

# PRELIMINARY REPORT OF 060706

last update on Thu Jul 6 16:51:43 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 2006-07-05 00:00:00 to 2006-07-06 16:51:43

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	44	72	12	6	17
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	44	72	12	6	17
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	44	72	12	6	17
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	44	72	12	6	17

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	38	50	19	22	68
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	38	50	19	22	68
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	38	50	19	22	68
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	38	50	19	22	68

## 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	20060706 074721
H	20060705 081858

### 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
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**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	-3.938107	0.046584	-0.018625
7	P1	-3.130585	0.012291	0.055883
11	P1	-4.099693	0.016109	0.032035
15	P1	-6.164085	0.011418	-0.020579
19	P1	-3.372046	0.008717	-0.037019
22	P1	-4.530883	0.011064	-0.039437
26	P1	-3.956097	0.018132	0.048738
30	P1	-5.757965	0.008628	-0.013731
3	P1	-16.533810	0.626304	-0.025309
7	P1	-17.233950	0.109190	0.107691
11	P1	-16.982031	0.279516	-0.003360
15	P1	-13.165772	0.160021	0.074936
19	P1	-14.388206	0.049116	-0.096893
22	P1	-16.121647	0.390634	0.172877
26	P1	-15.170297	0.231400	0.071222
30	P1	-17.138573	0.396895	0.081721

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.077648	0.085197	0.164755
7	P2	-21.979204	0.101773	0.112004
11	P2	-15.829354	0.115329	0.081546
15	P2	-7.151410	0.098359	0.039348
19	P2	-9.159978	0.089958	0.061858
22	P2	-18.167070	0.085158	0.026480
26	P2	-16.409119	0.091602	0.023137
30	P2	-19.548817	0.090623	0.030050

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.184533	0.003635	0.015366
7	P3	-8.184533	0.003635	0.015366
11	P3	-8.184533	0.003635	0.015366
15	P3	-8.184533	0.003635	0.015366
19	P3	-8.184533	0.003635	0.015366
22	P3	-8.184533	0.003635	0.015366
26	P3	-8.184533	0.003635	0.015366
30	P3	-8.184533	0.003635	0.015366

**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	-3.807847	0.064639	0.004108
7	P1	-2.574482	0.008391	0.039057
11	P1	-2.858436	0.013686	-0.000947
15	P1	-3.536064	0.028139	-0.066192
19	P1	-3.415315	0.014006	-0.000779
22	P1	-5.087783	0.020031	-0.018190
26	P1	-5.859993	0.016199	-0.002997
30	P1	-5.191774	0.026030	0.009237
3	P1	-11.619840	0.173462	0.061185
7	P1	-9.982951	0.033349	0.029231
11	P1	-10.241458	0.058589	-0.000782
15	P1	-10.710889	0.133133	-0.119273
19	P1	-15.538316	0.076746	0.032693
22	P1	-20.944653	1.158470	0.095883

26	P1	-16.417370	0.350558	0.201668
30	P1	-17.870886	0.384368	-0.018994

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.743551	0.075792	0.213628
7	P2	-22.454168	0.133327	0.090799
11	P2	-11.106978	0.048038	0.114123
15	P2	-4.922704	0.048747	0.011501
19	P2	-6.882442	0.053151	0.013788
22	P2	-8.207180	0.042354	0.016192
26	P2	-24.172037	0.068963	-0.043379
30	P2	-22.044851	0.055345	0.063280

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.020832	0.004327	0.011702
7	P3	-8.020950	0.004315	0.011637
11	P3	-8.020828	0.004347	0.011825
15	P3	-8.020755	0.004339	0.011643
19	P3	-8.020788	0.004337	0.011728
22	P3	-8.020979	0.004326	0.012048
26	P3	-8.020967	0.004336	0.011647
30	P3	-8.020837	0.004310	0.011868

## 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	0.000566514
	stdev	1.67552e-07
MEAN Q	mean	0.000530028
	stdev	2.17251e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.137795
	stdev	0.00115235
STDEV Q	mean	0.138159
	stdev	0.00117033



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006070[456]

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_IMM_1PNPDE20060704_192324_000000532049_00113_22712_0345.N1	1	0
ASA_IMM_1PNPDK20060704_124504_000000372049_00110_22709_0163.N1	1	0
ASA_WSM_1PNPDE20060706_022612_000000862049_00132_22731_1537.N1	0	48





## 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


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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

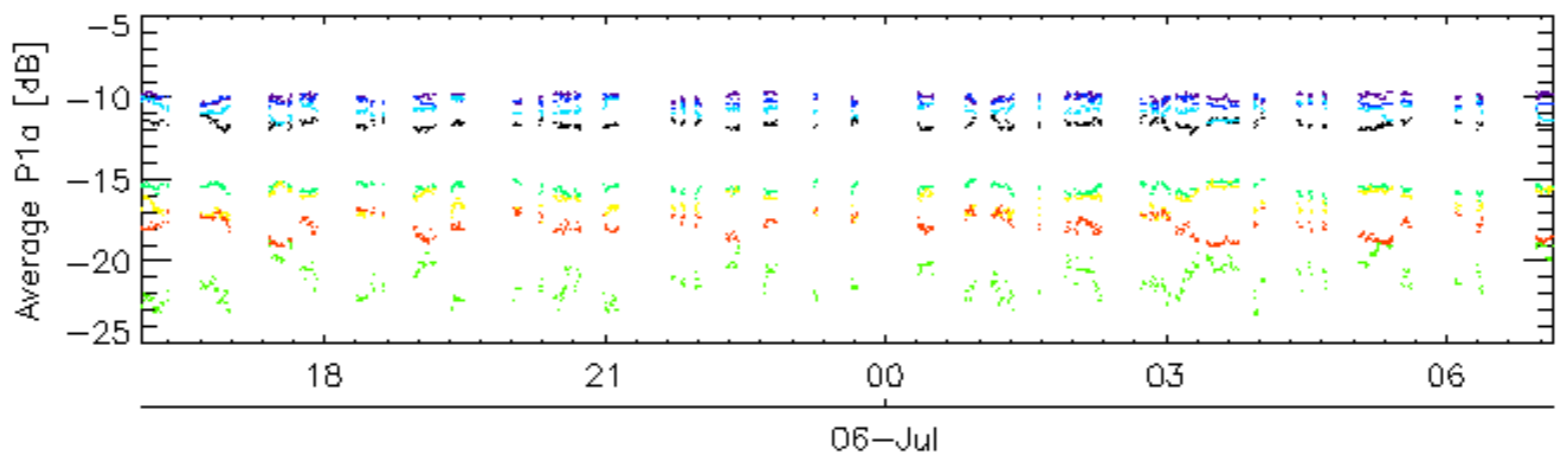
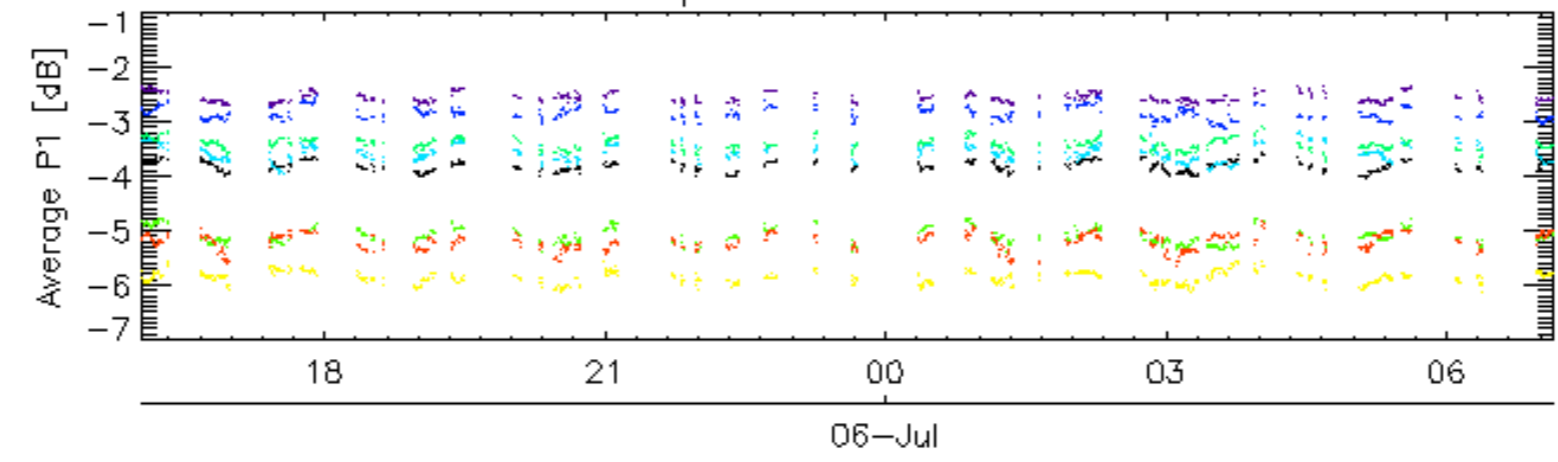
### 7.5 - Absolute Doppler for GM1

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

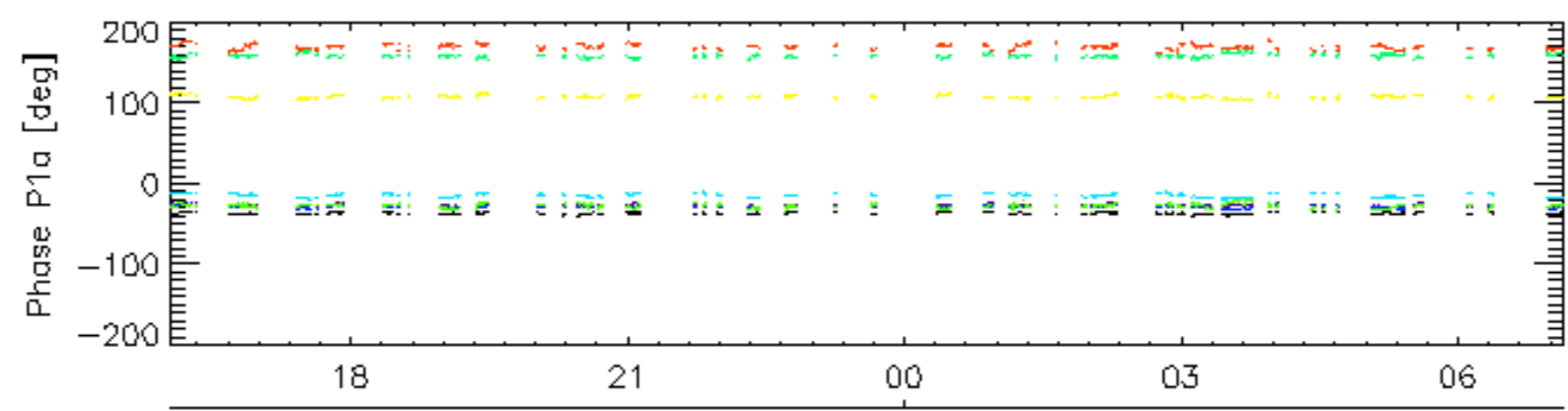
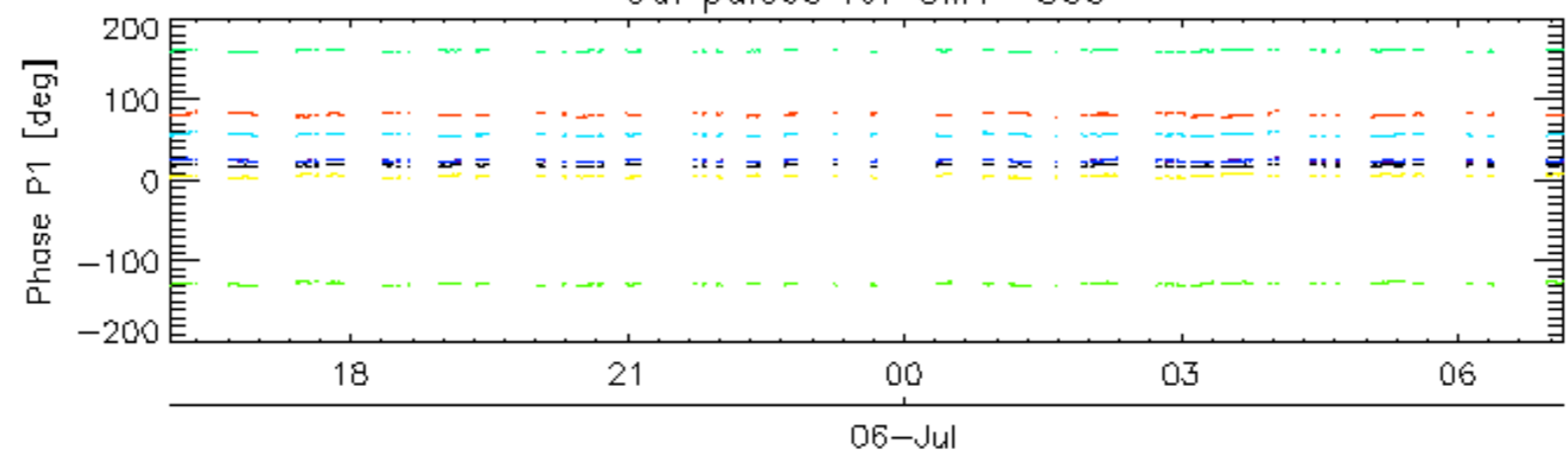
### 7.6 - Doppler evolution versus ANX for GM1

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

Cal pulses for GM1 SS3

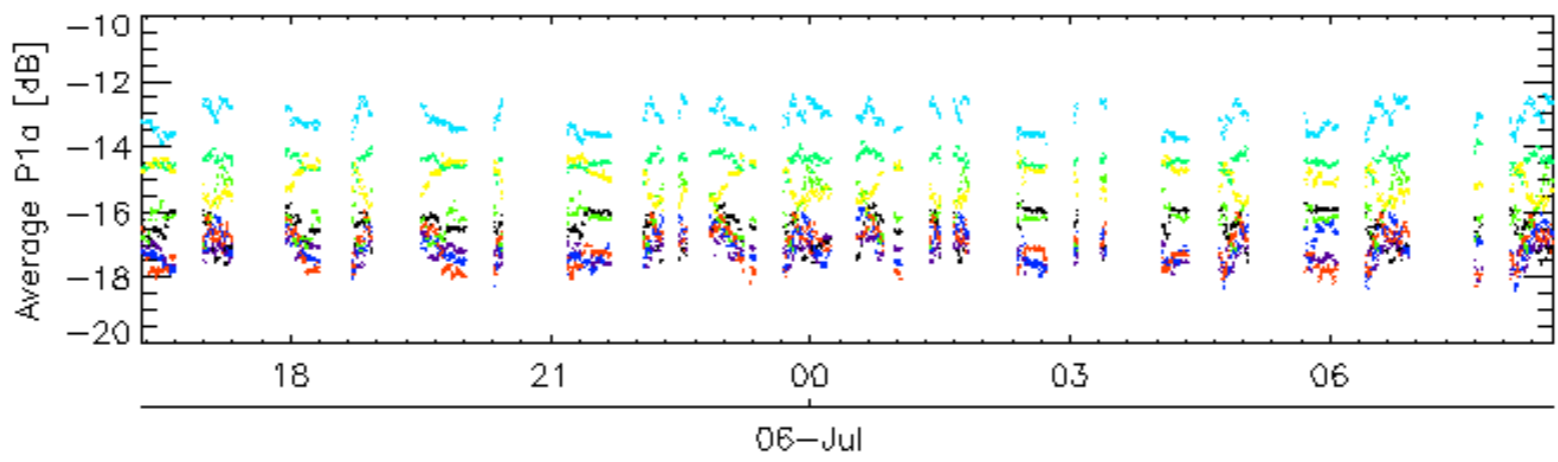
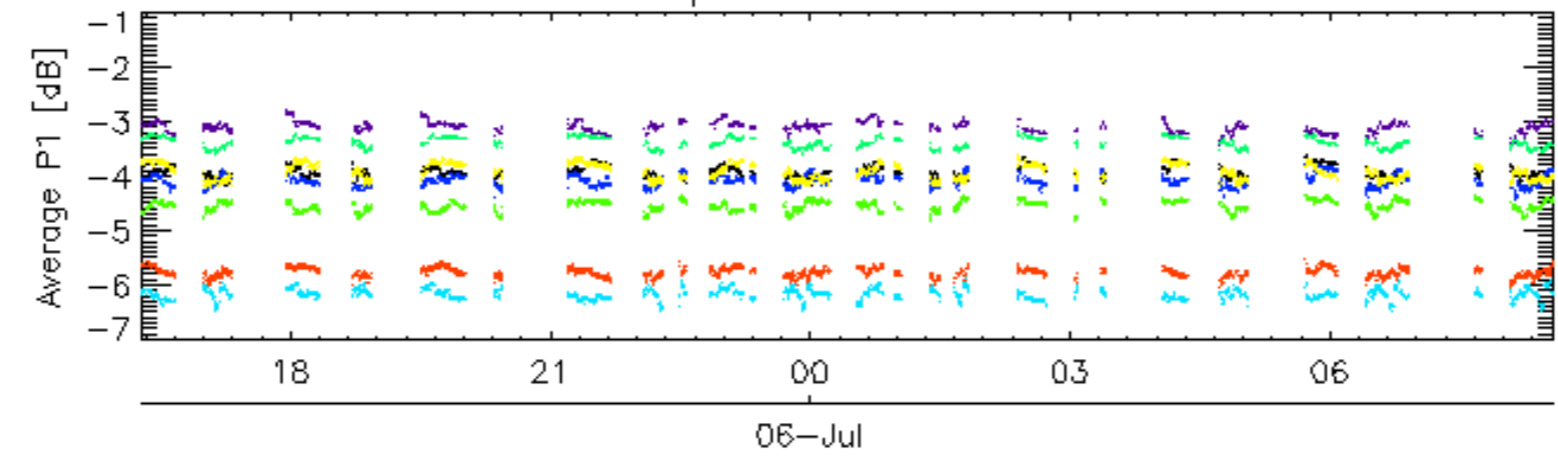


