

# PRELIMINARY REPORT OF 060715

last update on Sat Jul 15 16:21:16 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 2006-07-14 00:00:00 to 2006-07-15 16:21:16

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	38	72	14	4	0
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	38	72	14	4	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	38	72	14	4	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	38	72	14	4	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	35	56	29	22	70
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	35	56	29	22	70
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	35	56	29	22	70
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	35	56	29	22	70

## 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	20060714 033425
H	20060713 040602

### 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
<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	-3.929677	0.013127	-0.020498
7	P1	-3.103441	0.009798	-0.022778
11	P1	-4.086122	0.013493	0.001595
15	P1	-6.174289	0.011655	-0.034729
19	P1	-3.392454	0.009394	-0.052329
22	P1	-4.542092	0.010245	-0.000288
26	P1	-3.934088	0.019796	0.023477
30	P1	-5.762938	0.007986	-0.015553
3	P1	-16.508698	0.360954	-0.096307
7	P1	-17.190754	0.099610	-0.093156
11	P1	-16.987213	0.276142	-0.107464
15	P1	-13.118667	0.155973	-0.001954
19	P1	-14.436837	0.048150	-0.152841
22	P1	-16.010996	0.418210	0.108572
26	P1	-15.136164	0.240384	0.089811
30	P1	-17.097021	0.342283	-0.096675

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.999094	0.087471	0.127000
7	P2	-21.927446	0.105561	0.088235
11	P2	-15.804854	0.122292	0.042516
15	P2	-7.134120	0.101861	0.010615
19	P2	-9.136855	0.091071	-0.019363
22	P2	-18.151350	0.085869	-0.020823
26	P2	-16.397915	0.093396	-0.041977
30	P2	-19.529287	0.094173	0.029309

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.175299	0.002924	0.002598
7	P3	-8.175299	0.002924	0.002598
11	P3	-8.175299	0.002924	0.002598
15	P3	-8.175299	0.002924	0.002598
19	P3	-8.175299	0.002924	0.002598
22	P3	-8.175299	0.002924	0.002598
26	P3	-8.175299	0.002924	0.002598
30	P3	-8.175299	0.002924	0.002598

#### 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	-3.795746	0.033826	-0.133580
7	P1	-2.564418	0.007928	-0.002360
11	P1	-2.861541	0.014705	0.004340
15	P1	-3.565251	0.028846	-0.068885
19	P1	-3.416504	0.013449	-0.016037
22	P1	-5.093750	0.020327	0.017671
26	P1	-5.856356	0.015833	0.001897
30	P1	-5.192860	0.026297	-0.037304
3	P1	-11.579144	0.107590	-0.210578
7	P1	-9.975563	0.033749	0.006800
11	P1	-10.248946	0.058898	0.010743
15	P1	-10.758673	0.142324	-0.064056
19	P1	-15.528377	0.074438	-0.026269
22	P1	-20.917038	1.228266	-0.093420
26	P1	-16.333487	0.380834	0.131871
30	P1	-17.889771	0.410920	-0.115215

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.651304	0.071906	0.201786
7	P2	-22.419079	0.129262	0.116307
11	P2	-11.060828	0.042949	0.101643
15	P2	-4.916718	0.046390	0.036276
19	P2	-6.878758	0.042463	0.026543
22	P2	-8.198735	0.037596	0.032615
26	P2	-24.188745	0.064264	0.005337
30	P2	-22.021362	0.050088	0.055191

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.015547	0.003733	0.011927
7	P3	-8.015514	0.003735	0.013271
11	P3	-8.015324	0.003750	0.012788
15	P3	-8.015471	0.003733	0.013157
19	P3	-8.015495	0.003736	0.012967
22	P3	-8.015486	0.003736	0.012805
26	P3	-8.015443	0.003733	0.012832
30	P3	-8.015474	0.003725	0.013353

## 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	0.000570356
	stdev	1.63795e-07
MEAN Q	mean	0.000542741
	stdev	2.10731e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.138531
	stdev	0.00109286
STDEV Q	mean	0.138893
	stdev	0.00111134



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006071[345]

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_1PNPDE20060714_004241_000001742049_00245_22844_0772.N1	1	0
ASA_IMM_1PNPDE20060714_005914_000000452049_00246_22845_0771.N1	1	0
ASA_WSM_1PNPDE20060713_162646_000001032049_00241_22840_2889.N1	0	38
ASA_WSM_1PNPDE20060713_230852_000001032049_00245_22844_2962.N1	0	55
ASA_WSM_1PNPDE20060713_235456_000003302049_00245_22844_2976.N1	0	34
ASA_WSM_1PNPDE20060714_113456_000000852049_00252_22851_3060.N1	0	14
ASA_WSM_1PNPDE20060715_010155_000001462049_00260_22859_3155.N1	0	34
ASA_APM_1PNPDE20060714_141717_000000732049_00254_22853_0606.N1	0	17



## 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



### 7.4 - Unbiased Doppler Error for GM1



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

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

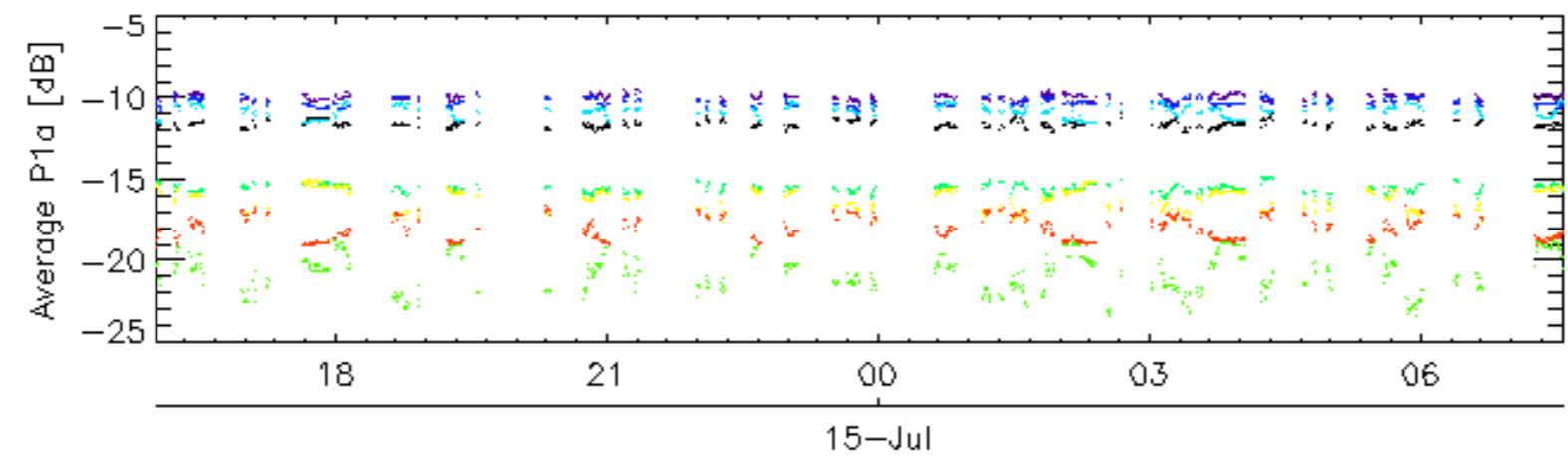
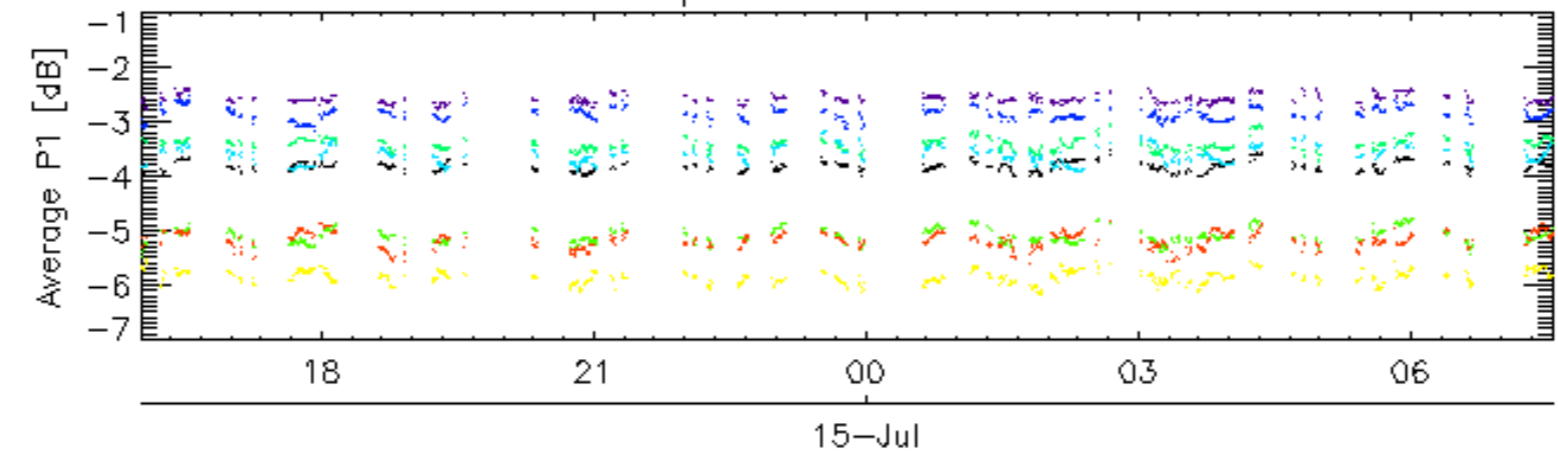
**7.5 - Absolute Doppler for GM1****Evolution of Absolute Doppler**

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

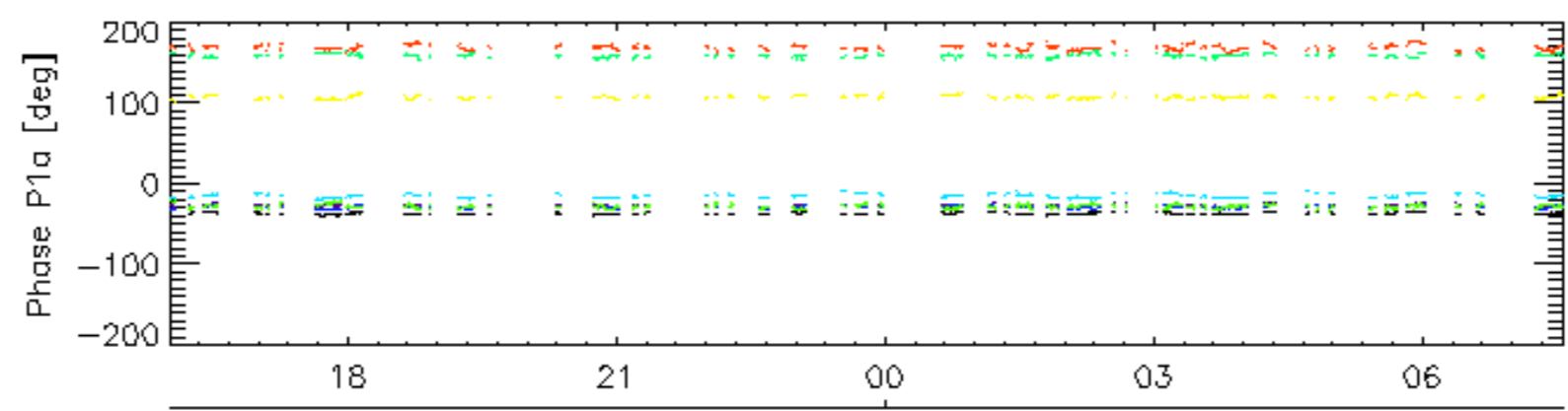
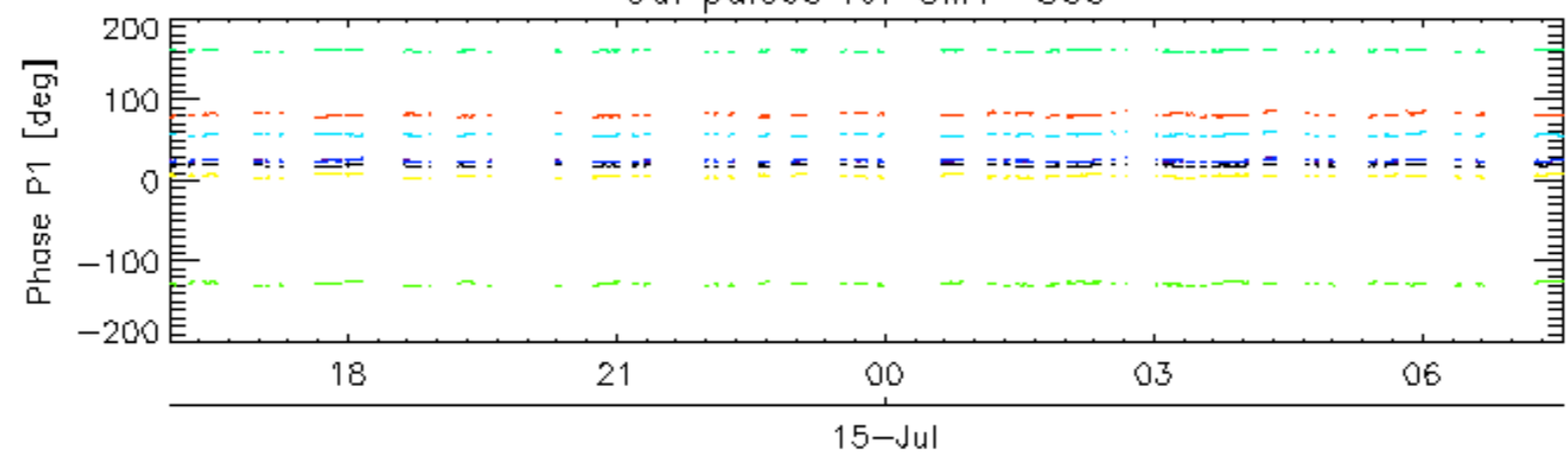
**7.6 - Doppler evolution versus ANX for GM1****Evolution Doppler error versus ANX**

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

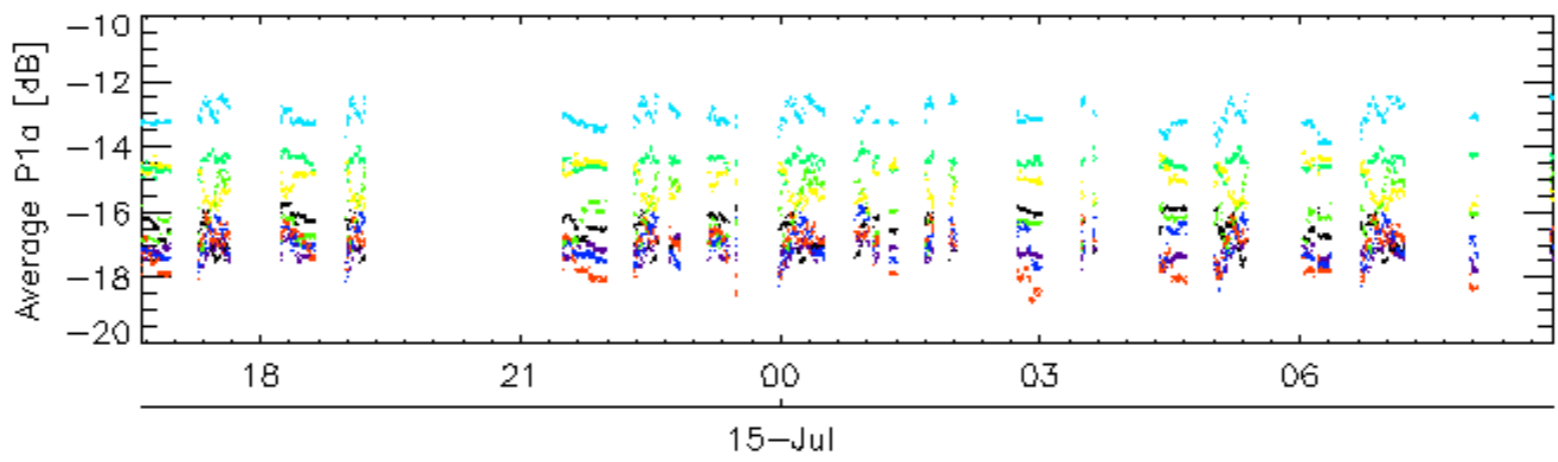
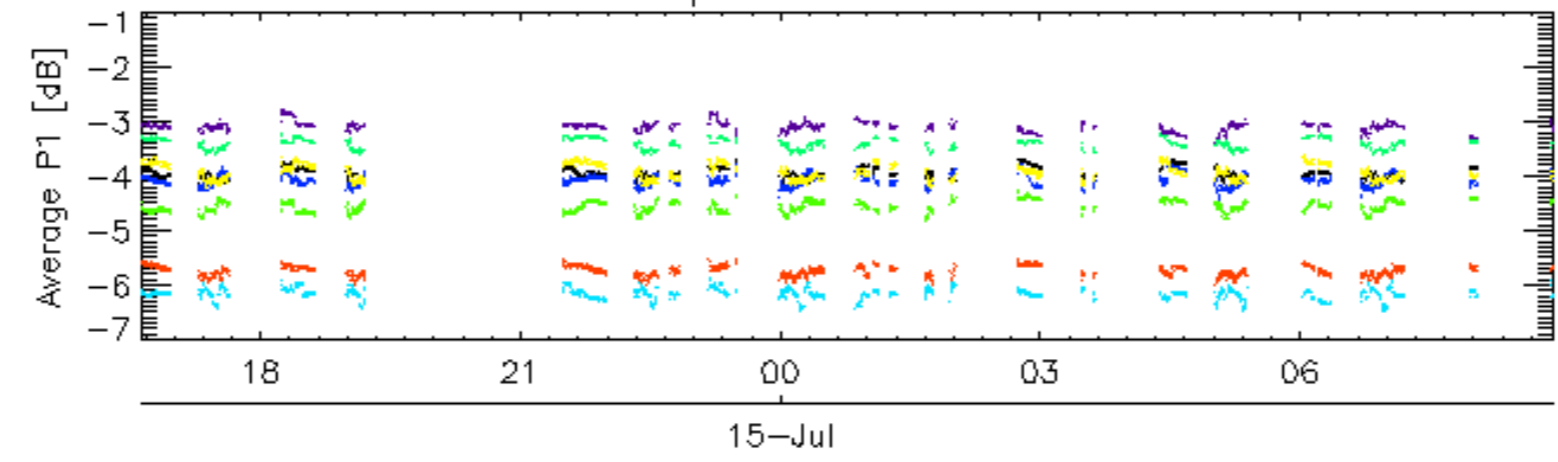


