

# PRELIMINARY REPORT OF 070129

last update on Mon Jan 29 16:39:33 GMT 2007

Due to an ASAR test acquisition campaign, the daily analysis on WVS products will be based on IS4 instead of IS2 during the following periods:

From orbit 25621 (23-Jan-2007) to 25720 (30-Jan-2007) in HH polarization  
From orbit 26122 (27-Feb-2007) to 26221 (06-Mar-2007) in HH polarization  
From orbit 25721 (30-Jan-2007) to 25820 (06-Feb-2007) in VV polarization  
From orbit 26222 (06-Mar-2007) to 26321 (13-Mar-2007) in VV polarization

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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 2007-01-28 00:00:00 to 2007-01-29 16:39:33

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	43	83	17	4	29
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	43	83	17	4	29
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	43	83	17	4	29
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	43	83	17	4	29

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	42	52	0	13	54
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	42	52	0	13	54
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	42	52	0	13	54
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	42	52	0	13	54

## 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	20070128 095339
H	20070129 092202

MSM in V/V polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
☒	☒
☒	☒
☒	☒
☒	☒

#### 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

#### P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1a	-11.697228	0.043919	0.452196
7	P1a	-10.003416	0.041670	0.265480
11	P1a	-10.509014	0.052886	-0.073331
15	P1a	-10.771513	0.112978	-0.437324
19	P1a	-15.799091	0.061926	-0.162796
22	P1a	-21.509602	1.949764	1.432650
26	P1a	-15.575855	0.360402	0.064156
30	P1a	-18.141367	0.288727	-0.121972

#### P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-4.230003	0.143333	-5.867962
7	P1	-2.542901	0.005184	0.037819
11	P1	-2.954282	0.011083	0.010968
15	P1	-3.746791	0.020329	-0.148940
19	P1	-3.617393	0.014592	-0.148464
22	P1	-5.094223	0.019140	-0.003605
26	P1	-5.989709	0.020925	-0.181623
30	P1	-5.320964	0.042723	0.264384

#### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.212782	0.093029	-0.142490
7	P2	-22.111504	0.133839	-0.168180
11	P2	-10.991256	0.079593	-0.018929
15	P2	-5.153243	0.102742	0.050253

19	P2	-7.279537	0.085932	-0.024336
22	P2	-8.346982	0.080559	-0.165954
26	P2	-24.341911	0.073131	-0.217412
30	P2	-21.703468	0.075984	0.054692

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.226989	0.007498	-0.054248
7	P3	-8.226989	0.007498	-0.054248
11	P3	-8.226989	0.007498	-0.054248
15	P3	-8.226989	0.007498	-0.054248
19	P3	-8.226989	0.007498	-0.054248
22	P3	-8.226989	0.007498	-0.054248
26	P3	-8.226989	0.007498	-0.054248
30	P3	-8.226989	0.007498	-0.054248

### 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)
3	P1a	-11.727802	0.063083	-0.052980
7	P1a	-10.024031	0.071289	0.041488
11	P1a	-10.388704	0.074088	-0.151103
15	P1a	-10.757742	0.148838	-0.126937
19	P1a	-15.753581	0.084483	-0.031941
22	P1a	-21.394598	1.495514	0.793435
26	P1a	-15.842957	0.324155	0.657102
30	P1a	-18.035370	0.385255	-0.568375

### P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
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3	P1	-3.948144	0.034510	-0.199661
7	P1	-2.458476	0.048398	0.081116
11	P1	-2.828405	0.014637	-0.023873
15	P1	-3.730832	0.031592	-0.113620
19	P1	-3.552915	0.017412	-0.016683
22	P1	-5.005013	0.021812	-0.038609
26	P1	-6.037747	0.022664	0.027009
30	P1	-5.338047	0.033771	0.059746

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.377684	0.072248	0.216350
7	P2	-22.147223	0.143190	0.209020
11	P2	-10.792174	0.072042	0.192446
15	P2	-4.924566	0.152779	0.161536
19	P2	-6.913155	0.135842	0.123228
22	P2	-8.209332	0.084434	0.085709
26	P2	-24.324757	0.109797	0.121502
30	P2	-21.866047	0.106227	0.155975

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.078960	0.002750	0.047332
7	P3	-8.078674	0.002746	0.046853
11	P3	-8.078819	0.002750	0.047147
15	P3	-8.078804	0.002746	0.047071
19	P3	-8.078730	0.002751	0.047593
22	P3	-8.078892	0.002750	0.046510
26	P3	-8.078934	0.002751	0.047525
30	P3	-8.078811	0.002747	0.046947

## 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	0.000585325
	stdev	1.79606e-07
MEAN Q	mean	0.000483698
	stdev	2.06485e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.125179
	stdev	0.00217177
STDEV Q	mean	0.125438
	stdev	0.00220771



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2007012[789]

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
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## 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)

Ascending

Descending

### 7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

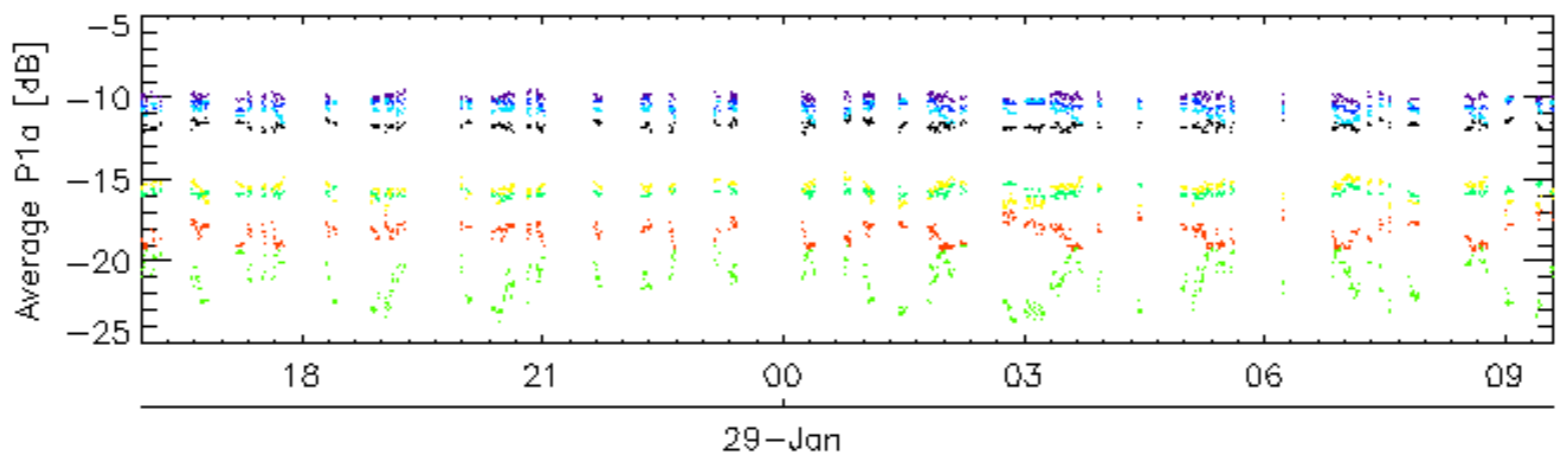
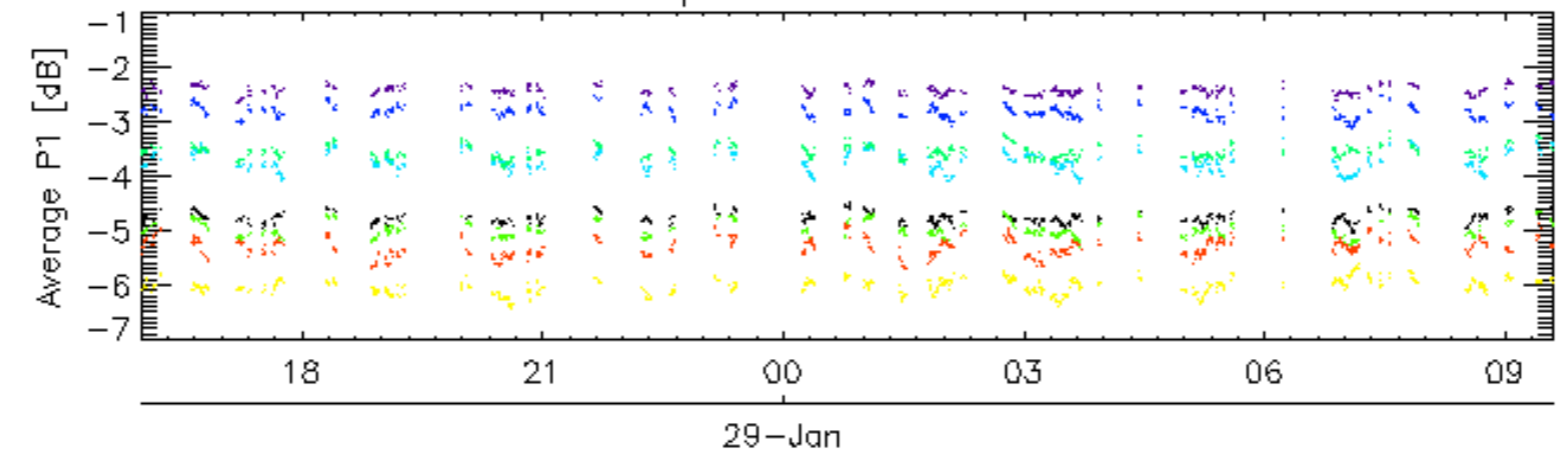
Ascending

Descending

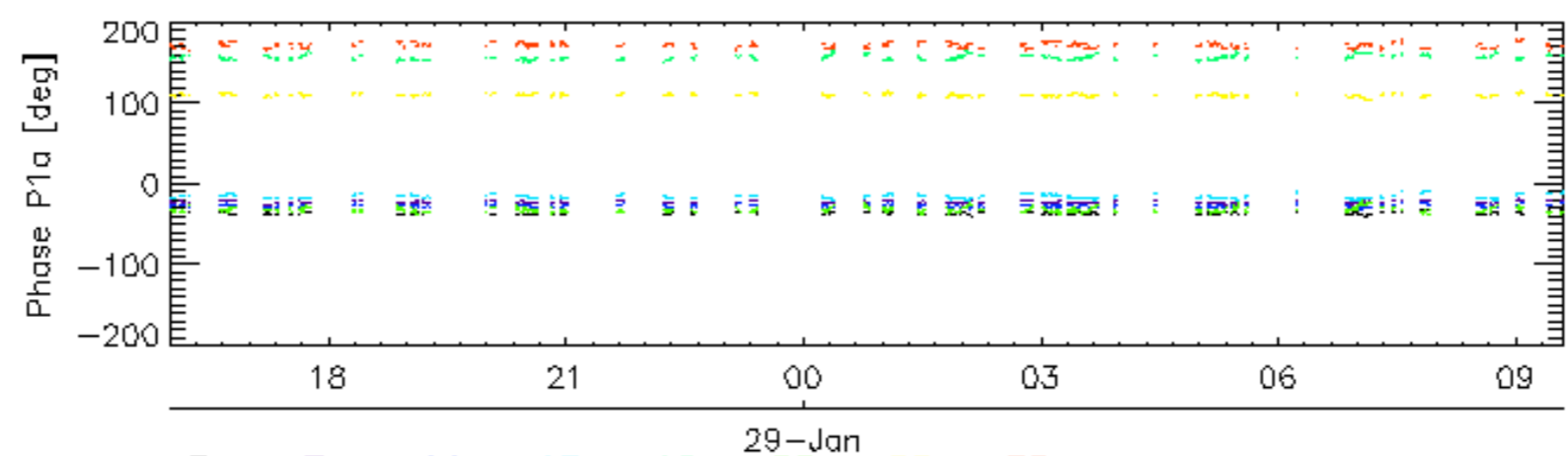
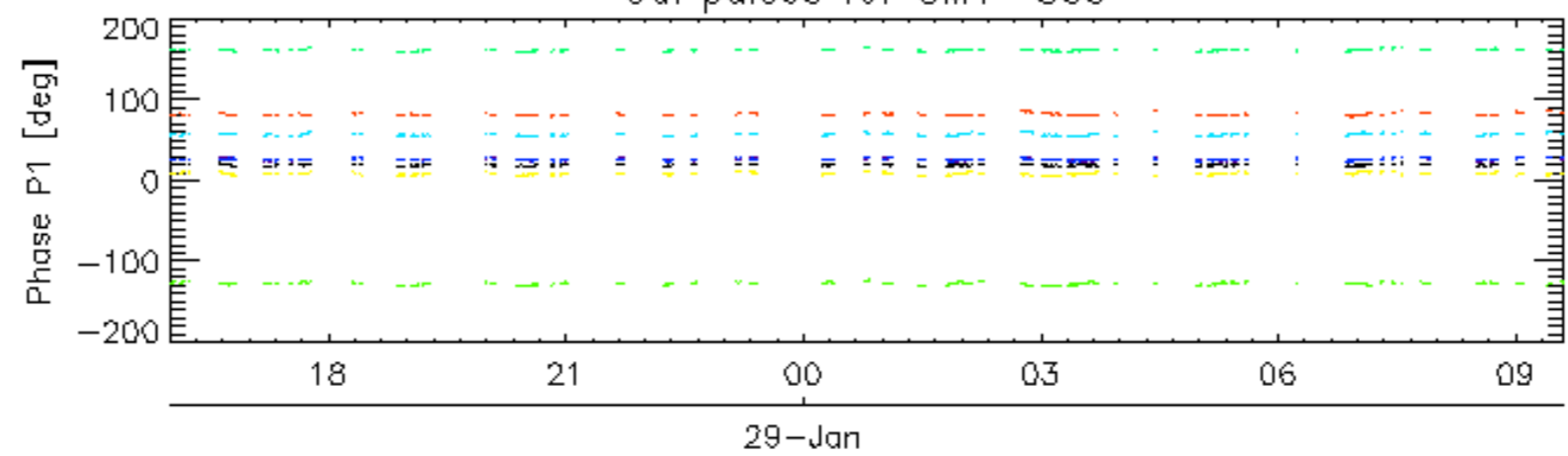
### 7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

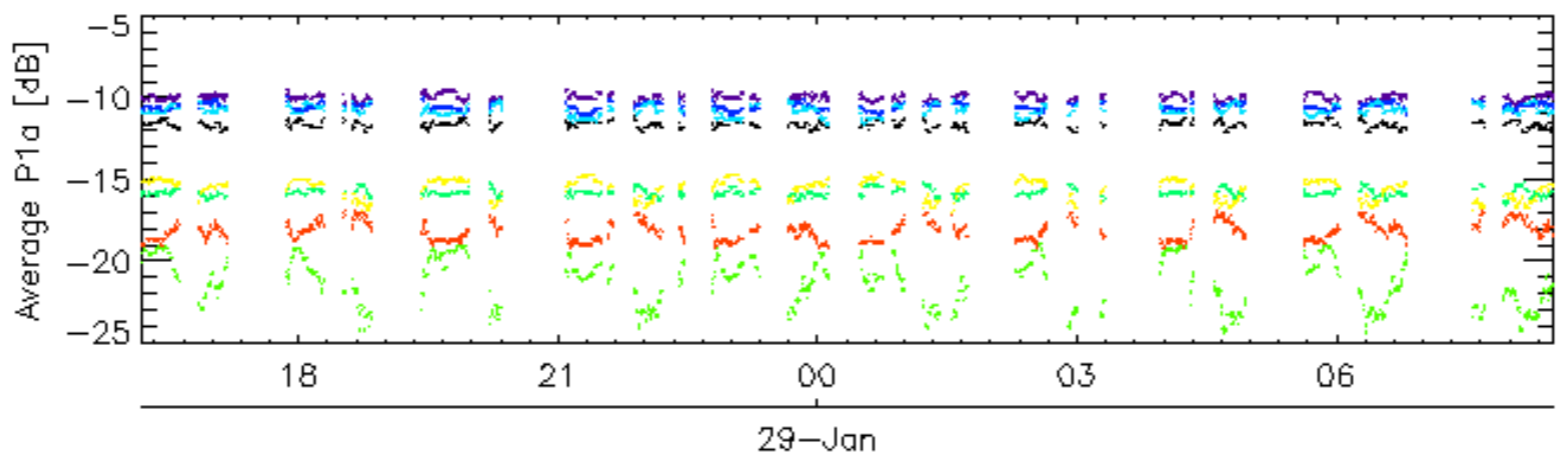
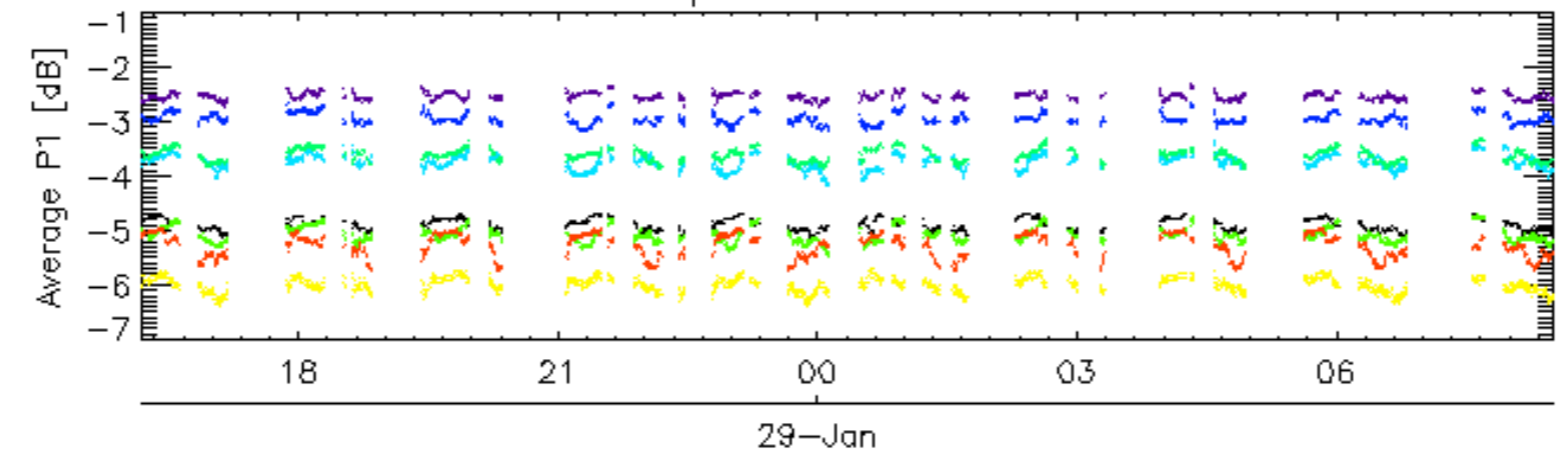


