

# PRELIMINARY REPORT OF 061019

last update on Thu Oct 19 11:00:01 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 2006-10-18 00:00:00 to 2006-10-19 11:00:02

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	28	51	13	8	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	28	51	13	8	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	28	51	13	8	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	28	51	13	8	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	8	40	12	0	22
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	8	40	12	0	22
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	8	40	12	0	22
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	8	40	12	0	22

## 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	20061017 085033
H	20061018 081856

### 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
☒	☒
☒	☒
☒	☒
☒	☒

**4 - Internal calibration Results**

No anomalies observed.

**4.1 - Daily statistics**

**4.1.1 - Evolution for WVS**

Evolution of cal pulses for WVS
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☒

**4.1.2 - Evolution for GM1**

Evolution of cal pulses for GM1
☒
☒

**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)
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**P1 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.950830	0.010299	-0.003200
7	P1	-3.076146	0.011290	0.008144
11	P1	-4.088514	0.022286	-0.015432
15	P1	-6.206516	0.015518	-0.021572
19	P1	-3.554365	0.008037	-0.038564
22	P1	-4.604895	0.010534	0.012515
26	P1	-3.987113	0.055918	-0.025977
30	P1	-5.843943	0.086520	-0.033901
3	P1	-16.633699	0.216811	-0.095366
7	P1	-17.100420	0.144931	0.098552
11	P1	-16.961199	0.385292	-0.301509
15	P1	-12.852928	0.098549	0.060324
19	P1	-14.675860	0.053786	-0.061004
22	P1	-15.622103	0.471221	0.362752
26	P1	-15.133825	0.255222	0.206192
30	P1	-16.970091	0.441886	0.059427

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.823874	0.086679	-0.001969
7	P2	-21.782297	0.097454	0.089137
11	P2	-15.732821	0.109727	0.031445
15	P2	-7.076121	0.107493	0.071818
19	P2	-9.127199	0.098738	0.040485
22	P2	-18.140070	0.093998	0.019195
26	P2	-16.426764	0.102437	0.040978
30	P2	-19.468040	0.093739	0.034569

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.199419	0.006583	0.000994
7	P3	-8.199419	0.006583	0.000994
11	P3	-8.199419	0.006583	0.000994
15	P3	-8.199419	0.006583	0.000994
19	P3	-8.199419	0.006583	0.000994
22	P3	-8.199419	0.006583	0.000994
26	P3	-8.199241	0.006593	0.001401
30	P3	-8.199241	0.006593	0.001401

#### 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	-3.904886	0.137084	-0.111163
7	P1	-2.614255	0.834361	-0.241995
11	P1	-2.920158	0.107986	-0.092791
15	P1	-3.707671	0.102702	-0.124288
19	P1	-3.466093	0.033495	-0.003185
22	P1	-5.083798	0.034996	0.048186
26	P1	-5.916741	0.154486	-0.039628
30	P1	-5.237491	0.157673	-0.024970
3	P1	-11.731309	0.355920	-0.226933
7	P1	-10.131243	1.085312	-0.354386
11	P1	-10.444515	0.317785	-0.249917
15	P1	-10.945626	0.441490	-0.313222
19	P1	-15.558452	0.295817	0.065861
22	P1	-20.969206	1.396134	0.125806
26	P1	-15.817157	0.439256	0.333613
30	P1	-18.078905	0.509296	-0.006081

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.344910	0.207920	0.184828
7	P2	-22.010670	1.167272	0.513620
11	P2	-10.845894	0.183200	0.197747
15	P2	-4.860610	0.035172	0.043926
19	P2	-6.838696	0.057982	0.060338
22	P2	-8.202318	0.365201	-0.097339
26	P2	-24.118116	0.862309	0.287319
30	P2	-21.893553	0.443854	0.259269

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.048323	0.003183	0.006681
7	P3	-8.048258	0.003173	0.006839
11	P3	-8.048210	0.003173	0.007072
15	P3	-8.048354	0.003177	0.006634
19	P3	-8.048346	0.003168	0.006848
22	P3	-8.048297	0.003171	0.007254
26	P3	-8.048105	0.003165	0.007994
30	P3	-8.048002	0.003163	0.007723

## 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	0.000567501
	stdev	1.62996e-07
MEAN Q	mean	0.000525291
	stdev	2.14288e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.138832
	stdev	0.00113014
STDEV Q	mean	0.139206
	stdev	0.00114856



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006101[789]

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_1PNPDE20061017_011837_000000852052_00103_24205_4315.N1	5	0
ASA_WSM_1PNPDE20061017_011837_000000852052_00103_24205_4316.N1	5	0
ASA_WSM_1PNPDE20061017_011839_000000852052_00103_24205_4370.N1	5	0
ASA_WSM_1PNPDE20061018_171624_000002252052_00127_24229_4369.N1	0	69







## 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)


Acsending



<input type="checkbox"/>
Descending

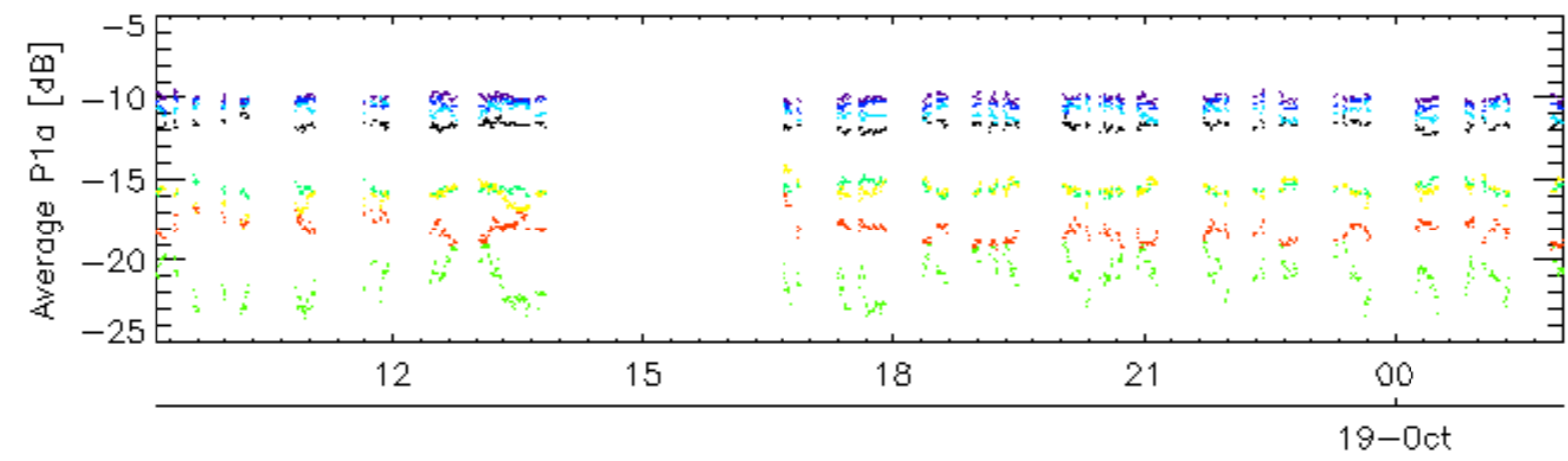
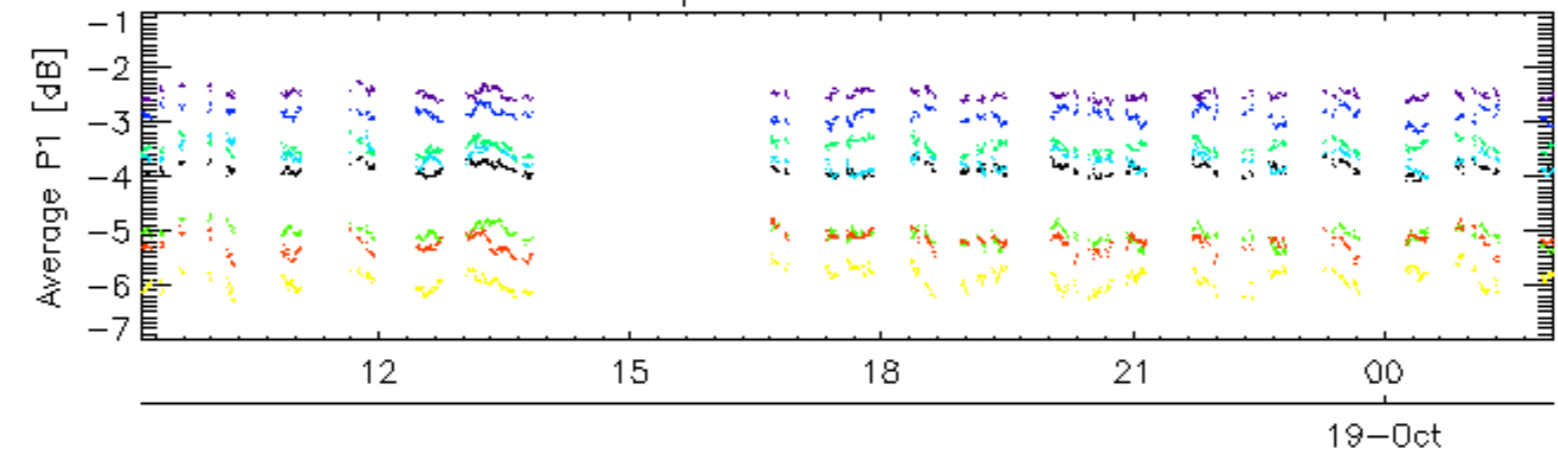
### 7.5 - Absolute Doppler for GM1

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

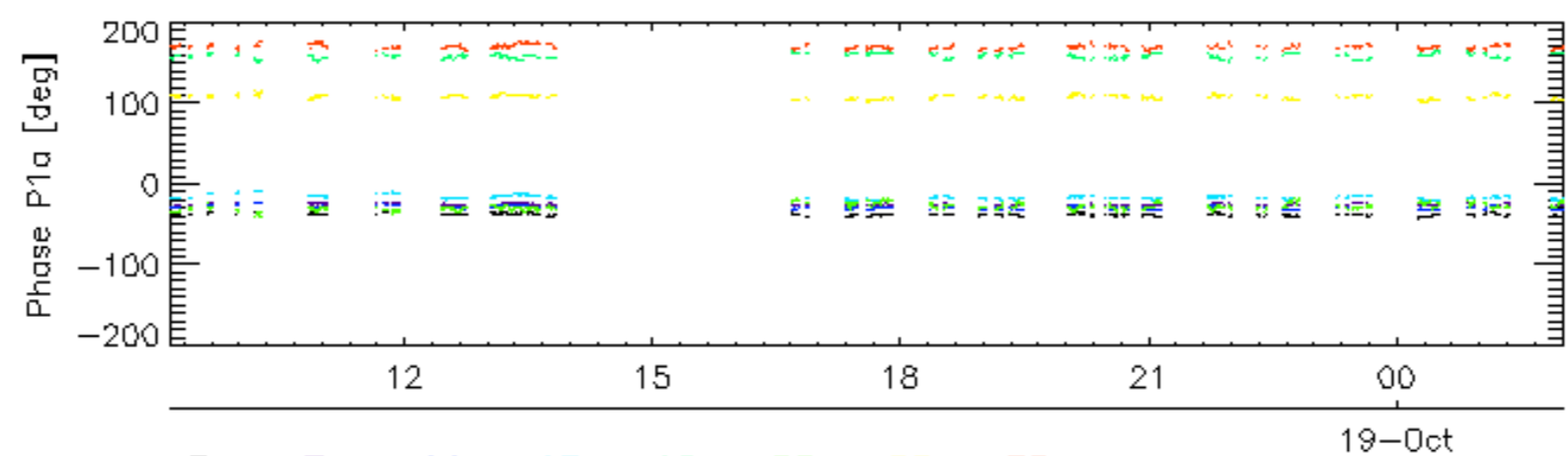
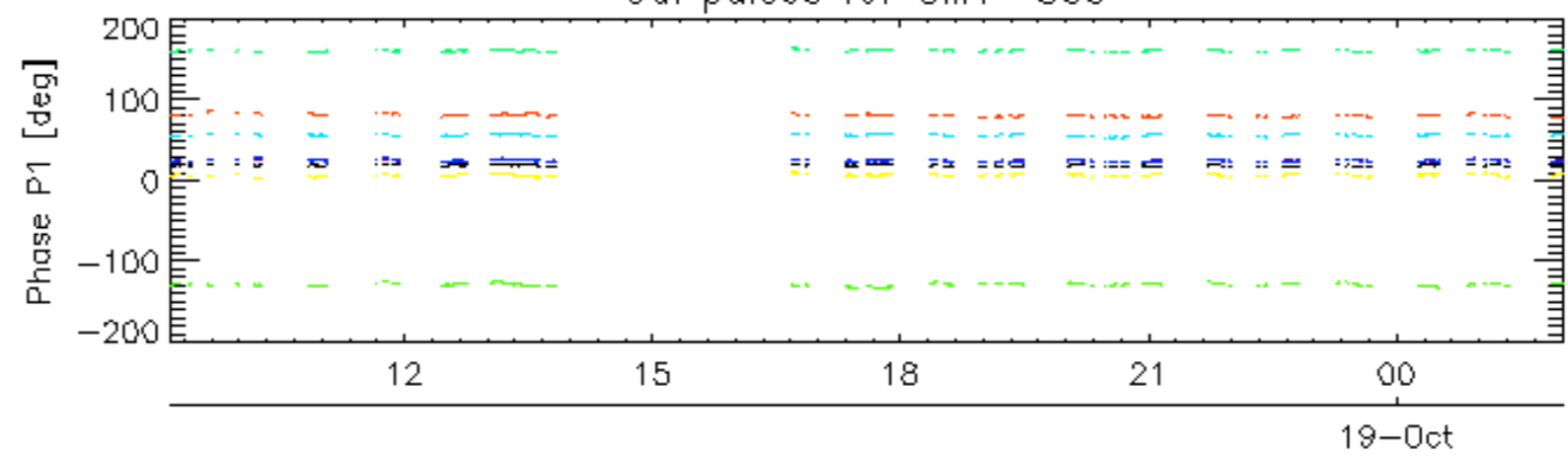
### 7.6 - Doppler evolution versus ANX for GM1

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

Cal pulses for GM1 SS3

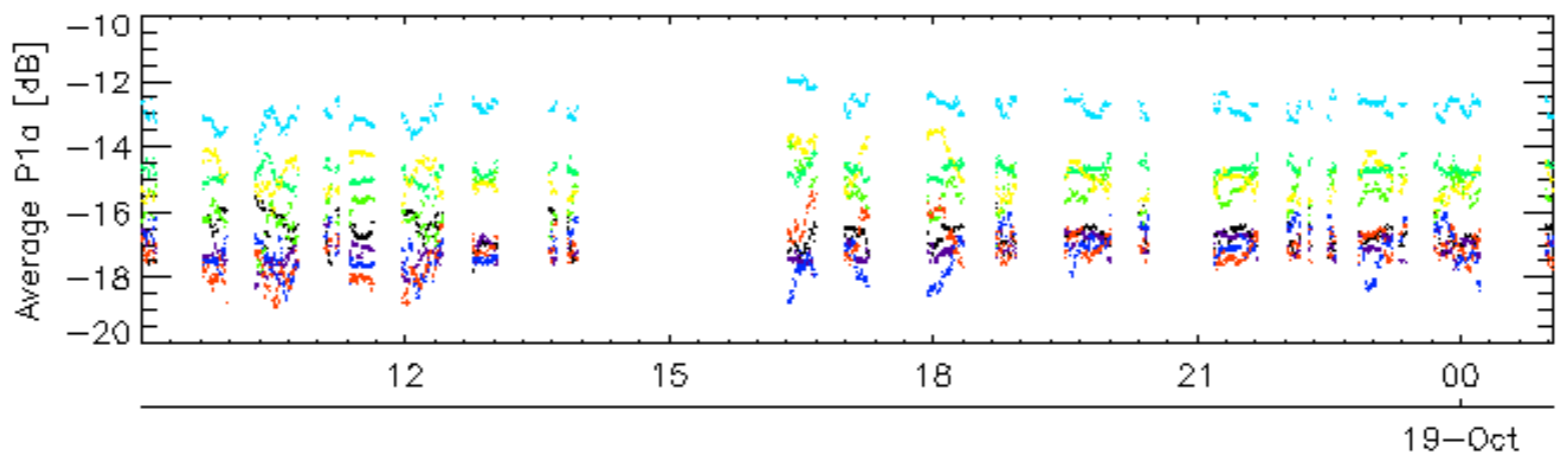
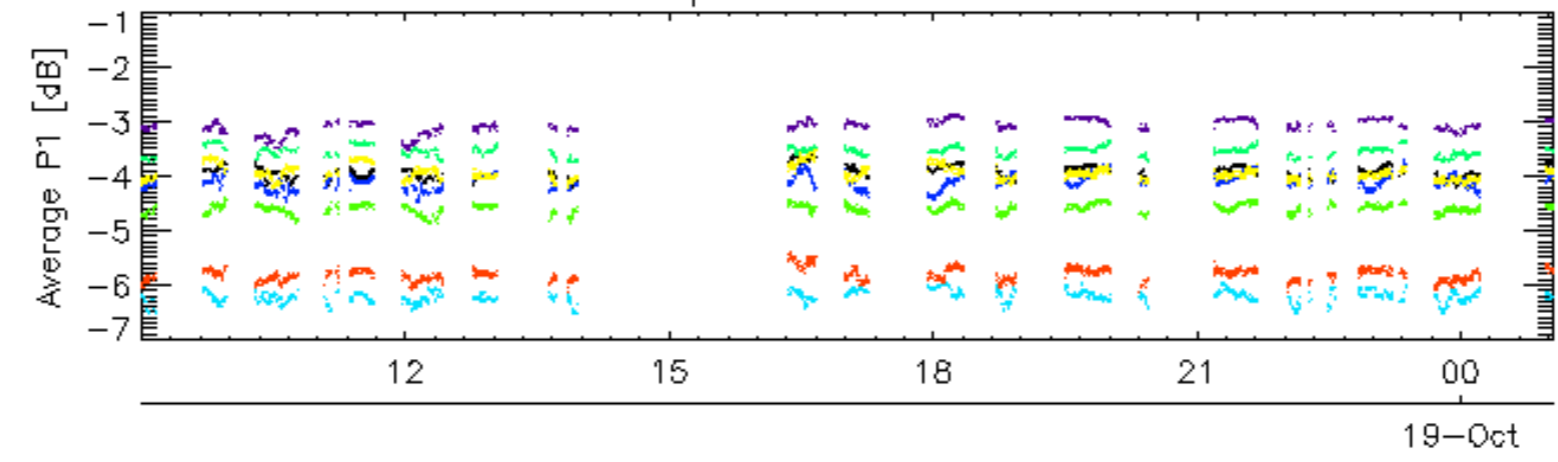


