

# PRELIMINARY REPORT OF 060721

last update on Fri Jul 21 16:25:05 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 2006-07-20 00:00:00 to 2006-07-21 16:25:05

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	36	72	16	7	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	36	72	16	7	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	36	72	16	7	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	36	72	16	7	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	33	60	28	17	66
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	33	60	28	17	66
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	33	60	28	17	66
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	33	60	28	17	66

## 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	20060721 063530
H	20060720 070707

### 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	-3.931525	0.012464	-0.022221
7	P1	-3.103266	0.010235	-0.009479
11	P1	-4.086663	0.013703	-0.002134
15	P1	-6.172919	0.011556	-0.007227
19	P1	-3.398167	0.009322	-0.062706
22	P1	-4.546469	0.010242	-0.028642
26	P1	-3.932968	0.019681	0.014890
30	P1	-5.763246	0.008066	-0.010567
3	P1	-16.508890	0.333301	-0.048575
7	P1	-17.194870	0.103141	-0.068899
11	P1	-16.979601	0.277009	0.009296
15	P1	-13.110865	0.150878	0.058424
19	P1	-14.444752	0.048441	-0.115497
22	P1	-16.020113	0.420877	0.009544
26	P1	-15.135984	0.234810	0.029379
30	P1	-17.093849	0.342786	-0.009931

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.988537	0.088069	0.127112
7	P2	-21.923273	0.105993	0.066555
11	P2	-15.799813	0.122185	0.048452
15	P2	-7.132634	0.101559	0.016423
19	P2	-9.135922	0.091992	-0.001981
22	P2	-18.150679	0.086742	-0.004597
26	P2	-16.399525	0.094511	-0.028275
30	P2	-19.526262	0.093641	0.031538

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.175594	0.002948	-0.001255
7	P3	-8.175594	0.002948	-0.001255
11	P3	-8.175594	0.002948	-0.001255
15	P3	-8.175594	0.002948	-0.001255
19	P3	-8.175594	0.002948	-0.001255
22	P3	-8.175594	0.002948	-0.001255
26	P3	-8.175594	0.002948	-0.001255
30	P3	-8.175594	0.002948	-0.001255

#### 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	-3.803542	0.027933	-0.108643
7	P1	-2.561750	0.008001	0.015146
11	P1	-2.859067	0.014565	0.016598
15	P1	-3.567540	0.028934	-0.048433
19	P1	-3.417917	0.013410	-0.015452
22	P1	-5.090471	0.020154	0.026408
26	P1	-5.859182	0.015780	-0.017336
30	P1	-5.194866	0.026620	-0.029121
3	P1	-11.590413	0.092347	-0.161657
7	P1	-9.971526	0.034055	0.028906
11	P1	-10.247821	0.057947	0.009558
15	P1	-10.754242	0.144029	-0.004473
19	P1	-15.531714	0.074489	-0.030214
22	P1	-20.917309	1.228204	-0.036680
26	P1	-16.315449	0.380255	0.183035
30	P1	-17.901798	0.409443	-0.143474

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.632172	0.071132	0.216352
7	P2	-22.408047	0.127269	0.126585
11	P2	-11.053869	0.042343	0.092925
15	P2	-4.914453	0.045928	0.033388
19	P2	-6.875744	0.041585	0.031694
22	P2	-8.197611	0.037319	0.022464
26	P2	-24.184713	0.062858	0.028624
30	P2	-22.016592	0.049777	0.056102

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.014524	0.003741	0.012616
7	P3	-8.014508	0.003745	0.012935
11	P3	-8.014358	0.003760	0.012538
15	P3	-8.014470	0.003755	0.012945
19	P3	-8.014475	0.003748	0.012955
22	P3	-8.014498	0.003739	0.012763
26	P3	-8.014526	0.003741	0.012136
30	P3	-8.014481	0.003738	0.012943

## 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	0.000567022
	stdev	1.65879e-07
MEAN Q	mean	0.000544697
	stdev	2.11603e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.138015
	stdev	0.00107541
STDEV Q	mean	0.138373
	stdev	0.00109327



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006072[901]

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_1PNPDE20060720_200916_000000372049_00343_22942_1445.N1	0	28
ASA_IMM_1PNPDE20060721_010621_000000822049_00346_22945_1459.N1	1	0
ASA_GM1_1PNPDK20060721_072534_000007552049_00350_22949_1372.N1	0	163
ASA_WSM_1PNPDE20060720_142714_000000852049_00340_22939_3788.N1	0	60
ASA_WSM_1PNPDE20060720_233449_000003302049_00345_22944_3858.N1	0	34







## 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)


Acsending

Descending

### 7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler


Acsending

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)


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Ascending
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Descending
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### 7.5 - Absolute Doppler for GM1

<b>Evolution of Absolute Doppler</b>
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Ascending
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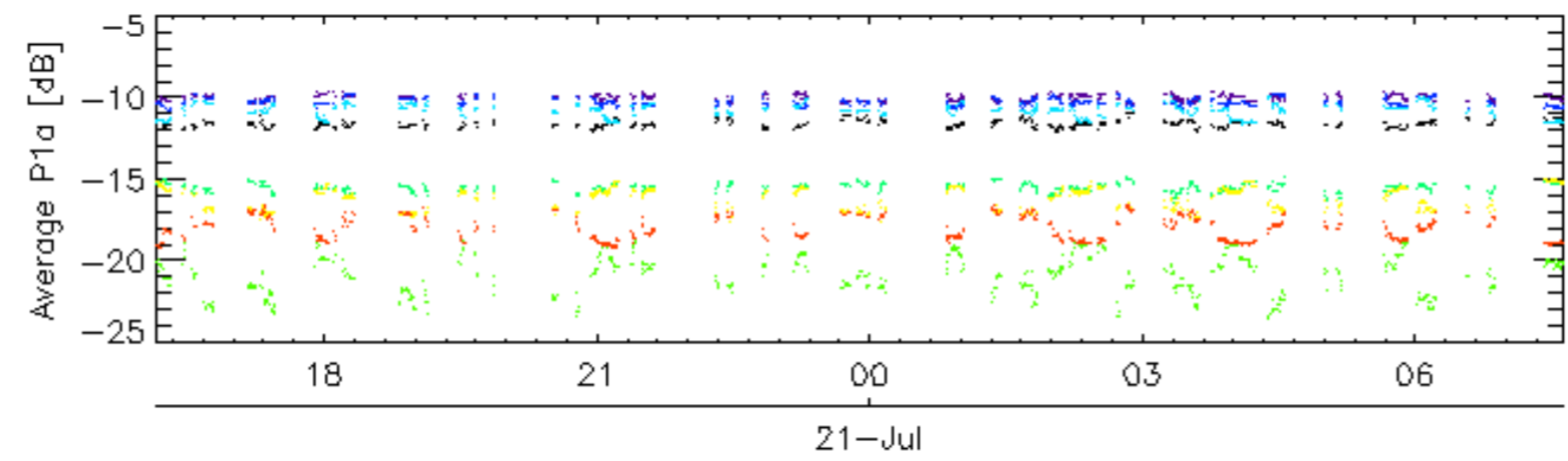
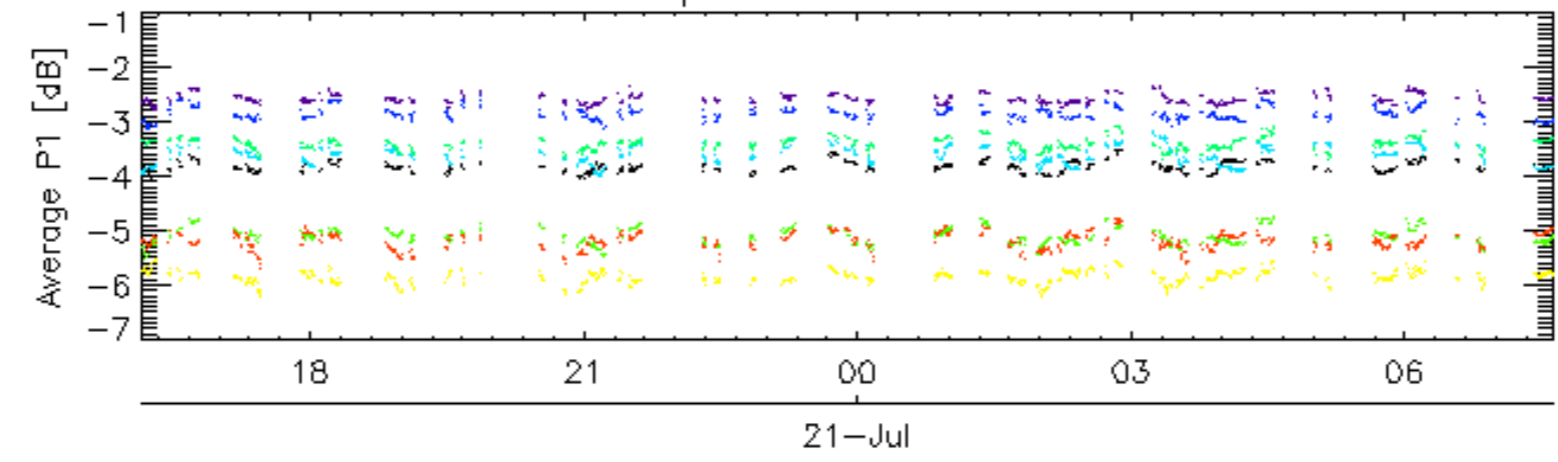
Descending
------------

### 7.6 - Doppler evolution versus ANX for GM1

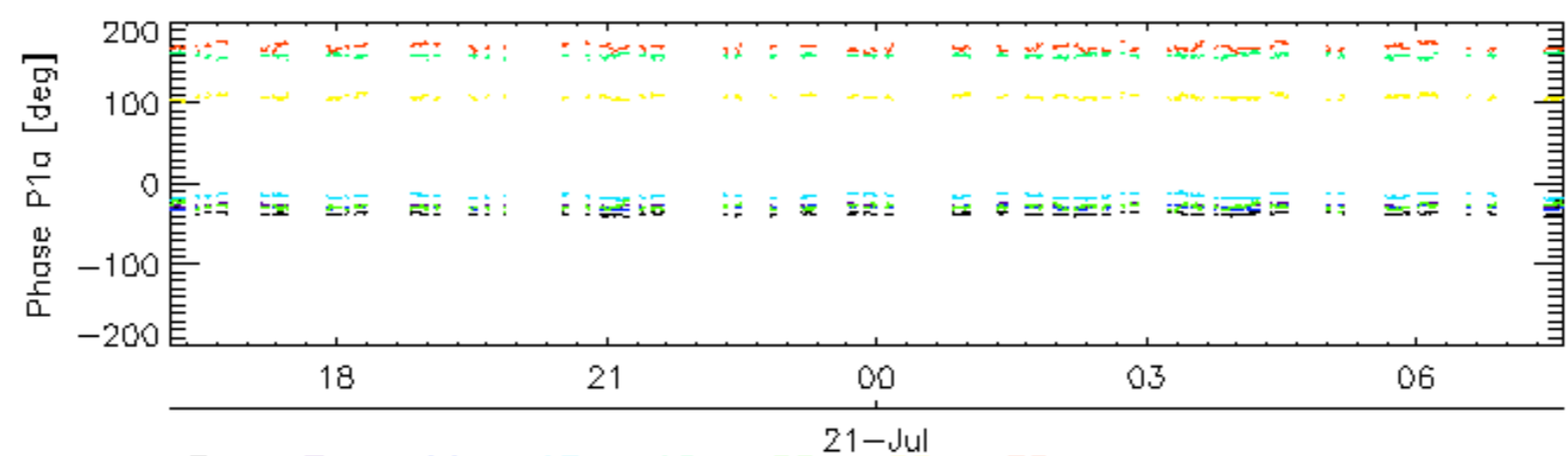
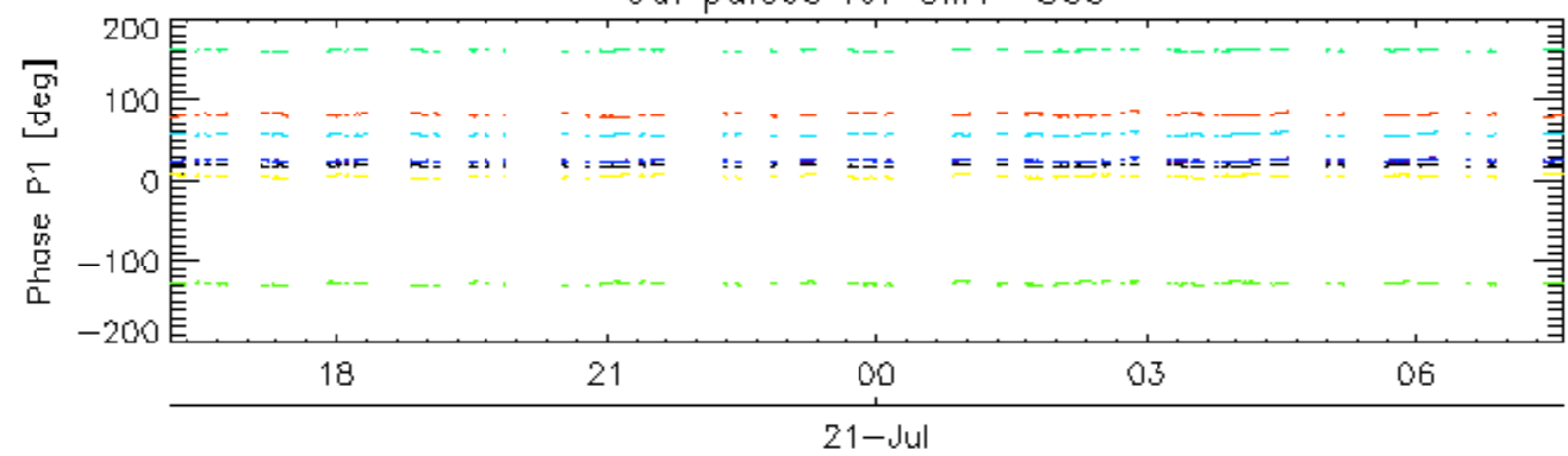
<b>Evolution Doppler error versus ANX</b>
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Cal pulses for GM1 SS3

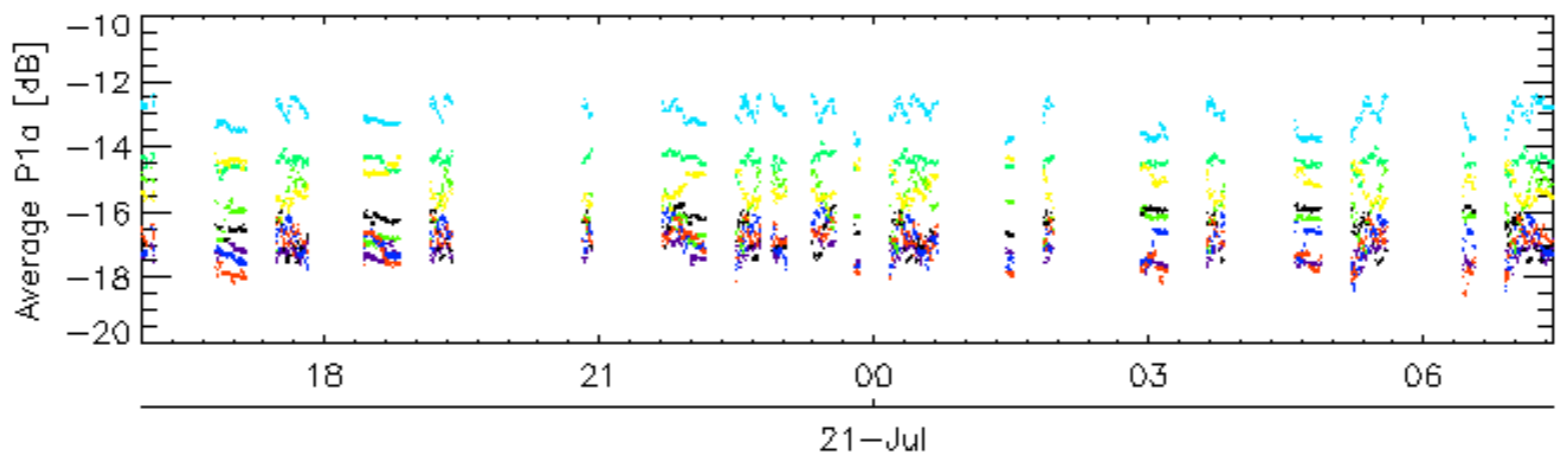
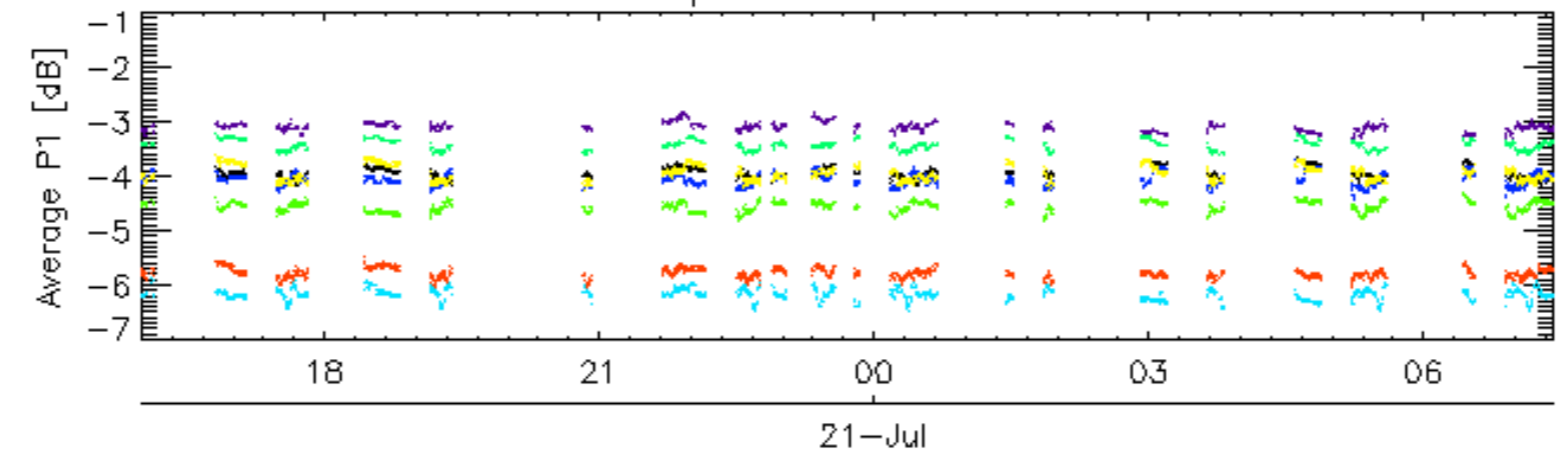


