

# REPORT OF 031114

1. [Introduction](#)
2. [Summary](#)
  - [Instrument Unavailability](#)
  - [Browse Visual Inspection](#)
  - [Module Stepping Results](#)
  - [Data Analysis](#)
3. [Module Stepping](#)
4. [Internal Calibration pulses](#)
  - [Daily statistics \(row 3 and 24\)](#)
  - [Cyclic statistics \(row 3 and 24\)](#)
  - [cal pulses monitoring \(all rows\)](#)
5. [Raw Data Statistics](#)
  - [raw data mean I and Q](#)
  - [raw data stdev I and Q](#)
  - [raw gain imbalance](#)
6. [Wave Doppler analysis](#)
  - [Unbiased Doppler Error](#)
  - [Absolute Doppler](#)
  - [Doppler evolution versus ANX](#)

## 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            | 20031113 190829 |
| H            | 20031113 190709 |

#### 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

| row | stat  | AveP1      | AveP2     | AveP3      |
|-----|-------|------------|-----------|------------|
| 3   | mean  | -3.75520   | -22.5401  | -8.14632   |
|     | stdev | 0.00572884 | 0.0663403 | 0.00294132 |

|    |       |            |           |            |
|----|-------|------------|-----------|------------|
| 24 | mean  | -5.10300   | -21.2232  | -8.14632   |
|    | stdev | 0.00890581 | 0.0576183 | 0.00294132 |



## 4.2 - Cyclic statistics

| row | stat  | AveP1      | AveP2     | AveP3      |
|-----|-------|------------|-----------|------------|
| 3   | mean  | -3.78156   | -22.5475  | -8.15074   |
|     | stdev | 0.00581854 | 0.0652144 | 0.00288019 |
| 24  | mean  | -5.34249   | -21.2447  | -8.15074   |
|     | stdev | 0.916333   | 0.0607331 | 0.00288019 |



## 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  | 0.000394051 |
|         | stdev | 3.43343e-07 |
| MEAN Q  | mean  | 0.000240069 |
|         | stdev | 3.61826e-07 |



### 5.2 - Input stdev I/Q

| channel | stat  | DSS-B      |
|---------|-------|------------|
| STDEV I | mean  | 0.112544   |
|         | stdev | 0.00146428 |

|         |       |            |
|---------|-------|------------|
| STDEV Q | mean  | 0.112795   |
|         | stdev | 0.00148156 |



### 5.3 - Gain imbalance I/Q



## 6 - Wave Doppler Analysis

No anomalies observed Doppler evolution.  
Doppler analysis performed over the last 35 days