Cal pulses for GM1 SS3

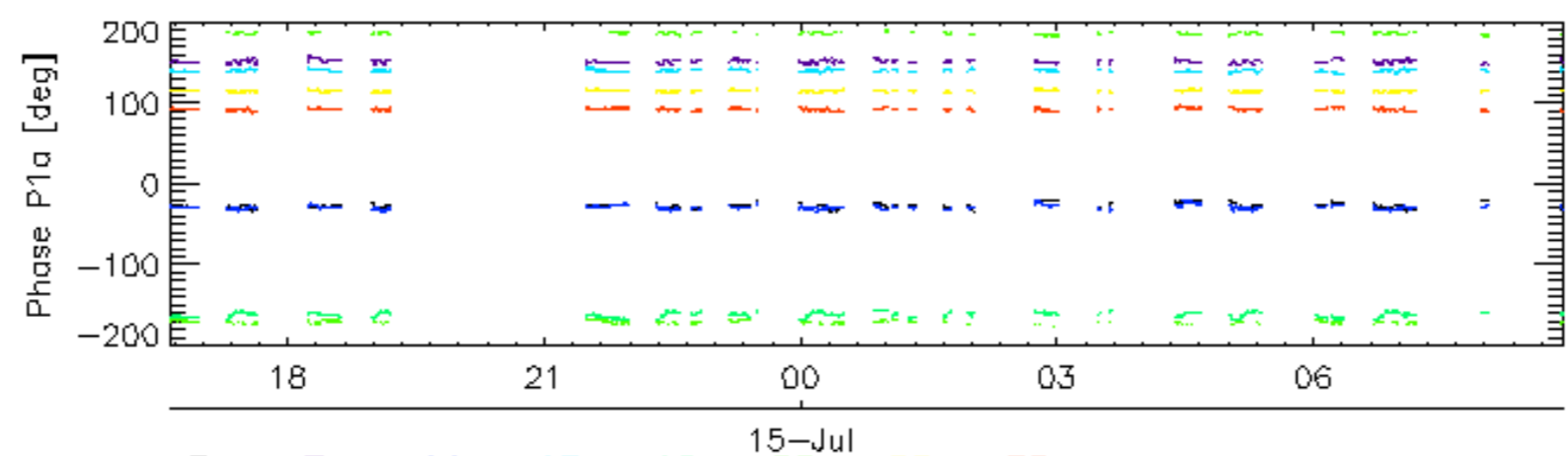
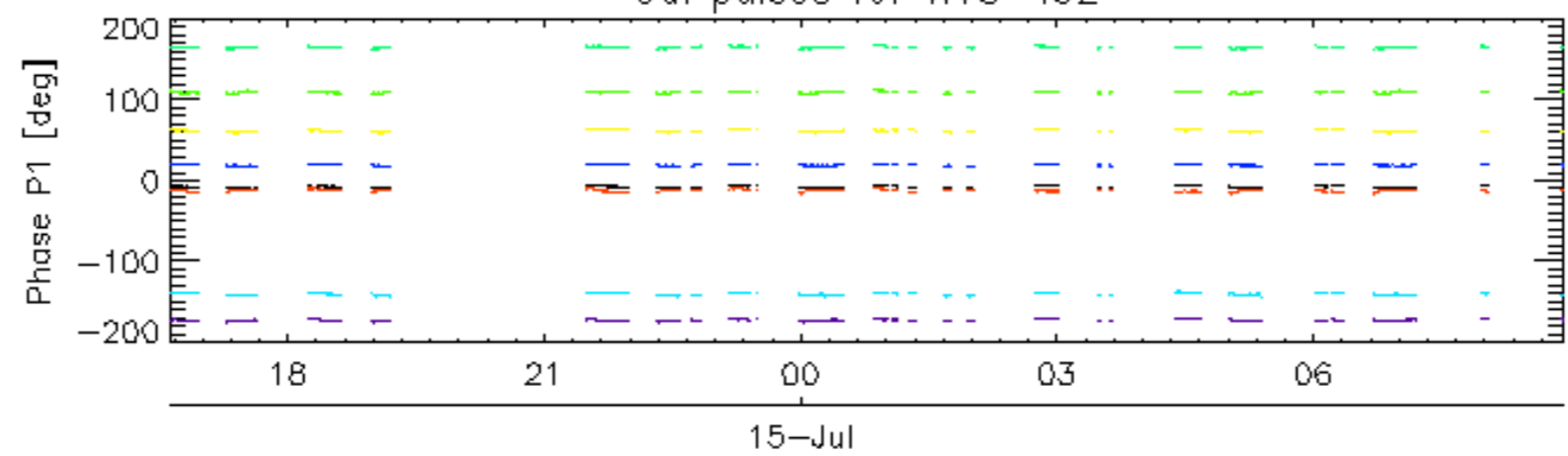


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

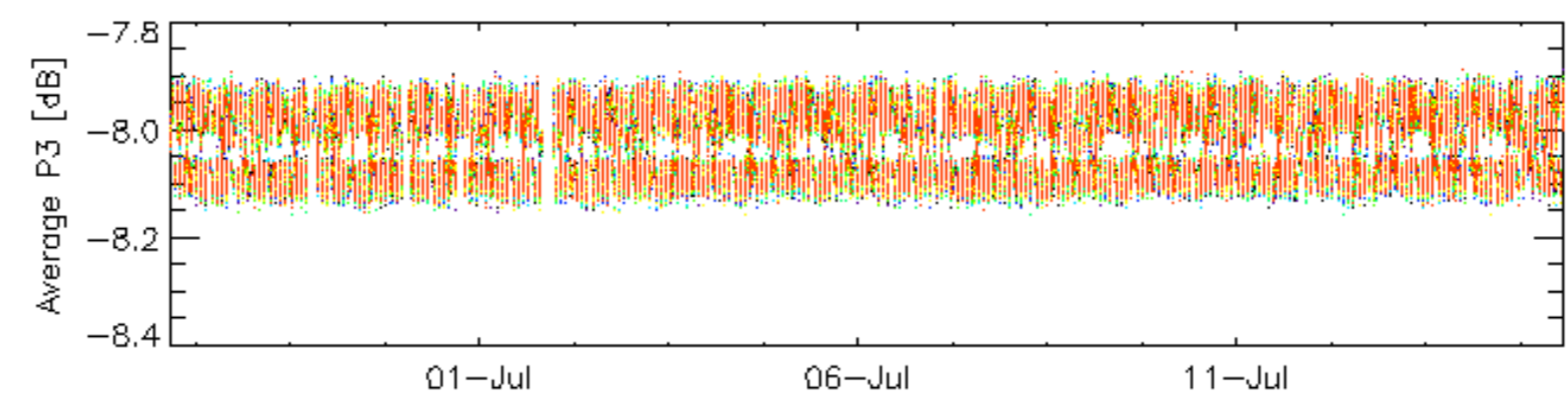
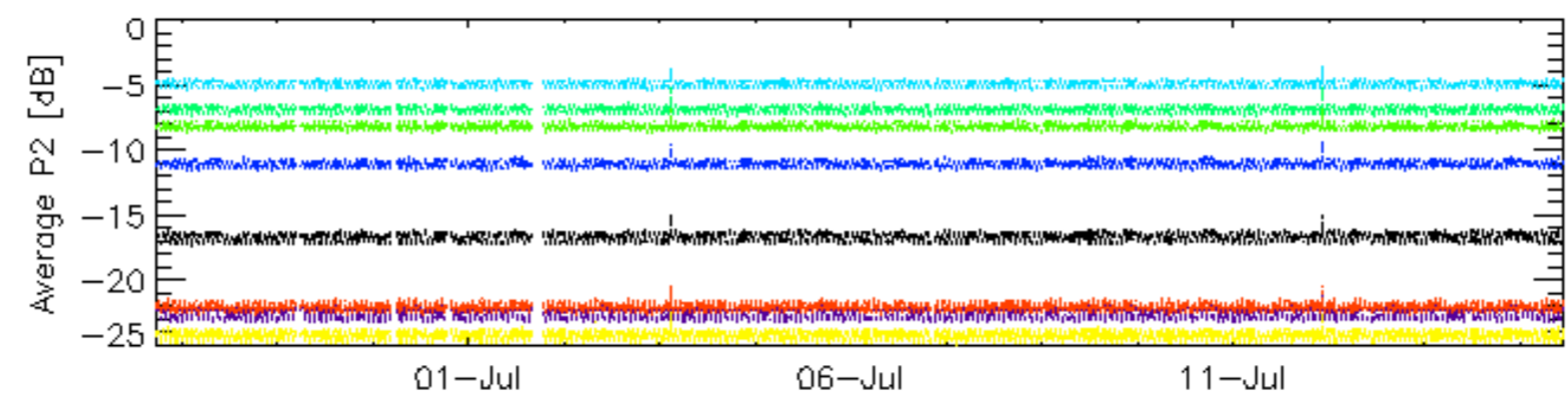
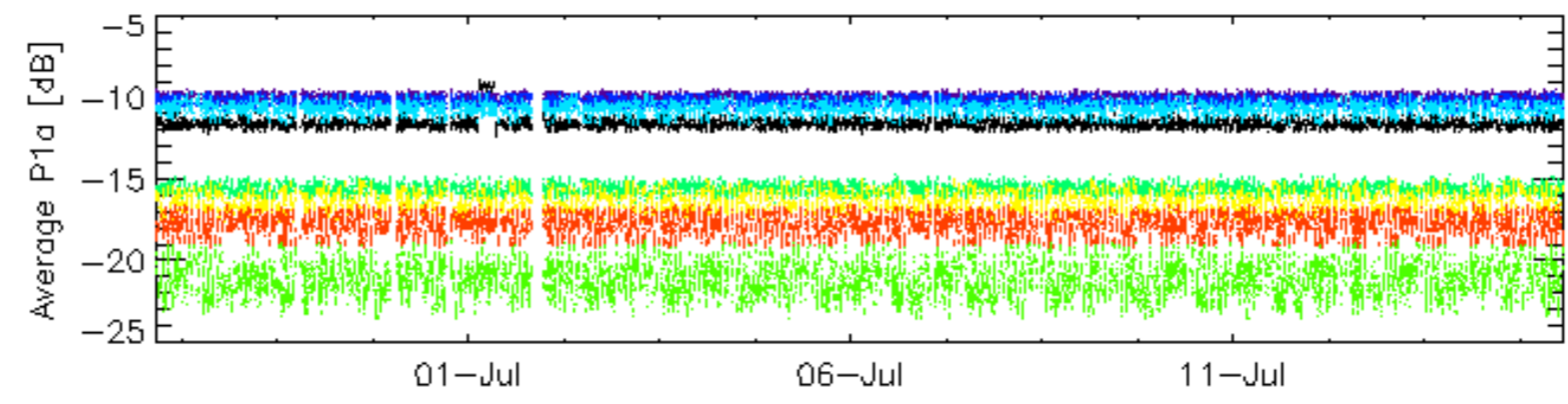
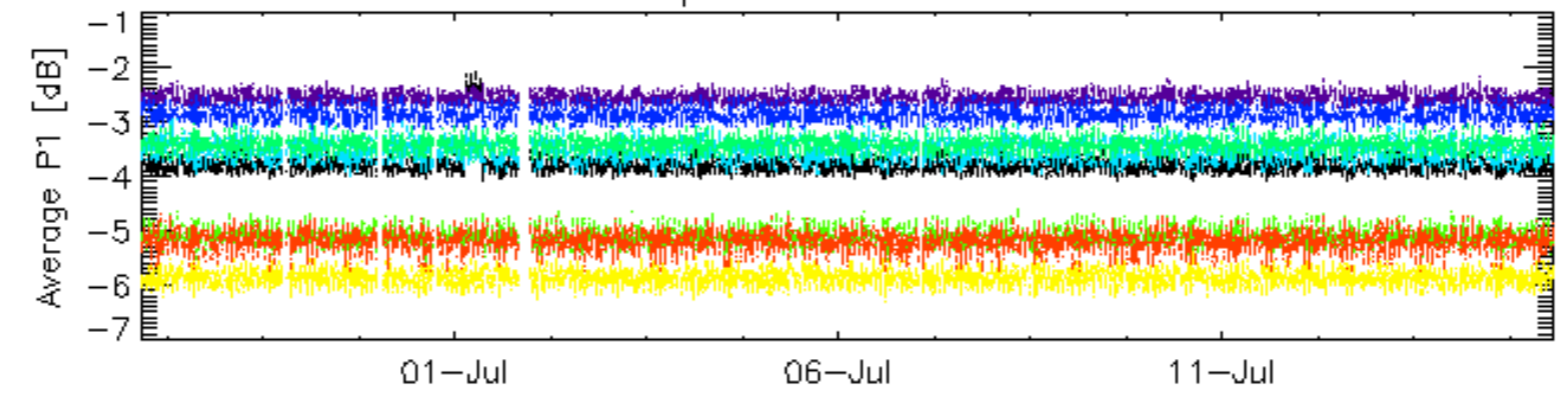


Cal pulses for WVS IS2



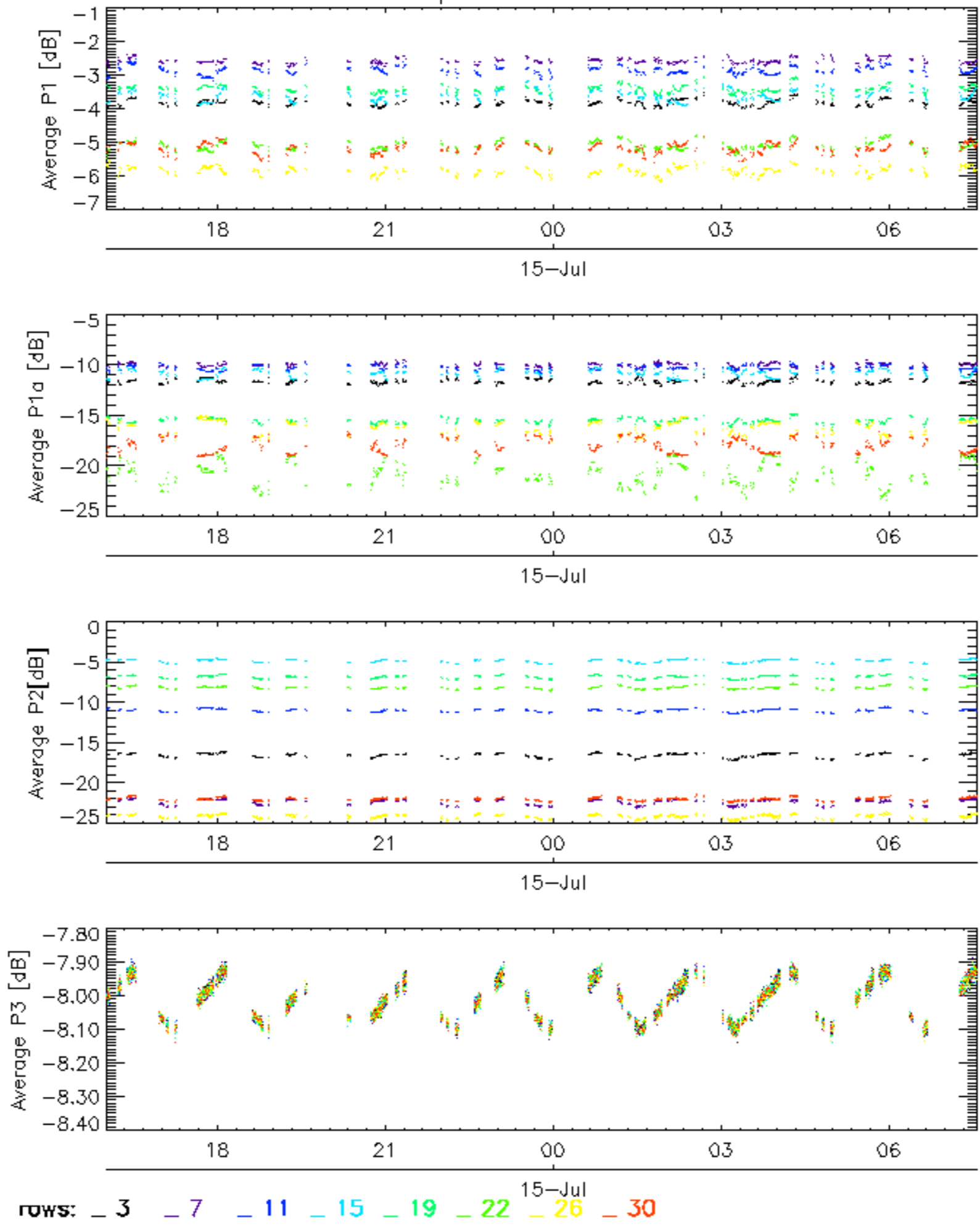
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

