

# PRELIMINARY REPORT OF 050914

last update on Wed Sep 14 16:56:48 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 2005-09-13 00:00:00 to 2005-09-14 16:56:48

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	33	60	13	2	12
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	33	60	13	2	12
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	33	60	13	2	12
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	33	60	13	2	12

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	34	45	27	14	38
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	34	45	27	14	38
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	34	45	27	14	38
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	34	45	27	14	38

## 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	20050913 042900
H	20050912 050037

### 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	-3.285396	0.006692	0.013668
7	P1	-3.177040	0.010114	-0.024991
11	P1	-4.735463	0.032641	-0.046193
15	P1	-5.629661	0.046827	-0.044786
19	P1	-3.822520	0.004453	-0.025777
22	P1	-4.620380	0.011976	-0.015246
26	P1	-4.827500	0.023132	-0.010893
30	P1	-7.267318	0.024391	-0.062963
3	P1	-15.538522	0.069844	0.024310
7	P1	-15.592104	0.081935	-0.029190
11	P1	-21.832726	0.381317	-0.105030
15	P1	-11.325871	0.096765	0.030473
19	P1	-14.532084	0.033722	-0.038454
22	P1	-15.489800	0.326450	0.188453
26	P1	-17.221706	0.164154	0.123033
30	P1	-17.886301	0.320548	-0.147741

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.712019	0.088588	0.110784
7	P2	-21.852640	0.102842	0.088777
11	P2	-13.405334	0.116606	0.174449
15	P2	-7.039462	0.096853	0.000466
19	P2	-9.574415	0.102392	0.014429
22	P2	-16.799412	0.103629	0.016464
26	P2	-16.501982	0.104234	-0.004282
30	P2	-18.804102	0.091999	-0.009429

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.156394	0.004022	-0.009691
7	P3	-8.156394	0.004022	-0.009691
11	P3	-8.156394	0.004022	-0.009691
15	P3	-8.156394	0.004022	-0.009691
19	P3	-8.156394	0.004022	-0.009691
22	P3	-8.156394	0.004022	-0.009691
26	P3	-8.156400	0.004022	-0.009678
30	P3	-8.156400	0.004022	-0.009678

#### 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	-2.778848	0.013090	0.004340
7	P1	-2.955934	0.037587	0.008797
11	P1	-4.044123	0.028295	-0.041866
15	P1	-3.633237	0.026414	-0.046190
19	P1	-3.634149	0.014027	0.004619
22	P1	-5.712935	0.040734	-0.026906
26	P1	-7.359766	0.030328	0.019708
30	P1	-6.288291	0.067942	0.019374
3	P1	-10.959719	0.047323	-0.068638
7	P1	-10.500575	0.150131	0.005244
11	P1	-12.667315	0.098735	-0.073926
15	P1	-11.652914	0.095623	-0.018783
19	P1	-15.458852	0.053640	0.041718
22	P1	-25.426365	1.917969	0.080875
26	P1	-15.160268	0.229975	0.191594
30	P1	-20.078587	1.348478	0.144886

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.416927	0.049937	0.139486
7	P2	-21.967707	0.033877	0.071685
11	P2	-9.454024	0.067953	0.179206
15	P2	-5.074047	0.036971	0.035539
19	P2	-6.838977	0.056062	0.045702
22	P2	-7.017929	0.042554	0.040081
26	P2	-23.946770	0.033788	0.020178
30	P2	-21.926325	0.042354	0.017066

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.001226	0.004129	-0.008264
7	P3	-8.001277	0.004134	-0.008318
11	P3	-8.001191	0.004127	-0.008174
15	P3	-8.001184	0.004138	-0.008039
19	P3	-8.001292	0.004126	-0.008419
22	P3	-8.001073	0.004127	-0.008241
26	P3	-8.001106	0.004139	-0.008766
30	P3	-8.001082	0.004134	-0.008349

## 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	0.000427581
	stdev	2.35170e-07
MEAN Q	mean	0.000449669
	stdev	2.43886e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.125536
	stdev	0.00106303
STDEV Q	mean	0.125790
	stdev	0.00107287



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005091[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_IMM_1PNPDE20050913_115625_00002262040_00410_18500_5479.N1	1	0
ASA_WSM_1PNPDE20050912_011917_000003912040_00389_18479_8359.N1	0	67
ASA_WSM_1PNPDE20050912_035553_000001642040_00391_18481_8375.N1	0	21
ASA_WSM_1PNPDK20050912_122252_000003972040_00396_18486_3937.N1	0	21
ASA_WSM_1PNPDK20050912_122252_000003972040_00396_18486_3988.N1	0	21







## 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

Descending

### 7.5 - Absolute Doppler for GM1

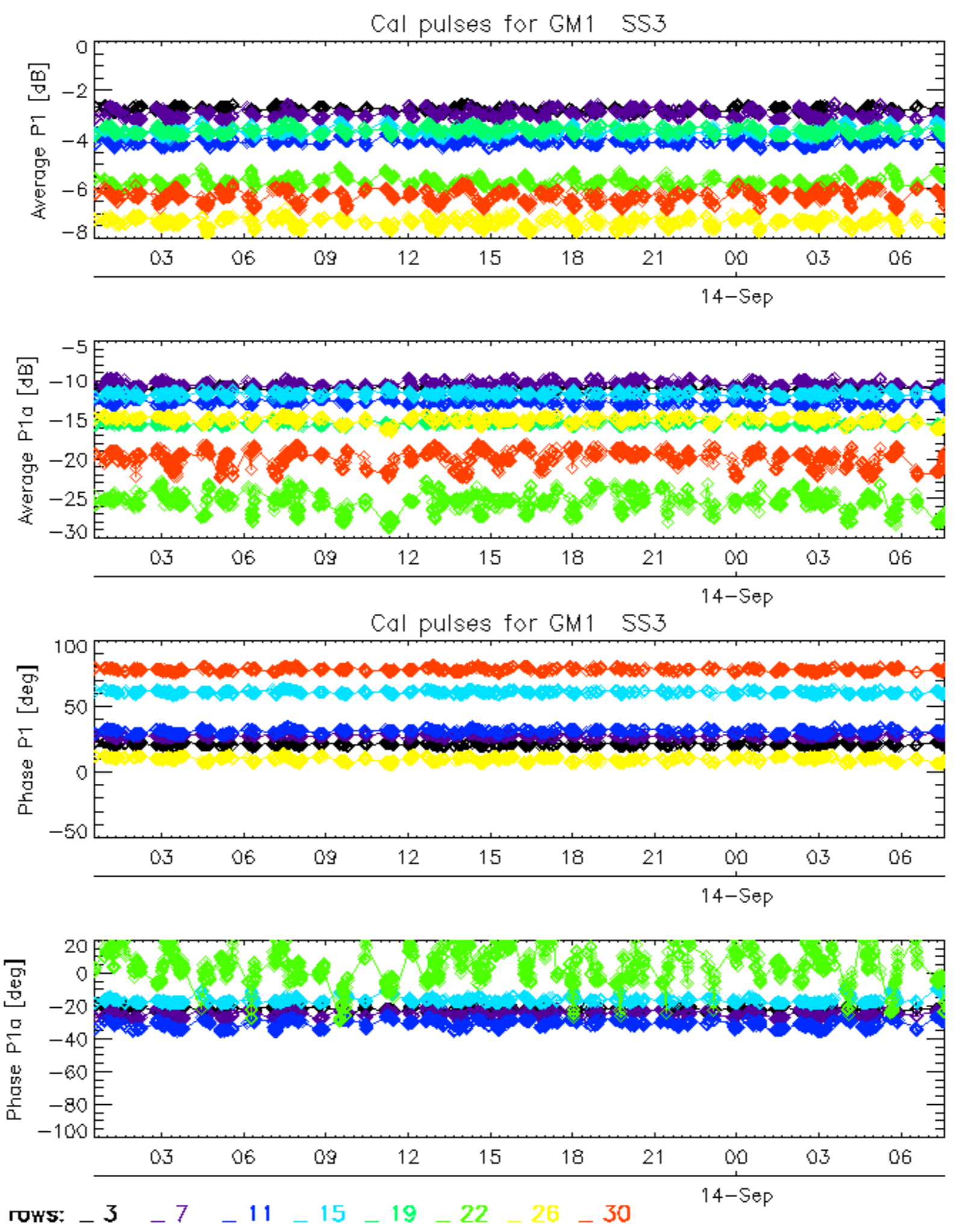
Evolution of Absolute Doppler

Ascending

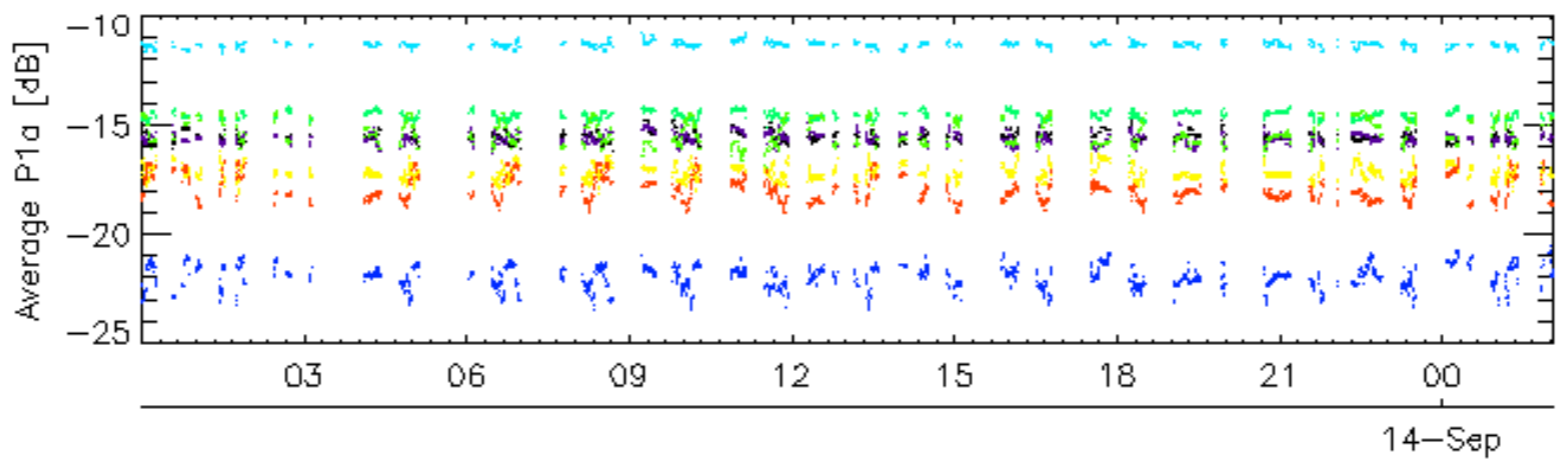
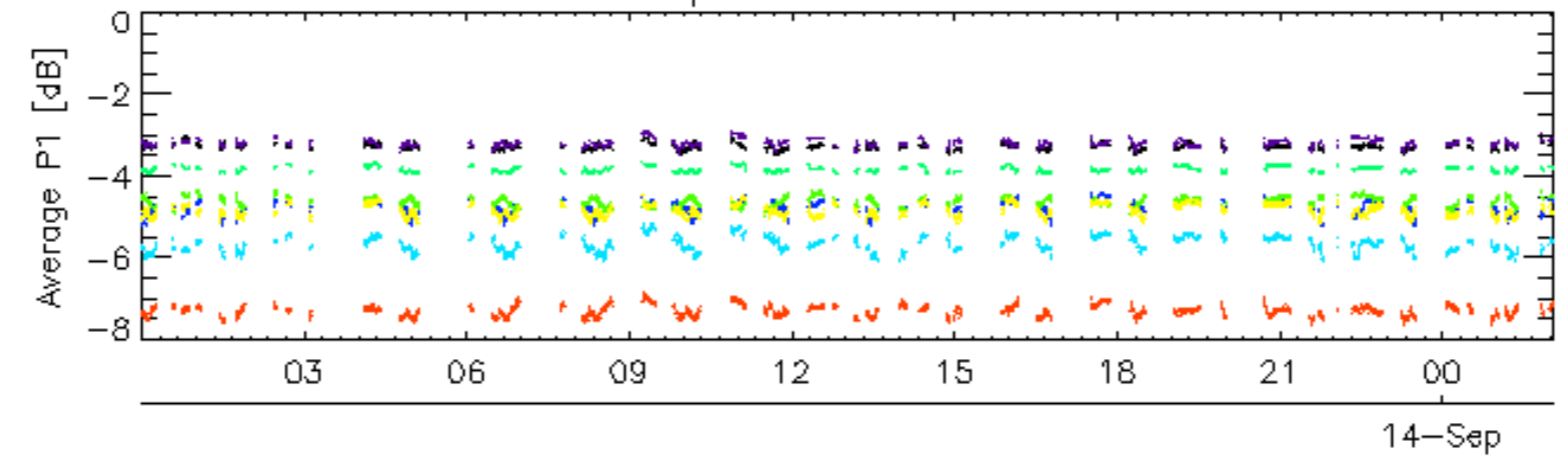
Descending

### 7.6 - Doppler evolution versus ANX for GM1

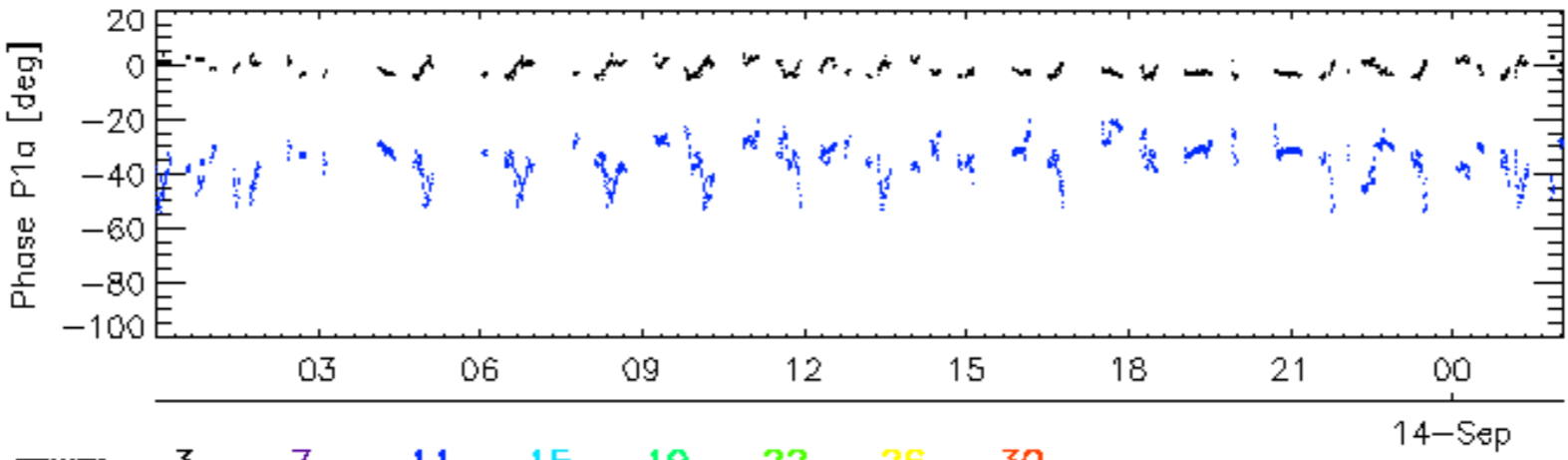
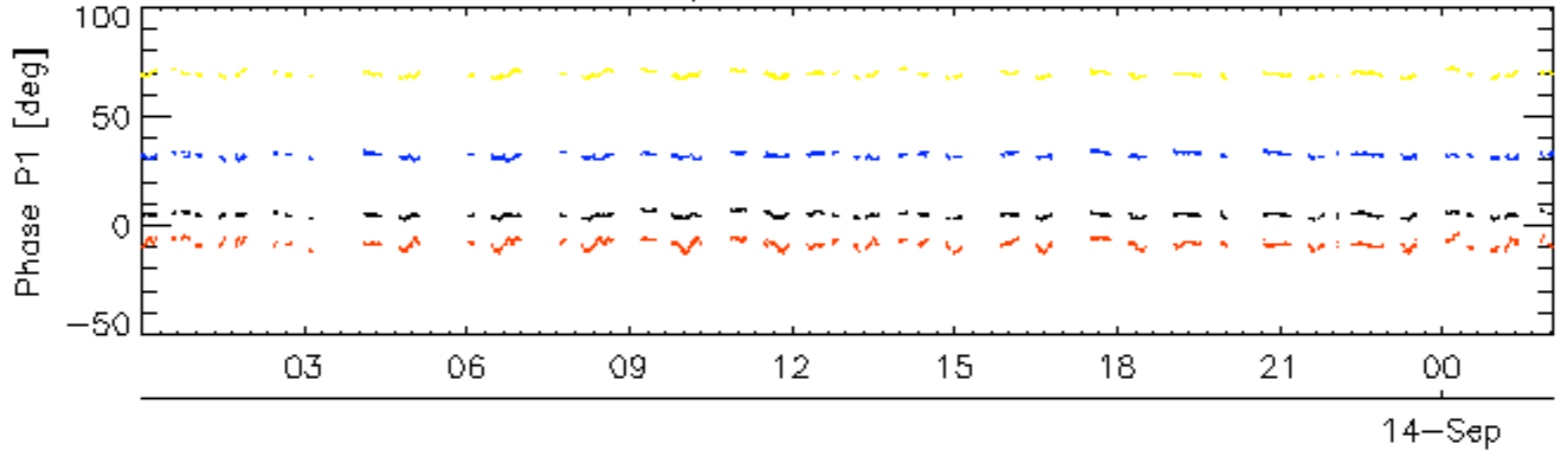
Evolution Doppler error versus ANX