Cal pulses for GM1 SS3

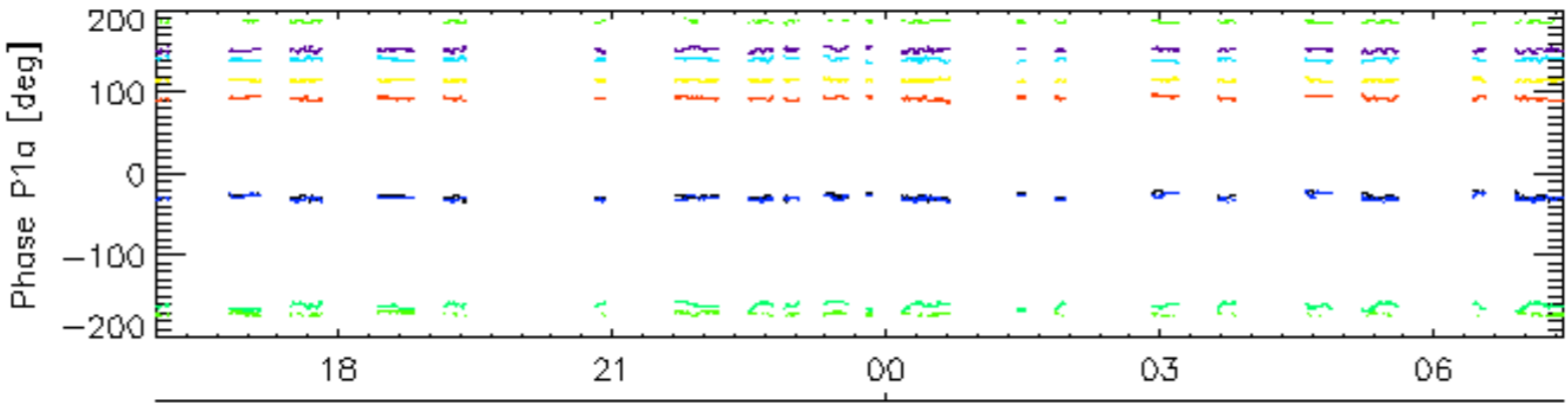
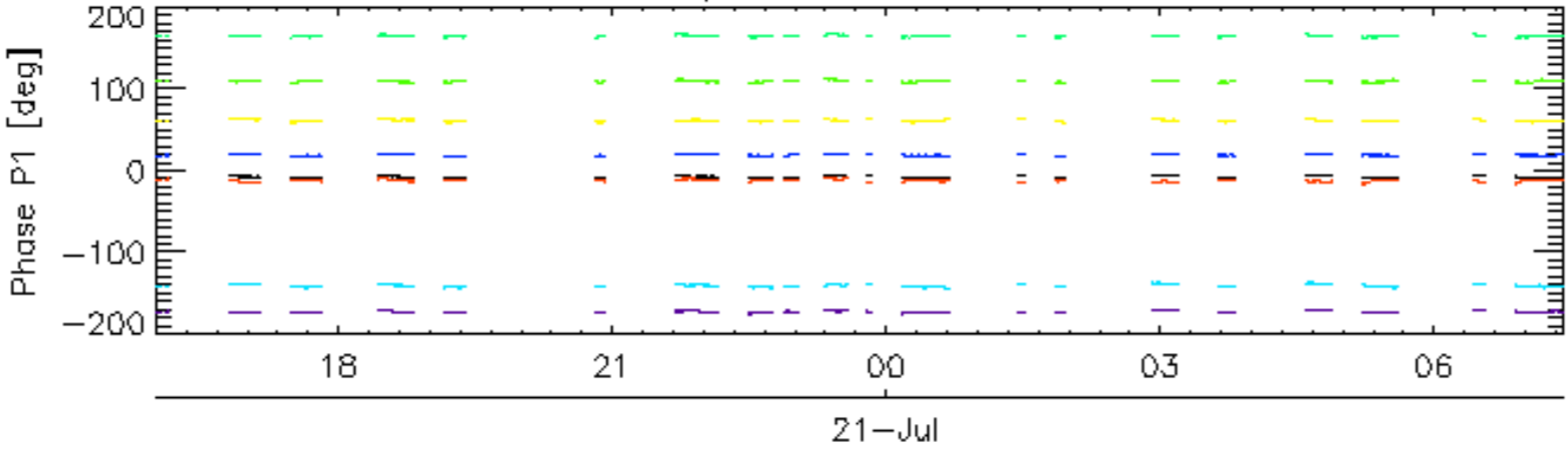


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 <sup>21-Jul</sup> \_ 26 \_ 30

Cal pulses for WVS IS2

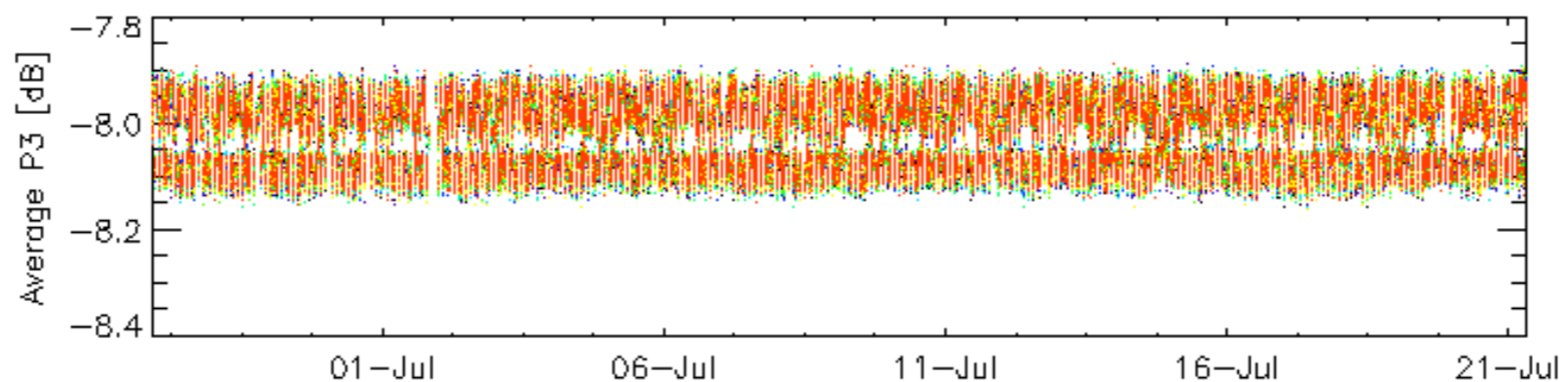
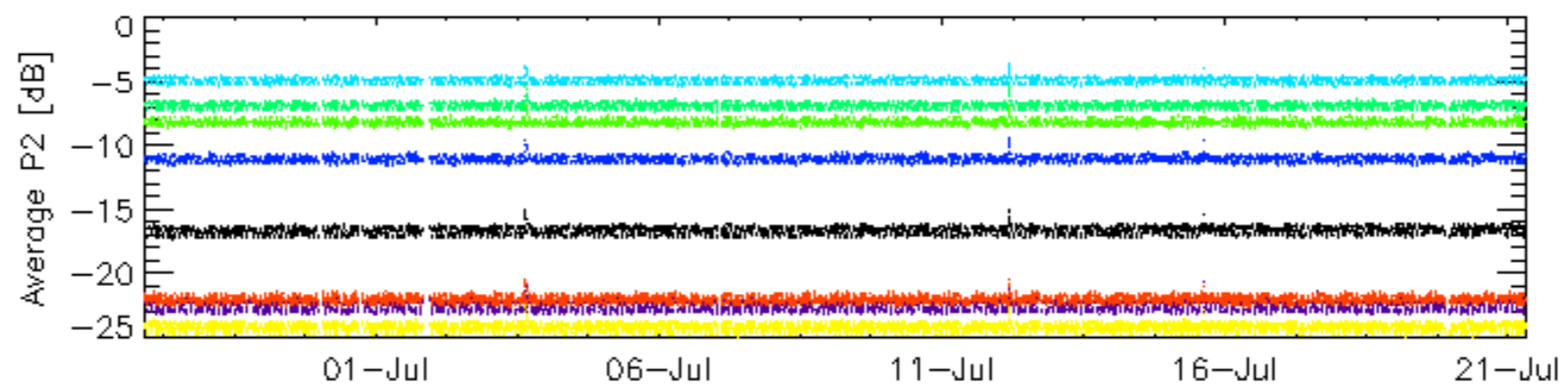
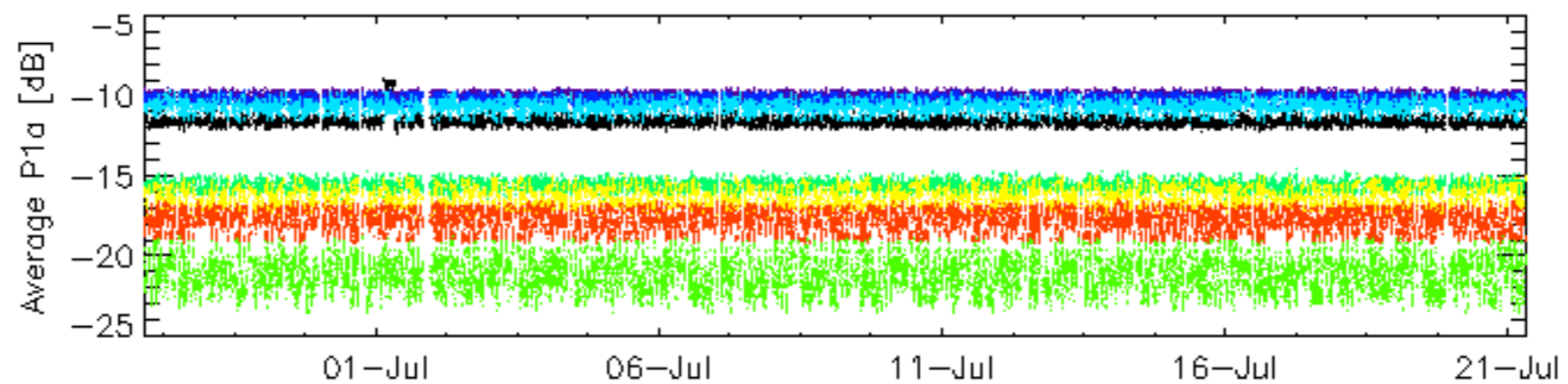
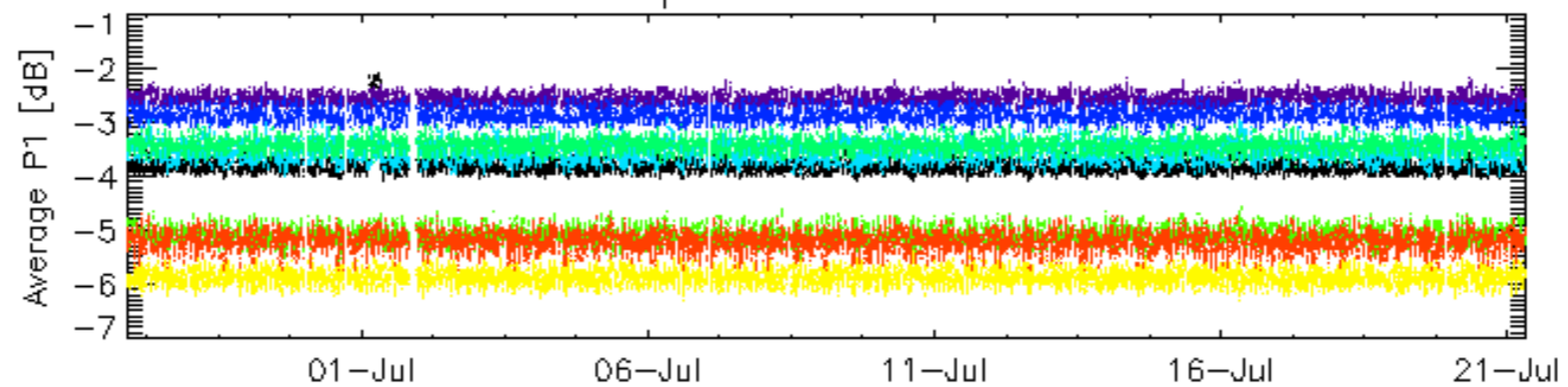


Cal pulses for WVS IS2



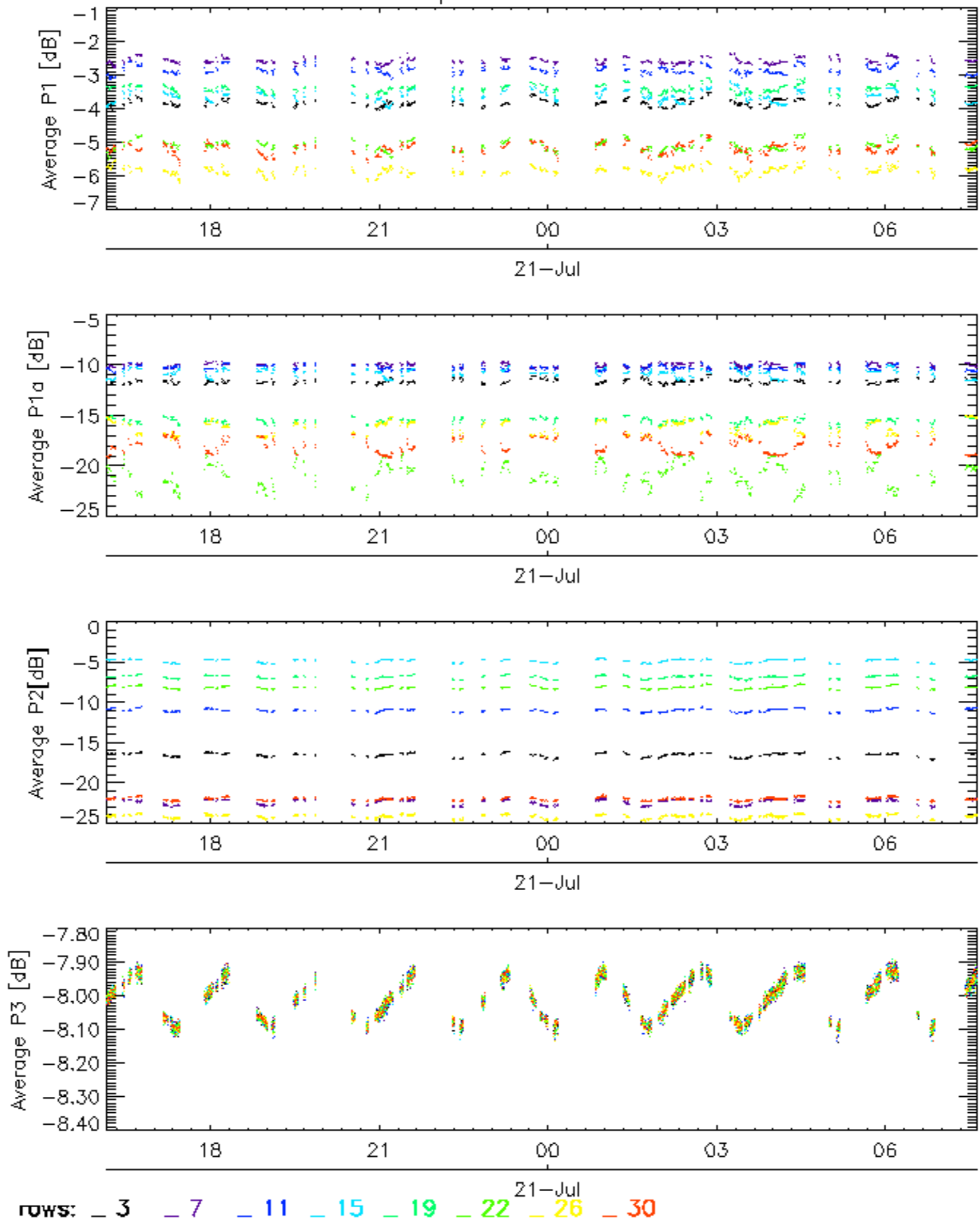
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

