

# PRELIMINARY REPORT OF 050201

ATTENTION: This report is automatically generated no comments are provided on data analysis

**last update on Tue Feb 1 15:46:00 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 2005-01-31 00:00:00 to 2005-02-01 15:46:00**

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	39	53	4	5	2
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	39	53	4	5	2
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	39	53	4	5	2
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	39	53	4	5	2

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	20	27	0	12	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	20	27	0	12	4
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	20	27	0	12	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	20	27	0	12	4

## 2.3 - Browse Visual Inspection

Since 25-JAN-2005, the Esrin acquisition chain suffers troubles with the demodulator affecting the consistency of the ASAR LBR products (GM and WV). Potentially all (LBR PDHS-E) products are of bad quality. A maintenance is planned on 01-FEB-2005. A list of the affected product is give in the TLM section.

## 2.4 - Data Analysis

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

## 3 - Module Stepping Mode

The MS mode provides an internal health check on an individual module basis. The purpose of this mode is to identify to identify any malfunctioning modules and to identify modules for which calibration offsets are to be applied. No anomalies observed on available MS products:

Polarisation	Start Time
V	20050129 064404
H	20050130 061227

**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)
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#### P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.409266	0.008408	0.038602
7	P1	-3.092285	0.023756	0.076357
11	P1	-4.663597	0.027292	0.018618
15	P1	-5.619882	0.086698	-0.157116
19	P1	-3.680349	0.018476	0.088000
22	P1	-4.569067	0.017606	0.067798
26	P1	-4.989789	0.122642	0.284511
30	P1	-7.137148	0.015794	-0.010963
3	P1	-15.907968	0.104241	0.037840
7	P1	-15.544777	0.258683	0.208128
11	P1	-20.738220	1.106470	-0.649291
15	P1	-11.648228	0.146629	0.228273
19	P1	-14.213156	0.102260	0.198873
22	P1	-15.979086	0.471507	0.426412
26	P1	-17.640509	0.221413	0.149987
30	P1	-17.889967	0.324882	-0.094216

#### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.258406	0.086922	0.154896
7	P2	-22.397820	0.513166	-0.131809
11	P2	-14.617735	0.675827	-0.189177
15	P2	-7.150733	0.191145	0.273532

19	P2	-9.826934	1.020769	0.759970
22	P2	-17.050821	0.101735	0.079446
26	P2	-16.557510	0.236153	0.381061
30	P2	-18.918192	0.079406	0.079899

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.191852	0.006252	0.029253
7	P3	-8.191927	0.006258	0.029758
11	P3	-8.192028	0.006253	0.030304
15	P3	-8.192018	0.006253	0.030309
19	P3	-8.191886	0.006253	0.029433
22	P3	-8.192047	0.006259	0.030151
26	P3	-8.191944	0.006262	0.029646
30	P3	-8.193551	0.006189	0.019960

**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	-2.807368	0.018560	0.060400
7	P1	-2.959995	0.068731	-0.027653
11	P1	-3.950738	0.030712	-0.023101
15	P1	-3.520476	0.030477	-0.043032
19	P1	-3.602293	0.013522	0.027804
22	P1	-5.665627	0.067330	-0.088443
26	P1	-6.852594	0.177263	-1.127794
30	P1	-6.287297	0.044509	0.030533

3	P1	-10.771435	0.085850	0.044197
7	P1	-10.150706	0.184649	-0.025391
11	P1	-12.534600	0.131135	-0.072646
15	P1	-11.758036	0.075915	-0.031801
19	P1	-15.611320	0.053948	0.106381
22	P1	-24.085232	1.750229	0.004977
26	P1	-15.163248	0.458236	-1.041884
30	P1	-20.030258	0.853071	0.130653

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.959574	0.047476	0.132365
7	P2	-22.497419	0.119824	0.166434
11	P2	-10.498568	0.050297	0.258087
15	P2	-5.026681	0.022250	0.068236
19	P2	-6.912558	0.033631	0.093664
22	P2	-7.229442	0.047516	0.106204
26	P2	-23.916883	0.087504	0.100035
30	P2	-21.966742	0.053472	0.065403

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.027179	0.002422	0.031899
7	P3	-8.027201	0.002431	0.031834
11	P3	-8.027235	0.002425	0.031834
15	P3	-8.027288	0.002426	0.032173
19	P3	-8.027292	0.002435	0.031509
22	P3	-8.027211	0.002419	0.031935
26	P3	-8.027163	0.002430	0.031650
30	P3	-8.027255	0.002428	0.031770

## 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	0.000472895
	stdev	2.15153e-07
MEAN Q	mean	0.000545300
	stdev	2.30069e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129090
	stdev	0.000967121
STDEV Q	mean	0.129328
	stdev	0.000978506



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005013[011]

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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ASA_IMM_1PNPDE20050130_215136_000000372034_00187_15271_1459.N1	1	0
ASA_WVS_1PNPDE20050130_012944_000000592034_00174_15258_6242.N1	0	208
ASA_WVS_1PNPDE20050130_024300_000000142034_00175_15259_6241.N1	0	192
ASA_WVS_1PNPDE20050130_042523_000000002034_00176_15260_6244.N1	1	176
ASA_WVS_1PNPDE20050130_042523_000000602034_00176_15260_6214.N1	0	192
ASA_WVS_1PNPDE20050130_042623_000000002034_00176_15260_6246.N1	1	104
ASA_WVS_1PNPDE20050131_230701_000006142034_00202_15286_6250.N1	1	1648
ASA_WVS_1PNPDE20050131_233753_000007492034_00202_15286_6249.N1	0	1712
ASA_GM1_1PNPDE20050130_203400_000003802034_00186_15270_8240.N1	0	79
ASA_GM1_1PNPDE20050130_212317_000005432034_00186_15270_8239.N1	0	35
ASA_GM1_1PNPDE20050130_234936_000000662034_00188_15272_8256.N1	0	6
ASA_GM1_1PNPDE20050131_002626_000002892034_00188_15272_8257.N1	0	21
ASA_GM1_1PNPDE20050131_004040_000007732034_00188_15272_8253.N1	0	93
ASA_GM1_1PNPDE20050131_040152_000007732034_00190_15274_8261.N1	0	59
ASA_GM1_1PNPDE20050131_041727_000000662034_00190_15274_8268.N1	0	26
ASA_GM1_1PNPDE20050131_043733_000008702034_00191_15275_8262.N1	0	23
ASA_GM1_1PNPDE20050131_050600_000002952034_00191_15275_8266.N1	0	37
ASA_GM1_1PNPDE20050131_195252_000001632034_00200_15284_8273.N1	0	1386
ASA_GM1_1PNPDE20050131_195821_000001502034_00200_15284_8271.N1	0	2084
ASA_GM1_1PNPDE20050131_210933_000005492034_00200_15284_8279.N1	0	3336
ASA_GM1_1PNPDE20050131_212019_000001502034_00201_15285_8278.N1	0	948
ASA_GM1_1PNPDE20050131_230140_000003022034_00202_15286_8291.N1	0	47476
ASA_GM1_1PNPDE20050131_235425_000003922034_00202_15286_8290.N1	0	65649
ASA_WSM_1PNPDE20050130_033025_000001642034_00176_15260_2404.N1	0	2

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## 7 - Doppler Analysis

Preliminary report. The data is not yet controlled

### 7.1 - Unbiased Doppler Error for WVS

<b>Evolution of unbiased Doppler error (Real - Expected)</b>
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Acsending
⊗



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

## 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

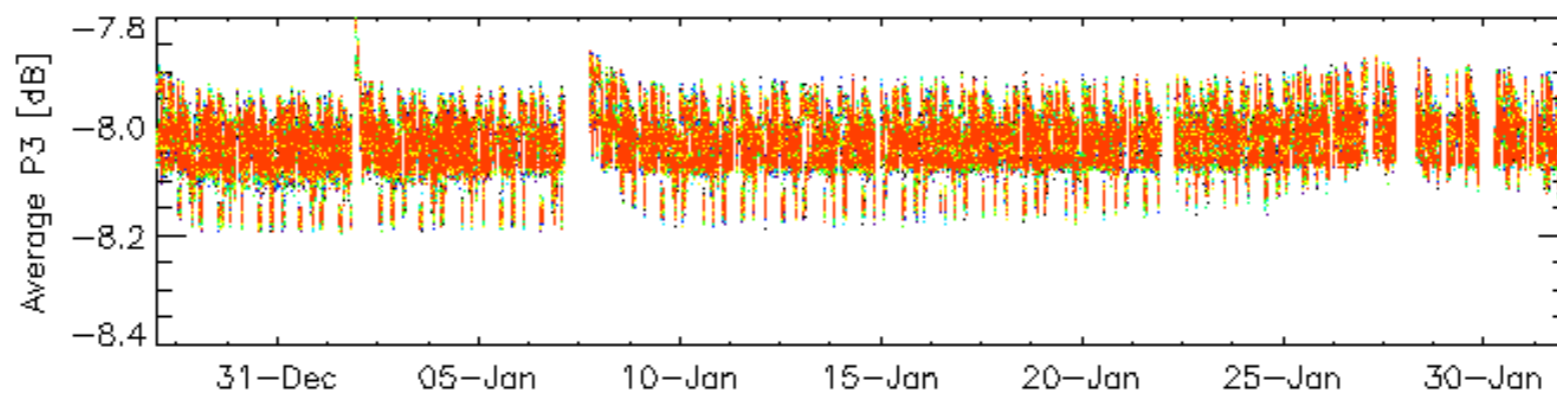
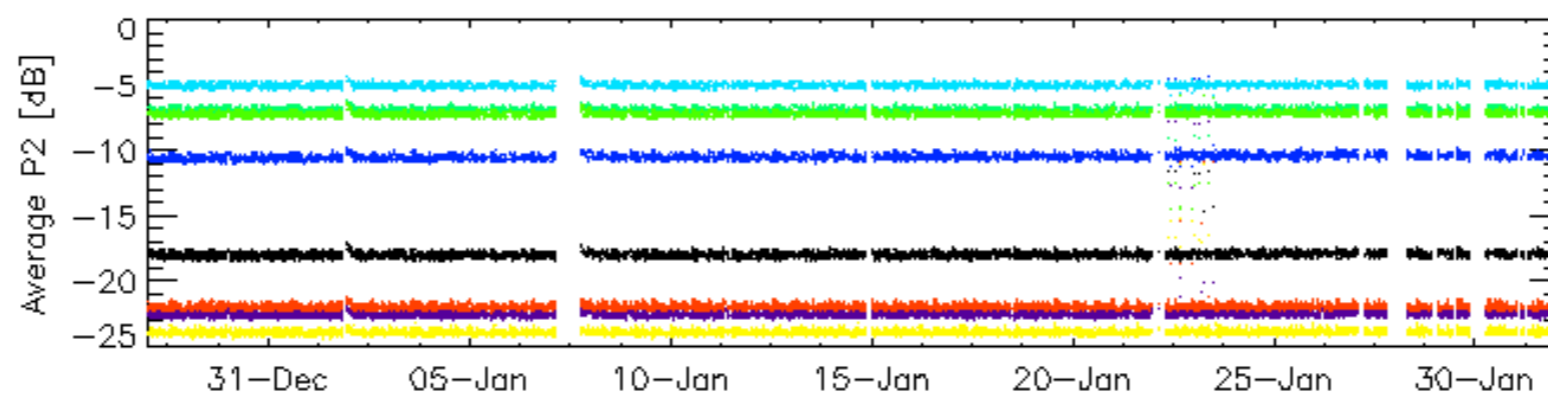
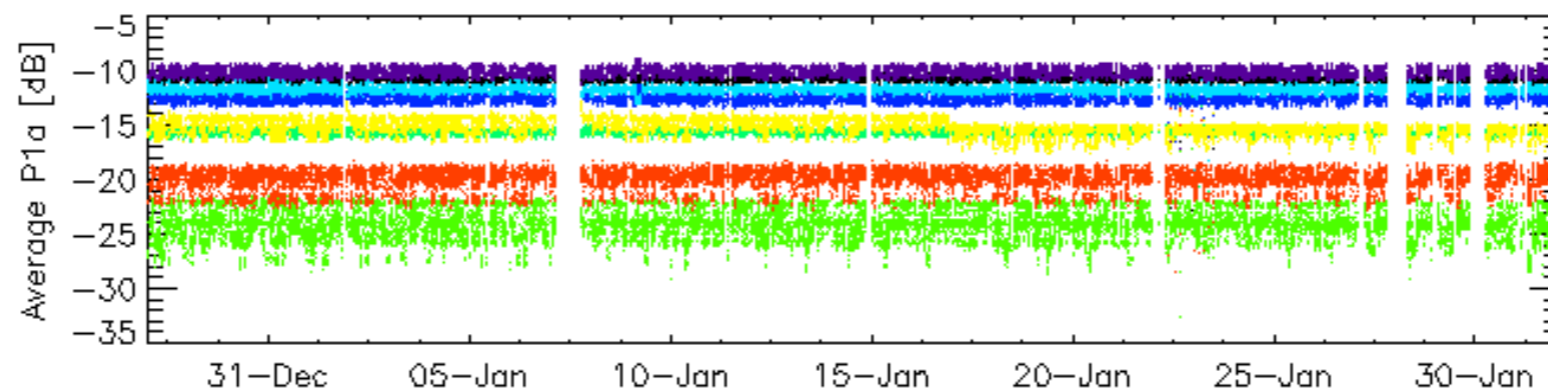
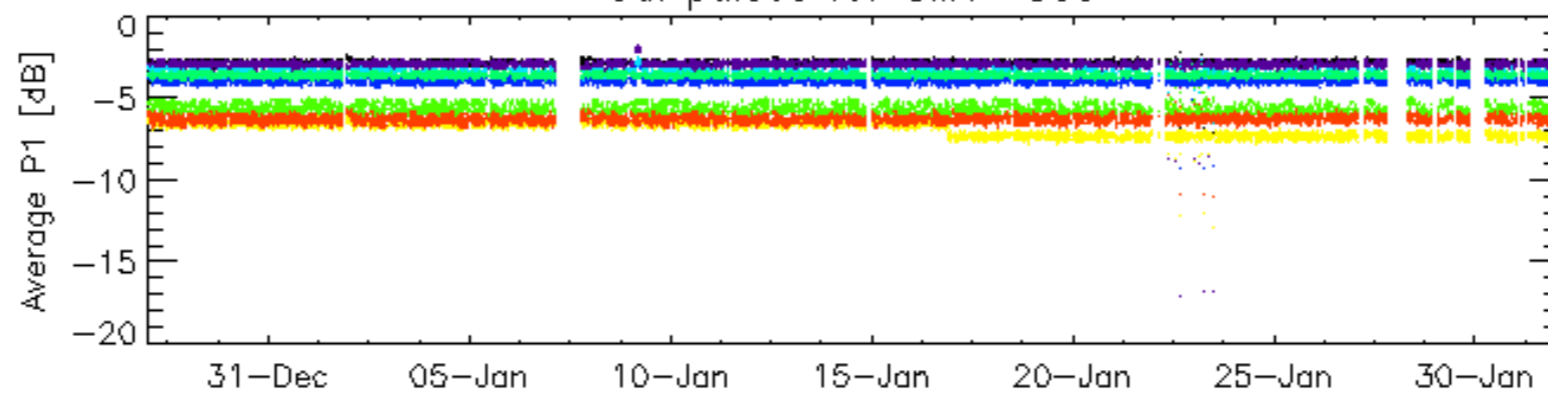
Descending