Cal pulses for WVS IS2

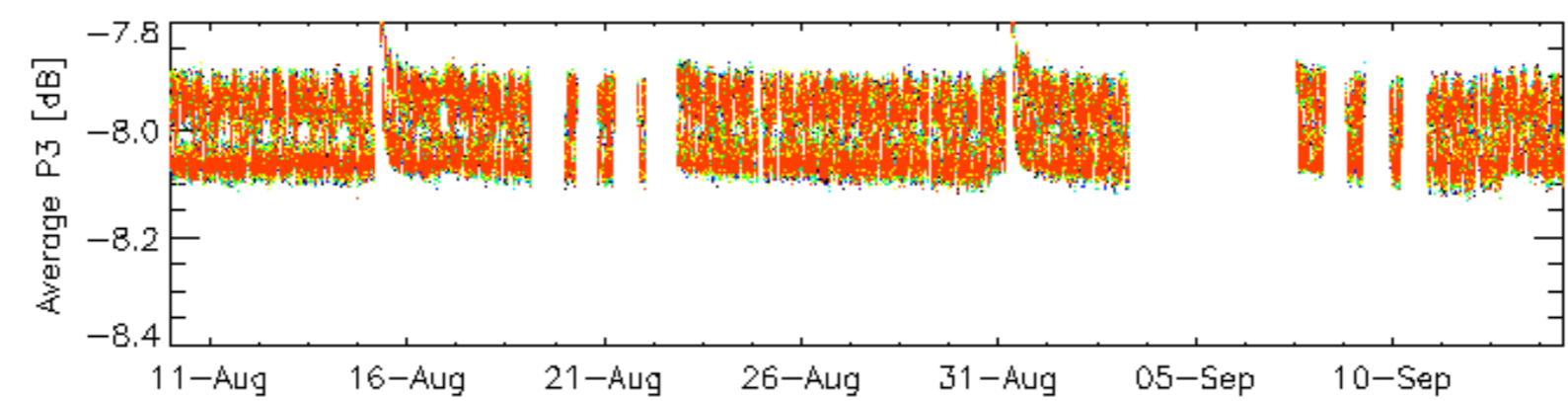
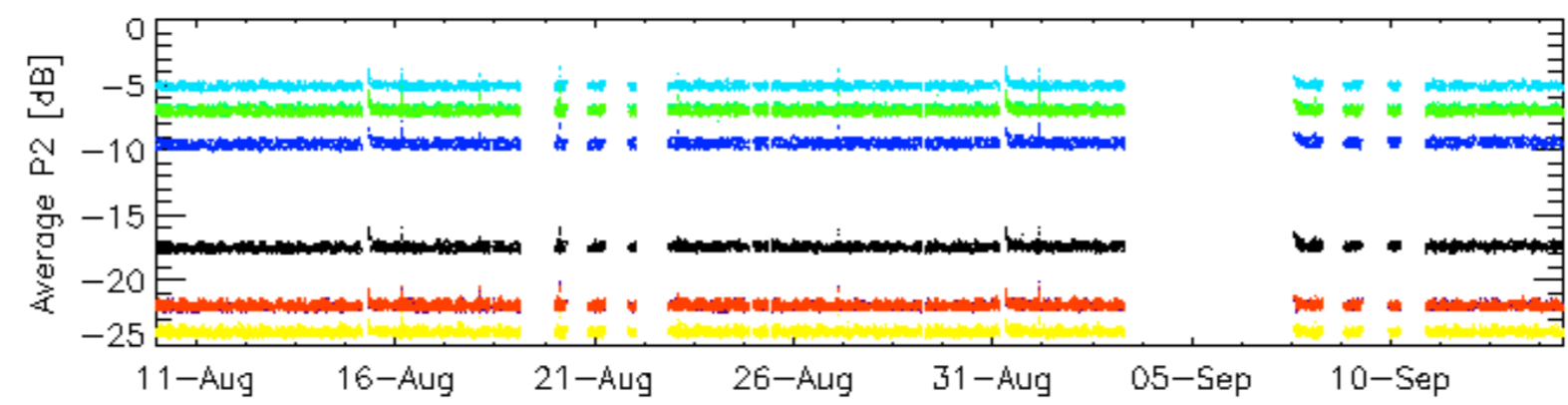
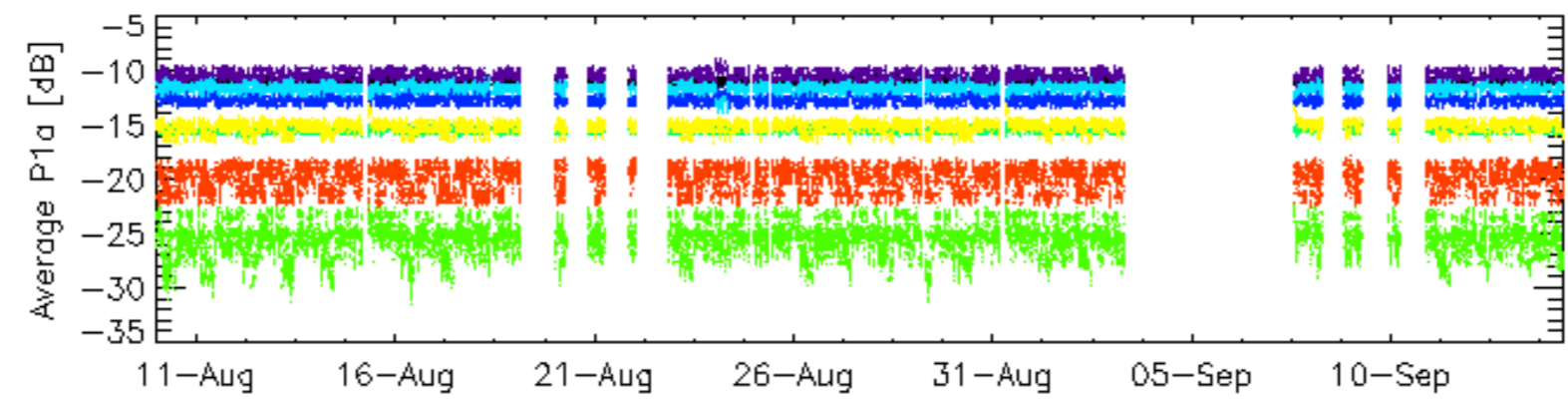
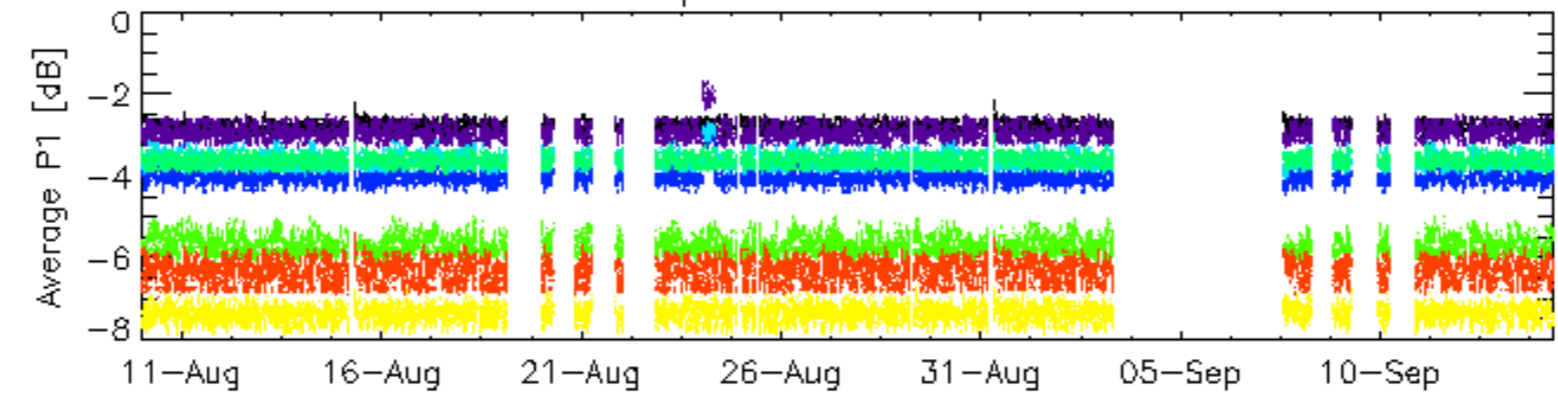


Cal pulses for WVS IS2



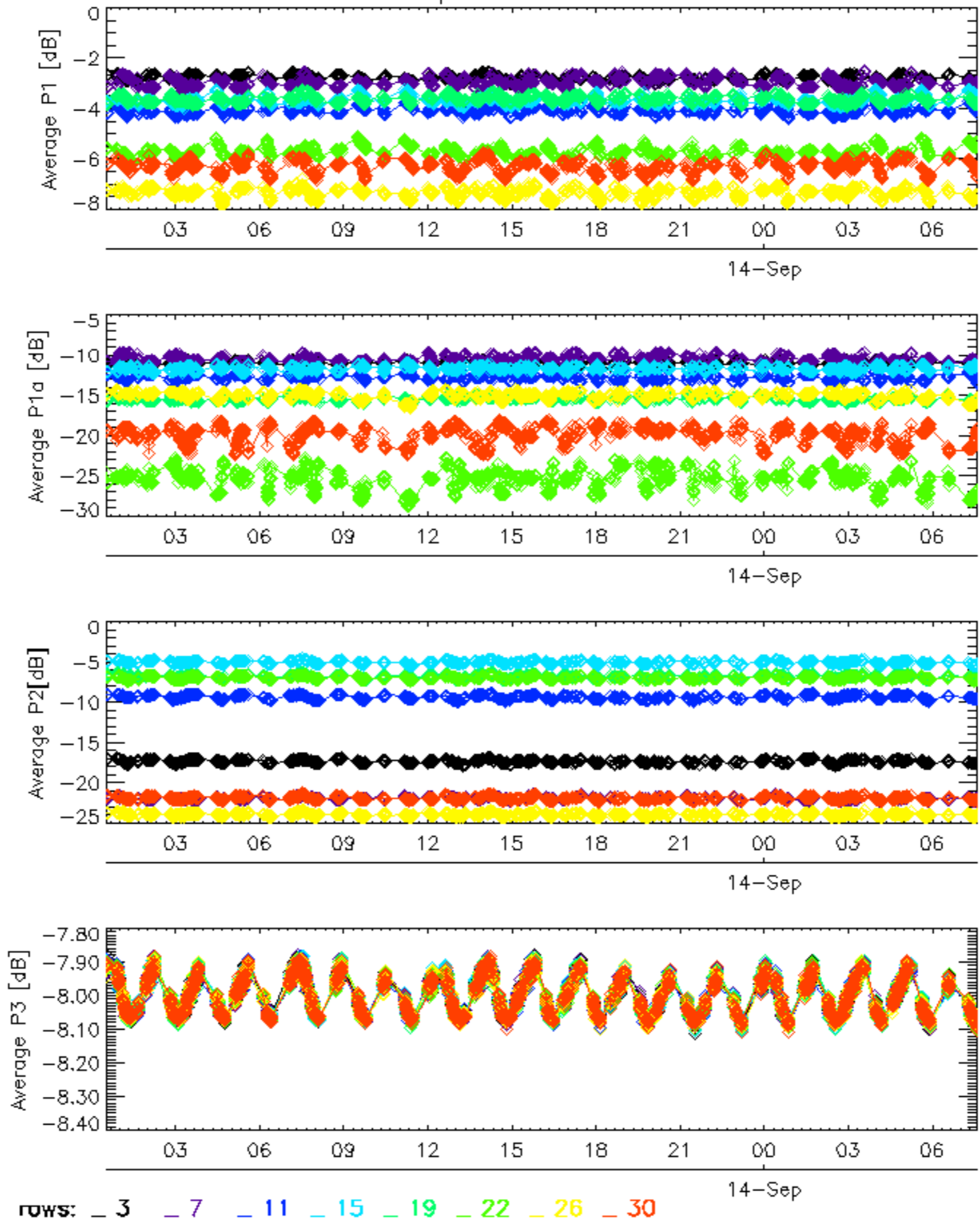
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3



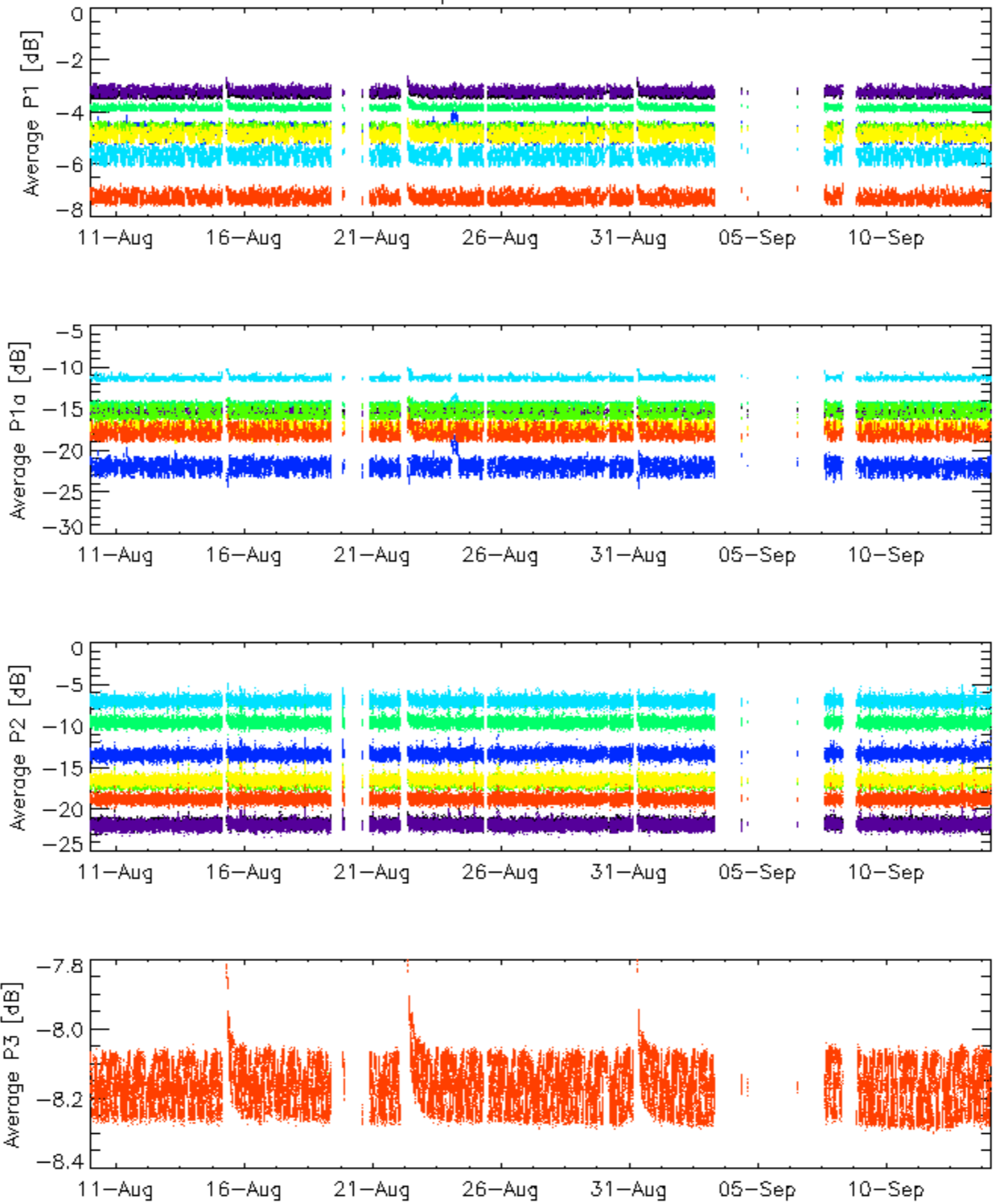
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3



