

REPORT OF 040224

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

Antenna reset from 23-FEB-2004 13:04:00 to 13:08:00 causes instrument to be unavailable. ASAR is back to nominal behaviour after anomaly in cal pulses detected on 20-FEB-2004.

2.2 - Browse Visual Inspection

No anomalies observed on available browse products after antenna reset.

2.3 - Data Analysis

-Stable wave internal calibration pulses gain and phase:

Cal pulses of tile C3 are back to nominal value.

- 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:

- ASA_MS__0PNPDK20040223_185804_000000152024_00299_10373_0230.N1
- ASA_MS__0PNPDK20040223_185924_000000152024_00299_10373_0229.N1

ASAR back to nominal behaviour.

Polarisation	Start Time
V	20040223 185924
H	20040223 185804

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

Gain of rows 9 t 13 of tile C3 are back to nominal value as shown in plot below for rows 9 and 10.

4.1 - Daily statistics

row	stat	AveP1	AveP2	AveP3
3	mean	-3.62780	-22.3694	-8.12717
	stdev	0.00564397	0.0758394	0.00254013
24	mean	-5.09389	-21.0457	-8.12717
	stdev	0.0145524	0.0755957	0.00254013



4.2 - Cyclic statistics

row	stat	AveP1	AveP2	AveP3
3	mean	-3.65073	-22.4162	-8.13527
	stdev	0.00670643	0.0759667	0.00308871
24	mean	-5.10646	-21.0808	-8.13527
	stdev	0.0148368	0.0727457	0.00308871



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	0.000443601
	stdev	2.68476e-07
MEAN Q	mean	0.000408491
	stdev	3.09481e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.121976
	stdev	0.00128972
STDEV Q	mean	0.122206
	stdev	0.00130377



5.3 - Gain imbalance I/Q



6 - Wave Doppler Analysis

Preliminary report. The data is not yet controlled

6.1 - Unbiased Doppler Error

Evolution of unbiased Doppler error (Real - Expected)
Ascending
Descending

6.2 - Absolute Doppler

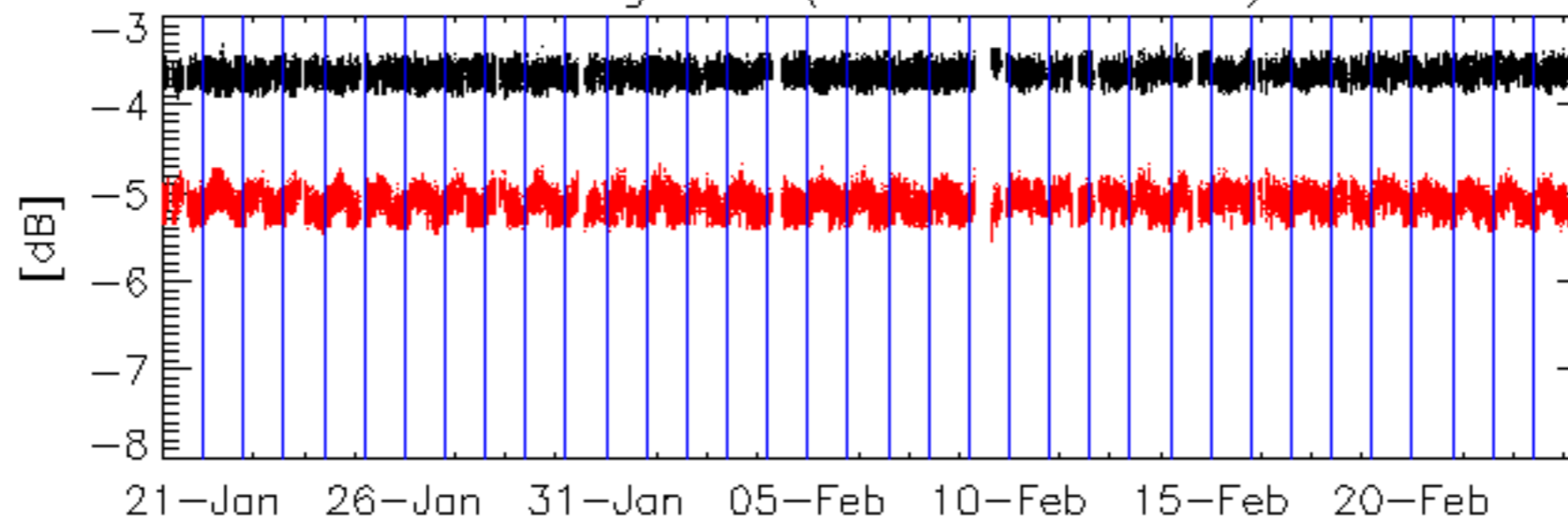
Evolution of Absolute Doppler
Ascending
Descending

6.3 - Doppler evolution versus ANX

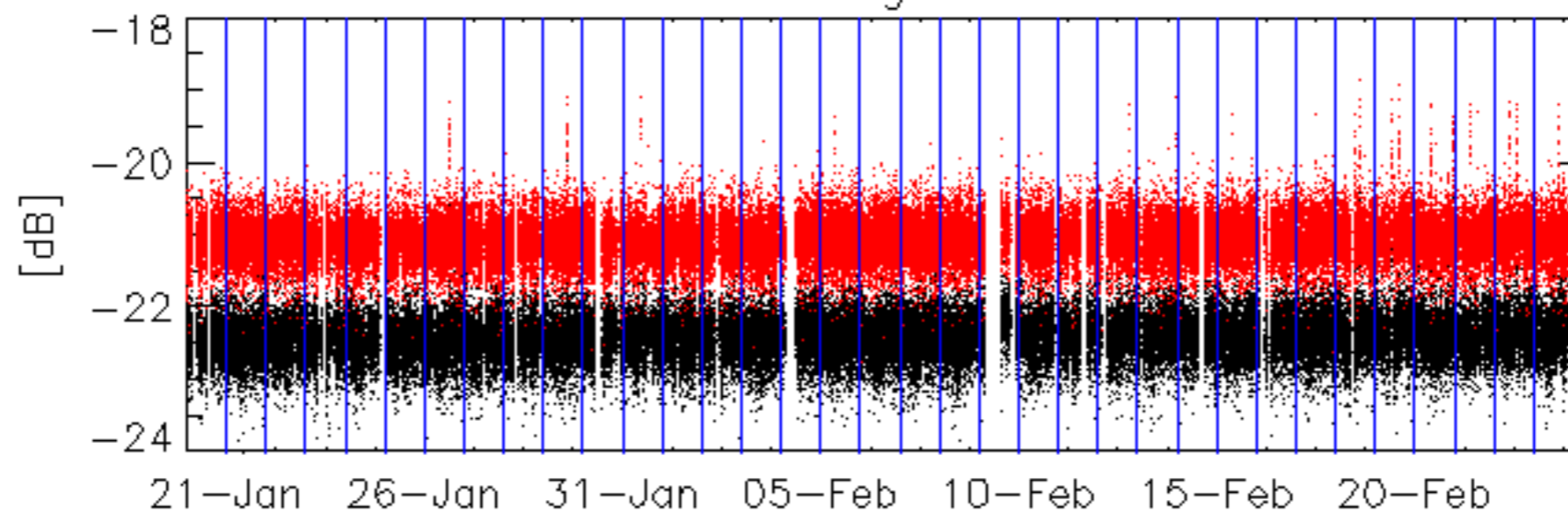
Evolution Doppler error versus ANX



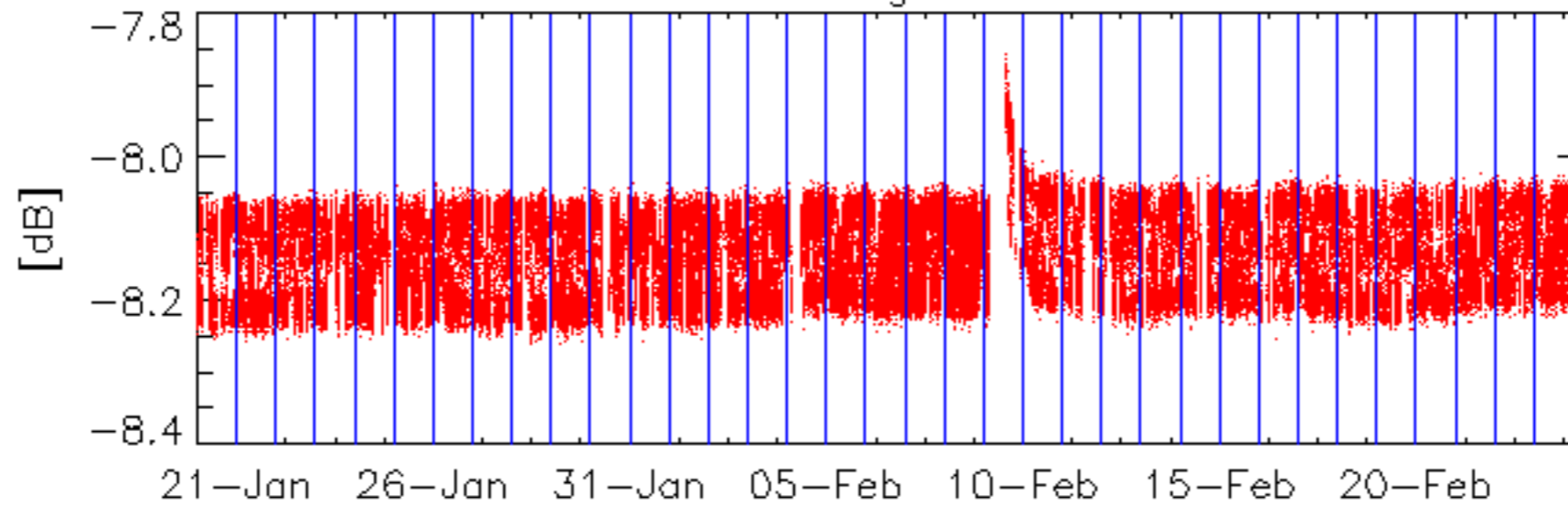
Average P1 (row 3 & row 24)