### 6.1 - Unbiased Doppler Error

#### Evolution of unbiased Doppler error (Real - Expected)

|            |
|------------|
| Ascending  |
| Descending |

### 6.2 - Absolute Doppler

#### Evolution of Absolute Doppler

|            |
|------------|
| Ascending  |
| Descending |

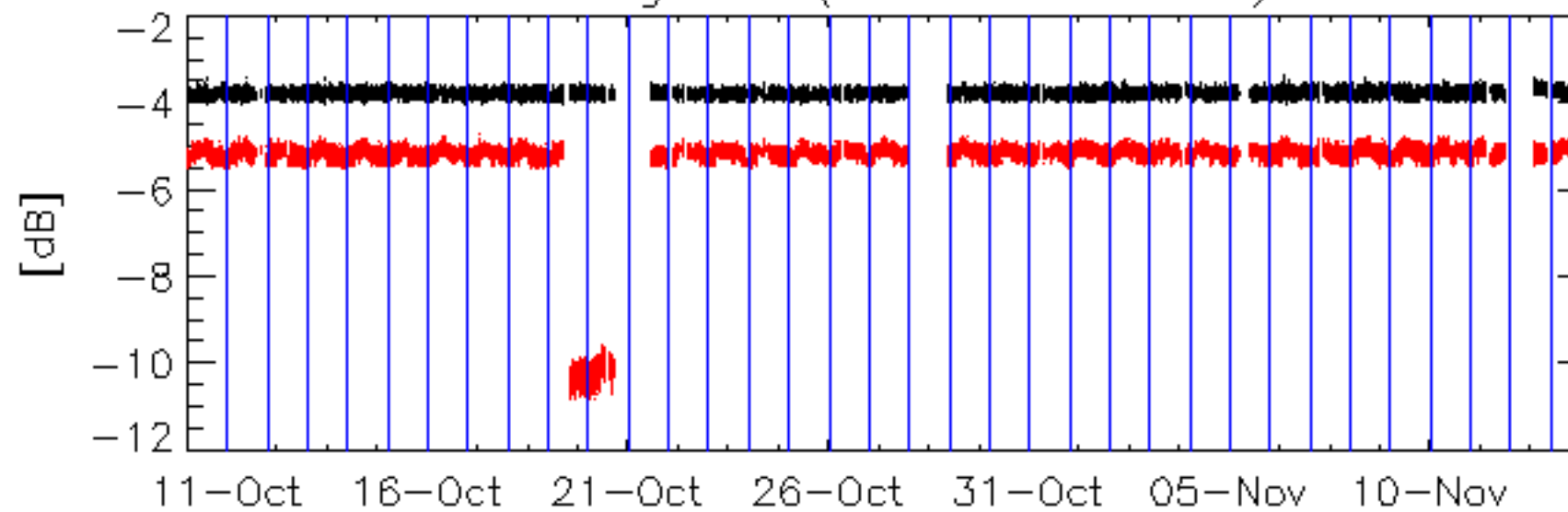
