

# PRELIMINARY REPORT OF 051214

last update on Wed Dec 14 16:44:49 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 2005-12-13 00:00:00 to 2005-12-14 16:44:49

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	47	0	14	0	28
ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	47	0	14	0	28
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	47	0	14	0	28
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	47	0	14	0	28

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	41	45	31	14	58
ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	41	45	31	14	58
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	41	45	31	14	58
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	41	45	31	14	58

### 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	20051212 054047
H	20051213 050910

### 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
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☒

### 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	-3.554436	0.203178	0.307053
7	P1	-2.752332	0.125219	0.685036
11	P1	-4.152050	0.030841	-0.059120
15	P1	-5.117703	1.716269	2.775580
19	P1	-3.035369	0.061565	0.478335
22	P1	-4.437767	0.020975	0.158453
26	P1	-4.398749	0.059513	-0.456155
30	P1	-5.653886	0.033542	0.313319
3	P1	-15.257002	2.137553	1.295960
7	P1	-15.305017	2.613275	3.350518
11	P1	-16.310032	0.467983	0.792692
15	P1	-12.803315	1.017179	2.051545
19	P1	-13.413901	0.339292	1.105123
22	P1	-16.056904	0.624856	0.791975
26	P1	-15.131840	1.118033	2.099199
30	P1	-15.595227	2.453247	3.161953

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.869711	0.107010	-0.003627
7	P2	-22.555048	0.105136	0.031710
11	P2	-16.584049	0.121160	-0.055751
15	P2	-7.280052	0.104139	-0.055948
19	P2	-9.221942	0.101854	0.040097
22	P2	-17.863403	0.110752	0.121614
26	P2	-16.361477	0.133487	-0.427195
30	P2	-19.786337	0.119644	-0.316469

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.235174	0.007346	-0.015803
7	P3	-8.235174	0.007346	-0.015803
11	P3	-8.235174	0.007346	-0.015803
15	P3	-8.235174	0.007346	-0.015803
19	P3	-8.235174	0.007346	-0.015803
22	P3	-8.235174	0.007346	-0.015803
26	P3	-8.235174	0.007346	-0.015803
30	P3	-8.235174	0.007346	-0.015803

**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	-3.695796	0.007999	-0.019710
7	P1	-2.780029	0.011349	0.028938
11	P1	-2.878133	0.014364	-0.005782
15	P1	-3.400466	0.021909	-0.020114
19	P1	-3.383400	0.013450	-0.021998
22	P1	-5.119318	0.019800	-0.014307
26	P1	-5.829234	0.016294	-0.047119
30	P1	-5.275362	0.033064	-0.014384
3	P1	-11.467995	0.042809	-0.035640
7	P1	-9.972592	0.045399	0.000055
11	P1	-10.051768	0.060849	-0.010463
15	P1	-10.566751	0.084313	0.031395
19	P1	-15.508724	0.074230	-0.031063
22	P1	-20.958324	0.955577	-0.164156

26	P1	-17.210045	0.308272	0.055814
30	P1	-18.320068	0.310457	0.182068

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.640160	0.030238	0.062050
7	P2	-23.058083	0.060651	-0.018558
11	P2	-11.653593	0.022132	0.106441
15	P2	-4.983273	0.021462	-0.044787
19	P2	-6.961715	0.021911	-0.030027
22	P2	-8.182560	0.023628	-0.068501
26	P2	-24.047367	0.031687	-0.042018
30	P2	-22.118406	0.019949	-0.042573

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.074875	0.002443	-0.010297
7	P3	-8.074936	0.002453	-0.010465
11	P3	-8.074888	0.002440	-0.010420
15	P3	-8.074866	0.002450	-0.010432
19	P3	-8.075059	0.002454	-0.010037
22	P3	-8.074980	0.002452	-0.010360
26	P3	-8.074860	0.002428	-0.010892
30	P3	-8.074680	0.002451	-0.010092

## 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	0.000465997
	stdev	2.15939e-07
MEAN Q	mean	0.000484417
	stdev	2.36998e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129081
	stdev	0.00107524
STDEV Q	mean	0.129363
	stdev	0.00108719



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005121[234]

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_IMM_1PNPDE20051213_003723_000001162043_00202_19795_3834.N1	1	0
ASA_IMM_1PNPDE20051214_004627_000001012043_00217_19810_3913.N1	1	0
ASA_IMM_1PNPDK20051213_123408_000000812043_00210_19803_9153.N1	1	0
ASA_WSM_1PNPDE20051212_015902_000001842043_00189_19782_3870.N1	0	39
ASA_WSM_1PNPDE20051212_162339_000002072043_00198_19791_3936.N1	0	49

ASA_WSM_1PNPDE20051213_012705_000001472043_00203_19796_4009.N1	0	65
ASA_WSM_1PNPDE20051213_112835_000001592043_00209_19802_4068.N1	0	15
ASA_WSM_1PNPDE20051213_204345_000000612043_00214_19807_4111.N1	0	1
ASA_APM_1PNPDE20051213_141144_000000712043_00211_19804_3369.N1	0	14
ASA_APM_1PNPDE20051213_223010_000000432043_00216_19809_3379.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



#### 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

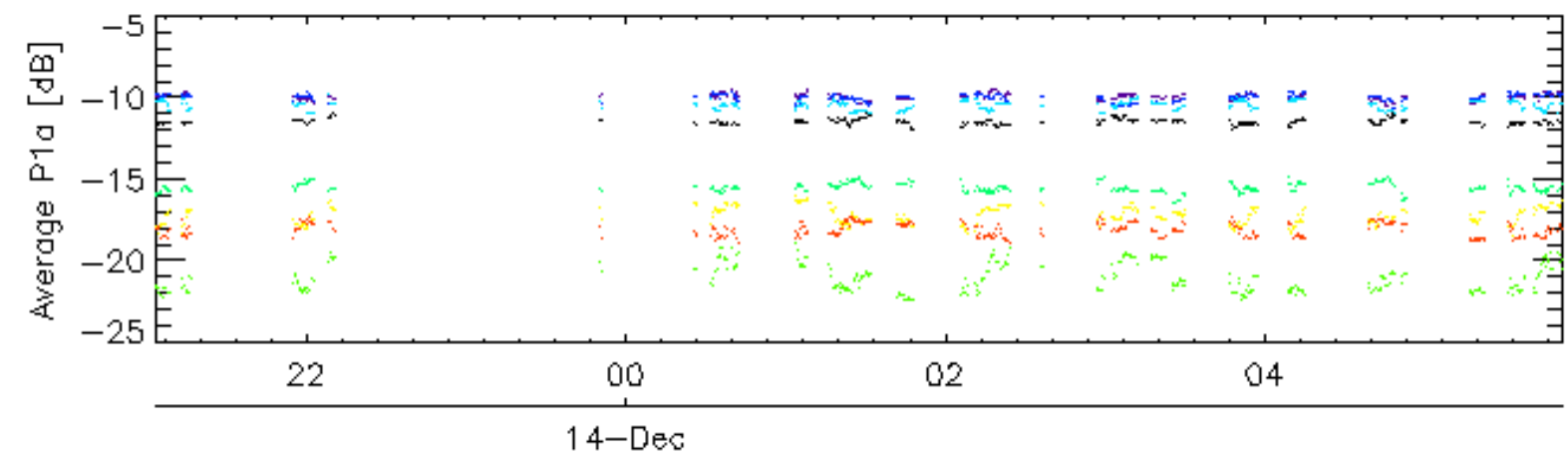
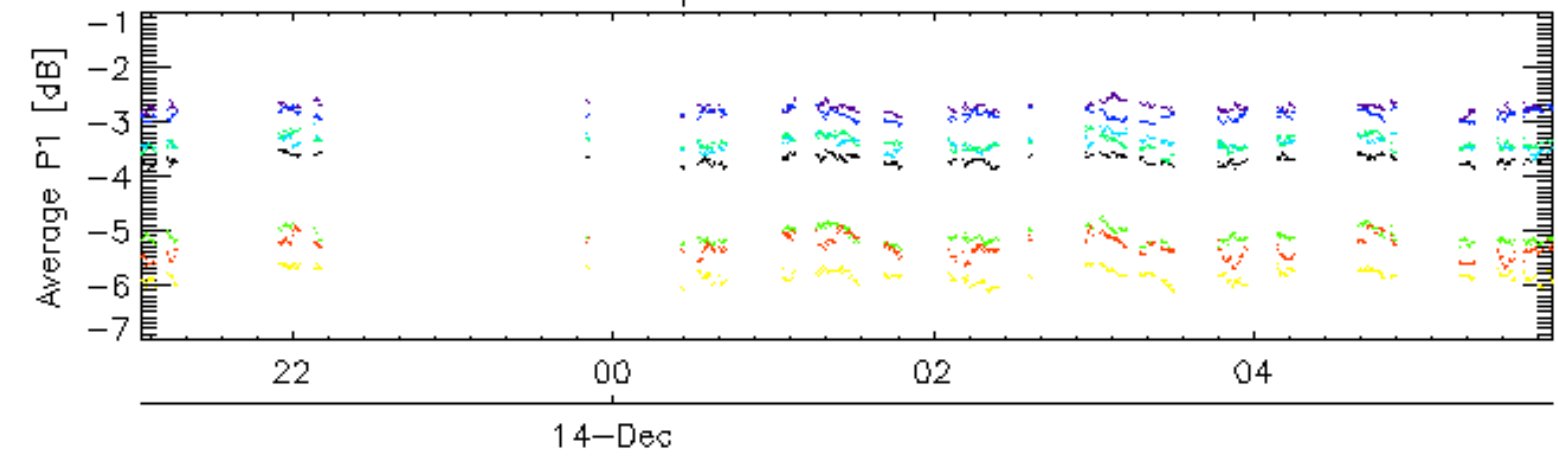
Ascending

Descending

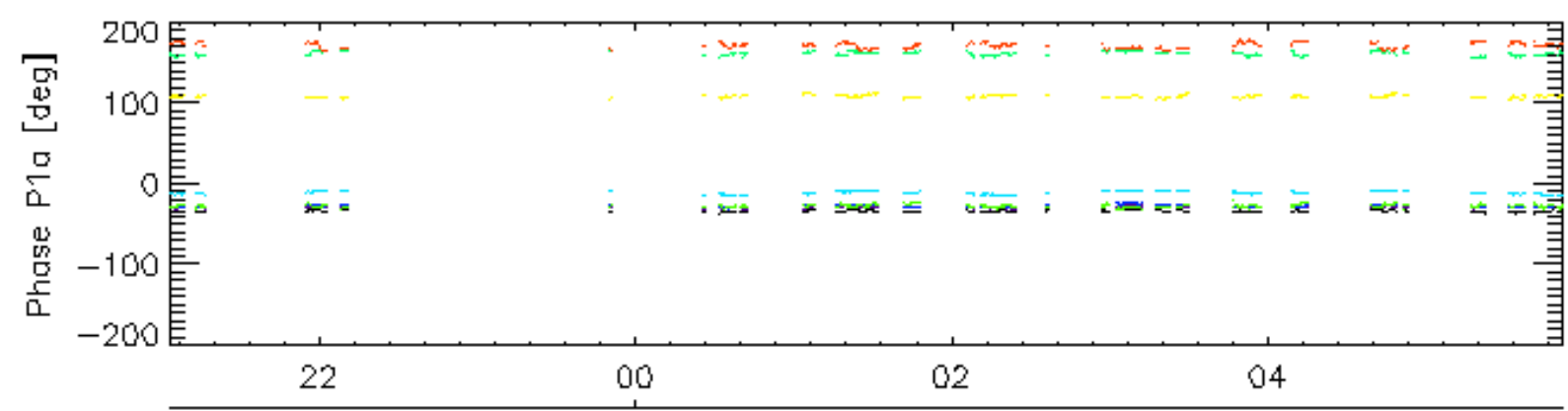
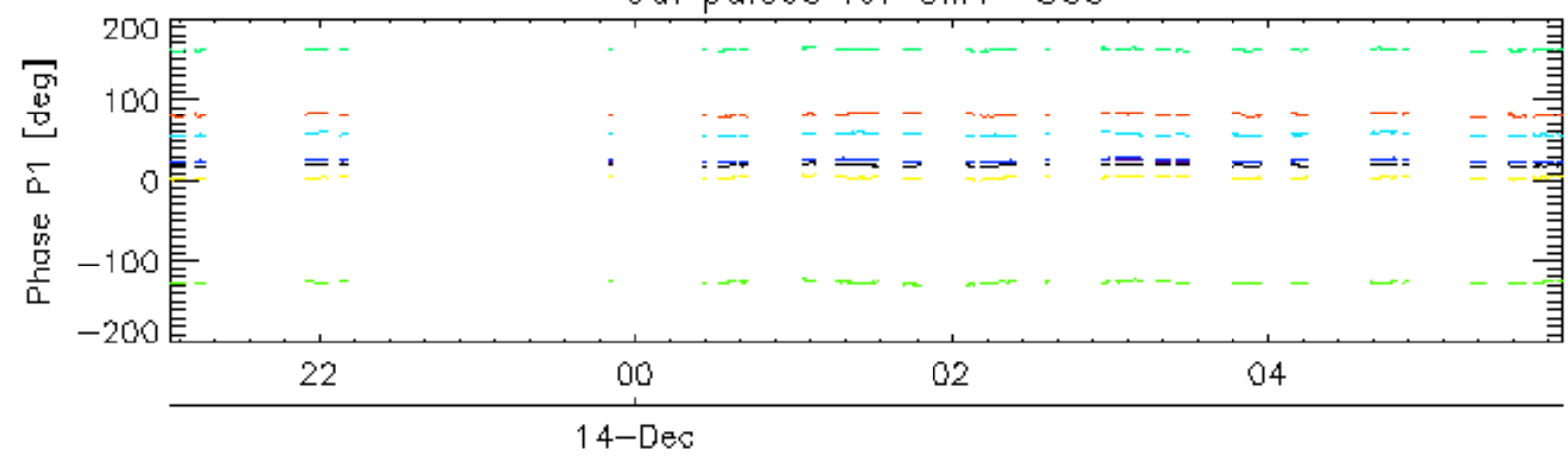
#### 7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

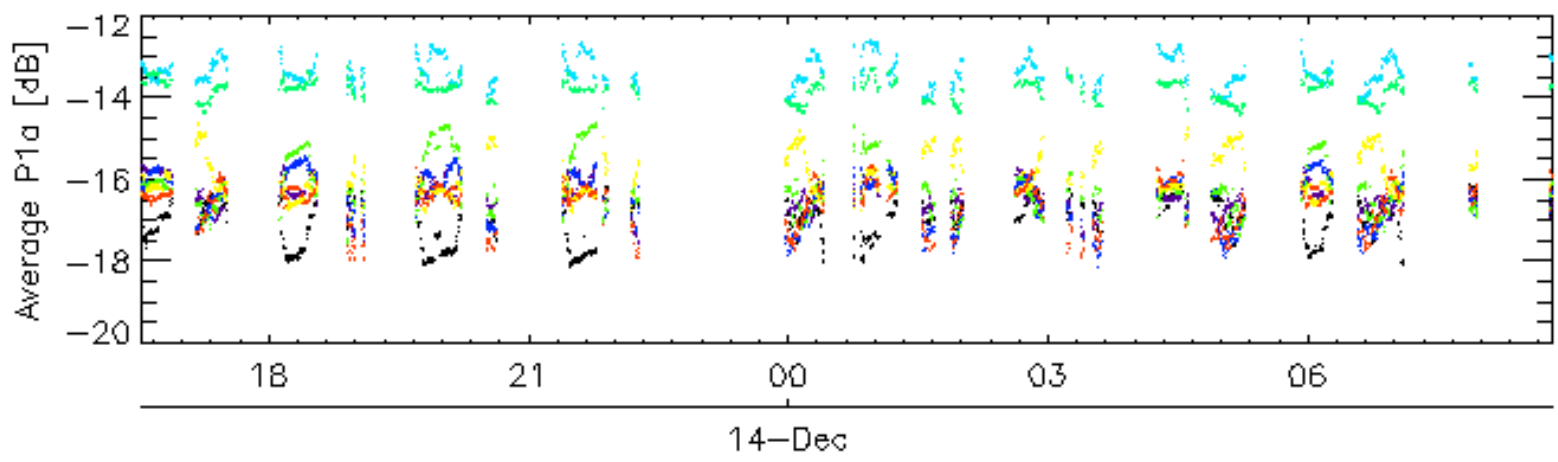
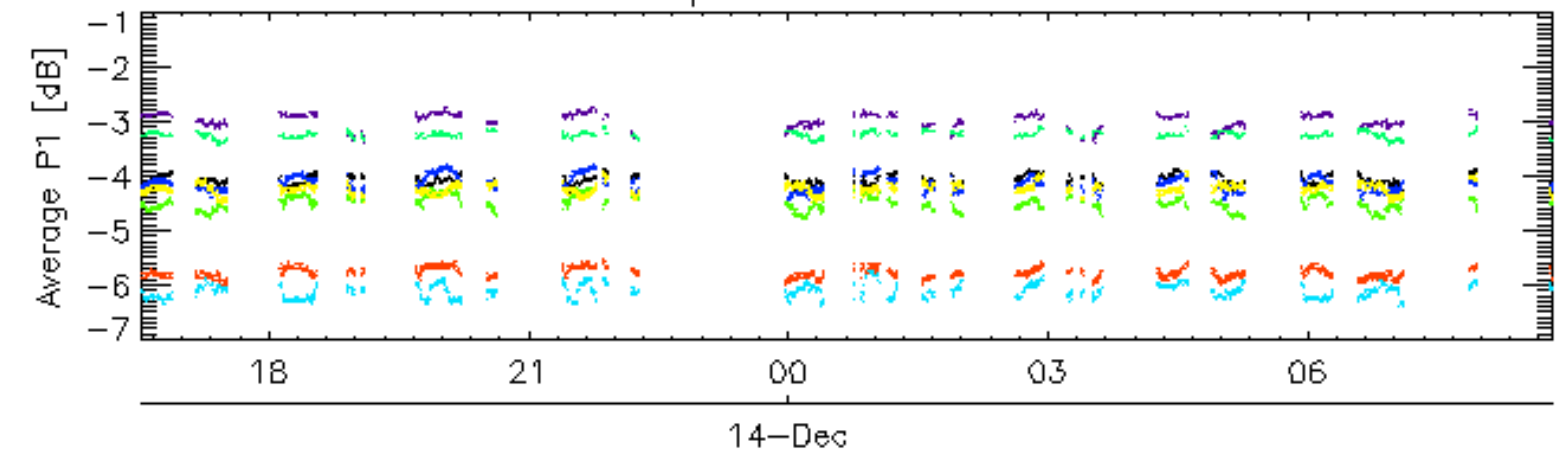