Cal pulses for GM1 SS3

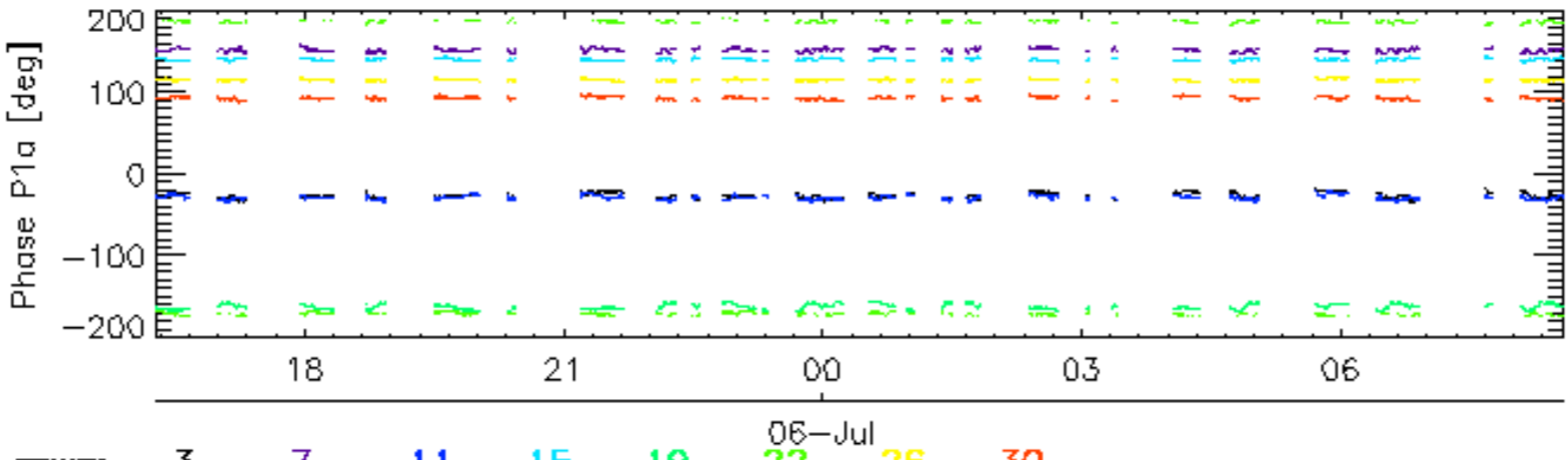
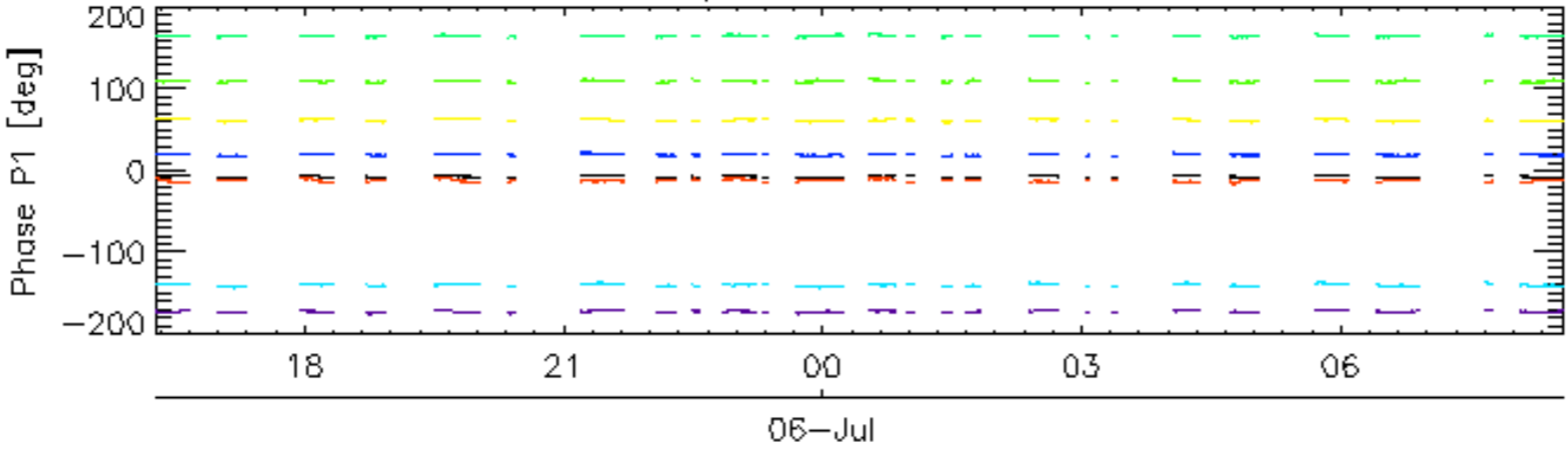


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30 06-Jul

Cal pulses for WVS IS2

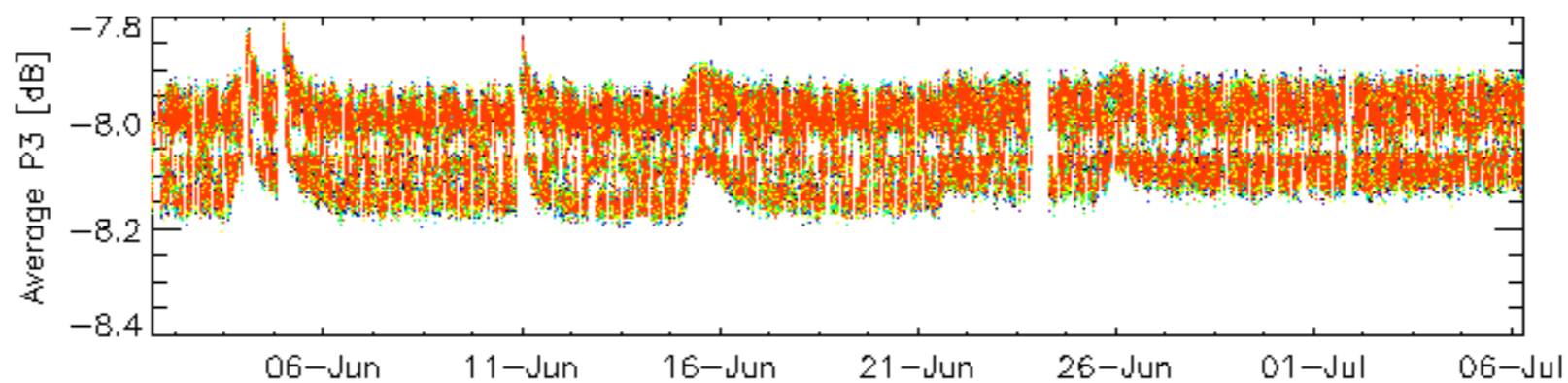
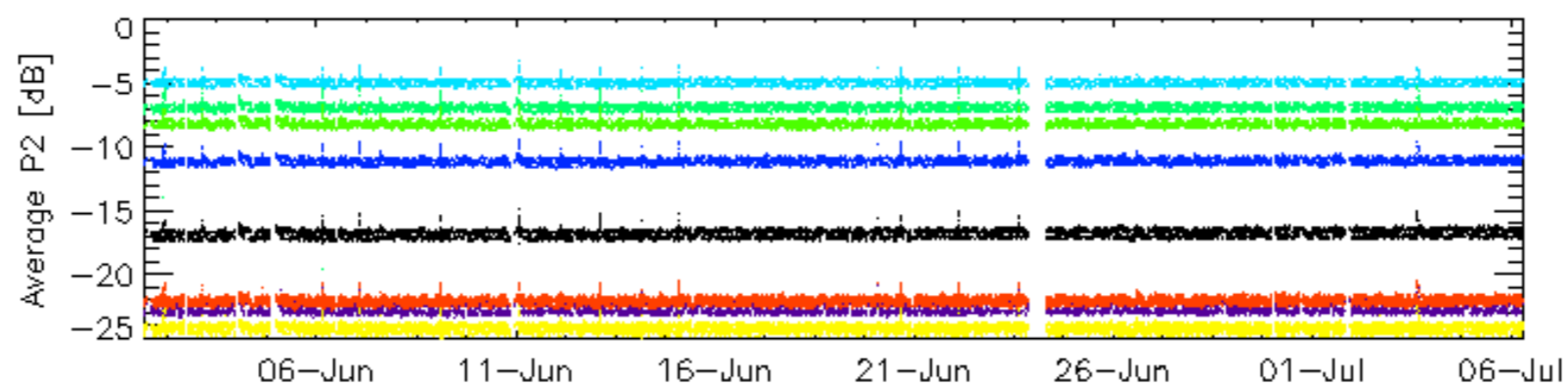
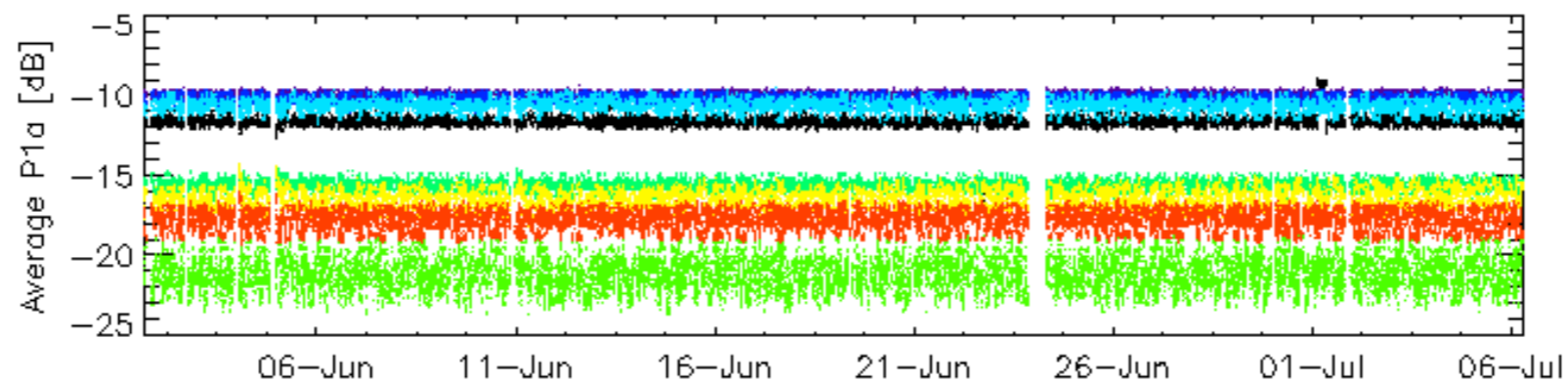
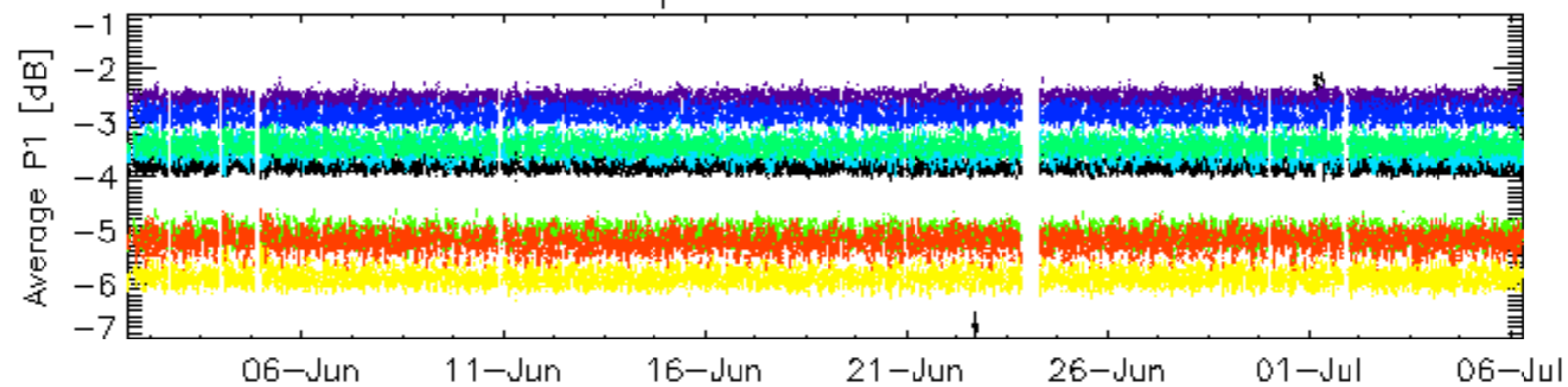


Cal pulses for WVS IS2



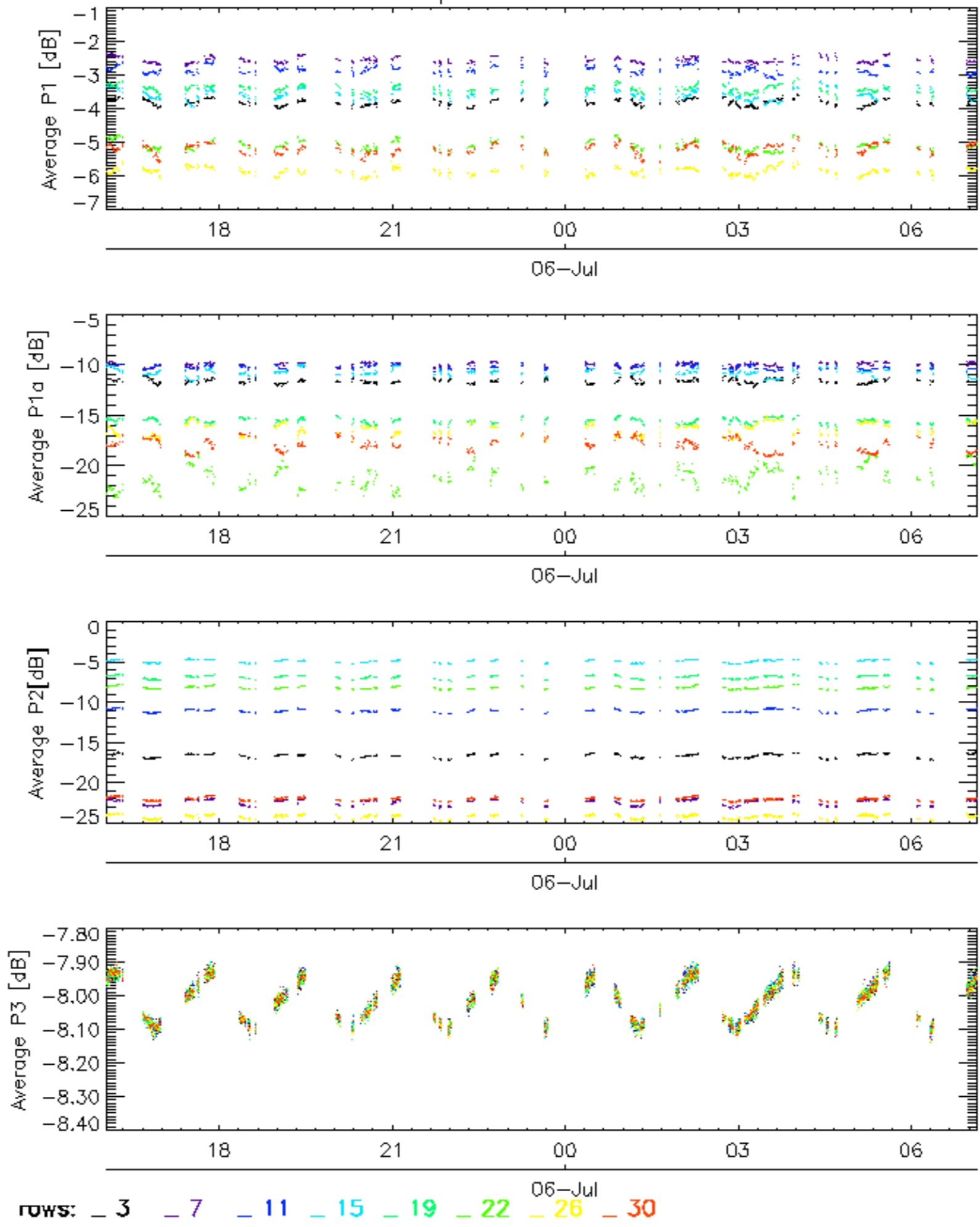
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

