

# PRELIMINARY REPORT OF 050307

last update on Mon Mar 7 10:50:01 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 2005-03-06 00:00:00 to 2005-03-07 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	30	0	4	0	2
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	30	0	4	0	2
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	30	0	4	0	2
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	30	0	4	0	2

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	44	44	1	5	5
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	44	44	1	5	5
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	44	44	1	5	5
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	44	44	1	5	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

No anomalies observed on available MS products:

Polarisation	Start Time
V	20050305 064403
H	20050306 061226

### 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
<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
<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	-3.371490	0.007633	0.025282
7	P1	-3.089269	0.007727	-0.016862
11	P1	-4.692361	0.021317	-0.055702
15	P1	-5.656358	0.030255	-0.043302
19	P1	-3.673880	0.004016	-0.026865
22	P1	-4.523695	0.013205	0.053901
26	P1	-4.949604	0.015320	-0.023249
30	P1	-7.181890	0.017786	-0.059741
3	P1	-15.968593	0.068113	-0.092173
7	P1	-15.522747	0.051367	-0.002588
11	P1	-20.945946	0.267015	-0.061533
15	P1	-11.578349	0.025295	-0.035246
19	P1	-14.258703	0.025768	-0.152477
22	P1	-15.698886	0.320034	0.340866
26	P1	-17.599161	0.228862	0.005658
30	P1	-17.957706	0.456164	-0.112101

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.118490	0.085290	0.097617
7	P2	-22.309750	0.101670	0.118634
11	P2	-14.492311	0.104473	0.197874
15	P2	-7.056552	0.095296	0.071072
19	P2	-9.646895	0.094529	0.052890
22	P2	-16.943838	0.096114	0.079676
26	P2	-16.452995	0.093420	0.026924
30	P2	-18.881443	0.082276	0.031602

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.168509	0.005366	0.002069
7	P3	-8.168509	0.005366	0.002069
11	P3	-8.168509	0.005366	0.002069
15	P3	-8.168509	0.005366	0.002069
19	P3	-8.168509	0.005366	0.002069
22	P3	-8.168509	0.005366	0.002069
26	P3	-8.168509	0.005366	0.002069
30	P3	-8.168509	0.005366	0.002069

#### 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	-2.742297	0.011265	0.057921
7	P1	-3.008426	0.032798	-0.089802
11	P1	-3.985617	0.014929	-0.047181
15	P1	-3.565258	0.017162	-0.072626
19	P1	-3.592239	0.013333	-0.004259
22	P1	-5.740232	0.040324	-0.087650
26	P1	-7.299047	0.025735	0.041911
30	P1	-6.238685	0.039003	0.034290
3	P1	-10.751524	0.053138	-0.002061
7	P1	-10.276718	0.143401	-0.206141
11	P1	-12.566232	0.093186	0.001978
15	P1	-11.766653	0.063005	-0.066998
19	P1	-15.573165	0.043225	0.000467
22	P1	-24.366718	1.216679	-0.318668
26	P1	-15.507981	0.175933	0.189815
30	P1	-20.160183	1.023471	-0.175394

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.835716	0.030927	0.097100
7	P2	-22.397850	0.035178	0.066394
11	P2	-10.262595	0.046585	0.225593
15	P2	-4.985724	0.020194	0.035368
19	P2	-6.842539	0.029362	0.042876
22	P2	-7.127371	0.028107	0.082808
26	P2	-23.861118	0.024911	0.030246
30	P2	-21.919033	0.029225	0.065084

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.002090	0.002629	-0.000278
7	P3	-8.002083	0.002646	-0.000363
11	P3	-8.001998	0.002658	-0.000180
15	P3	-8.002164	0.002641	-0.000646
19	P3	-8.002043	0.002660	-0.000442
22	P3	-8.002000	0.002640	-0.000139
26	P3	-8.002083	0.002644	-0.000308
30	P3	-8.002135	0.002643	-0.000174

## 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	0.000471473
	stdev	2.16153e-07
MEAN Q	mean	0.000525161
	stdev	2.29988e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129430
	stdev	0.000985153
STDEV Q	mean	0.129678
	stdev	0.000996006



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005030[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
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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)	
<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"/>	

### 7.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)	
<input type="checkbox"/>	
	Acsending
<input type="checkbox"/>	
	Descending



### 7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

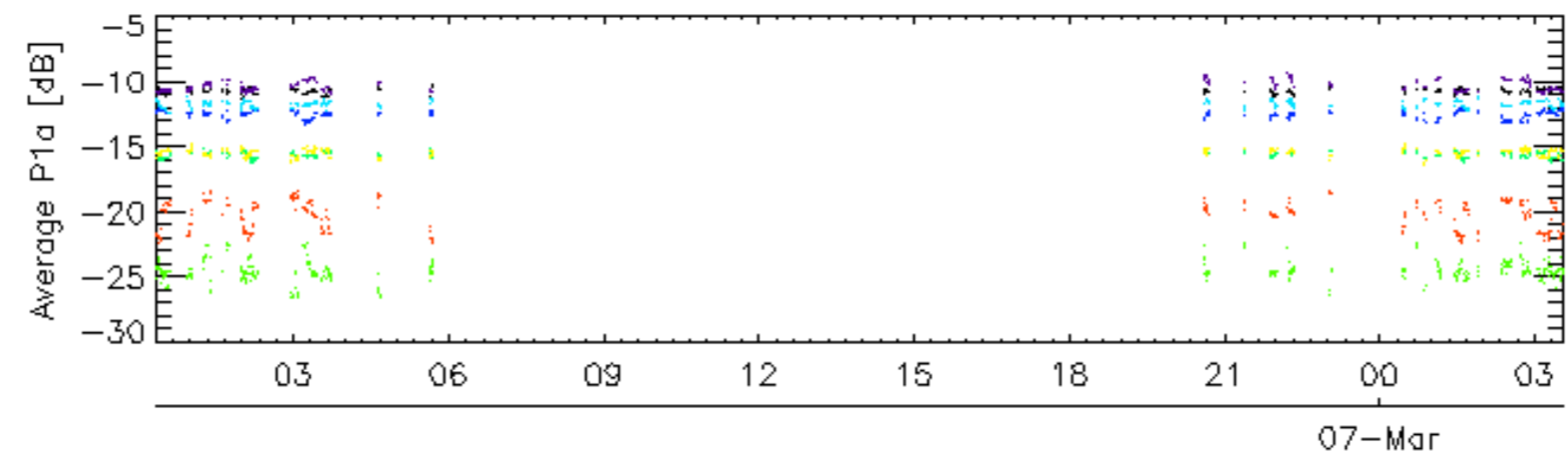
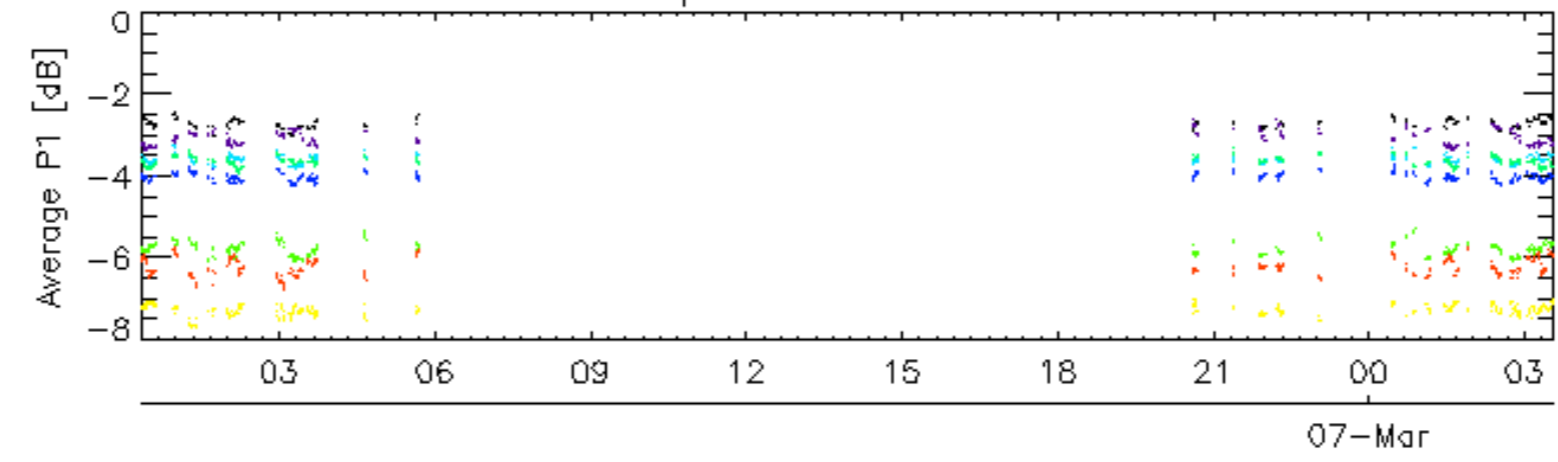
Ascending

Descending

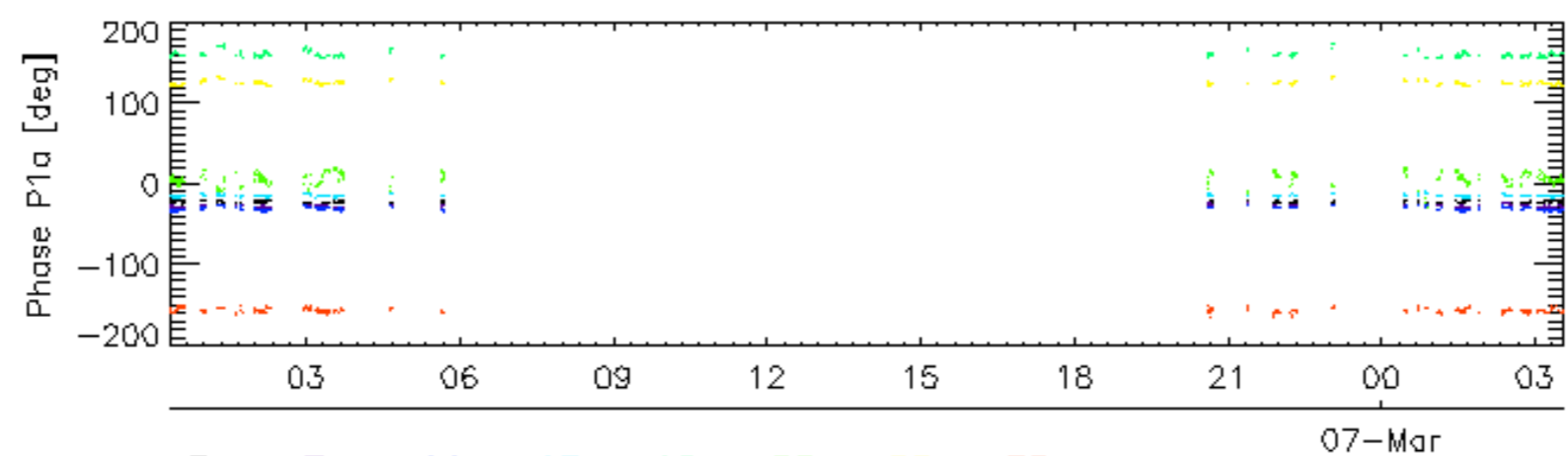
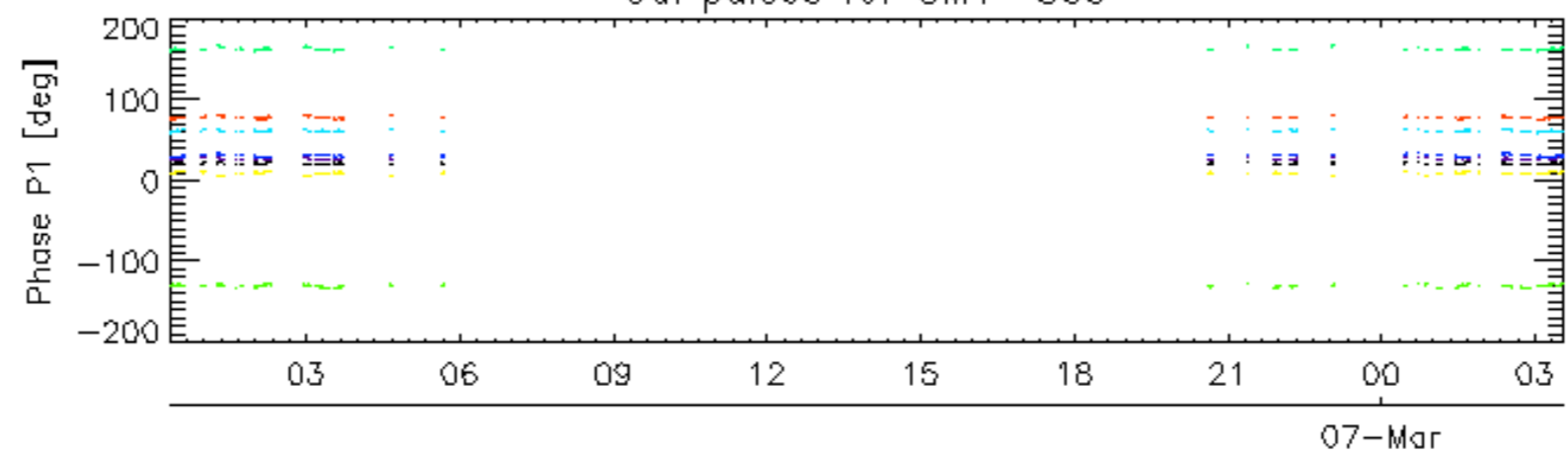
### 7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

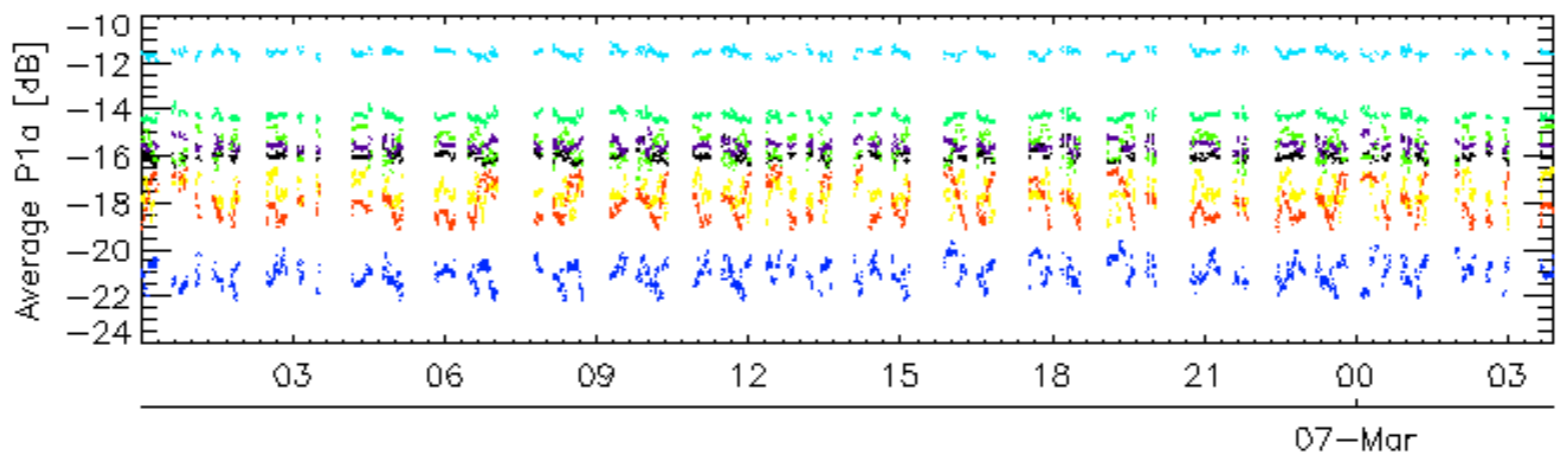
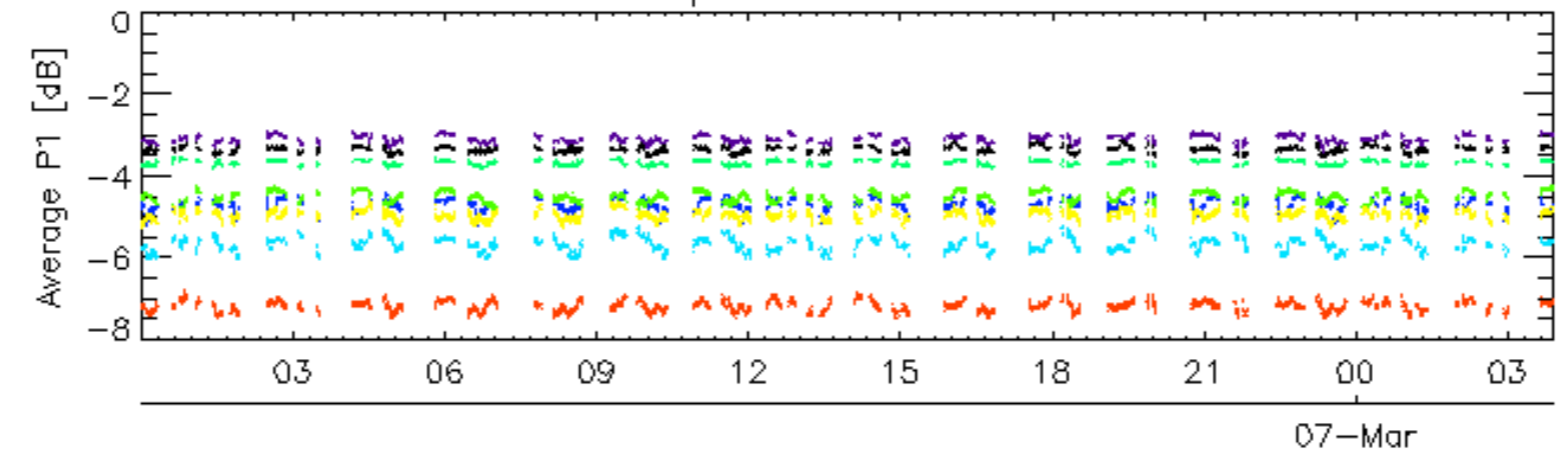