Cal pulses for GM1 SS3

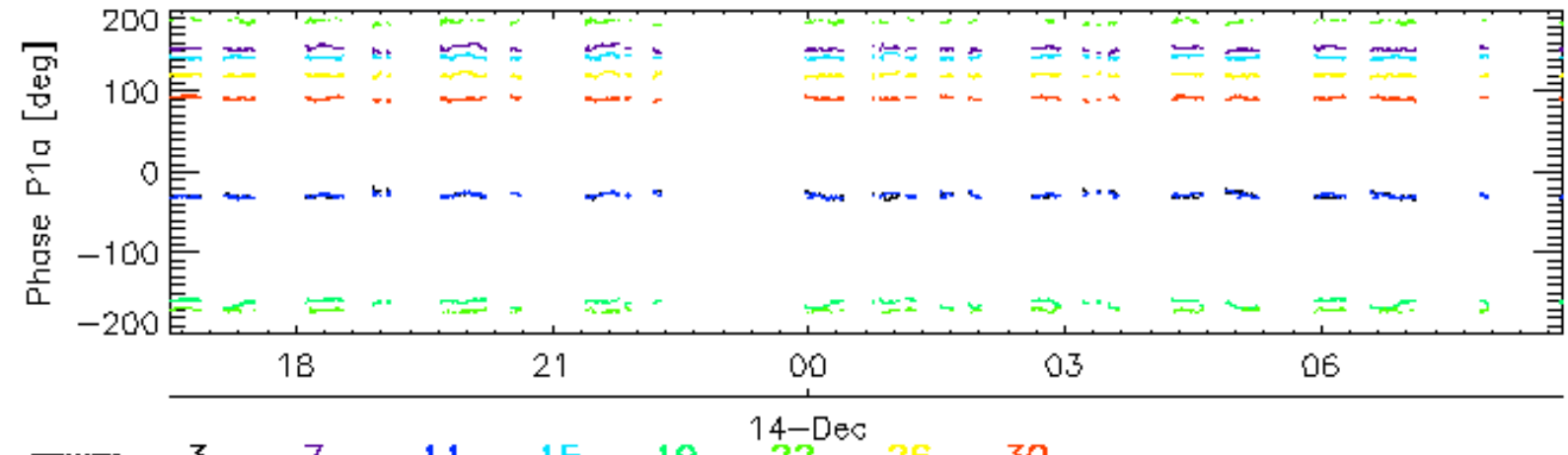
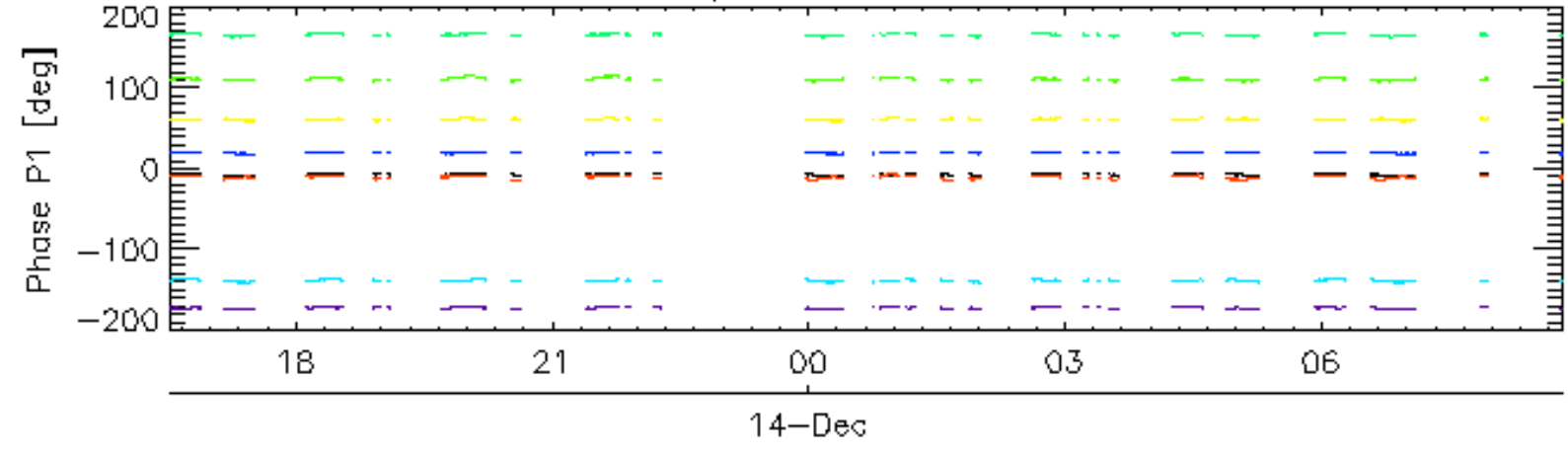


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

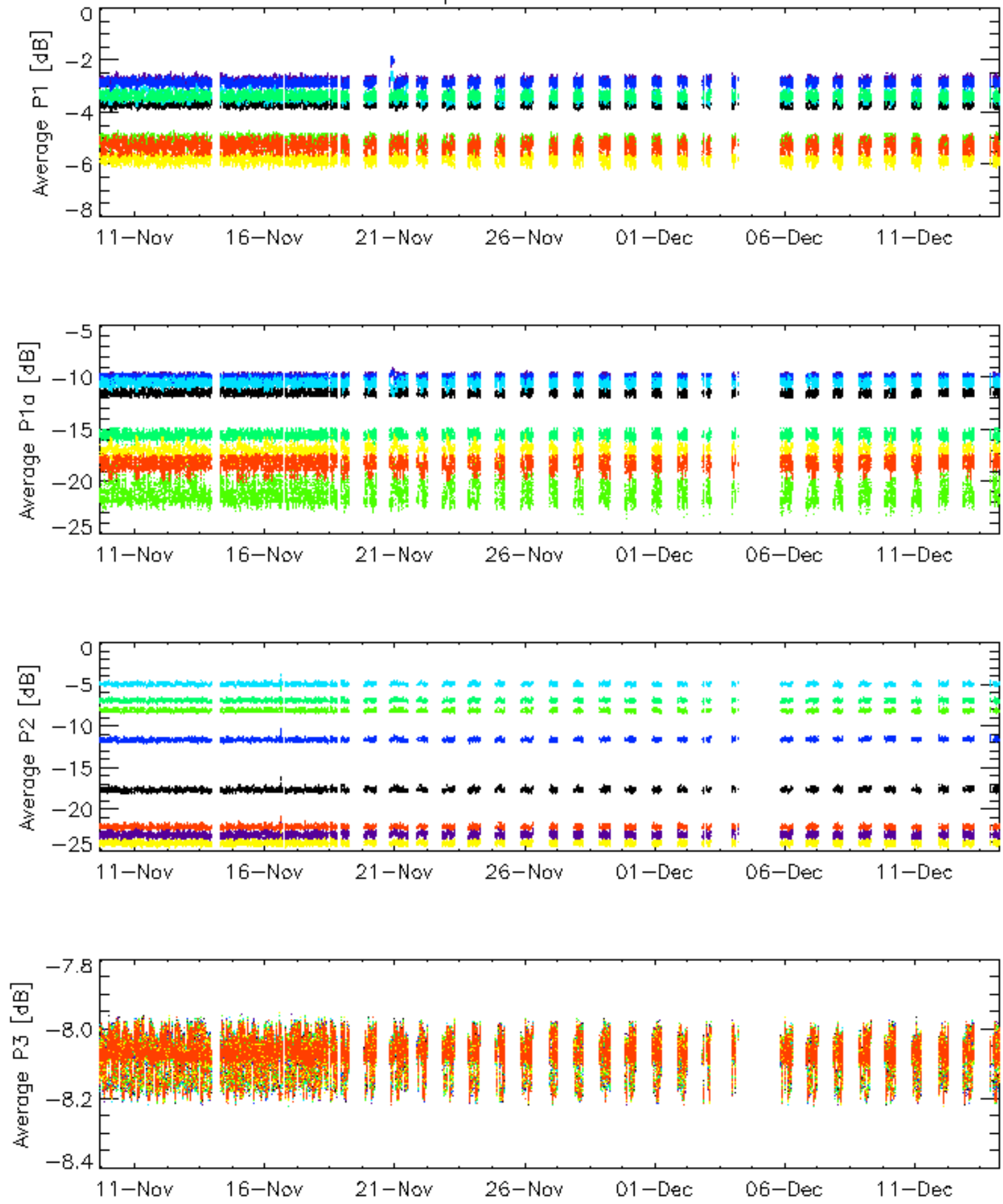


Cal pulses for WVS IS2



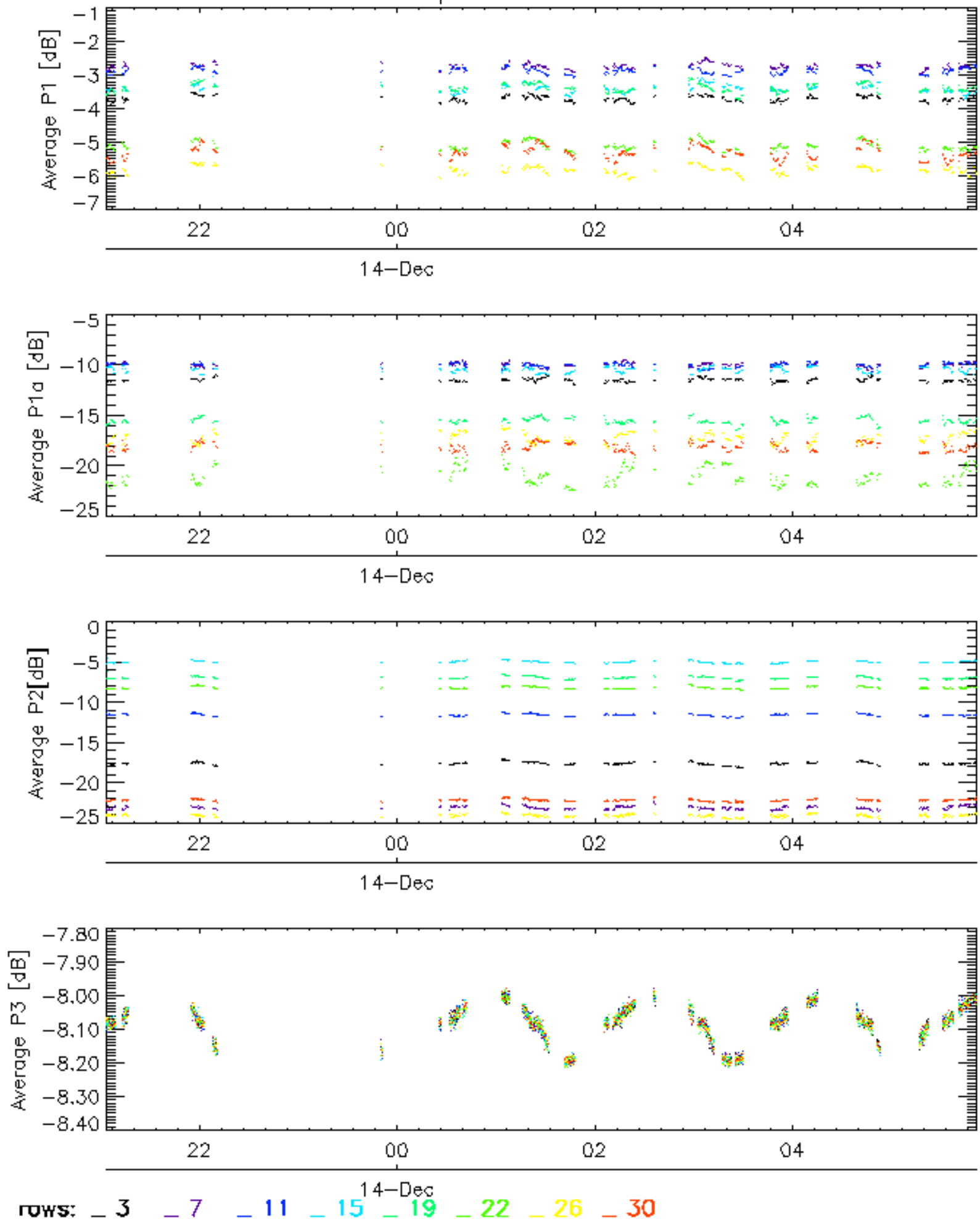
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

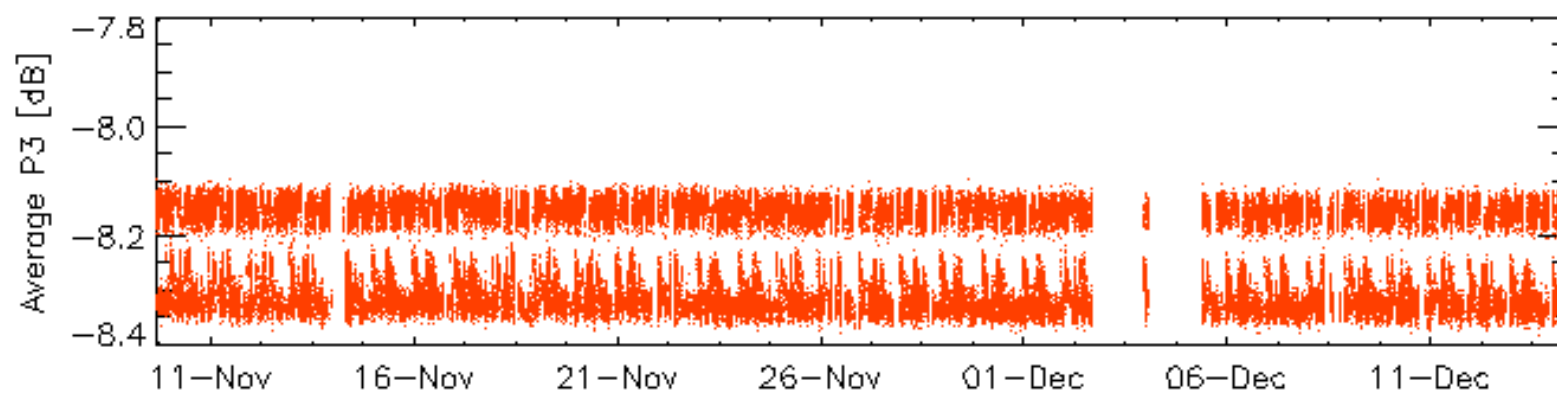
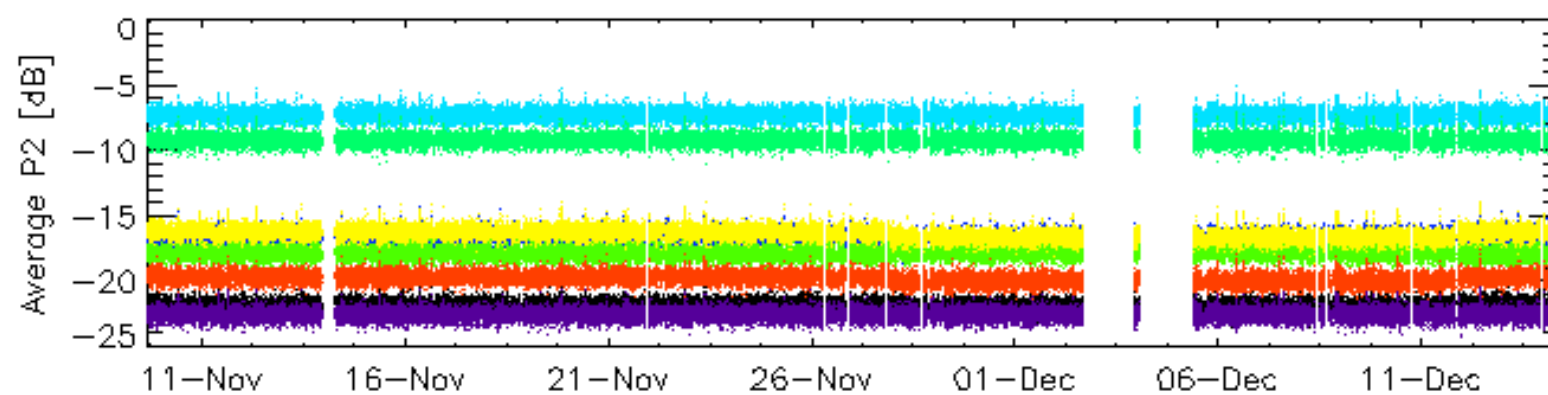
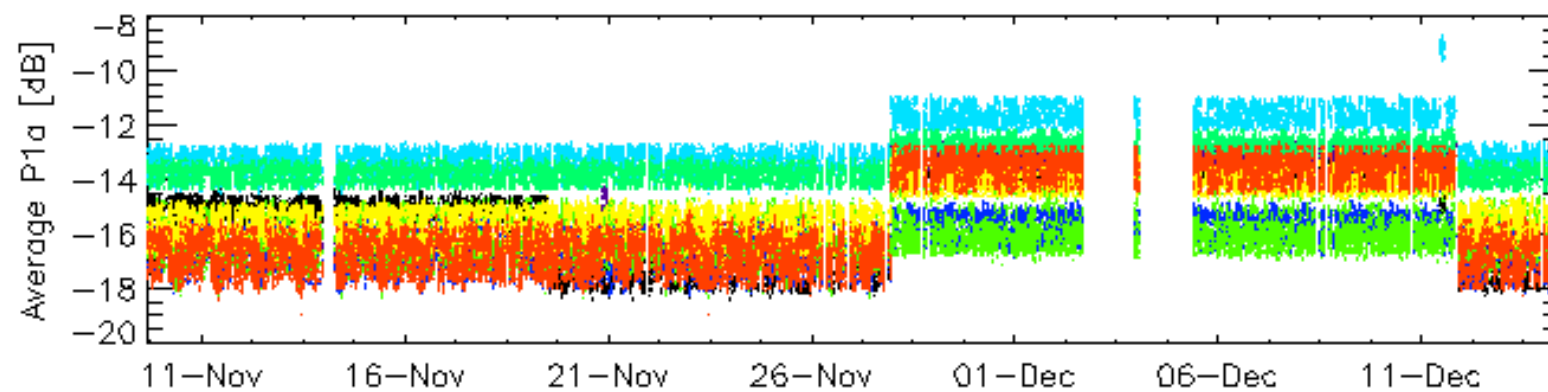
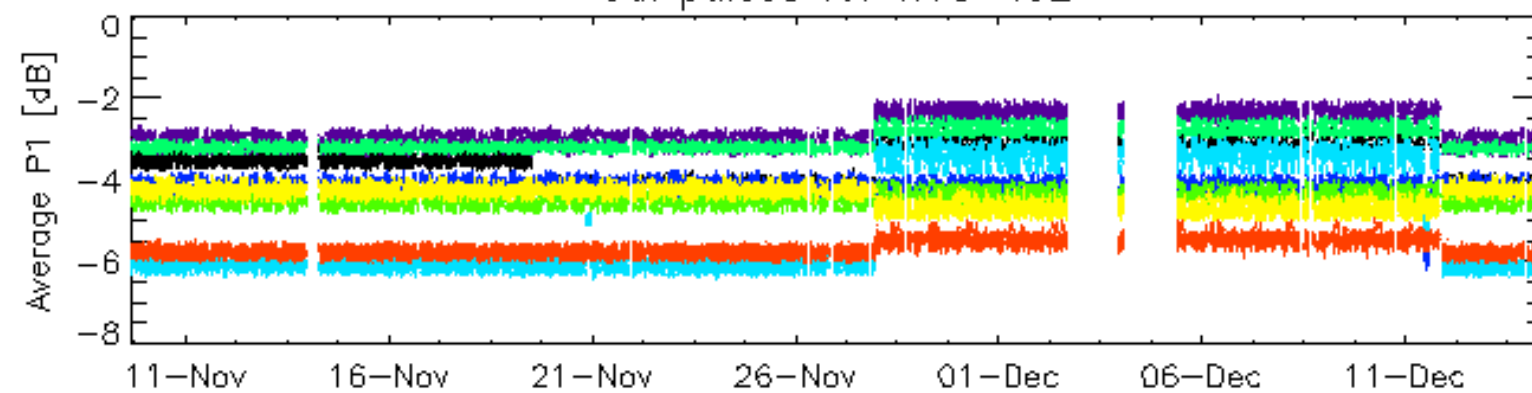


