

# PRELIMINARY REPORT OF 070511

last update on Fri May 11 22:21:13 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 2007-05-10 00:00:00 to 2007-05-11 22:21:13

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	56	97	15	2	33
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	56	97	15	2	33
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	56	97	15	2	33
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	56	97	15	2	33

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	50	65	40	16	102
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	50	65	40	16	102
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	50	65	40	16	102
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	50	65	40	16	102

## 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	20070511 055509
H	20070510 062646

### 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	-15.157891	0.143969	-0.310966
7	P1a	-17.576981	0.093590	-0.104427
11	P1a	-17.620081	0.359458	-0.550430
15	P1a	-13.088952	0.141636	-0.346275
19	P1a	-15.391191	0.070469	-0.220631
22	P1a	-15.972809	0.377956	-0.207594
26	P1a	-14.978938	0.217705	0.186220
30	P1a	-17.848988	0.388247	-0.601957

**P1t Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.776534	0.010247	-0.036687
7	P1	-3.156339	0.009126	-0.038952
11	P1	-4.204692	0.014242	0.024304
15	P1	-6.438230	0.020317	-0.127495
19	P1	-3.779003	0.011661	0.020827
22	P1	-4.746975	0.010076	0.012453
26	P1	-3.911901	0.019218	0.024775
30	P1	-5.965006	0.009304	0.004784

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.655146	0.091304	0.033327
7	P2	-21.537113	0.090838	0.105733
11	P2	-15.316604	0.119574	0.161211
15	P2	-7.132240	0.088744	-0.022314
19	P2	-9.122091	0.081324	-0.026674
22	P2	-18.088711	0.077356	-0.007045
26	P2	-16.637753	0.082658	-0.087060
30	P2	-19.265228	0.082733	0.062396

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.245826	0.005008	-0.003083
7	P3	-8.245826	0.005008	-0.003083
11	P3	-8.245826	0.005008	-0.003083
15	P3	-8.245826	0.005008	-0.003083
19	P3	-8.245826	0.005008	-0.003083
22	P3	-8.245826	0.005008	-0.003083
26	P3	-8.245826	0.005008	-0.003083
30	P3	-8.245826	0.005008	-0.003083

#### 4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1

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#### P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1a	-11.313924	0.154876	-0.522490
7	P1a	-10.038507	0.166257	0.094739
11	P1a	-10.683002	0.086876	0.000908
15	P1a	-10.806886	0.152603	0.141031
19	P1a	-15.831065	0.088851	-0.113878
22	P1a	-21.436712	1.449864	-0.185272
26	P1a	-15.534274	0.349959	-0.089920
30	P1a	-18.293917	0.446526	0.039990

#### P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-8.270224	0.218840	0.923945
7	P1	-2.391102	0.086460	0.082131
11	P1	-2.878138	0.022383	0.037641
15	P1	-3.807297	0.035453	0.046281
19	P1	-3.595735	0.014991	-0.036789
22	P1	-4.958034	0.023080	0.045027
26	P1	-6.047184	0.023879	-0.043783
30	P1	-5.346384	0.031572	-0.043065

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.193701	0.068068	-0.063332
7	P2	-22.052206	0.169001	-0.030311
11	P2	-10.648927	0.044350	-0.052002
15	P2	-4.938544	0.042375	-0.065984
19	P2	-6.876256	0.040321	-0.018841
22	P2	-8.108617	0.080366	0.022539
26	P2	-24.332563	0.131285	-0.038211
30	P2	-21.706051	0.104027	0.021197

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.091891	0.004991	0.002533
7	P3	-8.091825	0.005002	0.002372
11	P3	-8.091710	0.004990	0.002234
15	P3	-8.091654	0.004997	0.002356
19	P3	-8.091815	0.005011	0.002271
22	P3	-8.091682	0.004991	0.002436
26	P3	-8.091704	0.005001	0.002211
30	P3	-8.091760	0.004994	0.002159

## 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	0.000549243
	stdev	1.94695e-07
MEAN Q	mean	0.000502862
	stdev	2.39785e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.136034
	stdev	0.00119749
STDEV Q	mean	0.136422
	stdev	0.00121479



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2007051[901]

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_WSM_1PNPDE20070511_145415_00000852058_00054_27162_0657.N1	0	30



## 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"/>	
	Ascending
<input type="checkbox"/>	
	Descending

### 7.2 - Absolute Doppler for WVS

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

### 7.3 - Doppler evolution versus ANX for WVS

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

### 7.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)	
<input type="checkbox"/>	
	Ascending
<input type="checkbox"/>	
	Descending



### 7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

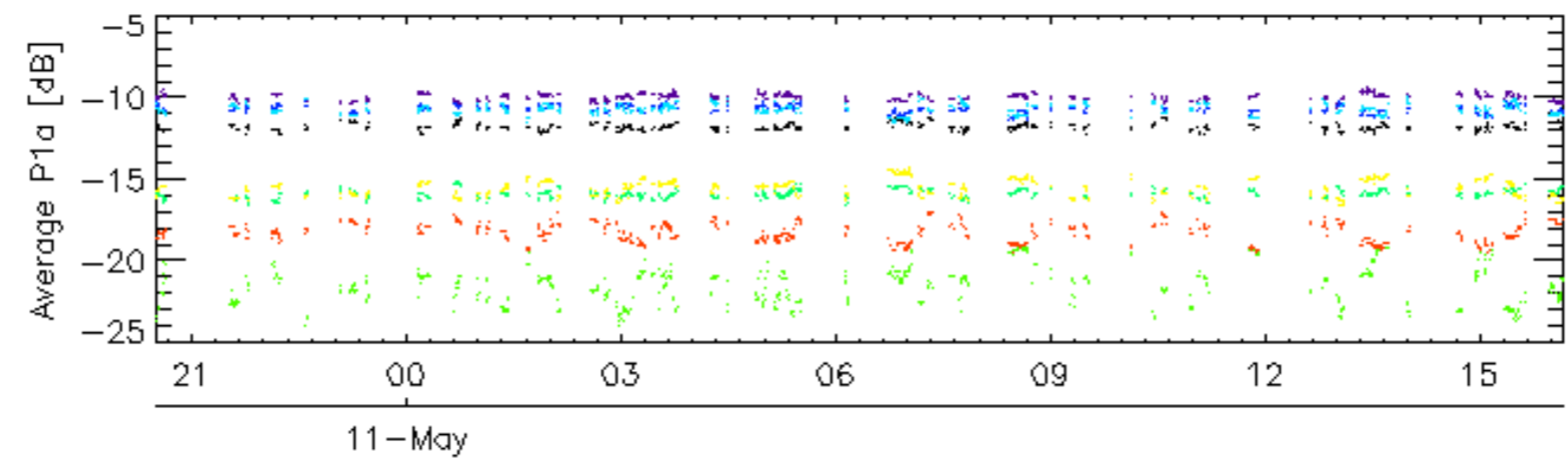
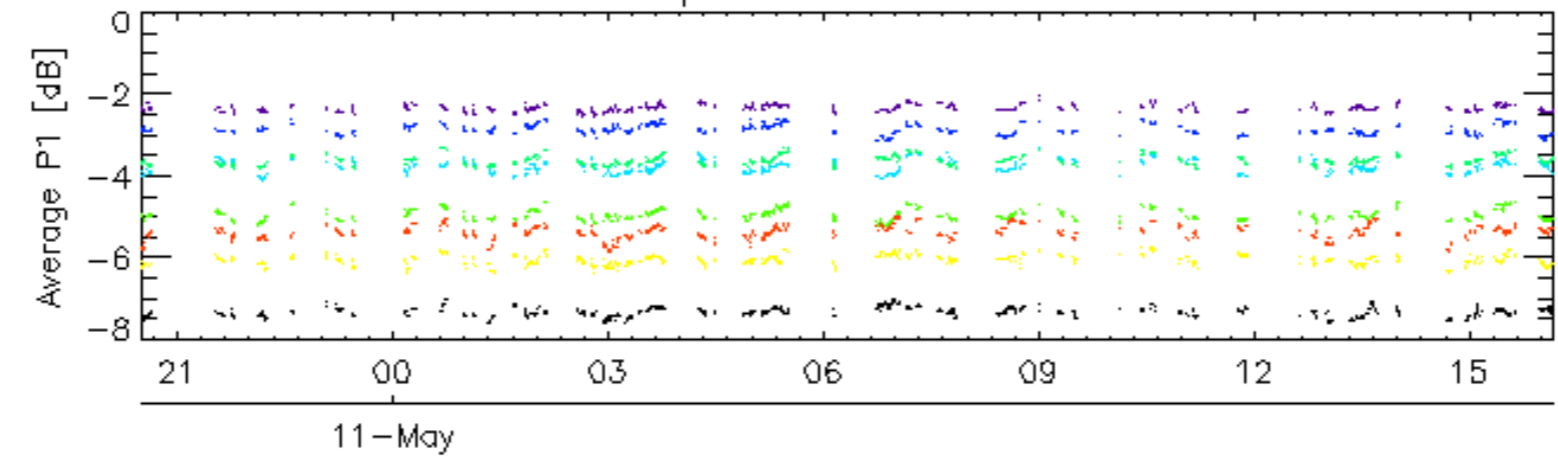
Ascending

Descending

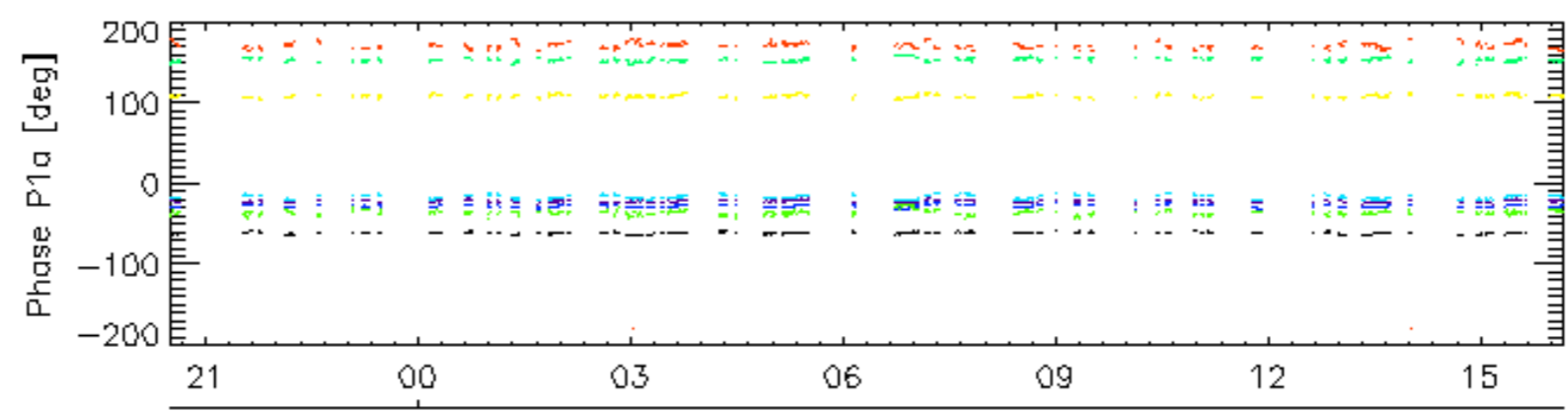
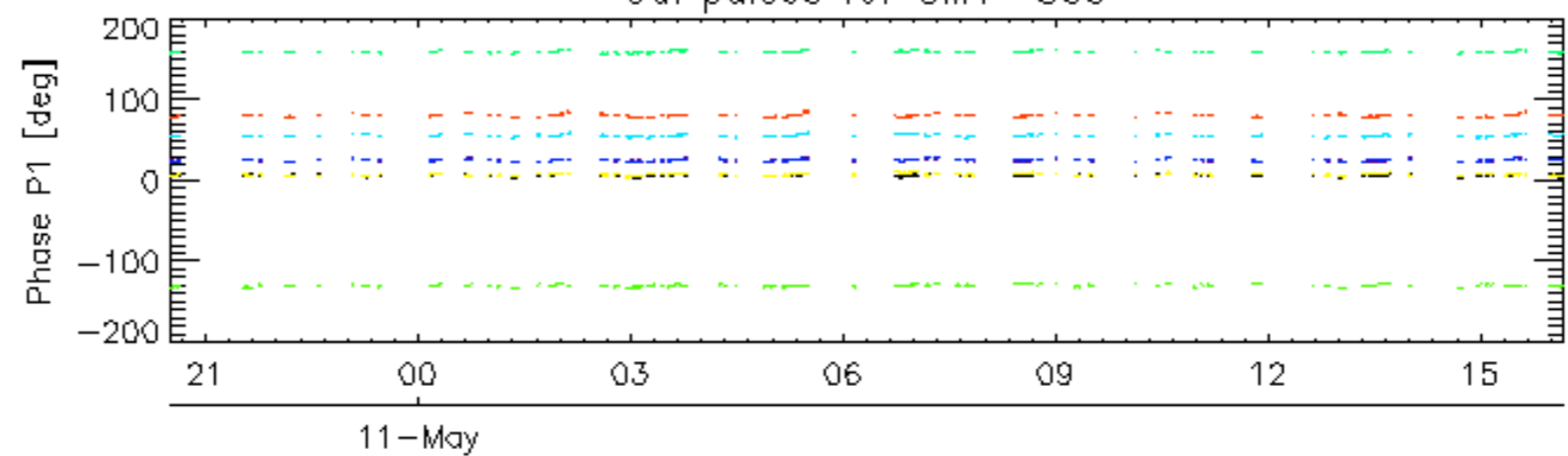
### 7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

