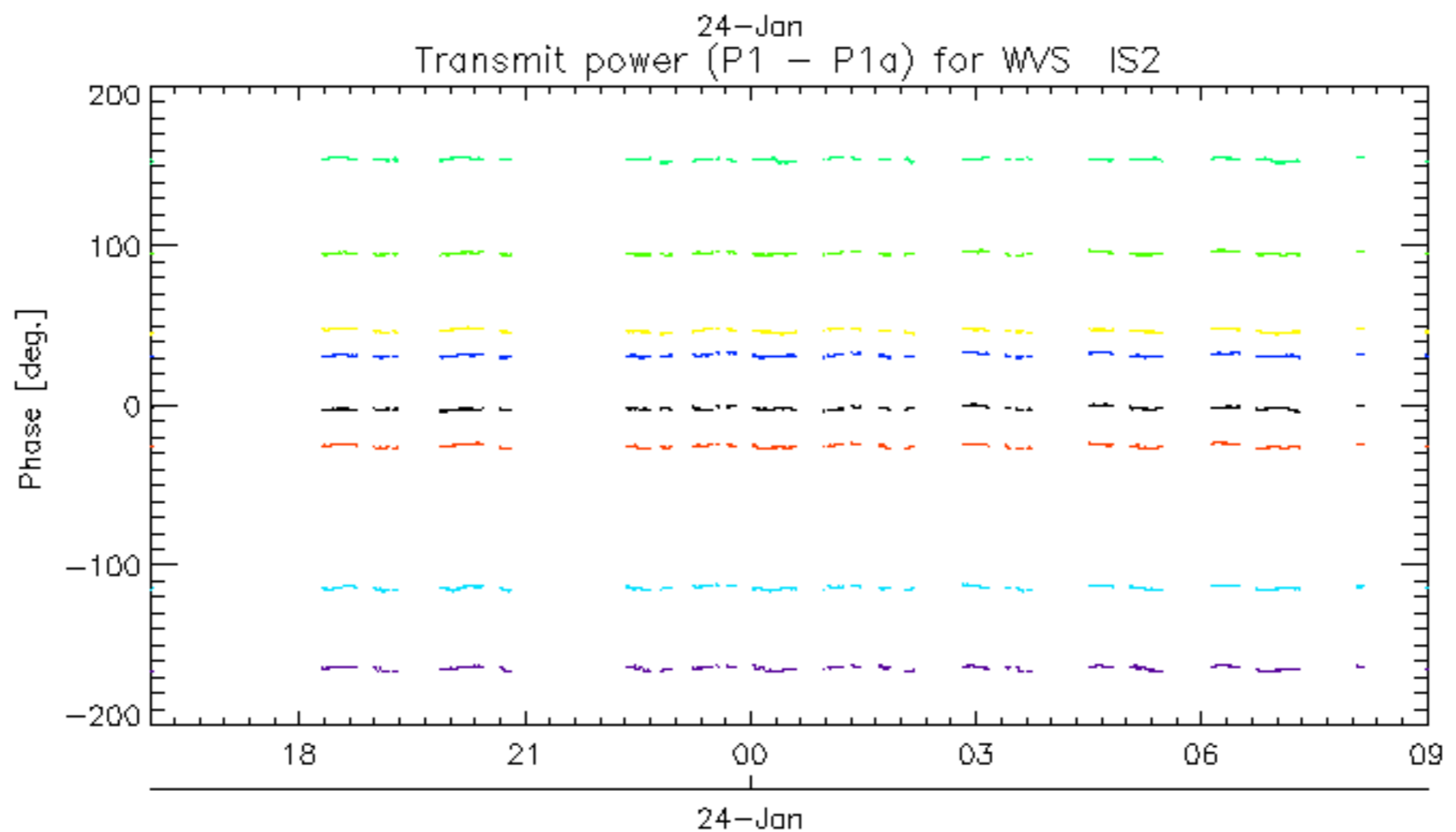
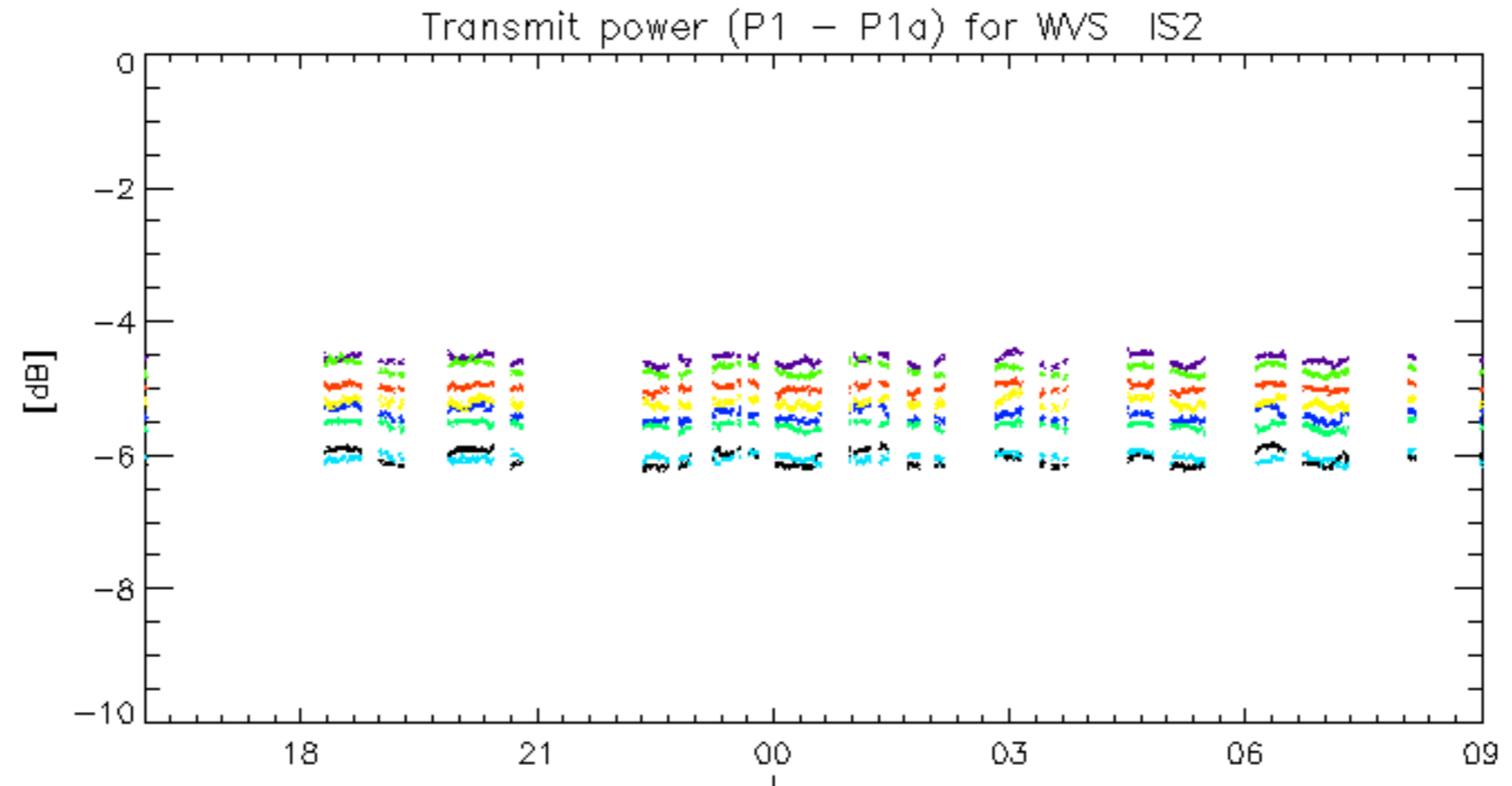
rows: 3 7 11 15 19 22 26 30



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.