

# PRELIMINARY REPORT OF 070422

last update on Sun Apr 22 23:59:24 GMT 2007

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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 2007-04-21 00:00:00 to 2007-04-22 23:59:24

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	56	123	22	2	52
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	56	123	22	2	52
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	56	123	22	2	52
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	56	123	22	2	52

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	50	70	57	8	73
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	50	70	57	8	73
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	50	70	57	8	73
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	50	70	57	8	73

## 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	20070422 023103
H	20070421 030240

### 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"/>
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**P1a Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1a	-15.070105	0.148544	-0.116602
7	P1a	-17.545891	0.112271	-0.078348
11	P1a	-17.430004	0.329903	-0.753158
15	P1a	-12.975564	0.108294	-0.429304
19	P1a	-15.312198	0.068460	-0.415667
22	P1a	-15.886243	0.414223	-0.519873
26	P1a	-15.059128	0.199722	0.523274
30	P1a	-17.652431	0.308045	-0.765409

**P1t Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.764083	0.010712	-0.040790
7	P1	-3.147384	0.008877	-0.020071
11	P1	-4.207414	0.012456	-0.011210
15	P1	-6.398314	0.018923	-0.155289
19	P1	-3.788094	0.010274	0.048284
22	P1	-4.746273	0.009322	-0.041731
26	P1	-3.925511	0.019195	0.101621
30	P1	-5.969421	0.009278	0.028282

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.661245	0.090467	-0.033753
7	P2	-21.571825	0.086713	0.107830
11	P2	-15.374266	0.114413	0.210957
15	P2	-7.125990	0.087545	-0.030852
19	P2	-9.119201	0.078527	0.028944
22	P2	-18.088850	0.075598	0.006674
26	P2	-16.613178	0.079343	-0.059695
30	P2	-19.285326	0.081392	0.013654

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.245993	0.005203	-0.020858
7	P3	-8.245993	0.005203	-0.020858
11	P3	-8.245993	0.005203	-0.020858
15	P3	-8.245993	0.005203	-0.020858
19	P3	-8.245993	0.005203	-0.020858
22	P3	-8.245993	0.005203	-0.020858
26	P3	-8.245993	0.005203	-0.020858
30	P3	-8.245993	0.005203	-0.020858

#### 4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1
✕

#### P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1a	-11.193797	0.160019	-0.125574
7	P1a	-10.073217	0.252379	-0.099998
11	P1a	-10.691154	0.118755	0.061984
15	P1a	-10.854157	0.179263	0.009438
19	P1a	-15.790166	0.095419	-0.026898
22	P1a	-21.371231	1.438189	-0.861724
26	P1a	-15.498221	0.384351	-0.485621
30	P1a	-18.310772	0.474715	0.510272

#### P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-8.451063	0.062854	0.006264
7	P1	-2.418608	0.144918	-0.004025
11	P1	-2.894801	0.029909	0.065208
15	P1	-3.822851	0.040391	0.055905
19	P1	-3.584627	0.014879	-0.009163
22	P1	-4.977226	0.023591	0.109760
26	P1	-6.033322	0.030616	-0.043430
30	P1	-5.336318	0.034724	-0.023177

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.173283	0.066119	-0.104612
7	P2	-22.040861	0.241739	-0.081388
11	P2	-10.635282	0.046291	-0.054533
15	P2	-4.920303	0.040156	-0.150054
19	P2	-6.872636	0.037761	-0.092537
22	P2	-8.117418	0.110131	-0.060863
26	P2	-24.322655	0.178933	-0.059965
30	P2	-21.718056	0.121087	0.041214

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.093223	0.004634	-0.031294
7	P3	-8.093274	0.004649	-0.030938
11	P3	-8.093090	0.004643	-0.031885
15	P3	-8.092992	0.004648	-0.031722
19	P3	-8.093150	0.004666	-0.031026
22	P3	-8.093063	0.004630	-0.030387
26	P3	-8.093161	0.004640	-0.030969
30	P3	-8.093069	0.004639	-0.031245

## 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	0.000540472
	stdev	2.04495e-07
MEAN Q	mean	0.000490081
	stdev	2.44815e-07



## 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.135347
	stdev	0.00123455
STDEV Q	mean	0.135740
	stdev	0.00125226



## 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2007042[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_1PNPDK20070420_201256_000004052057_00257_26864_6221.N1	0	8
ASA_GM1_1PNPDK20070420_205323_000005612057_00257_26864_6240.N1	0	90
ASA_GM1_1PNPDK20070422_132003_000001872057_00282_26889_8760.N1	0	30
ASA_GM1_1PNPDK20070422_145255_000003082057_00283_26890_8885.N1	0	7
ASA_WSM_1PNPDE20070420_141551_000000852057_00254_26861_9529.N1	0	73
ASA_WSM_1PNPDE20070420_155726_000001222057_00255_26862_9551.N1	0	2
ASA_WSM_1PNPDE20070421_010149_000001412057_00260_26867_0194.N1	0	31
ASA_WSM_1PNPDE20070421_051735_000002012057_00263_26870_0558.N1	0	45
ASA_WSM_1PNPDE20070421_170154_000001522057_00270_26877_0873.N1	0	5

ASA_WSM_1PNPDE20070421_184505_000000852057_00271_26878_0922.N1	0	56
ASA_WSM_1PNPDE20070422_145121_000000852057_00283_26890_2353.N1	0	32
ASA_WSM_1PNPDE20070422_171455_000001832057_00284_26891_2412.N1	0	44
ASA_WSM_1PNPDE20070422_181428_000001772057_00285_26892_2406.N1	0	57



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

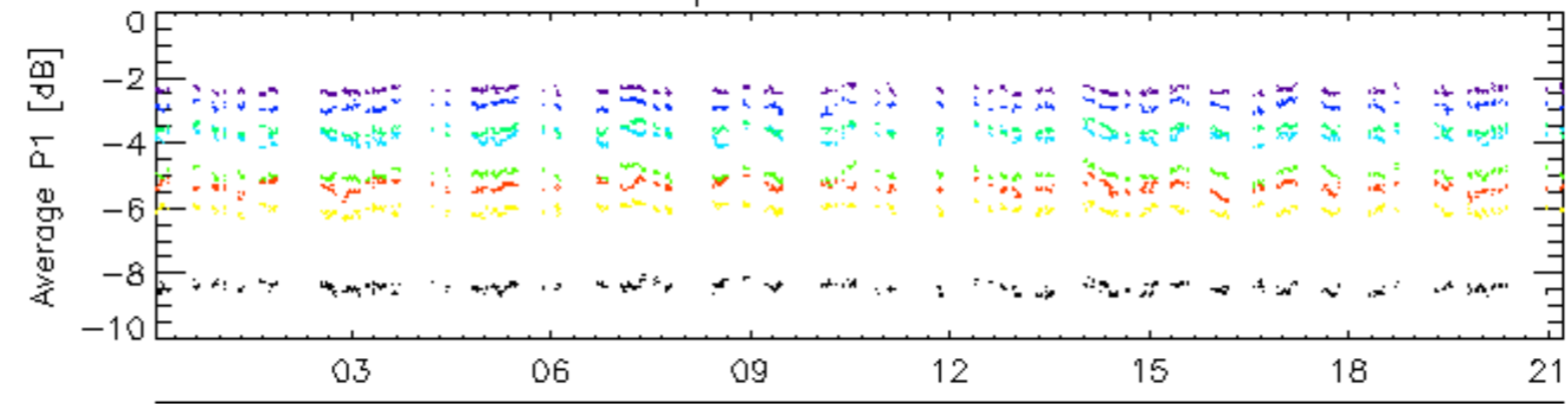
### 7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler
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Acsending
<input type="checkbox"/>
Descending

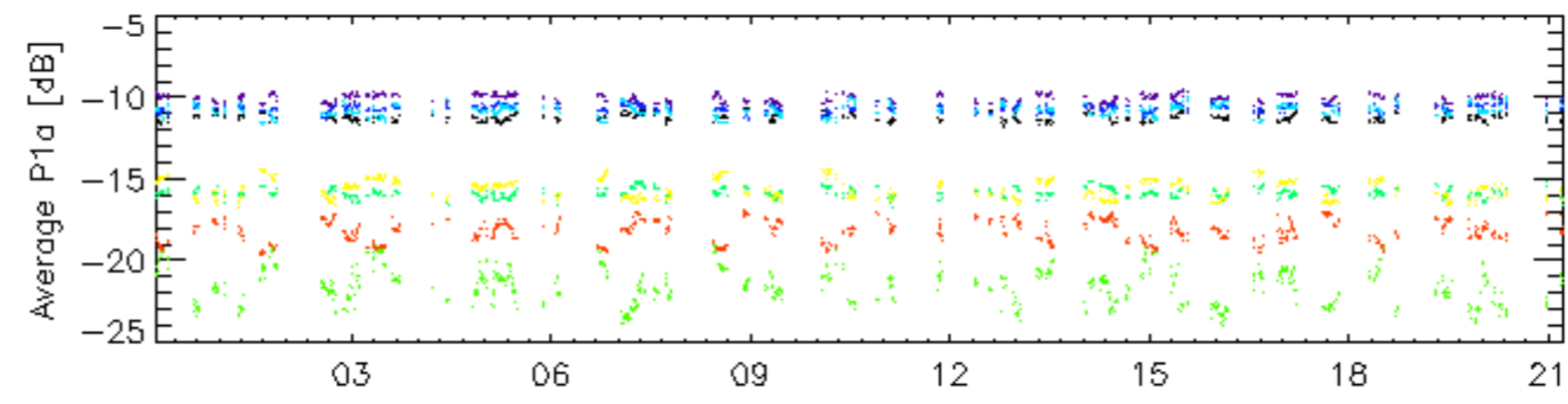
### 7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX
<input type="checkbox"/>

