

# PRELIMINARY REPORT OF 051222

last update on Thu Dec 22 16:44:24 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 2005-12-21 00:00:00 to 2005-12-22 16:44:24

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	41	0	9	0	0
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	41	0	9	0	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	41	0	9	0	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	41	0	9	0	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	31	42	28	13	44
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	31	42	28	13	44
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	31	42	28	13	44
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	31	42	28	13	44

### 2.3 - Browse Visual Inspection

No anomalies observed on available browse products

### 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	20051221 073836
H	20051222 070659

### 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
☒	☒
☒	☒
☒	☒
☒	☒

## 4 - Internal calibration Results

No anomalies observed.

### 4.1 - Daily statistics

#### 4.1.1 - Evolution for WVS

Evolution of cal pulses for WVS
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☒

#### 4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1
☒
☒

### 4.2 - Cyclic statistics

#### 4.2.1 - Evolution for WVS

Evolution of cal pulses for WVS
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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	-3.691115	0.249502	-0.148803
7	P1	-2.754459	0.128548	-0.008648
11	P1	-4.146070	0.032545	0.001330
15	P1	-5.105715	1.724079	0.018860
19	P1	-3.041727	0.064789	-0.025132
22	P1	-4.437713	0.022407	-0.004428
26	P1	-4.397031	0.060686	0.008989
30	P1	-5.656281	0.034746	-0.004187
3	P1	-15.697353	2.731151	-0.448116
7	P1	-15.315623	2.684173	-0.069775
11	P1	-16.321461	0.478238	0.012737
15	P1	-12.761560	0.981509	0.233317
19	P1	-13.429595	0.360344	-0.062522
22	P1	-15.994534	0.634123	0.197541
26	P1	-15.104993	1.093718	0.134159
30	P1	-15.583276	2.480838	0.027384

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.836065	0.111320	0.164554
7	P2	-22.548470	0.105251	0.029087
11	P2	-16.545618	0.127217	0.198665
15	P2	-7.278501	0.103973	0.008935
19	P2	-9.219054	0.102003	0.005968
22	P2	-17.874815	0.111863	-0.047501
26	P2	-16.371752	0.132129	-0.049993
30	P2	-19.790010	0.118316	-0.004640

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.235989	0.007551	-0.002248
7	P3	-8.235989	0.007551	-0.002248
11	P3	-8.235989	0.007551	-0.002248
15	P3	-8.235989	0.007551	-0.002248
19	P3	-8.235989	0.007551	-0.002248
22	P3	-8.235989	0.007551	-0.002248
26	P3	-8.235989	0.007551	-0.002248
30	P3	-8.235989	0.007551	-0.002248

**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	-3.704133	0.008253	-0.016581
7	P1	-2.774016	0.012036	0.015759
11	P1	-2.875942	0.015116	-0.003262
15	P1	-3.411155	0.021755	-0.019390
19	P1	-3.390691	0.013771	-0.016960
22	P1	-5.125427	0.018919	0.005320
26	P1	-5.843428	0.016386	-0.031665
30	P1	-5.282103	0.033127	-0.016570
3	P1	-11.482344	0.040900	-0.020164
7	P1	-9.965969	0.046404	-0.021208
11	P1	-10.050974	0.060272	0.005582
15	P1	-10.571449	0.079298	0.082213
19	P1	-15.516427	0.073437	-0.049333
22	P1	-20.955168	0.975643	-0.044440

26	P1	-17.169605	0.303409	0.029591
30	P1	-18.279690	0.308018	0.297451

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.614264	0.030099	0.053968
7	P2	-23.047762	0.057021	-0.034920
11	P2	-11.617393	0.021089	0.118172
15	P2	-4.988199	0.021137	-0.033553
19	P2	-6.968110	0.021975	-0.046609
22	P2	-8.201053	0.022736	-0.050507
26	P2	-24.051018	0.030830	-0.023695
30	P2	-22.127155	0.018142	-0.051503

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.077289	0.002455	-0.008861
7	P3	-8.077405	0.002455	-0.008560
11	P3	-8.077324	0.002438	-0.009005
15	P3	-8.077289	0.002447	-0.009387
19	P3	-8.077390	0.002449	-0.008973
22	P3	-8.077357	0.002450	-0.008918
26	P3	-8.077360	0.002426	-0.008843
30	P3	-8.077045	0.002447	-0.008872

## 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	0.000460656
	stdev	2.18218e-07
MEAN Q	mean	0.000476791
	stdev	2.36502e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129065
	stdev	0.00109057
STDEV Q	mean	0.129350
	stdev	0.00110285



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005122[012]

The assumptions 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_WVS_1PNPDE20051220_215422_000000002043_00315_19908_4010.N1	1	0
ASA_WSM_1PNPDE20051221_021712_000001042043_00318_19911_5158.N1	0	54
ASA_WSM_1PNPDE20051221_031549_000001472043_00319_19912_5167.N1	0	49





## 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

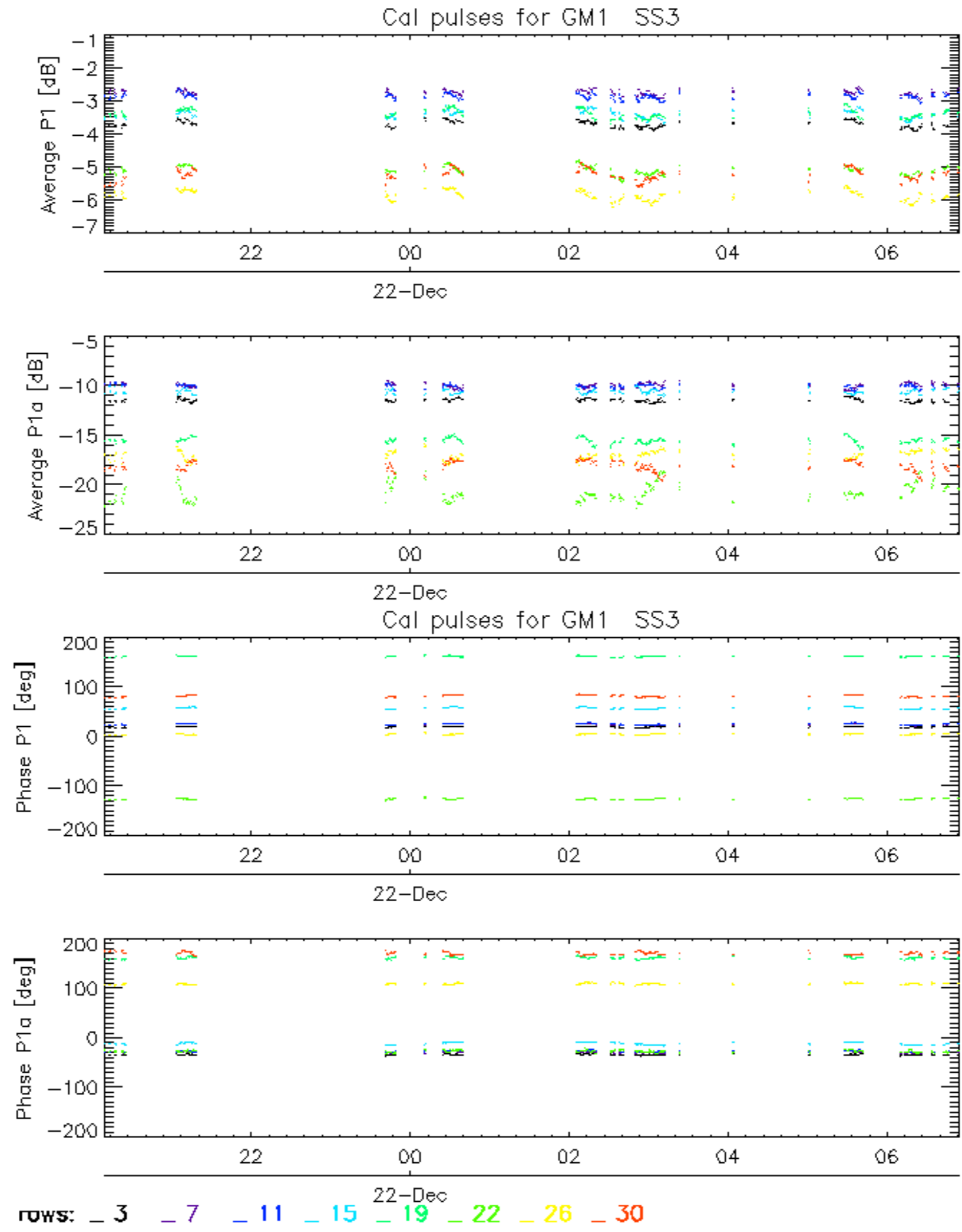
#### Evolution of Absolute Doppler

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

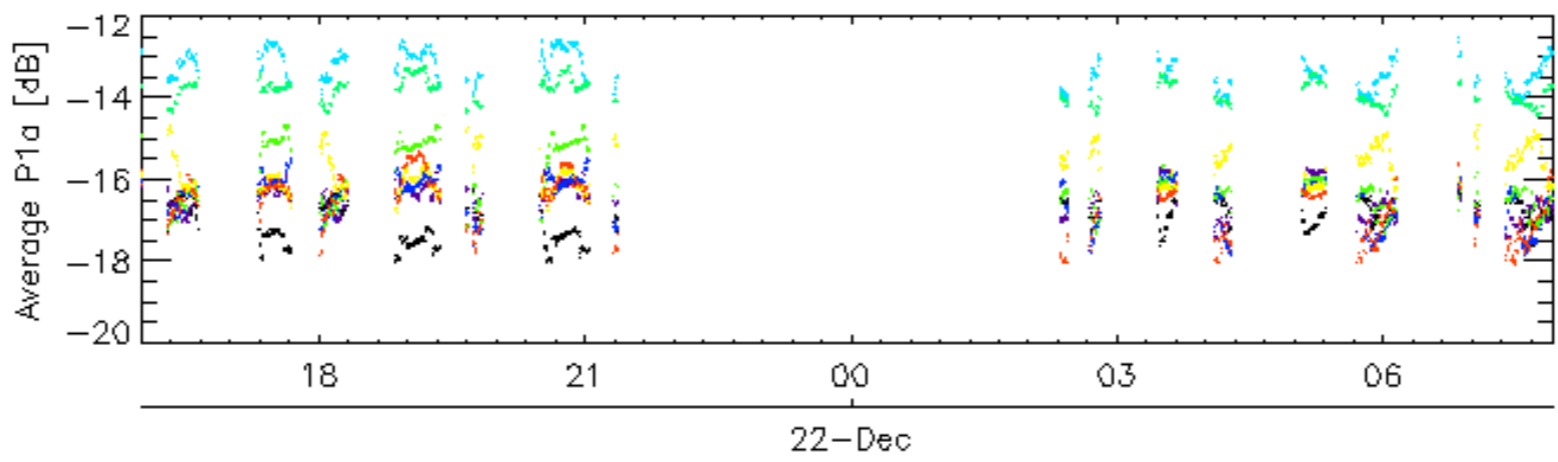
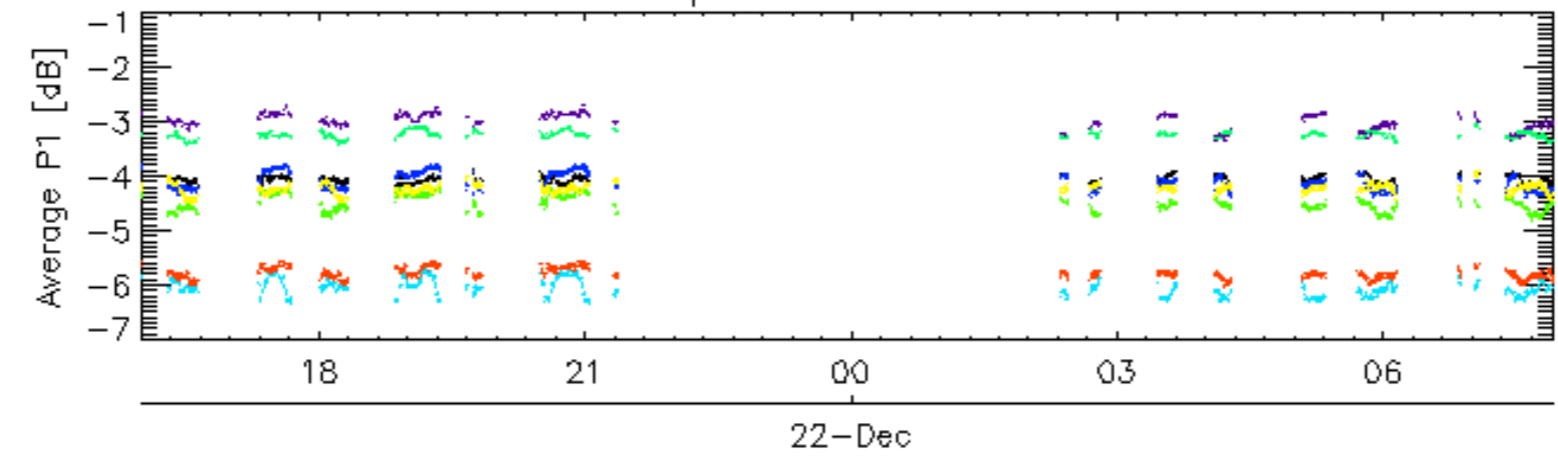
### 7.6 - Doppler evolution versus ANX for GM1

#### Evolution Doppler error versus ANX

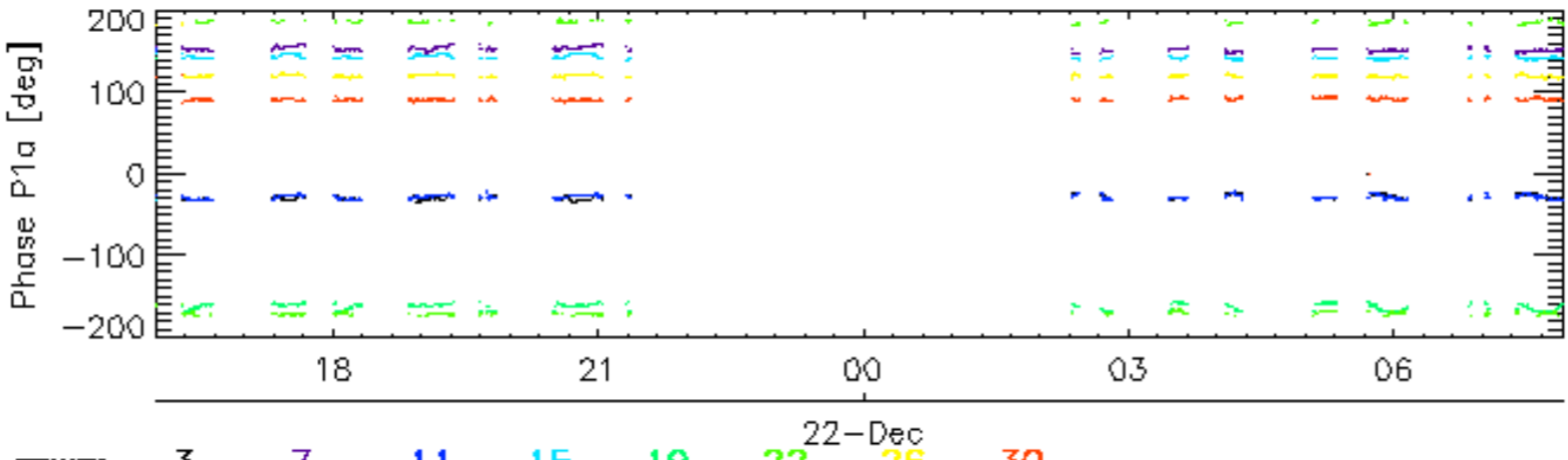
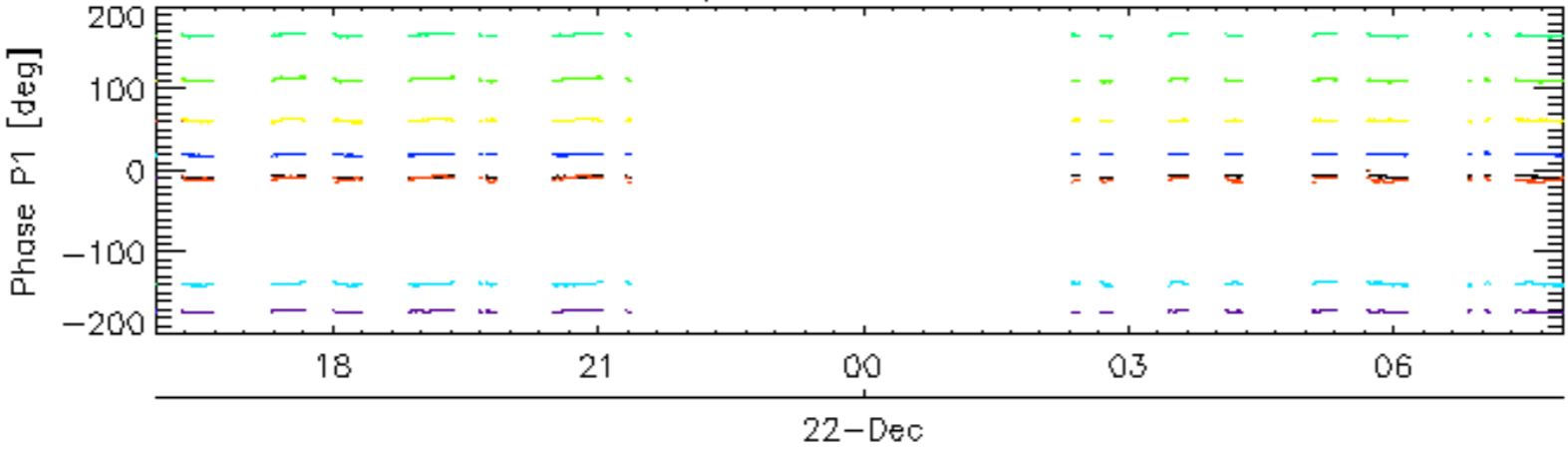
<input type="checkbox"/>
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Cal pulses for WVS IS2