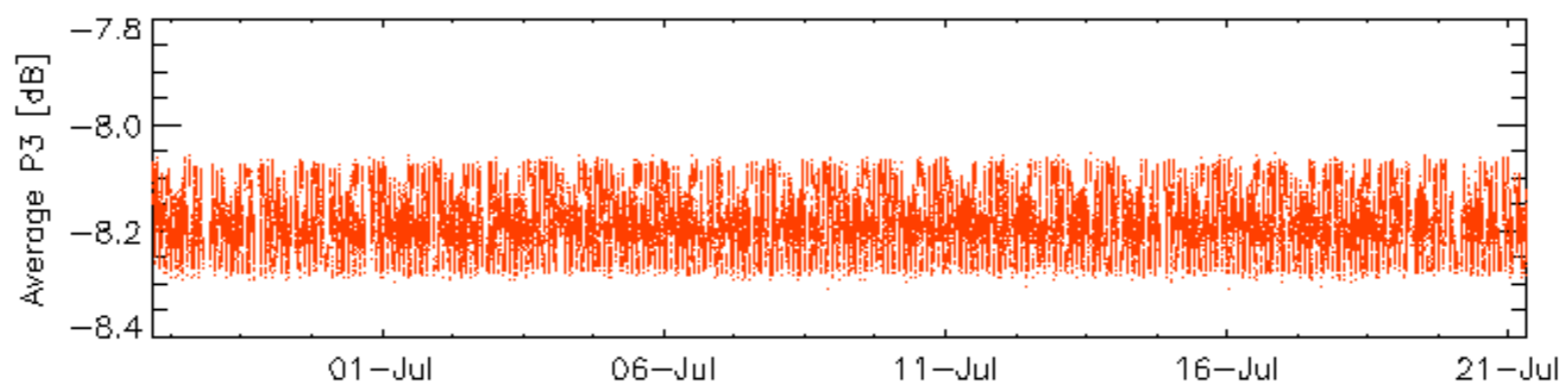
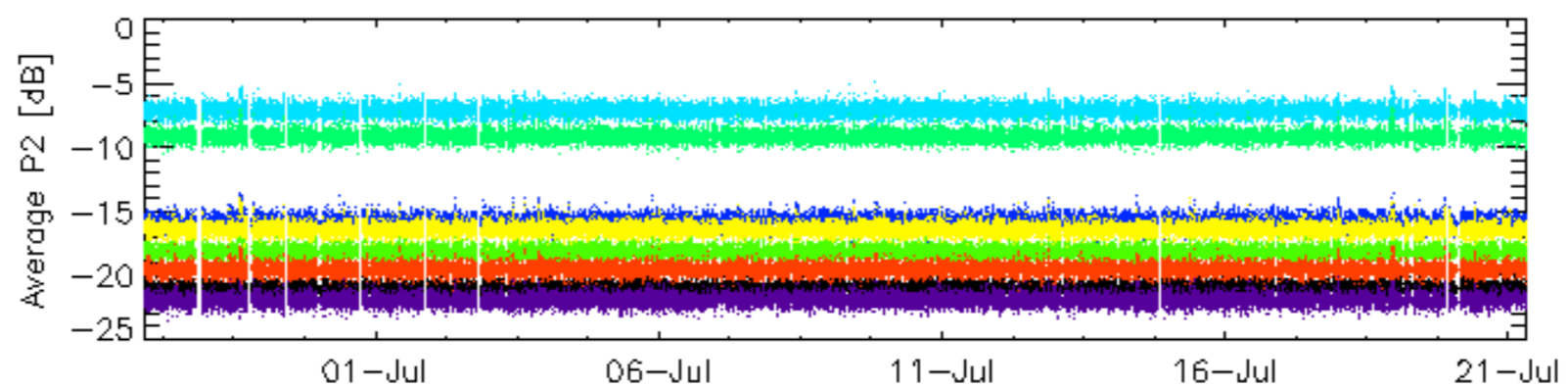
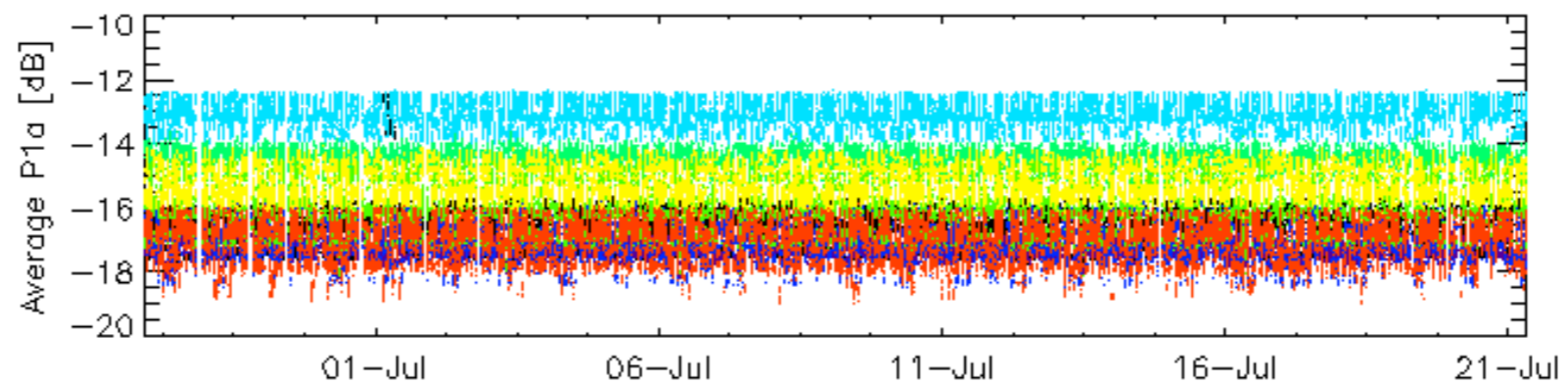
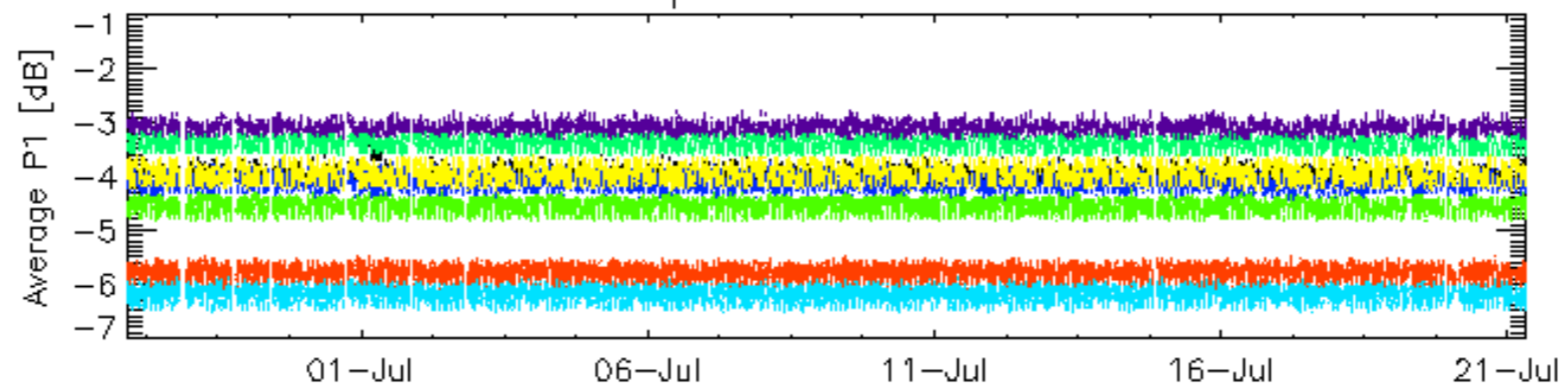


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

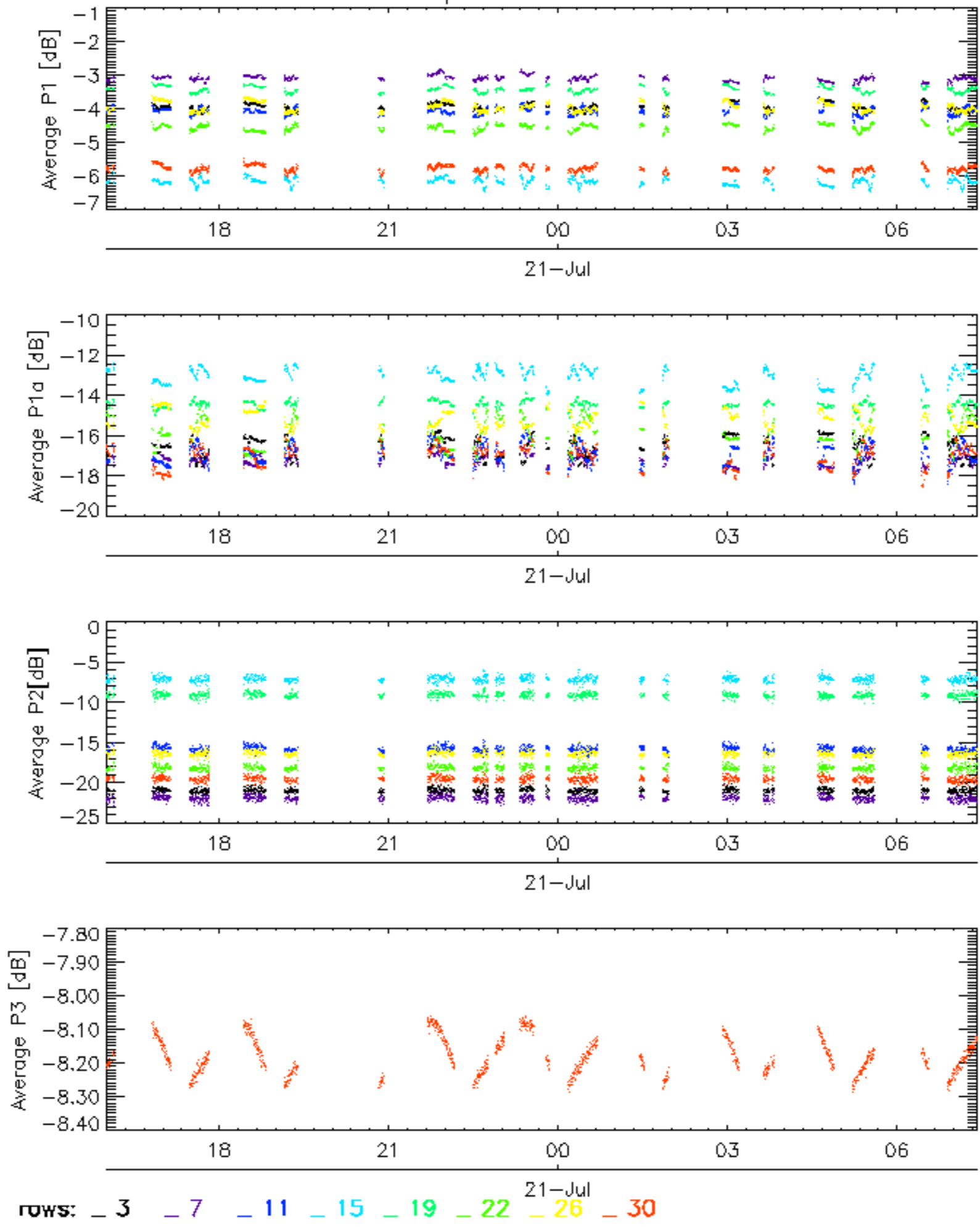


Cal pulses for WVS IS2



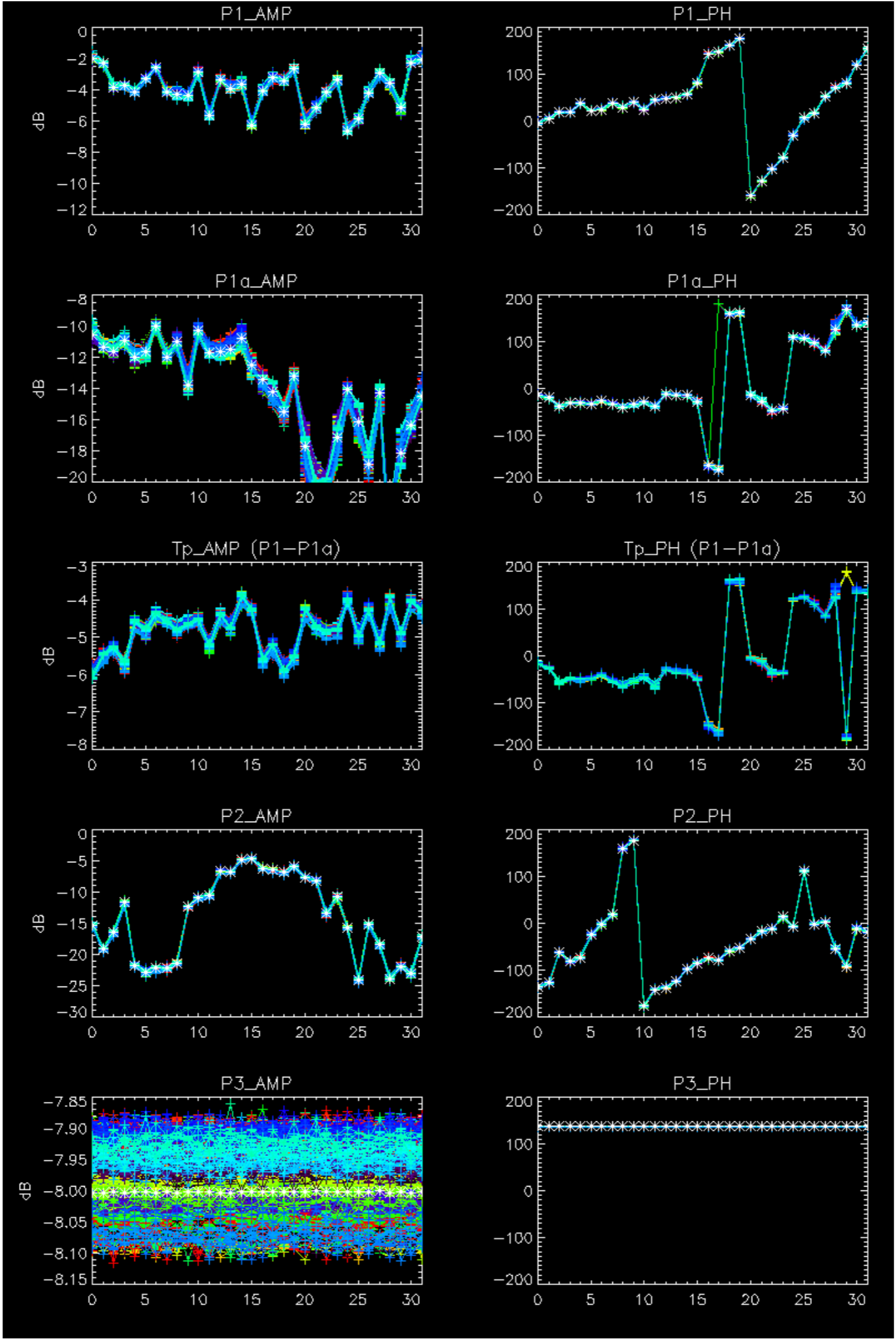
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

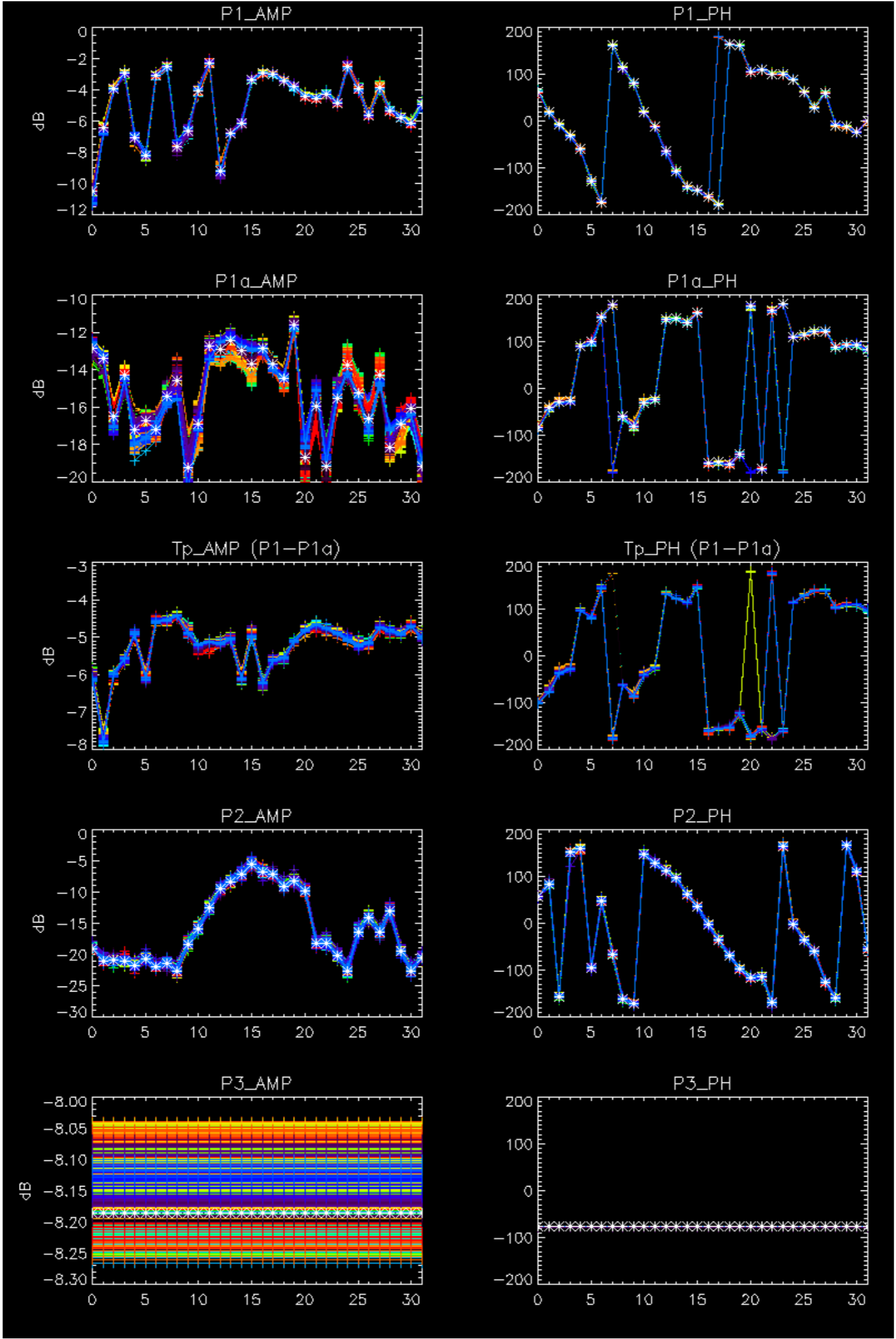
Cal pulses for WVS IS2



No anomalies observed.