Cal pulses for GM1 SS3

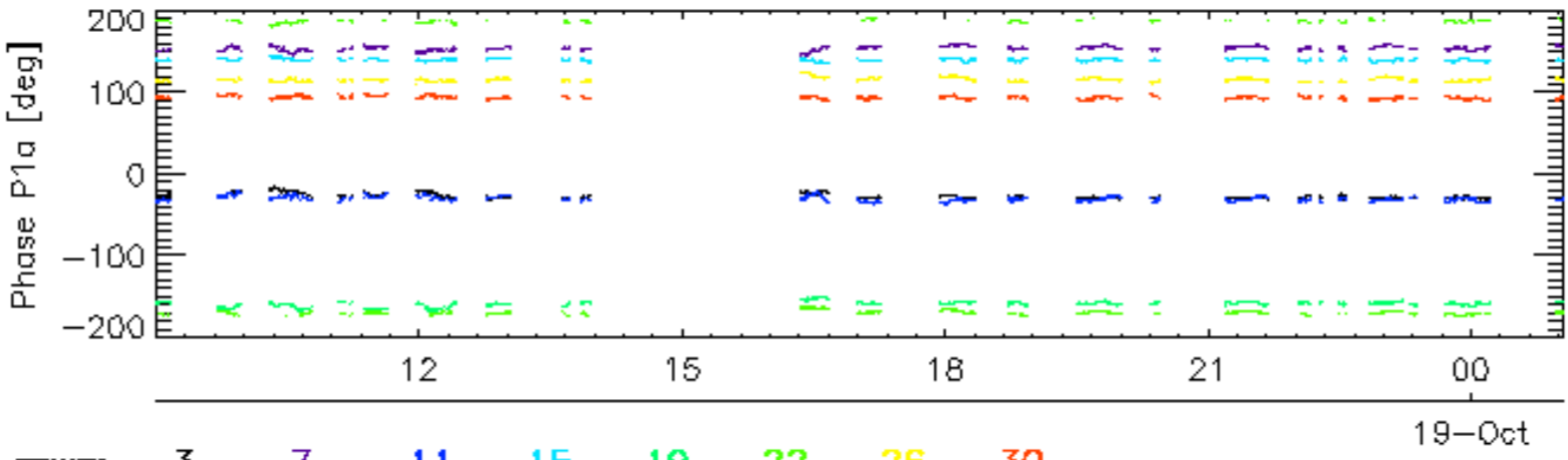
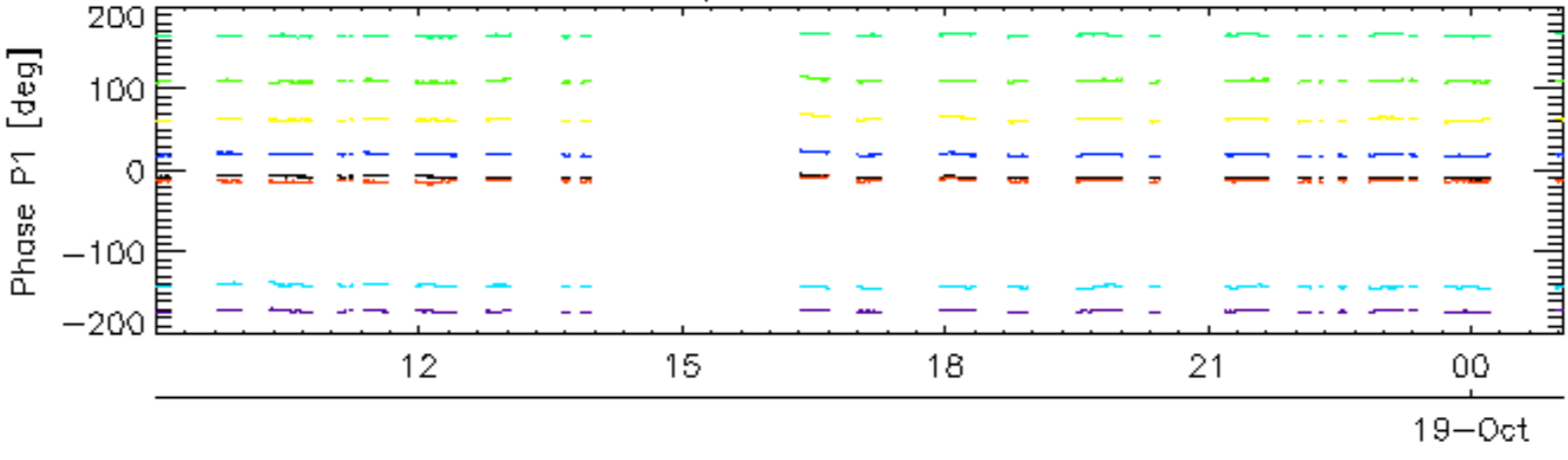


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

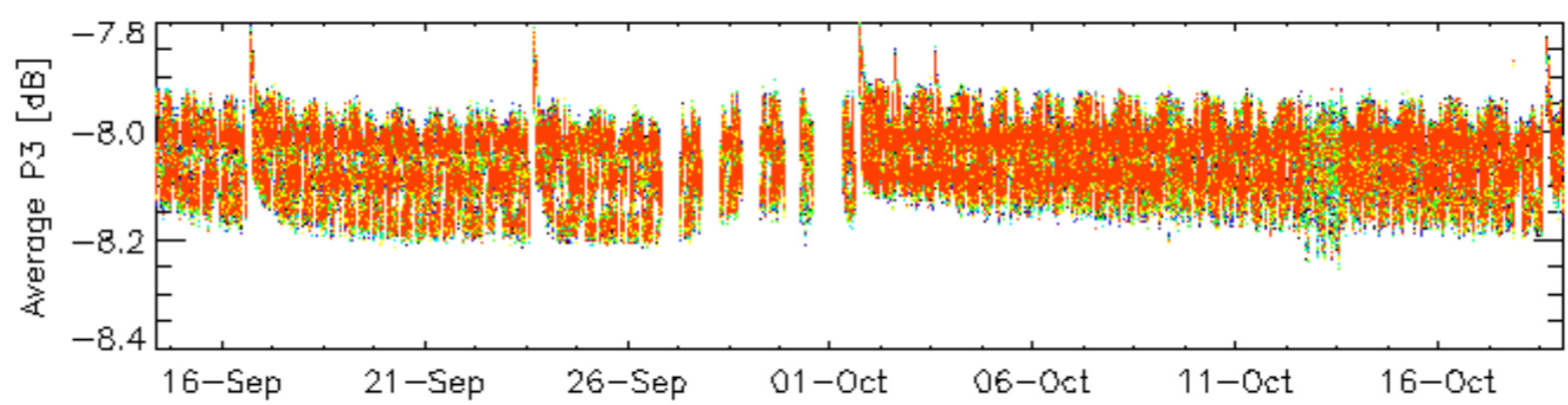
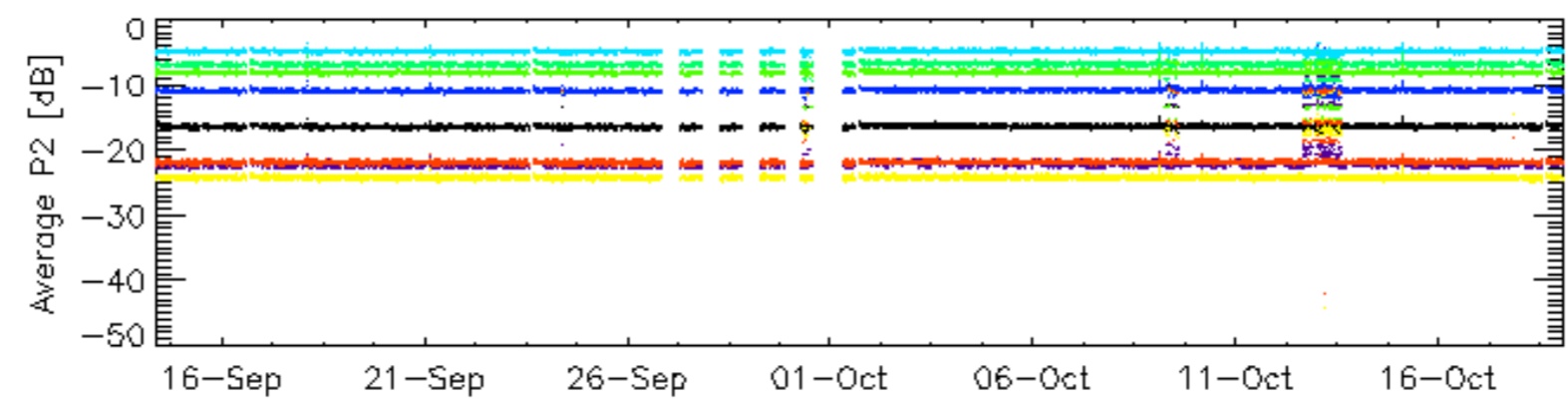
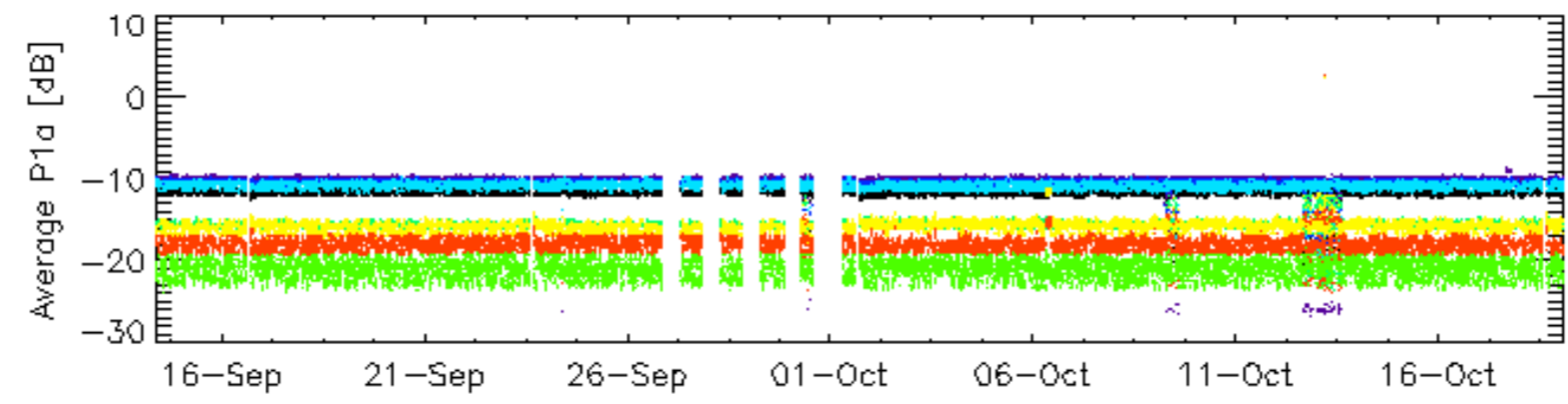
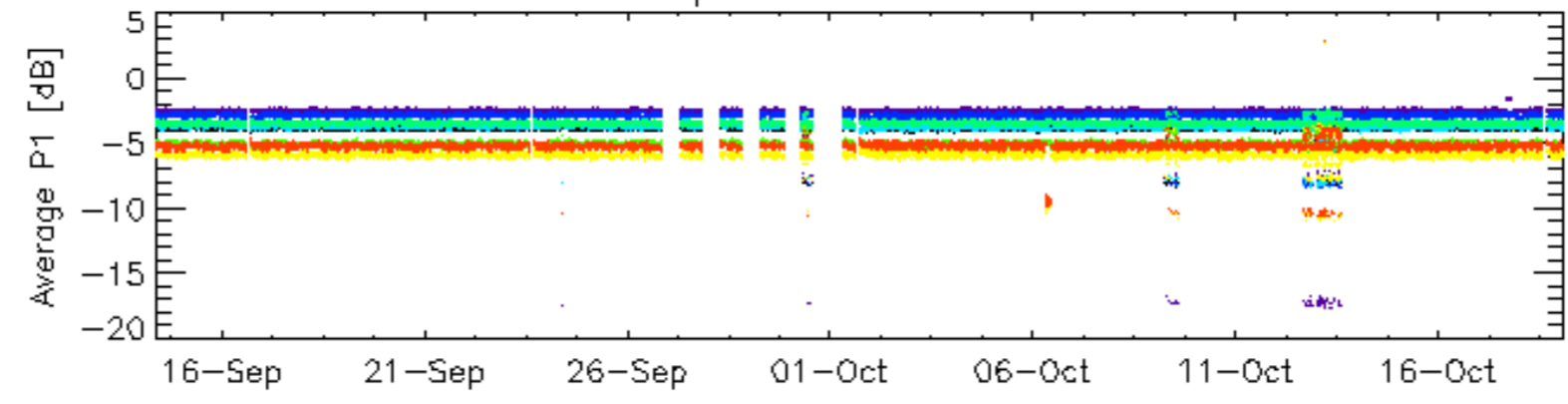


Cal pulses for WVS IS2



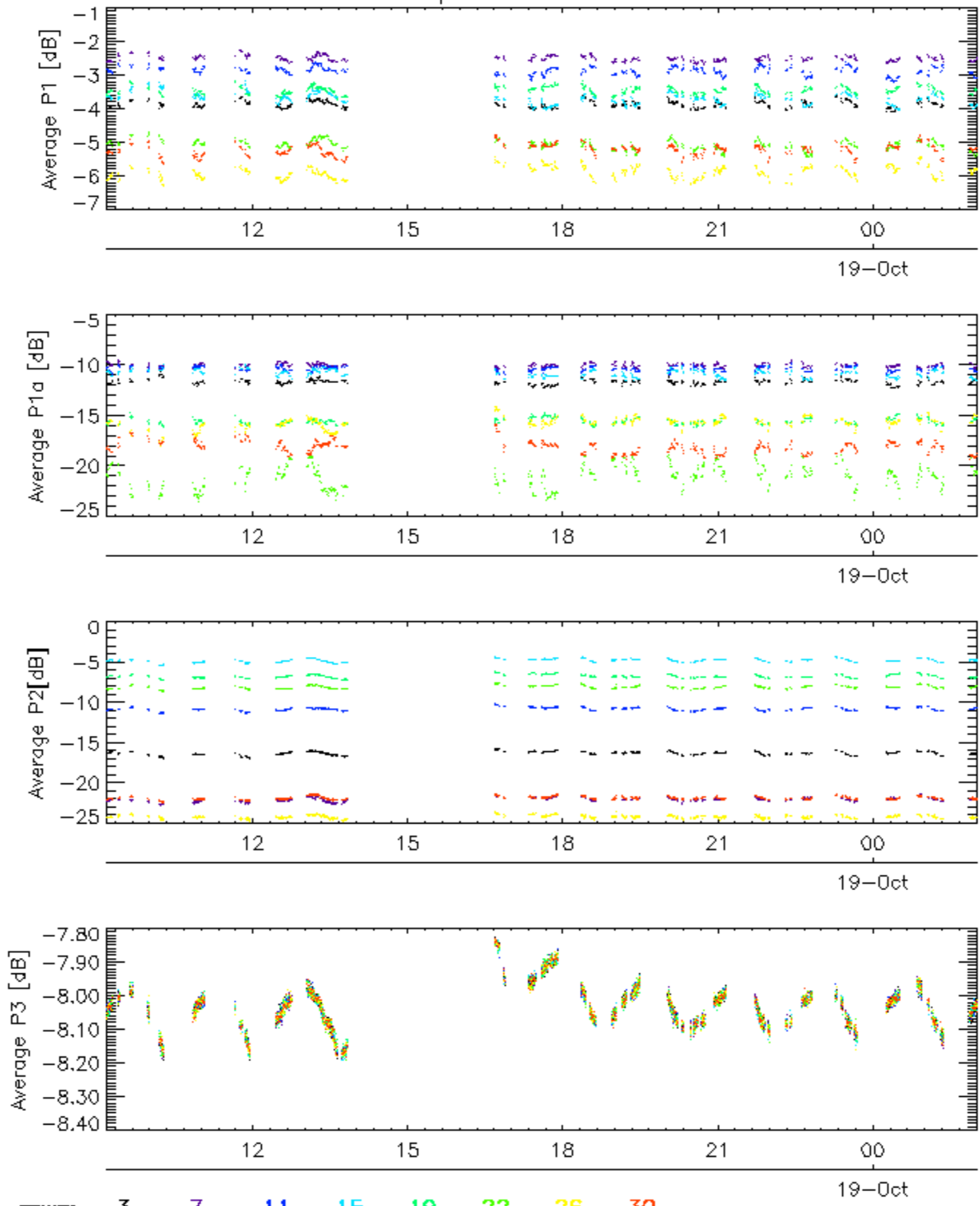
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

