

# PRELIMINARY REPORT OF 060513

last update on Sat May 13 16:38:15 GMT 2006

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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 2006-05-12 00:00:00 to 2006-05-13 16:38:15

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	45	71	14	0	19
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	45	71	14	0	19
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	45	71	14	0	19
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	45	71	14	0	19

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	33	49	37	21	53
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	33	49	37	21	53
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	33	49	37	21	53
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	33	49	37	21	53

## 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	20060512 063524
H	20060513 060347

### 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	-3.971099	0.011812	0.003911
7	P1	-3.063836	0.013422	-0.096586
11	P1	-4.093470	0.015715	-0.050838
15	P1	-6.106214	0.012338	-0.093975
19	P1	-3.309283	0.007819	-0.012854
22	P1	-4.521284	0.011123	-0.025289
26	P1	-4.030414	0.020295	0.099455
30	P1	-5.738227	0.020773	-0.036489
3	P1	-16.661333	0.313878	0.150671
7	P1	-16.997520	0.149150	-0.284236
11	P1	-16.776695	0.321614	-0.429112
15	P1	-13.118938	0.140858	-0.276112
19	P1	-14.165398	0.048924	-0.249330
22	P1	-16.075380	0.459765	-0.262391
26	P1	-15.409739	0.270458	0.406191
30	P1	-16.821606	0.327097	-0.525648

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.279966	0.085296	0.105261
7	P2	-22.177235	0.100436	0.128492
11	P2	-16.019358	0.111821	0.150132
15	P2	-7.163844	0.096084	-0.028283
19	P2	-9.154456	0.089072	-0.038816
22	P2	-18.065990	0.087813	-0.139090
26	P2	-16.319042	0.093158	-0.116718
30	P2	-19.602600	0.087401	-0.007702

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.189755	0.004330	-0.018007
7	P3	-8.189755	0.004330	-0.018007
11	P3	-8.189755	0.004330	-0.018007
15	P3	-8.189755	0.004330	-0.018007
19	P3	-8.189755	0.004330	-0.018007
22	P3	-8.189755	0.004330	-0.018007
26	P3	-8.189774	0.004331	-0.017983
30	P3	-8.189774	0.004331	-0.017983

#### 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	-3.743073	0.039855	0.033607
7	P1	-2.653249	0.107492	0.120286
11	P1	-2.879548	0.032350	0.055883
15	P1	-3.509444	0.030307	0.054345
19	P1	-3.384123	0.013827	-0.016979
22	P1	-5.113773	0.022506	0.063939
26	P1	-5.818116	0.023225	-0.048350
30	P1	-5.180516	0.046128	-0.003745
3	P1	-11.590307	0.139416	0.029014
7	P1	-9.980904	0.164838	0.010016
11	P1	-10.223974	0.085301	0.074580
15	P1	-10.672768	0.131202	0.154020
19	P1	-15.458703	0.089090	-0.082495
22	P1	-20.715307	1.297535	-0.461319
26	P1	-16.406723	0.409669	-0.242624
30	P1	-18.214170	0.492572	0.428157

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.945627	0.070467	0.081044
7	P2	-22.509653	0.181822	-0.080554
11	P2	-11.191305	0.050774	-0.007318
15	P2	-4.873413	0.042781	-0.074843
19	P2	-6.861171	0.041984	-0.044616
22	P2	-8.159936	0.054994	-0.082894
26	P2	-24.057177	0.129467	-0.109117
30	P2	-22.050913	0.088509	-0.022751

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.023916	0.003789	-0.006356
7	P3	-8.023911	0.003805	-0.006928
11	P3	-8.024040	0.003784	-0.006275
15	P3	-8.023778	0.003802	-0.006177
19	P3	-8.024014	0.003800	-0.006519
22	P3	-8.023912	0.003798	-0.006287
26	P3	-8.023761	0.003788	-0.006022
30	P3	-8.023852	0.003794	-0.006119

## 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	0.000542759
	stdev	1.86734e-07
MEAN Q	mean	0.000513950
	stdev	2.26989e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.135665
	stdev	0.00118798
STDEV Q	mean	0.136019
	stdev	0.00120510



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006051[123]

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_1PNPDE20060512_010614_000000832047_00346_21943_4800.N1	1	0
ASA_GM1_1PNPDK20060511_153006_000003862047_00340_21937_3252.N1	0	50
ASA_GM1_1PNPDK20060512_174532_000002112047_00356_21953_3153.N1	0	919
ASA_GM1_1PNPDK20060512_181941_000001262047_00356_21953_3154.N1	0	339
ASA_GM1_1PNPDK20060512_202829_000003742047_00357_21954_3164.N1	0	15
ASA_WSM_1PNPDE20060511_064141_000000672047_00335_21932_8794.N1	0	42
ASA_WSM_1PNPDE20060511_064141_000001472047_00335_21932_8799.N1	0	42
ASA_APM_1PNPDE20060513_004223_000000562047_00360_21957_2192.N1	0	19



## 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

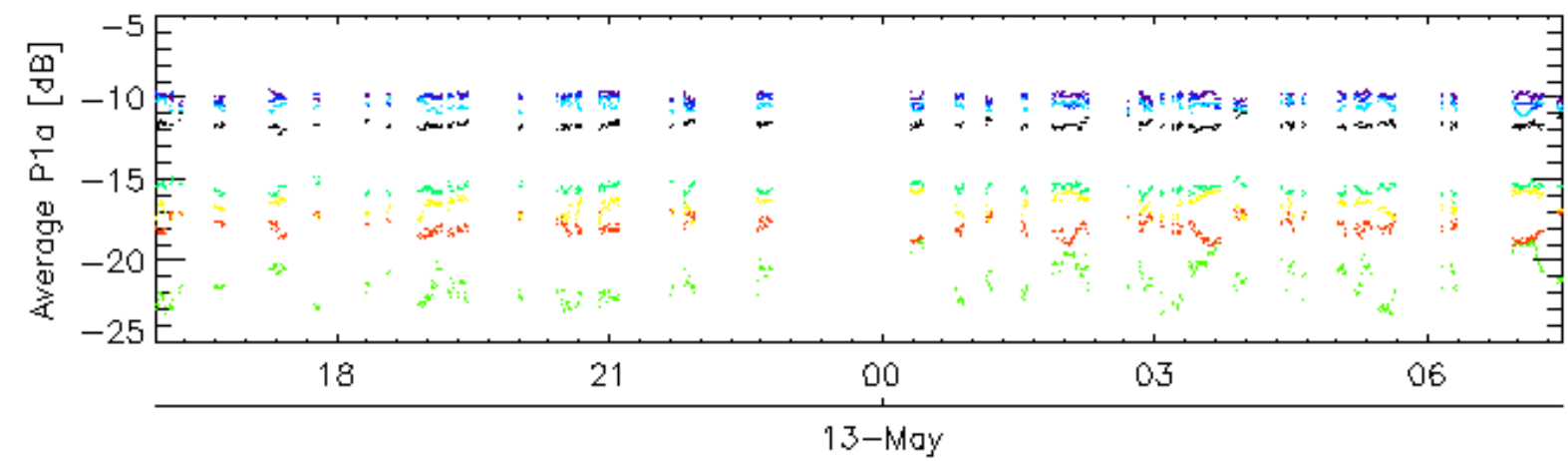
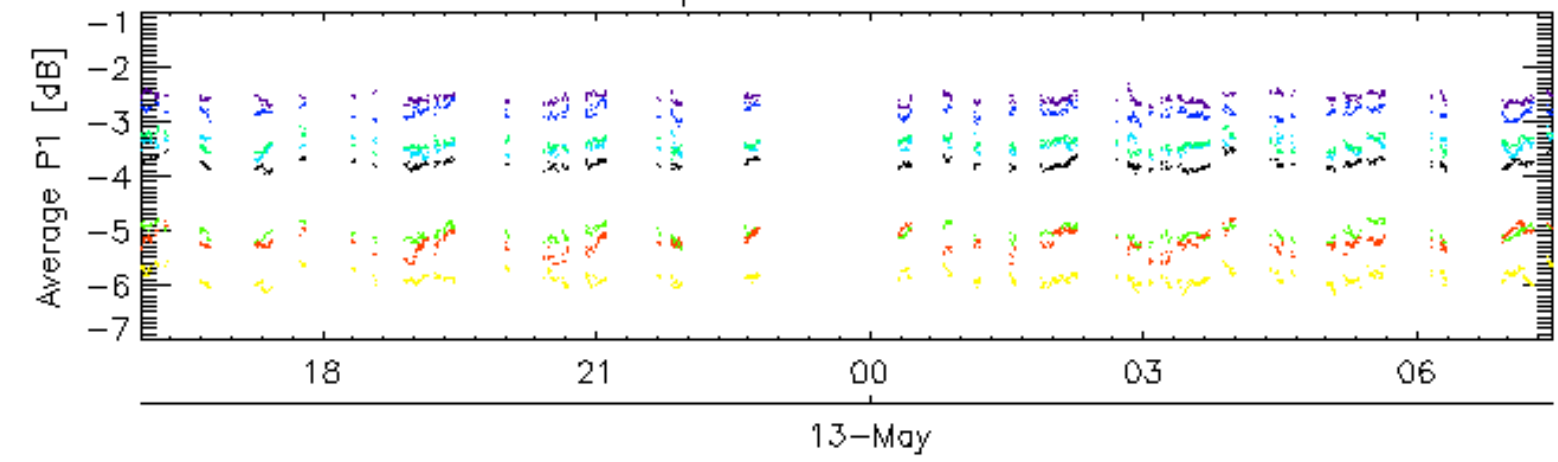
**7.5 - Absolute Doppler for GM1****Evolution of Absolute Doppler**

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

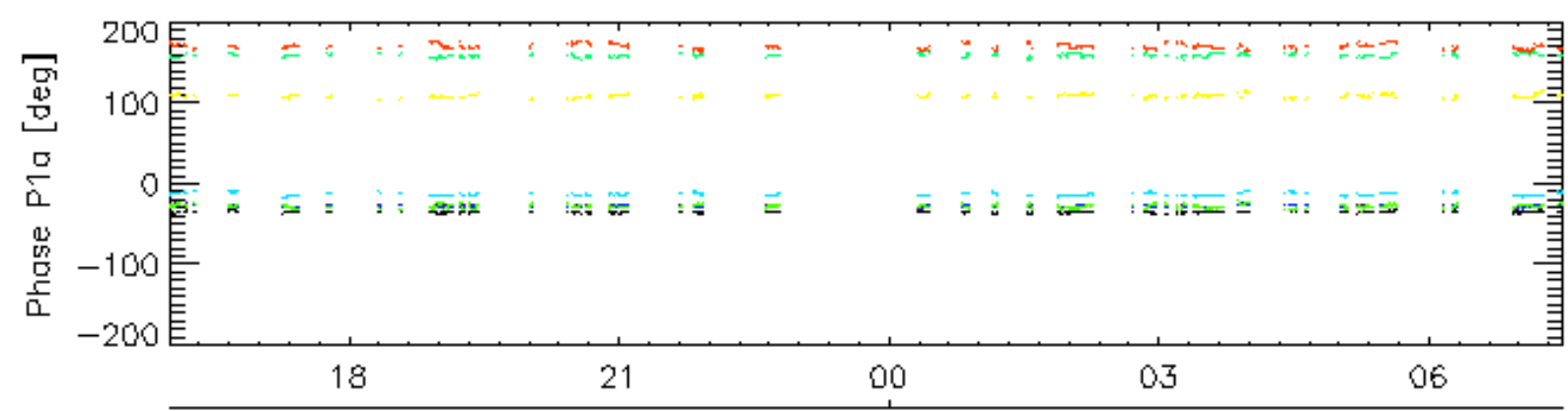
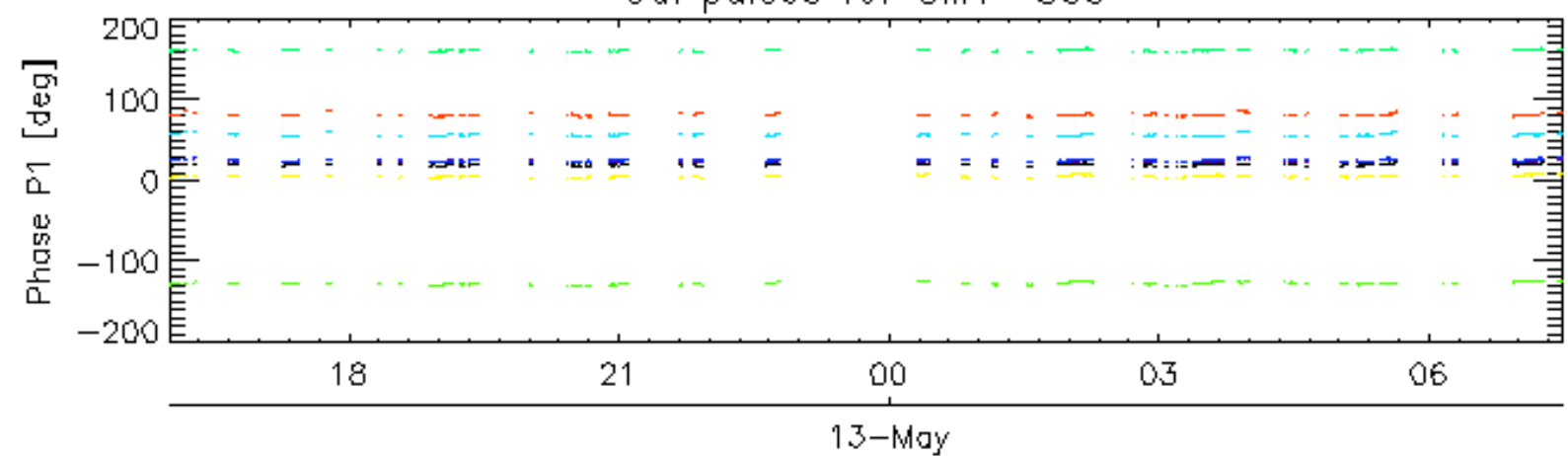
**7.6 - Doppler evolution versus ANX for GM1****Evolution Doppler error versus ANX**

<input type="checkbox"/>
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Cal pulses for GM1 SS3

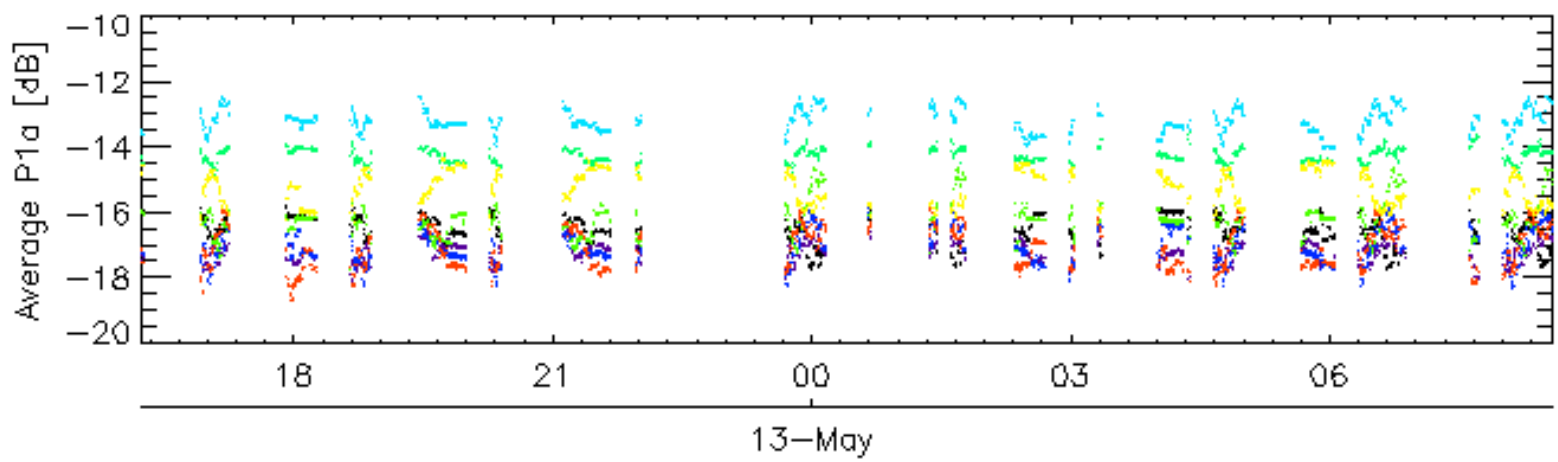
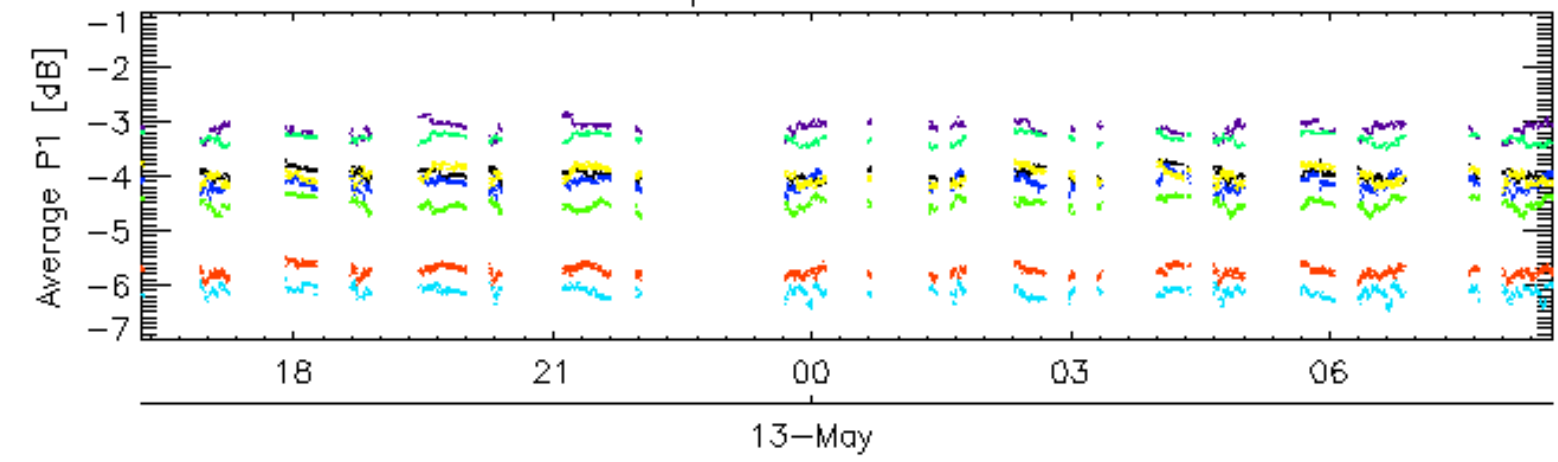