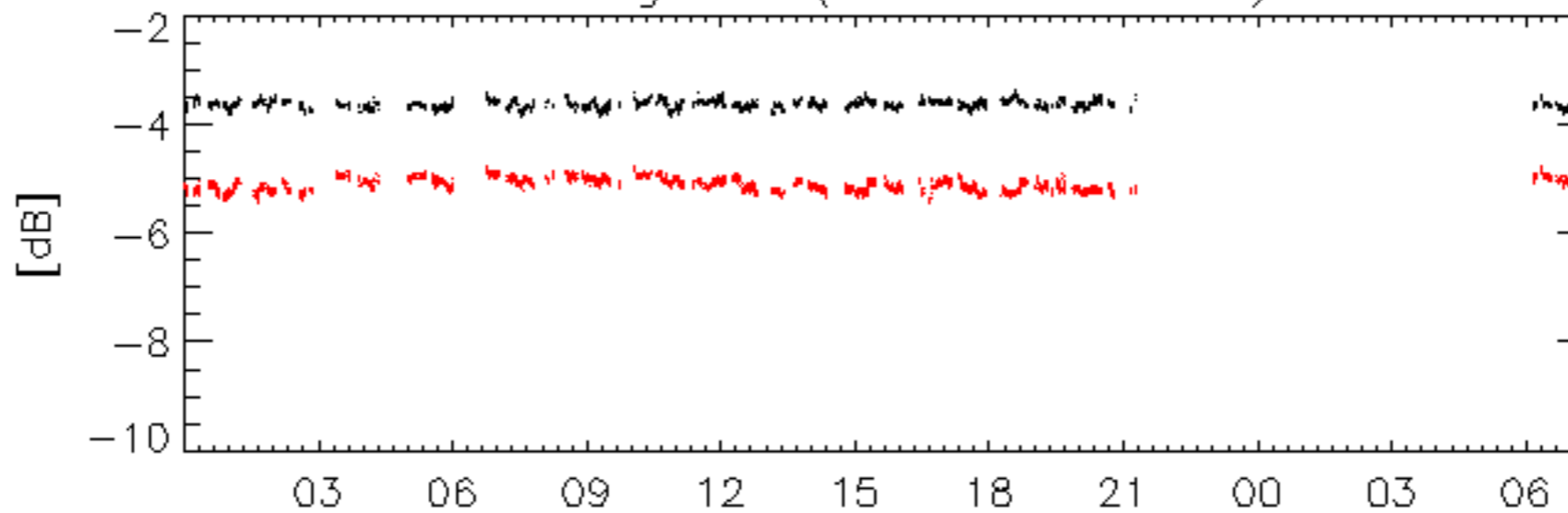
Average P2



Average P3

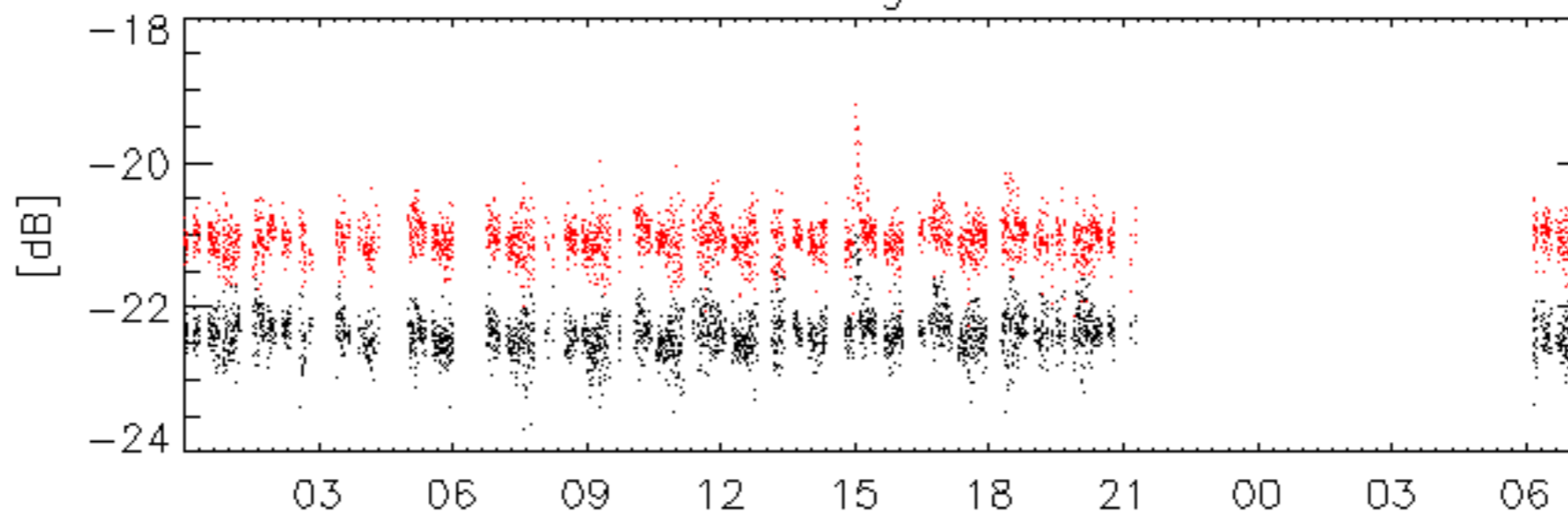


Average P1 (row 3 & row 24)