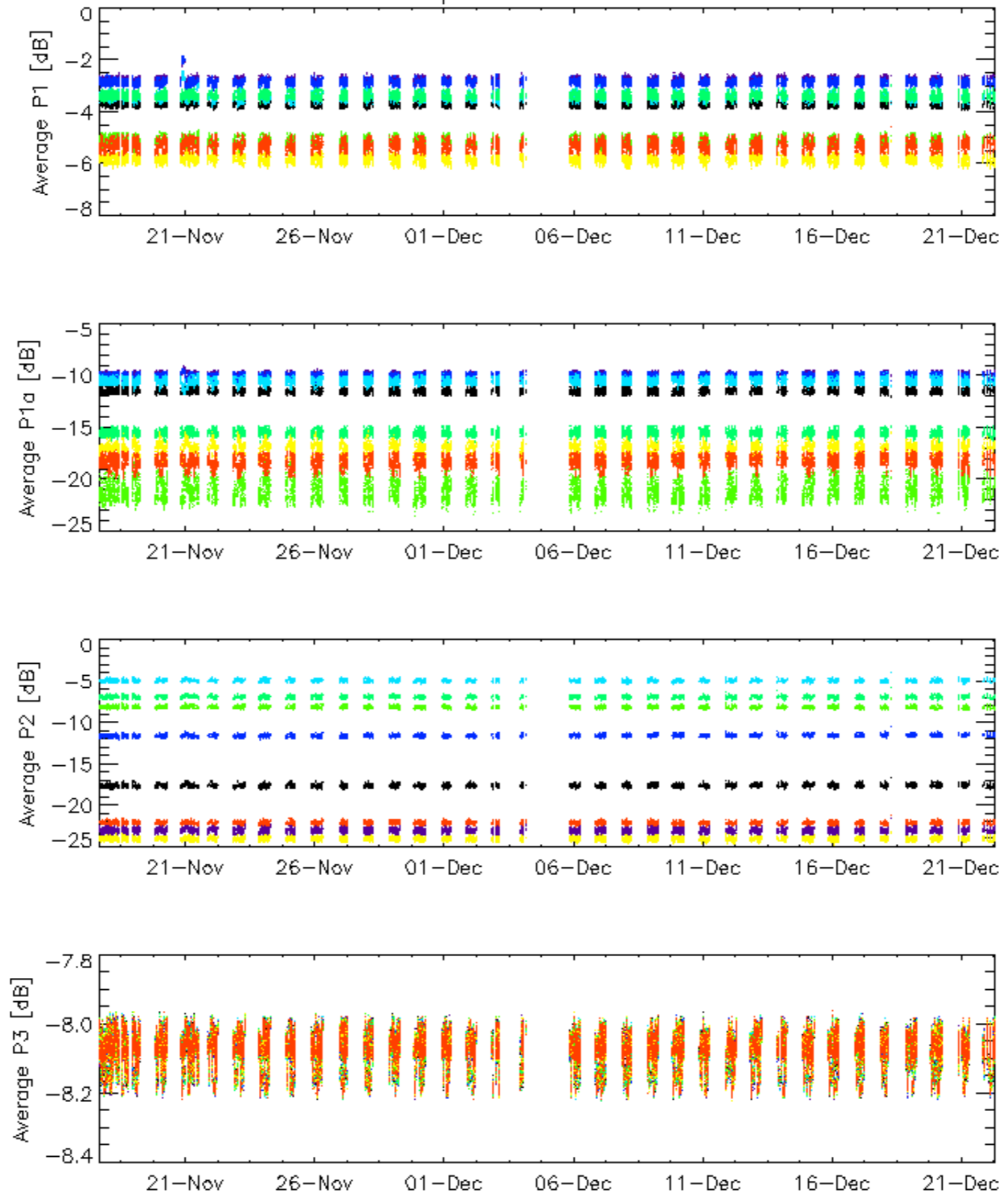


Cal pulses for WVS IS2



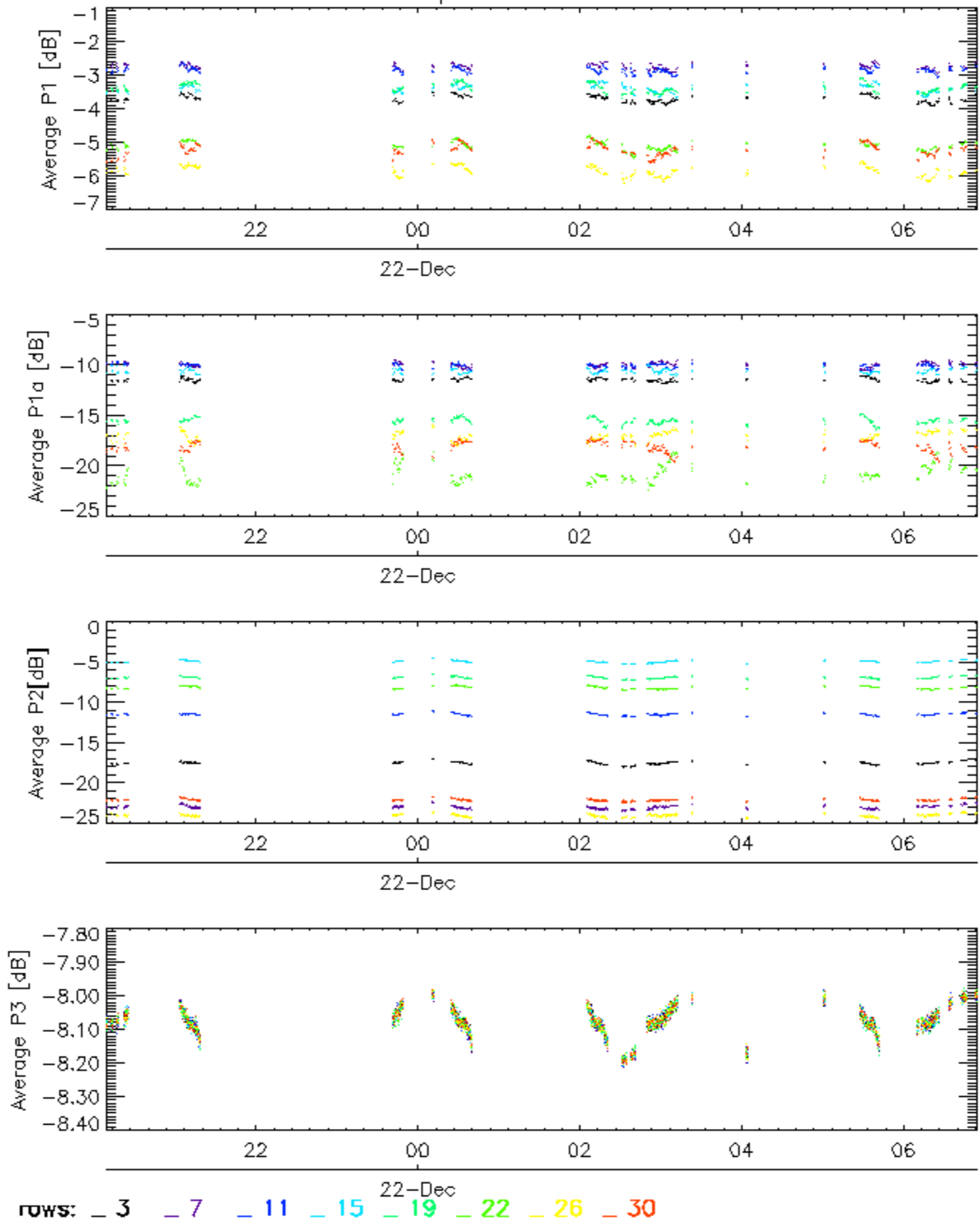
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

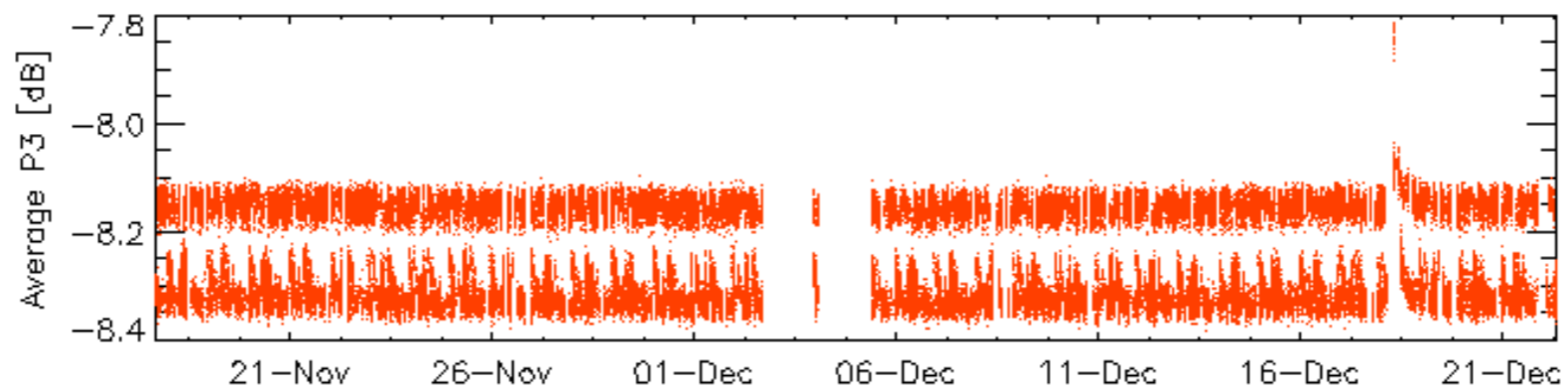
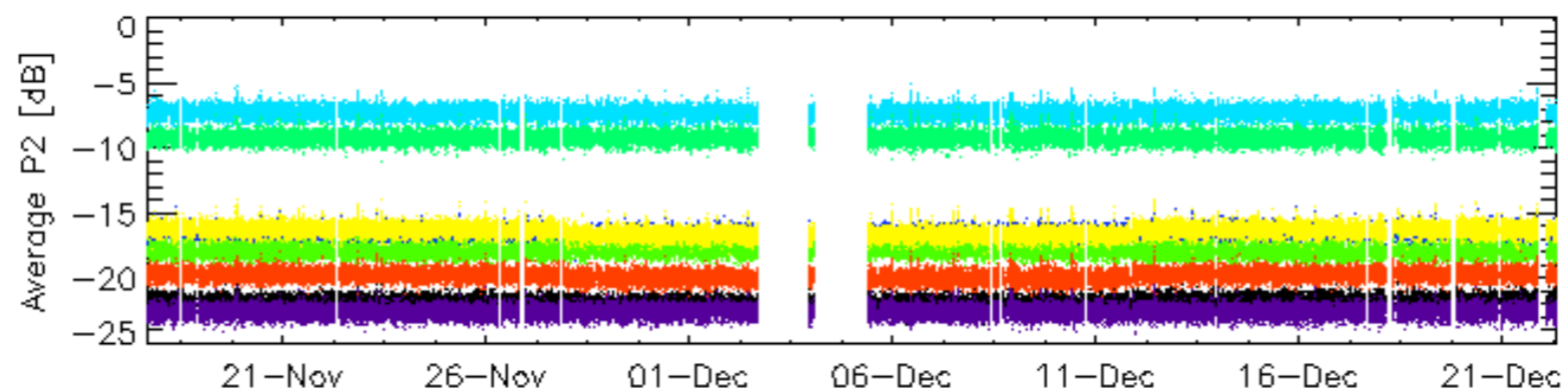
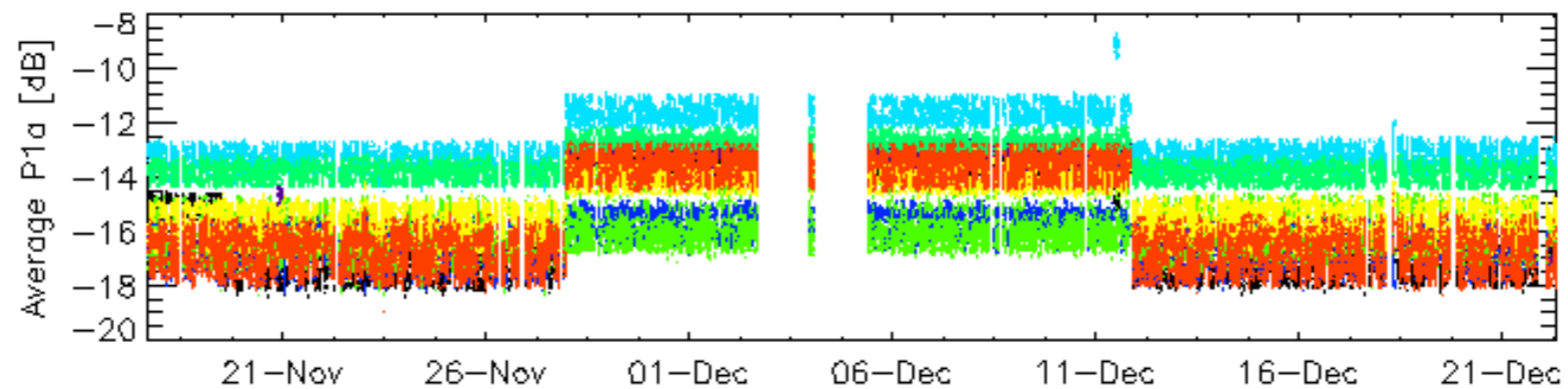
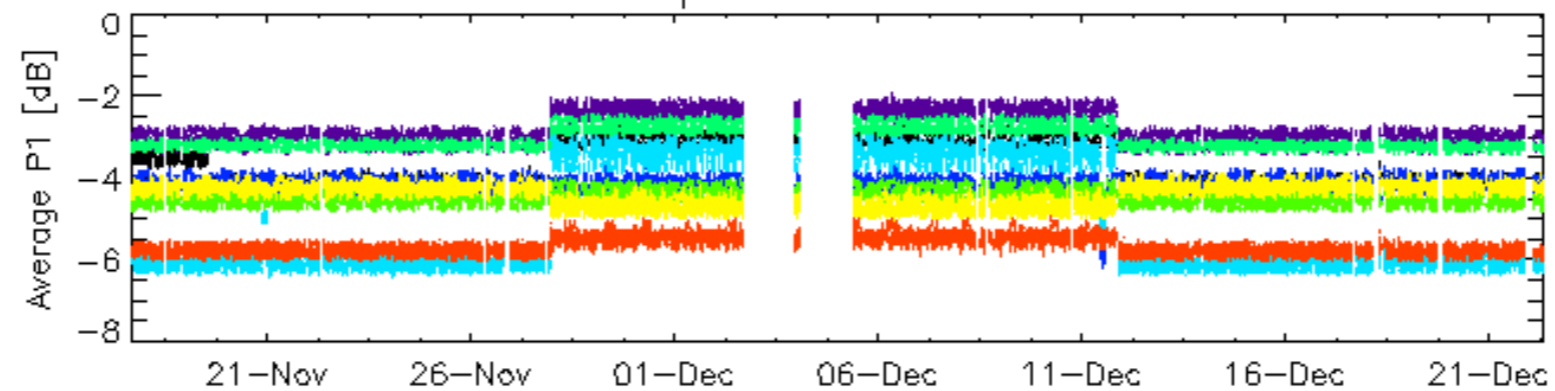