Cal pulses for GM1 SS3

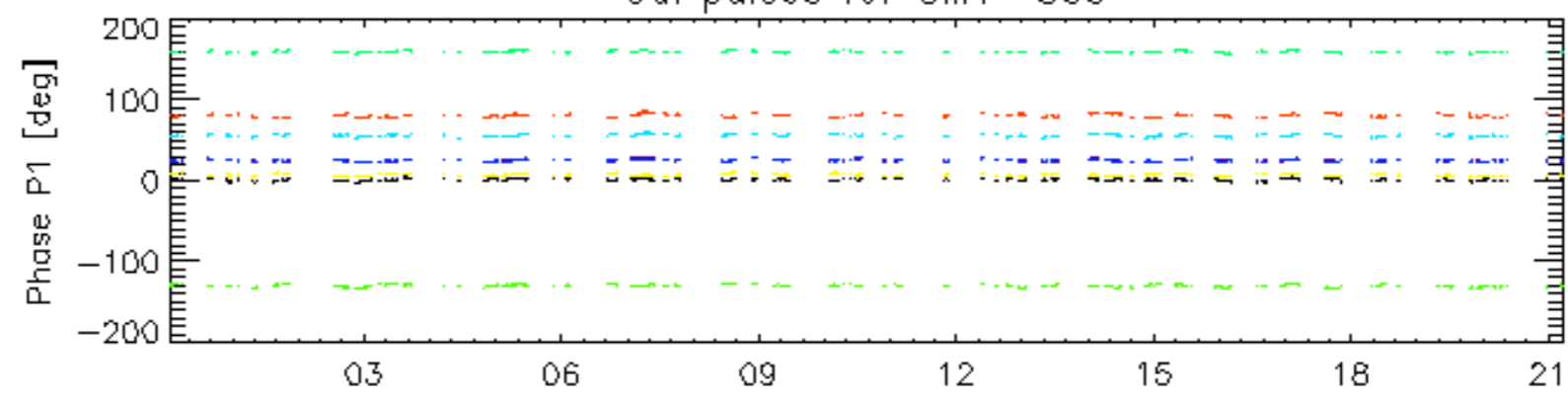


22-Apr

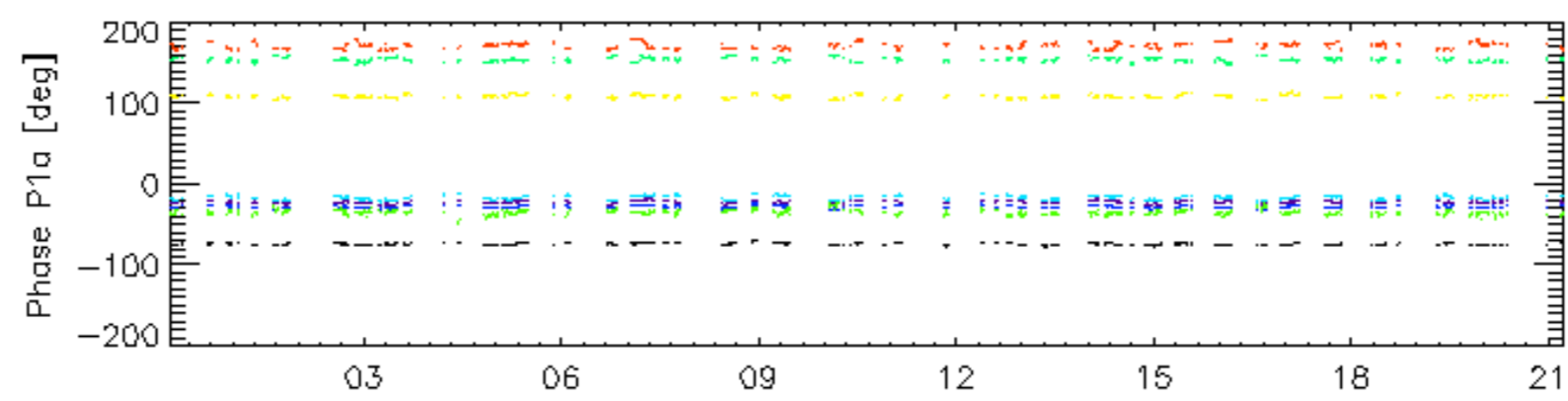


22-Apr

Cal pulses for GM1 SS3

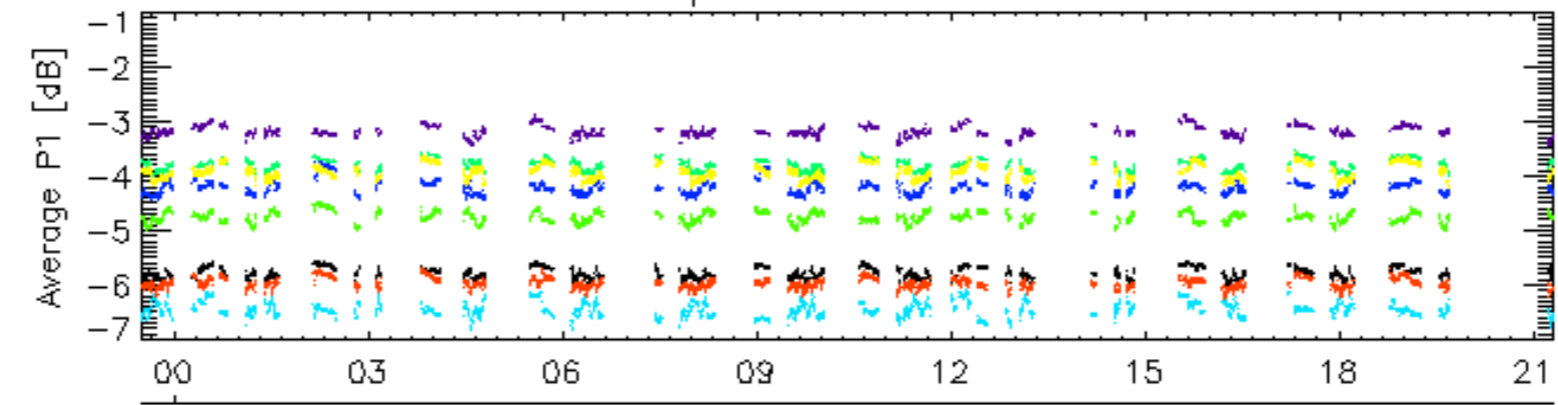


22-Apr

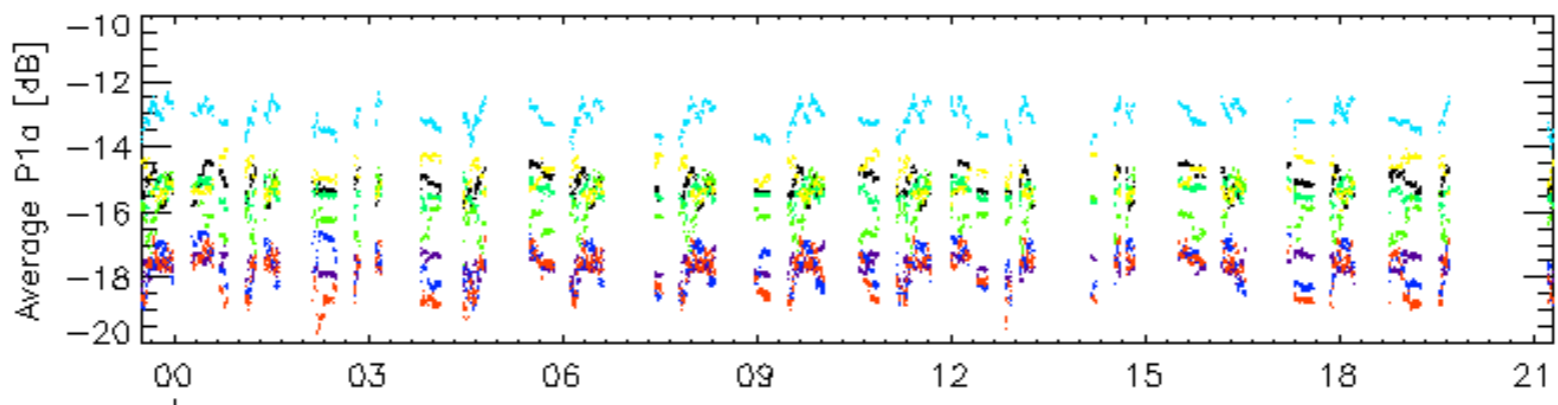


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 - 26 \_ 30

Cal pulses for WVS IS2

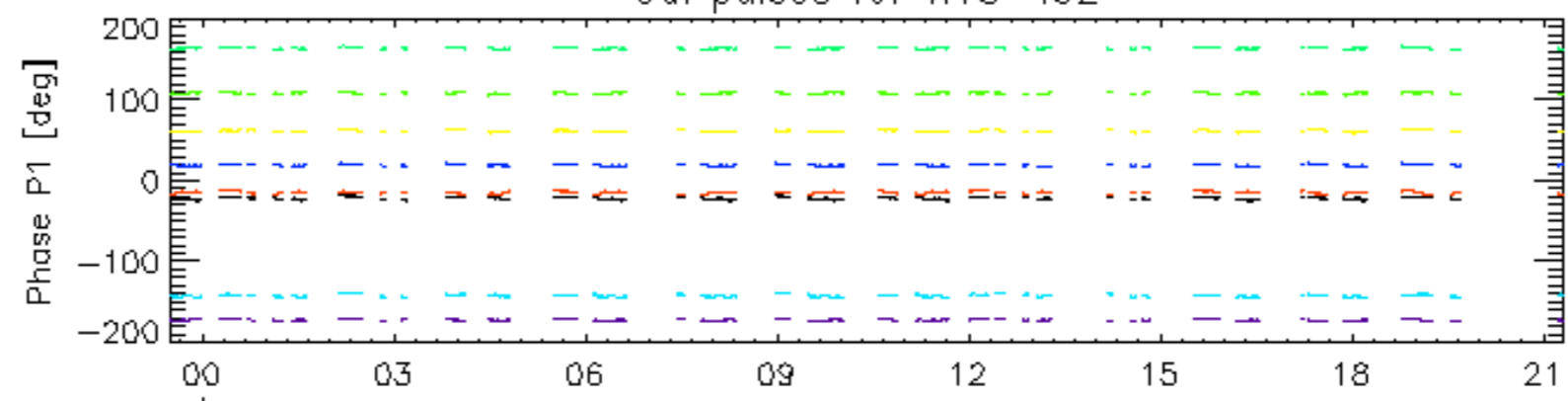


22-Apr

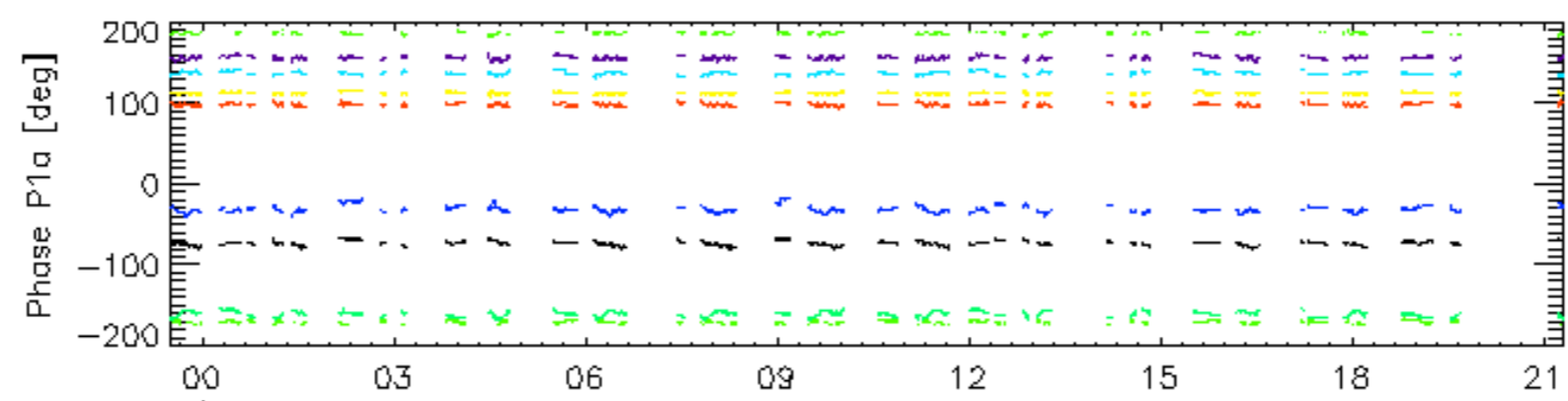


22-Apr

Cal pulses for WVS IS2



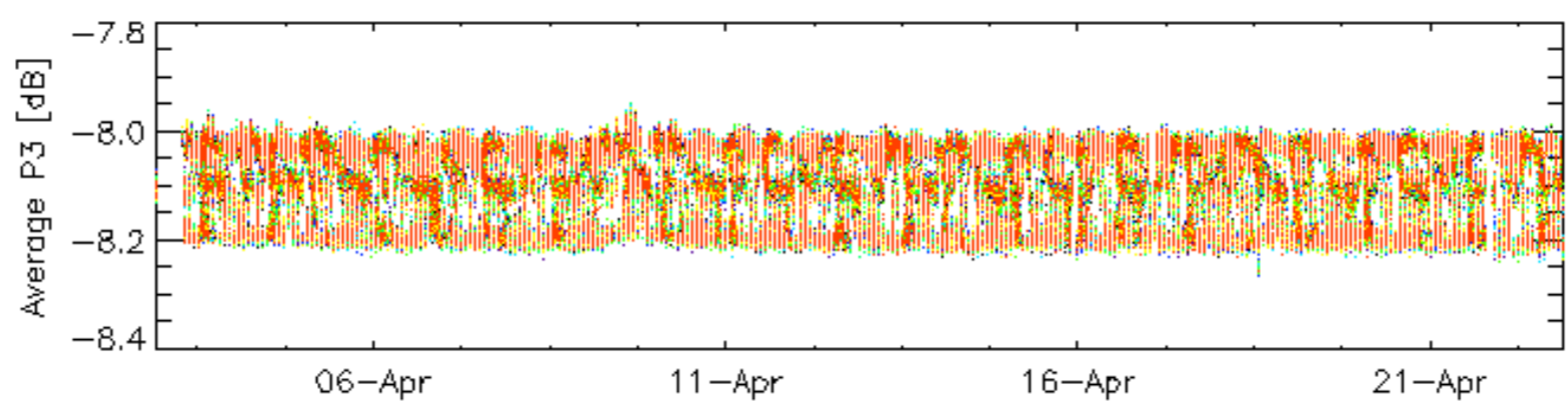
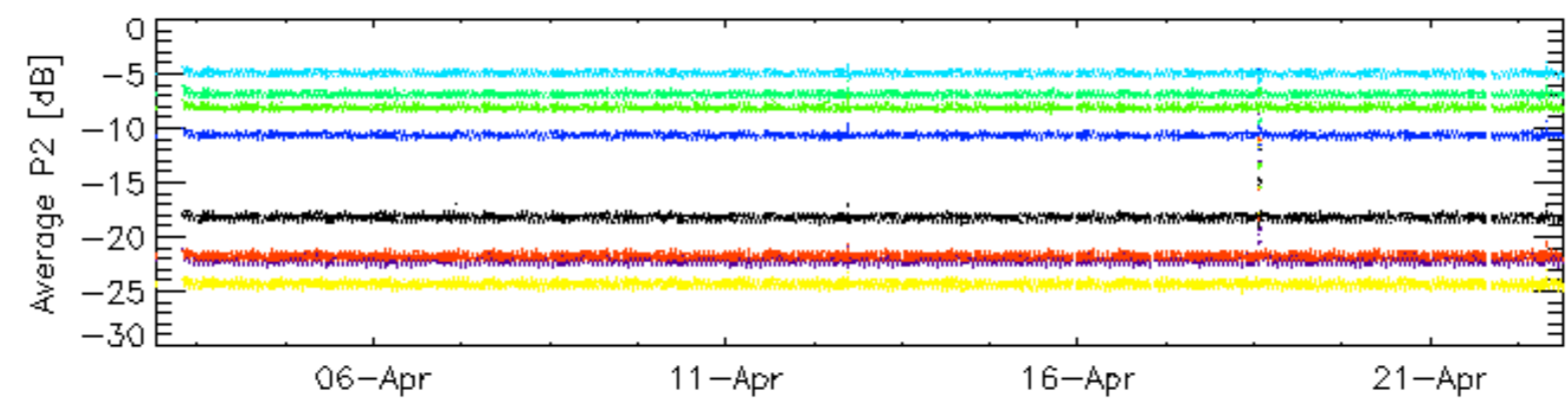
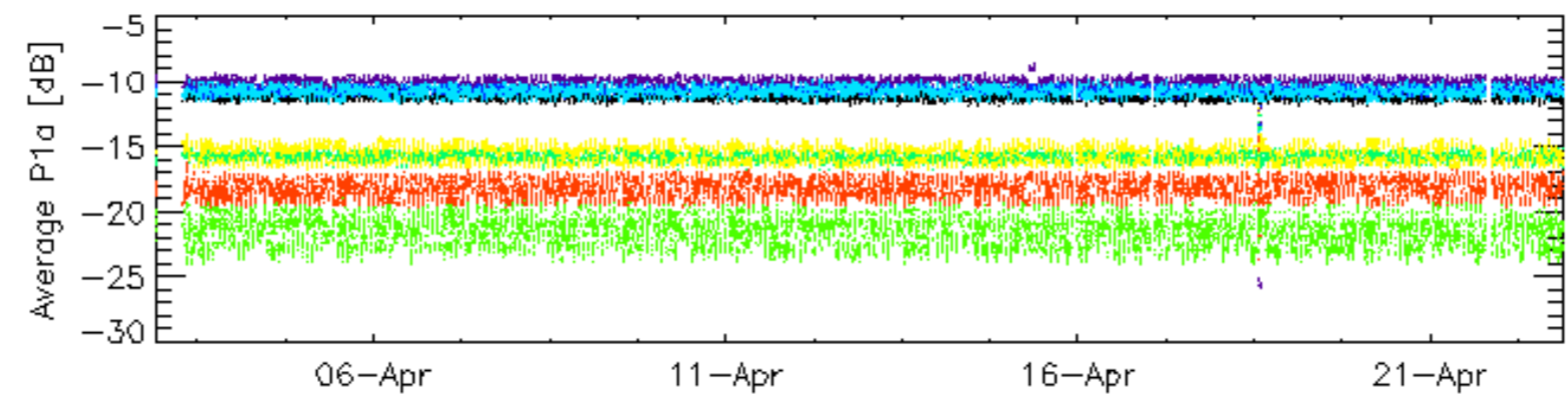
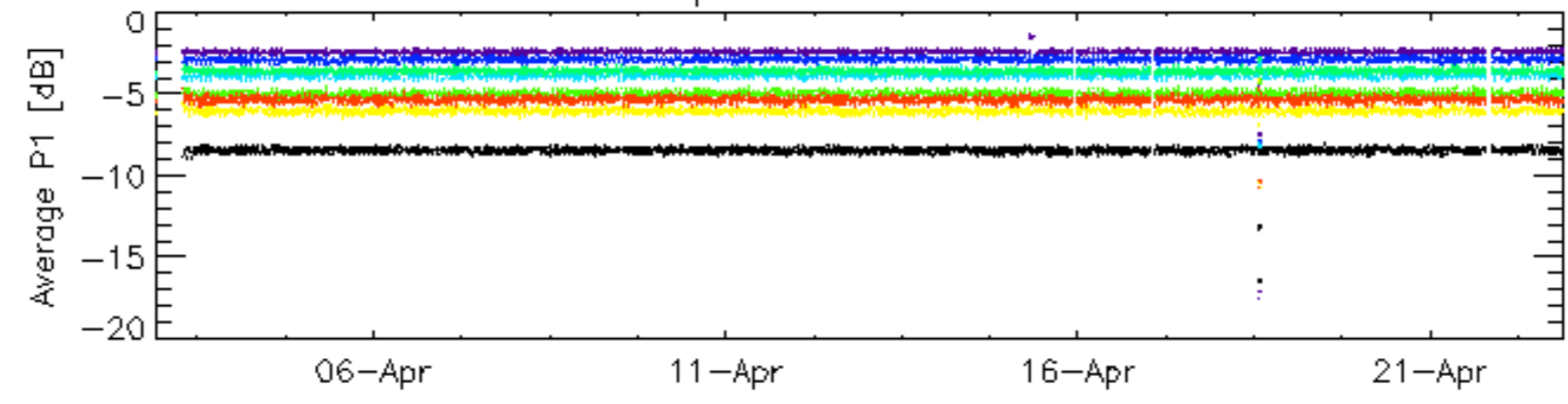
22-Apr



22-Apr

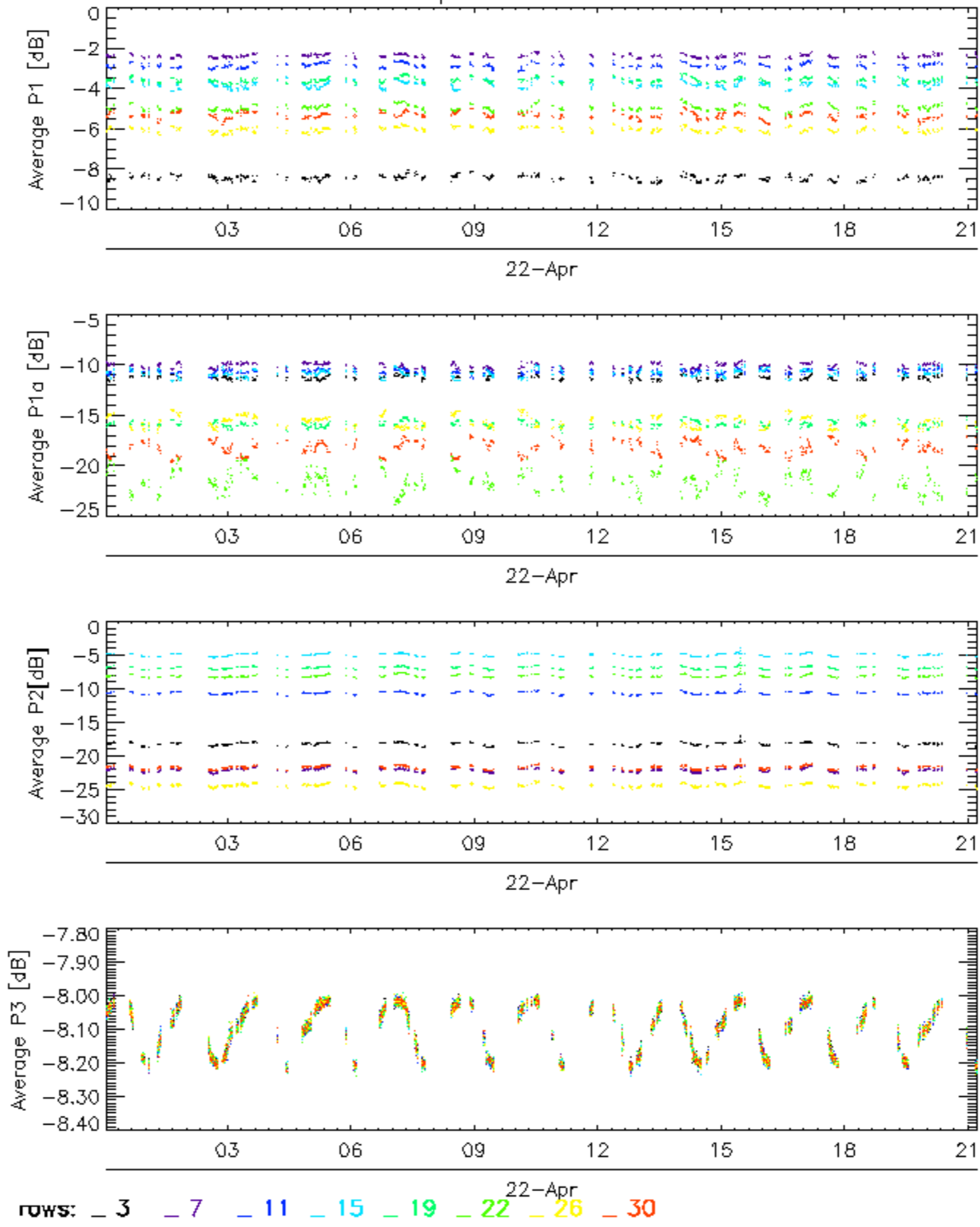
rows: - 3 - 7 - 11 - 15 - 19 - 22 - 26 - 30

### Cal pulses for GM1 SS3

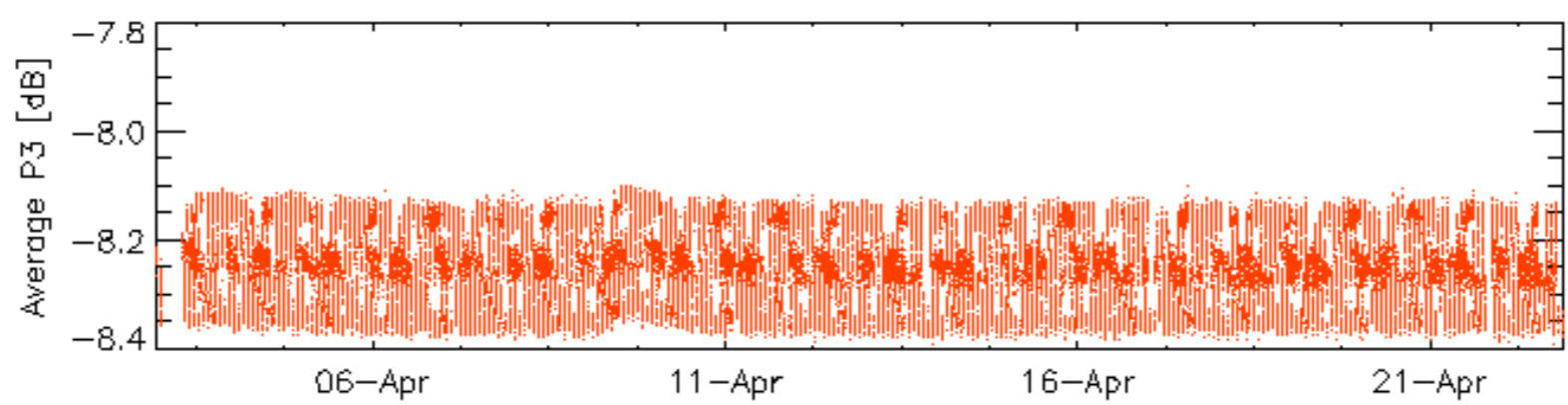
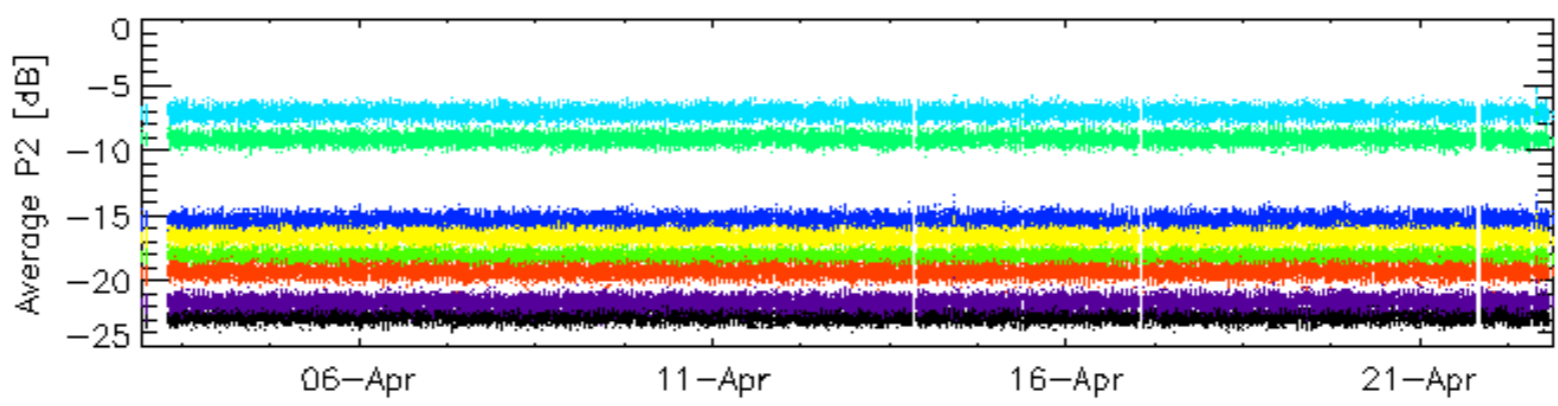
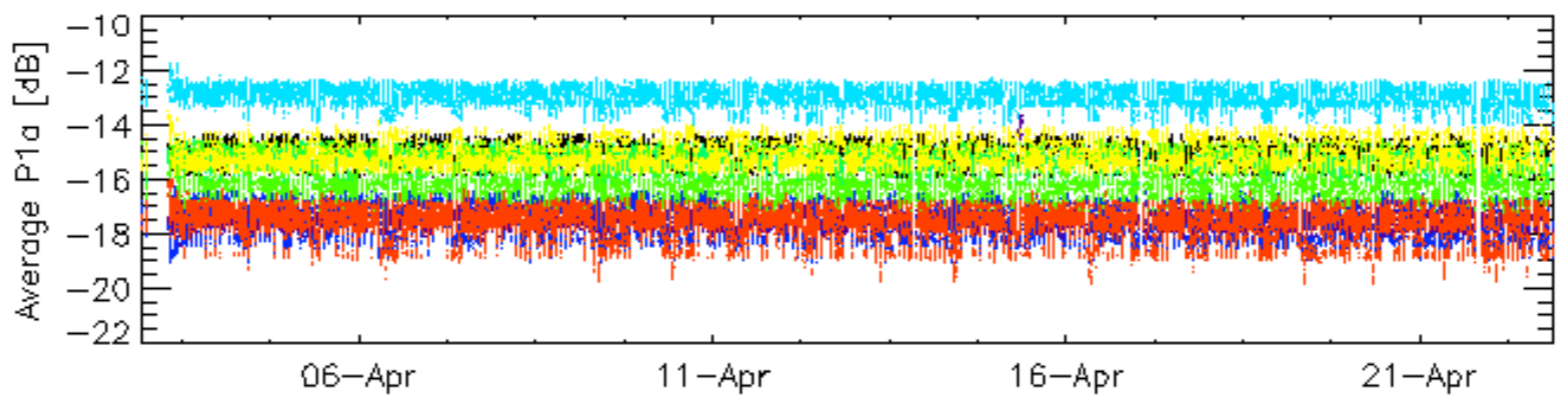
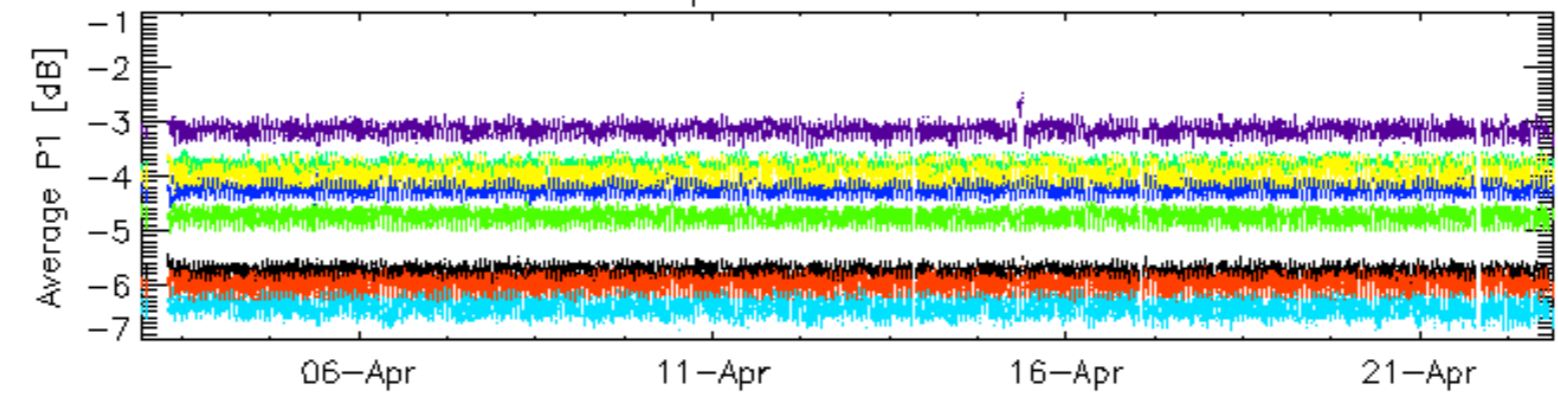


