

# PRELIMINARY REPORT OF 051230

last update on Fri Dec 30 16:44:39 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 2005-12-29 00:00:00 to 2005-12-30 16:44:39

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	34	0	17	1	25
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	34	0	17	1	25
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	34	0	17	1	25
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	34	0	17	1	25

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	33	51	31	10	48
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	33	51	31	10	48
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	33	51	31	10	48
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	33	51	31	10	48

## 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	20051229 100802
H	20051226 050030

### 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	-3.680960	0.262556	-1.094469
7	P1	-2.729343	0.133097	-0.757842
11	P1	-4.142596	0.035005	0.065946
15	P1	-5.004945	1.799962	-3.010700
19	P1	-3.028893	0.070042	-0.578441
22	P1	-4.432811	0.024071	-0.178287
26	P1	-4.410220	0.064104	0.514444
30	P1	-5.646113	0.036533	-0.354069
3	P1	-15.669814	2.907011	-3.759294
7	P1	-15.208113	2.826904	-3.747409
11	P1	-16.293486	0.480285	-0.879843
15	P1	-12.651149	0.932091	-1.849442
19	P1	-13.401689	0.390372	-1.334744
22	P1	-15.912000	0.643982	-0.385110
26	P1	-15.009217	1.089635	-2.095631
30	P1	-15.462414	2.569749	-3.368792

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.806311	0.115785	0.325384
7	P2	-22.541271	0.106902	0.039964
11	P2	-16.512047	0.134993	0.433649
15	P2	-7.278396	0.106007	0.076754
19	P2	-9.213311	0.103970	0.000072
22	P2	-17.876255	0.113695	-0.221655
26	P2	-16.391148	0.132194	0.395845
30	P2	-19.800388	0.120411	0.333282

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.235982	0.007632	0.013772
7	P3	-8.235982	0.007632	0.013772
11	P3	-8.235982	0.007632	0.013772
15	P3	-8.235982	0.007632	0.013772
19	P3	-8.235982	0.007632	0.013772
22	P3	-8.235982	0.007632	0.013772
26	P3	-8.235982	0.007632	0.013772
30	P3	-8.235982	0.007632	0.013772

#### 4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1

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#### 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	-3.710006	0.008517	-0.028977
7	P1	-2.771690	0.007600	0.018047
11	P1	-2.878902	0.009369	0.010002
15	P1	-3.421172	0.016659	-0.036493
19	P1	-3.393218	0.014433	-0.002980
22	P1	-5.125632	0.018606	-0.003275
26	P1	-5.852748	0.016498	-0.017333
30	P1	-5.279325	0.033062	0.010408
3	P1	-11.487549	0.041599	-0.039652
7	P1	-9.967459	0.047532	0.027198
11	P1	-10.055662	0.057637	-0.012731
15	P1	-10.566026	0.071480	-0.038540
19	P1	-15.519872	0.074447	0.020170
22	P1	-20.944609	0.946285	0.247166
26	P1	-17.139675	0.291426	0.228834
30	P1	-18.211327	0.289117	0.233800

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.593292	0.029318	0.124715
7	P2	-23.044521	0.055257	0.098876
11	P2	-11.580997	0.020194	0.176555
15	P2	-4.991949	0.021081	0.033103
19	P2	-6.973685	0.021225	0.006819
22	P2	-8.212349	0.022750	-0.015350
26	P2	-24.050350	0.030140	0.043575
30	P2	-22.135094	0.017224	-0.007864

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.077825	0.002426	0.003479
7	P3	-8.078001	0.002424	0.003099
11	P3	-8.078039	0.002413	0.002938
15	P3	-8.077934	0.002409	0.003623
19	P3	-8.078008	0.002426	0.003412
22	P3	-8.077946	0.002417	0.003672
26	P3	-8.077937	0.002399	0.003913
30	P3	-8.077806	0.002419	0.003214

## 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	0.000454745
	stdev	2.20851e-07
MEAN Q	mean	0.000465473
	stdev	2.36604e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.128954
	stdev	0.00113086
STDEV Q	mean	0.129240
	stdev	0.00114366



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005122[890]

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_1PNPDE20051228_002245_000003782043_00417_20010_4893.N1	1	0
ASA_IMM_1PNPDE20051229_003425_000001302043_00431_20024_5024.N1	1	0
ASA_IMM_1PNPDE20051229_011742_000000362043_00432_20025_5054.N1	1	0
ASA_IMM_1PNPDK20051228_130204_000000822043_00425_20018_9725.N1	1	0
ASA_WVS_1PNPDE20051220_215422_000000002043_00315_19908_4010.N1	1	0
ASA_WSM_1PNPDE20051228_184007_000000672043_00428_20021_6052.N1	0	33
ASA_WSM_1PNPDE20051229_012419_000003422043_00432_20025_6107.N1	0	13
ASA_WSM_1PNPDE20051229_172648_000001042043_00442_20035_6239.N1	0	14



## 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)

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

### 7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler

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

### 7.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX

<input type="checkbox"/>
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### 7.4 - Unbiased Doppler Error for GM1



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

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

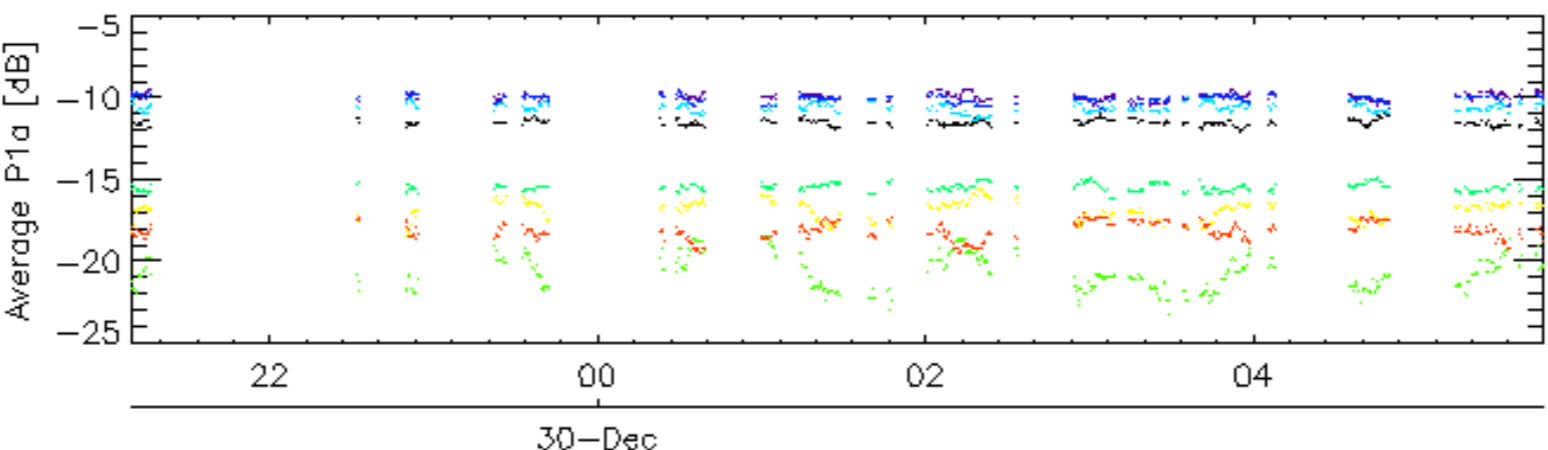
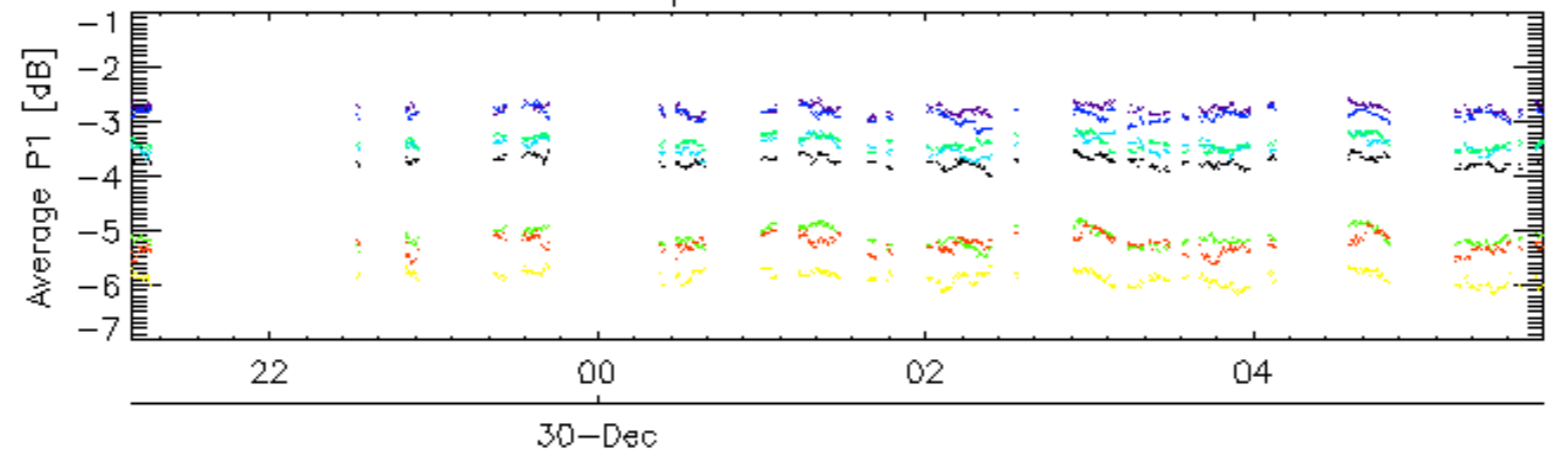
**7.5 - Absolute Doppler for GM1****Evolution of Absolute Doppler**

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

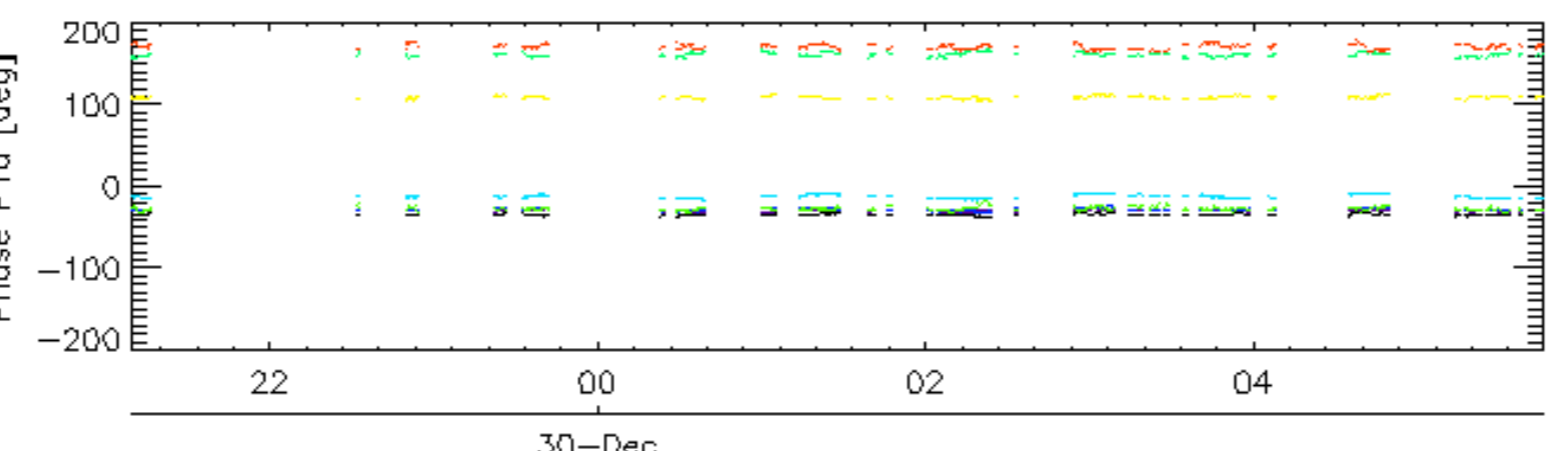
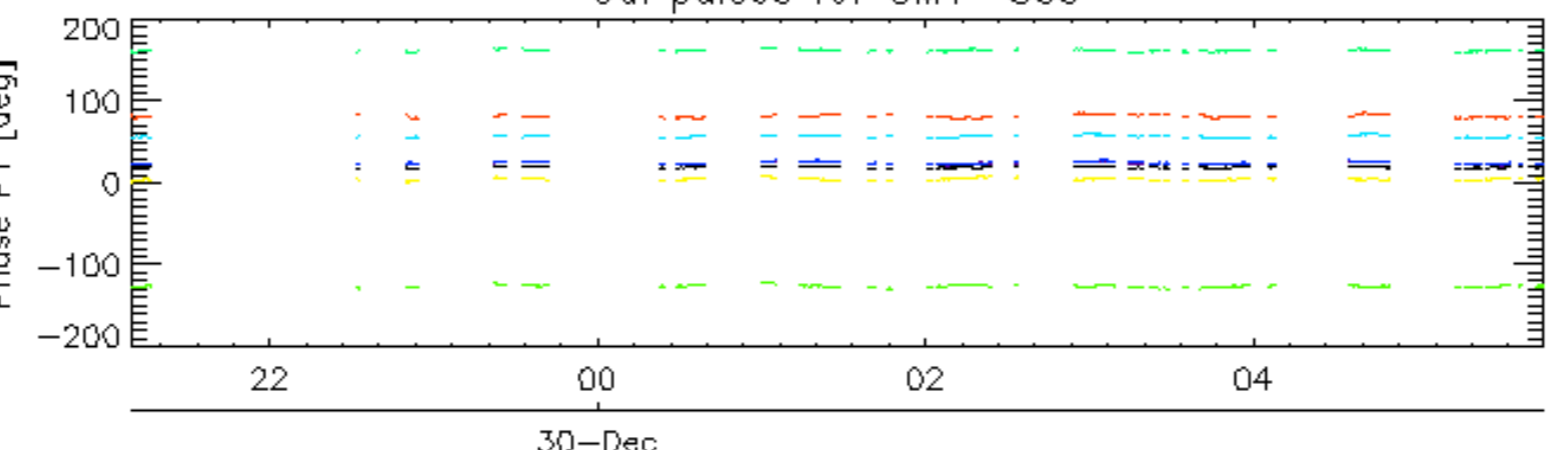
**7.6 - Doppler evolution versus ANX for GM1****Evolution Doppler error versus ANX**

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

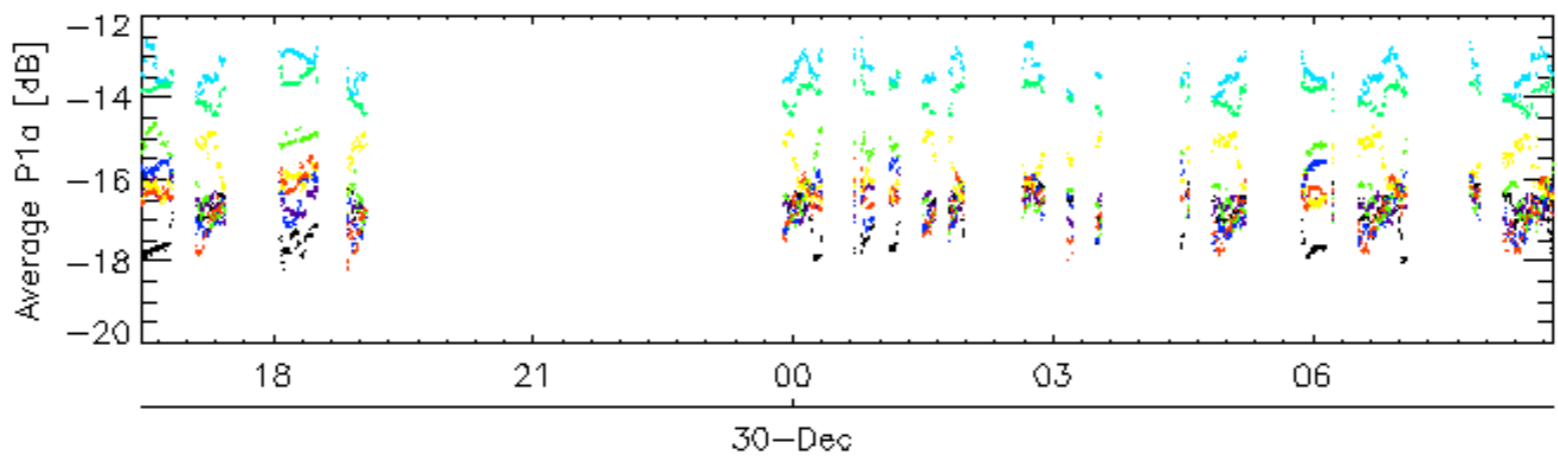
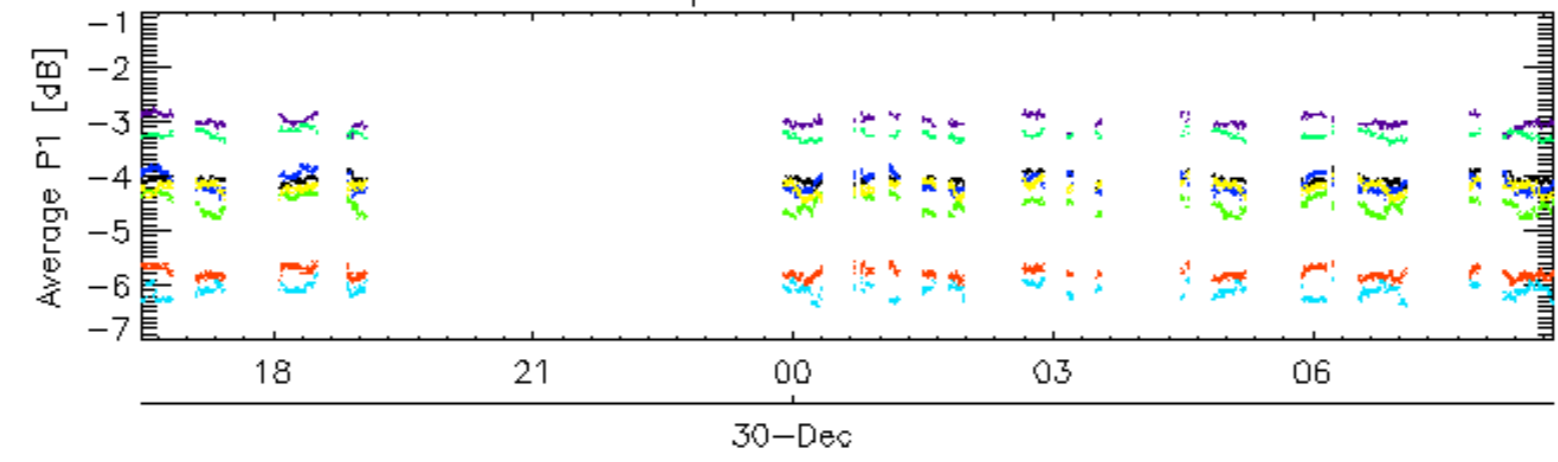