## 7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

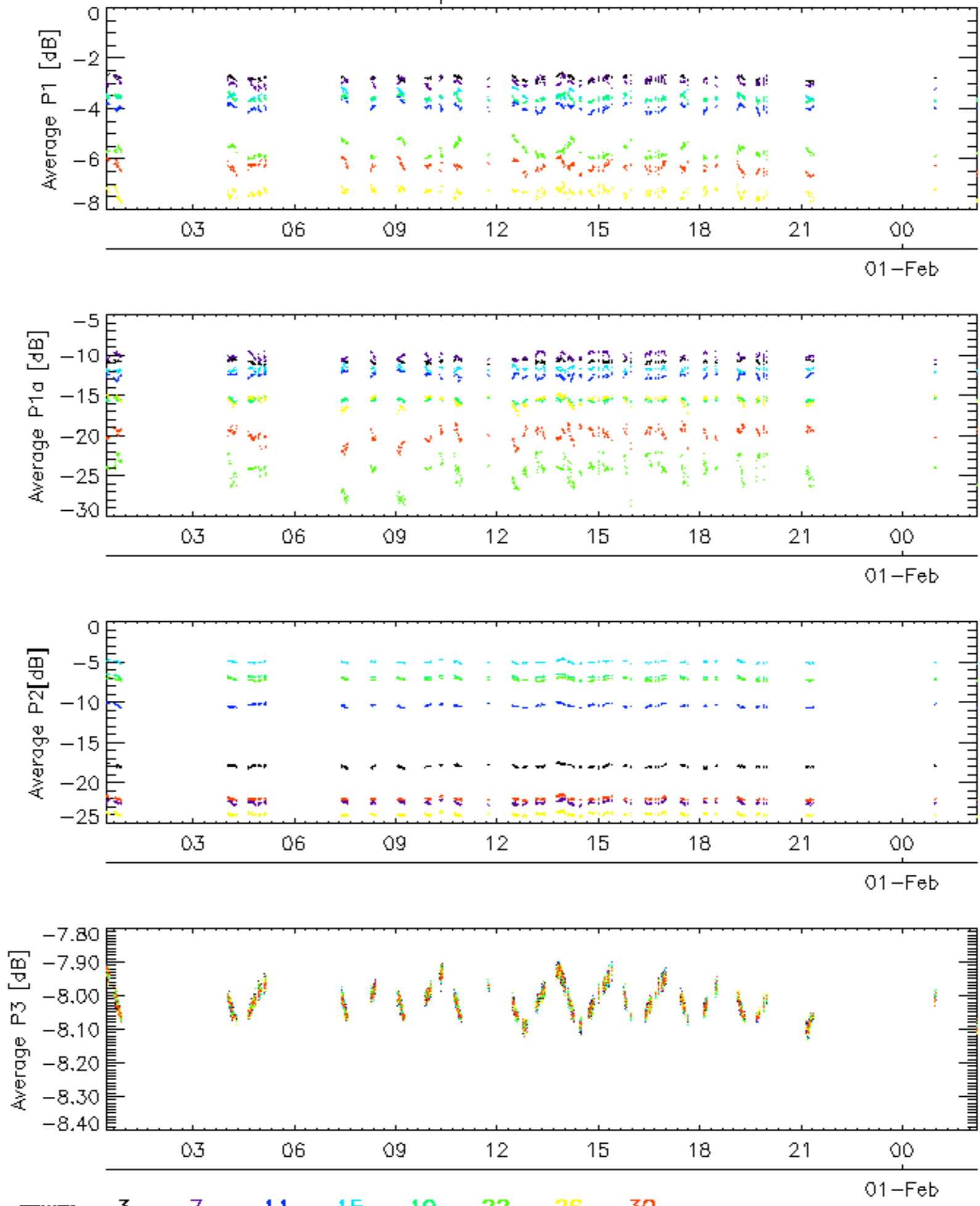


### Cal pulses for GM1 SS3



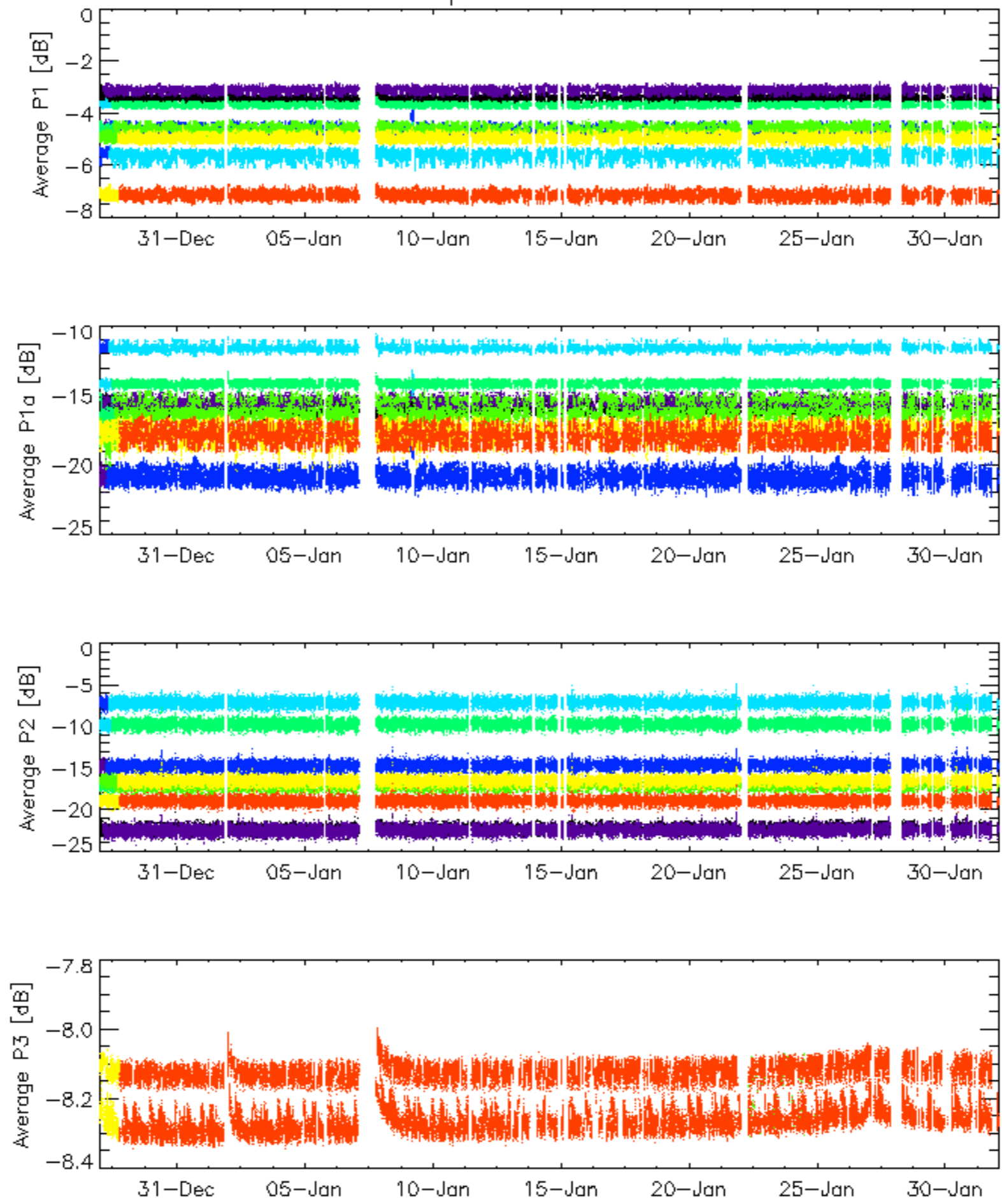
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3



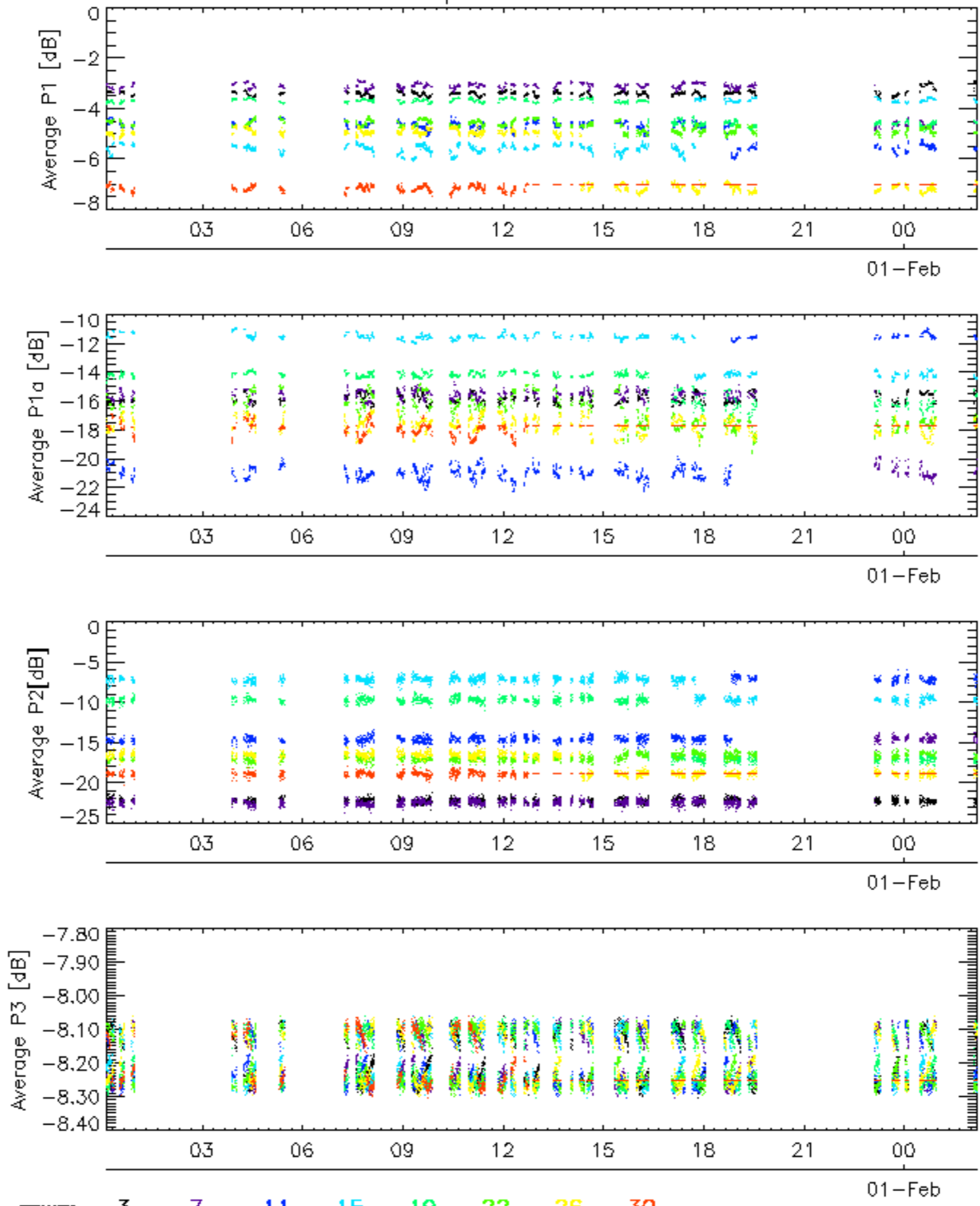
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2



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

Cal pulses for WVS IS2

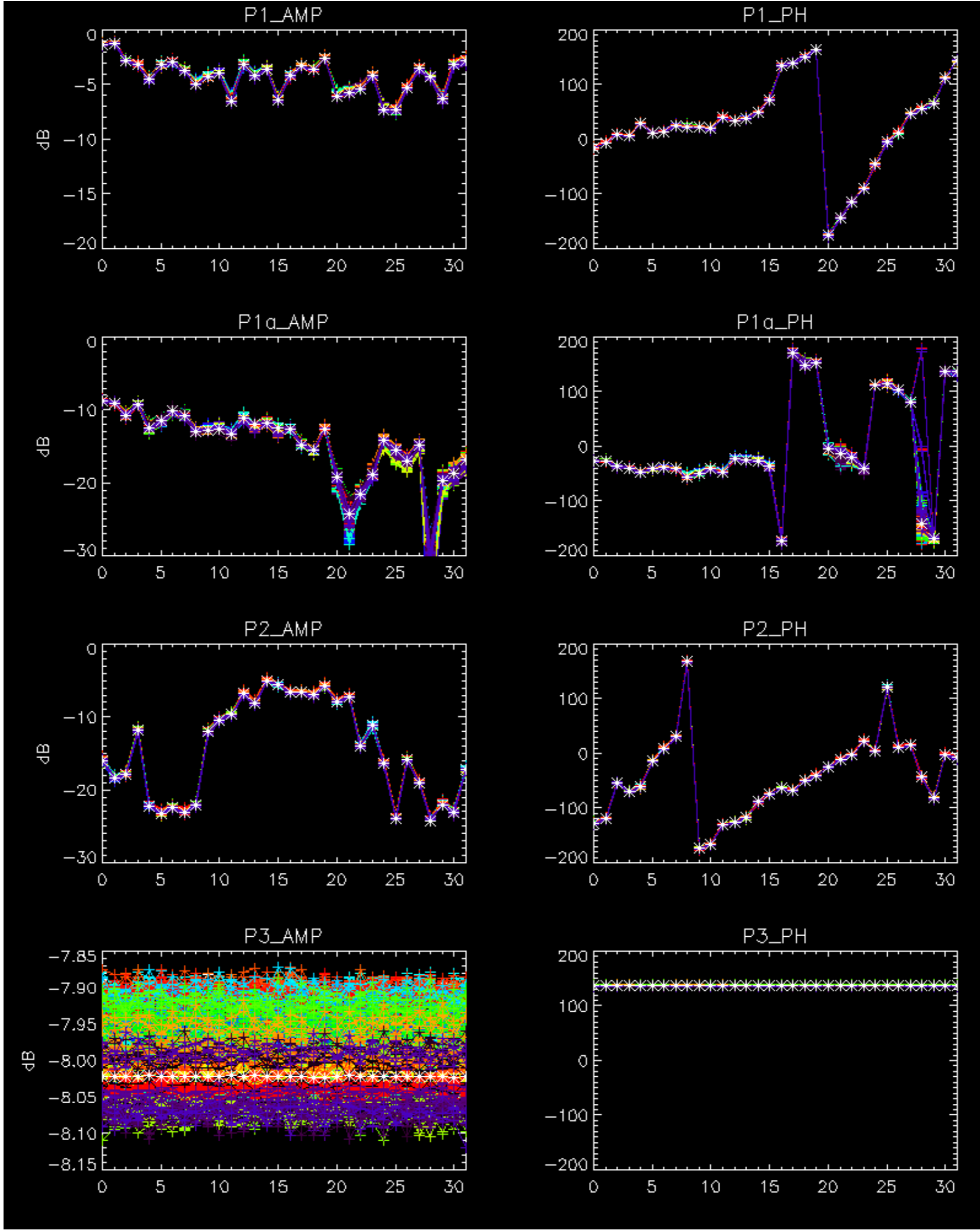


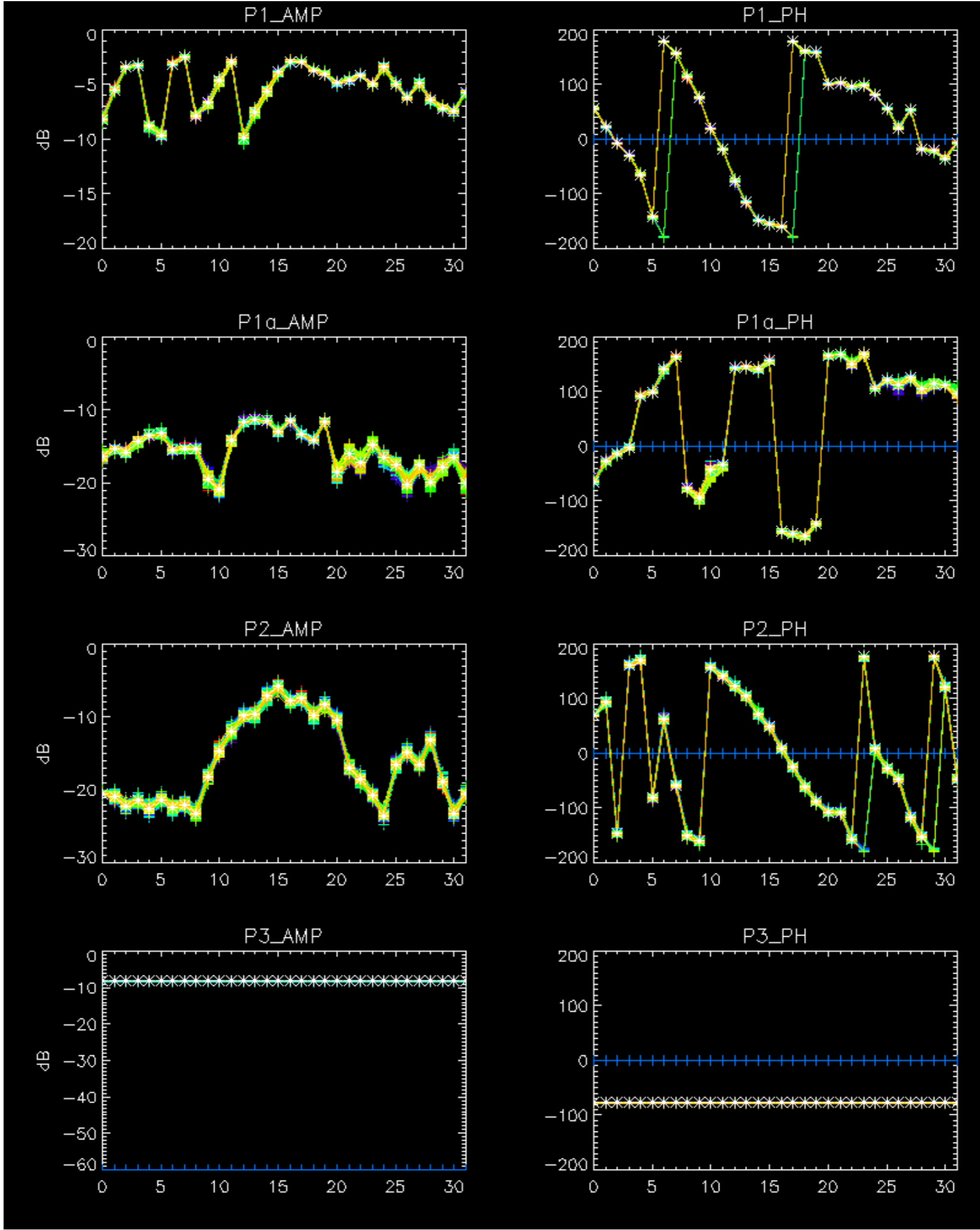
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Since 25-JAN-2005, the Esrin acquisition chain suffers troubles with the demodulator affecting the consistency of the ASAR LBR products (GM and WV). Potentially all (LBR PDHS-E)products are of bad quality. A maintenance is planned on 01-FEB-2005. A list of the affected product is give in the TLM section.