Cal pulses for GM1 SS3

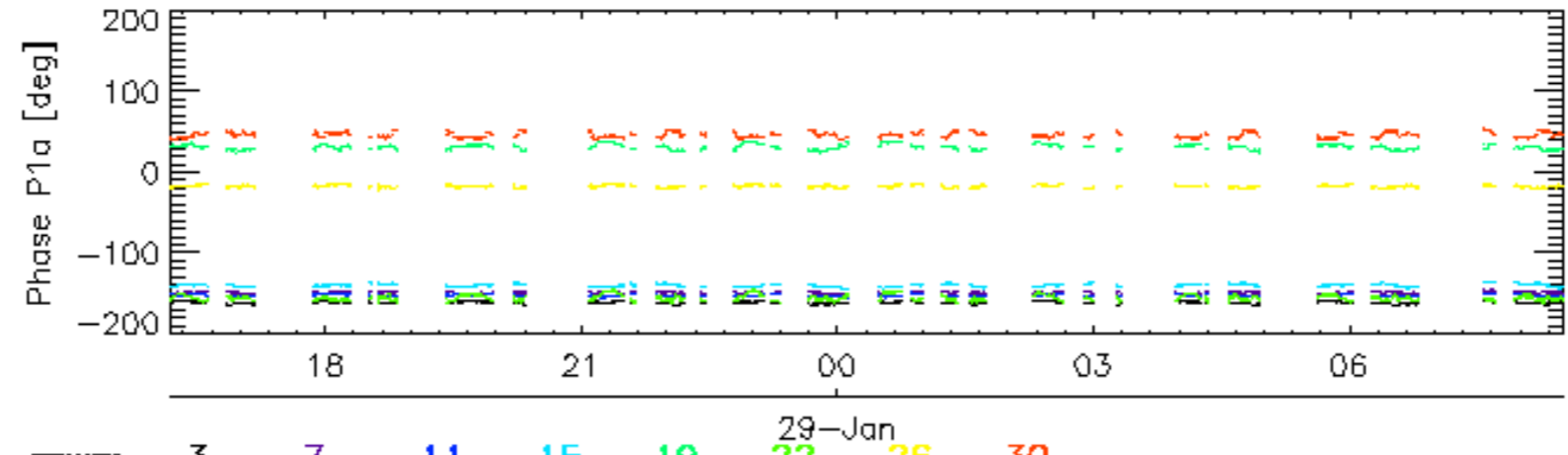
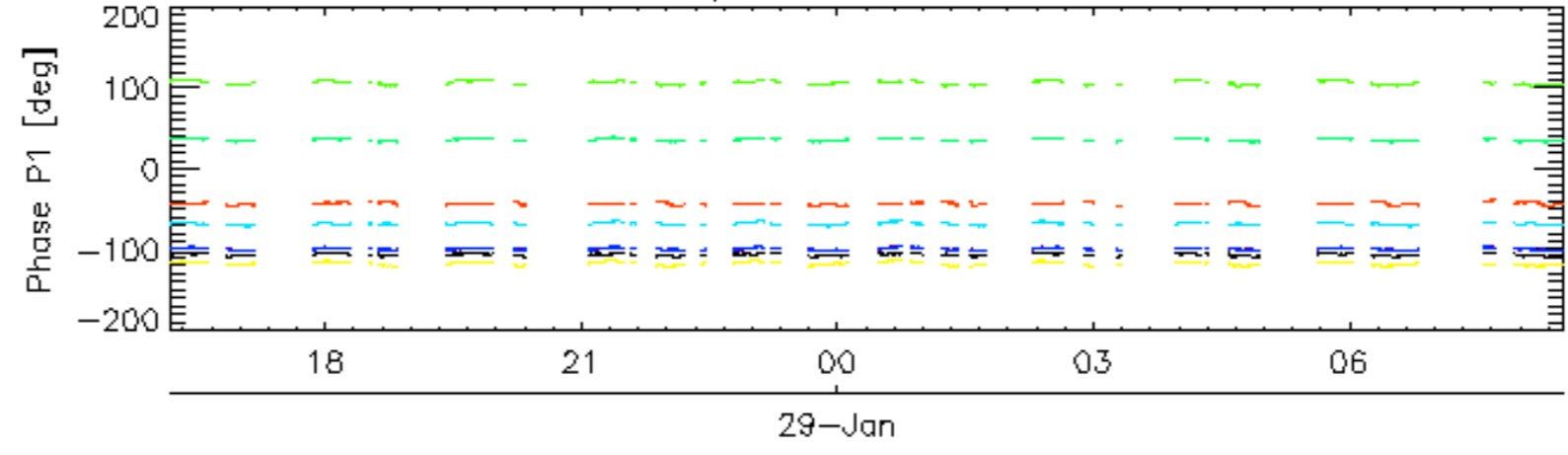


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS4

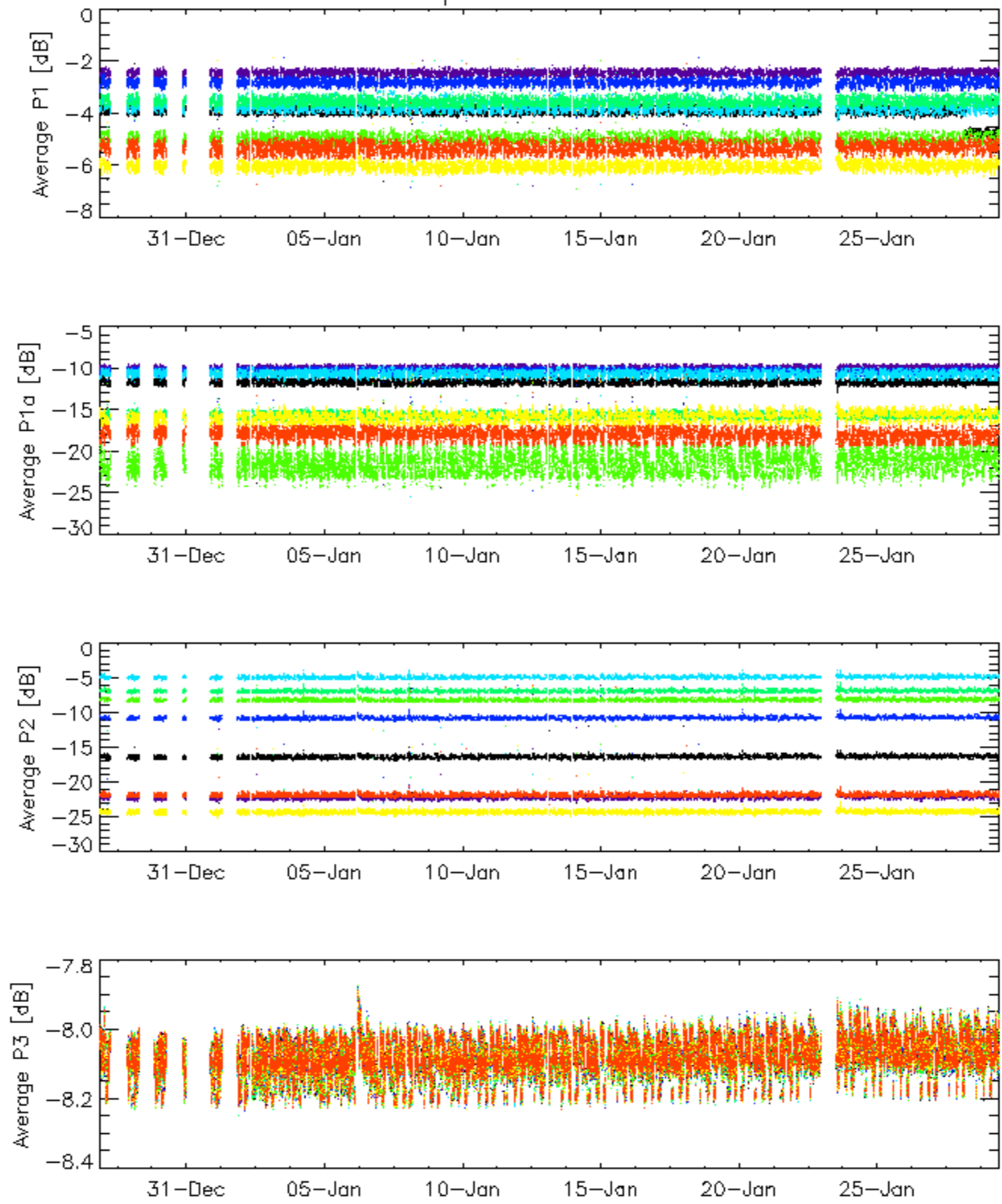


Cal pulses for WVS IS4



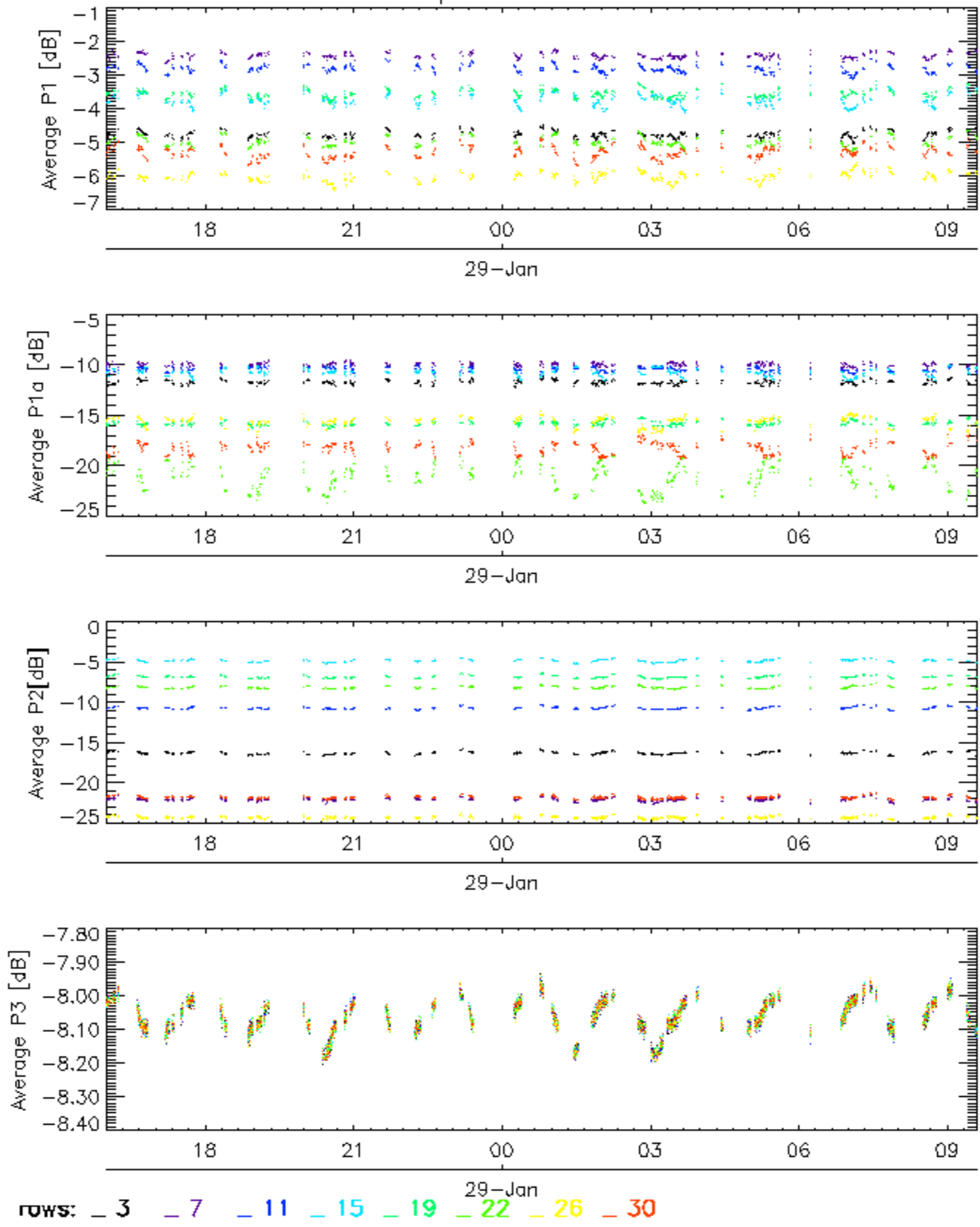
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Cal pulses for GM1 SS3

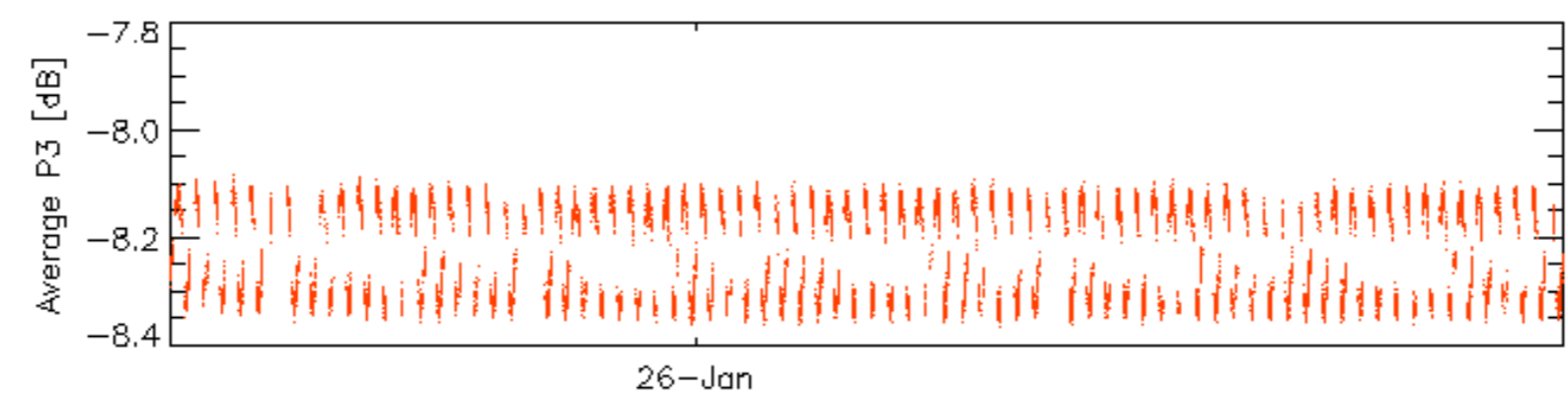
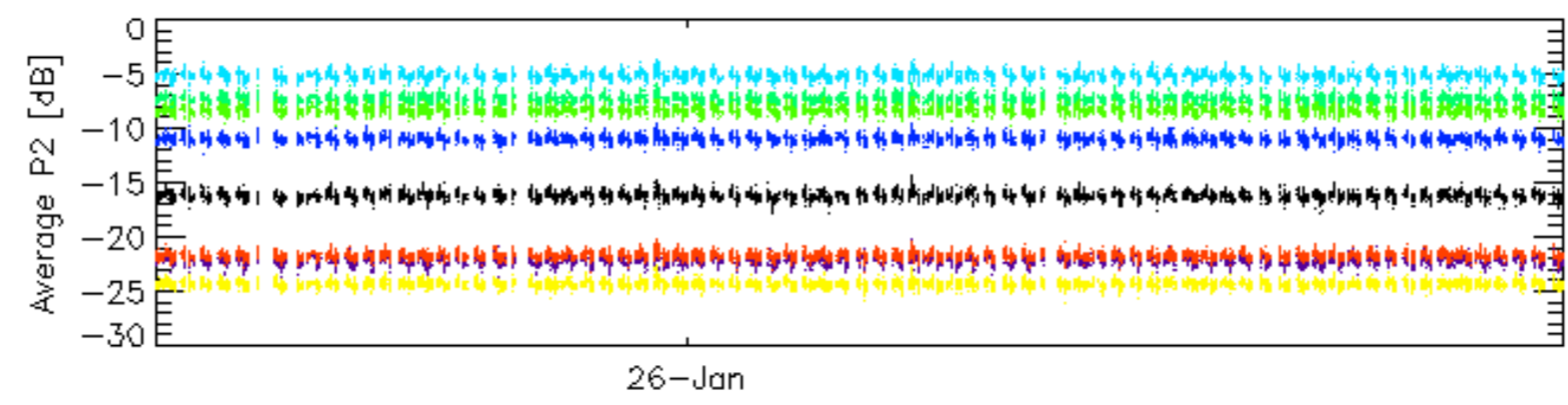
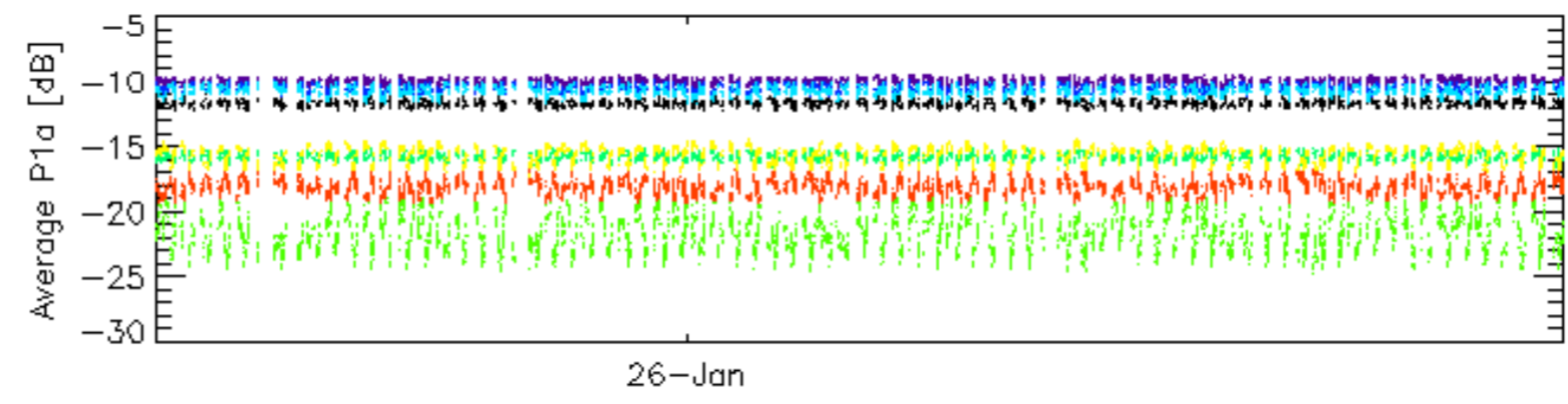
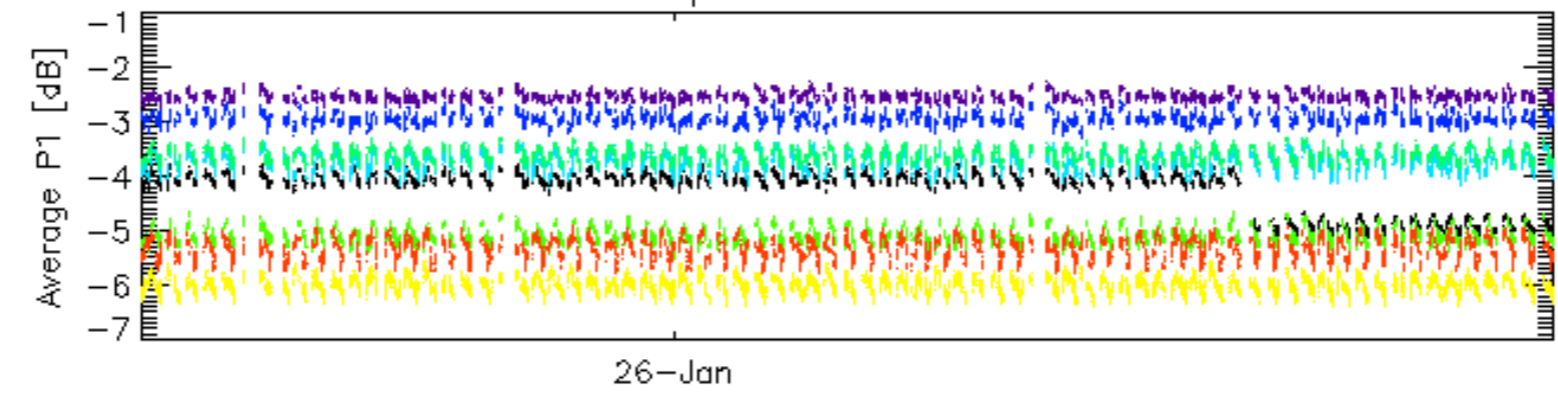


