

# PRELIMINARY REPORT OF 060107

last update on Sat Jan 7 16:49:22 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 2006-01-06 00:00:00 to 2006-01-07 16:49:22

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	35	0	4	0	34
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	35	0	4	0	34
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	35	0	4	0	34
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	35	0	4	0	34

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	42	53	35	9	56
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	42	53	35	9	56
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	42	53	35	9	56
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	42	53	35	9	56

## 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	20060106 055503
H	20060107 084437

### 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
<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	-3.841767	0.193508	-0.990169
7	P1	-2.843454	0.102905	-0.710904
11	P1	-4.130216	0.036974	0.099579
15	P1	-5.454130	1.323566	-2.803371
19	P1	-3.117438	0.053143	-0.540902
22	P1	-4.457563	0.023590	-0.155417
26	P1	-4.330846	0.051314	0.498102
30	P1	-5.697315	0.029207	-0.331402
3	P1	-16.224262	2.236300	-3.520338
7	P1	-15.785320	2.158701	-3.575642
11	P1	-16.419161	0.461031	-0.827474
15	P1	-12.913122	0.729252	-1.745809
19	P1	-13.604921	0.311680	-1.243040
22	P1	-15.952054	0.603960	-0.250379
26	P1	-15.322093	0.886235	-1.993254
30	P1	-15.954743	1.984353	-3.090591

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.737896	0.111898	0.317191
7	P2	-22.529062	0.104428	0.056306
11	P2	-16.432447	0.126173	0.382842
15	P2	-7.261456	0.106198	0.094269
19	P2	-9.205099	0.104169	0.025843
22	P2	-17.905092	0.108866	-0.170030
26	P2	-16.326056	0.127753	0.416411
30	P2	-19.746307	0.110521	0.329561

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.231186	0.007697	0.029656
7	P3	-8.231186	0.007697	0.029656
11	P3	-8.231186	0.007697	0.029656
15	P3	-8.231186	0.007697	0.029656
19	P3	-8.231186	0.007697	0.029656
22	P3	-8.231186	0.007697	0.029656
26	P3	-8.231186	0.007697	0.029656
30	P3	-8.231186	0.007697	0.029656

#### 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	-3.713399	0.008540	-0.028337
7	P1	-2.765347	0.007823	0.003138
11	P1	-2.874277	0.009782	0.014442
15	P1	-3.427211	0.017200	-0.068363
19	P1	-3.390149	0.014292	0.017628
22	P1	-5.122267	0.019651	0.000258
26	P1	-5.853036	0.015690	-0.012231
30	P1	-5.272506	0.033152	0.045241
3	P1	-11.494921	0.038480	-0.051313
7	P1	-9.957259	0.048573	0.063710
11	P1	-10.057851	0.055564	-0.026648
15	P1	-10.572056	0.073878	-0.118140
19	P1	-15.513006	0.071896	0.066000
22	P1	-20.880915	0.996122	0.511813
26	P1	-17.072151	0.306753	0.440281
30	P1	-18.163502	0.283119	0.113067

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.555038	0.031291	0.201723
7	P2	-23.008543	0.057562	0.232289
11	P2	-11.536534	0.020633	0.201488
15	P2	-4.977211	0.022434	0.100032
19	P2	-6.964262	0.022197	0.067248
22	P2	-8.209435	0.022442	0.015530
26	P2	-24.031683	0.030173	0.119769
30	P2	-22.129921	0.017852	0.049480

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.073919	0.002546	0.025604
7	P3	-8.074080	0.002540	0.025875
11	P3	-8.074135	0.002527	0.025524
15	P3	-8.074066	0.002524	0.025695
19	P3	-8.074124	0.002540	0.025613
22	P3	-8.073944	0.002526	0.026205
26	P3	-8.073892	0.002520	0.026333
30	P3	-8.073903	0.002529	0.025276

## 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	0.000490132
	stdev	2.06666e-07
MEAN Q	mean	0.000484838
	stdev	2.31807e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.132277
	stdev	0.00117940
STDEV Q	mean	0.132586
	stdev	0.00119450



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006010[567]

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_1PNPDE20060106_054348_00000372044_00048_20142_5727.N1	1	0
ASA_IMM_1PNPDE20060107_005035_00002152044_00059_20153_5838.N1	1	0
ASA_WSM_1PNPDE20060105_010633_00002812044_00031_20125_7017.N1	0	44







## 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)


Ascending




Descending

### 7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

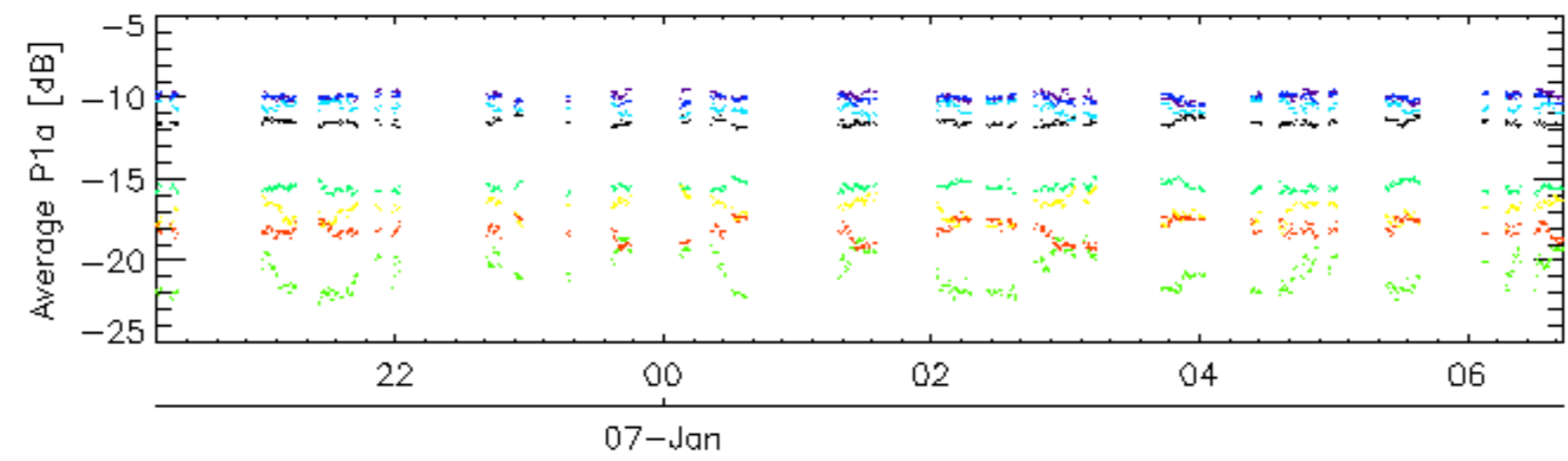
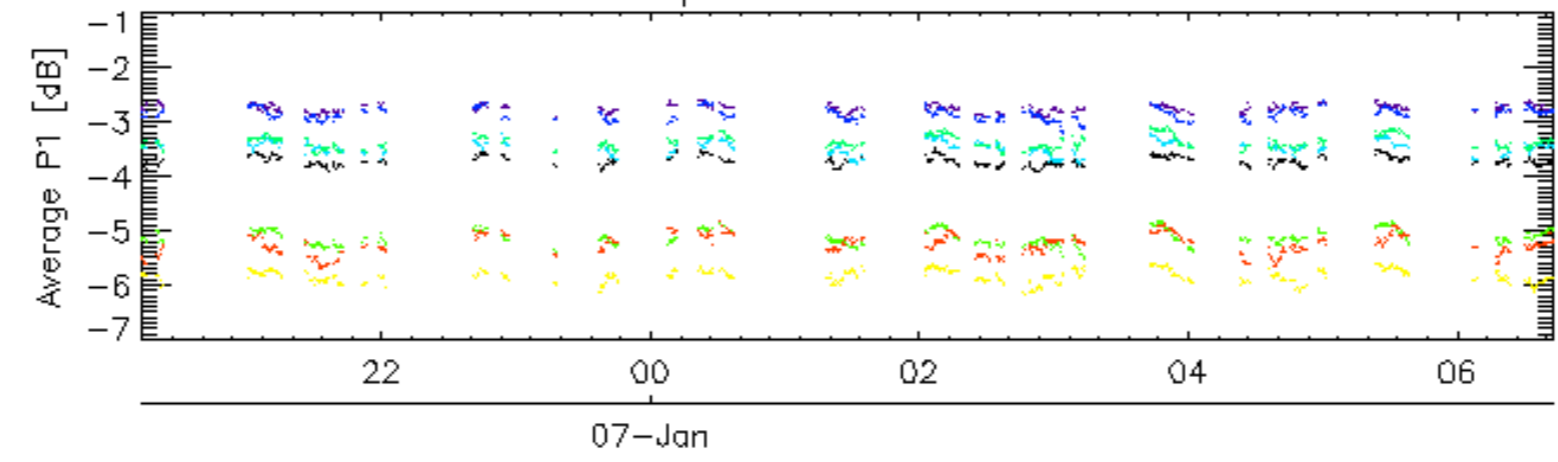
Ascending

Descending

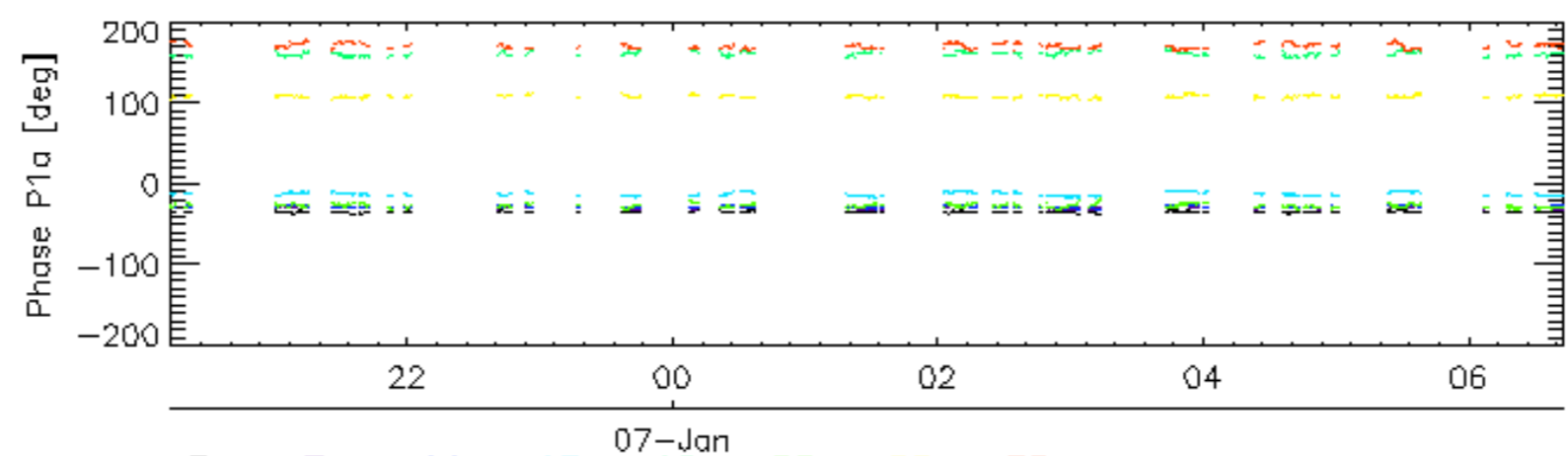
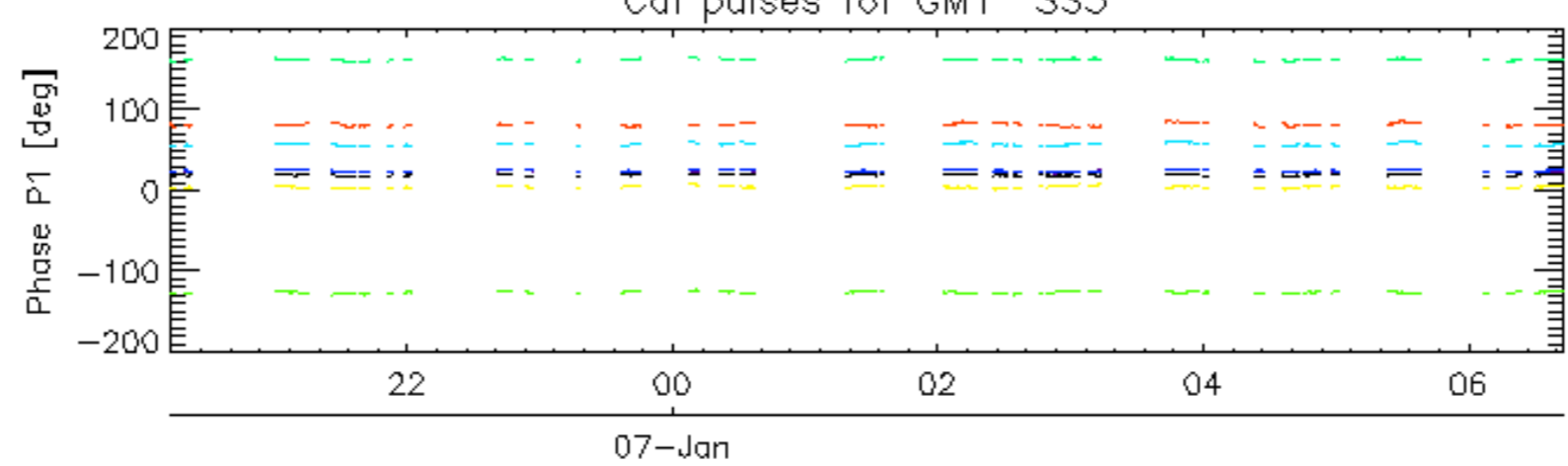
### 7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

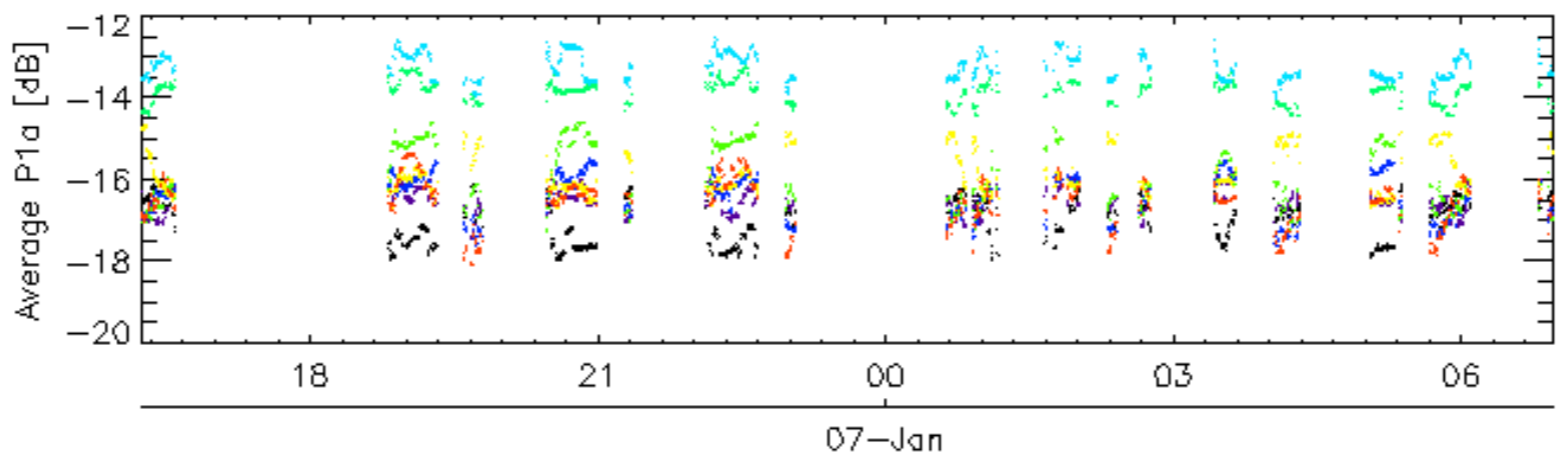
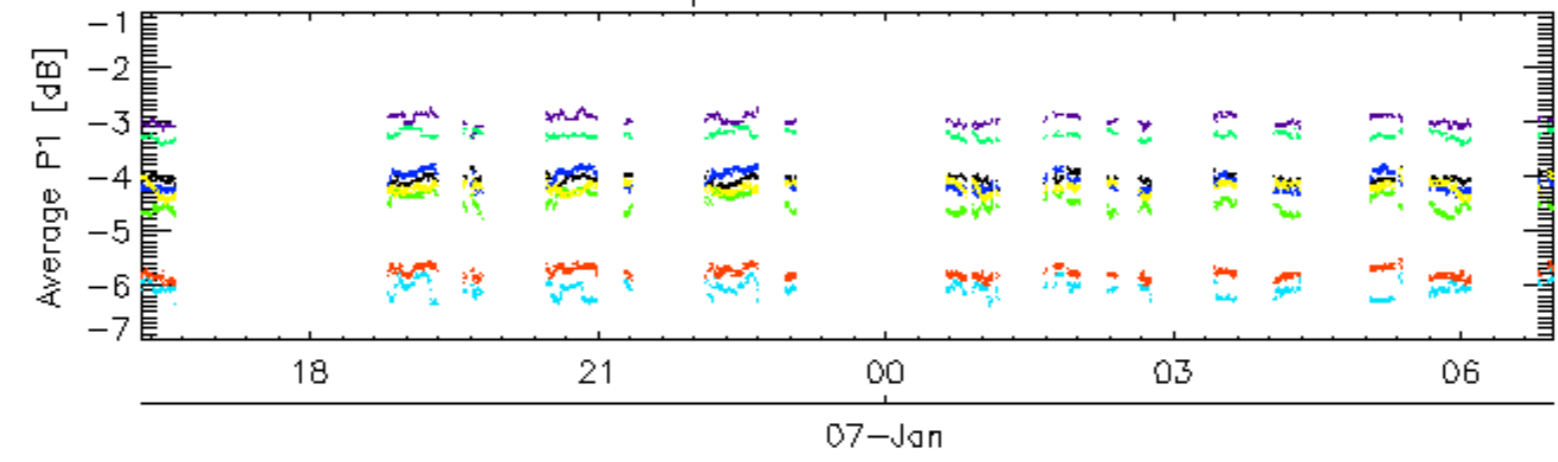