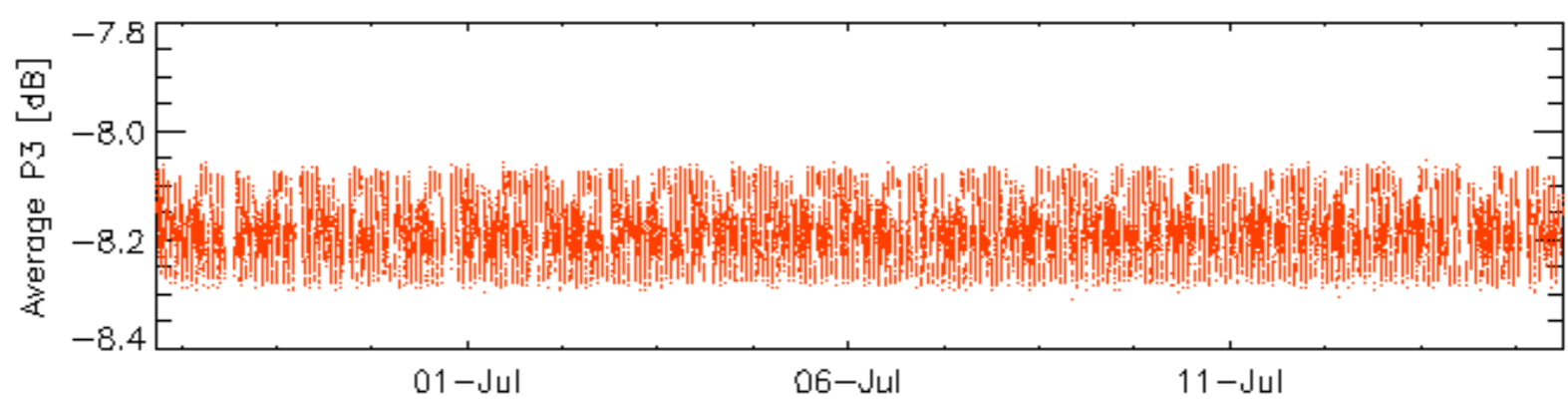
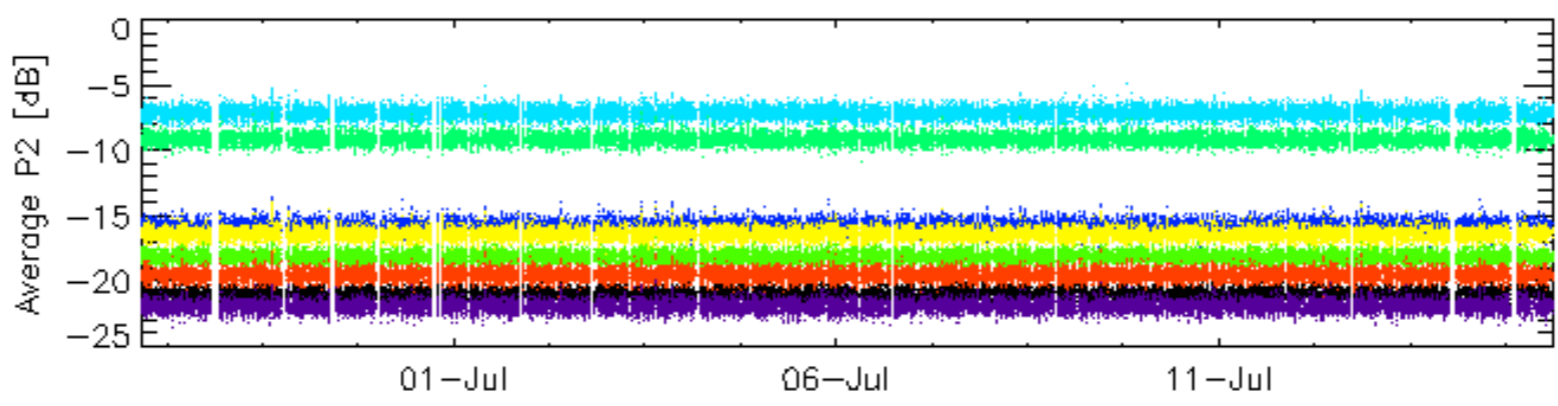
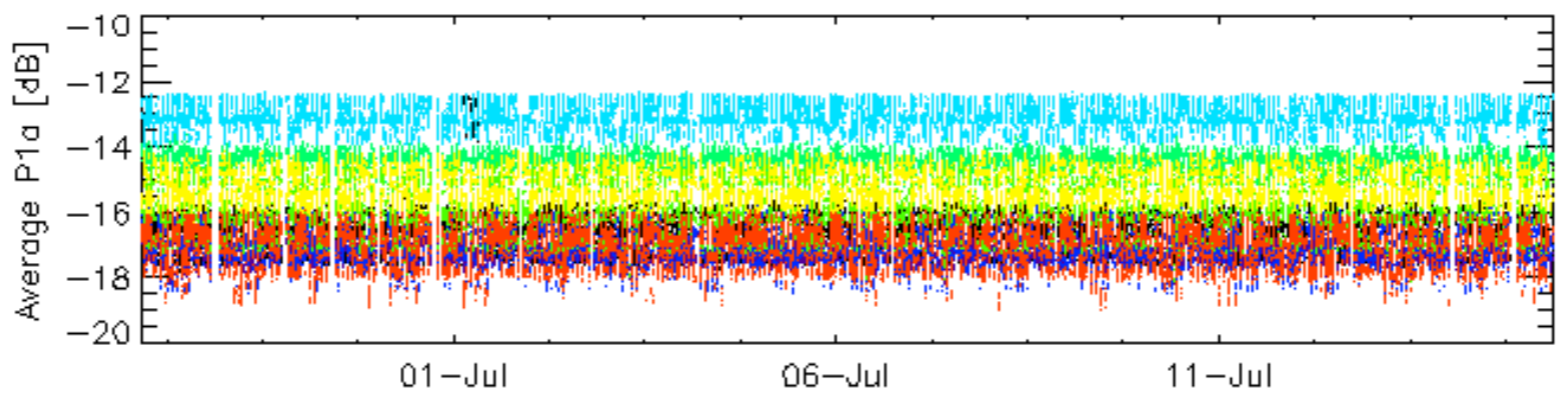
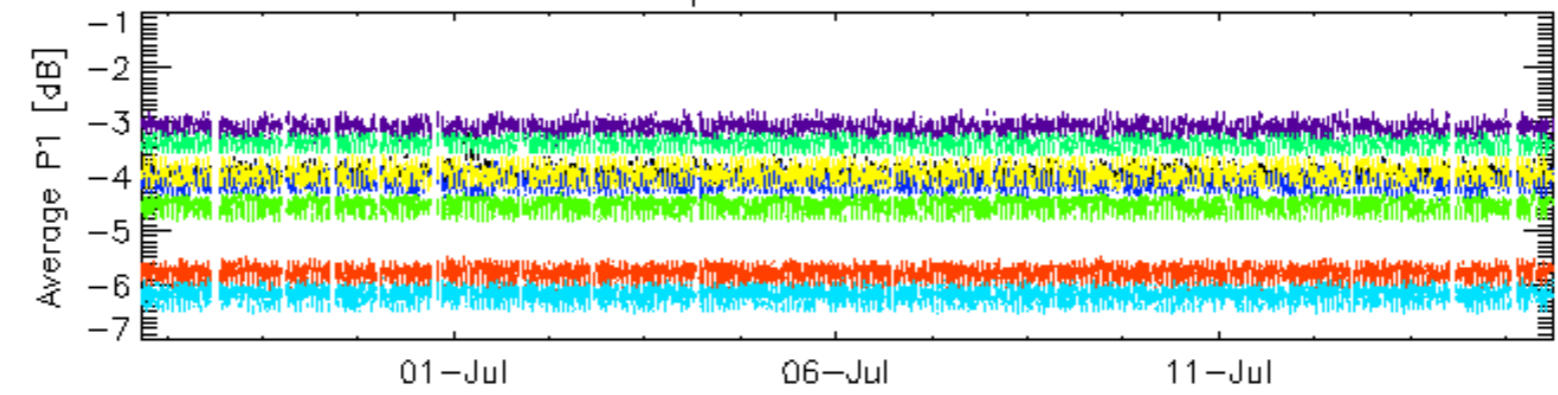


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

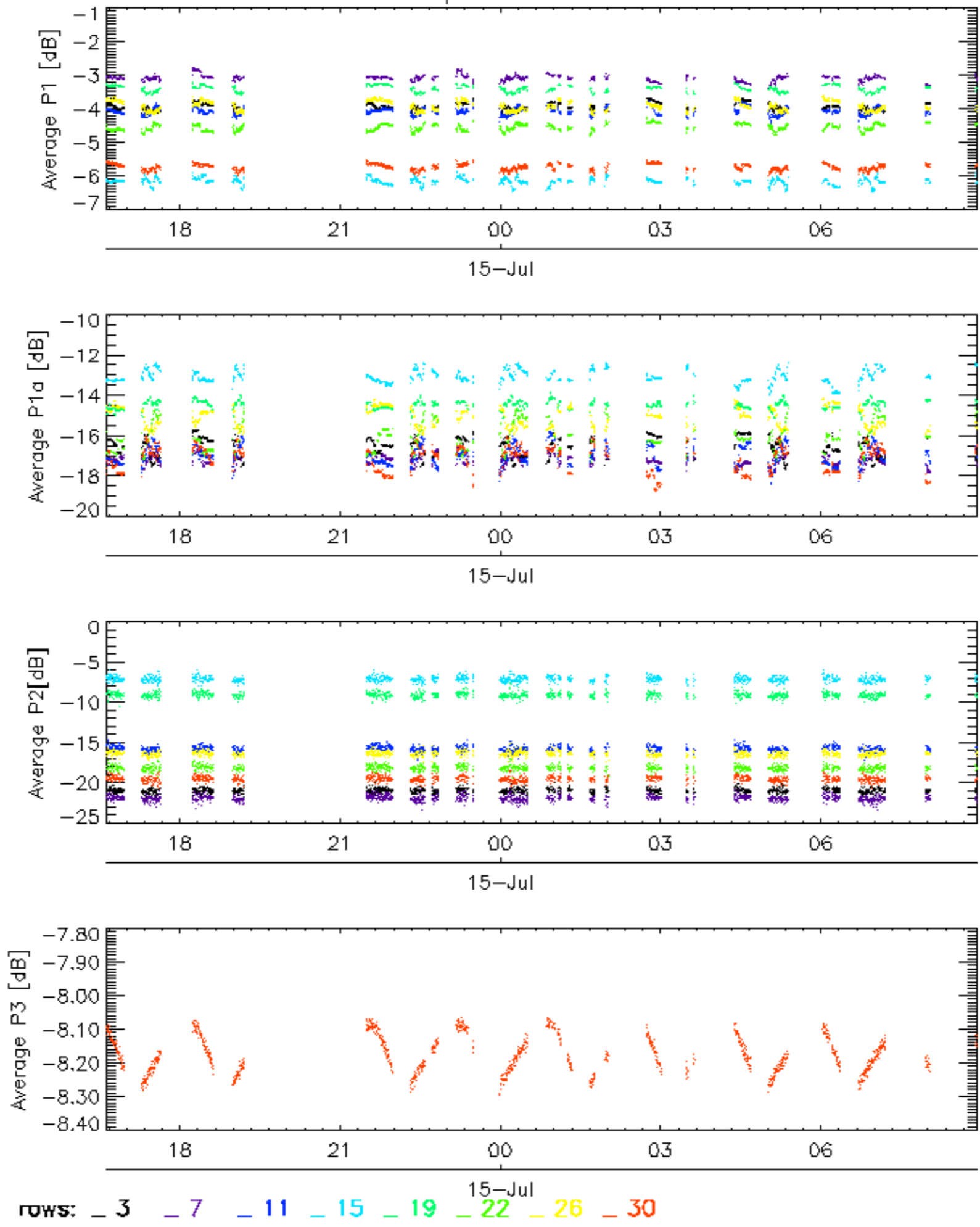


Cal pulses for WVS IS2



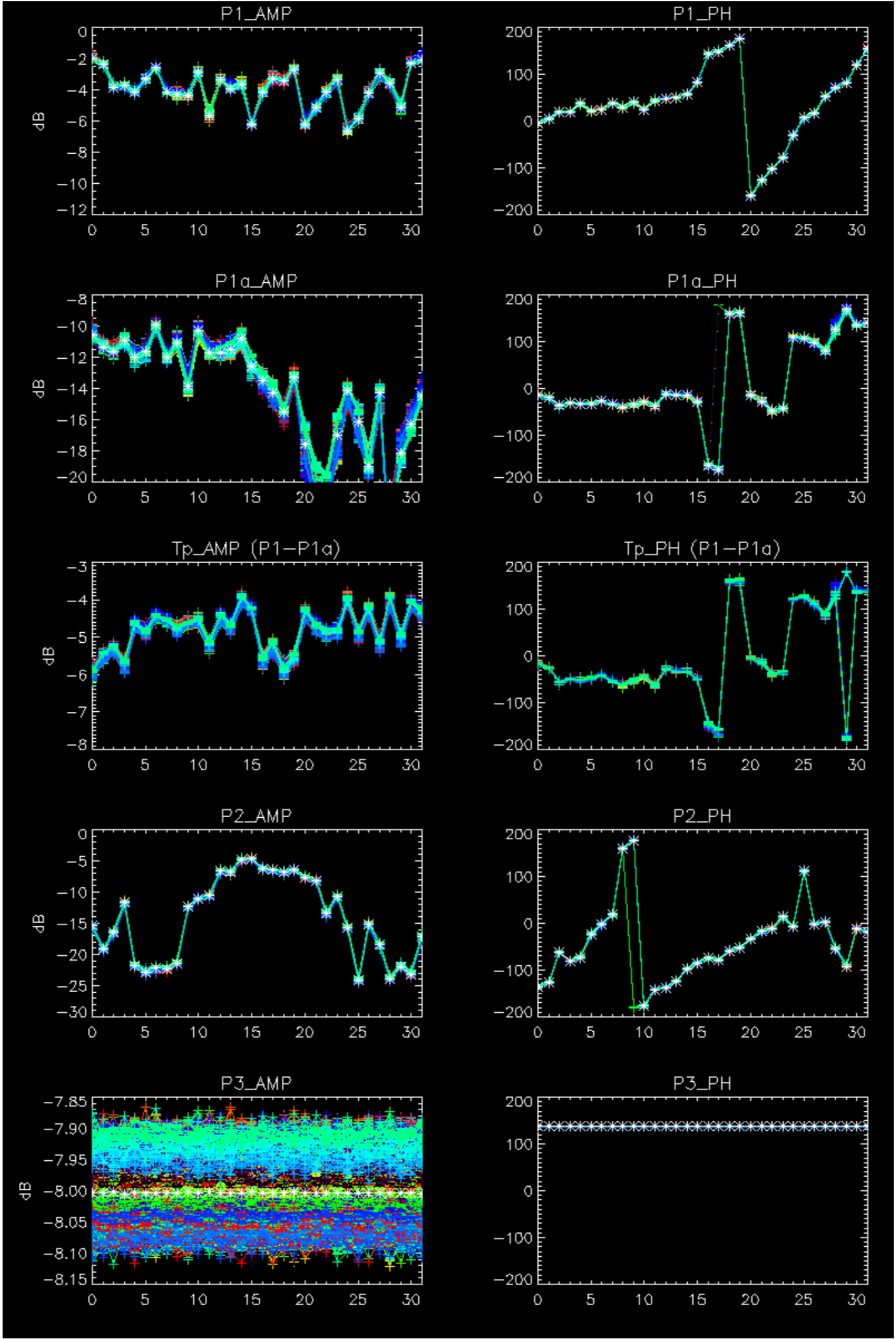
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

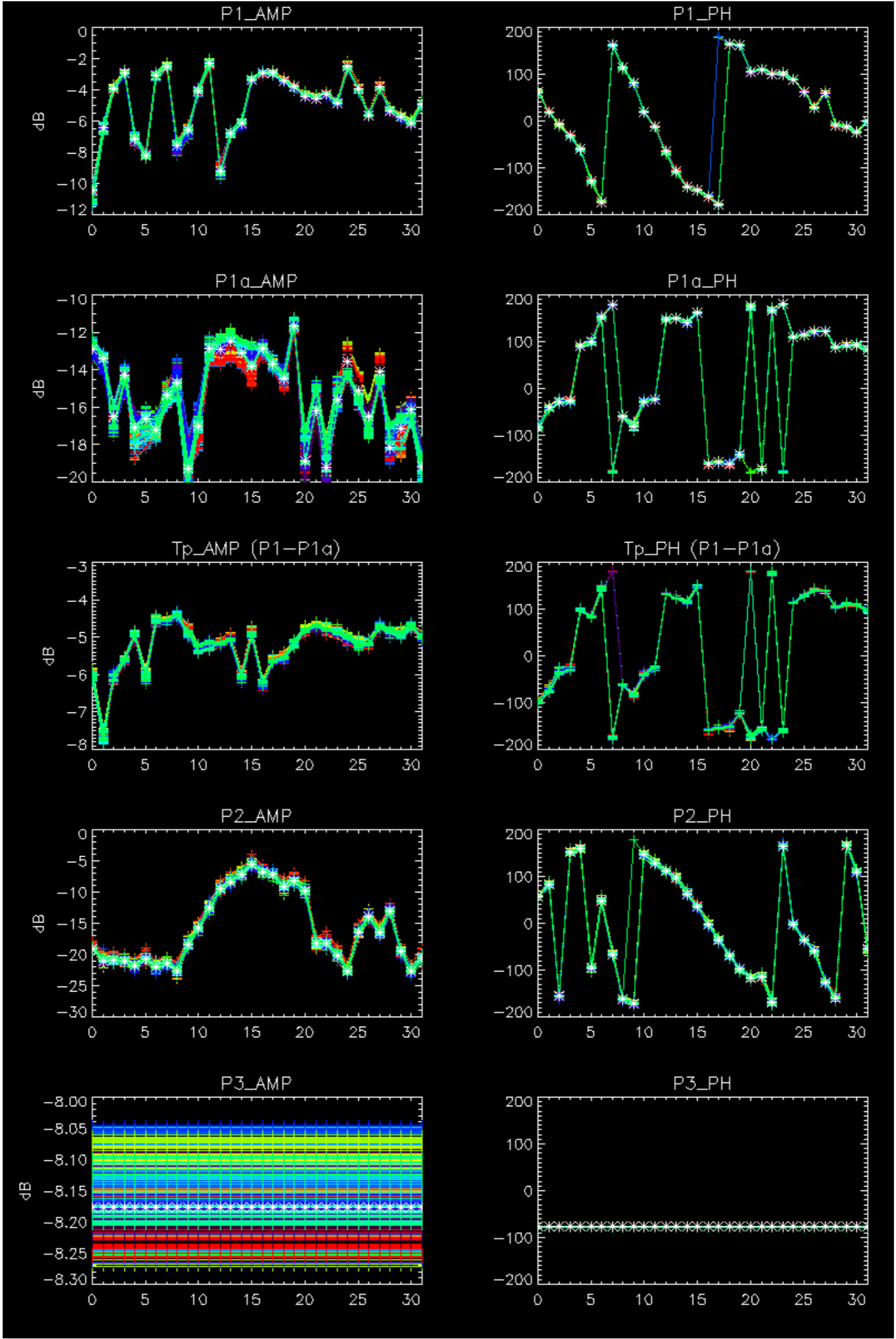
Cal pulses for WVS IS2



No anomalies observed.