Cal pulses for GM1 SS3

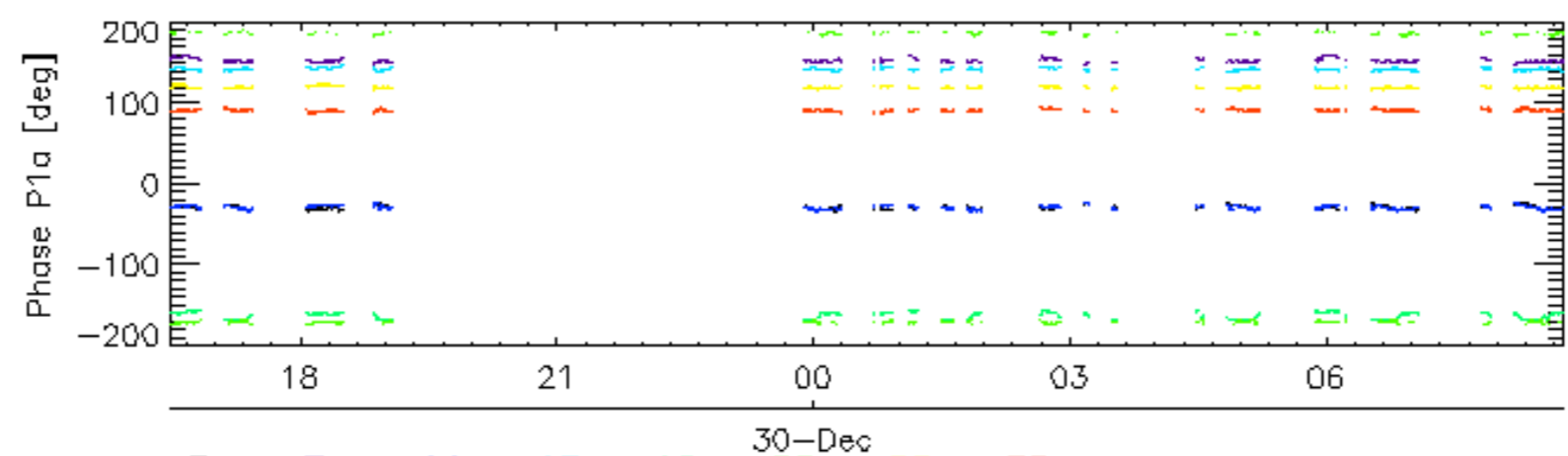
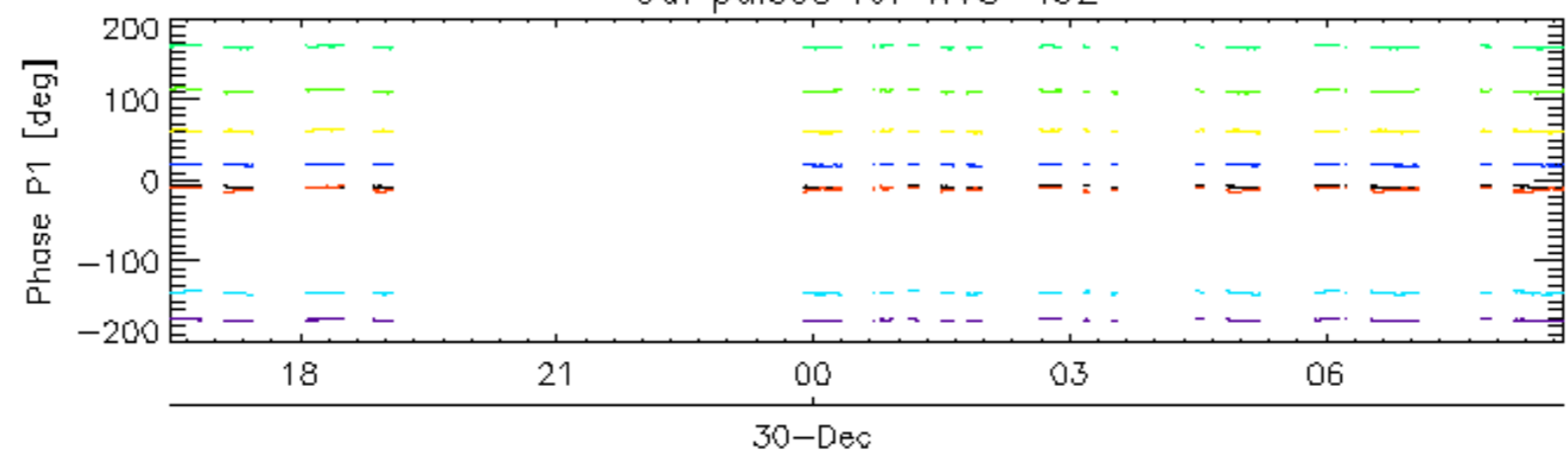


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

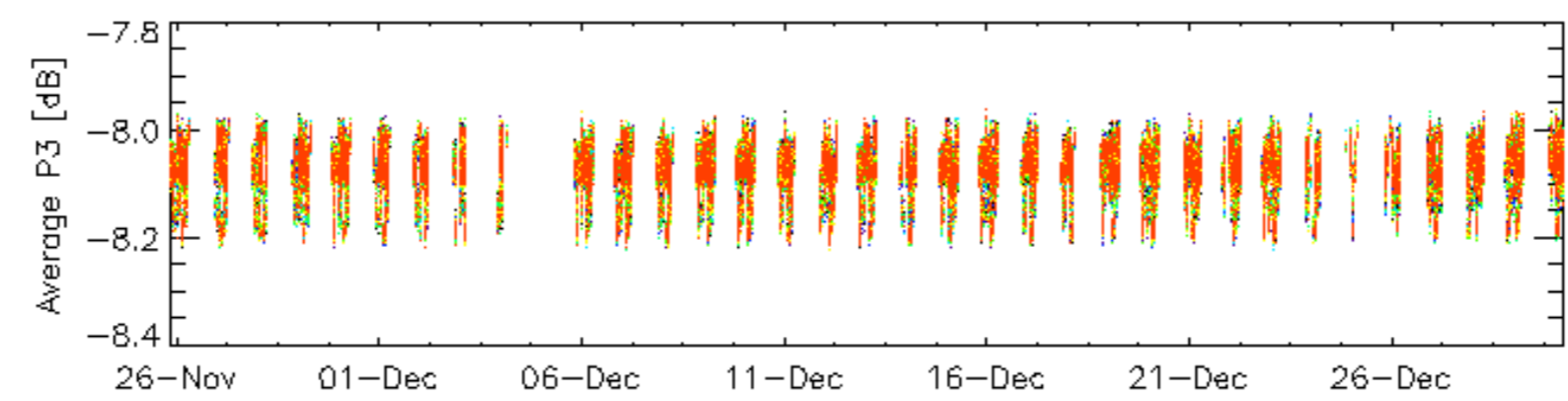
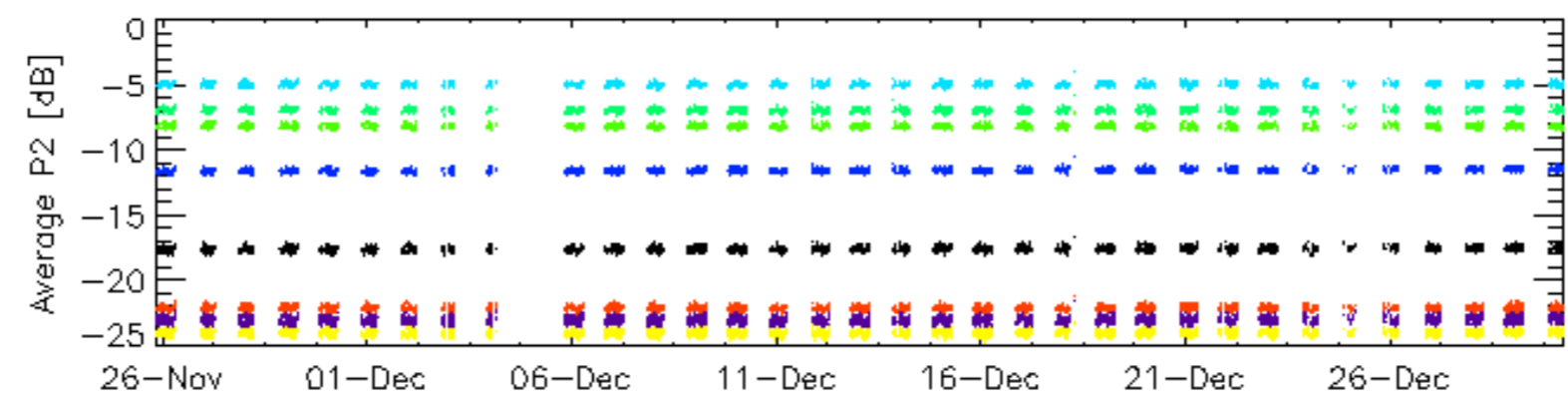
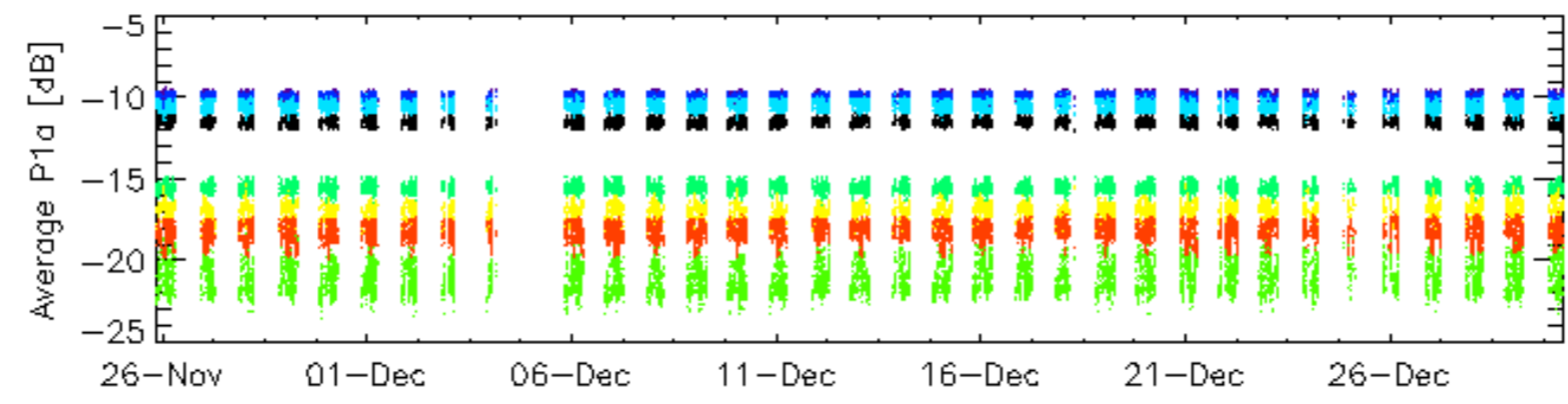
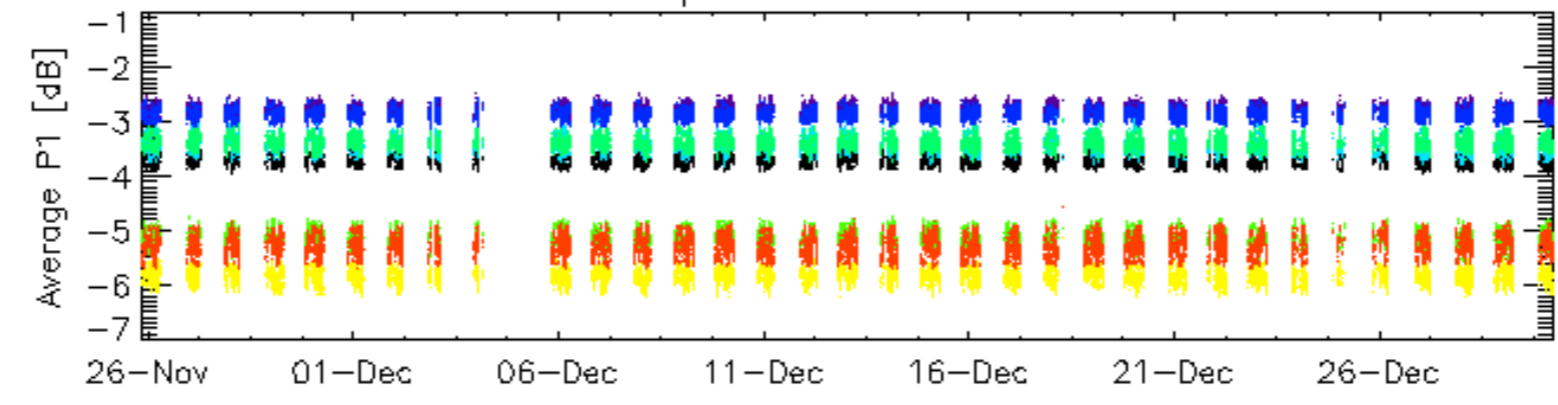


Cal pulses for WVS IS2



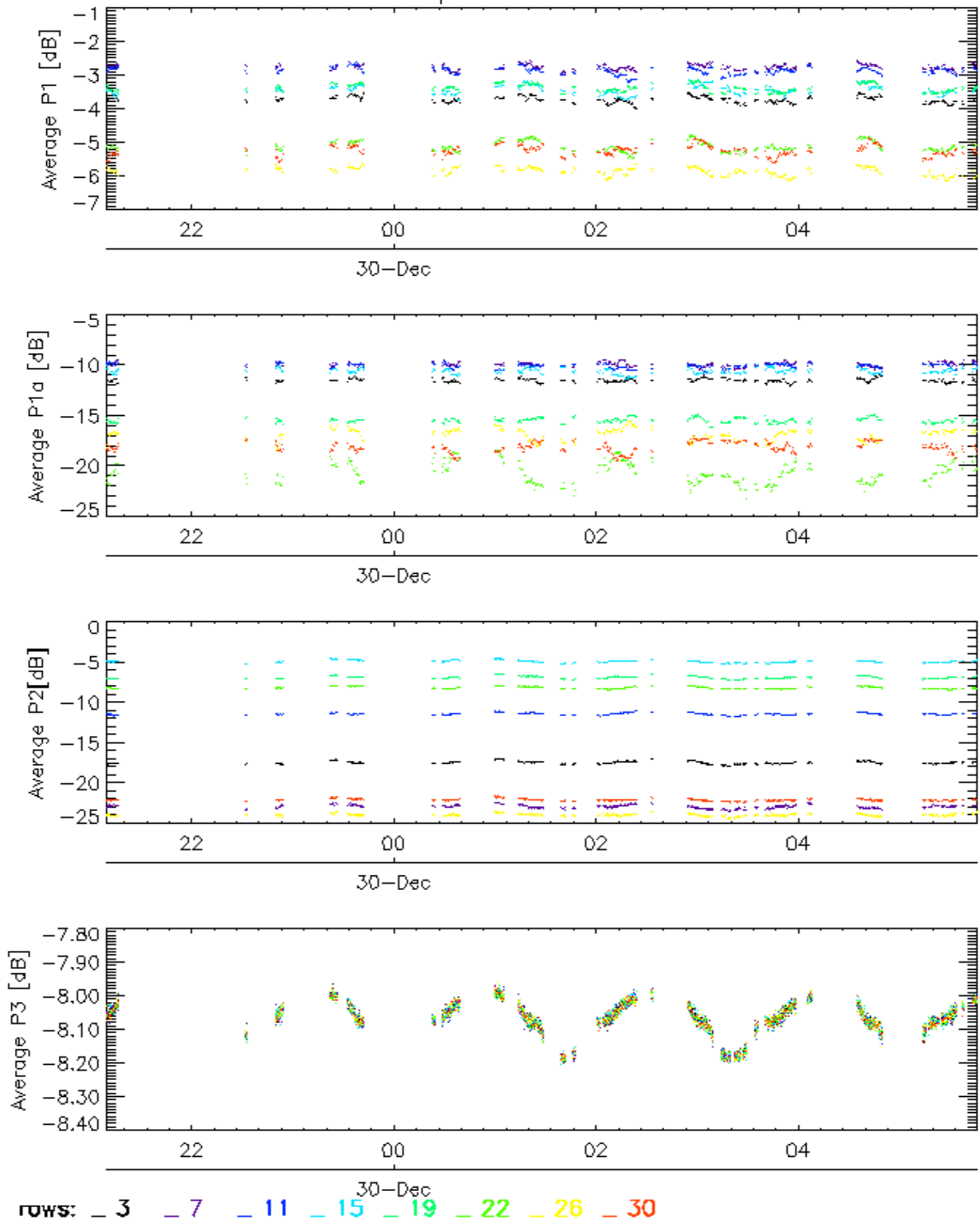
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

