

# PRELIMINARY REPORT OF 051225

last update on Sun Dec 25 16:40:47 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 2005-12-24 00:00:00 to 2005-12-25 16:40:47

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	0	0	2	0	17
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	0	0	2	0	17
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	0	0	2	0	17
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	0	0	2	0	17

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	7	0	14	5	20
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	7	0	14	5	20
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	7	0	14	5	20
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	7	0	14	5	20

## 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	20051223 063522
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	-3.712635	0.257511	-0.321148
7	P1	-2.749223	0.130950	-0.242279
11	P1	-4.144640	0.033303	0.031422
15	P1	-5.078179	1.747290	-0.938015
19	P1	-3.039234	0.066572	-0.197281
22	P1	-4.435366	0.022676	-0.055998
26	P1	-4.400554	0.061628	0.167110
30	P1	-5.654298	0.035380	-0.110098
3	P1	-15.767018	2.842711	-1.110090
7	P1	-15.288022	2.735591	-1.245594
11	P1	-16.315411	0.481001	-0.246825
15	P1	-12.734447	0.982859	-0.367866
19	P1	-13.422956	0.369299	-0.460540
22	P1	-15.964549	0.637086	0.037467
26	P1	-15.080218	1.095019	-0.561710
30	P1	-15.552784	2.513902	-1.029458

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.824692	0.112726	0.217490
7	P2	-22.545830	0.106054	0.036804
11	P2	-16.532843	0.130127	0.282646
15	P2	-7.278638	0.104501	0.029245
19	P2	-9.217849	0.103189	0.011189
22	P2	-17.877241	0.112788	-0.098438
26	P2	-16.378994	0.131785	0.095001
30	P2	-19.792154	0.119045	0.098444

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
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3	P3	-8.235937	0.007582	0.003880
7	P3	-8.235937	0.007582	0.003880
11	P3	-8.235937	0.007582	0.003880
15	P3	-8.235937	0.007582	0.003880
19	P3	-8.235937	0.007582	0.003880
22	P3	-8.235937	0.007582	0.003880
26	P3	-8.235937	0.007582	0.003880
30	P3	-8.235937	0.007582	0.003880

#### 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	-3.706451	0.008363	-0.009432
7	P1	-2.771564	0.012506	0.011518
11	P1	-2.875616	0.015793	-0.001221
15	P1	-3.413537	0.022340	-0.020296
19	P1	-3.392843	0.013972	-0.015772
22	P1	-5.128341	0.018853	0.028419
26	P1	-5.846678	0.016574	-0.030970
30	P1	-5.284096	0.033158	-0.014023
3	P1	-11.484280	0.041237	-0.008982
7	P1	-9.966771	0.047383	-0.004522
11	P1	-10.052657	0.060291	0.021855
15	P1	-10.571414	0.079548	0.105377
19	P1	-15.519141	0.074668	-0.063476
22	P1	-20.953262	0.963240	-0.061430
26	P1	-17.157043	0.300312	-0.001832
30	P1	-18.263422	0.302726	0.348947

## P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.609743	0.030018	0.065375
7	P2	-23.047115	0.056784	-0.026746
11	P2	-11.607553	0.020682	0.131794
15	P2	-4.991256	0.021344	-0.024523
19	P2	-6.972780	0.021722	-0.037243
22	P2	-8.206448	0.022925	-0.040608
26	P2	-24.053699	0.030595	-0.011874
30	P2	-22.131666	0.017976	-0.038209

## P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.078143	0.002468	-0.006977
7	P3	-8.078301	0.002473	-0.006794
11	P3	-8.078247	0.002454	-0.007109
15	P3	-8.078201	0.002459	-0.007234
19	P3	-8.078273	0.002470	-0.007009
22	P3	-8.078291	0.002472	-0.006750
26	P3	-8.078279	0.002437	-0.006634
30	P3	-8.077977	0.002463	-0.007149

## 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	0.000458414
	stdev	2.19057e-07
MEAN Q	mean	0.000472641
	stdev	2.36476e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.128956
	stdev	0.001111083
STDEV Q	mean	0.129240
	stdev	0.00112334



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005122[345]

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_1PNPDE20051224_182644_000000352043_00371_19964_4704.N1	0	18
ASA_WSM_1PNPDE20051224_022313_000000672043_00361_19954_5517.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)

<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

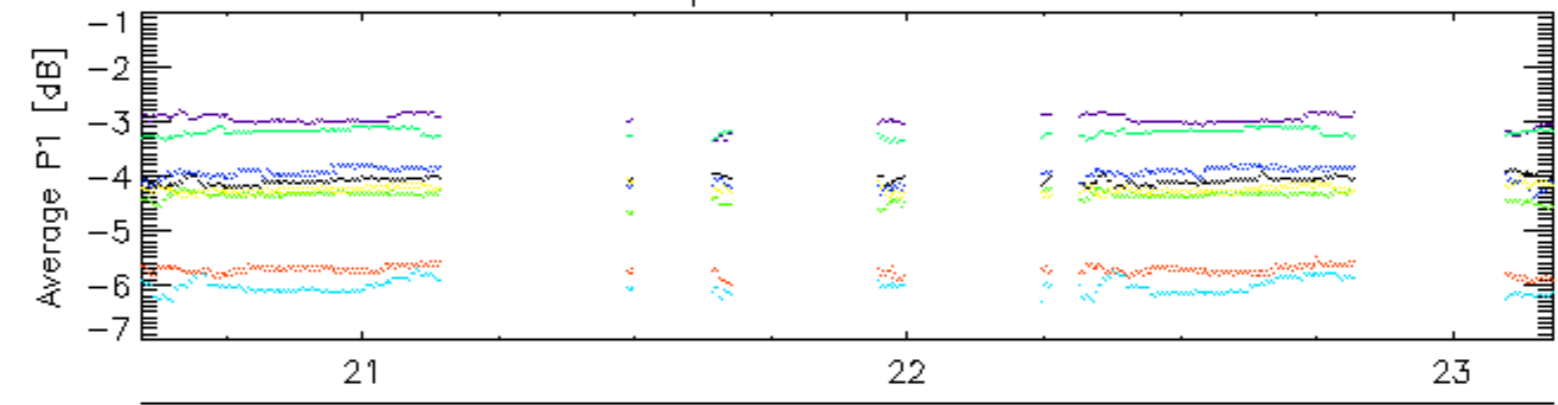


### 7.5 - Absolute Doppler for GM1

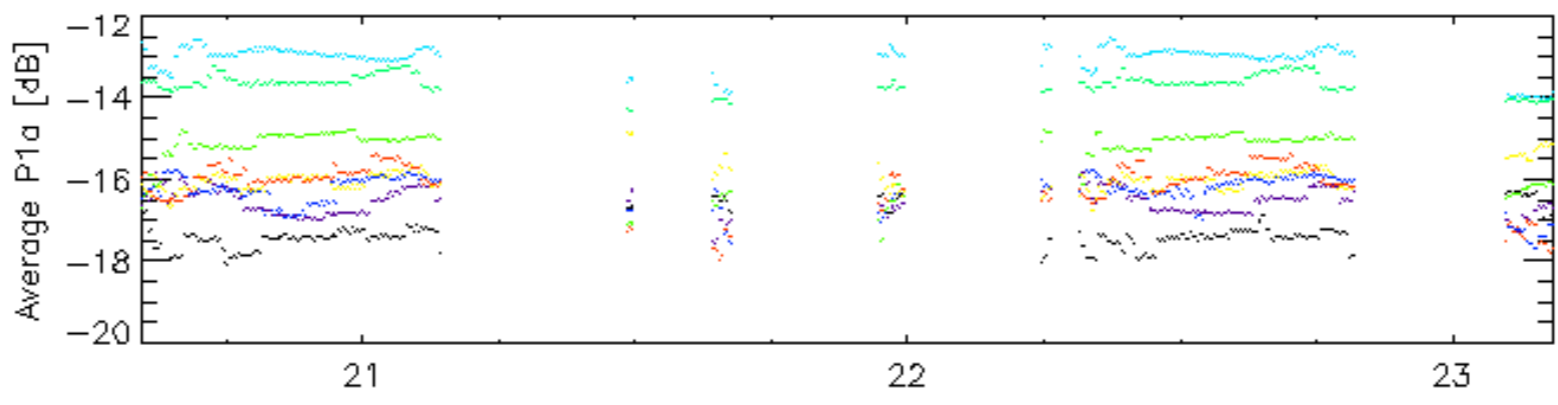
Evolution of Absolute Doppler	
<input type="checkbox"/>	
	Ascending
<input type="checkbox"/>	
	Descending