### 6.3 - Doppler evolution versus ANX

#### Evolution Doppler error versus ANX

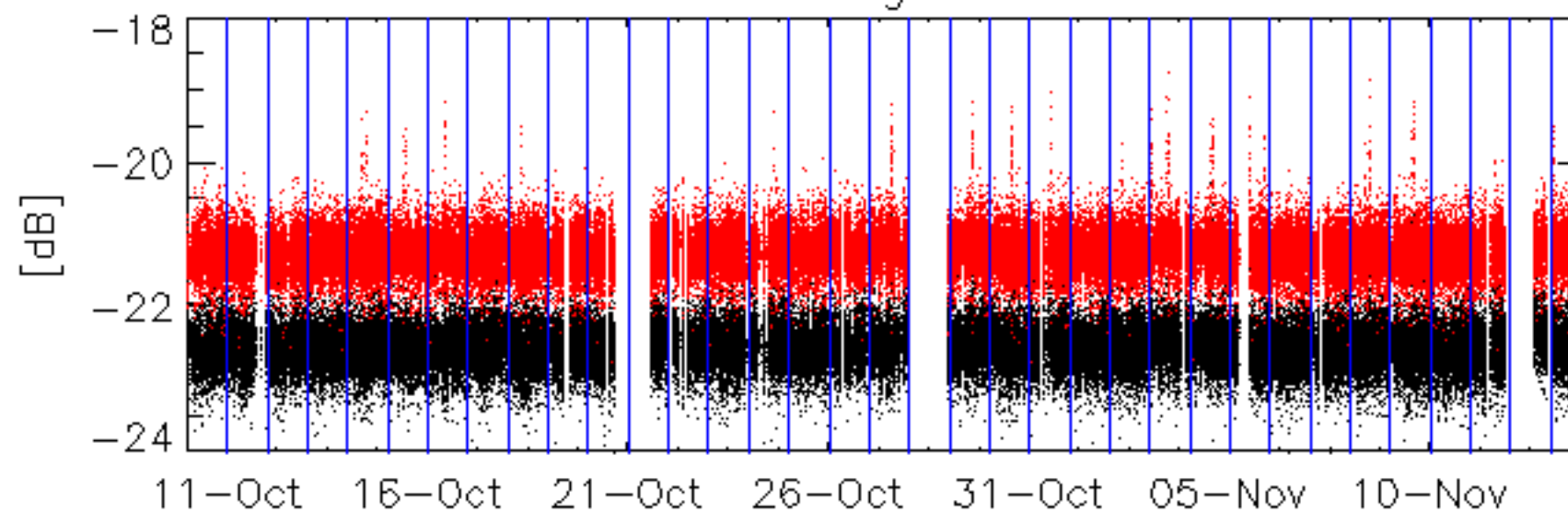




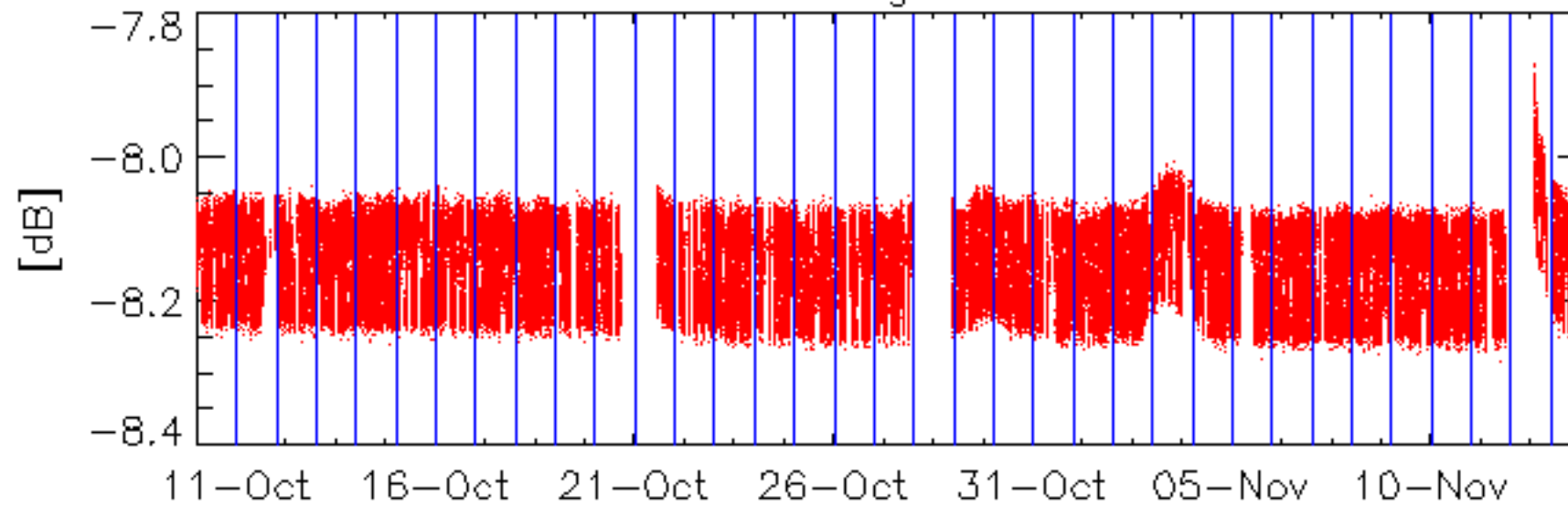
Average P1 (row 3 & row 24)



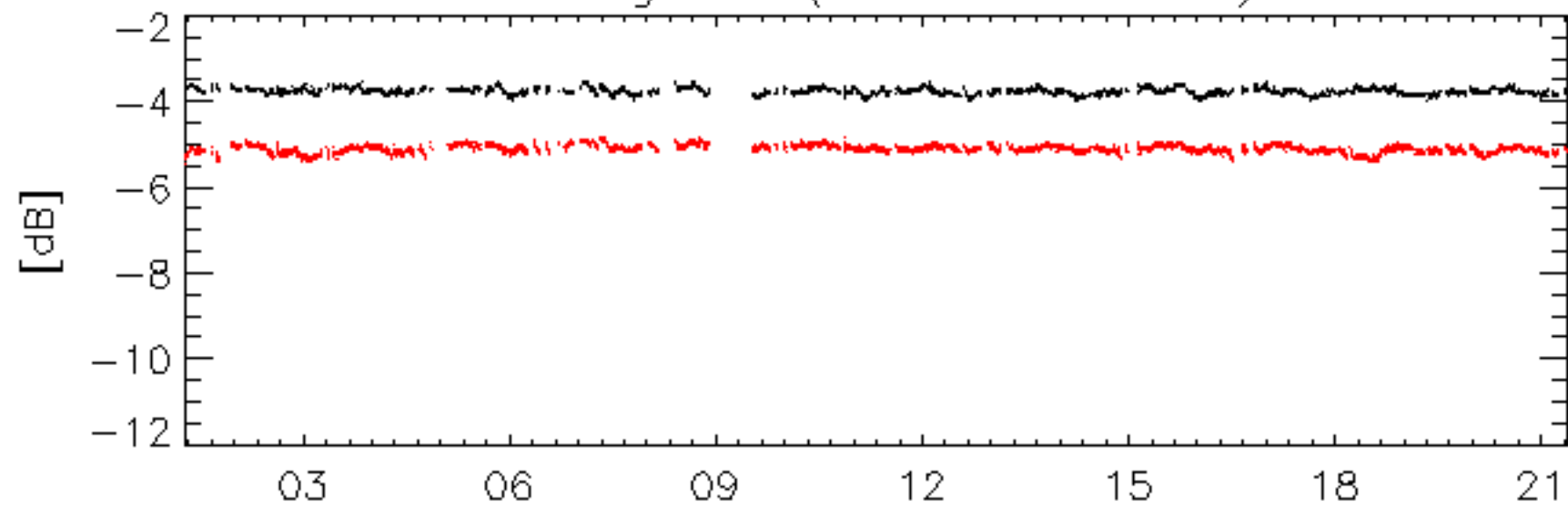
Average P2



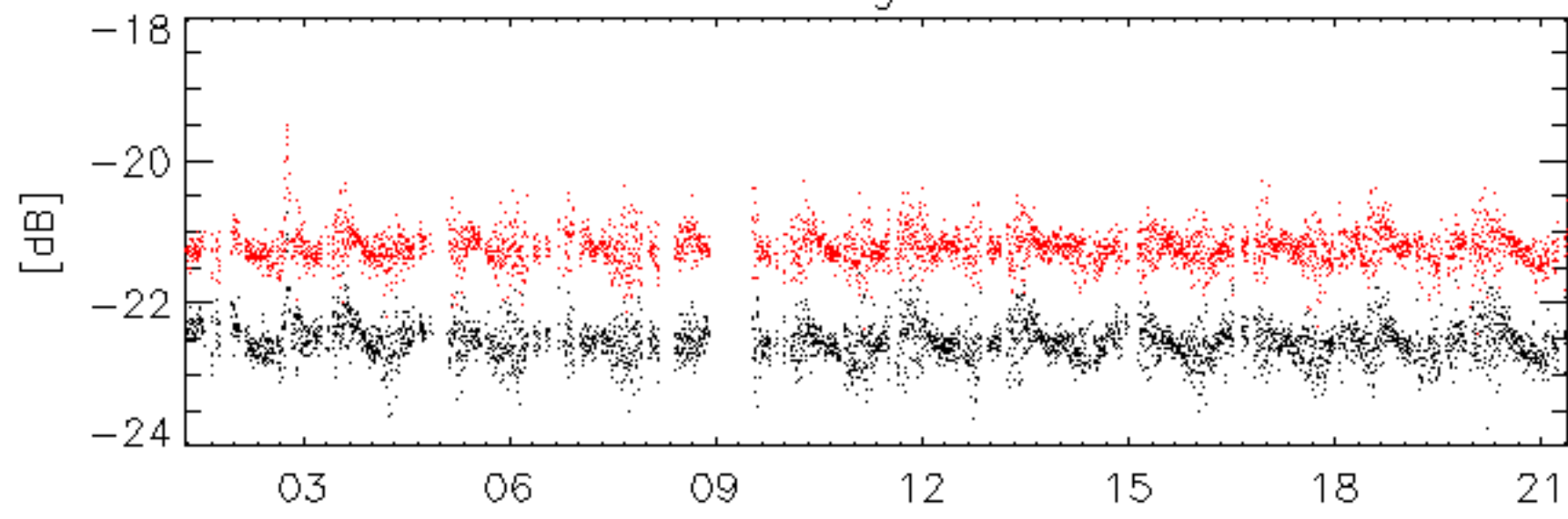
Average P3



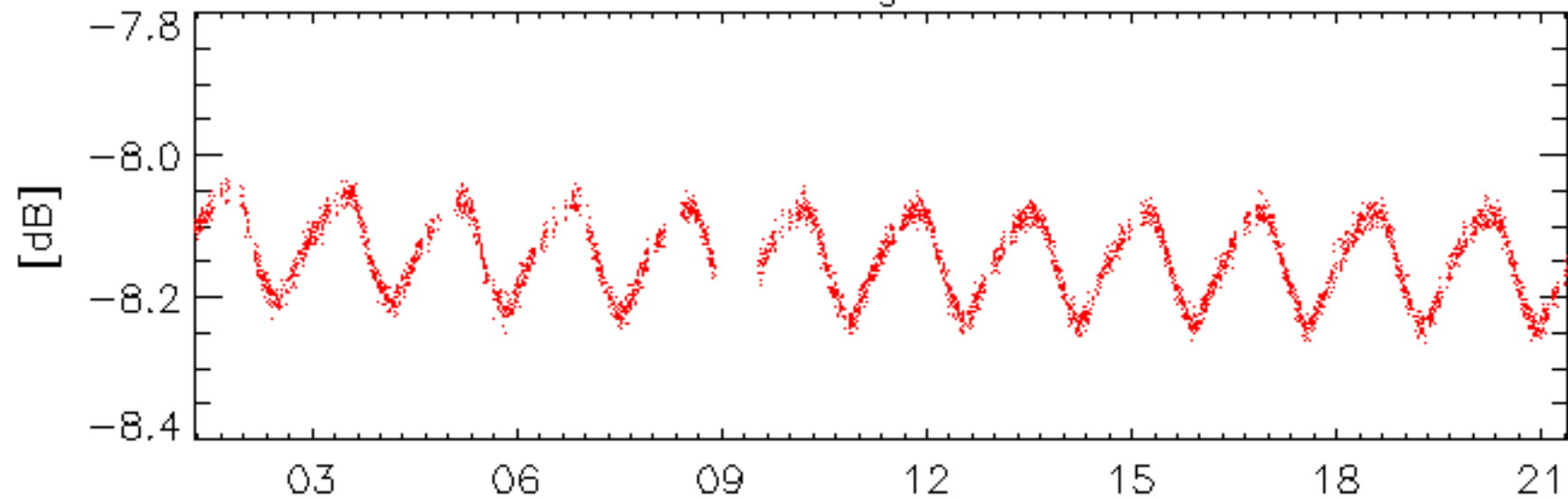
Average P1 (row 3 & row 24)



