

# PRELIMINARY REPORT OF 050922

last update on Thu Sep 22 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 2005-09-21 00:00:00 to 2005-09-22 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	27	51	9	2	6
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	27	51	9	2	6
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	27	51	9	2	6
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	27	51	9	2	6

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	36	52	29	11	38
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	36	52	29	11	38
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	36	52	29	11	38
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	36	52	29	11	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	20050921 170204
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	-3.414888	0.089090	-0.493710
7	P1	-3.133831	0.029729	0.208513
11	P1	-4.621791	0.114832	0.517362
15	P1	-5.732398	0.065424	-0.432039
19	P1	-3.560275	0.237714	0.997657
22	P1	-4.590511	0.020376	0.135776
26	P1	-4.747697	0.081461	0.379704
30	P1	-6.809927	0.602338	1.859545
3	P1	-15.912707	1.913172	-1.162919
7	P1	-16.414717	5.661767	-2.842364
11	P1	-21.202211	9.420853	3.257861
15	P1	-12.748276	11.987320	-4.978679
19	P1	-14.215583	0.325916	1.235080
22	P1	-17.071203	26.239063	-5.344355
26	P1	-18.373013	22.392757	-3.557564
30	P1	-18.407768	8.655004	-1.319902

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.748734	0.098140	-0.181078
7	P2	-22.104239	0.300814	-1.071233
11	P2	-14.365415	2.718333	-3.951763
15	P2	-7.114522	0.124650	-0.301416
19	P2	-9.382420	0.240216	0.701959
22	P2	-16.983994	0.221034	-0.826716
26	P2	-16.413963	0.131653	0.369070
30	P2	-19.052883	0.259512	-1.000127

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.160007	0.004424	-0.024268
7	P3	-8.160007	0.004424	-0.024268
11	P3	-8.160007	0.004424	-0.024268
15	P3	-8.160007	0.004424	-0.024268
19	P3	-8.160007	0.004424	-0.024268
22	P3	-8.160007	0.004424	-0.024268
26	P3	-8.160014	0.004424	-0.024245
30	P3	-8.160014	0.004424	-0.024245

#### 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	-2.886534	0.193421	-0.572145
7	P1	-2.998360	0.083609	-0.135499
11	P1	-3.792246	0.252632	1.078332
15	P1	-3.588645	0.034916	0.200450
19	P1	-3.489327	0.090465	0.532208
22	P1	-5.464486	0.254611	0.973569
26	P1	-6.758817	1.012810	2.297937
30	P1	-5.860324	0.587753	1.636079
3	P1	-11.288113	0.578702	-1.137666
7	P1	-11.815667	21.329561	-4.084933
11	P1	-13.991180	37.902348	-3.575485
15	P1	-13.290912	35.445145	-4.872306
19	P1	-15.319355	0.223328	0.419790
22	P1	-24.164900	5.542569	4.836922
26	P1	-16.331675	6.949762	-4.308963
30	P1	-20.083588	2.076032	0.131253

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.473610	0.062125	-0.292325
7	P2	-22.291903	0.323345	-1.317782
11	P2	-10.094419	1.146747	-2.657346
15	P2	-5.030992	0.039663	0.162283
19	P2	-6.751379	0.127159	0.244635
22	P2	-7.246754	0.216653	-1.012557
26	P2	-23.931866	0.039598	0.060843
30	P2	-22.012167	0.077435	-0.321789

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.005090	0.003579	-0.014329
7	P3	-8.005113	0.003581	-0.013814
11	P3	-8.004953	0.003585	-0.013697
15	P3	-8.004971	0.003584	-0.013977
19	P3	-8.005140	0.003572	-0.014344
22	P3	-8.004929	0.003574	-0.013921
26	P3	-8.005062	0.003577	-0.014179
30	P3	-8.004907	0.003594	-0.014449

## 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	0.000477921
	stdev	2.08768e-07
MEAN Q	mean	0.000502008
	stdev	2.24473e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.130322
	stdev	0.000990814
STDEV Q	mean	0.130589
	stdev	0.00100222



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005092[012]

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_1PNPDE20050921_155413_000001532041_00025_18616_6218.N1	1	0
ASA_WVS_1PNPDK20050920_115938_000000002041_00009_18600_1504.N1	1	0
ASA_GM1_1PNPDK20050921_152005_000011362041_00025_18616_6092.N1	0	6
ASA_WSM_1PNPDE20050920_162919_000001842041_00012_18603_9656.N1	0	59
ASA_WSM_1PNPDE20050920_181151_000001282041_00013_18604_9832.N1	0	15
ASA_WSM_1PNPDE20050921_041517_000002322041_00019_18610_9764.N1	0	51





## 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


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### 7.4 - Unbiased Doppler Error for GM1

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



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

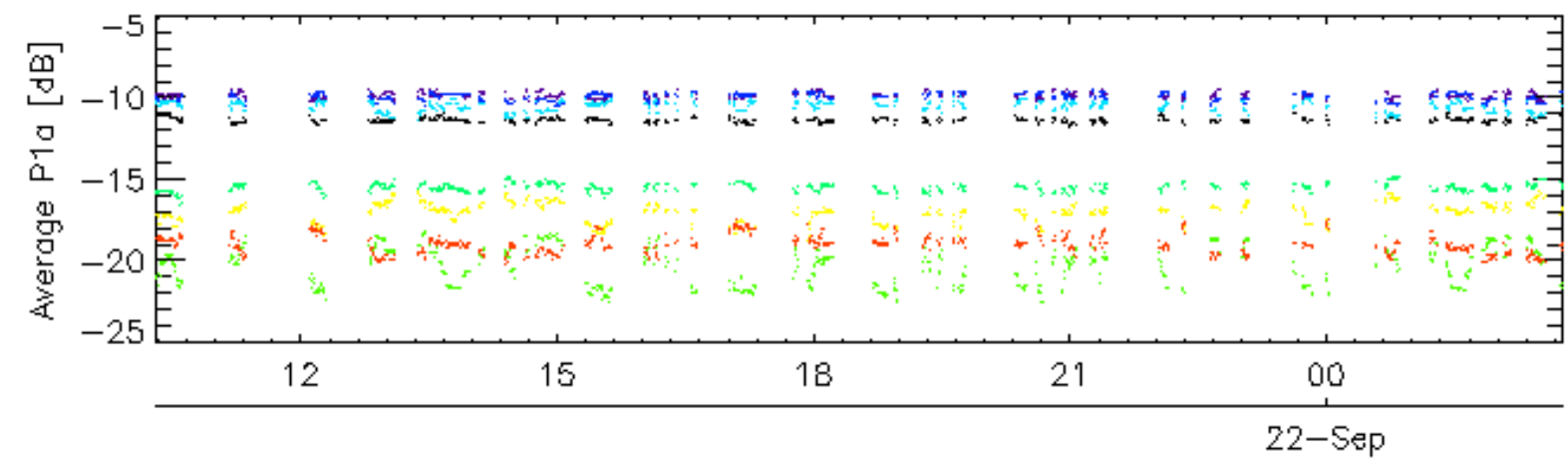
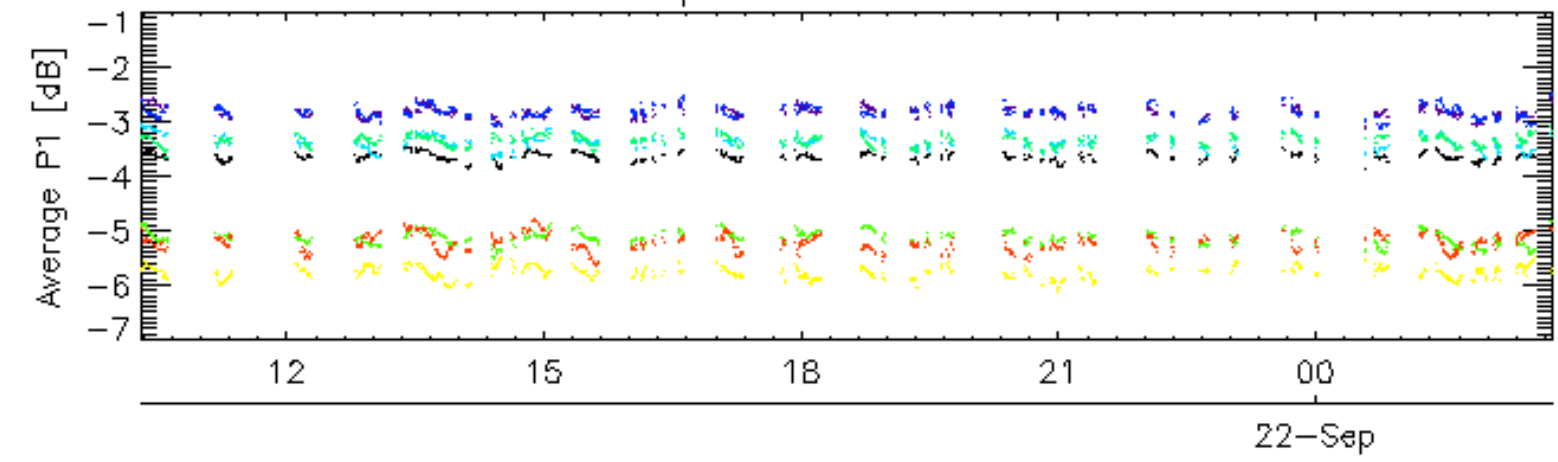
### 7.5 - Absolute Doppler for GM1

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

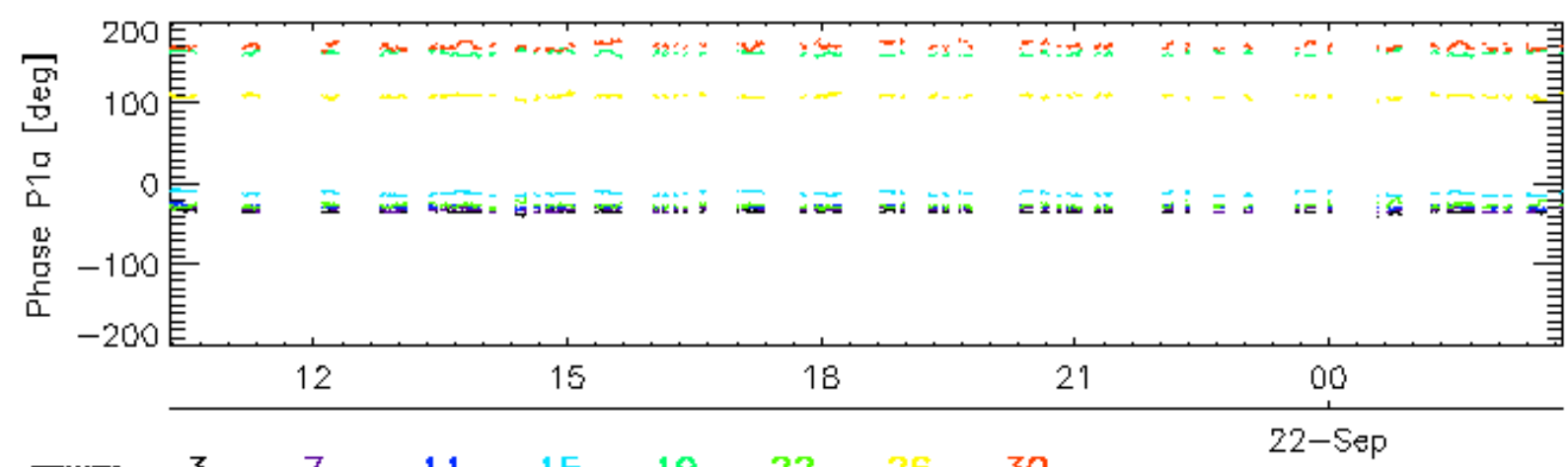
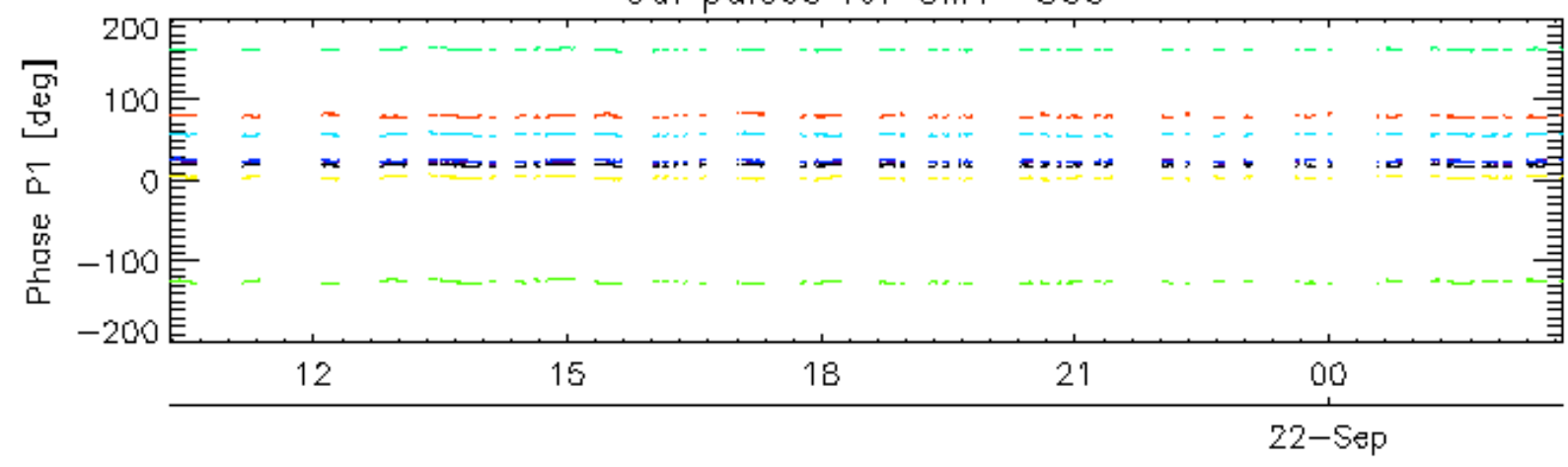
### 7.6 - Doppler evolution versus ANX for GM1

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

Cal pulses for GM1 SS3

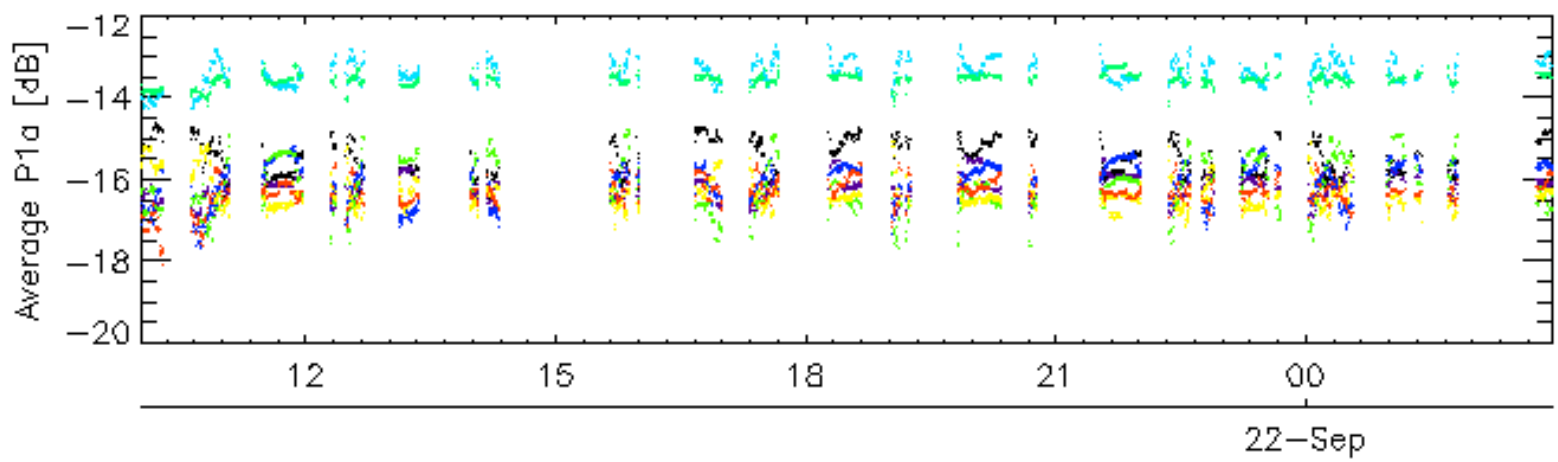
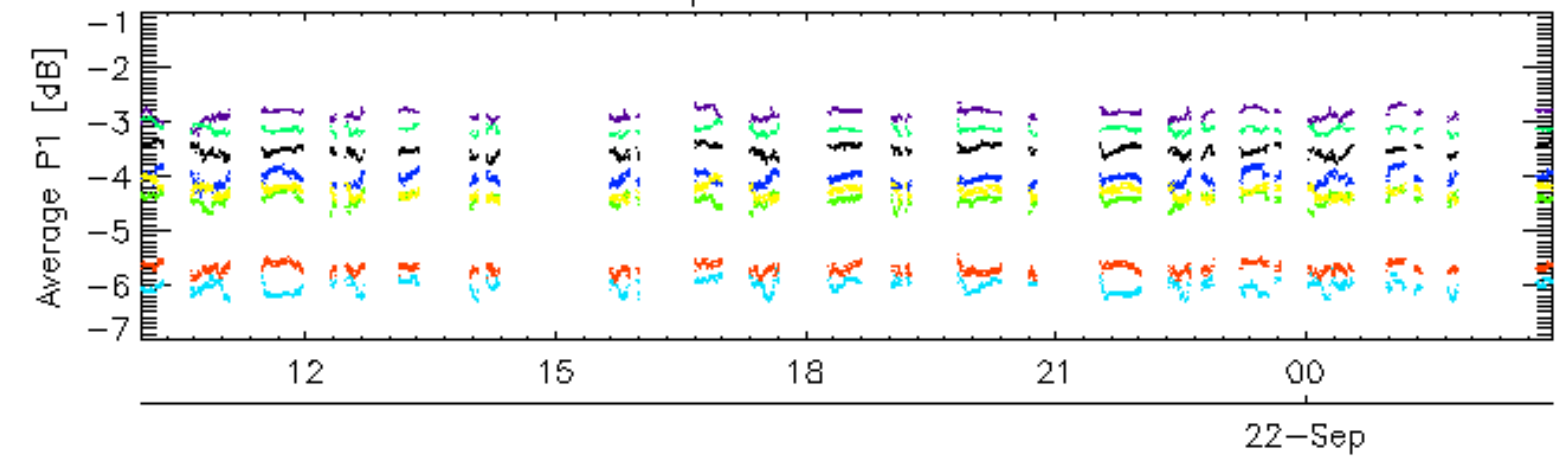