Cal pulses for GM1 SS3

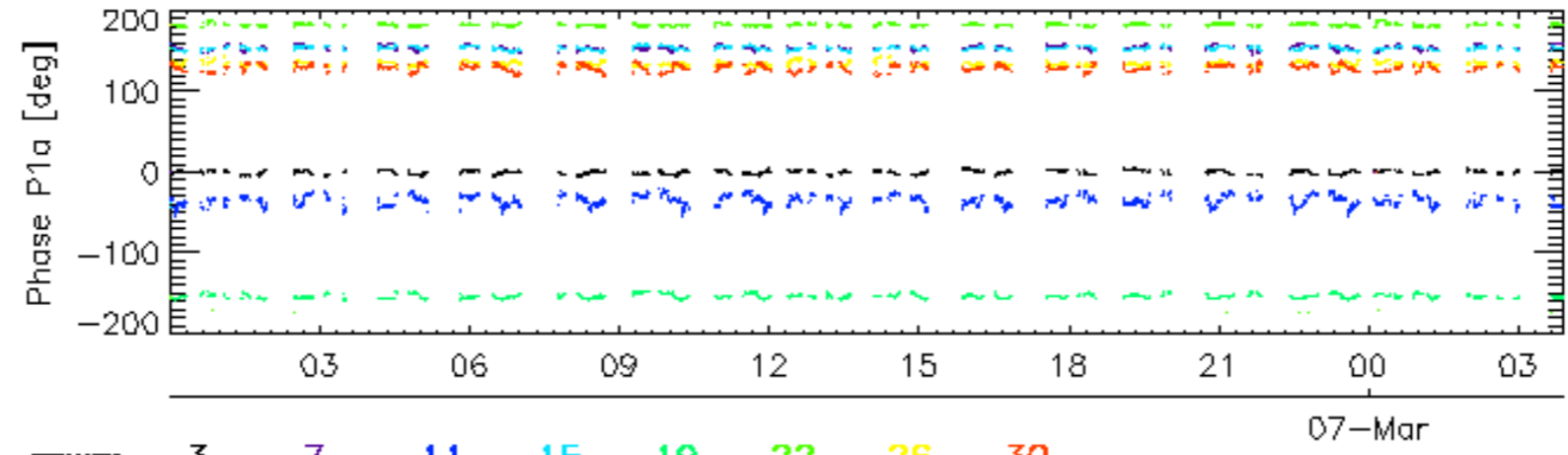
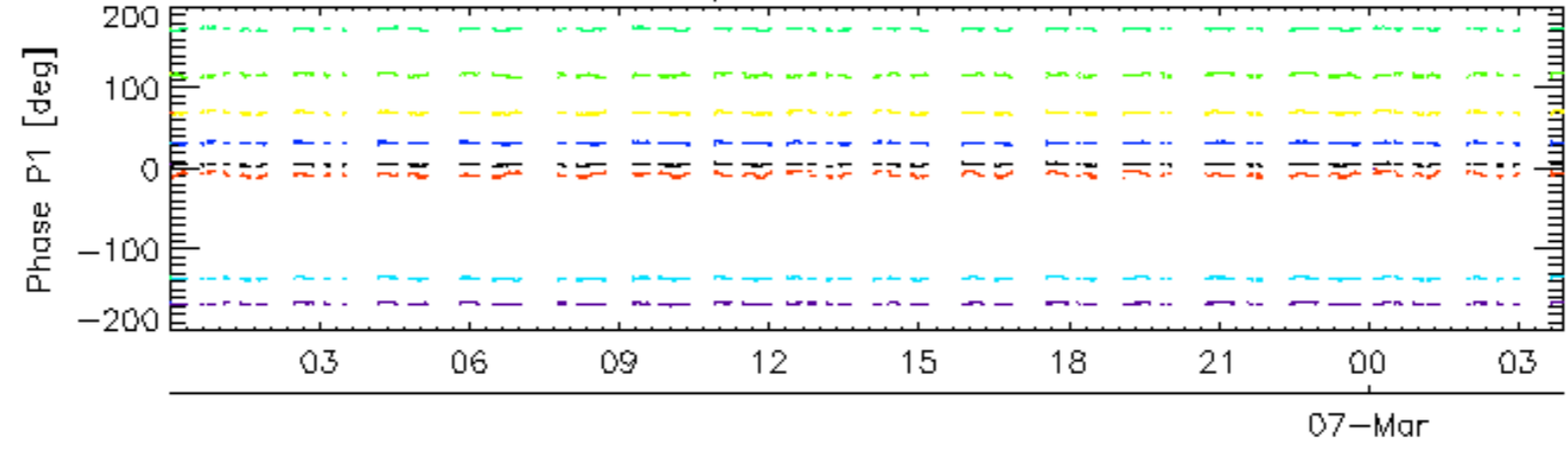


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

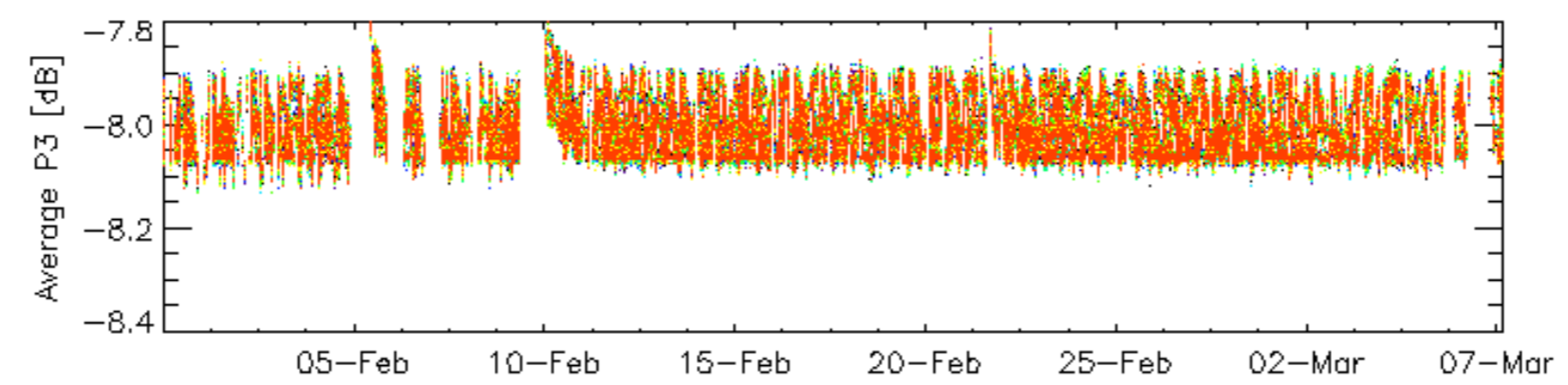
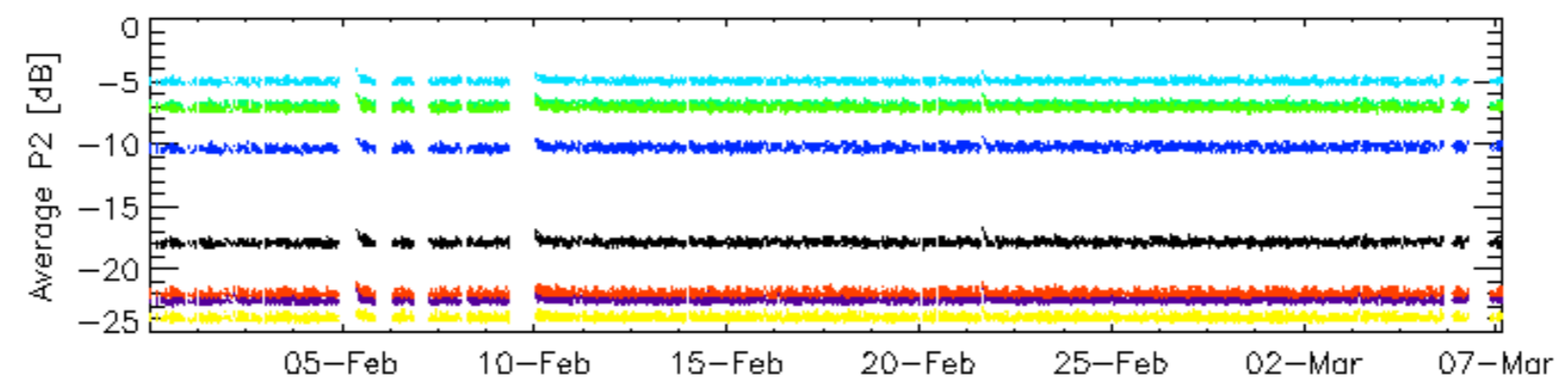
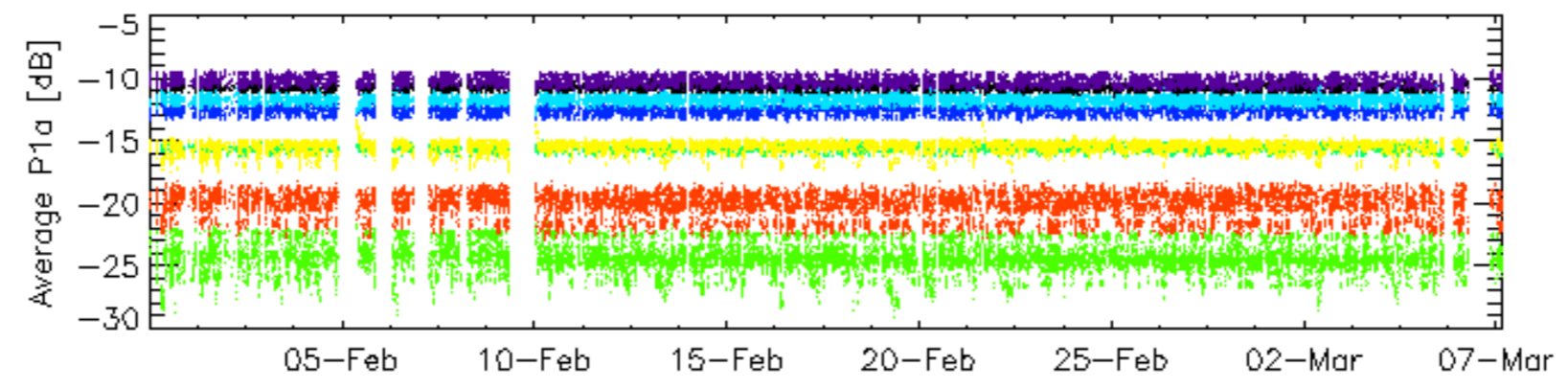
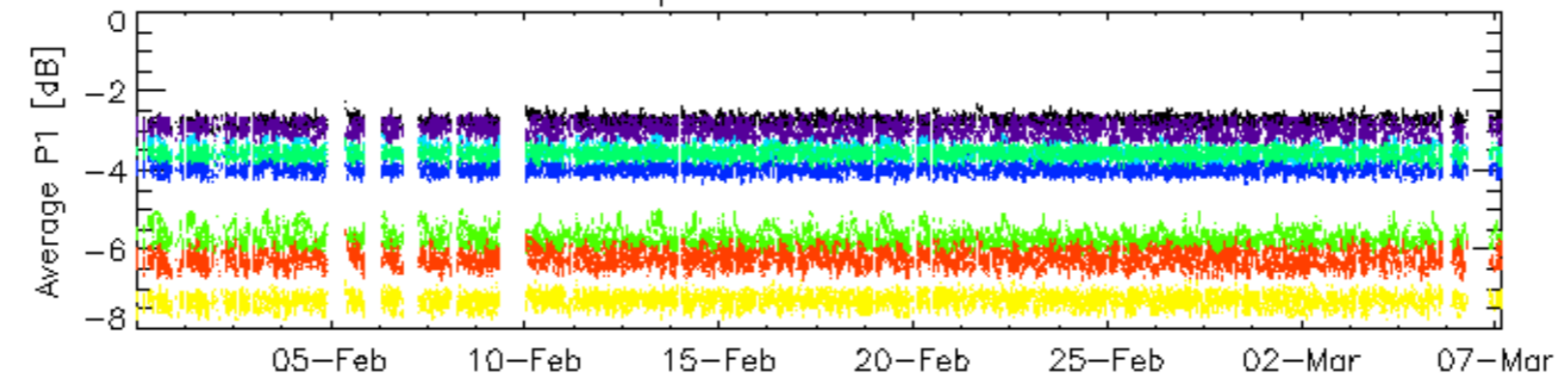


Cal pulses for WVS IS2



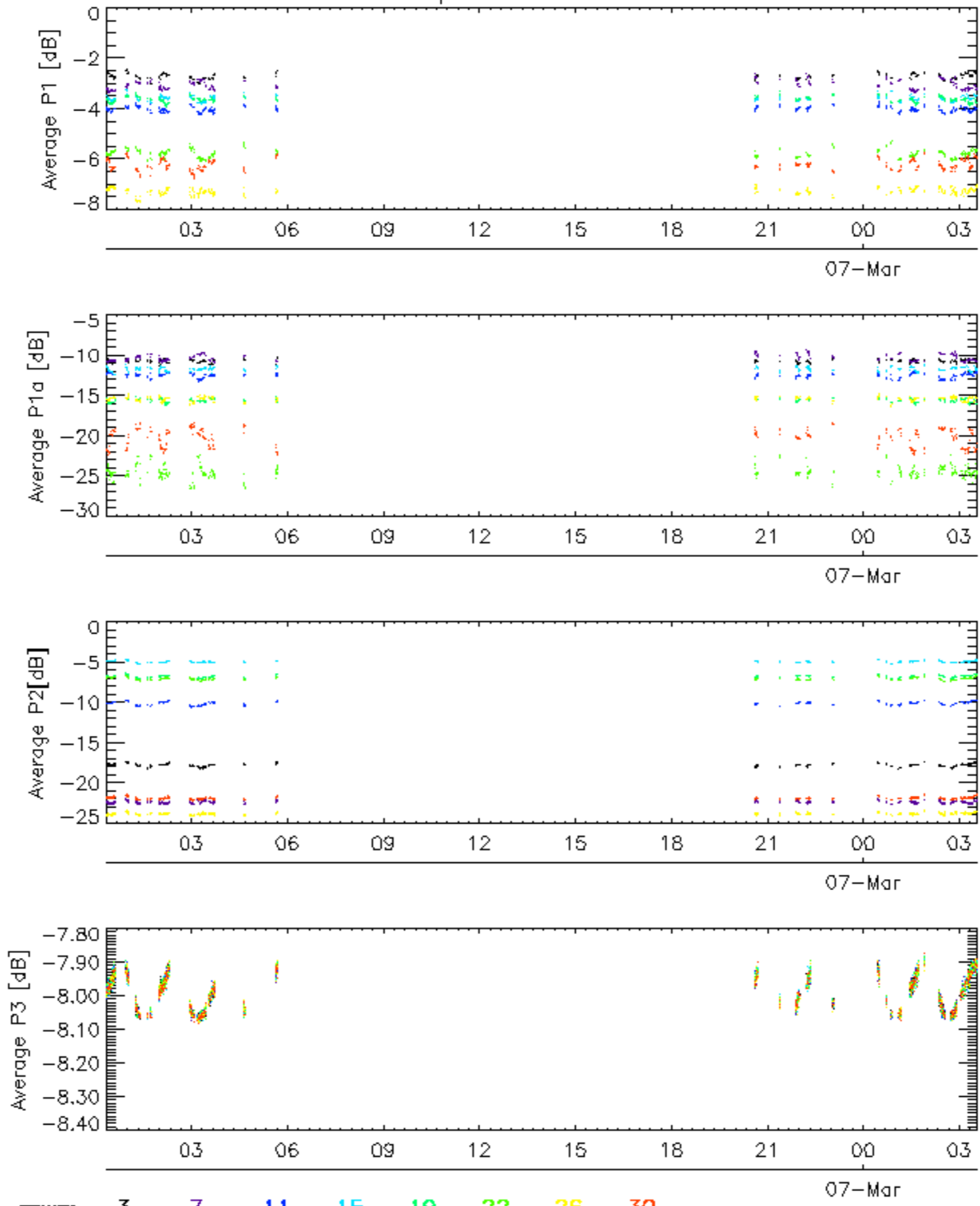
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