No anomalies observed.





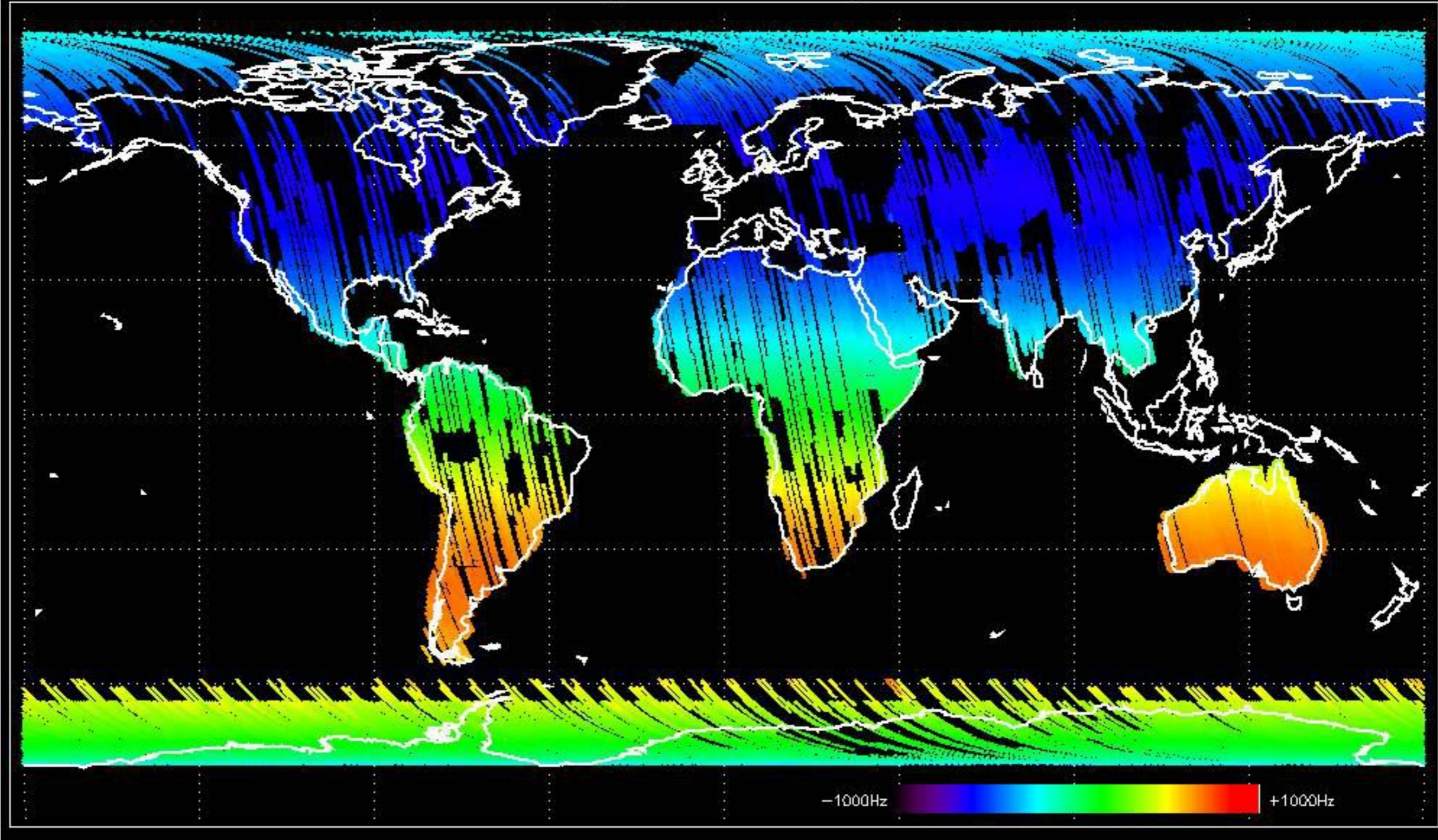


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



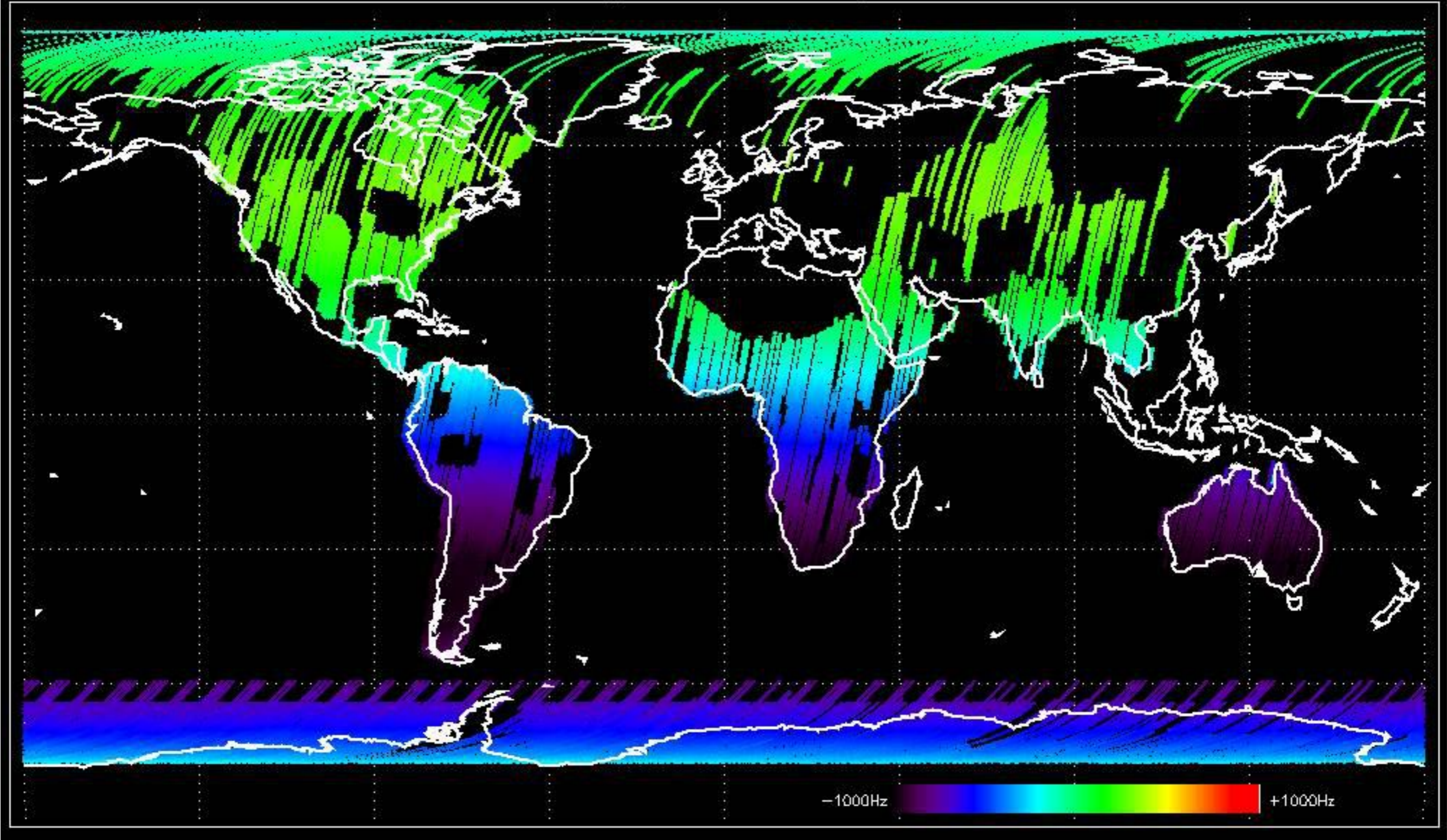


Doppler 'GM1' 'SS1' ascending



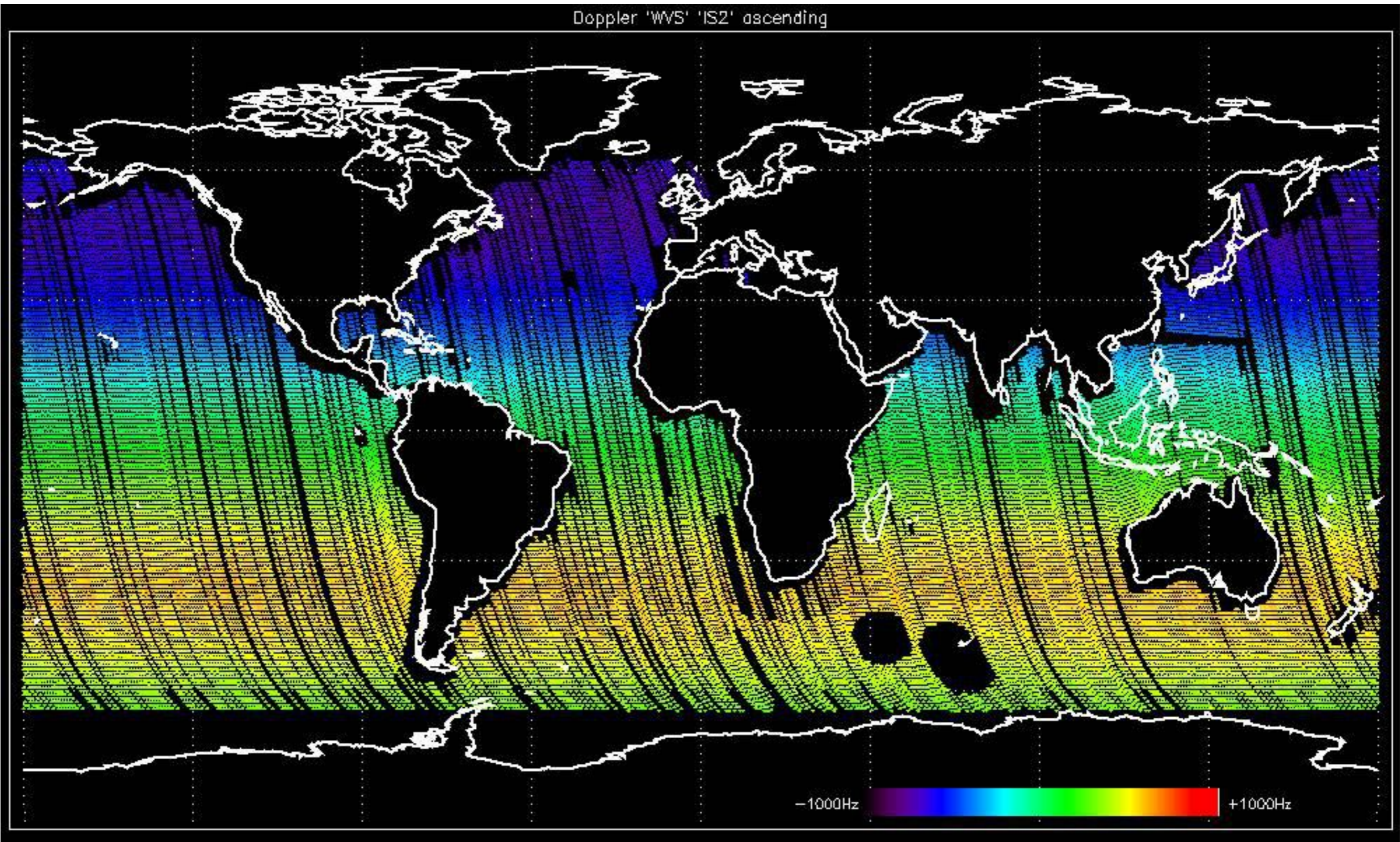


Doppler 'GM1' 'SS1' descending



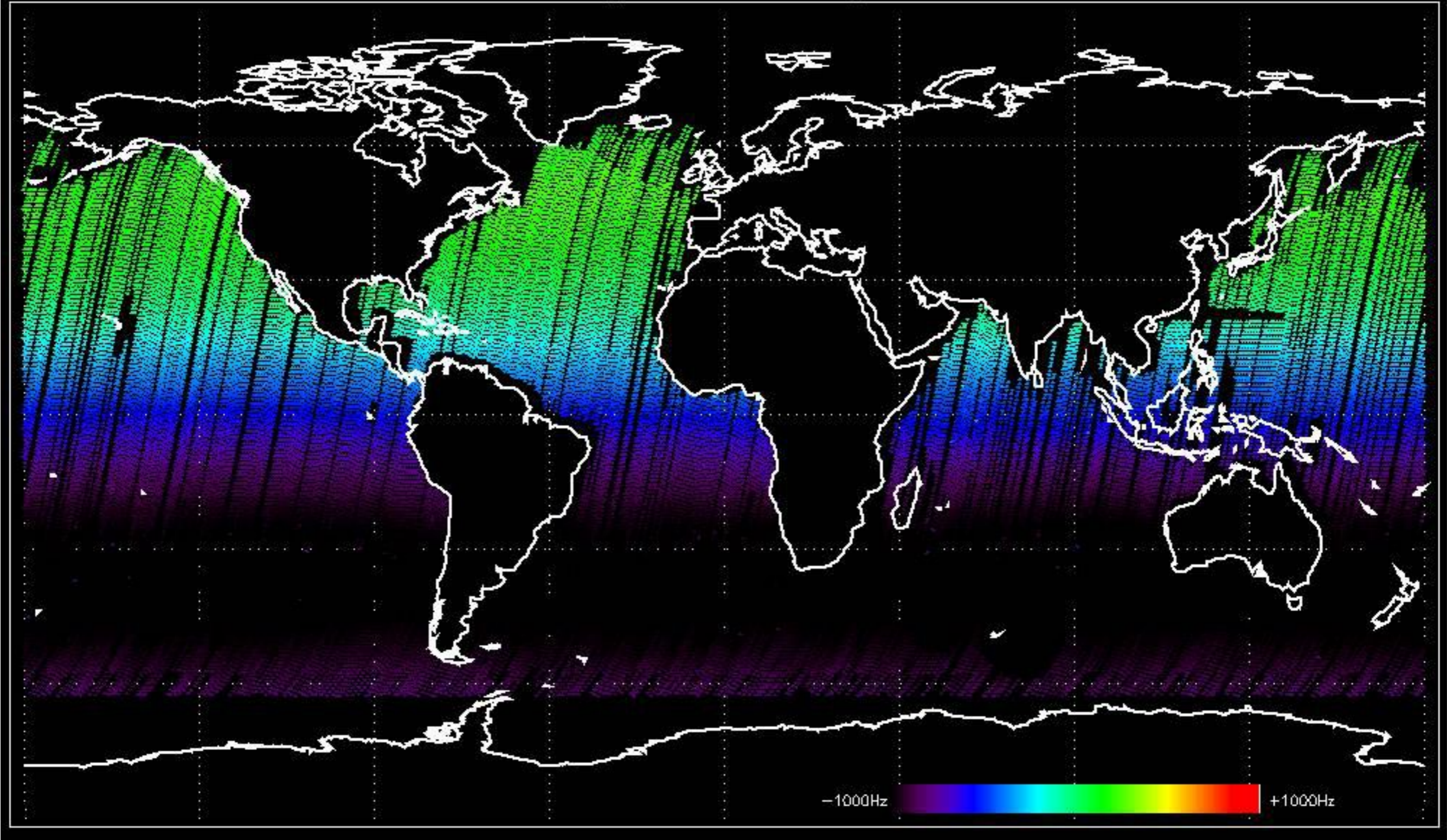