Cal pulses for GM1 SS3

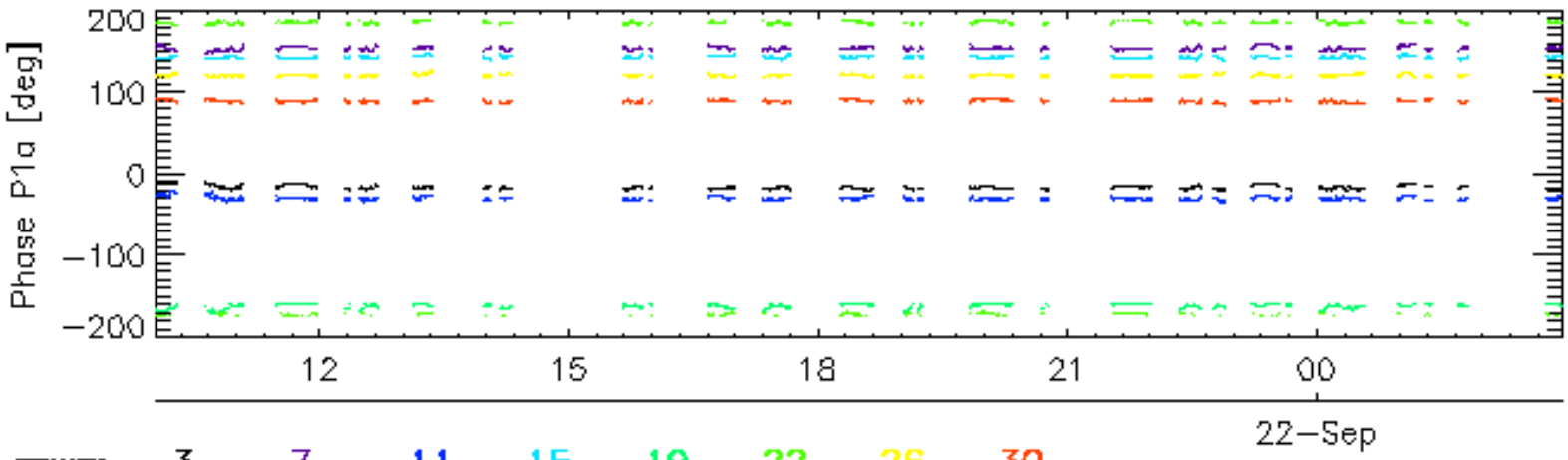
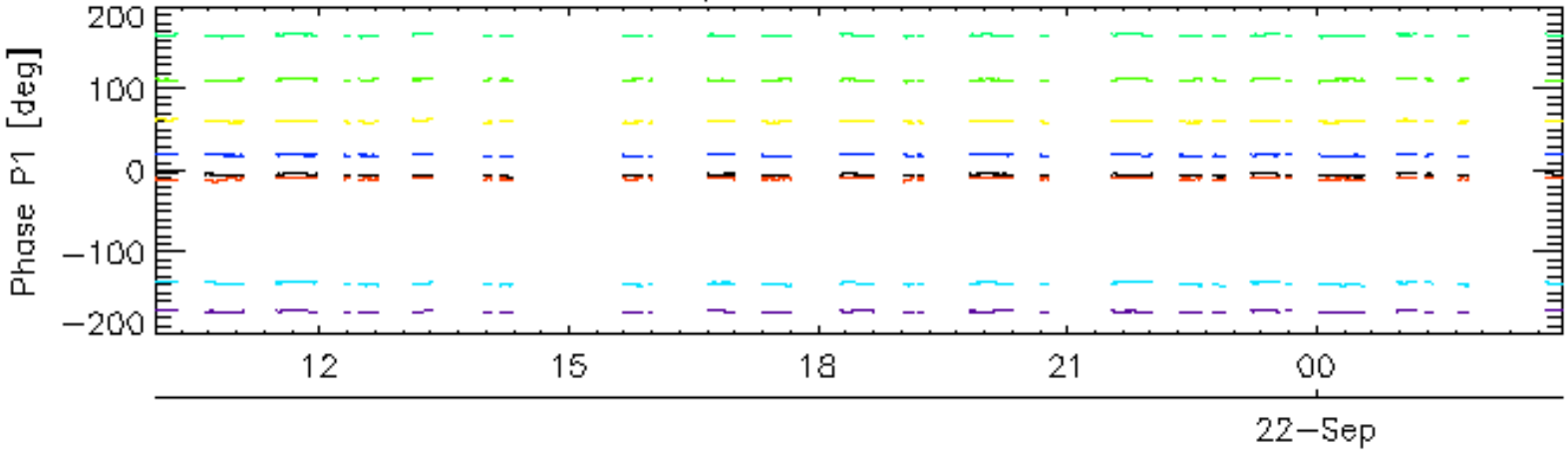


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

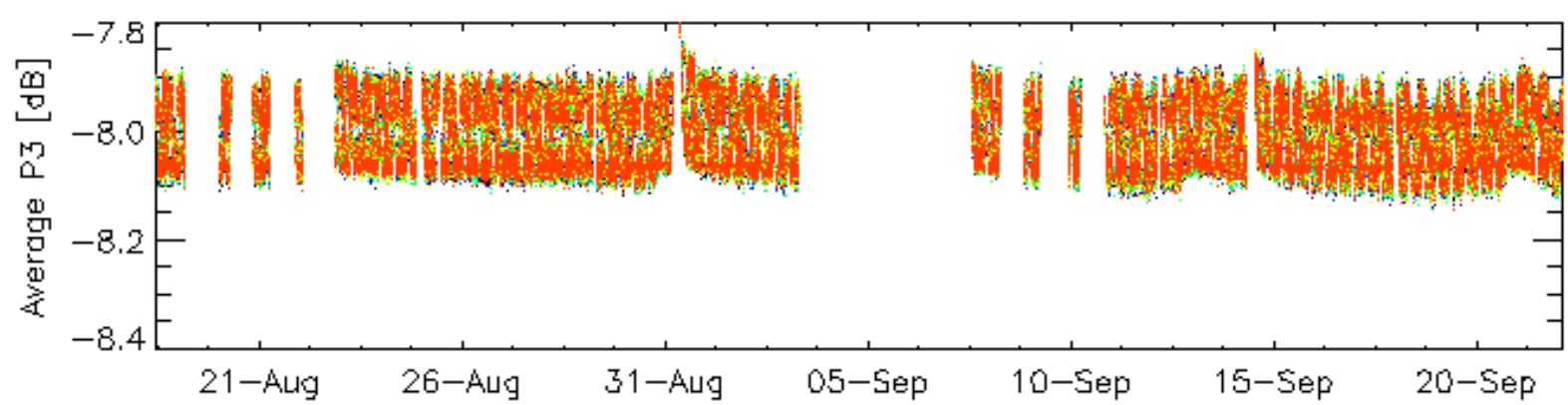
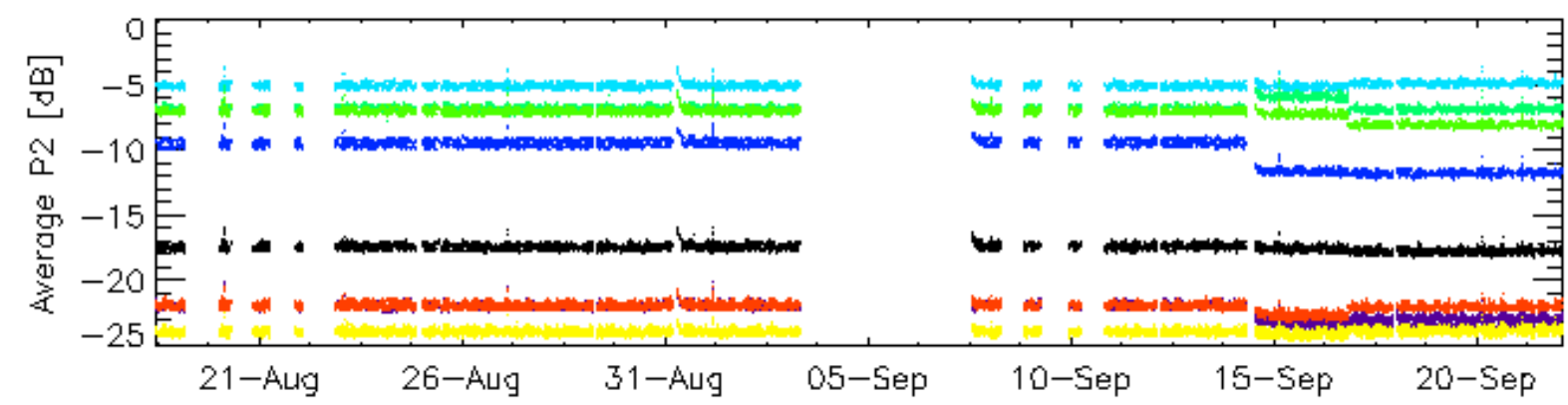
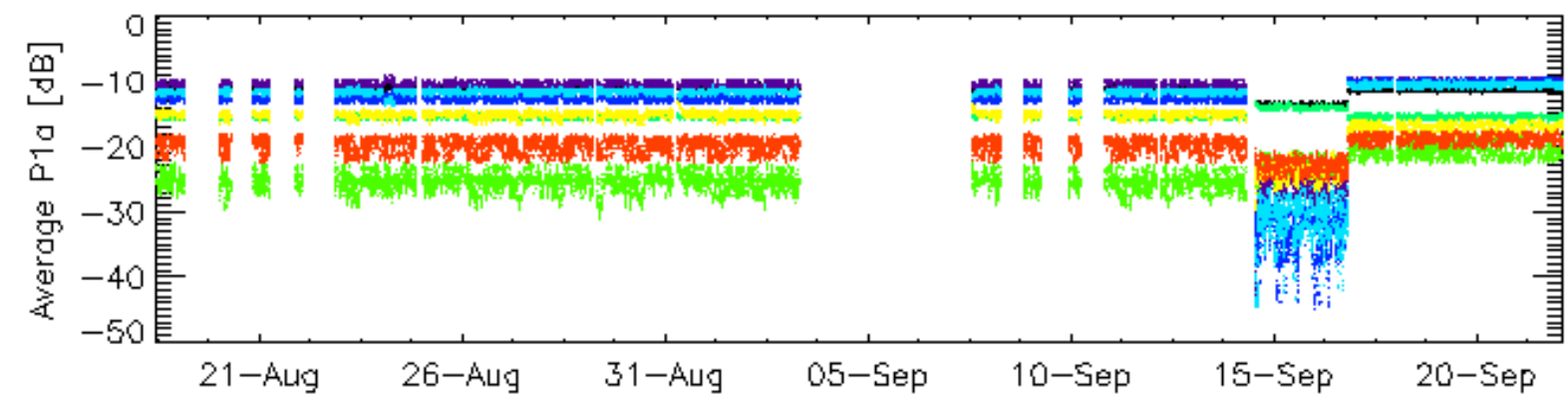
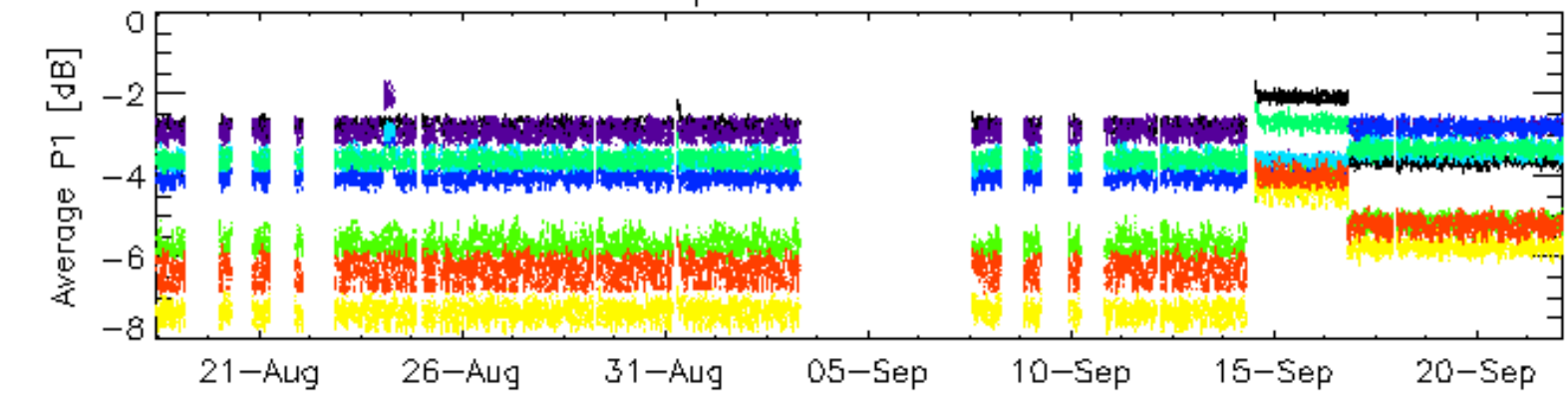


Cal pulses for WVS IS2



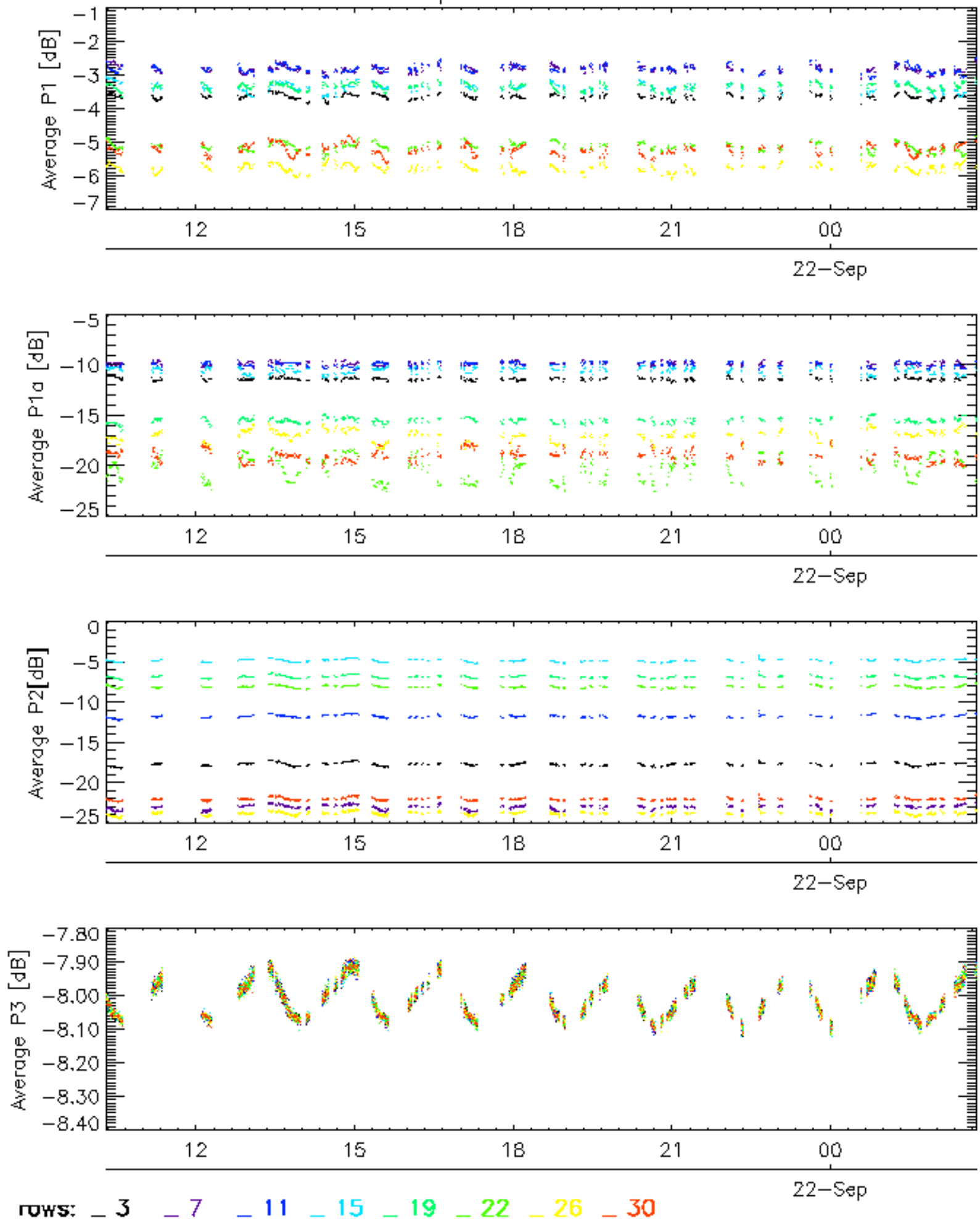
rows: **\_ 3** **\_ 7** **\_ 11** **\_ 15** **\_ 19** **\_ 22** **\_ 26** **\_ 30**

### Cal pulses for GM1 SS3

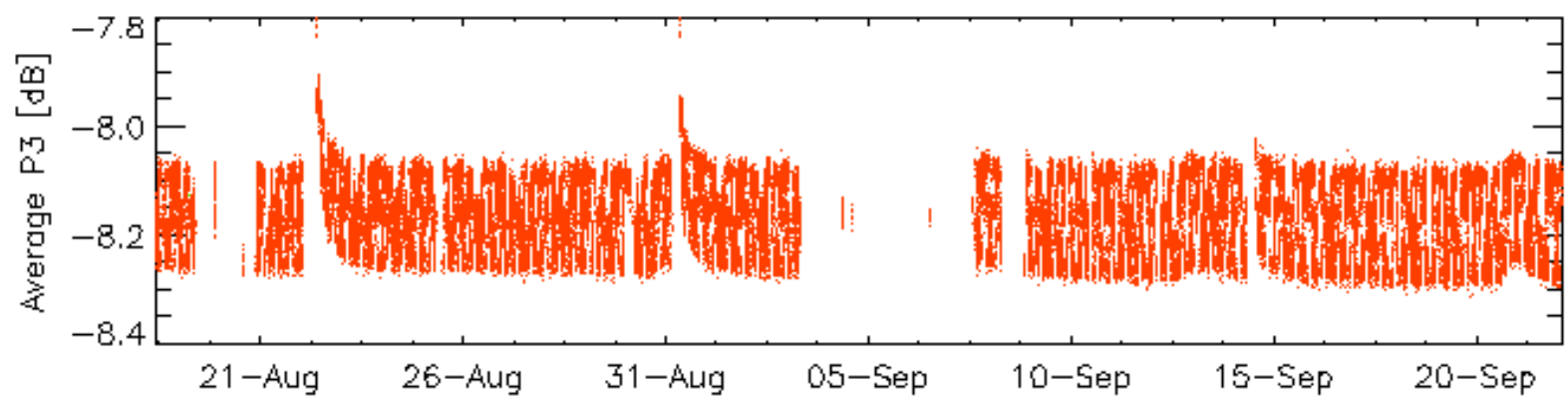
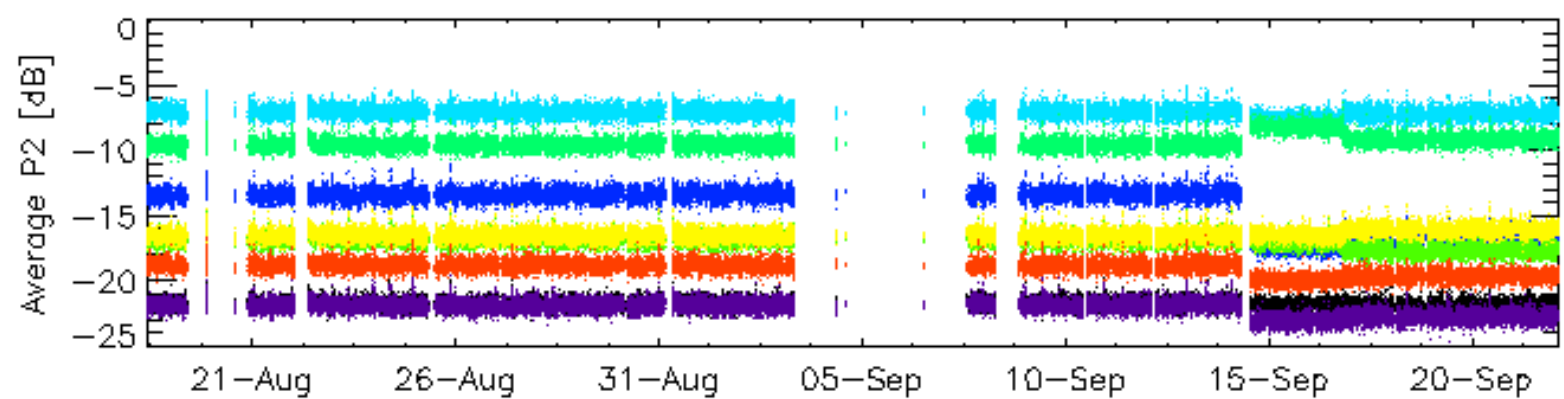
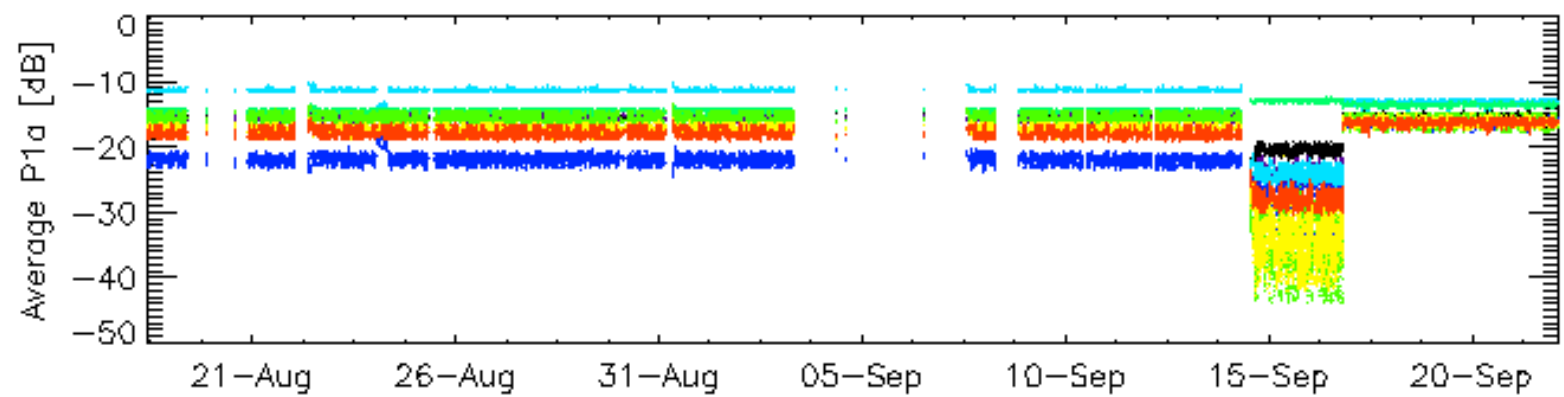
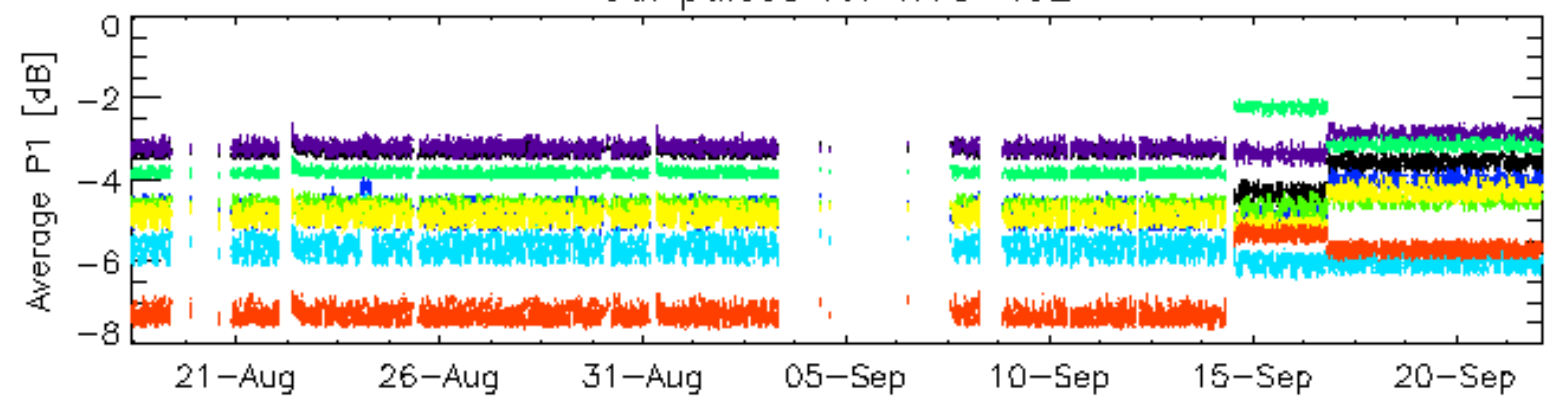