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

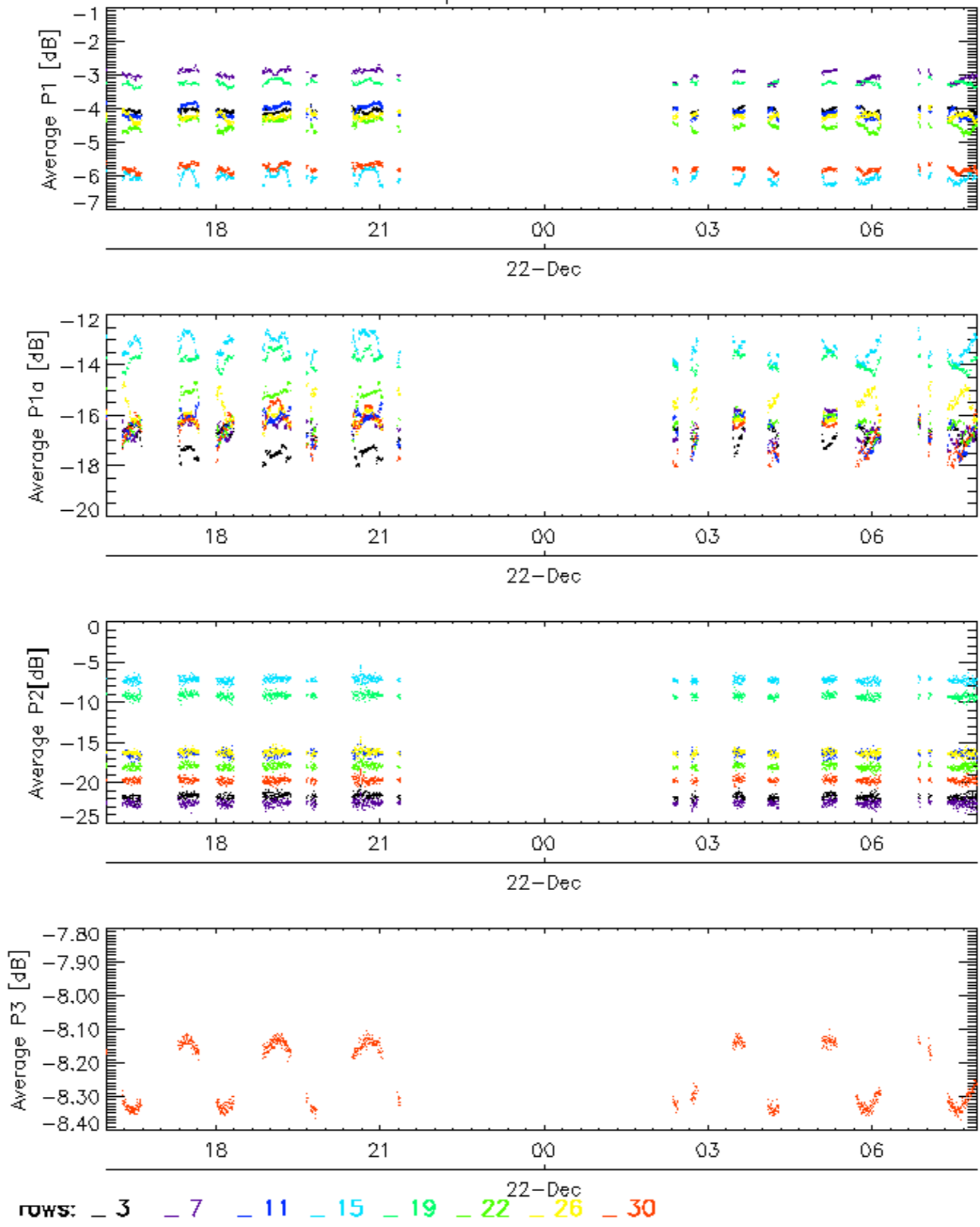


Cal pulses for WVS IS2



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

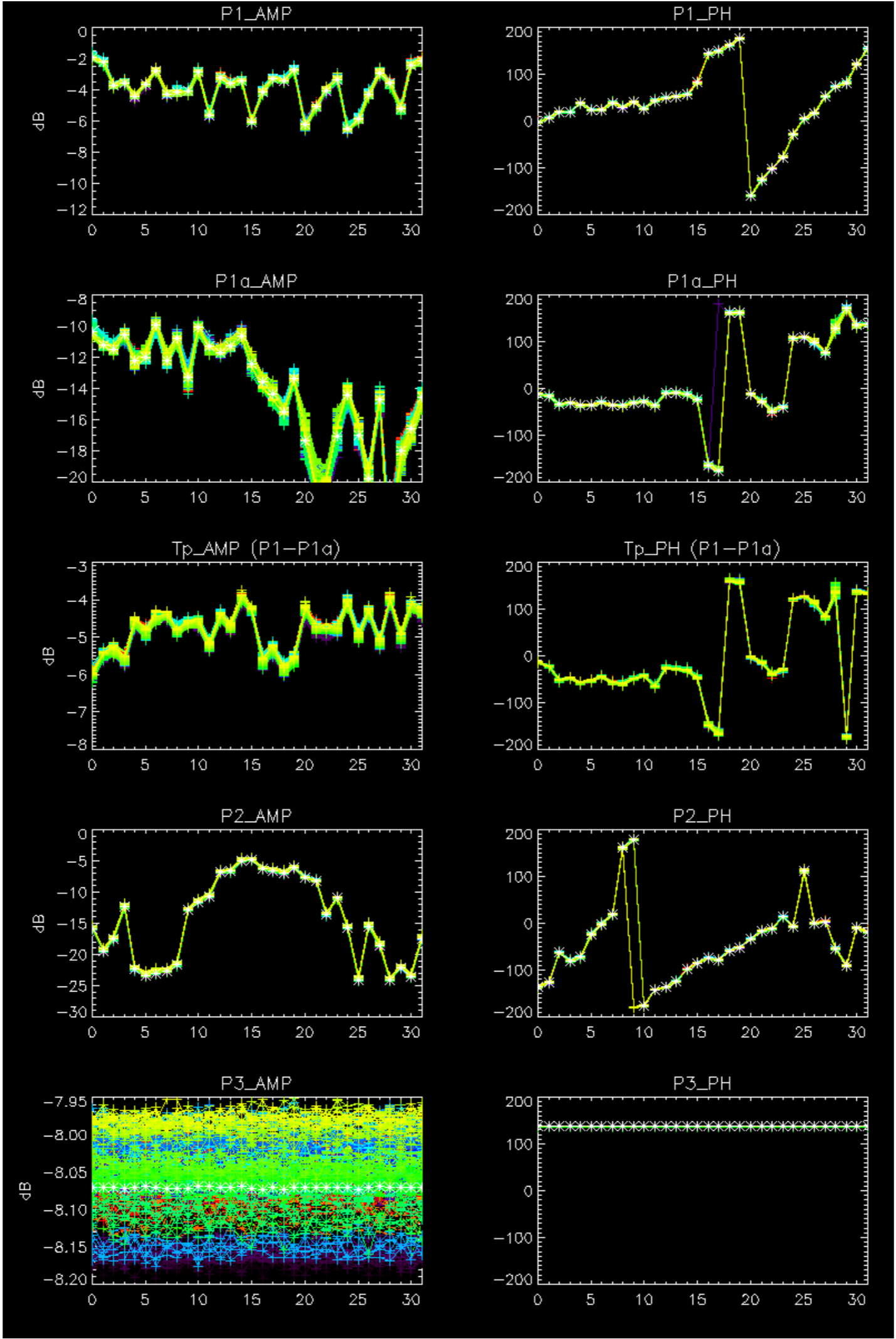
Cal pulses for WVS IS2

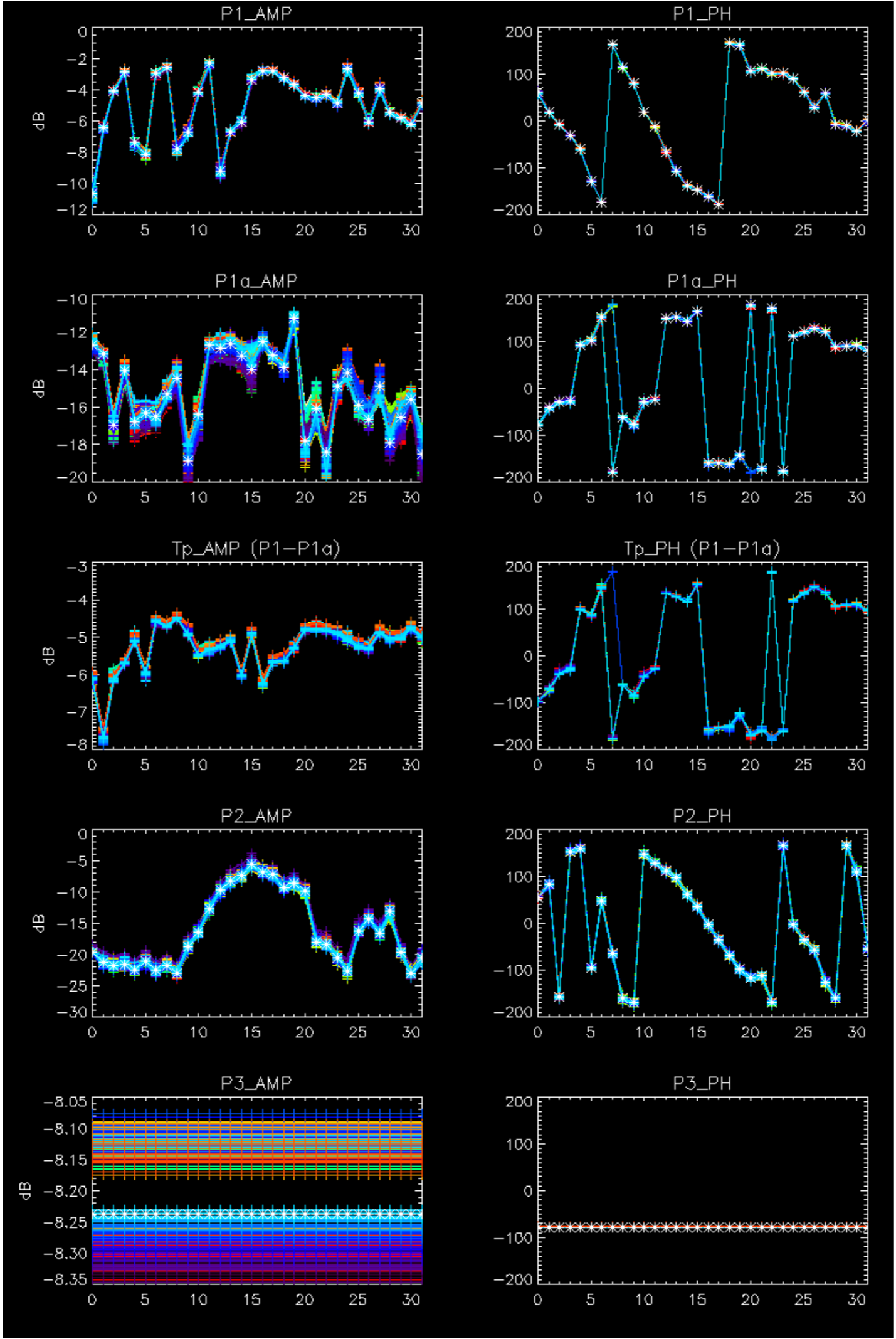


No anomalies observed on available browse products



No anomalies observed.



