REPORT OF 040123

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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 unavailabilies 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 to identify any malfunctionning modules and to identify modules foe which calibration offsets are to be applied.
No anomalies observed on available MS products:

Polarisation	Start Time
V	20040121 193645
H	20040122 190348

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	-3.68081	-22.4797	-8.14343
	stdev	0.00730019	0.0686608	0.00297874

24	mean	-5.09779	-21.1245	-8.14343
	stdev	0.0147961	0.0678905	0.00297874

4.2 - Cyclic statistics

row	stat	AveP1	AveP2	AveP3
3	mean	-3.70568	-22.5275	-8.15791
	stdev	0.00720954	0.0685986	0.00330779
24	mean	-5.22614	-21.1535	-8.15791
	stdev	0.574528	0.0631081	0.00330779

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	0.000424343
	stdev	3.02711e-07
MEAN Q	mean	0.000304370
	stdev	3.61122e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.115764
	stdev	0.00140081

STDEV Q	mean	0.116006
	stdev	0.00141563

5.3 - Gain imbalance I/Q

6 - Wave Doppler Analysis

No anomaly observed.

6.1 - Unbiased Doppler Error

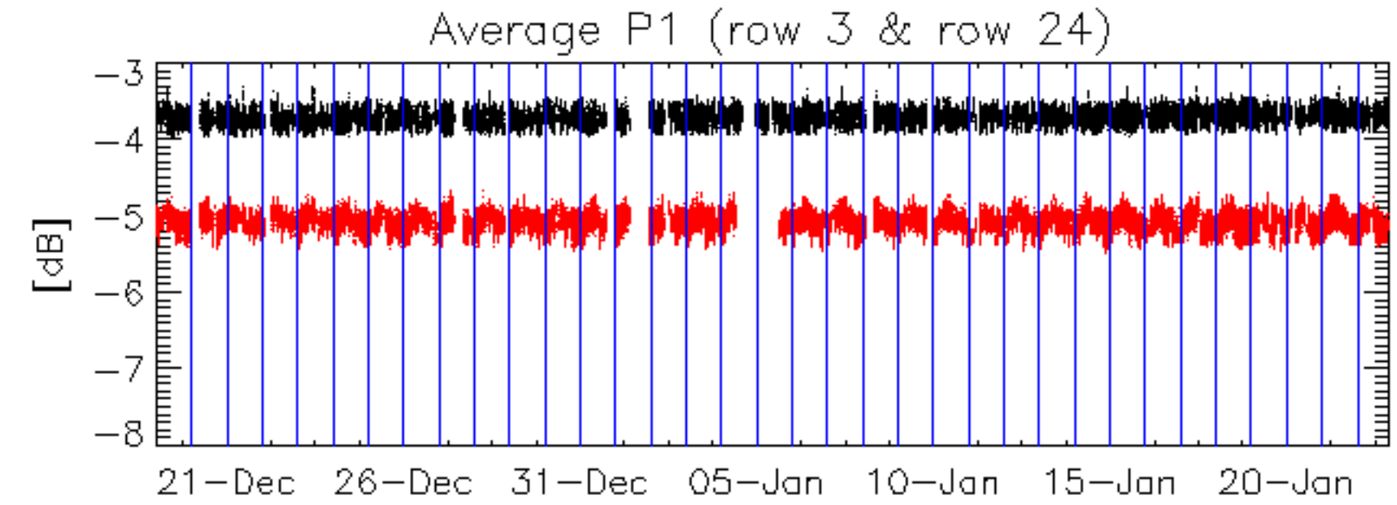
Evolution of unbiased Doppler error (Real - Expected)
Acsending
Descending