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

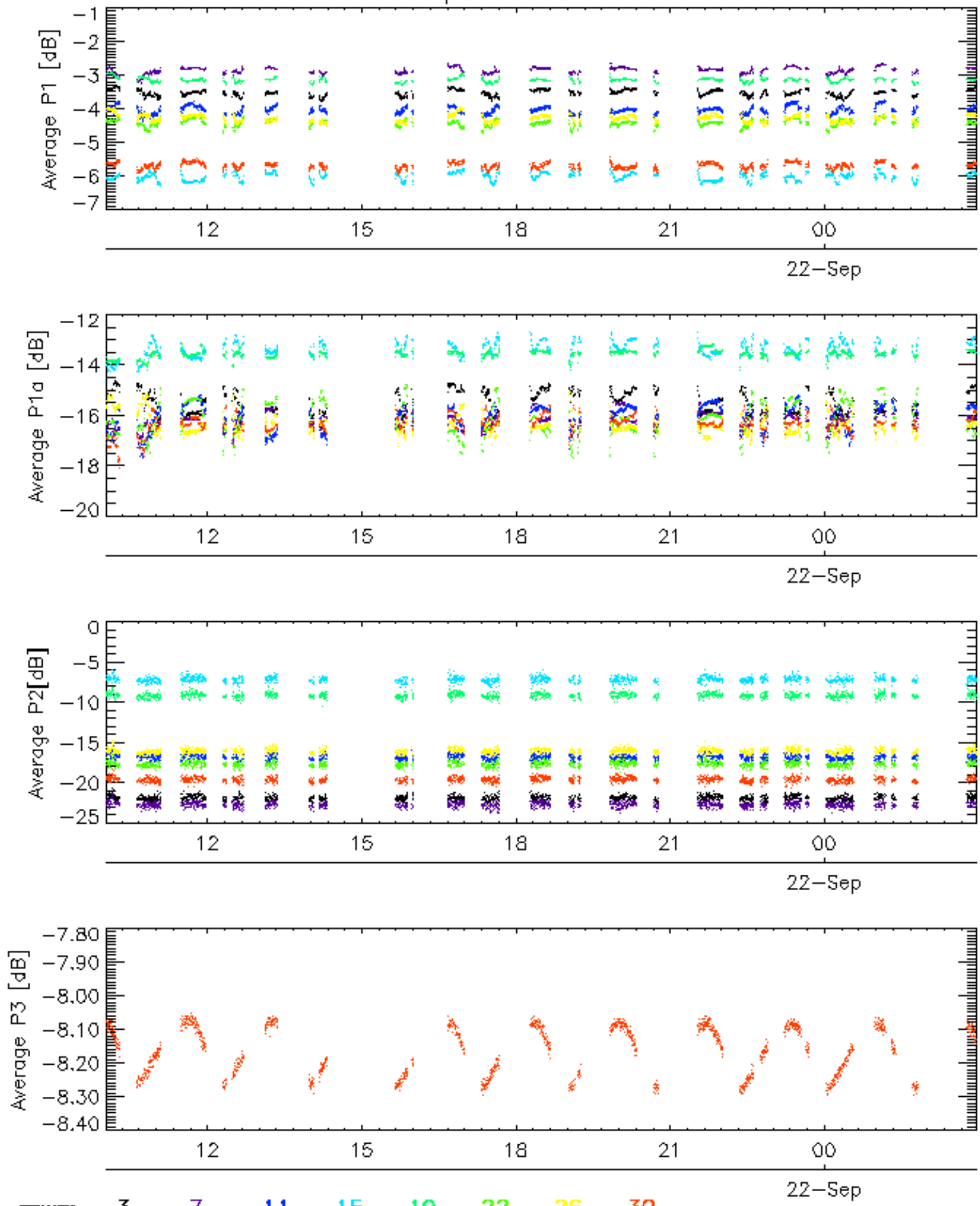


Cal pulses for WVS IS2



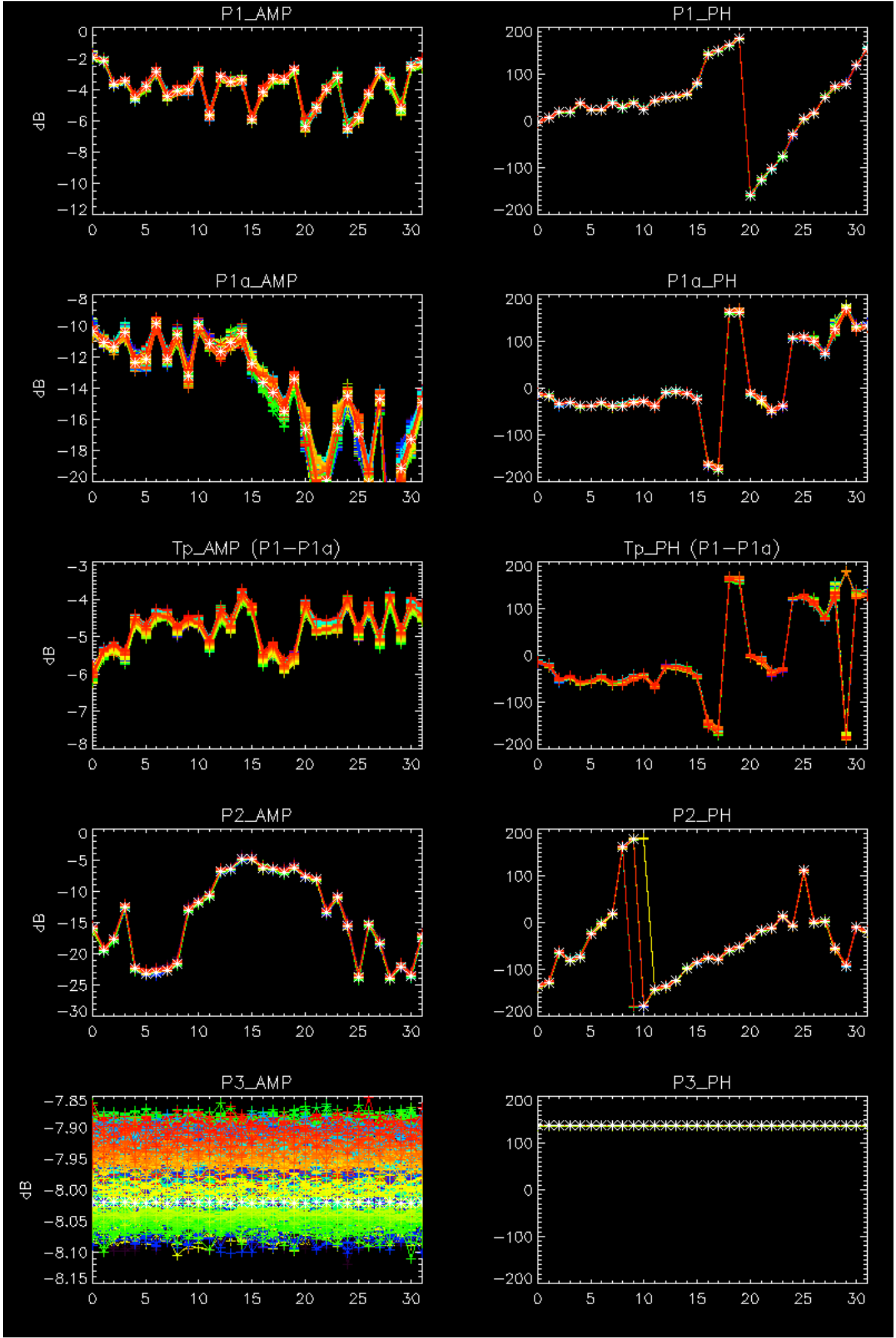
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

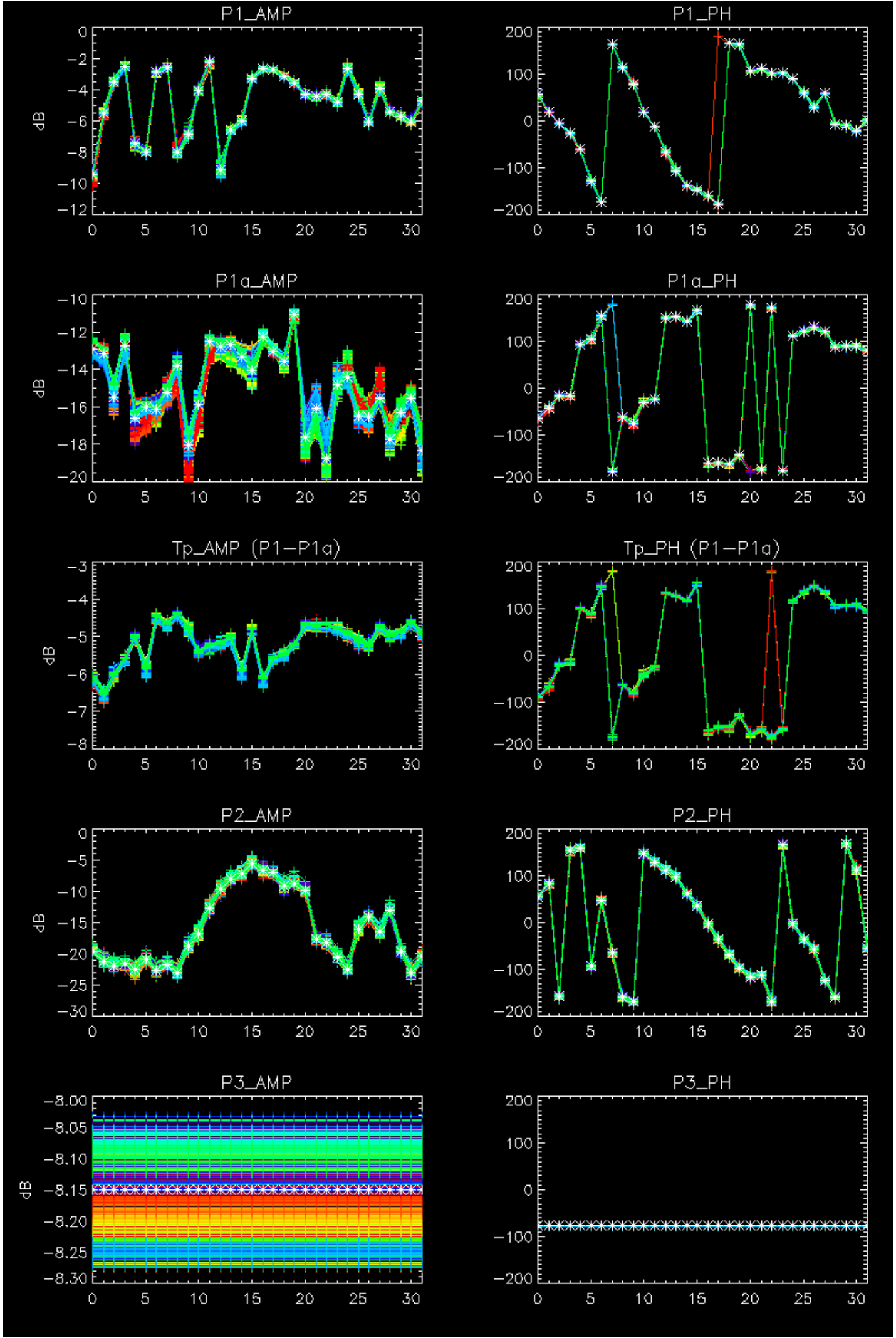
Cal pulses for WVS IS2



No anomalies observed.