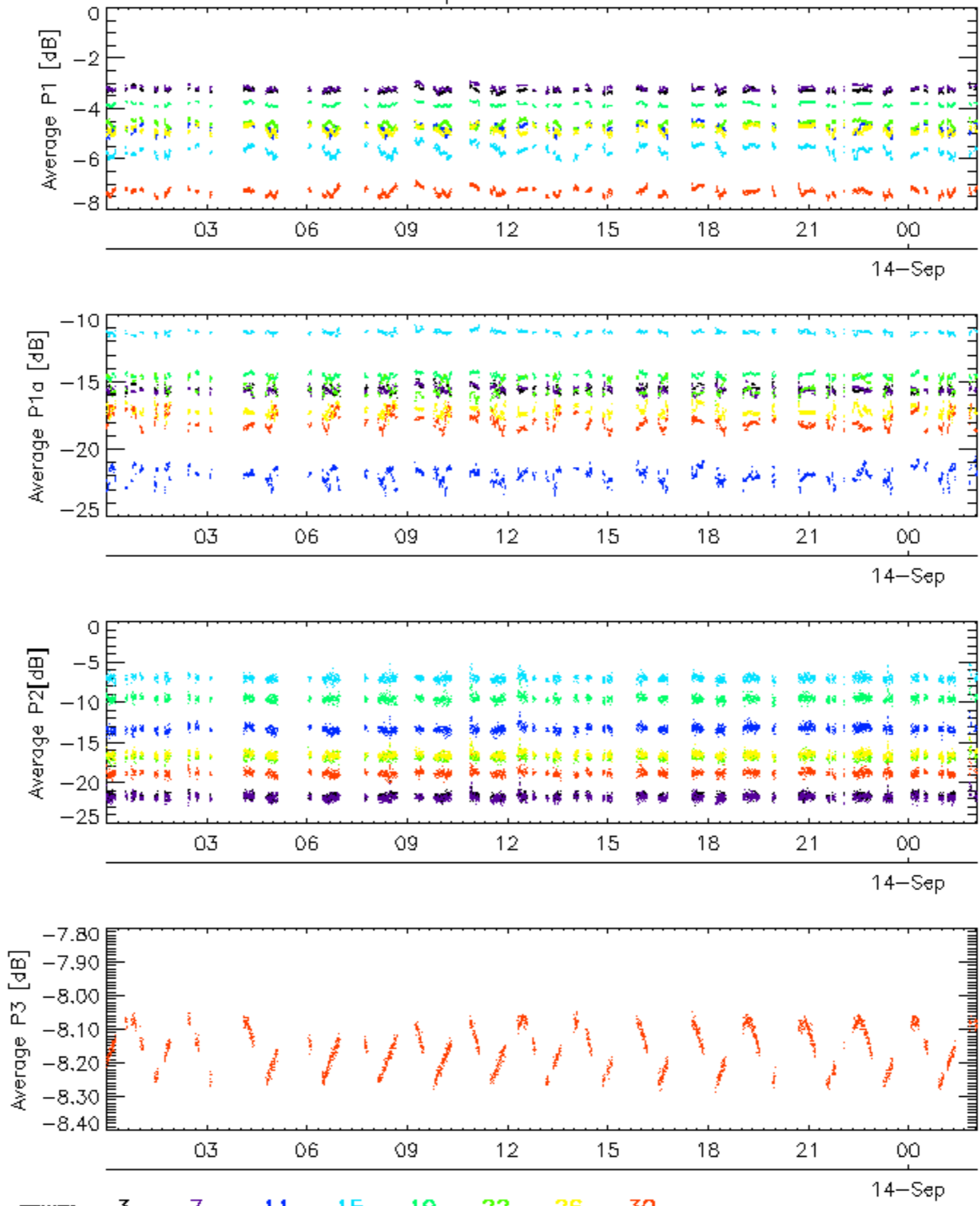


Cal pulses for WVS IS2



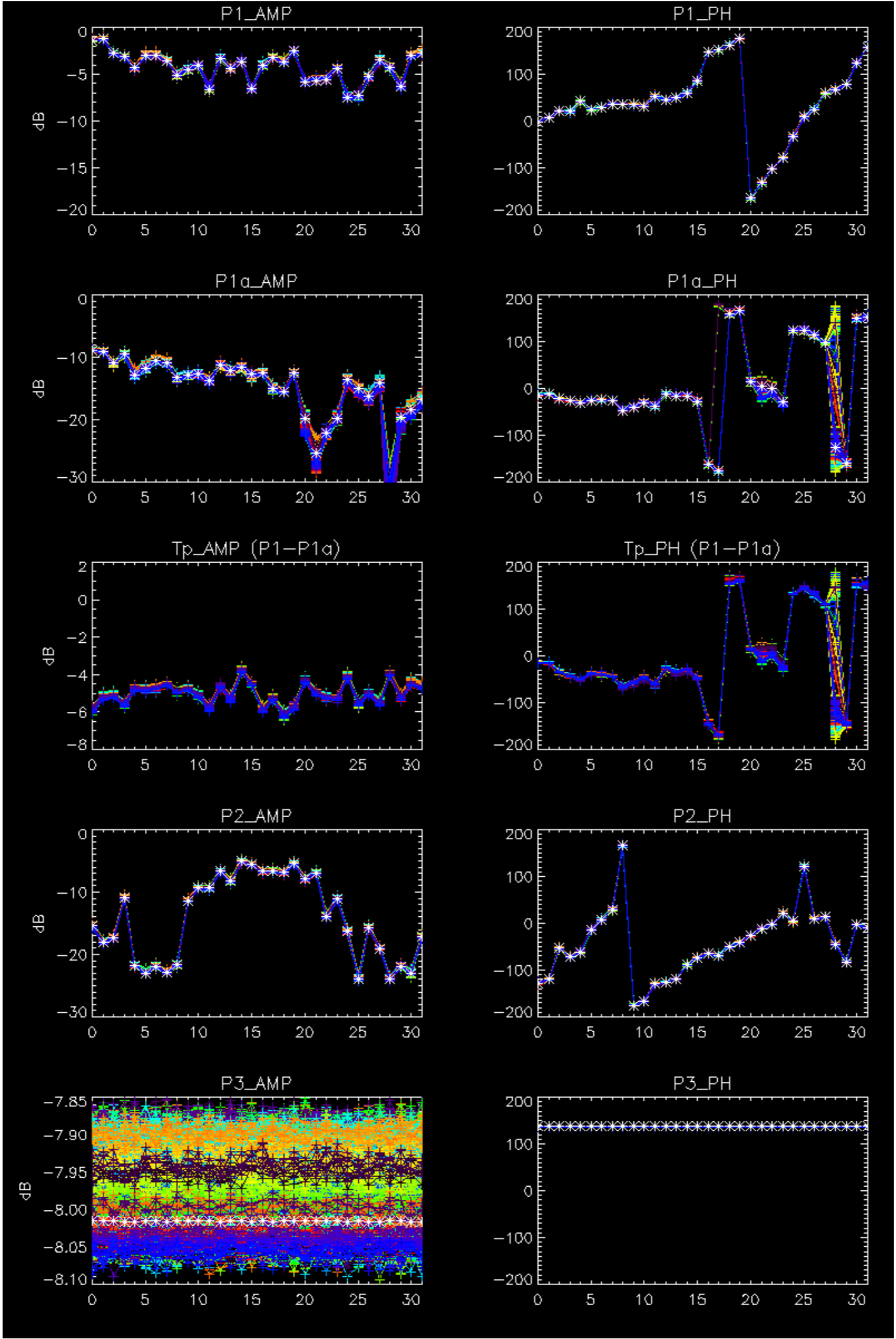
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

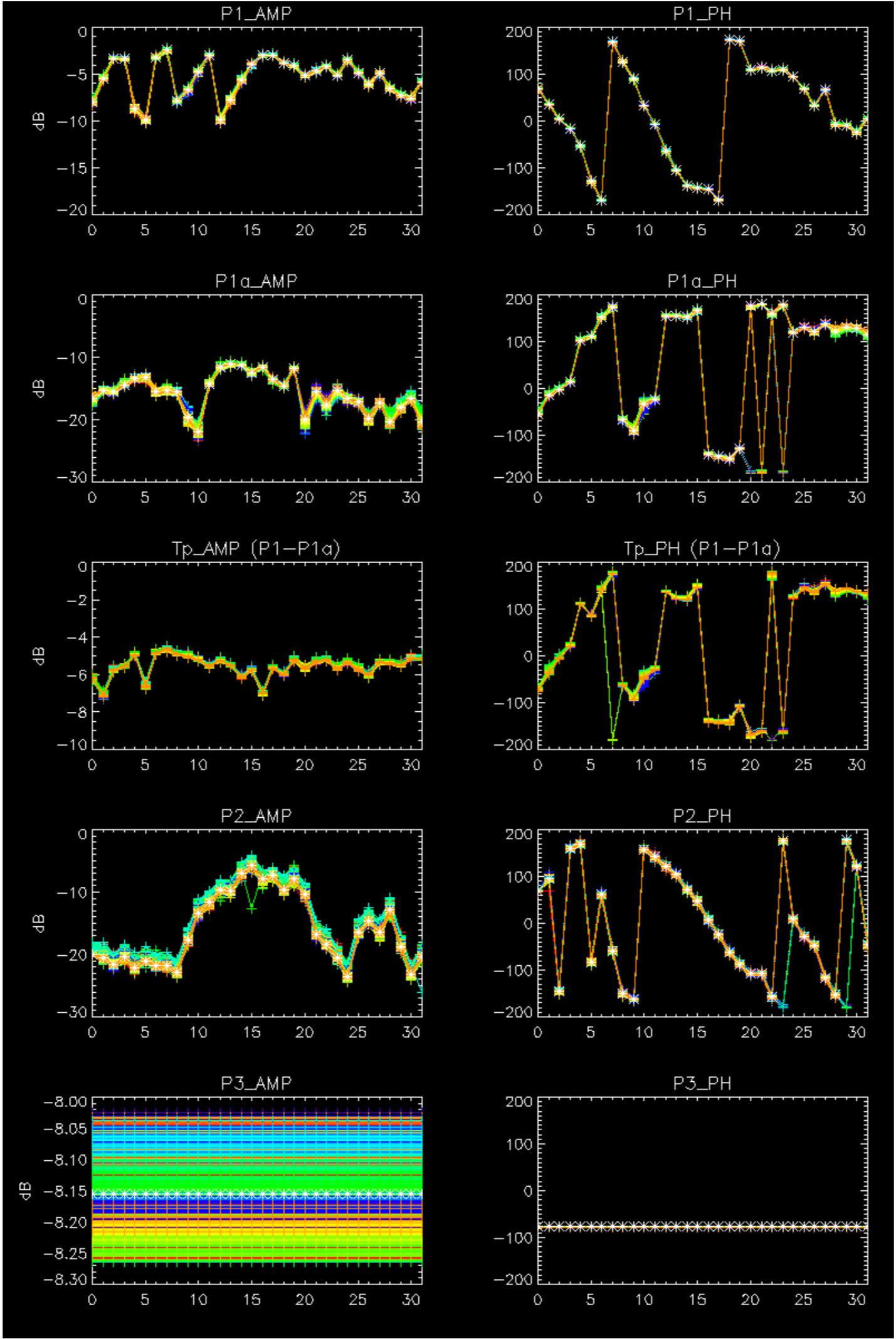
Cal pulses for WVS IS2



No anomalies observed.