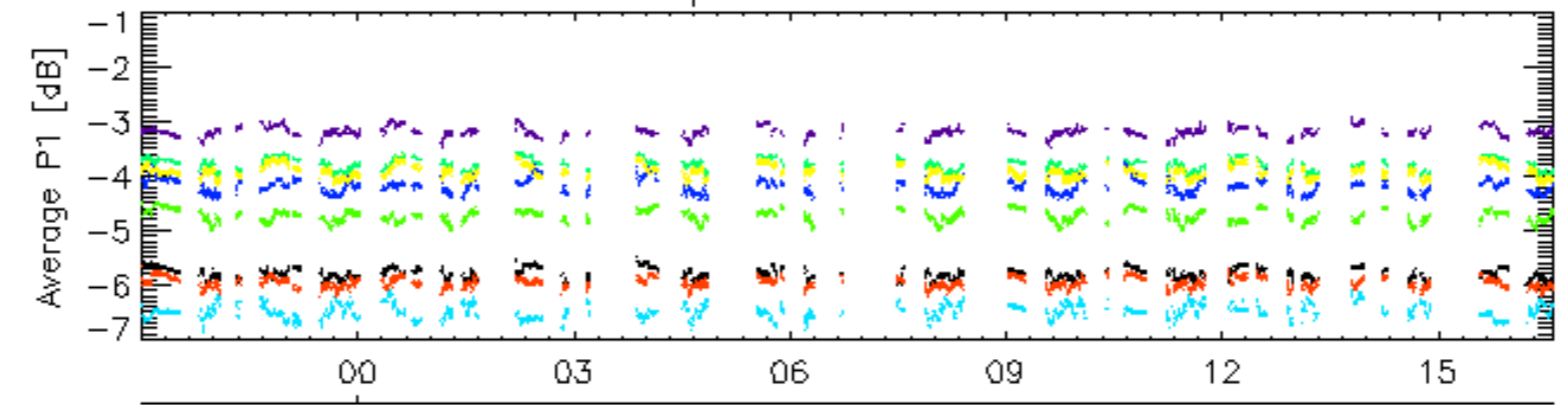


Cal pulses for GM1 SS3

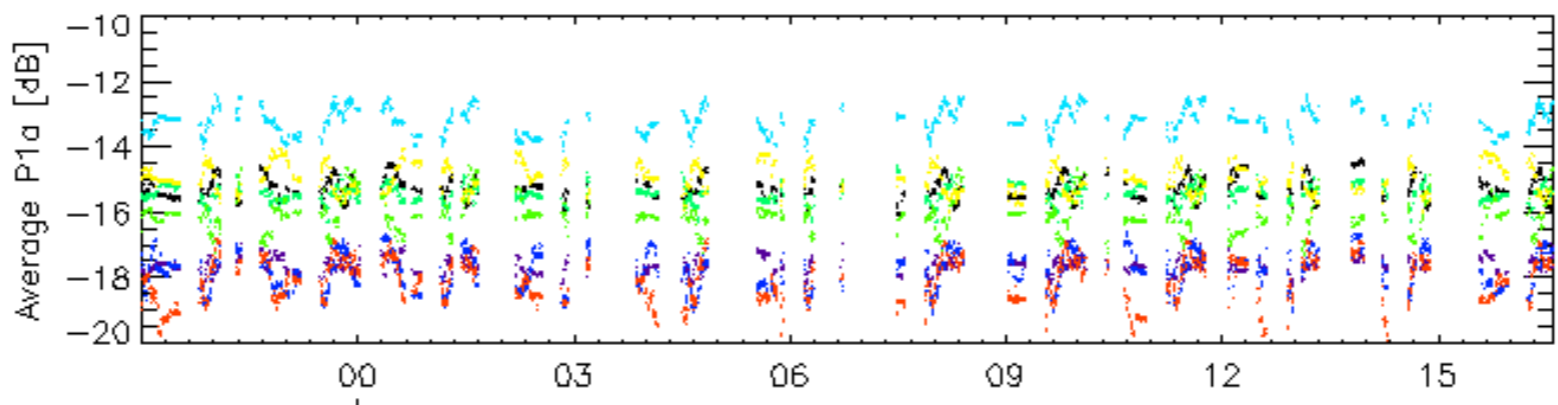


rows: 3 7 11 15 19 22 26 30

Cal pulses for WVS IS2

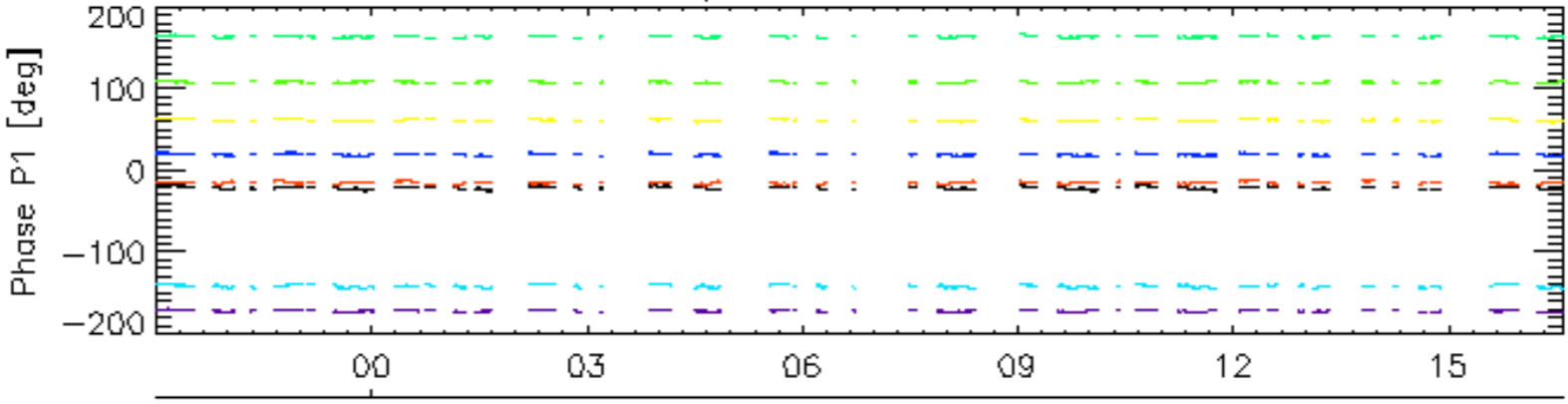


11-May

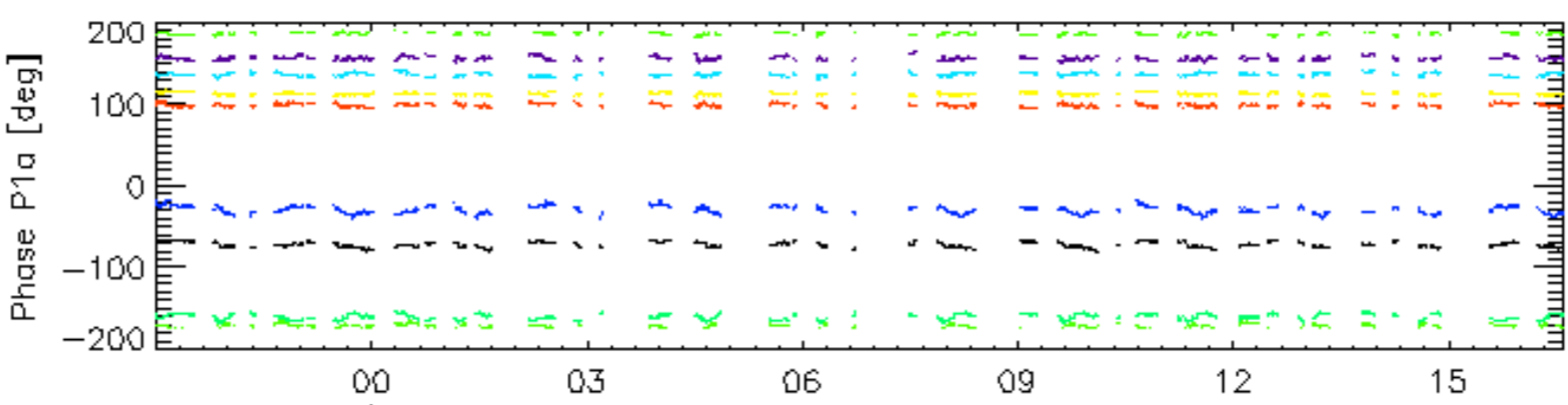


11-May

Cal pulses for WVS IS2

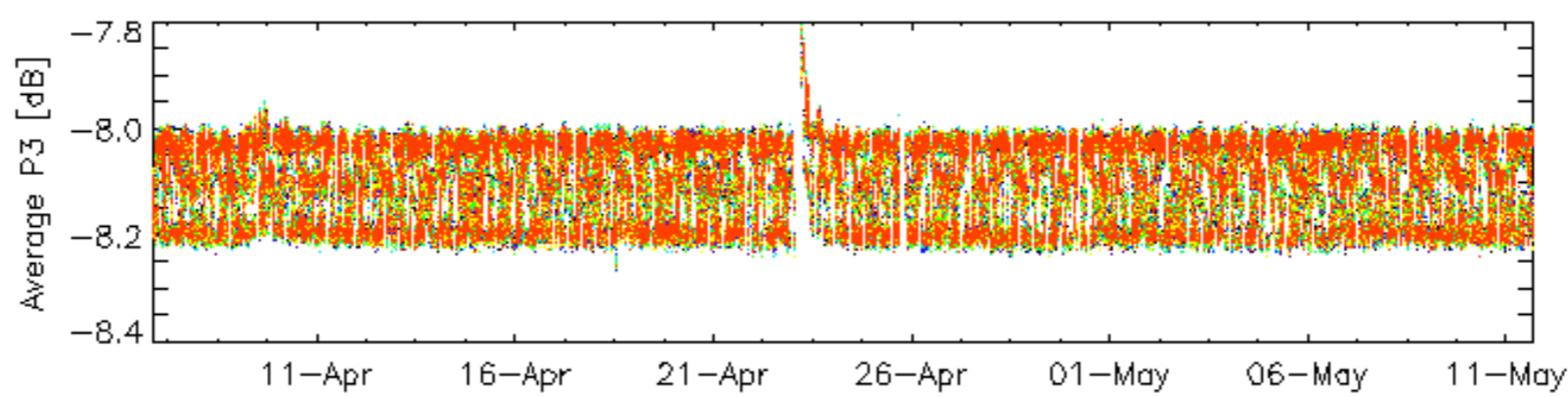
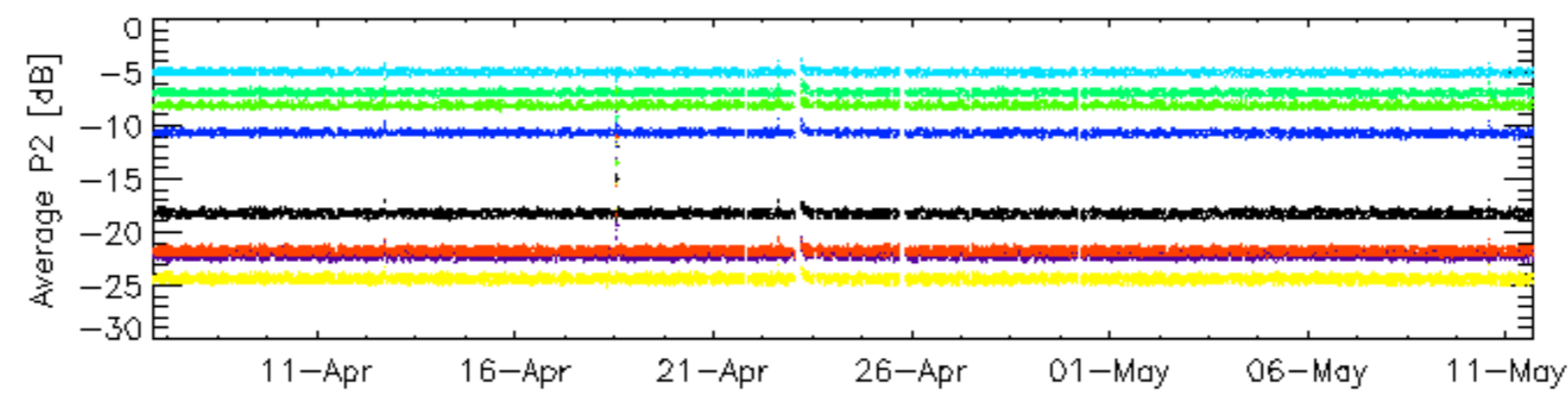
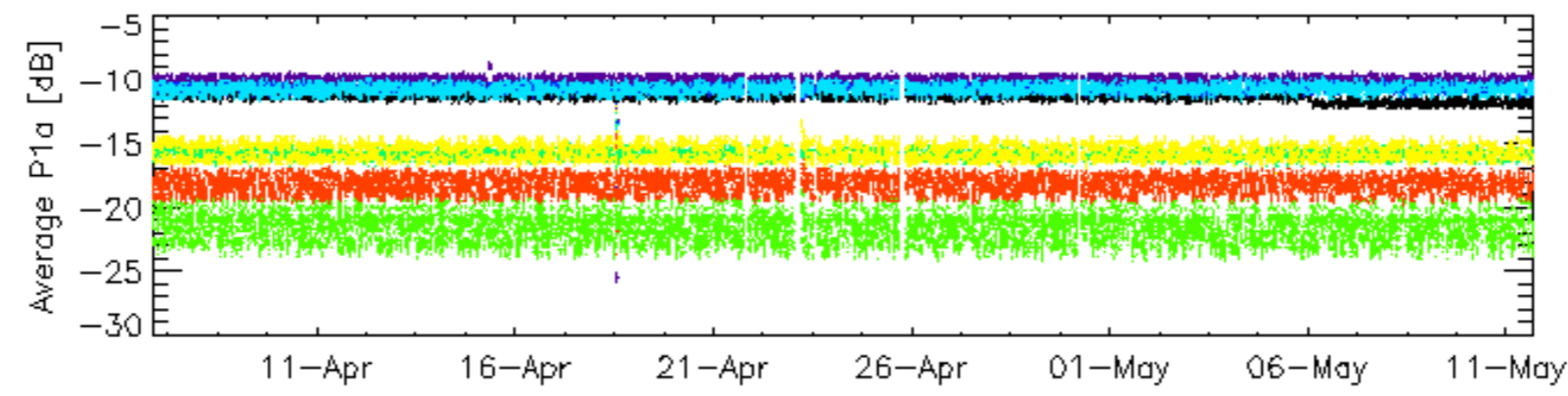
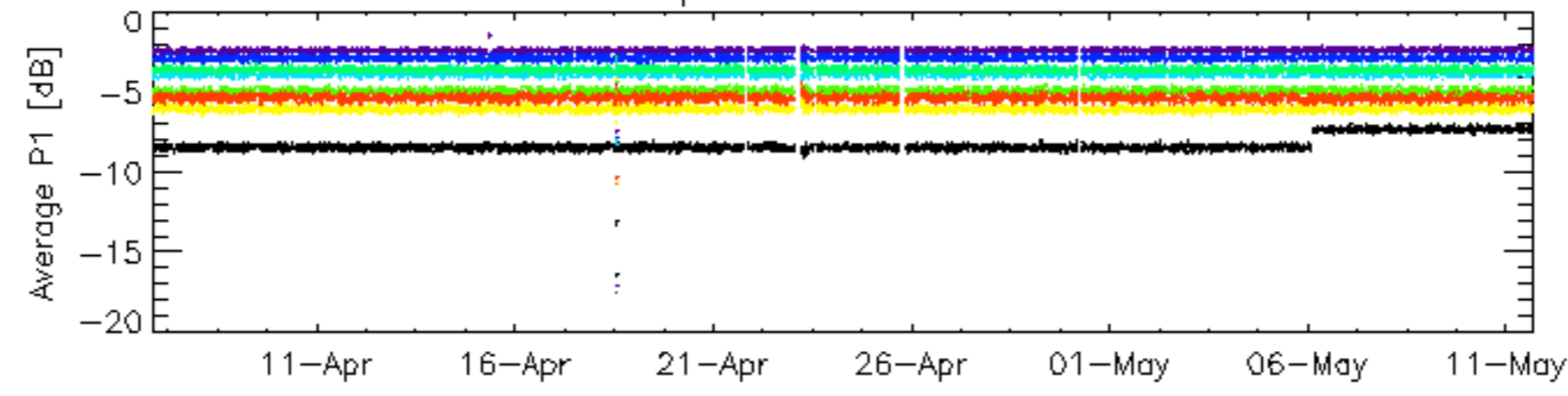


11-May



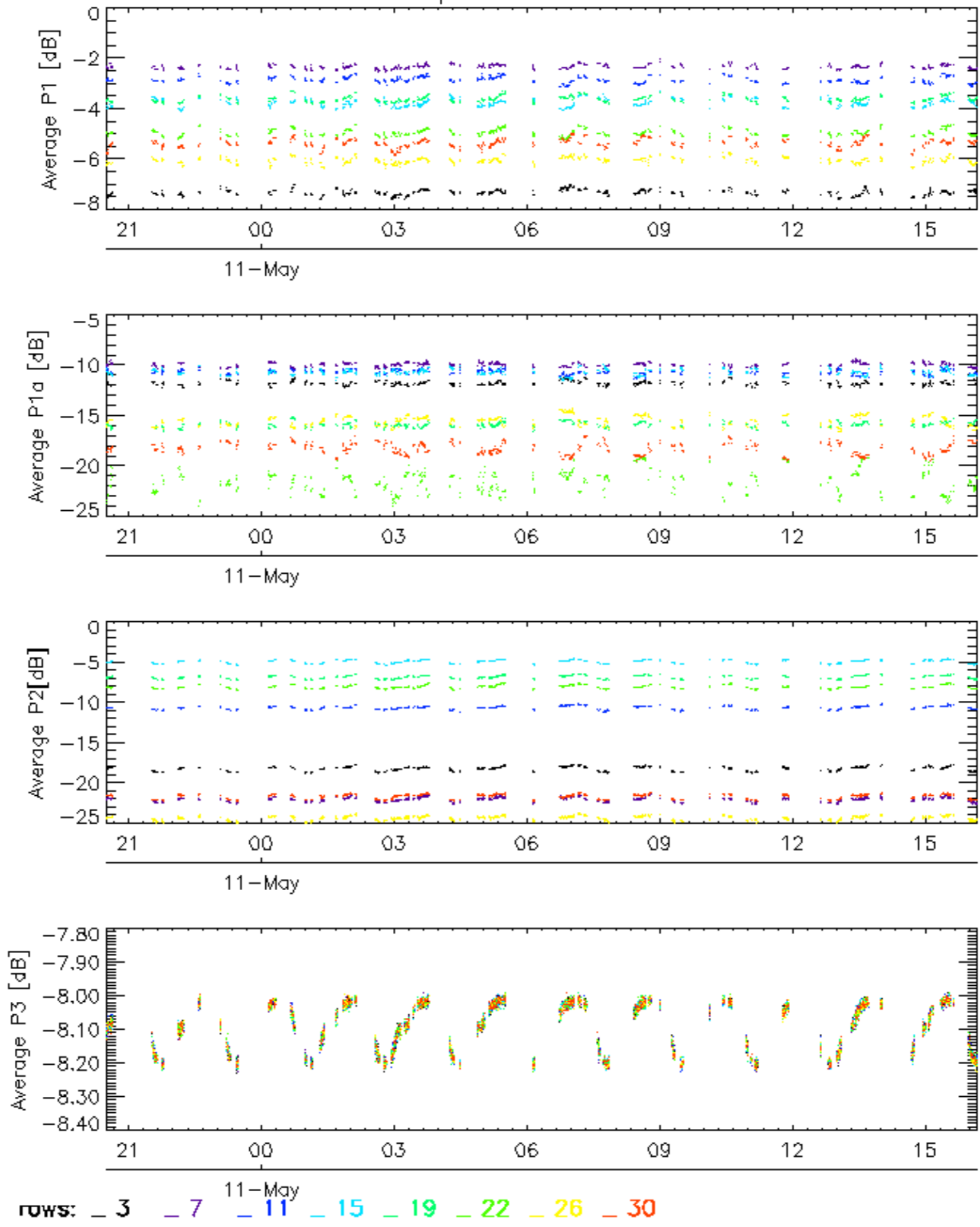
rows: **3** **7** **11** **15** **19** **22** **26** **30**

### Cal pulses for GM1 SS3

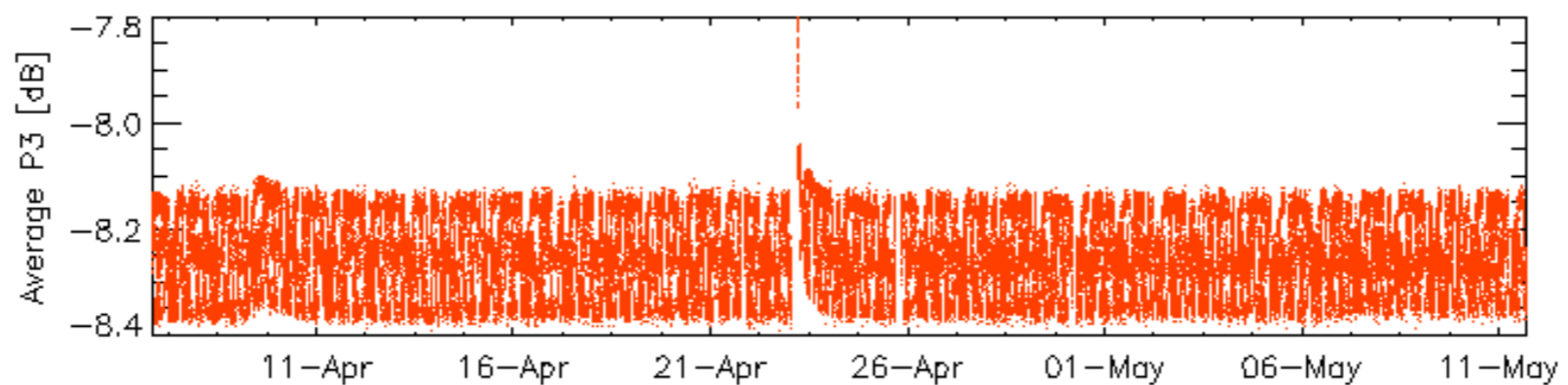
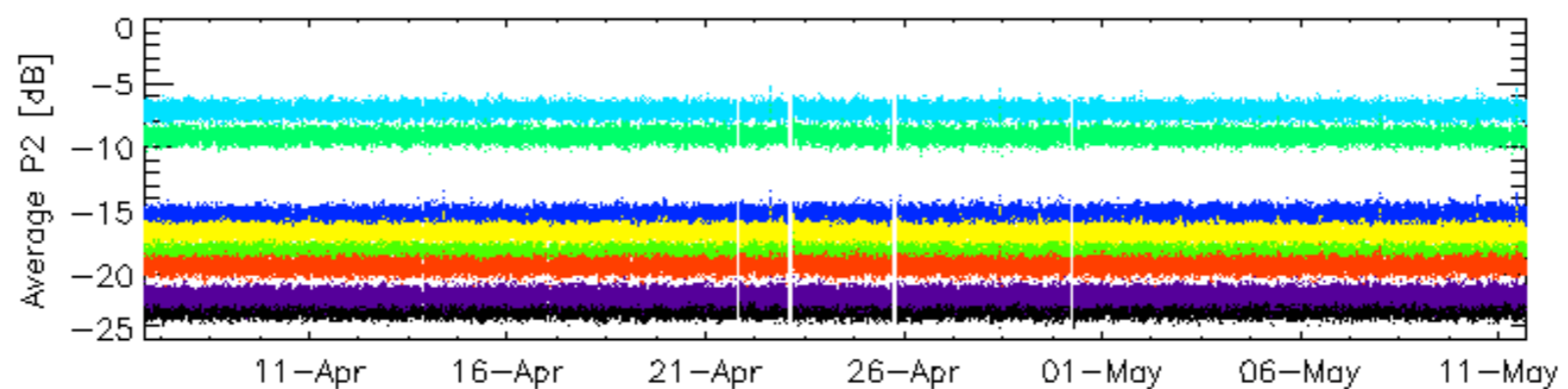
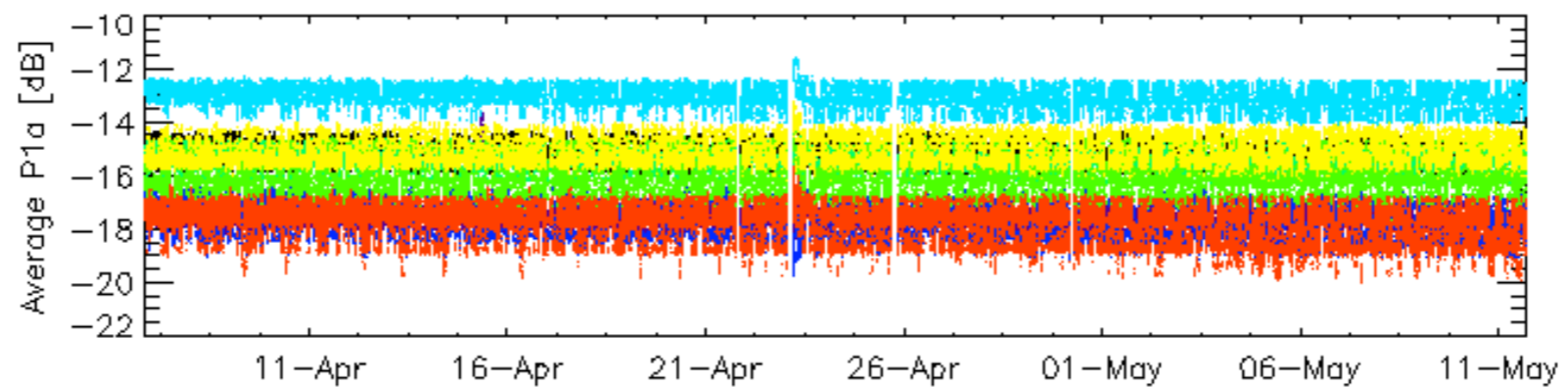
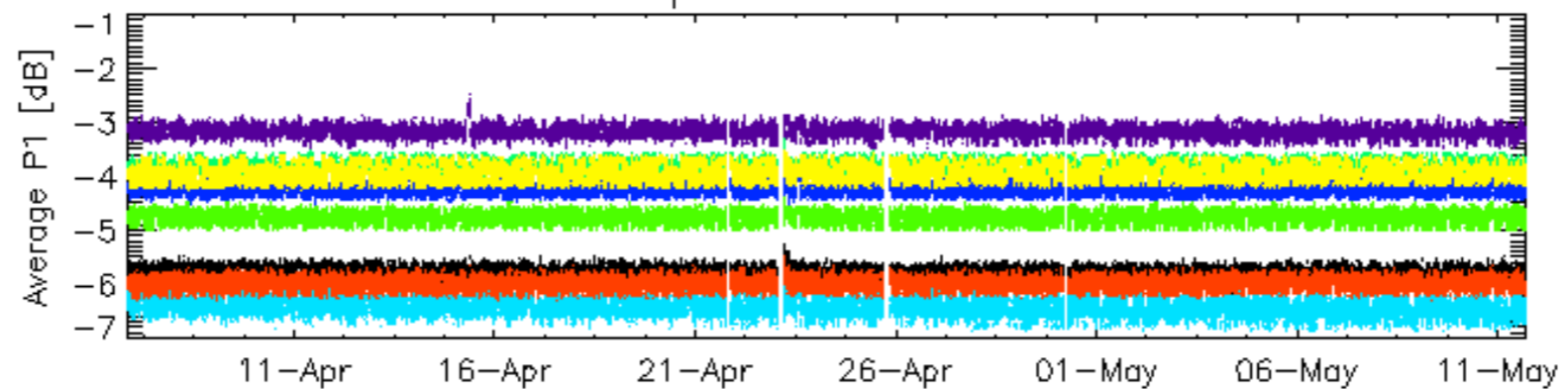