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

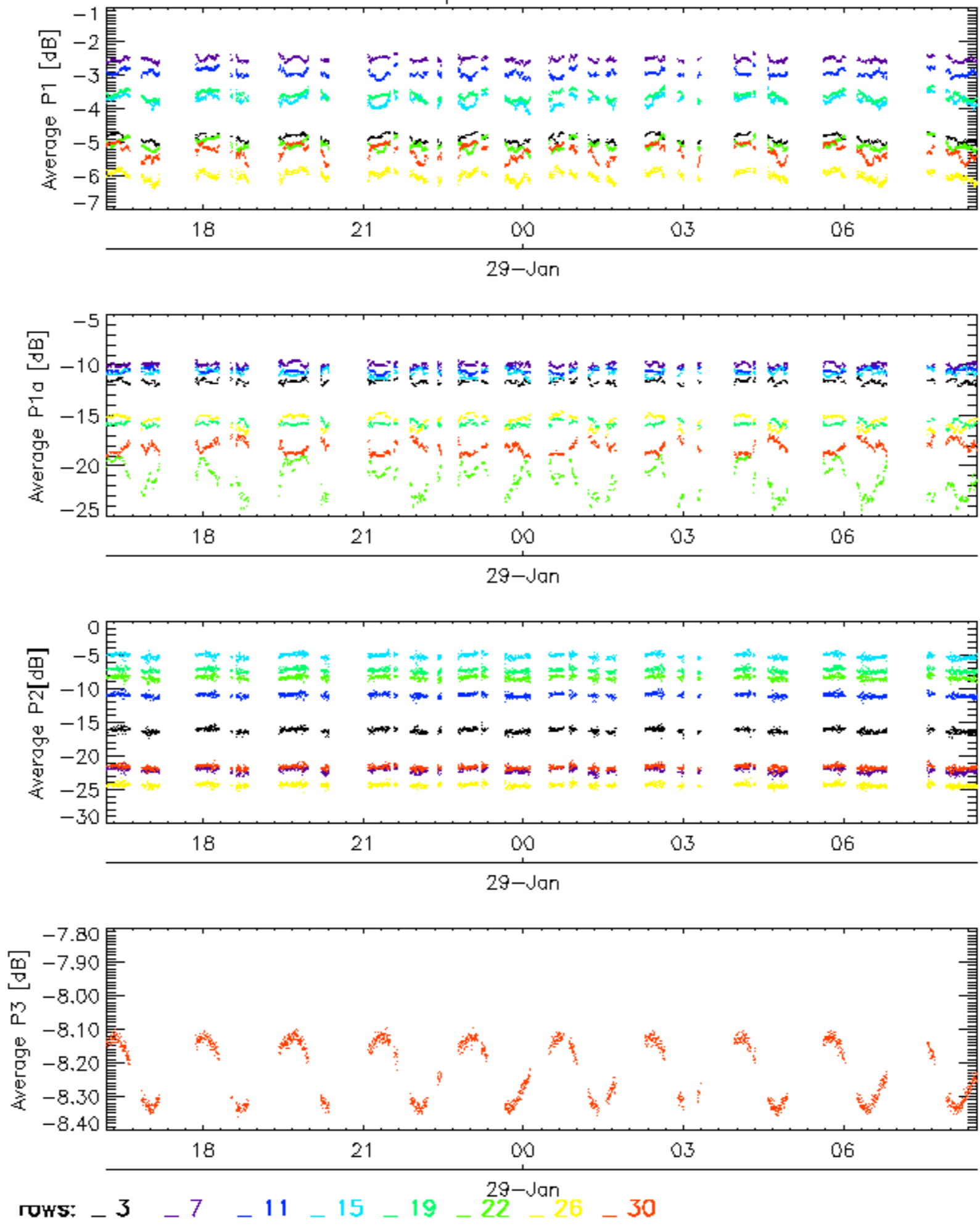


Cal pulses for WVS IS4



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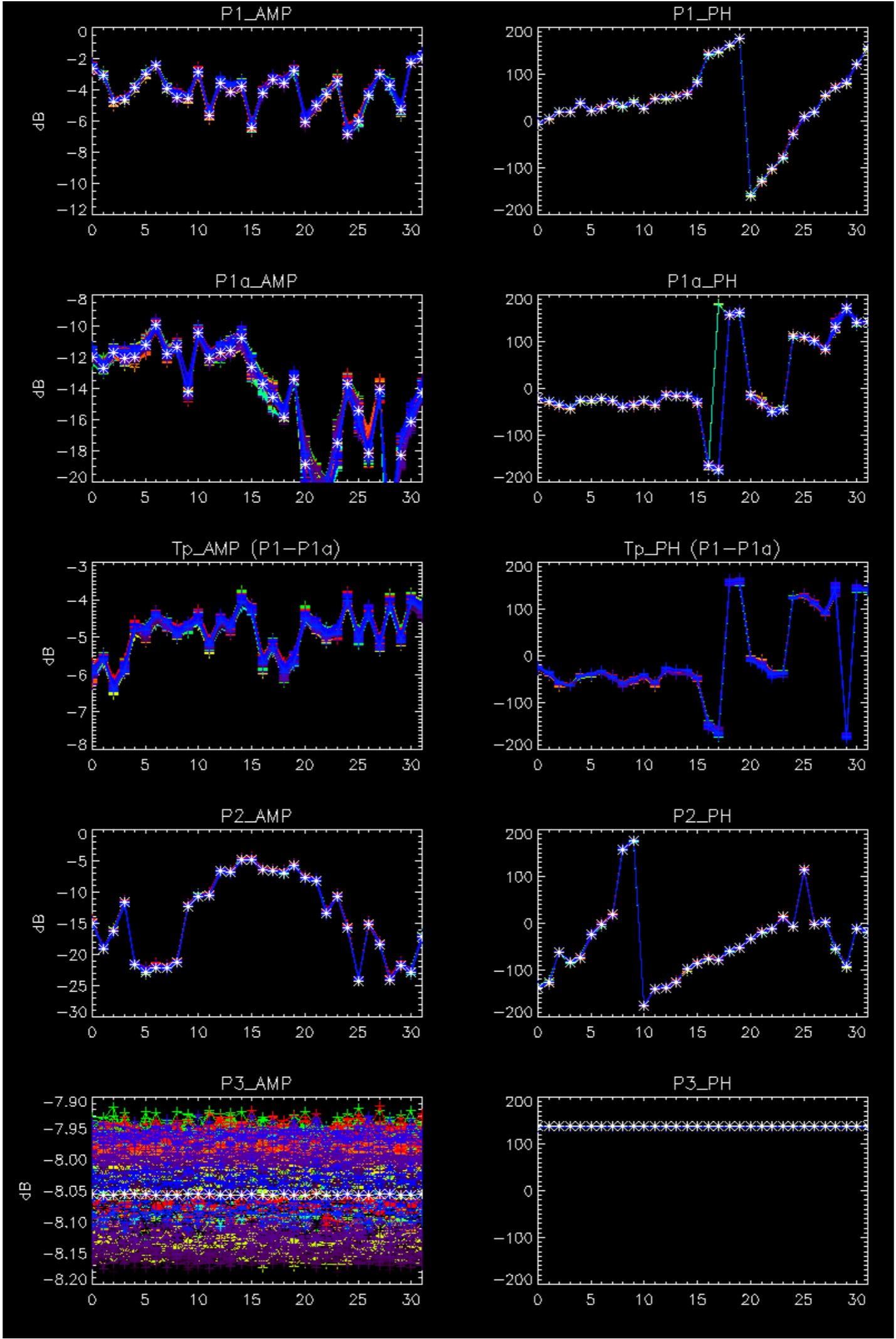
Cal pulses for WVS IS4

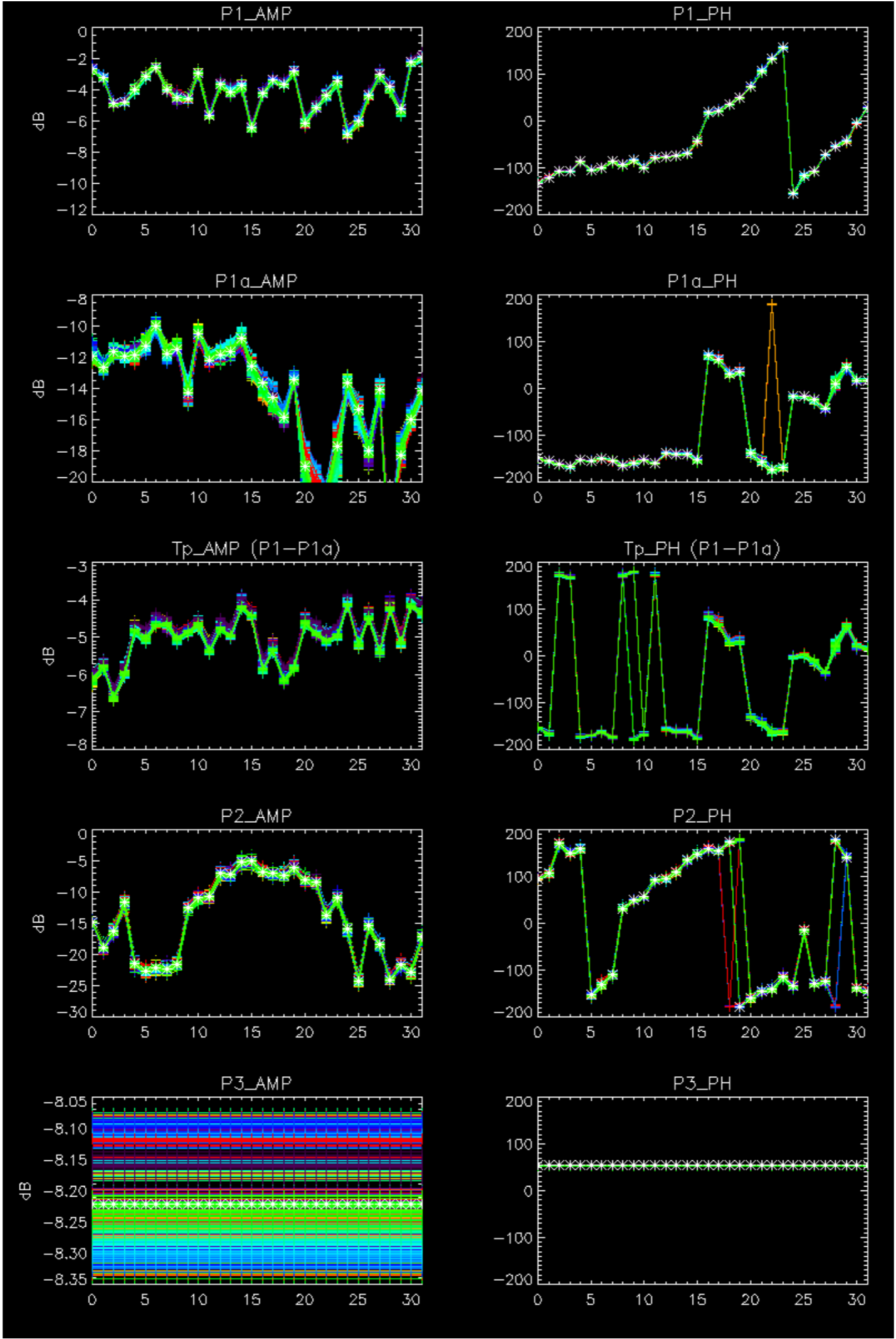


No anomalies observed on available browse products



No anomalies observed.

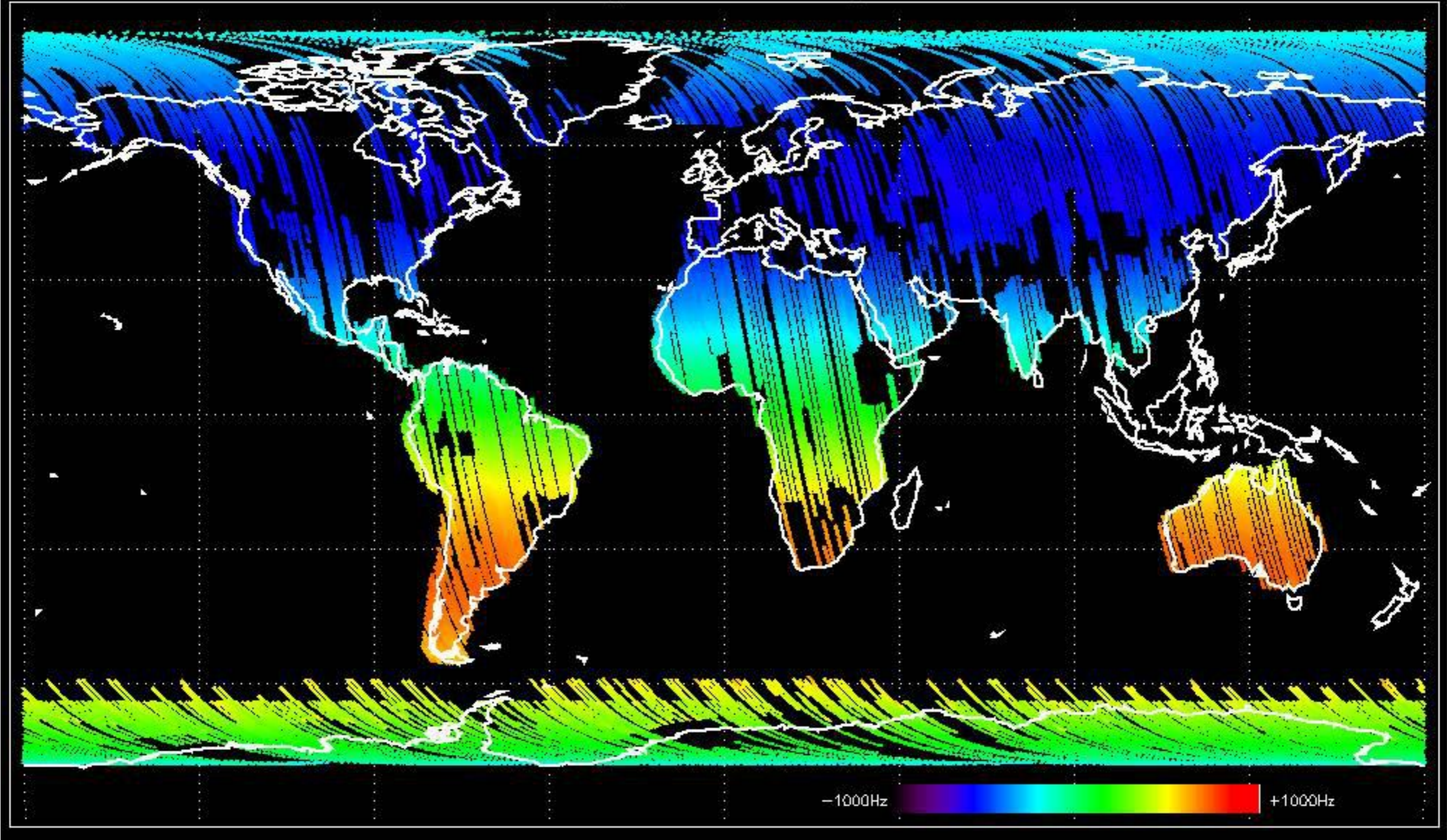




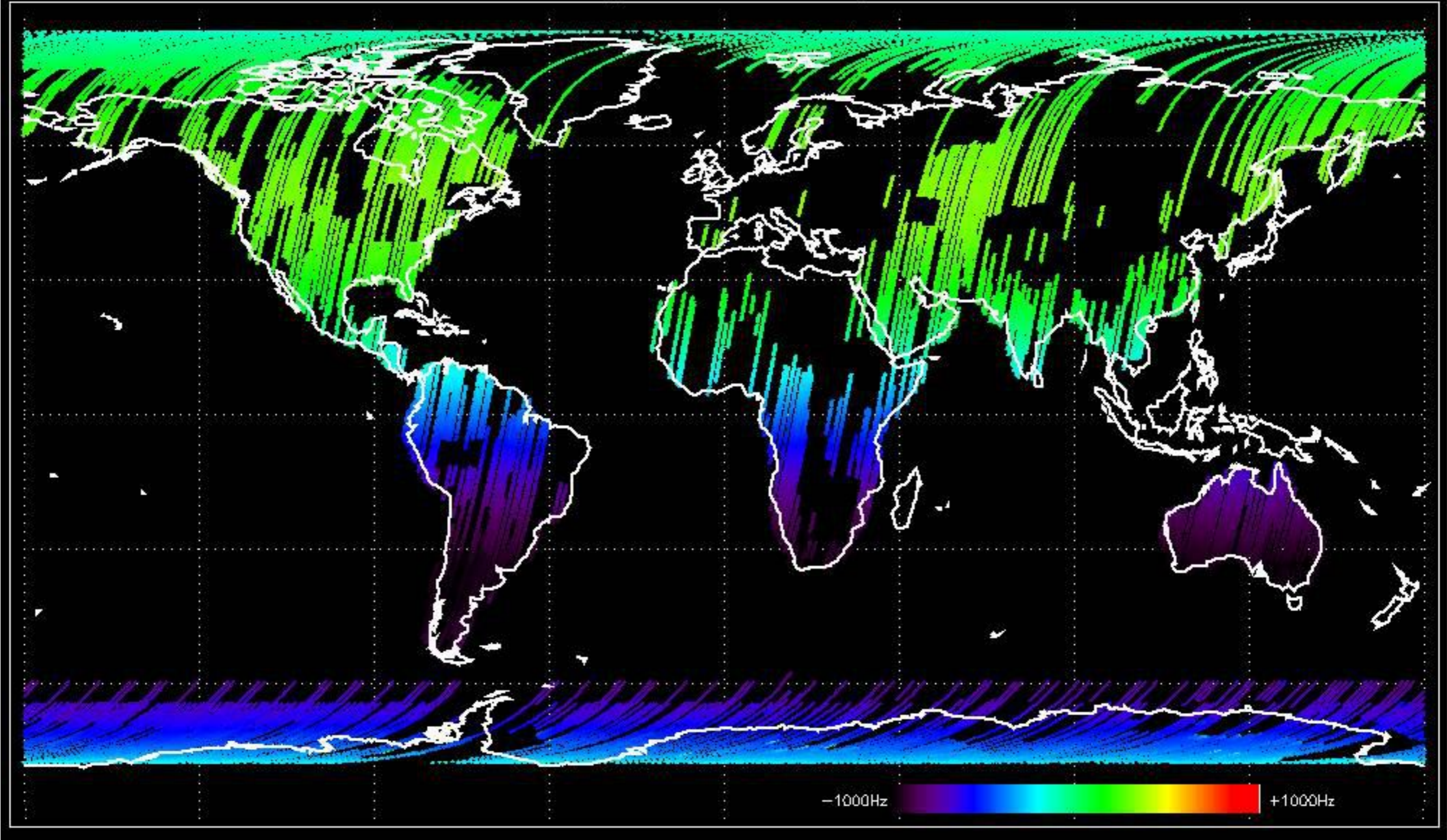
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