Cal pulses for GM1 SS3

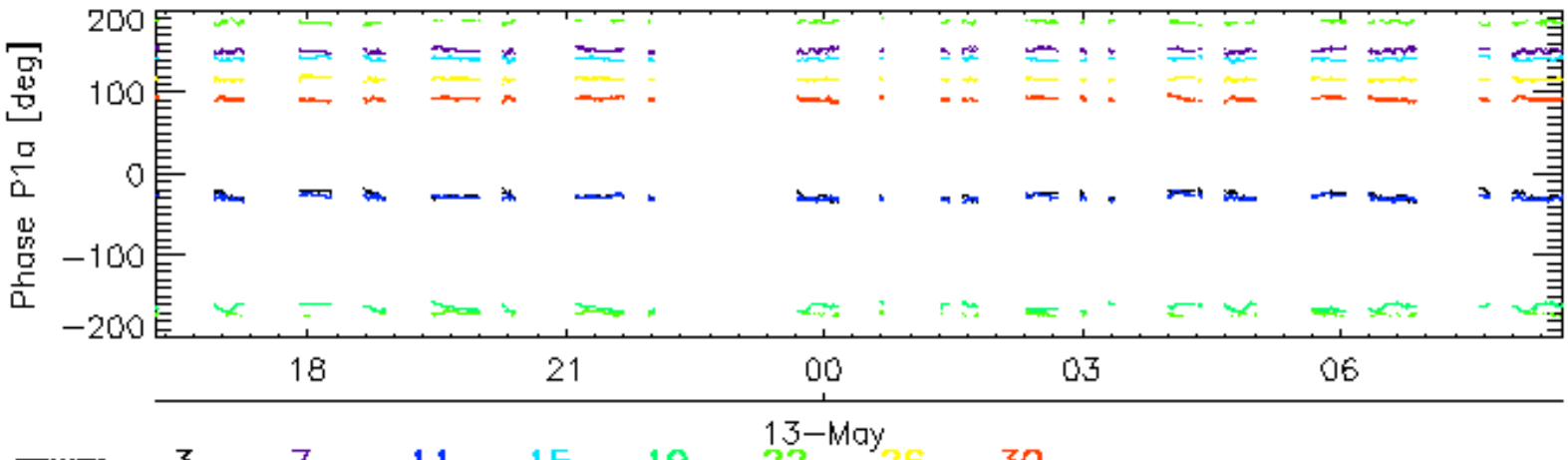
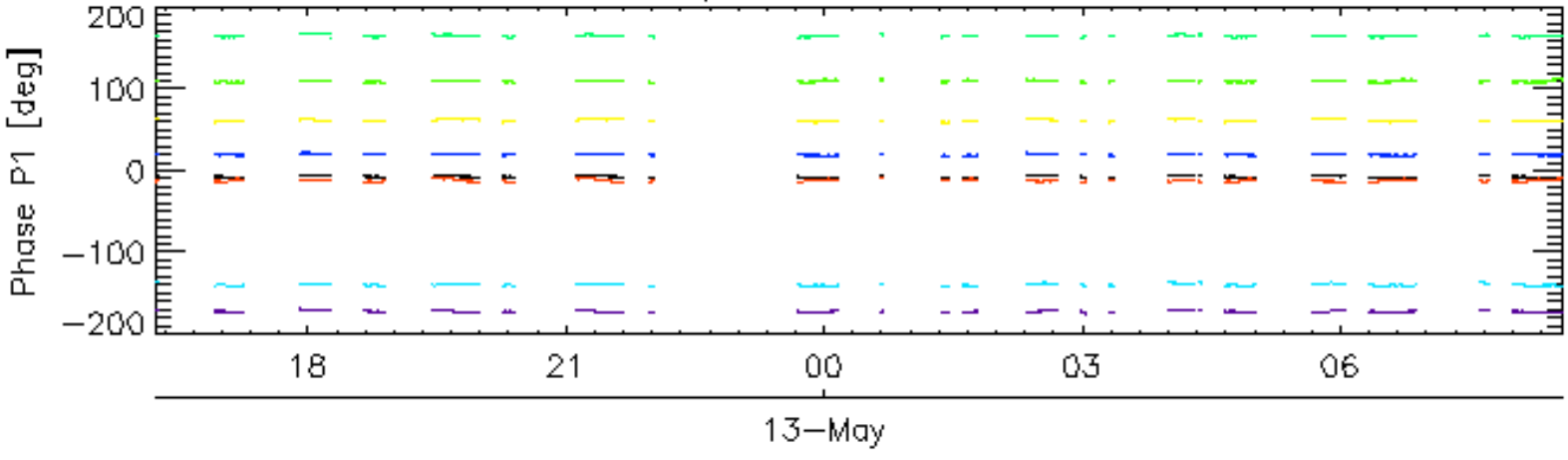


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

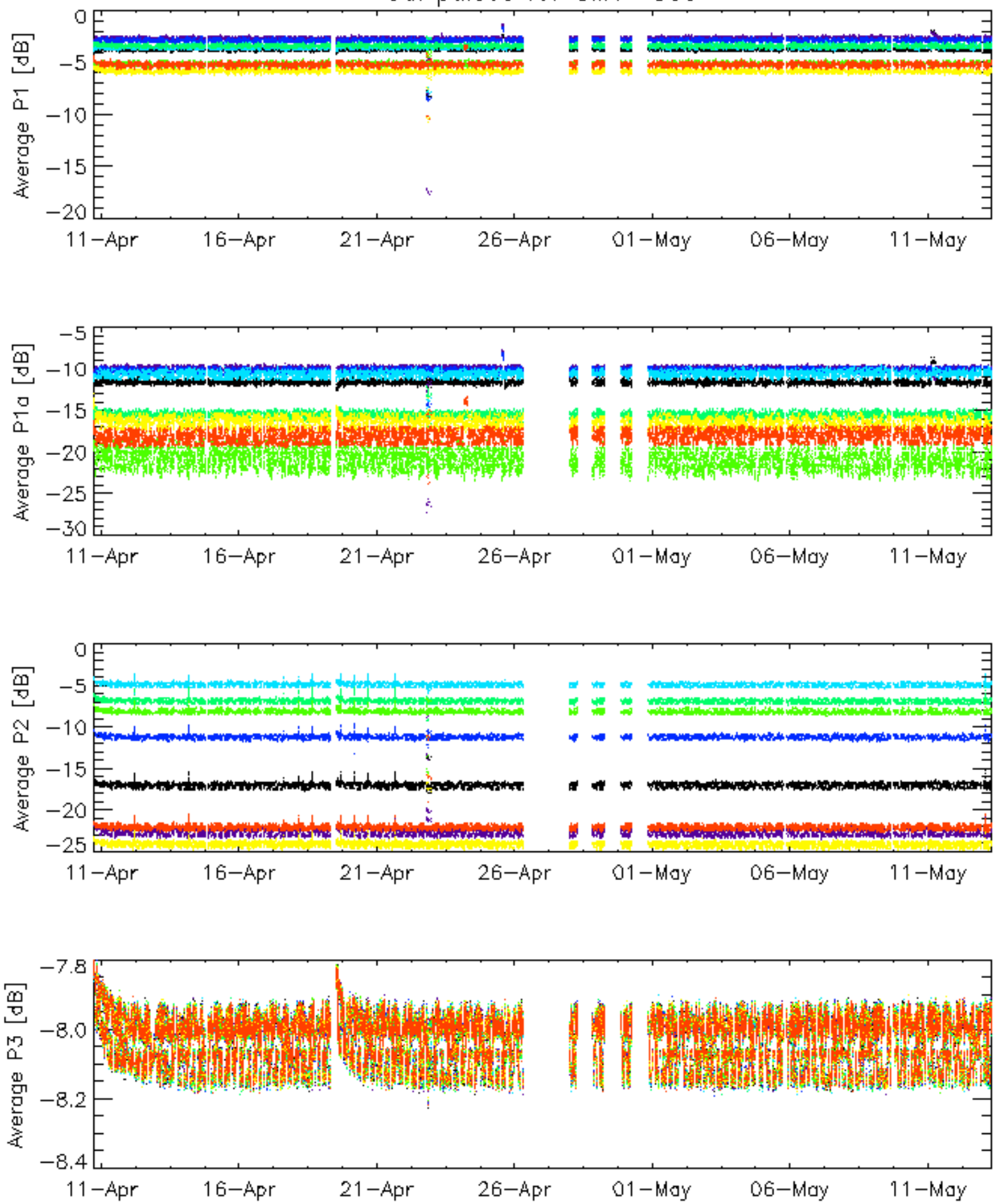


Cal pulses for WVS IS2



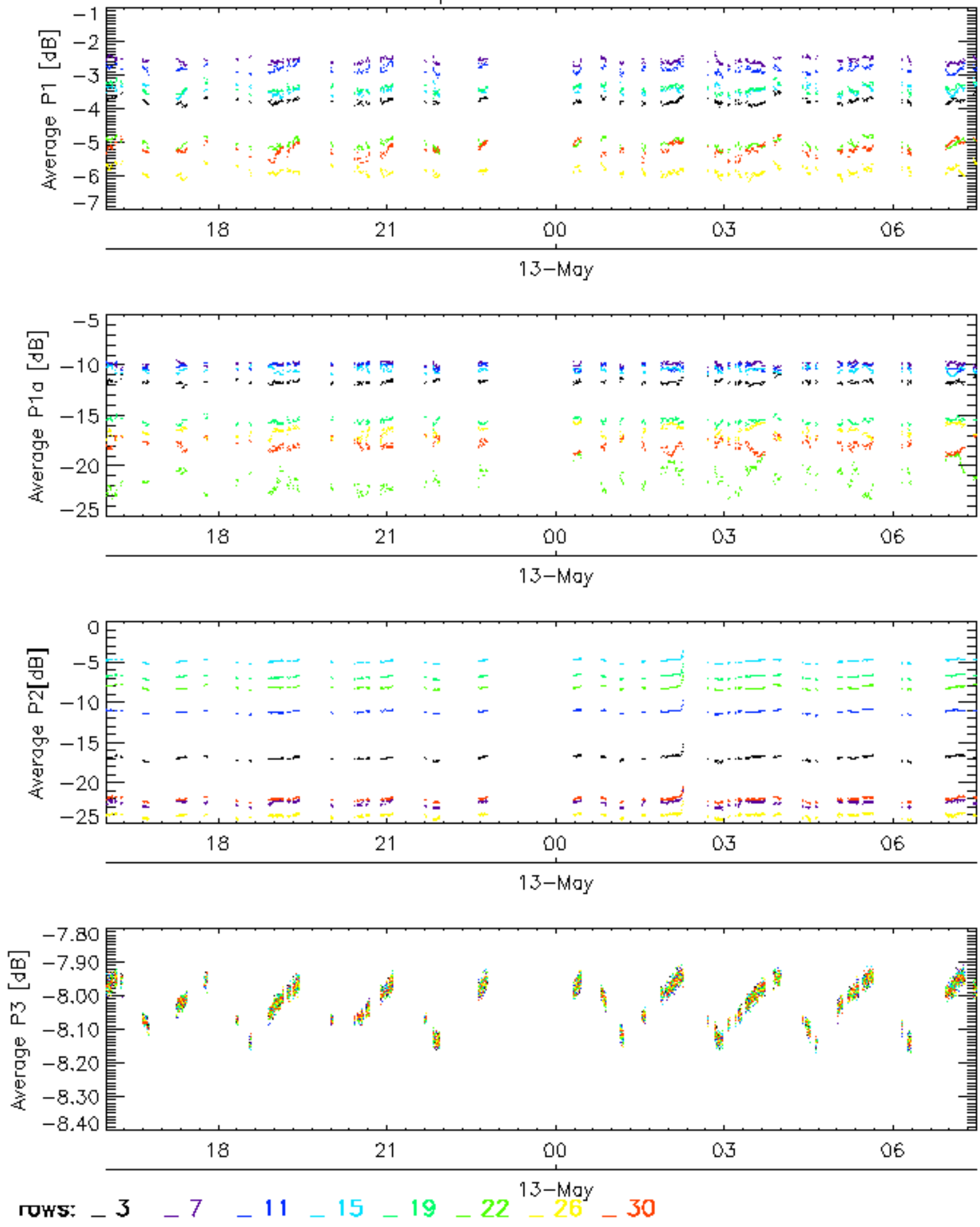
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