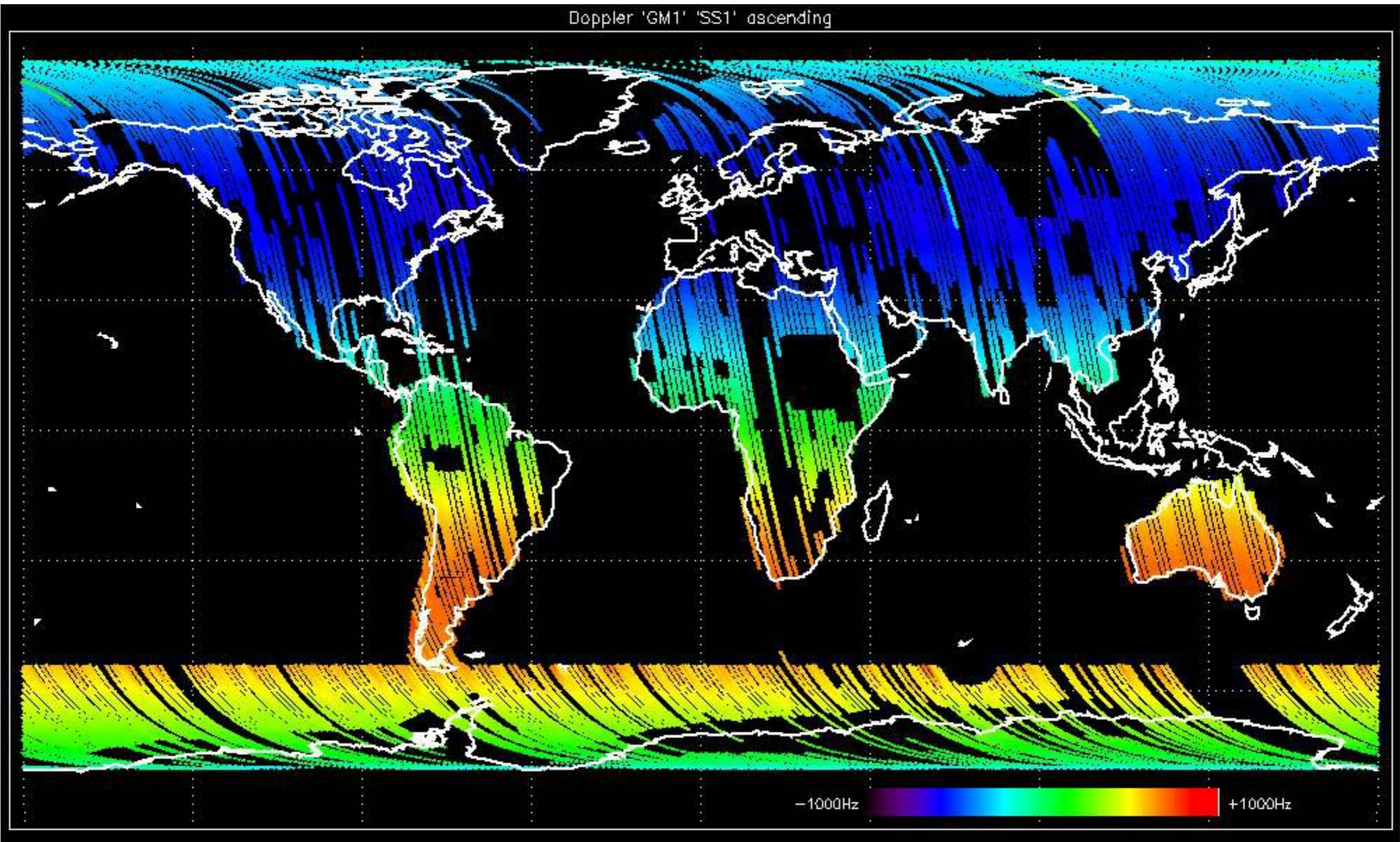




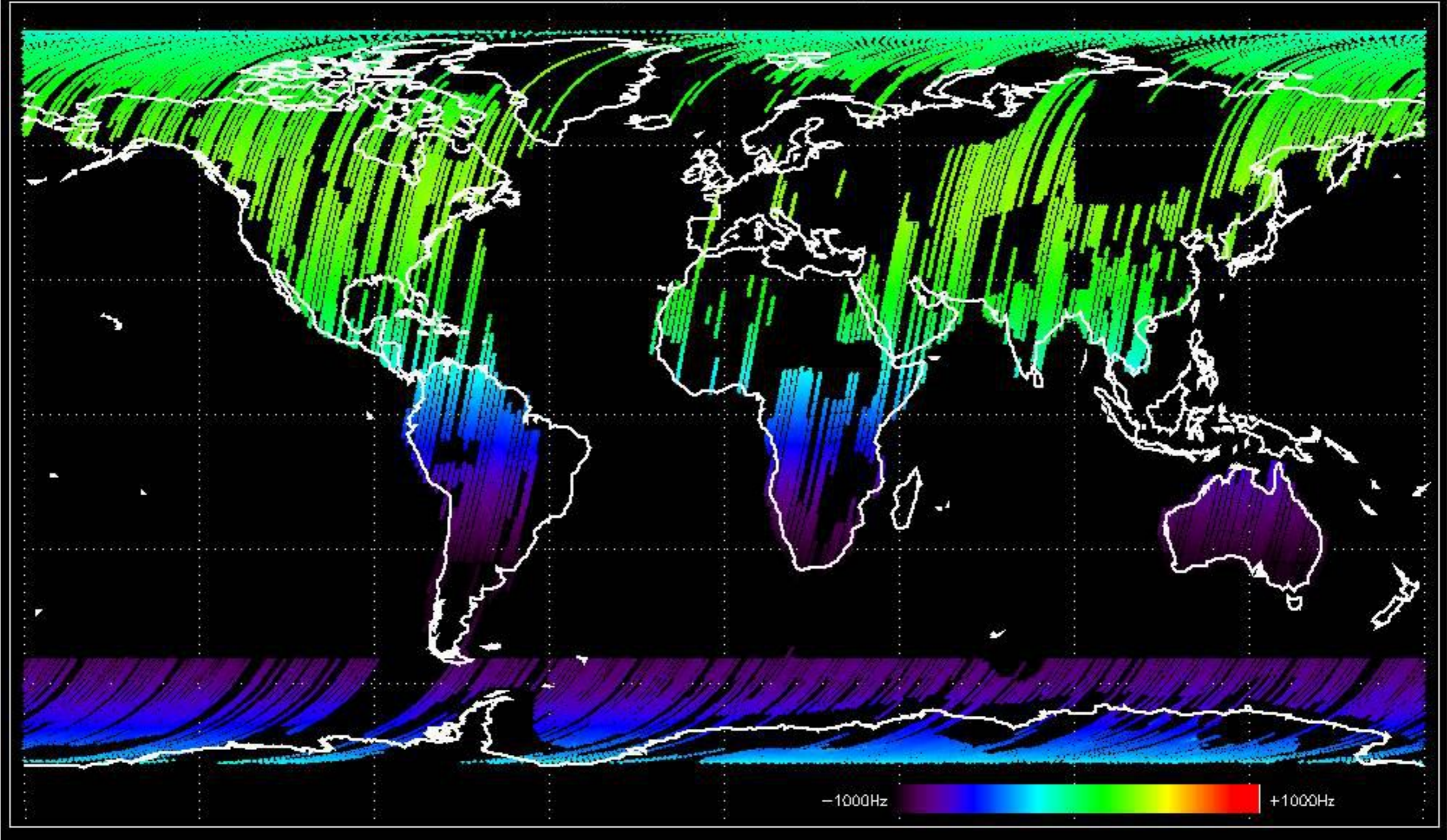
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



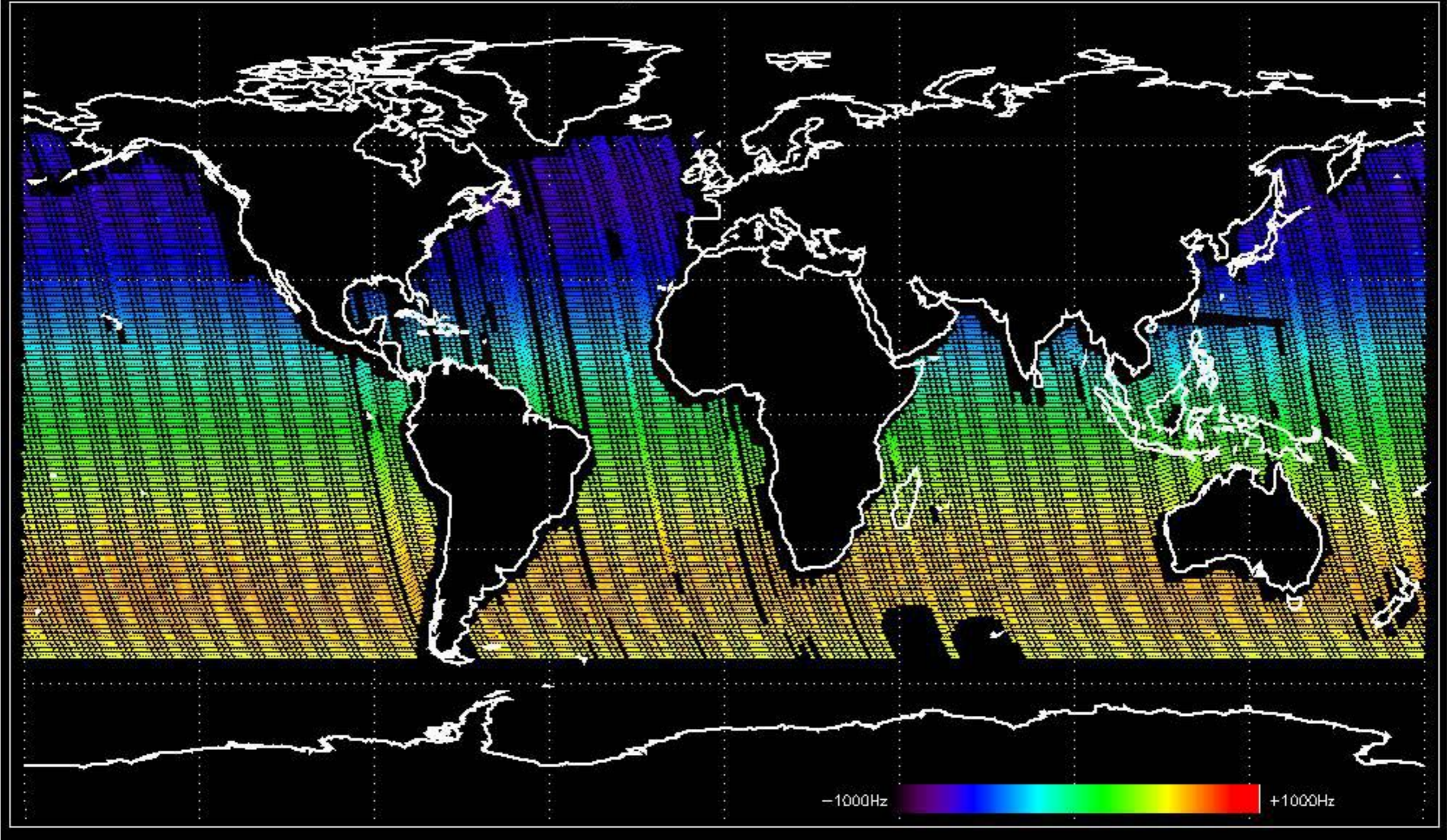
Doppler 'GM1' 'SS1' ascending



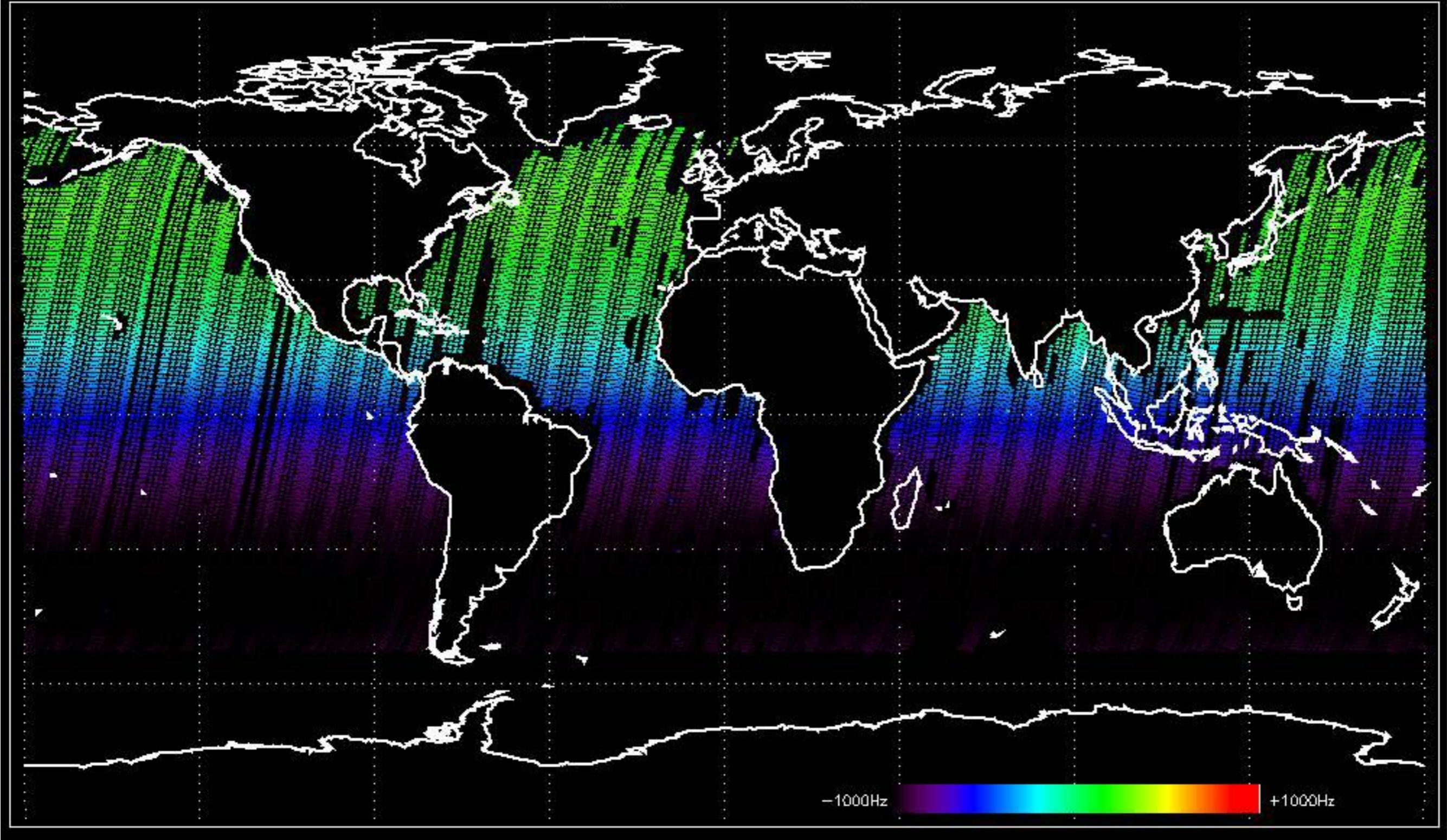
Doppler 'GM1' 'SS1' descending



Doppler 'WVS' 'IS2' ascending

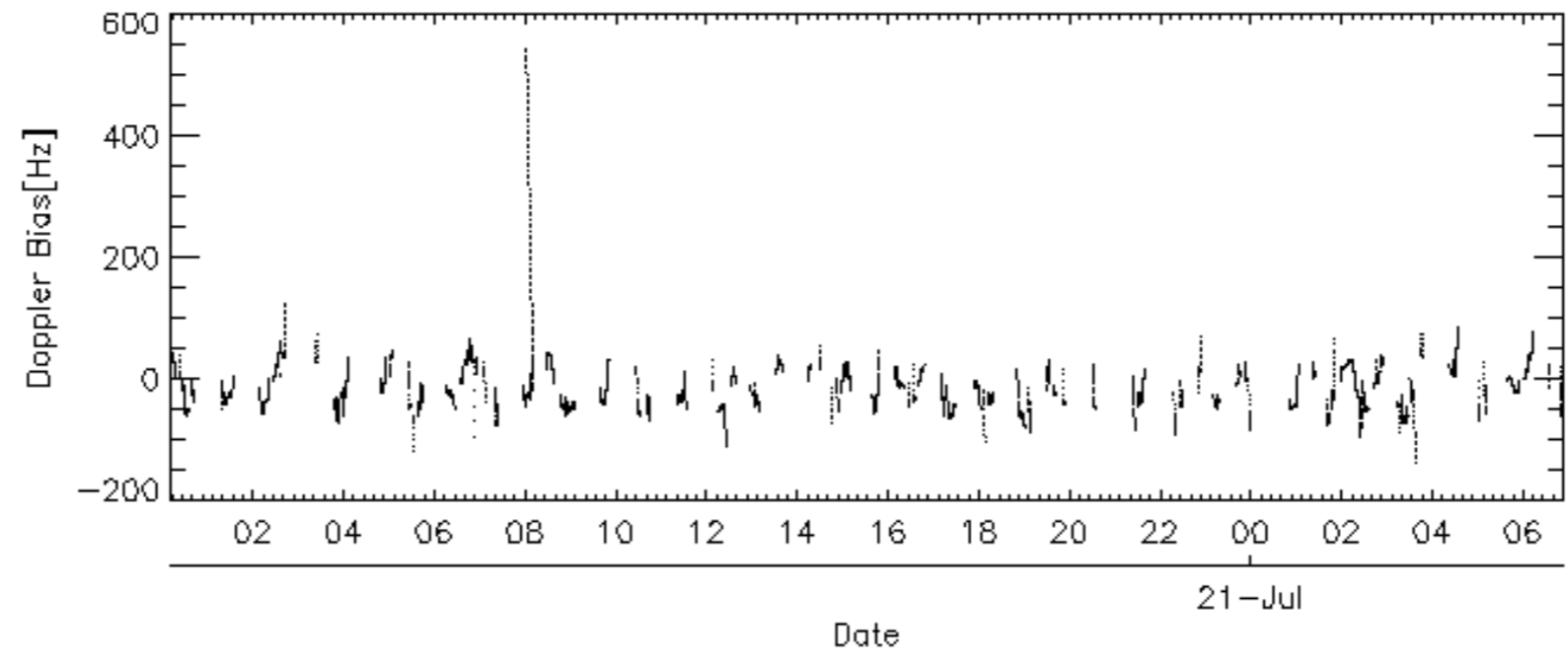
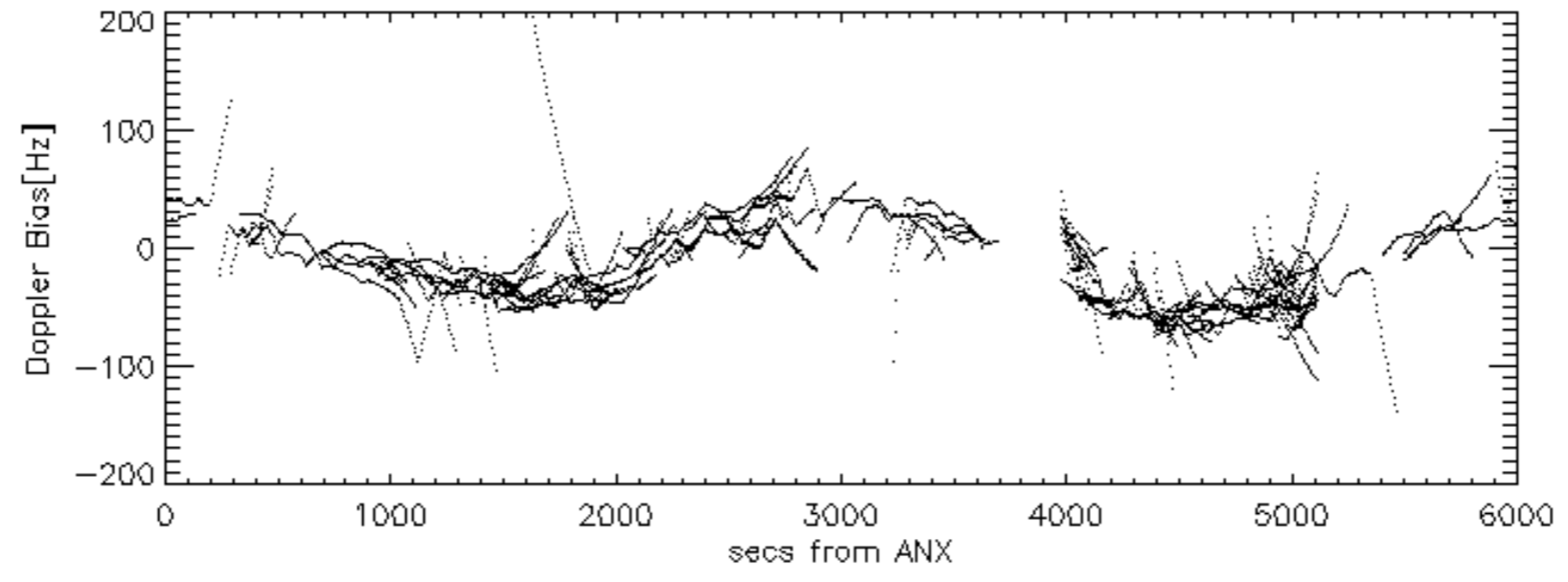
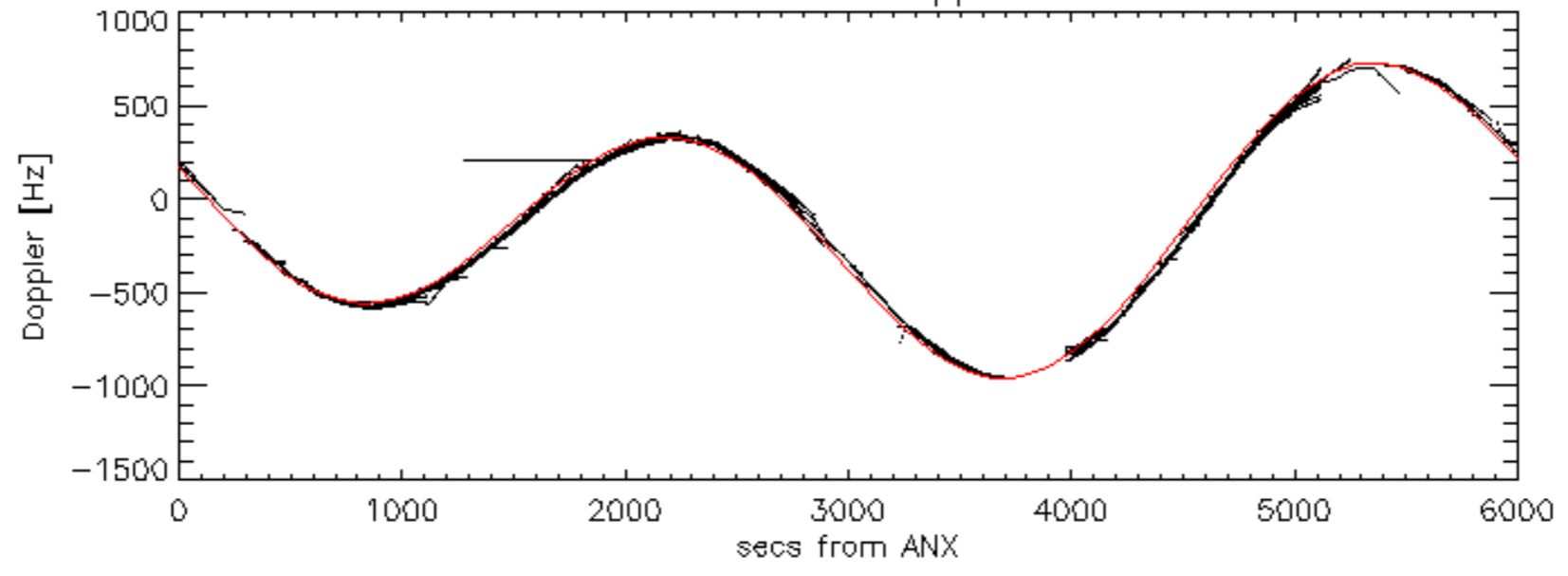