Doppler 'WVS' 'IS2' ascending



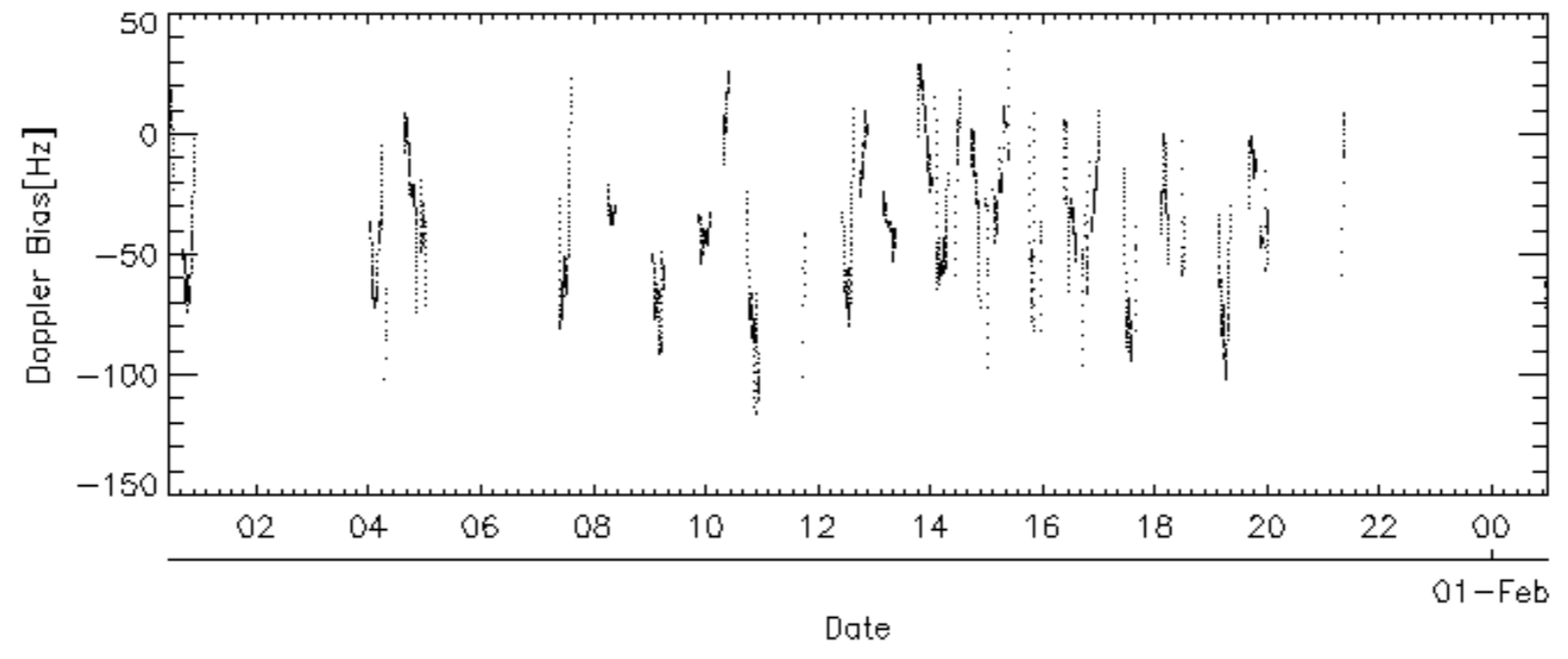
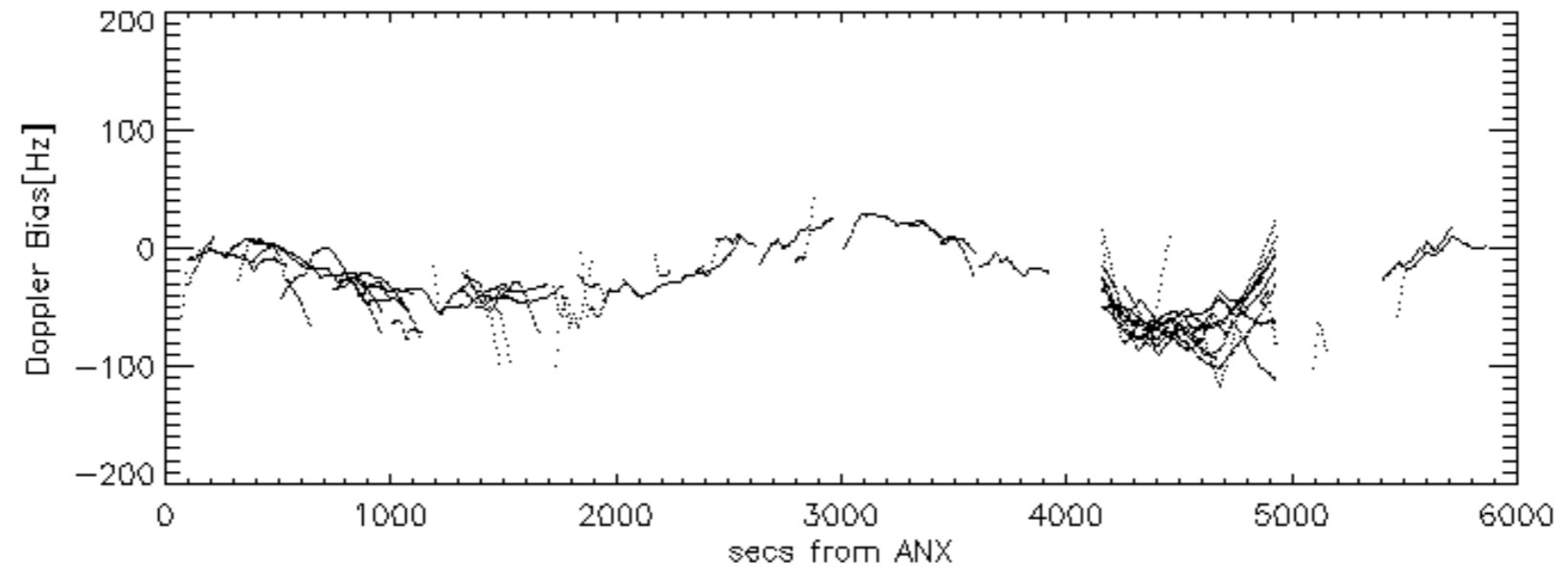
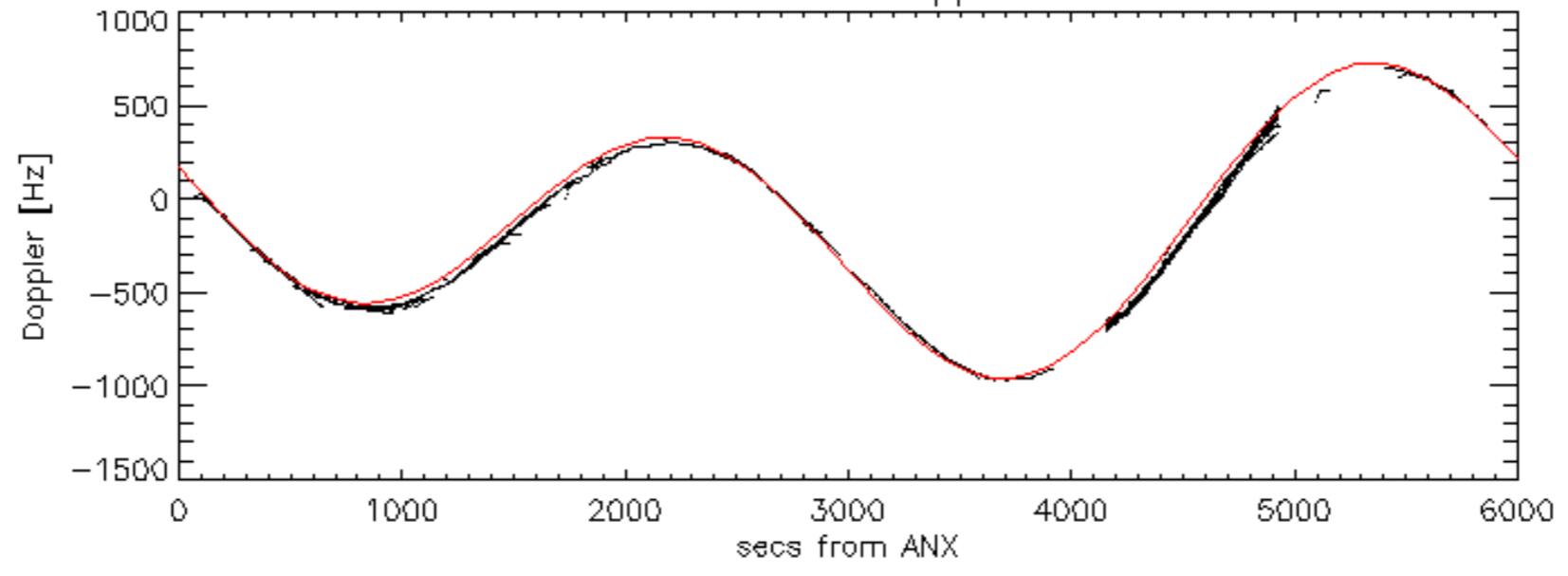


Doppler 'WVS' 'IS2' descending

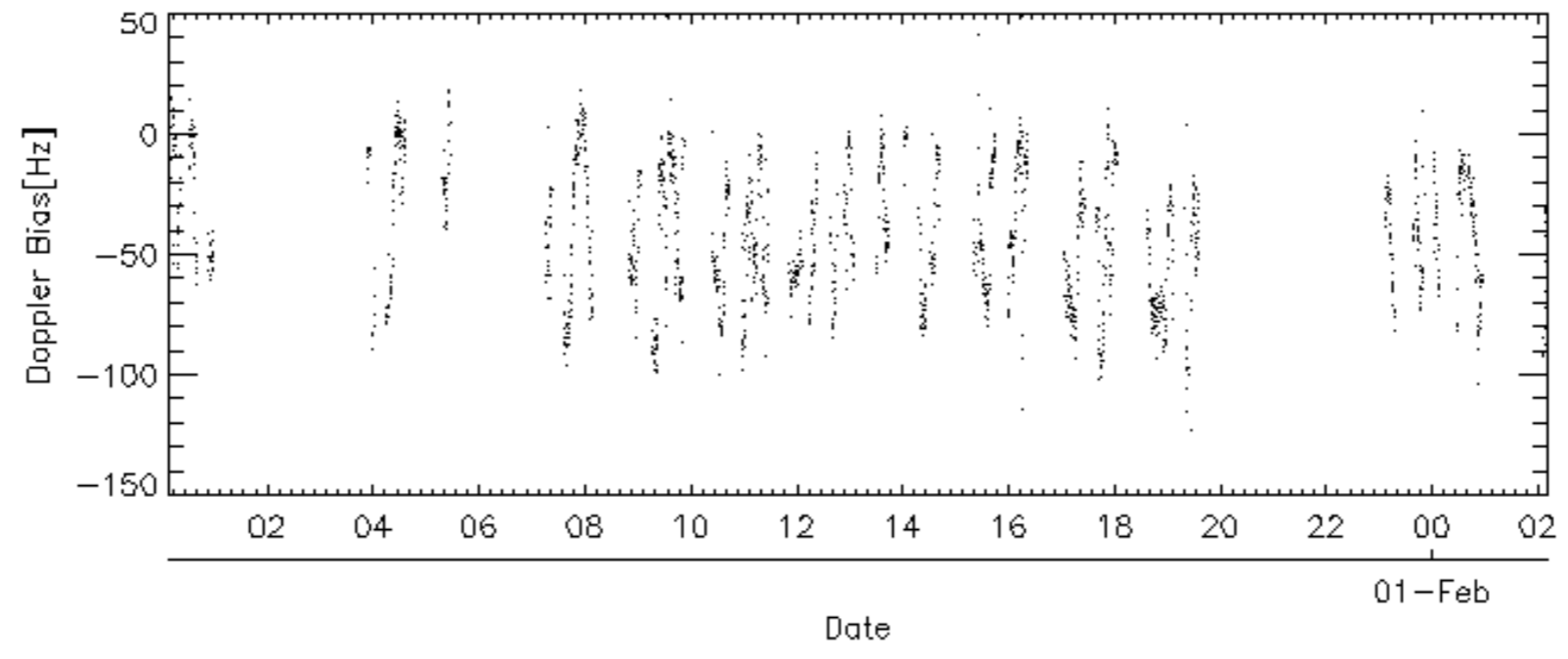
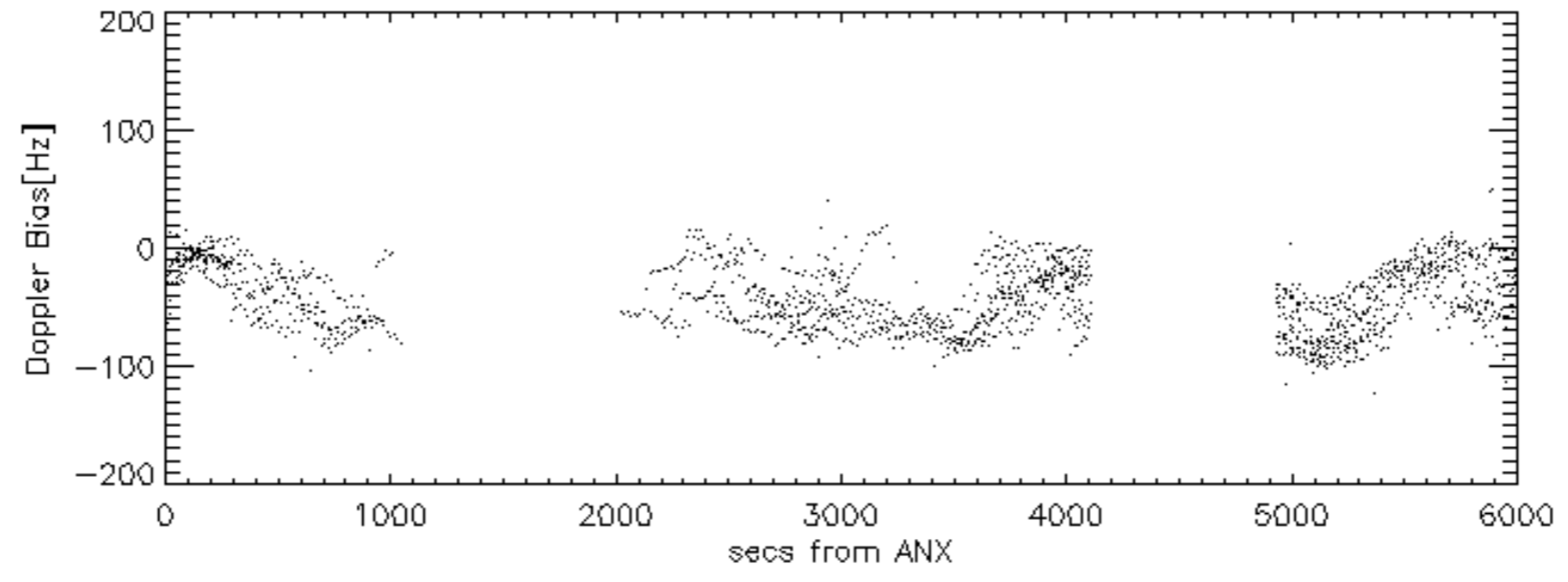
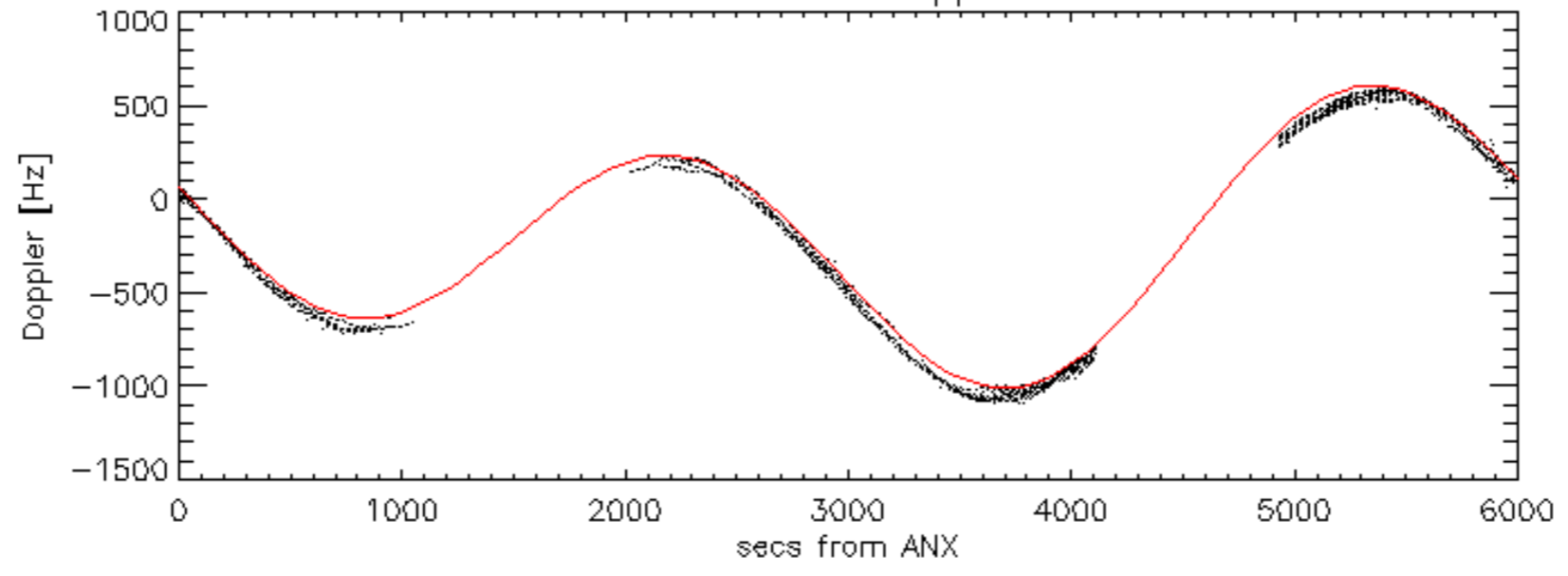