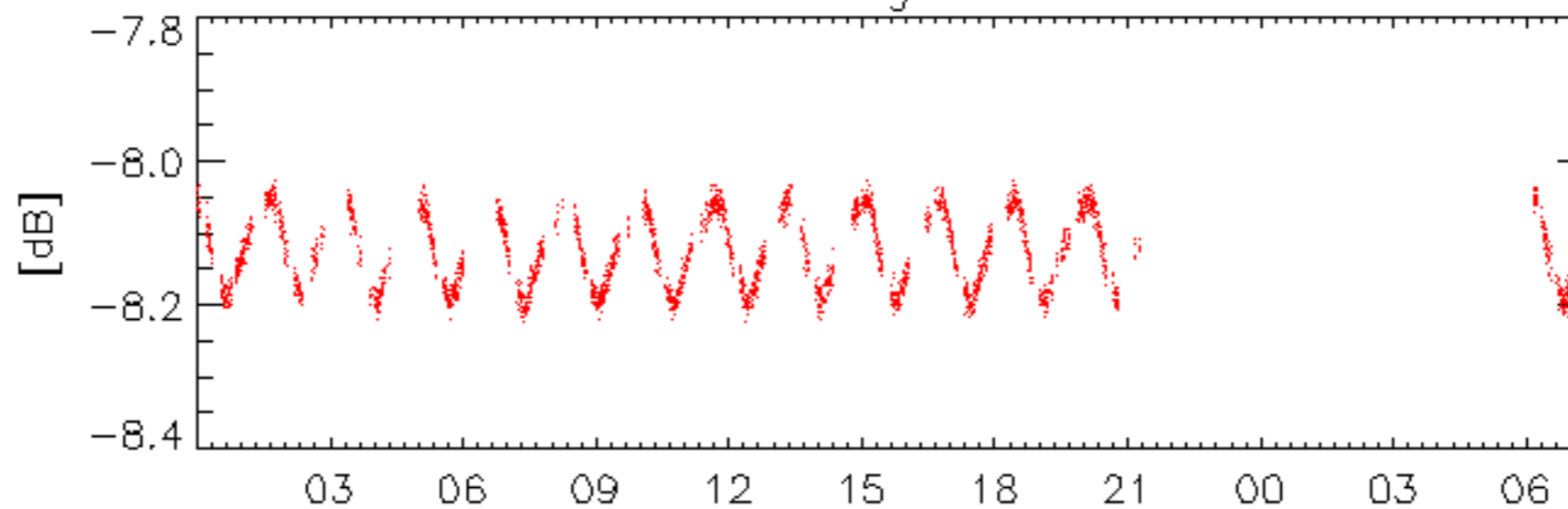
24-Feb

Average P2



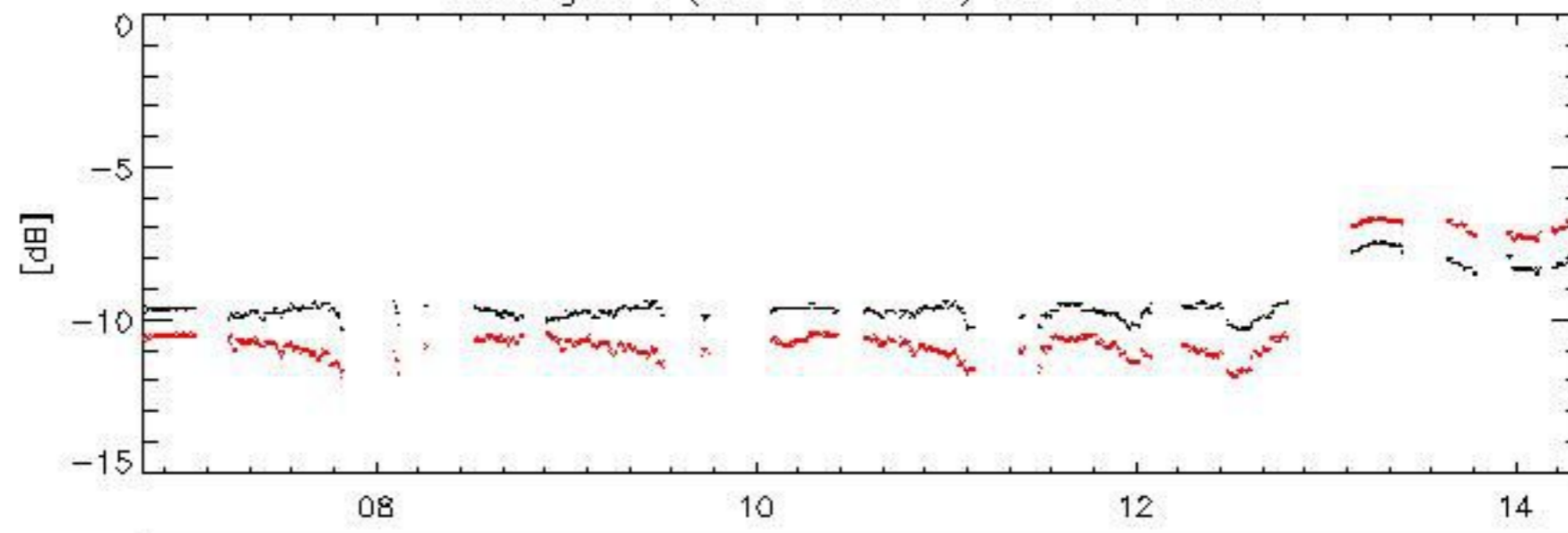
24-Feb

Average P3

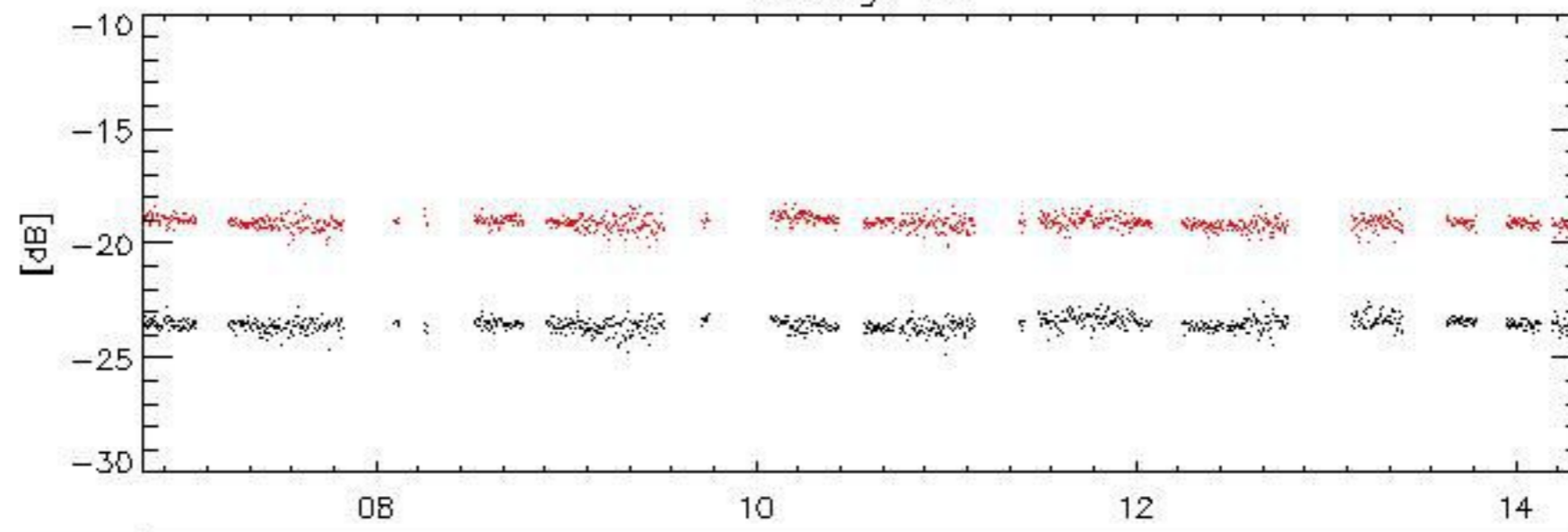


24-Feb

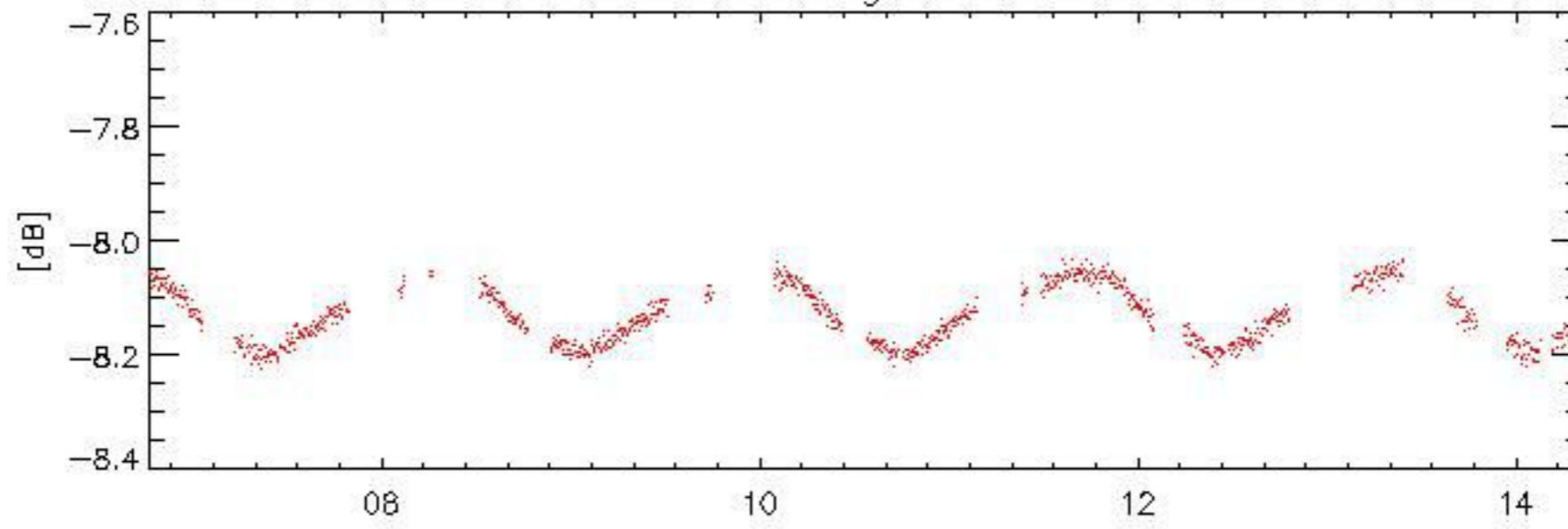
Average P1 (row 9 and 10) 23-FEB-2004



23-Feb
Average P2

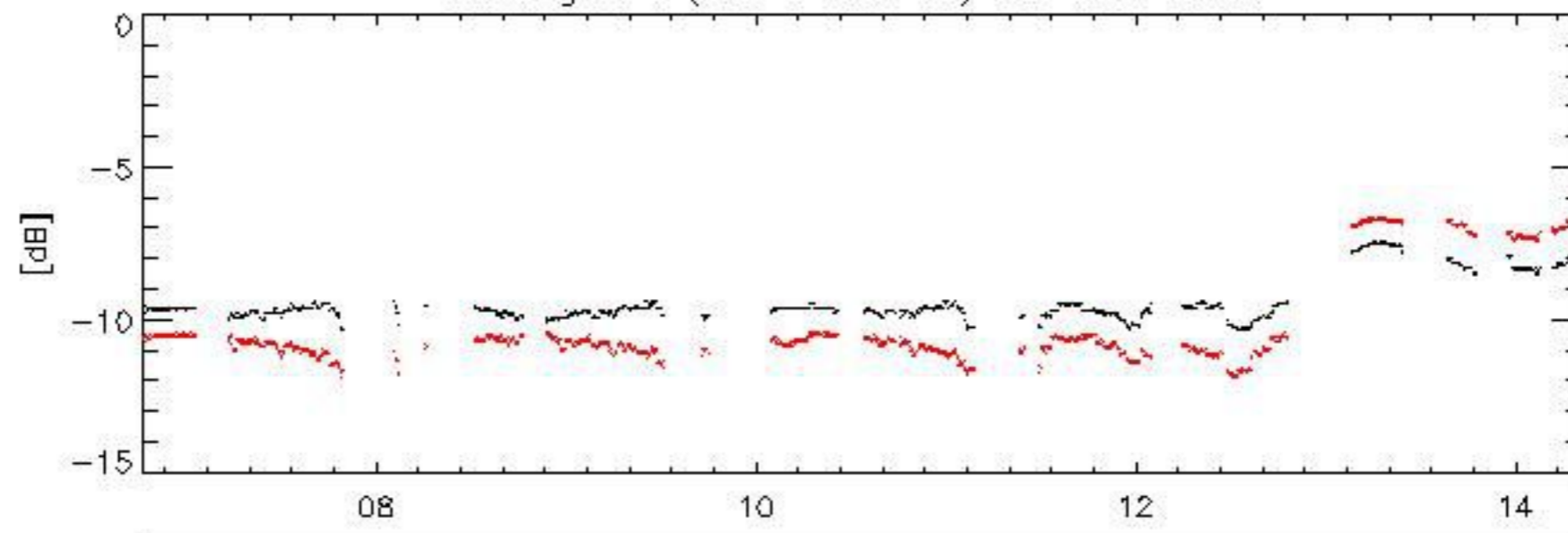


23-Feb
Average P3

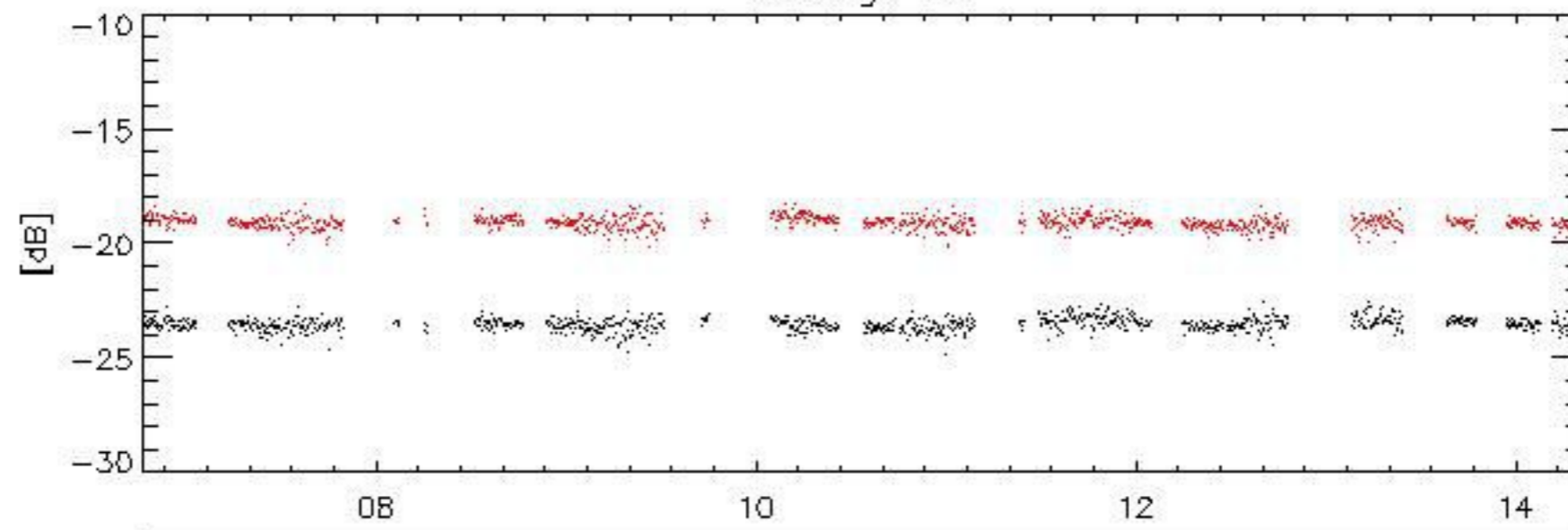


23-Feb

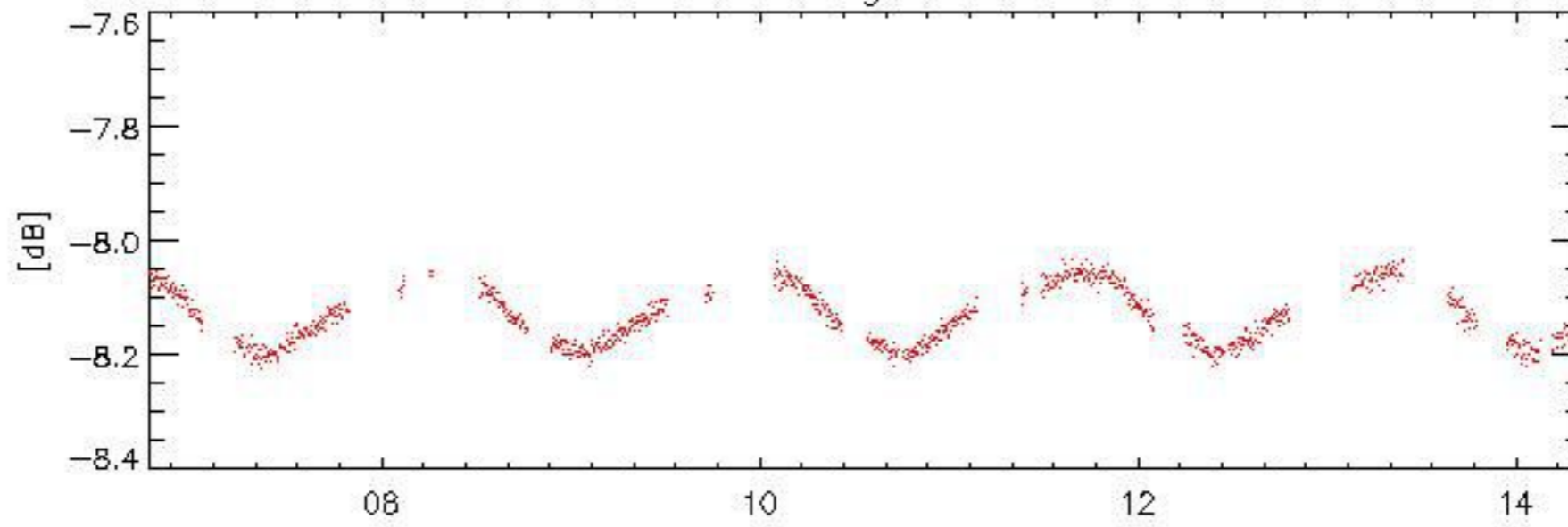
