

# PRELIMINARY REPORT OF 050412

last update on Tue Apr 12 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 2005-04-11 00:00:00 to 2005-04-12 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	28	44	5	4	3
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	28	44	5	4	3
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	28	44	5	4	3
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	28	44	5	4	3

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	22	34	6	12	7
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	22	34	6	12	7
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	22	34	6	12	7
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	22	34	6	12	7

## 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	20050411 054053
H	20050410 061230

### 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	-3.344980	0.013546	-0.003442
7	P1	-3.113820	0.009013	-0.028148
11	P1	-4.674570	0.031150	-0.001854
15	P1	-5.625114	0.040838	0.033290
19	P1	-3.697448	0.003925	-0.024552
22	P1	-4.534854	0.011545	-0.048075
26	P1	-4.922224	0.019074	0.033744
30	P1	-7.191148	0.020870	0.009501
3	P1	-15.832080	0.334463	0.083880
7	P1	-15.535178	0.078397	-0.023047
11	P1	-21.052345	0.457232	-0.277841
15	P1	-11.550765	0.052985	0.082789
19	P1	-14.314089	0.026501	-0.017780
22	P1	-15.715774	0.311099	-0.215861
26	P1	-17.634291	0.184279	-0.050658
30	P1	-17.946505	0.402291	0.075321

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.056410	0.081368	0.046111
7	P2	-22.234936	0.094969	0.072490
11	P2	-14.278834	0.109730	0.193322
15	P2	-7.050319	0.090780	-0.031457
19	P2	-9.637763	0.093455	-0.026217
22	P2	-16.890759	0.094704	0.036511
26	P2	-16.446720	0.092926	-0.028225
30	P2	-18.831322	0.085055	0.010517

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.164979	0.004671	-0.007834
7	P3	-8.164979	0.004671	-0.007834
11	P3	-8.164979	0.004671	-0.007834
15	P3	-8.164979	0.004671	-0.007834
19	P3	-8.164979	0.004671	-0.007834
22	P3	-8.164979	0.004671	-0.007834
26	P3	-8.164979	0.004671	-0.007834
30	P3	-8.164979	0.004671	-0.007834

#### 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	-2.717664	0.026188	-0.047140
7	P1	-3.014541	0.046824	0.022783
11	P1	-3.983496	0.026955	-0.014146
15	P1	-3.549817	0.035449	-0.017263
19	P1	-3.606936	0.013826	-0.029204
22	P1	-5.723633	0.039205	0.034270
26	P1	-7.297622	0.026248	-0.024371
30	P1	-6.257876	0.057504	-0.090634
3	P1	-10.708216	0.166478	-0.058051
7	P1	-10.341965	0.176043	0.003328
11	P1	-12.534972	0.137368	-0.055122
15	P1	-11.720566	0.102010	0.001984
19	P1	-15.579763	0.049624	-0.065528
22	P1	-24.704159	1.396821	-0.345790
26	P1	-15.522742	0.220479	-0.076400
30	P1	-20.161770	1.219508	0.218727

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.755859	0.038917	0.045293
7	P2	-22.317314	0.044007	0.050510
11	P2	-10.100665	0.058243	0.068049
15	P2	-5.003484	0.030927	-0.071477
19	P2	-6.844345	0.046202	-0.056246
22	P2	-7.078739	0.037638	-0.009064
26	P2	-23.856796	0.035529	-0.041330
30	P2	-21.894463	0.040959	-0.028662

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.999634	0.003379	-0.015150
7	P3	-7.999738	0.003375	-0.015015
11	P3	-7.999674	0.003379	-0.015182
15	P3	-7.999599	0.003374	-0.015036
19	P3	-7.999734	0.003387	-0.015512
22	P3	-7.999721	0.003371	-0.015146
26	P3	-7.999698	0.003375	-0.015266
30	P3	-7.999638	0.003382	-0.015568

## 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	0.000468243
	stdev	2.21835e-07
MEAN Q	mean	0.000482576
	stdev	2.35036e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.128929
	stdev	0.00105242
STDEV Q	mean	0.129190
	stdev	0.00106414



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005041[012]

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_WVS_1PNPDE20050410_231921_000000002036_00187_16273_8167.N1	1	0
ASA_WVS_1PNPDE20050412_020541_000002702036_00203_16289_8174.N1	0	16
ASA_GM1_1PNPDE20050411_201027_000001142036_00200_16286_5106.N1	0	28
ASA_GM1_1PNPDE20050411_211942_000003922036_00201_16287_5118.N1	0	24
ASA_GM1_1PNPDE20050411_213733_000006942036_00201_16287_5115.N1	0	22
ASA_GM1_1PNPDE20050411_230143_000003022036_00202_16288_5137.N1	0	6
ASA_GM1_1PNPDE20050411_235428_000003982036_00202_16288_5136.N1	0	6
ASA_GM1_1PNPDE20050412_013637_000001632036_00203_16289_5147.N1	0	37
ASA_GM1_1PNPDE20050412_021543_000005072036_00203_16289_5155.N1	0	159

ASA_GM1_1PNPDE20050412_023446_00000962036_00204_16290_5164.N1	0	22
ASA_GM1_1PNPDE20050412_023911_000001632036_00204_16290_5161.N1	0	45
ASA_GM1_1PNPDE20050412_024313_000006282036_00204_16290_5153.N1	0	93
ASA_GM1_1PNPDE20050412_025758_000002412036_00204_16290_5160.N1	0	86
ASA_GM1_1PNPDE20050412_030611_000001382036_00204_16290_5162.N1	0	32
ASA_GM1_1PNPDK20050410_161611_000003442036_00183_16269_7778.N1	0	7
ASA_WSM_1PNPDE20050410_183358_000002732036_00185_16271_6237.N1	0	42





## 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****7.4 - Unbiased Doppler Error for GM1****Evolution of unbiased Doppler error (Real - Expected)**

Acsending

Descending

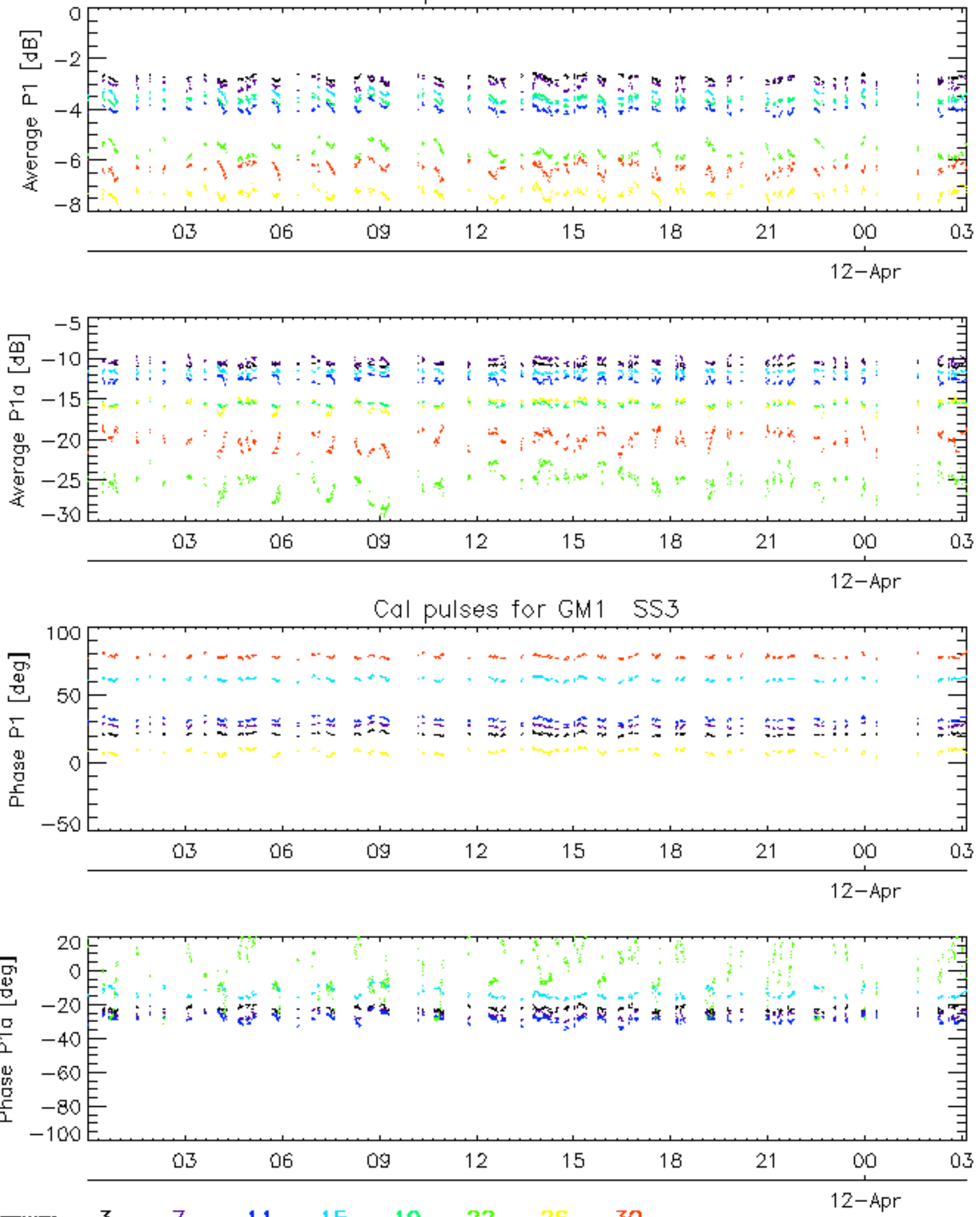
**7.5 - Absolute Doppler for GM1****Evolution of Absolute Doppler**

Acsending

Descending

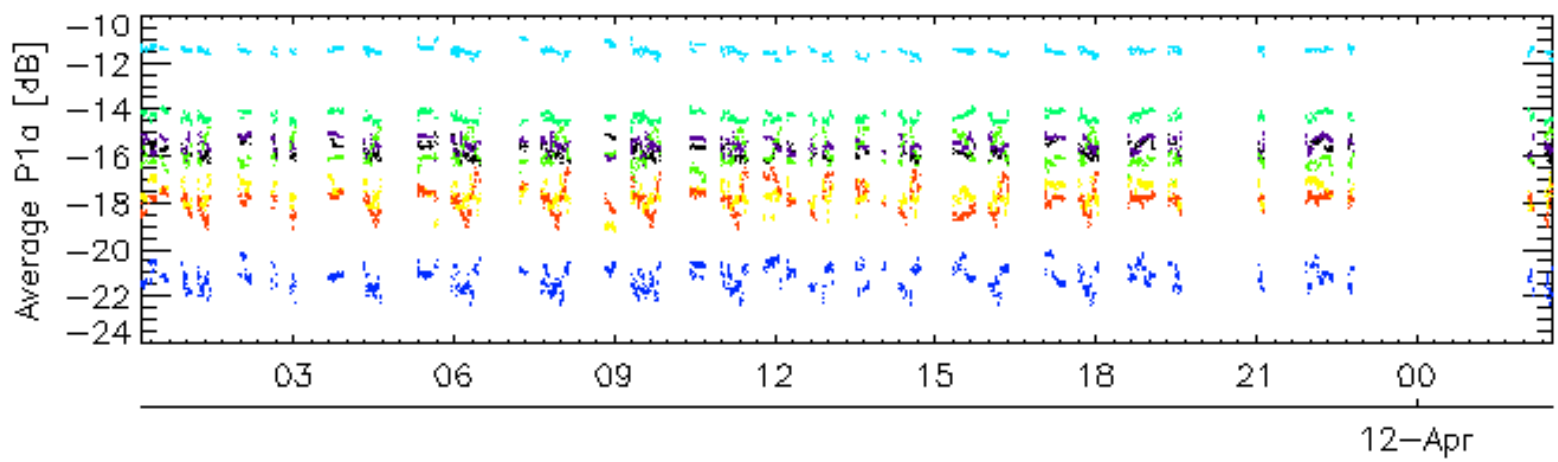
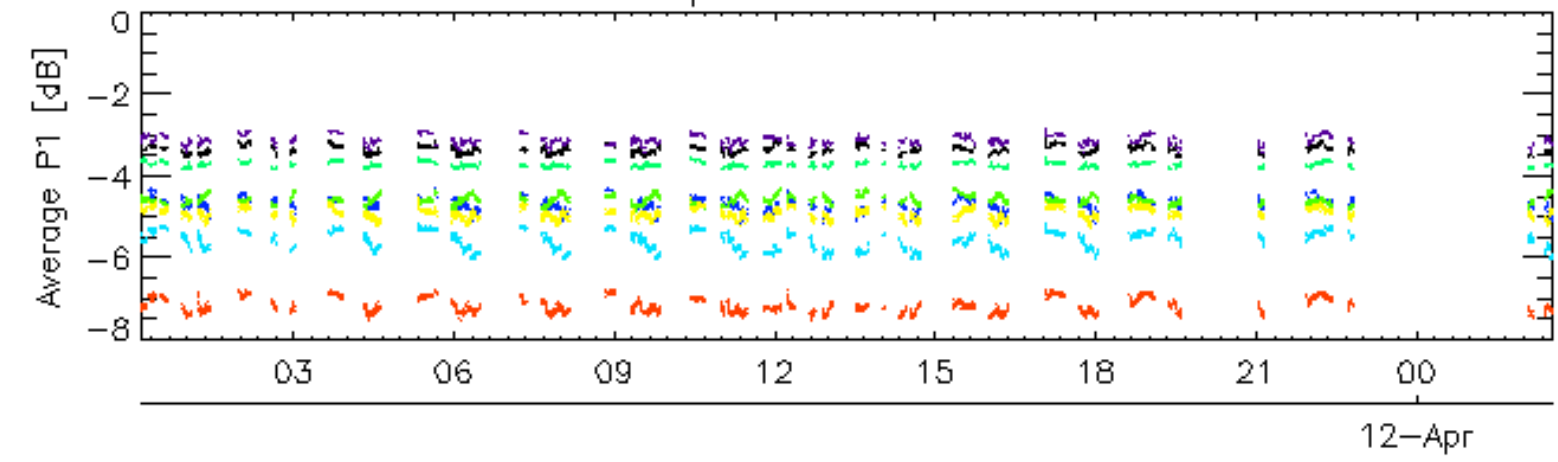
**7.6 - Doppler evolution versus ANX for GM1****Evolution Doppler error versus ANX**

Cal pulses for GM1 SS3

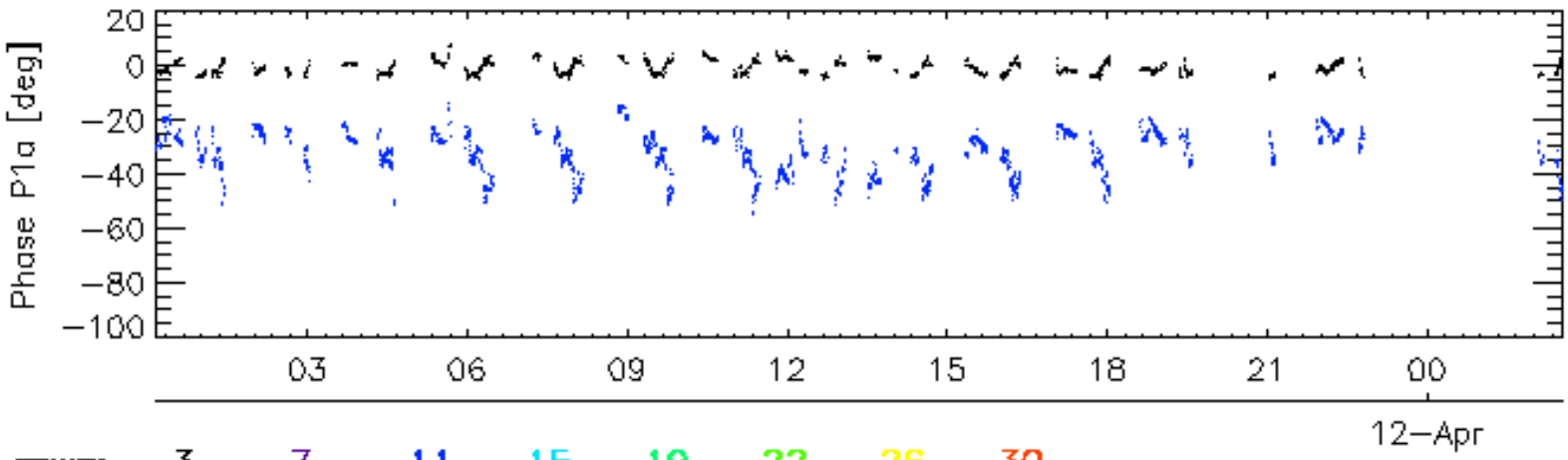
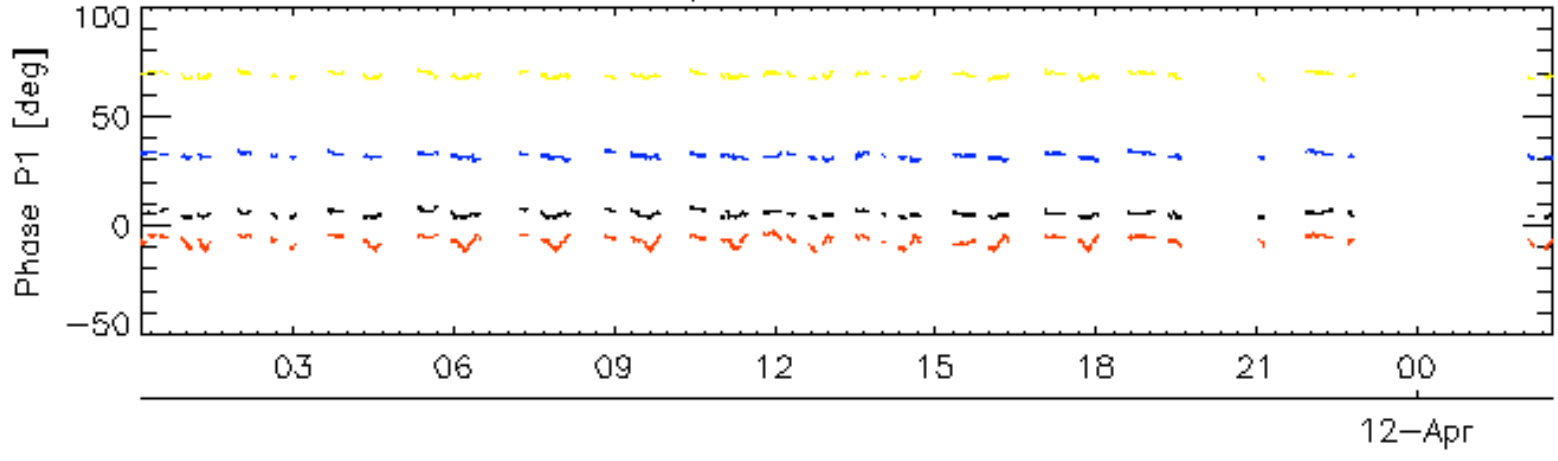