### 7.6 - Doppler evolution versus ANX for GM1

Cal pulses for WVS IS2

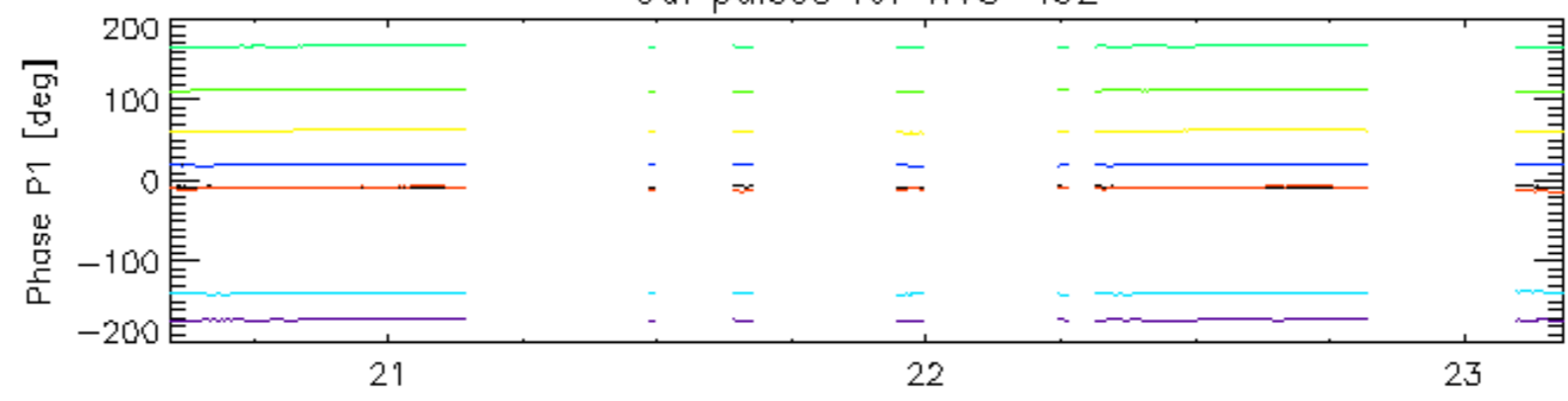


24-Dec

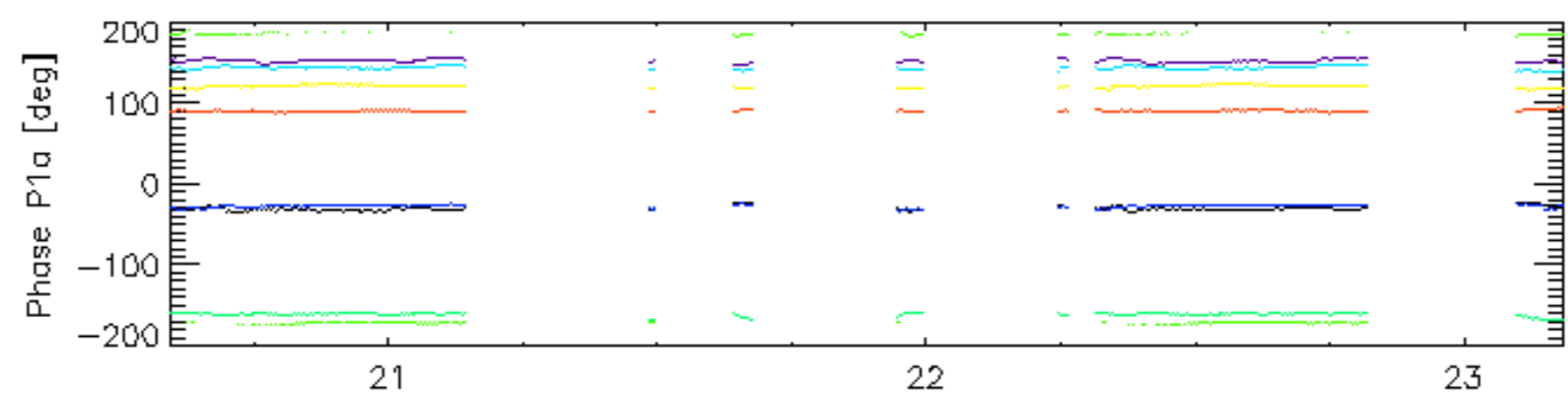


24-Dec

Cal pulses for WVS IS2

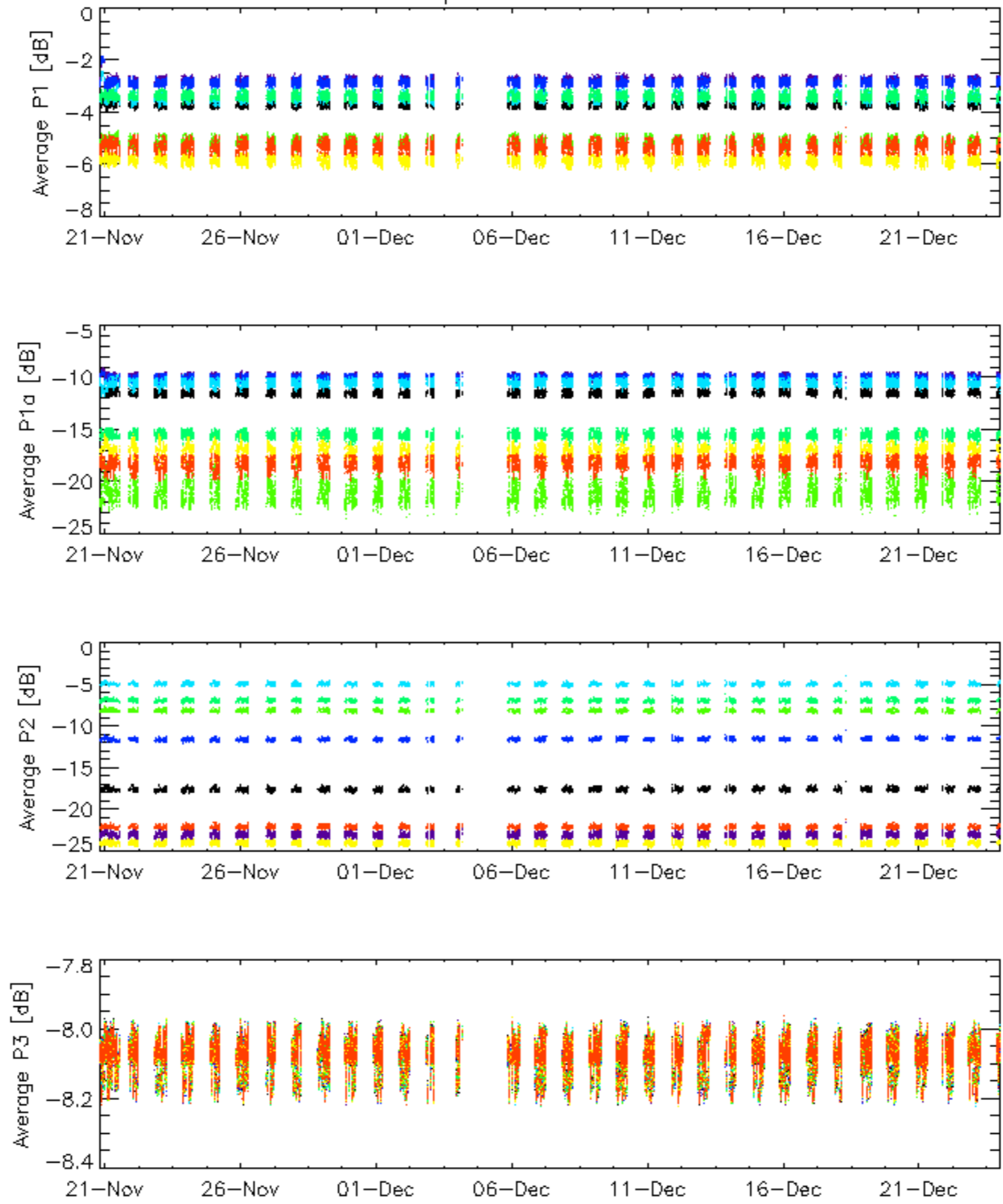


24-Dec



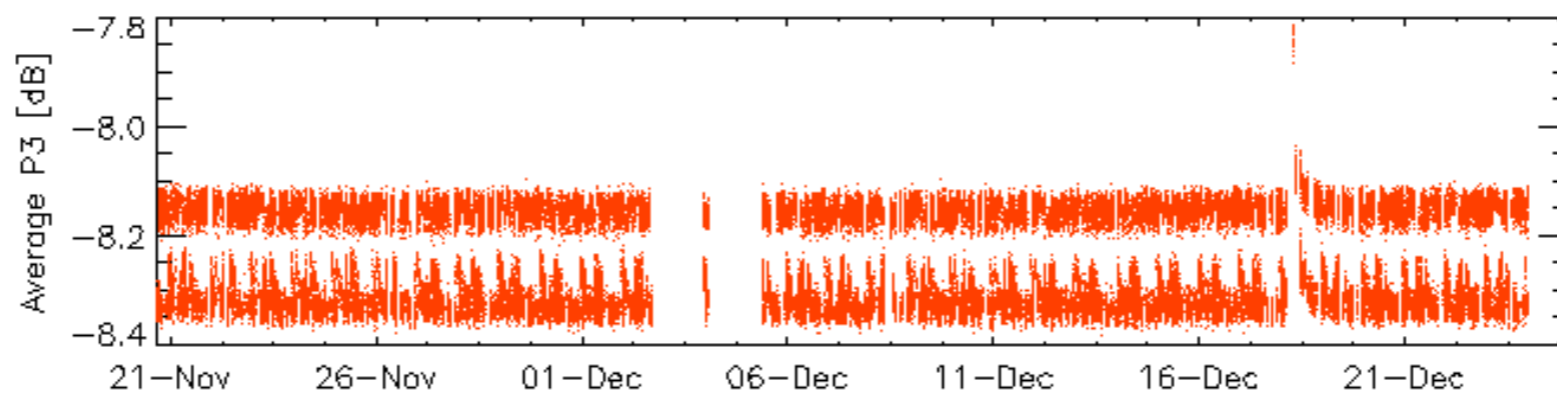
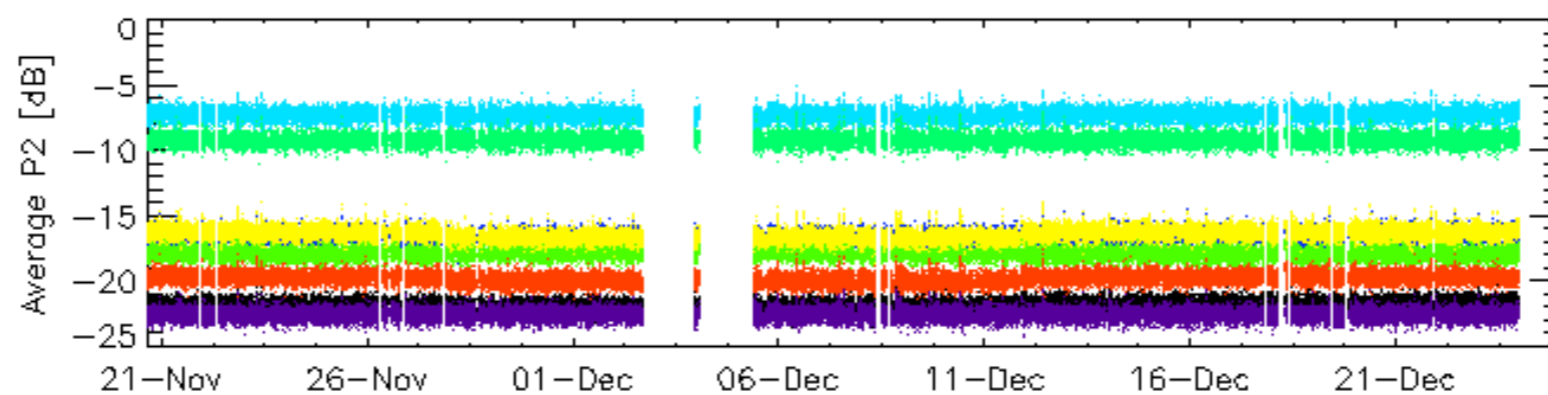
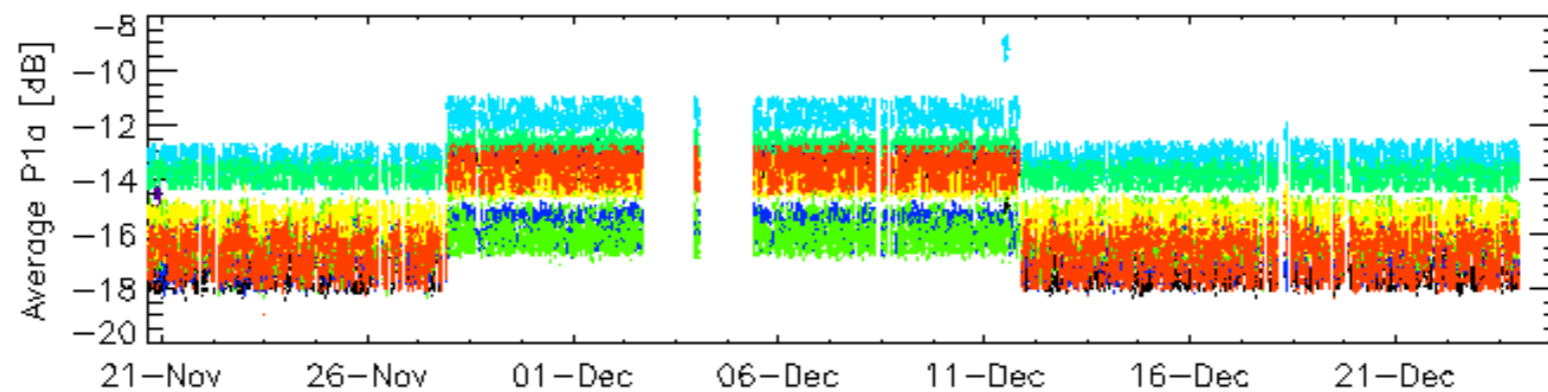
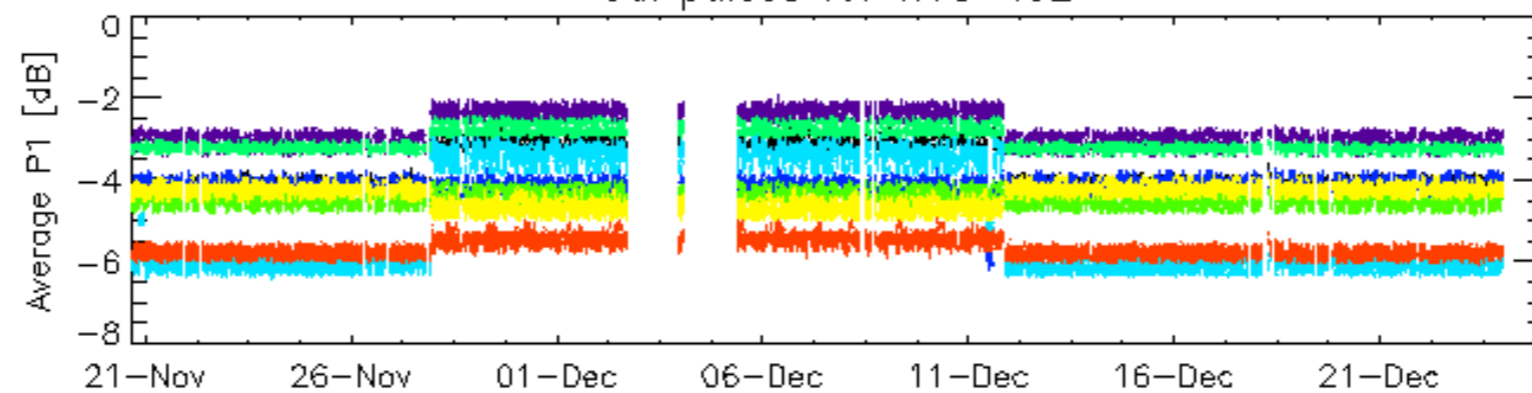
rows: **3** **7** **11** **15** **19** **22** **26** **30**

### Cal pulses for GM1 SS3



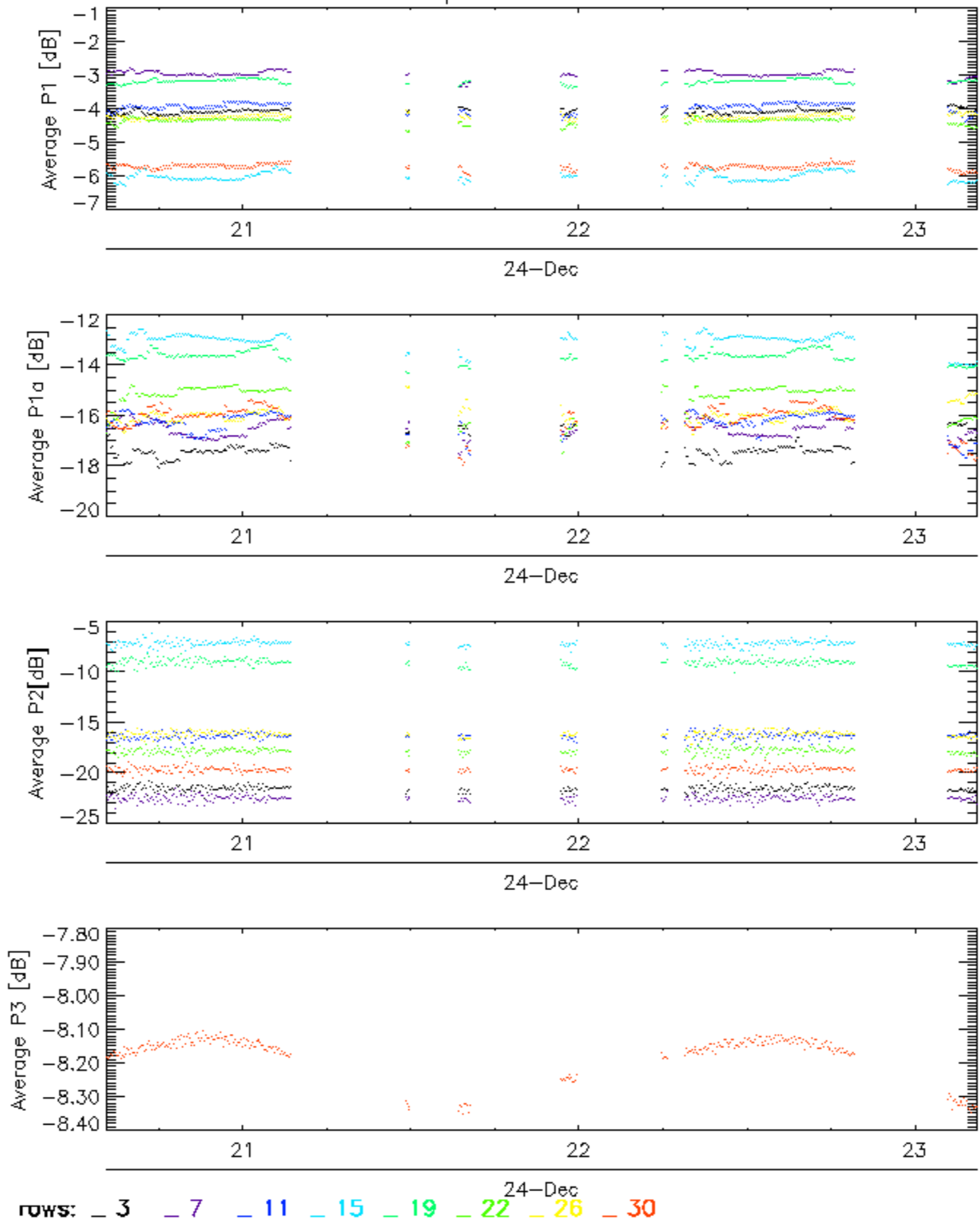
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