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

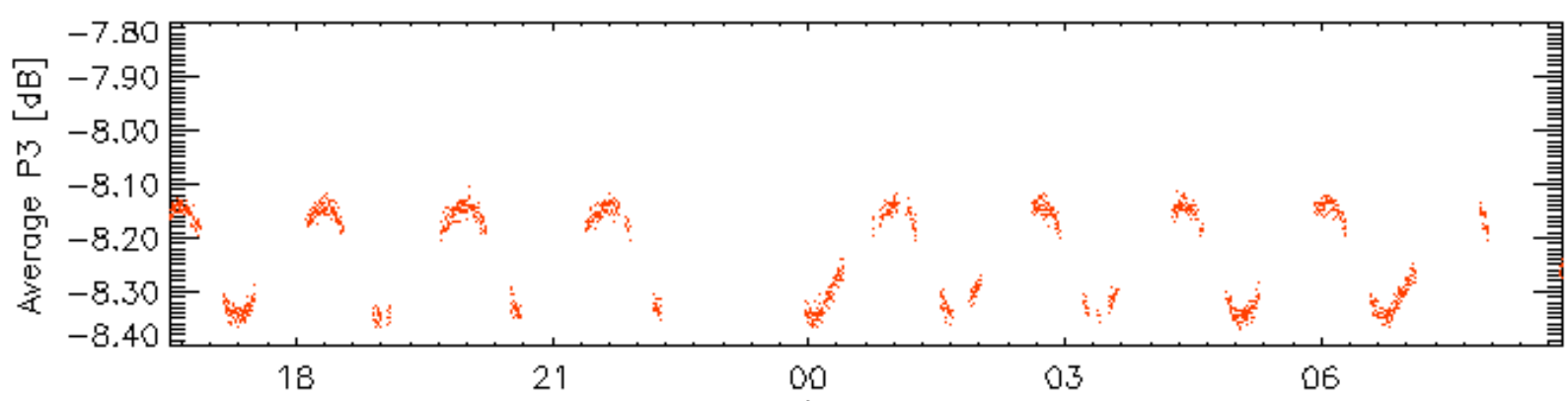
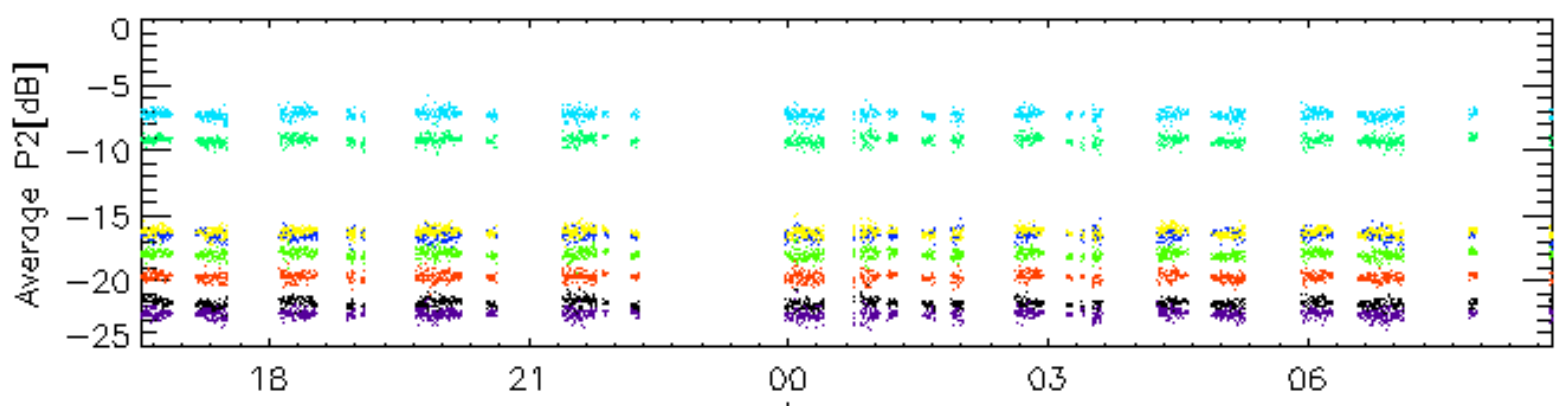
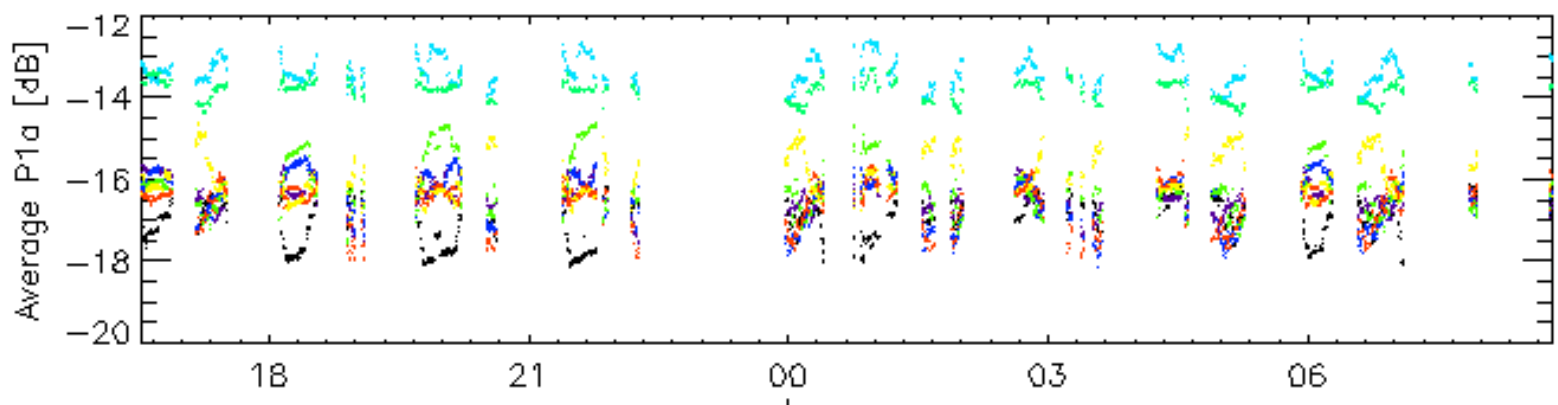
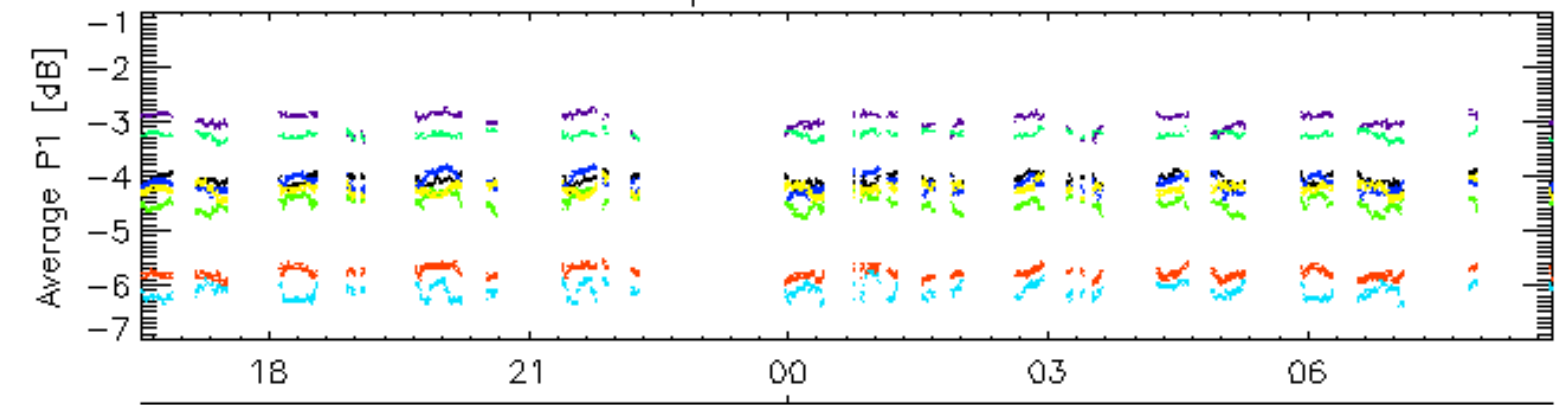


Cal pulses for WVS IS2



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

Cal pulses for WVS IS2

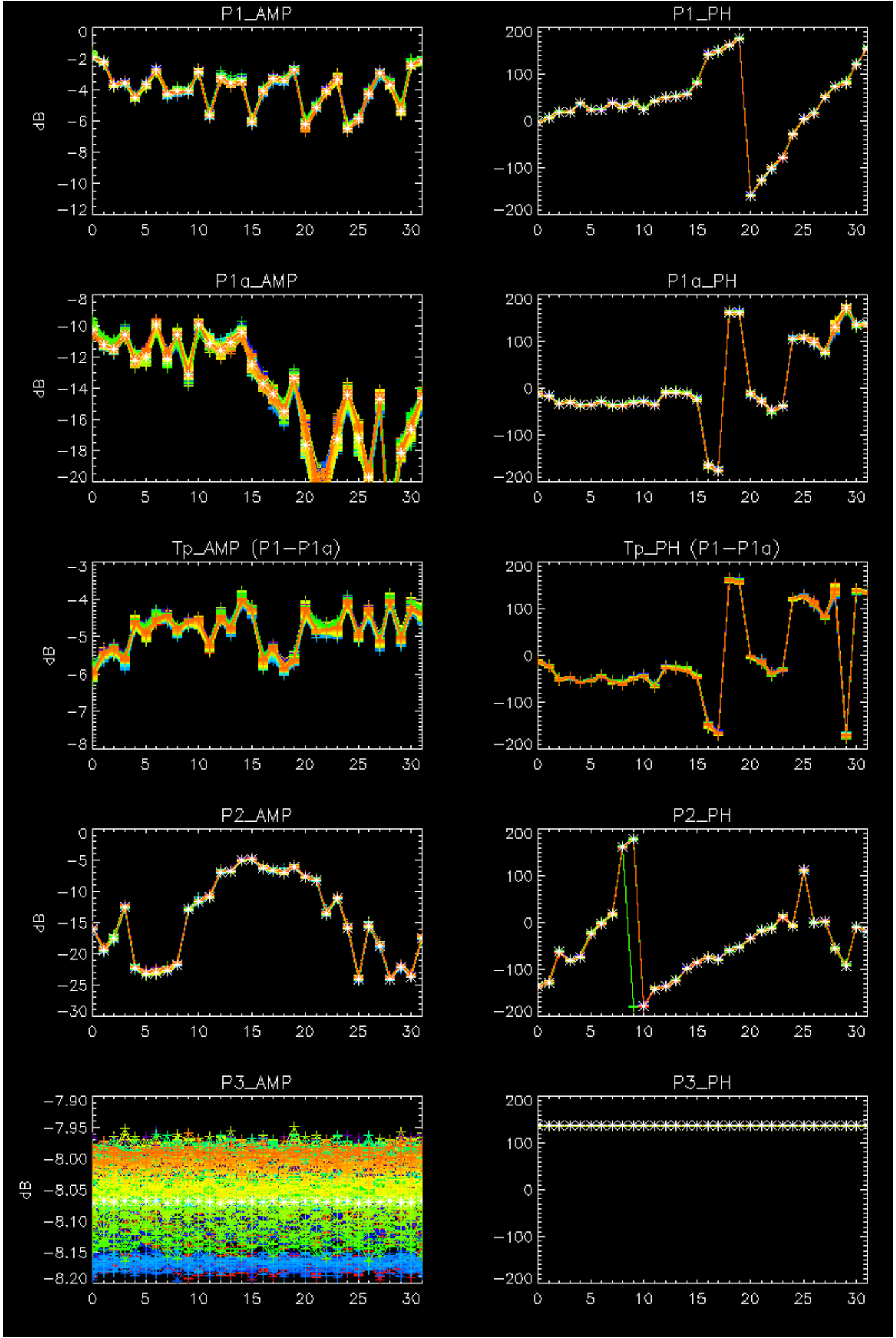


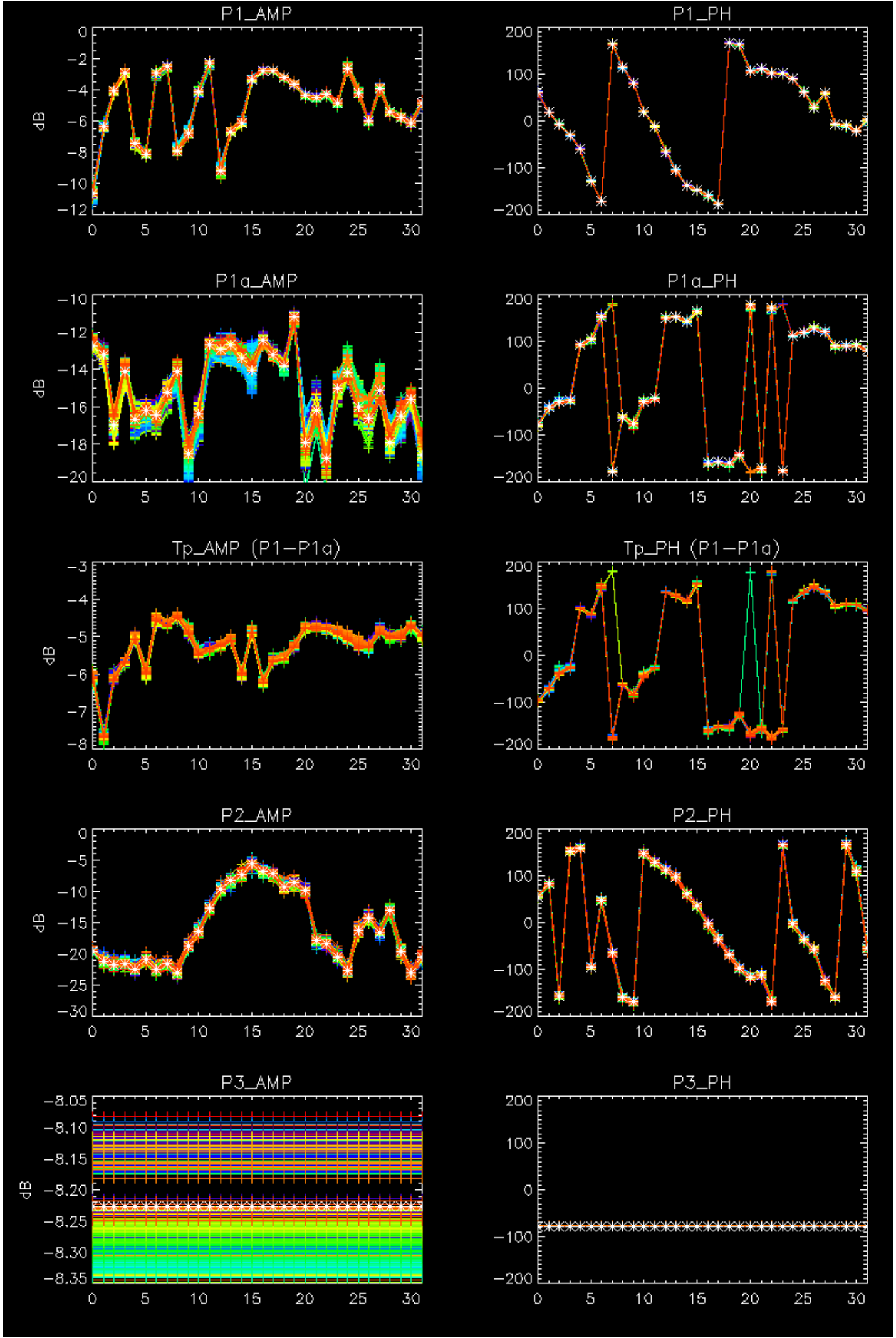
rows: **3** **7** **11** **15** **19** **22** **26** **30**

No anomalies observed on available browse products



No anomalies observed.