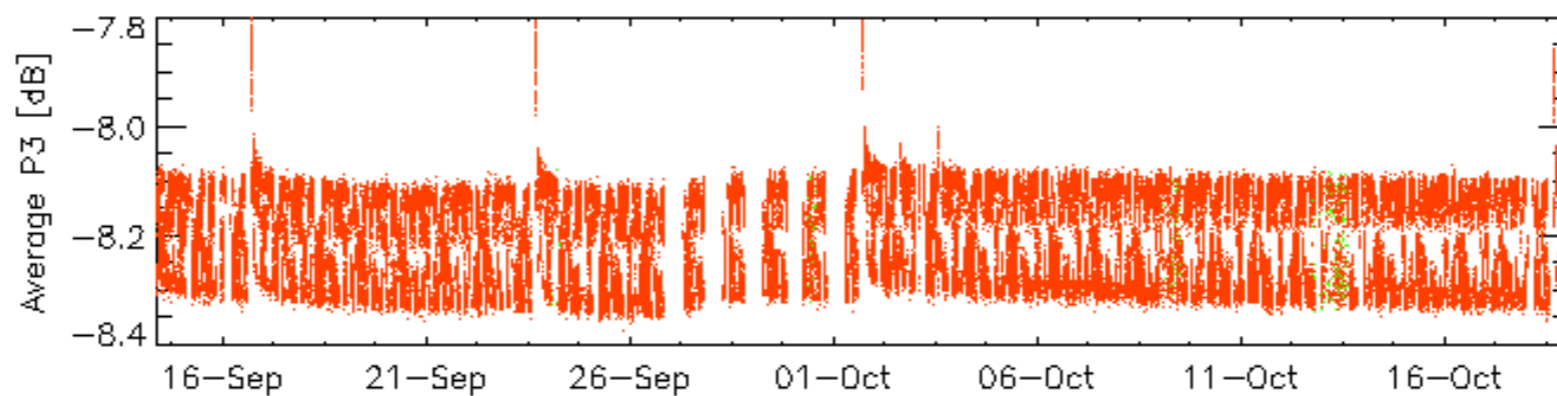
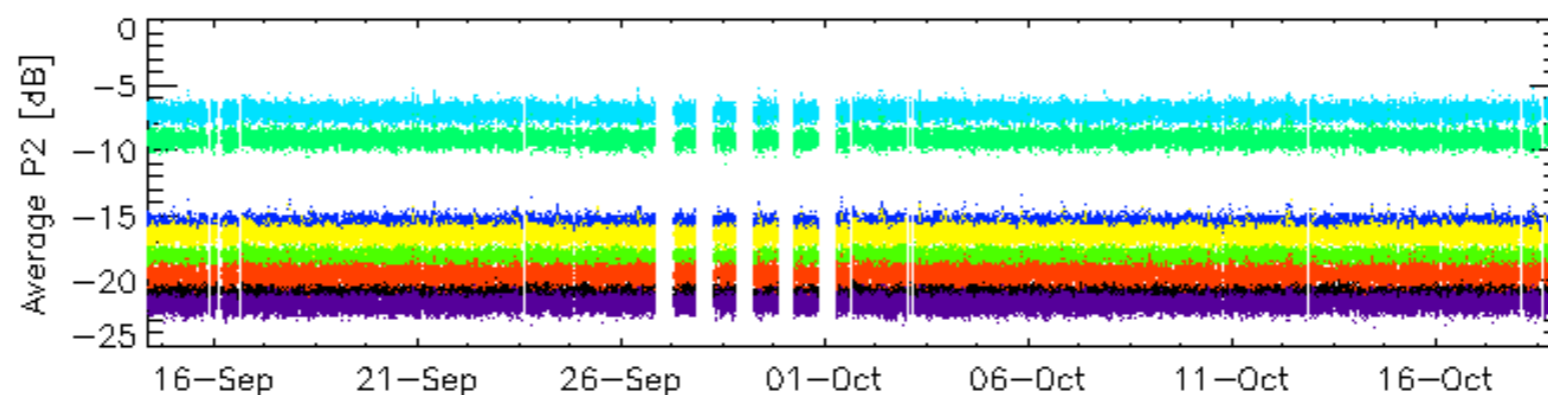
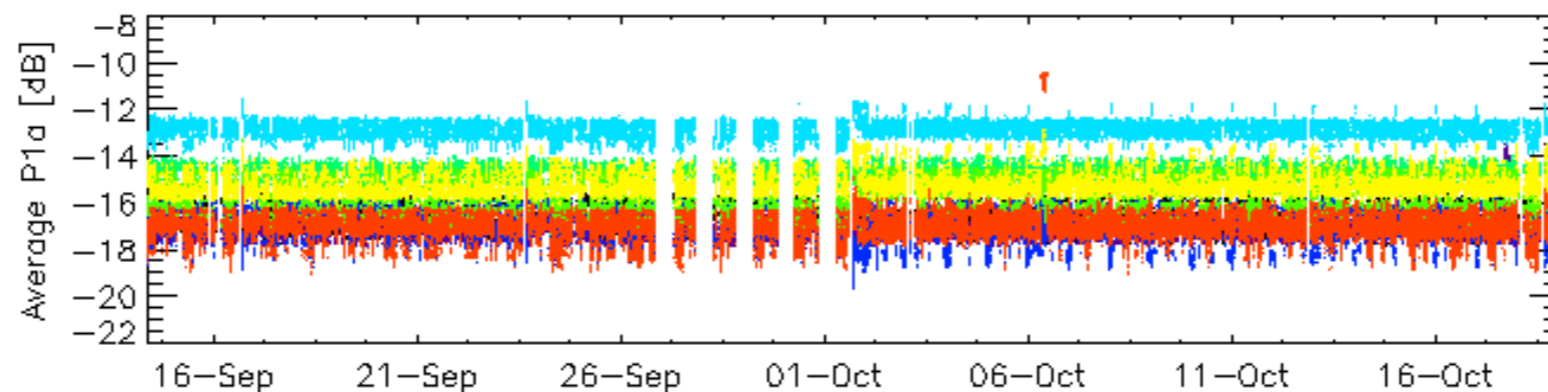
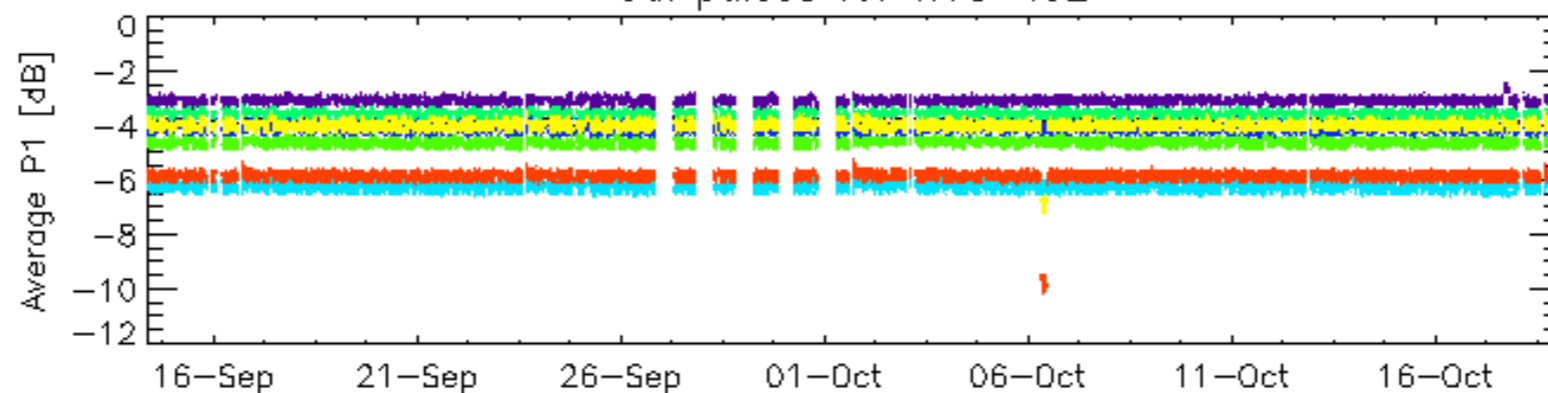


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

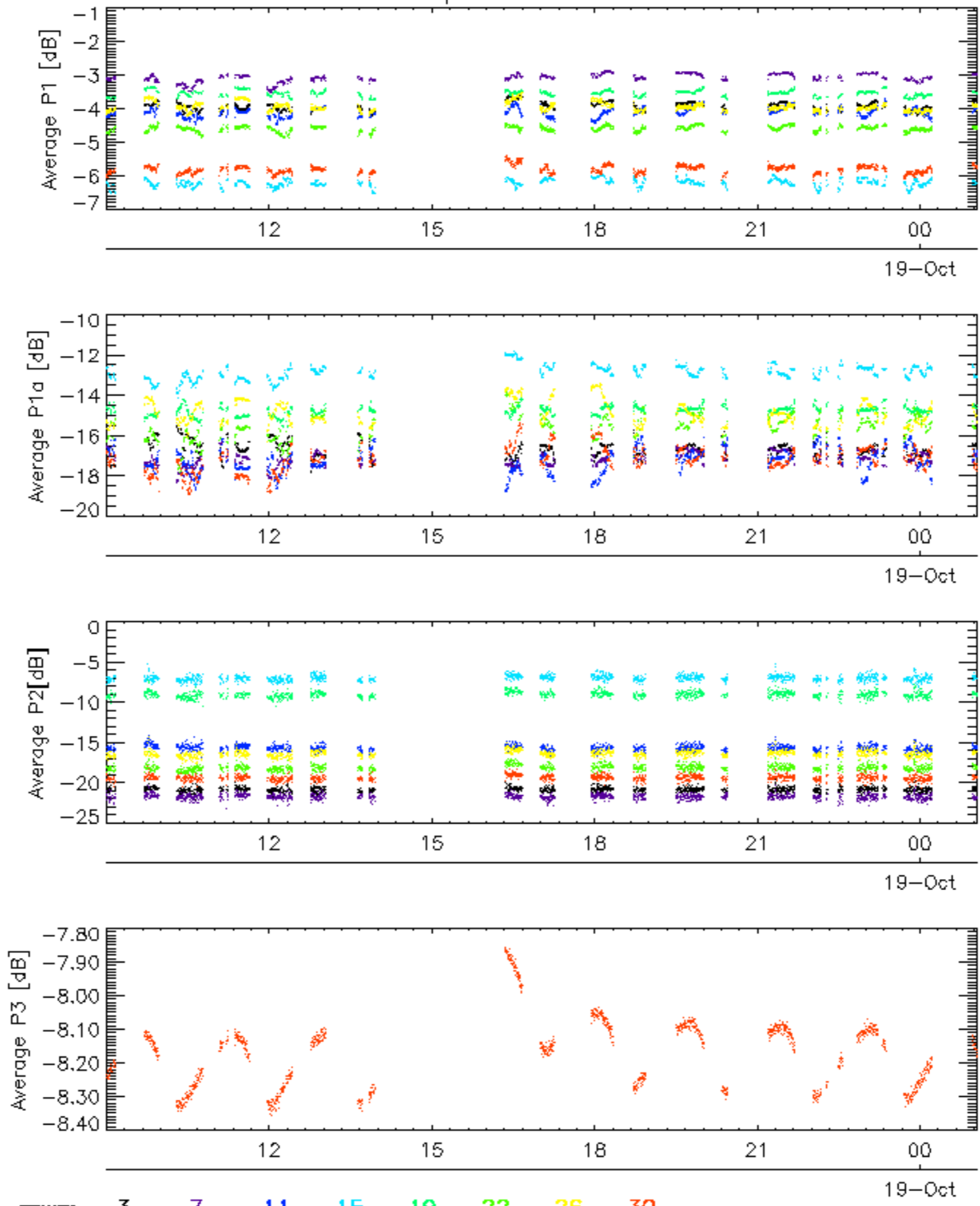


Cal pulses for WVS IS2



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

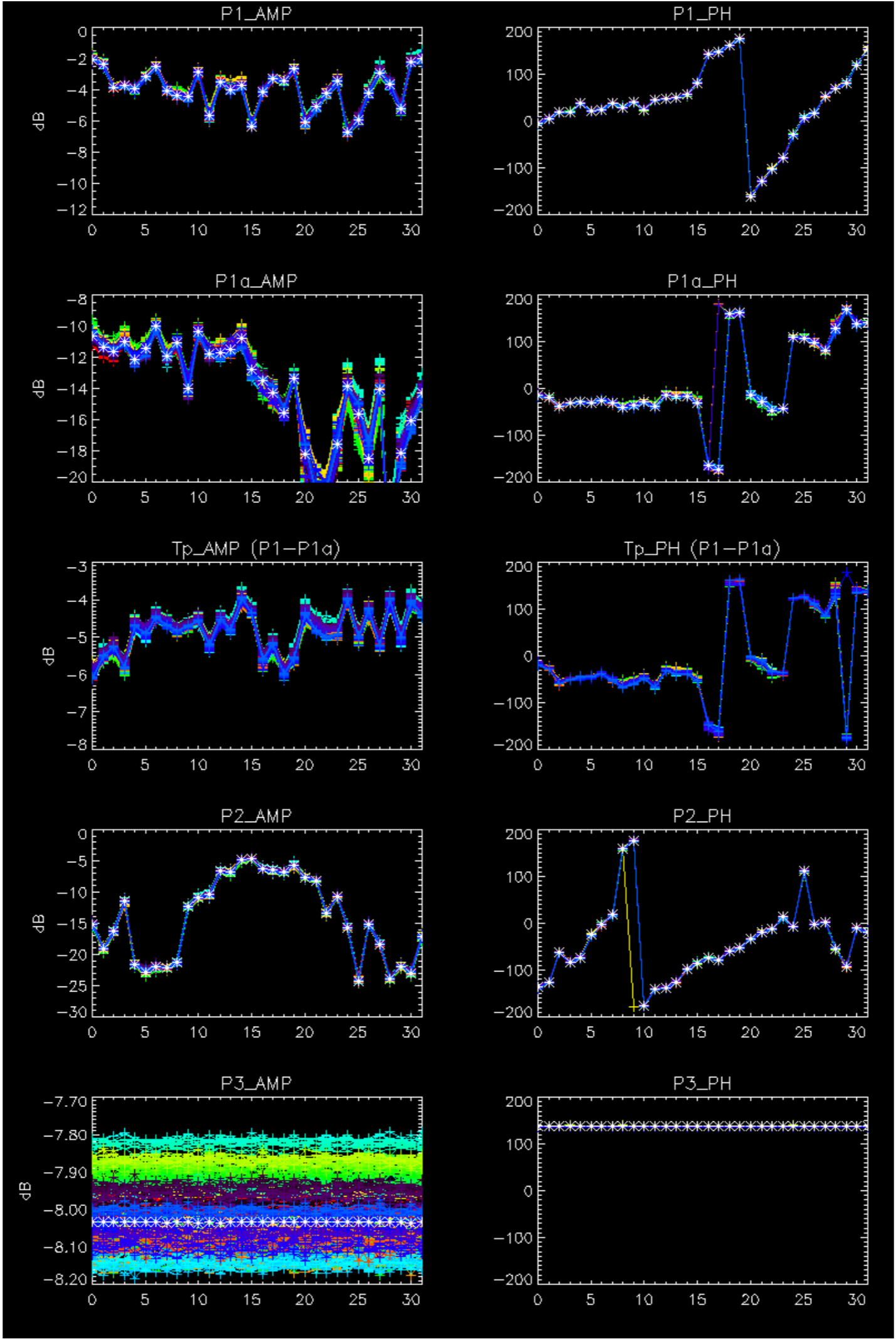
Cal pulses for WVS IS2

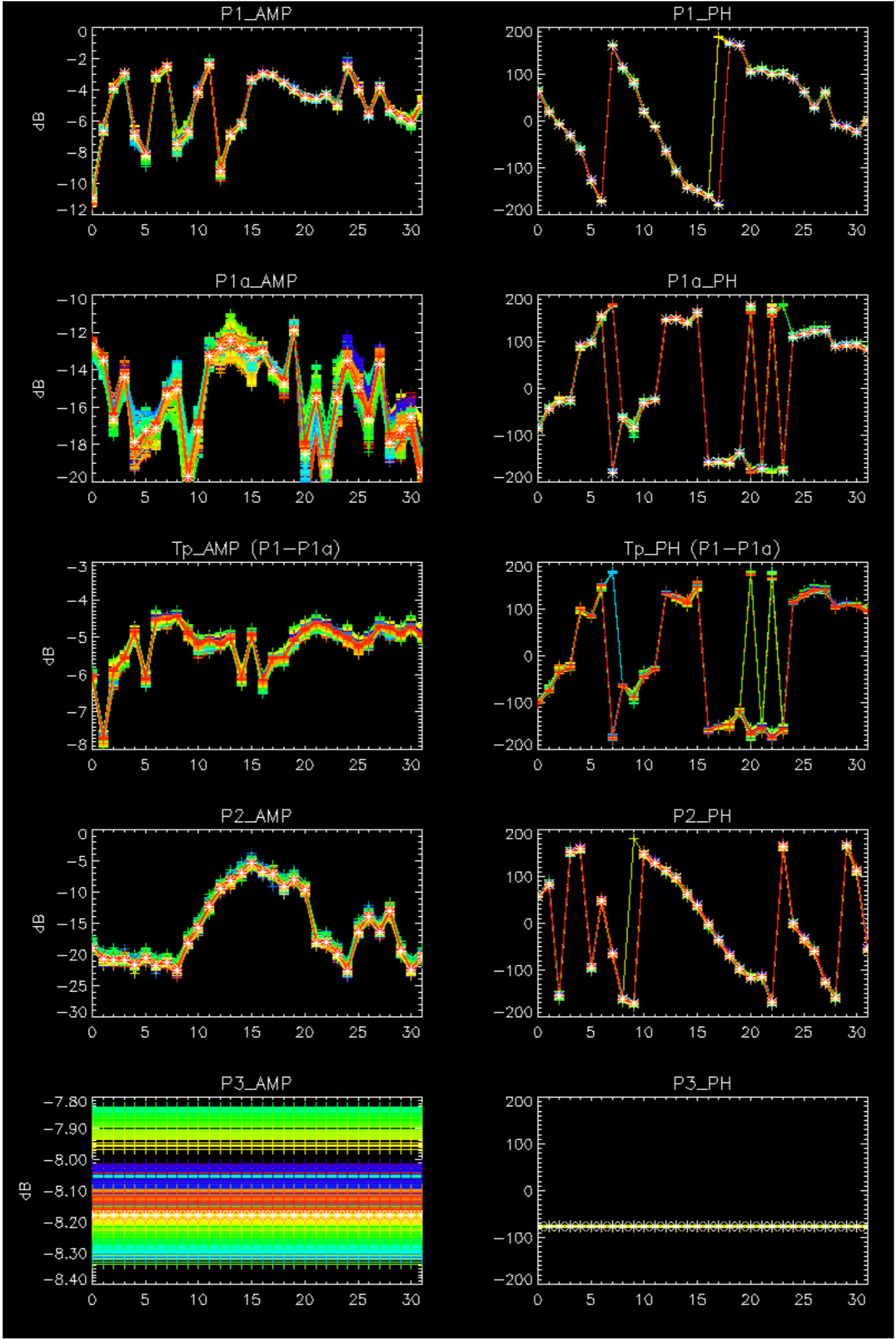


rows: 3 7 11 15 19 22 26 30

No anomalies observed.



