

# REPORT OF 040402

last update on Fri Apr 2 15:51:36 GMT 2004

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## 1 - Introduction

This report is based on the analysis of wave mode level-1 cross spectra (ASA\_WVS\_1P) products, which are the available few hours after the acquisition, on the high rate browse (BP) products and on the Module Stepping (MS) product.

## 2 - Summary

### 2.1 - Instrument Unavailability

No unavailabilities during the reported period.

### 2.2 - Browse Visual Inspection

No anomalies observed on available browse products

### 2.3 - 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 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            | 20040401 190511 |
| H            | 20040401 190351 |

#### 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

⊗

## 4.2 - Cyclic statistics



### P1 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|-----------|------------|-----------------|
| 3   | P1    | -3.597238 | 0.005701   | 0.047675        |
| 7   | P1    | -3.306616 | 0.009731   | 0.037495        |
| 11  | P1    | -4.636494 | 0.019527   | 0.011265        |
| 15  | P1    | -5.001009 | 0.036559   | 0.022697        |
| 19  | P1    | -3.353722 | 0.070523   | 0.039974        |
| 22  | P1    | -4.539428 | 0.069338   | 0.051370        |
| 24  | P1    | -5.080408 | 0.089360   | 0.090411        |
| 28  | P1    | -4.590635 | 0.073722   | 0.000383        |

### P2 Cyclic statistics

| row | pulse | mean (dB)  | stdev (dB) | slope(dB/cycle) |
|-----|-------|------------|------------|-----------------|
| 3   | P2    | -22.393038 | 0.080001   | -0.008727       |
| 7   | P2    | -22.894632 | 0.125776   | 0.031870        |
| 11  | P2    | -15.986569 | 0.157771   | 0.077541        |
| 15  | P2    | -7.173641  | 0.088968   | 0.045121        |
| 19  | P2    | -9.499275  | 0.175370   | 0.036332        |
| 22  | P2    | -17.674698 | 0.100670   | 0.061902        |
| 24  | P2    | -21.025976 | 0.112745   | -0.010846       |
| 28  | P2    | -16.600559 | 0.083090   | -0.005118       |

### P3 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|-----------|------------|-----------------|
| 3   | P3    | -8.127562 | 0.003018   | 0.003390        |
| 7   | P3    | -8.127567 | 0.003018   | 0.003398        |
| 11  | P3    | -8.127565 | 0.003018   | 0.003378        |
| 15  | P3    | -8.127558 | 0.003017   | 0.003338        |
| 19  | P3    | -8.127548 | 0.003017   | 0.003296        |
| 22  | P3    | -8.127542 | 0.003017   | 0.003268        |
| 24  | P3    | -8.127542 | 0.003017   | 0.003249        |

### 4.3 - cal pulses monitoring (all rows)



## 5 - RAW data statistics

No anomalies observed.

### 5.1 - Input mean I/Q

| channel | stat  | DSS-B       |
|---------|-------|-------------|
| MEAN I  | mean  | 0.000483651 |
|         | stdev | 2.31738e-07 |
| MEAN Q  | mean  | 0.000496255 |
|         | stdev | 2.63553e-07 |



### 5.2 - Input stdev I/Q

| channel | stat  | DSS-B      |
|---------|-------|------------|
| STDEV I | mean  | 0.128223   |
|         | stdev | 0.00115045 |
| STDEV Q | mean  | 0.128468   |
|         | stdev | 0.00116389 |



### 5.3 - Gain imbalance I/Q



## 6 - Doppler Analysis

### 6.1 - Unbiased Doppler Error

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

|           |
|-----------|
| Ascending |
|-----------|

|            |
|------------|
| Descending |
|------------|

### 6.2 - Absolute Doppler

|                                      |
|--------------------------------------|
| <b>Evolution of Absolute Doppler</b> |
|--------------------------------------|

|           |
|-----------|
| Ascending |
|-----------|

|            |
|------------|
| Descending |
|------------|

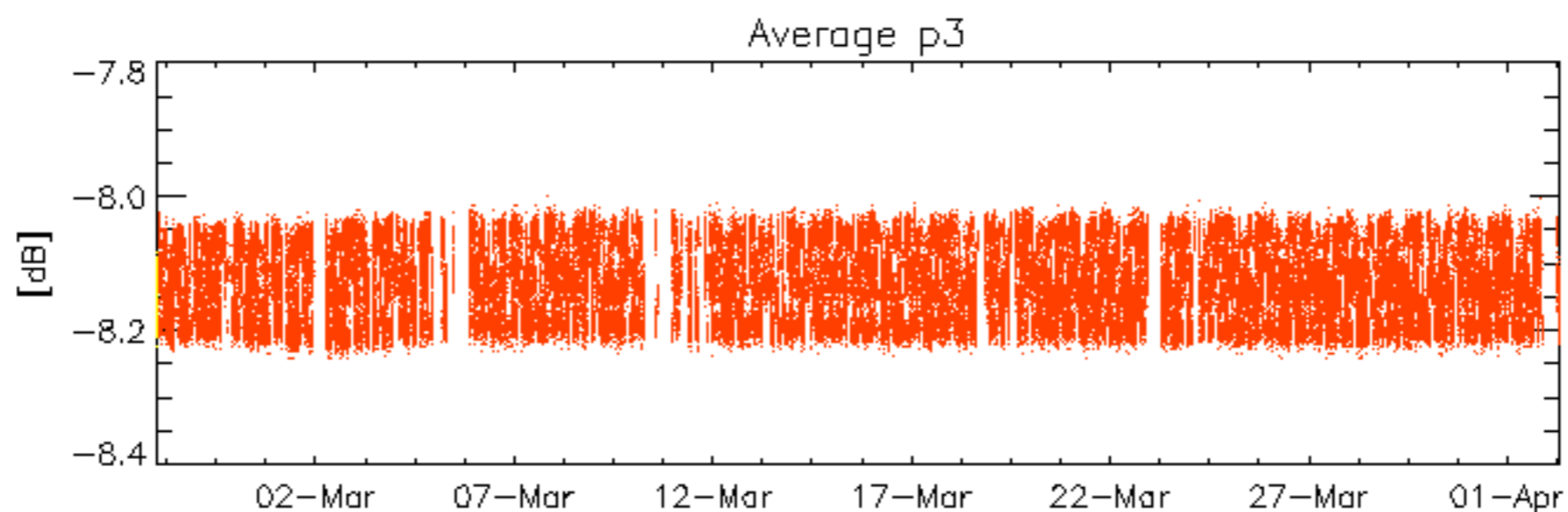
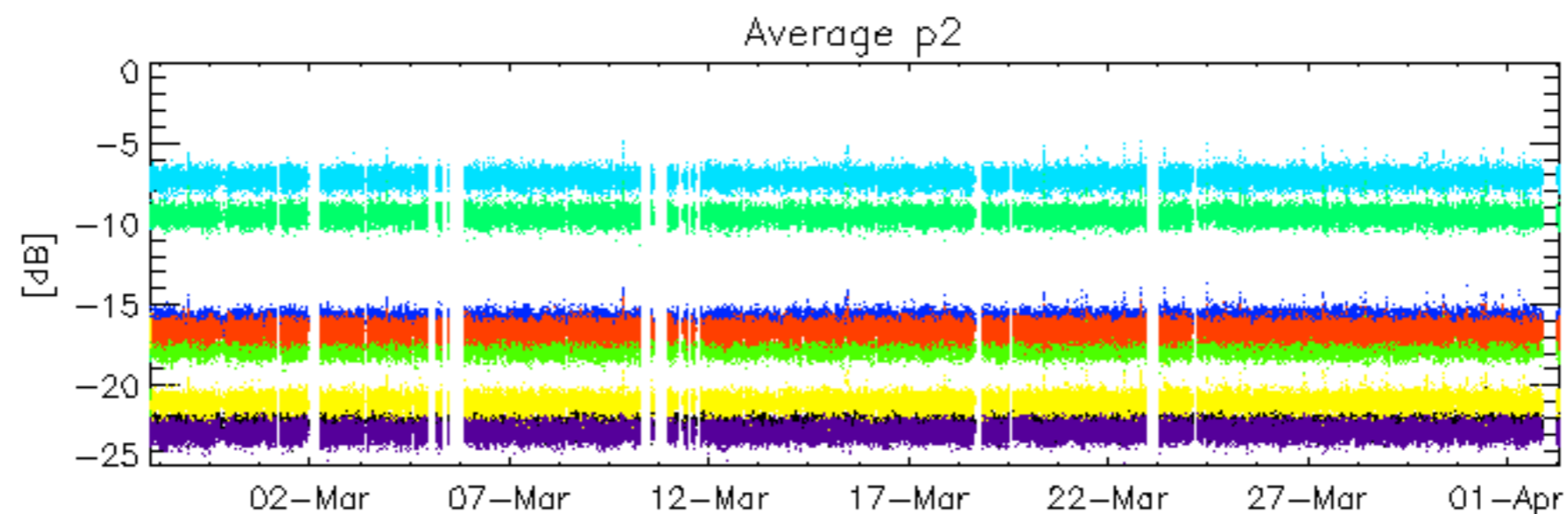
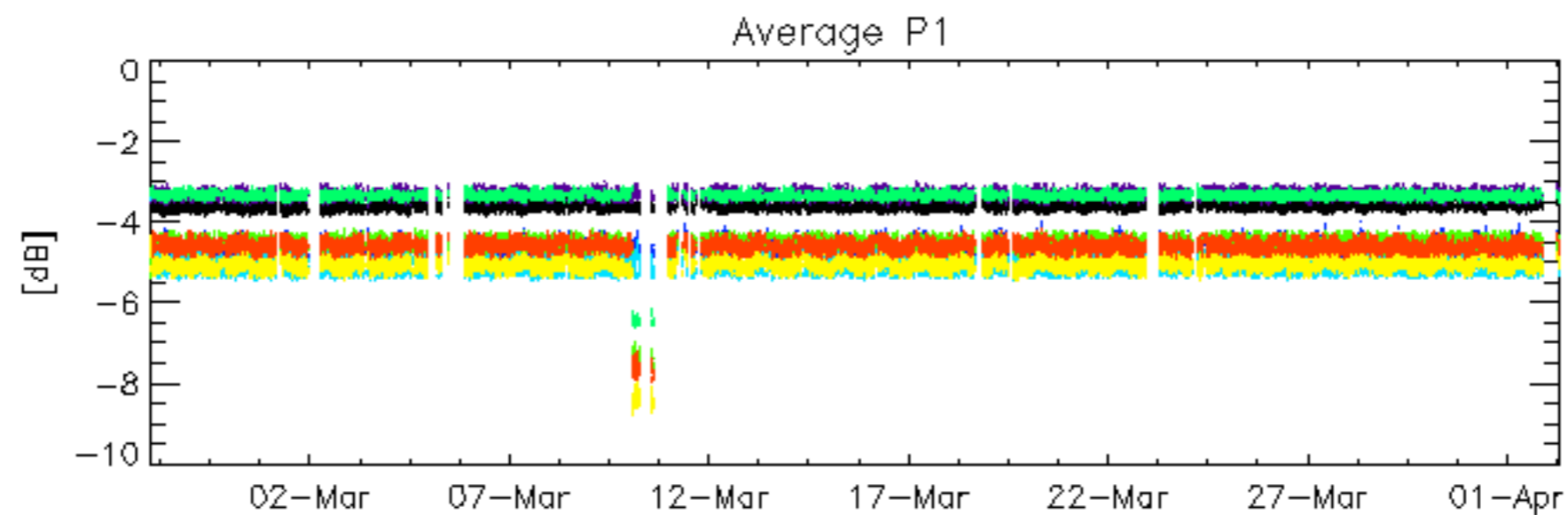
### 6.3 - Doppler evolution versus ANX

