

# PRELIMINARY REPORT OF 070528

last update on Mon May 28 23:19:20 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 2007-05-27 00:00:00 to 2007-05-28 23:19:20

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	32	71	7	0	25
ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	32	71	7	0	25
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	32	71	7	0	25
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	32	71	7	0	25

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	53	67	76	7	36
ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	53	67	76	7	36
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	53	67	76	7	36
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	53	67	76	7	36

### 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	20070528 084153
H	20070528 015929

### MSM in V/V 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"/>

### 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	-15.267710	0.120560	-0.161040
7	P1a	-17.609306	0.071102	-0.045741
11	P1a	-17.767603	0.340725	-0.117566
15	P1a	-13.183249	0.154412	-0.056249
19	P1a	-15.451439	0.070298	-0.034599
22	P1a	-16.010790	0.320802	0.019121
26	P1a	-14.958138	0.204350	-0.063522
30	P1a	-18.059187	0.422605	-0.306421

**P1t Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.786936	0.009888	0.013502
7	P1	-3.169947	0.008253	-0.020229
11	P1	-4.186106	0.018983	0.061576
15	P1	-6.477507	0.019214	-0.034803
19	P1	-3.778588	0.011971	-0.010648
22	P1	-4.736693	0.011767	0.041510
26	P1	-3.911099	0.016933	-0.015734
30	P1	-5.959923	0.009370	0.026643

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.644503	0.093433	0.039589
7	P2	-21.491379	0.093683	0.083509
11	P2	-15.267827	0.121228	0.057376
15	P2	-7.135162	0.090560	0.017431
19	P2	-9.122401	0.081900	0.027815
22	P2	-18.082499	0.077858	0.047332
26	P2	-16.662493	0.083829	-0.013850
30	P2	-19.234354	0.083925	0.086422

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.242836	0.004460	0.021491
7	P3	-8.242836	0.004460	0.021491
11	P3	-8.242836	0.004460	0.021491
15	P3	-8.242836	0.004460	0.021491
19	P3	-8.242836	0.004460	0.021491
22	P3	-8.242836	0.004460	0.021491
26	P3	-8.242810	0.004466	0.021649
30	P3	-8.242810	0.004466	0.021649

**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	-11.607563	0.135828	-0.797218
7	P1a	-10.006647	0.103445	0.022973
11	P1a	-10.692842	0.060372	-0.045004
15	P1a	-10.755024	0.132754	0.087304
19	P1a	-15.882385	0.097505	-0.063632
22	P1a	-21.504269	1.318413	-0.191160
26	P1a	-15.563556	0.306957	-0.035240
30	P1a	-18.269226	0.398964	0.113398

**P1t Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-7.733165	0.327705	1.532532
7	P1	-2.355793	0.054102	0.062374
11	P1	-2.865723	0.016051	0.013123
15	P1	-3.787225	0.033923	0.038299
19	P1	-3.612421	0.018243	-0.018431
22	P1	-4.937727	0.023211	0.049986

26	P1	-6.066350	0.021182	-0.024156
30	P1	-5.366179	0.031232	-0.042073

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.220093	0.093430	-0.017921
7	P2	-22.062466	0.179171	0.023378
11	P2	-10.663669	0.059061	0.001609
15	P2	-4.967371	0.046952	-0.045673
19	P2	-6.881110	0.046714	0.012135
22	P2	-8.098622	0.065845	0.034719
26	P2	-24.352674	0.115916	-0.009931
30	P2	-21.695604	0.100577	0.038052

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.089566	0.005508	0.016079
7	P3	-8.089420	0.005509	0.016274
11	P3	-8.089484	0.005500	0.015715
15	P3	-8.089466	0.005501	0.015780
19	P3	-8.089494	0.005509	0.016129
22	P3	-8.089426	0.005509	0.015696
26	P3	-8.089491	0.005511	0.015811
30	P3	-8.089423	0.005504	0.015782

## 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	0.000551360
	stdev	1.89036e-07
MEAN Q	mean	0.000515330
	stdev	2.34876e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.136171
	stdev	0.00113958
STDEV Q	mean	0.136551
	stdev	0.00115669



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2007052[678]

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_GM1_1PNPDK20070526_185316_000003922058_00271_27379_4817.N1	0	13
ASA_WSM_1PNPDE20070526_184608_000001832058_00271_27379_2294.N1	0	57
ASA_WSM_1PNPDE20070526_184608_000002442058_00271_27379_2312.N1	0	57
ASA_WSM_1PNPDE20070527_145124_000000852058_00283_27391_2341.N1	0	31
ASA_WSM_1PNPDE20070527_181431_000001522058_00285_27393_2398.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"/>	
	Ascending
<input type="checkbox"/>	
	Descending

### 7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

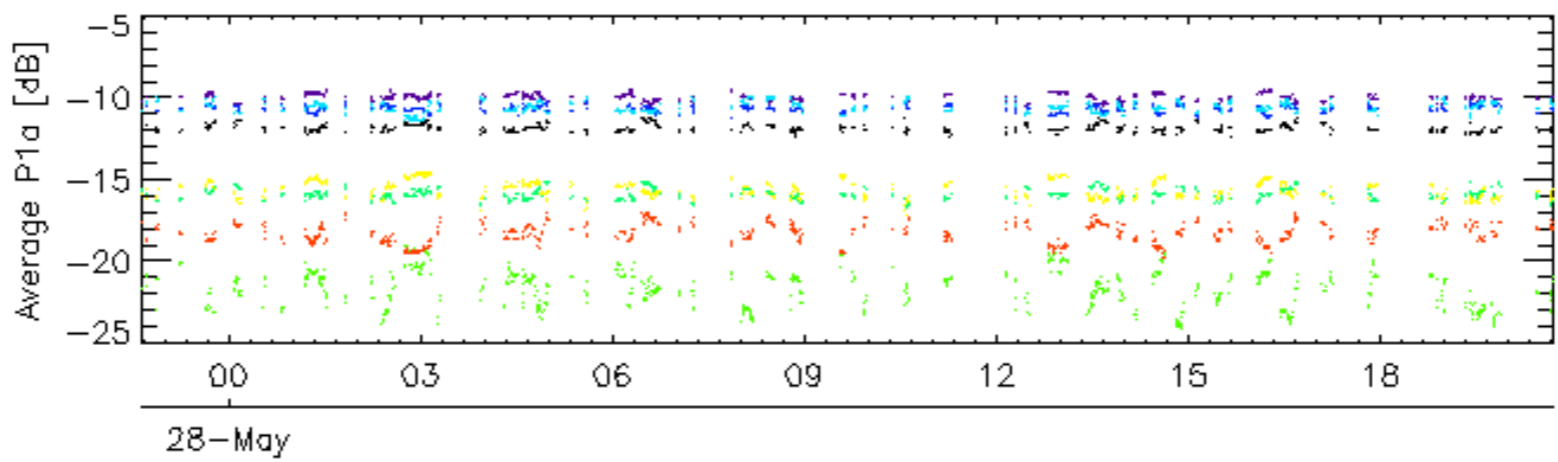
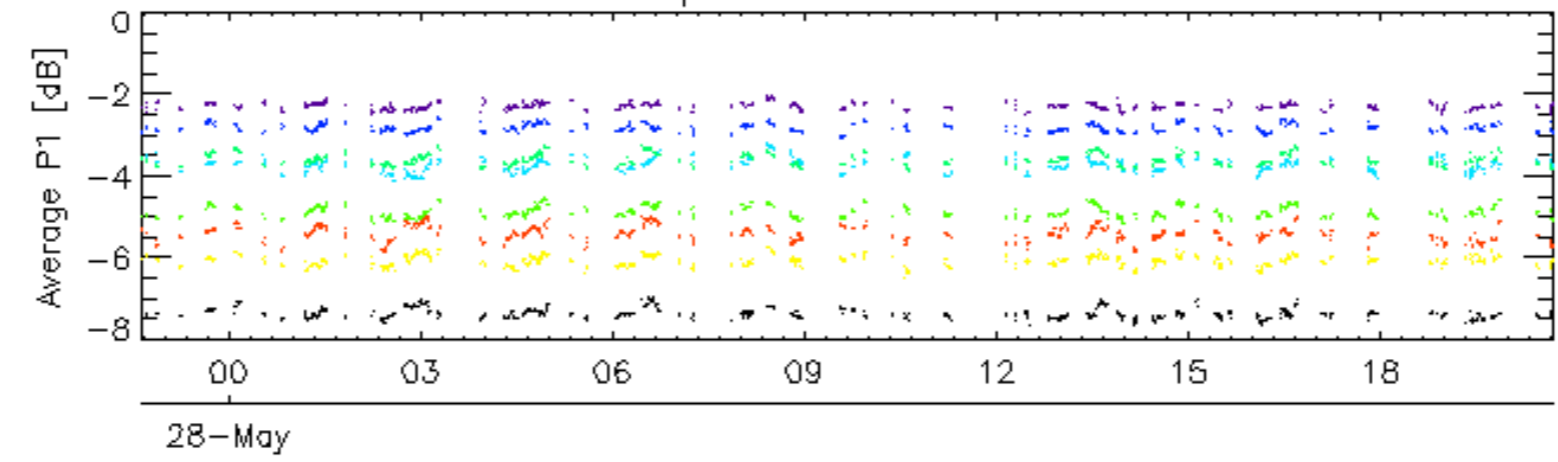
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	Ascending
<input type="checkbox"/>	
	Descending

### 7.6 - Doppler evolution versus ANX for GM1

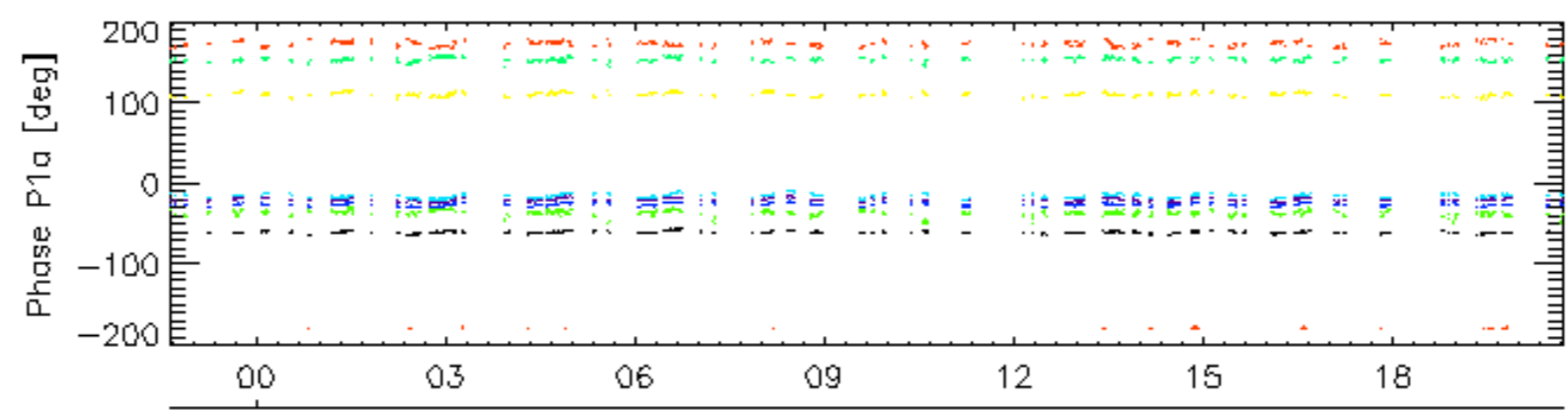
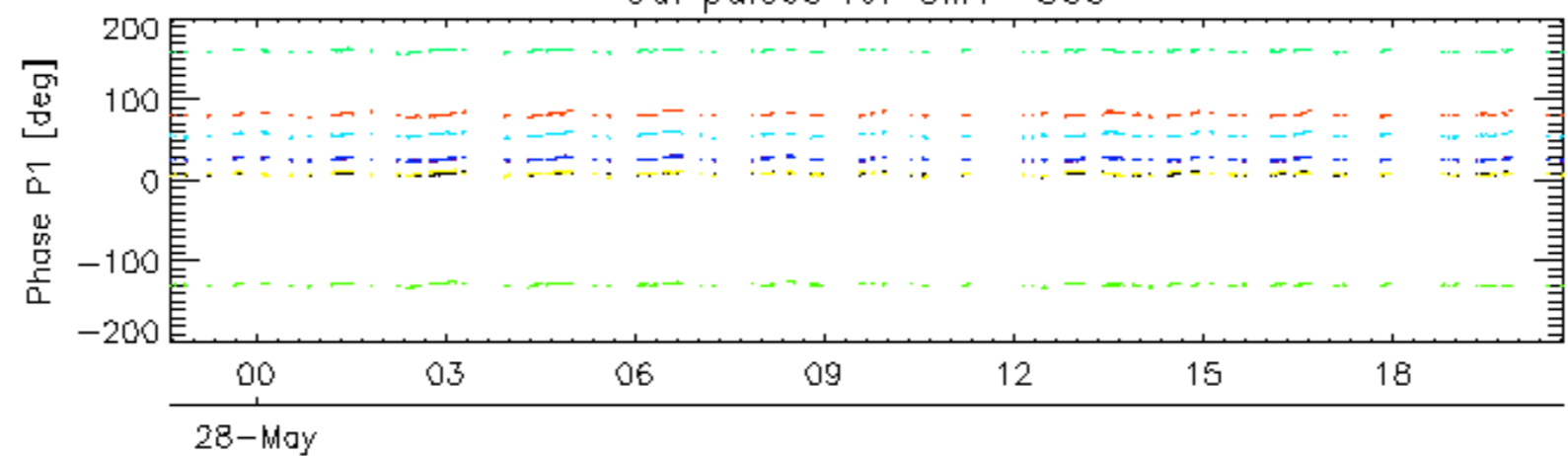
Evolution Doppler error versus ANX