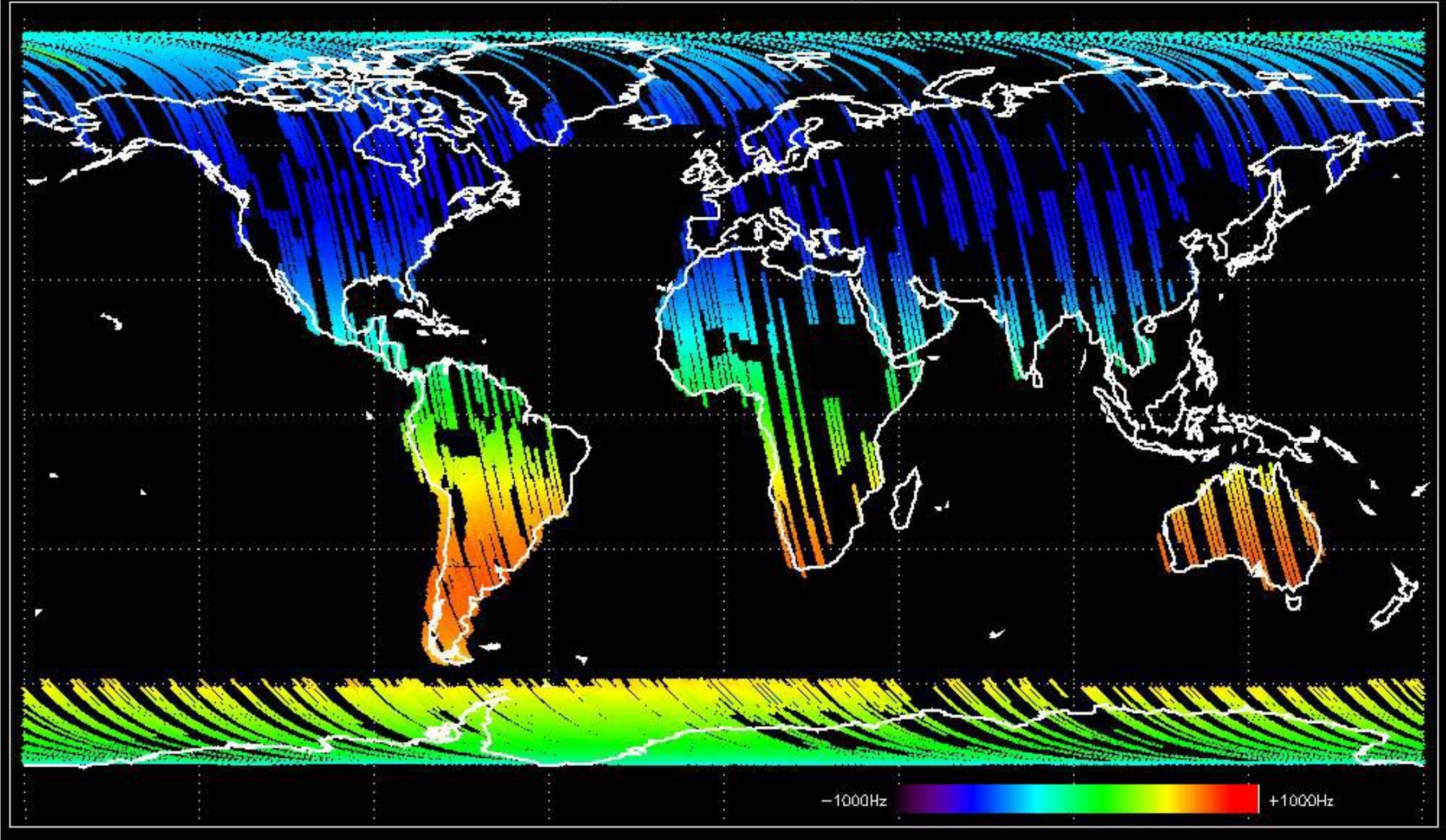


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



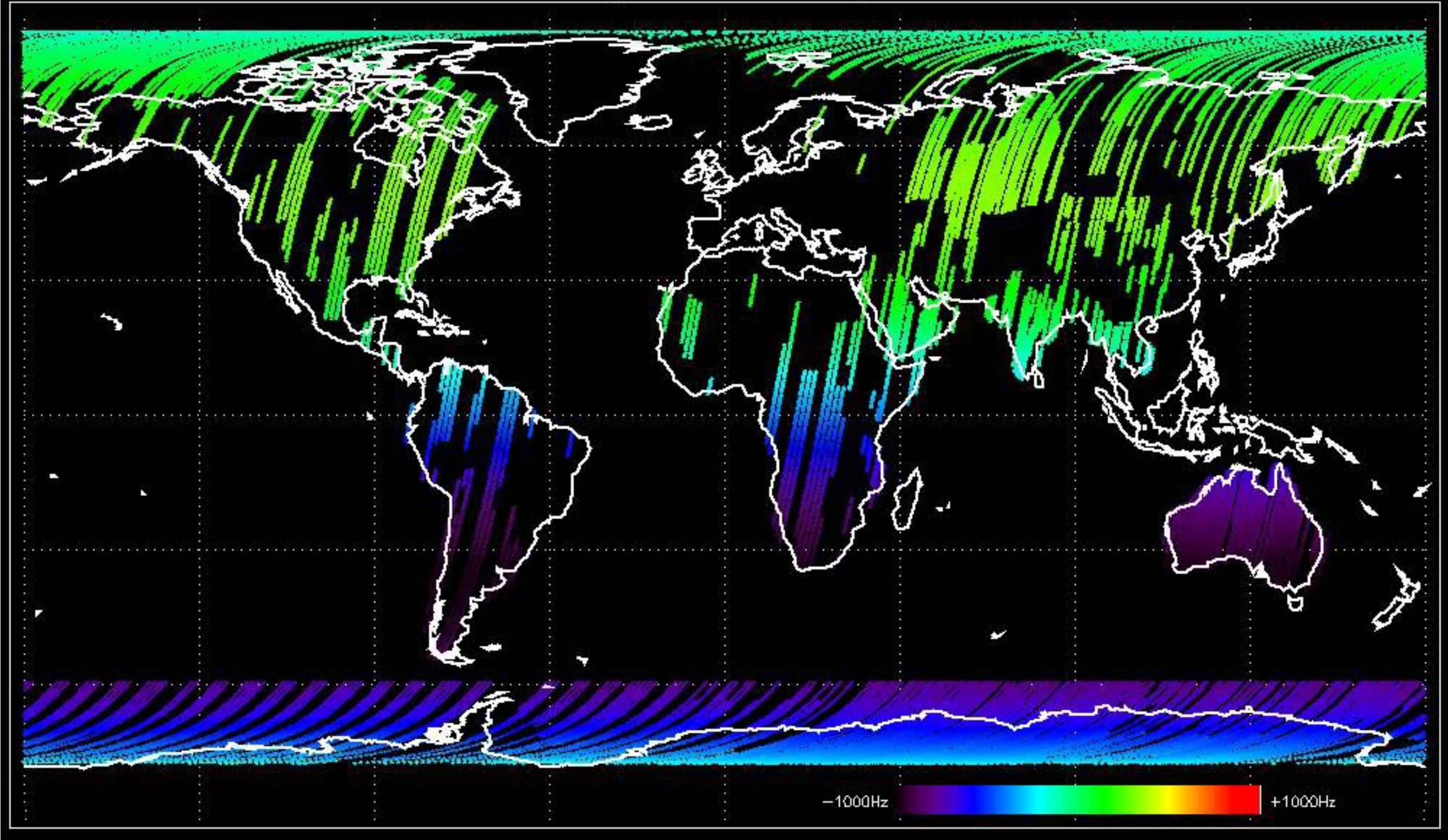


Doppler 'GM1' 'SS1' ascending



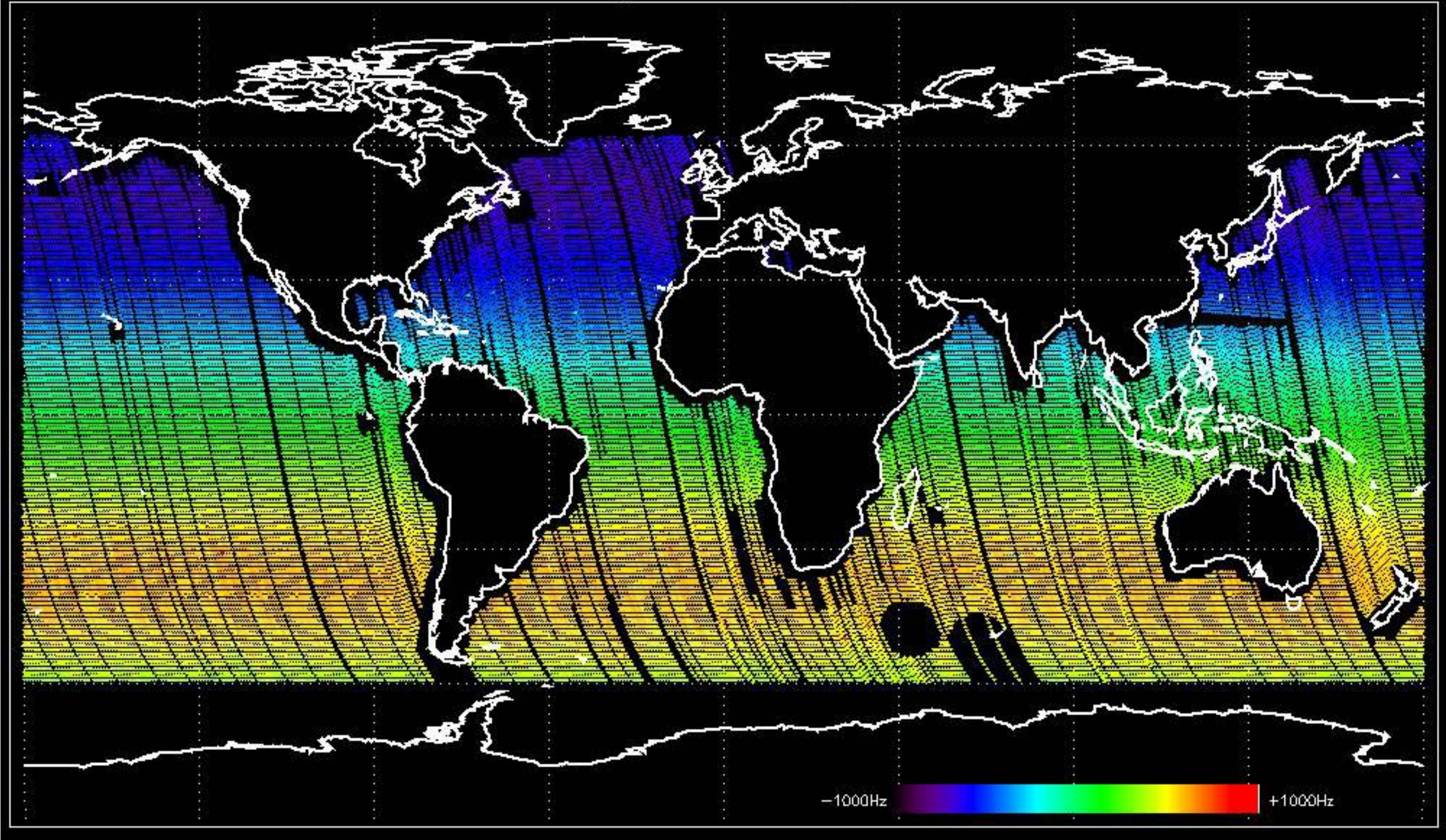


Doppler 'GM1' 'SS1' descending



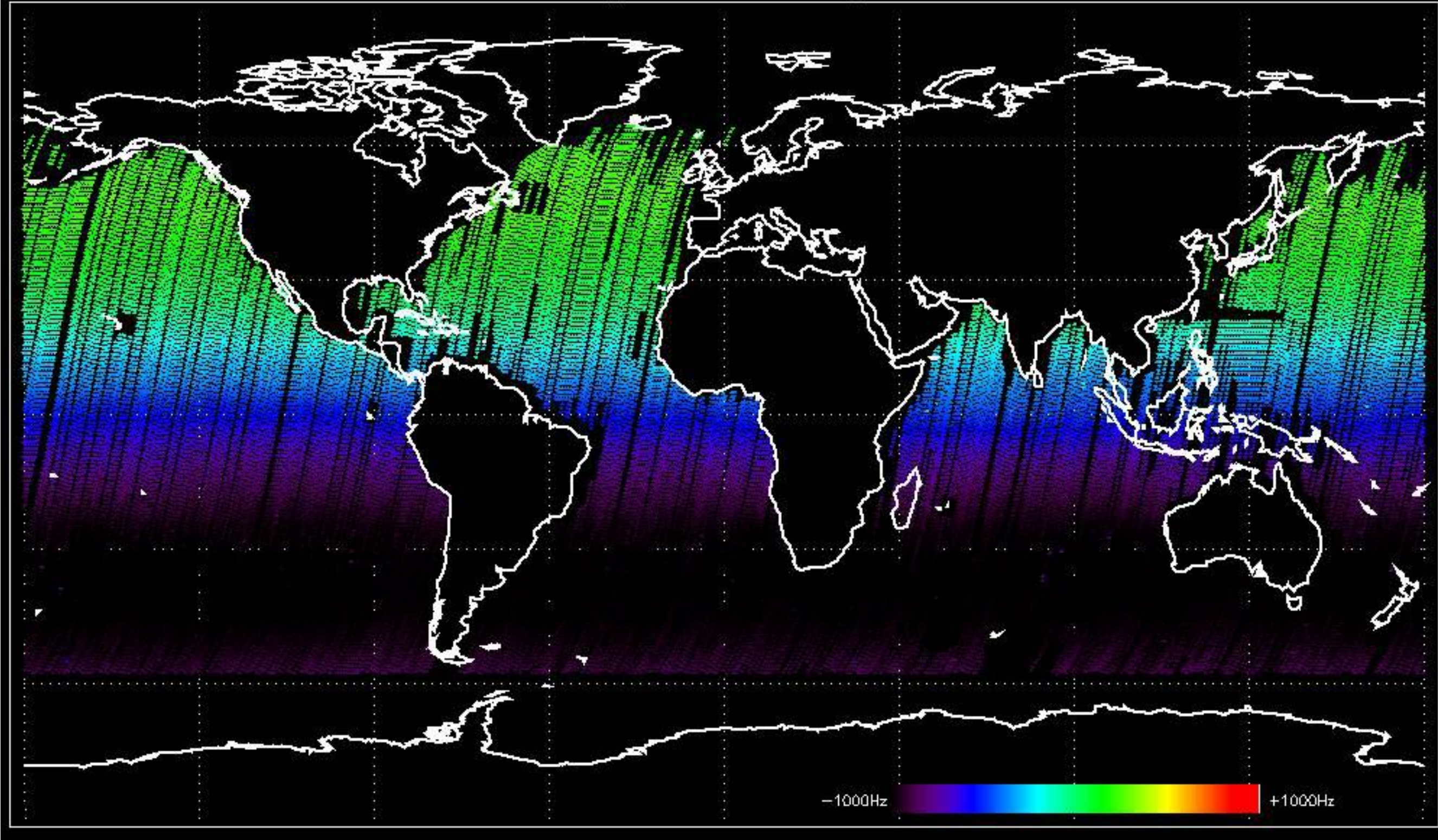


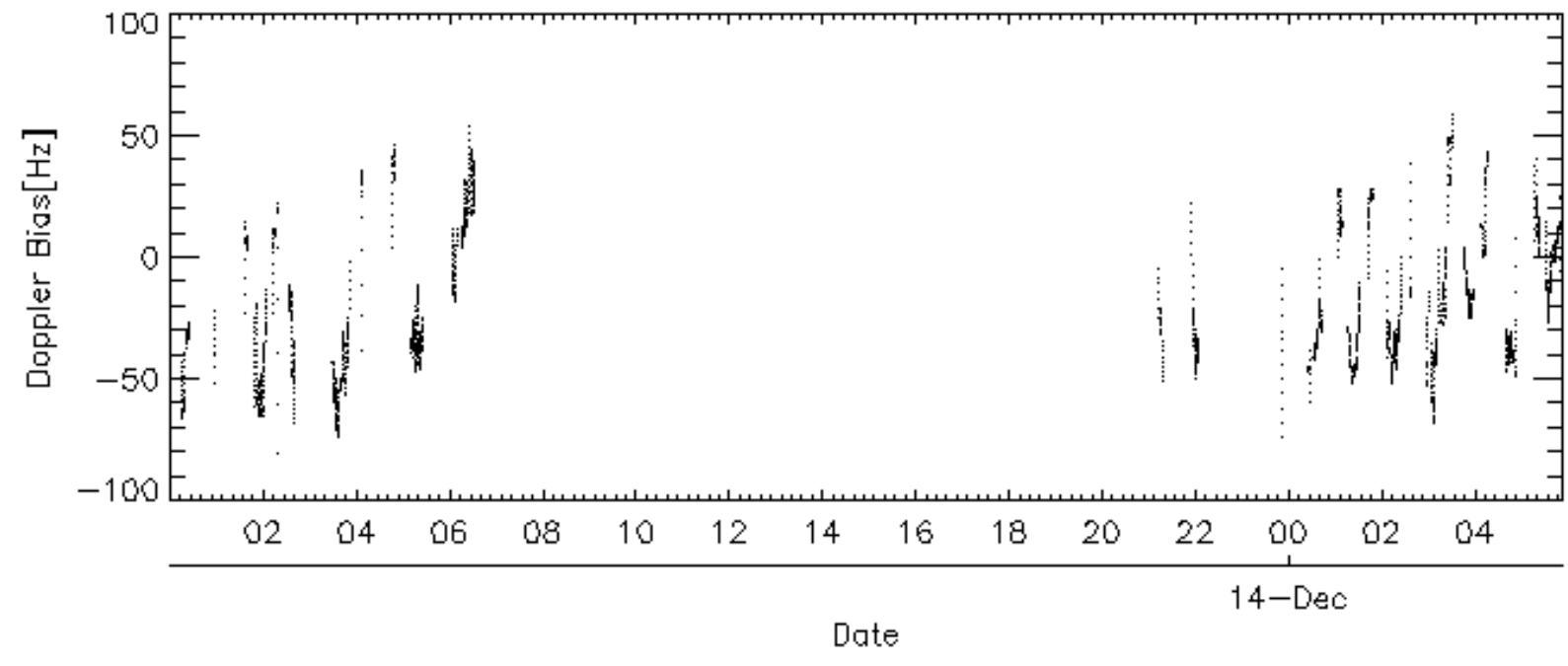
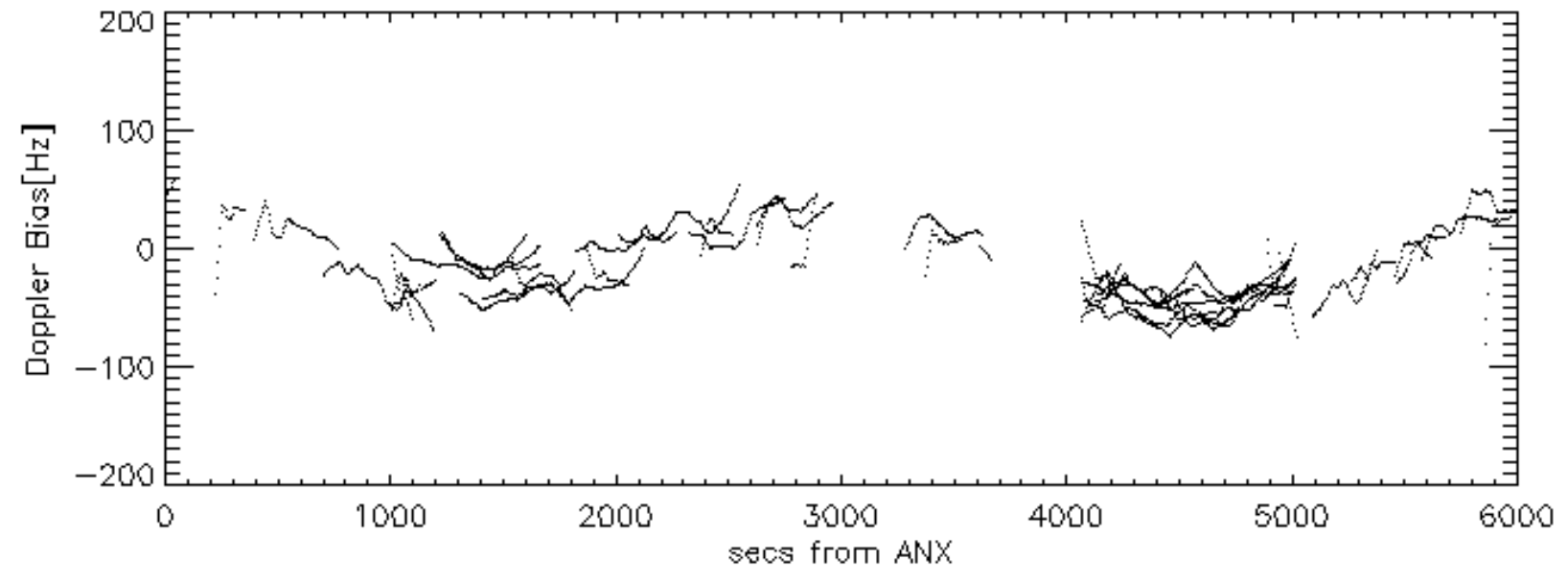
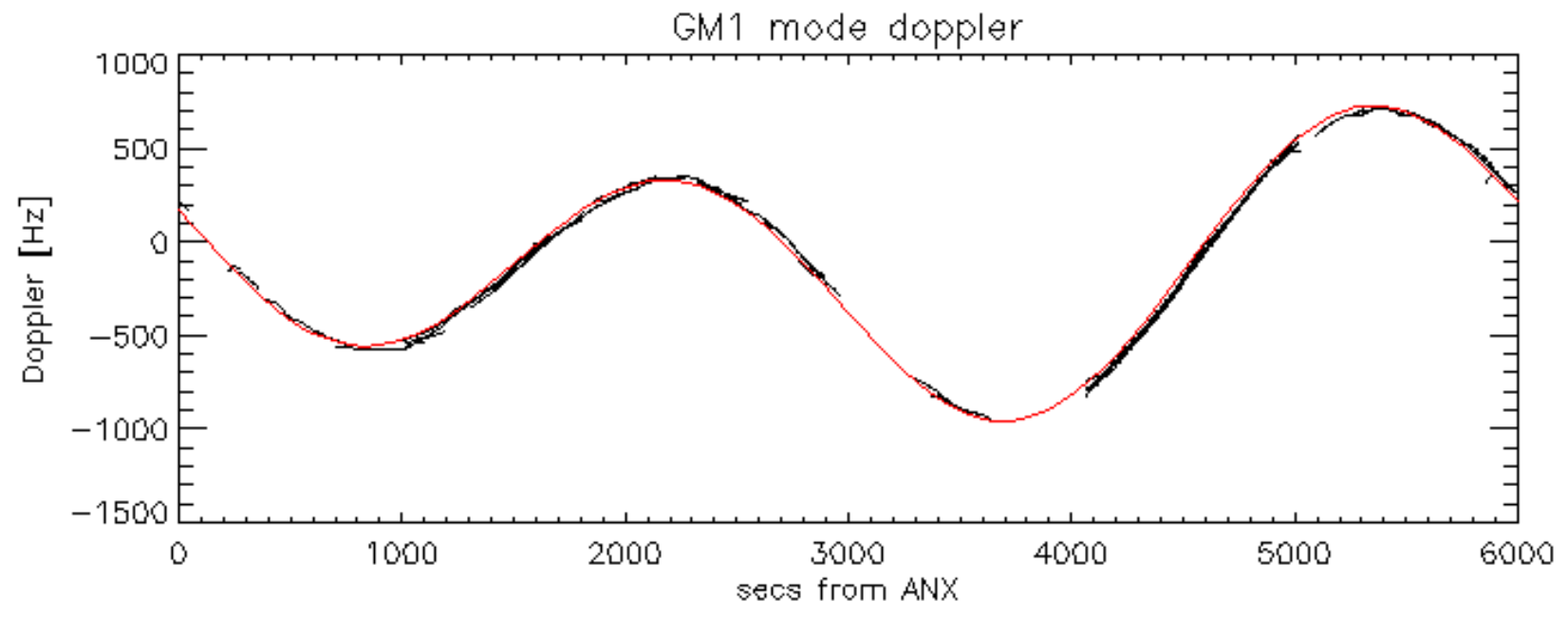
Doppler 'WVS' 'IS2' ascending