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3



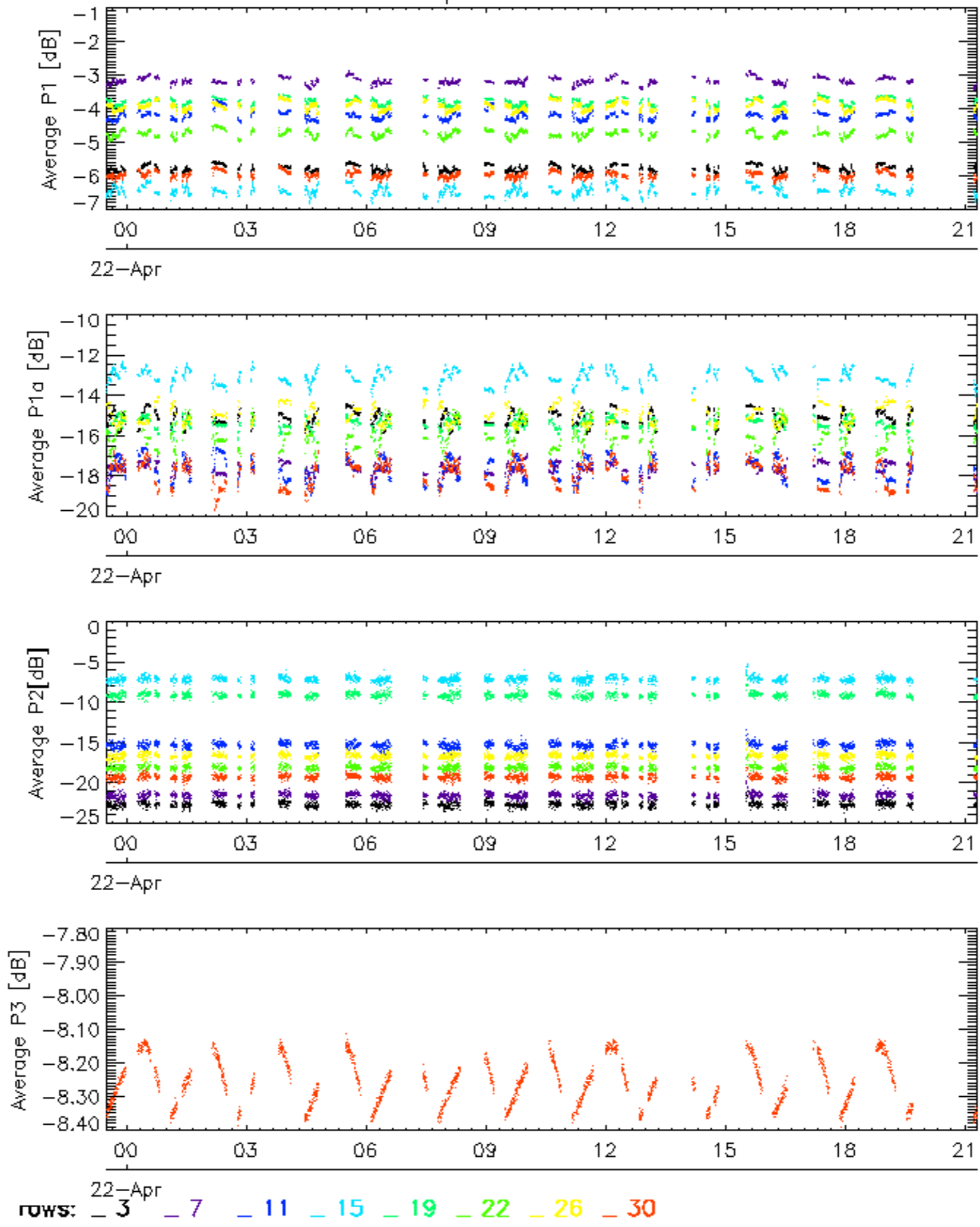
Cal pulses for WVS IS2



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

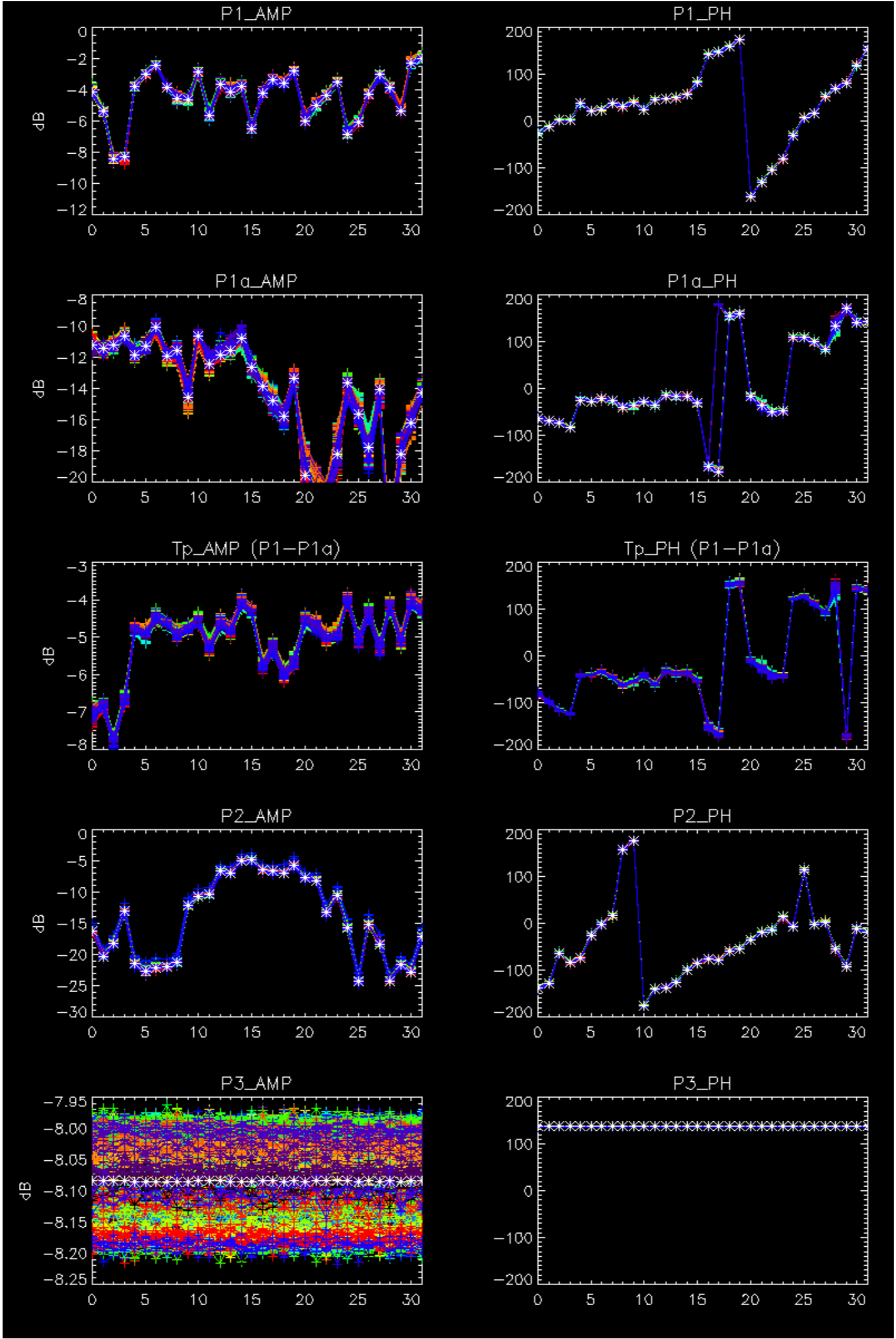


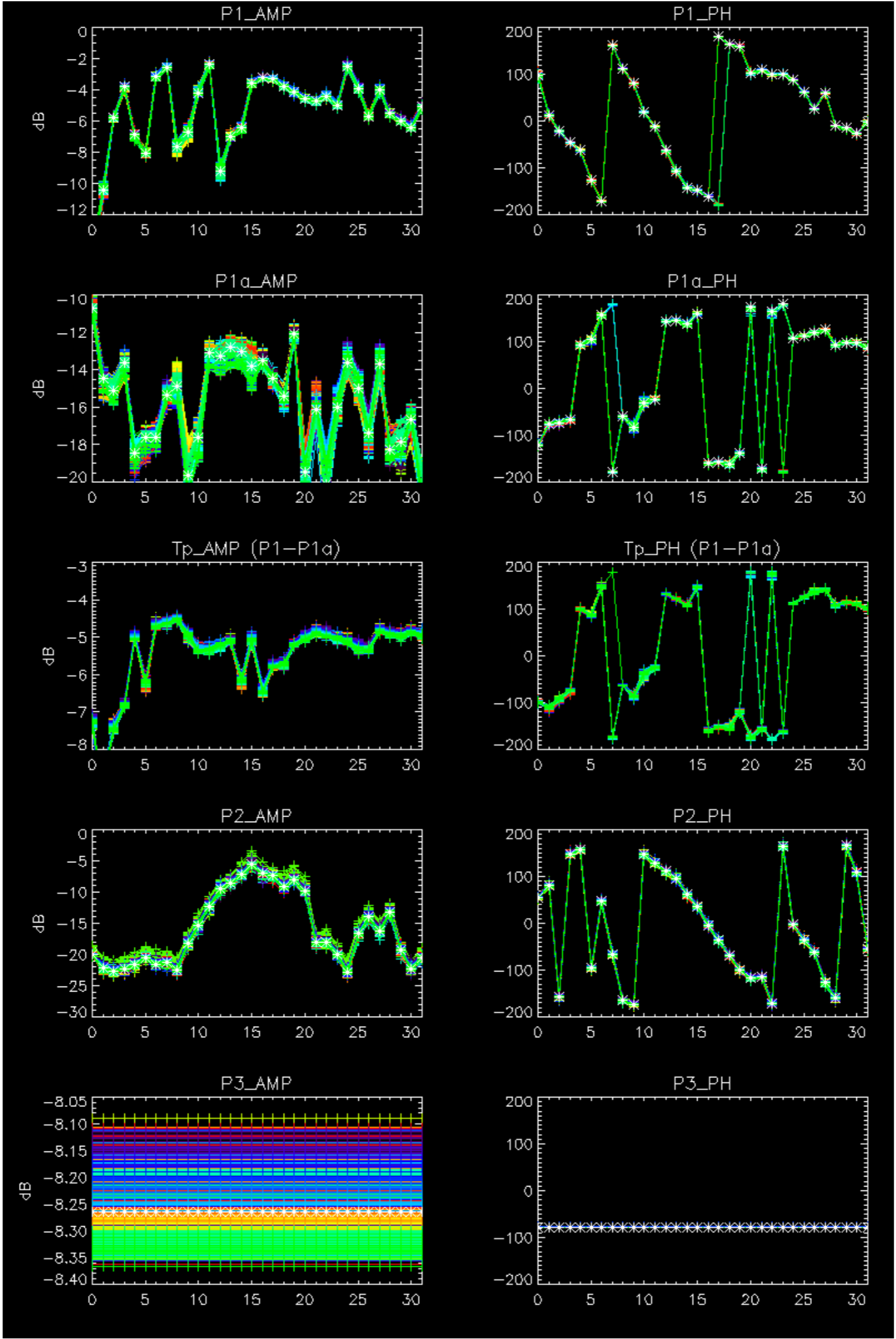
Cal pulses for WVS IS2



No anomalies observed.