rows: 3 7 11 15 19 22 26 30

Cal pulses for WVS IS2

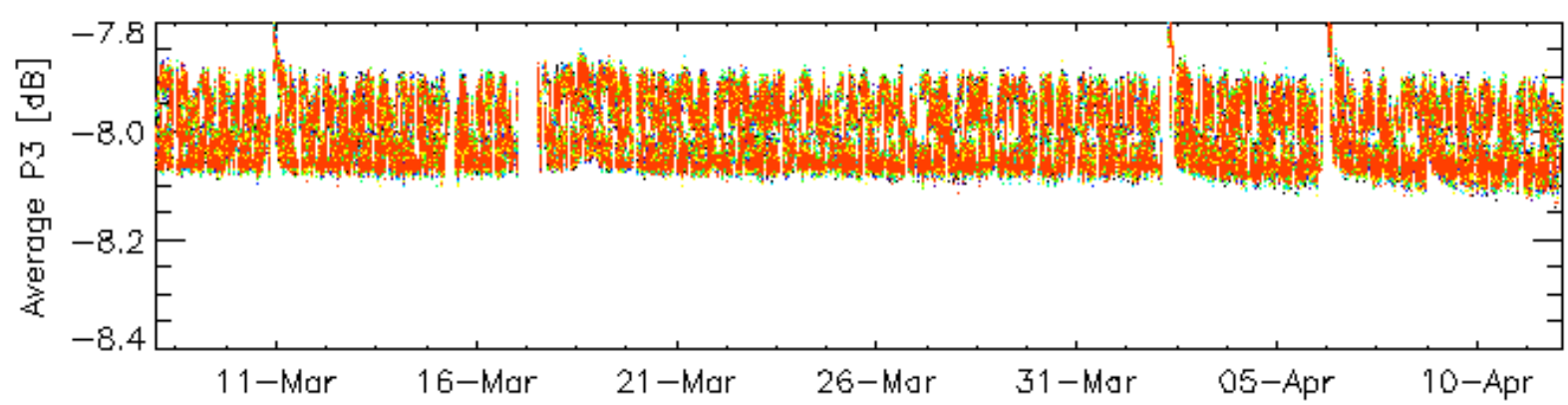
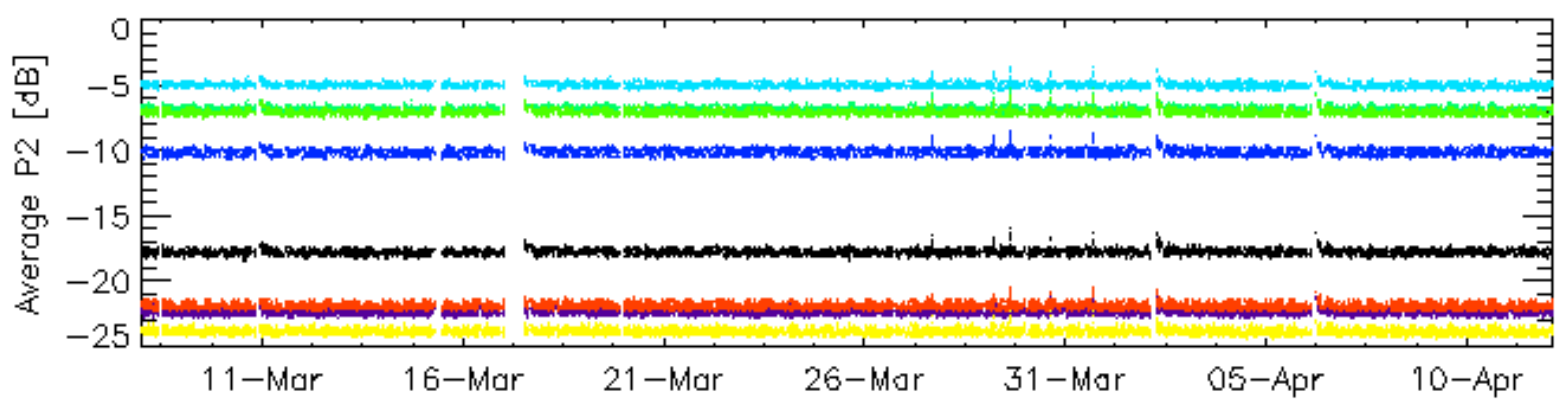
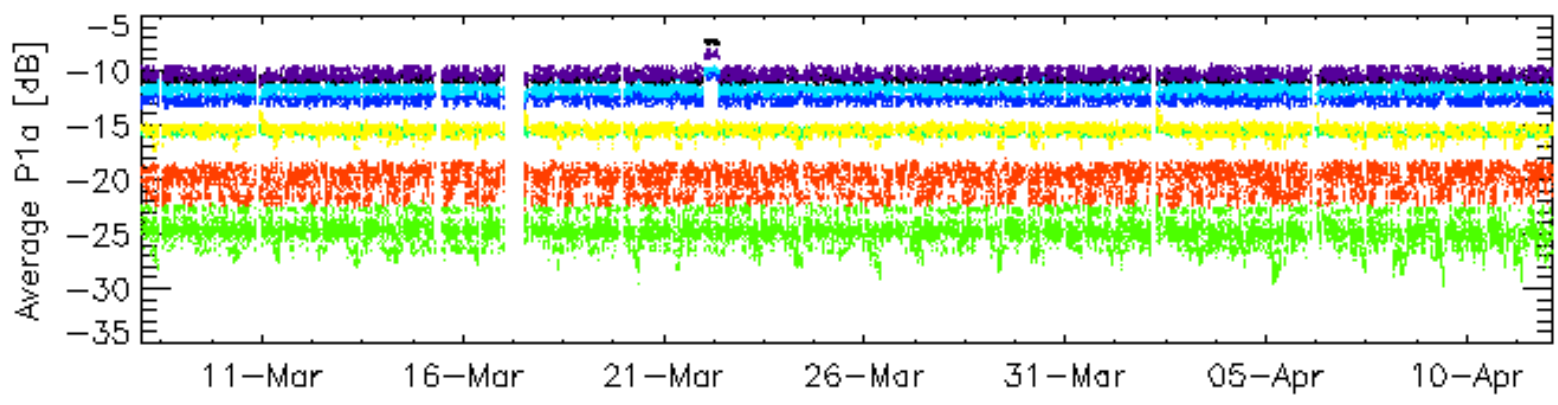
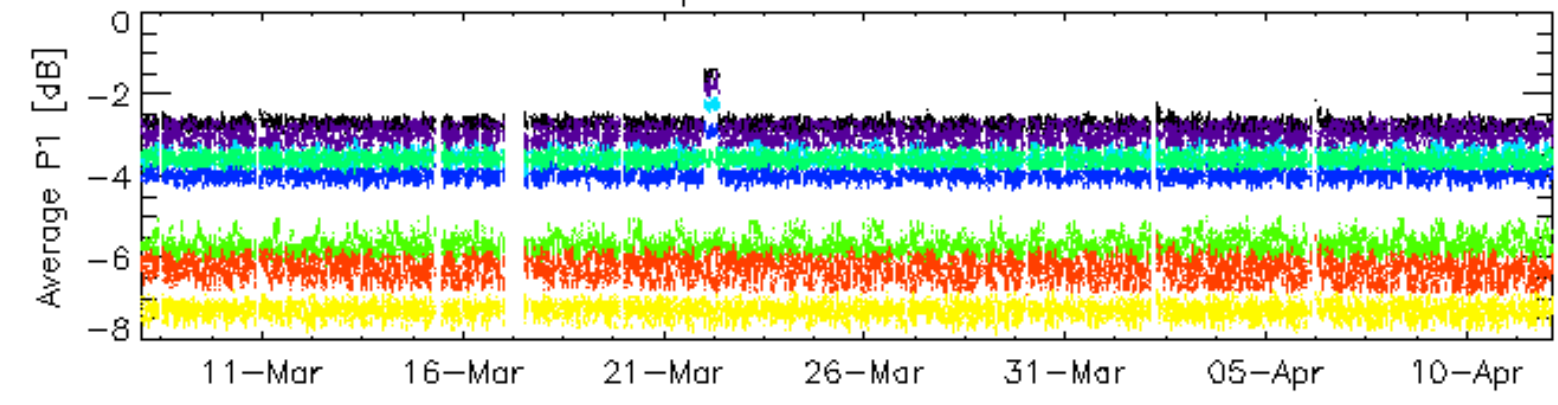


Cal pulses for WVS IS2



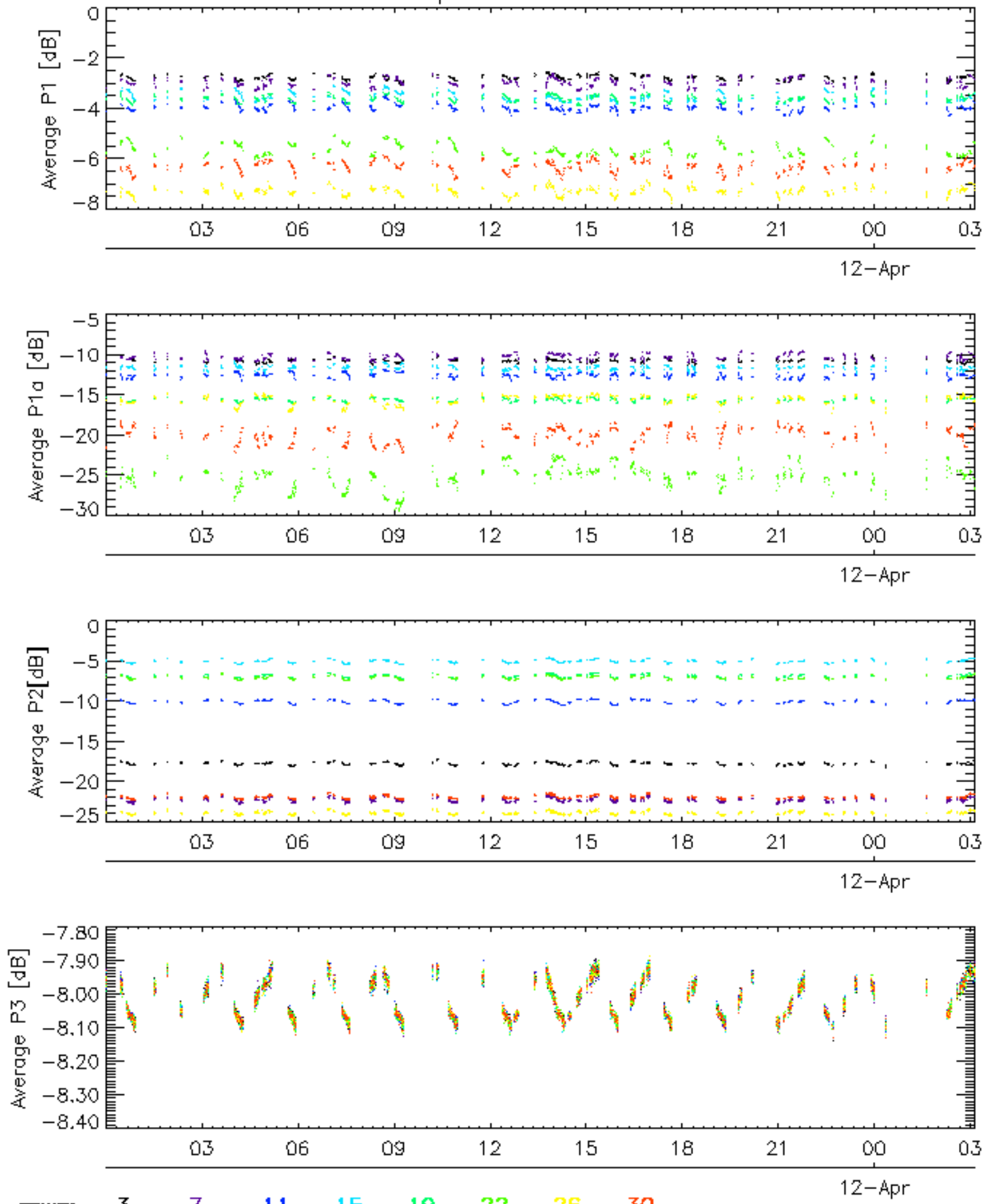
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