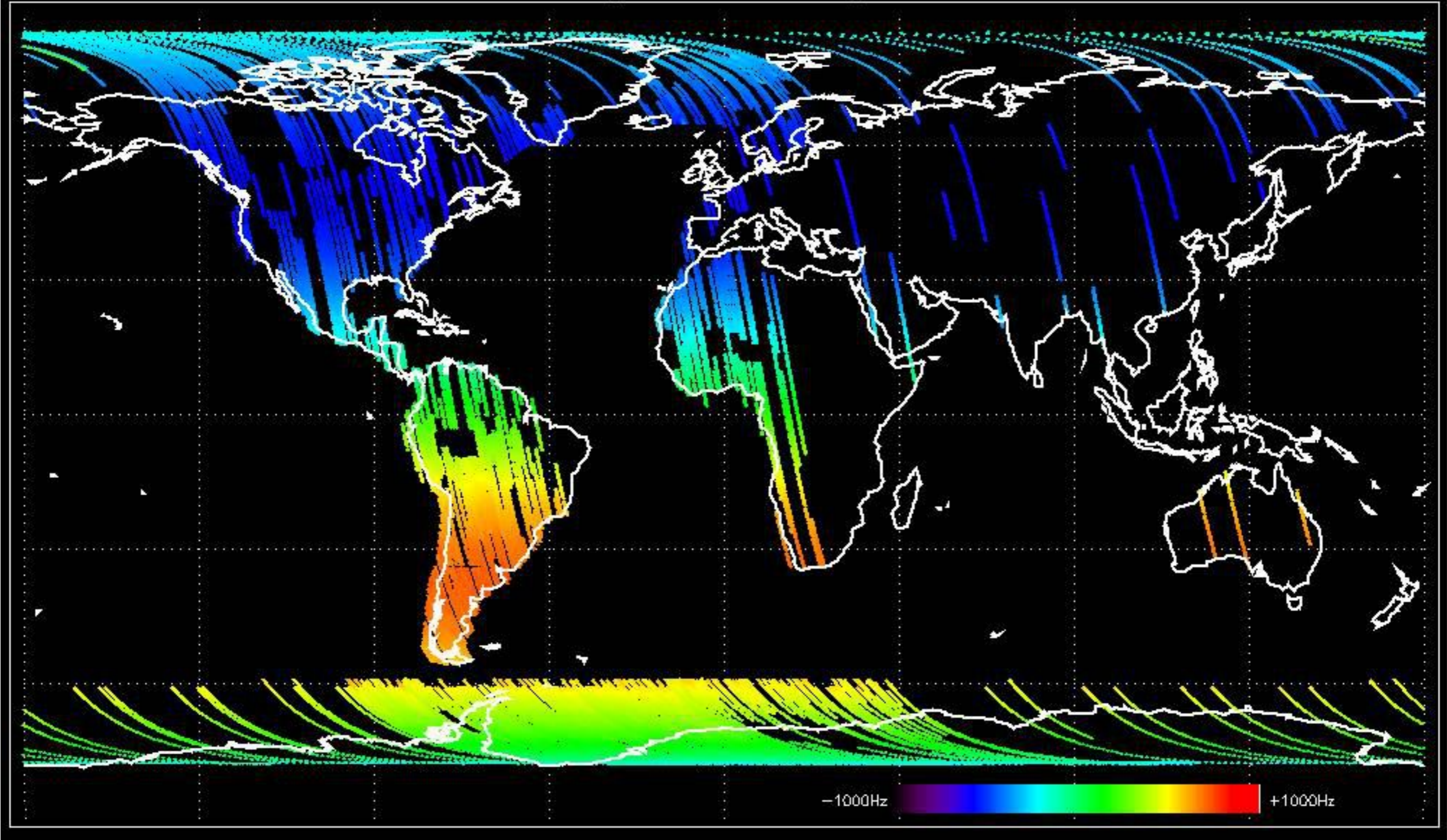


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



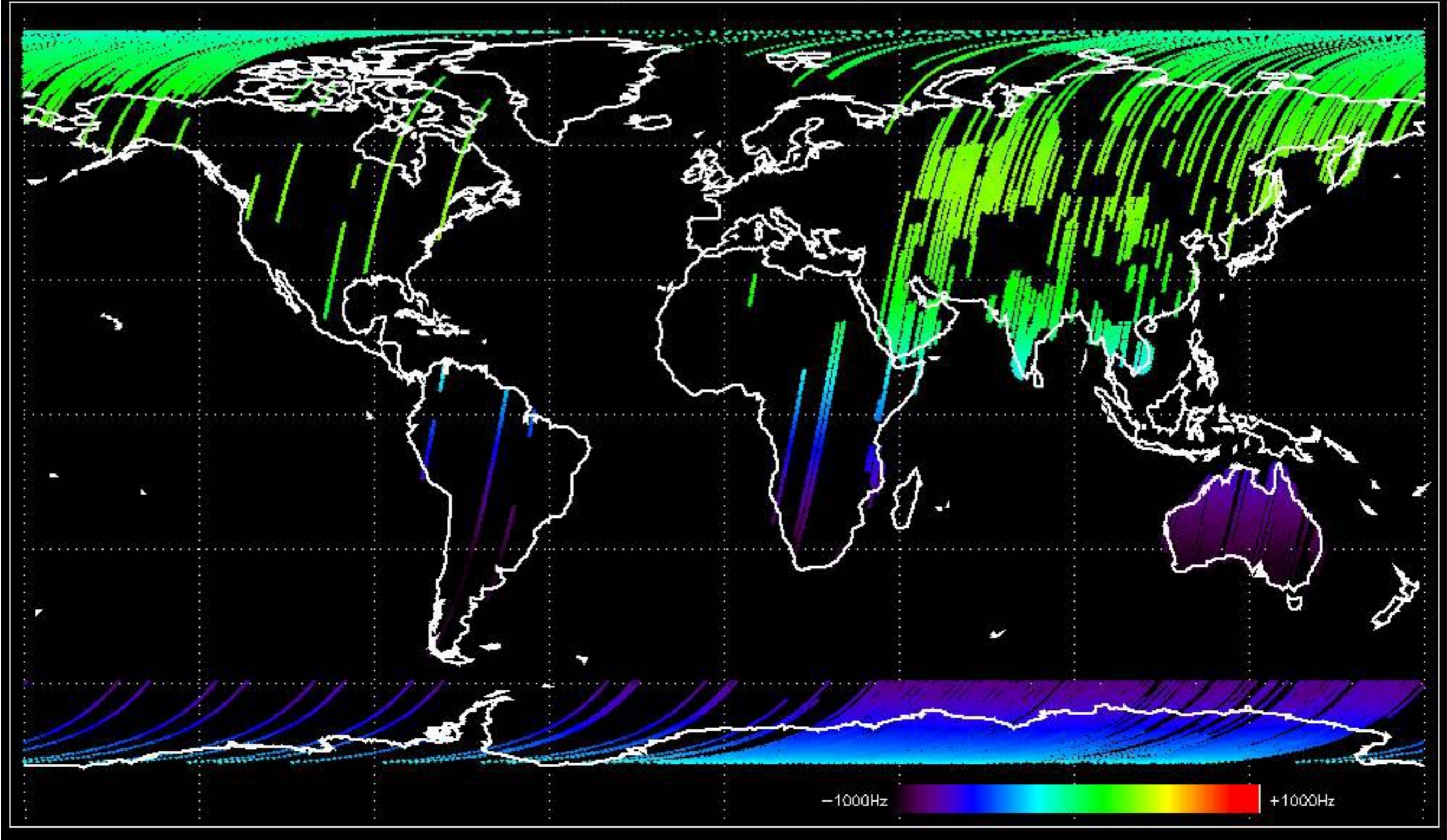


Doppler 'GM1' 'SS1' ascending



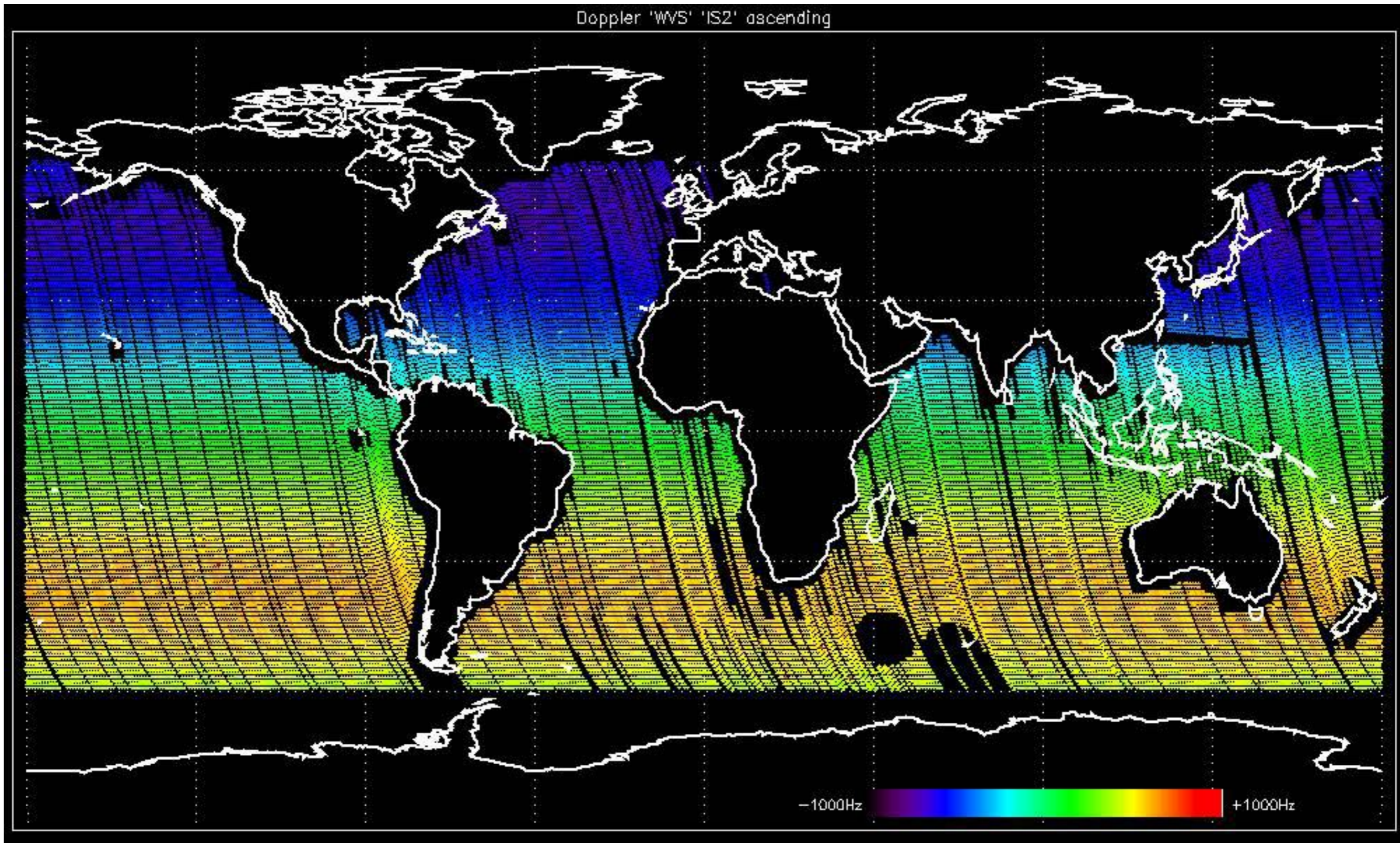


Doppler 'GM1' 'SS1' descending



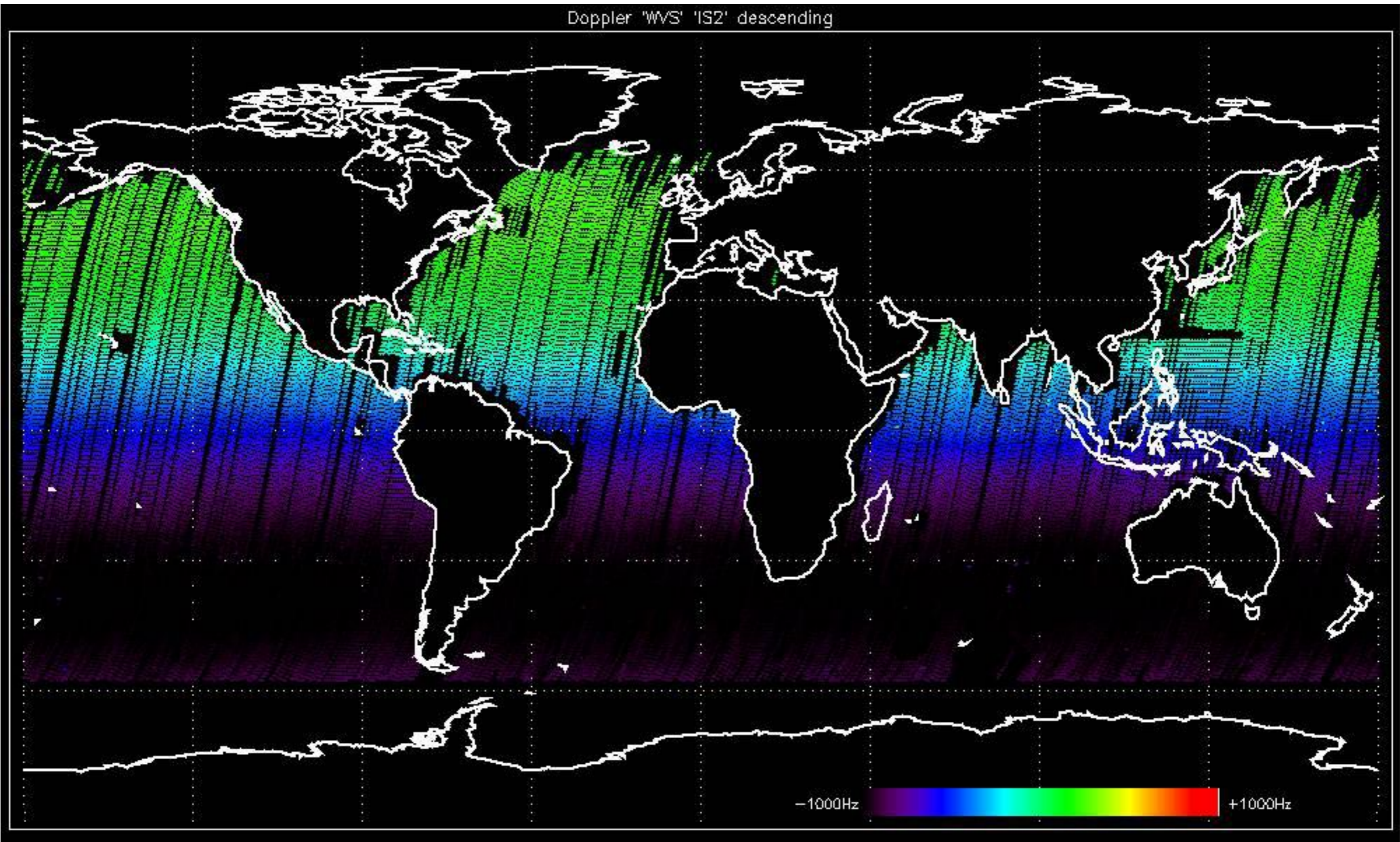


Doppler 'WVS' 'IS2' ascending

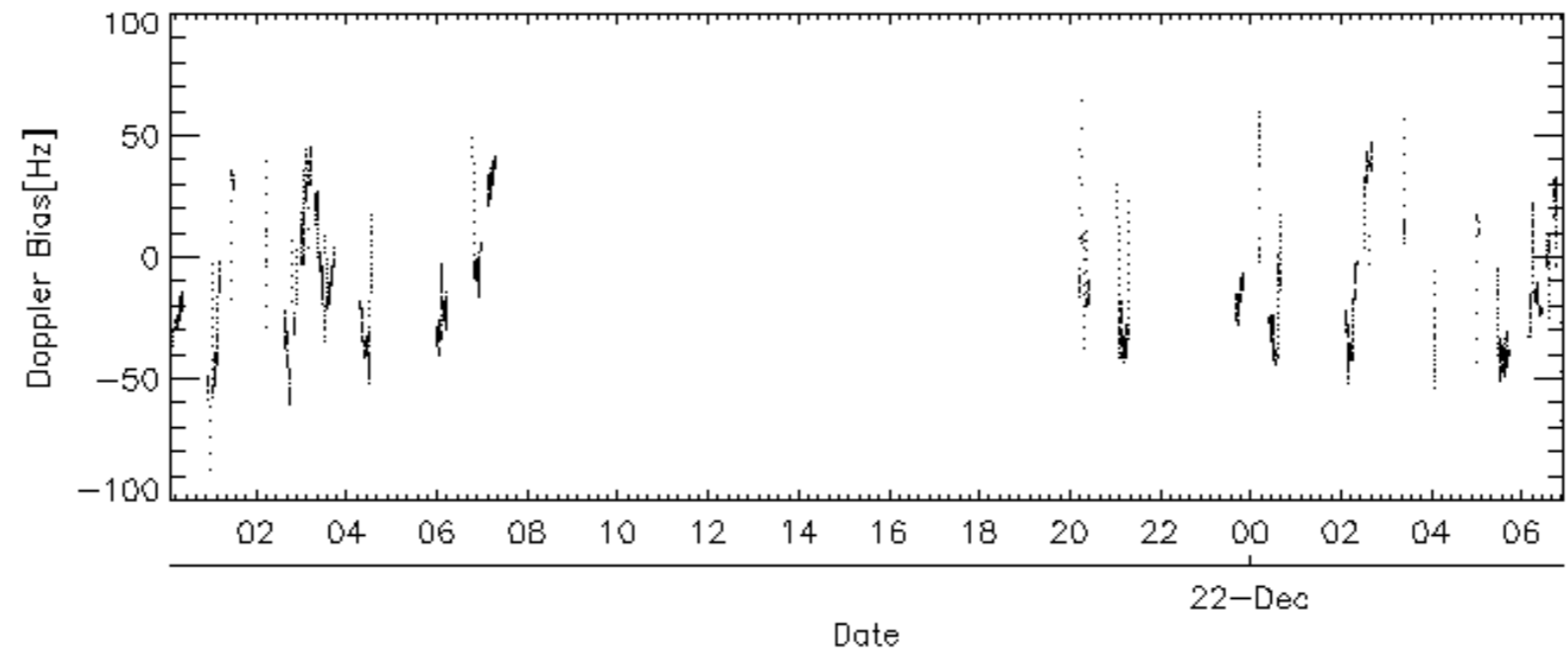
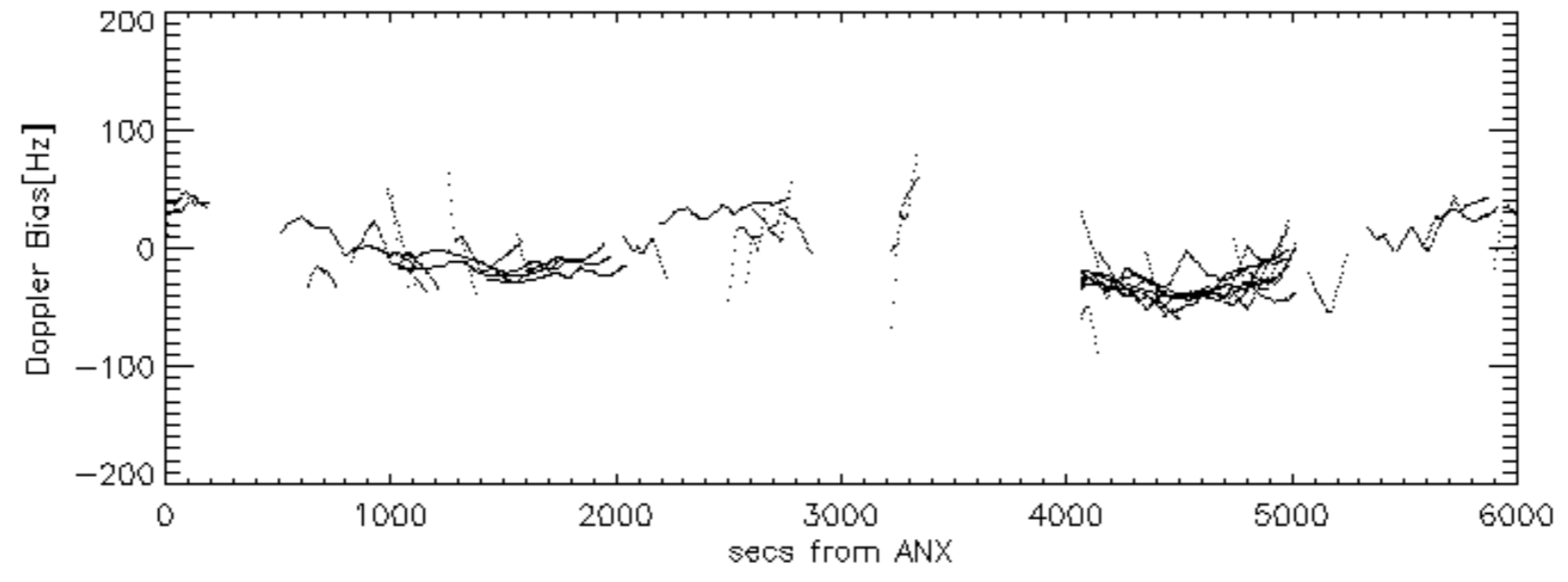
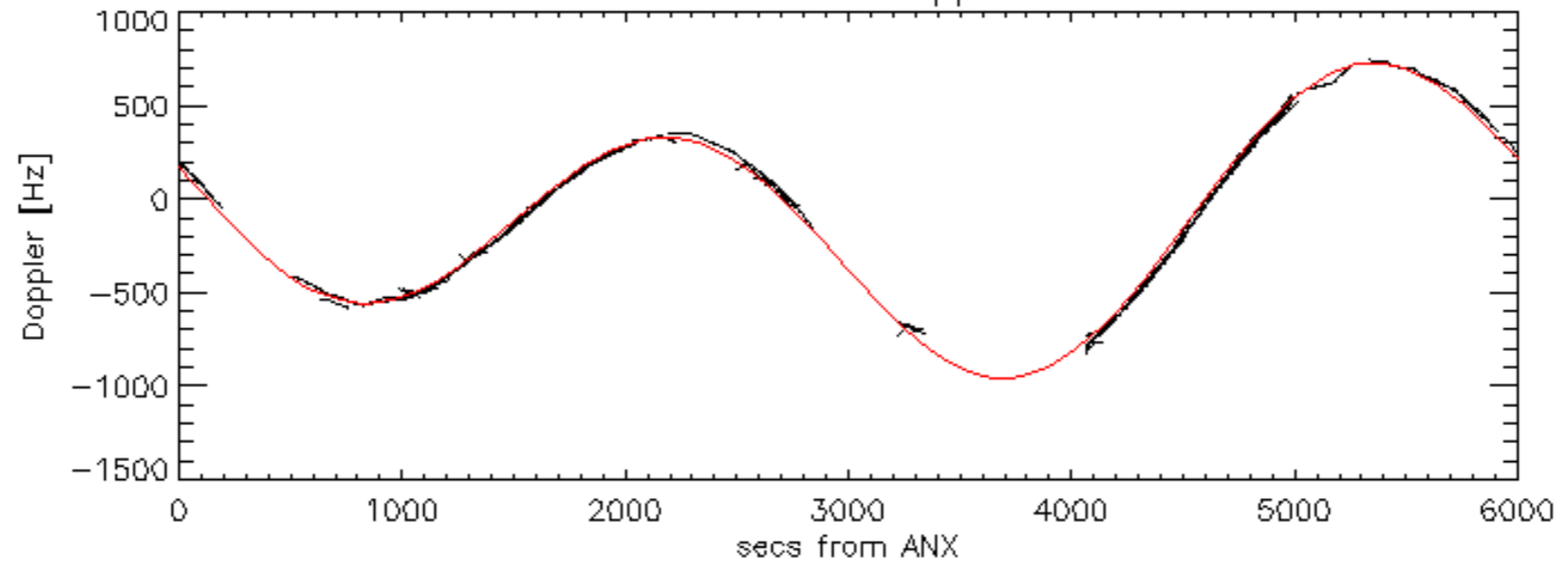