Average P1 (row 9 and 10) 23-FEB-2004



23-Feb
Average P2

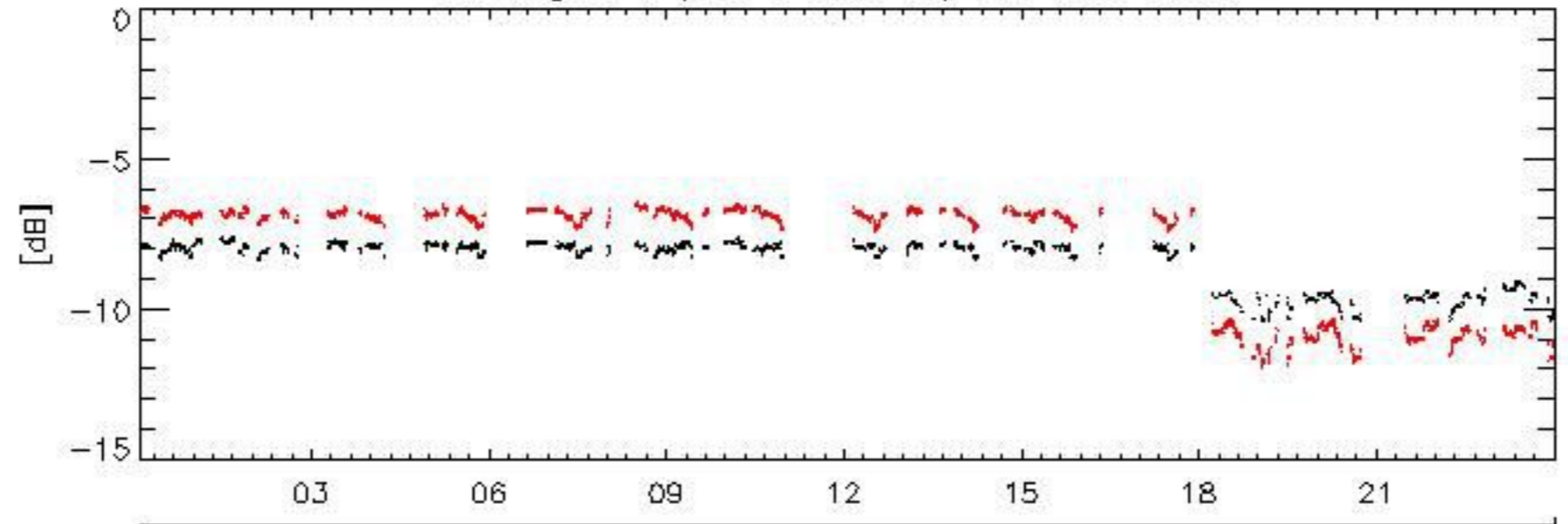


23-Feb
Average P3



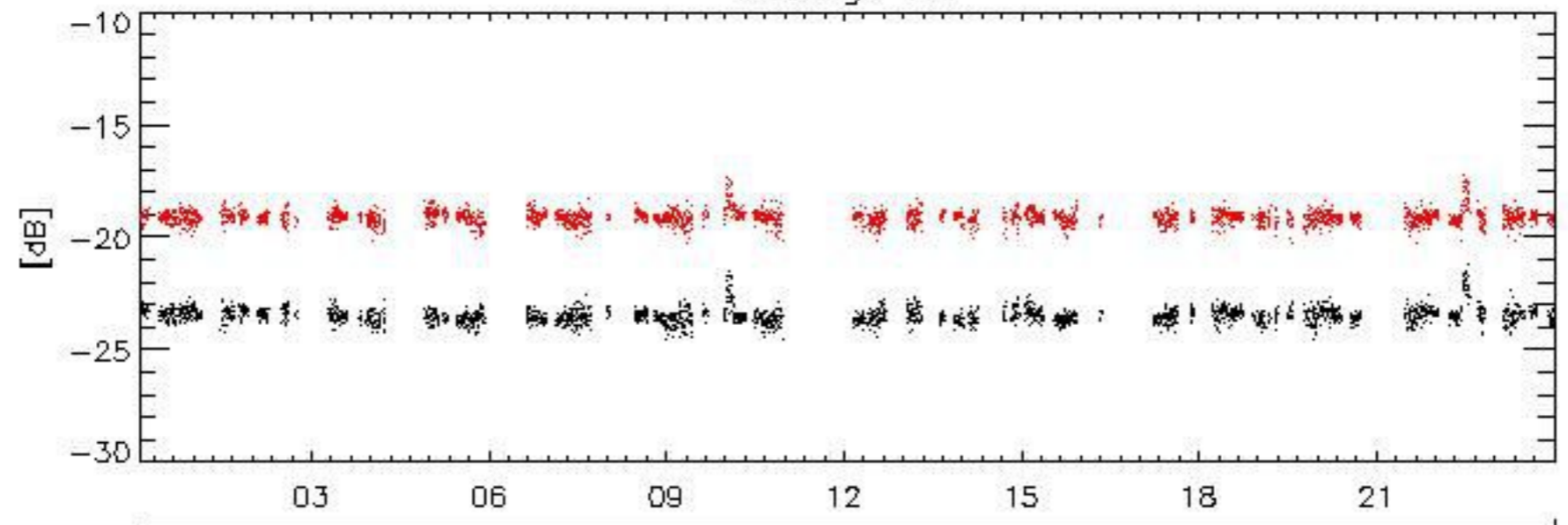
23-Feb

Average P1 (row 9 and 10) 20-FEB-2004



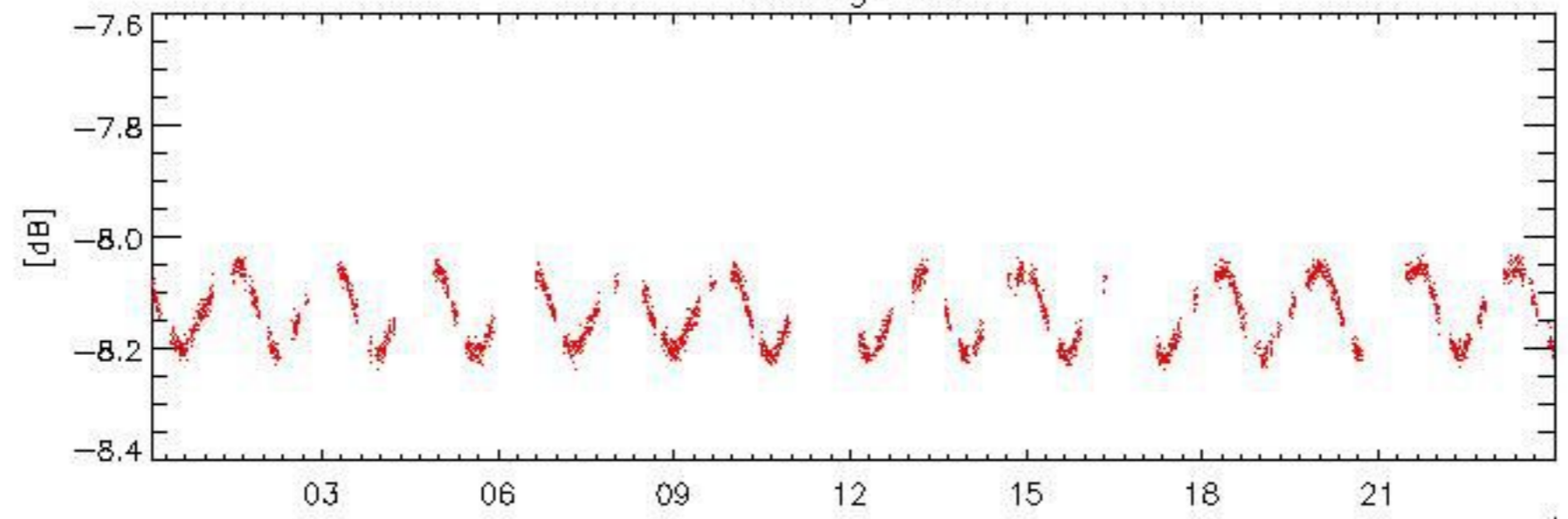
21-Feb

Average P2



21-Feb

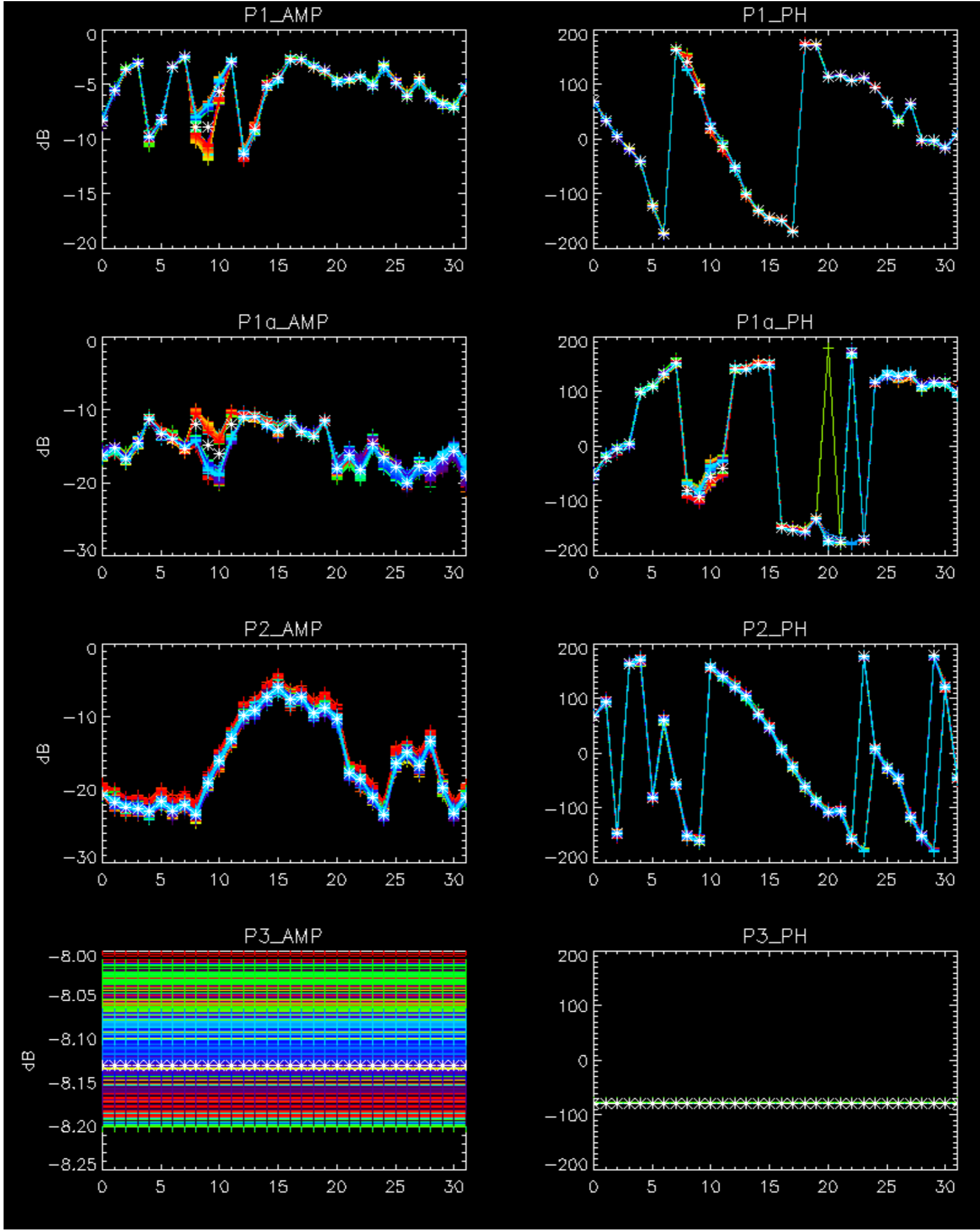
Average P3



21-Feb

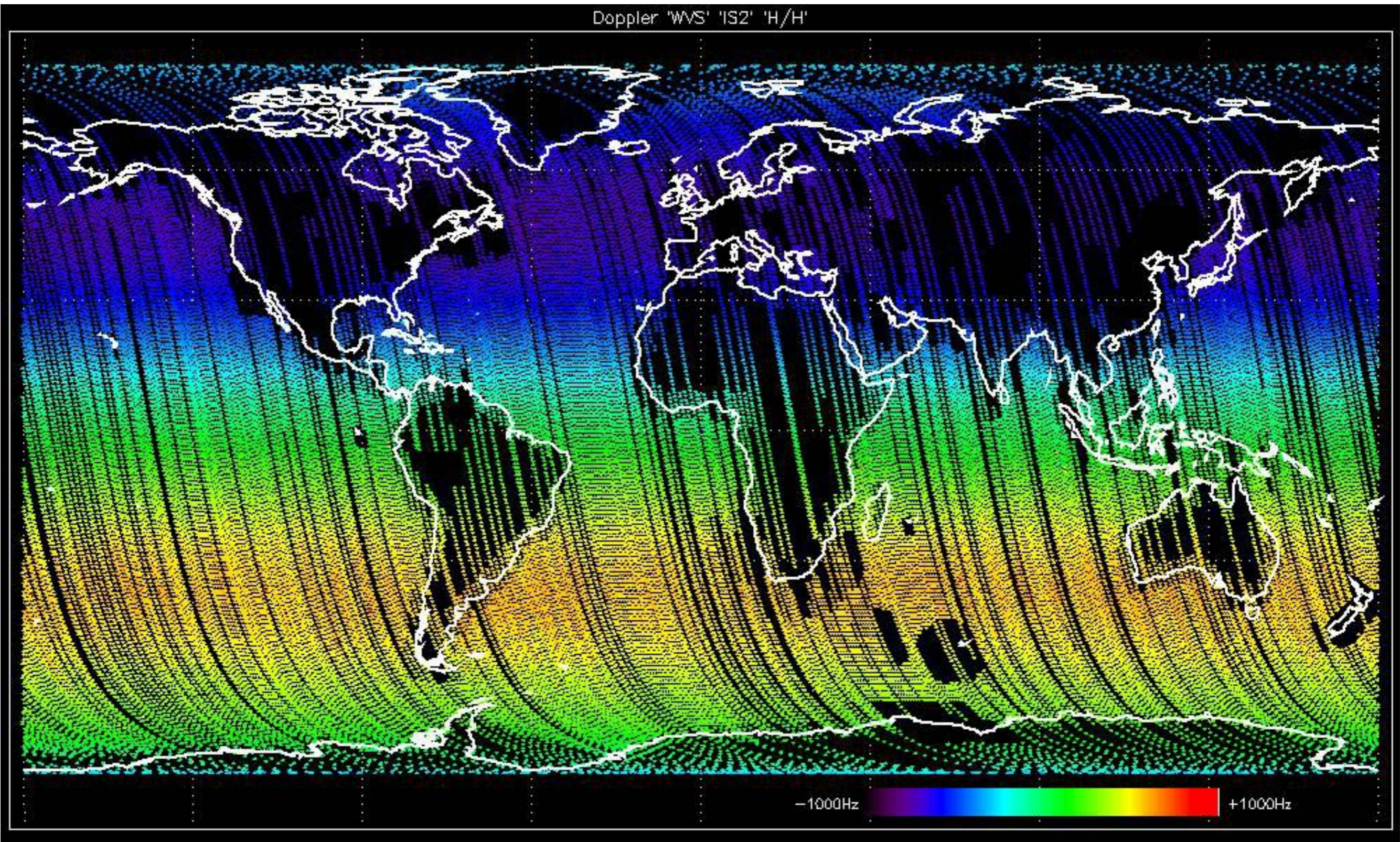