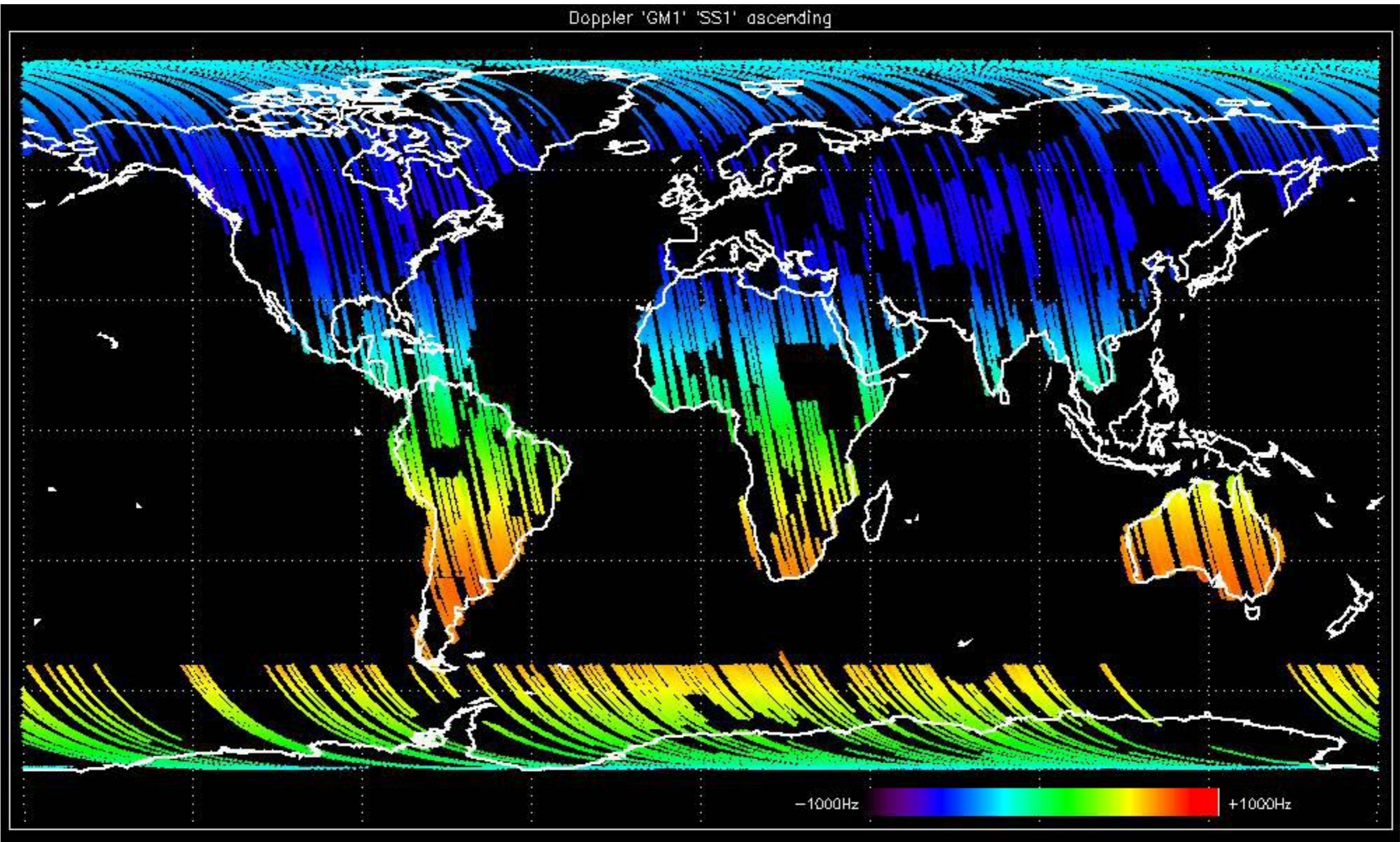


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



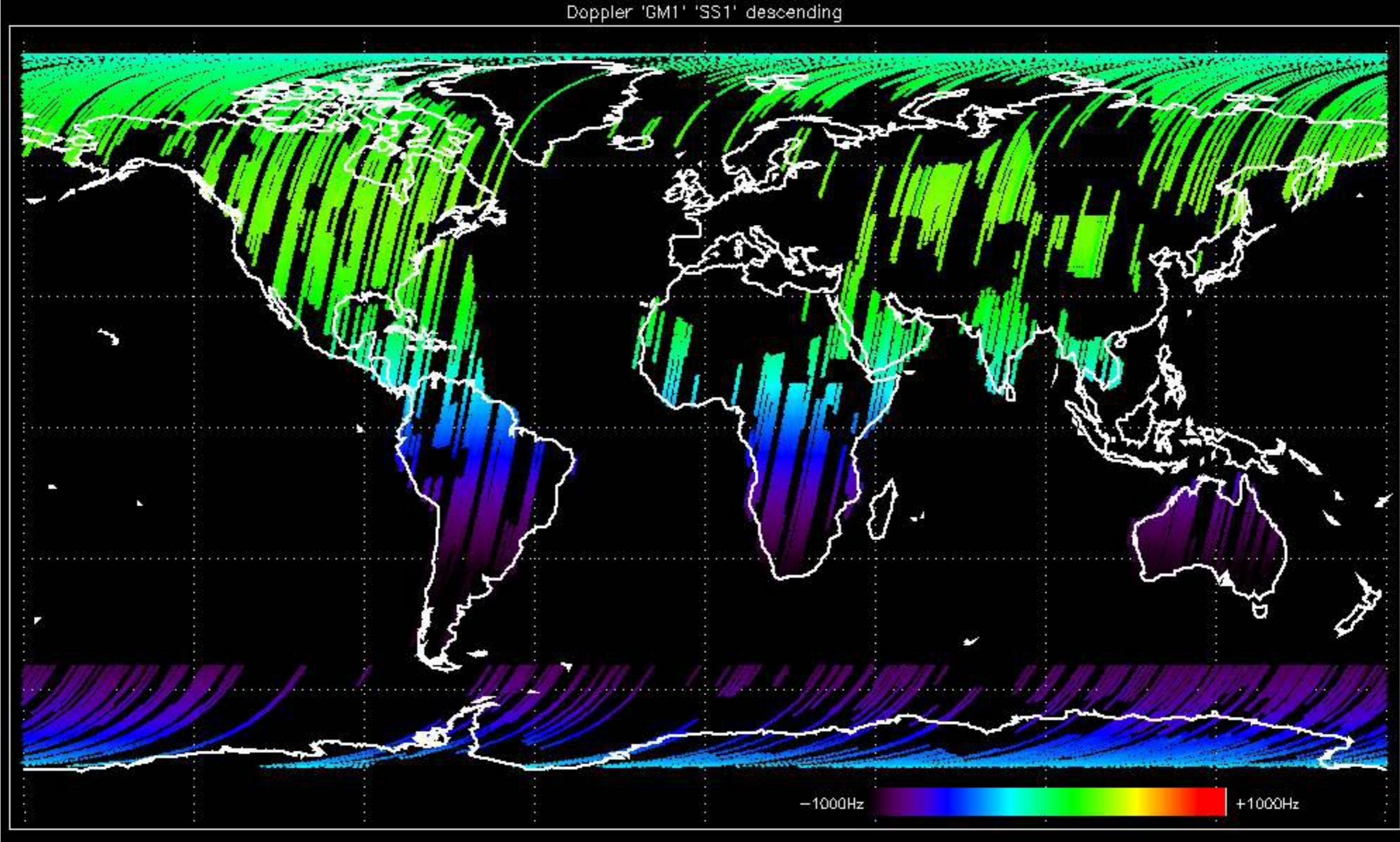


Doppler 'GM1' 'SS1' ascending



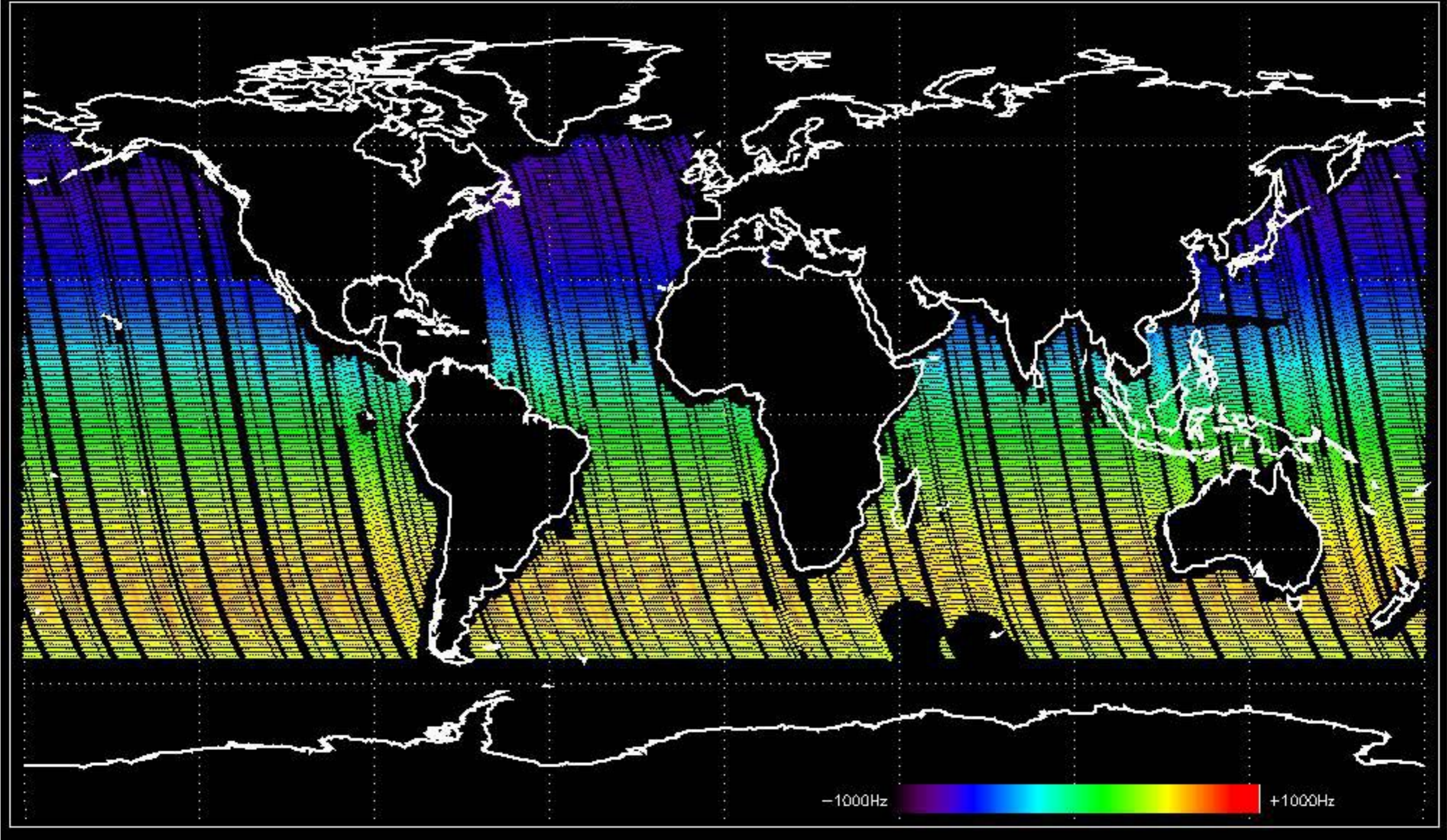


Doppler 'GM1' 'SS1' descending



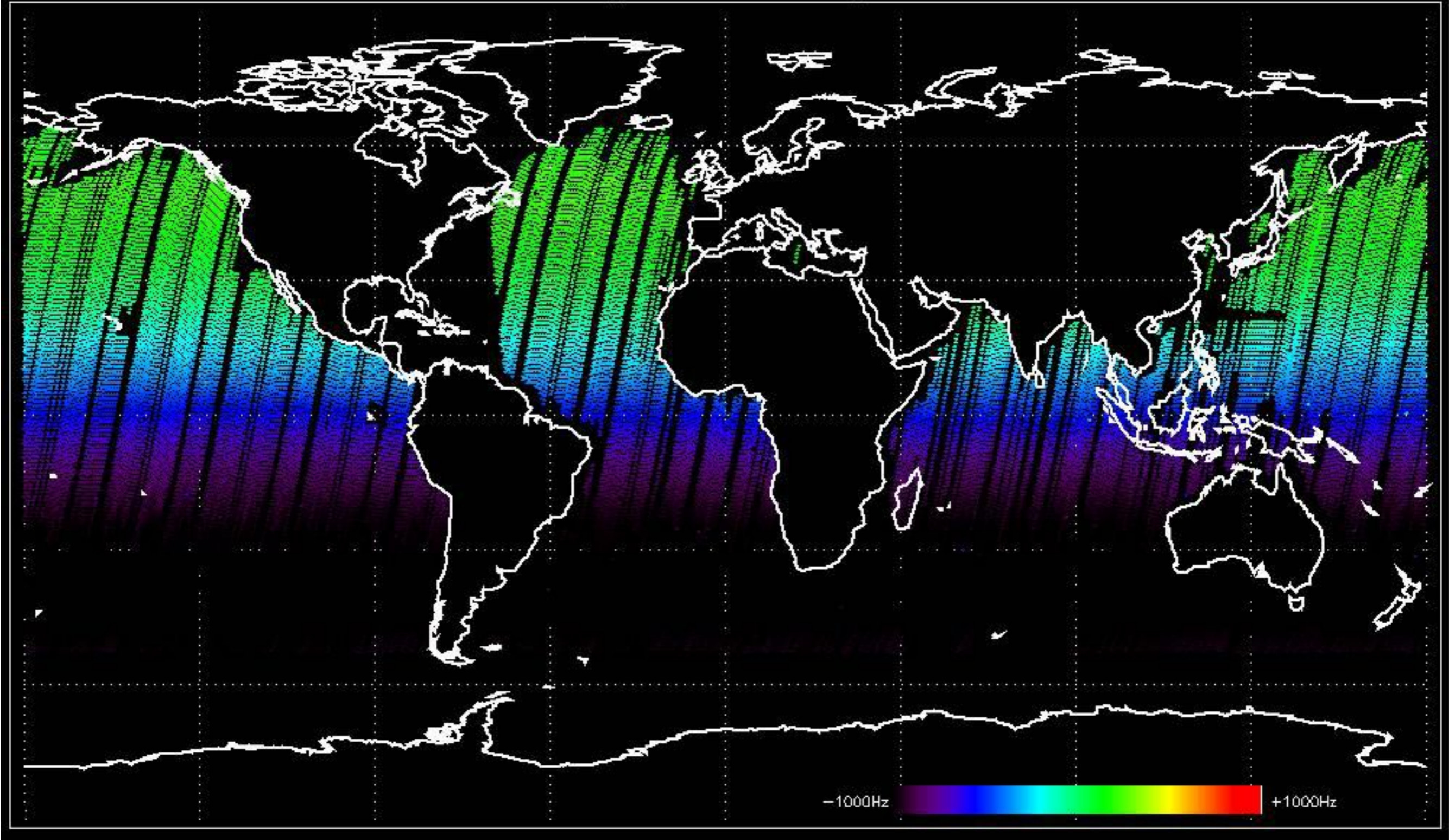


Doppler 'WVS' 'IS2' ascending



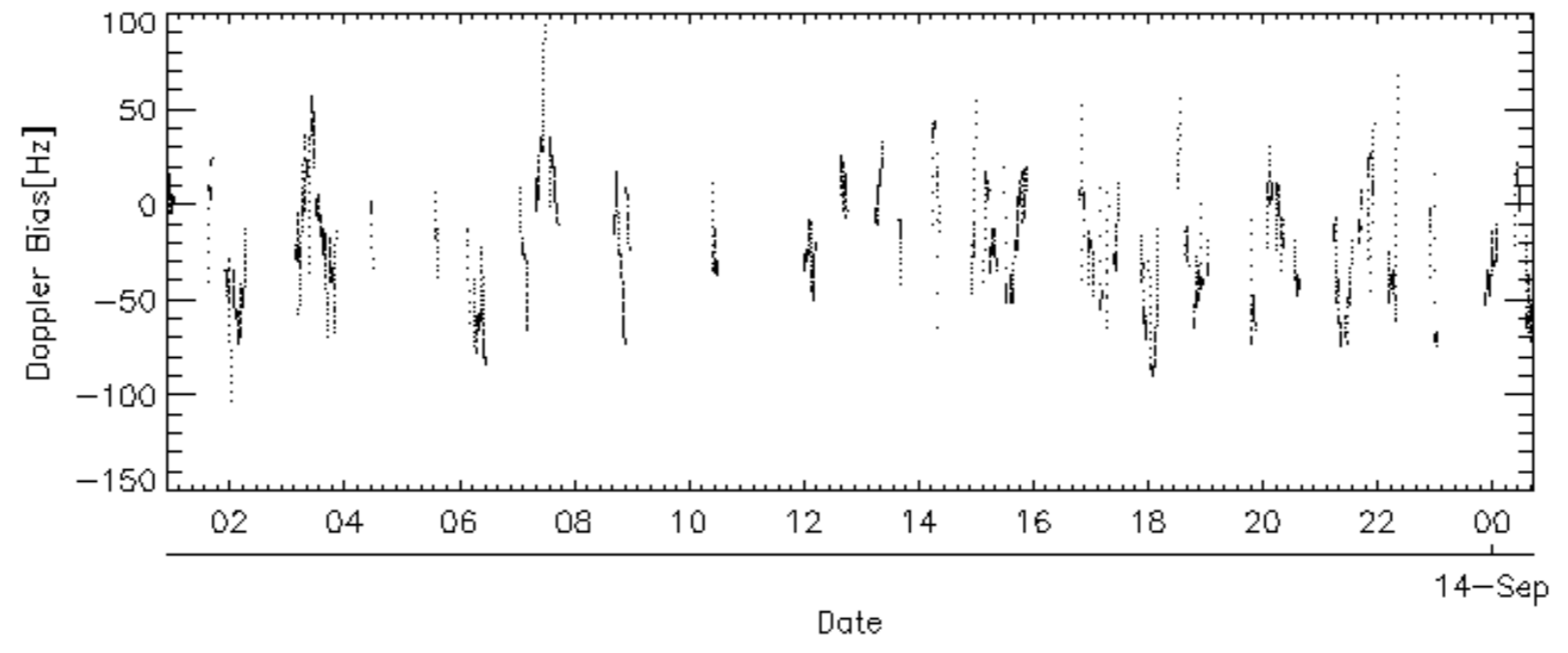
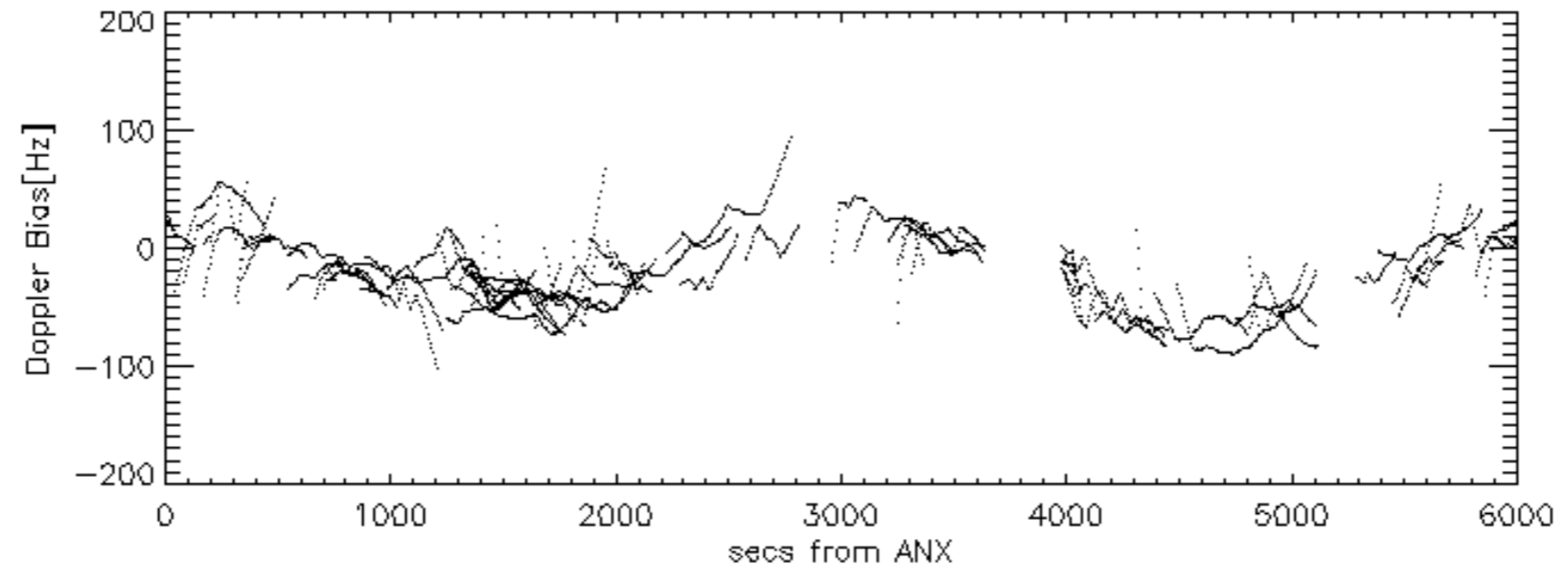
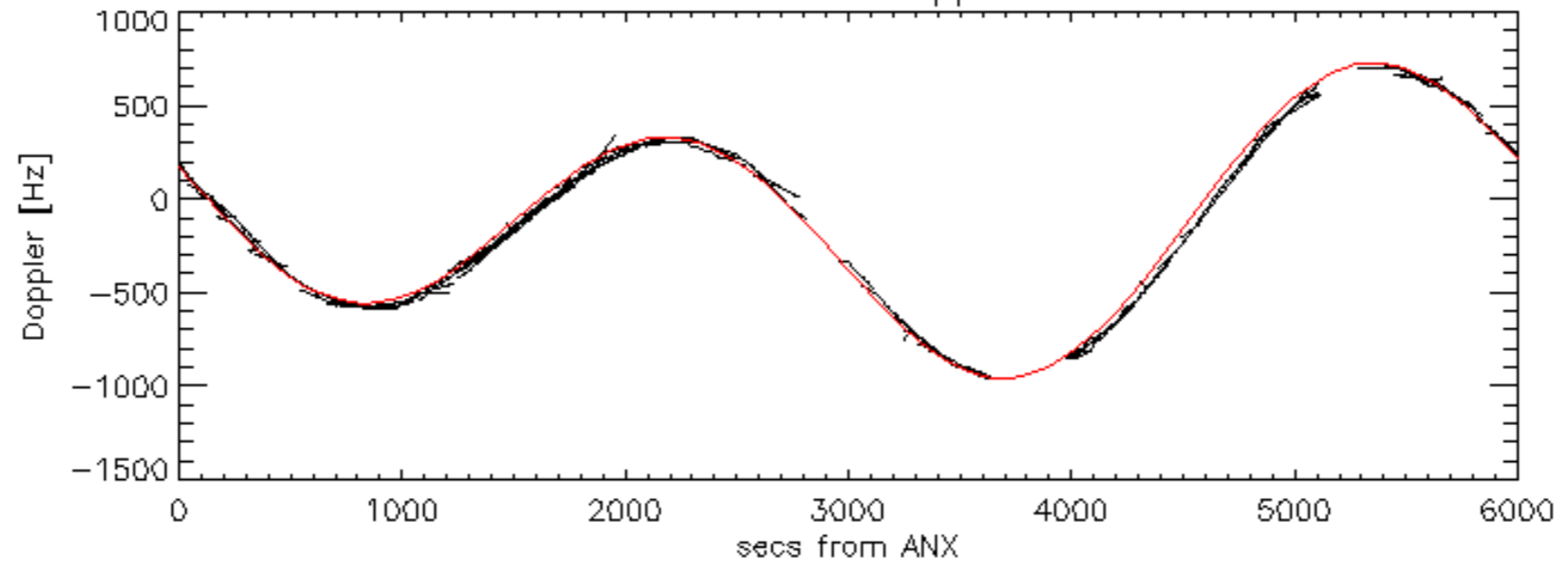