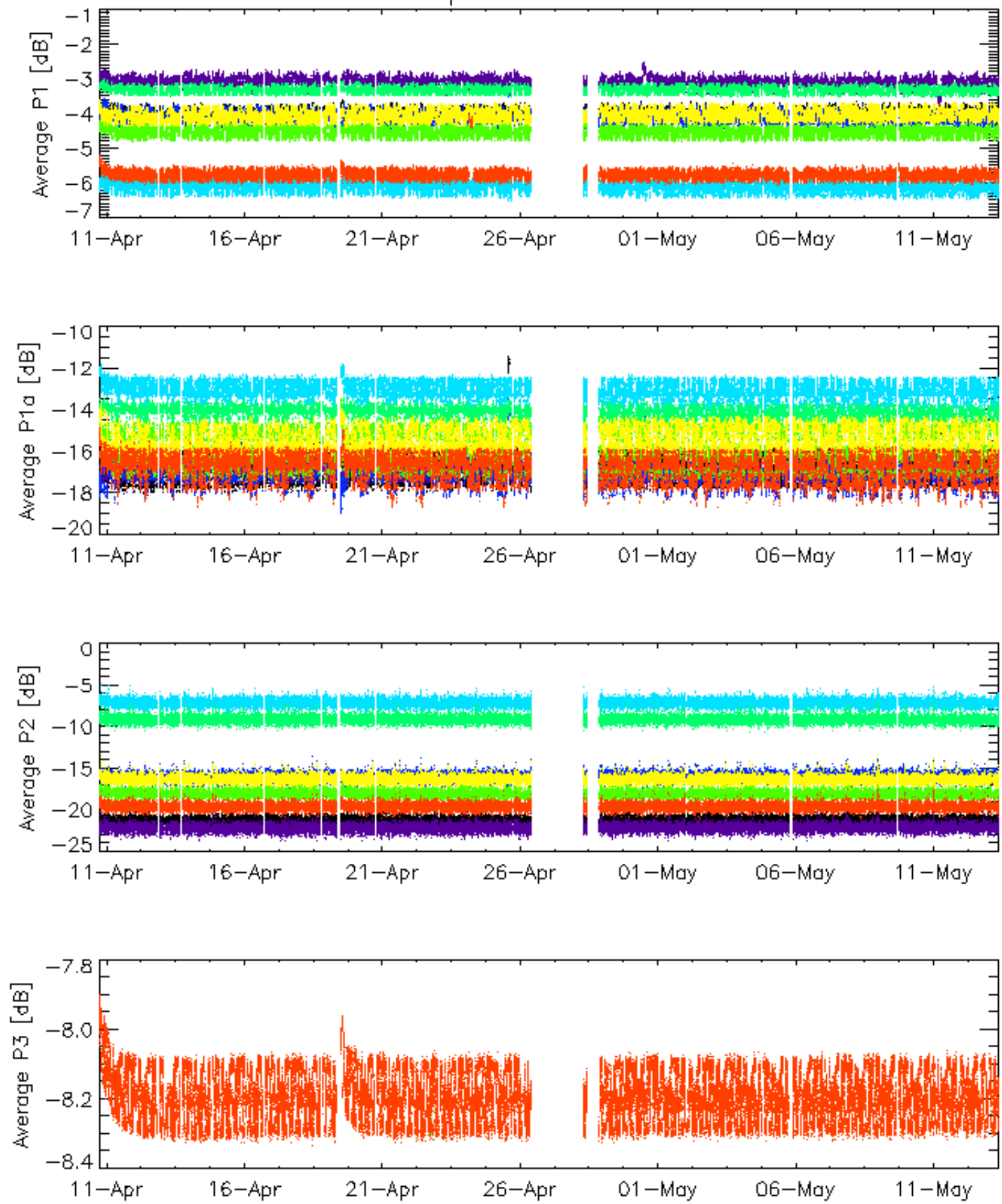


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3



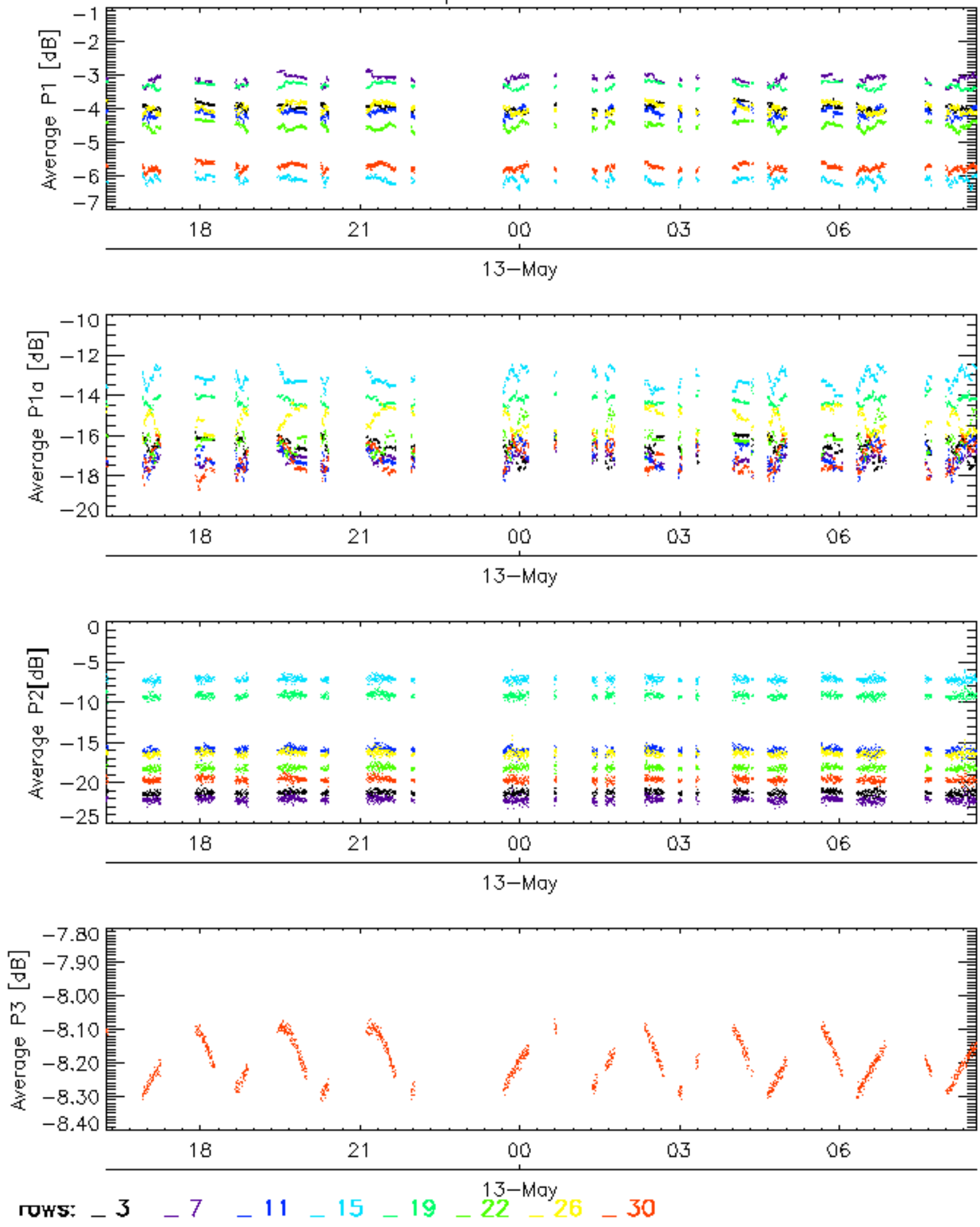
Cal pulses for WVS IS2



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



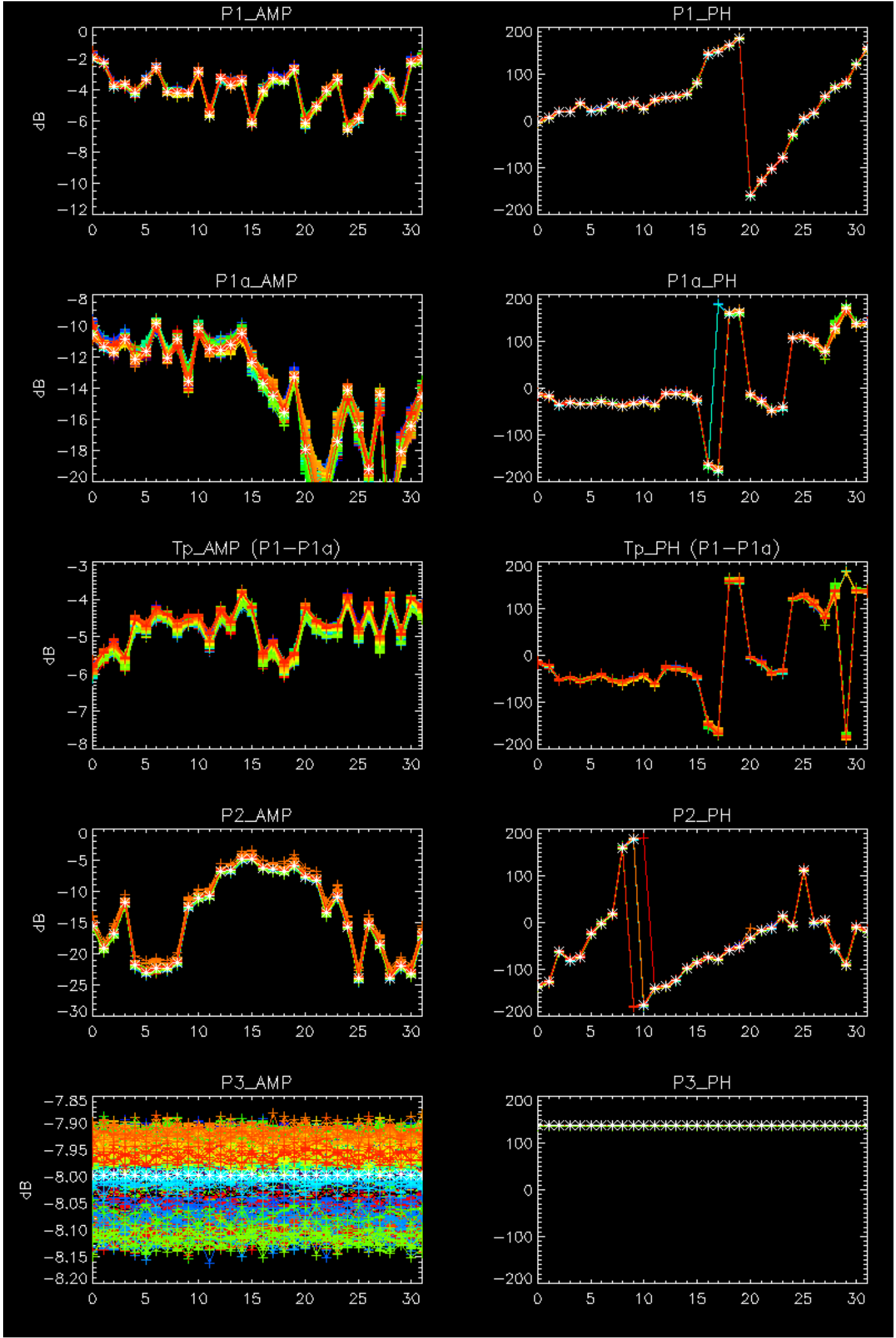
Cal pulses for WVS IS2

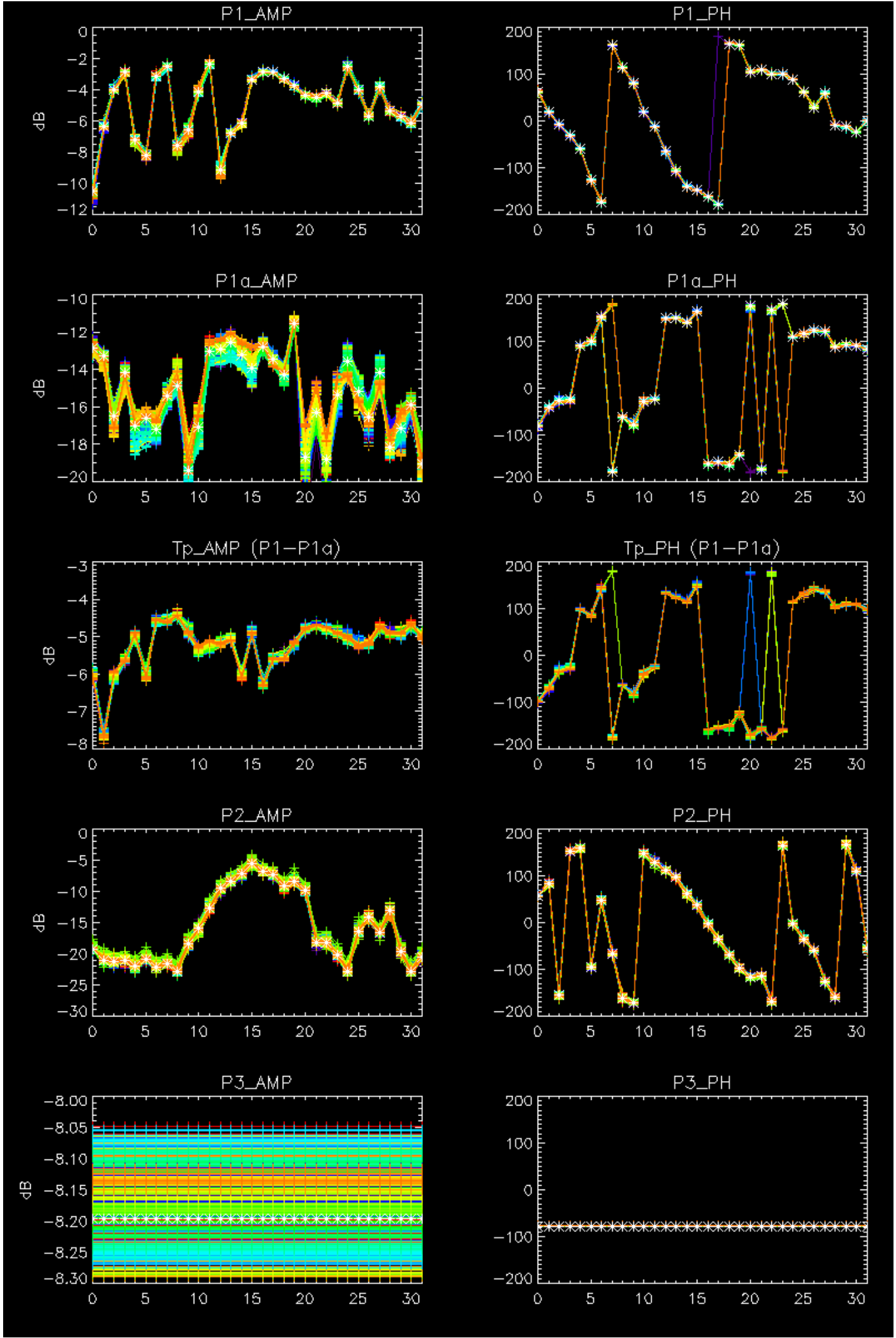


rows: 3 7 11 15 19 22 26 30

No anomalies observed.