GM1 mode doppler

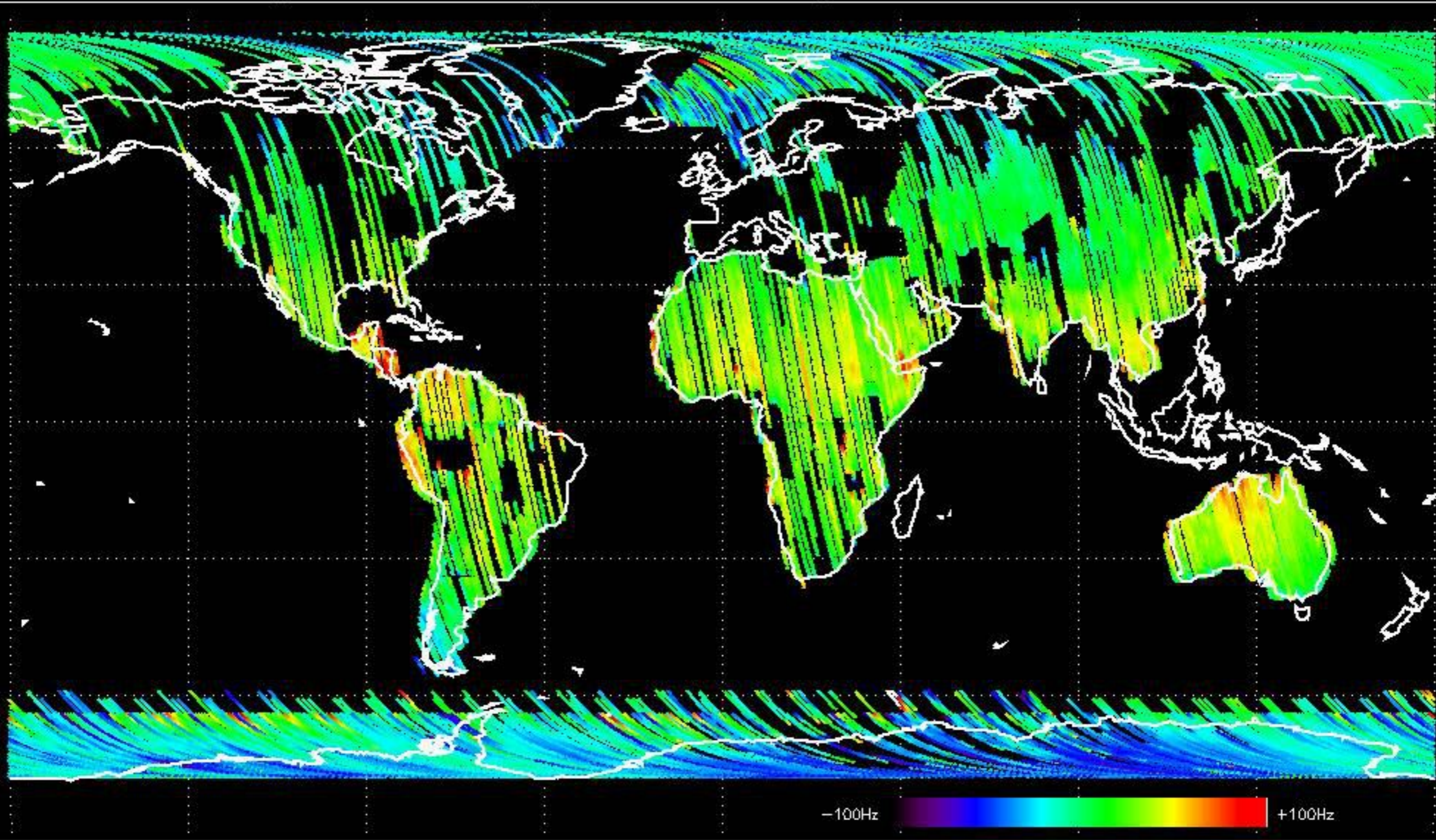


### WVS mode doppler



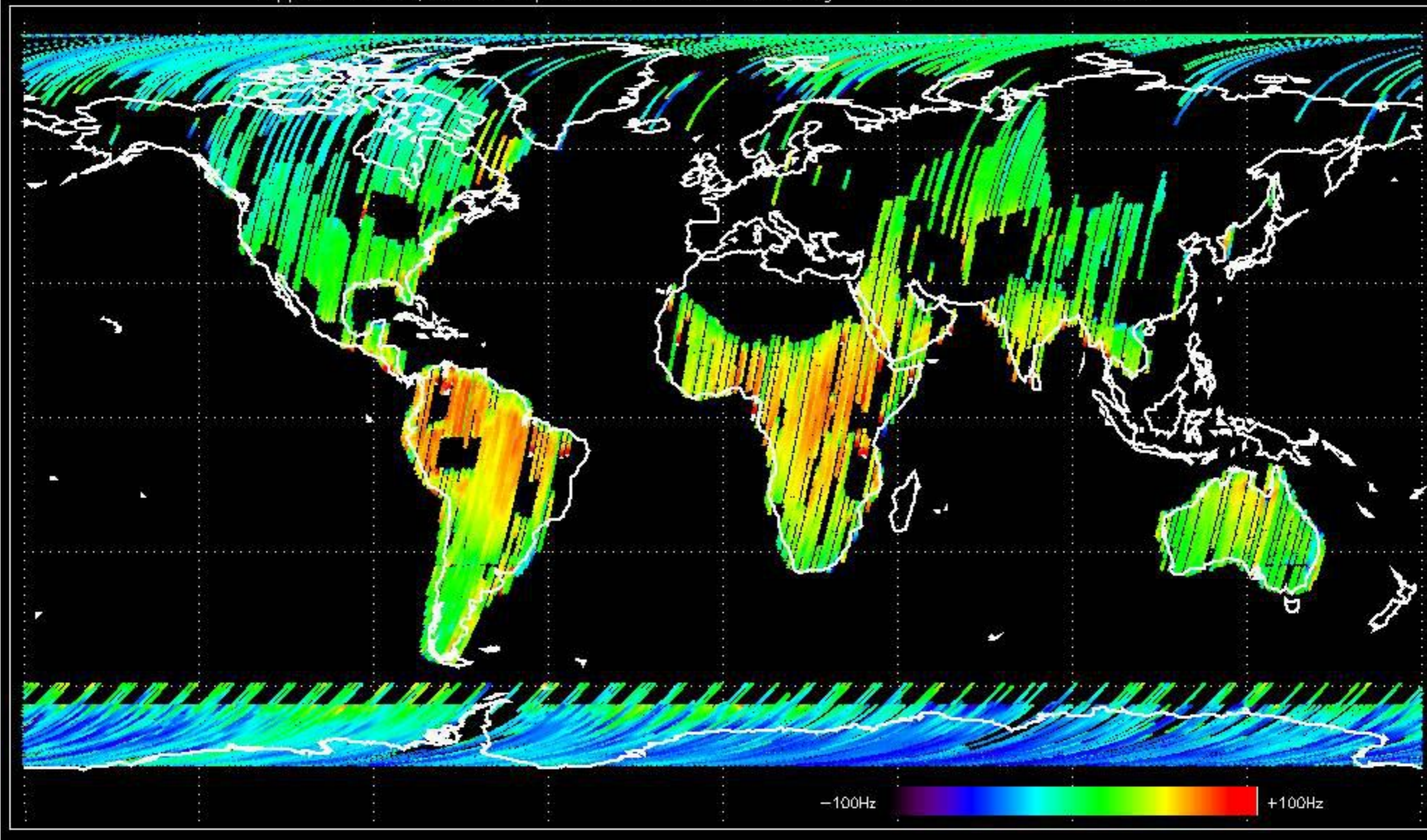


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -32.787243 Hz



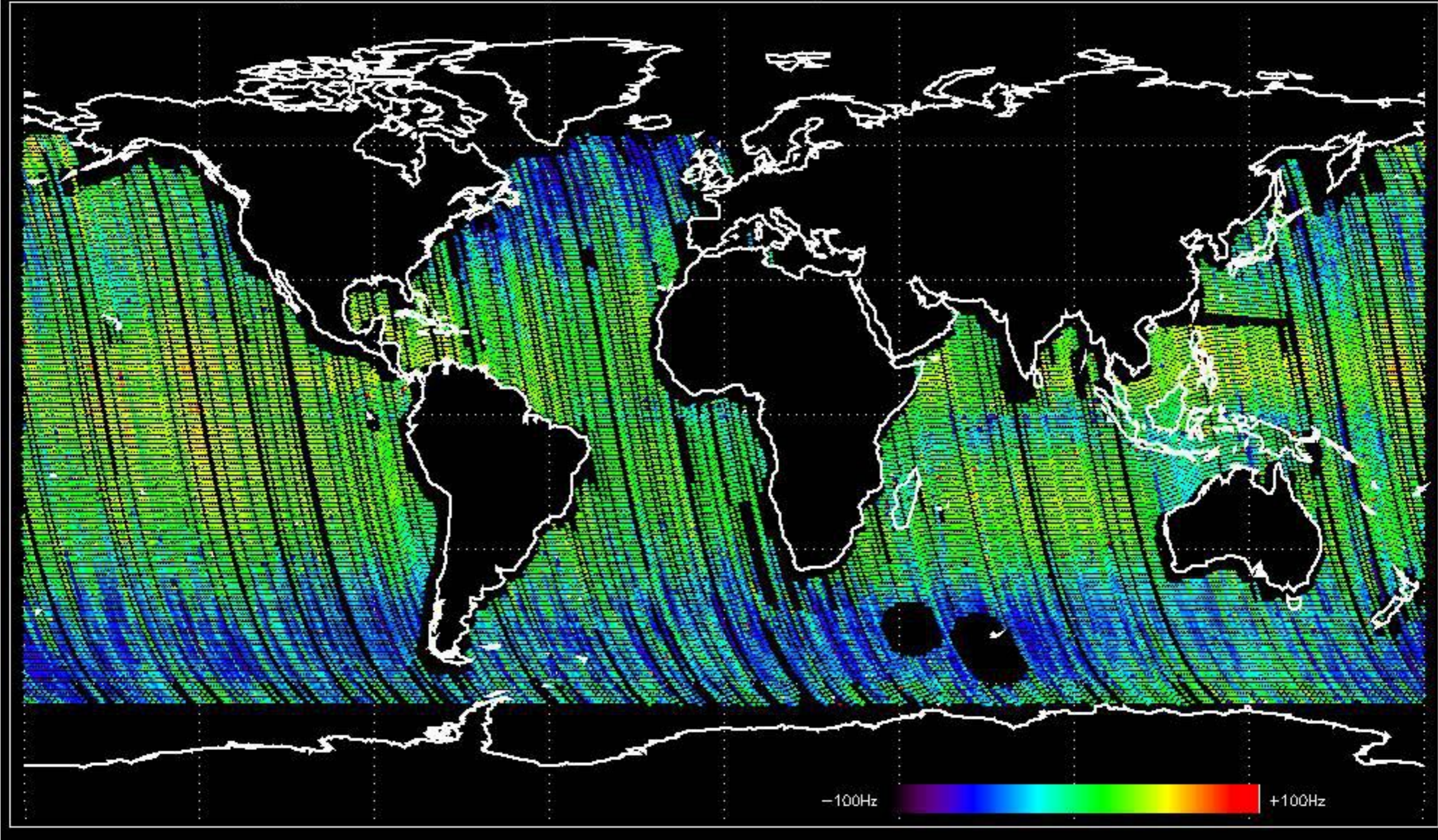


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -28.290181 Hz



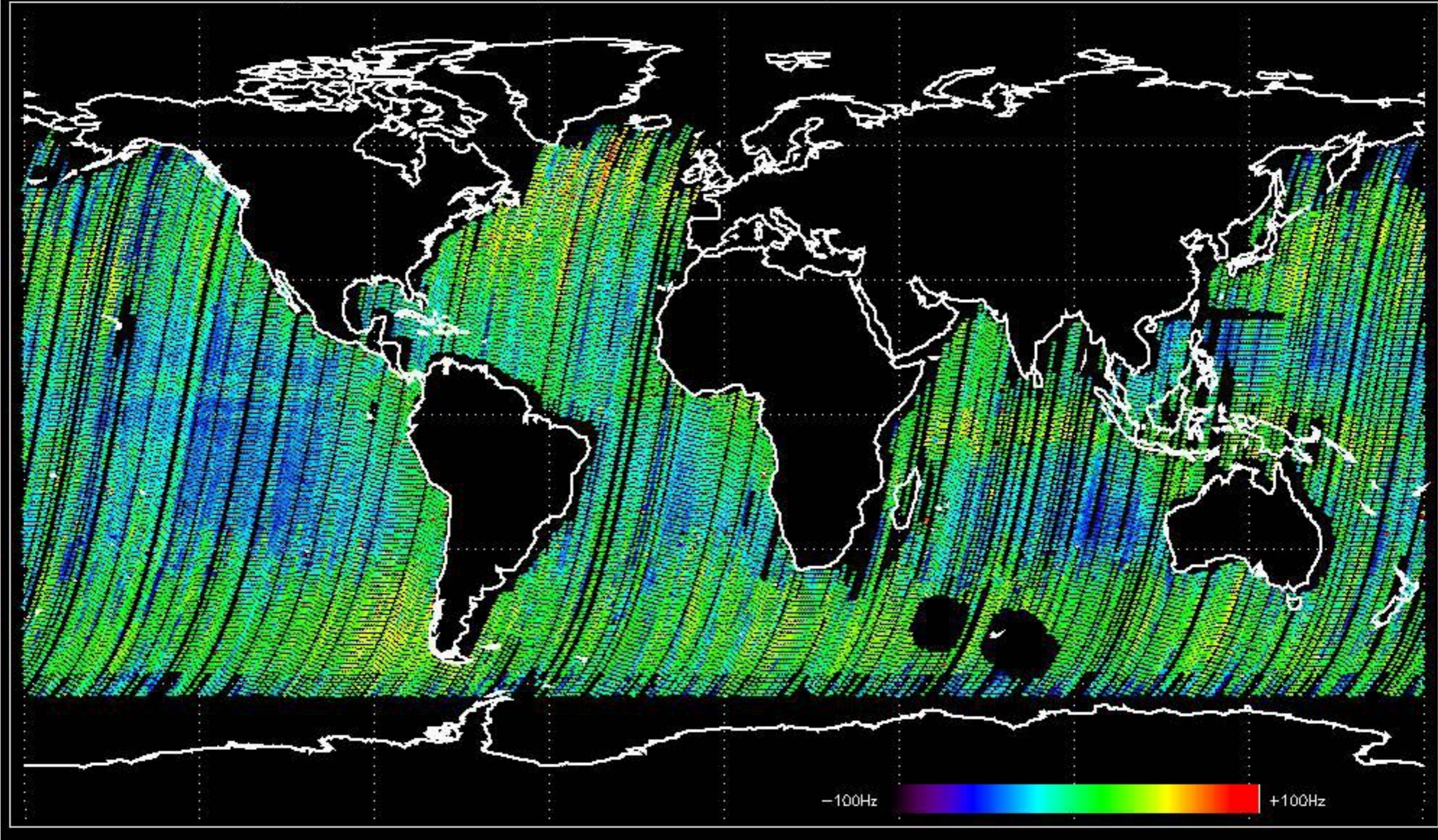


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -35.472909 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -37.044582 Hz





The MS mode provides an internal health check on an individual module basis.  
The purpose of this mode is to identify to identify any malfunctioning modules and  
to identify modules for which calibration offsets are to be applied.  
No anomalies observed on available MS products:

No anomalies observed.