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

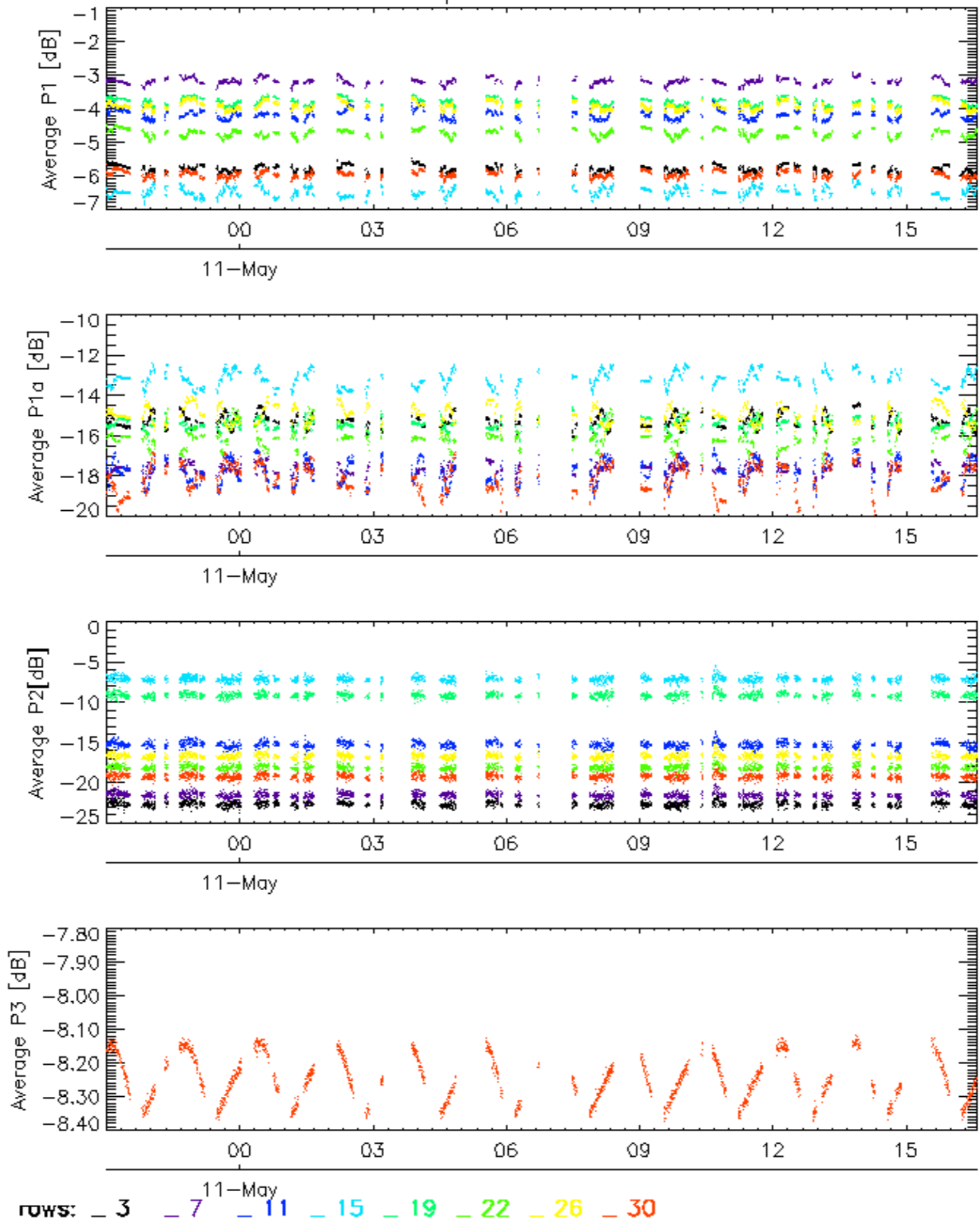


Cal pulses for WVS IS2



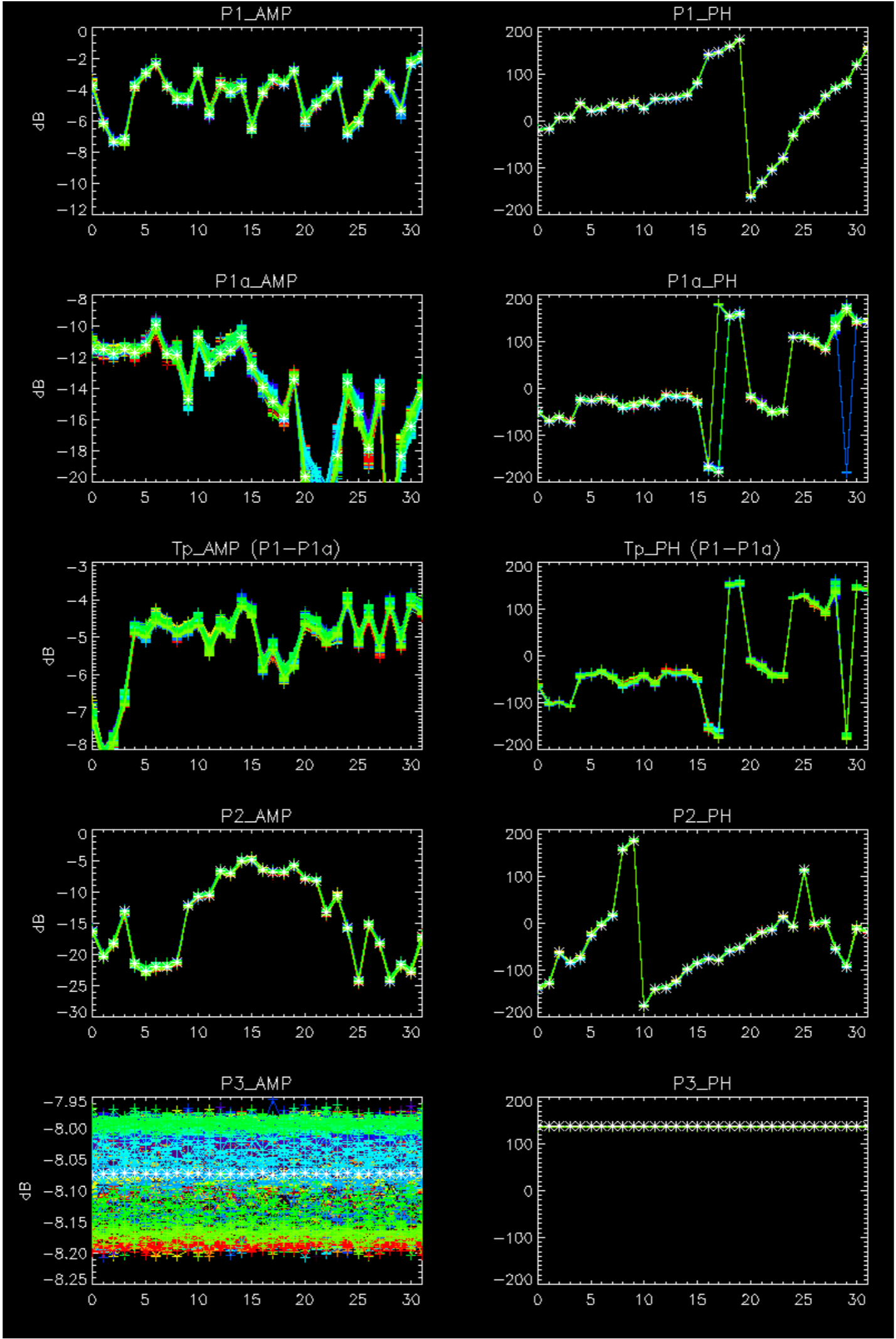
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

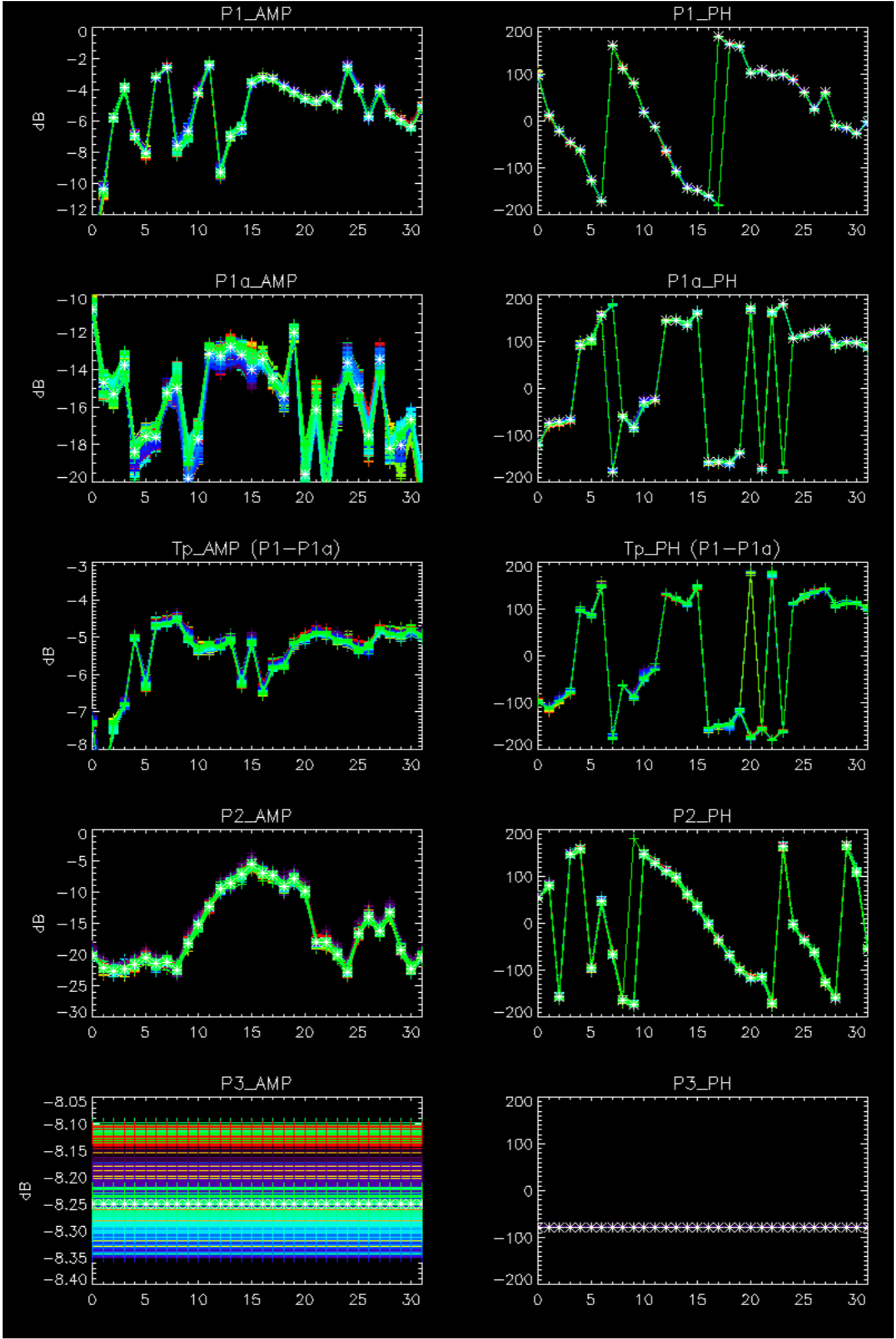
Cal pulses for WVS IS2



No anomalies observed.



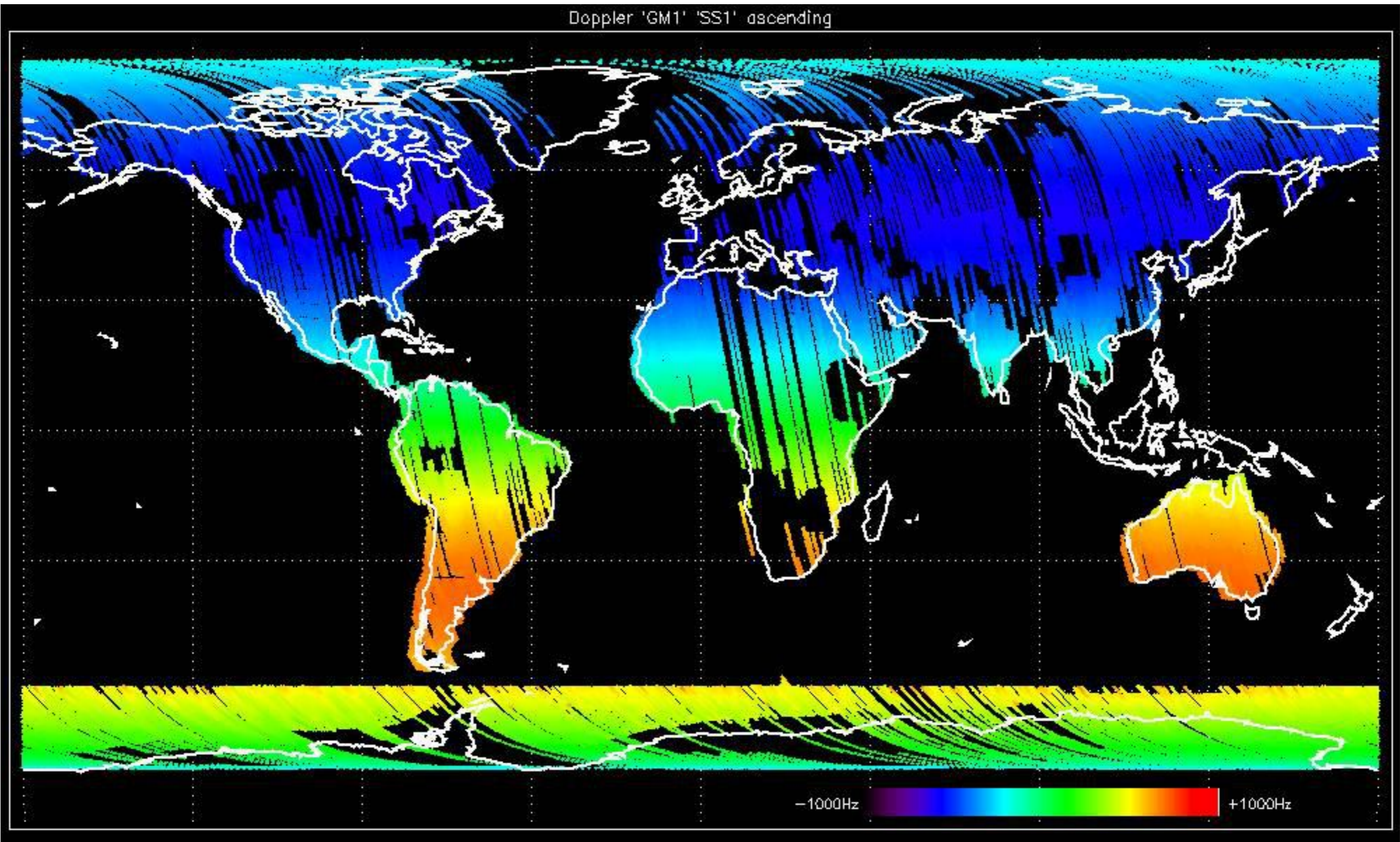




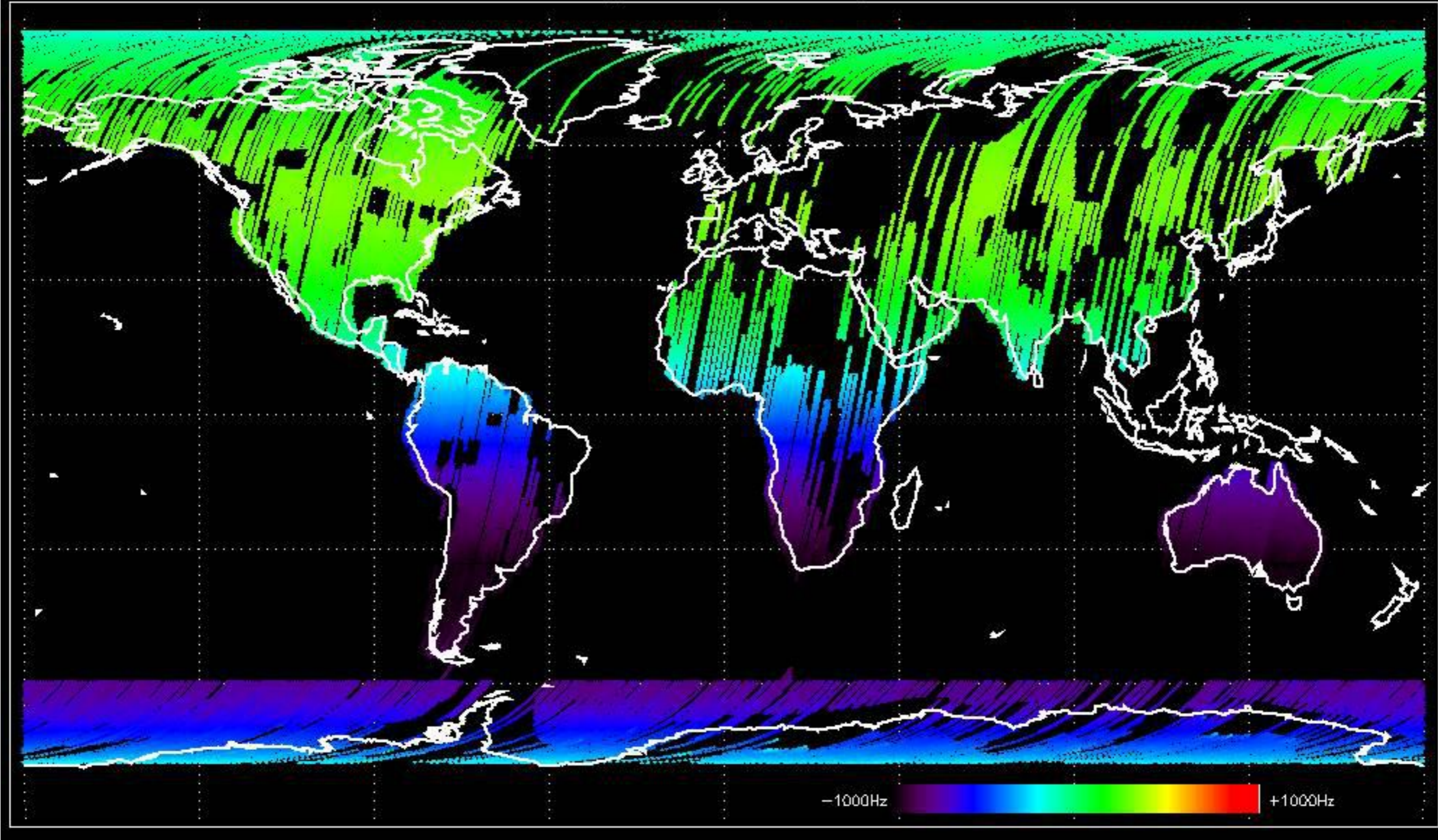
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