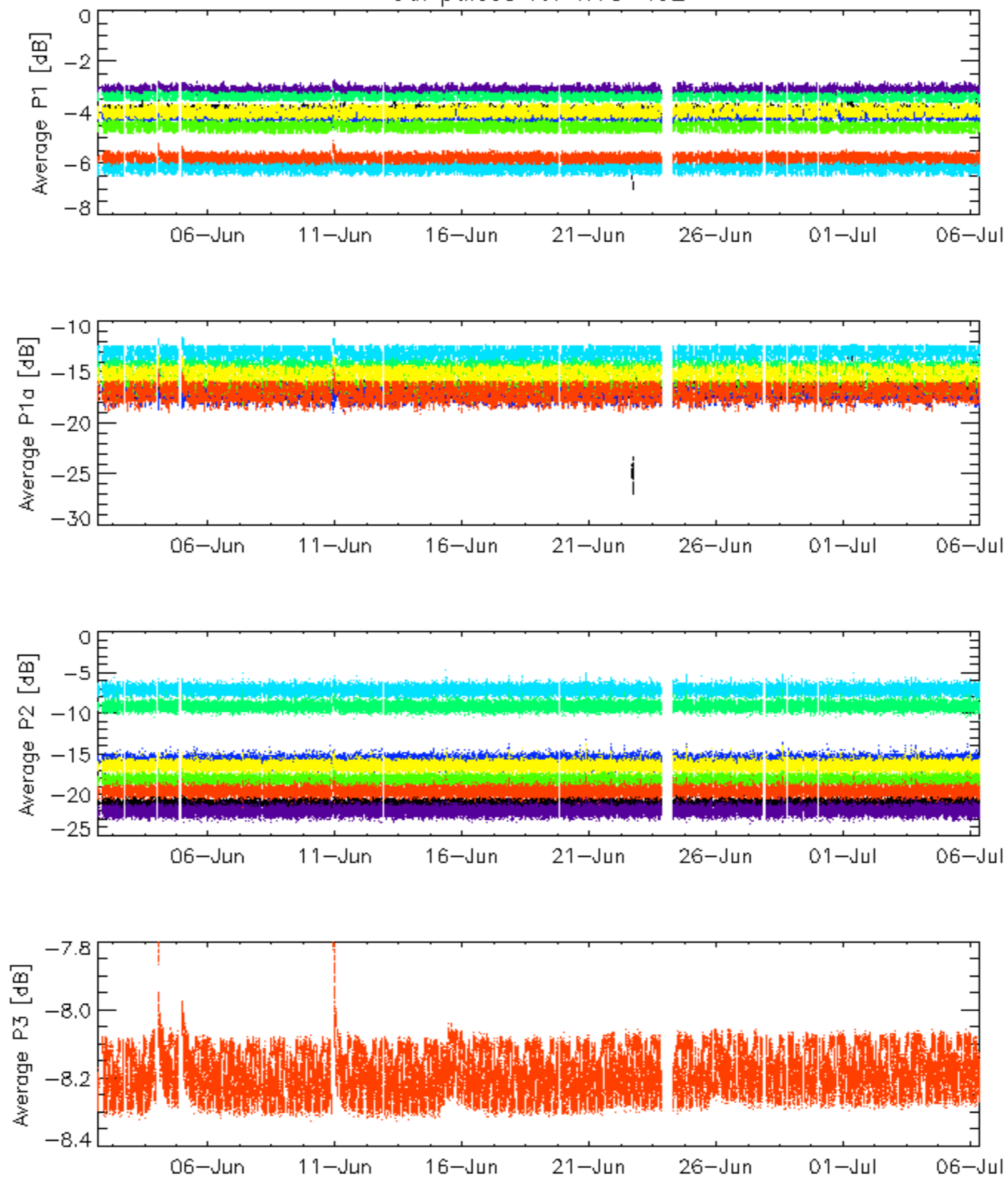


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

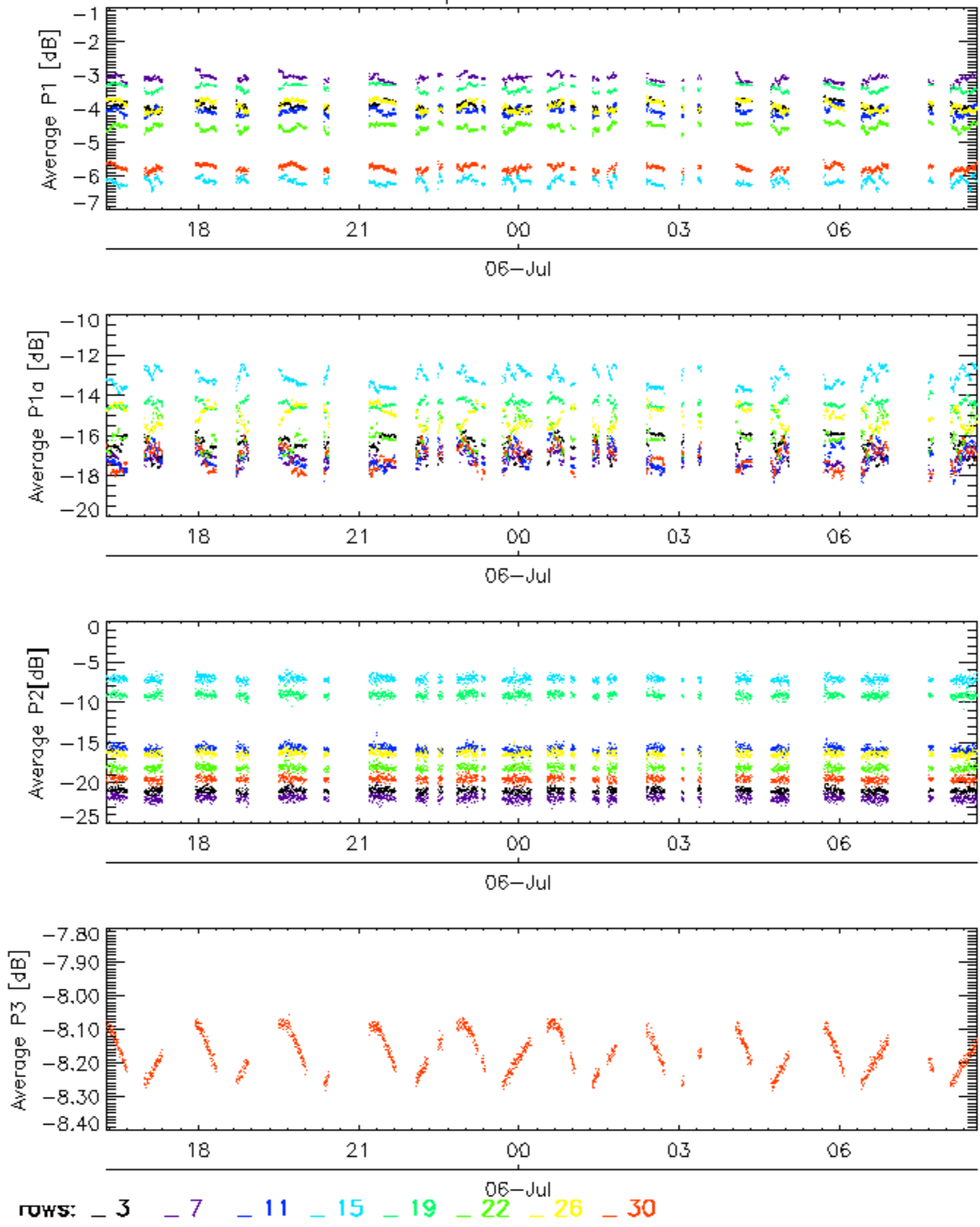


Cal pulses for WVS IS2



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

Cal pulses for WVS IS2

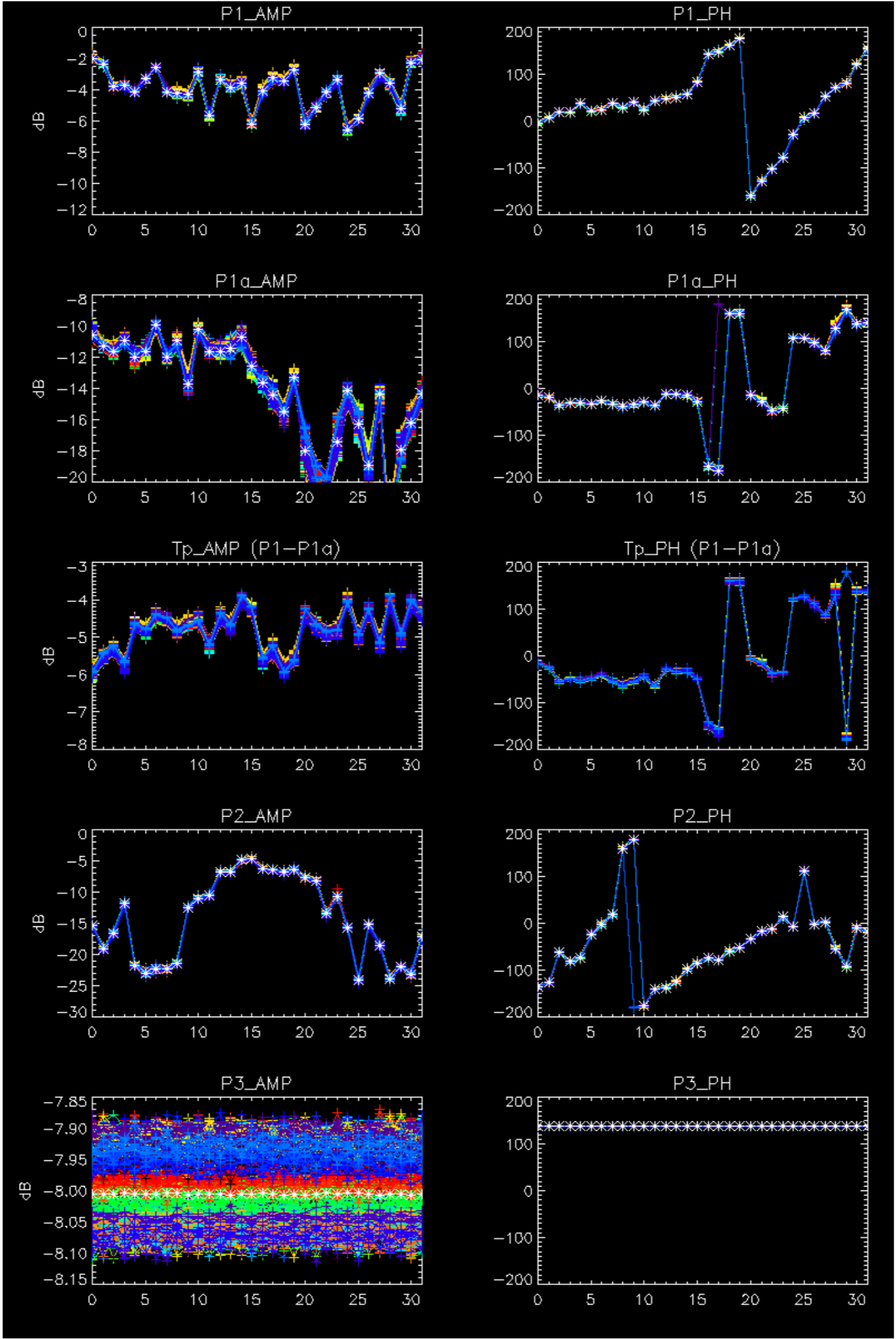


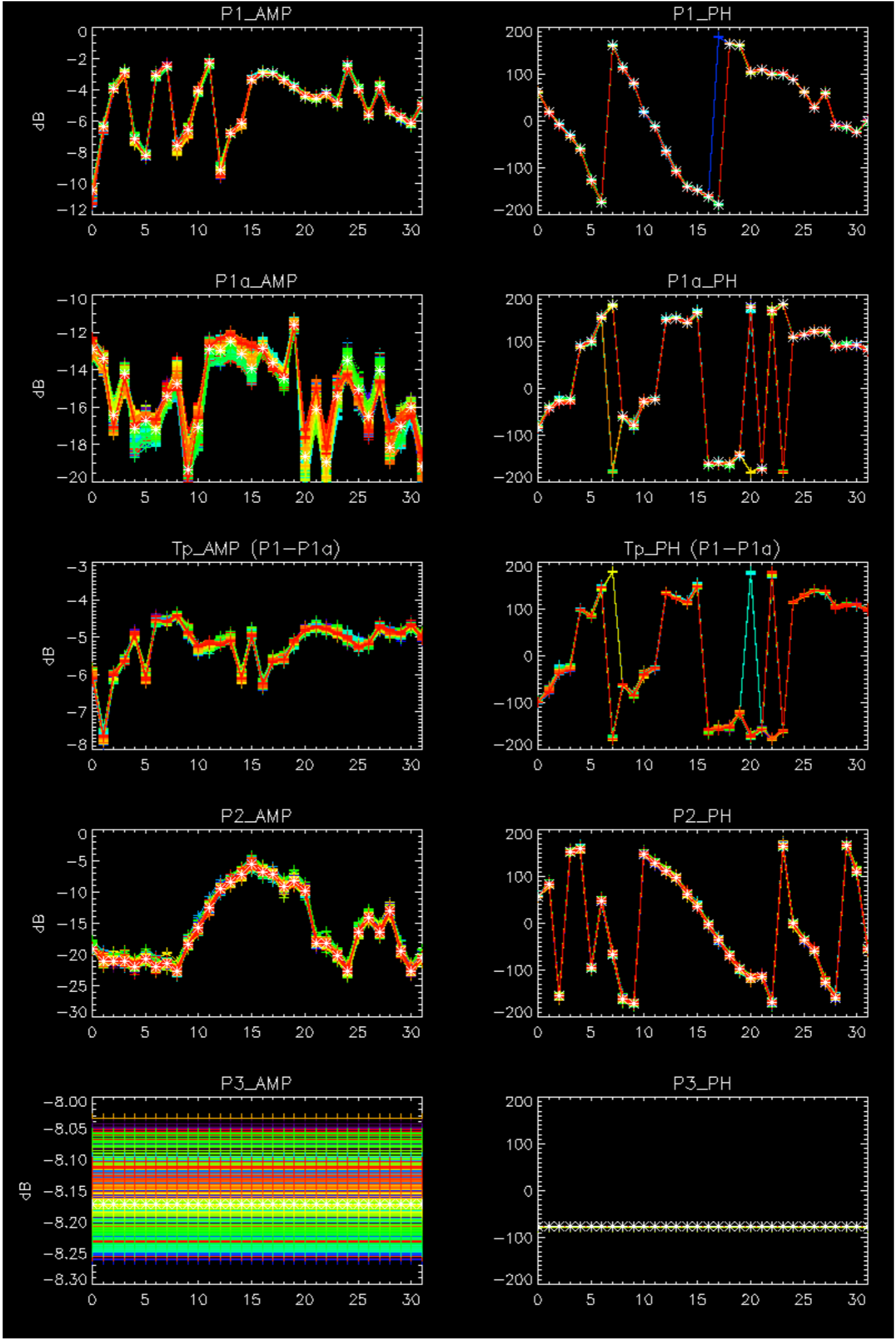
rows: 3 7 11 15 19 22 26 30

No anomalies observed on available browse products



No anomalies observed.

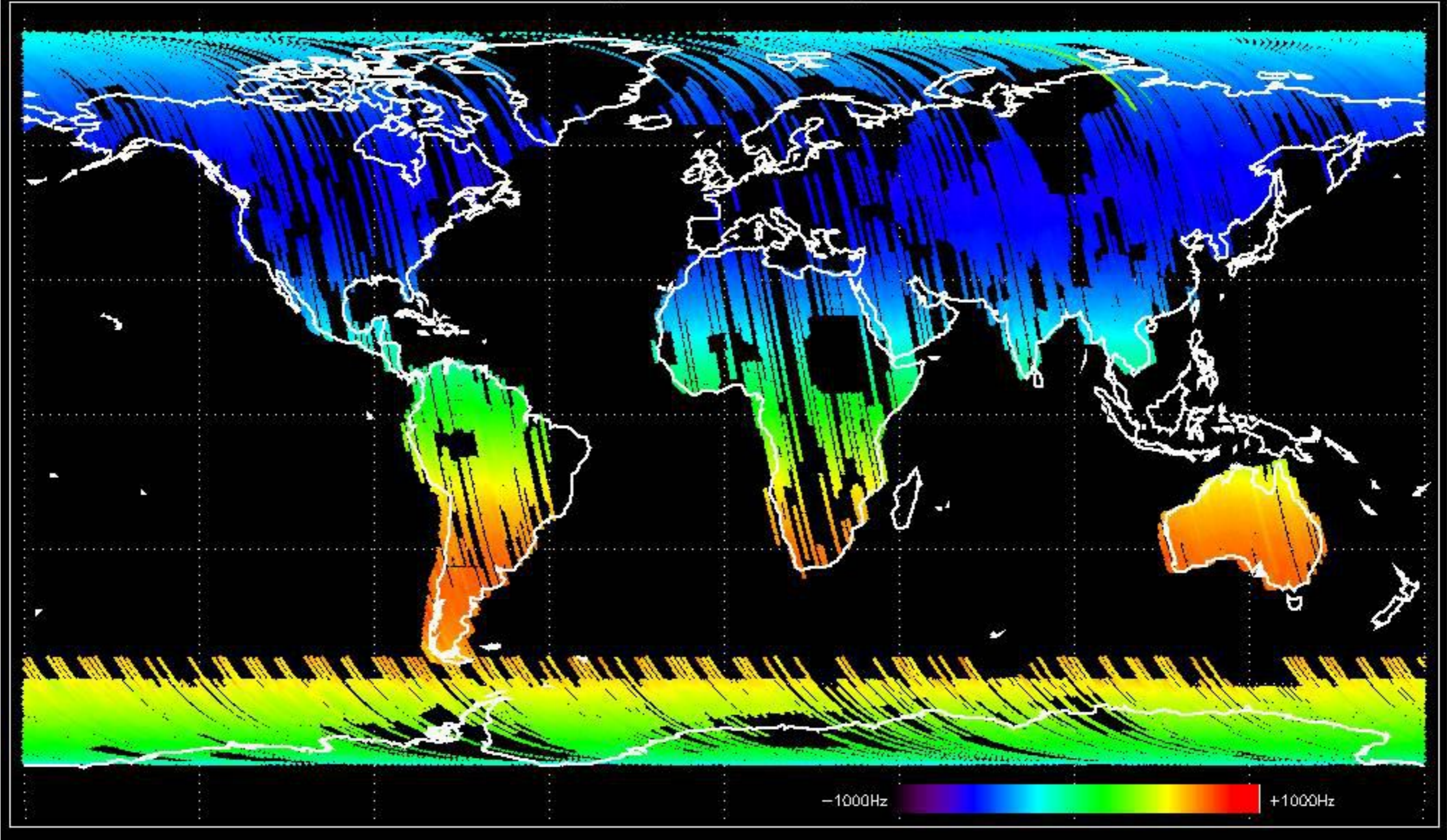




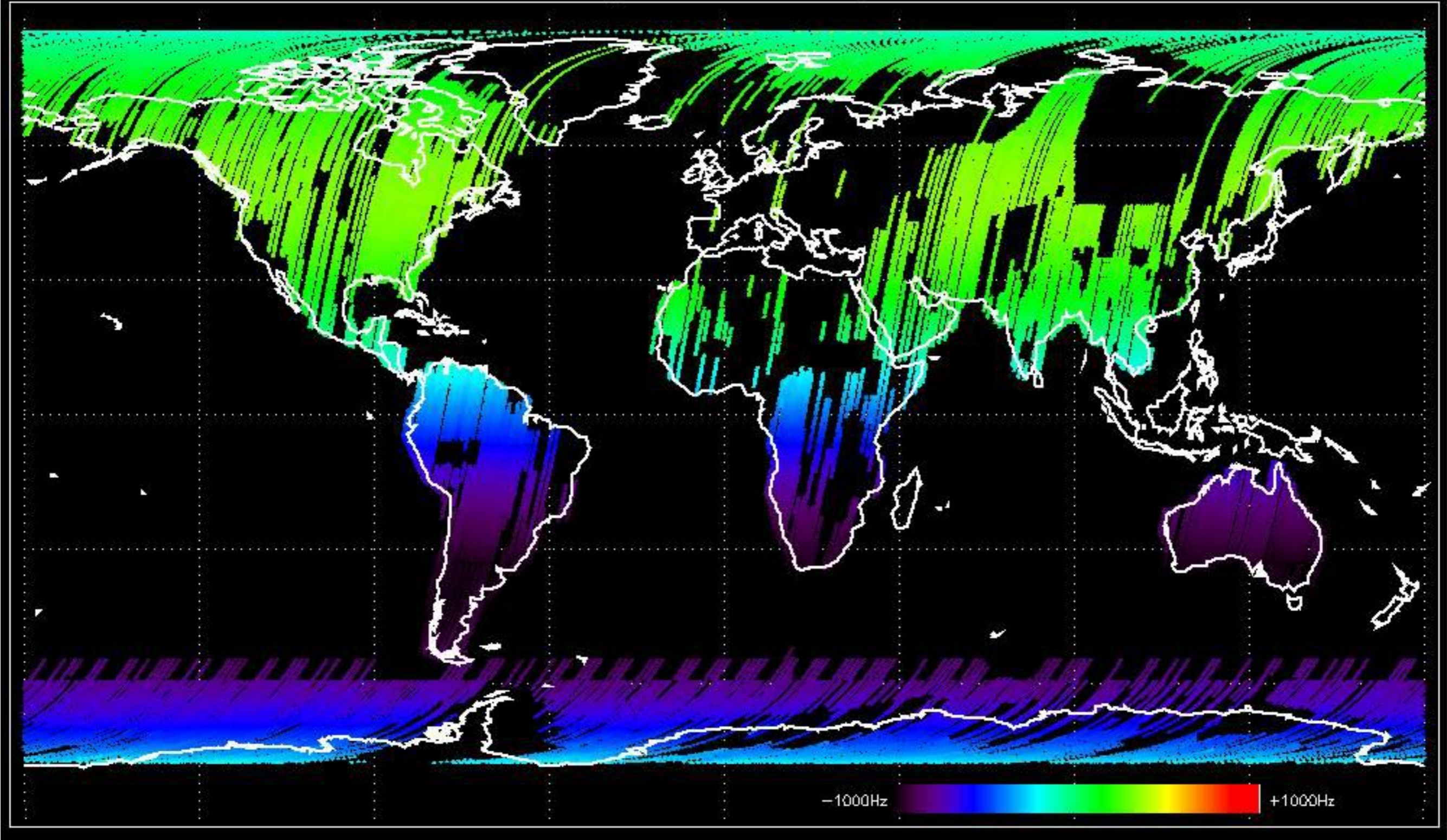
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



