

# PRELIMINARY REPORT OF 070420

last update on Fri Apr 20 18:30:04 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 2007-04-19 00:00:00 to 2007-04-20 18:30:04

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	50	81	5	3	41
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	50	81	5	3	41
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	50	81	5	3	41
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	50	81	5	3	41

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	46	64	31	10	40
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	46	64	31	10	40
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	46	64	31	10	40
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	46	64	31	10	40

### 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	20070420 033417
H	20070419 040554

### 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



**P1a Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1a	-15.060922	0.150439	-0.042860
7	P1a	-17.541622	0.117185	-0.053920
11	P1a	-17.398746	0.322649	-0.685175
15	P1a	-12.958936	0.103693	-0.405793
19	P1a	-15.297472	0.067749	-0.412990
22	P1a	-15.875809	0.416086	-0.626743
26	P1a	-15.078239	0.192905	0.514334
30	P1a	-17.623722	0.290774	-0.739459

**P1t Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.762367	0.010823	-0.037020
7	P1	-3.146276	0.008860	-0.013122
11	P1	-4.207853	0.012349	-0.022798
15	P1	-6.391302	0.018638	-0.133517
19	P1	-3.789985	0.009880	0.045867
22	P1	-4.745880	0.009174	-0.056571
26	P1	-3.928852	0.018764	0.105943
30	P1	-5.970273	0.009301	0.030637

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.662584	0.090251	-0.069808
7	P2	-21.575716	0.086378	0.106817
11	P2	-15.382762	0.113026	0.196038
15	P2	-7.125061	0.087319	-0.032196
19	P2	-9.119557	0.078247	0.039134
22	P2	-18.089918	0.075502	-0.003999
26	P2	-16.610102	0.078892	-0.044680
30	P2	-19.286276	0.081598	0.007856

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.245337	0.005251	-0.021136
7	P3	-8.245337	0.005251	-0.021136
11	P3	-8.245337	0.005251	-0.021136
15	P3	-8.245337	0.005251	-0.021136
19	P3	-8.245337	0.005251	-0.021136
22	P3	-8.245337	0.005251	-0.021136
26	P3	-8.245337	0.005251	-0.021136
30	P3	-8.245337	0.005251	-0.021136

**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	-11.193986	0.176971	-0.192216
7	P1a	-10.074745	0.281185	-0.170640
11	P1a	-10.696022	0.129243	0.026706
15	P1a	-10.859177	0.188557	-0.054749
19	P1a	-15.791024	0.098340	-0.048206
22	P1a	-21.338903	1.454525	-0.859179
26	P1a	-15.477814	0.385361	-0.455553
30	P1a	-18.334196	0.475464	0.454861

**P1t Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-8.453256	0.069512	-0.021592
7	P1	-2.422598	0.165931	-0.061013
11	P1	-2.898982	0.032118	0.041045
15	P1	-3.826267	0.042561	0.038021
19	P1	-3.585628	0.015017	-0.026551
22	P1	-4.982365	0.023556	0.096068

26	P1	-6.031417	0.032756	-0.039840
30	P1	-5.337274	0.036509	-0.046265

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.169981	0.068150	-0.110843
7	P2	-22.032063	0.265680	-0.002309
11	P2	-10.633901	0.047940	-0.061477
15	P2	-4.915676	0.039416	-0.163228
19	P2	-6.871333	0.037574	-0.120813
22	P2	-8.119512	0.120966	-0.121011
26	P2	-24.317701	0.196296	-0.021314
30	P2	-21.717916	0.128260	0.063788

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.092480	0.004571	-0.036798
7	P3	-8.092535	0.004589	-0.036450
11	P3	-8.092299	0.004585	-0.036964
15	P3	-8.092228	0.004582	-0.036682
19	P3	-8.092399	0.004609	-0.036226
22	P3	-8.092340	0.004563	-0.035582
26	P3	-8.092402	0.004578	-0.036077
30	P3	-8.092312	0.004576	-0.036529

## 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	0.000540490
	stdev	2.04681e-07
MEAN Q	mean	0.000490839
	stdev	2.44808e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.135374
	stdev	0.00123615
STDEV Q	mean	0.135767
	stdev	0.00125428



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2007041[890]

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_1PNPDK20070419_152704_000000002057_00240_26847_4810.N1	1	0
ASA_GM1_1PNPDK20070418_201215_000007792057_00228_26835_3683.N1	0	43
ASA_GM1_1PNPDK20070419_084758_000003142057_00236_26843_3962.N1	0	15
ASA_GM1_1PNPDK20070419_162807_000000842057_00241_26848_4931.N1	0	83
ASA_WSM_1PNPDE20070410_014454_000000862057_00103_26710_5921.N1	0	70

ASA_WSM_1PNPDE20070410_161135_000002202057_00112_26719_6447.N1	0	57
ASA_WSM_1PNPDE20070410_201138_000000672057_00114_26721_6605.N1	0	29
ASA_WSM_1PNPDE20070418_005604_000000852057_00217_26824_6083.N1	0	31
ASA_WSM_1PNPDE20070418_165614_000001522057_00227_26834_6862.N1	0	57
ASA_WSM_1PNPDE20070418_184029_000002312057_00228_26835_6864.N1	0	11
ASA_WSM_1PNPDE20070419_180903_000001762057_00242_26849_8216.N1	0	31
ASA_WSM_1PNPDK20070419_094719_000000852057_00237_26844_4060.N1	0	28





## 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)


Ascending

Descending

### 7.2 - Absolute Doppler for WVS

#### Evolution of Absolute Doppler


Ascending

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

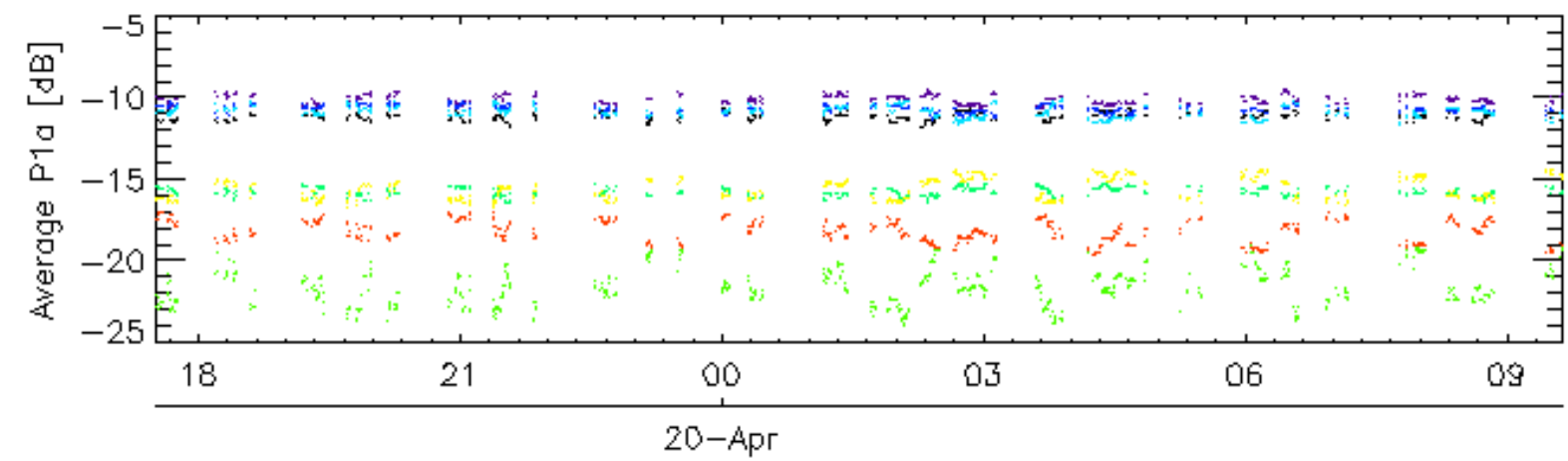
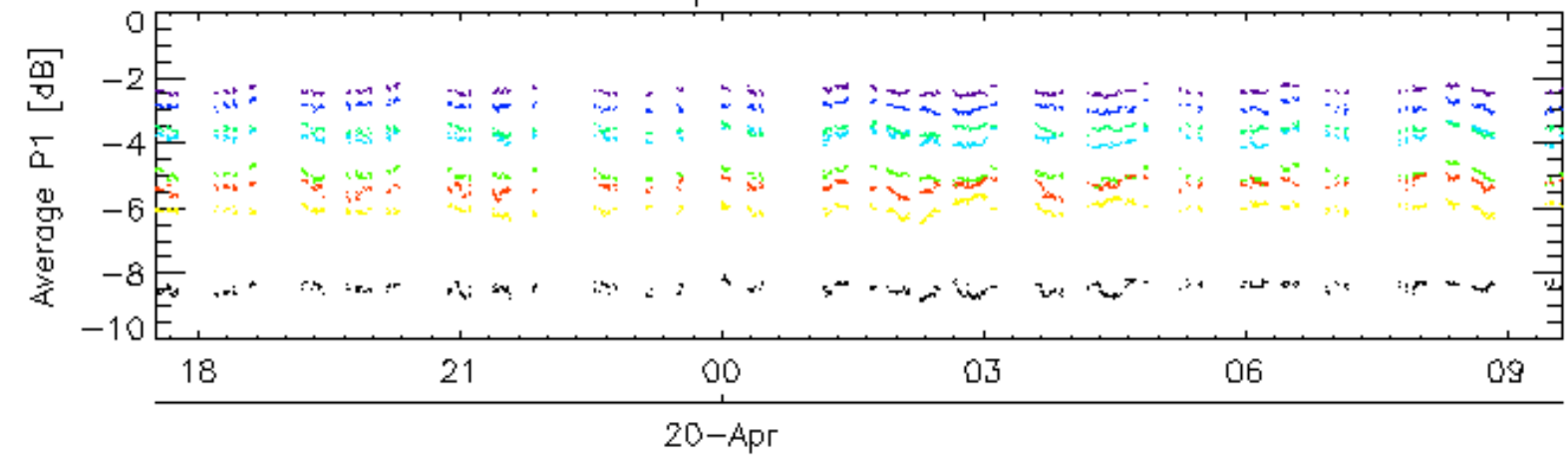
**7.5 - Absolute Doppler for GM1****Evolution of Absolute Doppler**

Acsending

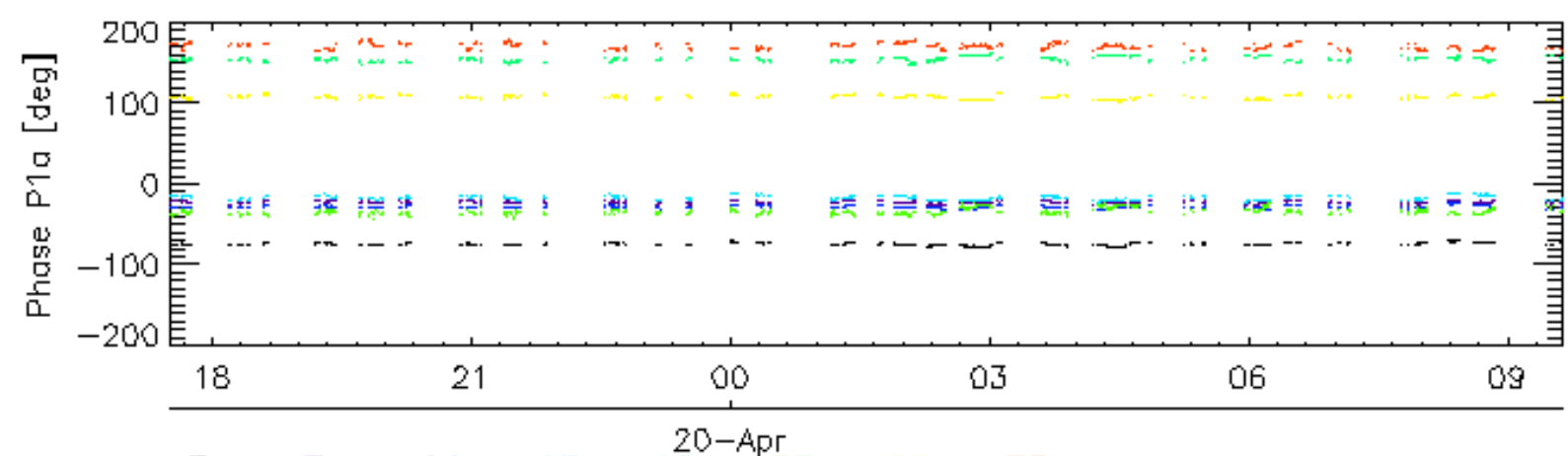
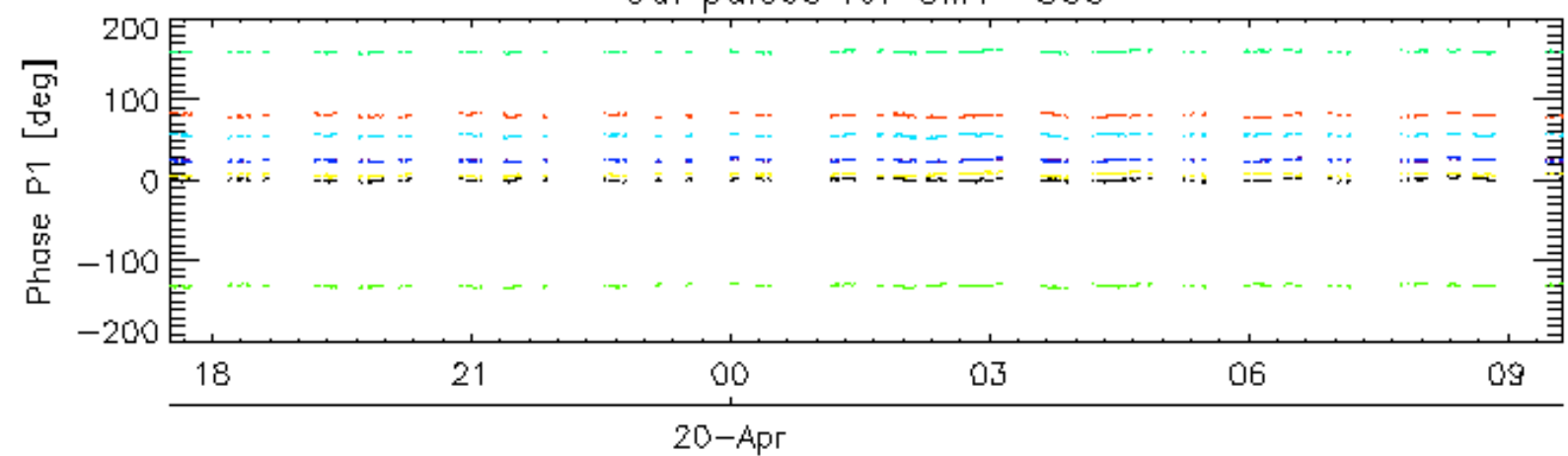
Descending

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

Cal pulses for GM1 SS3

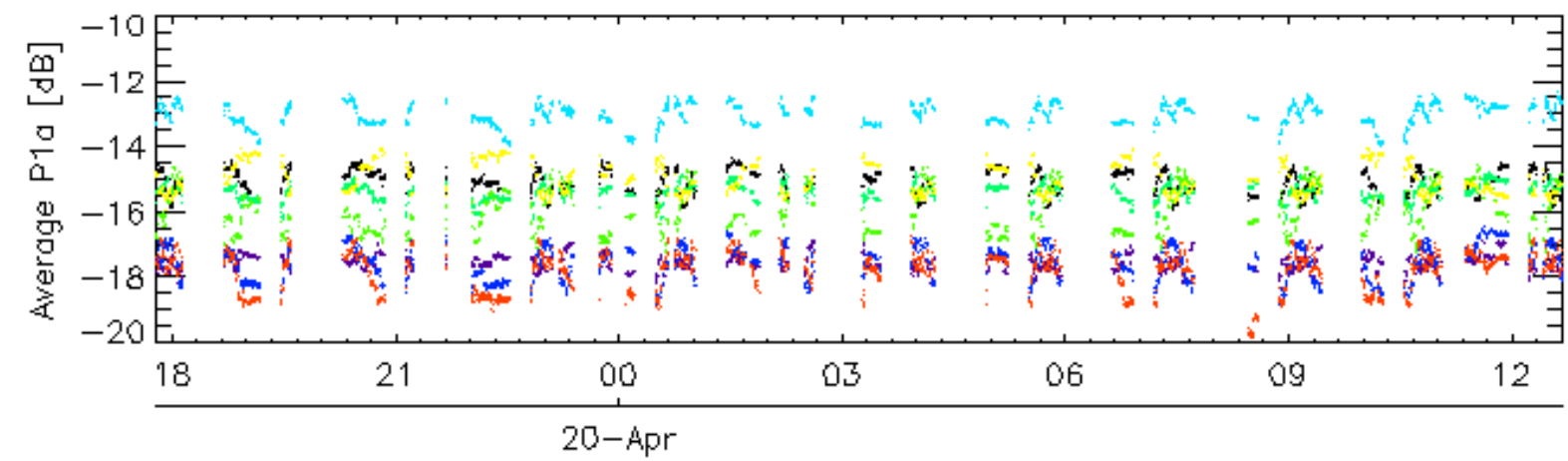
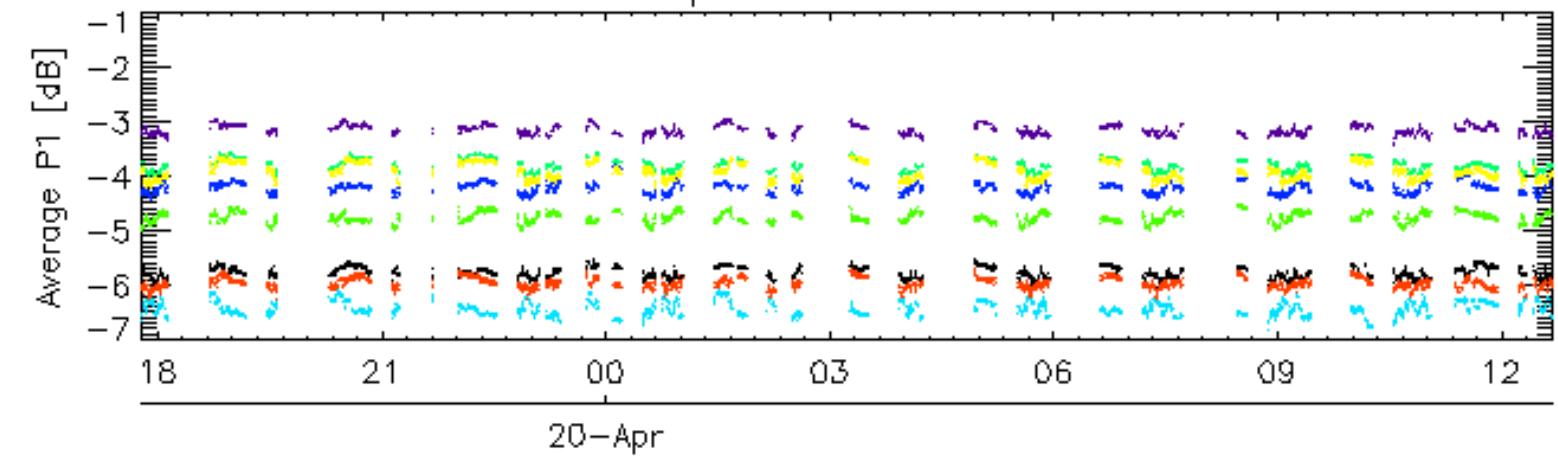