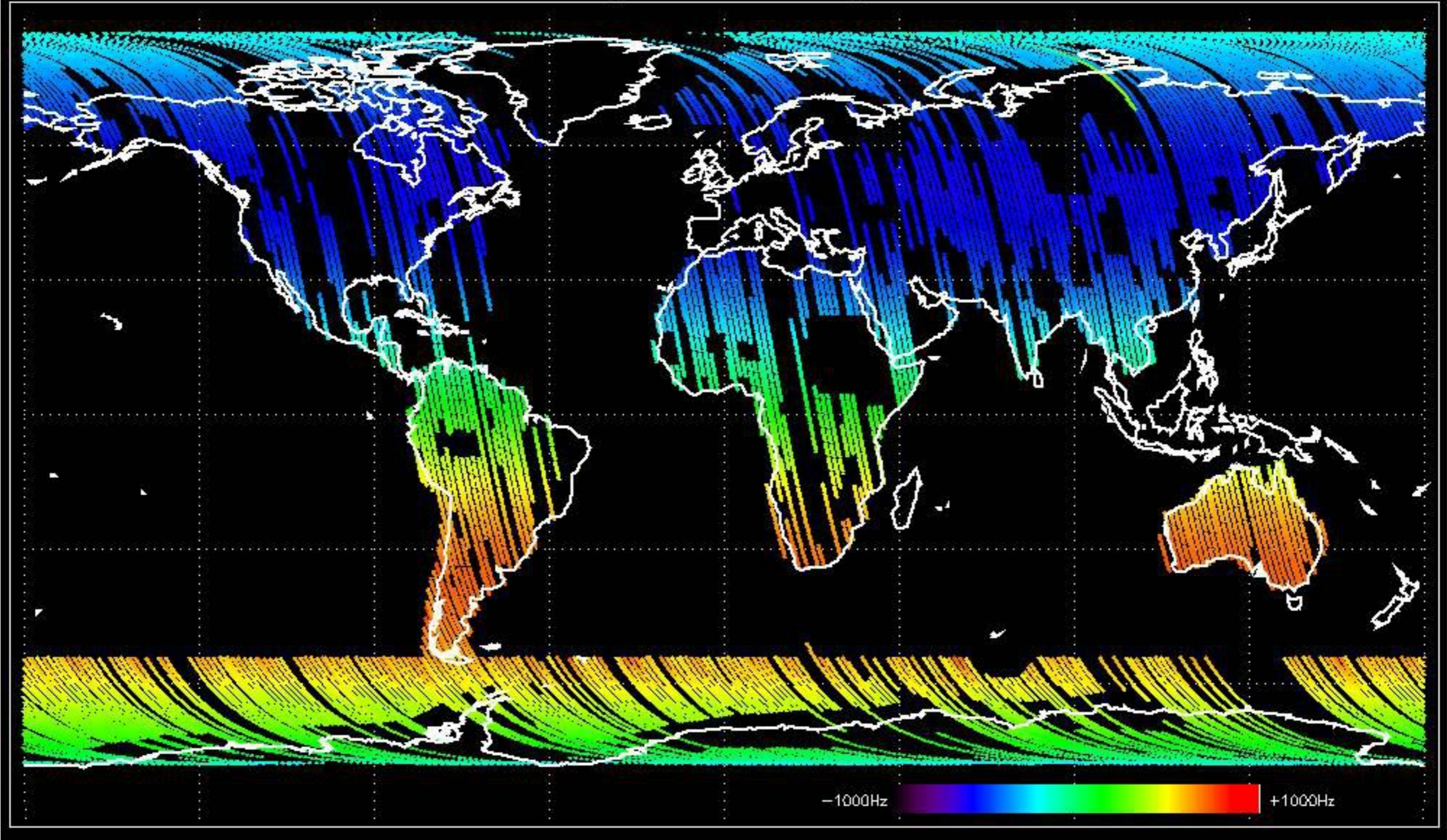




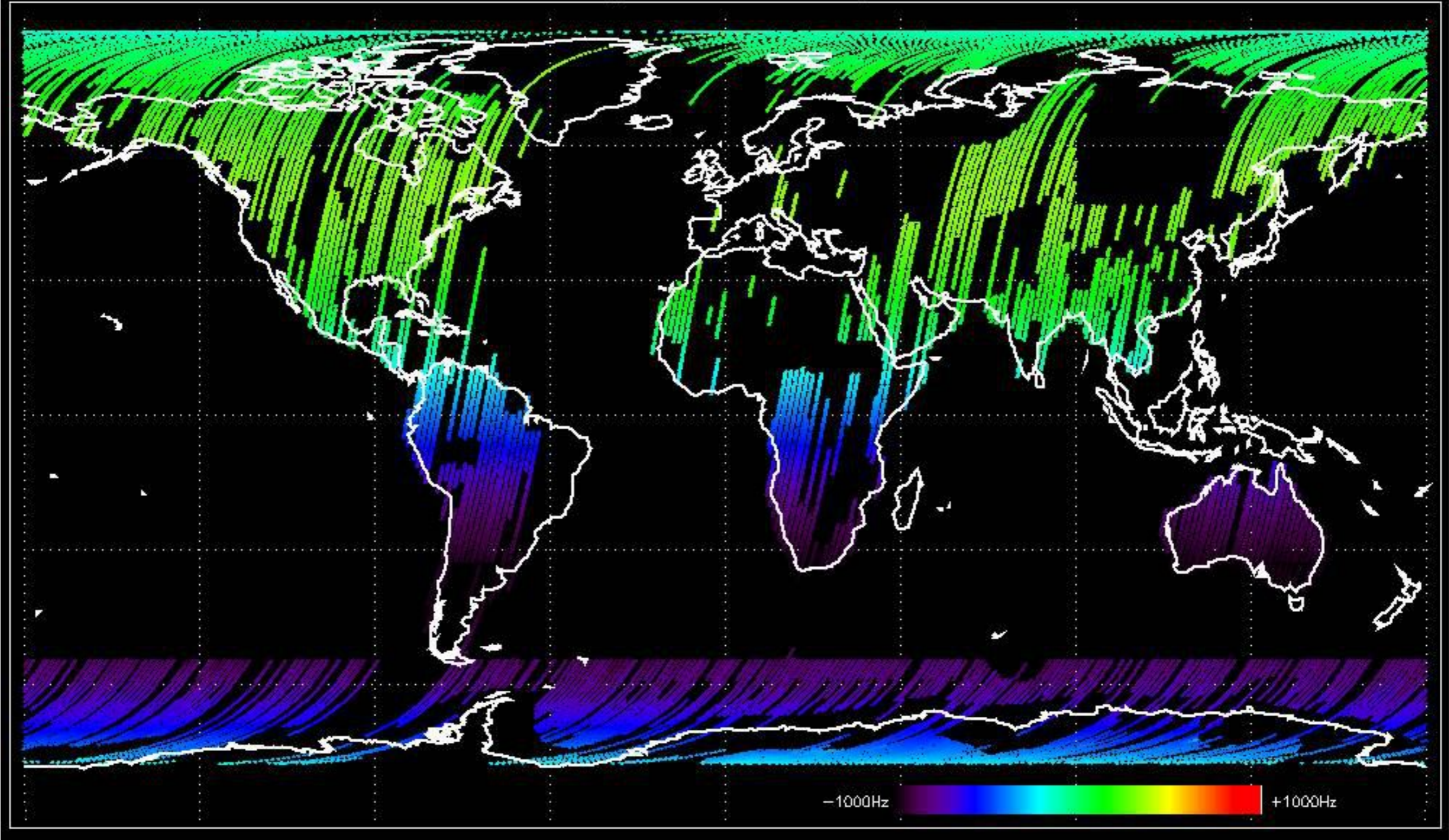
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



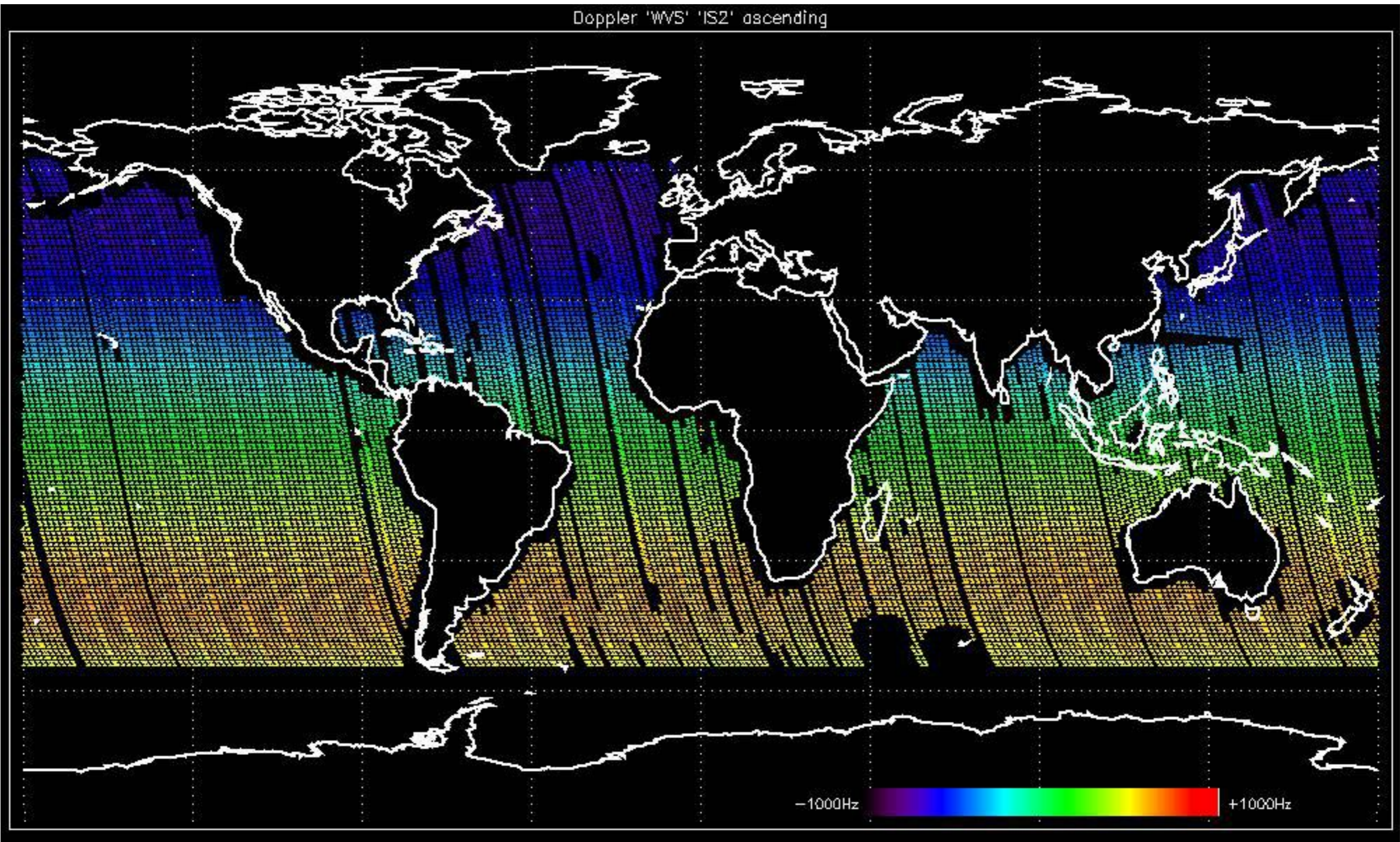
Doppler 'GM1' 'SS1' ascending



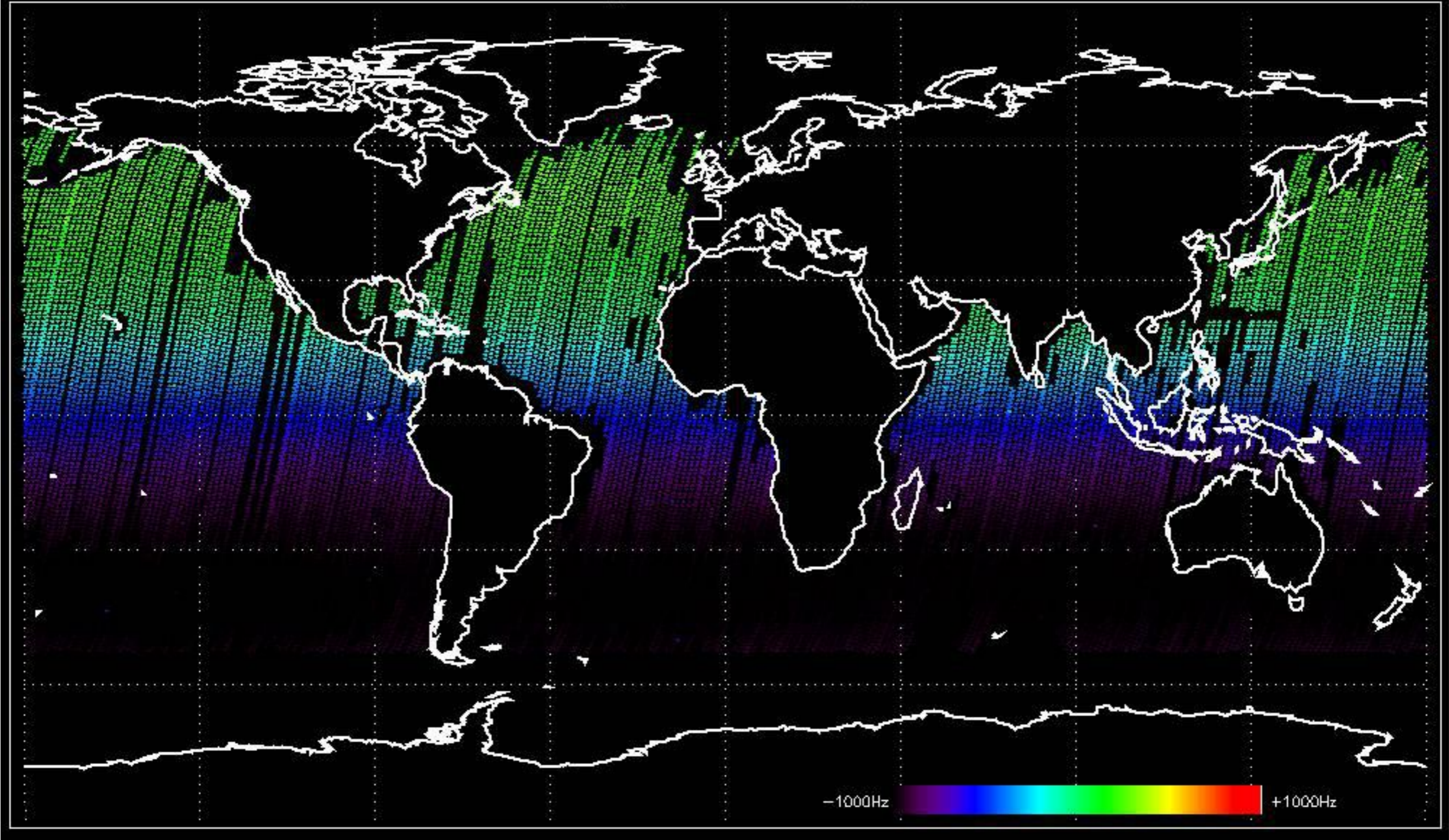
Doppler 'GM1' 'SS1' descending



Doppler 'WVS' 'IS2' ascending

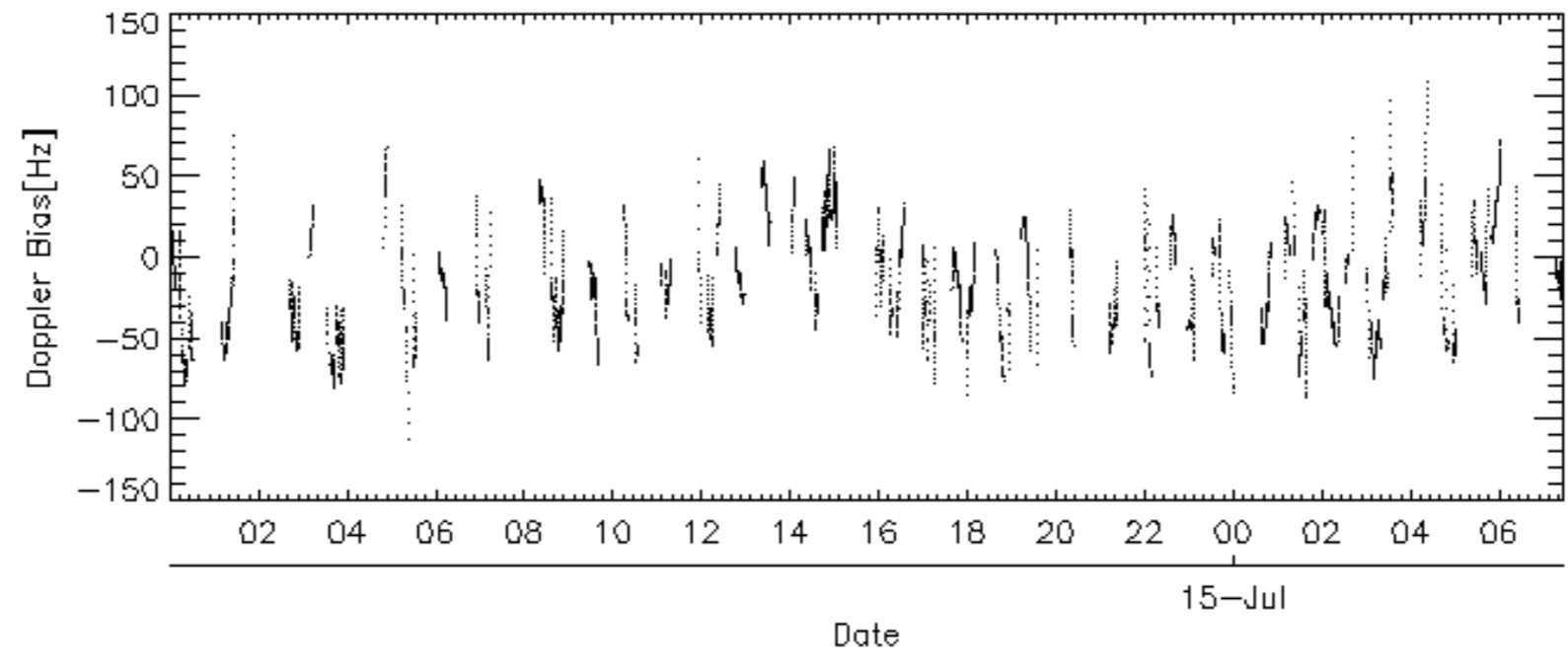
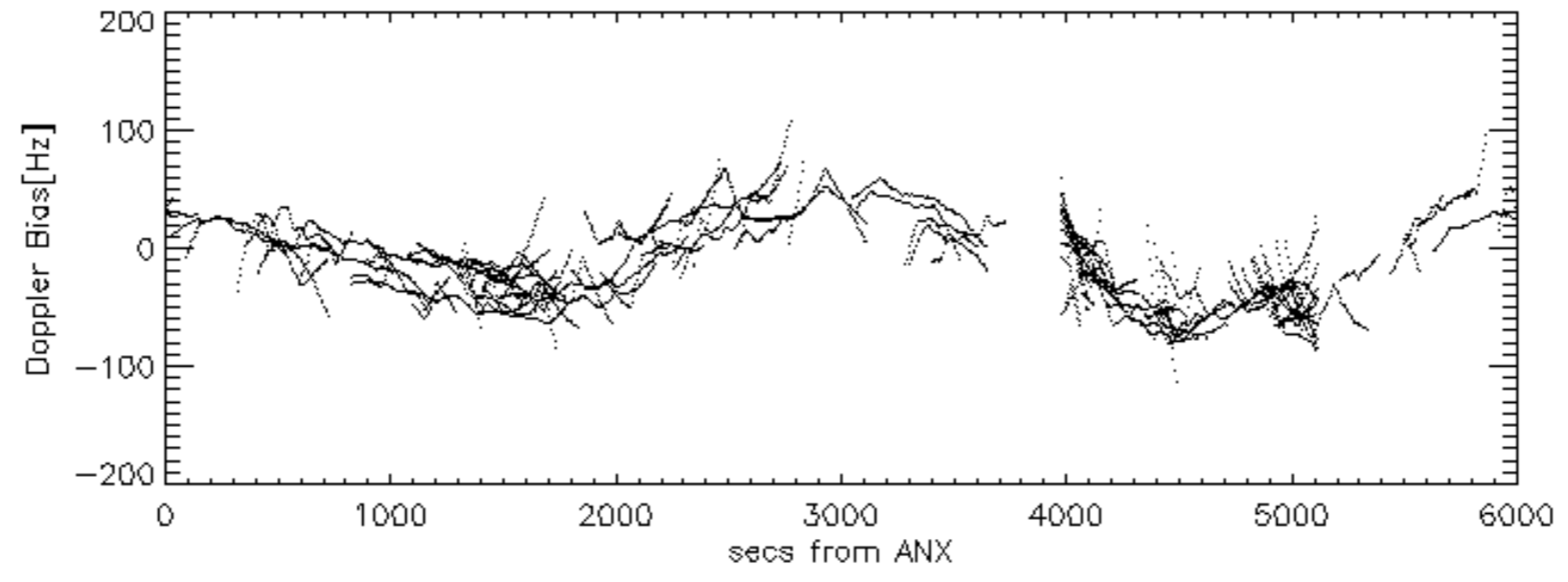
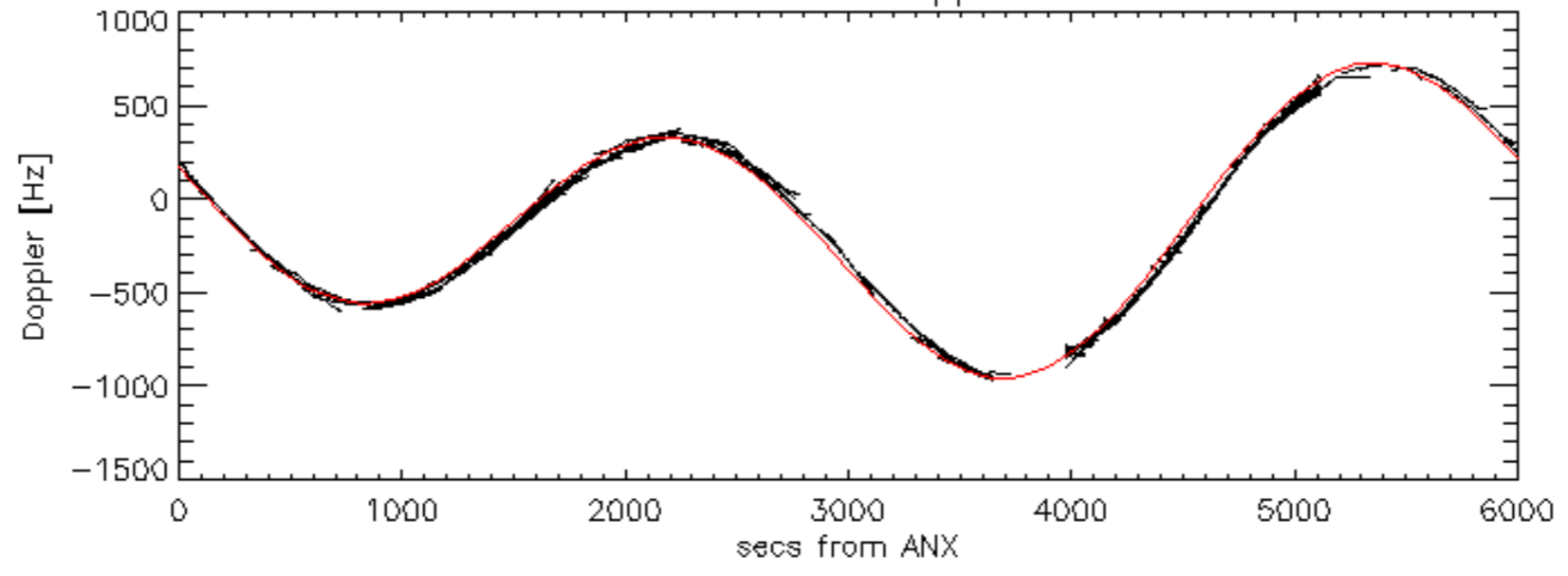