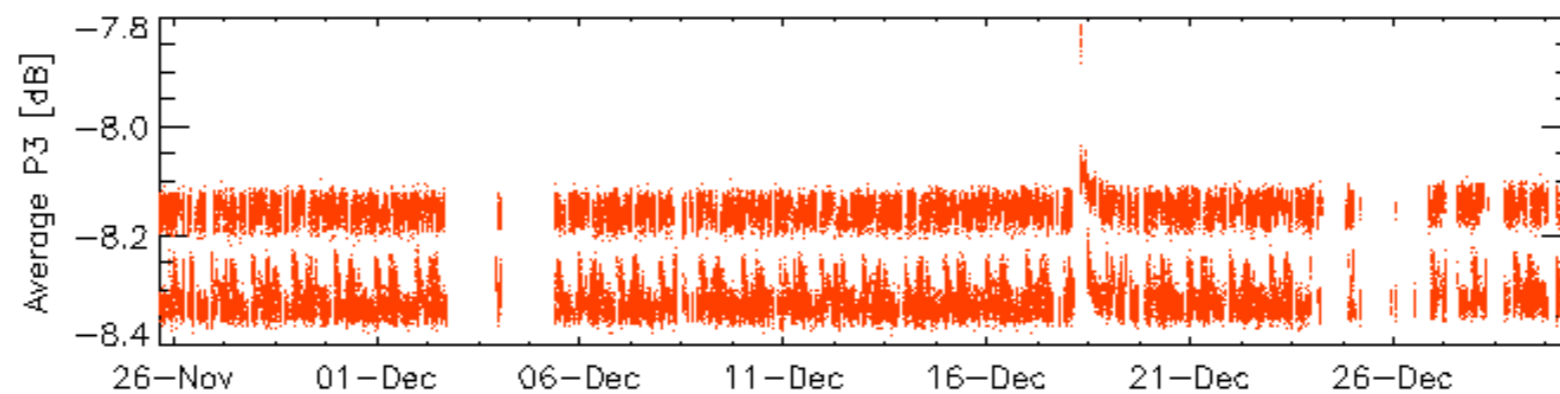
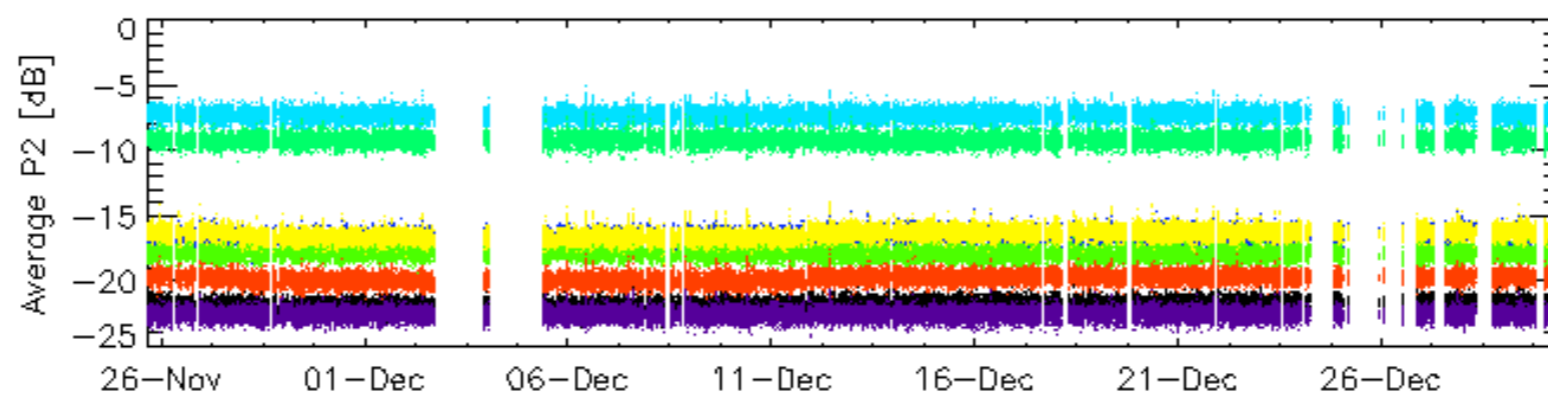
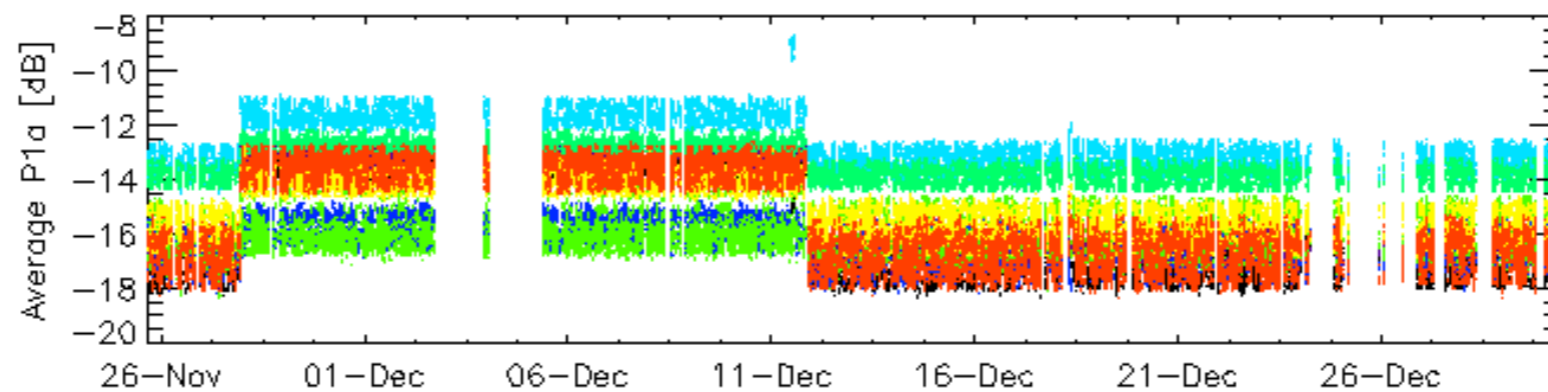
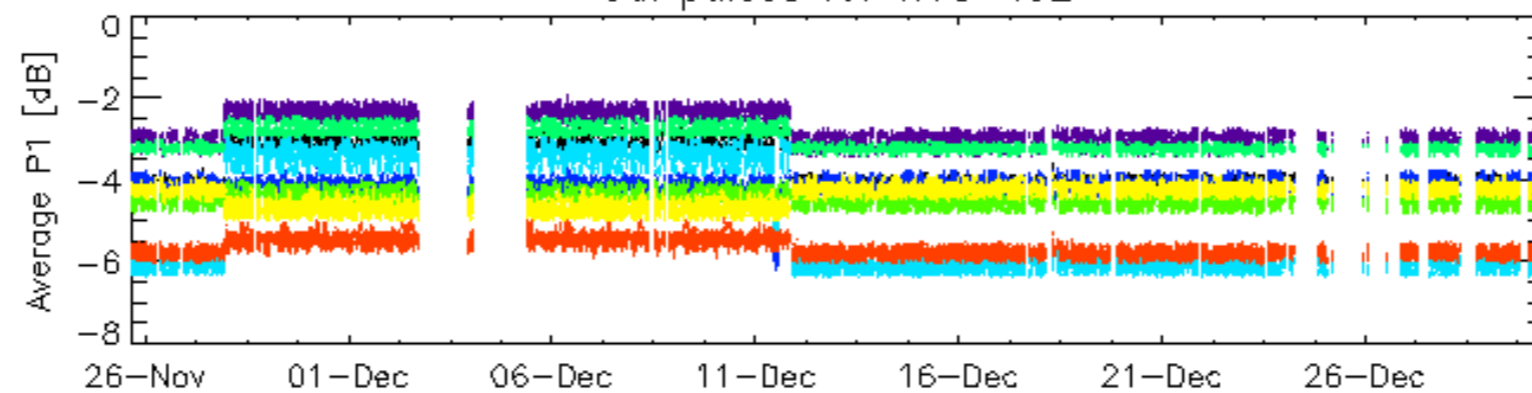


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

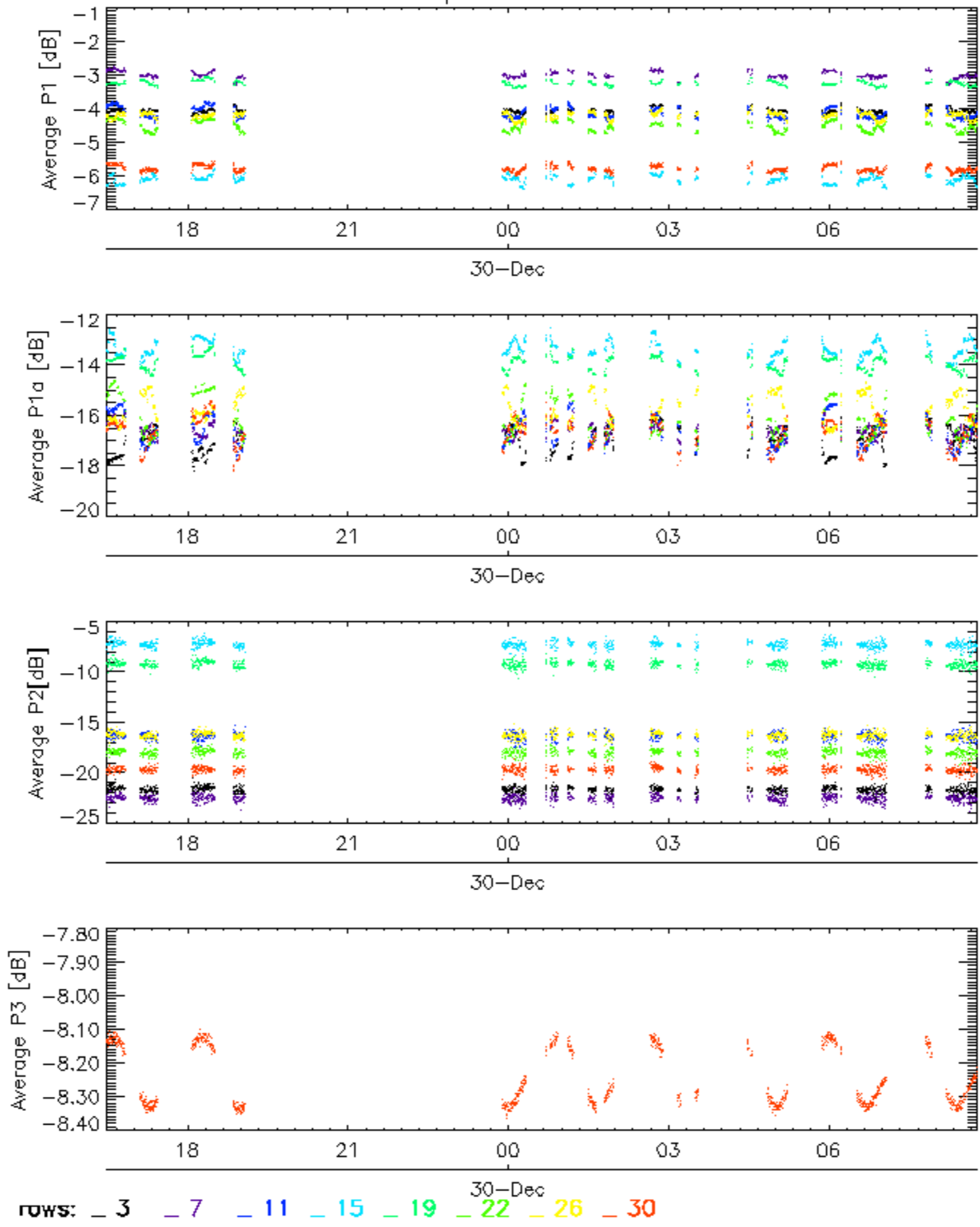


### Cal pulses for WVS IS2



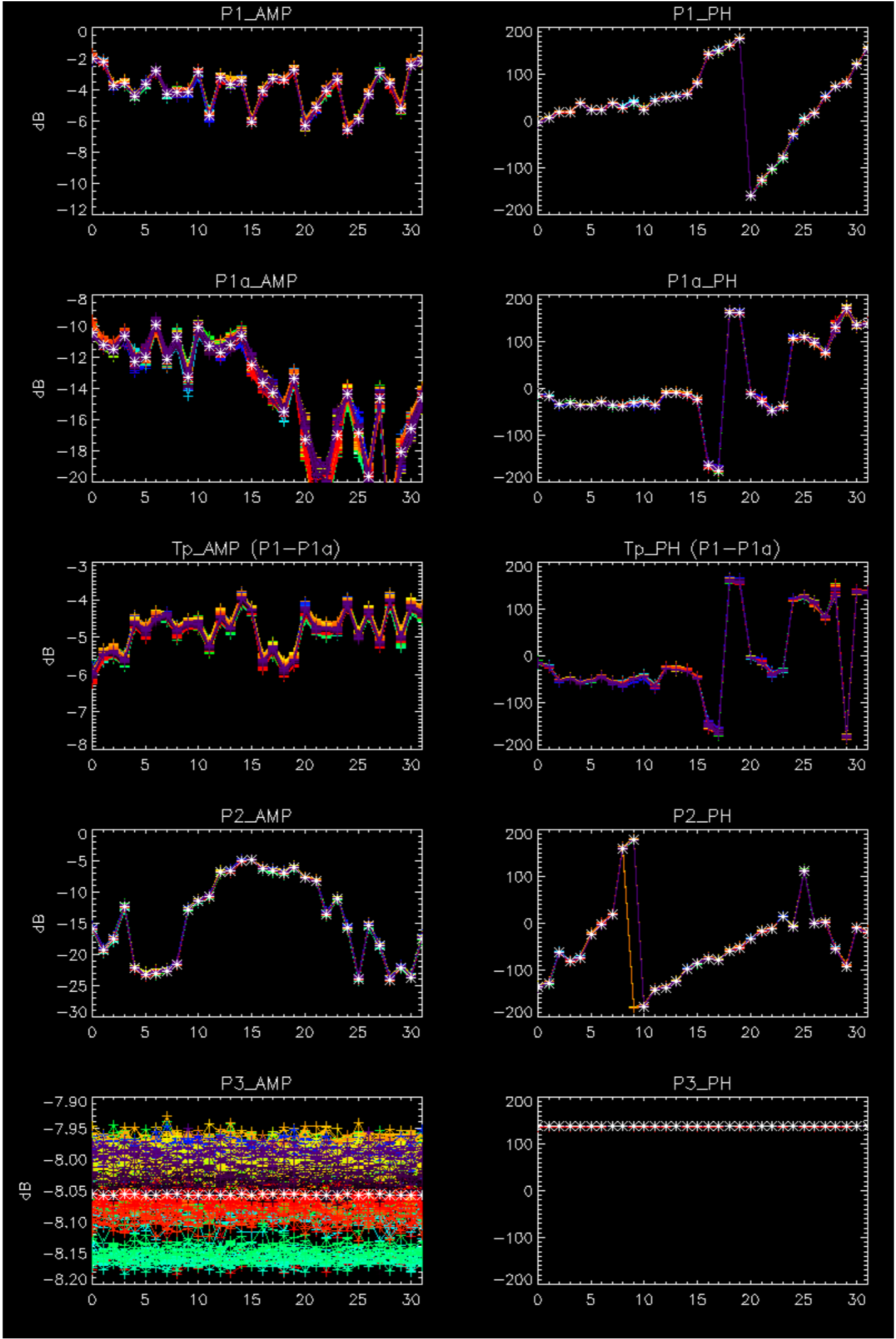
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

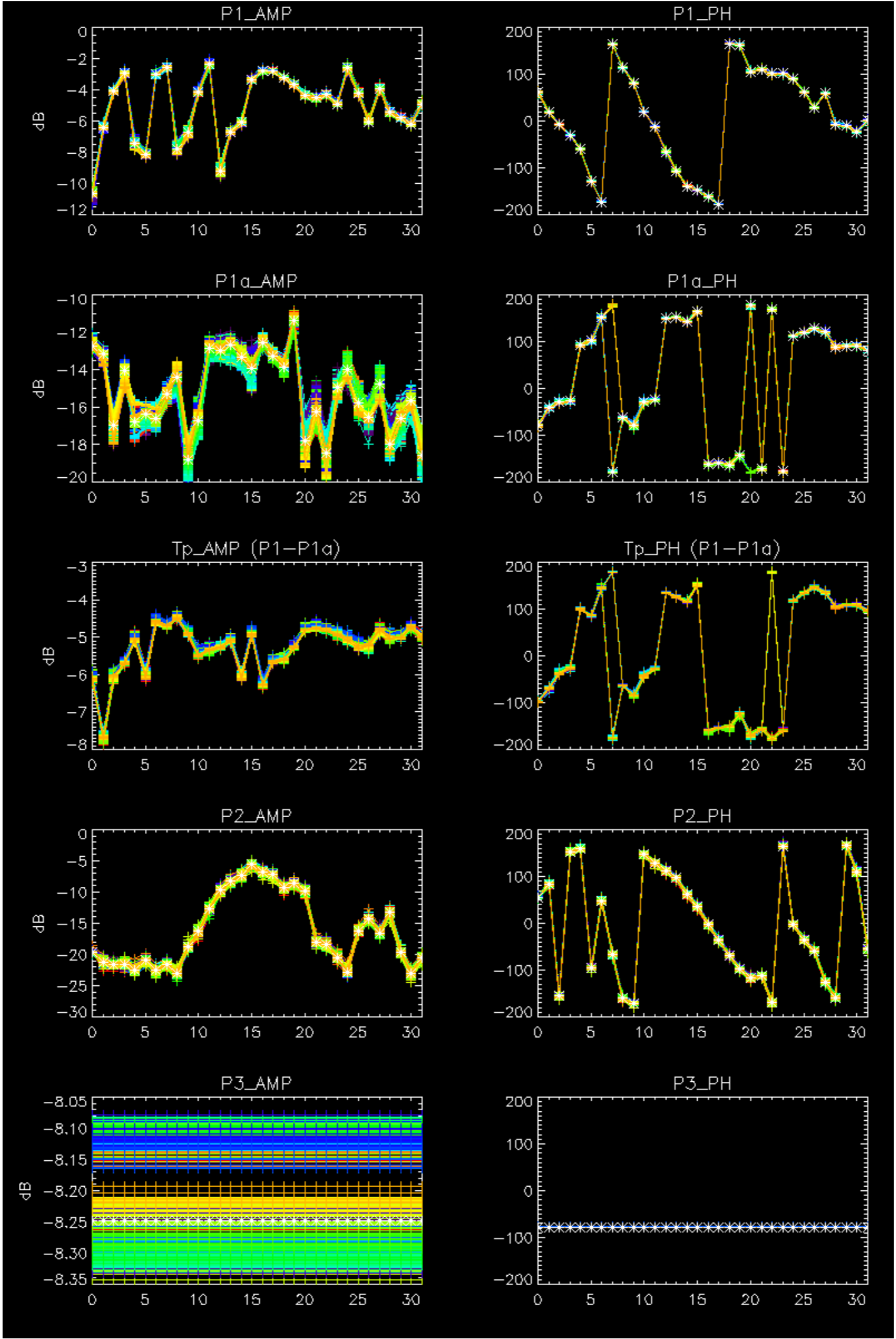
Cal pulses for WVS IS2



No anomalies observed.