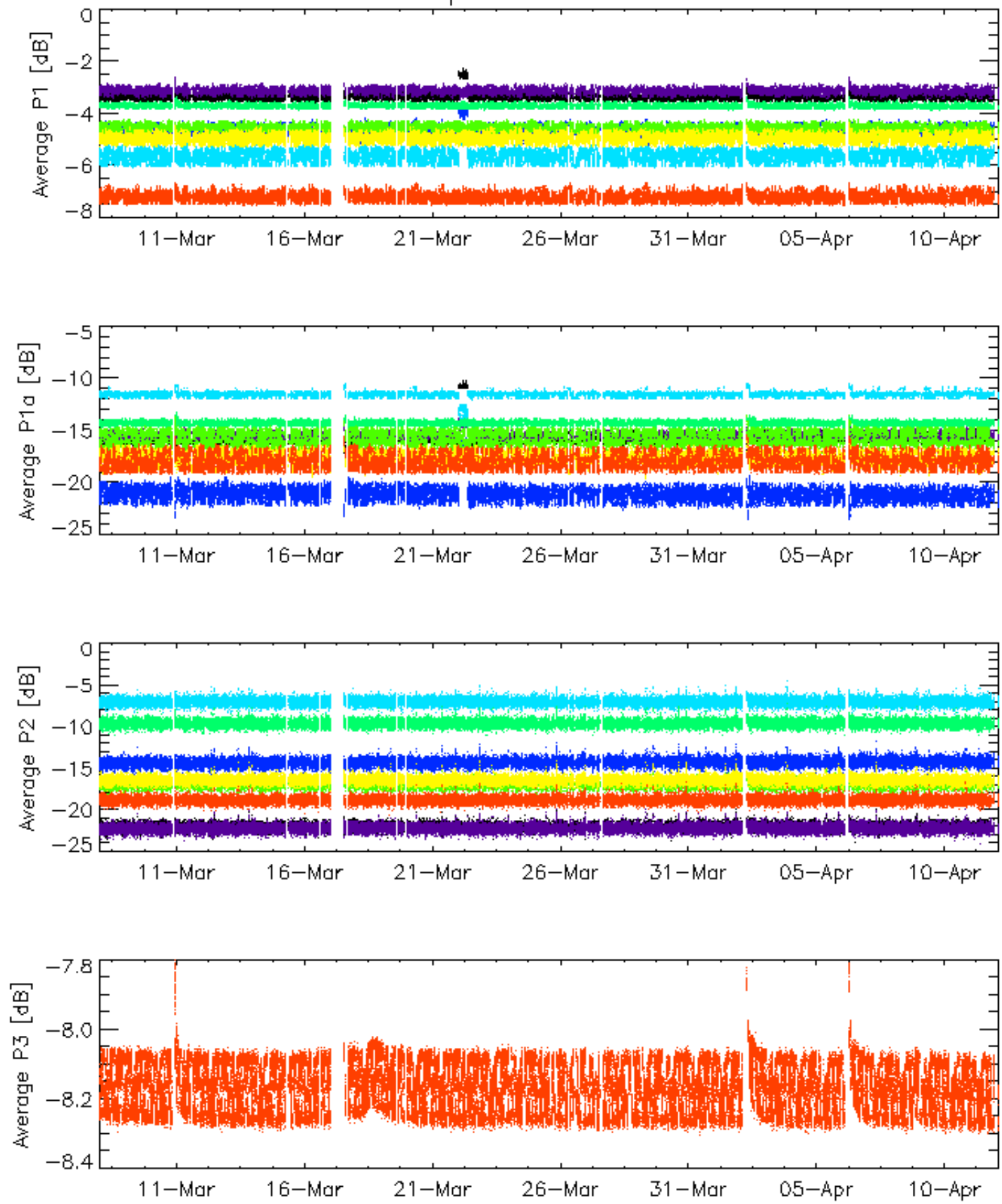


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3



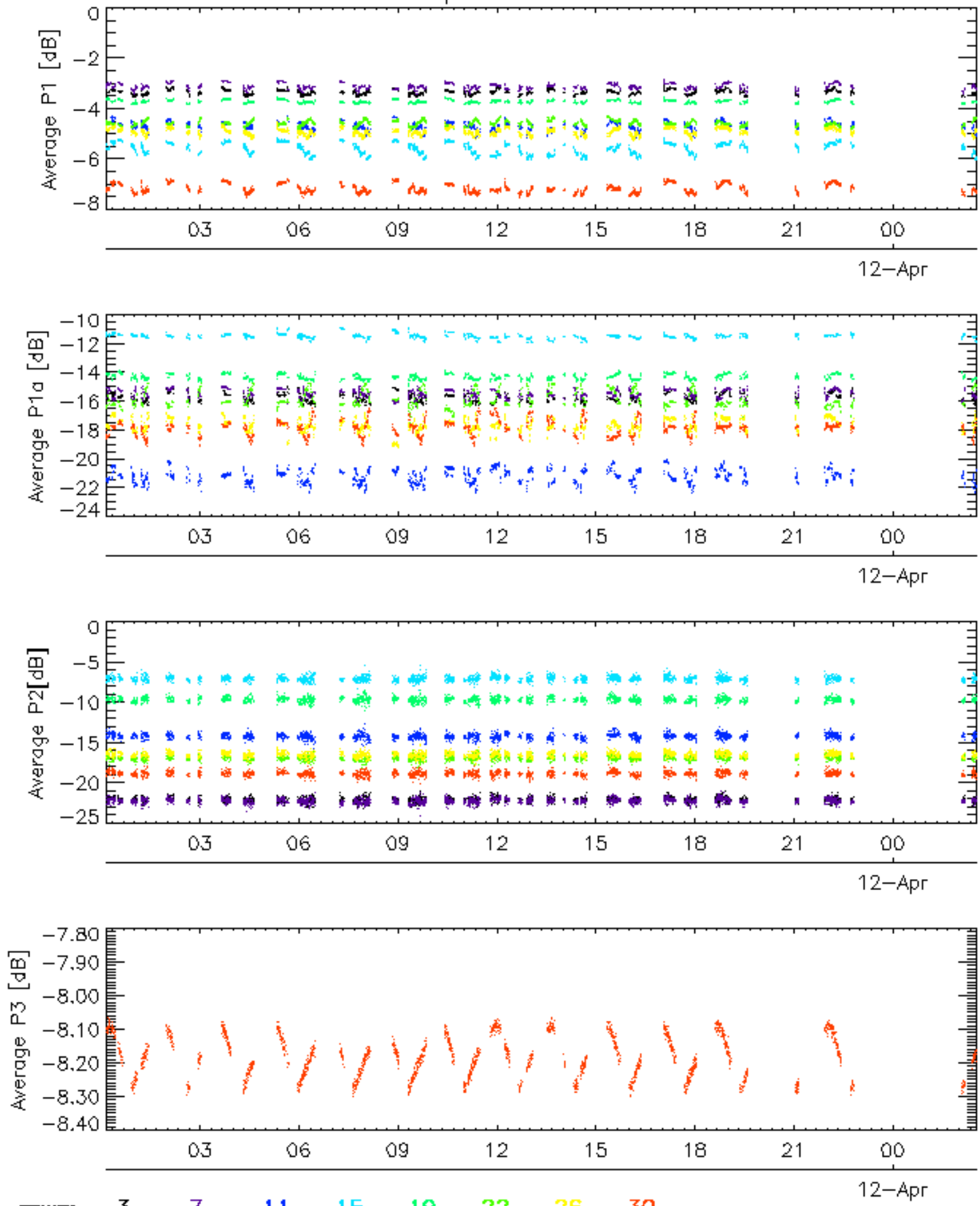
Cal pulses for WVS IS2



rows: 3 7 11 15 19 22 26 30



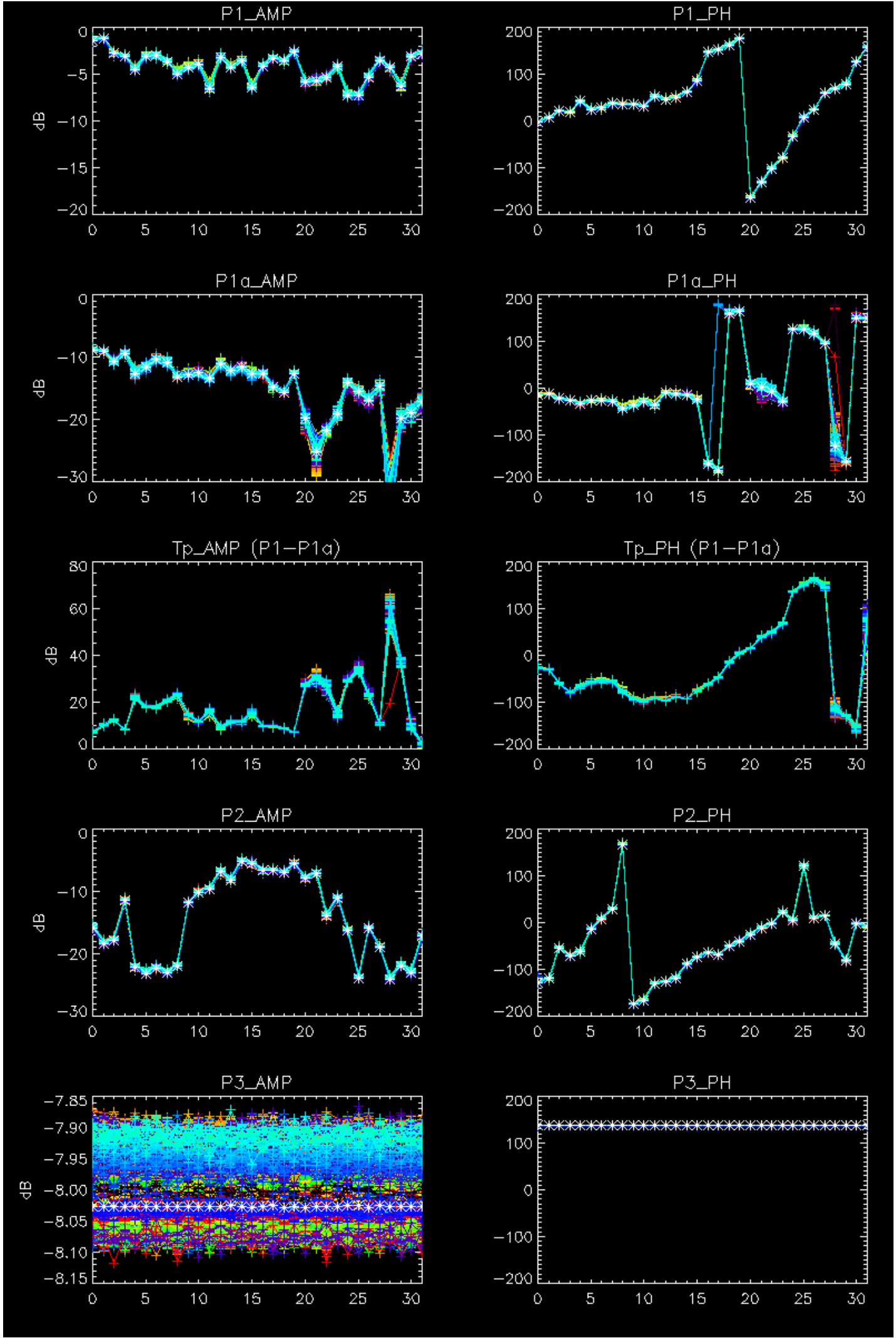
Cal pulses for WVS IS2

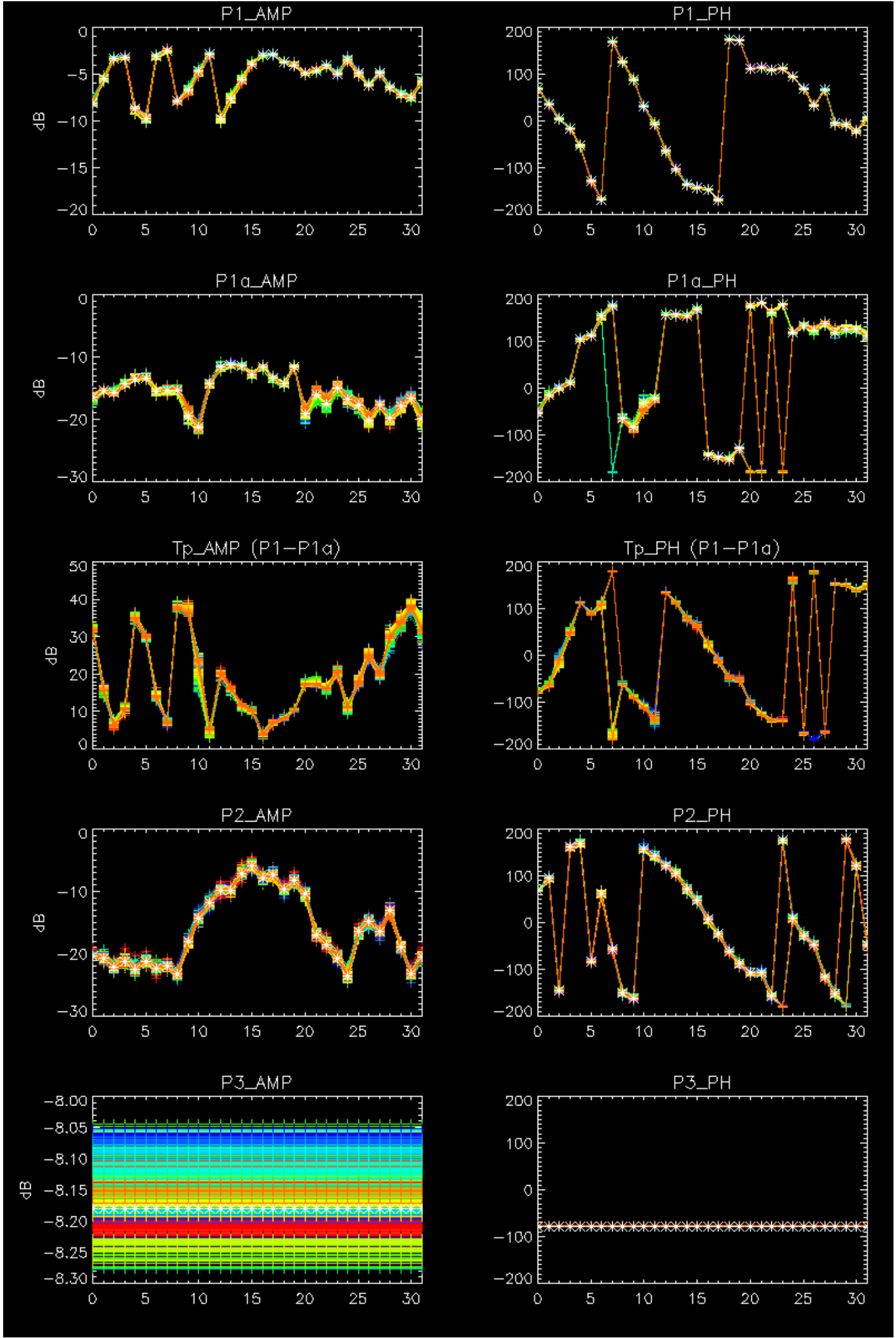


rows: **3** **7** **11** **15** **19** **22** **26** **30**

No anomalies observed.