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

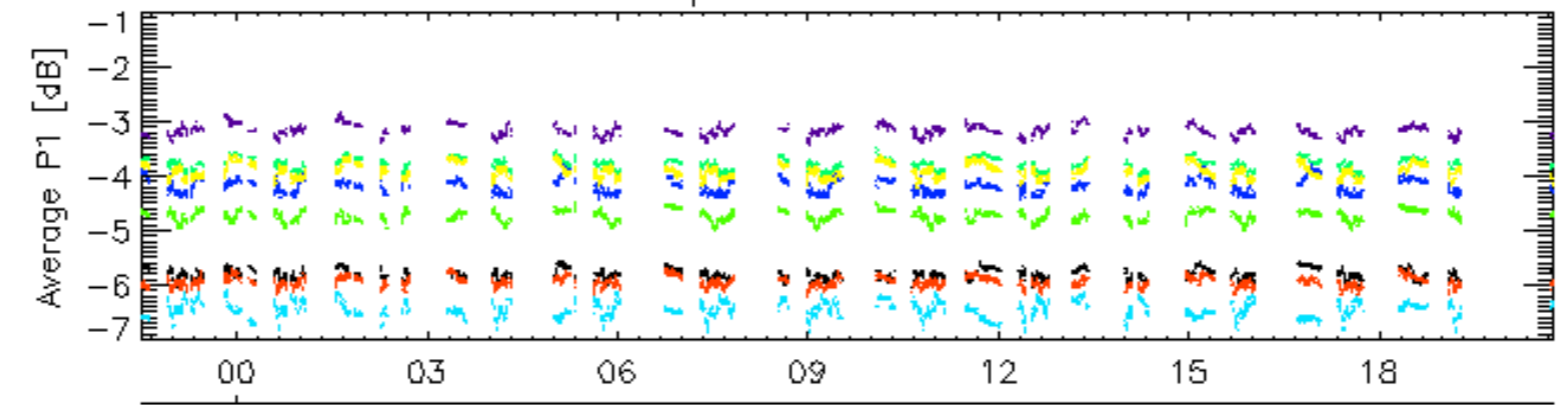


Cal pulses for GM1 SS3

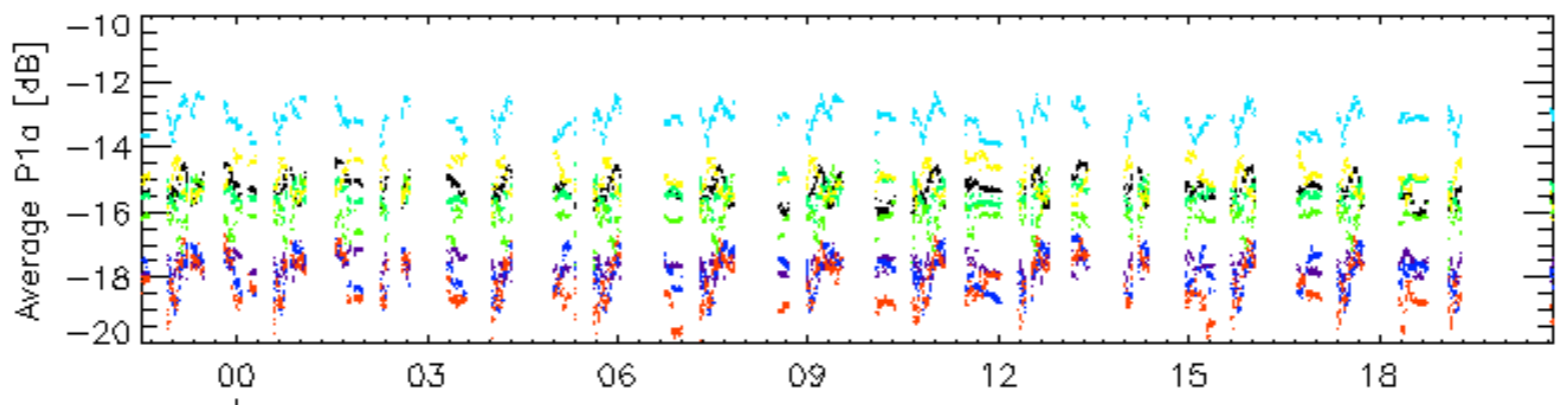


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

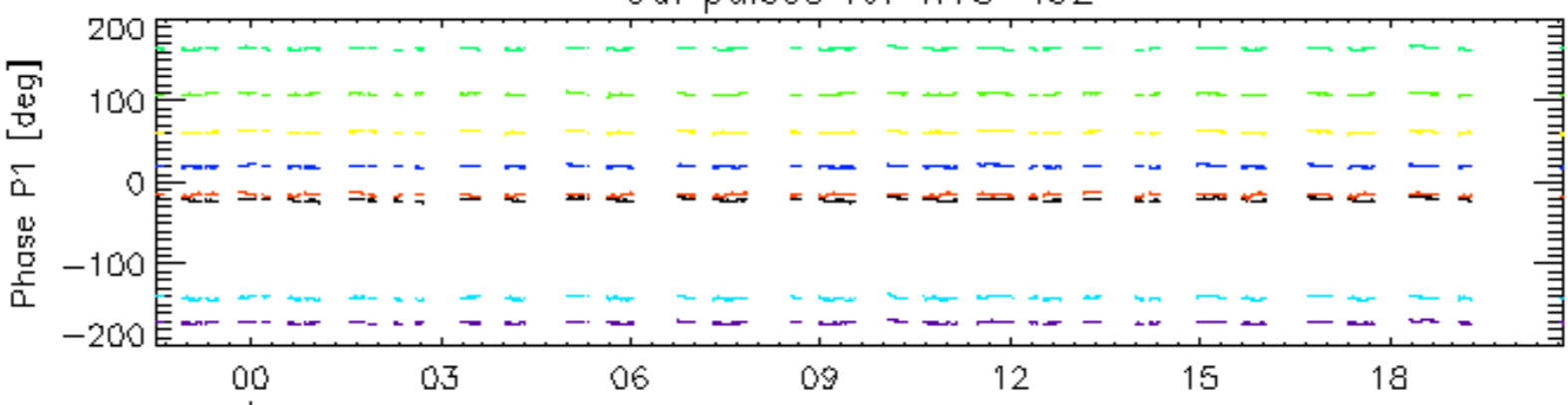


28-May

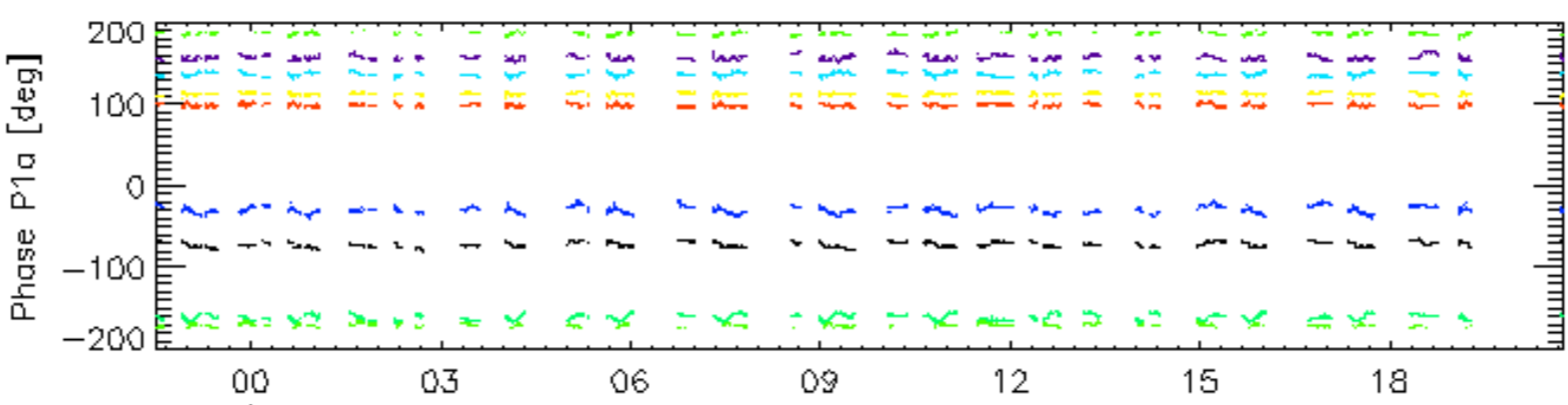


28-May

Cal pulses for WVS IS2

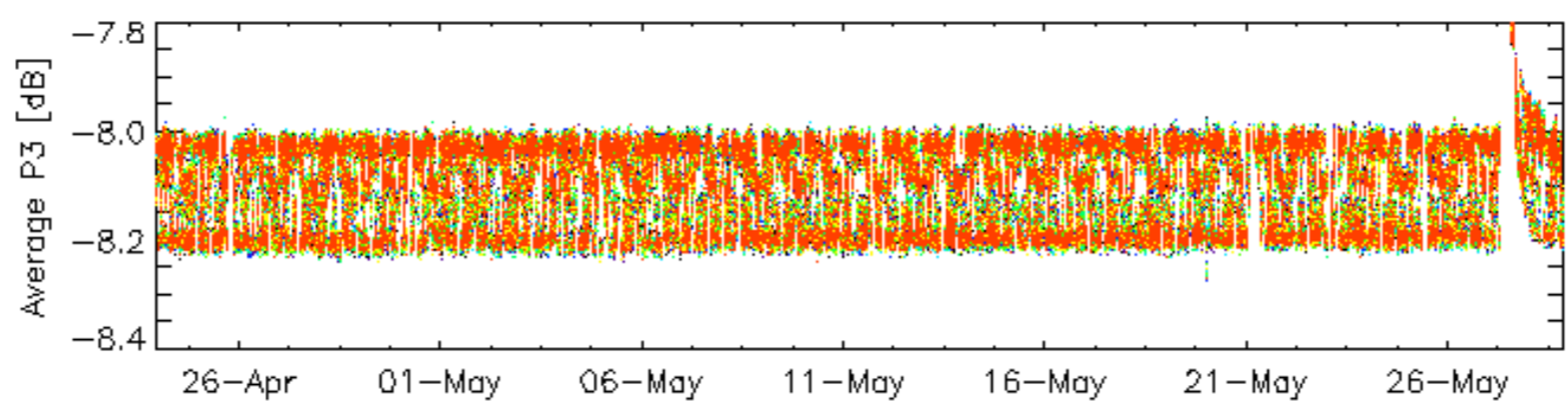
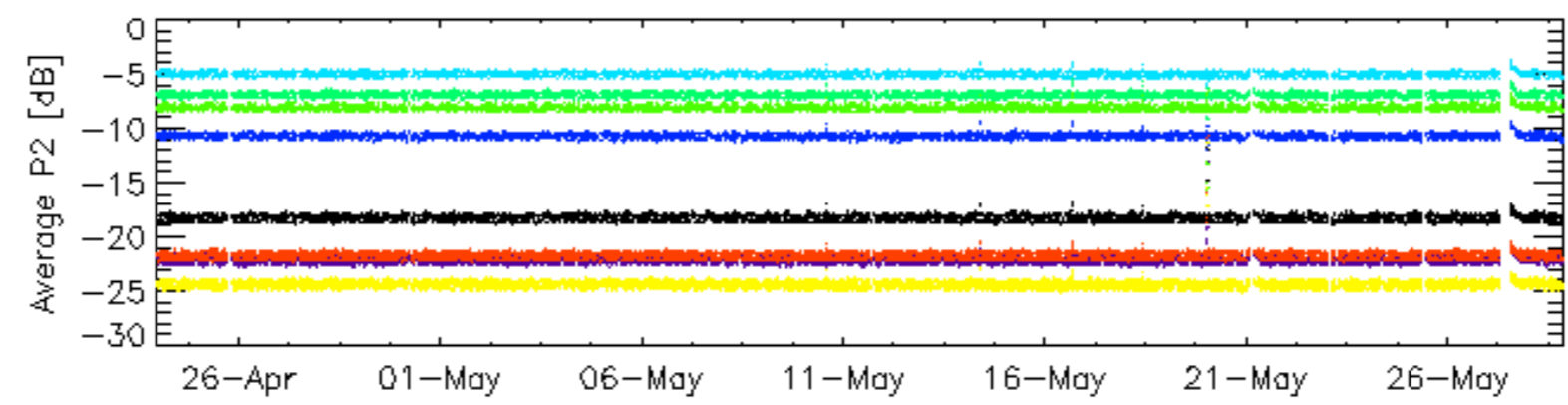
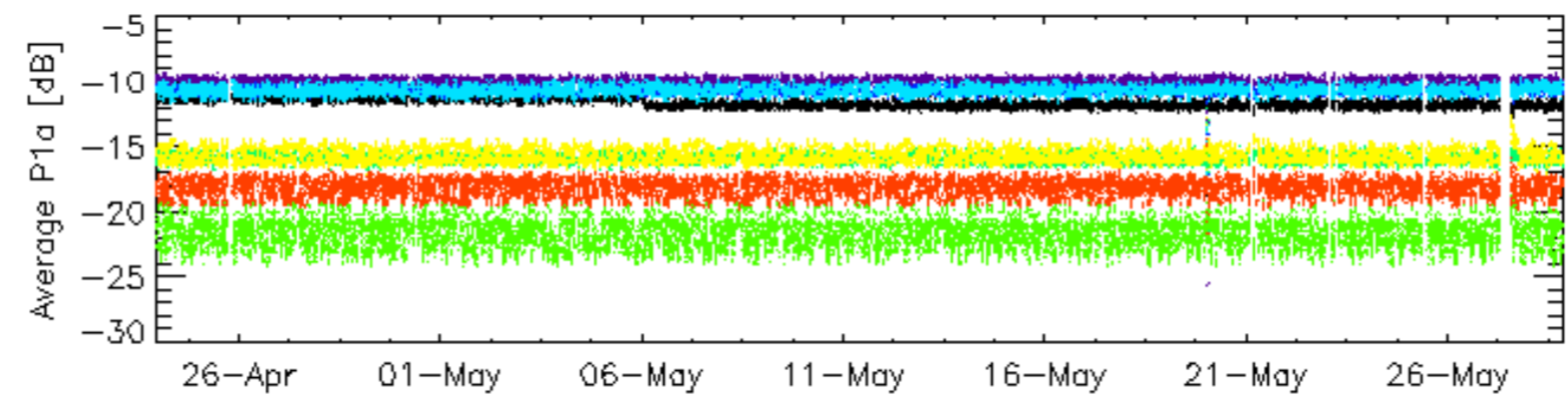
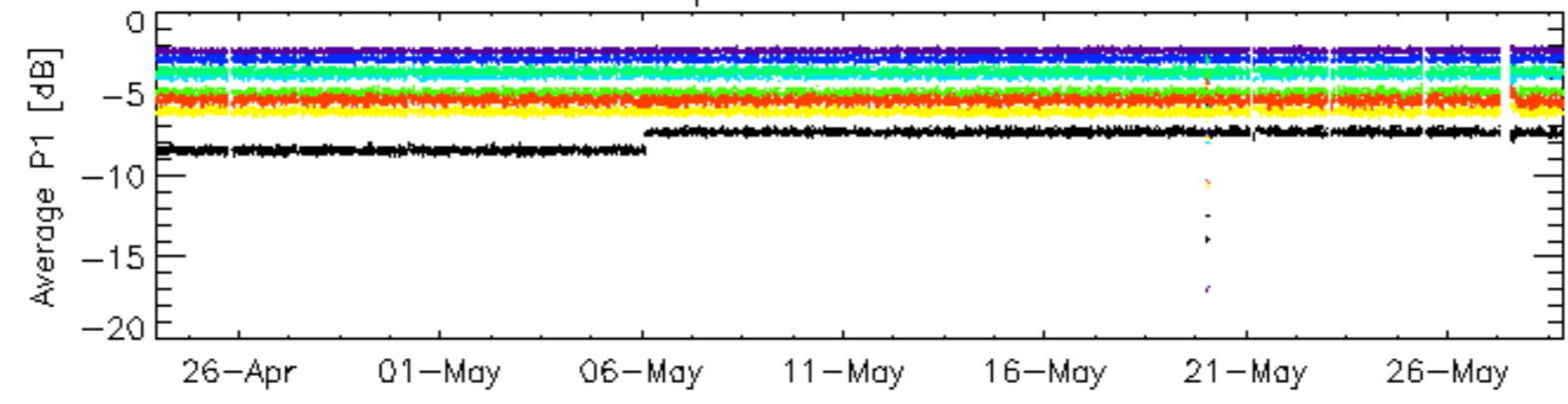


28-May



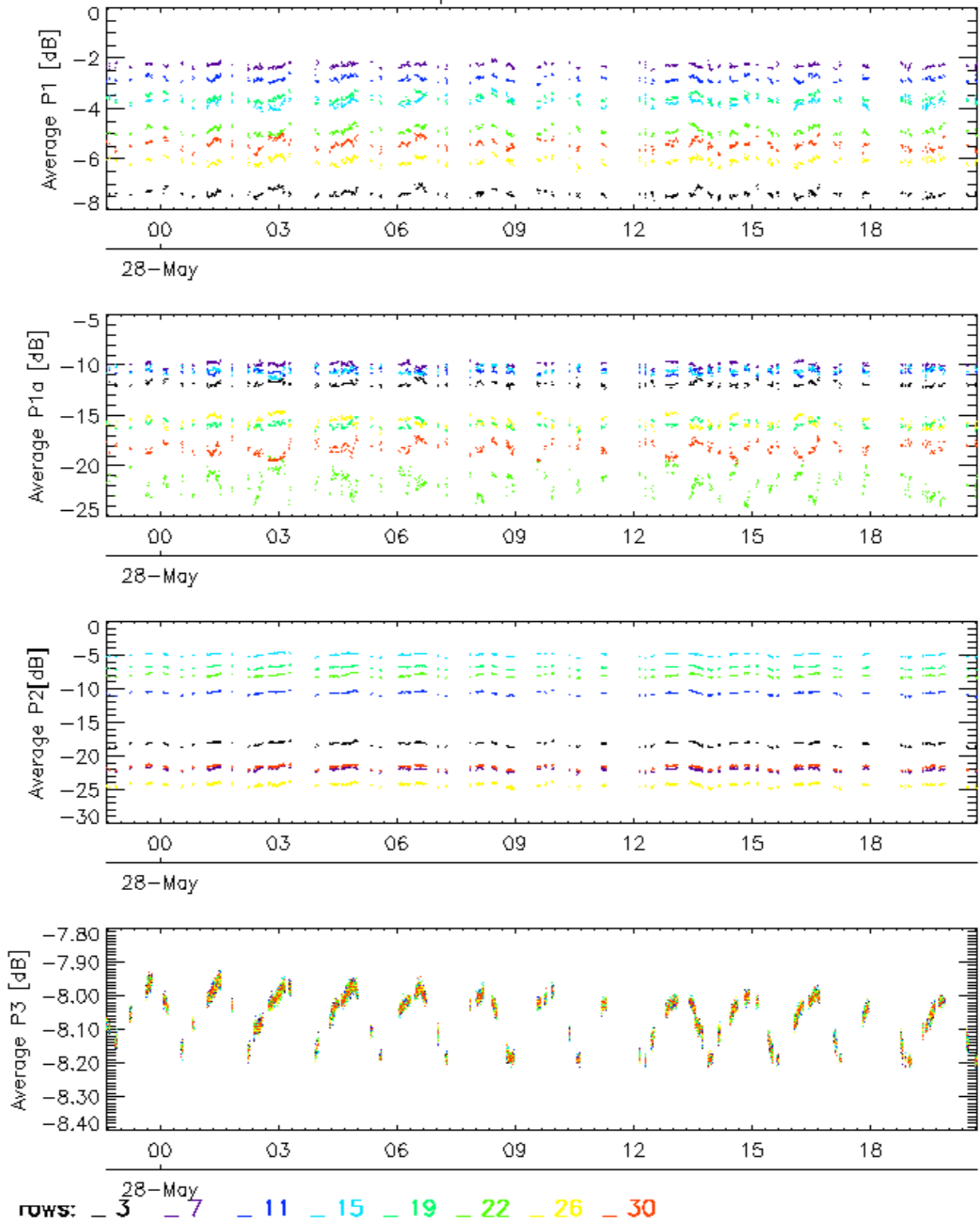
rows: 3 7 11 15 19 22 26 30

### Cal pulses for GM1 SS3

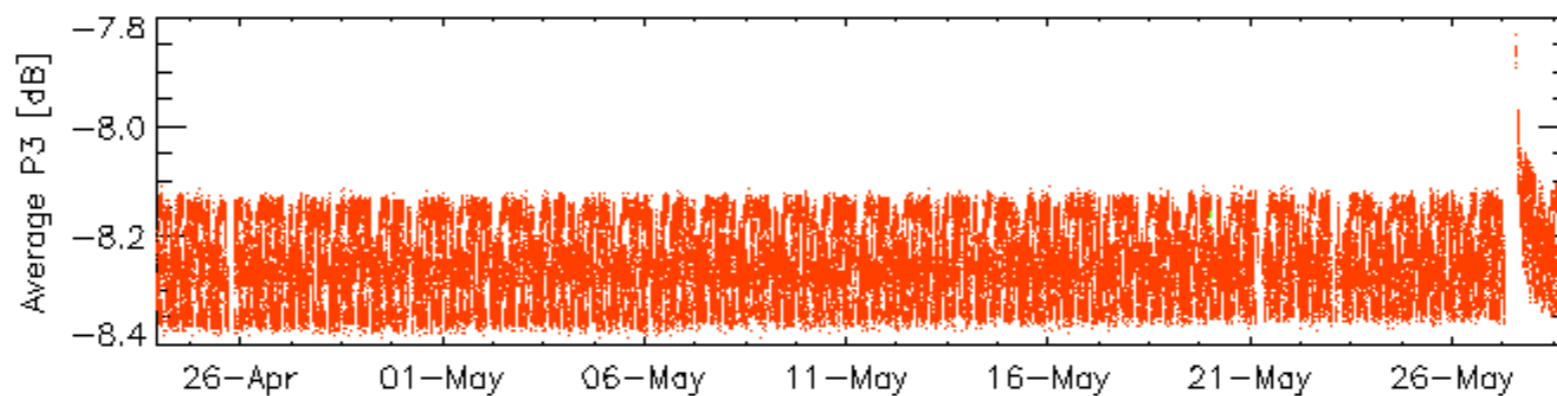
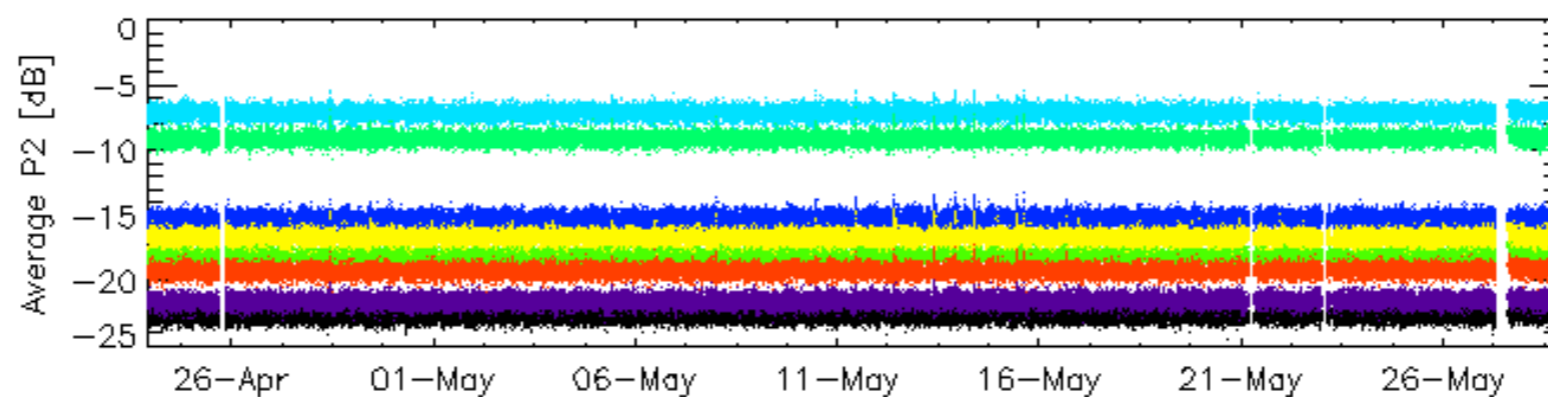
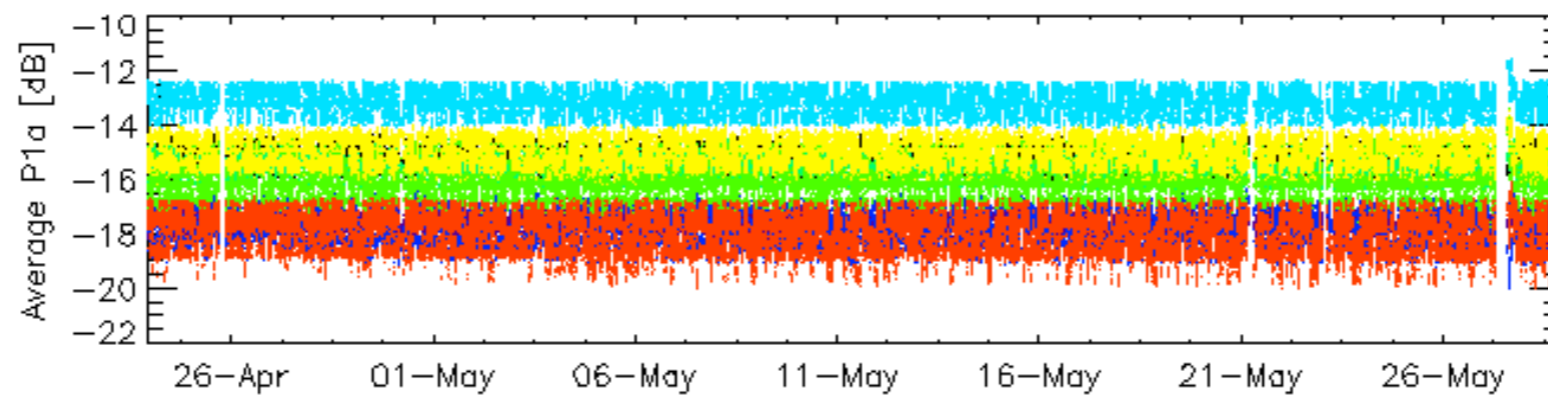
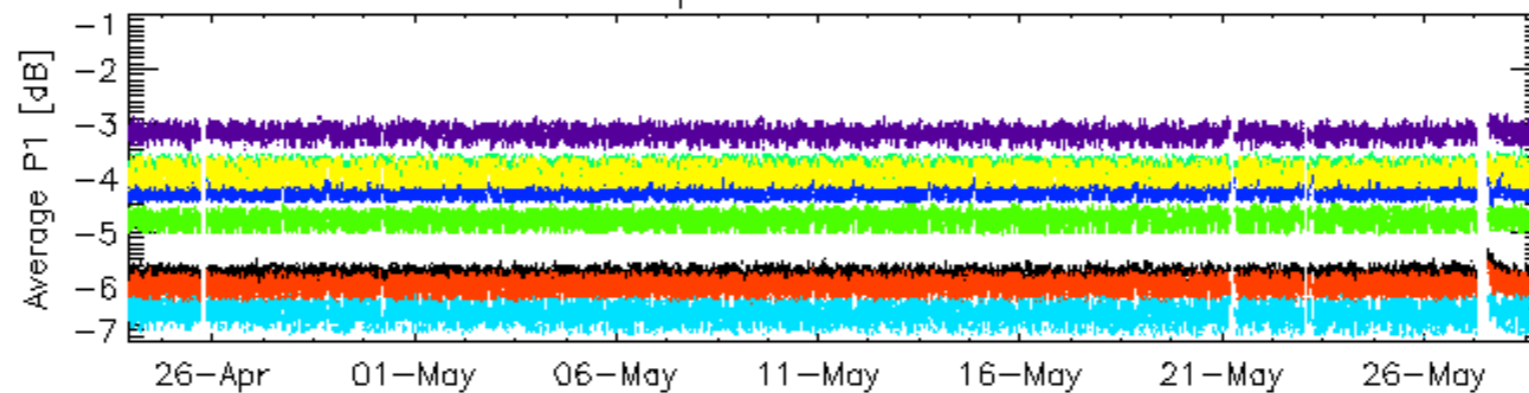