Cal pulses for GM1 SS3

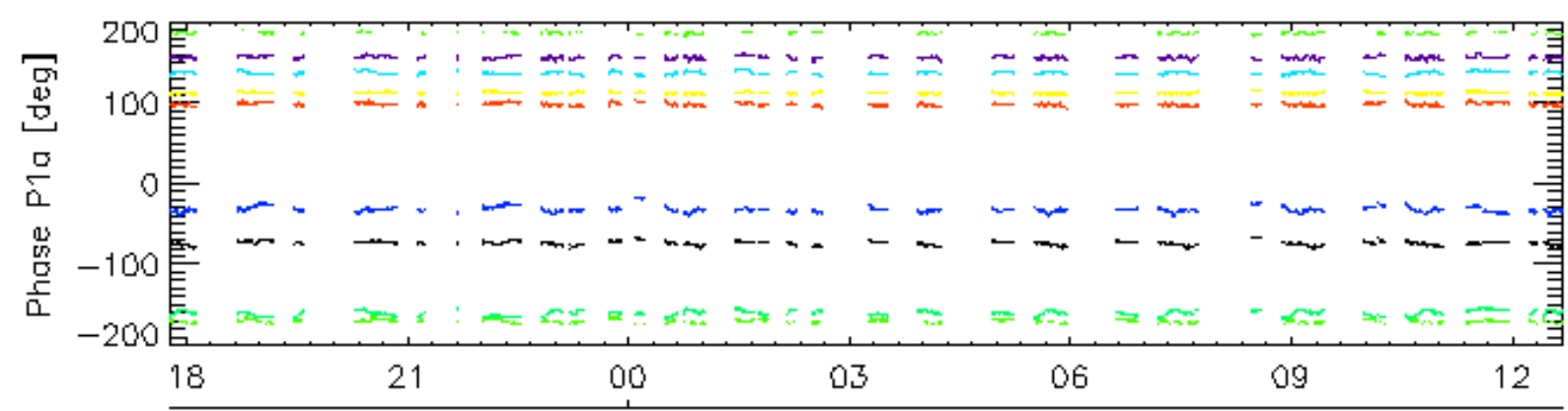
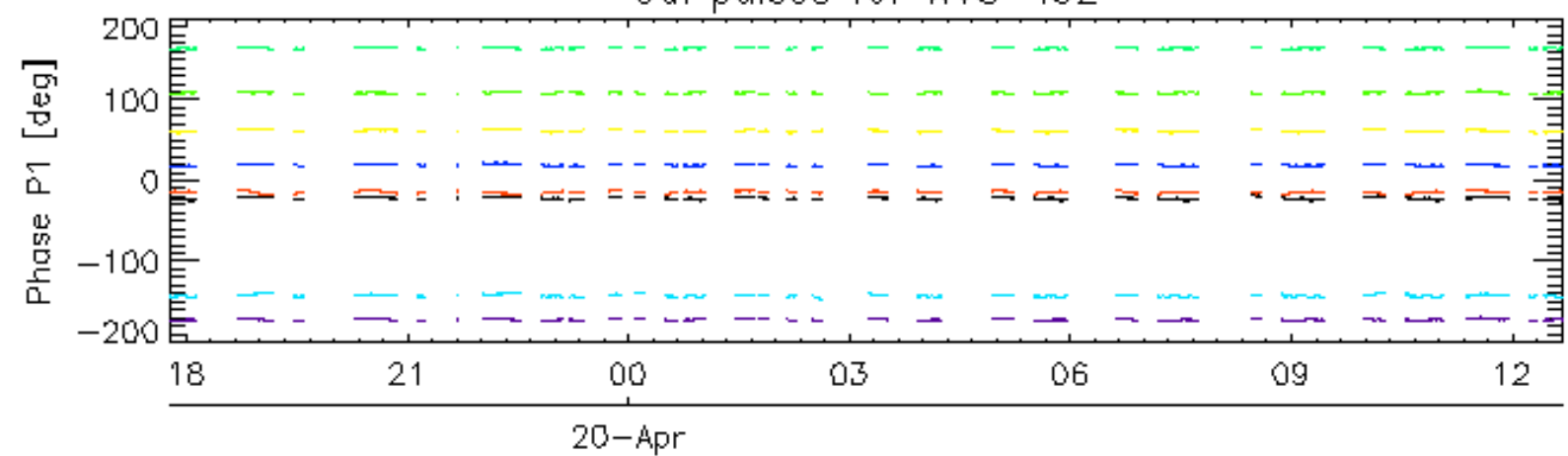


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

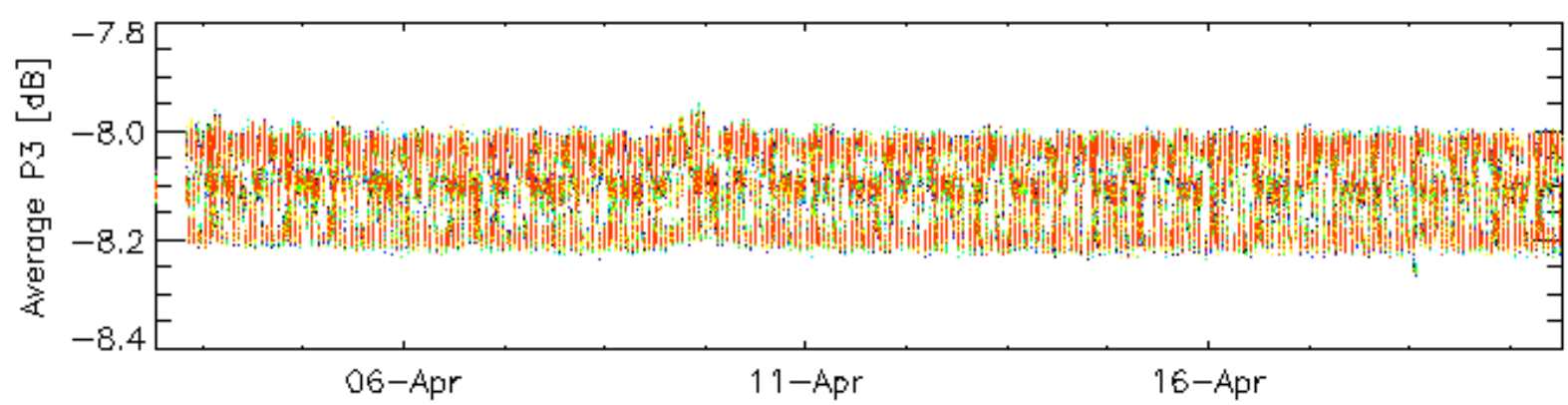
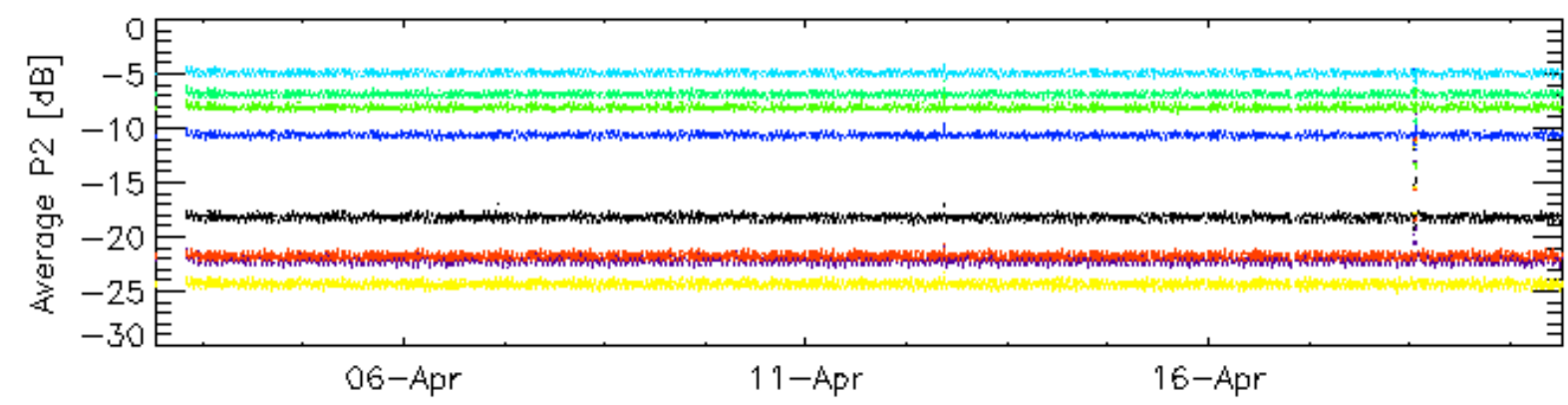
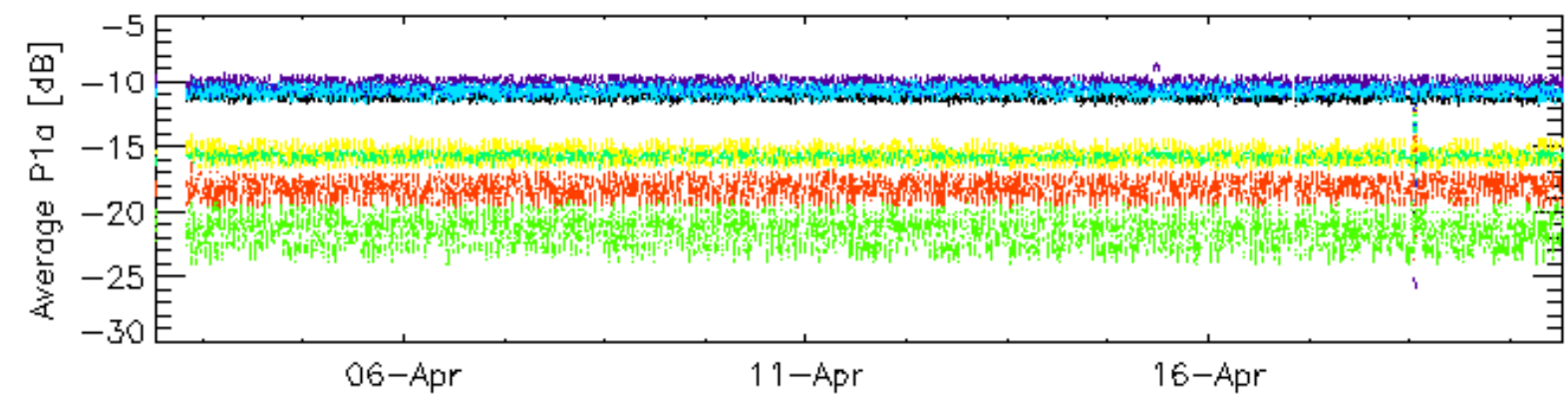
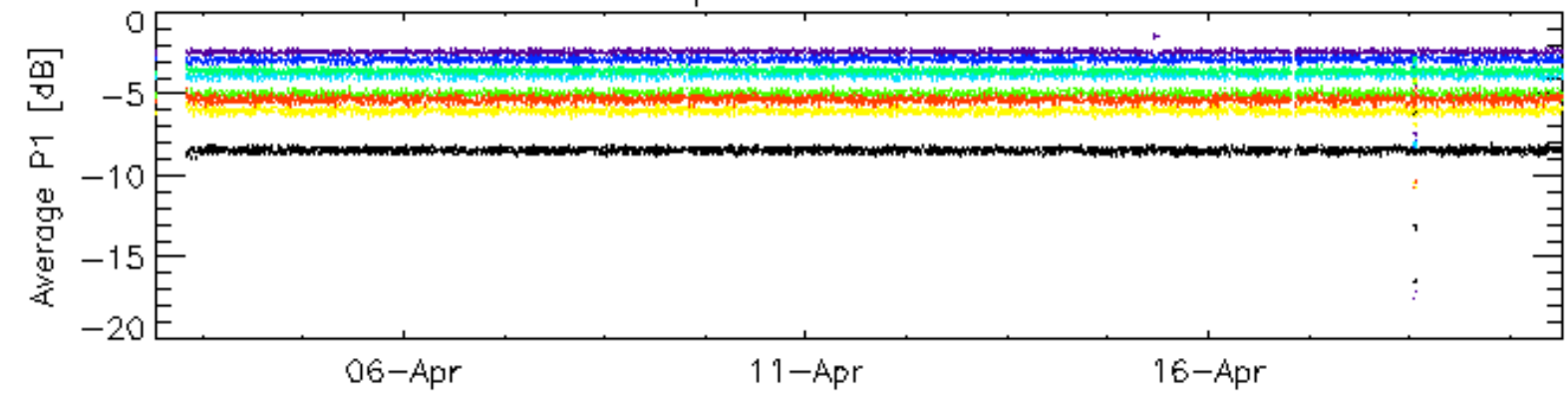


Cal pulses for WVS IS2



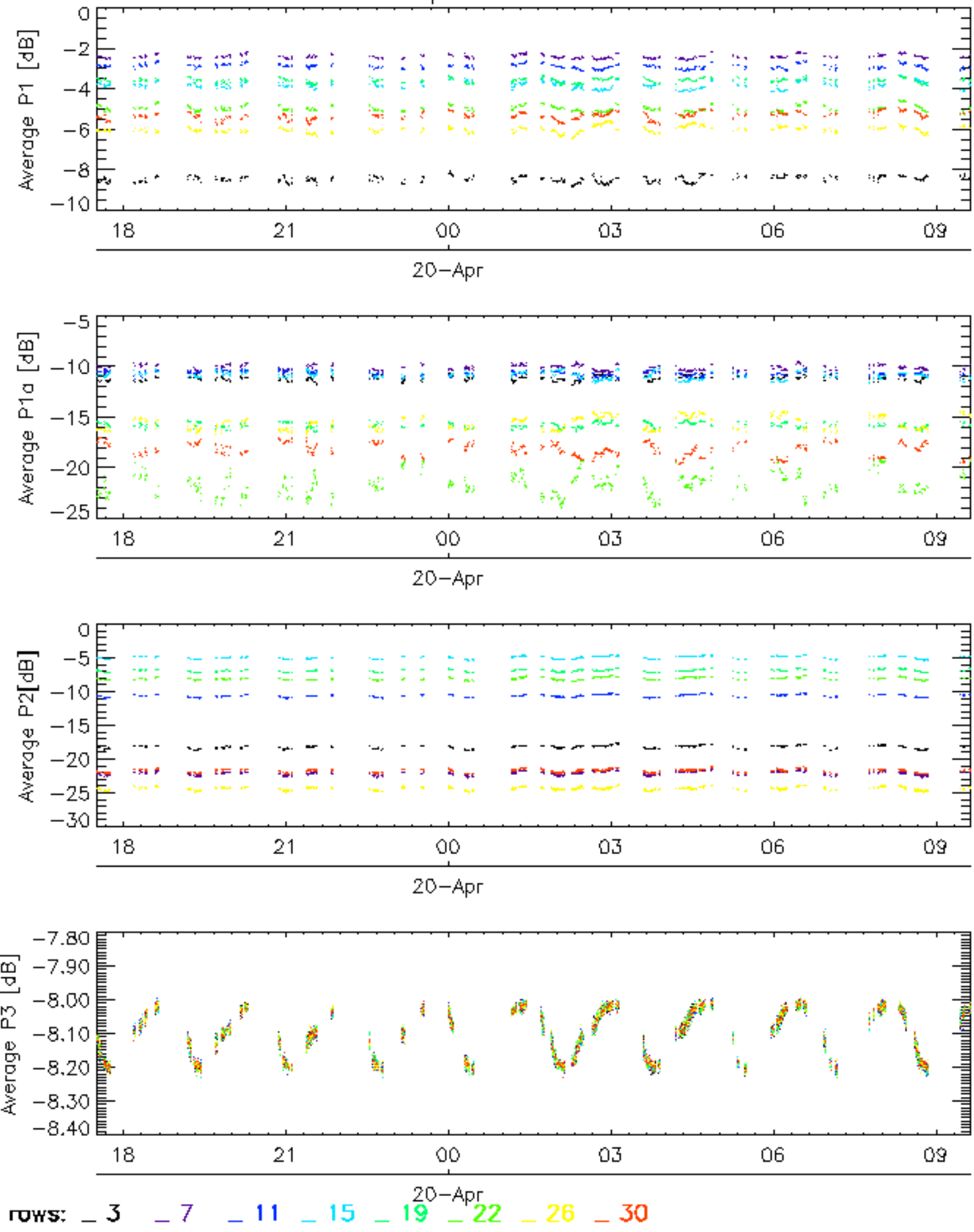
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

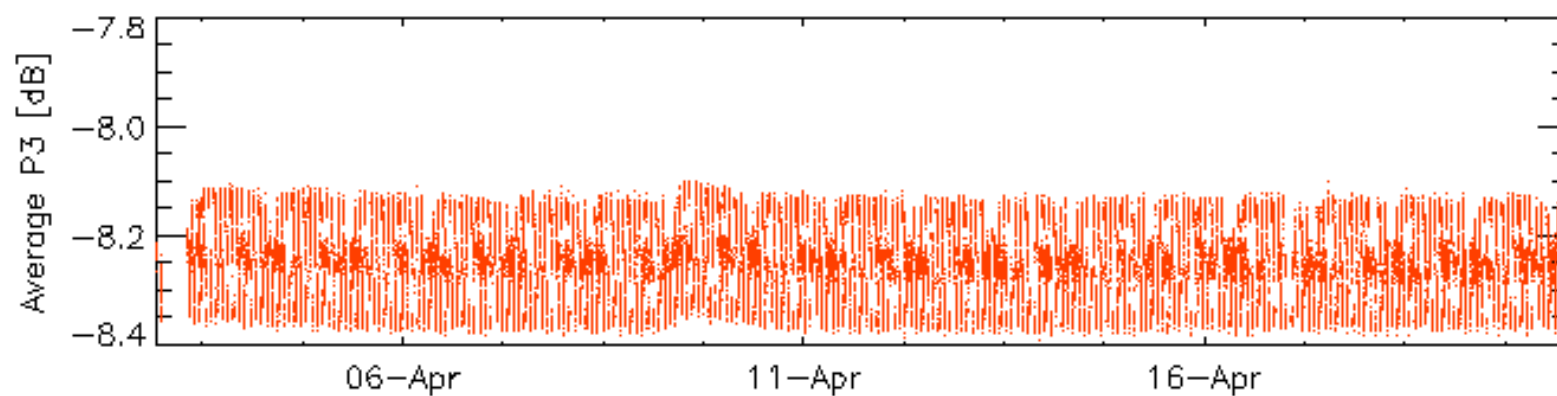
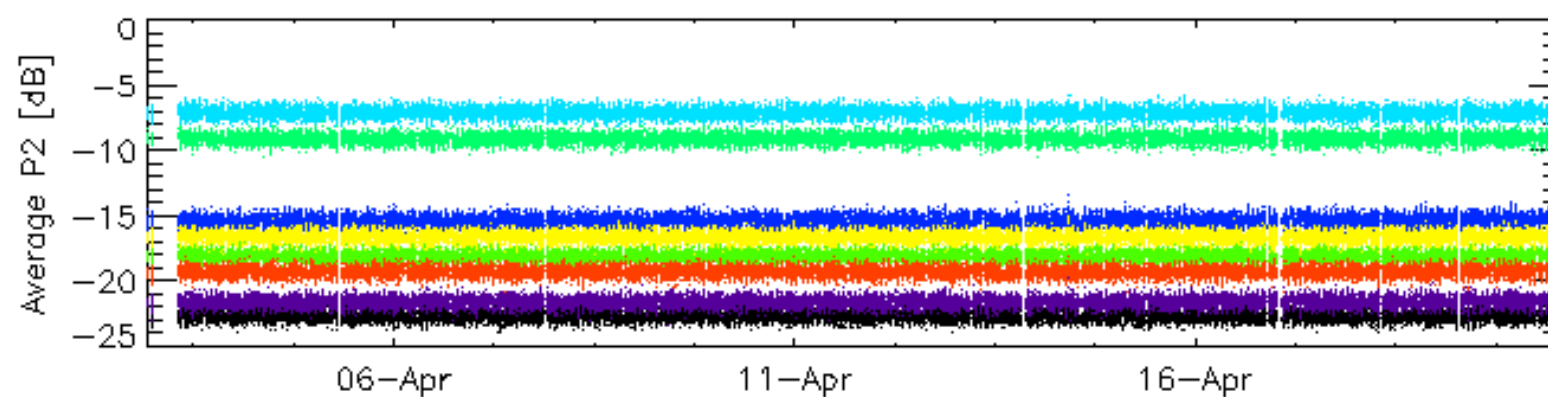
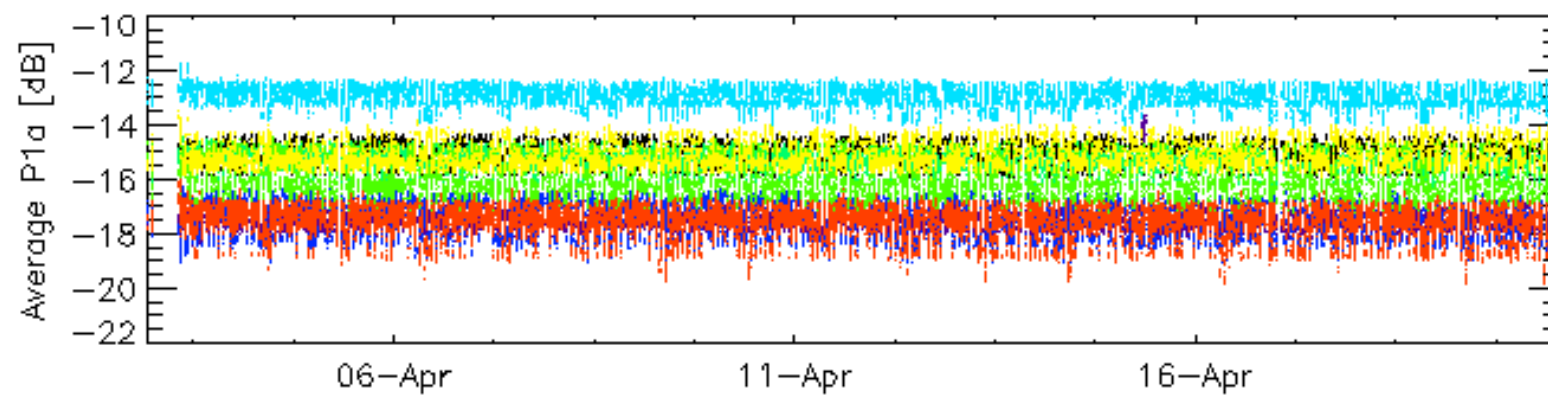
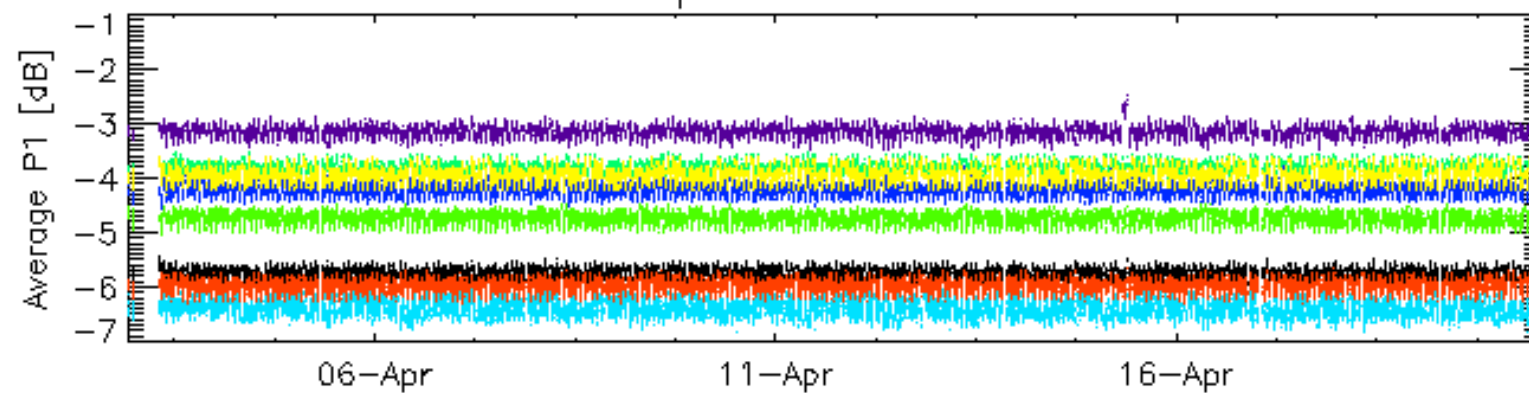