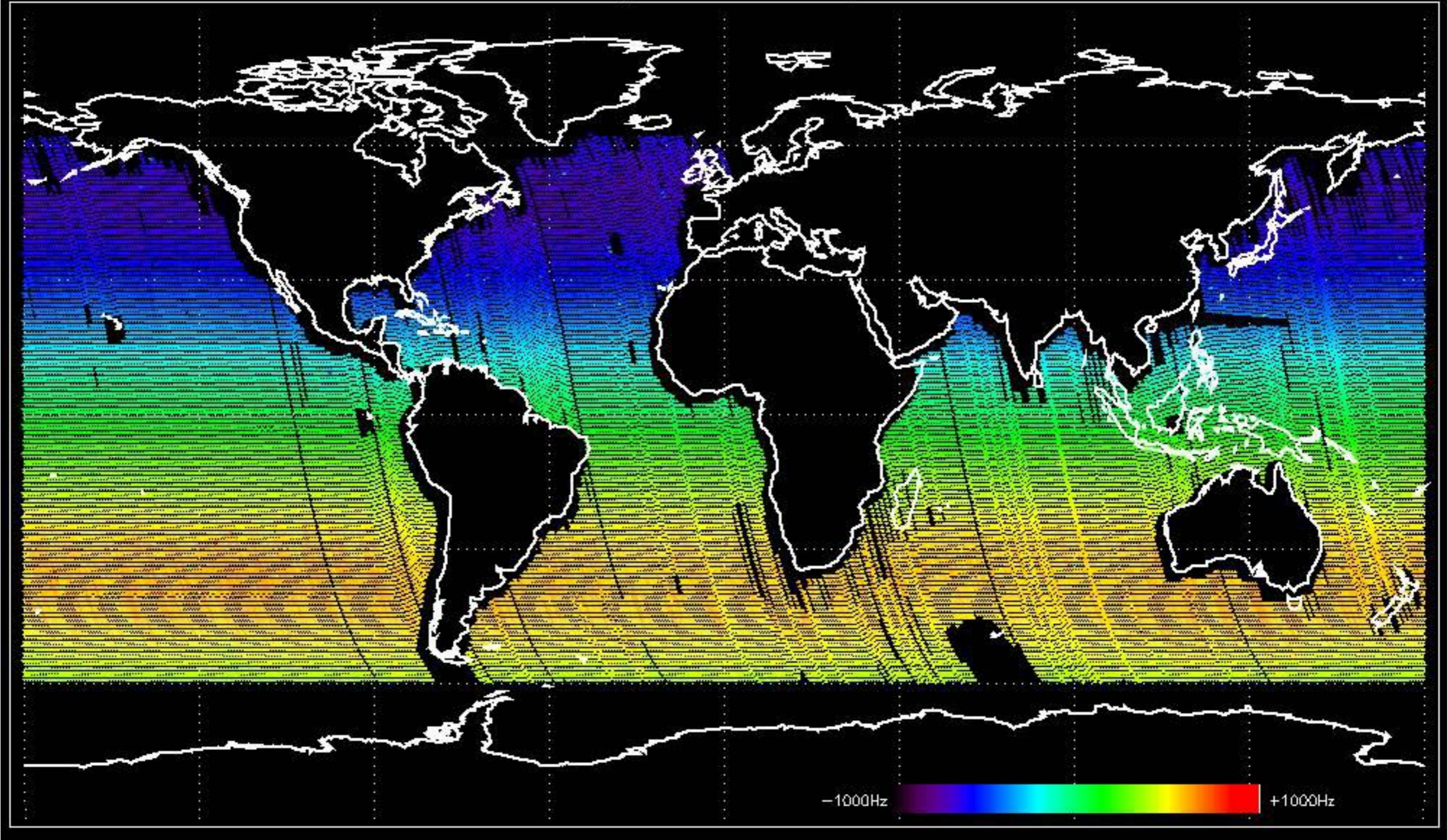
Doppler 'GM1' 'SS1' ascending



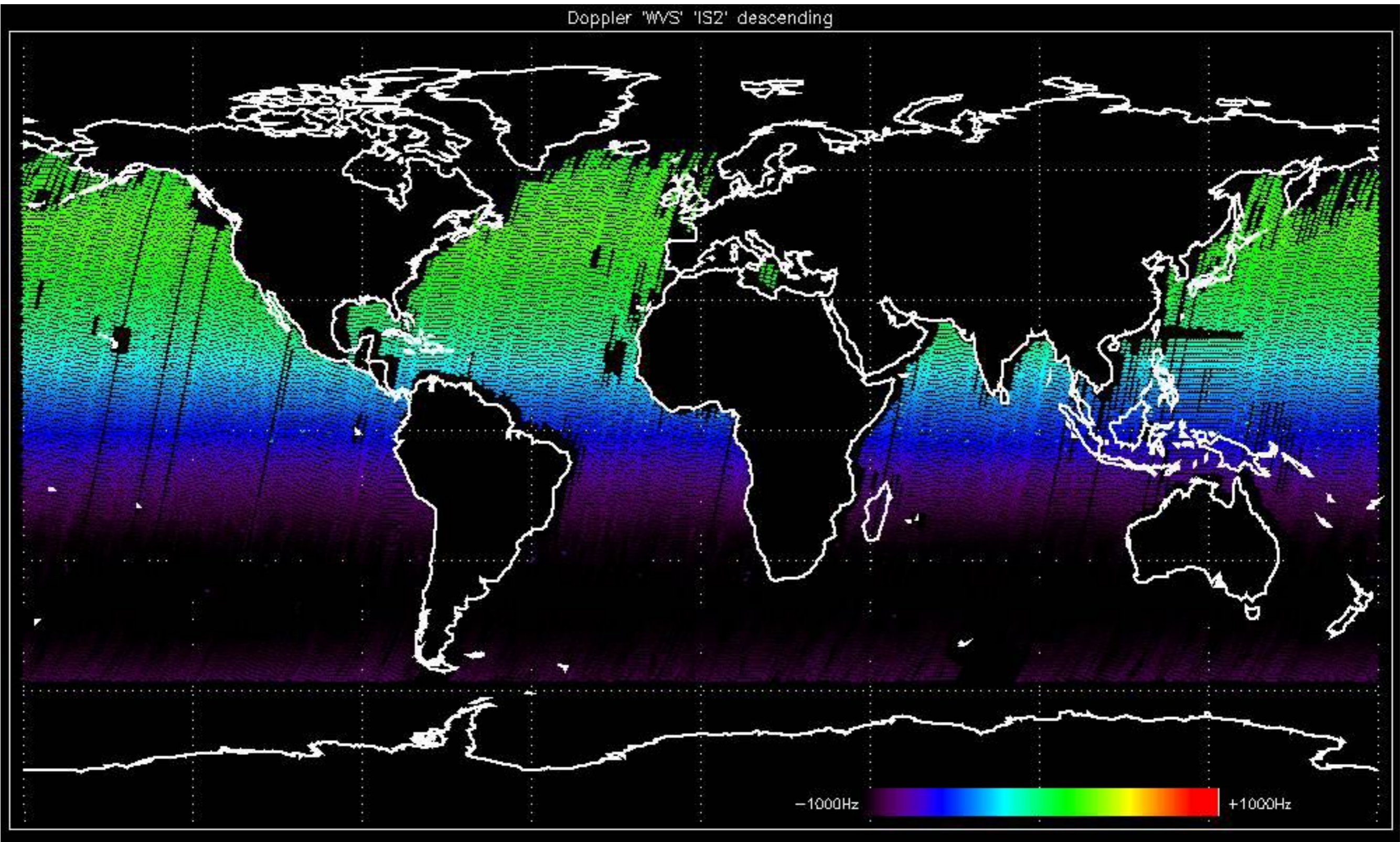
Doppler 'GM1' 'SS1' descending



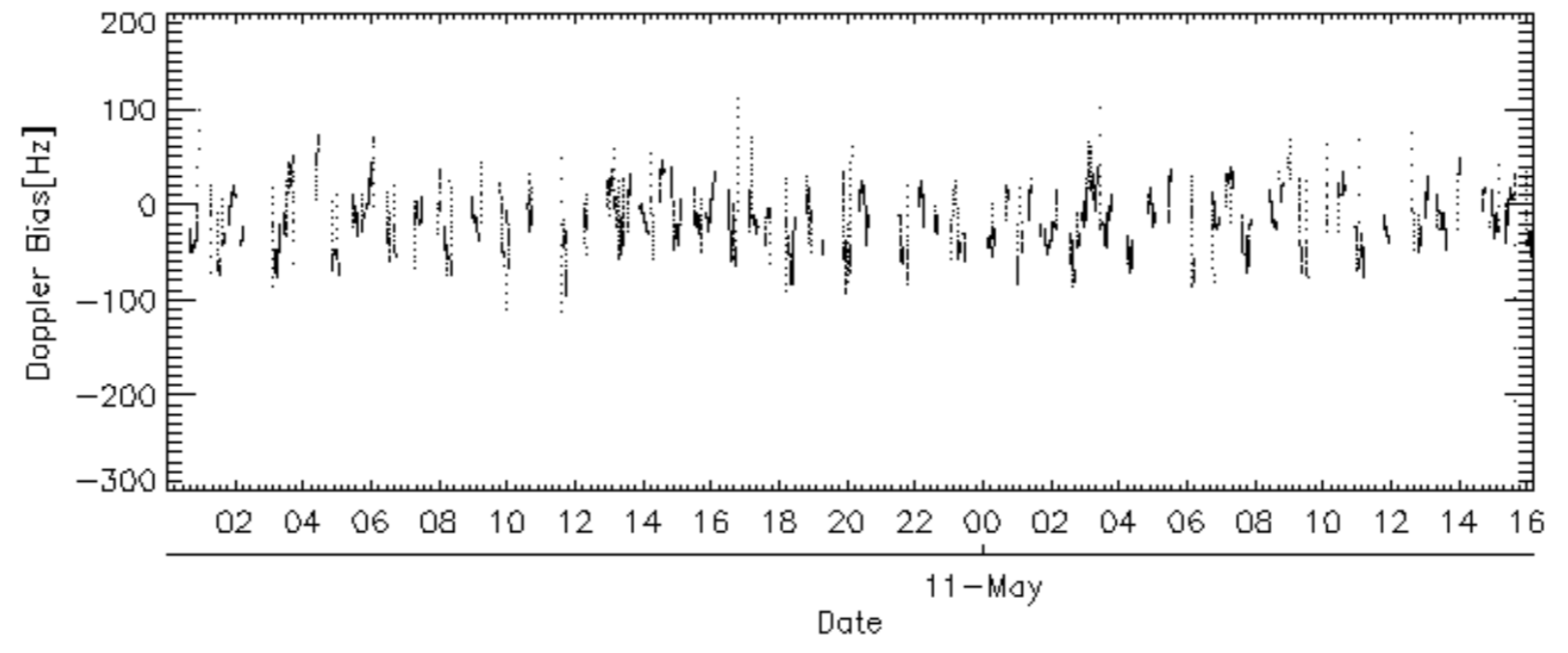
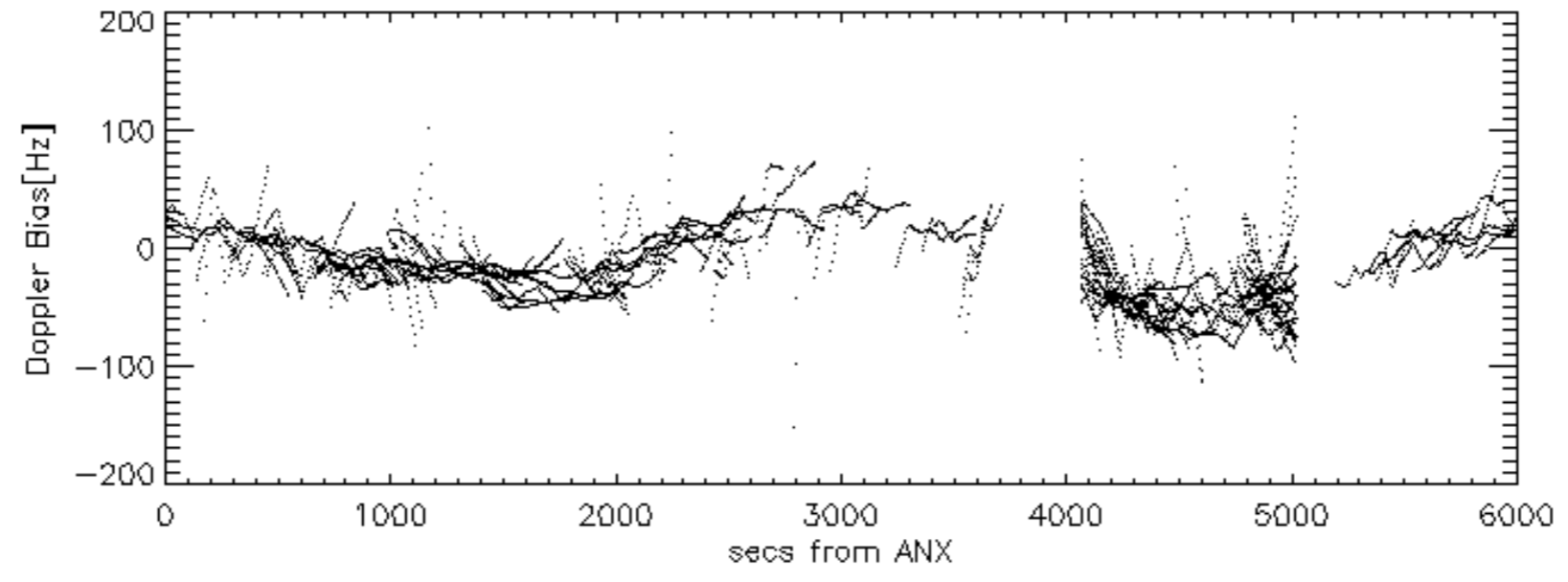
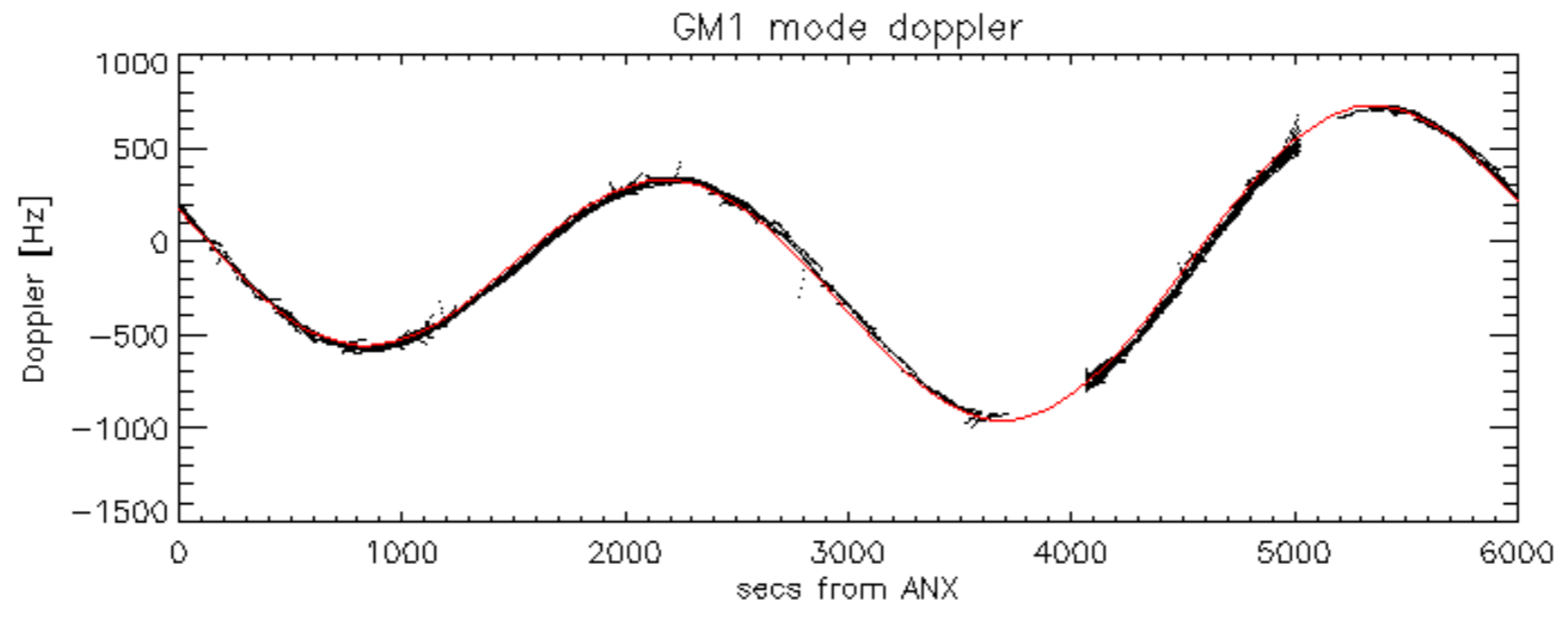
Doppler 'WVS' 'IS2' ascending

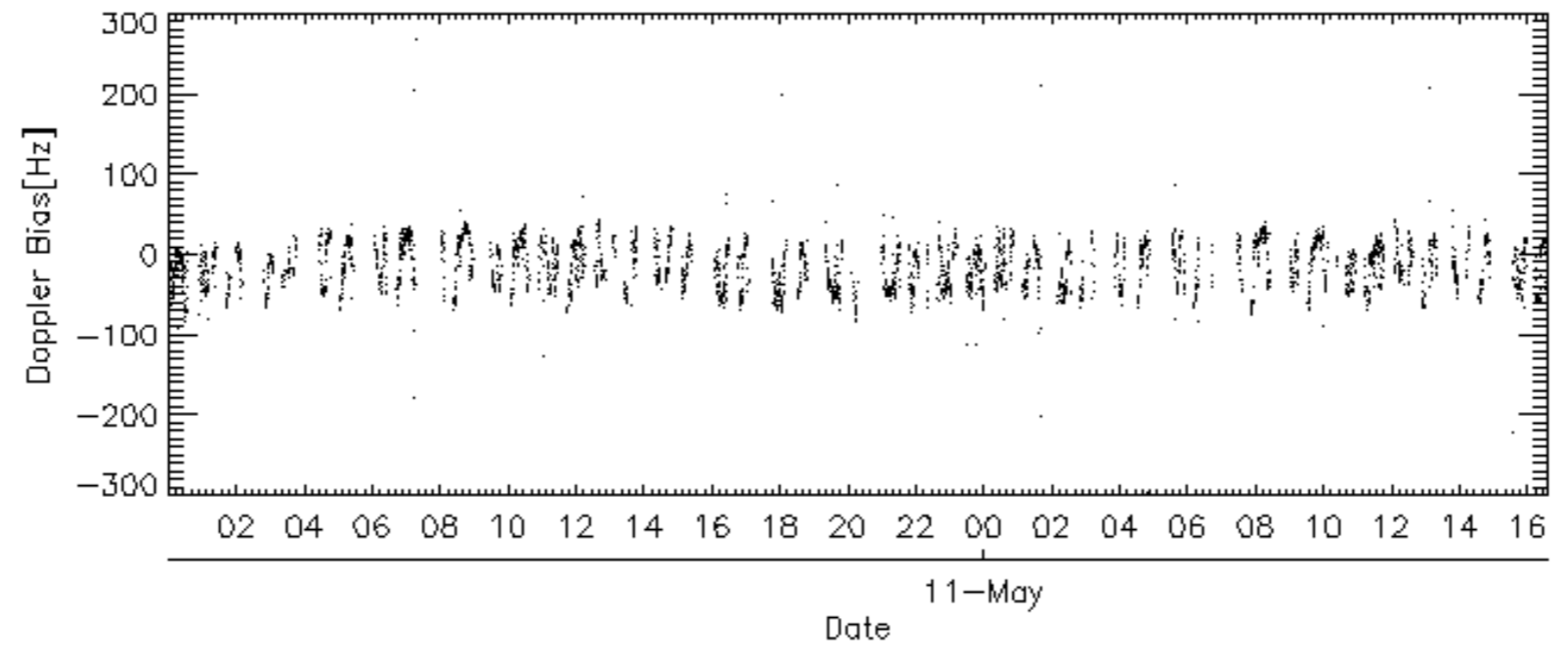
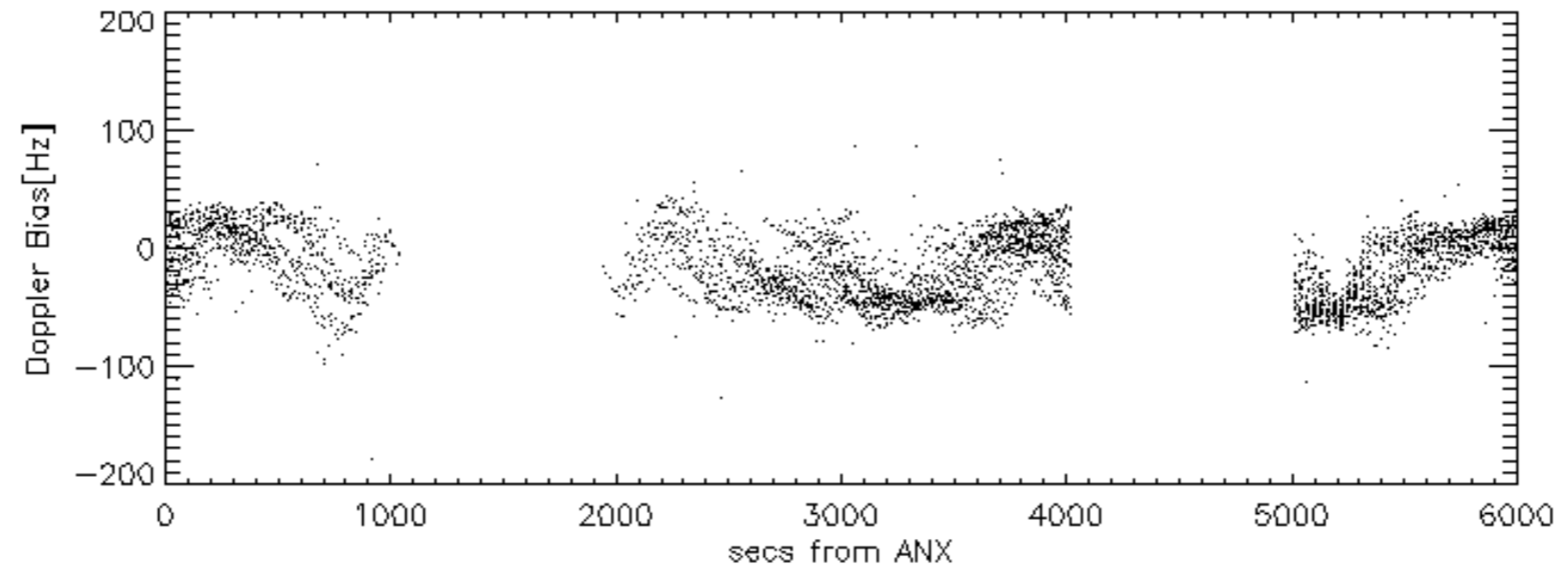
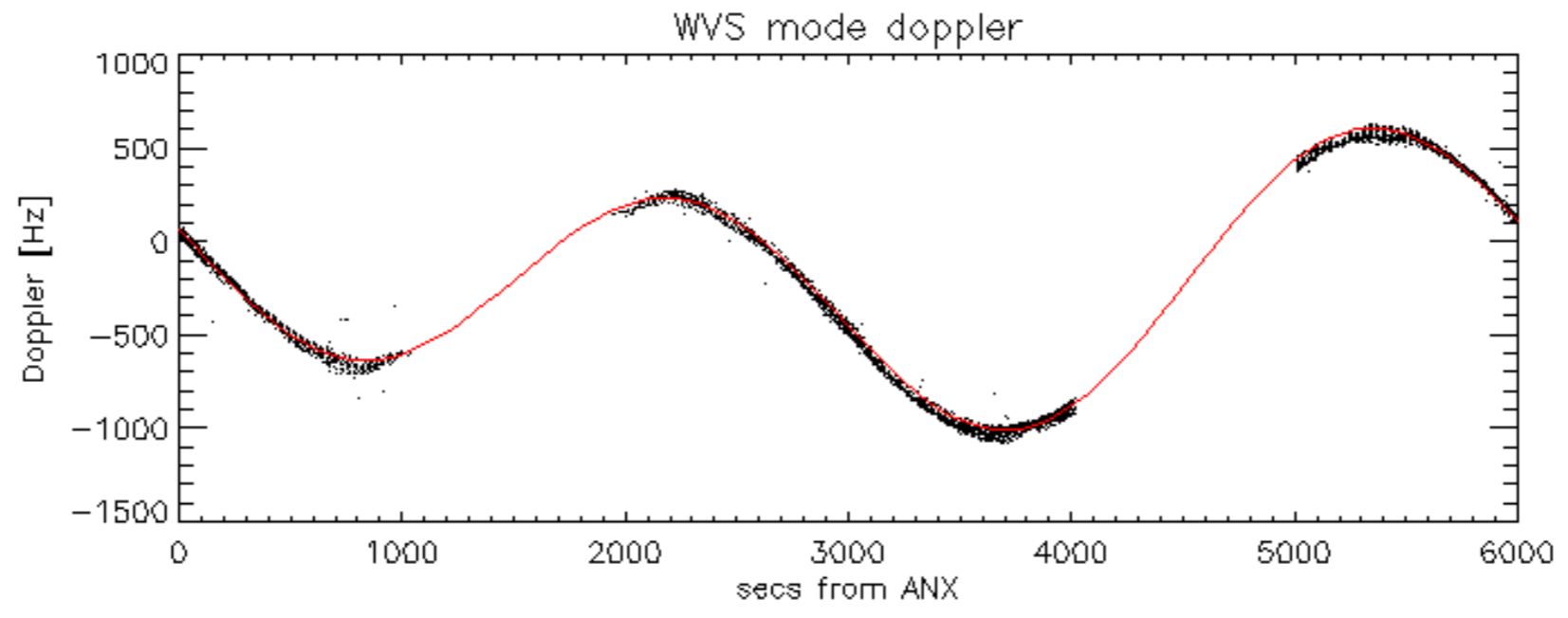