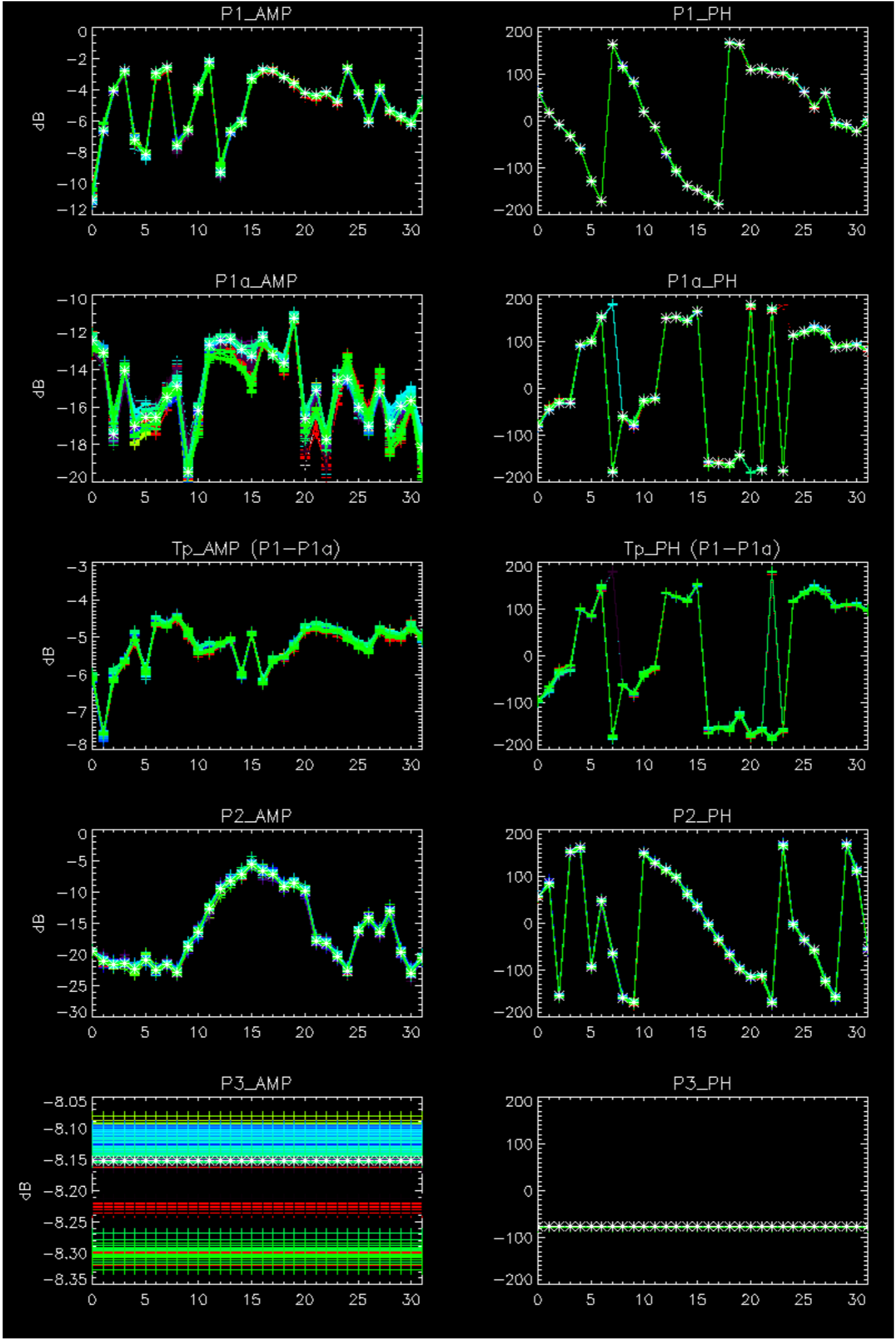


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2



No anomalies observed.