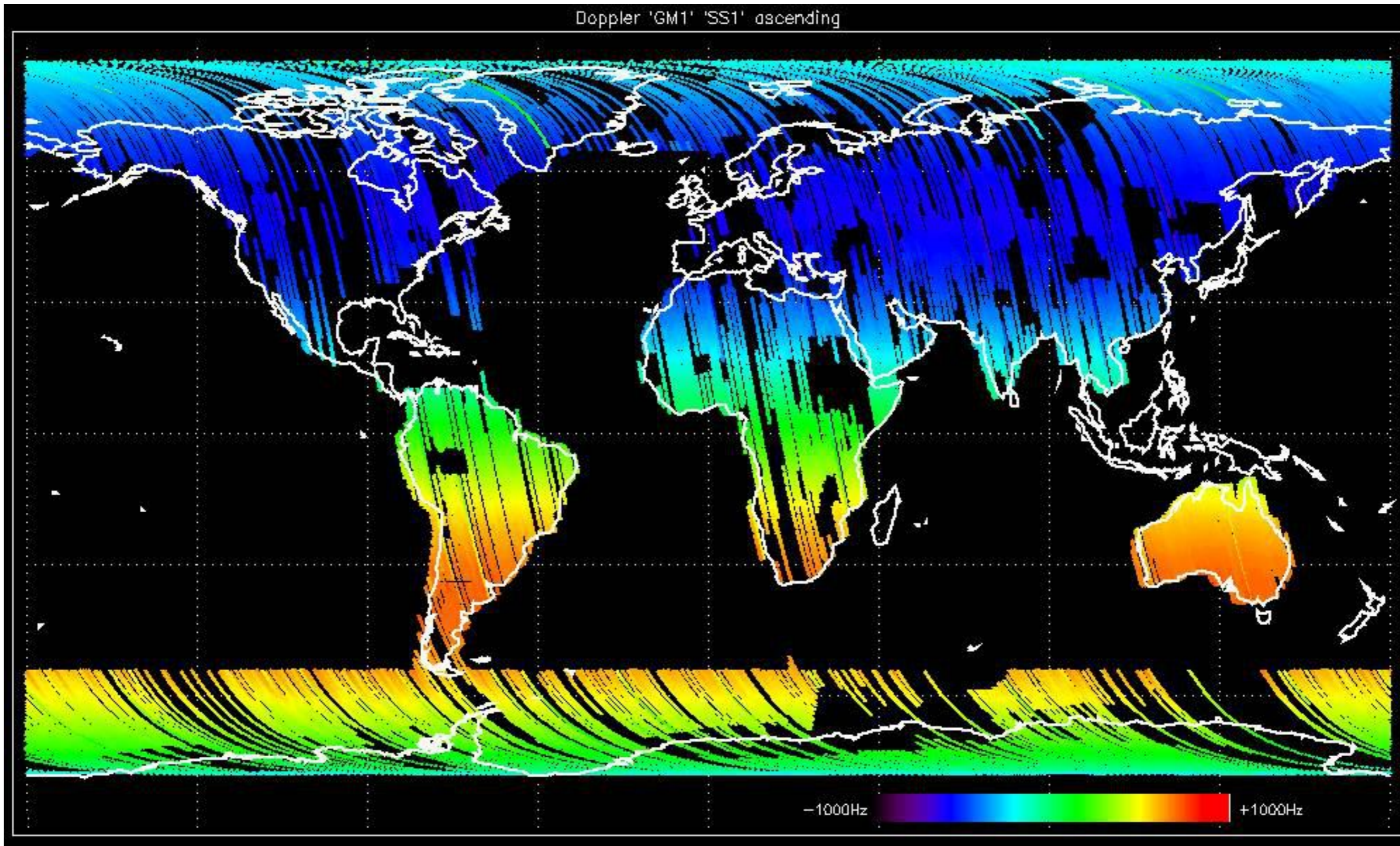




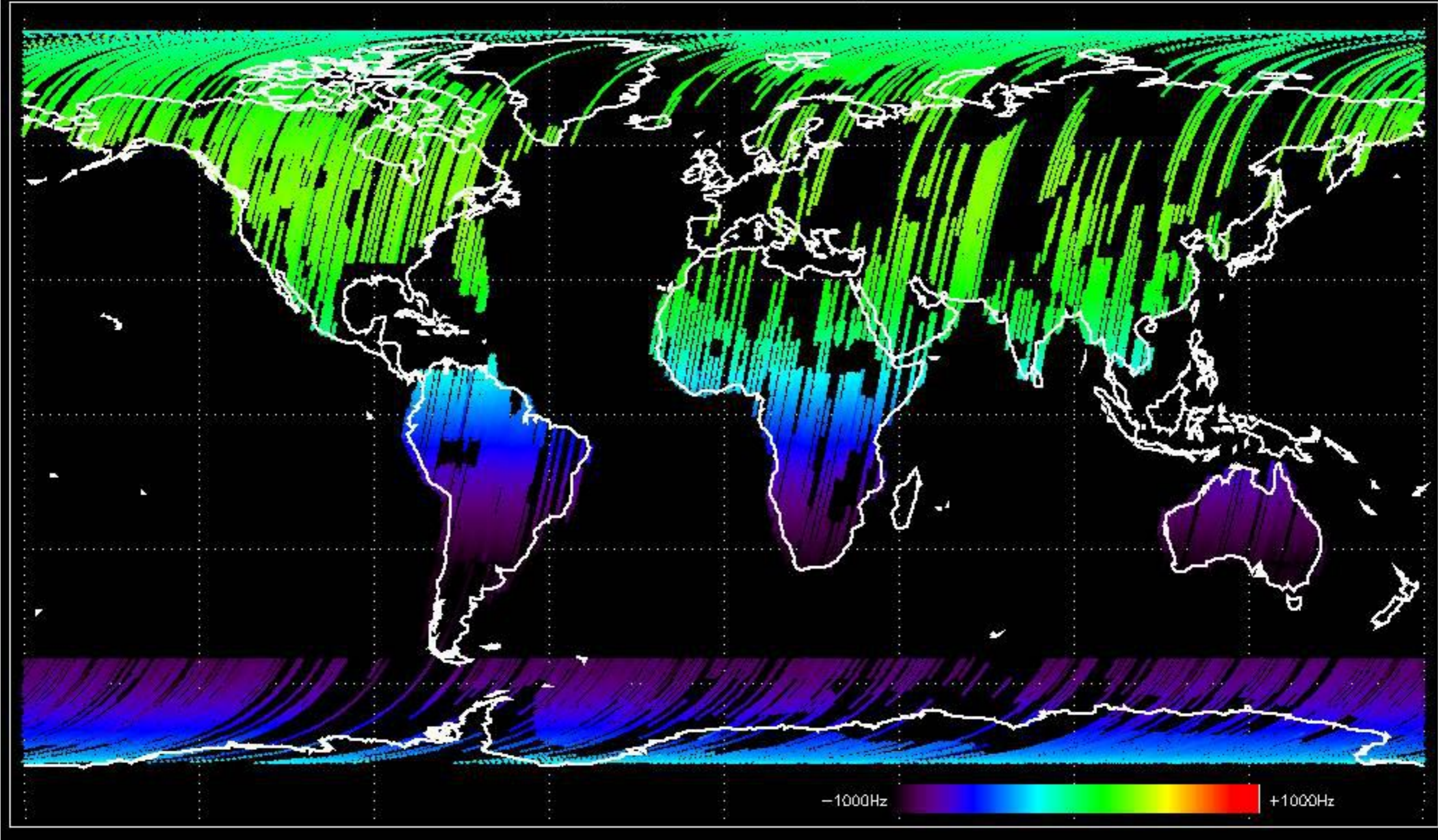
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



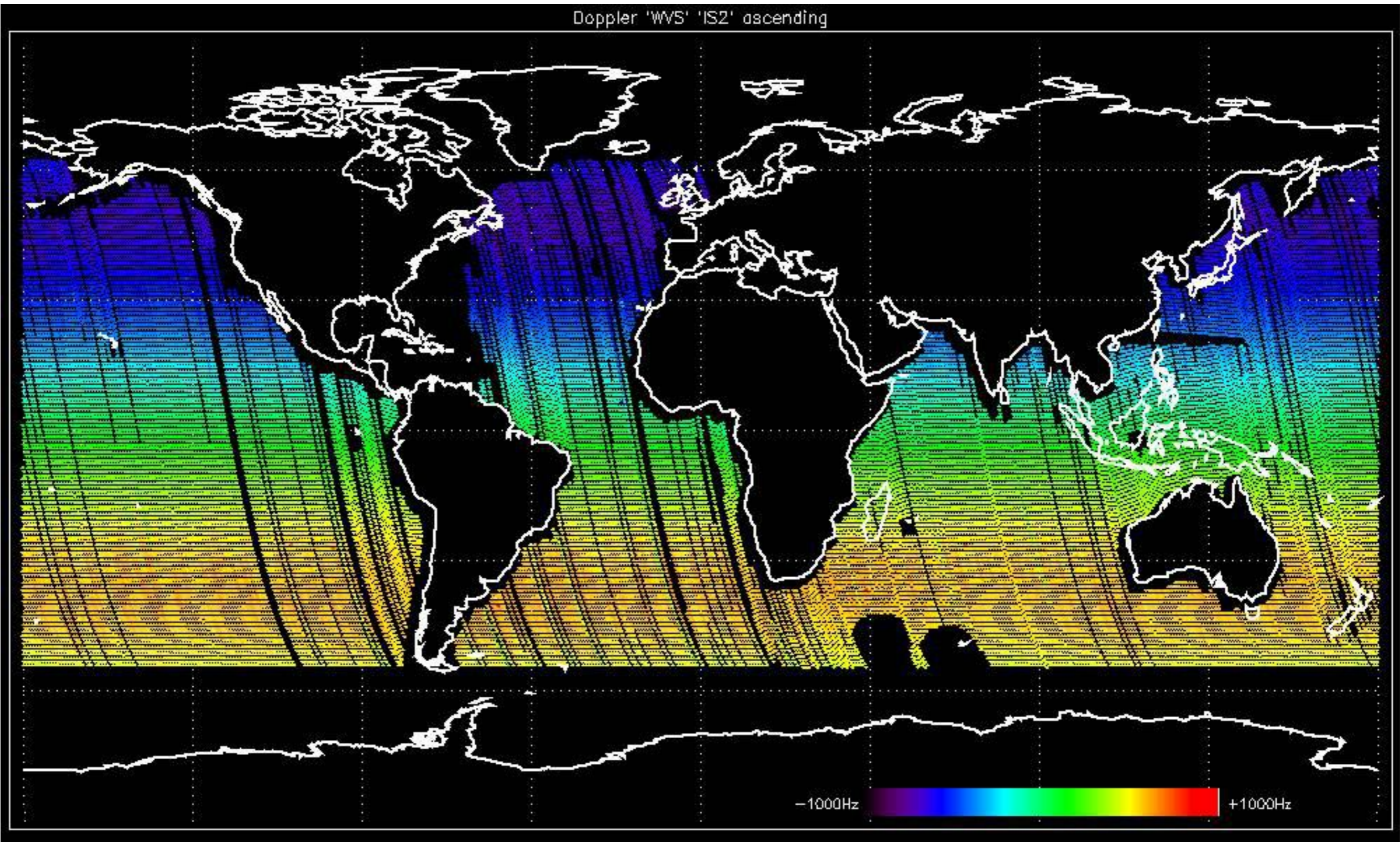
Doppler 'GM1' 'SS1' ascending



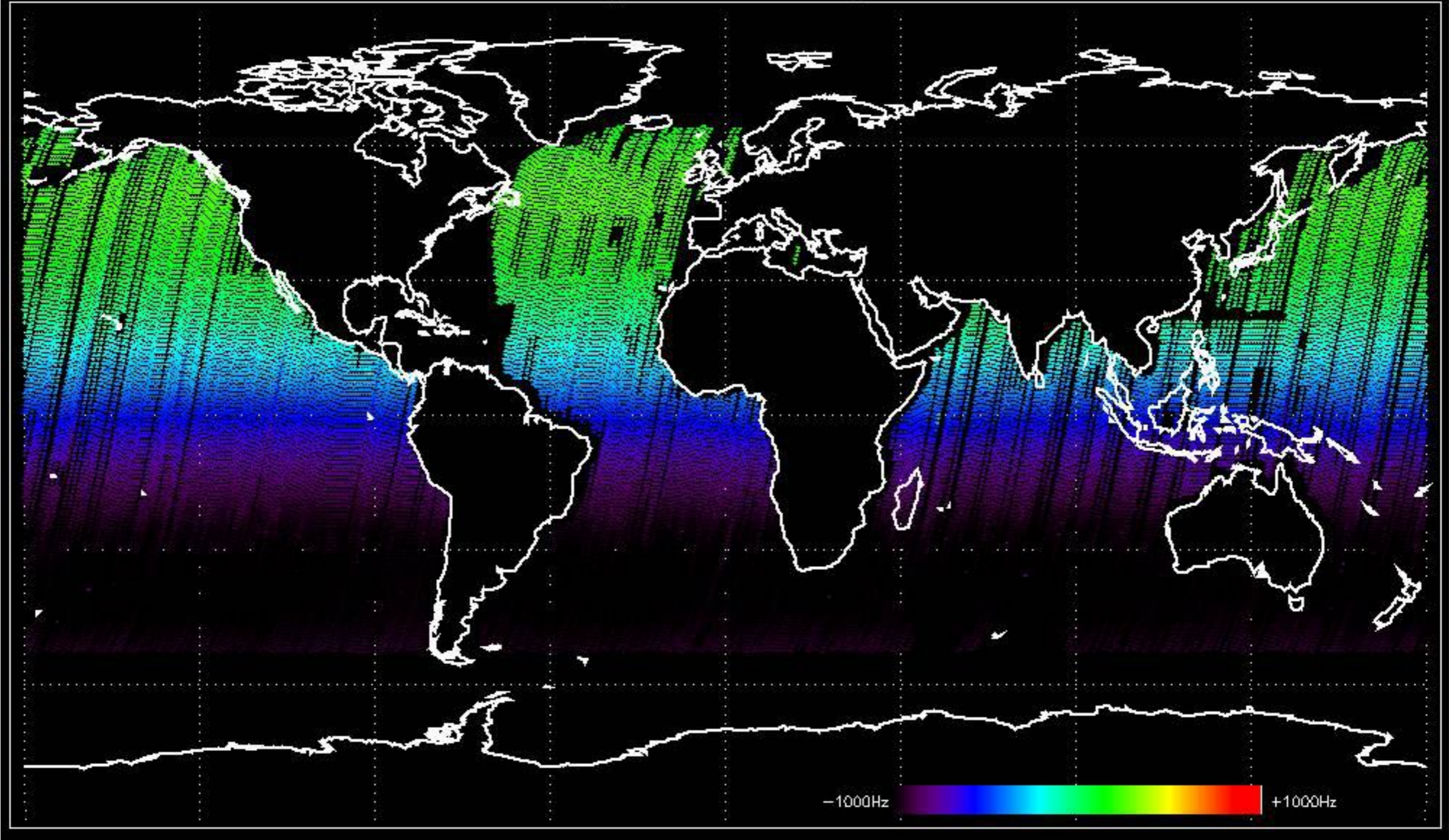
Doppler 'GM1' 'SS1' descending



Doppler 'WVS' 'IS2' ascending

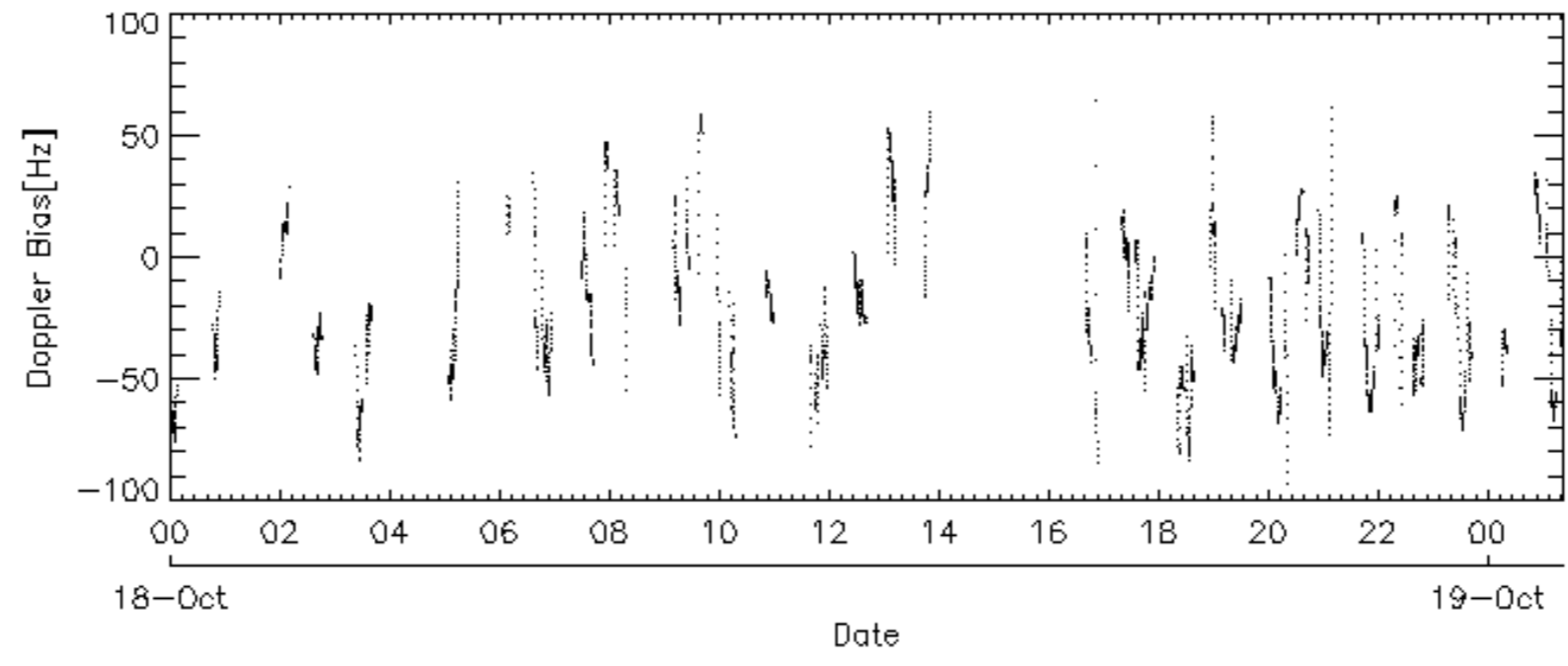
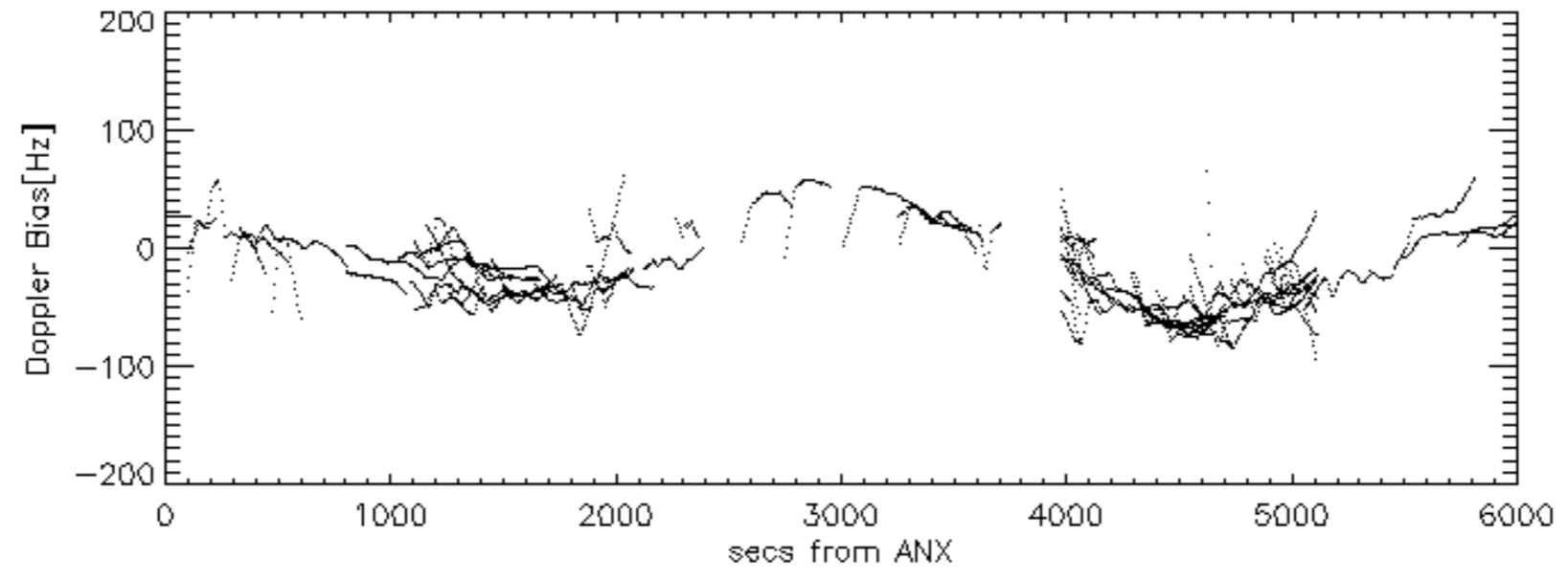
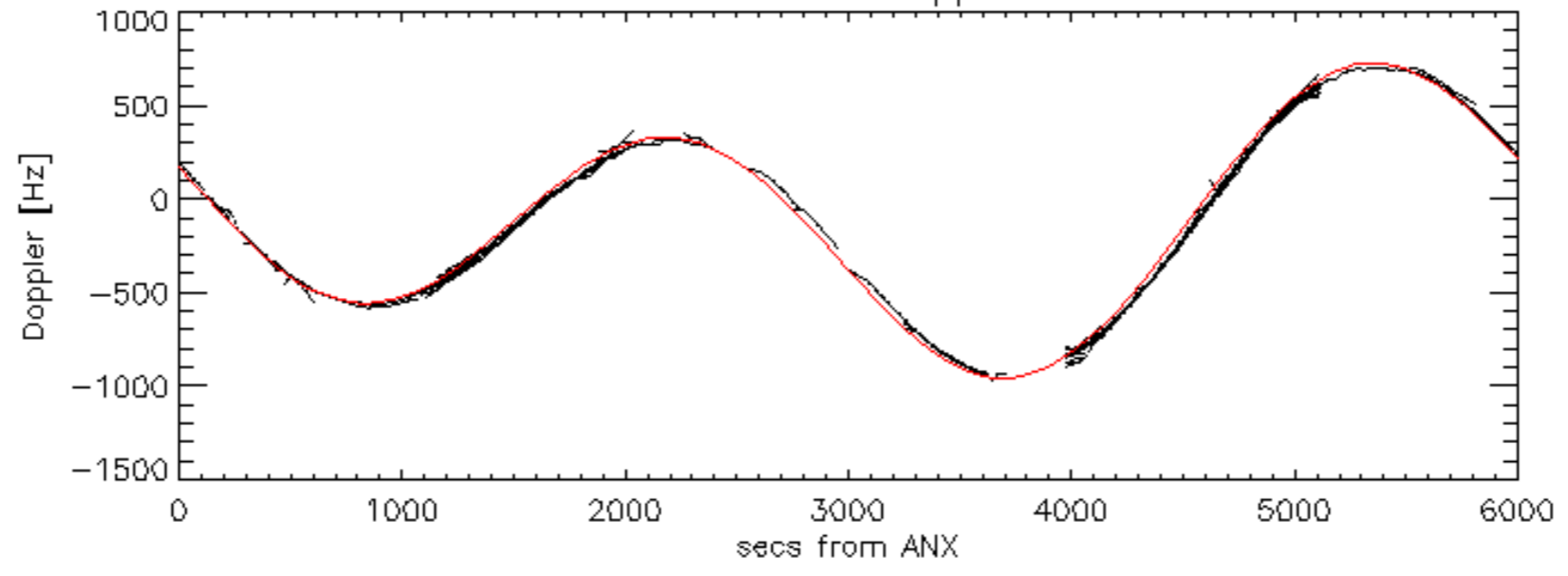