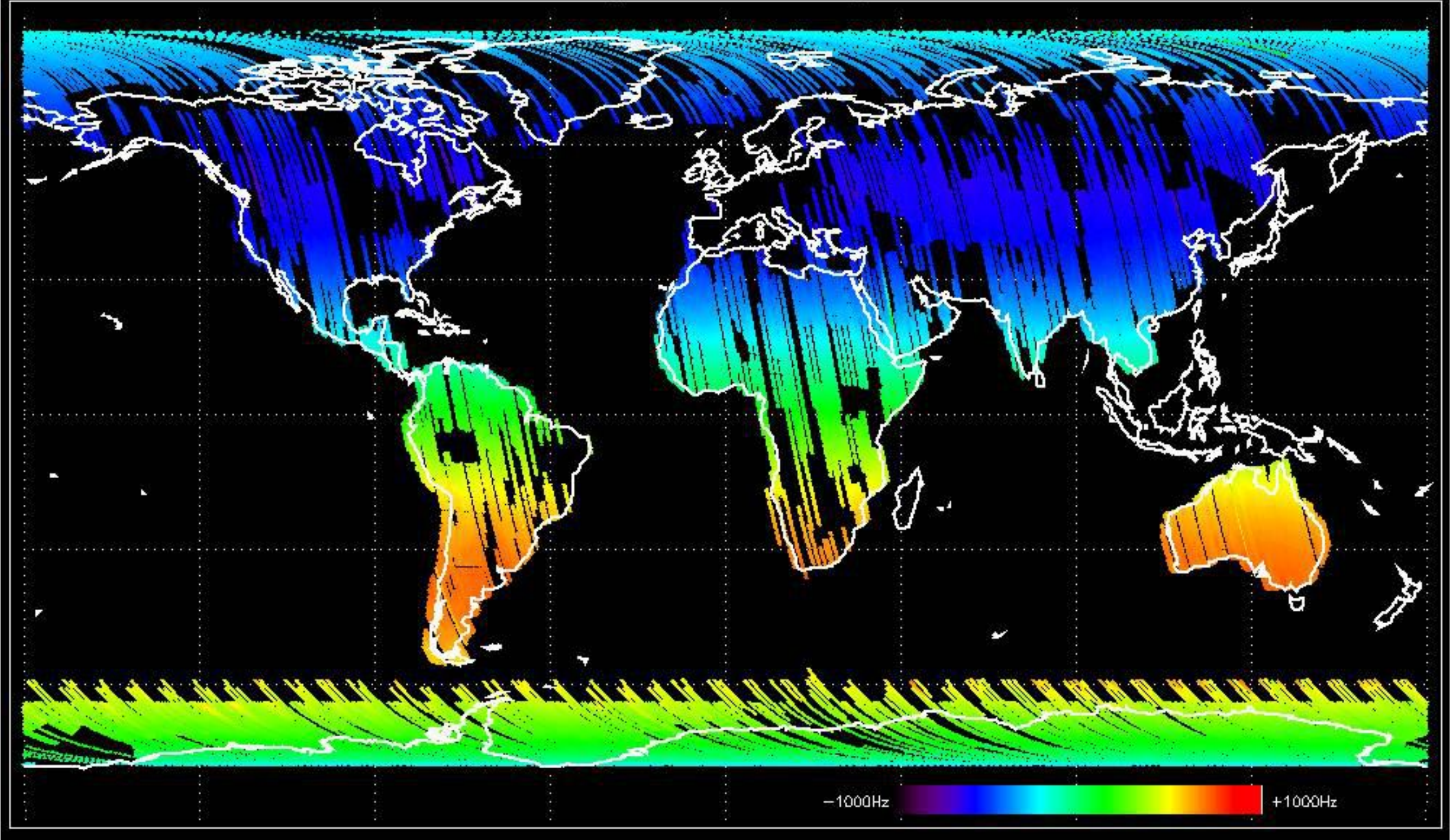


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



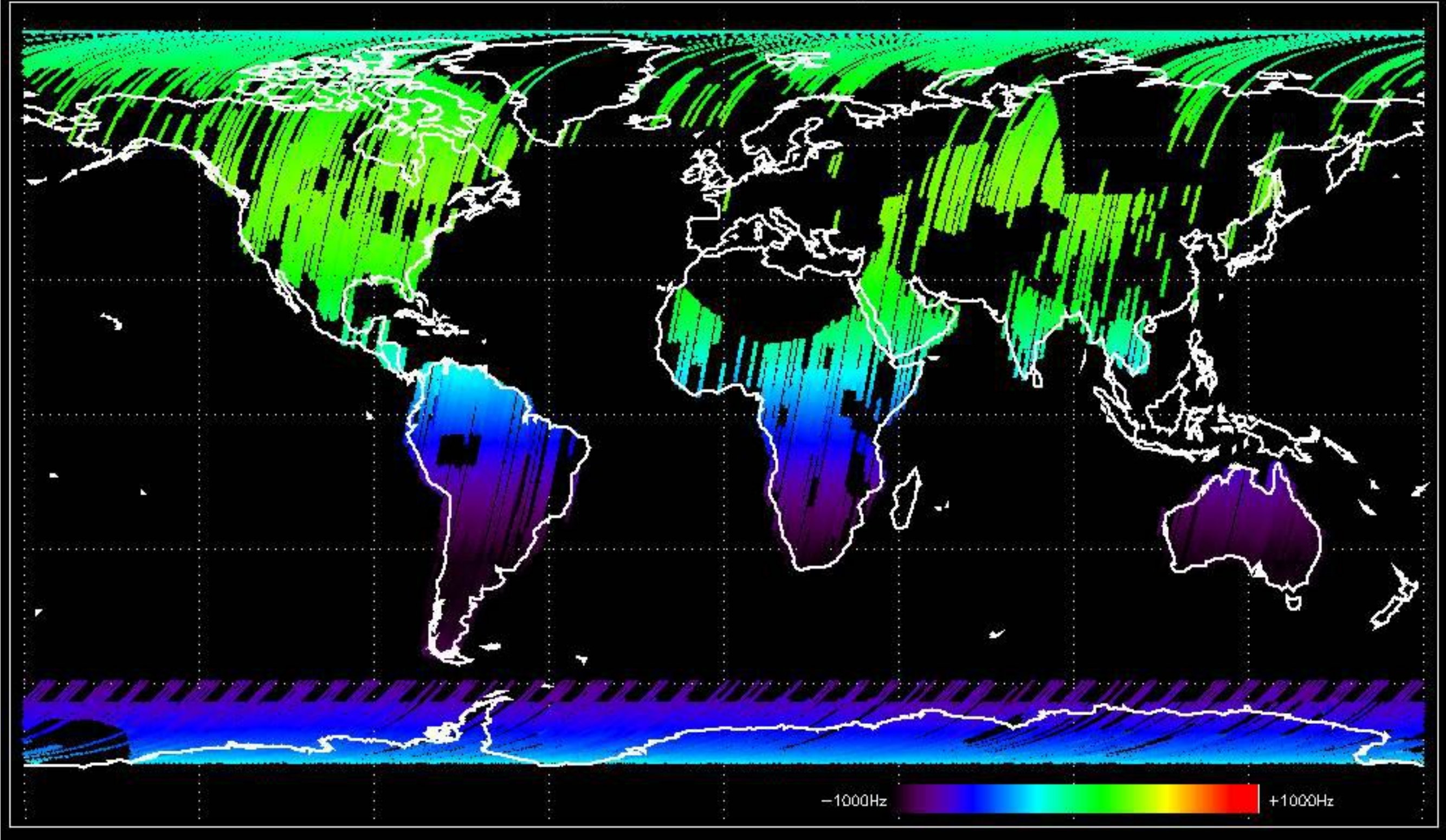


Doppler 'GM1' 'SS1' ascending



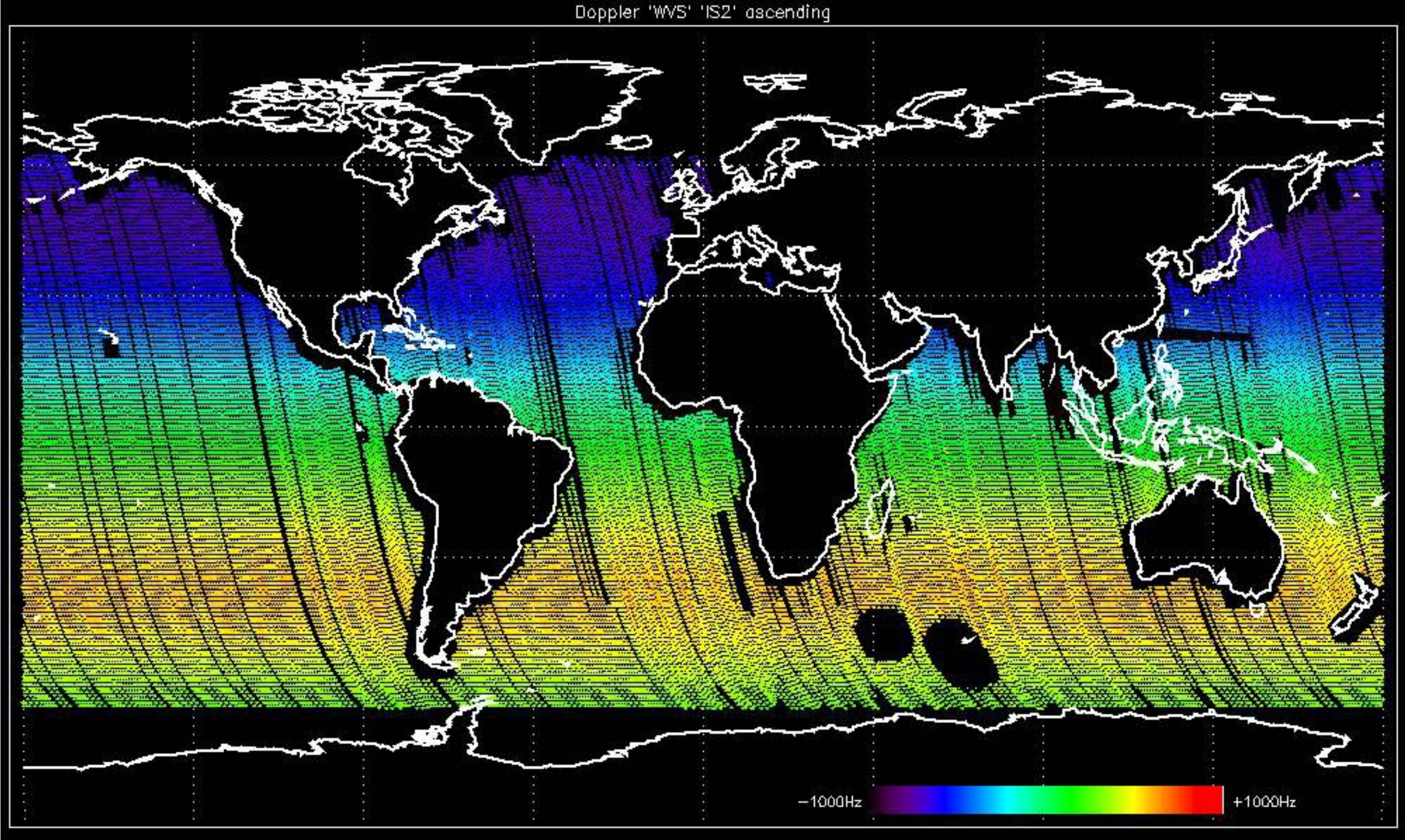


Doppler 'GM1' 'SS1' descending



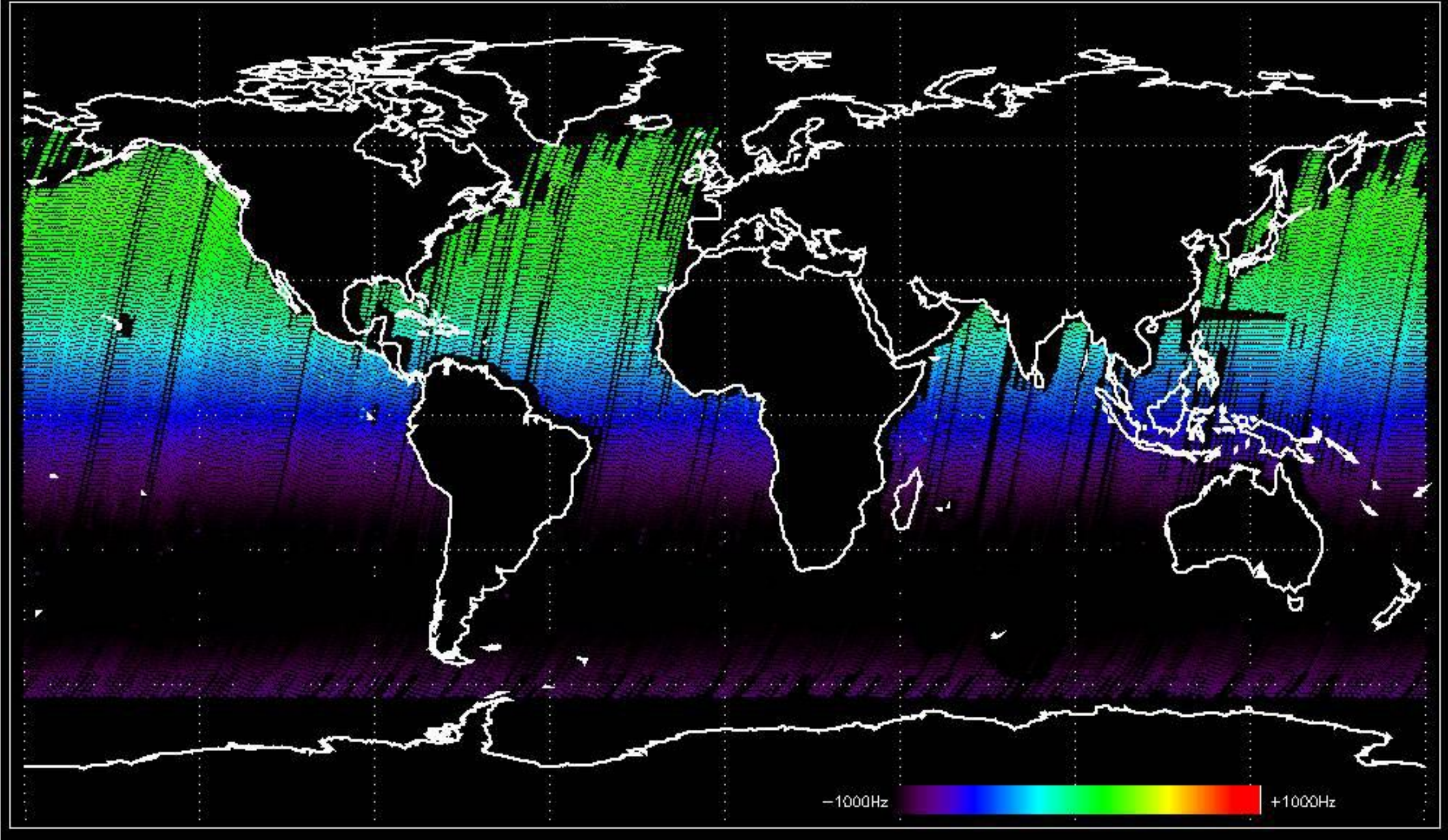


Doppler 'WVS' 'IS2' ascending



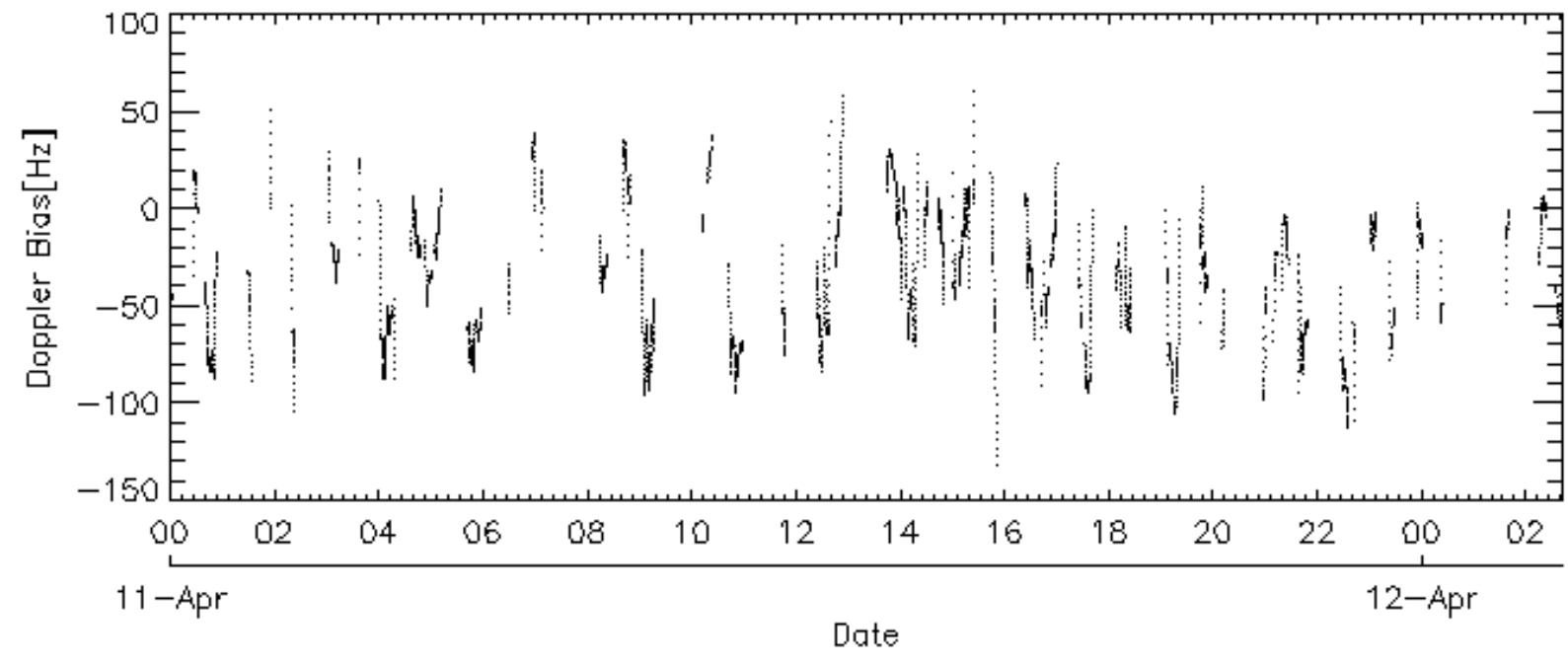
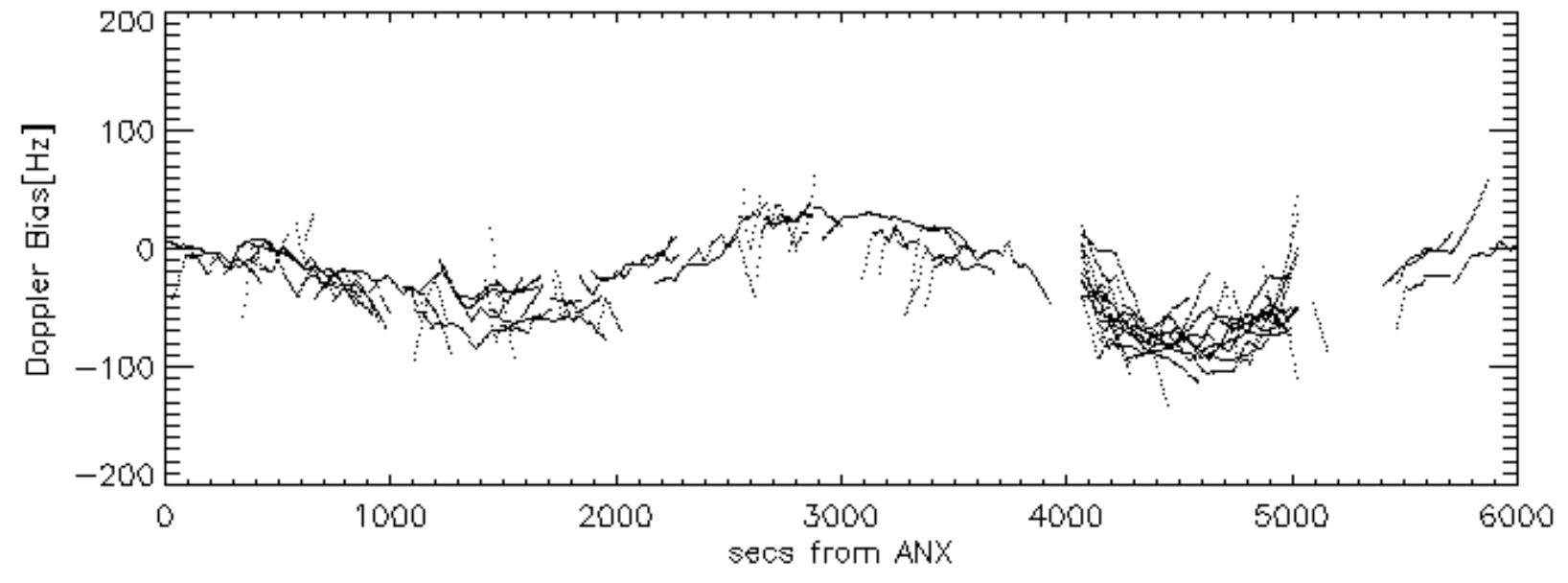
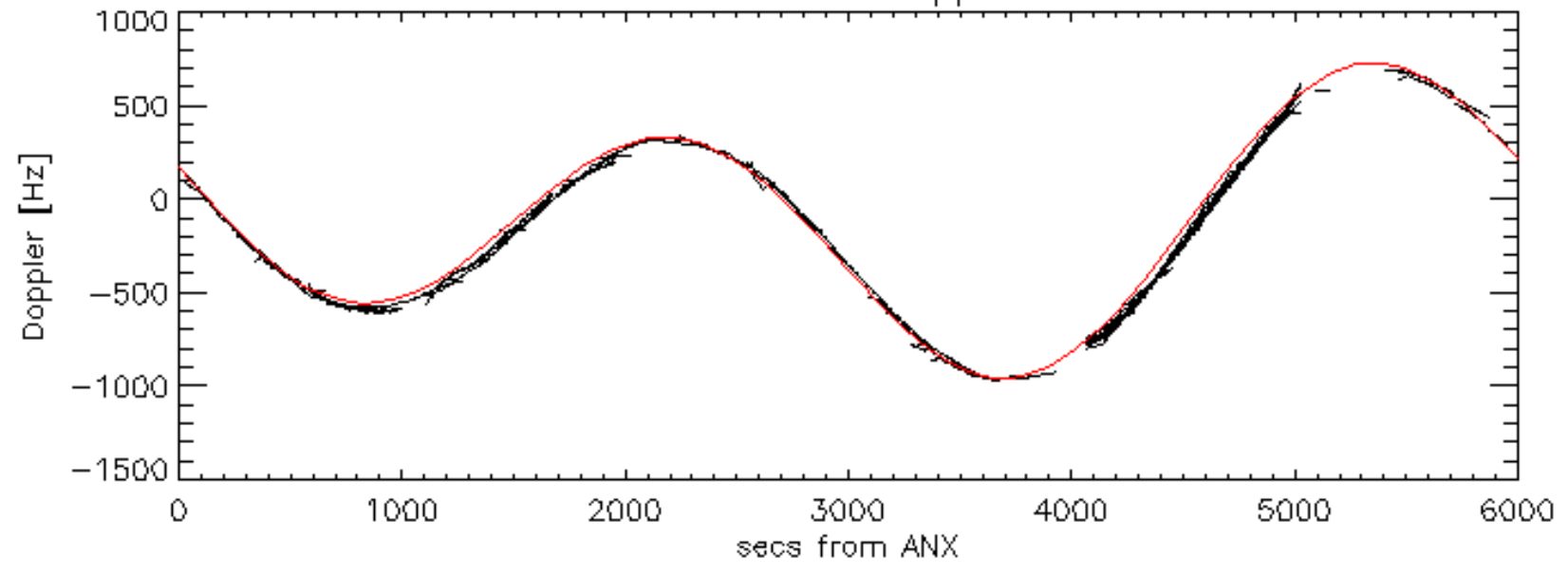