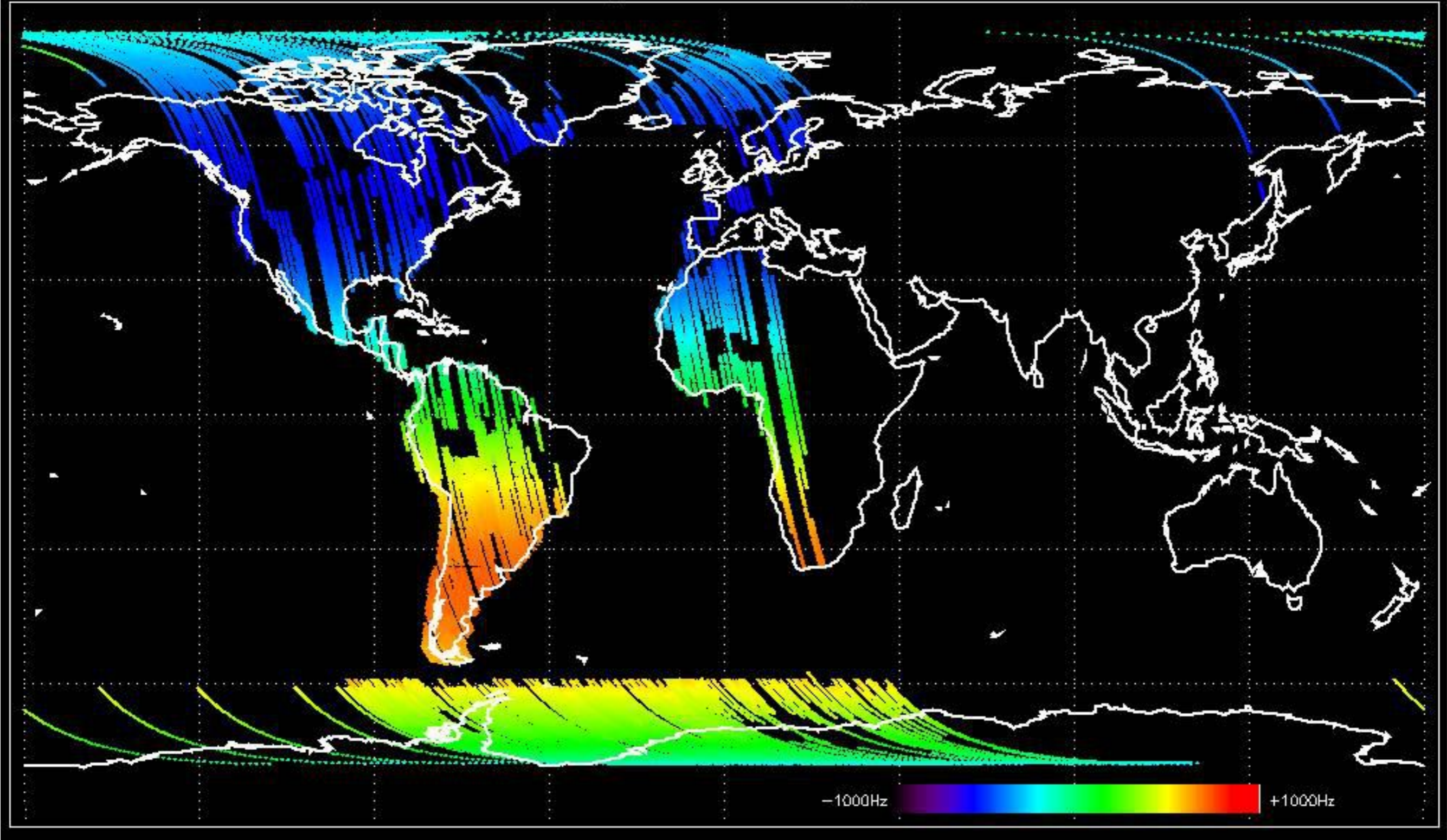


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



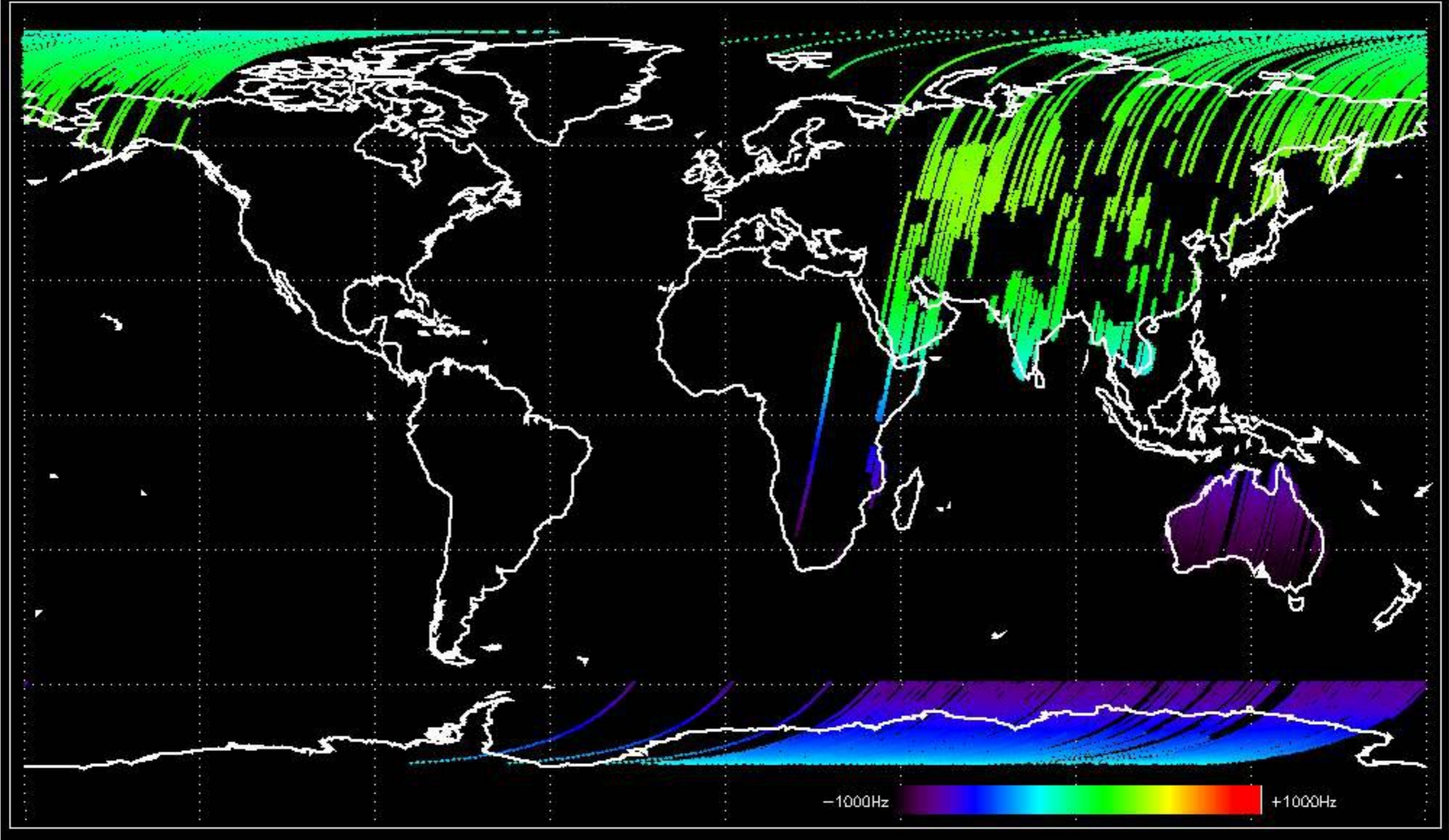


Doppler 'GM1' 'SS1' ascending



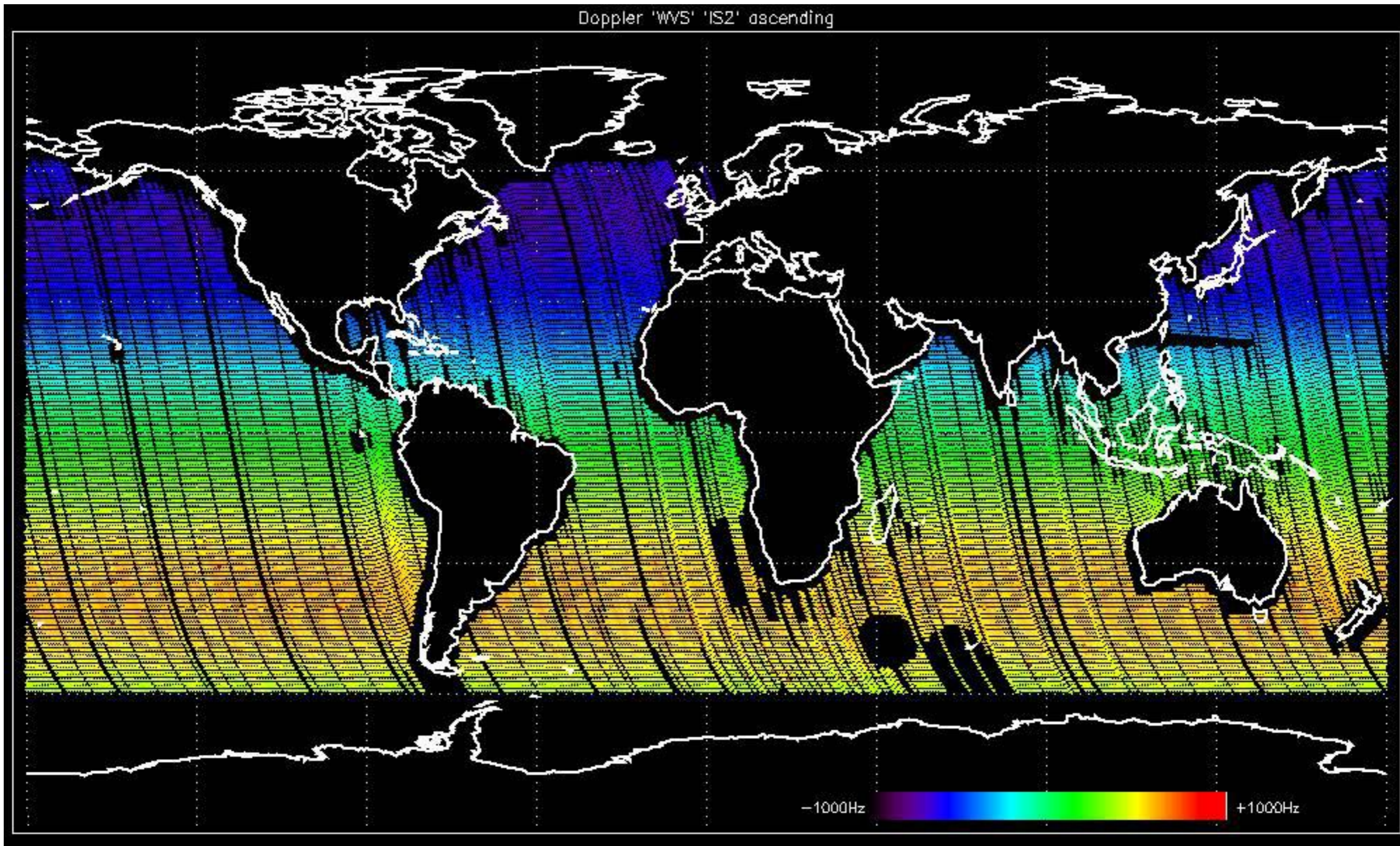


Doppler 'GM1' 'SS1' descending



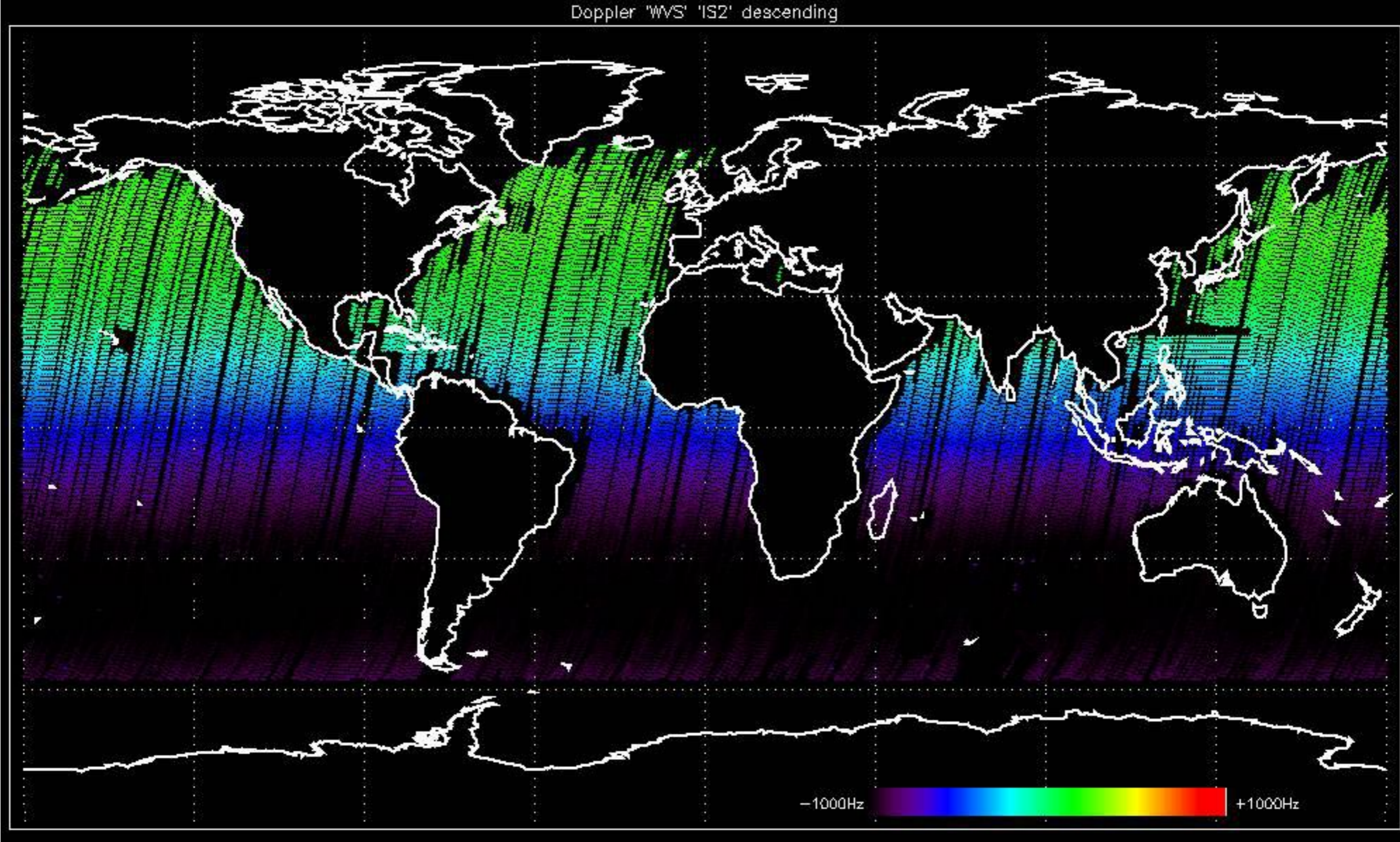


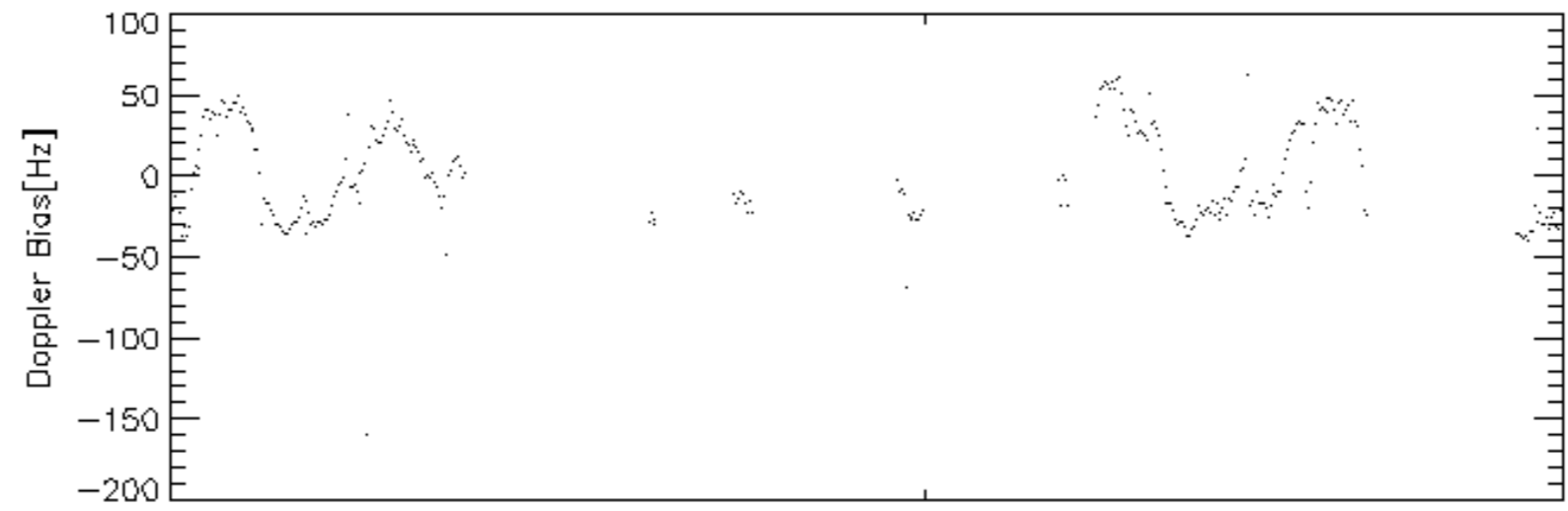
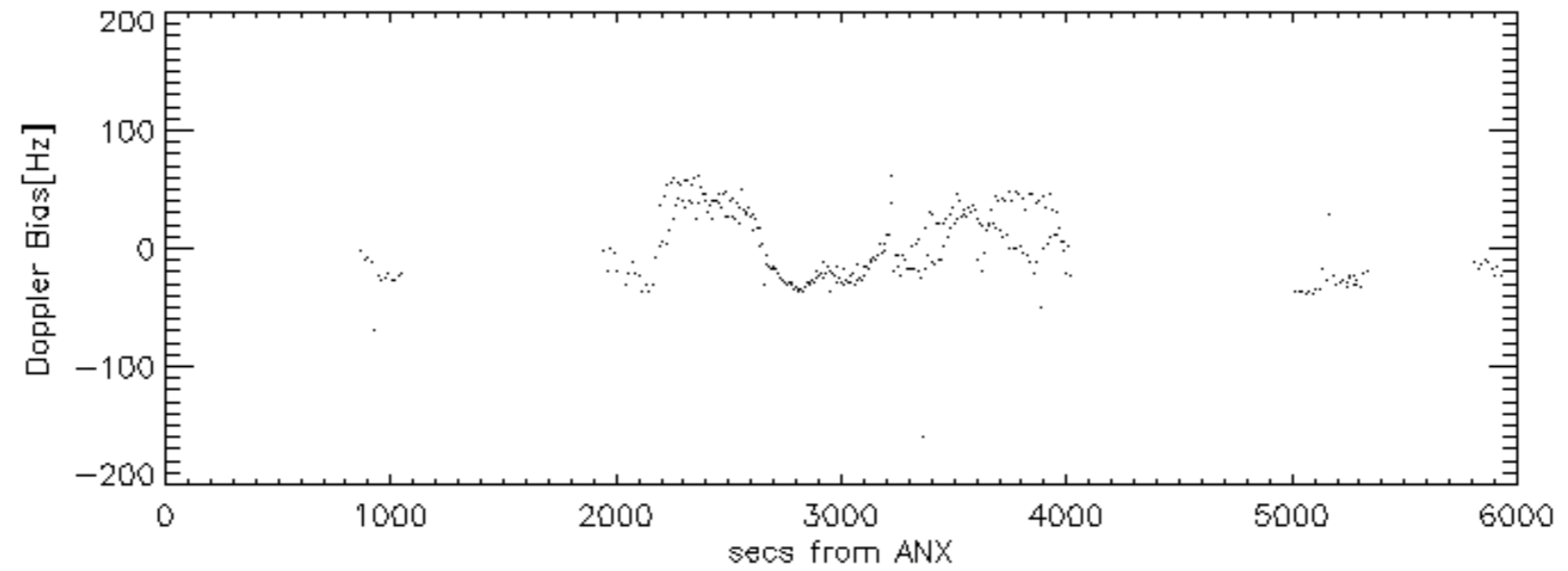
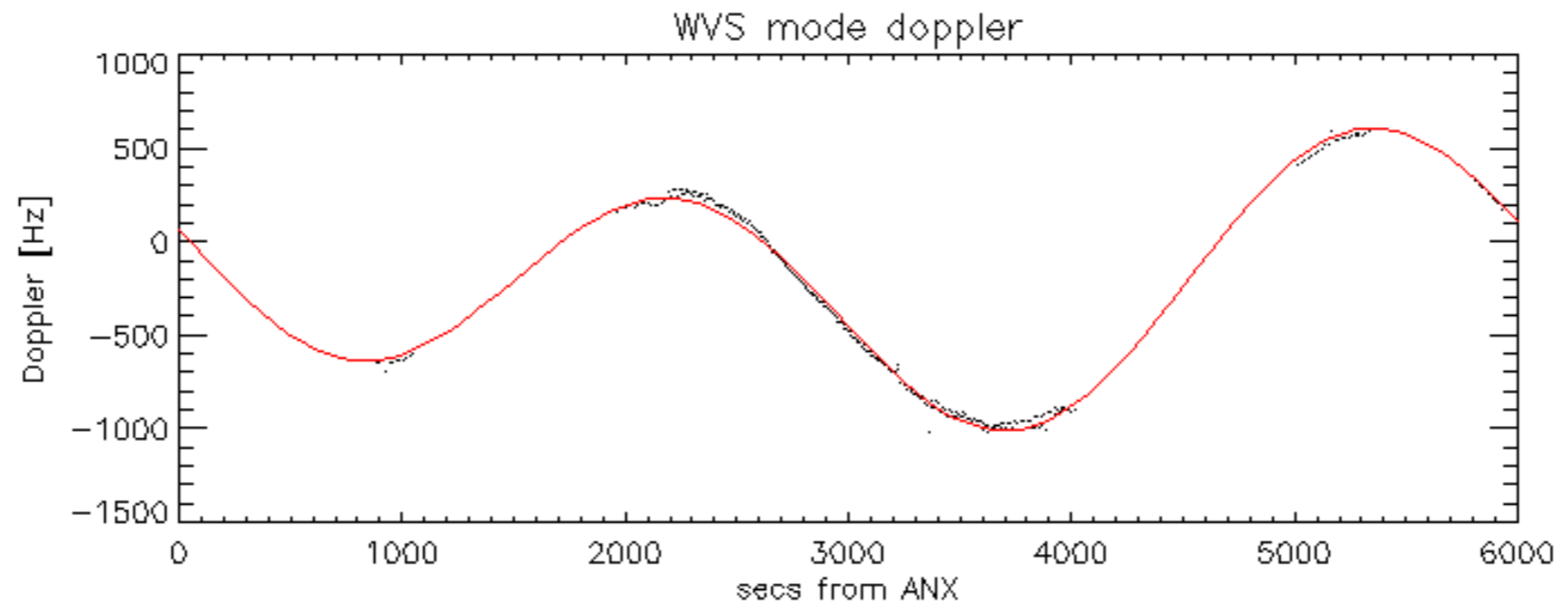
Doppler 'WVS' 'IS2' ascending





