

# PRELIMINARY REPORT OF 050924

last update on Sat Sep 24 10:50:01 GMT 2005

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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 2005-09-23 00:00:00 to 2005-09-24 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	28	8	3	2	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	28	8	3	2	0
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	28	8	3	2	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	28	8	3	2	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	37	49	23	10	57
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	37	49	23	10	57
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	37	49	23	10	57
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	37	49	23	10	57

## 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	20050923 055514
H	20050922 062651

### 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	-3.429533	0.087177	-0.485325
7	P1	-3.113672	0.033236	0.274281
11	P1	-4.576913	0.132957	0.666541
15	P1	-5.757023	0.068251	-0.486526
19	P1	-3.522043	0.238014	1.021235
22	P1	-4.577028	0.021914	0.178618
26	P1	-4.713988	0.091468	0.491367
30	P1	-6.715889	0.653500	2.032206
3	P1	-15.904746	1.860321	-0.901636
7	P1	-16.428238	5.459565	-2.425414
11	P1	-20.822729	10.805448	4.679125
15	P1	-12.841530	11.543560	-4.575734
19	P1	-14.158954	0.339512	1.318761
22	P1	-17.043242	25.419146	-4.301311
26	P1	-18.274405	21.893700	-2.414861
30	P1	-18.285070	8.635999	-0.429507

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.756521	0.099056	-0.206138
7	P2	-22.158123	0.318439	-1.173401
11	P2	-14.569857	2.977720	-4.346707
15	P2	-7.123092	0.124294	-0.292026
19	P2	-9.358424	0.236697	0.694438
22	P2	-17.038910	0.245294	-0.971617
26	P2	-16.385794	0.136966	0.444597
30	P2	-19.101839	0.271807	-1.080578

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.161328	0.004512	-0.028282
7	P3	-8.161328	0.004512	-0.028282
11	P3	-8.161328	0.004512	-0.028282
15	P3	-8.161328	0.004512	-0.028282
19	P3	-8.161328	0.004512	-0.028282
22	P3	-8.161328	0.004512	-0.028282
26	P3	-8.161325	0.004512	-0.028300
30	P3	-8.161325	0.004512	-0.028300

#### 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	-2.929466	0.218624	-0.741863
7	P1	-2.991230	0.083280	-0.101580
11	P1	-3.734426	0.288070	1.256249
15	P1	-3.576146	0.036192	0.230253
19	P1	-3.475789	0.089520	0.533215
22	P1	-5.437442	0.252489	0.983084
26	P1	-6.683999	1.033718	2.415531
30	P1	-5.809271	0.591705	1.698458
3	P1	-11.308592	0.569008	-1.088894
7	P1	-11.774600	21.288504	-3.297226
11	P1	-13.851588	38.324215	-2.240849
15	P1	-13.226664	35.440804	-3.812370
19	P1	-15.320614	0.223157	0.349748
22	P1	-23.933556	6.130473	5.584808
26	P1	-16.413099	6.867671	-4.200578
30	P1	-20.039049	2.062617	0.411952

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.487001	0.064354	-0.341736
7	P2	-22.338955	0.341317	-1.426196
11	P2	-10.201365	1.244209	-2.943826
15	P2	-5.021262	0.049826	0.198961
19	P2	-6.752930	0.125860	0.194156
22	P2	-7.297603	0.244192	-1.172974
26	P2	-23.924812	0.040175	0.091895
30	P2	-22.017128	0.076152	-0.305019

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.005774	0.003561	-0.017182
7	P3	-8.005751	0.003564	-0.016707
11	P3	-8.005701	0.003561	-0.016395
15	P3	-8.005681	0.003568	-0.016888
19	P3	-8.005863	0.003554	-0.017214
22	P3	-8.005667	0.003554	-0.016727
26	P3	-8.005746	0.003558	-0.017015
30	P3	-8.005638	0.003579	-0.017338

## 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	0.000484791
	stdev	2.05993e-07
MEAN Q	mean	0.000505249
	stdev	2.24011e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.130838
	stdev	0.00100041
STDEV Q	mean	0.131110
	stdev	0.00101217



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005092[234]

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_1PNPDK20050922_104238_000006162041_00037_18628_6169.N1	0	58
ASA_GM1_1PNPDK20050922_113749_000005012041_00037_18628_6240.N1	0	29
ASA_WSM_1PNPDE20050922_170449_000002442041_00041_18632_9995.N1	0	22
ASA_WSM_1PNPDE20050922_184757_000003042041_00042_18633_0010.N1	0	13
ASA_WSM_1PNPDE20050922_191352_000000672041_00042_18633_0013.N1	0	601
ASA_WSM_1PNPDE20050923_163431_000001522041_00055_18646_0167.N1	0	2
ASA_WSM_1PNPDE20050923_181716_000000672041_00056_18647_0174.N1	0	32





## 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

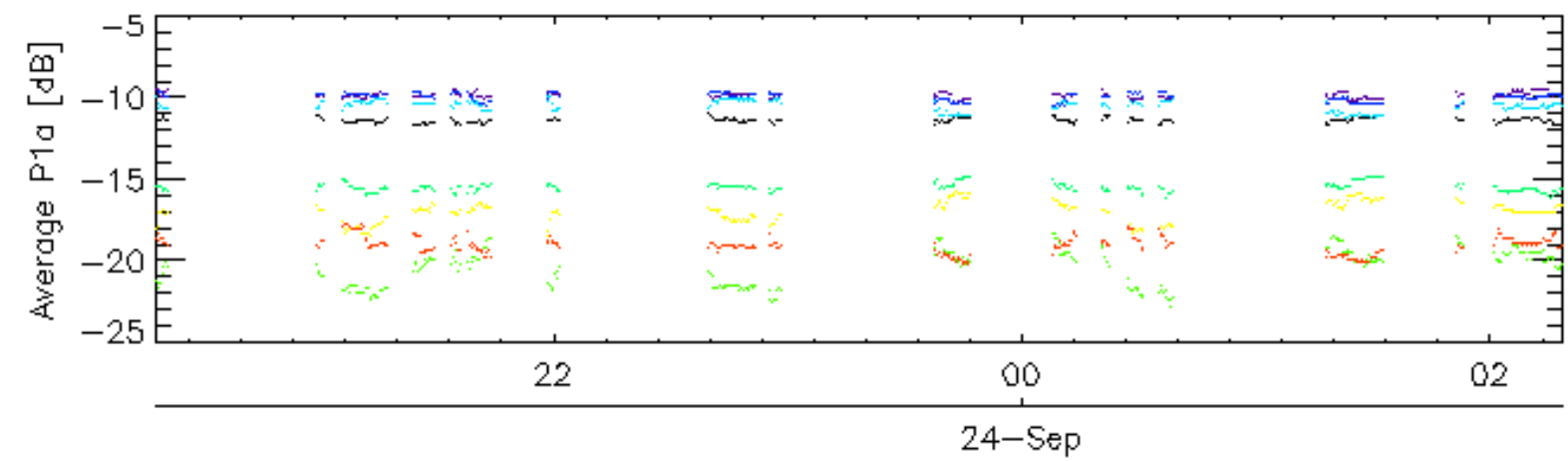
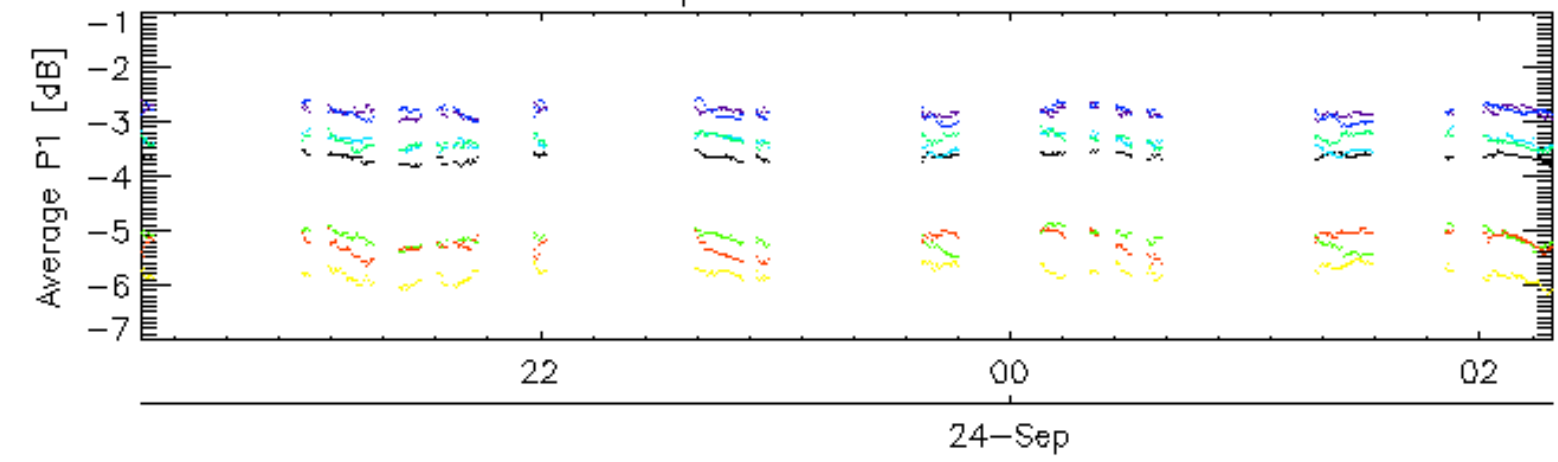
**7.5 - Absolute Doppler for GM1****Evolution of Absolute Doppler**

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

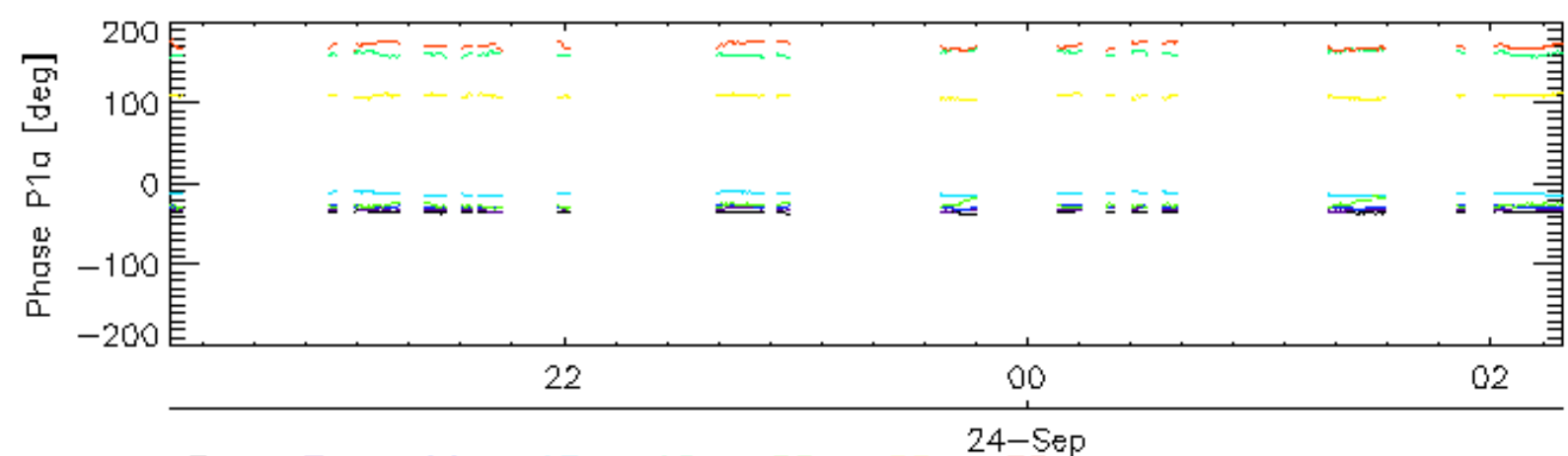
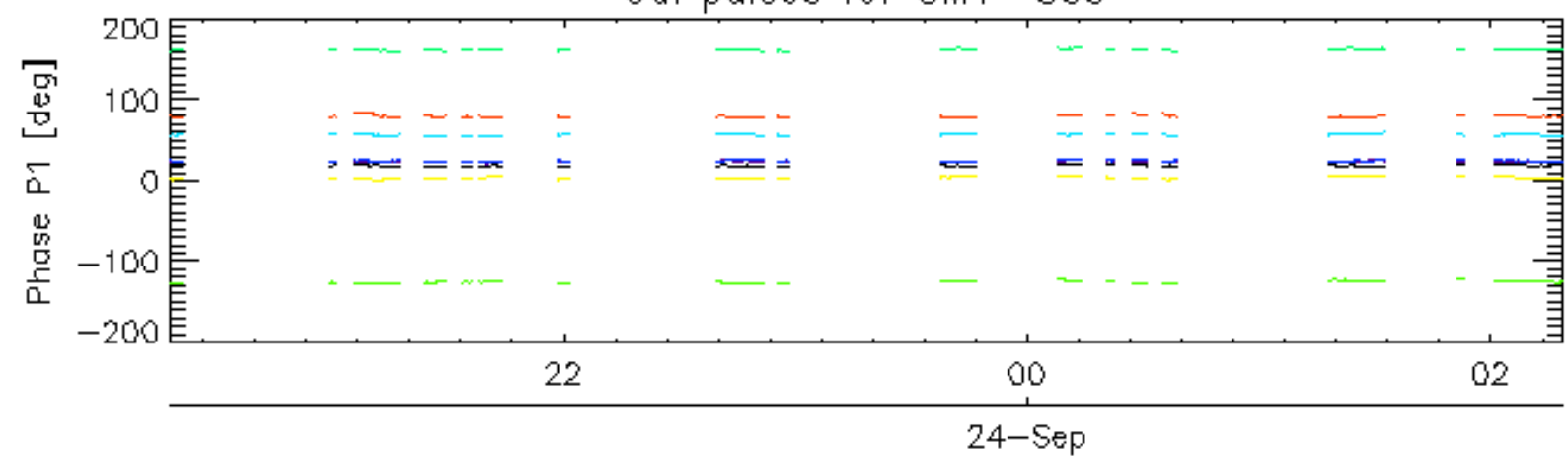
**7.6 - Doppler evolution versus ANX for GM1****Evolution Doppler error versus ANX**

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

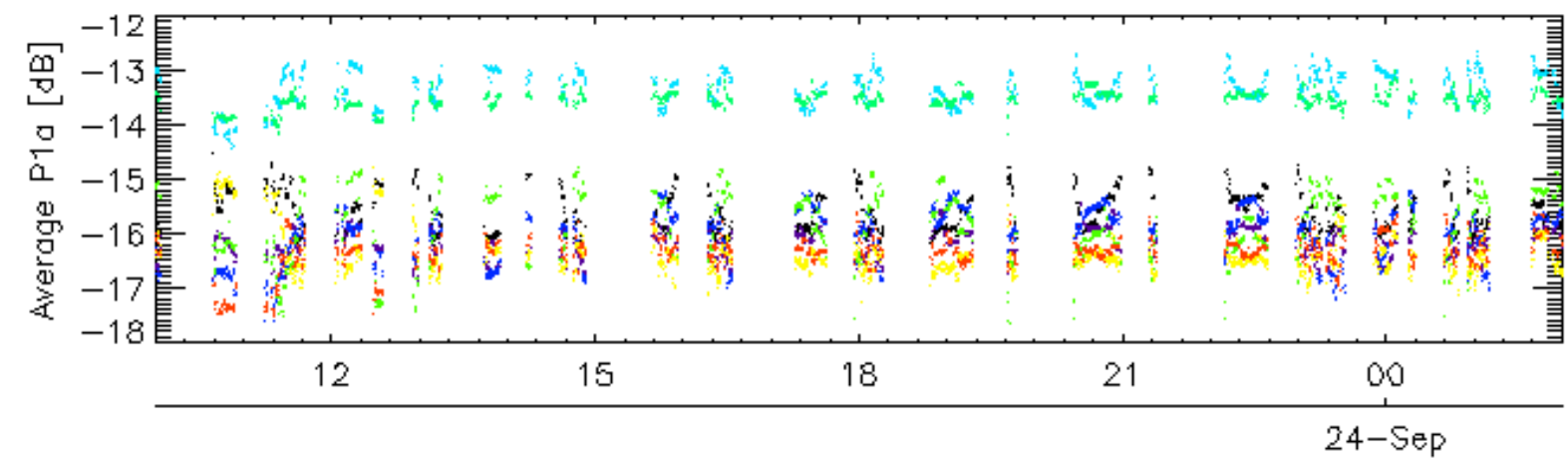
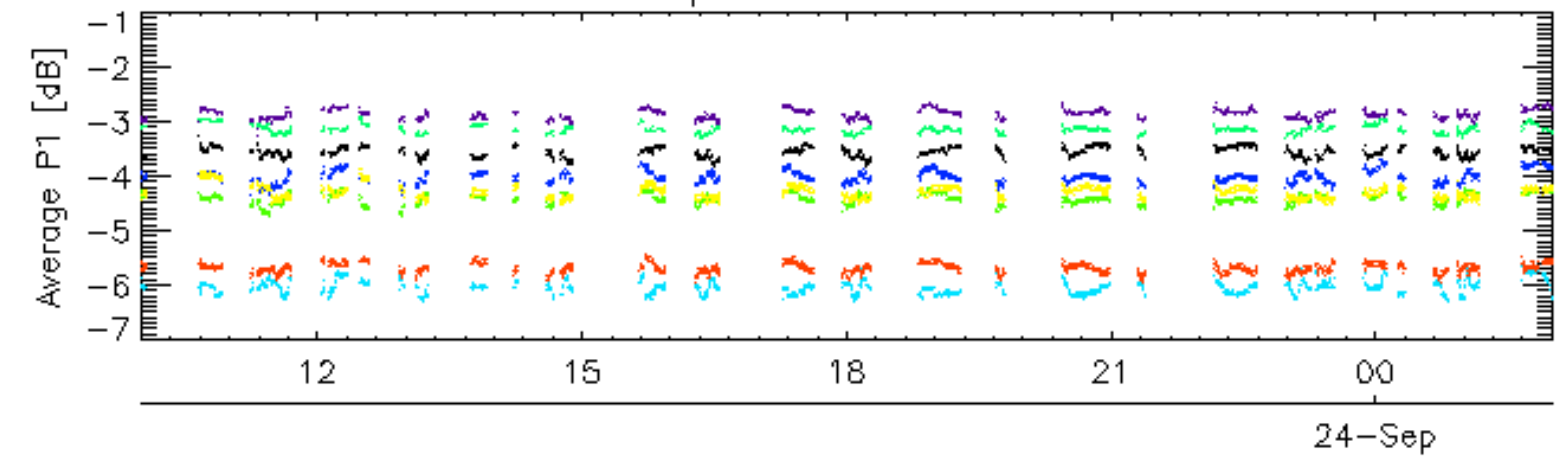