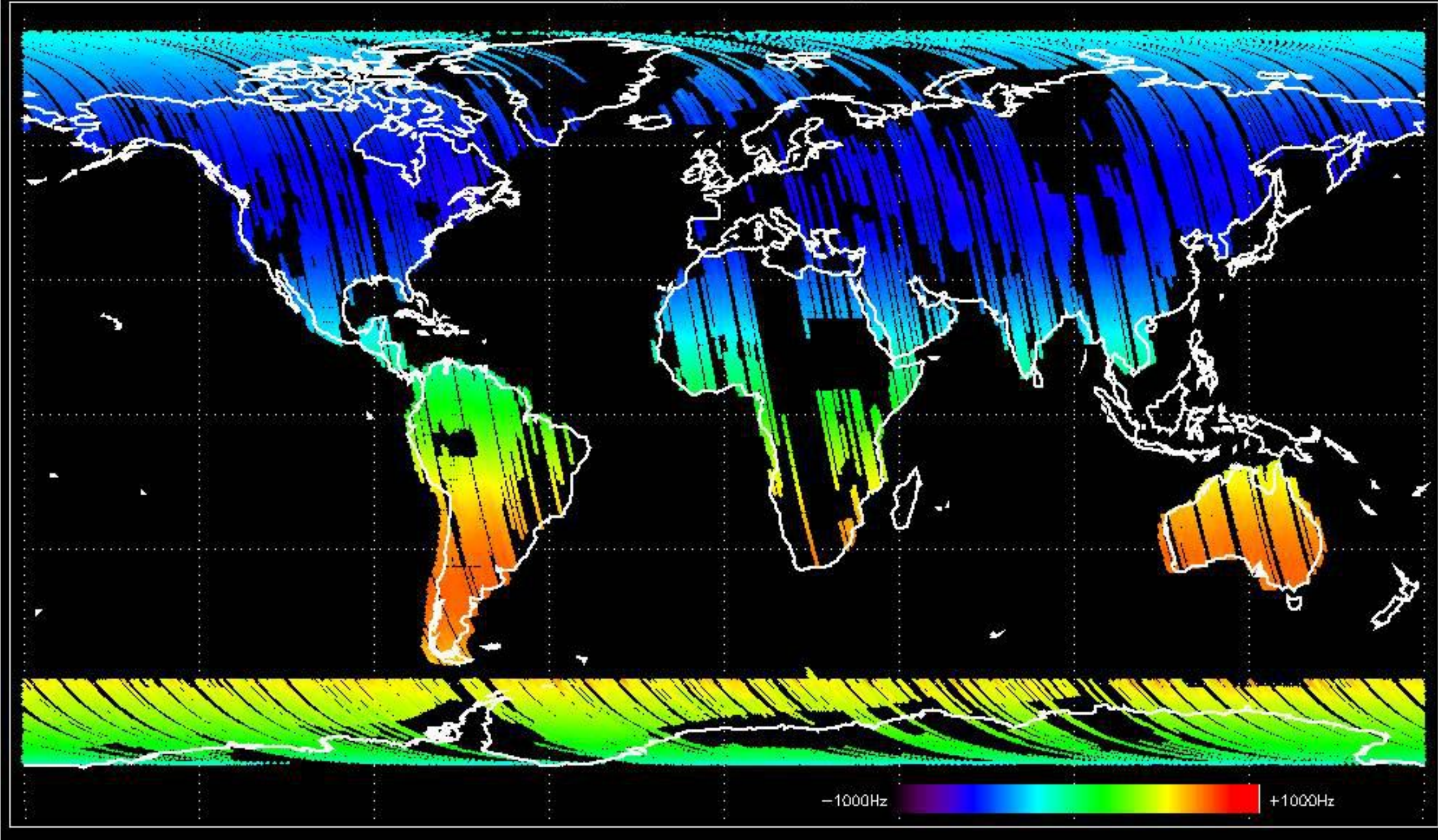


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



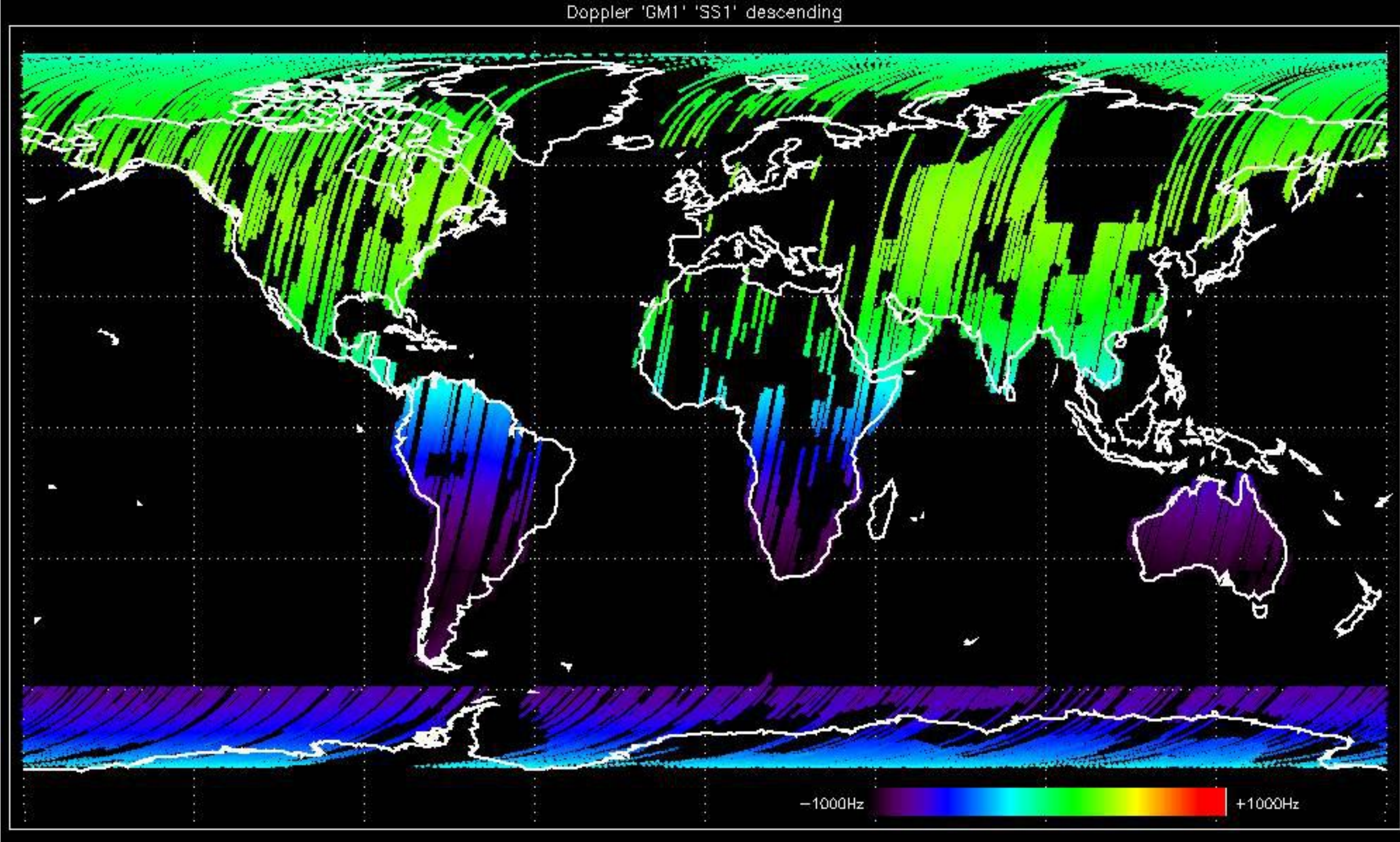


Doppler 'GM1' 'SS1' ascending



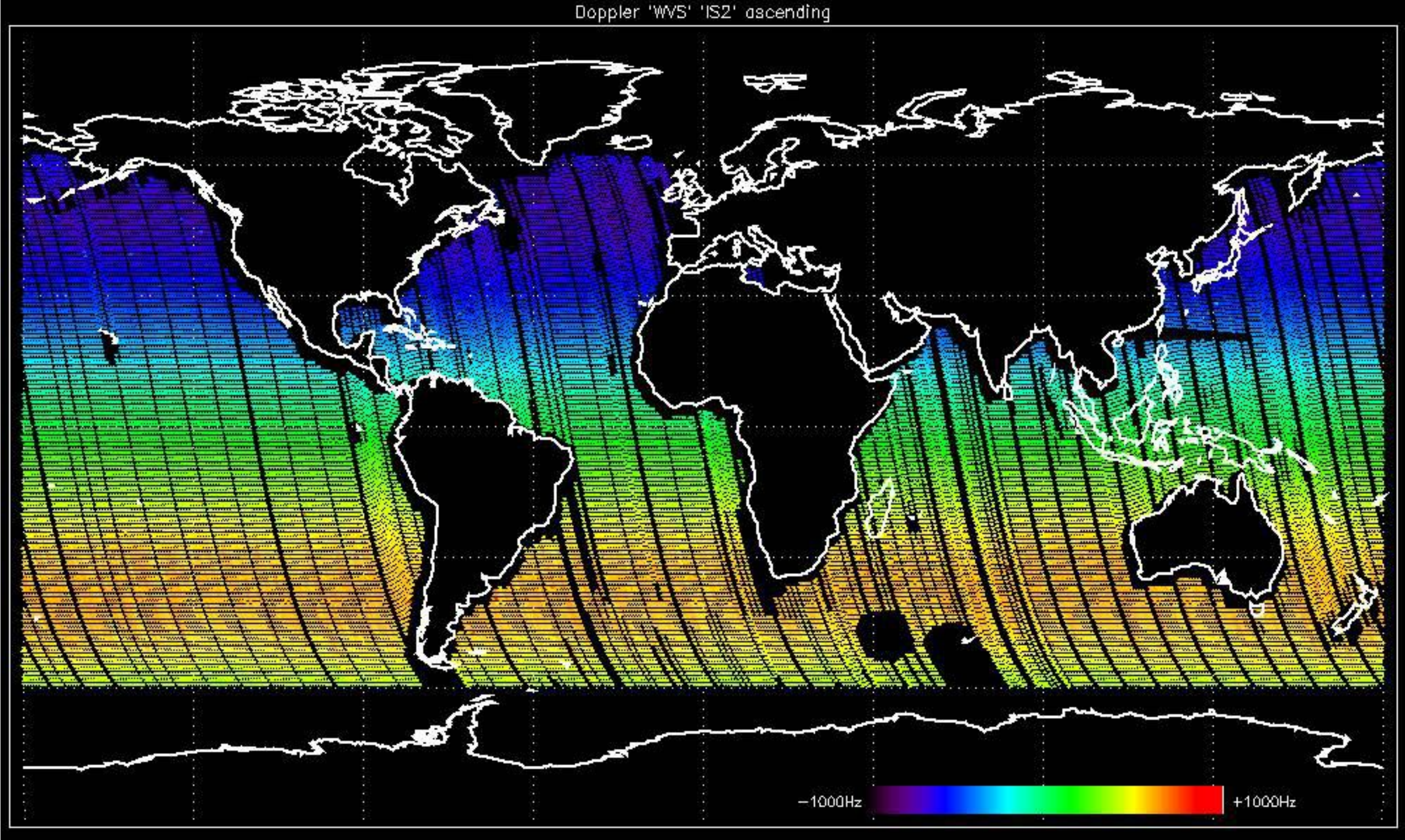


Doppler 'GM1' 'SS1' descending



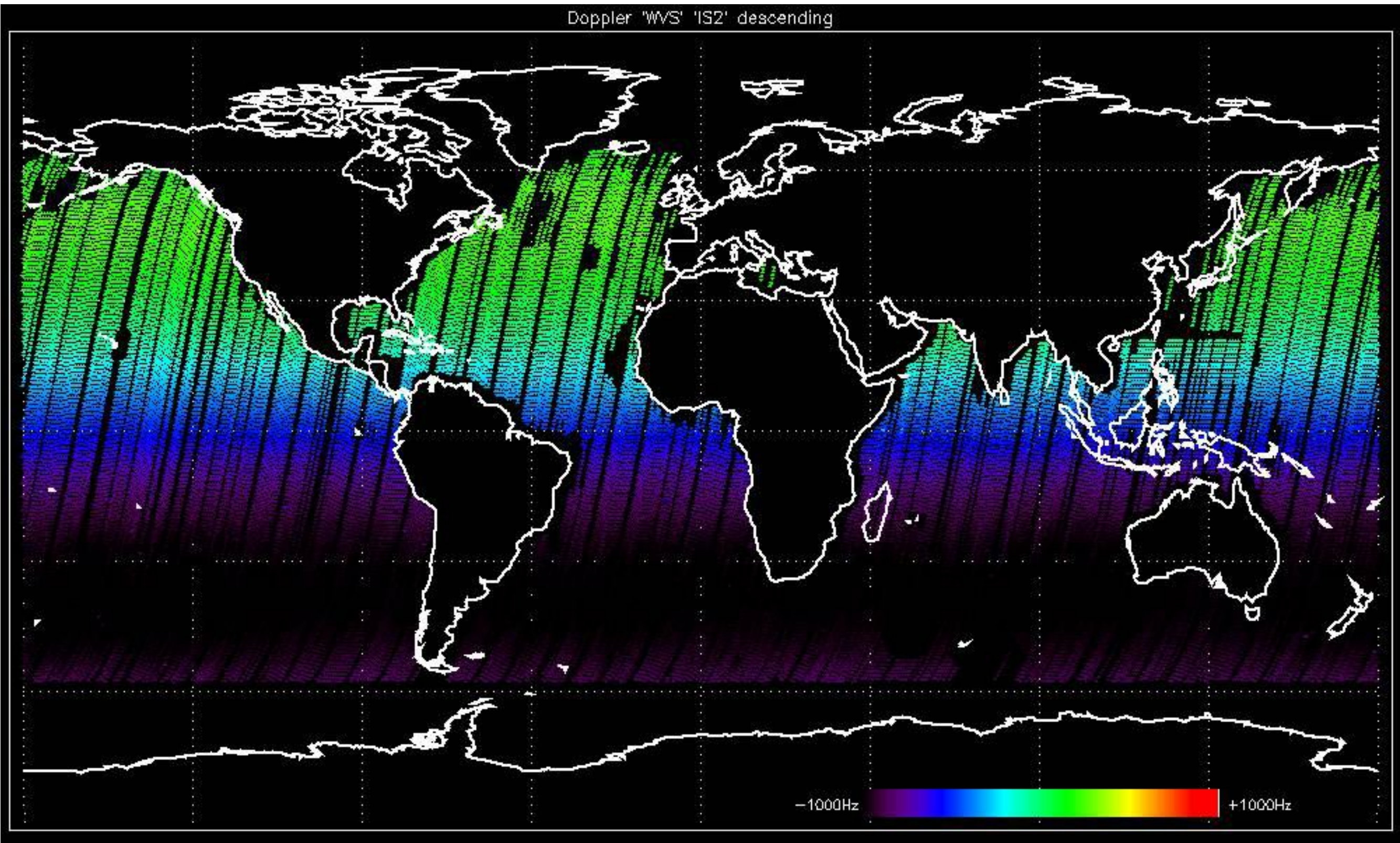


Doppler 'WVS' 'IS2' ascending



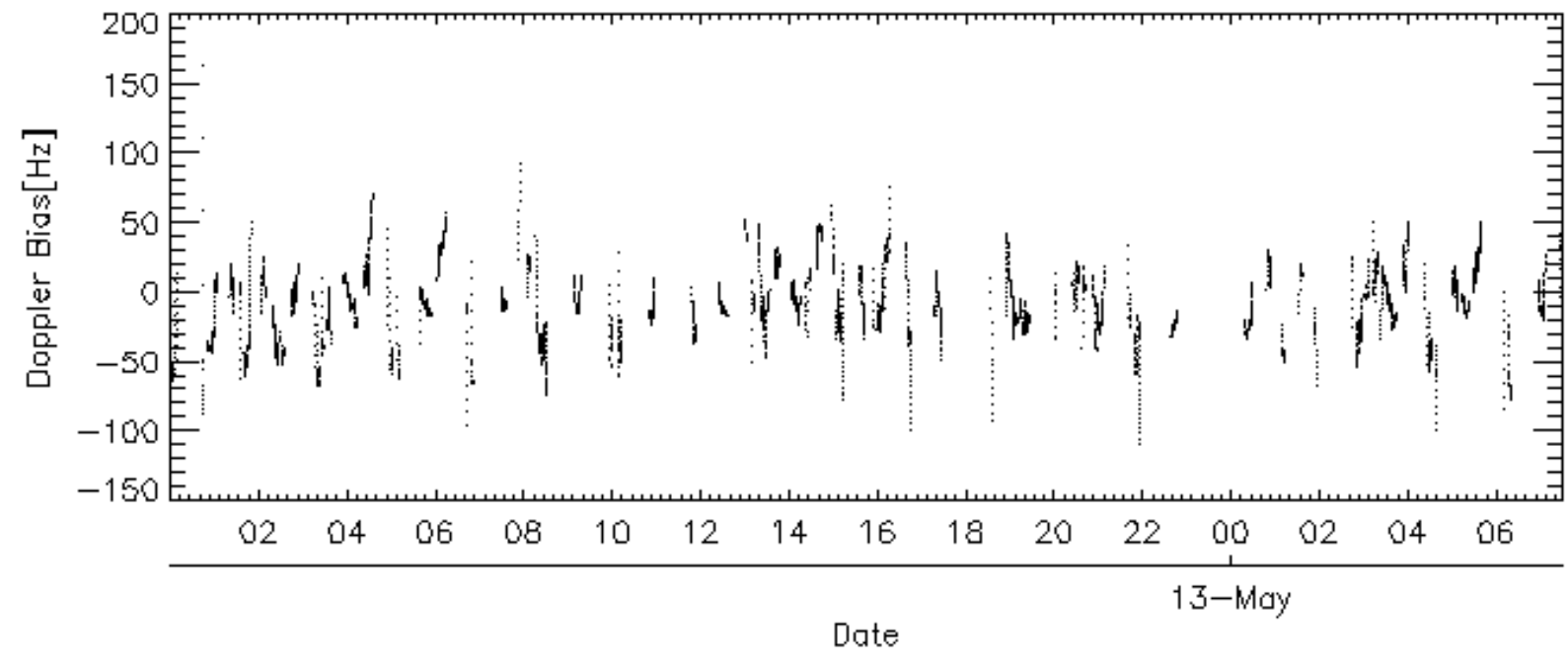
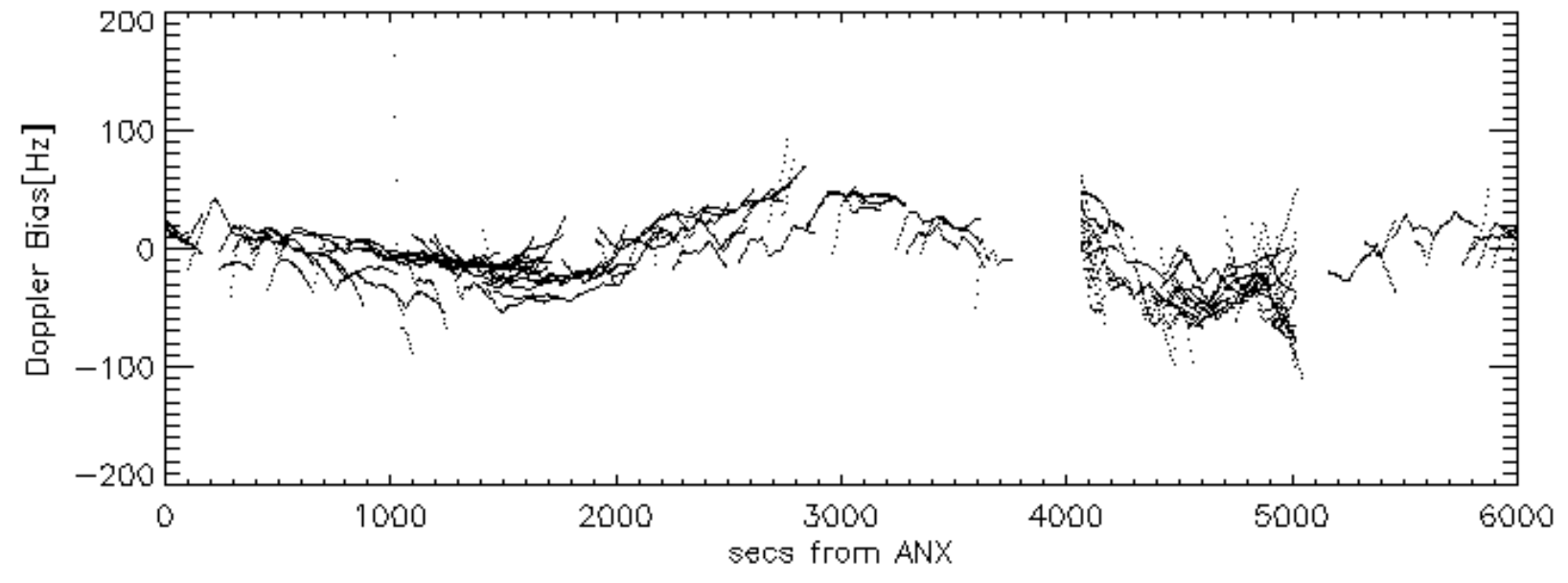
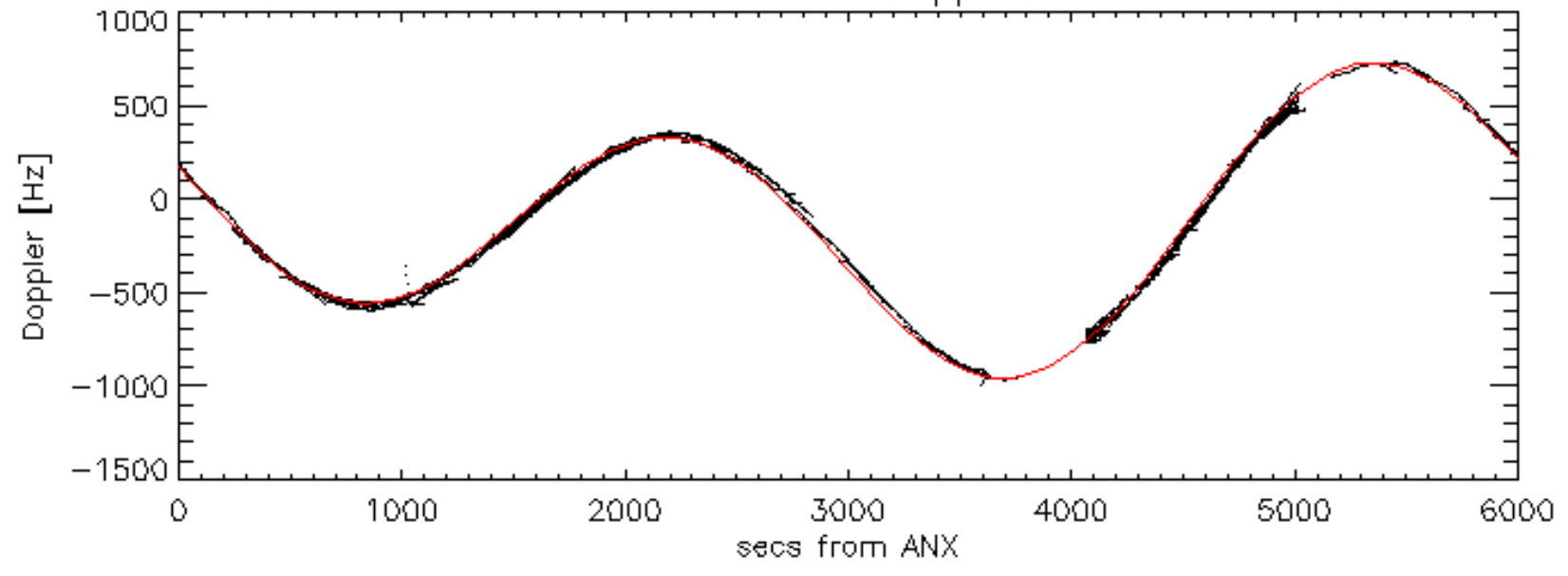