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

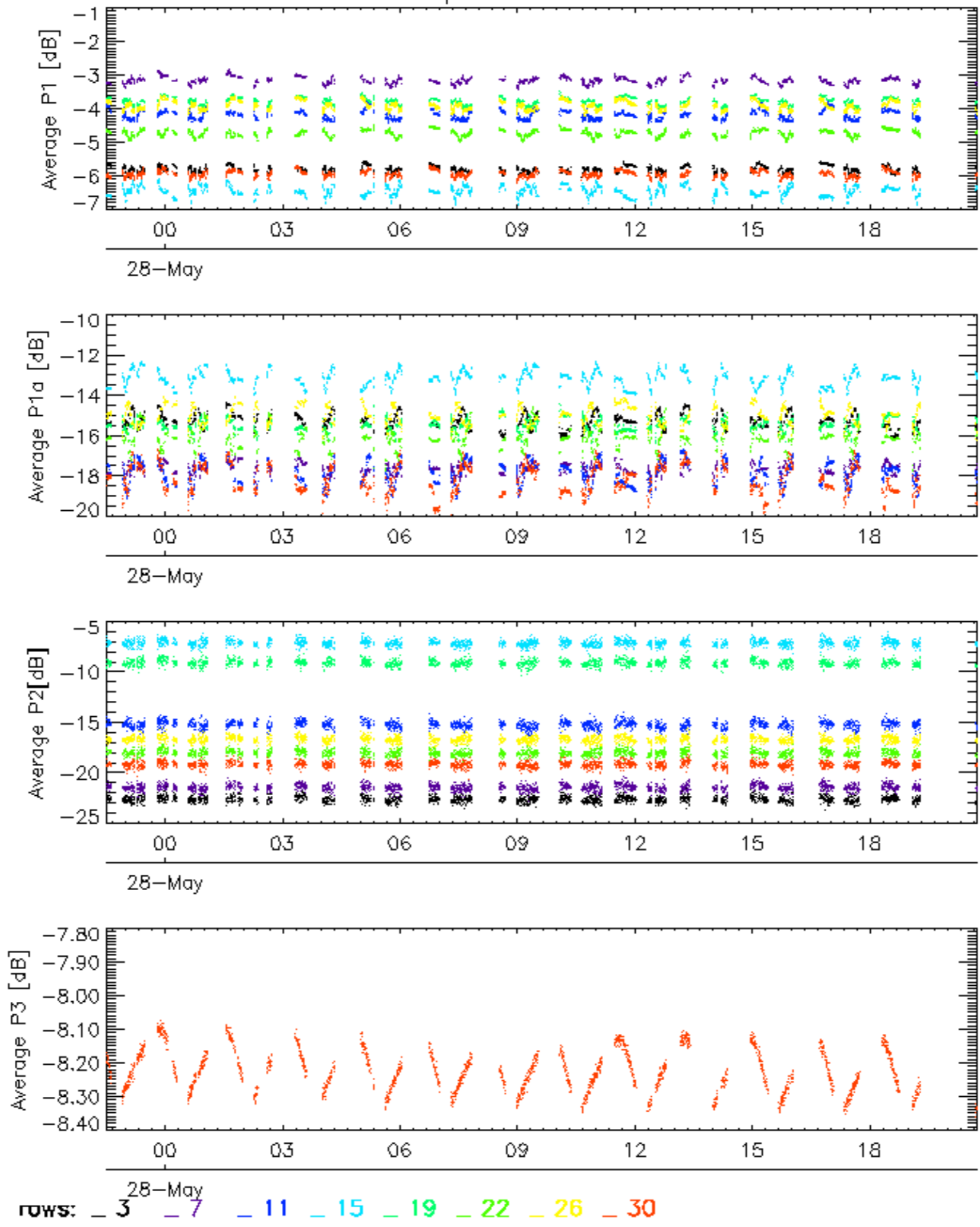


Cal pulses for WVS IS2



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

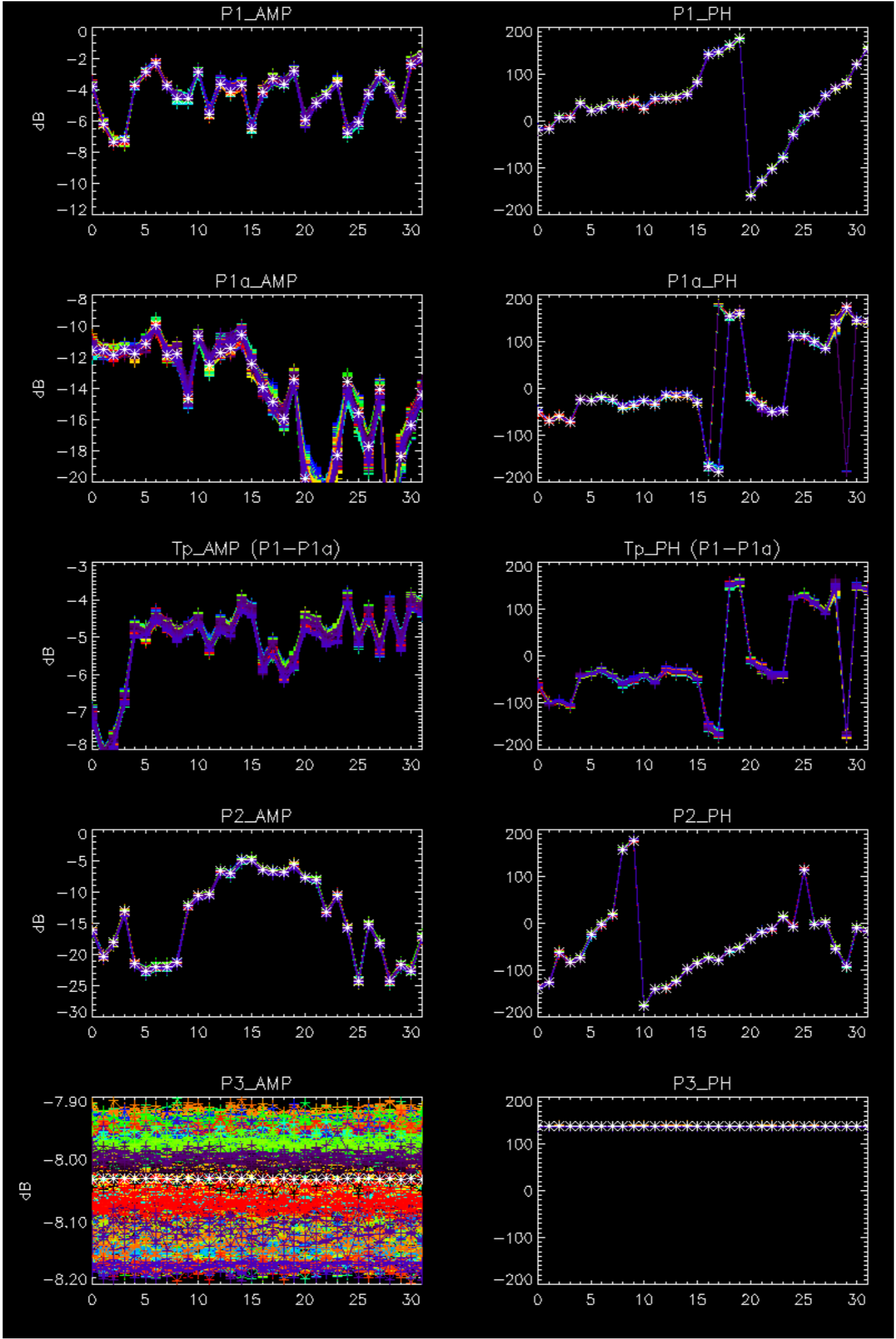
Cal pulses for WVS IS2

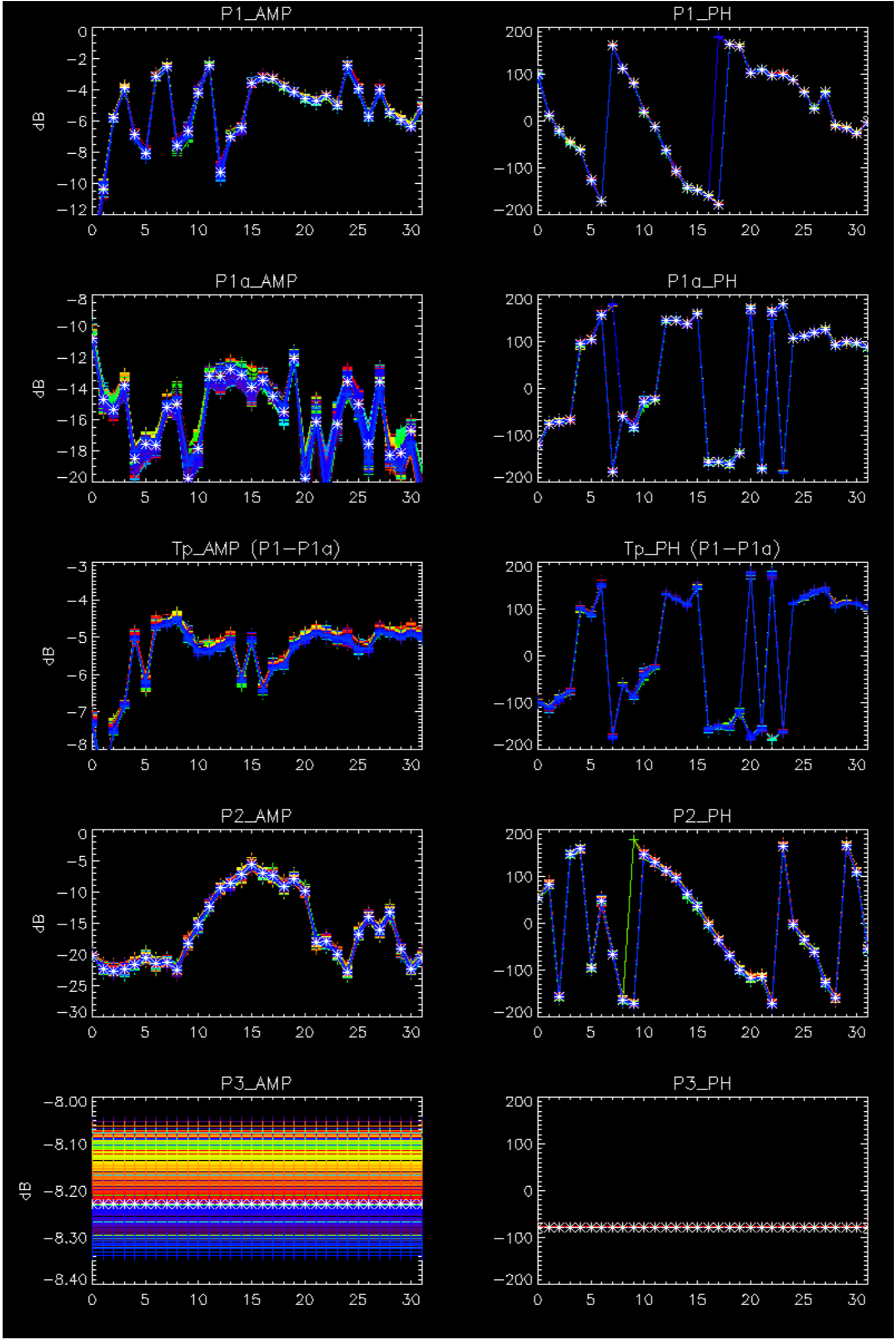


No anomalies observed on available browse products



No anomalies observed.

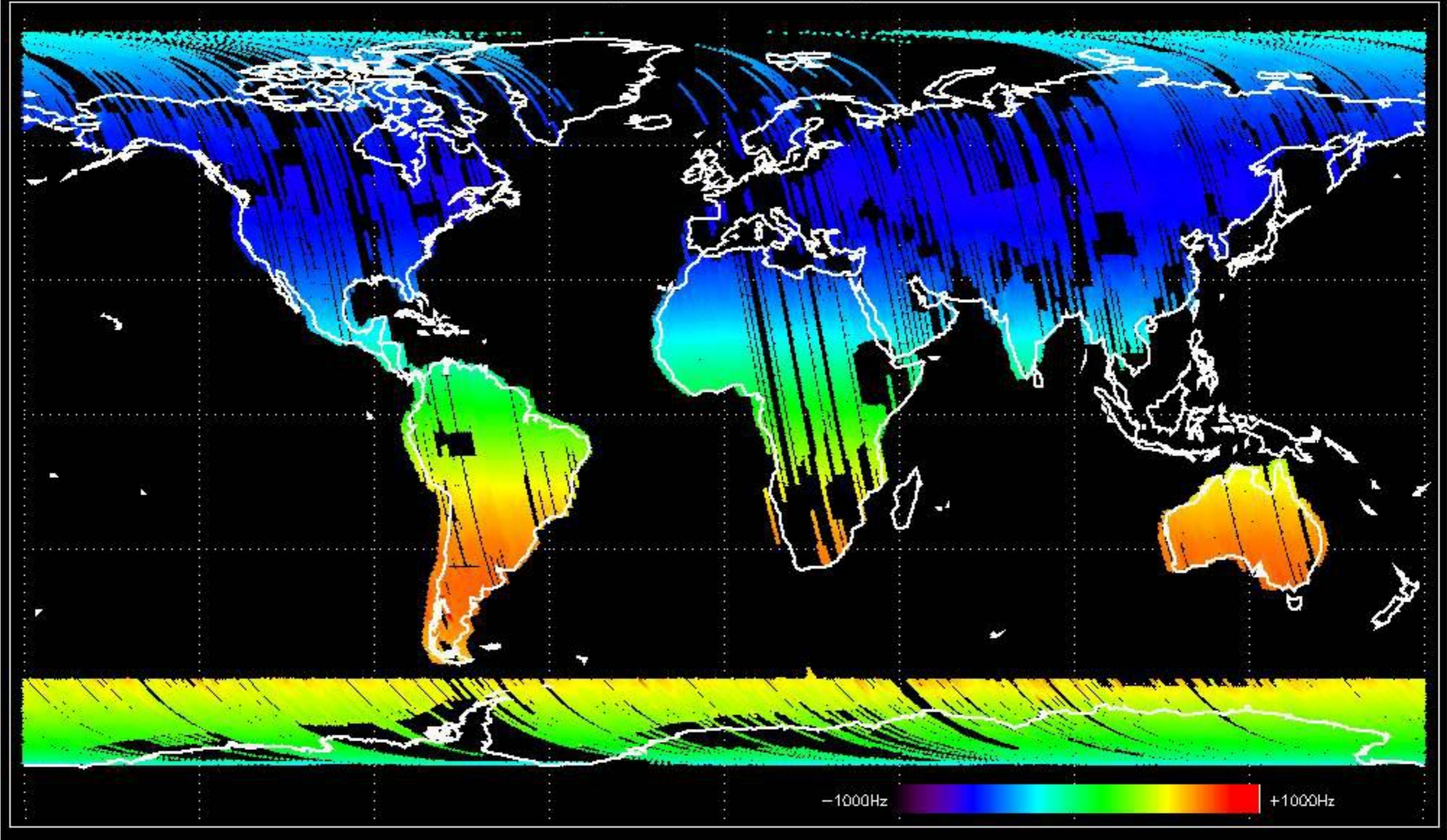




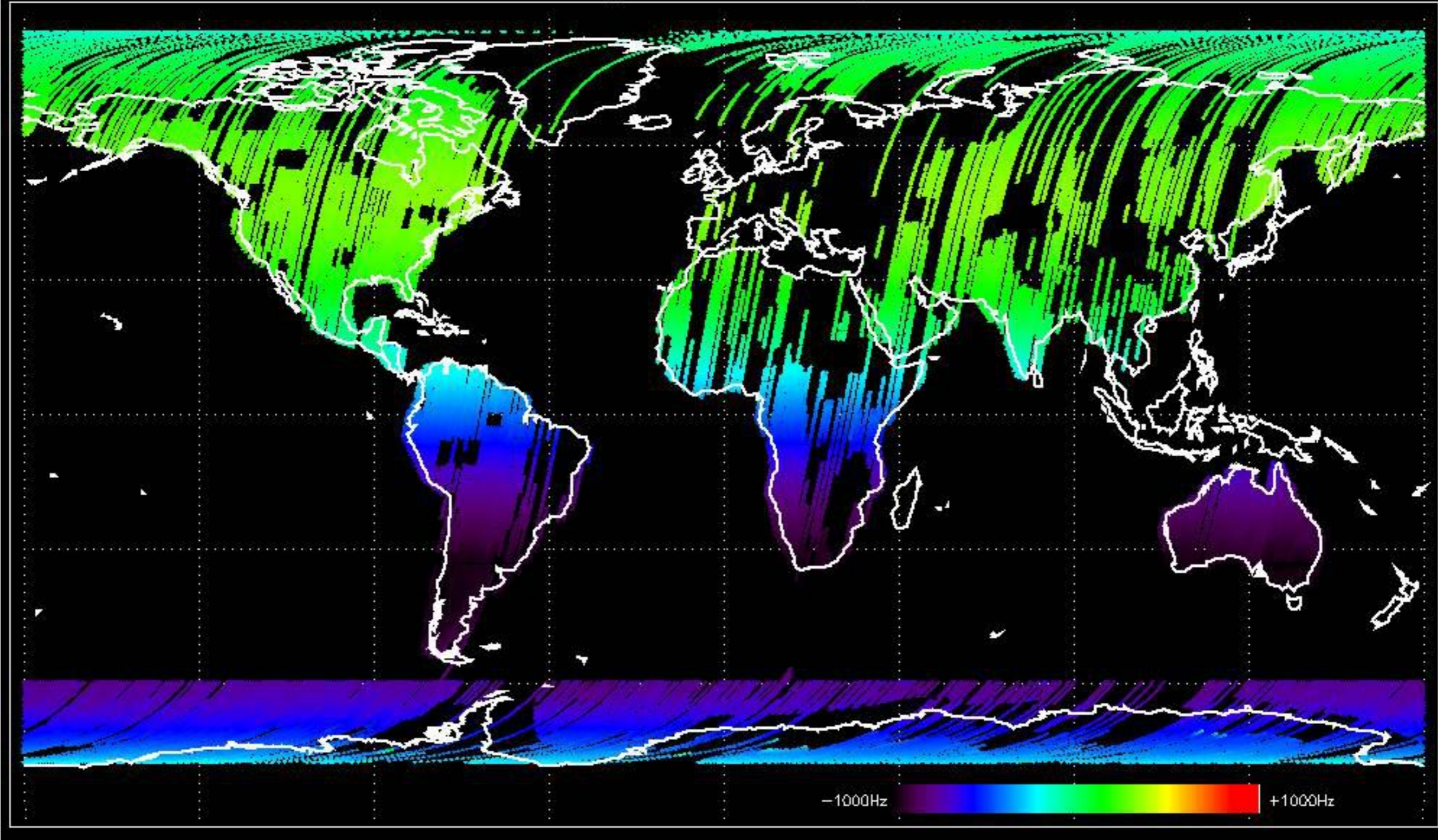
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