Doppler 'WVS' 'IS2' descending

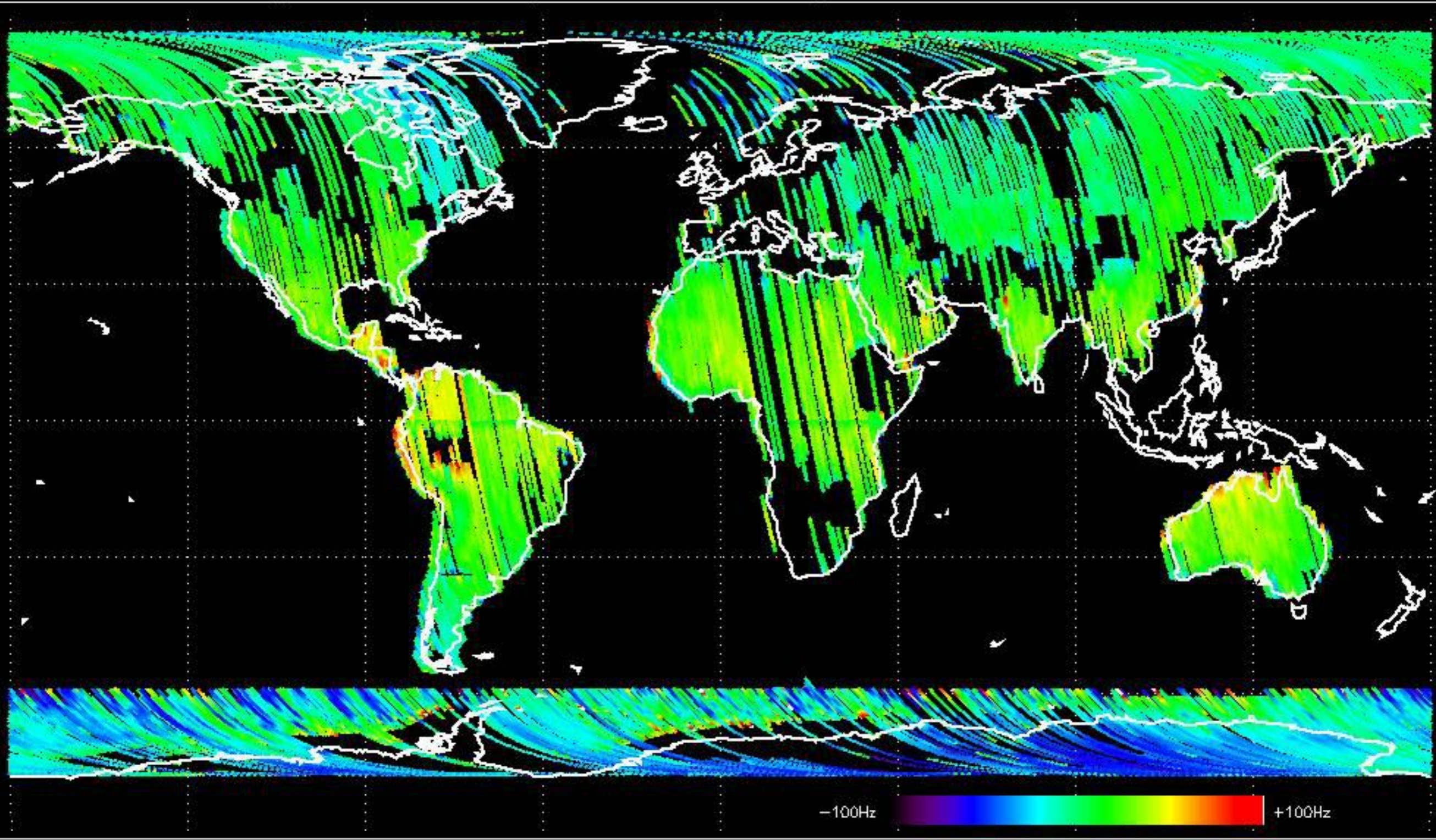




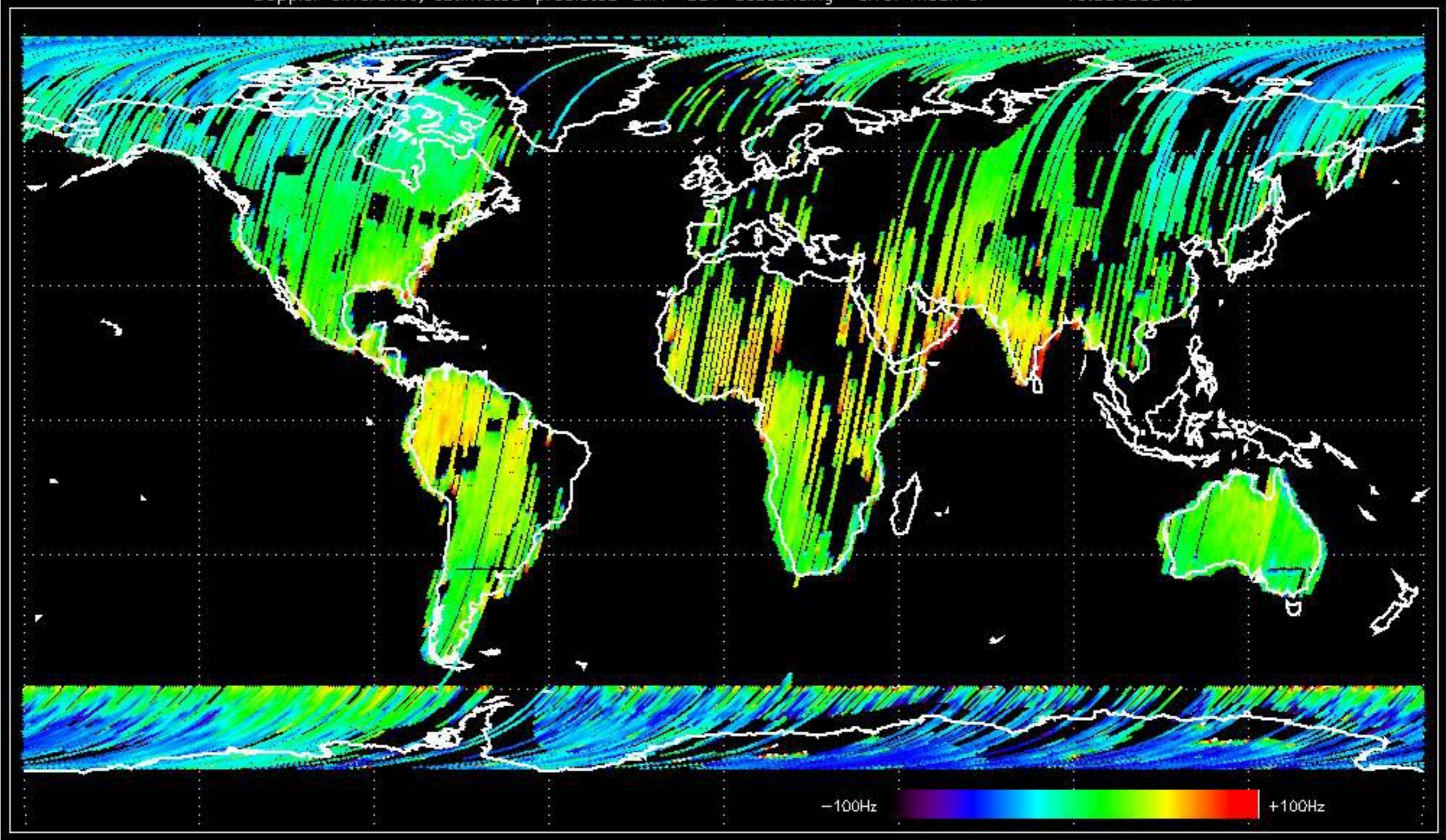




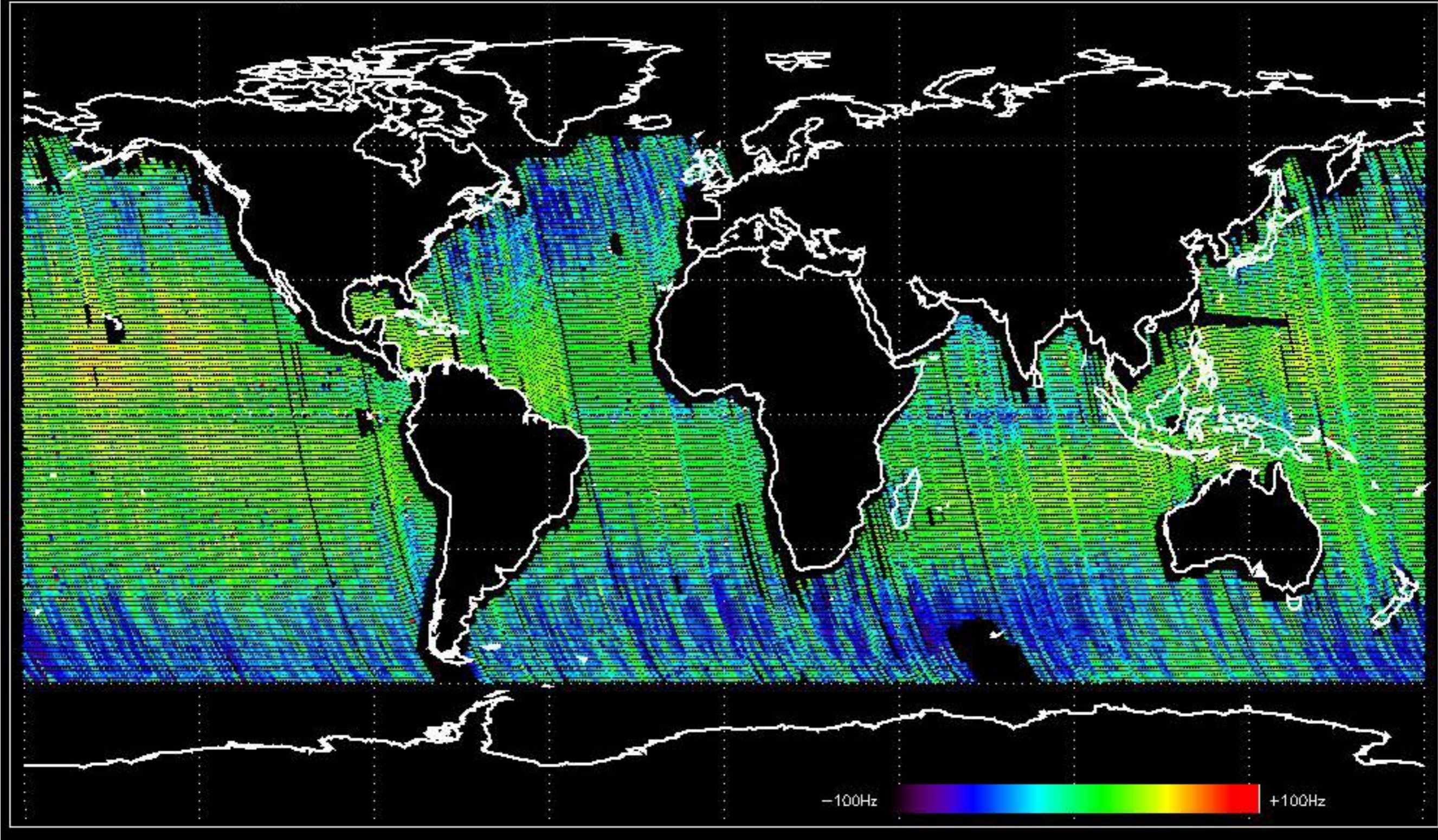
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -22.373504 Hz



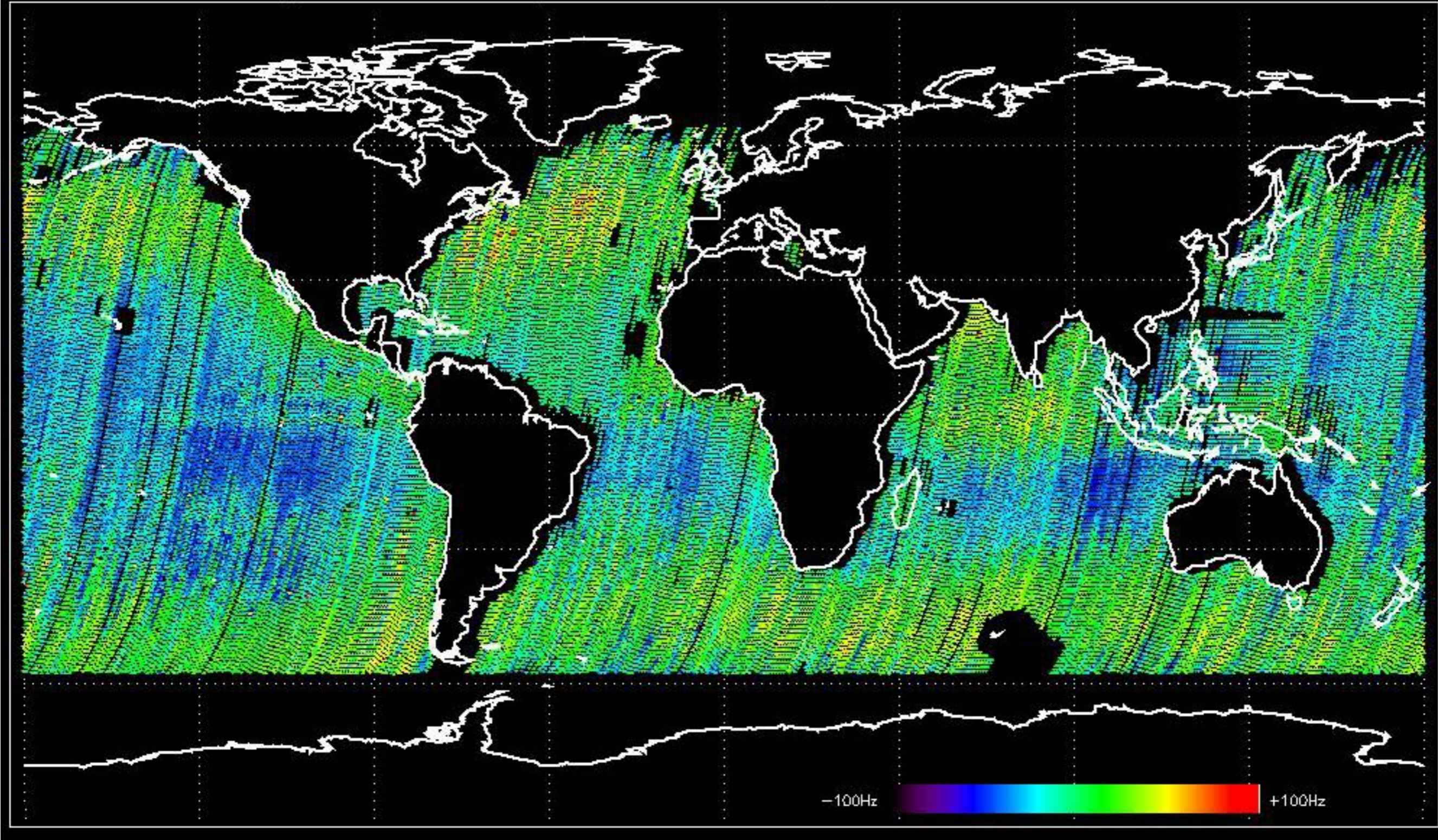
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -15.337388 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -16.254203 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -20.478693 Hz



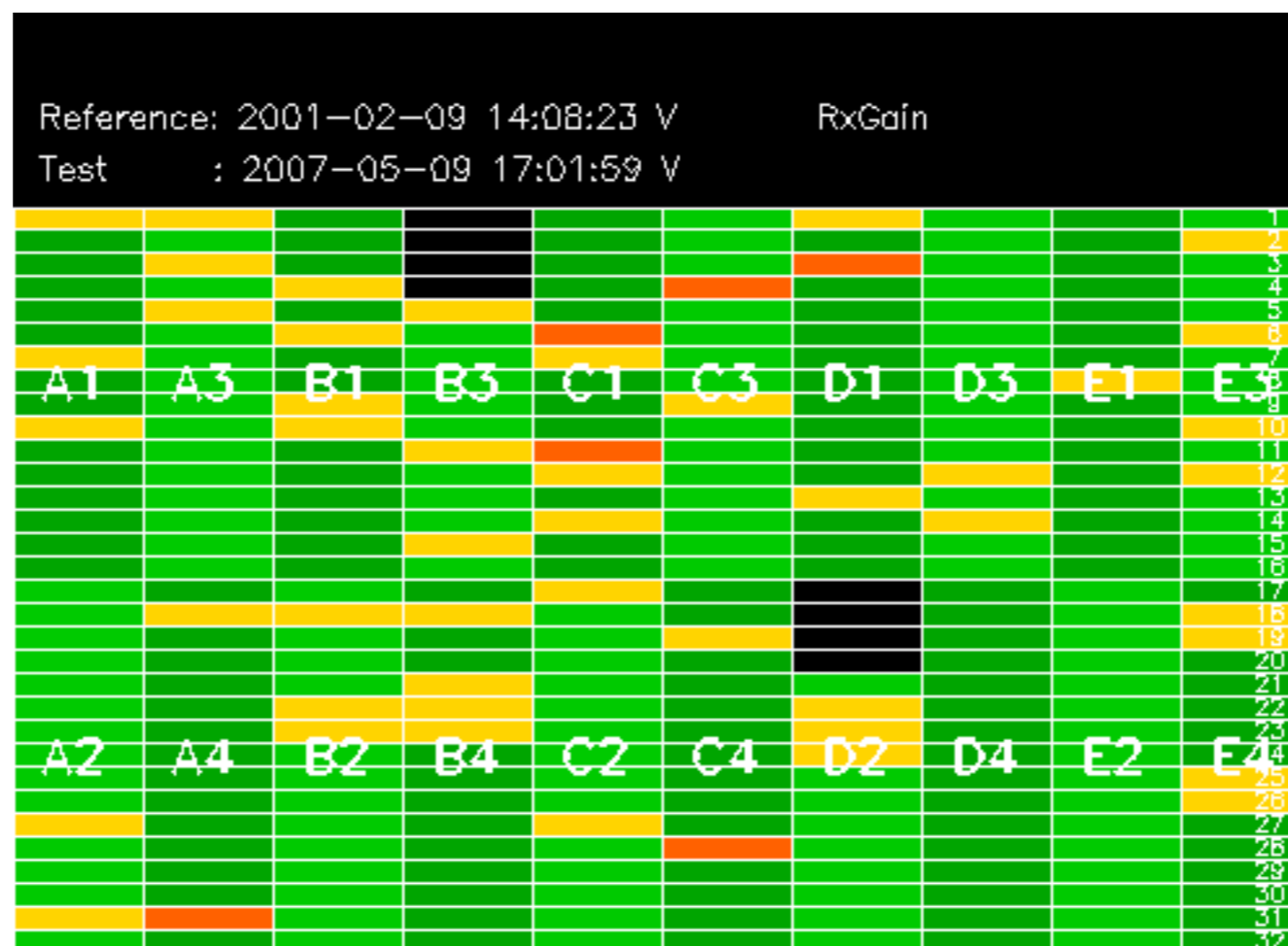
No anomalies observed on available MS products:

No anomalies observed.