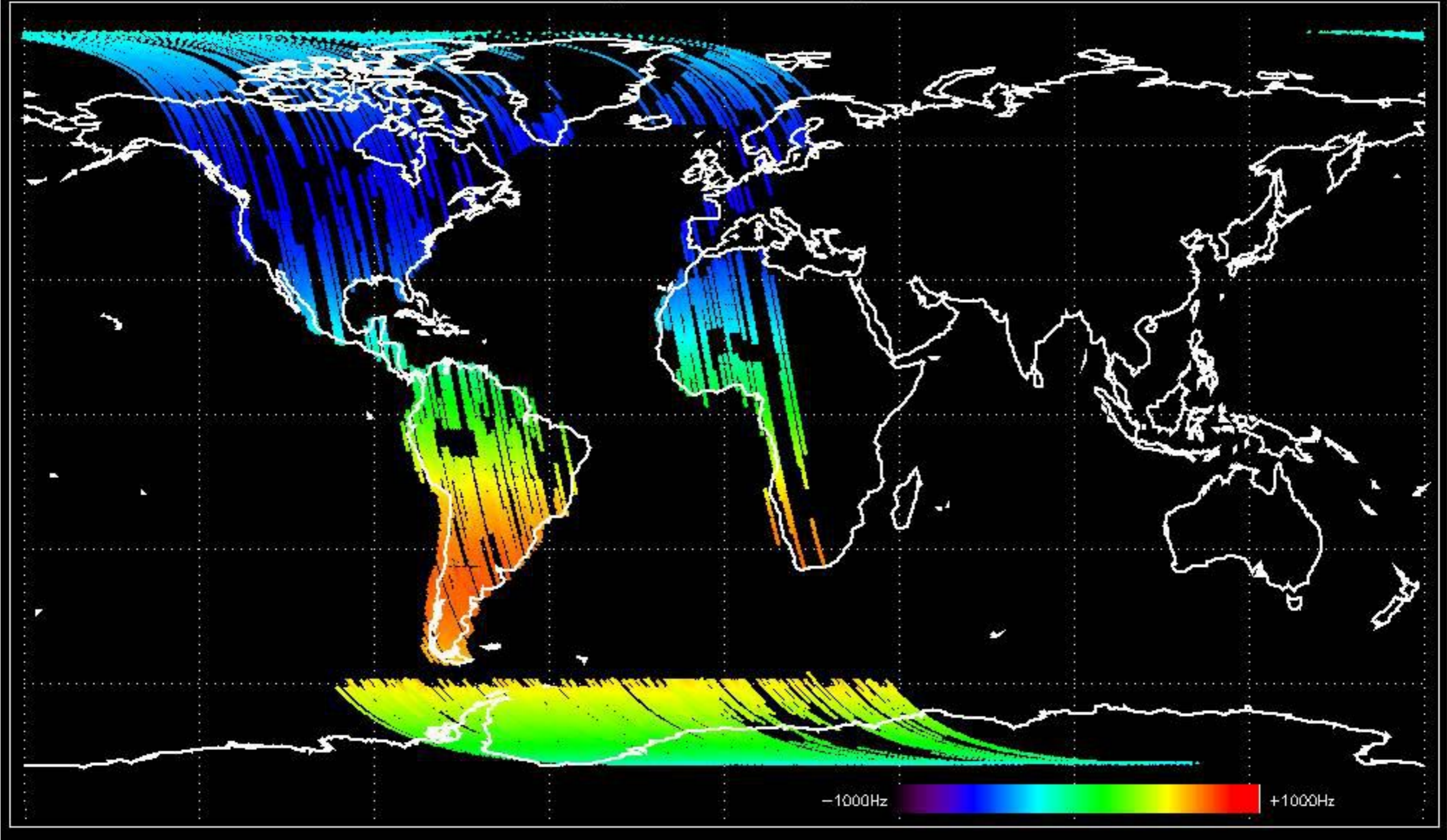




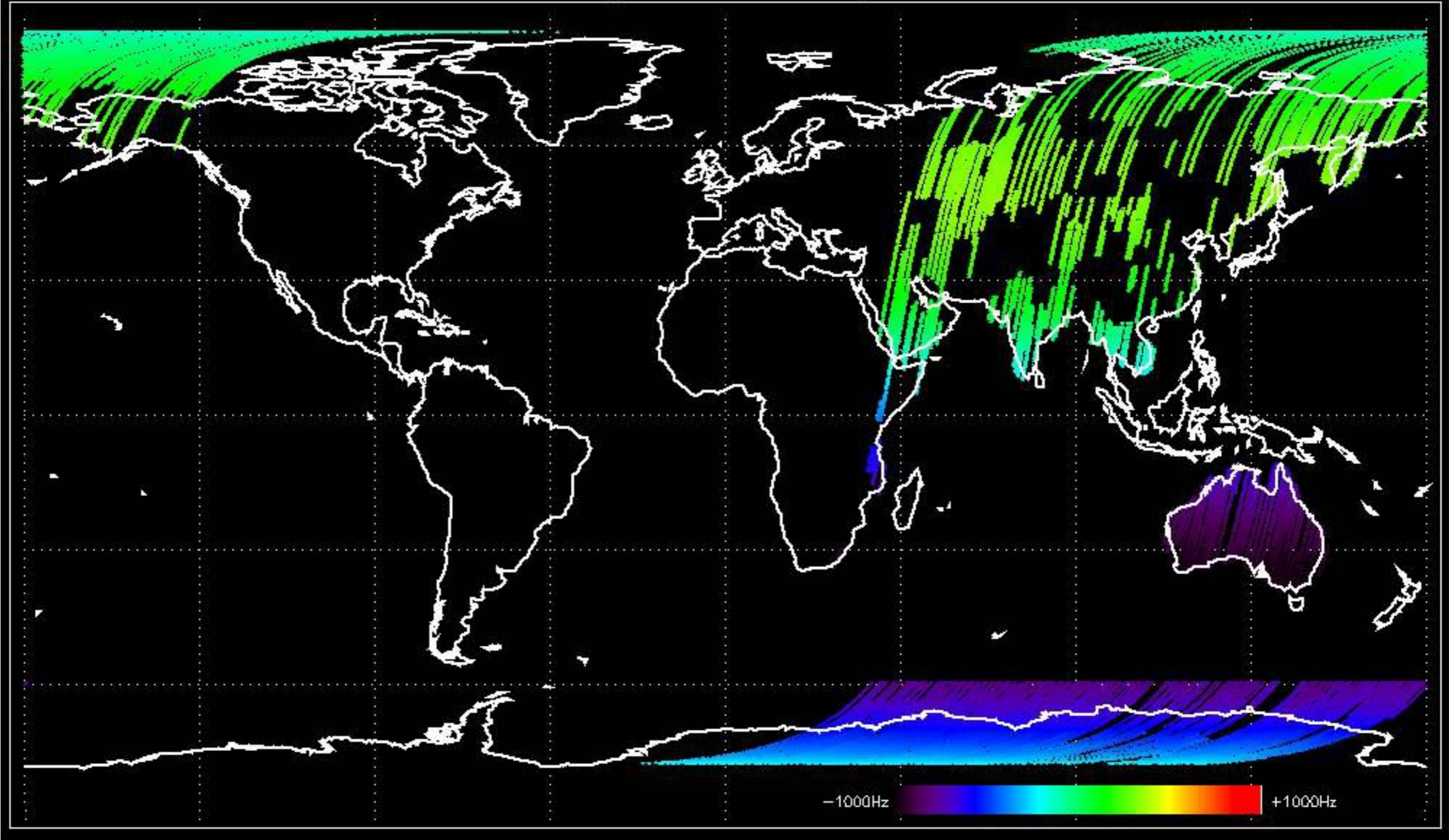
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



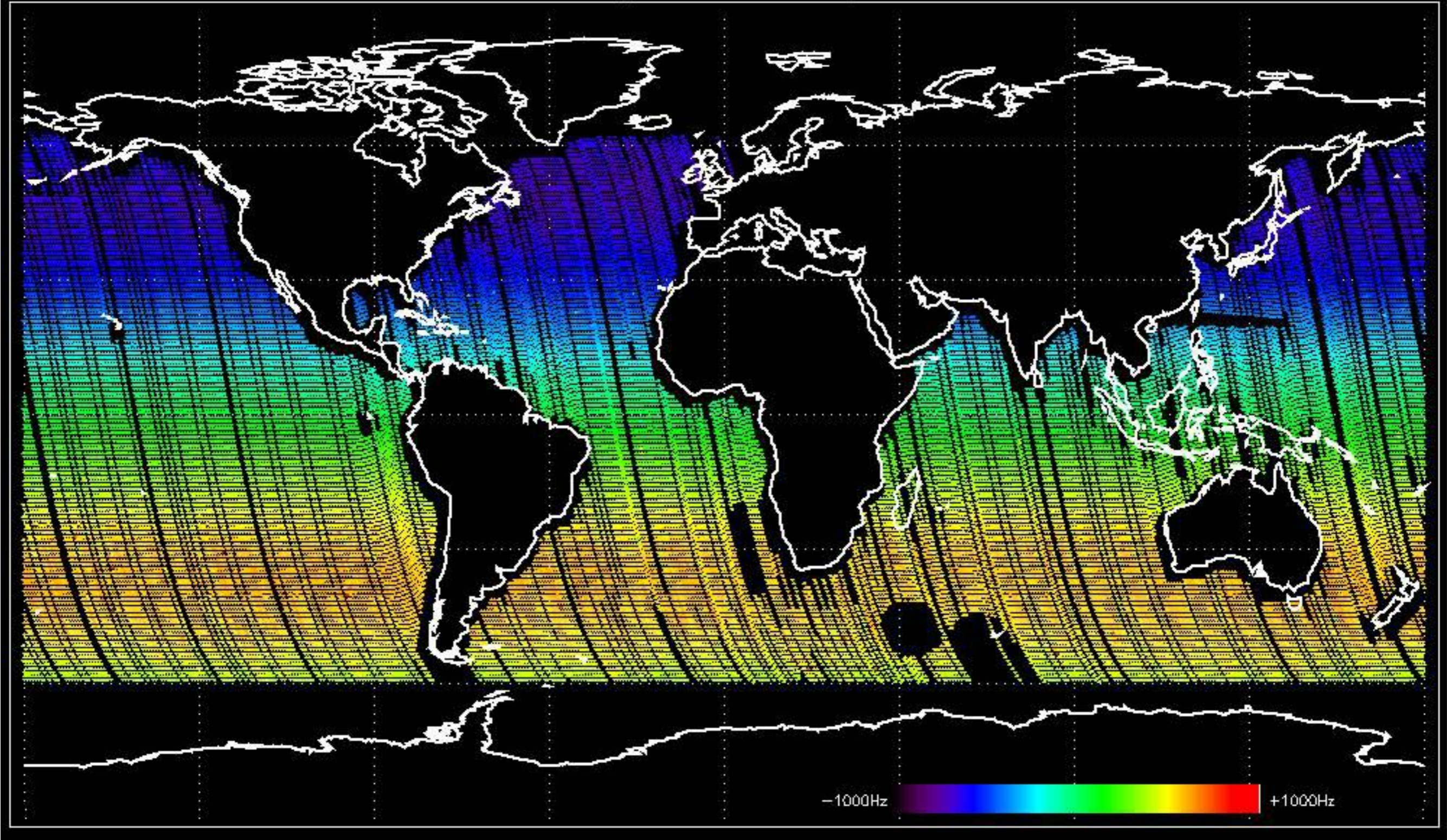
Doppler 'GM1' 'SS1' ascending



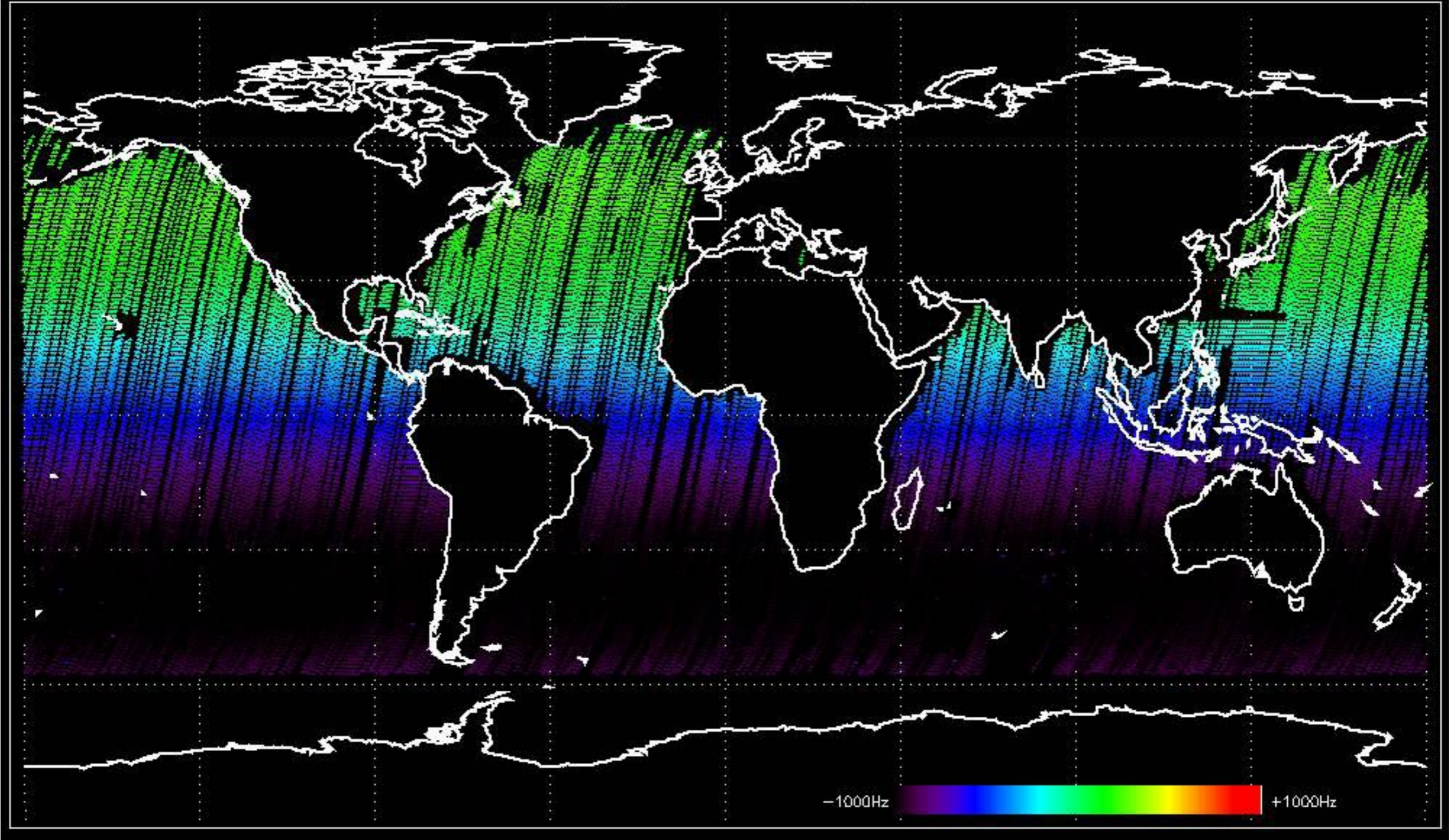
Doppler 'GM1' 'SS1' descending



Doppler 'WVS' 'IS2' ascending

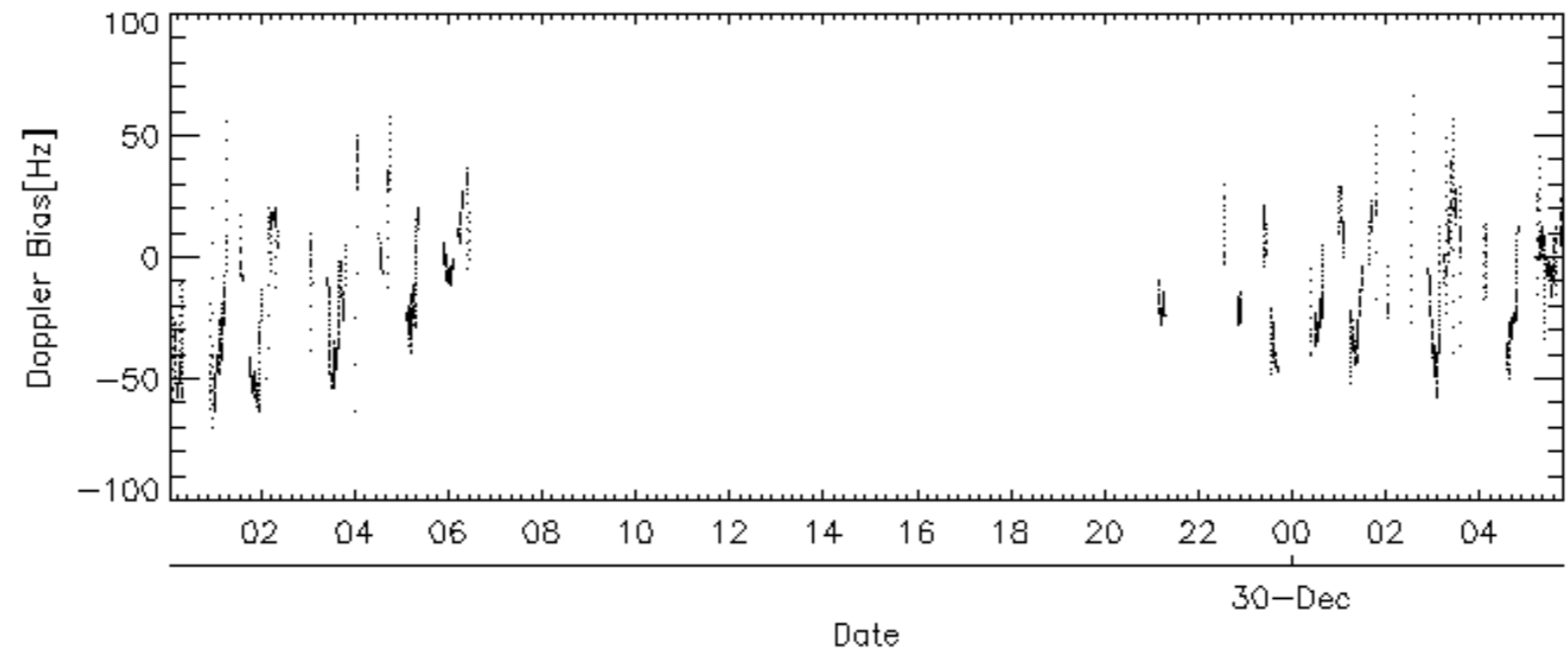
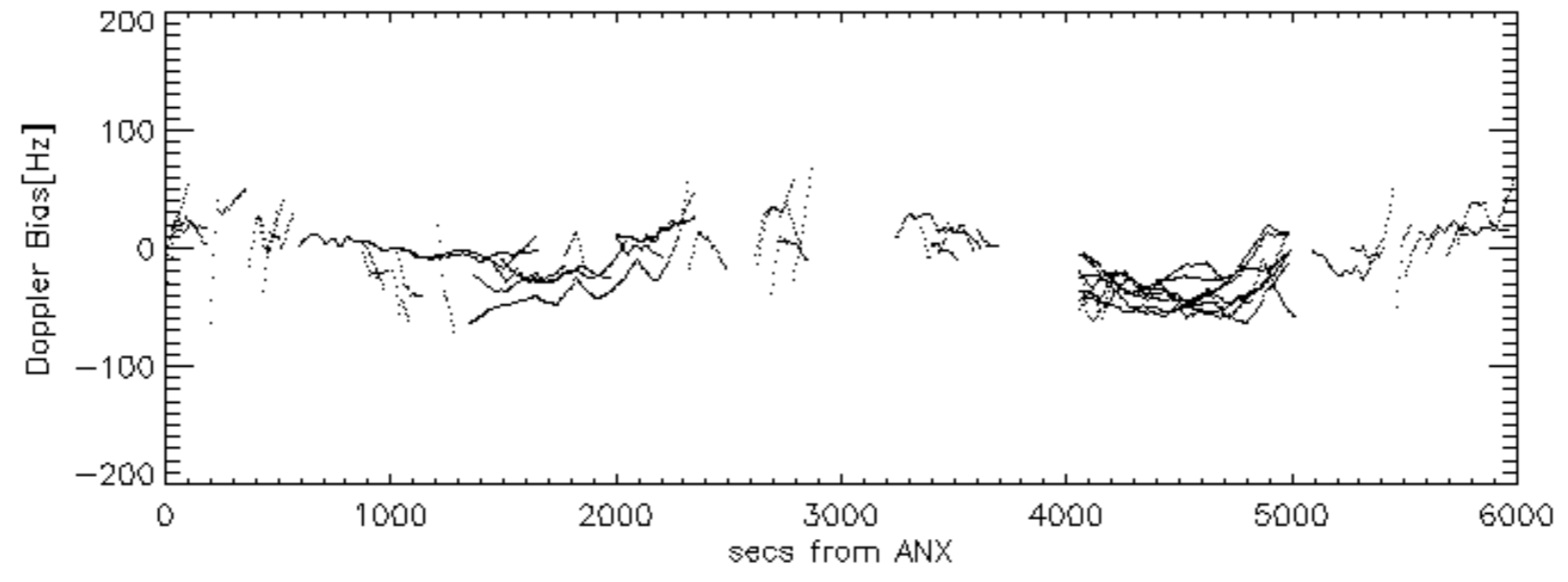
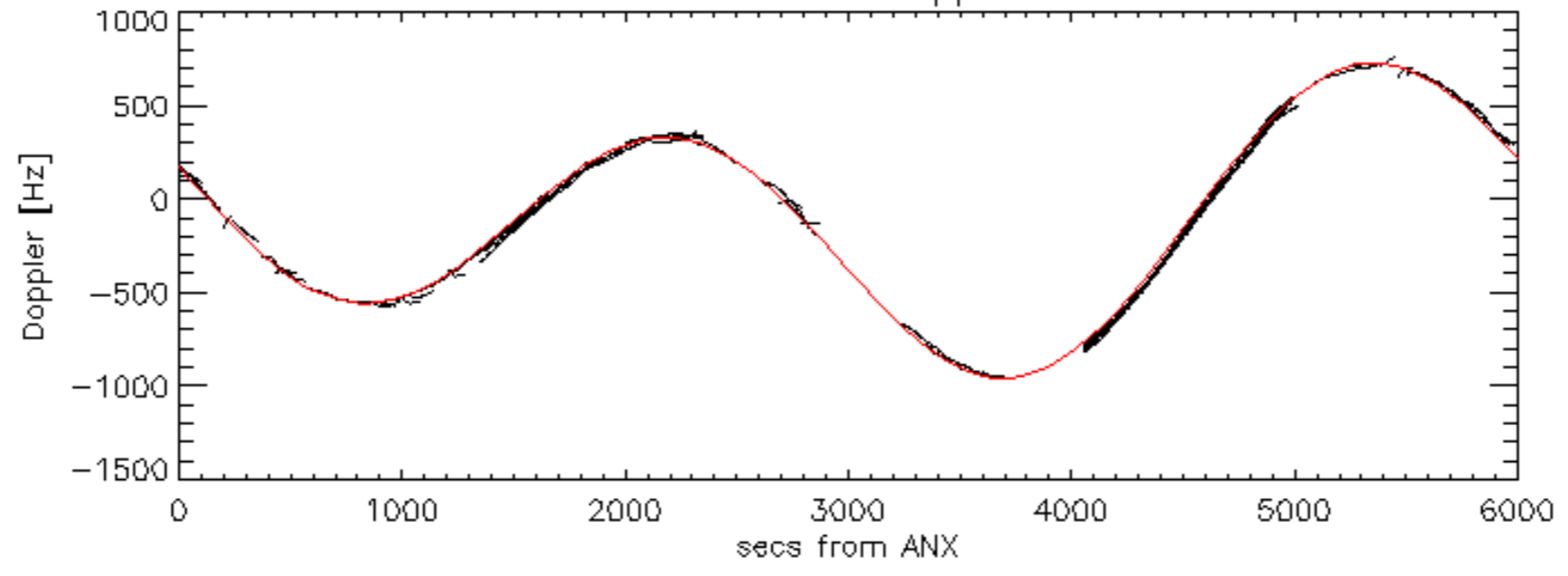