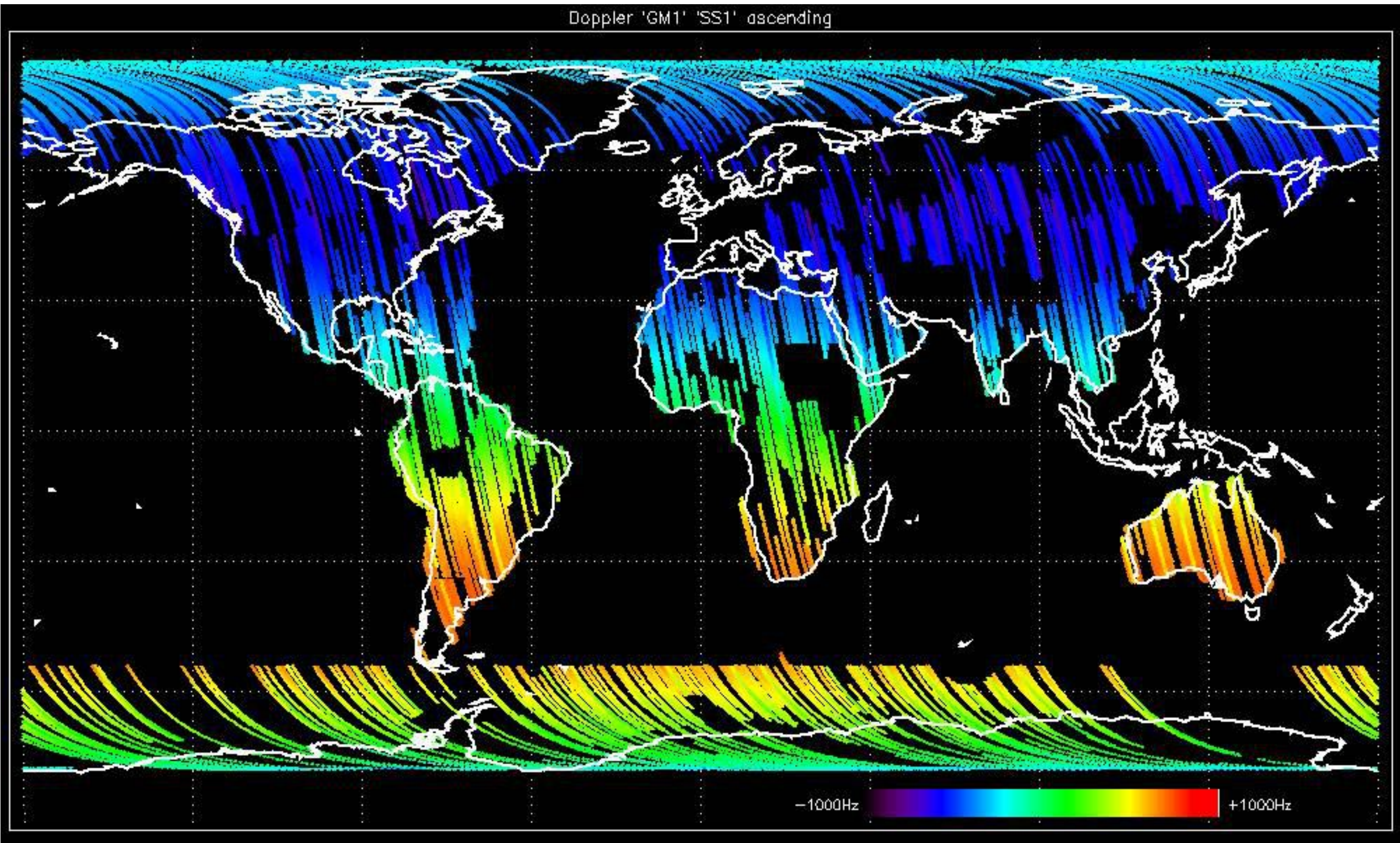


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



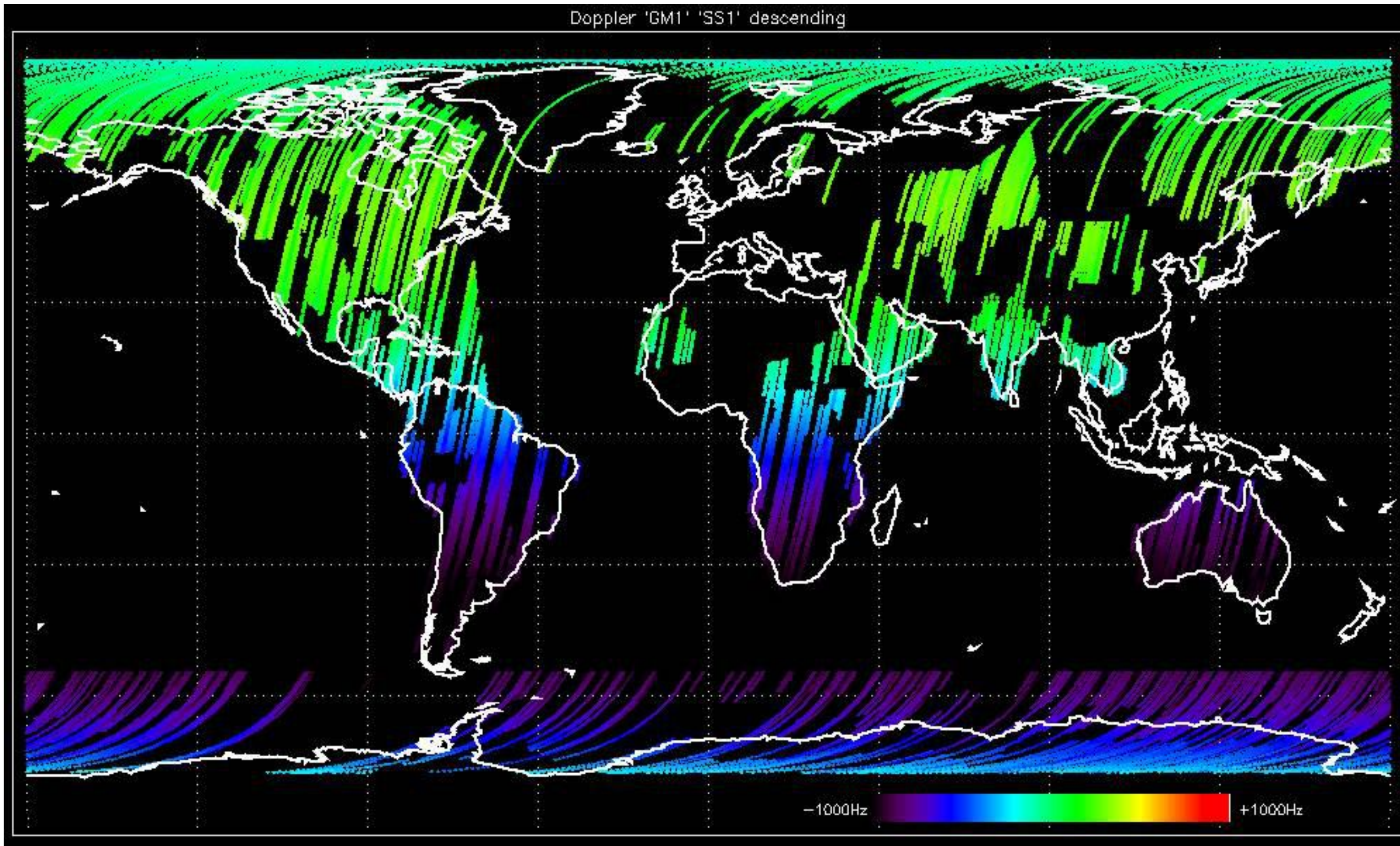


Doppler 'GM1' 'SS1' ascending



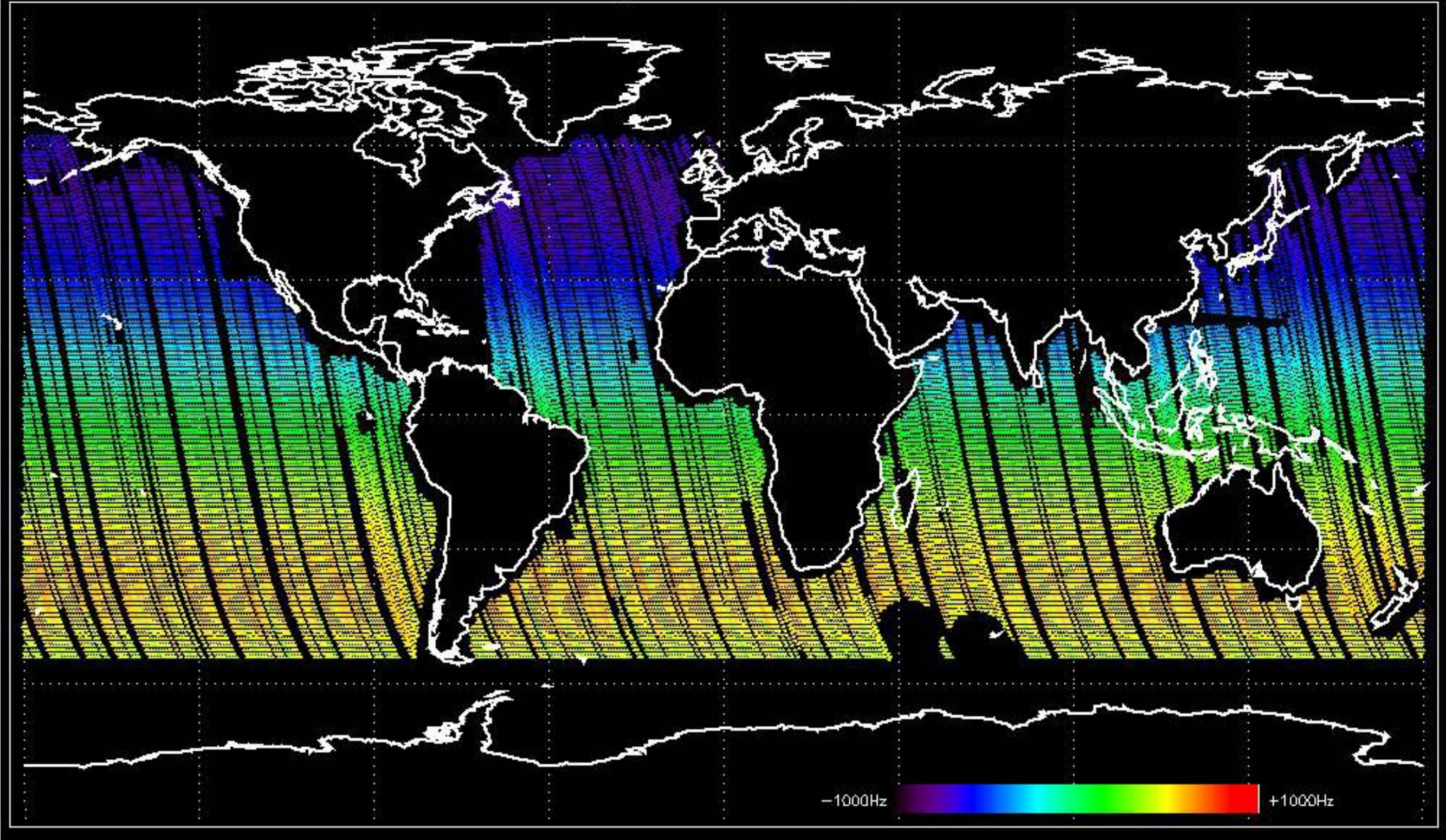


Doppler 'GM1' 'SS1' descending



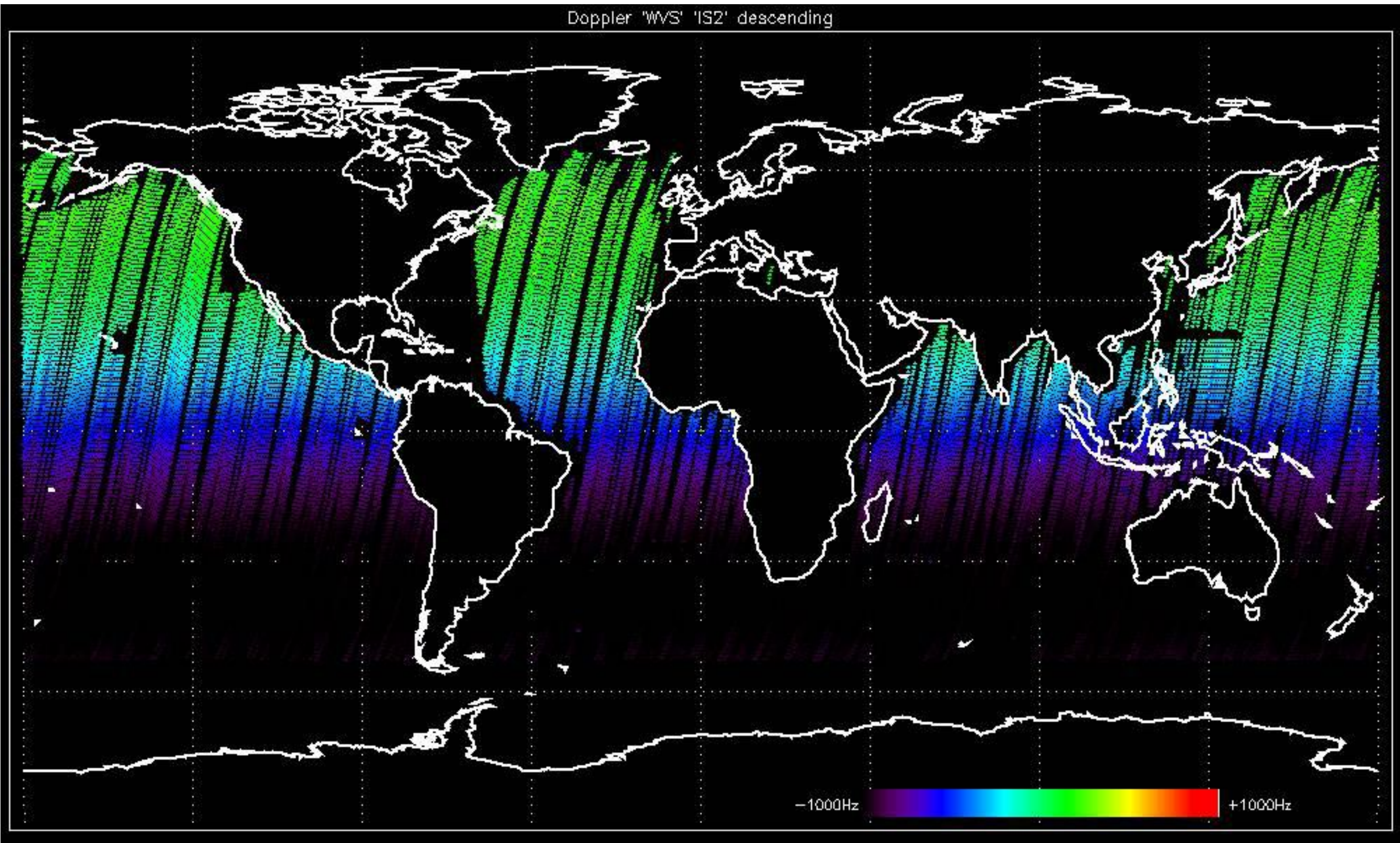


Doppler 'WVS' 'IS2' ascending



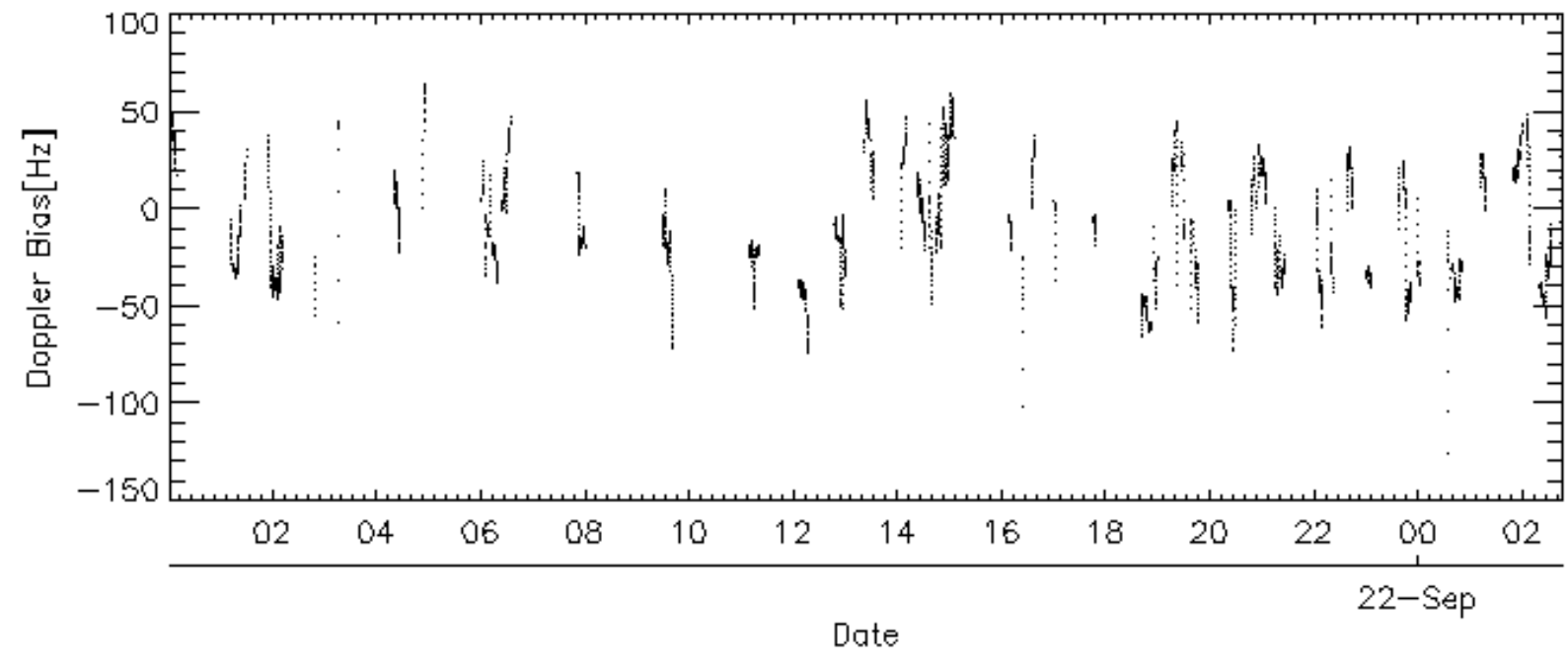
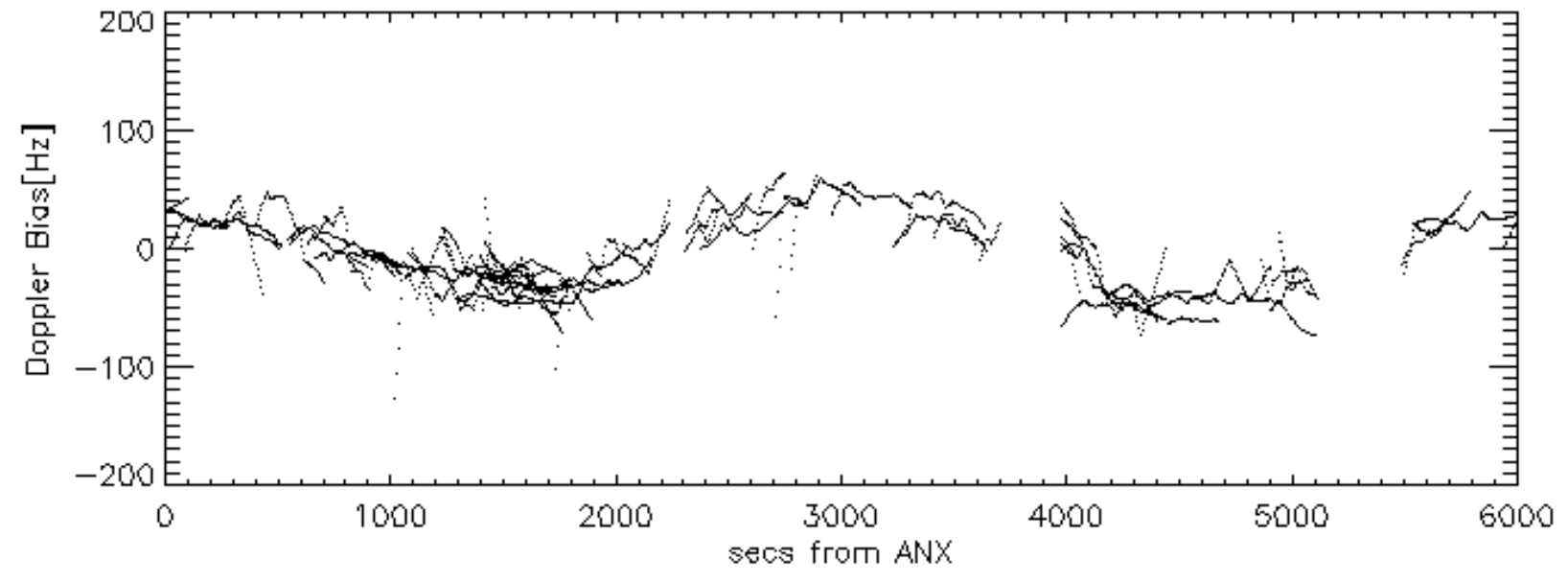
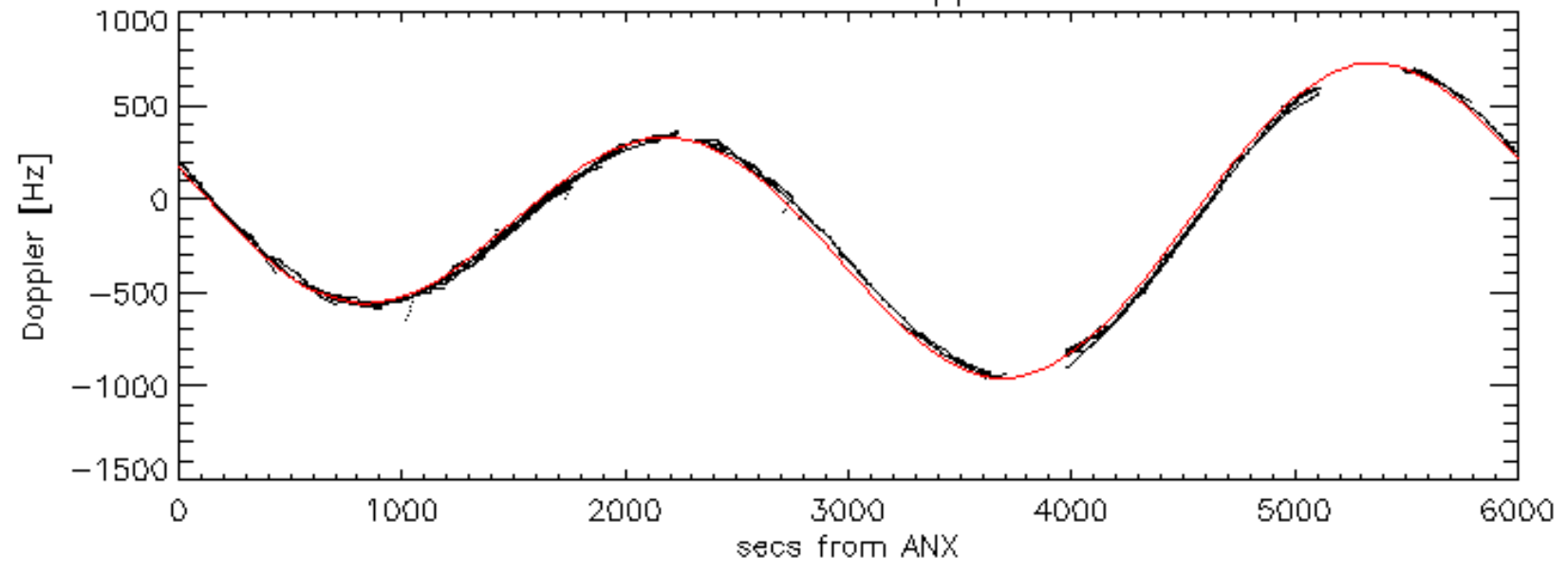