13-Nov  
Average P2



13-Nov  
Average P3

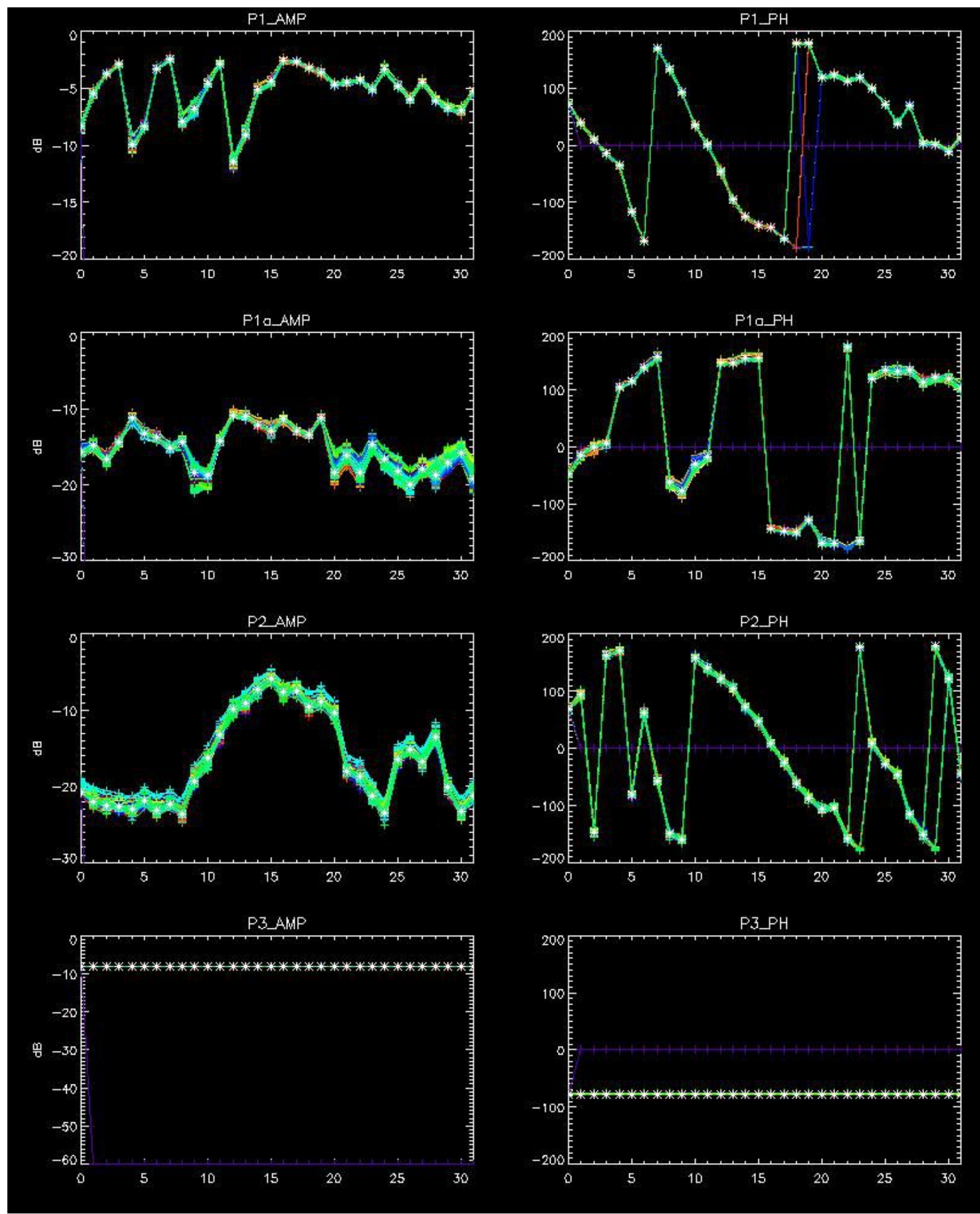


13-Nov

No anomalies observed on available browse products



No anomalies observed.

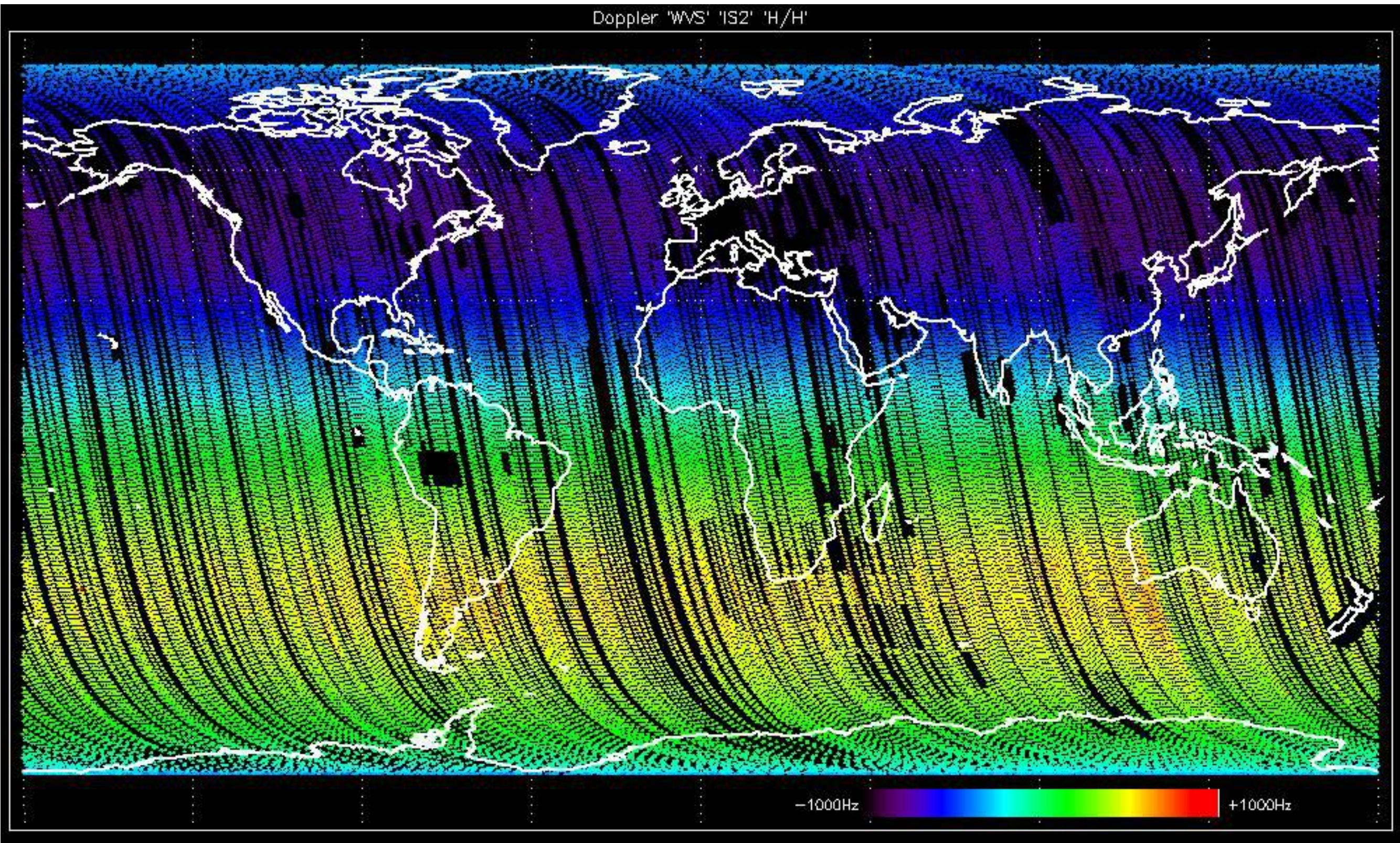


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

No anomalies observed Doppler evolution.  
Doppler analysis performed over the last 35 days