Doppler 'WVS' 'IS2' descending



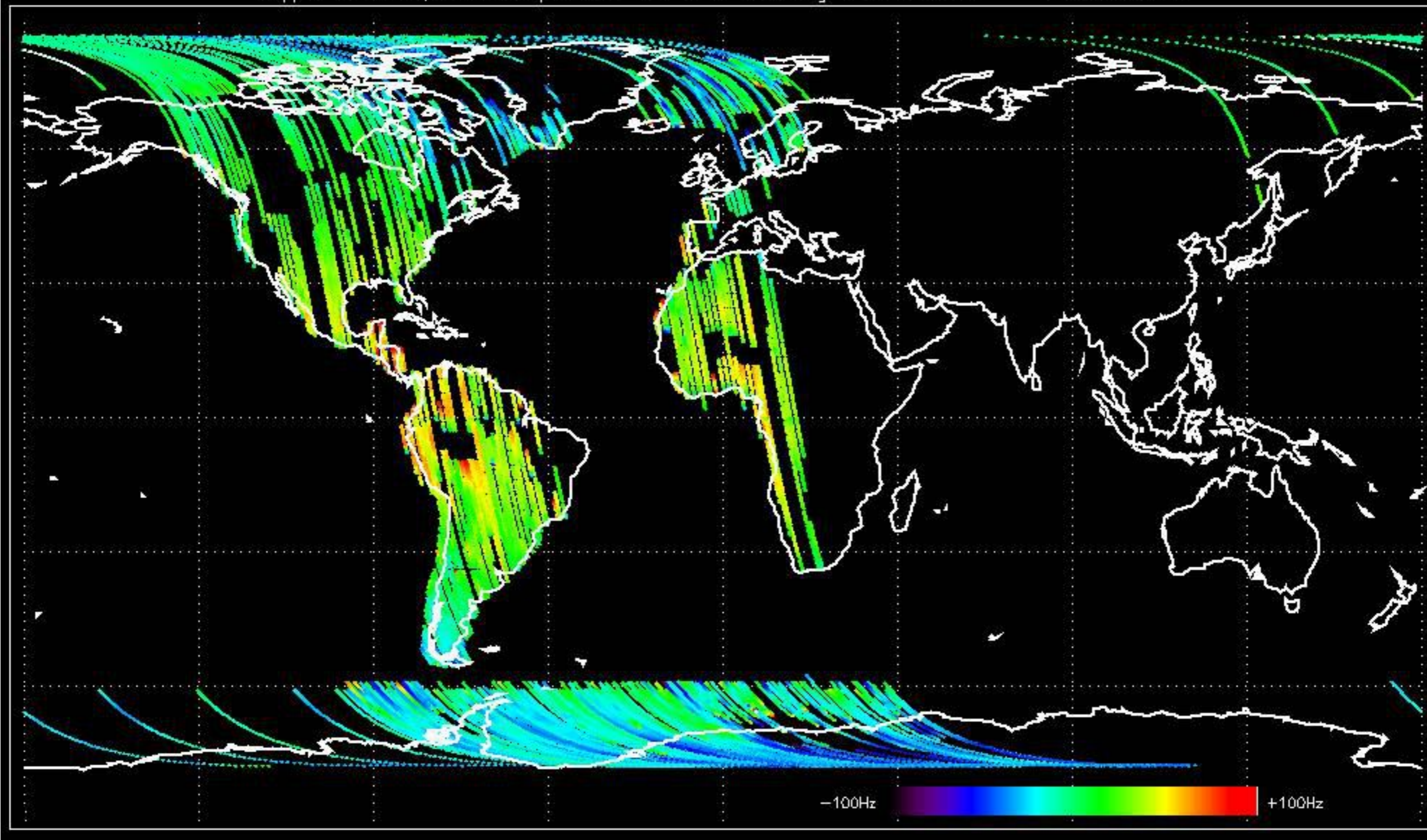


22

24-Dec  
Date

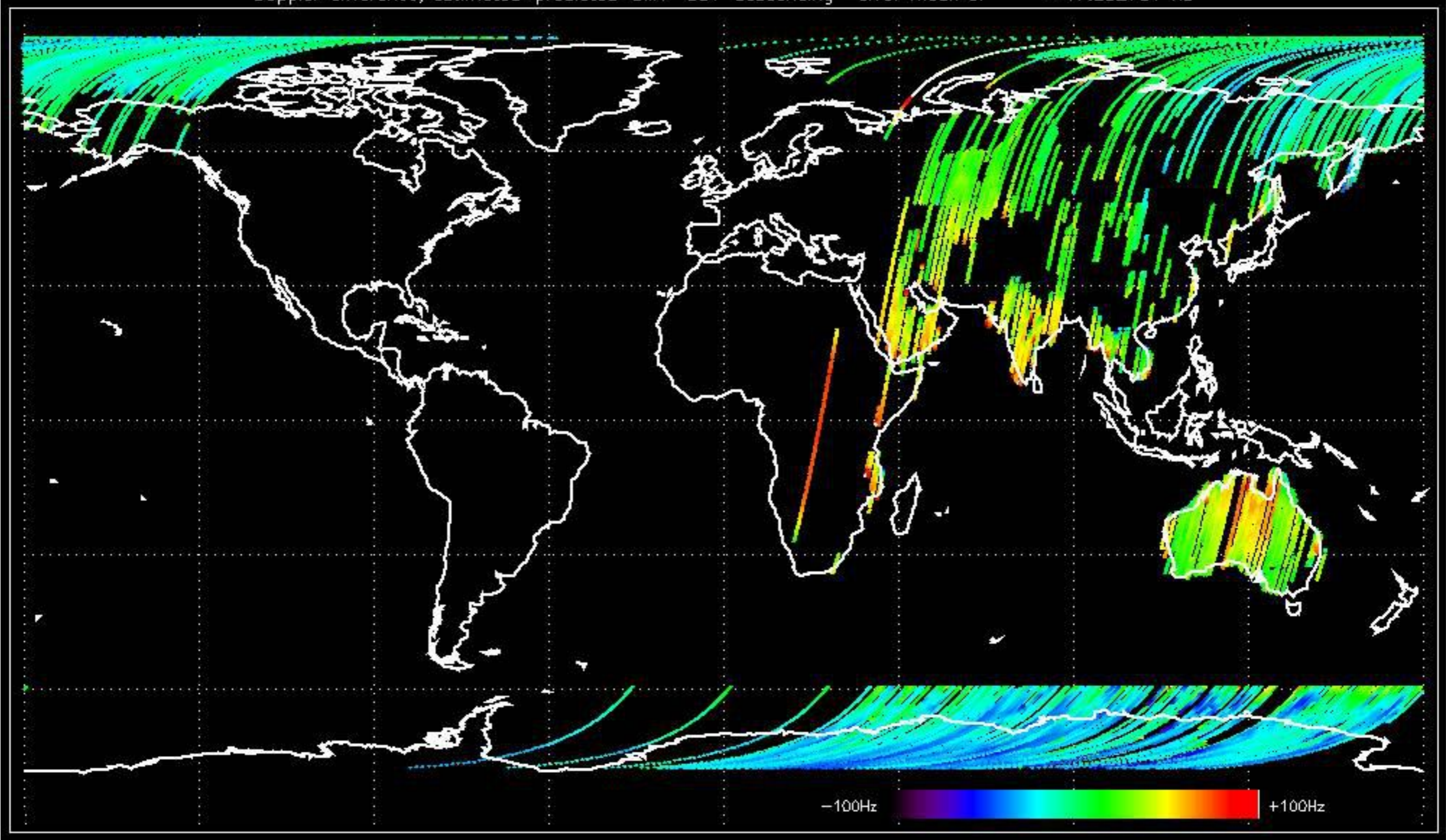


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -14.742494 Hz



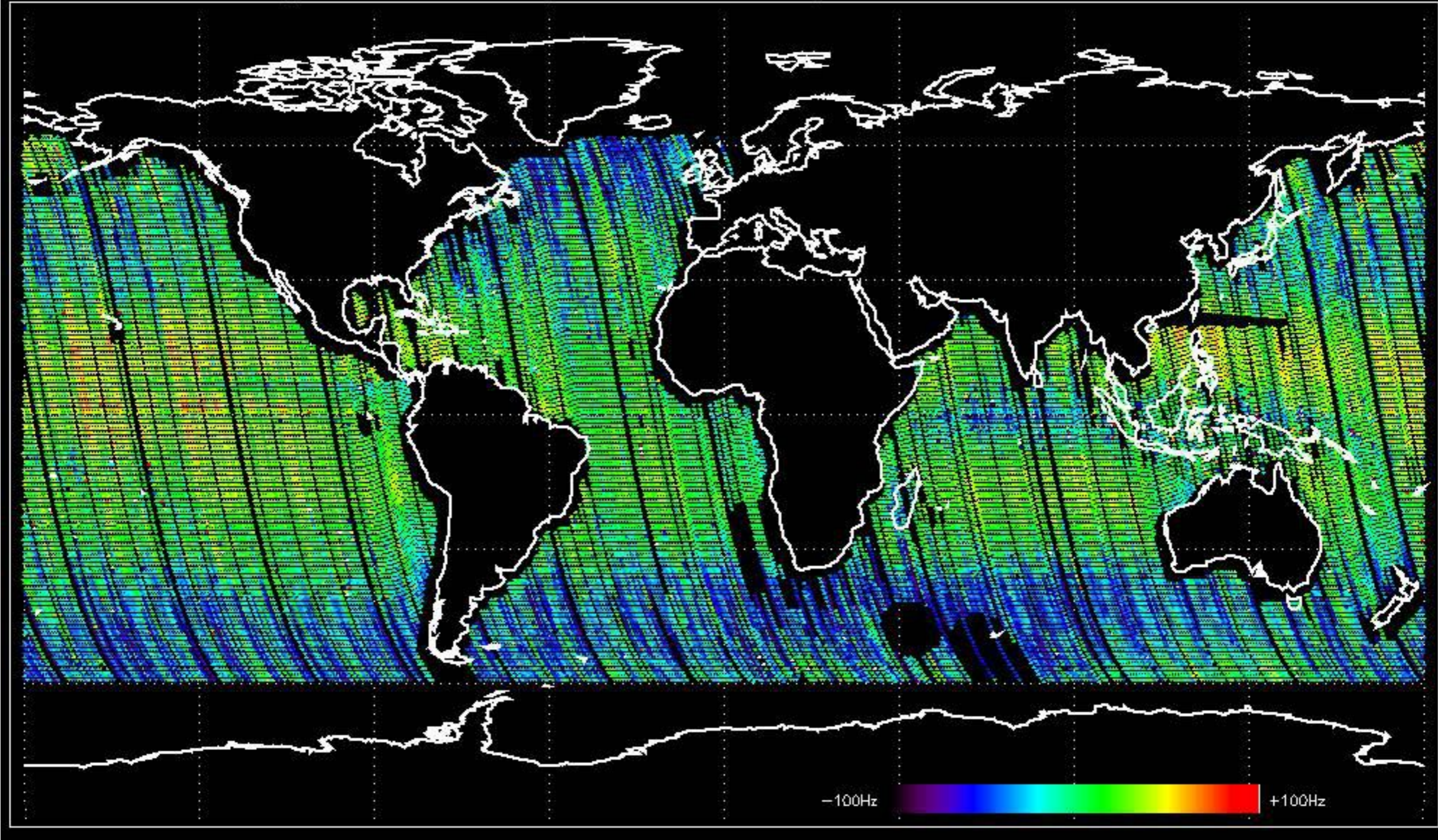


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -17.282751 Hz



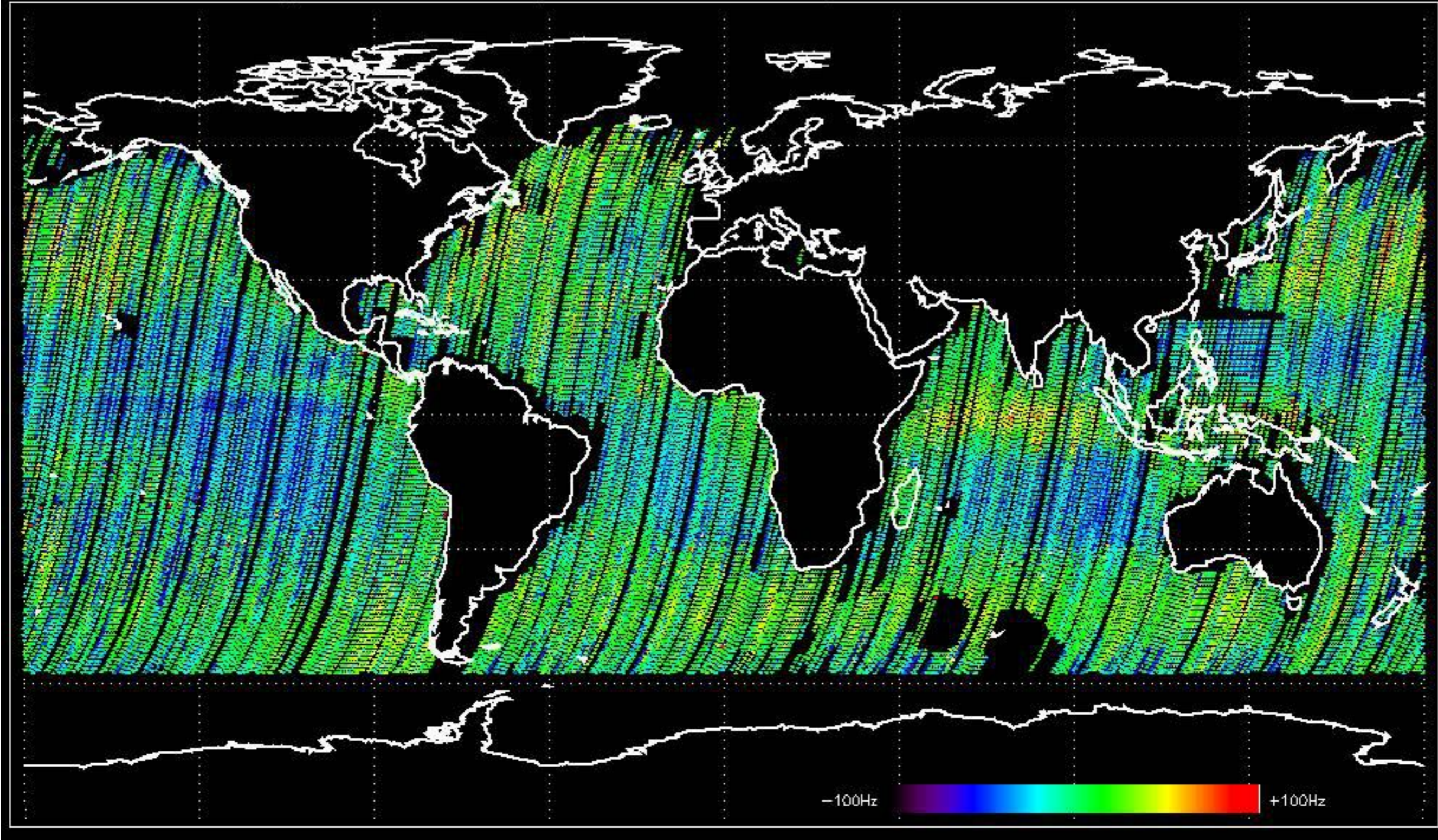


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -10.363941 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -14.173942 Hz

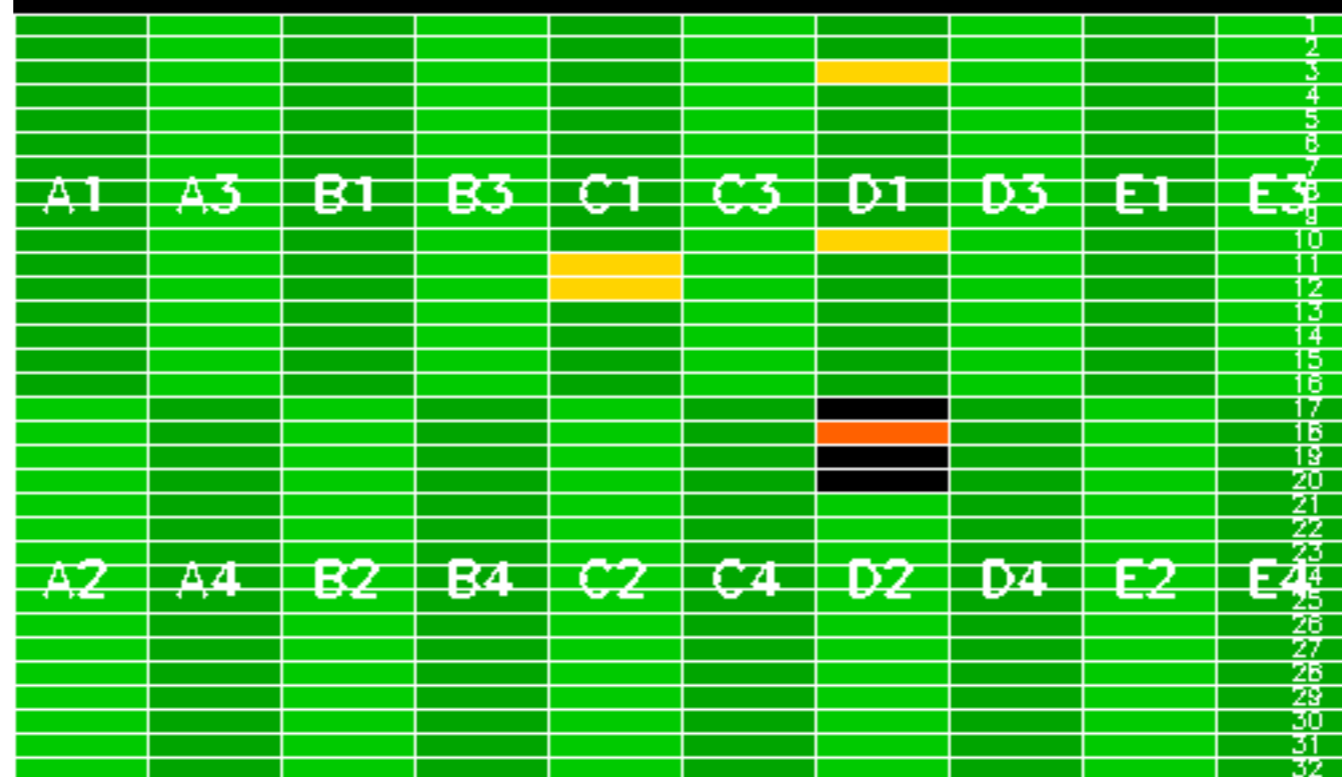




No anomalies observed on available MS products:

No anomalies observed.