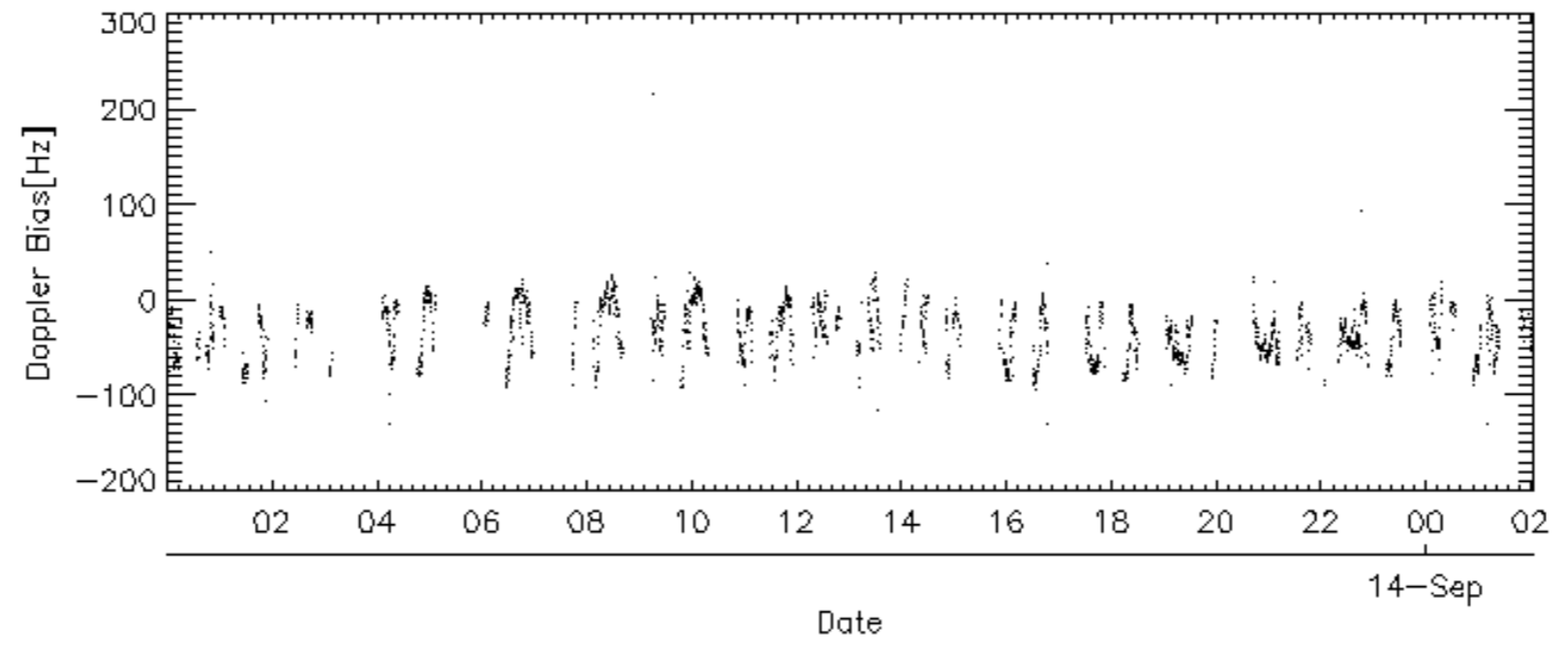
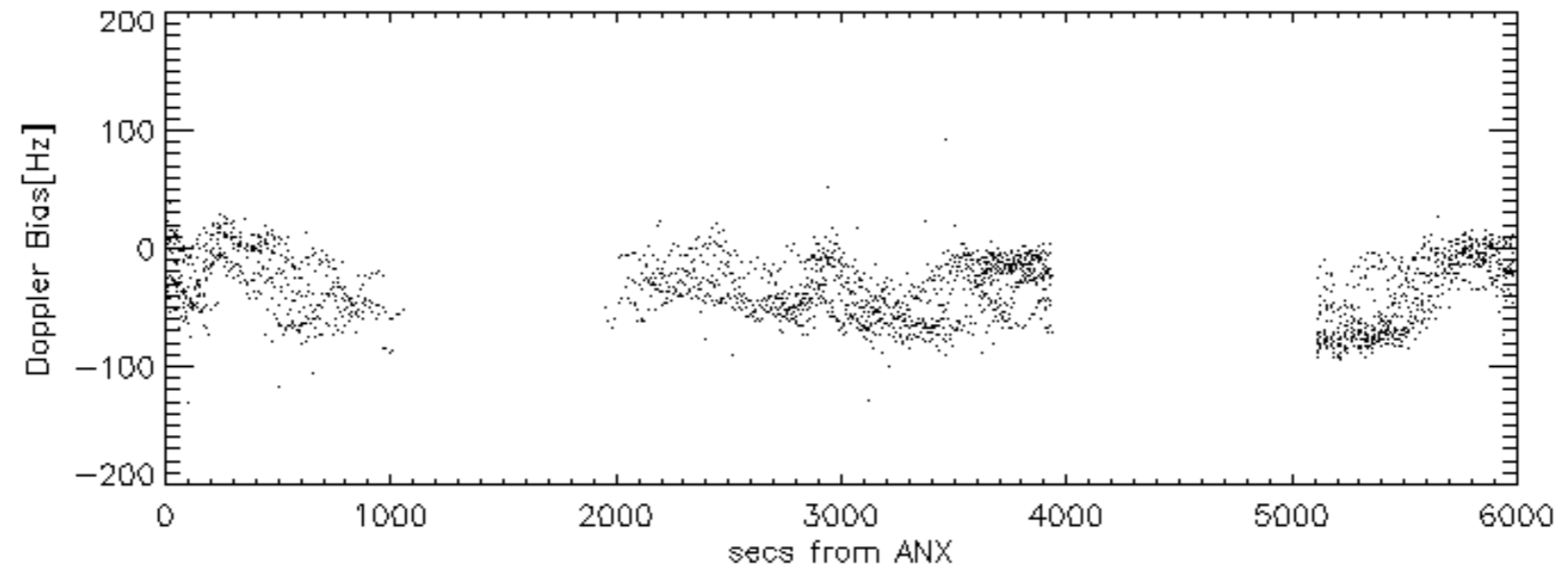
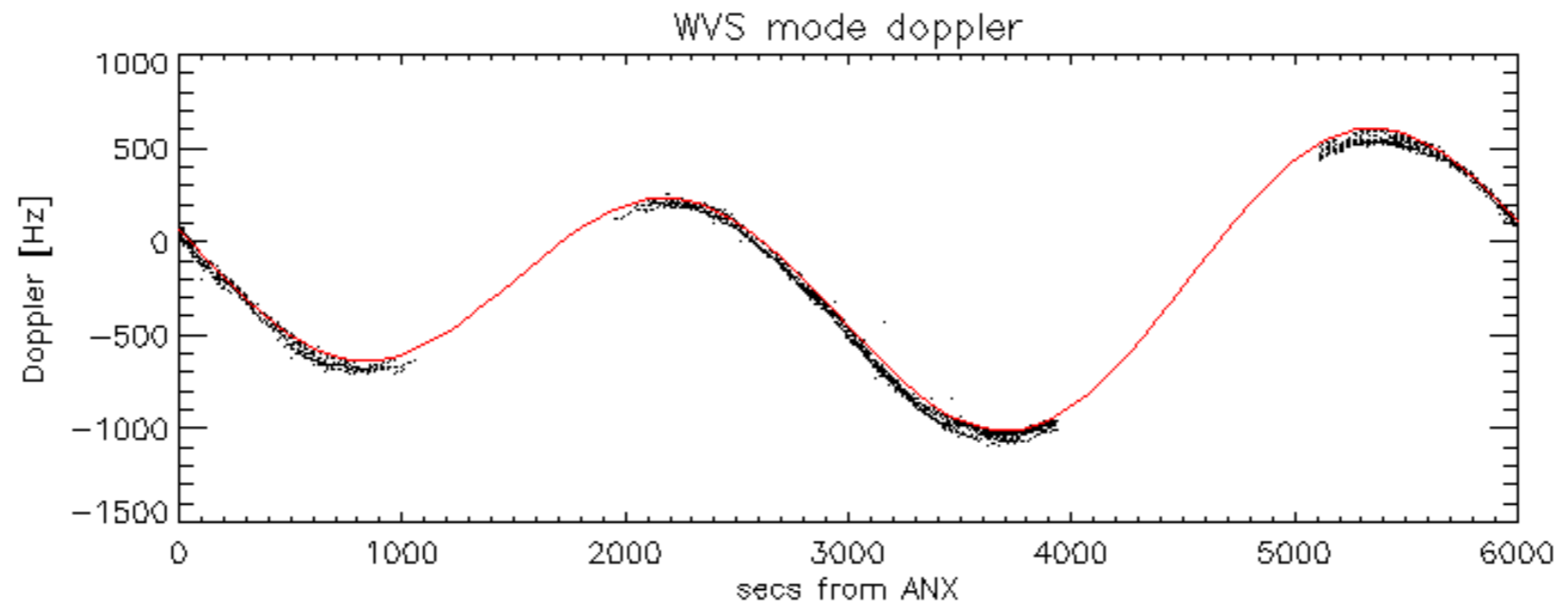
Doppler 'WVS' 'IS2' descending