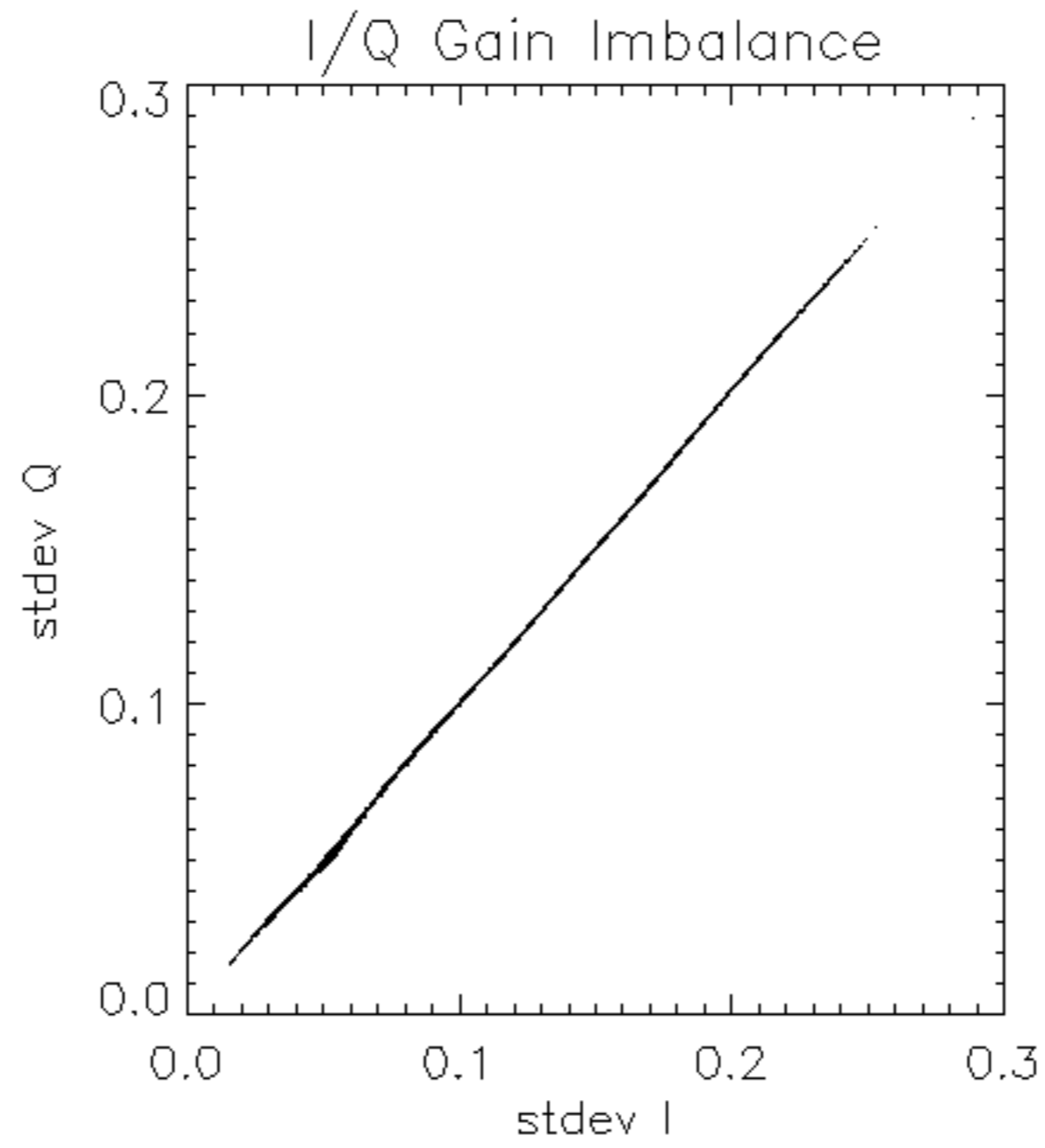


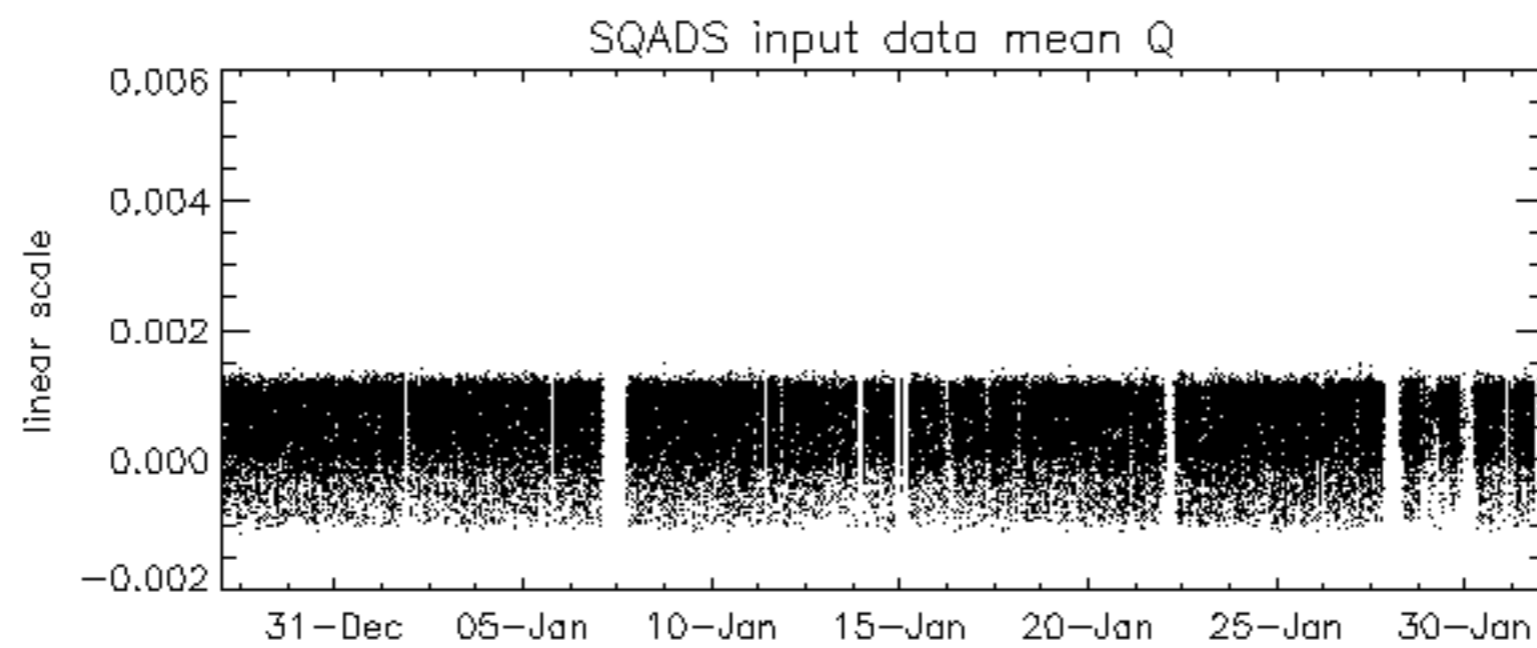
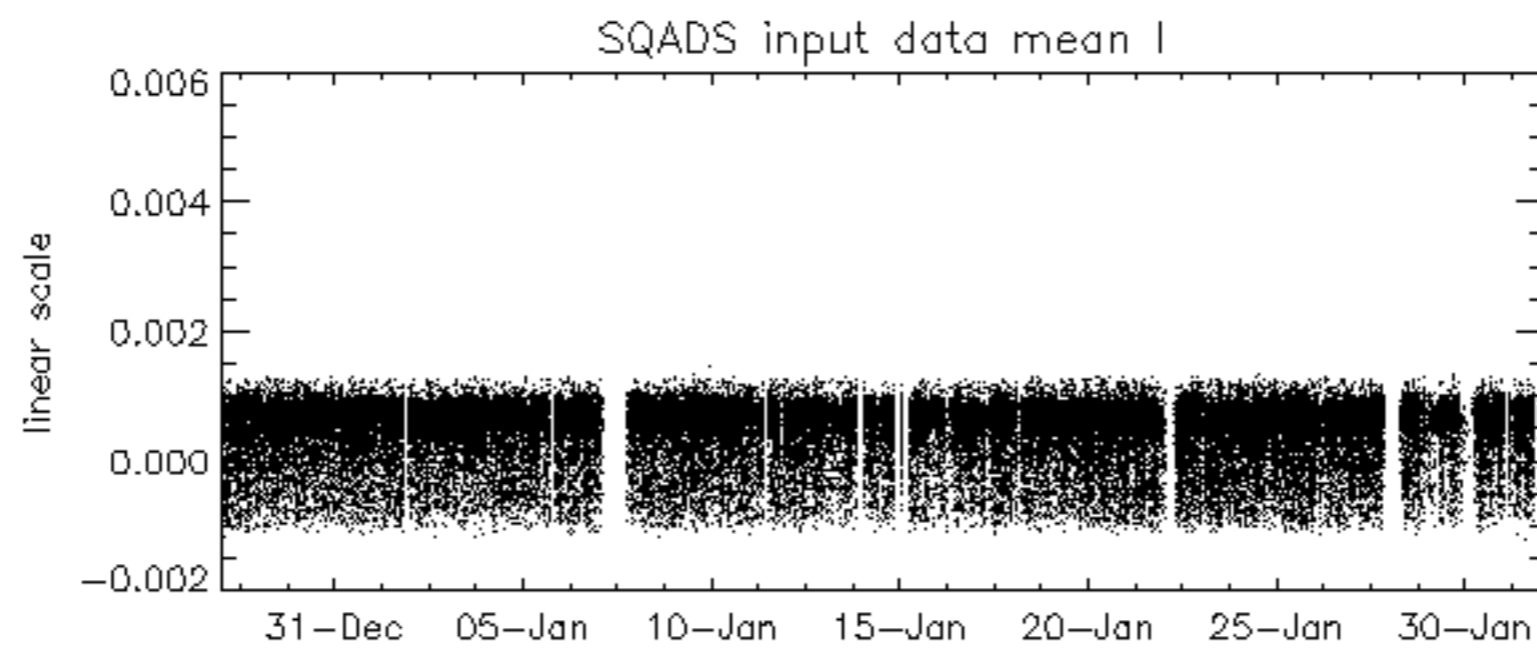
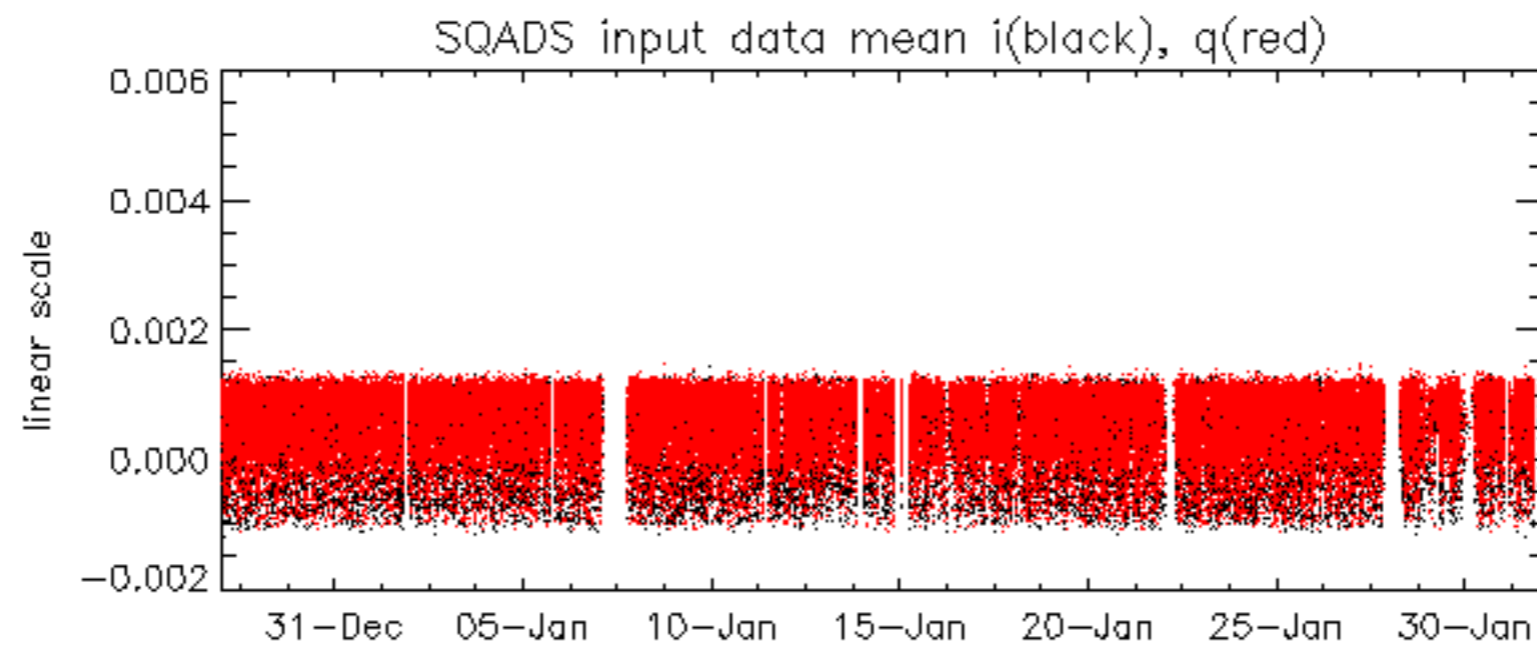