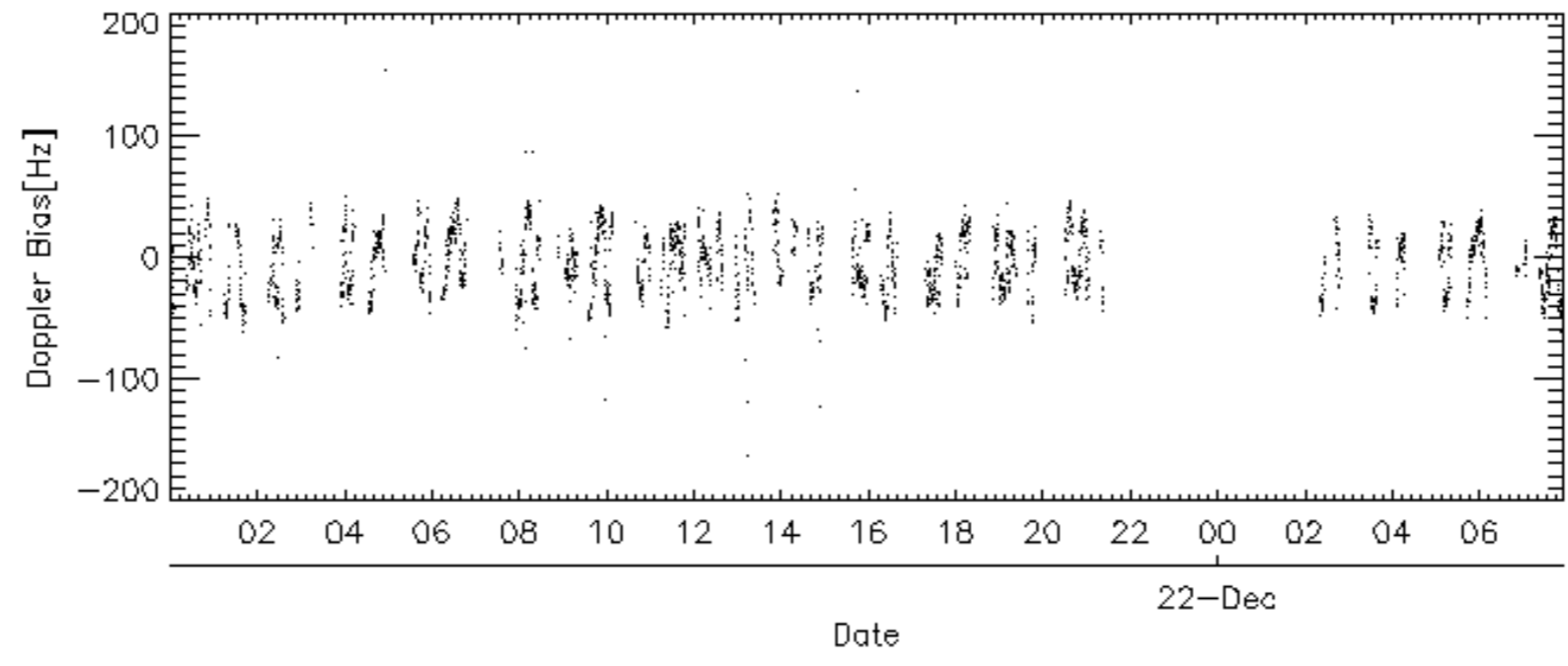
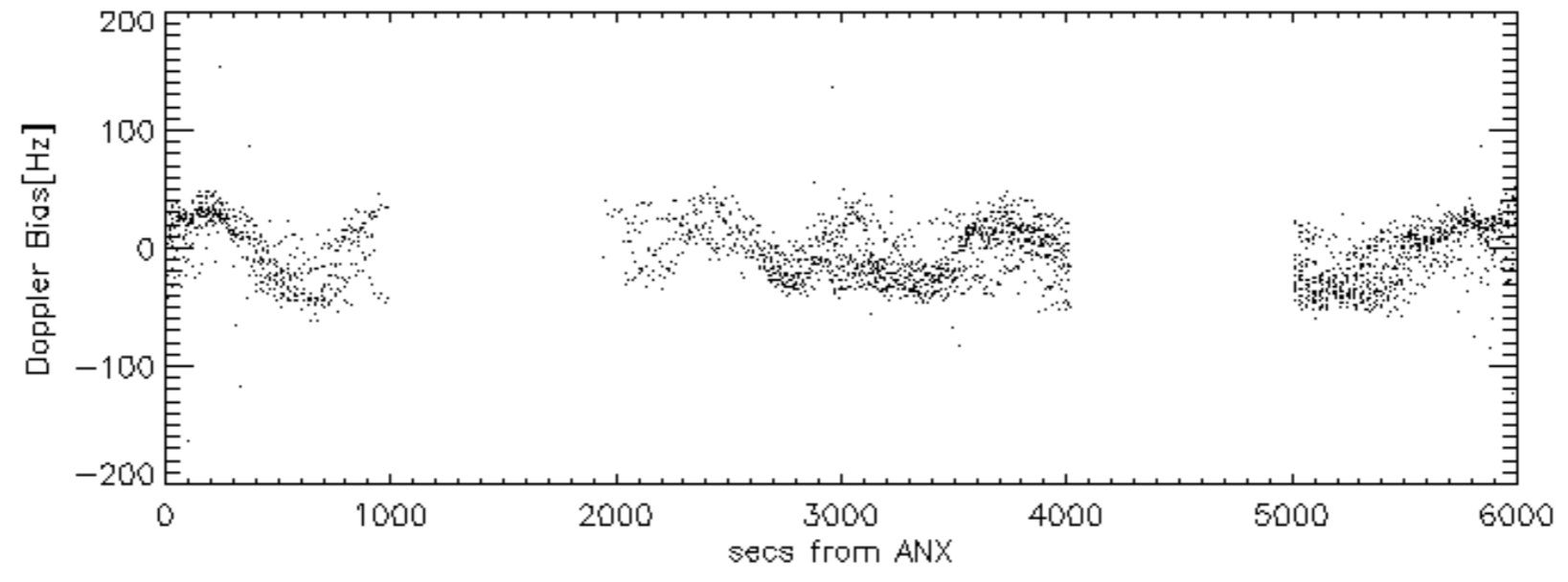
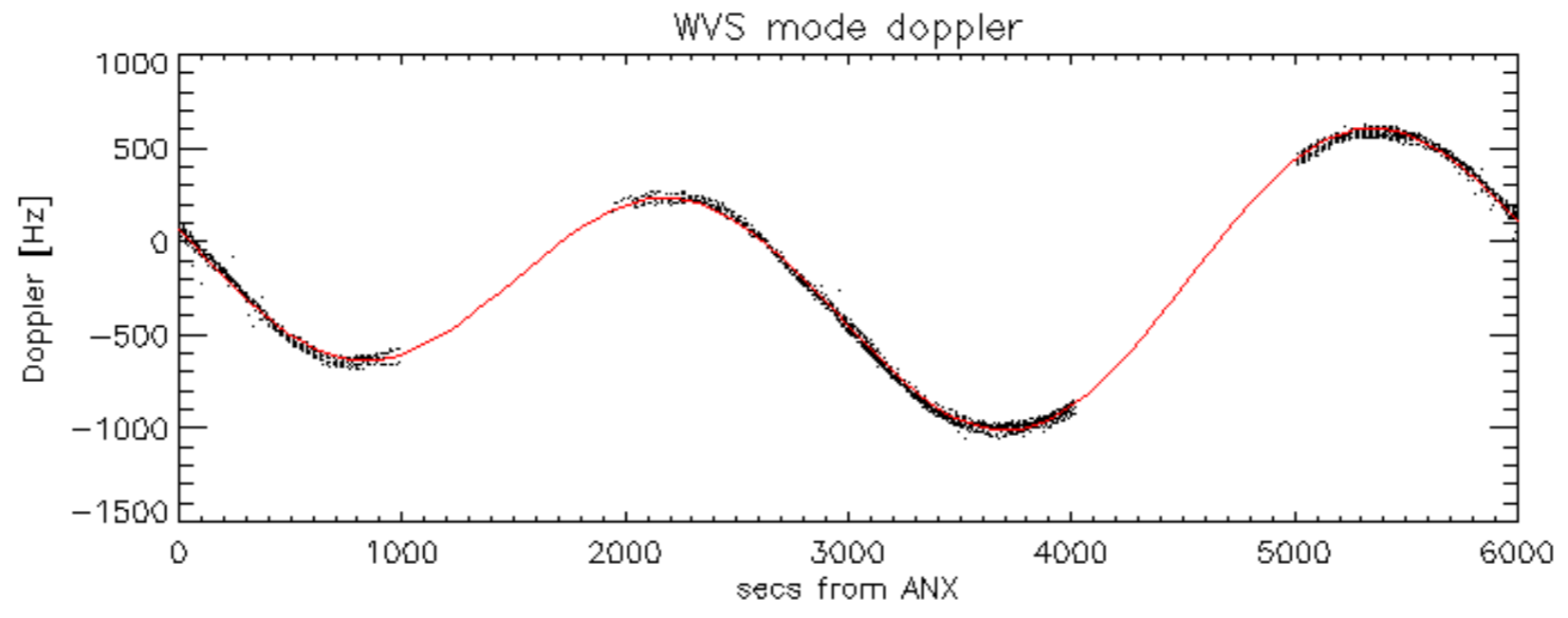
Doppler 'WVS' 'IS2' descending