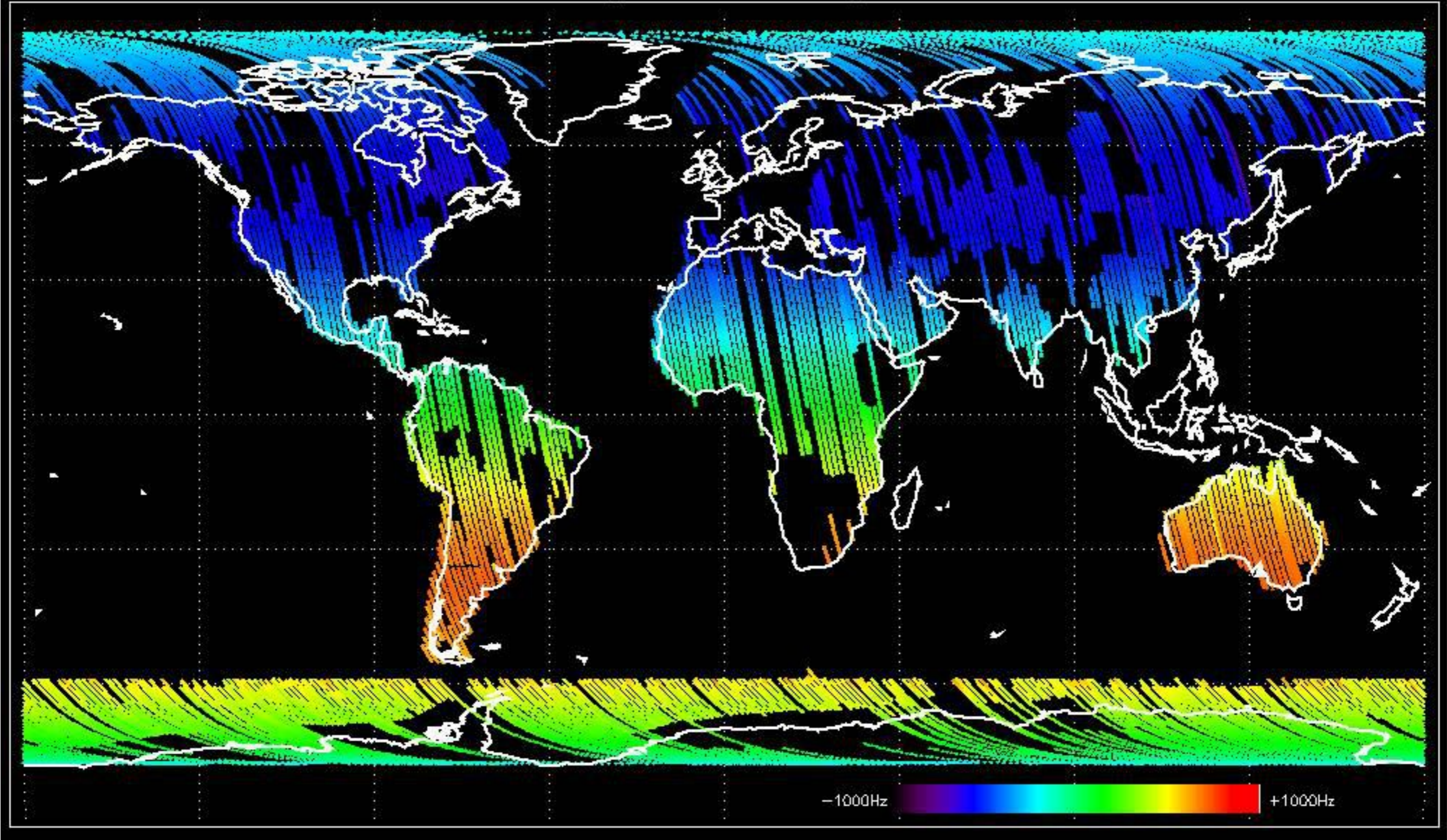


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



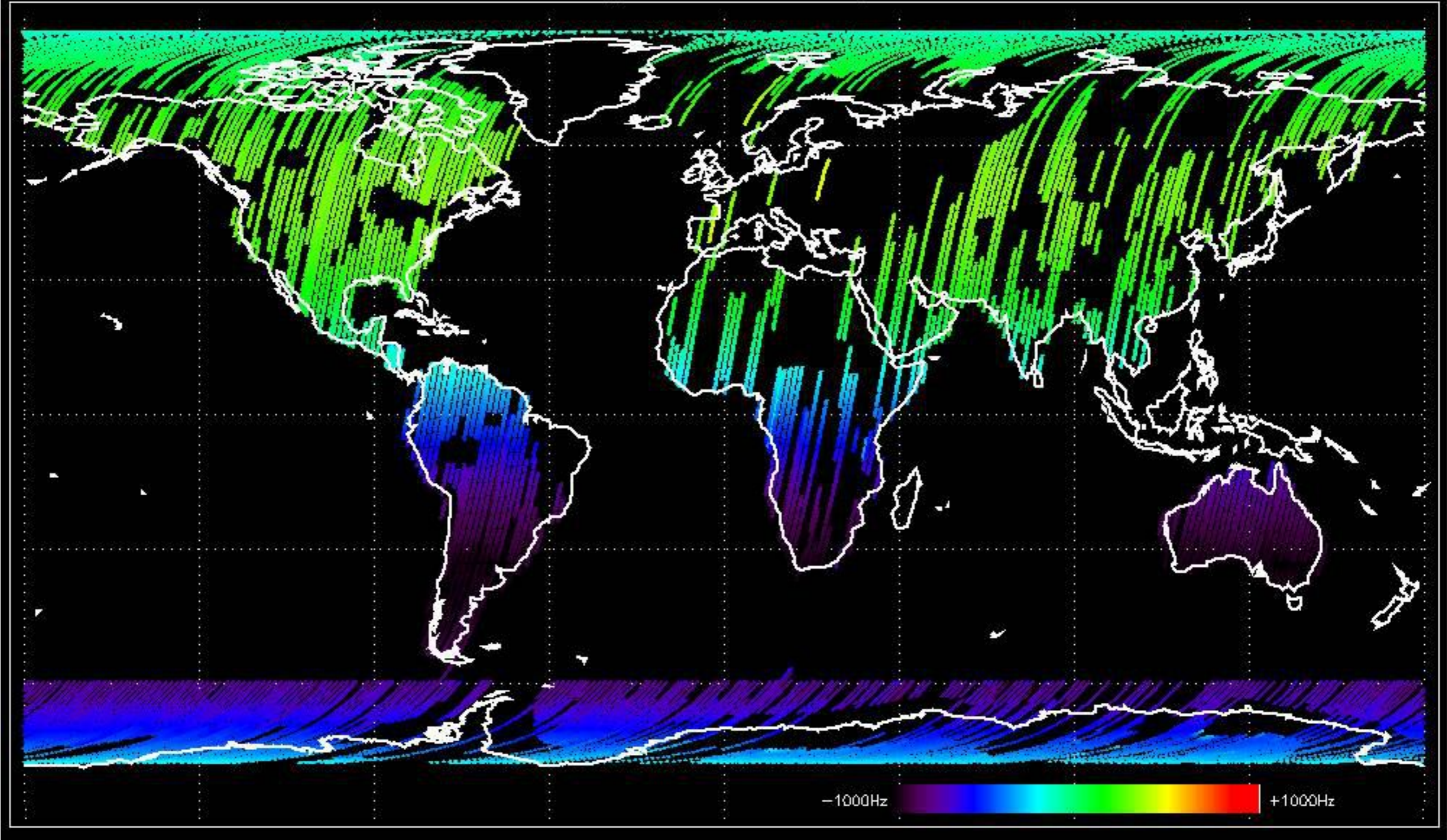


Doppler 'GM1' 'SS1' ascending



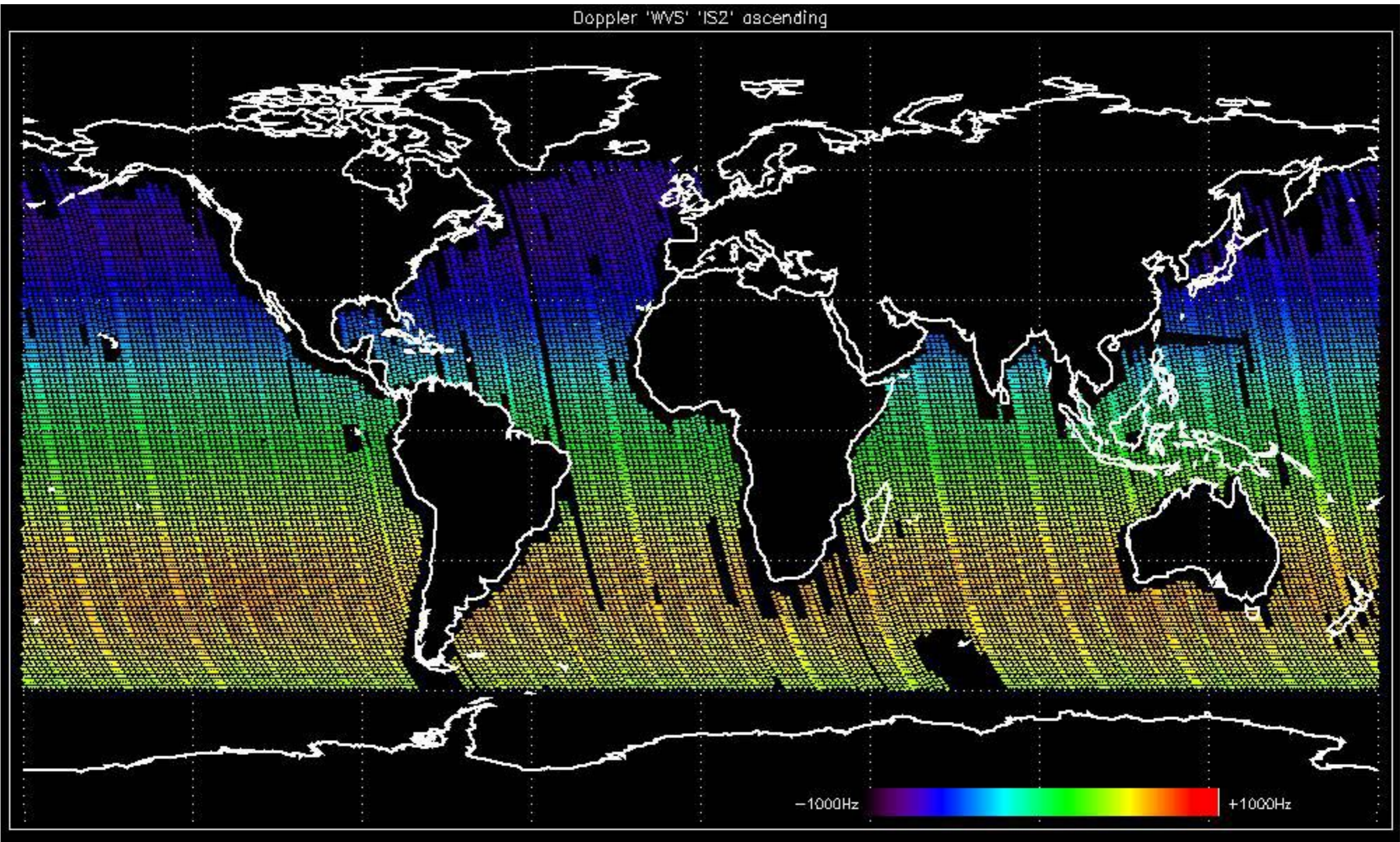


Doppler 'GM1' 'SS1' descending



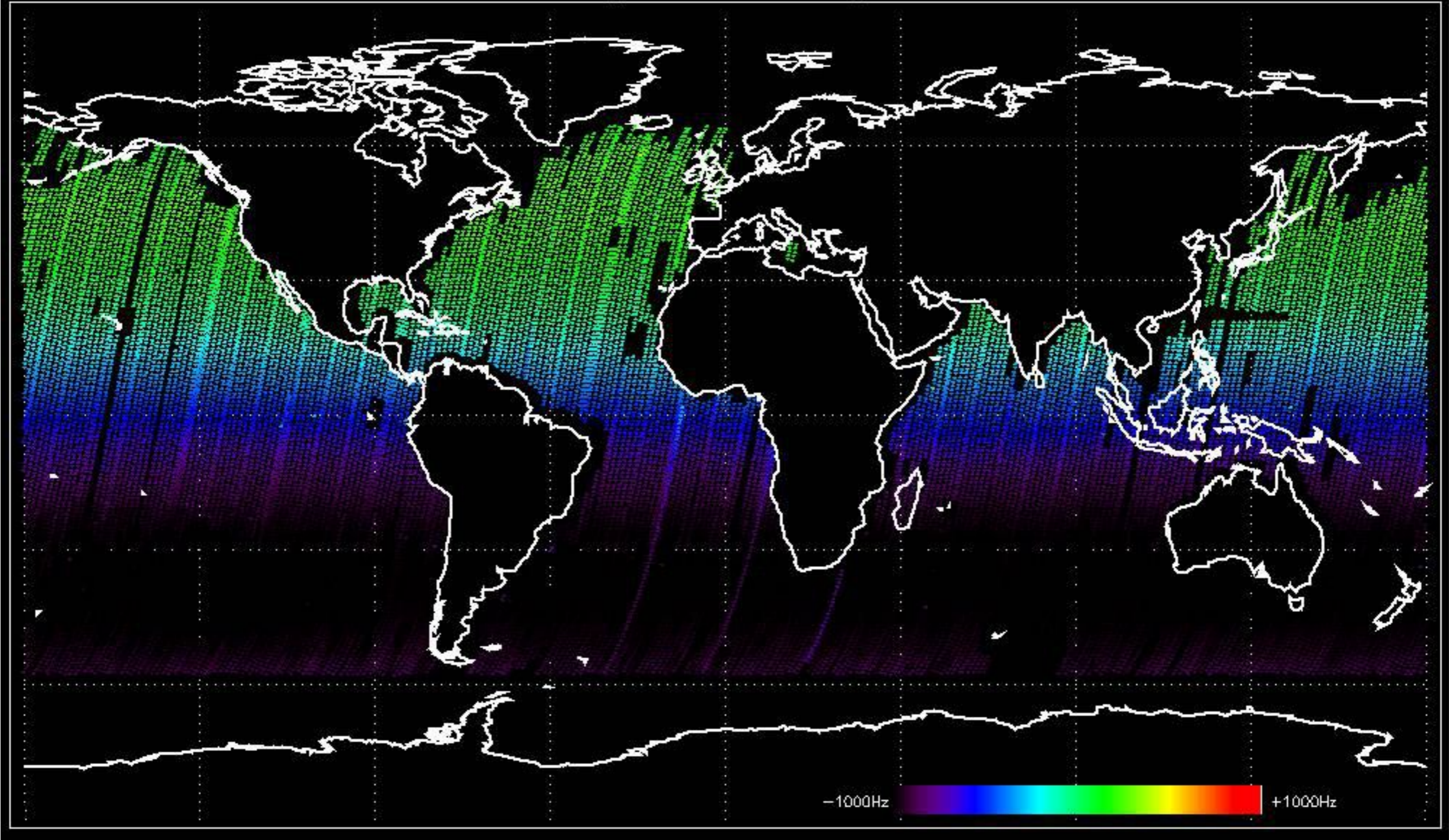


Doppler 'WVS' 'IS2' ascending



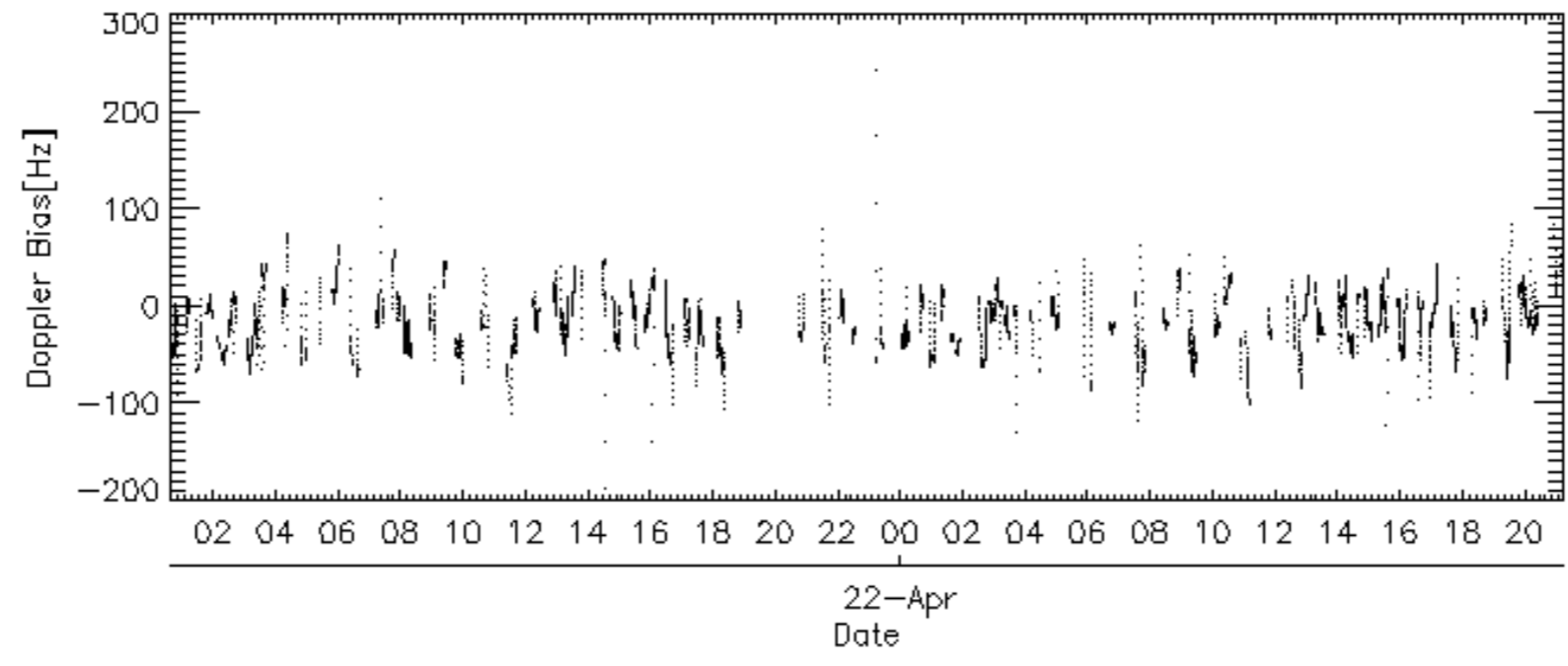
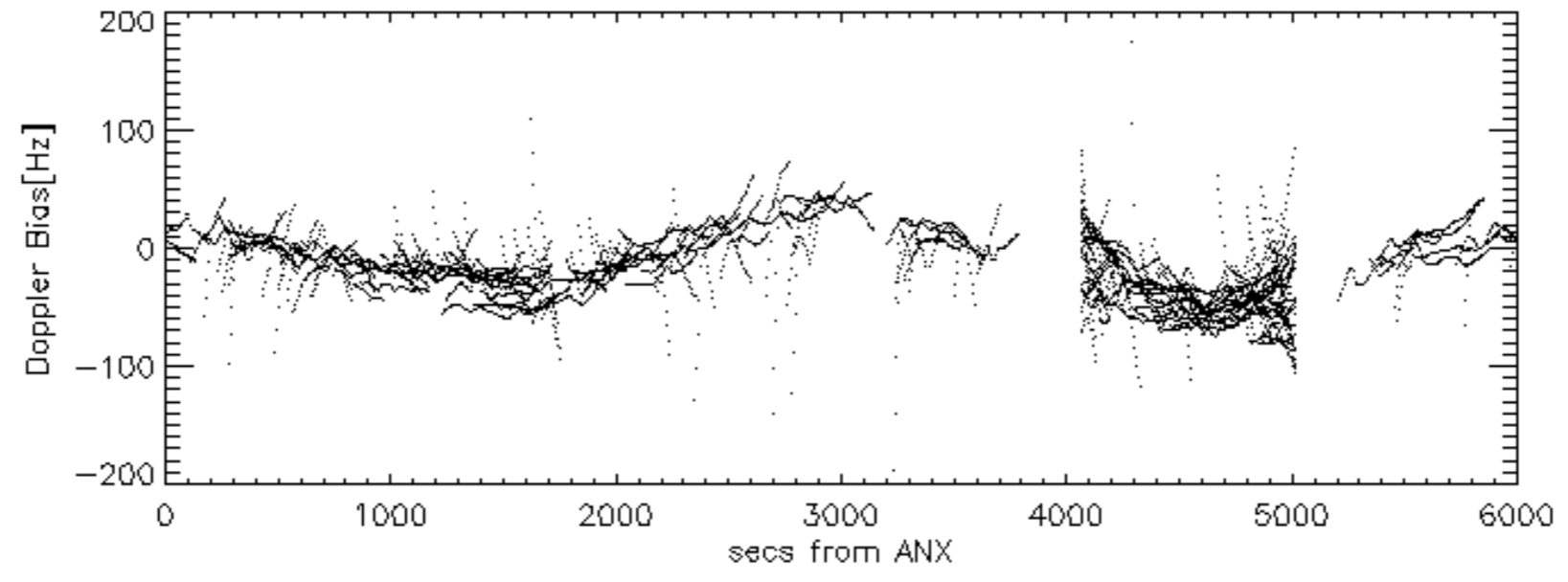
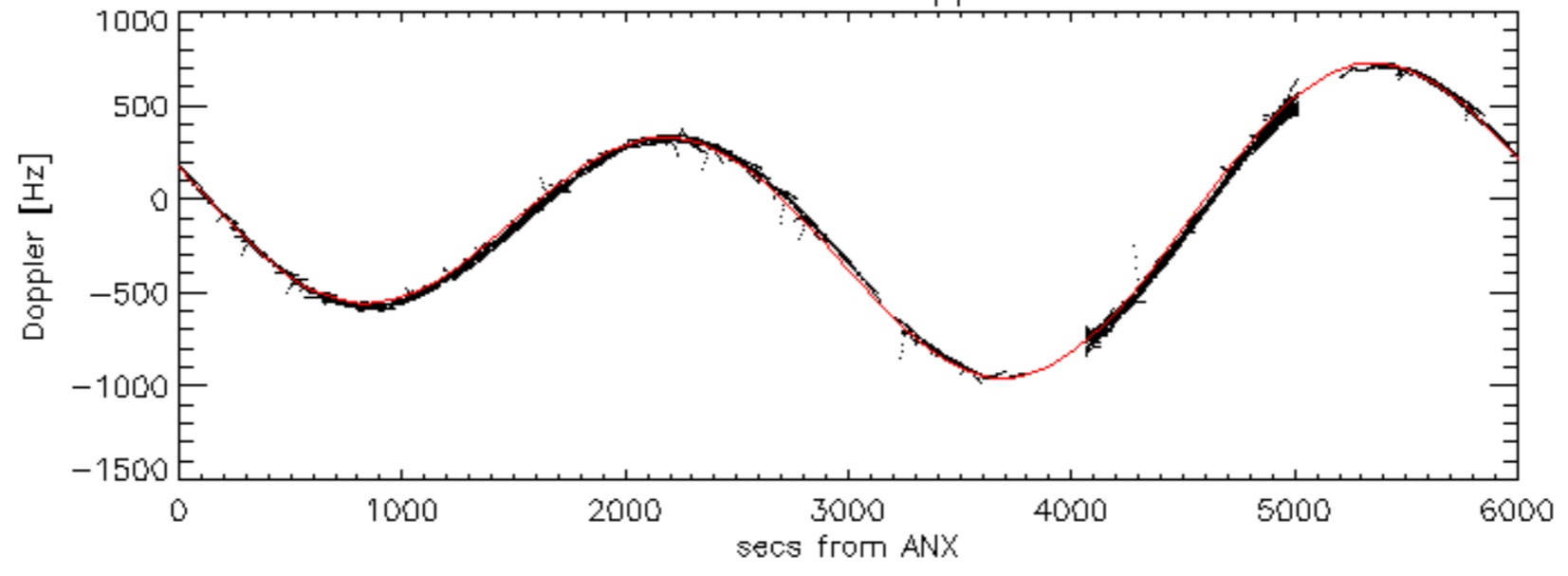


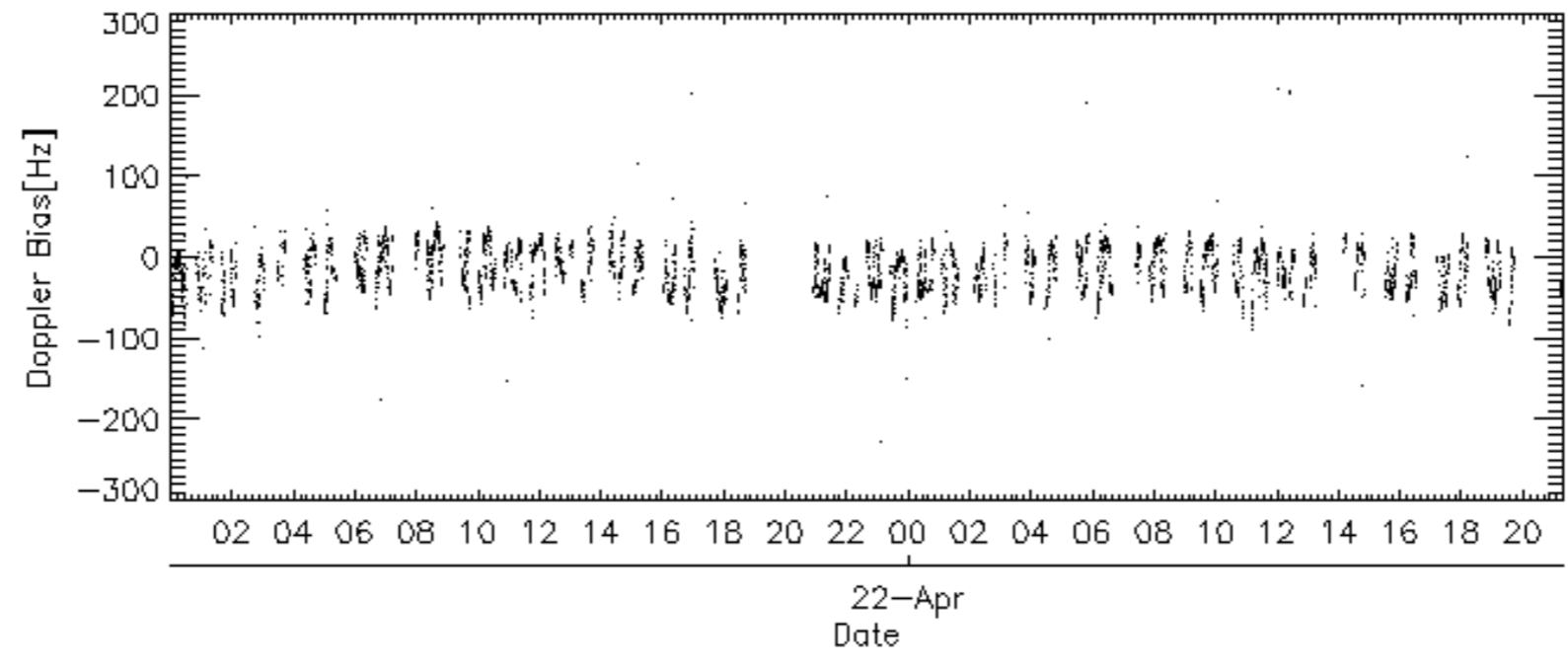
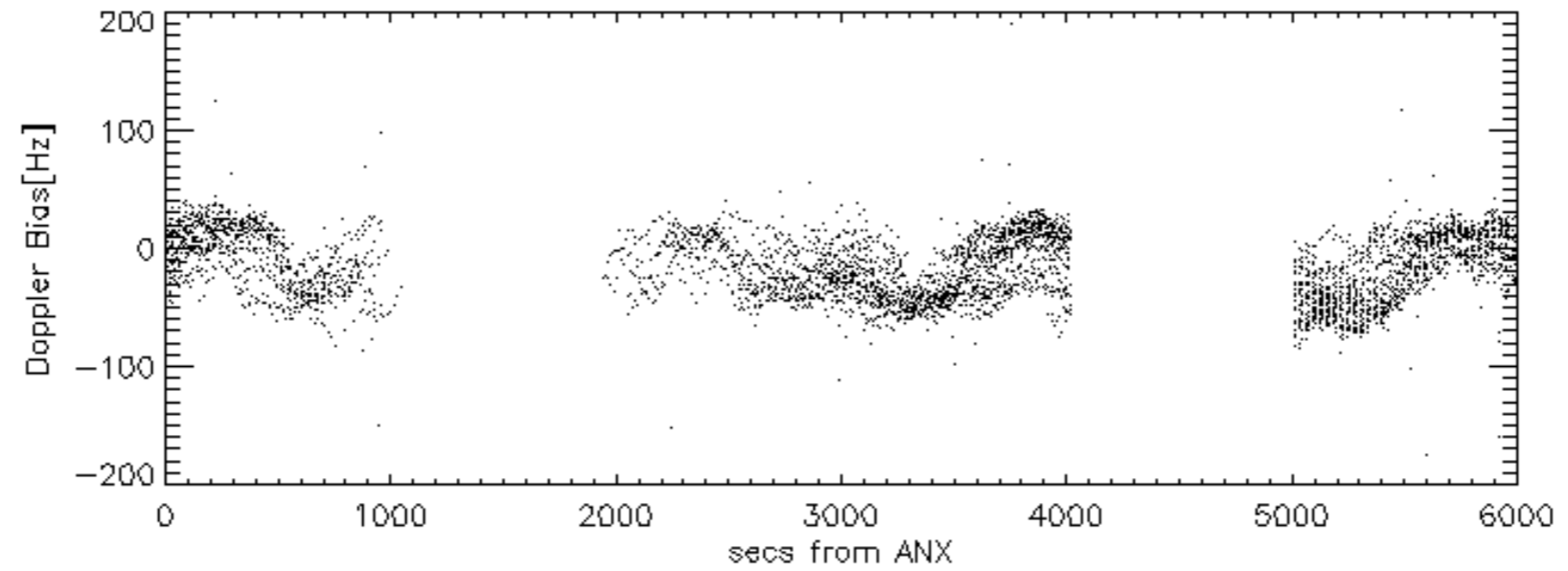
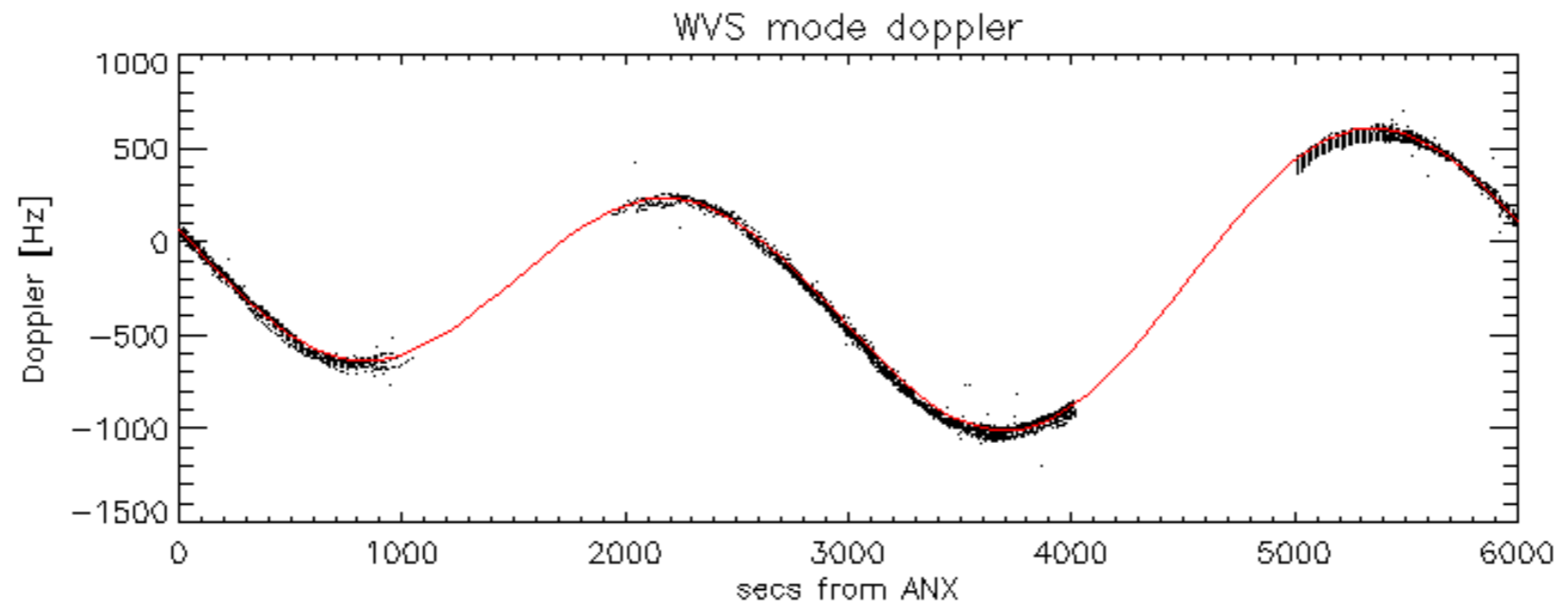
Doppler 'WVS' 'IS2' descending





