

# REPORT OF 050422

last update on Fri Apr 22 11:59:51 GMT 2005

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## 1 - Introduction

## 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

ASAR unavailable from 21-Apr-2005 04:17:47 to 21-Apr-2005 04:18:23 after an autonomous transition to PreOp/Refuse mode due to a telemetry error.

### 2.2 - Auxiliary files

Summary of the auxiliary files used from 2005-04-21 00:00:00 to 2005-04-22 11:59:51

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	9	38	4	6	5
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	9	38	4	6	5
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	9	38	4	6	5
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	9	38	4	6	5

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	51	59	5	10	4
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	51	59	5	10	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	51	59	5	10	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	51	59	5	10	4

## 2.3 - Browse Visual Inspection

## 2.2 - Browse Visual Inspection

No anomalies observed on available browse products

## 2.4 - Data Analysis

## 2.3 - 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	20050422 063532
H	20050421 070709

### MSM in V/V polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
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⊗	
⊗	
⊗	
⊗	

### MSM in H/H polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
⊗	
⊗	
⊗	
⊗	

## 4 - Internal calibration Results

No anomalies observed.

### 4.1 - Daily statistics

#### 4.1.1 - Evolution for WVS

##### Evolution of cal pulses for WVS

⊗
⊗

#### 4.1.2 - Evolution for GM1

##### Evolution of cal pulses for GM1

⊗
⊗

### 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)
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#### P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.340887	0.013537	-0.017524
7	P1	-3.115740	0.010139	0.008725
11	P1	-4.666089	0.032358	0.001238
15	P1	-5.599426	0.044981	0.085690
19	P1	-3.704099	0.004016	-0.026324
22	P1	-4.552090	0.012183	-0.085435
26	P1	-4.907250	0.019832	0.057803
30	P1	-7.174480	0.024512	0.085830
3	P1	-15.772159	0.337839	0.006957
7	P1	-15.525943	0.090446	0.016070
11	P1	-21.111166	0.450265	-0.366631
15	P1	-11.524236	0.055189	0.187726
19	P1	-14.315924	0.028545	0.004423
22	P1	-15.793898	0.318841	-0.333949
26	P1	-17.631155	0.178926	0.035715
30	P1	-17.920362	0.347554	0.212293

#### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.048265	0.082179	0.024066
7	P2	-22.222994	0.098848	0.026303
11	P2	-14.225960	0.109284	0.151650
15	P2	-7.061618	0.092365	-0.046628
19	P2	-9.644539	0.095515	-0.034929
22	P2	-16.884640	0.097254	0.020653

26	P2	-16.456417	0.095350	-0.048038
30	P2	-18.824970	0.086031	0.003807

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.165722	0.004388	0.000223
7	P3	-8.165722	0.004388	0.000223
11	P3	-8.165721	0.004388	0.000226
15	P3	-8.165721	0.004388	0.000226
19	P3	-8.165721	0.004388	0.000226
22	P3	-8.165721	0.004388	0.000226
26	P3	-8.165721	0.004388	0.000226
30	P3	-8.165722	0.004388	0.000225

### 4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1
<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	-2.727334	0.026235	-0.111464
7	P1	-3.006013	0.045795	-0.018776
11	P1	-3.978464	0.026862	-0.032964
15	P1	-3.538383	0.036540	-0.023648
19	P1	-3.616405	0.014002	-0.030457
22	P1	-5.702859	0.043372	0.085593
26	P1	-7.301896	0.025163	-0.032807
30	P1	-6.269126	0.061103	-0.063051
3	P1	-10.710101	0.159819	-0.170590
7	P1	-10.356642	0.177631	-0.161603

11	P1	-12.537843	0.138895	-0.122147
15	P1	-11.687874	0.098383	0.030228
19	P1	-15.597102	0.055082	-0.052617
22	P1	-24.876850	1.583451	-0.717483
26	P1	-15.572865	0.246457	-0.208460
30	P1	-20.172585	1.237213	0.084032

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.748796	0.038405	0.003315
7	P2	-22.301979	0.045438	0.036920
11	P2	-10.078856	0.057825	0.034061
15	P2	-5.026820	0.034110	-0.104383
19	P2	-6.861835	0.050205	-0.086104
22	P2	-7.082395	0.037284	-0.039626
26	P2	-23.873251	0.037266	-0.089281
30	P2	-21.903772	0.042477	-0.072355

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.001019	0.003558	-0.013975
7	P3	-8.001210	0.003547	-0.013991
11	P3	-8.001032	0.003554	-0.014059
15	P3	-8.001211	0.003556	-0.014396
19	P3	-8.001227	0.003547	-0.014368
22	P3	-8.001165	0.003540	-0.014083
26	P3	-8.001151	0.003546	-0.014188
30	P3	-8.001128	0.003546	-0.013960

## 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	0.000478200
	stdev	2.16454e-07
MEAN Q	mean	0.000491808
	stdev	2.33371e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129435
	stdev	0.00104350
STDEV Q	mean	0.129697
	stdev	0.00105536



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005042[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_IMM_1PNPDK20050421_125414_000001212036_00339_16425_2813.N1	1	0
ASA_APM_1PNPDK20050421_082621_000000752036_00336_16422_1803.N1	0	2



## 7 - Doppler Analysis

Preliminary report. The data is not yet controlled

### 6.1 - Unbiased Doppler Error for WVS

#### Evolution of unbiased Doppler error (Real - Expected)

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

### 6.2 - Absolute Doppler for WVS

#### Evolution of Absolute Doppler

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

### 6.3 - Doppler evolution versus ANX for WVS

#### Evolution Doppler error versus ANX

<input type="checkbox"/>
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### 6.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)

Ascending

Descending

### 6.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

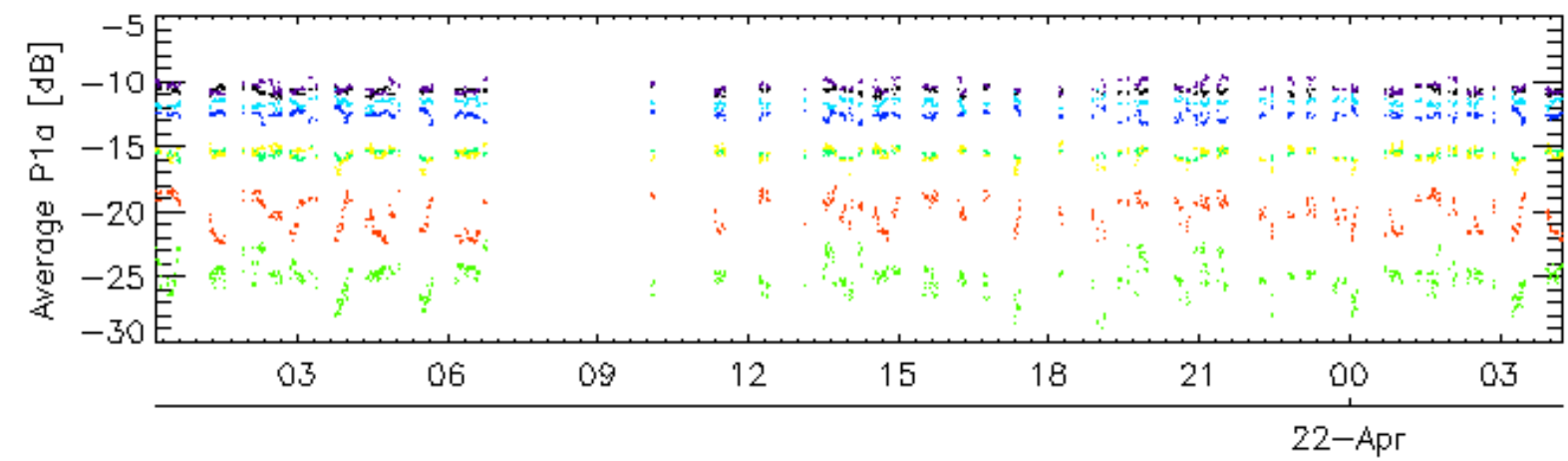
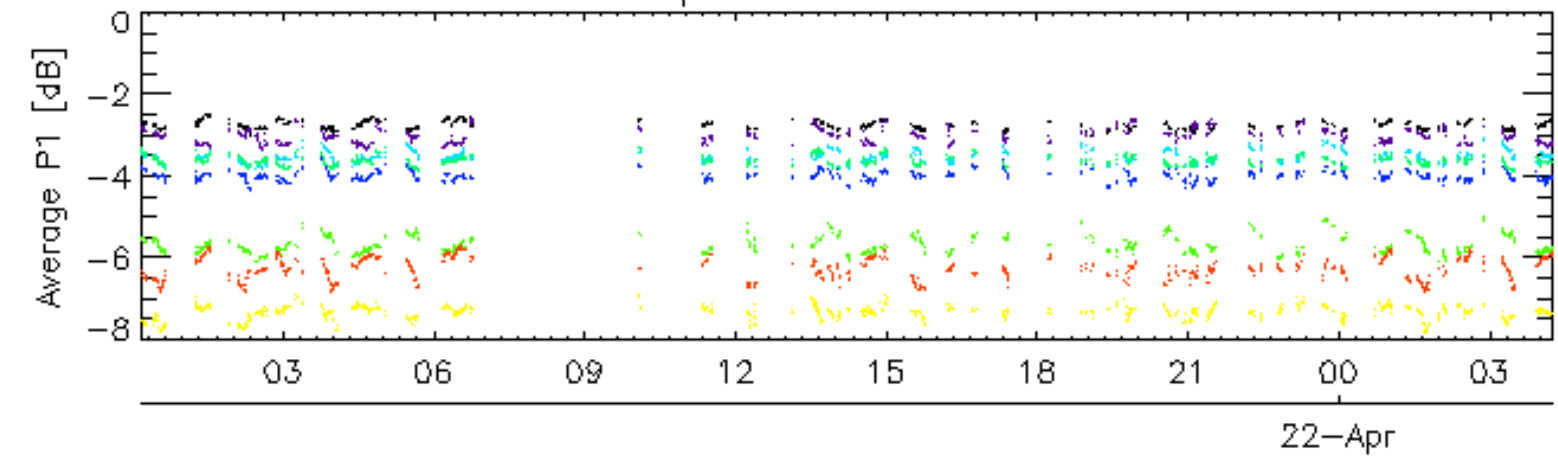
Ascending

Descending

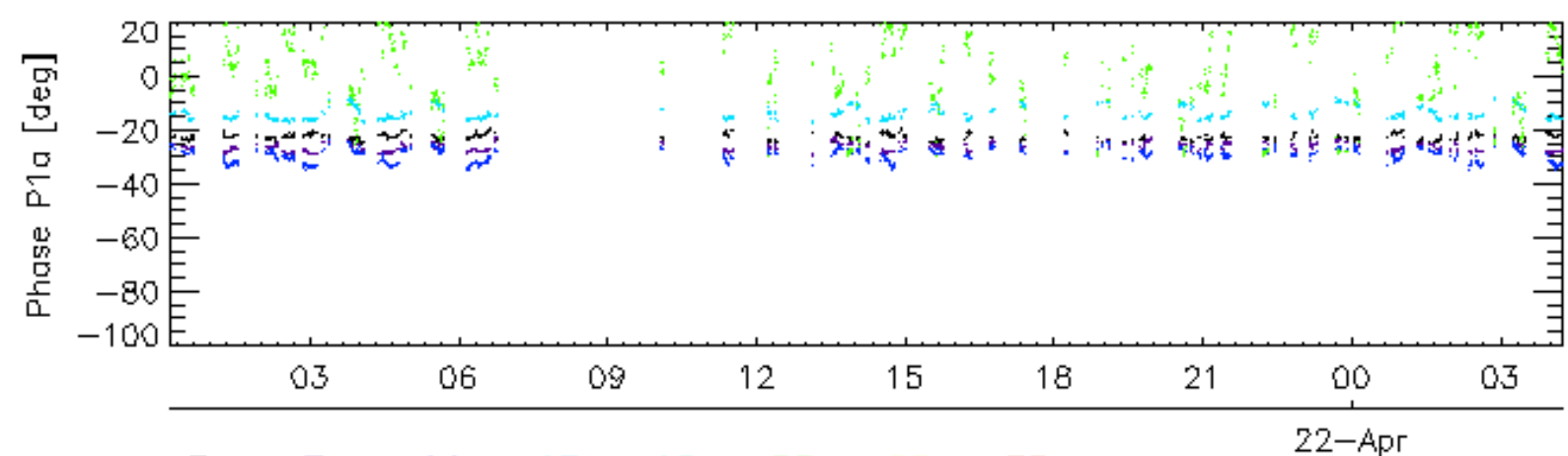
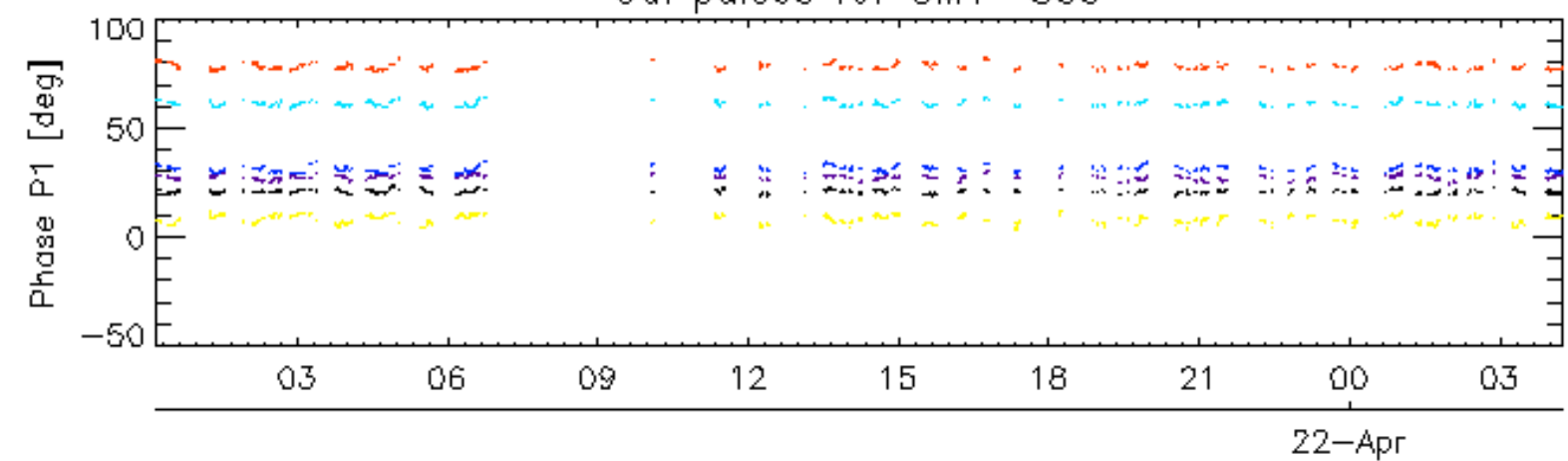
### 6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

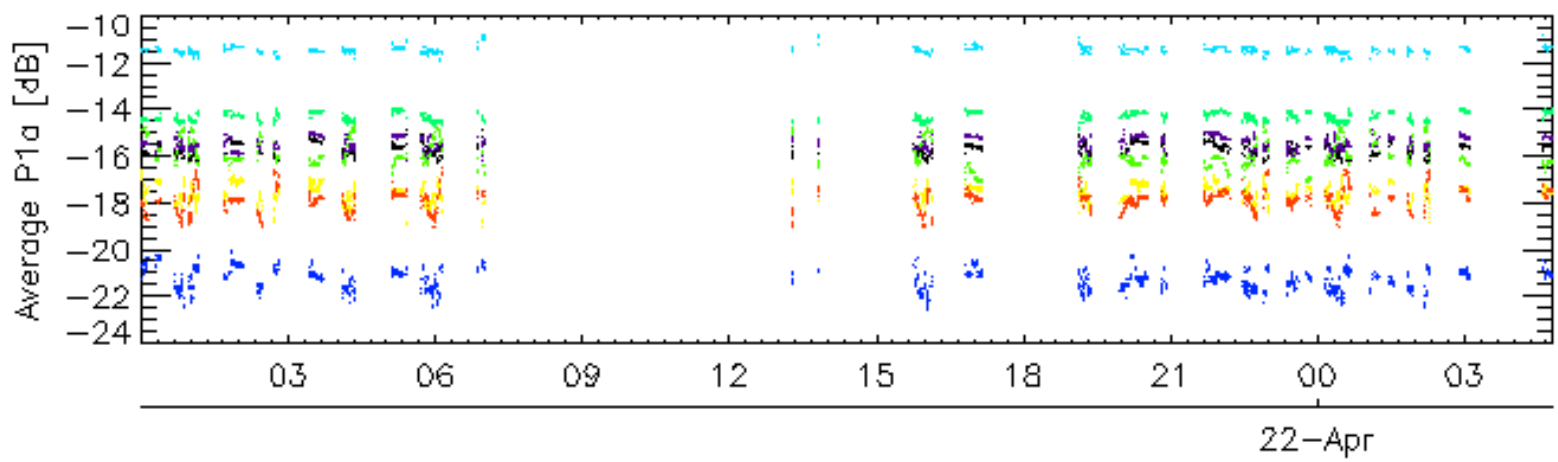
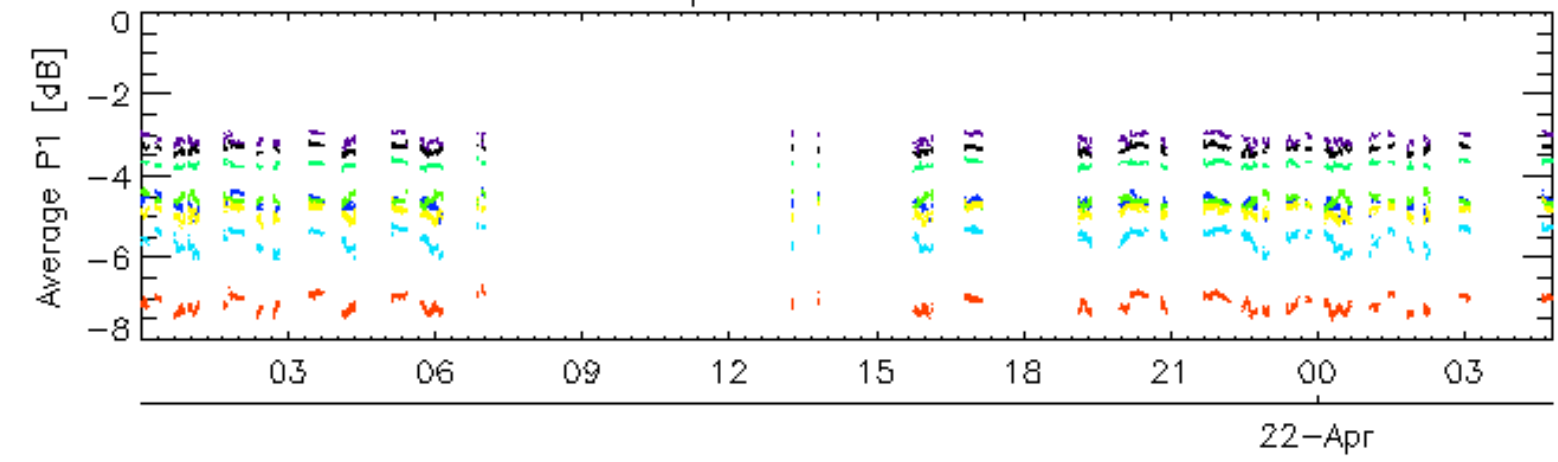