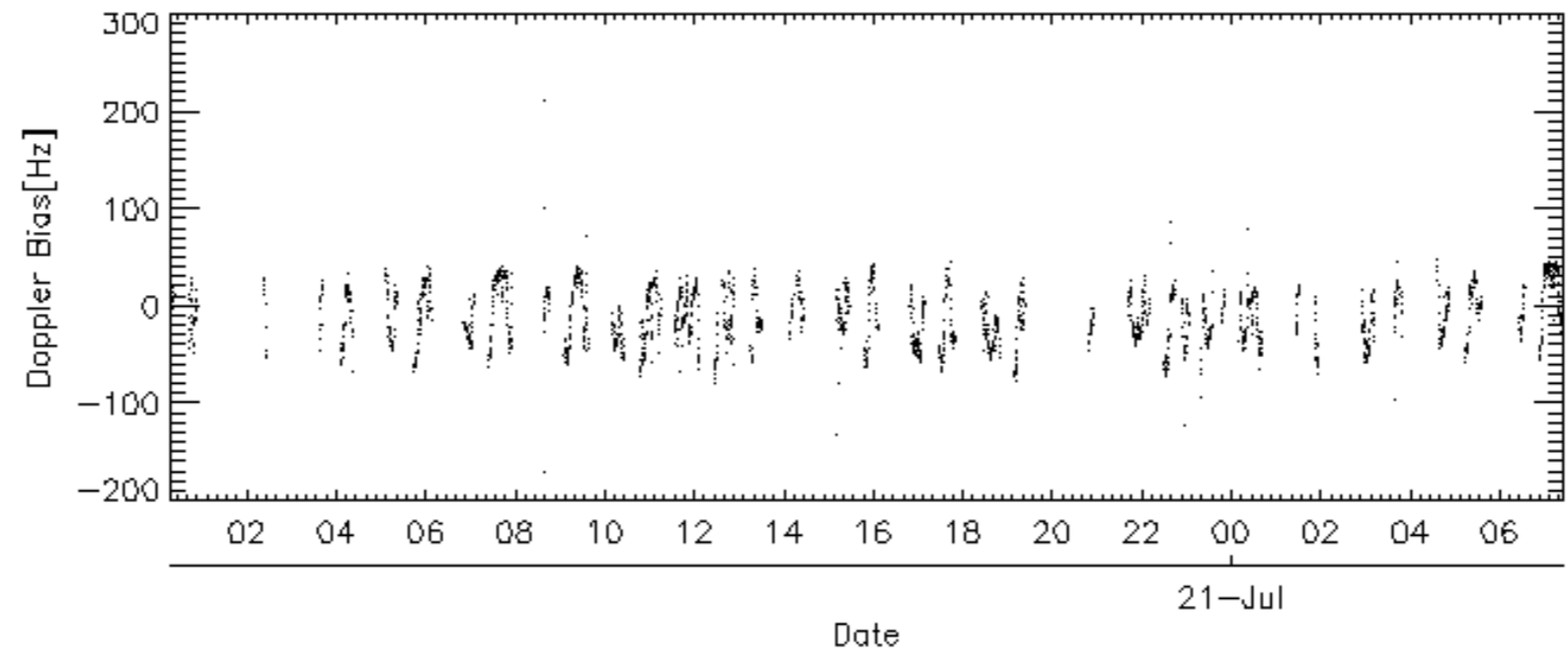
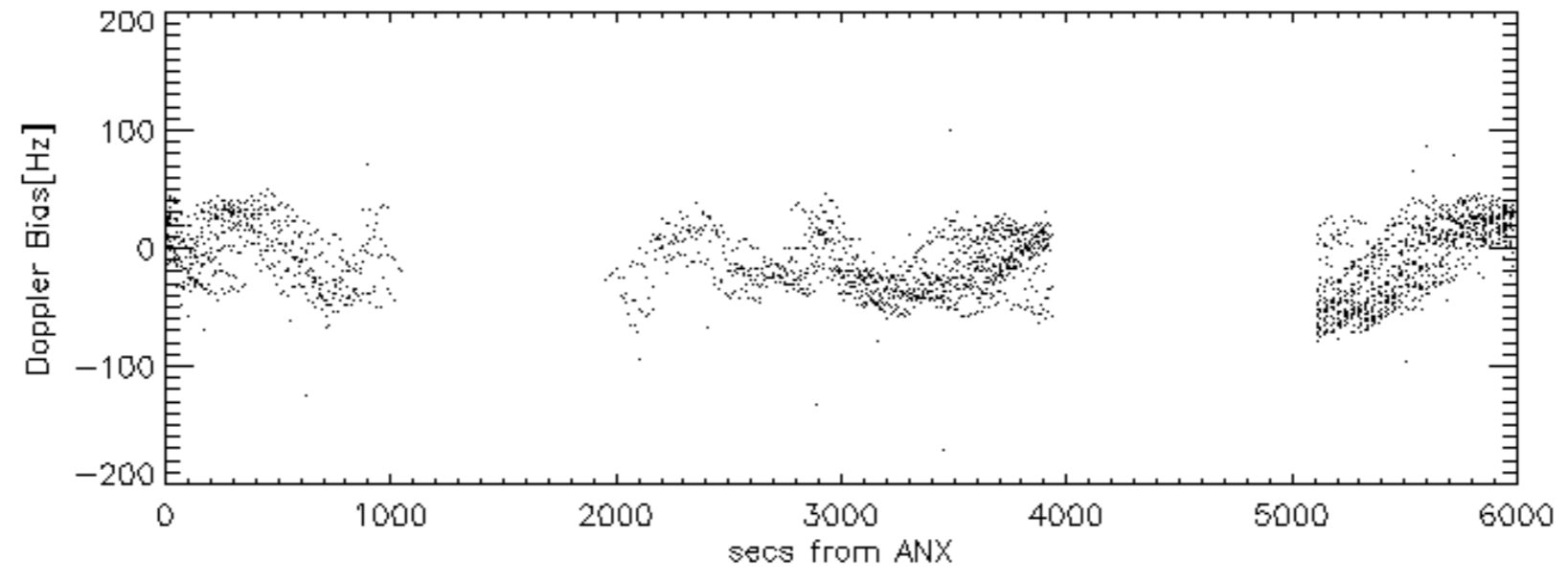
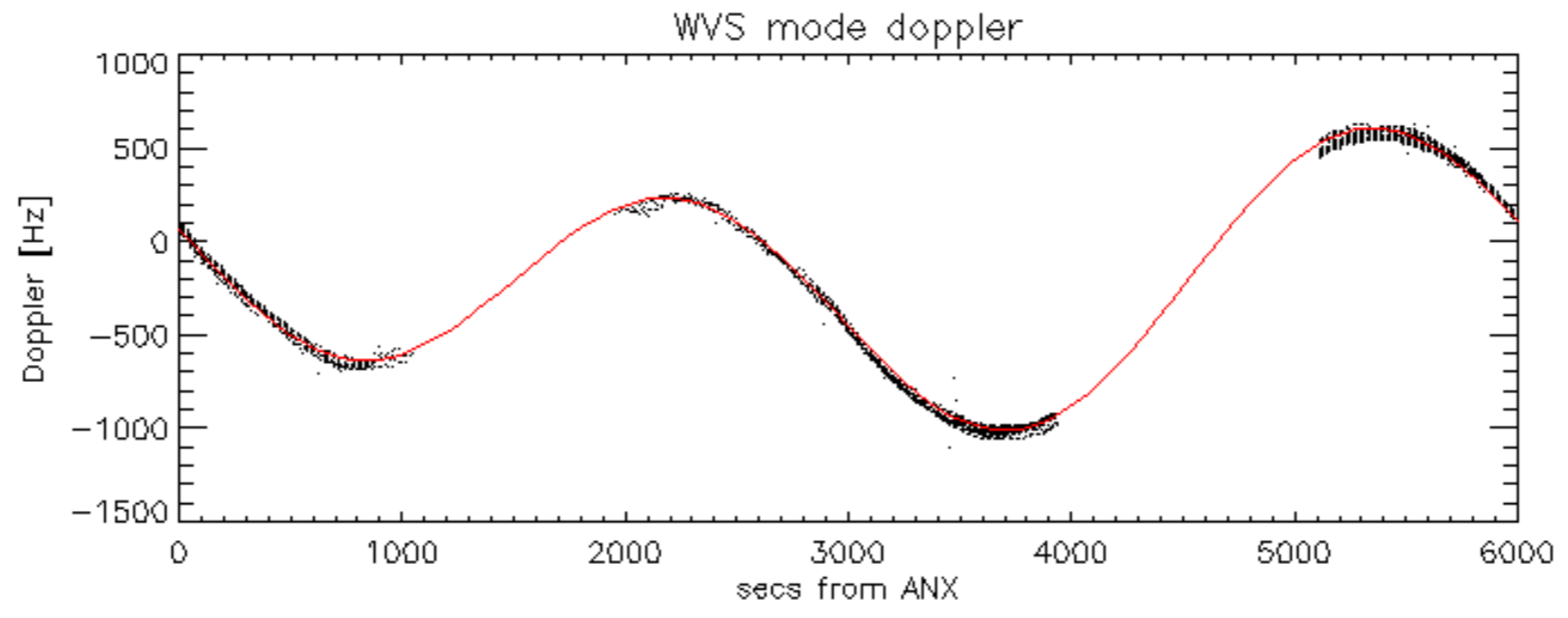
Doppler 'WVS' 'IS2' descending