Cal pulses for GM1 SS3

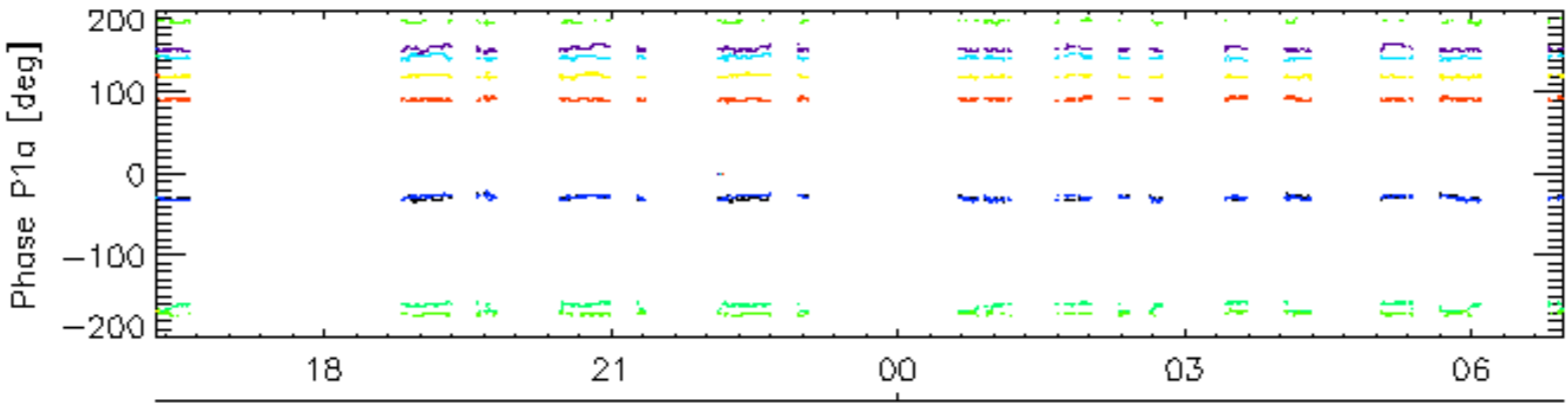
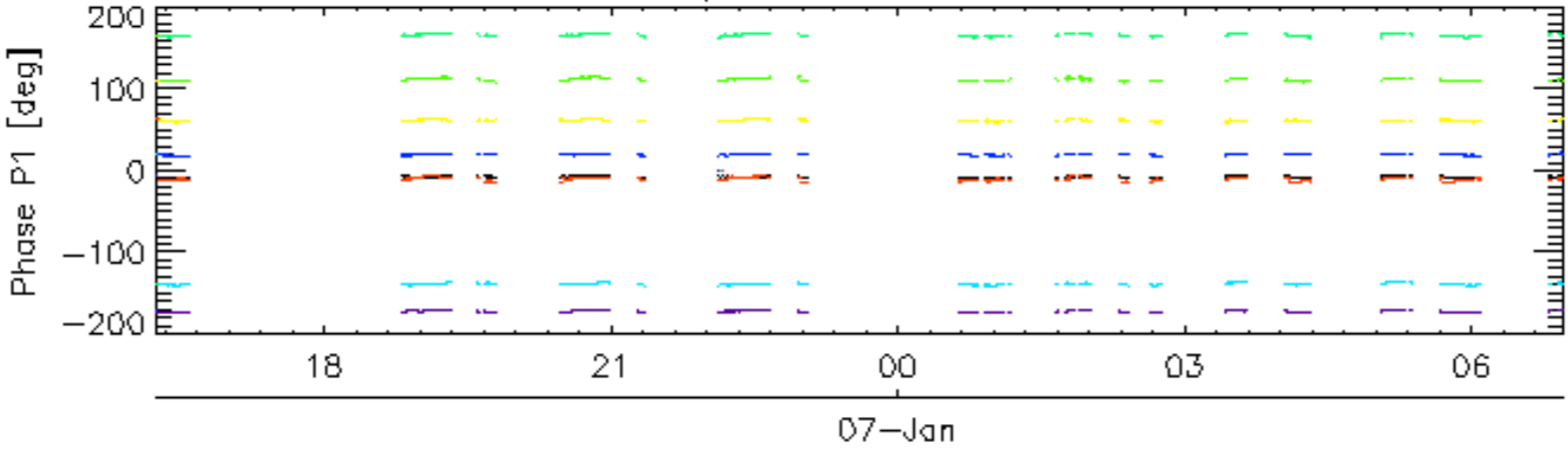


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

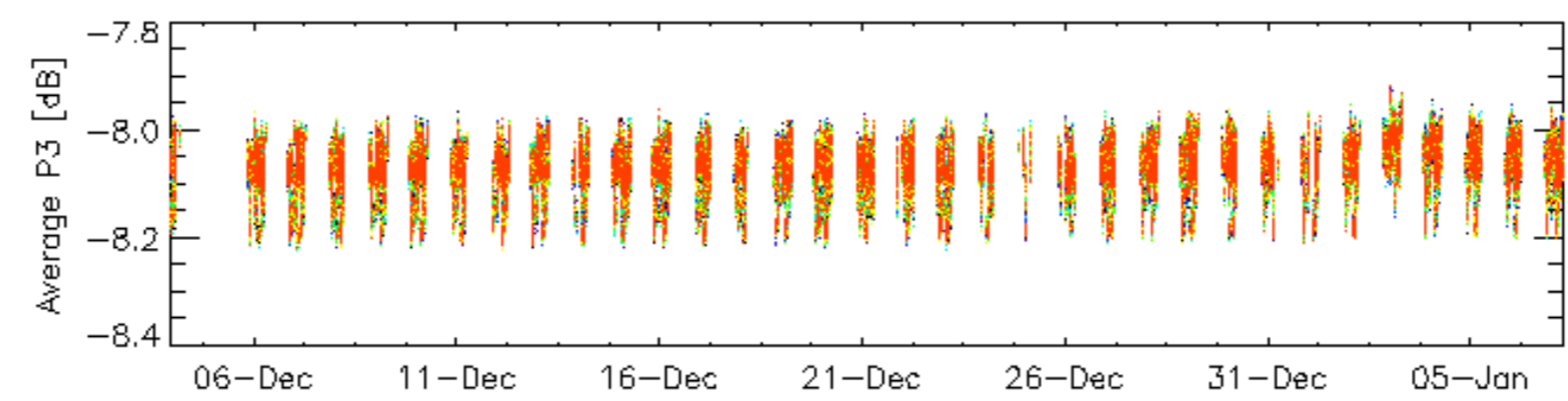
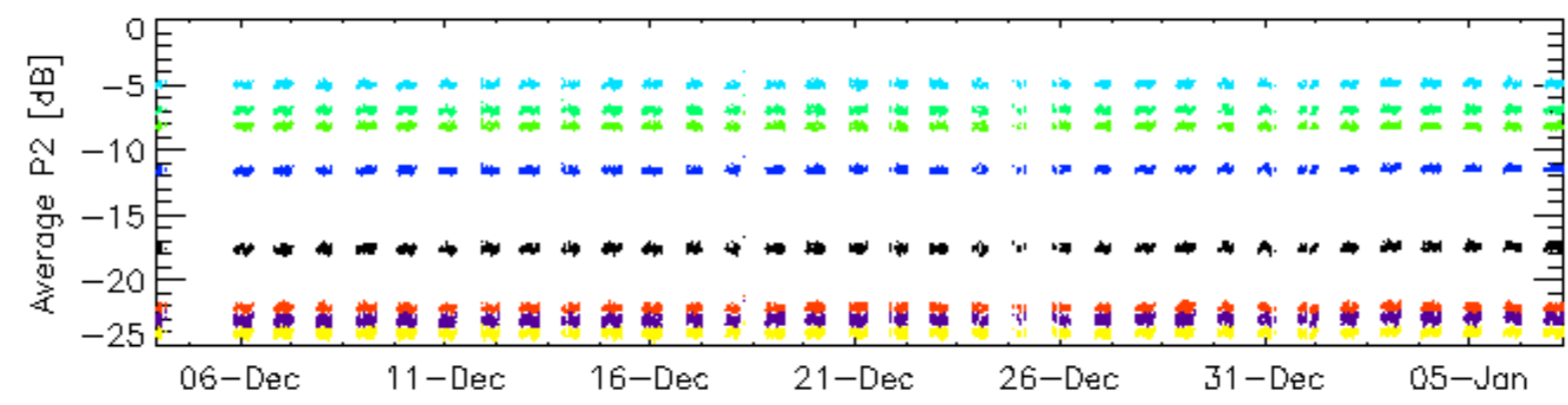
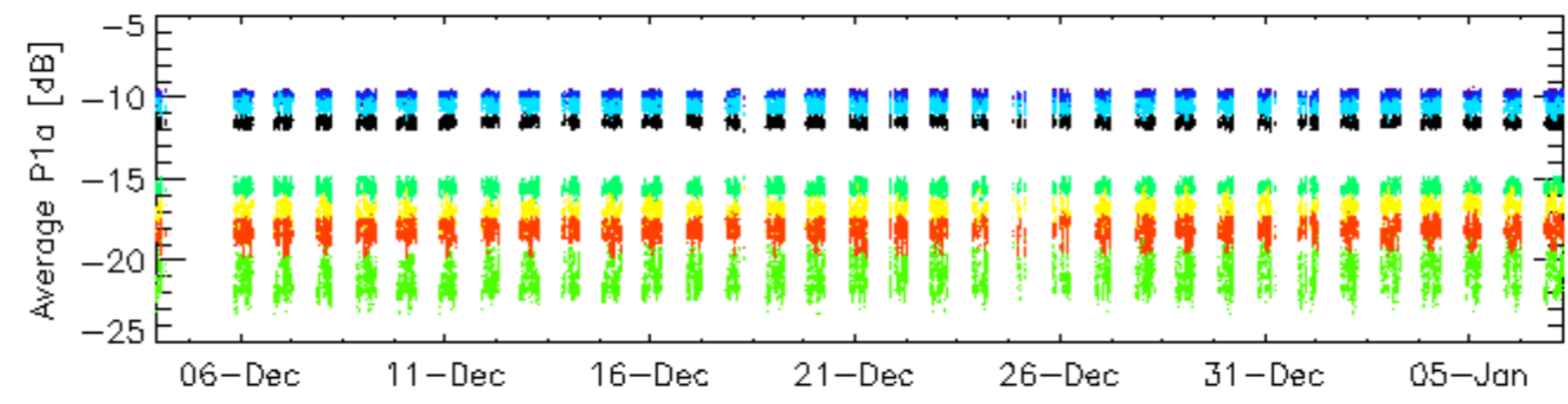
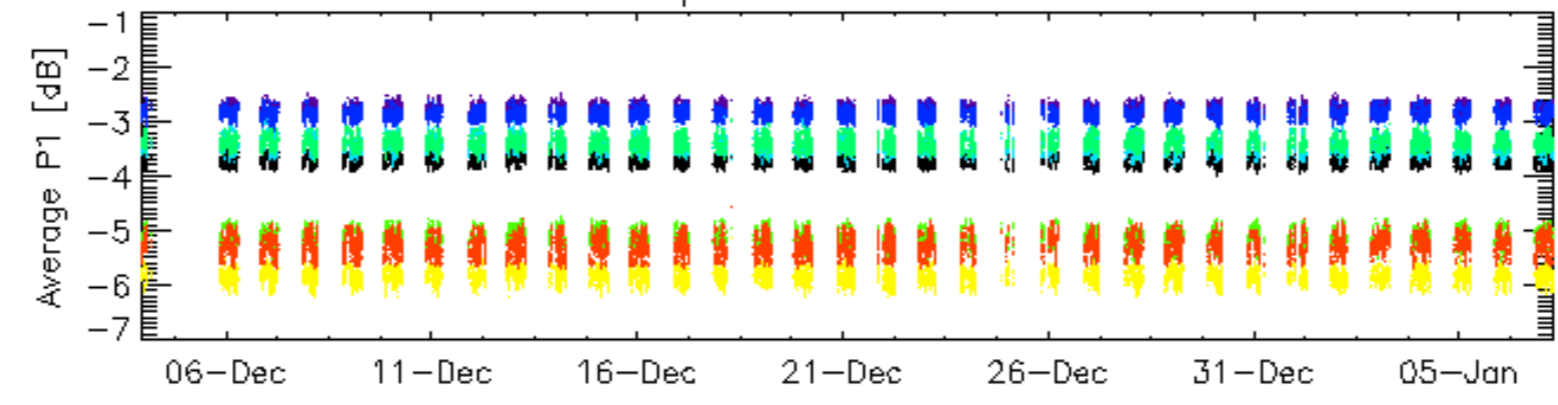


Cal pulses for WVS IS2



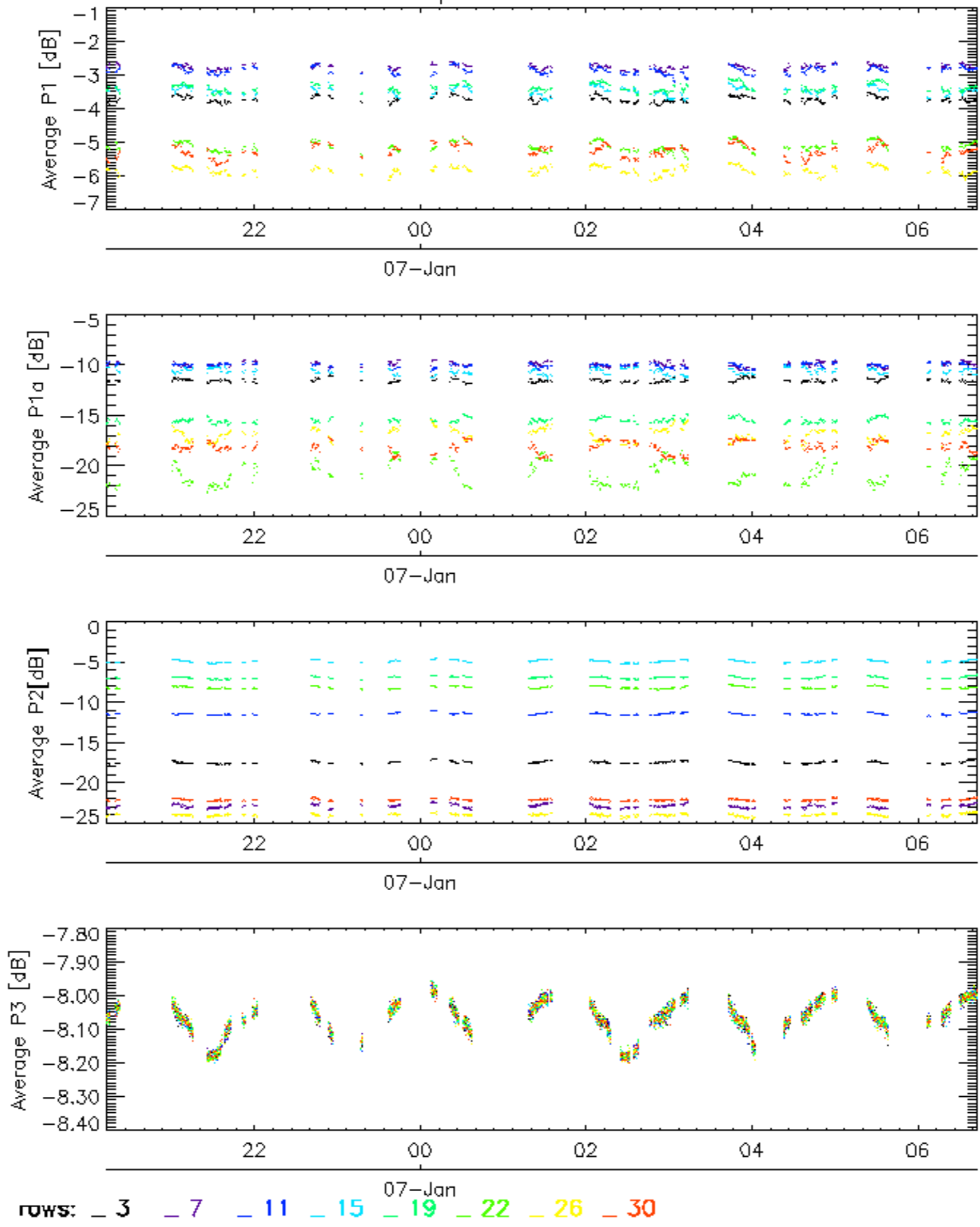
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