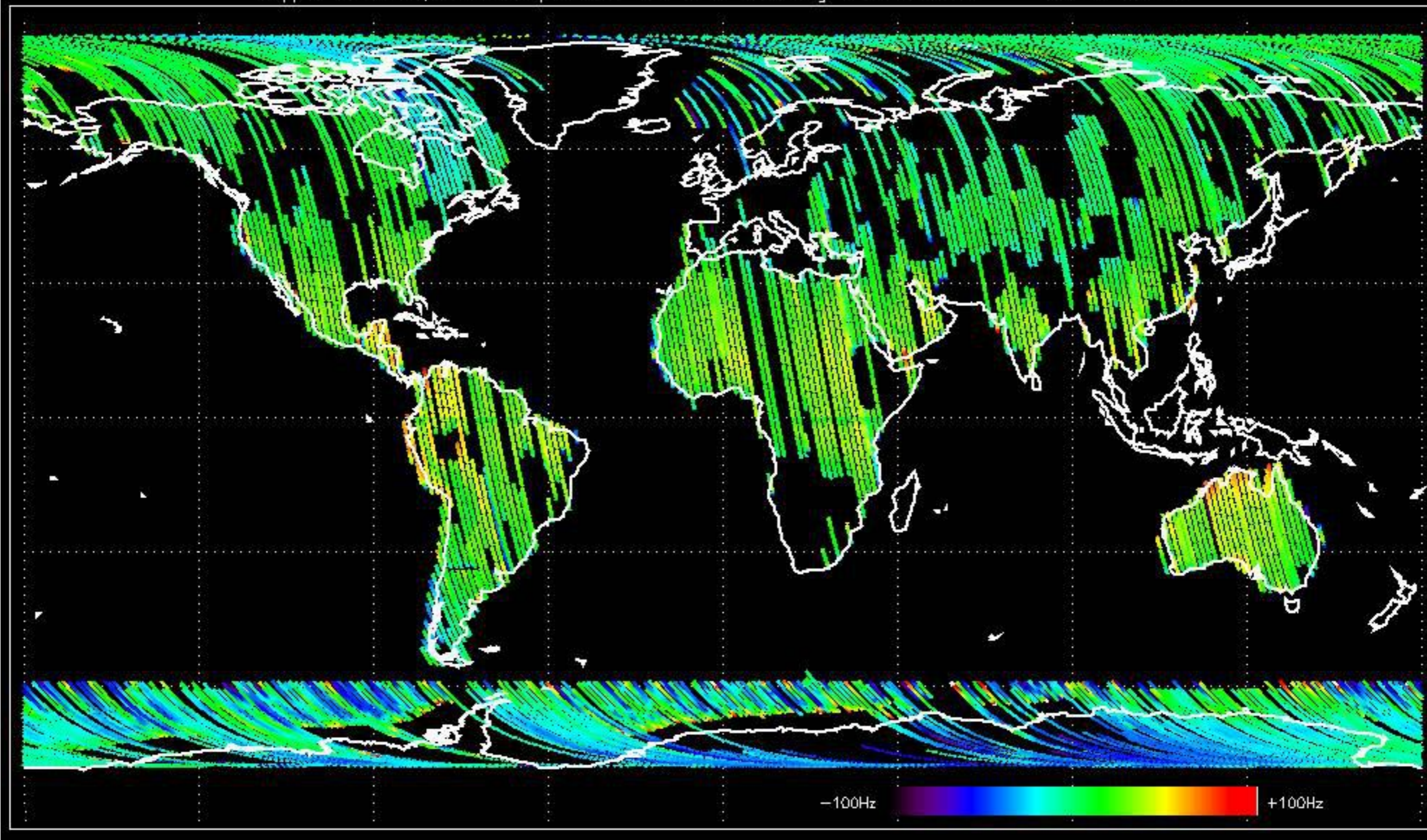
GM1 mode doppler





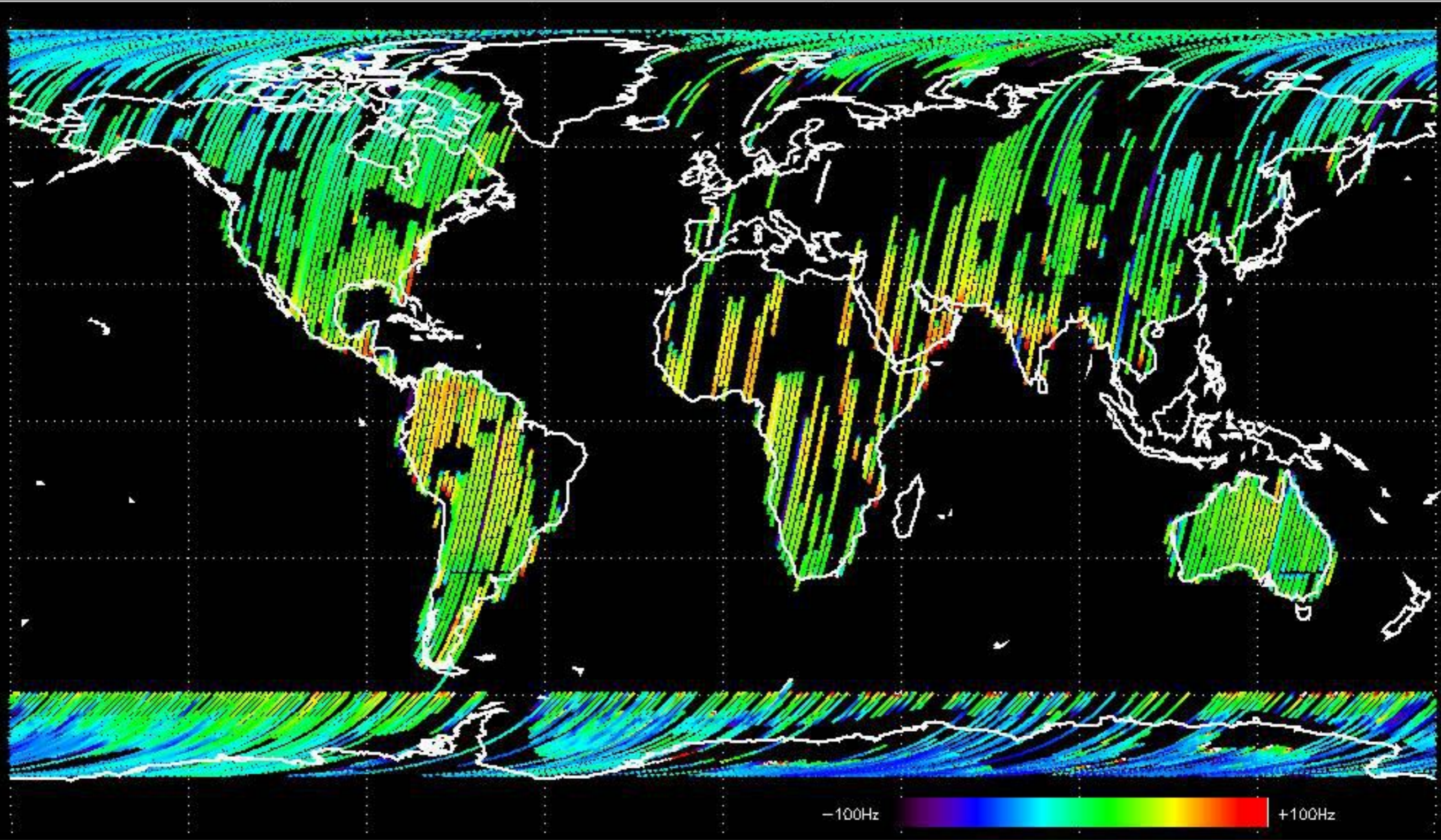


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -27.258126 Hz



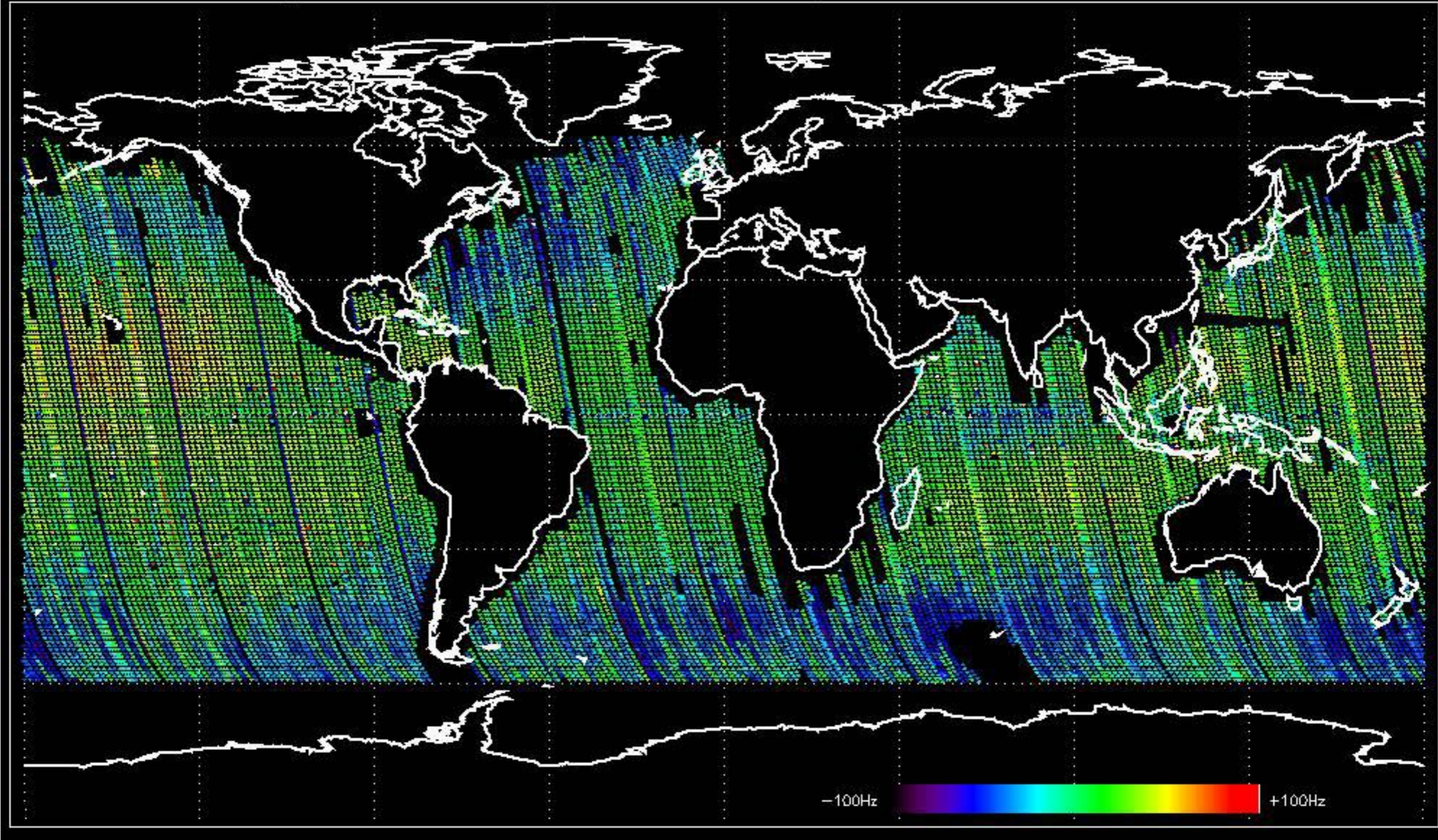


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -17.649884 Hz



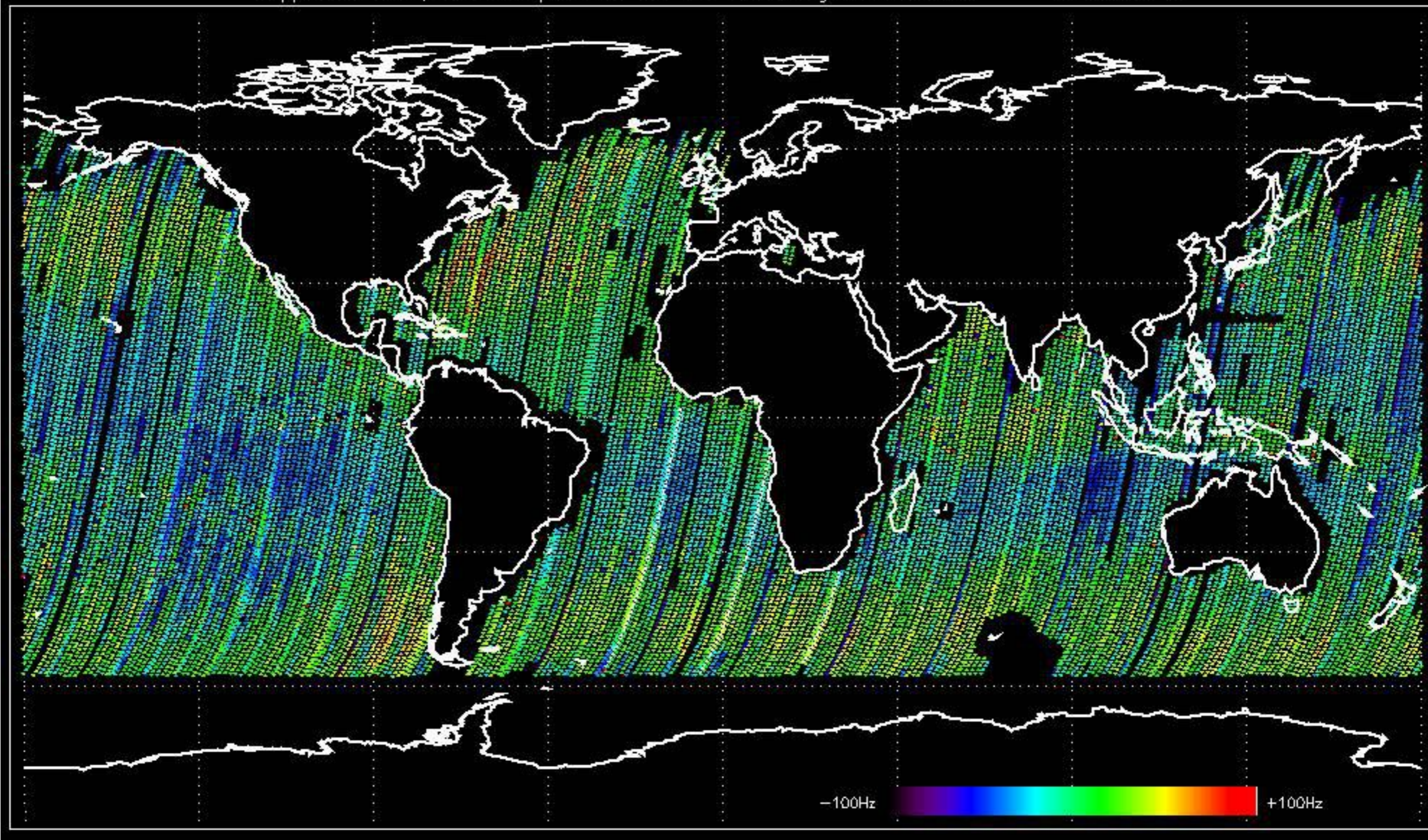


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -21.484046 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -21.786937 Hz