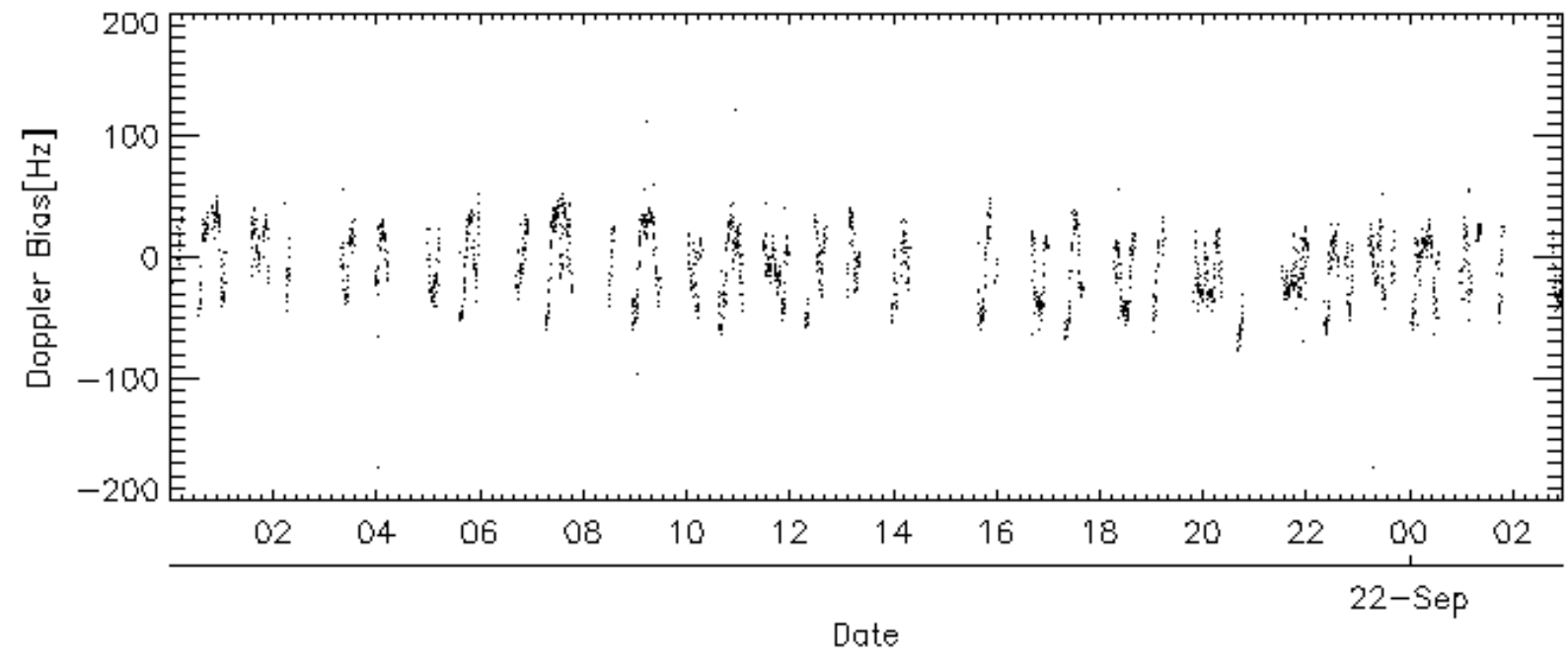
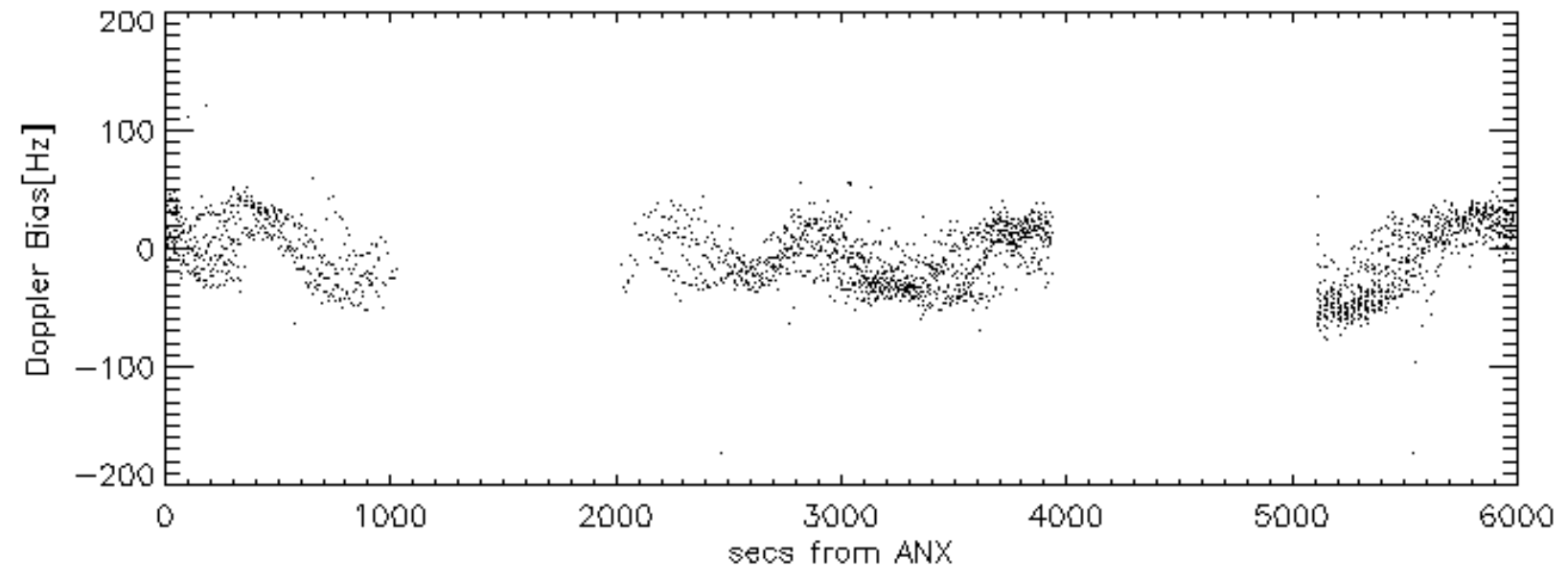
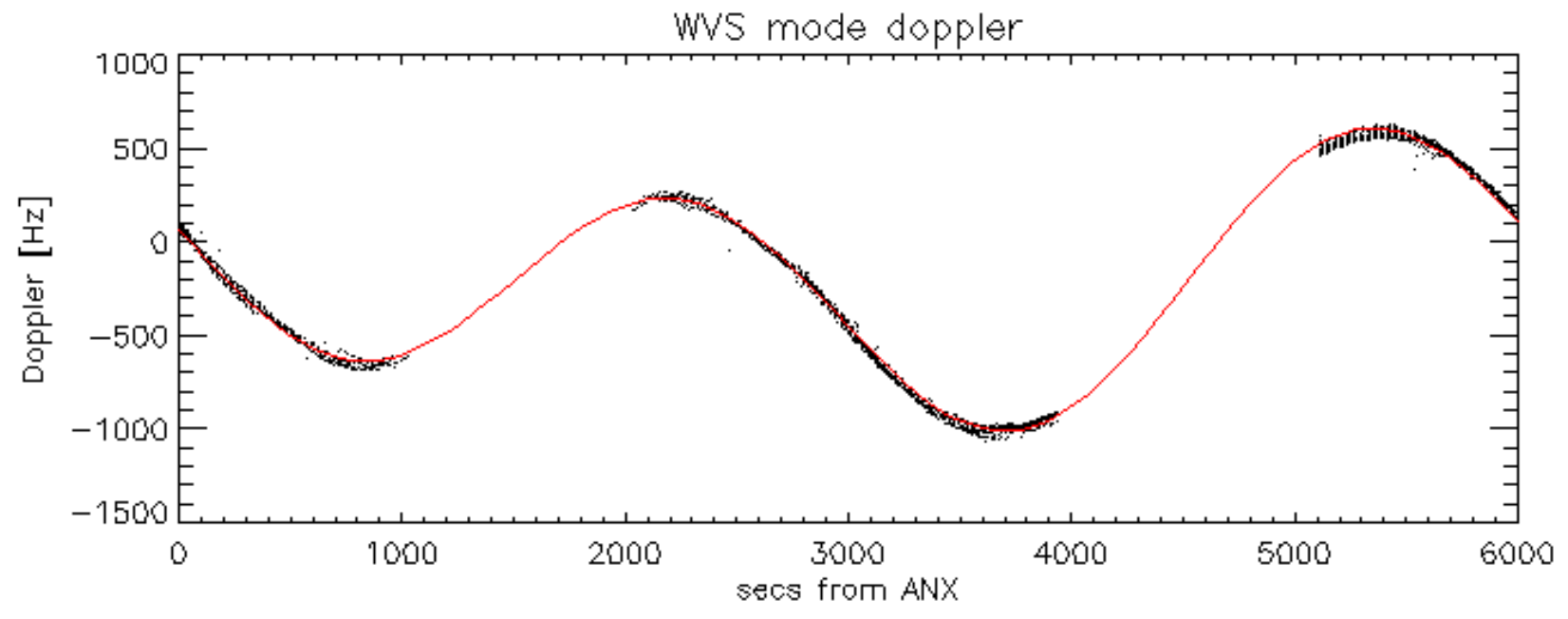
Doppler 'WVS' 'IS2' descending