Cal pulses for GM1 SS3

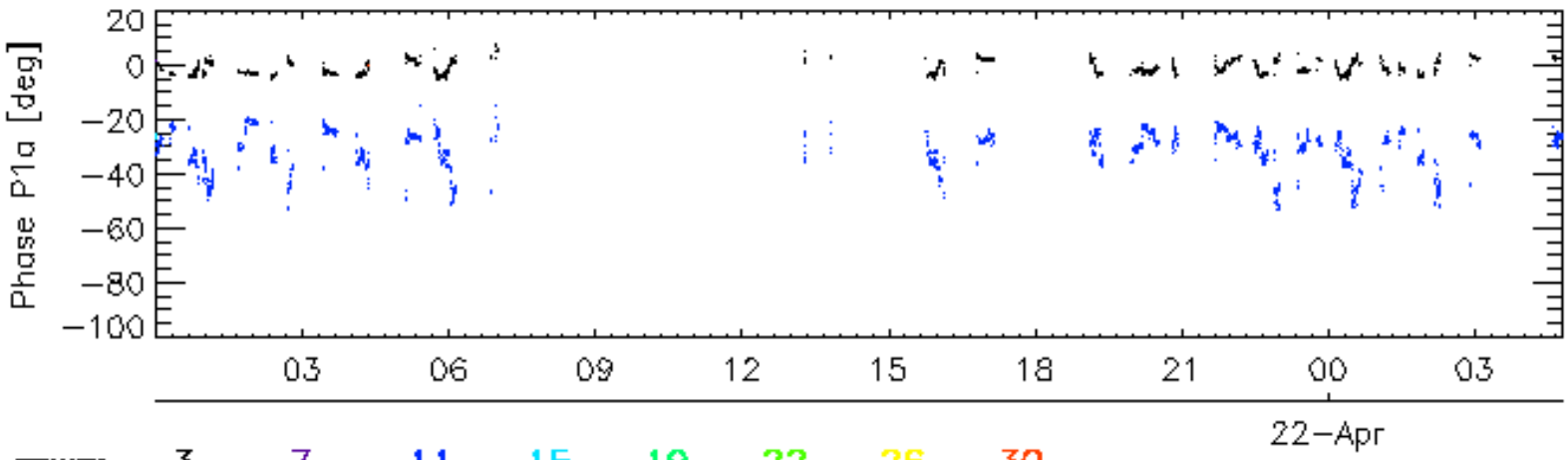
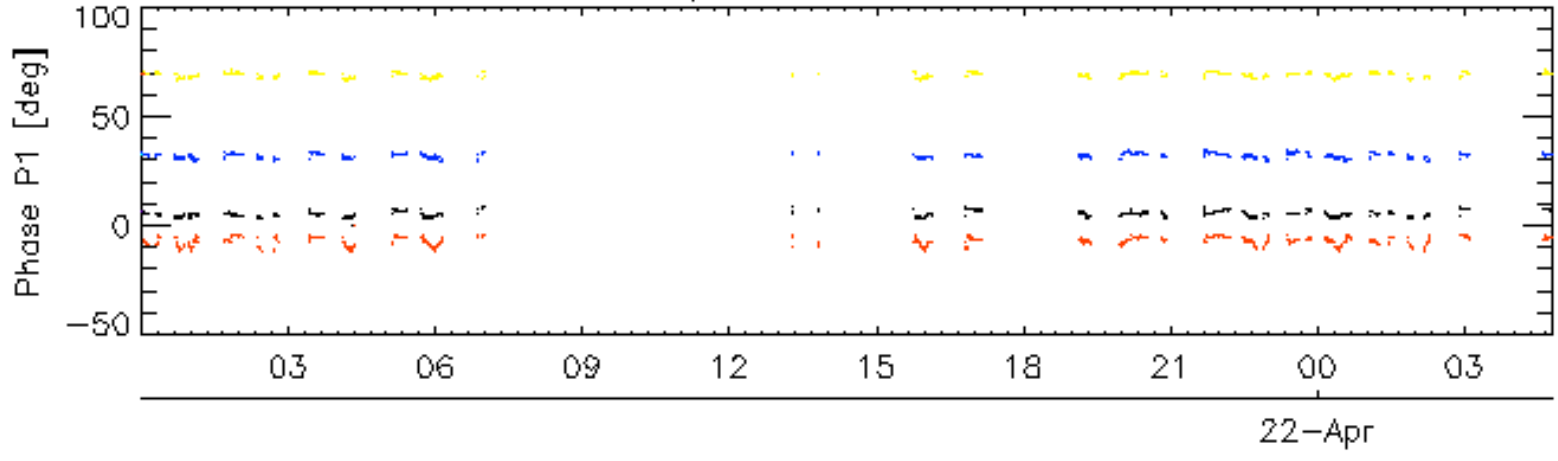


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

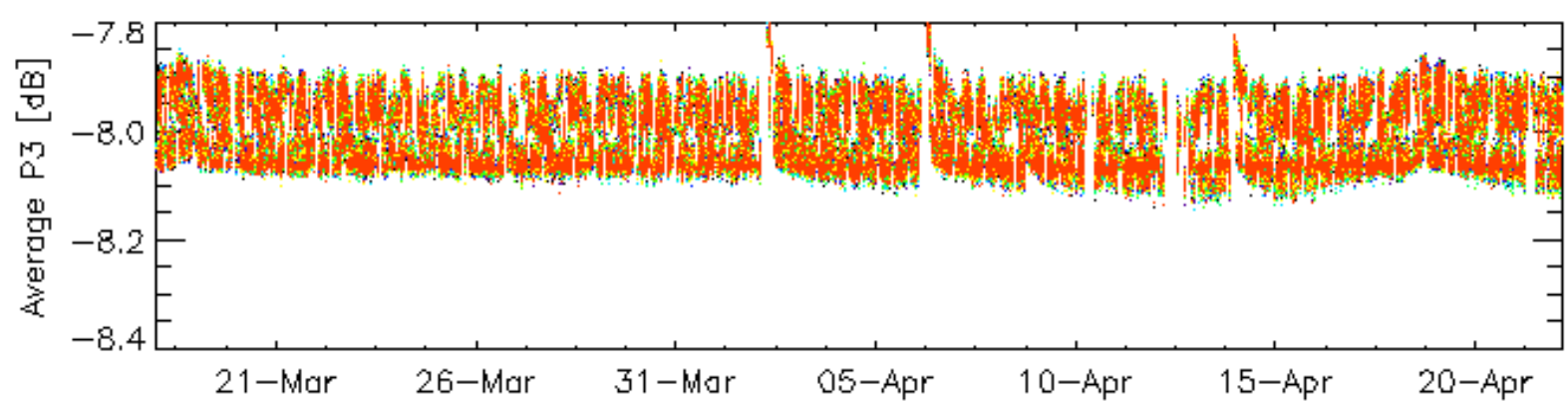
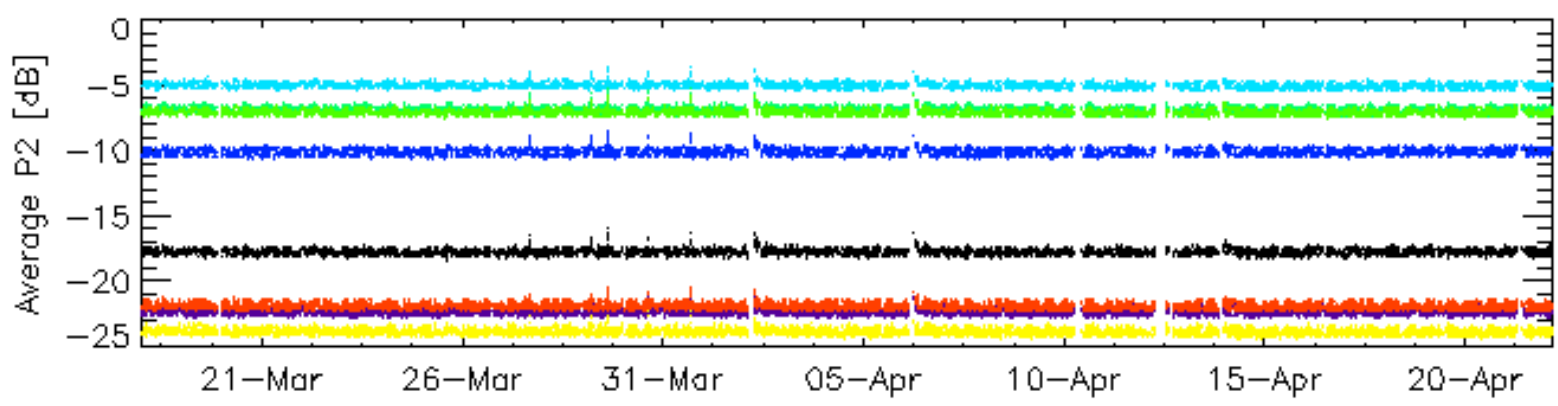
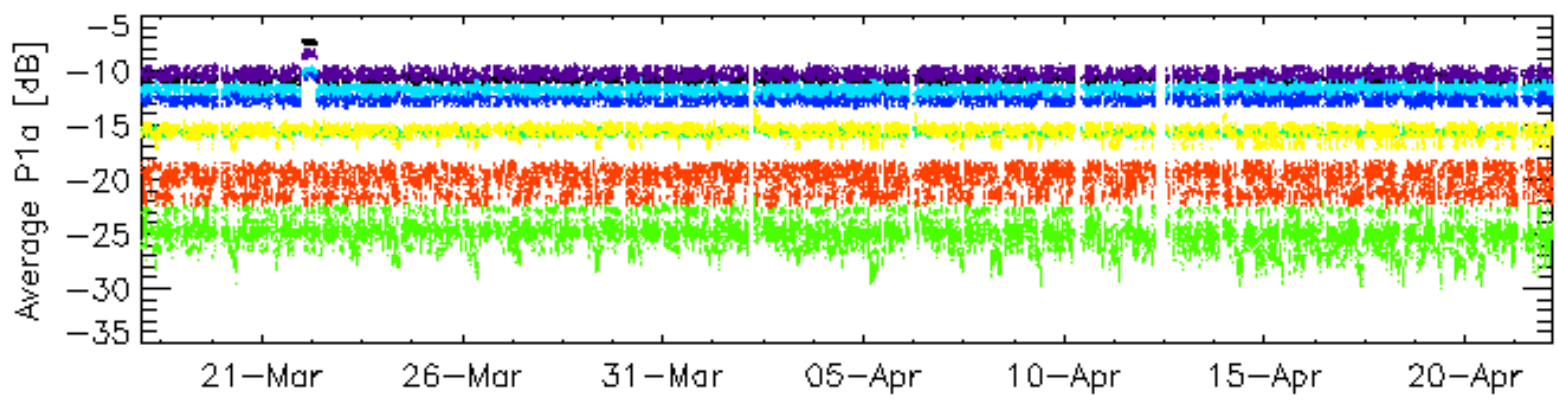
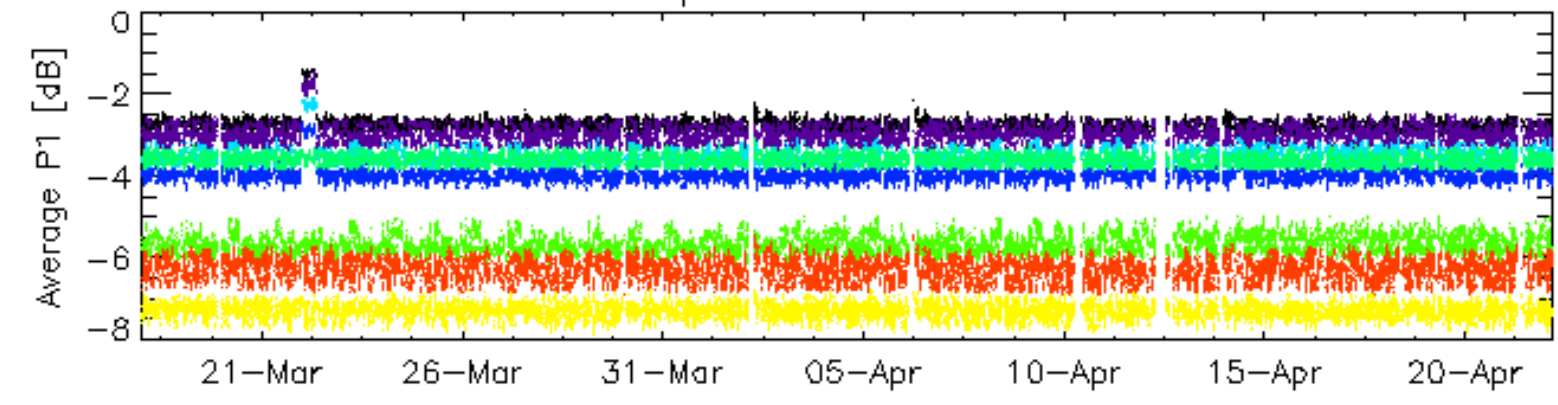


Cal pulses for WVS IS2



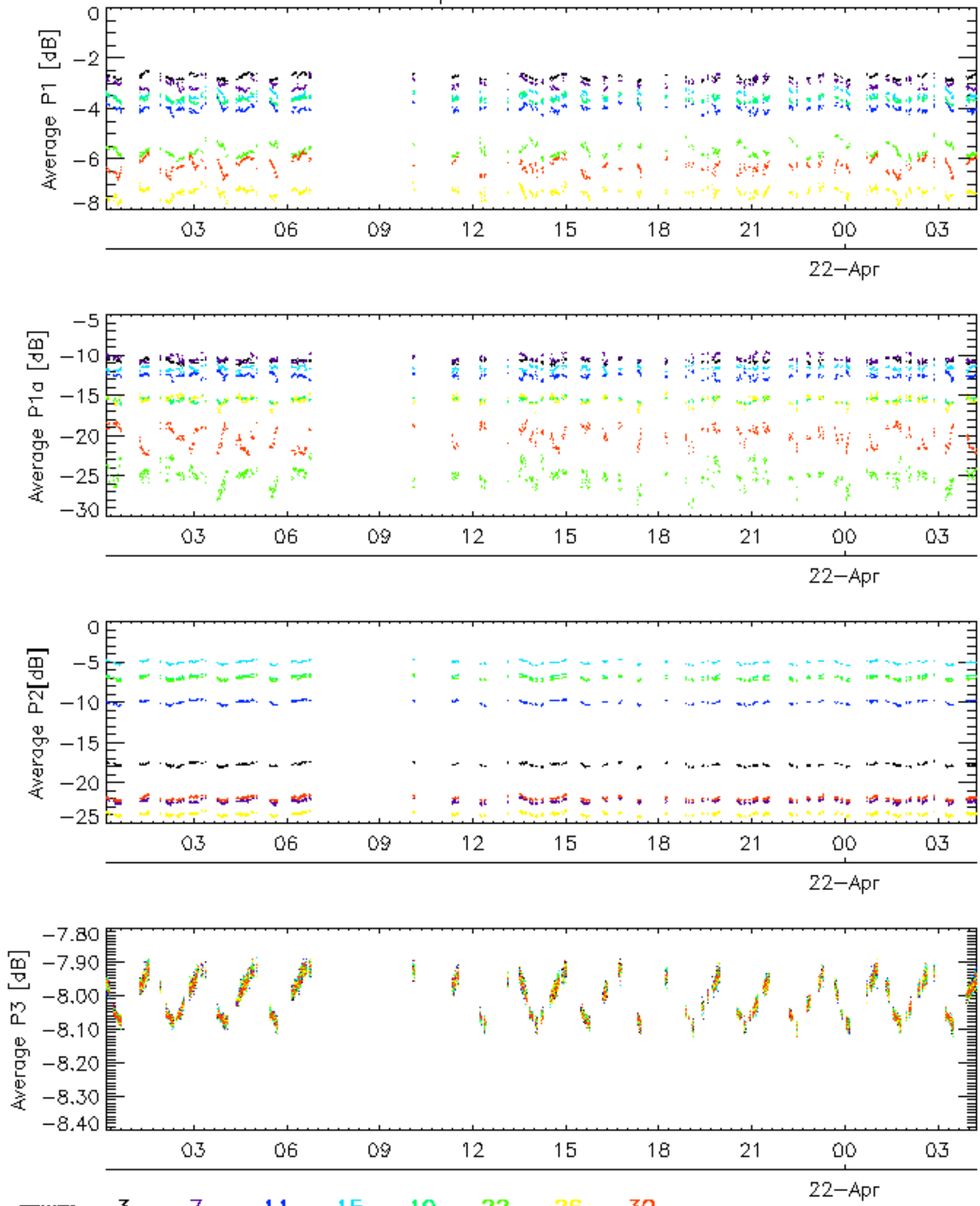
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