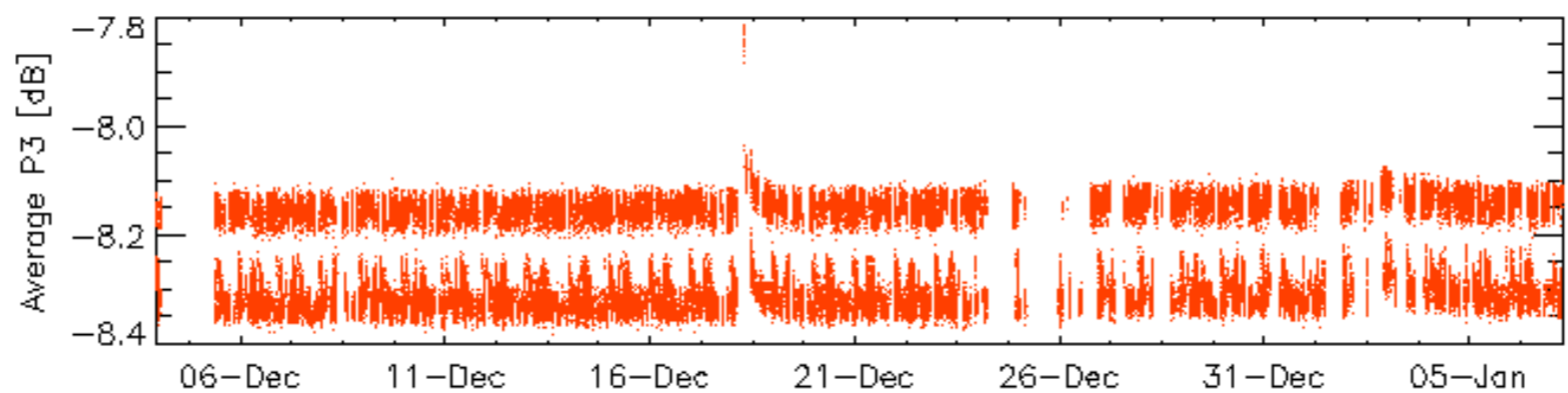
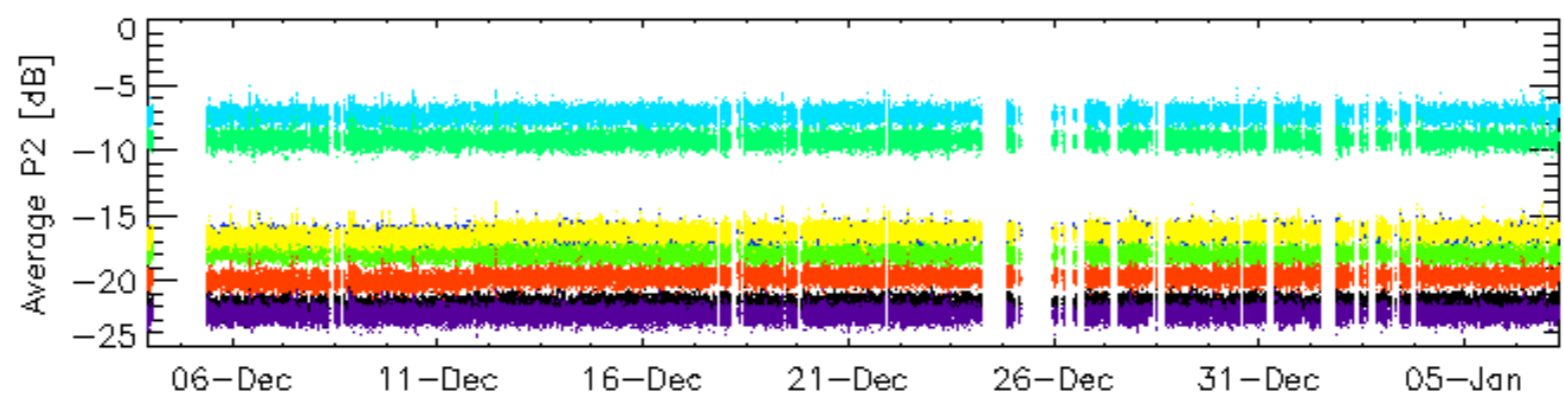
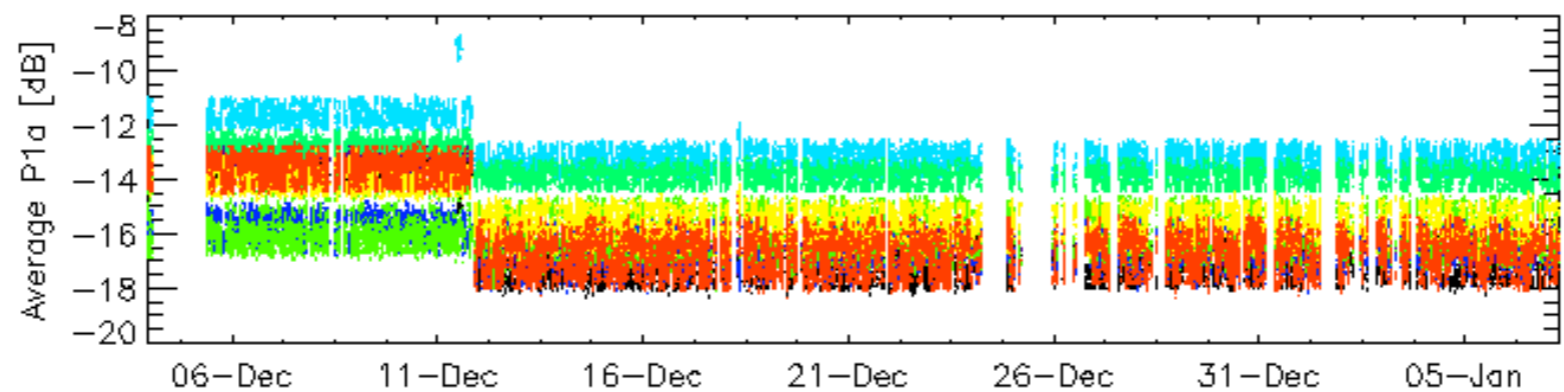
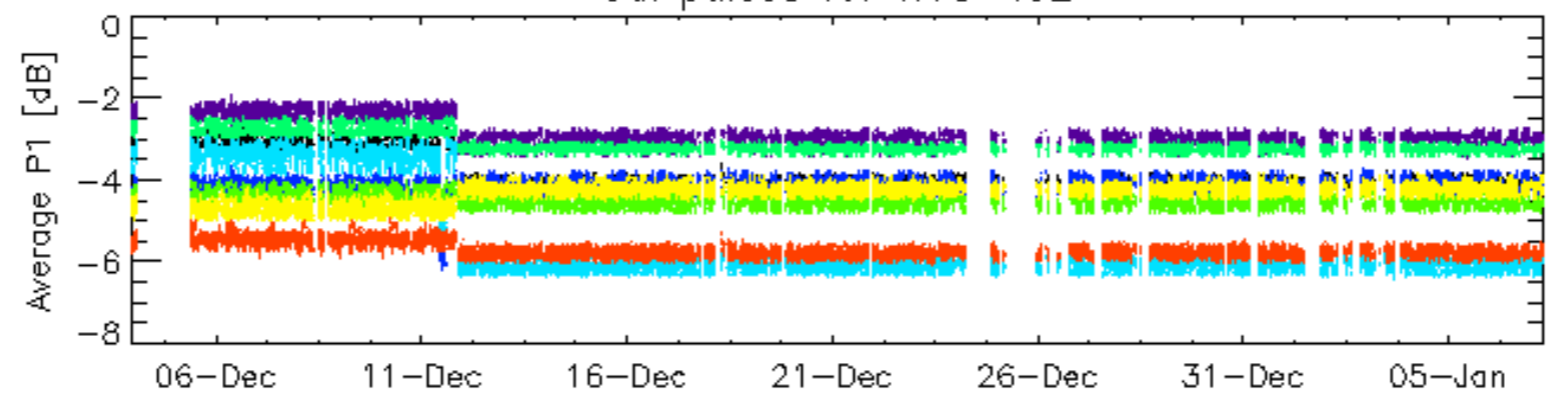


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

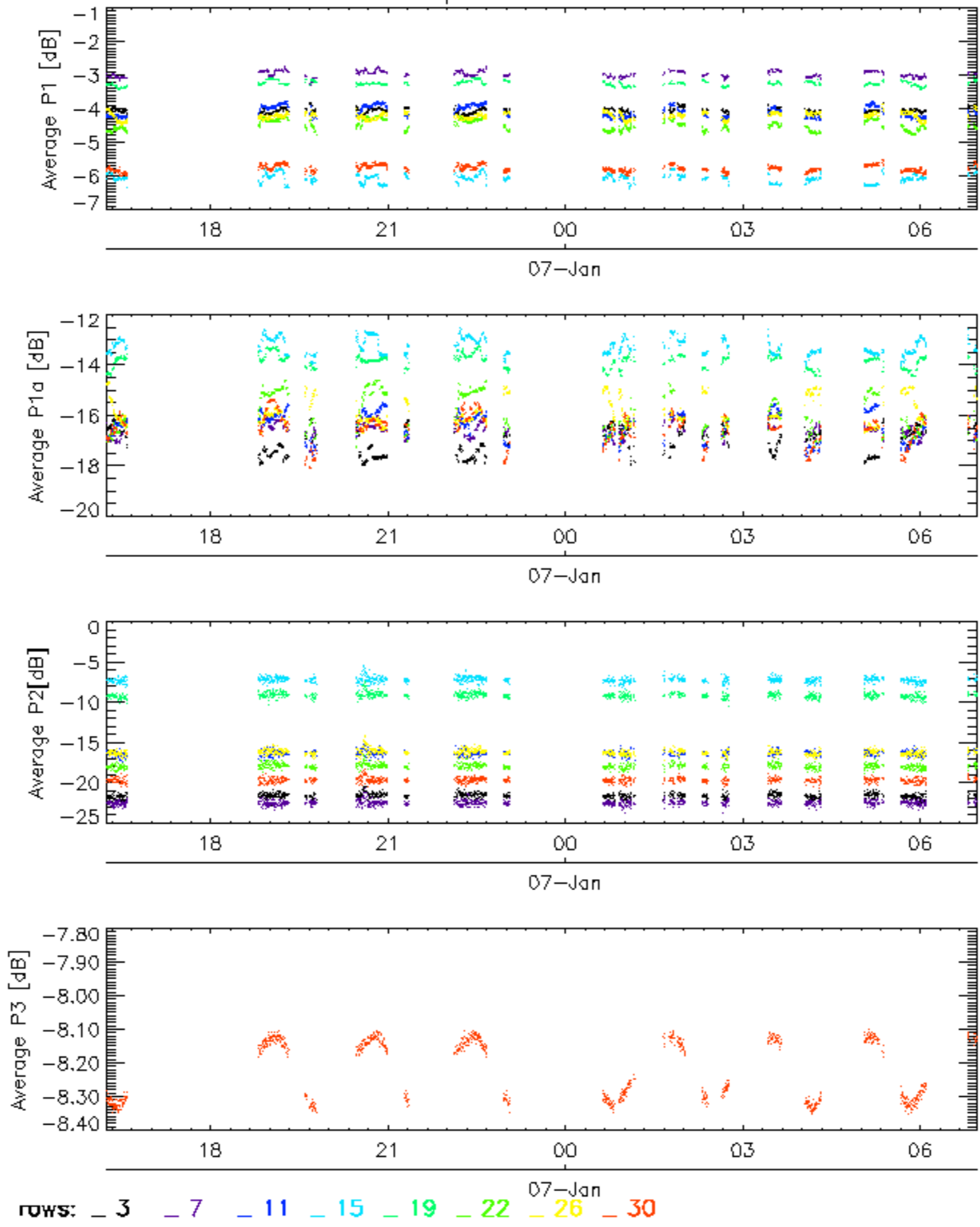


Cal pulses for WVS IS2



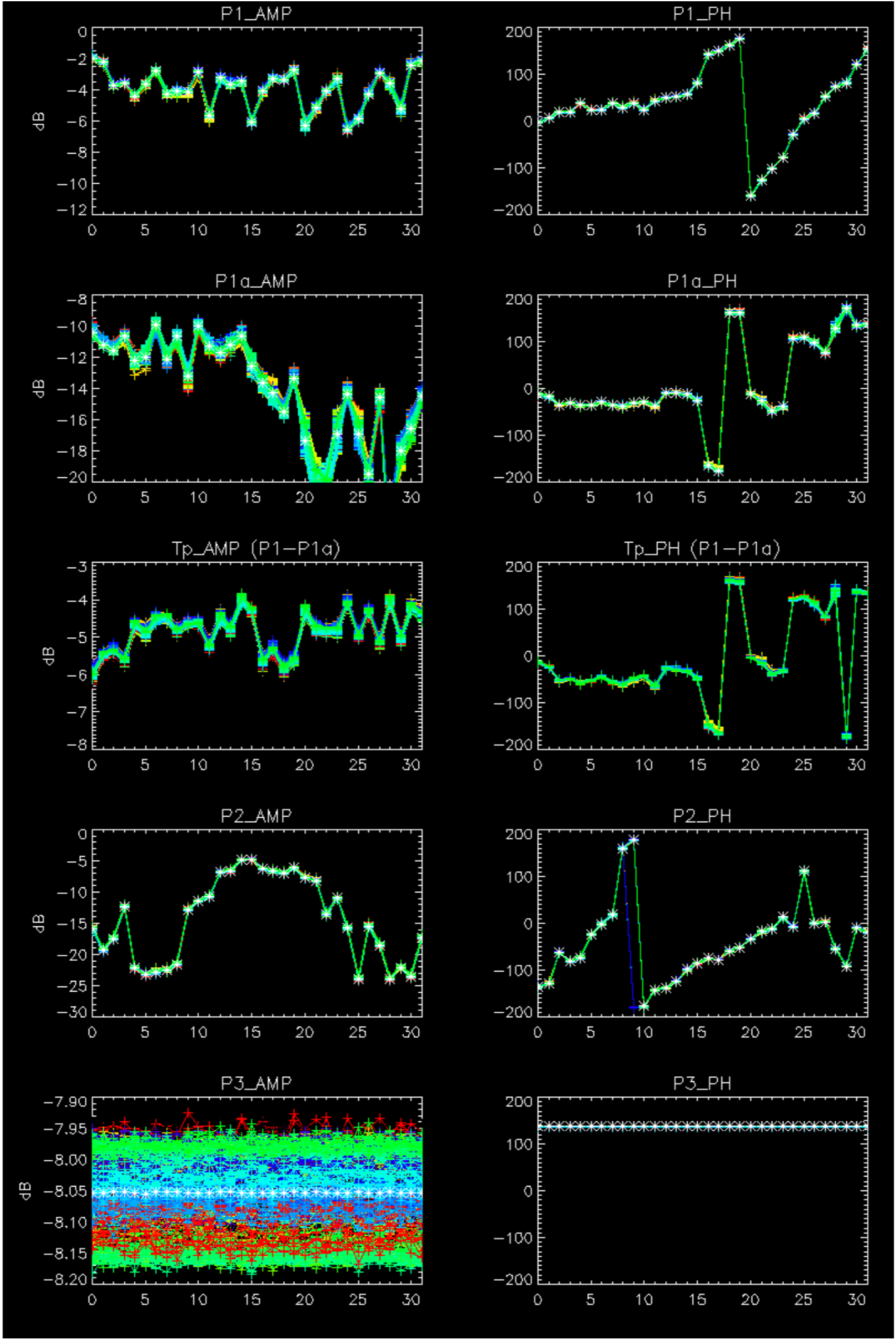
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

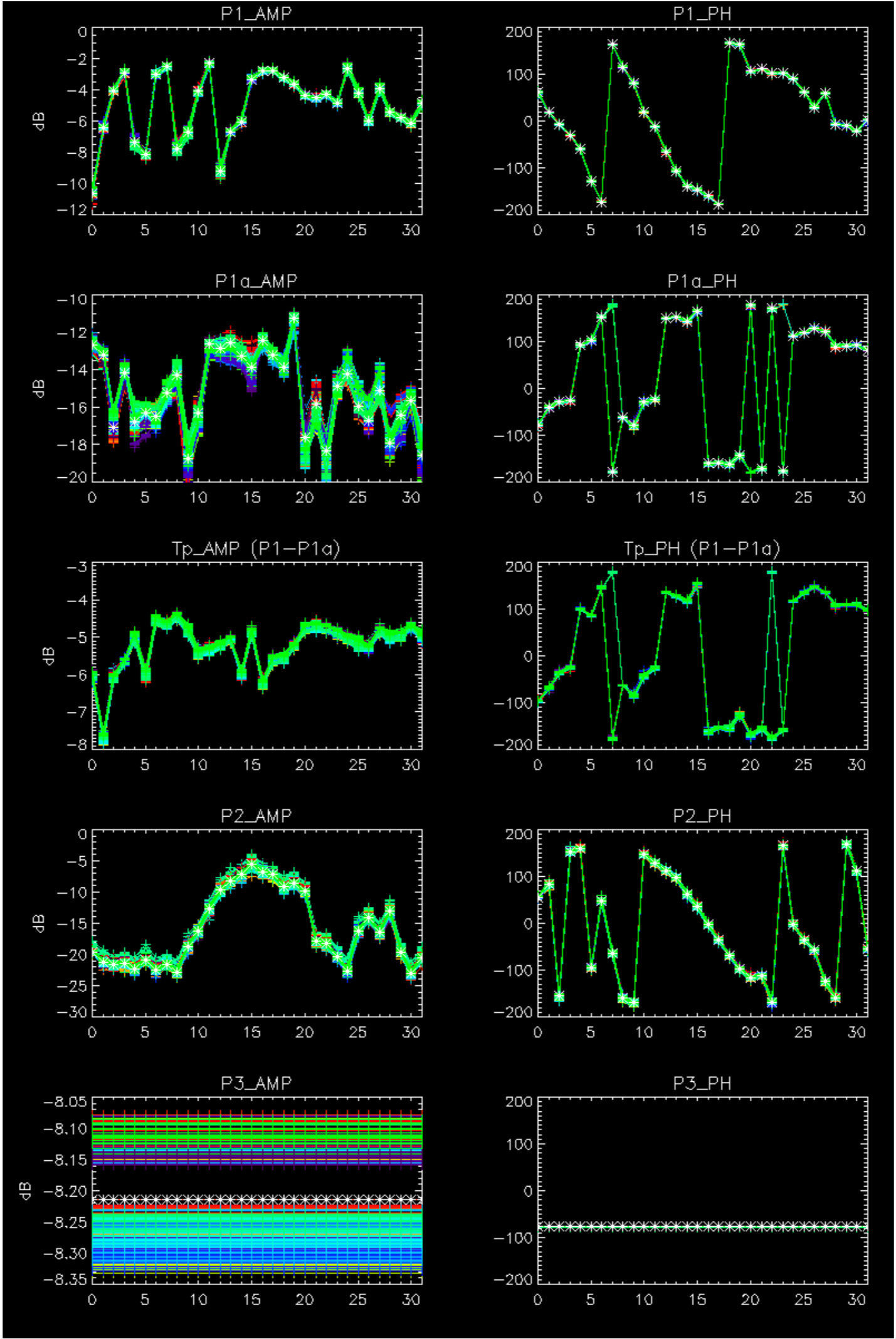
Cal pulses for WVS IS2



No anomalies observed.