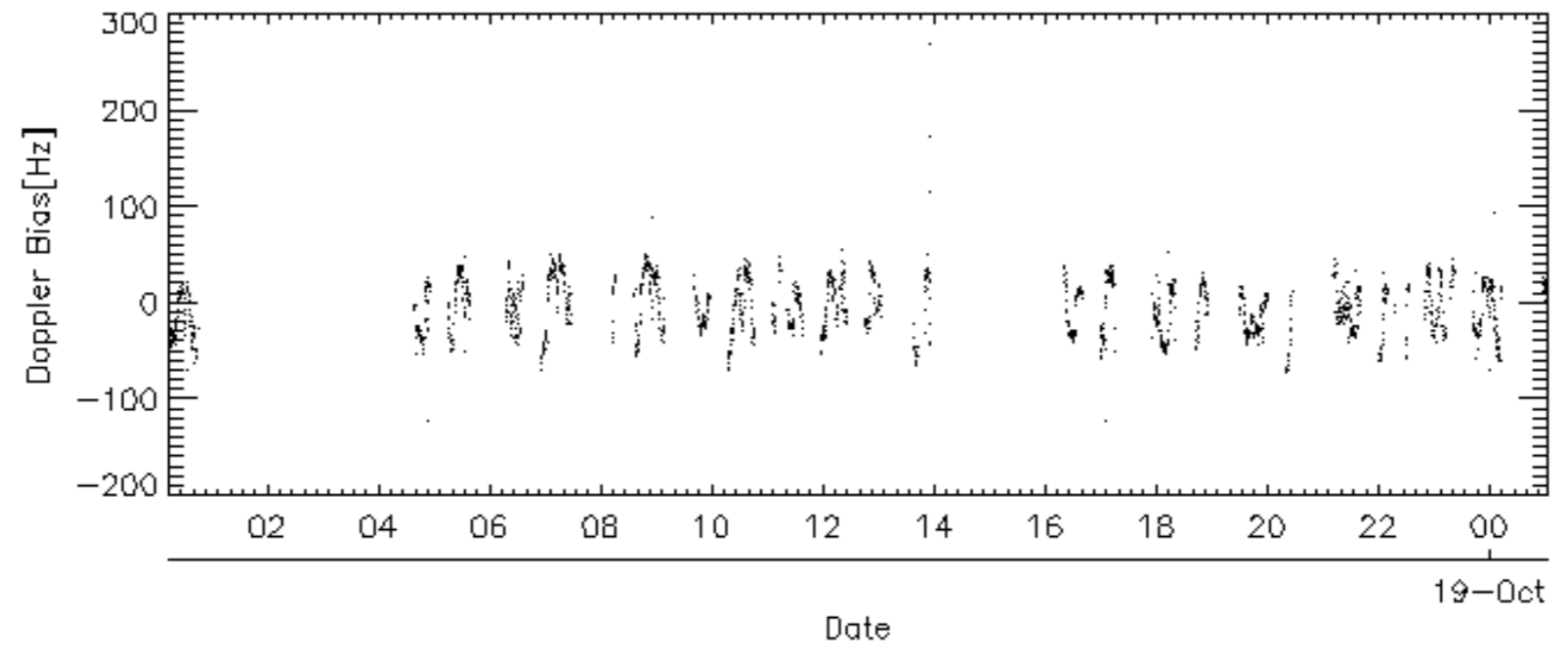
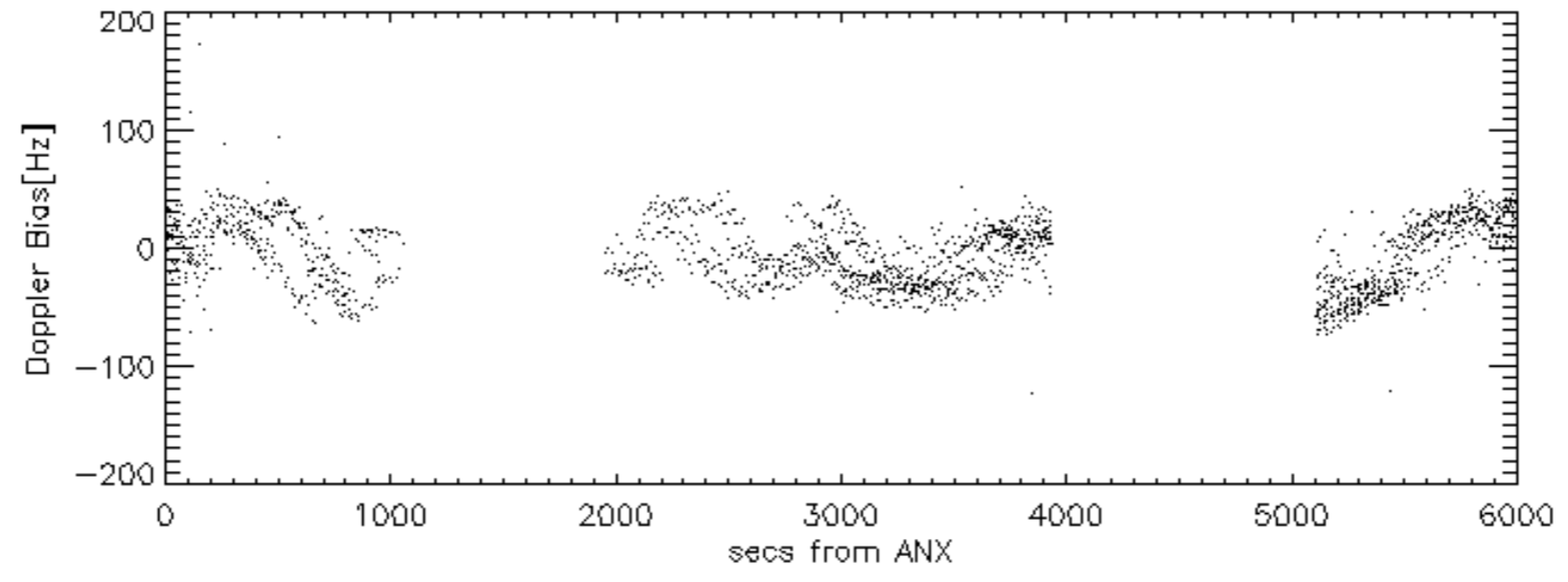
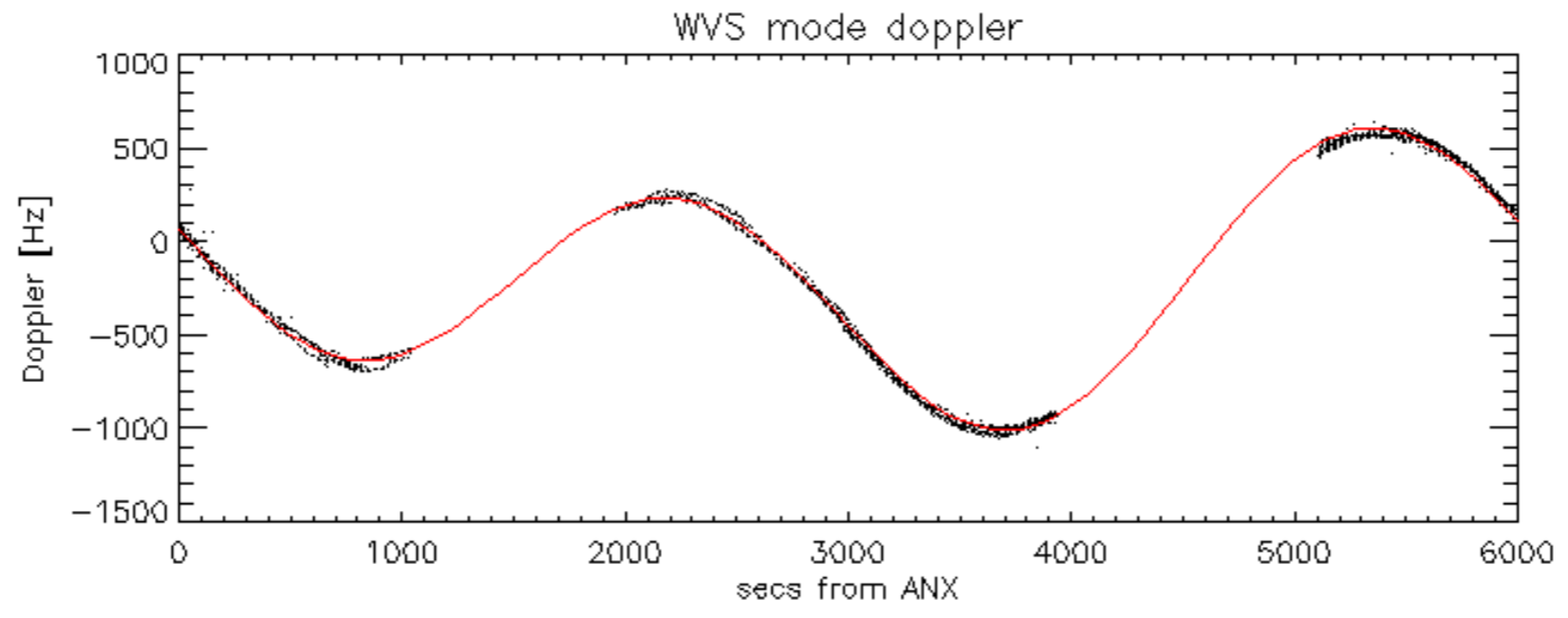
Doppler 'WVS' 'IS2' descending



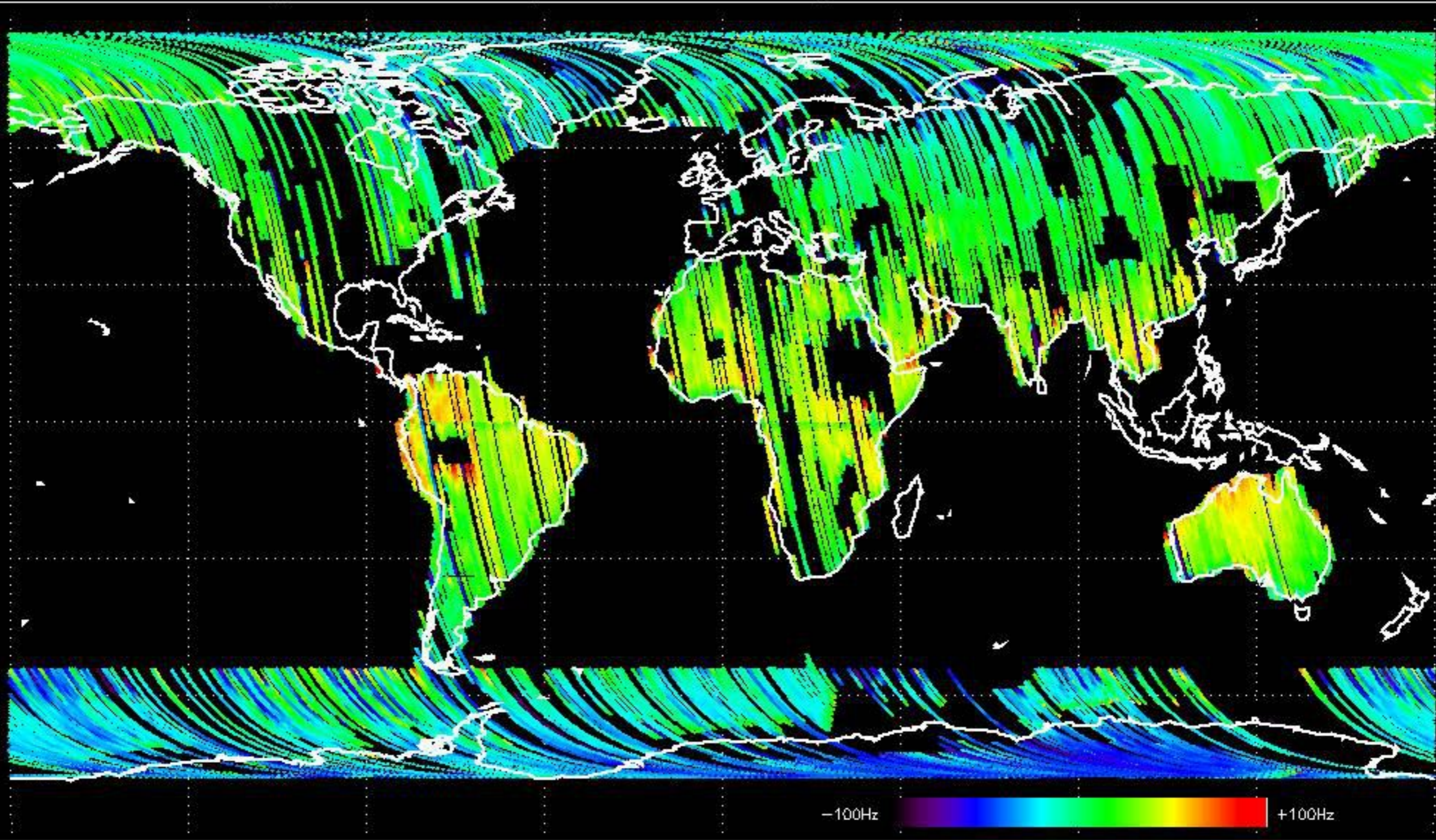


GM1 mode doppler

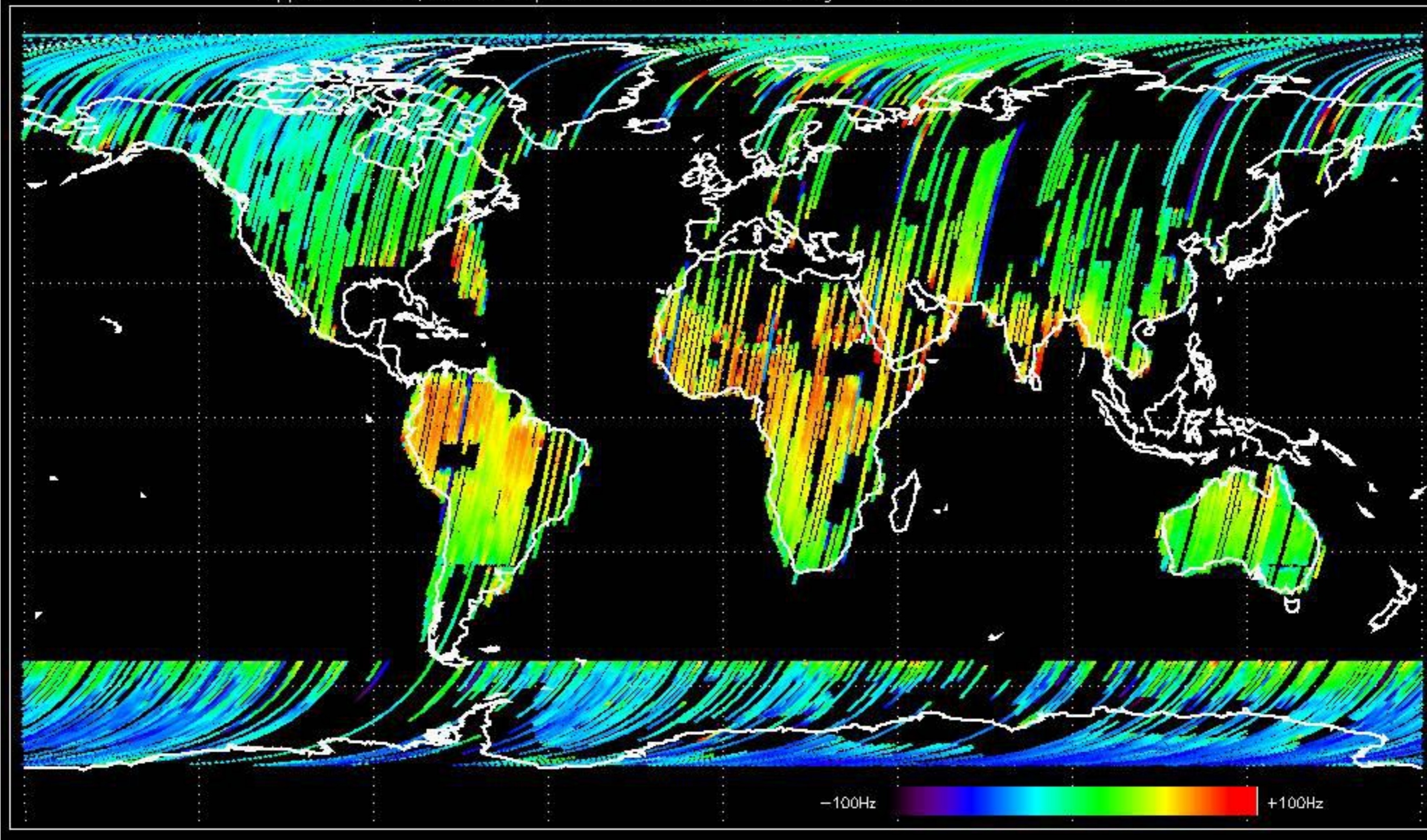




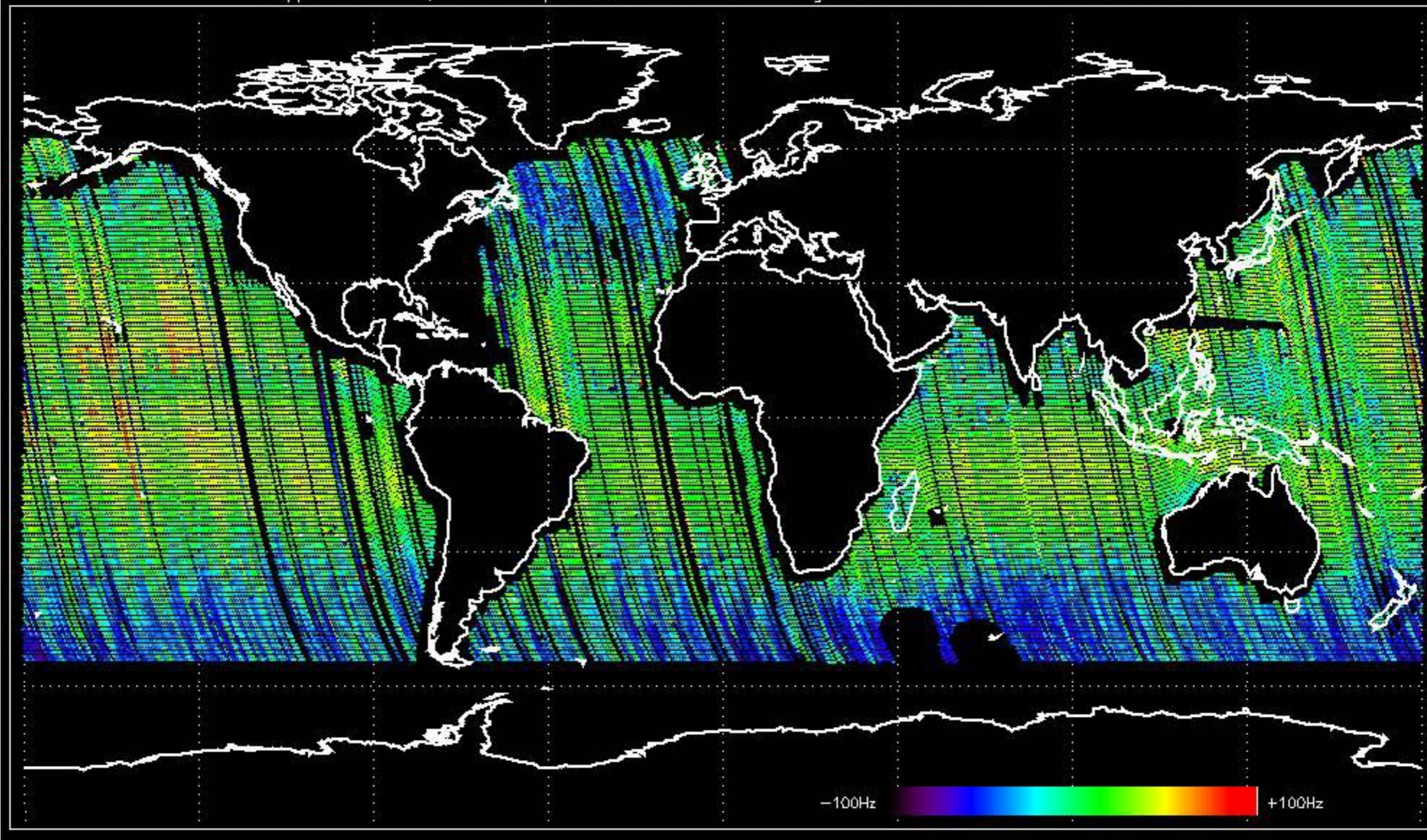
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -19.808971 Hz