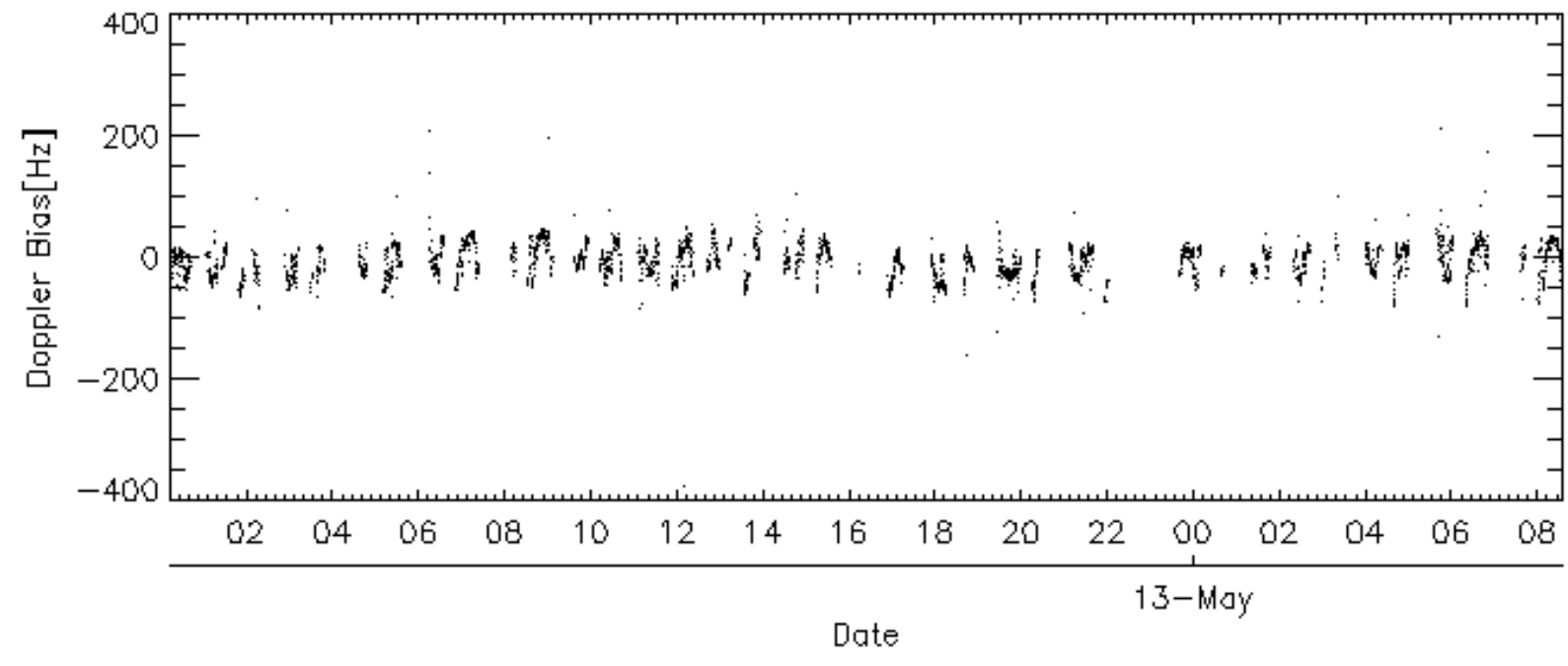
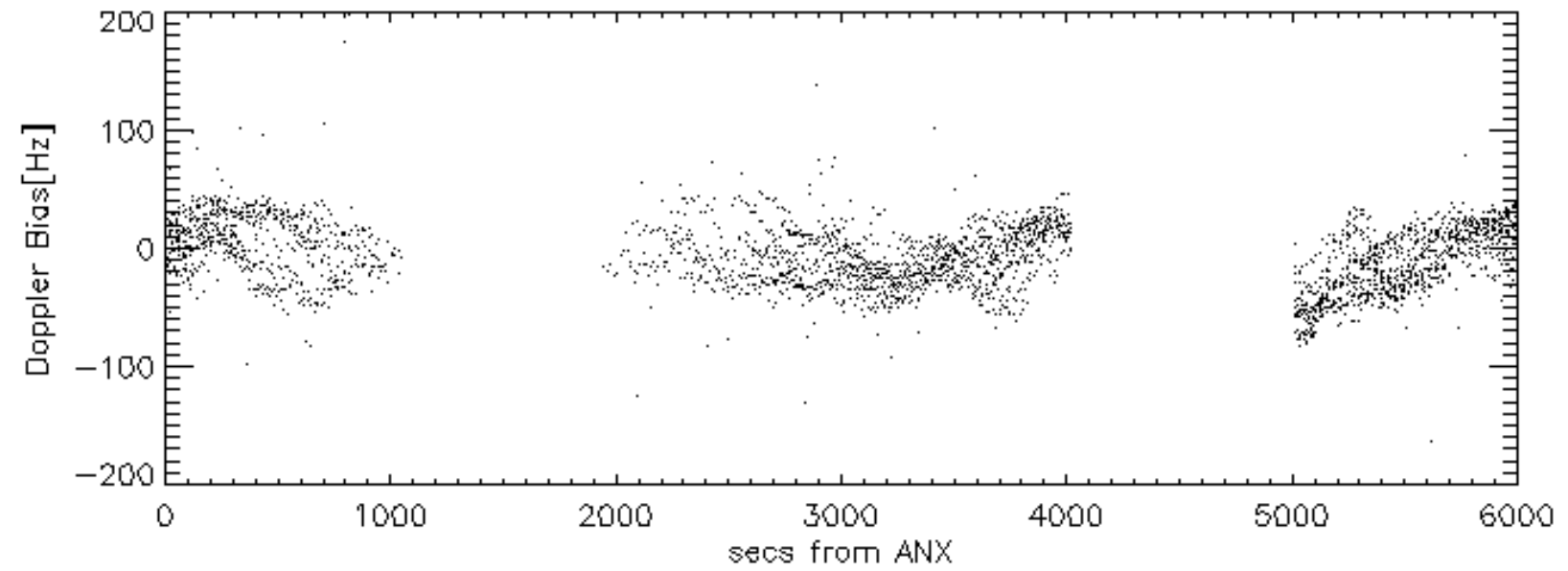
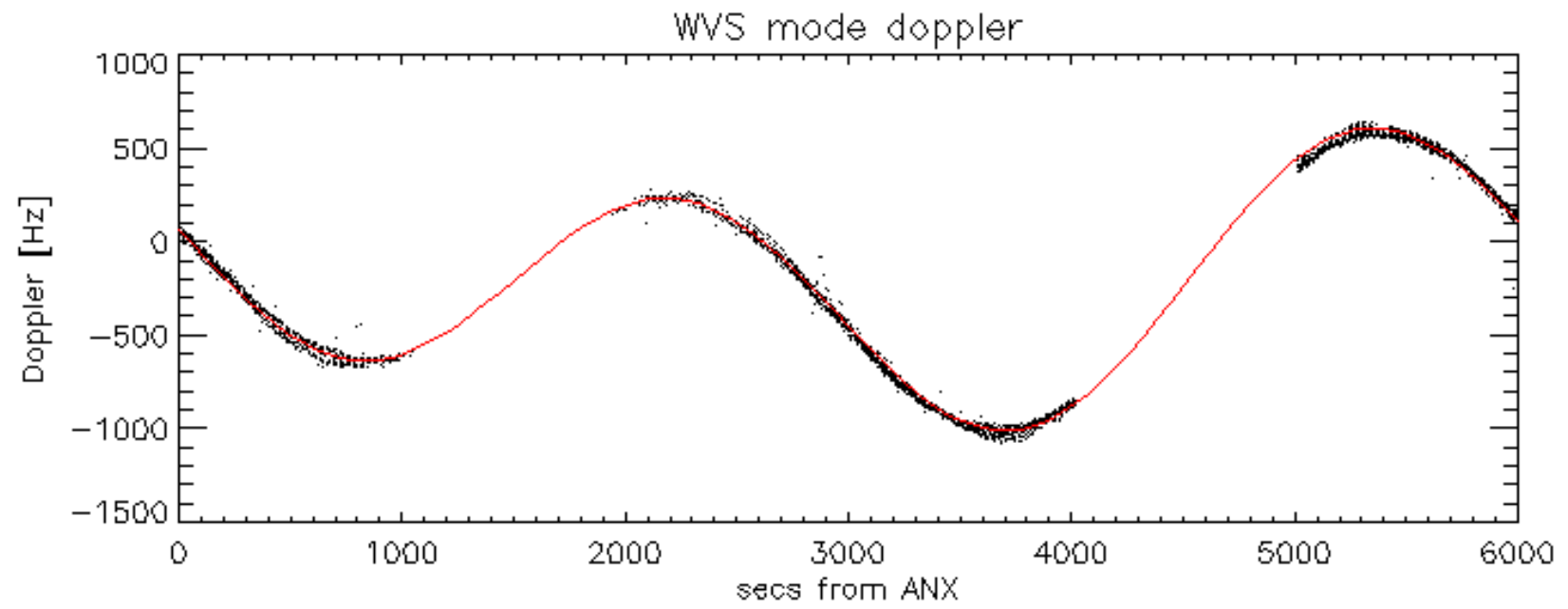
Doppler 'WVS' 'IS2' descending





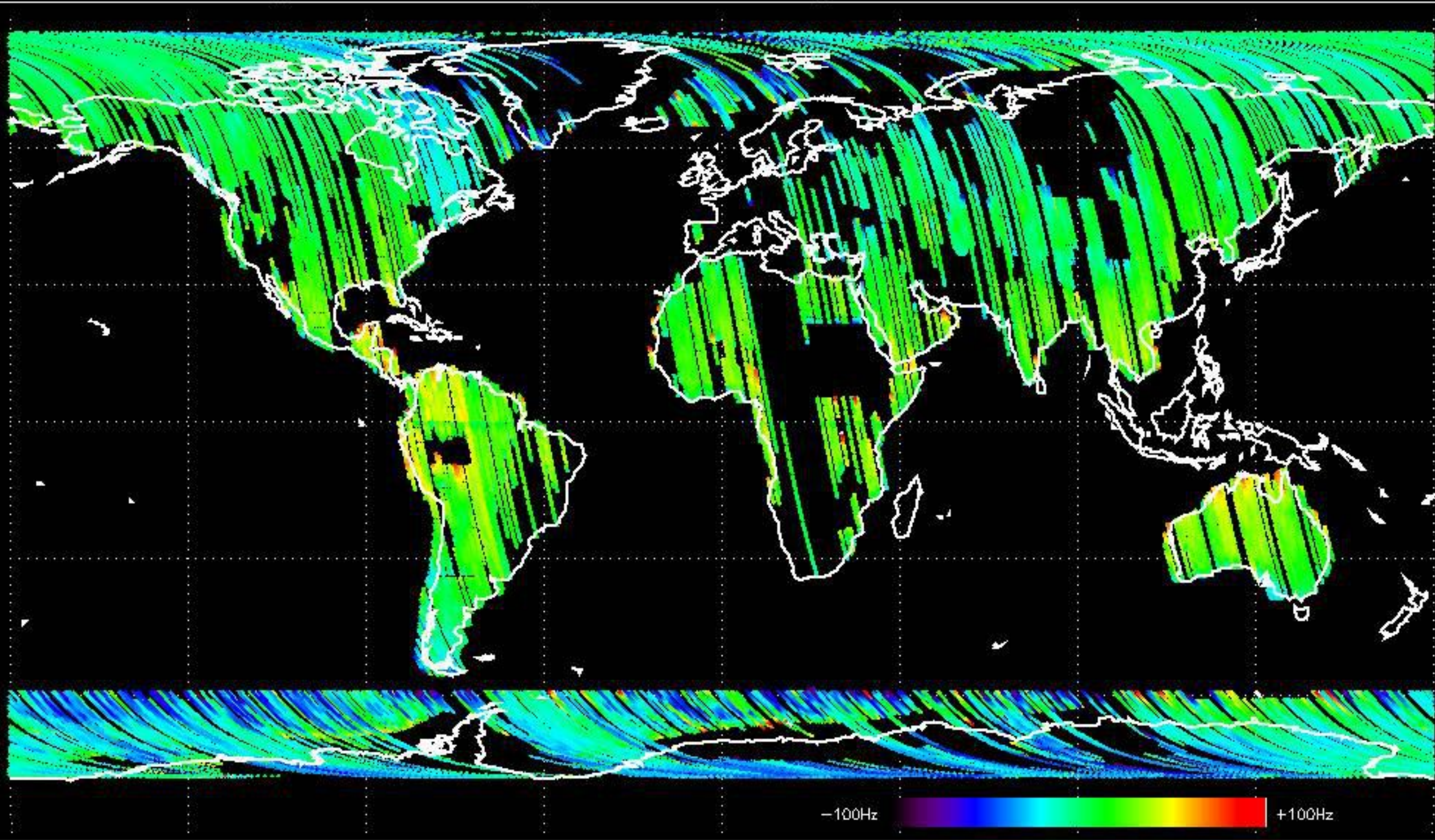
GM1 mode doppler





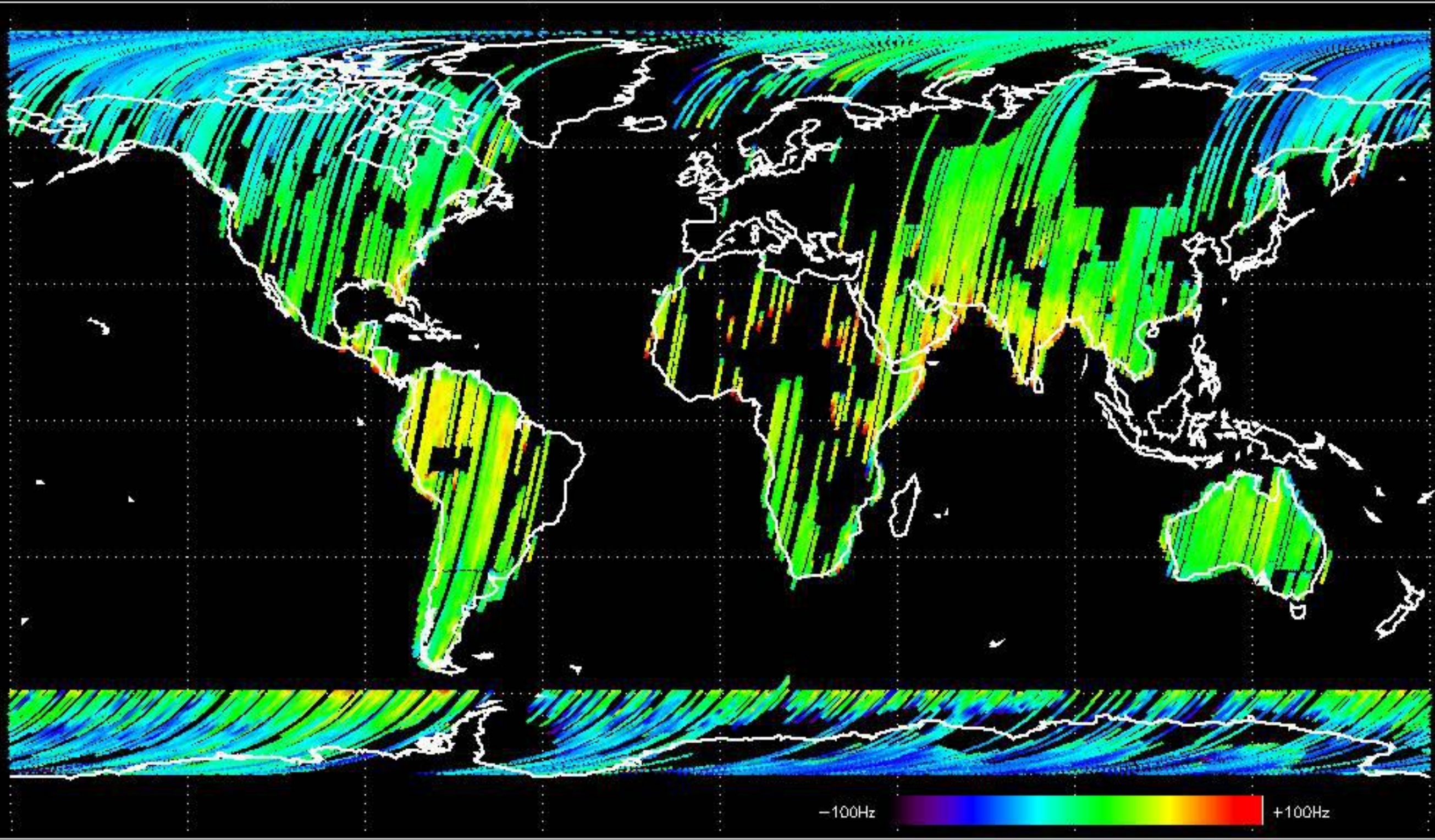


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -13.760070 Hz



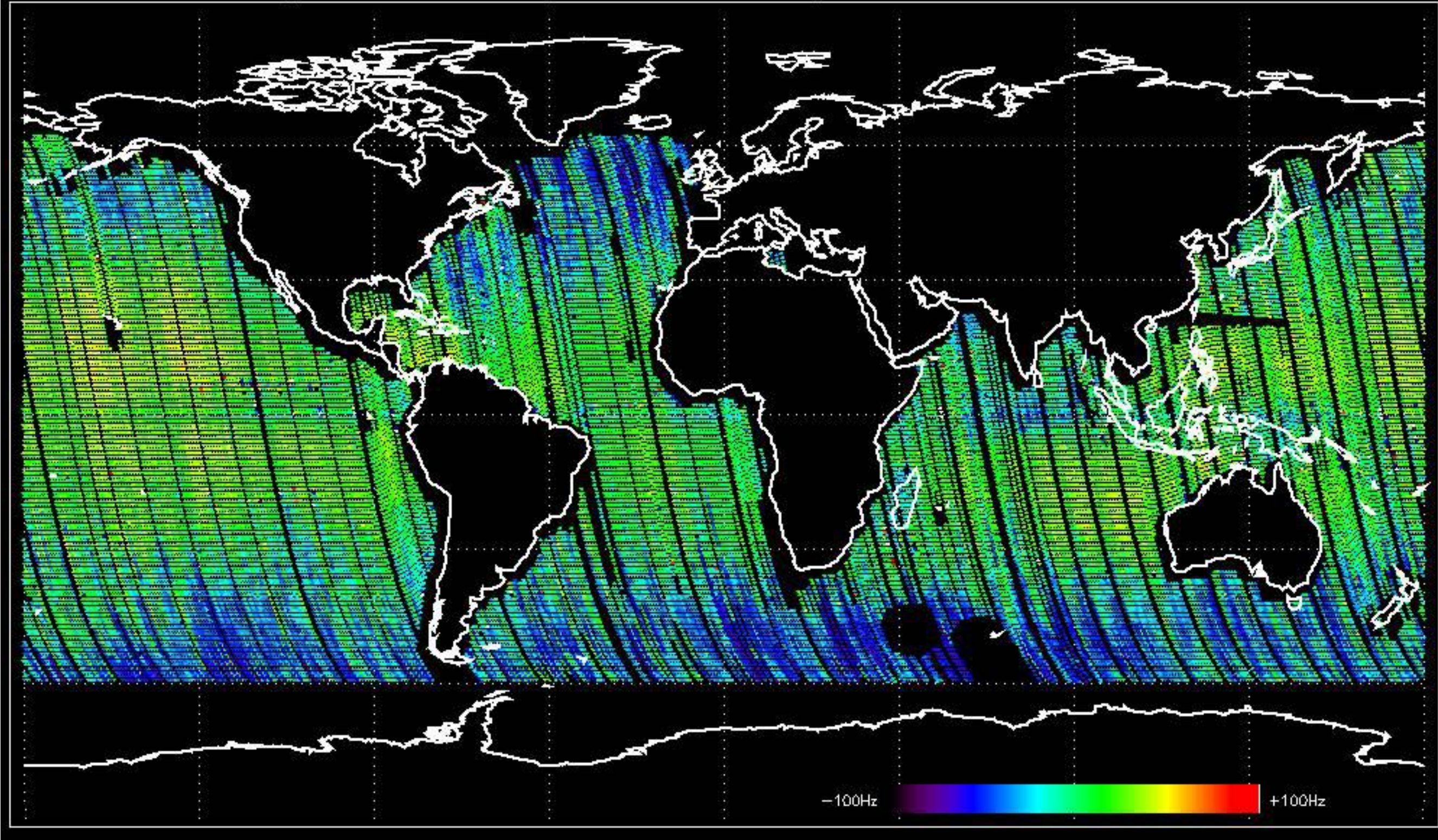


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -4.0517701 Hz



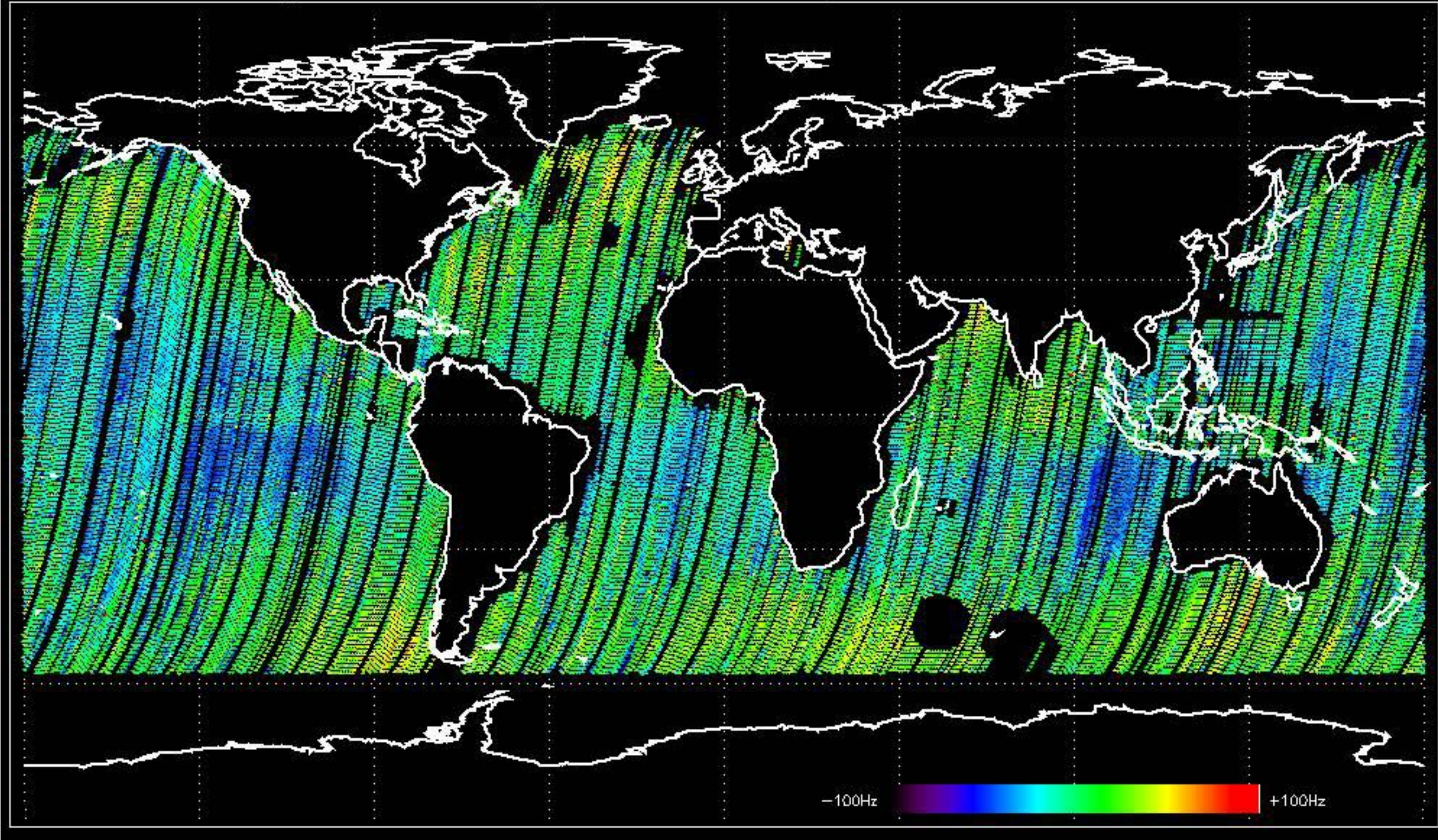


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -6.2108174 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -11.497775 Hz





No anomalies observed on available MS products:

No anomalies observed.