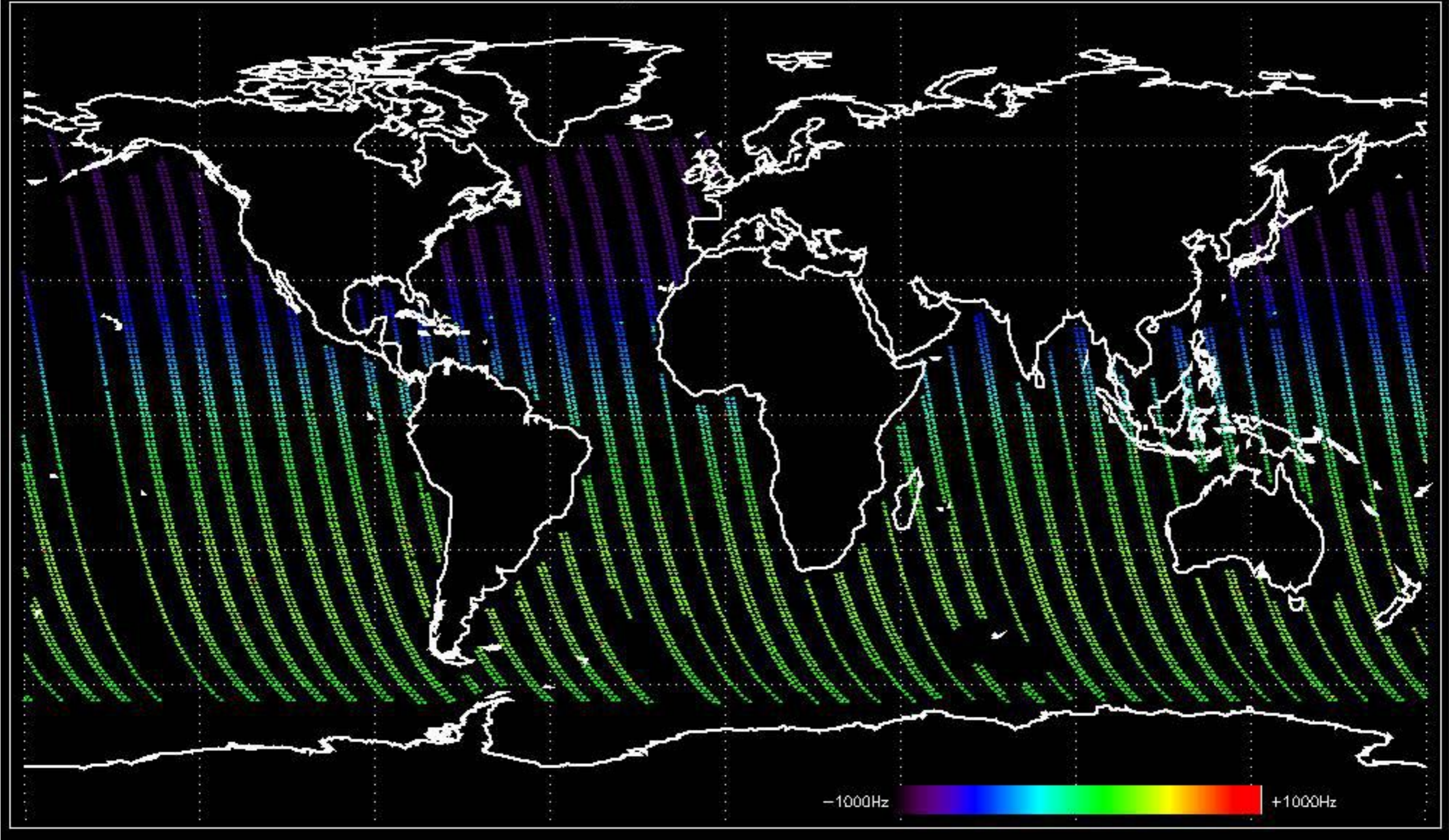
Doppler 'GM1' 'SS1' ascending



Doppler 'GM1' 'SS1' descending

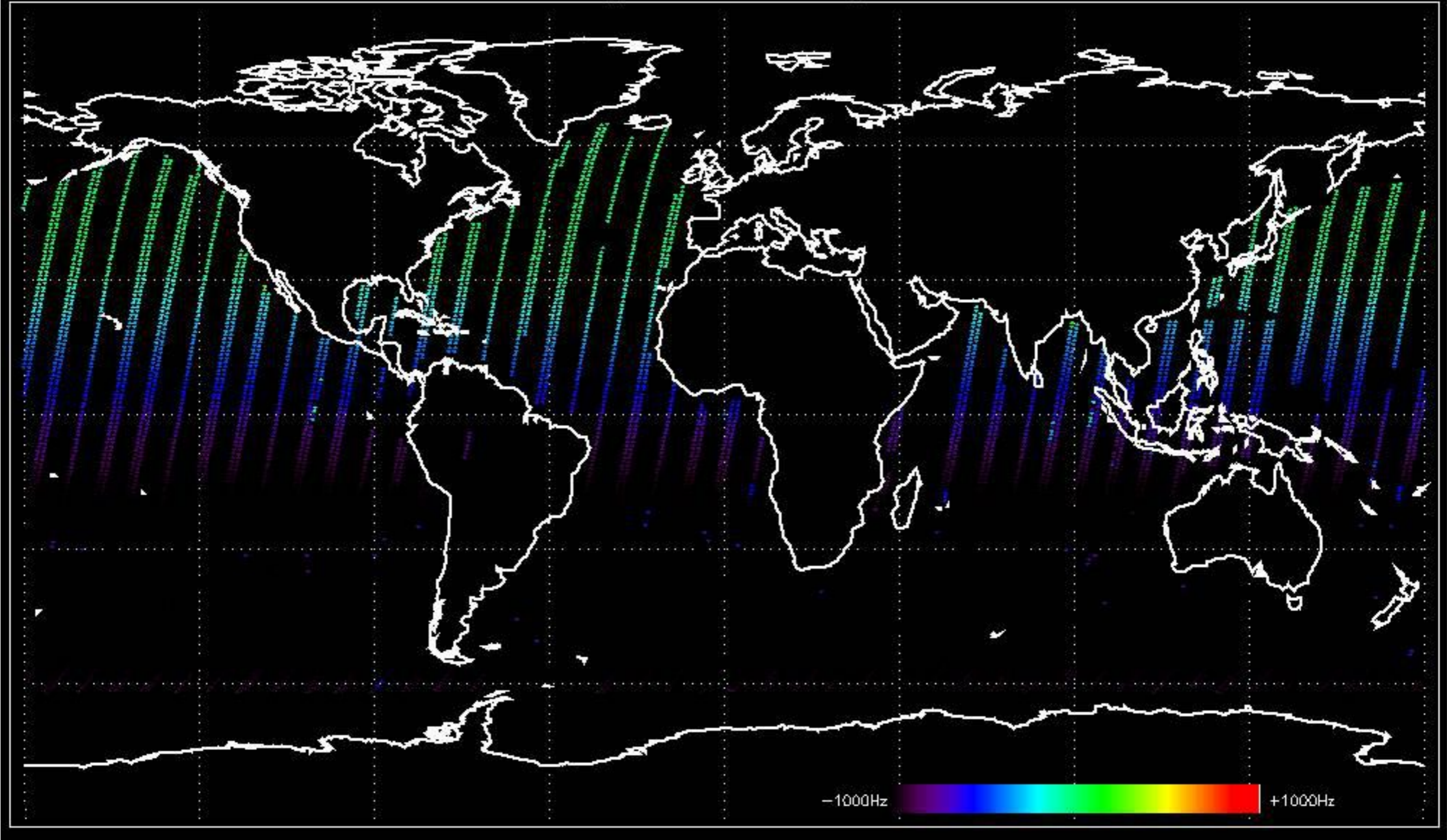


Doppler 'WVS' 'IS4' ascending

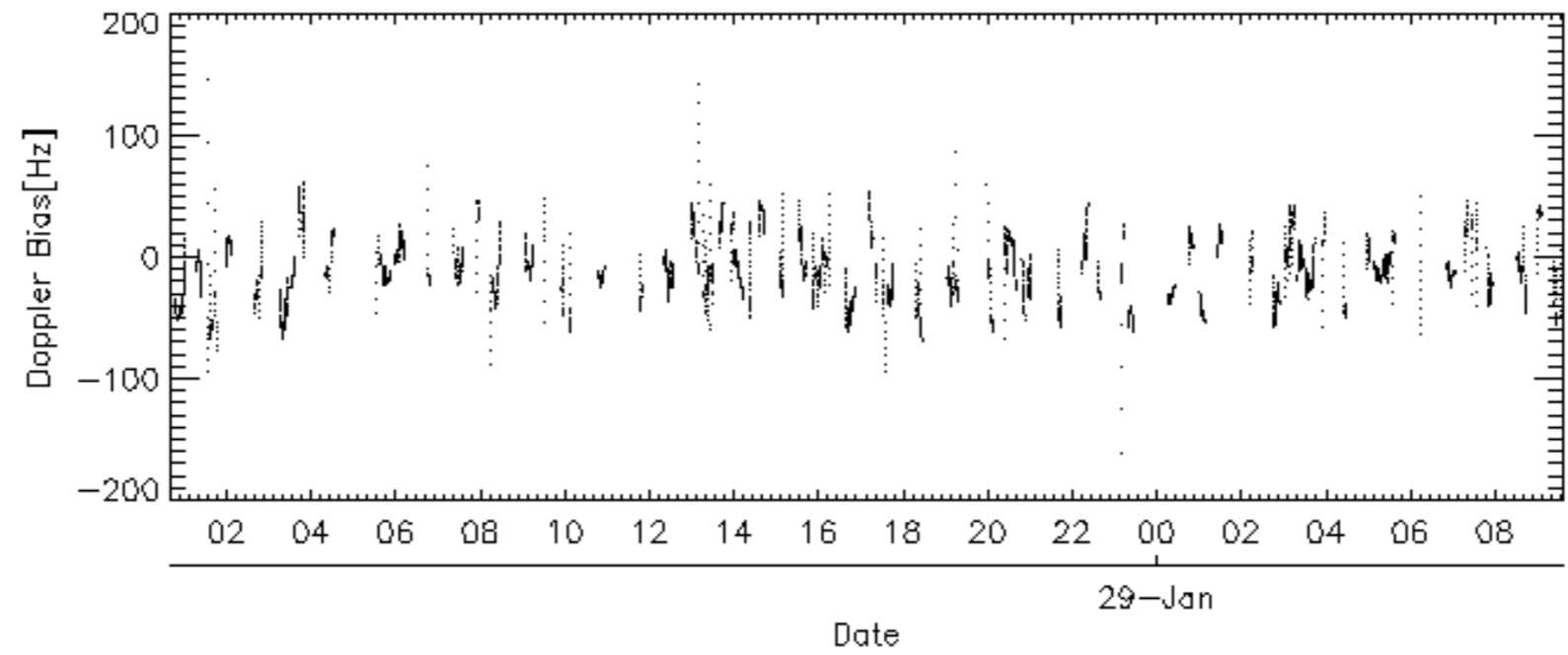
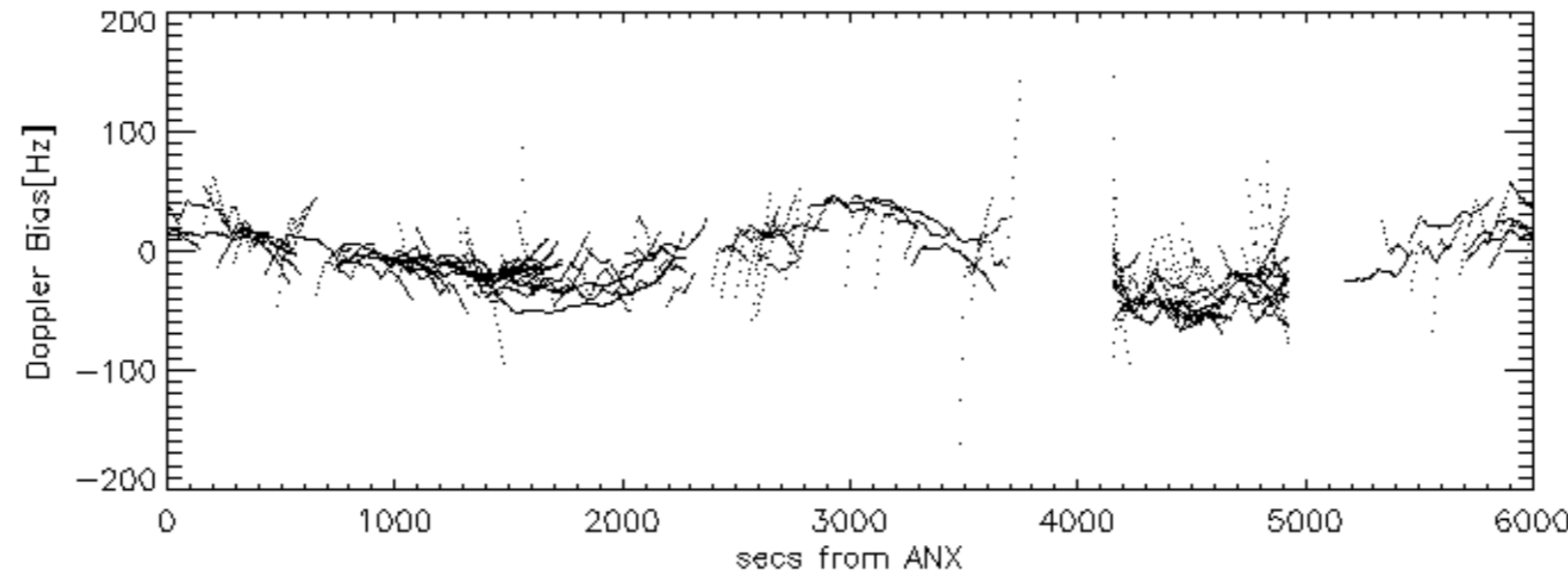
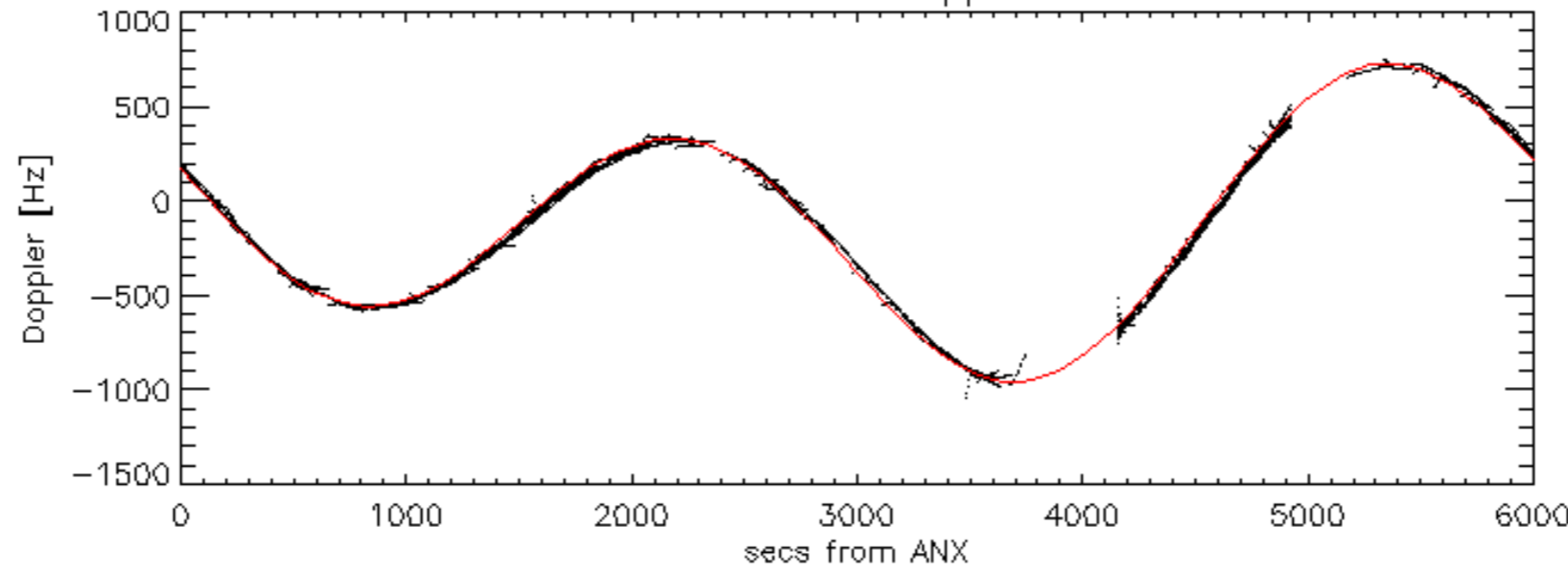