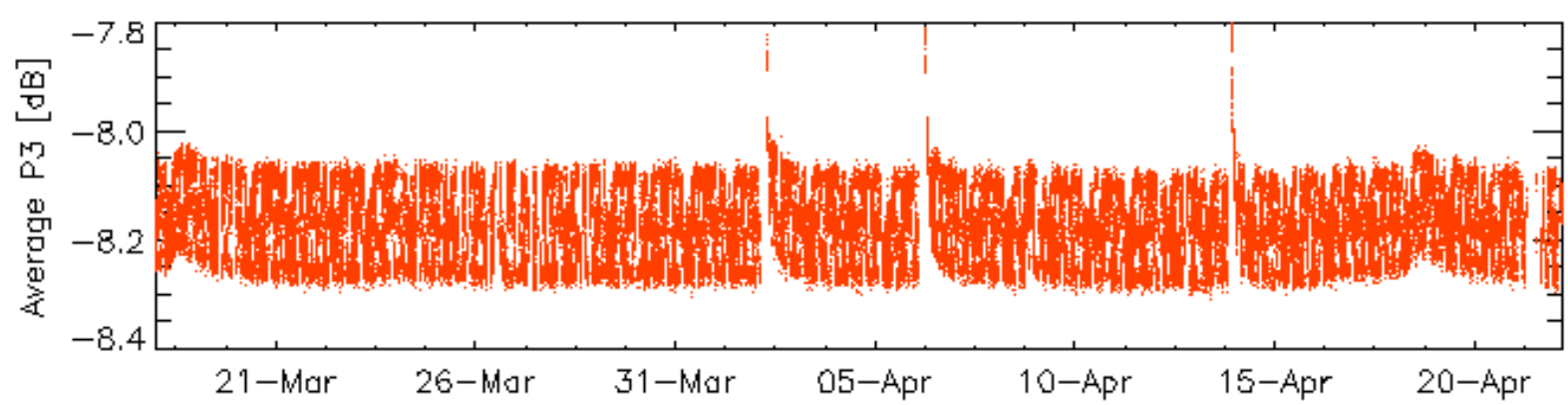
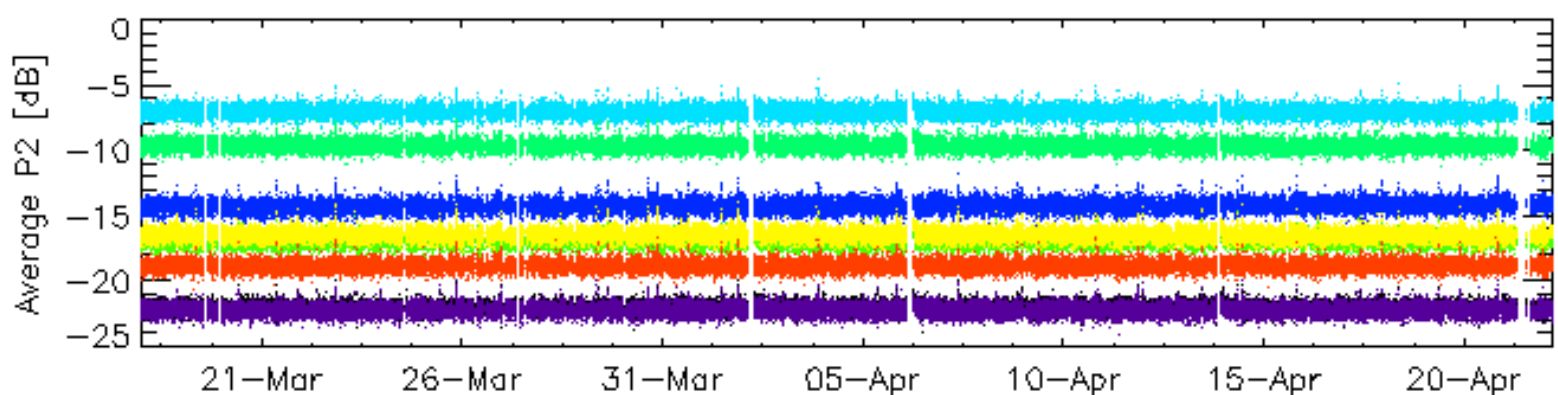
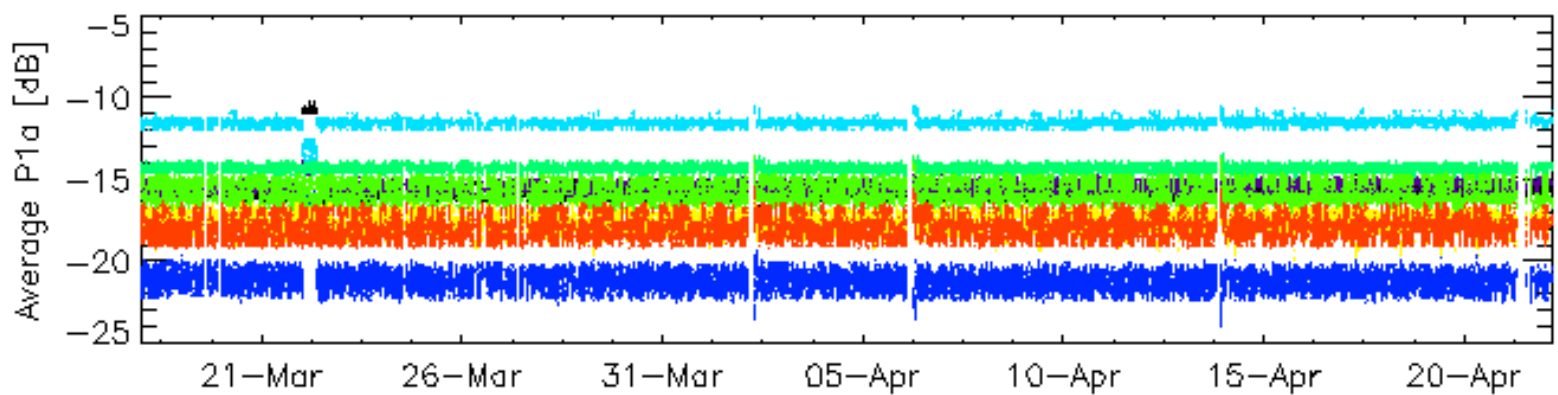
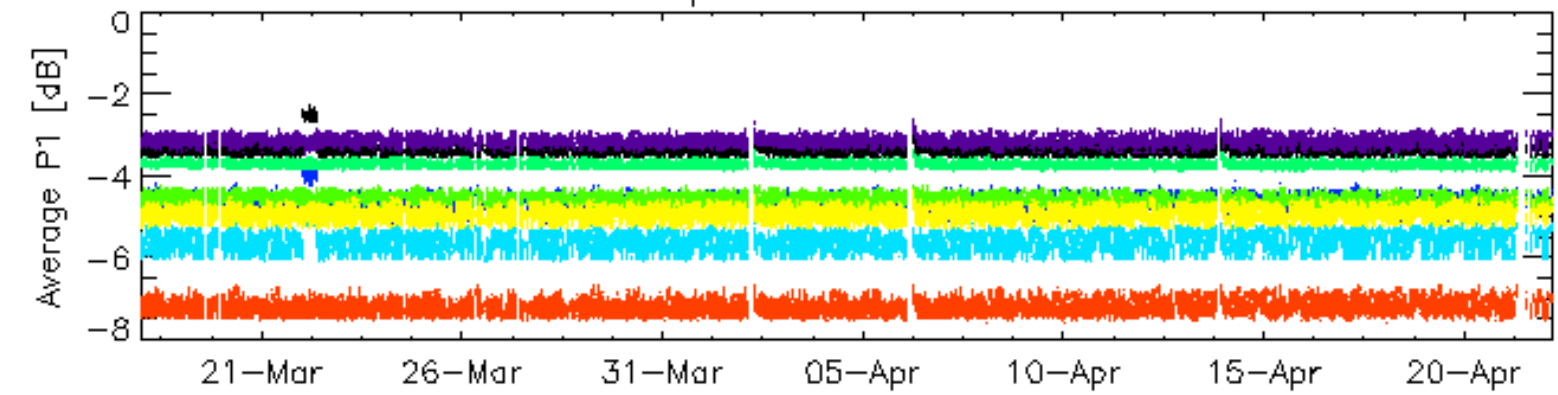


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3



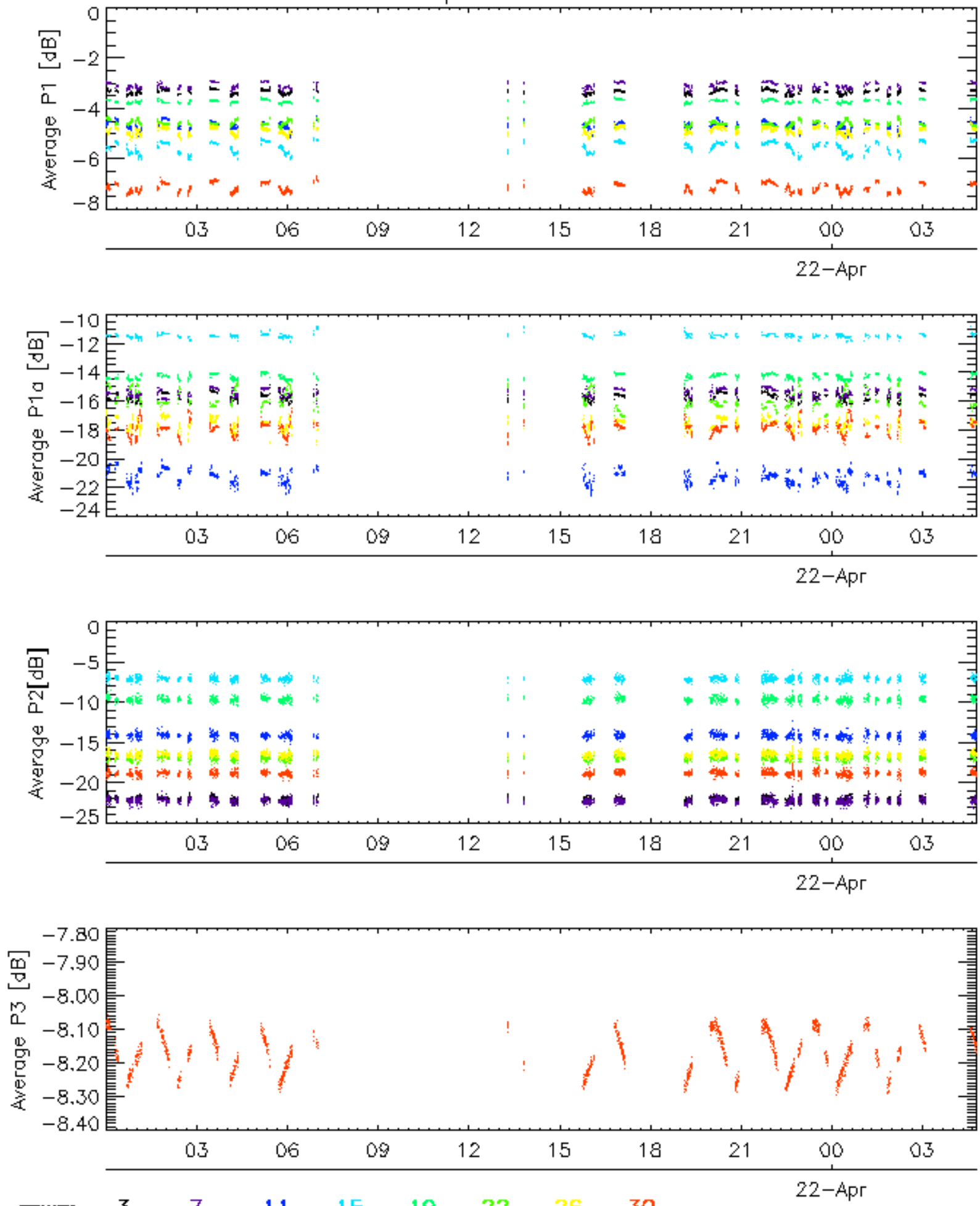
Cal pulses for WVS IS2



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



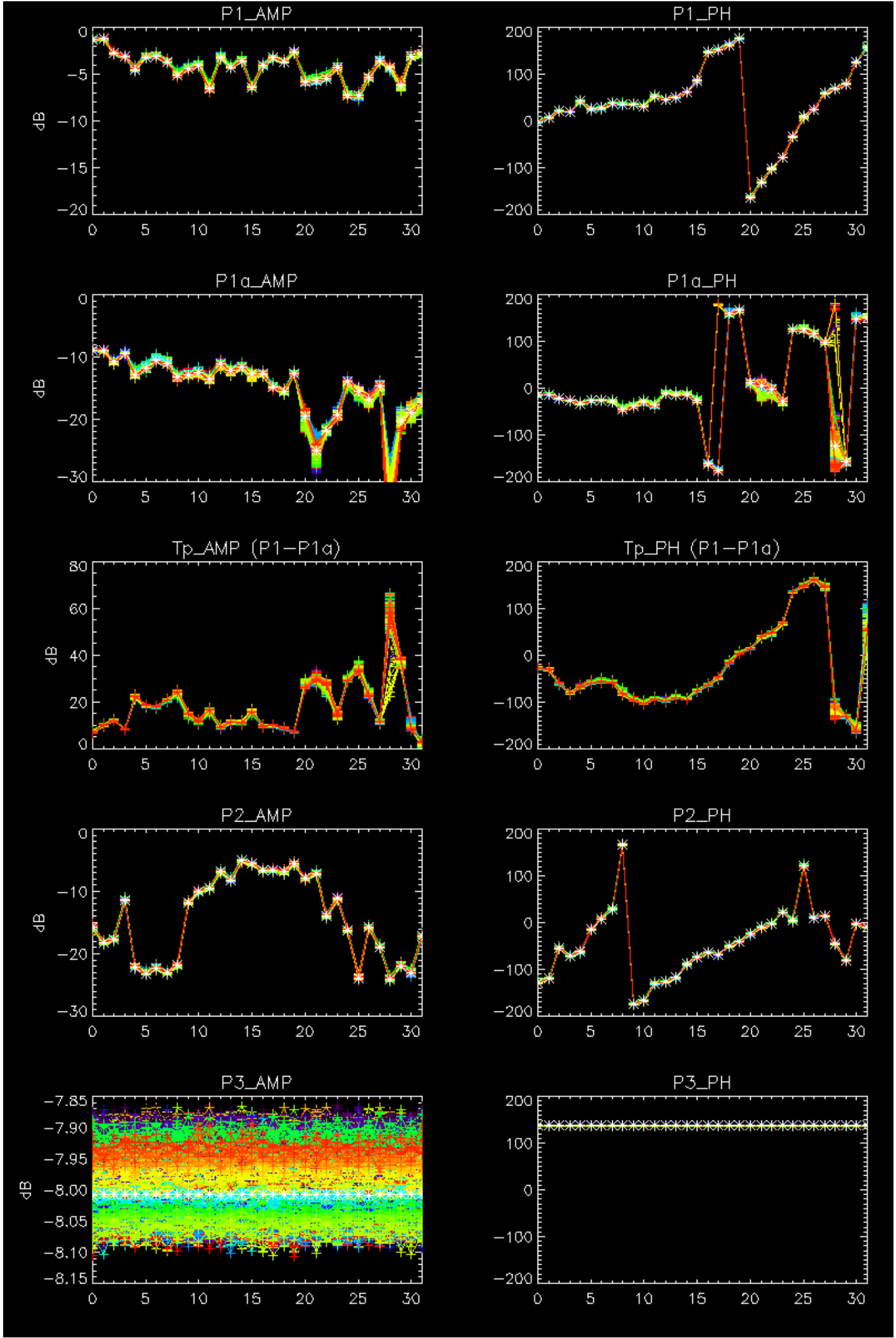
Cal pulses for WVS IS2

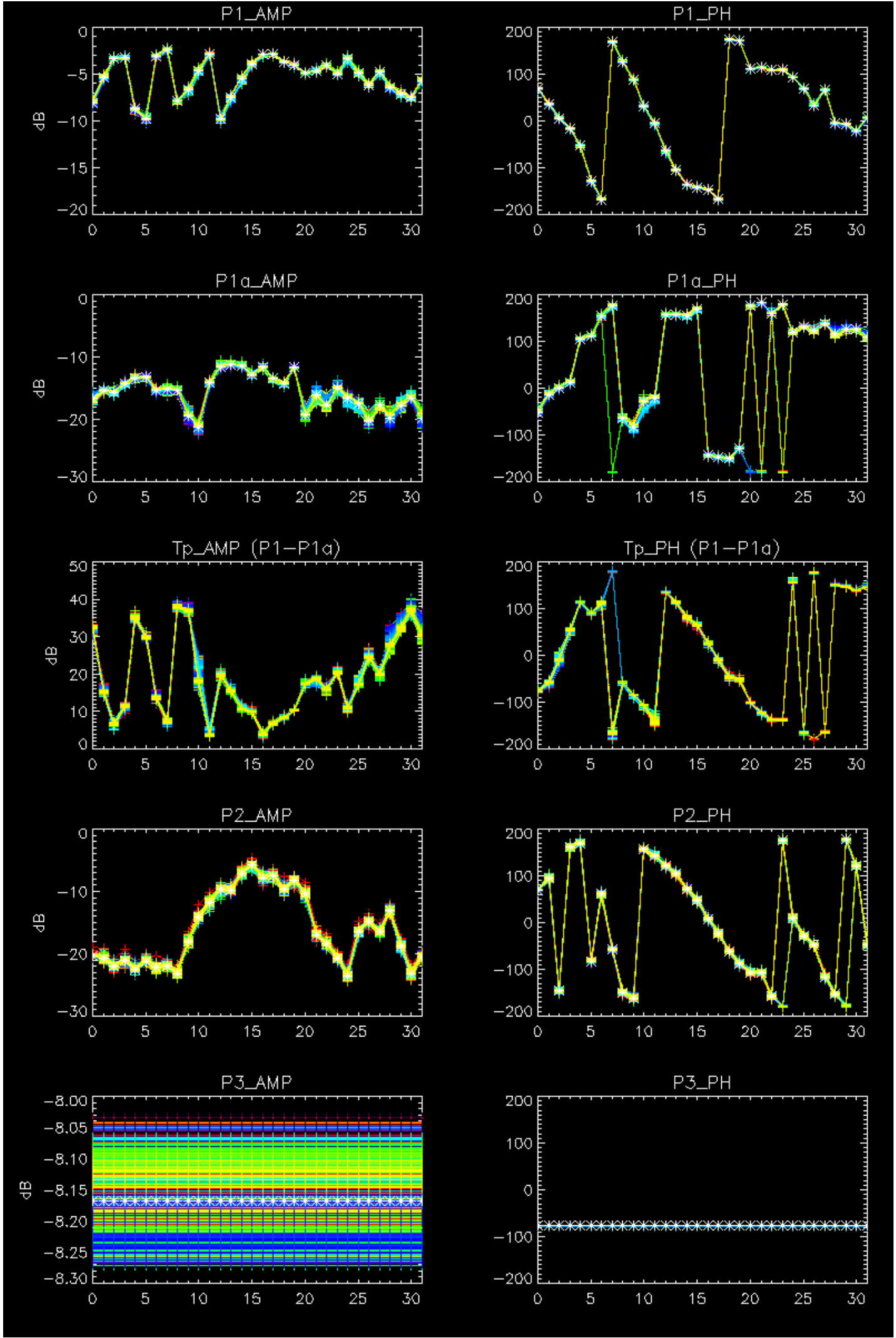


No anomalies observed on available browse products



No anomalies observed.