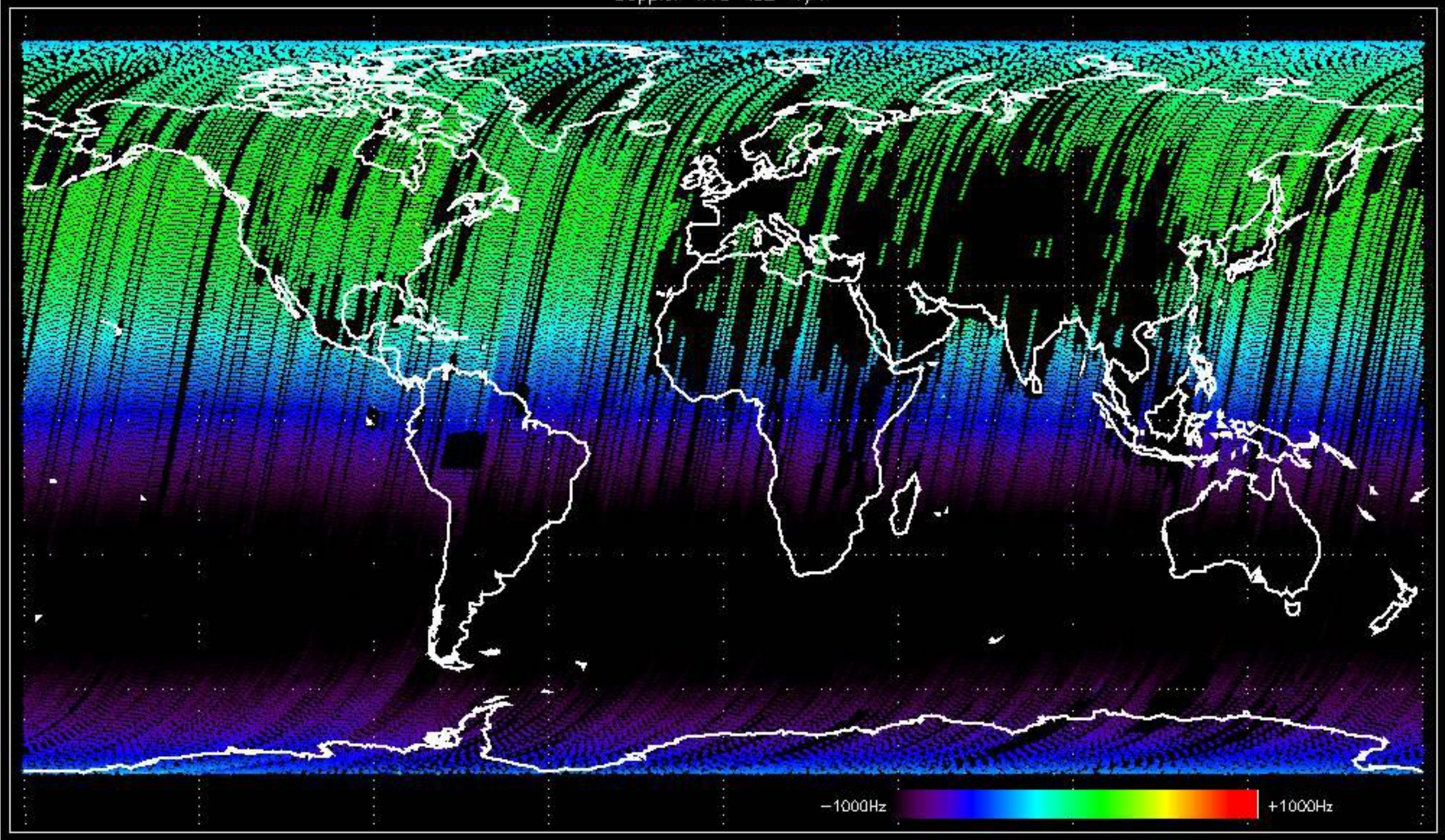


Doppler 'WVS' 'IS2' 'H/H'

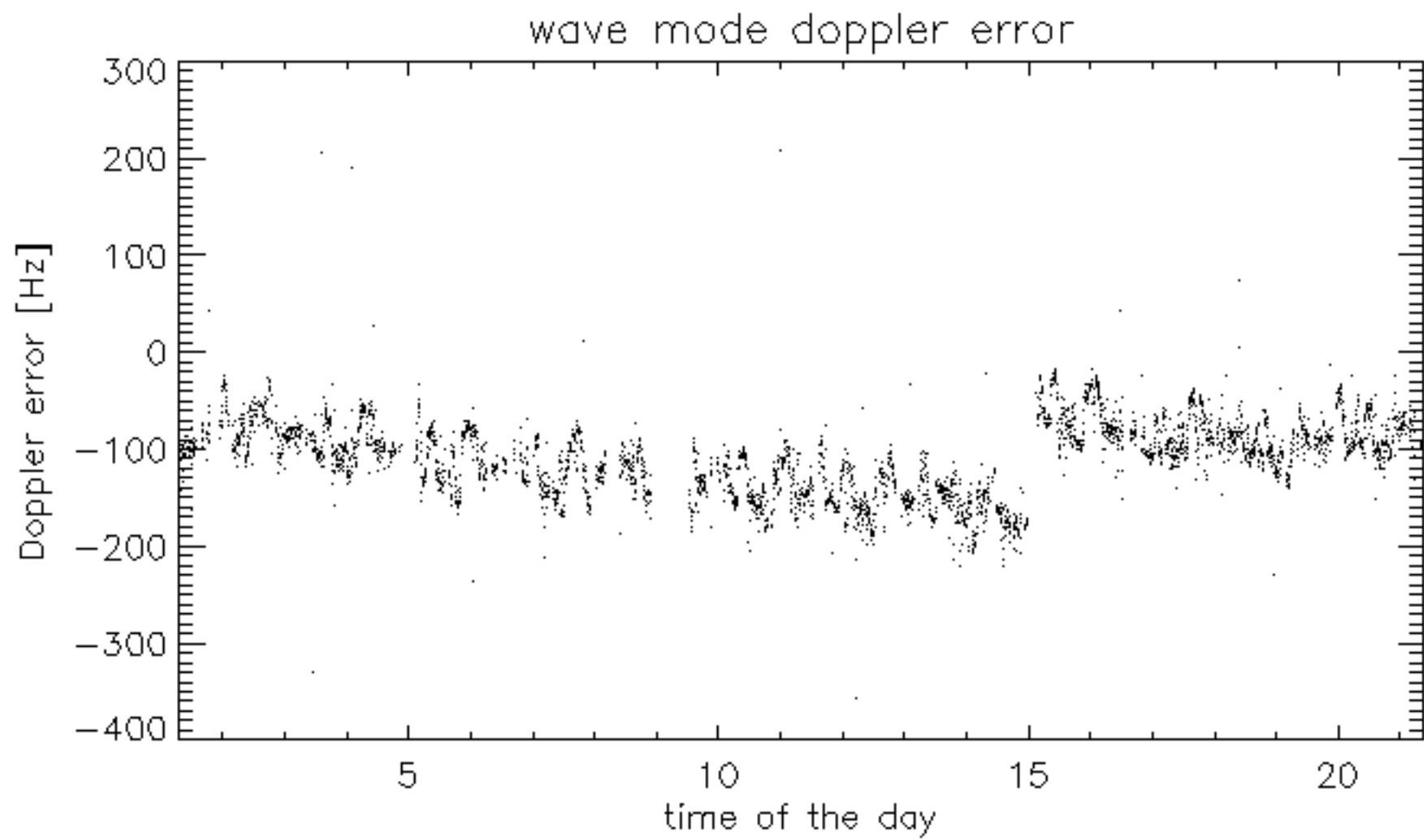
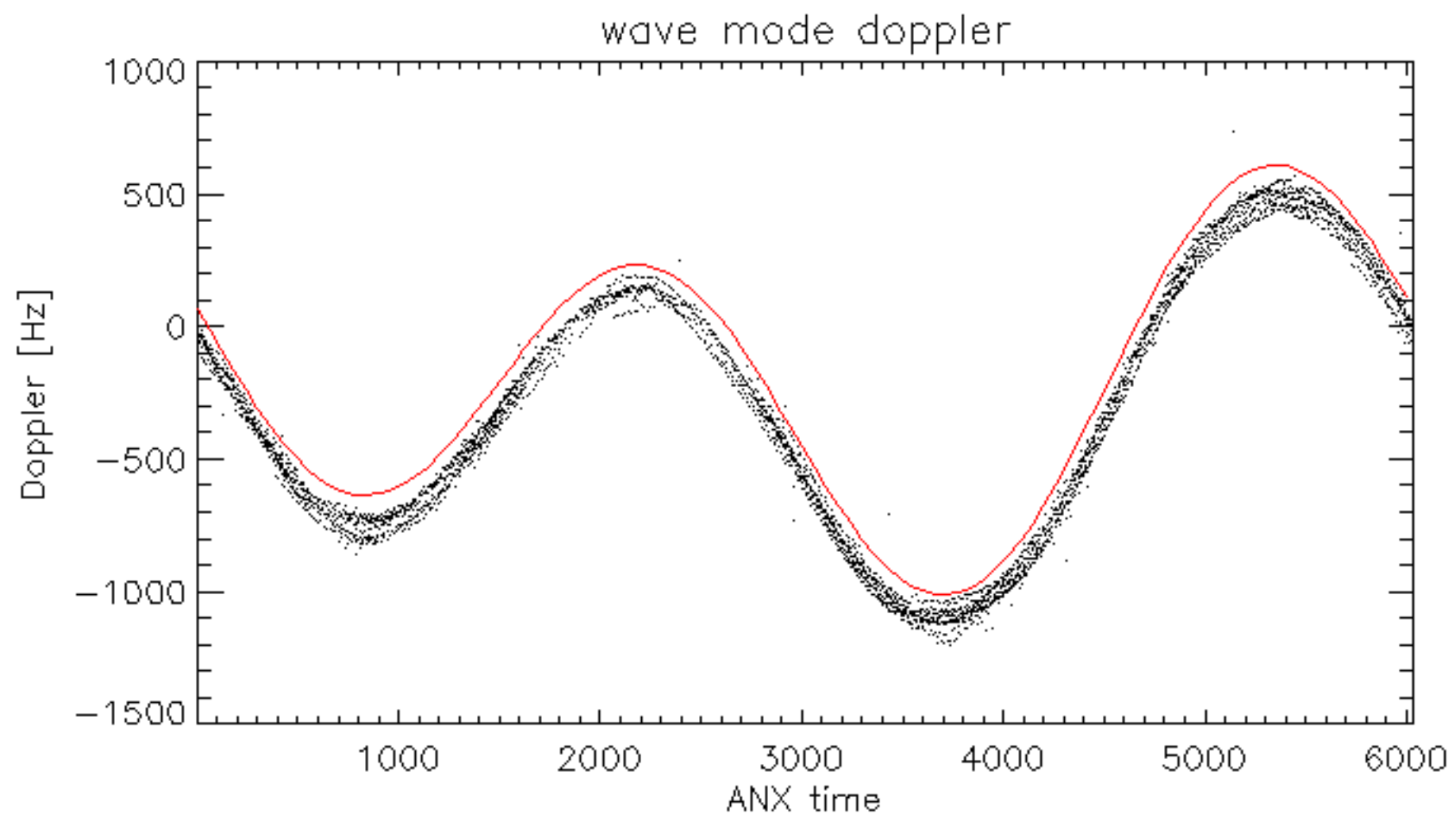