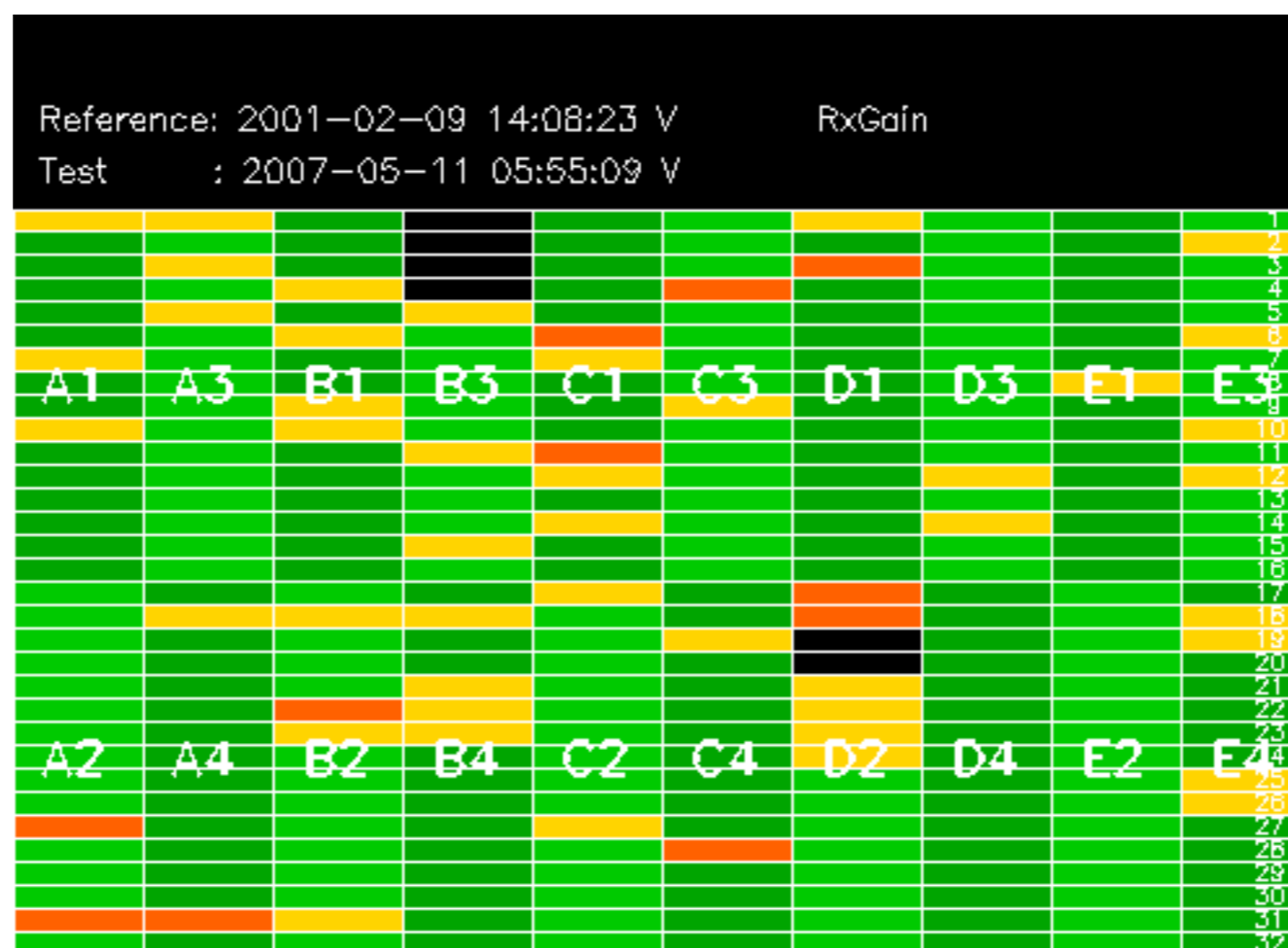


















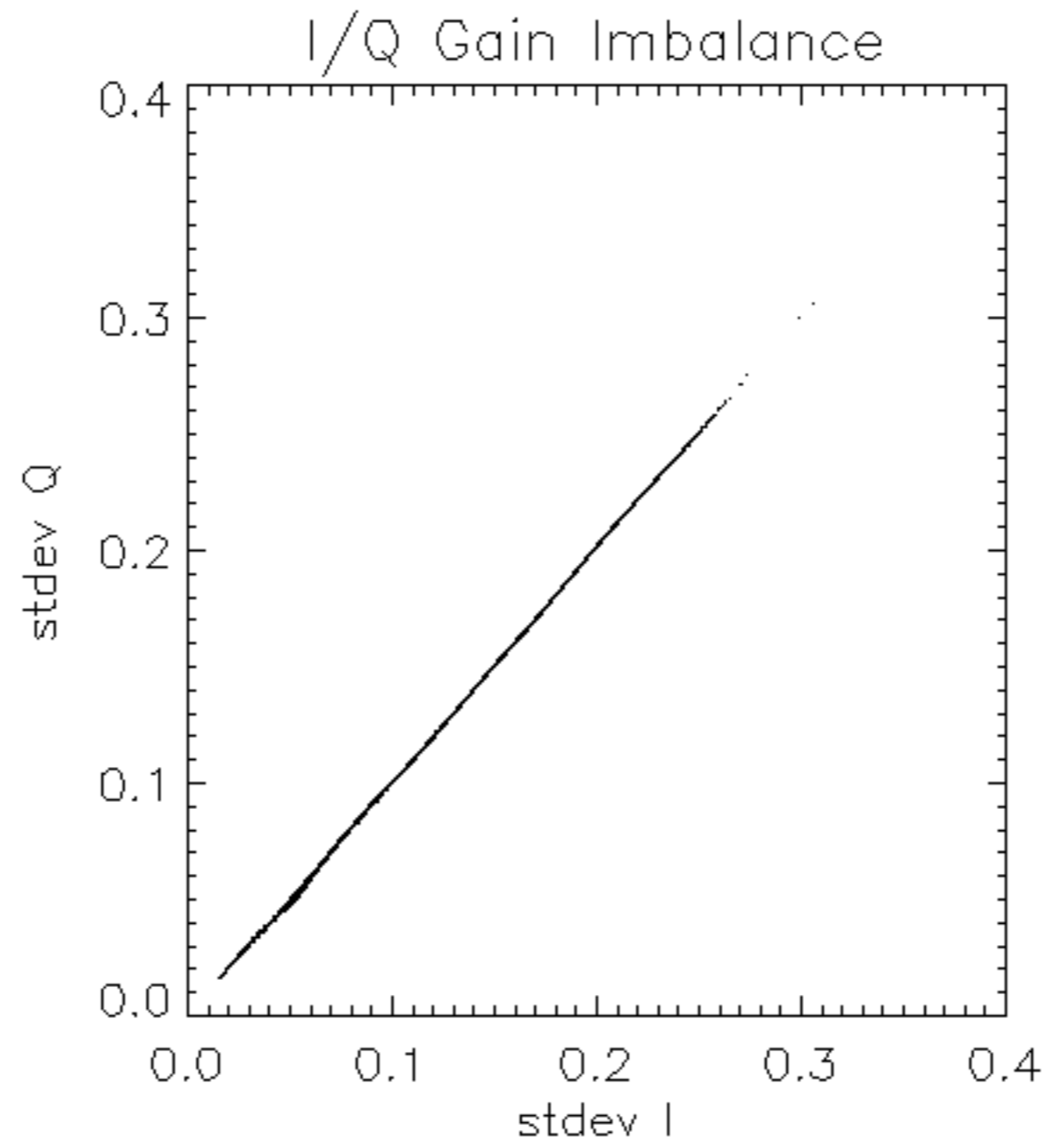


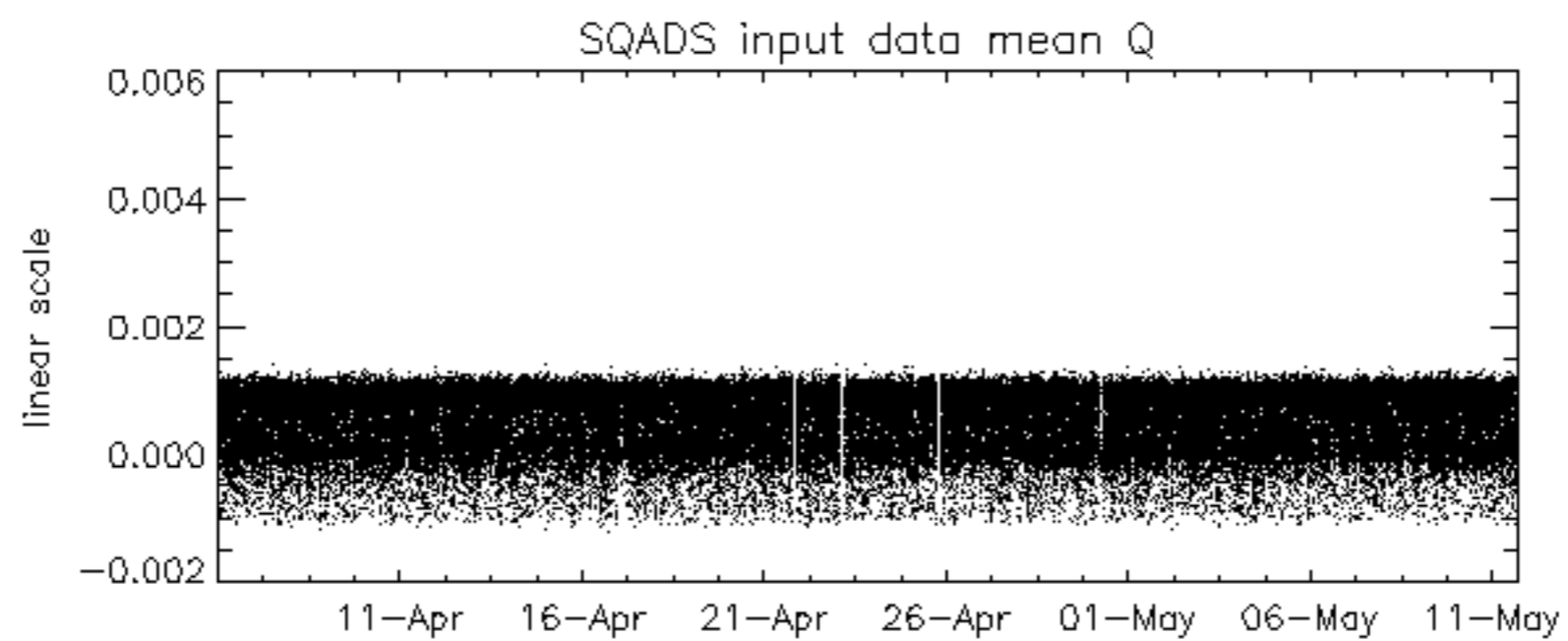
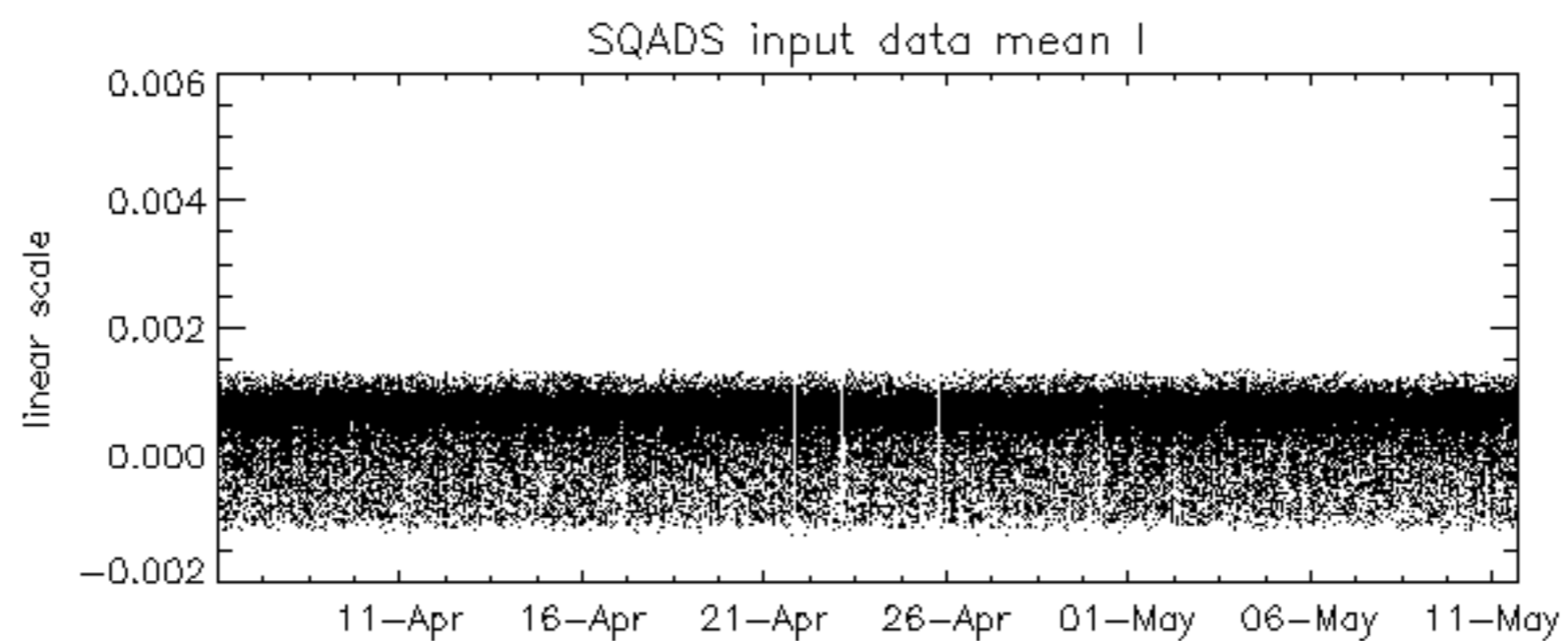
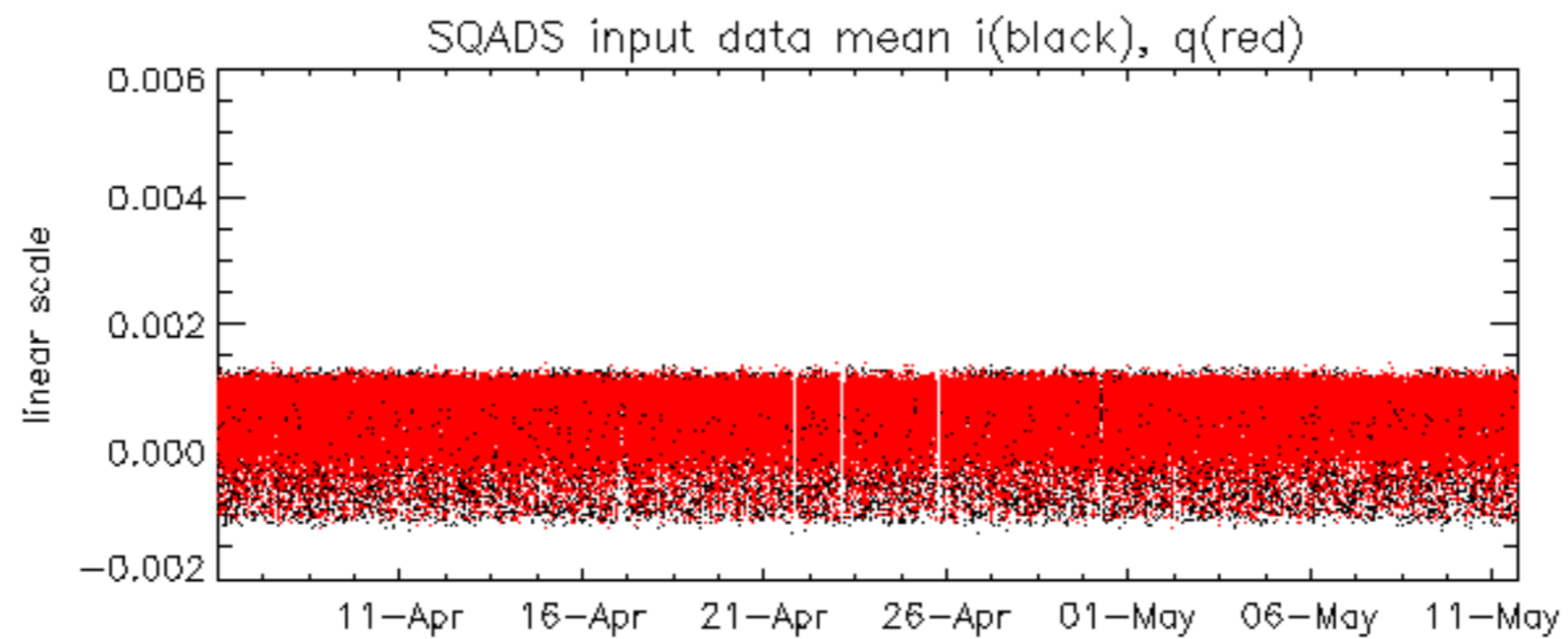