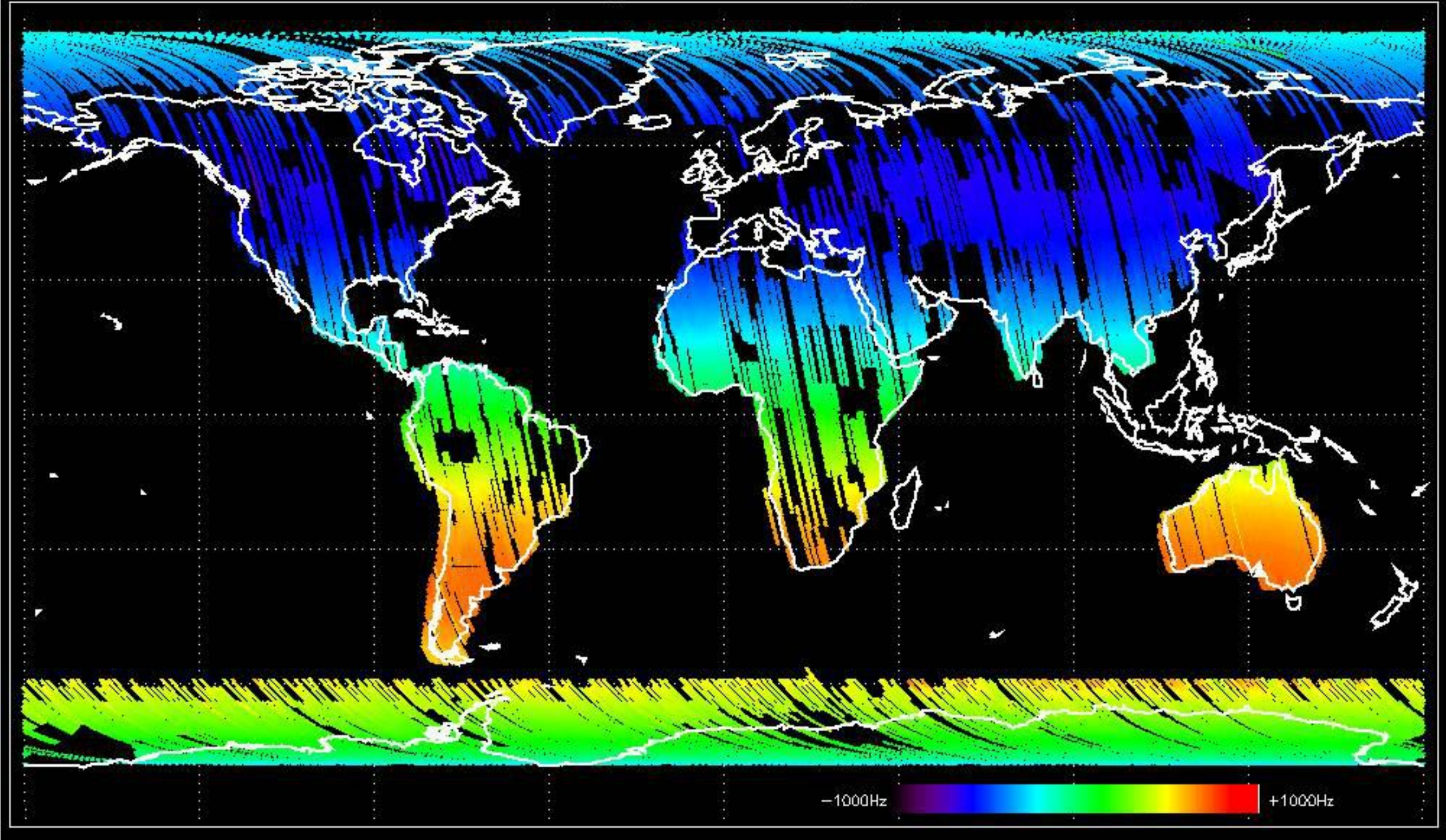


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



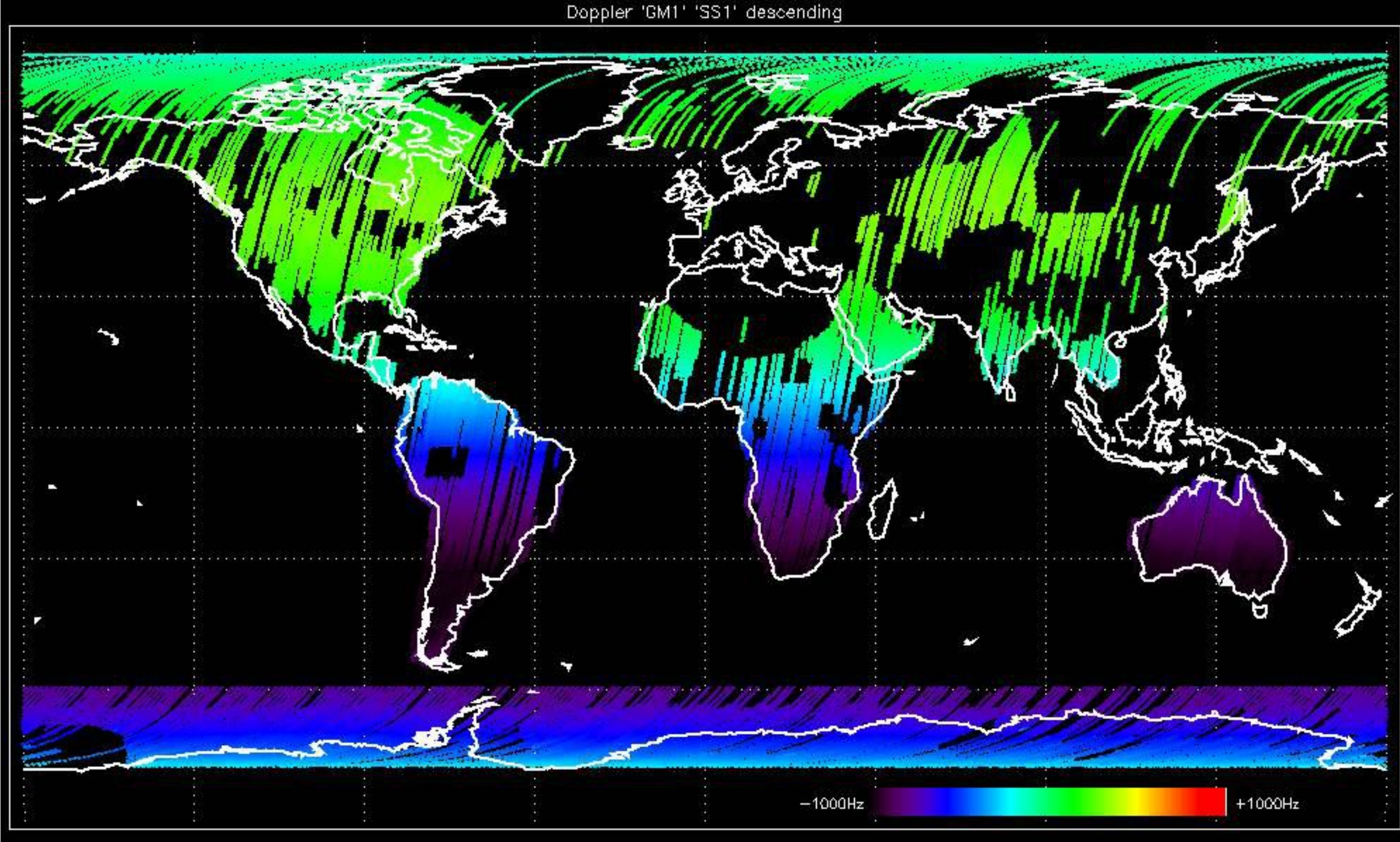


Doppler 'GM1' 'SS1' ascending



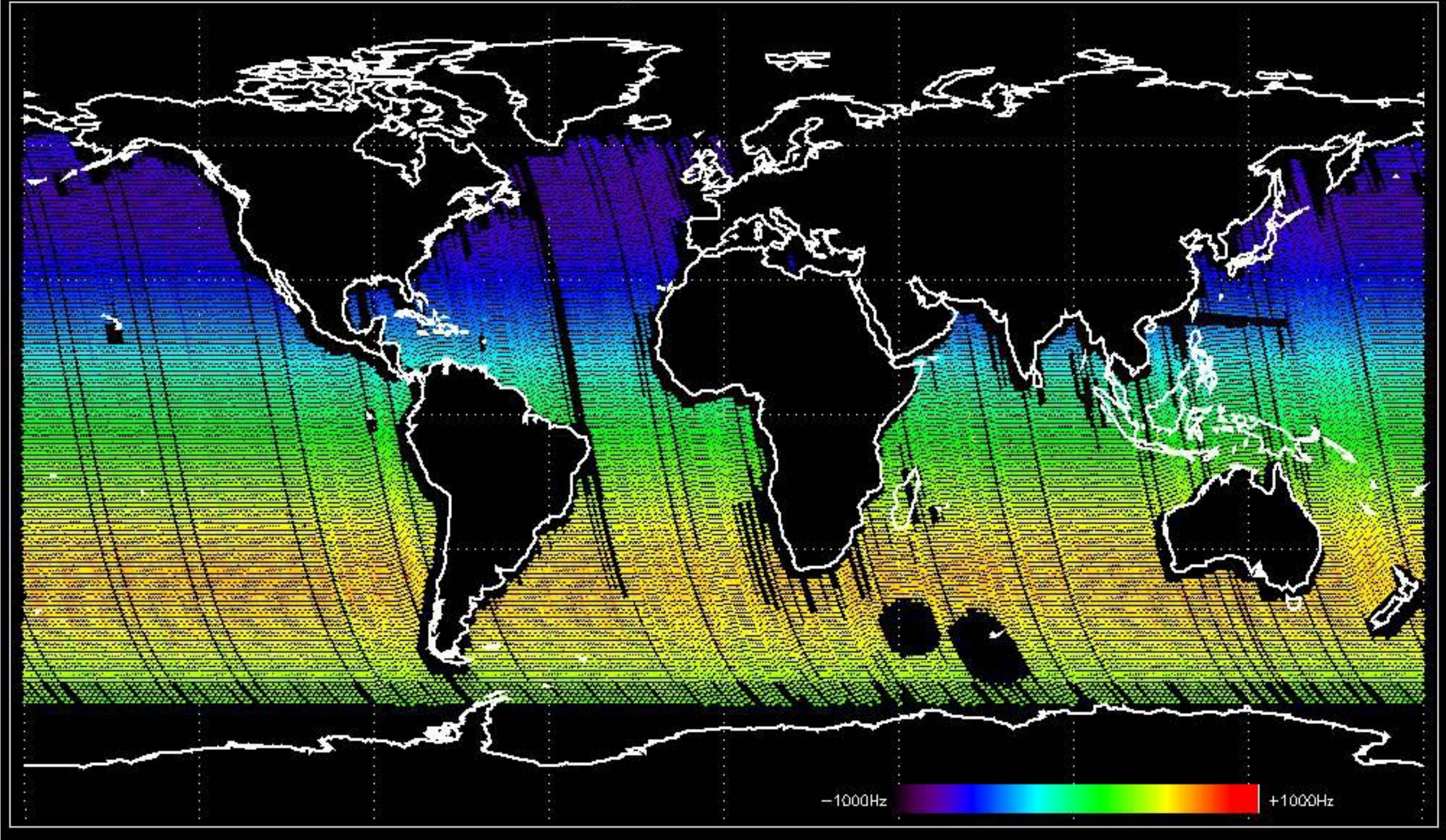


Doppler 'GM1' 'SS1' descending



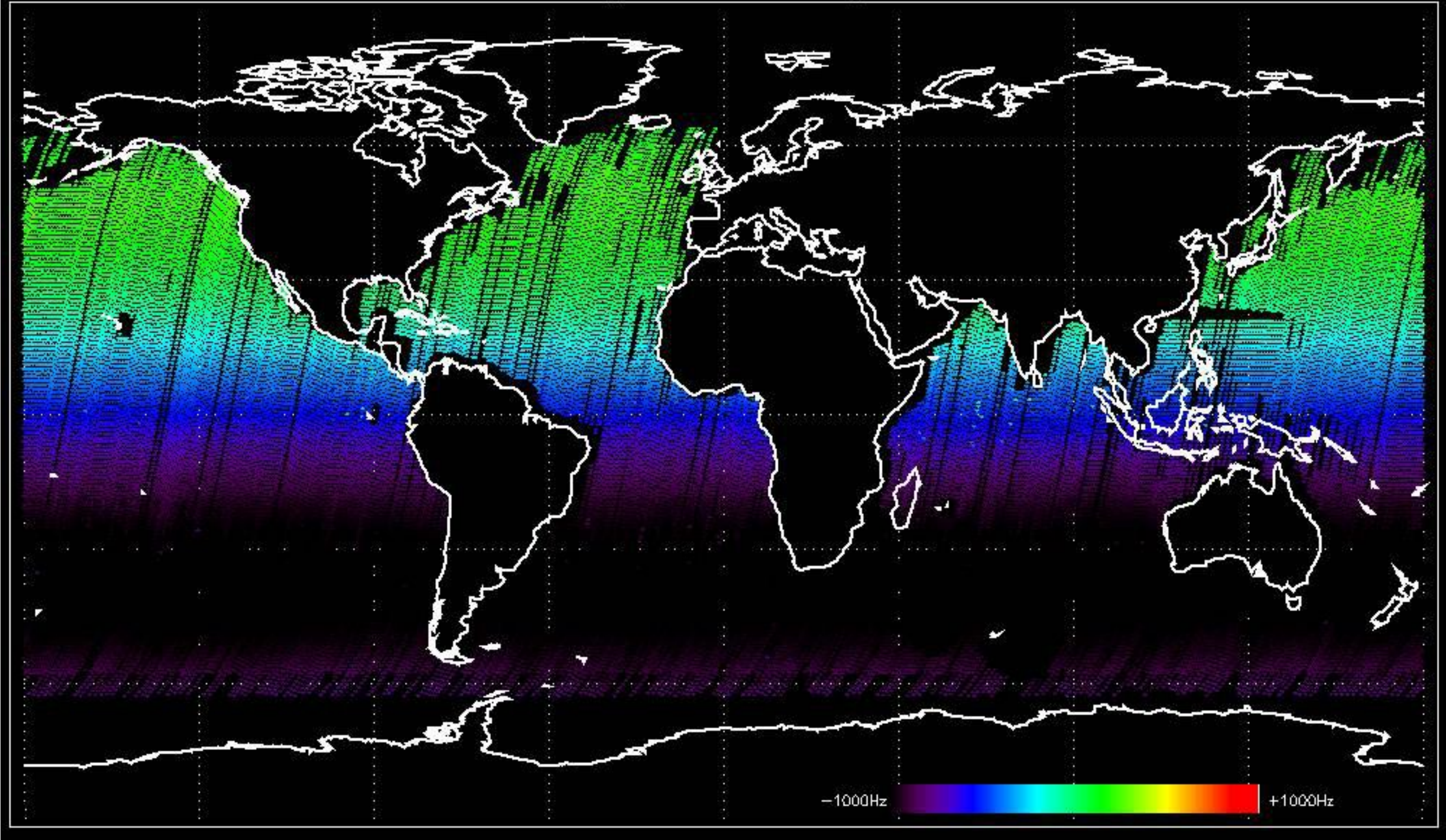