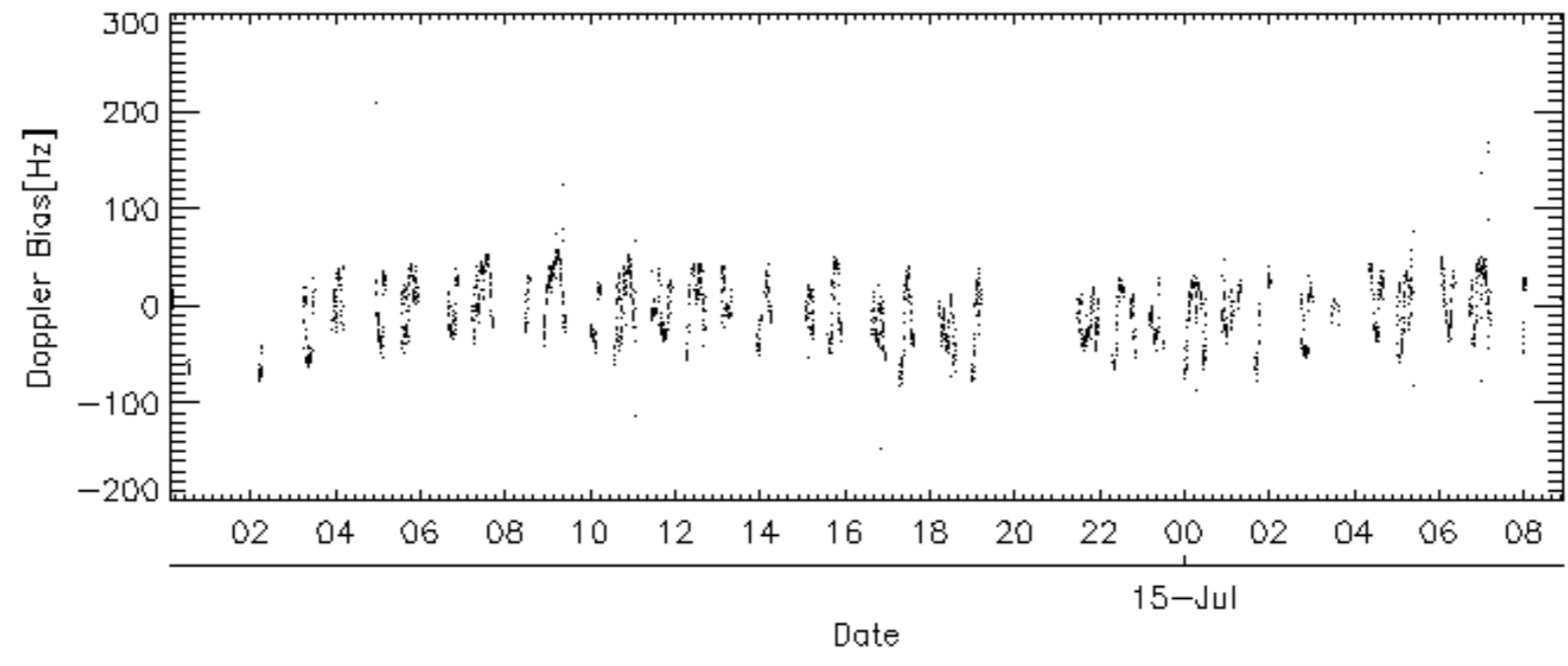
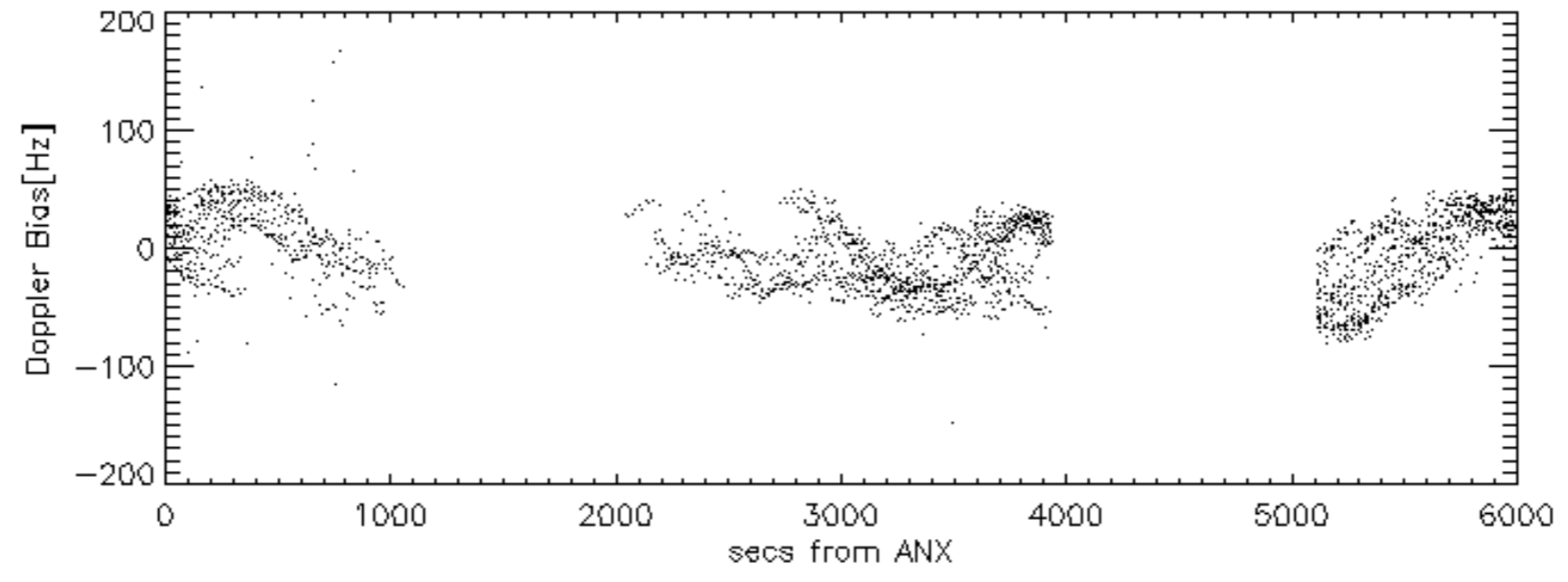
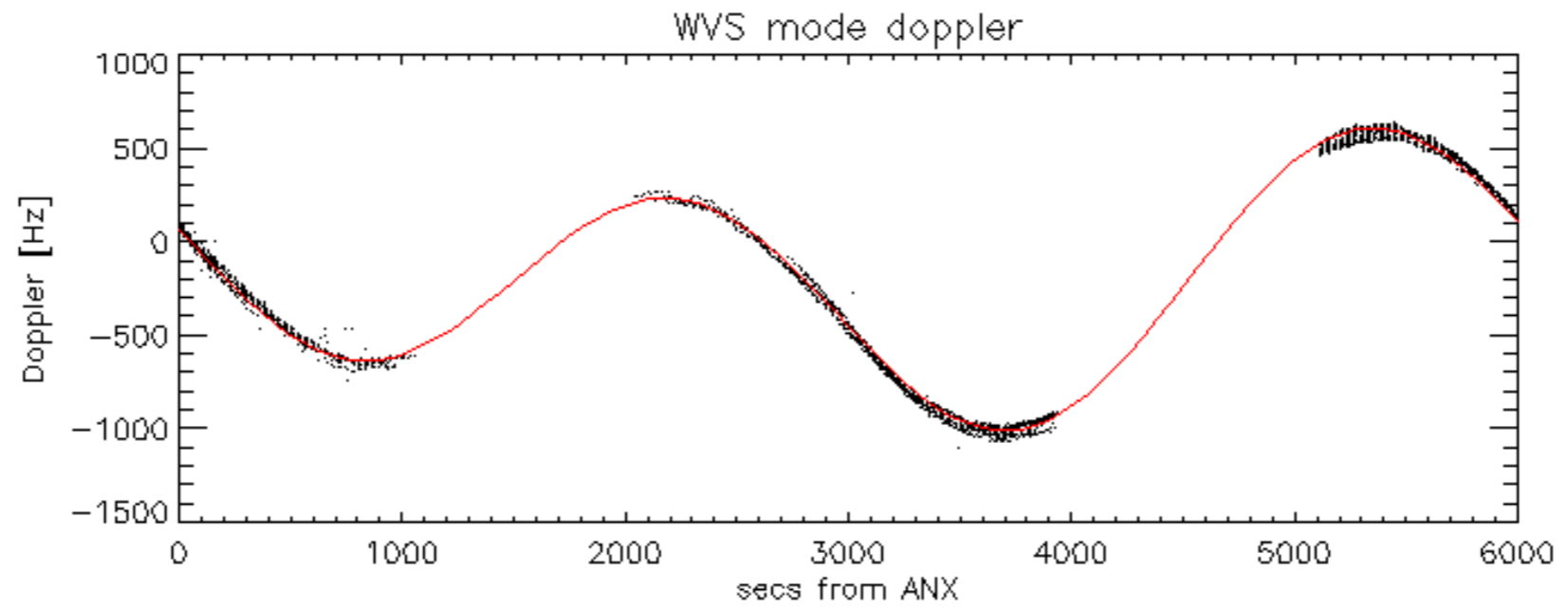
Doppler 'WVS' 'IS2' descending