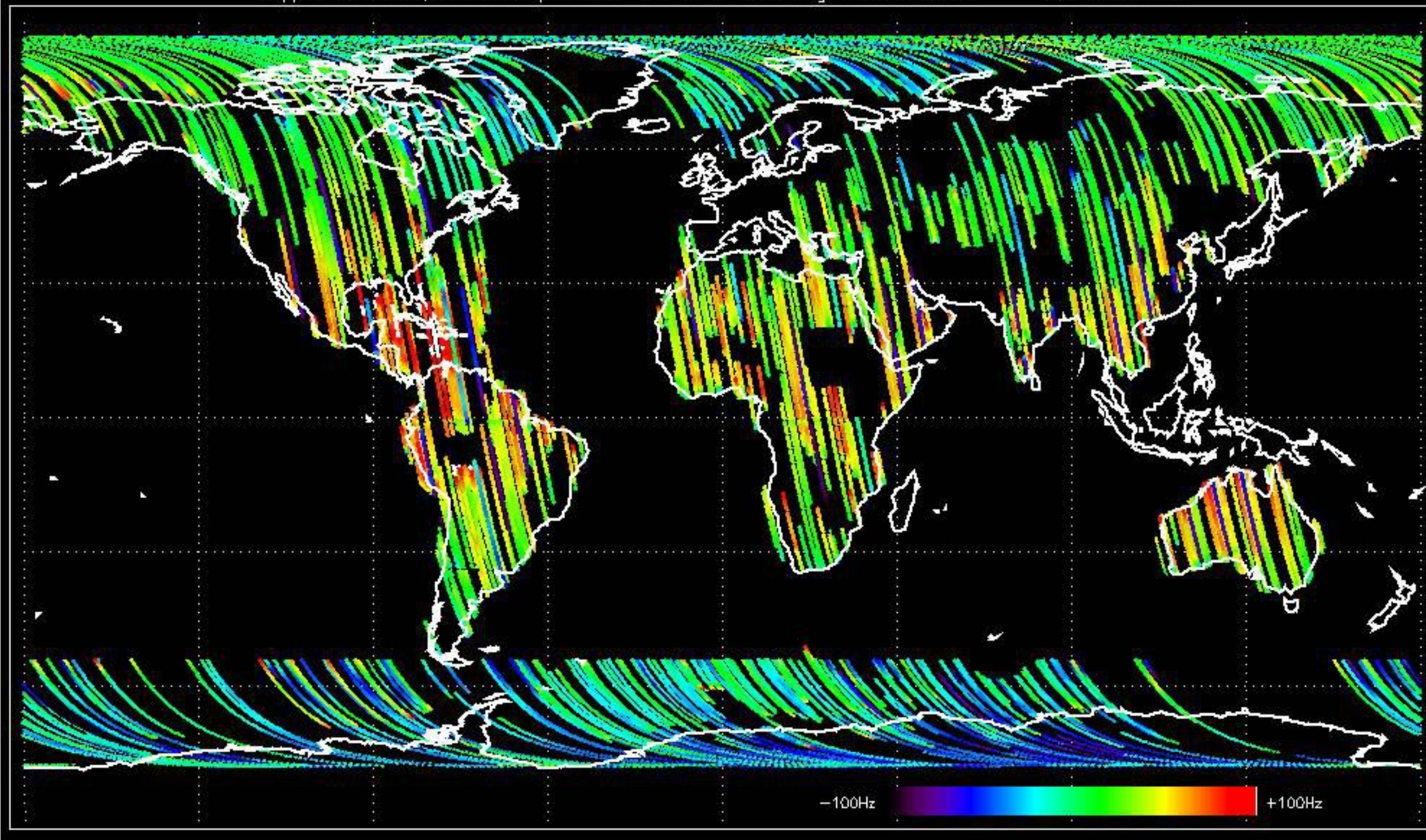
GM1 mode doppler





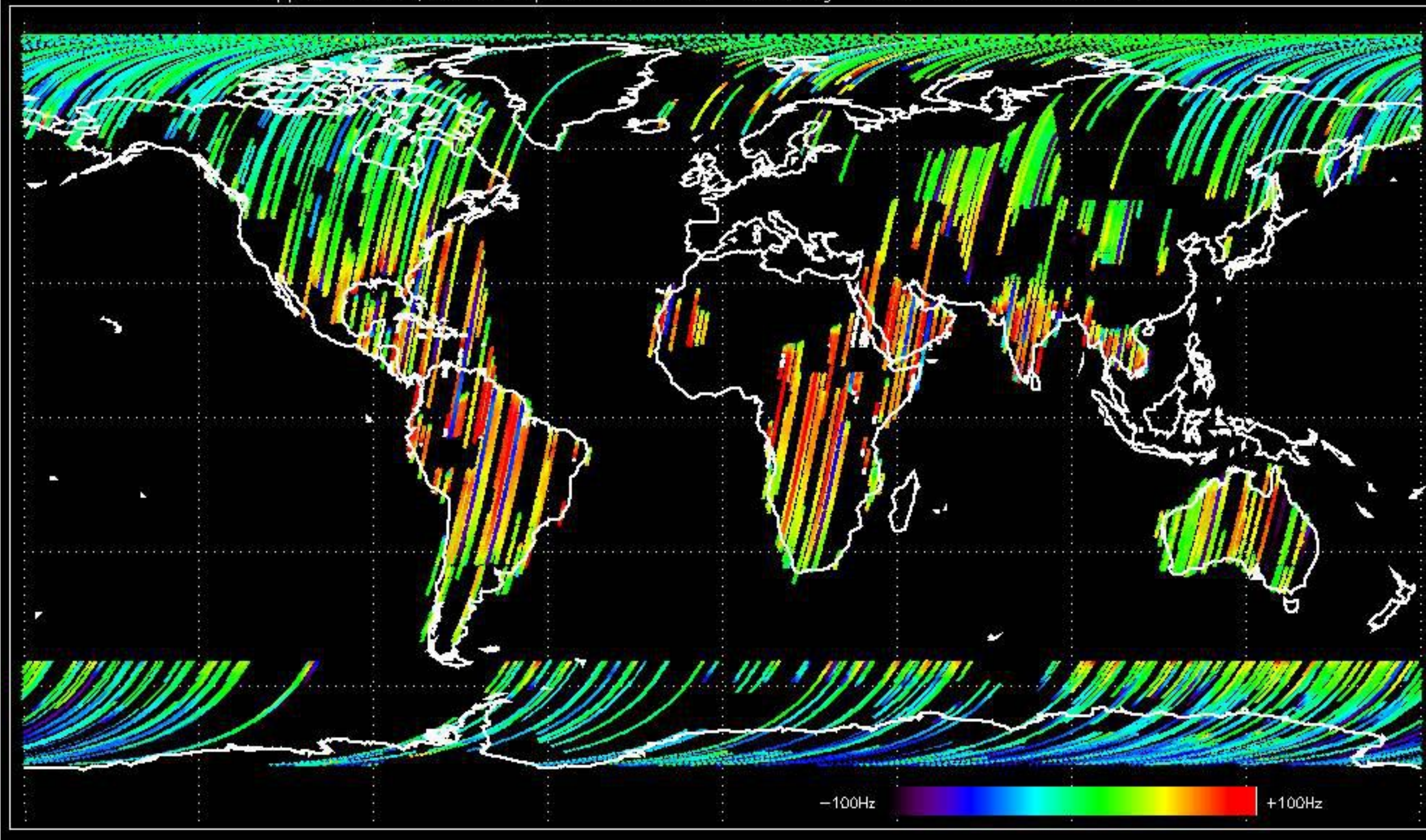


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -37.626467 Hz



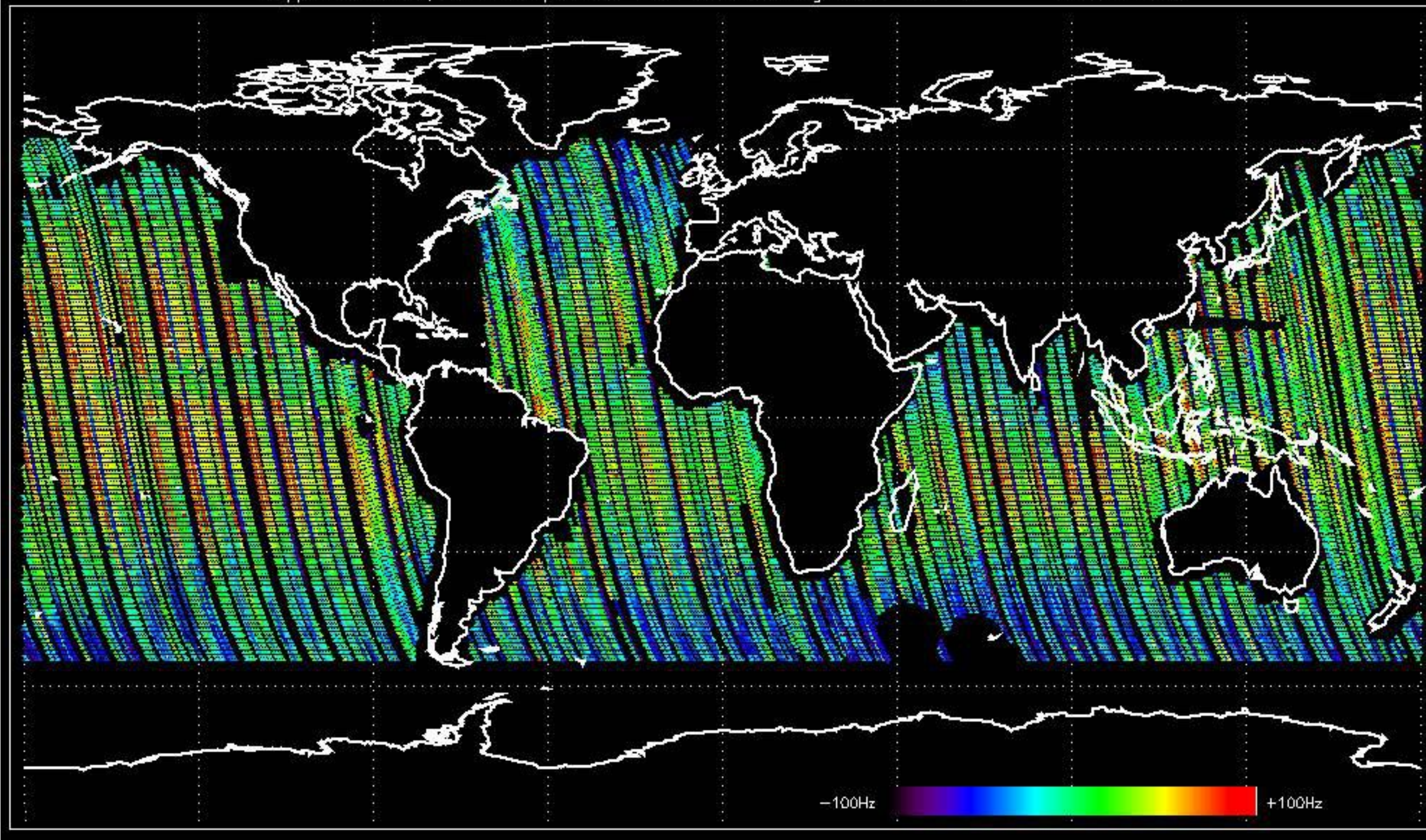


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -33.712427 Hz



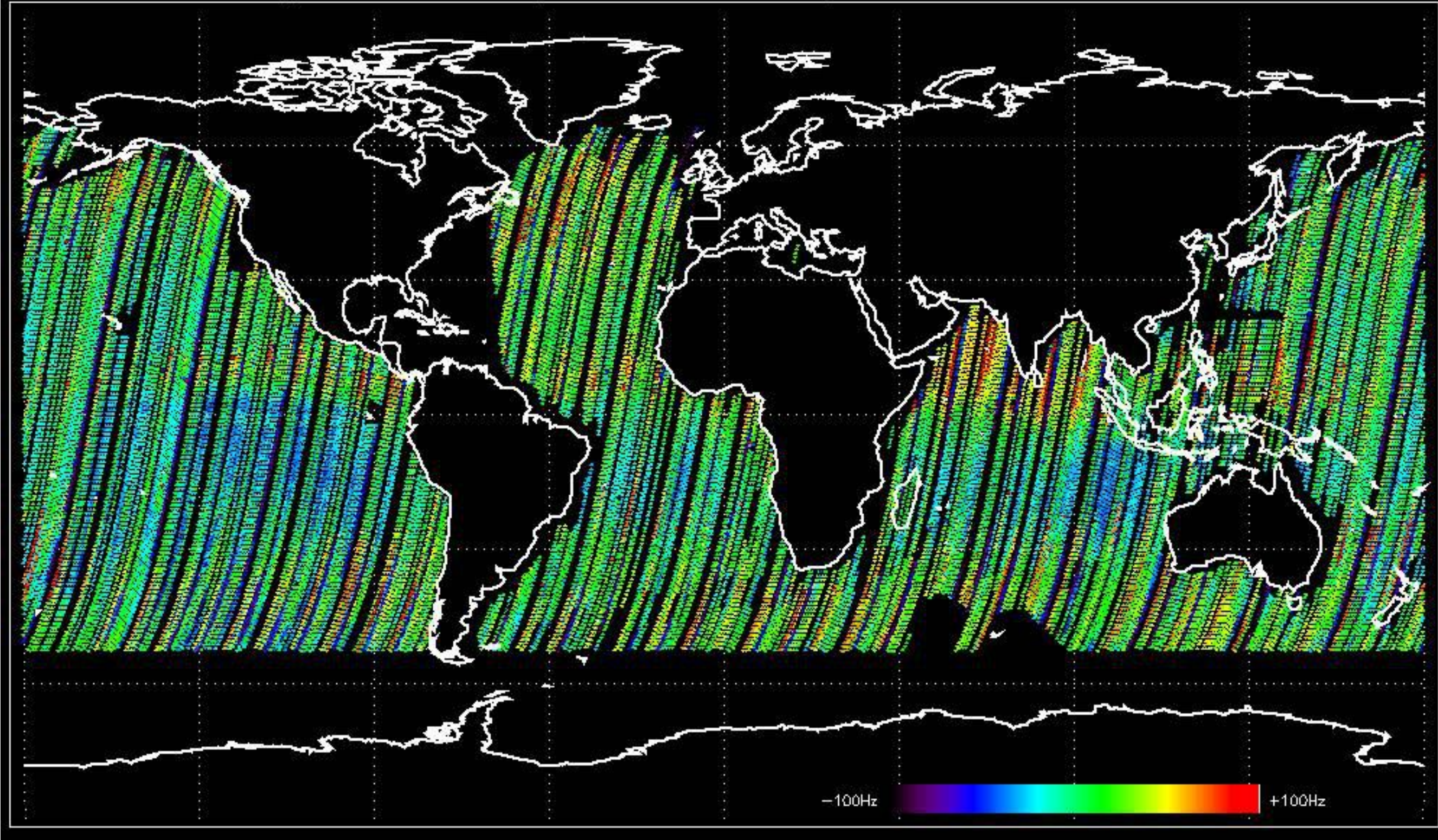


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -37.308064 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -41.789297 Hz





No anomalies observed on available MS products:

No anomalies observed.

















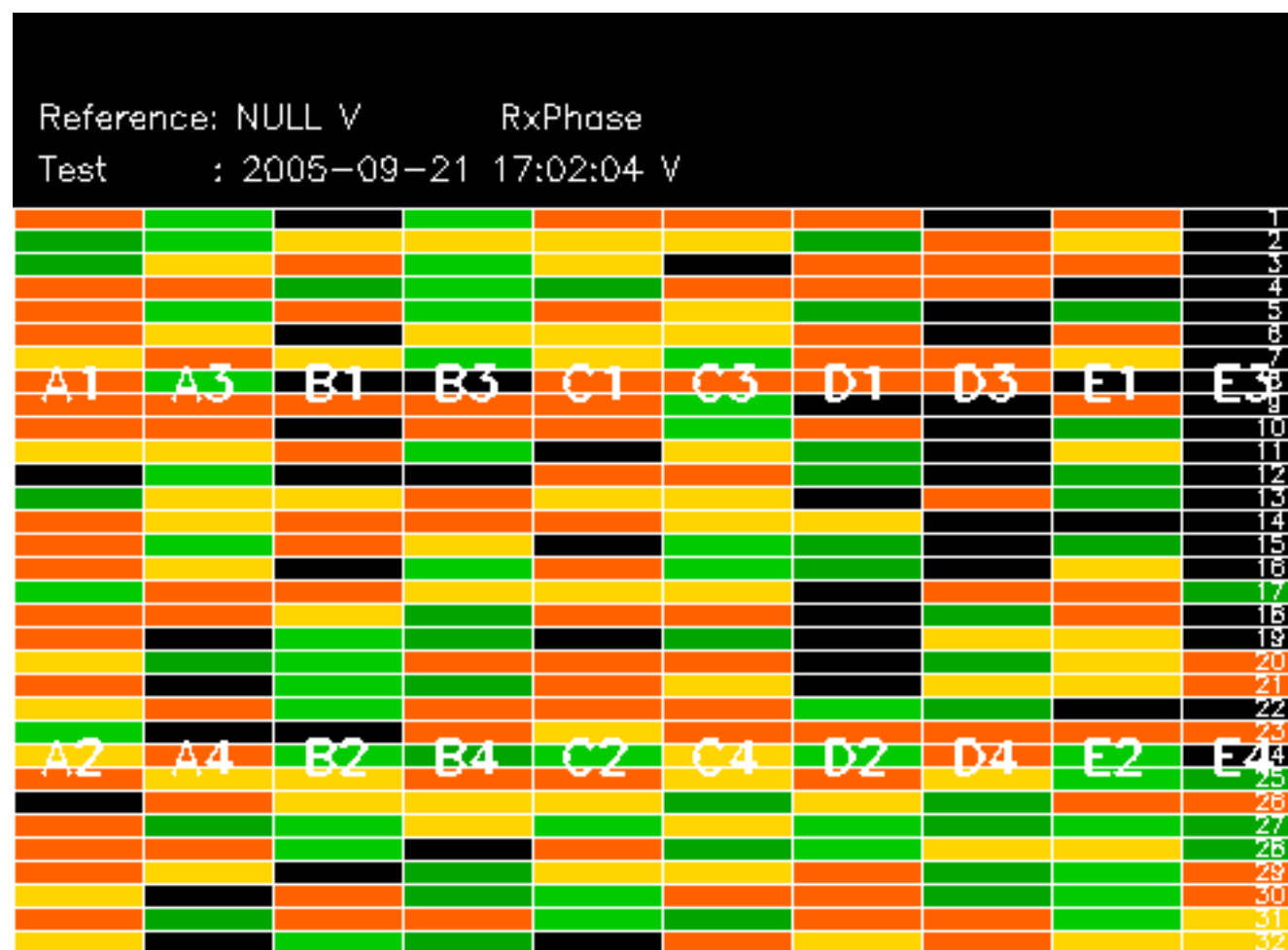


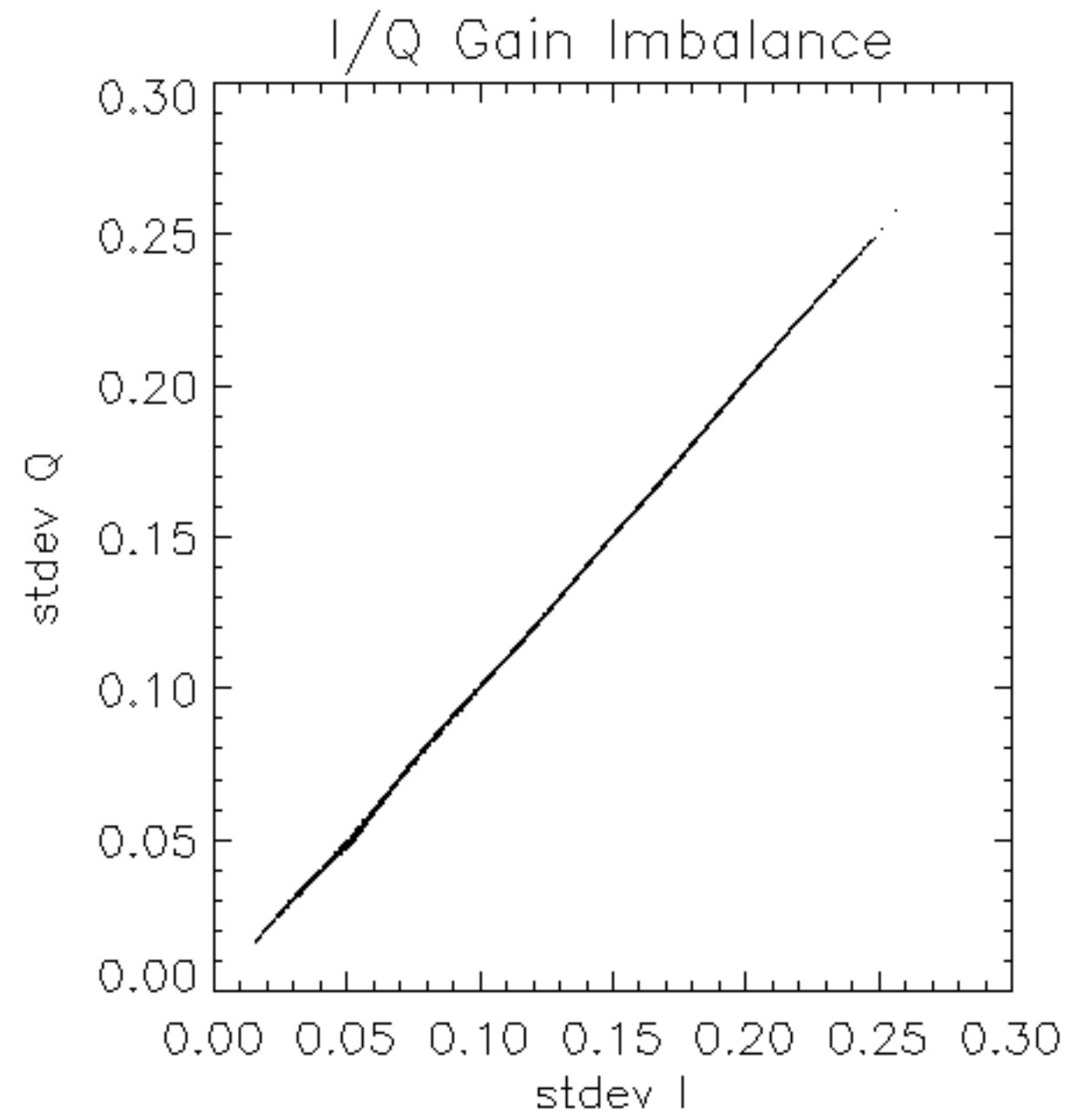


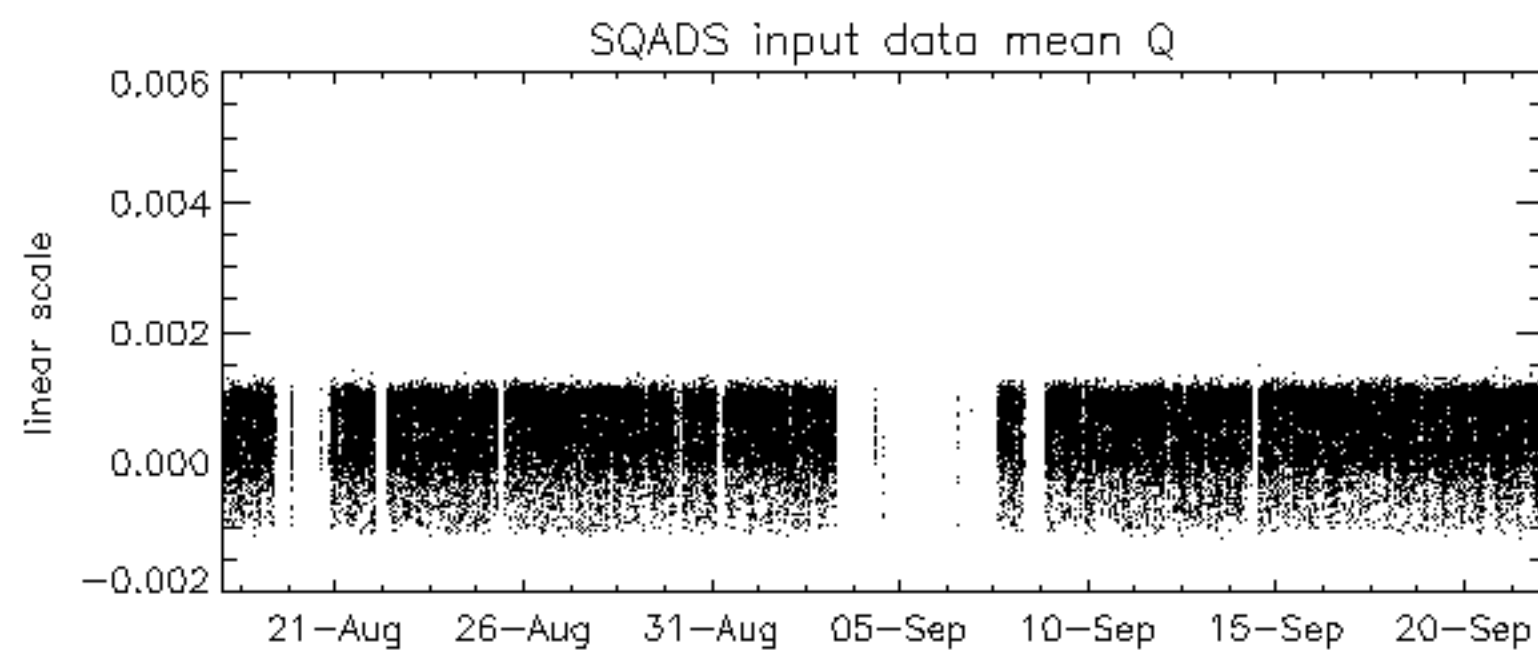
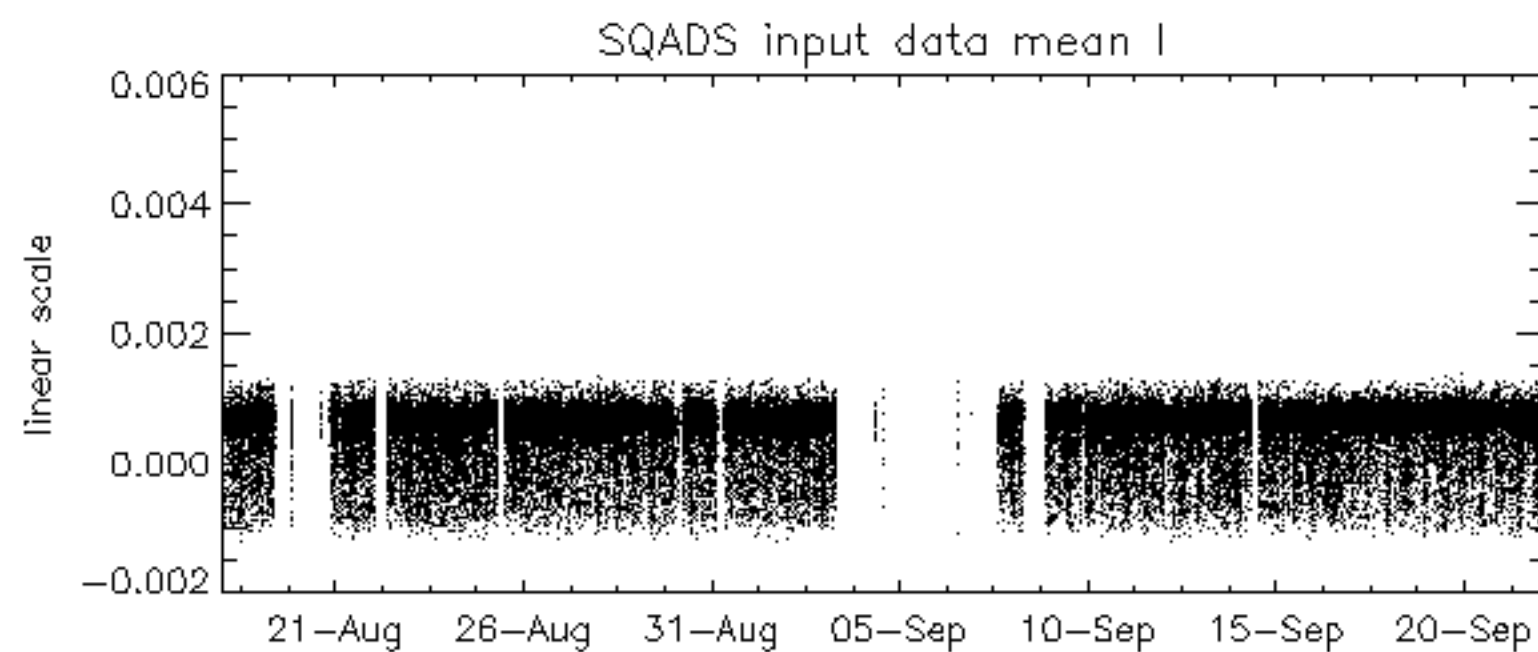
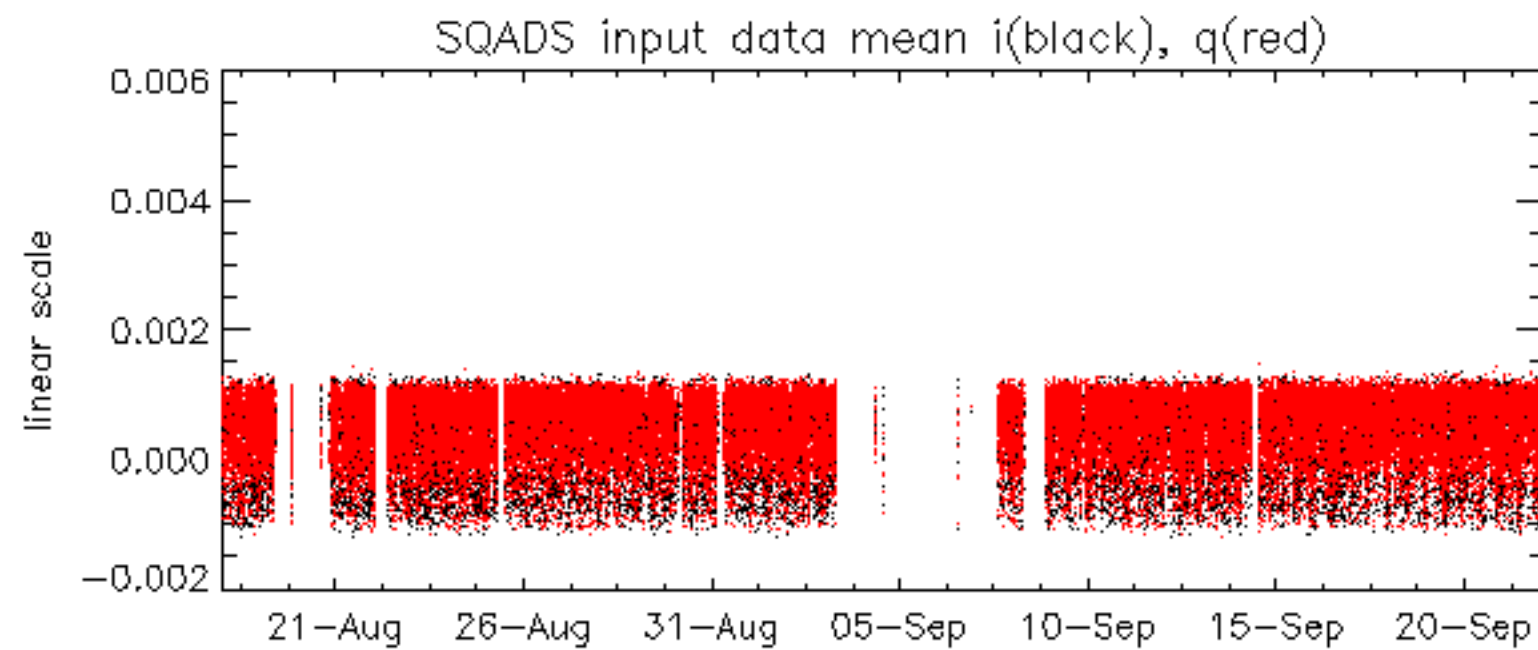