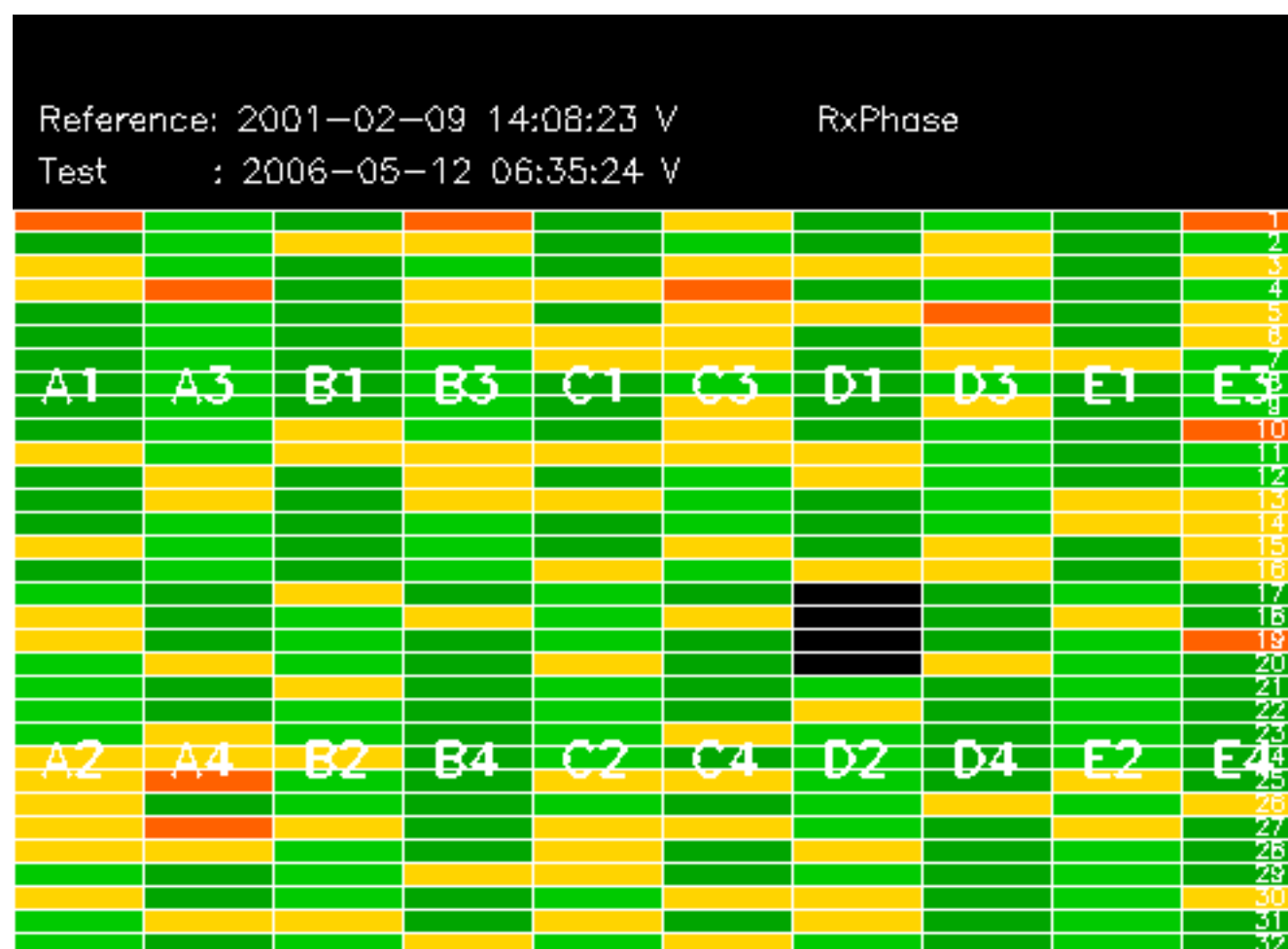




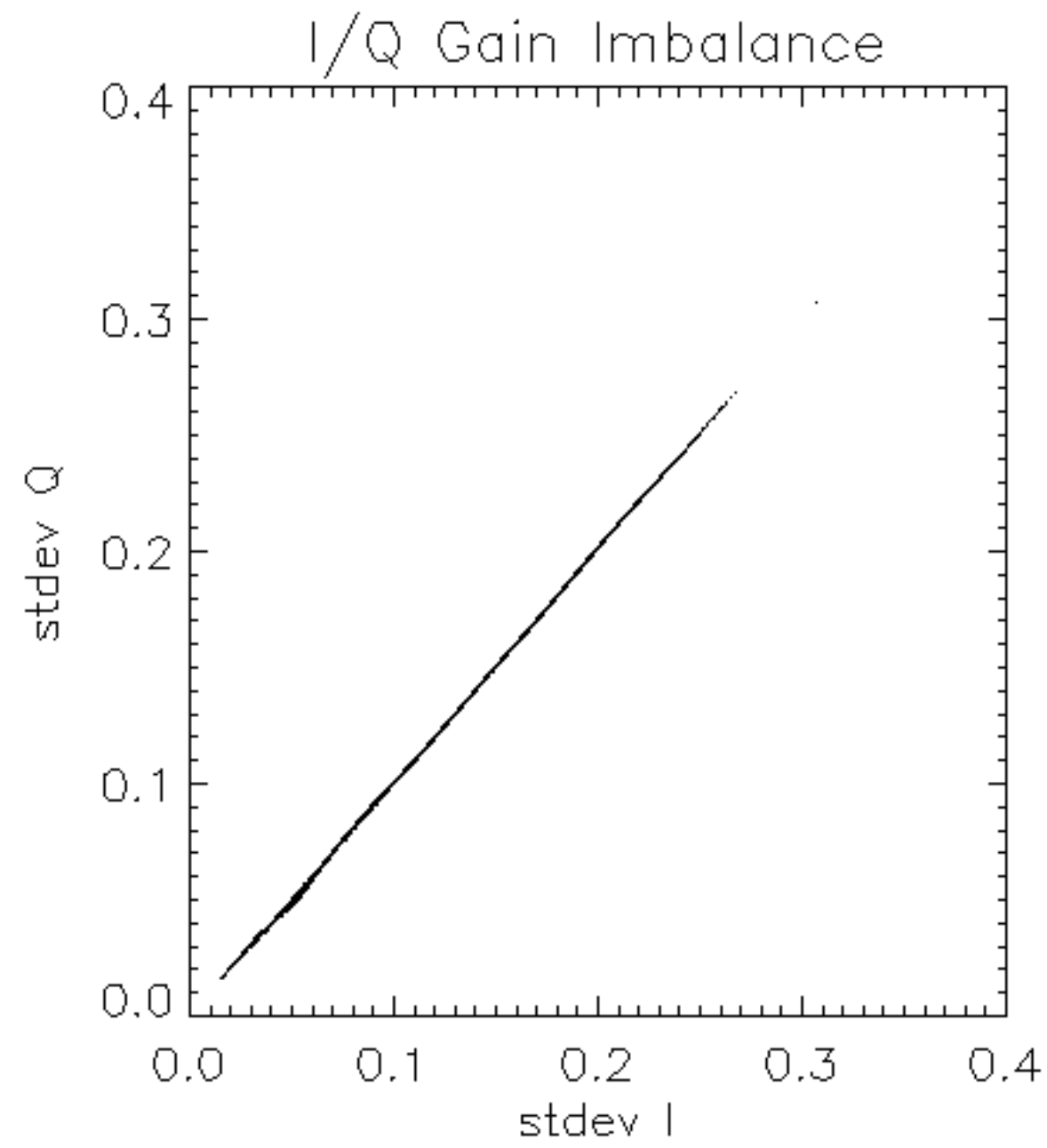


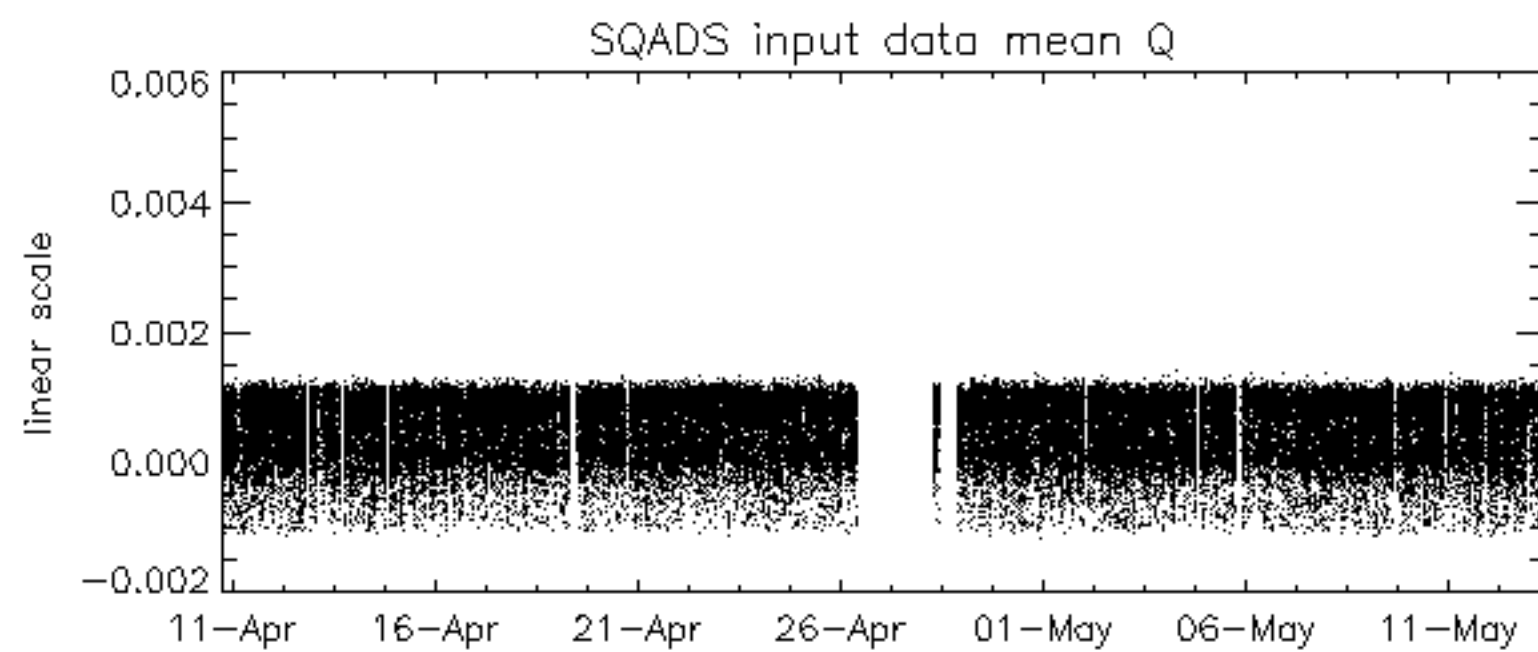
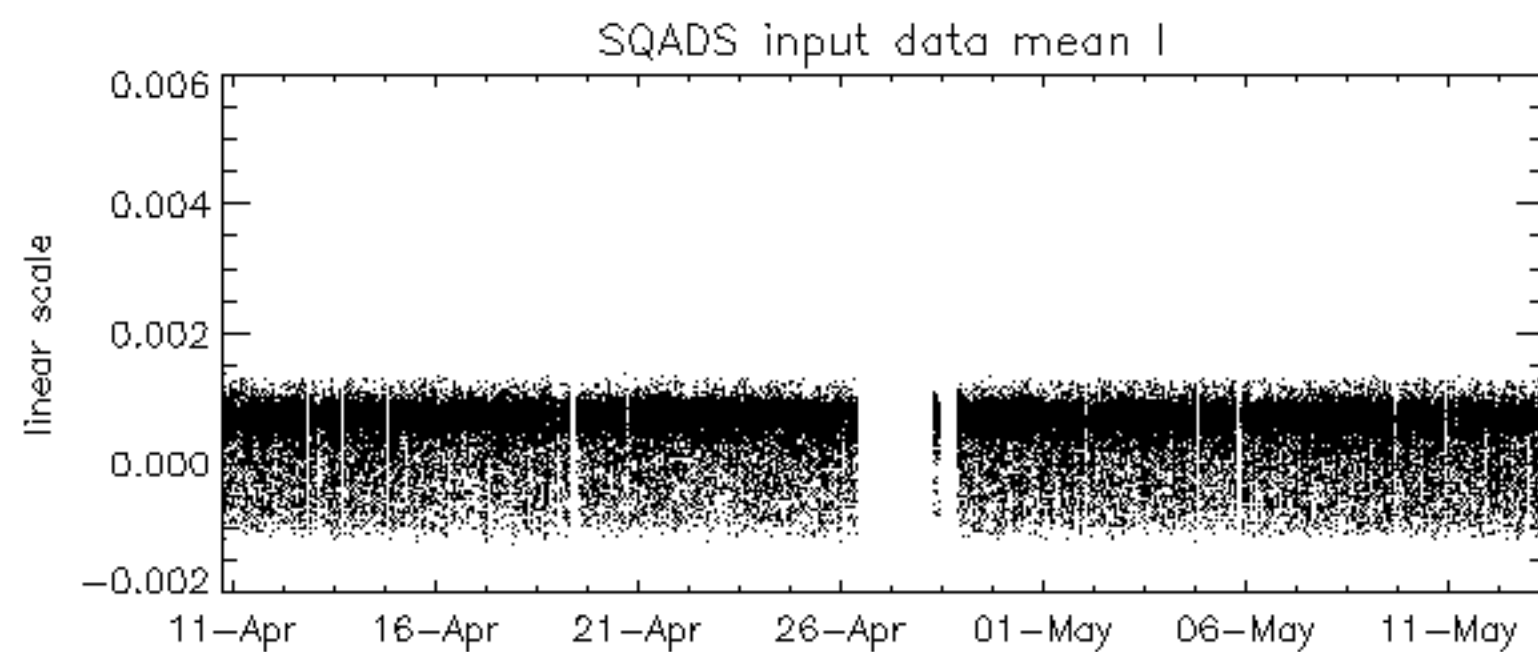
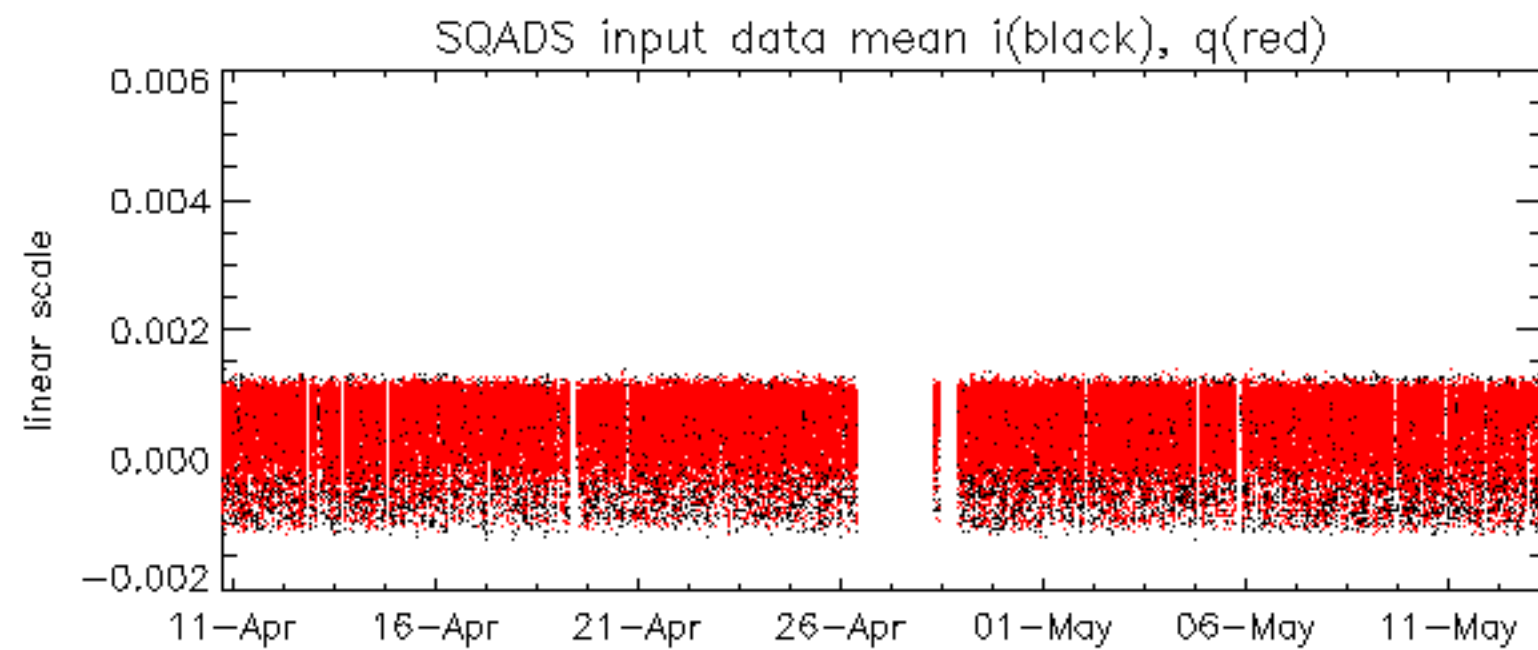