|   |
|---|
| <b>Evolution Doppler error versus ANX</b> |
|---|

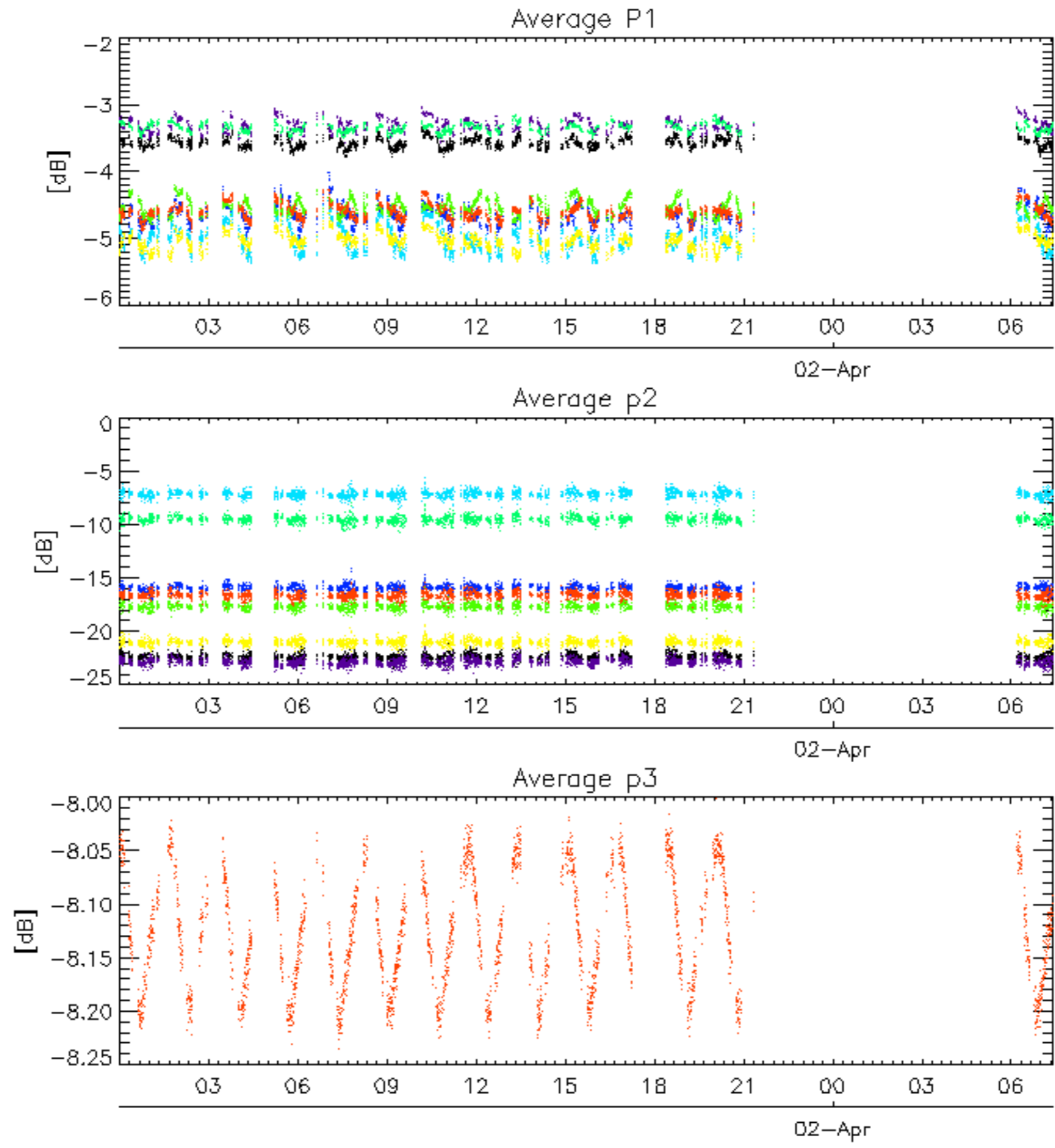
|   |
|---|
| ⊗ |
|---|

|   |
|---|
| <b>Evolution Doppler error versus ANX</b> |
|---|

|   |
|---|
| ⊗ |
|---|



rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 24 \_ 28