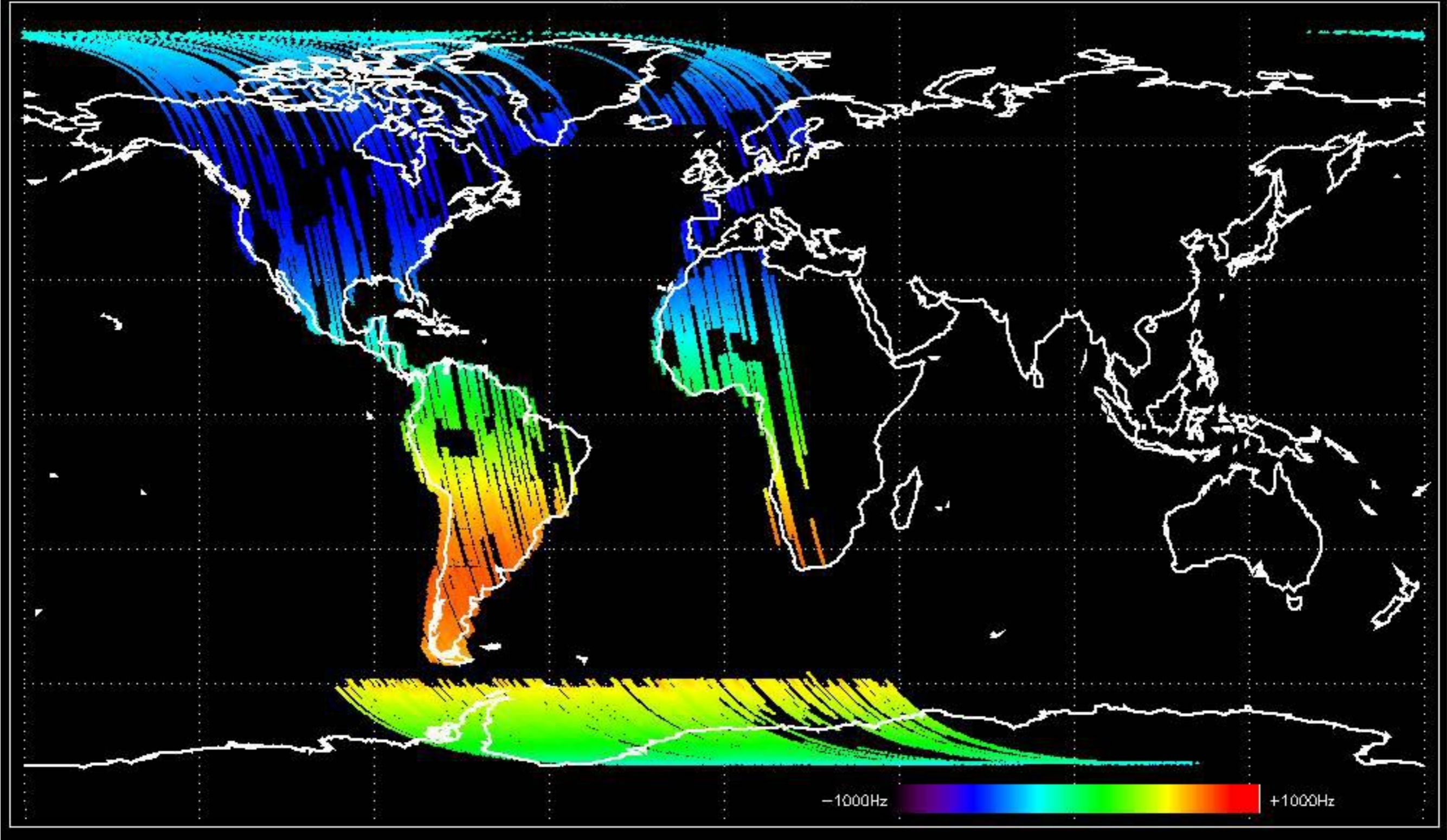




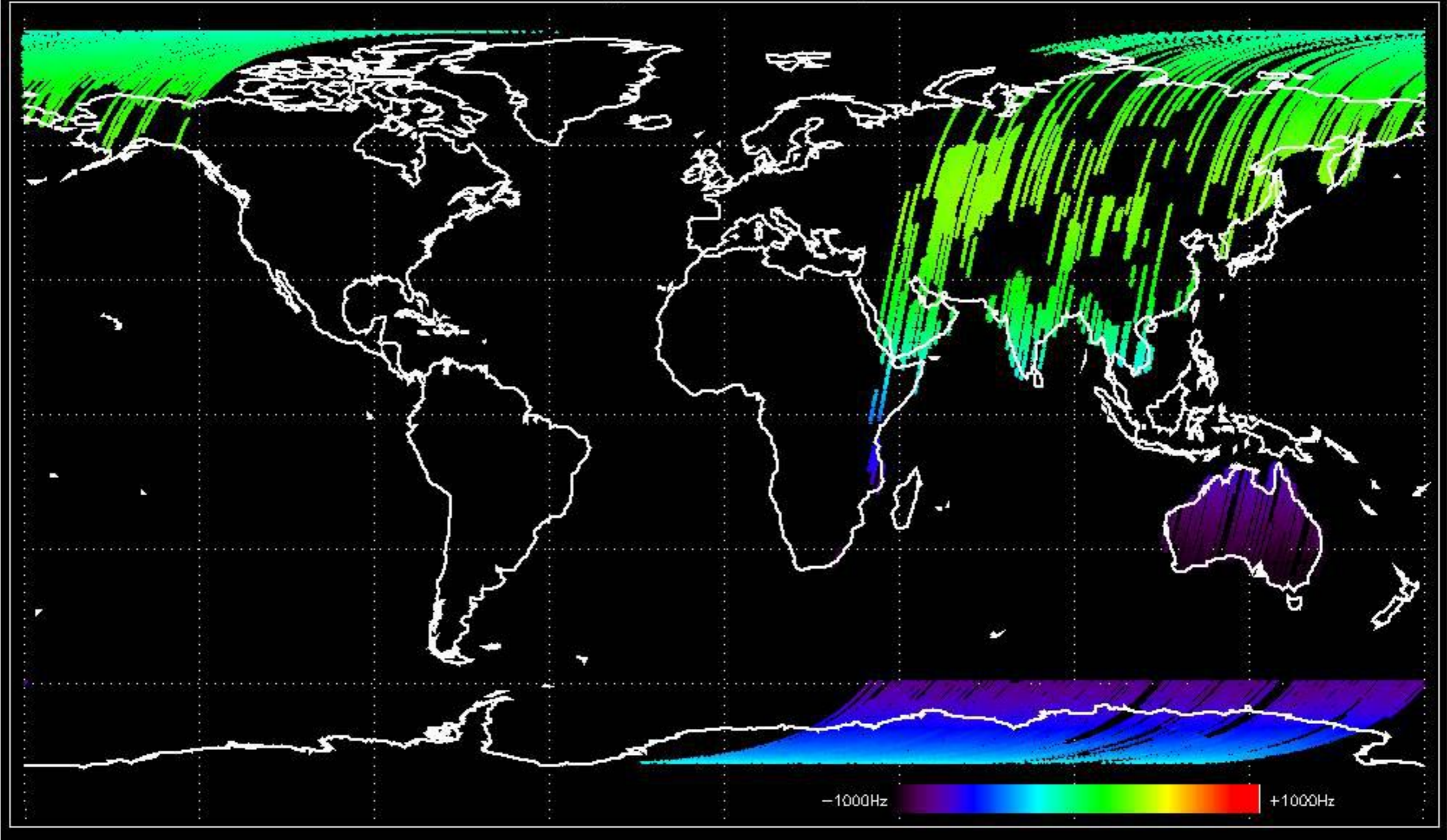
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



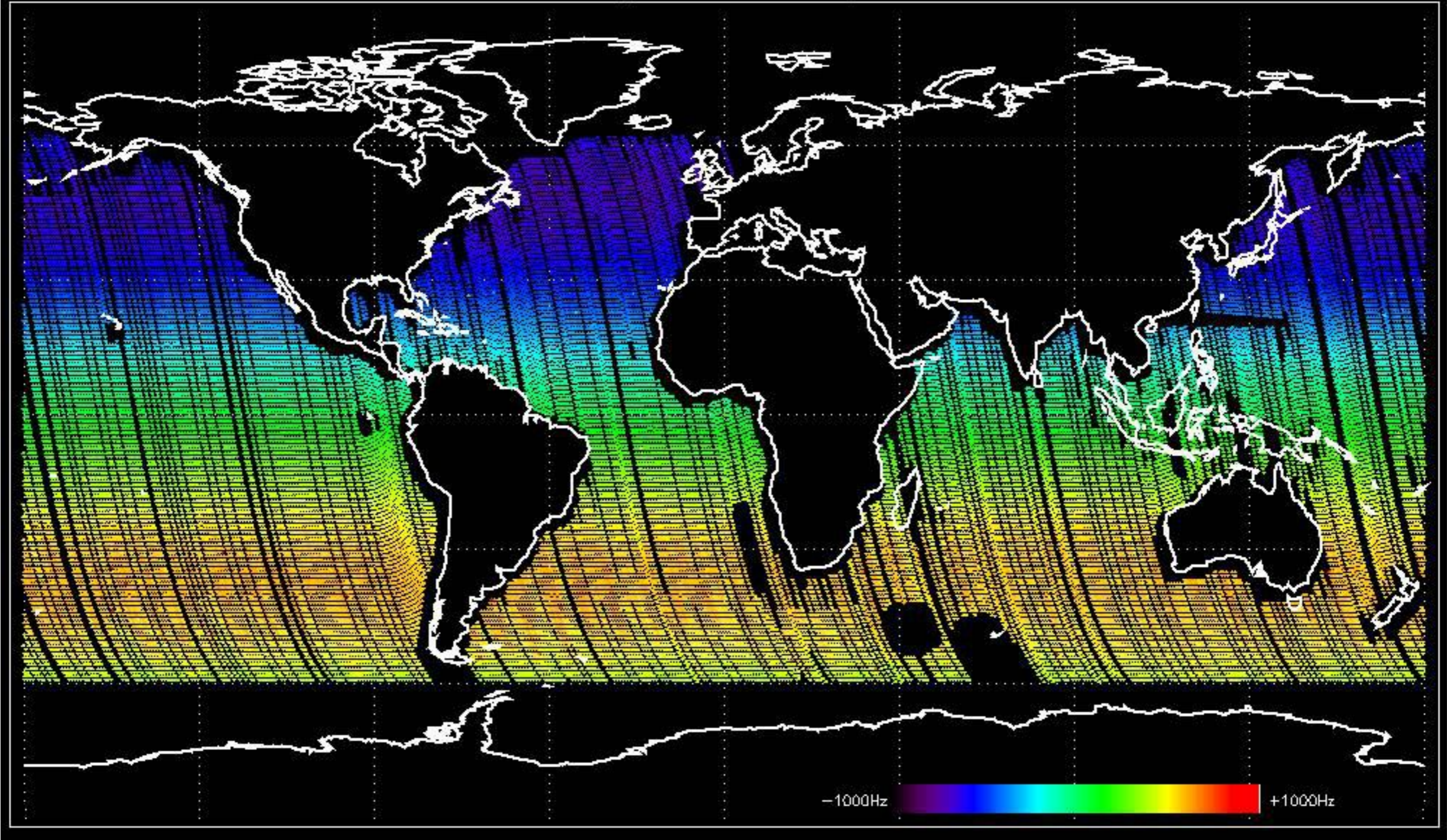
Doppler 'GM1' 'SS1' ascending



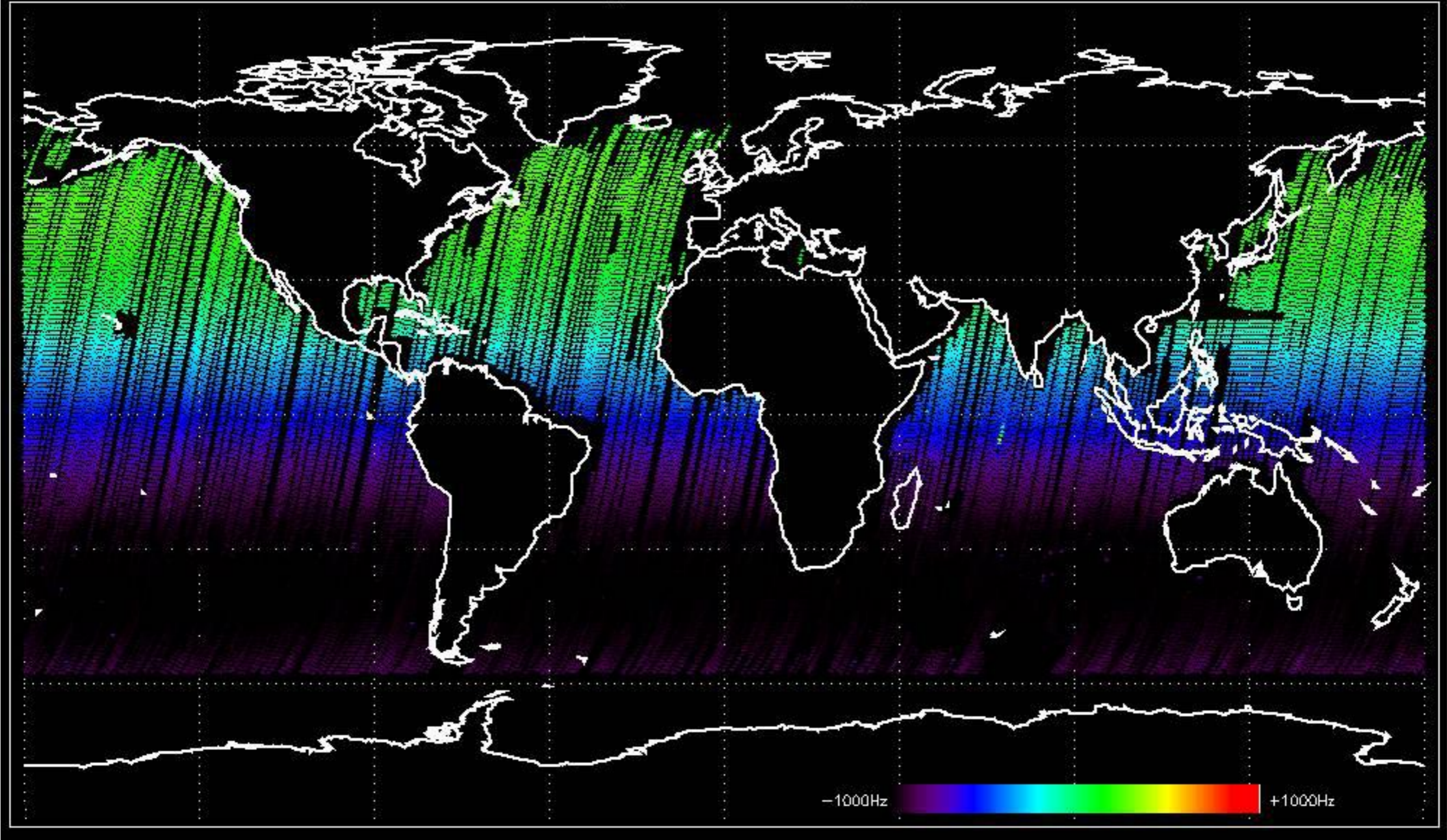
Doppler 'GM1' 'SS1' descending



Doppler 'WVS' 'IS2' ascending

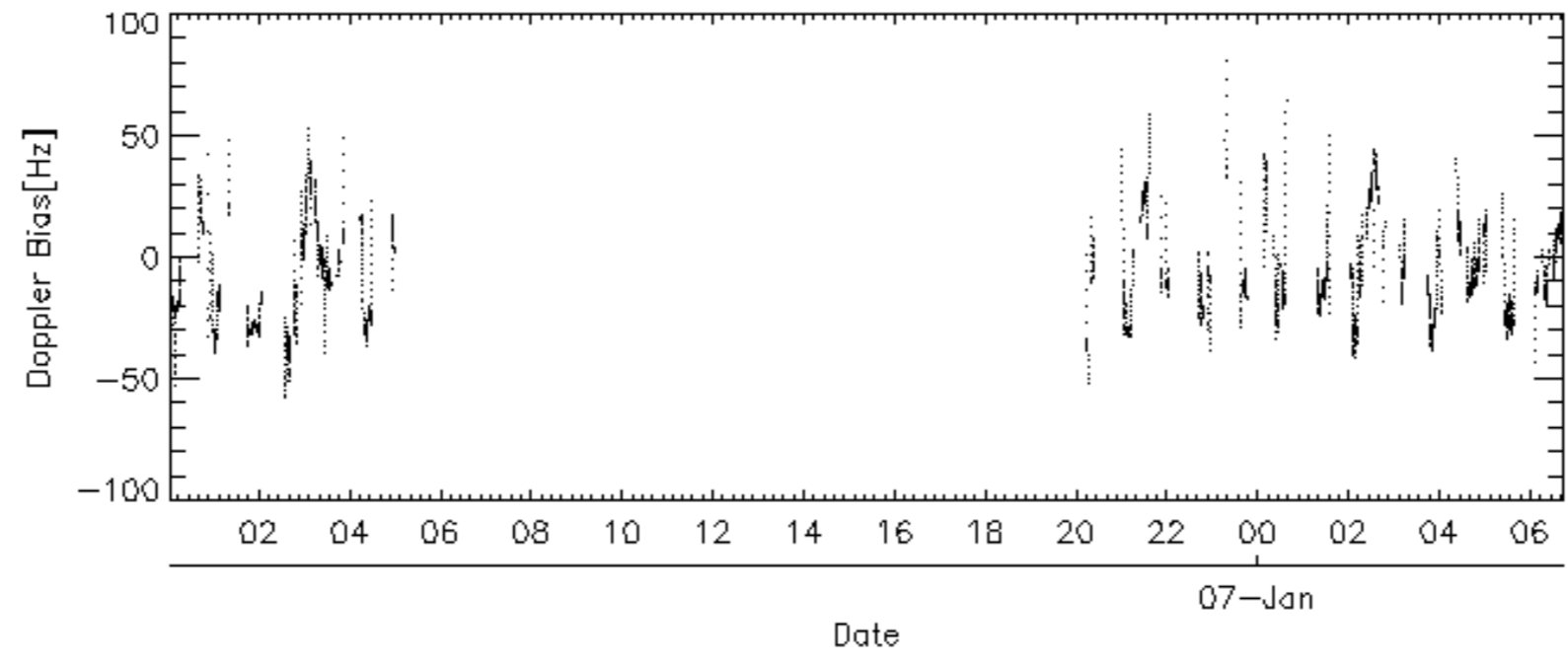
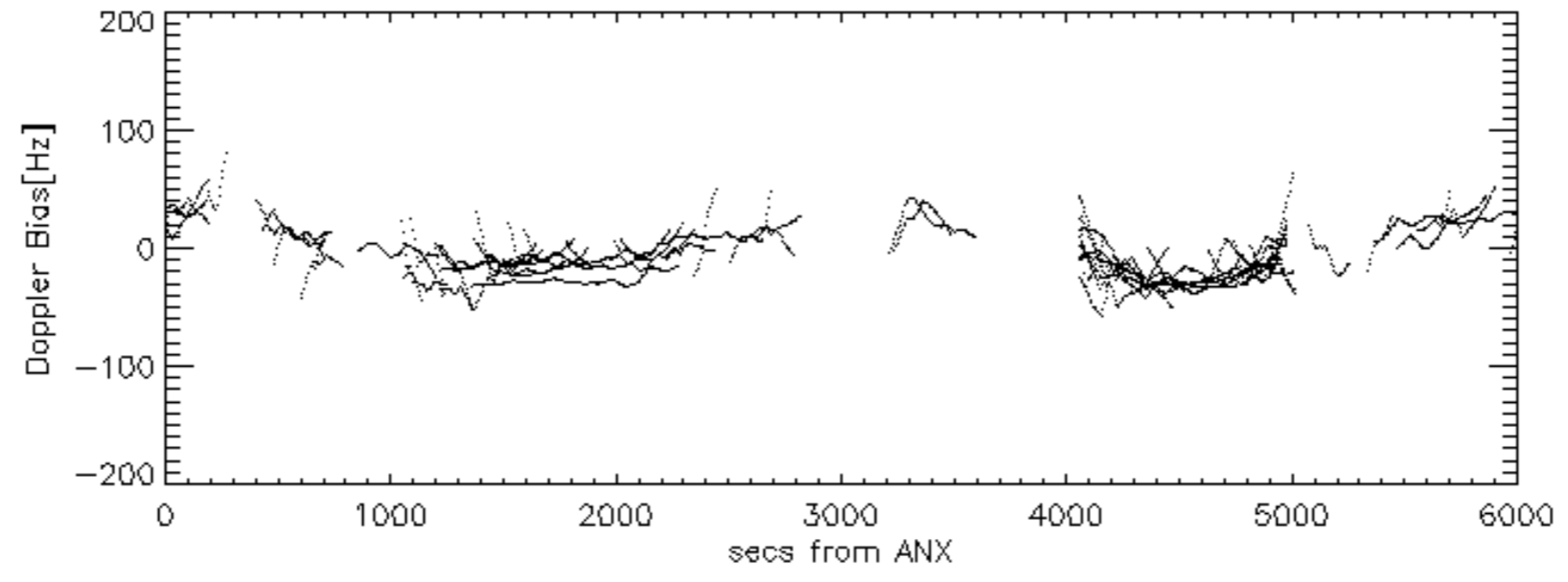
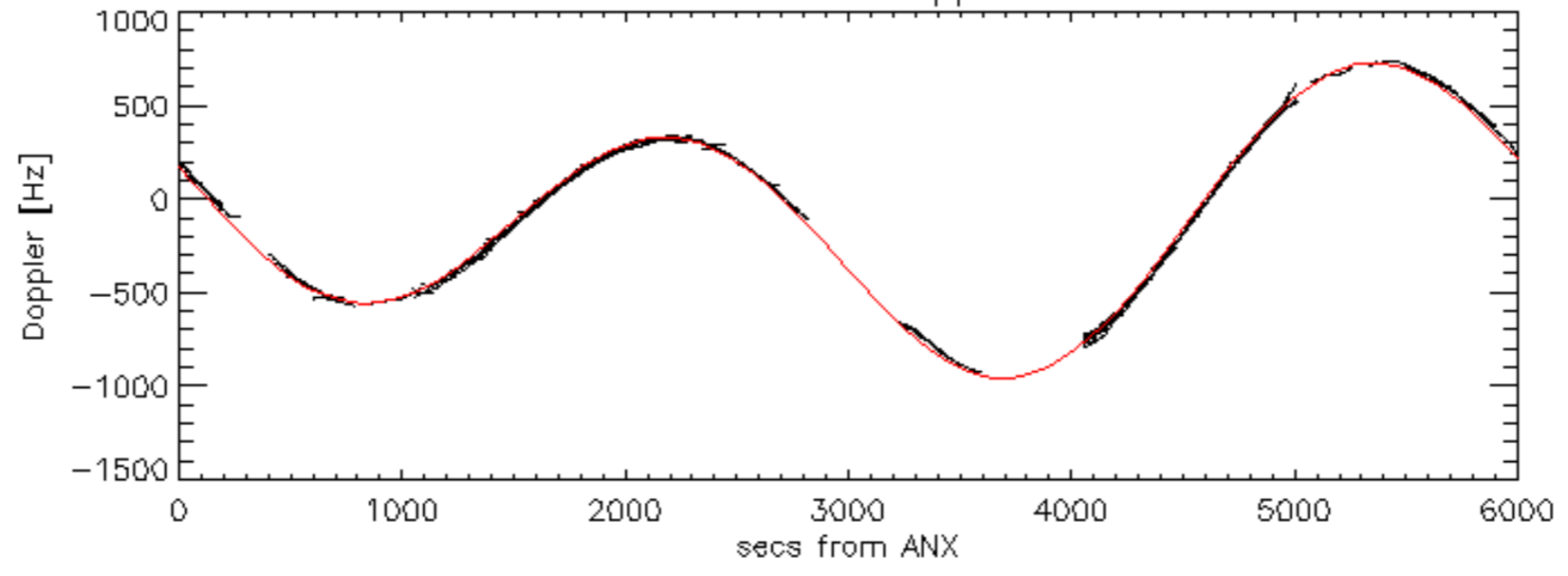