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3



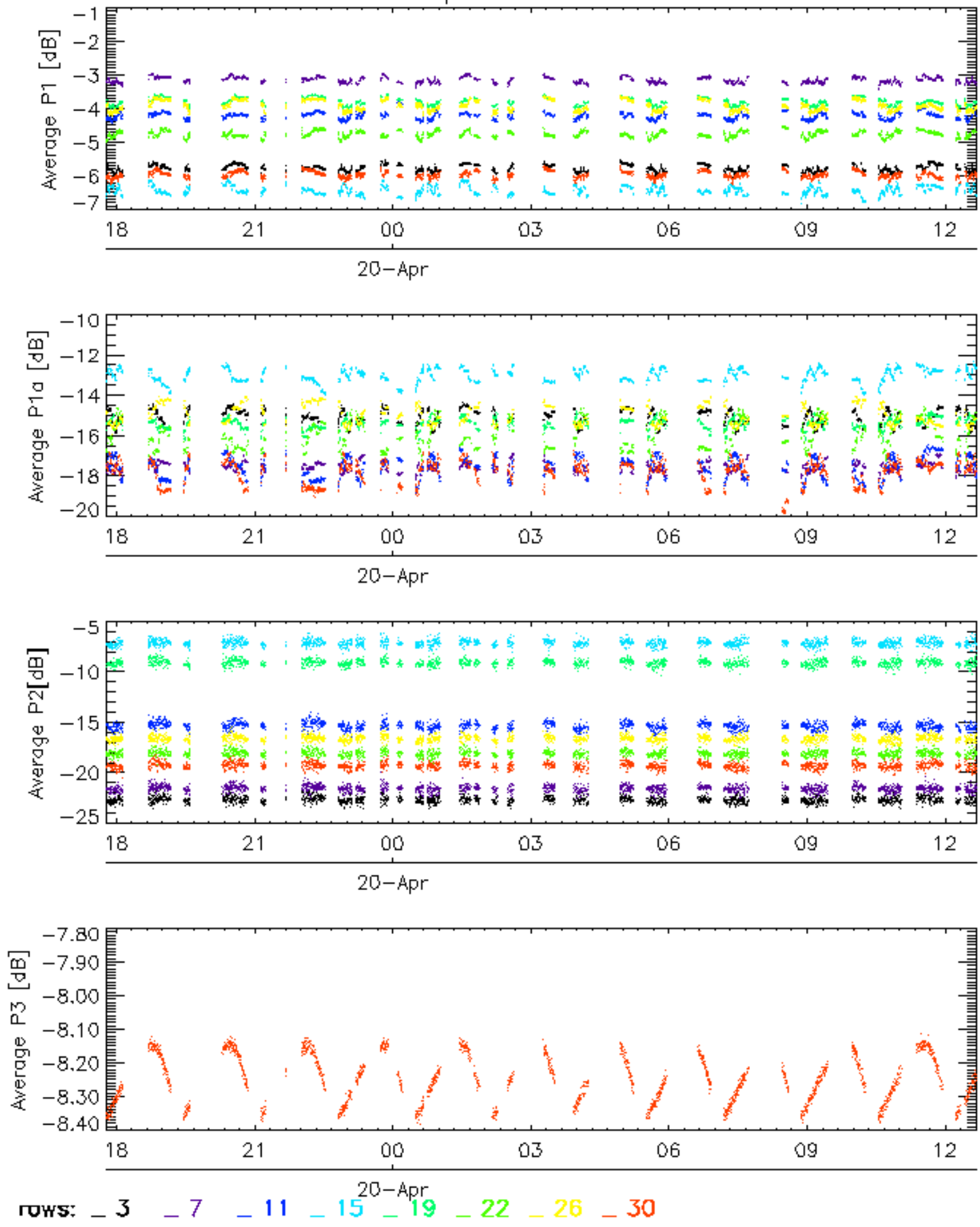
Cal pulses for WVS IS2



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



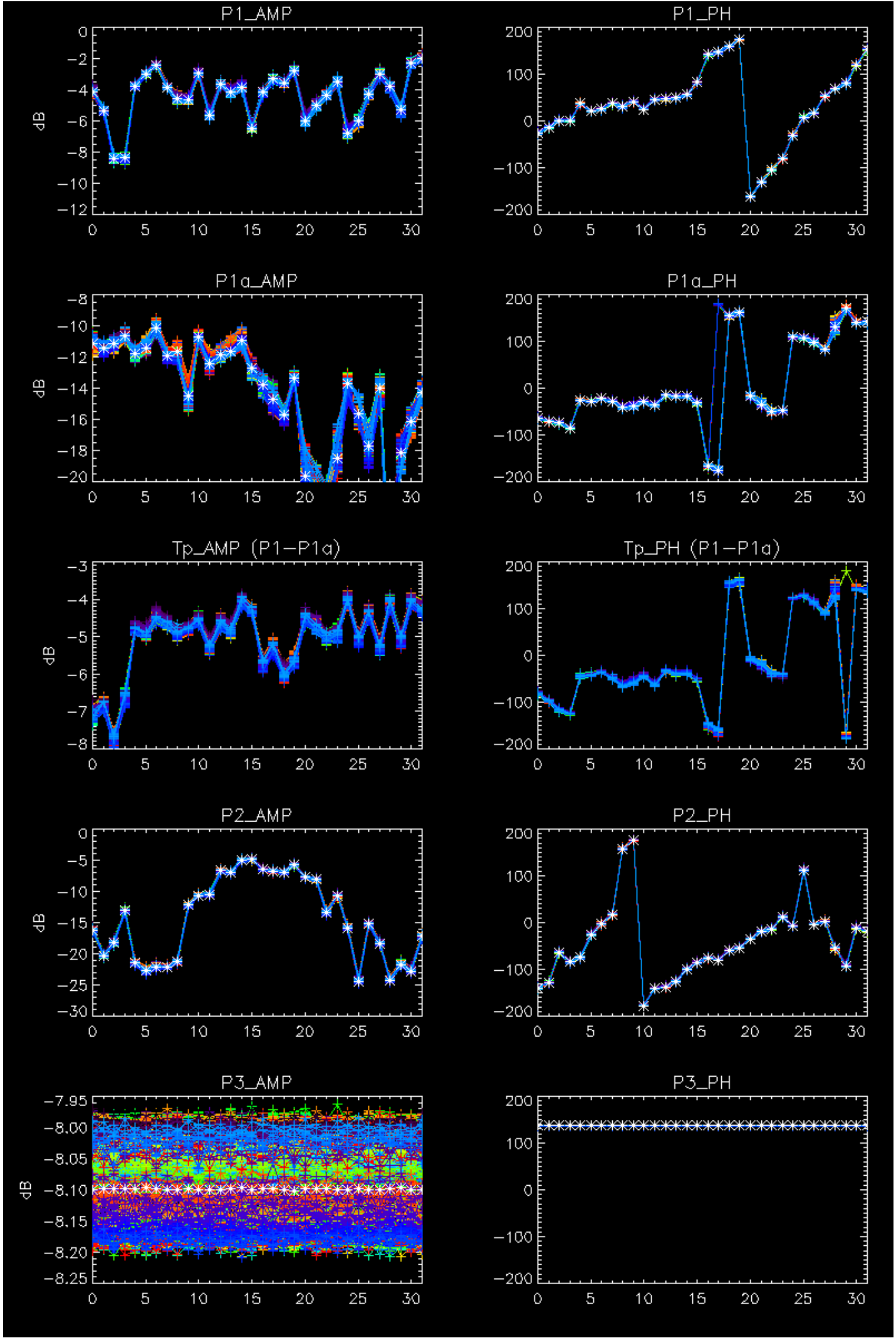
Cal pulses for WVS IS2

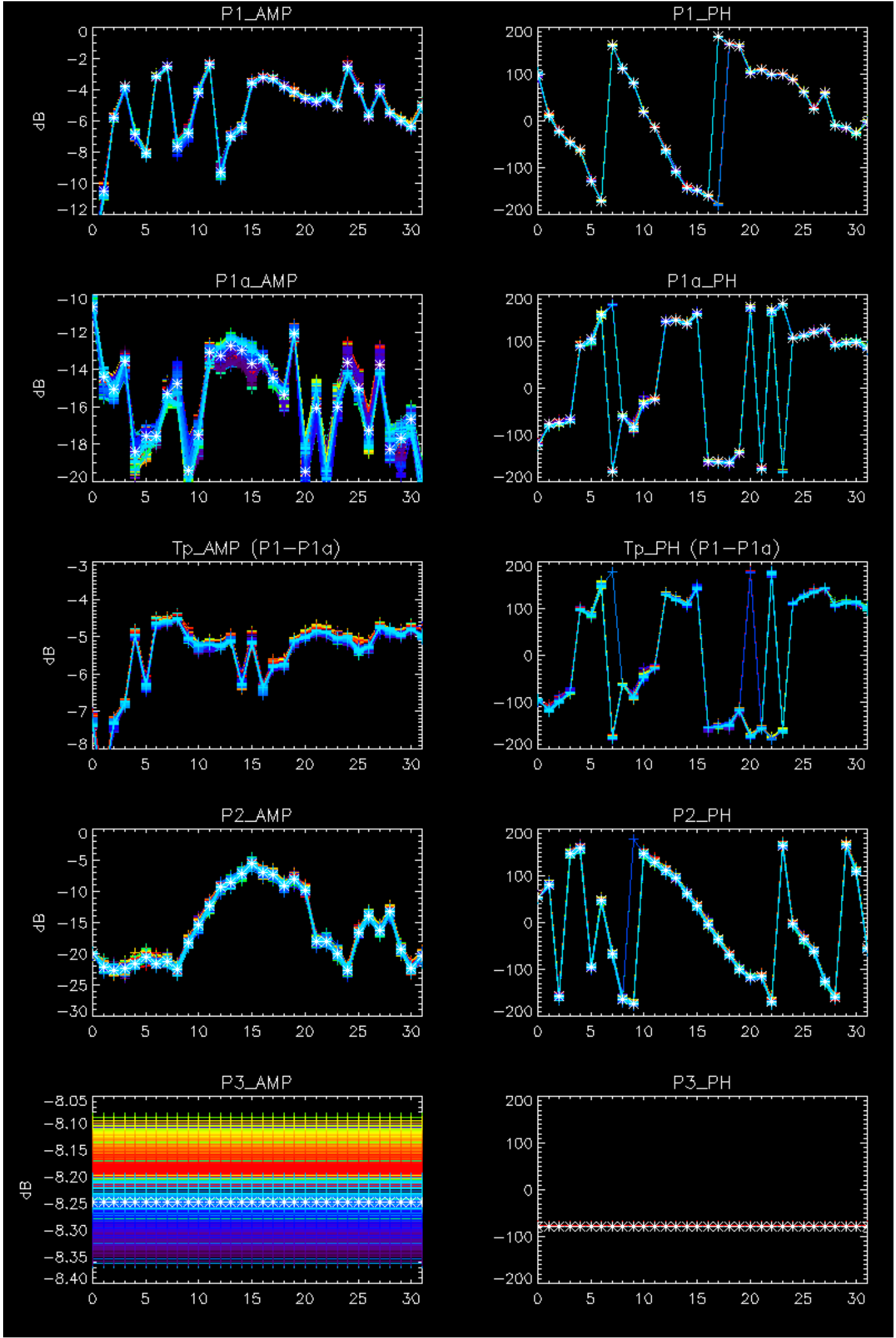


No anomalies observed on available browse products



No anomalies observed.