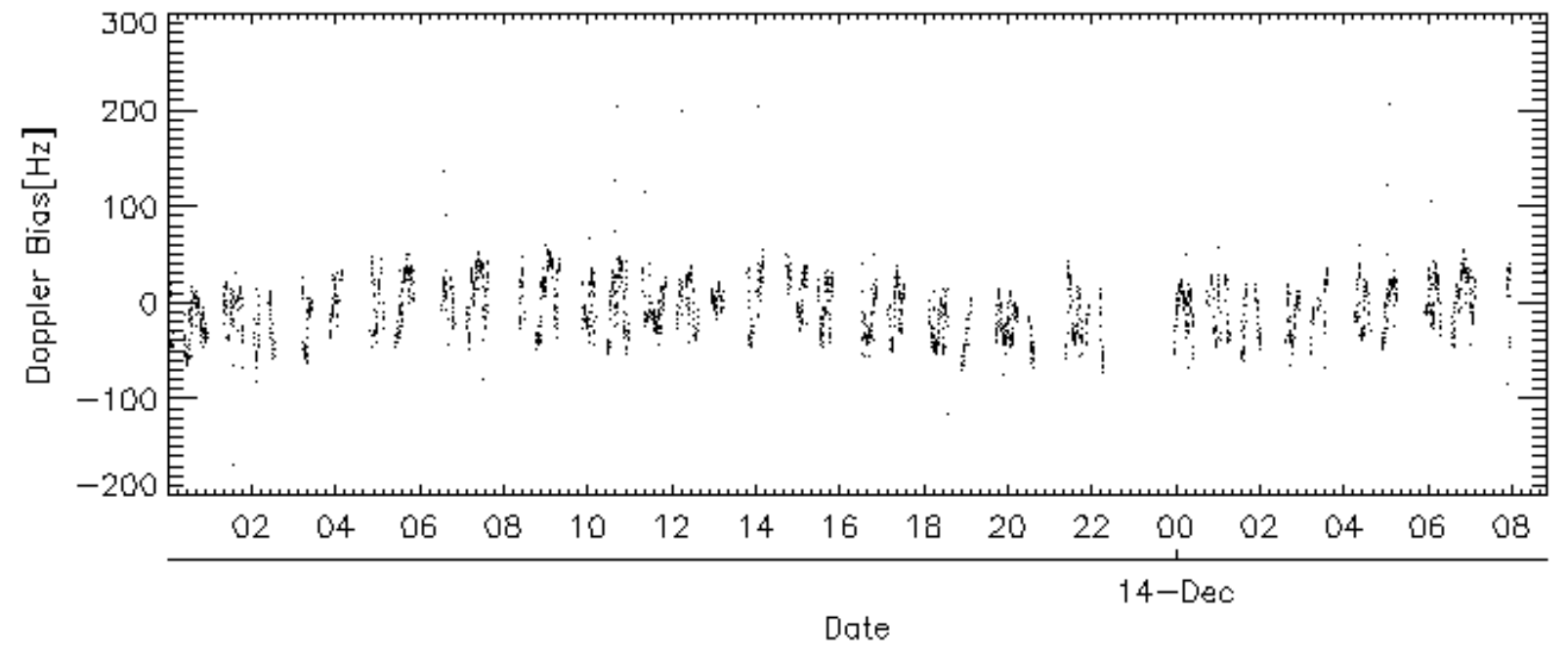
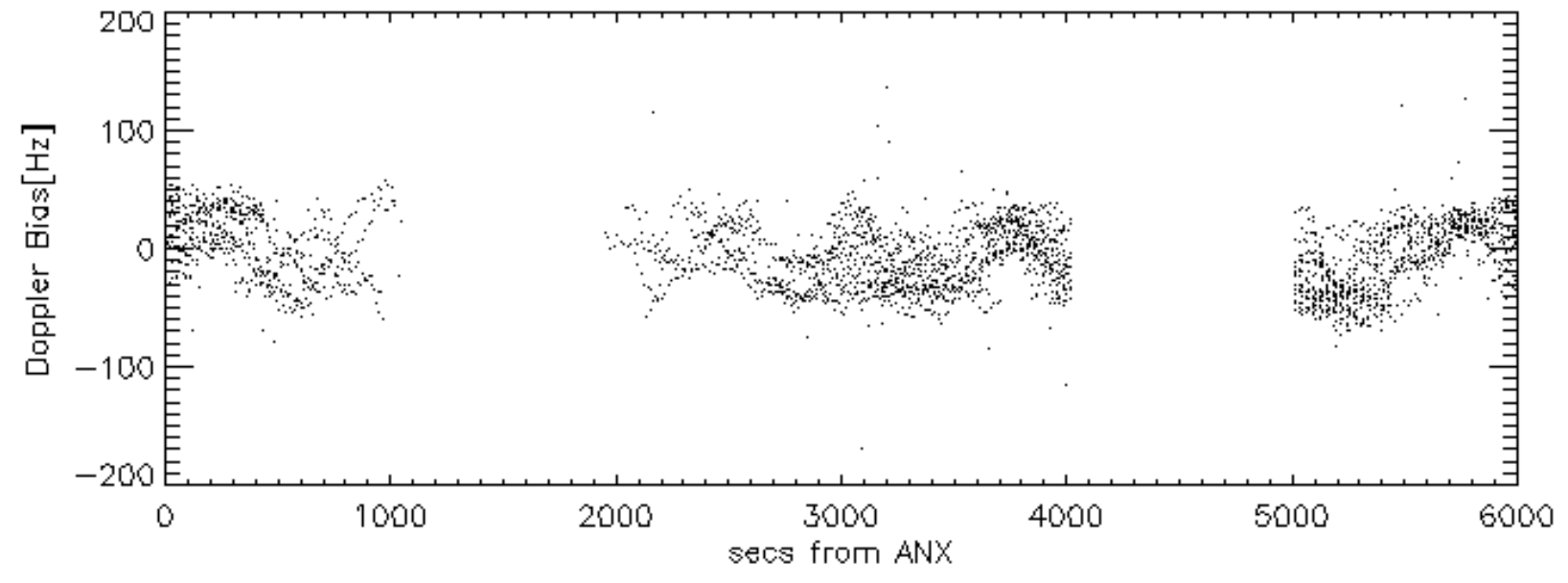
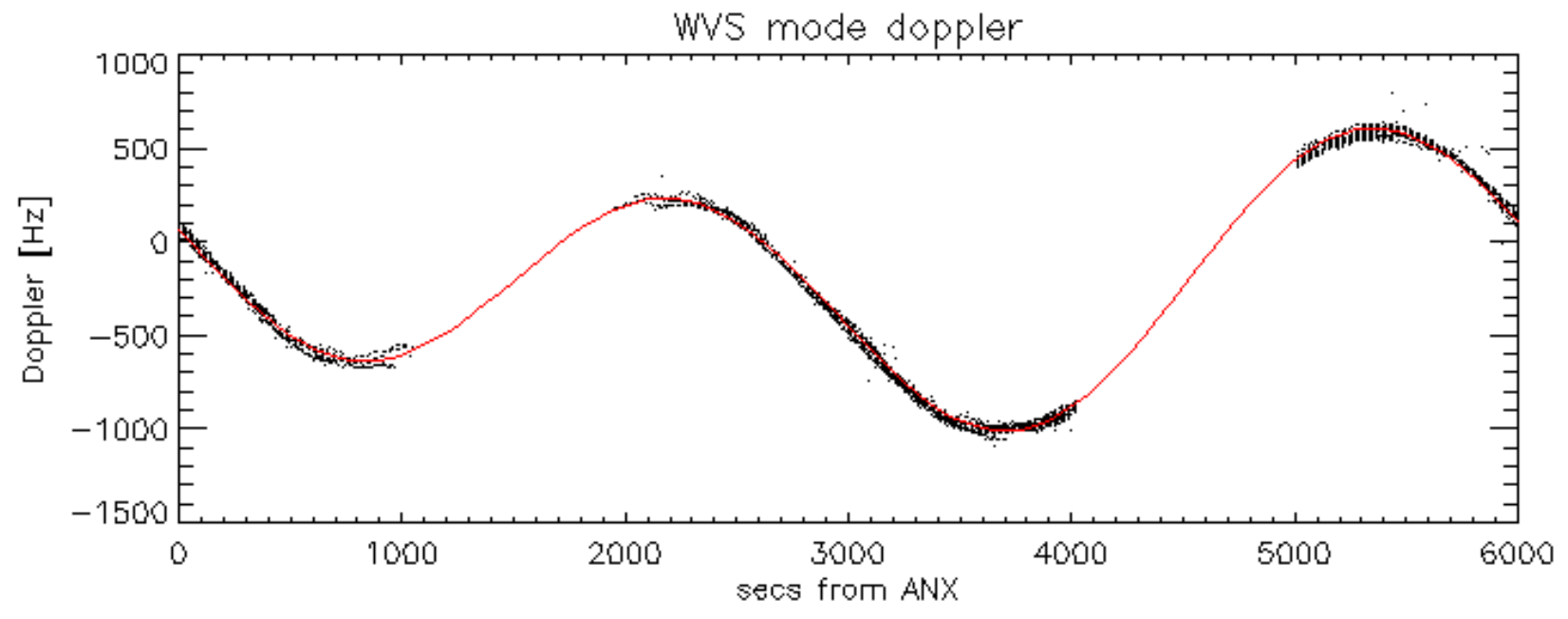