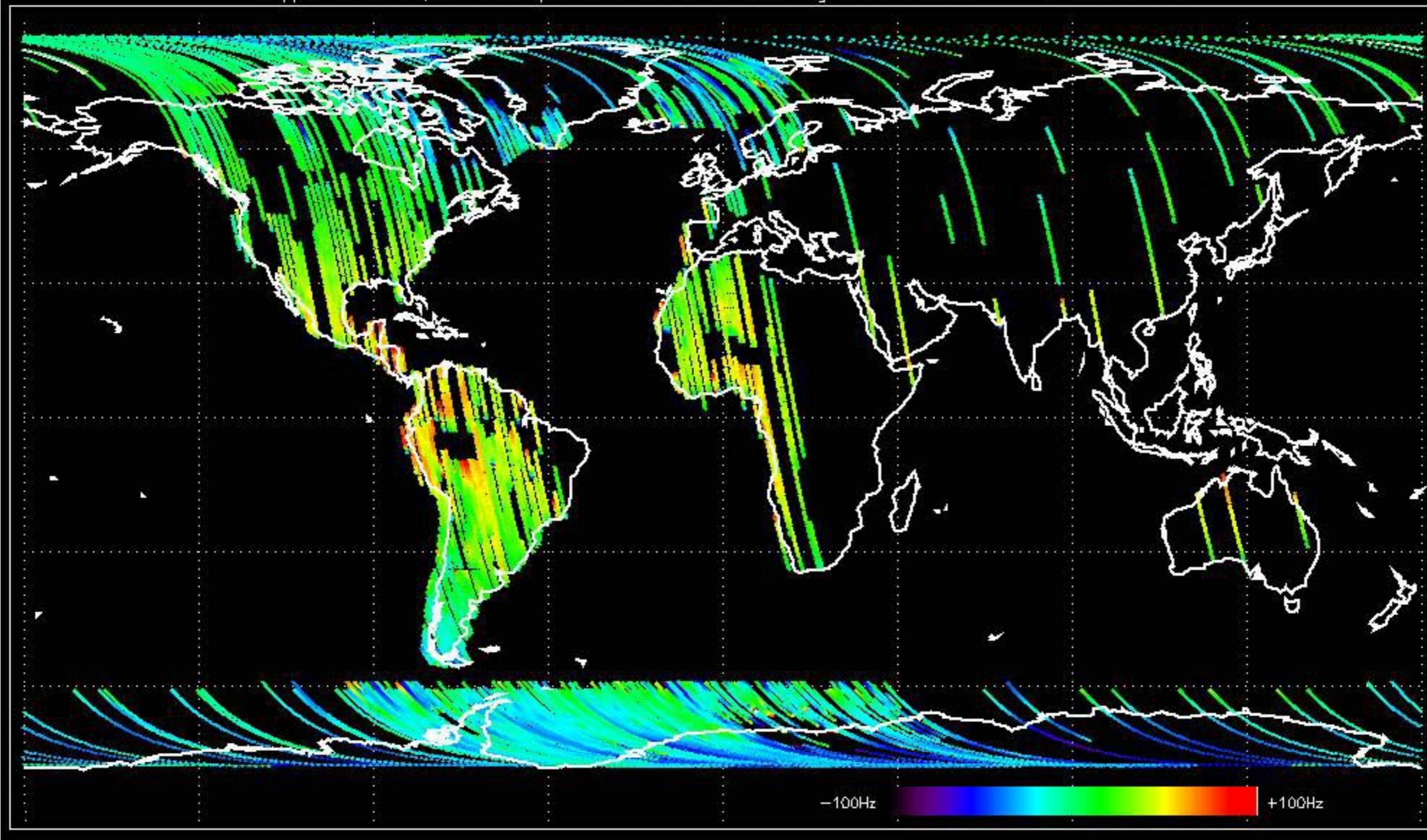
GM1 mode doppler





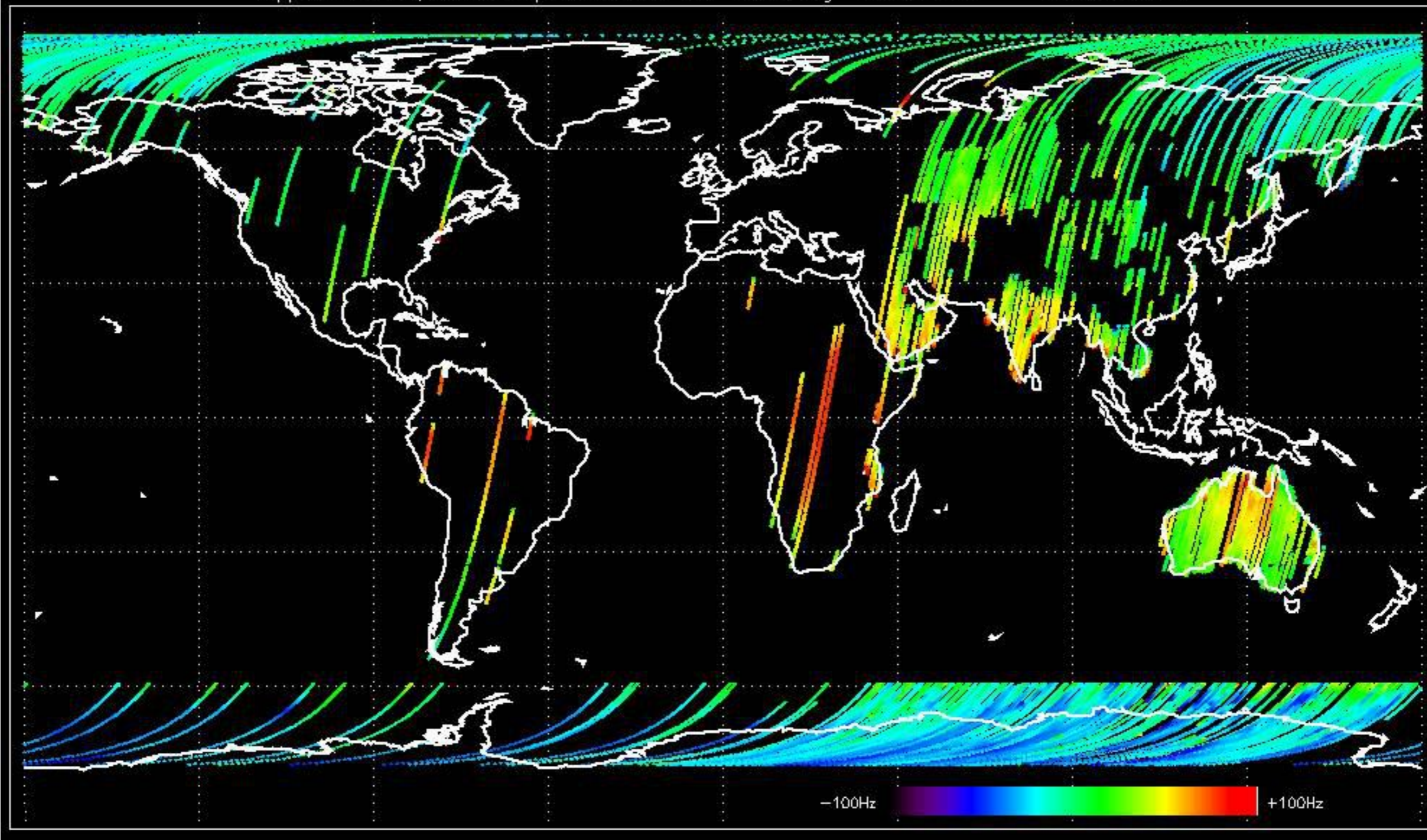


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -15.975067 Hz



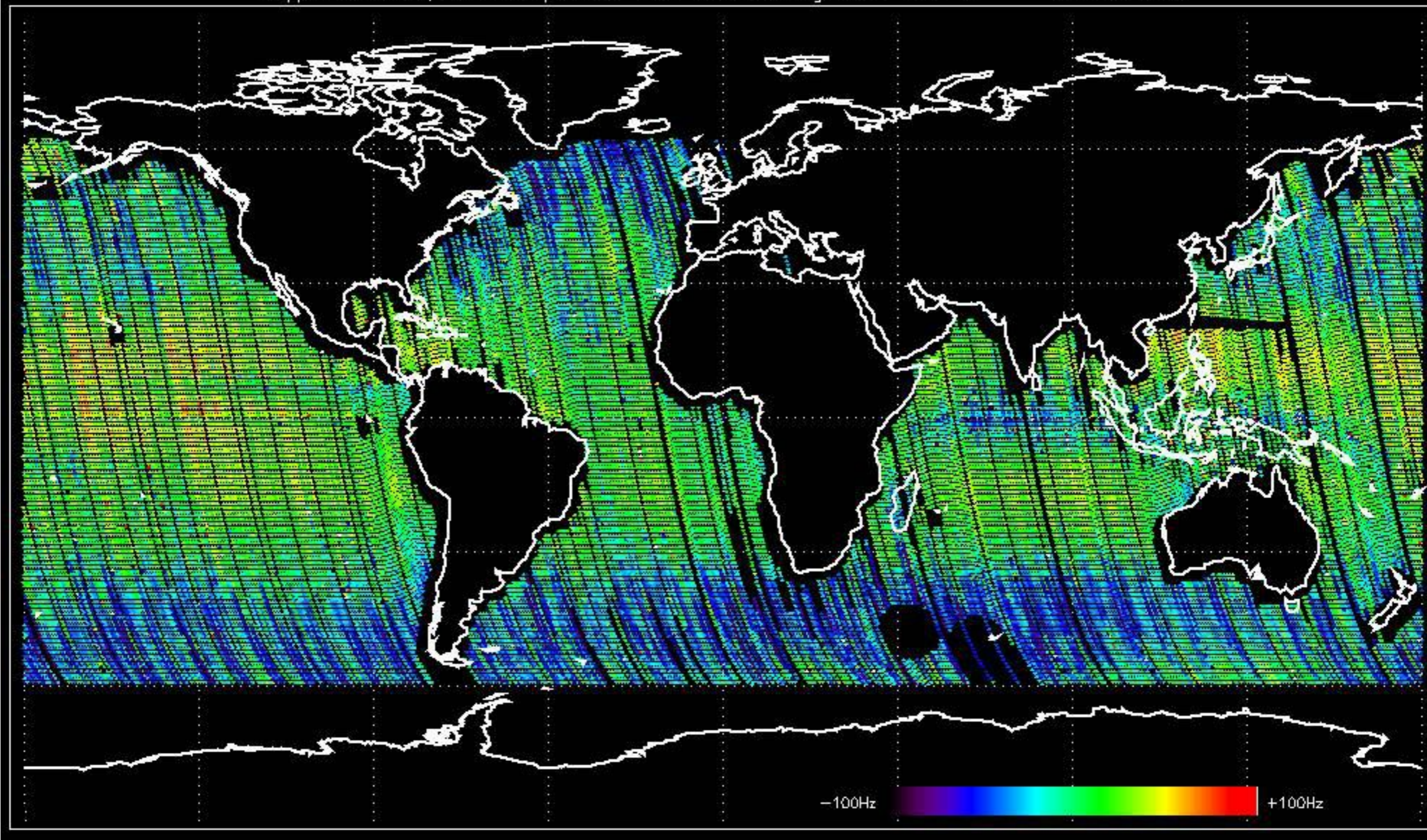


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -16.978664 Hz



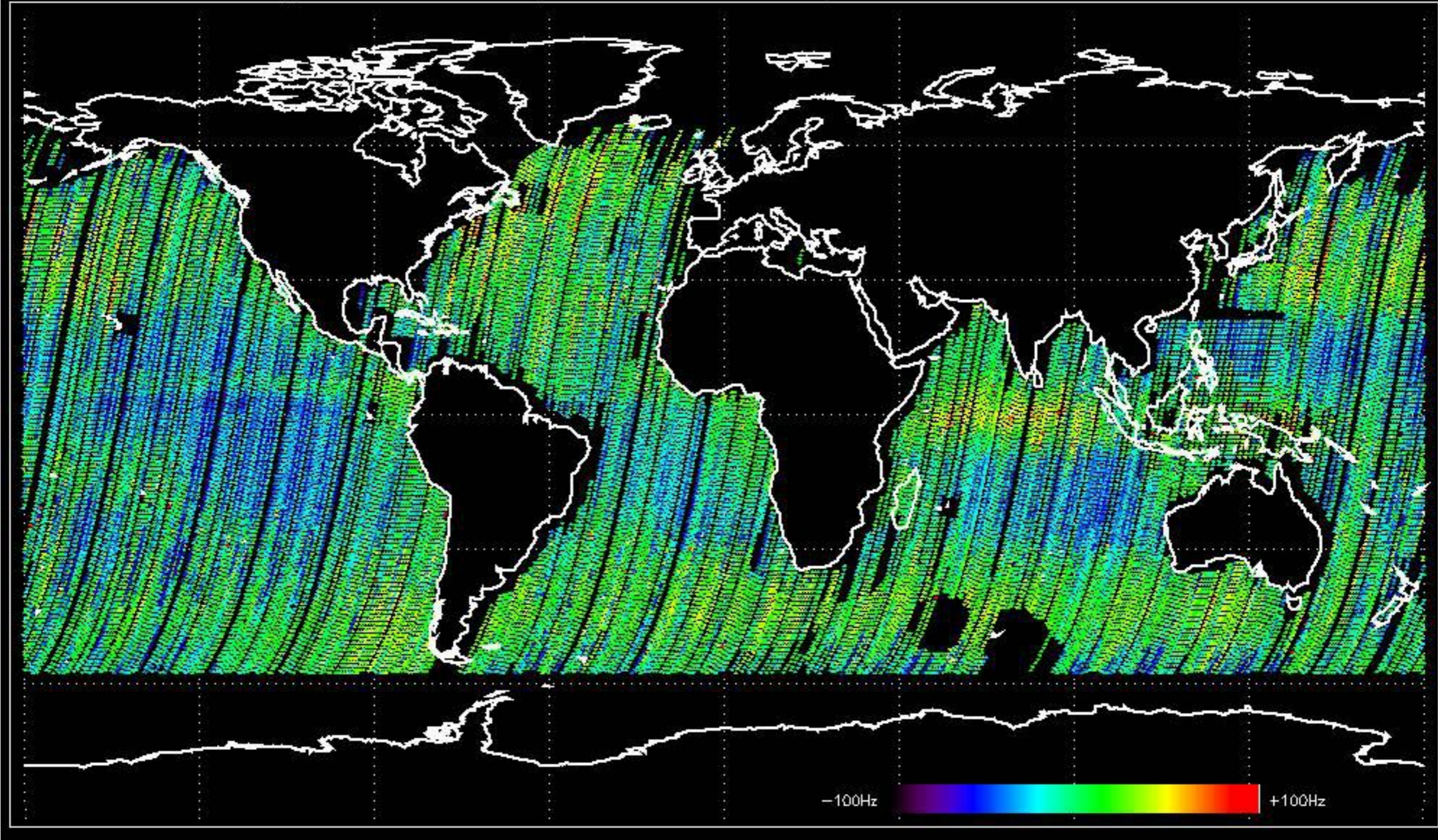


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -9.7820052 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -13.756450 Hz





No anomalies observed on available MS products:



No anomalies observed.



















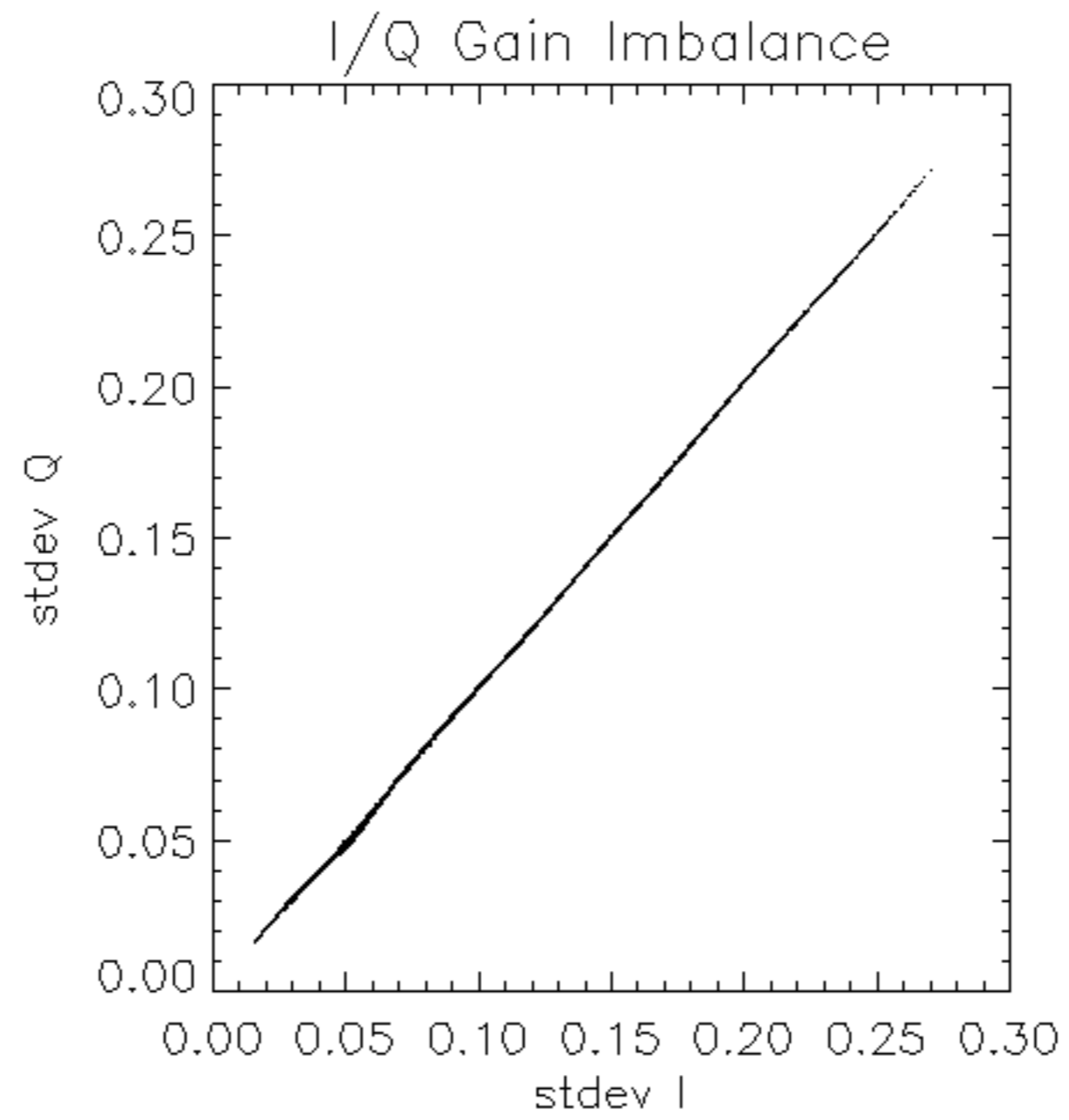


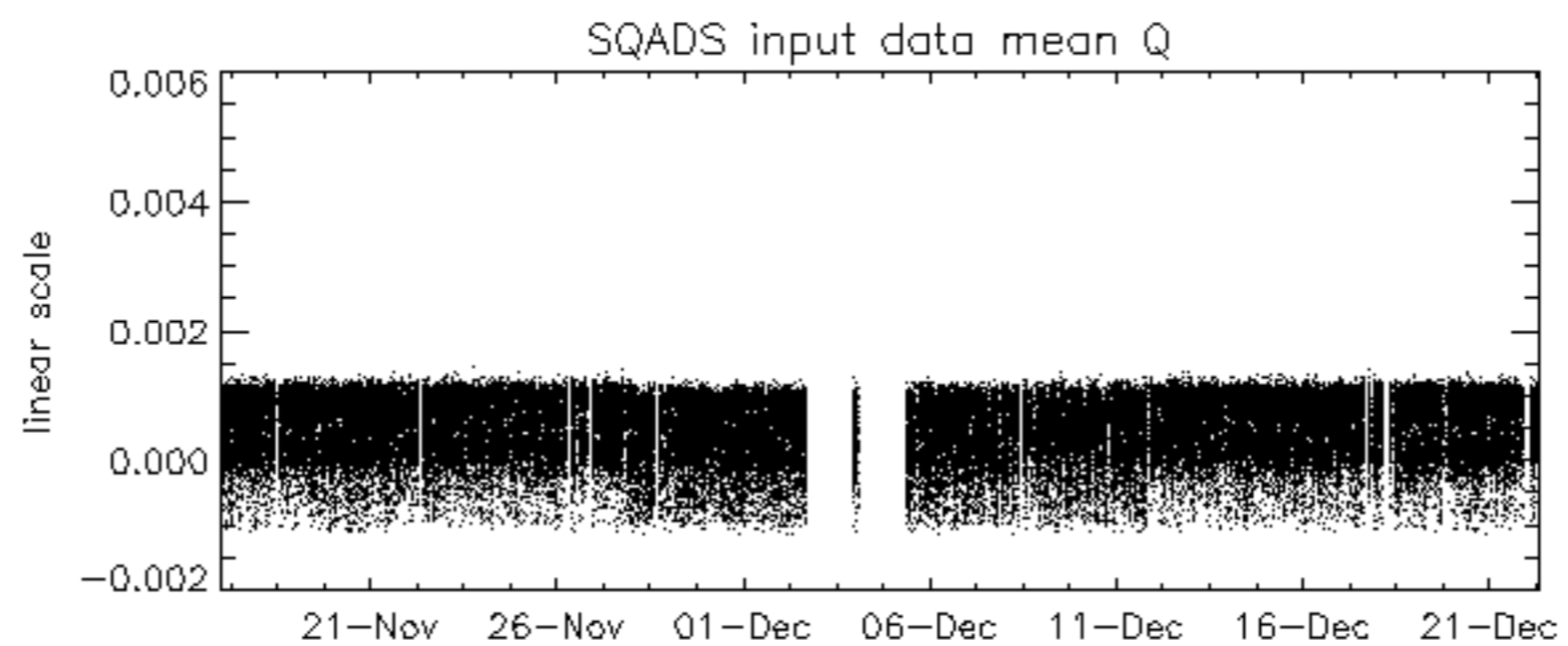
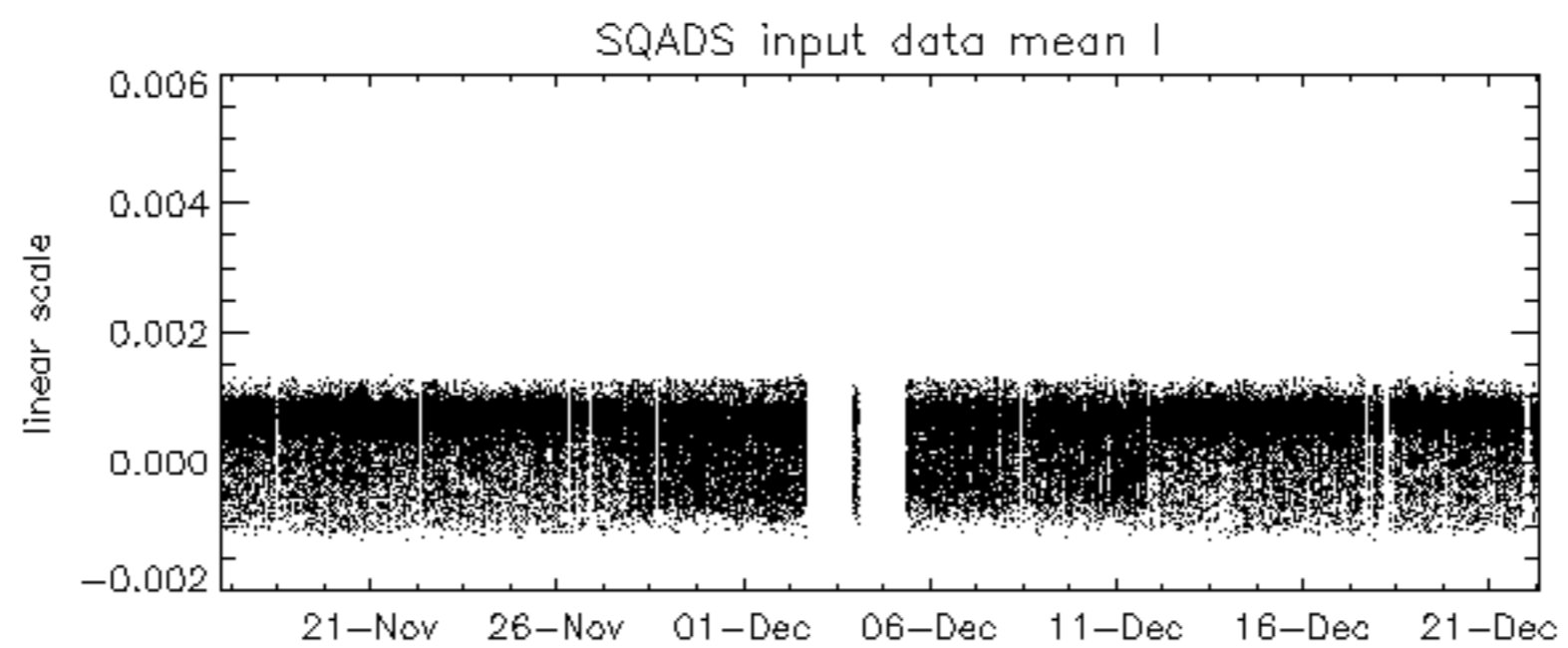
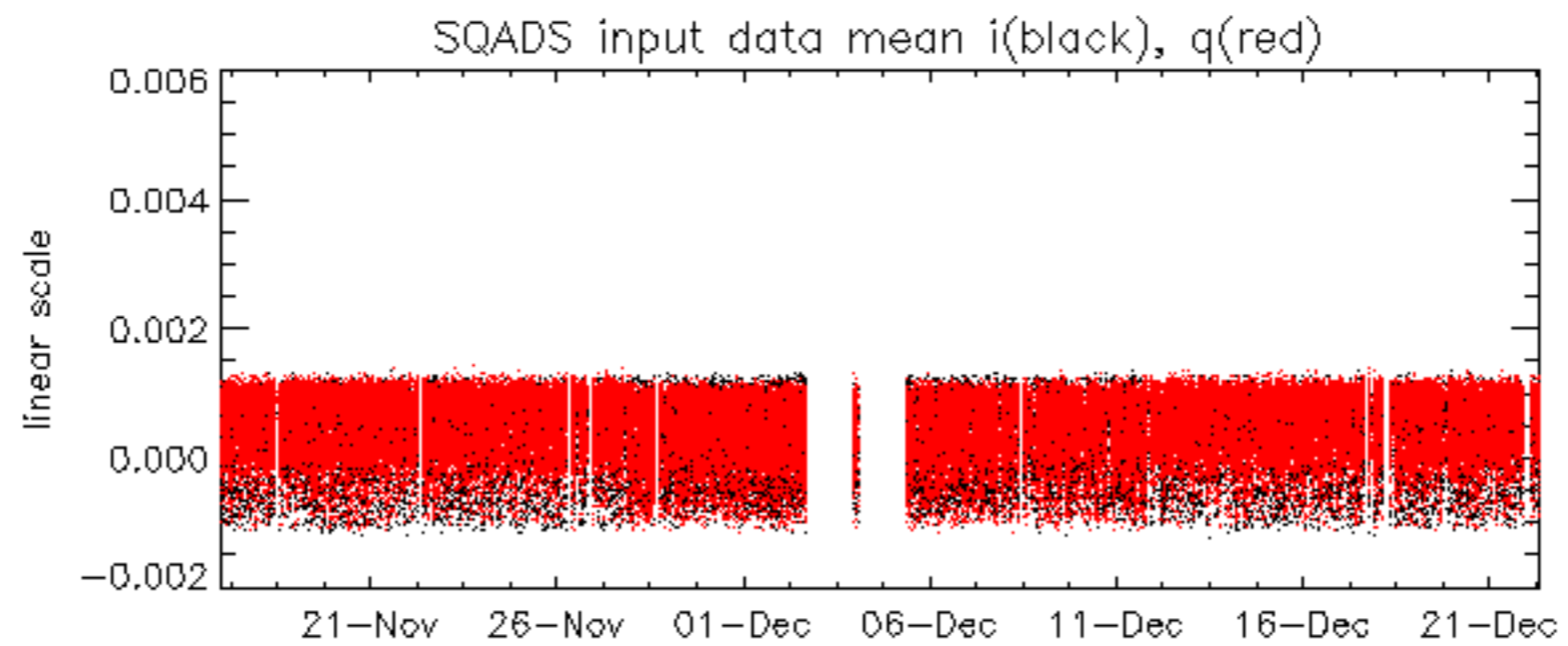