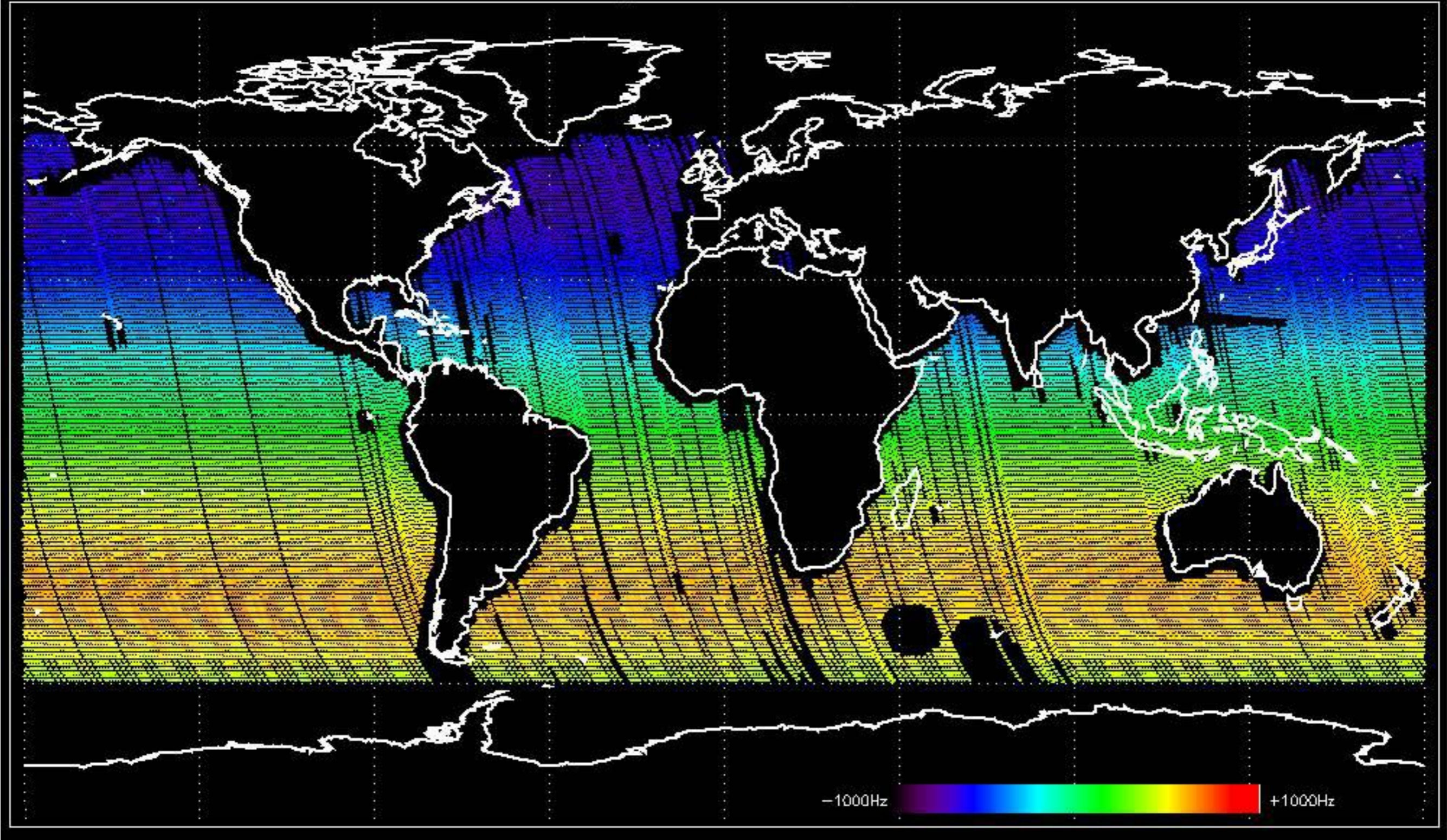
Doppler 'GM1' 'SS1' ascending



Doppler 'GM1' 'SS1' descending

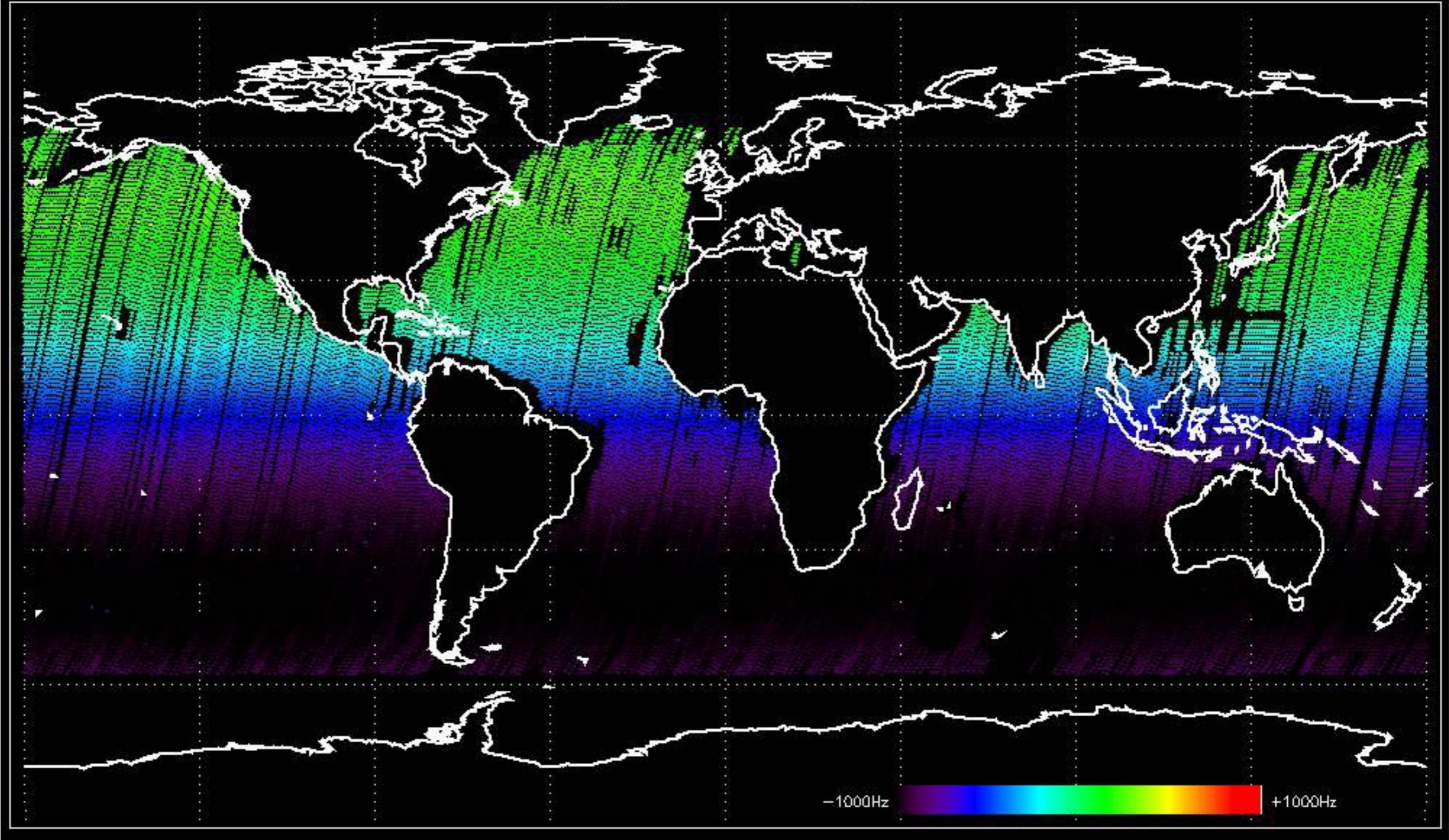


Doppler 'WVS' 'IS2' ascending

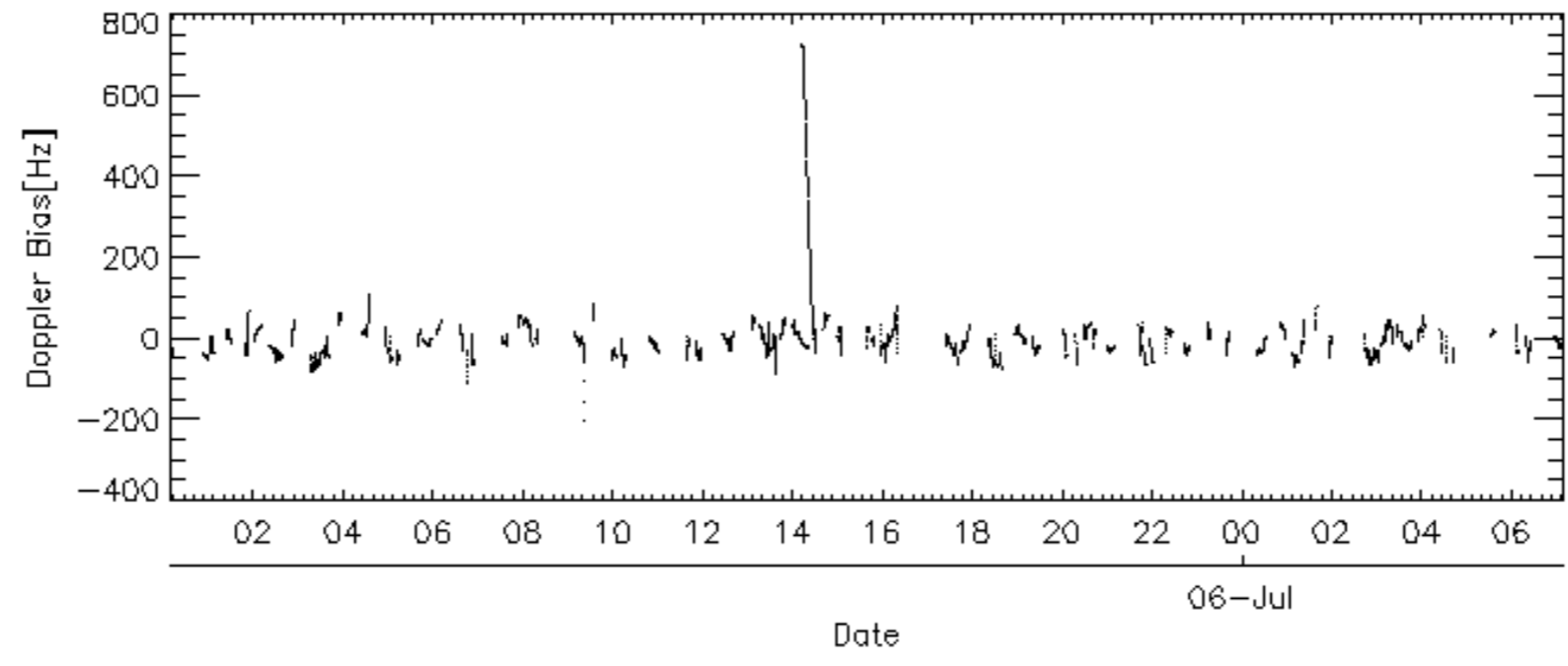
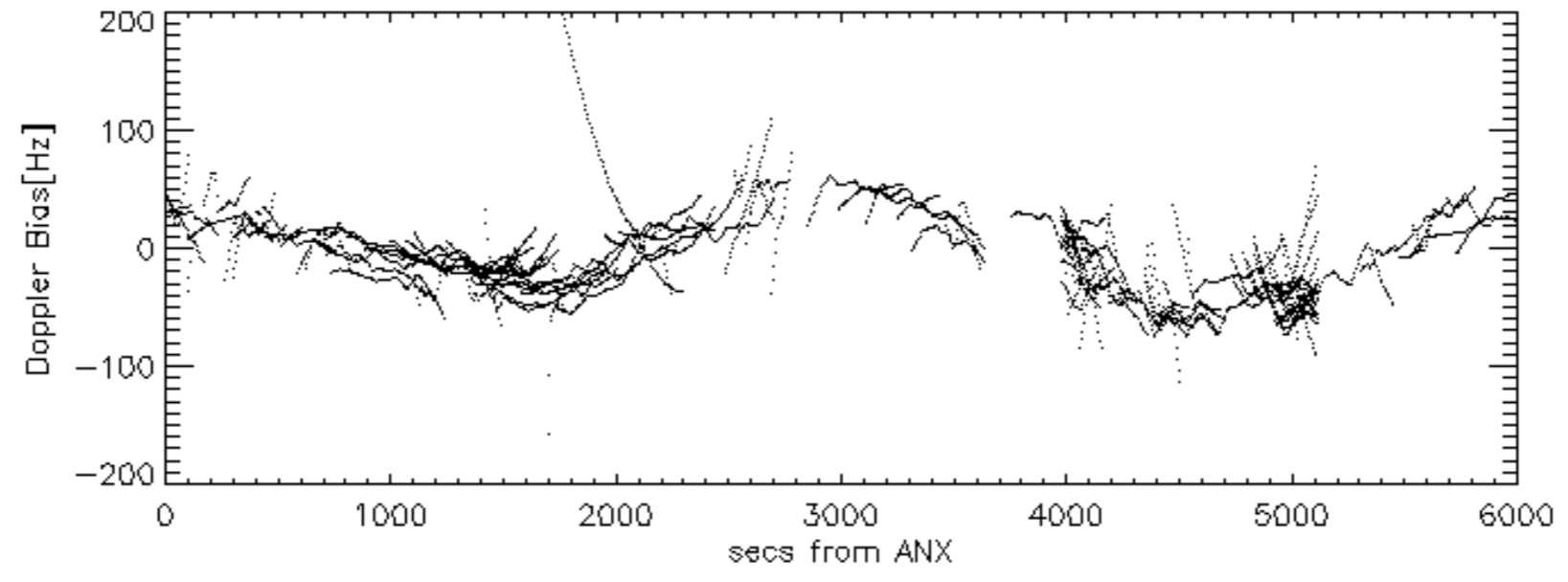
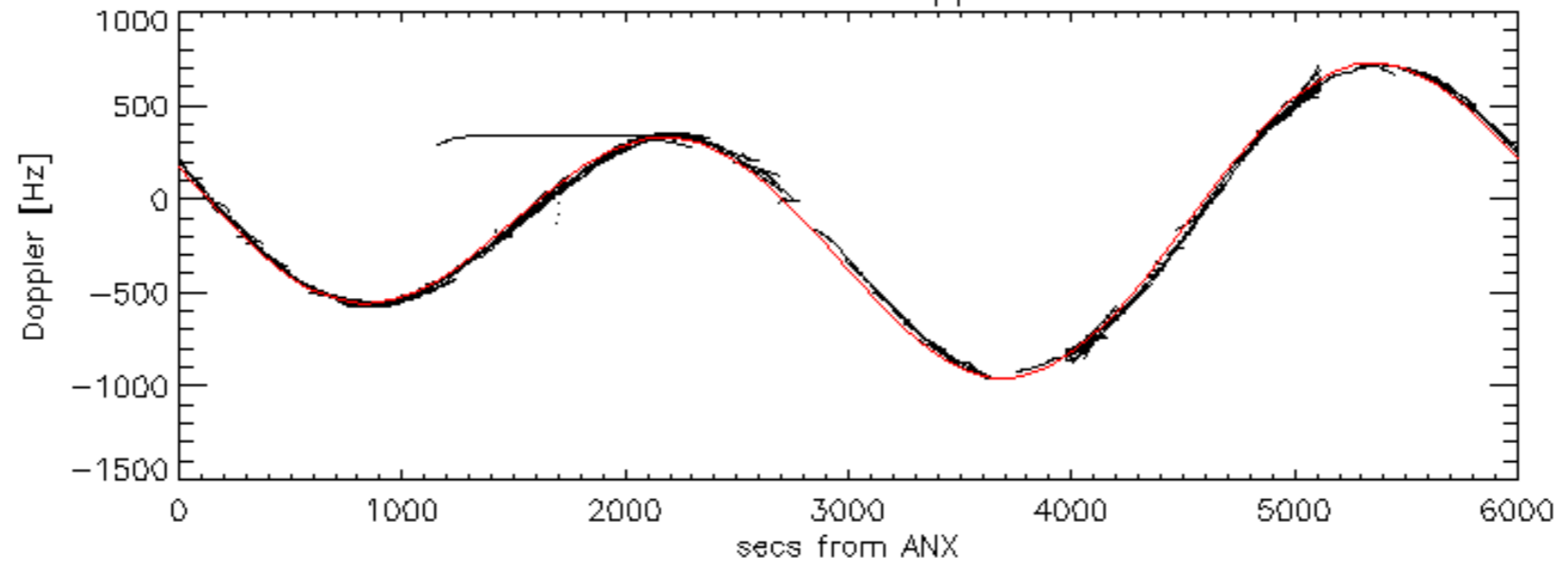