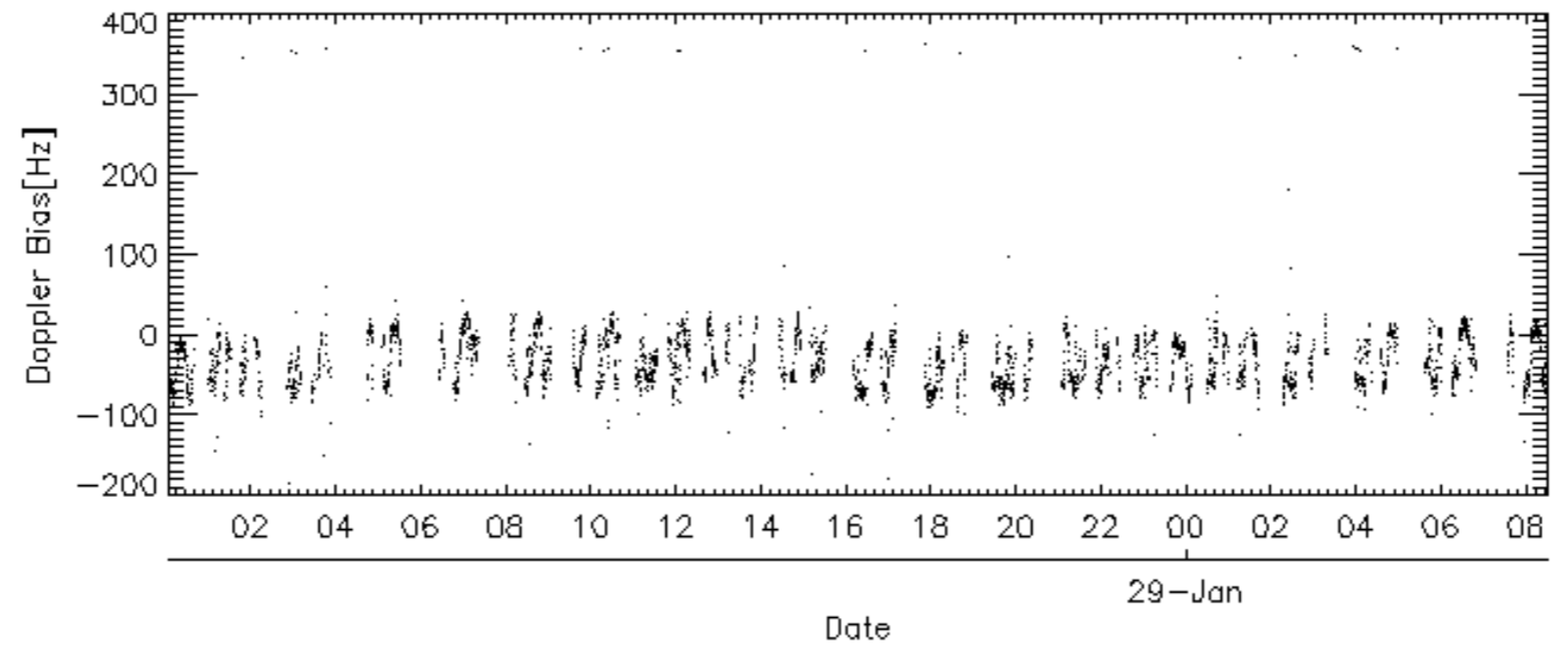
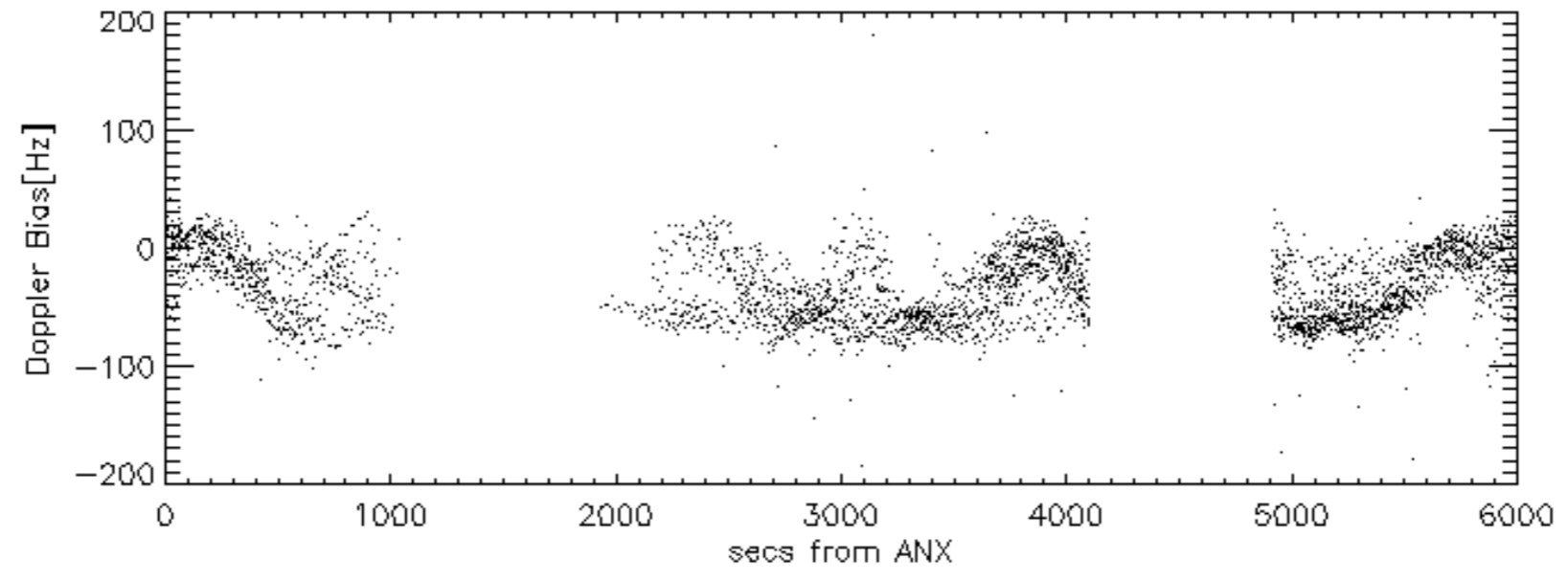
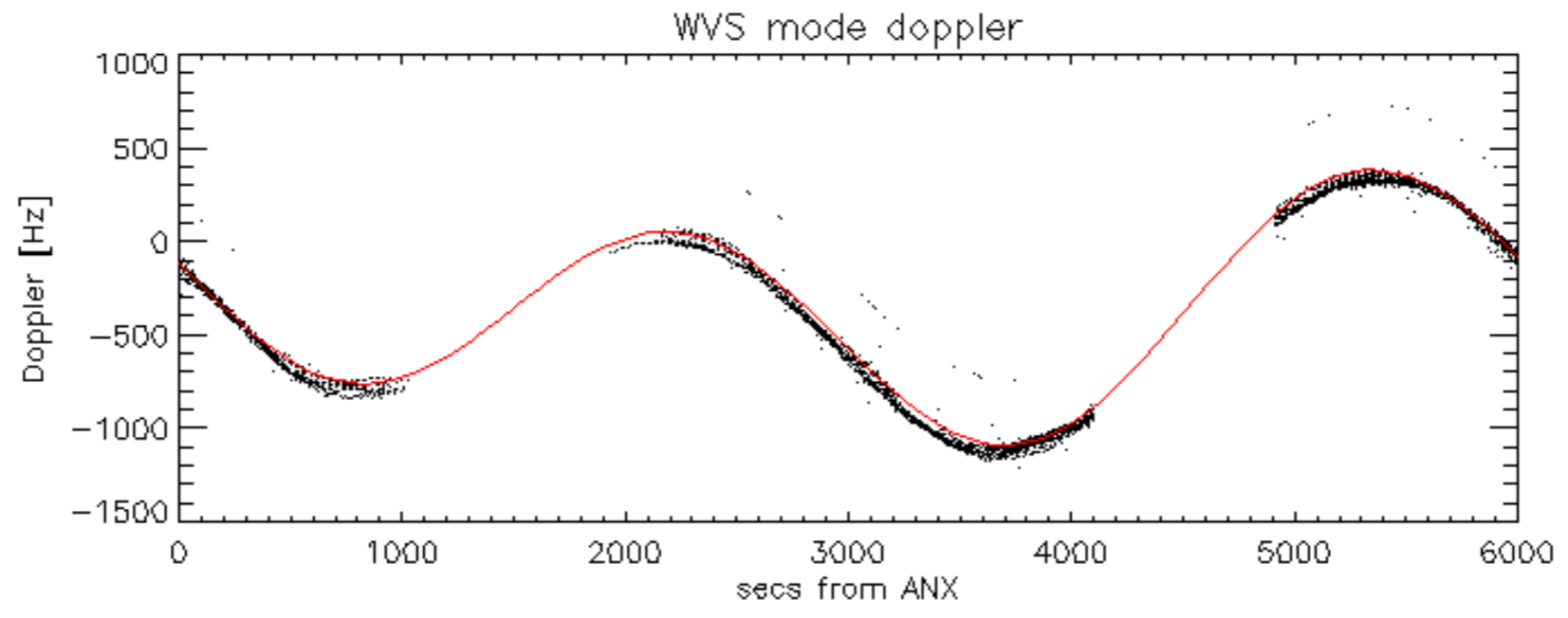


Doppler 'WVS' 'IS4' descending

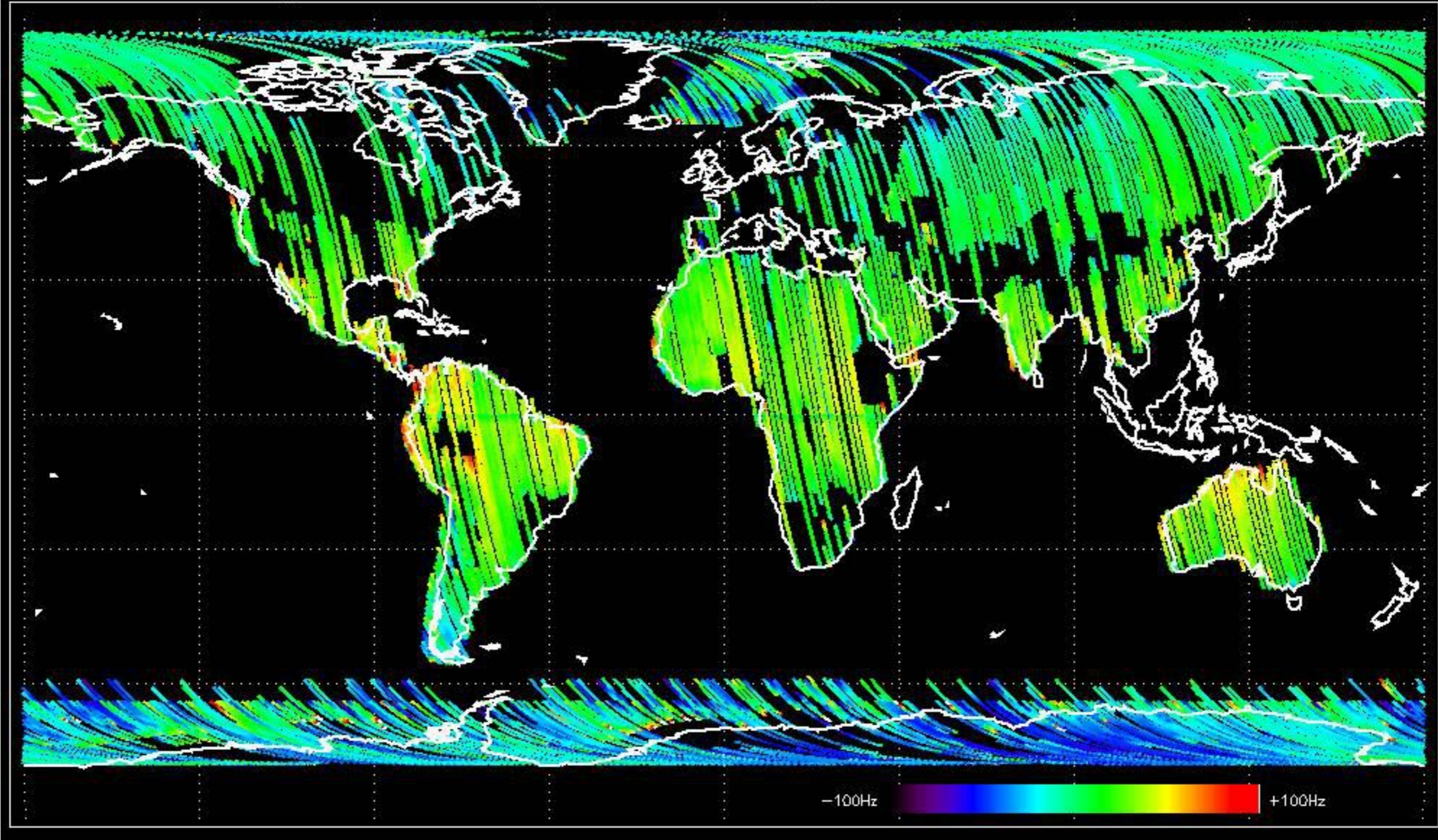


GM1 mode doppler

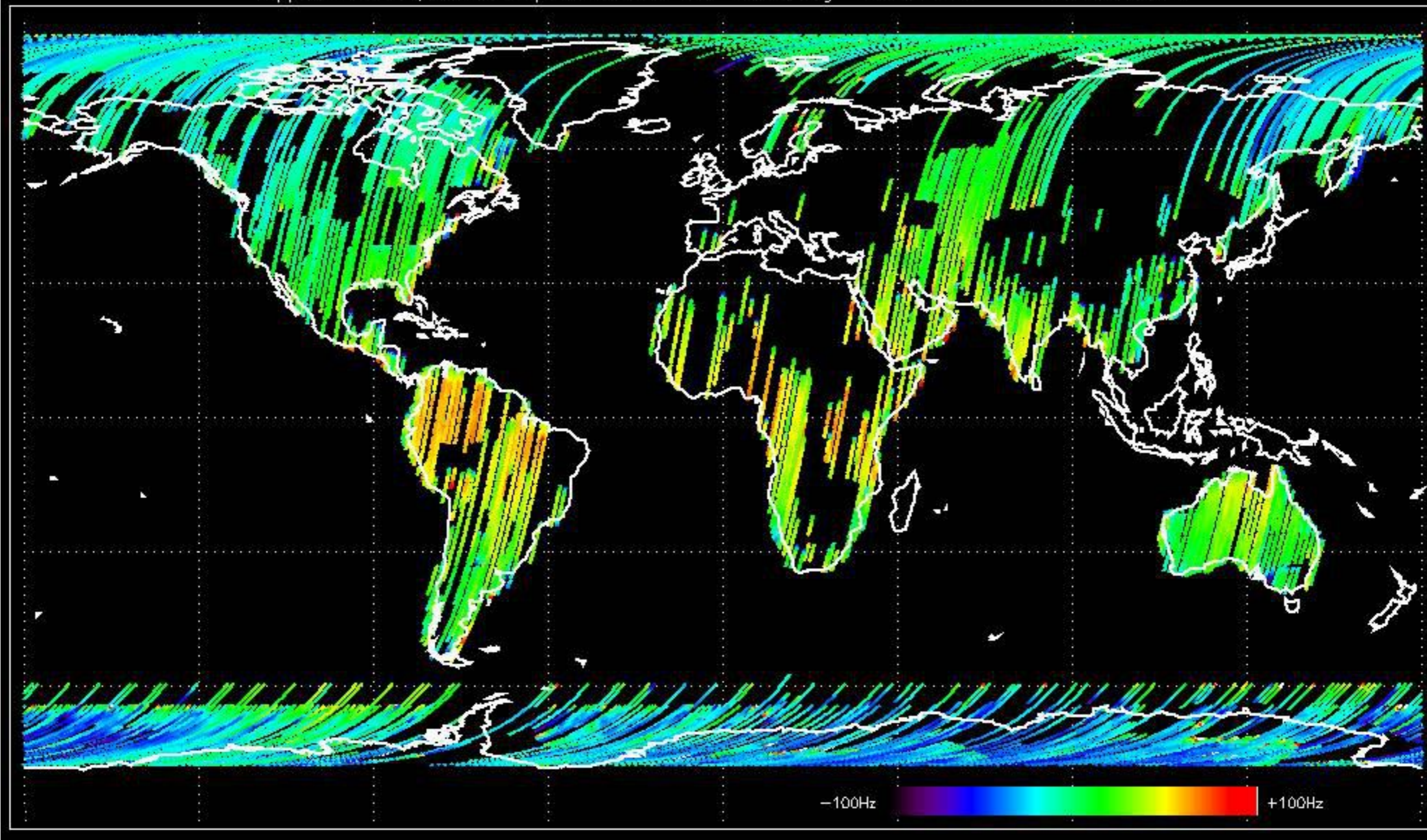




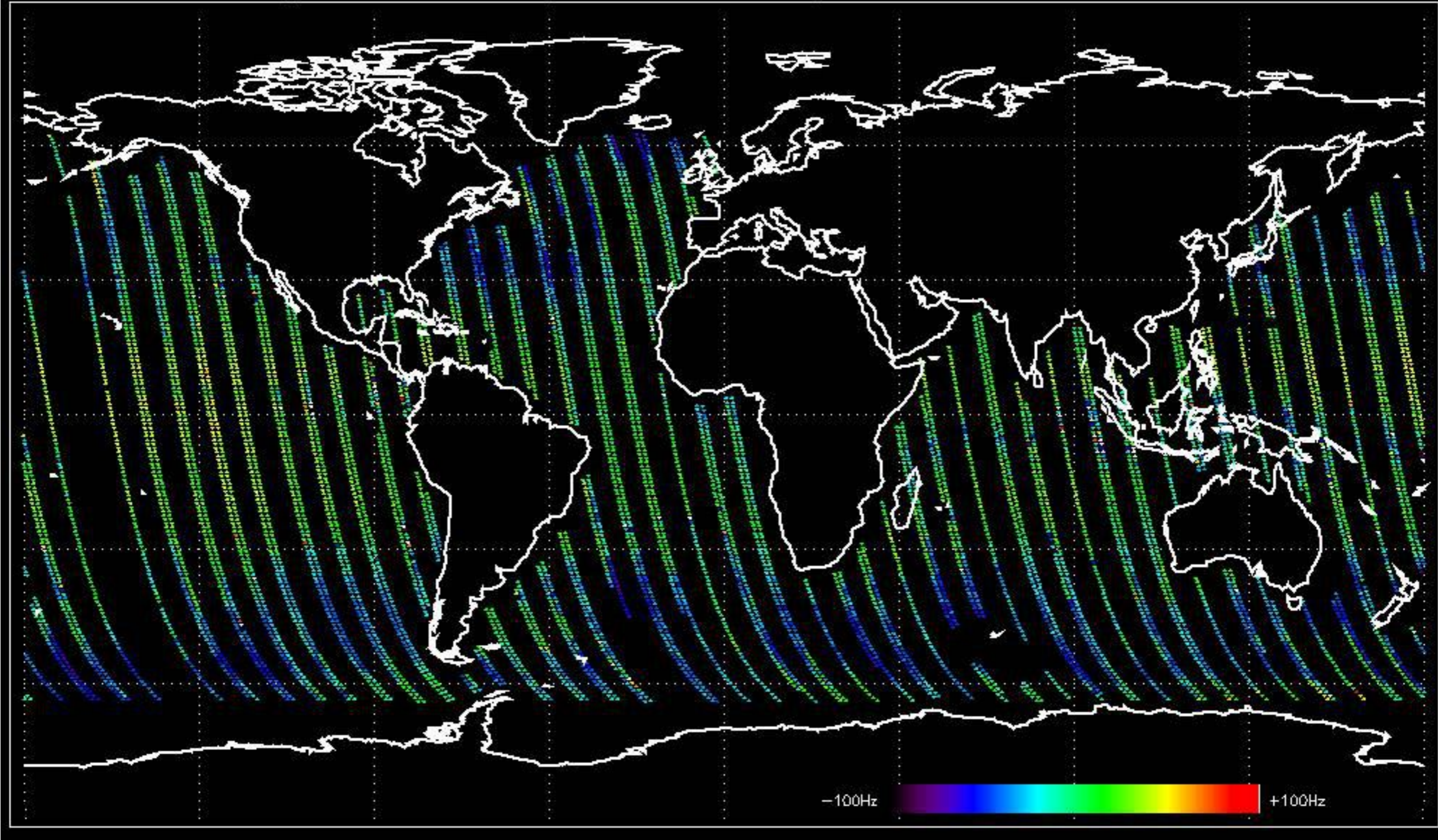
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -18.633683 Hz



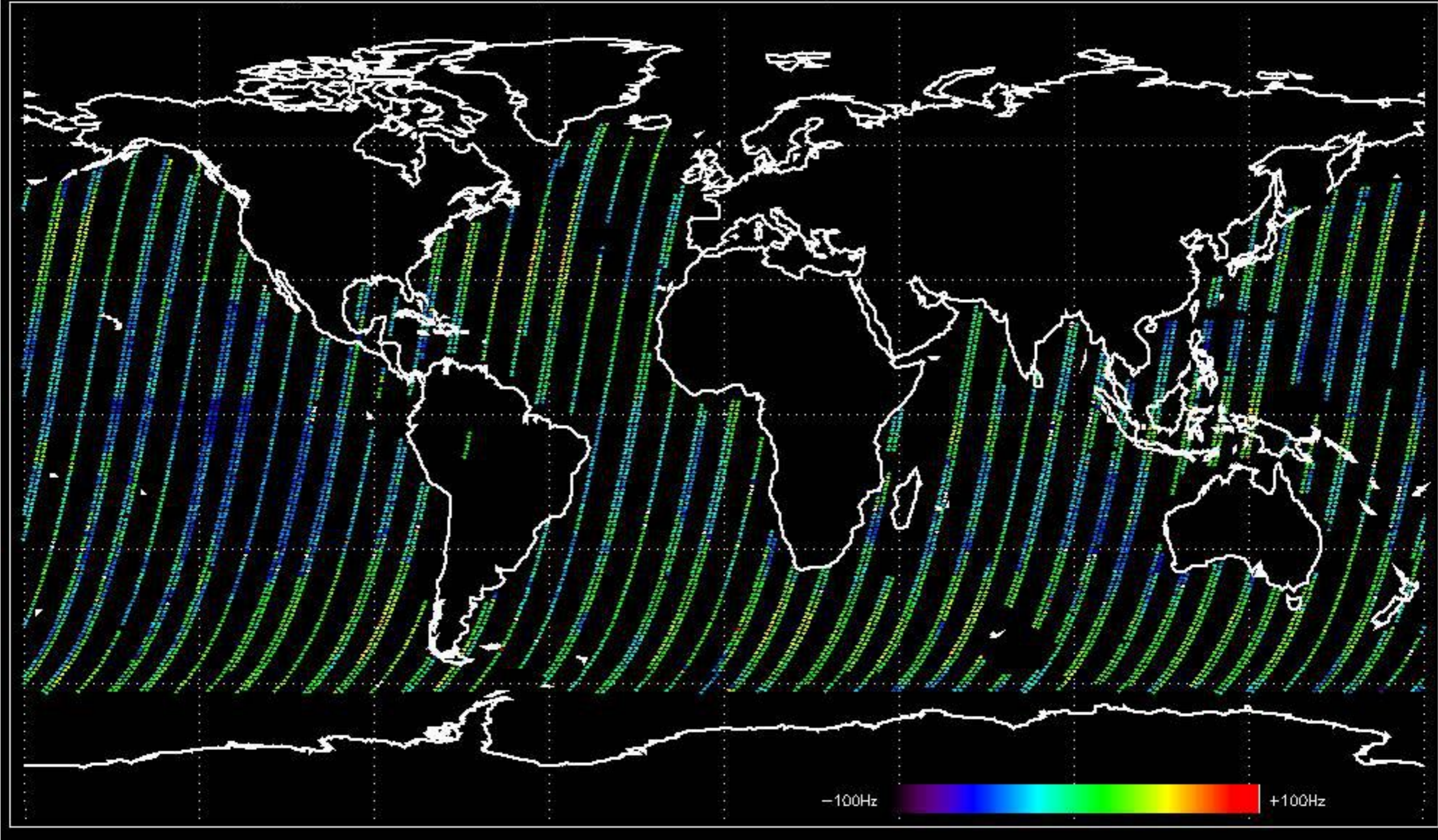
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -18.794629 Hz



Doppler difference, estimated-predicted 'WVS' 'IS4' ascending -error mean of -27.559091 Hz



Doppler difference, estimated-predicted 'WVS' 'IS4' descending -error mean of -34.884849 Hz



No anomalies observed on available MS products:



No anomalies observed.