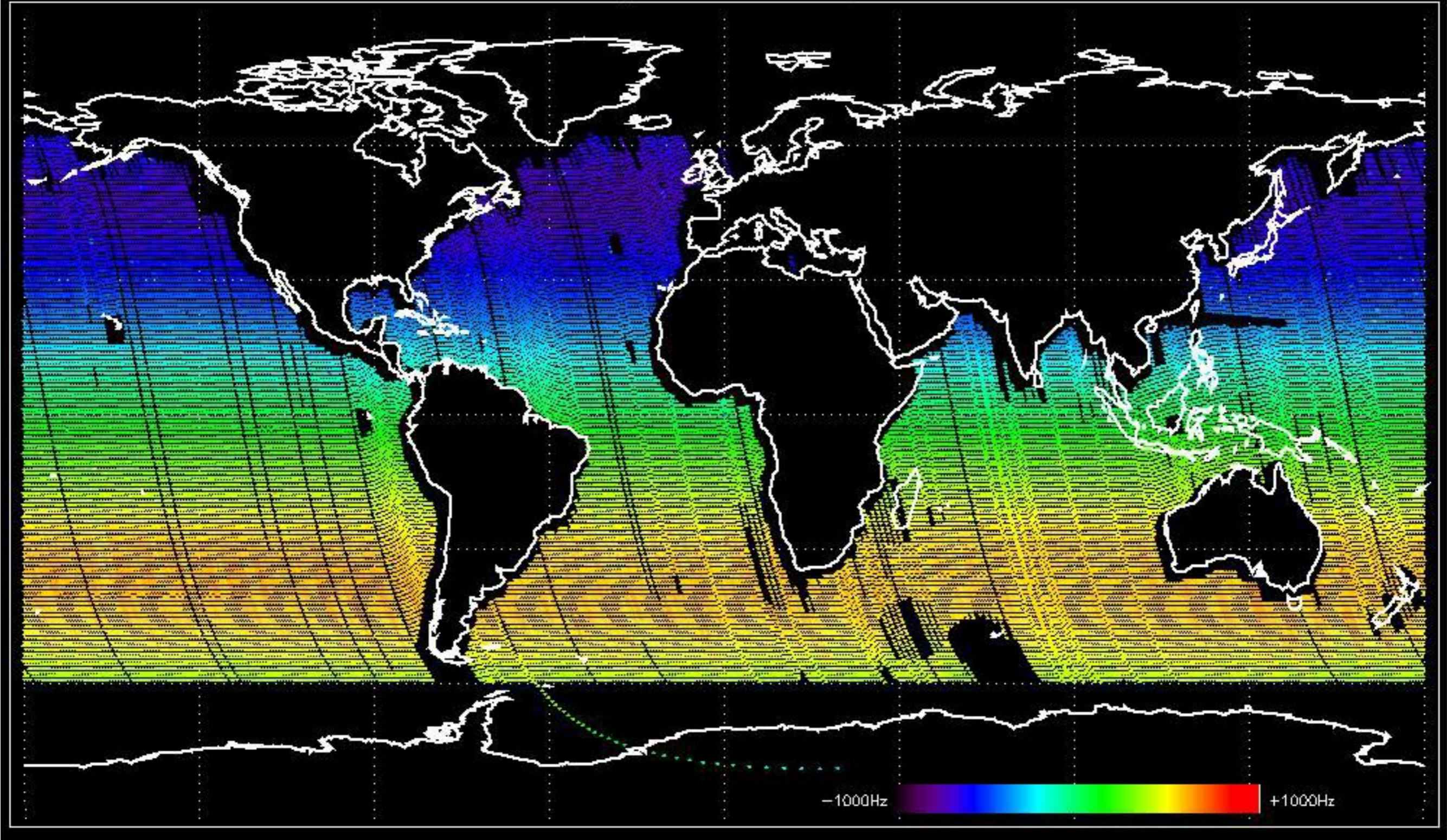
Doppler 'GM1' 'SS1' ascending



Doppler 'GM1' 'SS1' descending

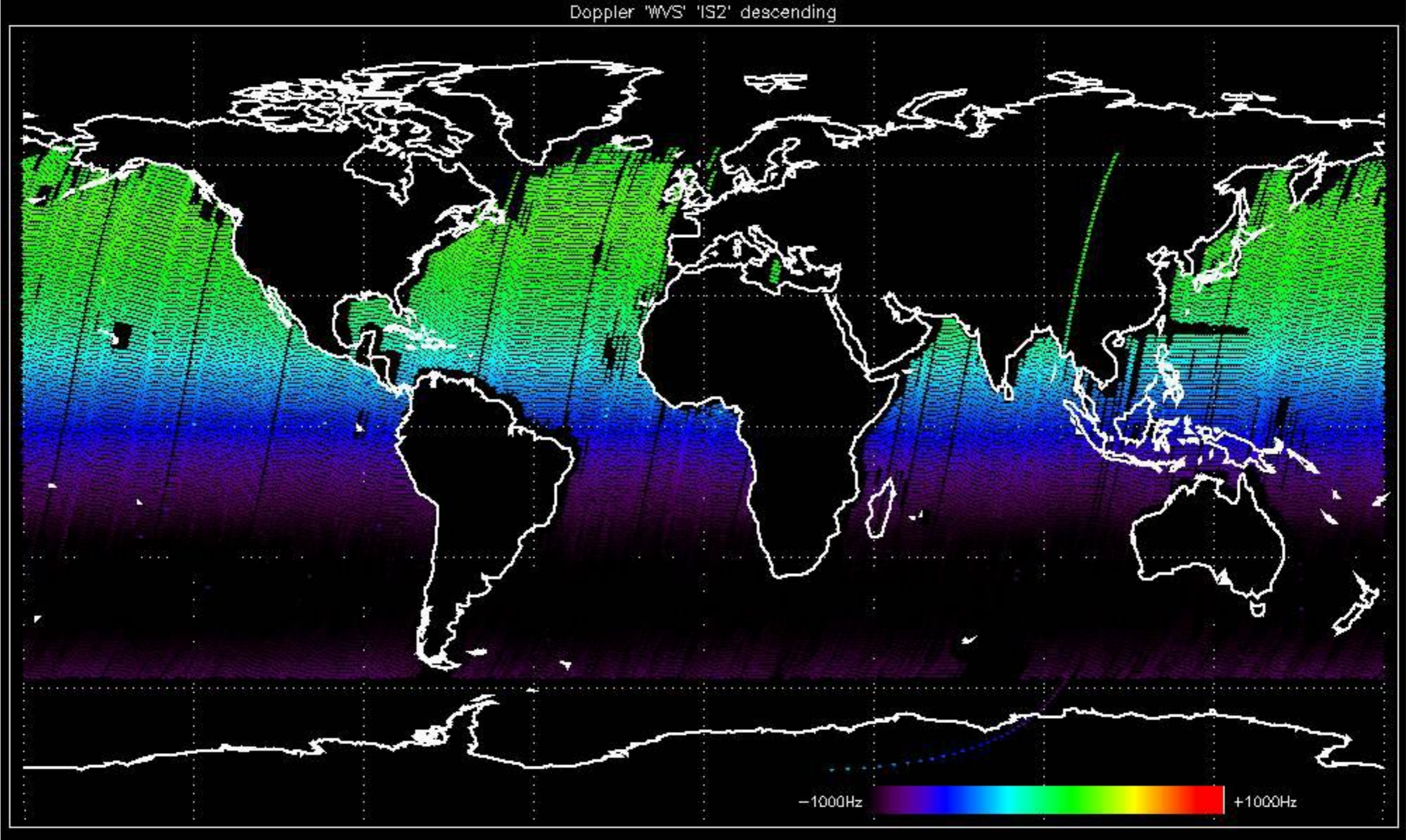


Doppler 'WVS' 'IS2' ascending

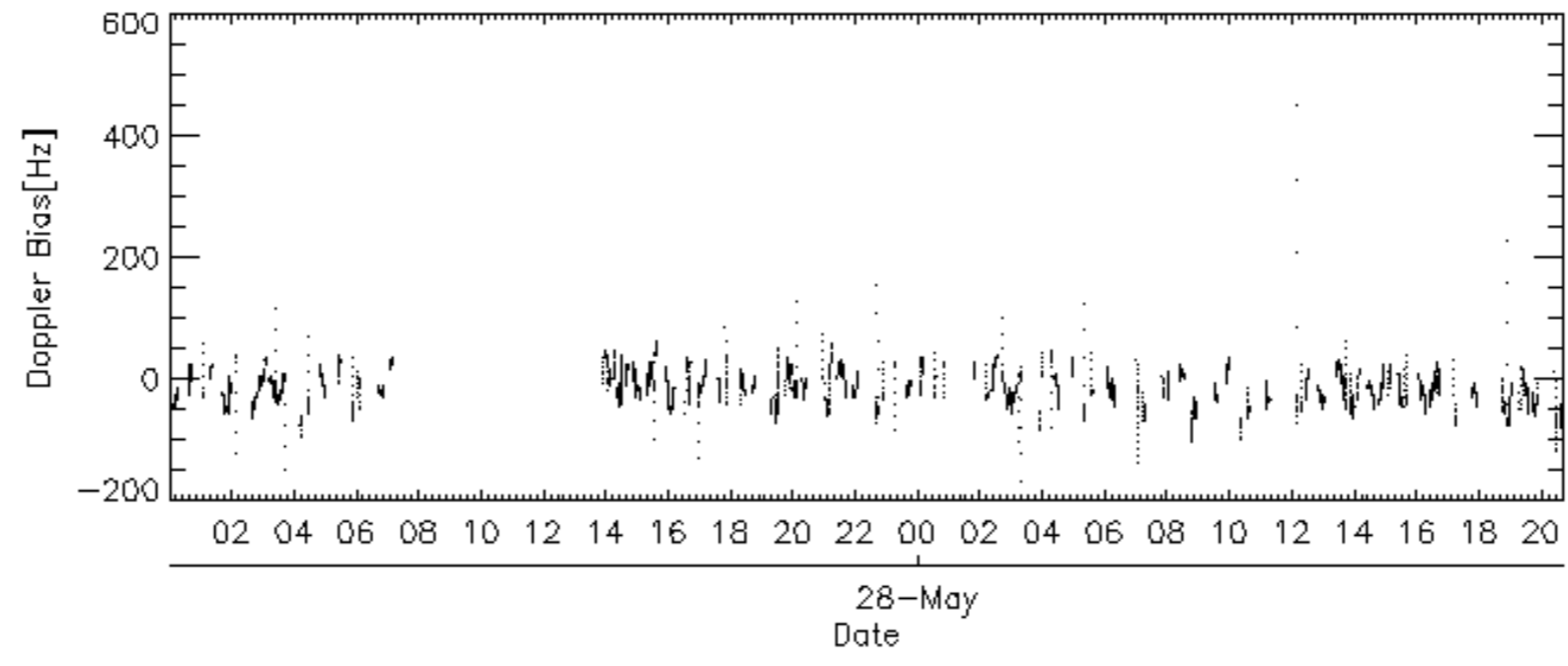
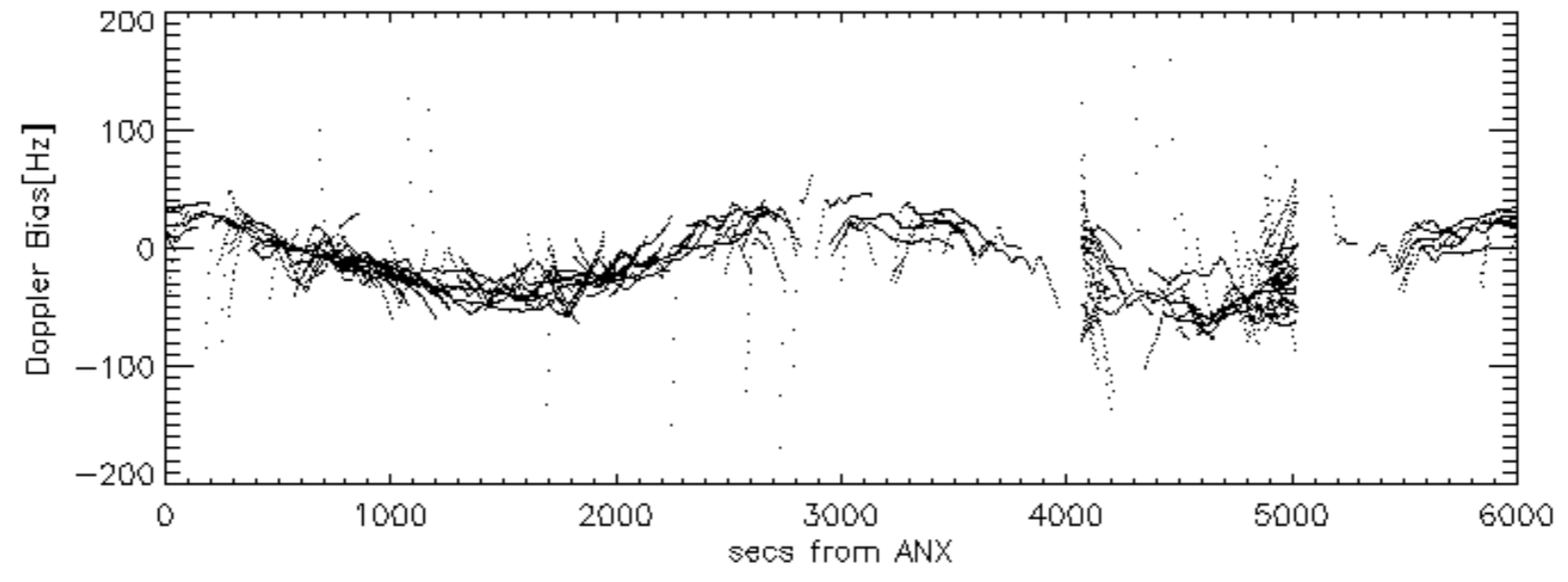
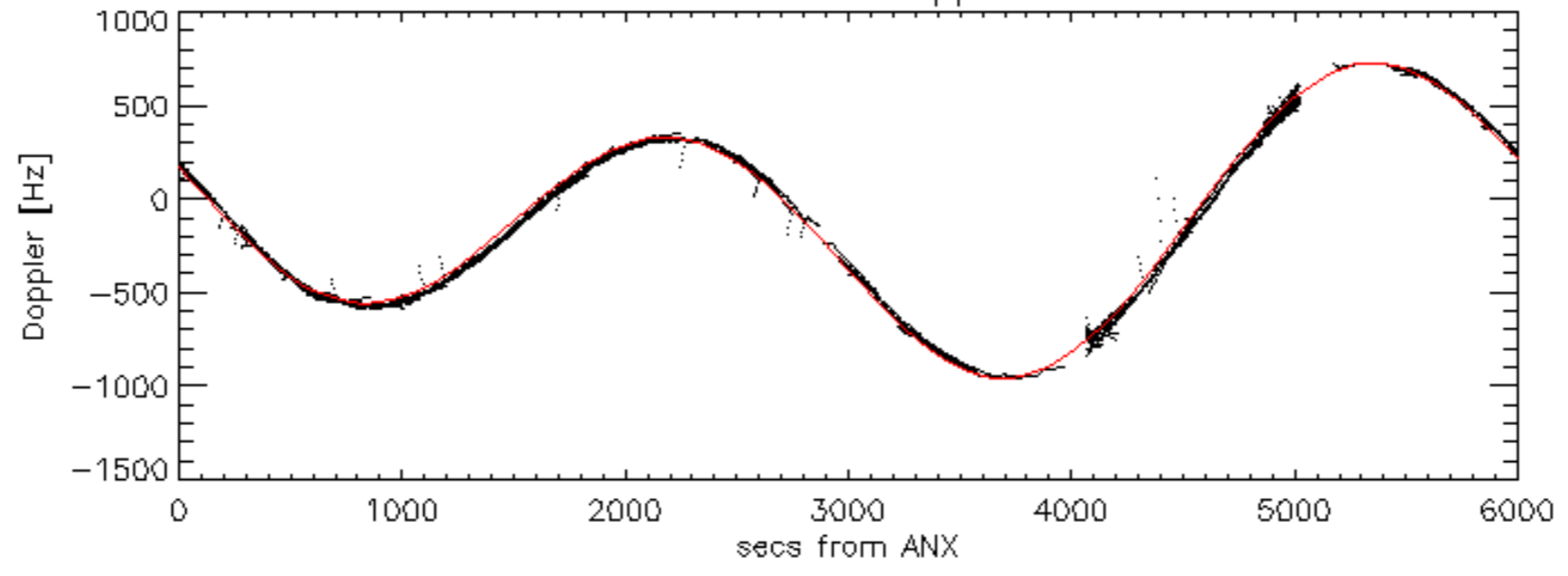


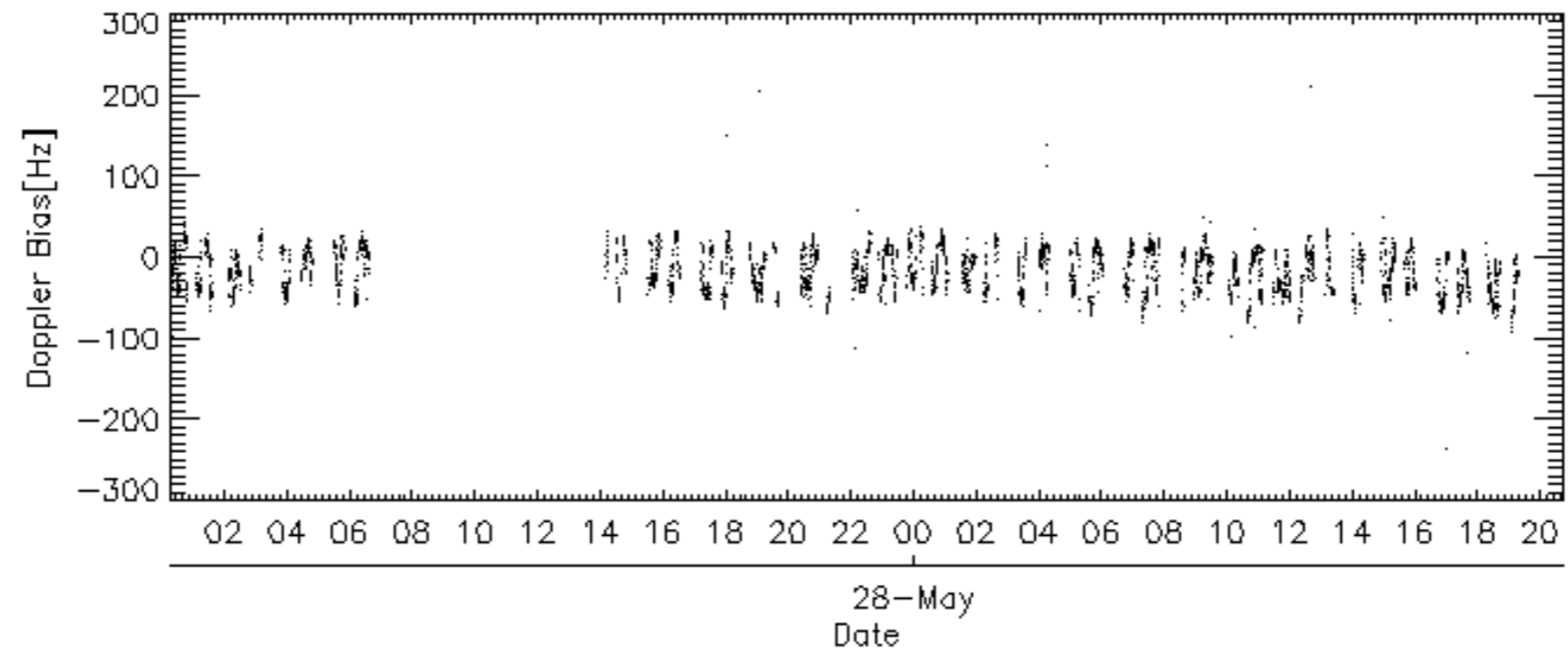
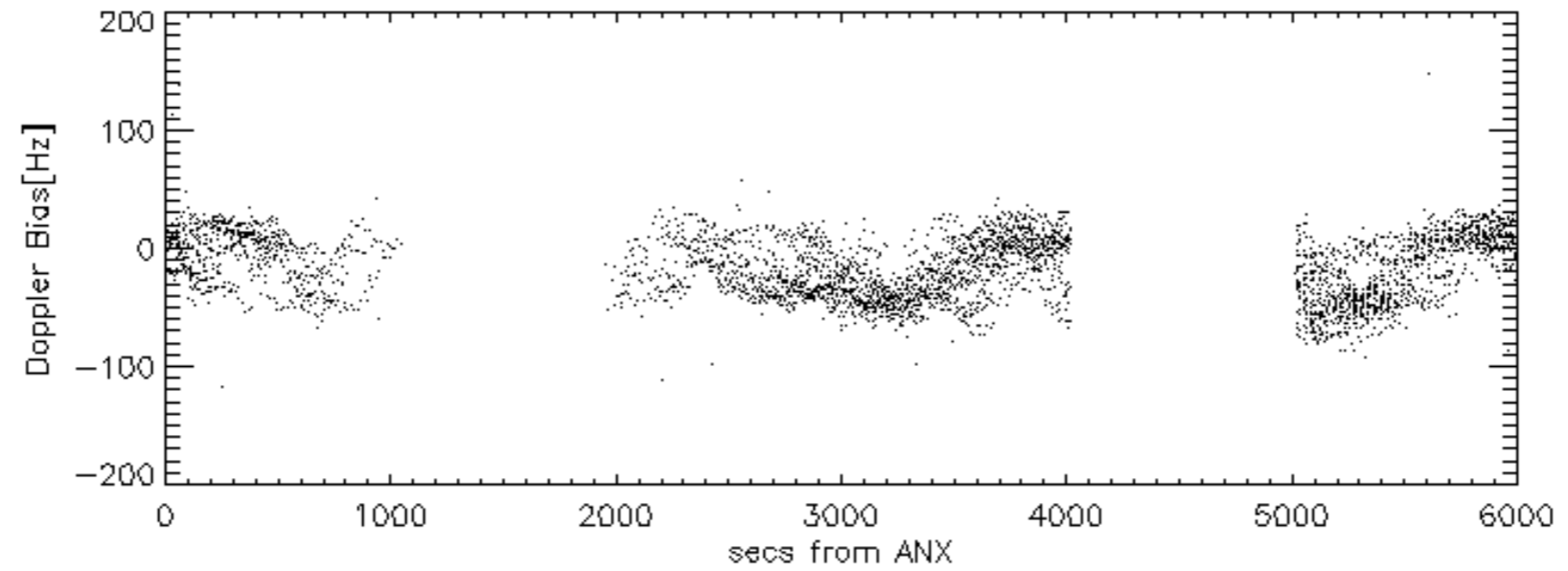
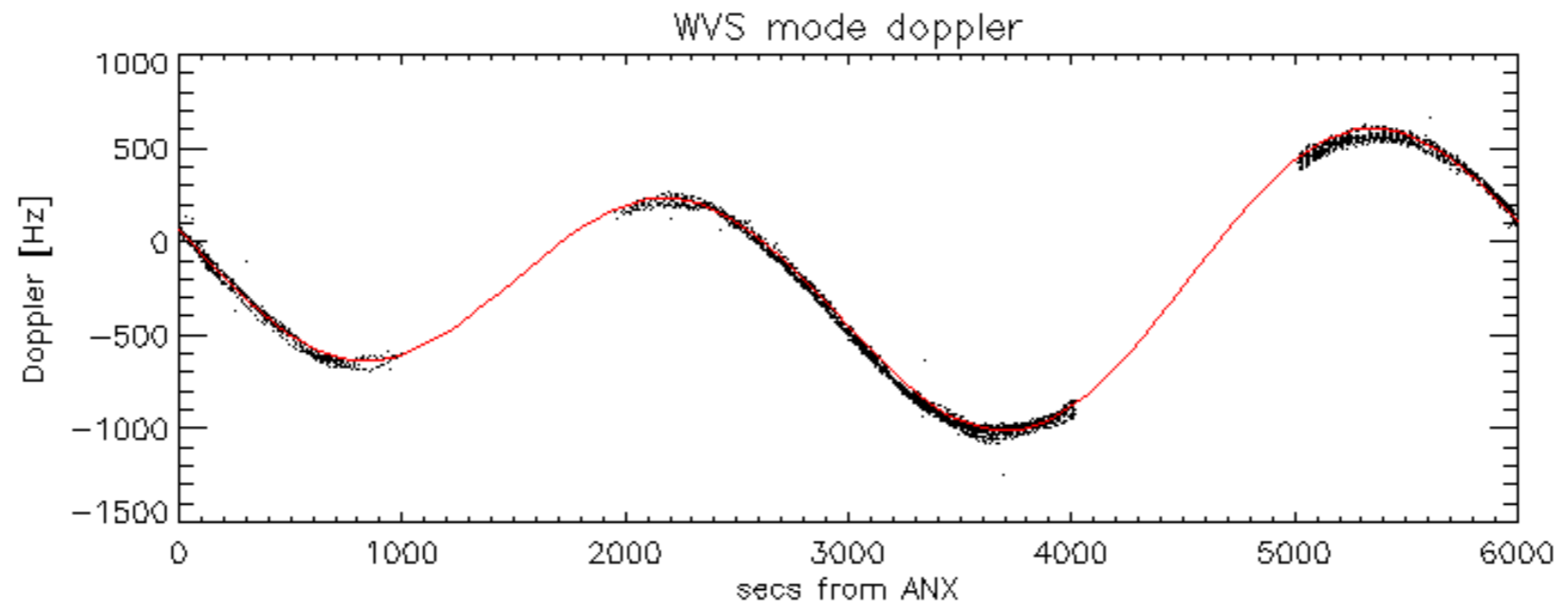


Doppler 'WVS' 'IS2' descending

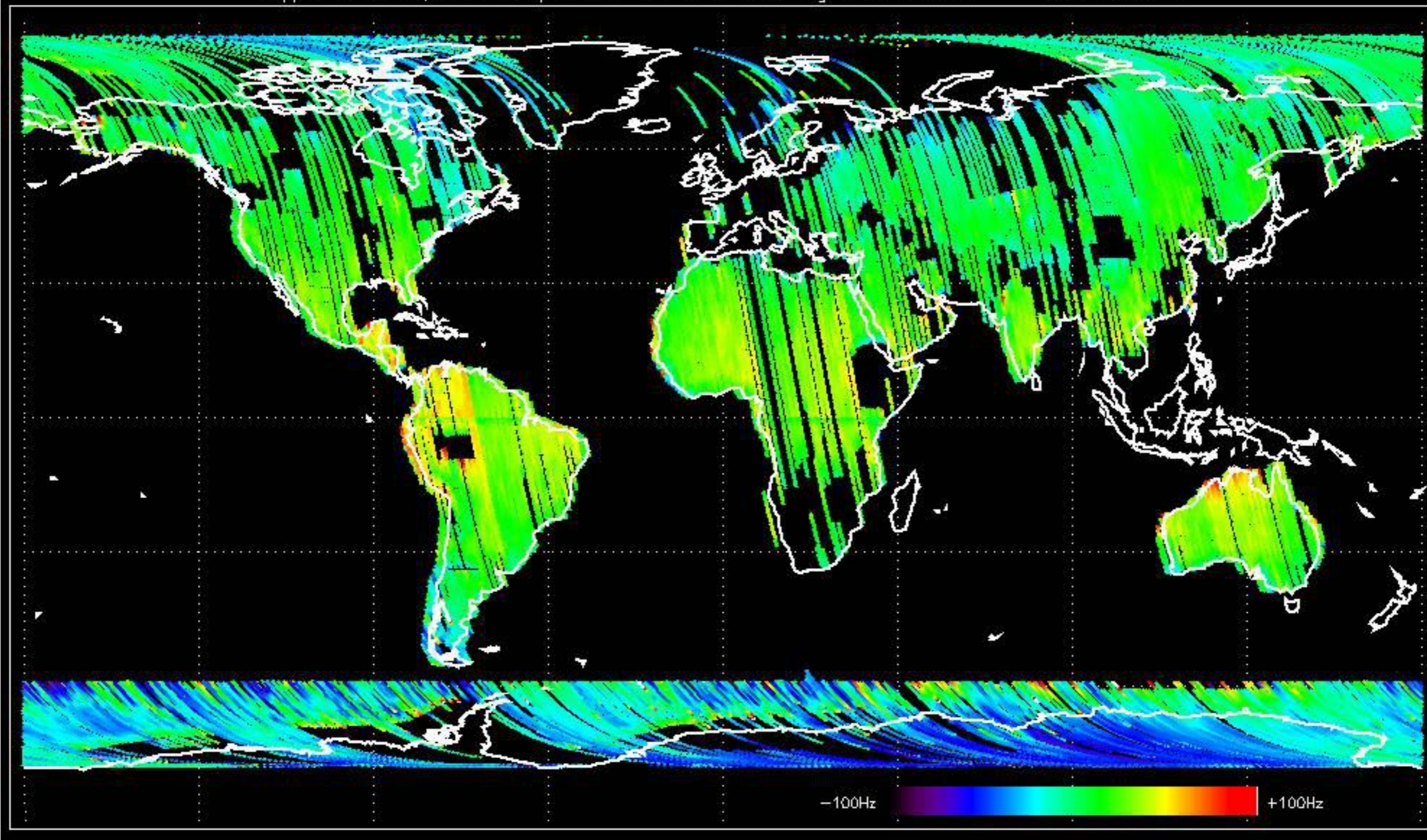


GM1 mode doppler

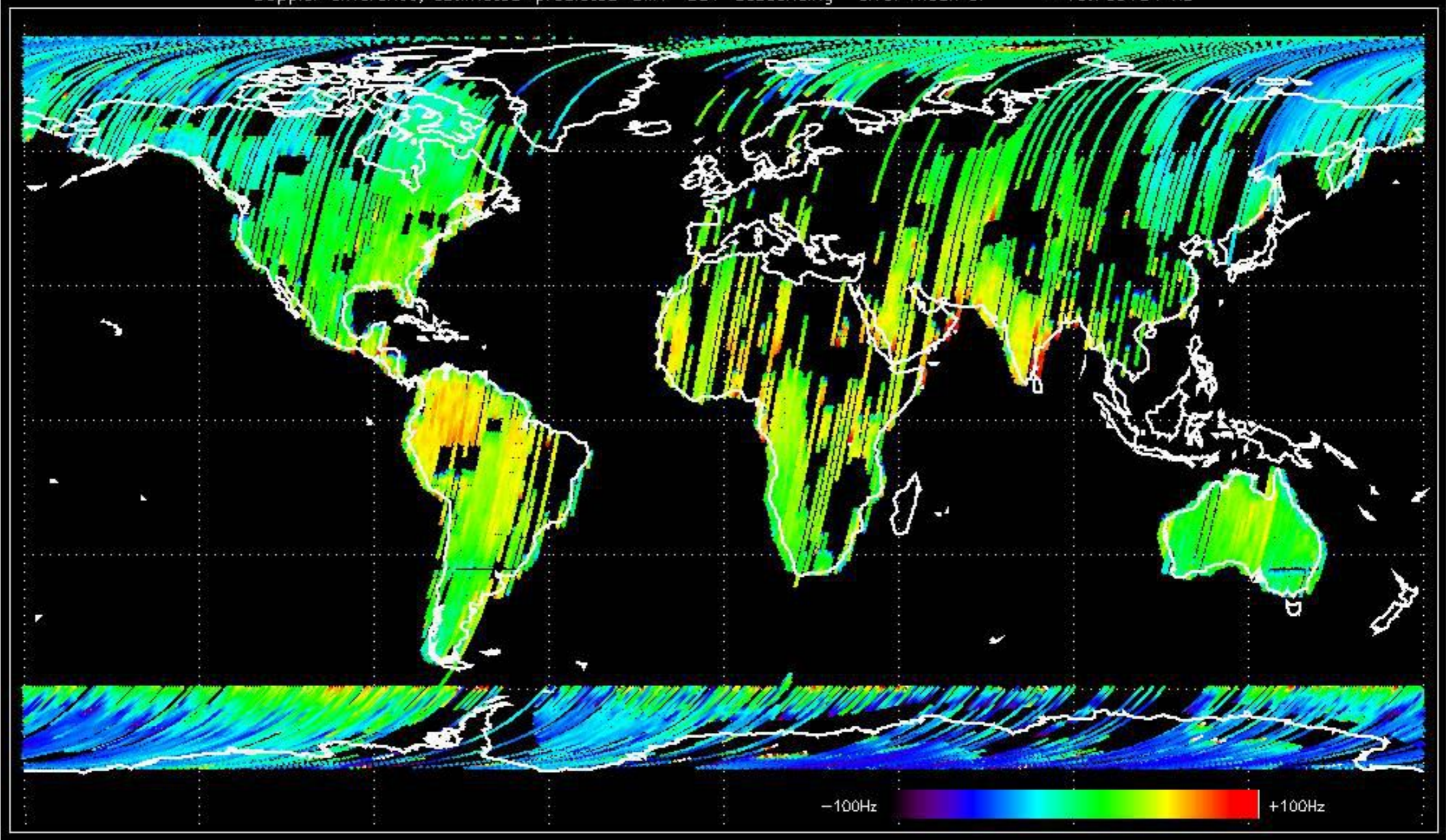




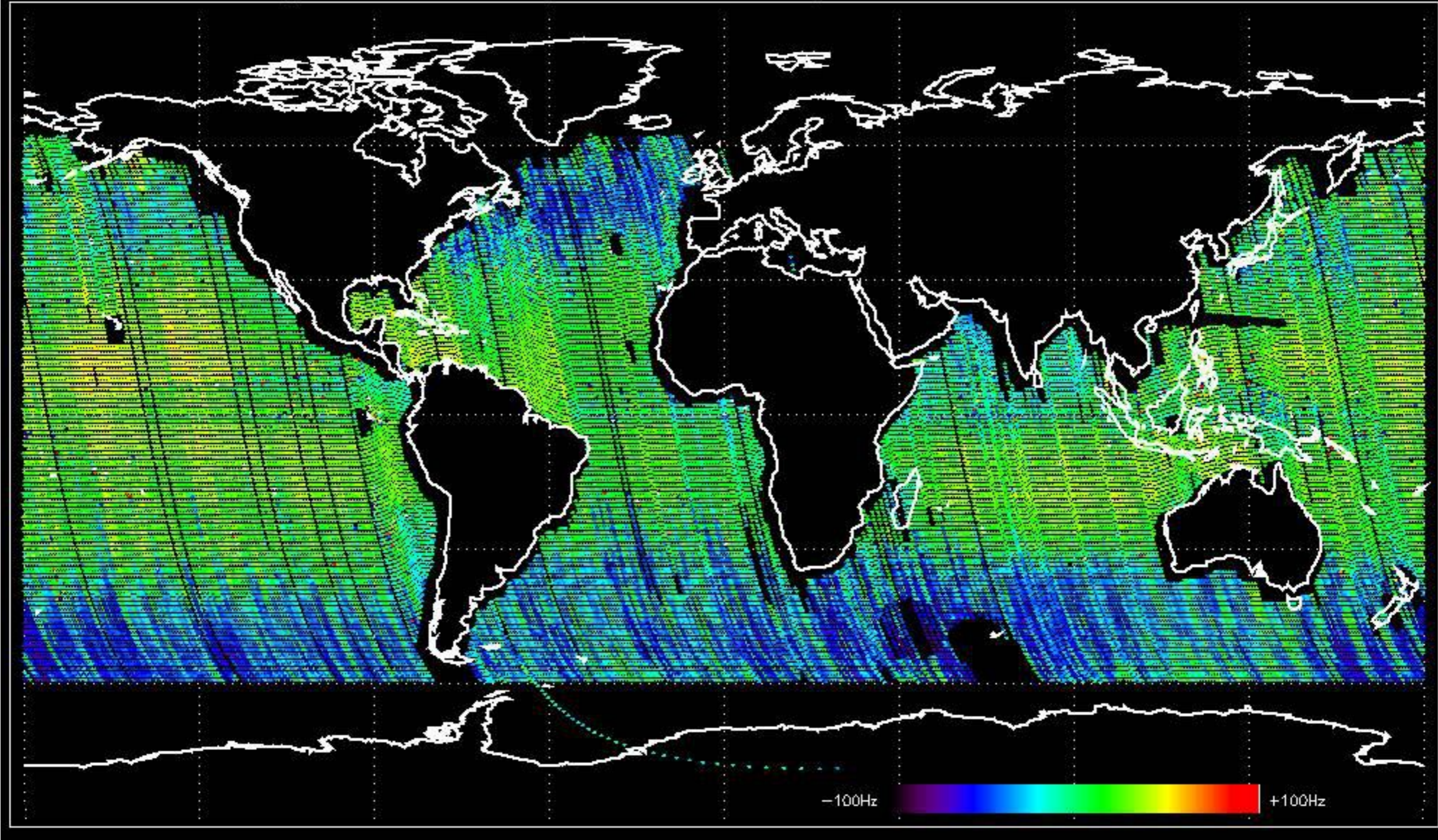
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -21.261341 Hz