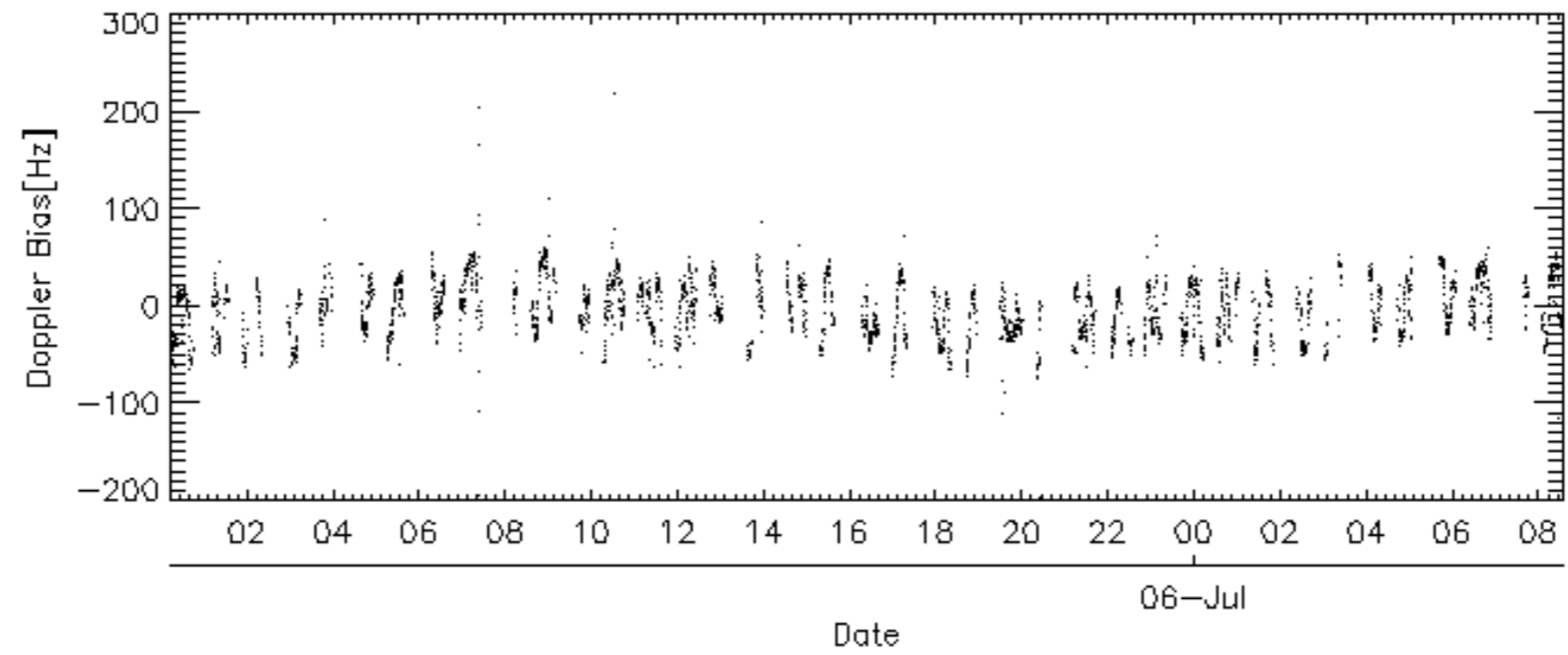
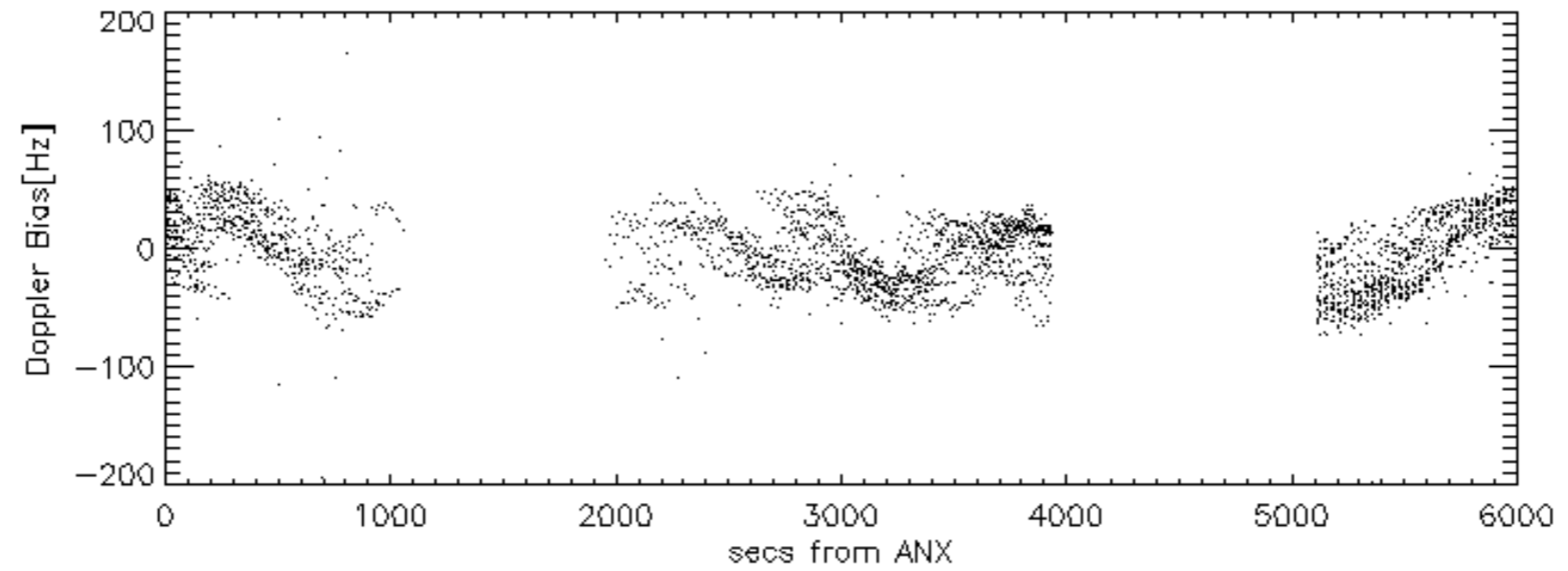
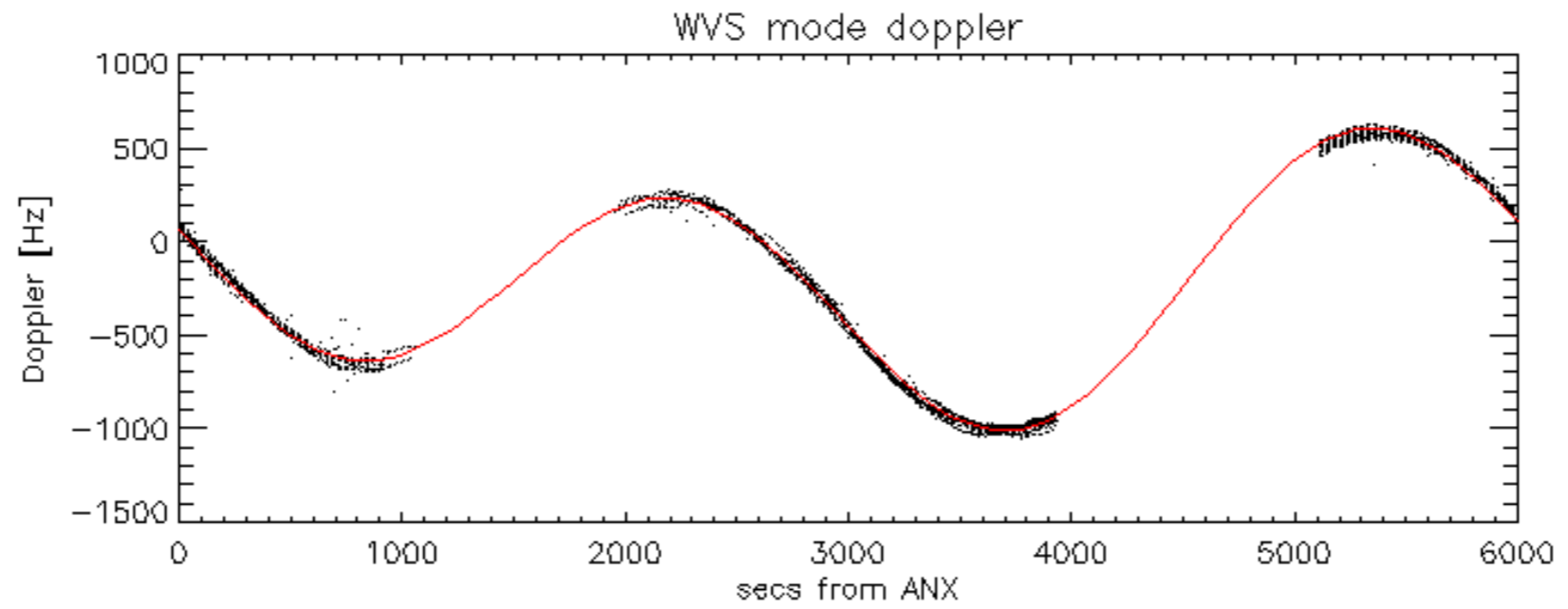


Doppler 'WVS' 'IS2' descending

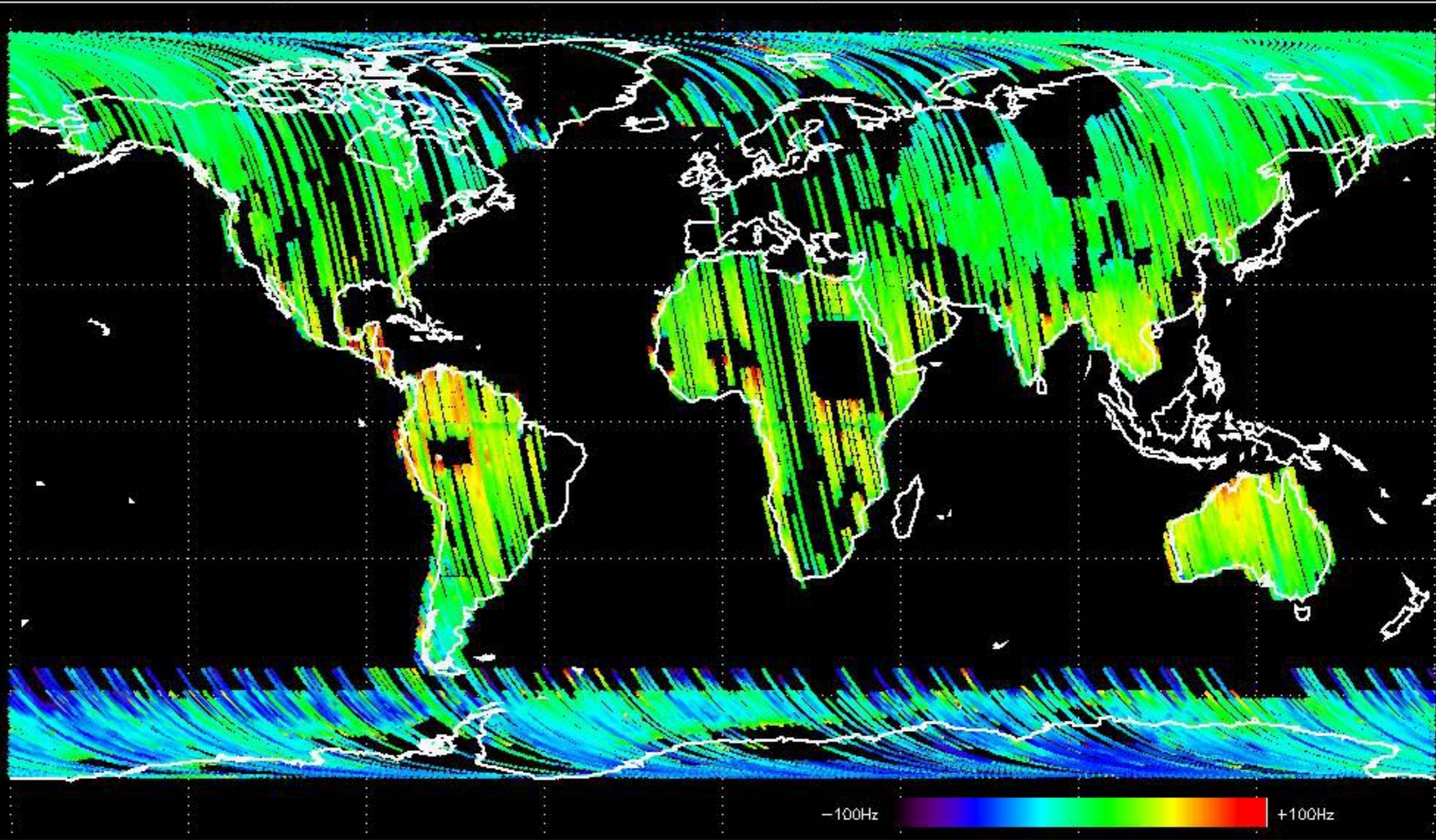


GM1 mode doppler

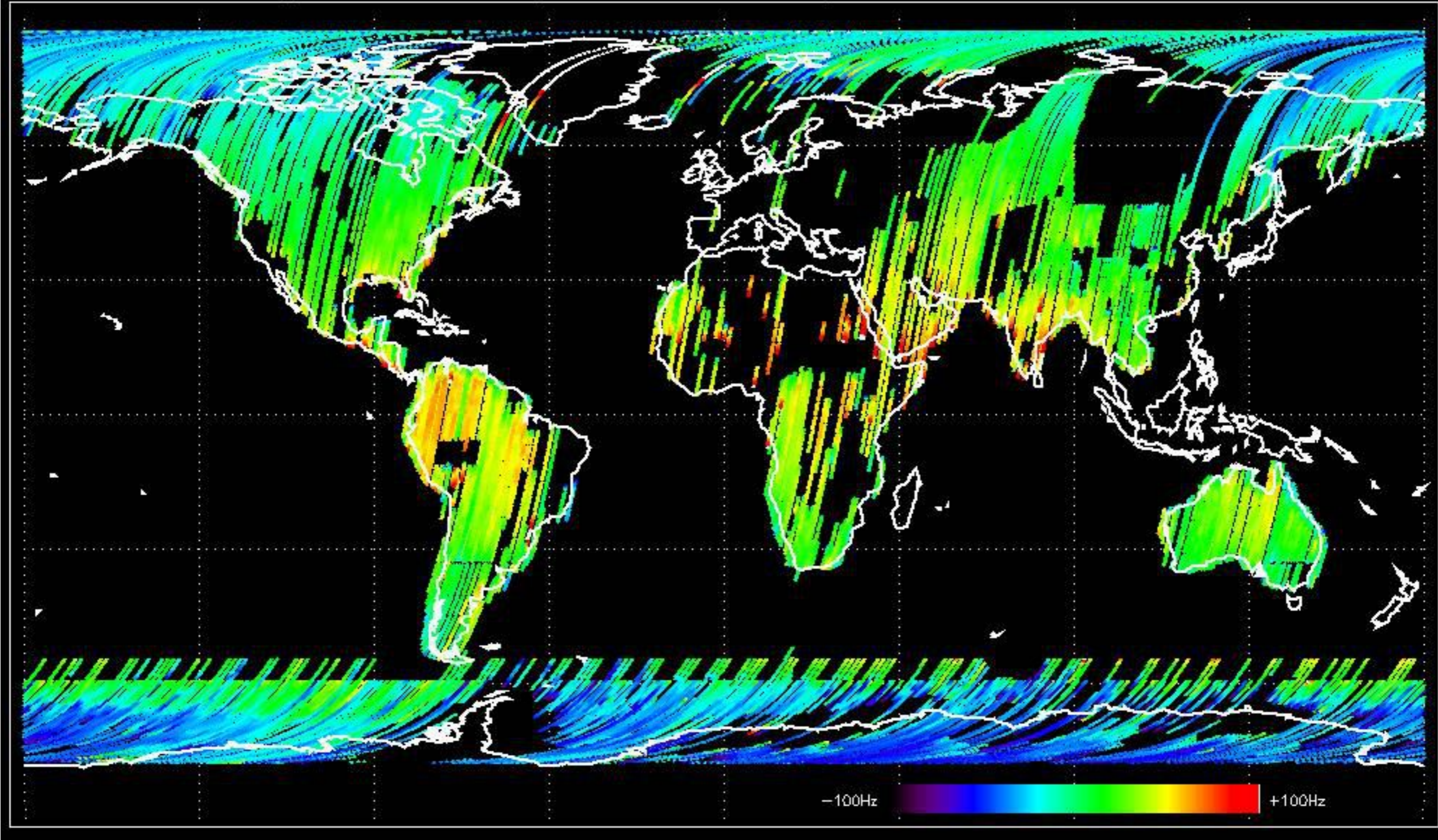




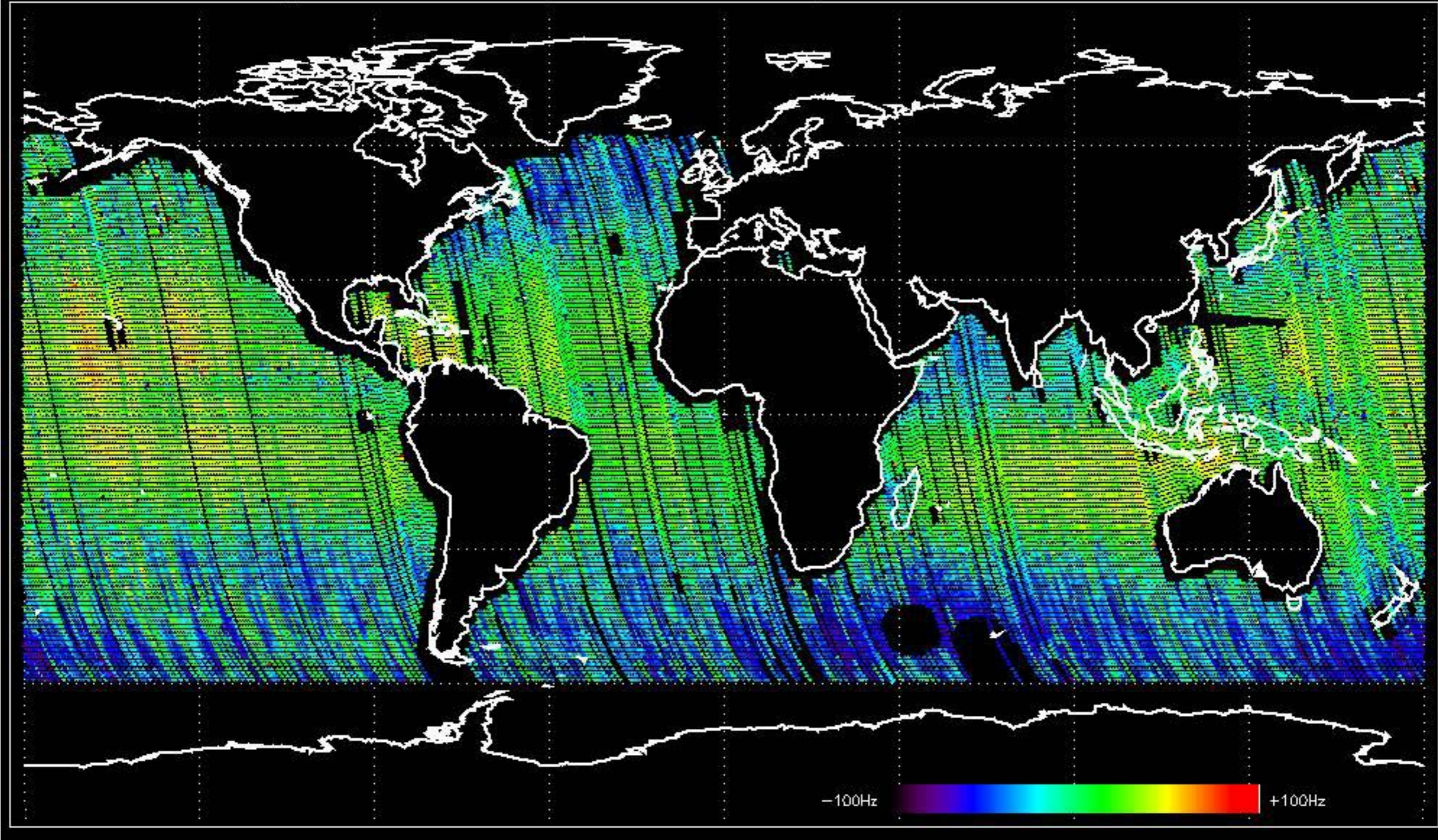
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -18.531295 Hz