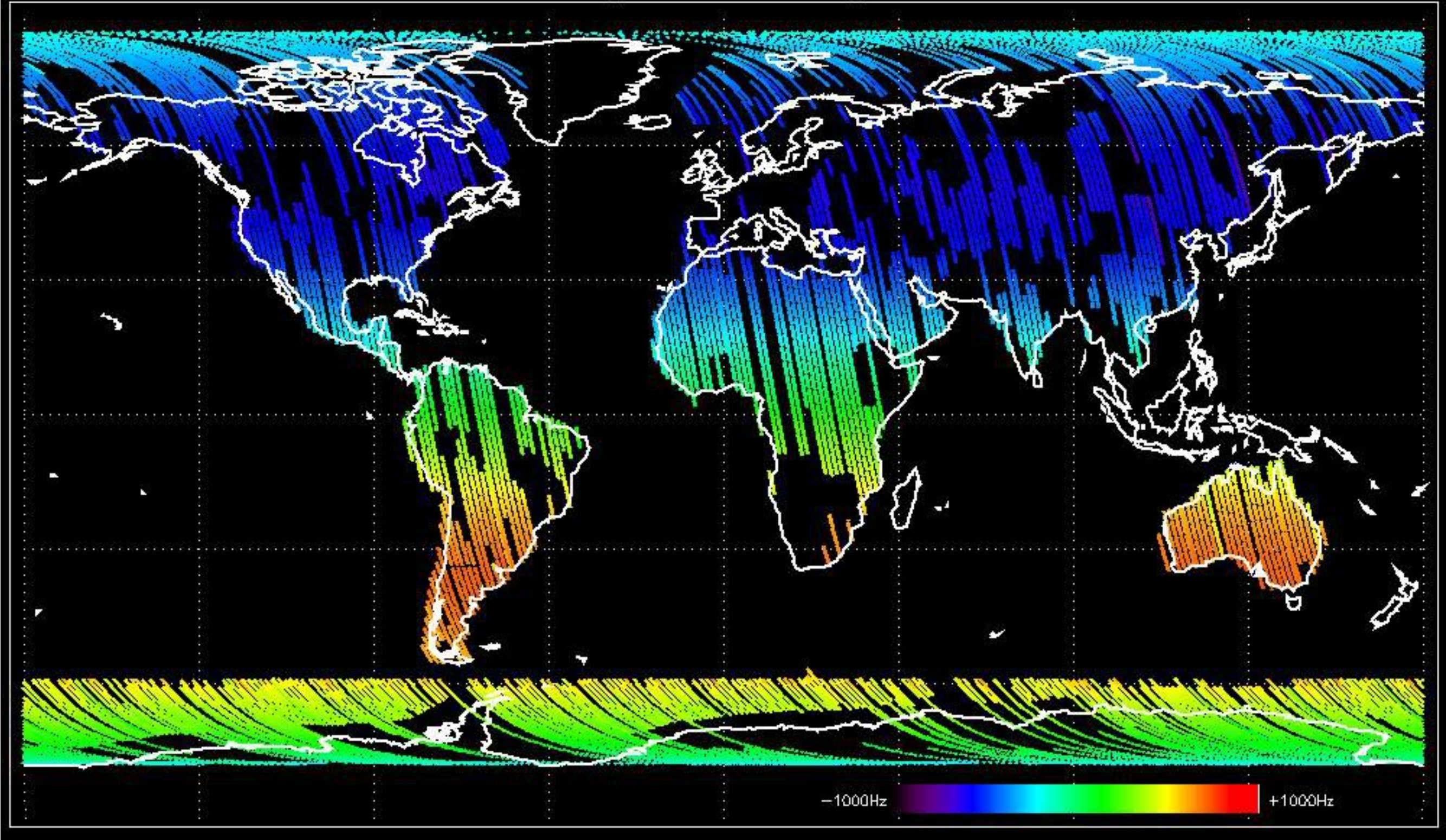


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



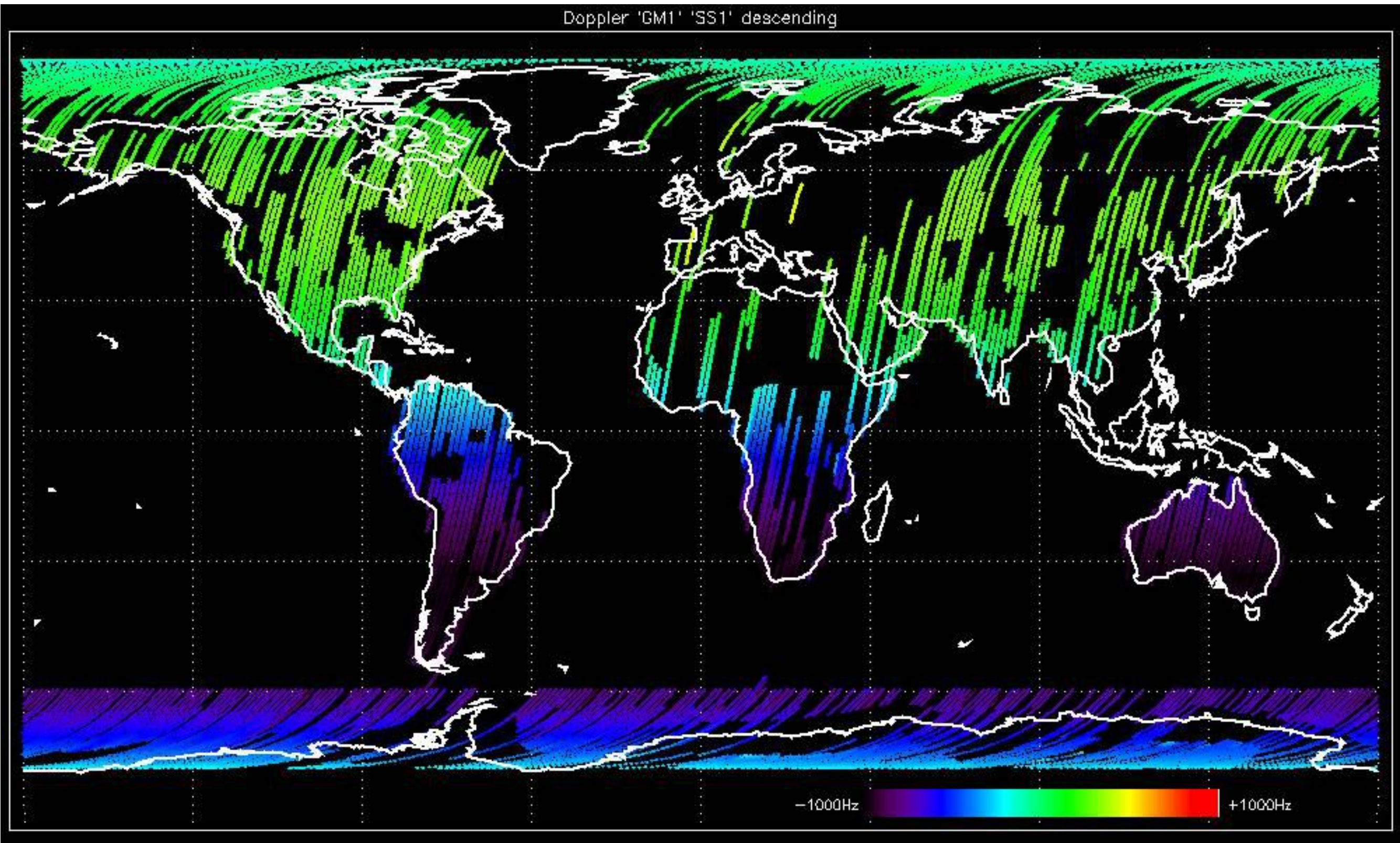


Doppler 'GM1' 'SS1' ascending



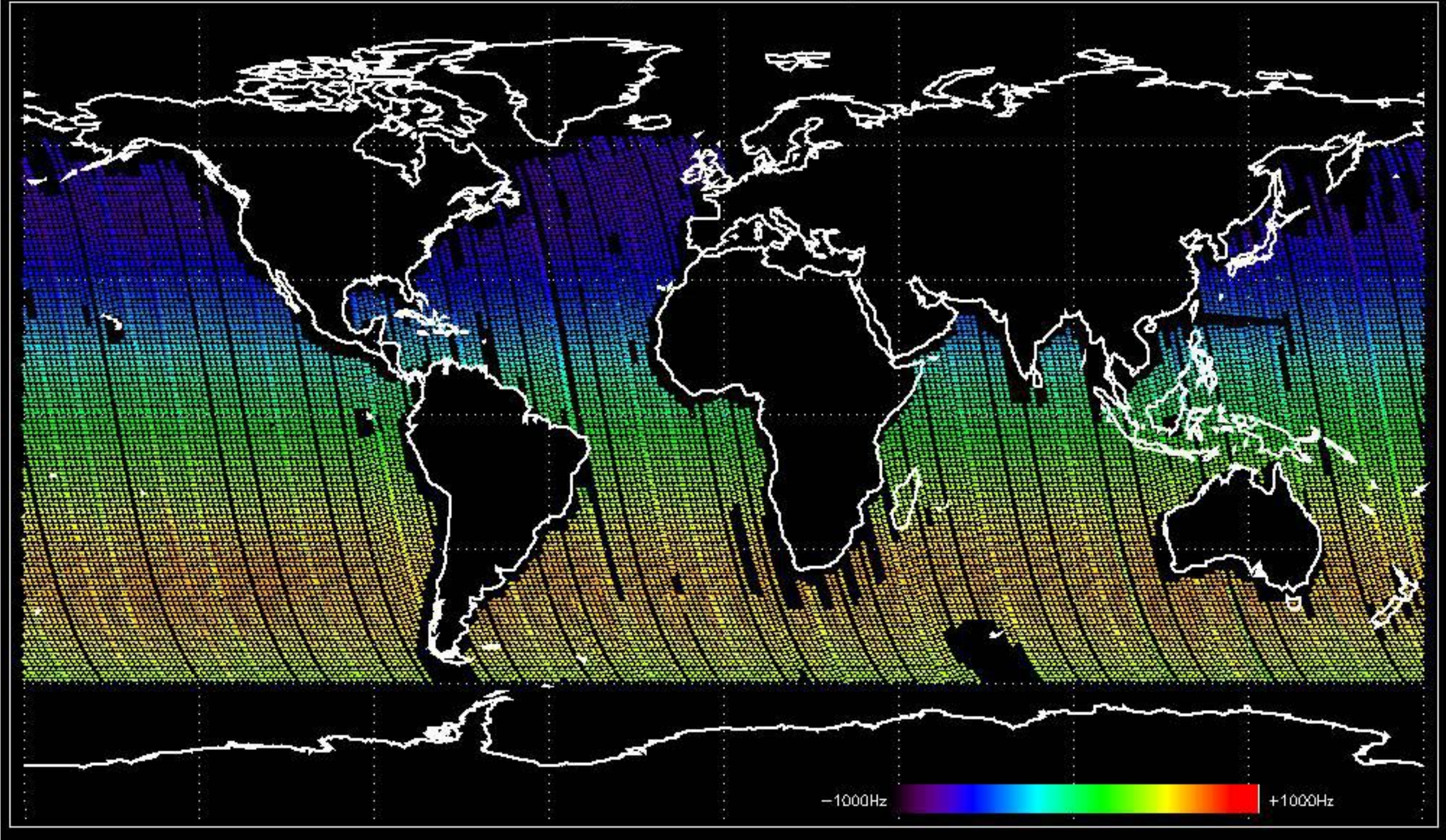


Doppler 'GM1' 'SS1' descending



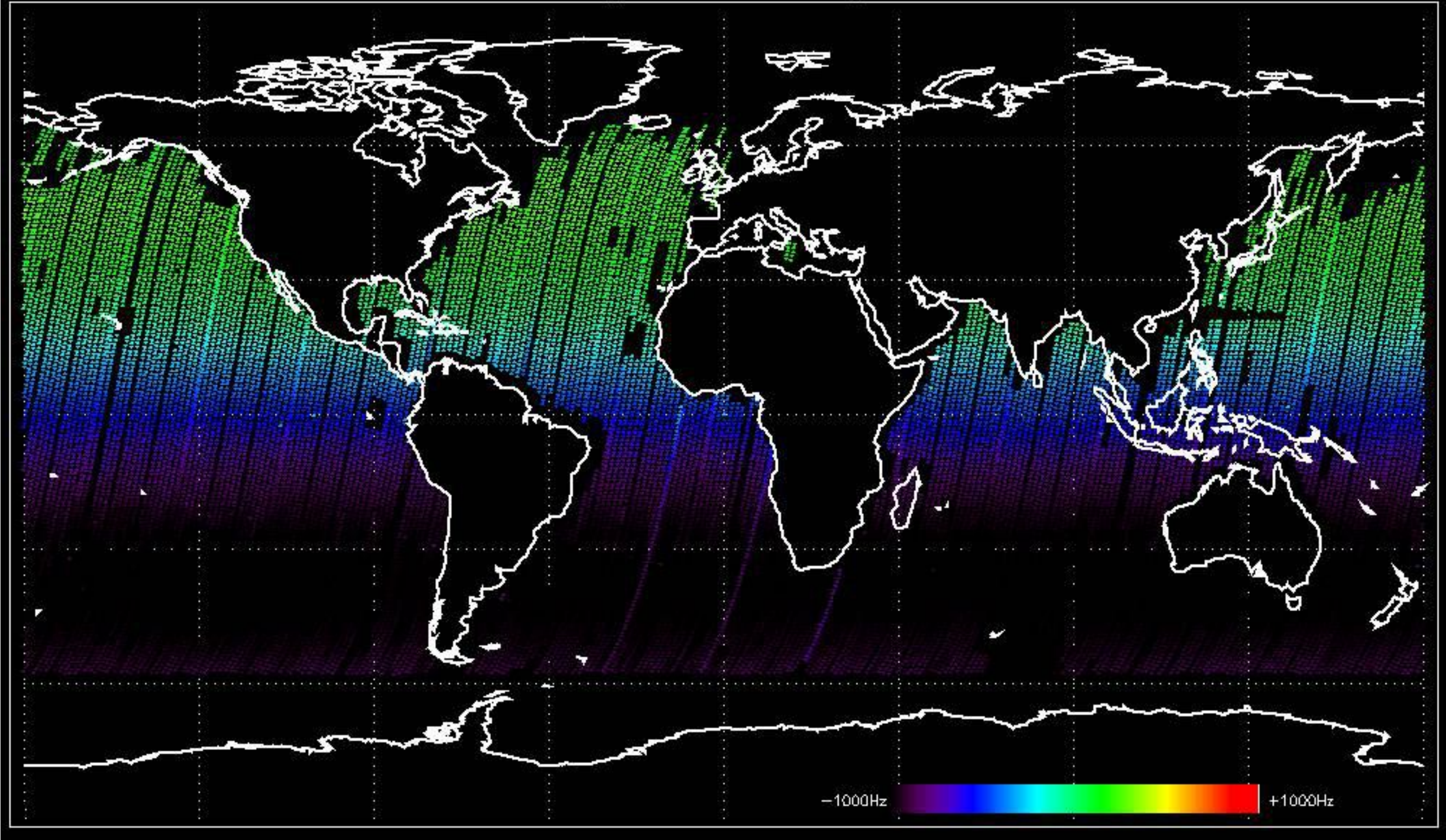


Doppler 'WVS' 'IS2' ascending

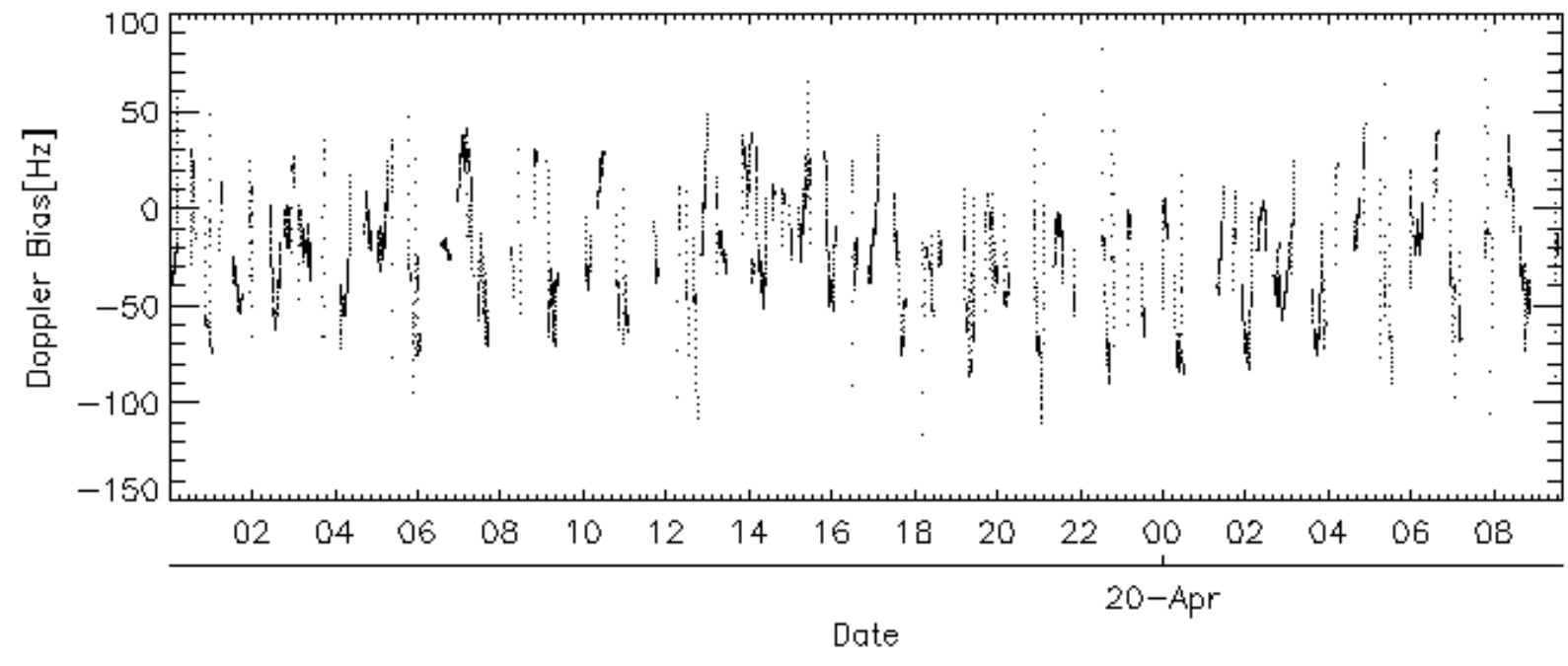
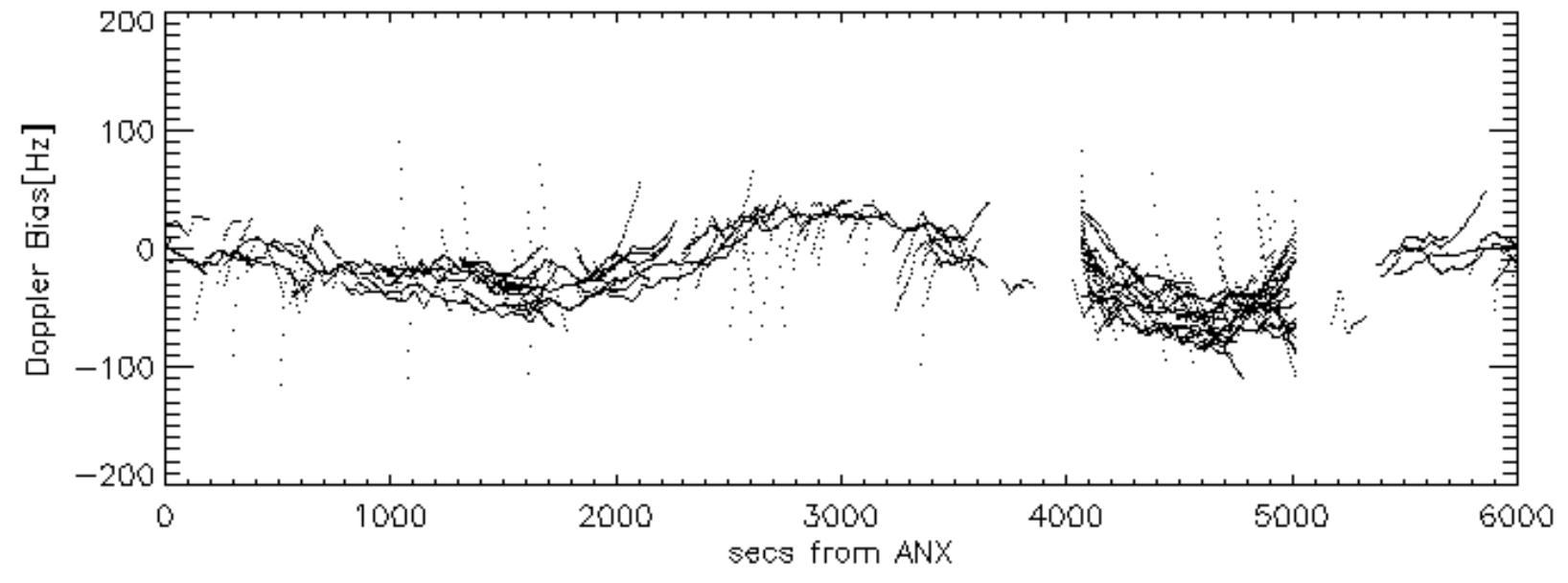
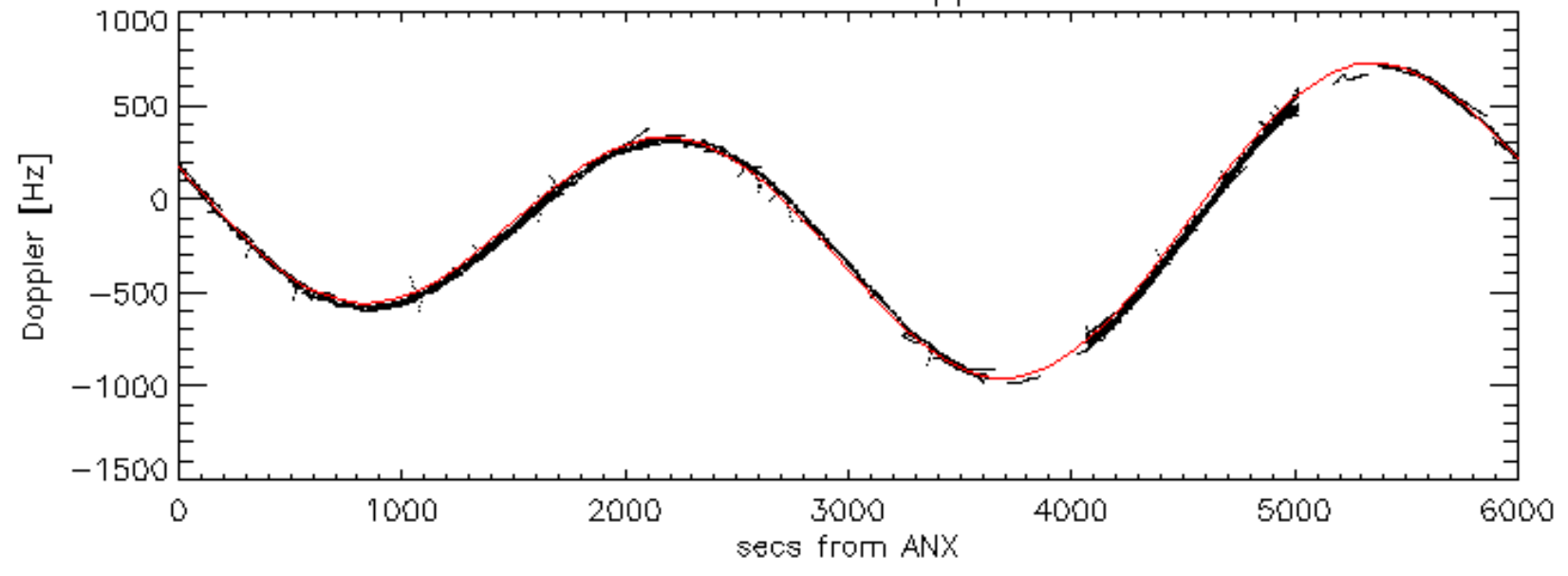