Doppler 'WVS' 'IS2' 'V/V'

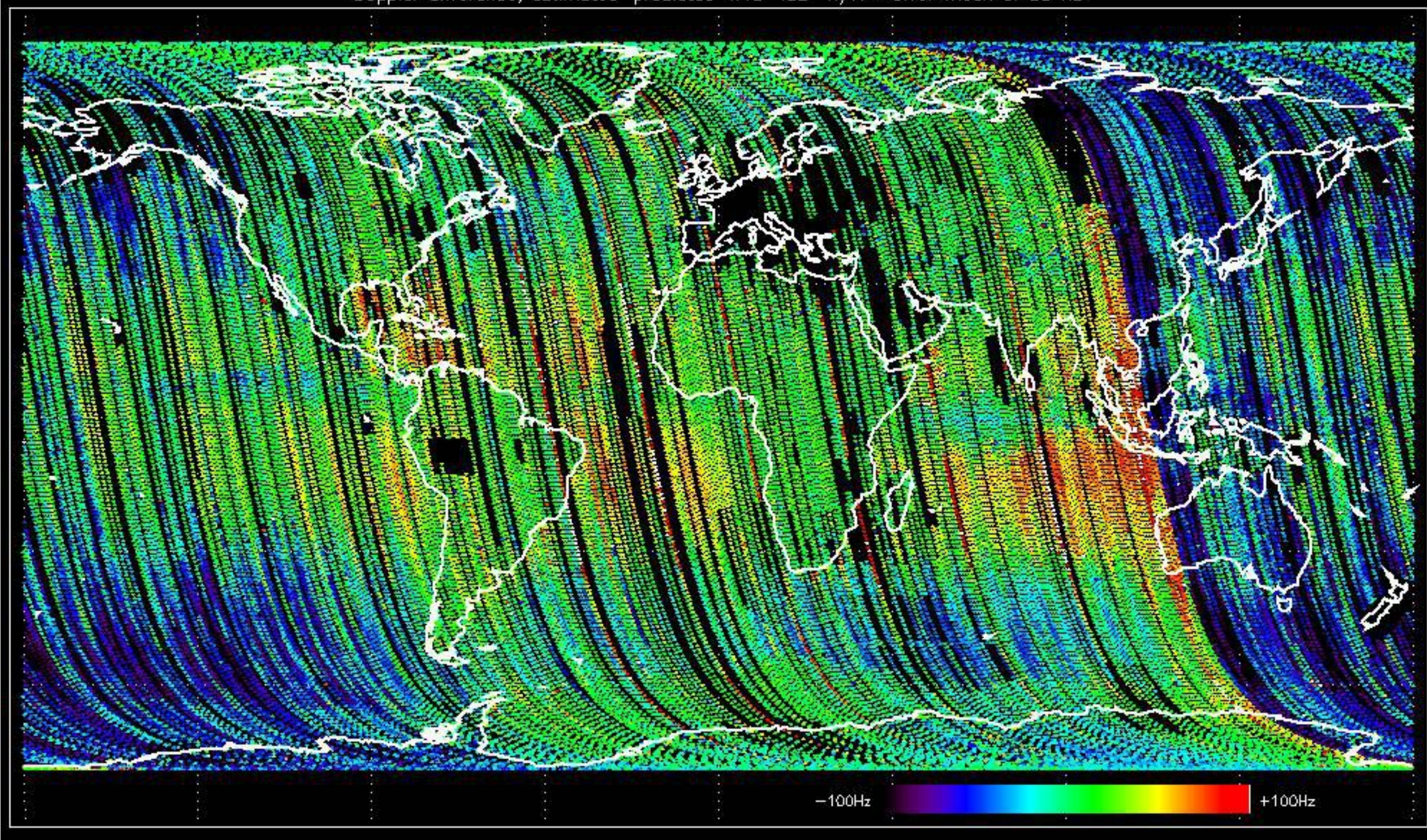






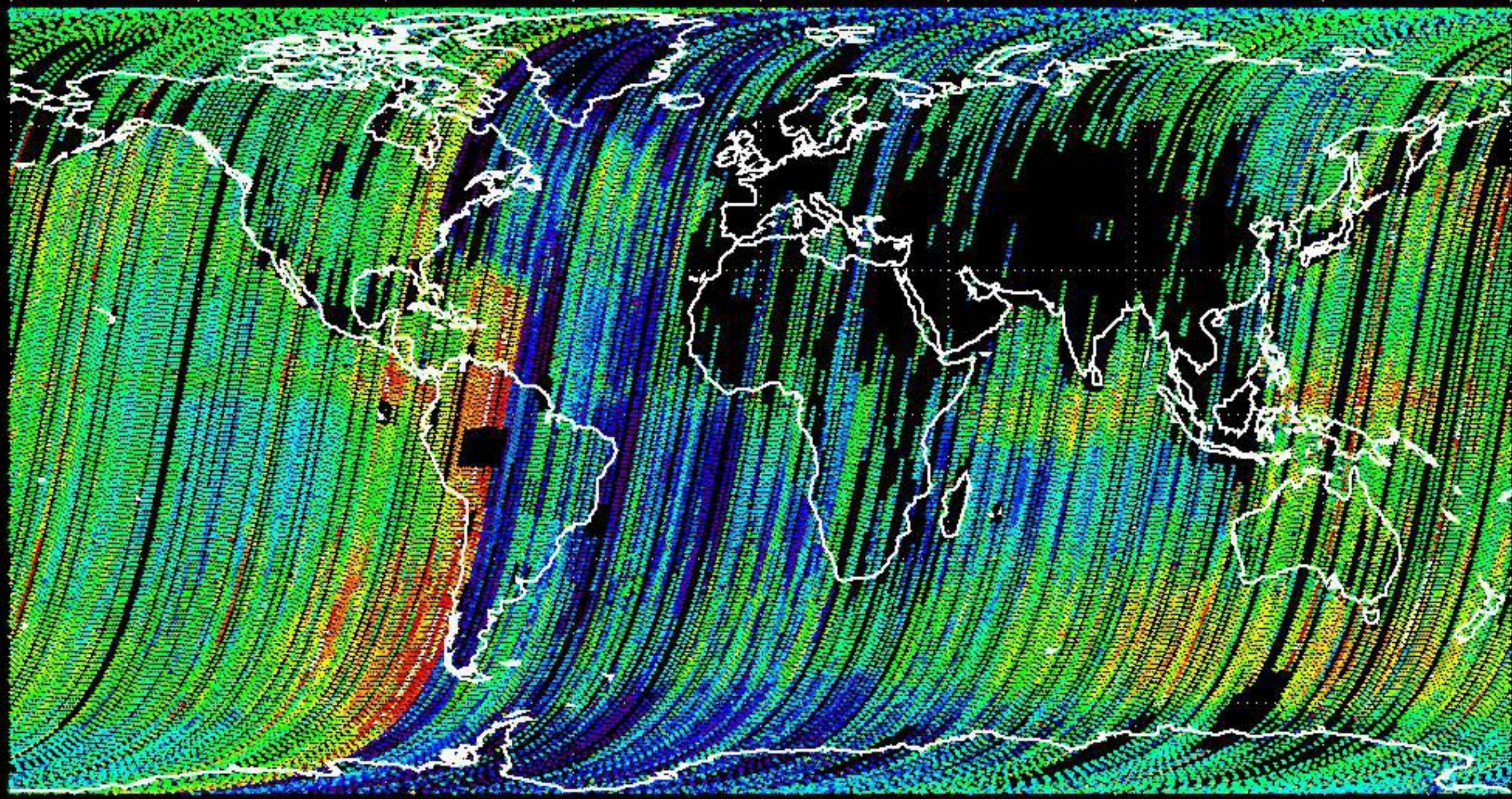


Doppler difference, estimated-predicted 'WVS' 'IS2' 'H/H' -error mean of 53 Hz





Doppler difference, estimated-predicted 'WS' 'IS2' 'V/V' -error mean of 53 Hz



-100Hz +100Hz



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.