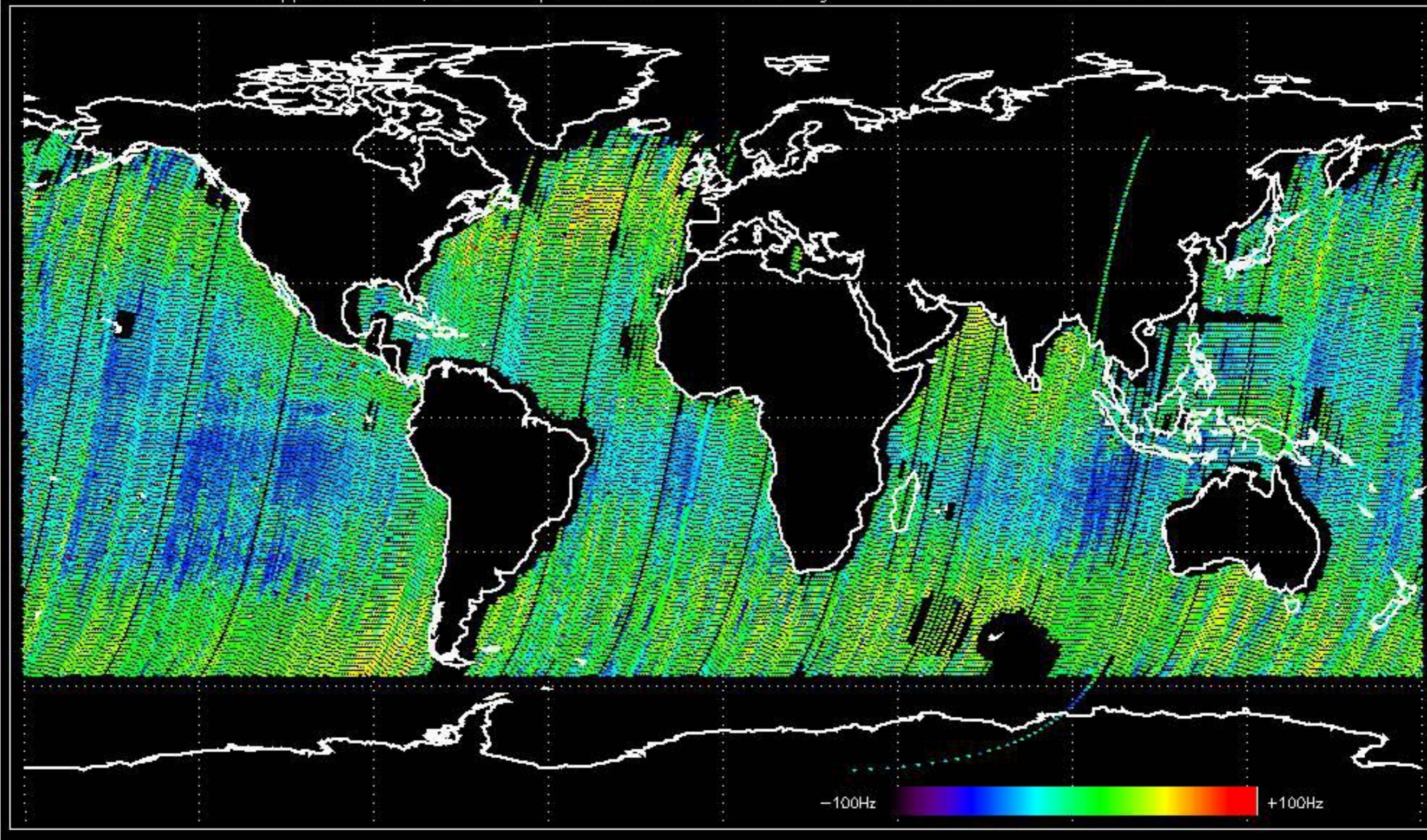
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -15.769104 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -14.313574 Hz



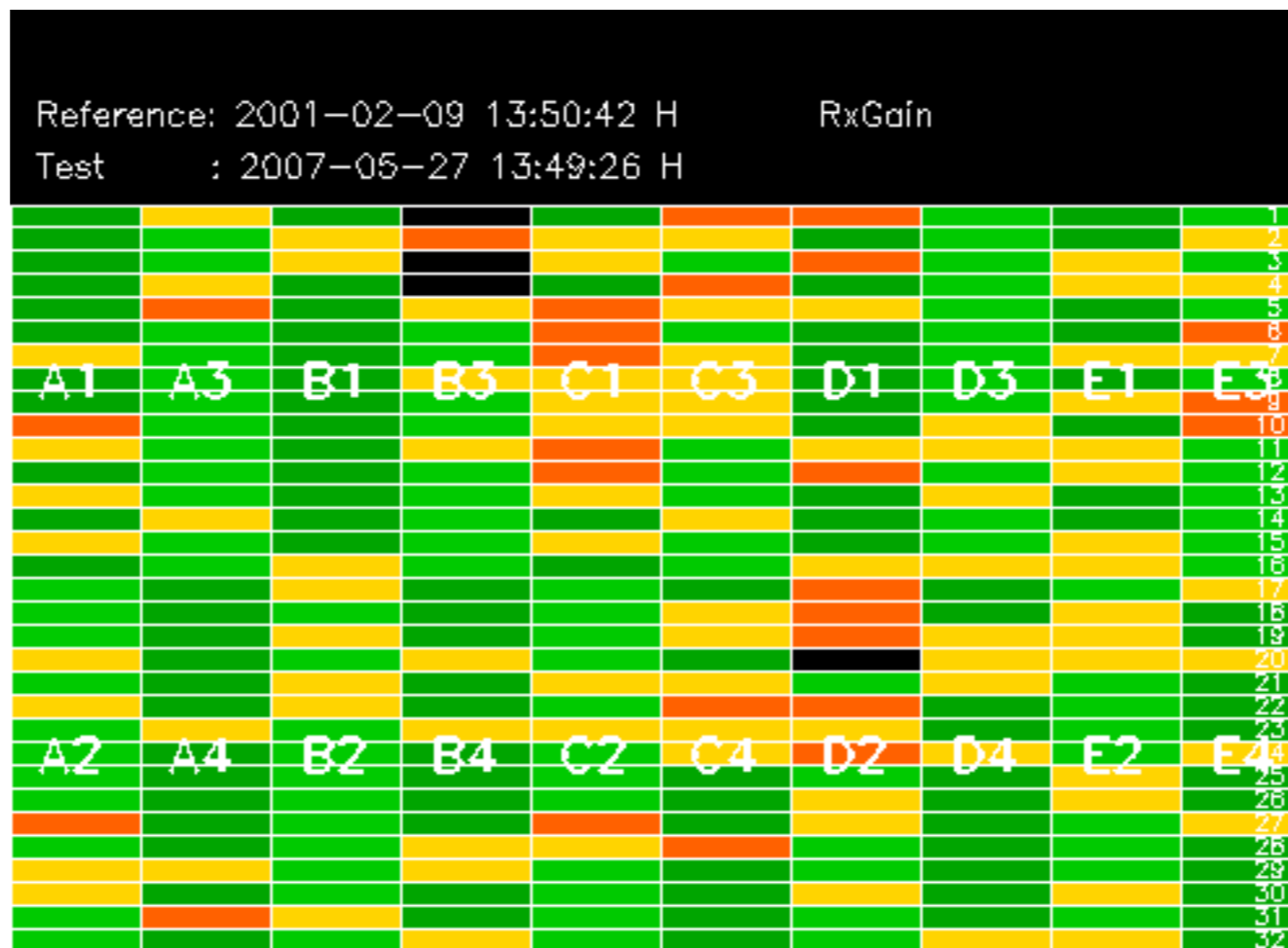
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -22.066873 Hz



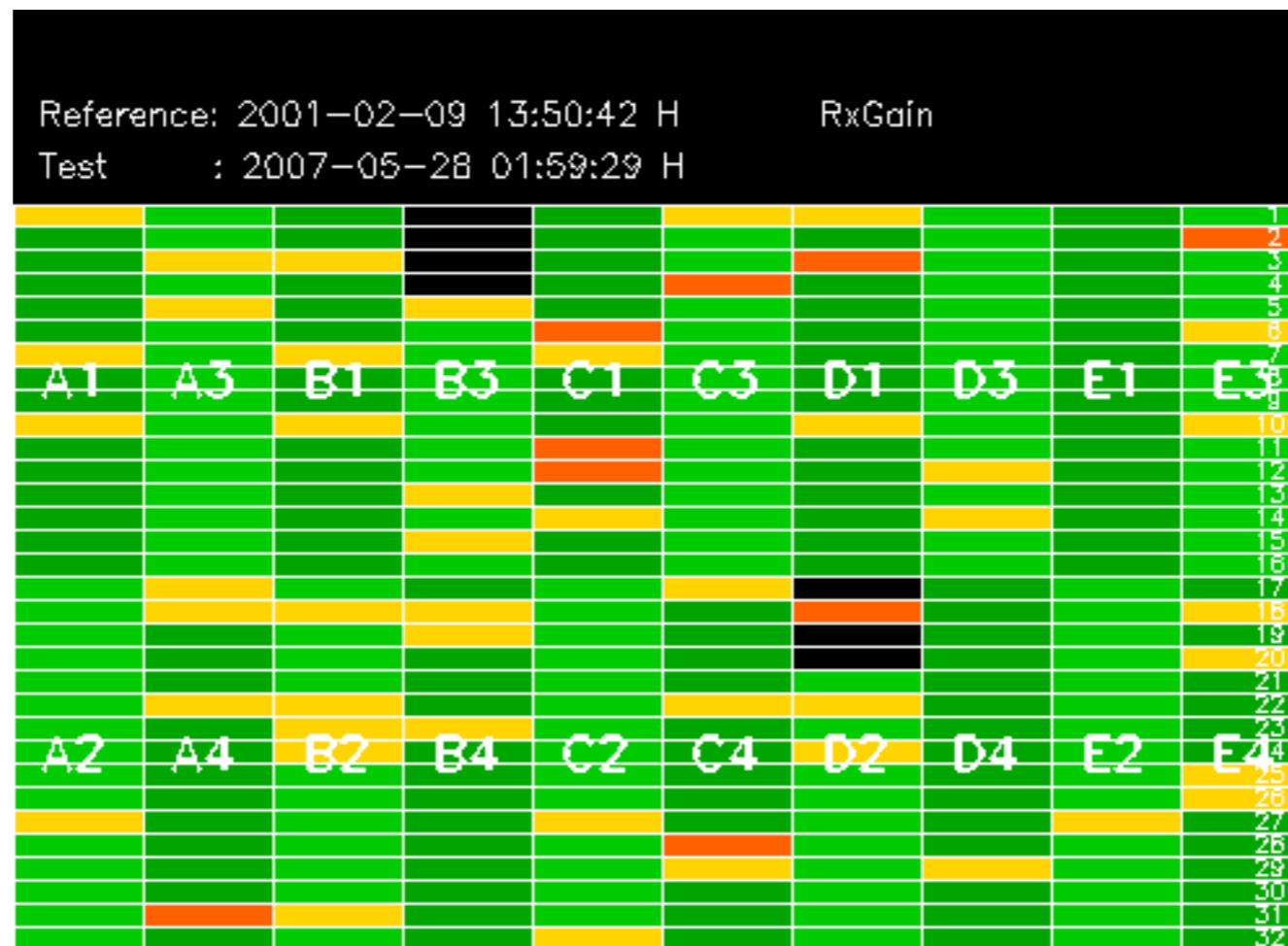
No anomalies observed on available MS products:



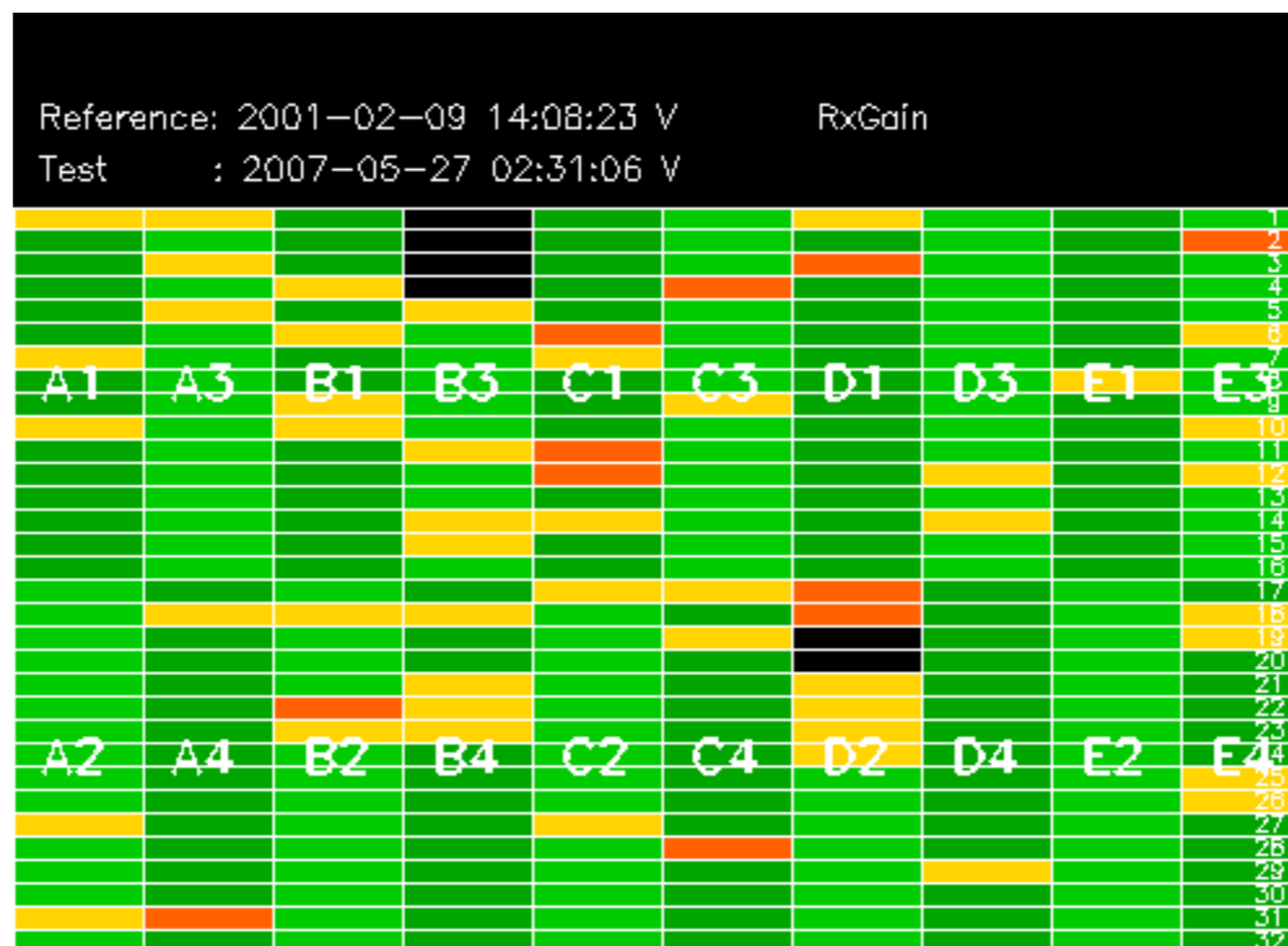
No anomalies observed.