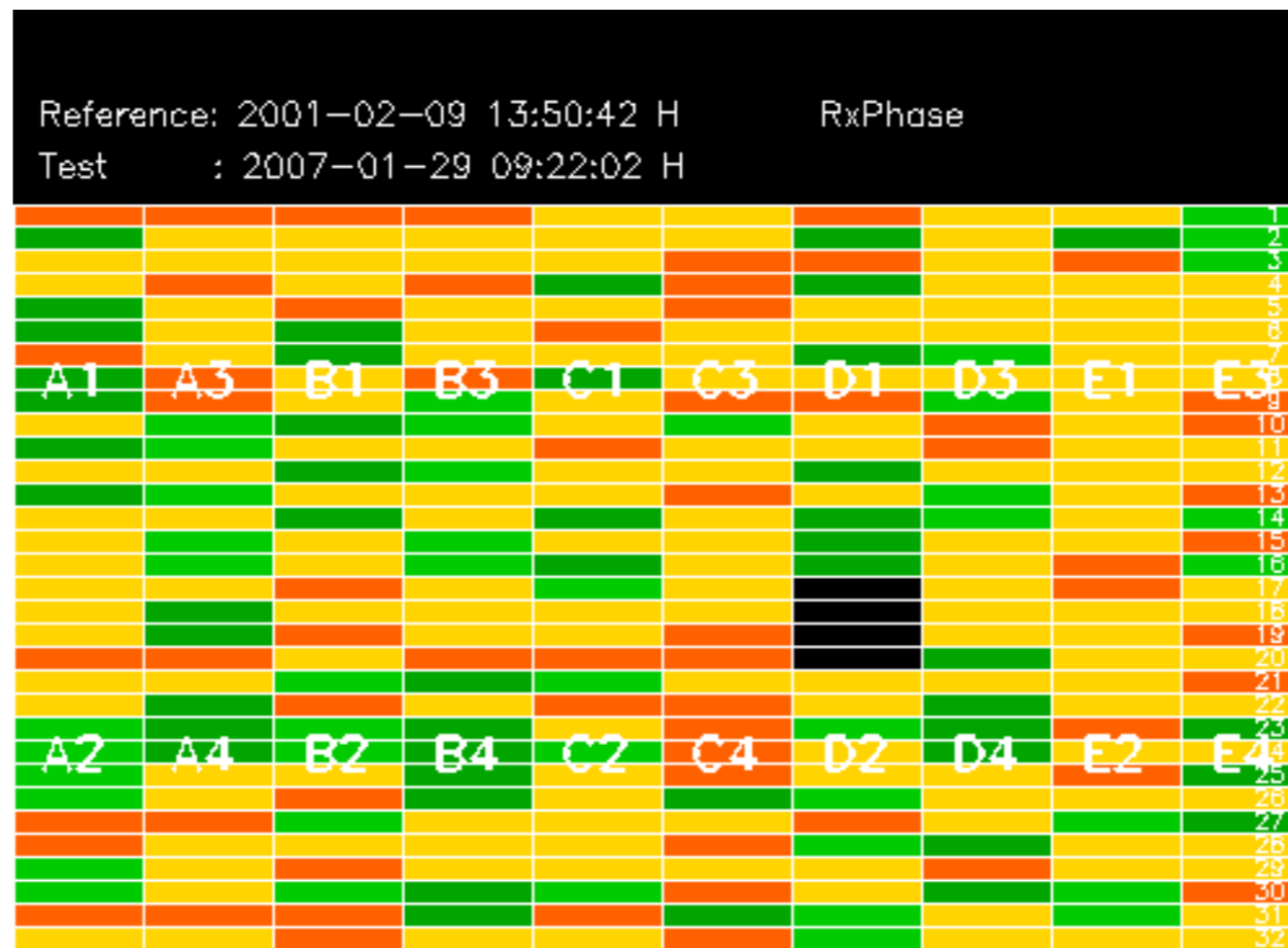








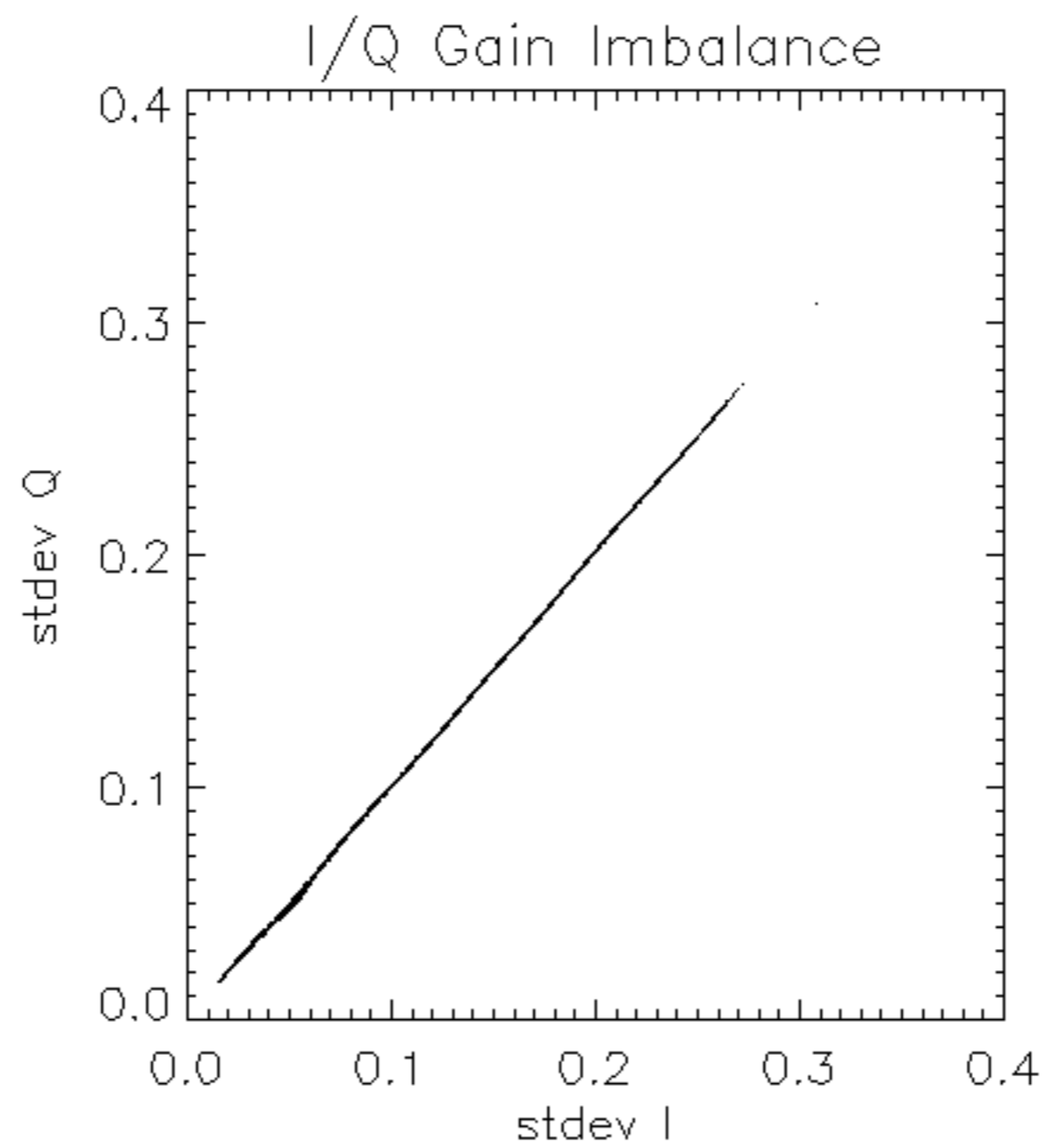


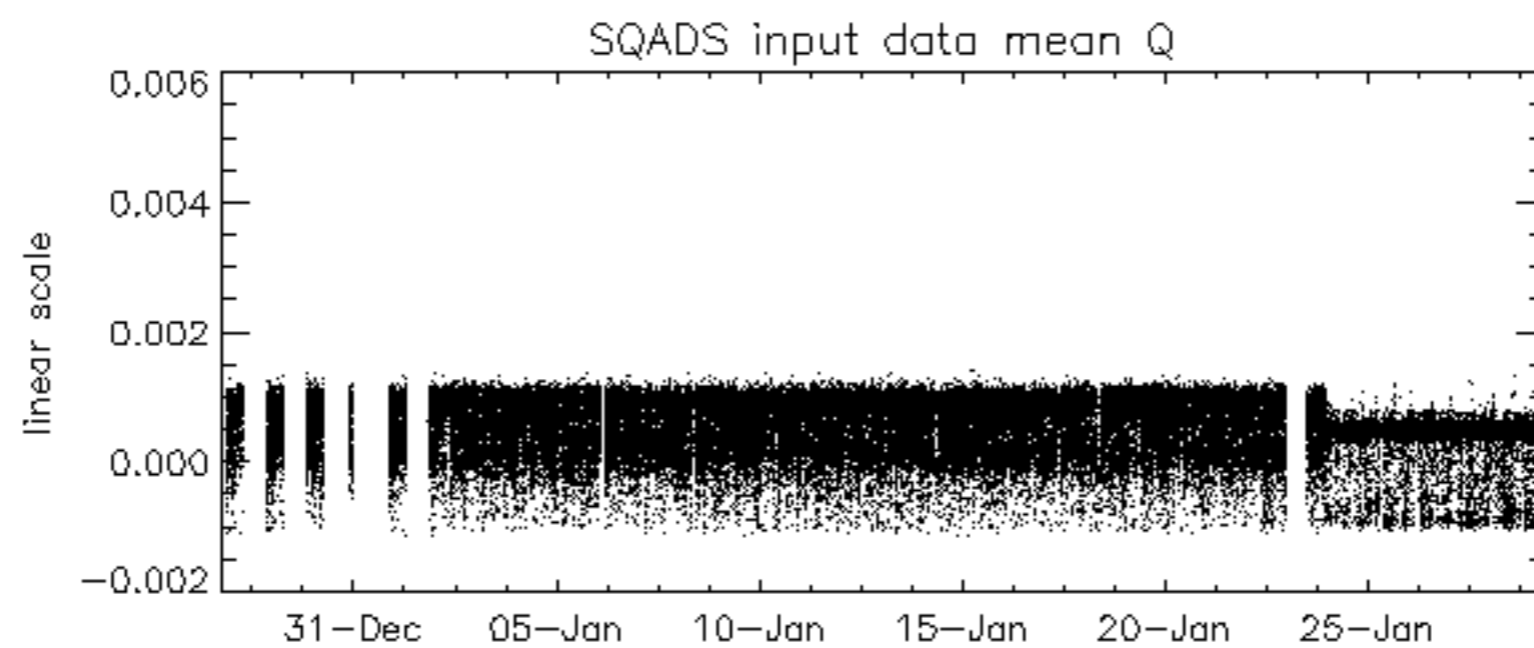
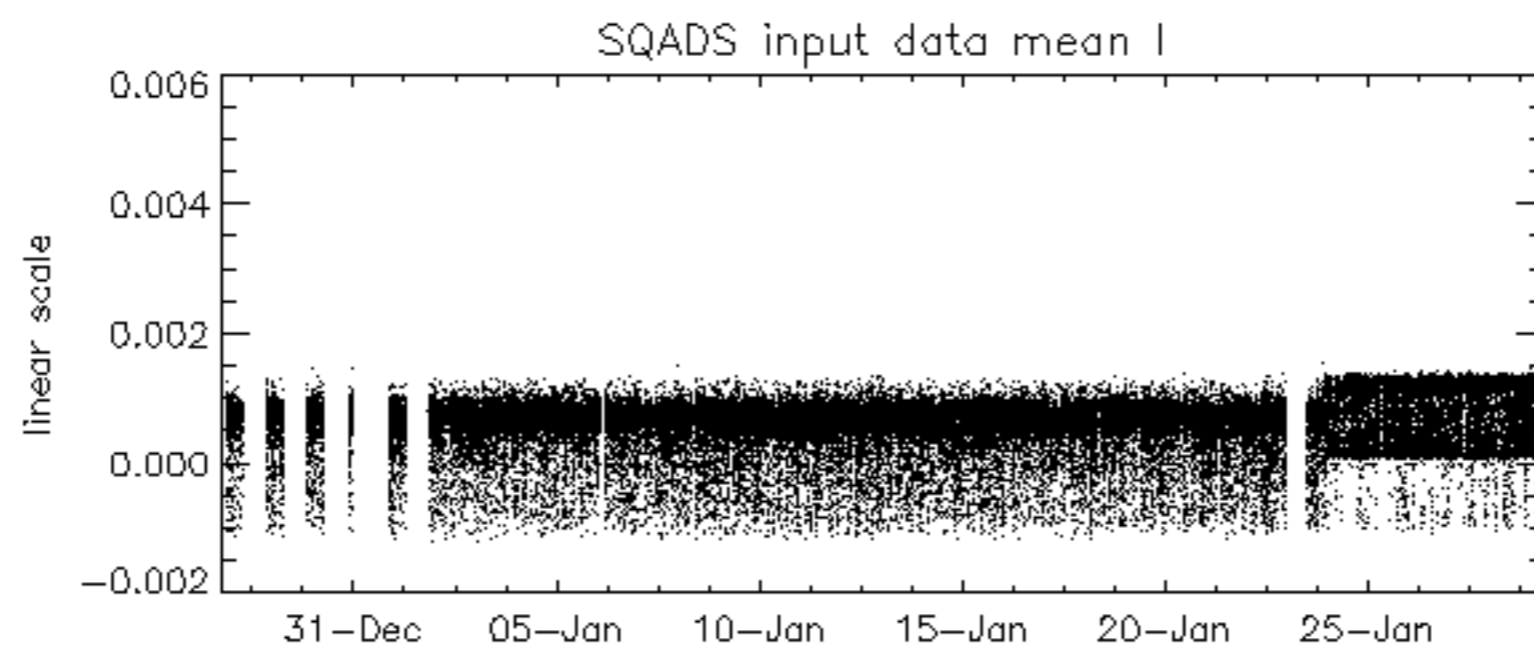
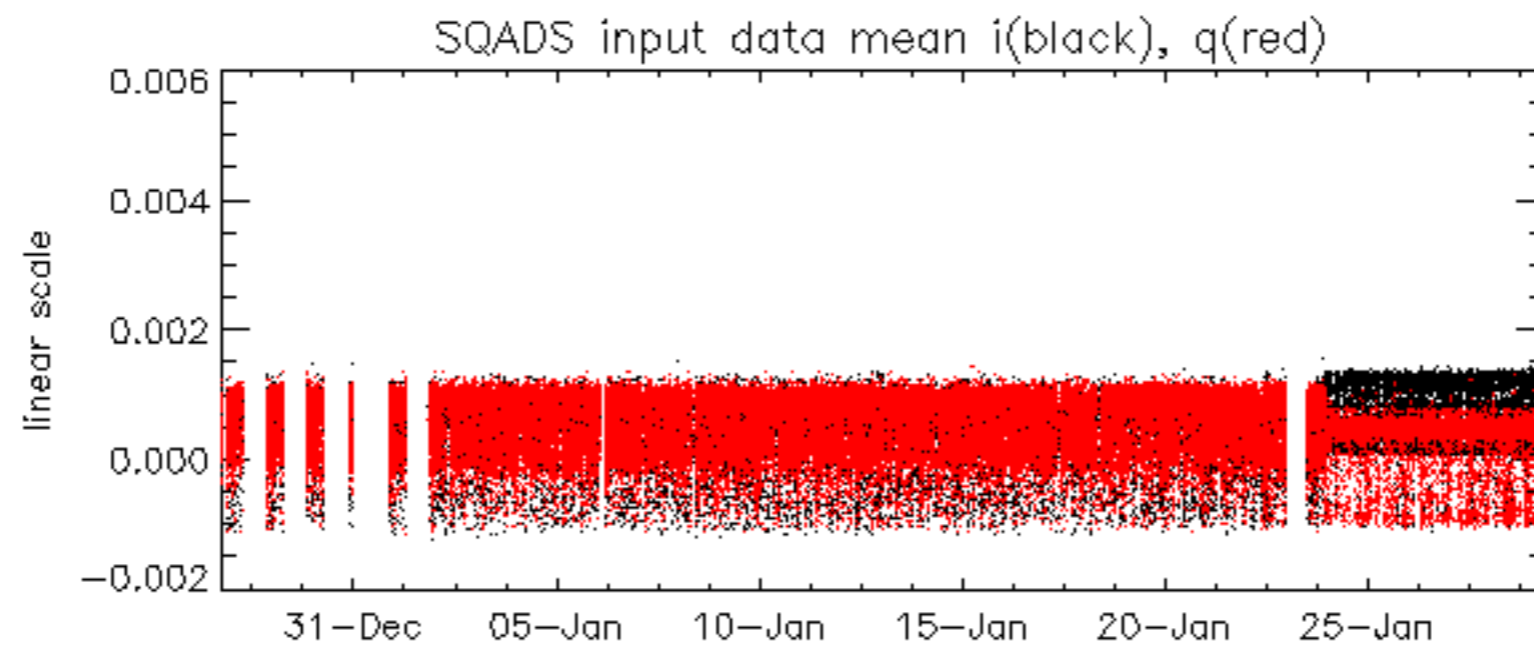