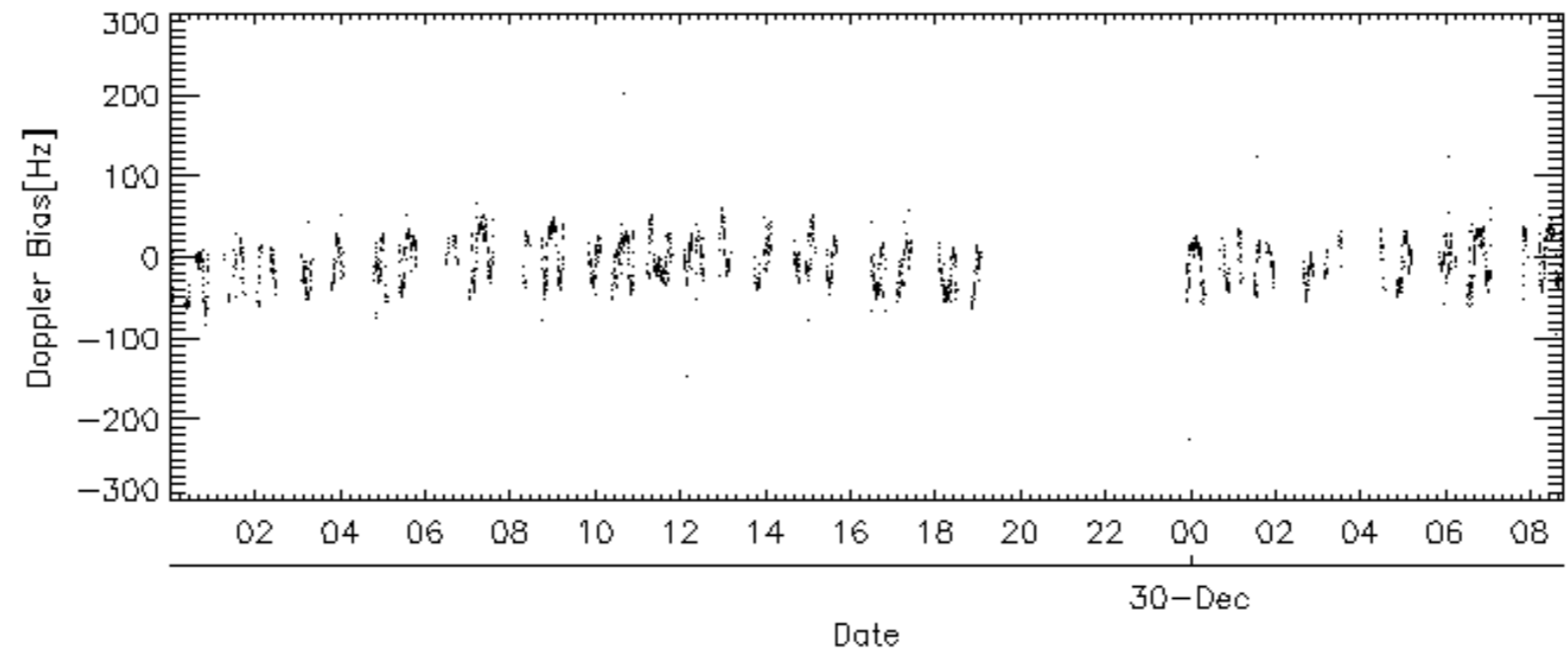
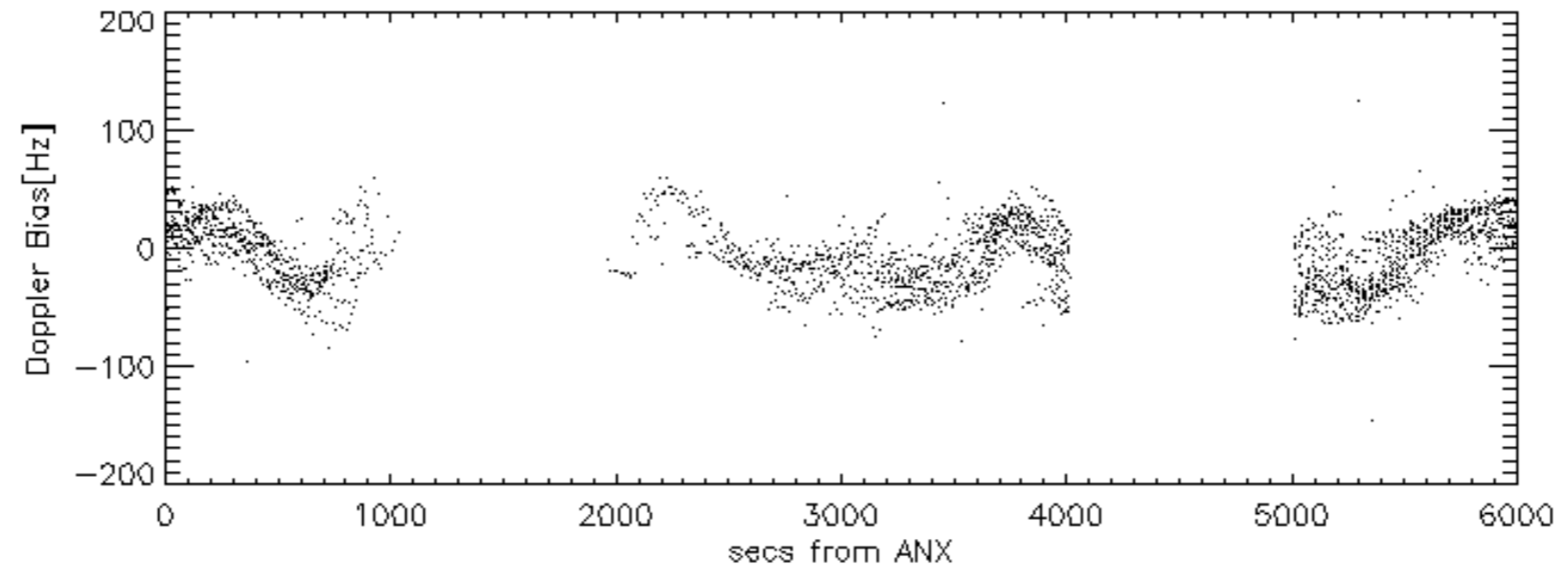
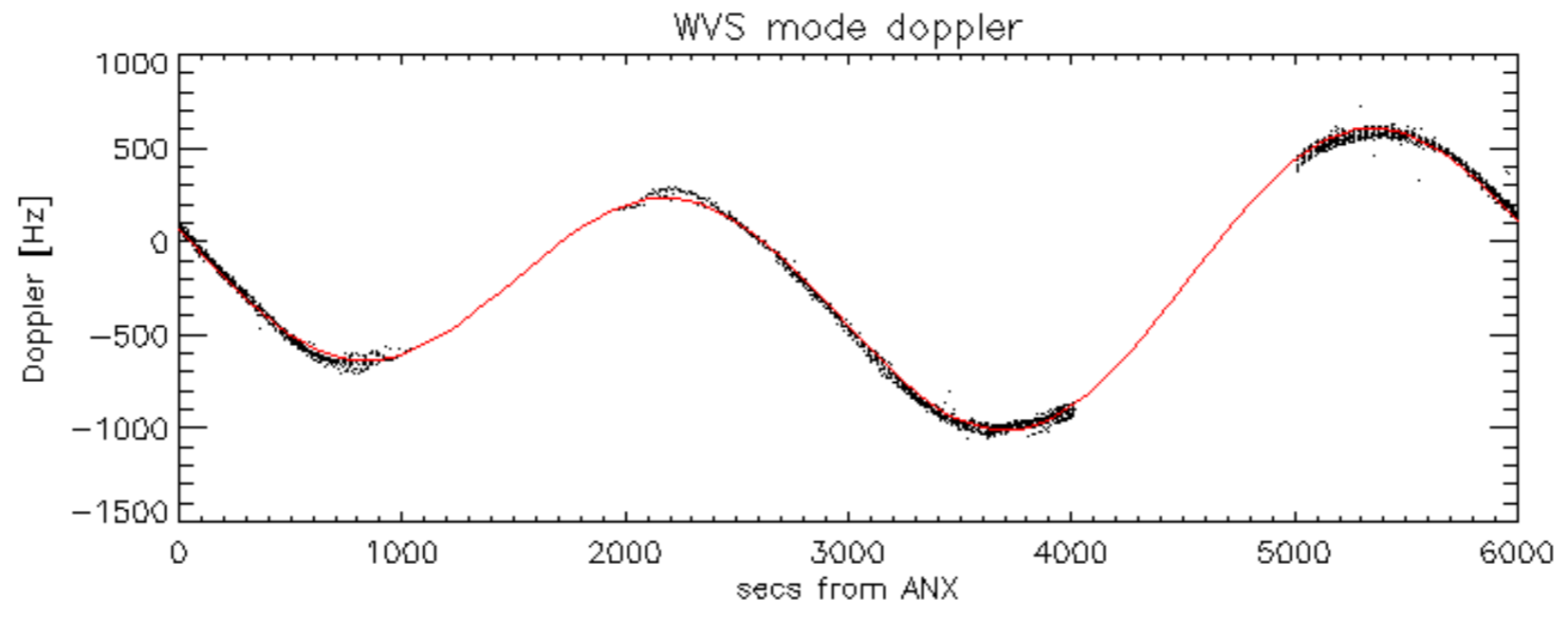
Doppler 'WVS' 'IS2' descending