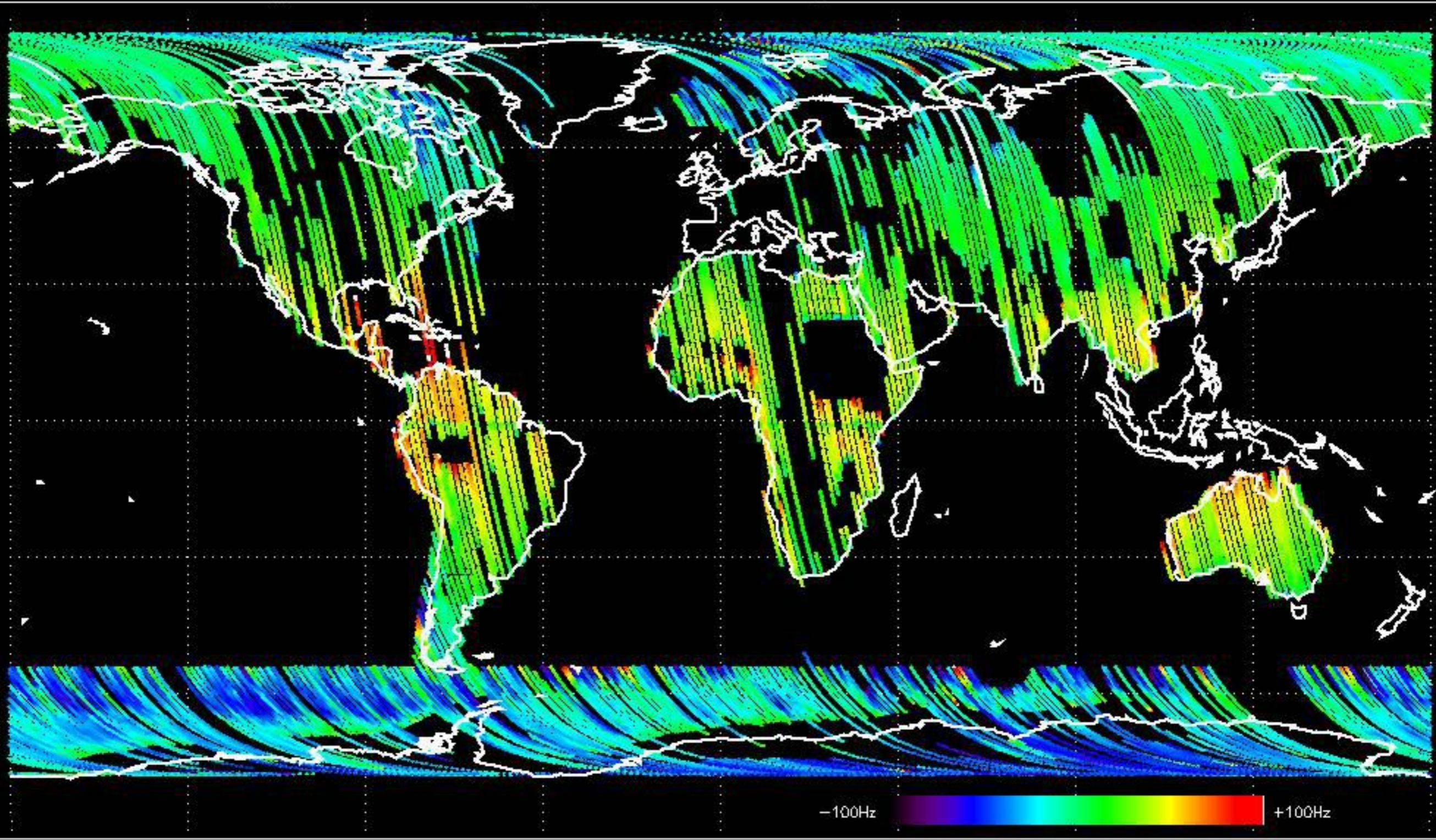


GM1 mode doppler

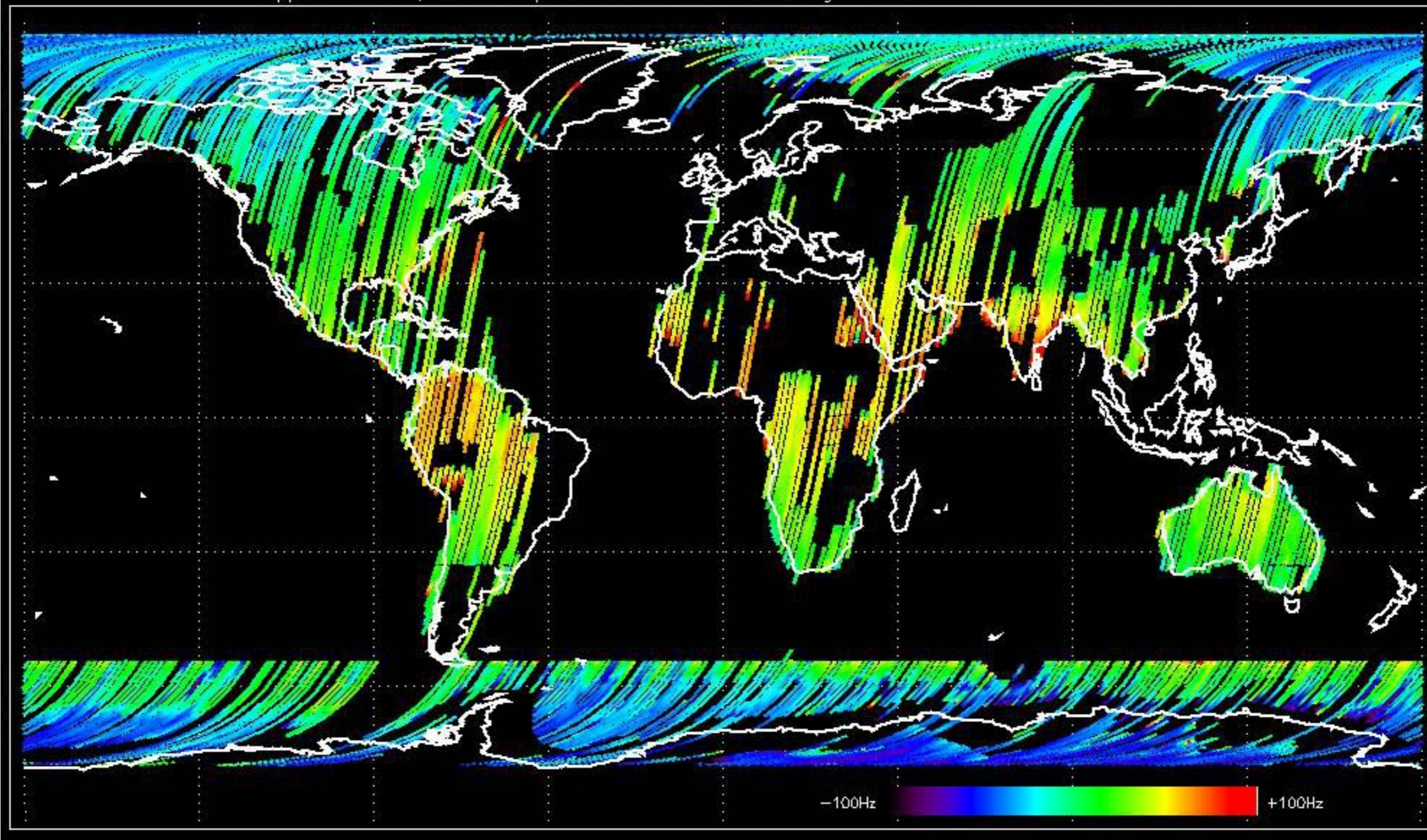




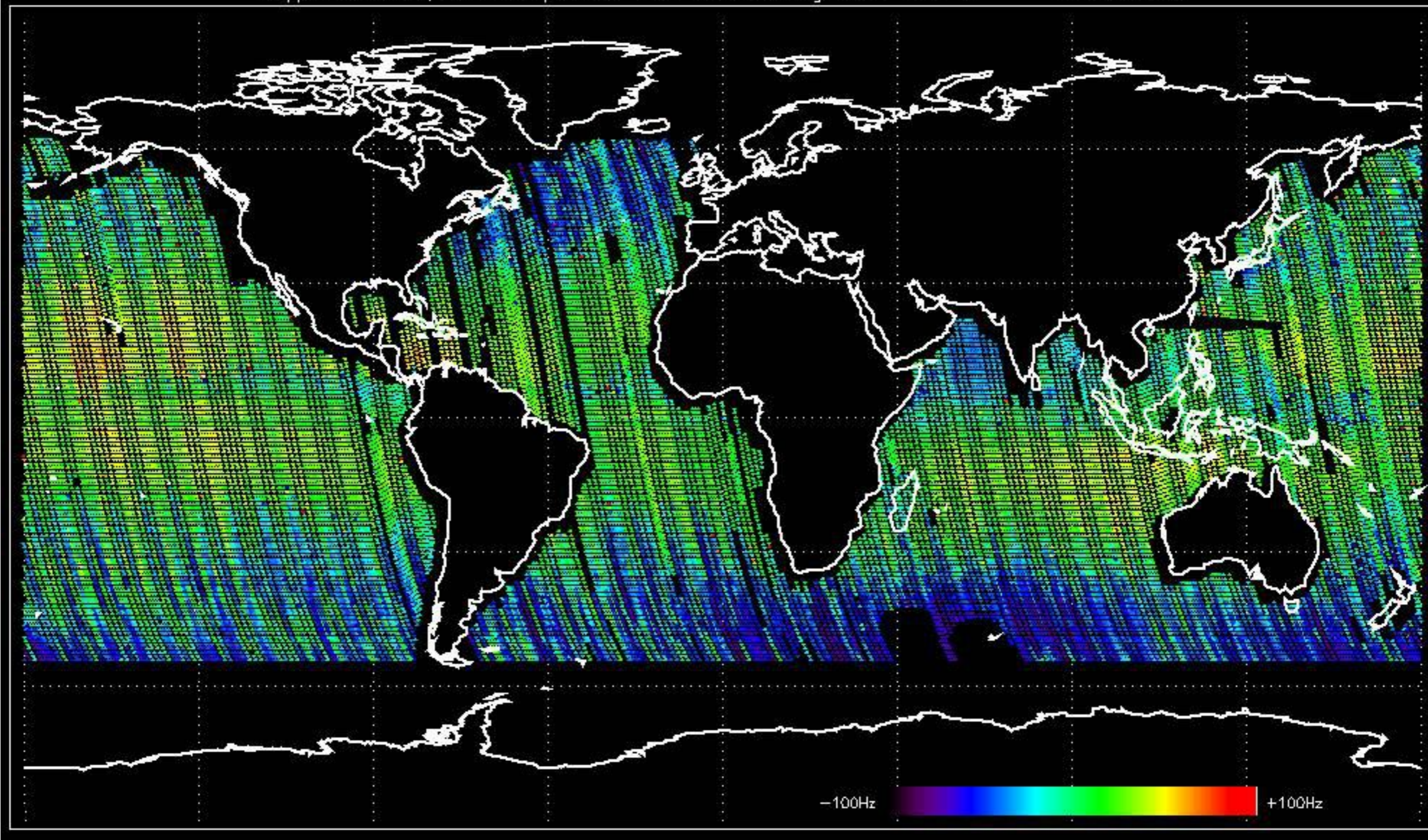
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -18.079179 Hz



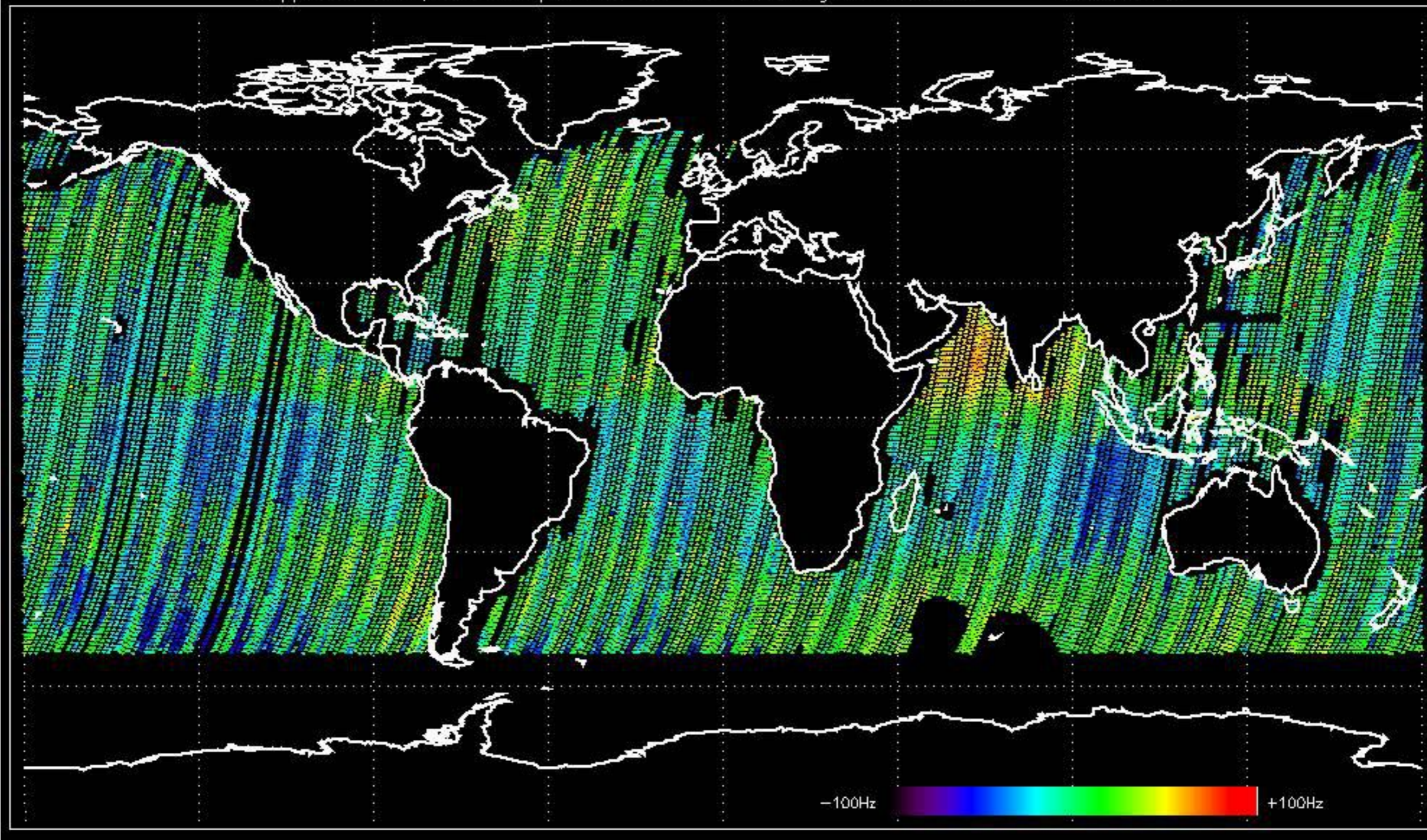
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -7.0282032 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -2.5981880 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -10.365485 Hz



No anomalies observed on available MS products:

No anomalies observed.