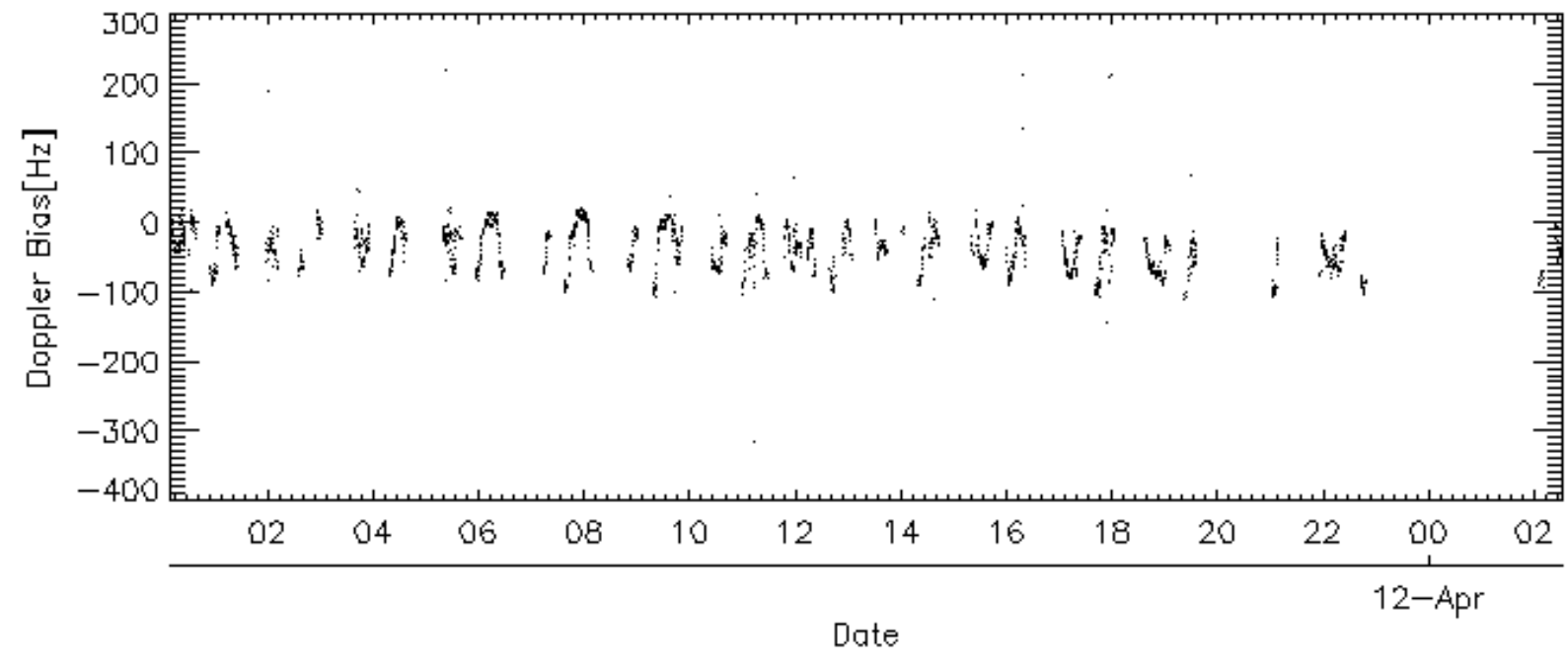
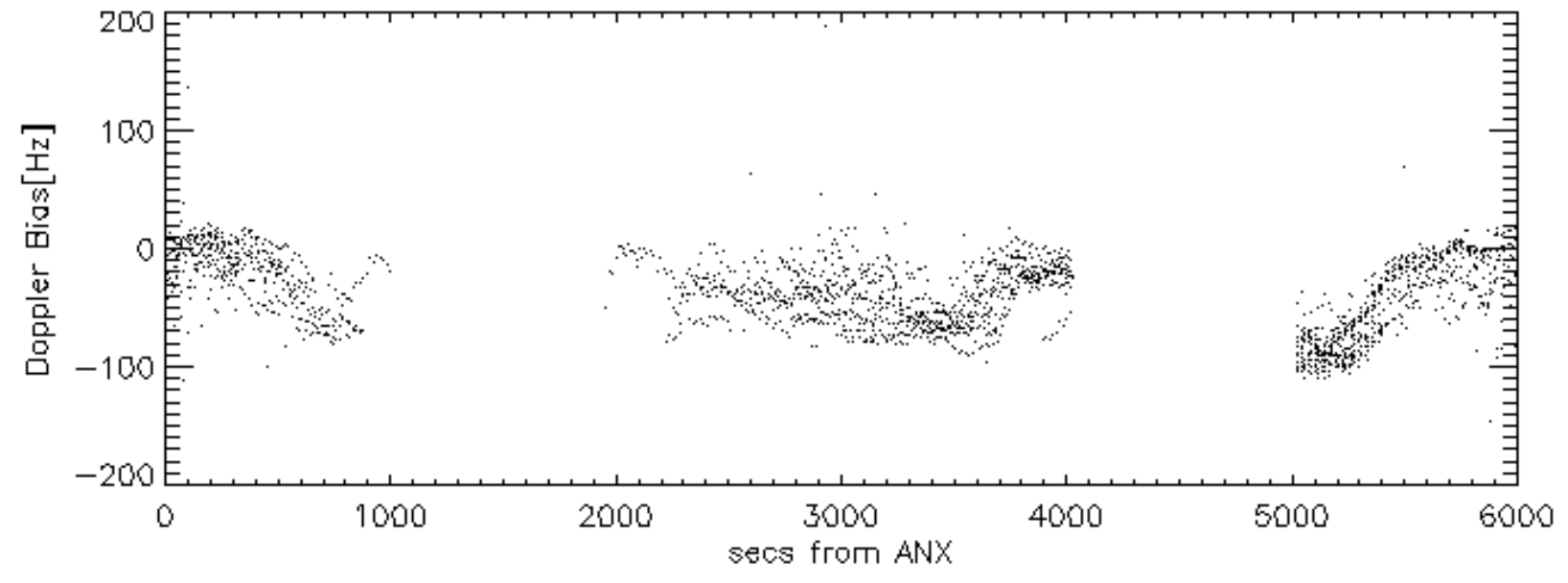
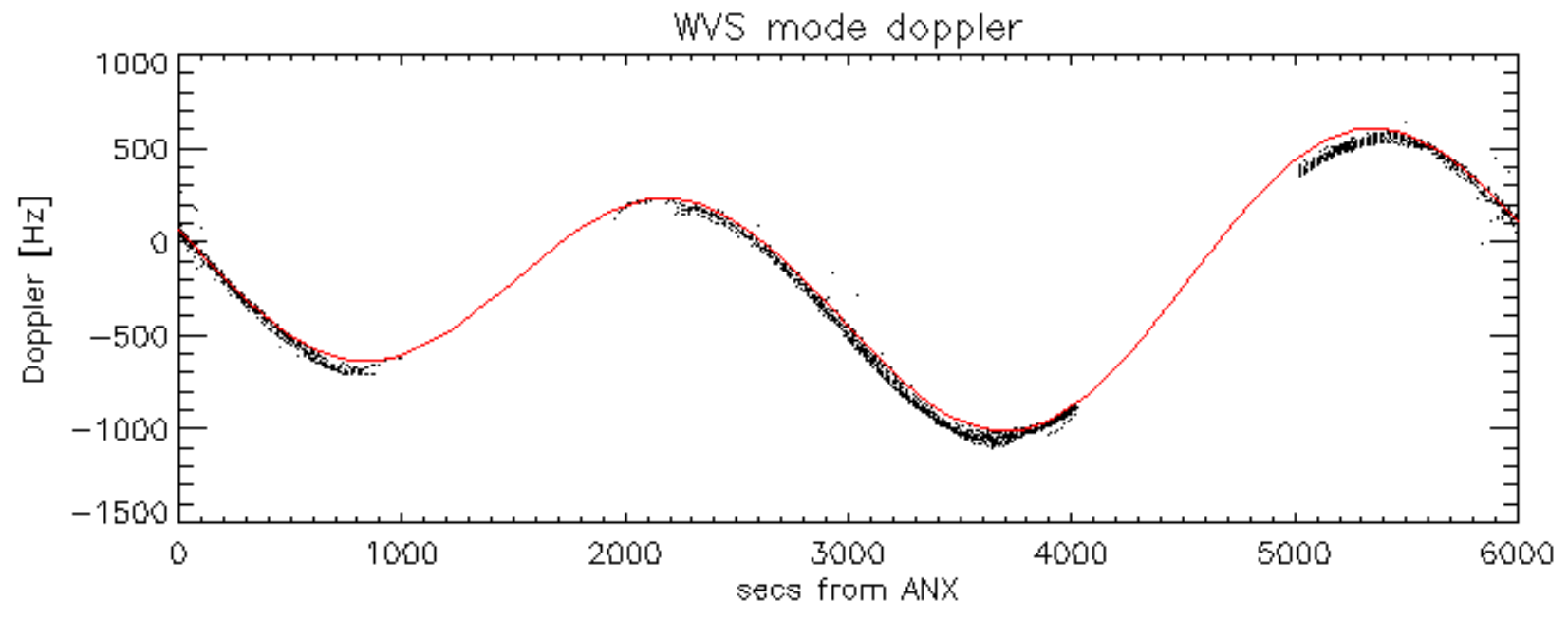
Doppler 'WVS' 'IS2' descending