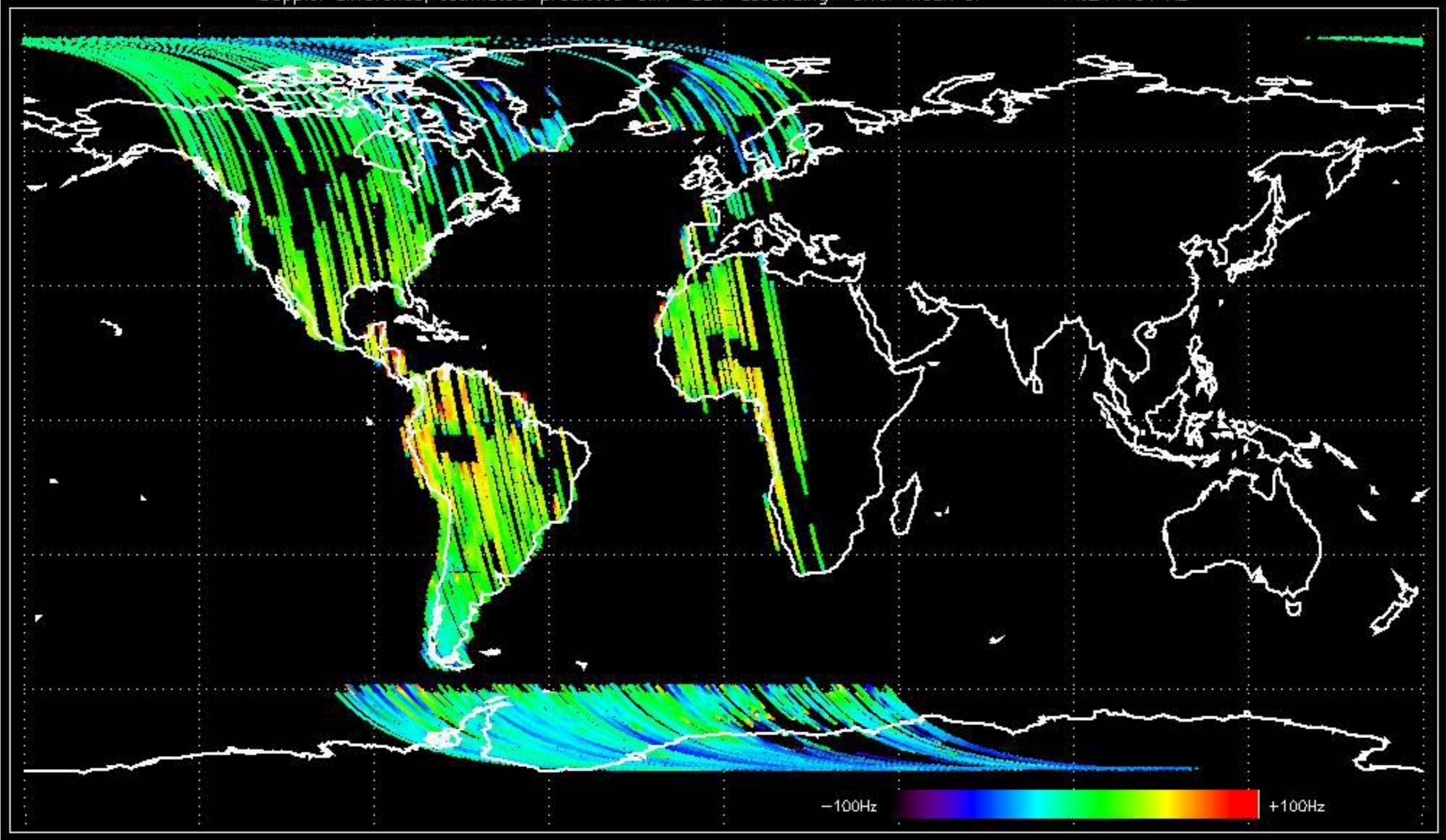


GM1 mode doppler

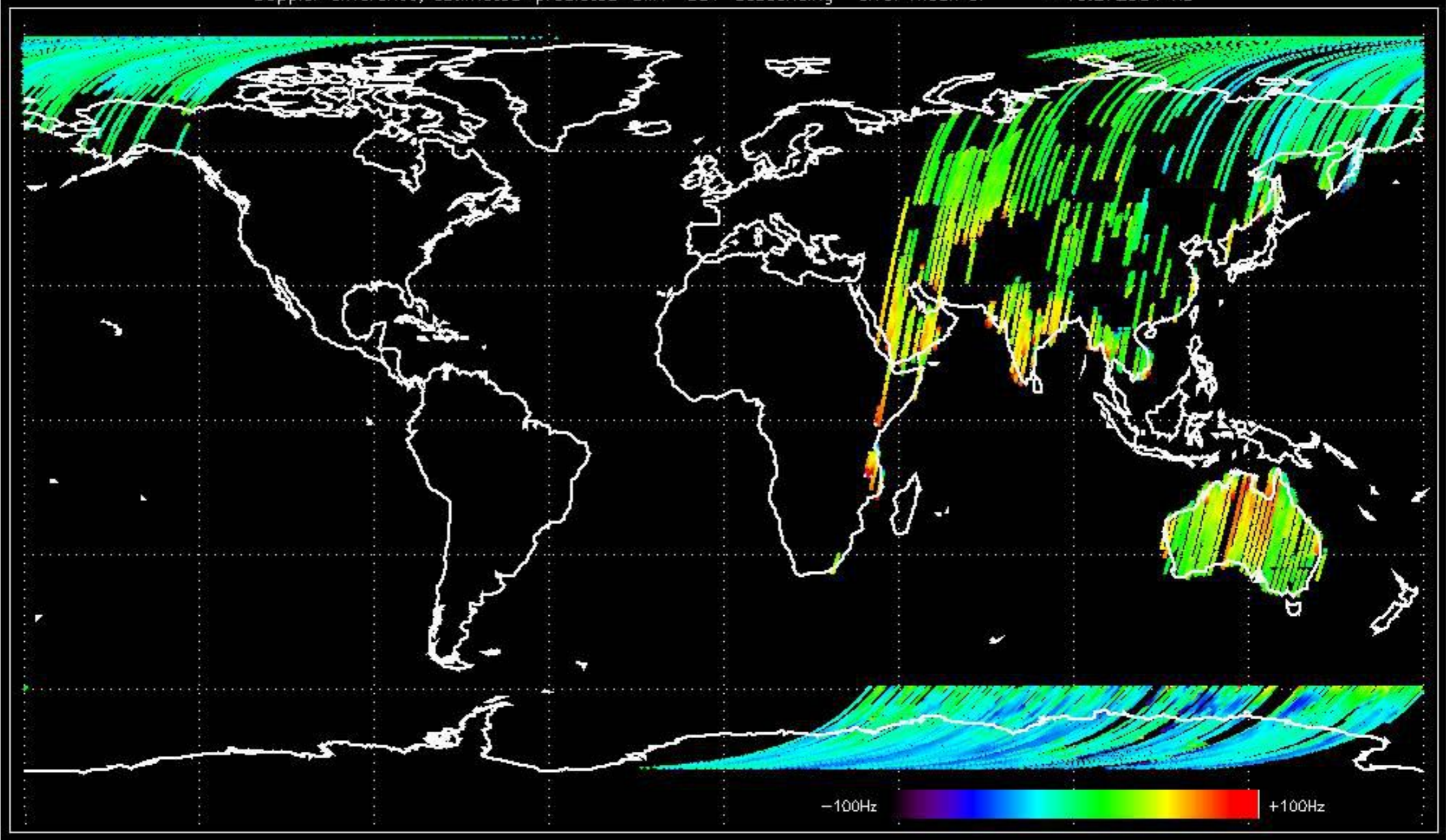




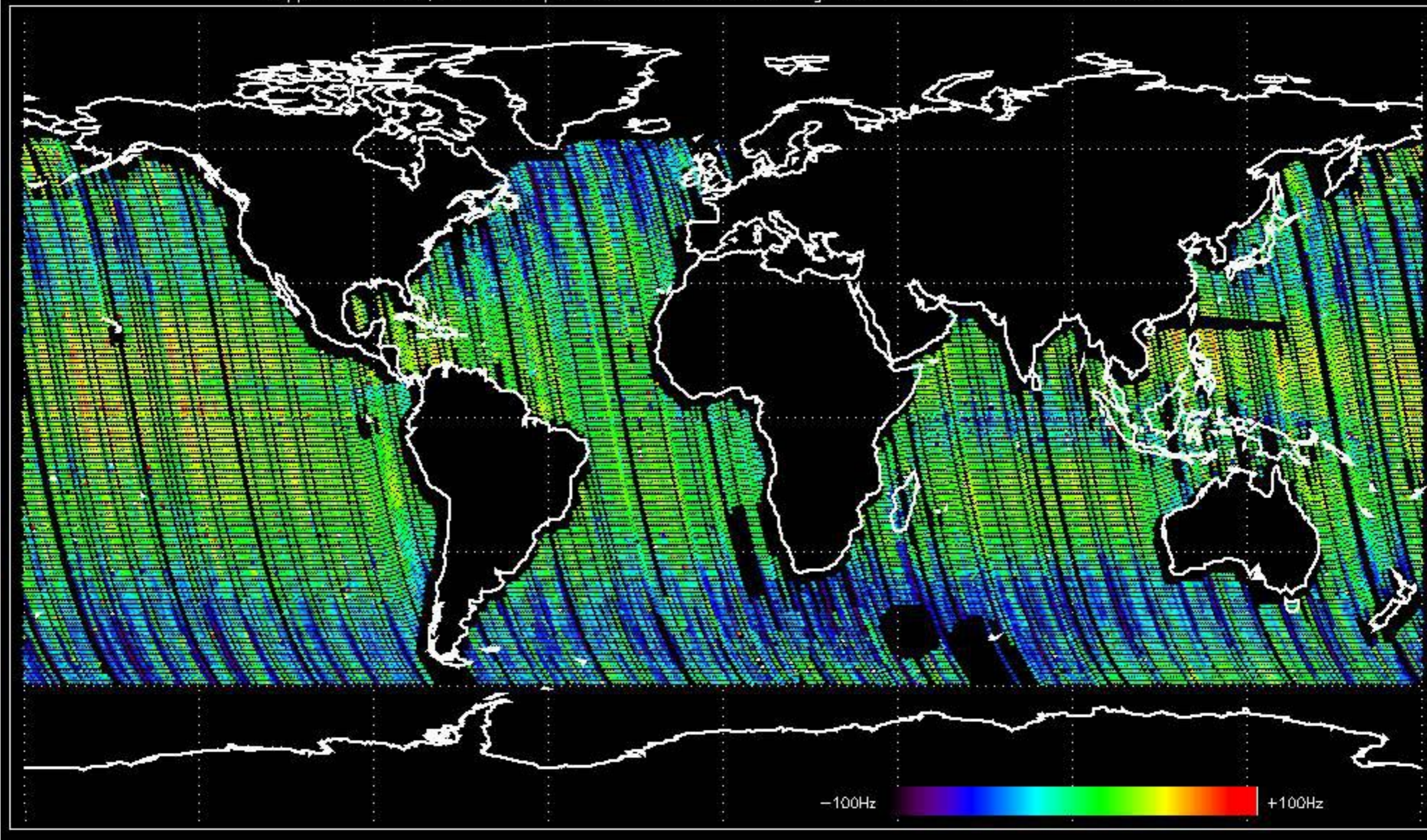
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -14.244461 Hz



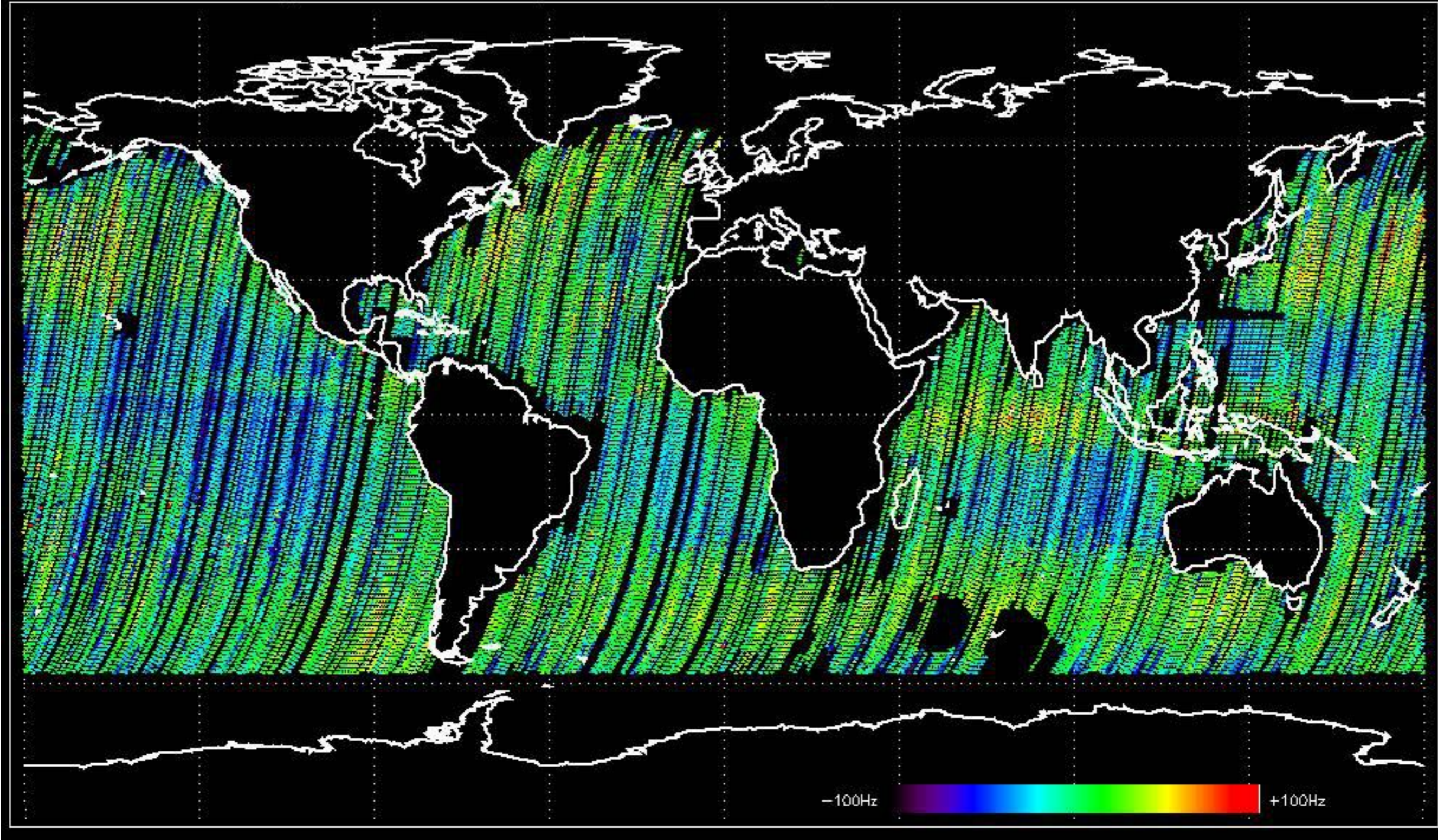
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -18.272954 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -11.328600 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -14.885702 Hz



No anomalies observed on available MS products:

No anomalies observed.











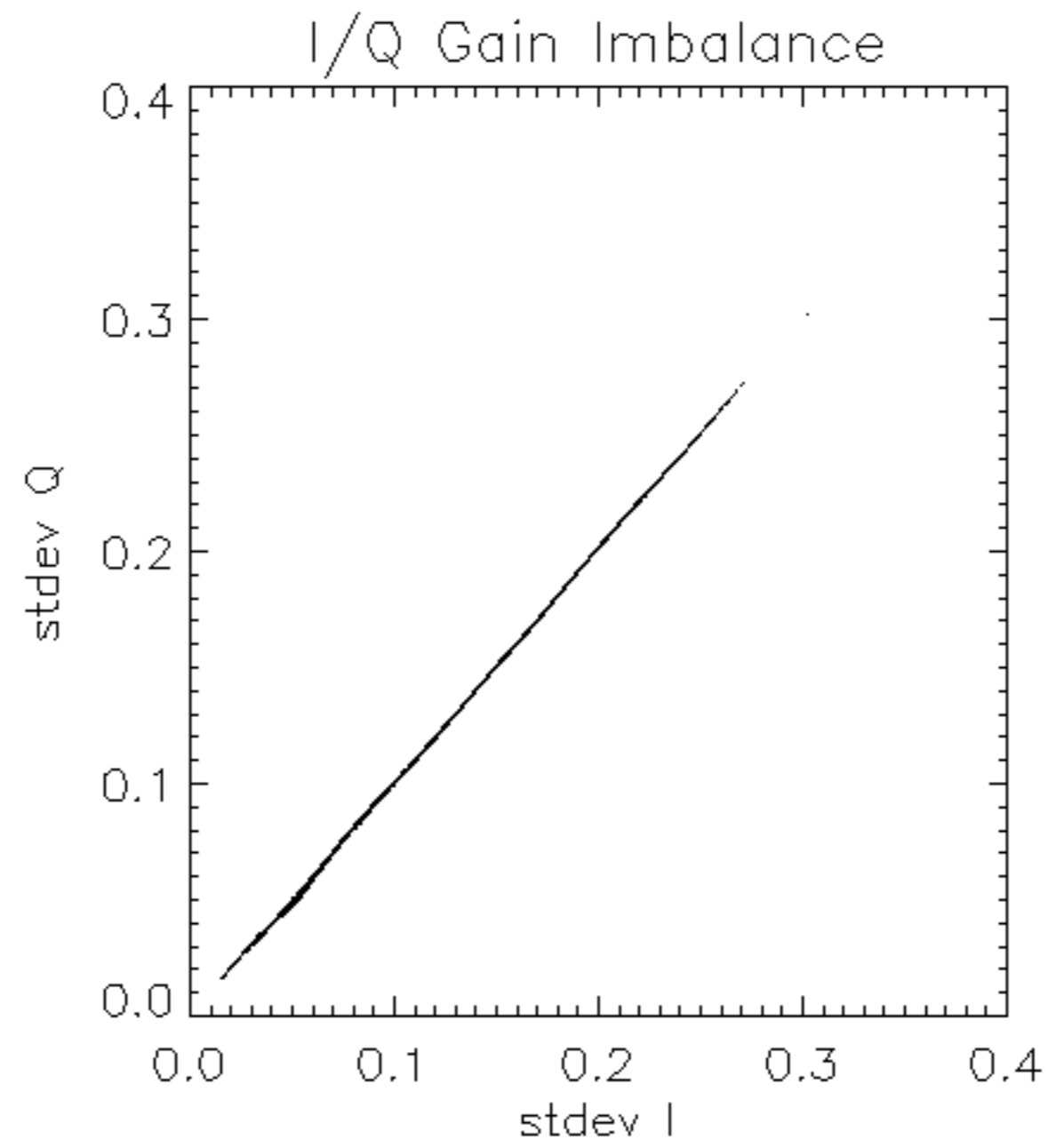


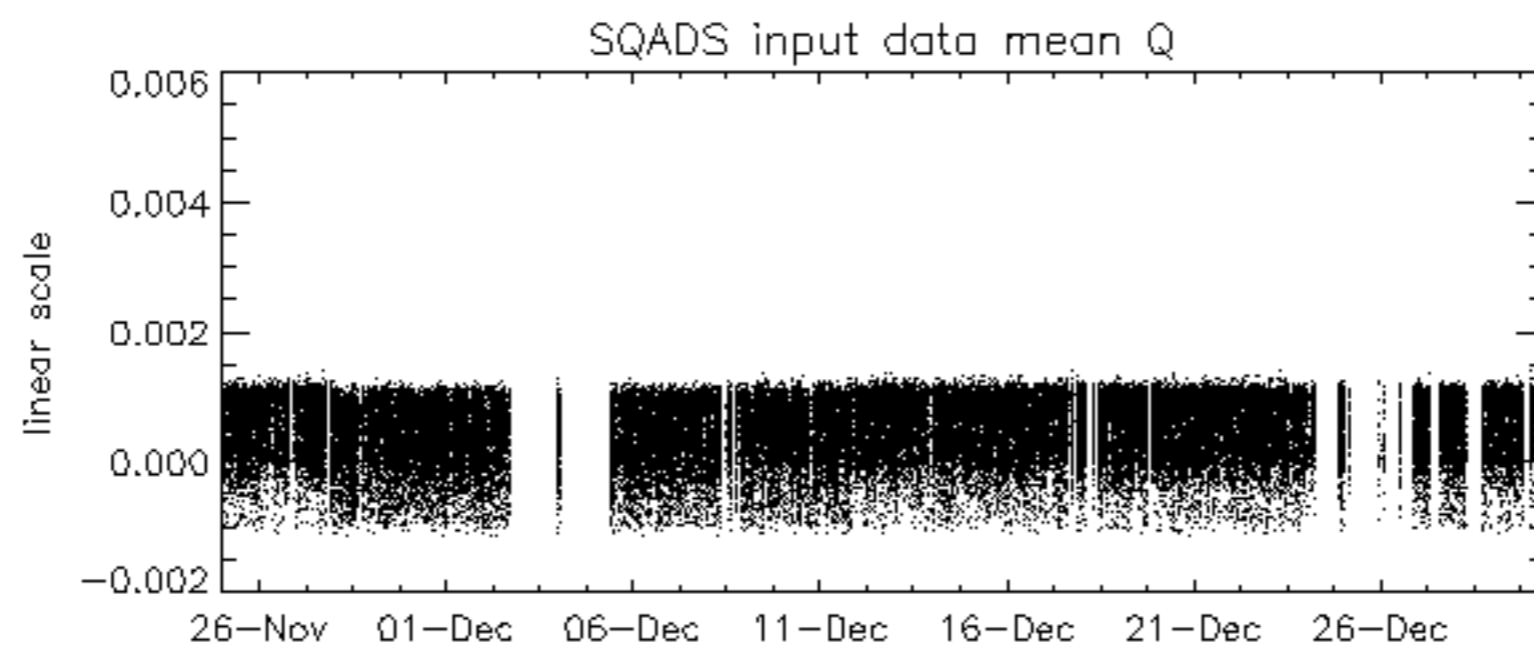
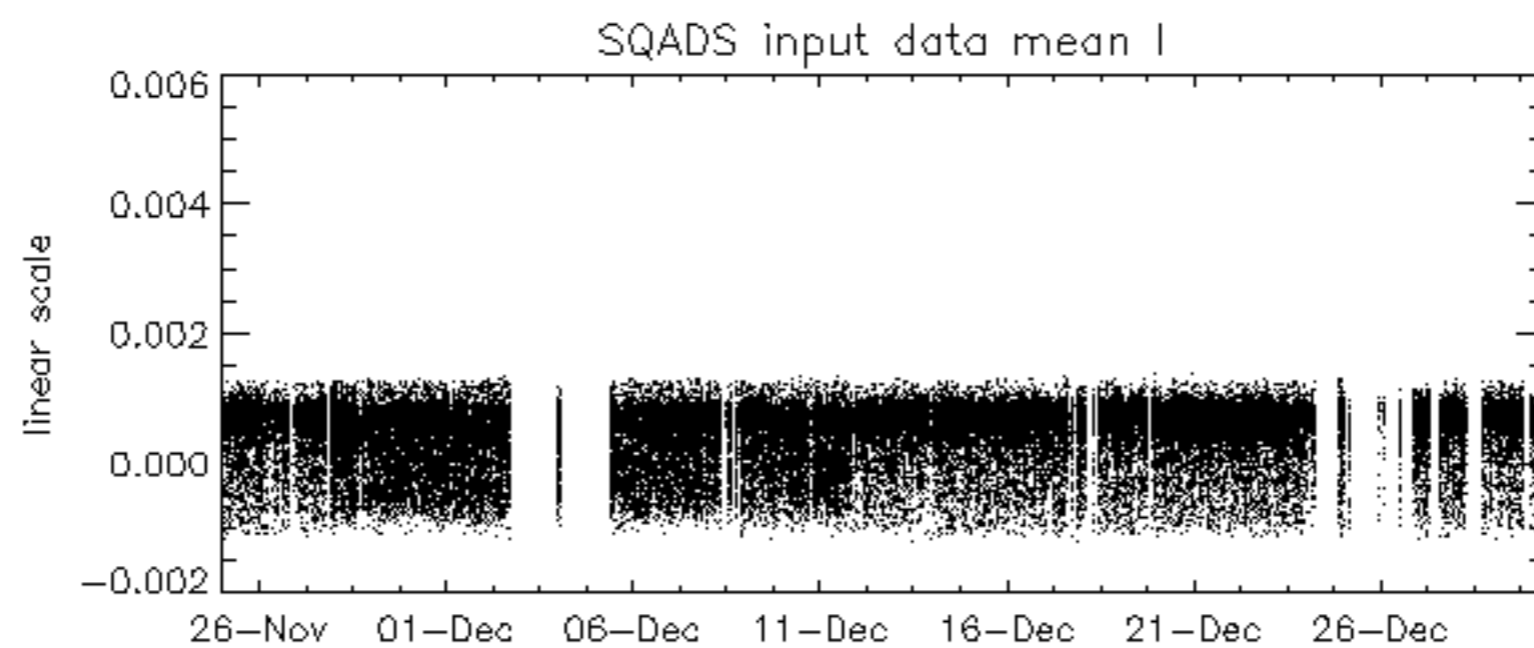
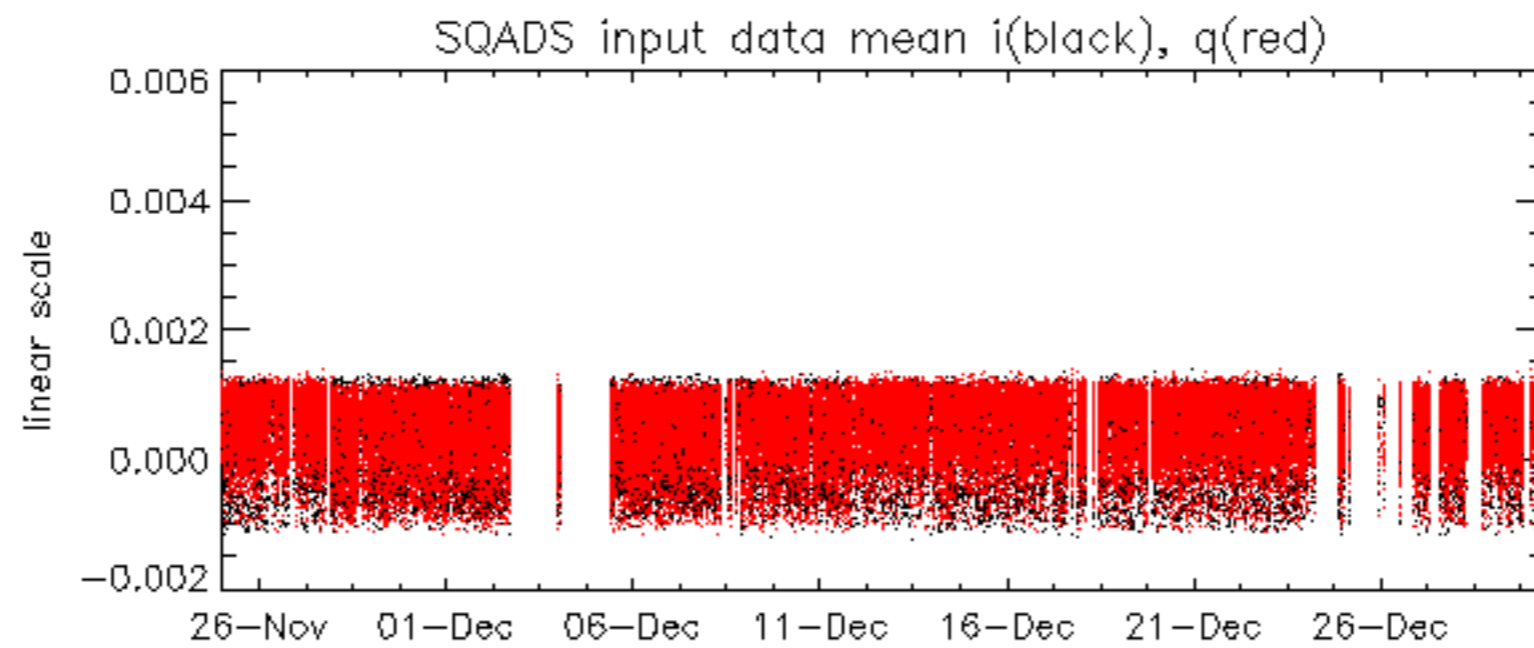