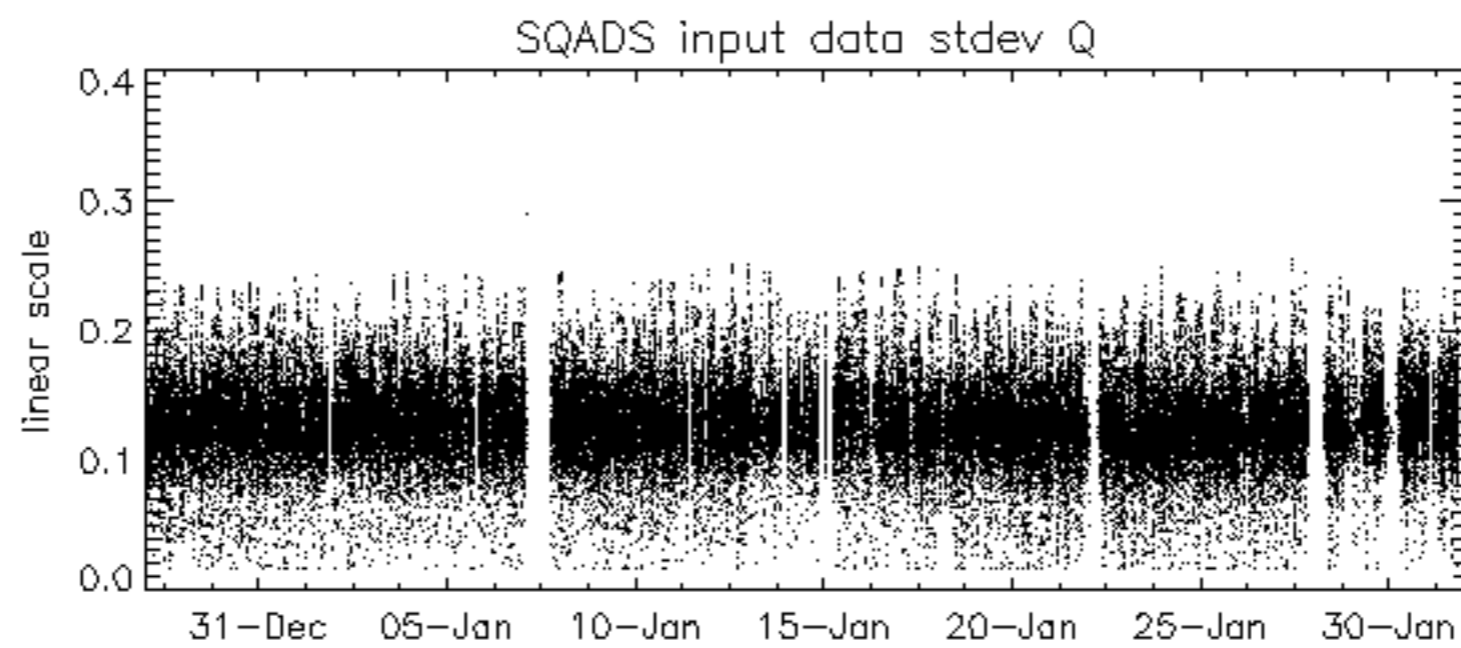
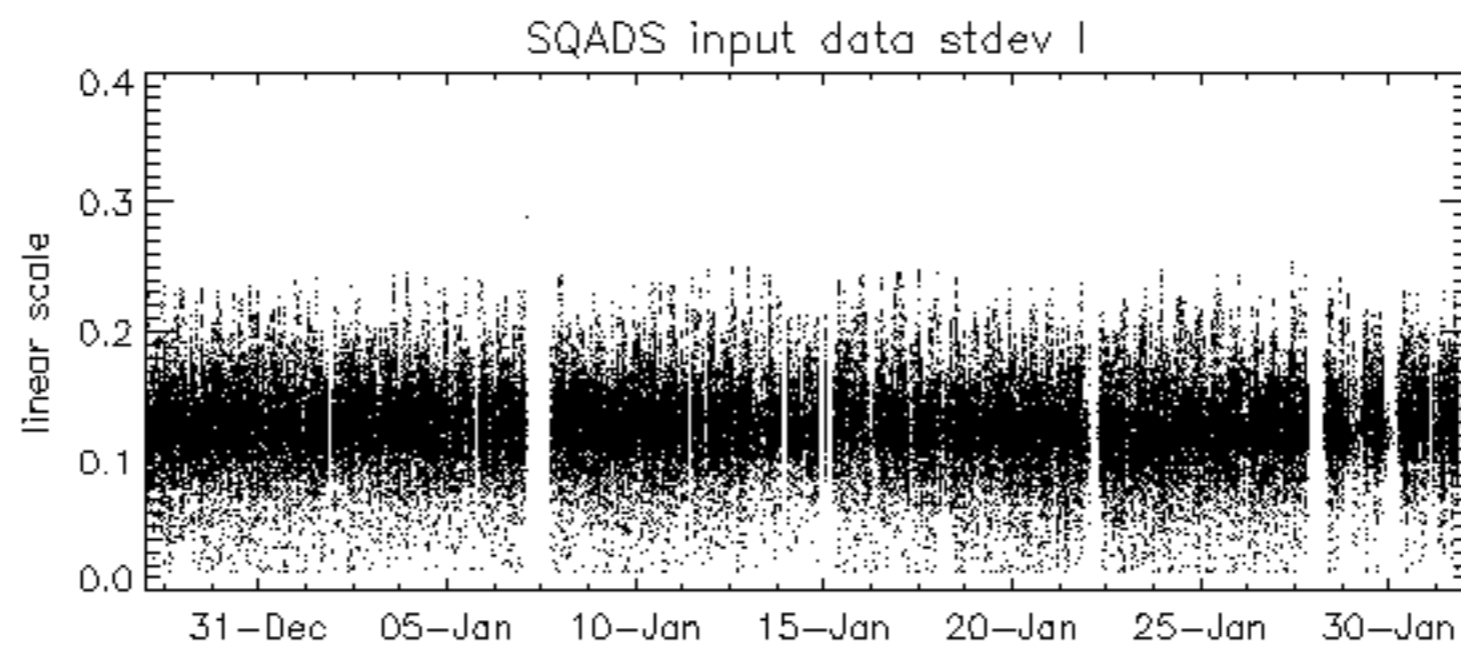
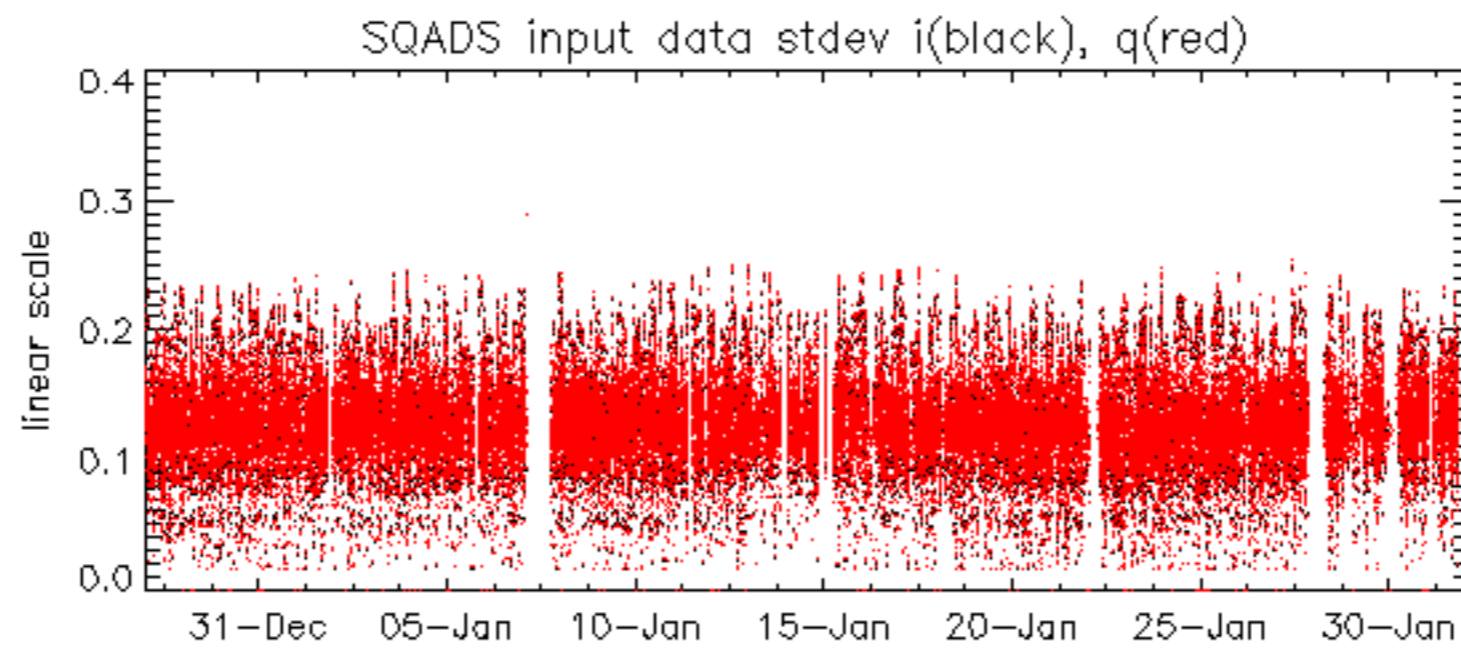




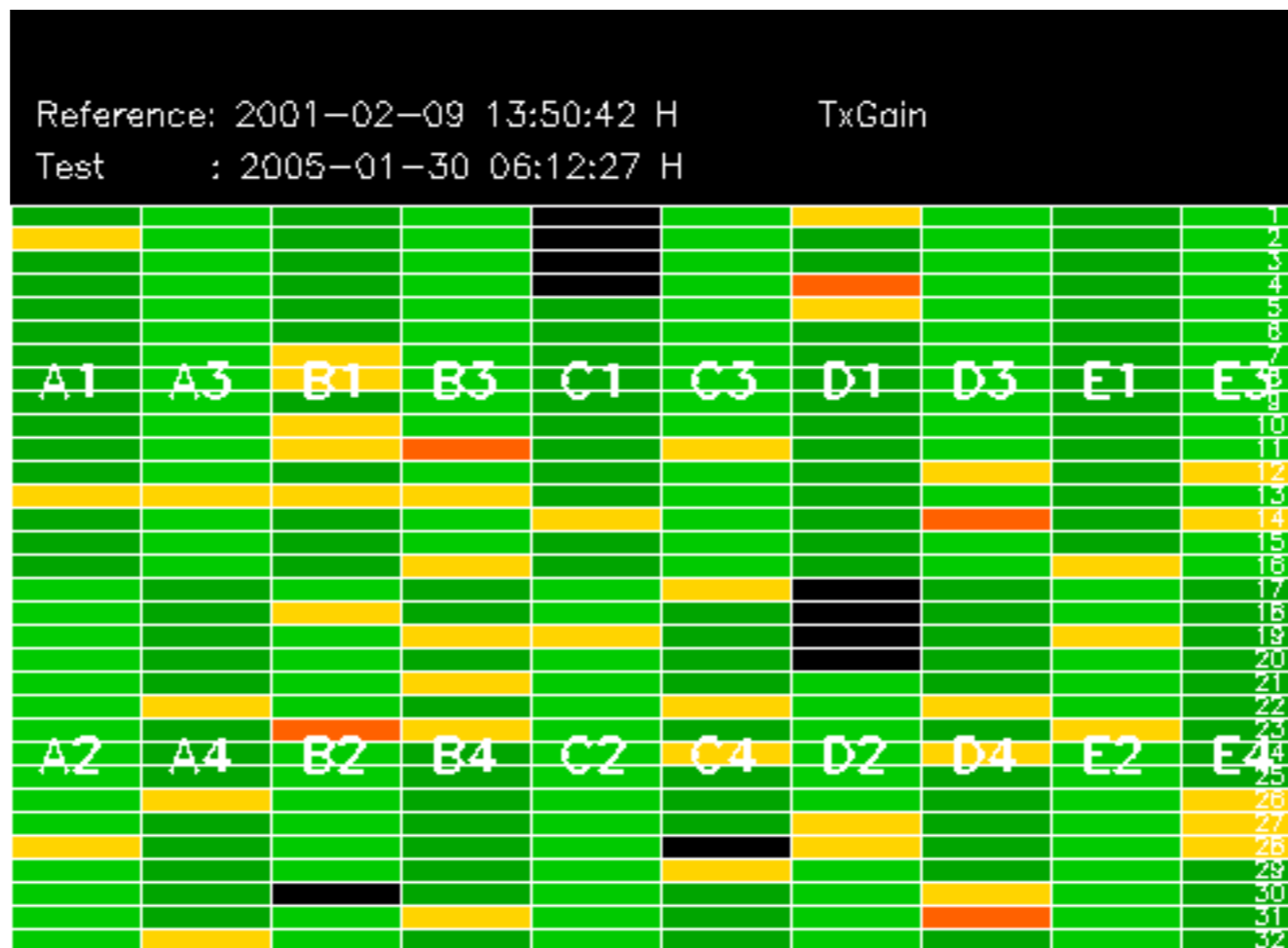




















Summary of analysis for the last 3 days 2005013[011]

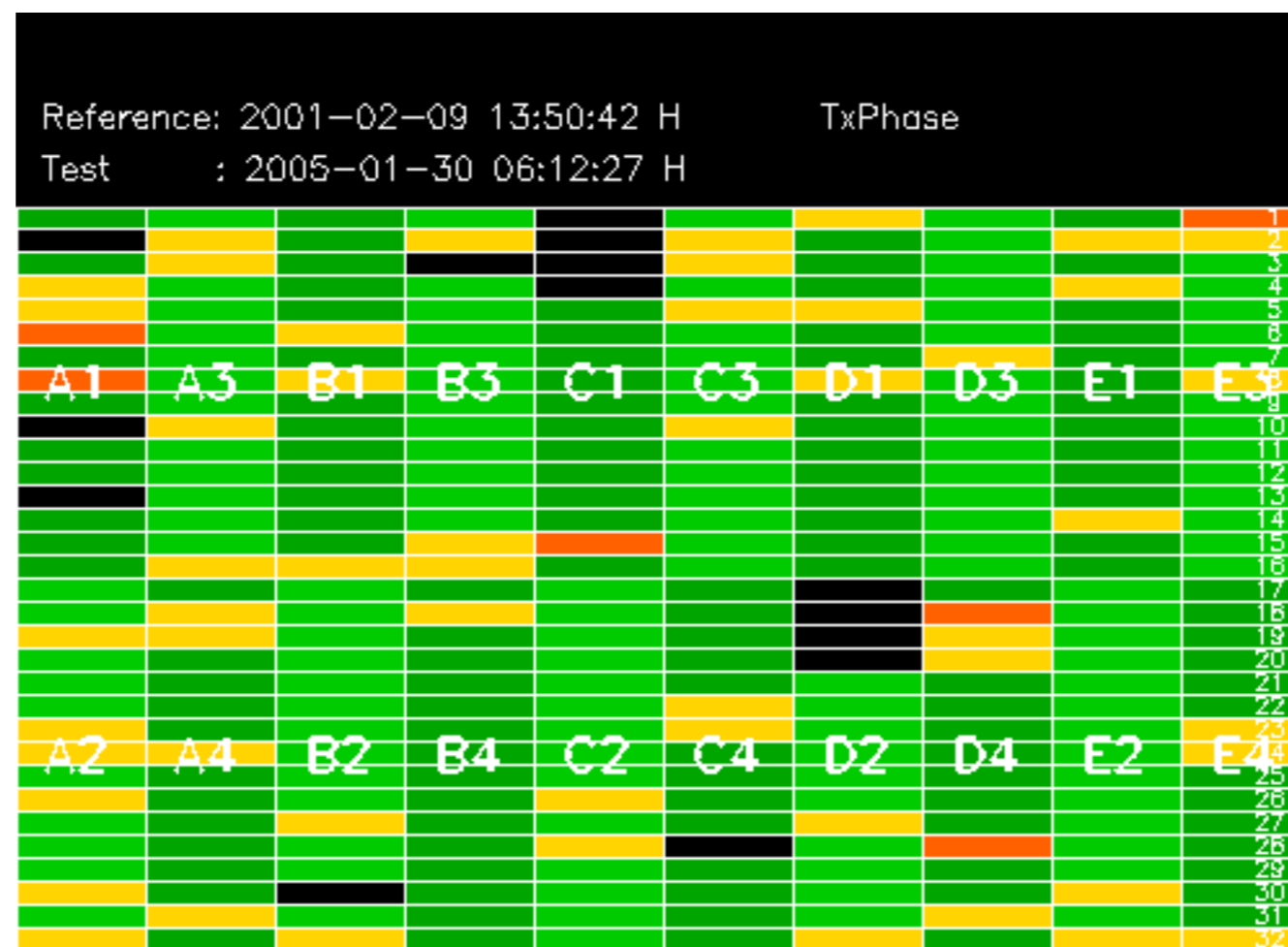
The assumption is taken that the SQUADS num\_gaps and num\_missing\_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20050130_215136_000000372034_00187_15271_1459.N1	1	0
ASA_WVS_1PNPDE20050130_012944_000000592034_00174_15258_6242.N1	0	208
ASA_WVS_1PNPDE20050130_024300_000000142034_00175_15259_6241.N1	0	192
ASA_WVS_1PNPDE20050130_042523_00000002034_00176_15260_6244.N1	1	176
ASA_WVS_1PNPDE20050130_042523_000000602034_00176_15260_6214.N1	0	192
ASA_WVS_1PNPDE20050130_042623_00000002034_00176_15260_6246.N1	1	104
ASA_WVS_1PNPDE20050131_230701_000006142034_00202_15286_6250.N1	1	1648
ASA_WVS_1PNPDE20050131_233753_000007492034_00202_15286_6249.N1	0	1712
ASA_GM1_1PNPDE20050130_203400_000003802034_00186_15270_8240.N1	0	79
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ASA_GM1_1PNPDE20050131_040152_000007732034_00190_15274_8261.N1	0	59
ASA_GM1_1PNPDE20050131_041727_000000662034_00190_15274_8268.N1	0	26
ASA_GM1_1PNPDE20050131_043733_000008702034_00191_15275_8262.N1	0	23
ASA_GM1_1PNPDE20050131_050600_000002952034_00191_15275_8266.N1	0	37
ASA_GM1_1PNPDE20050131_195252_000001632034_00200_15284_8273.N1	0	1386
ASA_GM1_1PNPDE20050131_195821_000001502034_00200_15284_8271.N1	0	2084
ASA_GM1_1PNPDE20050131_210933_000005492034_00200_15284_8279.N1	0	3336
ASA_GM1_1PNPDE20050131_212019_000001502034_00201_15285_8278.N1	0	948
ASA_GM1_1PNPDE20050131_230140_000003022034_00202_15286_8291.N1	0	47476
ASA_GM1_1PNPDE20050131_235425_000003922034_00202_15286_8290.N1	0	65649
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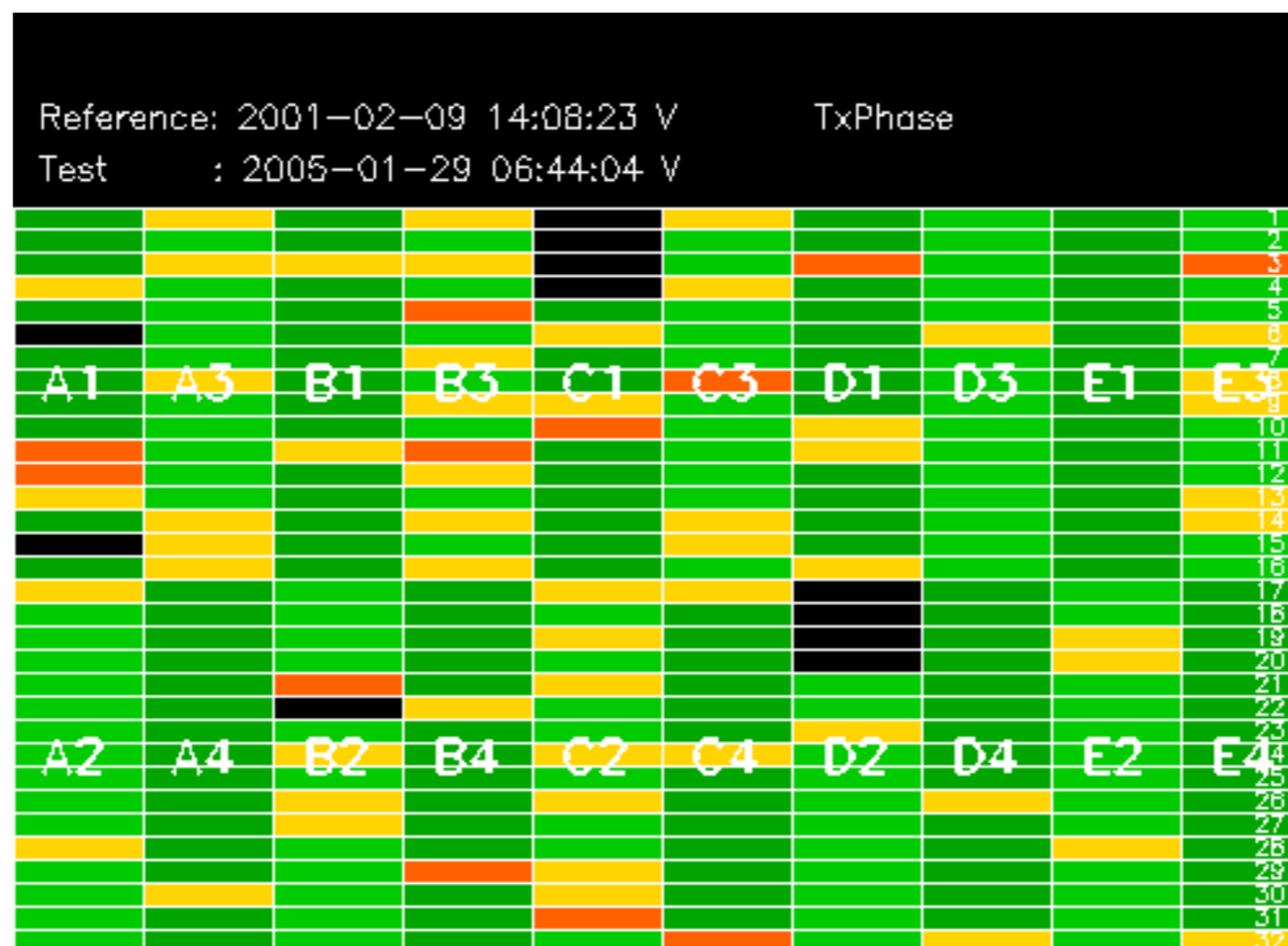