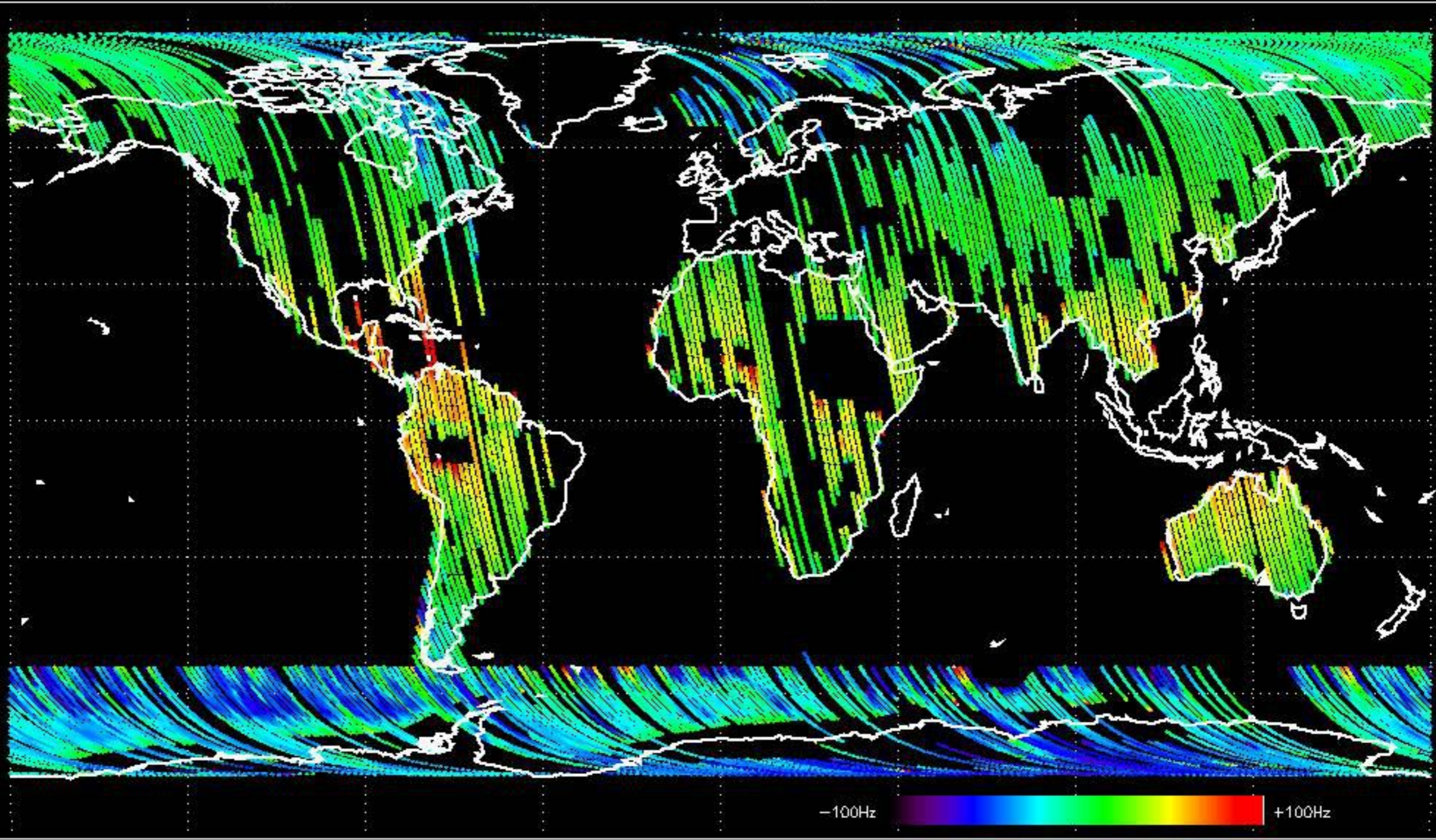


GM1 mode doppler

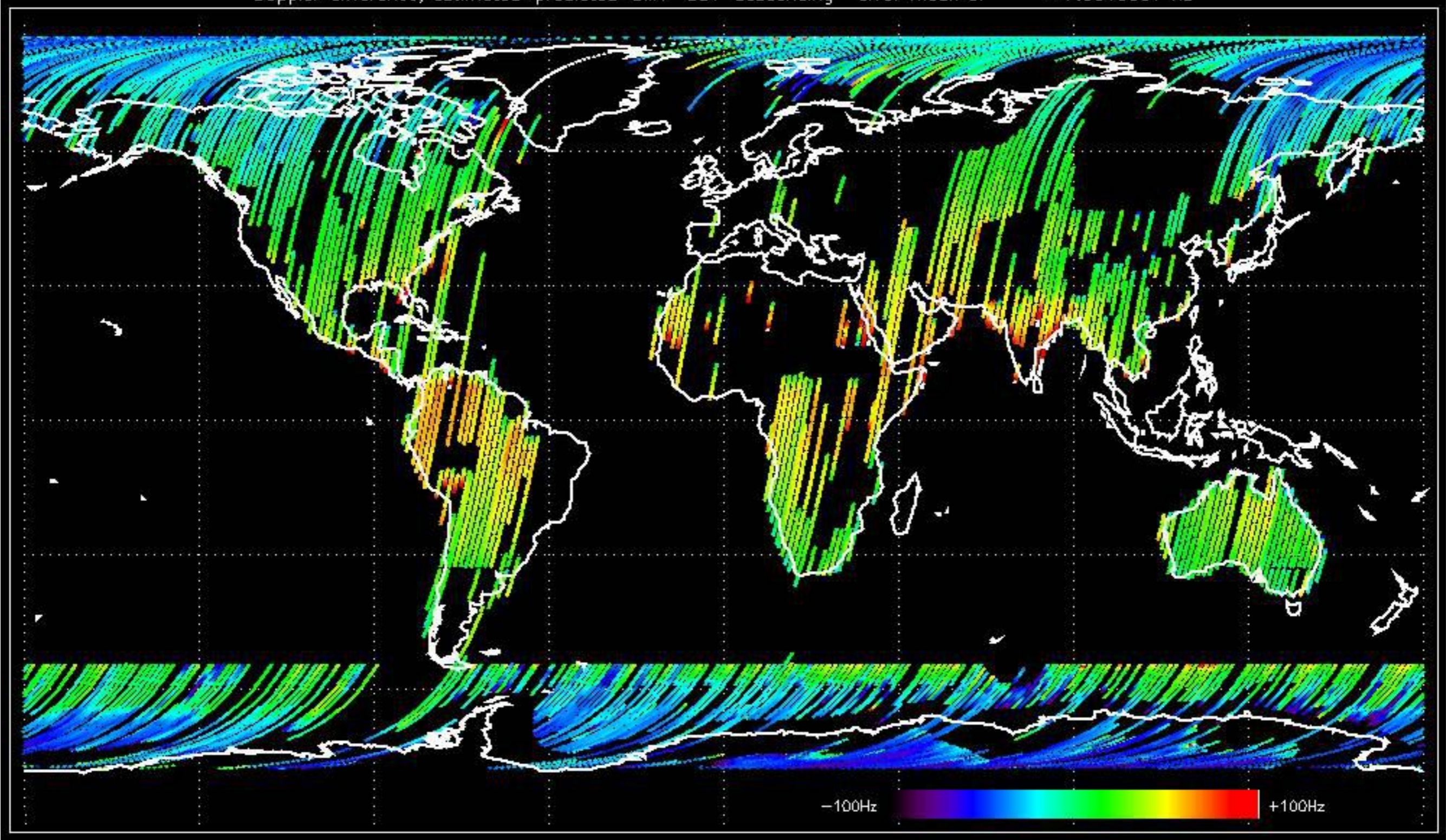




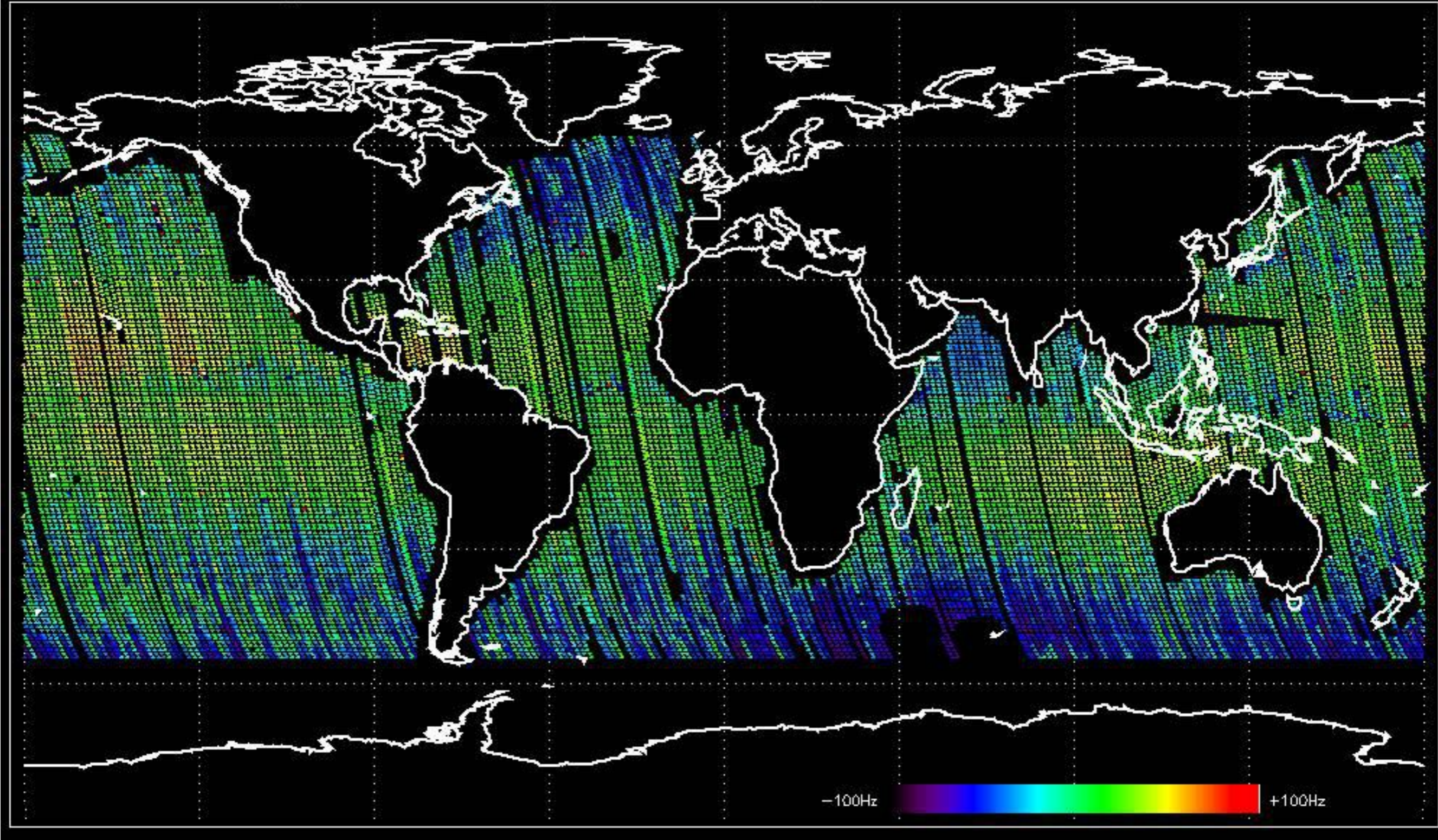
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -18.071511 Hz



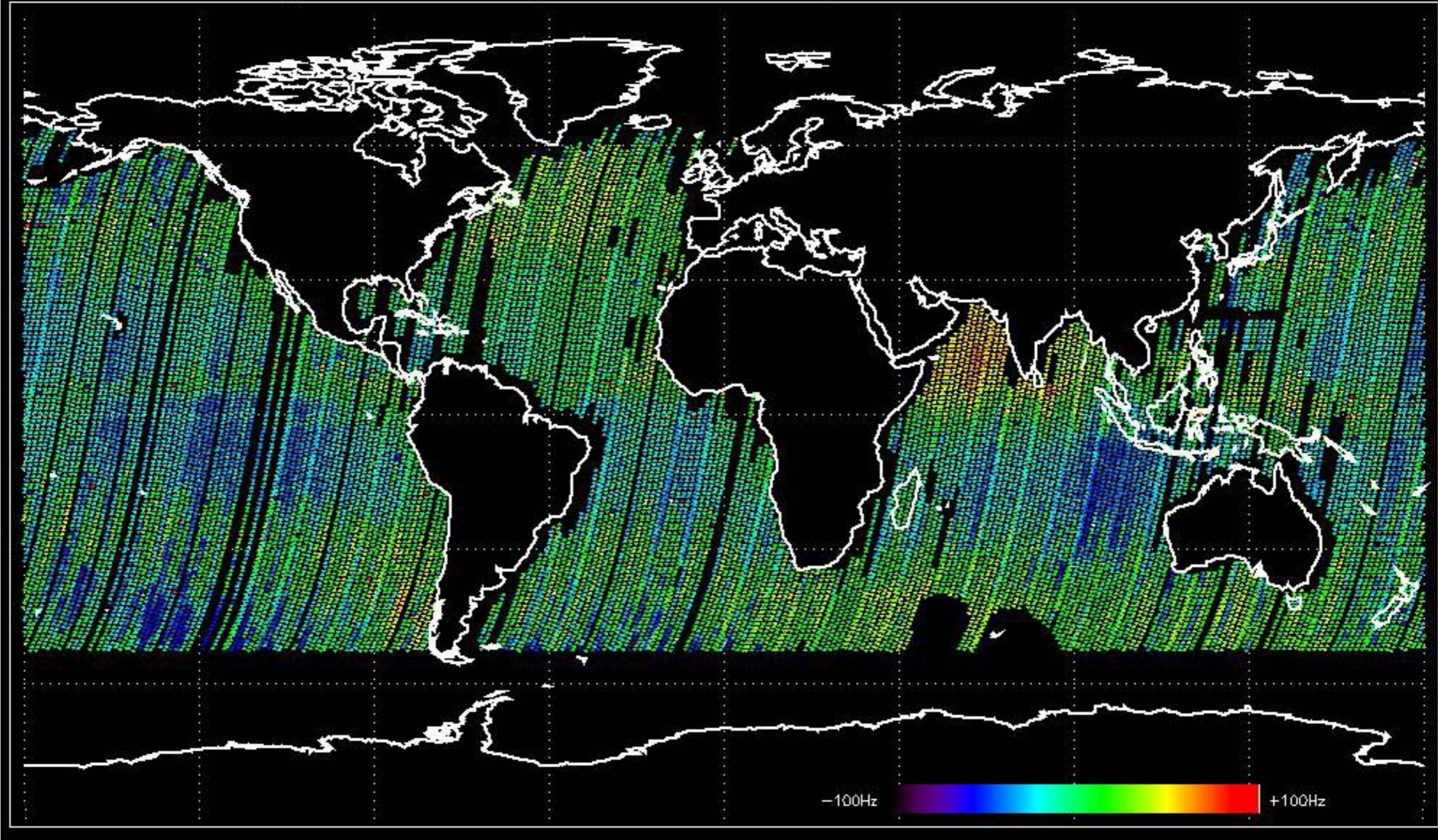
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -7.6640661 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -2.2741670 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -10.646957 Hz



No anomalies observed on available MS products:

No anomalies observed.











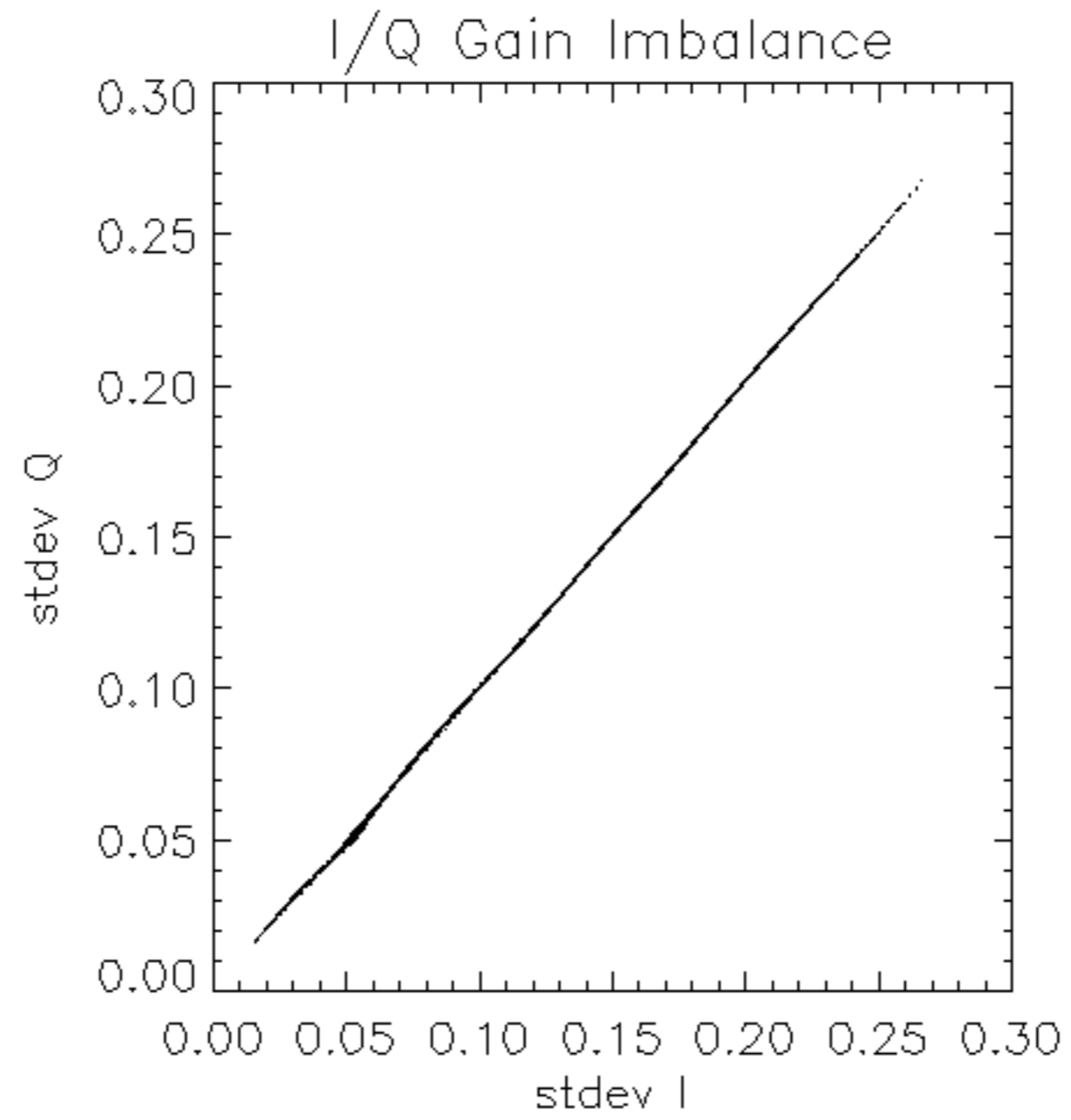


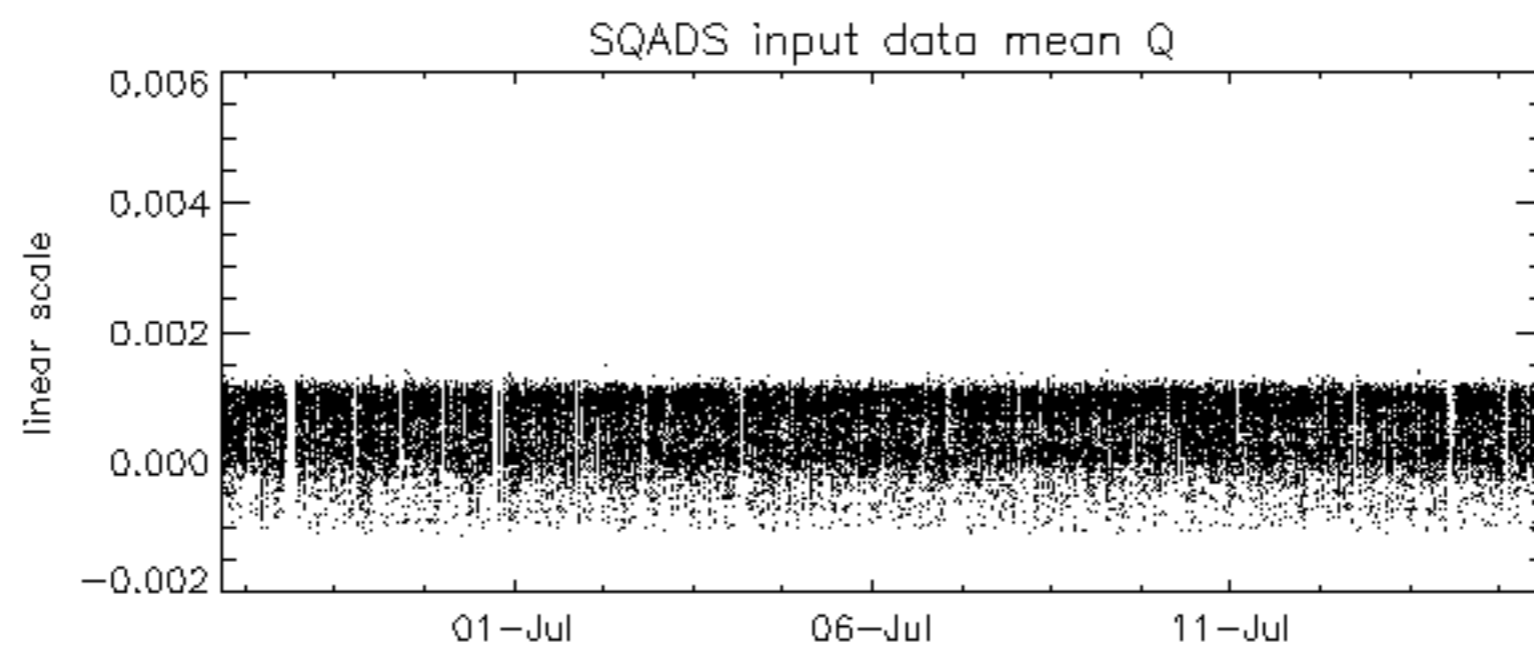
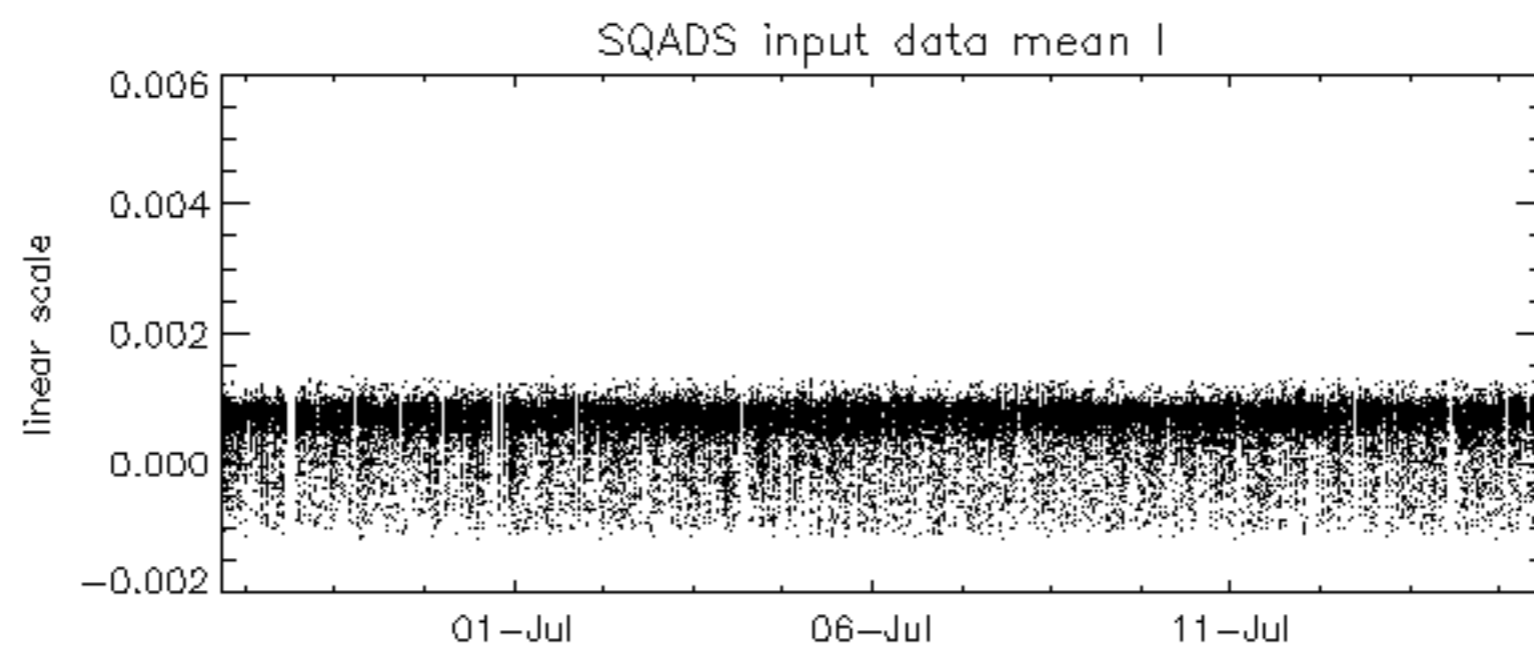
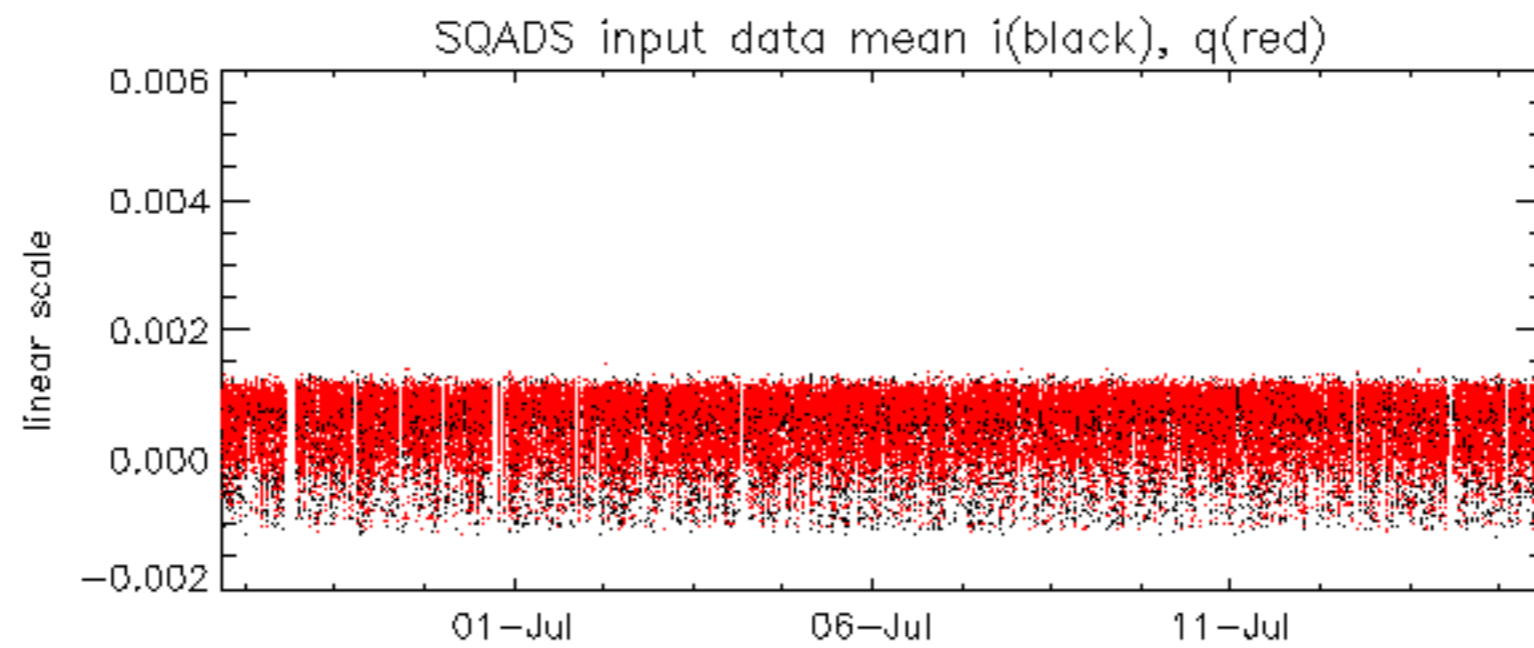