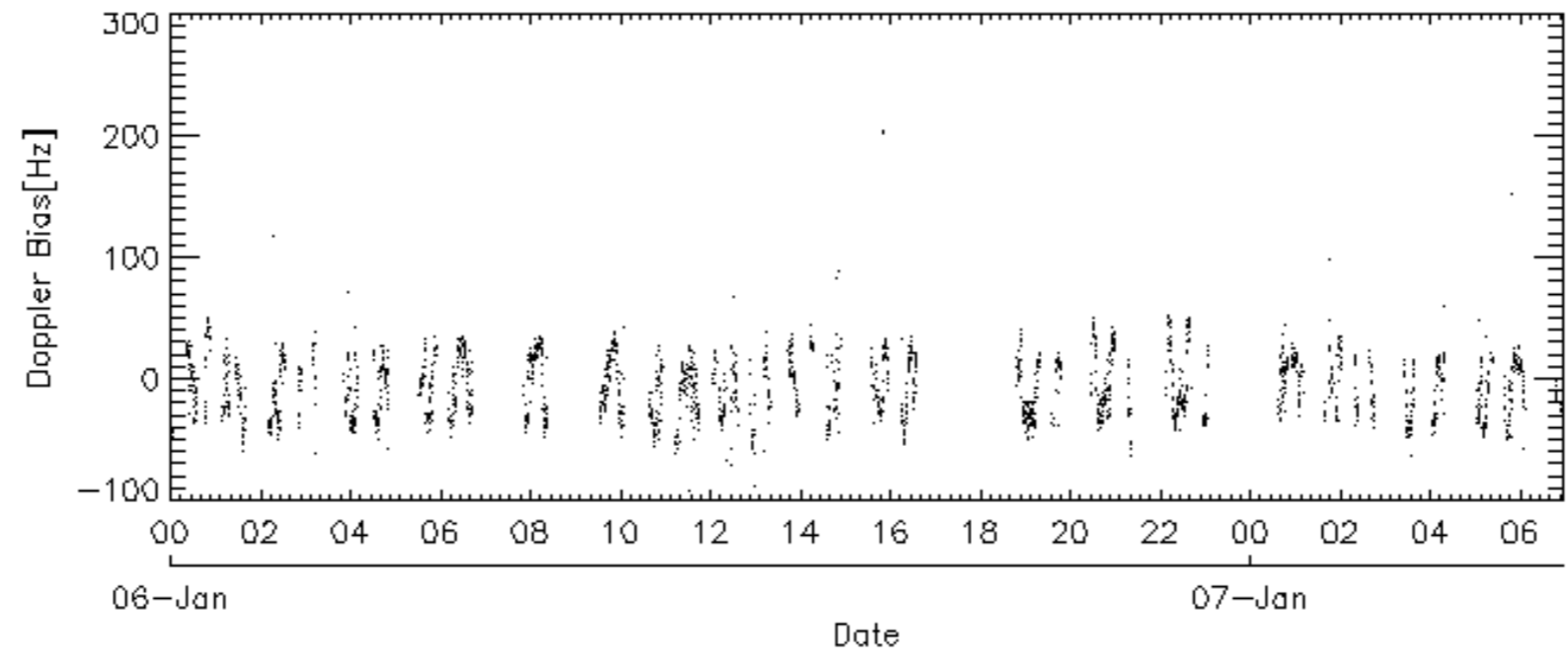
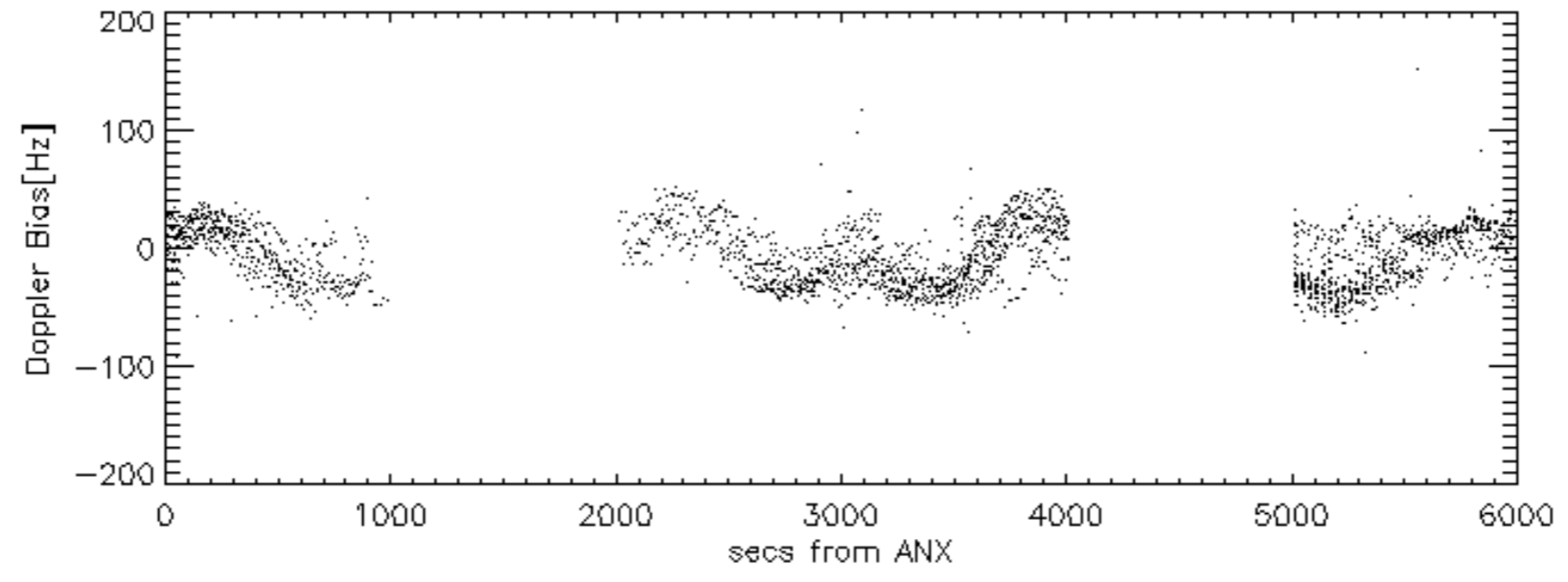
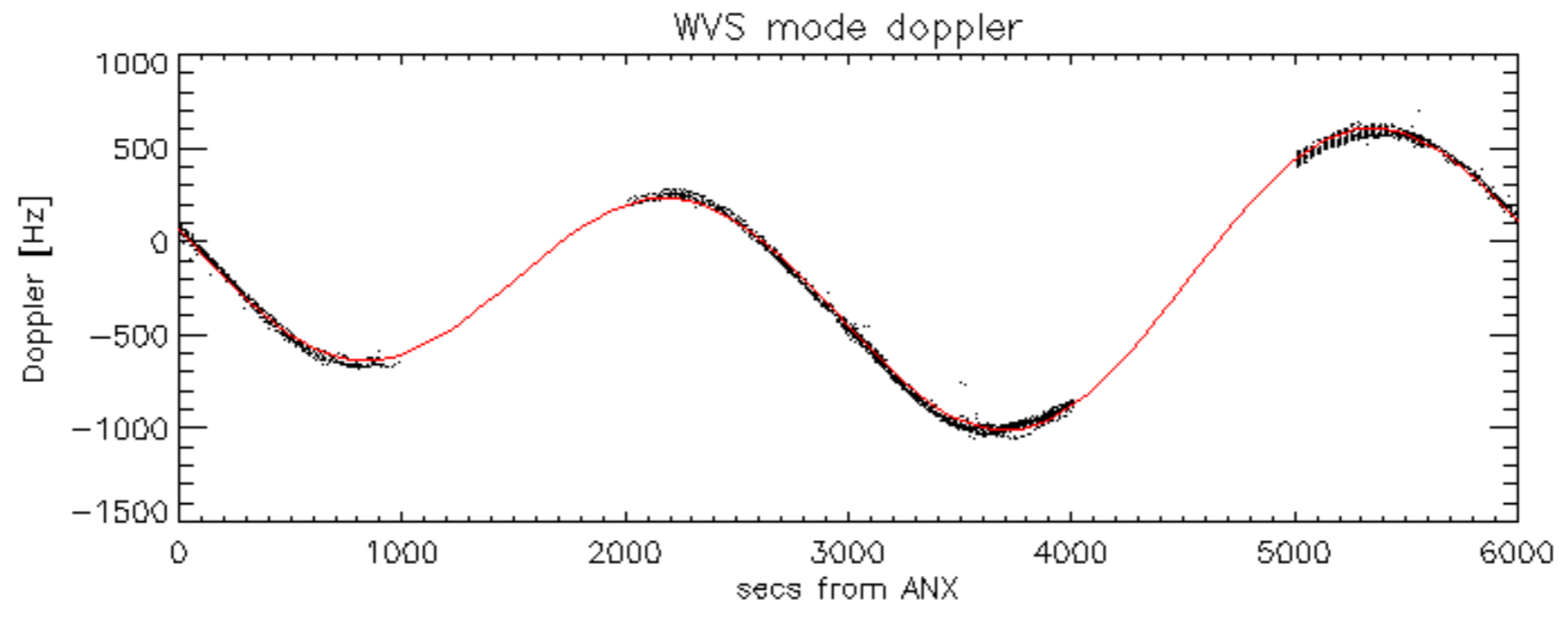
Doppler 'WVS' 'IS2' descending