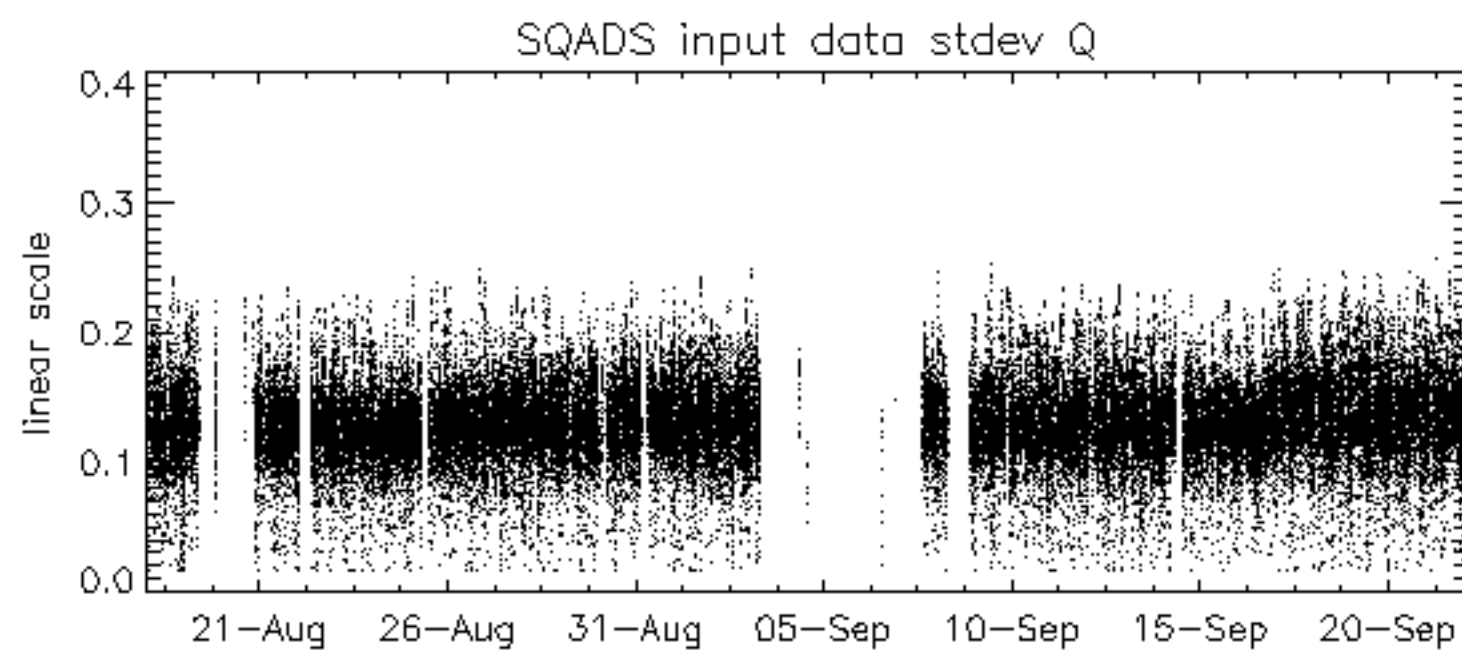
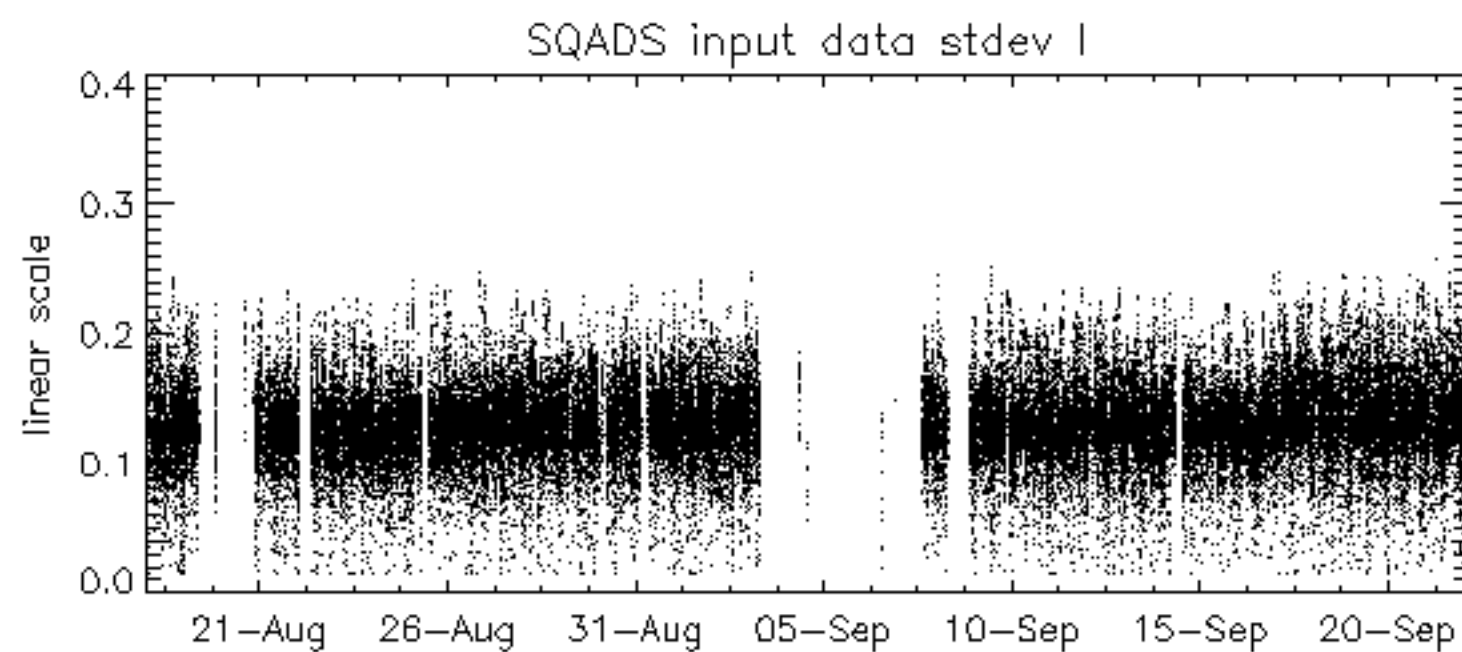
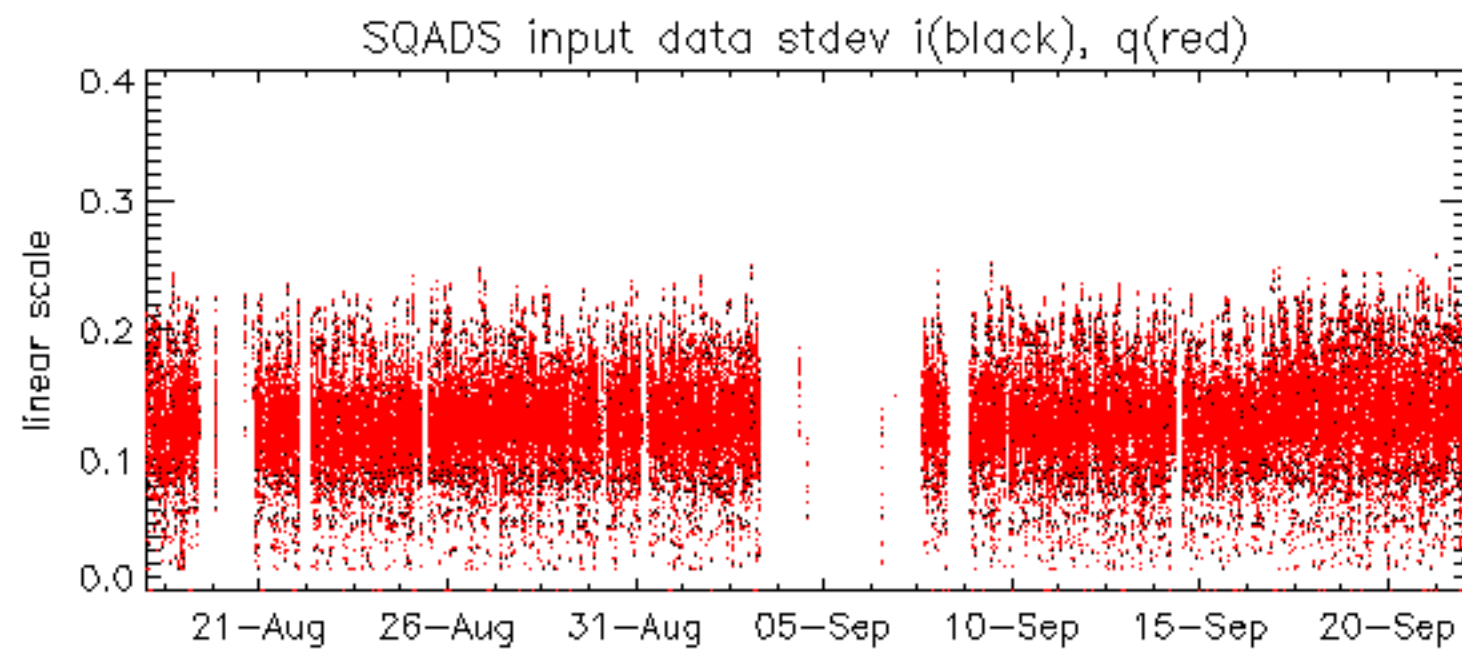










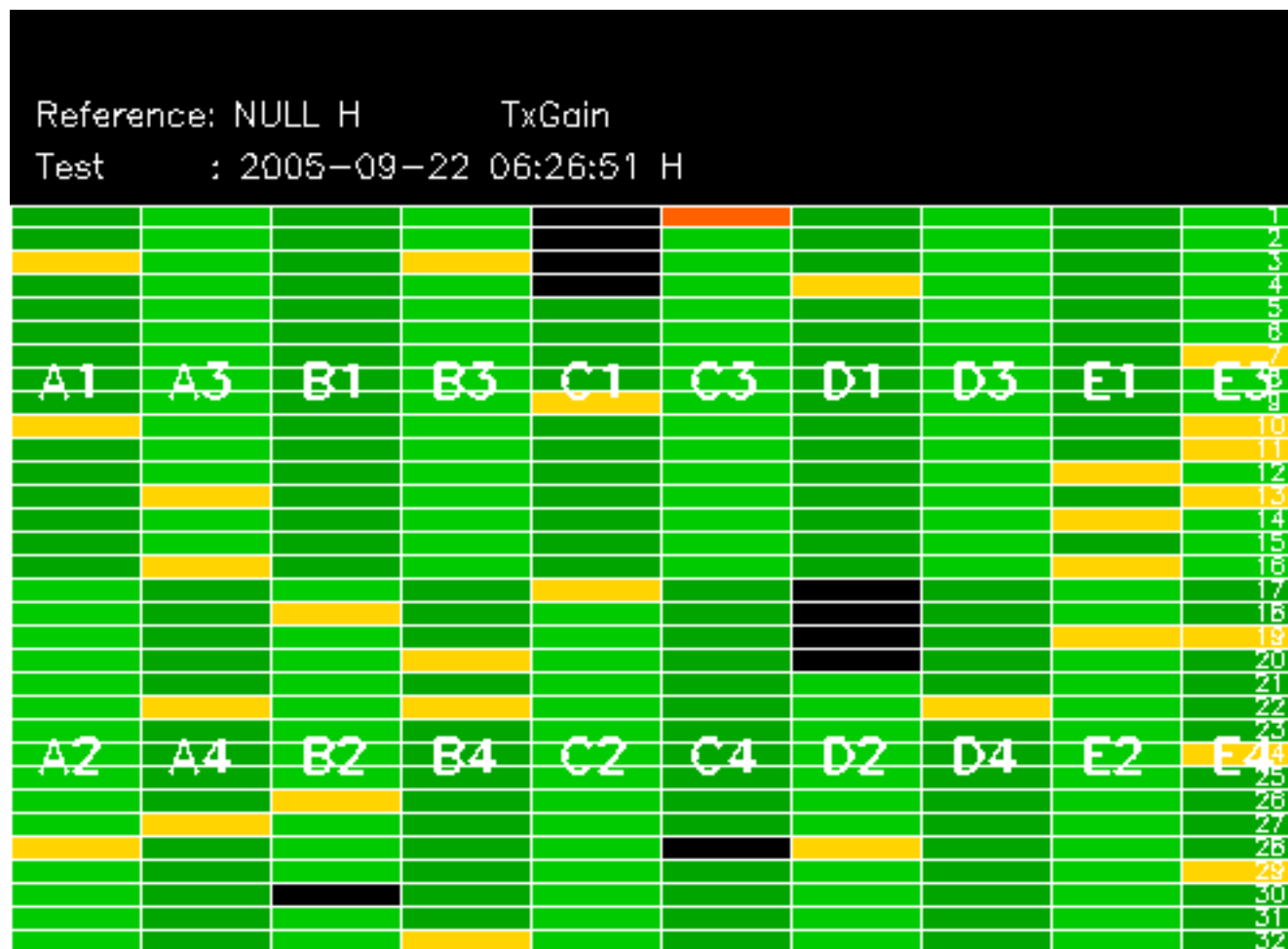












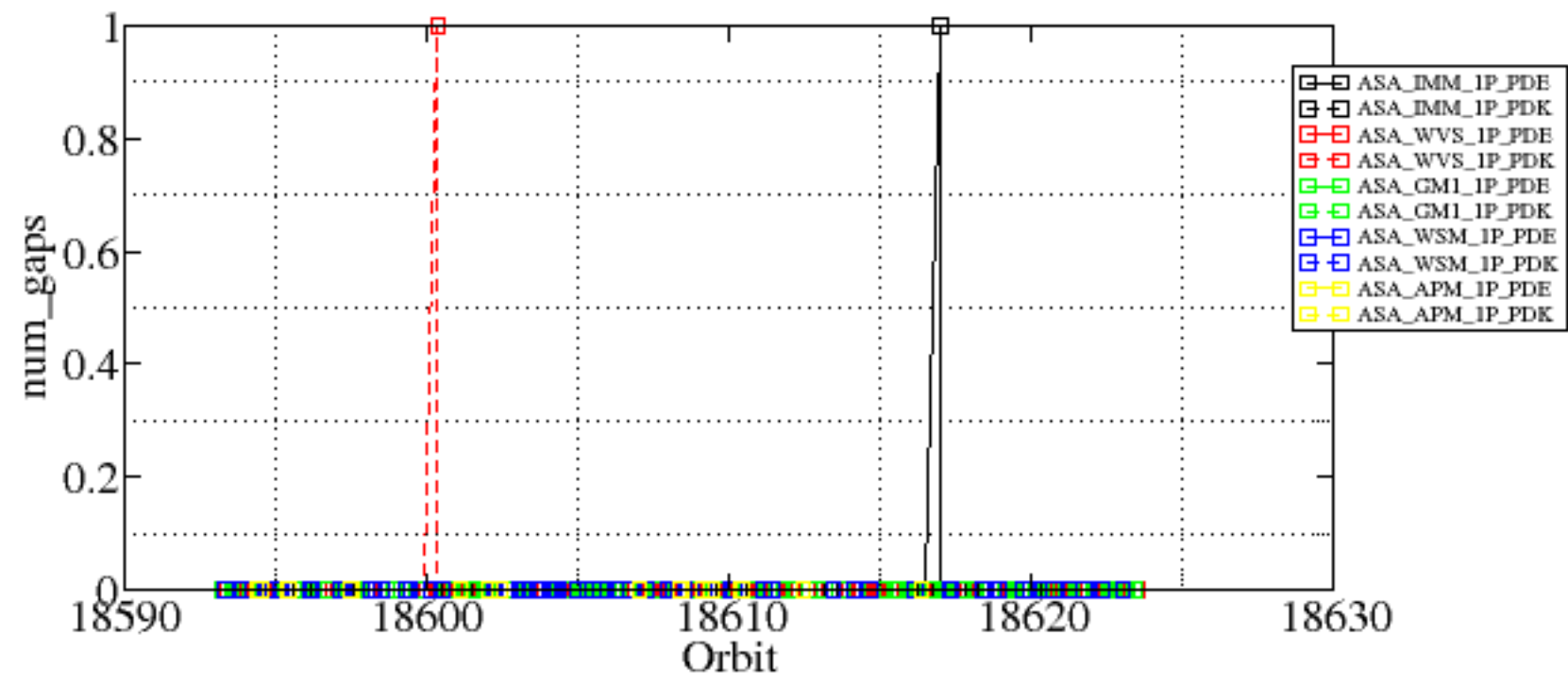




Summary of analysis for the last 3 days 2005092[012]

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_1PNPDE20050921_155413_000001532041_00025_18616_6218.N1	1	0
ASA_WVS_1PNPDK20050920_115938_00000002041_00009_18600_1504.N1	1	0
ASA_GM1_1PNPDK20050921_152005_000011362041_00025_18616_6092.N1	0	6
ASA_WSM_1PNPDE20050920_162919_000001842041_00012_18603_9656.N1	0	59
ASA_WSM_1PNPDE20050920_181151_000001282041_00013_18604_9832.N1	0	15
ASA_WSM_1PNPDE20050921_041517_000002322041_00019_18610_9764.N1	0	51