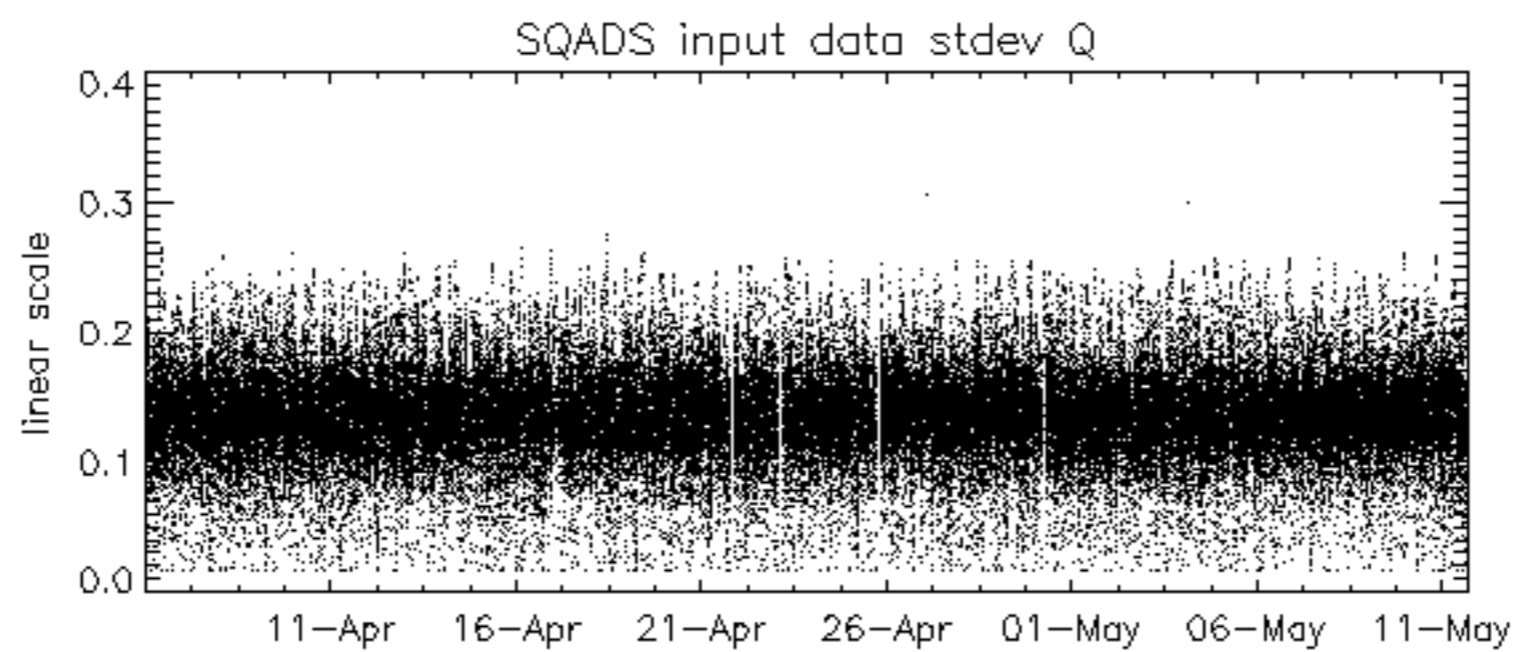
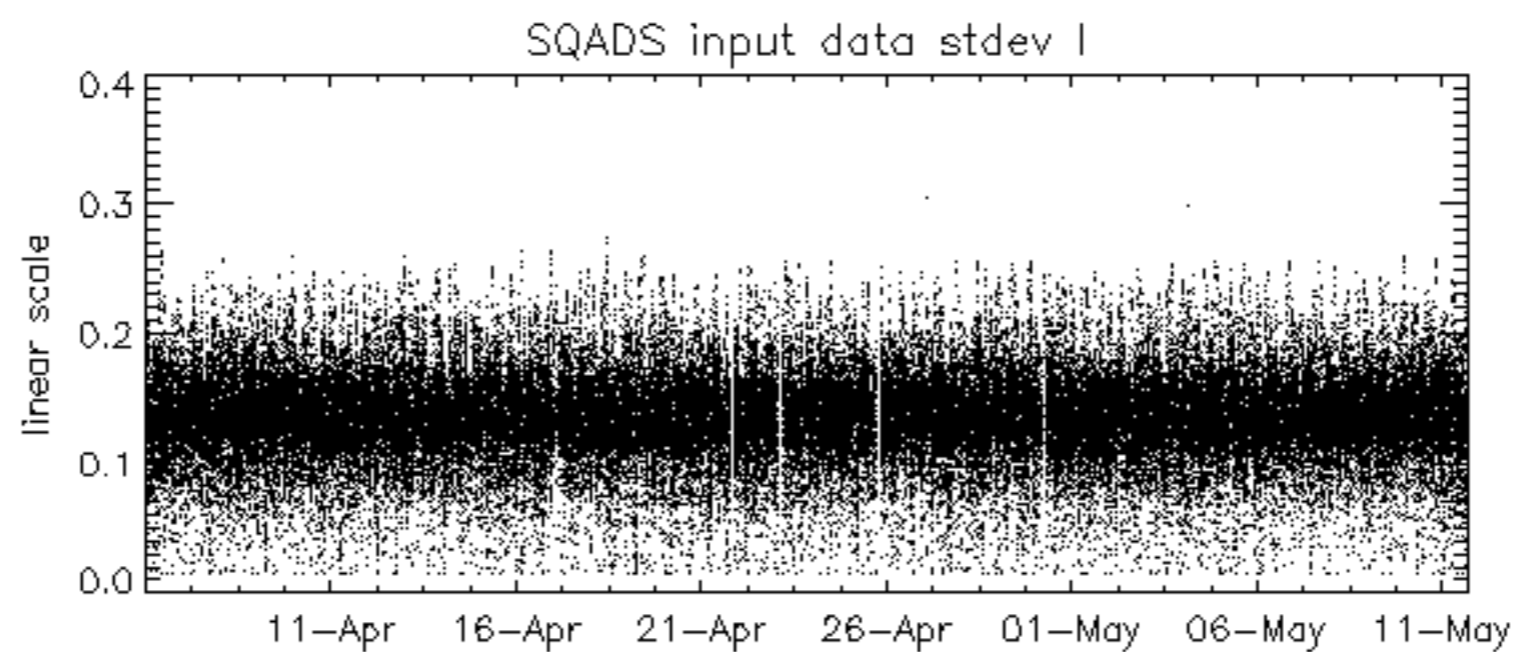
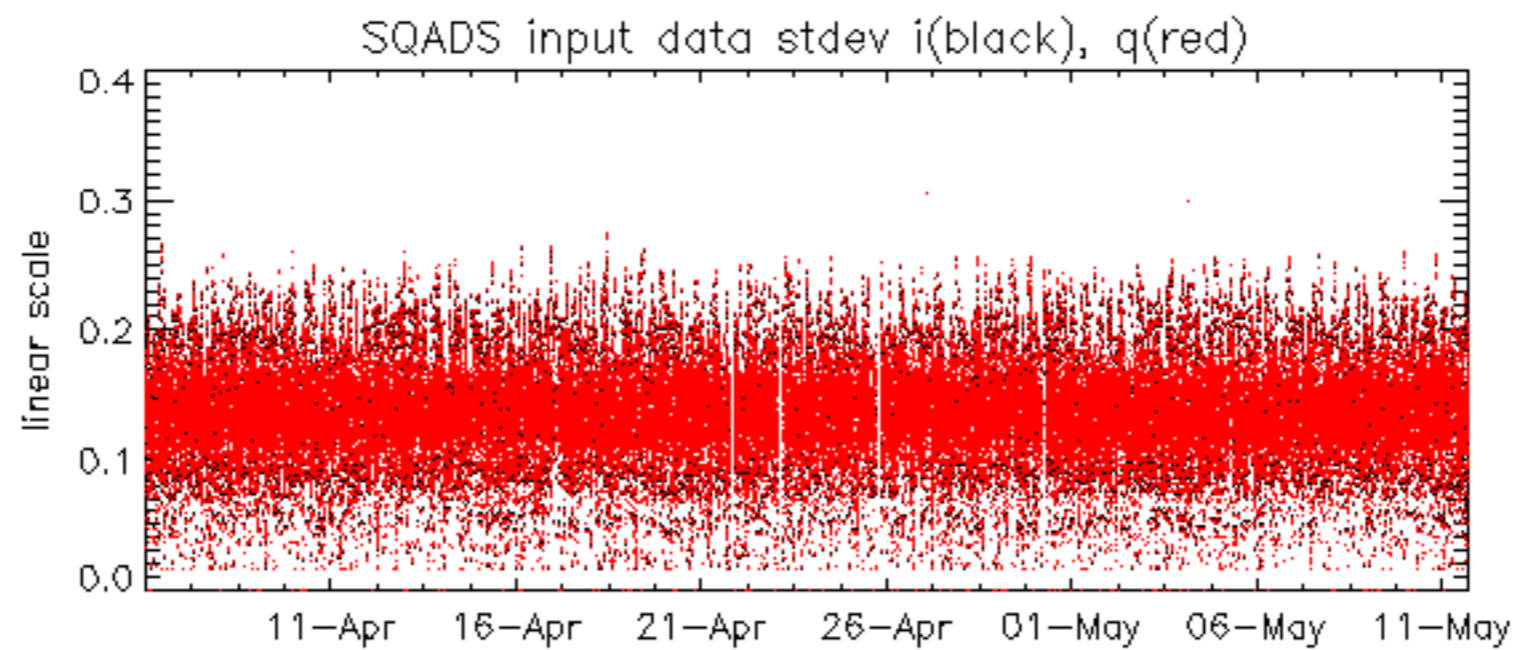














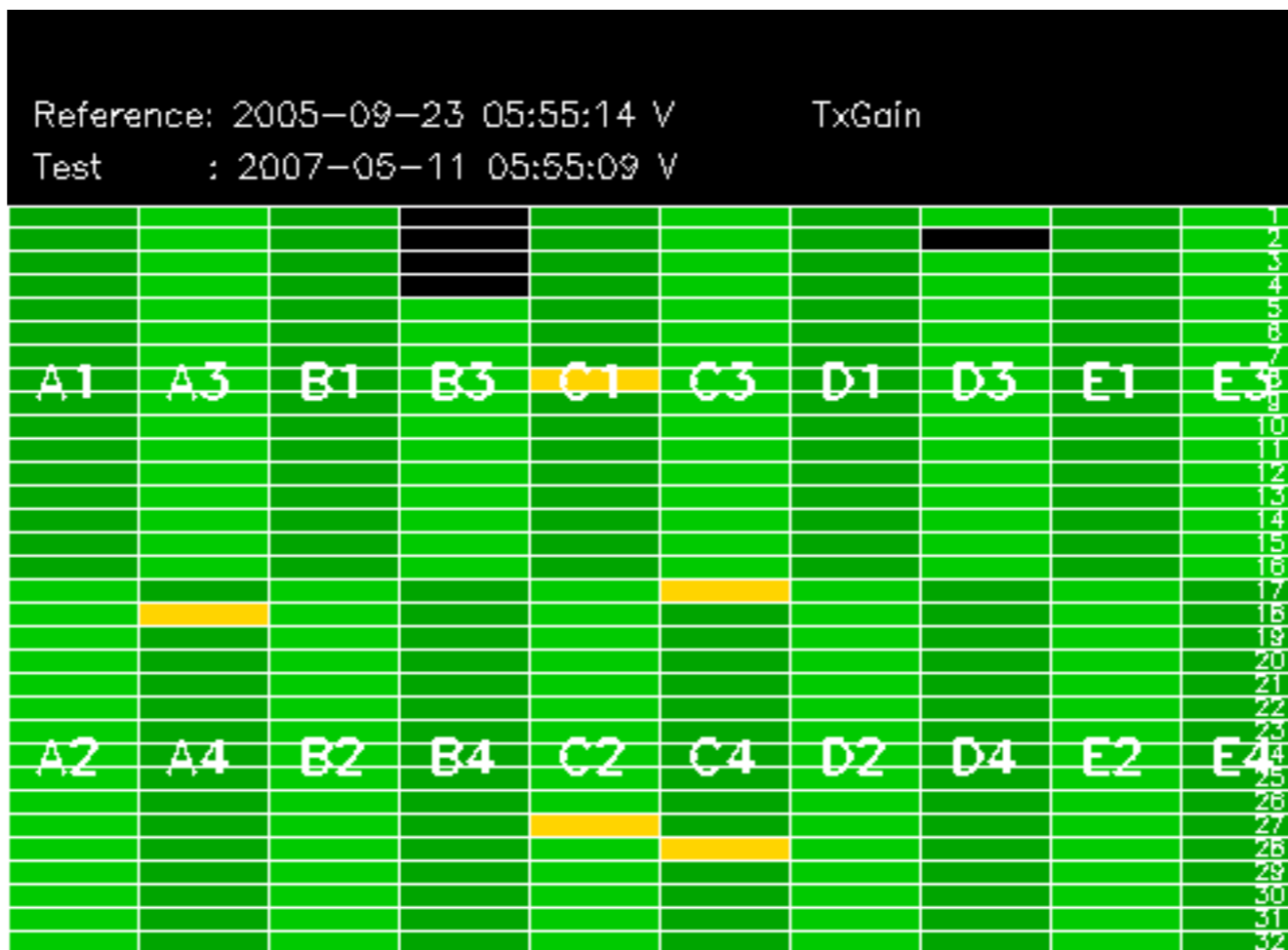








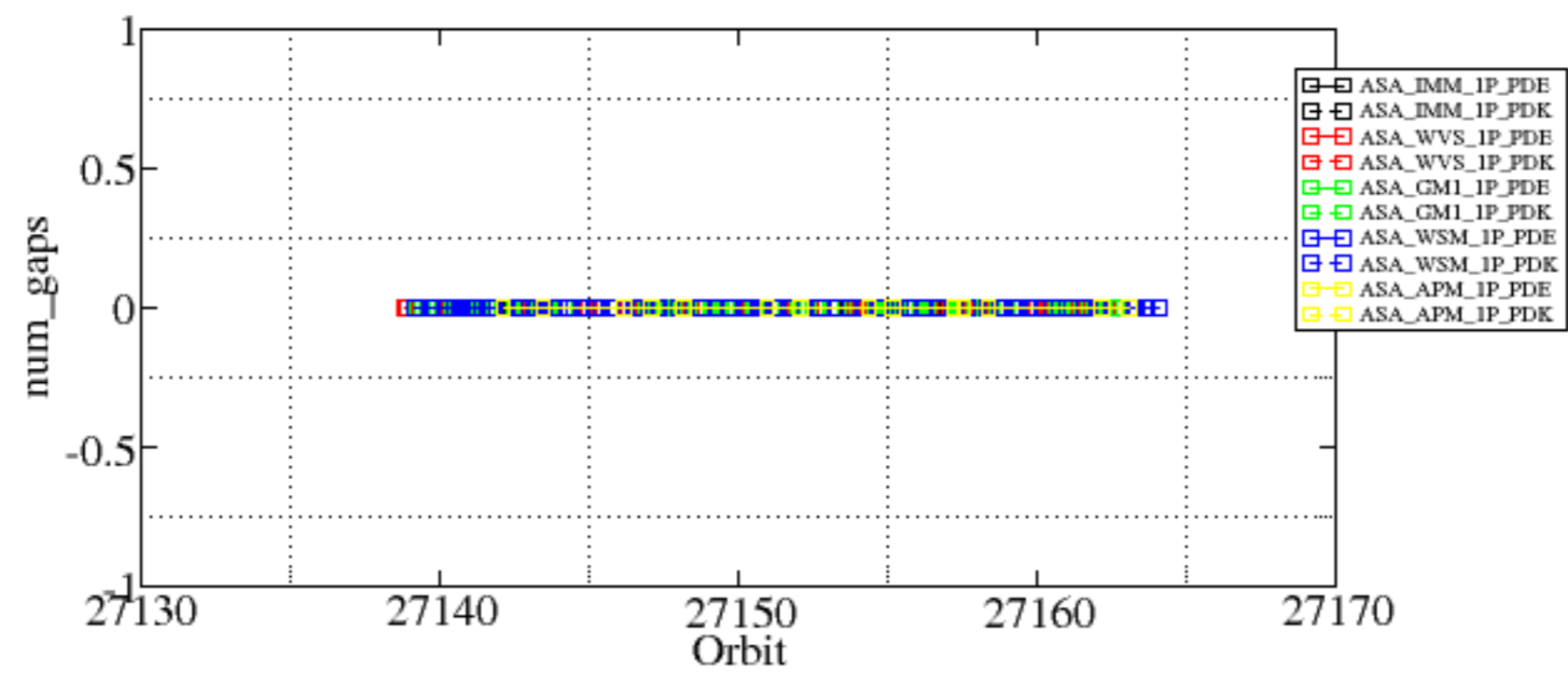




Summary of analysis for the last 3 days 2007051[901]

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_WSM_1PNPDE20070511_145415_00000852058_00054_27162_0657.N1	0	30