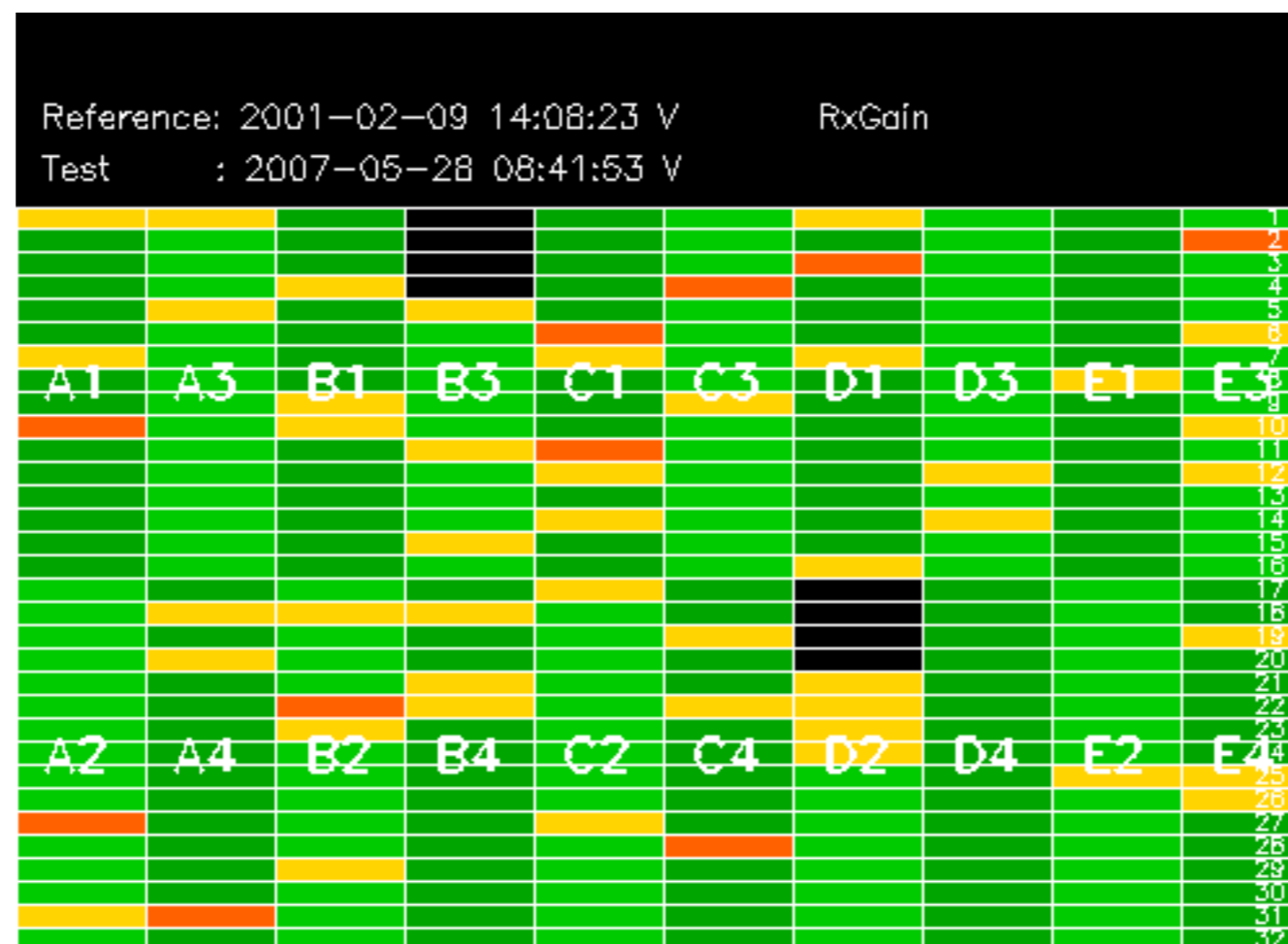




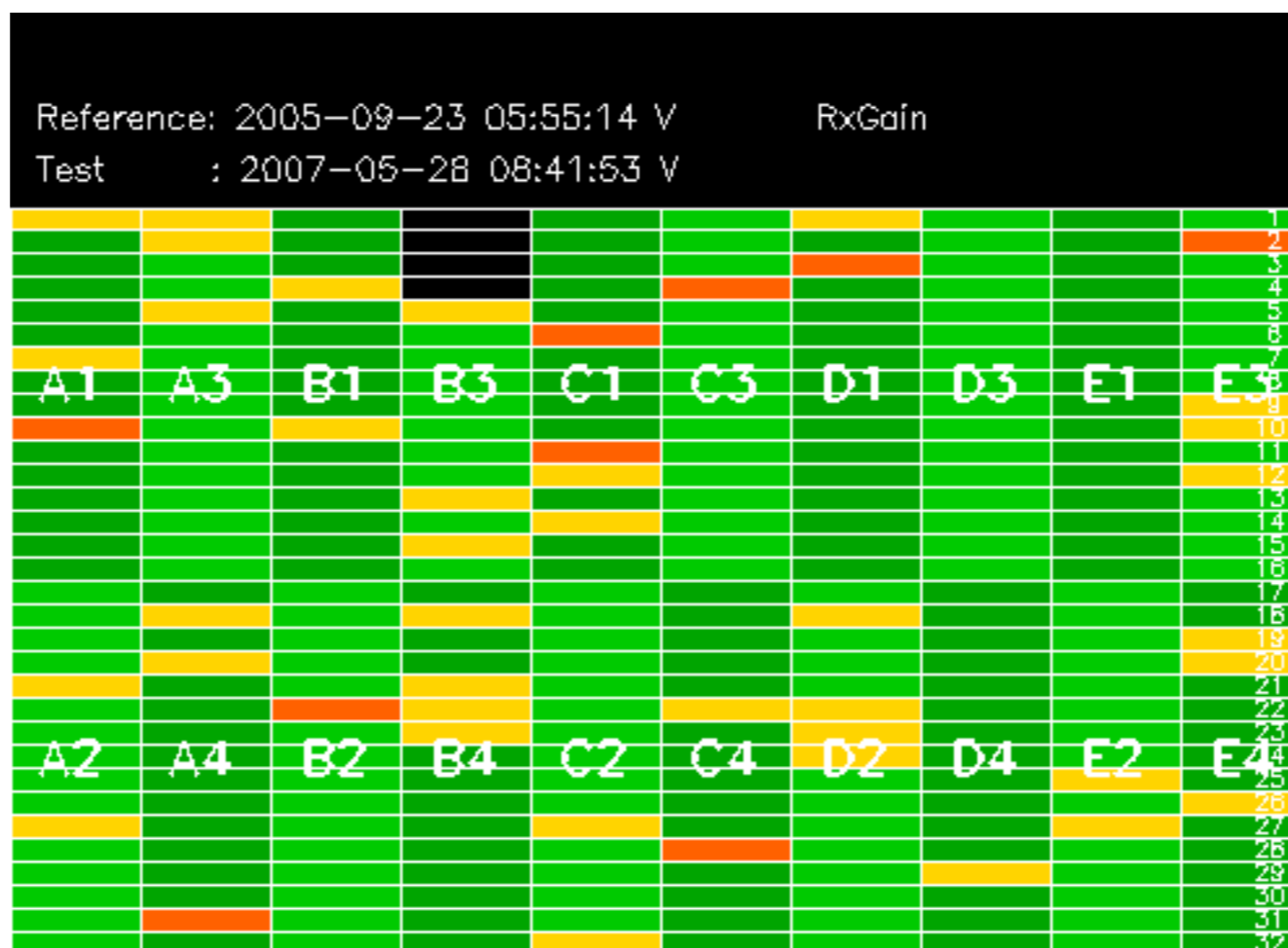


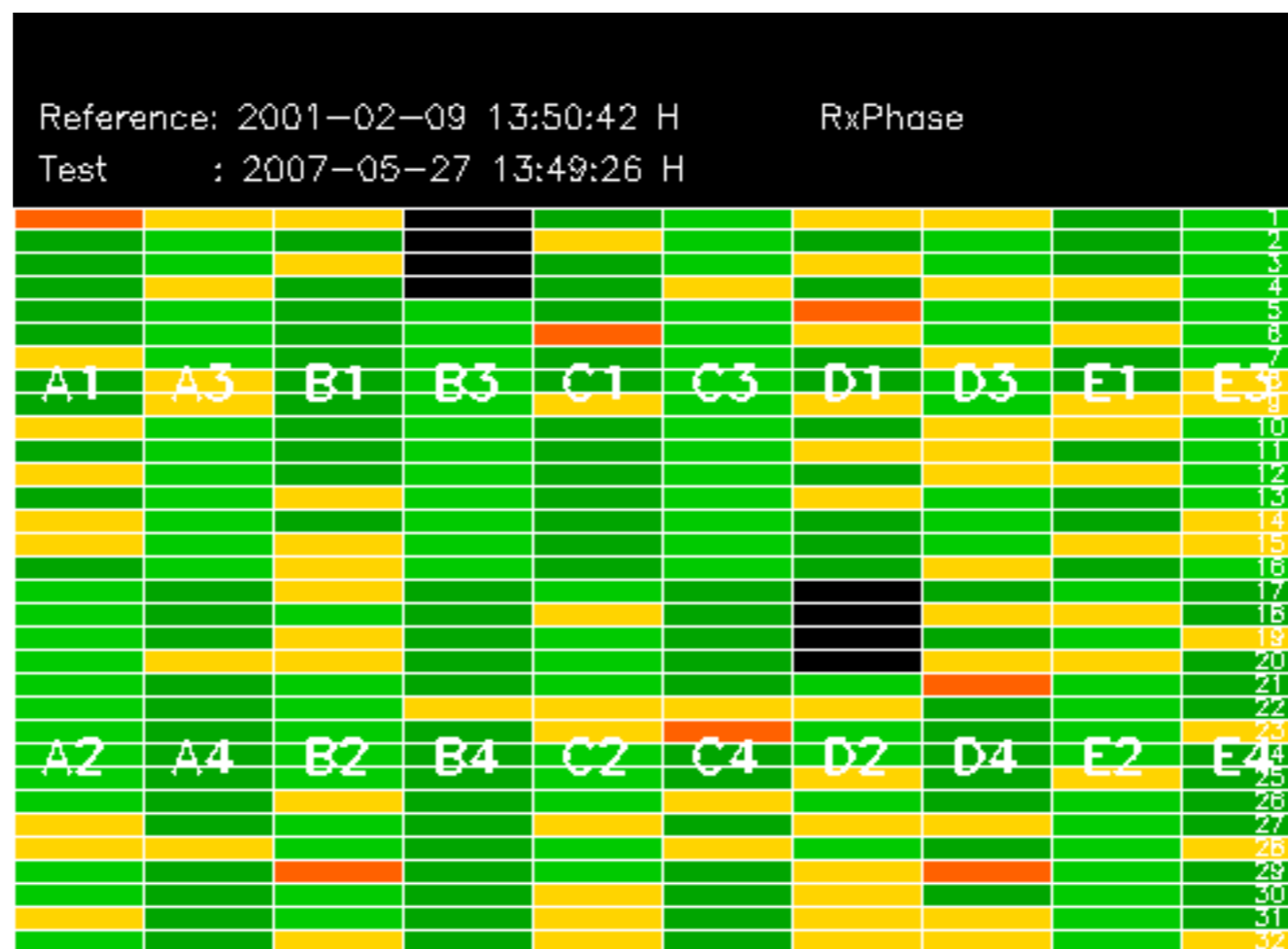








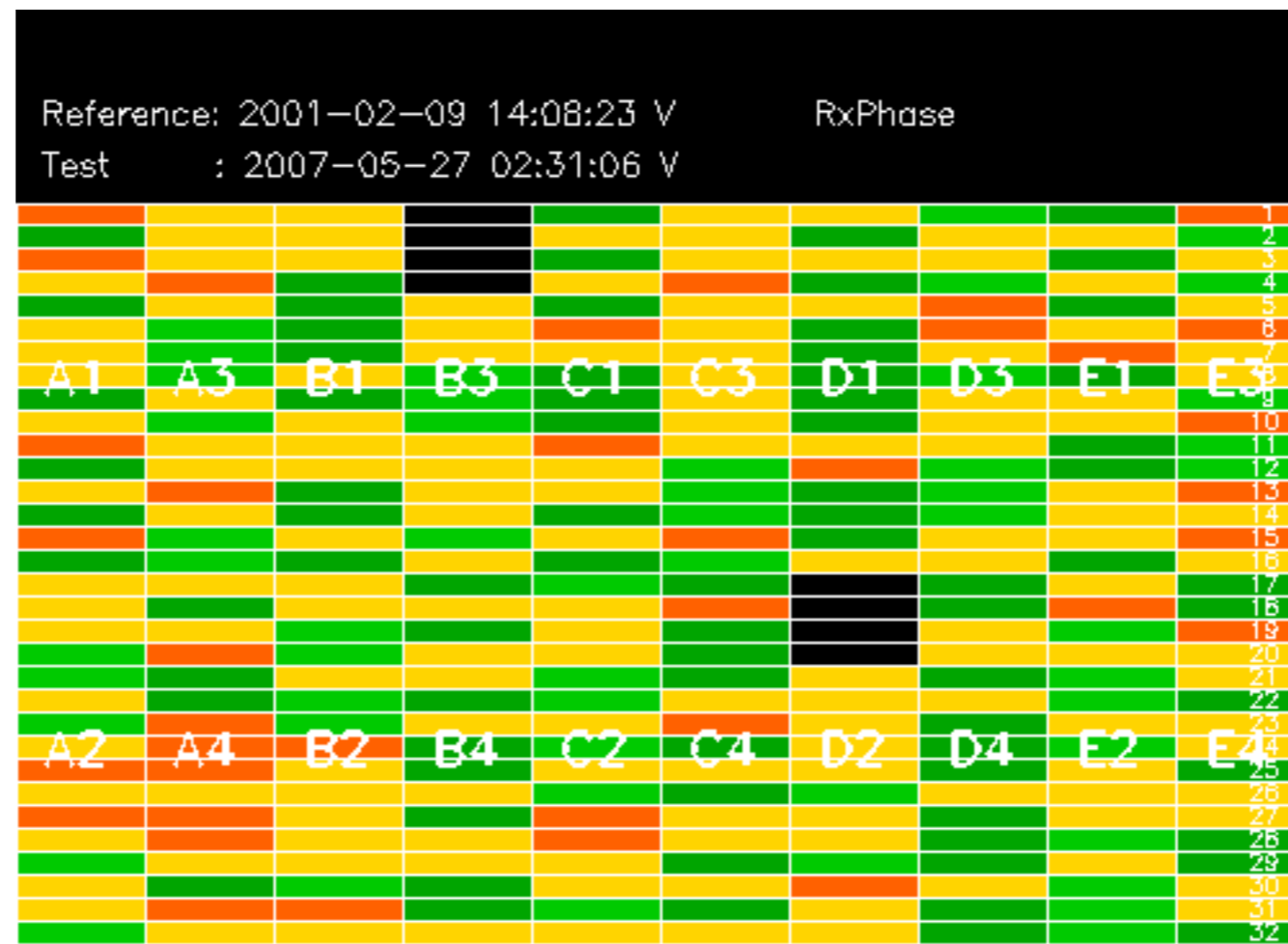


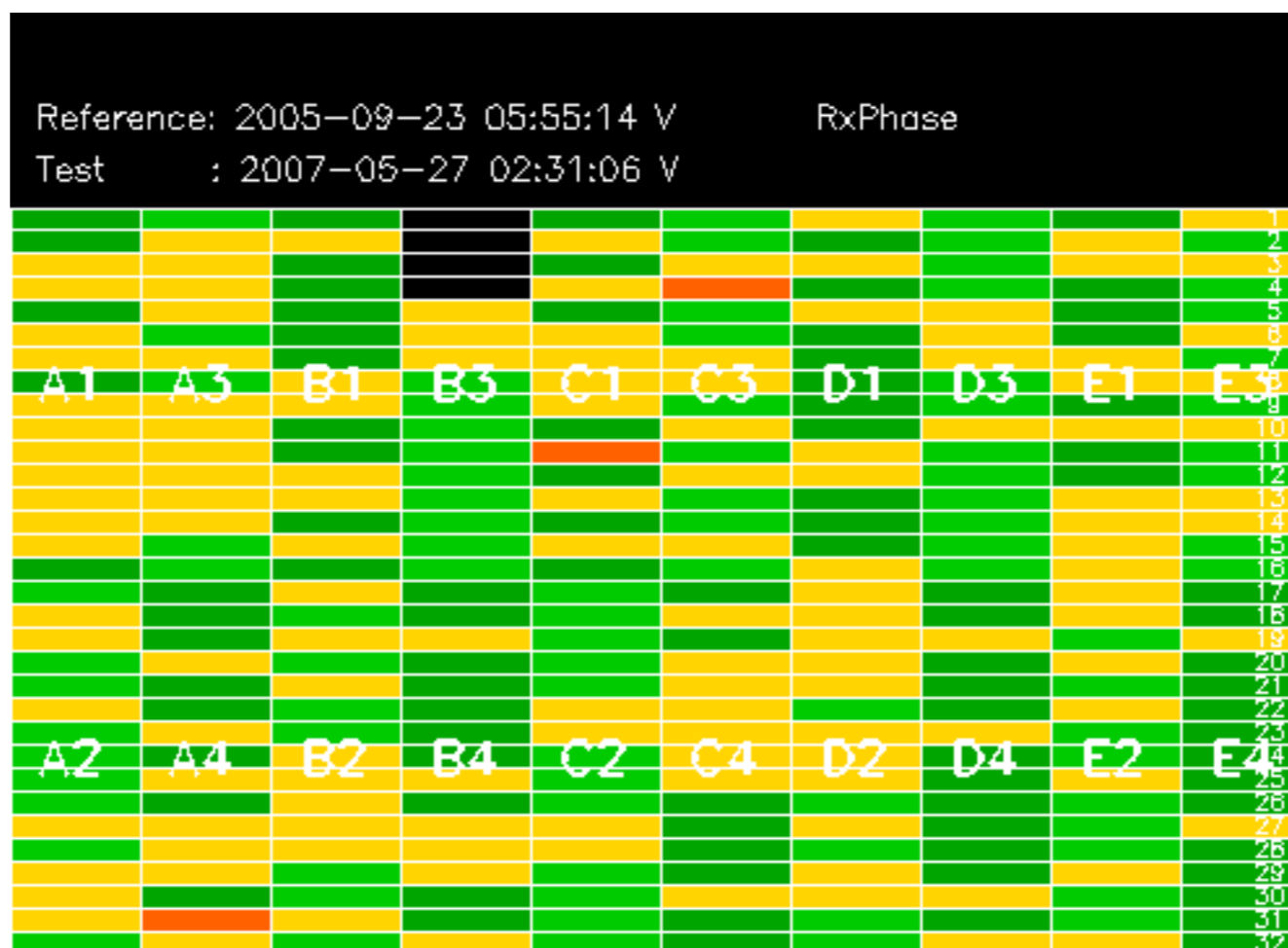






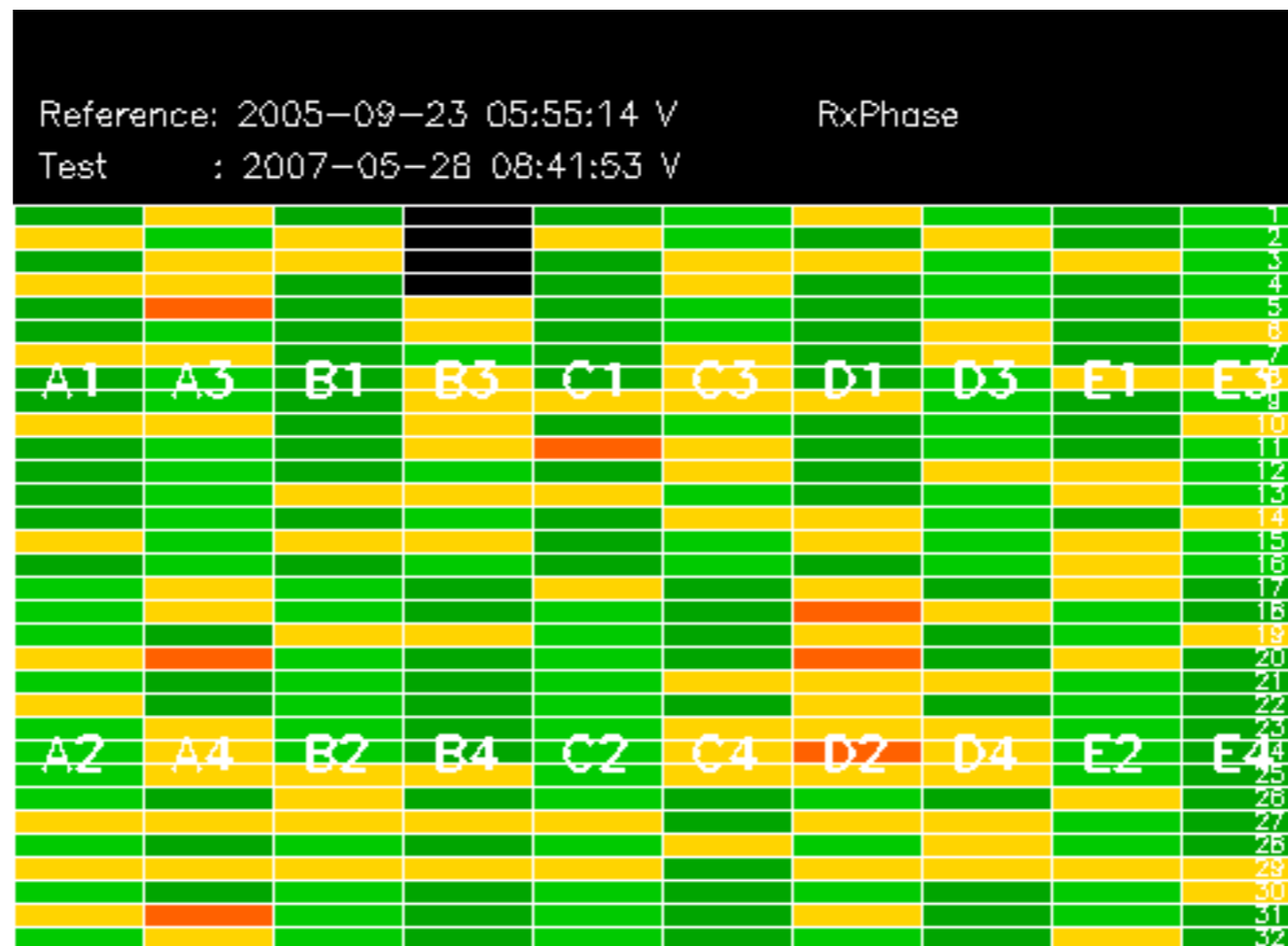


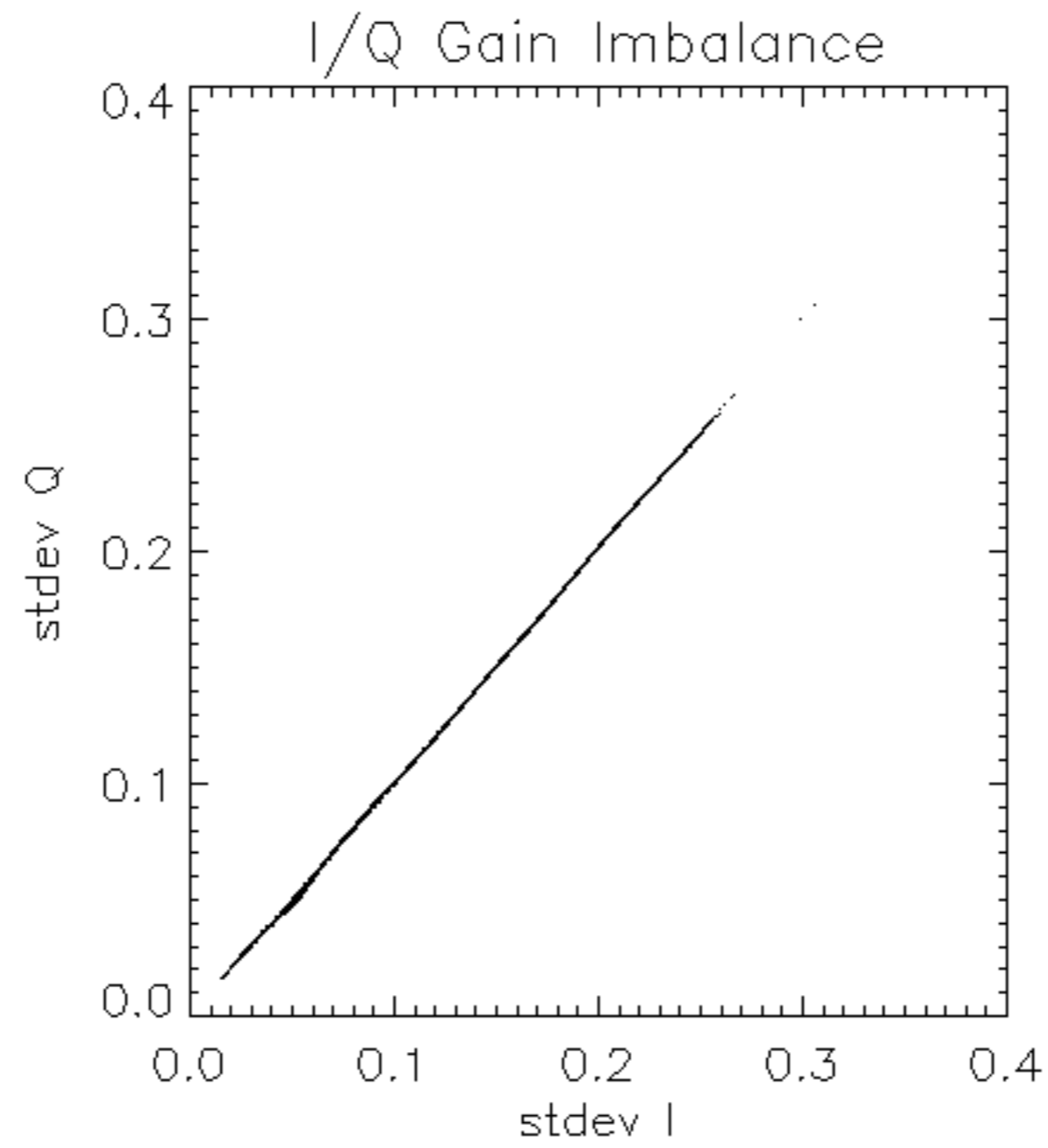


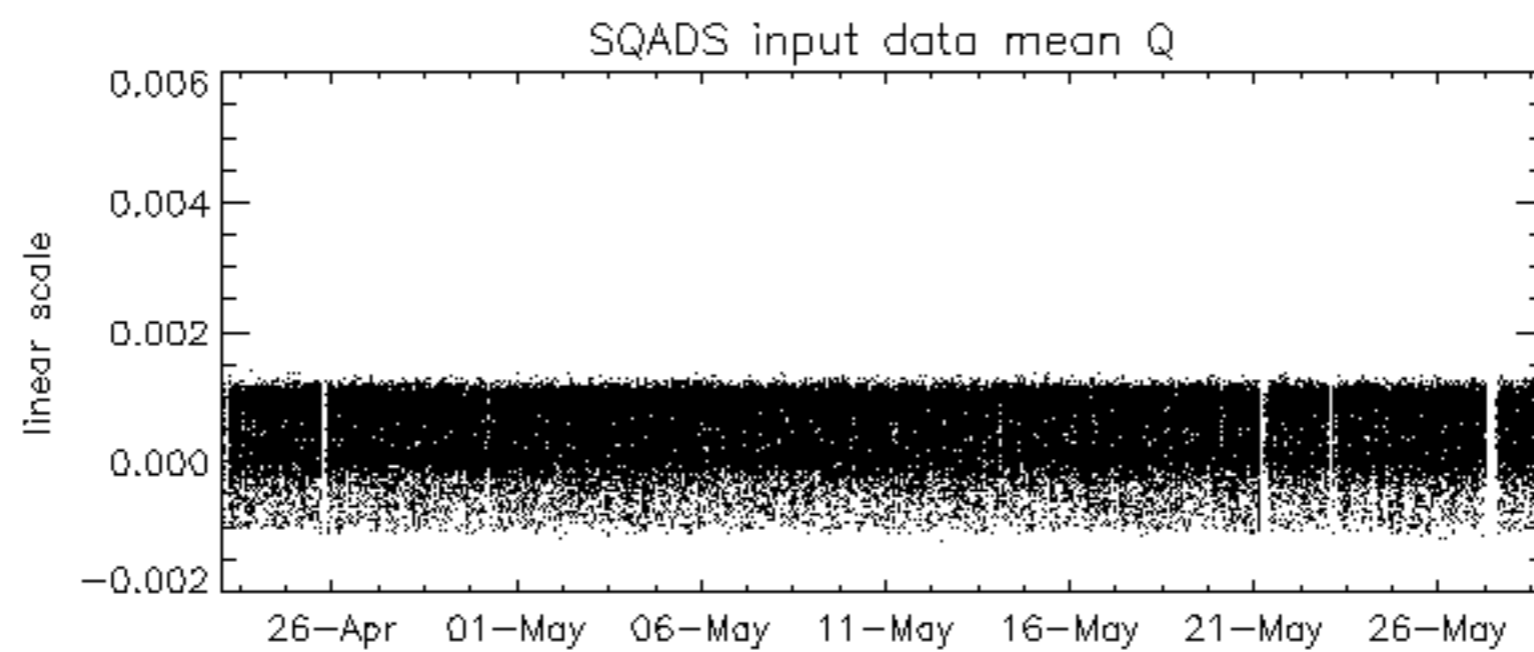
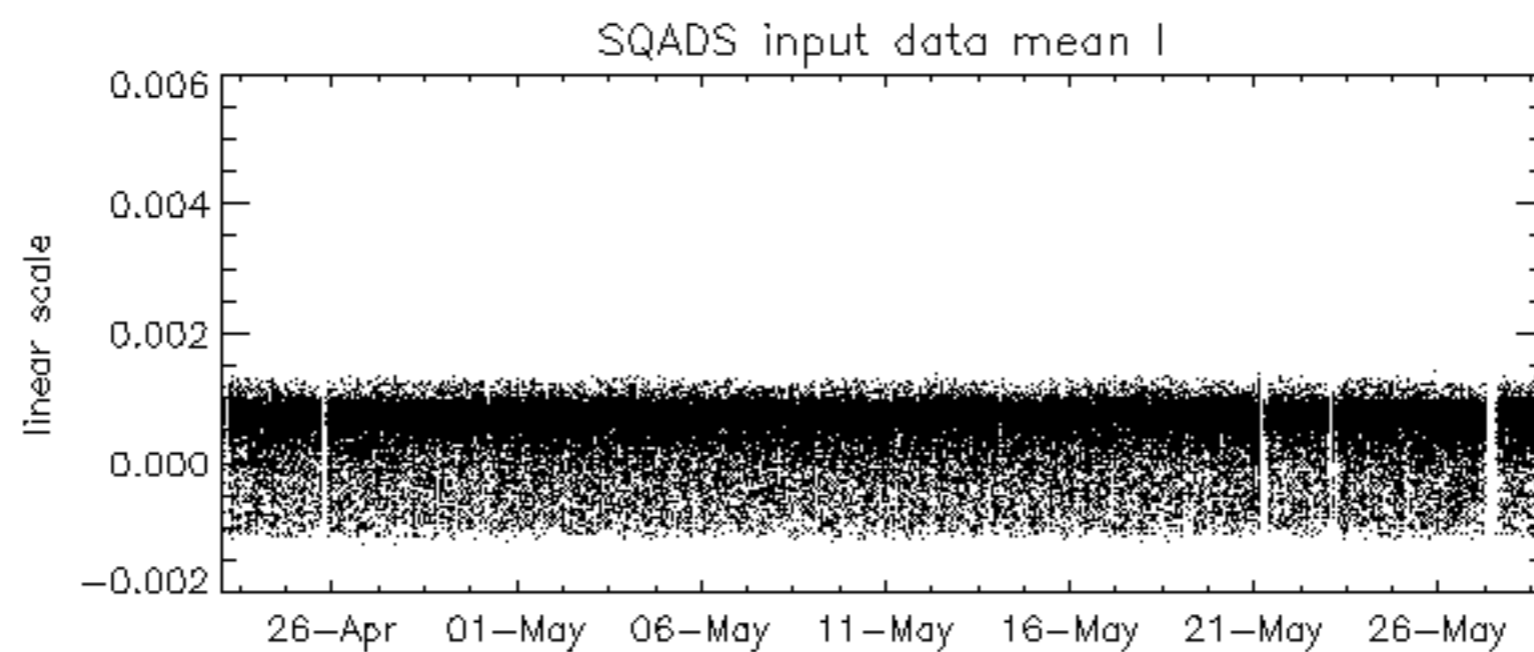
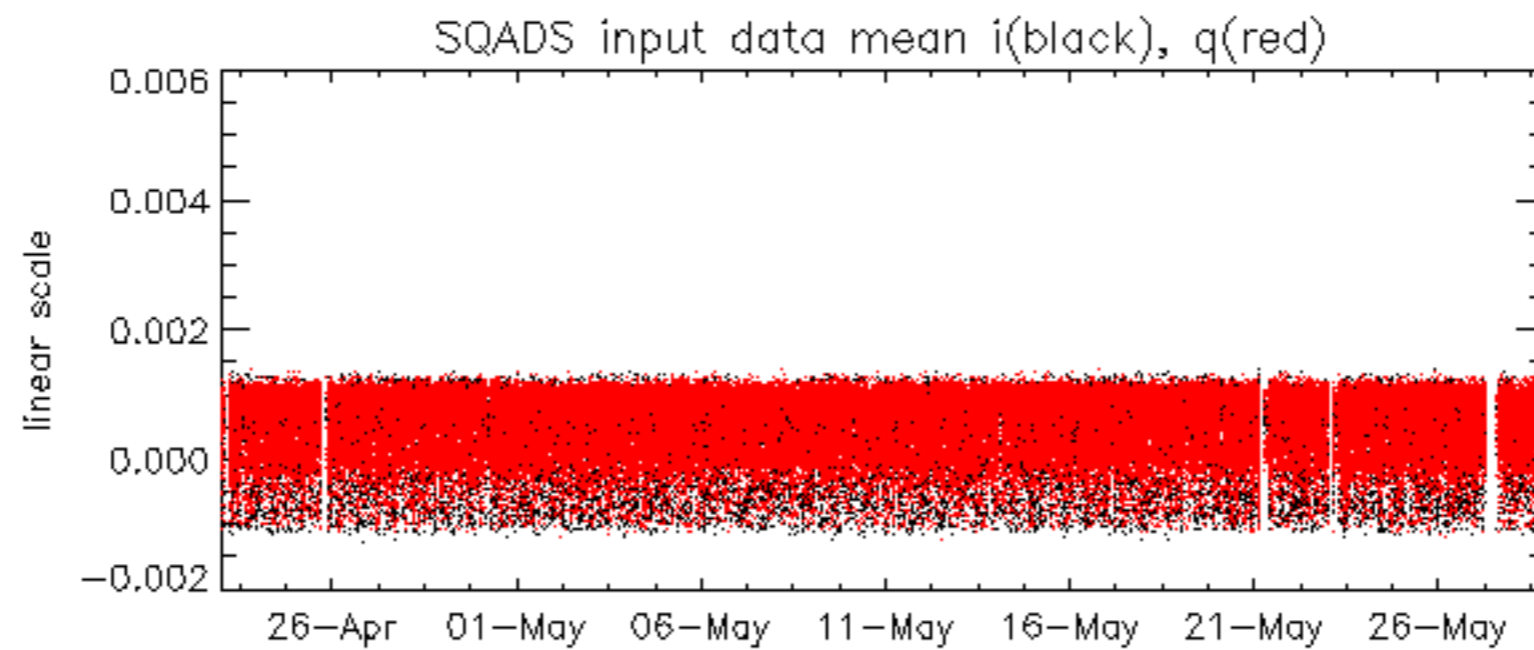


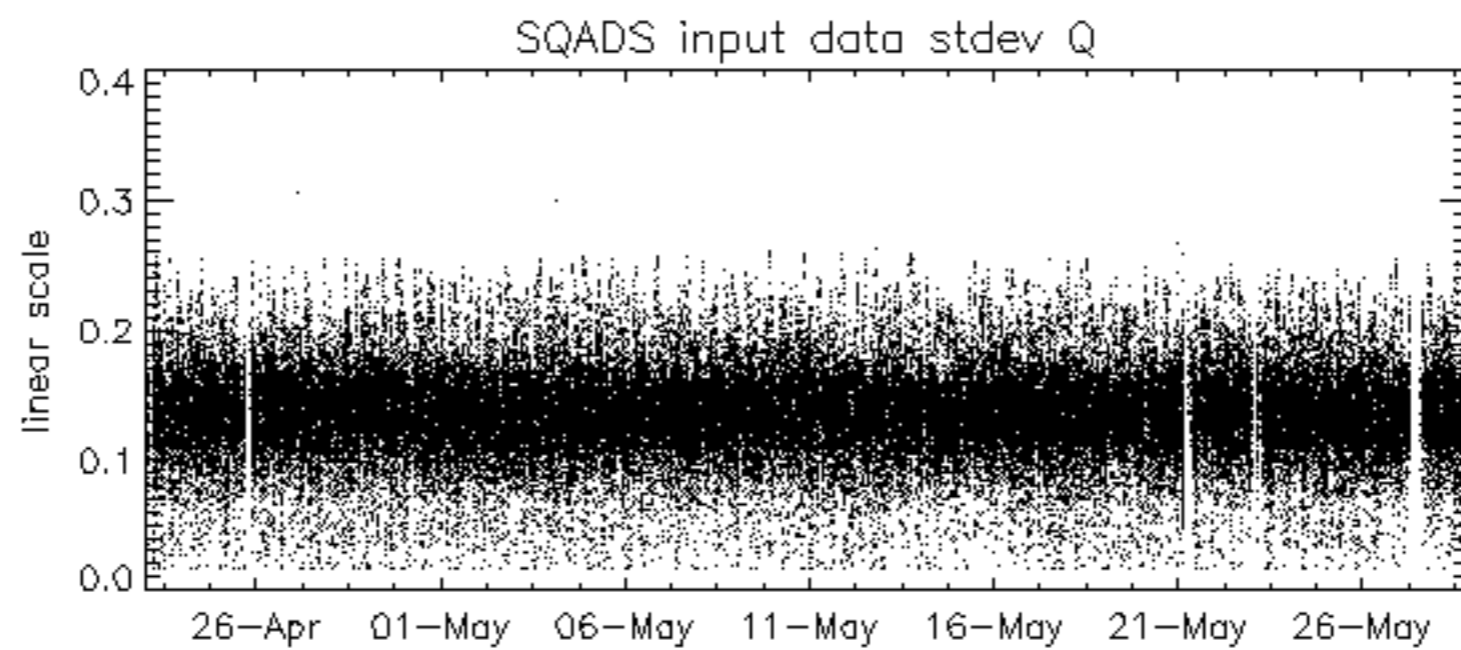
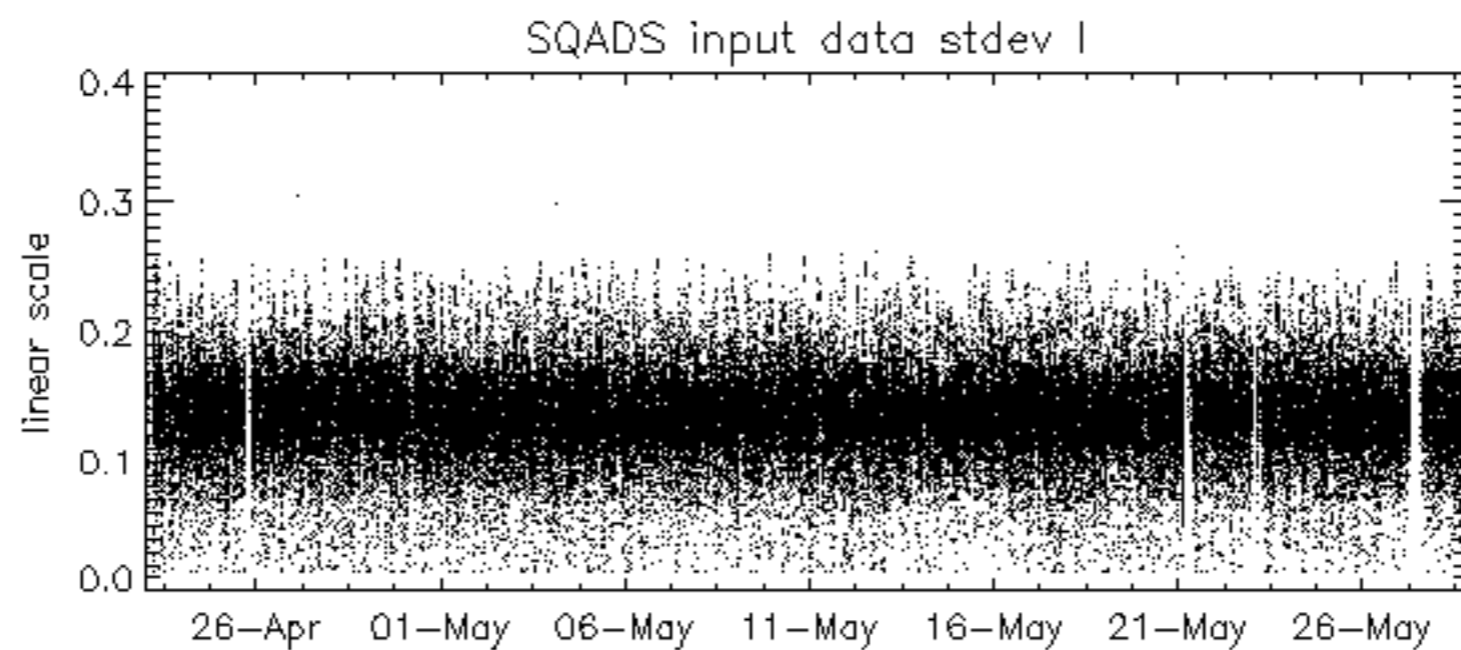
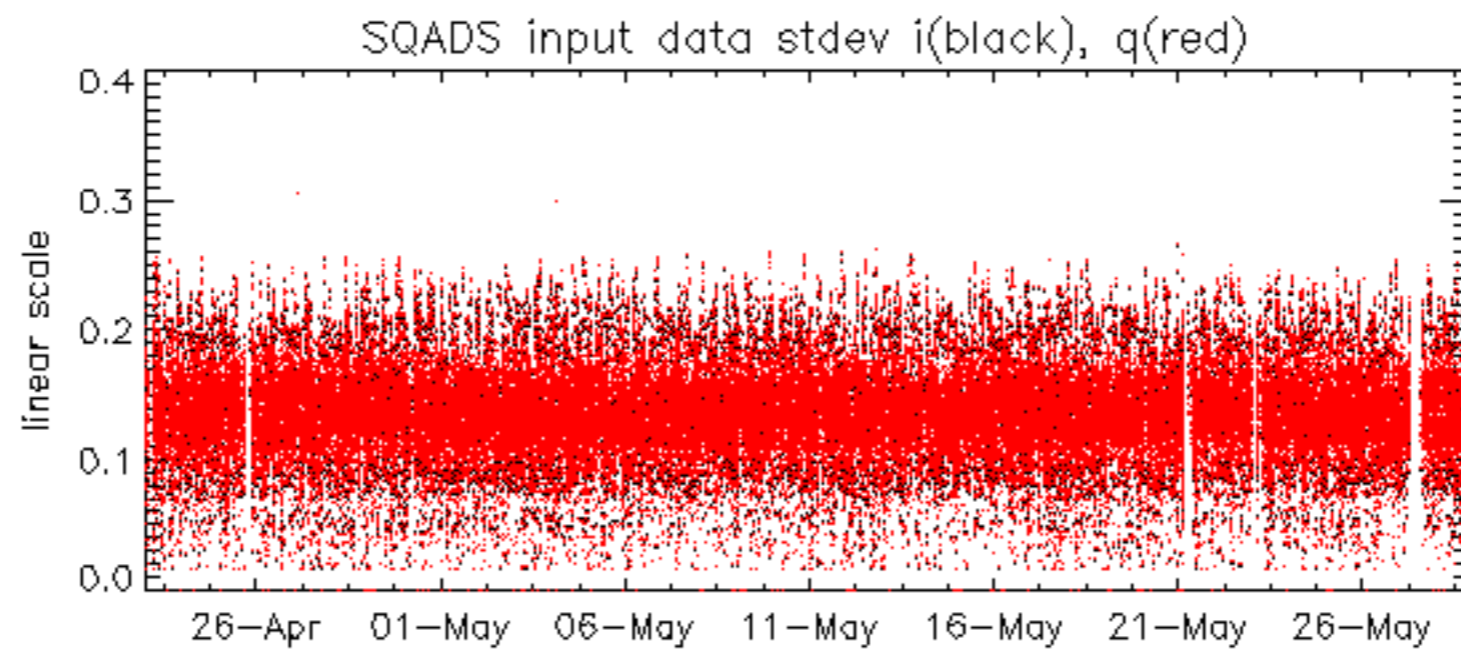


