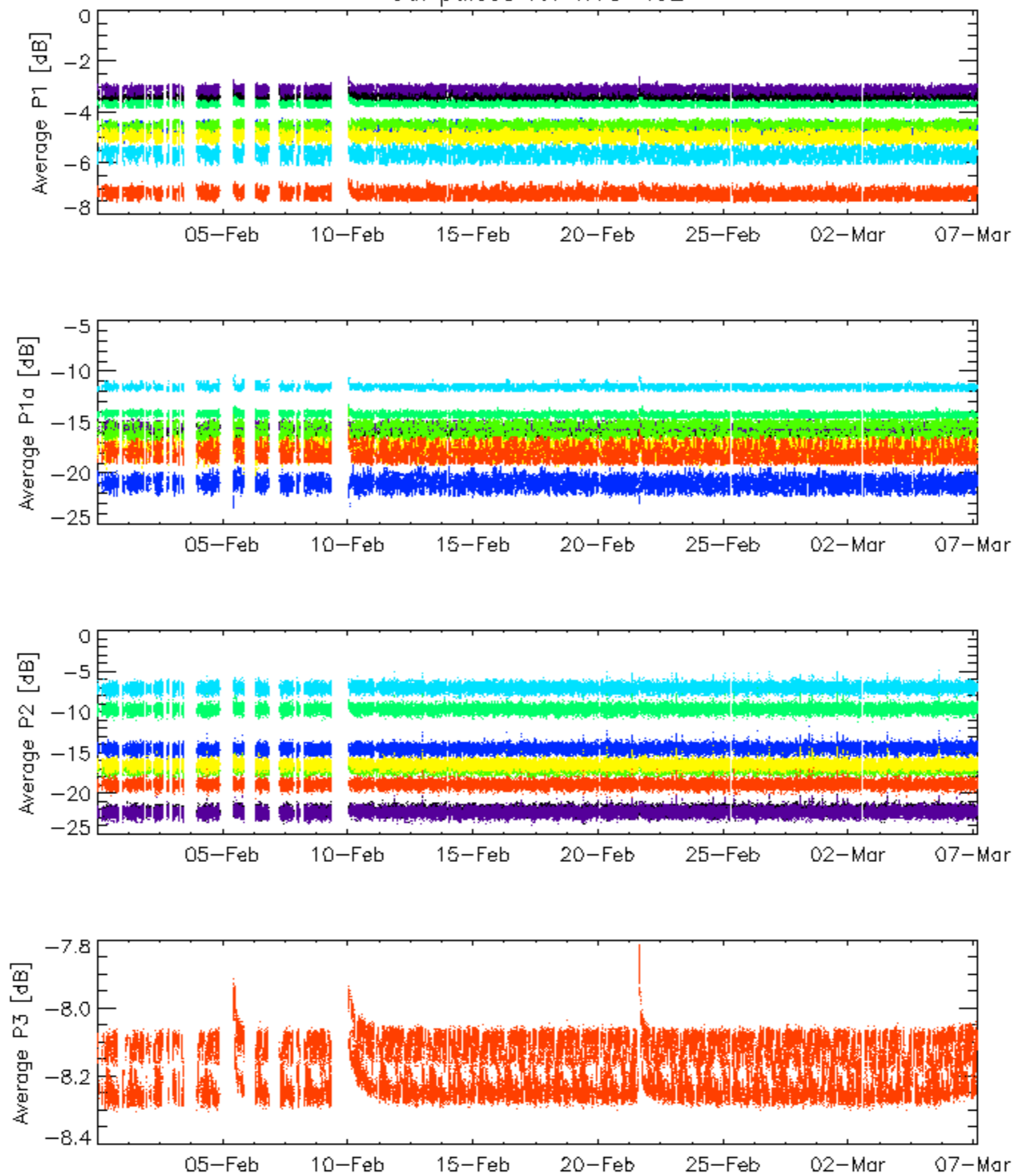


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

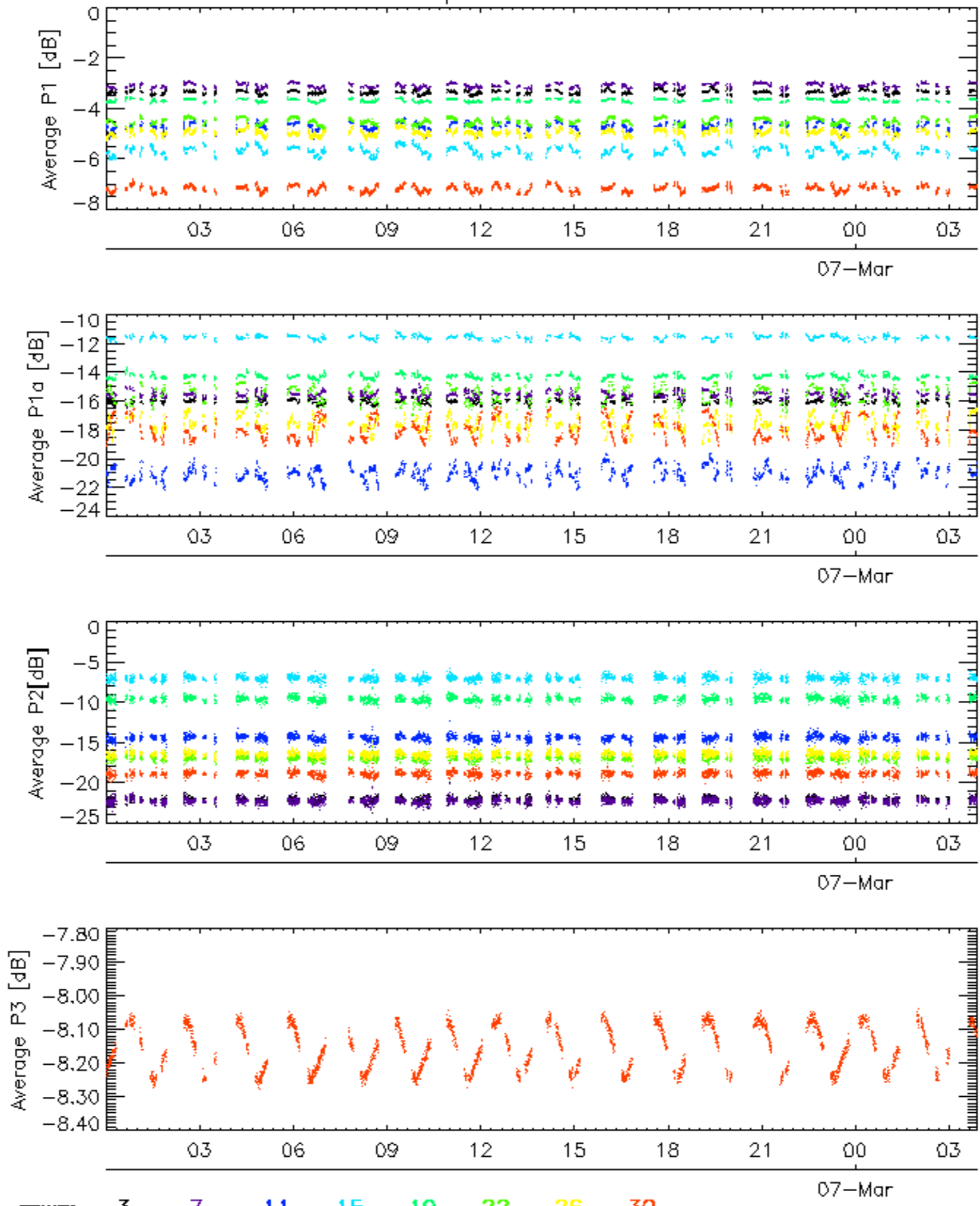


### Cal pulses for WVS IS2



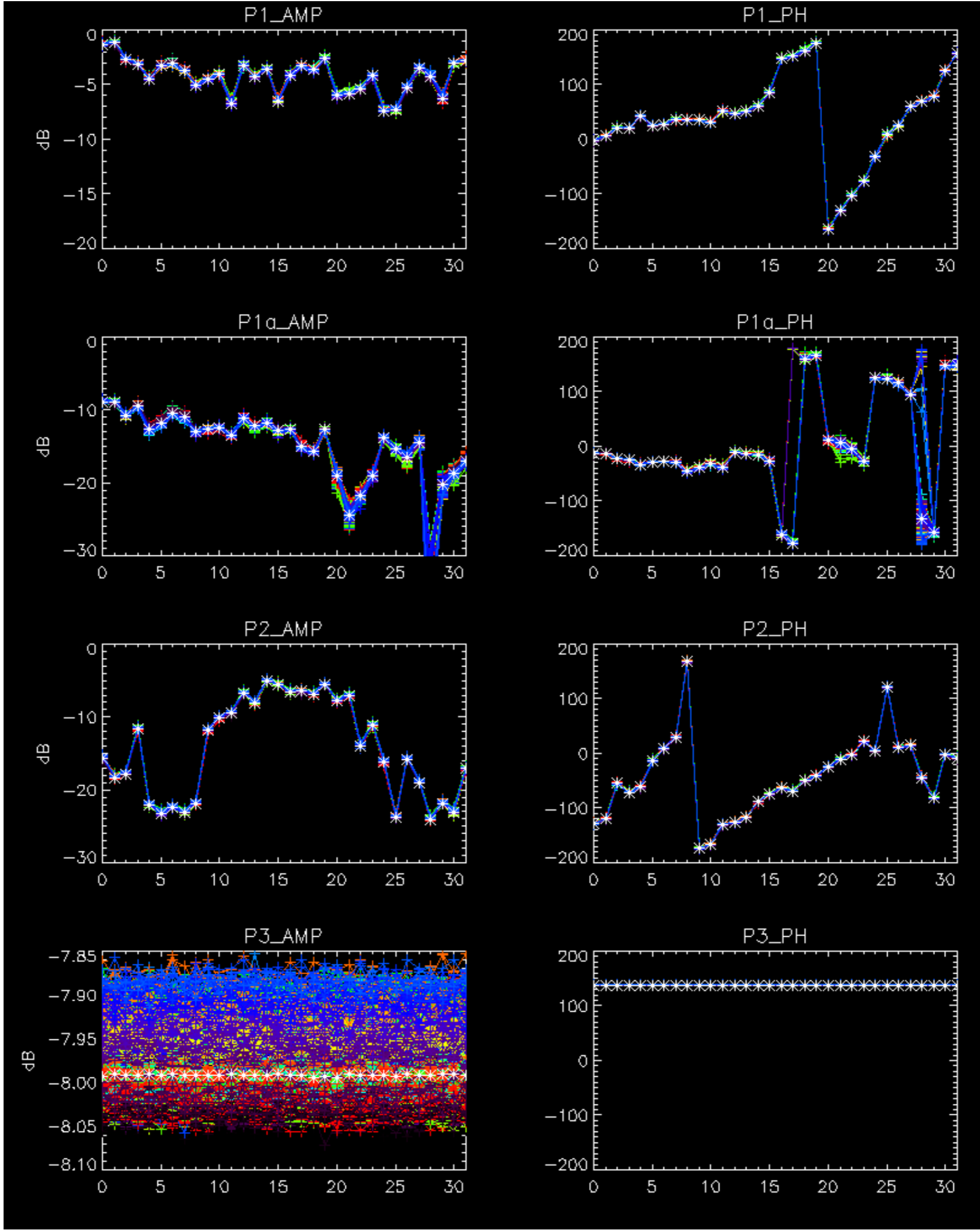
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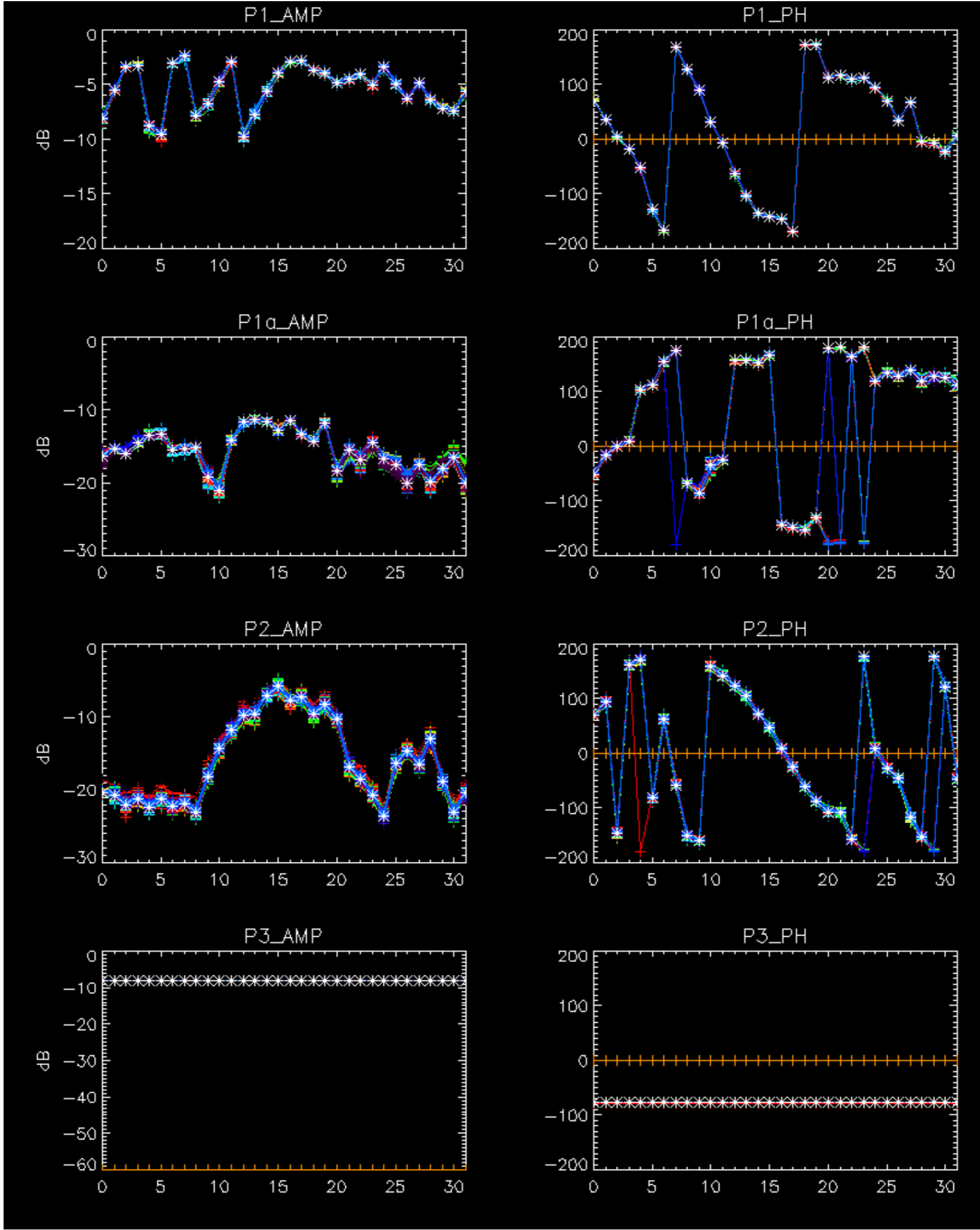
Cal pulses for WVS IS2



No anomalies observed.