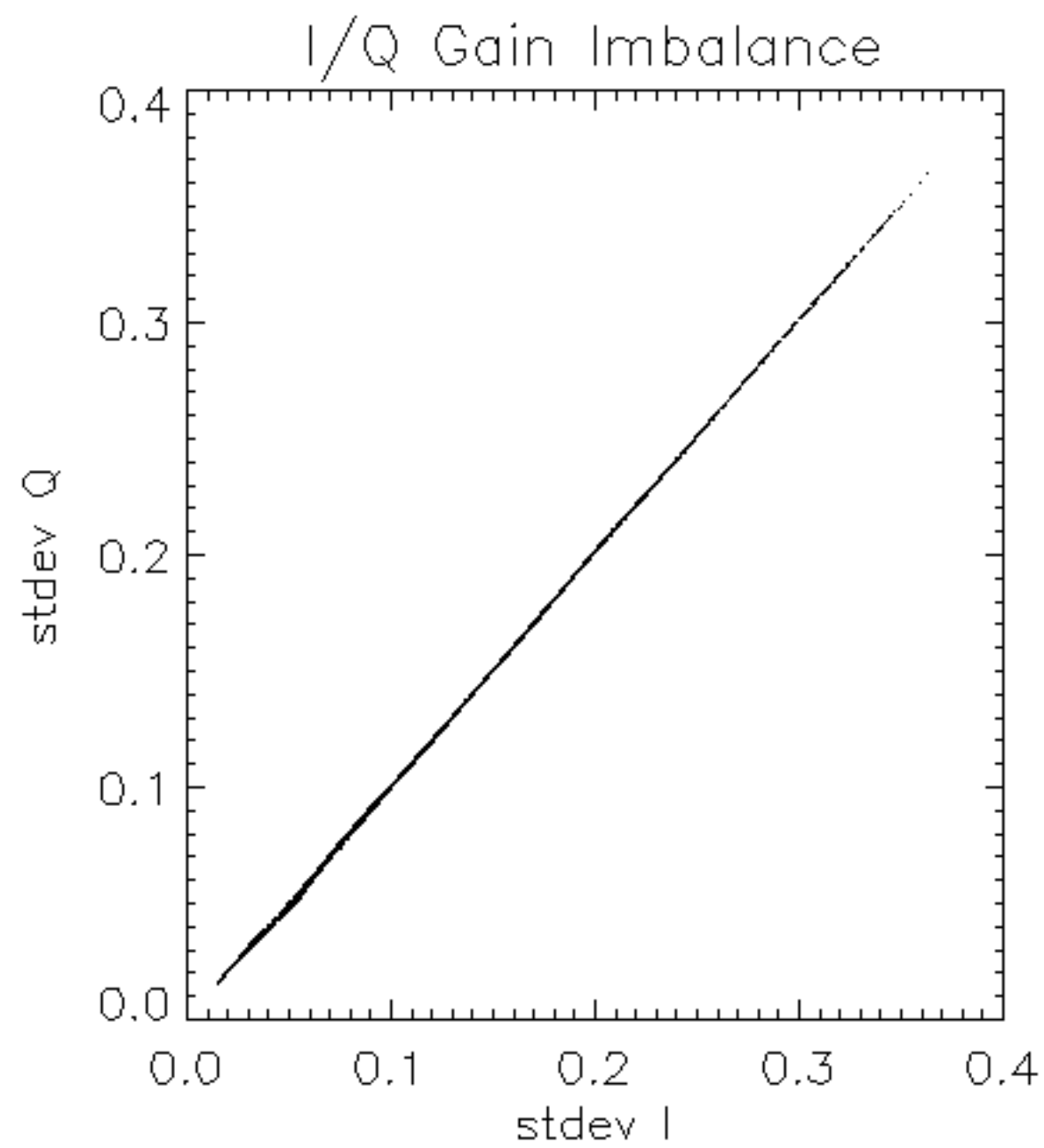


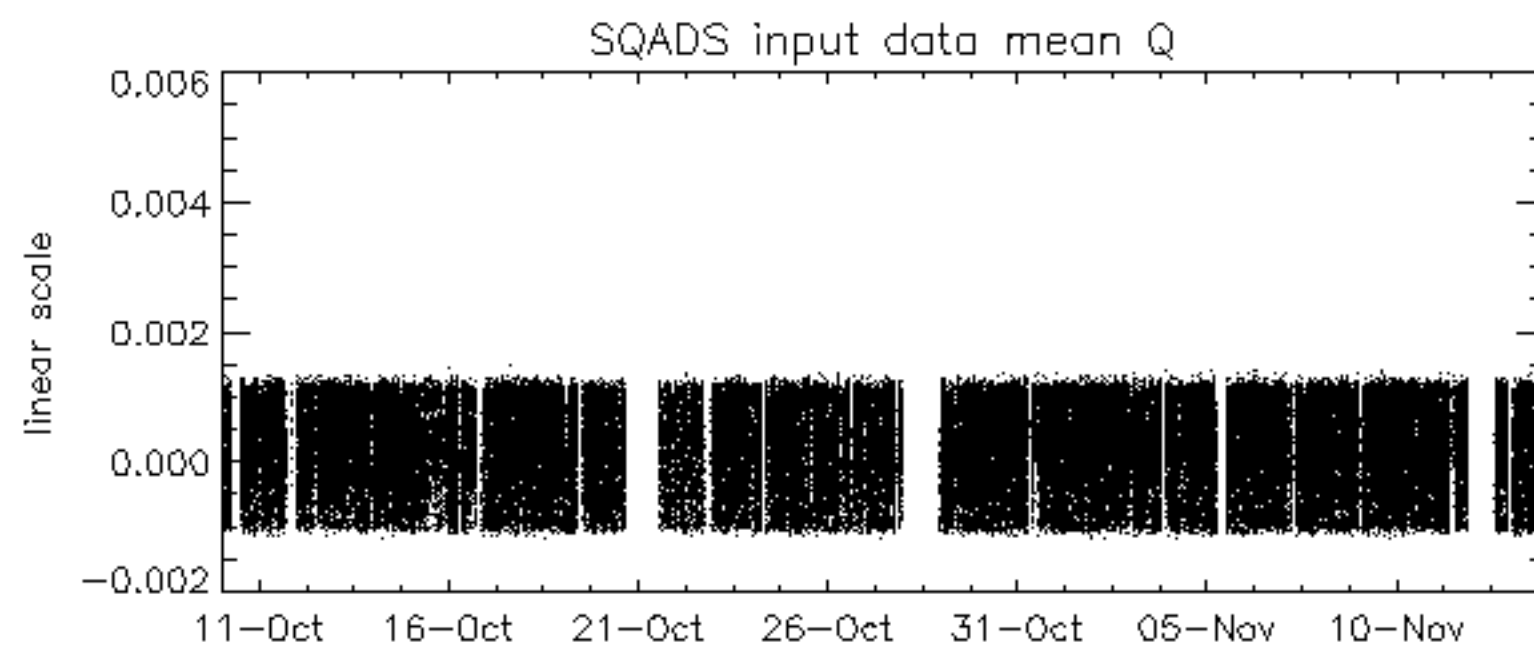
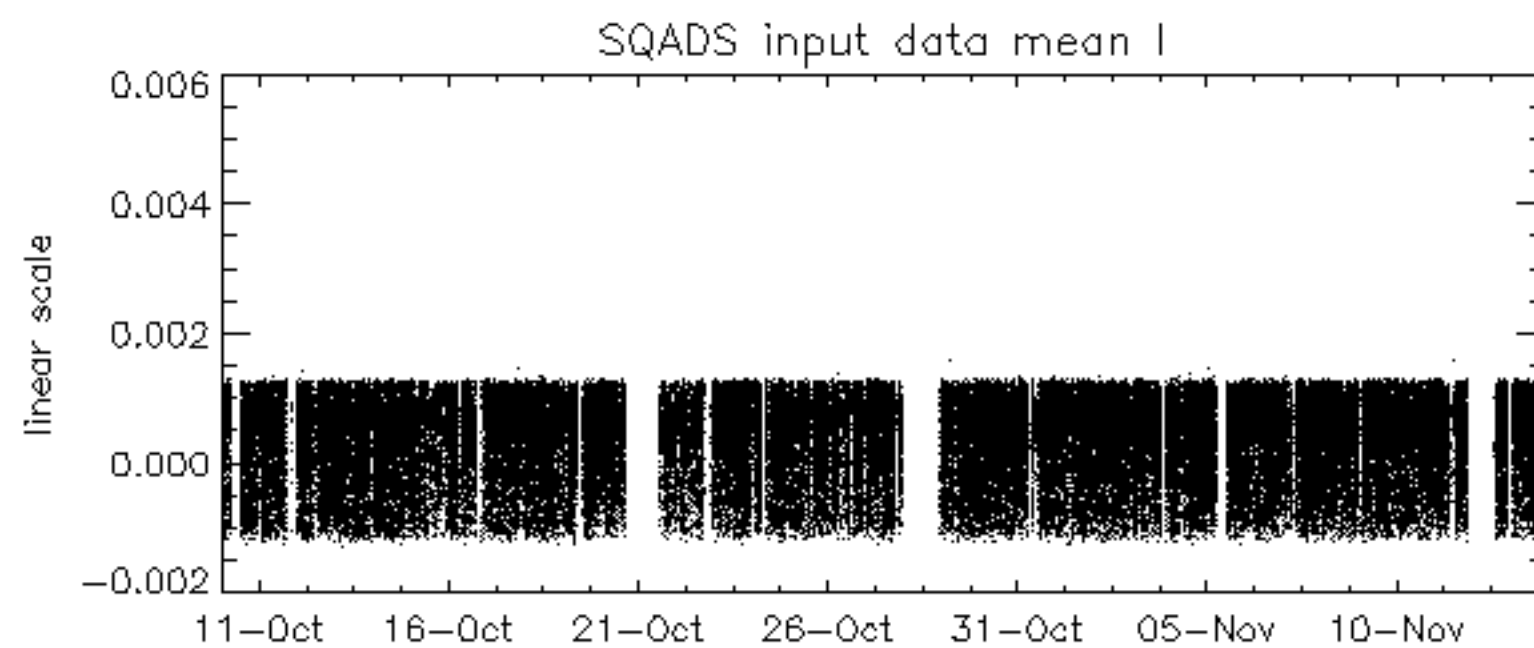
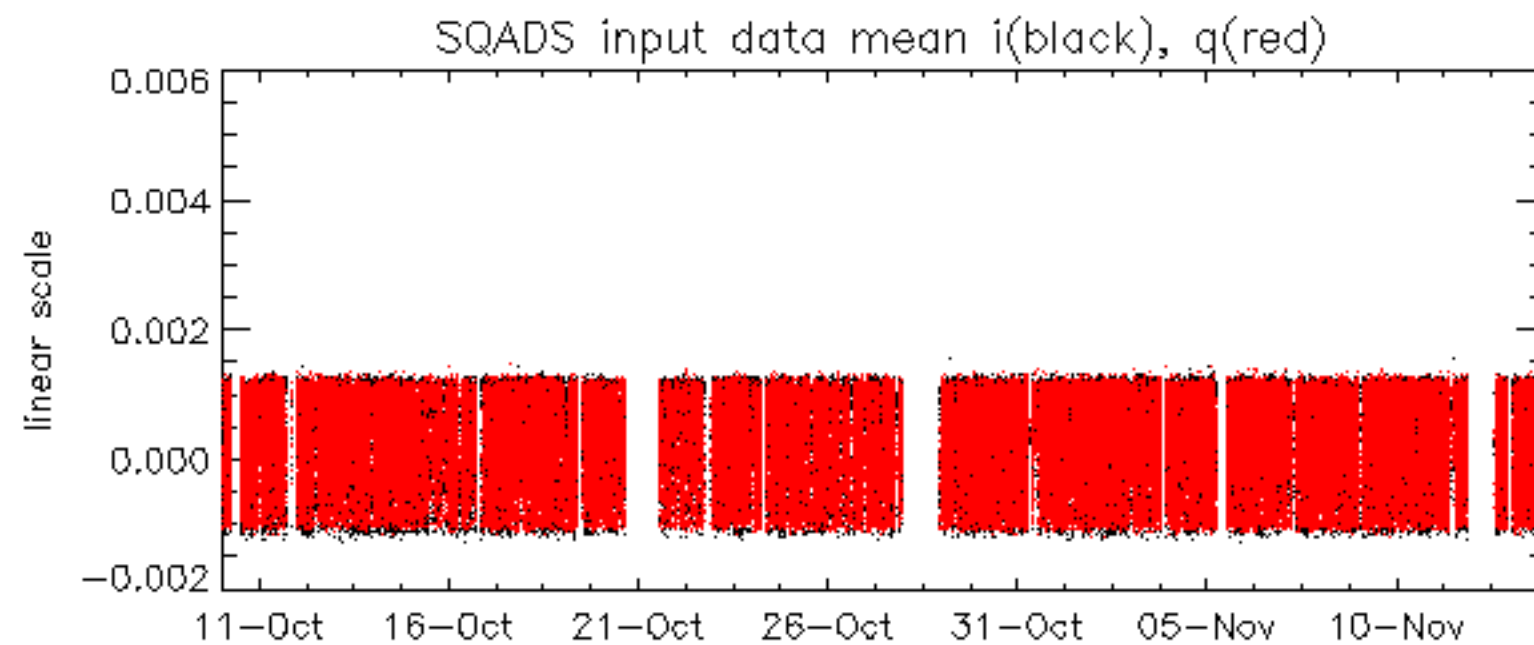