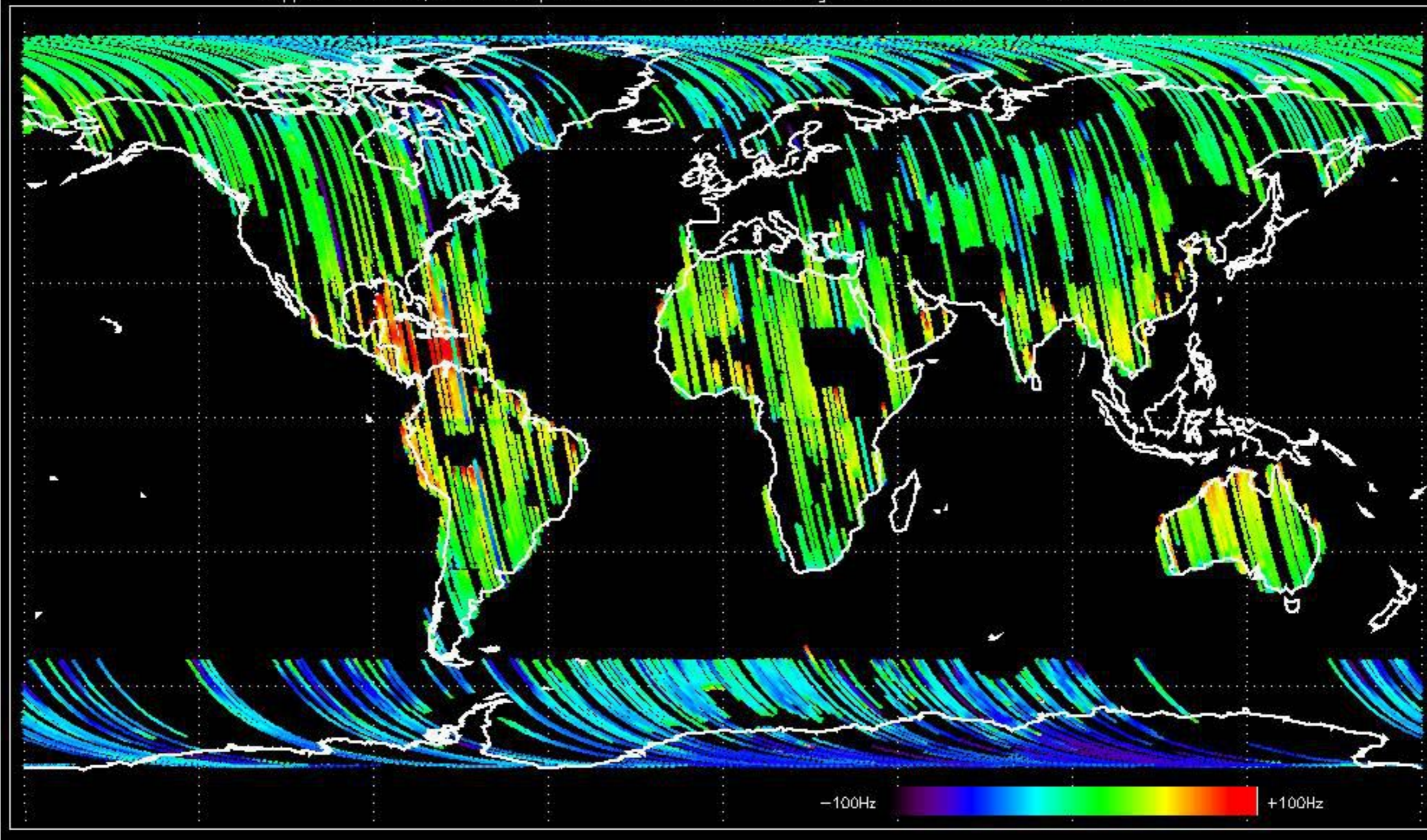
GM1 mode doppler





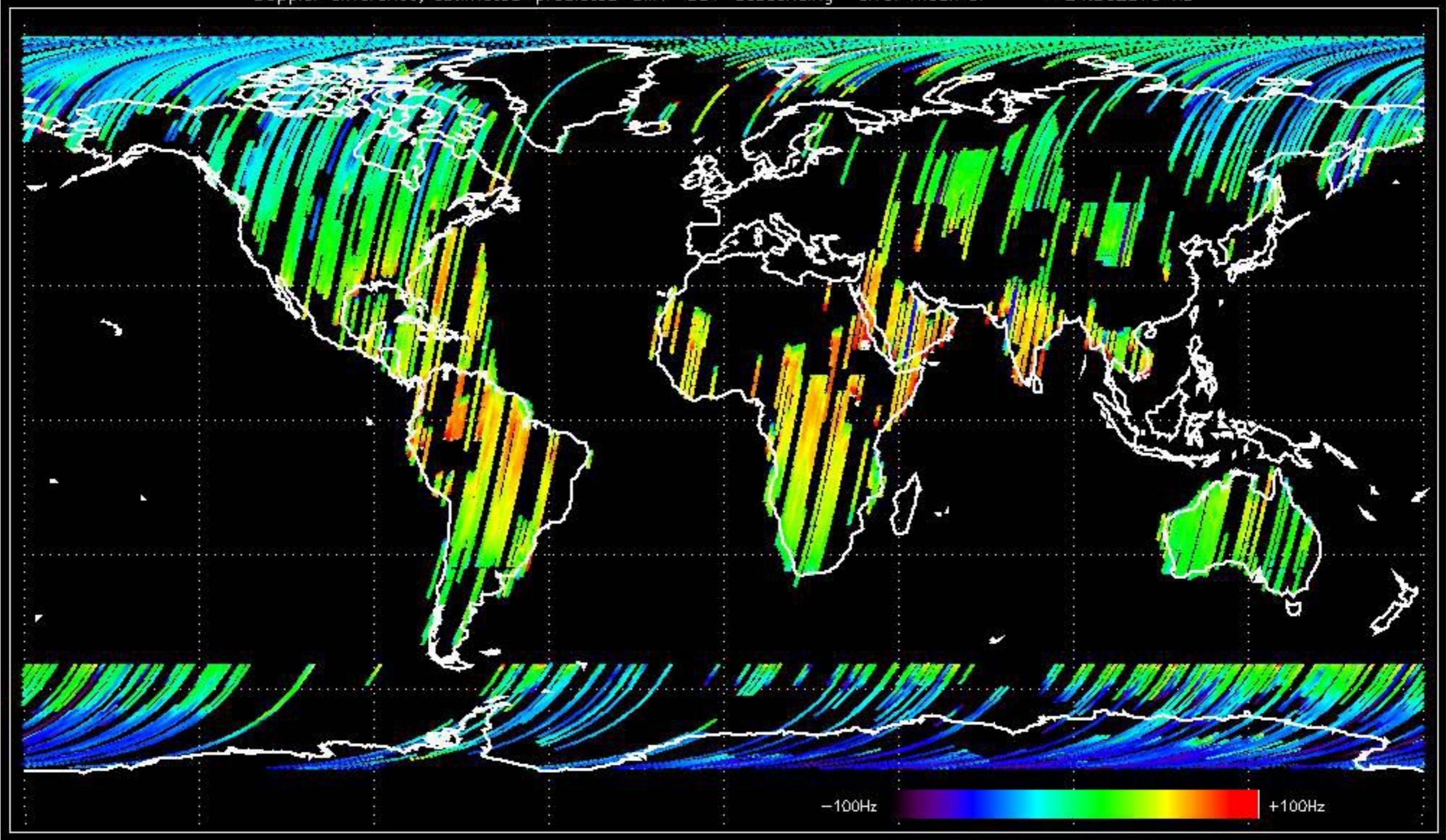


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -33.247286 Hz



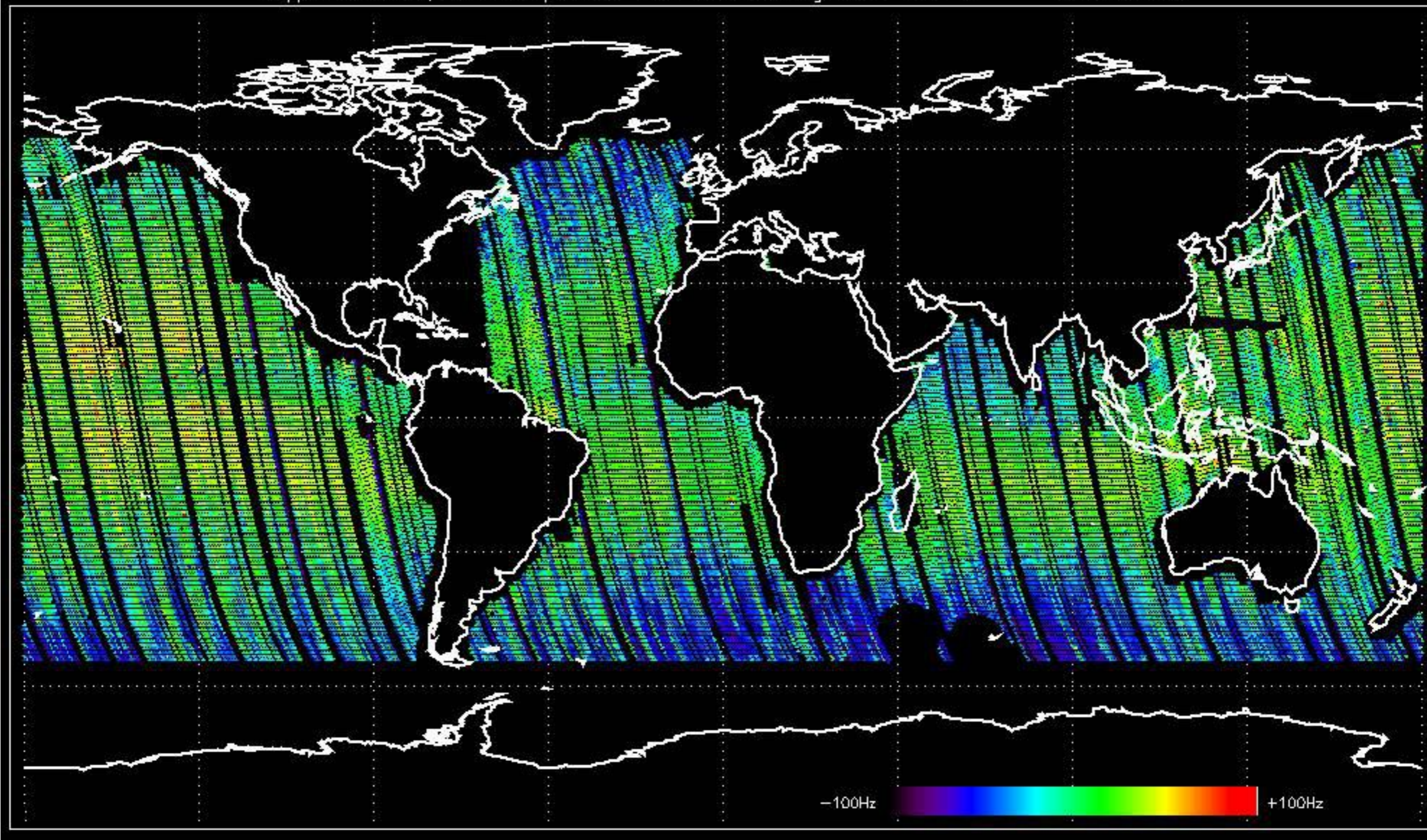


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -24.802573 Hz



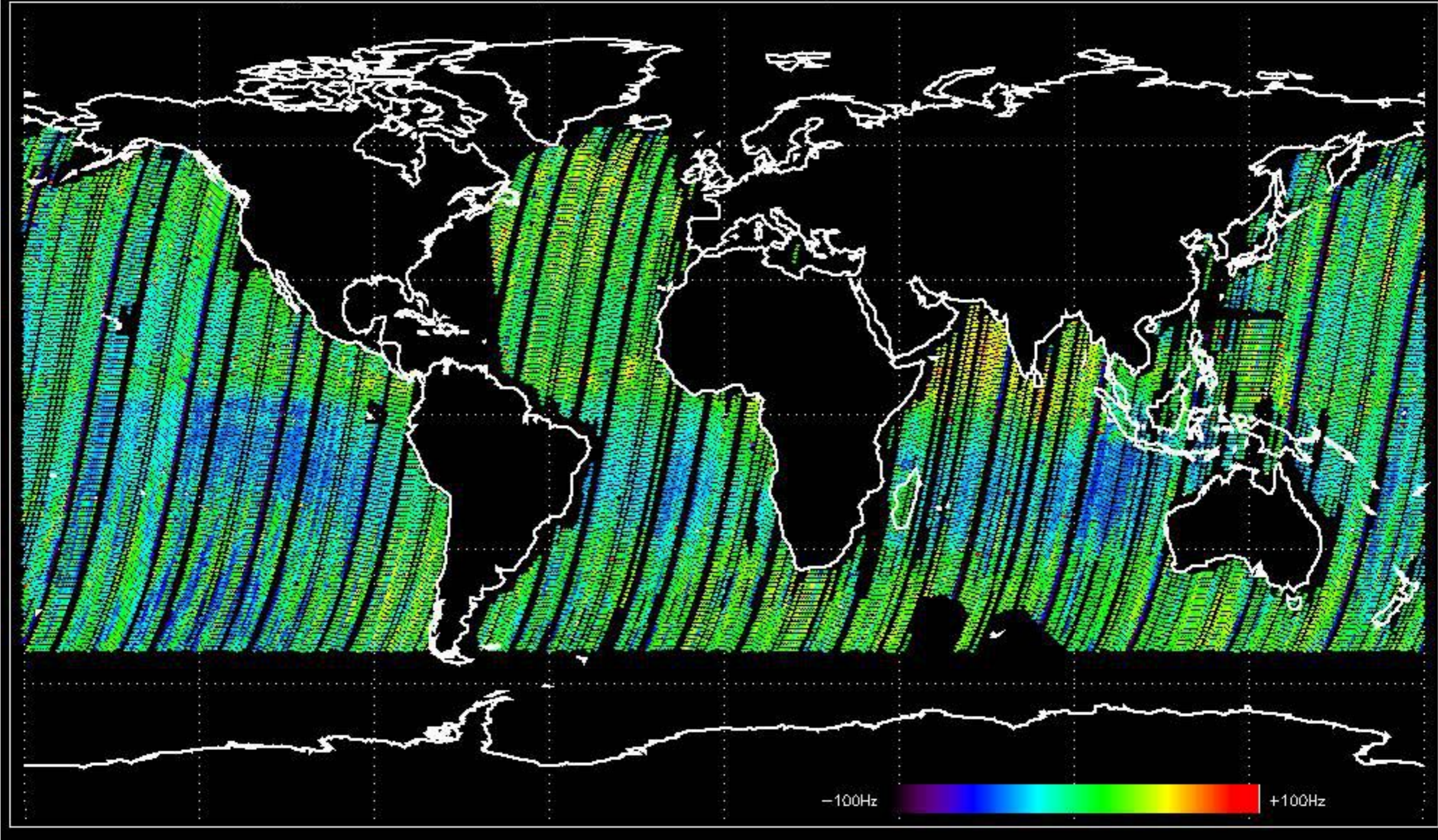


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -36.230943 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -40.773134 Hz





No anomalies observed on available MS products:

No anomalies observed.