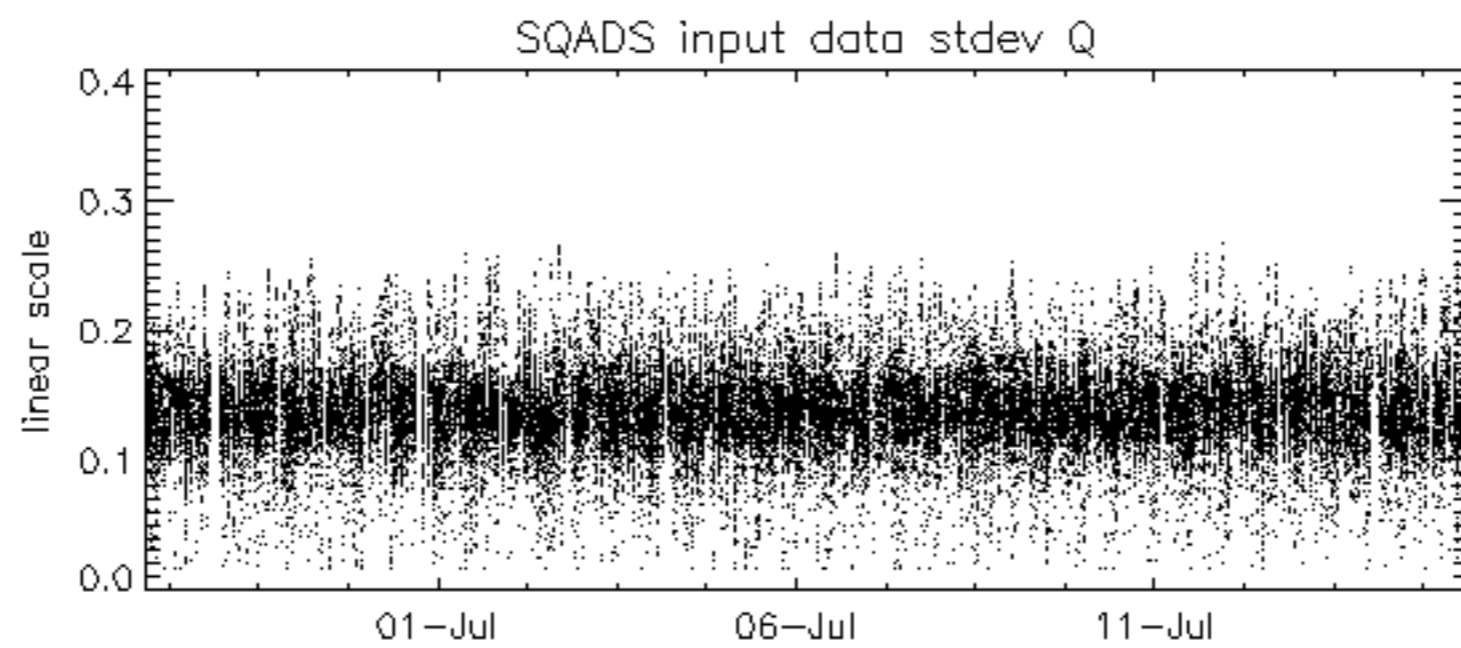
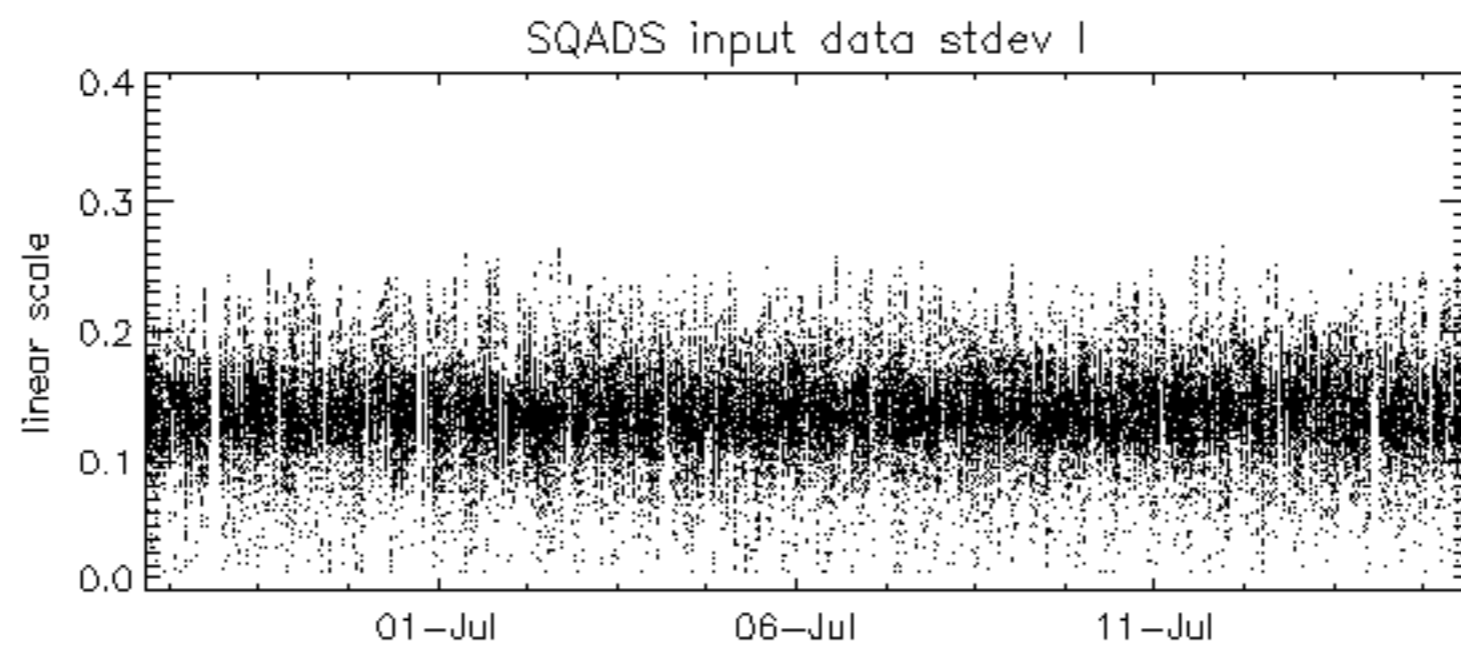
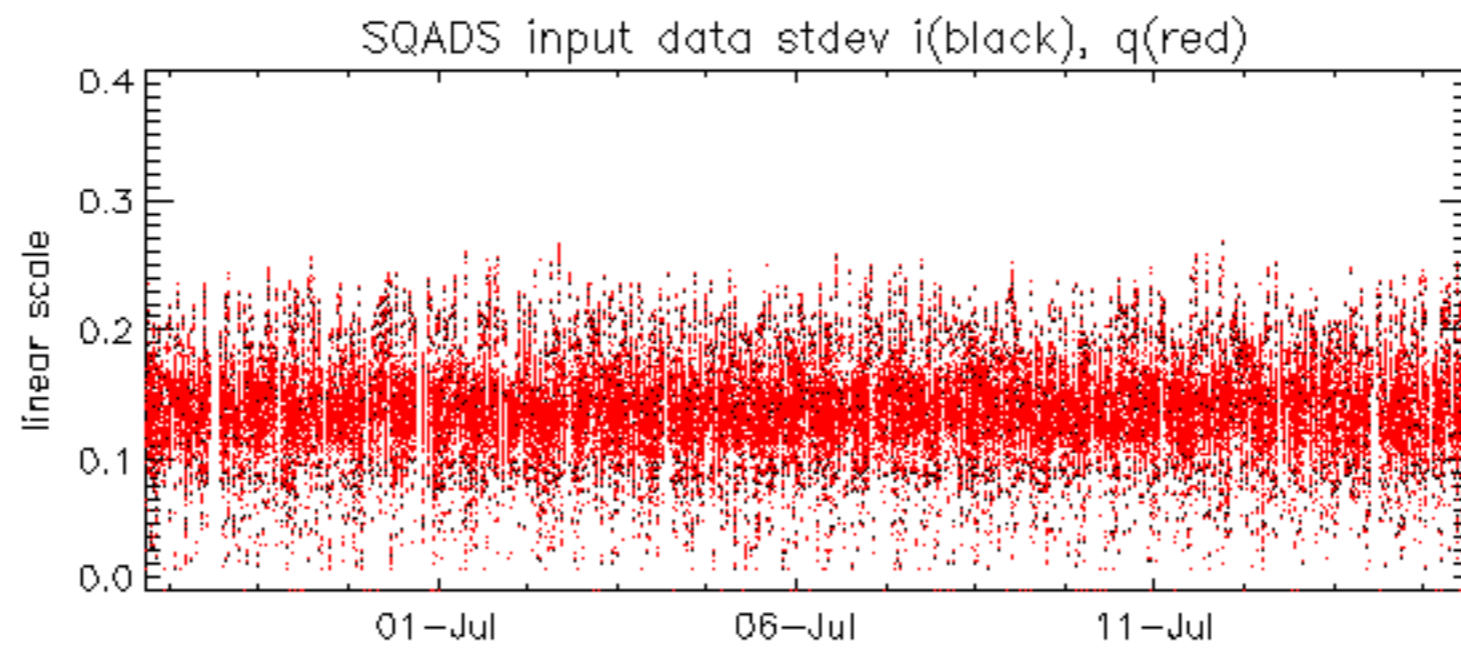


















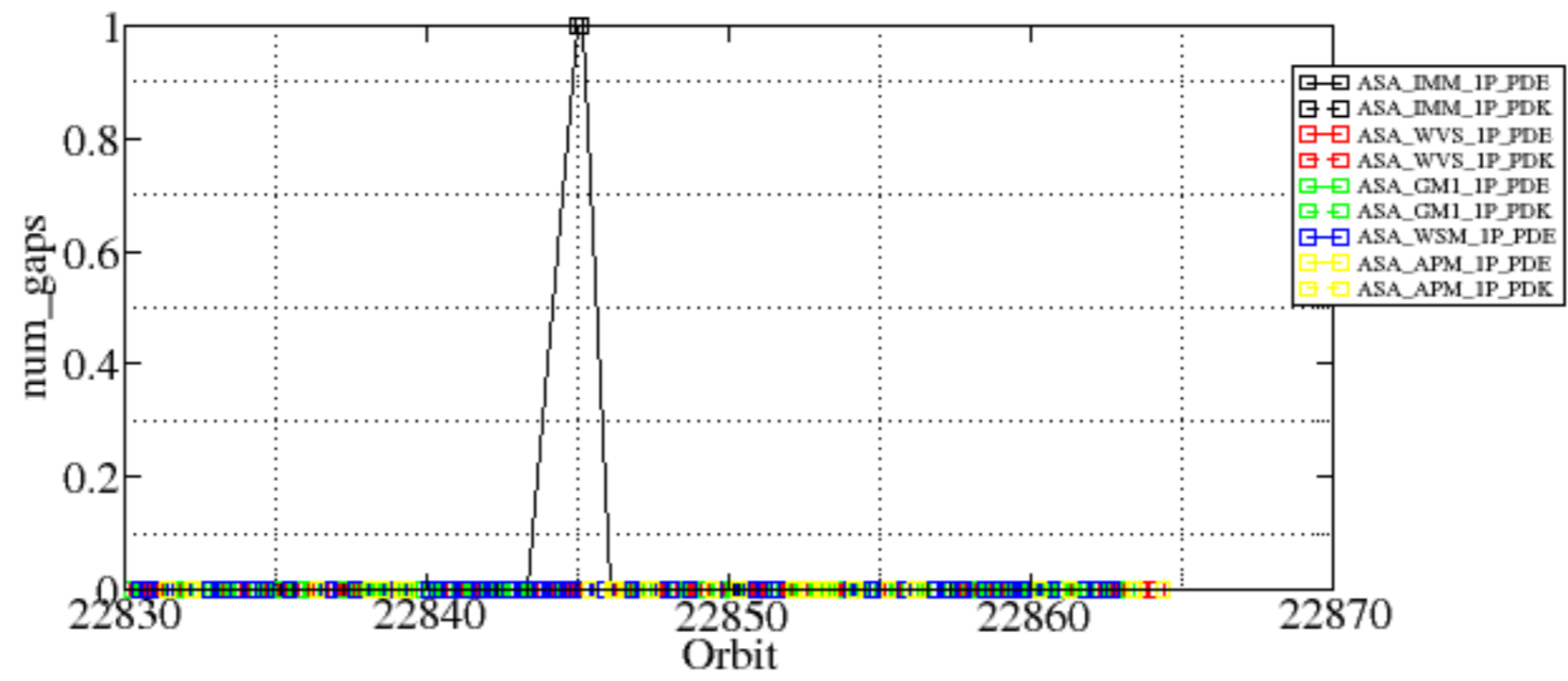


Summary of analysis for the last 3 days 2006071[345]

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_1PNPDE20060714_004241_000001742049_00245_22844_0772.N1	1	0
ASA_IMM_1PNPDE20060714_005914_000000452049_00246_22845_0771.N1	1	0
ASA_WSM_1PNPDE20060713_162646_000001032049_00241_22840_2889.N1	0	38
ASA_WSM_1PNPDE20060713_230852_000001032049_00245_22844_2962.N1	0	55
ASA_WSM_1PNPDE20060713_235456_000003302049_00245_22844_2976.N1	0	34
ASA_WSM_1PNPDE20060714_113456_000000852049_00252_22851_3060.N1	0	14
ASA_WSM_1PNPDE20060715_010155_000001462049_00260_22859_3155.N1	0	34
ASA_APM_1PNPDE20060714_141717_000000732049_00254_22853_0606.N1	0	17