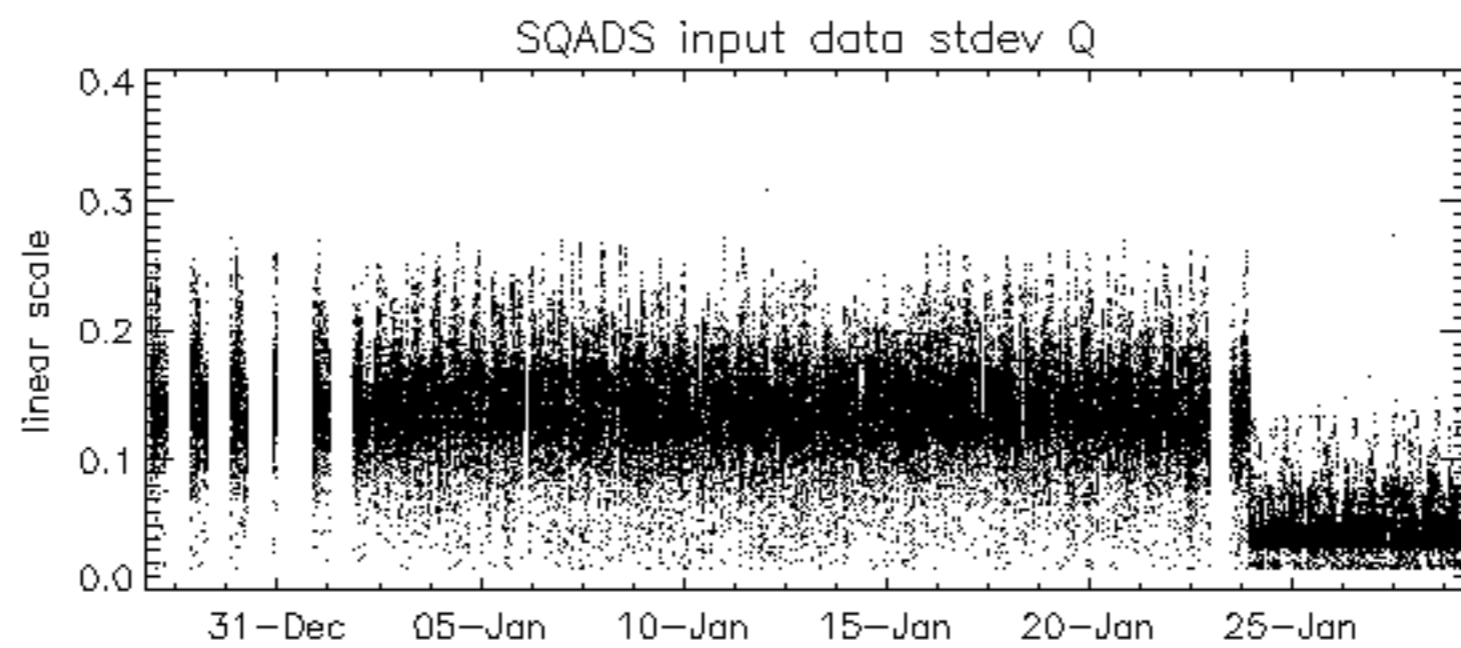
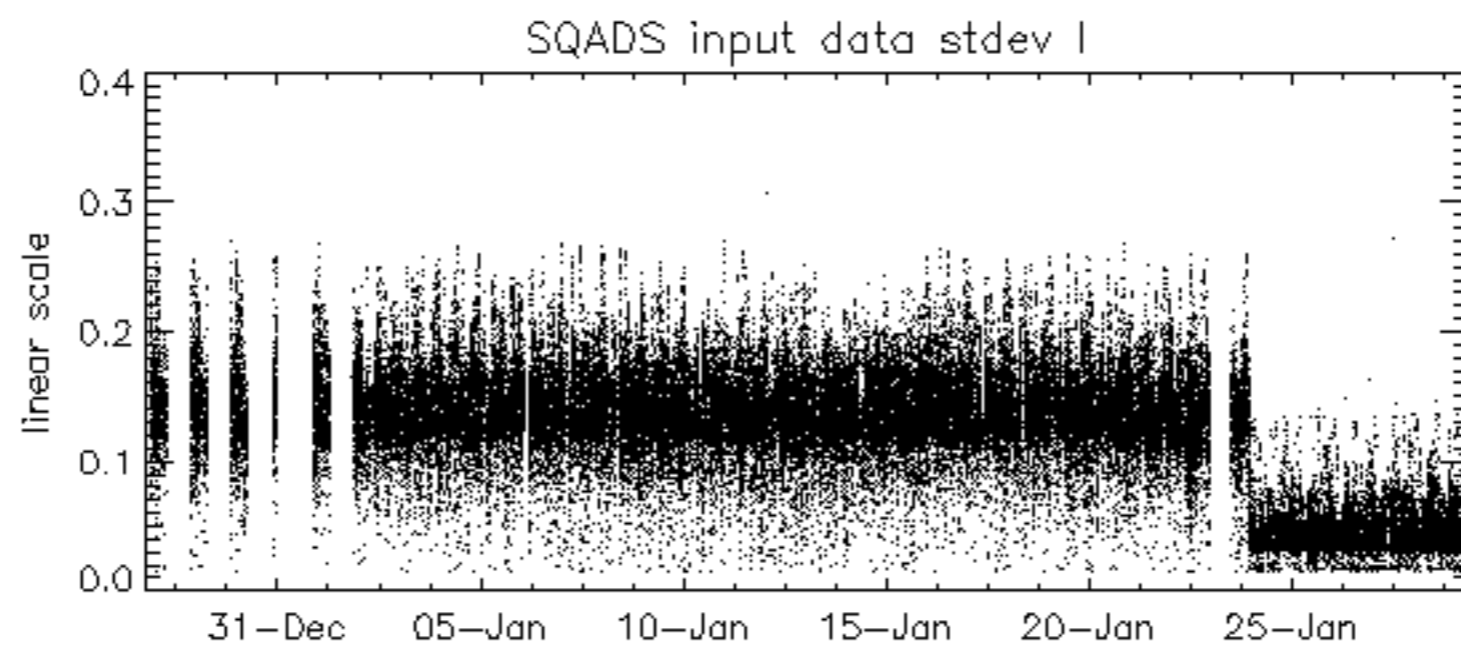
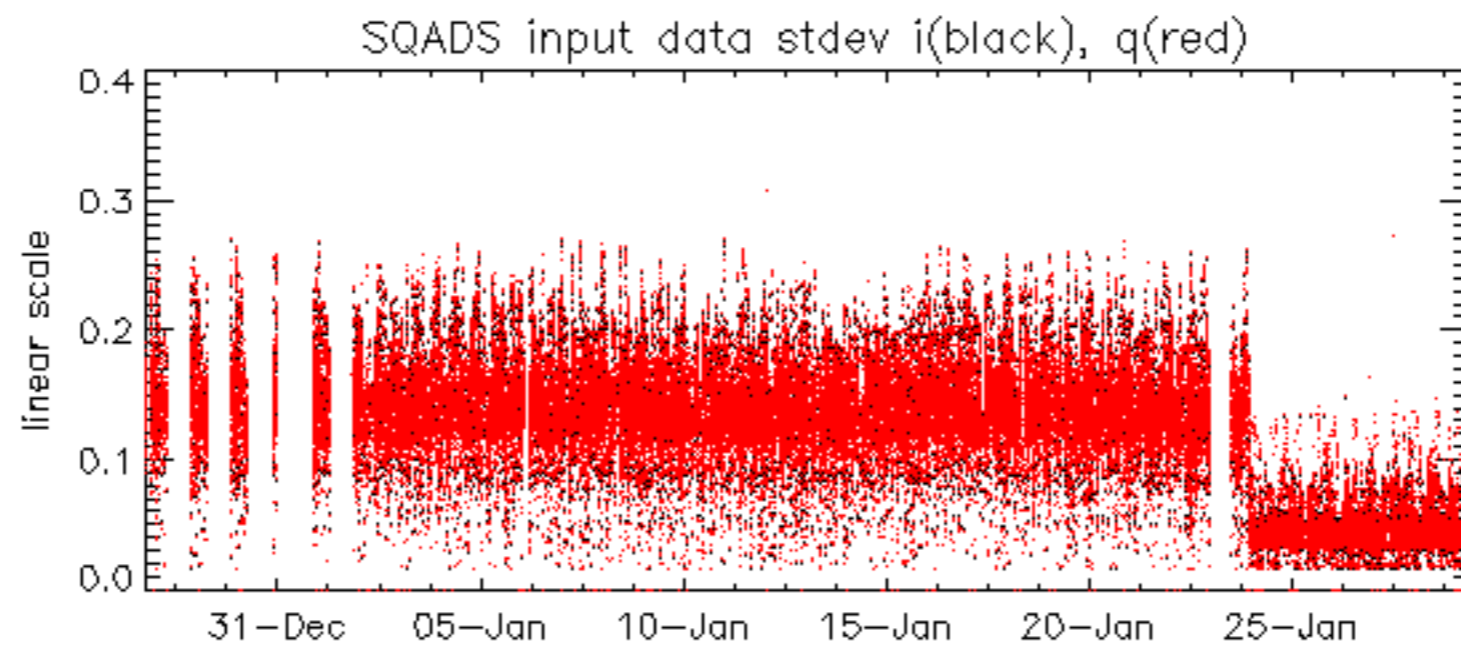






















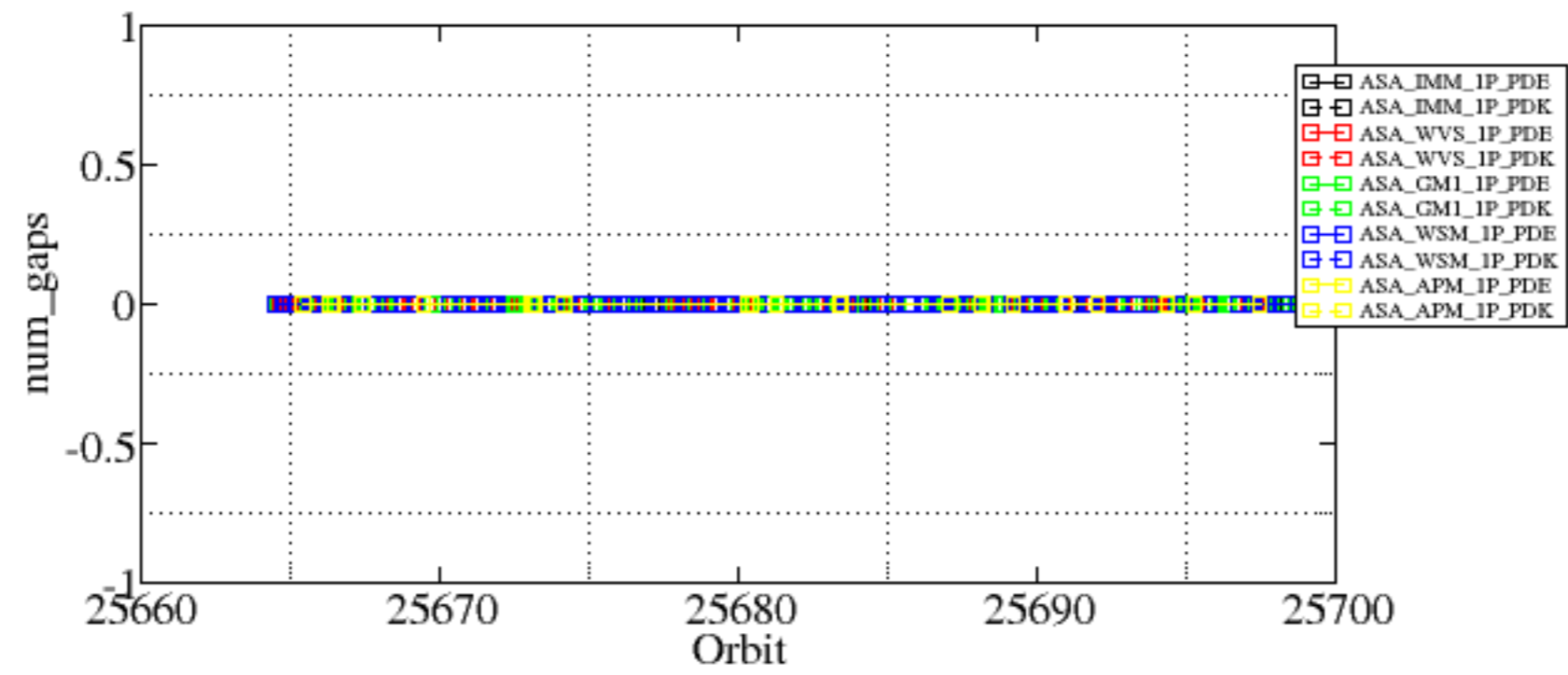




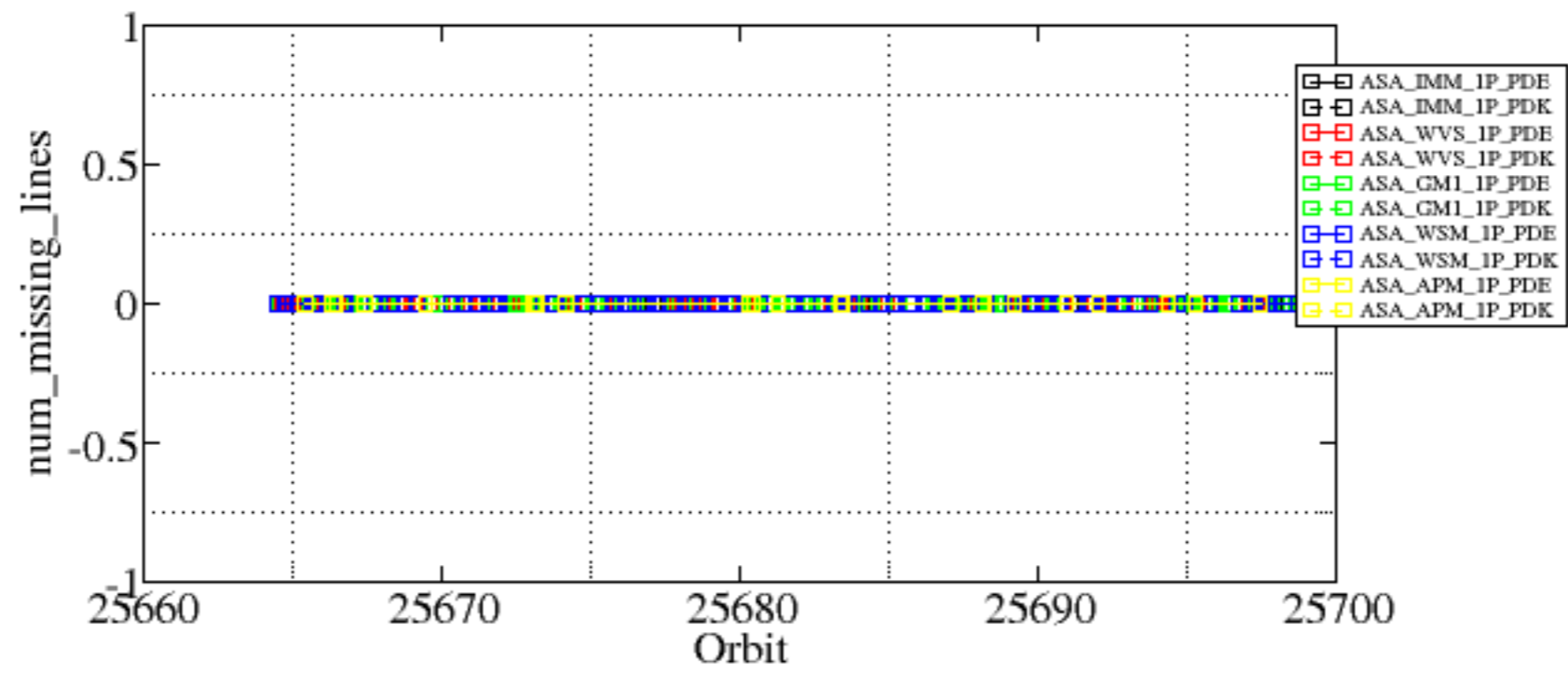
Summary of analysis for the last 3 days 2007012[789]

The assumption is taken that the SQADS num\_gaps and num\_missing\_lines fields are reliable indicators of telemetry problems

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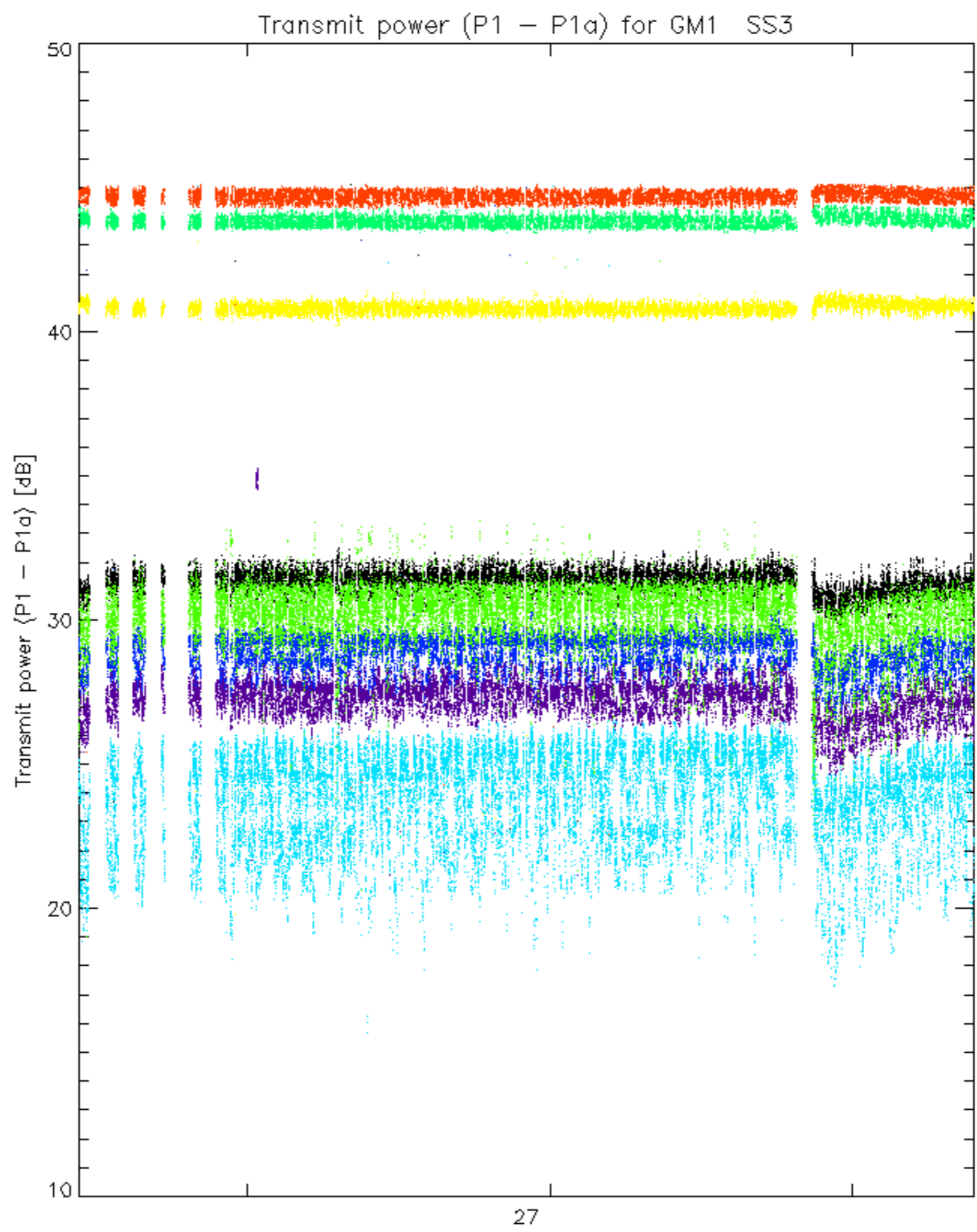