No anomalies observed on available browse products after antenna reset.

Gain of rows 9 t 13 of tile C3 are back to nominal value as shown in plot below for rows 9 and 10.

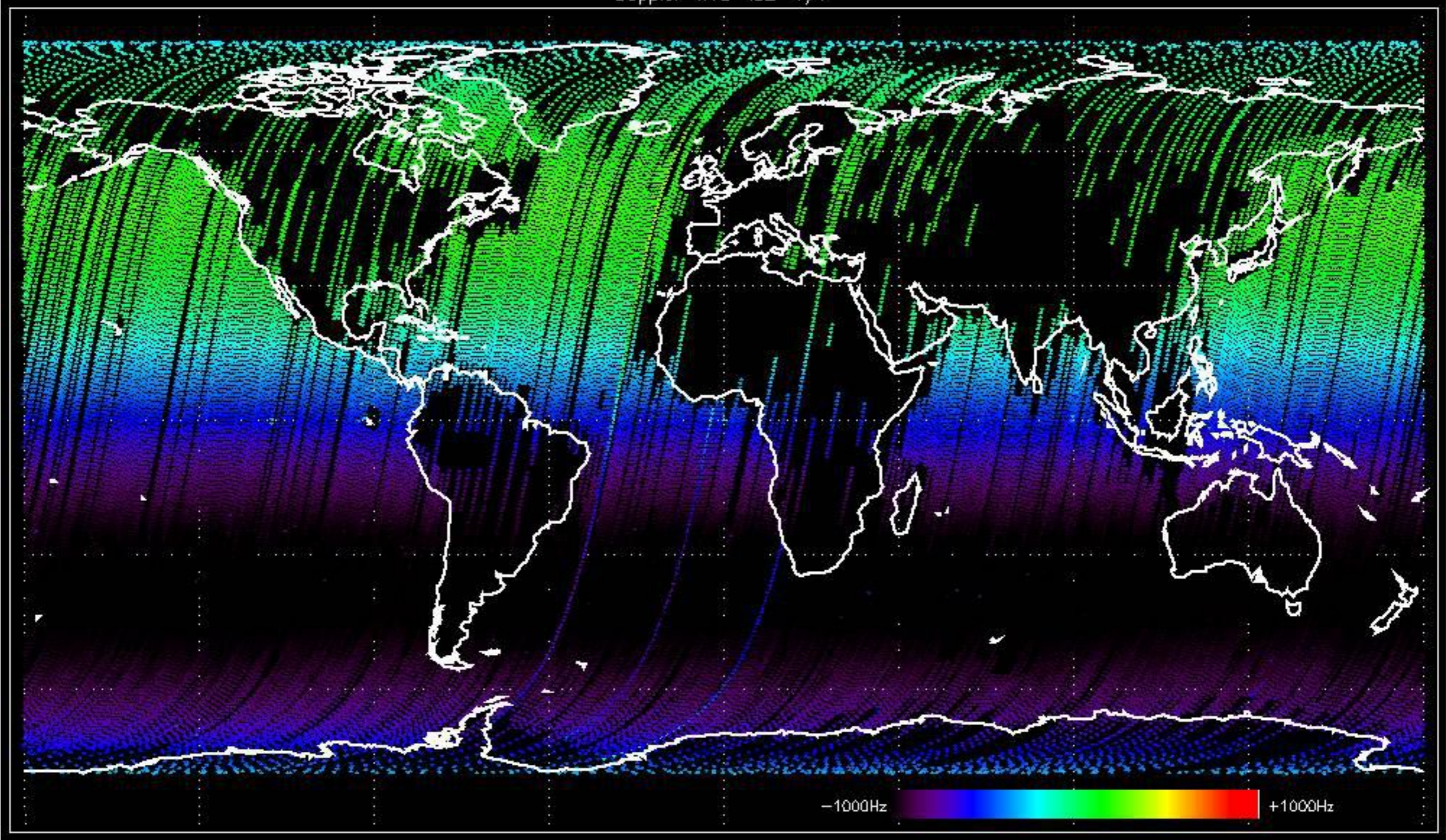


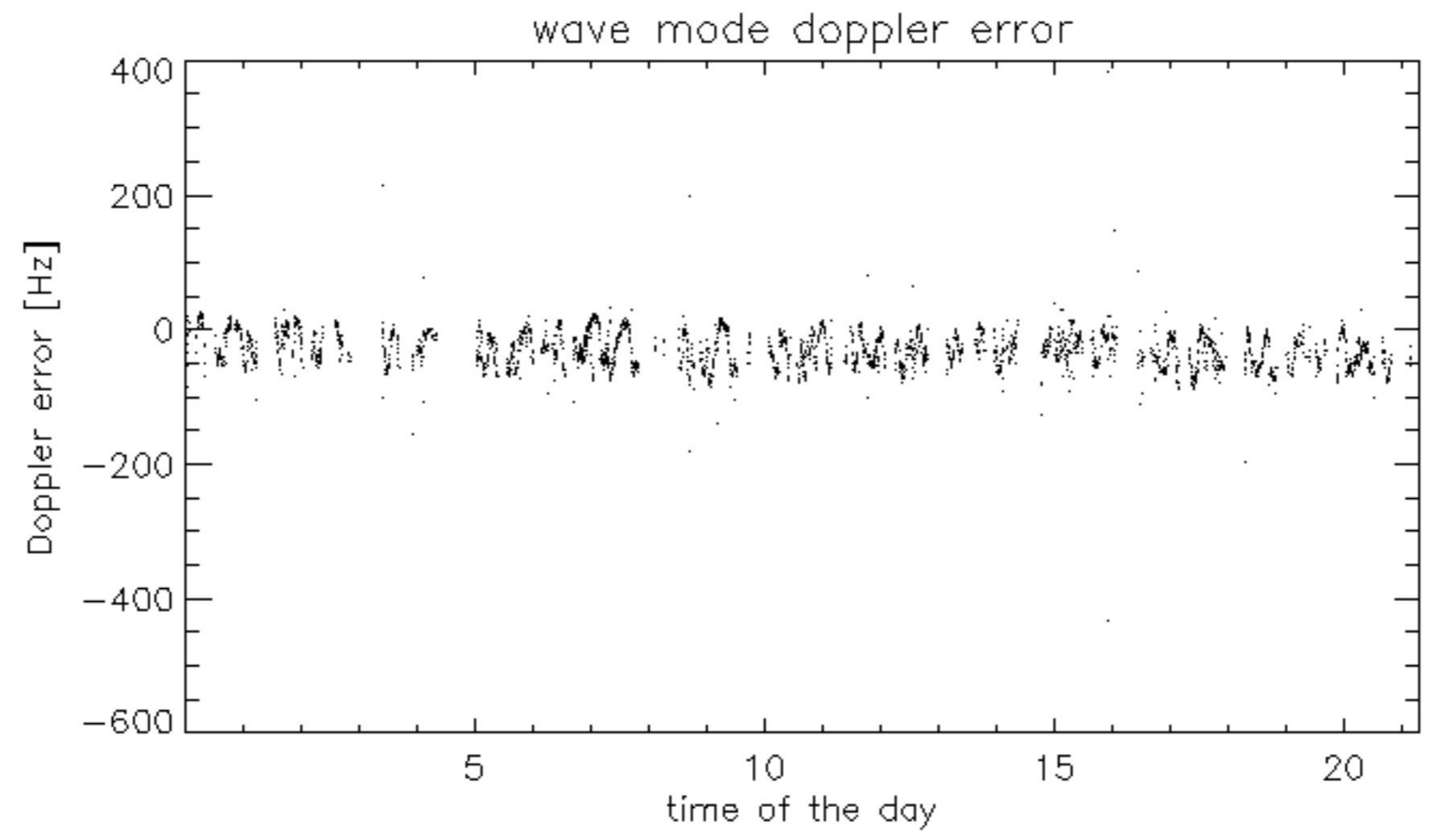
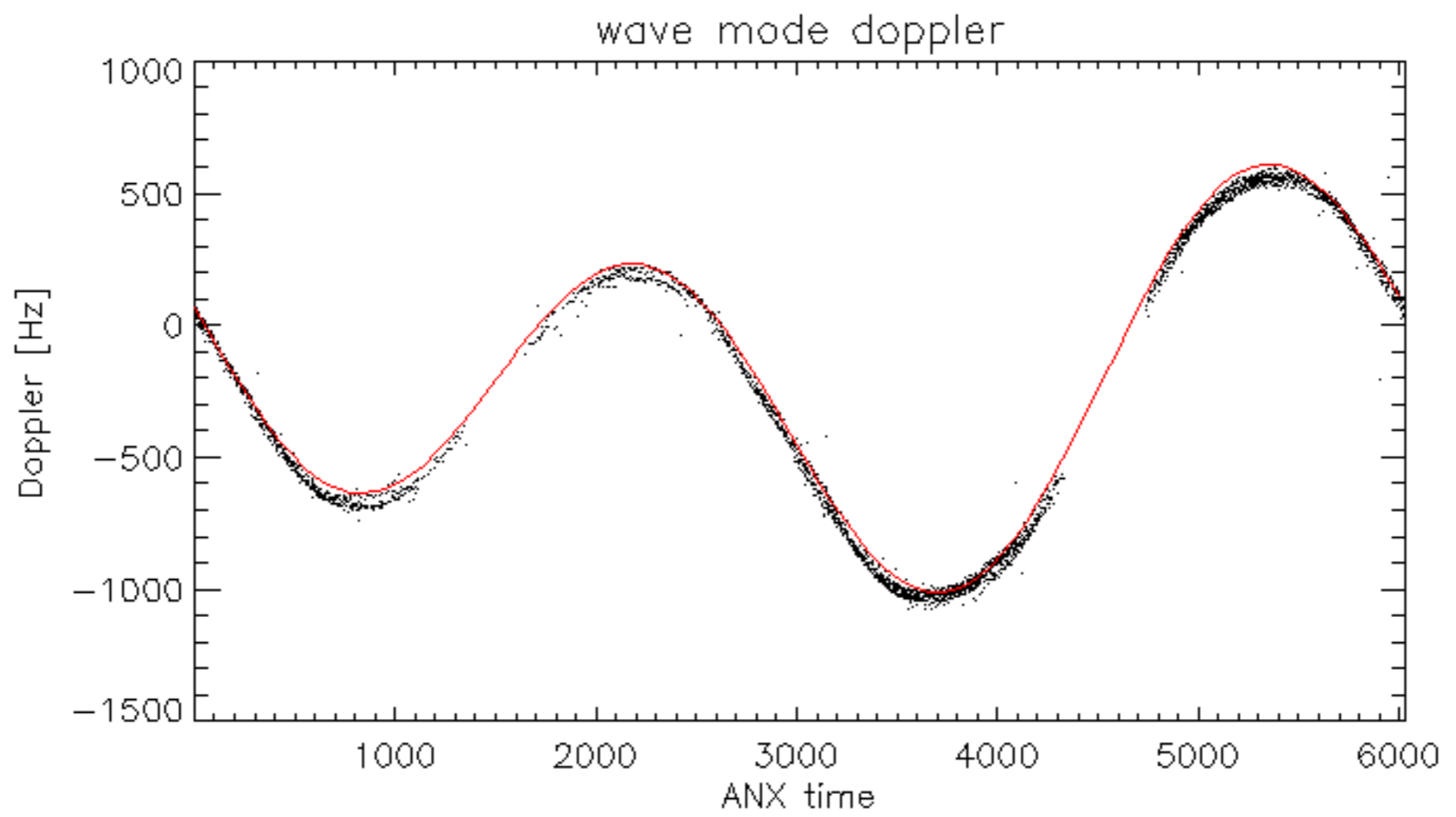
- Stable wave internal calibration pulses gain and phase:
Cal pulses of tile C3 are back to nominal value.
- Stable raw data statistics.
- Nominal Doppler behavior.