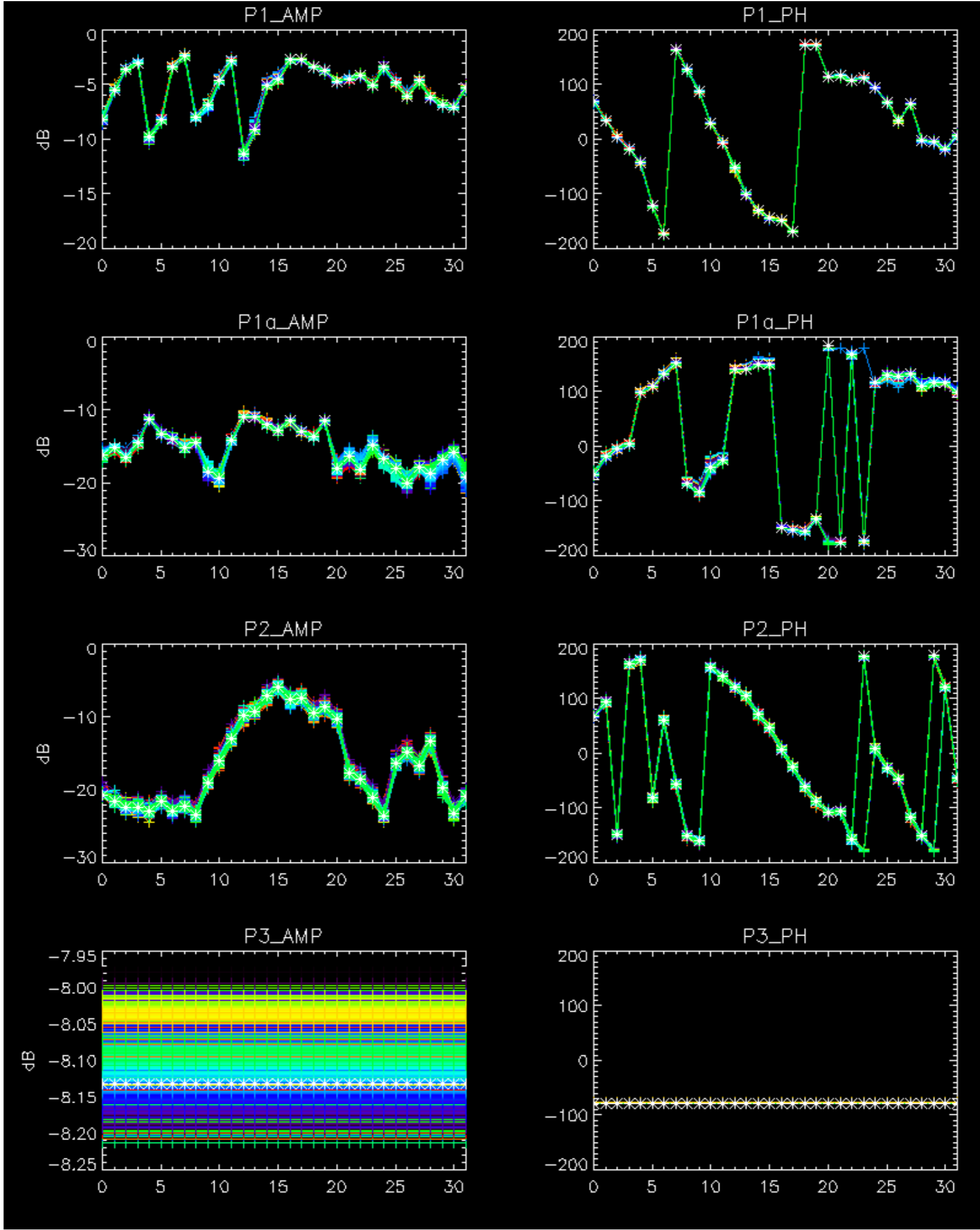


rows: **3** **7** **11** **15** **19** **22** **24** **28**

No anomalies observed on available browse products



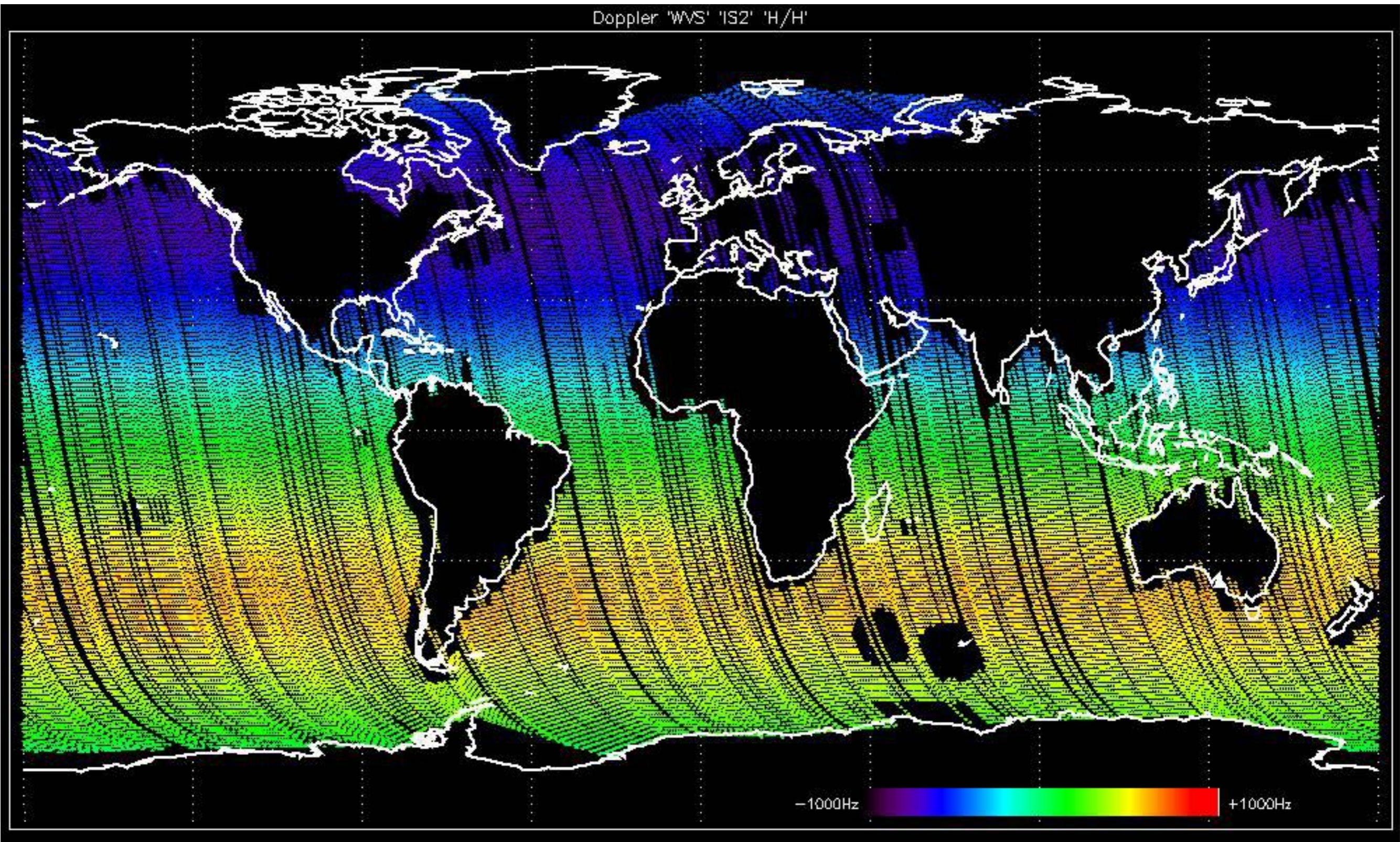
No anomalies observed.



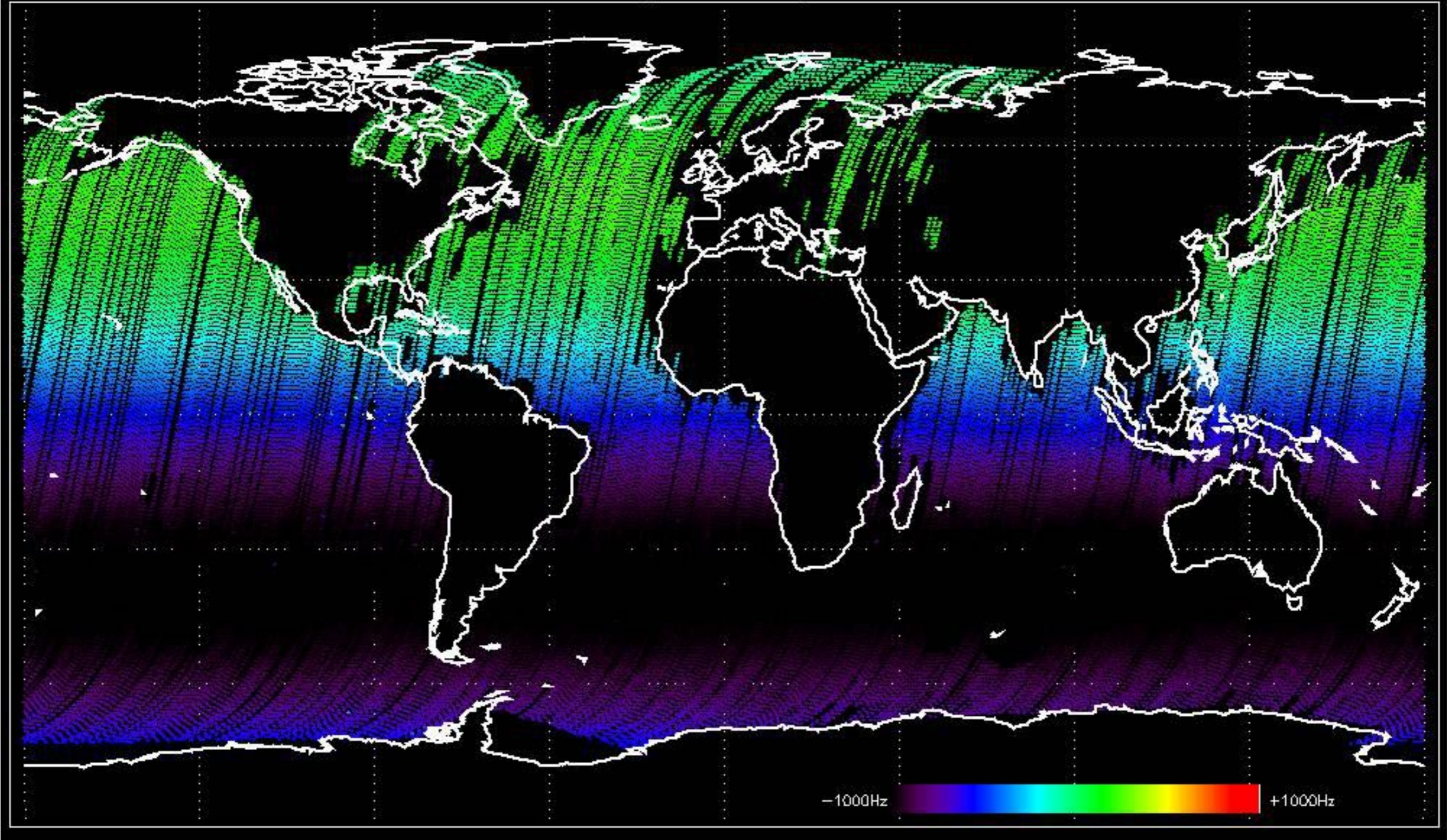
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