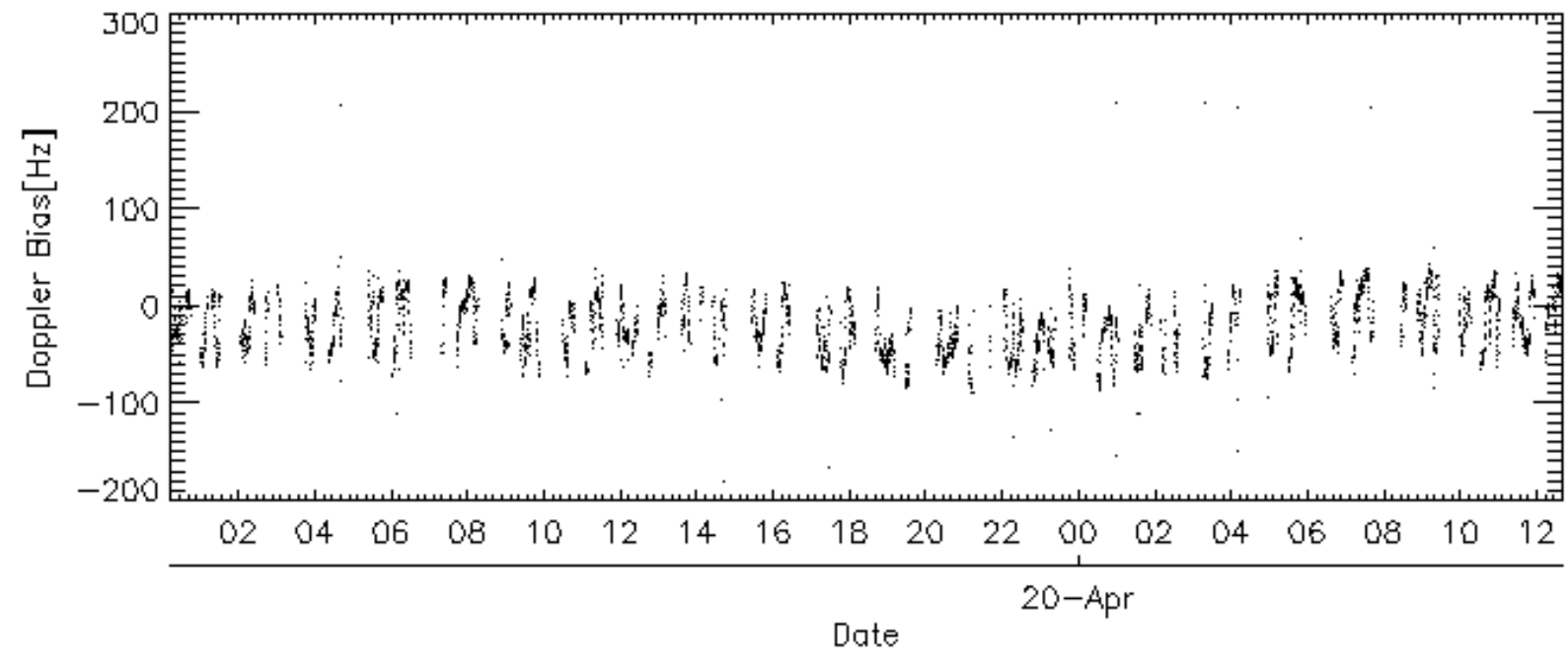
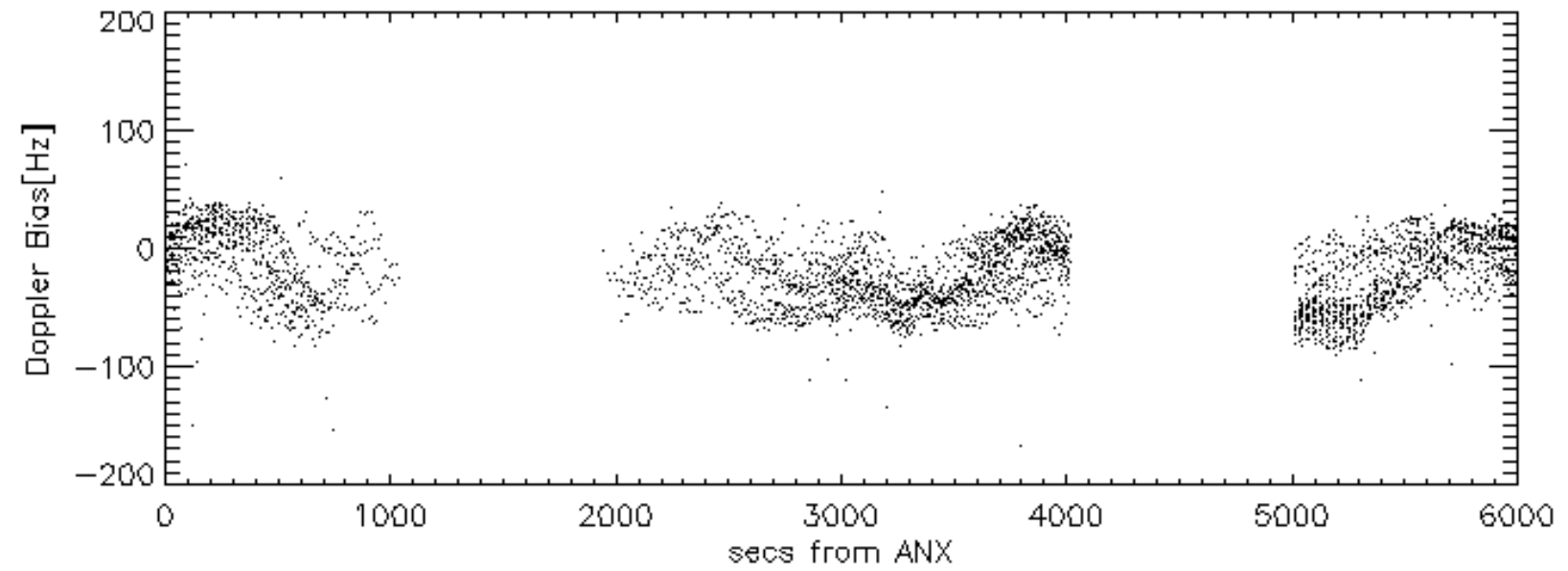
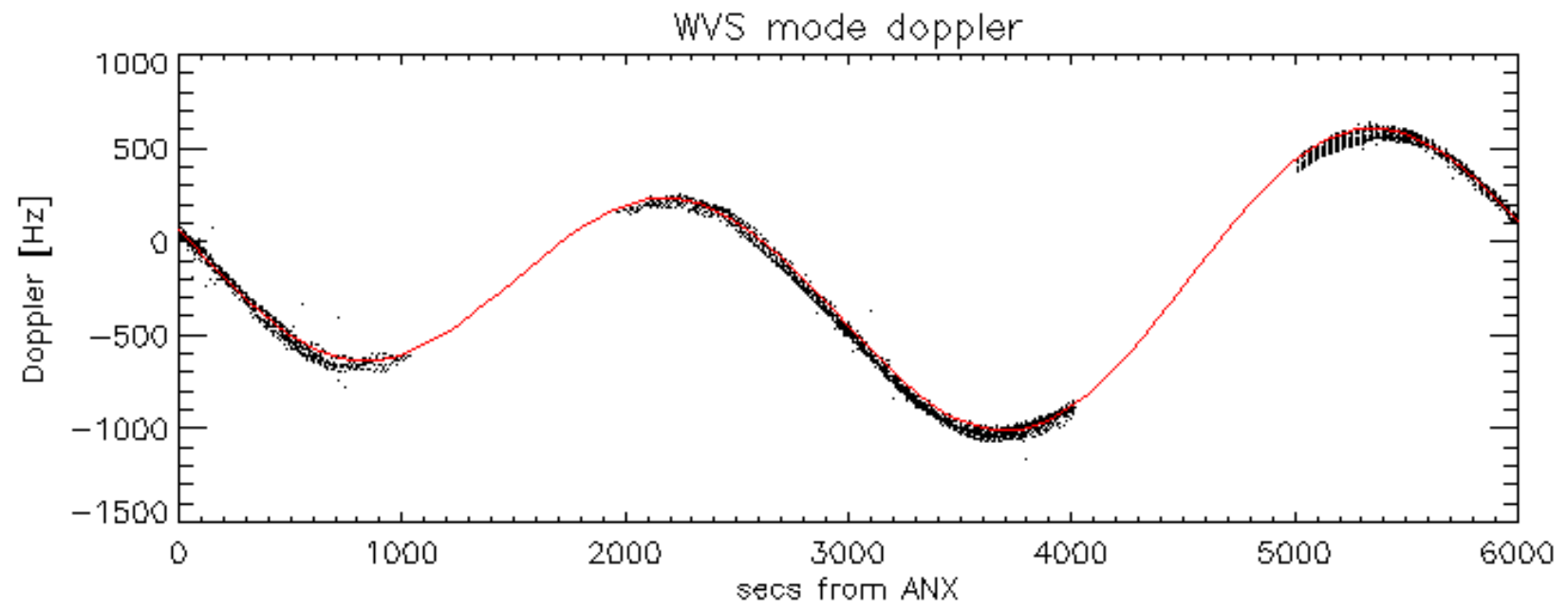
Doppler 'WVS' 'IS2' descending



GM1 mode doppler

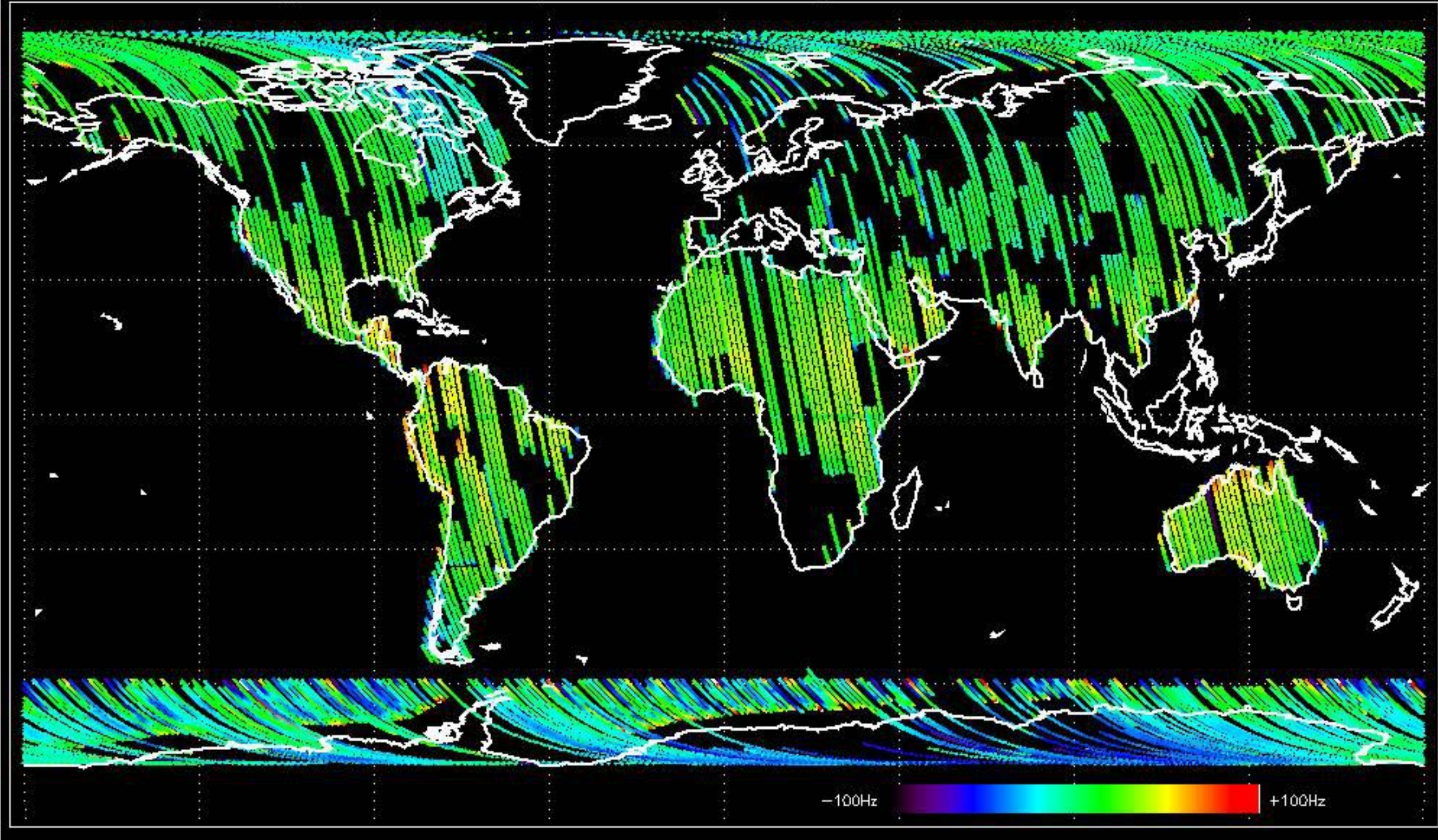






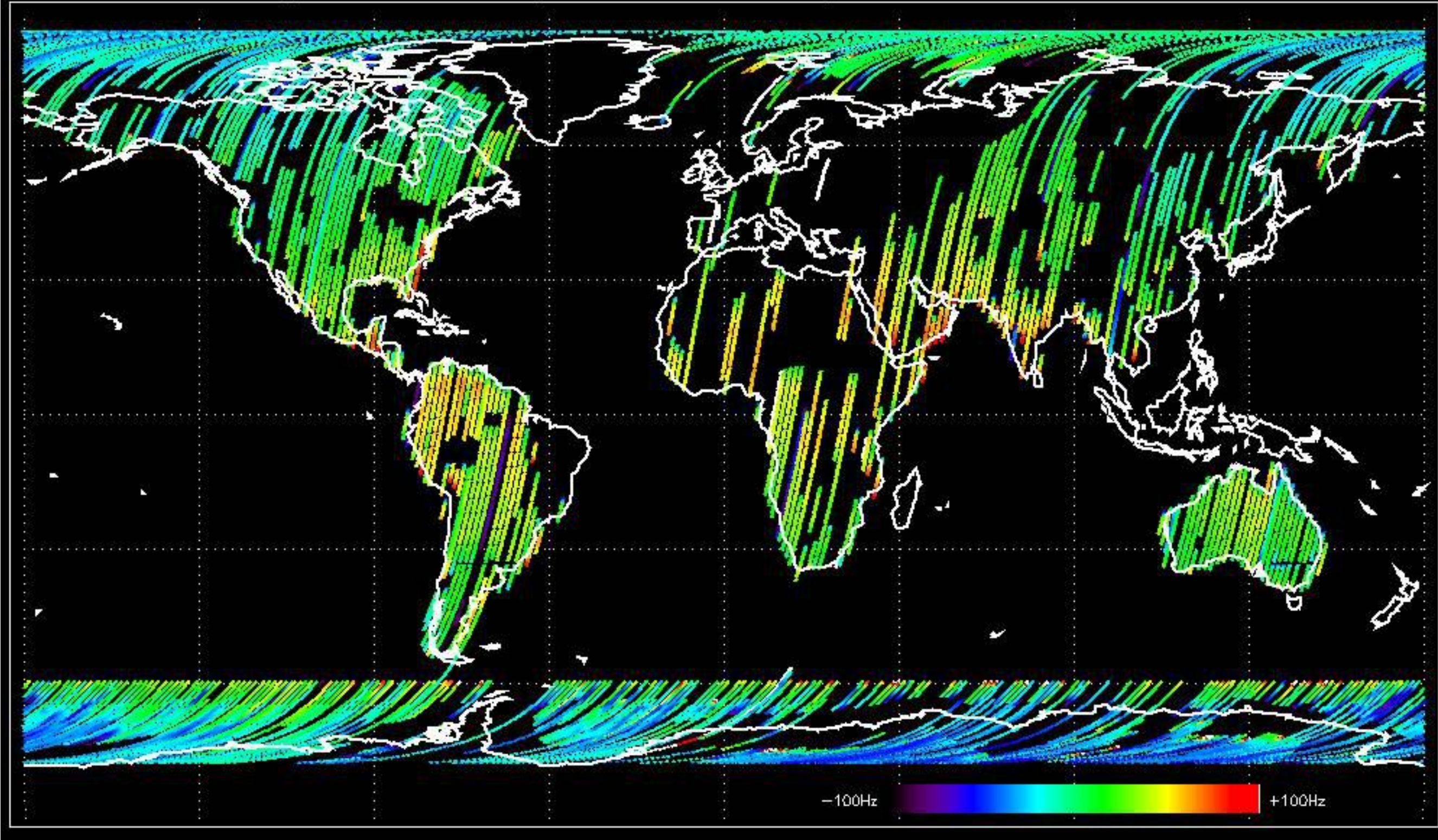


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -27.395016 Hz



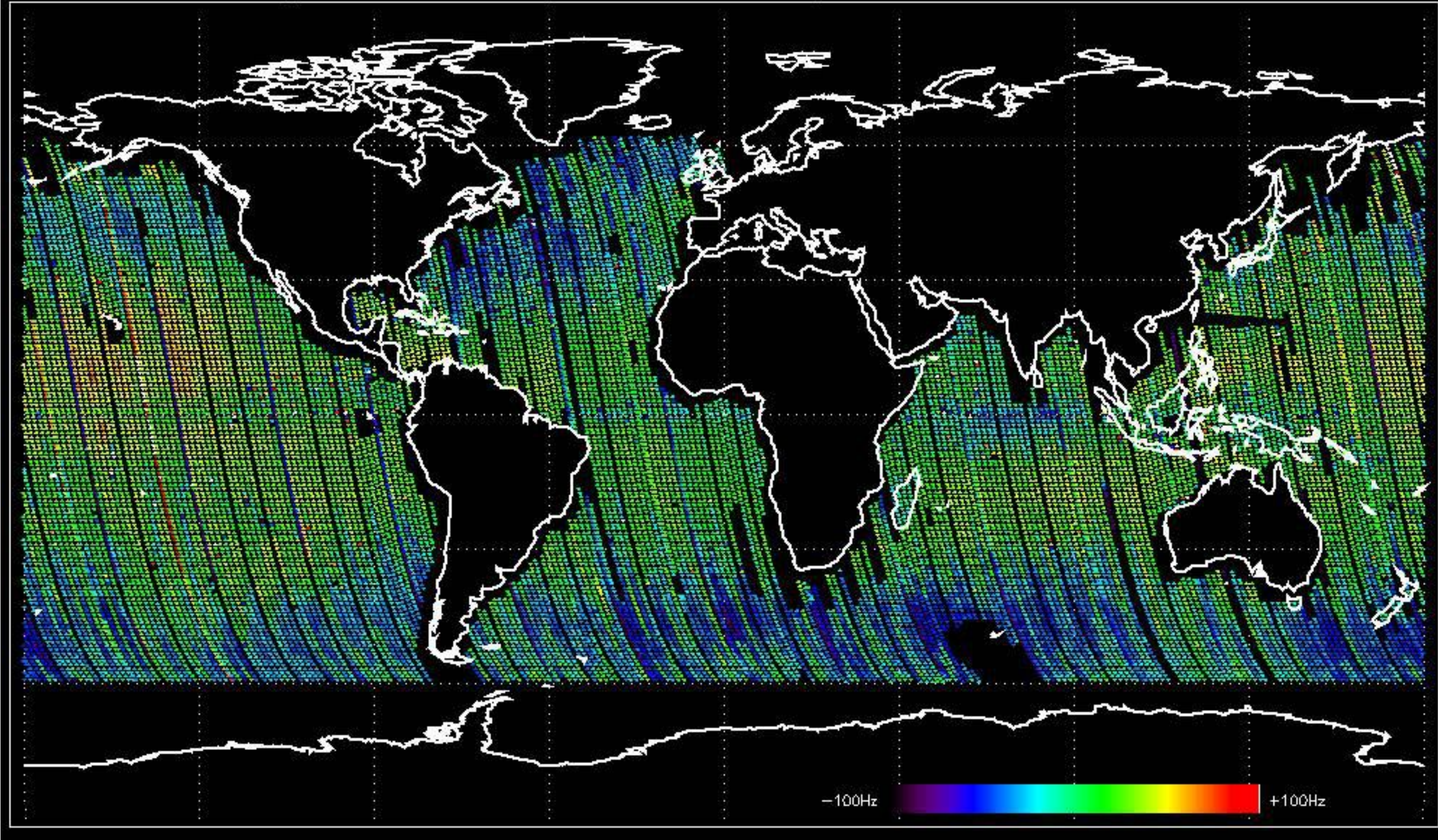


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -18.365875 Hz



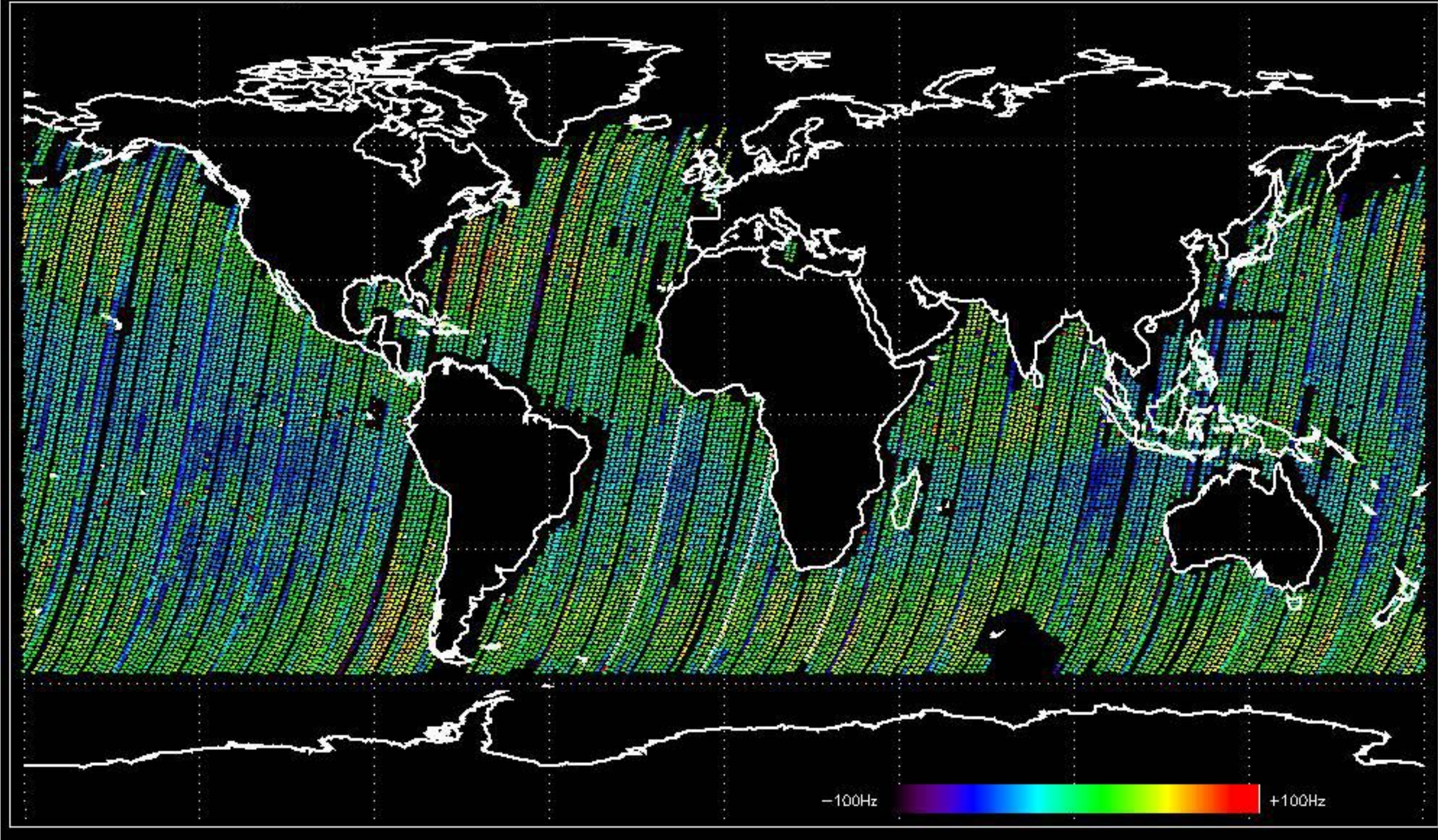


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -22.437676 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -22.128162 Hz