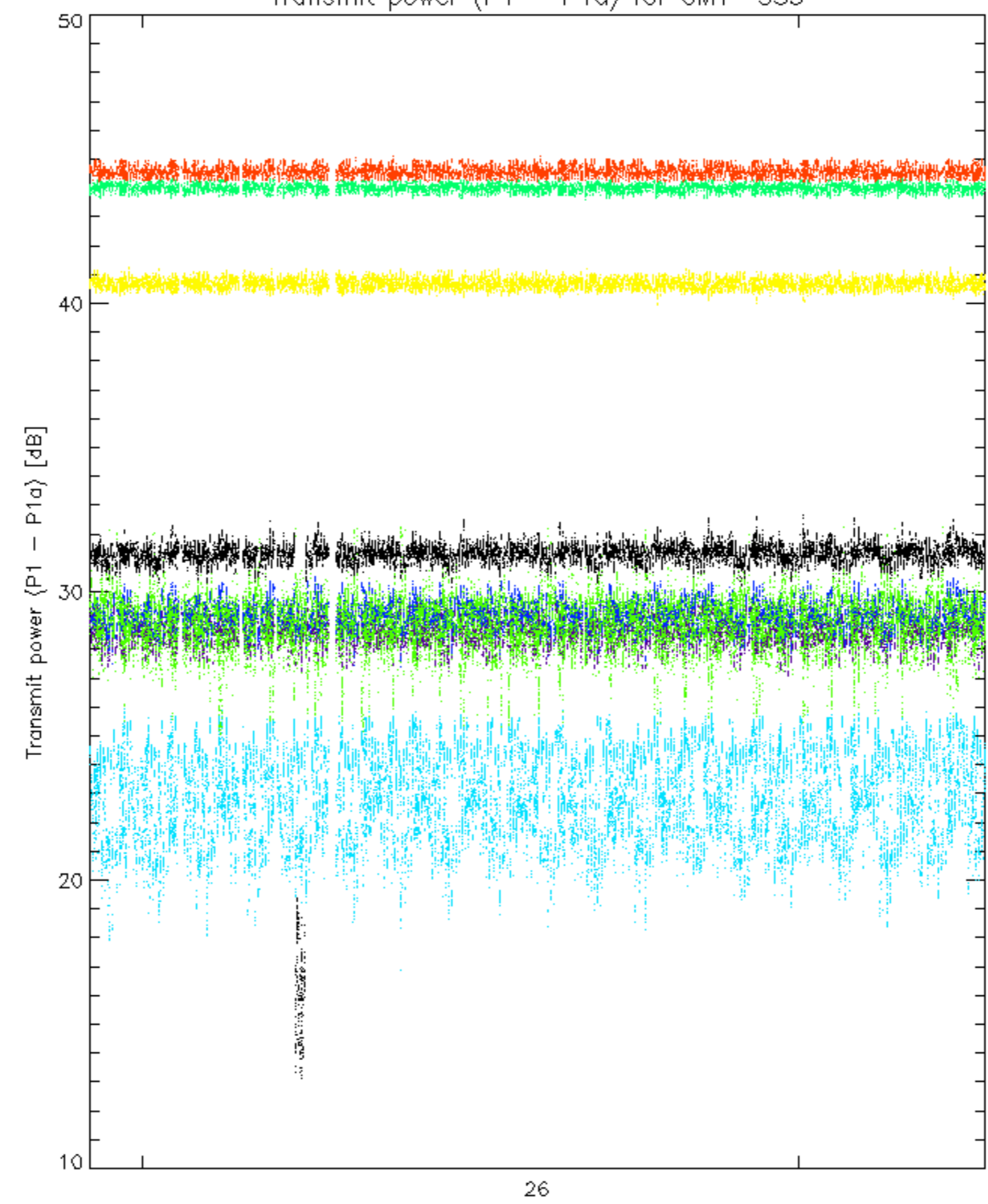




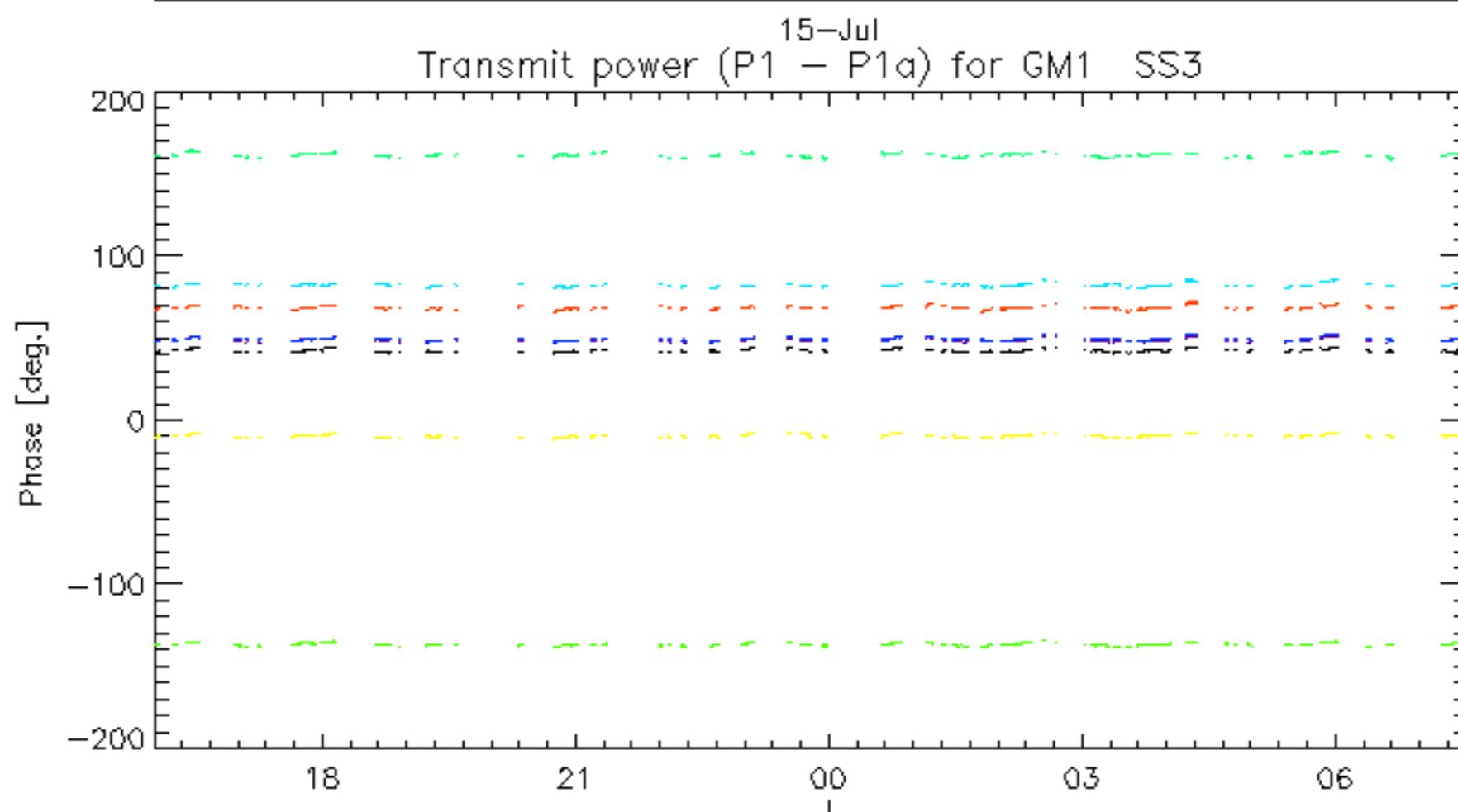
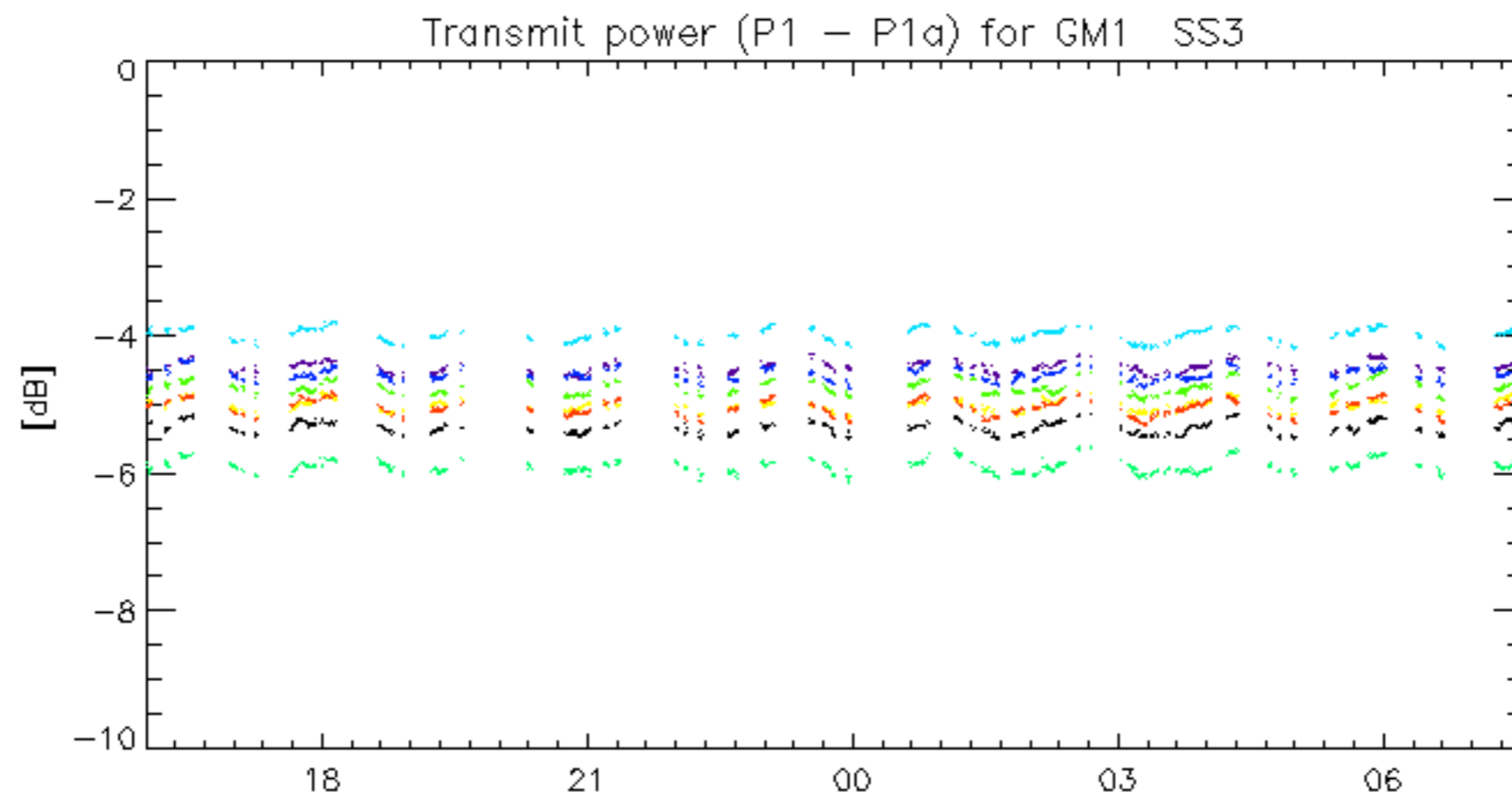




Transmit power (P1 - P1a) for GM1 SS3

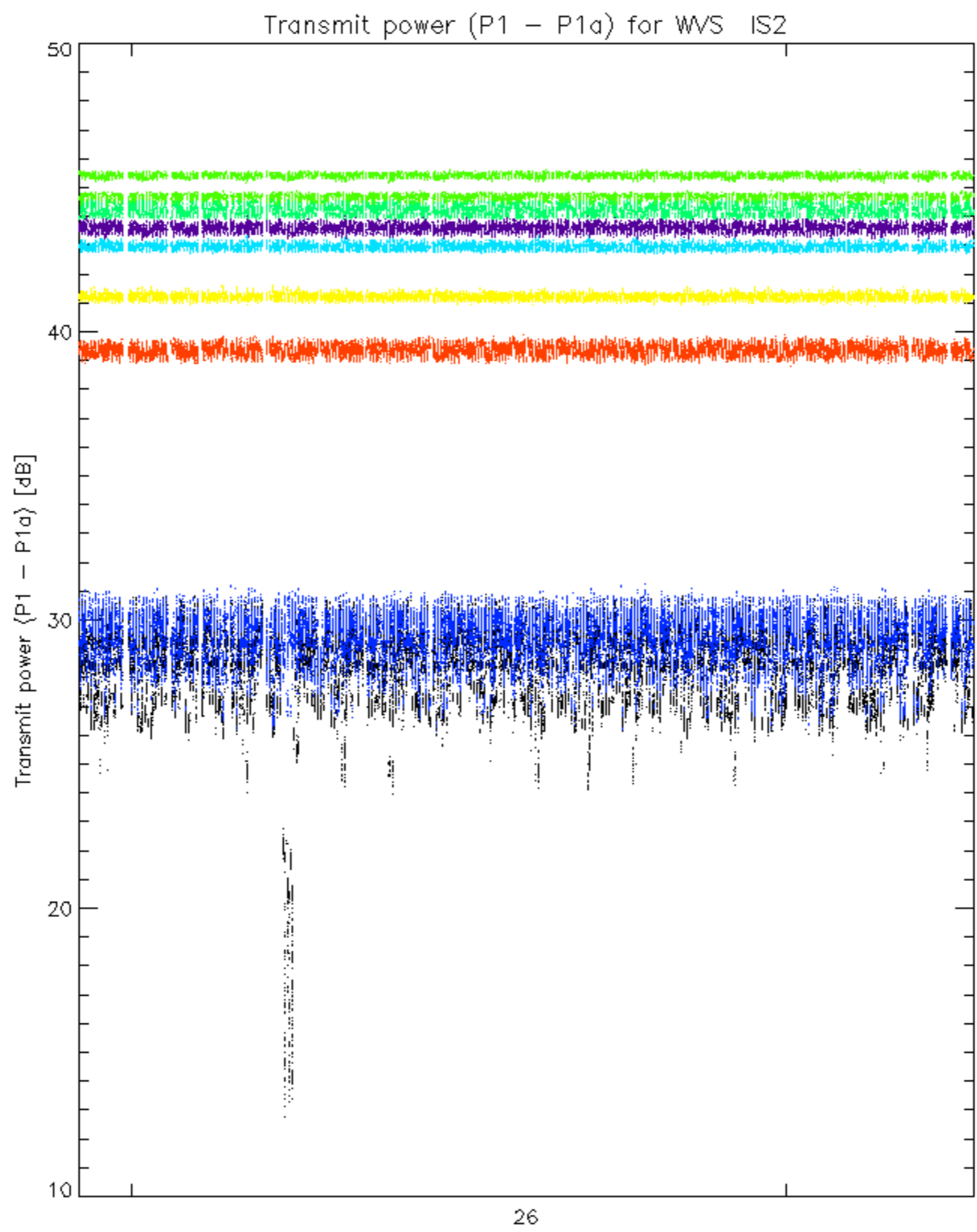


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

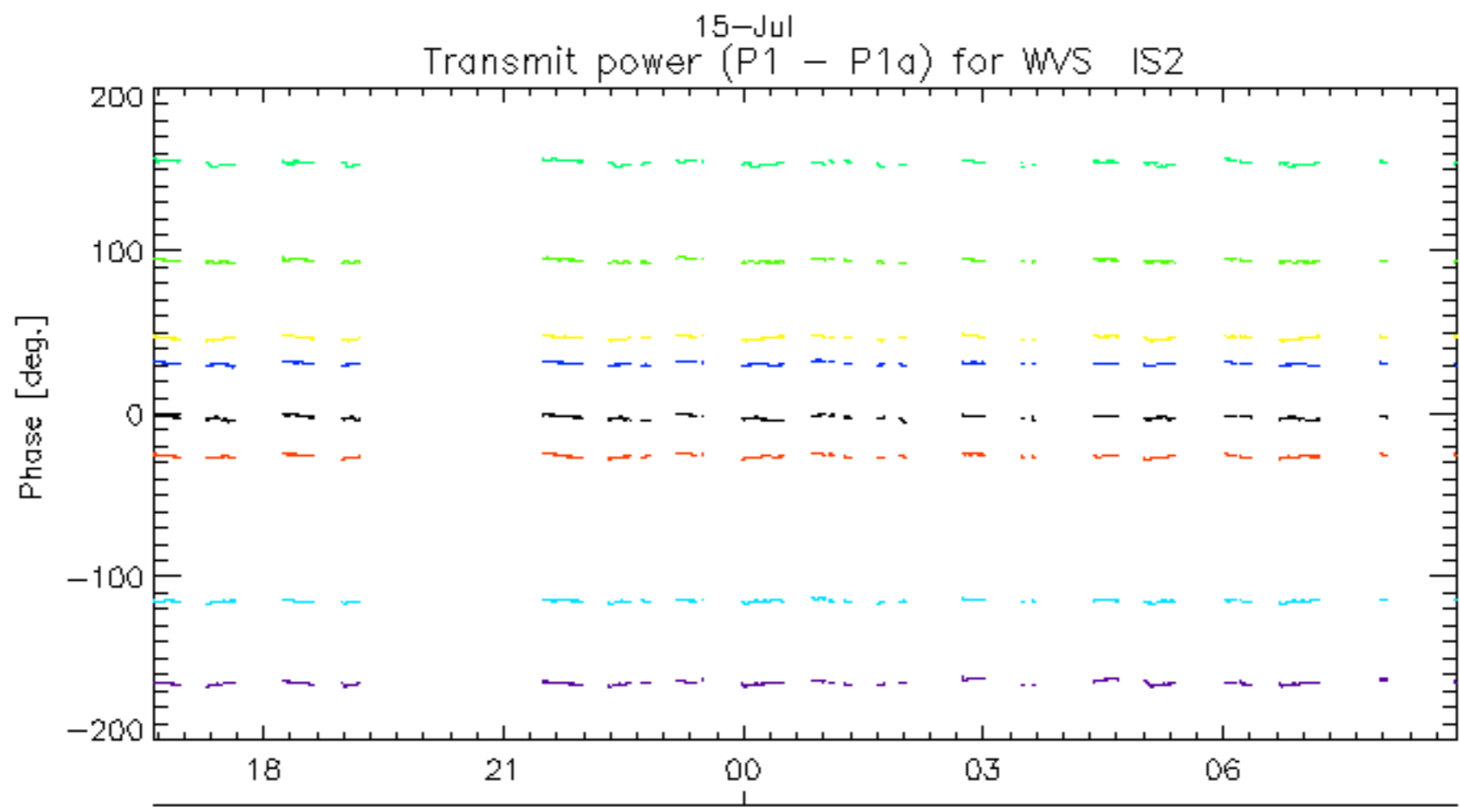
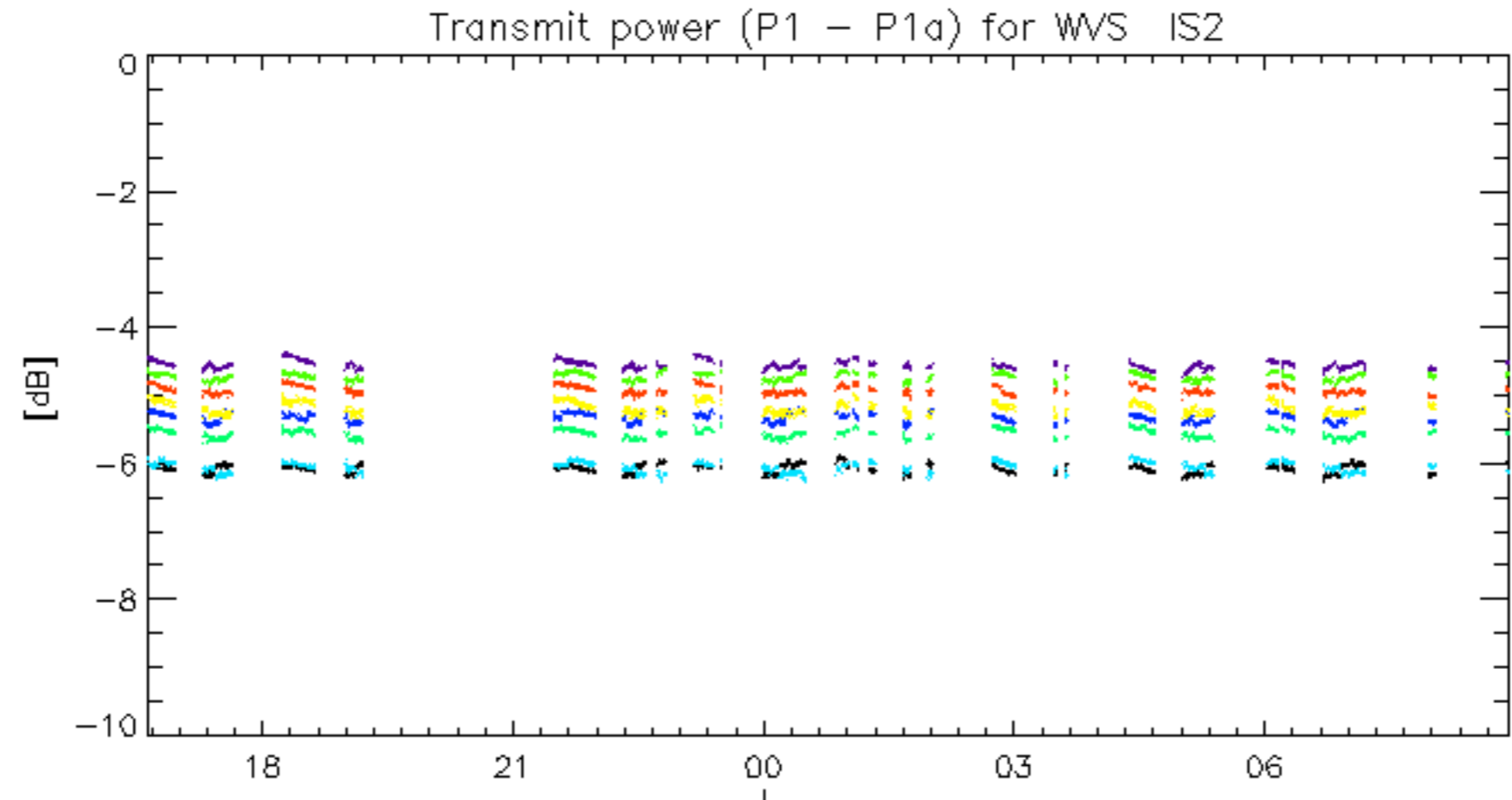


15-Jul  
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30





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



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

No unavailabilities during the reported period.