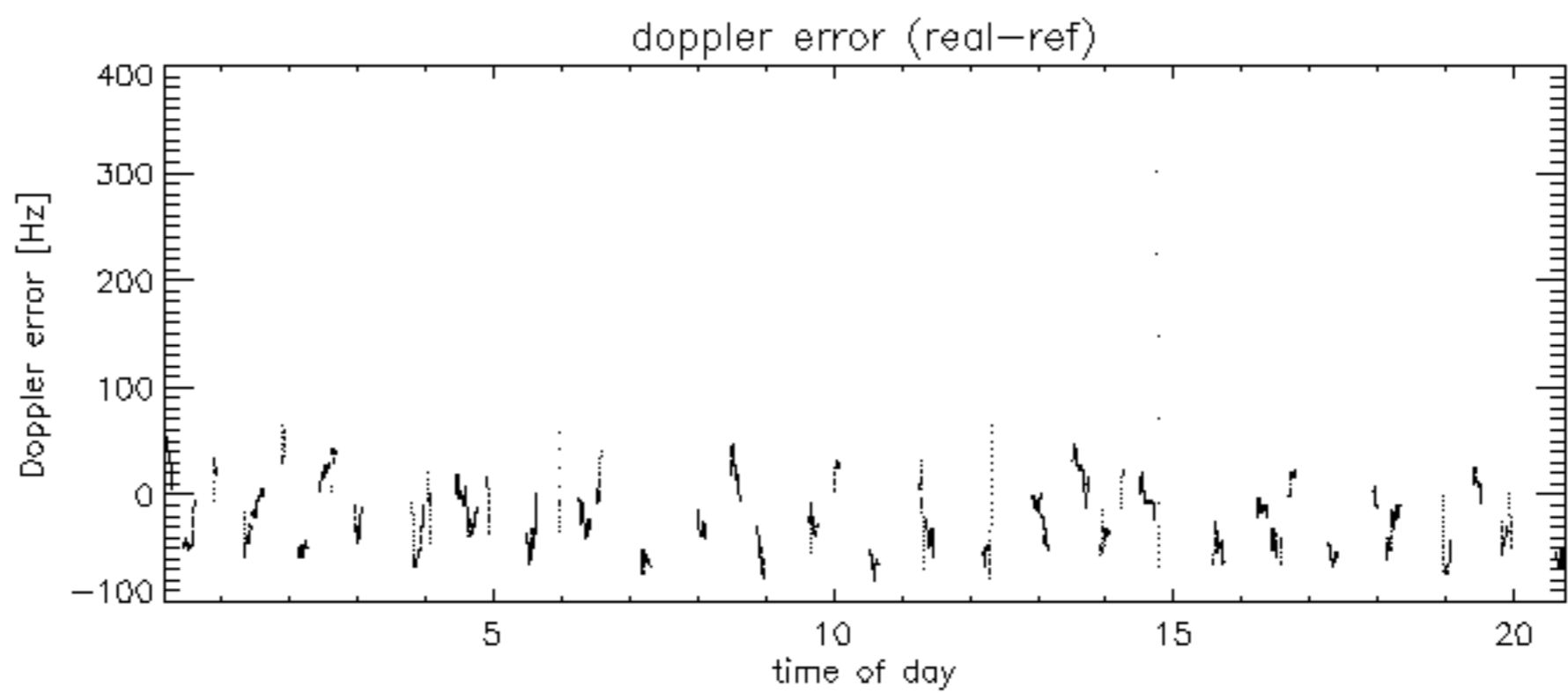
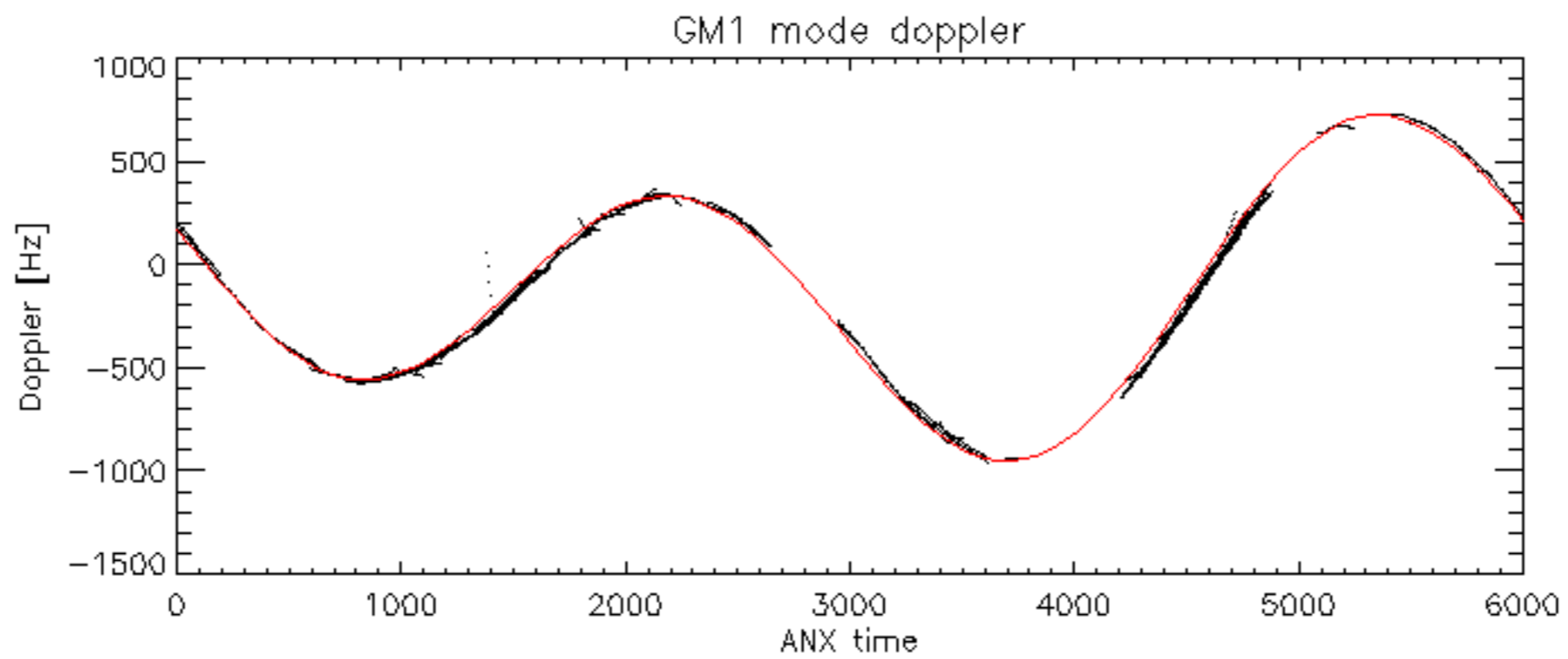