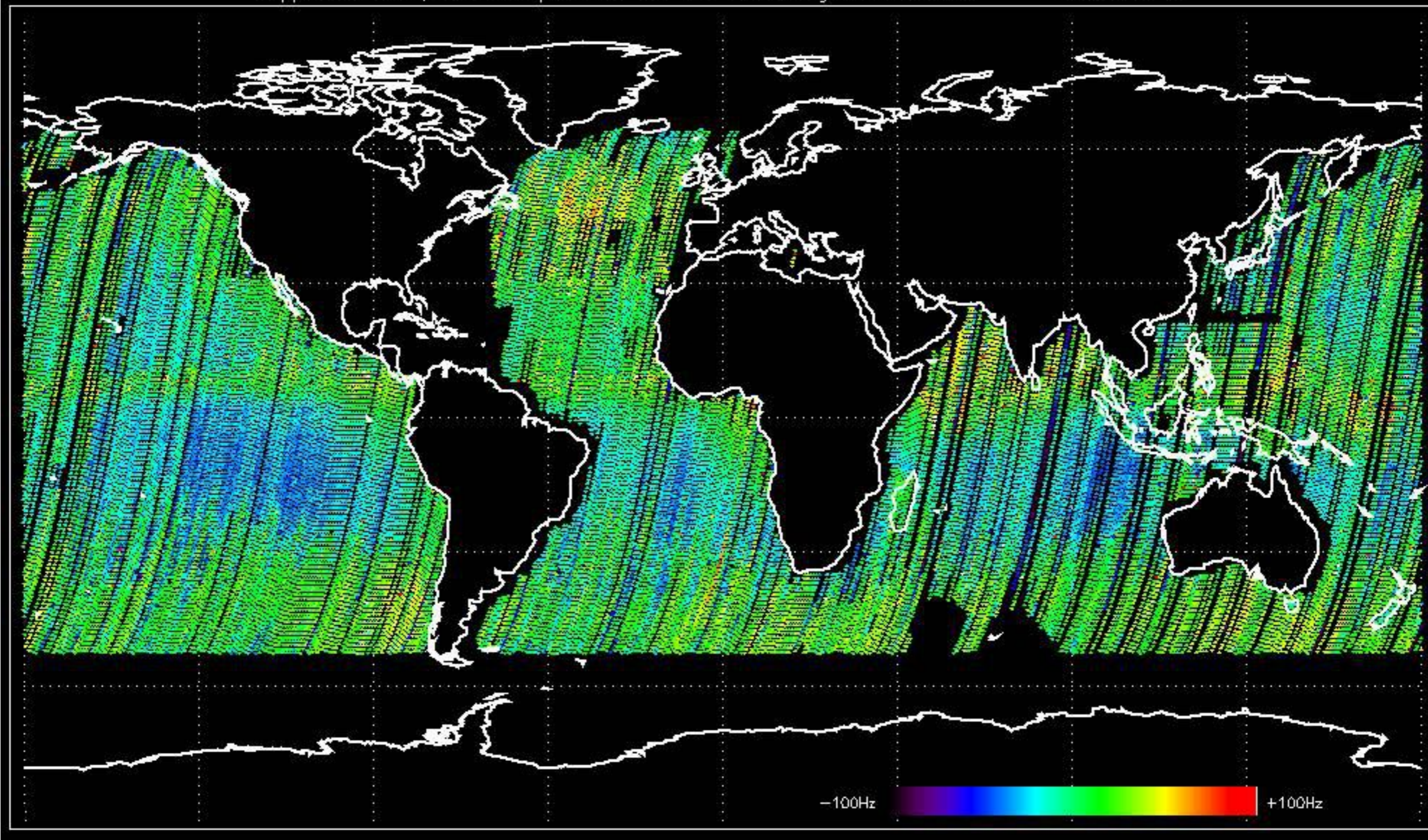
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -14.480053 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -7.9222649 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -14.354657 Hz



No anomalies observed on available MS products:

No anomalies observed.





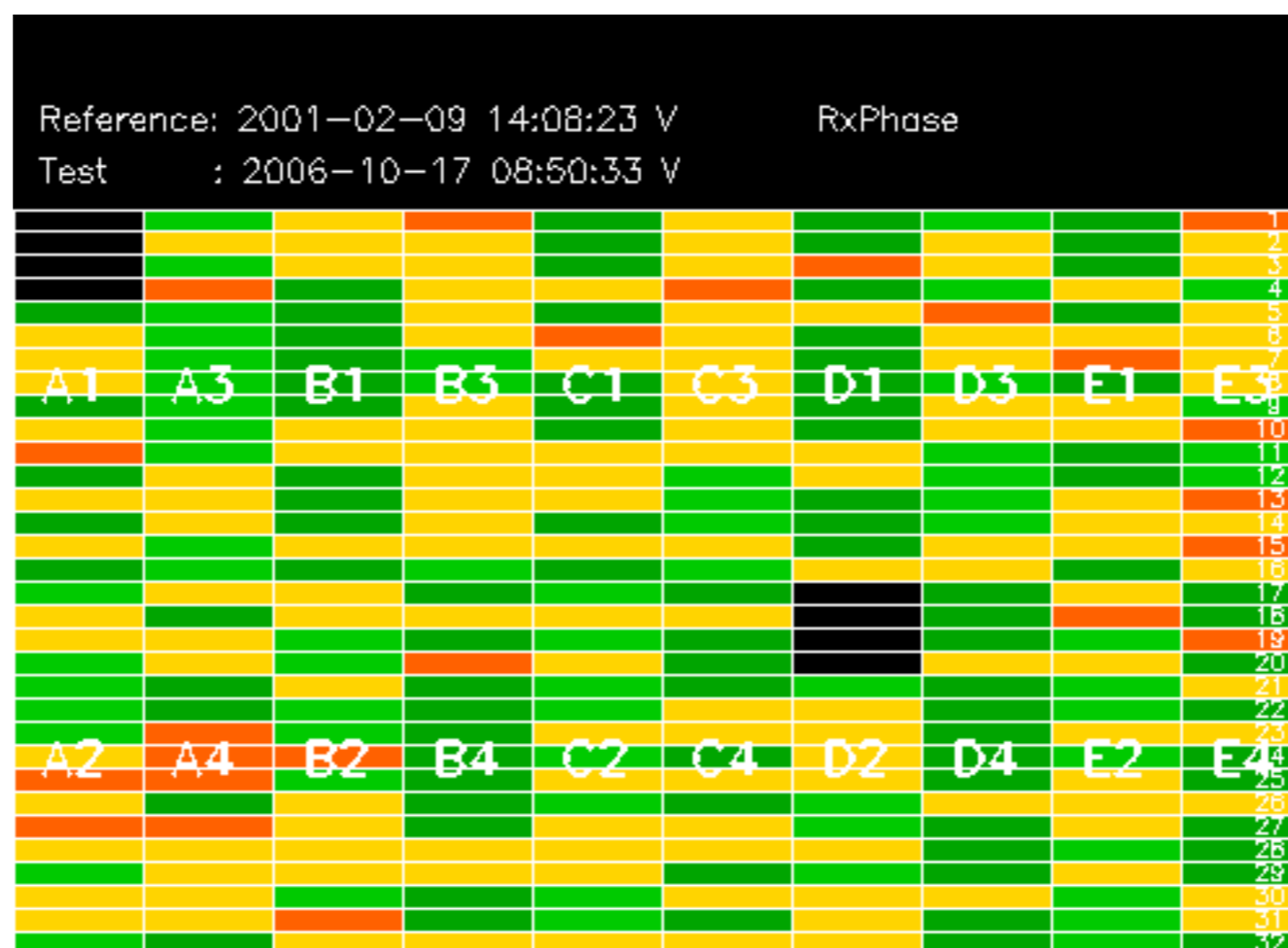






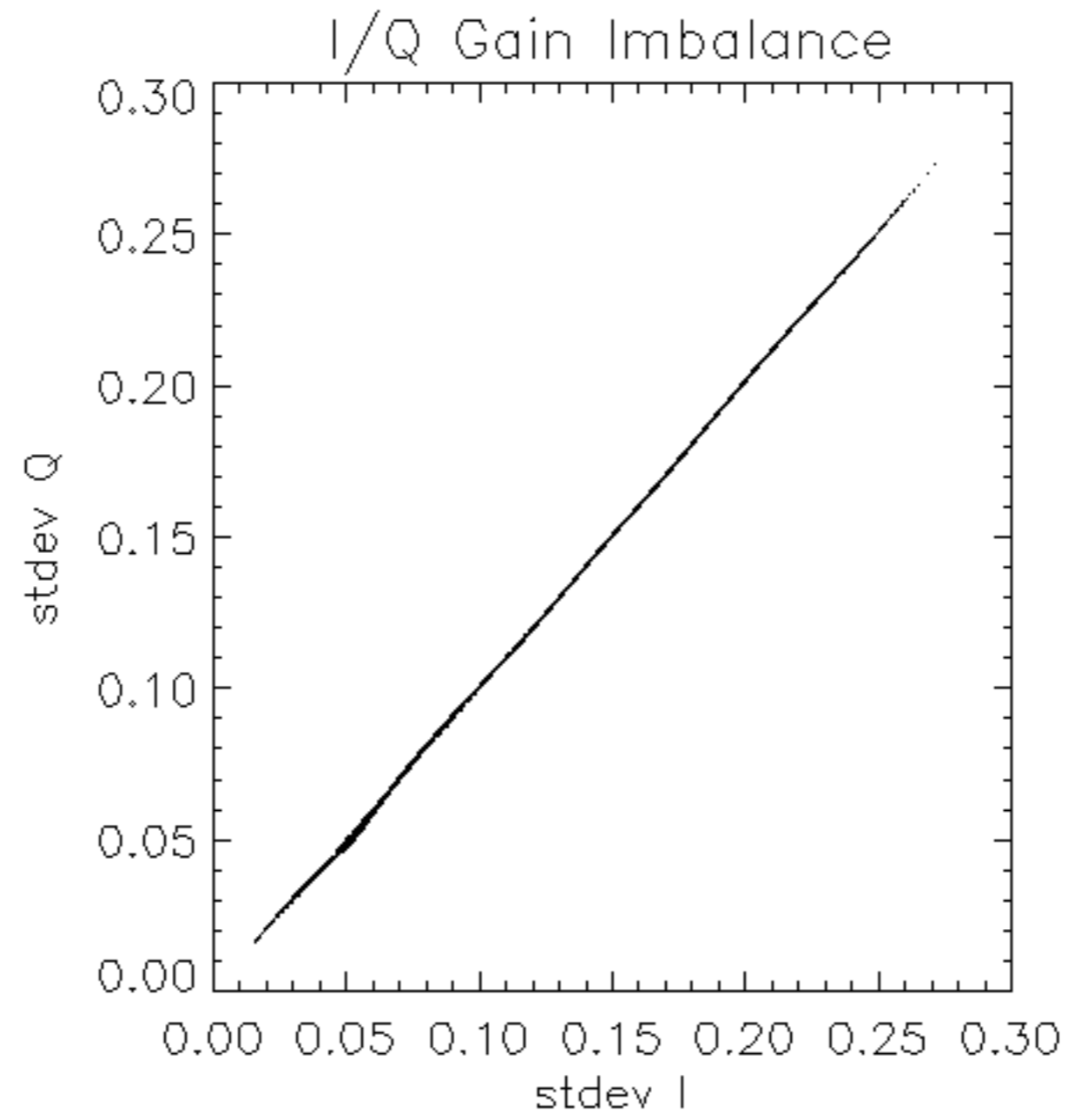


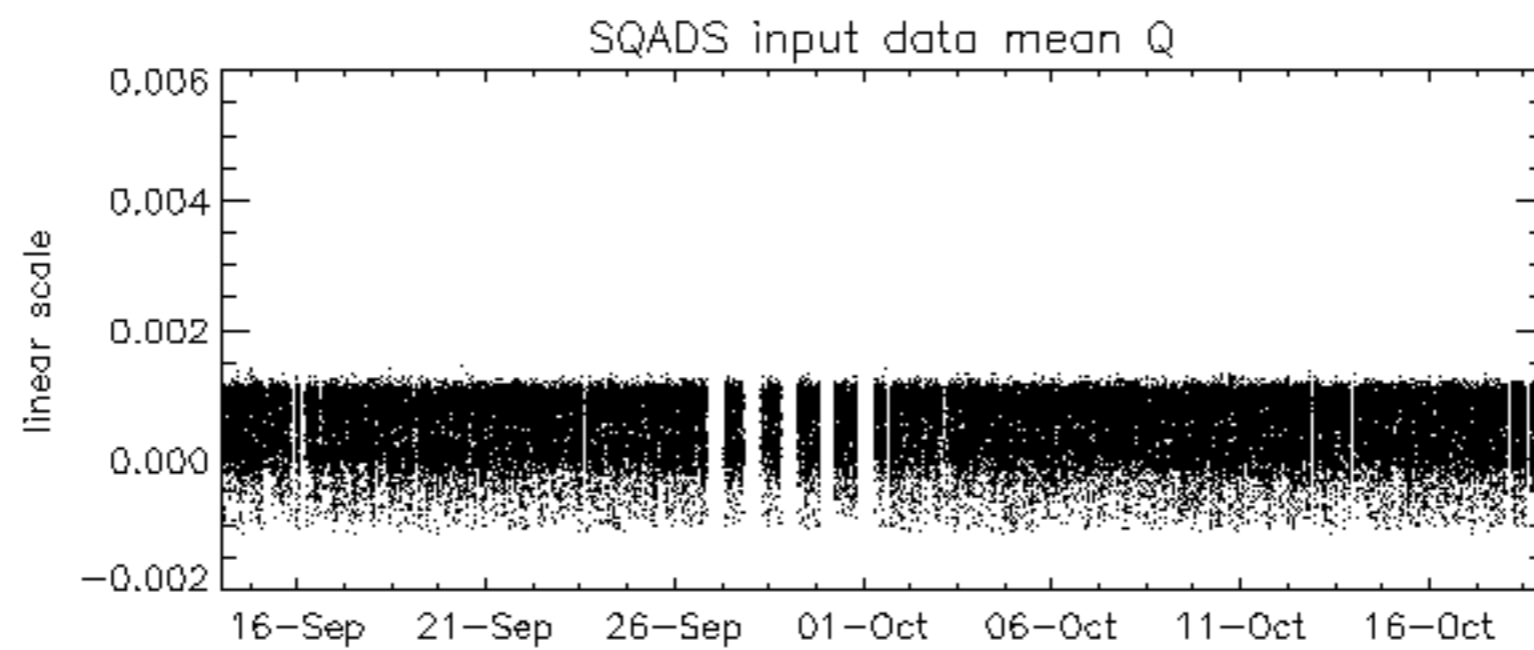
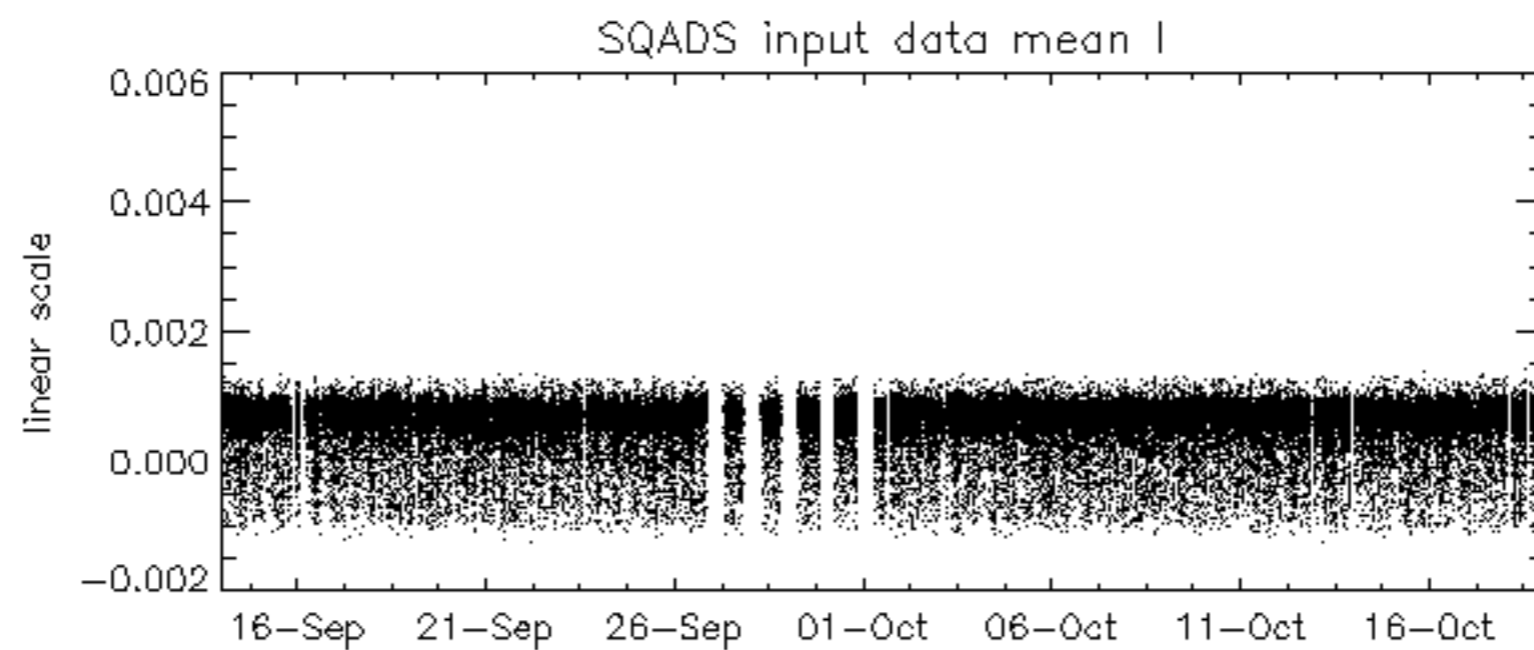
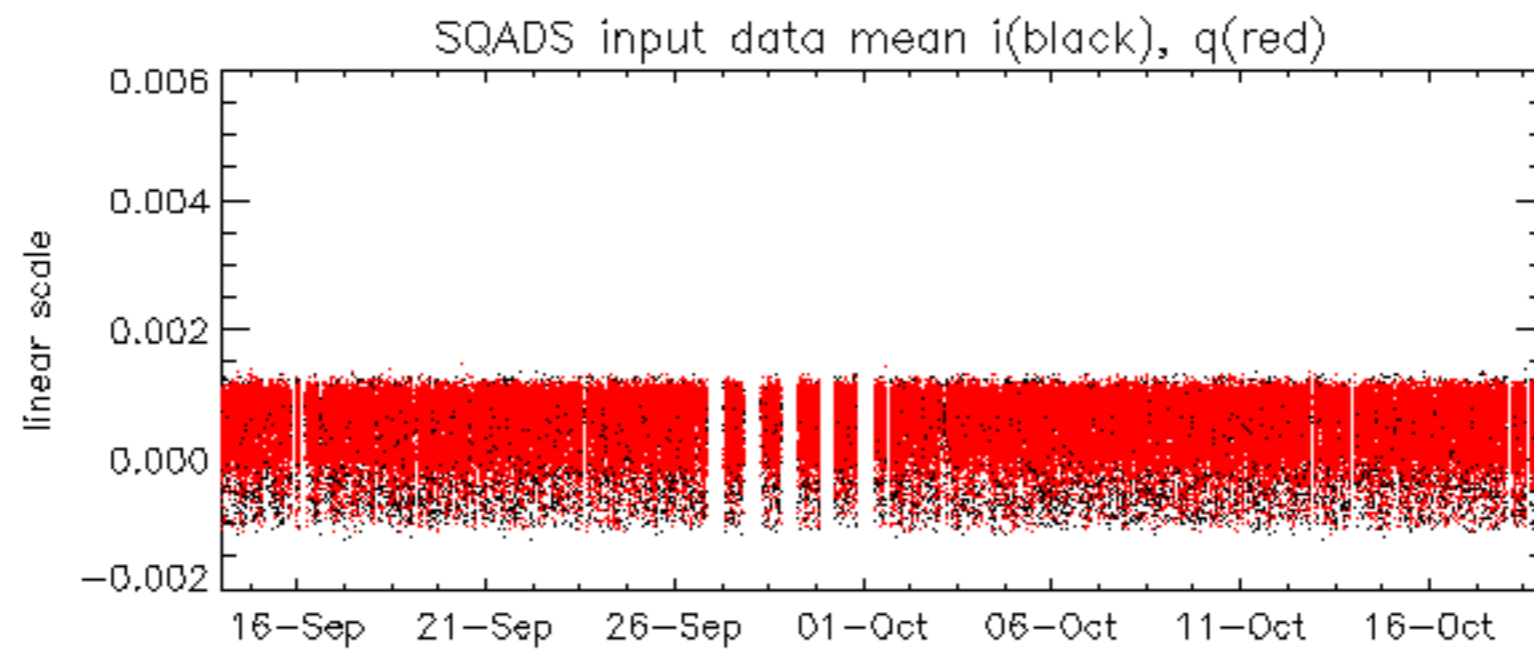