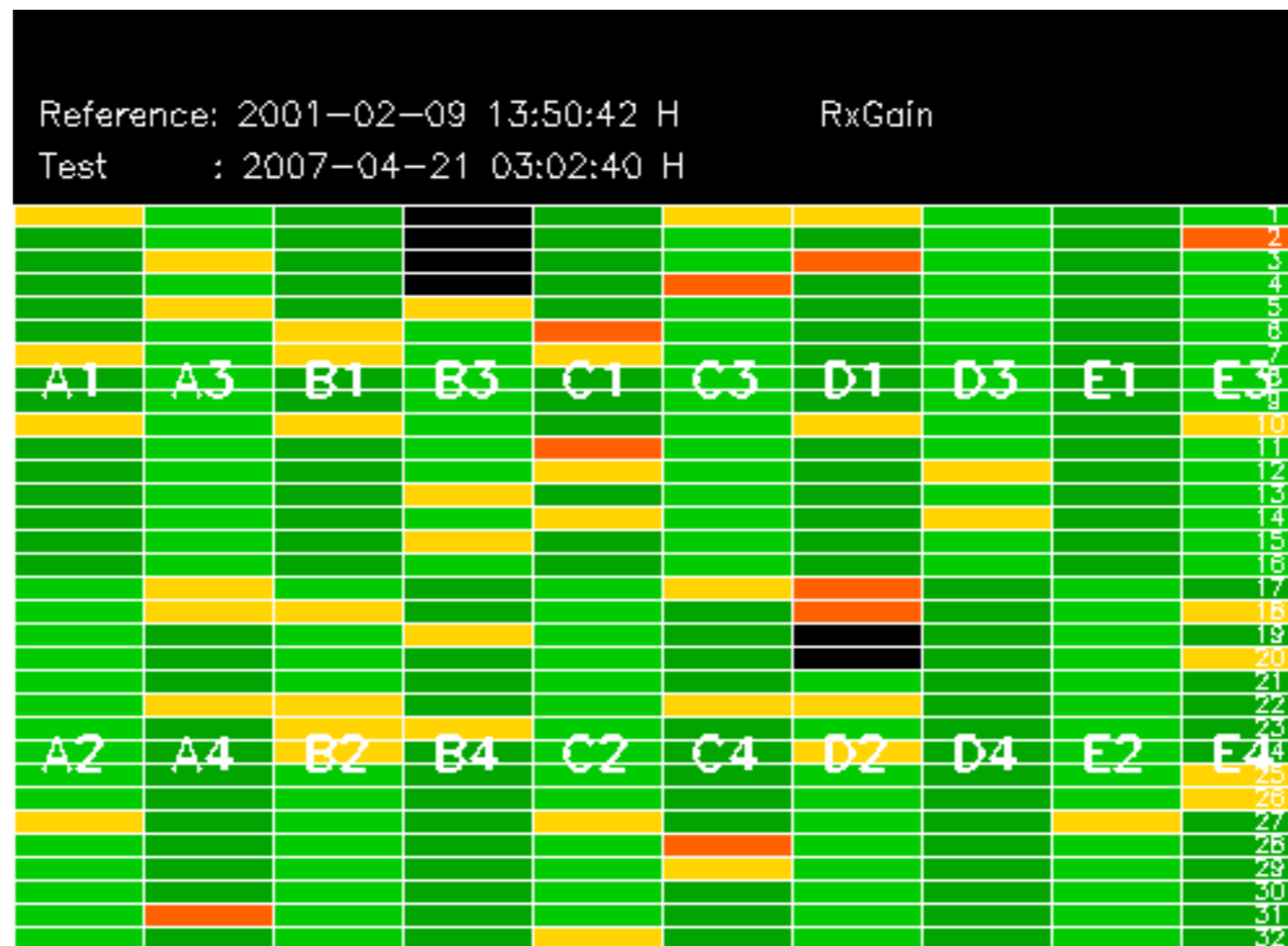


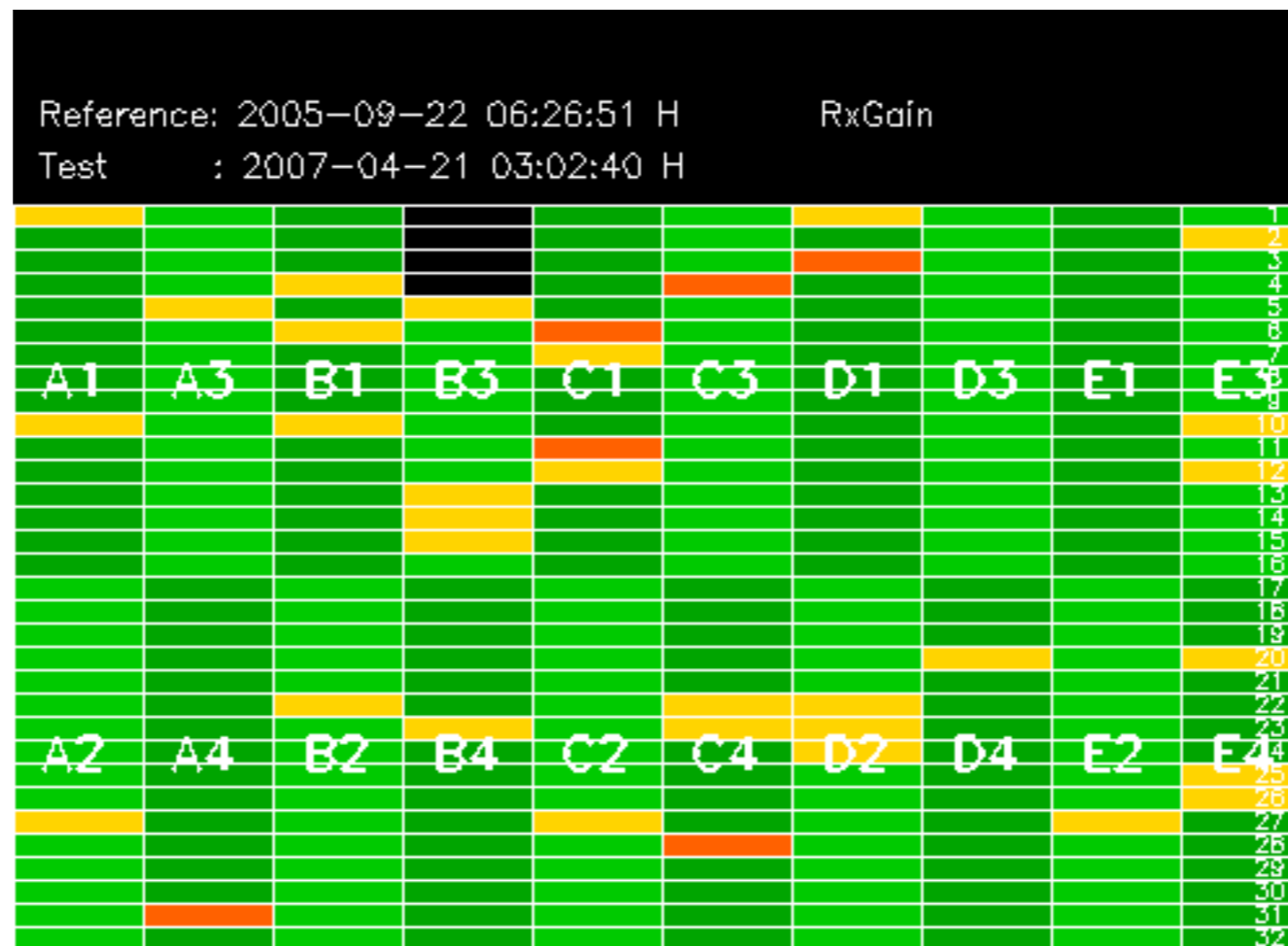


No anomalies observed on available MS products:

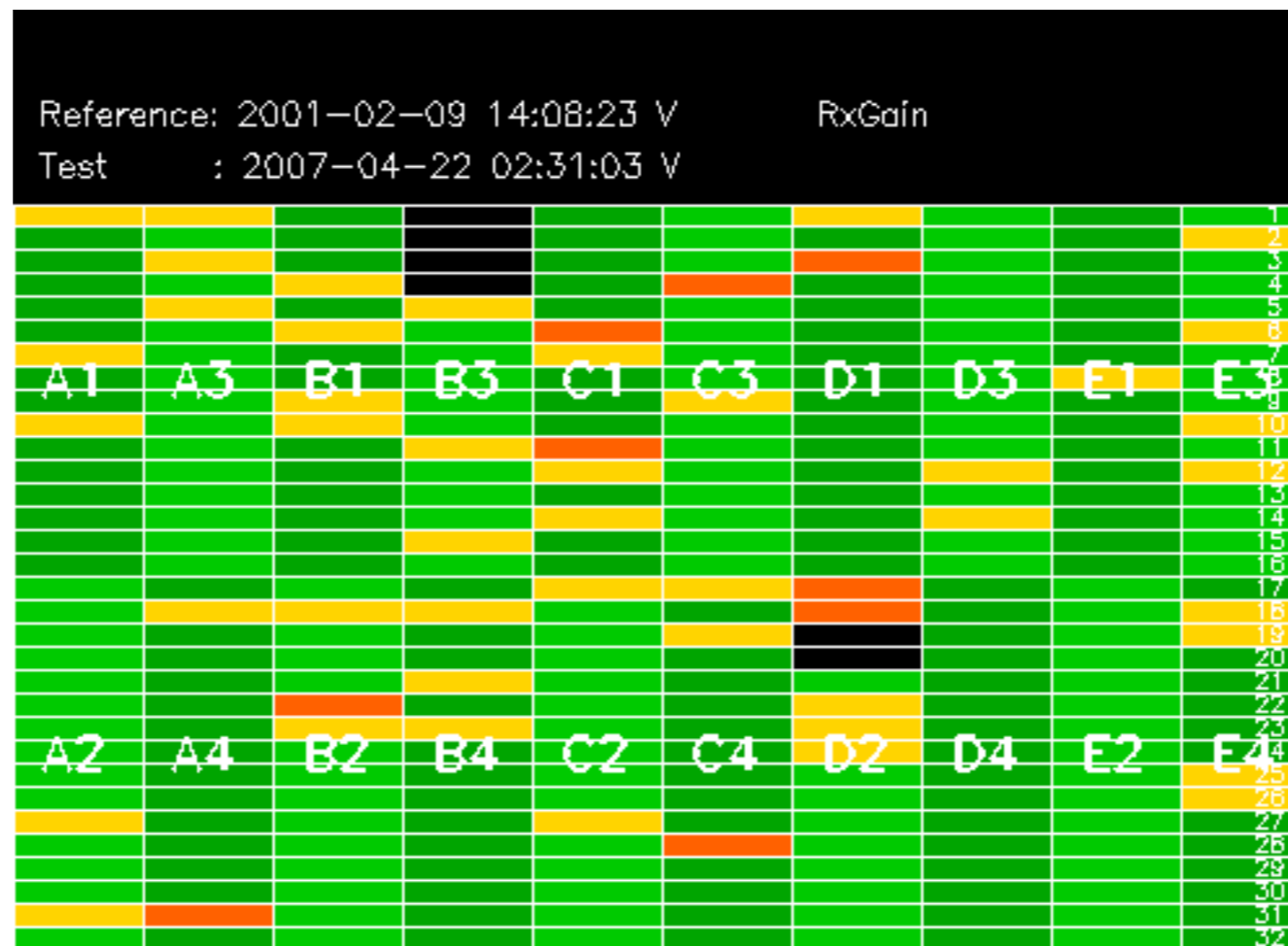
No anomalies observed.















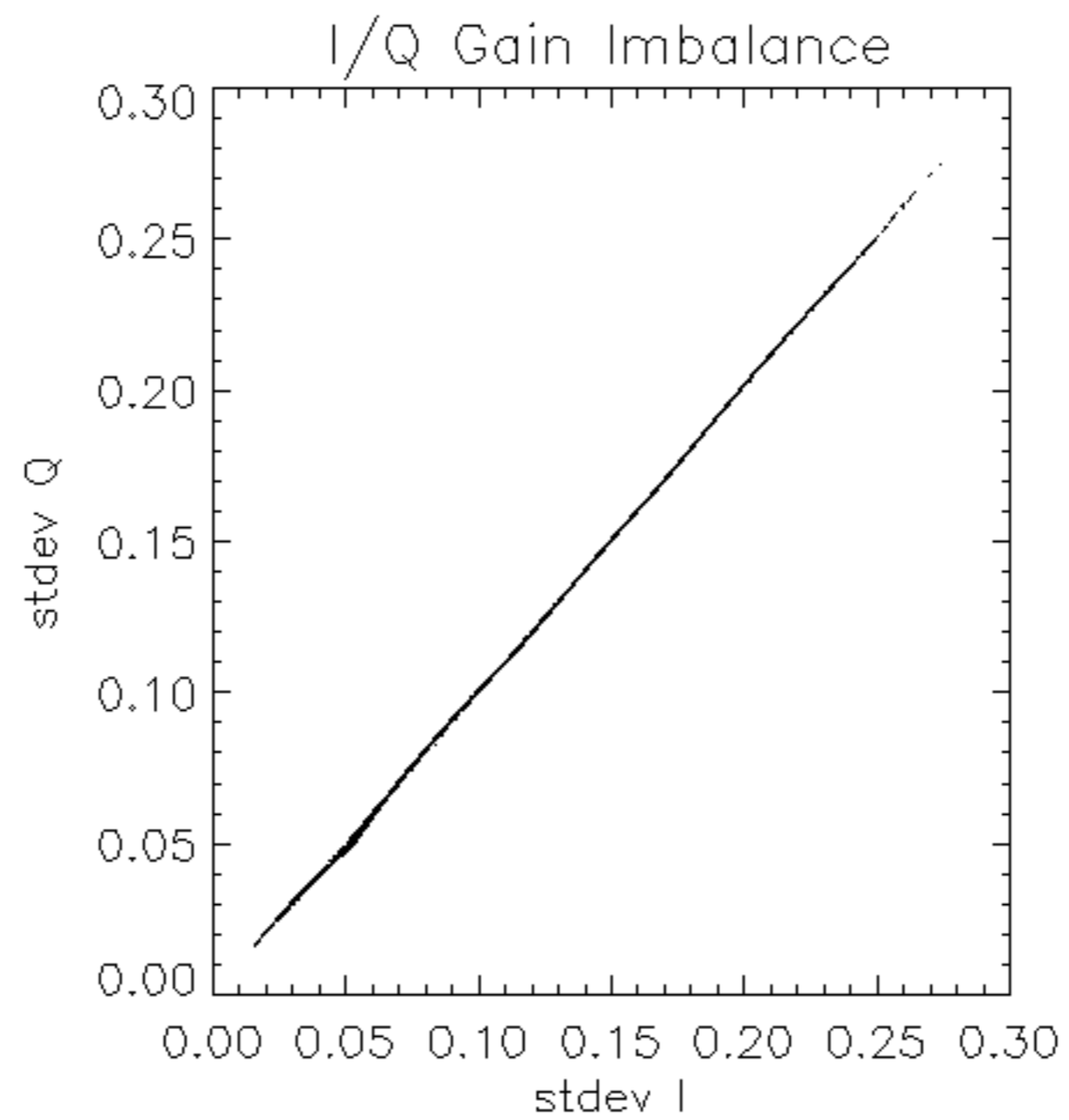


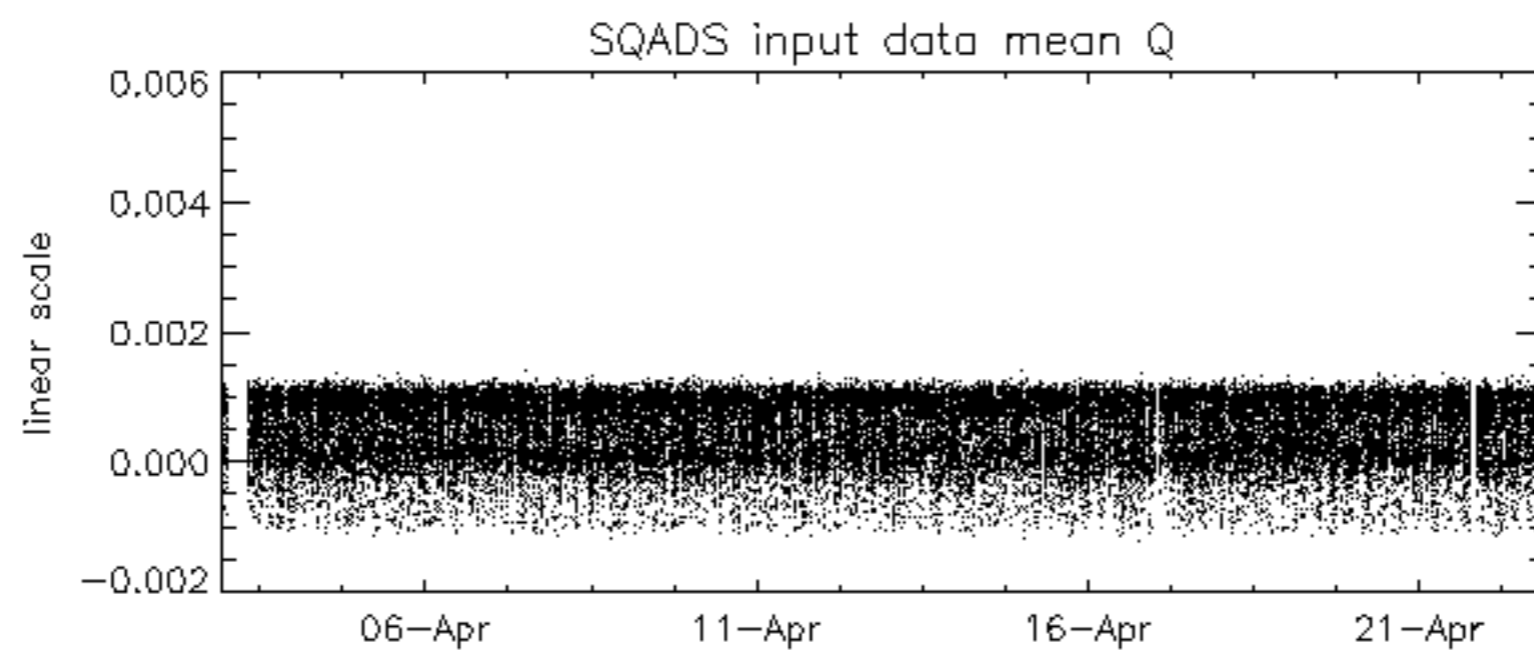
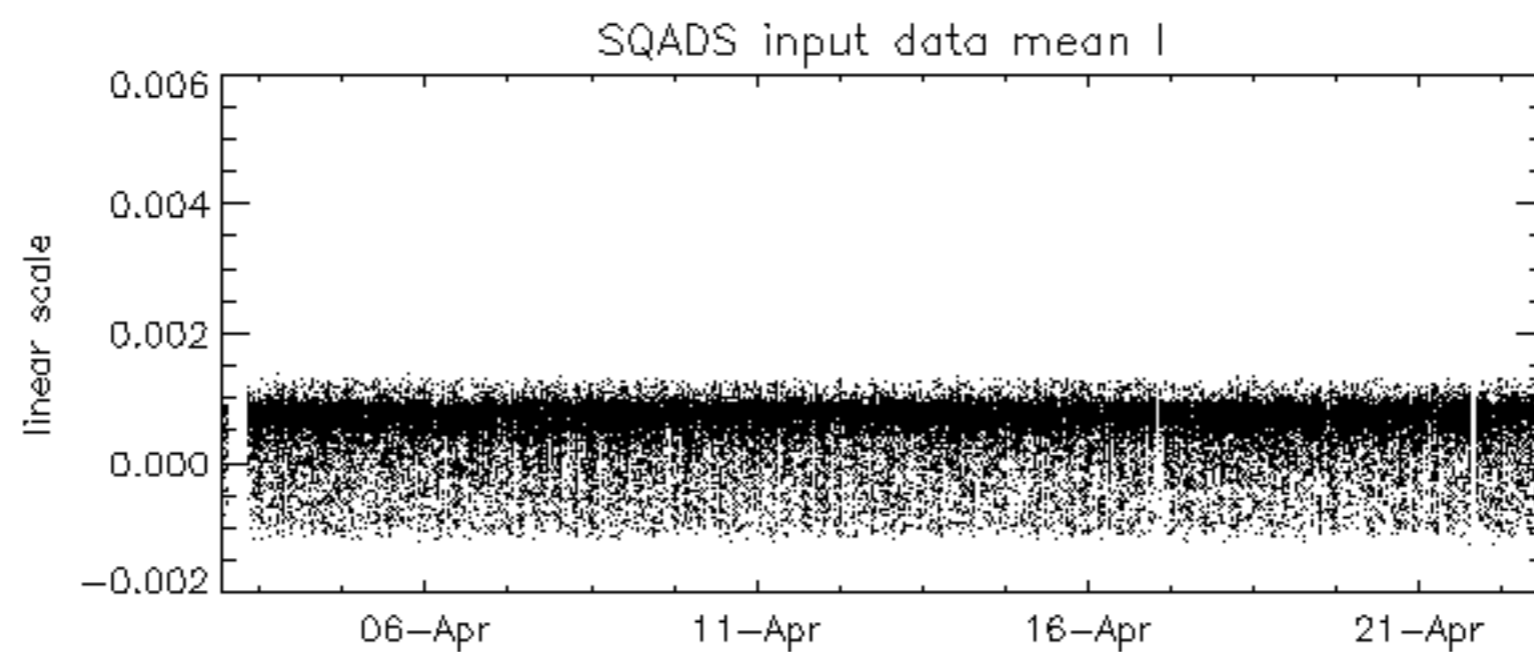
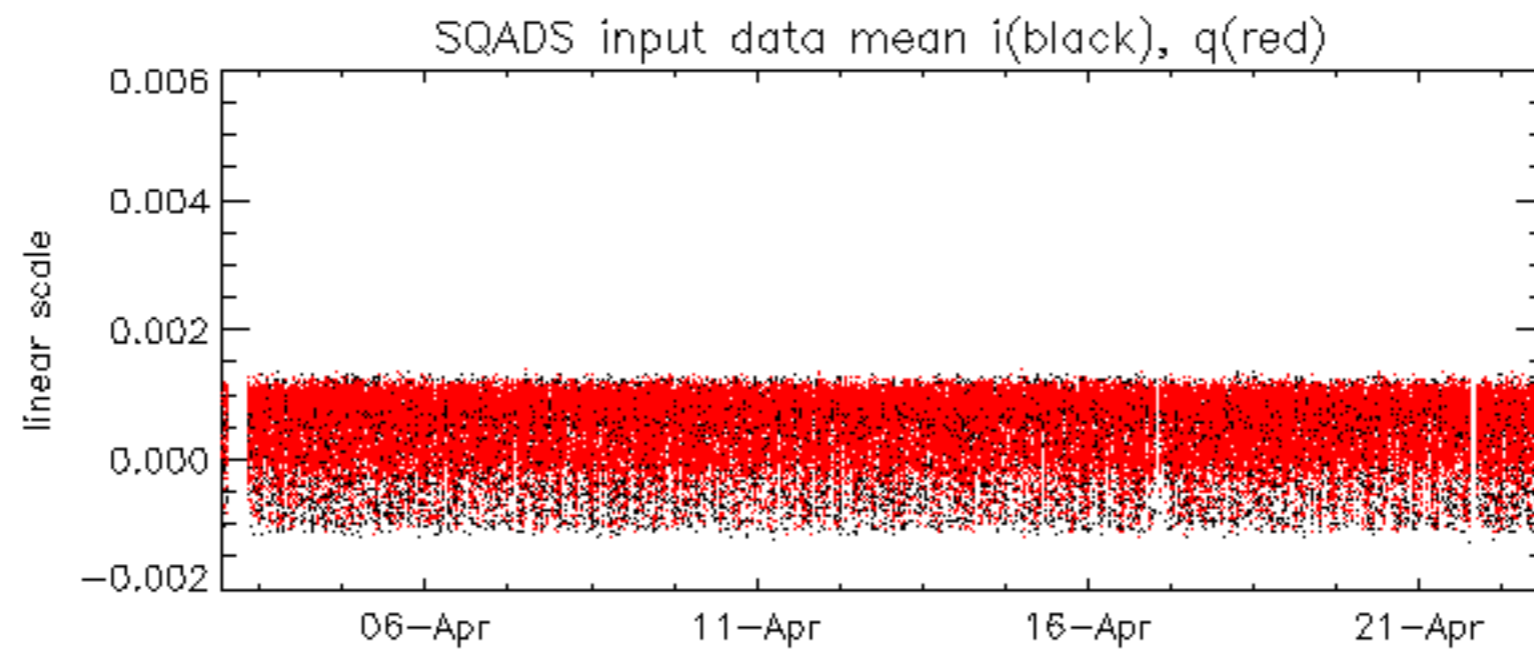