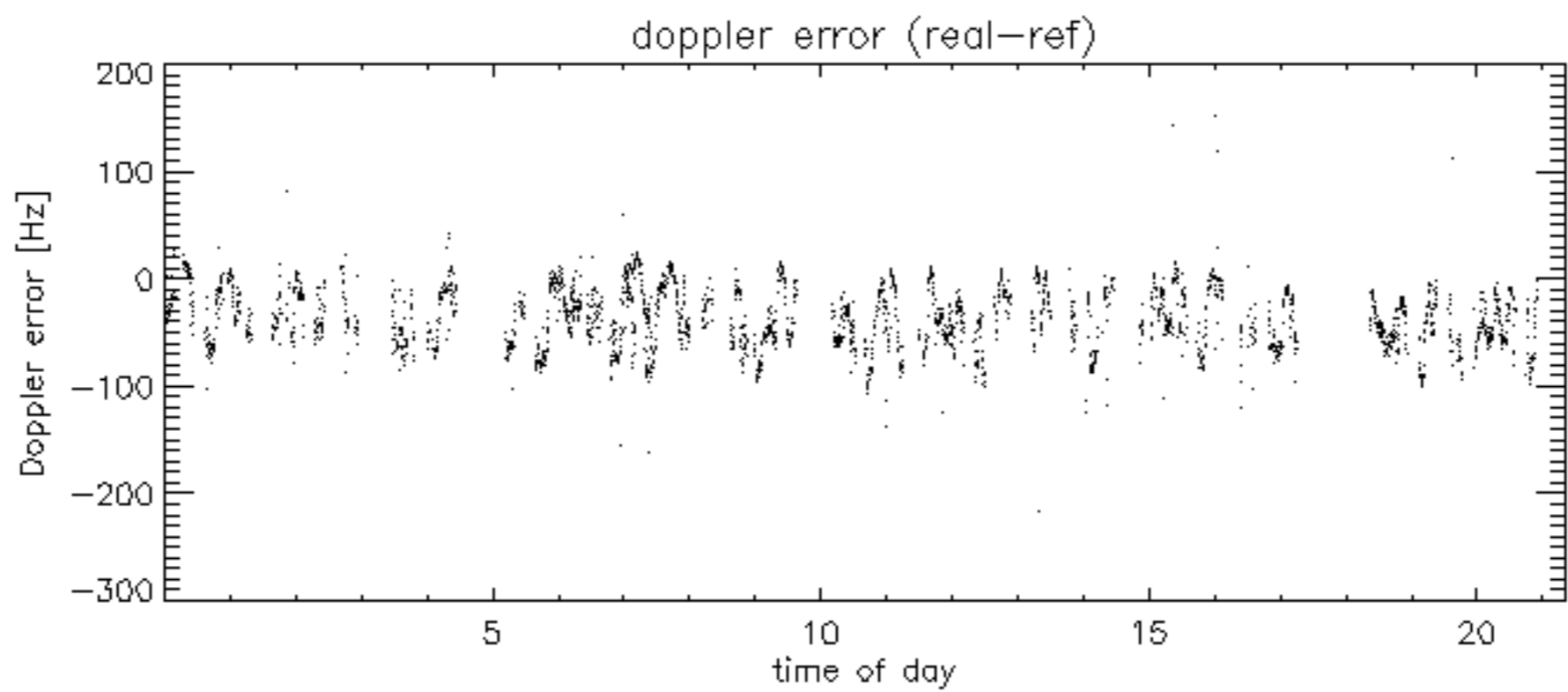
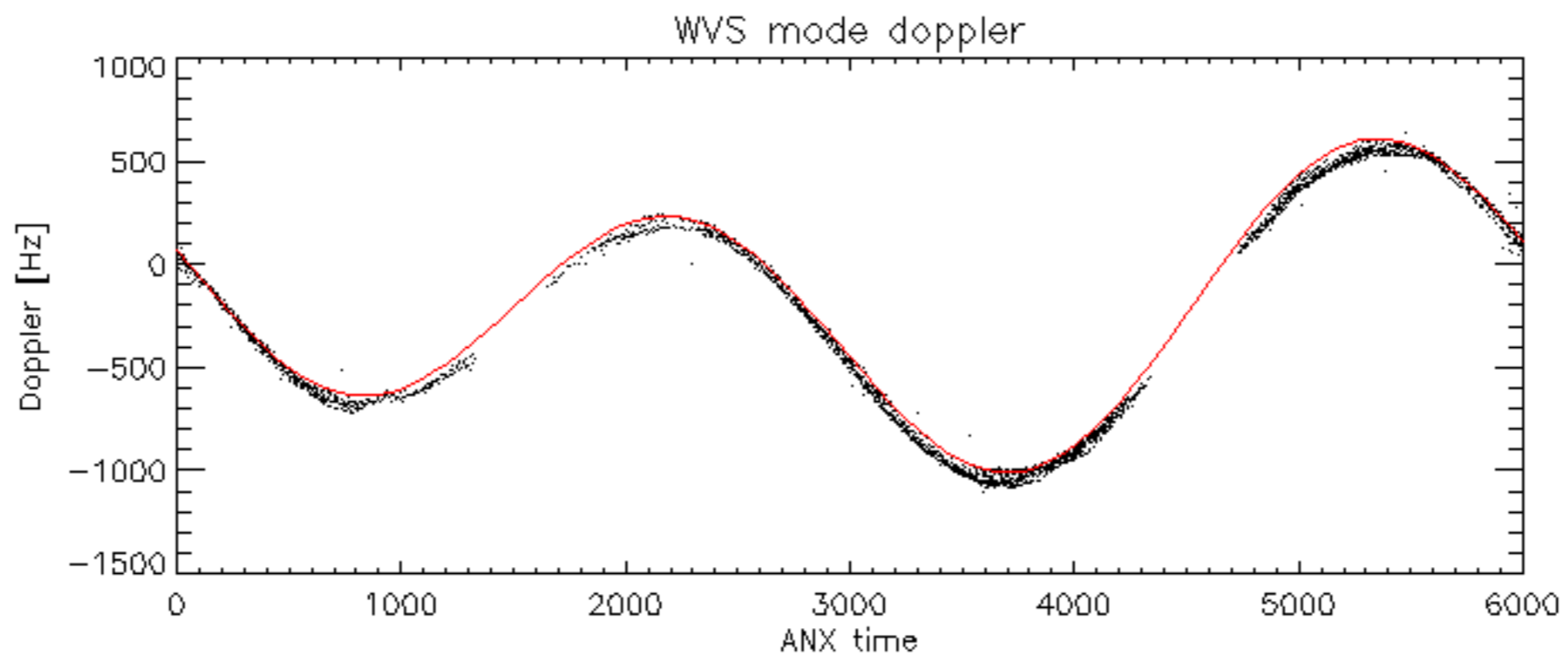
Doppler 'WVS' 'IS2' 'H/H'



Doppler 'WVS' 'ISZ' 'V/V'