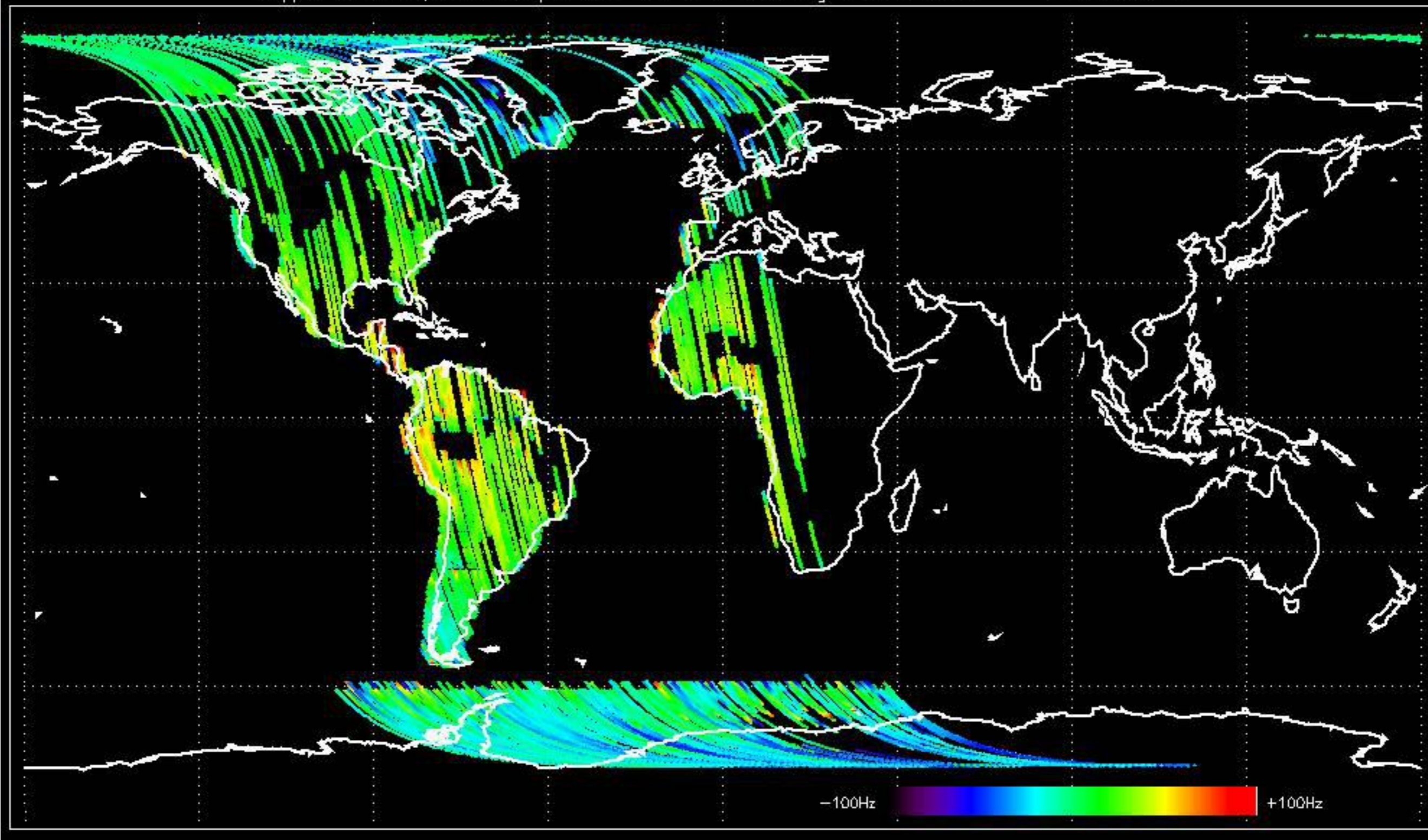


GM1 mode doppler

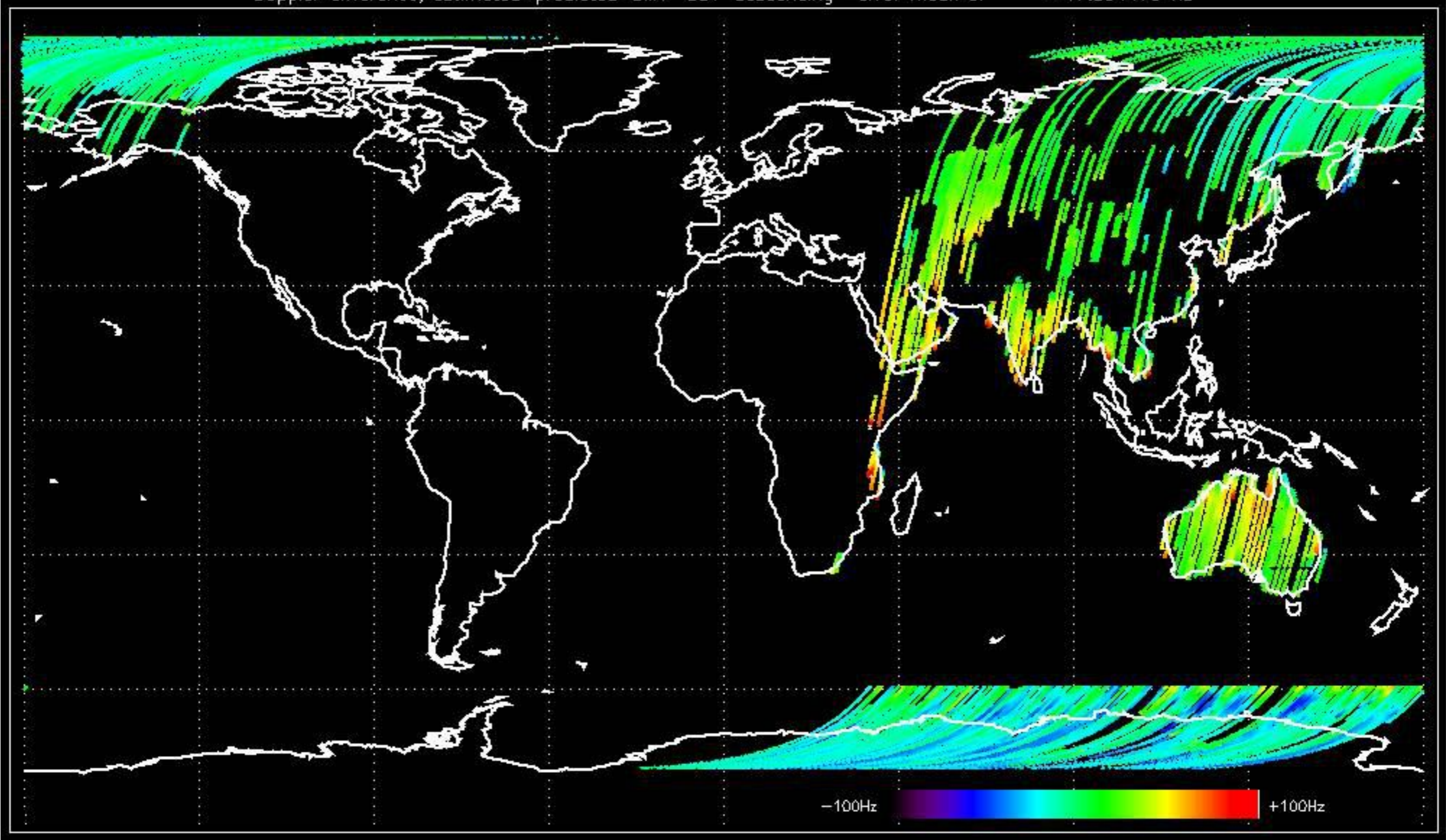




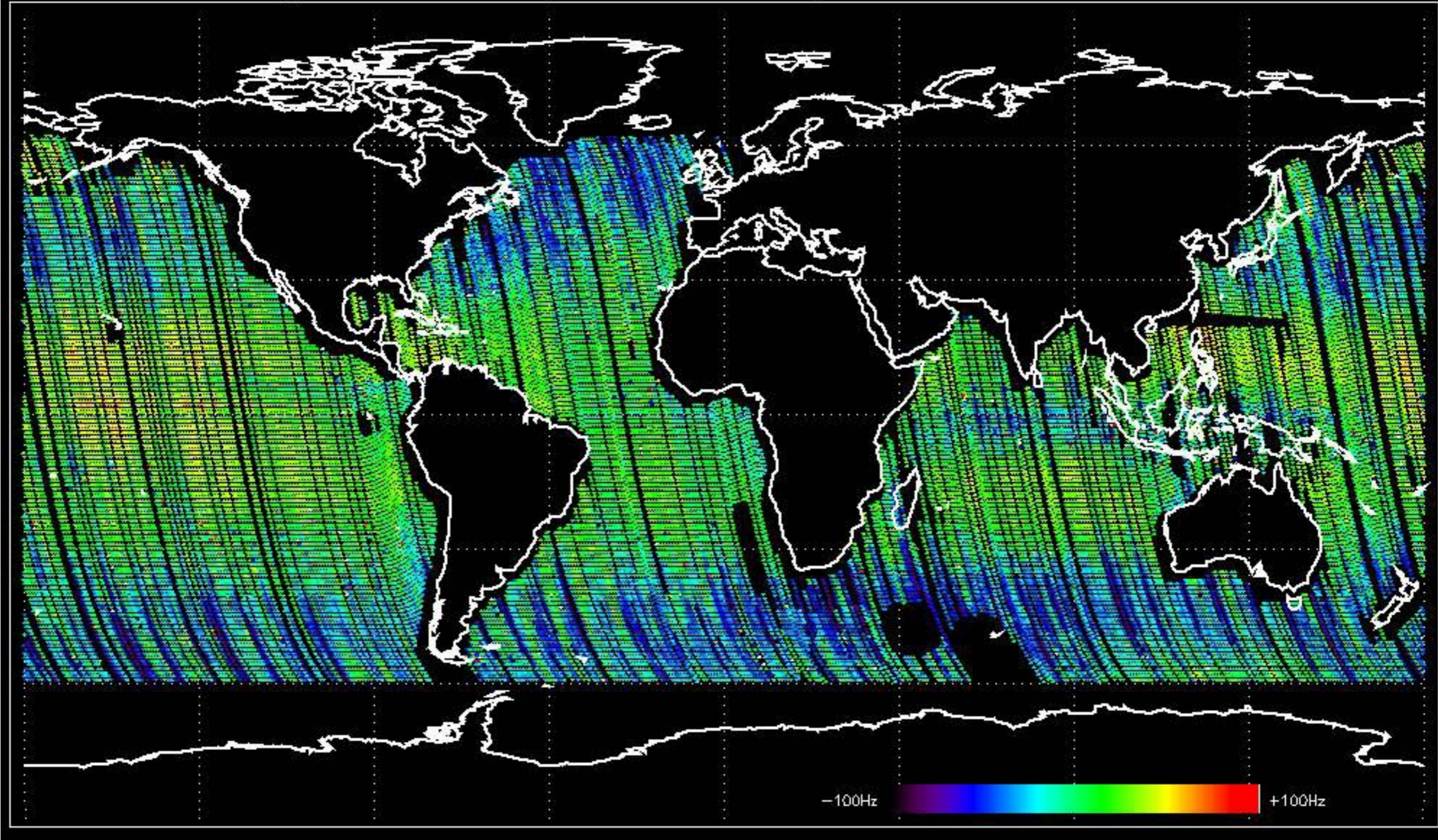
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -12.899149 Hz



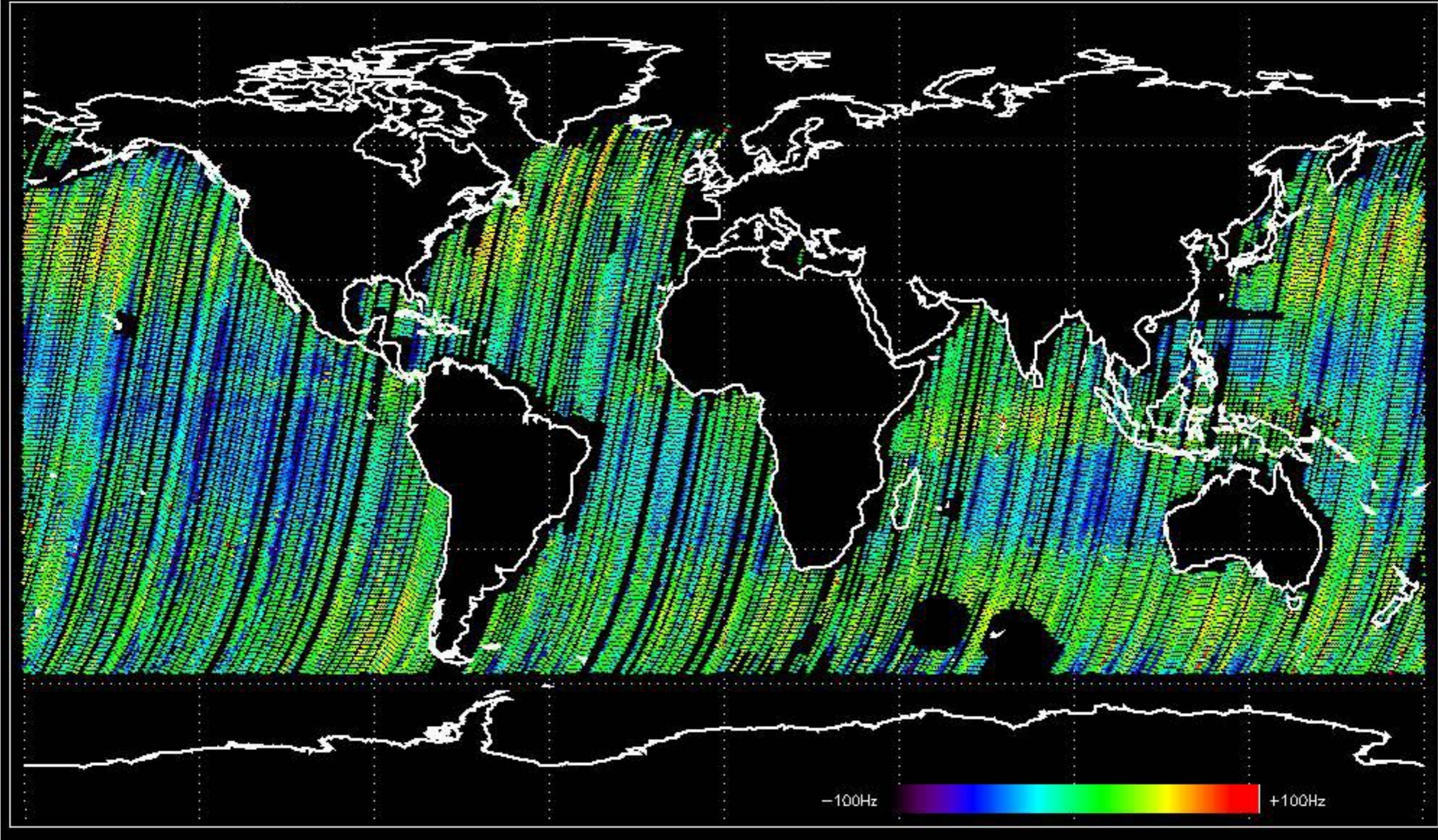
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -17.991473 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -9.1760557 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -11.765712 Hz



No anomalies observed on available MS products:

No anomalies observed.



















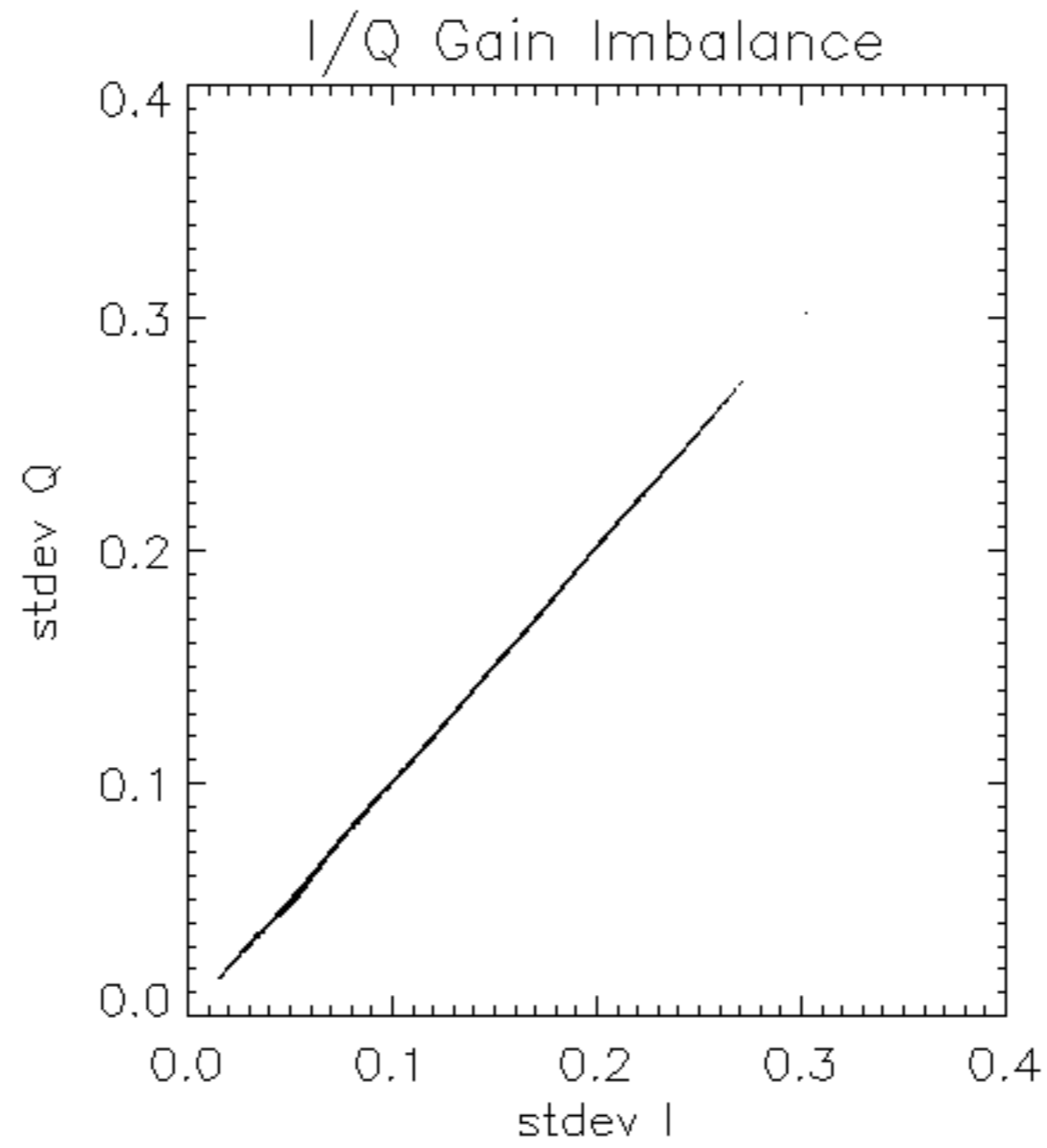


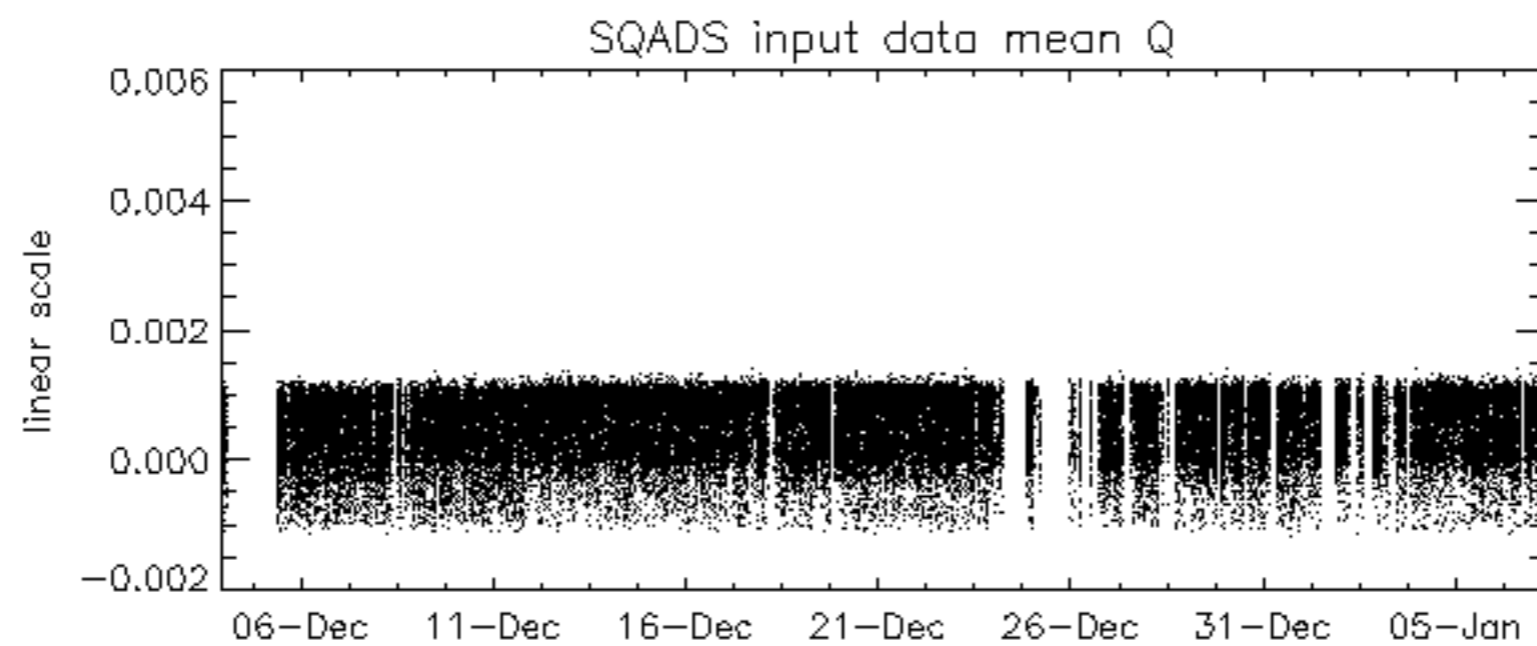
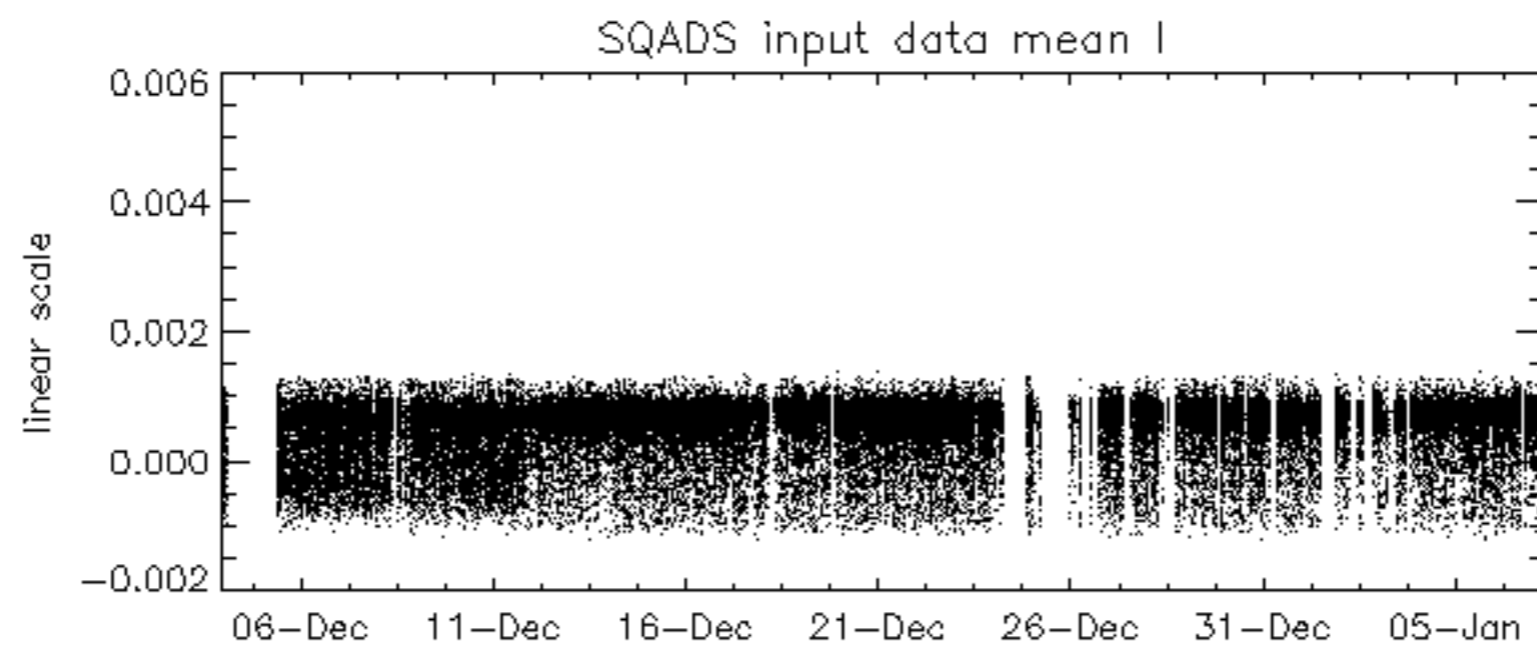
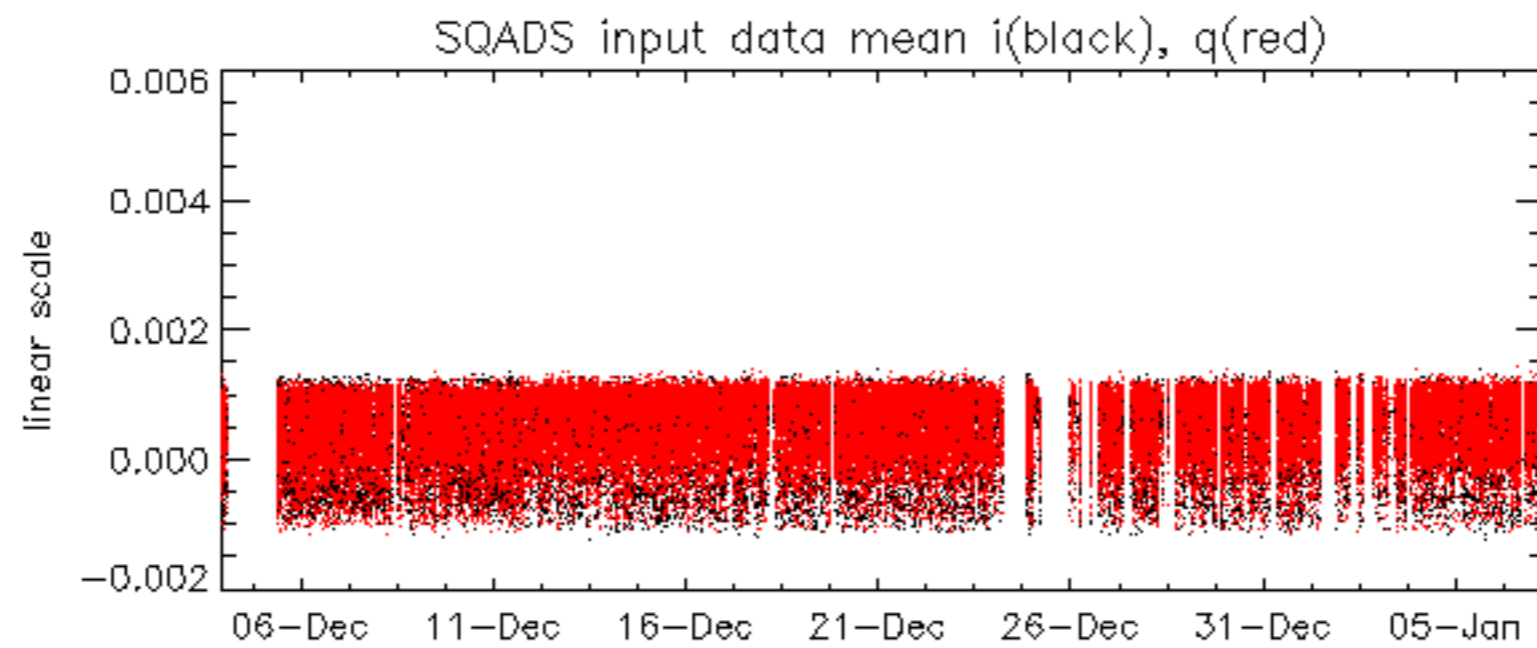