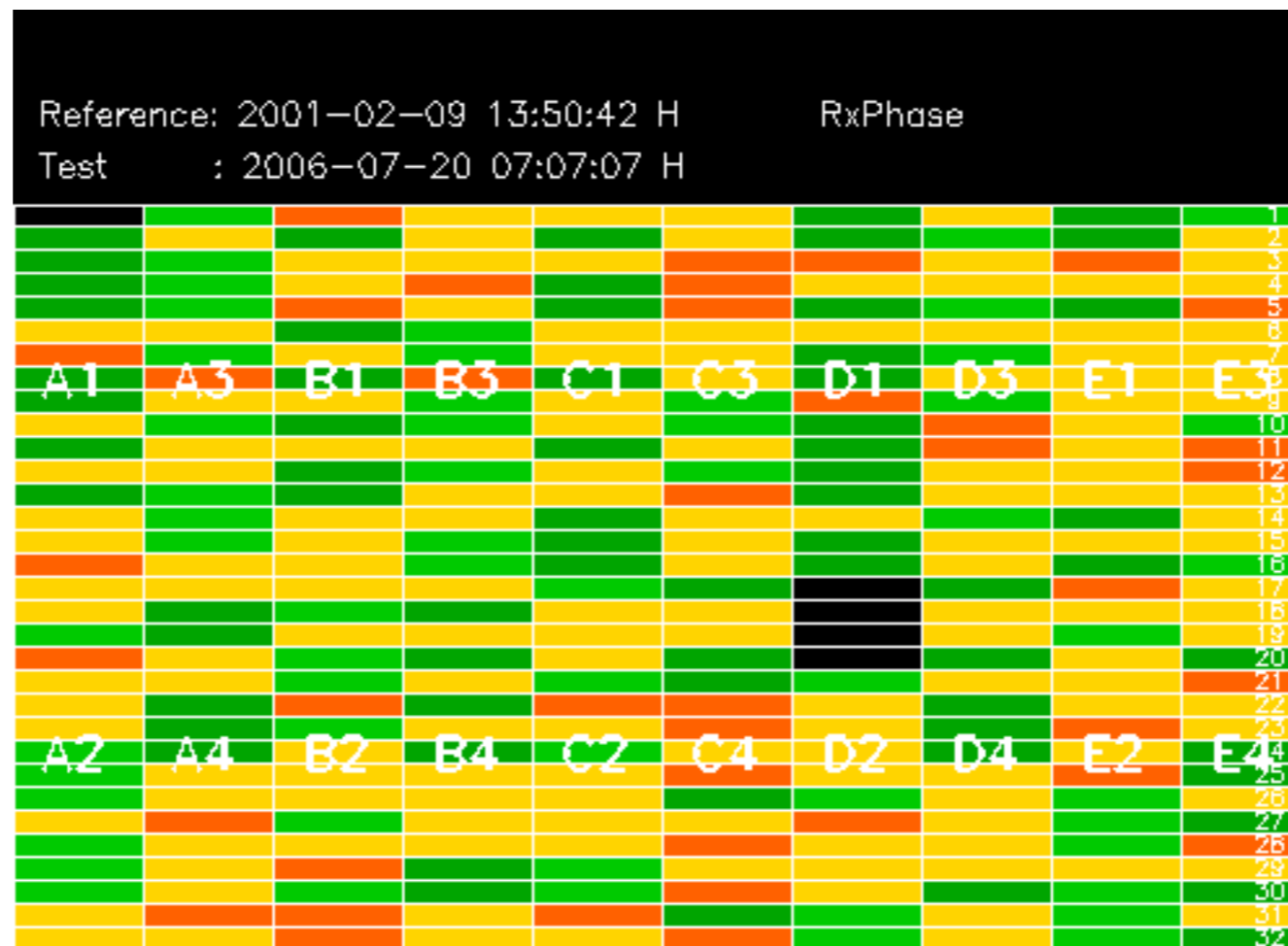














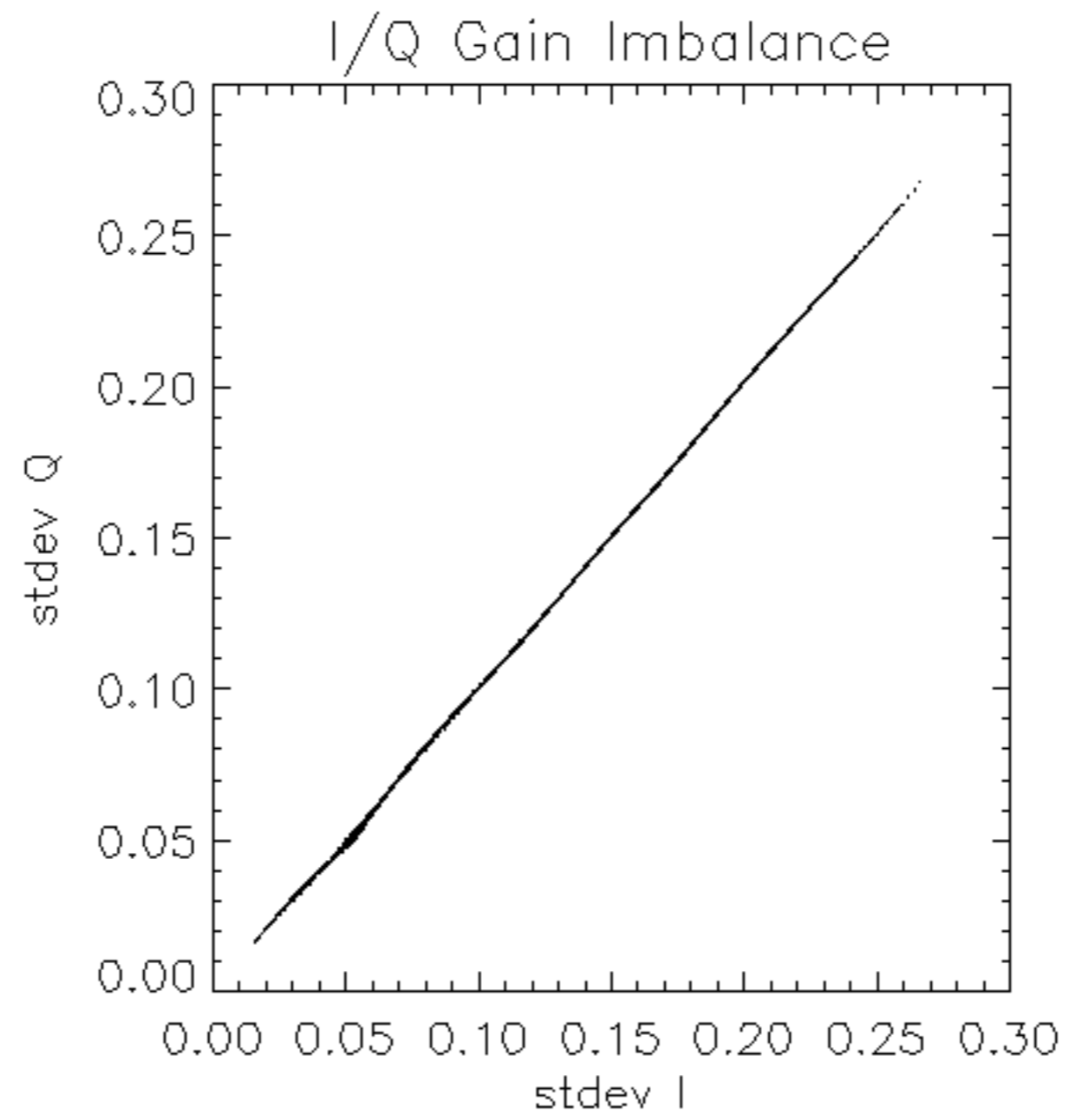


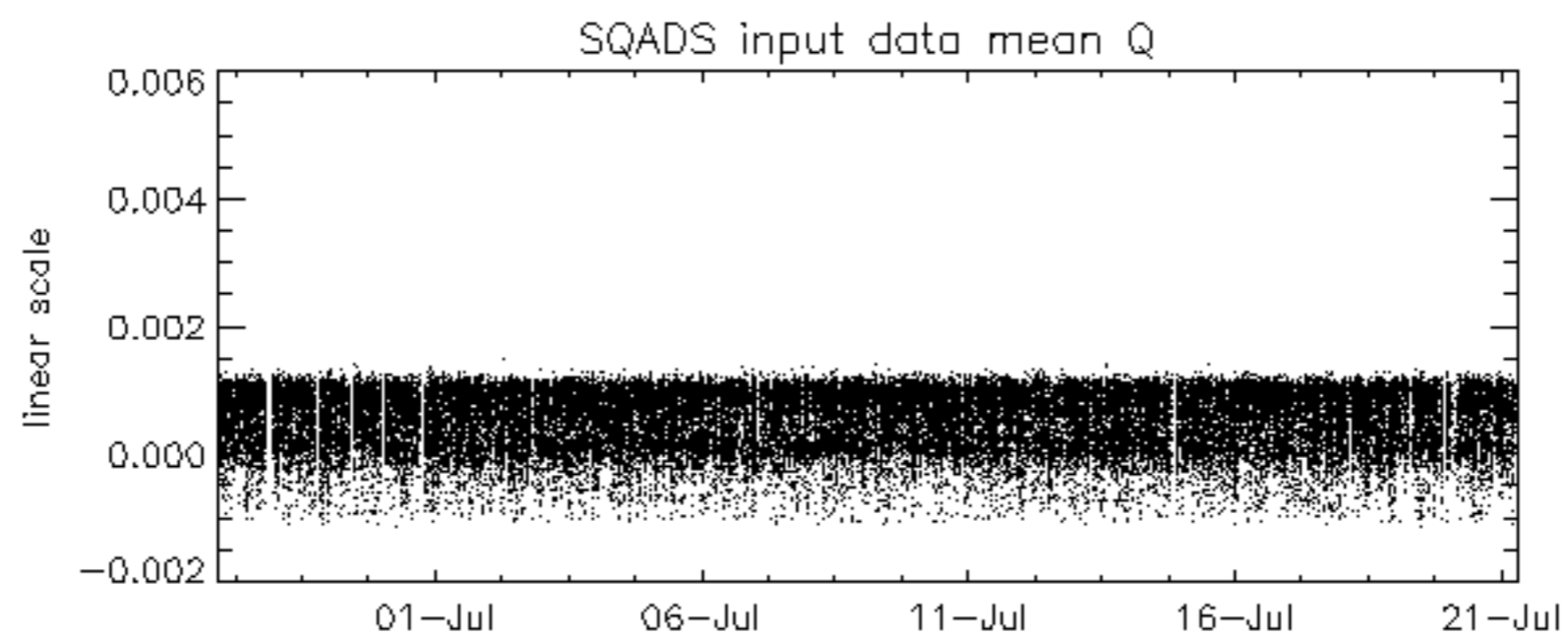
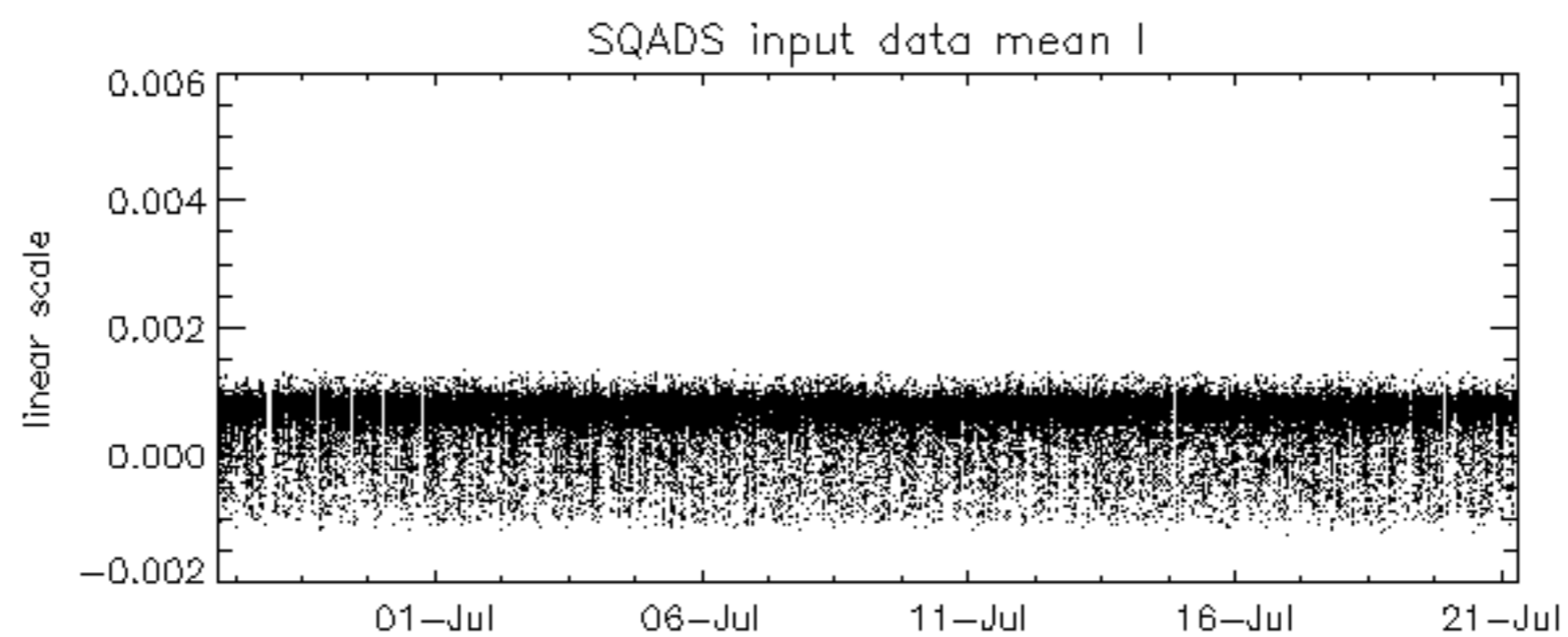
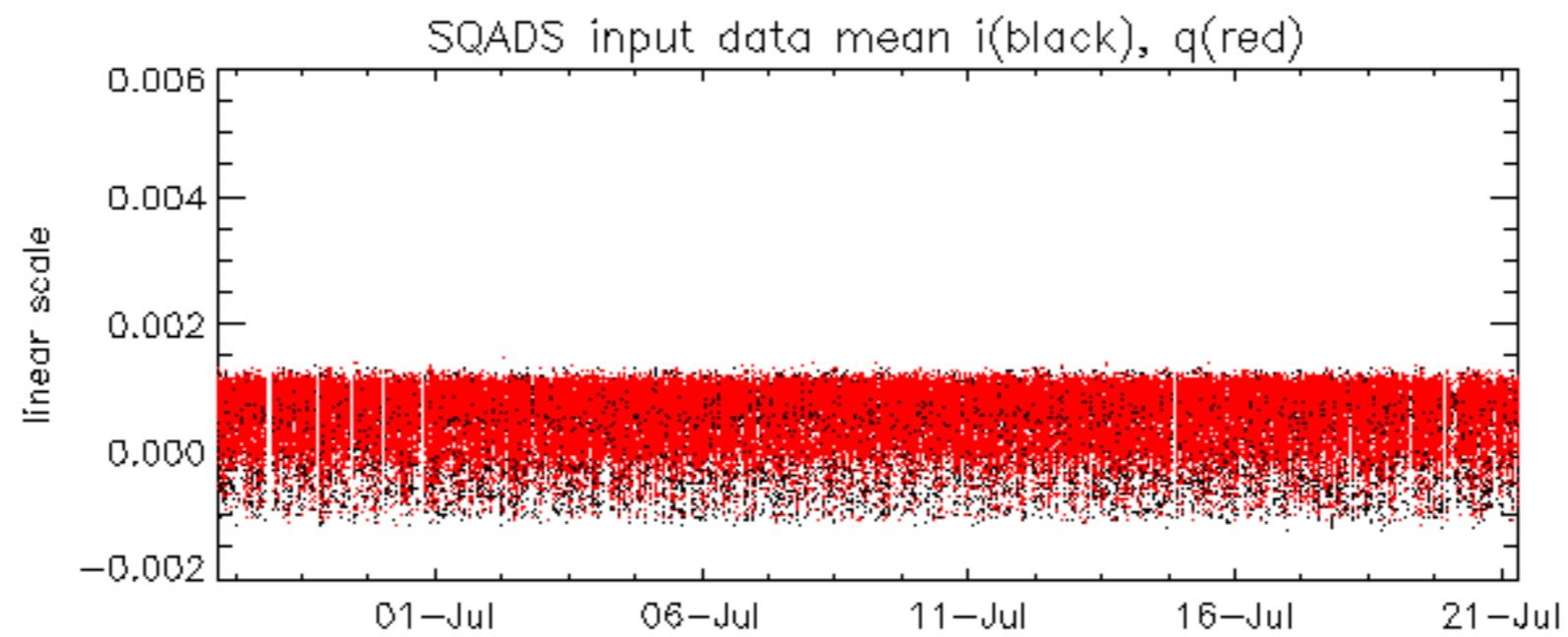


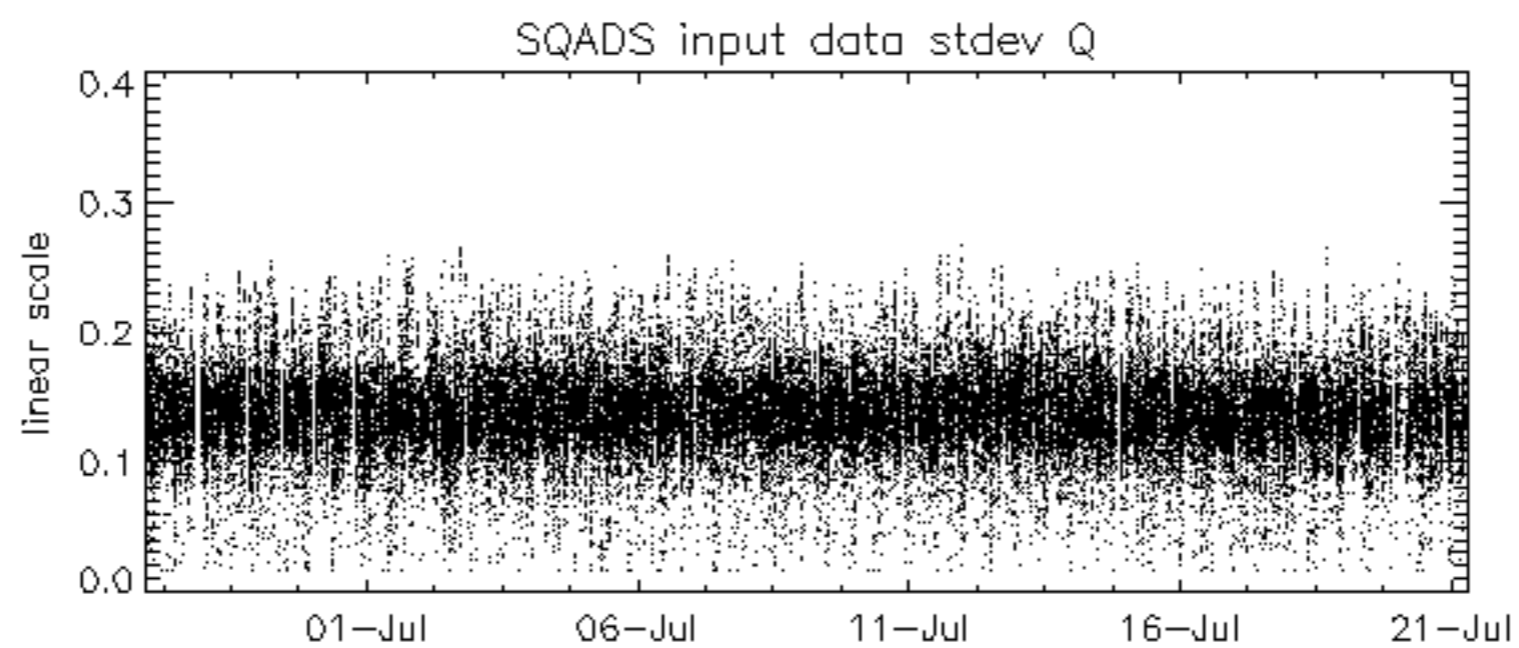
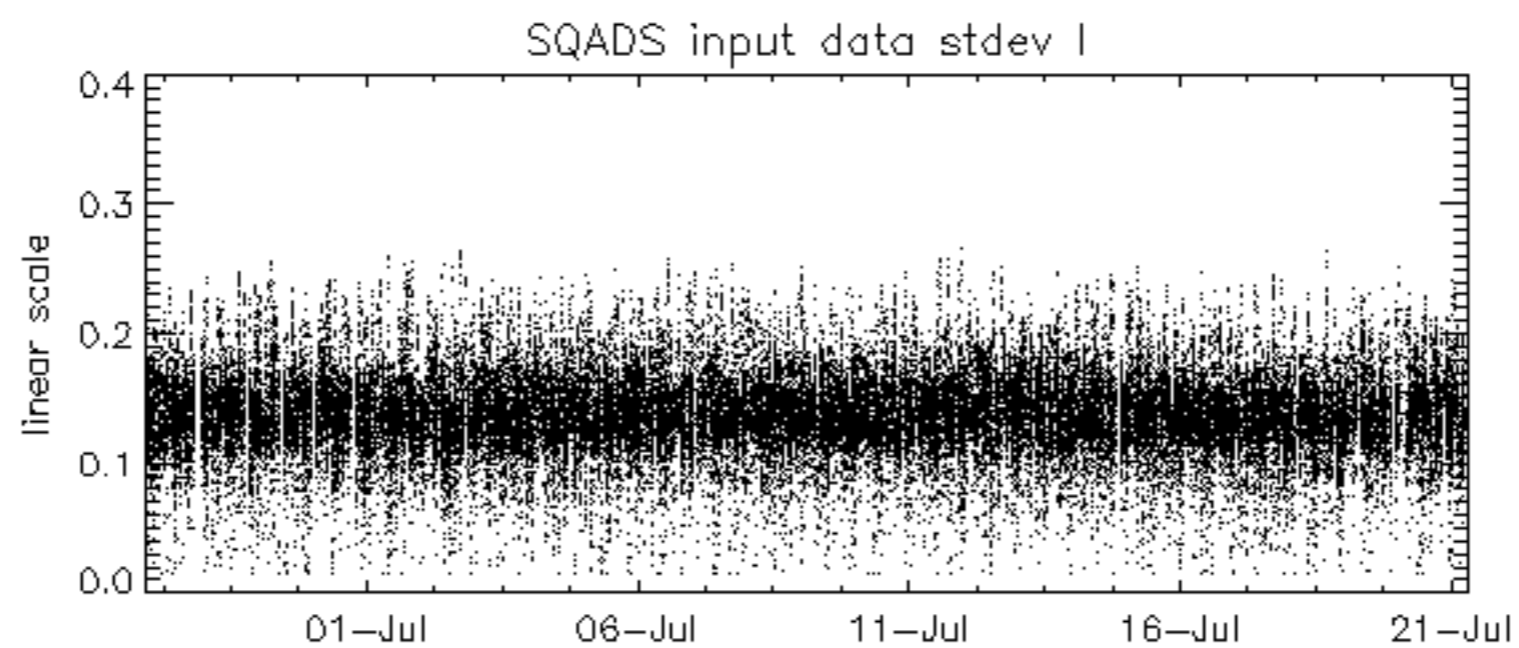
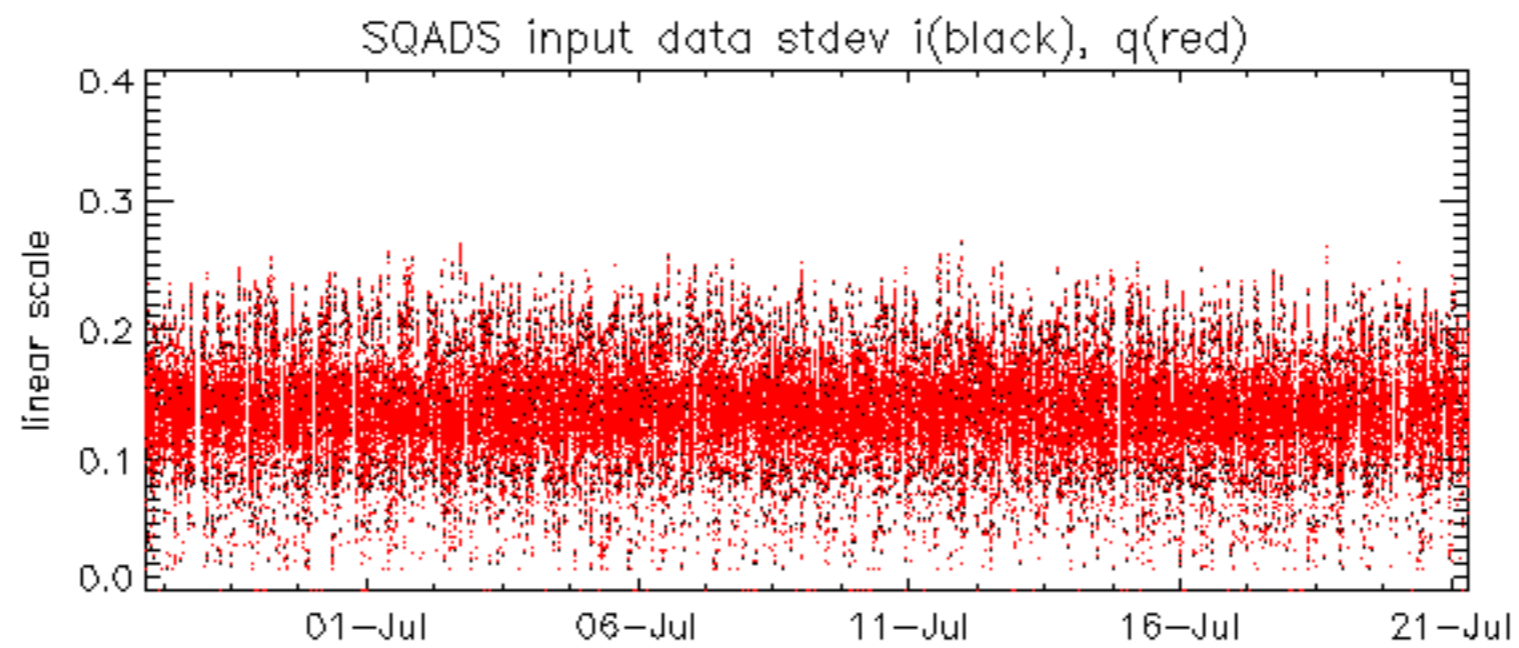


























Summary of analysis for the last 3 days 2006072[901]

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_IMM_1PNPDE20060720_200916_000000372049_00343_22942_1445.N1	0	28
ASA_IMM_1PNPDE20060721_010621_000000822049_00346_22945_1459.N1	1	0
ASA_GM1_1PNPDK20060721_072534_0000007552049_00350_22949_1372.N1	0	163
ASA_WSM_1PNPDE20060720_142714_000000852049_00340_22939_3788.N1	0	60
ASA_WSM_1PNPDE20060720_233449_0000003302049_00345_22944_3858.N1	0	34