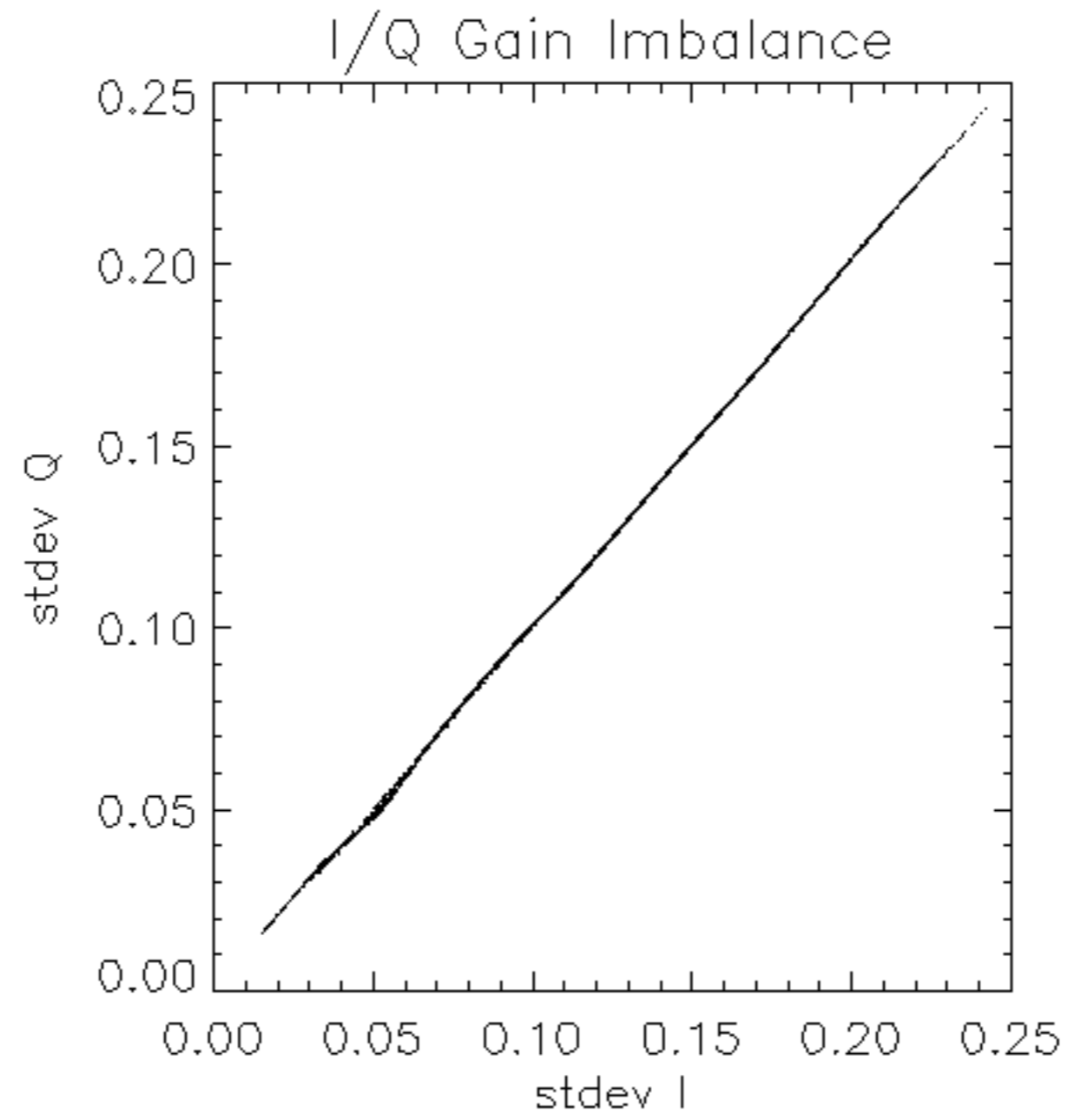


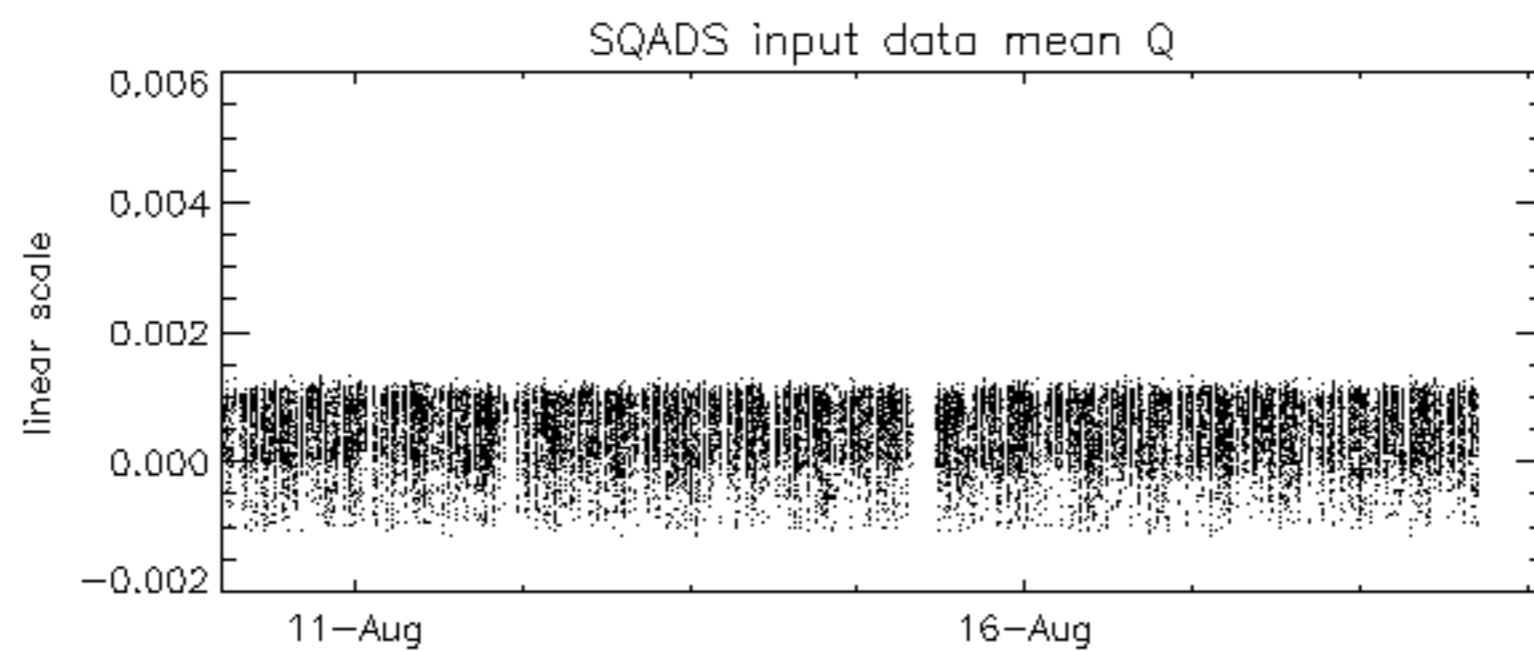
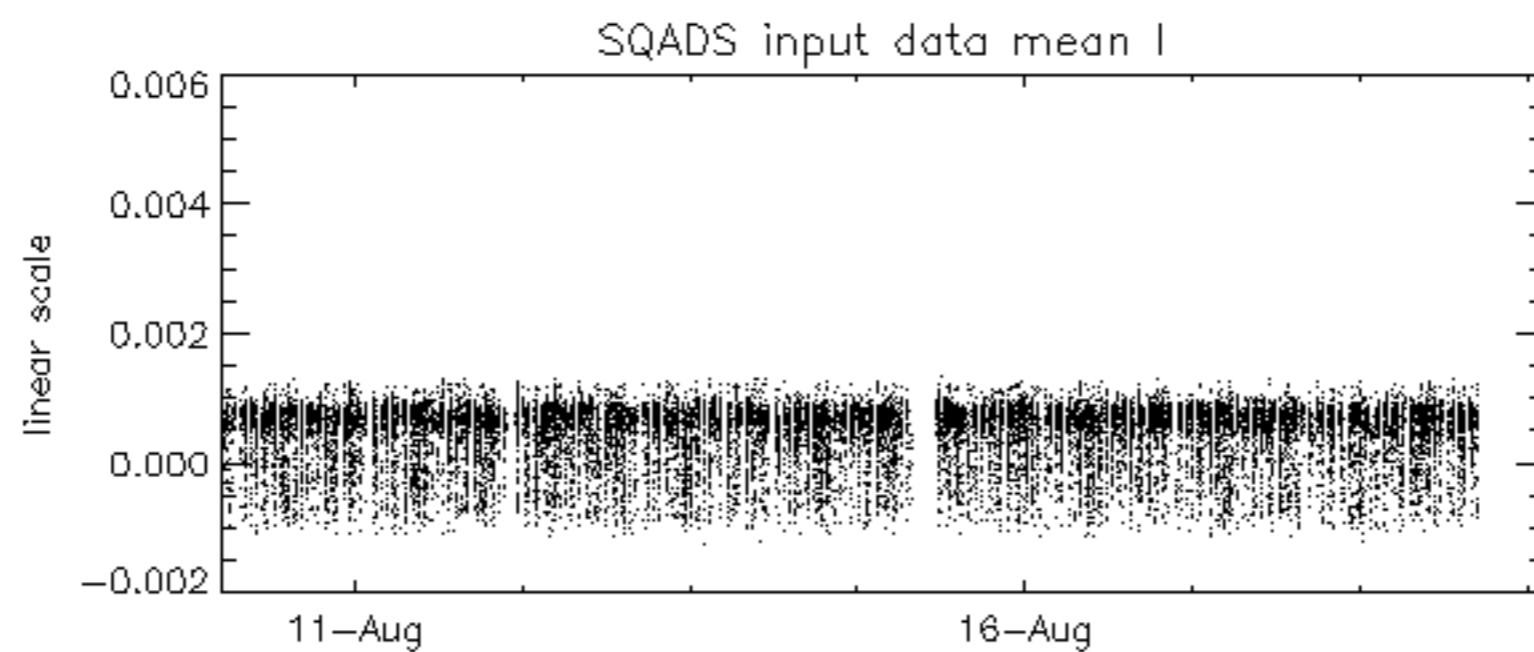
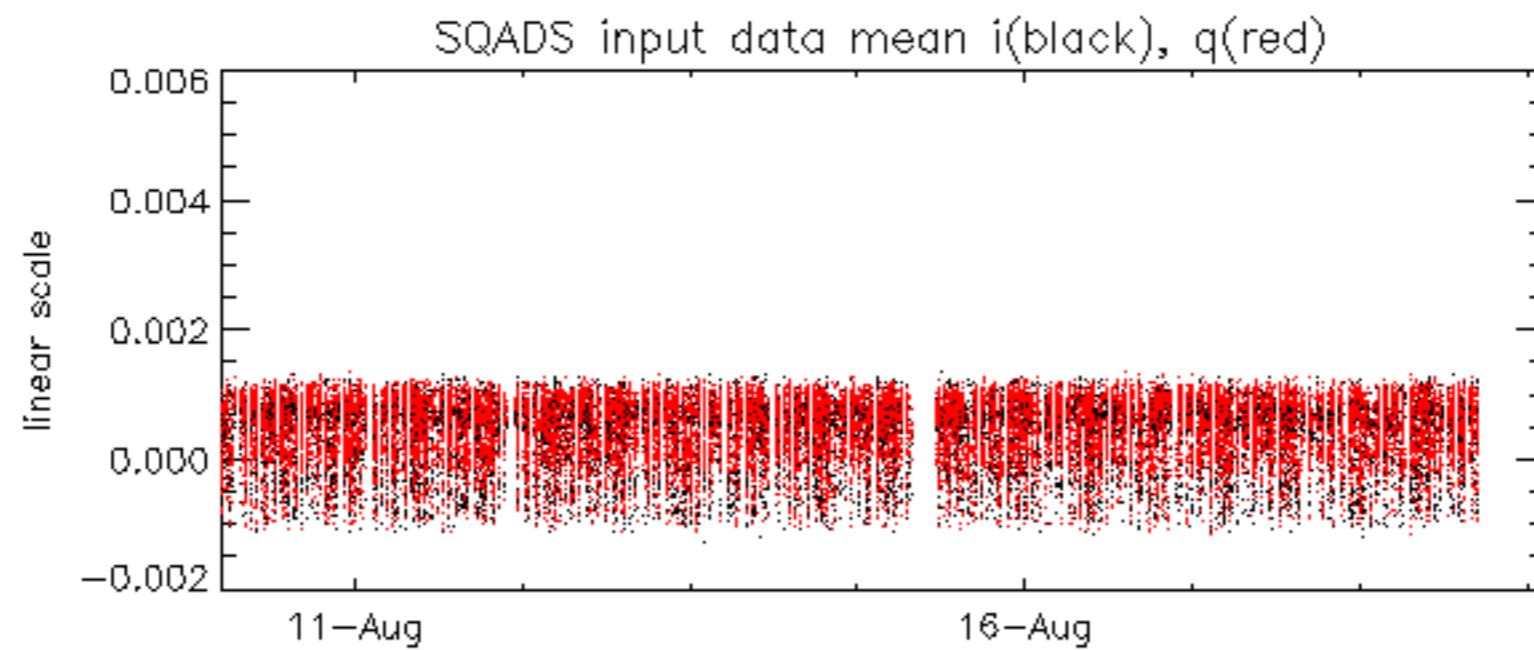


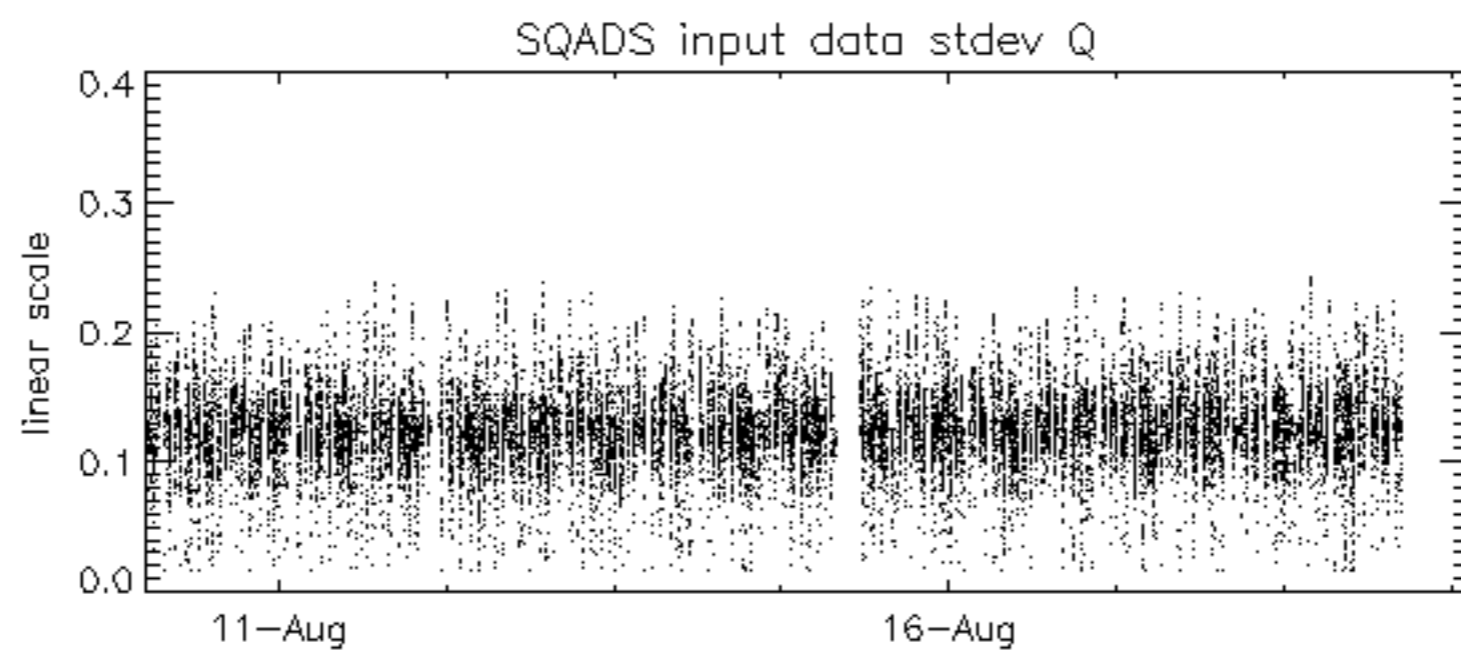
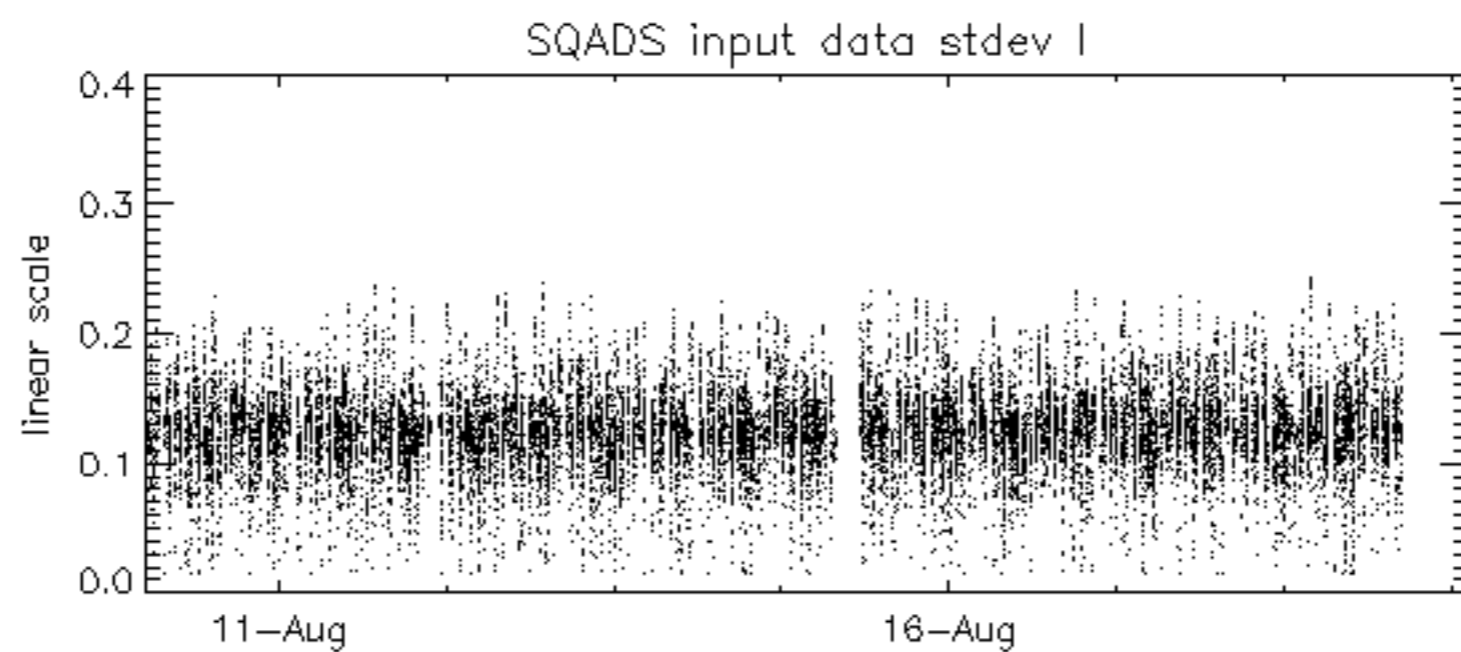
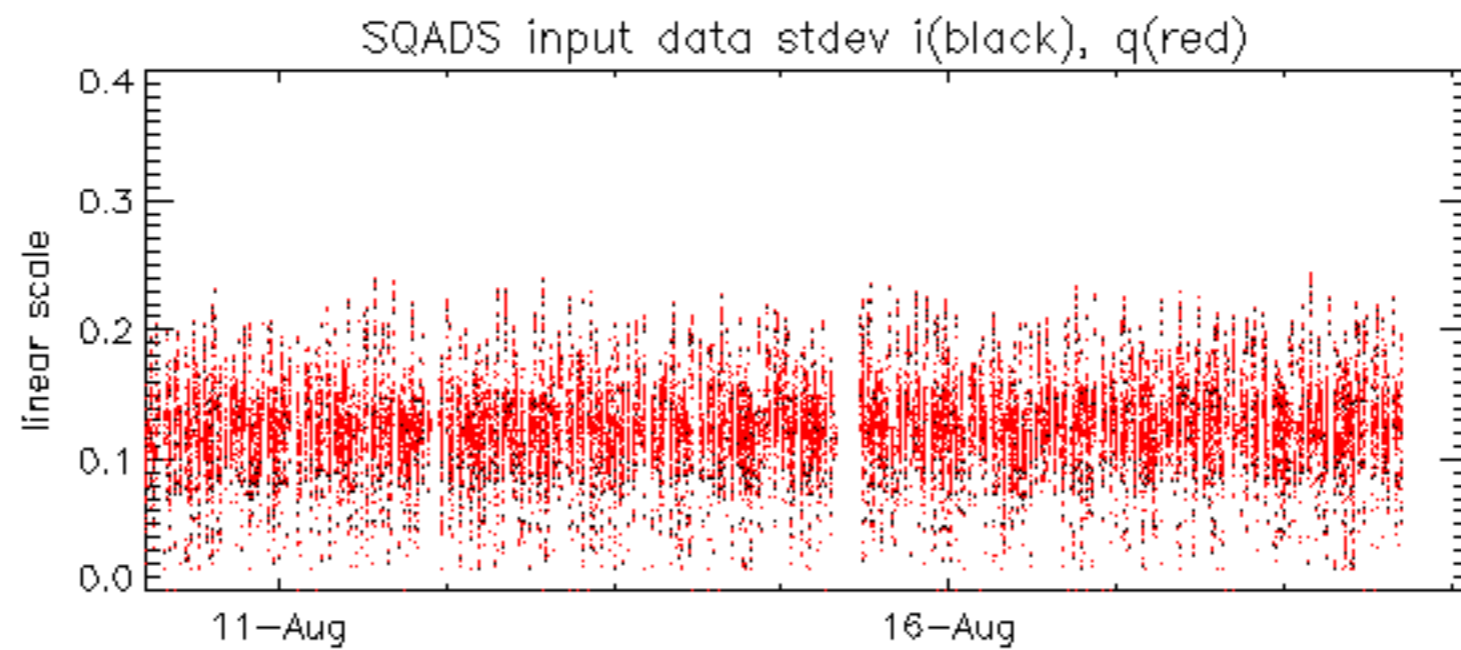
