Reference: 2001-02-09 13:50:42 H RxGain  
 Test : 2005-12-22 07:06:59 H



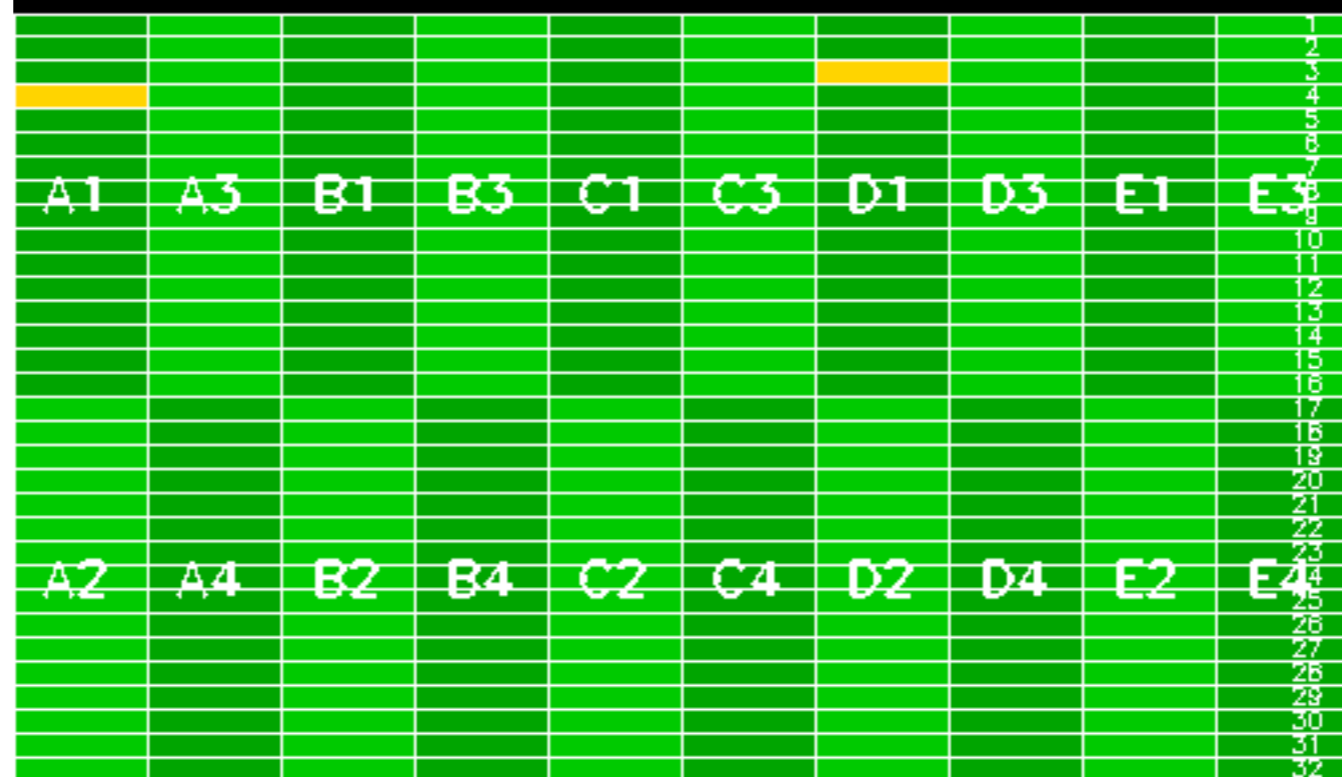




Reference: 2005-09-29 07:47:20 V

RxGain

Test : 2005-12-23 06:35:22 V



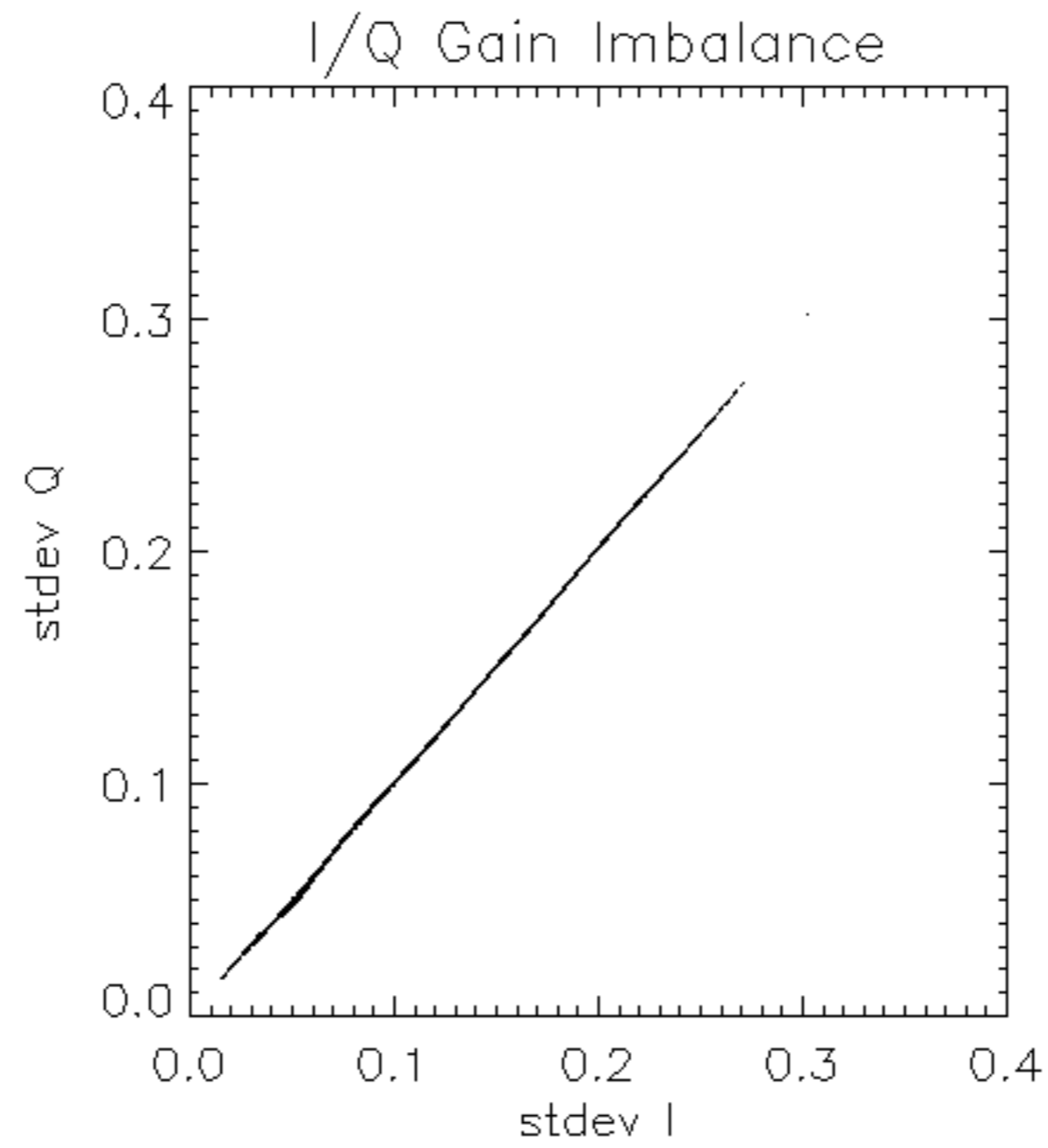


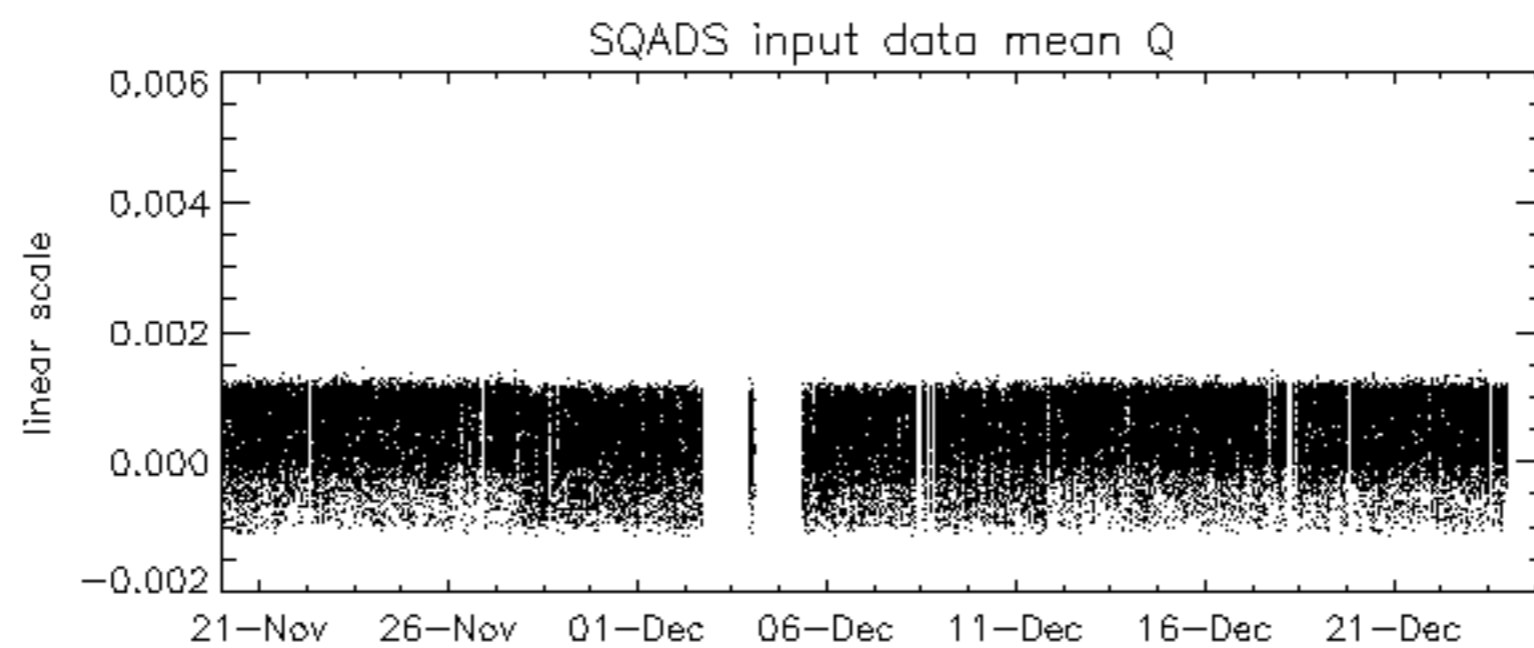
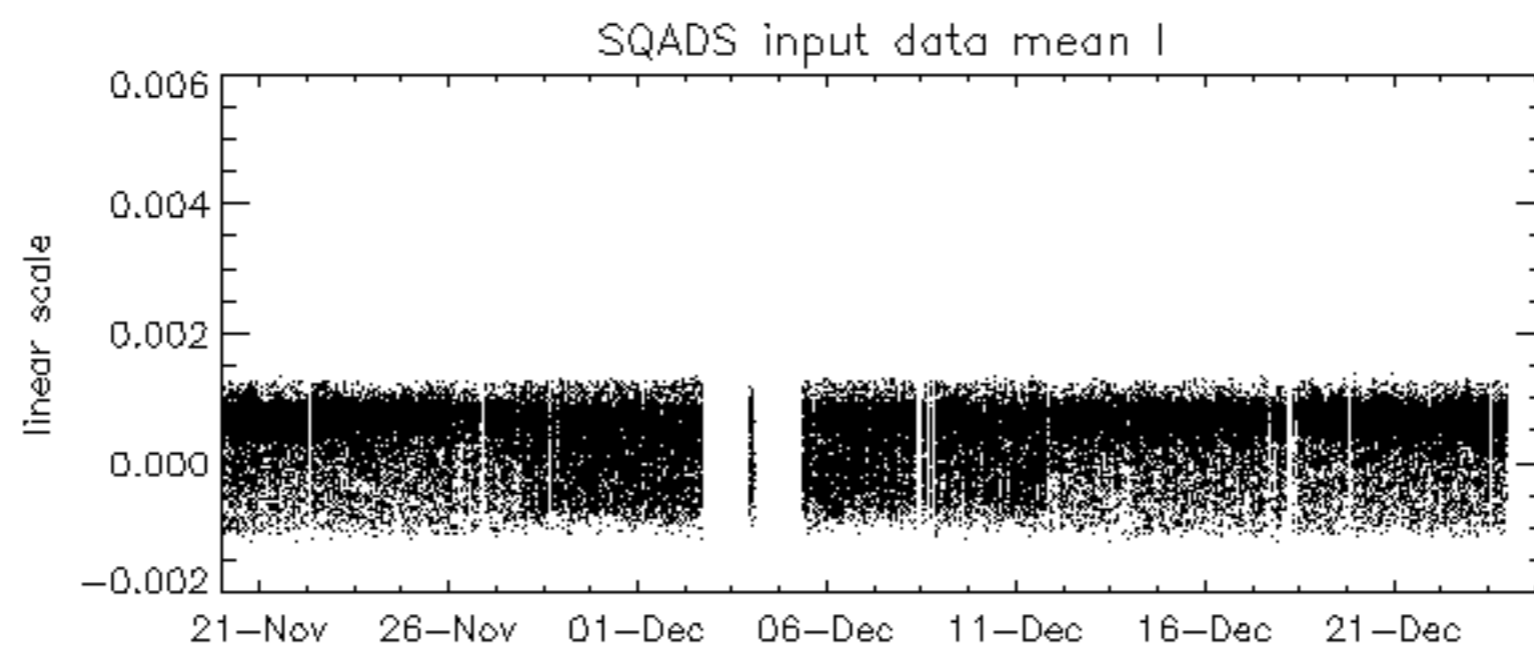
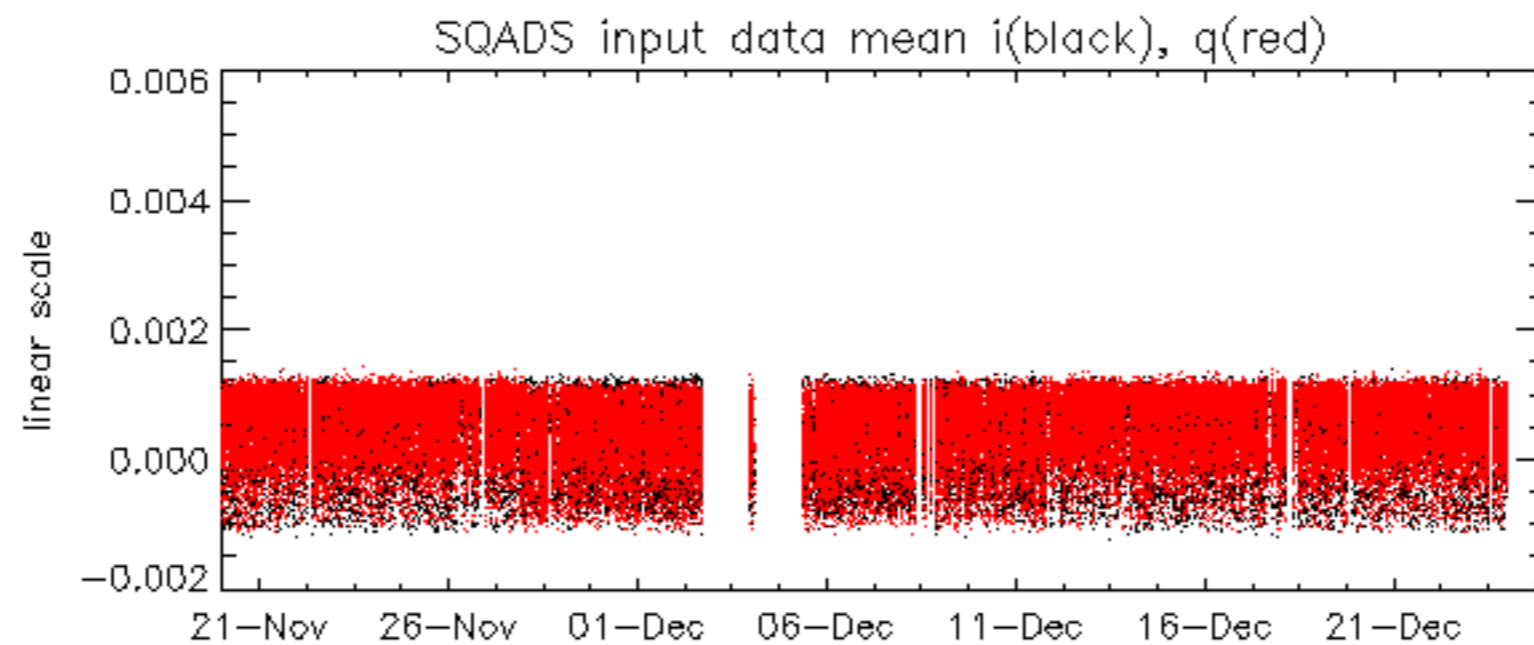