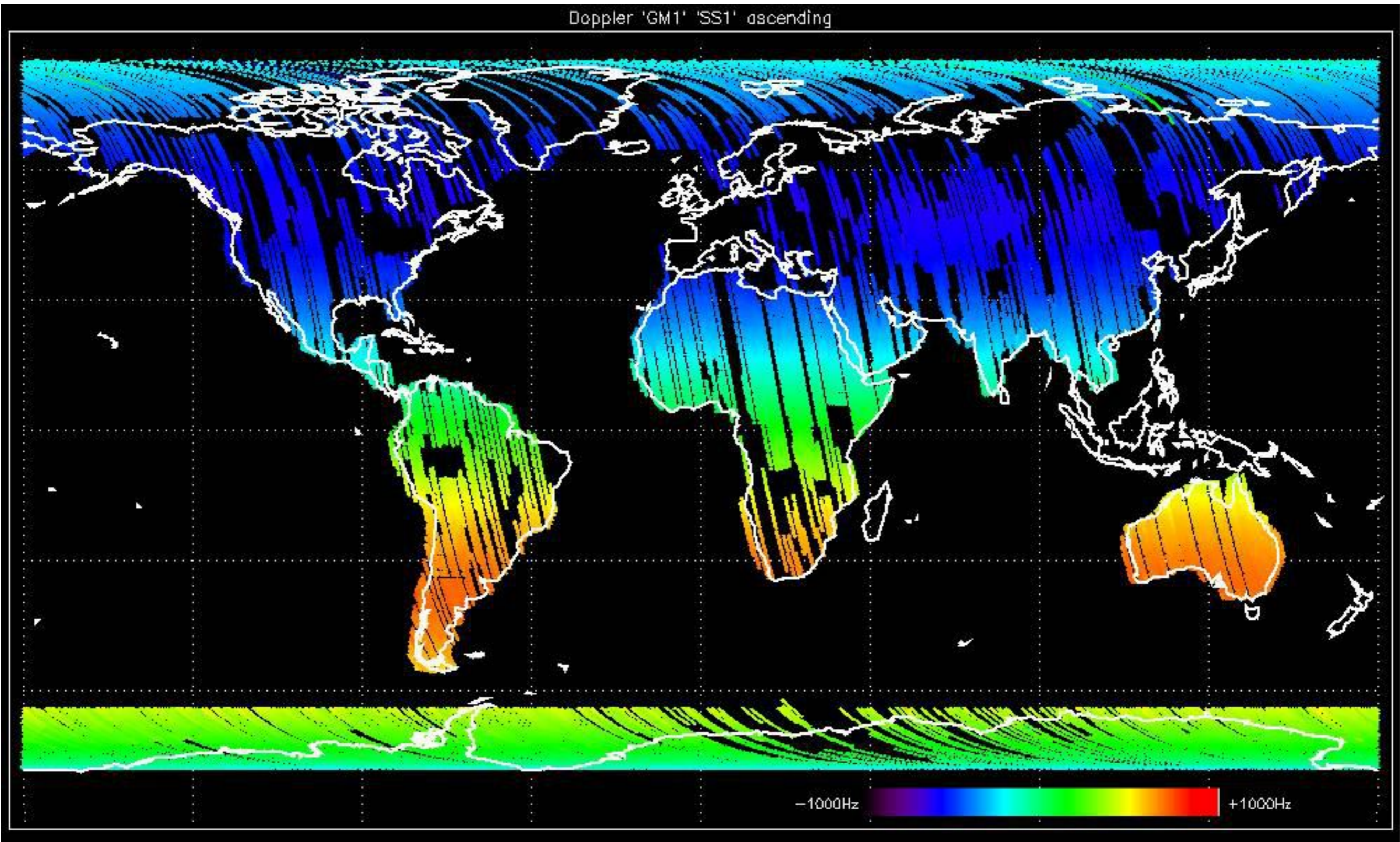




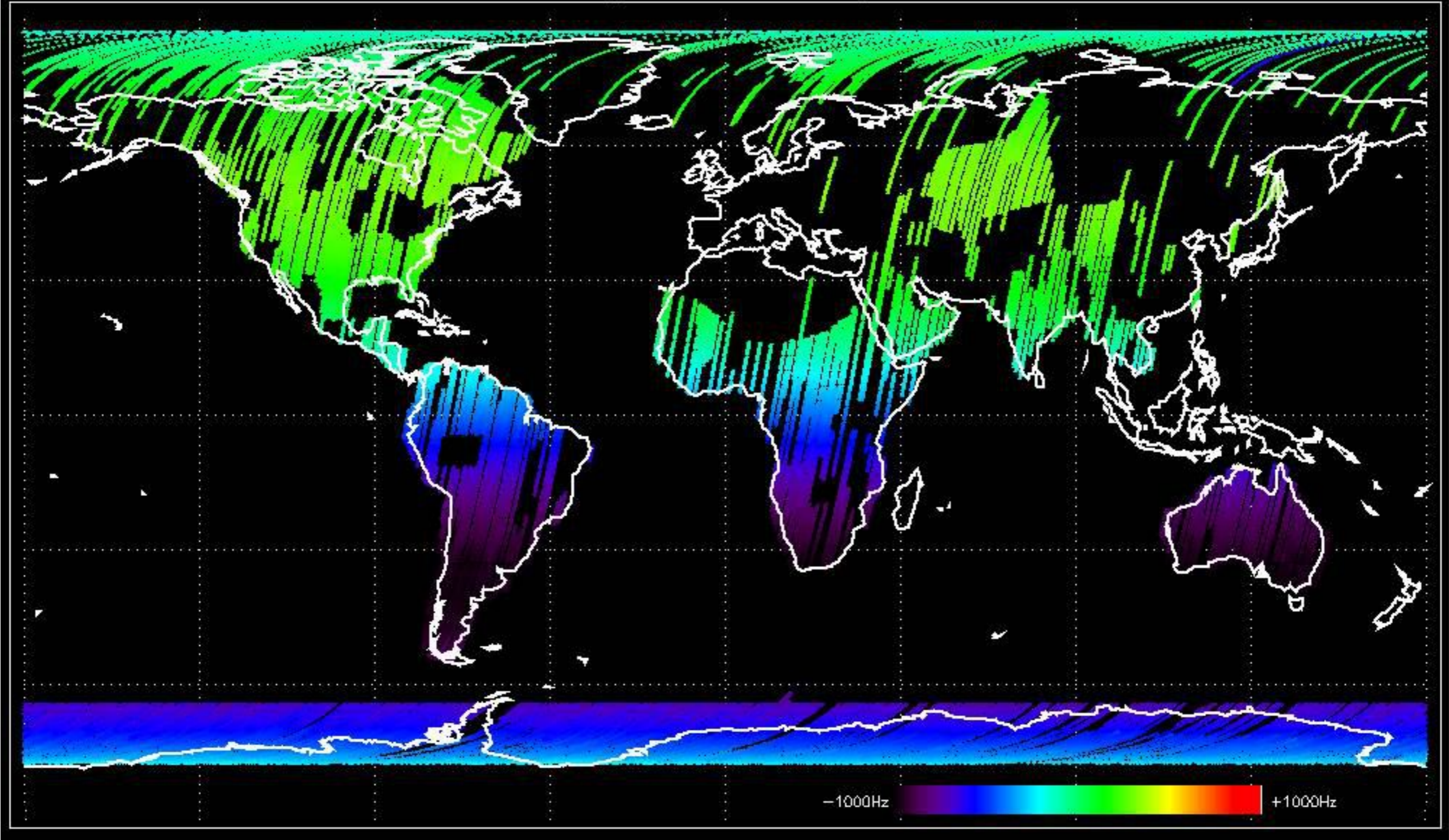
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



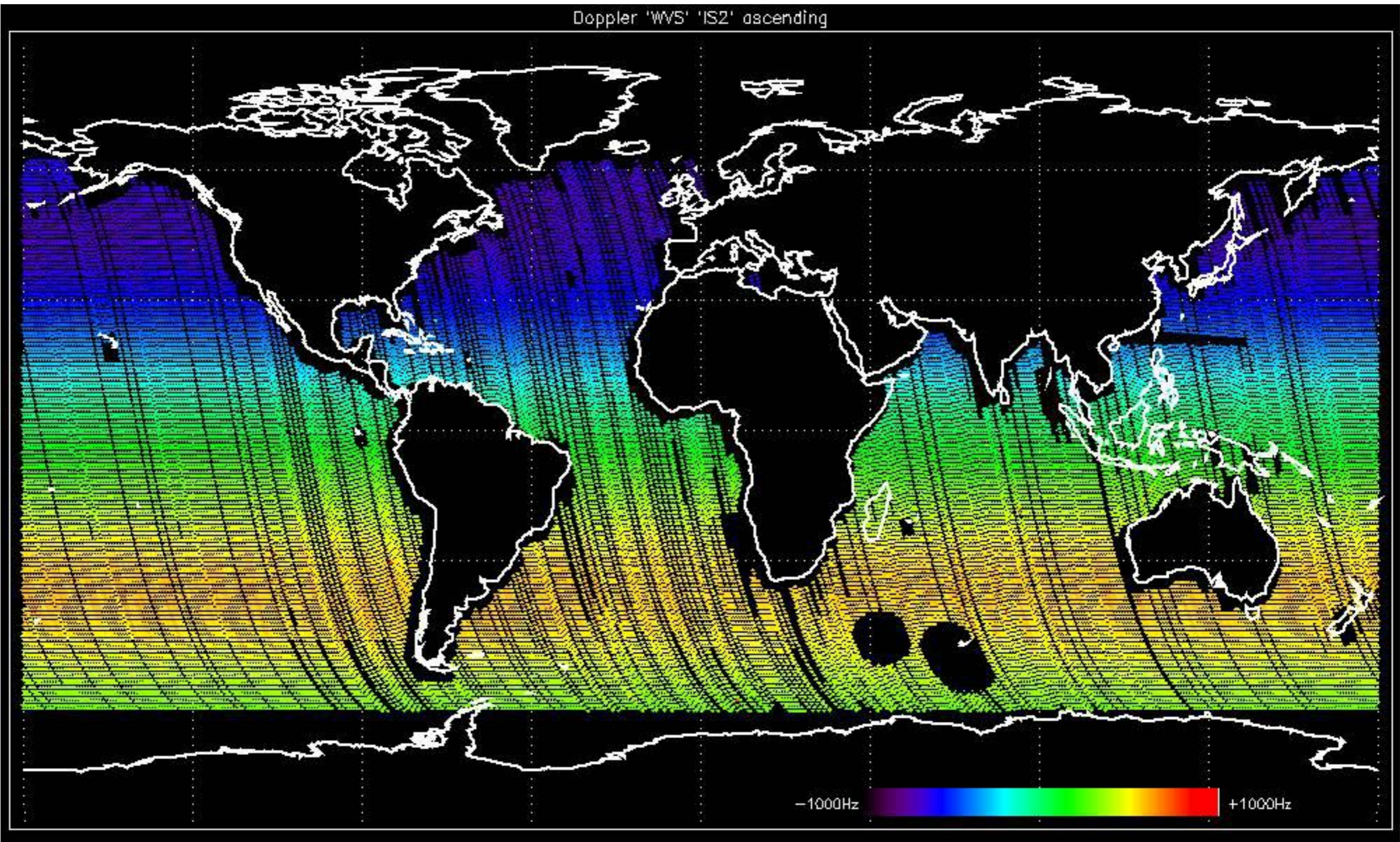
Doppler 'GM1' 'SS1' ascending



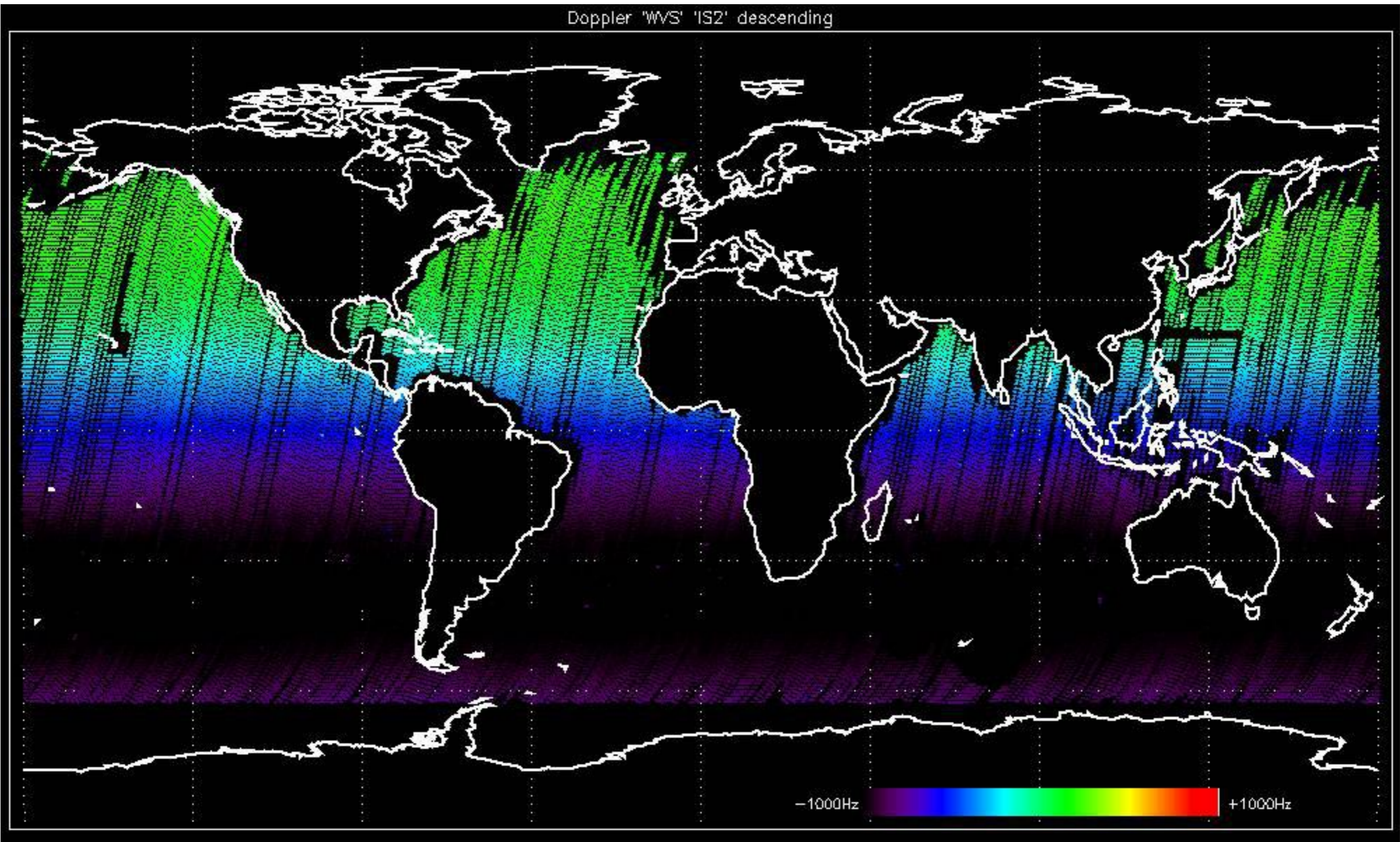
Doppler 'GM1' 'SS1' descending



Doppler 'WVS' 'IS2' ascending

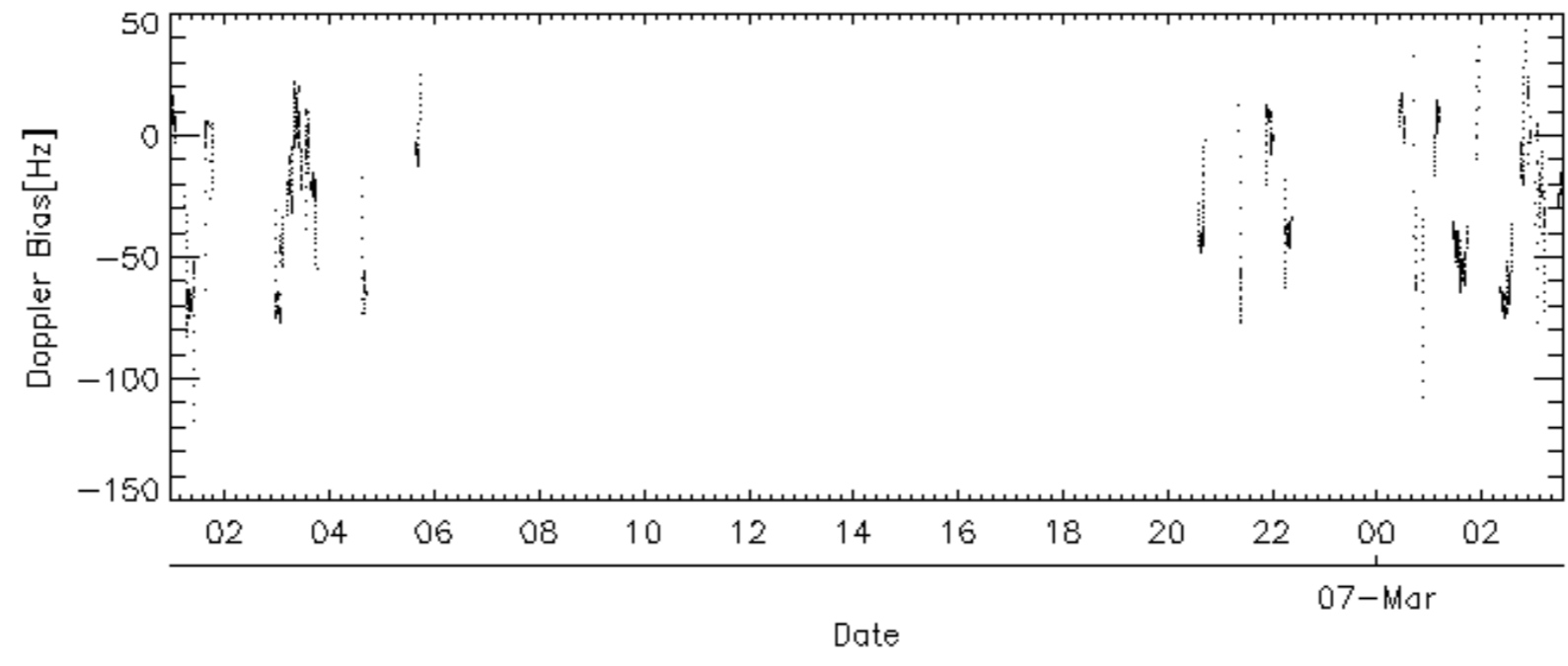
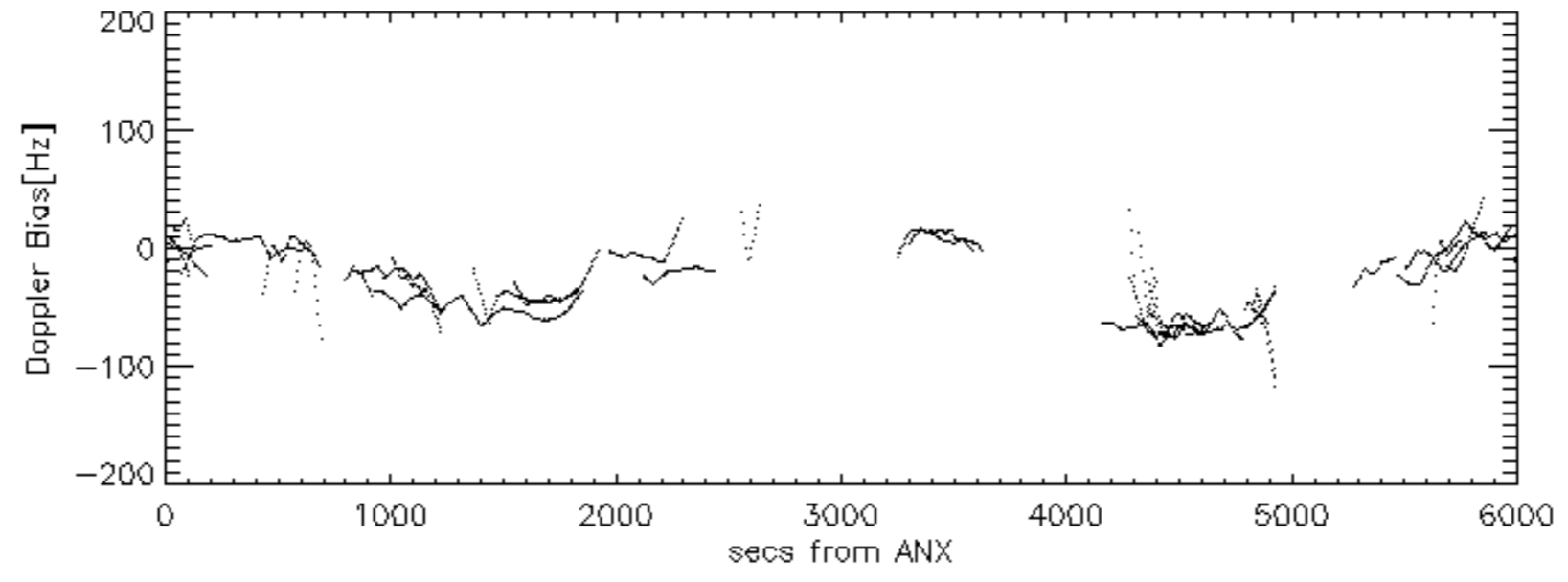
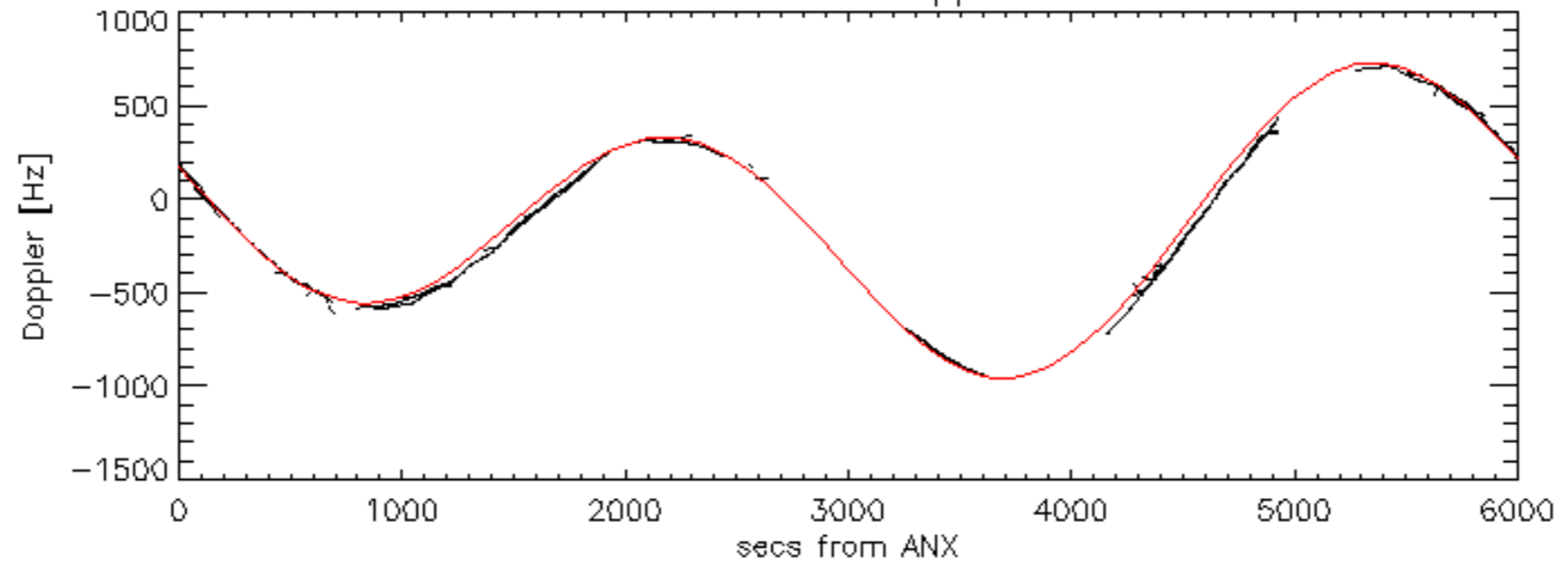