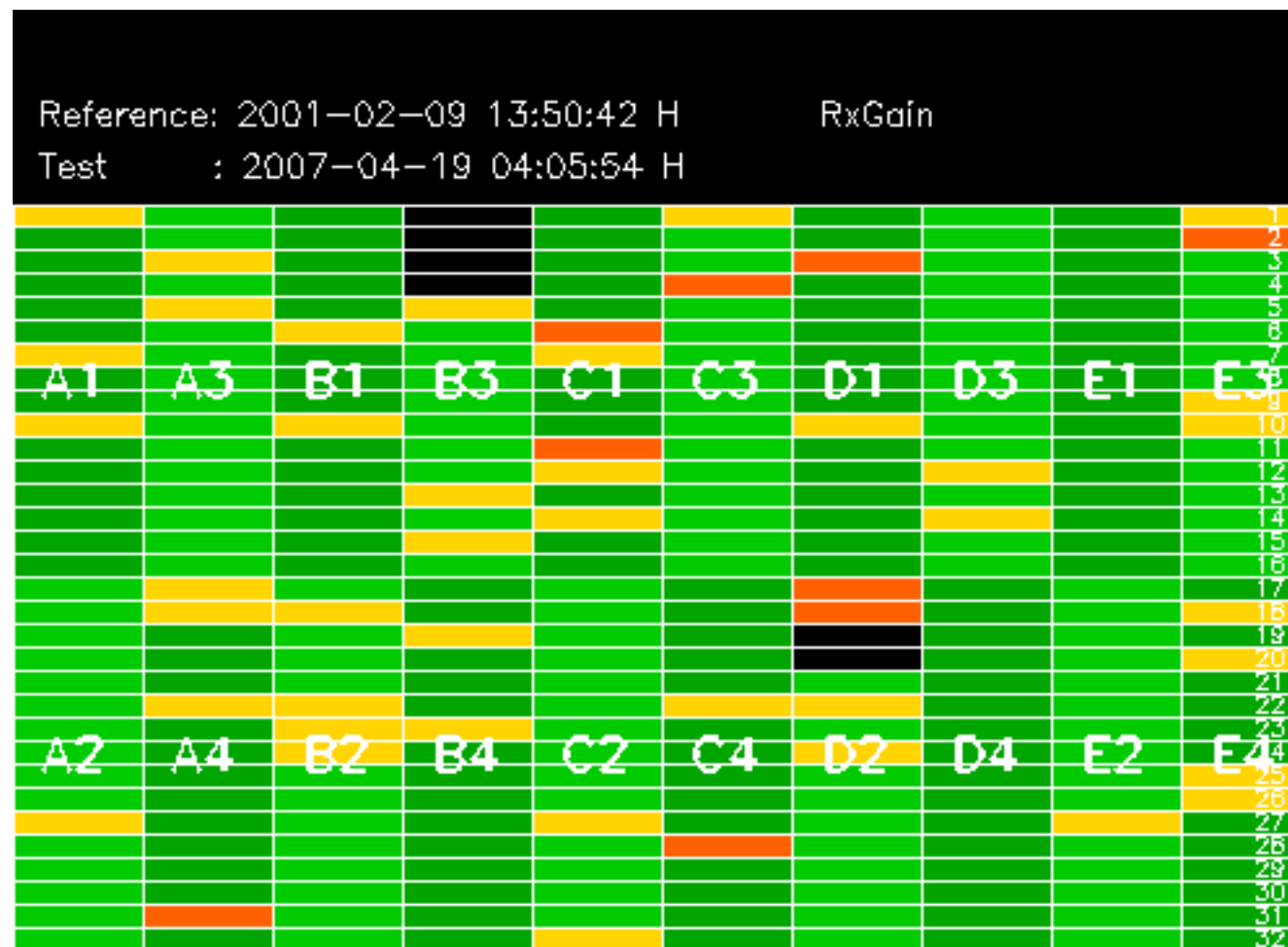




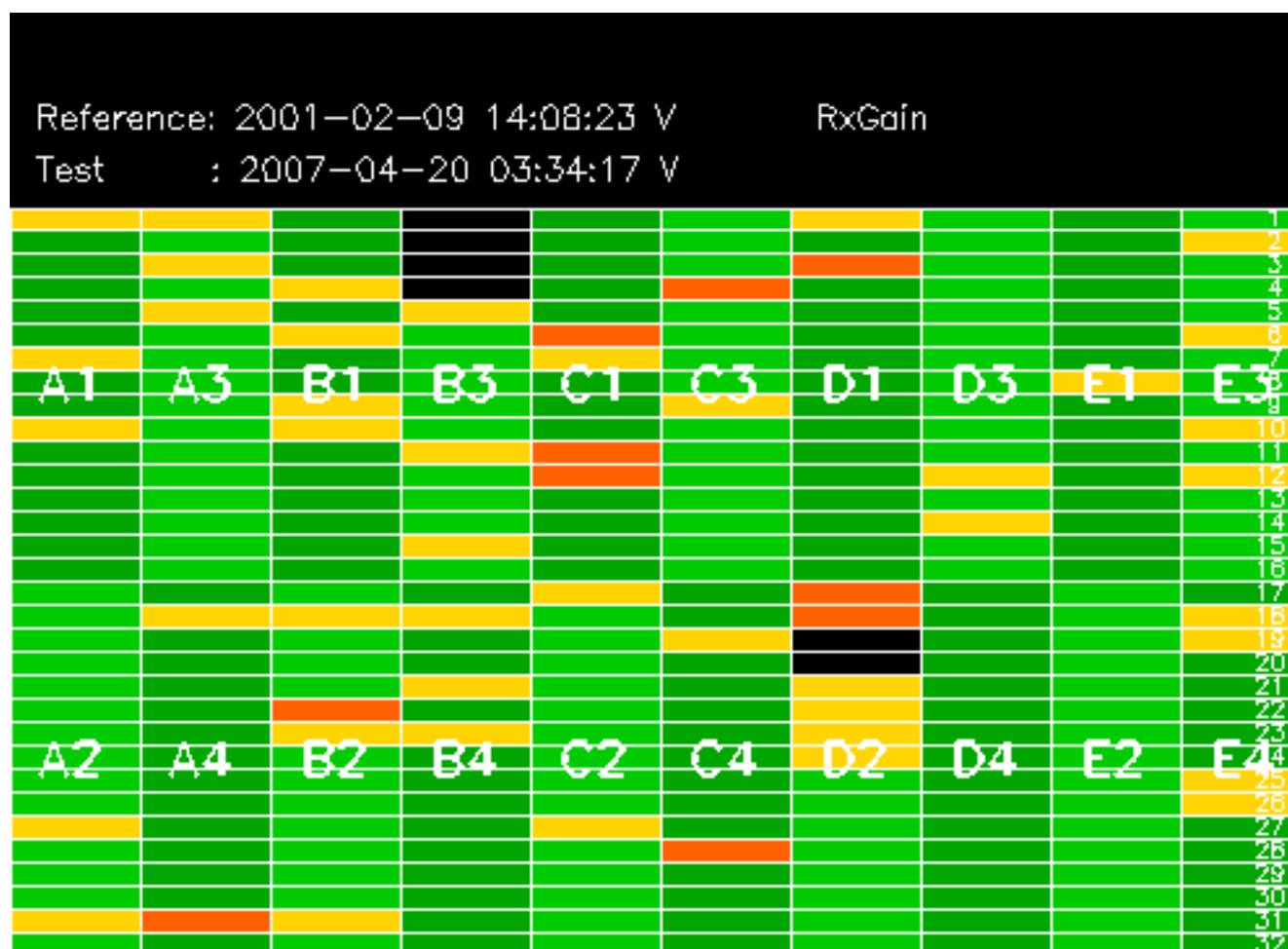
No anomalies observed on available MS products:



No anomalies observed.