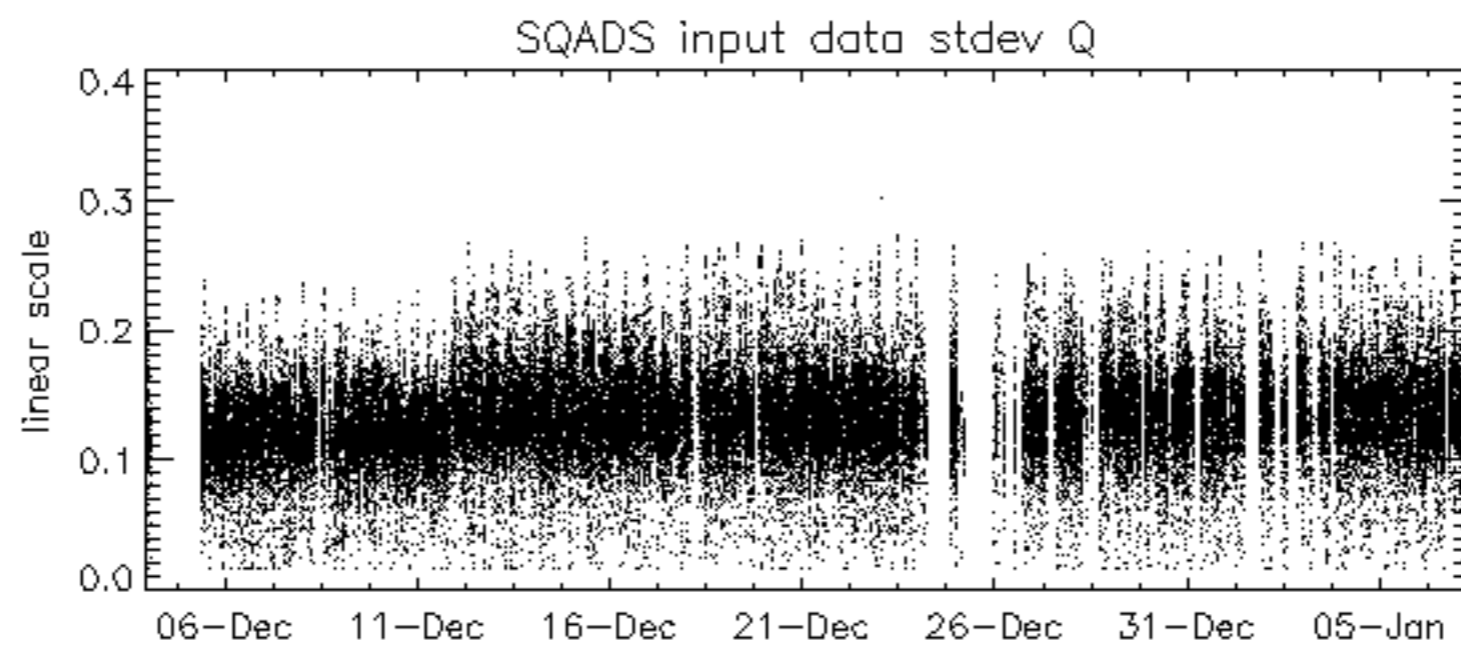
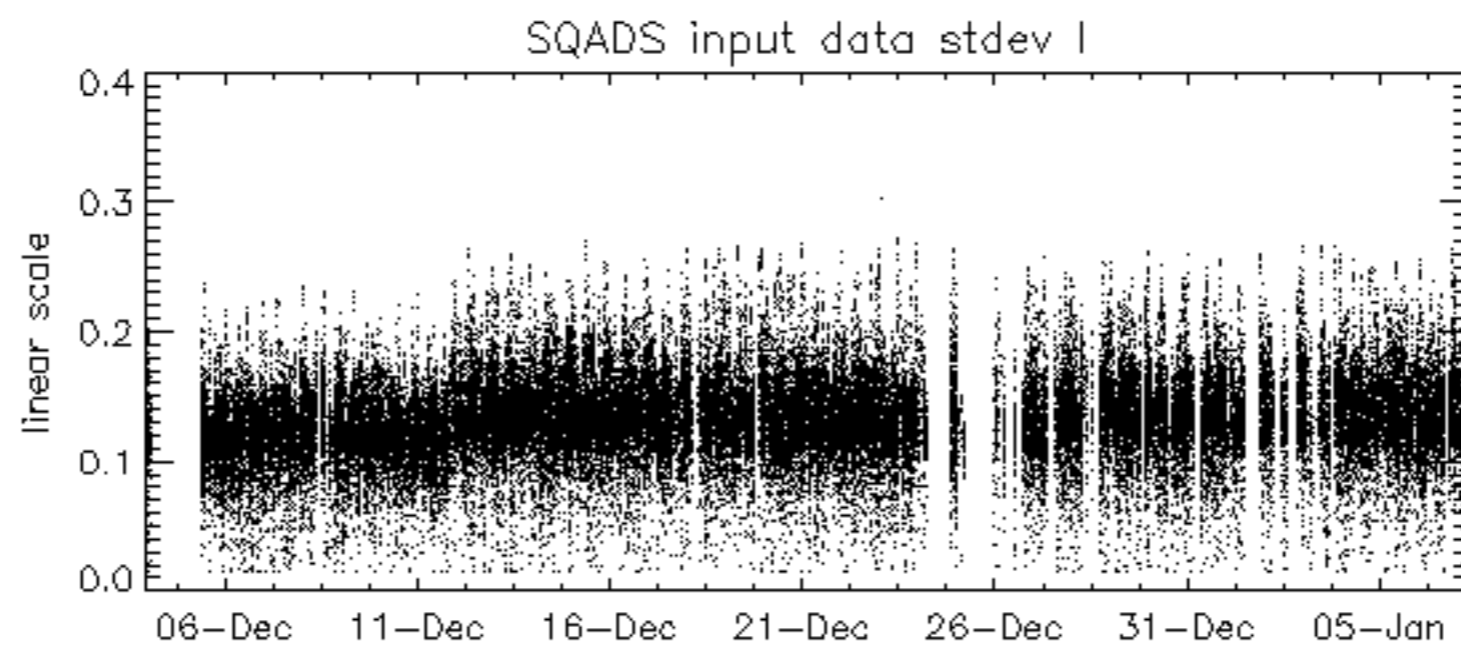
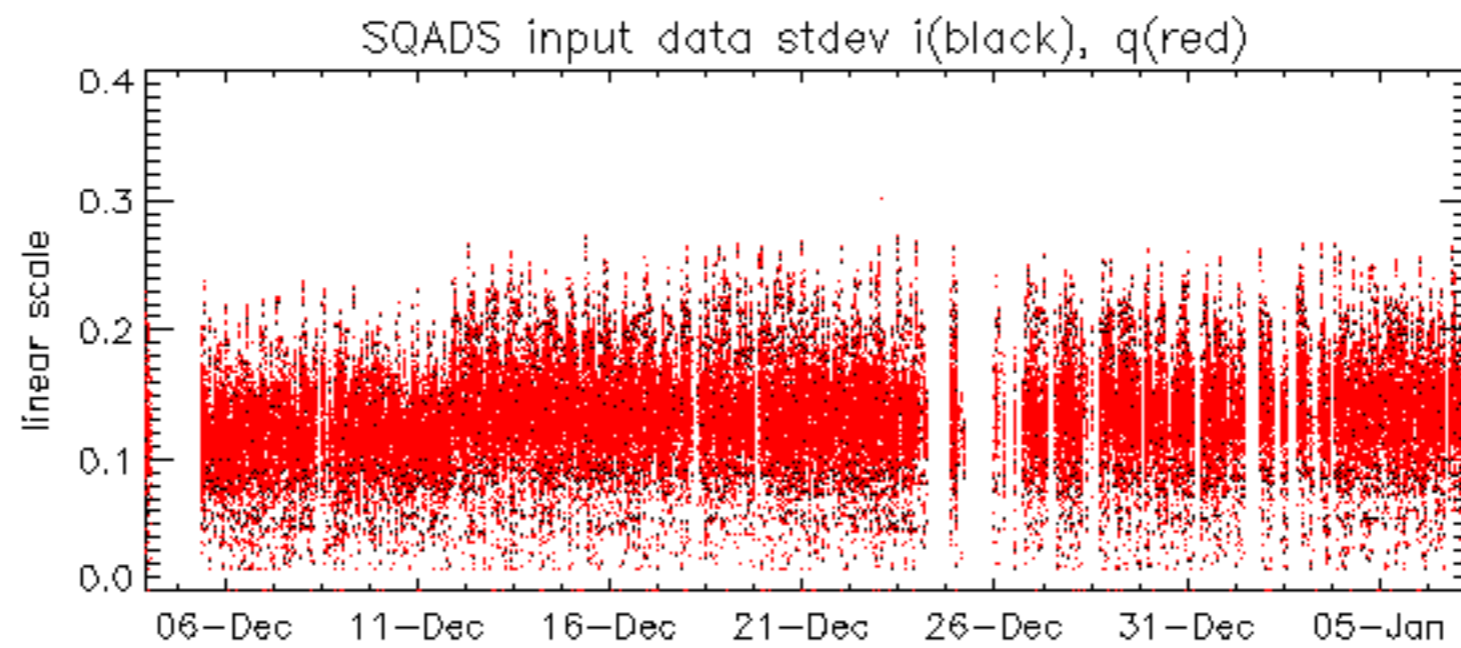


























Summary of analysis for the last 3 days 2006010[567]

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_1PNPDE20060106_054348_00000372044_00048_20142_5727.N1	1	0
ASA_IMM_1PNPDE20060107_005035_000002152044_00059_20153_5838.N1	1	0
ASA_WSM_1PNPDE20060105_010633_000002812044_00031_20125_7017.N1	0	44