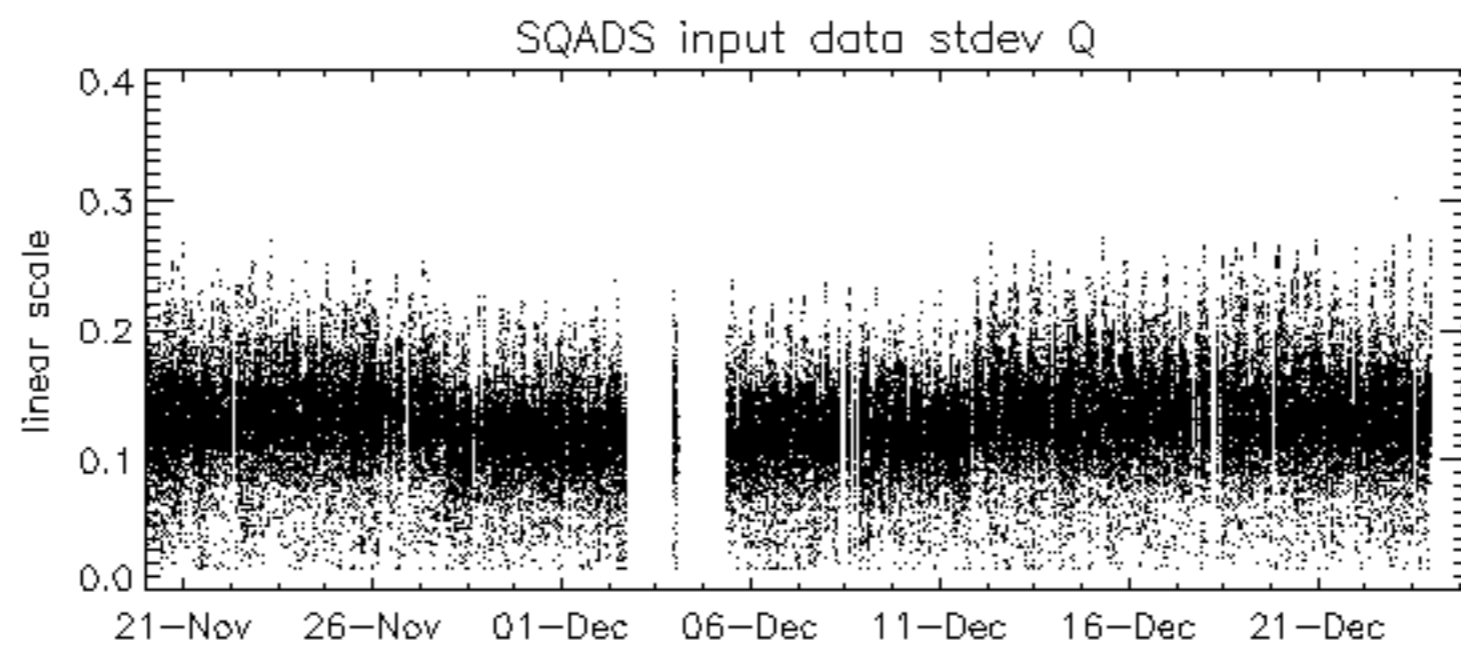
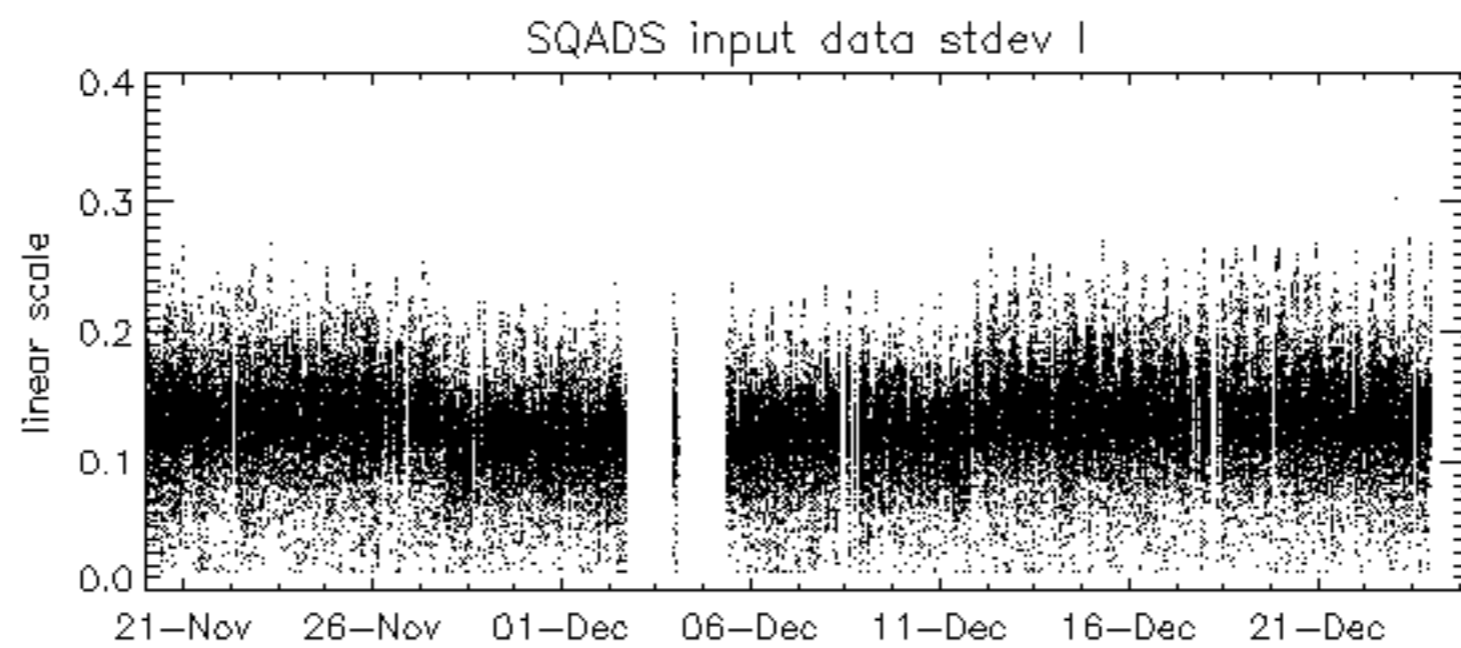
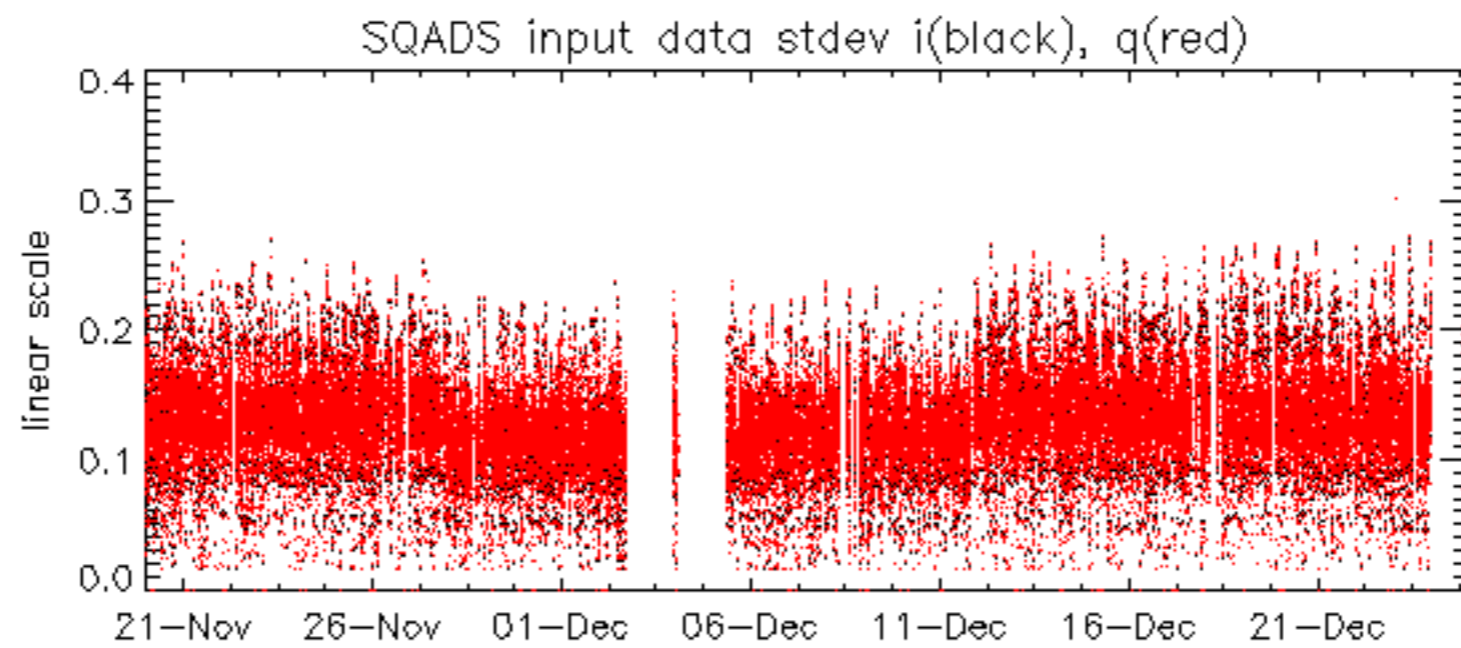






















Summary of analysis for the last 3 days 2005122[345]

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_1PNPDE20051224_182644_000000352043_00371_19964_4704.N1	0	18
ASA_WSM_1PNPDE20051224_022313_000000672043_00361_19954_5517.N1	0	49