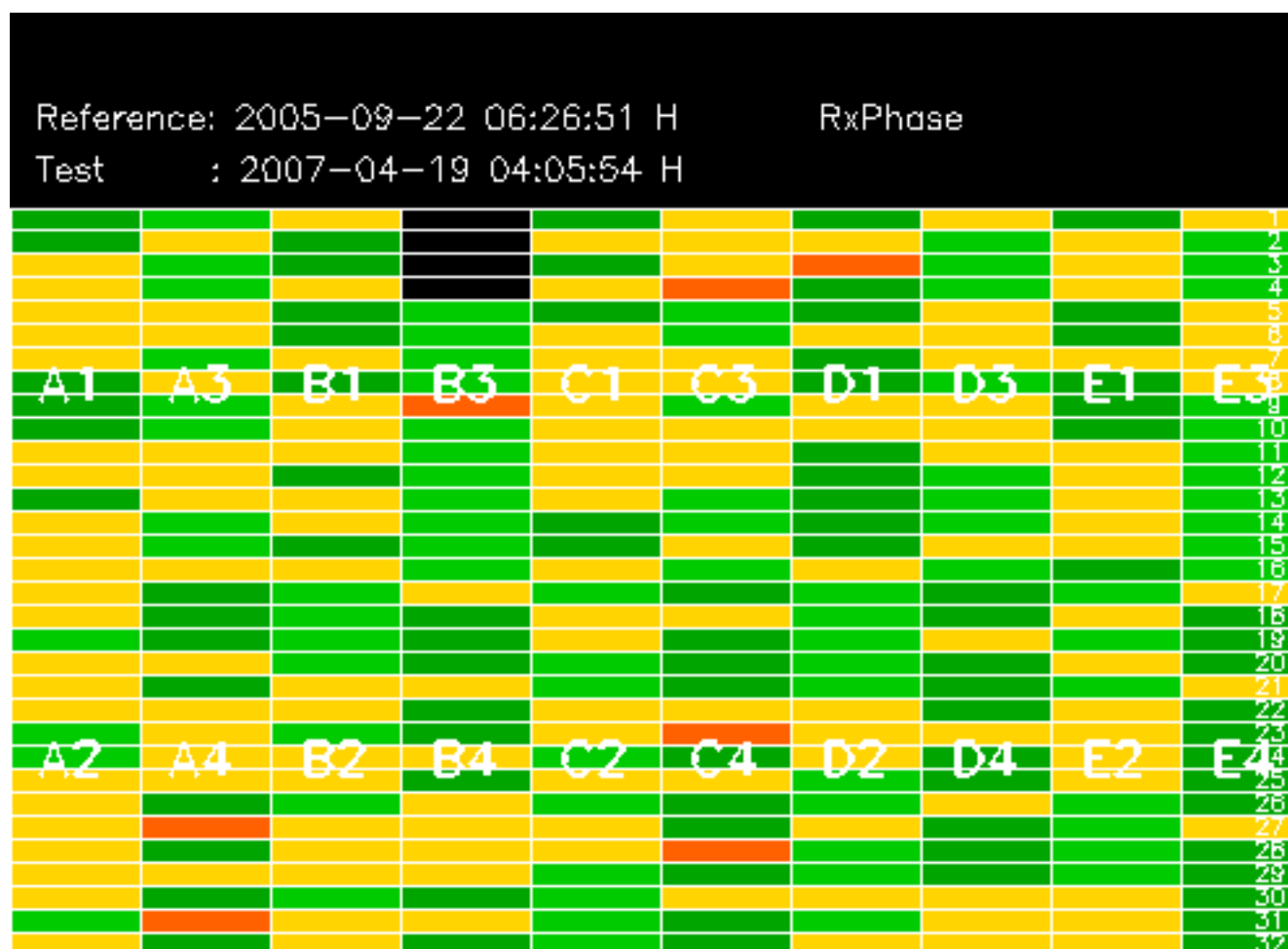








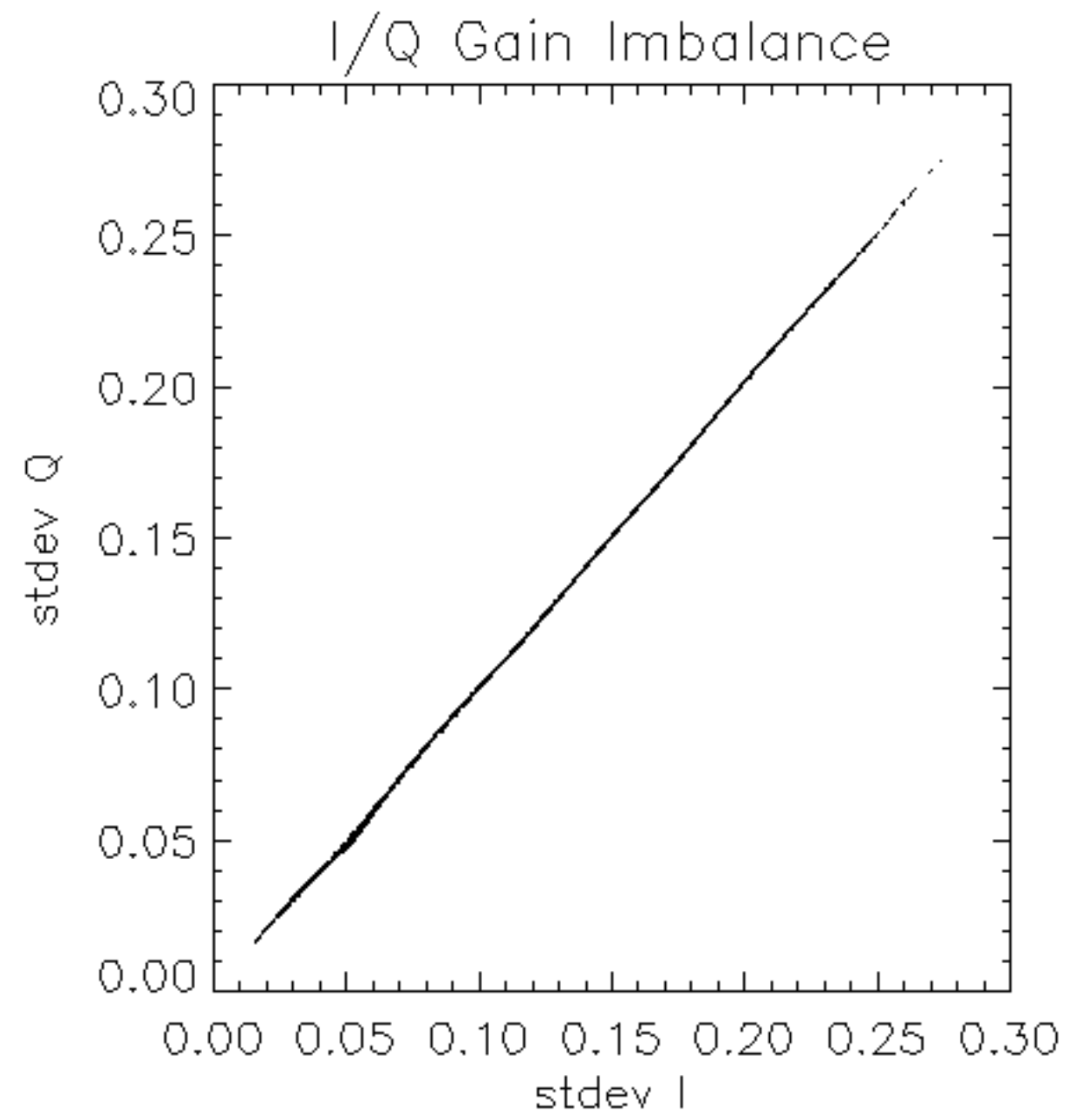


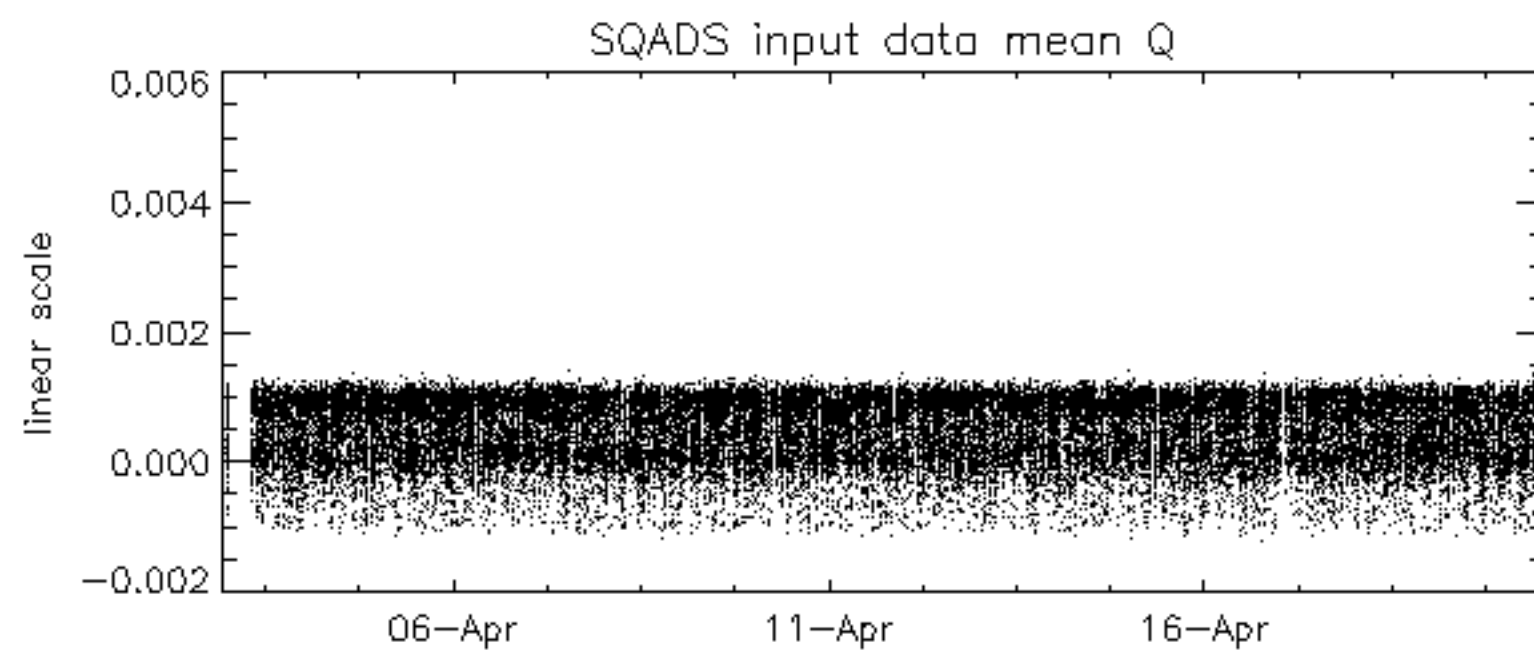
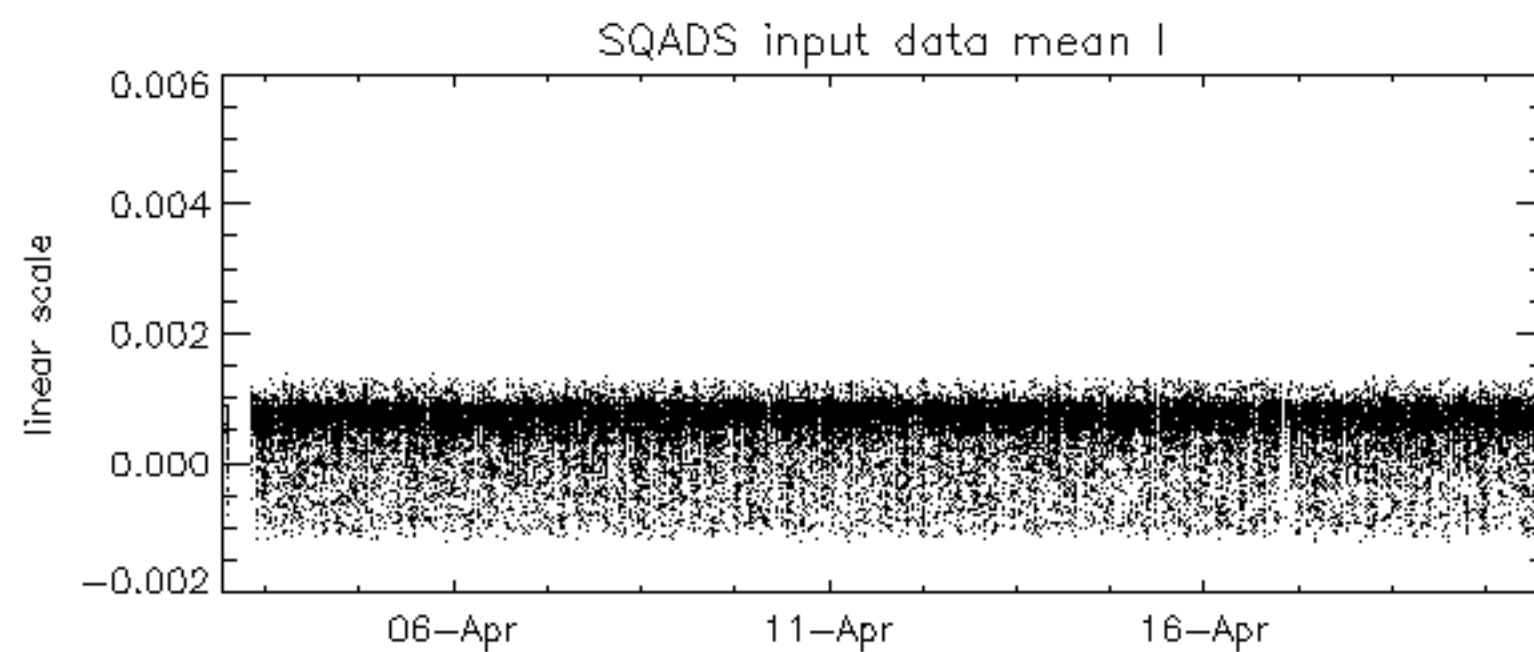
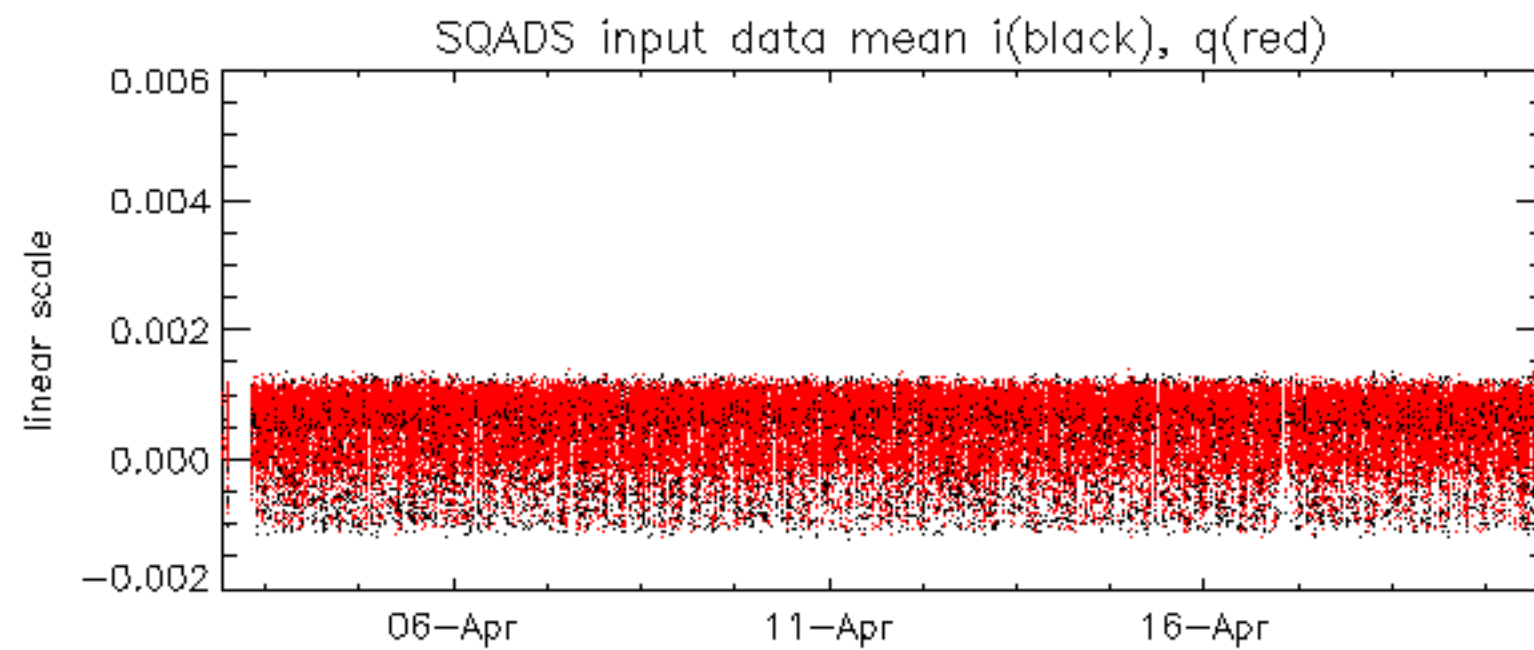


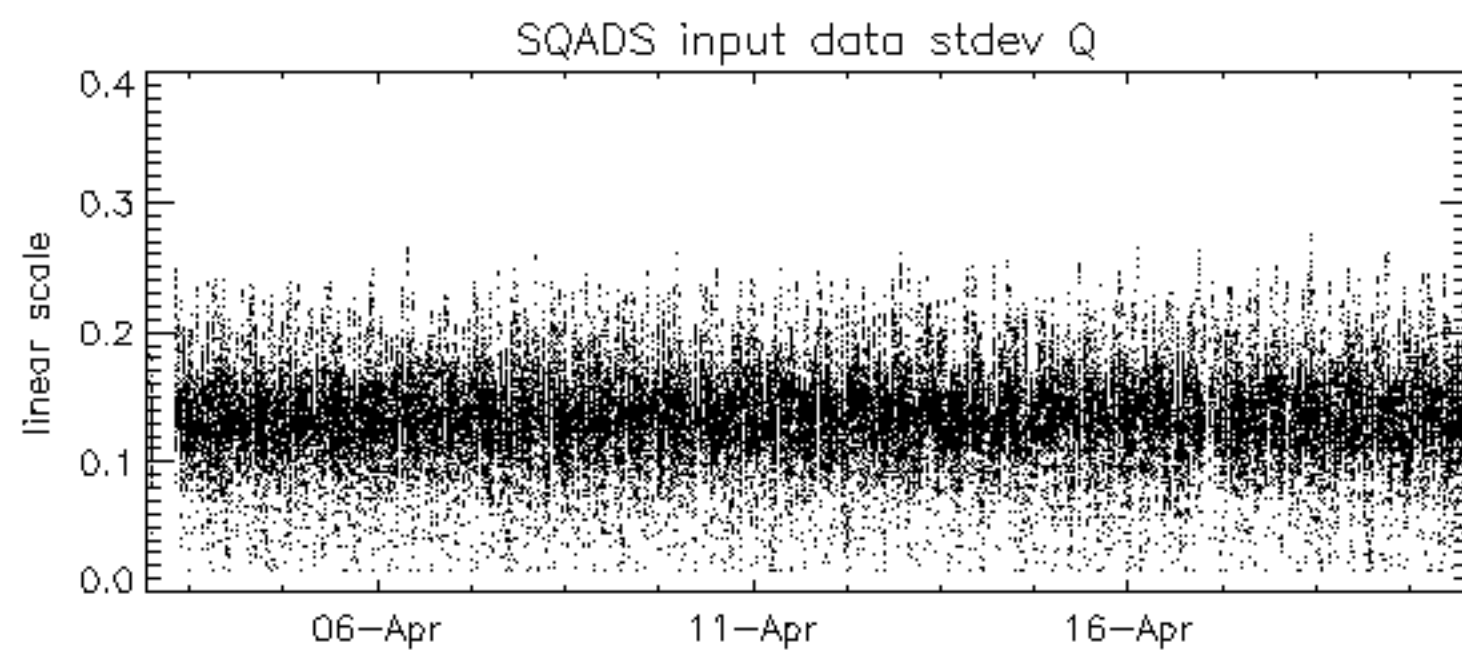
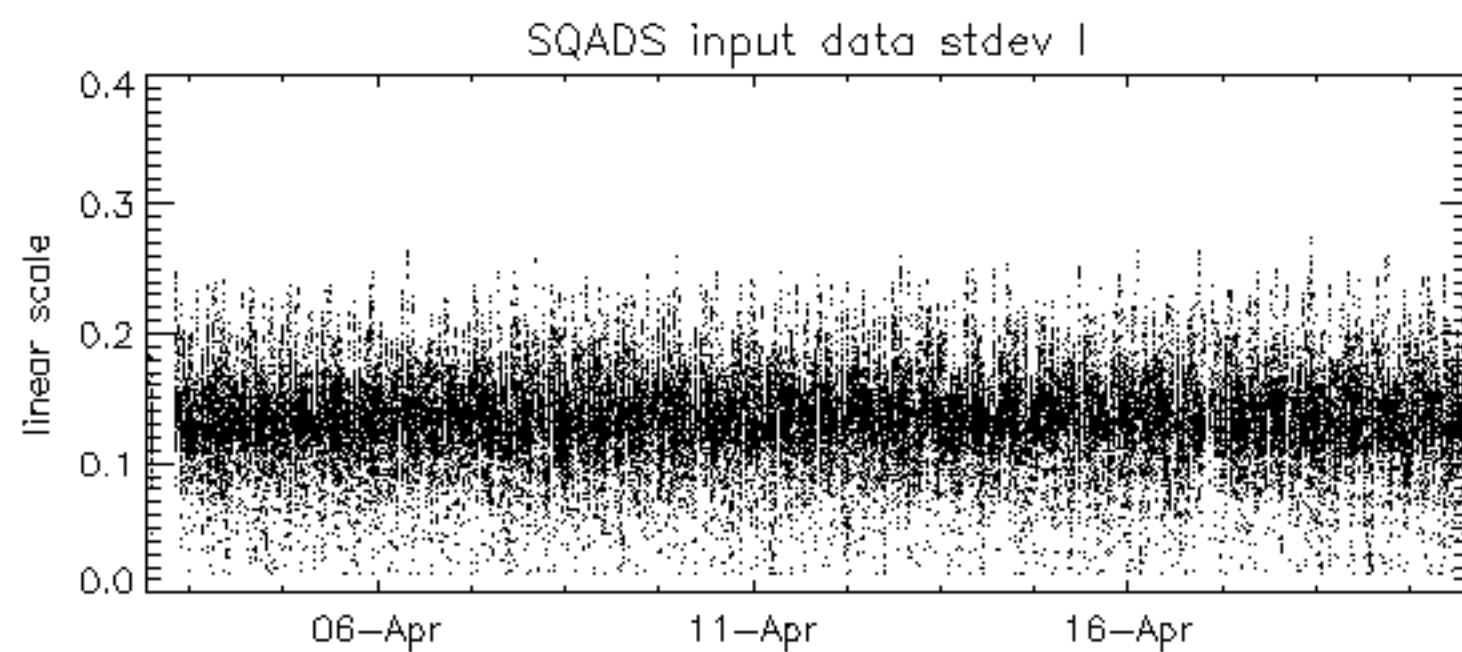
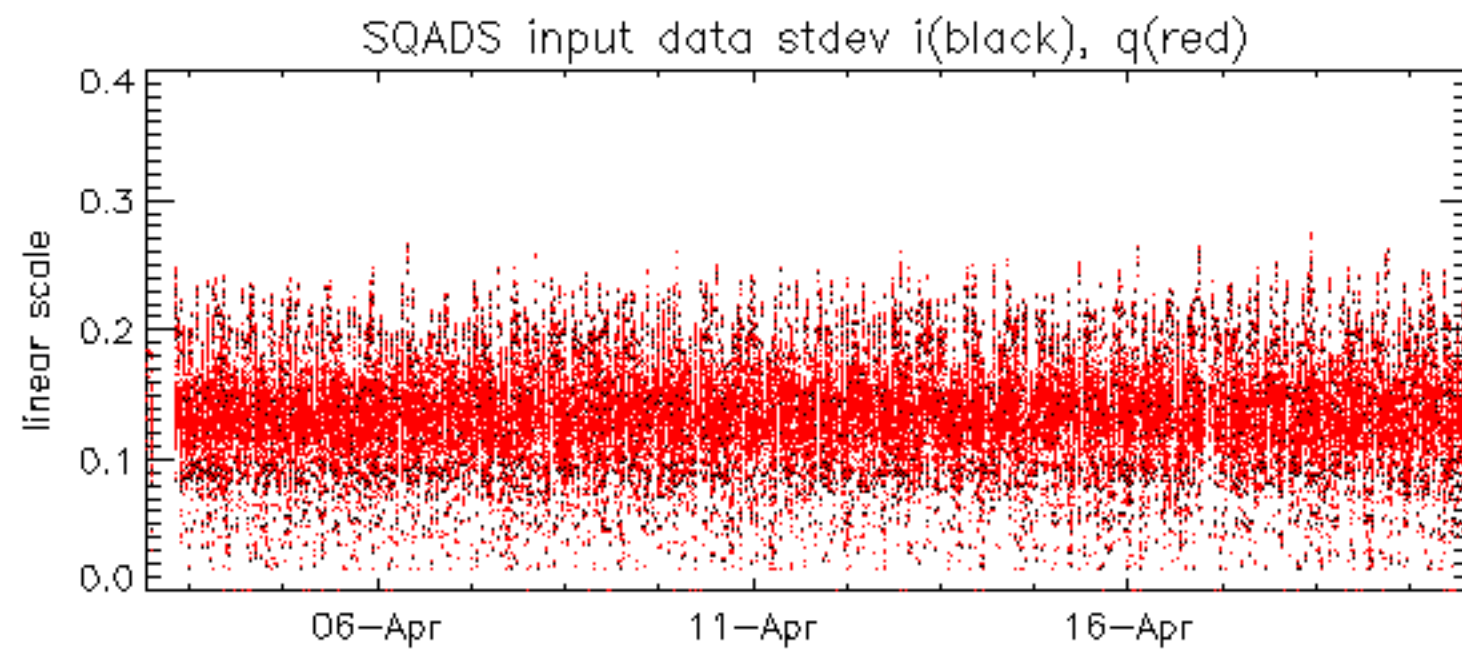






















Summary of analysis for the last 3 days 2007041[890]

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_1PNPDK20070419_152704_00000002057_00240_26847_4810.N1	1	0
ASA_GM1_1PNPDK20070418_201215_000007792057_00228_26835_3683.N1	0	43
ASA_GM1_1PNPDK20070419_084758_000003142057_00236_26843_3962.N1	0	15
ASA_GM1_1PNPDK20070419_162807_000000842057_00241_26848_4931.N1	0	83
ASA_WSM_1PNPDE20070410_014454_000000862057_00103_26710_5921.N1	0	70
ASA_WSM_1PNPDE20070410_161135_000002202057_00112_26719_6447.N1	0	57
ASA_WSM_1PNPDE20070410_201138_000000672057_00114_26721_6605.N1	0	29
ASA_WSM_1PNPDE20070418_005604_000000852057_00217_26824_6083.N1	0	31
ASA_WSM_1PNPDE20070418_165614_000001522057_00227_26834_6862.N1	0	57
ASA_WSM_1PNPDE20070418_184029_000002312057_00228_26835_6864.N1	0	11
ASA_WSM_1PNPDE20070419_180903_000001762057_00242_26849_8216.N1	0	31
ASA_WSM_1PNPDK20070419_094719_000000852057_00237_26844_4060.N1	0	28