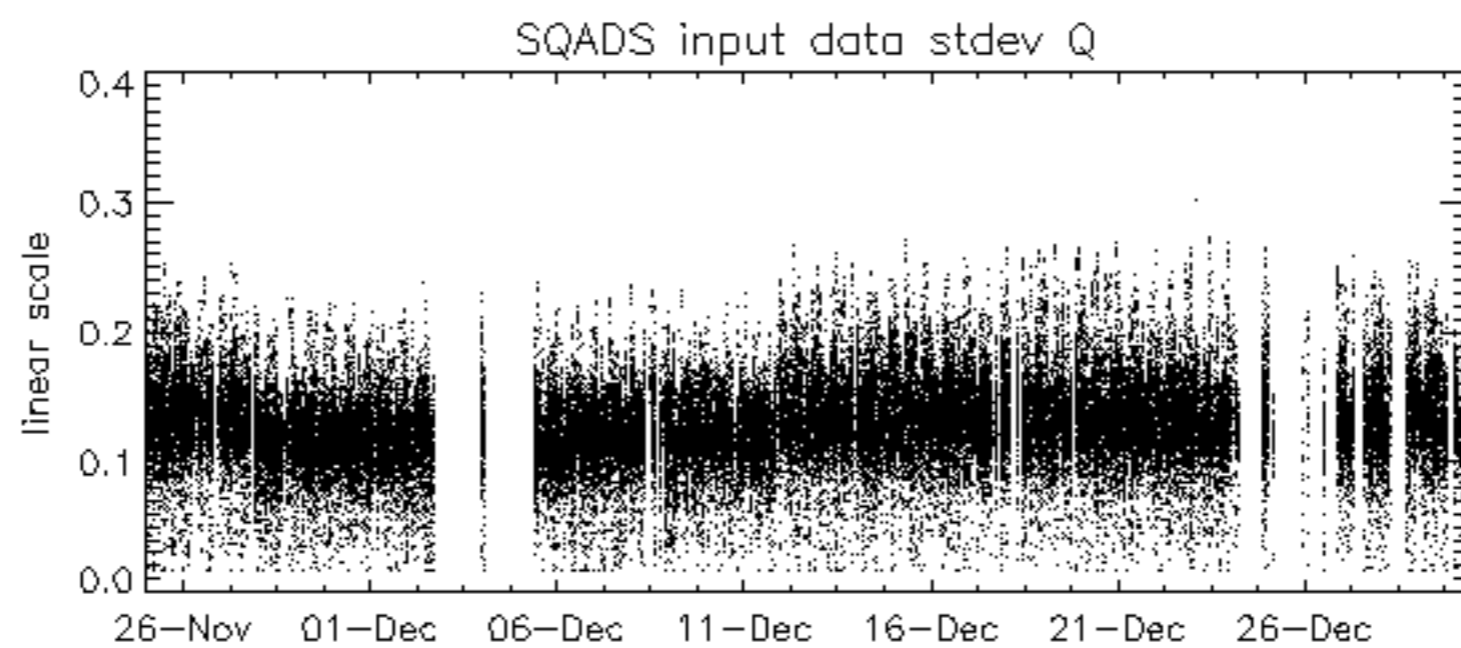
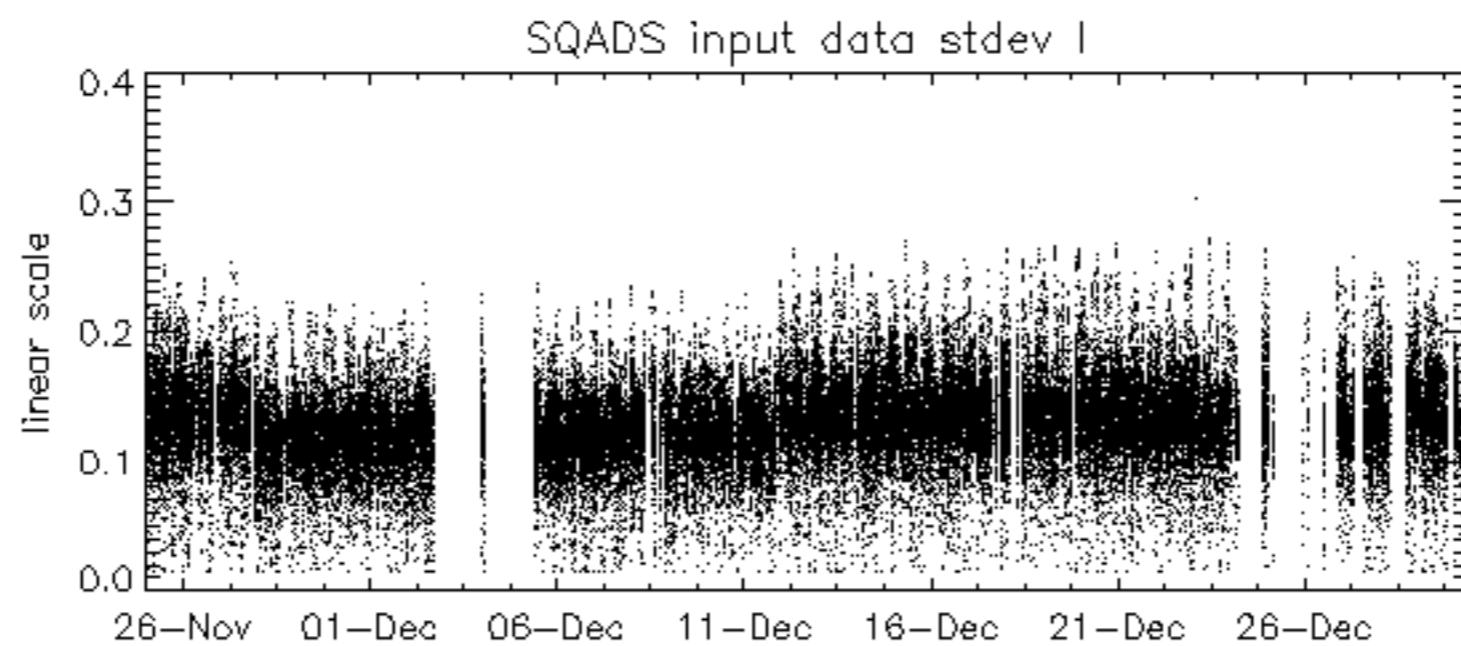
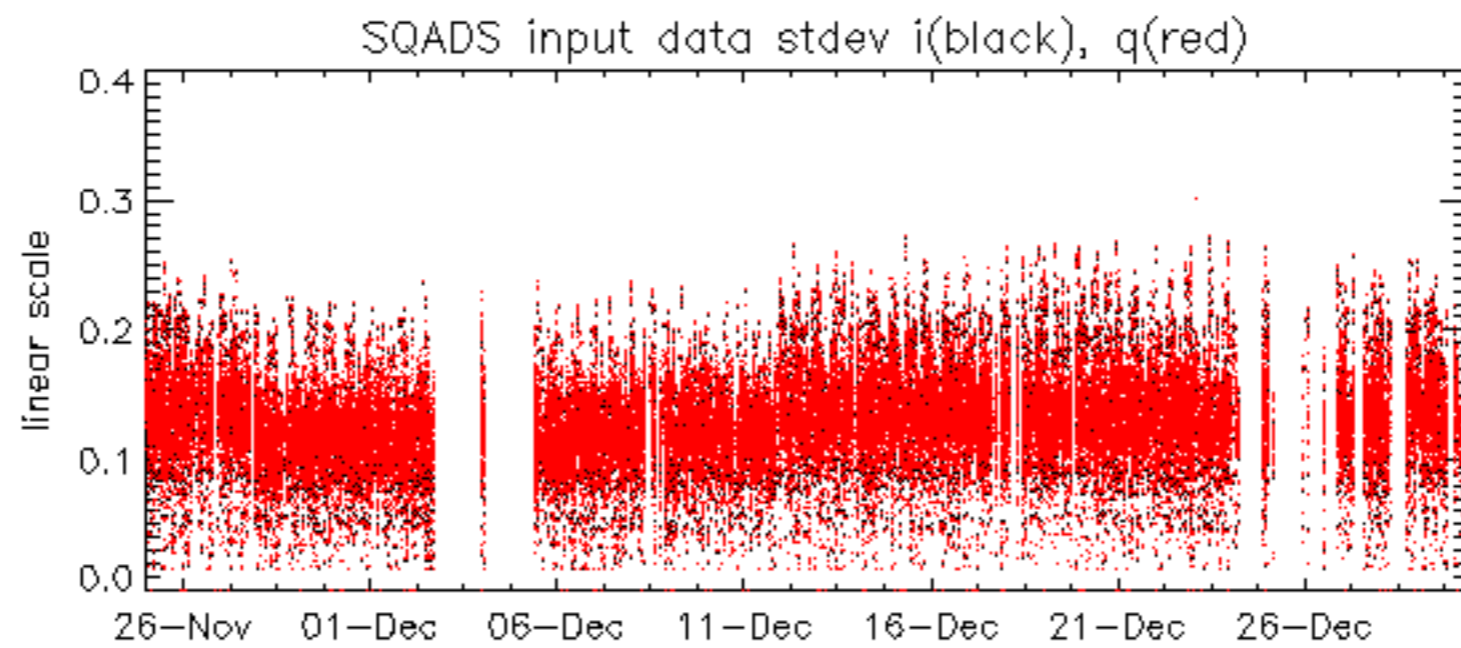




















Summary of analysis for the last 3 days 2005122[890]

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_1PNPDE20051228_002245_000003782043_00417_20010_4893.N1	1	0
ASA_IMM_1PNPDE20051229_003425_000001302043_00431_20024_5024.N1	1	0
ASA_IMM_1PNPDE20051229_011742_000000362043_00432_20025_5054.N1	1	0
ASA_IMM_1PNPDK20051228_130204_000000822043_00425_20018_9725.N1	1	0
ASA_WVS_1PNPDE20051220_215422_000000002043_00315_19908_4010.N1	1	0
ASA_WSM_1PNPDE20051228_184007_000000672043_00428_20021_6052.N1	0	33
ASA_WSM_1PNPDE20051229_012419_000003422043_00432_20025_6107.N1	0	13
ASA_WSM_1PNPDE20051229_172648_000001042043_00442_20035_6239.N1	0	14