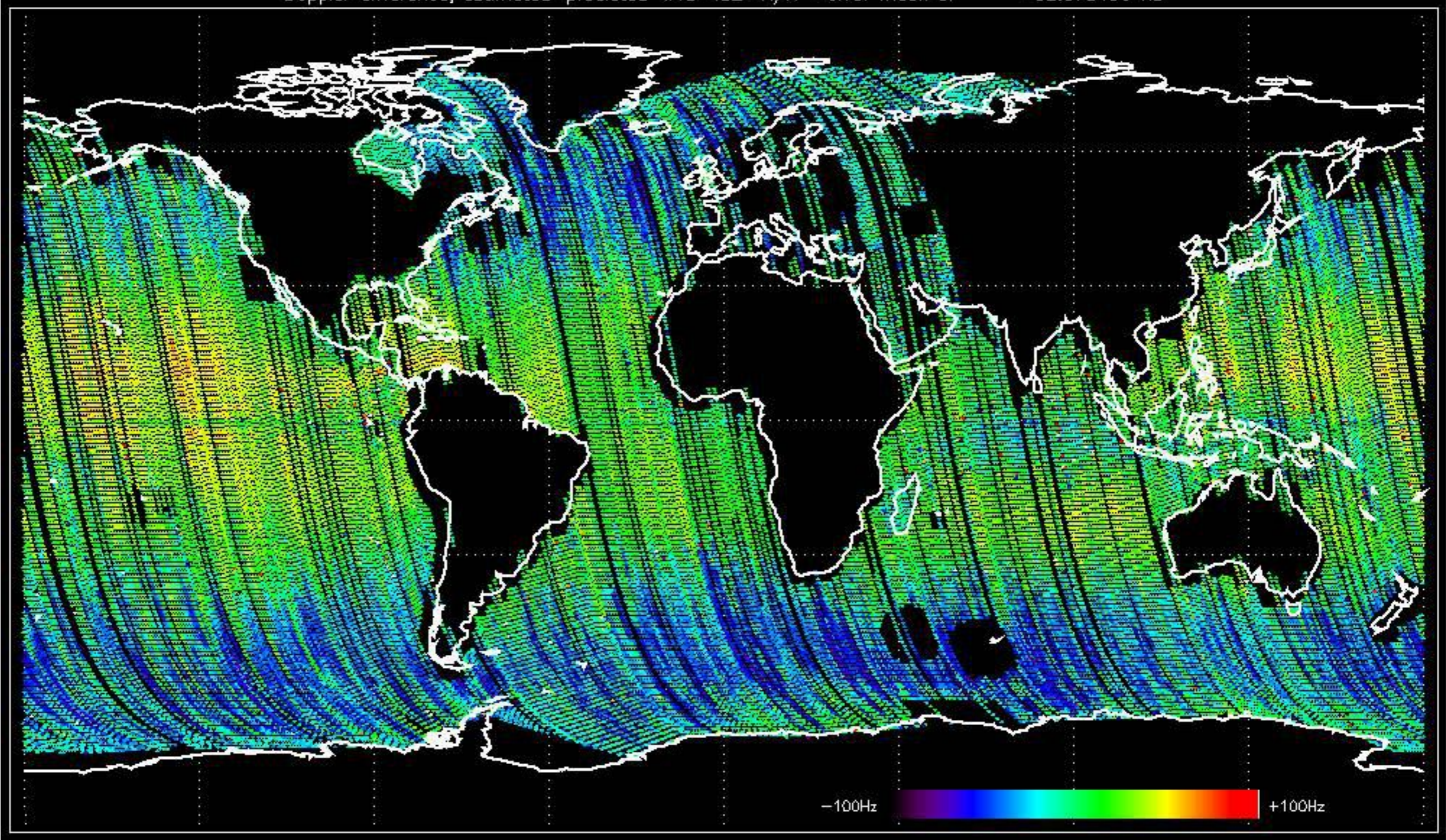




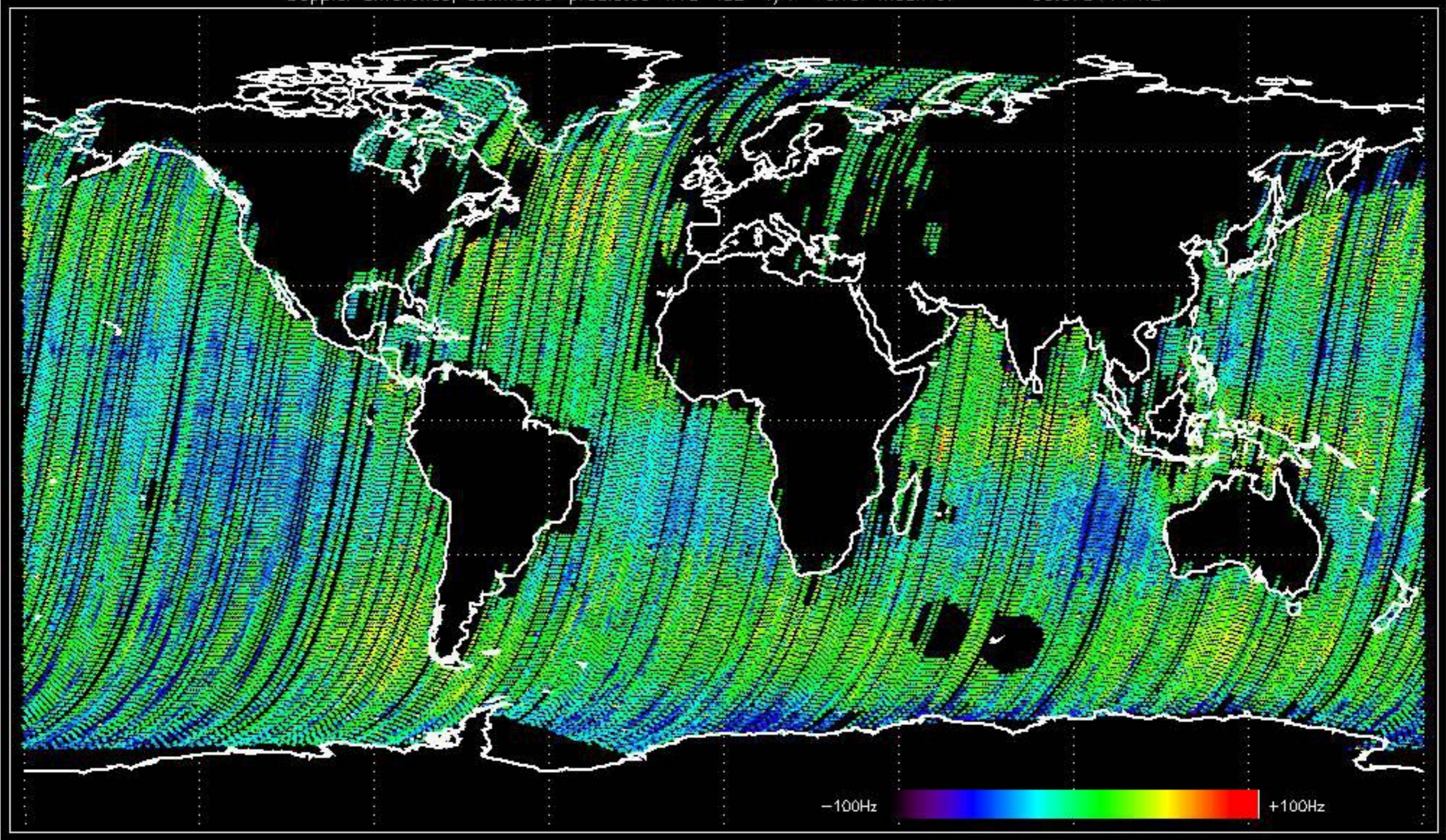




Doppler difference, estimated-predicted 'WVS' 'IS2' 'H/H' -error mean of -32.678496 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' 'V/V' -error mean of -30.079144 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.