Doppler 'WVS' 'IS2' ascending

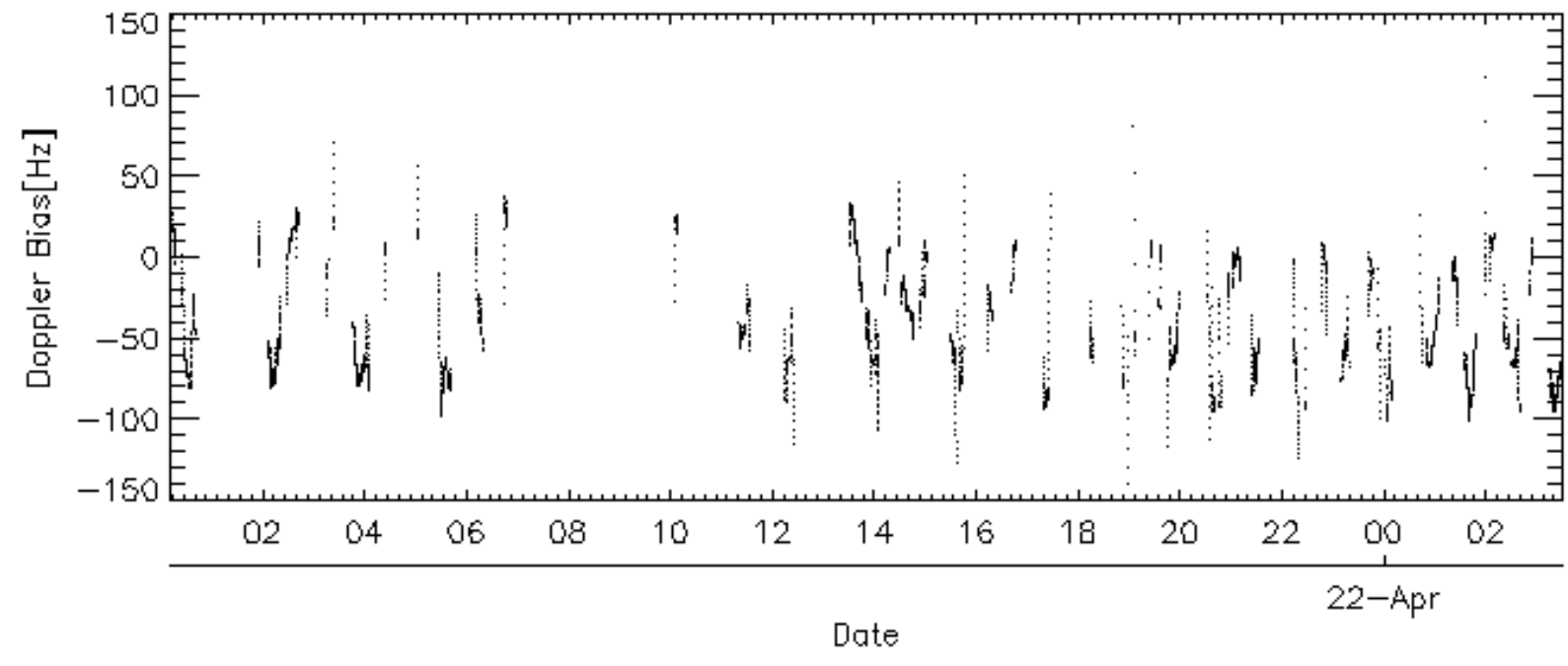
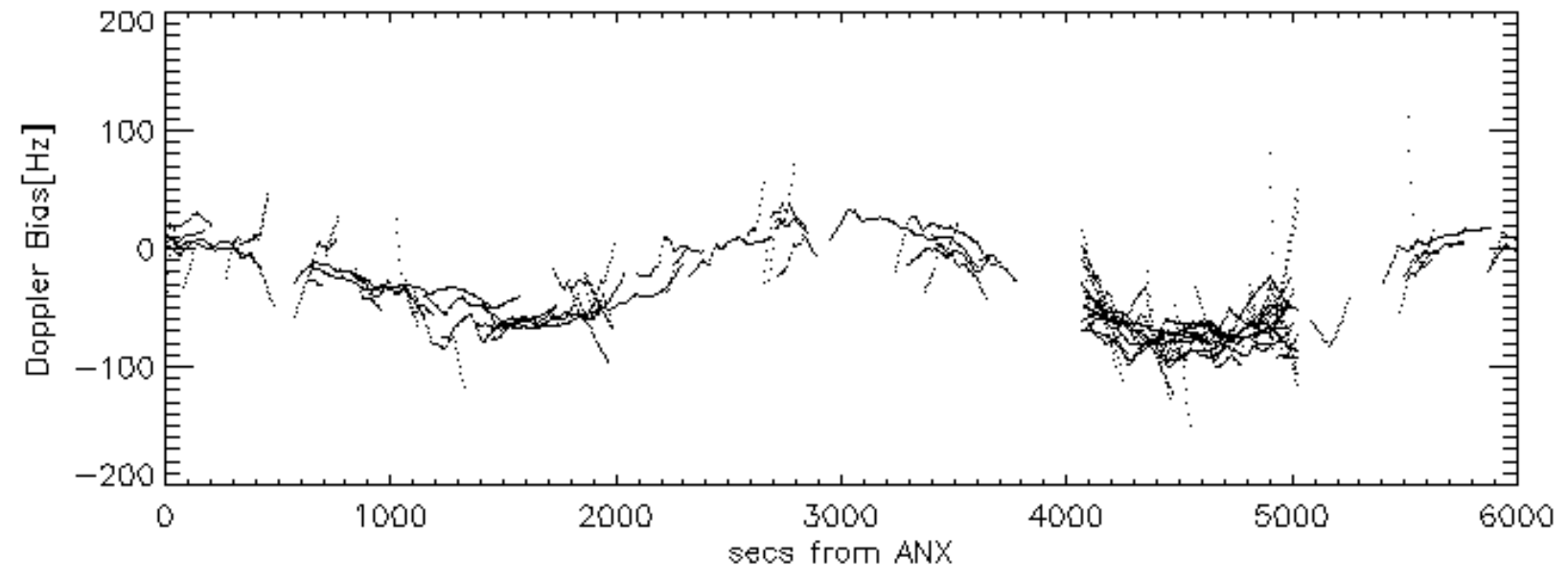
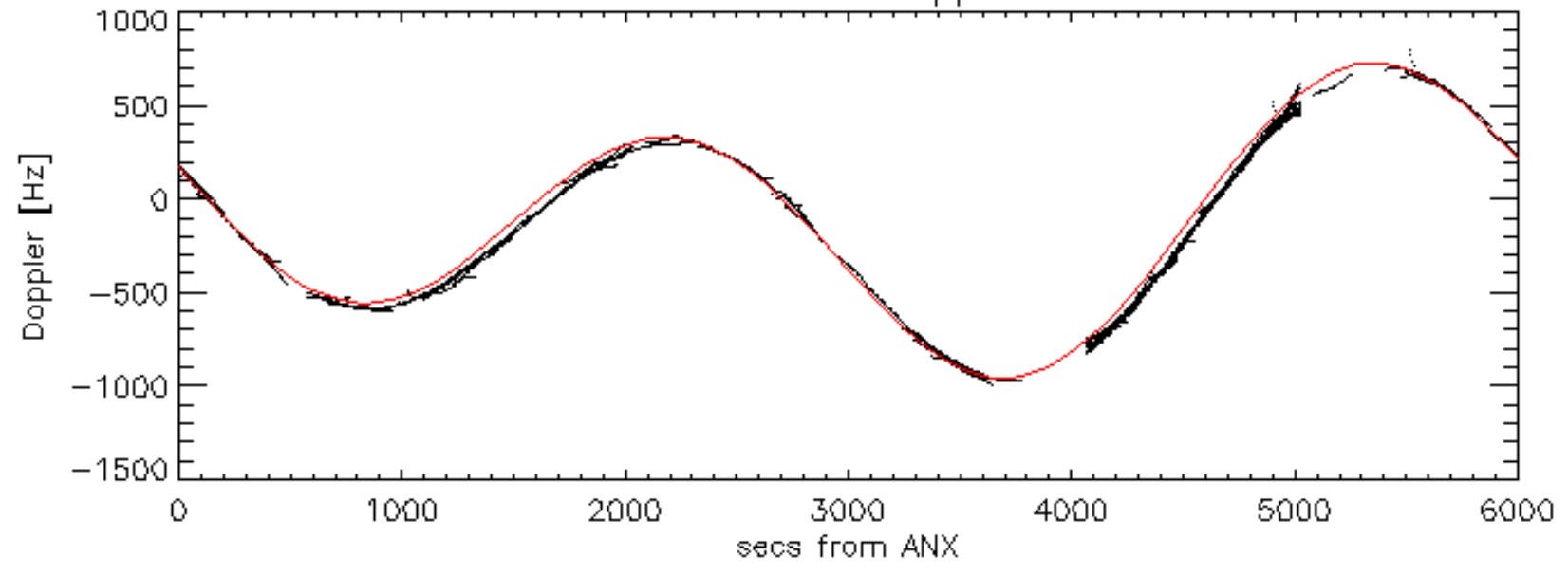




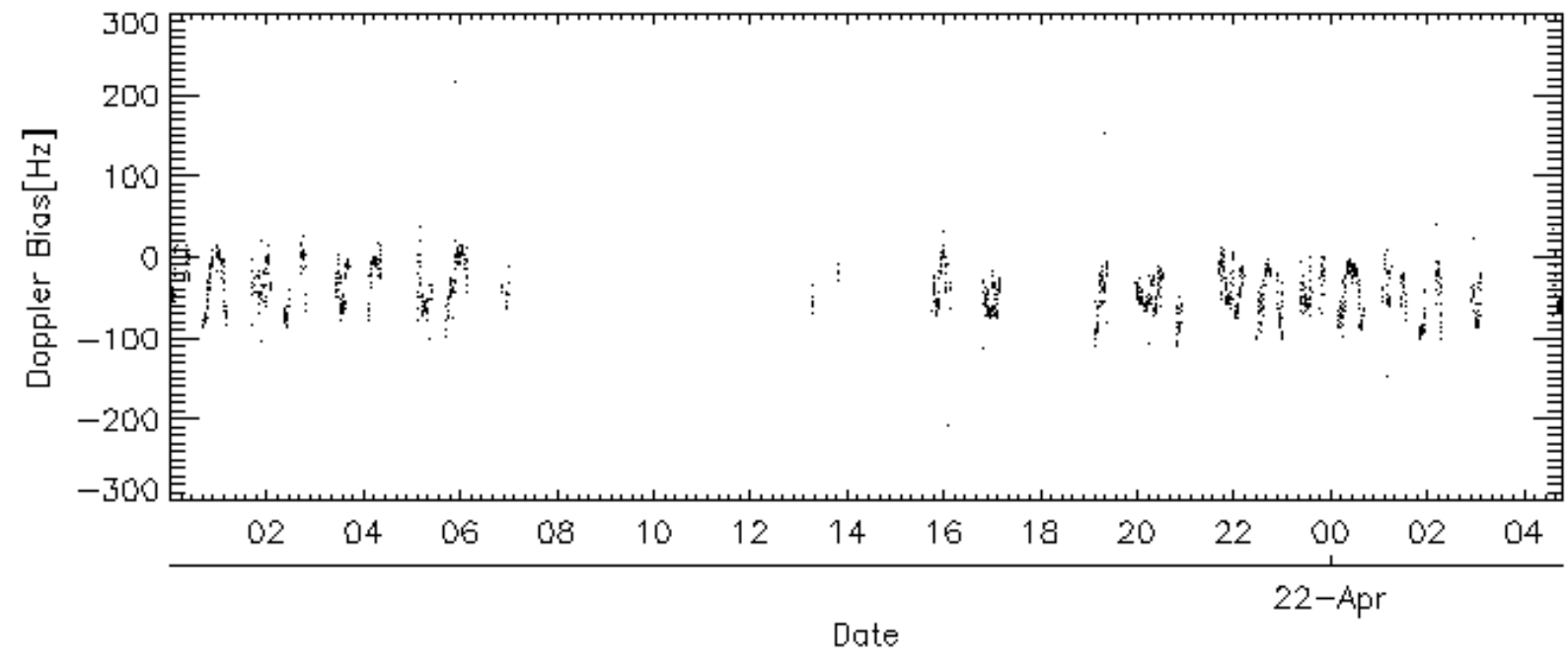
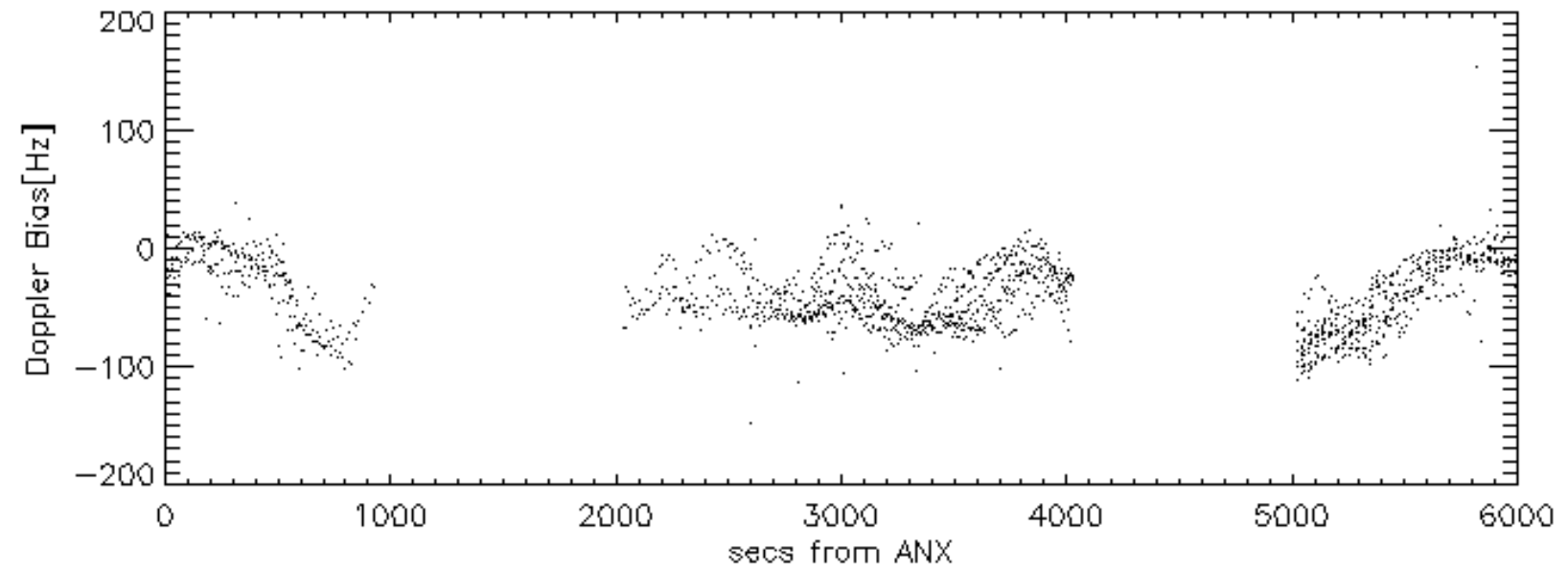
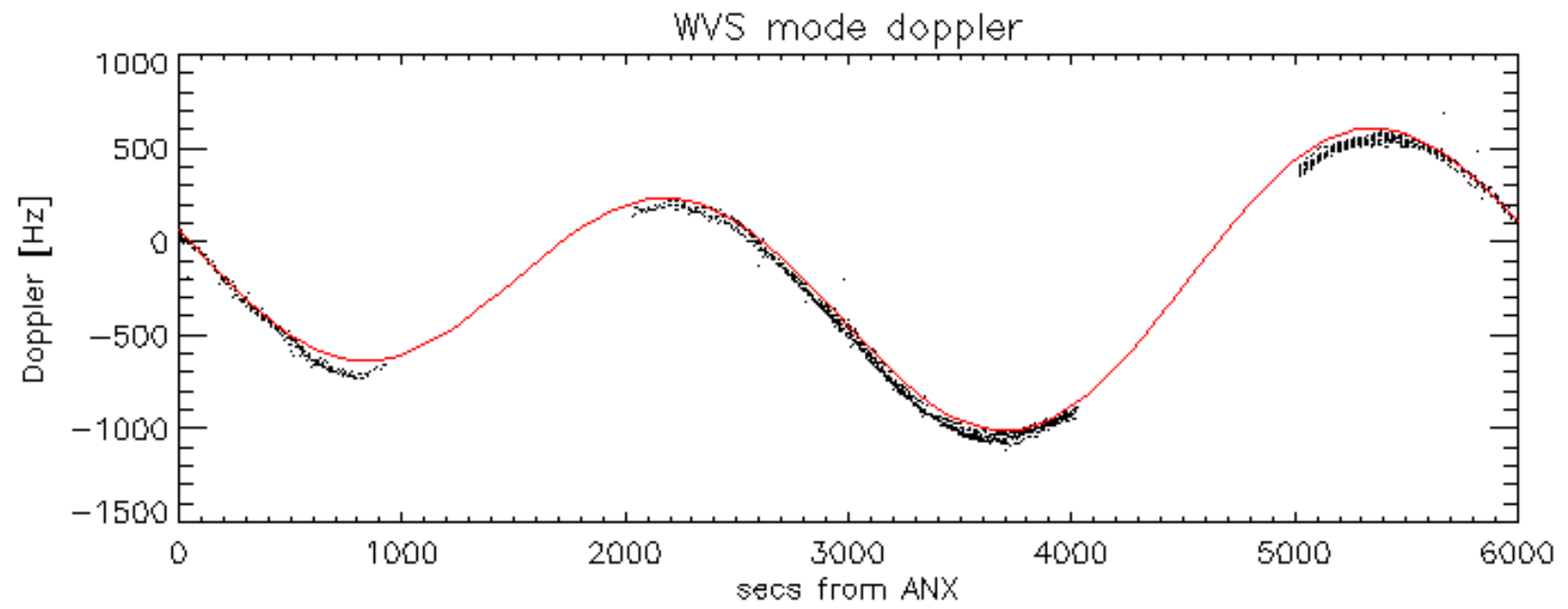
Doppler 'WVS' 'IS2' descending