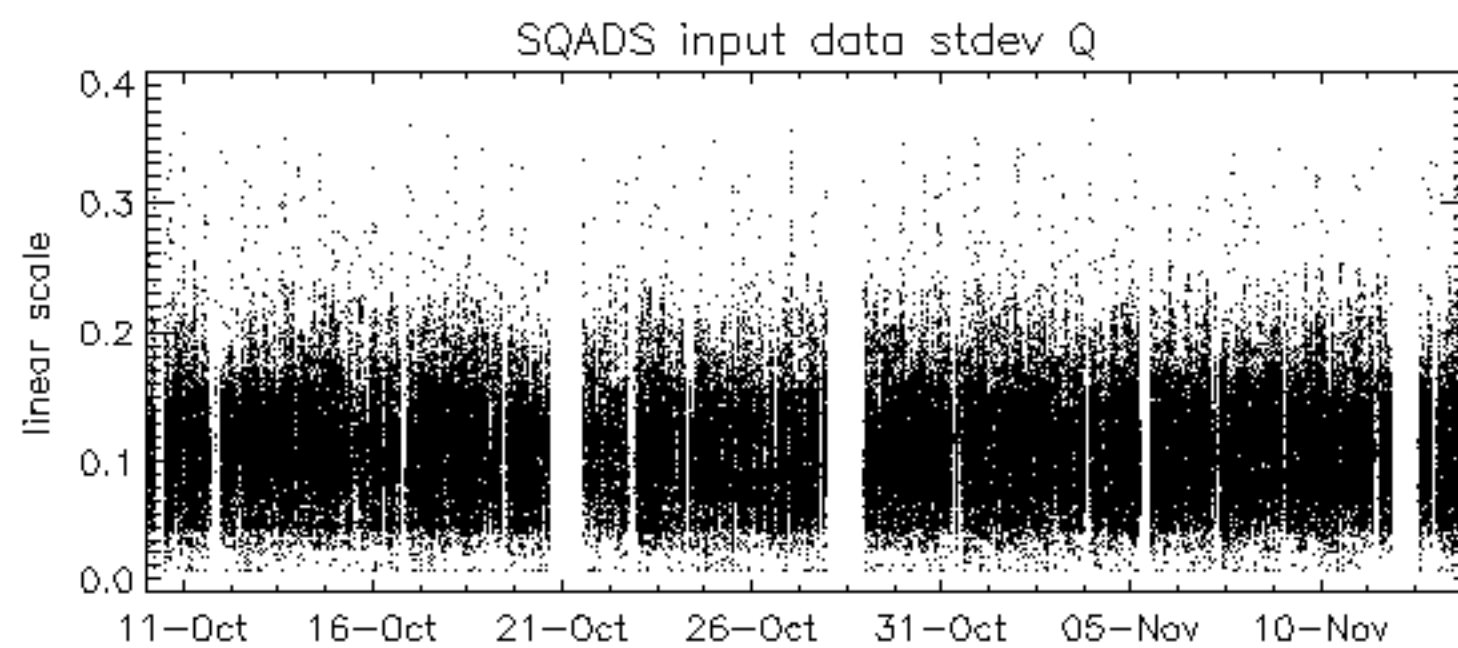
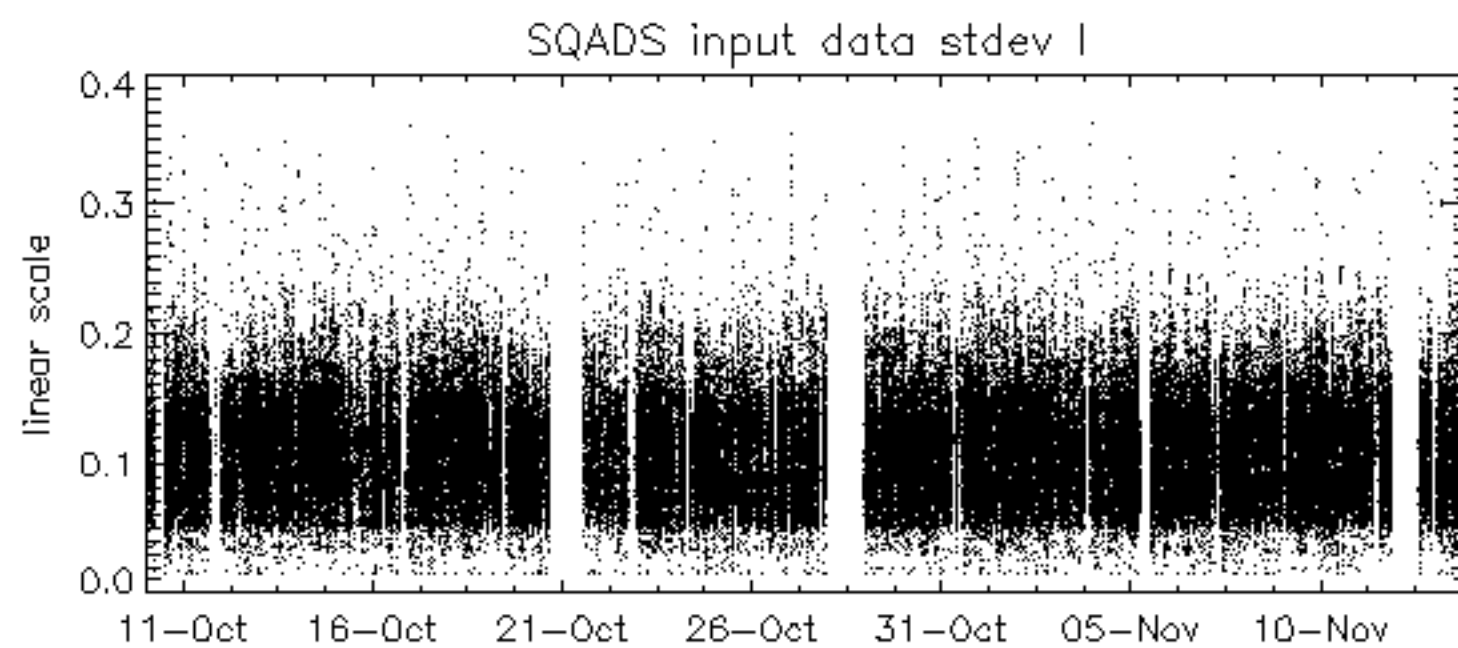
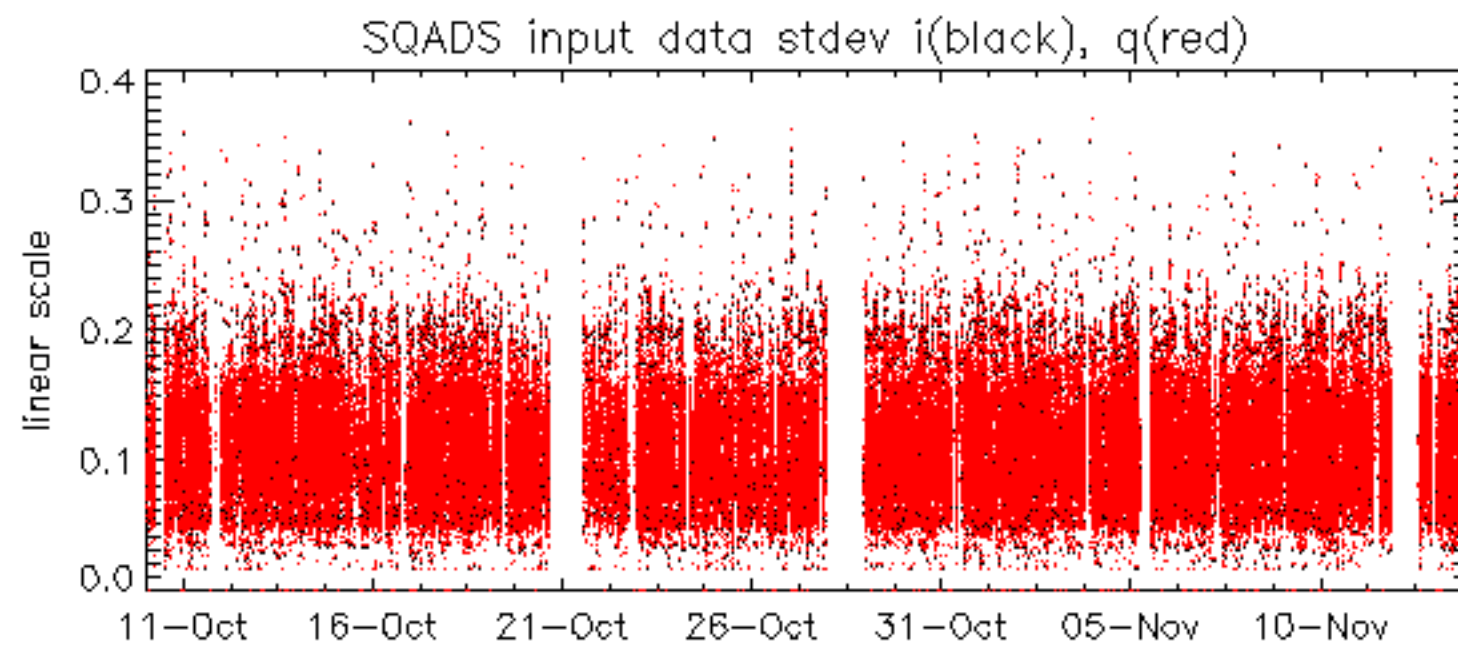


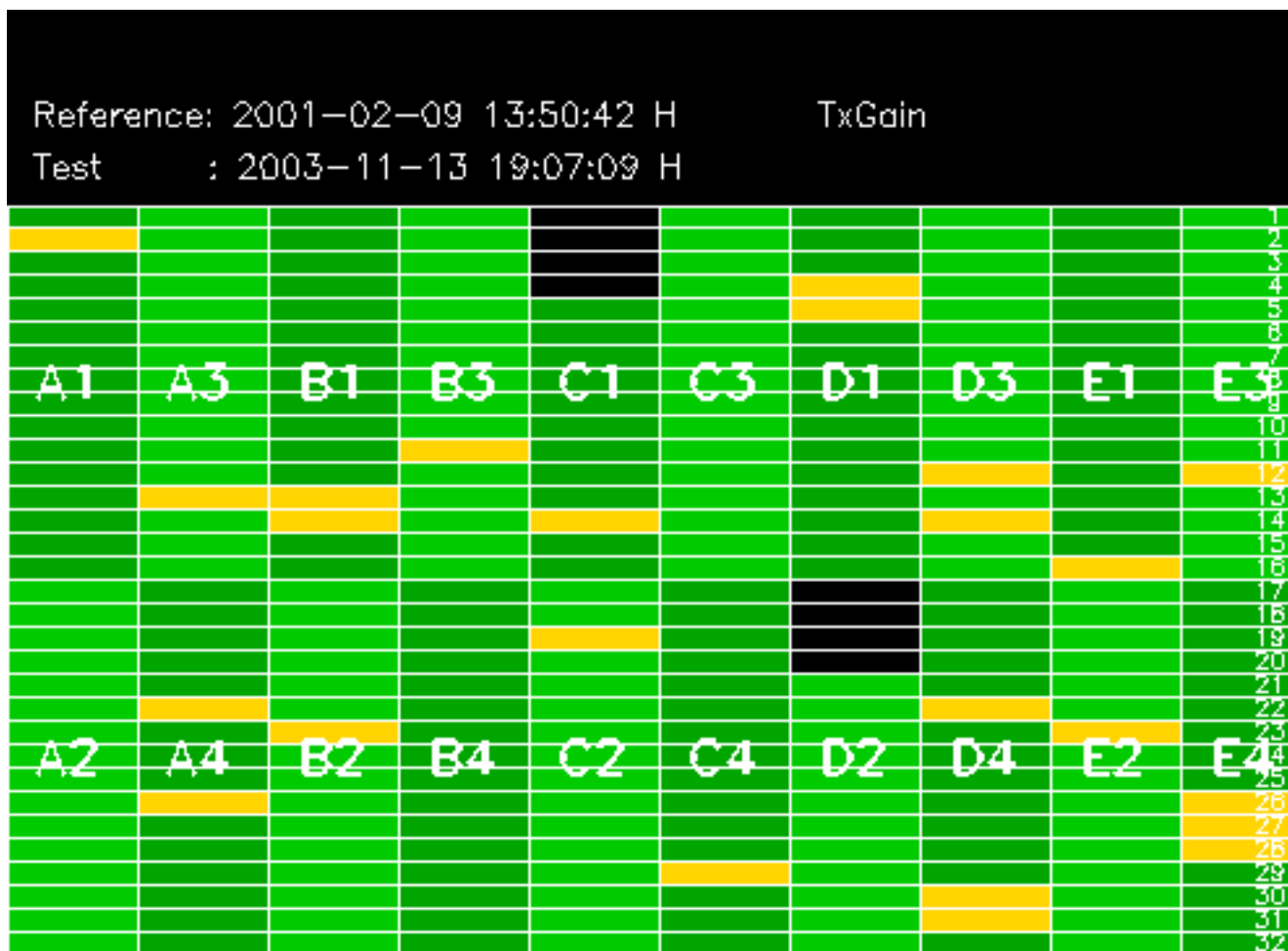




























No unavailabilities during the reported period.