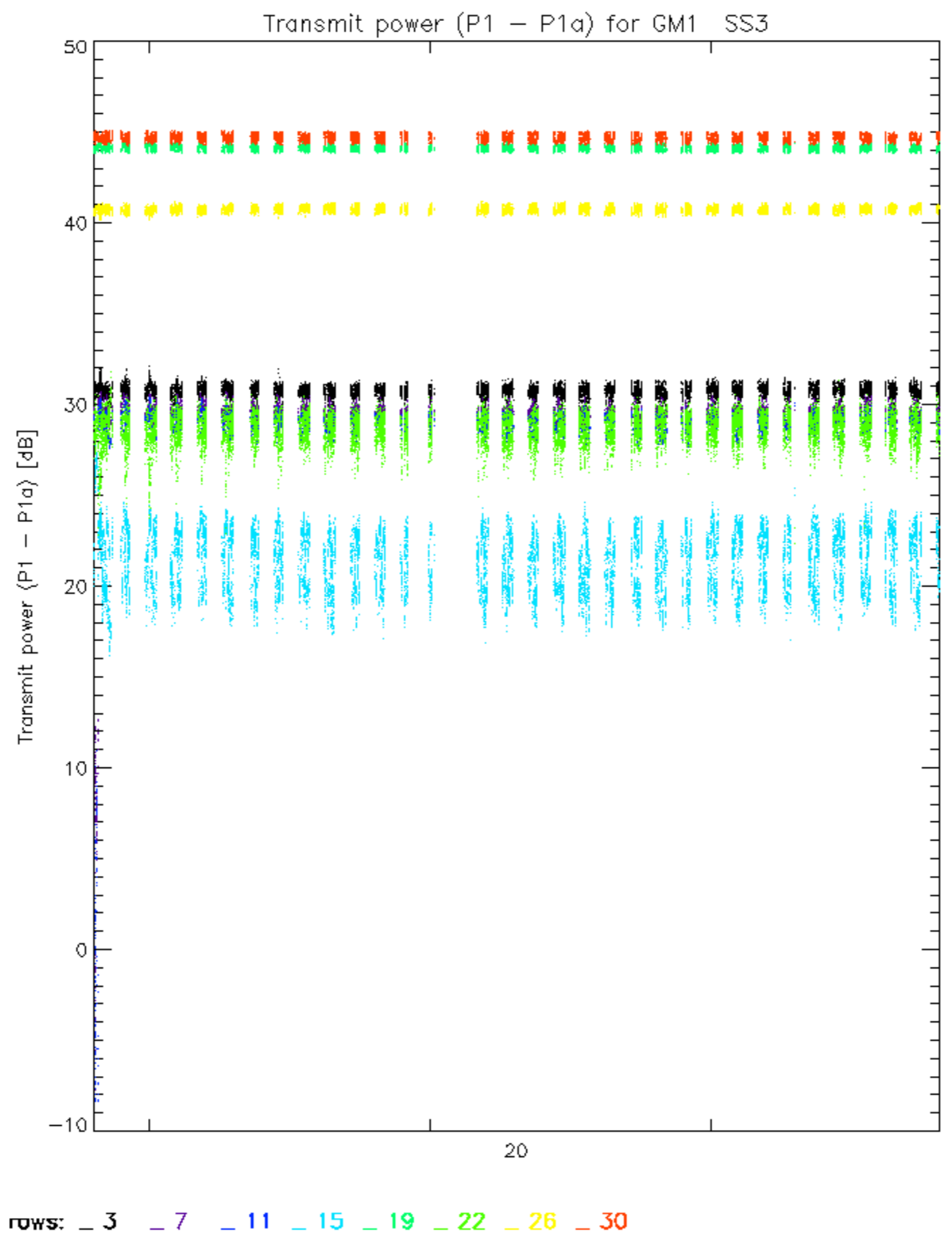




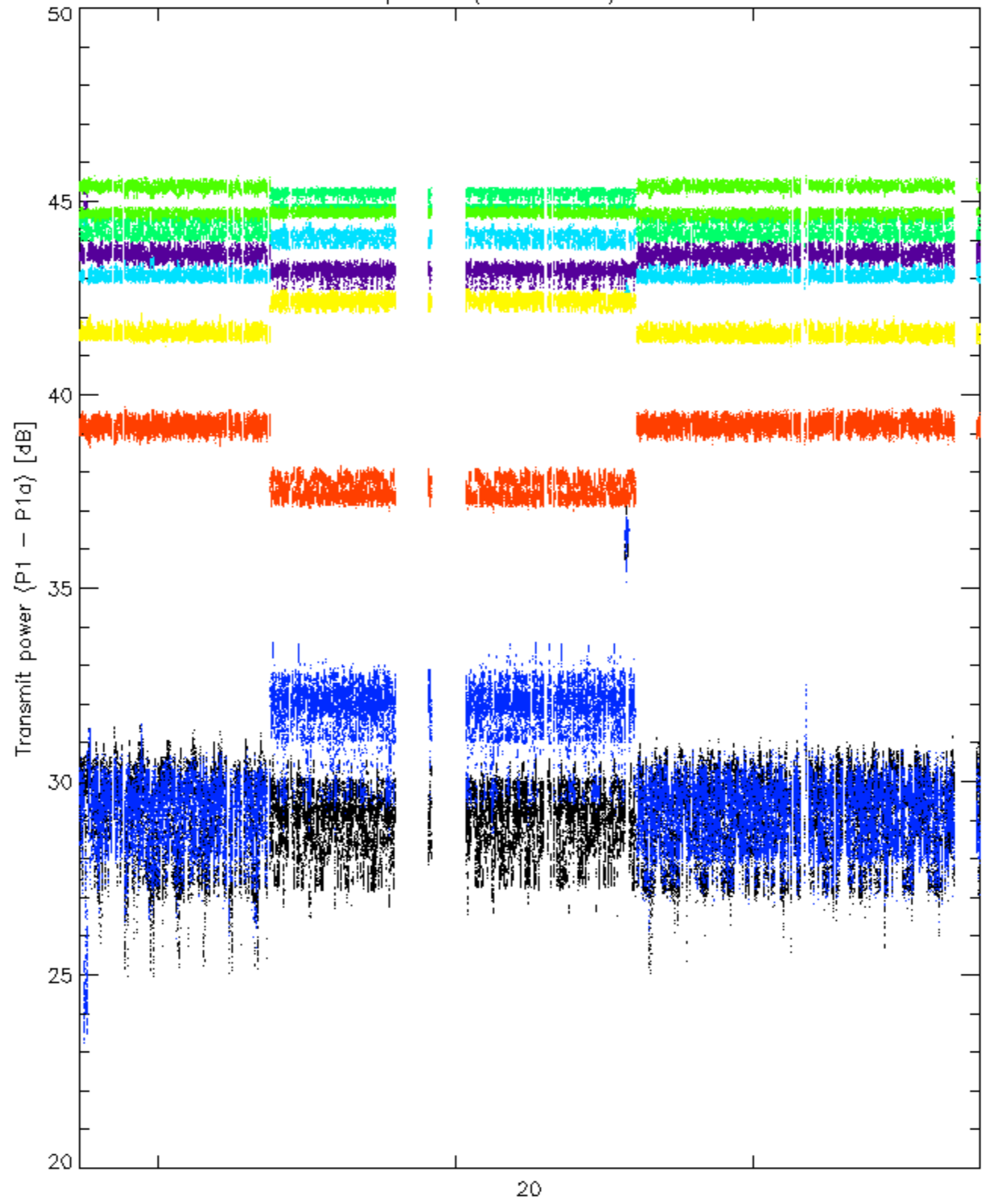






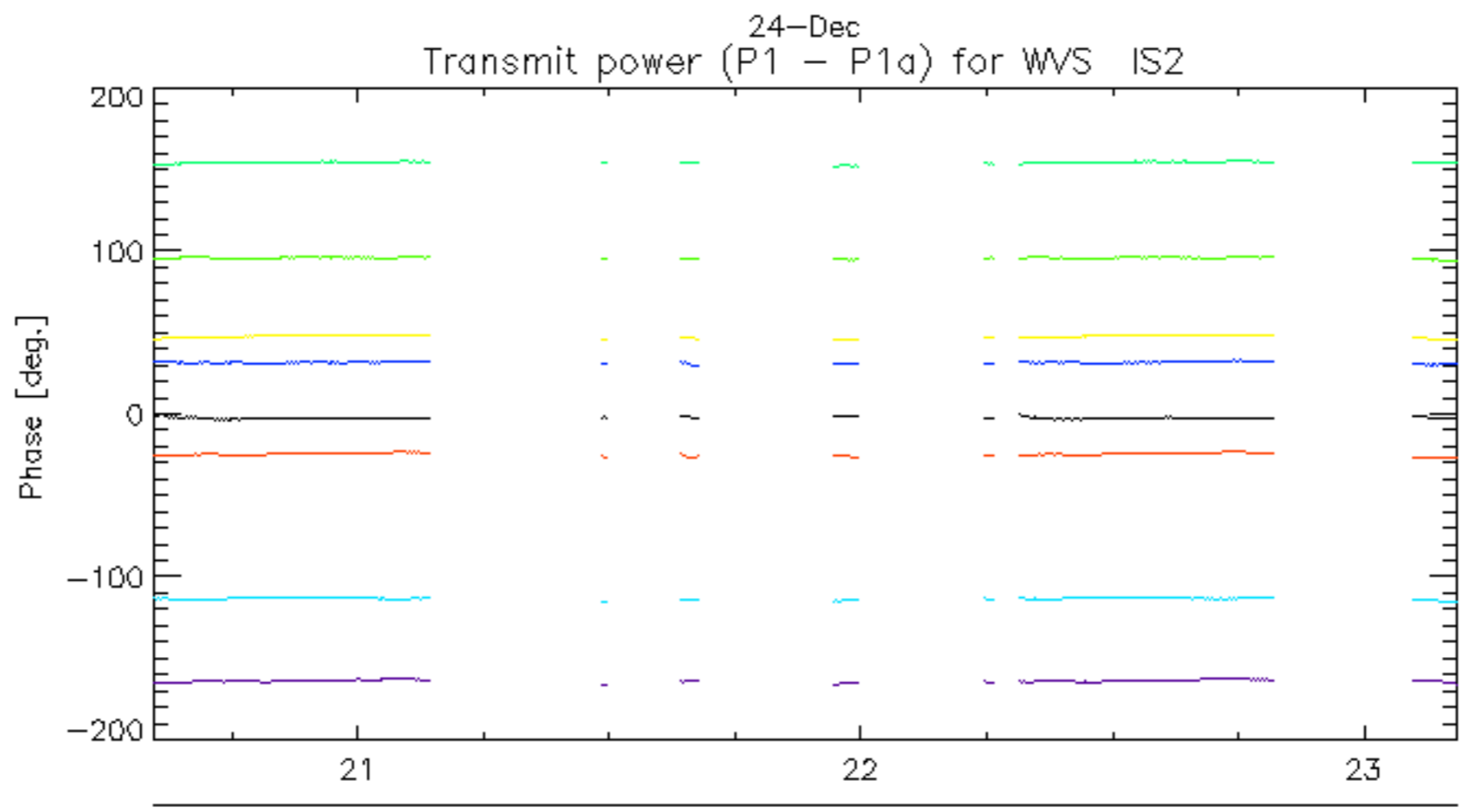
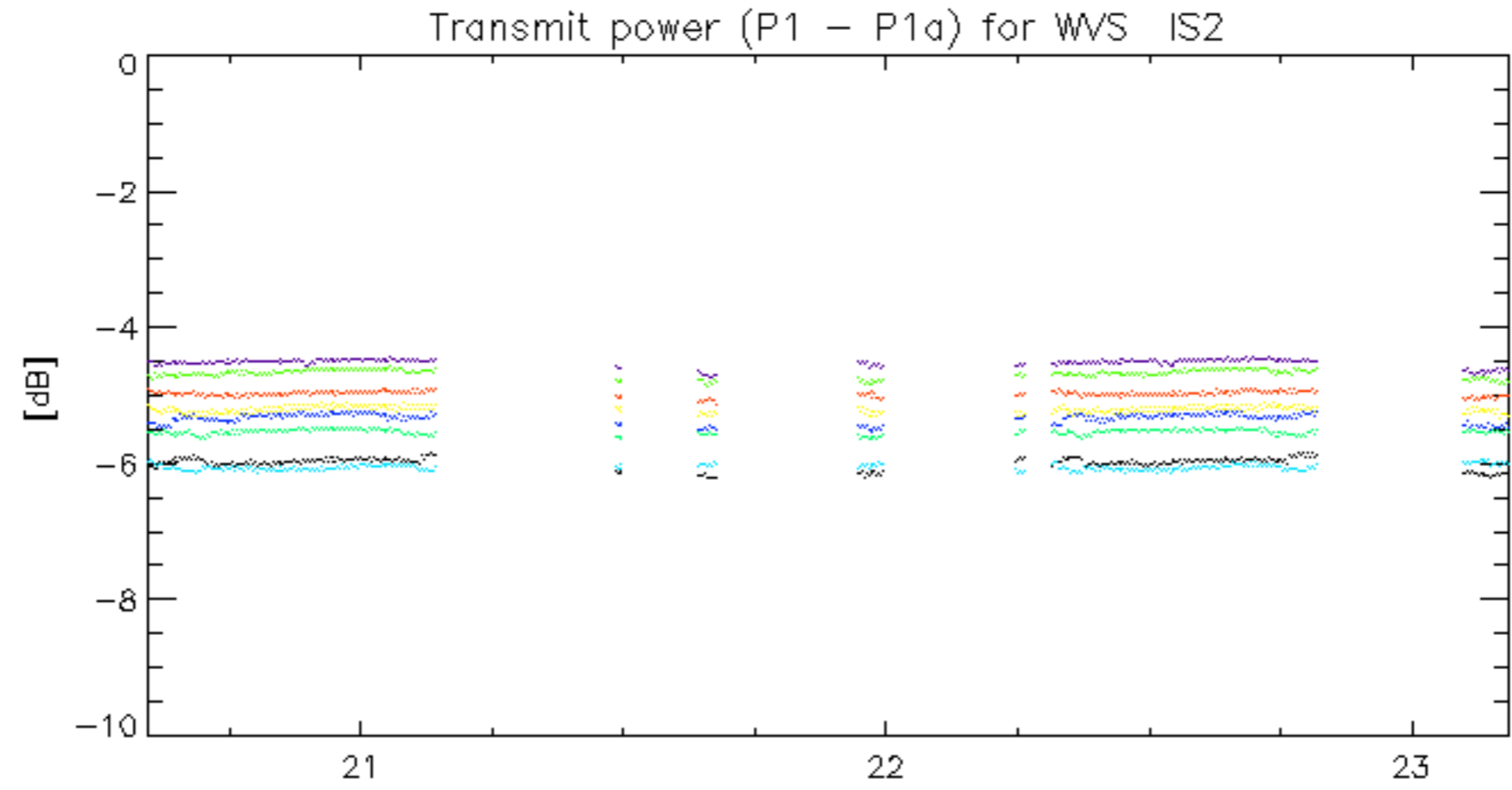


Transmit power (P1 - P1a) for WVS IS2



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





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

No unavailabilities during the reported period.