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

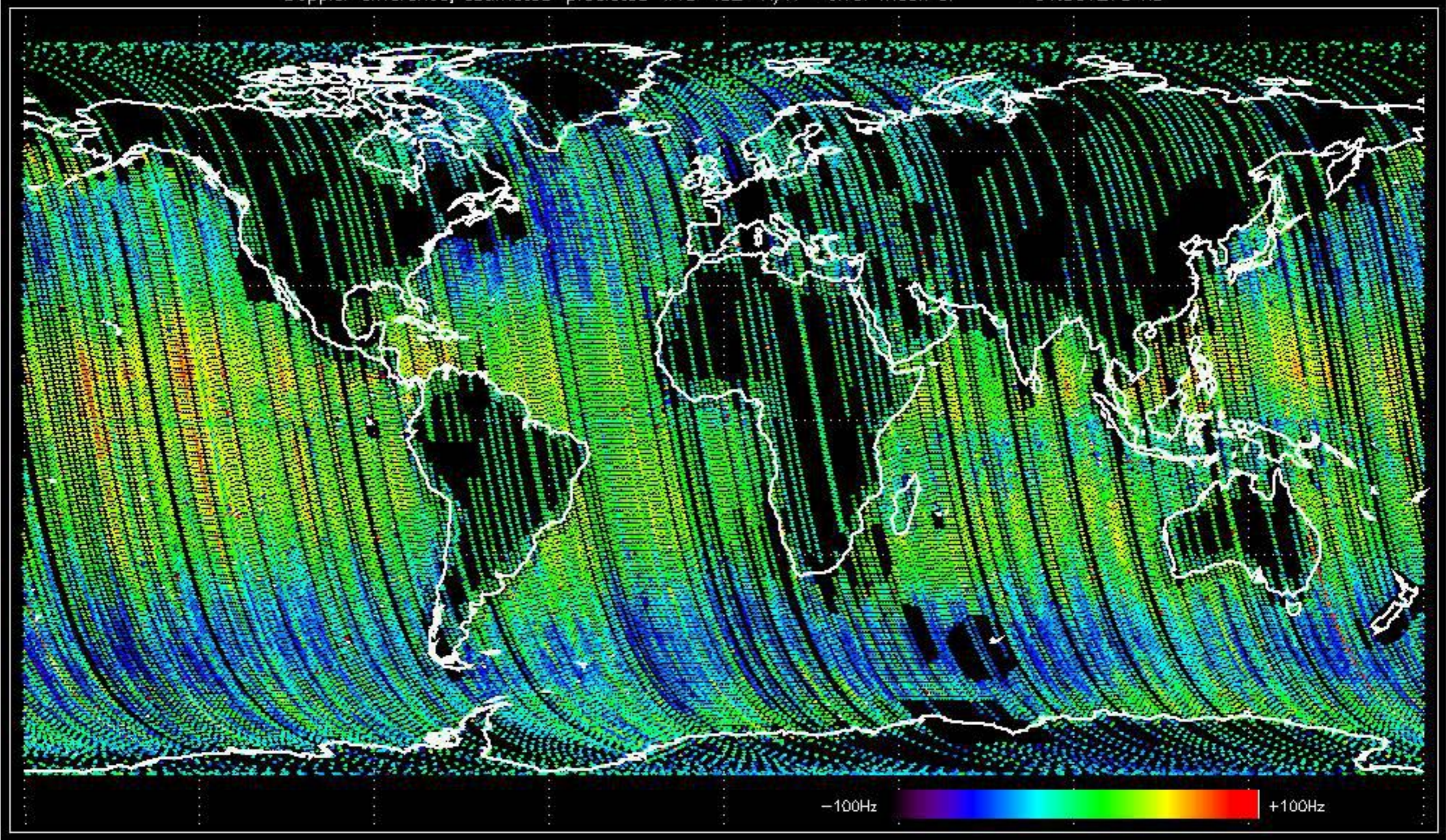


Doppler 'WVS' 'IS2' 'V/V'

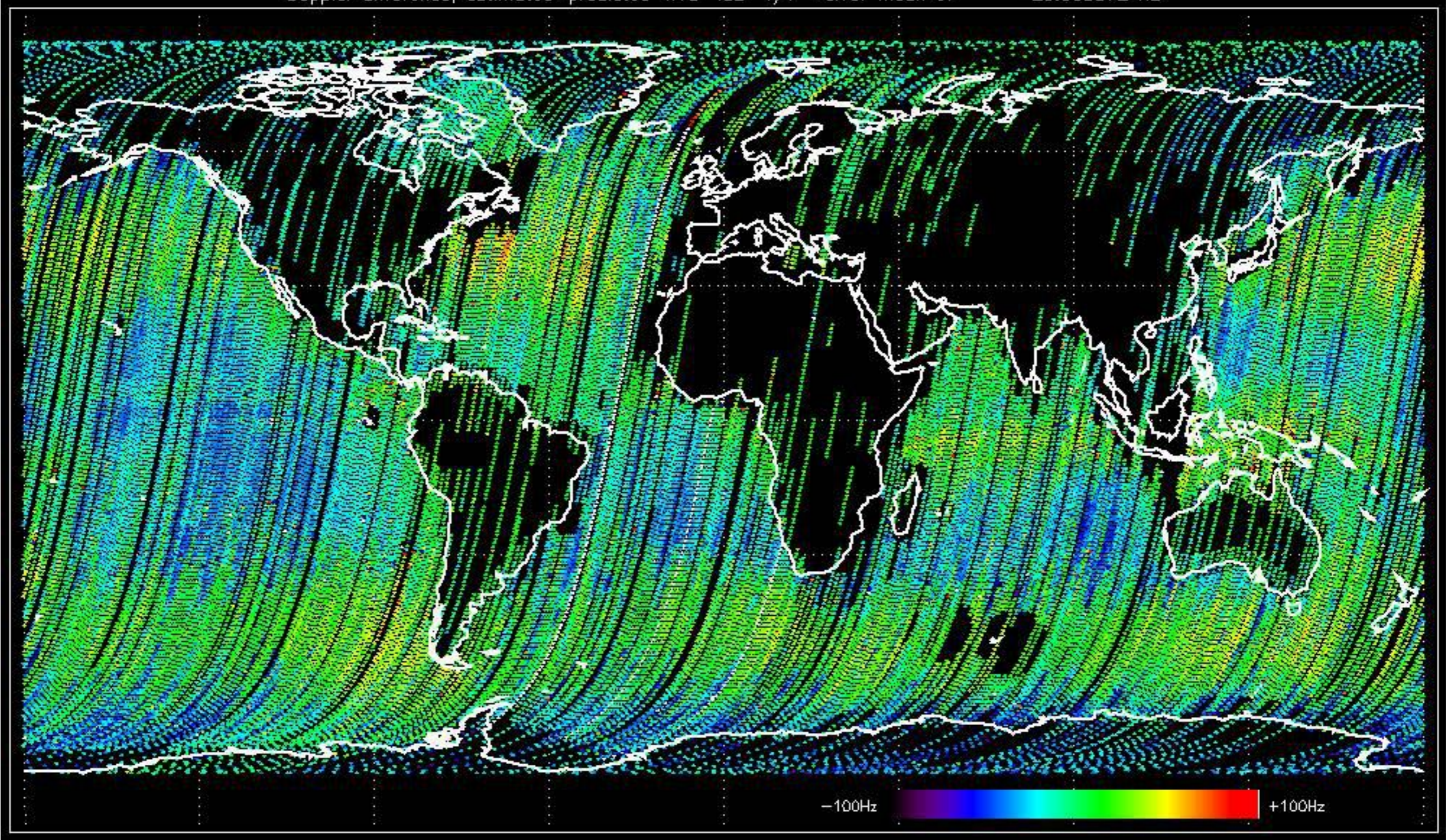




Doppler difference, estimated-predicted 'WVS' 'IS2' 'H/H' -error mean of -31.561278 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' 'V/V' -error mean of -29.503872 Hz