Cal pulses for GM1 SS3

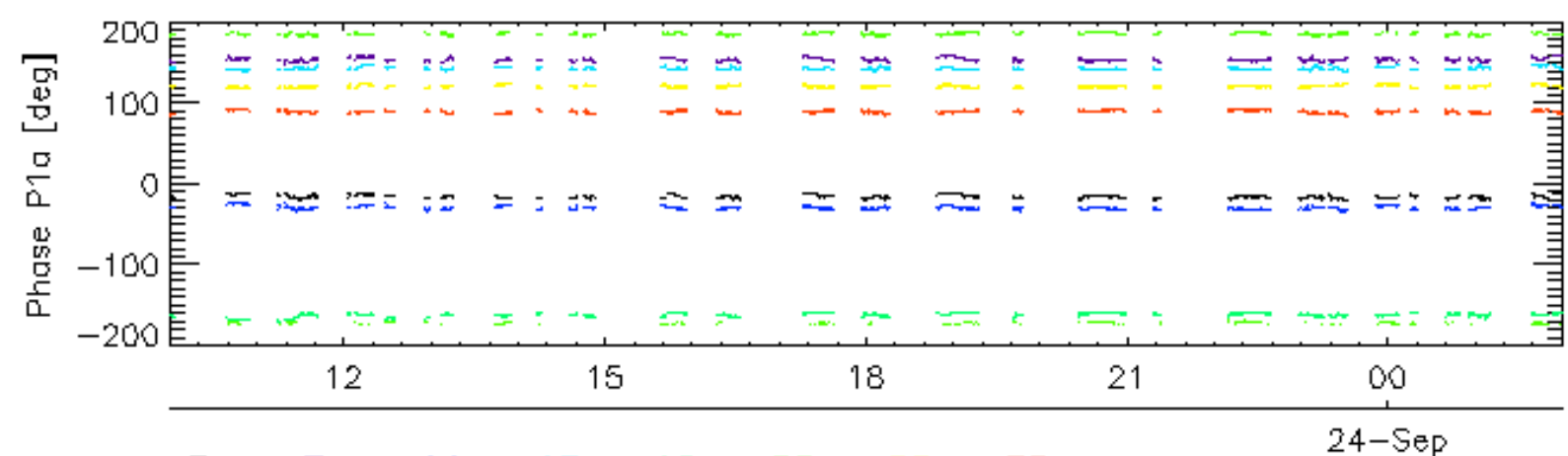
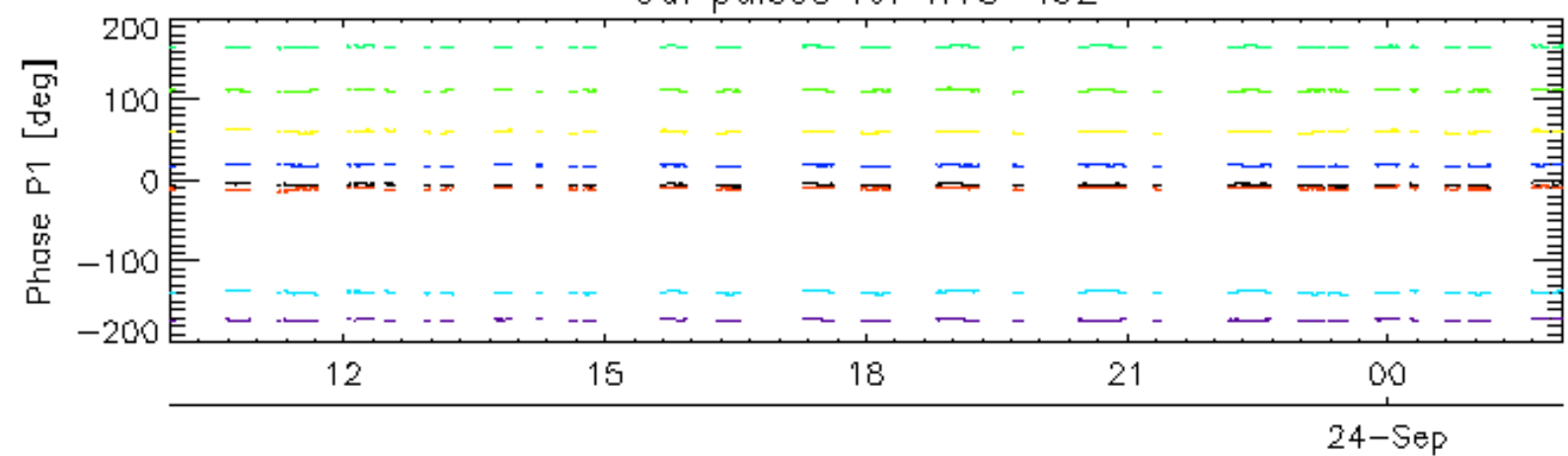


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30 24-Sep

Cal pulses for WVS IS2

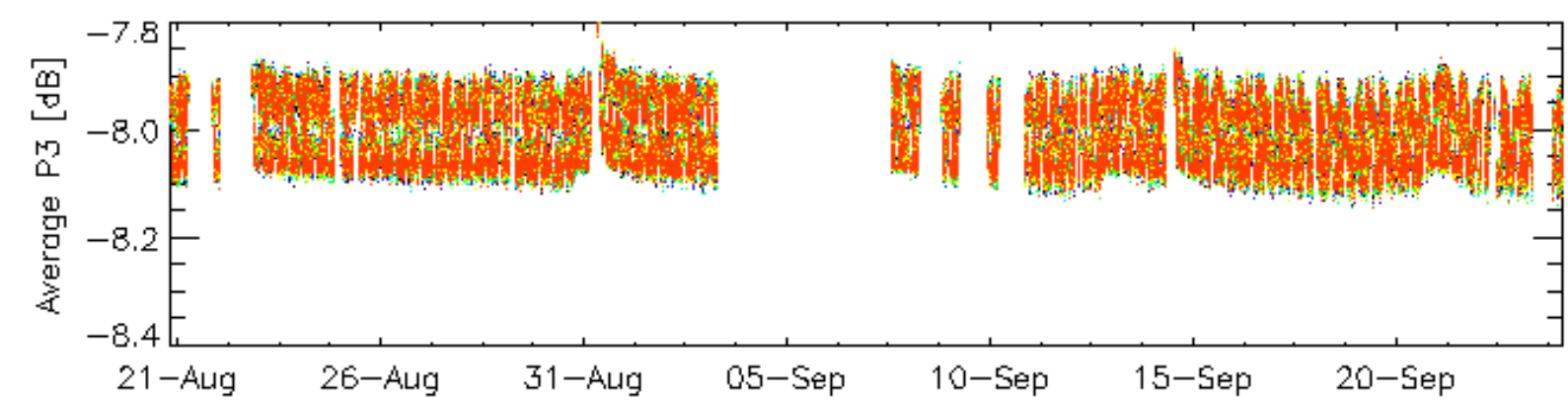
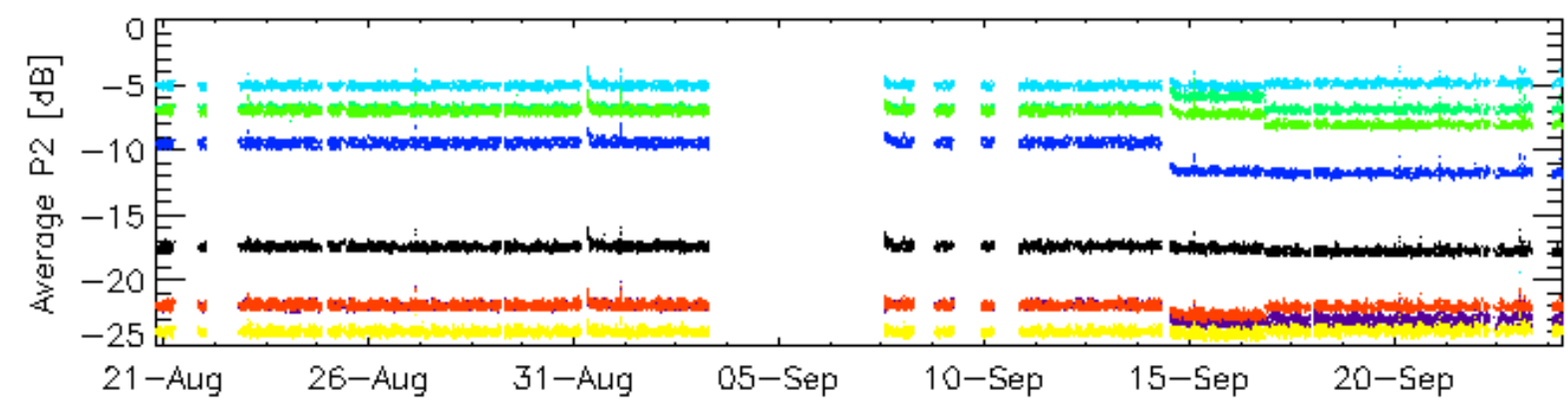
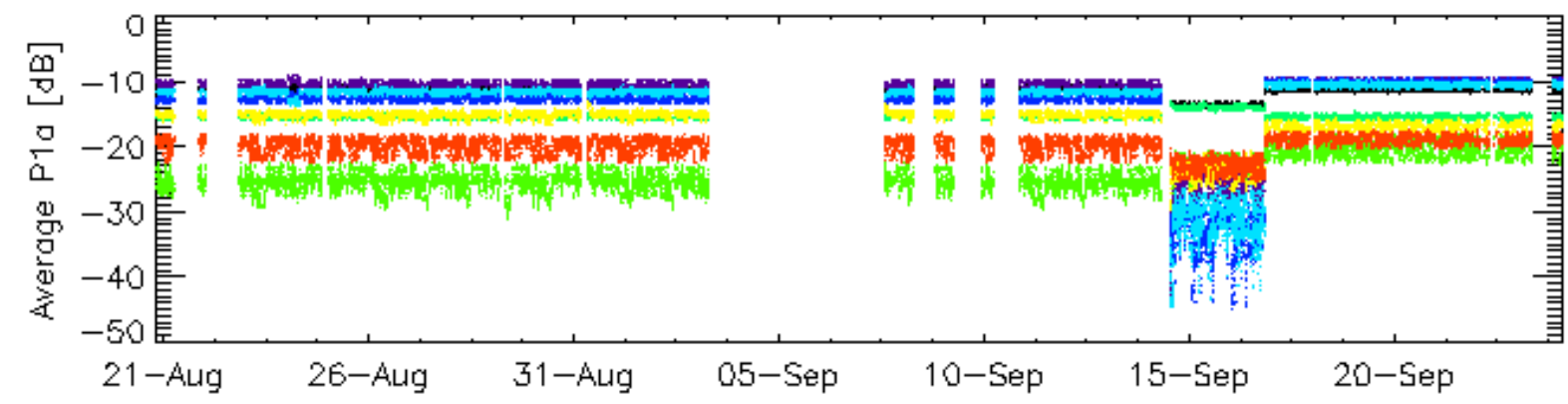
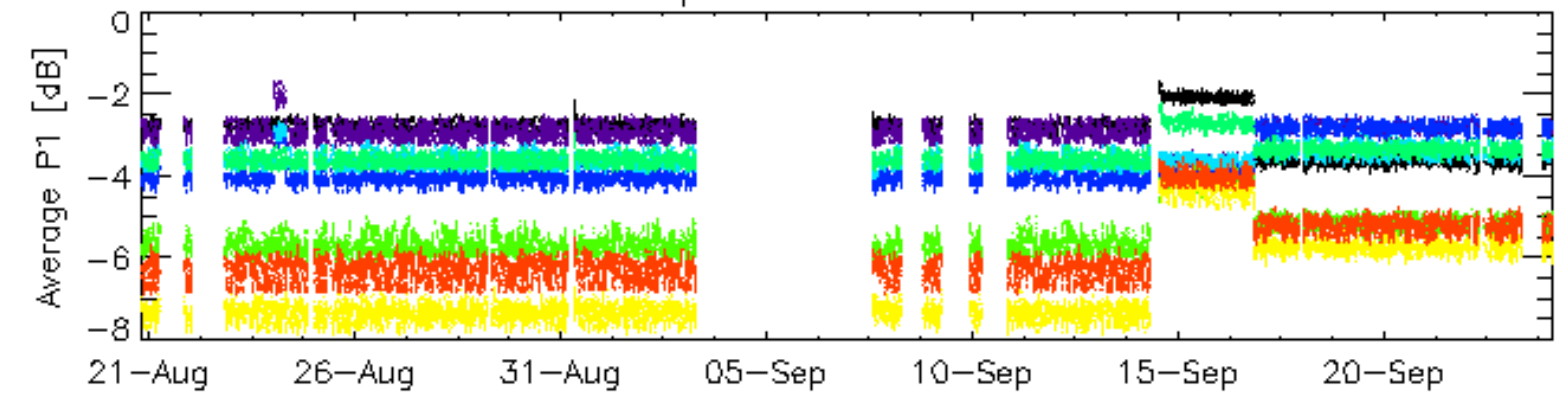


Cal pulses for WVS IS2



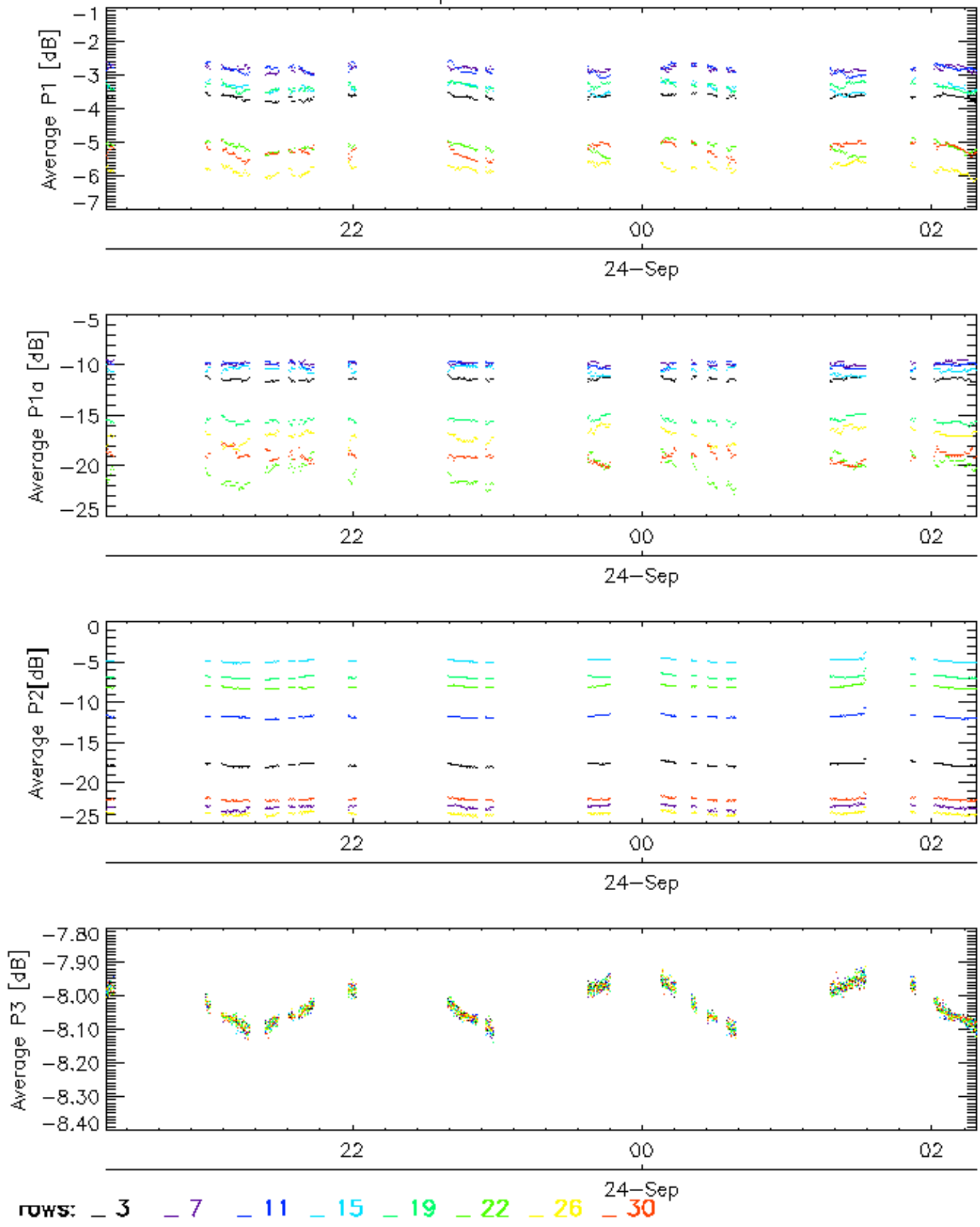
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