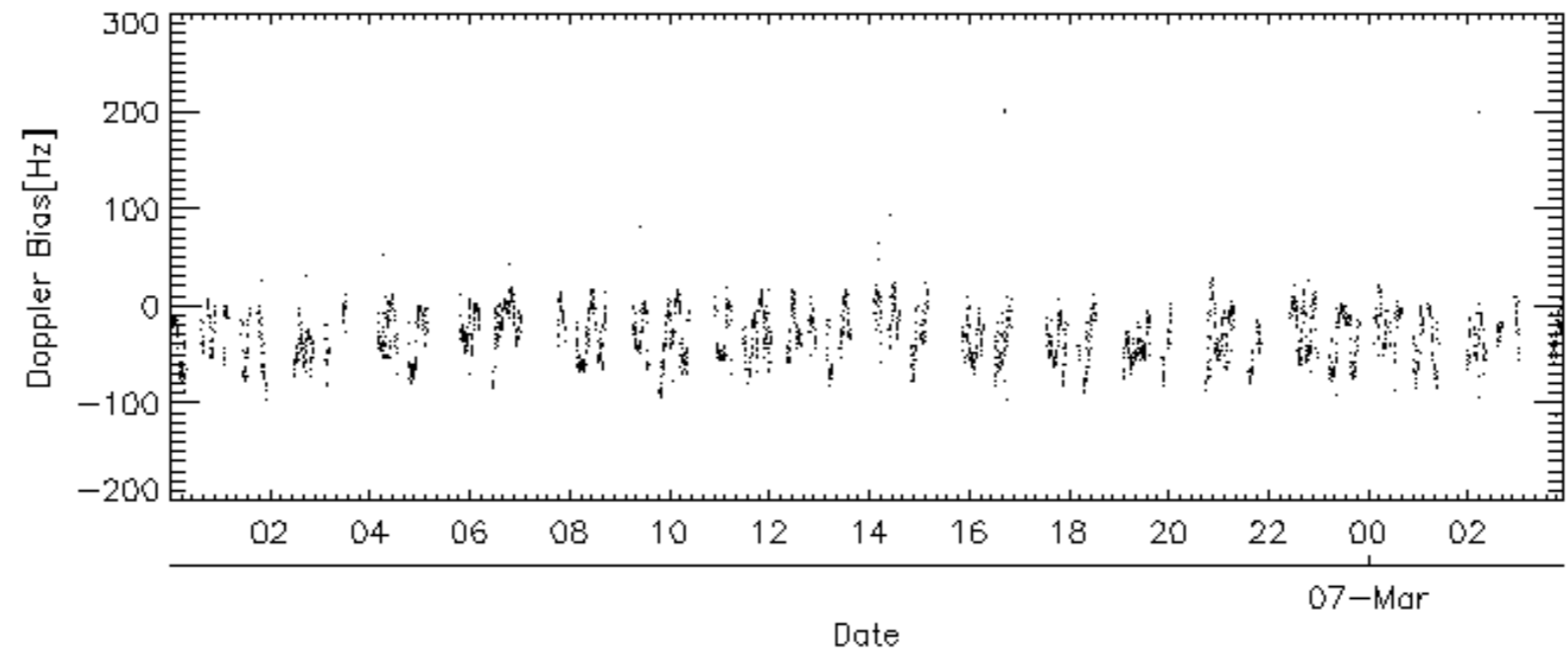
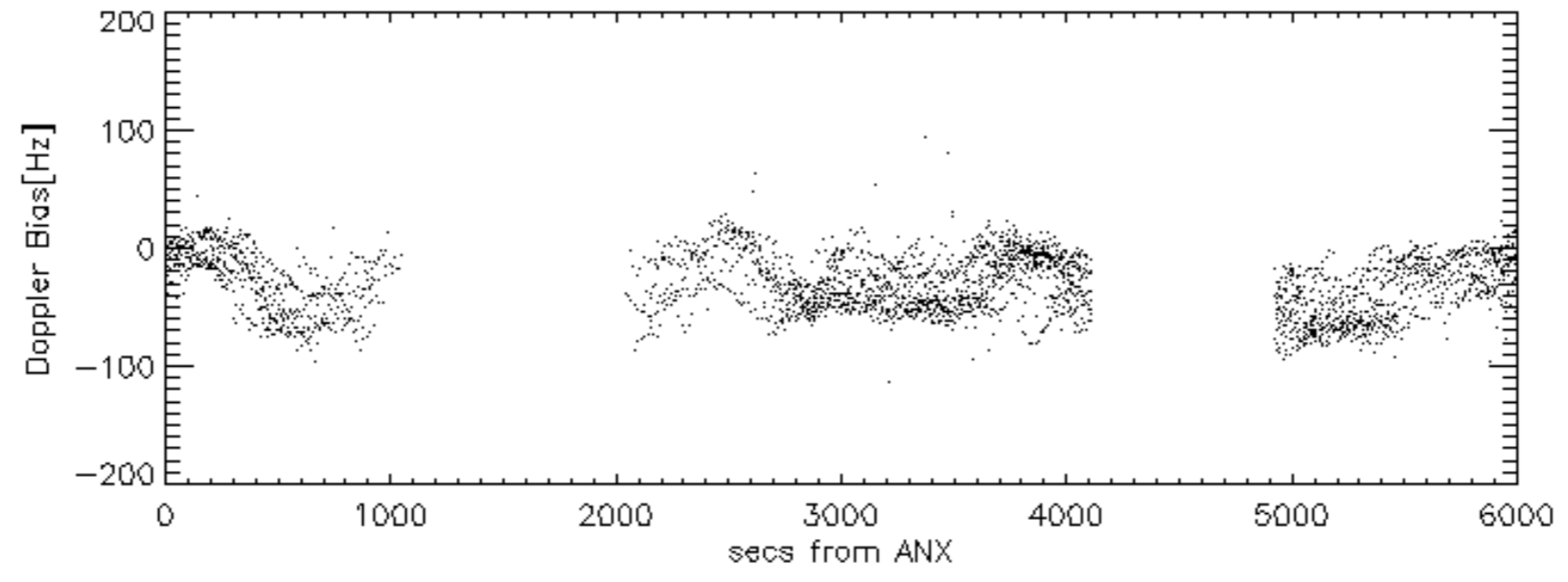
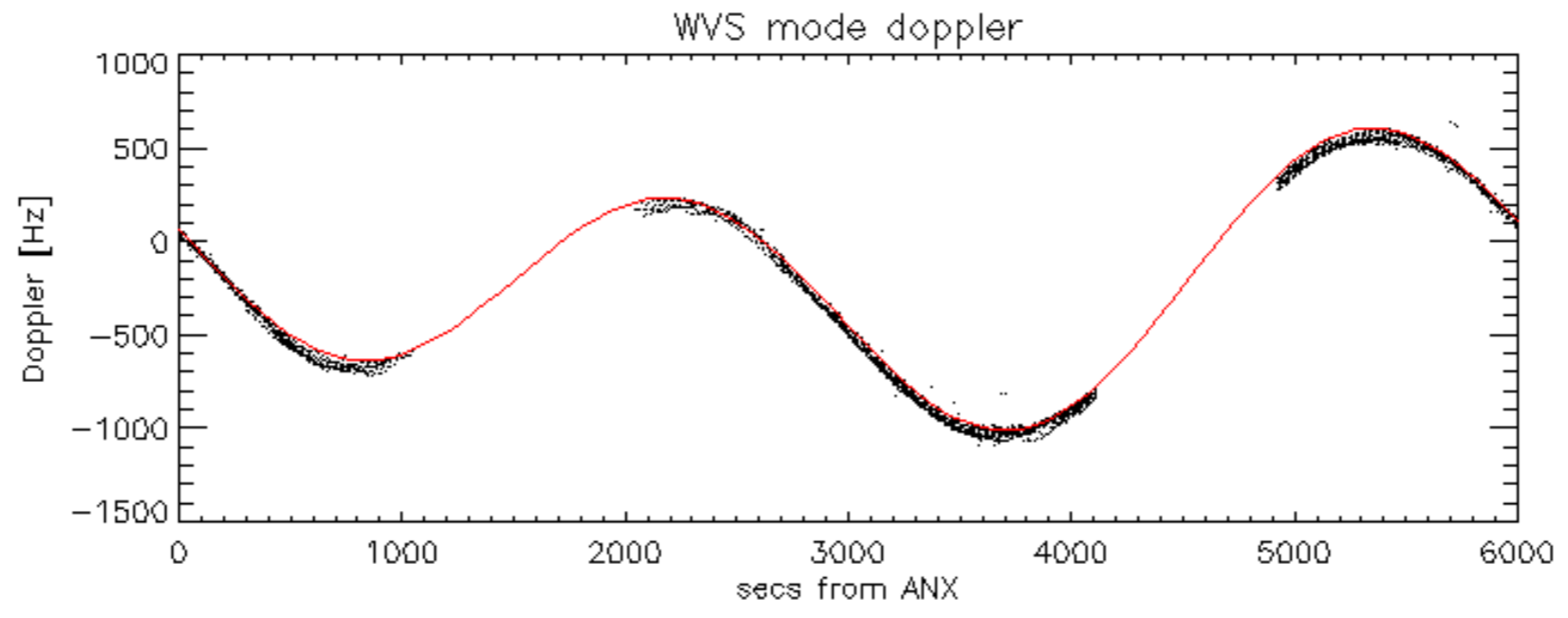
Doppler 'WVS' 'IS2' descending