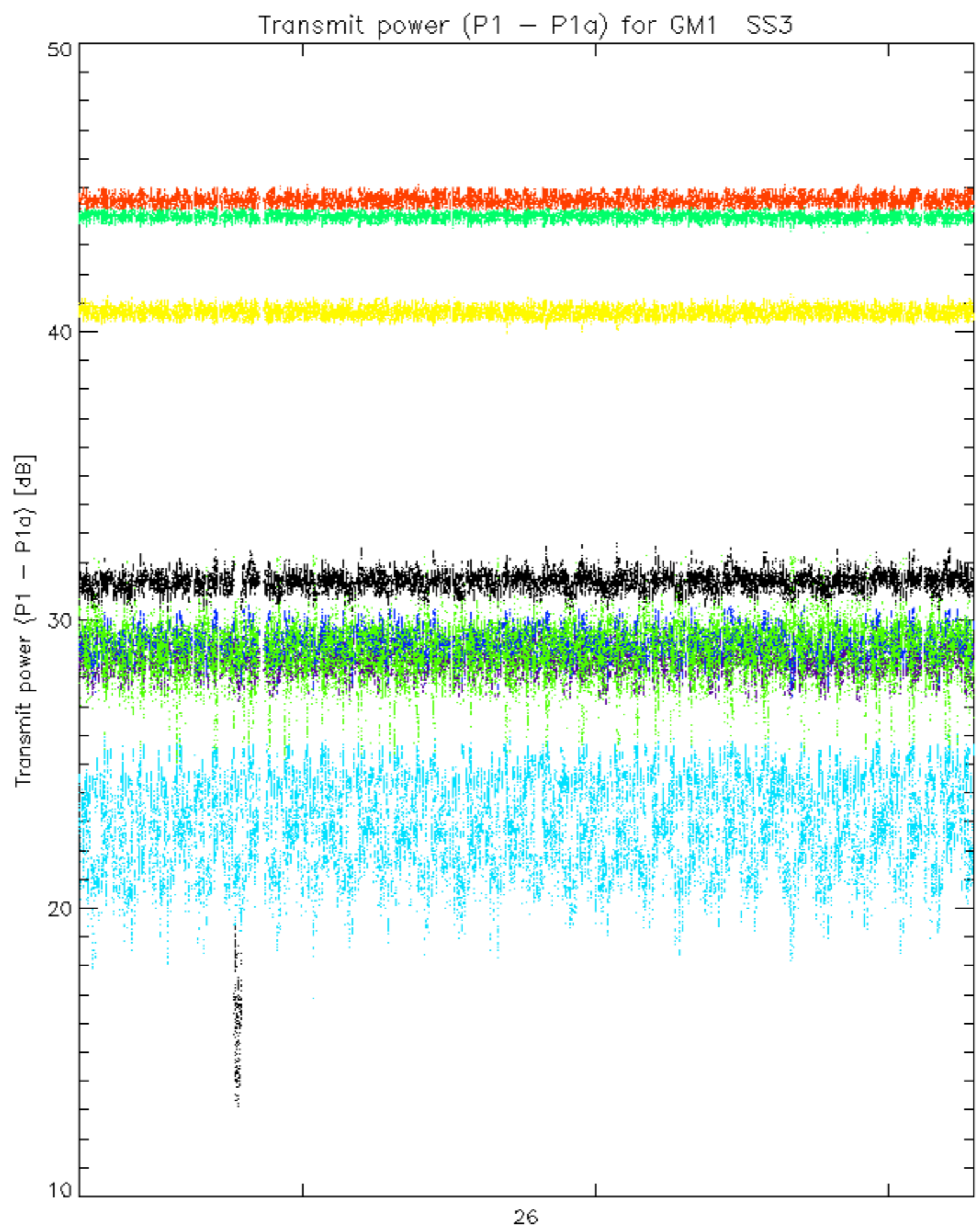




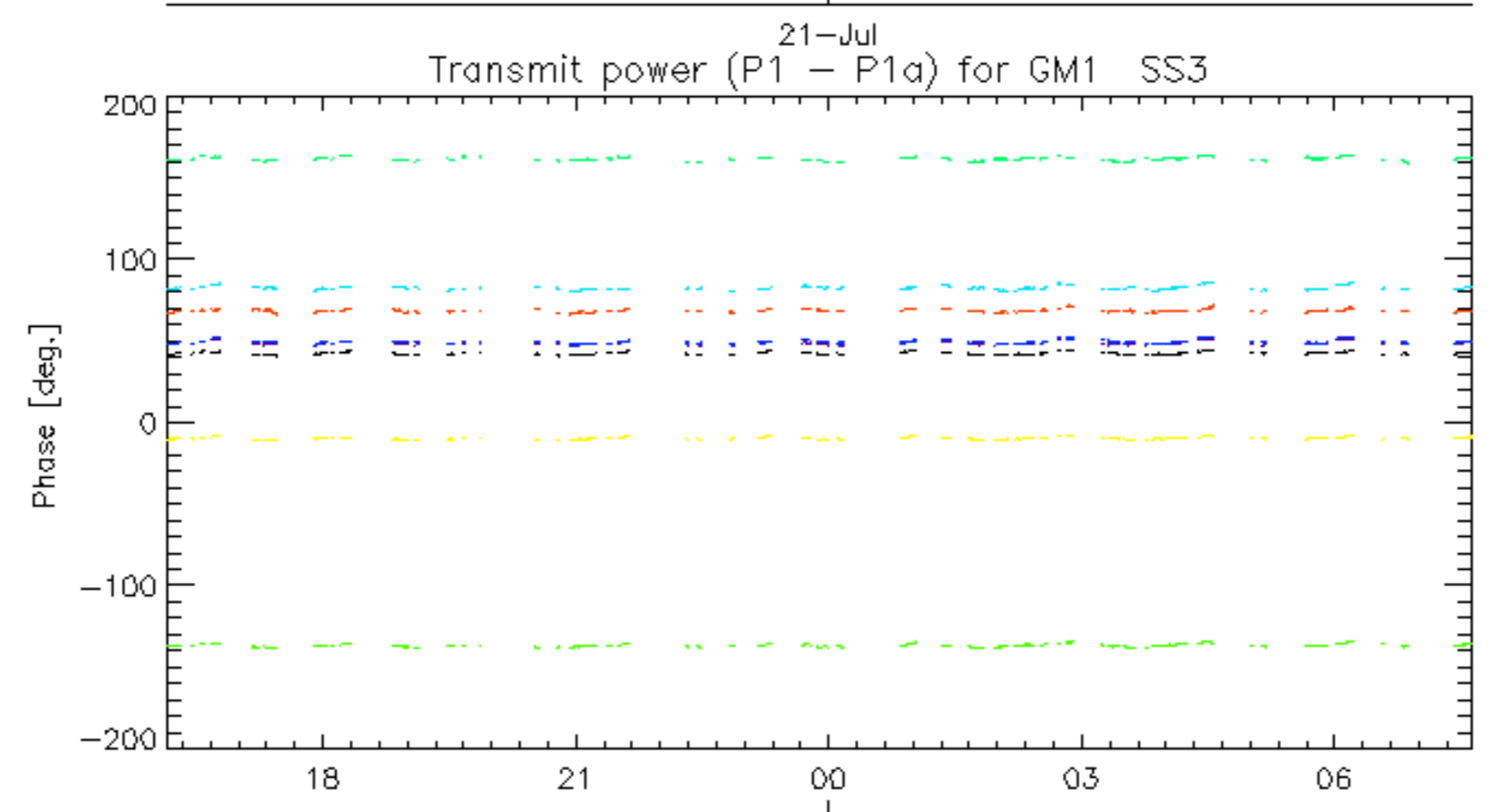
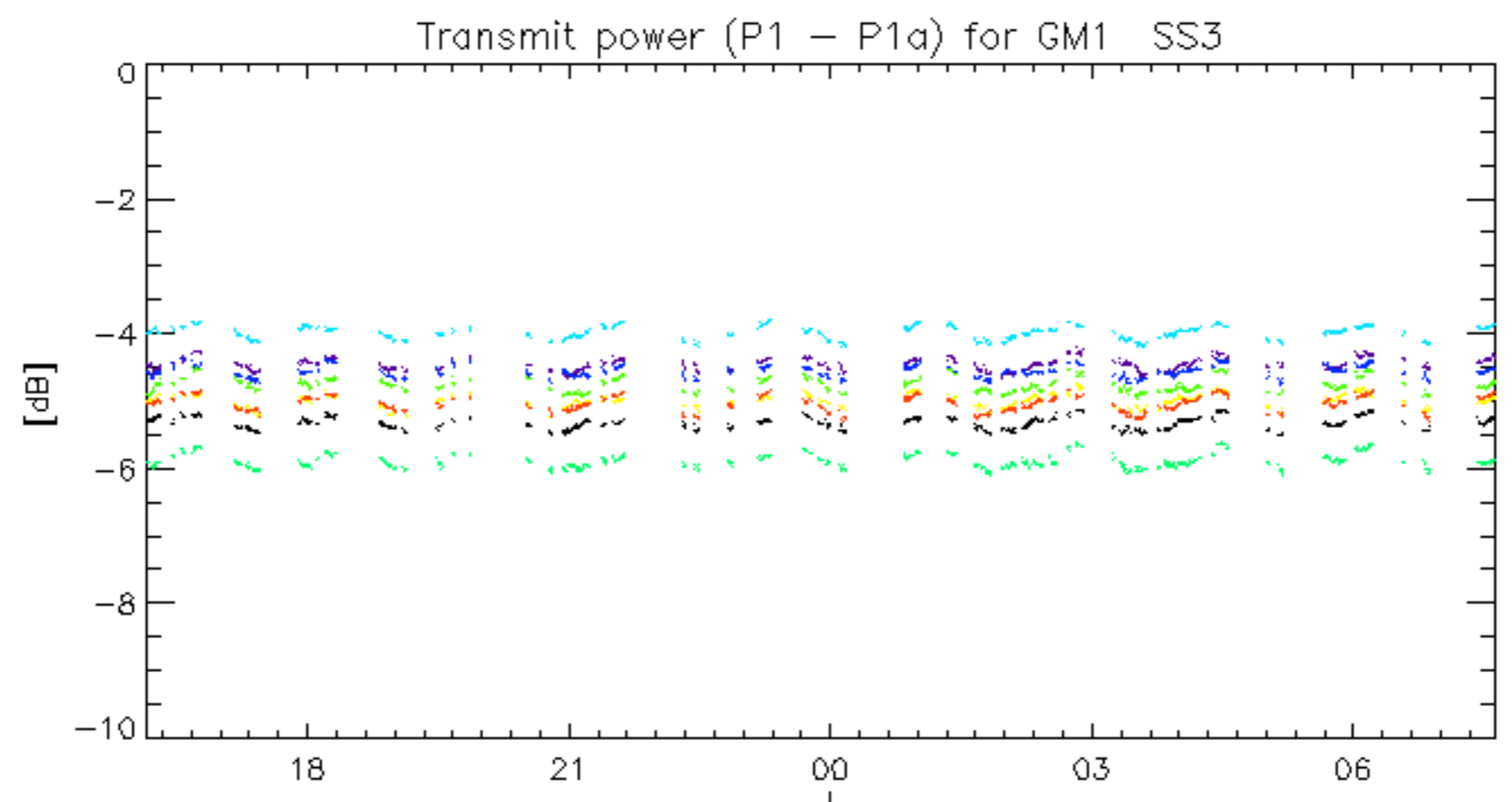






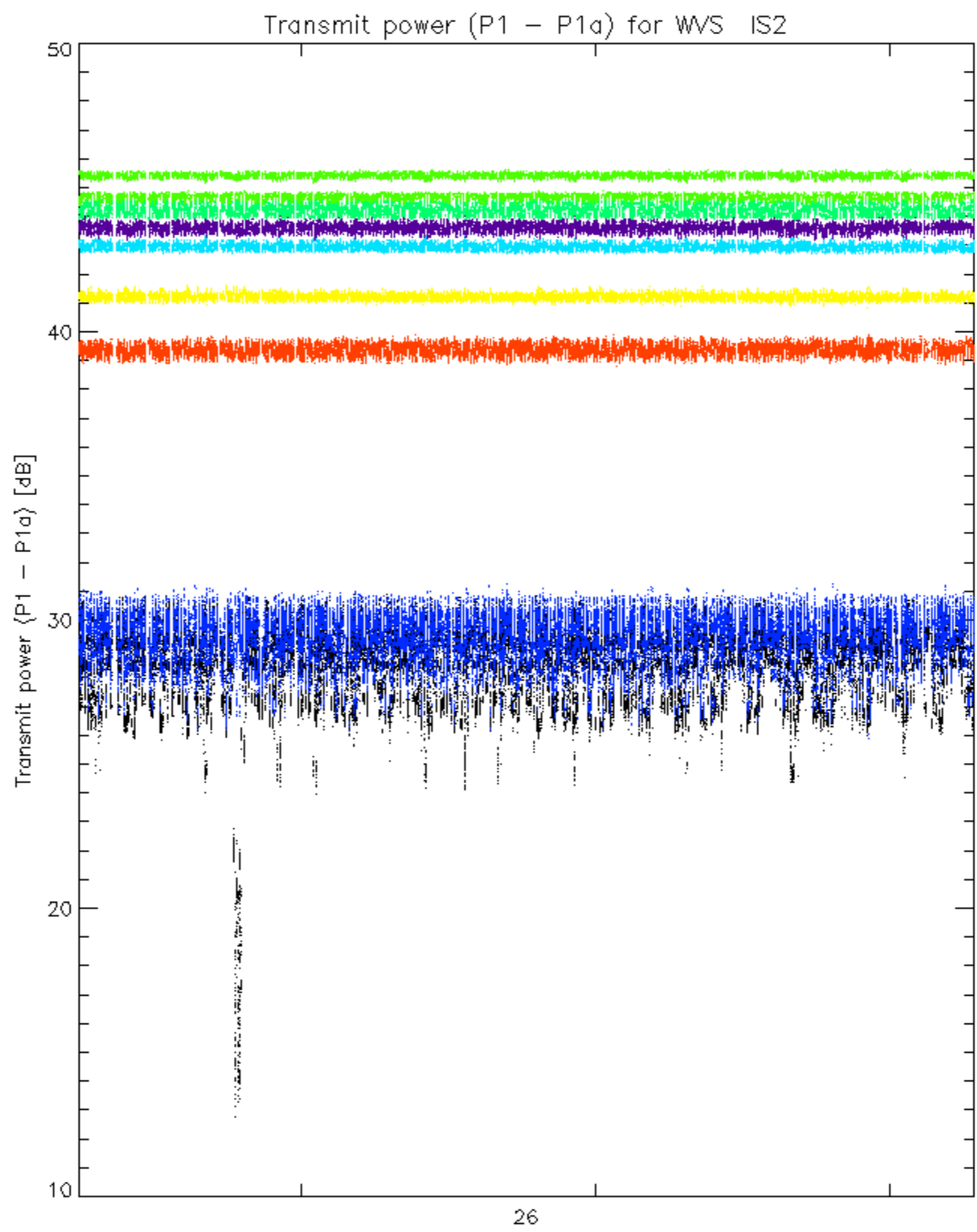


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

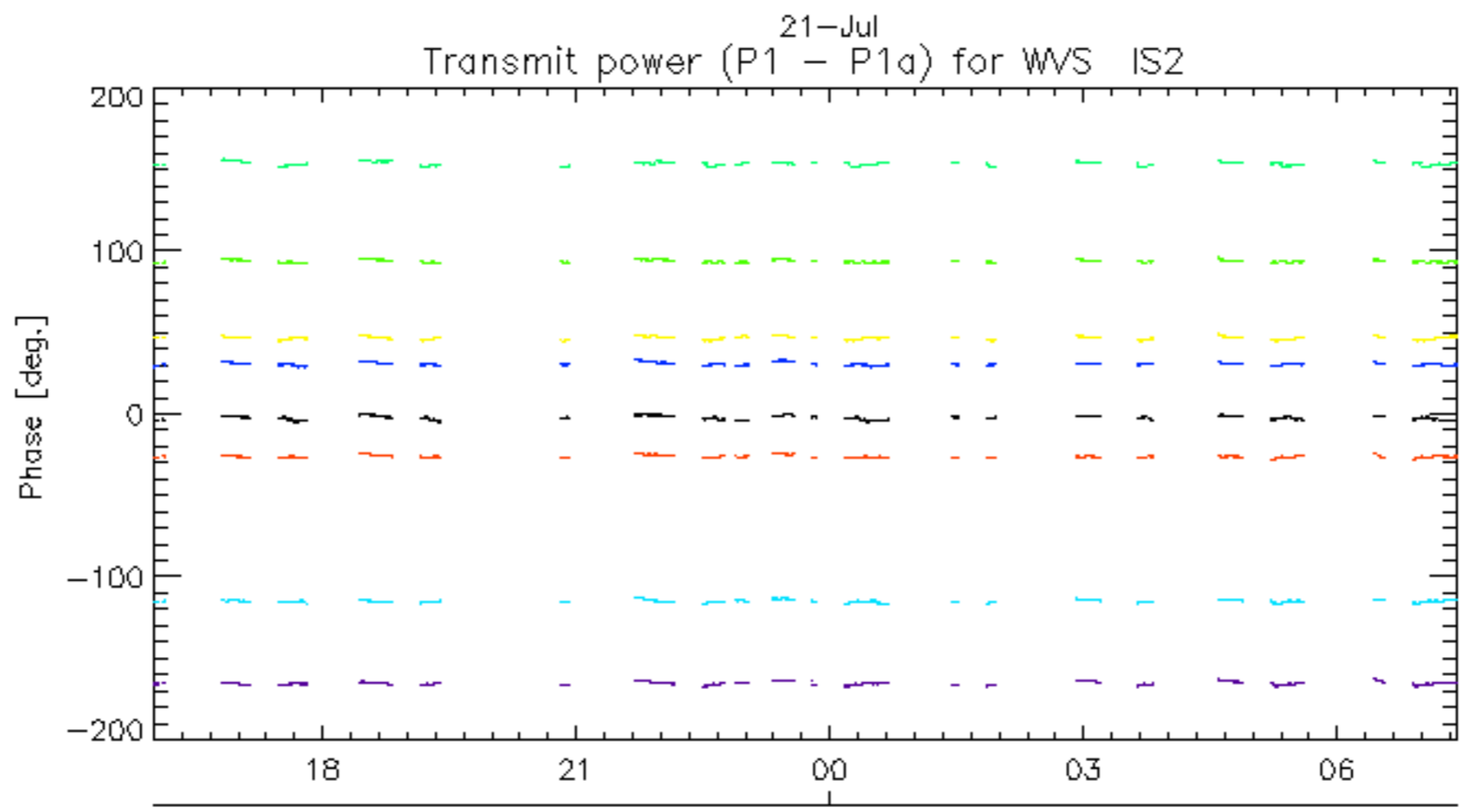
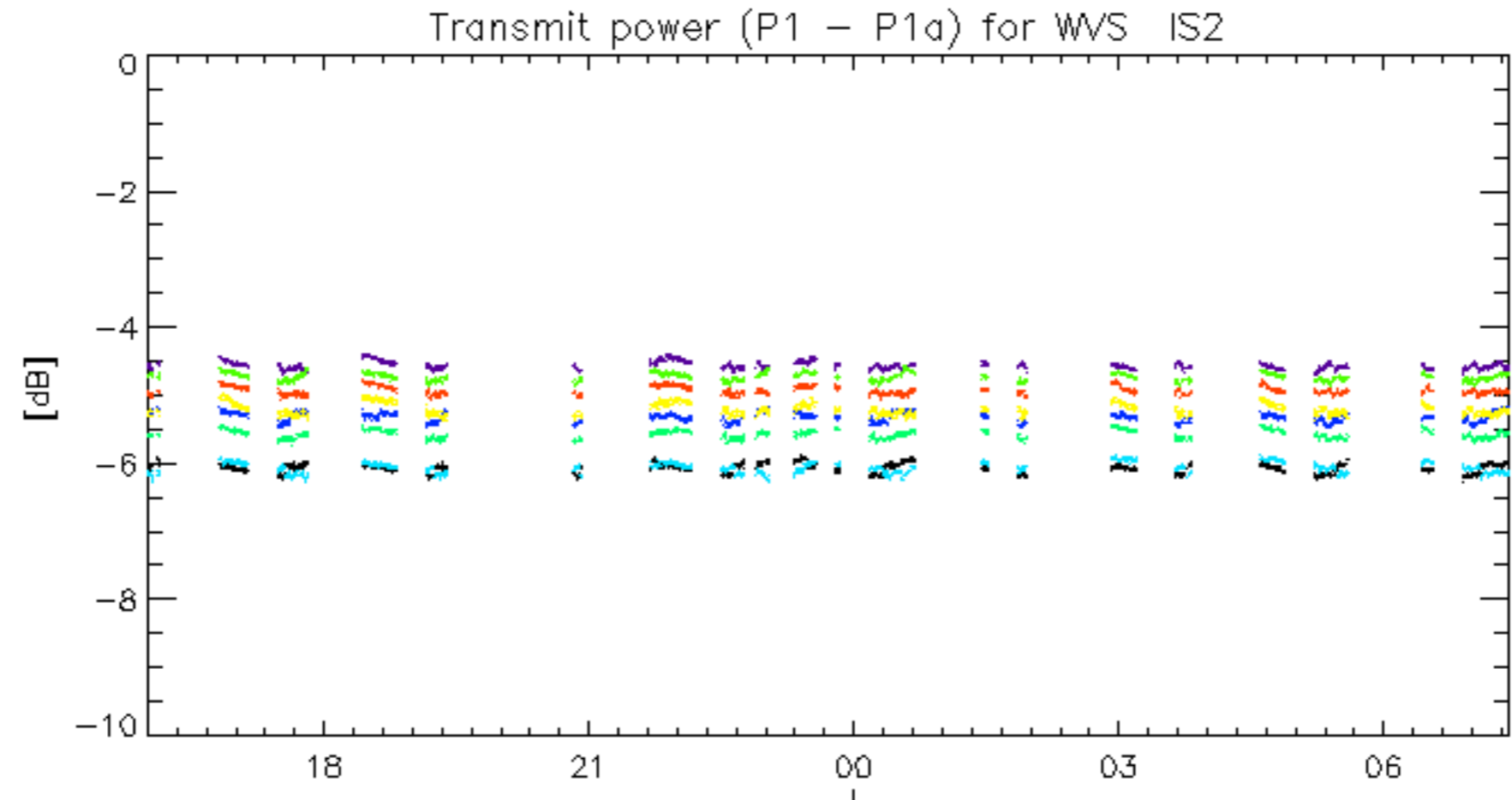


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No unavailabilities during the reported period.