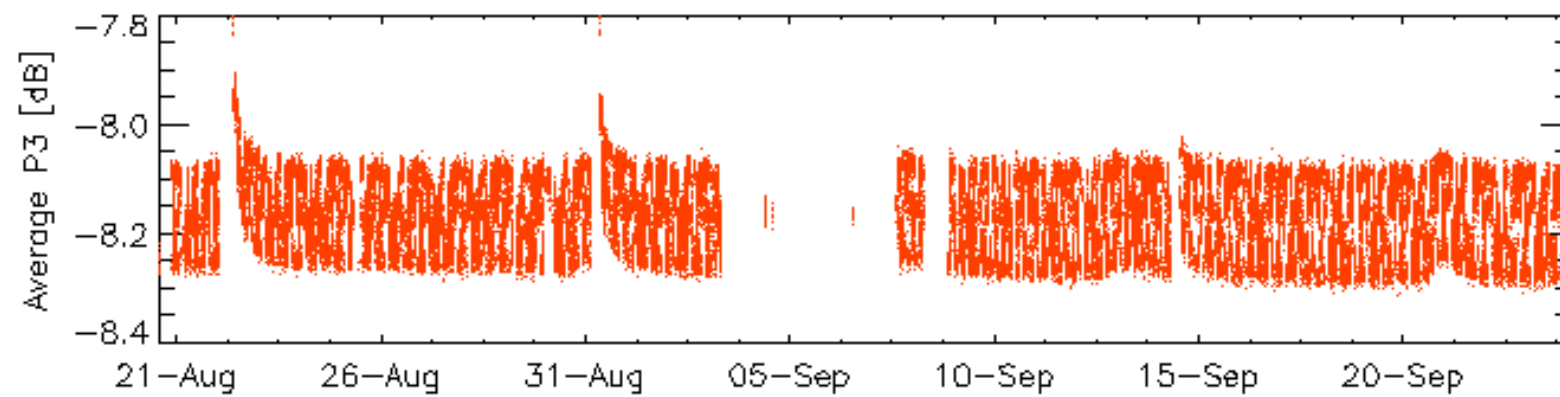
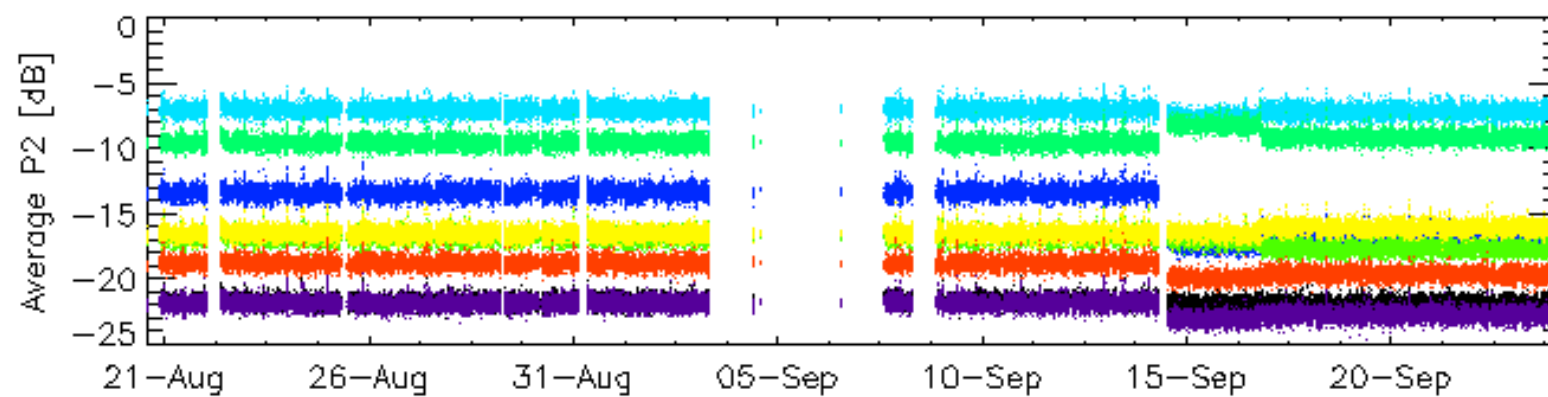
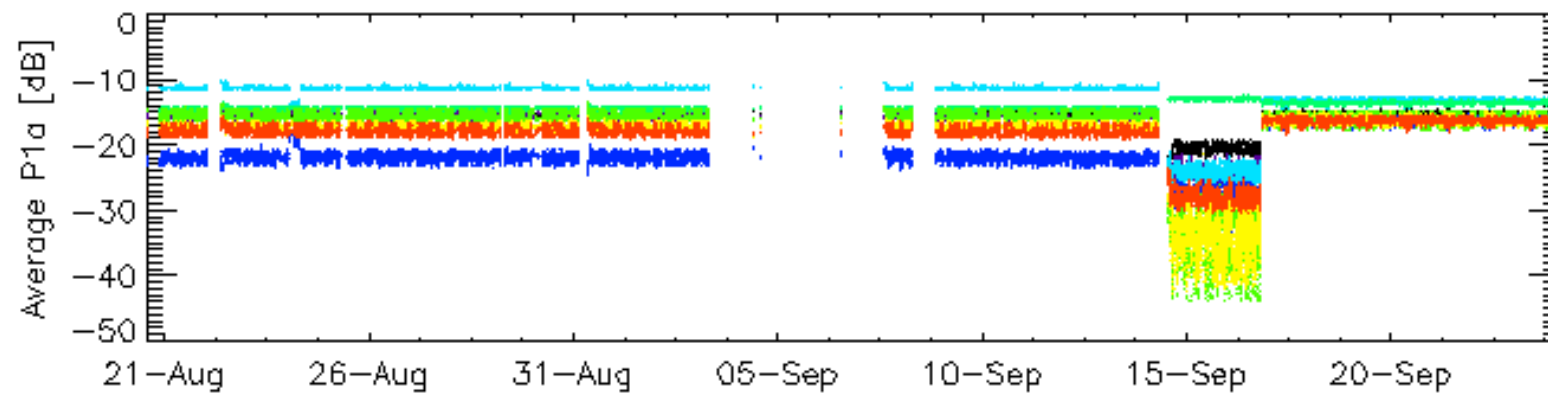
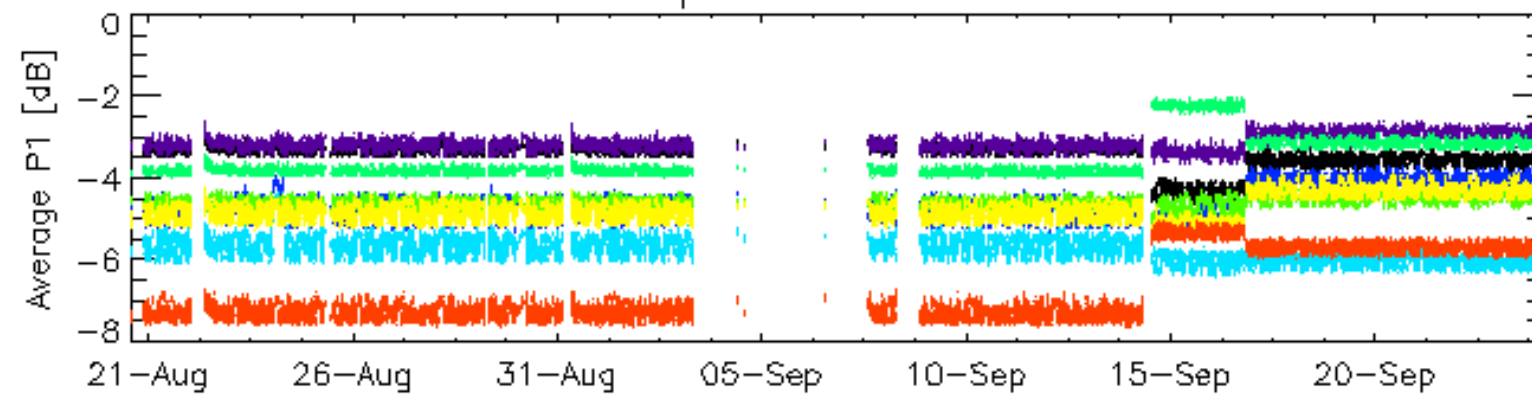


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

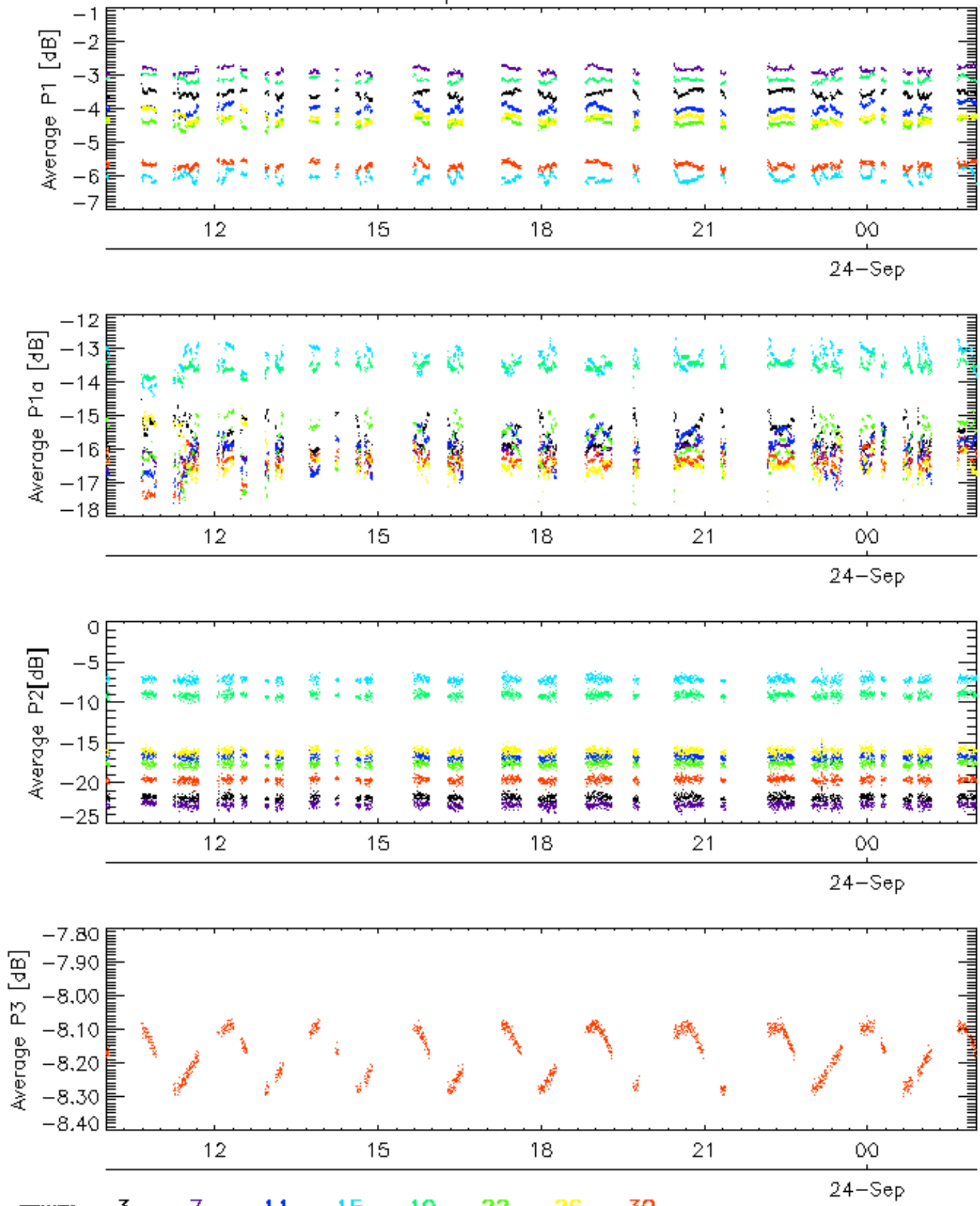


Cal pulses for WVS IS2



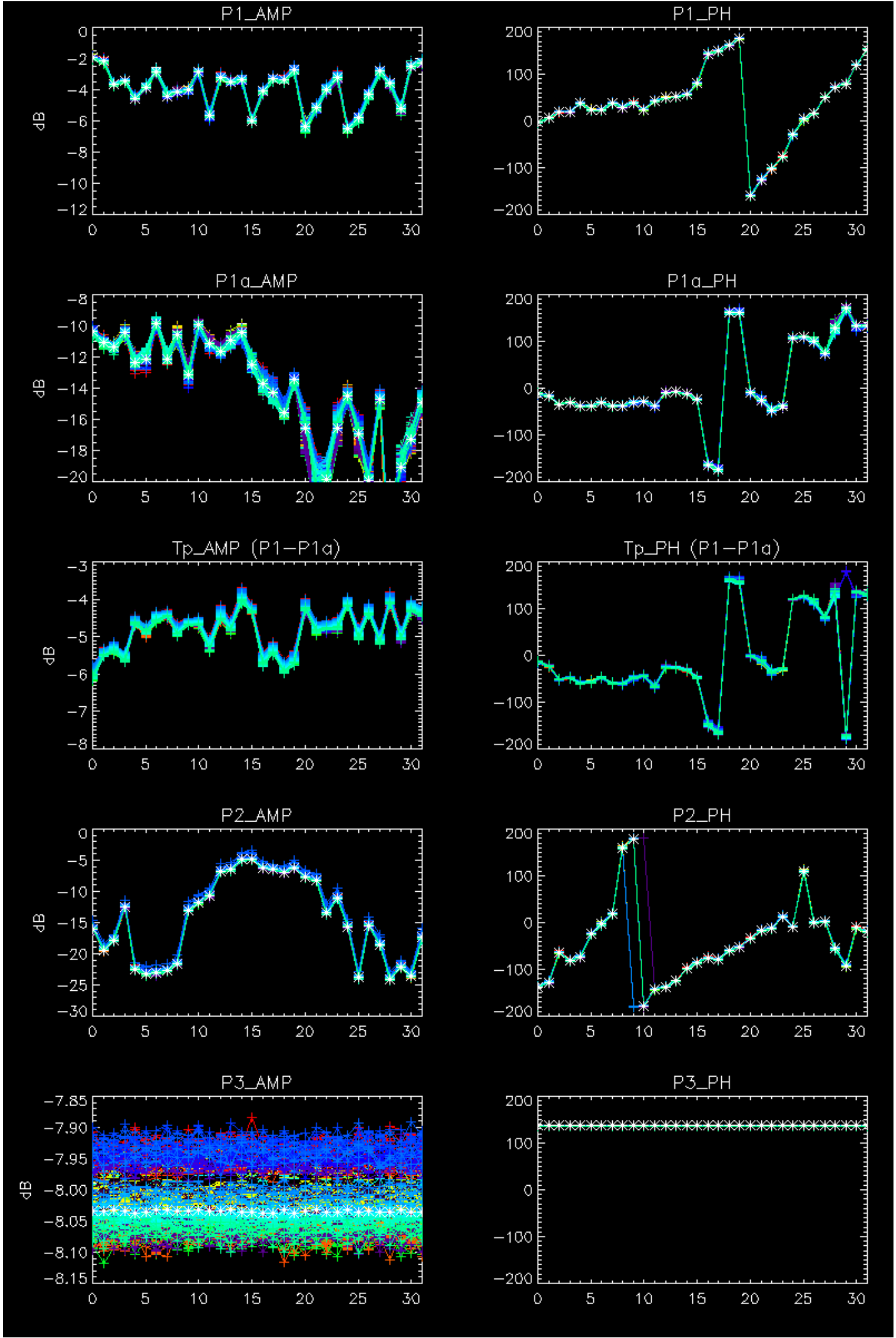
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

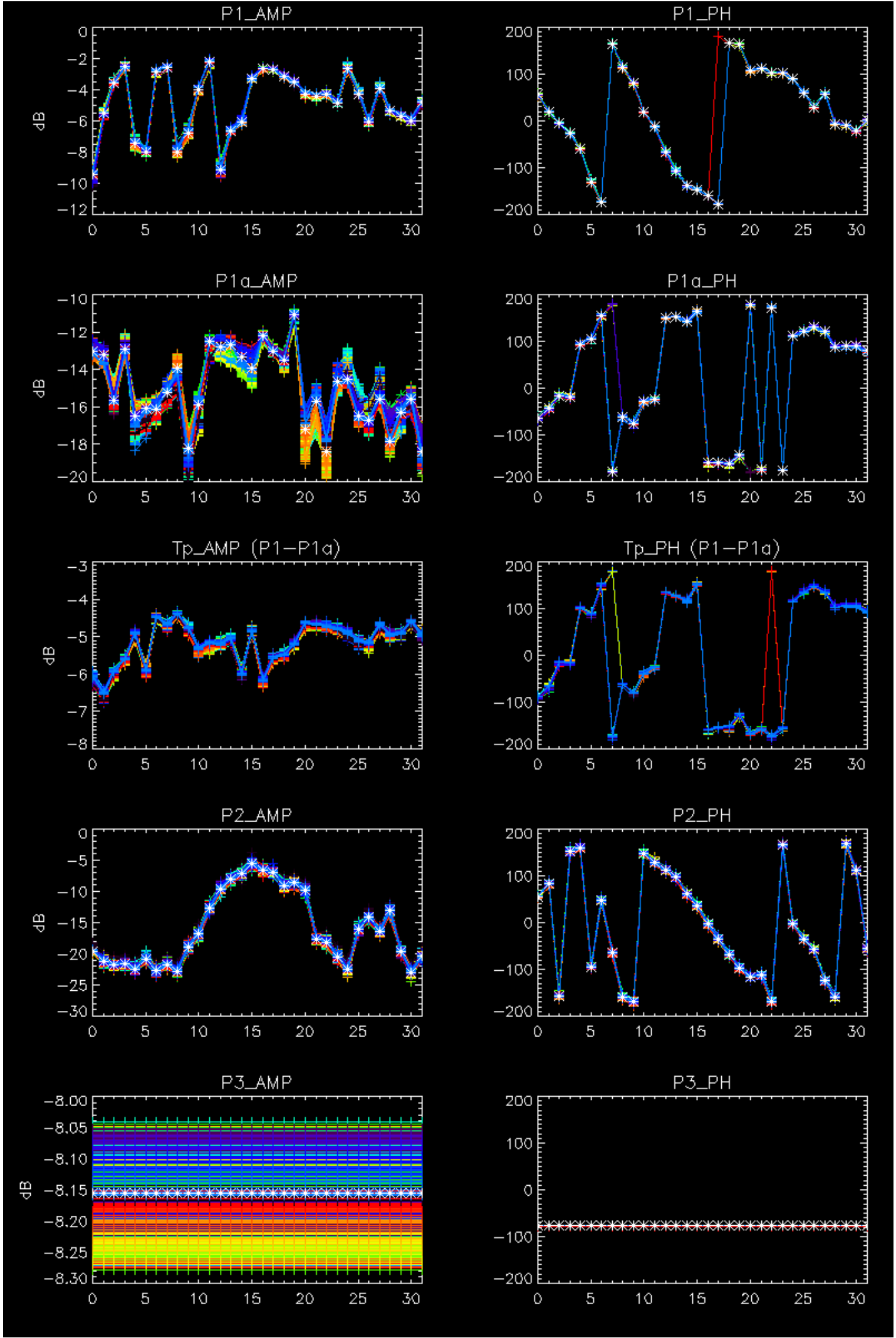
Cal pulses for WVS IS2



No anomalies observed.