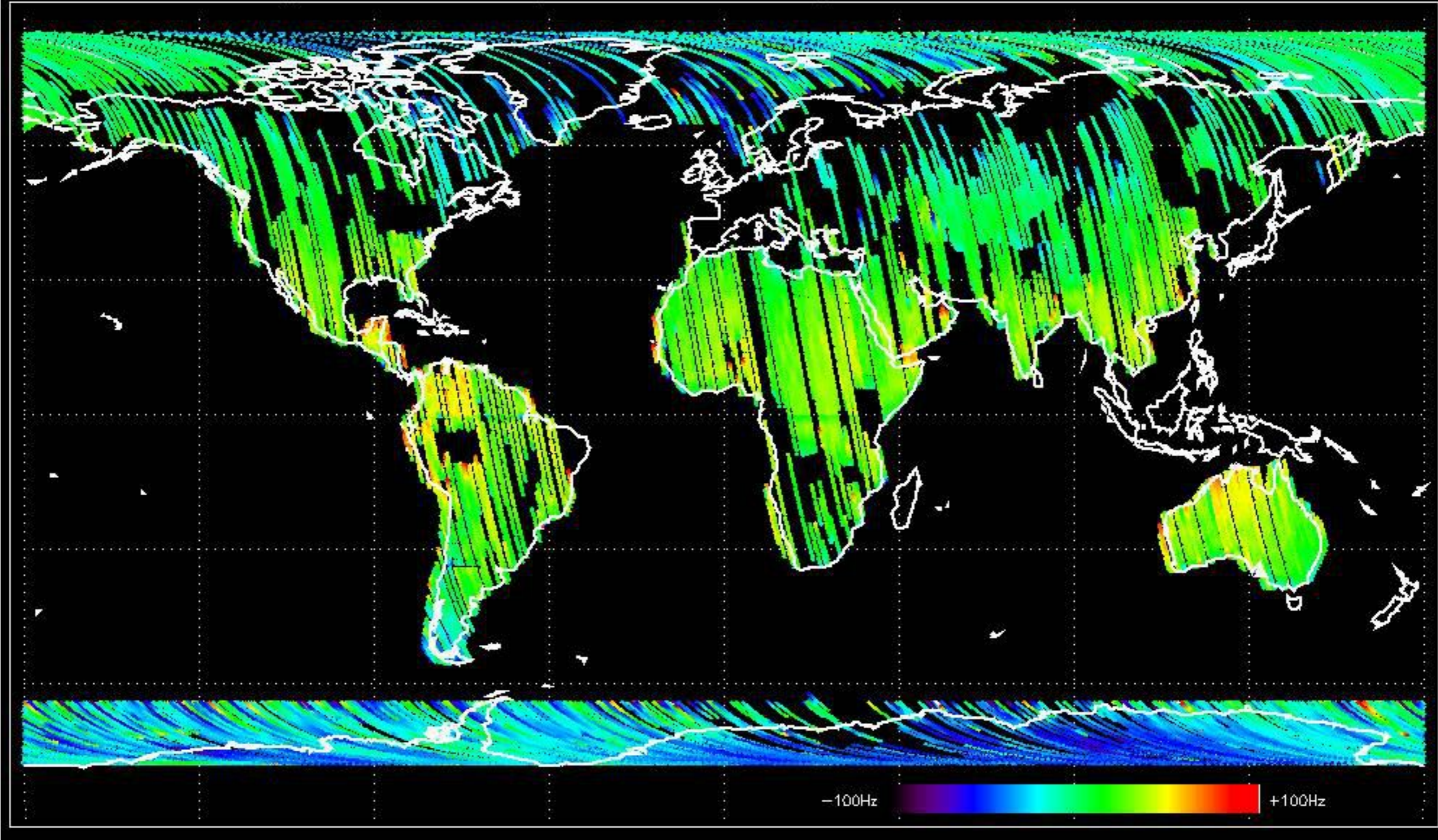


GM1 mode doppler

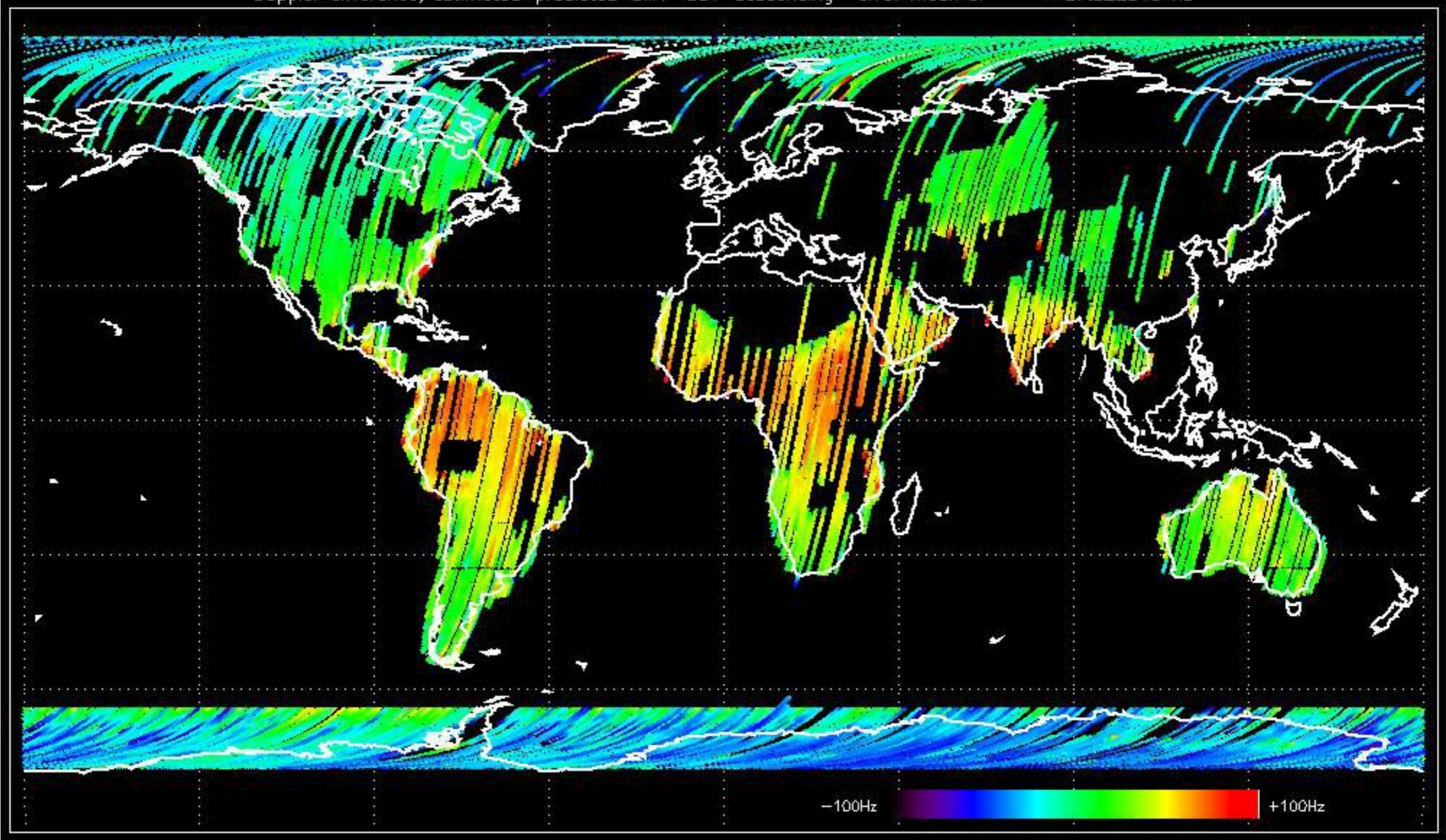




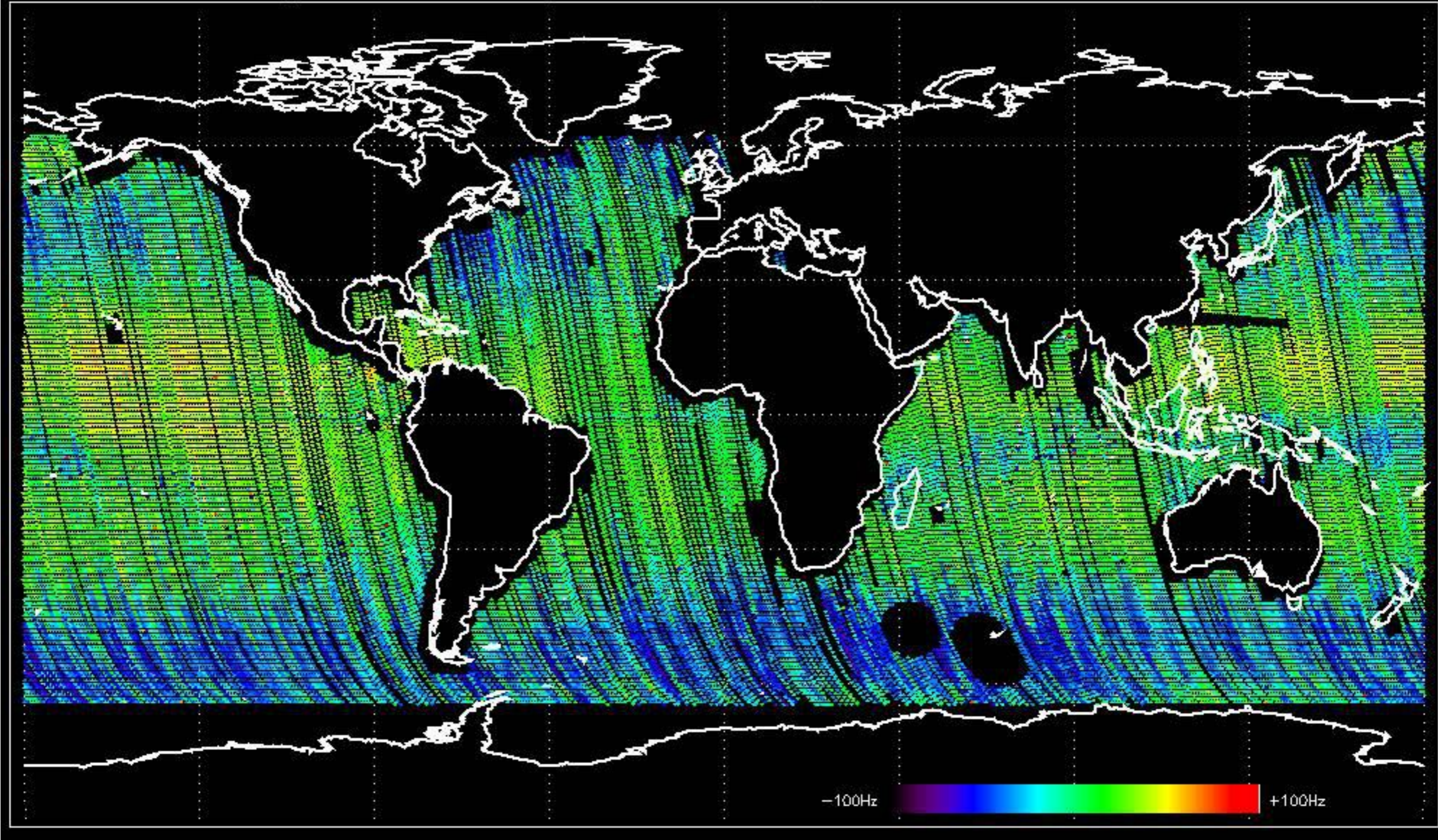
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -29.937178 Hz



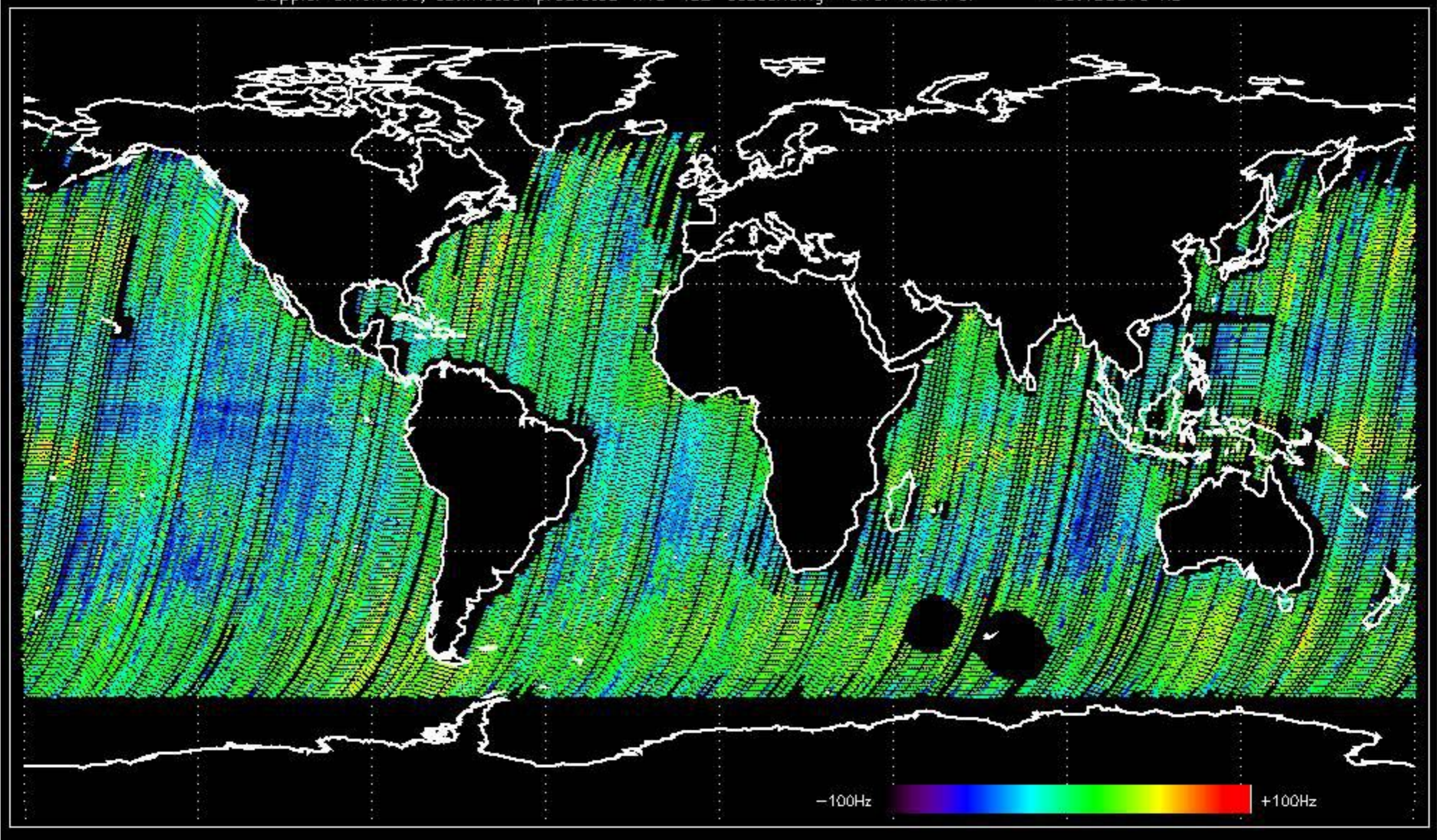
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -27.822545 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -33.144048 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -33.183373 Hz



No anomalies observed on available MS products:

No anomalies observed.











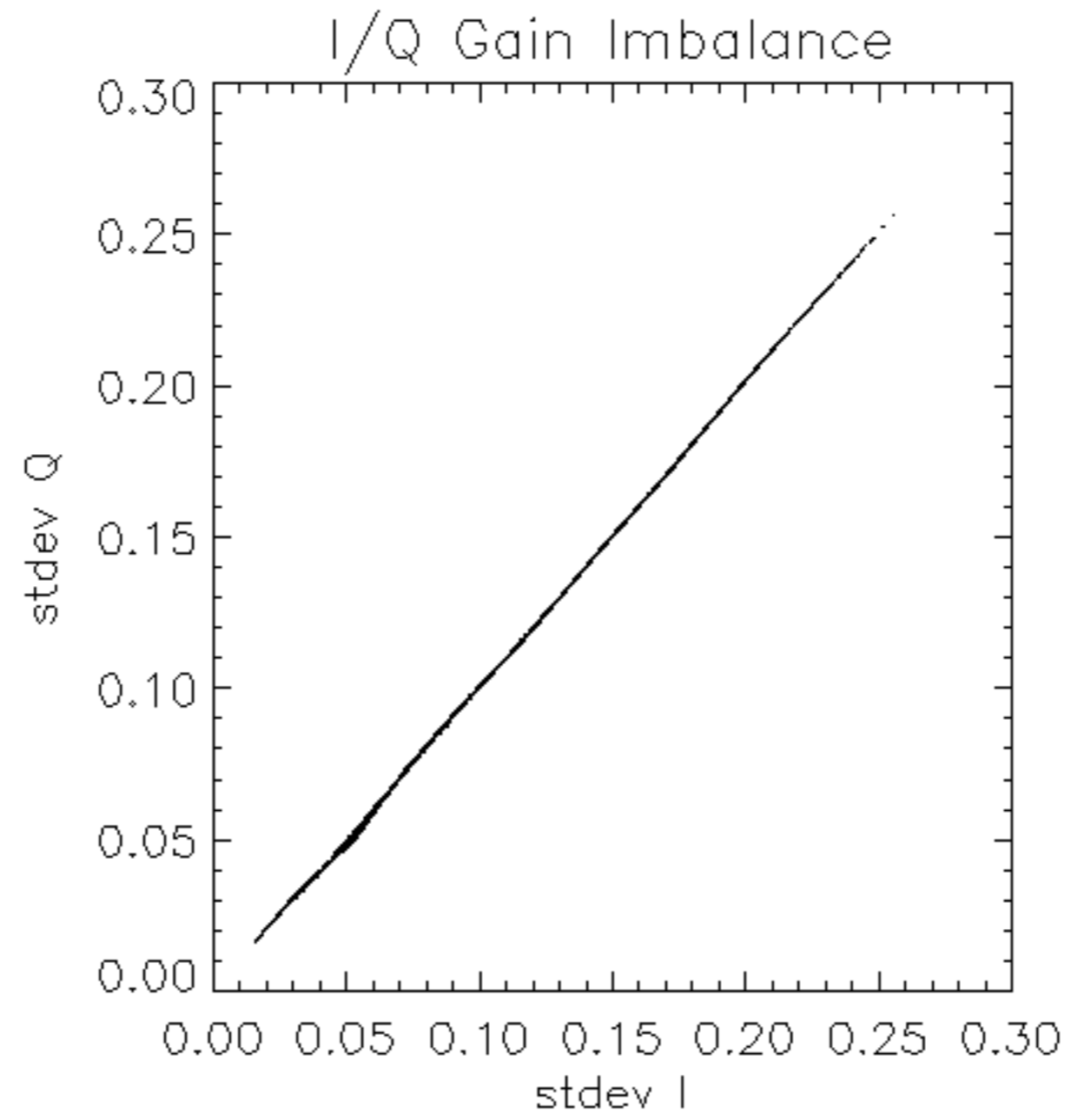


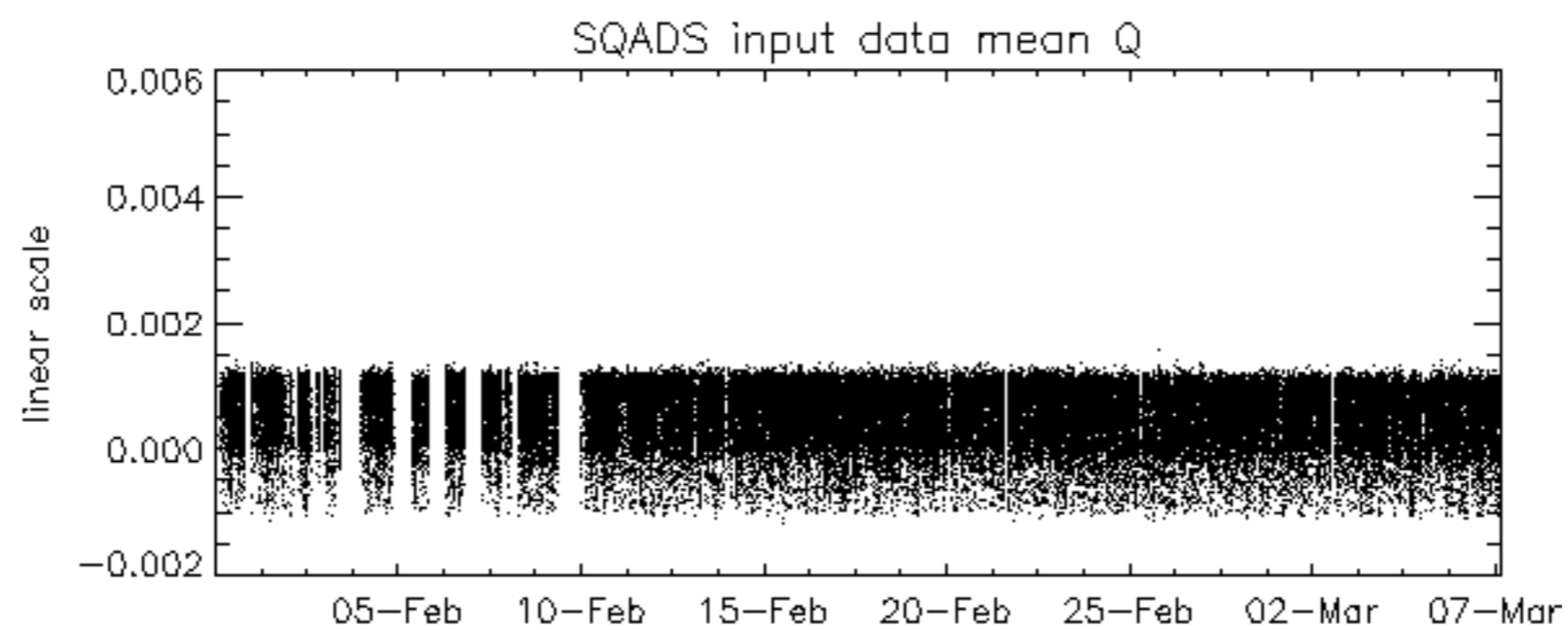
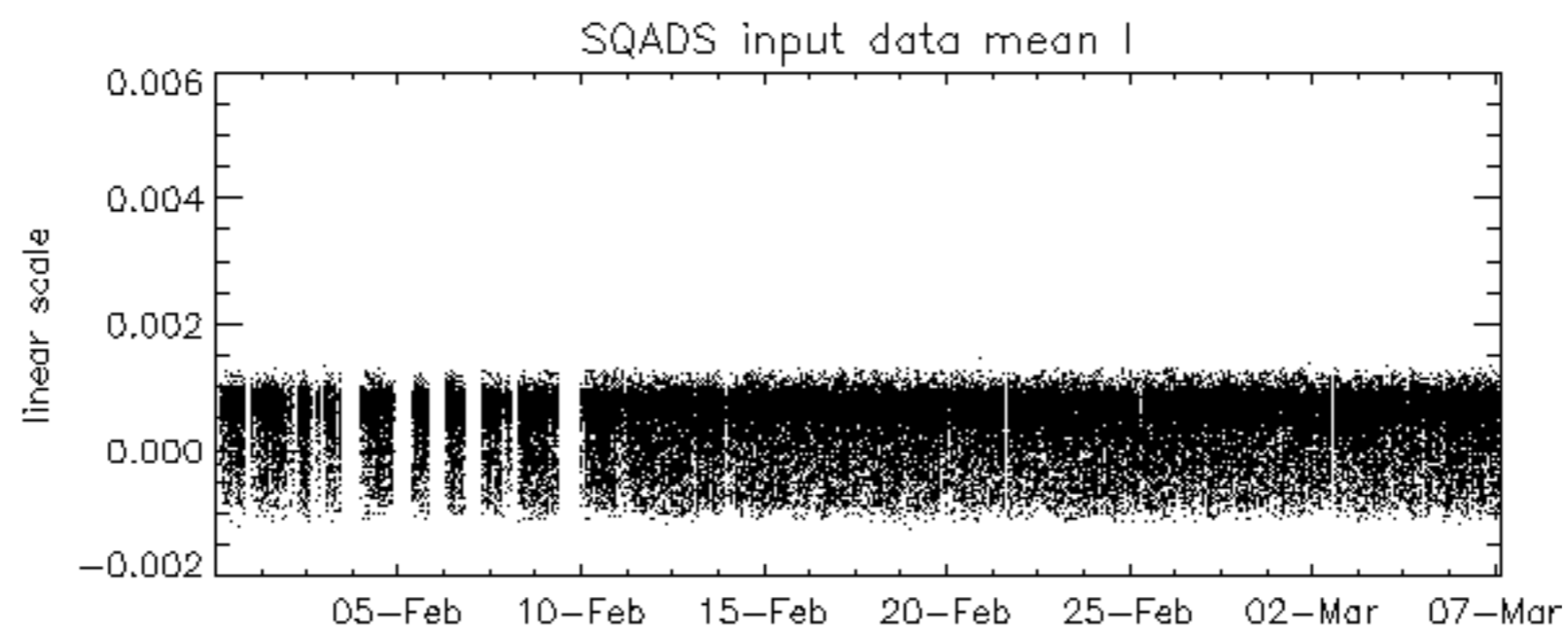
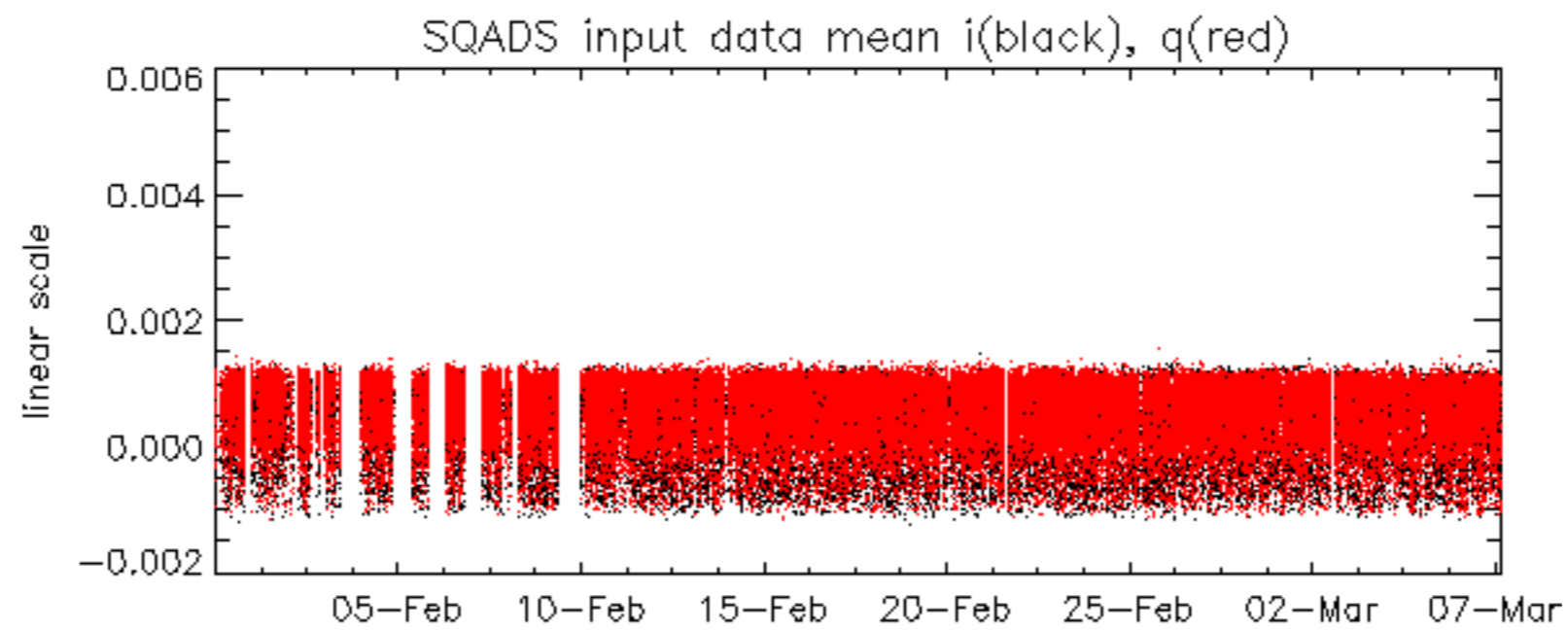