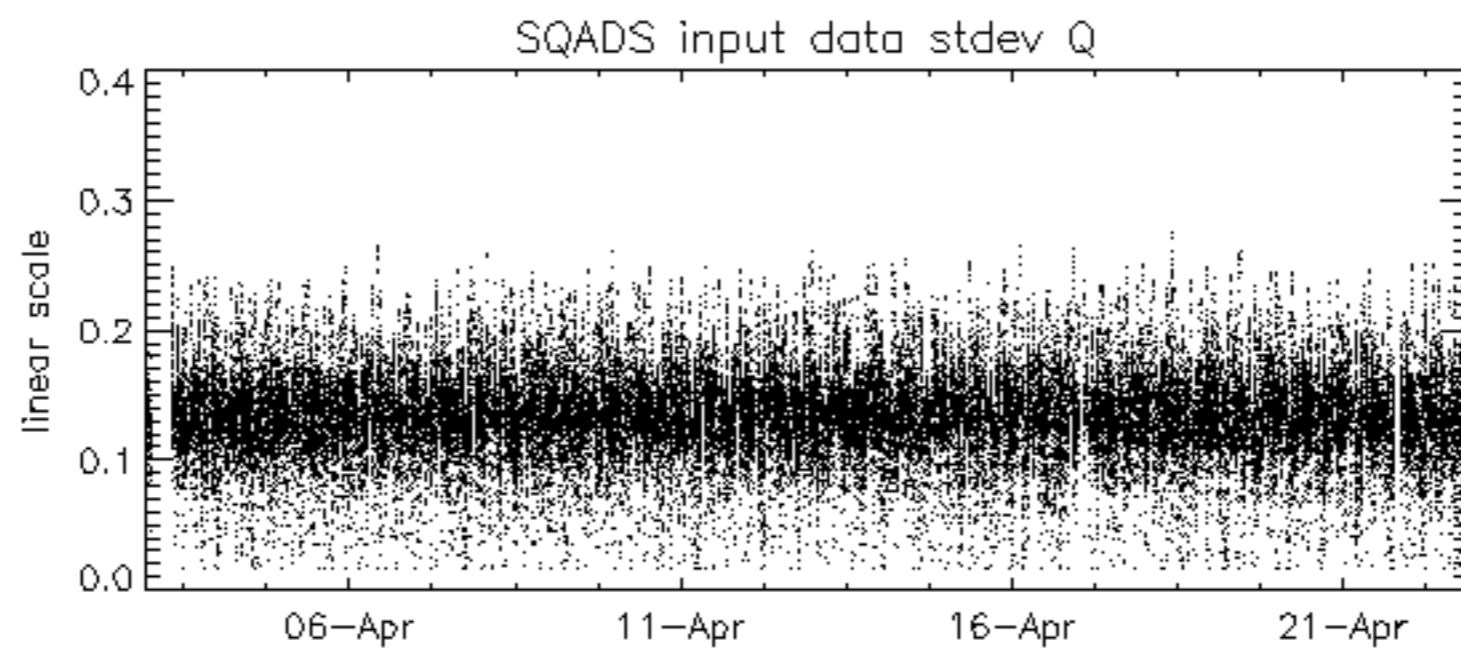
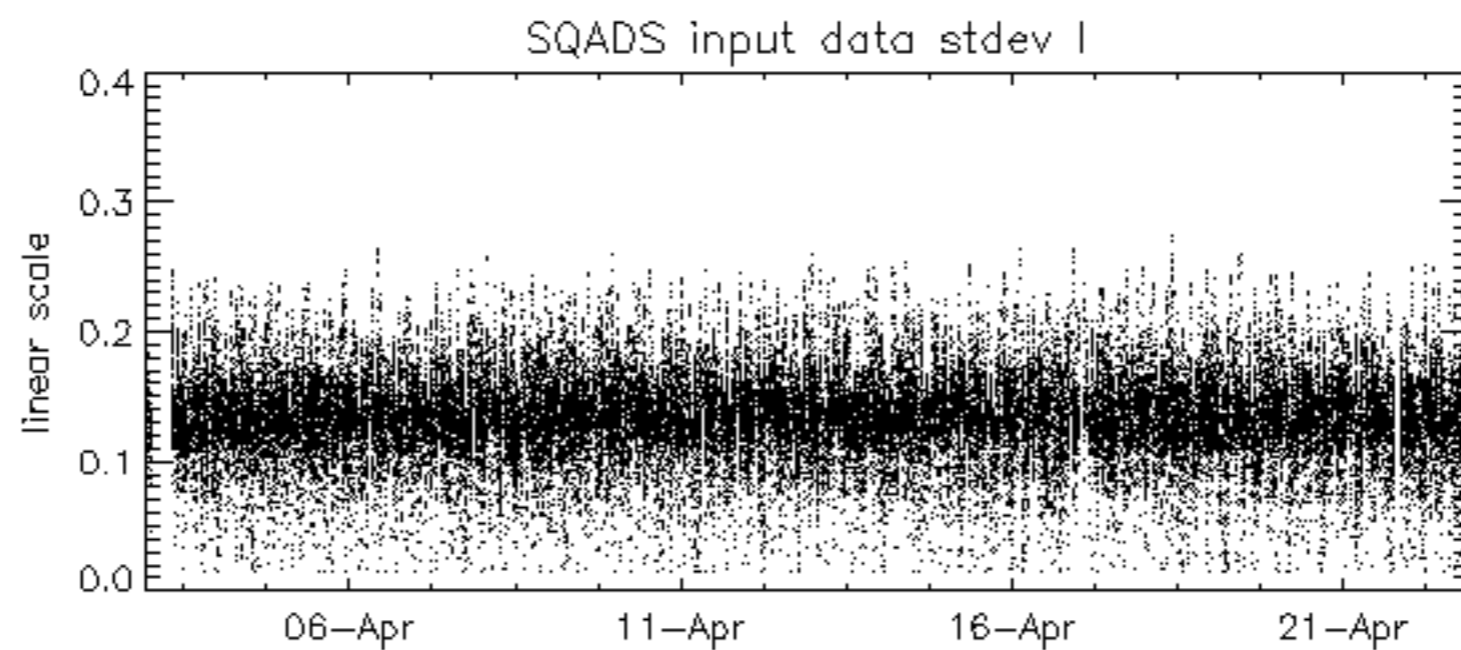
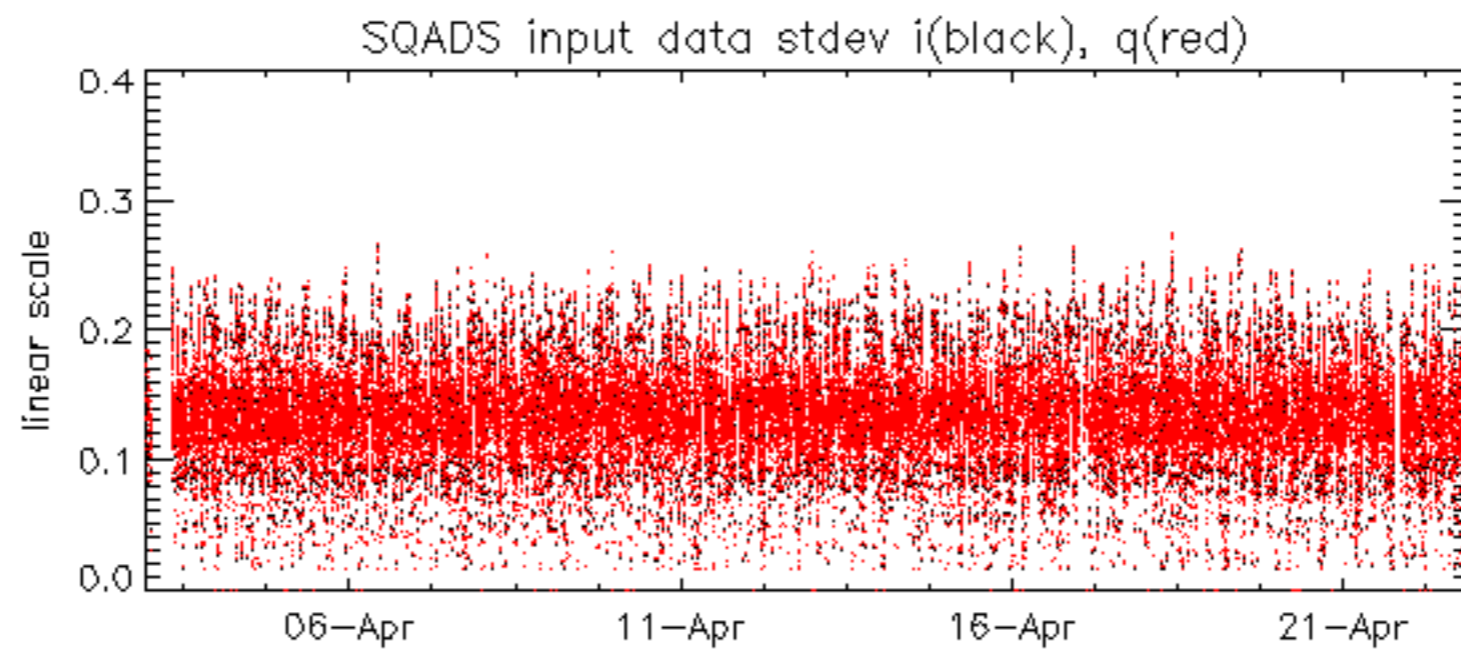




















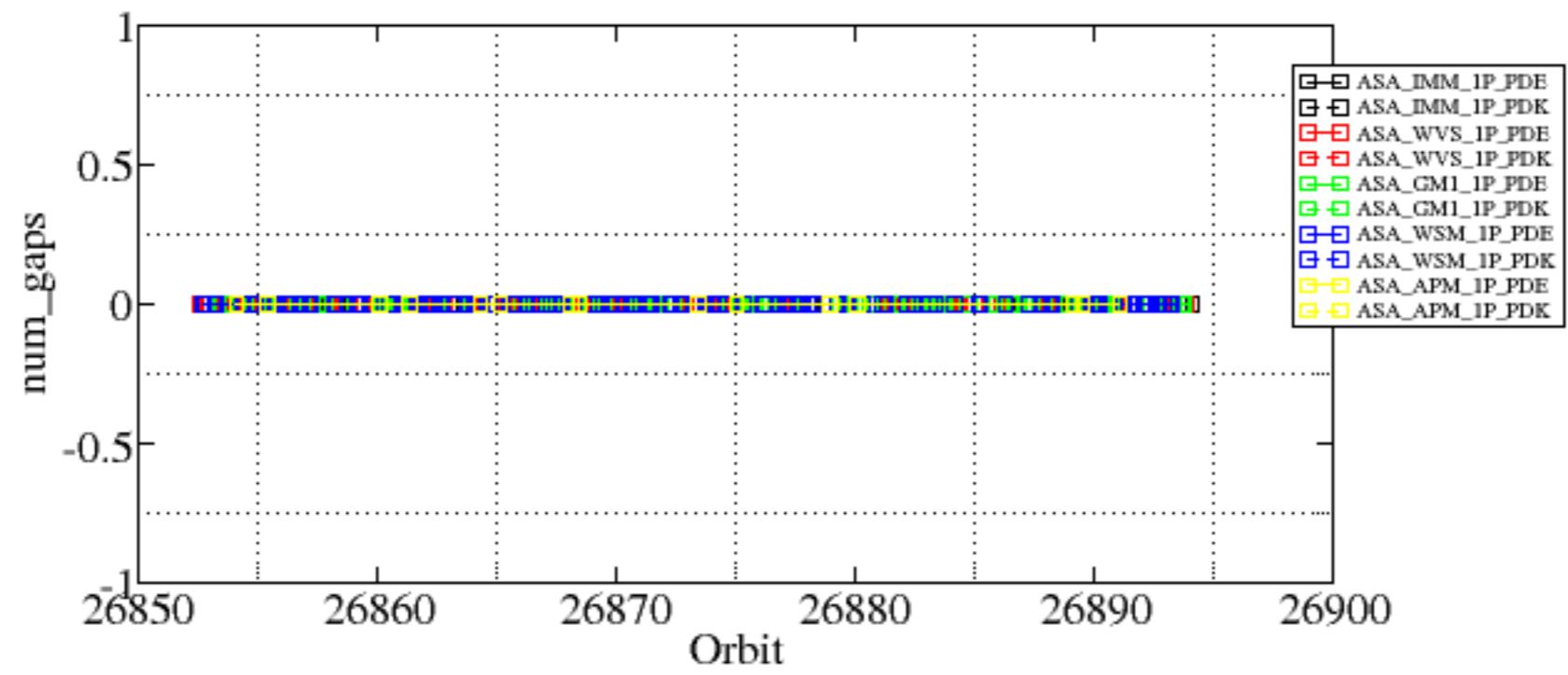




Summary of analysis for the last 3 days 2007042[012]

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_1PNPDK20070420_201256_000004052057_00257_26864_6221.N1	0	8
ASA_GM1_1PNPDK20070420_205323_000005612057_00257_26864_6240.N1	0	90
ASA_GM1_1PNPDK20070422_132003_000001872057_00282_26889_8760.N1	0	30
ASA_GM1_1PNPDK20070422_145255_000003082057_00283_26890_8885.N1	0	7
ASA_WSM_1PNPDE20070420_141551_000000852057_00254_26861_9529.N1	0	73
ASA_WSM_1PNPDE20070420_155726_000001222057_00255_26862_9551.N1	0	2
ASA_WSM_1PNPDE20070421_010149_000001412057_00260_26867_0194.N1	0	31
ASA_WSM_1PNPDE20070421_051735_000002012057_00263_26870_0558.N1	0	45
ASA_WSM_1PNPDE20070421_170154_000001522057_00270_26877_0873.N1	0	5
ASA_WSM_1PNPDE20070421_184505_000000852057_00271_26878_0922.N1	0	56
ASA_WSM_1PNPDE20070422_145121_000000852057_00283_26890_2353.N1	0	32
ASA_WSM_1PNPDE20070422_171455_000001832057_00284_26891_2412.N1	0	44
ASA_WSM_1PNPDE20070422_181428_000001772057_00285_26892_2406.N1	0	57