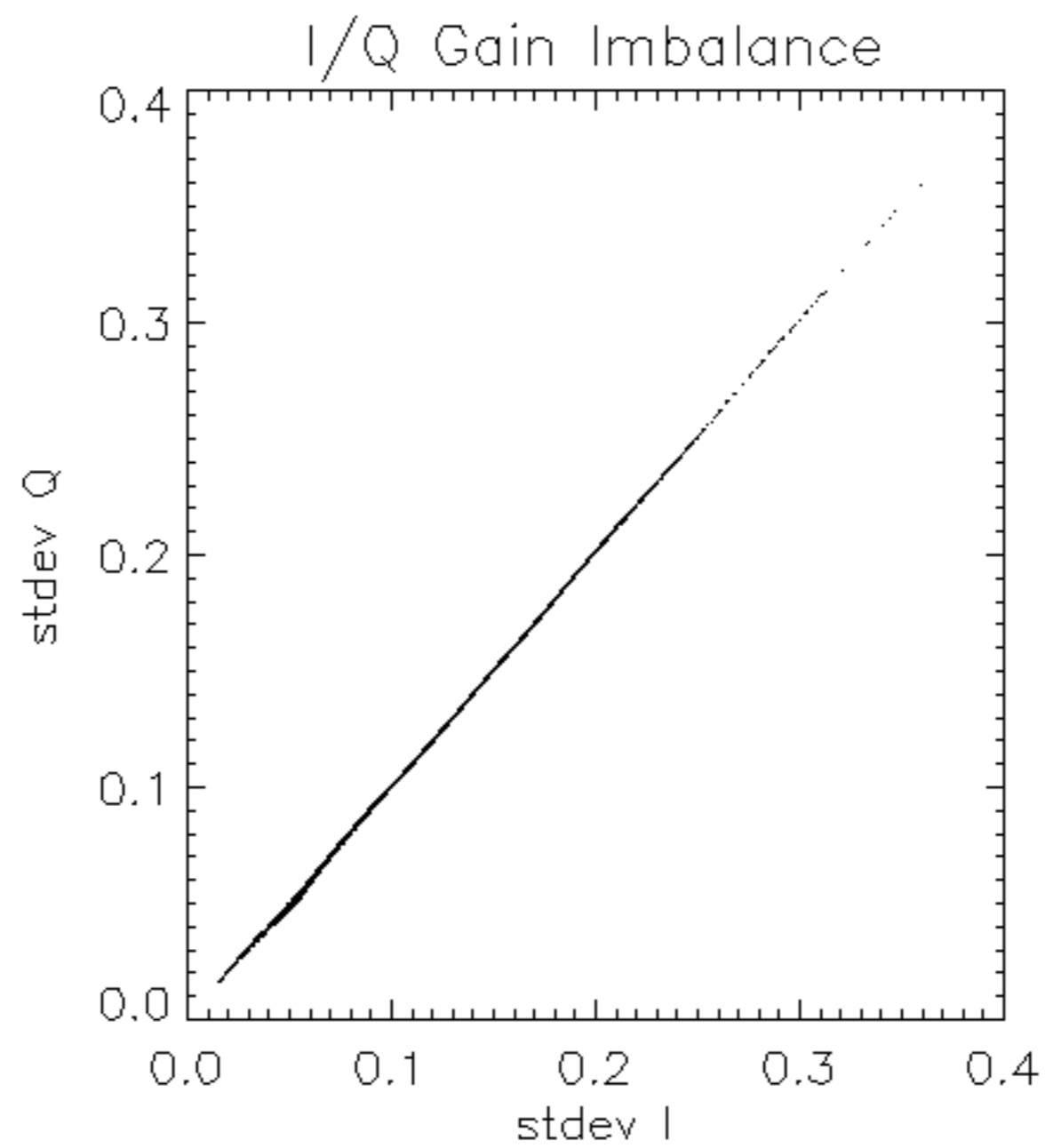


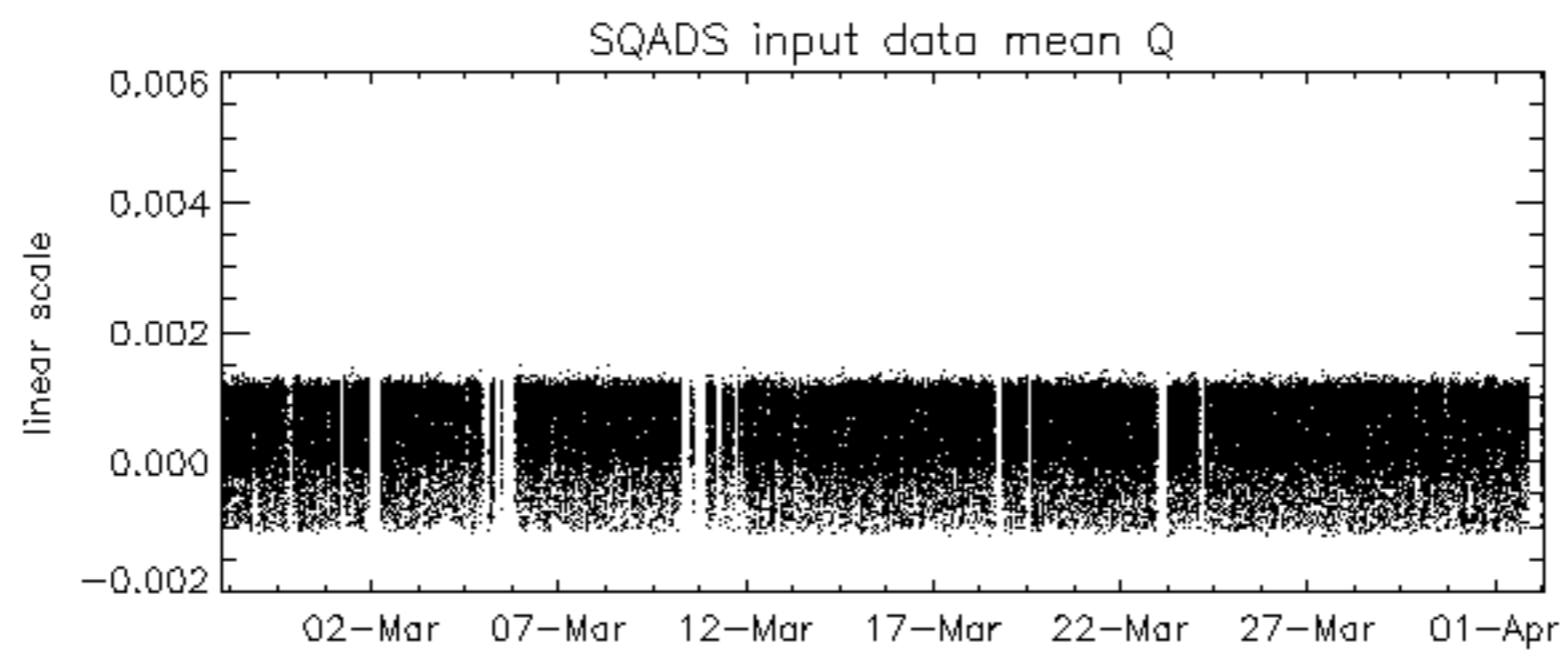
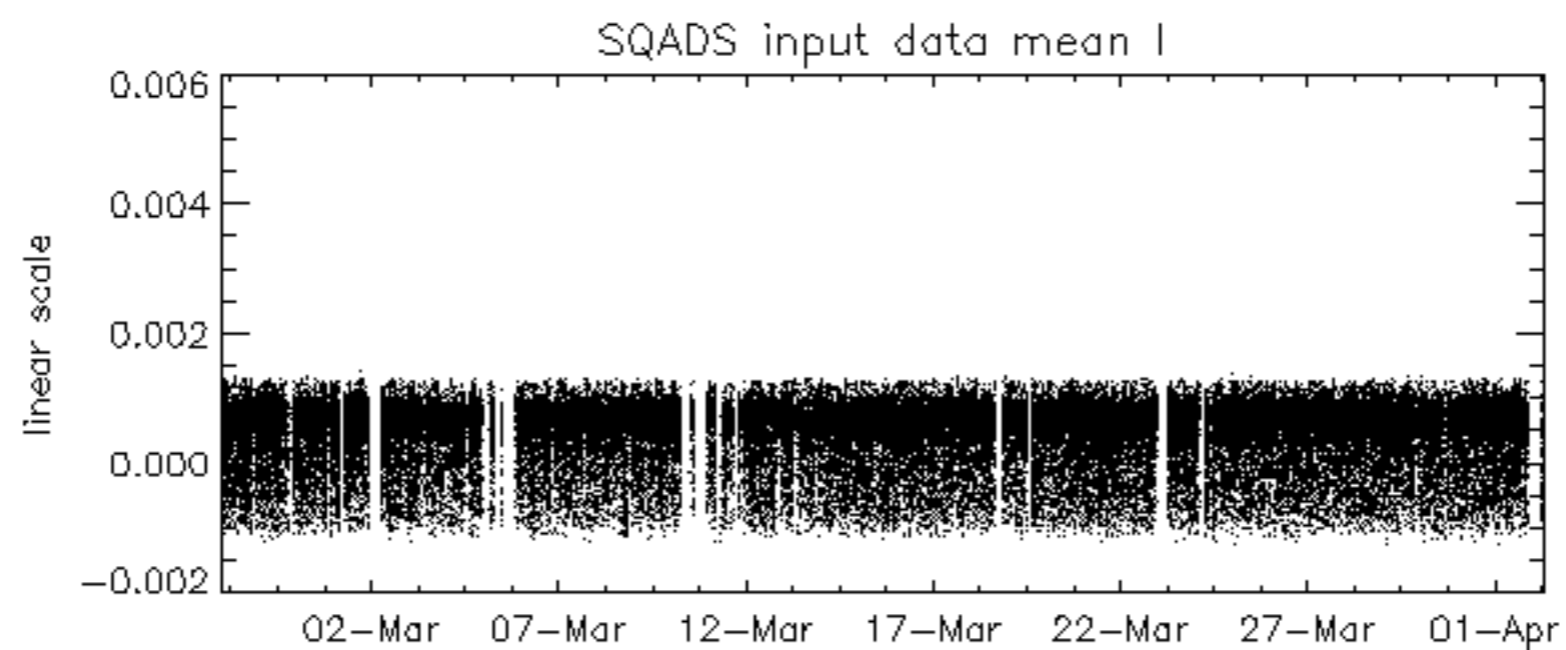
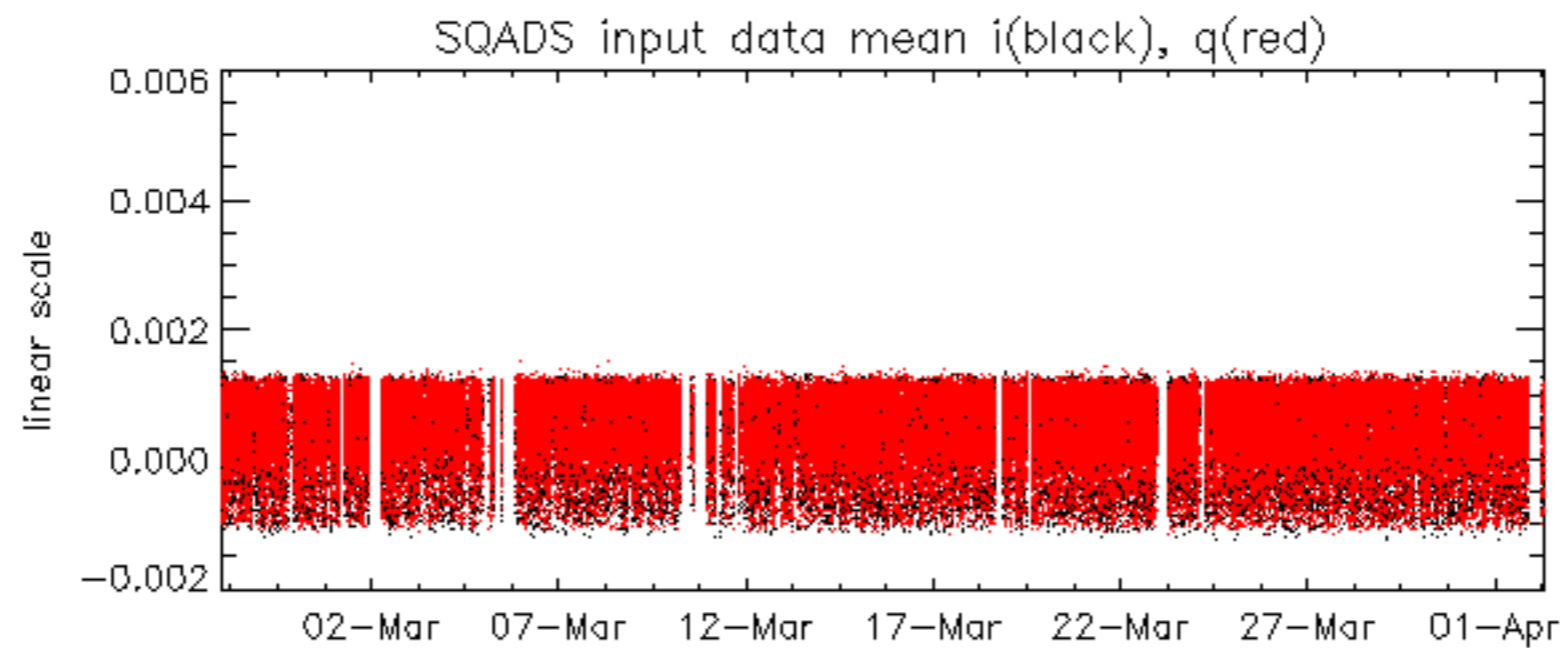