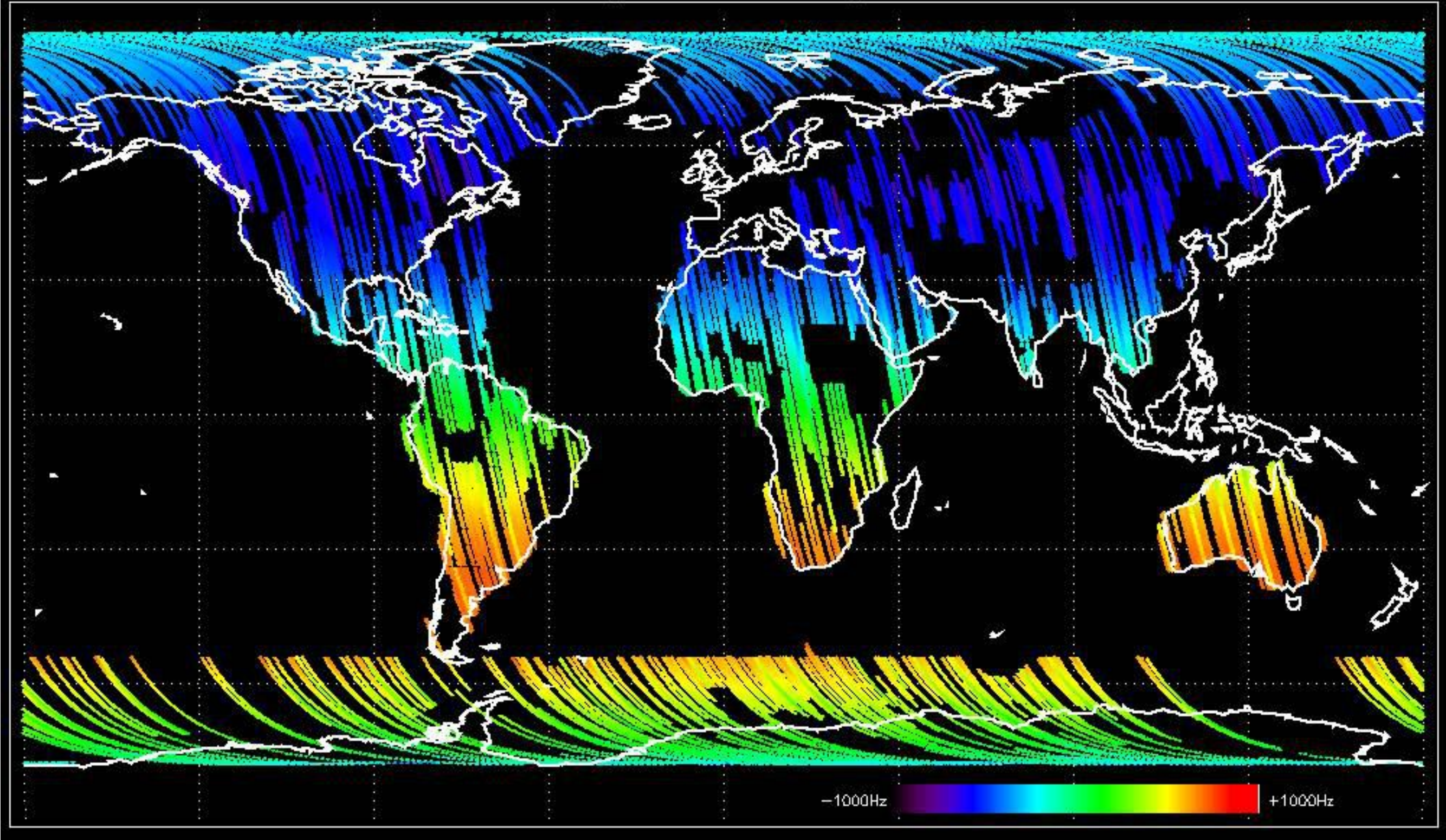


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



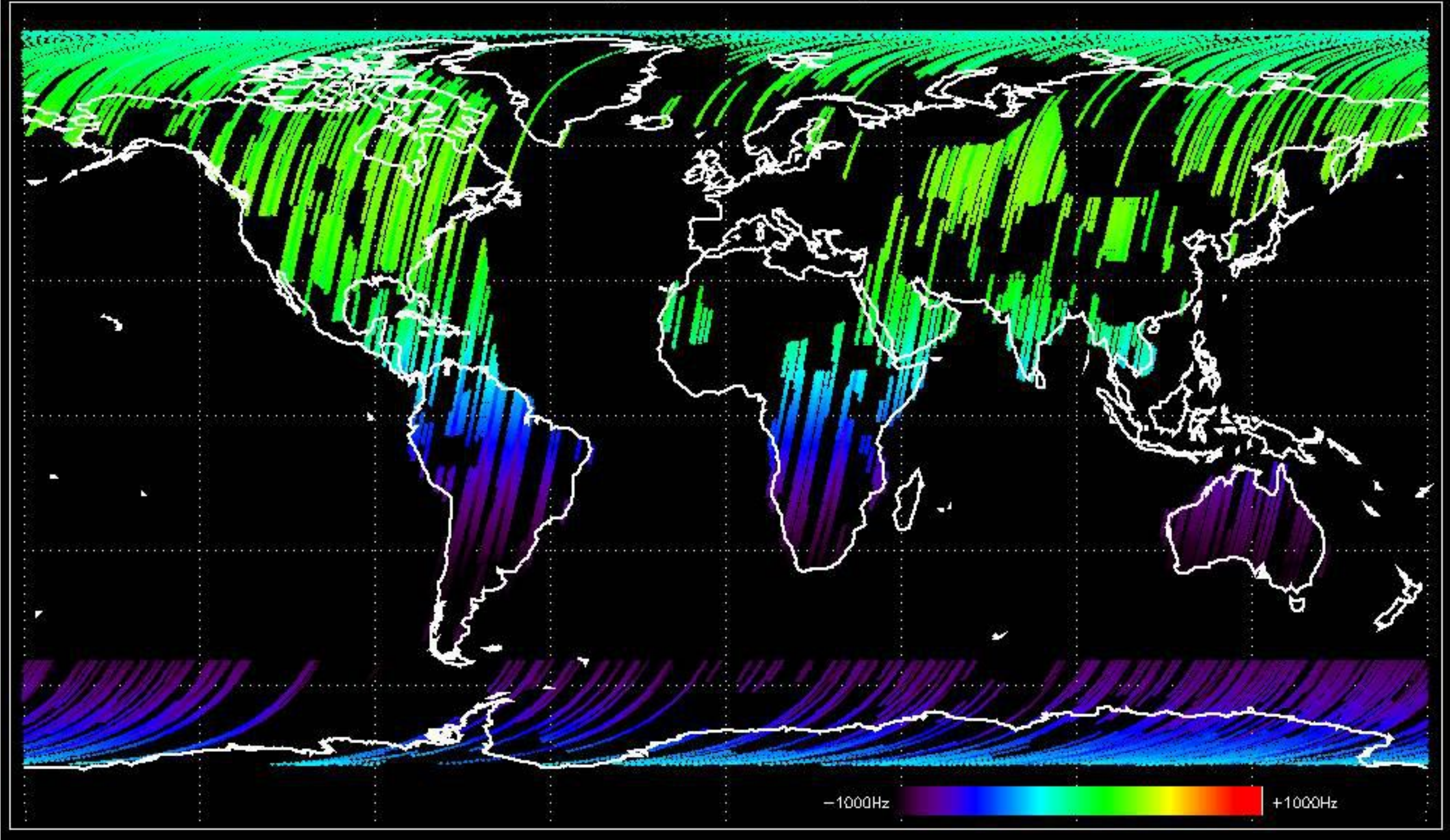


Doppler 'GM1' 'SS1' ascending



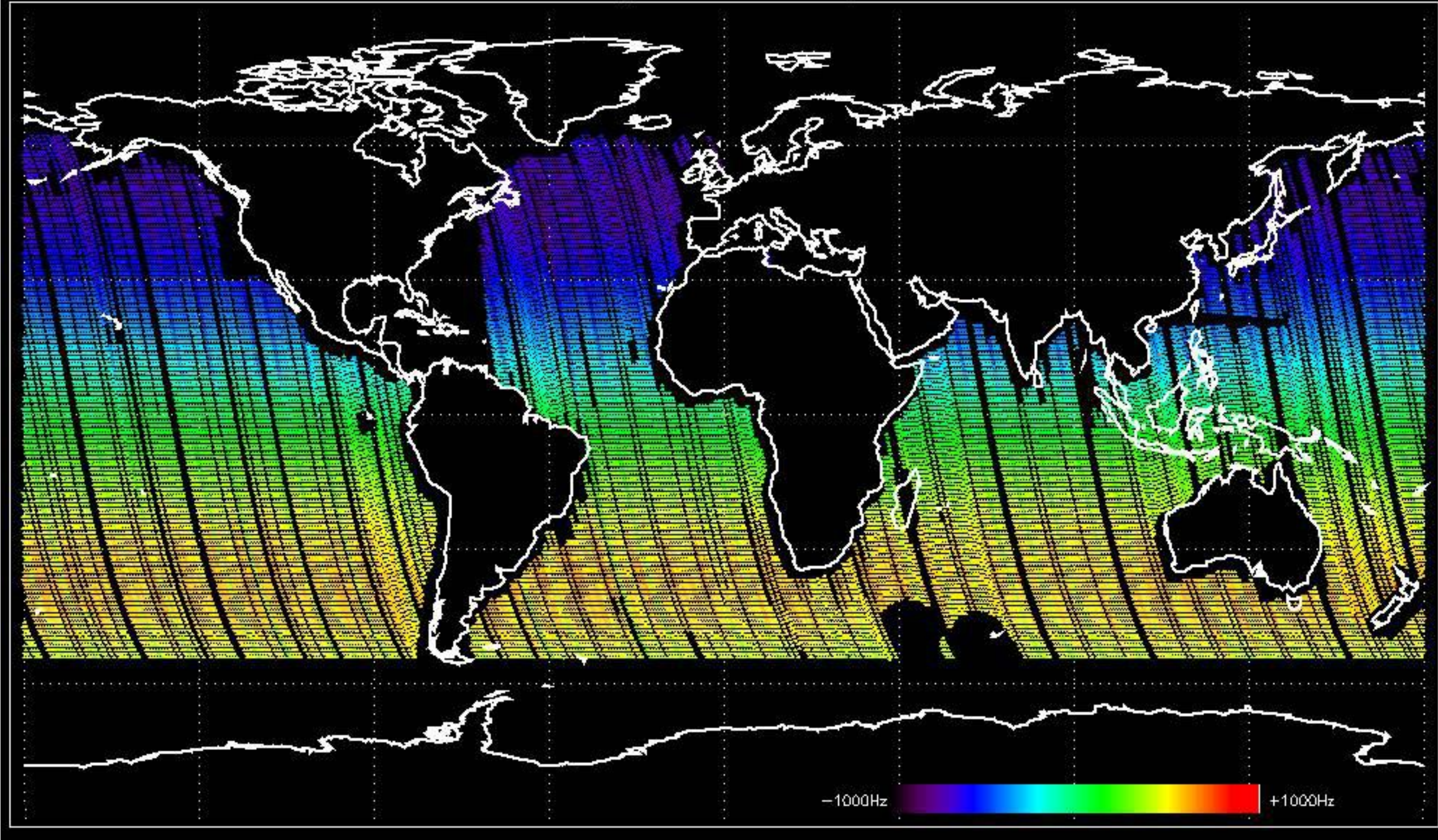


Doppler 'GM1' 'SS1' descending



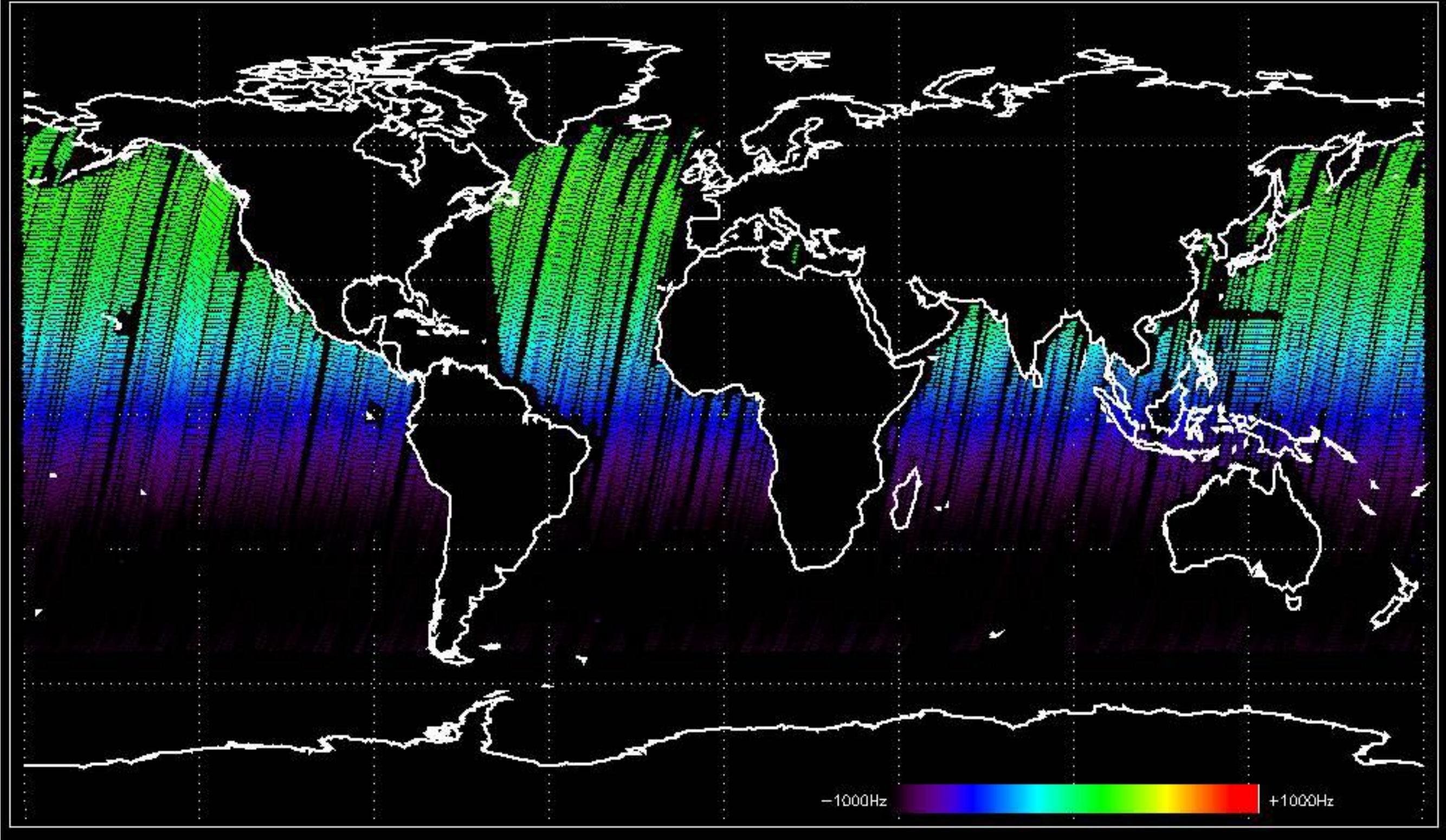


Doppler 'WVS' 'IS2' ascending



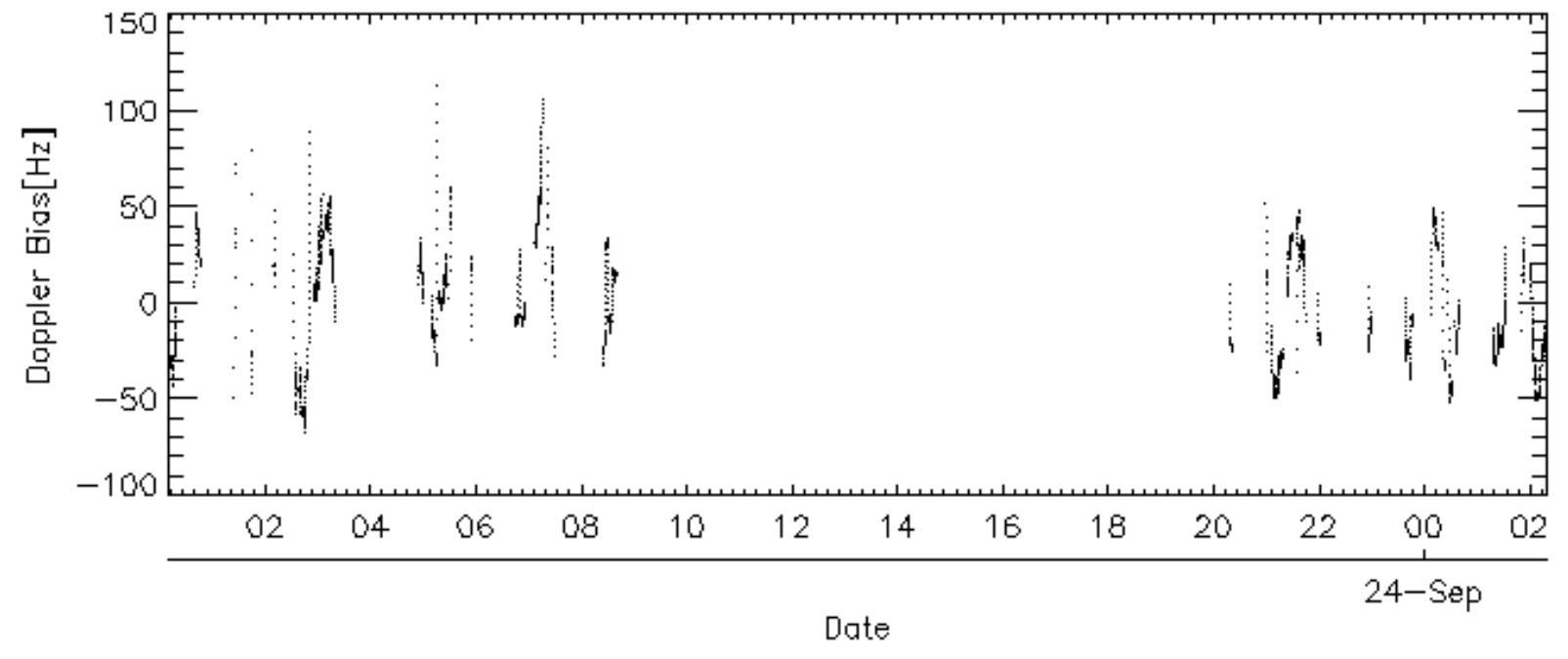
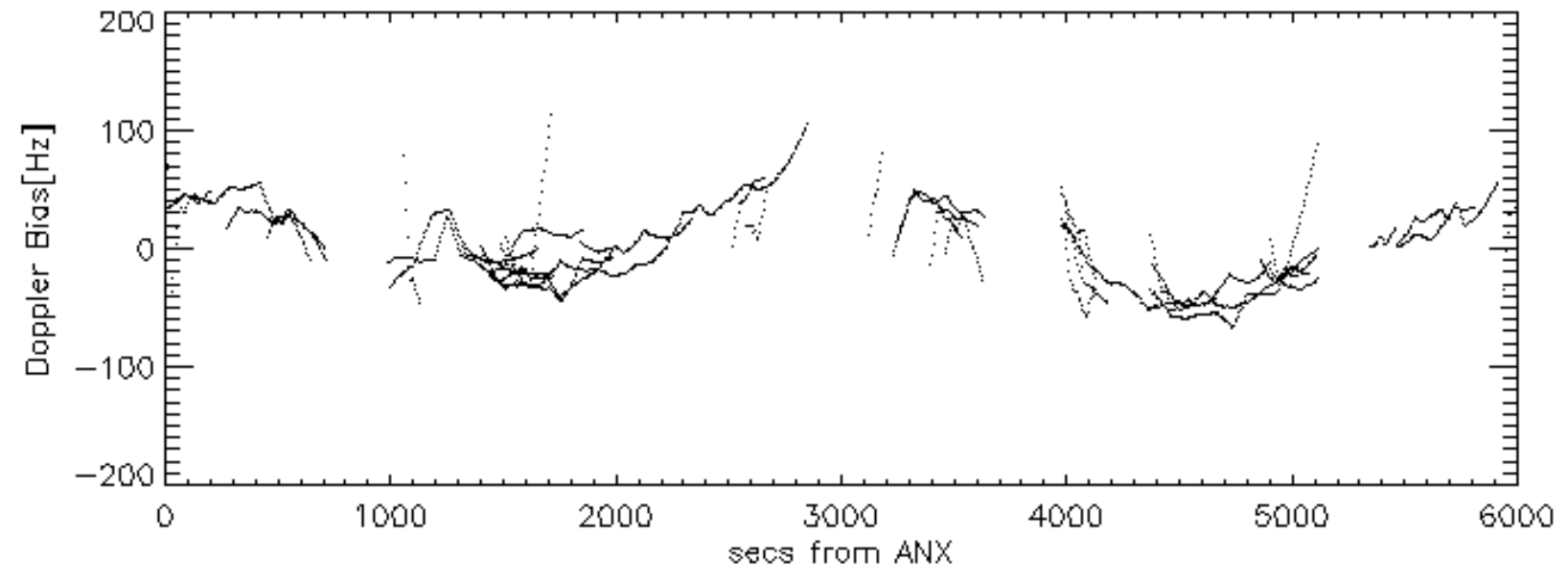
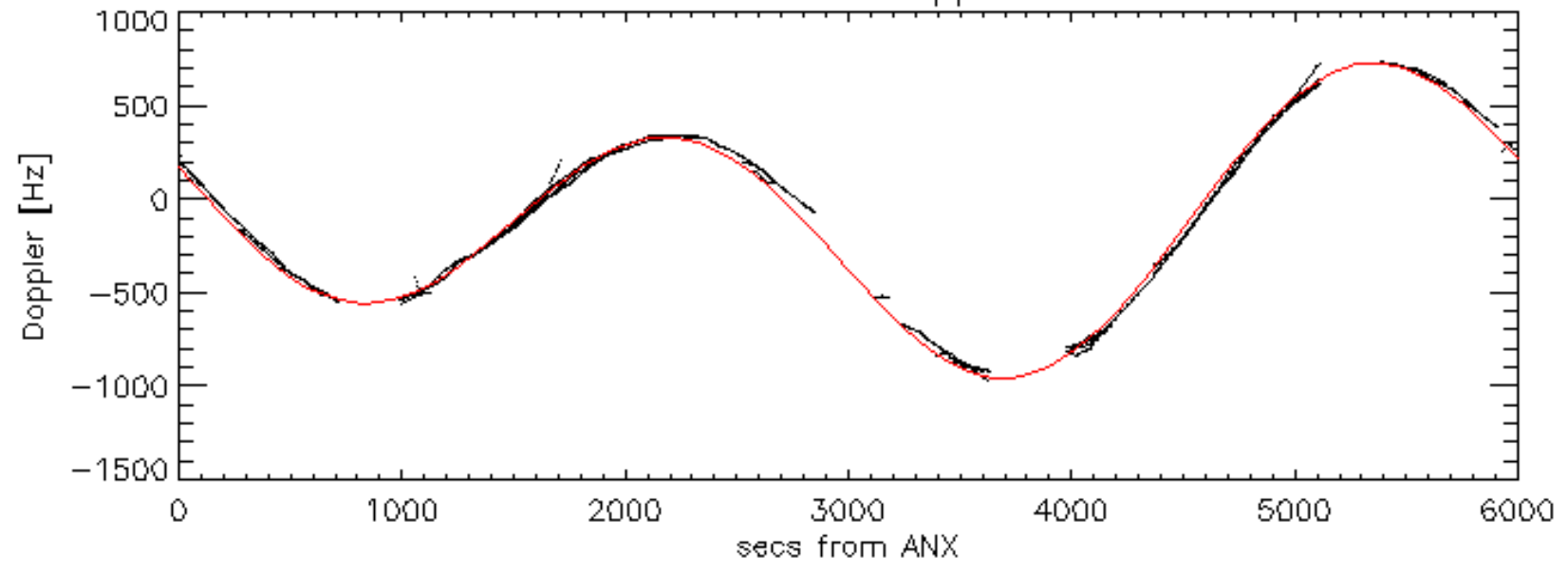