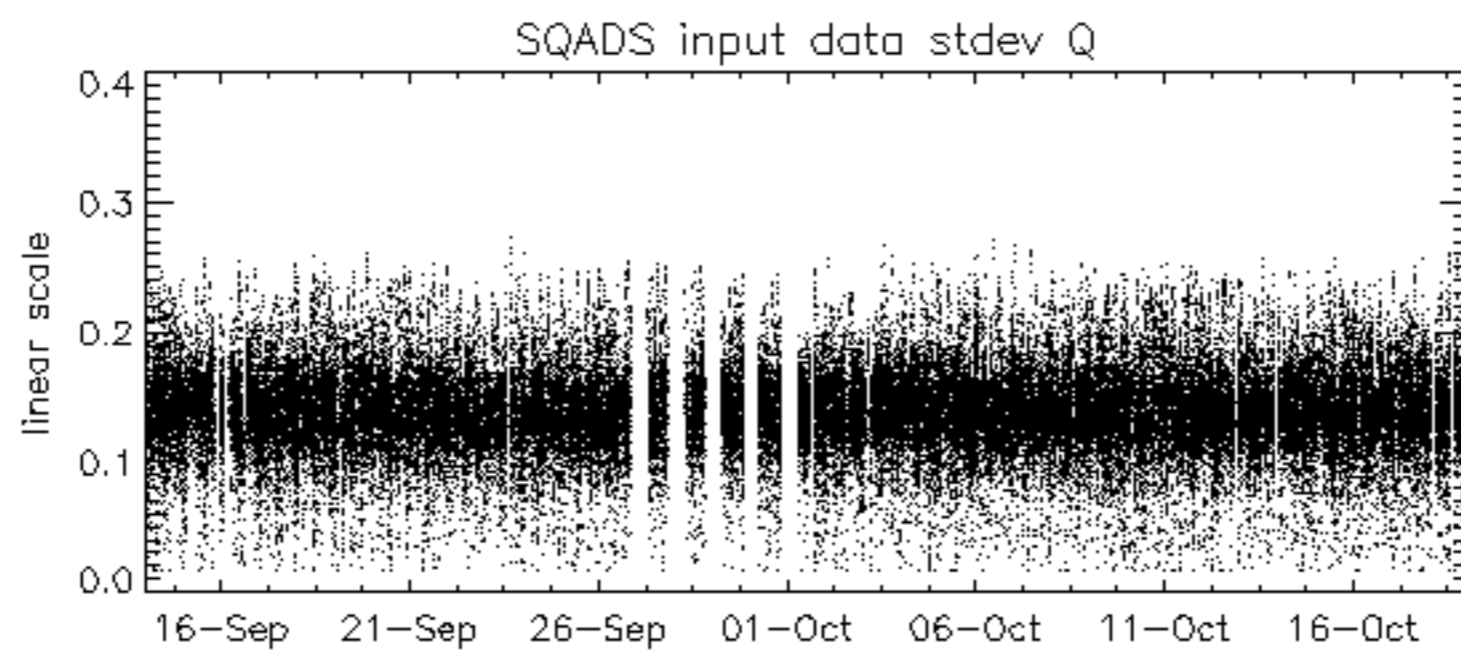
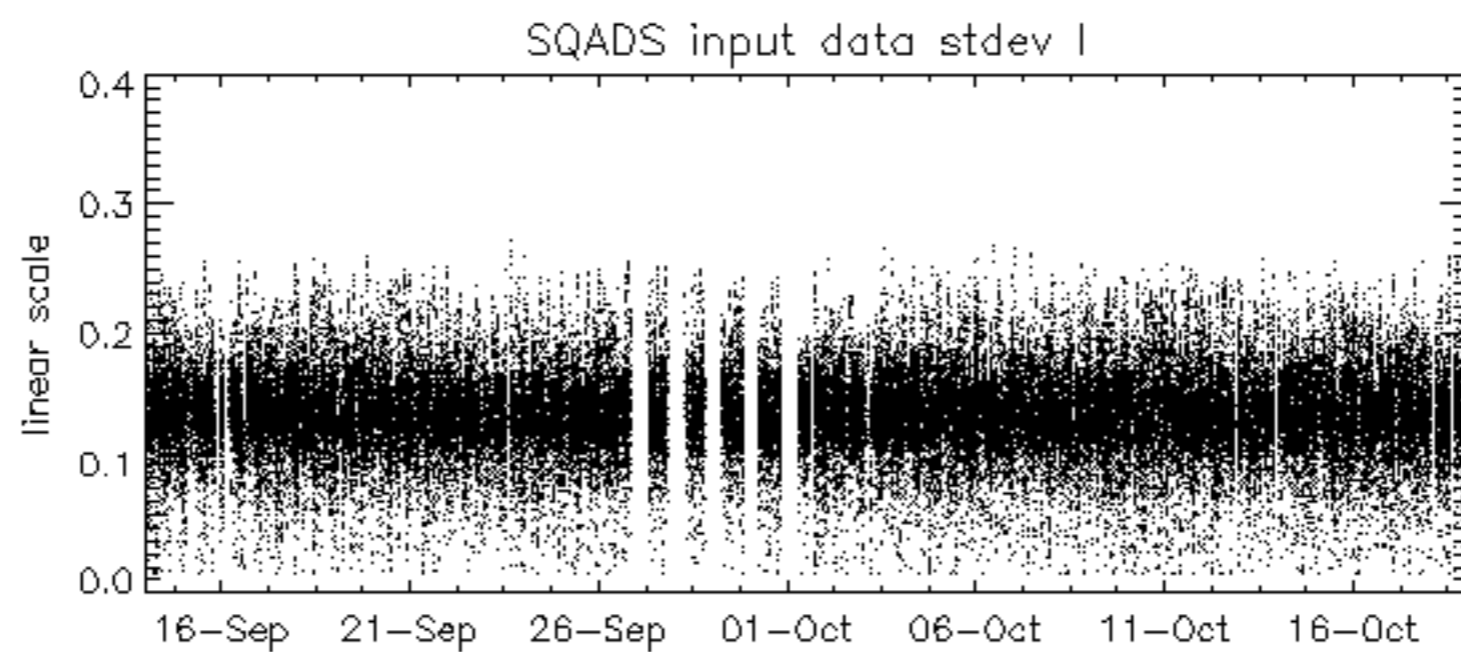
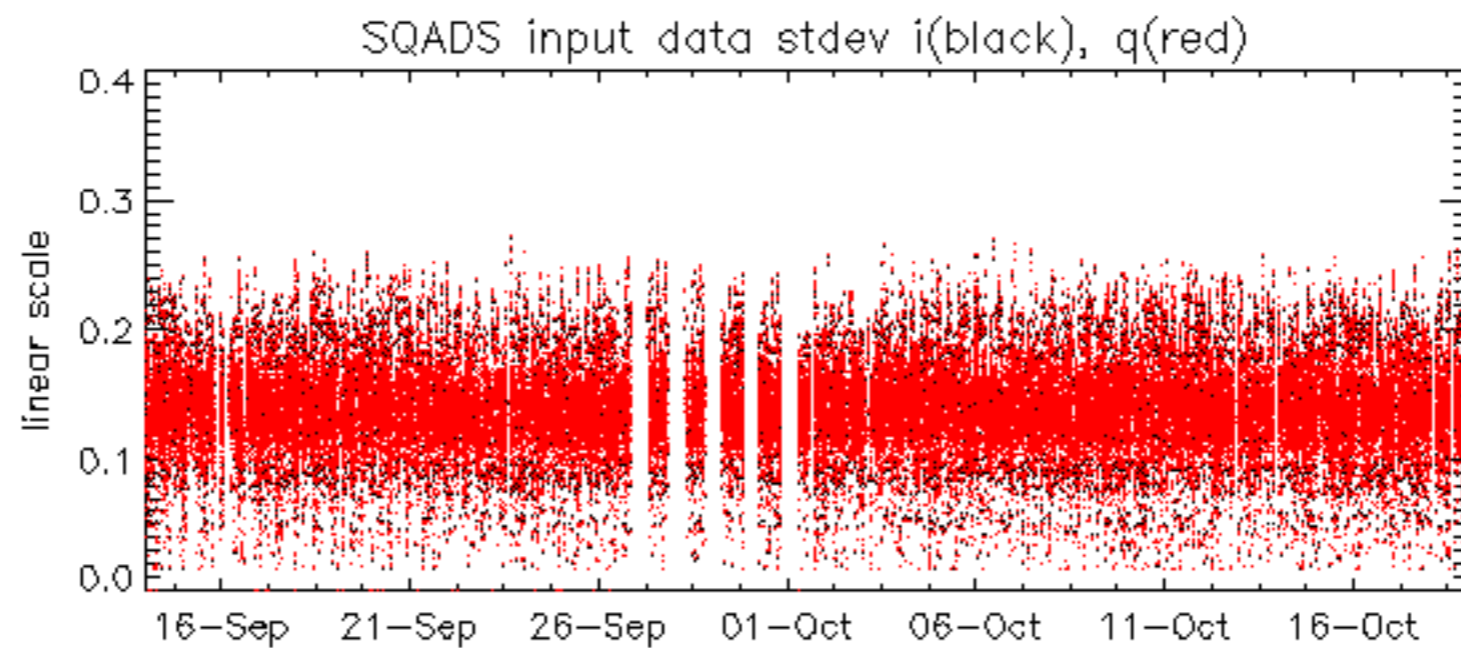




















Summary of analysis for the last 3 days 2006101[789]

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_1PNPDE20061017_011837_000000852052_00103_24205_4315.N1	5	0
ASA_WSM_1PNPDE20061017_011837_000000852052_00103_24205_4316.N1	5	0
ASA_WSM_1PNPDE20061017_011839_000000852052_00103_24205_4370.N1	5	0
ASA_WSM_1PNPDE20061018_171624_000002252052_00127_24229_4369.N1	0	69