GM1 mode doppler

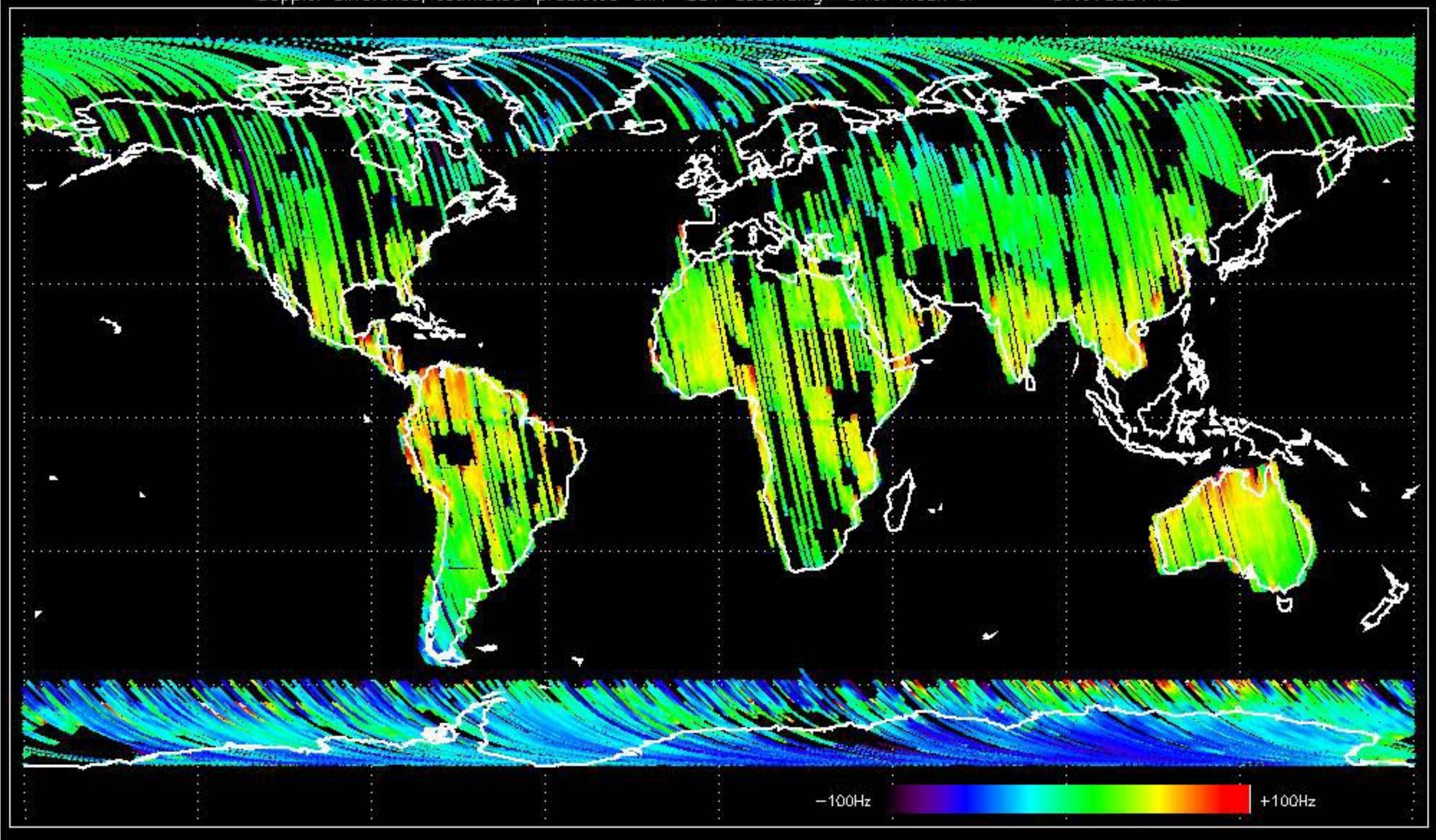






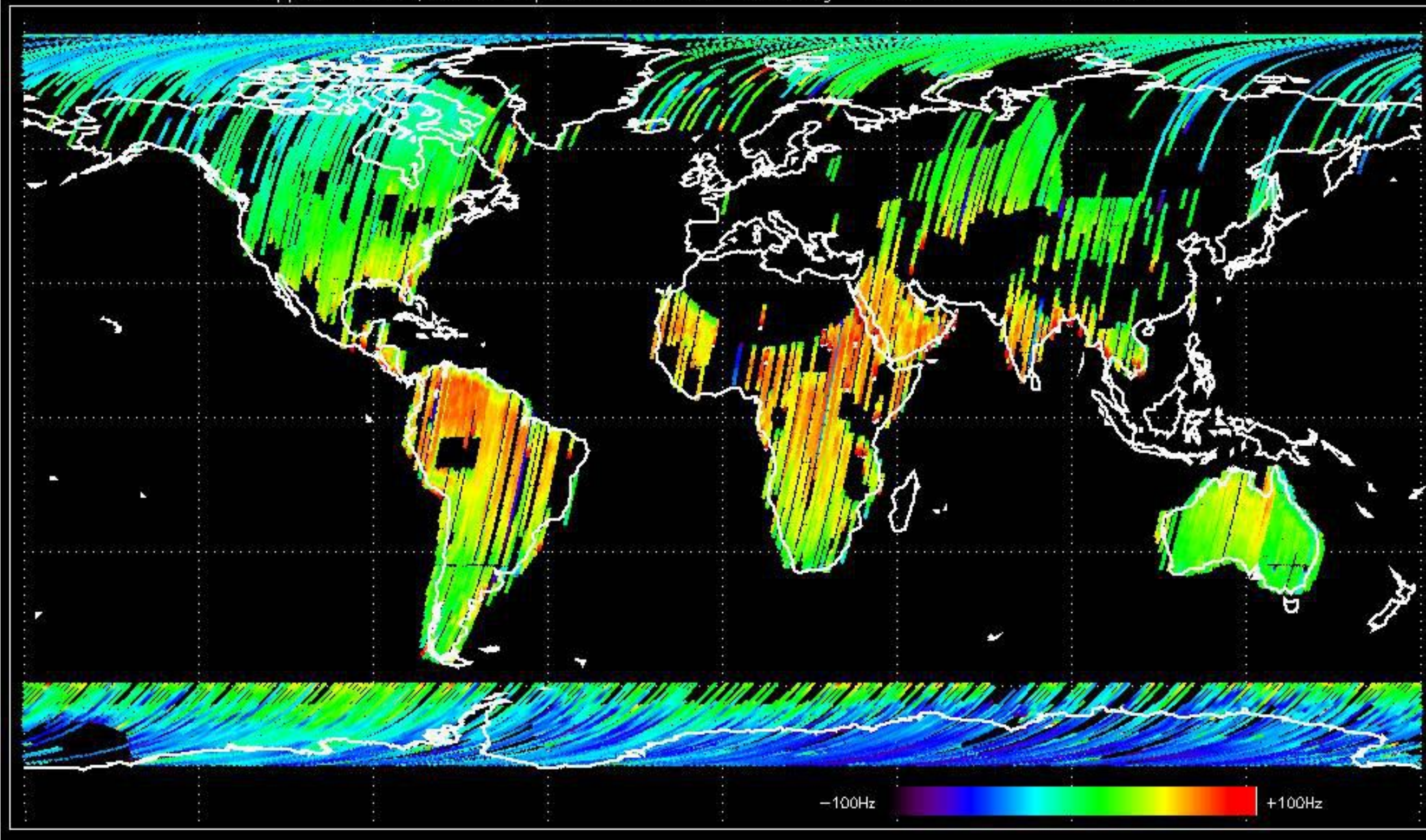


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -37.678331 Hz



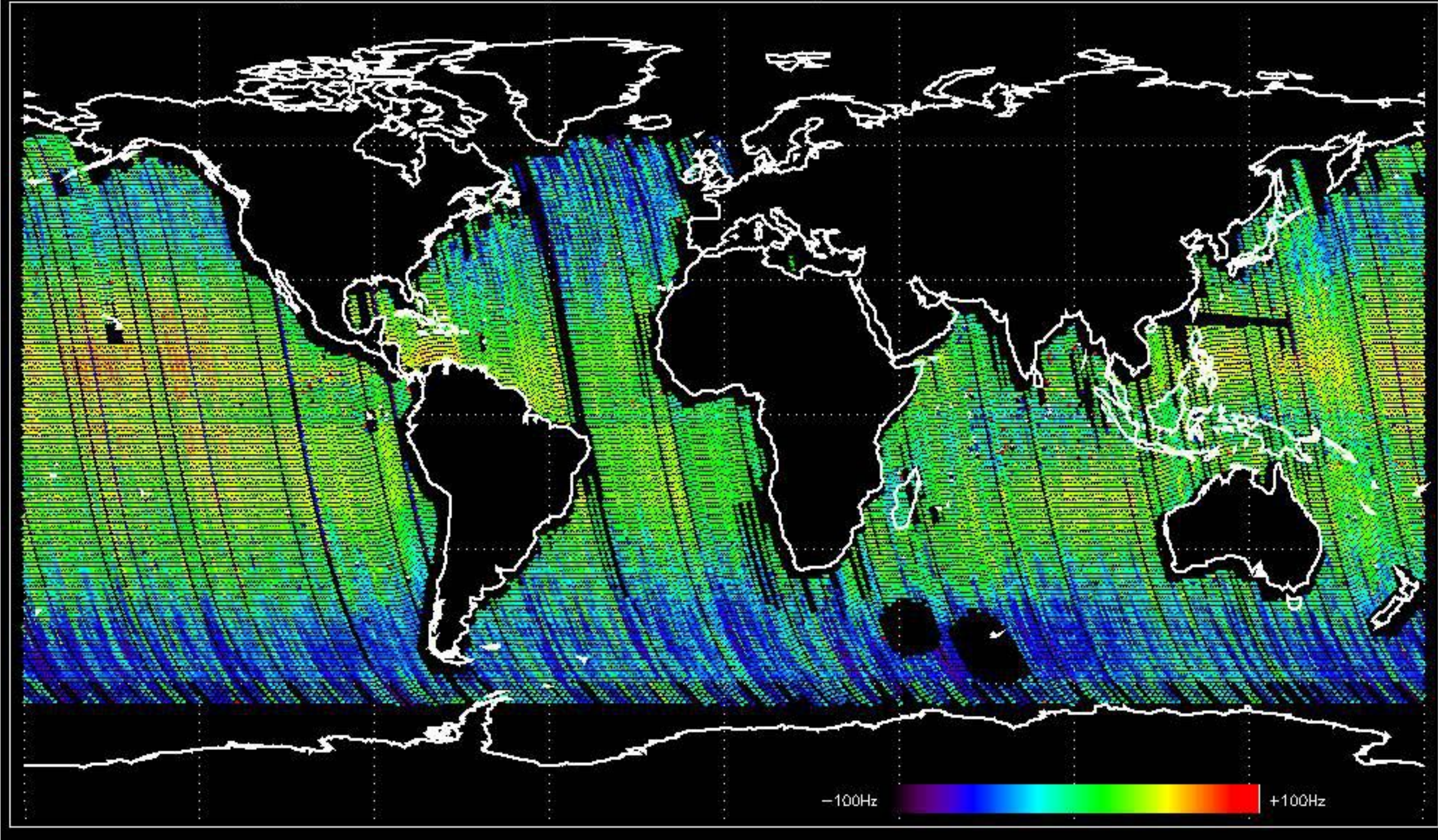


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -30.391227 Hz



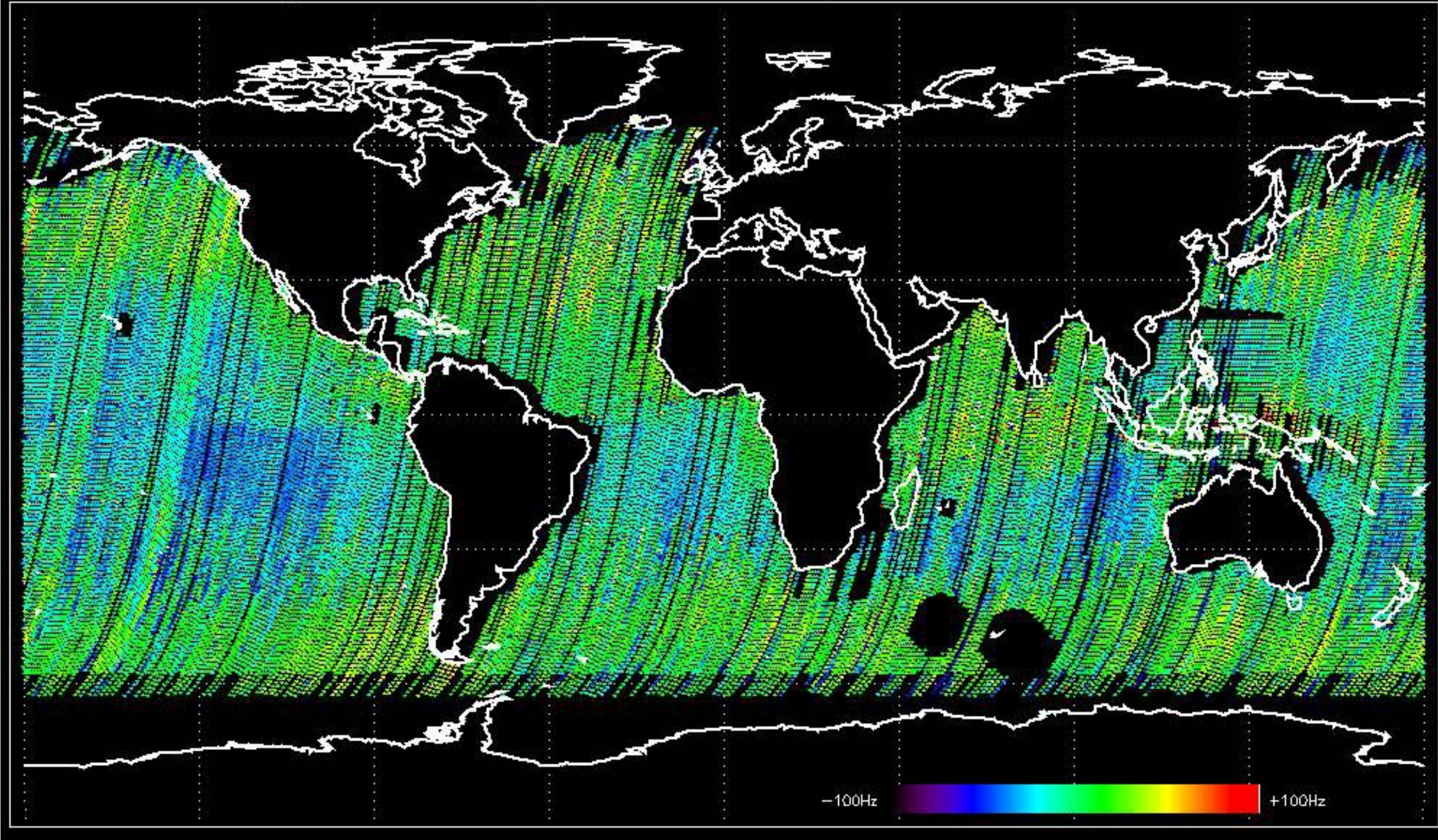


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -36.870118 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -38.019929 Hz





No anomalies observed on available MS products:



No anomalies observed.

