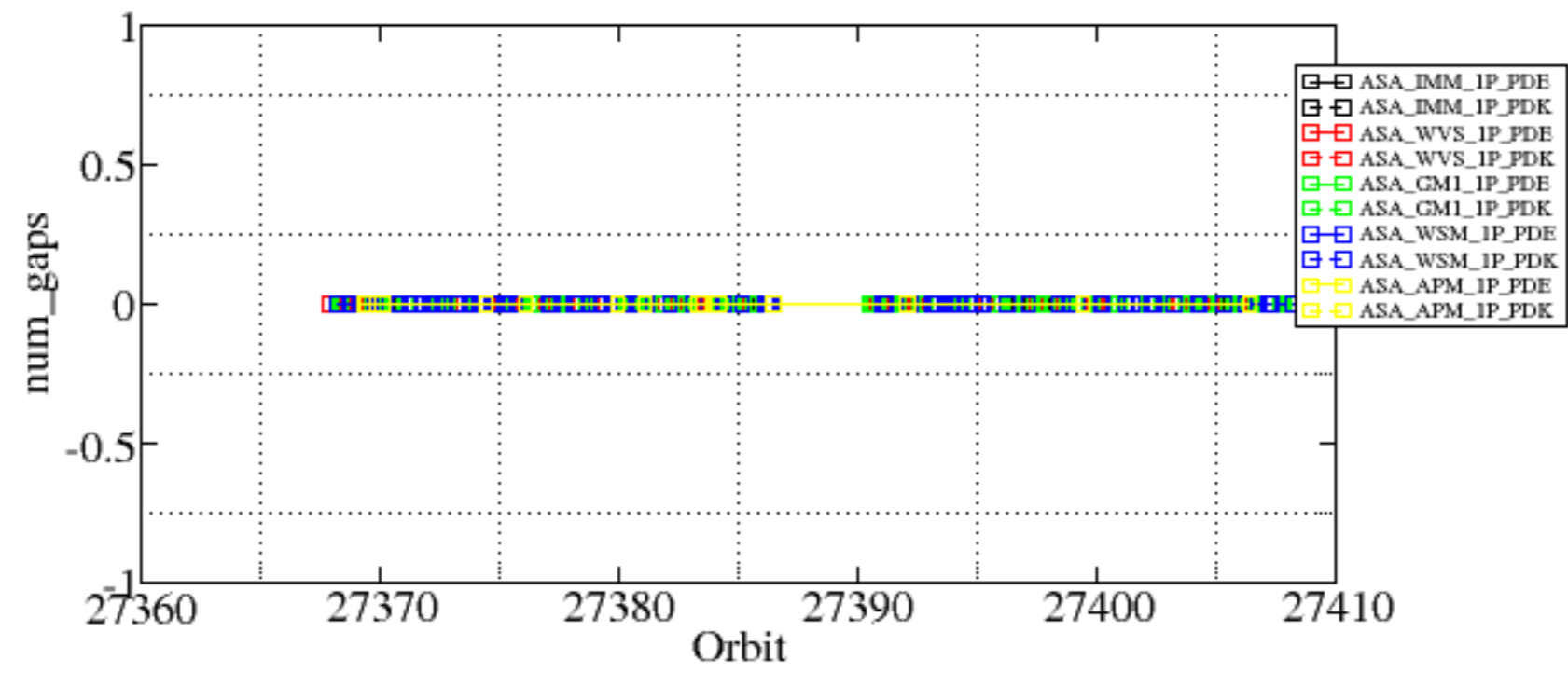




Summary of analysis for the last 3 days 2007052[678]

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_GM1_1PNPDK20070526_185316_000003922058_00271_27379_4817.N1	0	13
ASA_WSM_1PNPDE20070526_184608_000001832058_00271_27379_2294.N1	0	57
ASA_WSM_1PNPDE20070526_184608_000002442058_00271_27379_2312.N1	0	57
ASA_WSM_1PNPDE20070527_145124_000000852058_00283_27391_2341.N1	0	31
ASA_WSM_1PNPDE20070527_181431_000001522058_00285_27393_2398.N1	0	57
ASA_WSM_1PNPDE20070528_111841_000000672058_00295_27403_3721.N1	0	1911