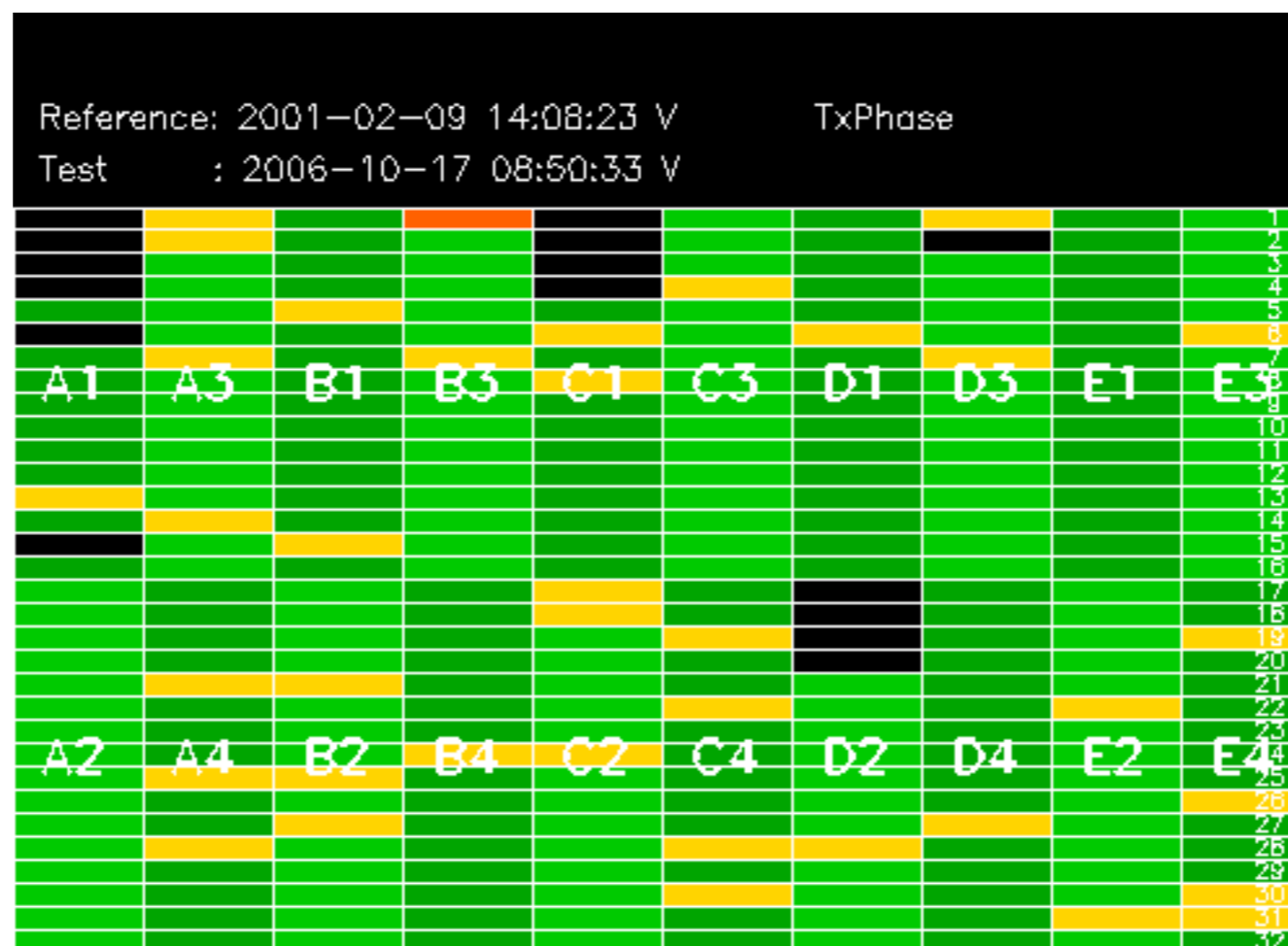




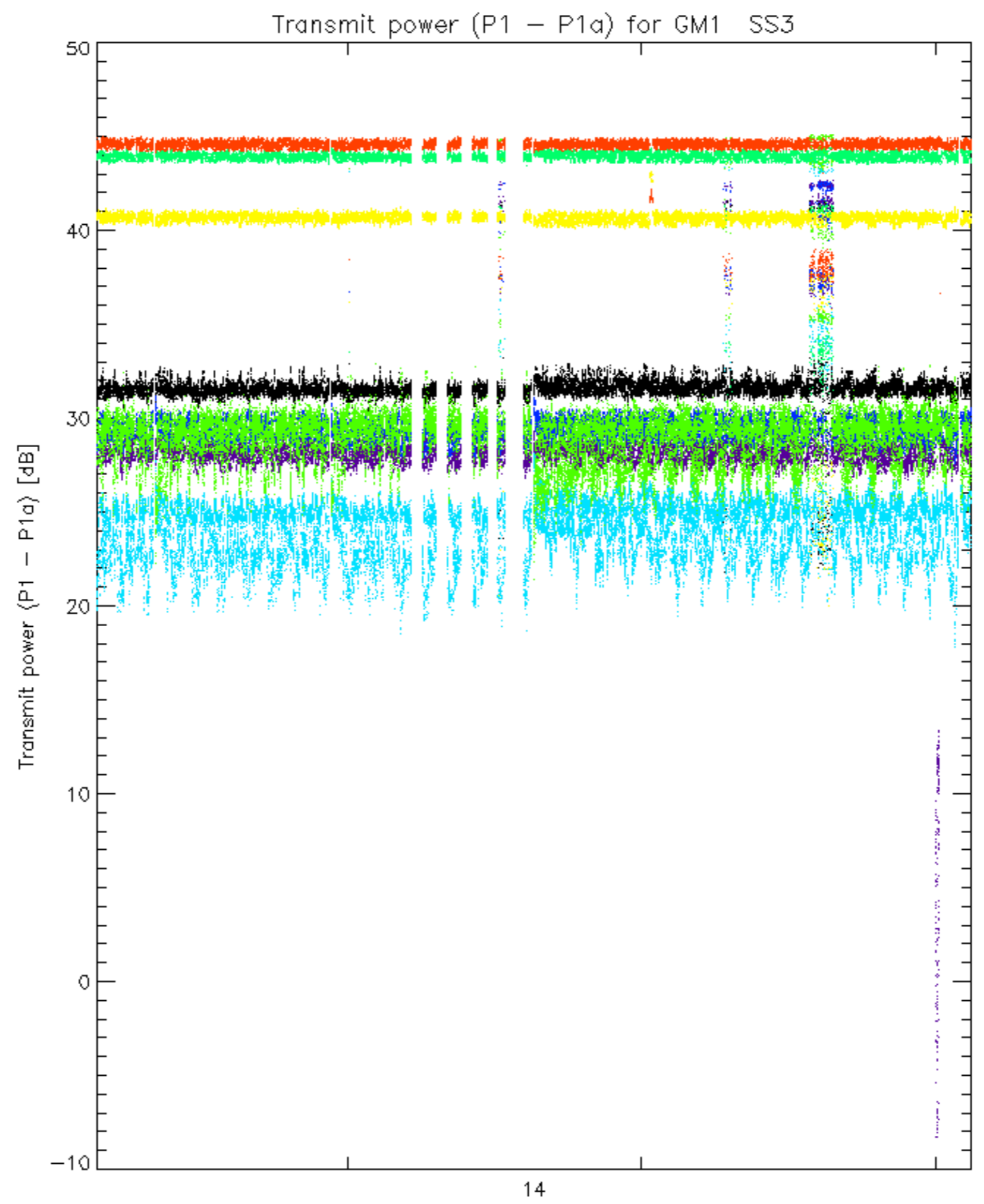


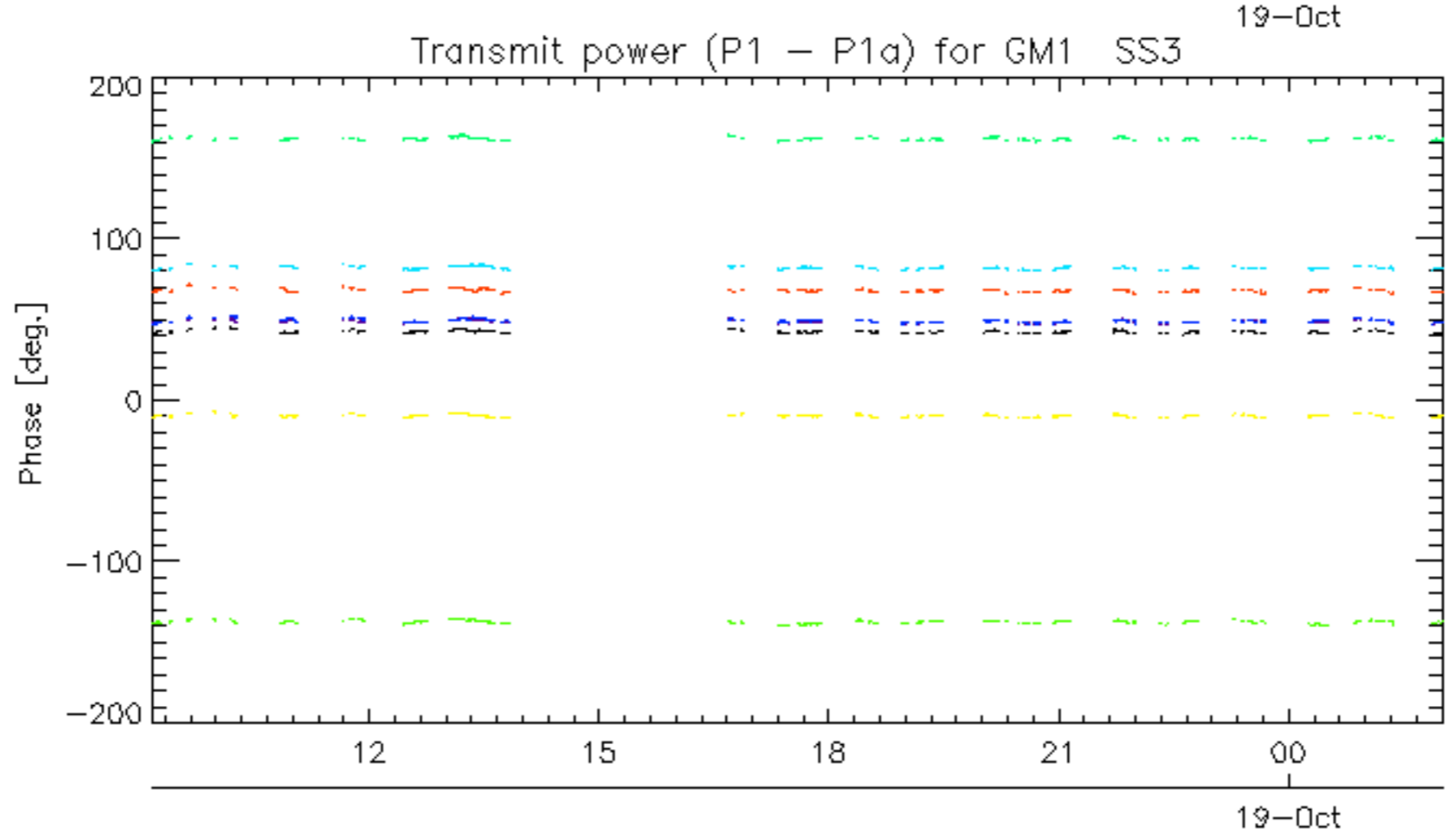
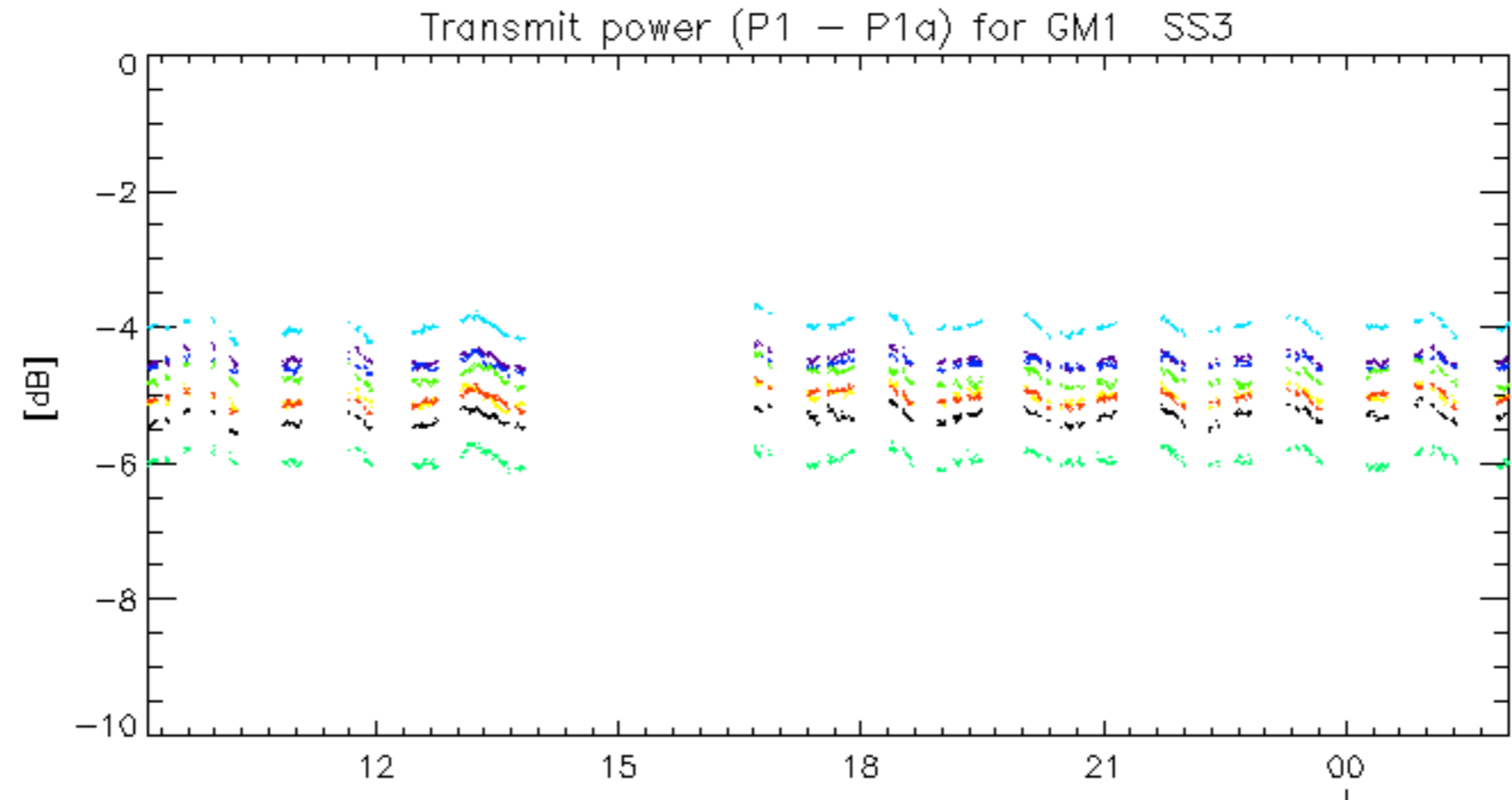






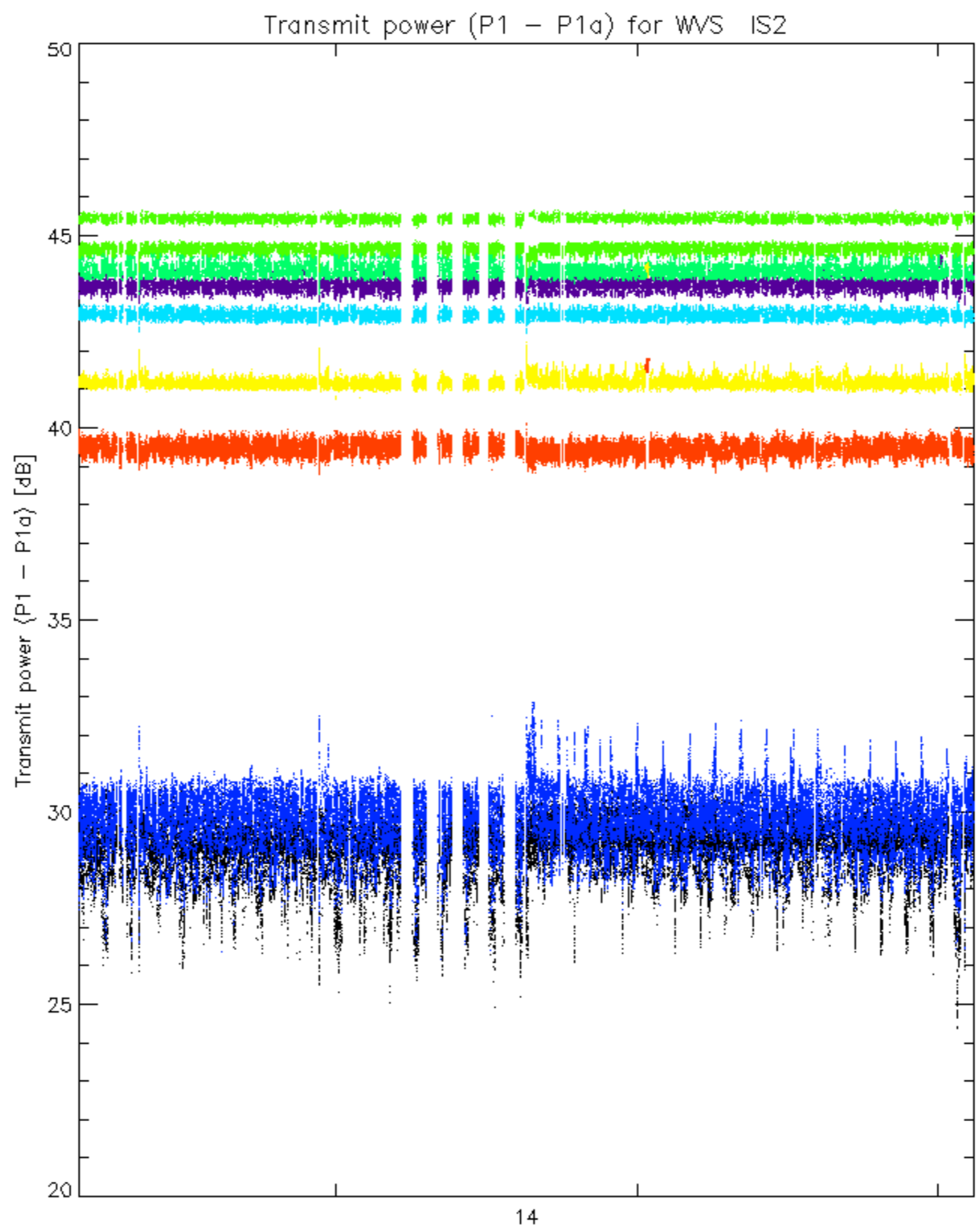




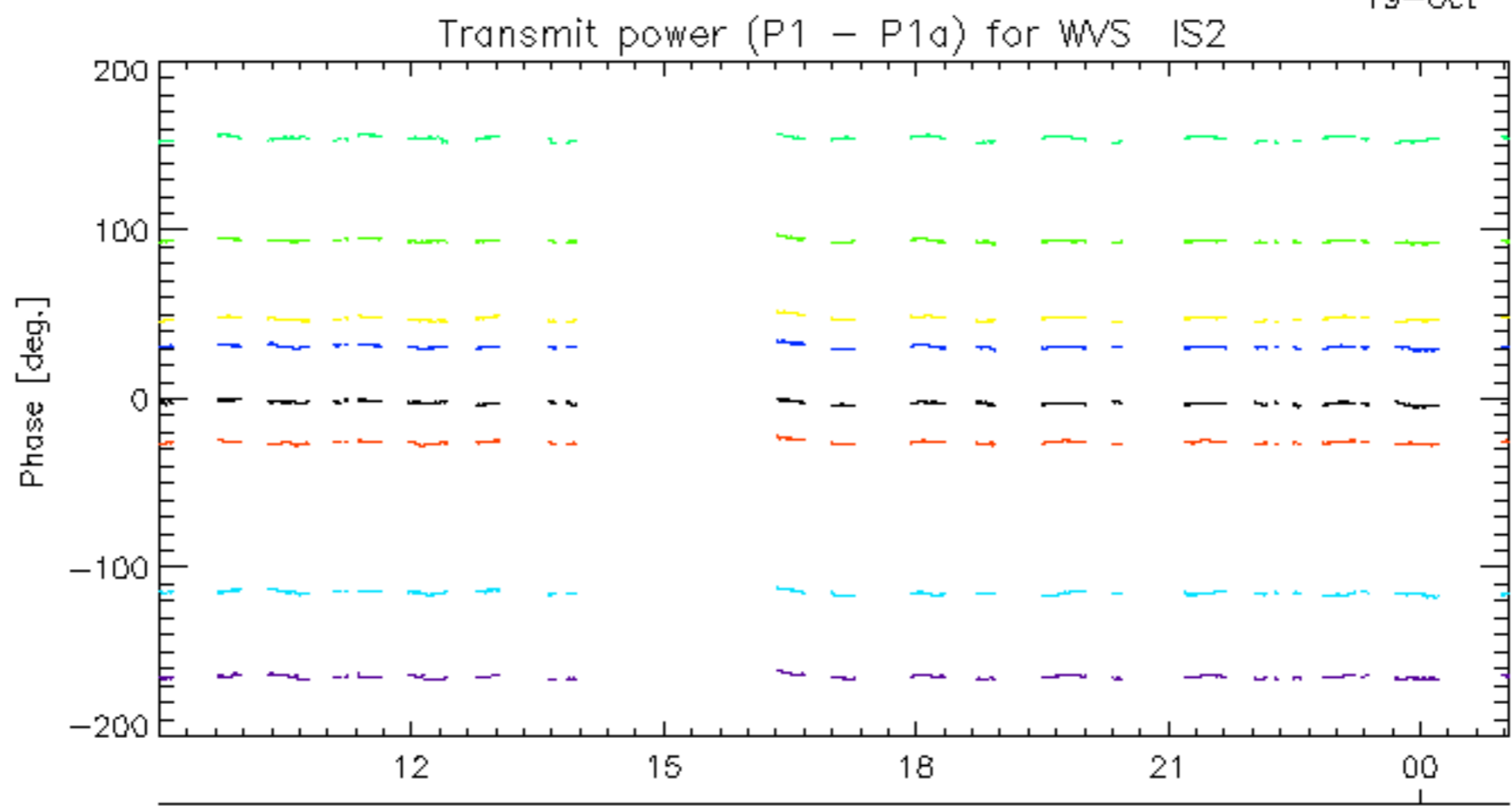
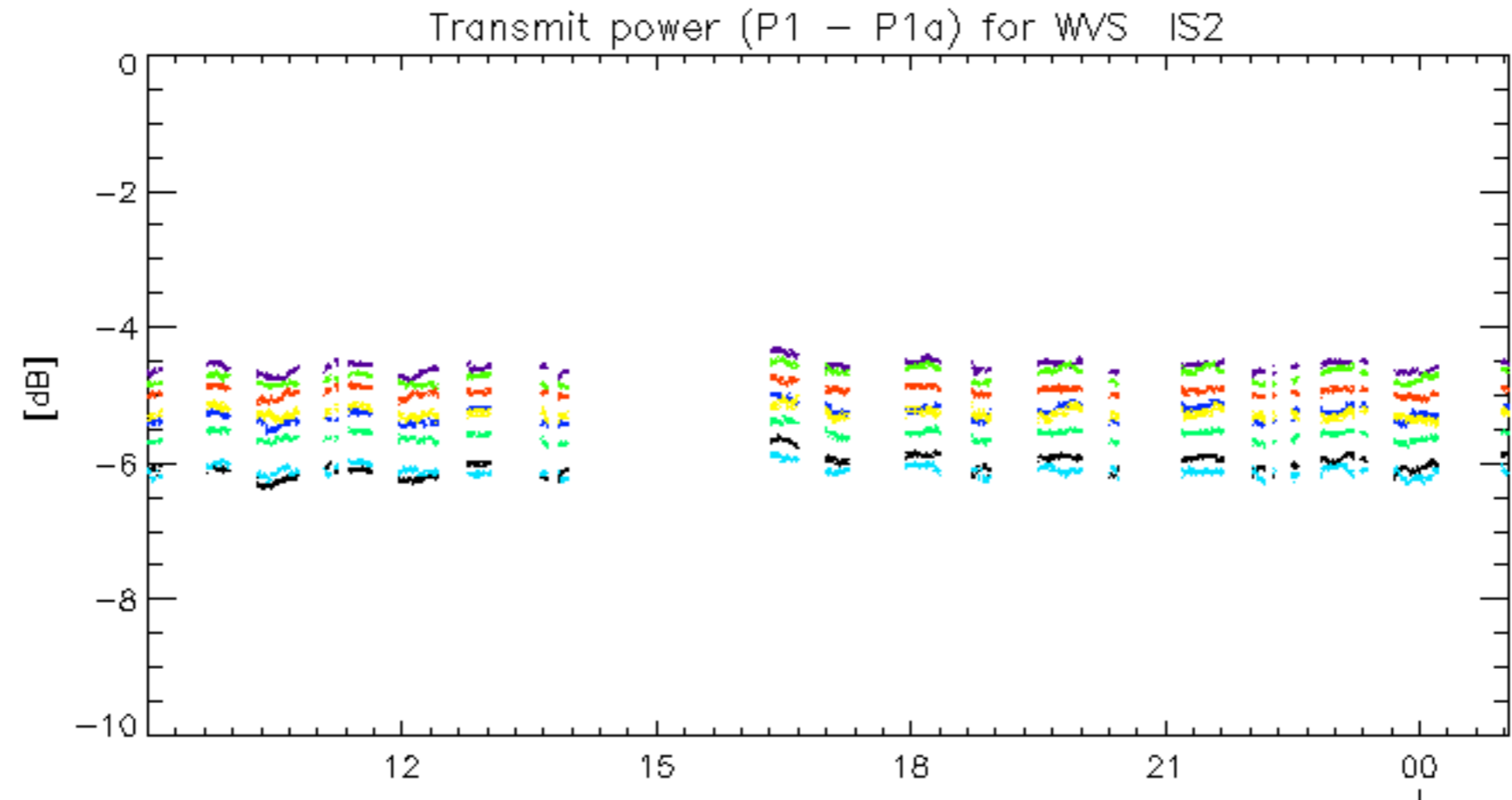


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No unavailabilities during the reported period.