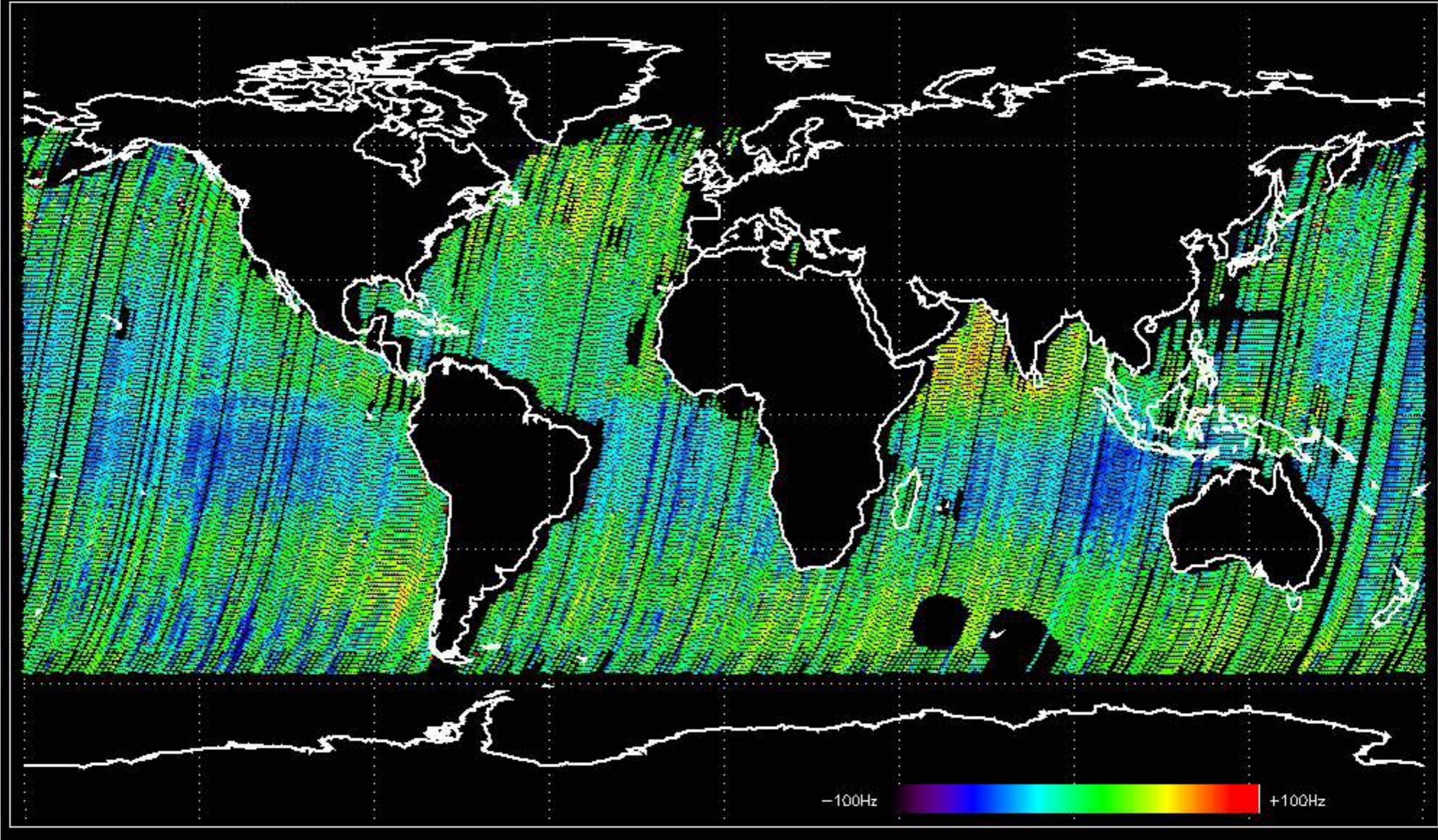
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -8.7743164 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -6.1815670 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -11.627035 Hz



No anomalies observed on available MS products:



No anomalies observed.



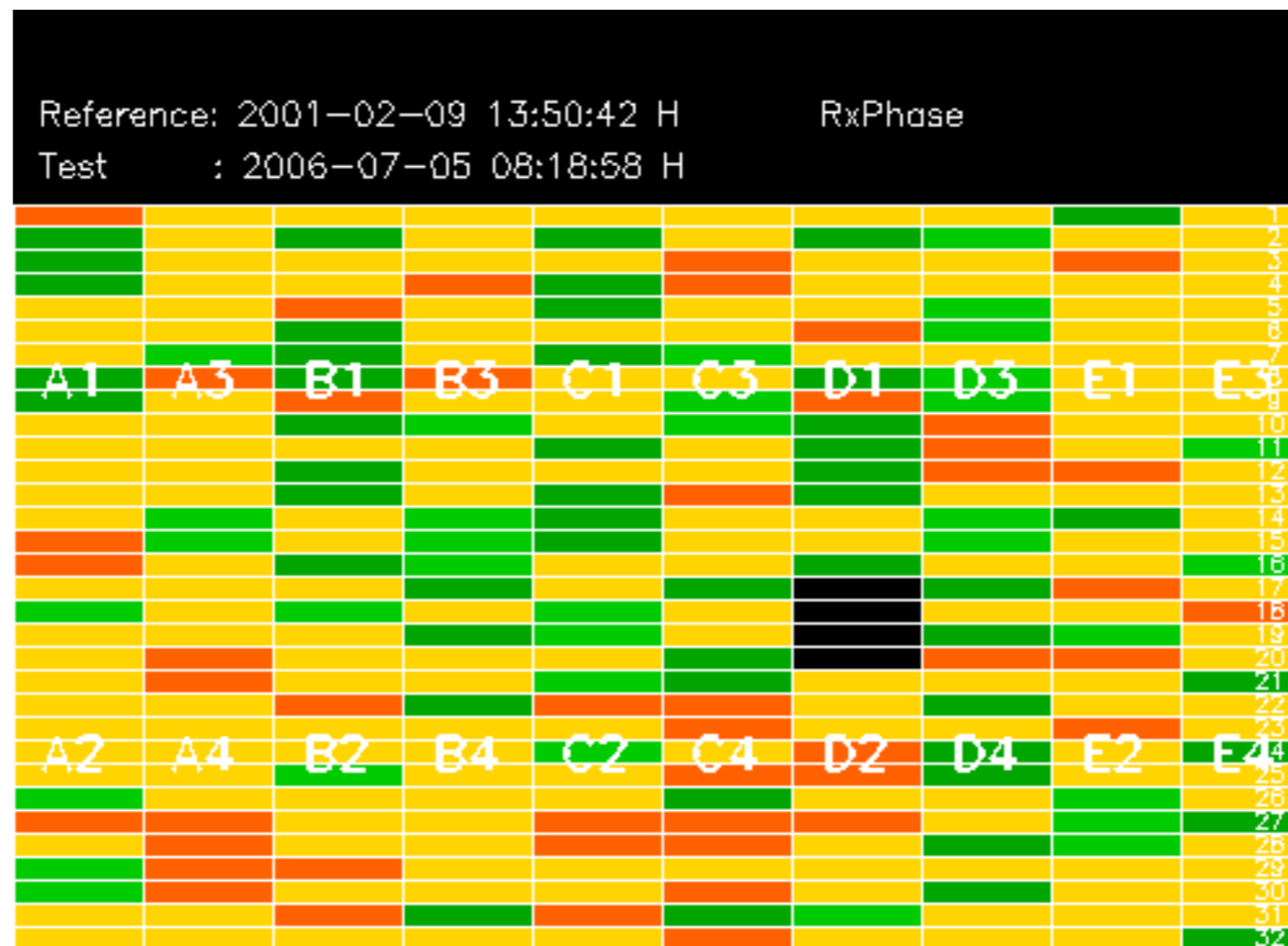














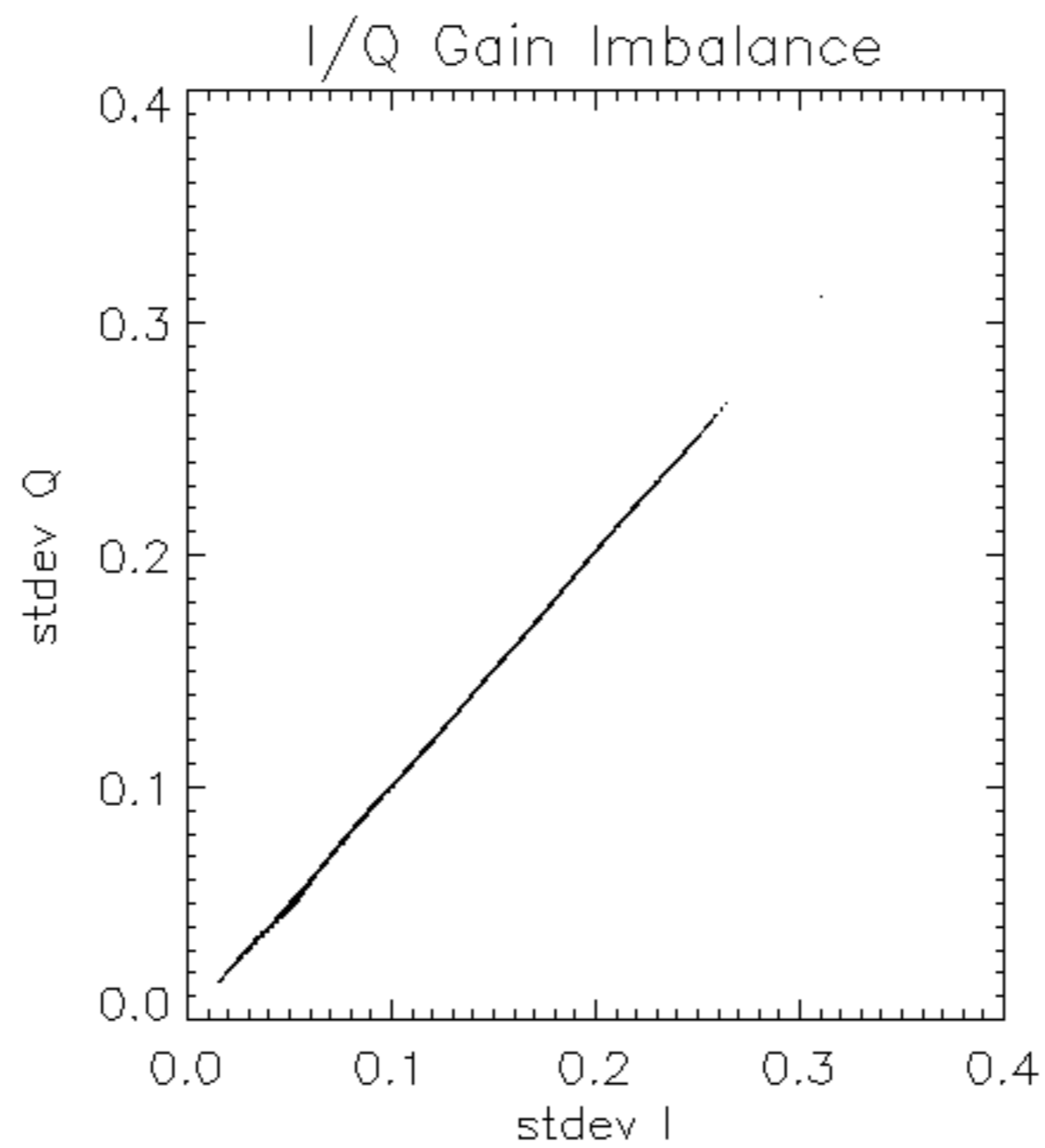


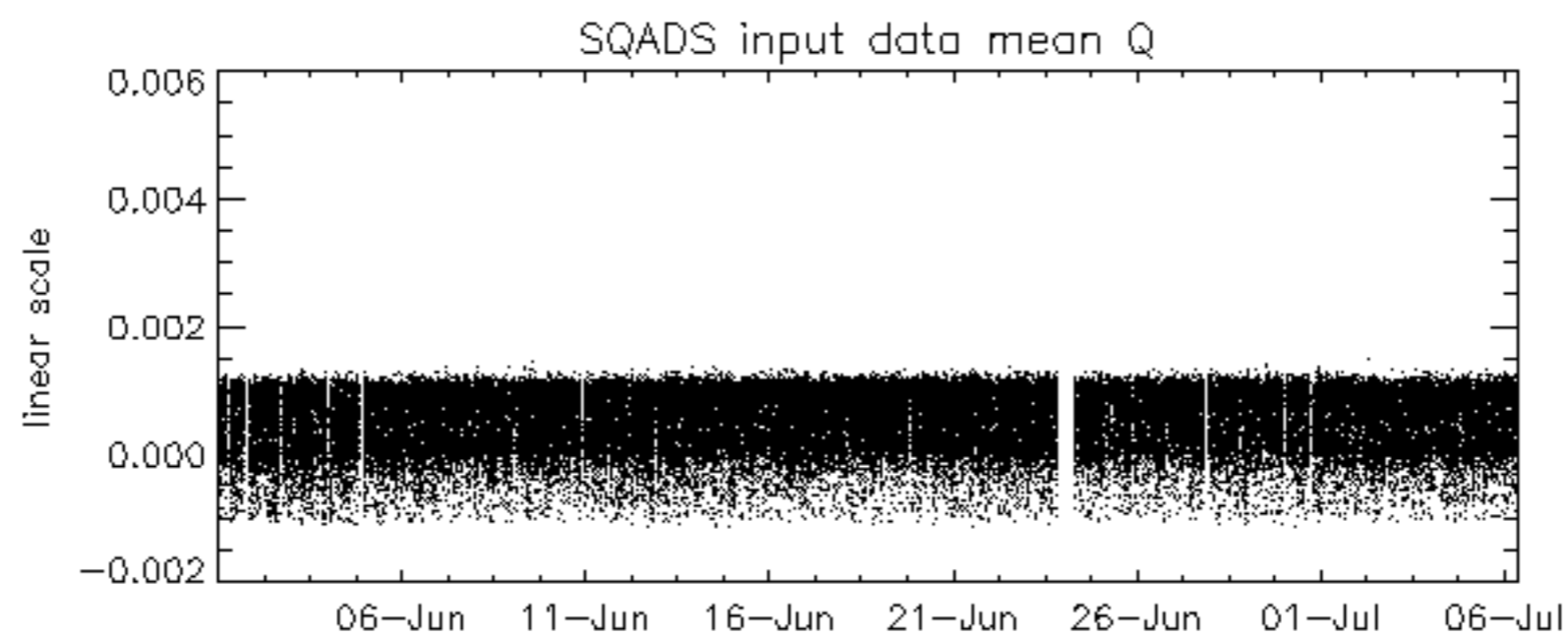
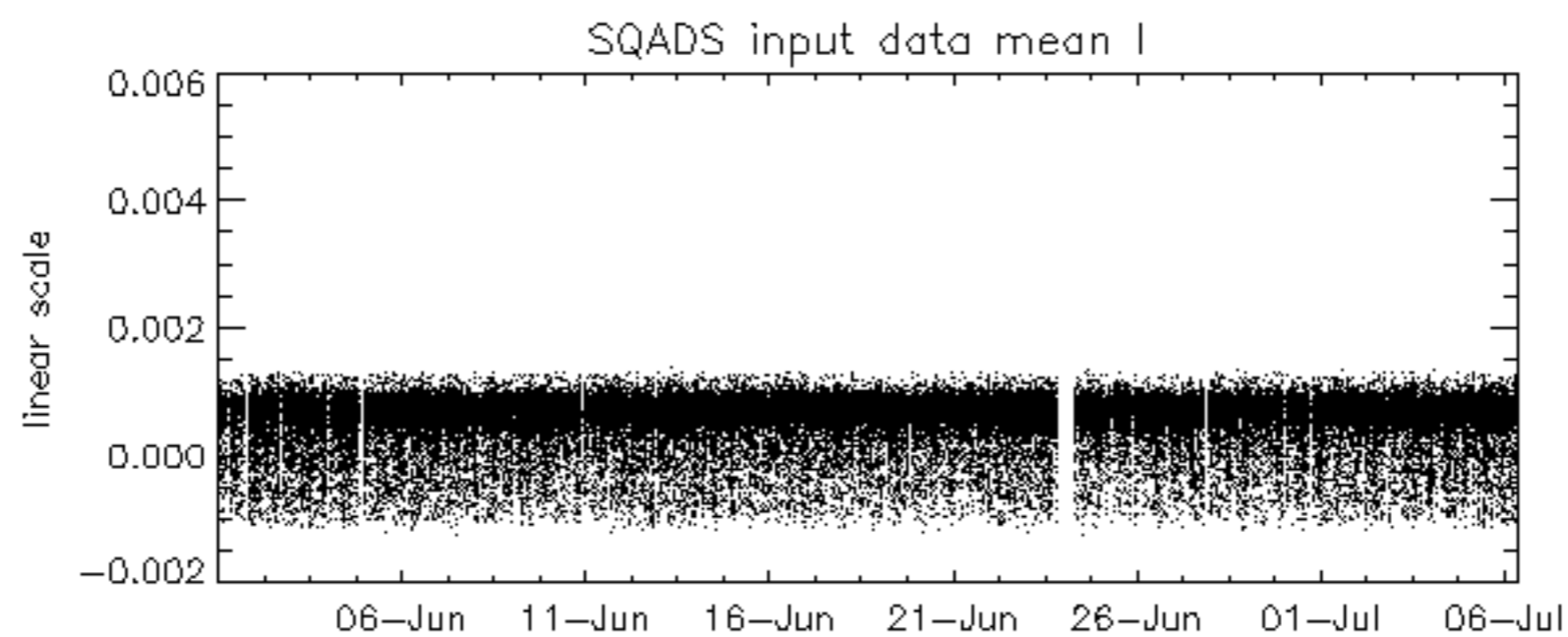
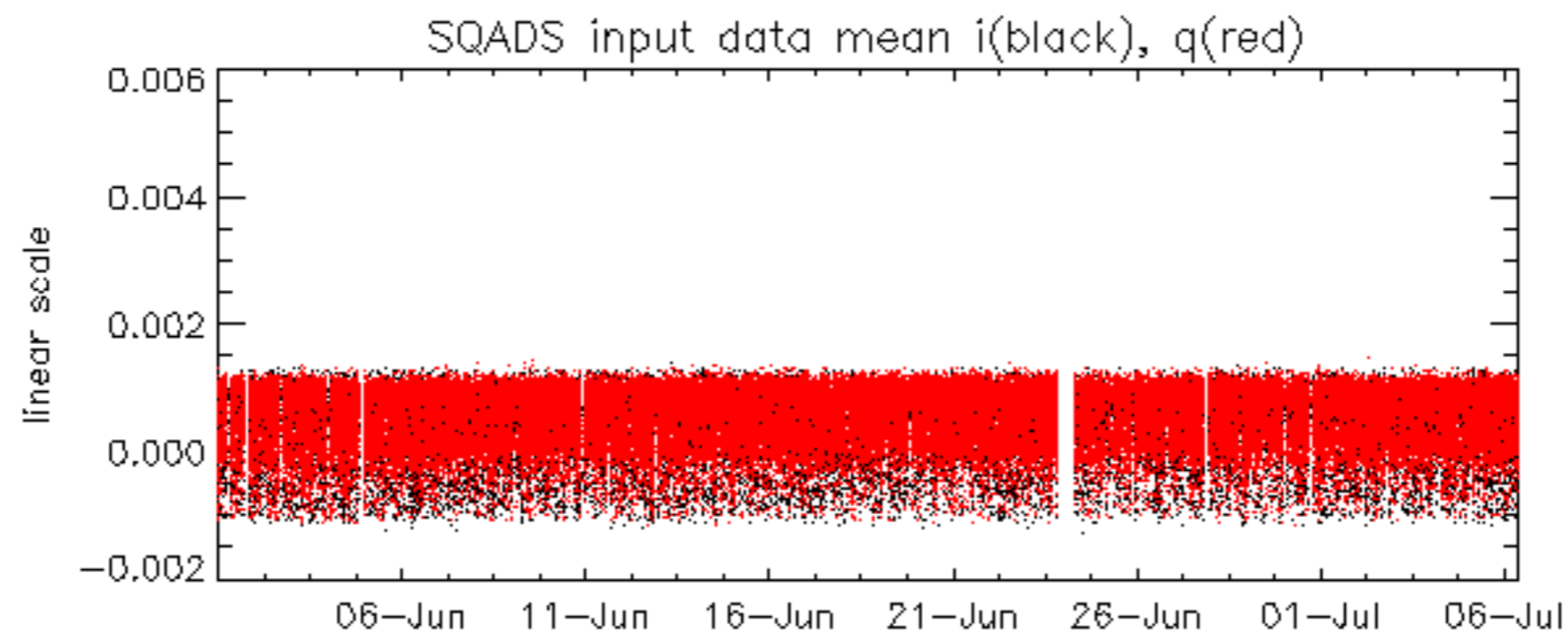