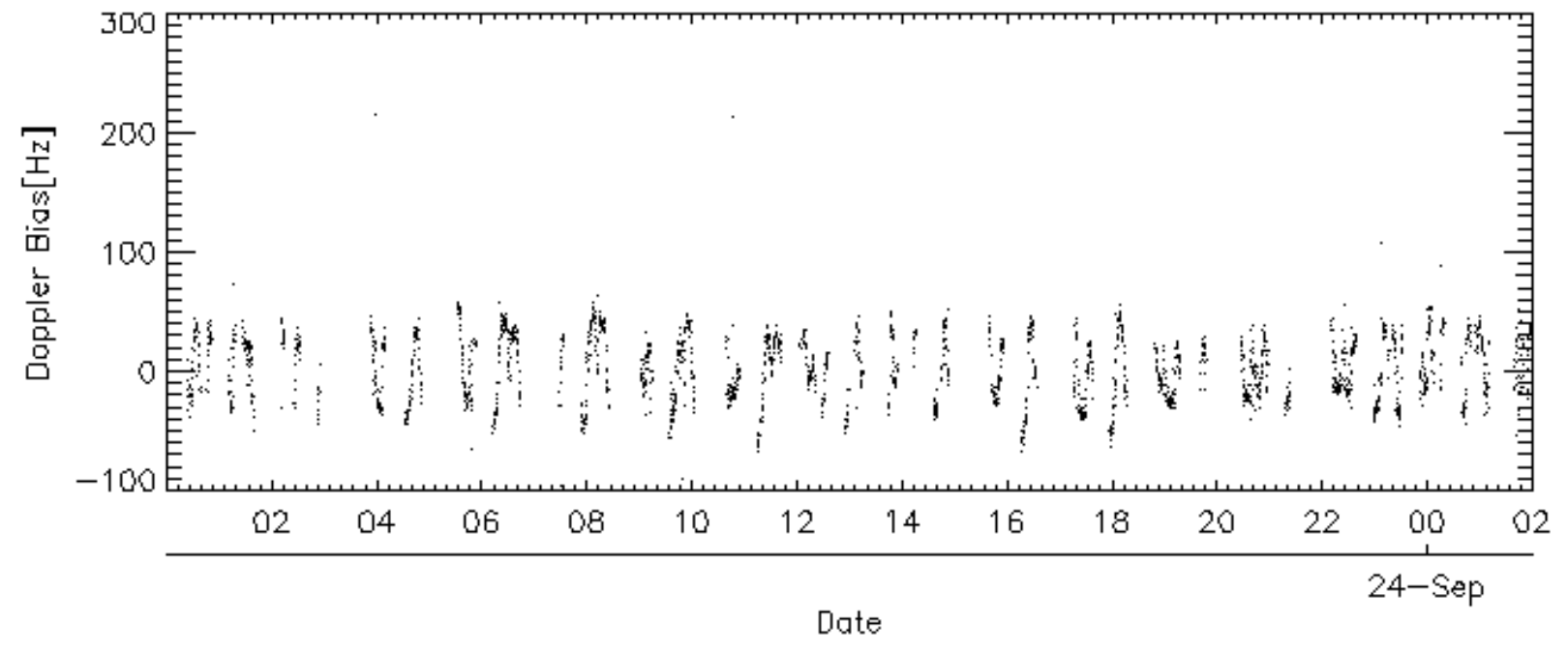
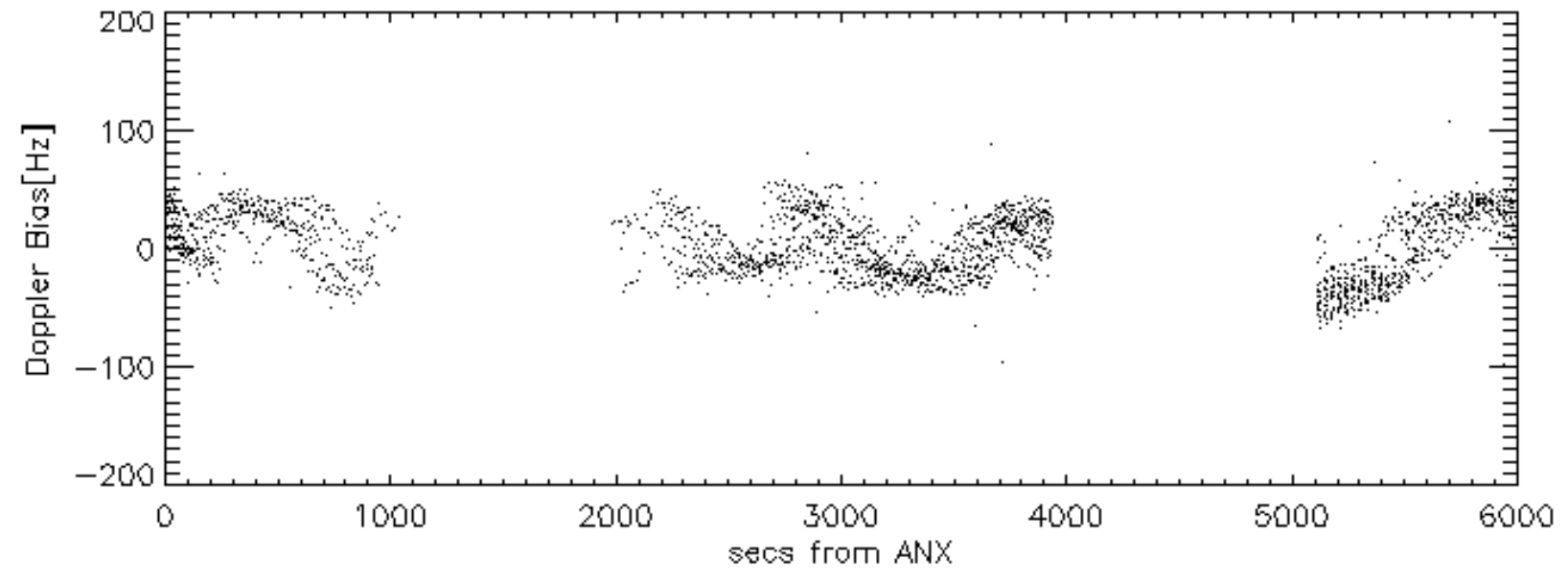
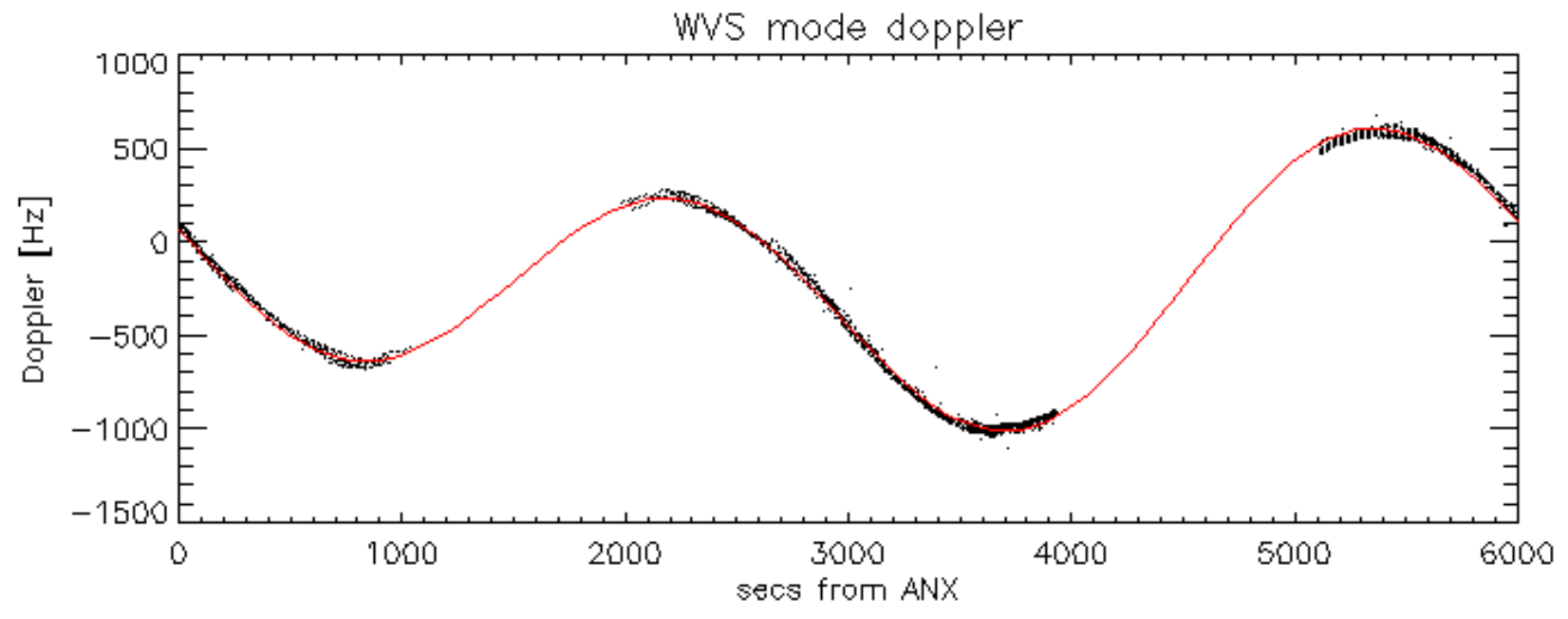
Doppler 'WVS' 'IS2' descending