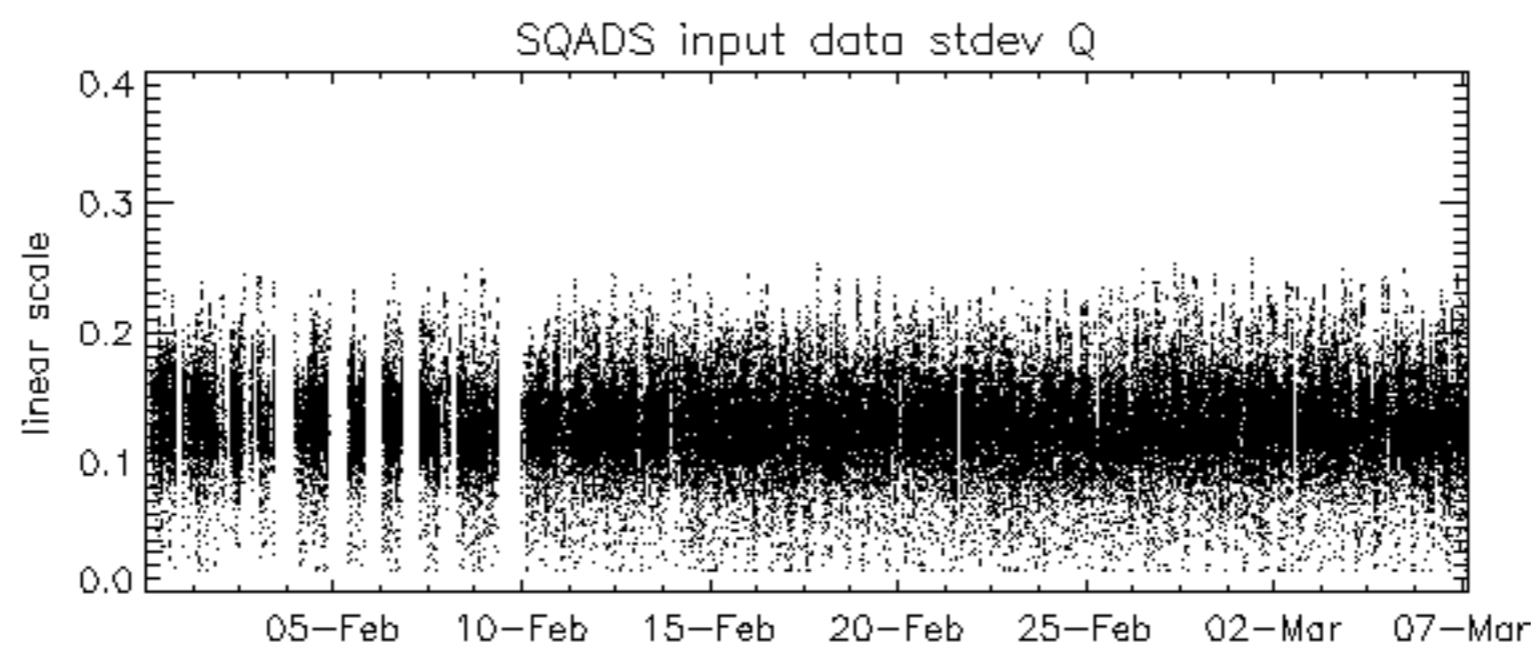
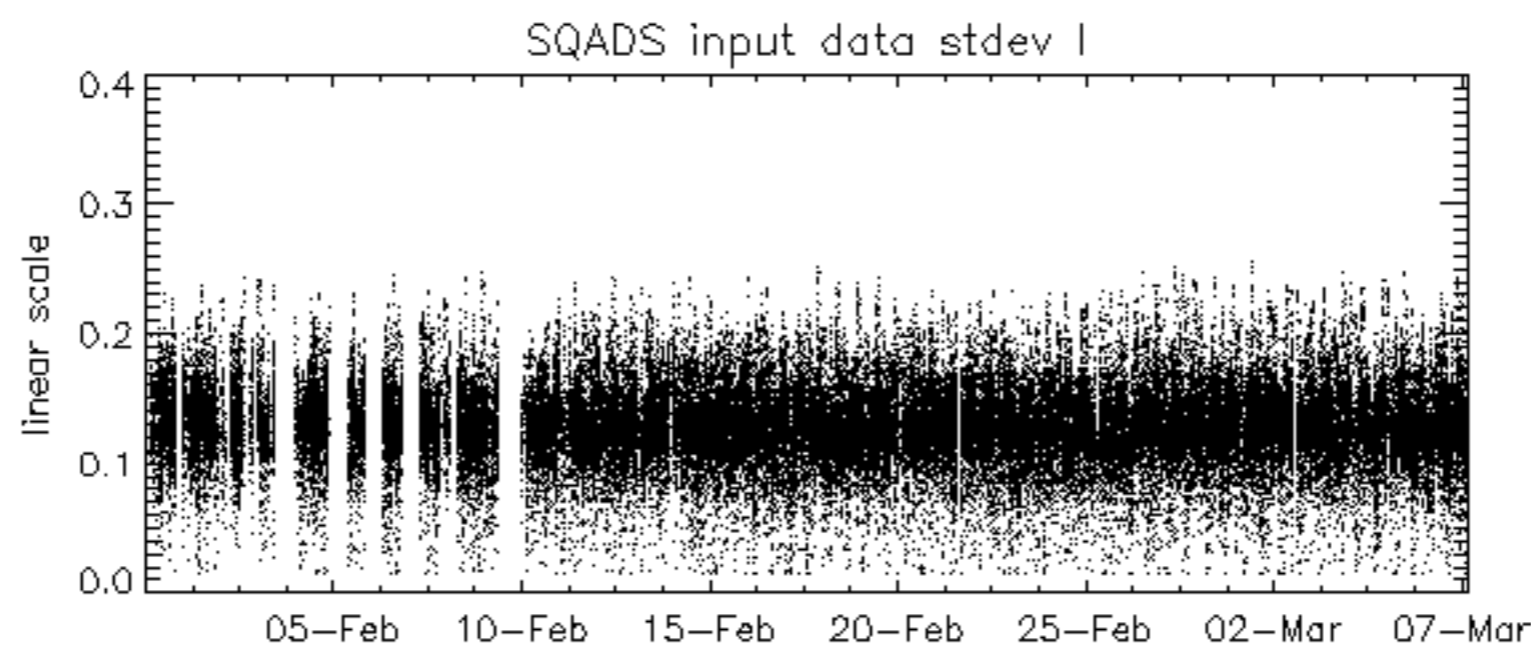
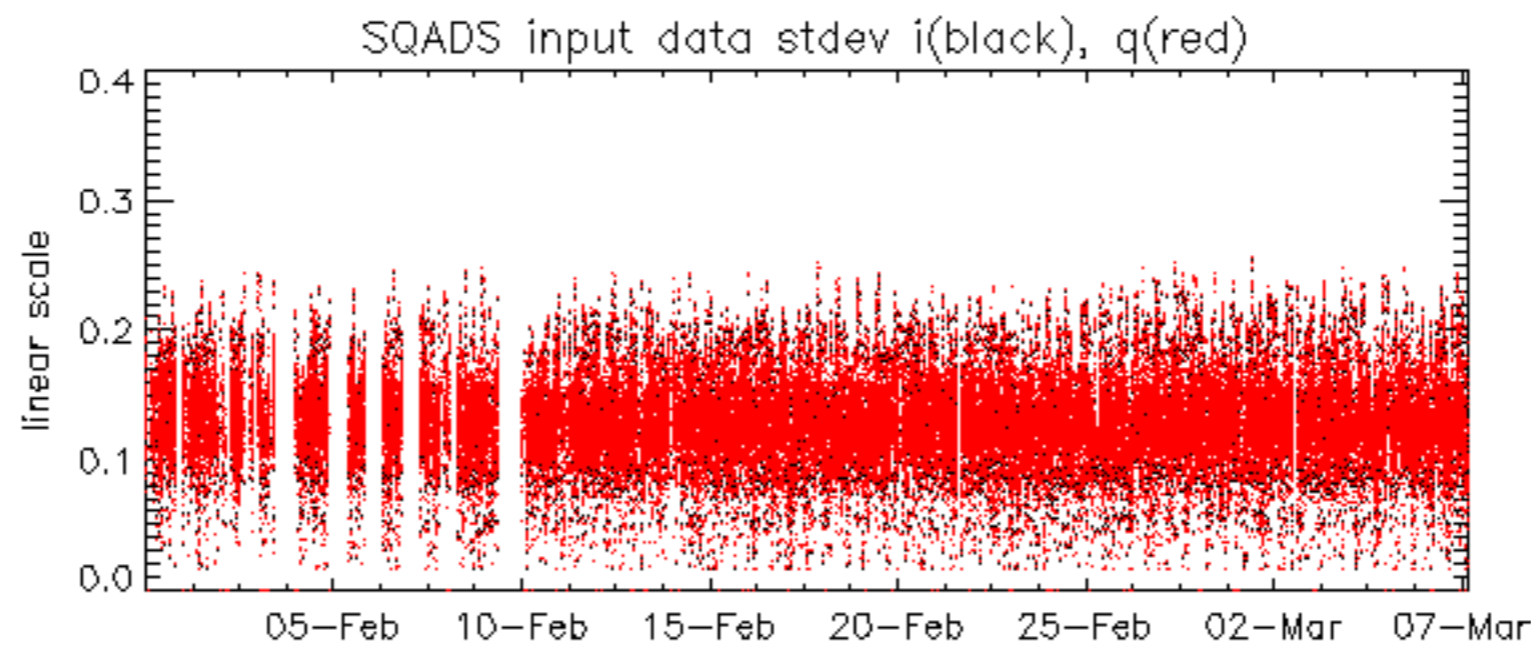


