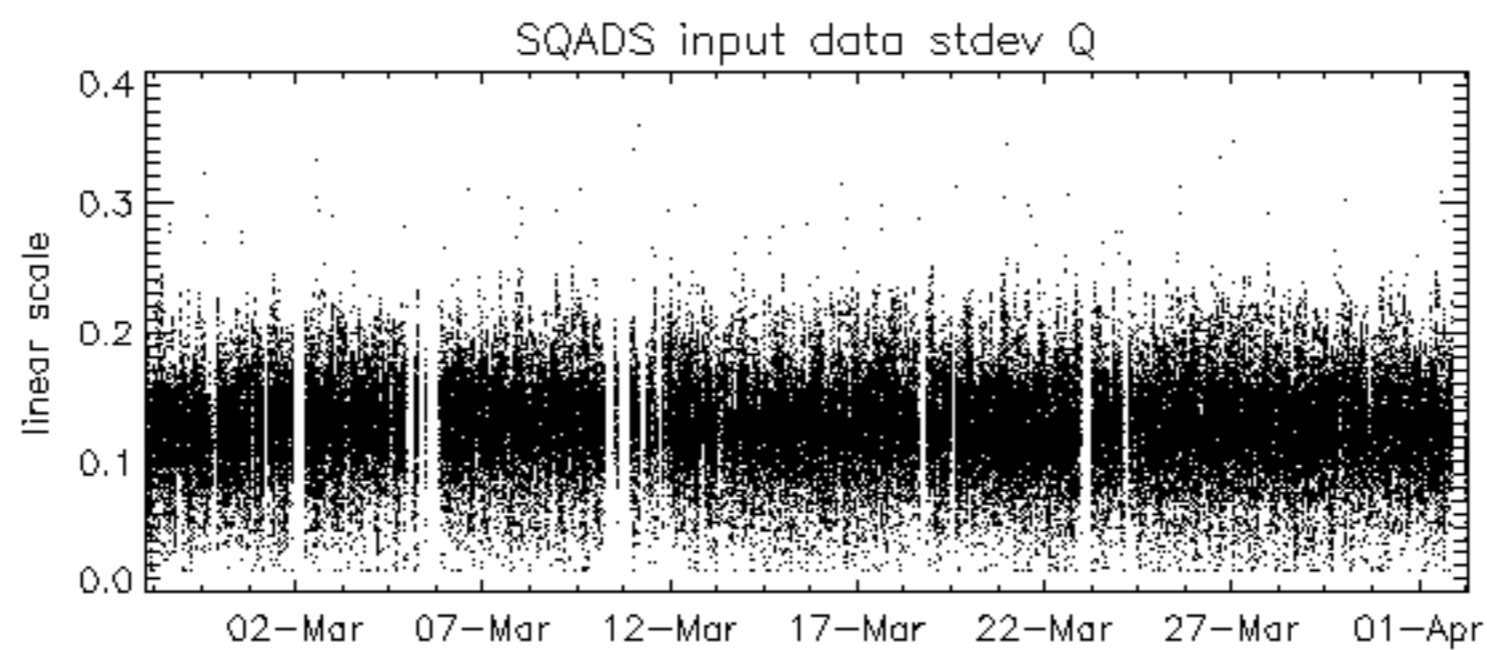
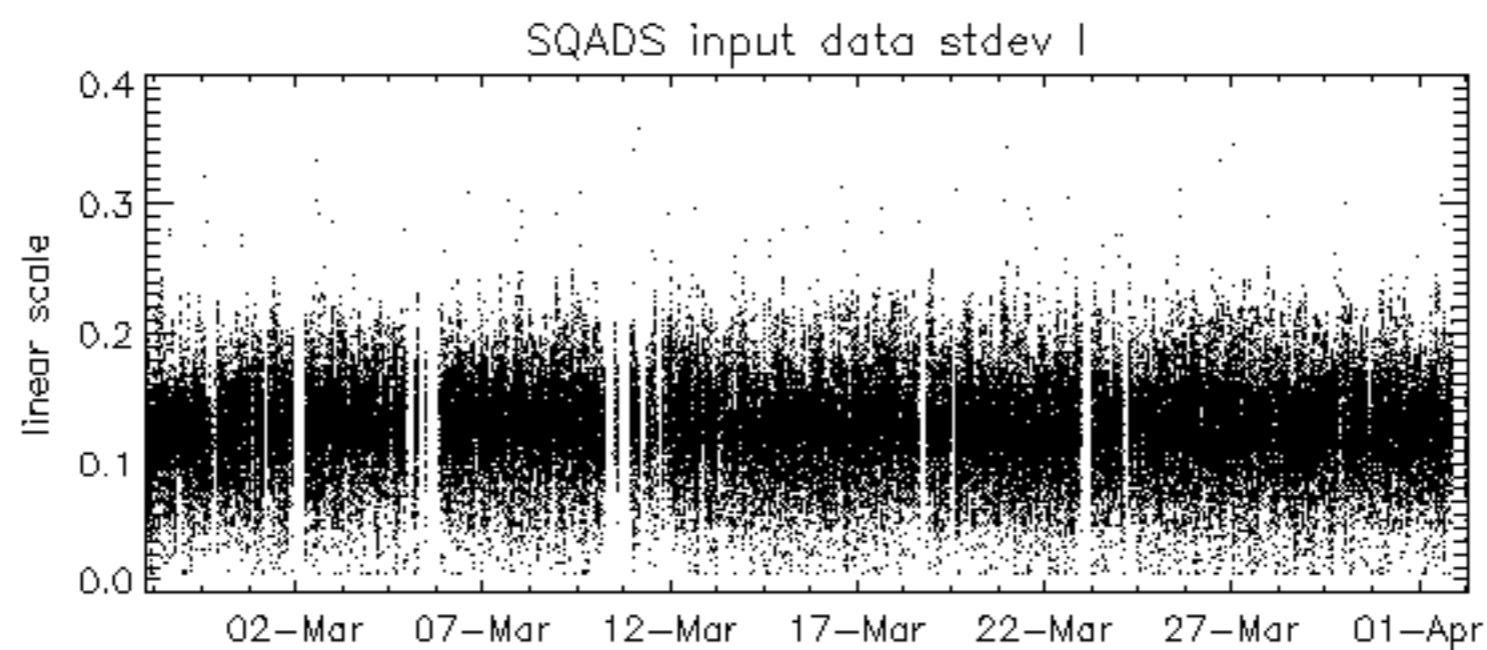
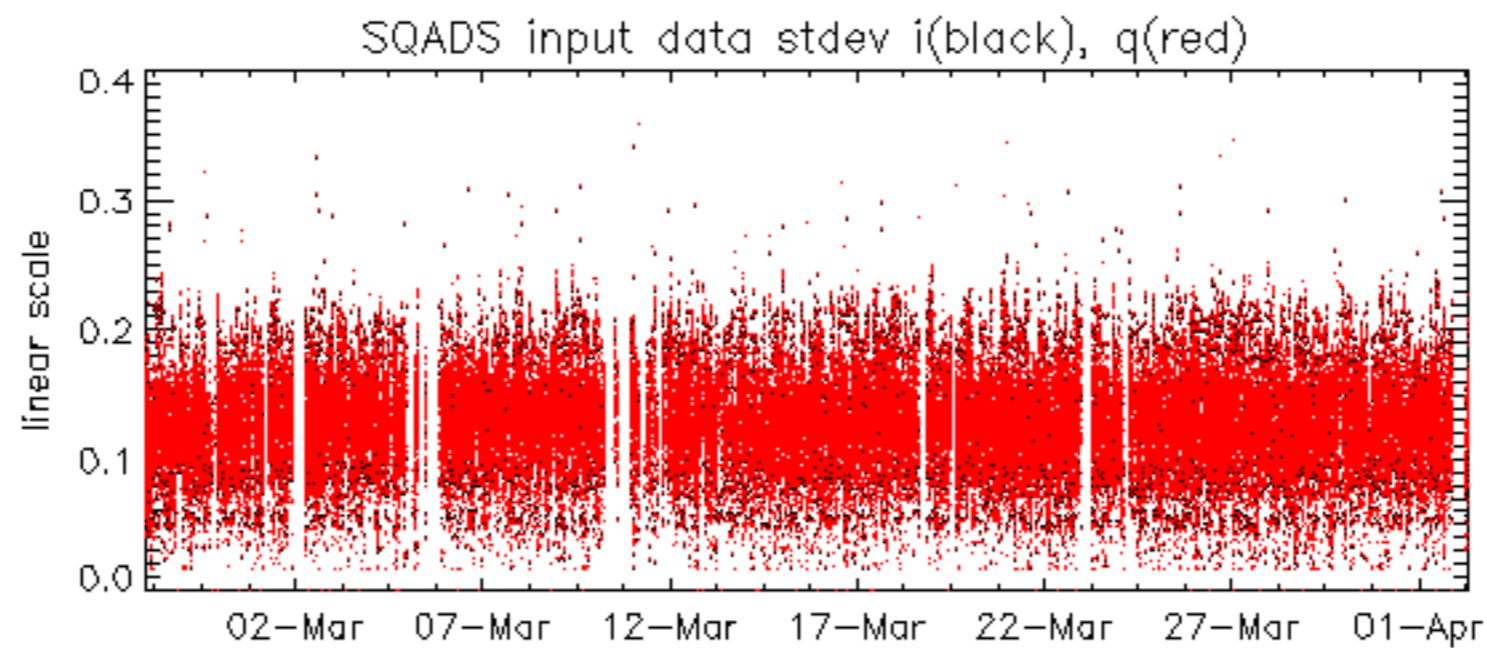






























No unavailabilities during the reported period.