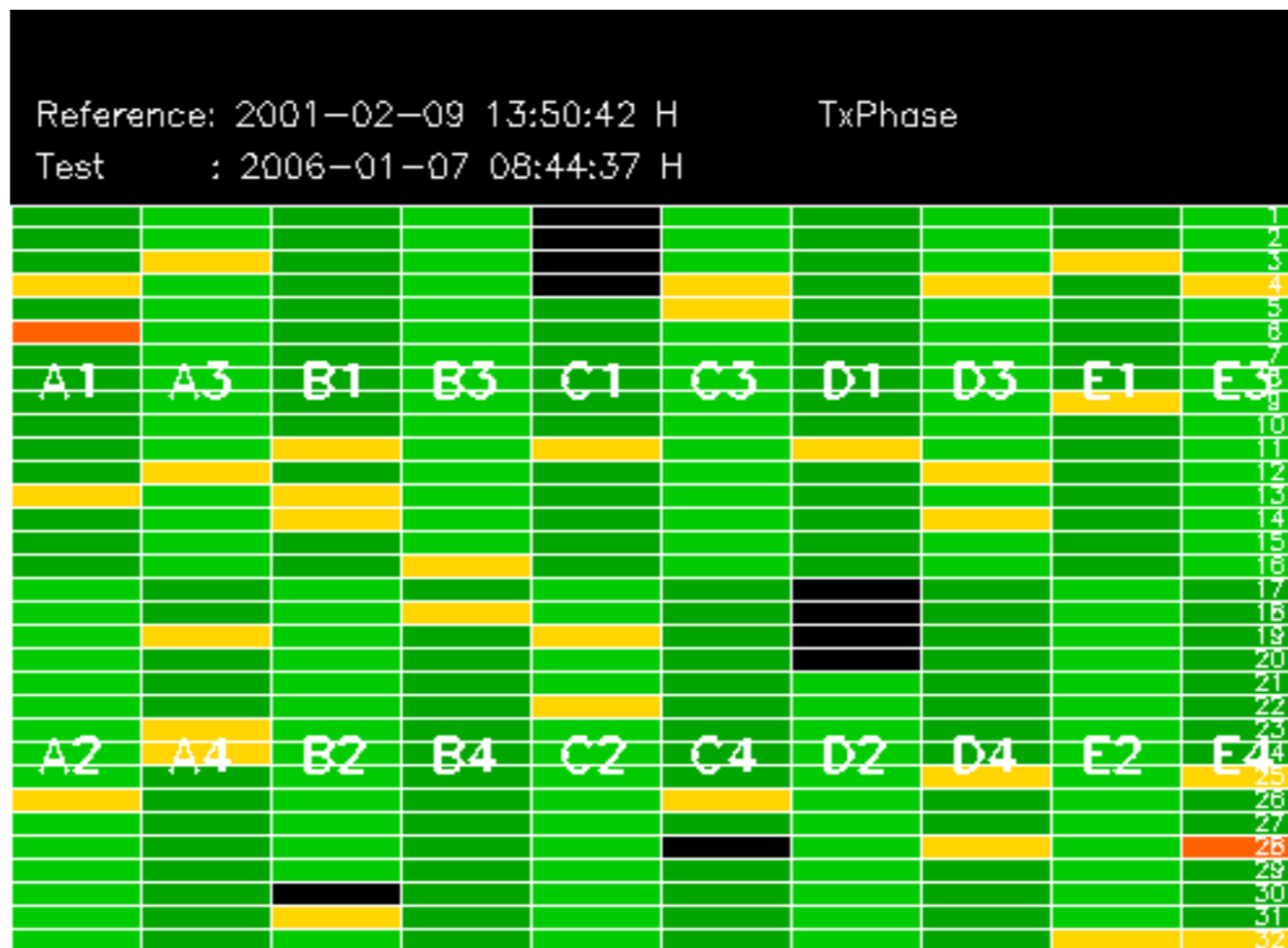










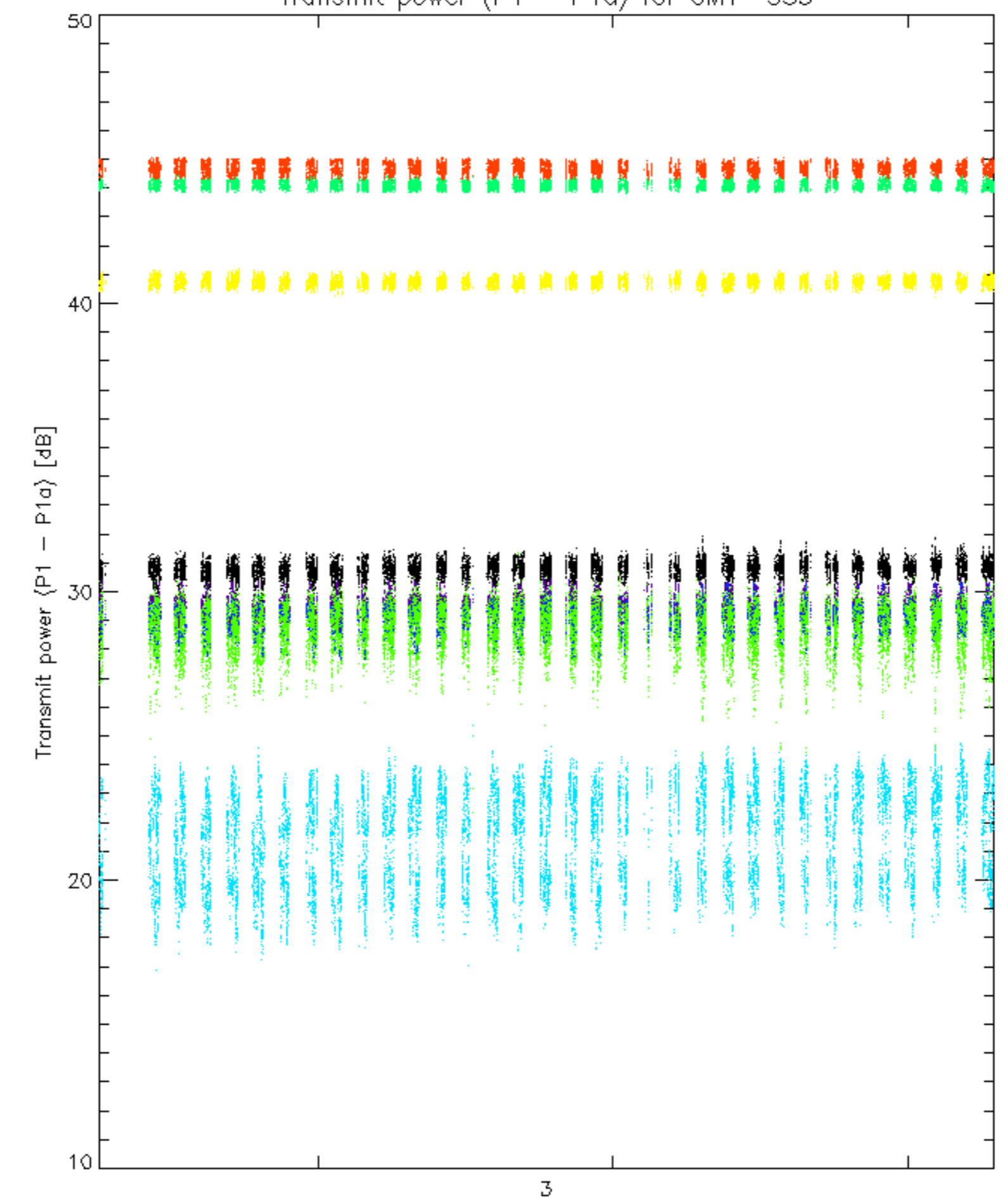




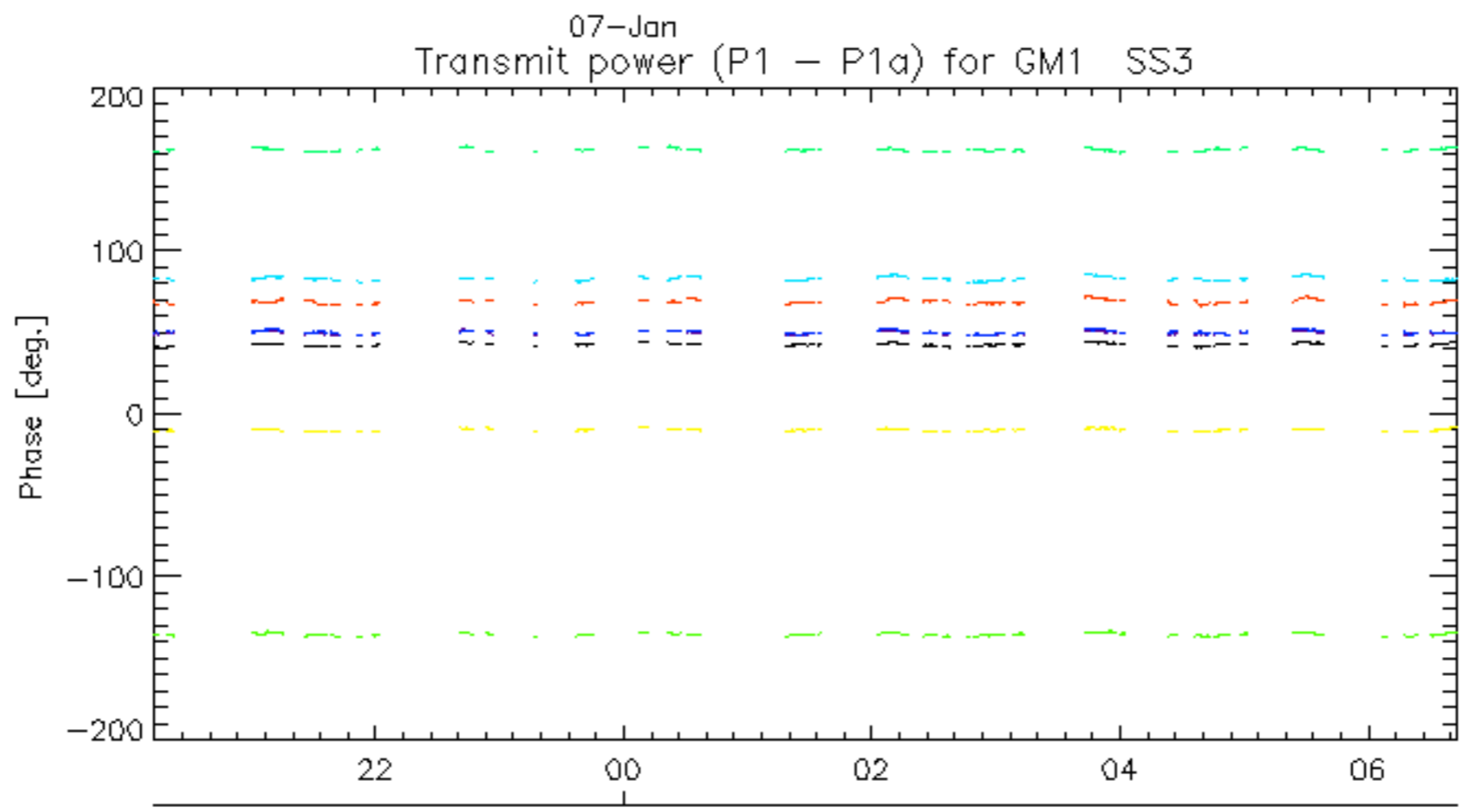
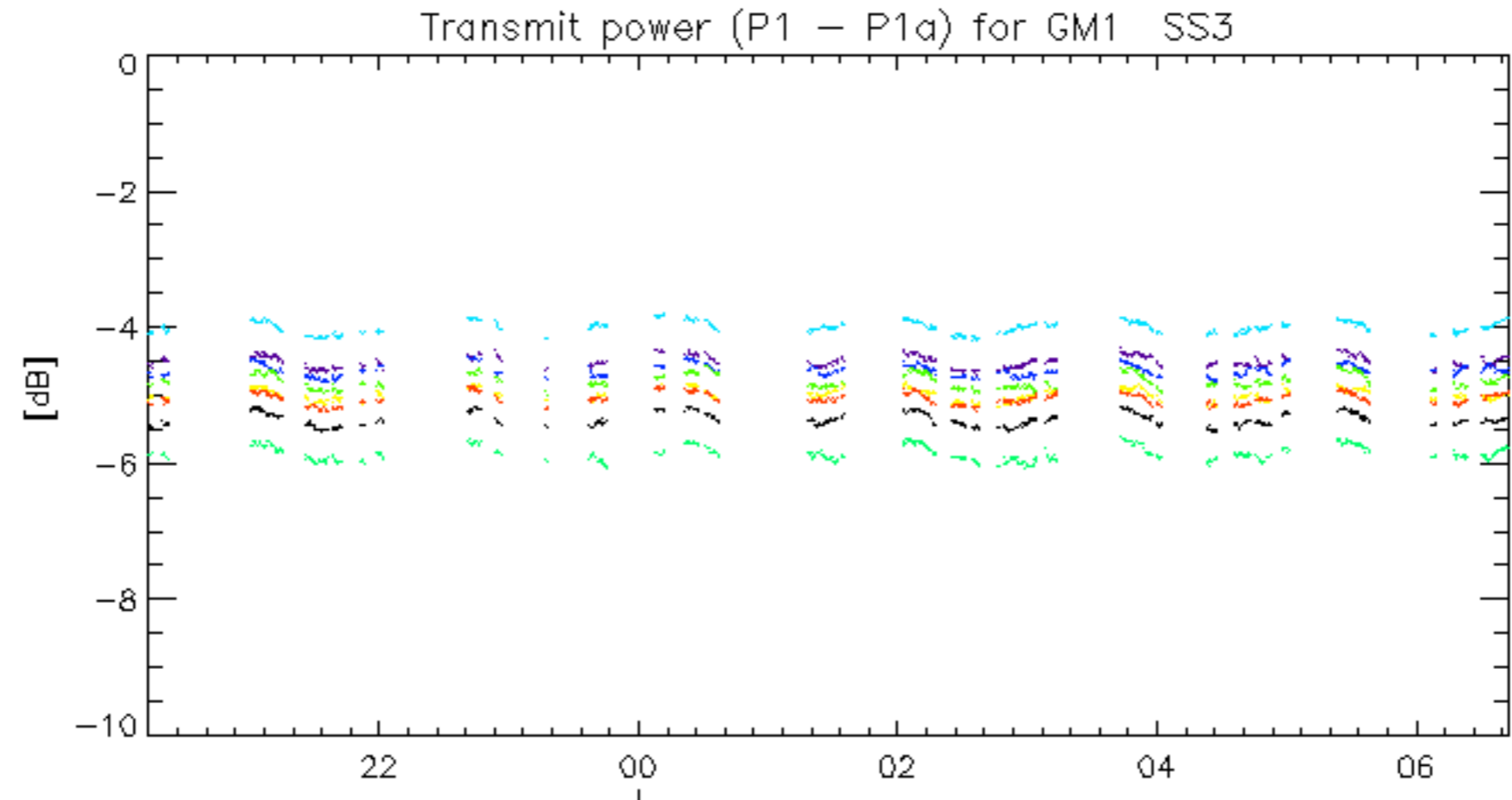




Transmit power (P1 - P1a) for GM1 SS3

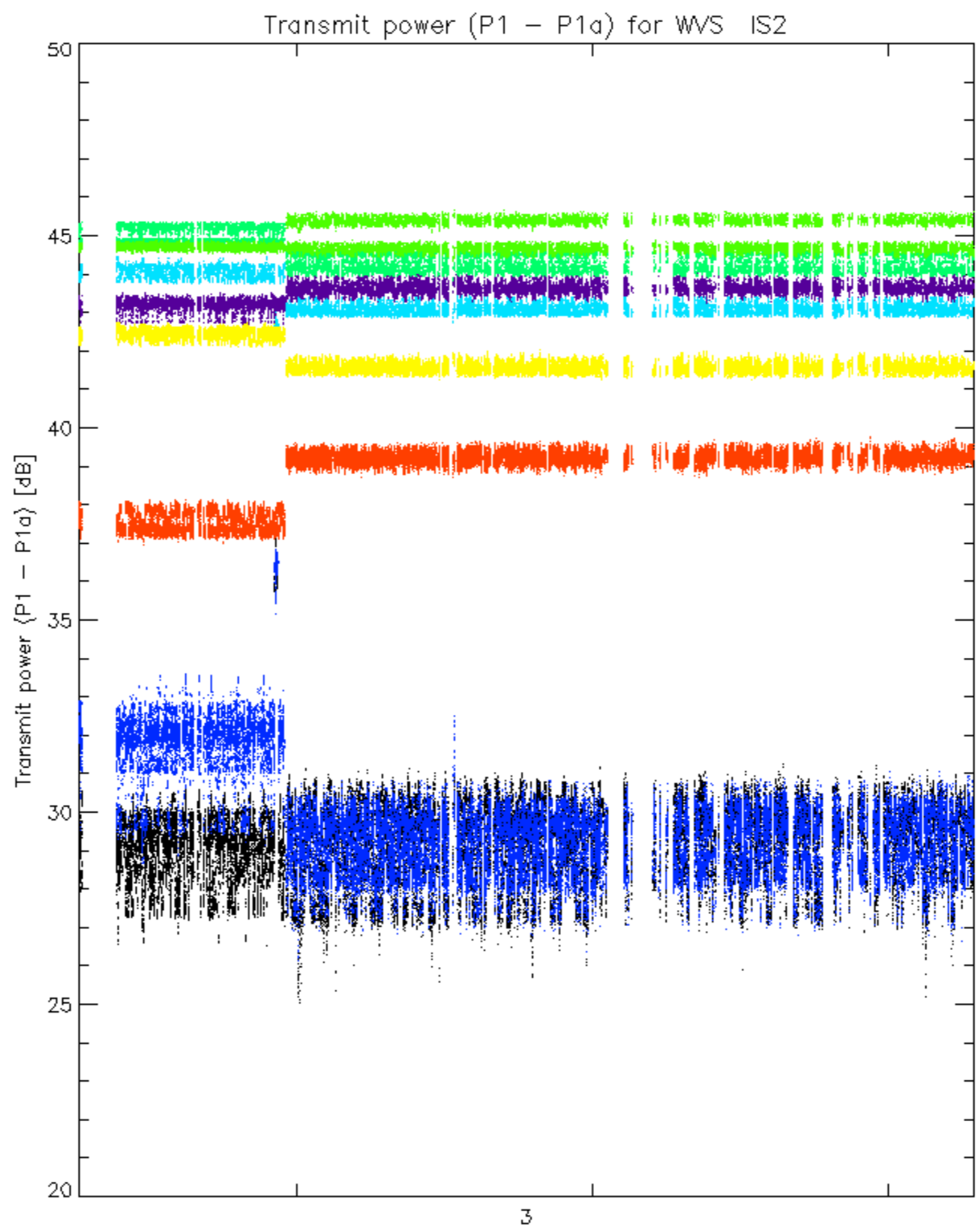


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

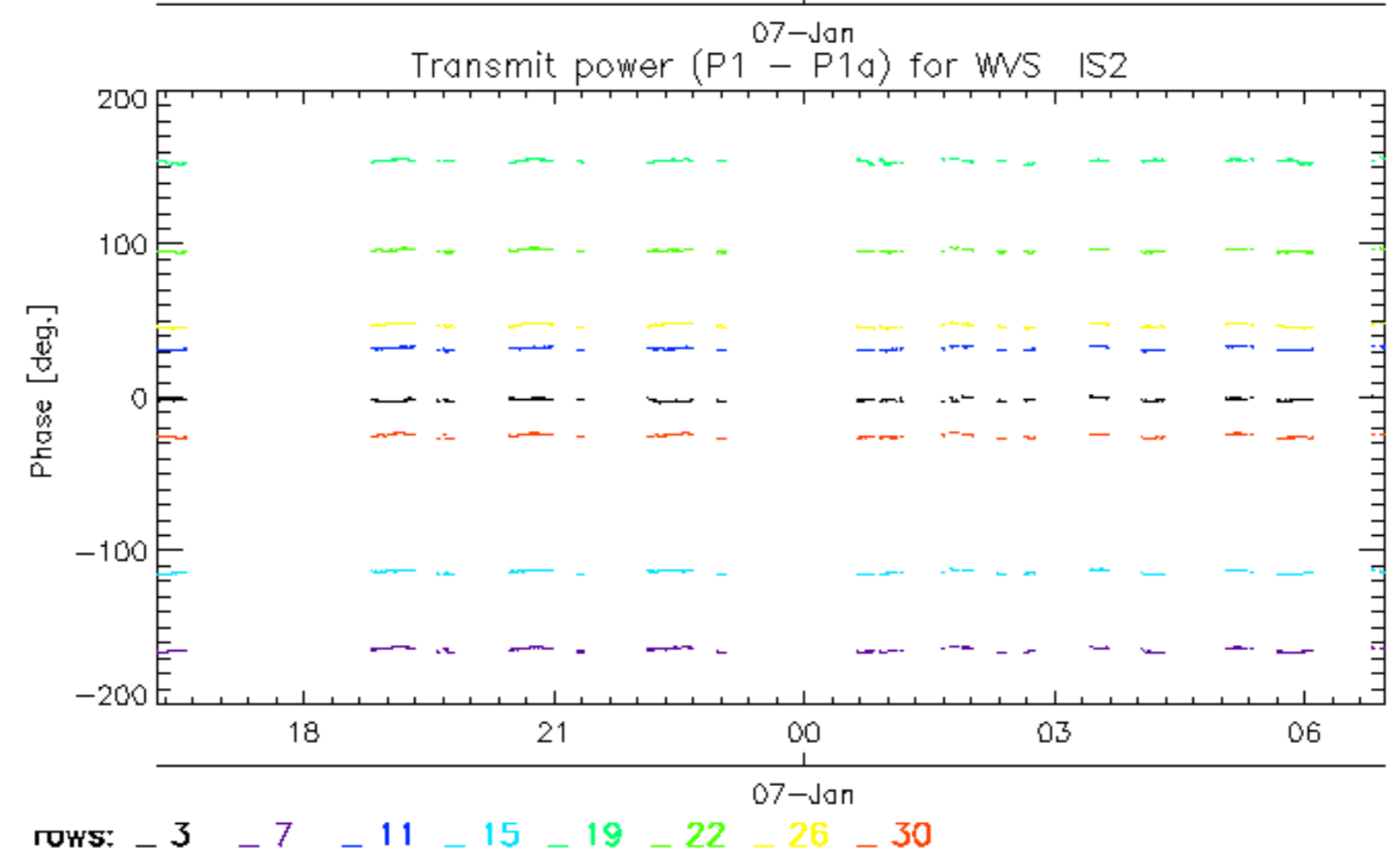
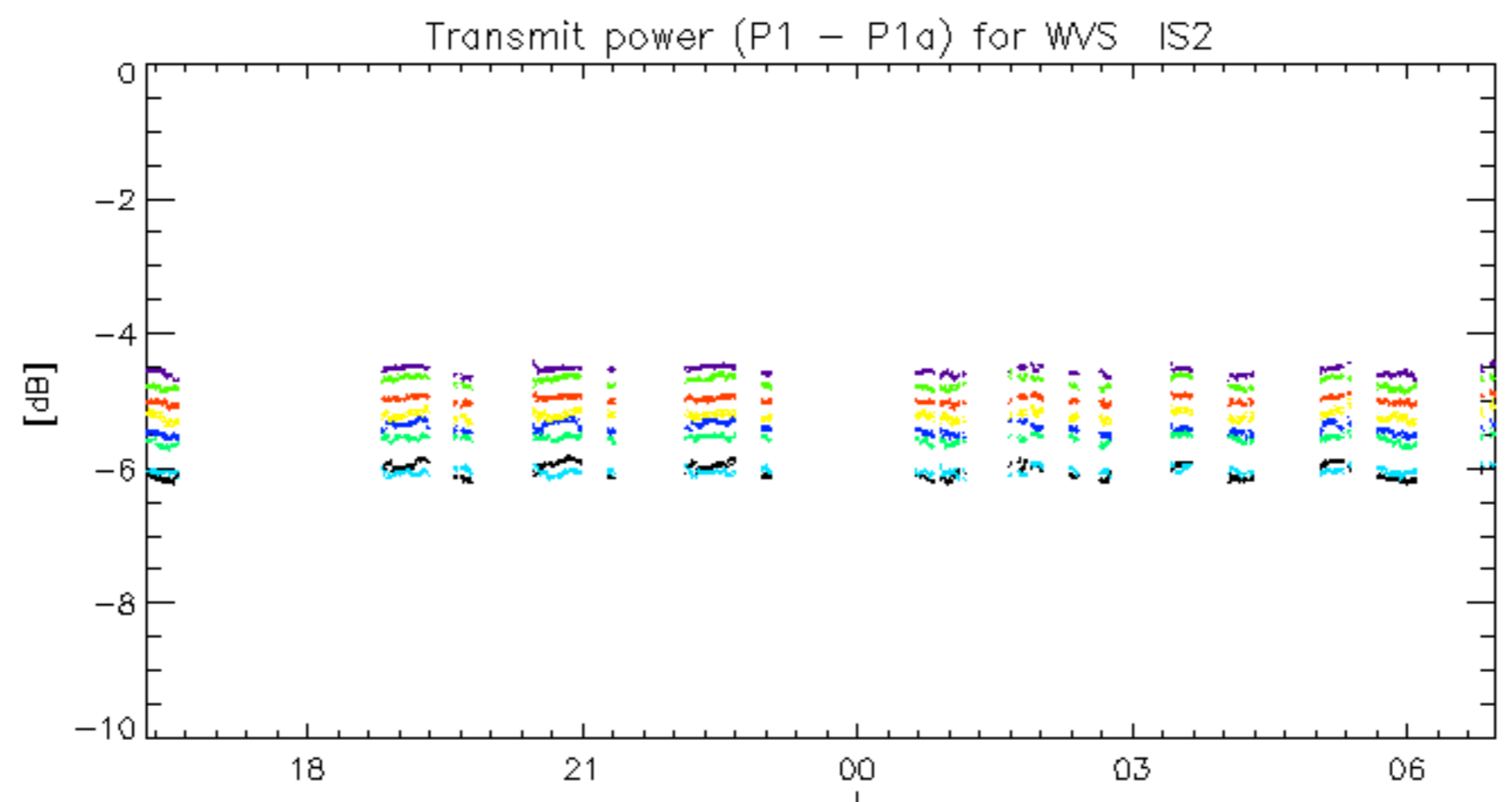


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30





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



No unavailabilities during the reported period.