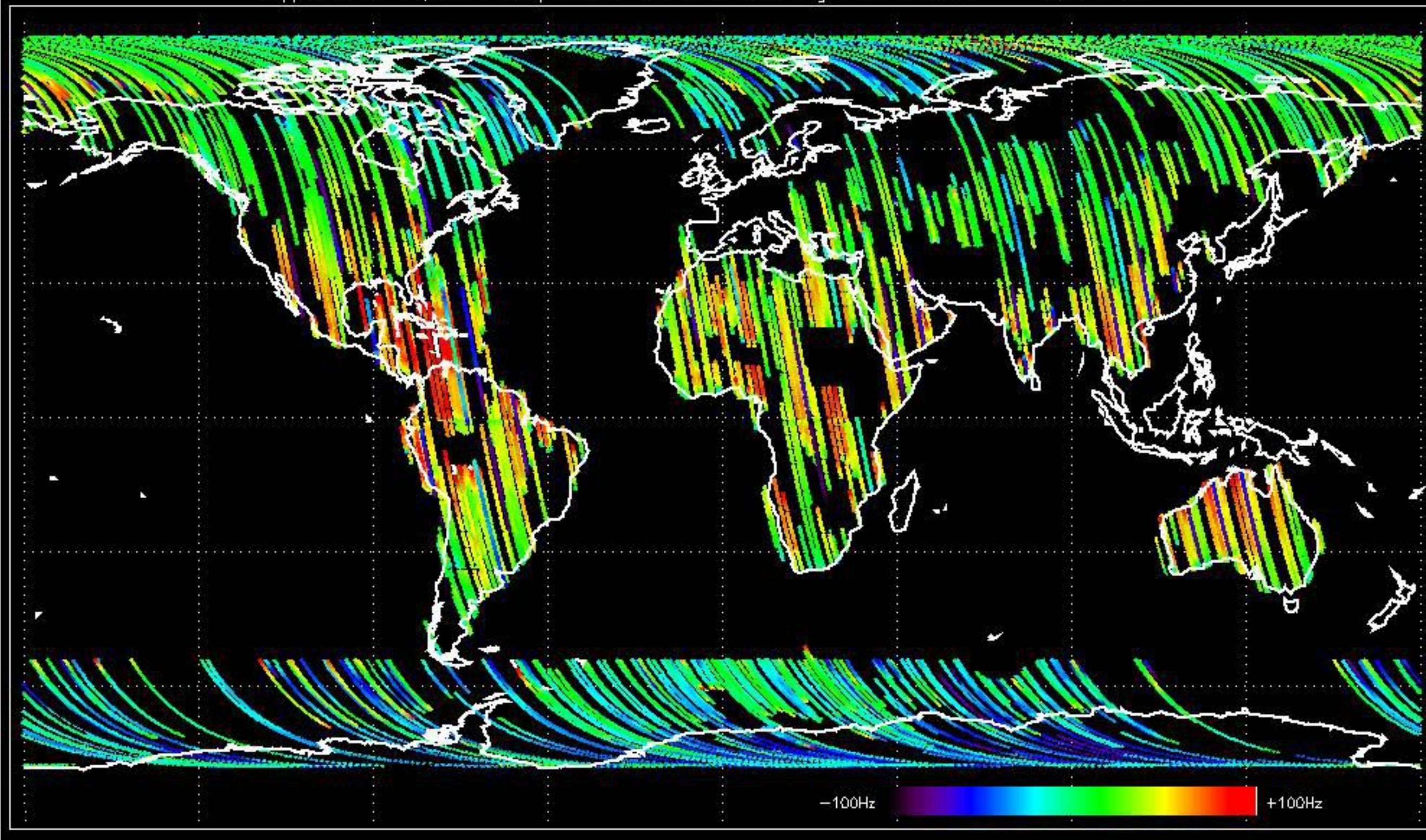
GM1 mode doppler





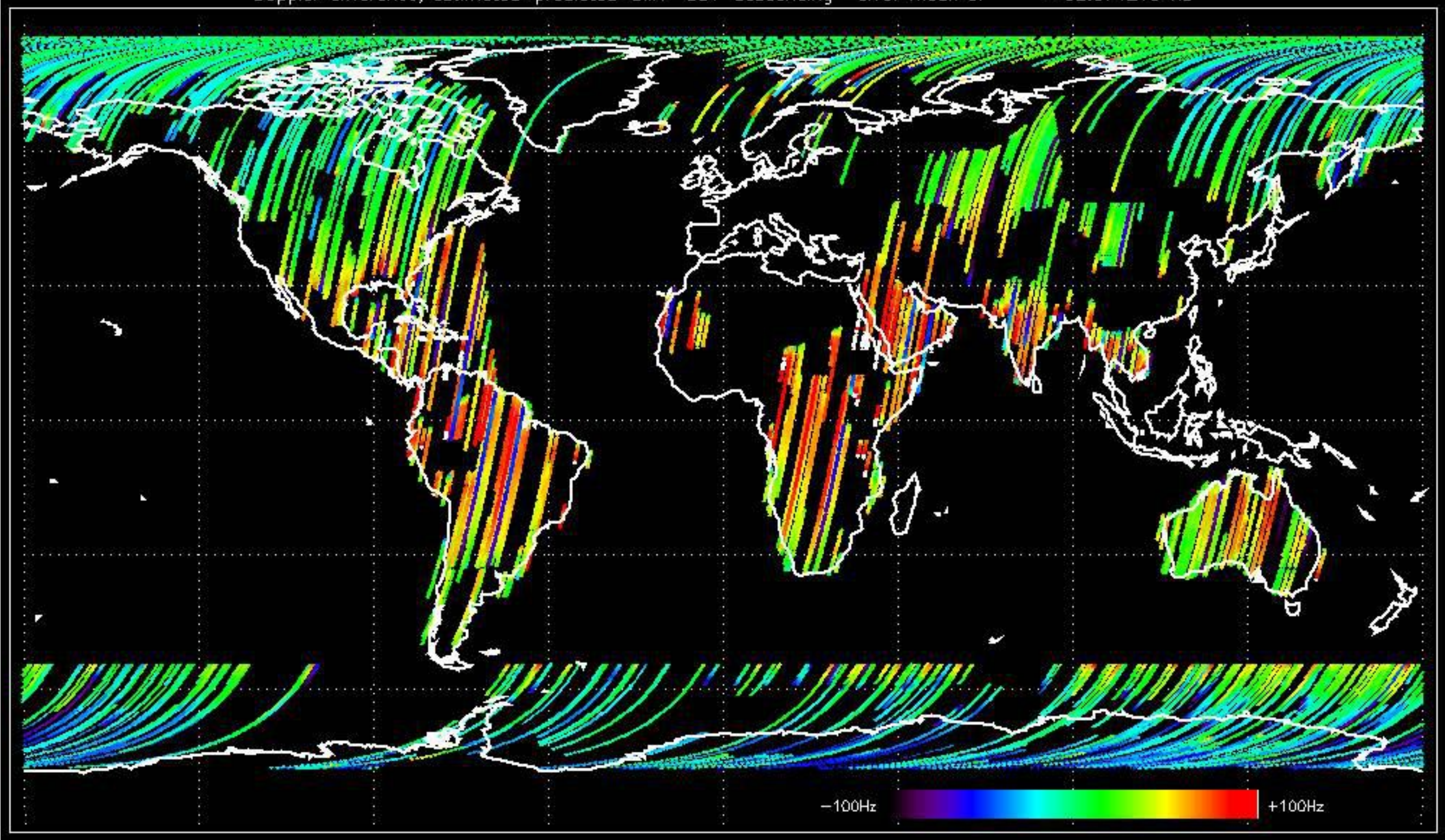


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -36.278208 Hz



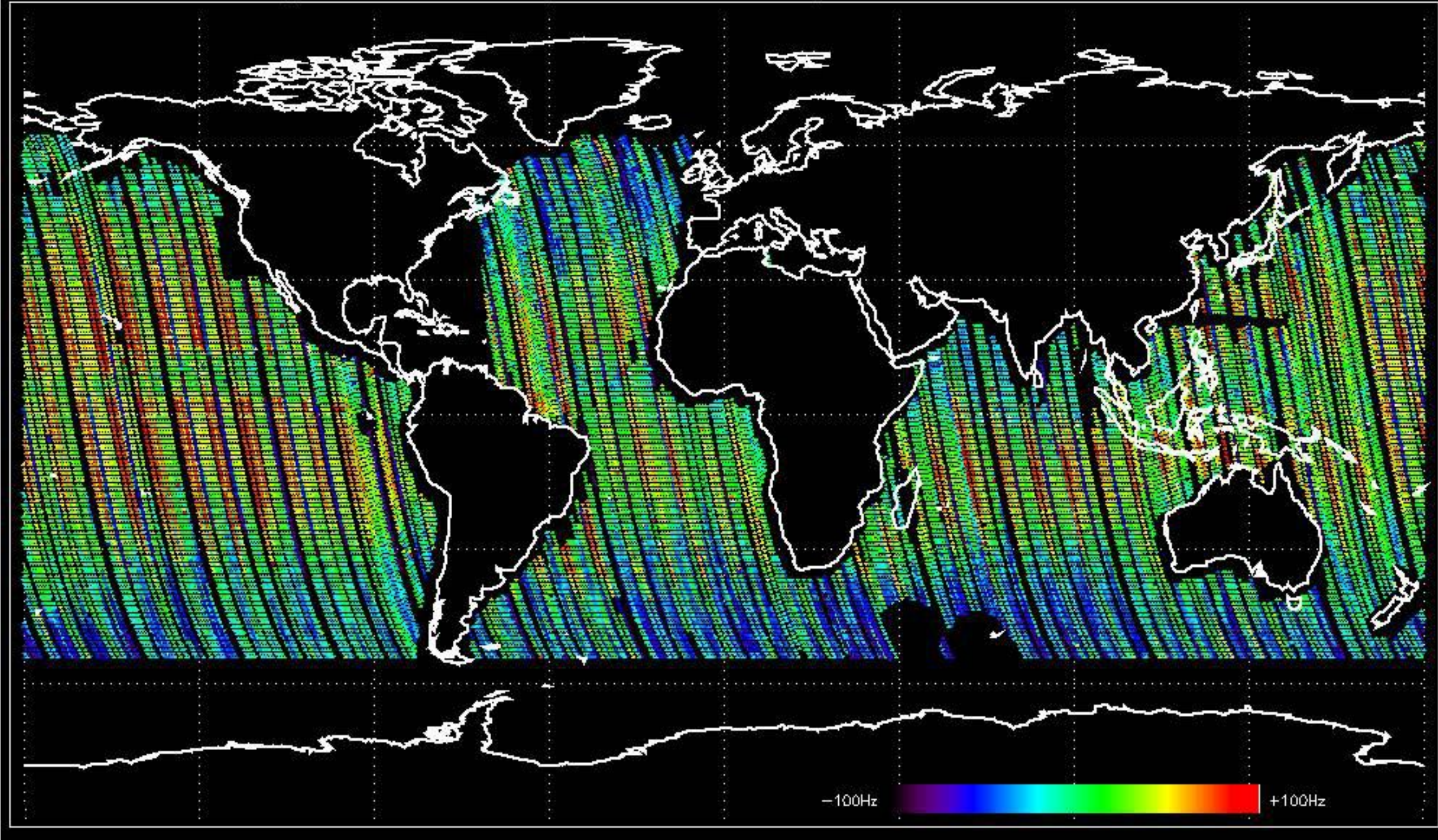


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -32.674210 Hz



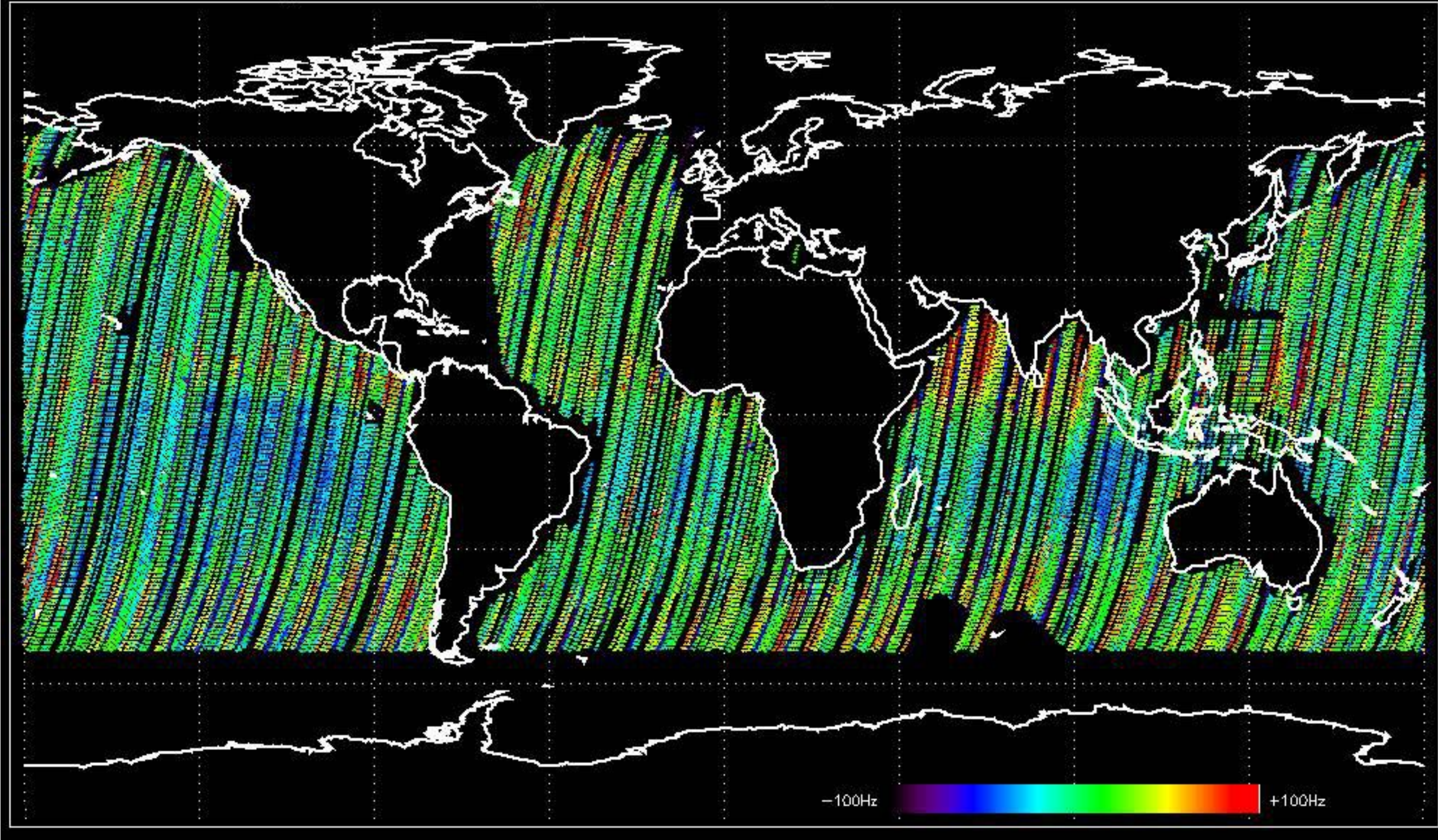


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -34.519735 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -39.148031 Hz





No anomalies observed on available MS products:

No anomalies observed.











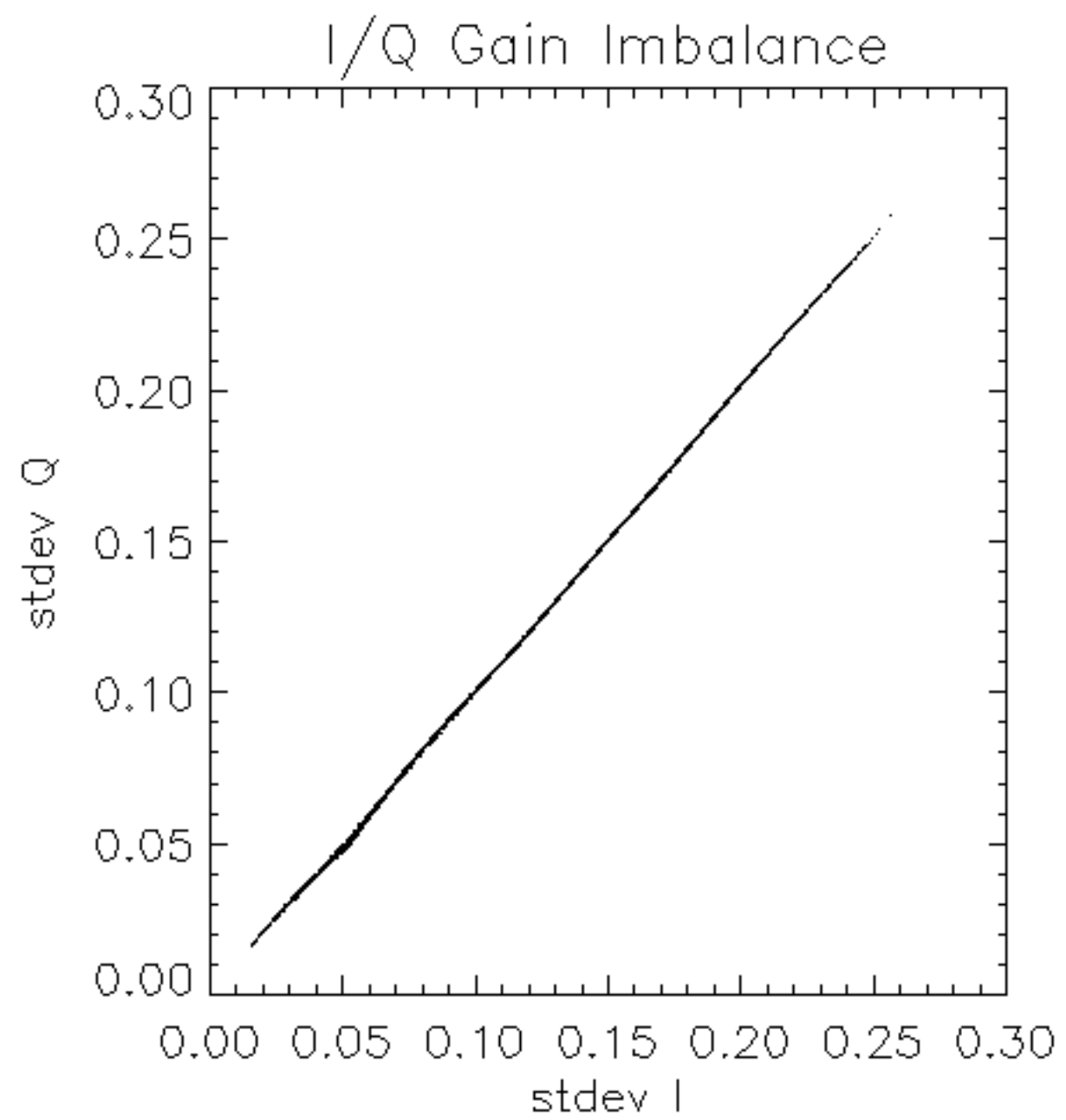


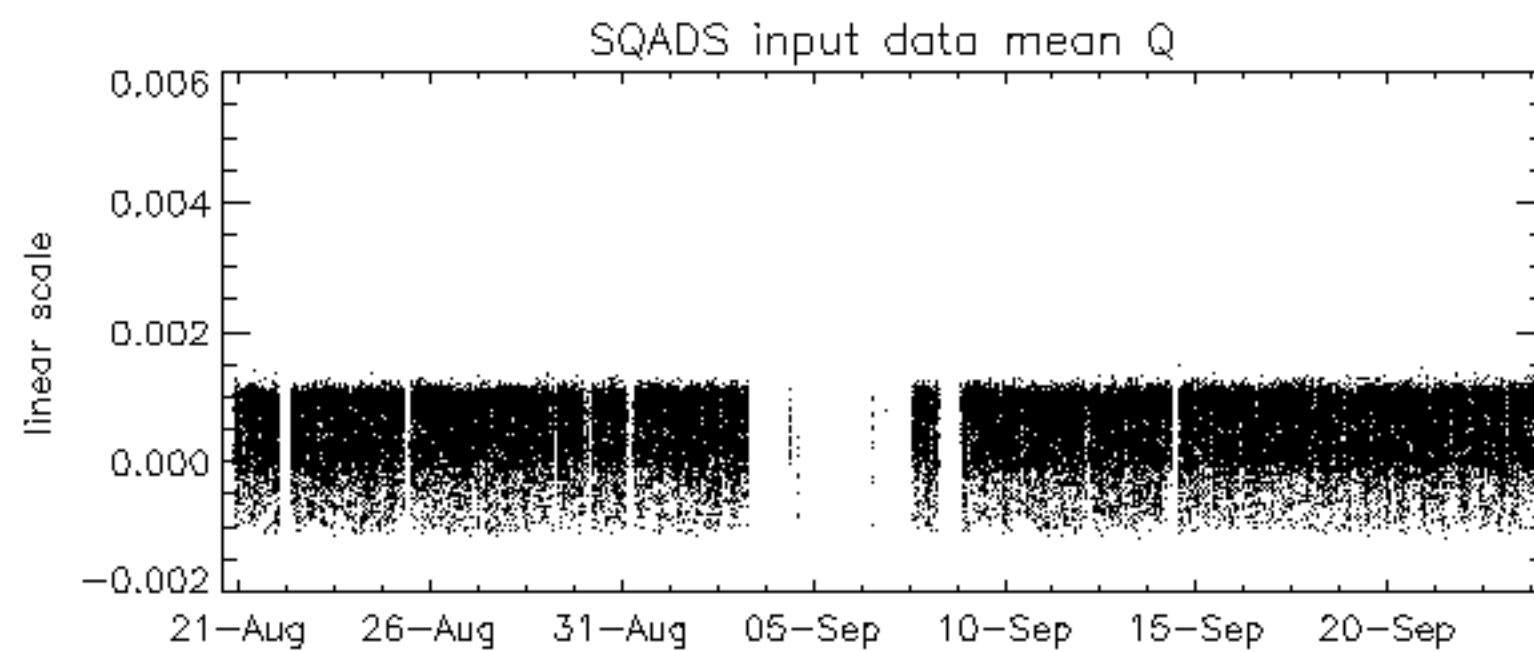
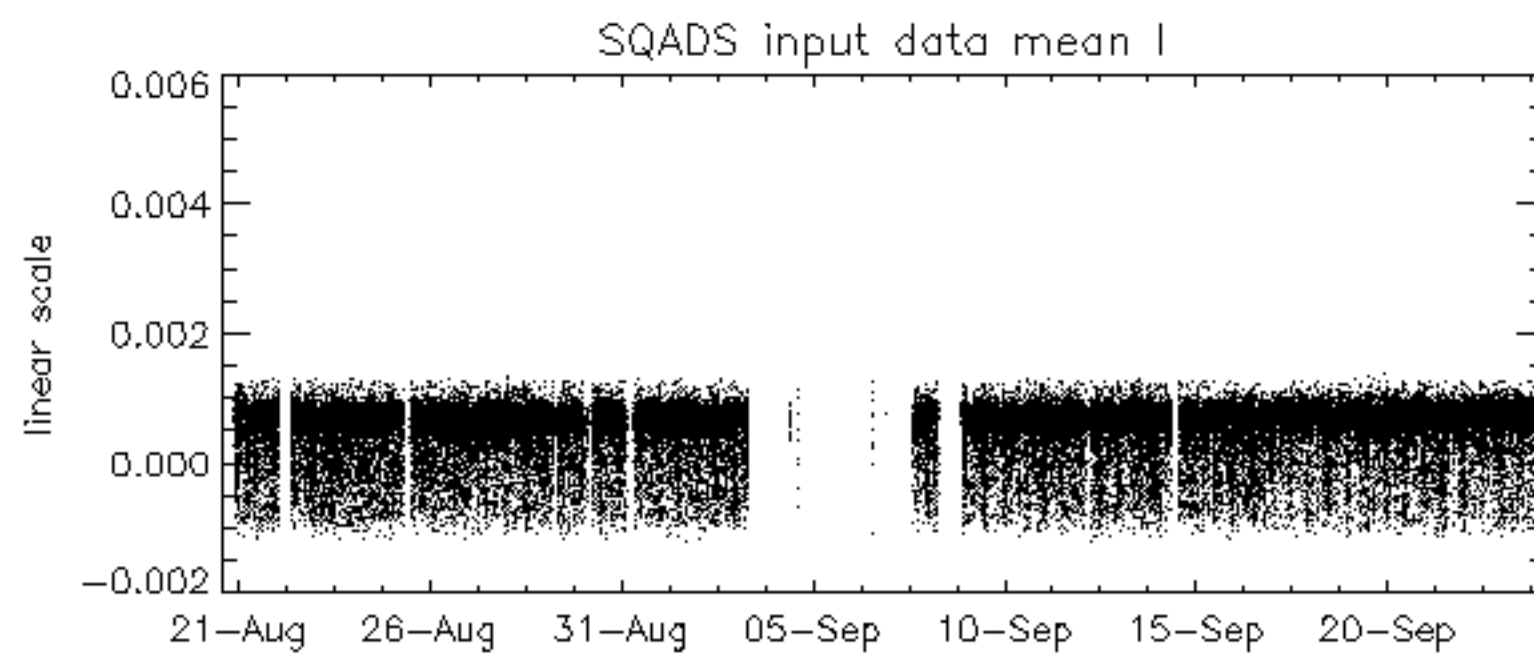
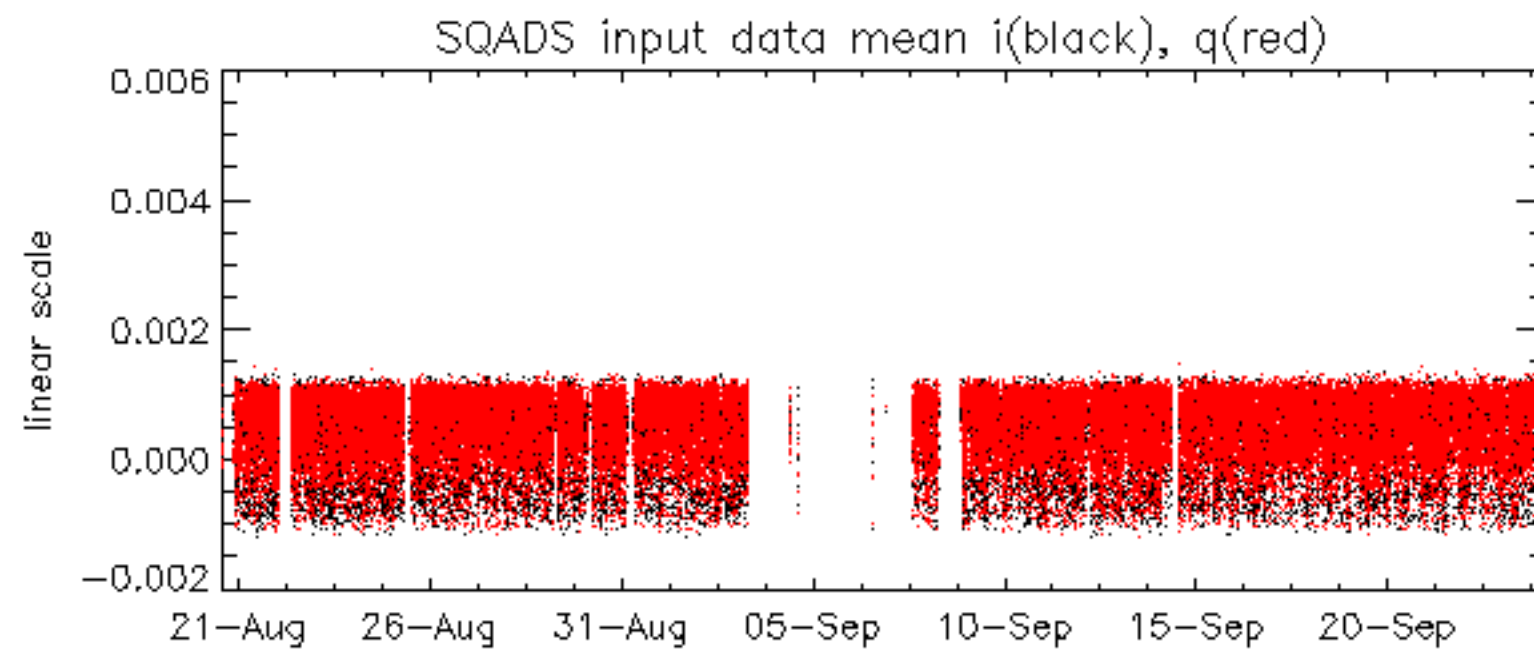