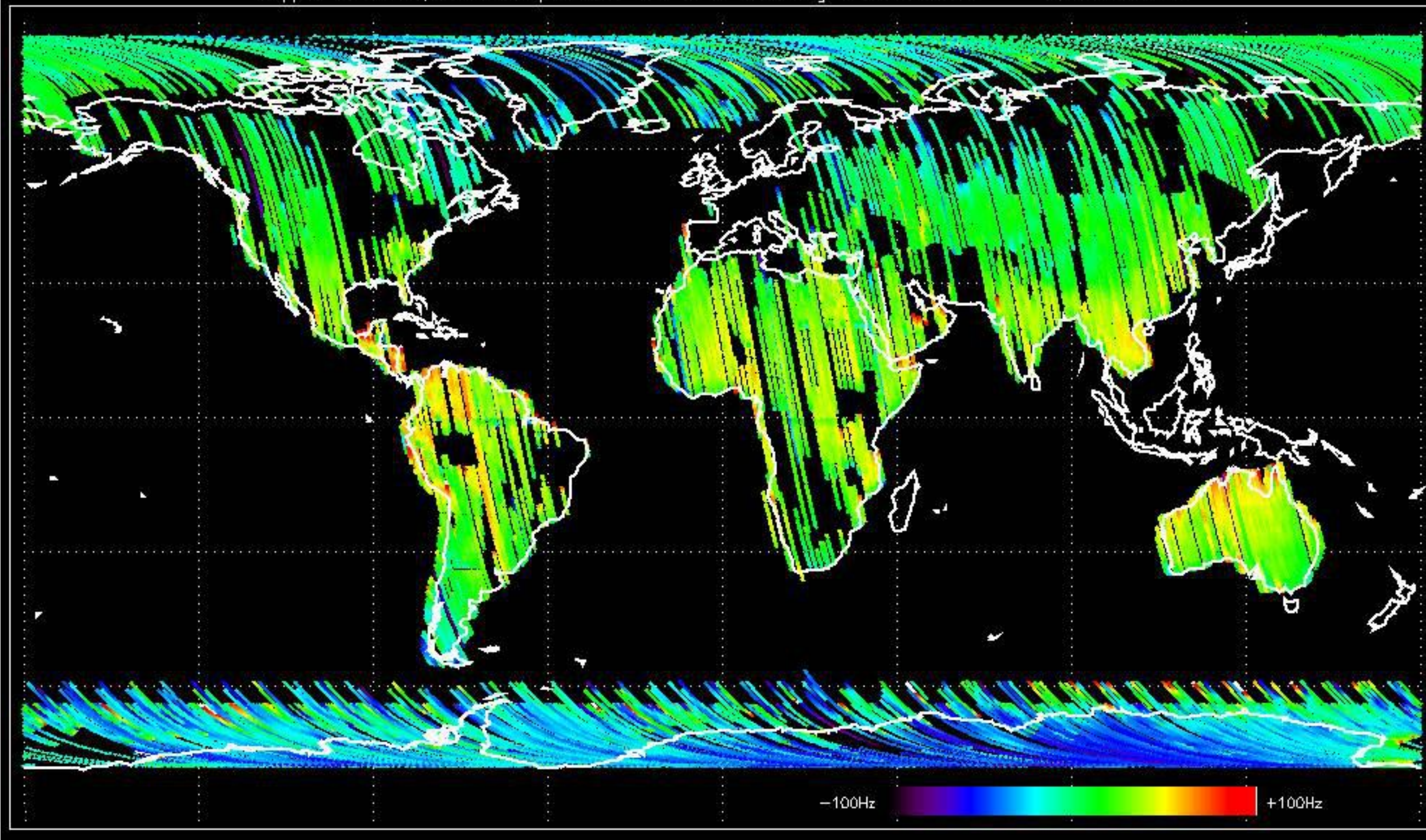
GM1 mode doppler





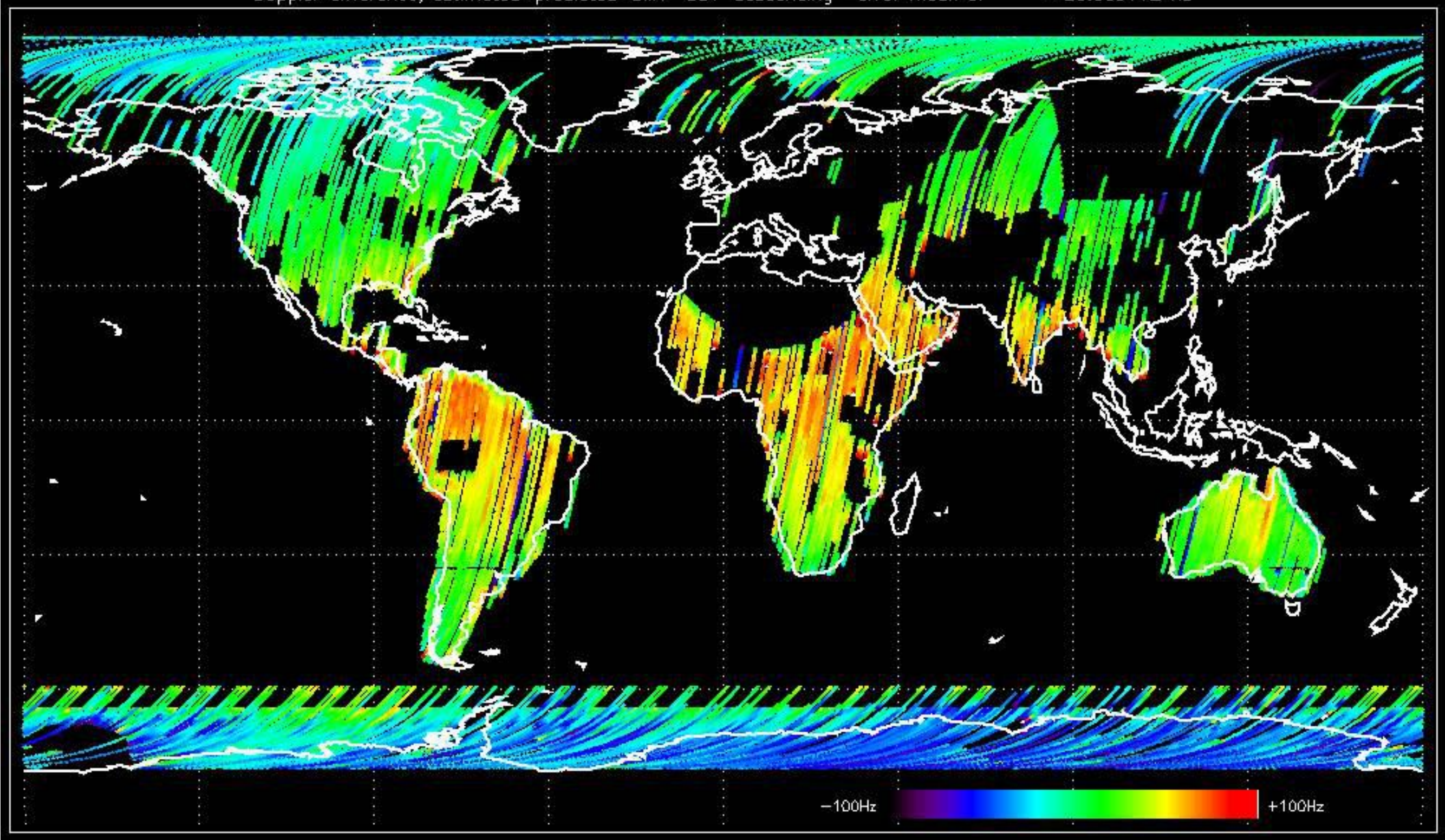


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -35.557460 Hz



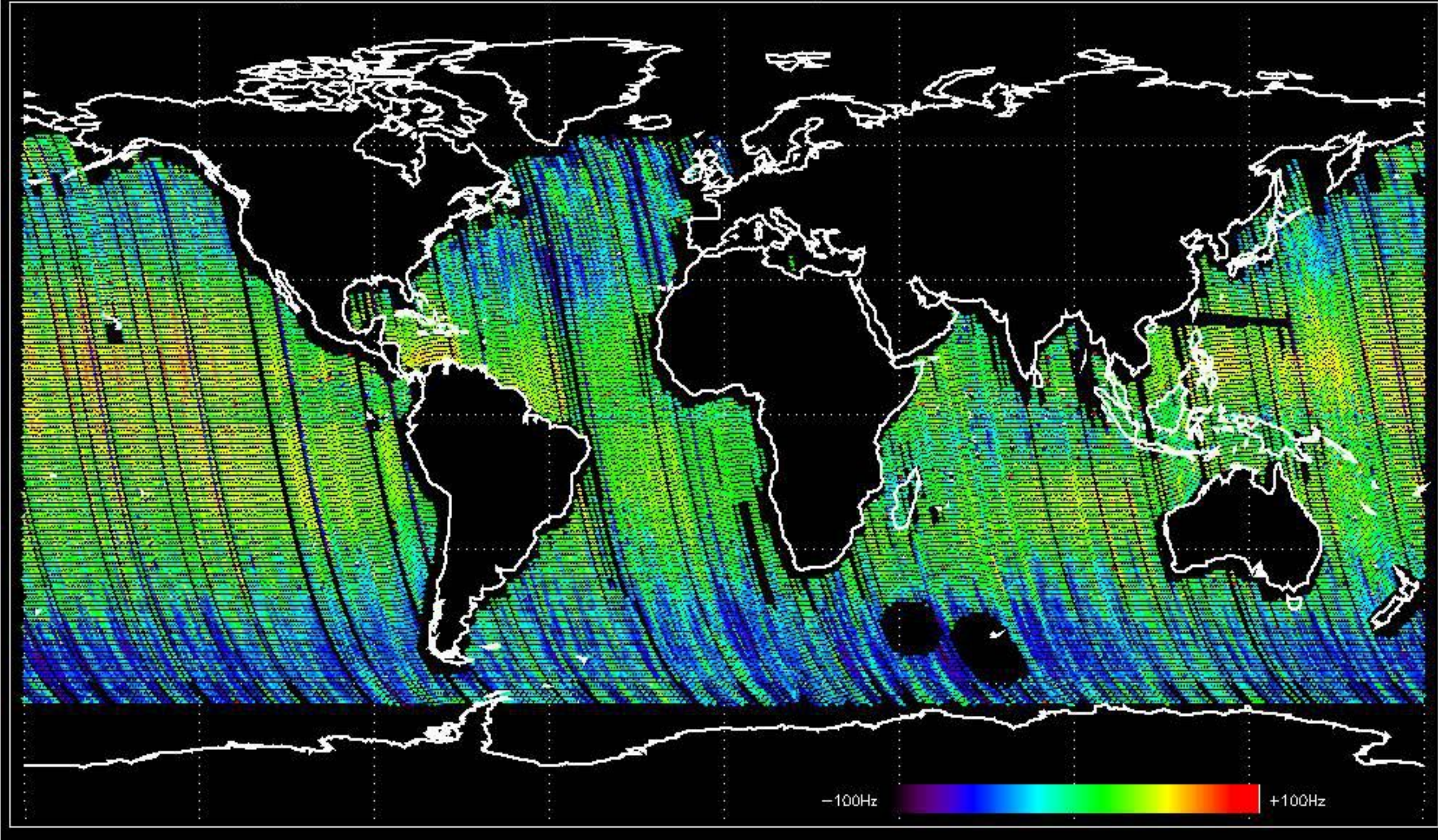


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -29.009112 Hz



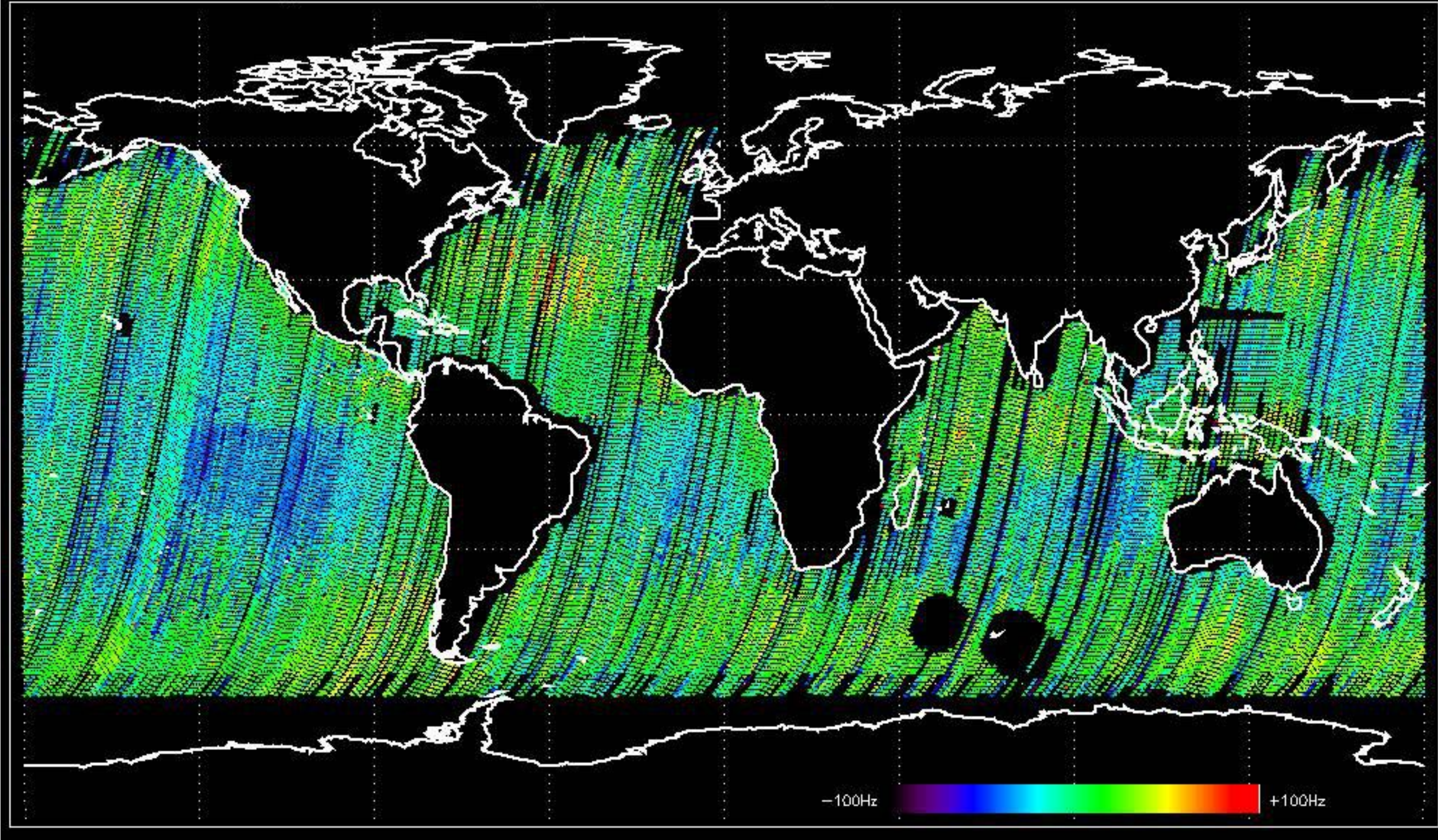


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -38.393042 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -37.668332 Hz





No anomalies observed on available MS products:

No anomalies observed.











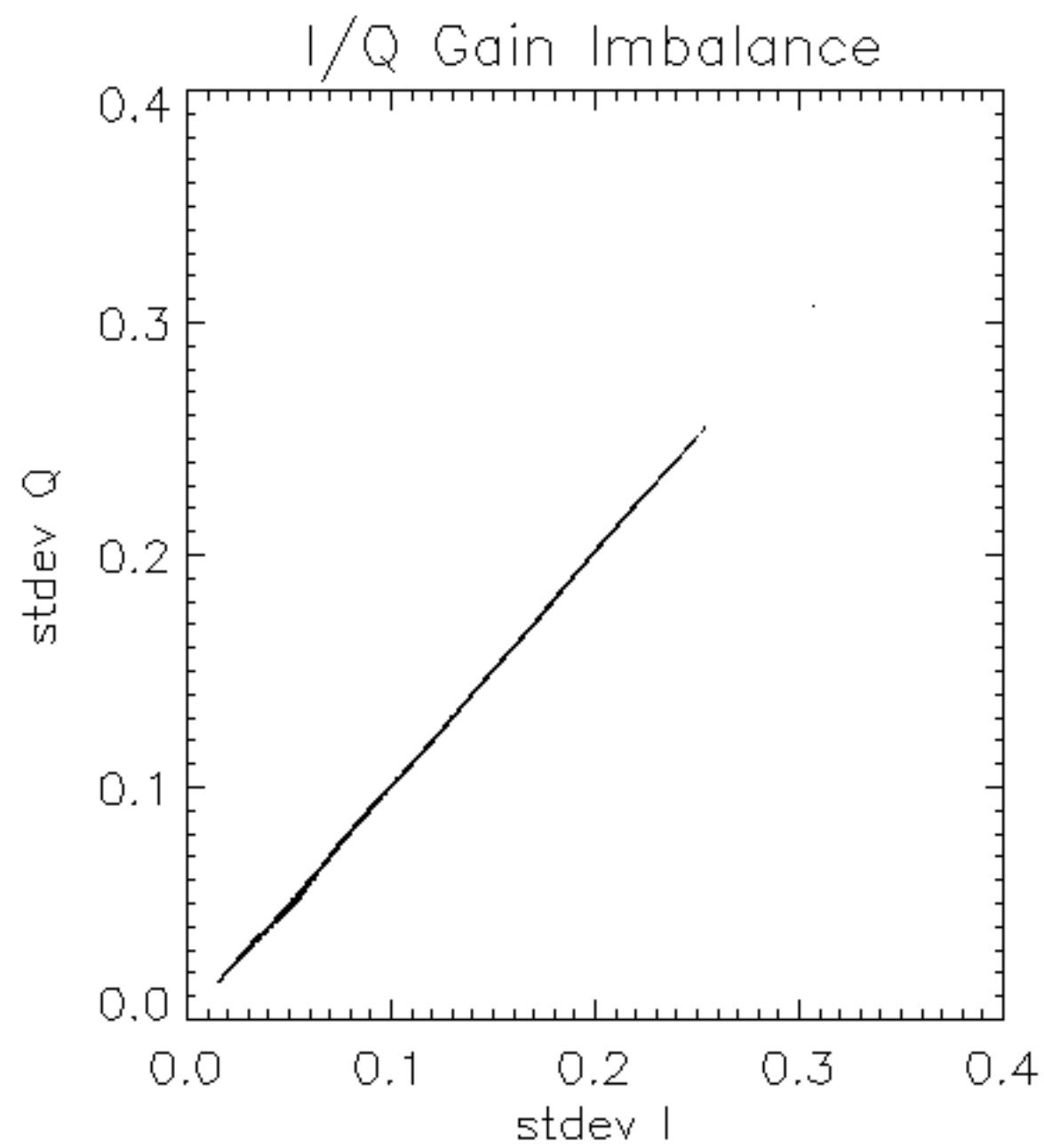


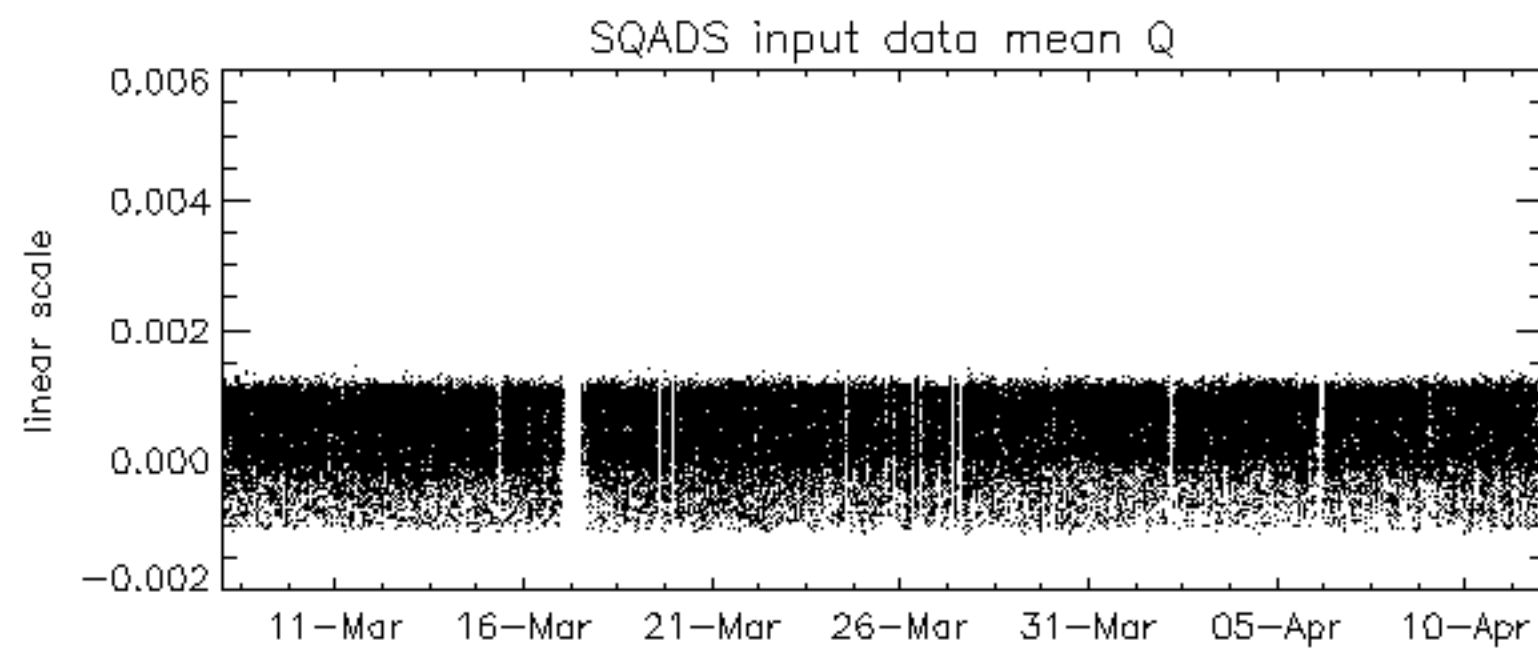
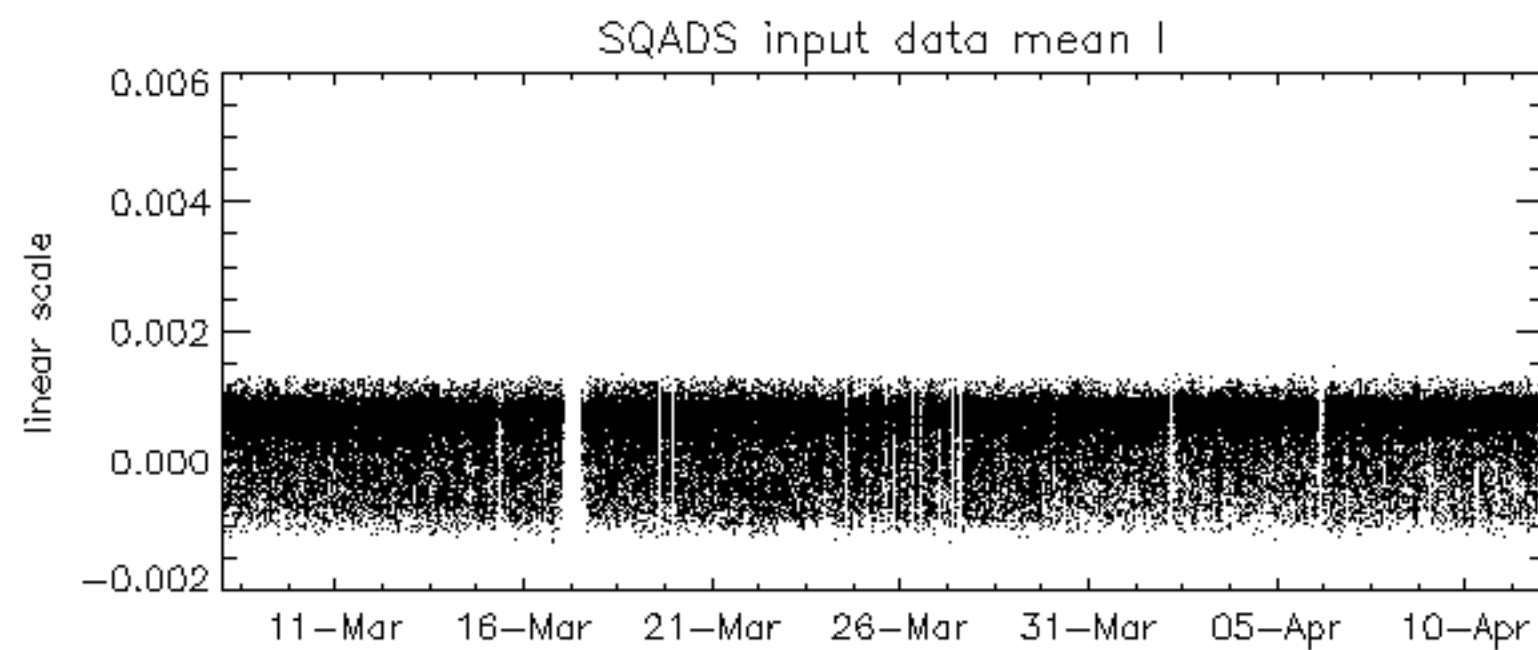
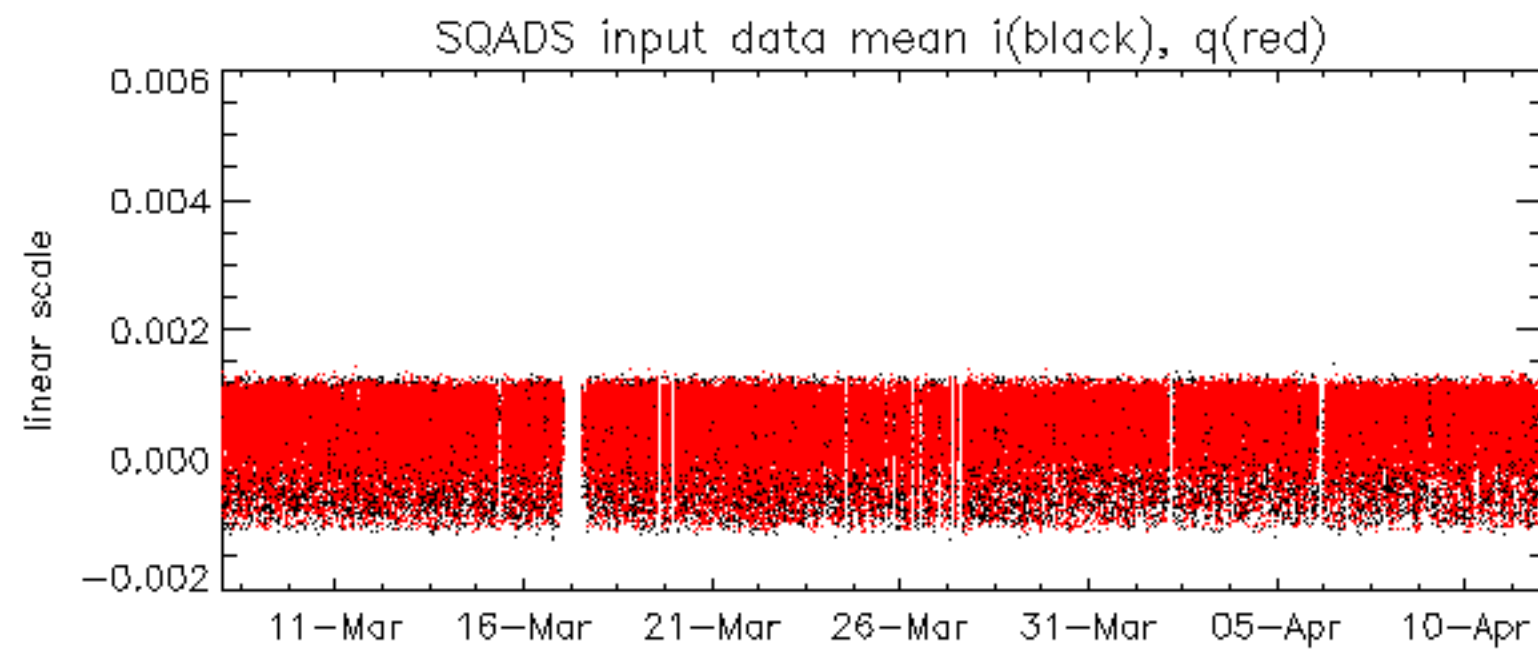