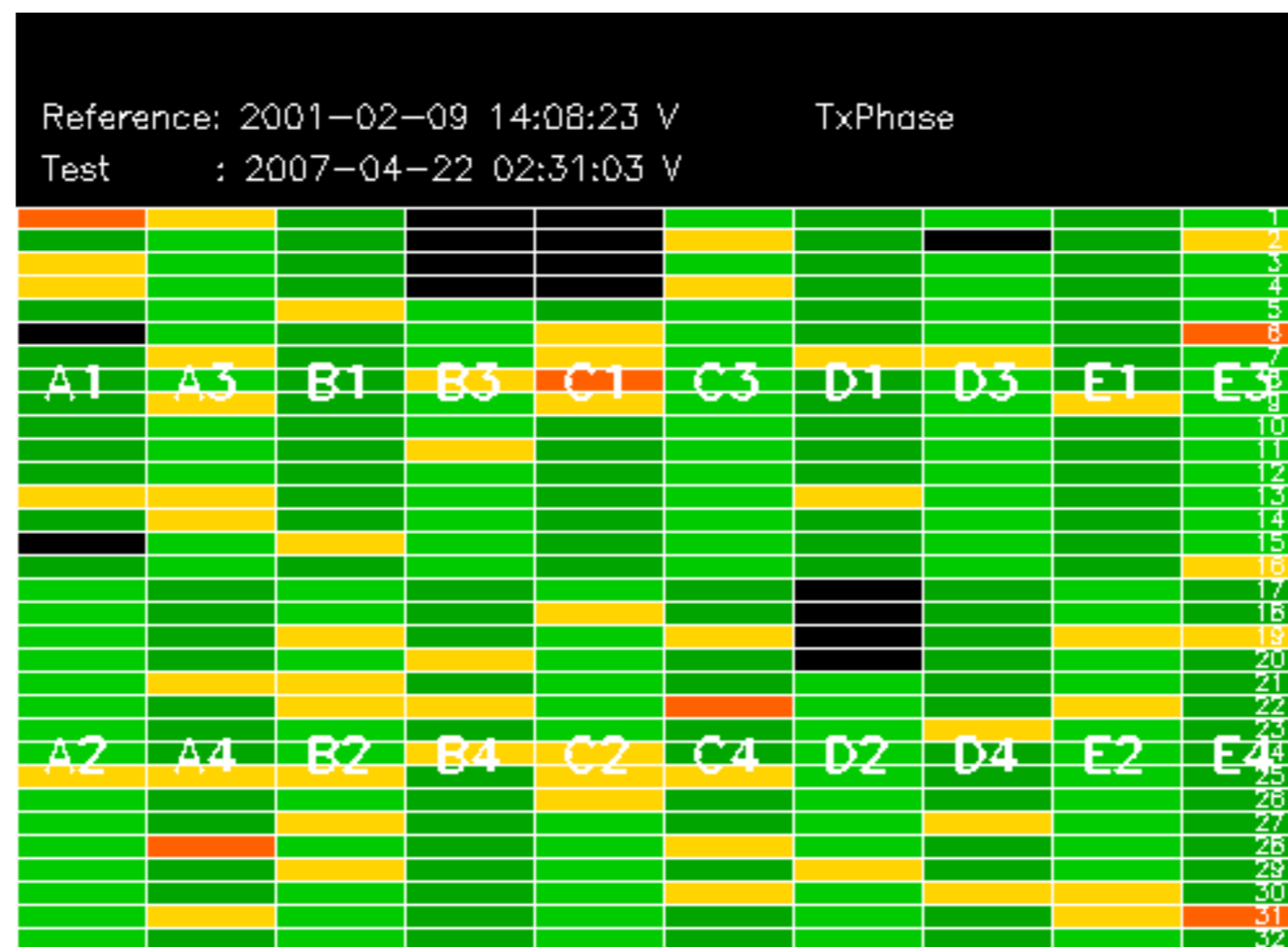








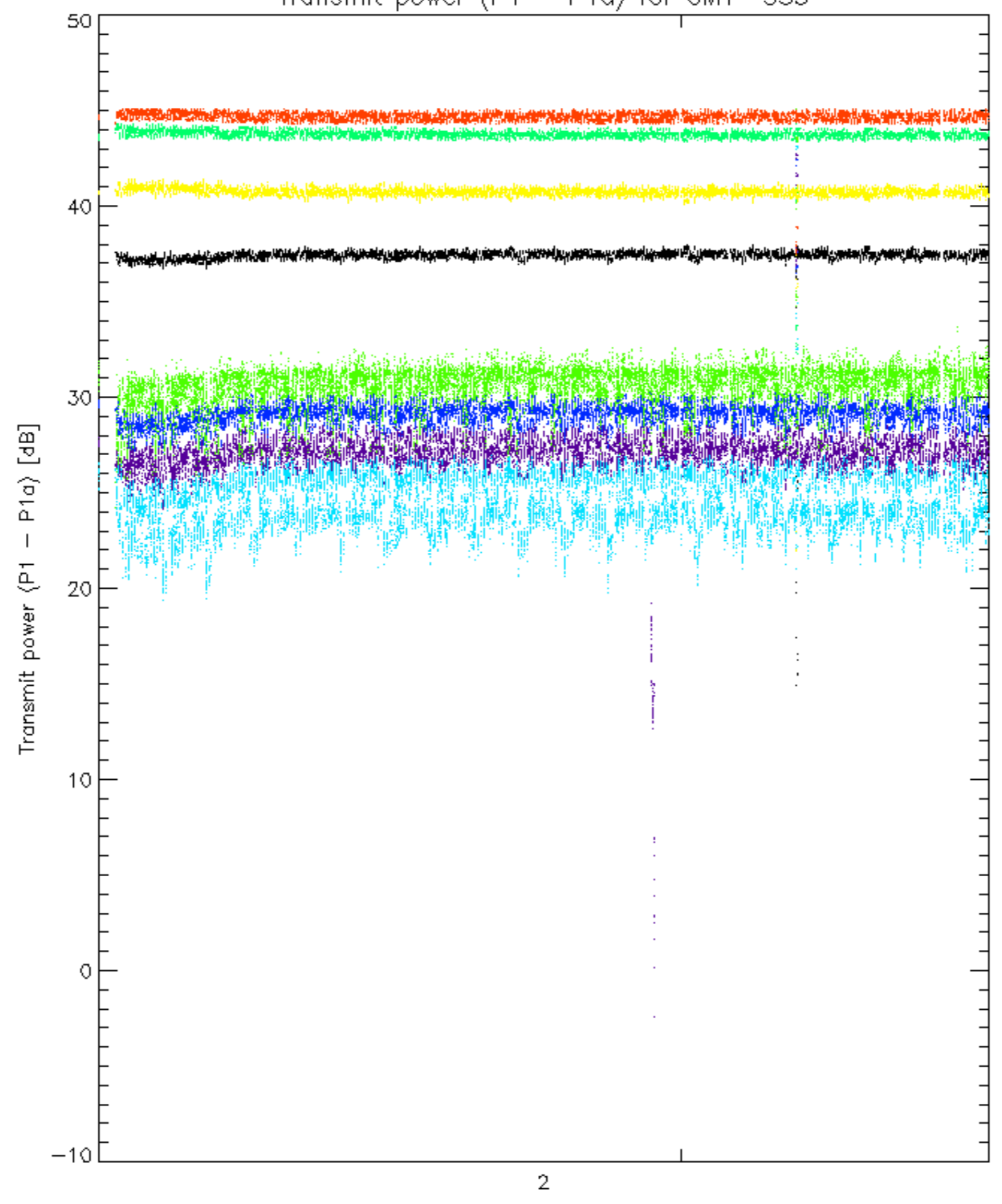




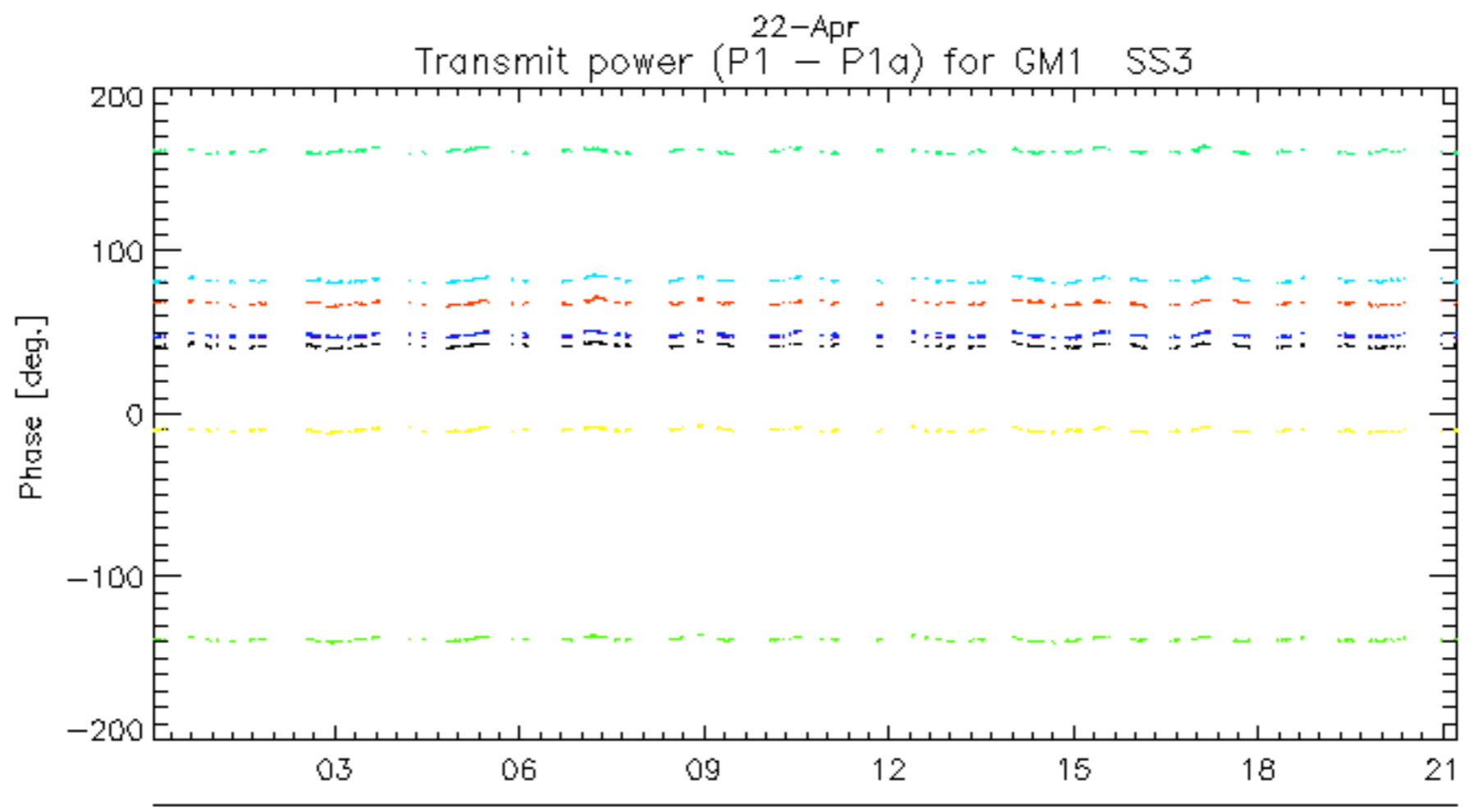
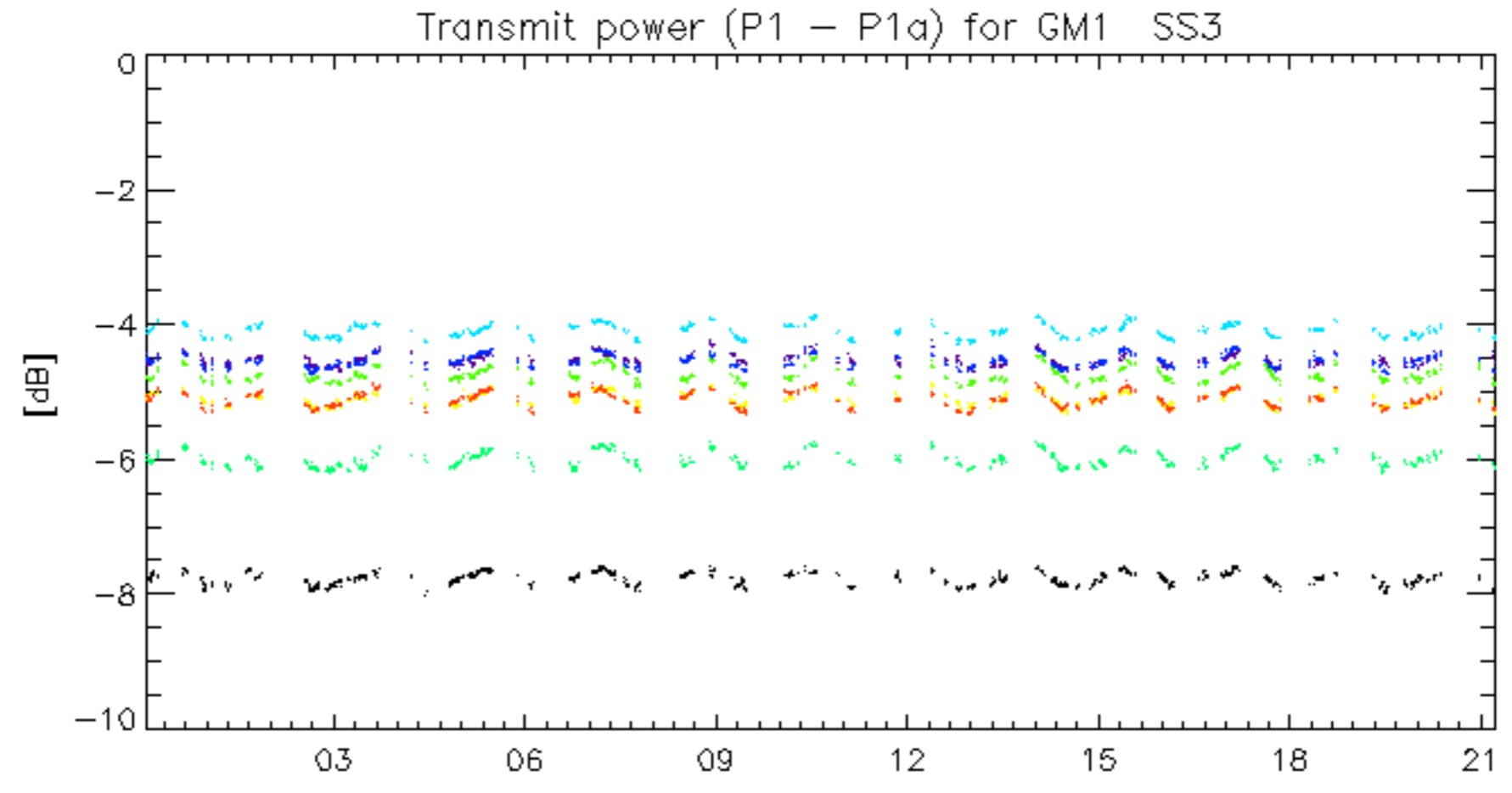




Transmit power (P1 - P1a) for GM1 SS3

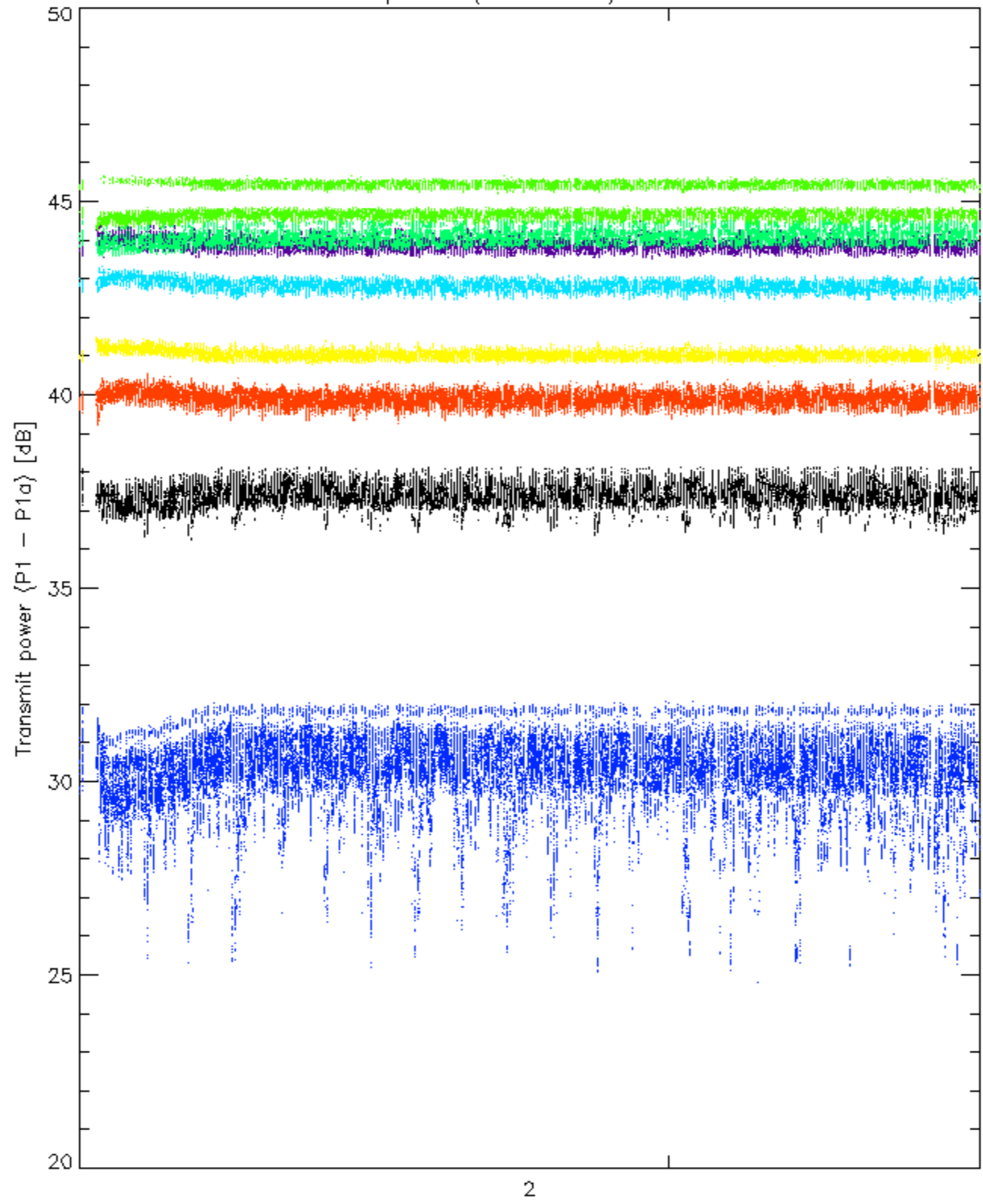


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



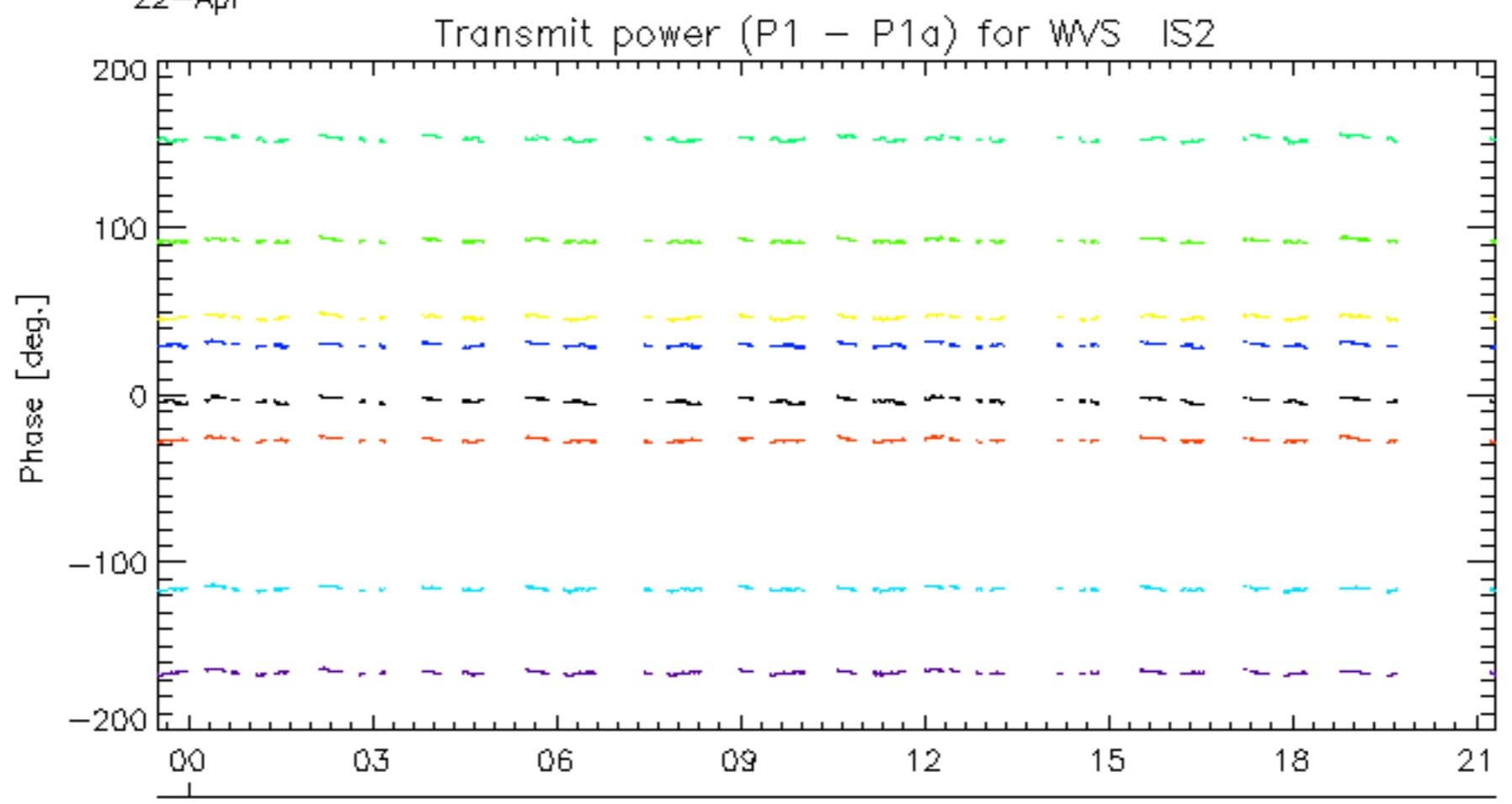
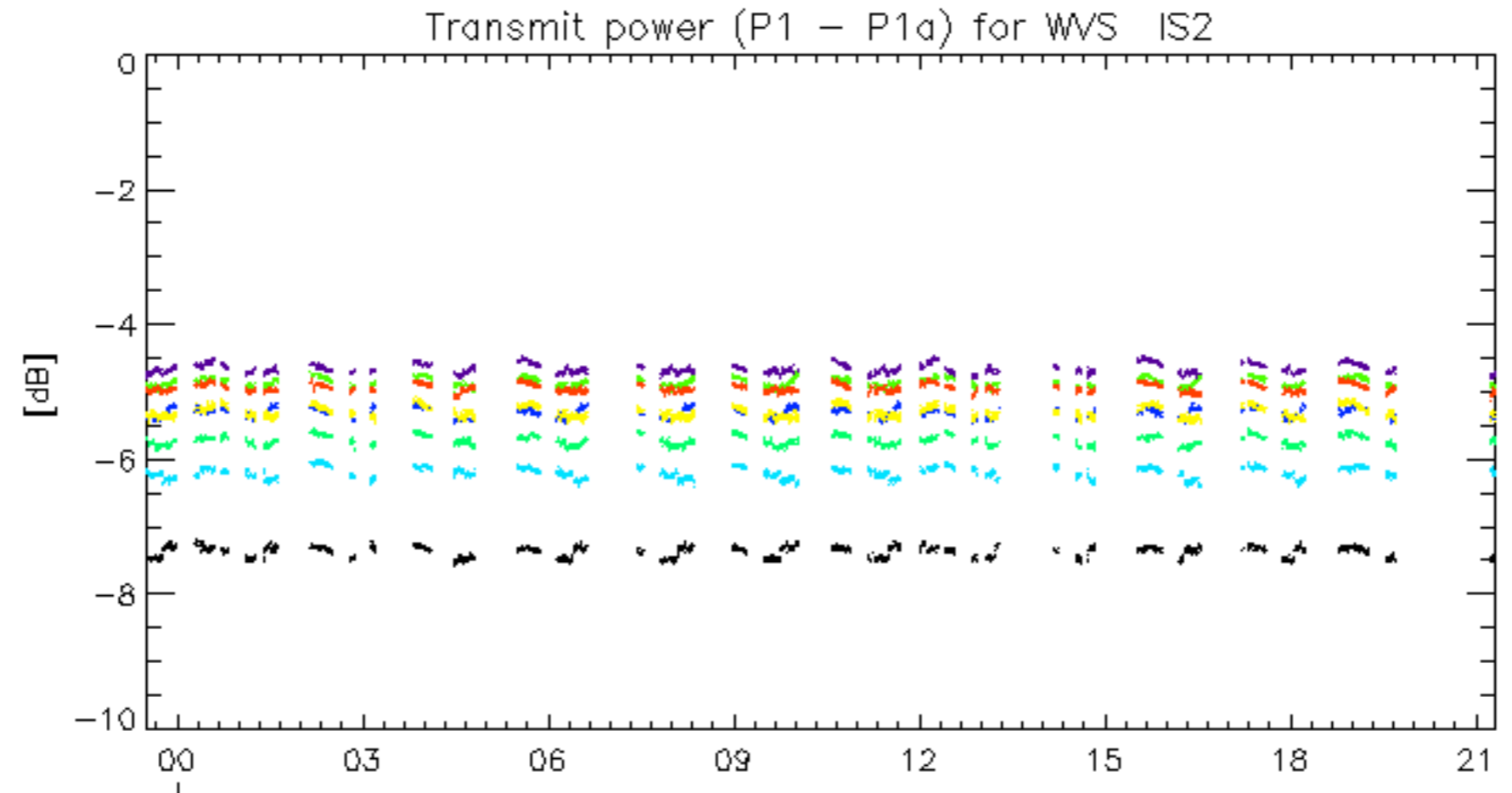
rows: 3 7 11 15 19 22 26 30

Transmit power (P1 - P1a) for WVS IS2



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





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

No unavailabilities during the reported period.