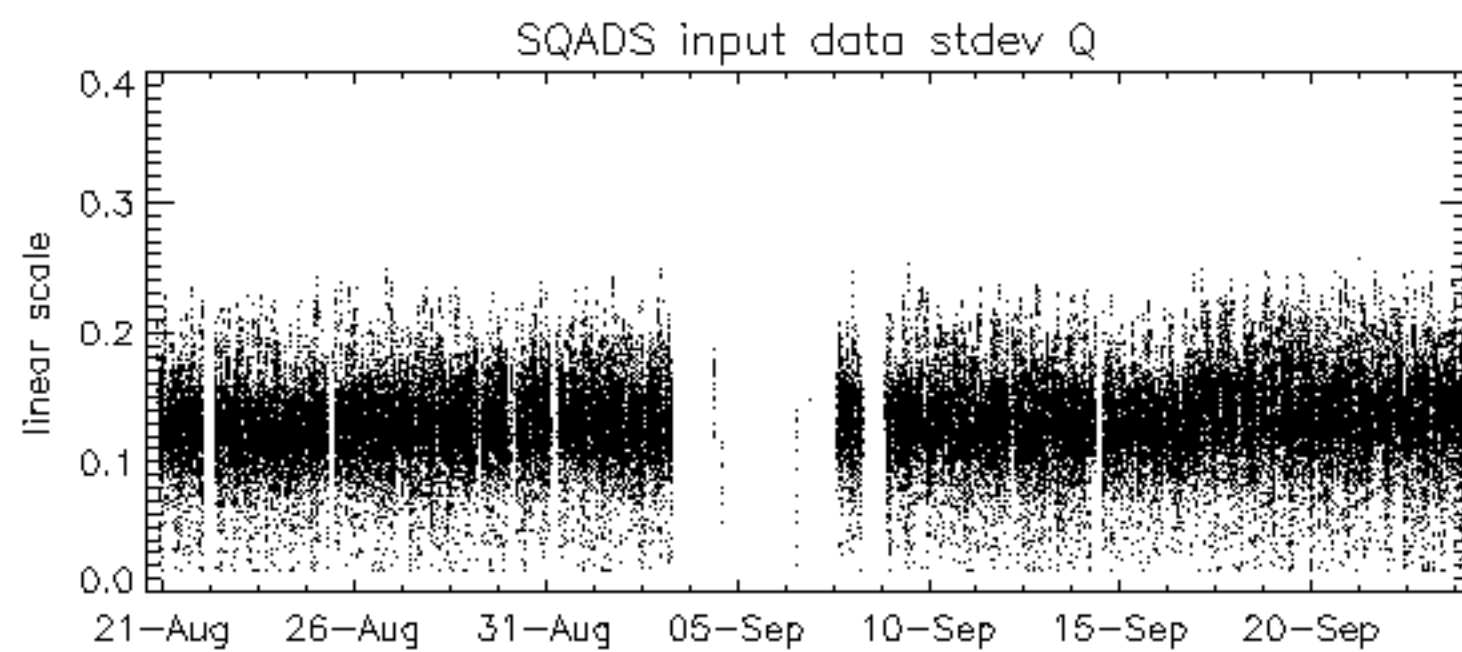
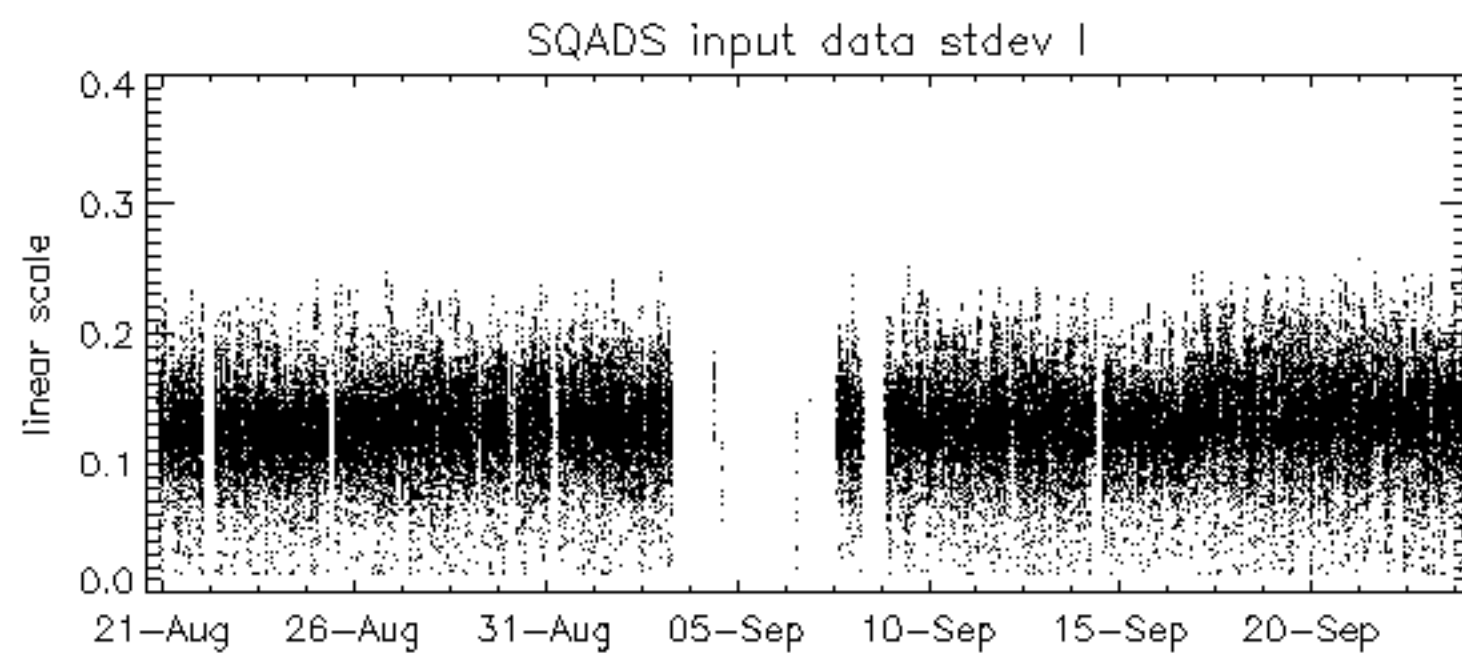
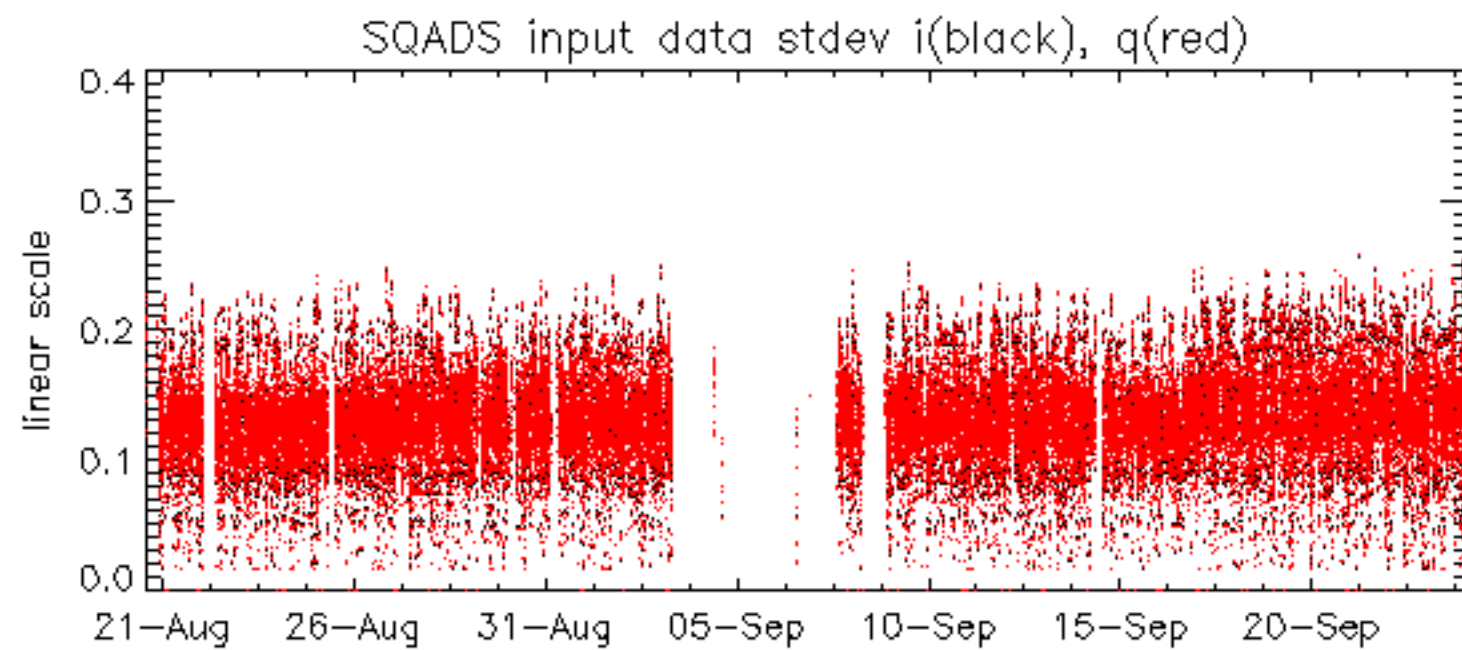


















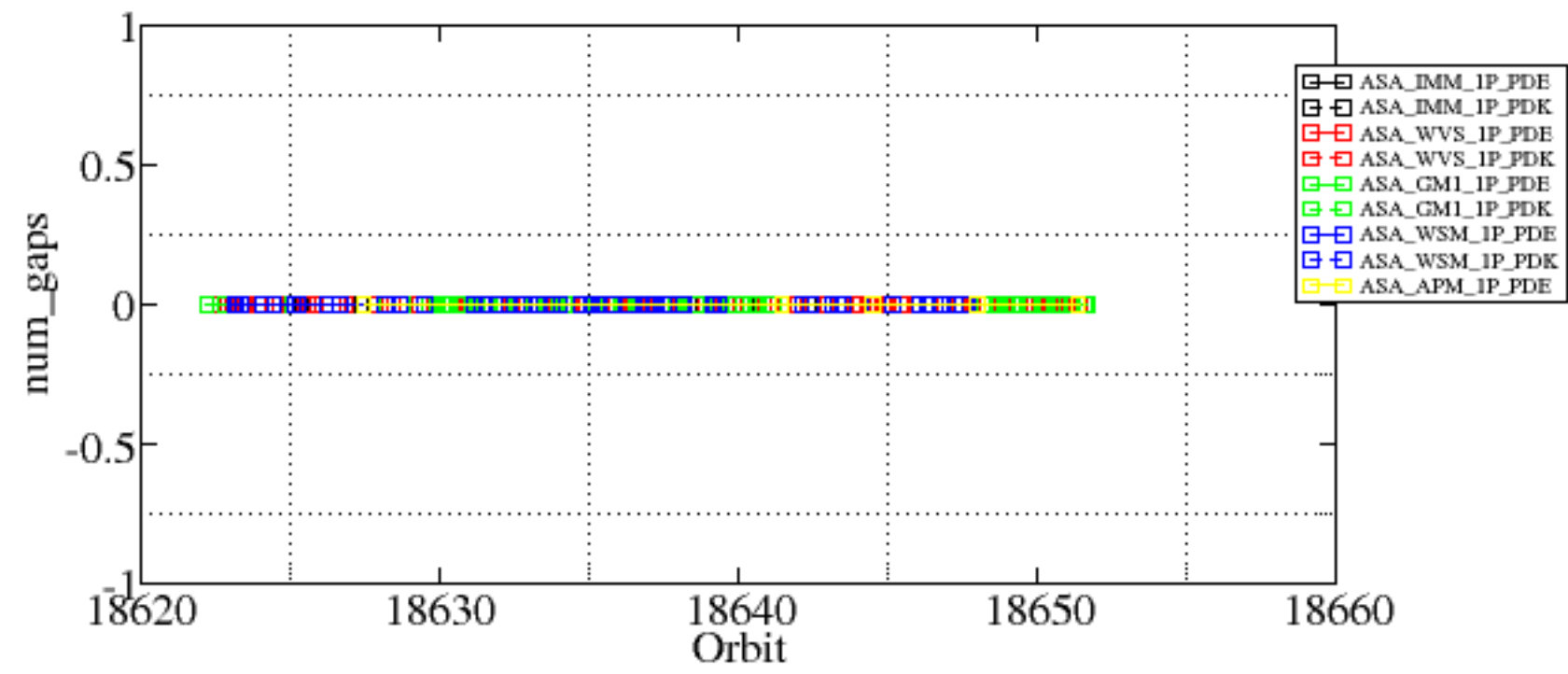


Summary of analysis for the last 3 days 2005092[234]

The assumption is taken that the SQUADS num\_gaps and num\_missing\_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_GM1_1PNPDK20050922_104238_000006162041_00037_18628_6169.N1	0	58
ASA_GM1_1PNPDK20050922_113749_000005012041_00037_18628_6240.N1	0	29
ASA_WSM_1PNPDE20050922_170449_000002442041_00041_18632_9995.N1	0	22
ASA_WSM_1PNPDE20050922_184757_000003042041_00042_18633_0010.N1	0	13
ASA_WSM_1PNPDE20050922_191352_000000672041_00042_18633_0013.N1	0	601
ASA_WSM_1PNPDE20050923_163431_000001522041_00055_18646_0167.N1	0	2
ASA_WSM_1PNPDE20050923_181716_000000672041_00056_18647_0174.N1	0	32