Doppler 'WVS' 'IS2' descending



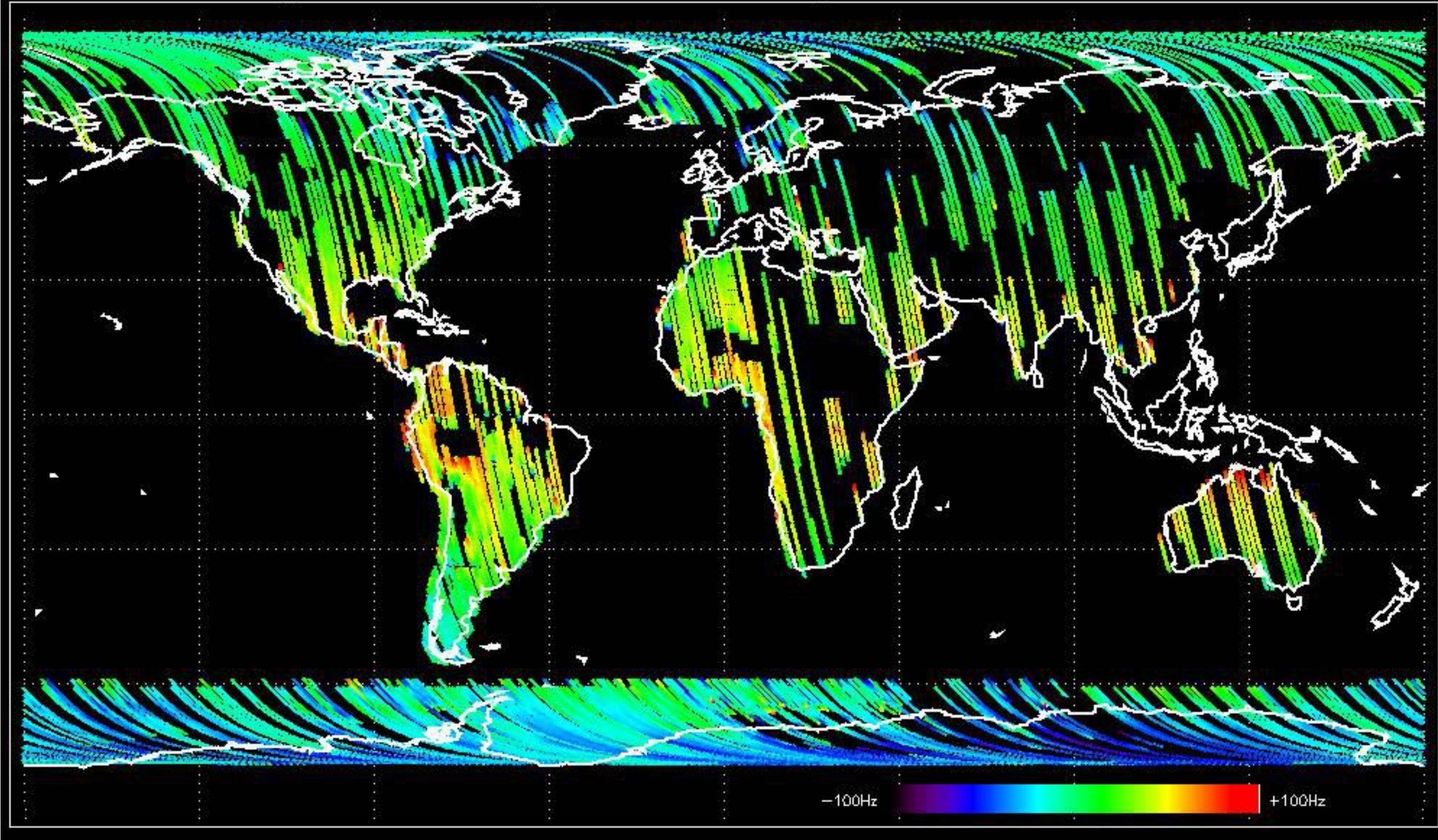






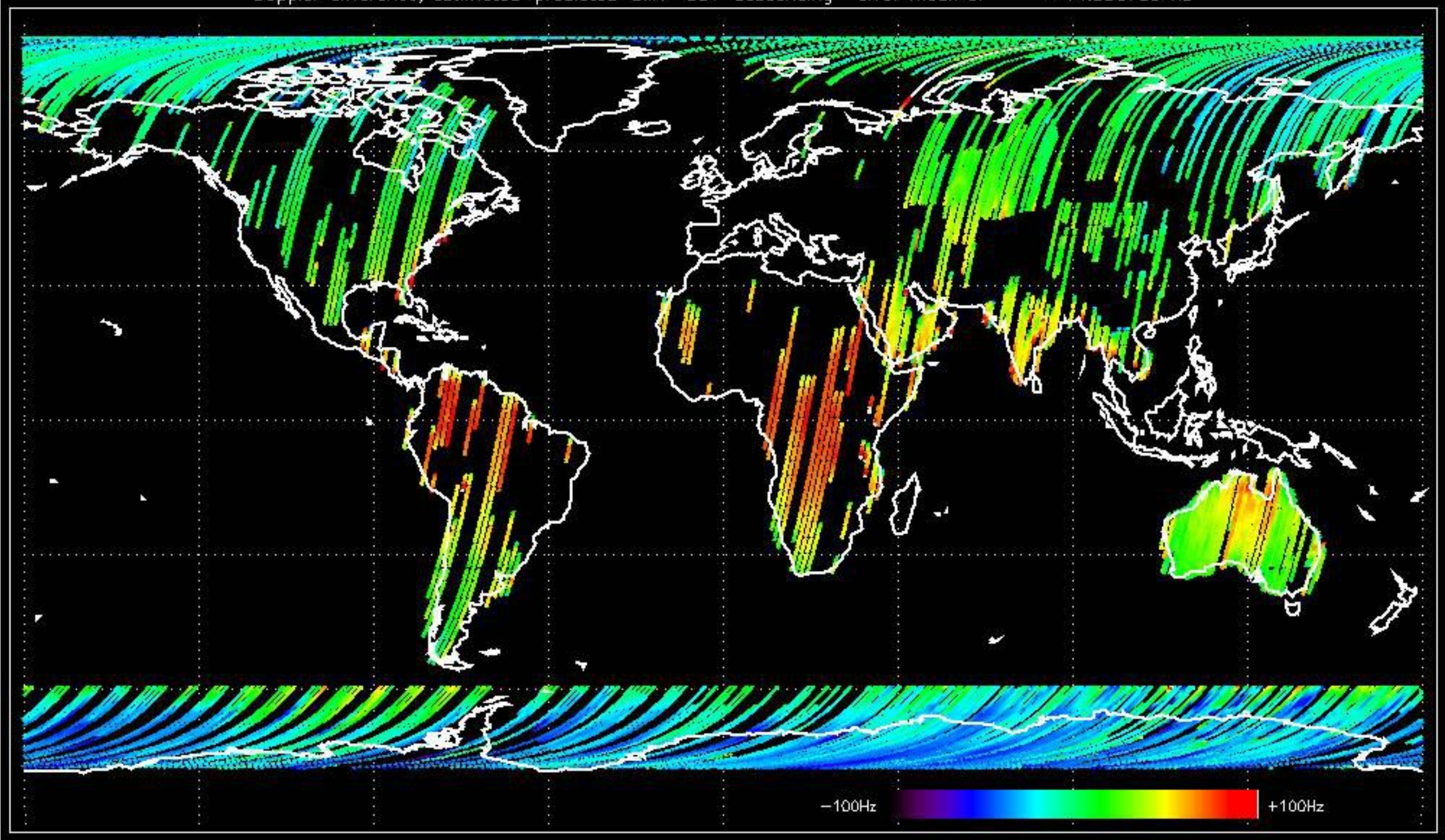


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -15.905276 Hz



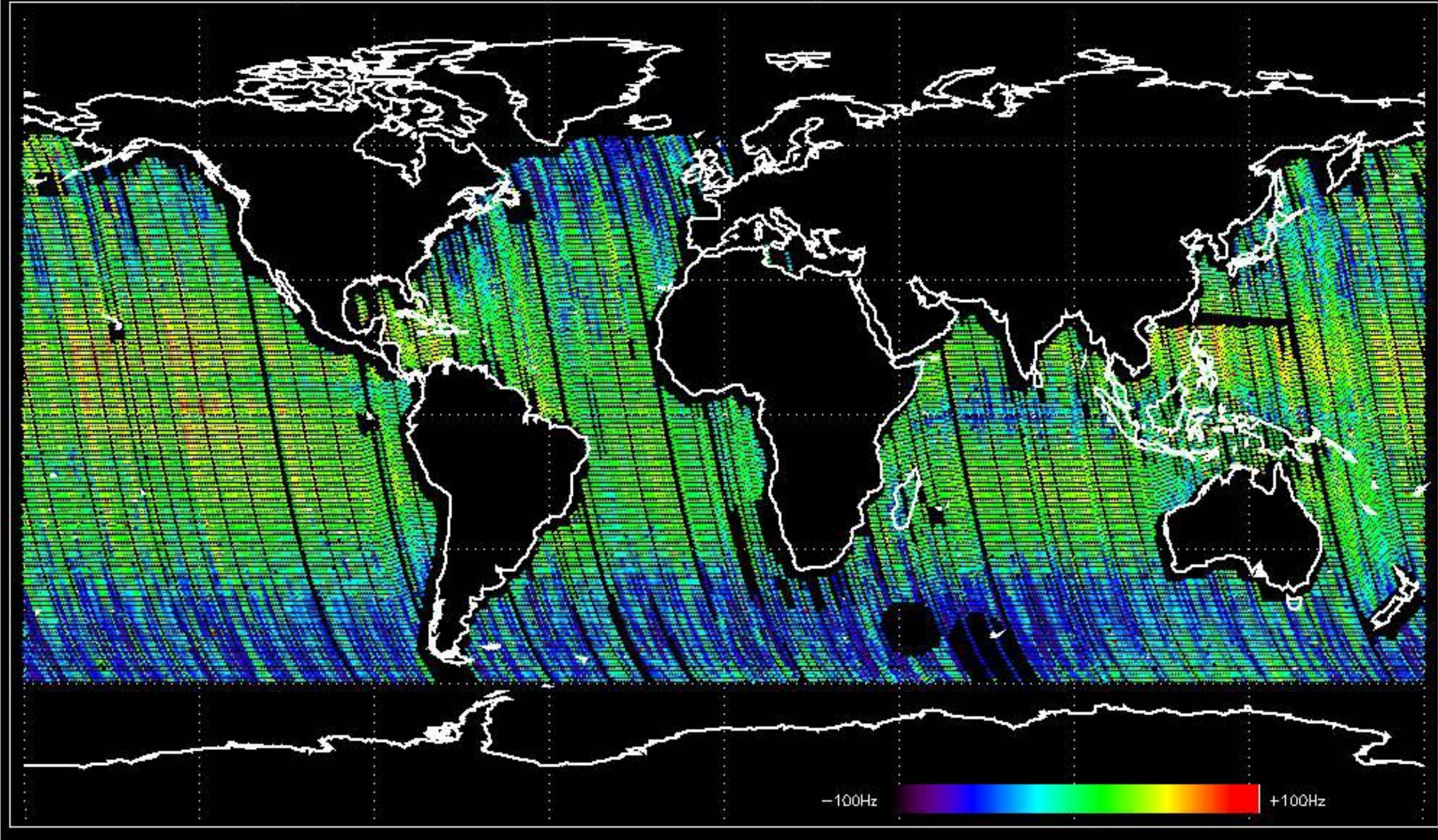


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -14.530750 Hz



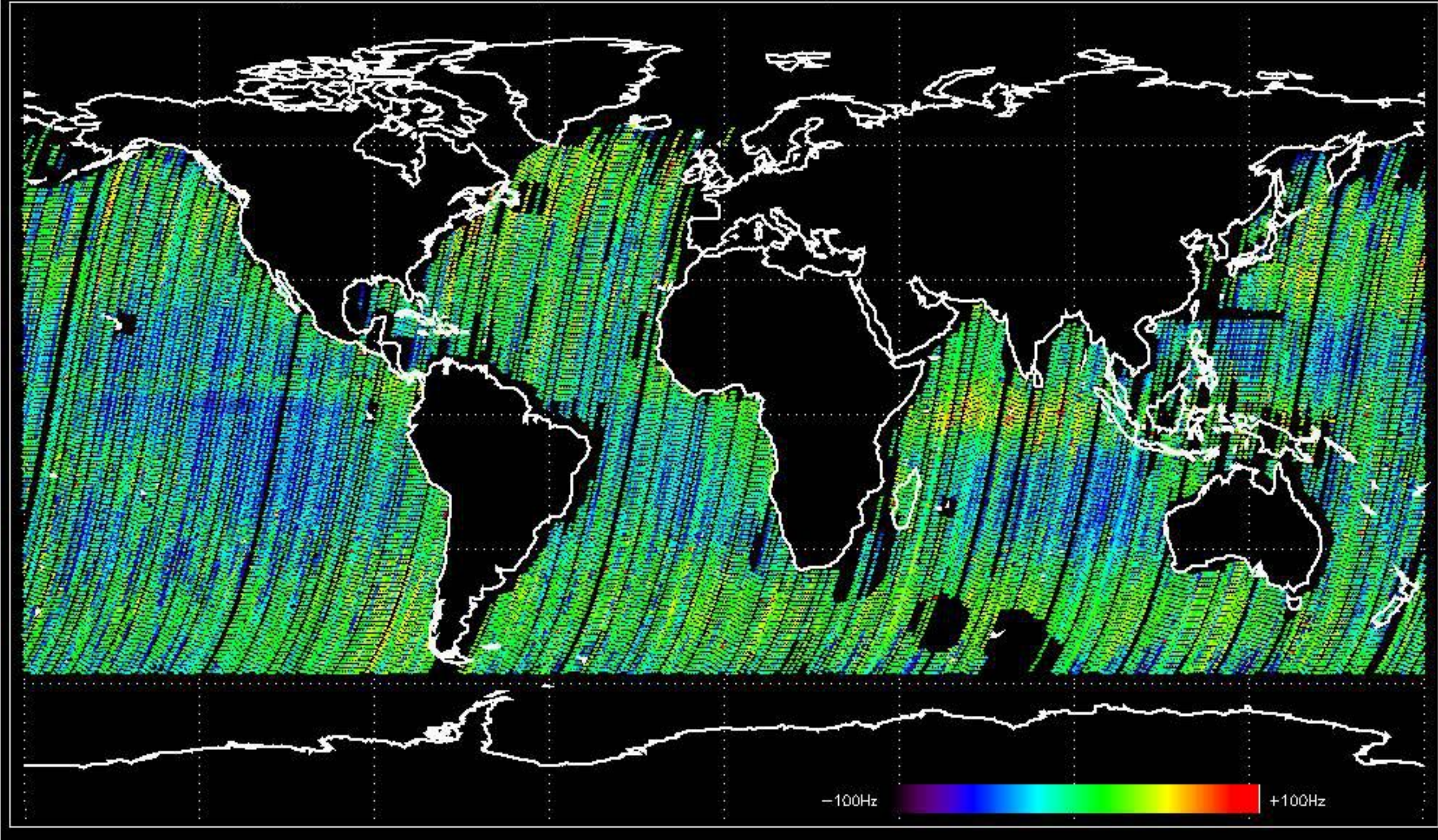


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -9.5141441 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -13.226391 Hz





No anomalies observed on available MS products:



No anomalies observed.









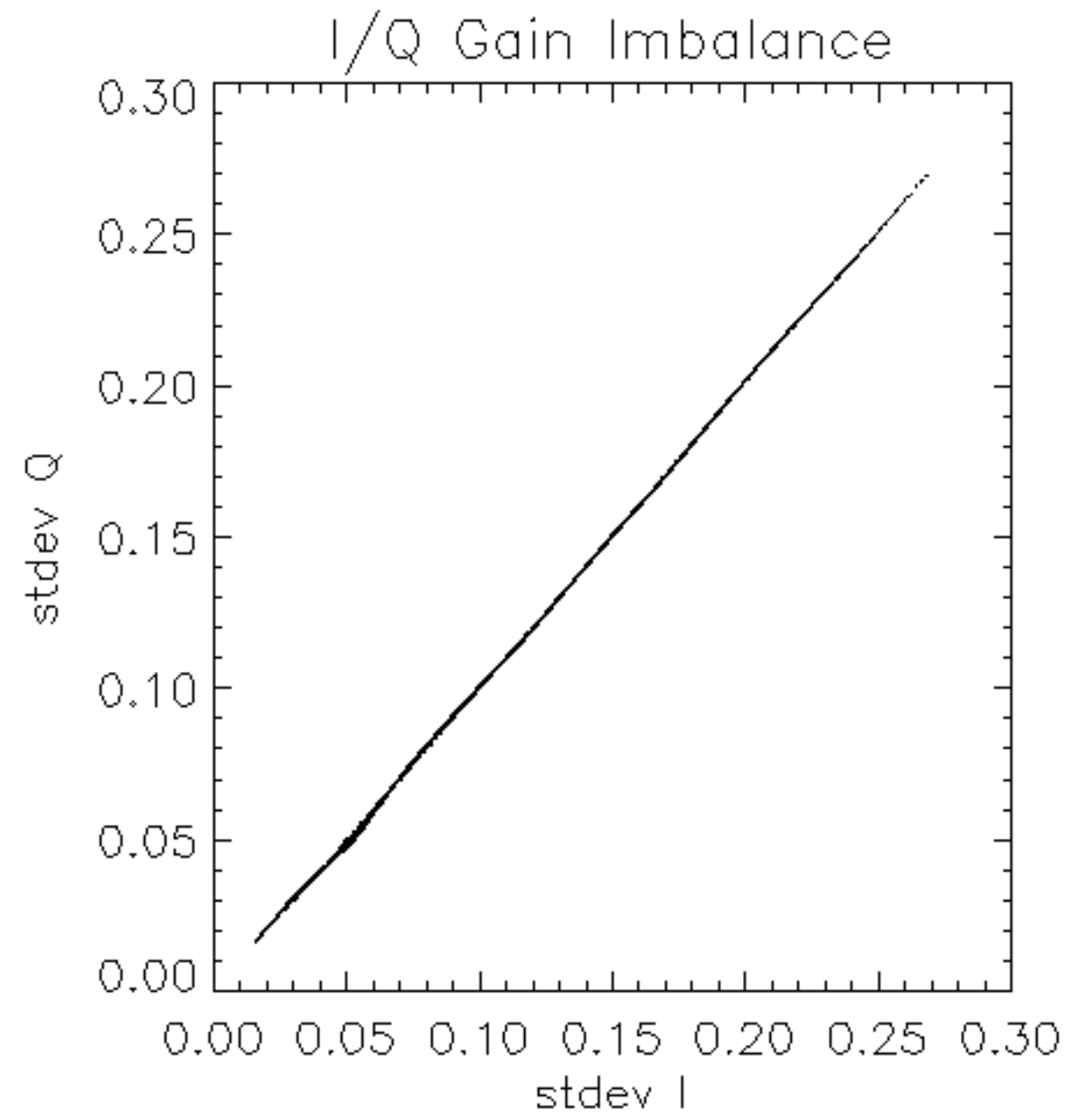


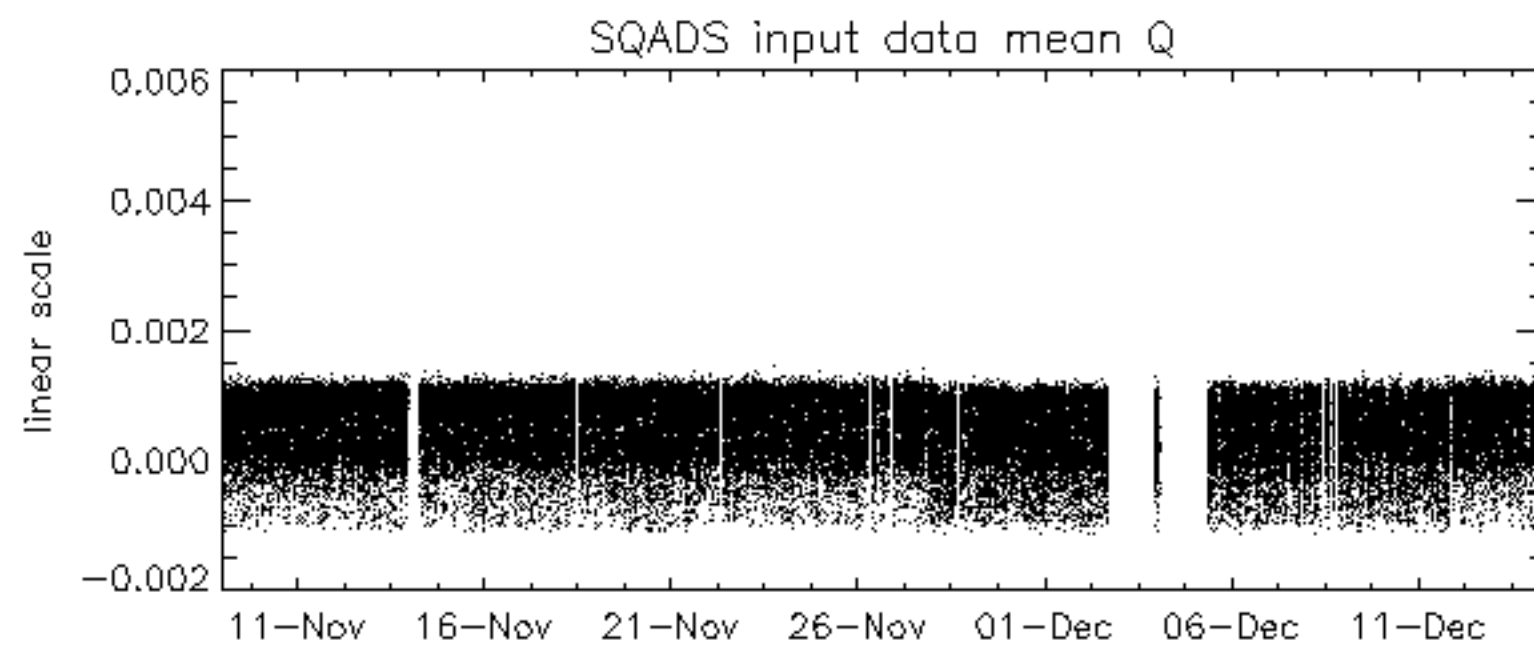
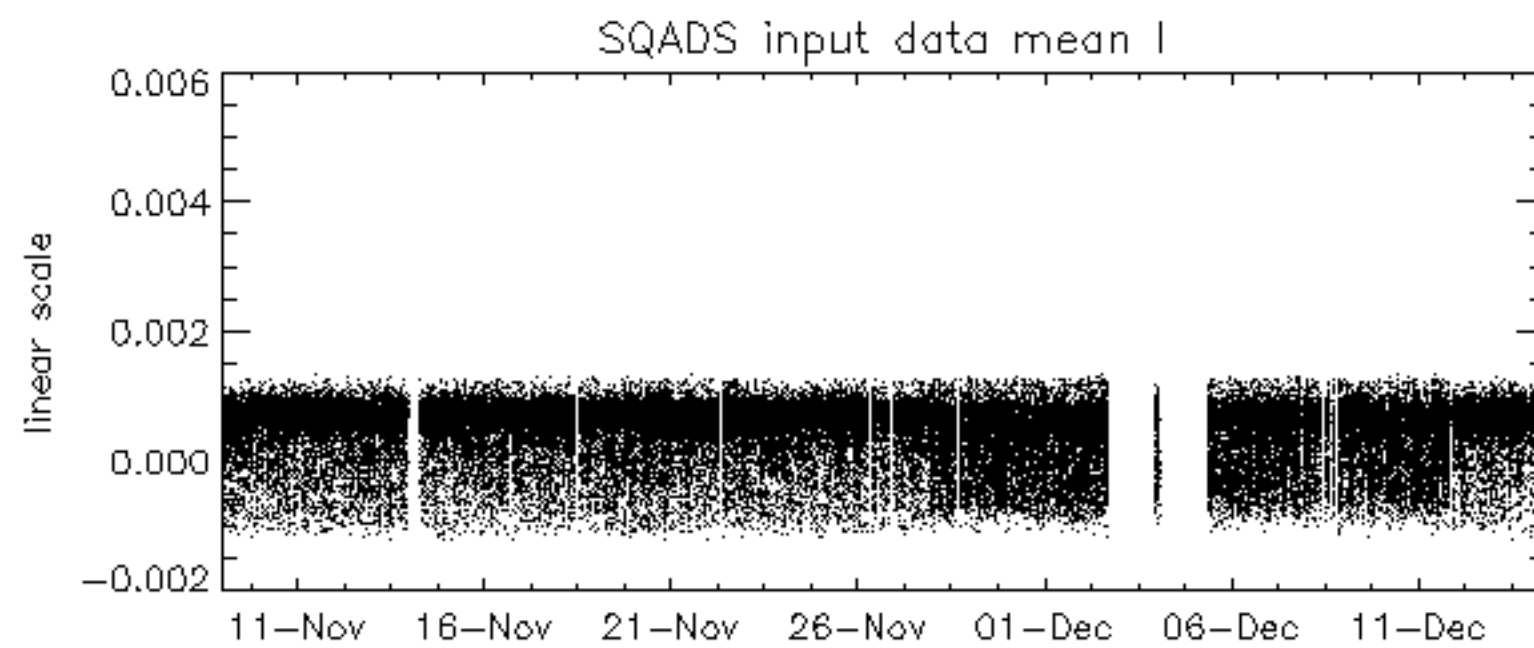
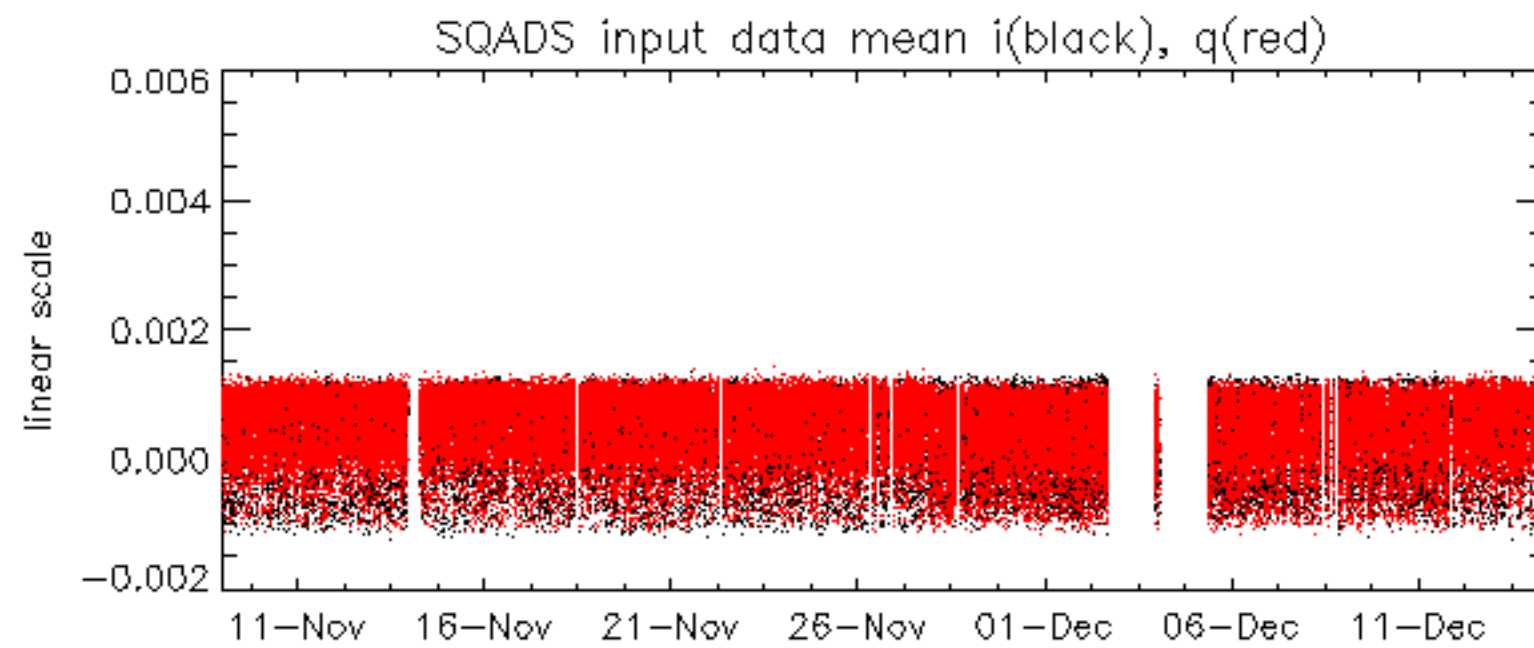