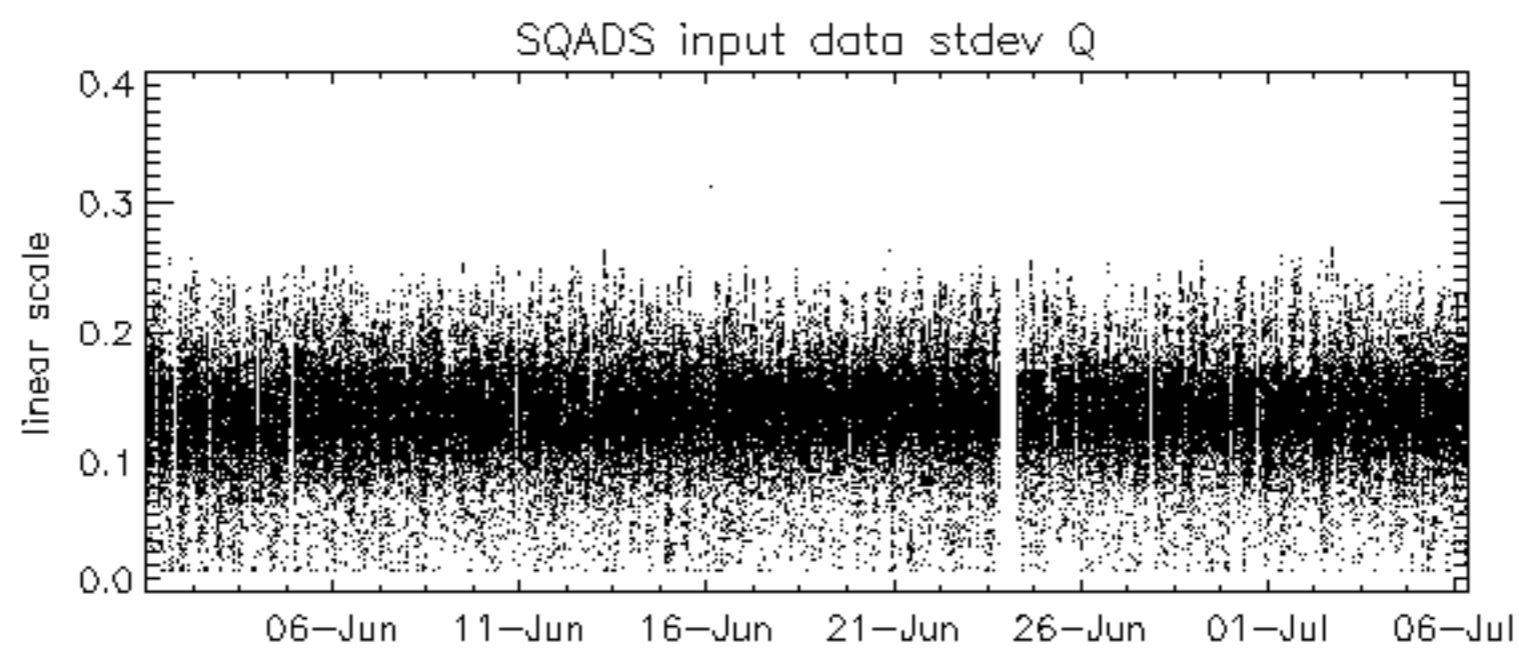
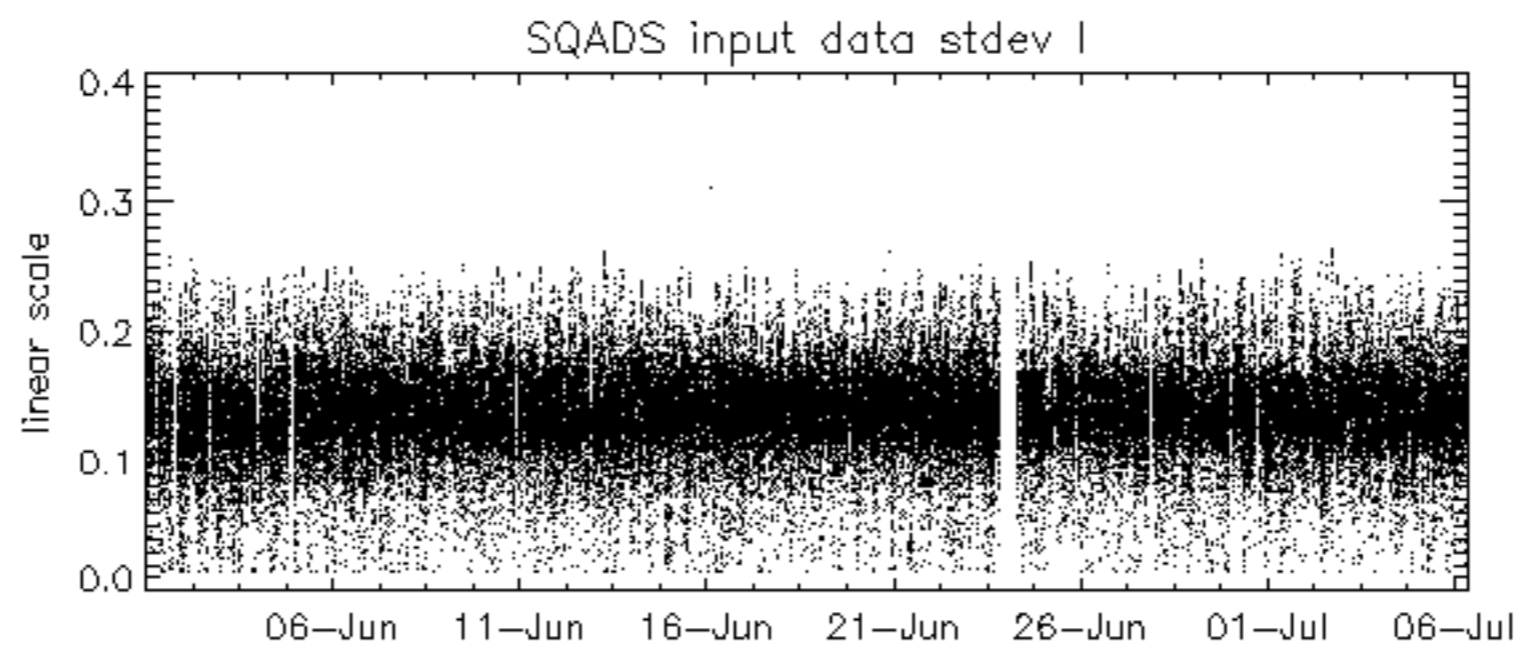
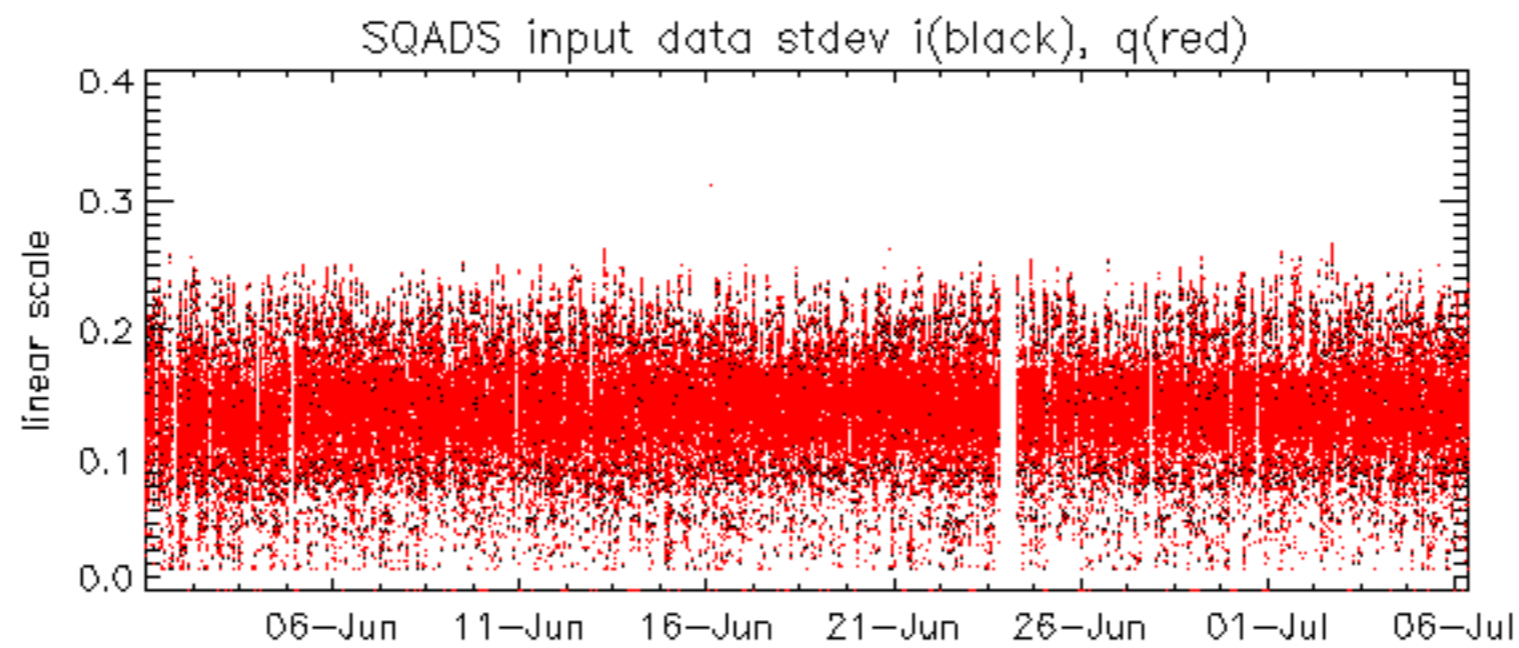


























Summary of analysis for the last 3 days 2006070[456]

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_1PNPDE20060704_192324_000000532049_00113_22712_0345.N1	1	0
ASA_IMM_1PNPDK20060704_124504_000000372049_00110_22709_0163.N1	1	0
ASA_WSM_1PNPDE20060706_022612_000000862049_00132_22731_1537.N1	0	48