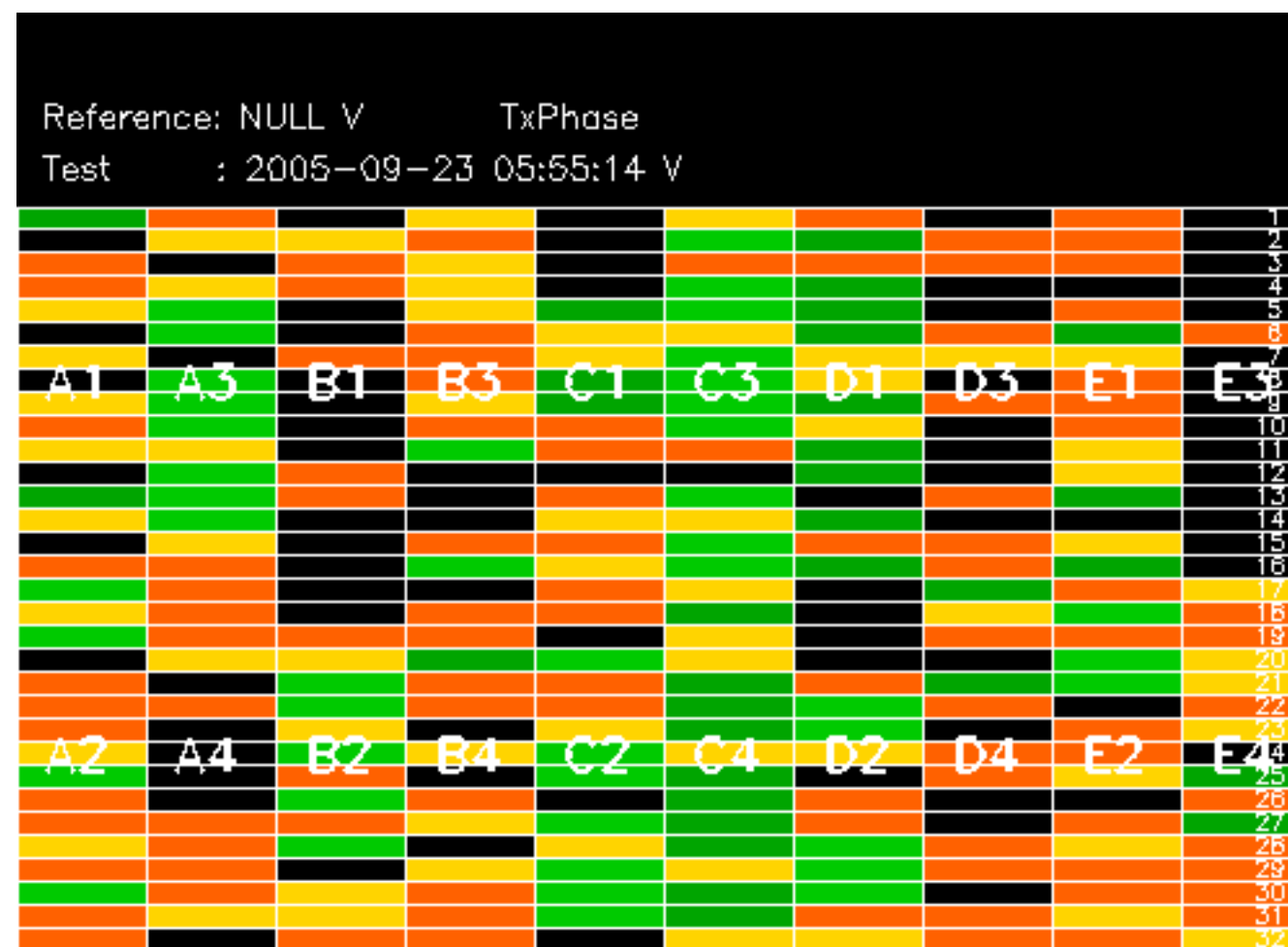




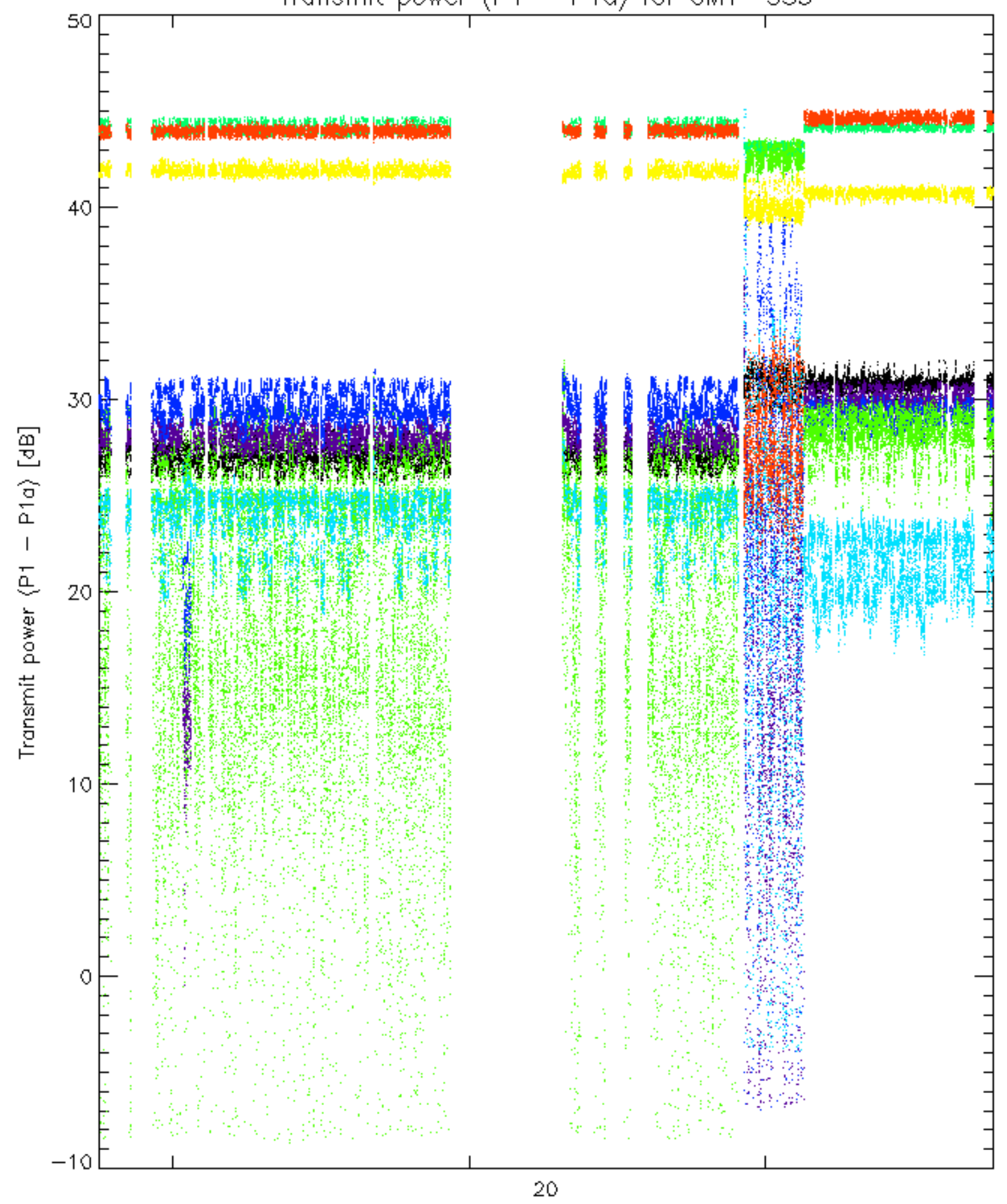




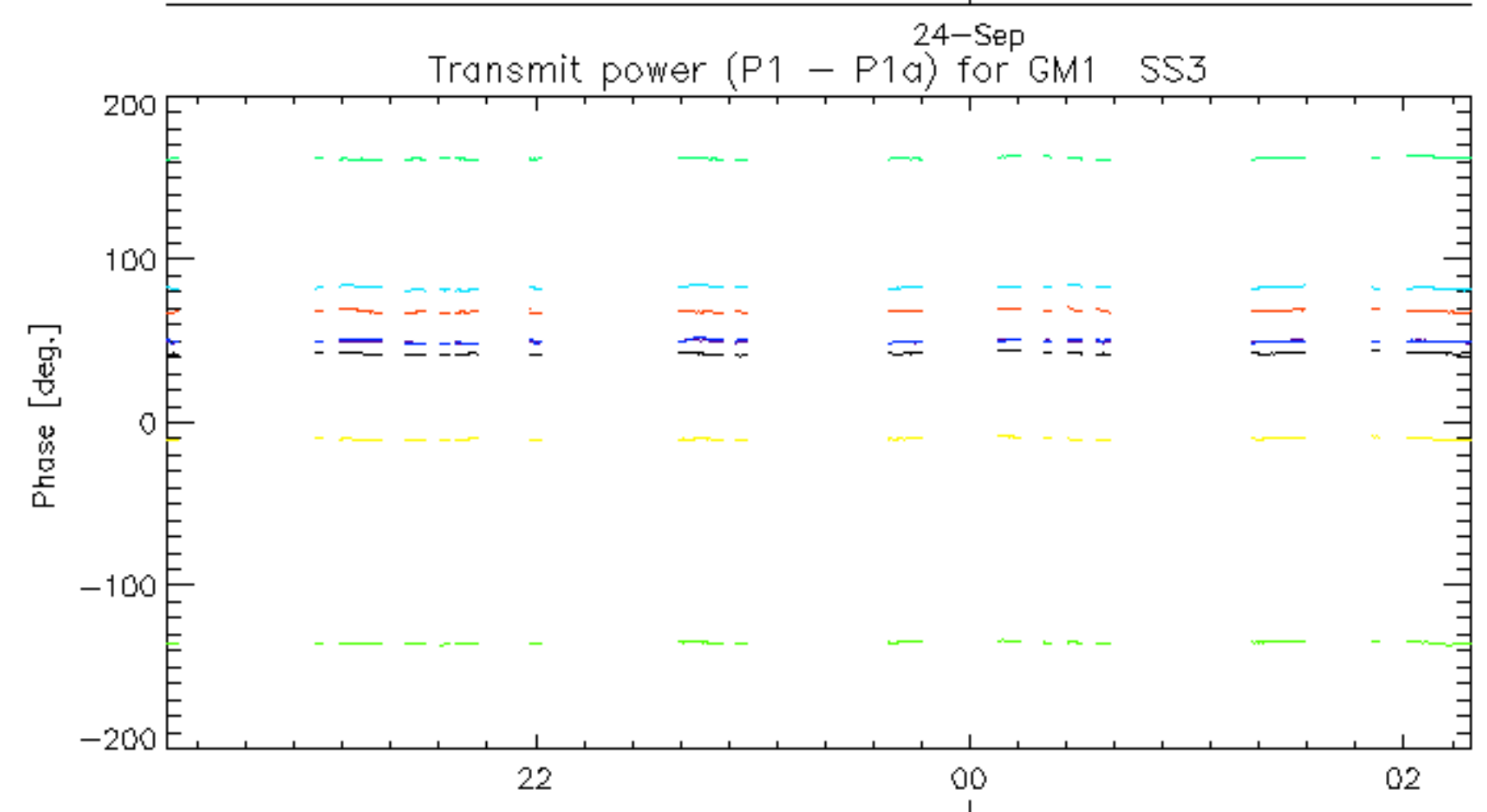
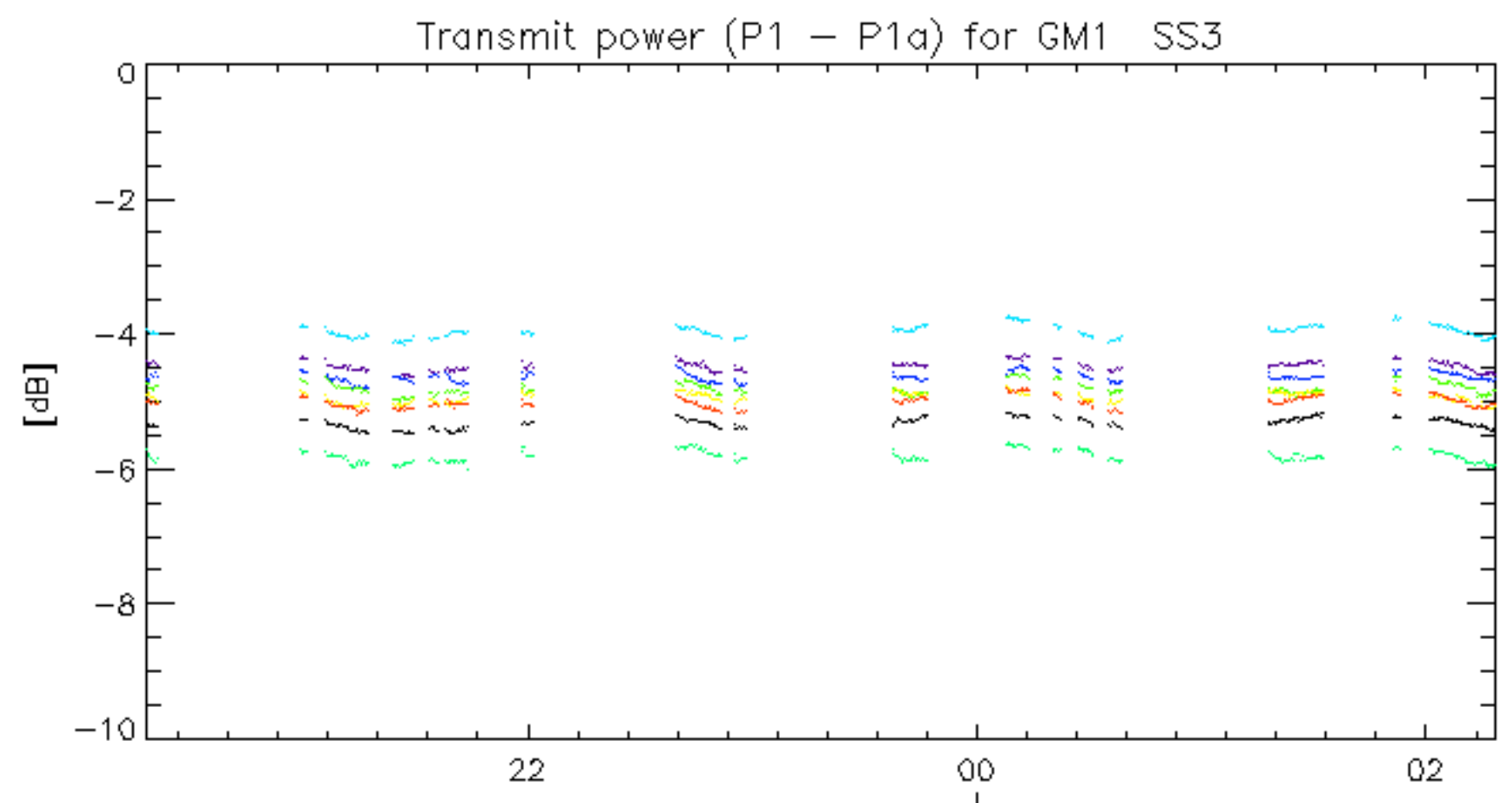




Transmit power (P1 - P1a) for GM1 SS3



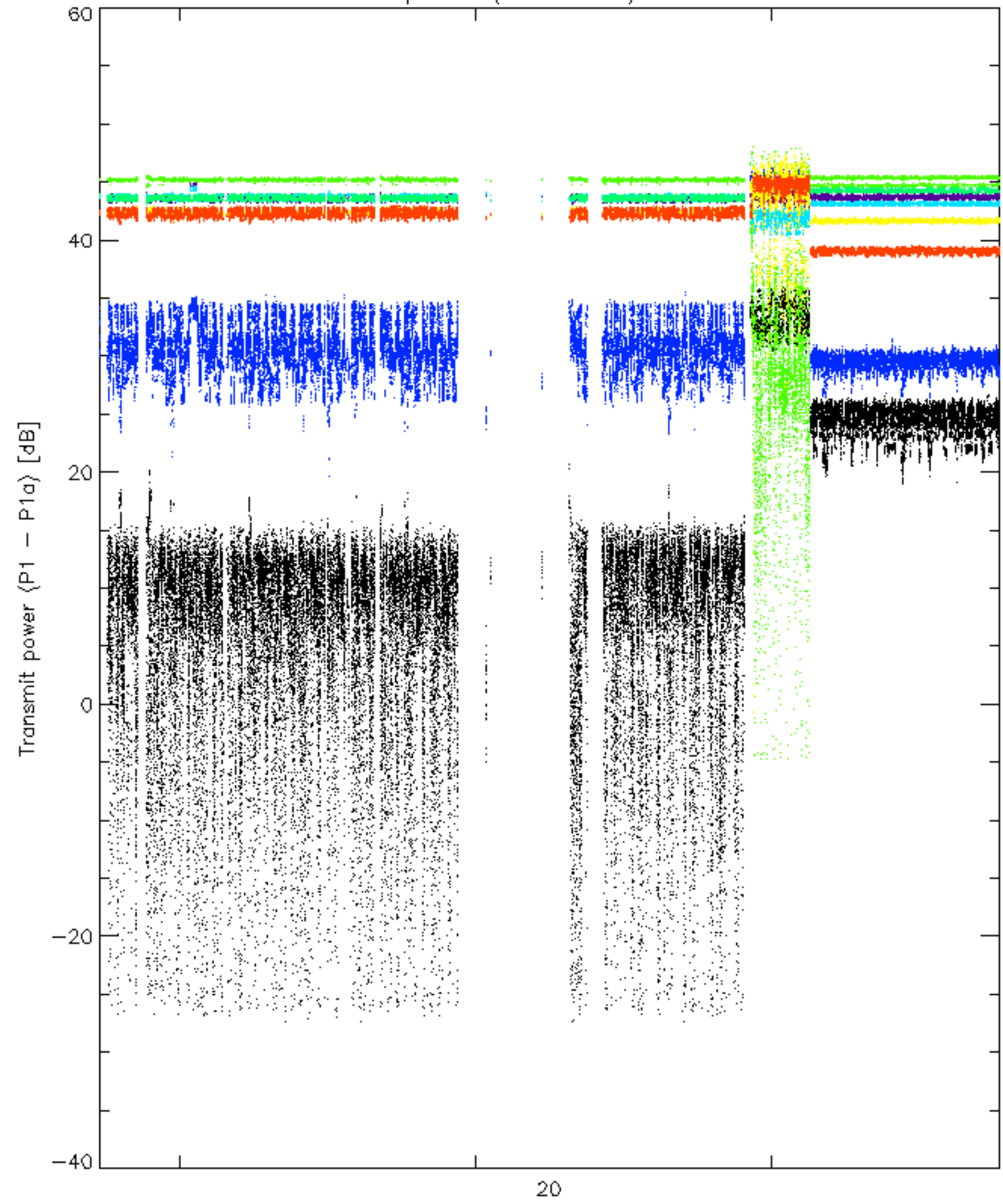
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



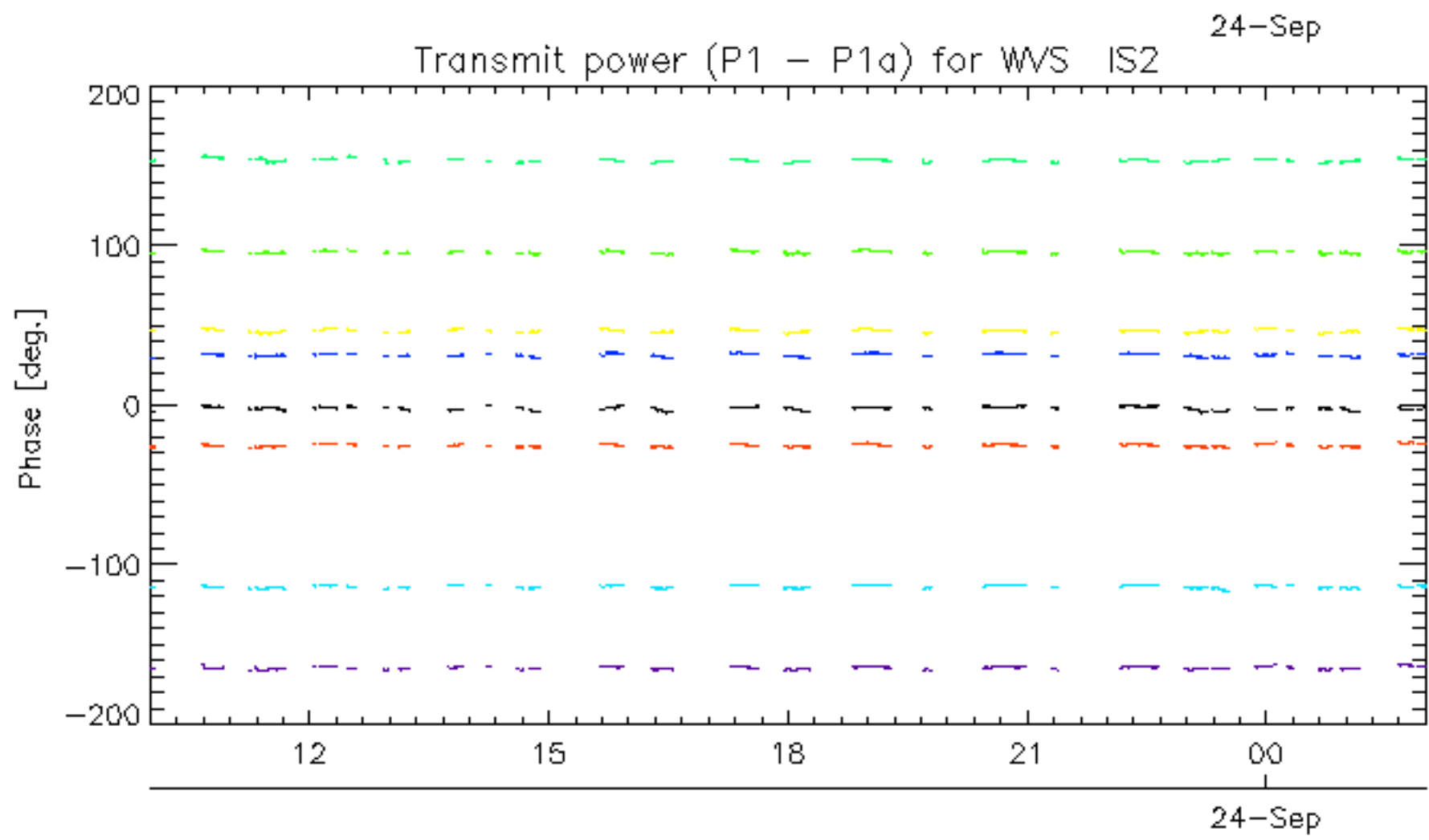
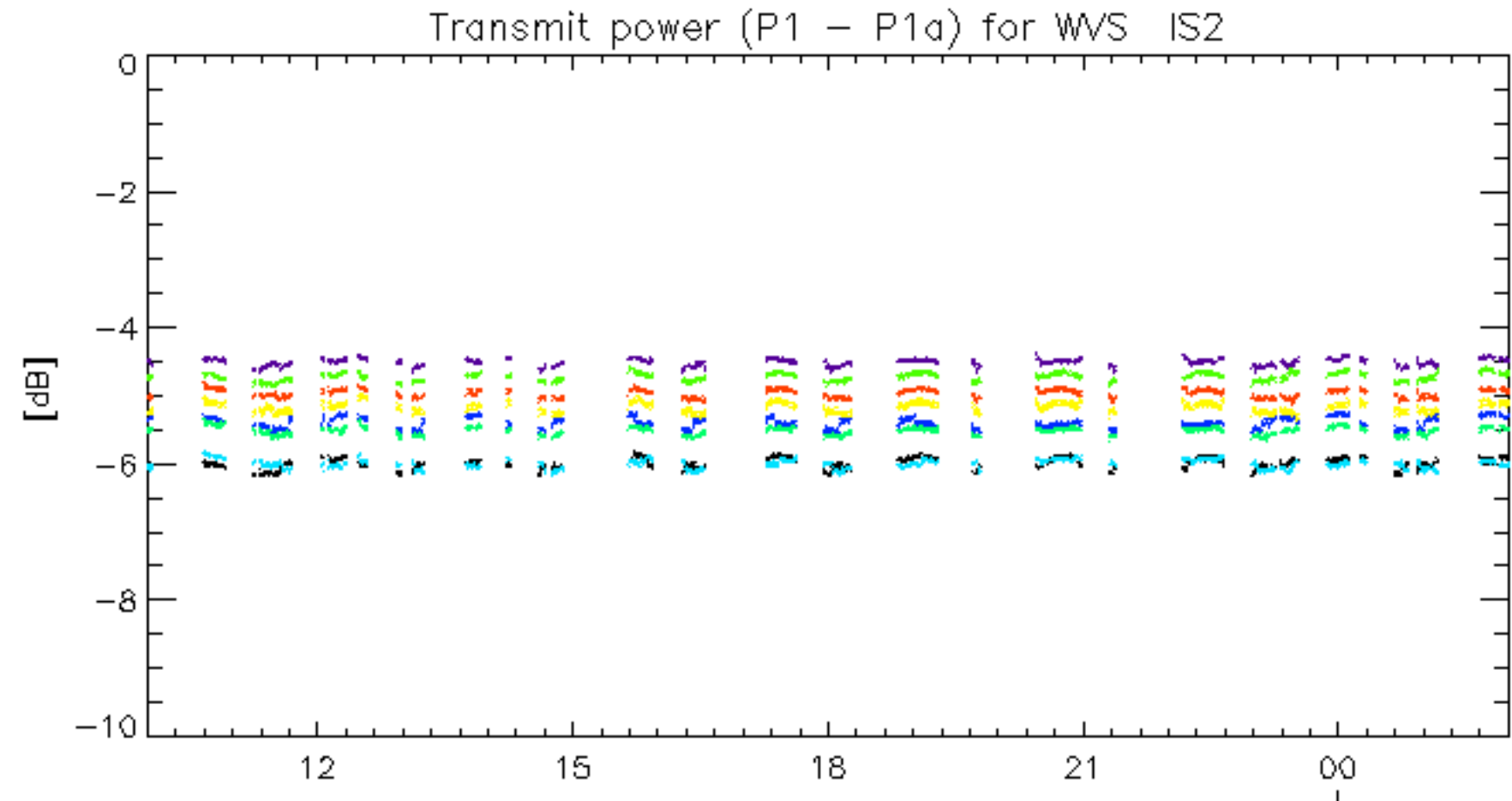
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



Transmit power (P1 - P1a) for WVS IS2



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



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

No unavailabilities during the reported period.