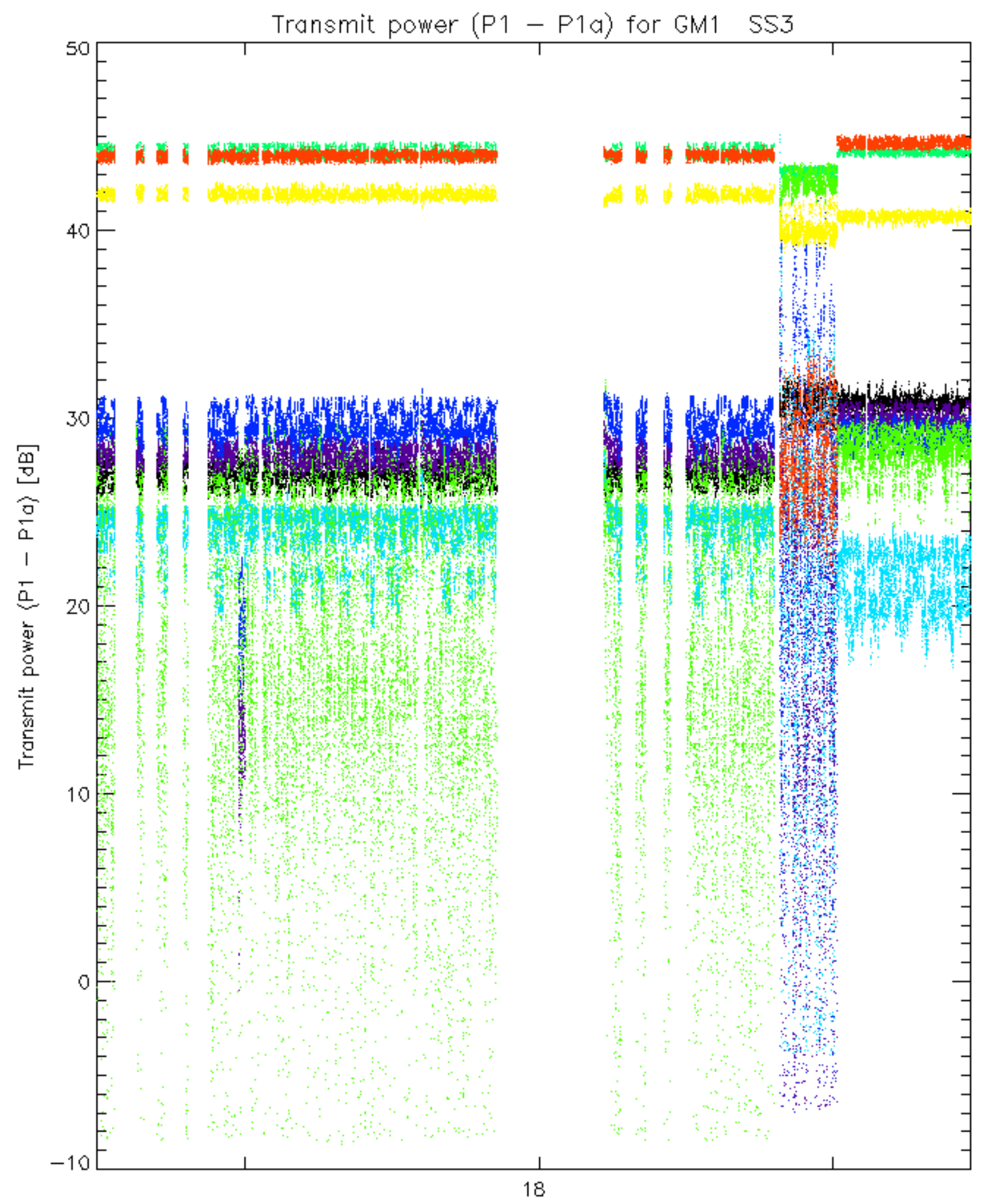




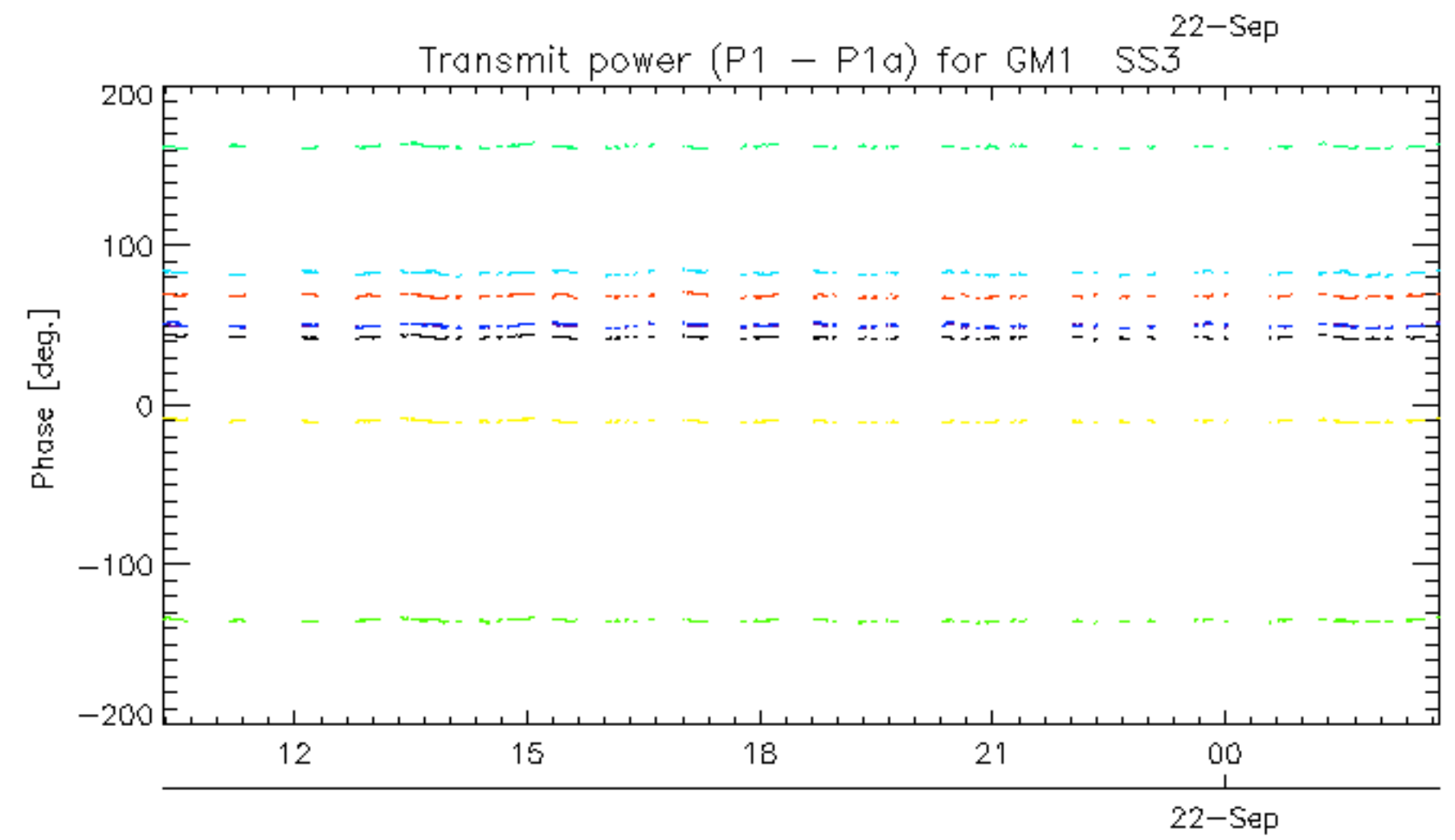
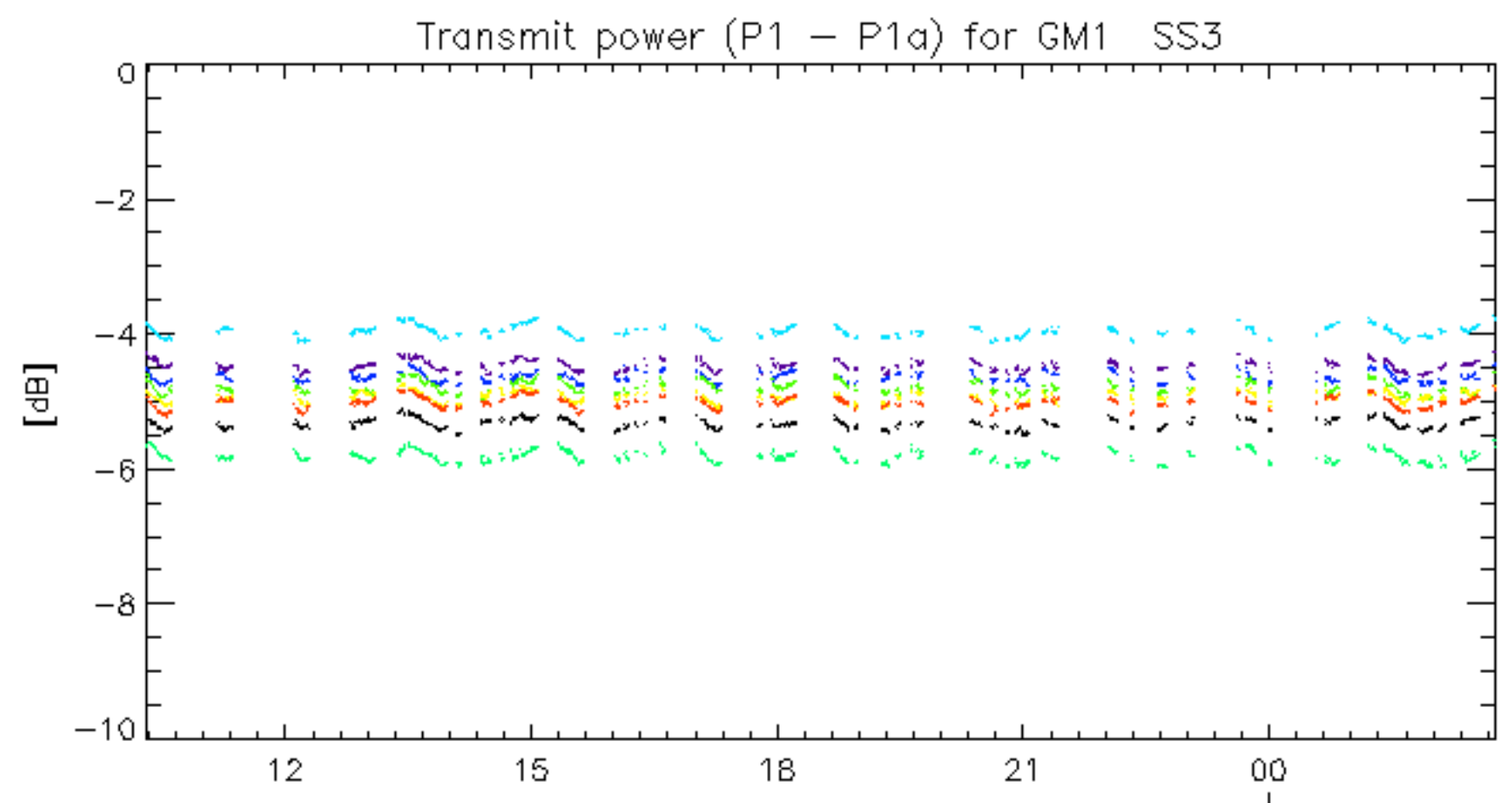




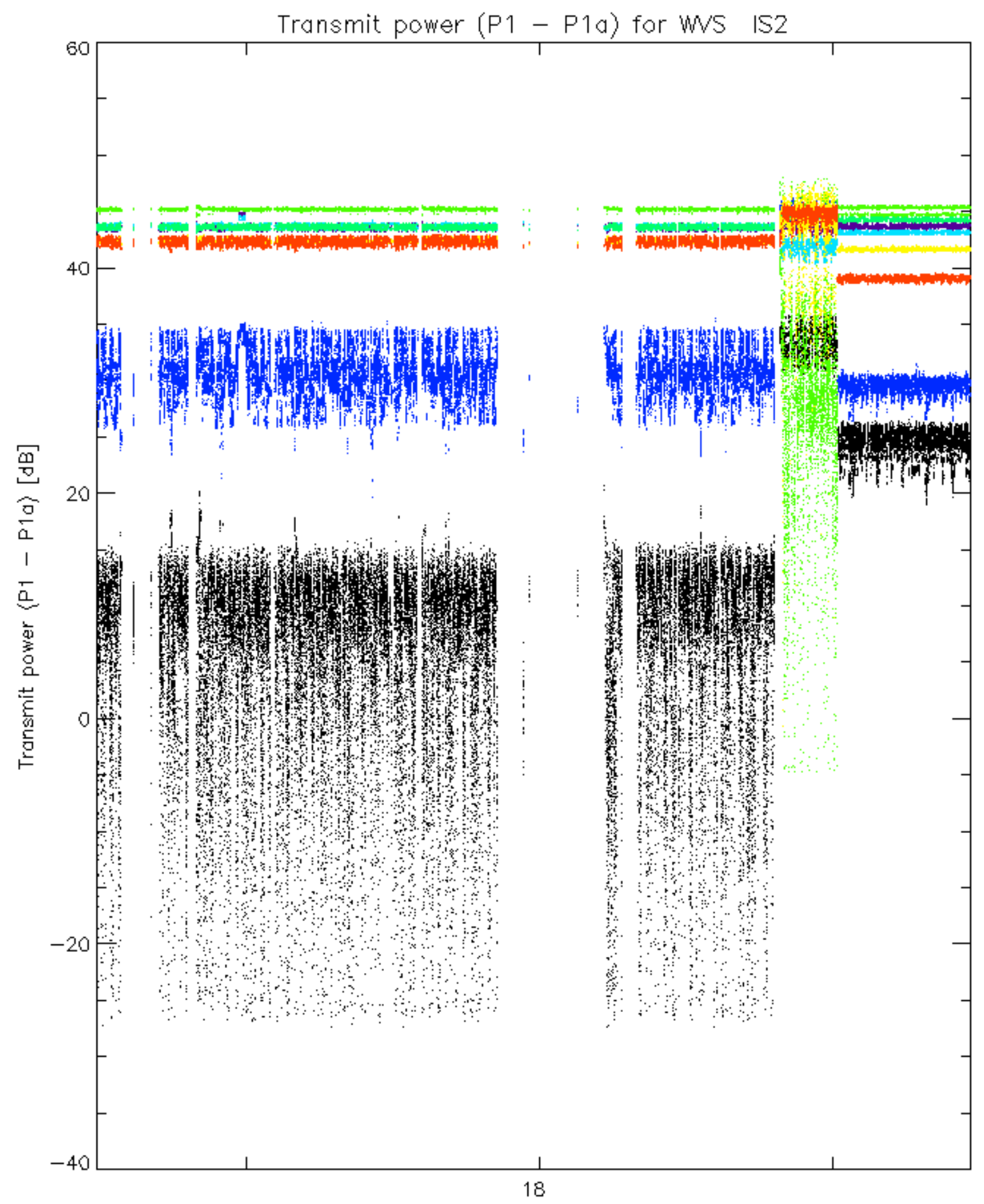


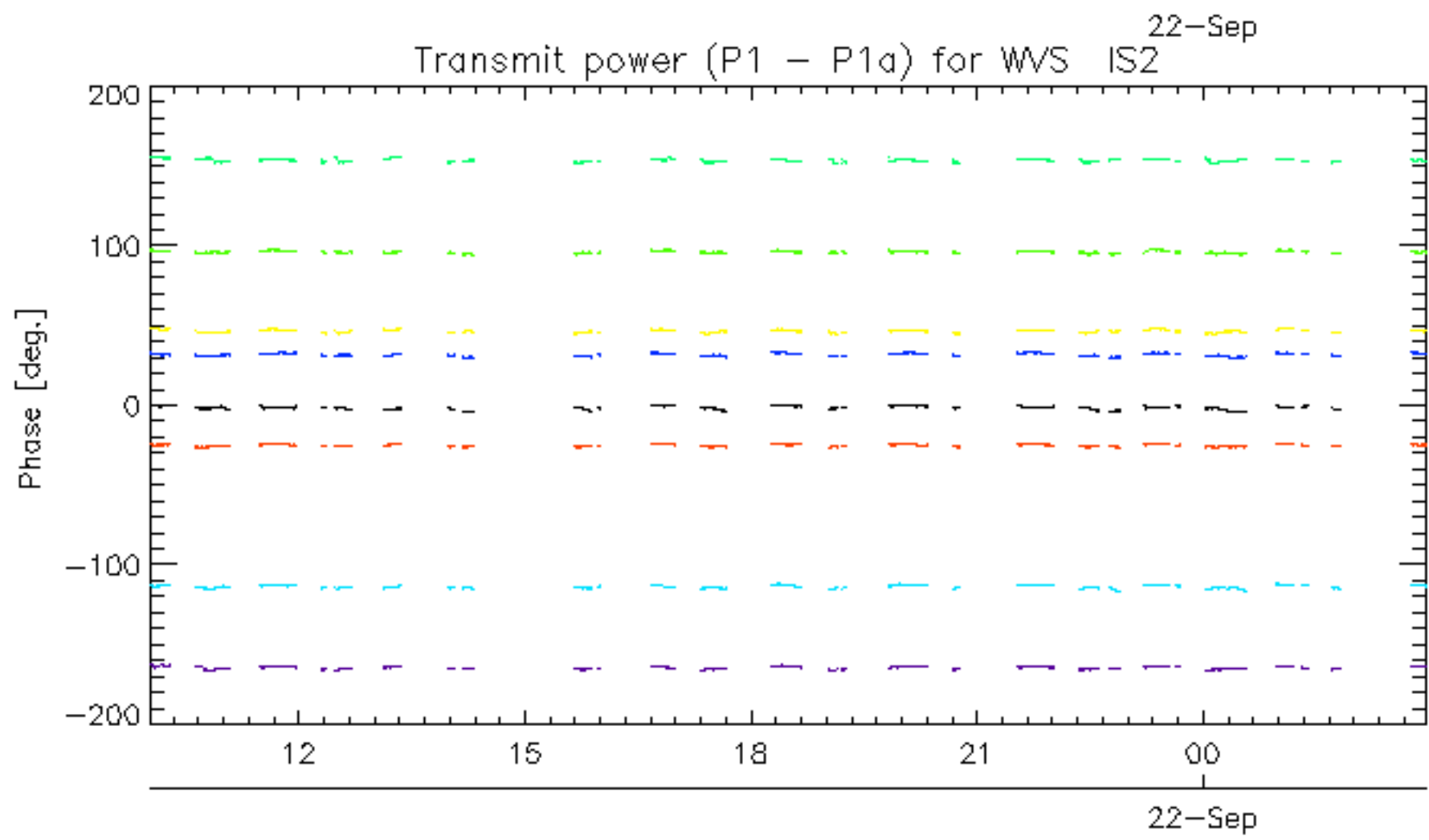
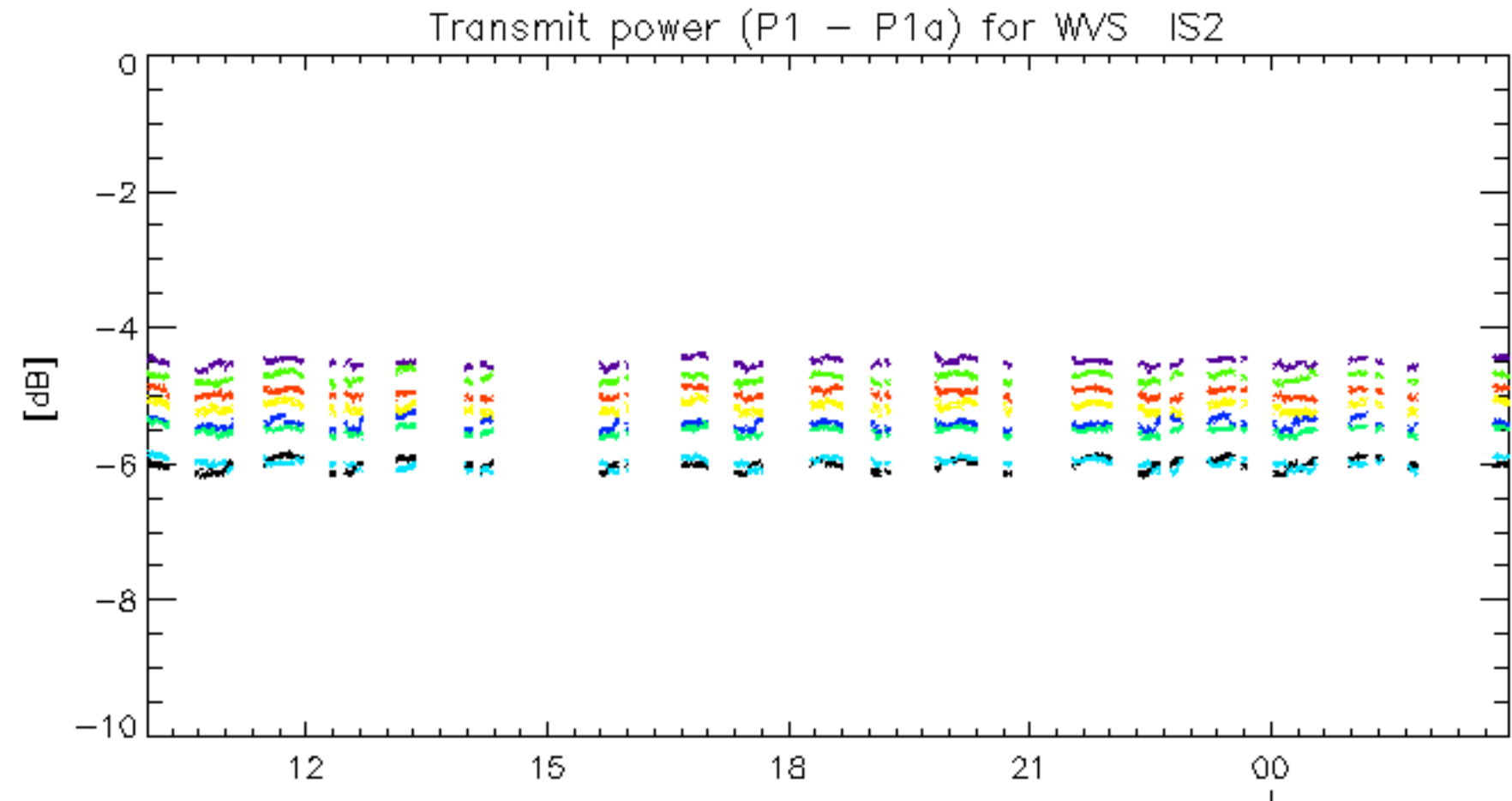


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No unavailabilities during the reported period.