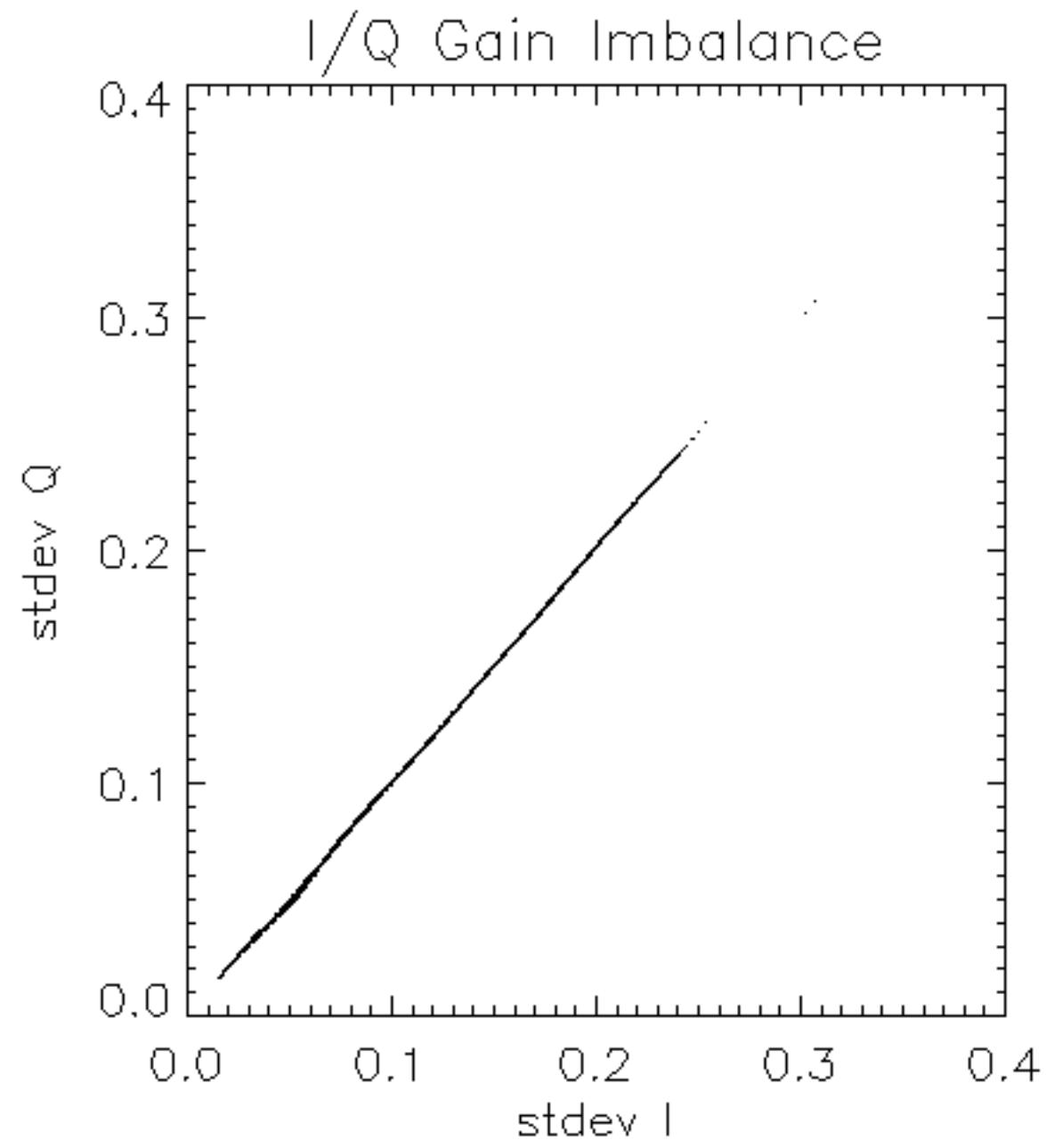


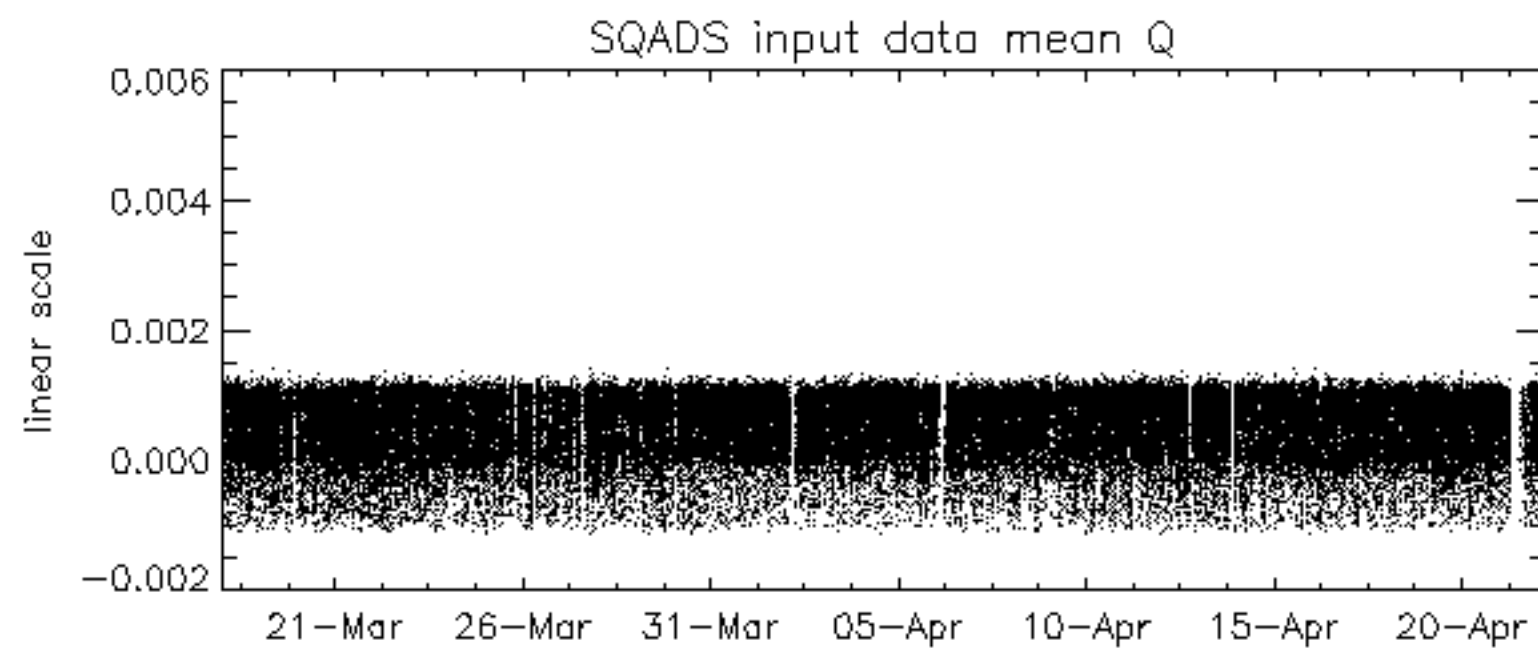
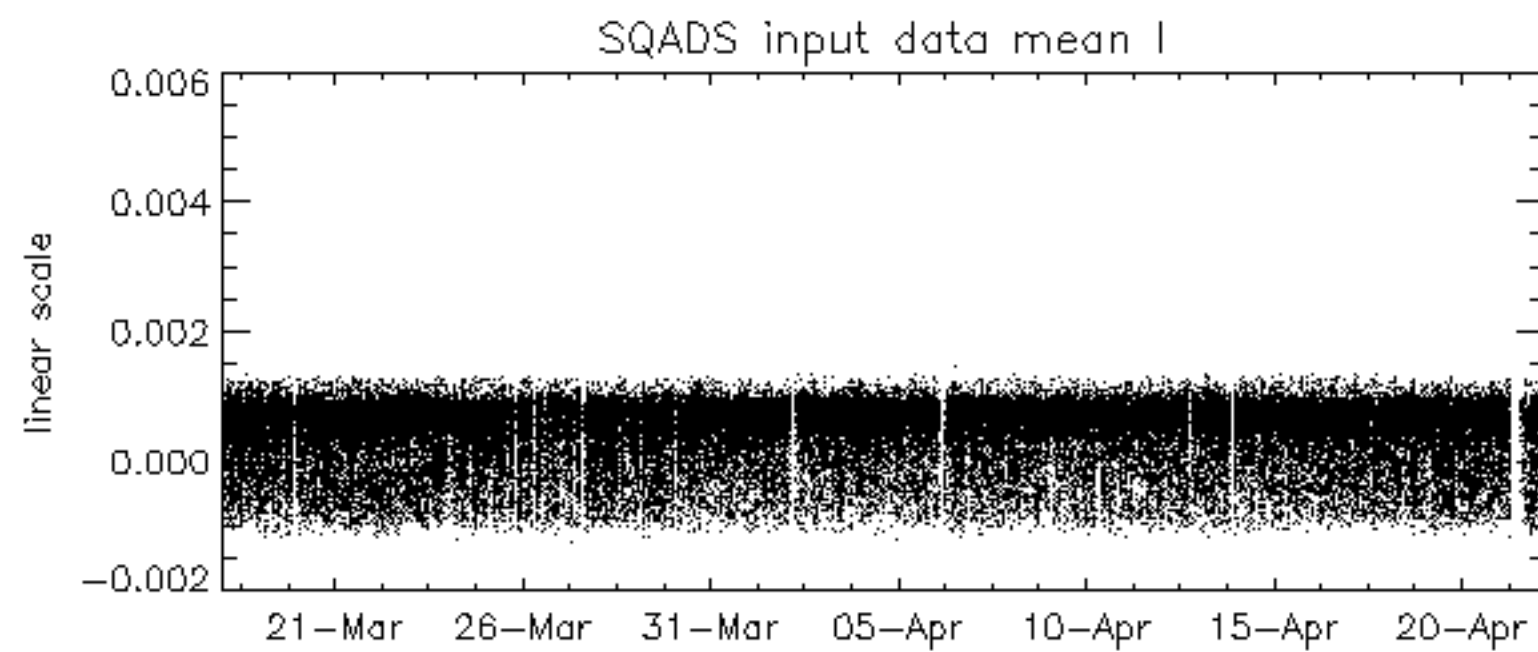
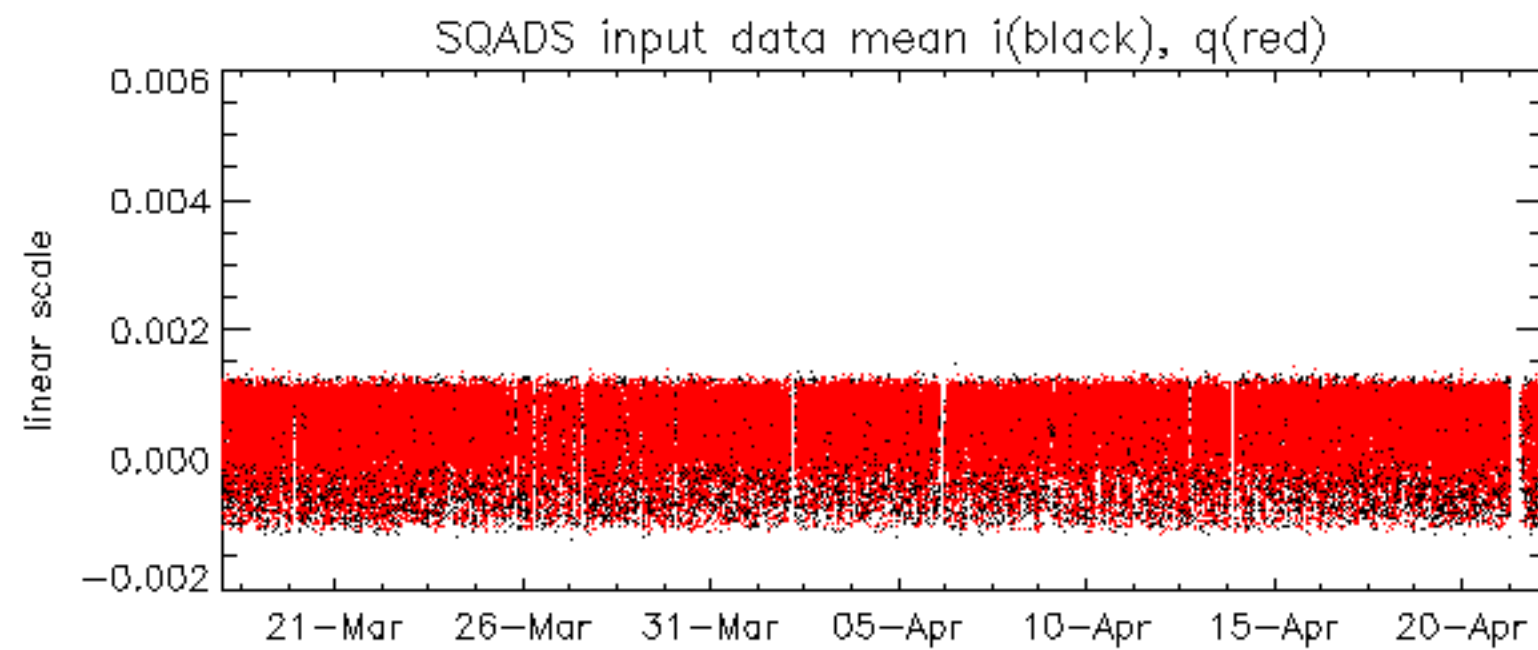


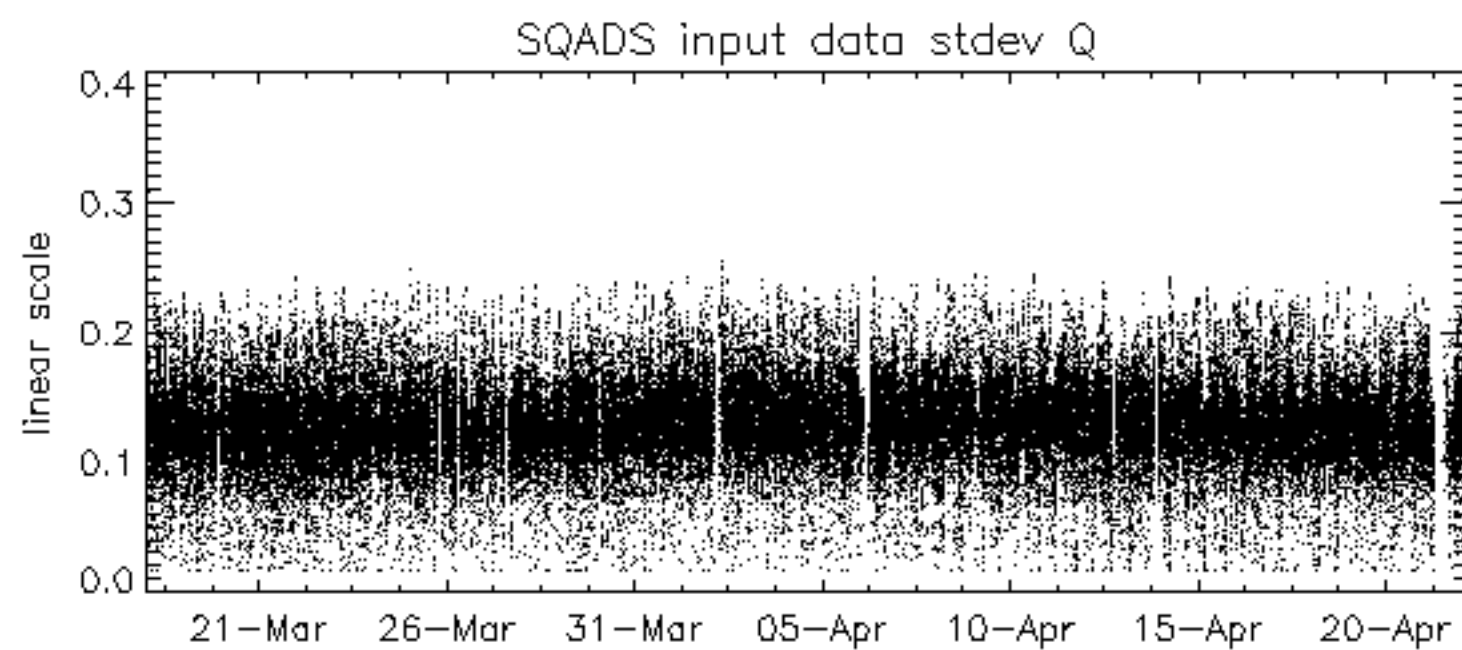
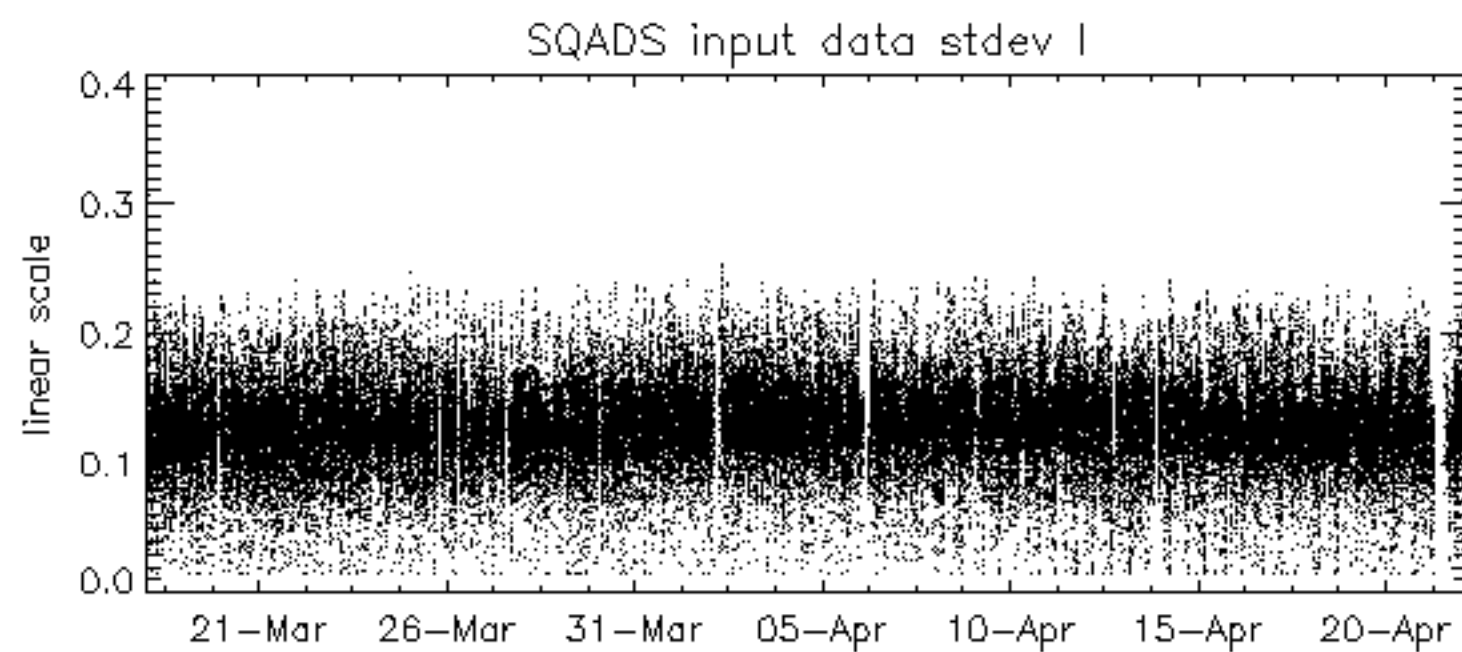
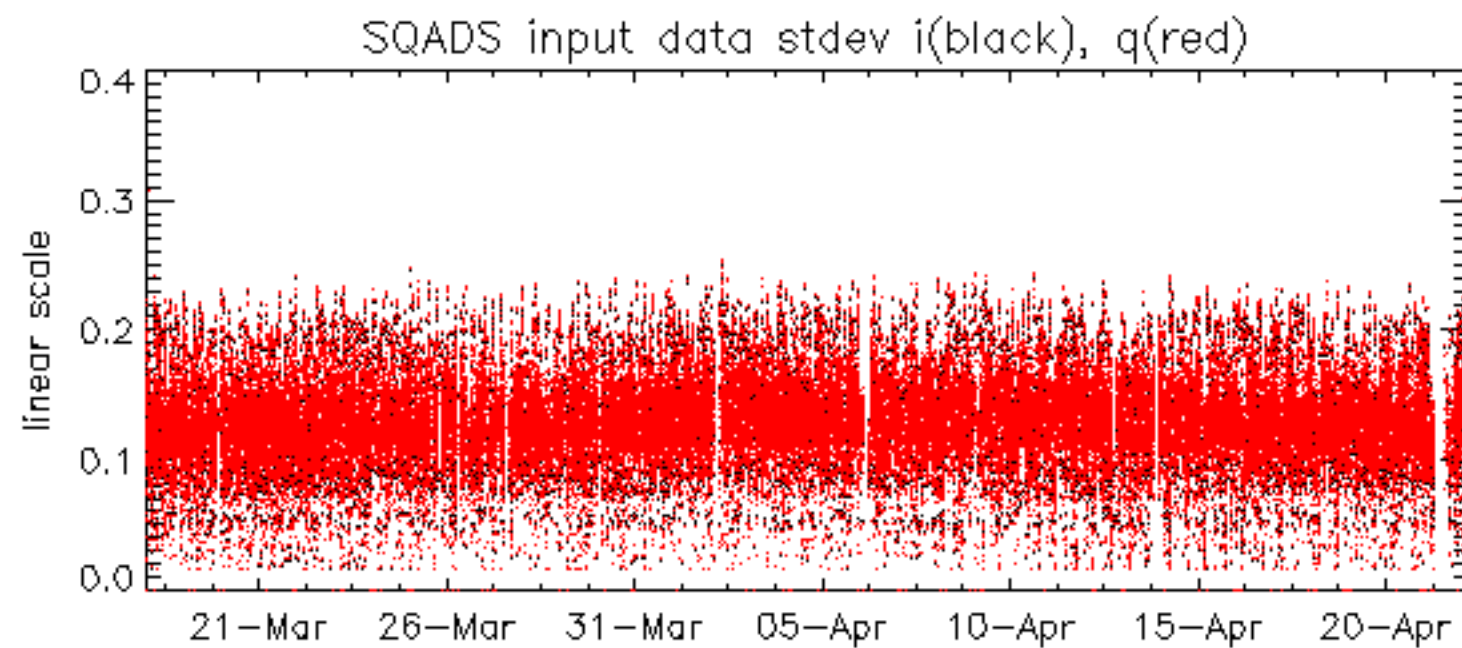






