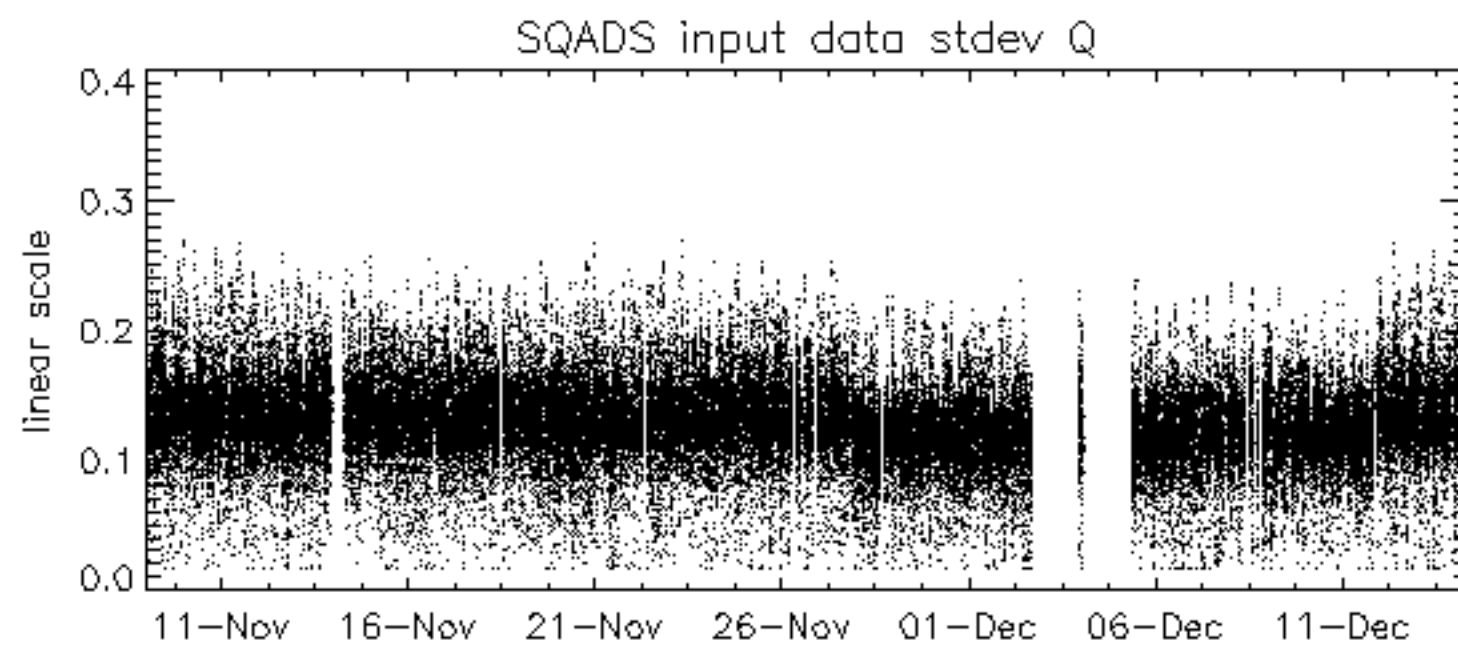
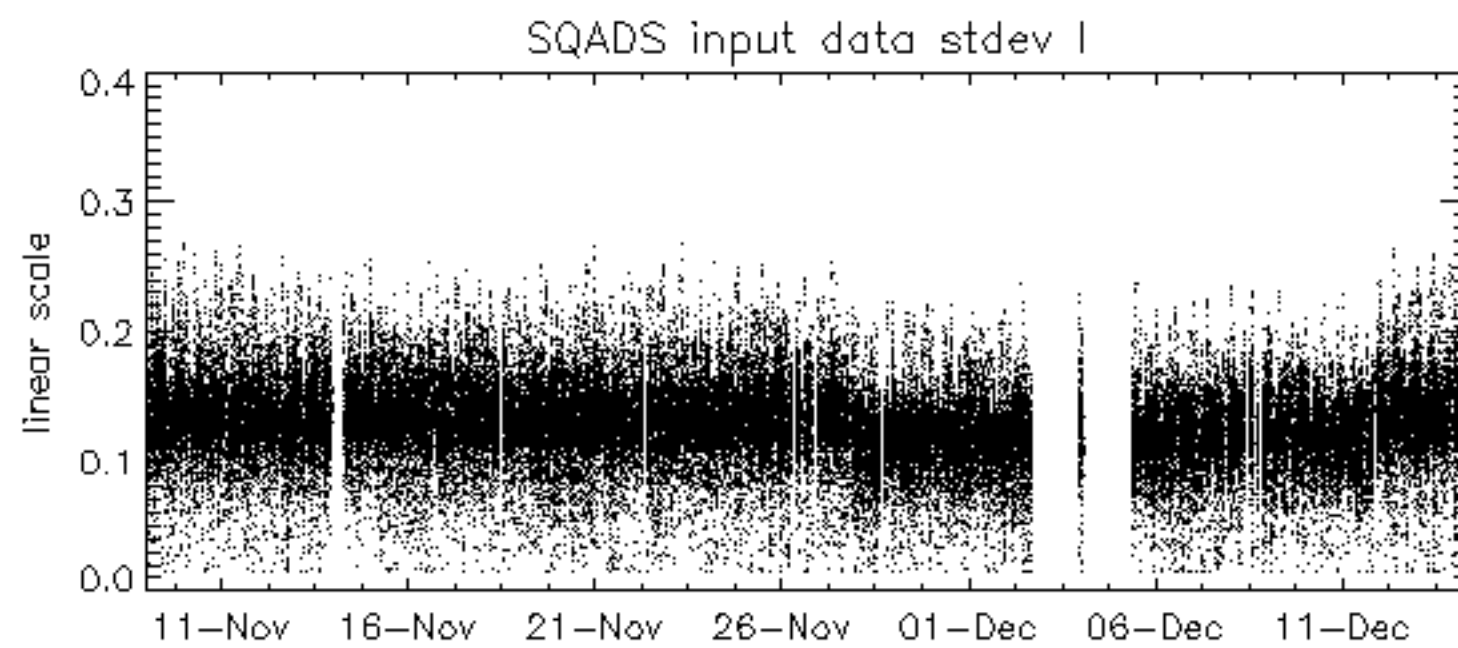
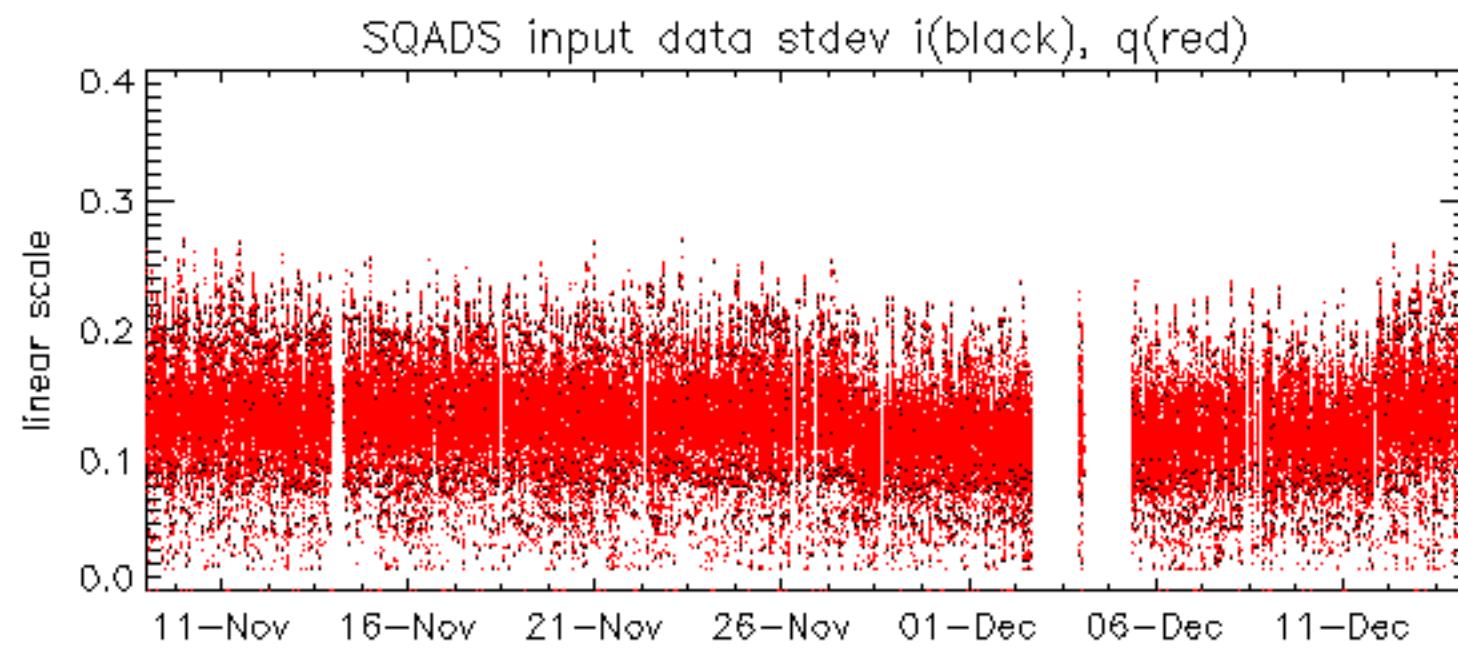






















Summary of analysis for the last 3 days 2005121[234]

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_IMM_1PNPDE20051213_003723_000001162043_00202_19795_3834.N1	1	0
ASA_IMM_1PNPDE20051214_004627_000001012043_00217_19810_3913.N1	1	0
ASA_IMM_1PNPDK20051213_123408_000000812043_00210_19803_9153.N1	1	0
ASA_WSM_1PNPDE20051212_015902_000001842043_00189_19782_3870.N1	0	39
ASA_WSM_1PNPDE20051212_162339_000002072043_00198_19791_3936.N1	0	49
ASA_WSM_1PNPDE20051213_012705_000001472043_00203_19796_4009.N1	0	65
ASA_WSM_1PNPDE20051213_112835_000001592043_00209_19802_4068.N1	0	15
ASA_WSM_1PNPDE20051213_204345_000000612043_00214_19807_4111.N1	0	1
ASA_APM_1PNPDE20051213_141144_000000712043_00211_19804_3369.N1	0	14
ASA_APM_1PNPDE20051213_223010_000000432043_00216_19809_3379.N1	0	21