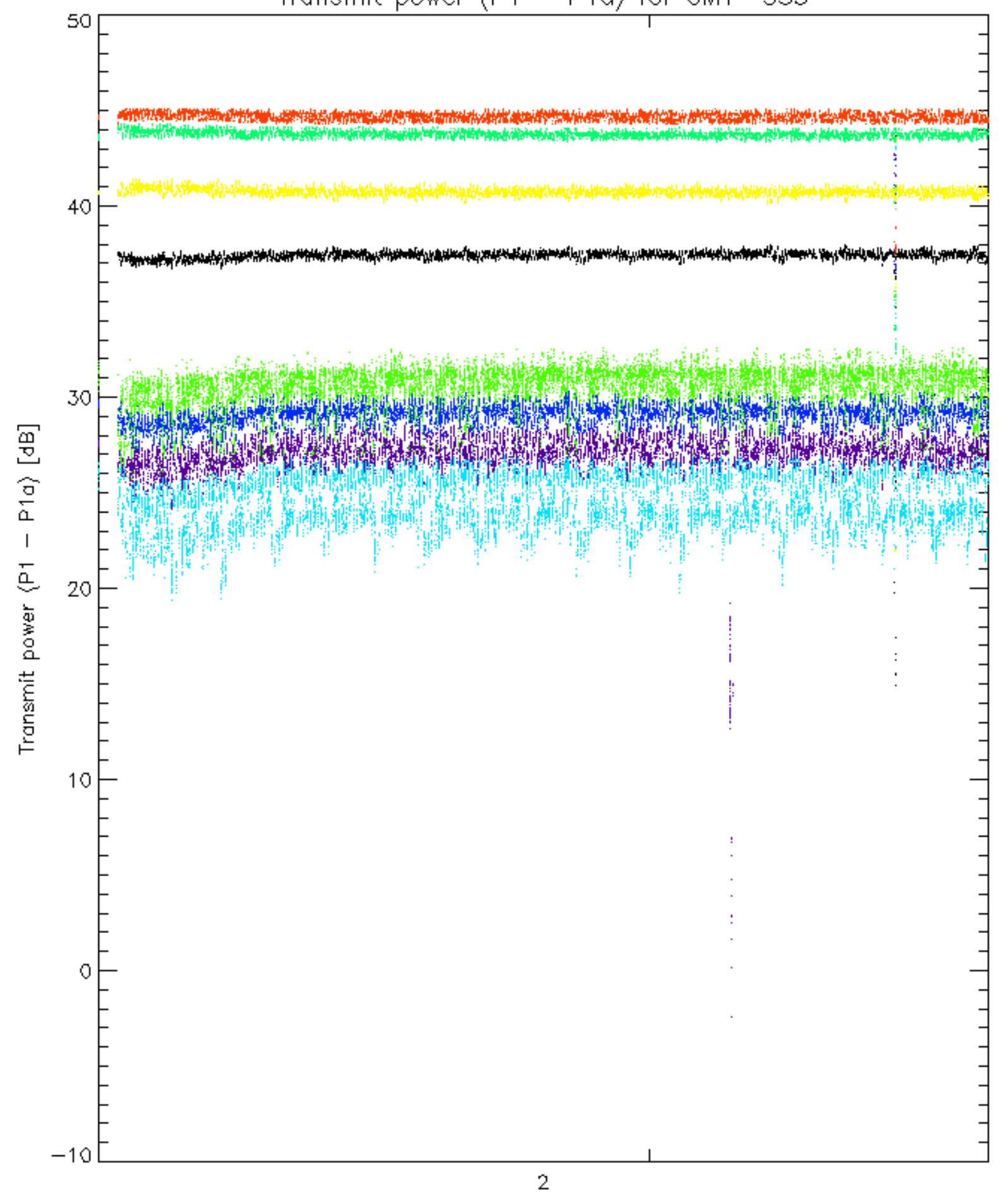






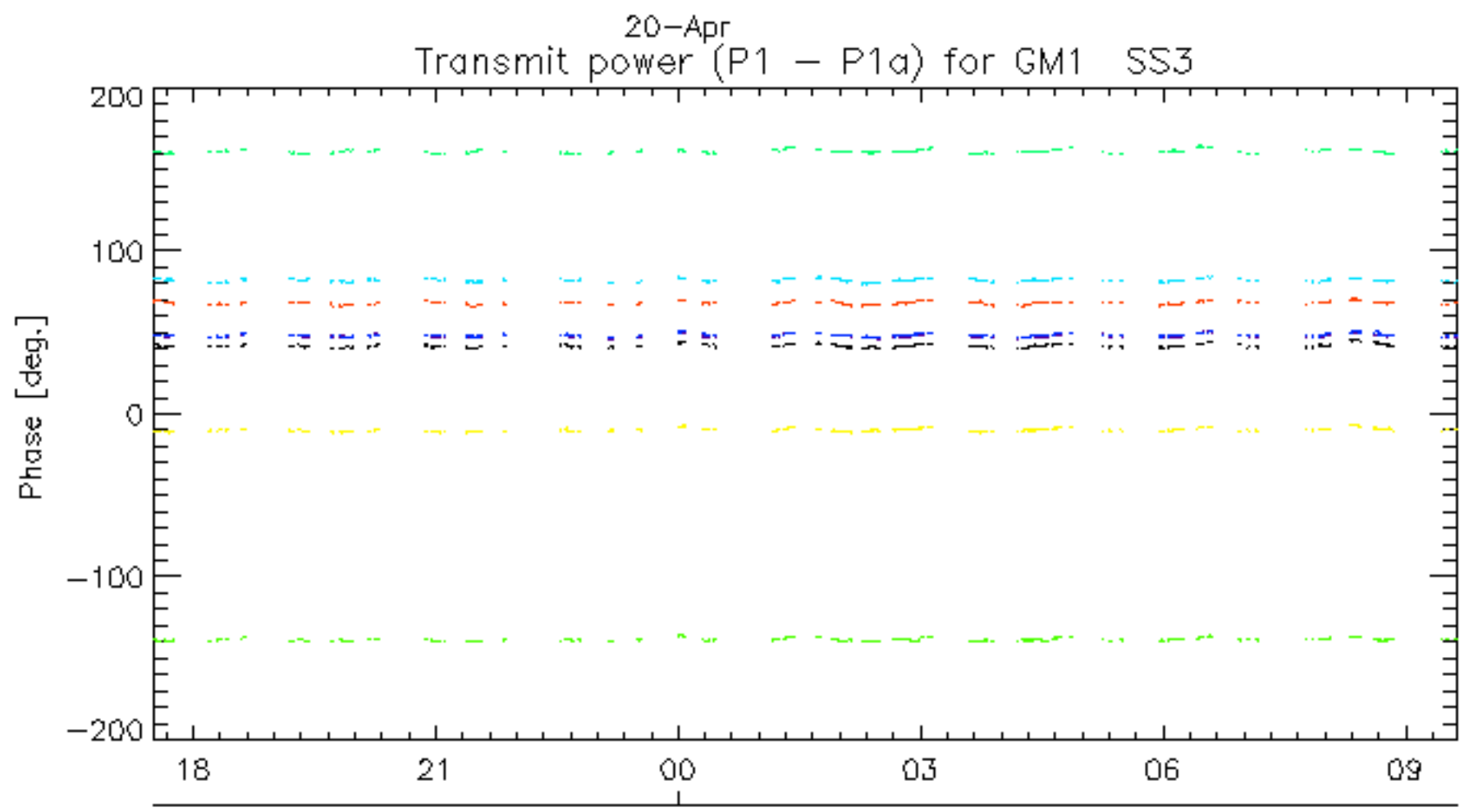
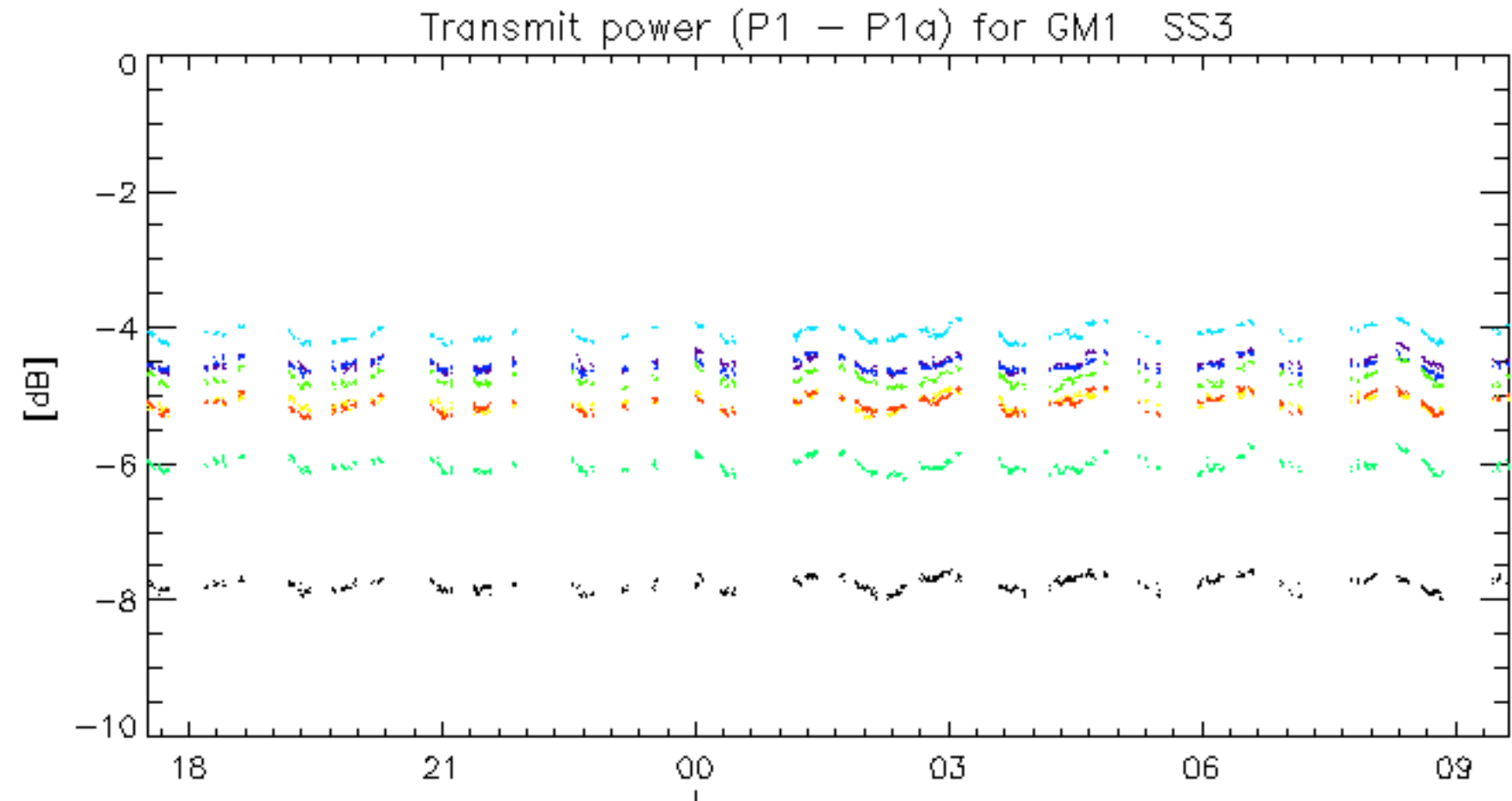


Transmit power (P1 - P1a) for GM1 SS3



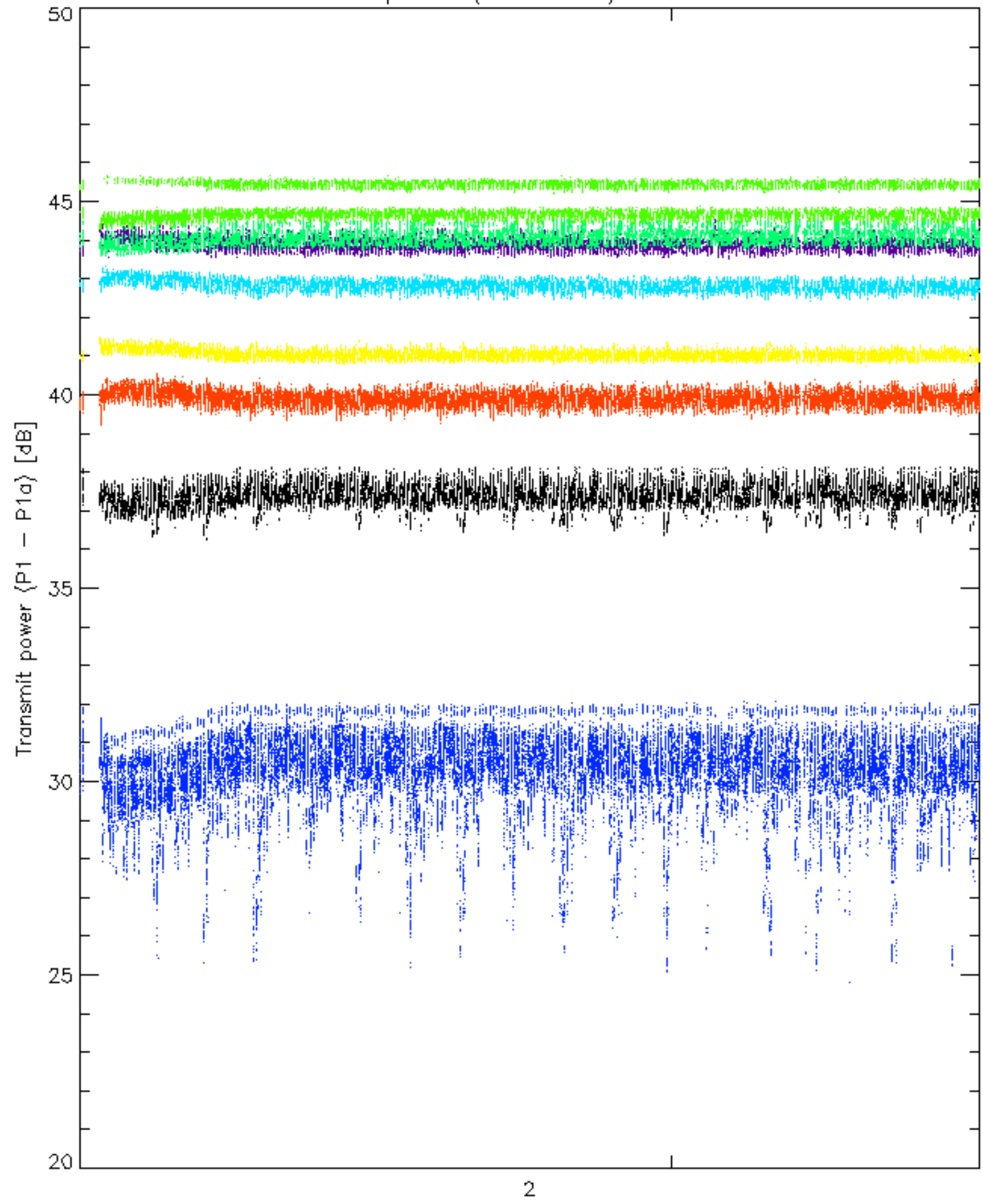
rows: 3 7 11 15 19 22 26 30



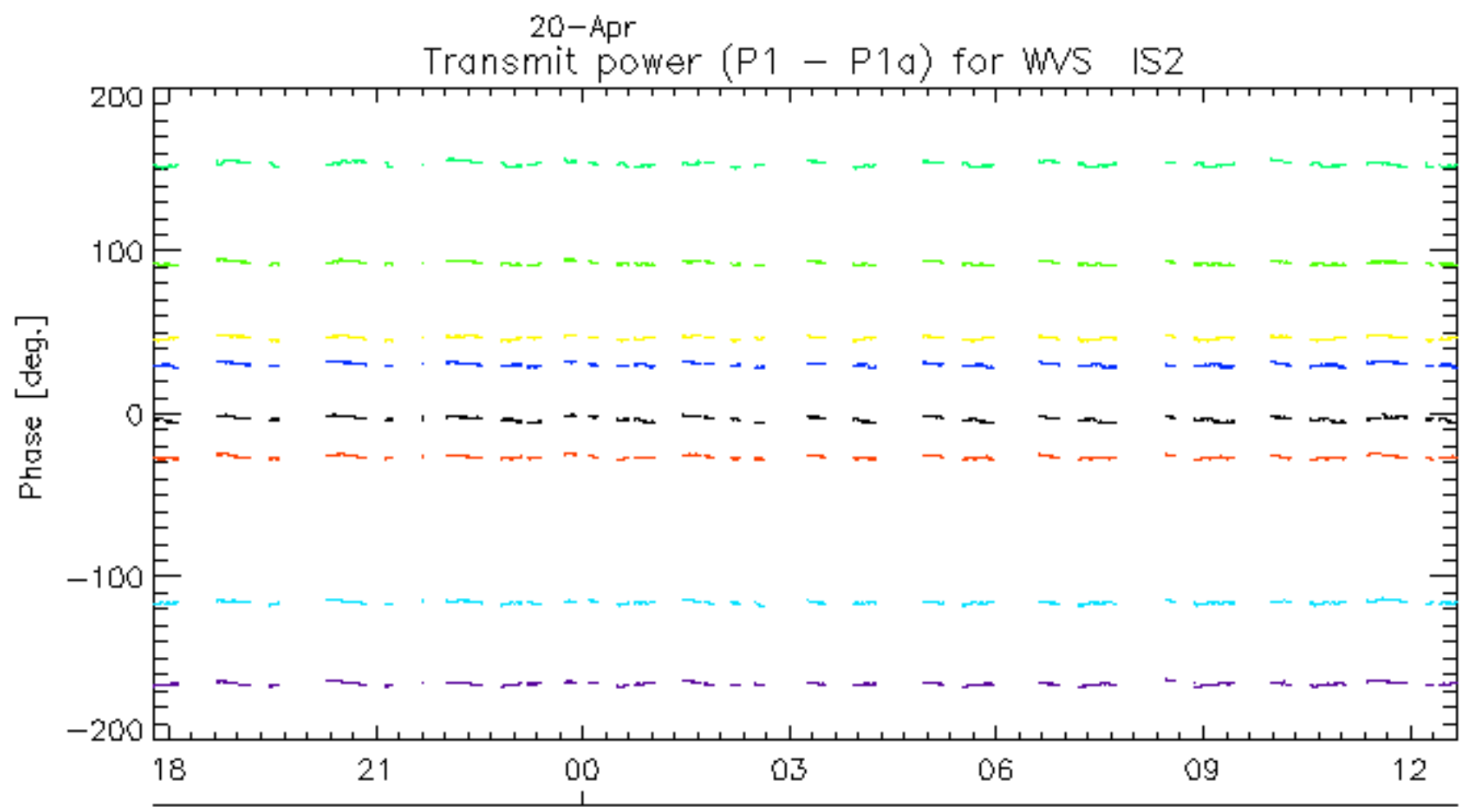
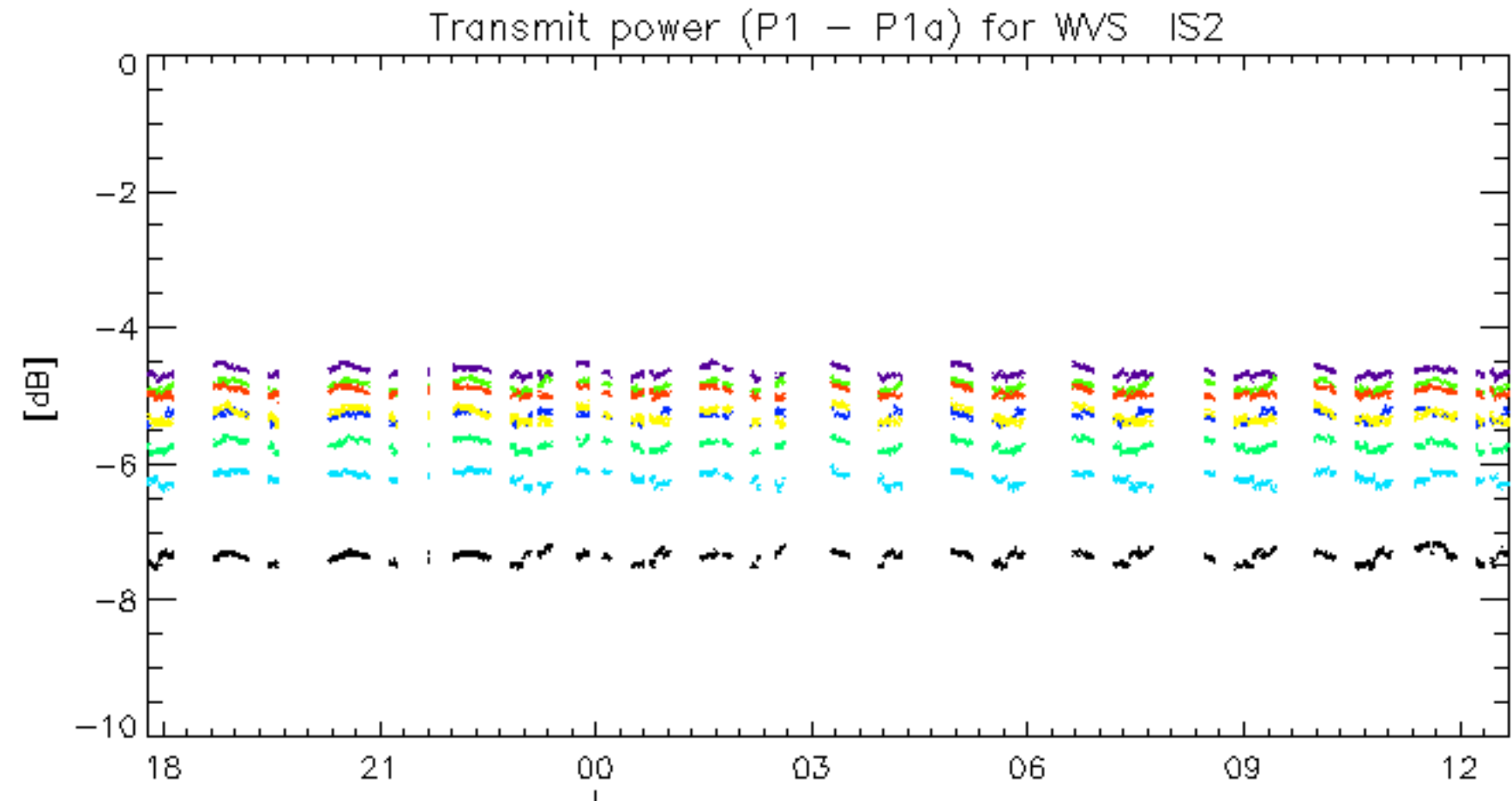


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

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.