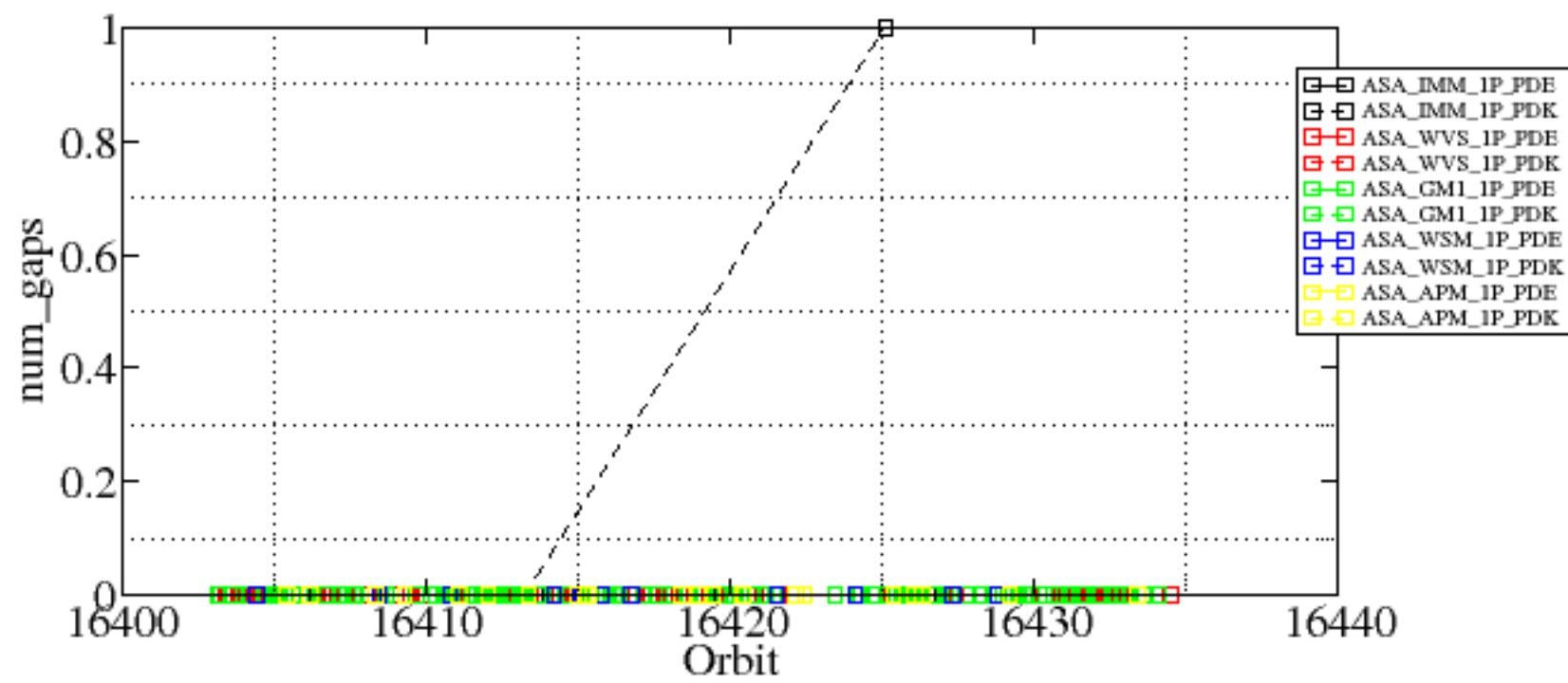




Summary of analysis for the last 3 days 2005042[012]

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_IMM_1PNPDK20050421_125414_000001212036_00339_16425_2813.N1	1	0
ASA_APM_1PNPDK20050421_082621_000000752036_00336_16422_1803.N1	0	2











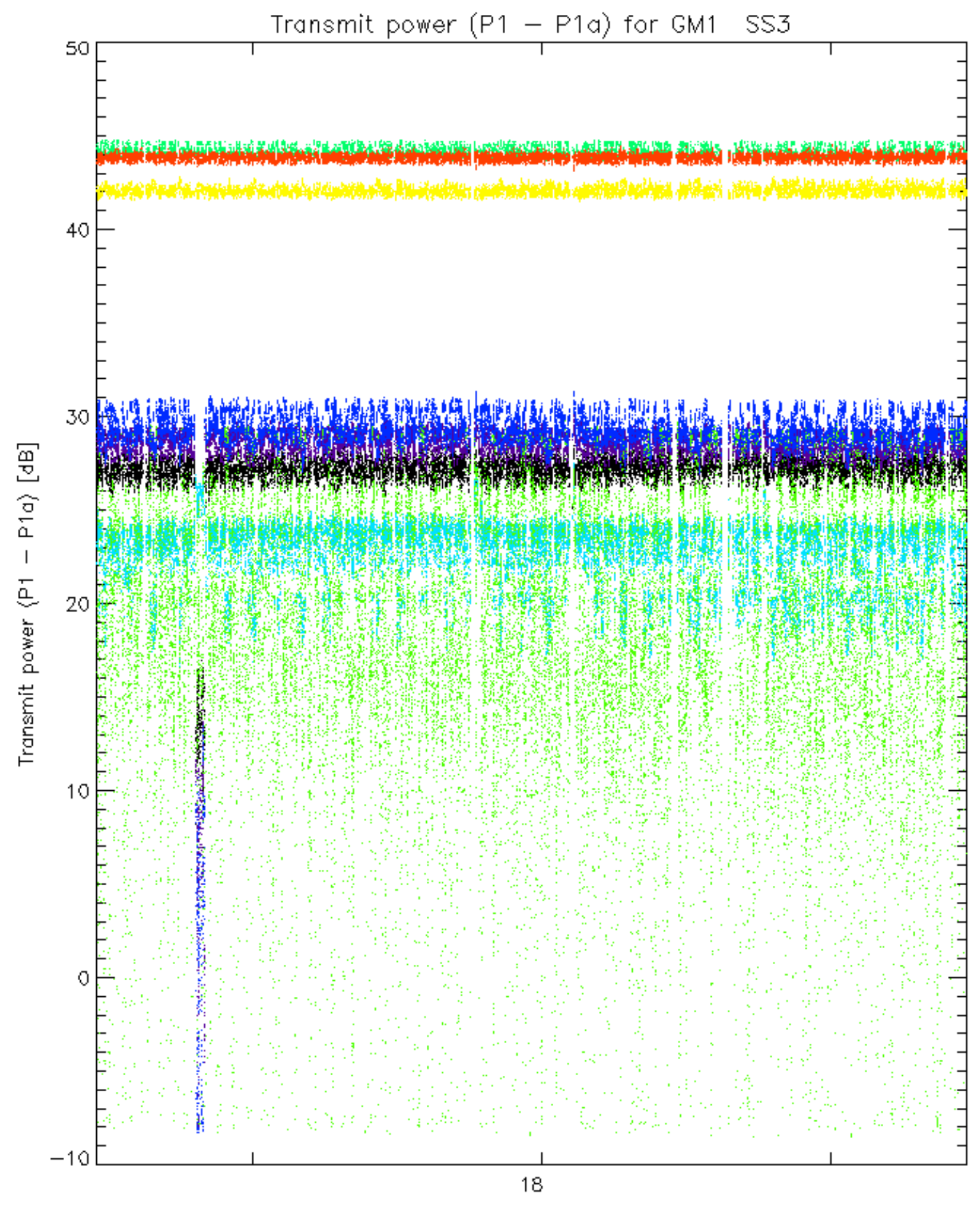




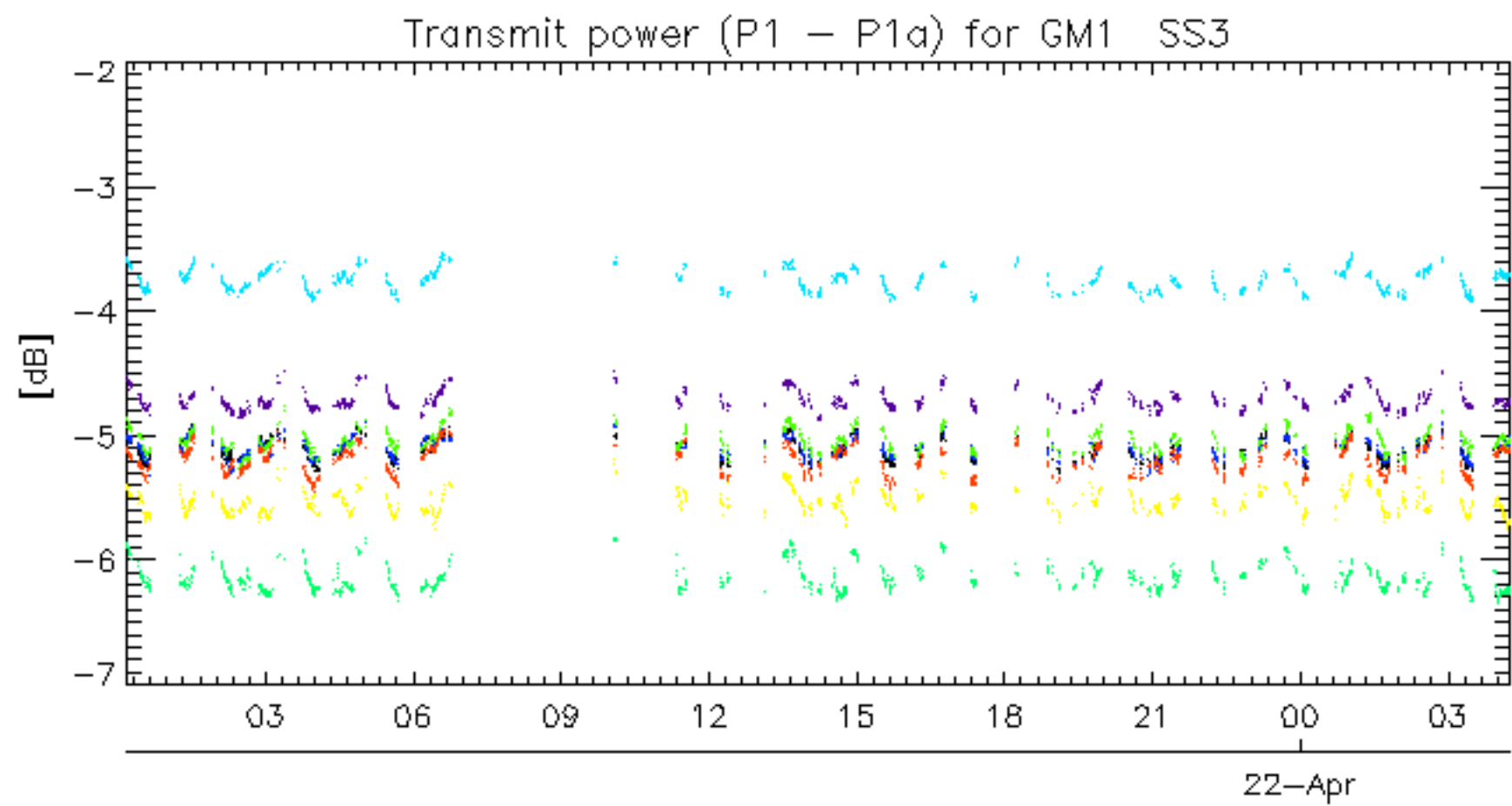






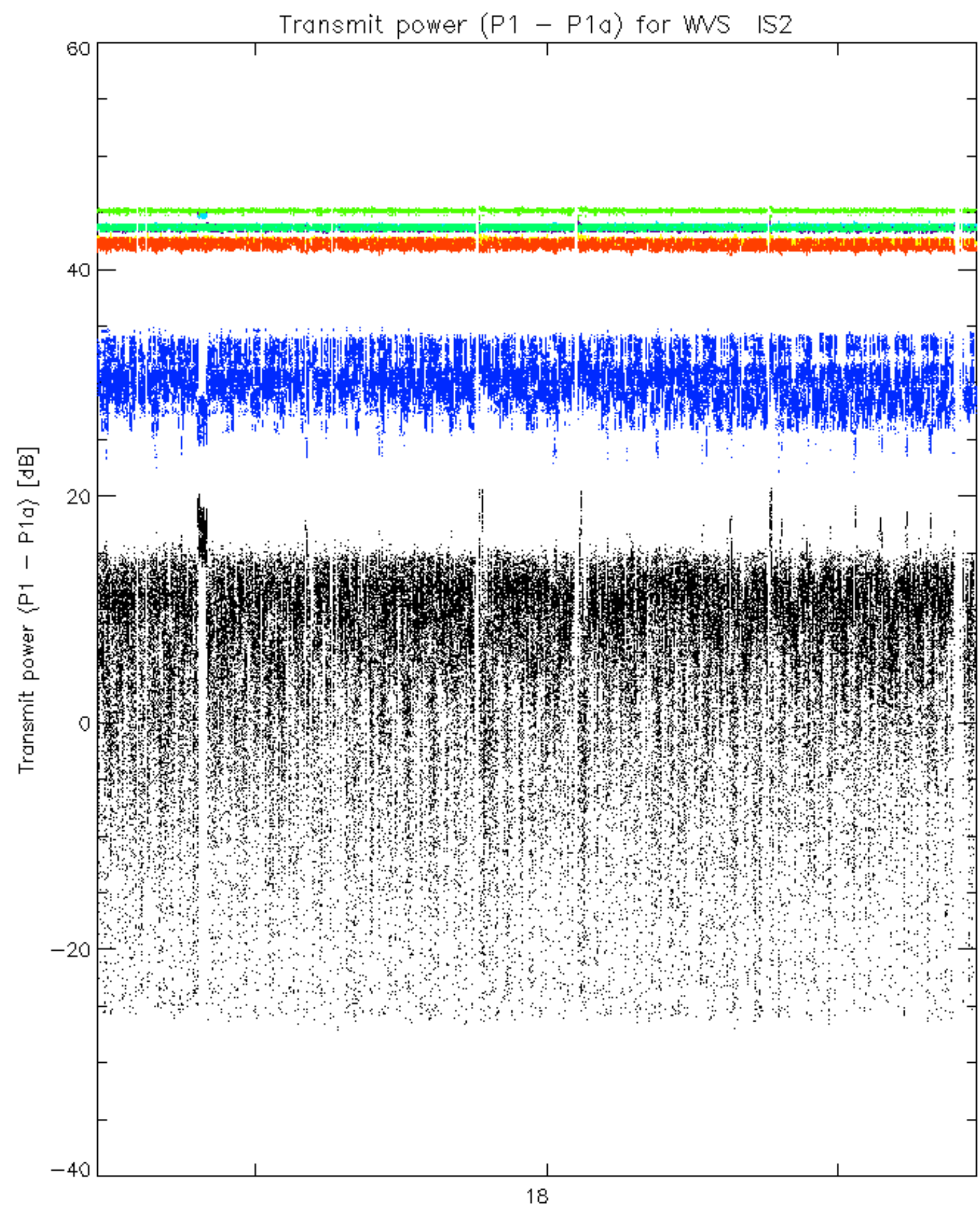


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

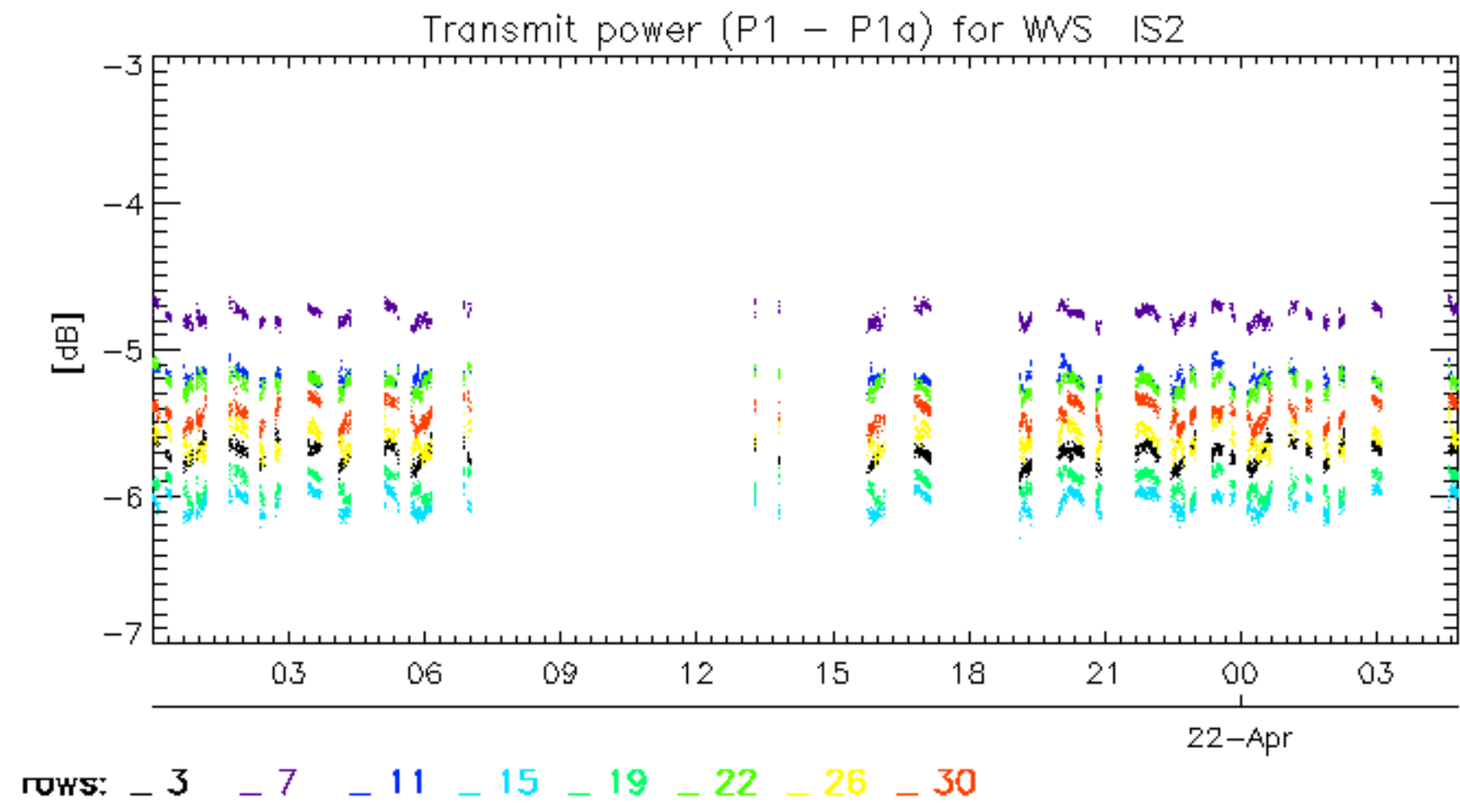


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30





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



ASAR unavailable from 21-Apr-2005 04:17:47 to 21-Apr-2005 04:18:23 after an autonomous transition to PreOp/Refuse mode due to a telemetry error.