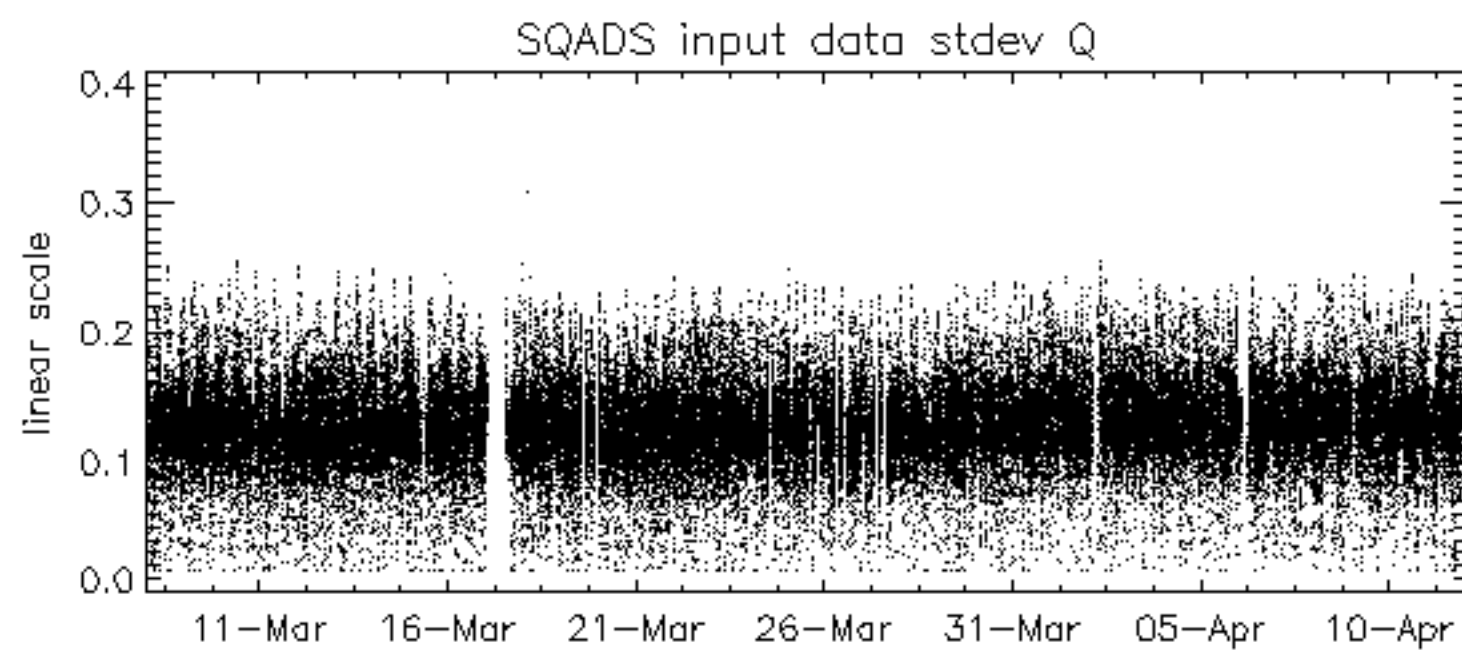
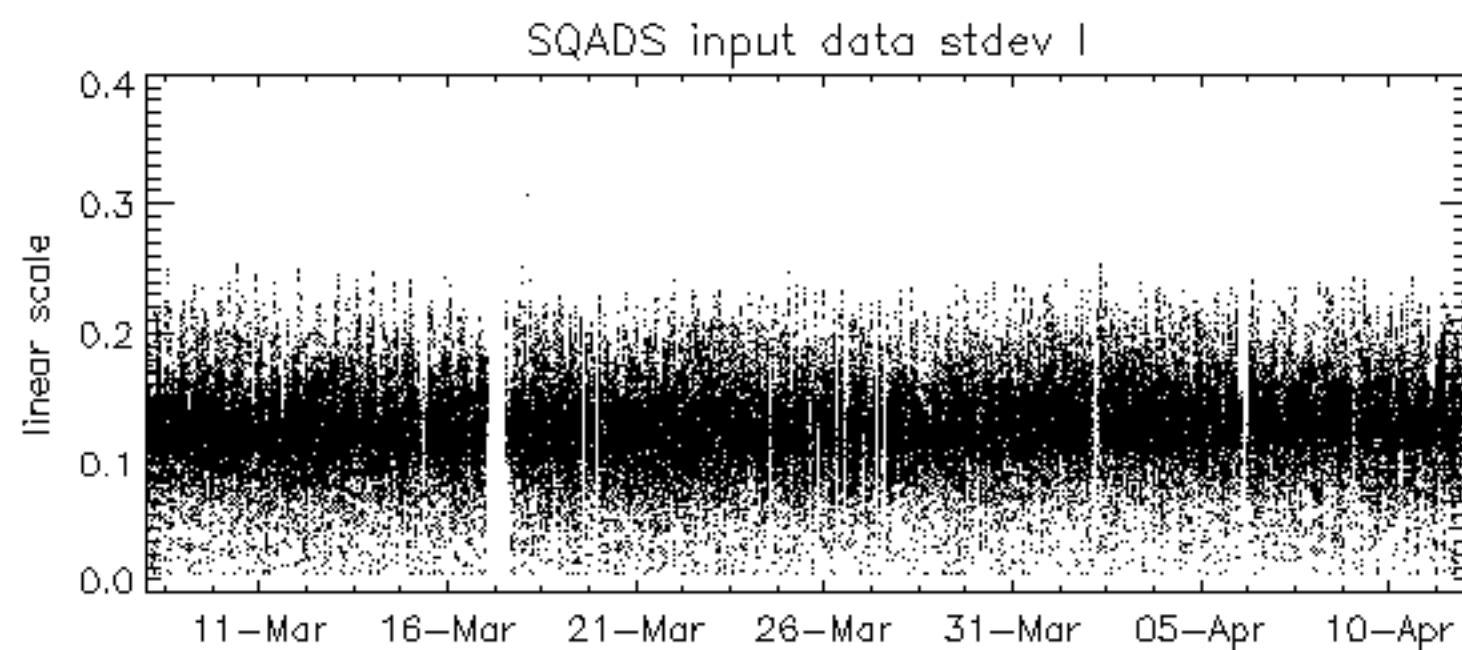
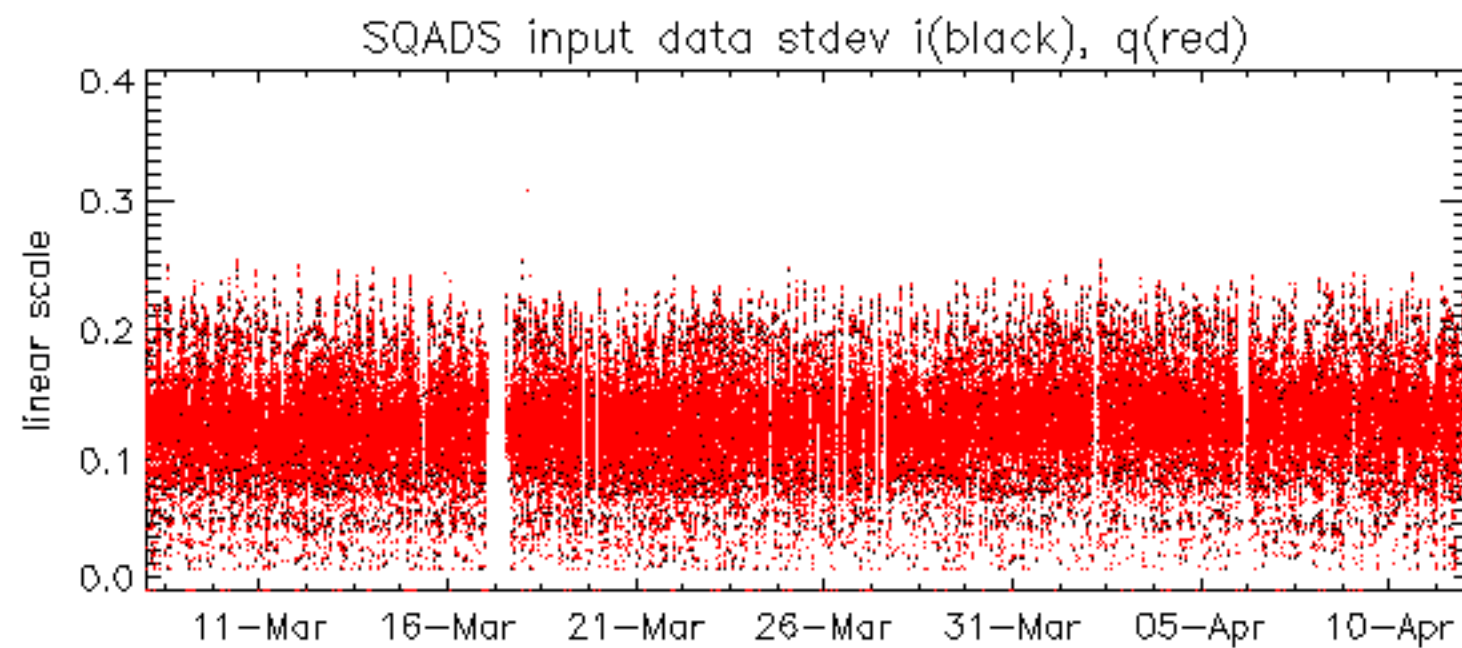




















Summary of analysis for the last 3 days 2005041[012]

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
ASA_WVS_1PNPDE20050410_231921_00000002036_00187_16273_8167.N1	1	0
ASA_WVS_1PNPDE20050412_020541_000002702036_00203_16289_8174.N1	0	16
ASA_GM1_1PNPDE20050411_201027_000001142036_00200_16286_5106.N1	0	28
ASA_GM1_1PNPDE20050411_211942_000003922036_00201_16287_5118.N1	0	24
ASA_GM1_1PNPDE20050411_213733_000006942036_00201_16287_5115.N1	0	22
ASA_GM1_1PNPDE20050411_230143_000003022036_00202_16288_5137.N1	0	6
ASA_GM1_1PNPDE20050411_235428_000003982036_00202_16288_5136.N1	0	6
ASA_GM1_1PNPDE20050412_013637_000001632036_00203_16289_5147.N1	0	37
ASA_GM1_1PNPDE20050412_021543_000005072036_00203_16289_5155.N1	0	159
ASA_GM1_1PNPDE20050412_023446_000000962036_00204_16290_5164.N1	0	22
ASA_GM1_1PNPDE20050412_023911_000001632036_00204_16290_5161.N1	0	45
ASA_GM1_1PNPDE20050412_024313_000006282036_00204_16290_5153.N1	0	93
ASA_GM1_1PNPDE20050412_025758_000002412036_00204_16290_5160.N1	0	86
ASA_GM1_1PNPDE20050412_030611_000001382036_00204_16290_5162.N1	0	32
ASA_GM1_1PNPDK20050410_161611_000003442036_00183_16269_7778.N1	0	7
ASA_WSM_1PNPDE20050410_183358_000002732036_00185_16271_6237.N1	0	42