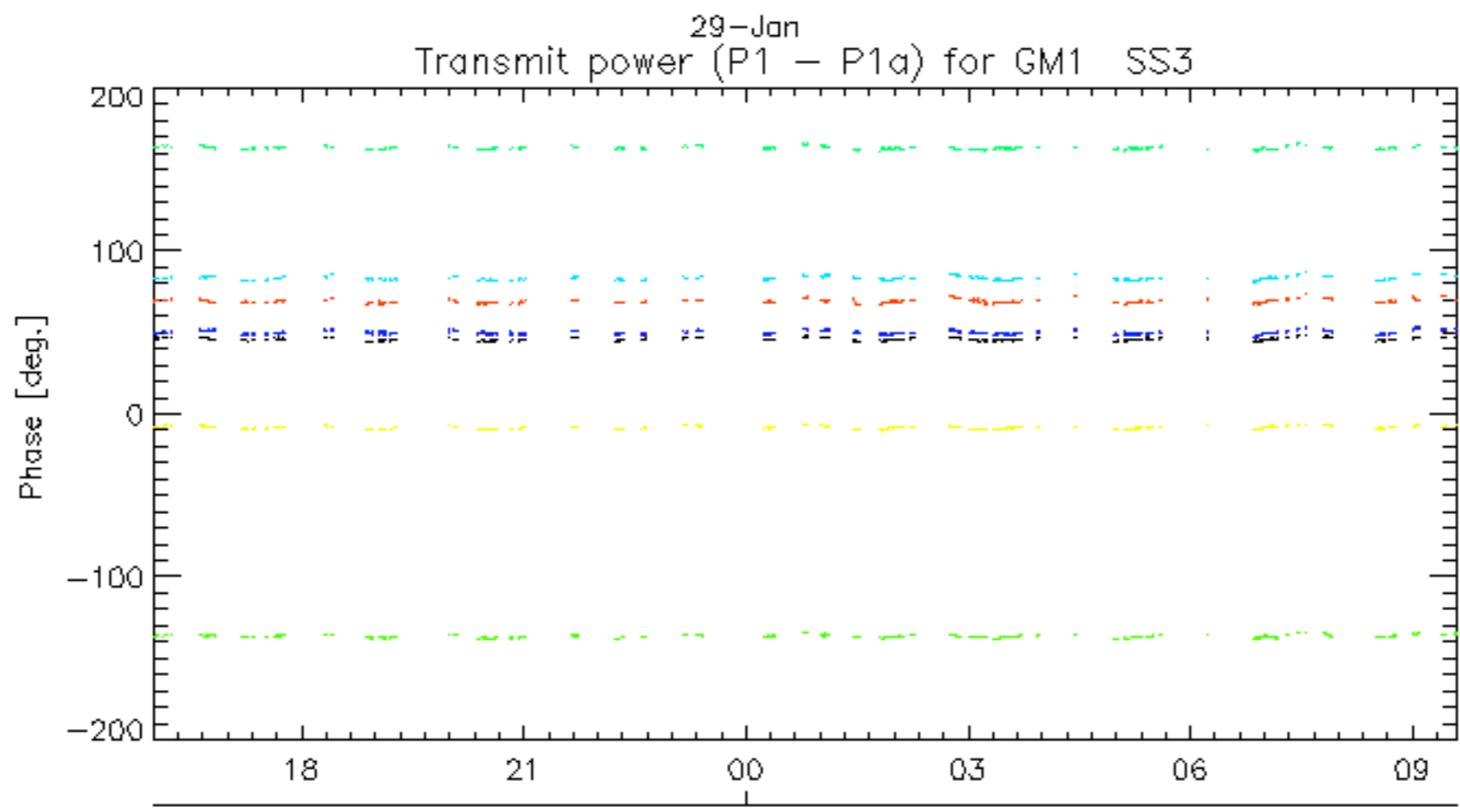
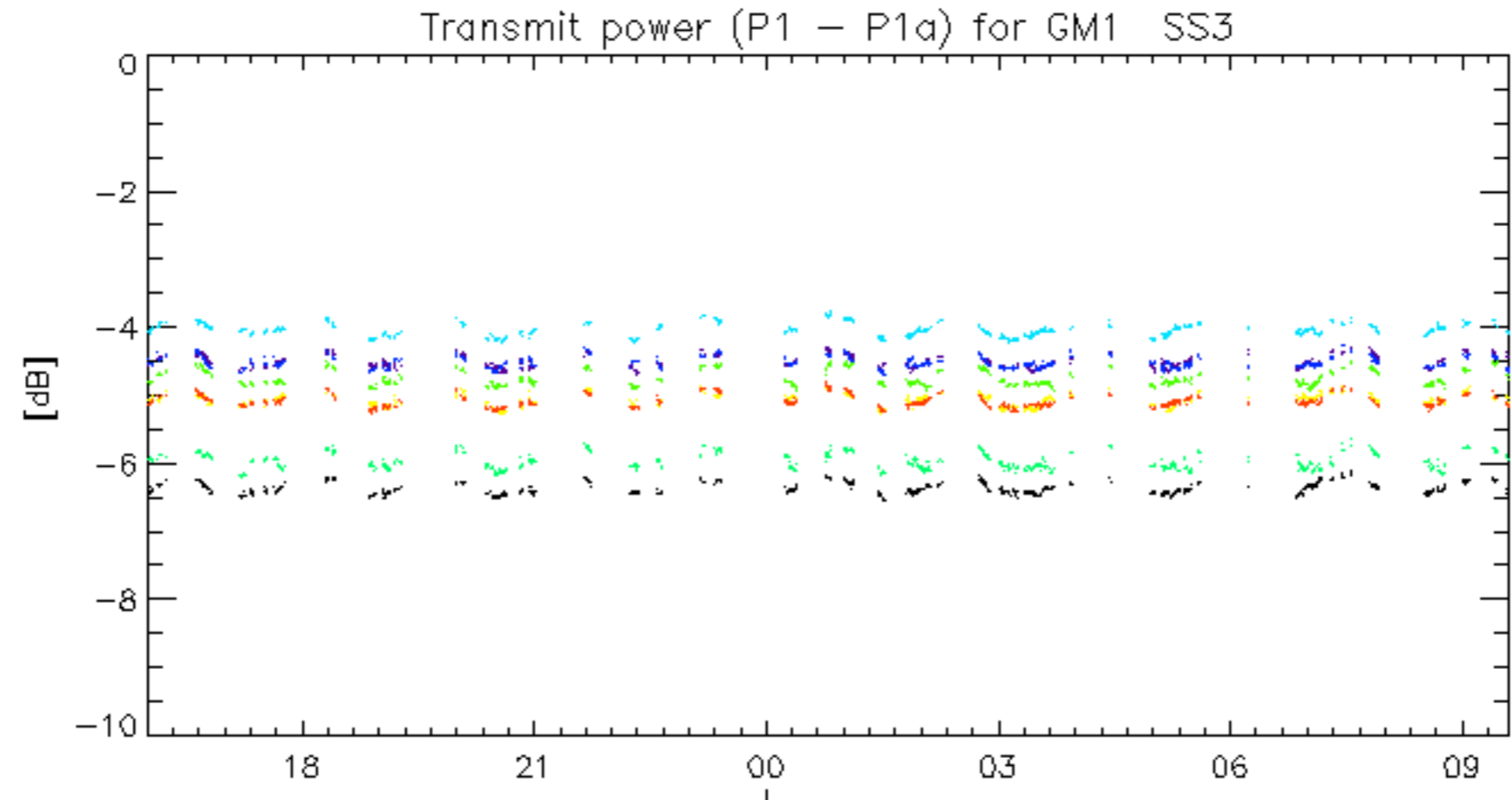




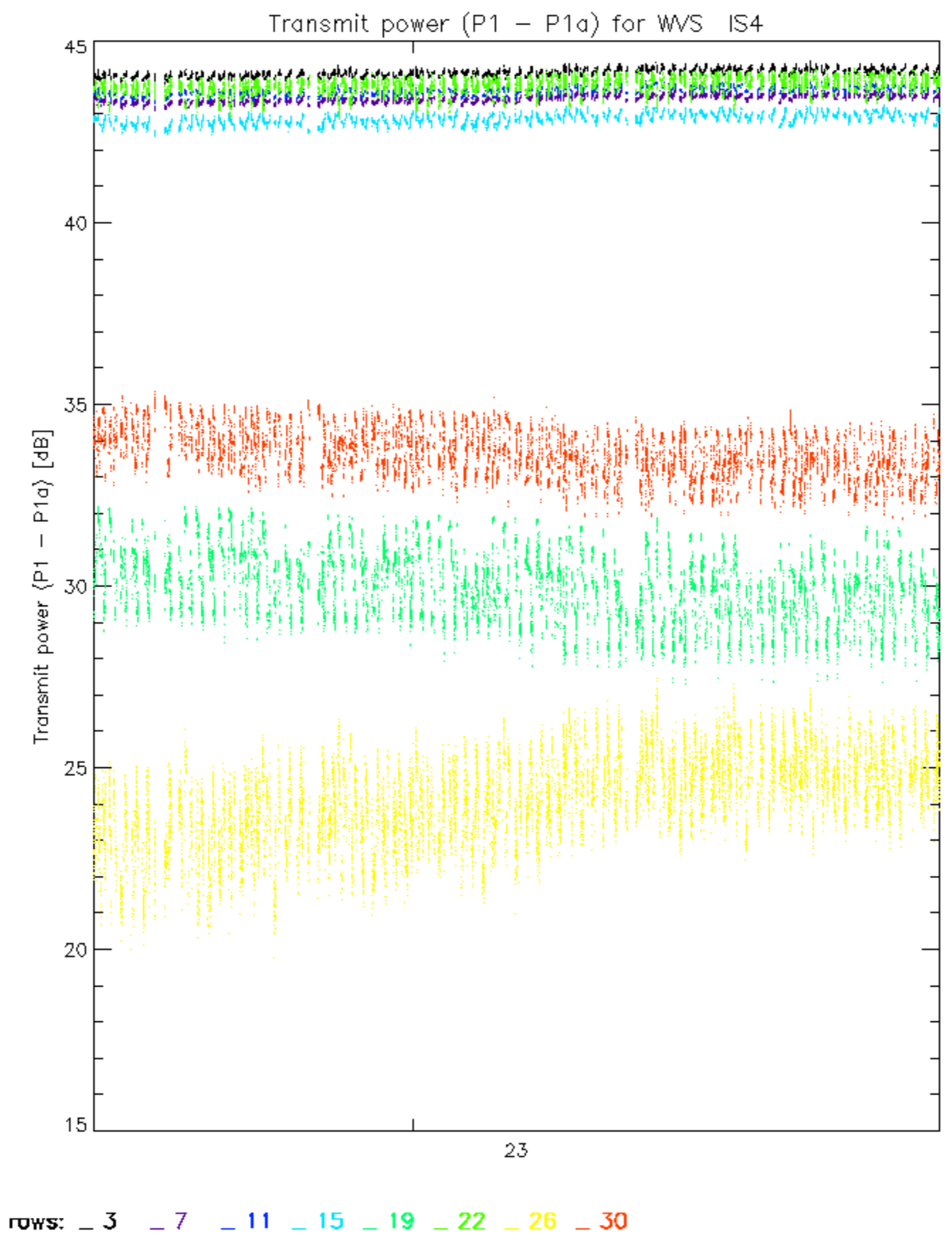


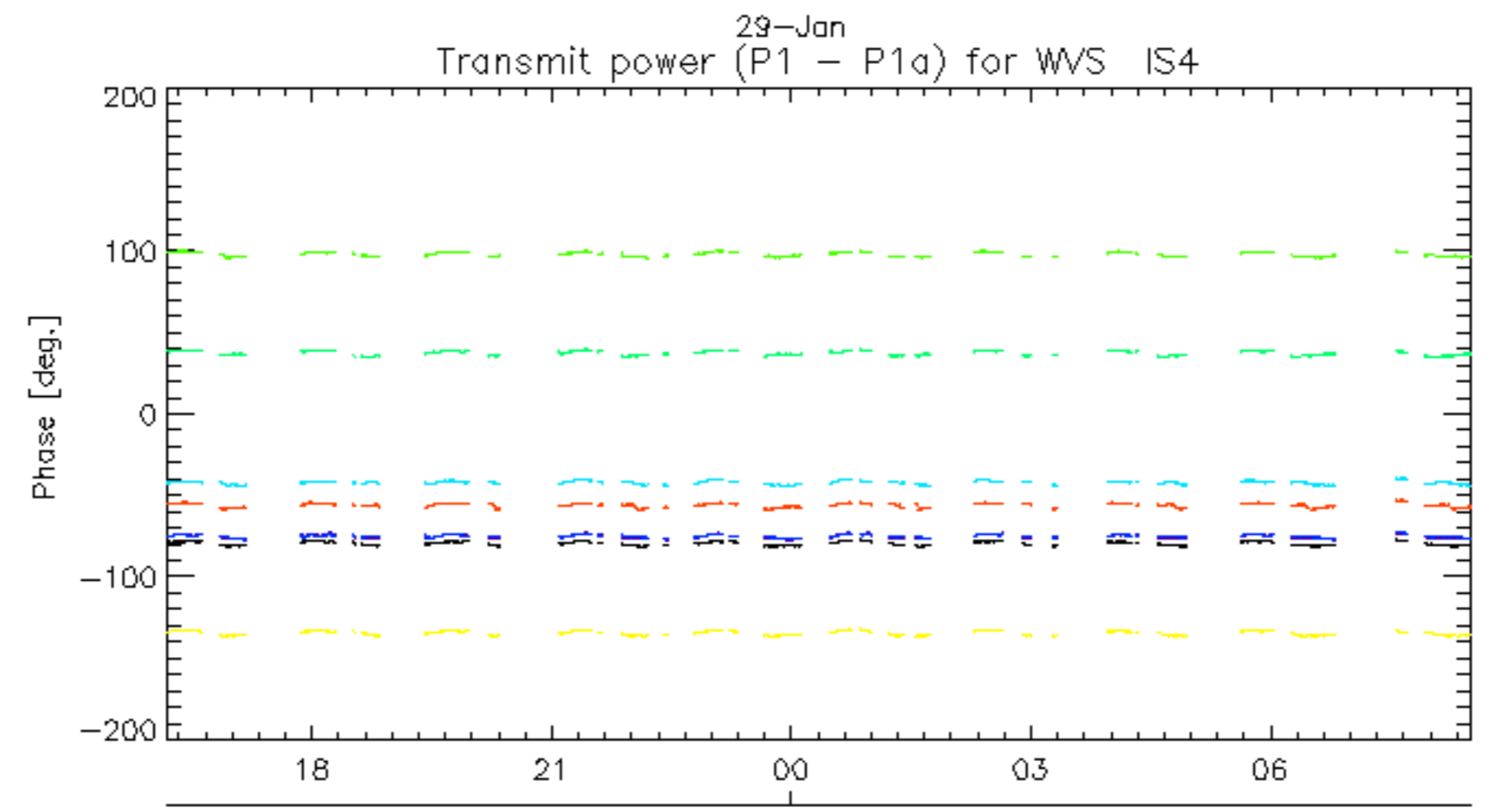
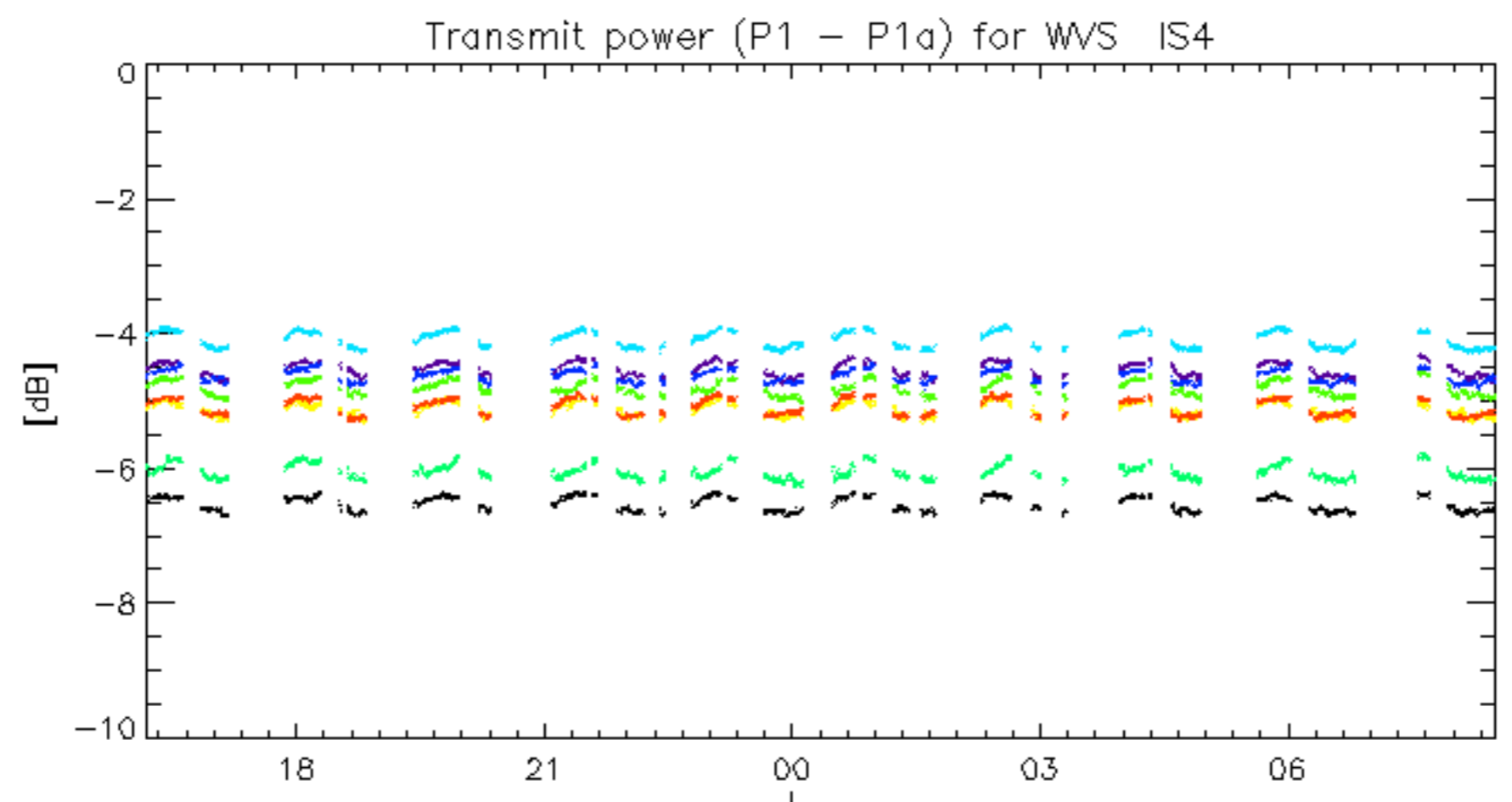
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30





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





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

No unavailabilities during the reported period.