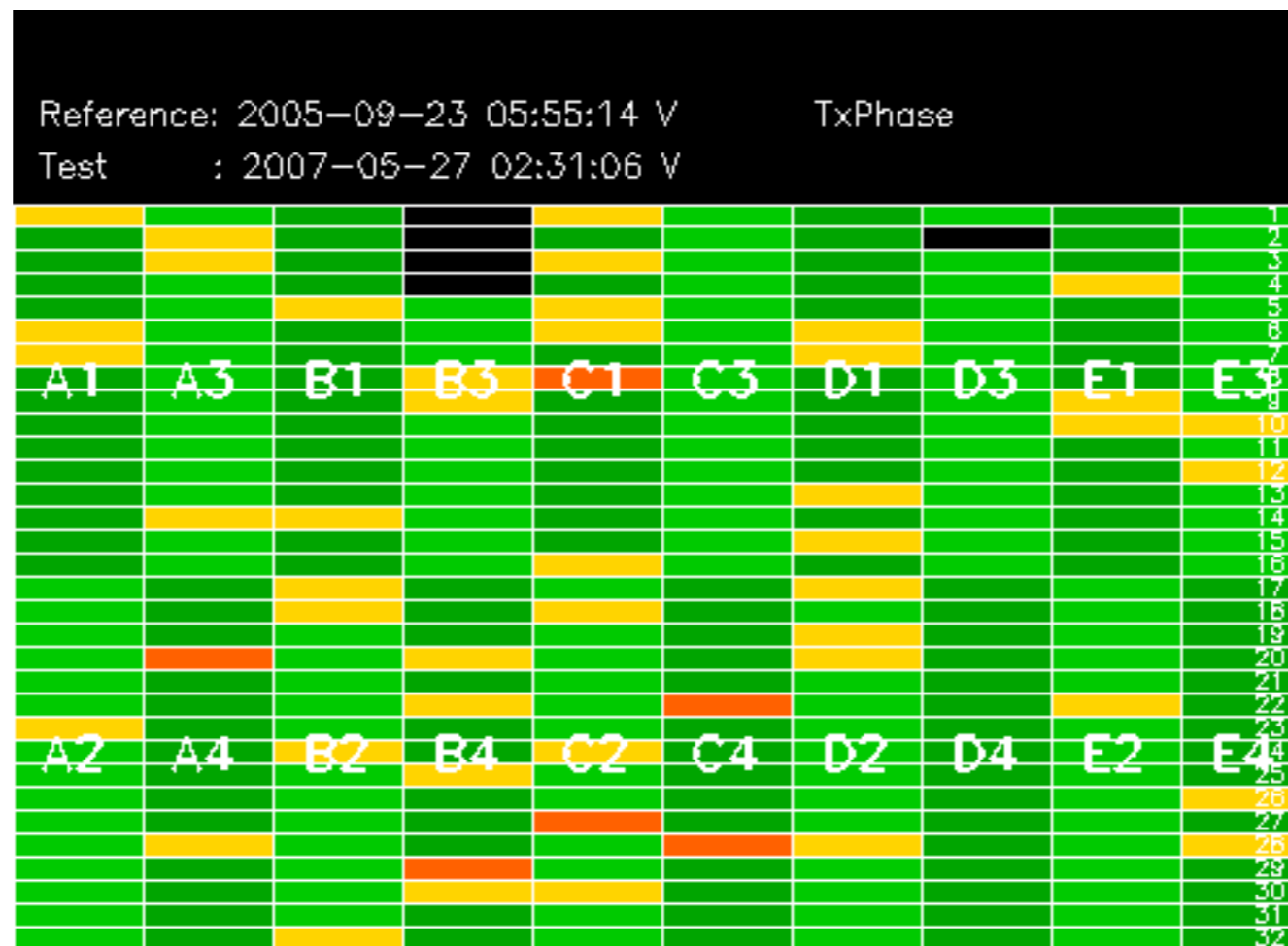








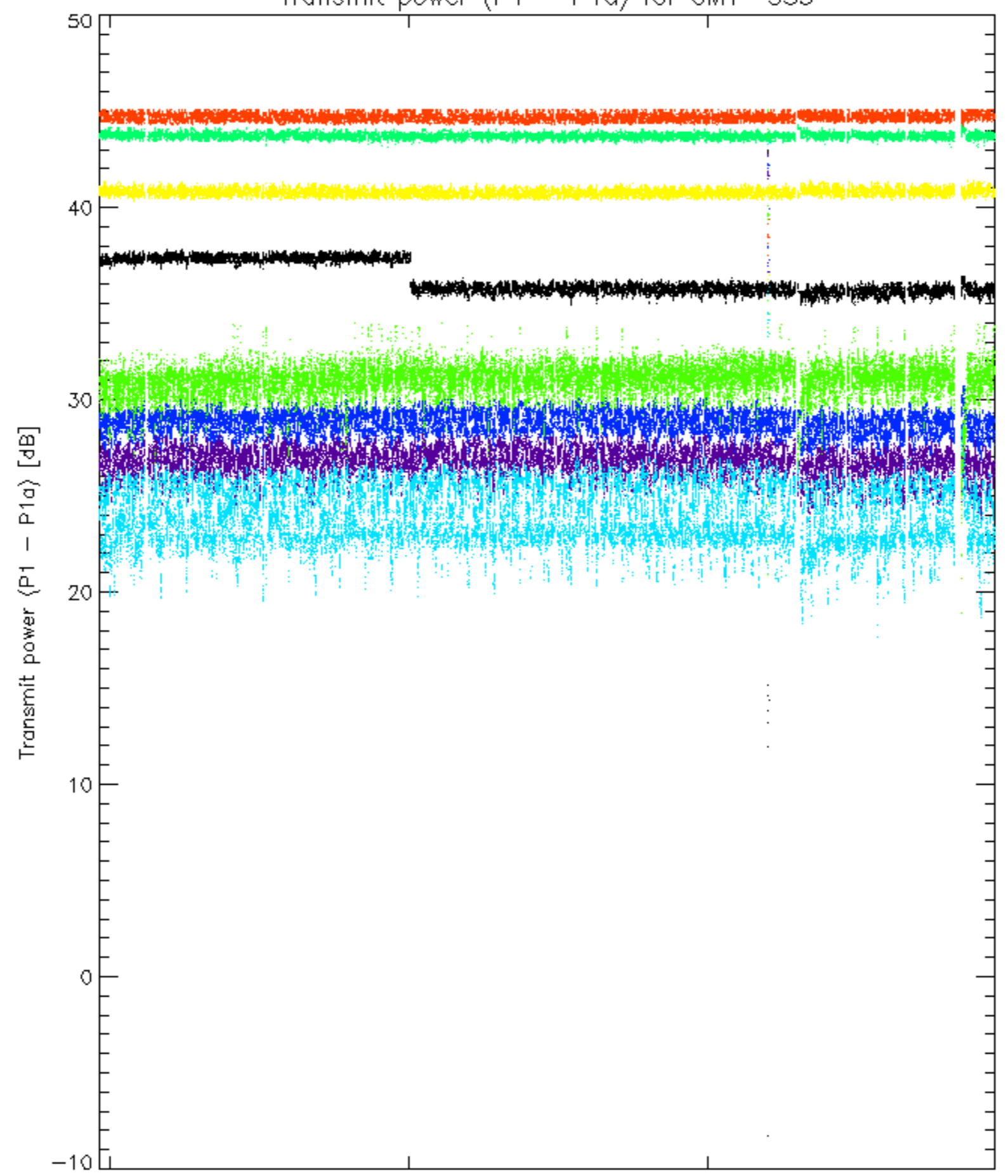






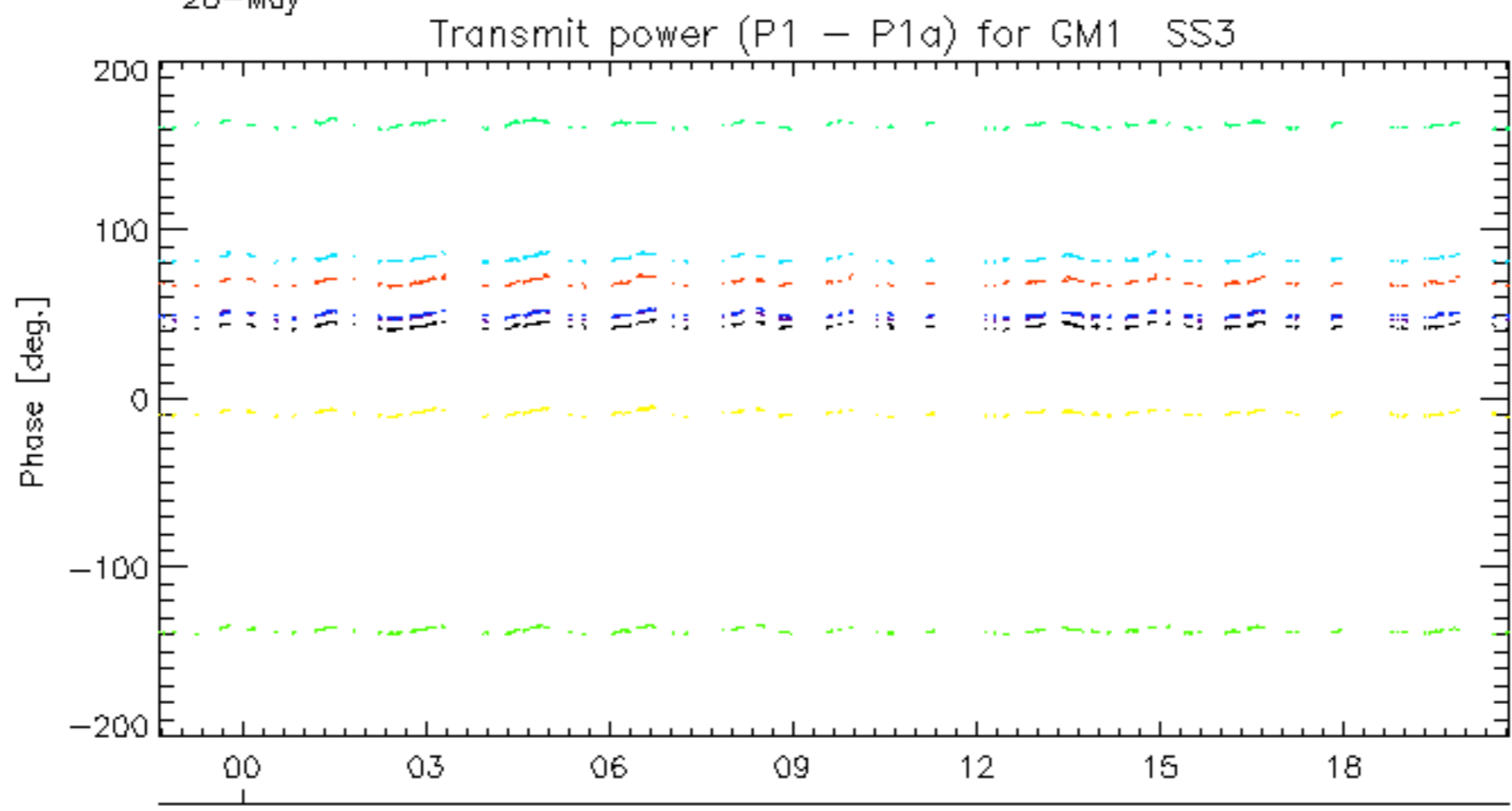
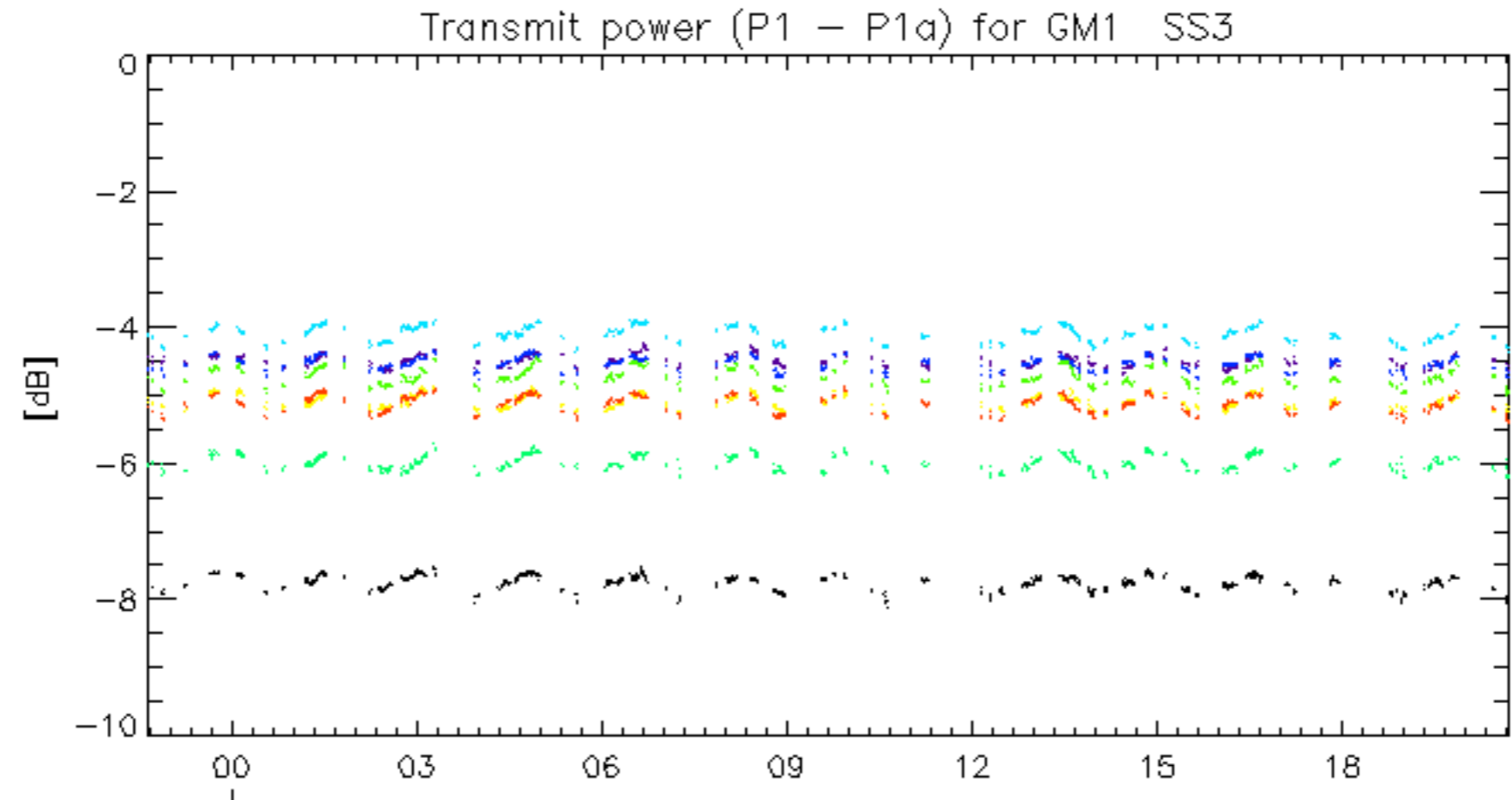


Transmit power (P1 - P1a) for GM1 SS3

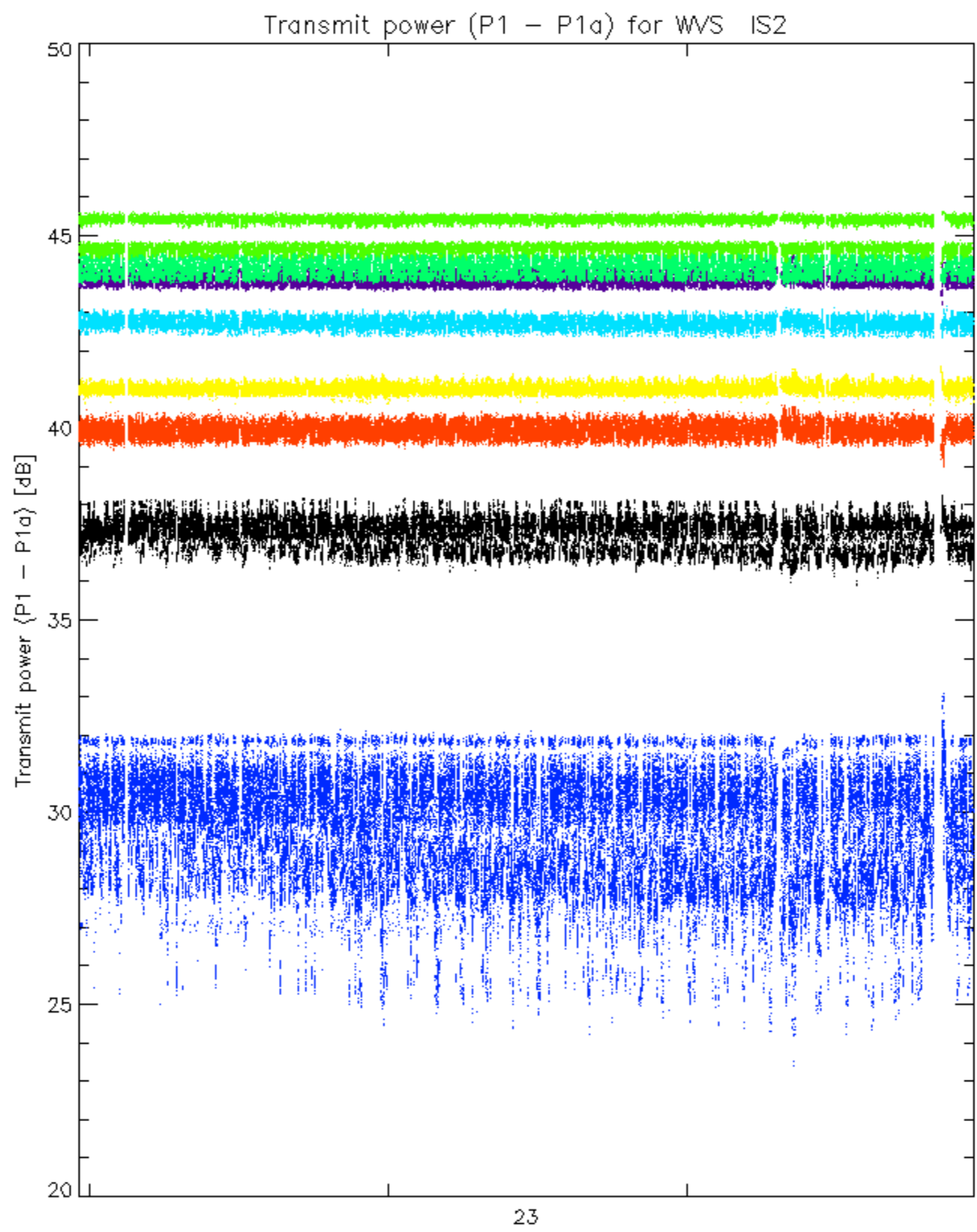


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

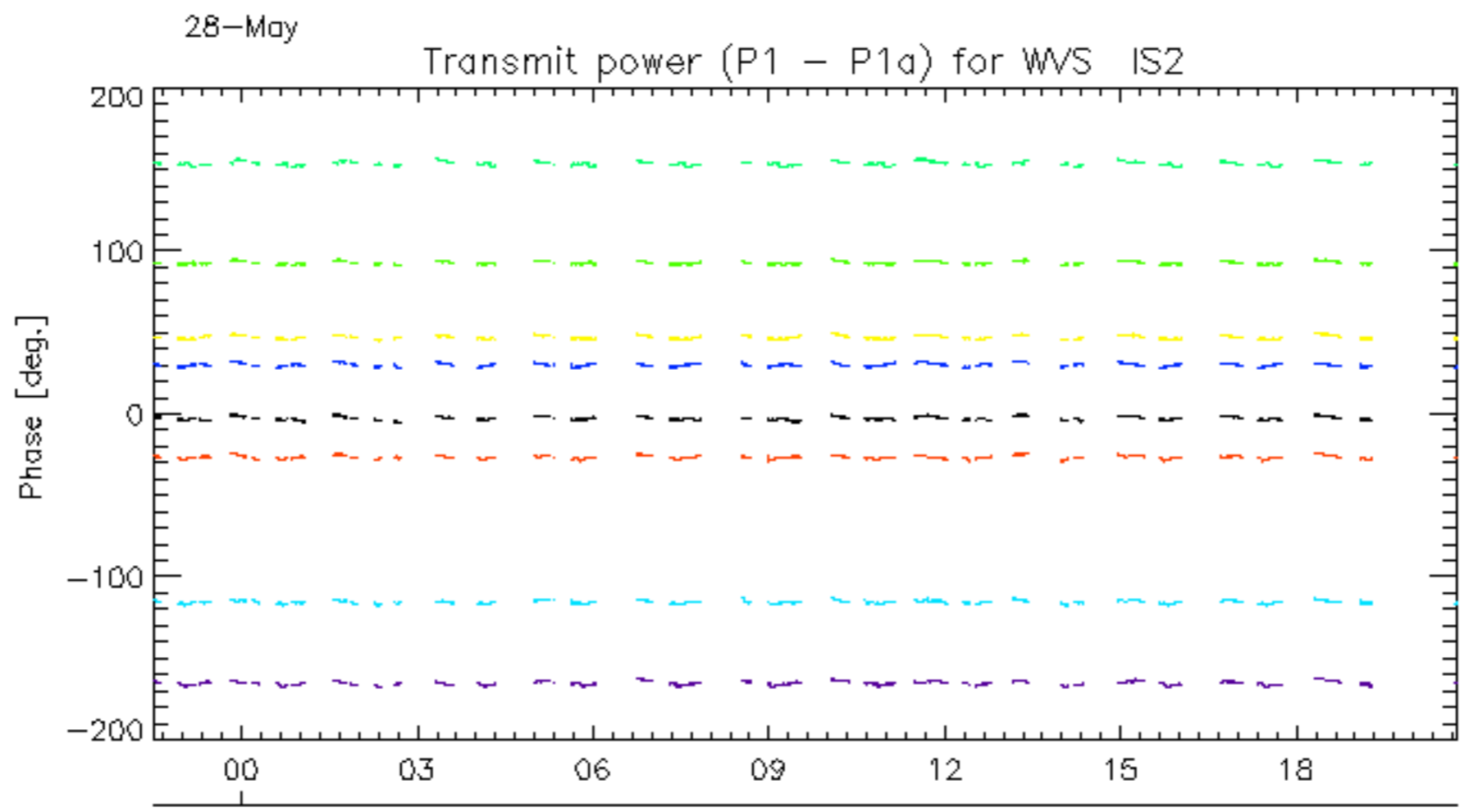
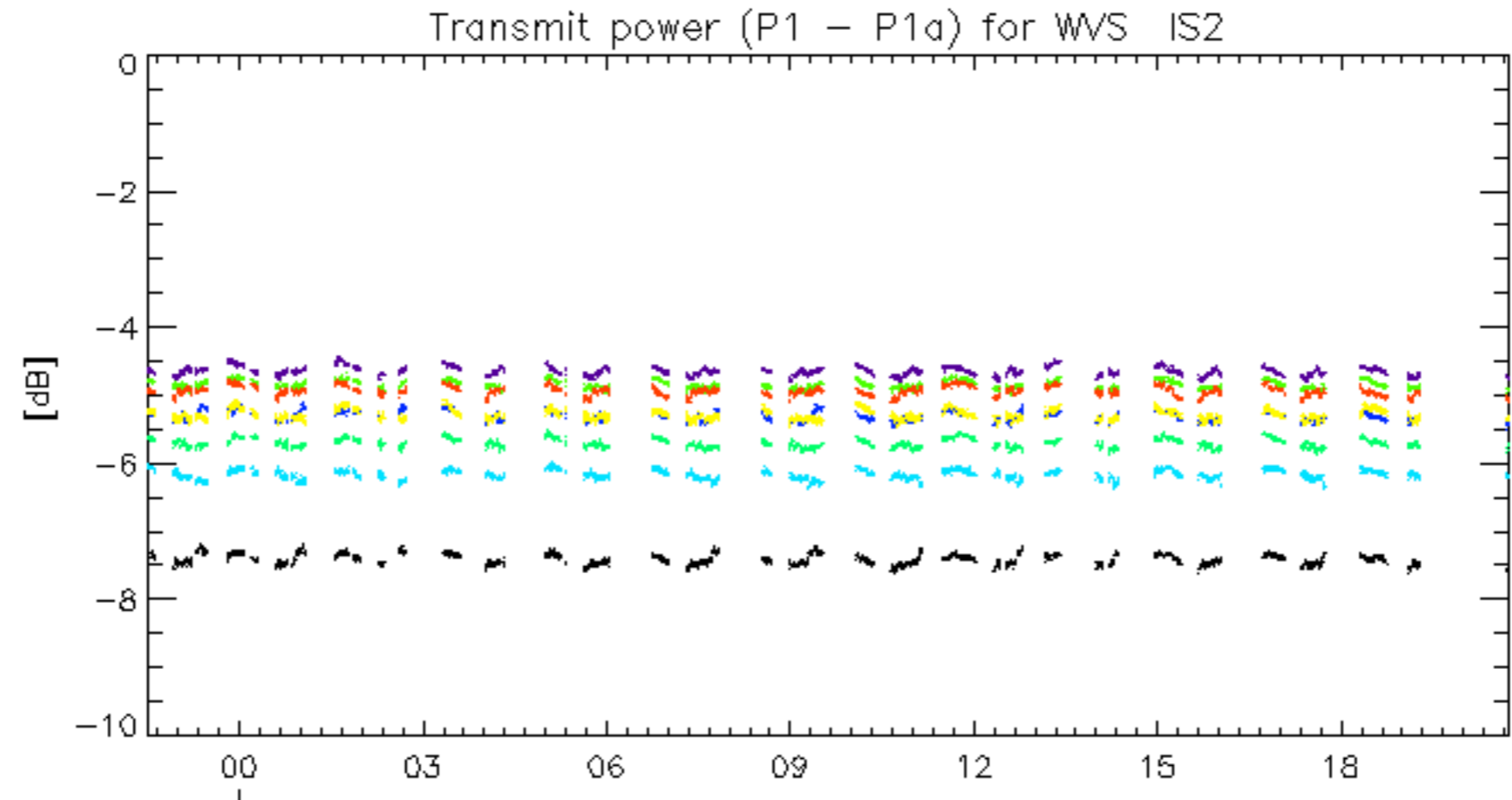




rows: 3 7 11 15 19 22 26 30



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



rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.