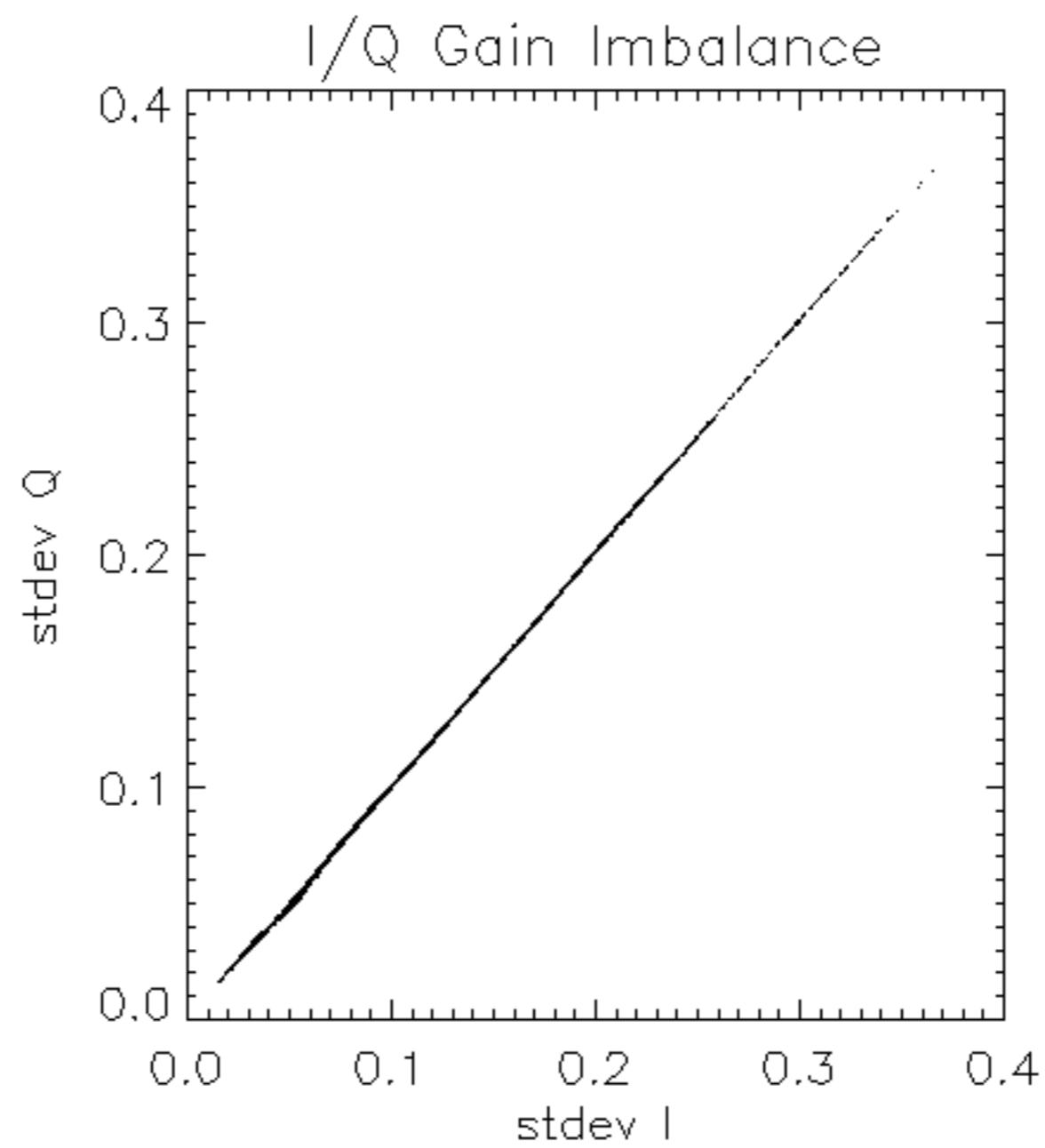
The MS mode provides an internal health check on an individual module basis.
The purpose of this mode is to identify any malfunctioning modules and to identify modules for which calibration offsets are to be applied.

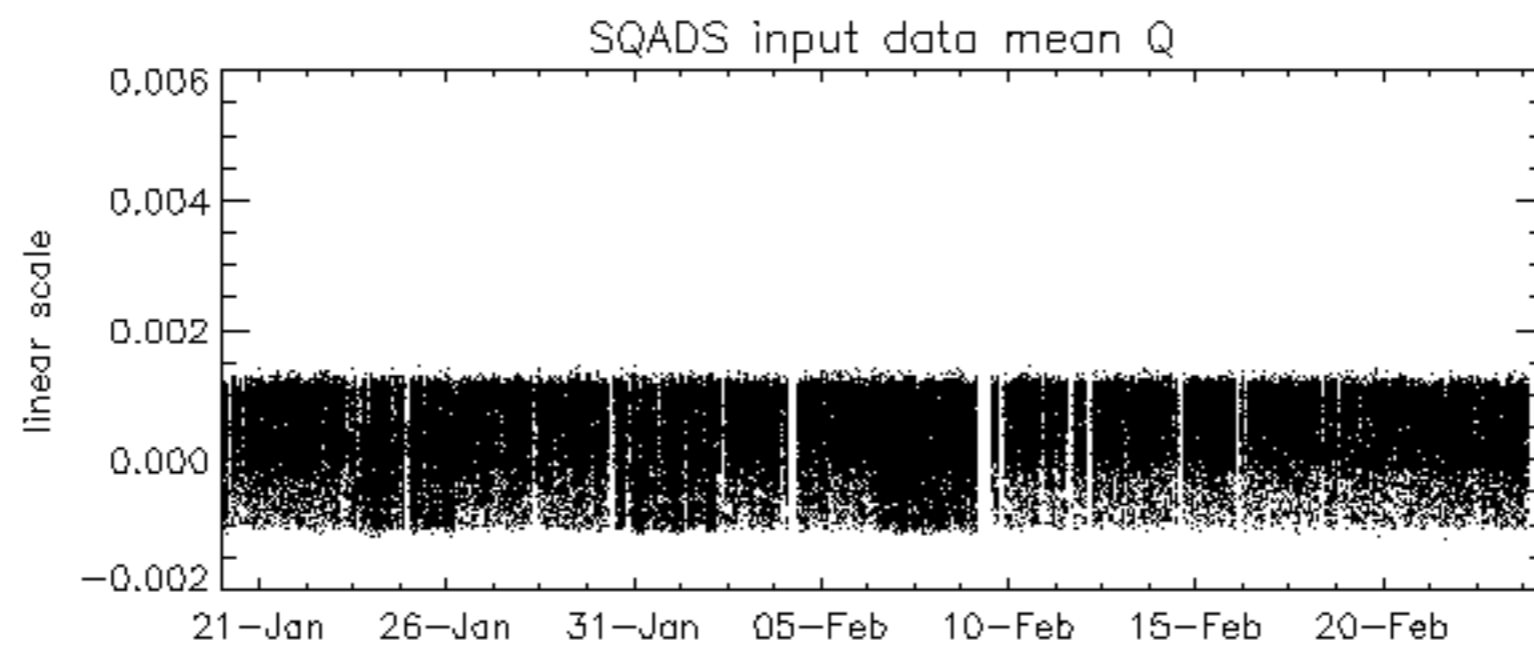
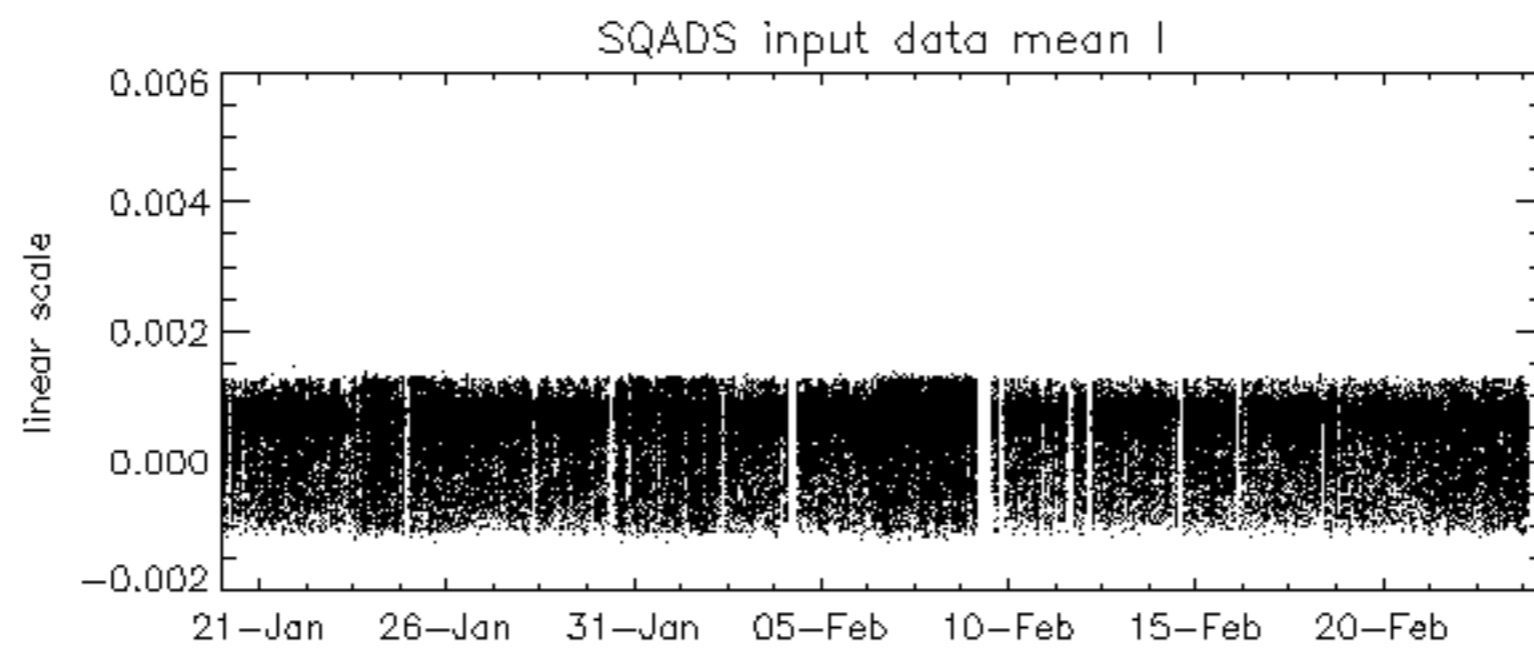
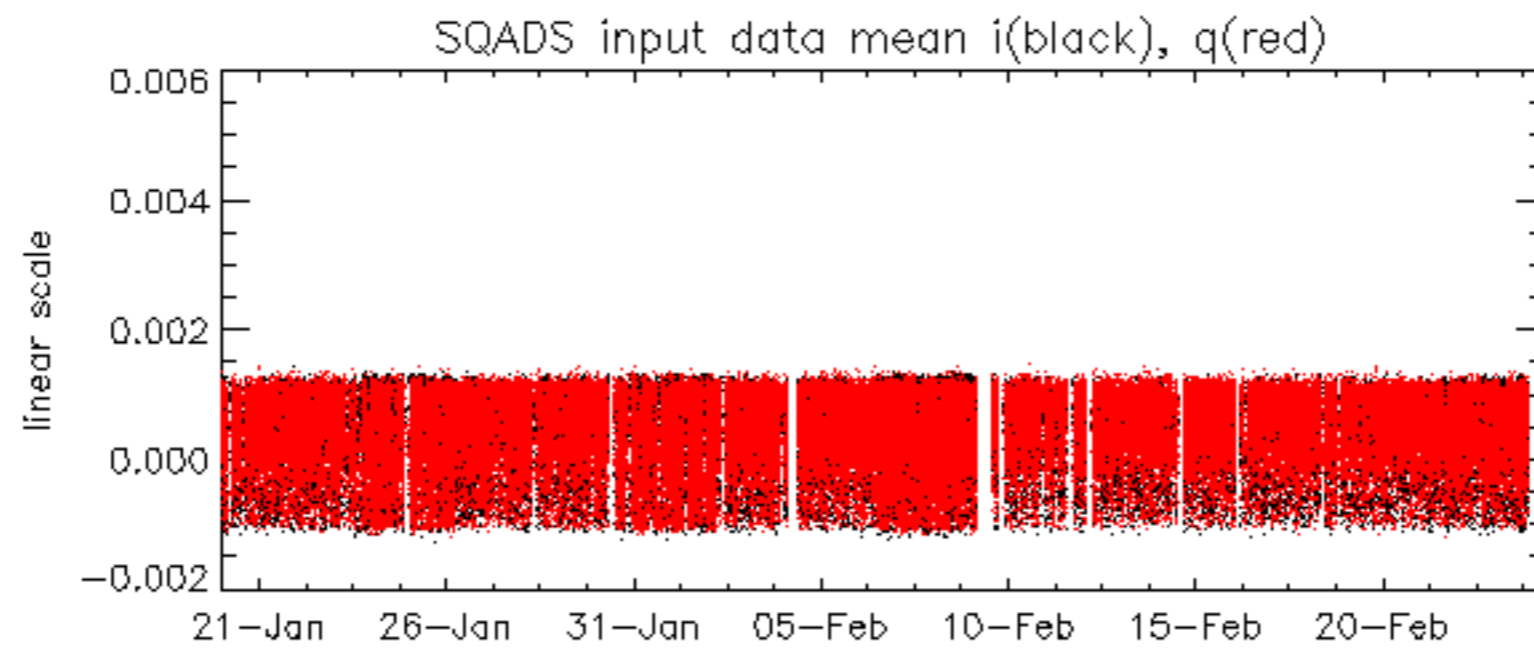
No anomalies observed on available MS products:

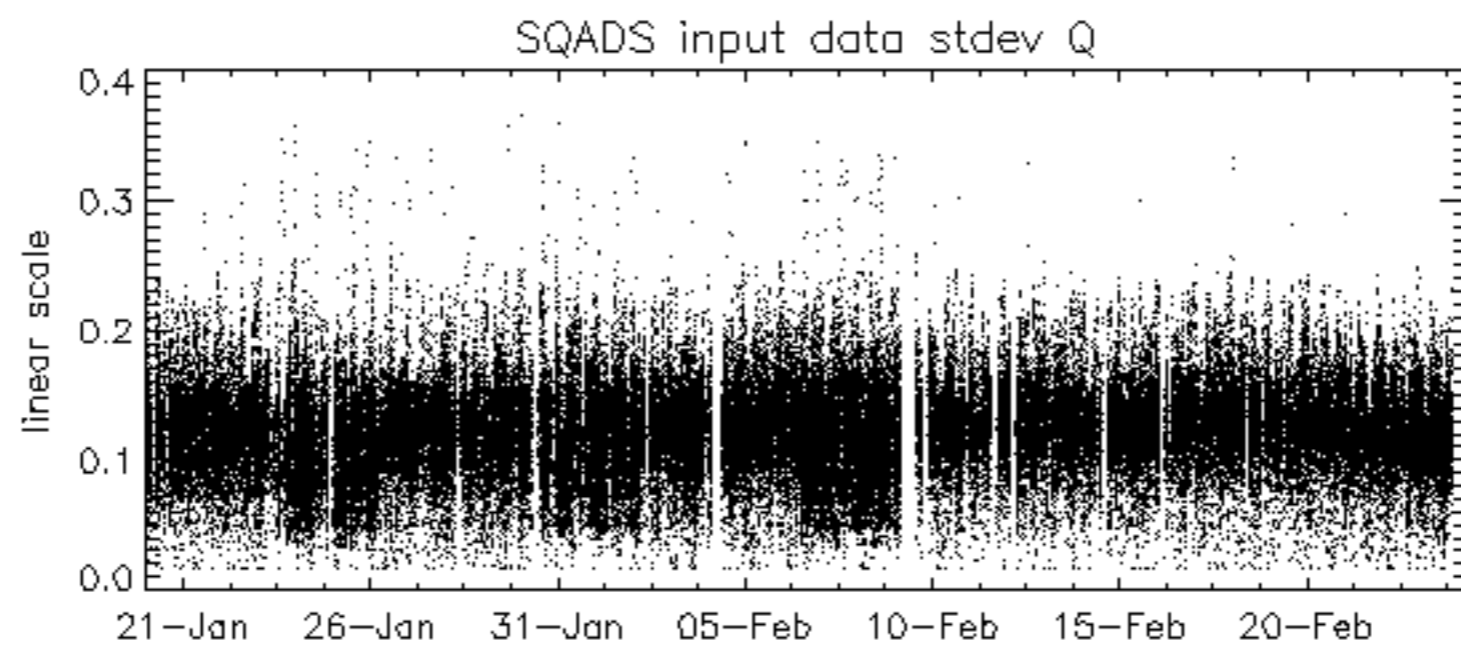
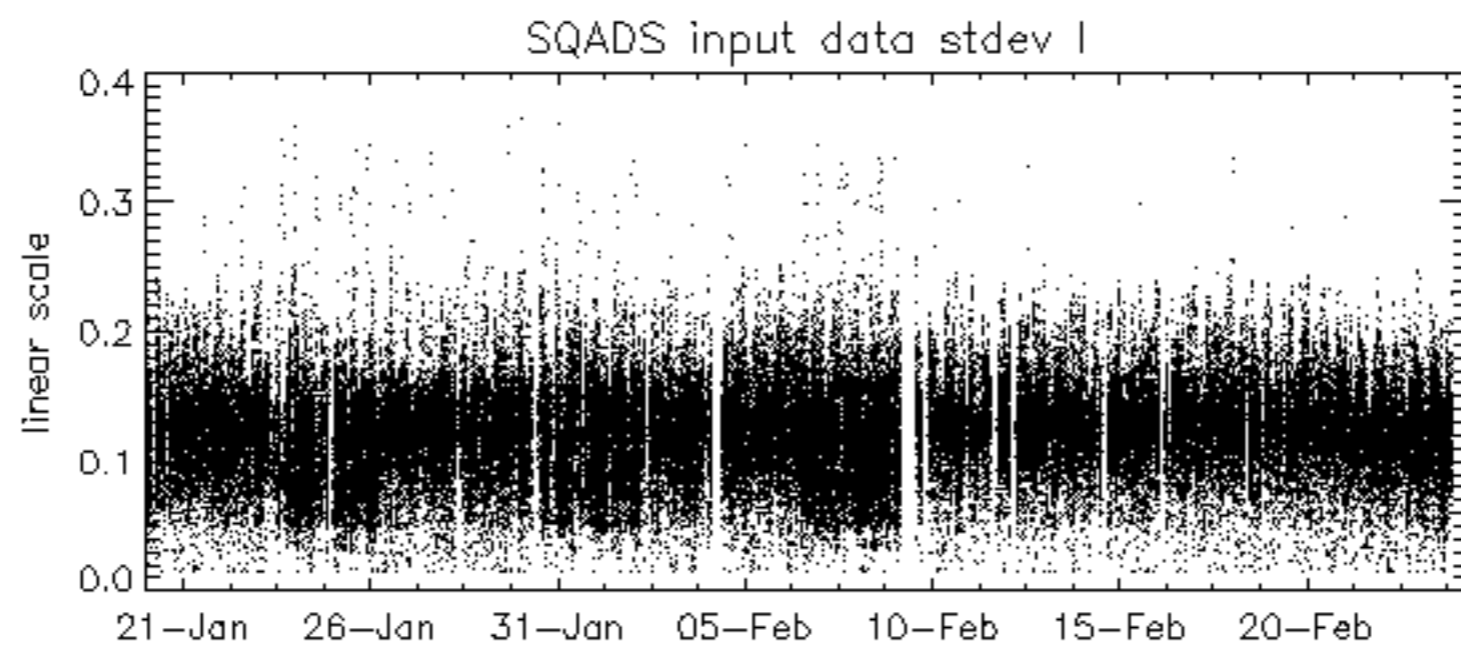
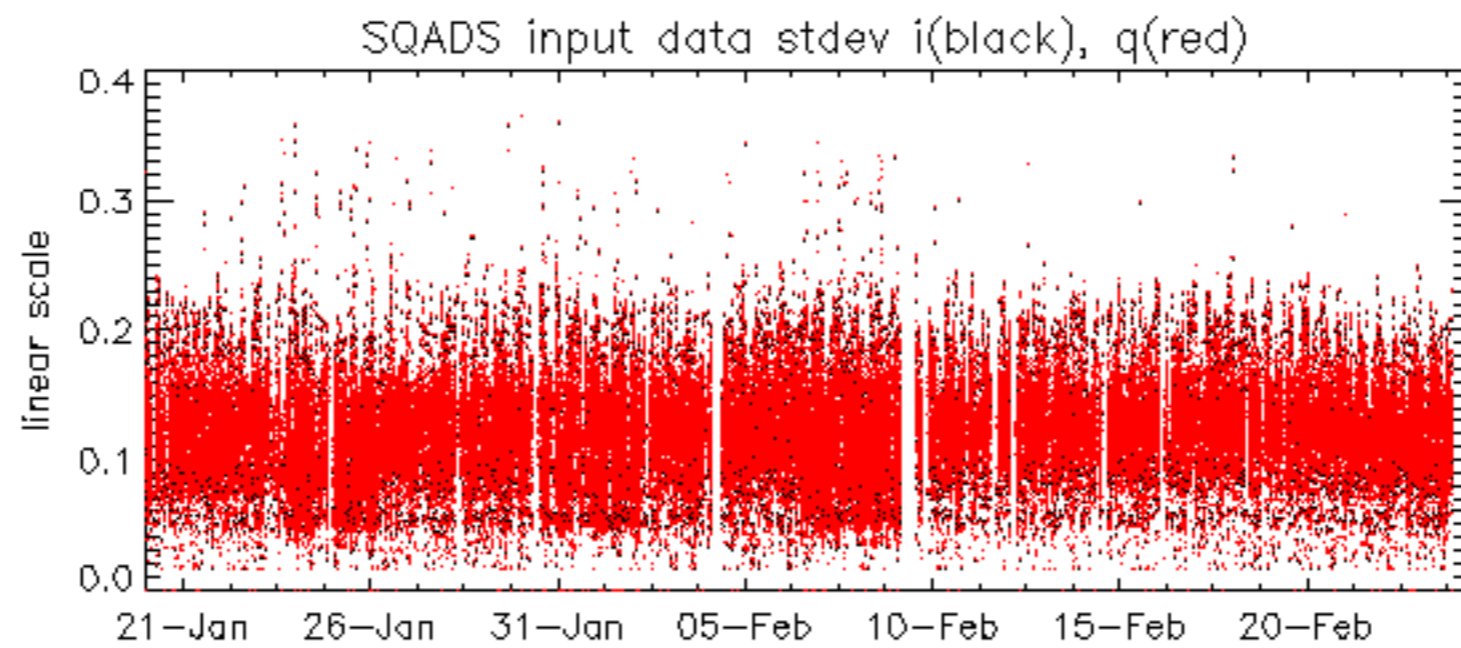
- ASA_MS__0PNPDK20040223_185804_000000152024_00299_10373_0230.N1
- ASA_MS__0PNPDK20040223_185924_000000152024_00299_10373_0229.N1

ASAR back to nominal behaviour.

No anomalies observed.







Antenna reset from 23-FEB-2004 13:04:00 to 13:08:00 causes instrument to be unavailable.
ASAR is back to nominal behaviour after anomaly in cal pulses detected on 20-FEB-2004.