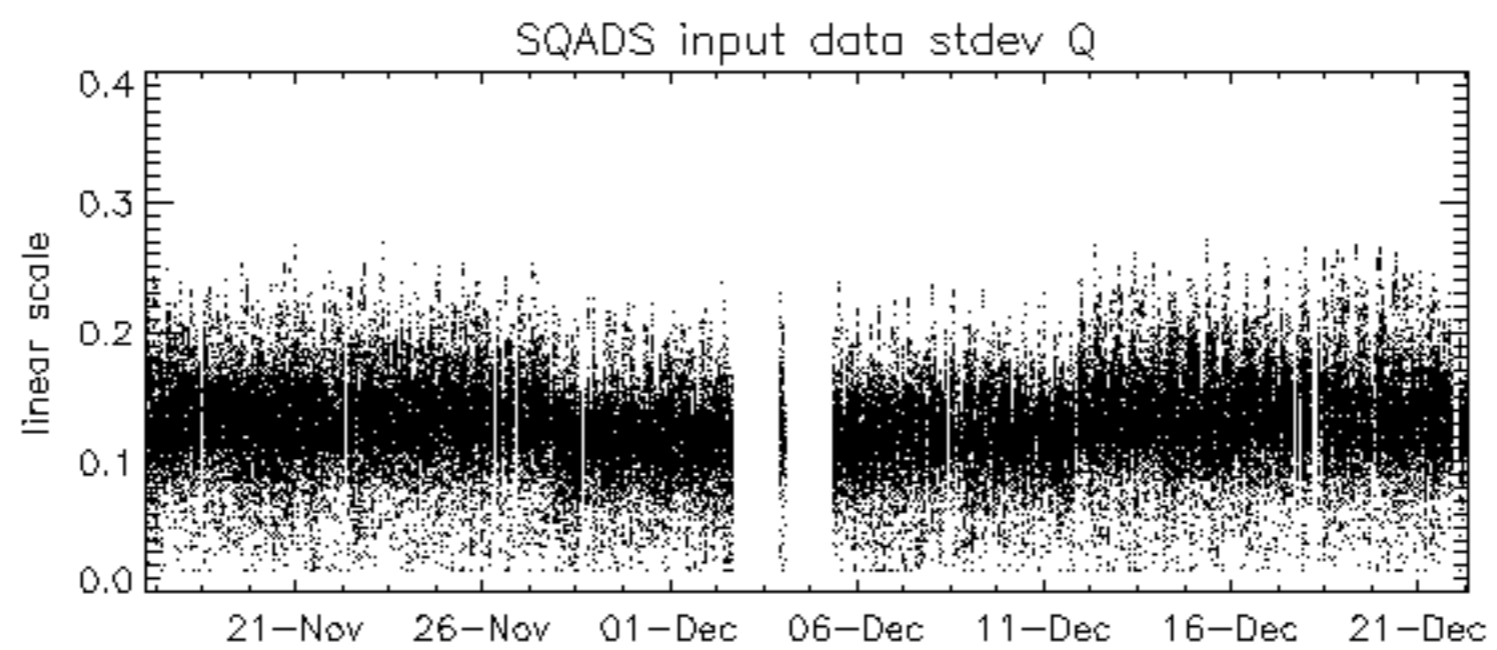
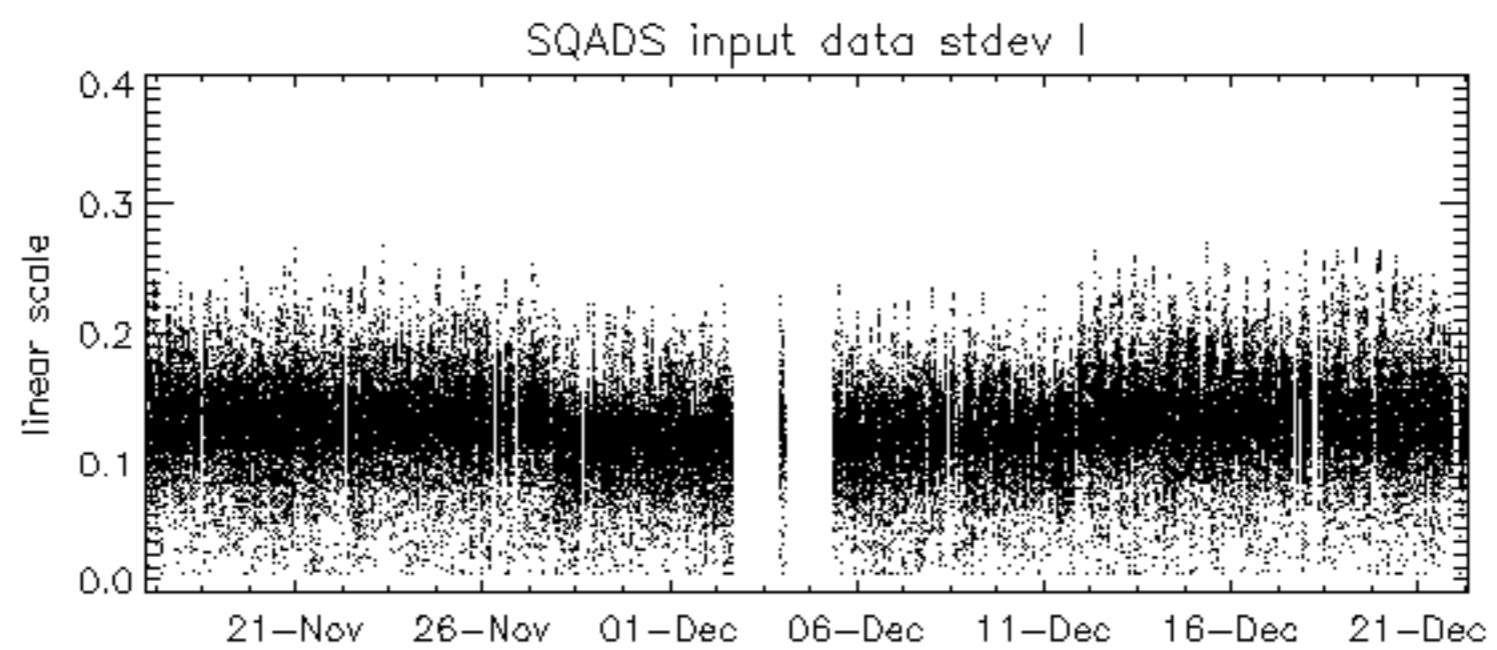
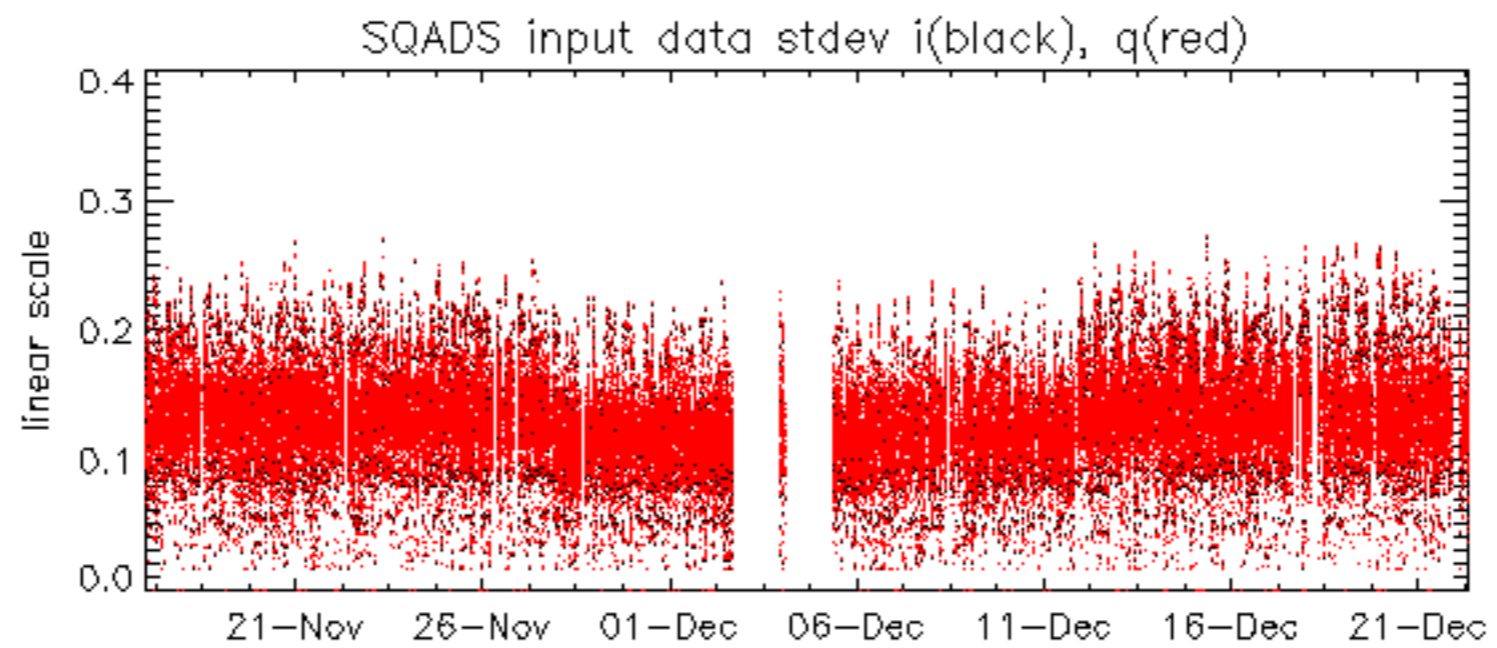




























Summary of analysis for the last 3 days 2005122[012]

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_WVS_1PNPDE20051220_215422_00000002043_00315_19908_4010.N1	1	0
ASA_WSM_1PNPDE20051221_021712_000001042043_00318_19911_5158.N1	0	54
ASA_WSM_1PNPDE20051221_031549_000001472043_00319_19912_5167.N1	0	49