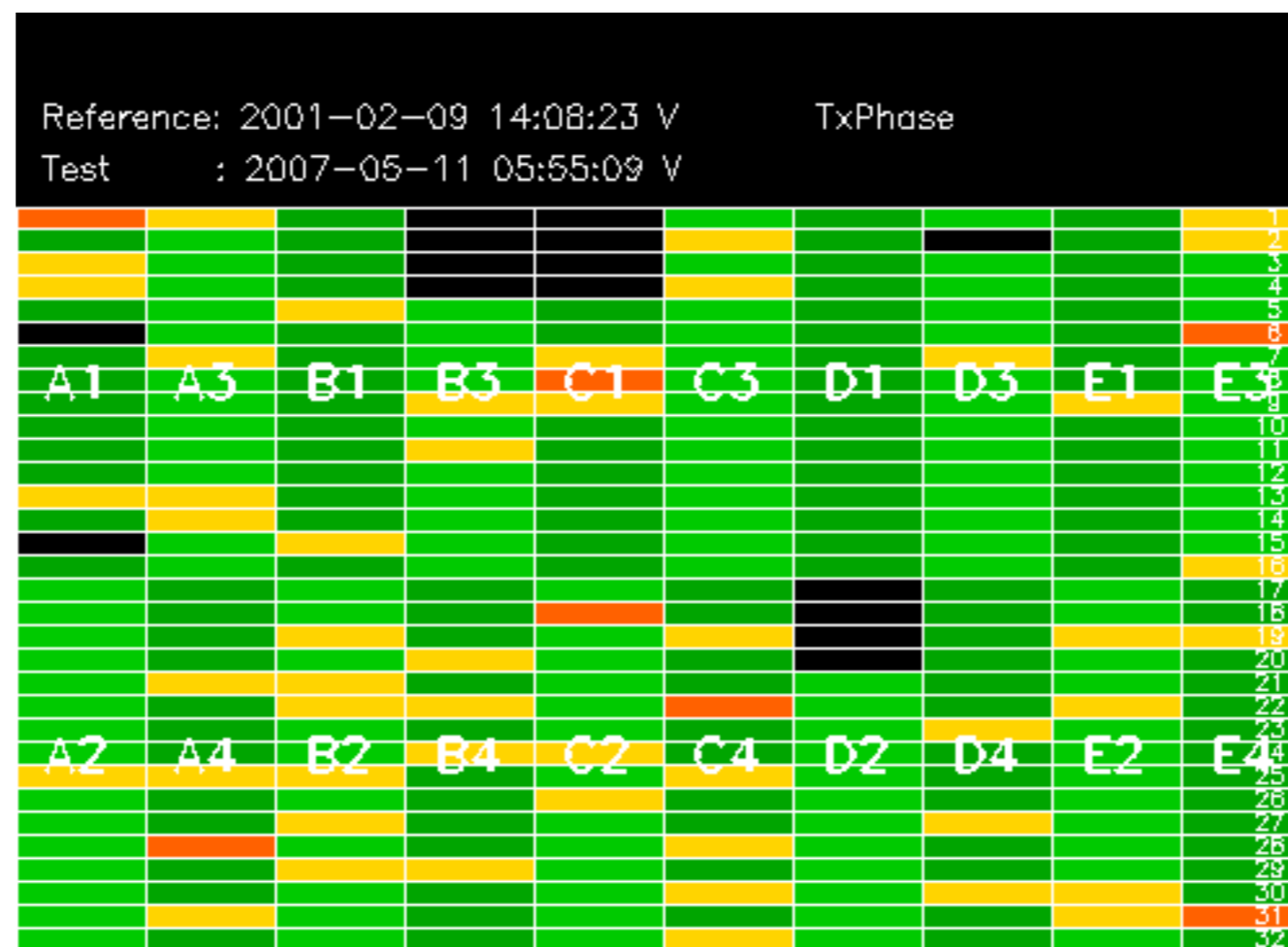


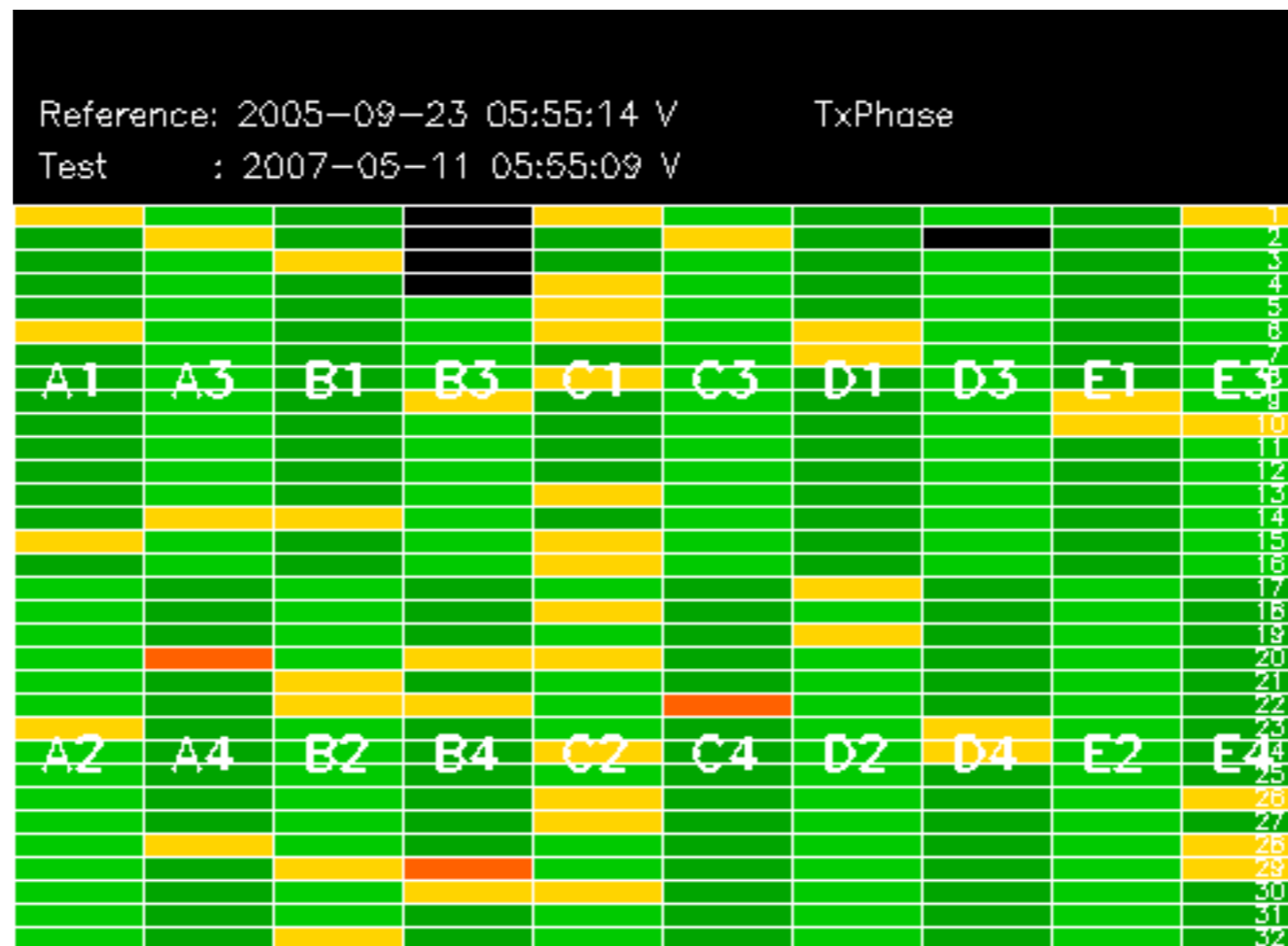


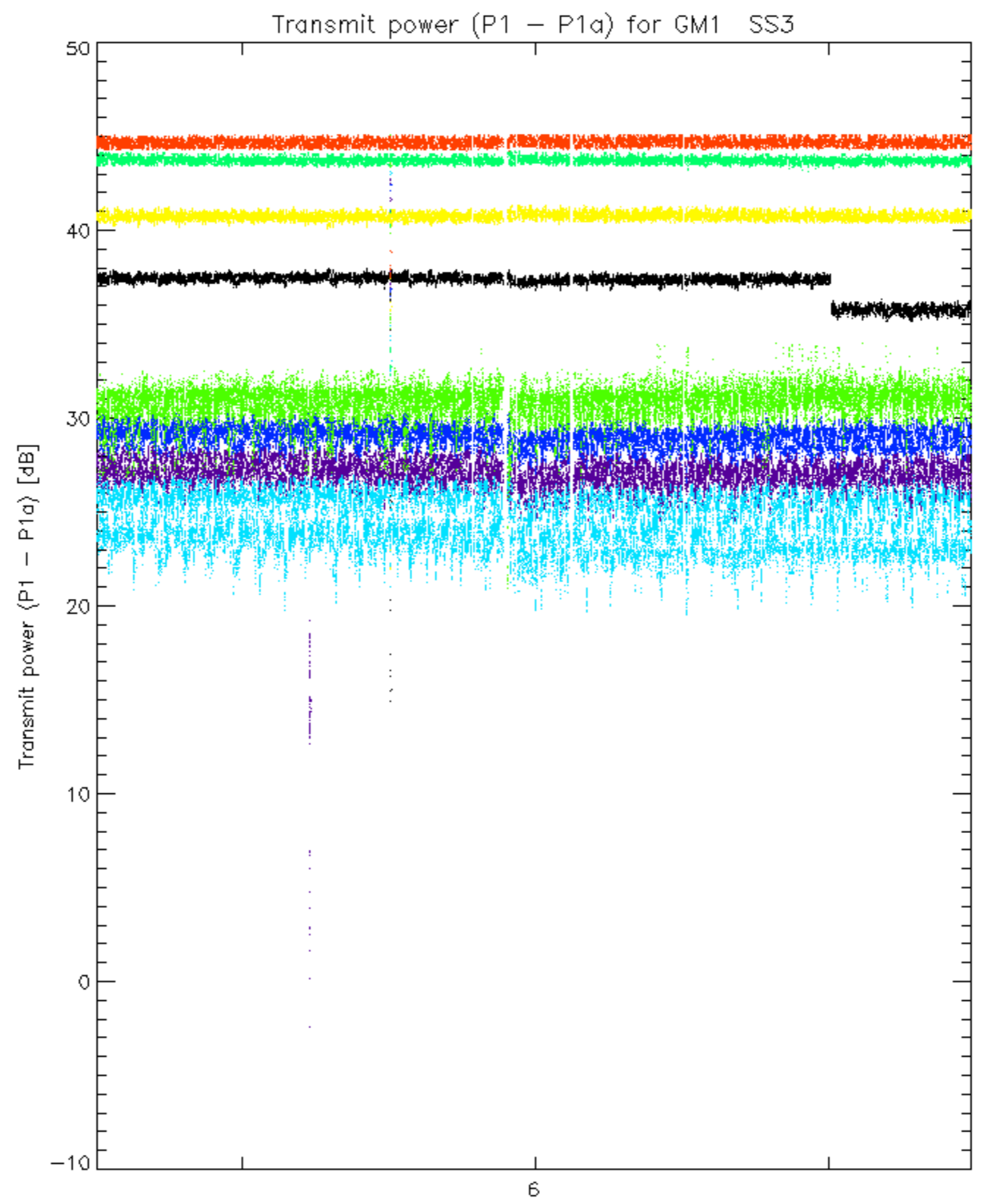




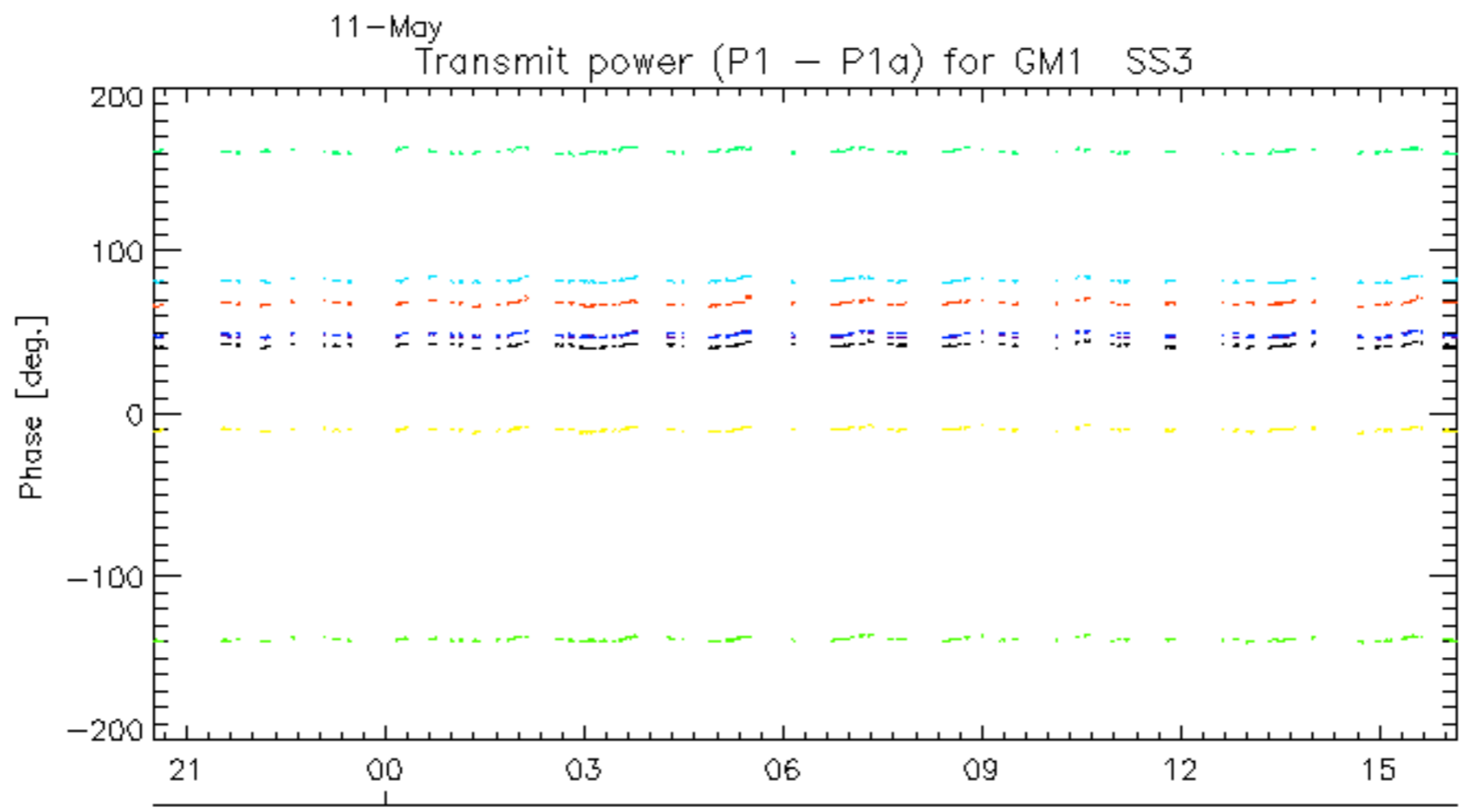
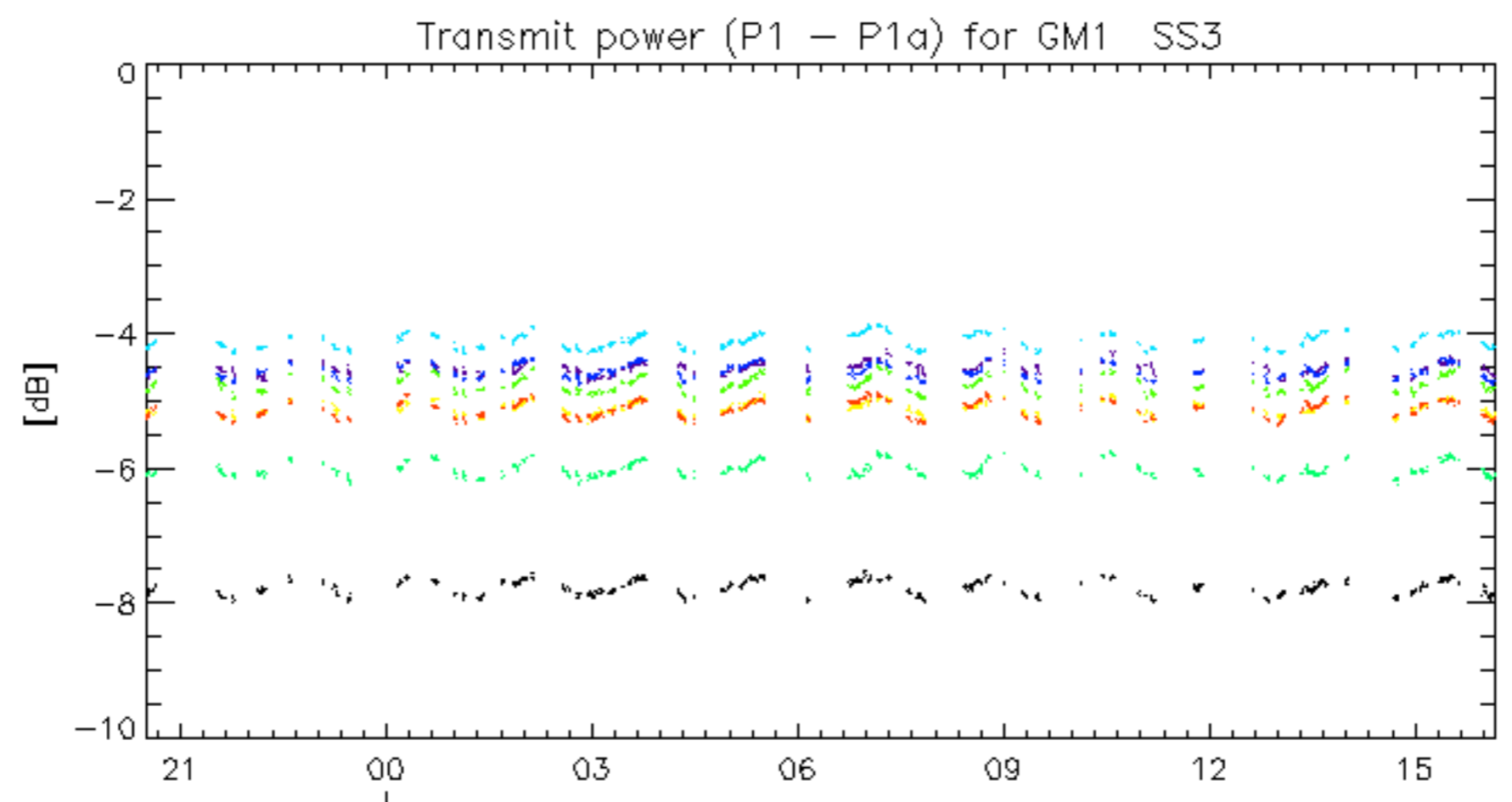






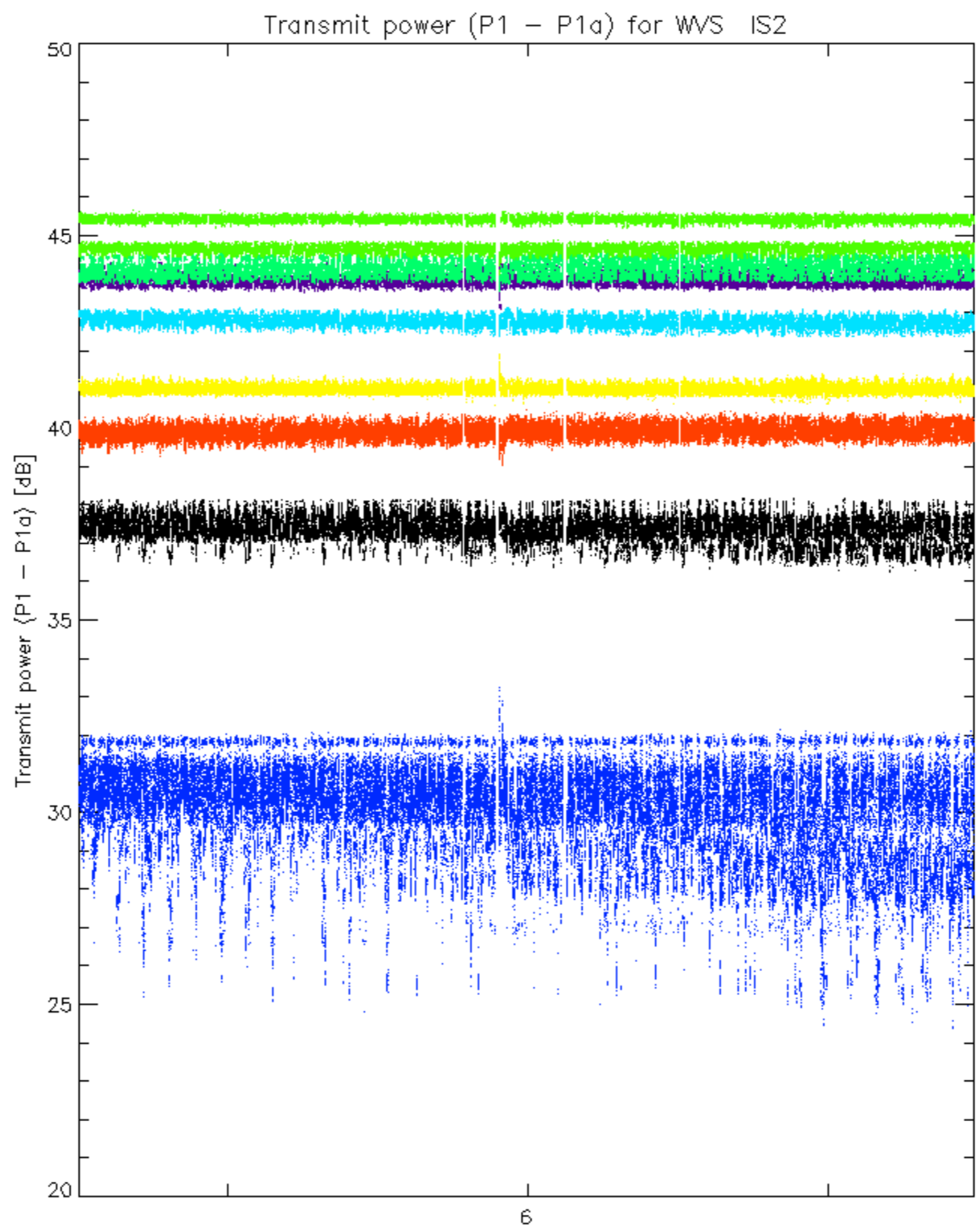


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

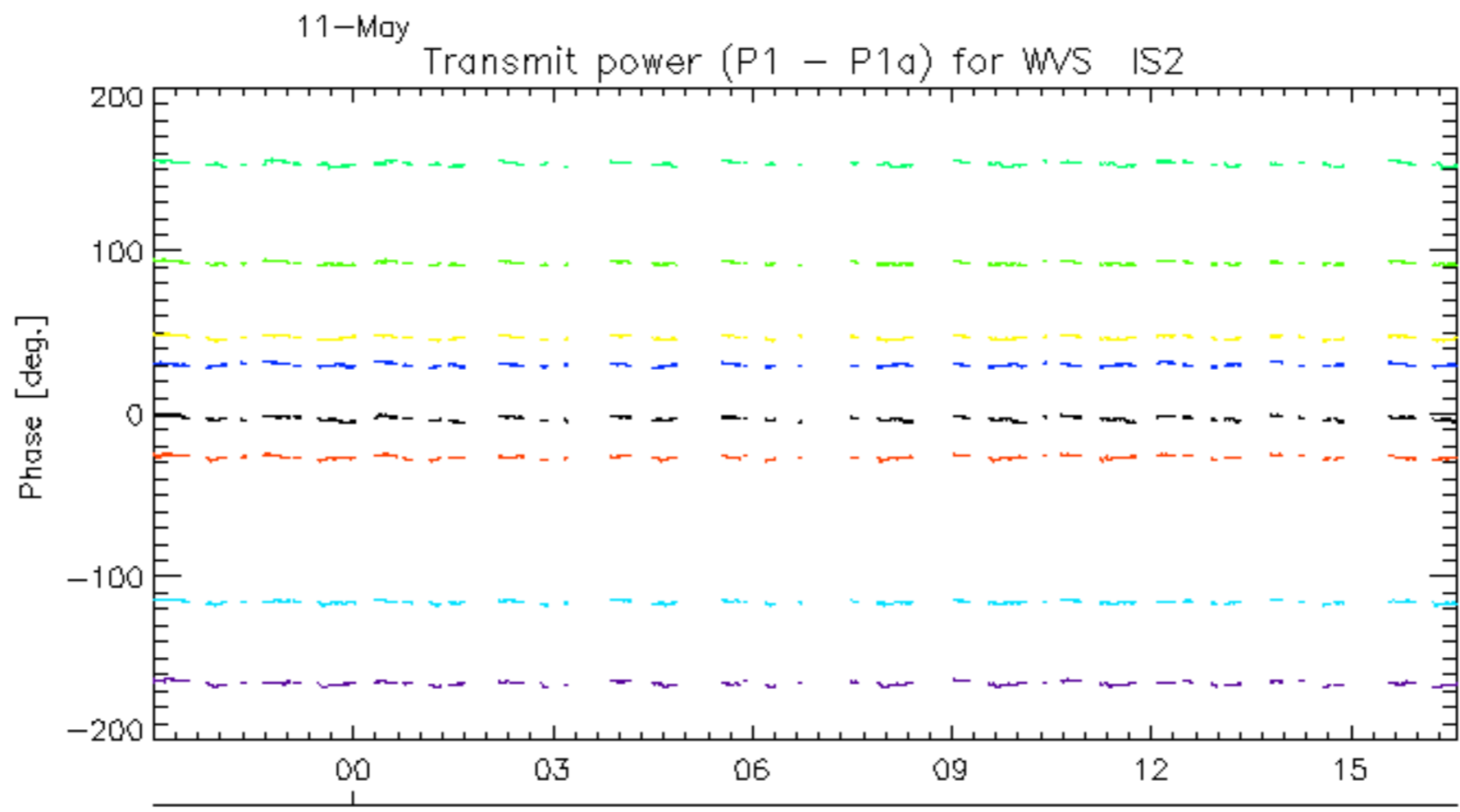
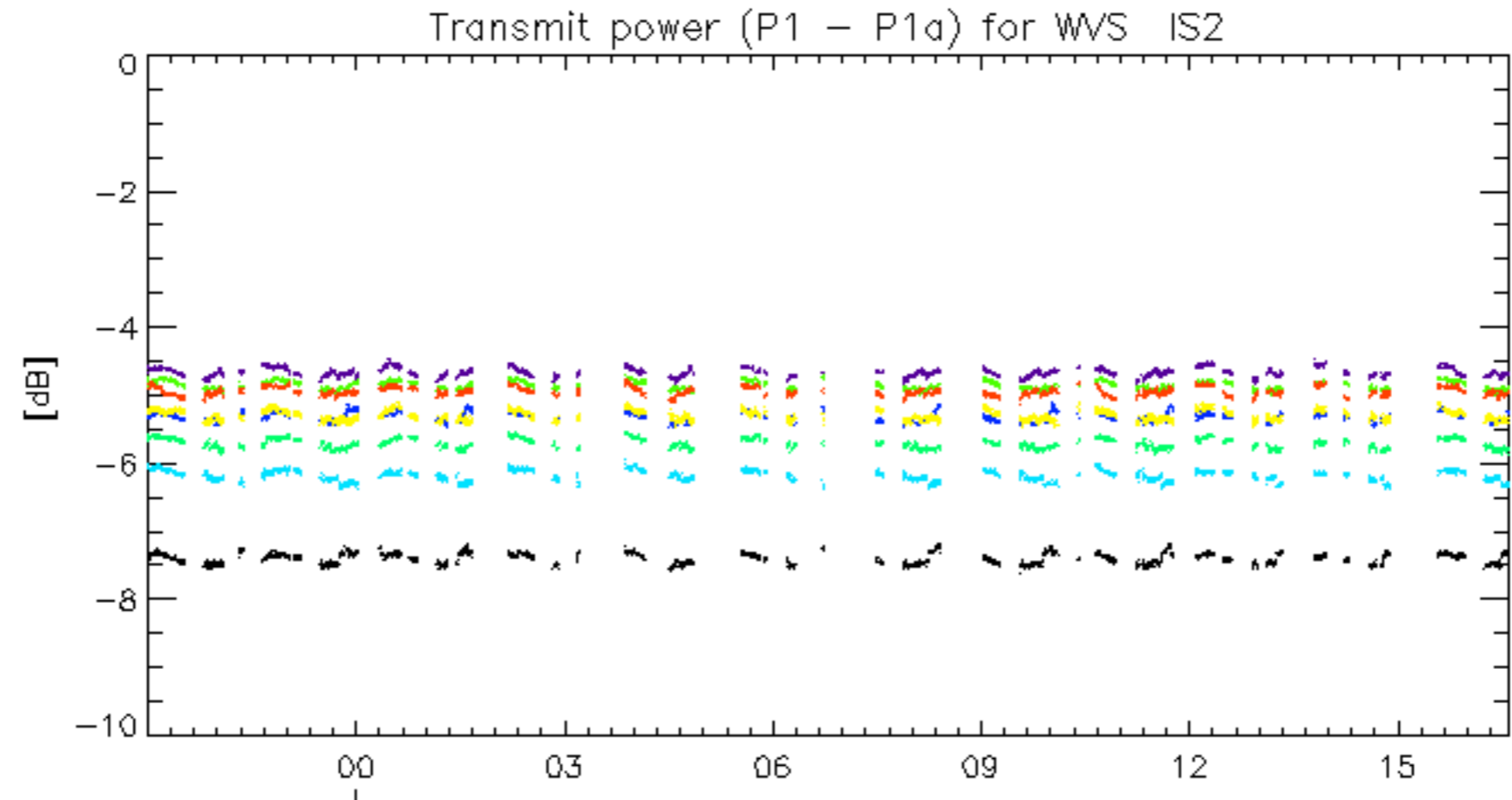


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No unavailabilities during the reported period.