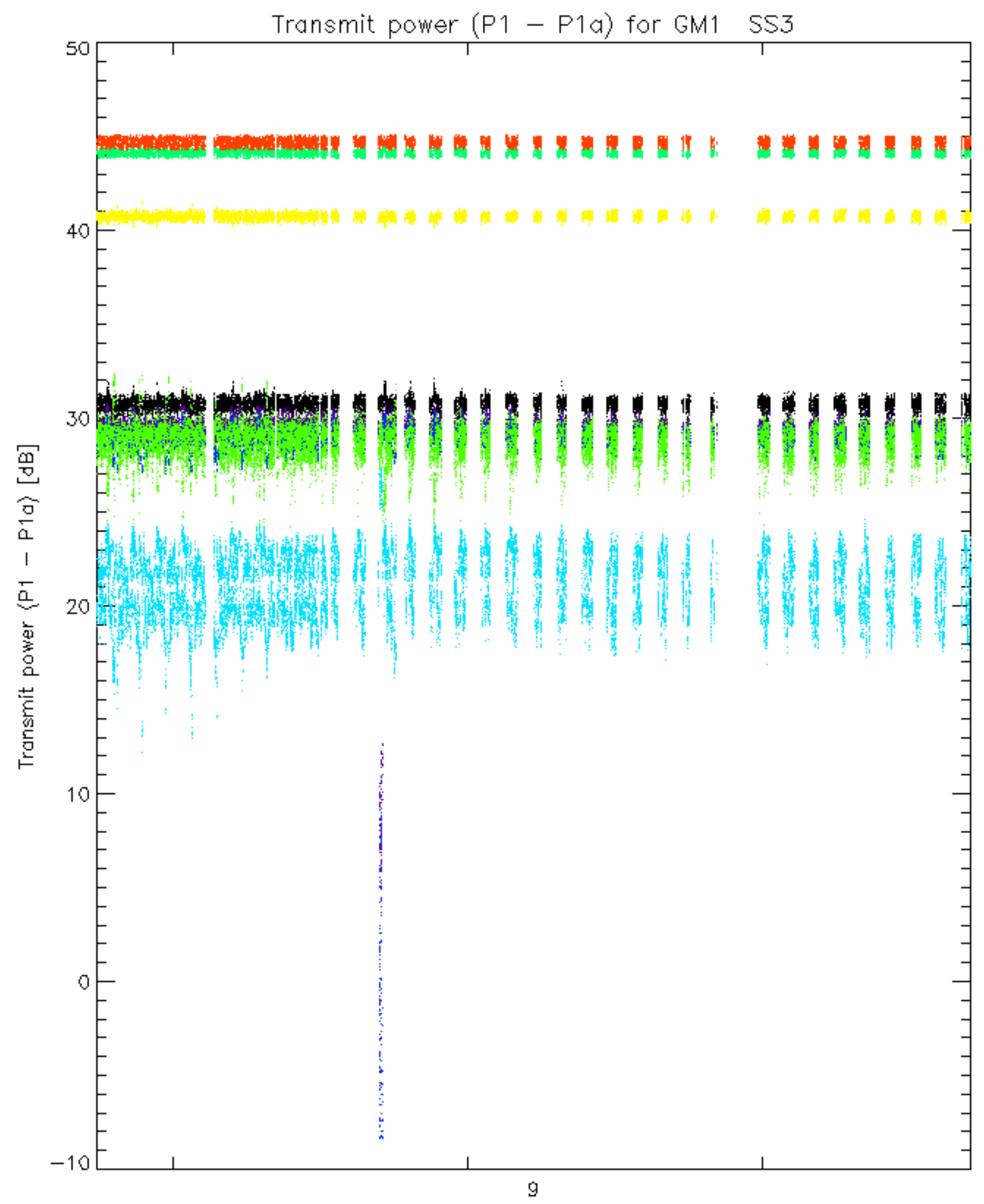




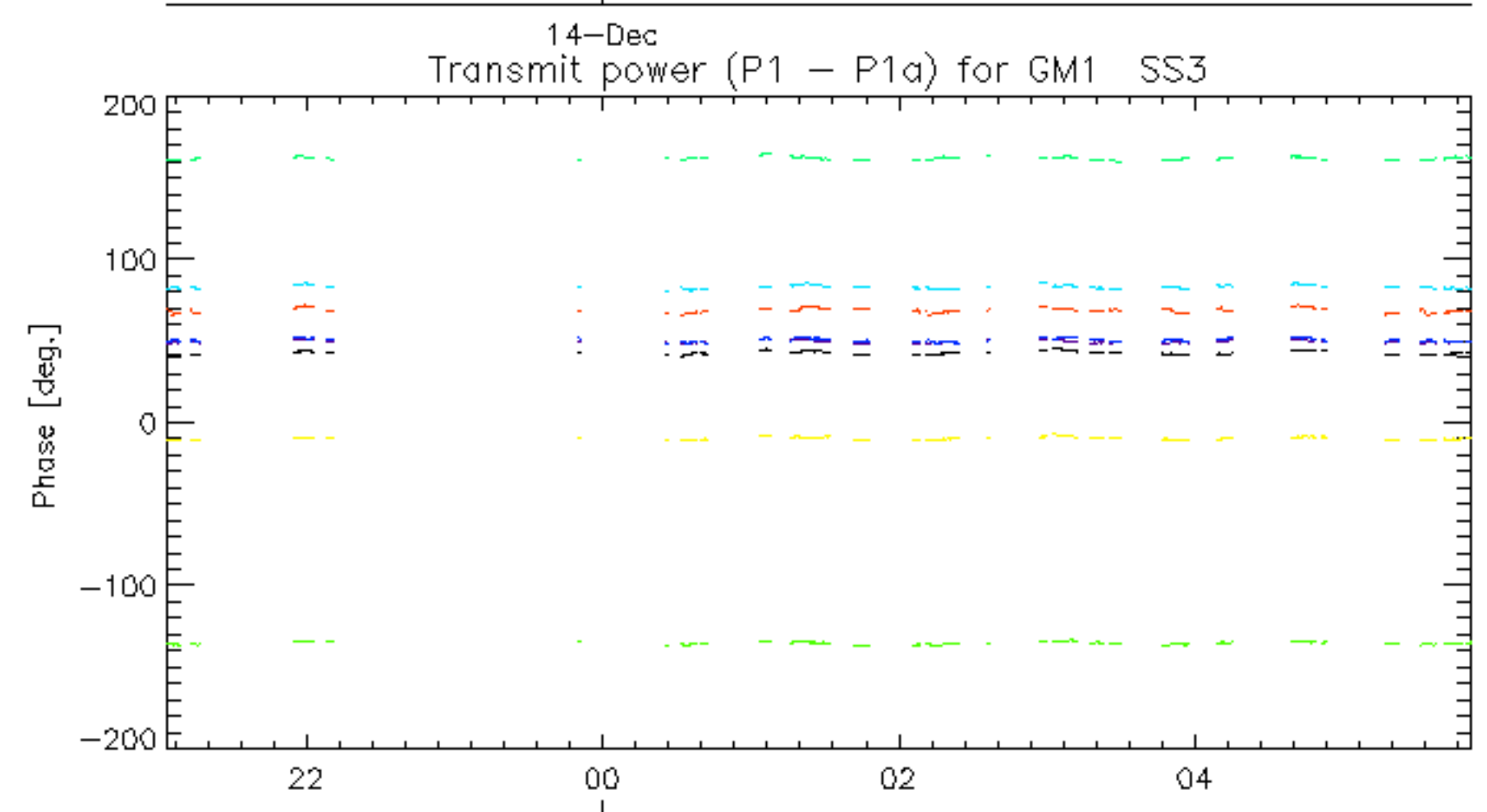
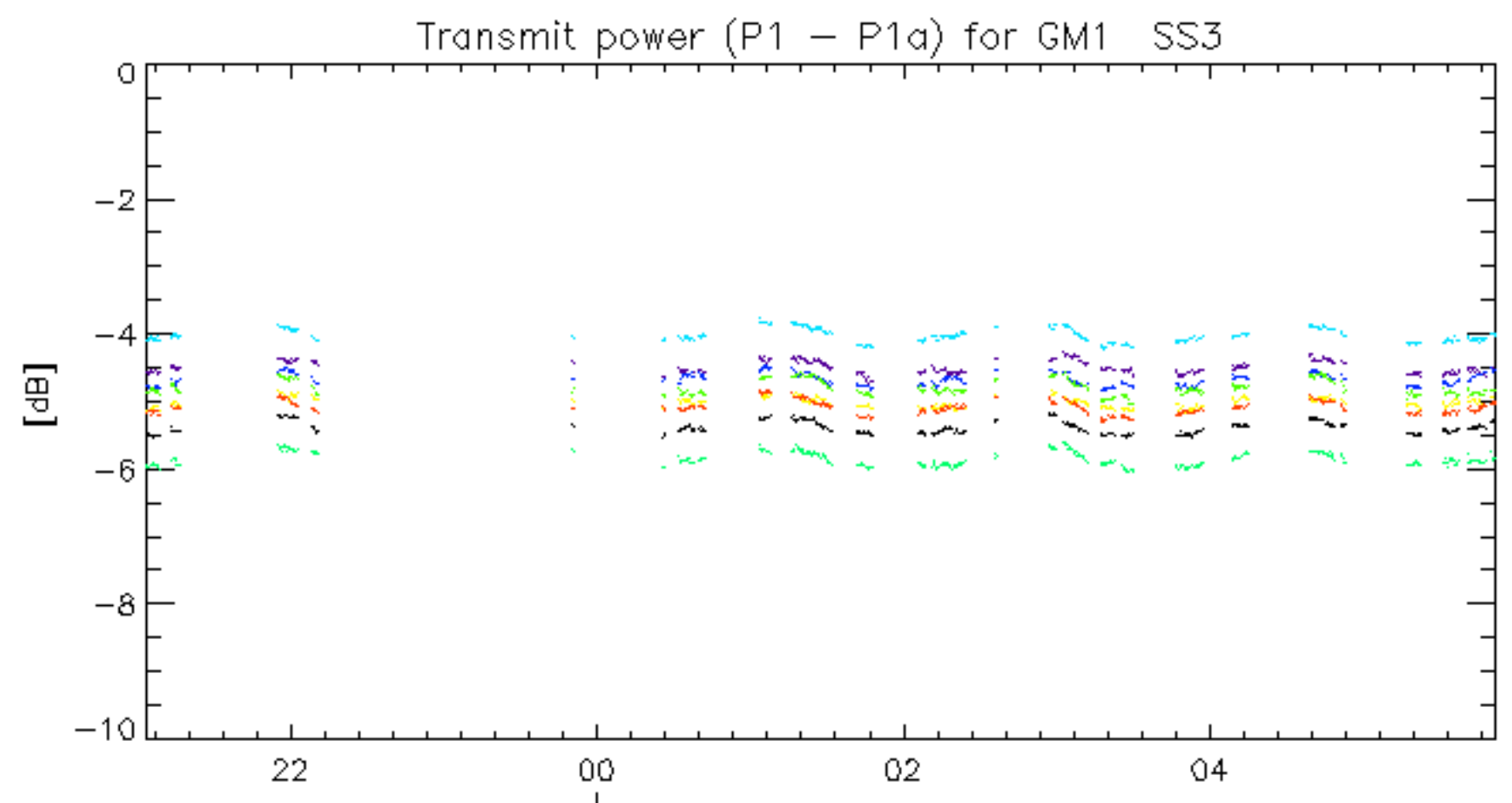




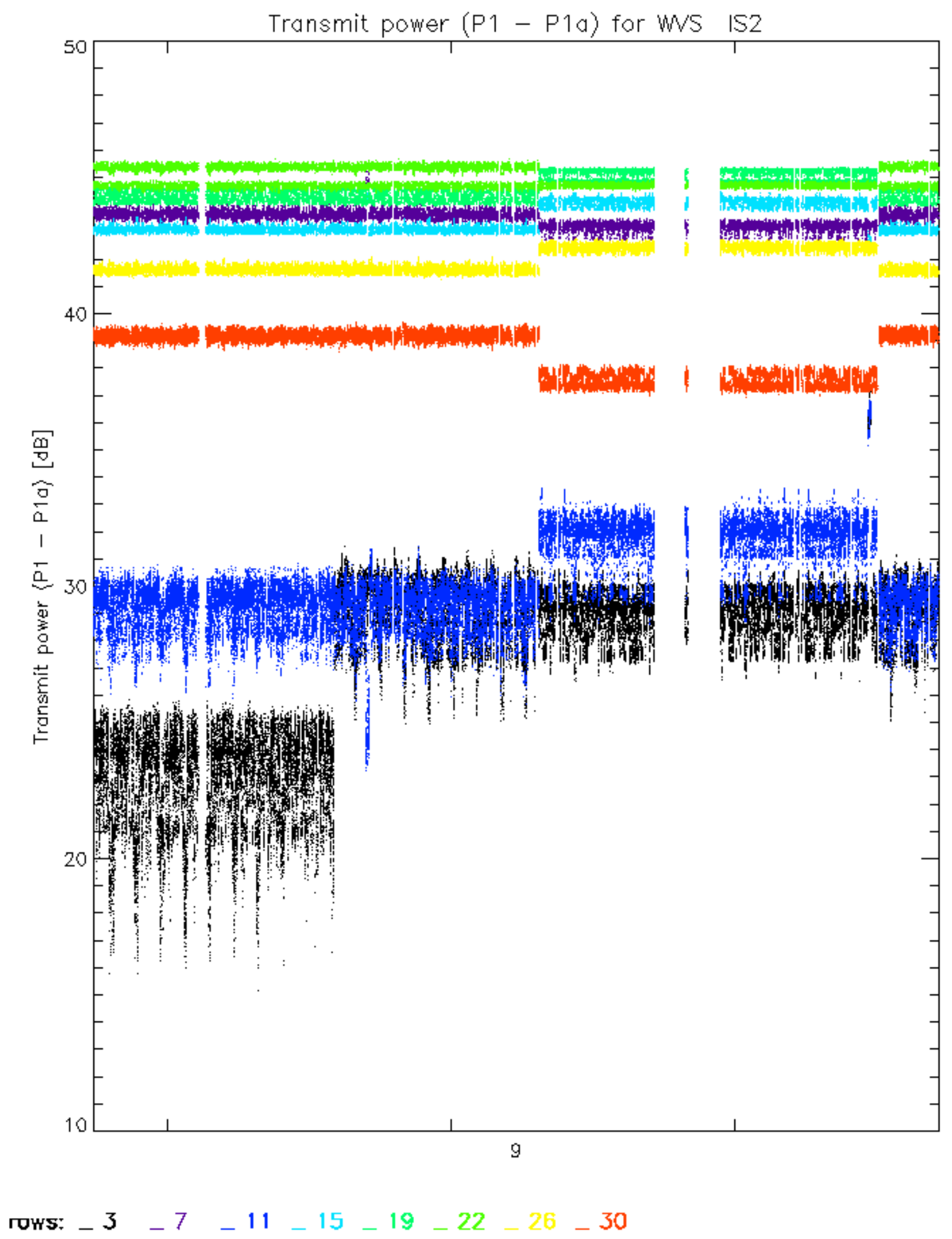


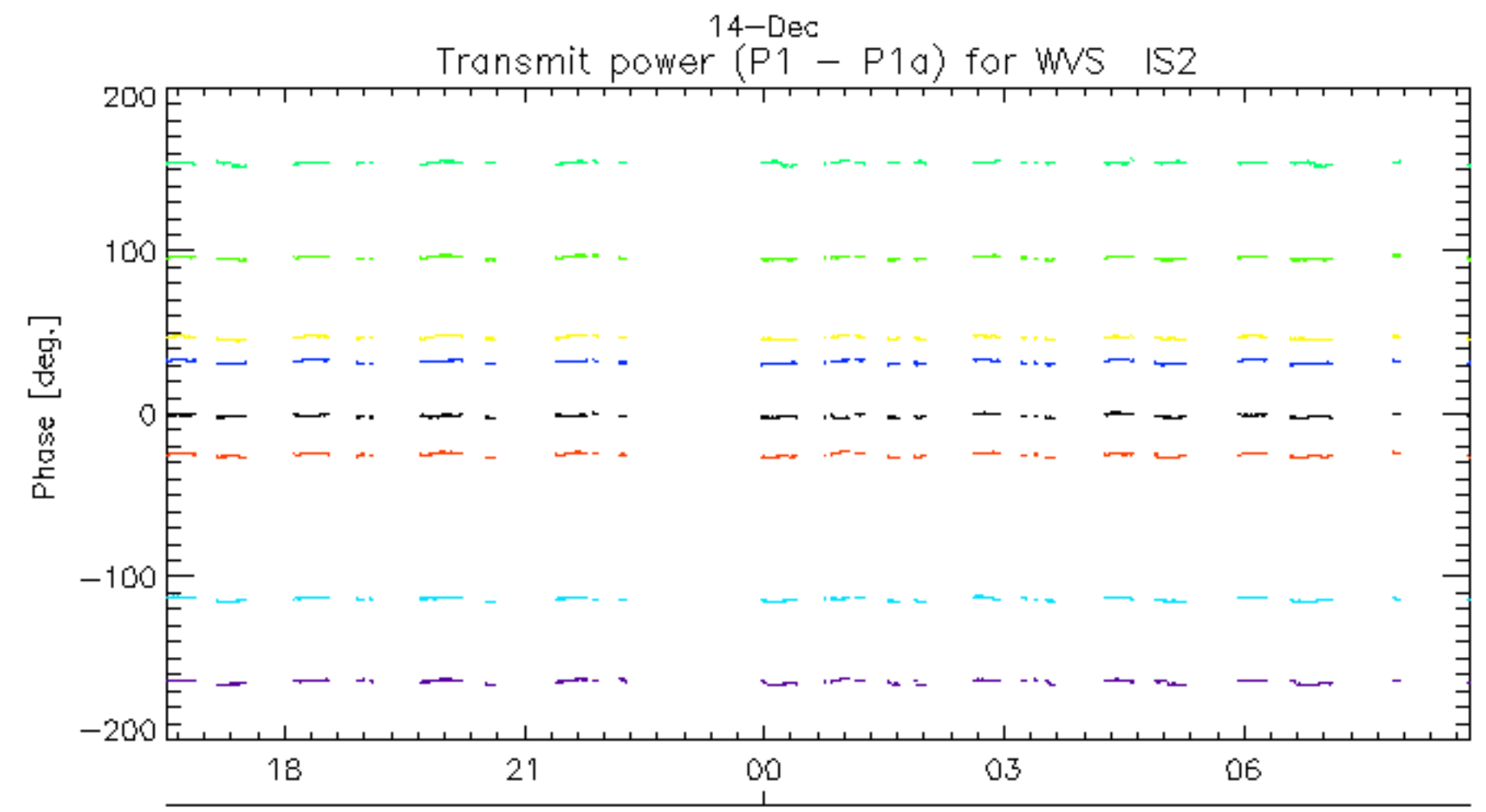
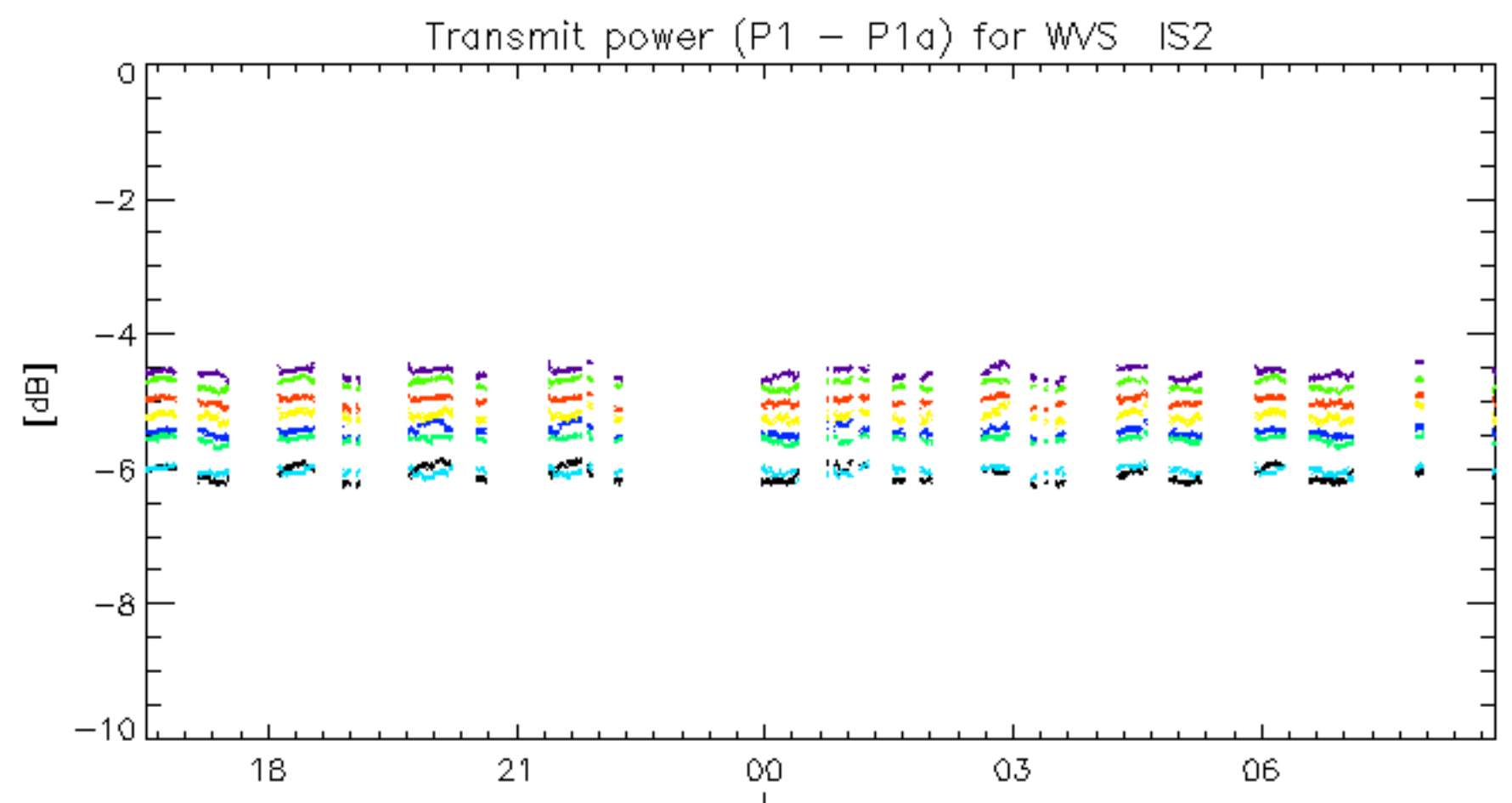






rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30





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

No unavailabilities during the reported period.