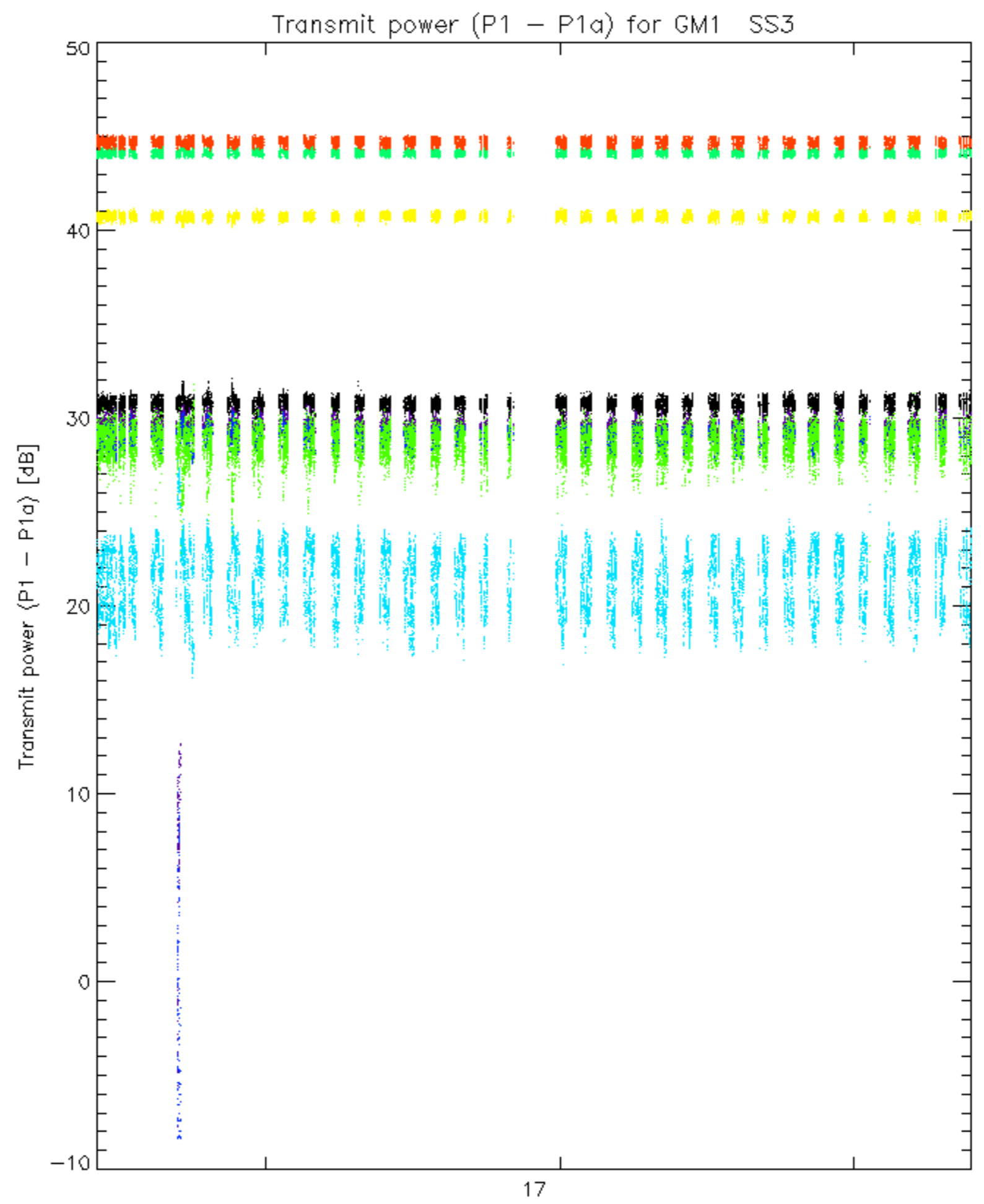


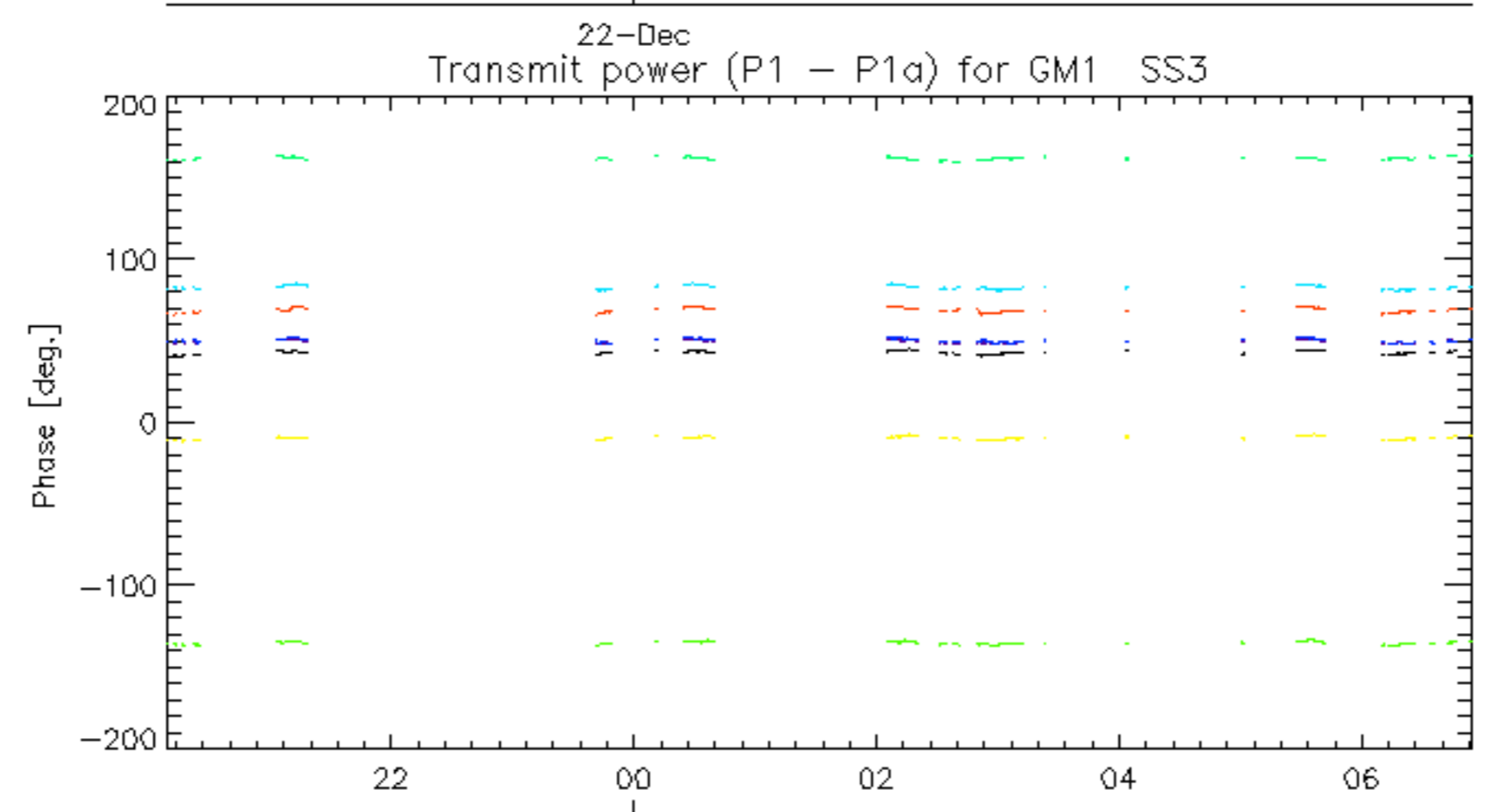
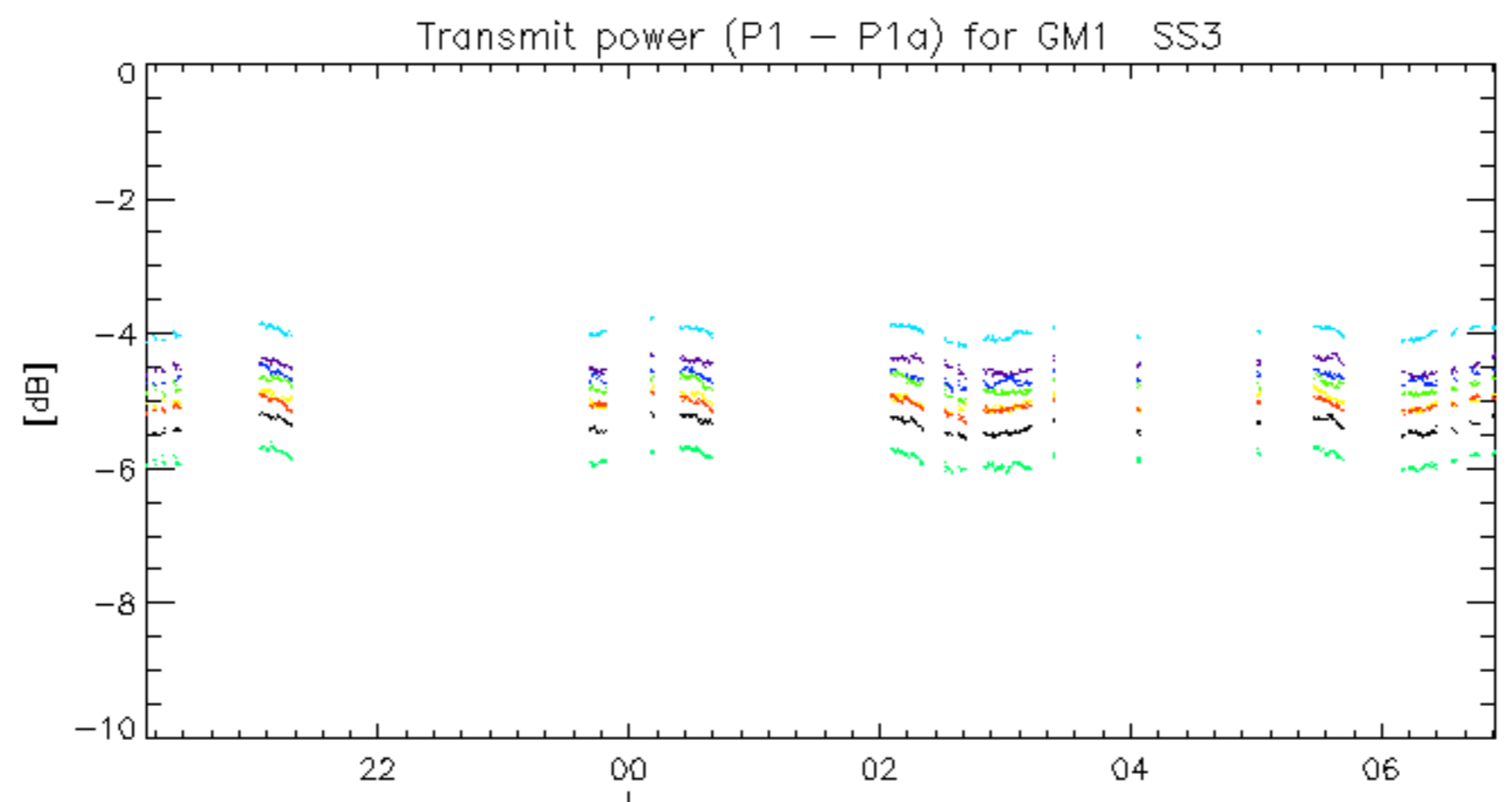






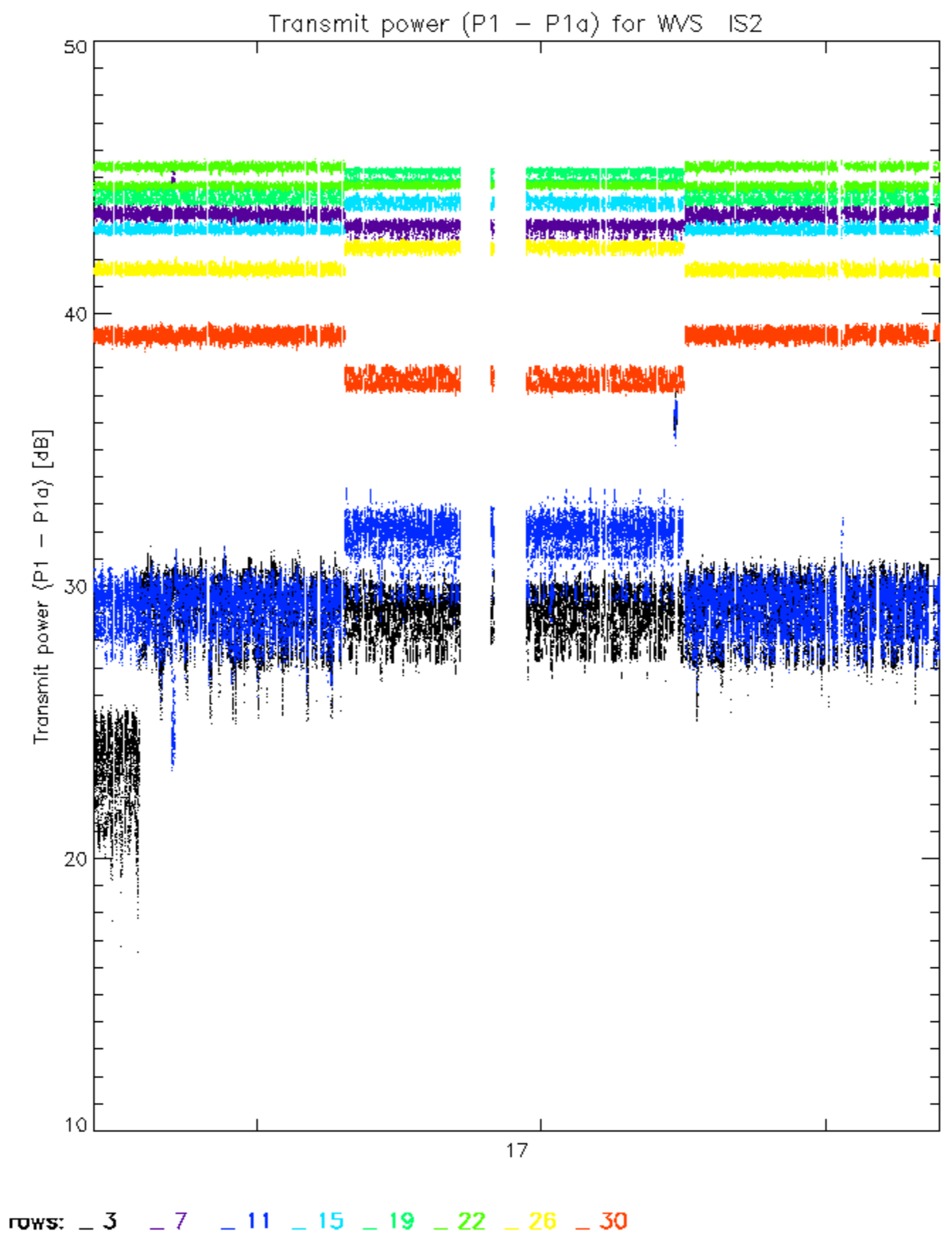


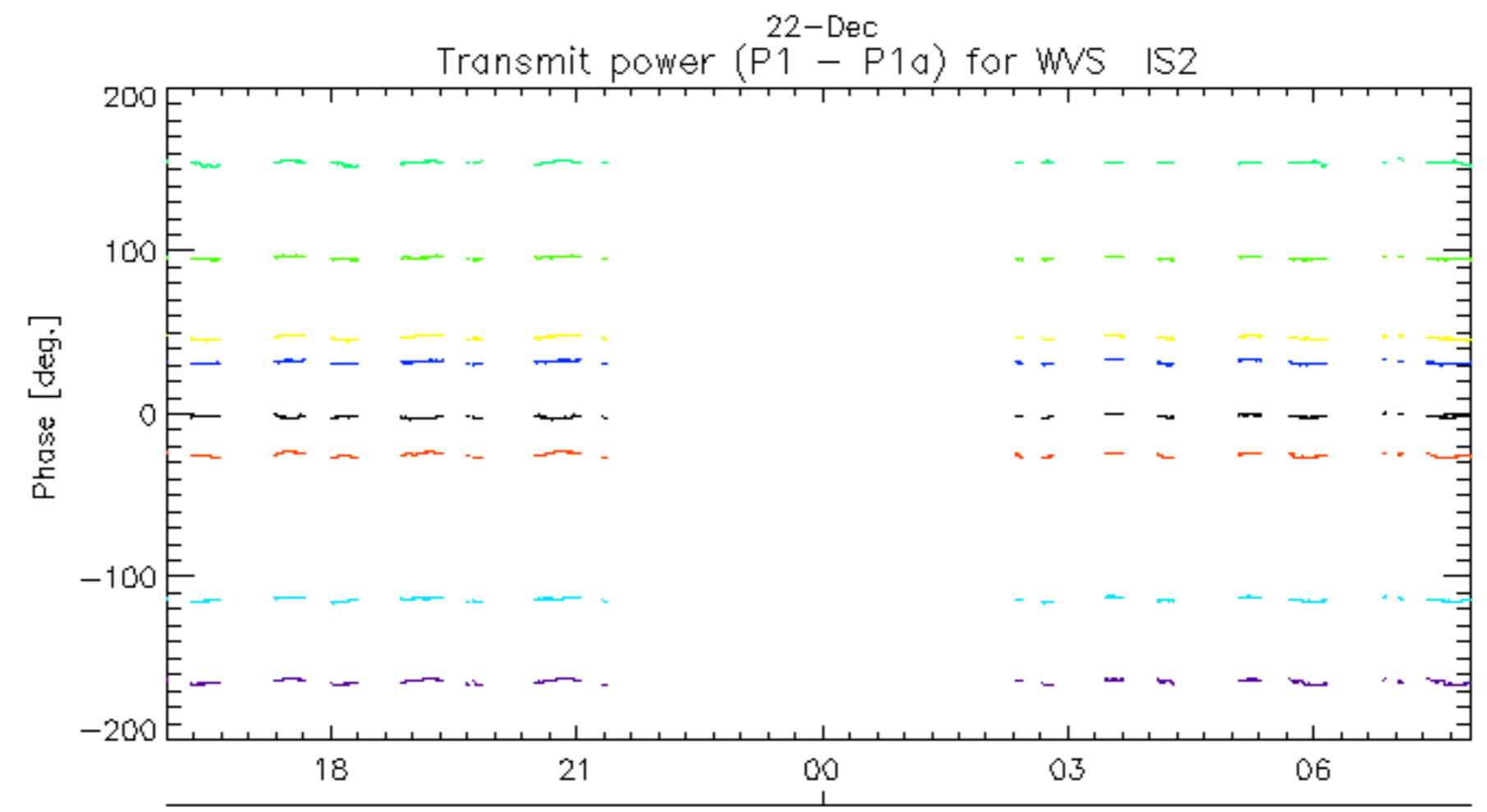
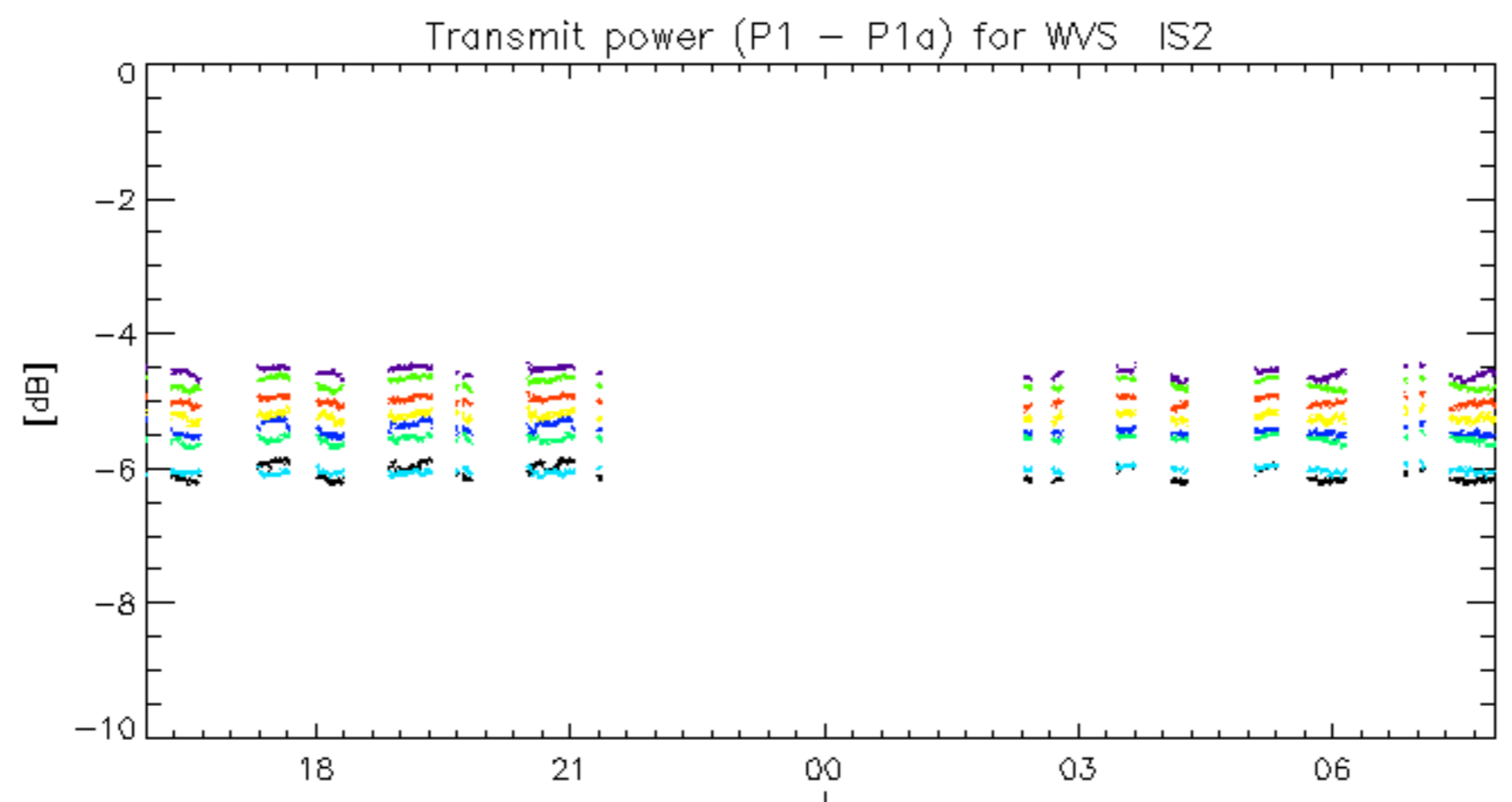




rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30







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

No unavailabilities during the reported period.