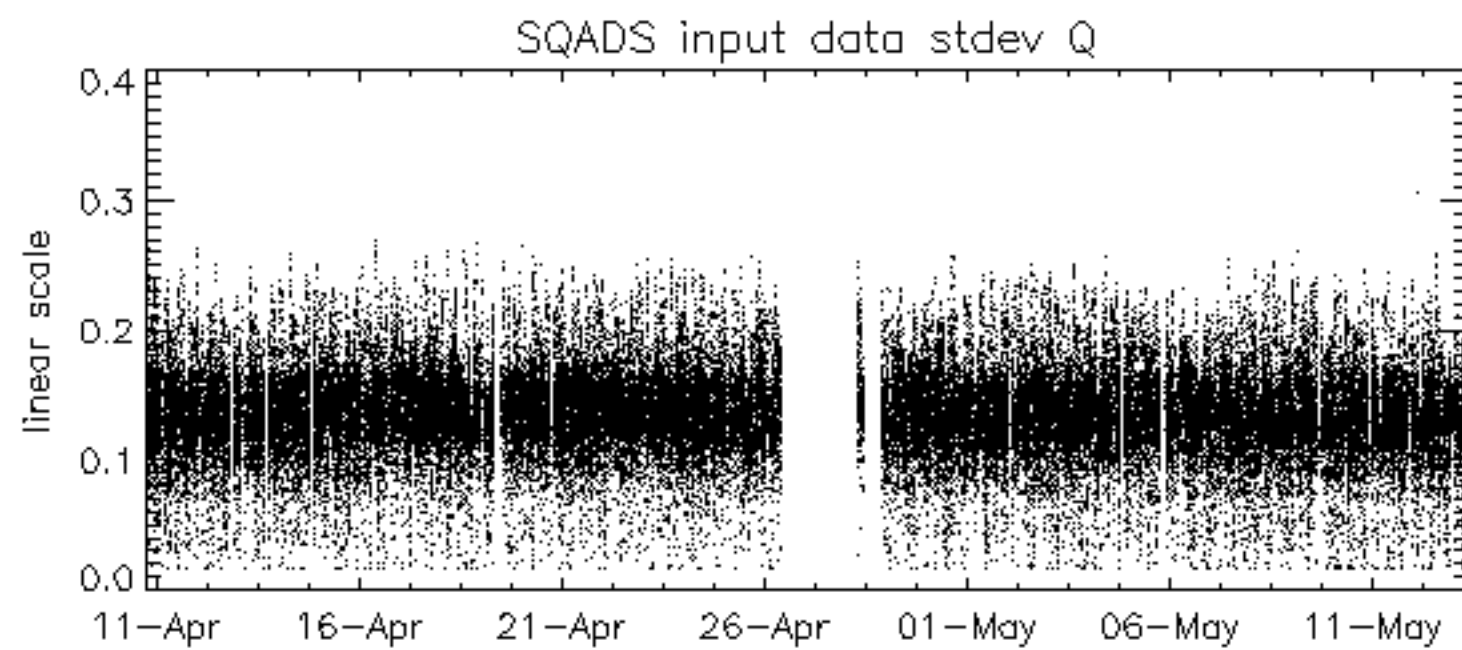
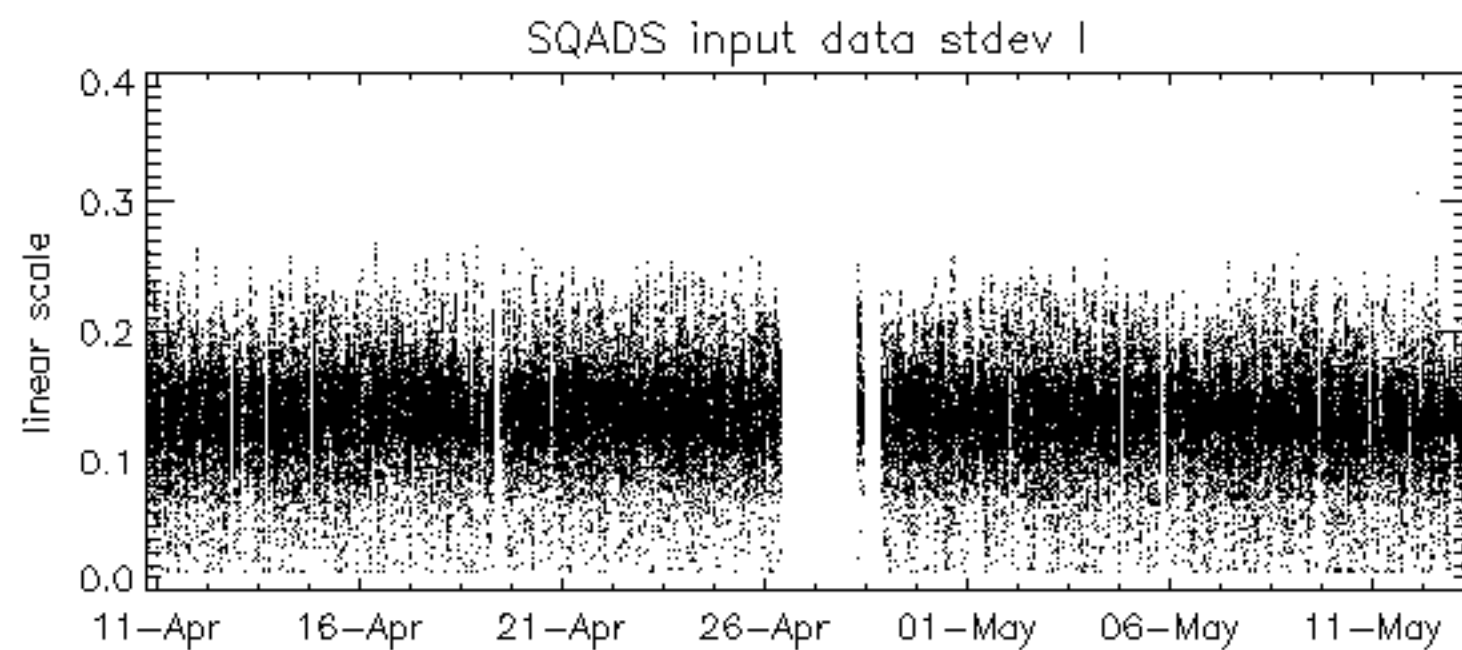
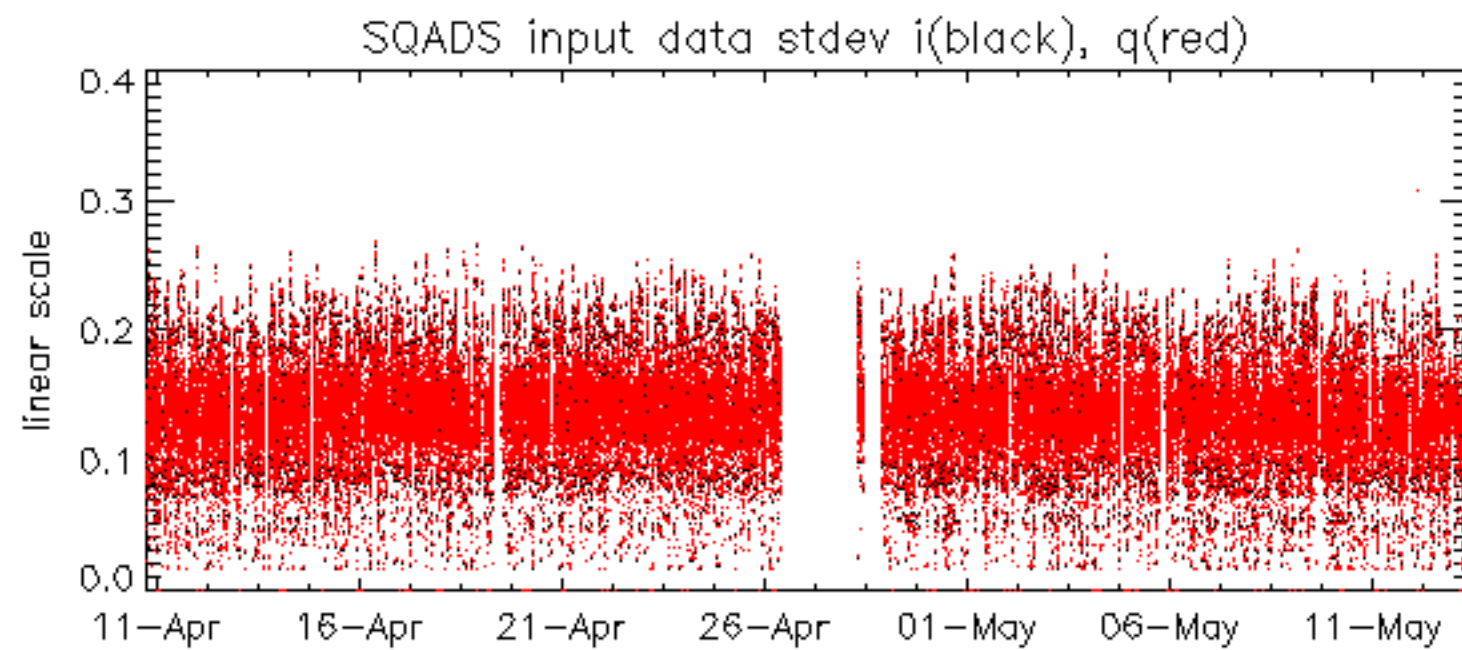






















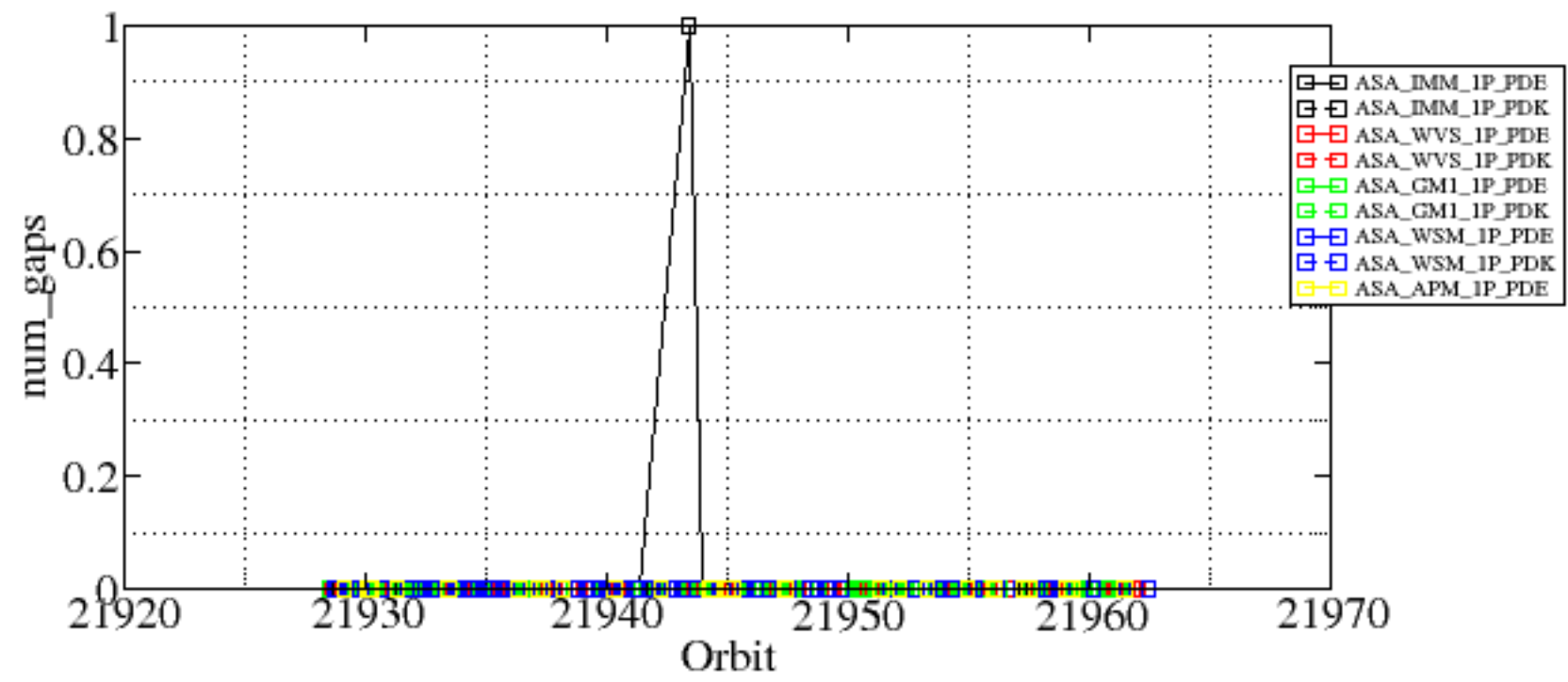




Summary of analysis for the last 3 days 2006051[123]

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

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20060512_010614_00000832047_00346_21943_4800.N1	1	0
ASA_GM1_1PNPDK20060511_153006_000003862047_00340_21937_3252.N1	0	50
ASA_GM1_1PNPDK20060512_174532_000002112047_00356_21953_3153.N1	0	919
ASA_GM1_1PNPDK20060512_181941_000001262047_00356_21953_3154.N1	0	339
ASA_GM1_1PNPDK20060512_202829_000003742047_00357_21954_3164.N1	0	15
ASA_WSM_1PNPDE20060511_064141_000000672047_00335_21932_8794.N1	0	42
ASA_WSM_1PNPDE20060511_064141_000001472047_00335_21932_8799.N1	0	42
ASA_APM_1PNPDE20060513_004223_000000562047_00360_21957_2192.N1	0	19