Summary of analysis for the last 3 days 2005091[234]

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_IMM_1PNPDE20050913_115625_000002262040_00410_18500_5479.N1	1	0
ASA_WSM_1PNPDE20050912_011917_000003912040_00389_18479_8359.N1	0	67
ASA_WSM_1PNPDE20050912_035553_000001642040_00391_18481_8375.N1	0	21
ASA_WSM_1PNPDK20050912_122252_000003972040_00396_18486_3937.N1	0	21
ASA_WSM_1PNPDK20050912_122252_000003972040_00396_18486_3988.N1	0	21









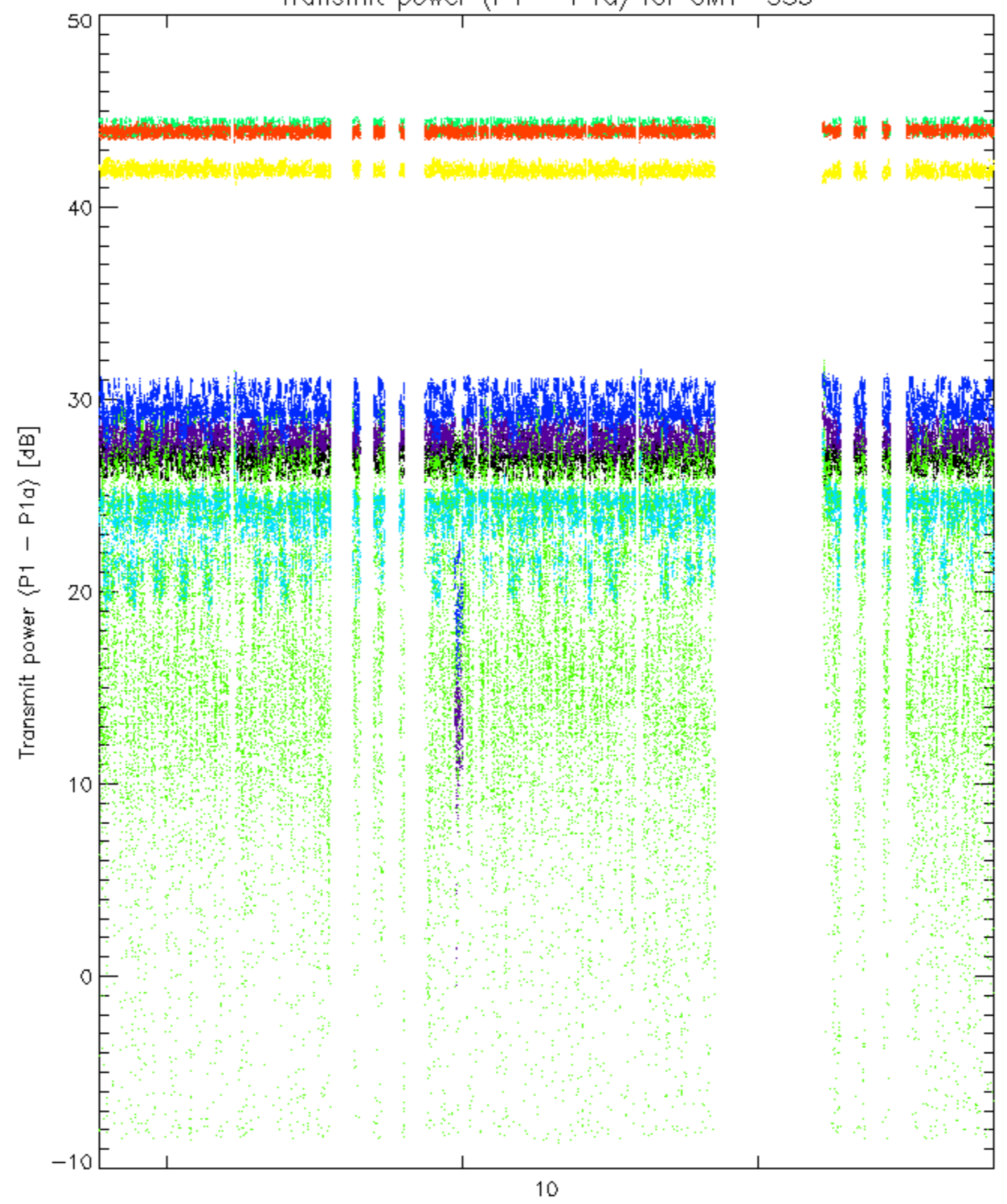




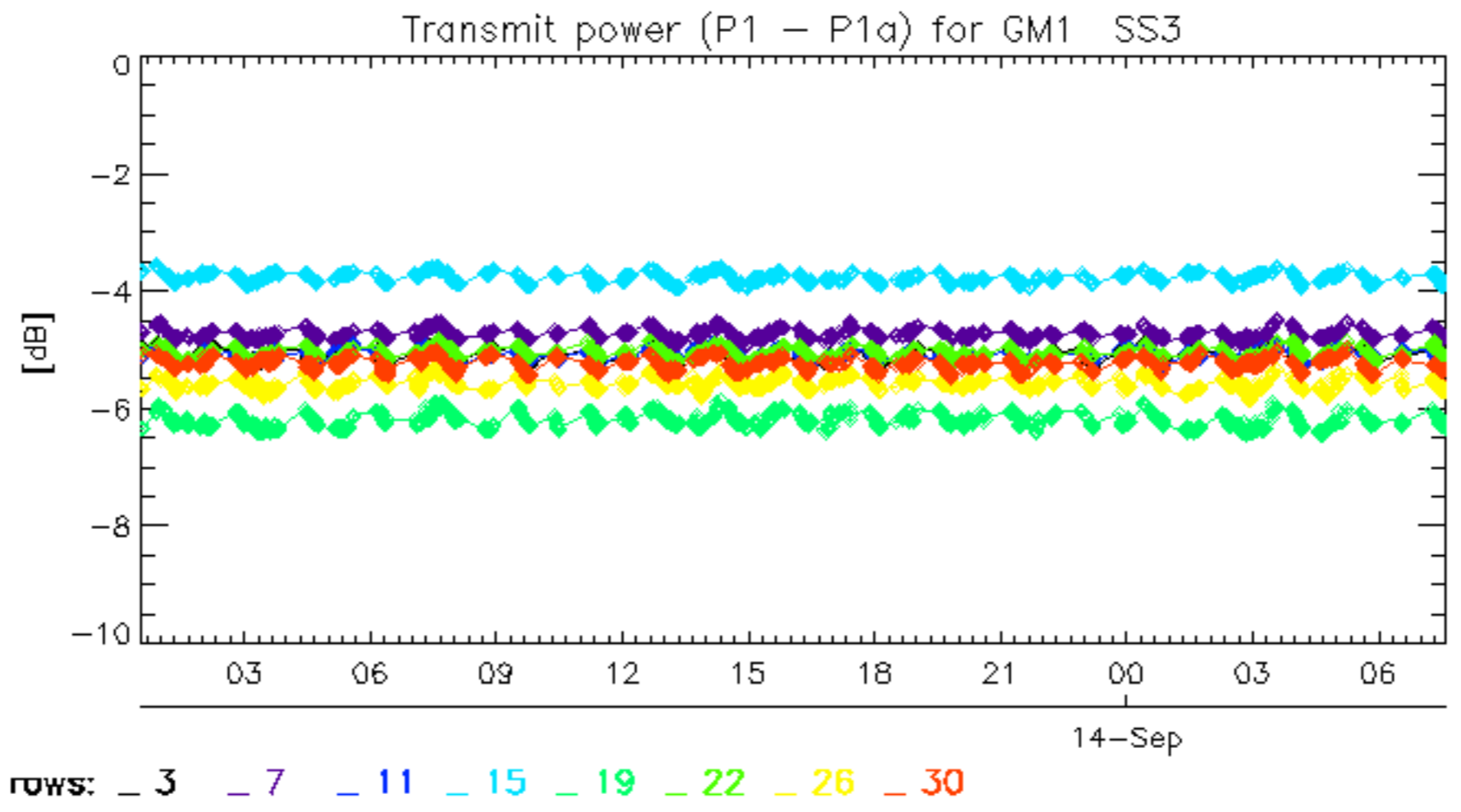


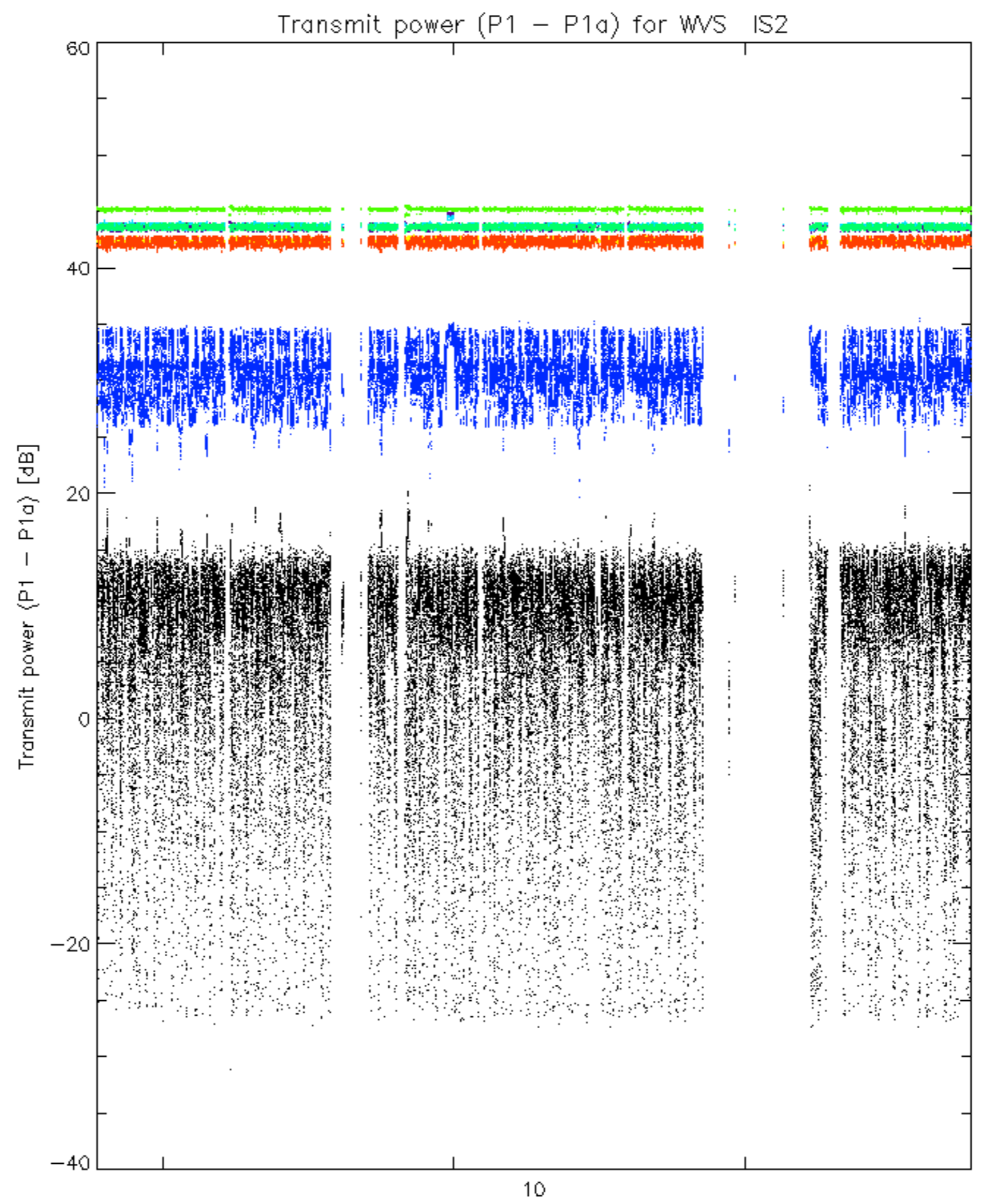


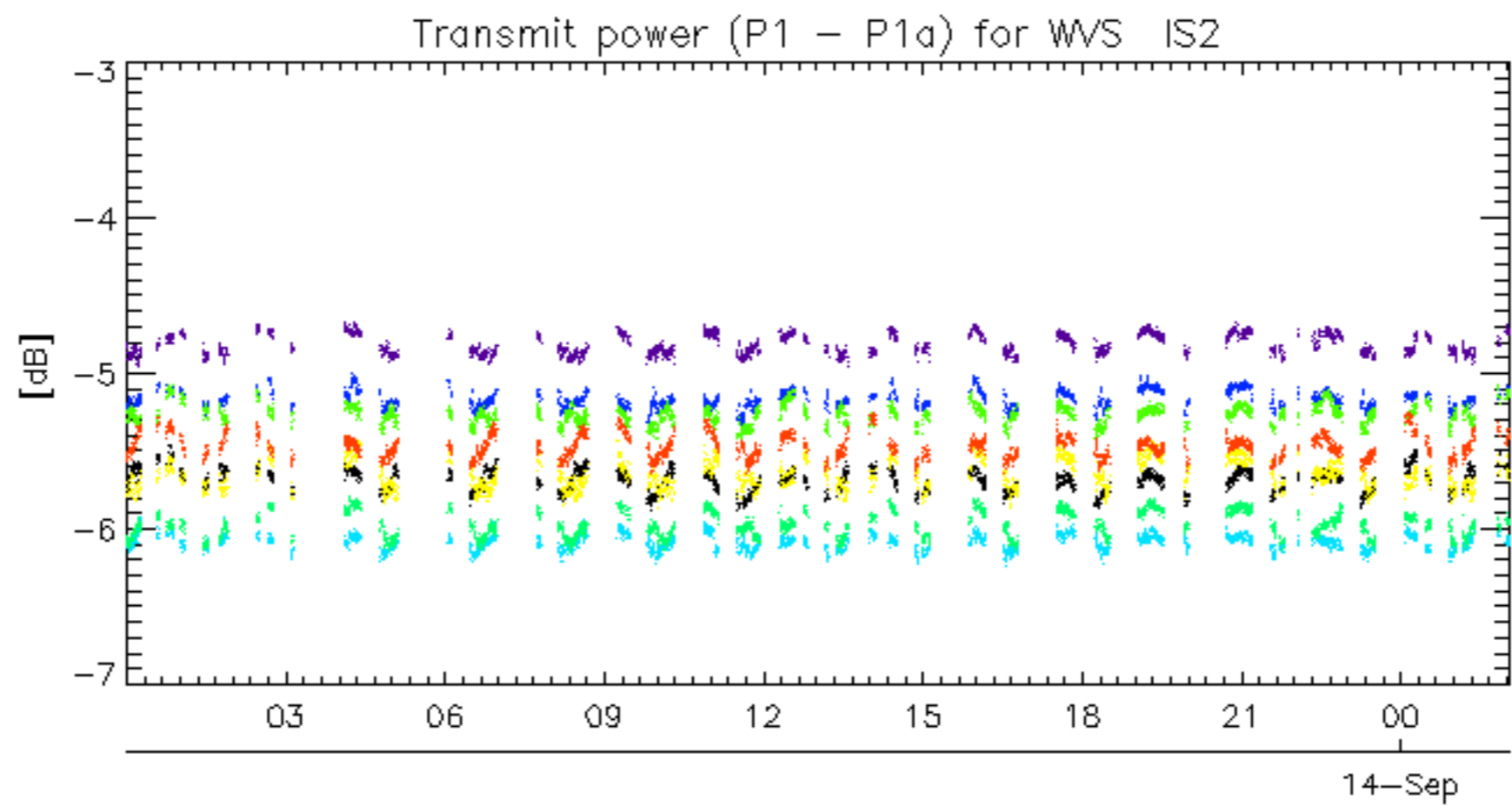
Transmit power (P1 - P1a) for GM1 SS3



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







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



No unavailabilities during the reported period.