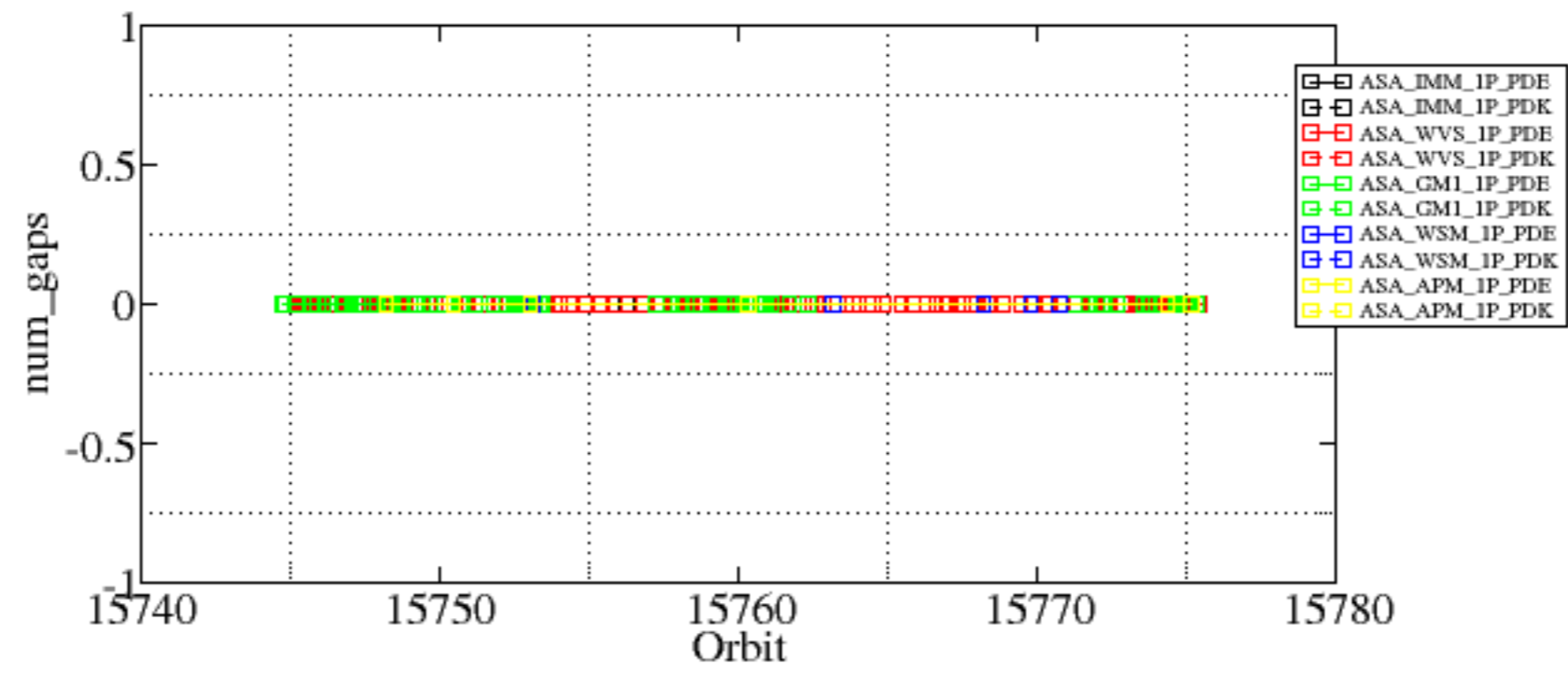


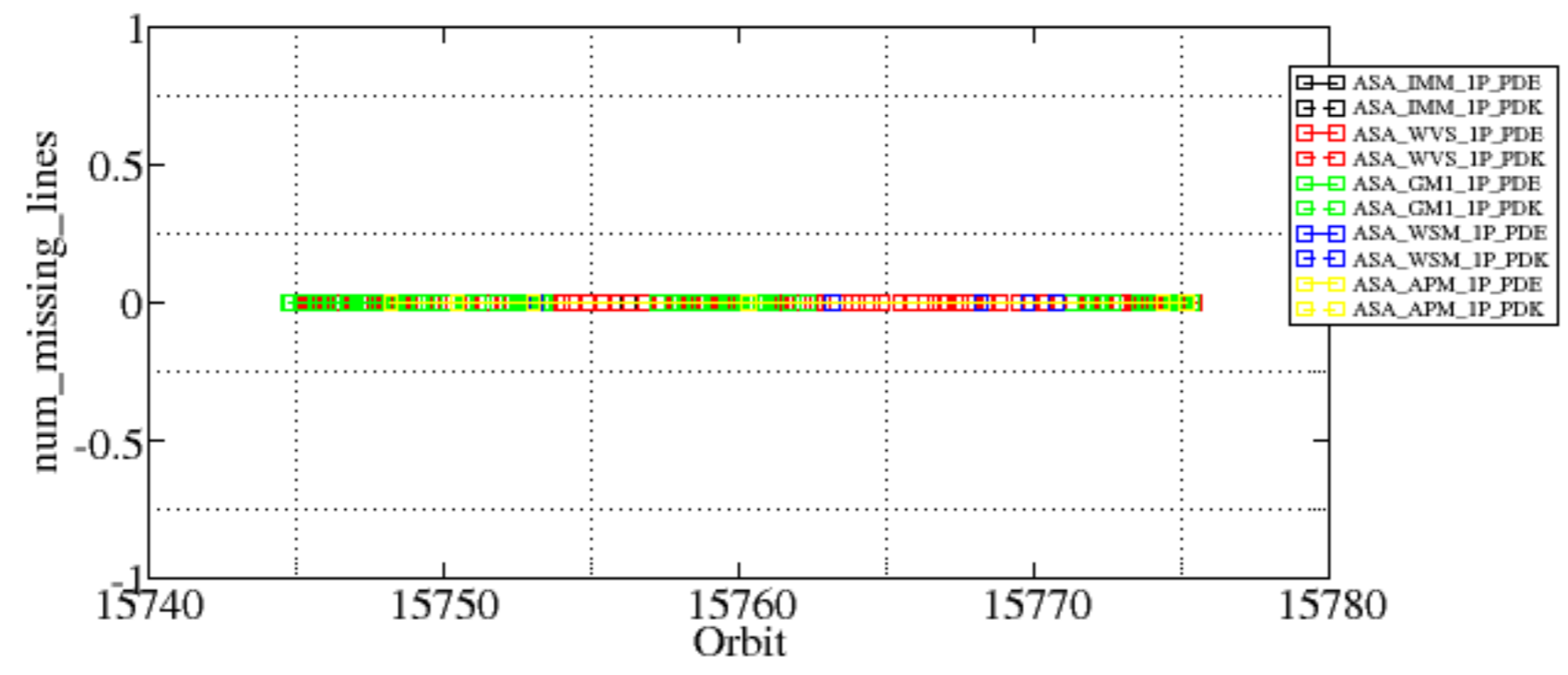
Summary of analysis for the last 3 days 2005030[567]

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

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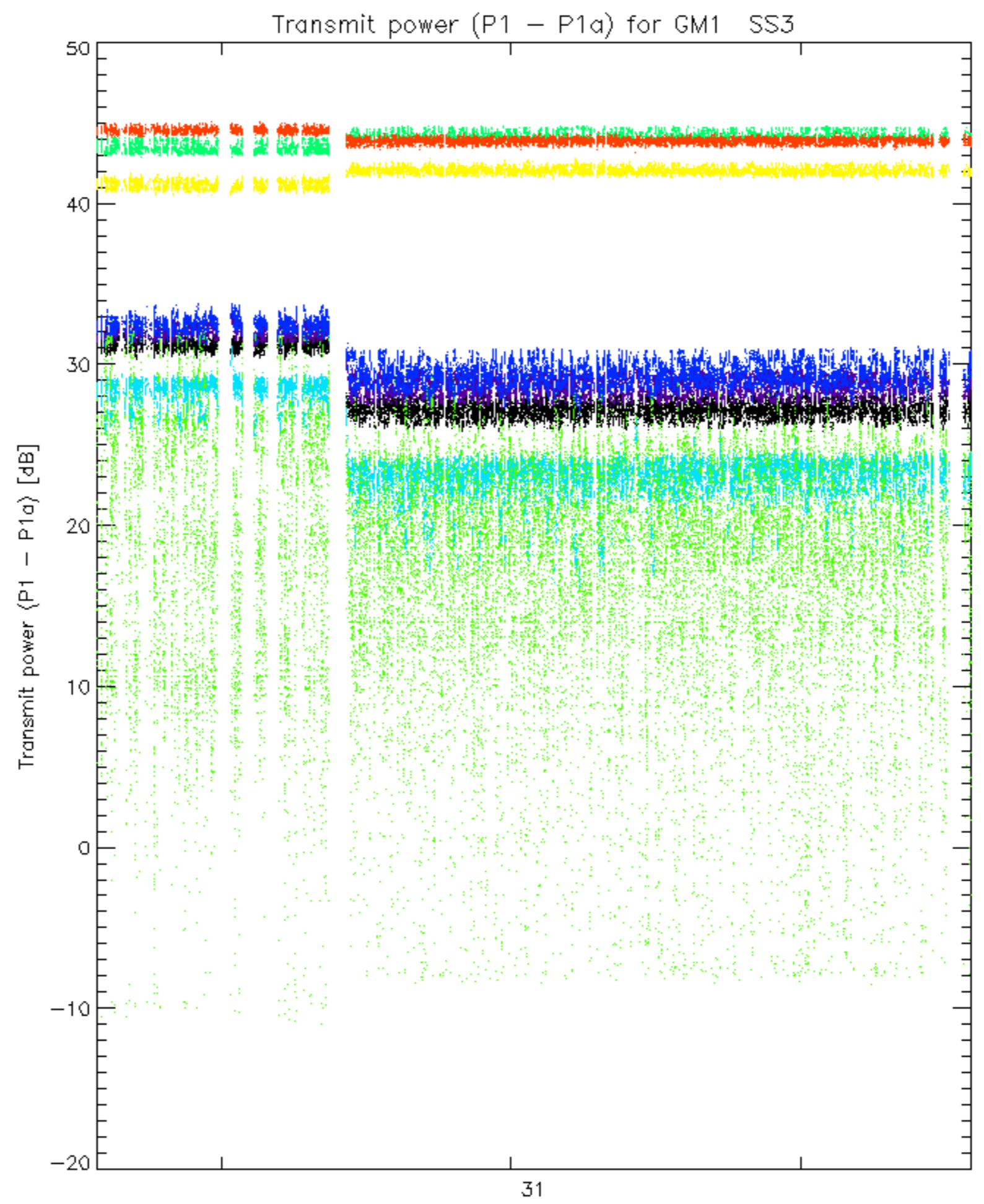




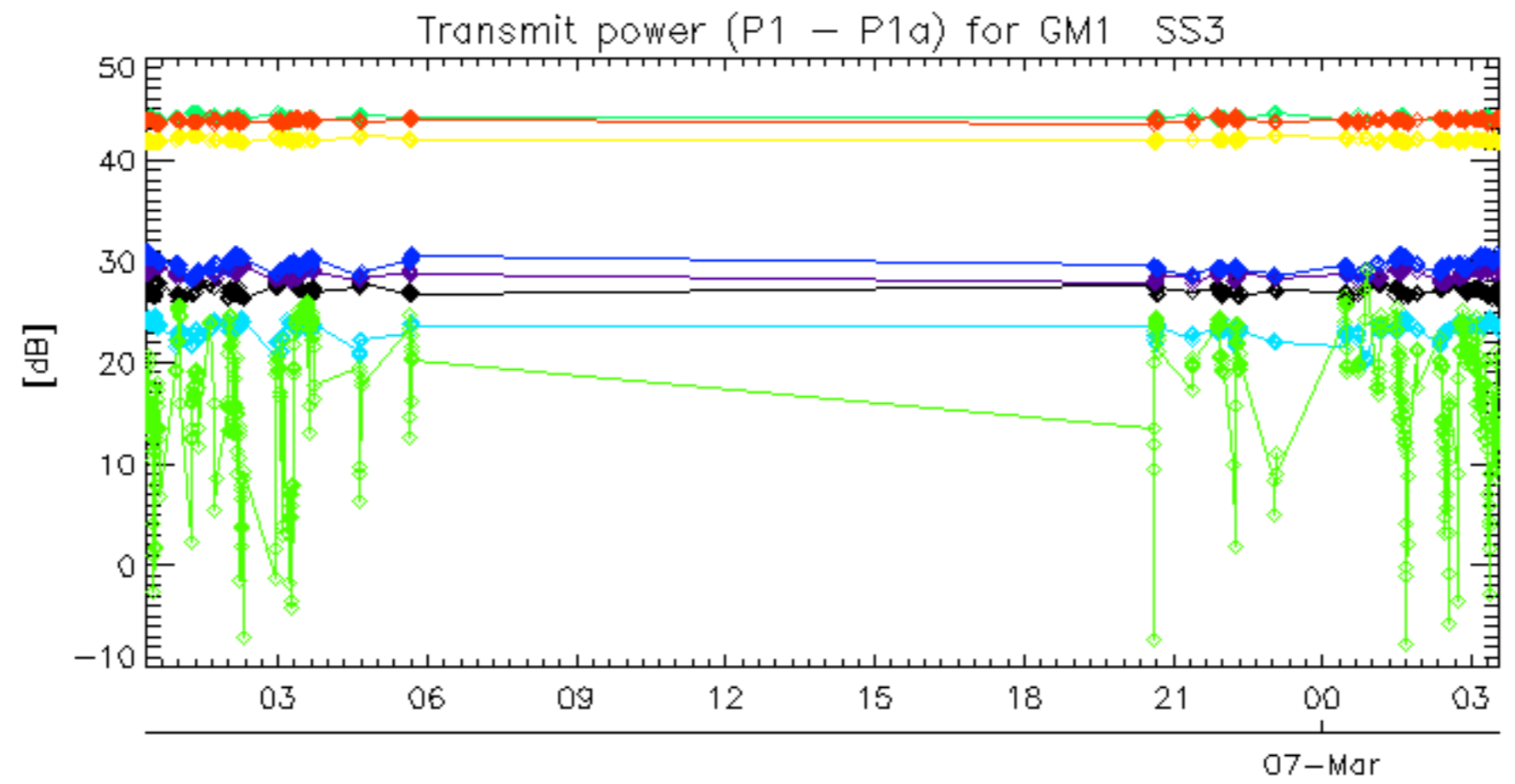






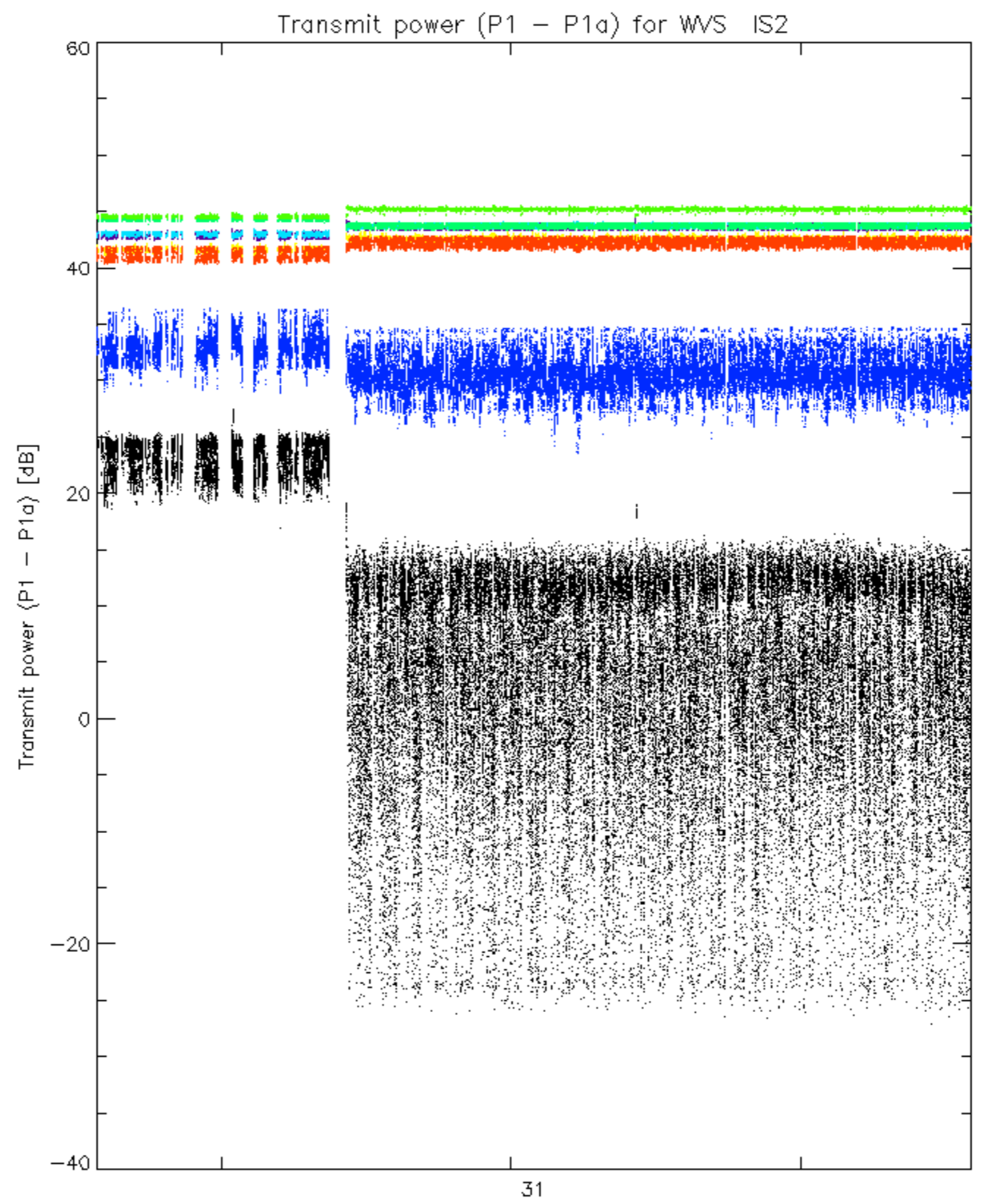


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

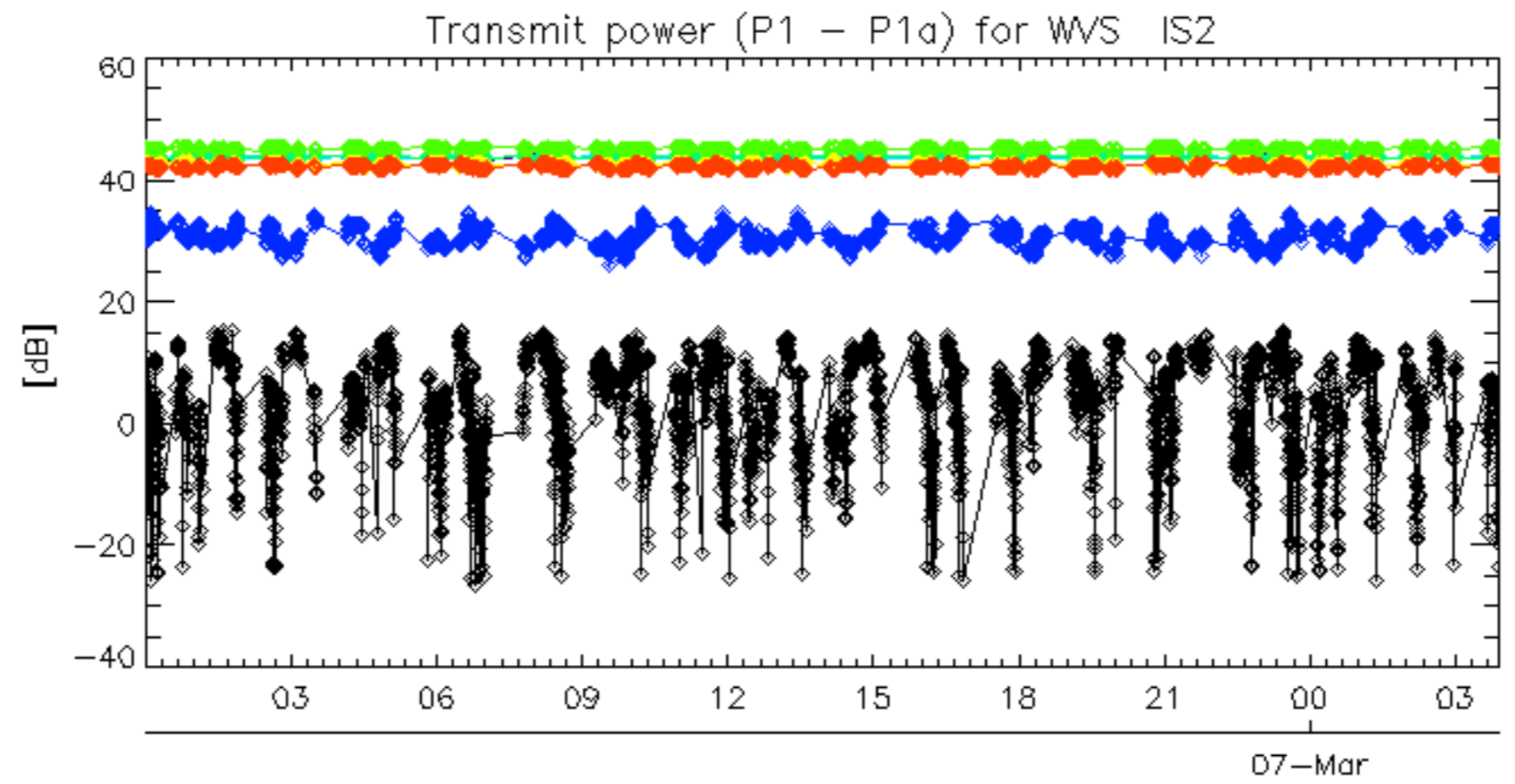


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30





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



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

No unavailabilities during the reported period.