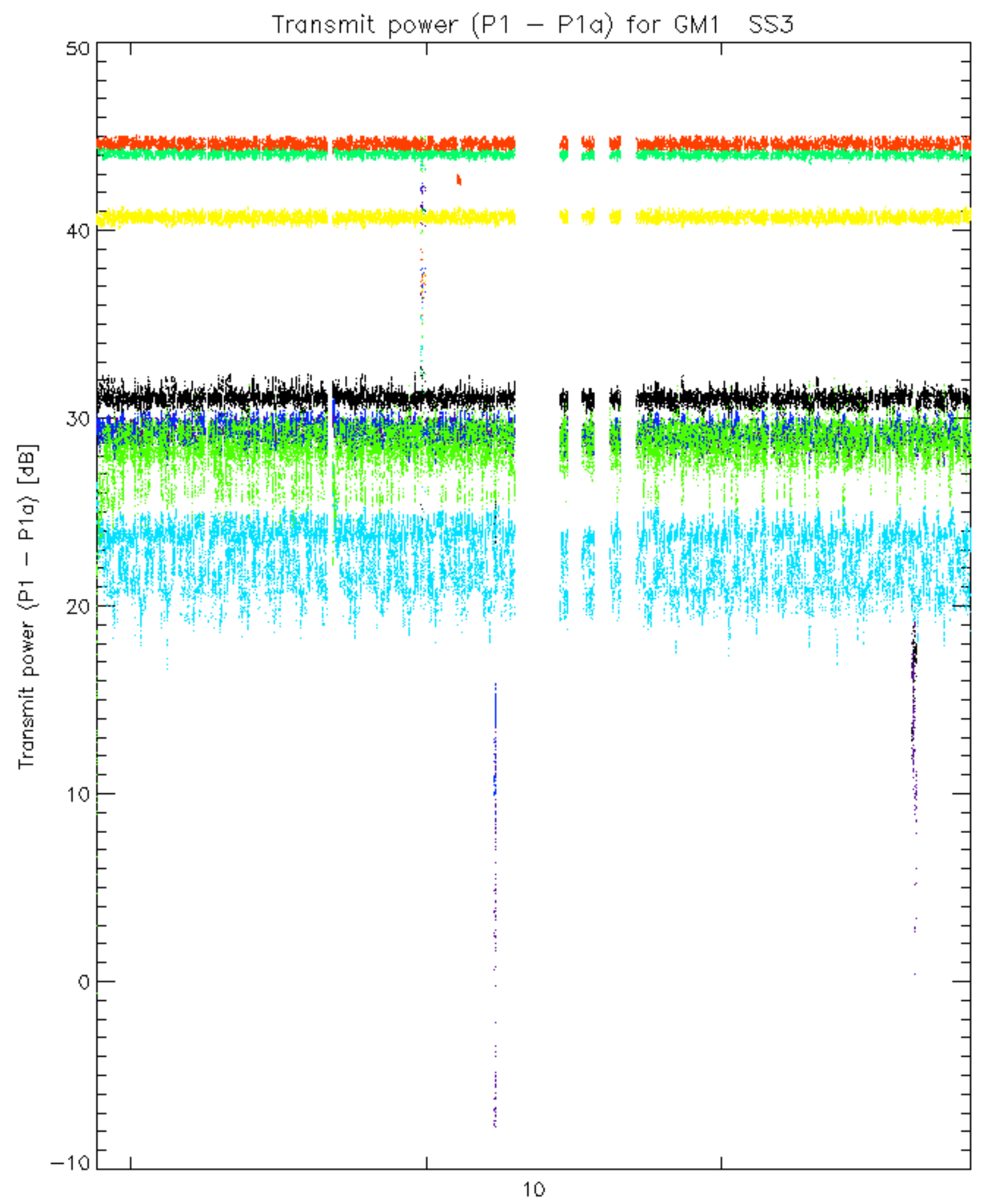




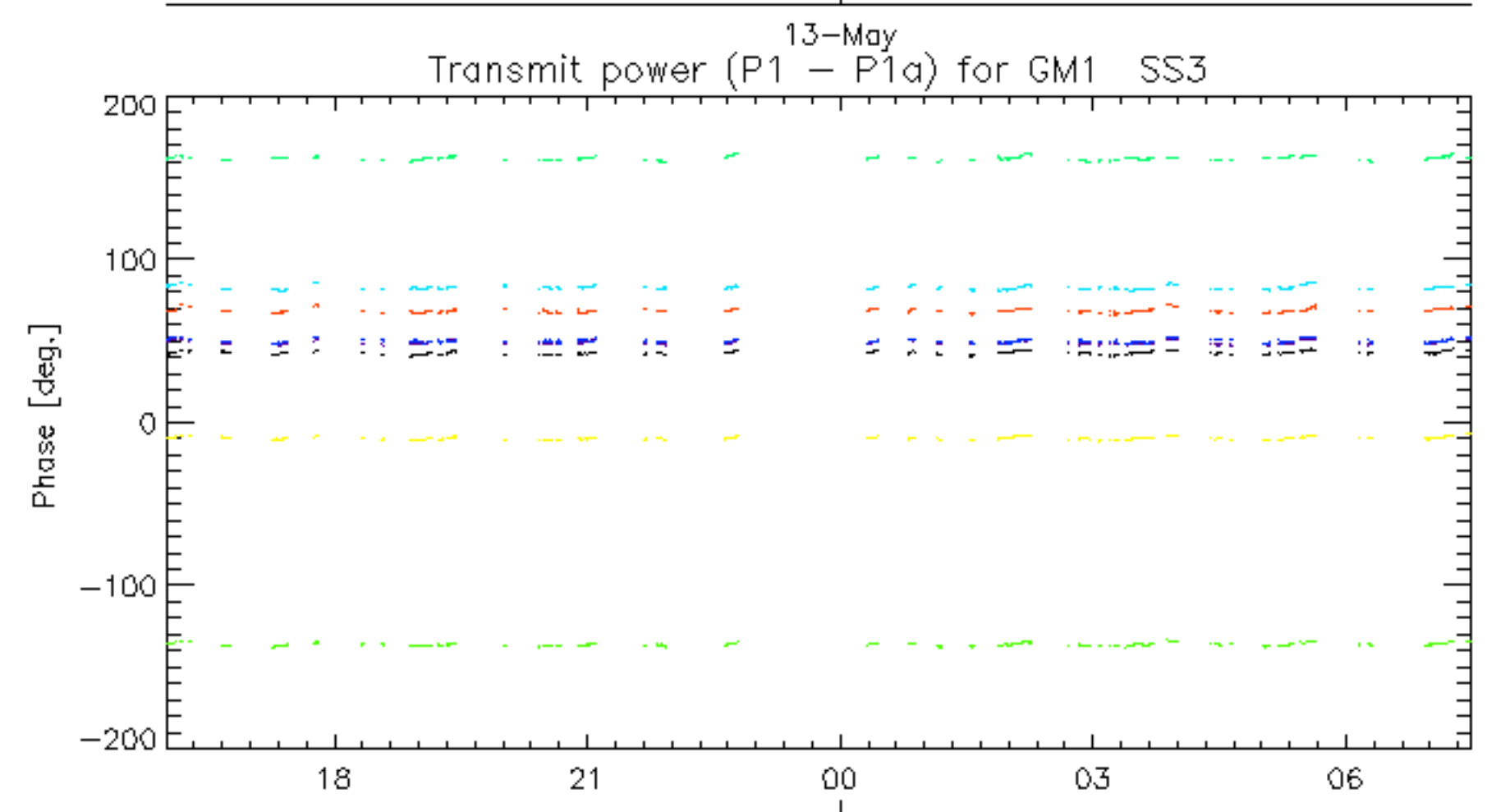
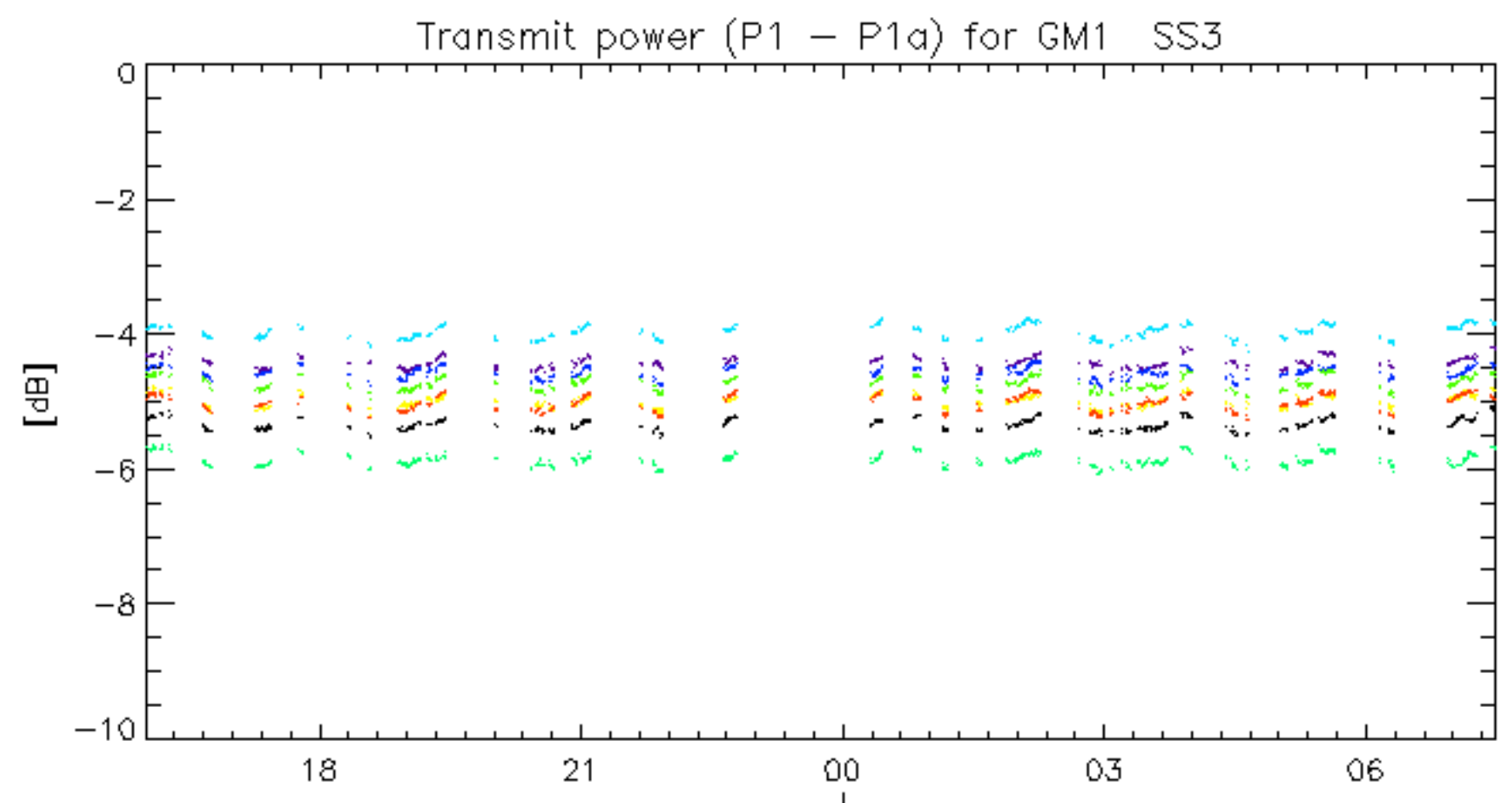




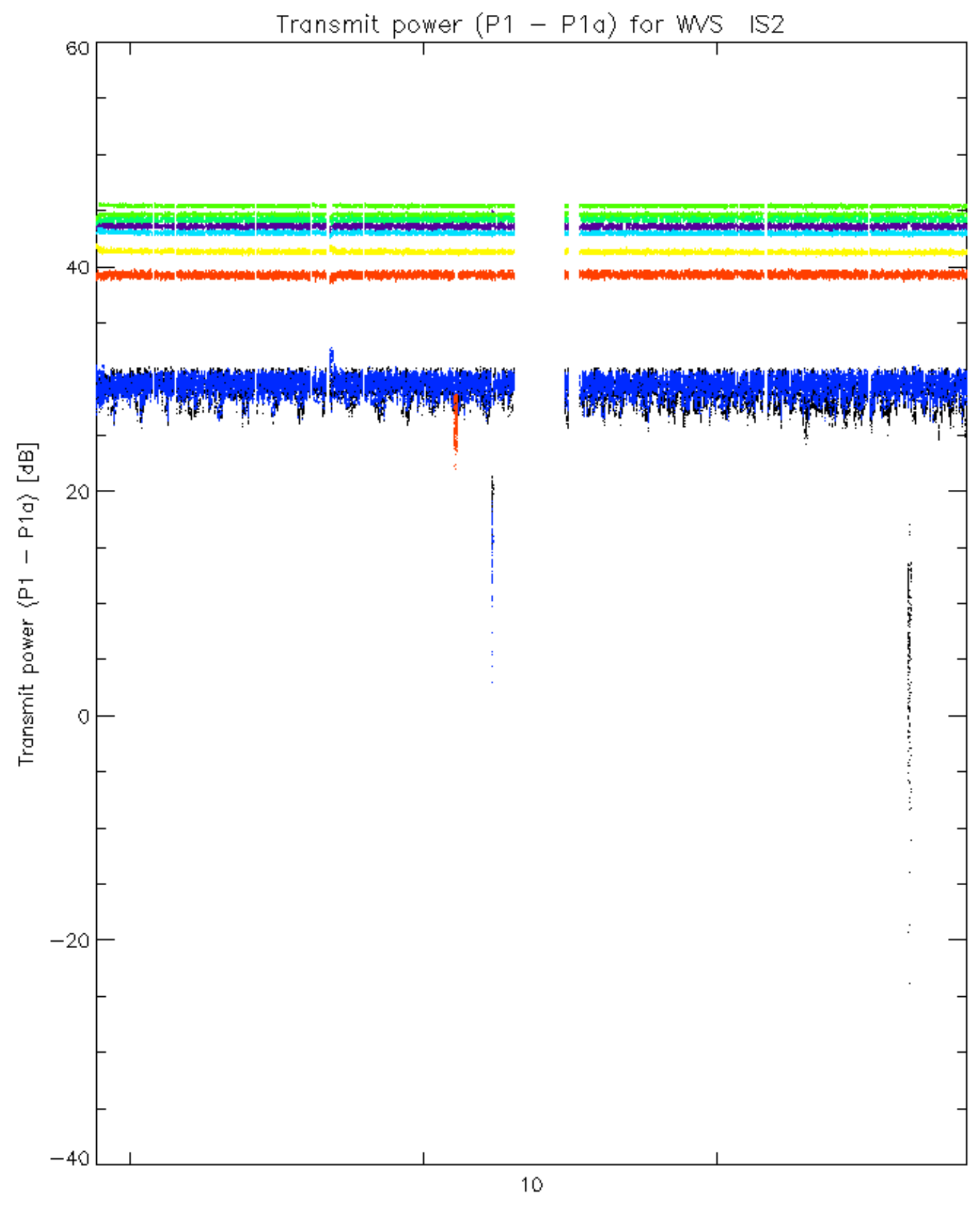




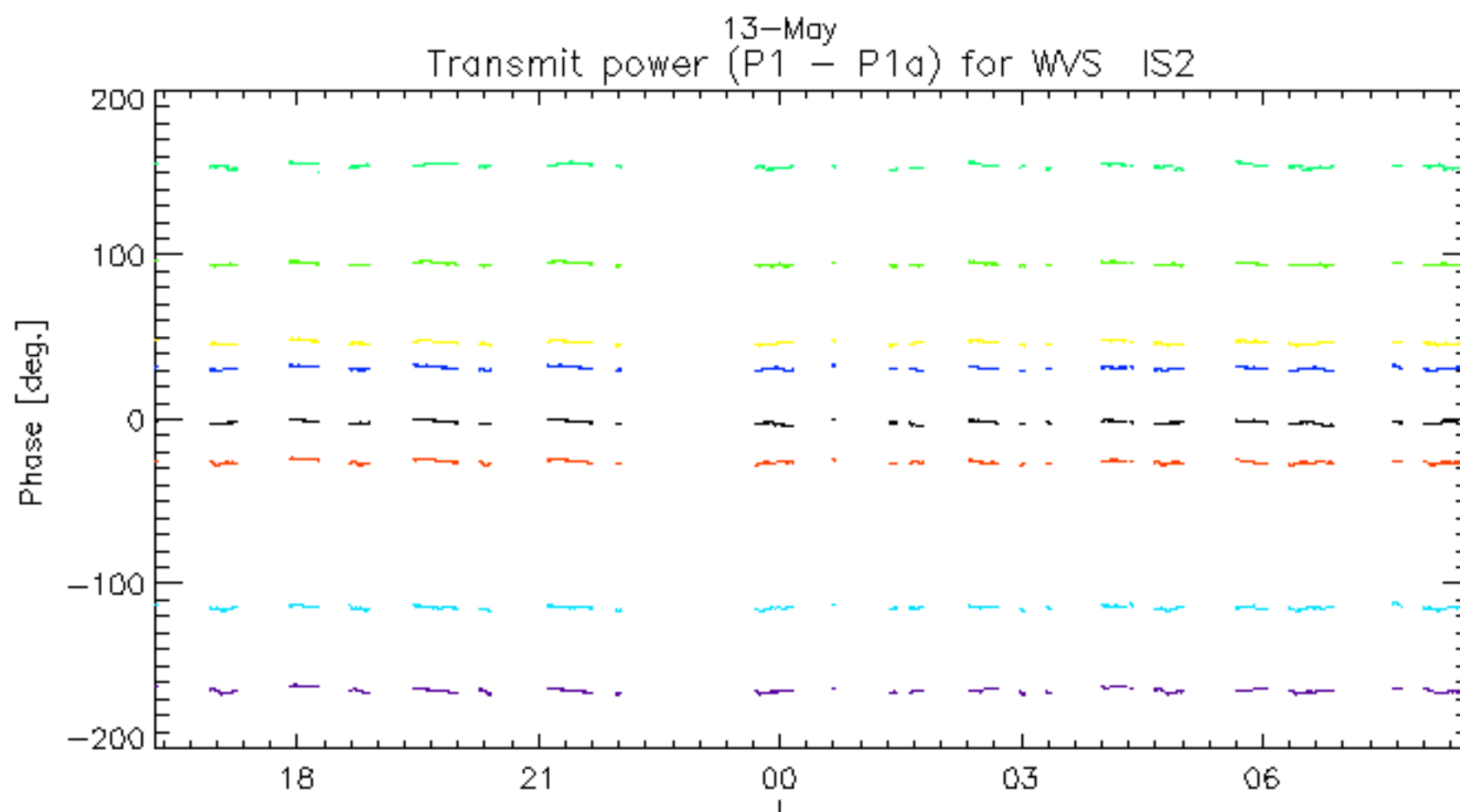
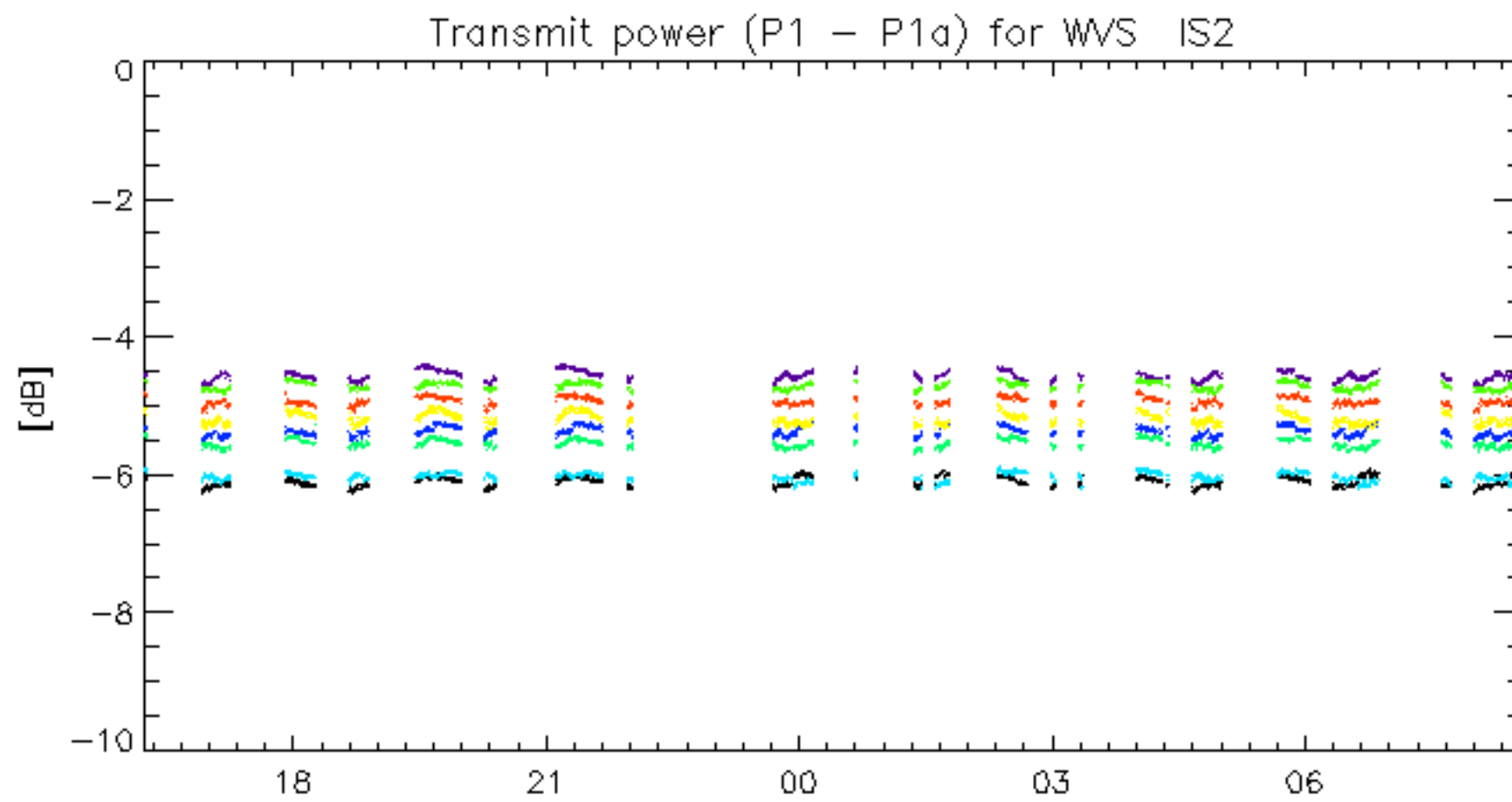
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



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



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



No unavailabilities during the reported period.