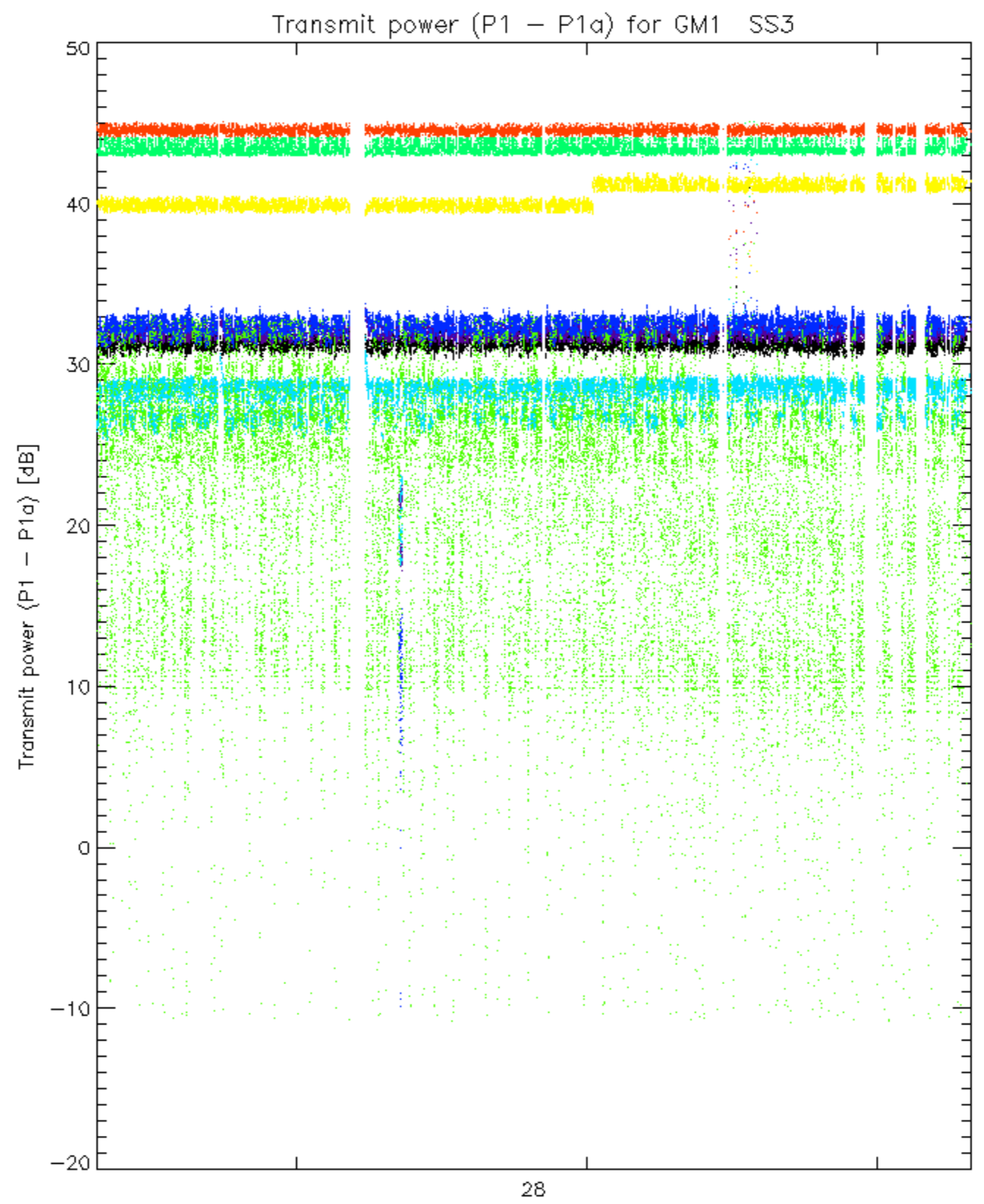




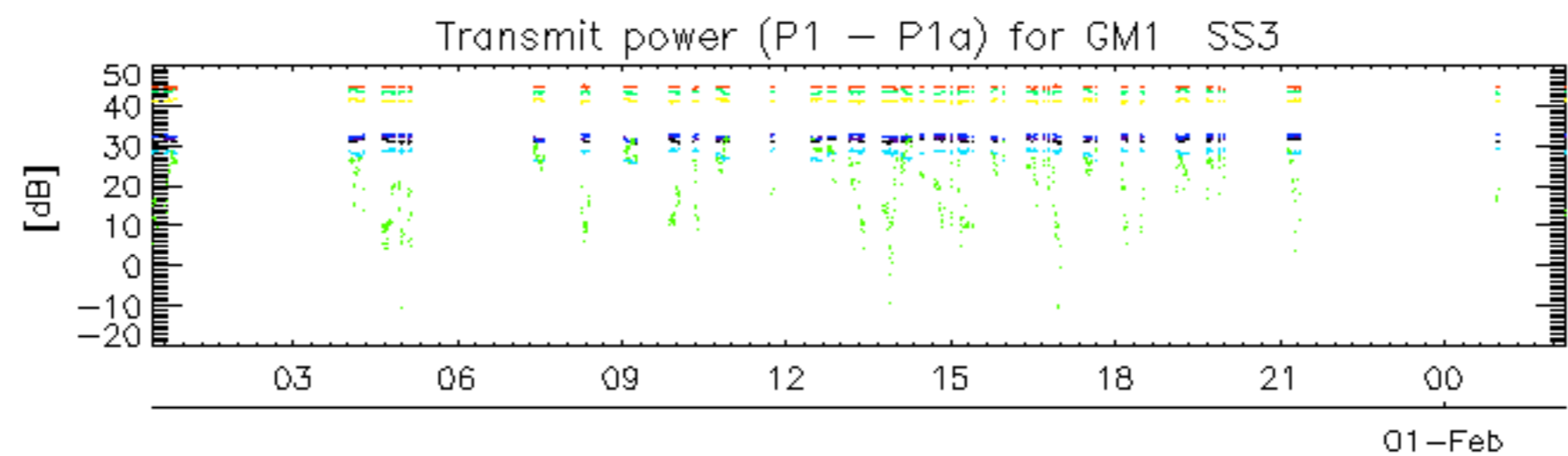




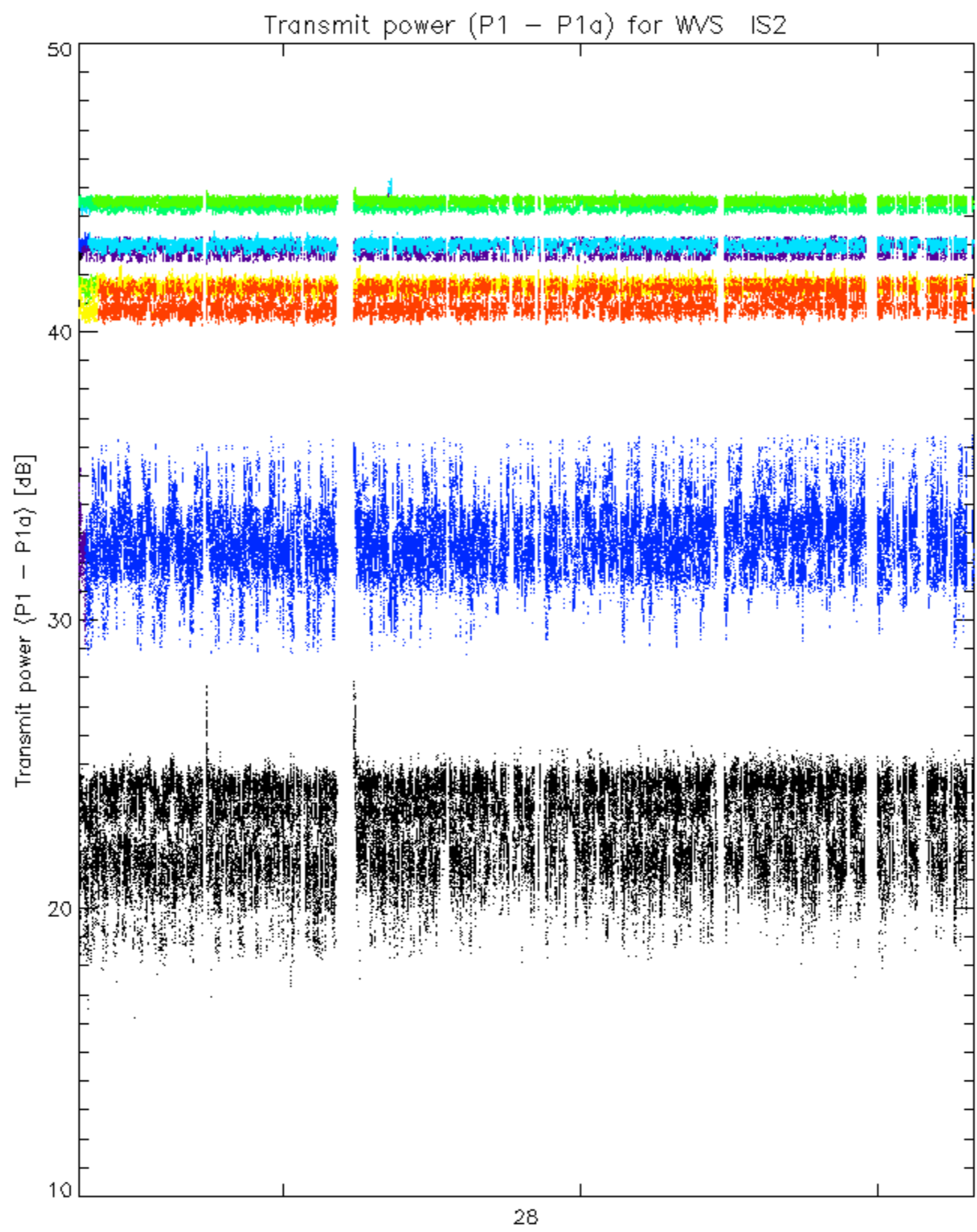




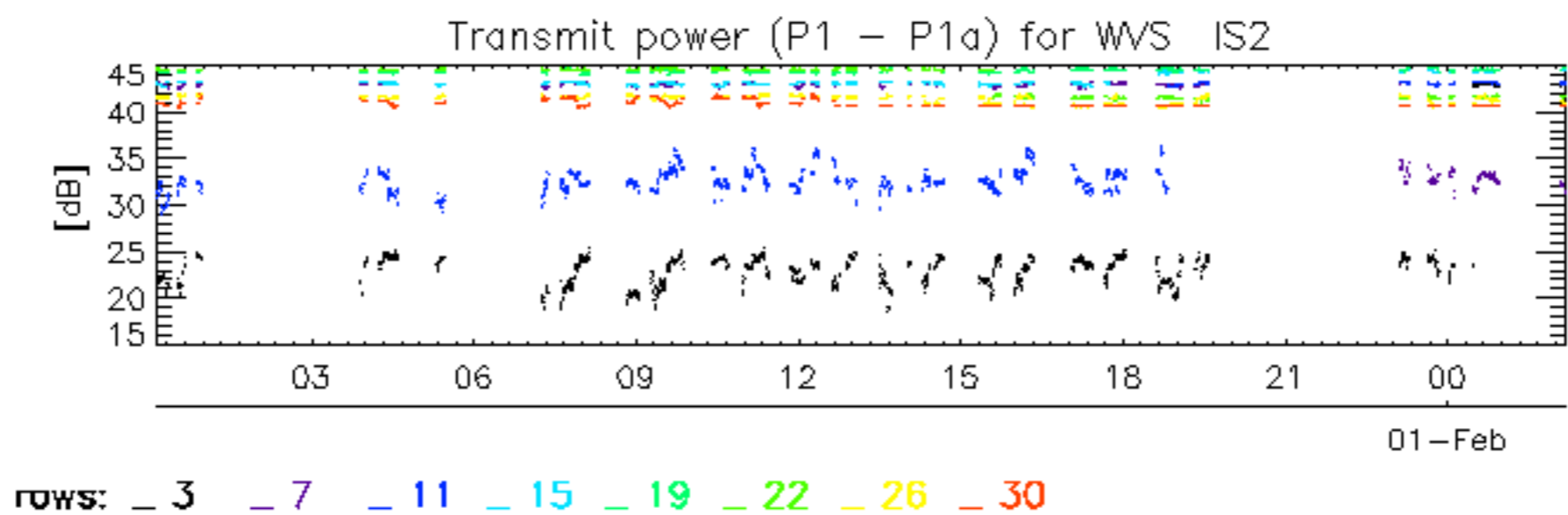
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



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



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





No unavailabilities during the reported period.