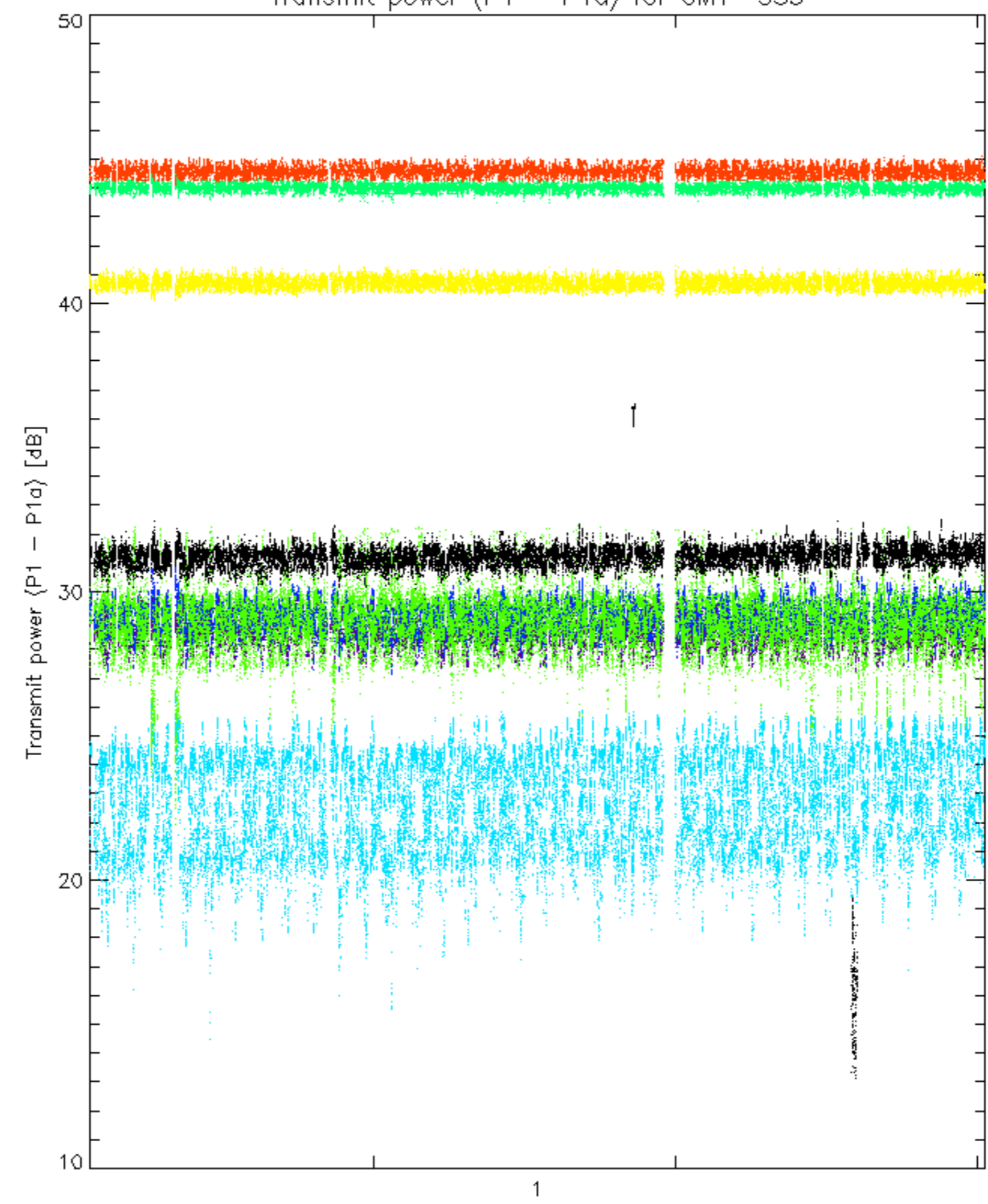






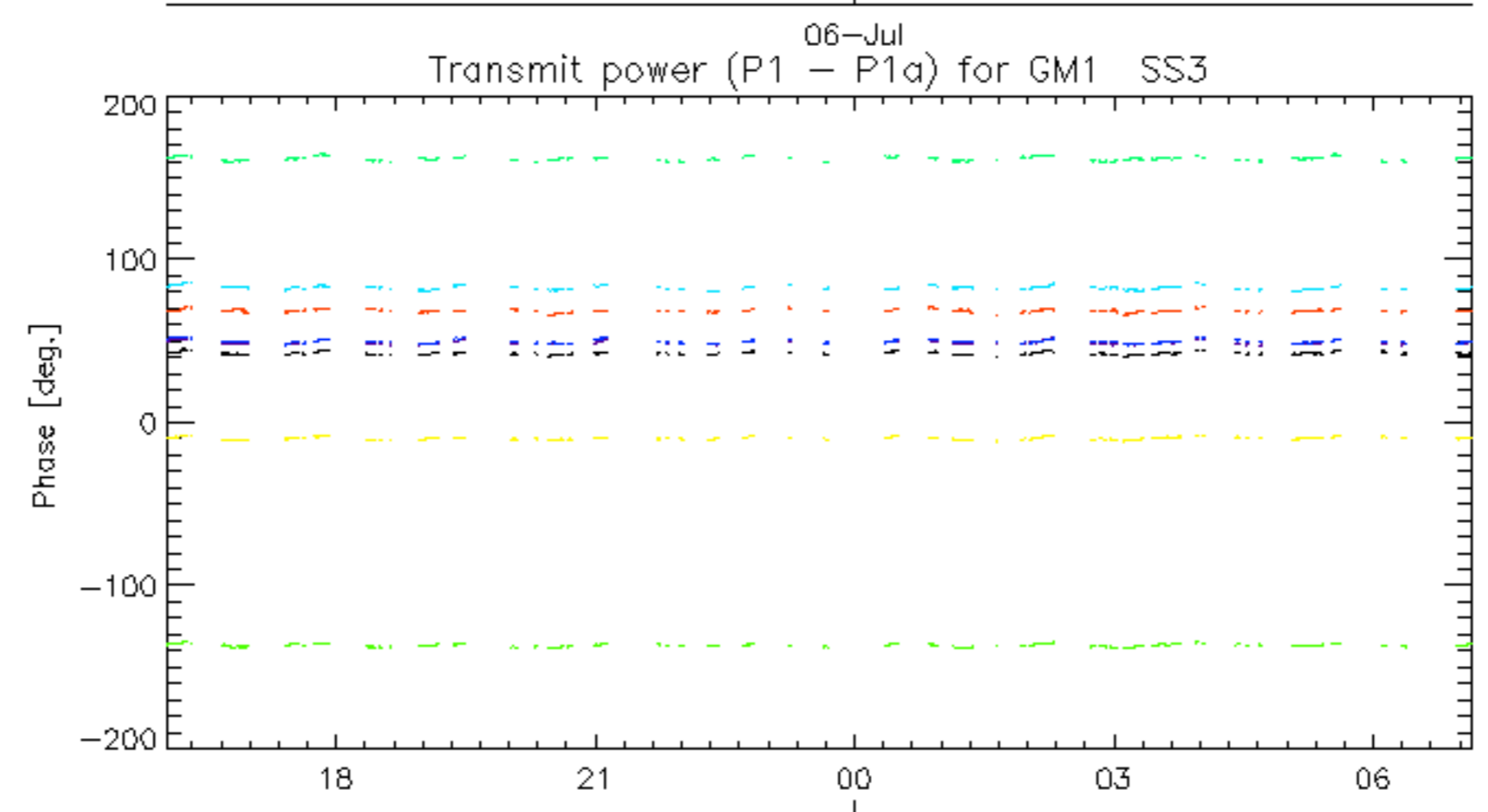
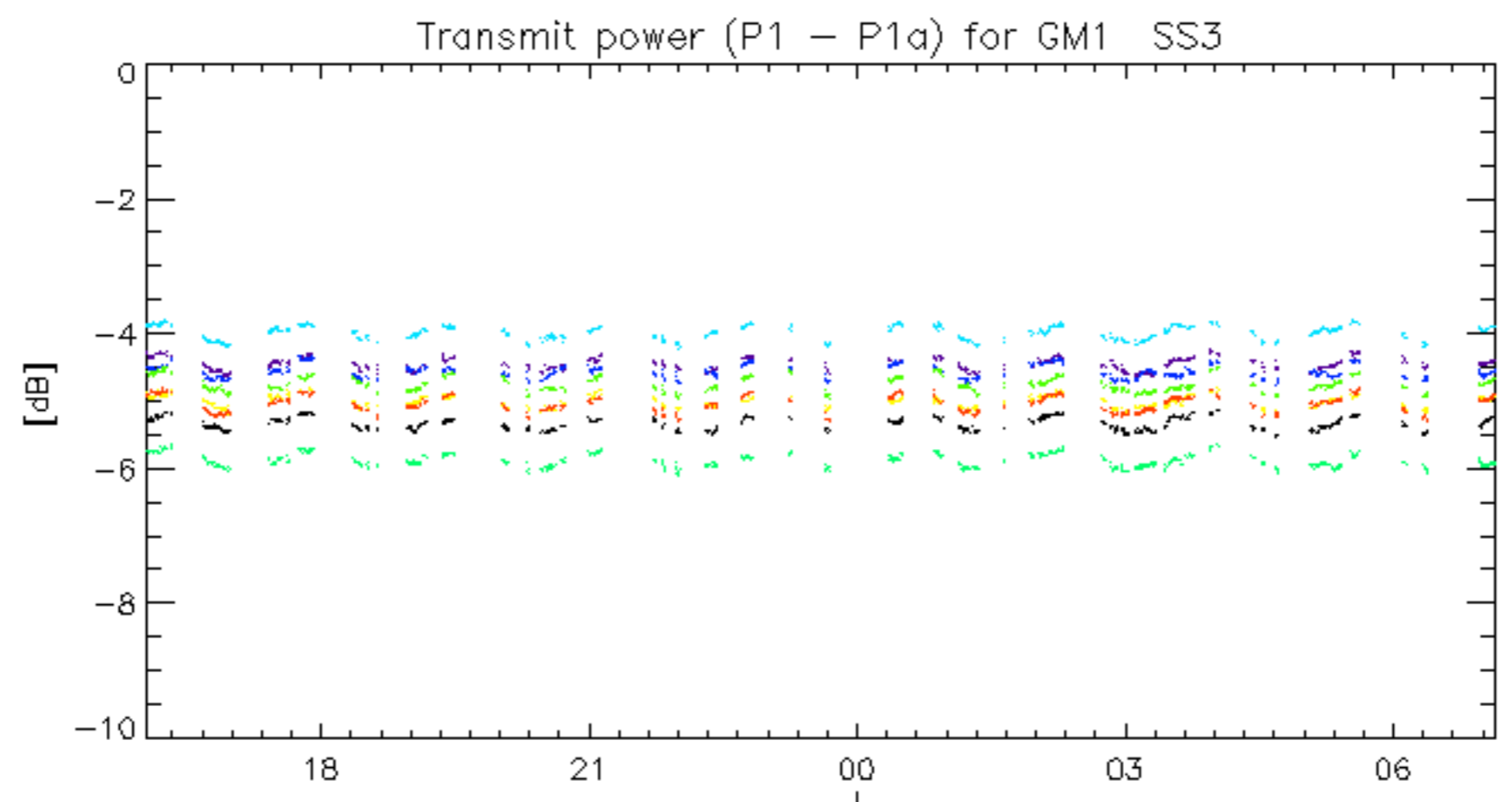


Transmit power (P1 - P1a) for GM1 SS3

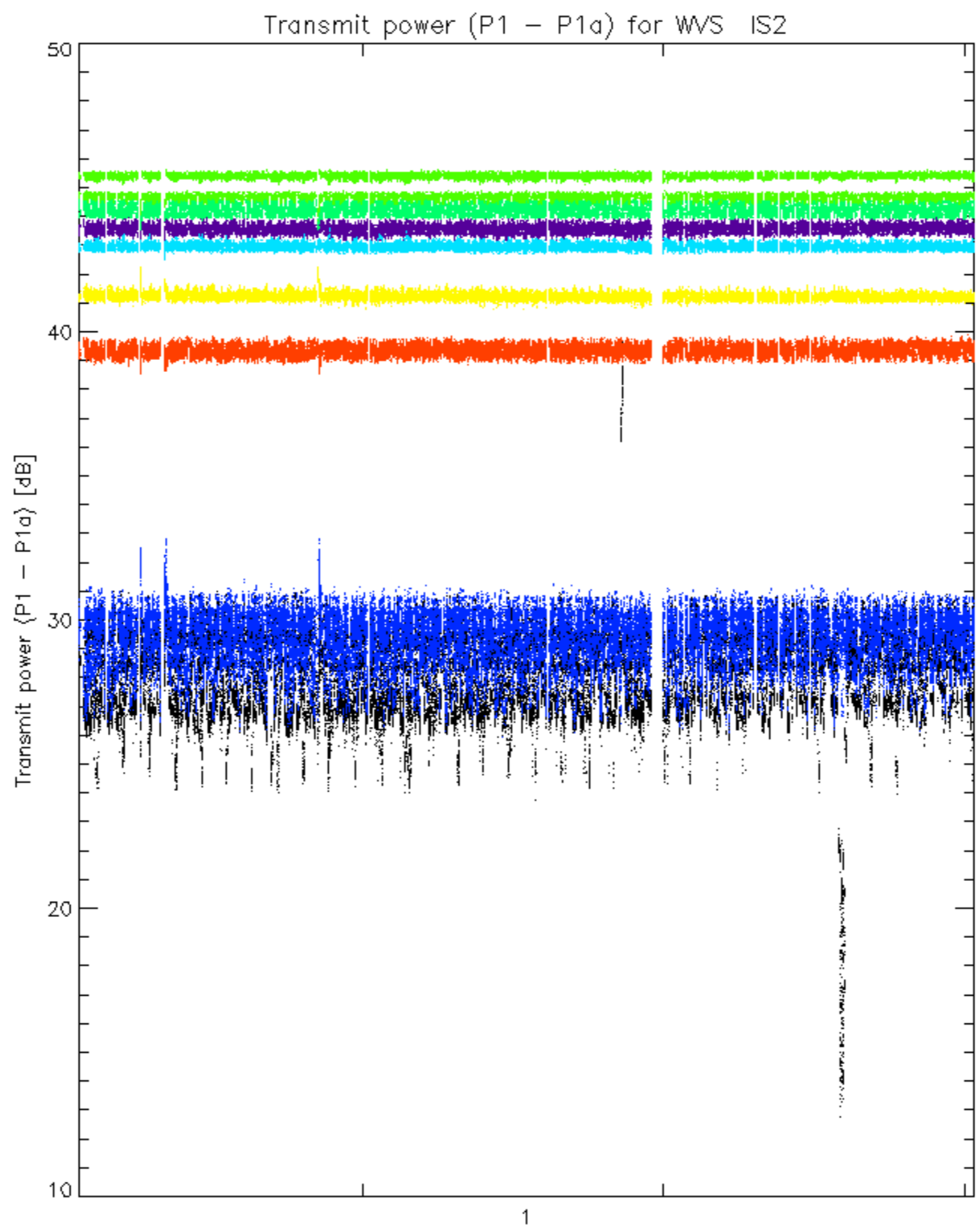


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

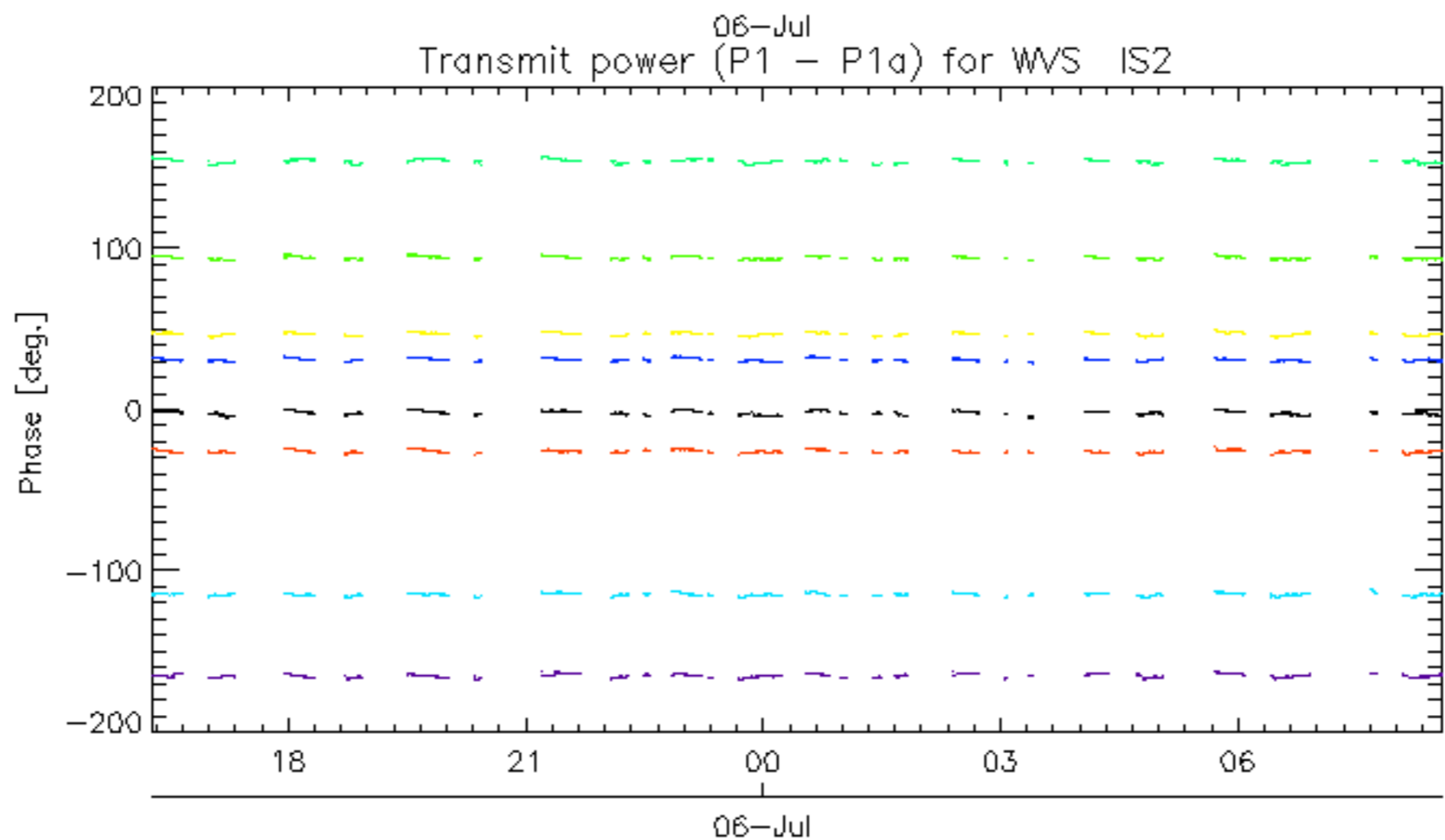
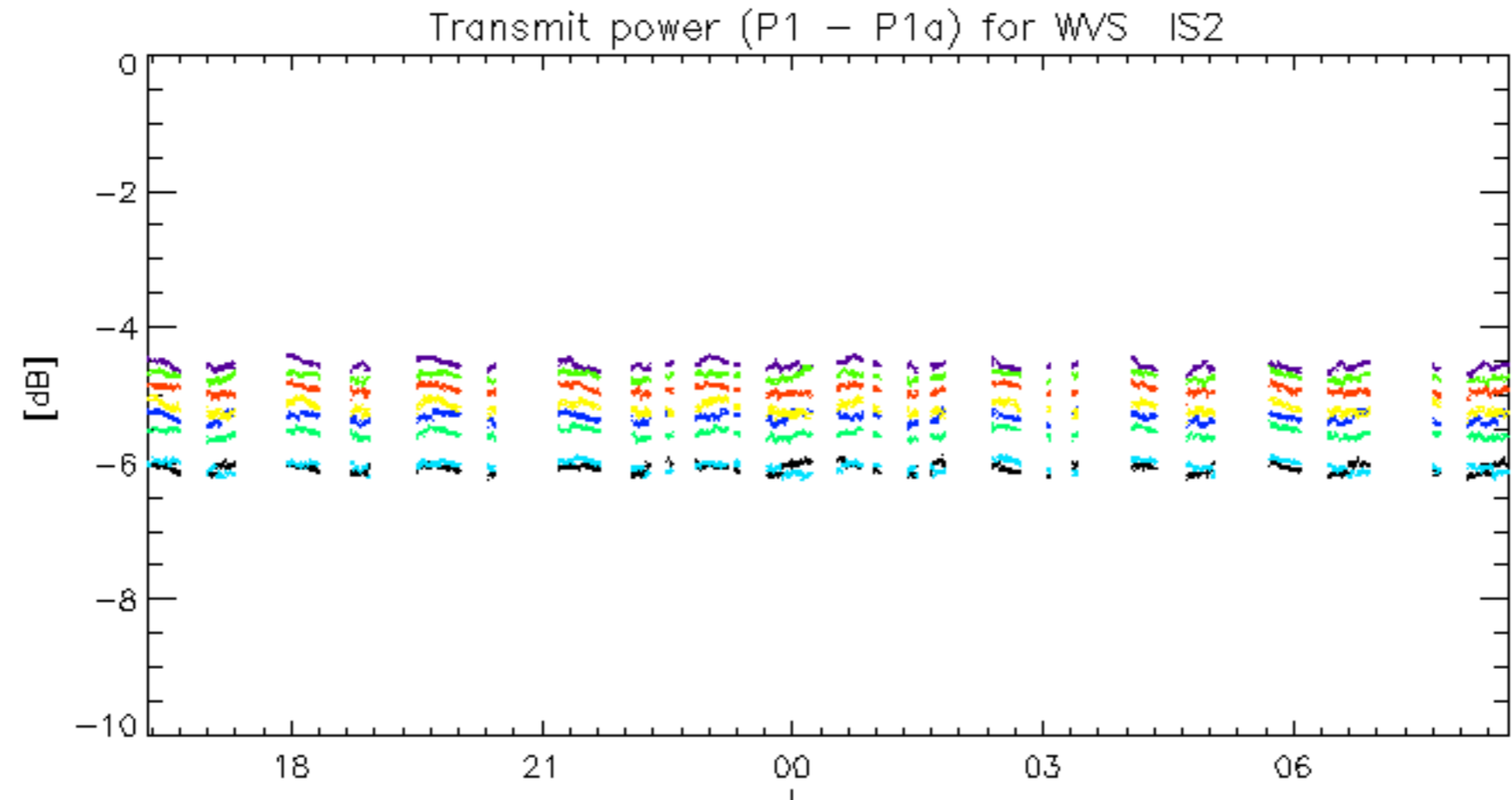




06-Jul  
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



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



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

No unavailabilities during the reported period.