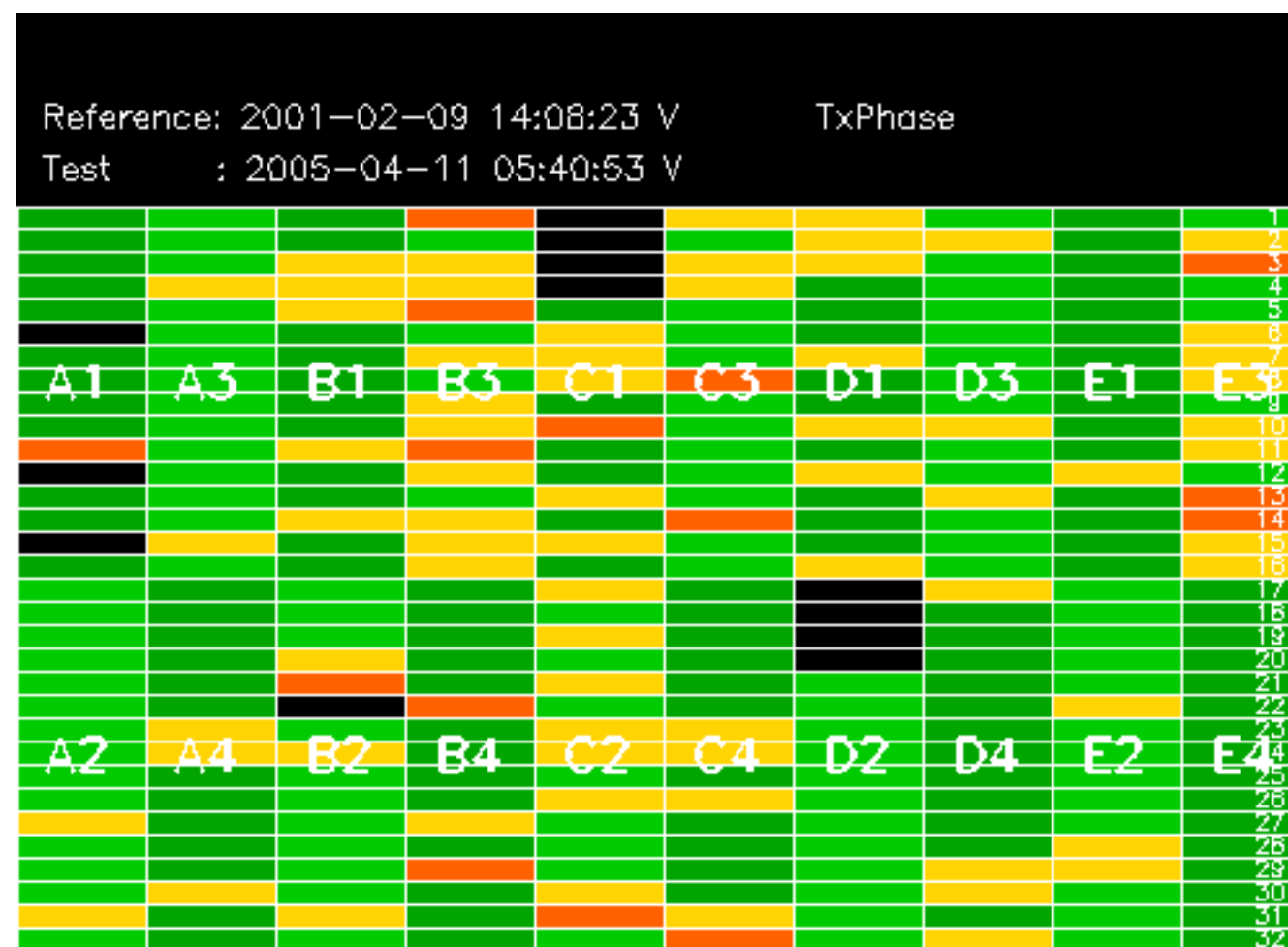




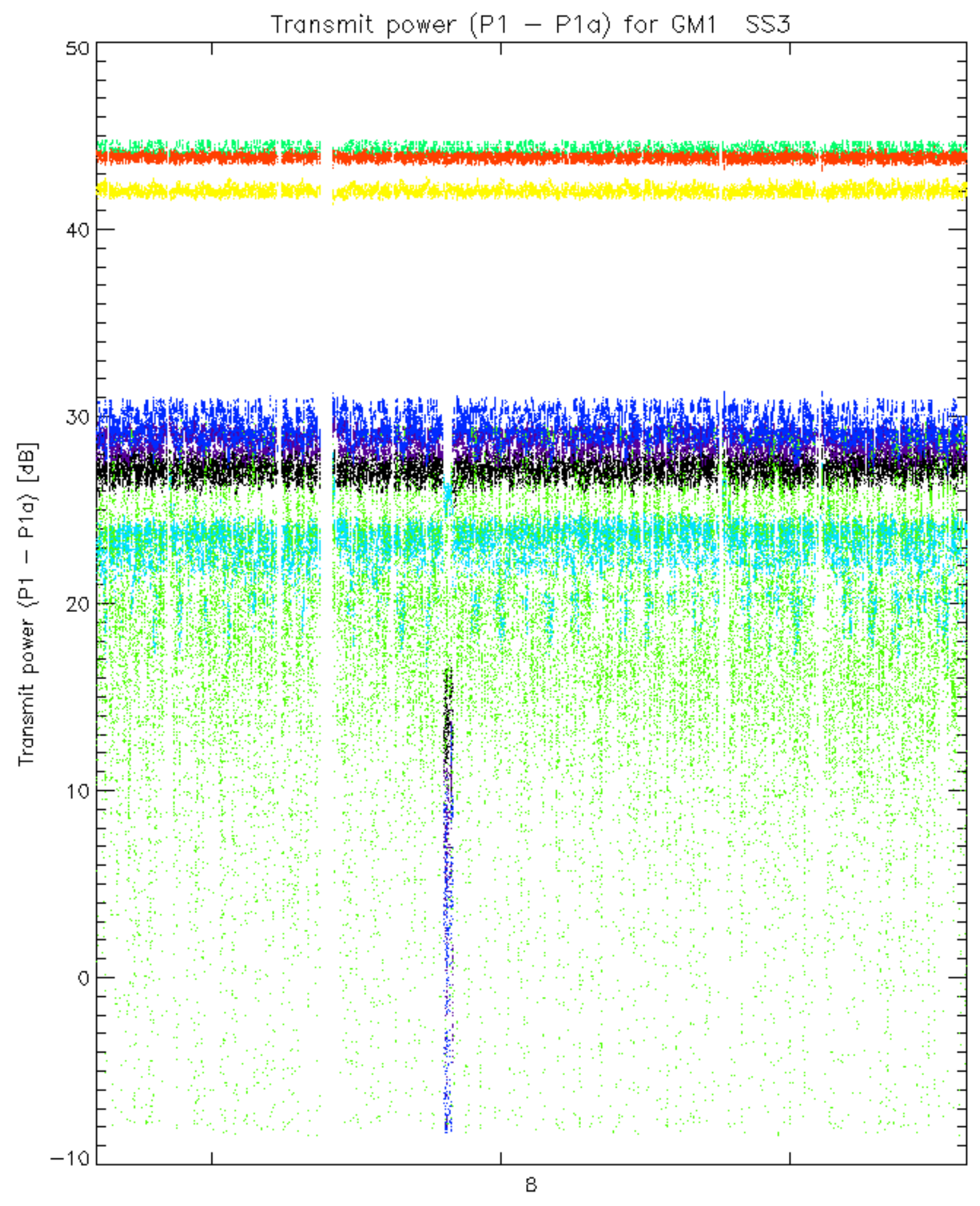




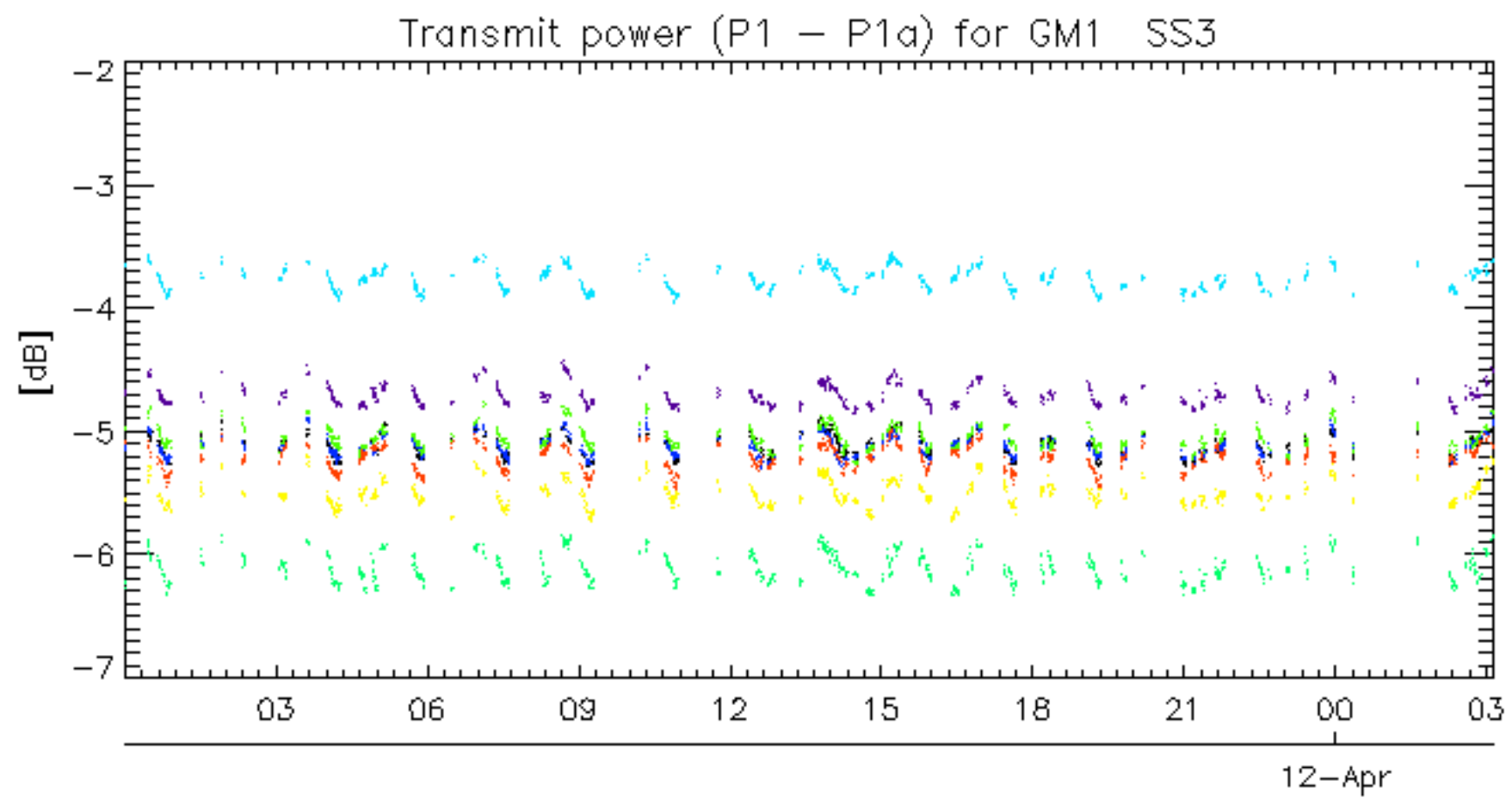






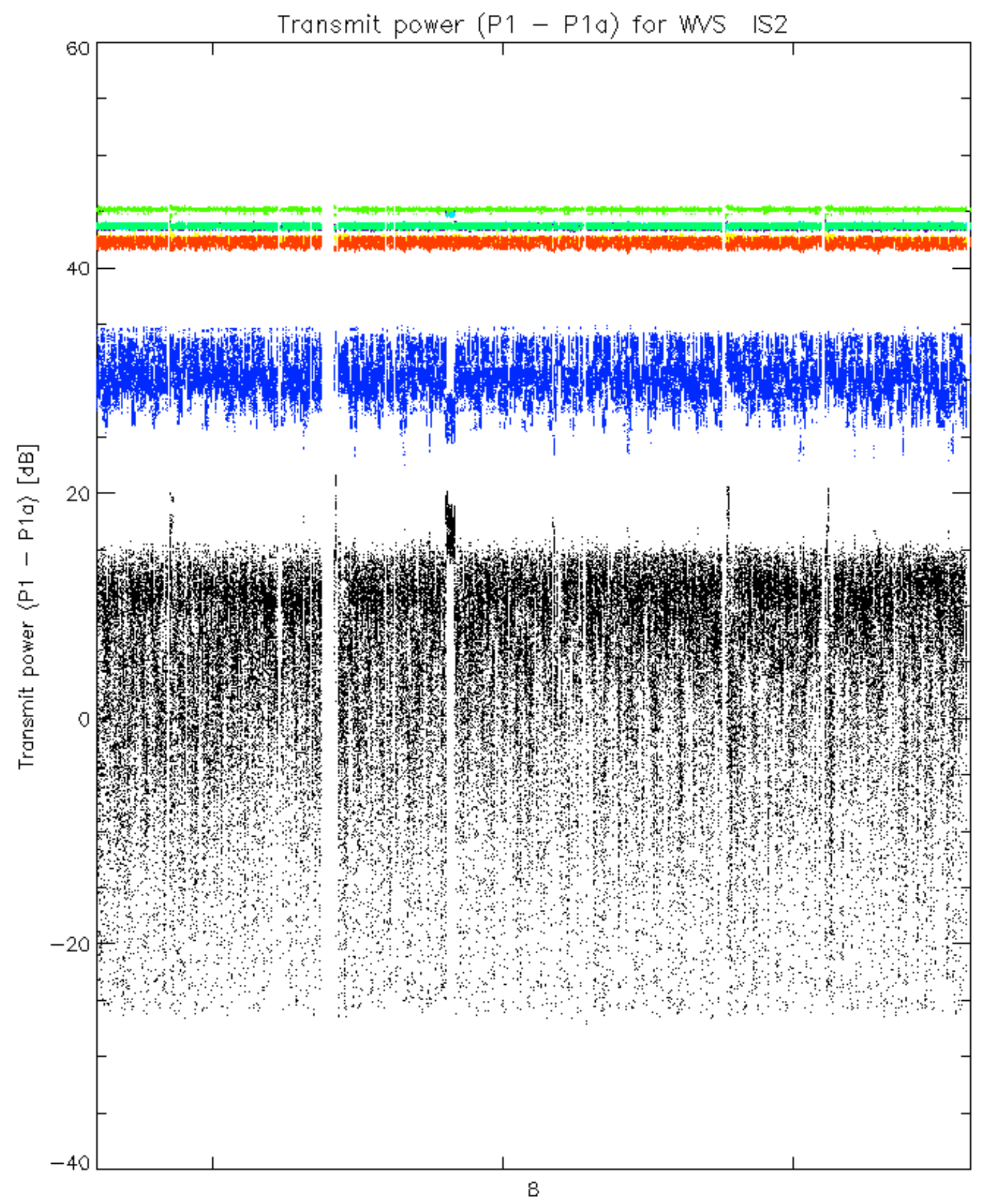


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

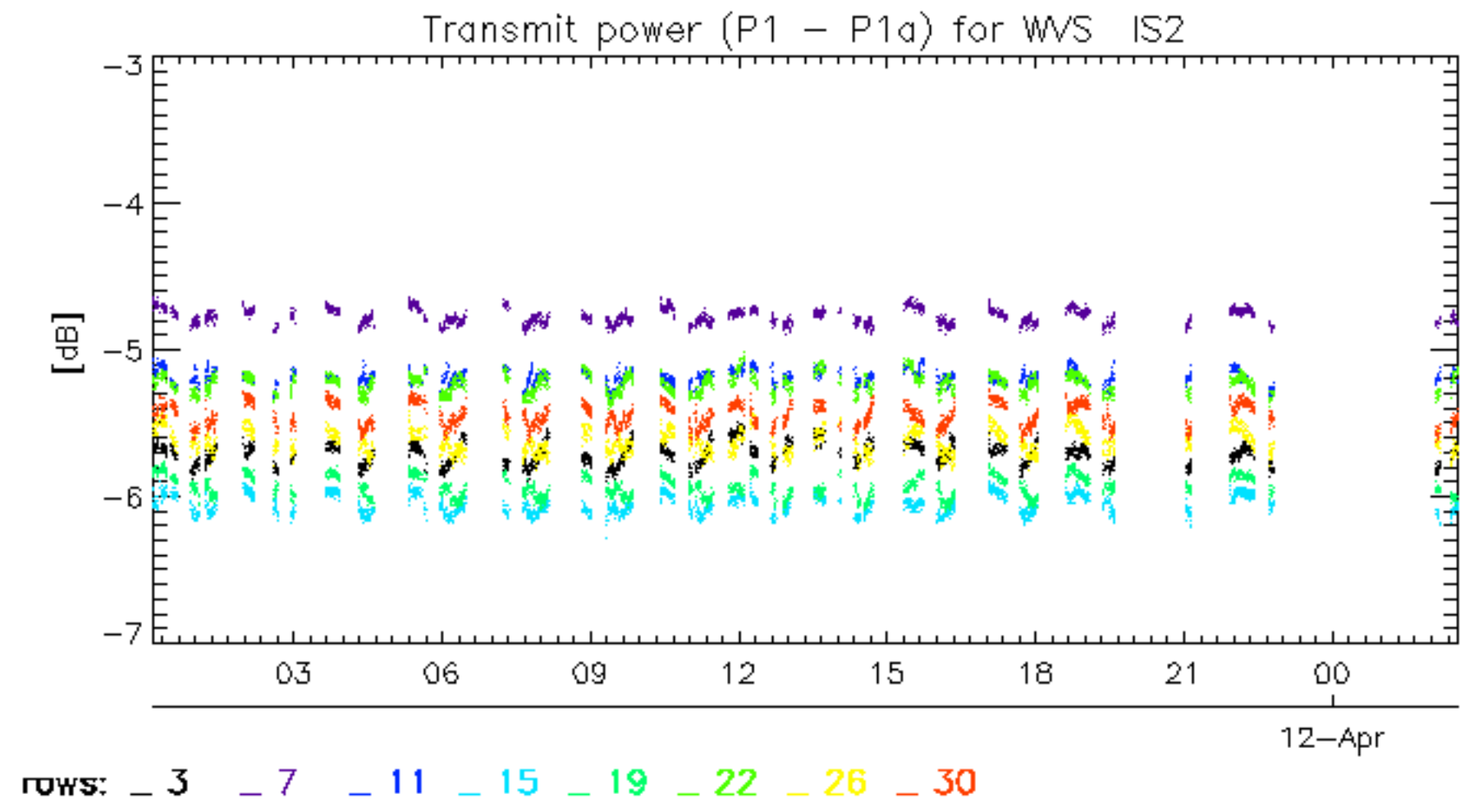


rows: **3** **7** **11** **15** **19** **22** **26** **30**





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



No unavailabilities during the reported period.