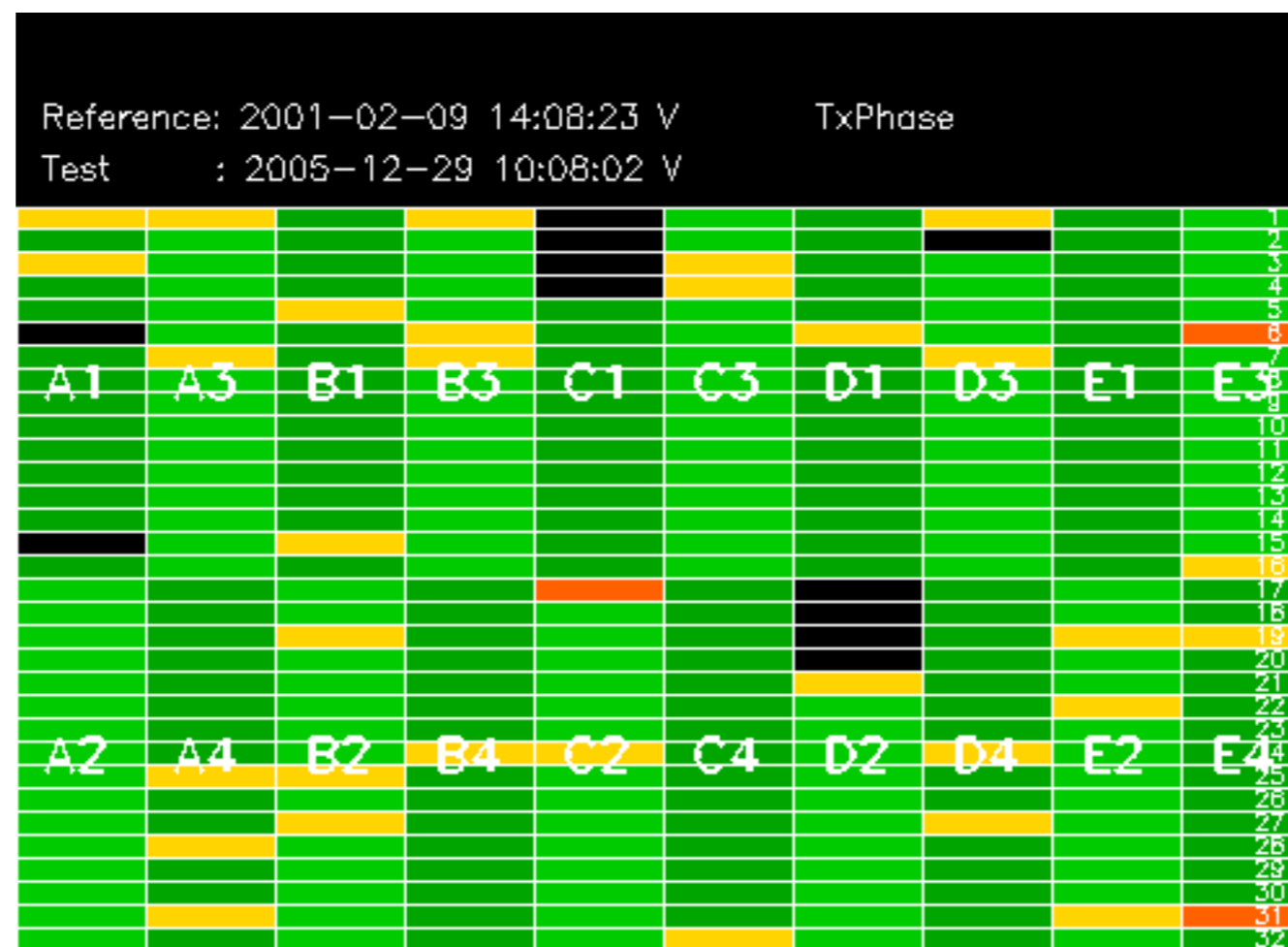






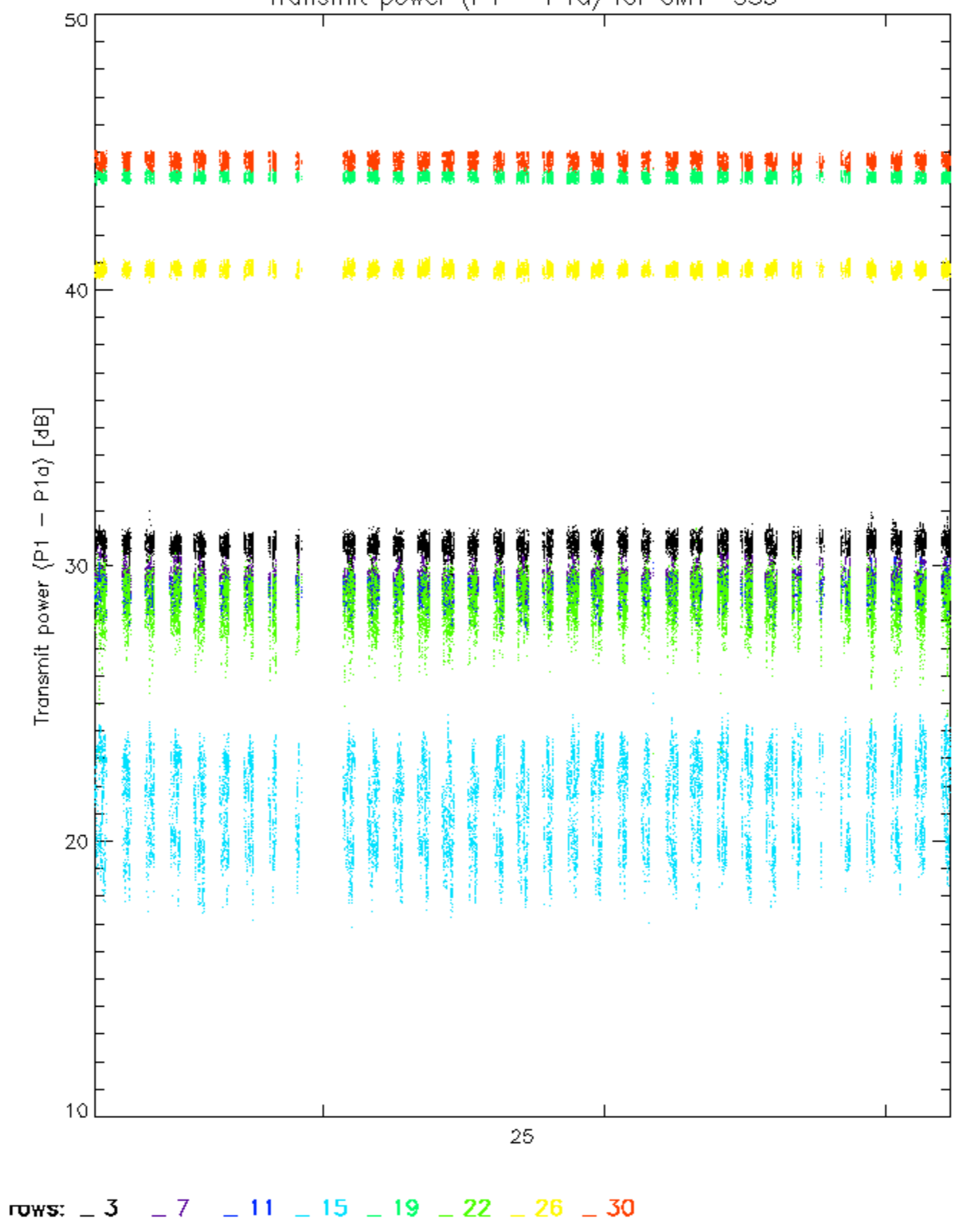


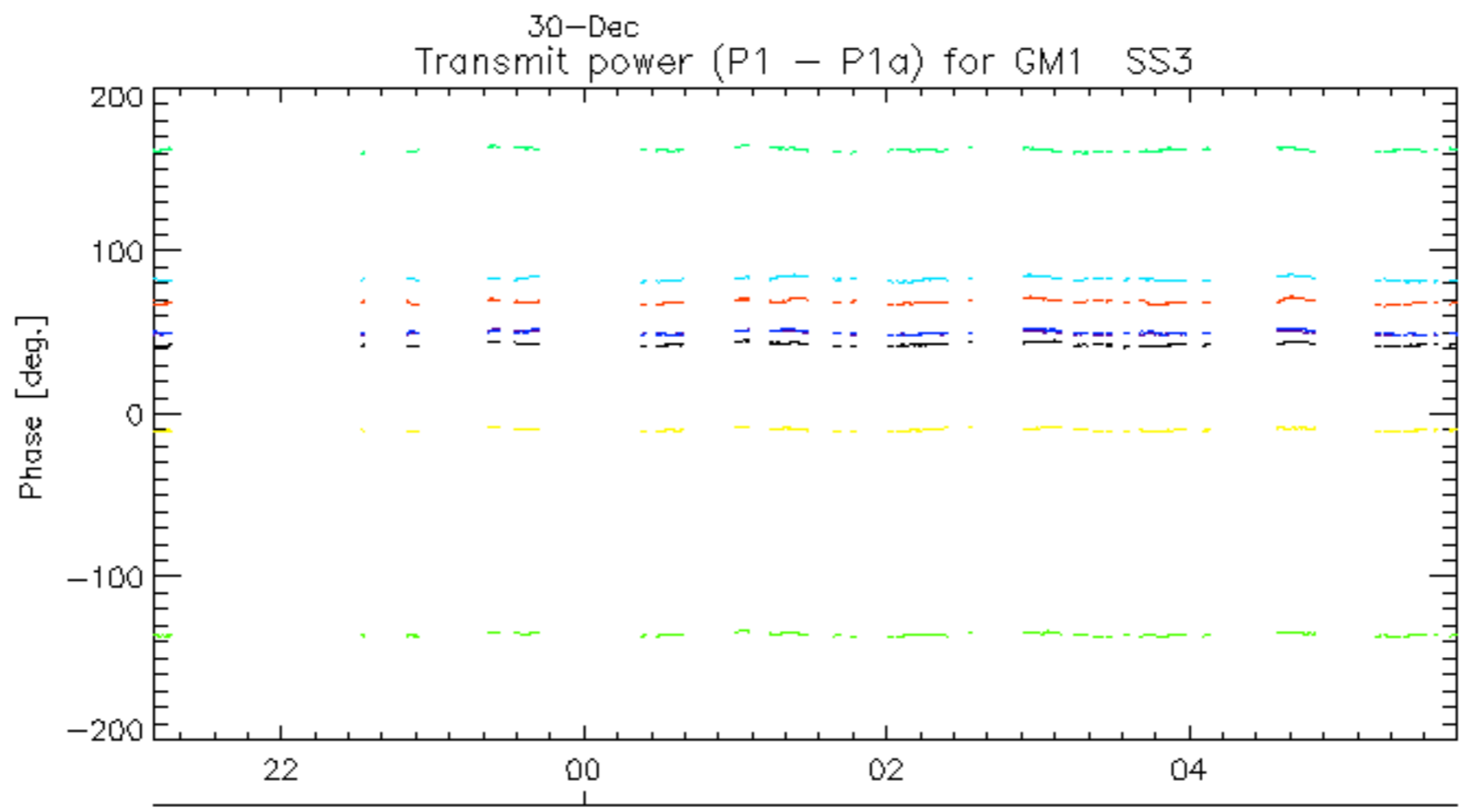
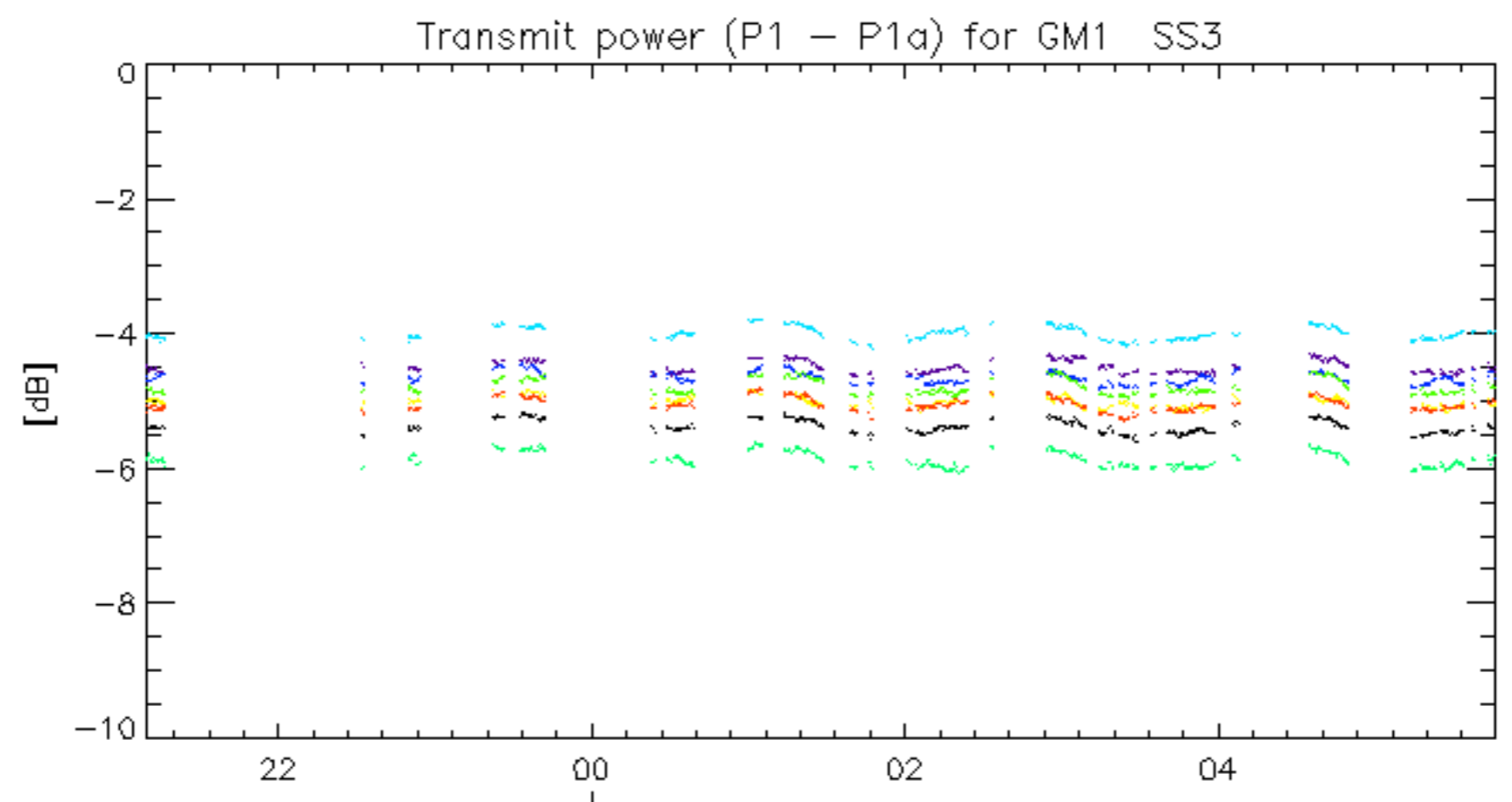






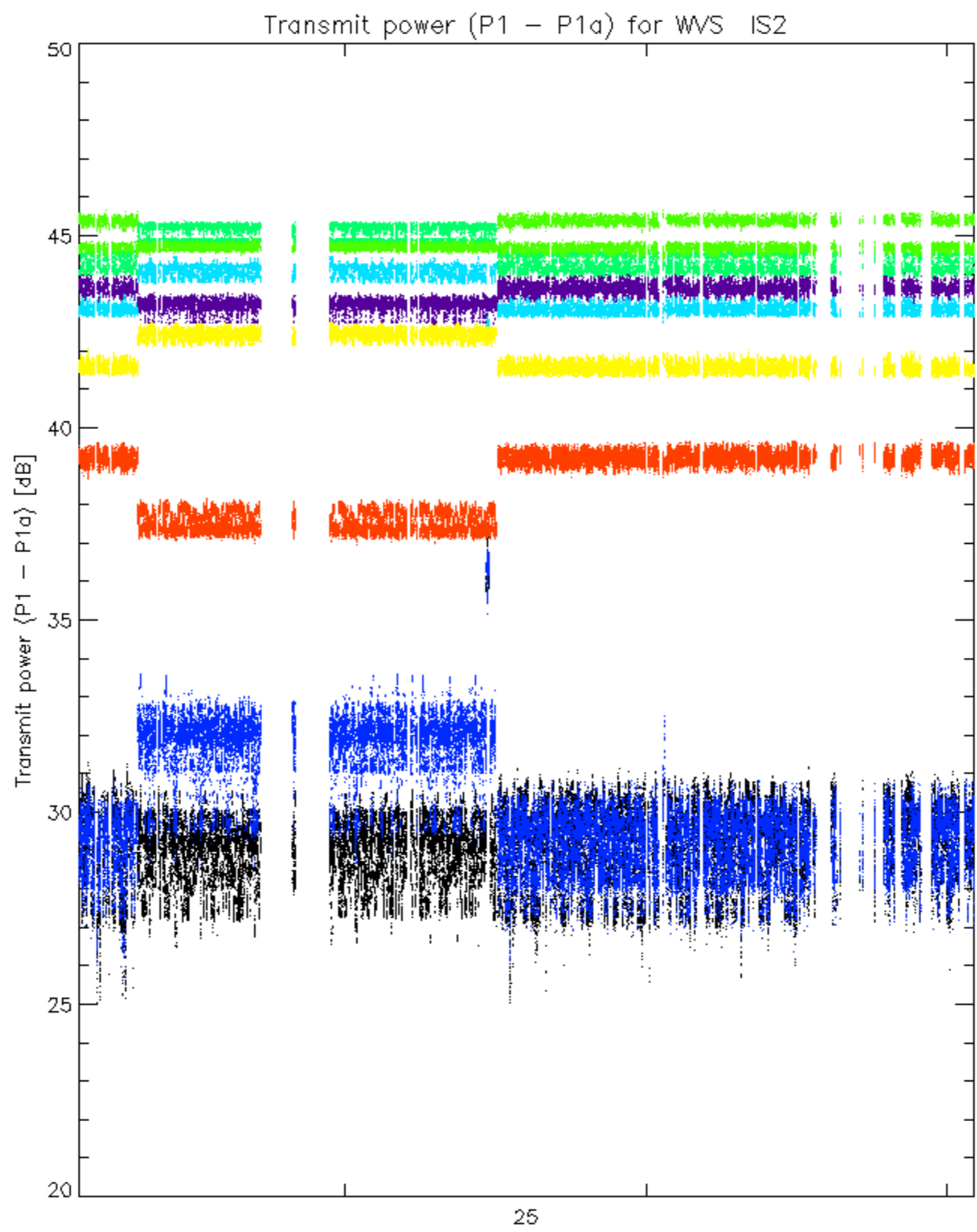
Transmit power (P1 - P1a) for GM1 SS3



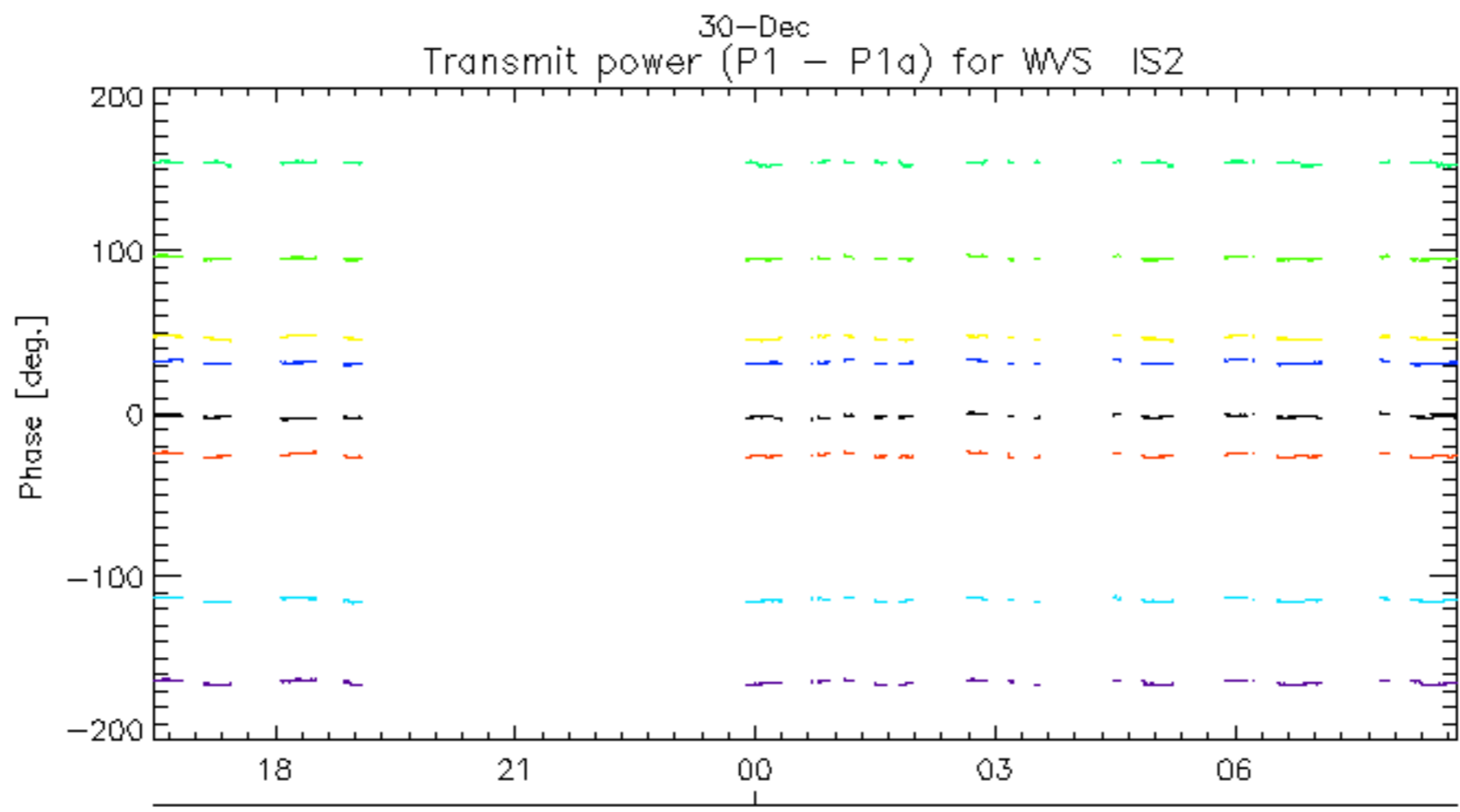
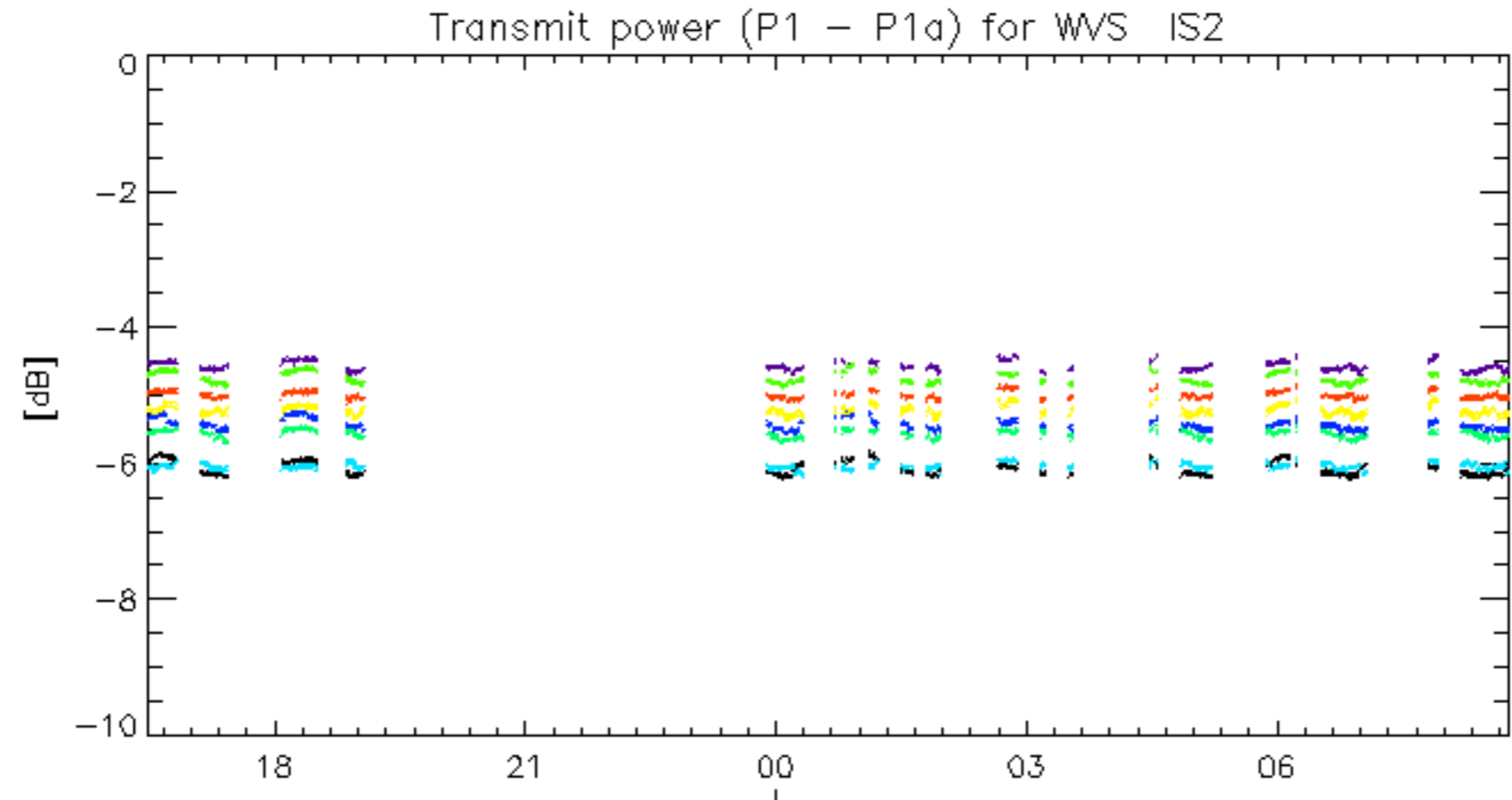


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30





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



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

No unavailabilities during the reported period.