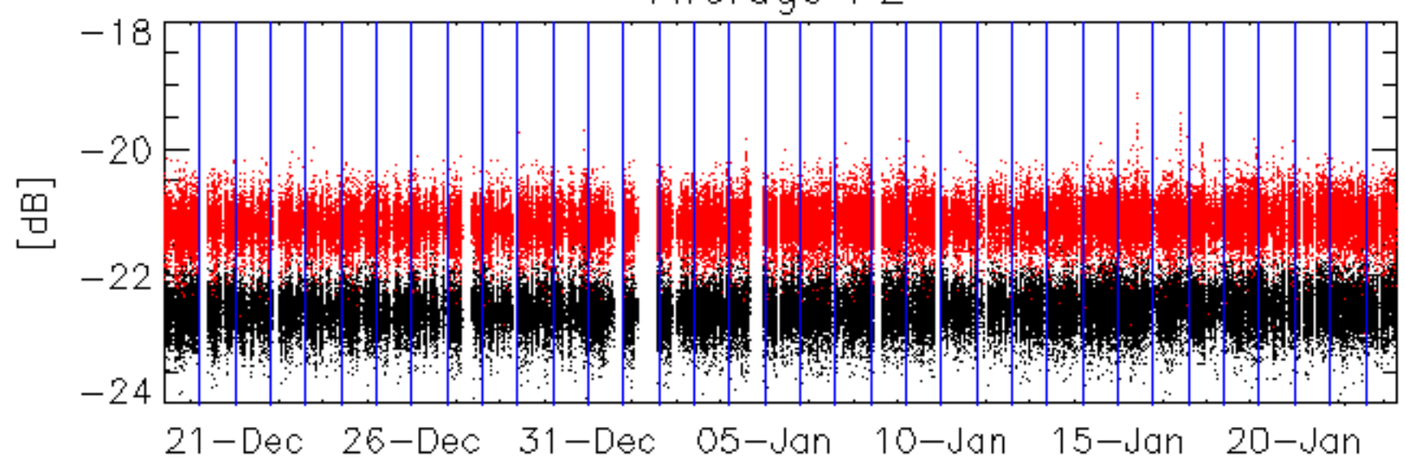
6.2 - Absolute Doppler

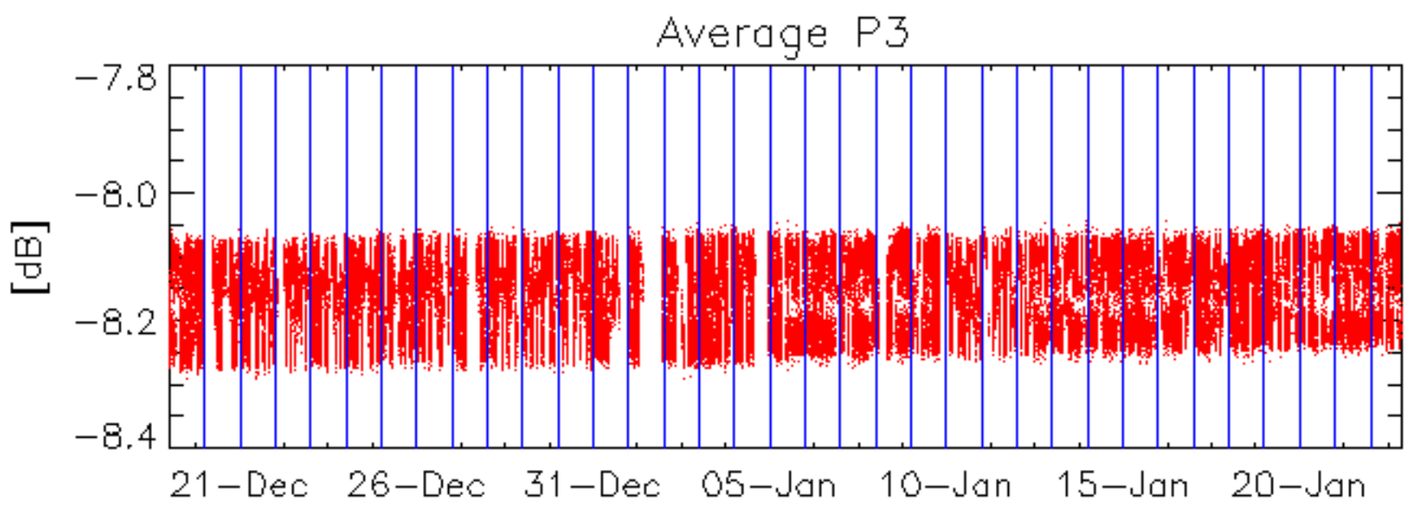
Evolution of Absolute Doppler
Acsending
Descending

6.3 - Doppler evolution versus ANX

Evolution Doppler error versus ANX


Average P1 (row 3 & row 24)
[dB]
−3
−4
−5
−6
−7
−8
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan

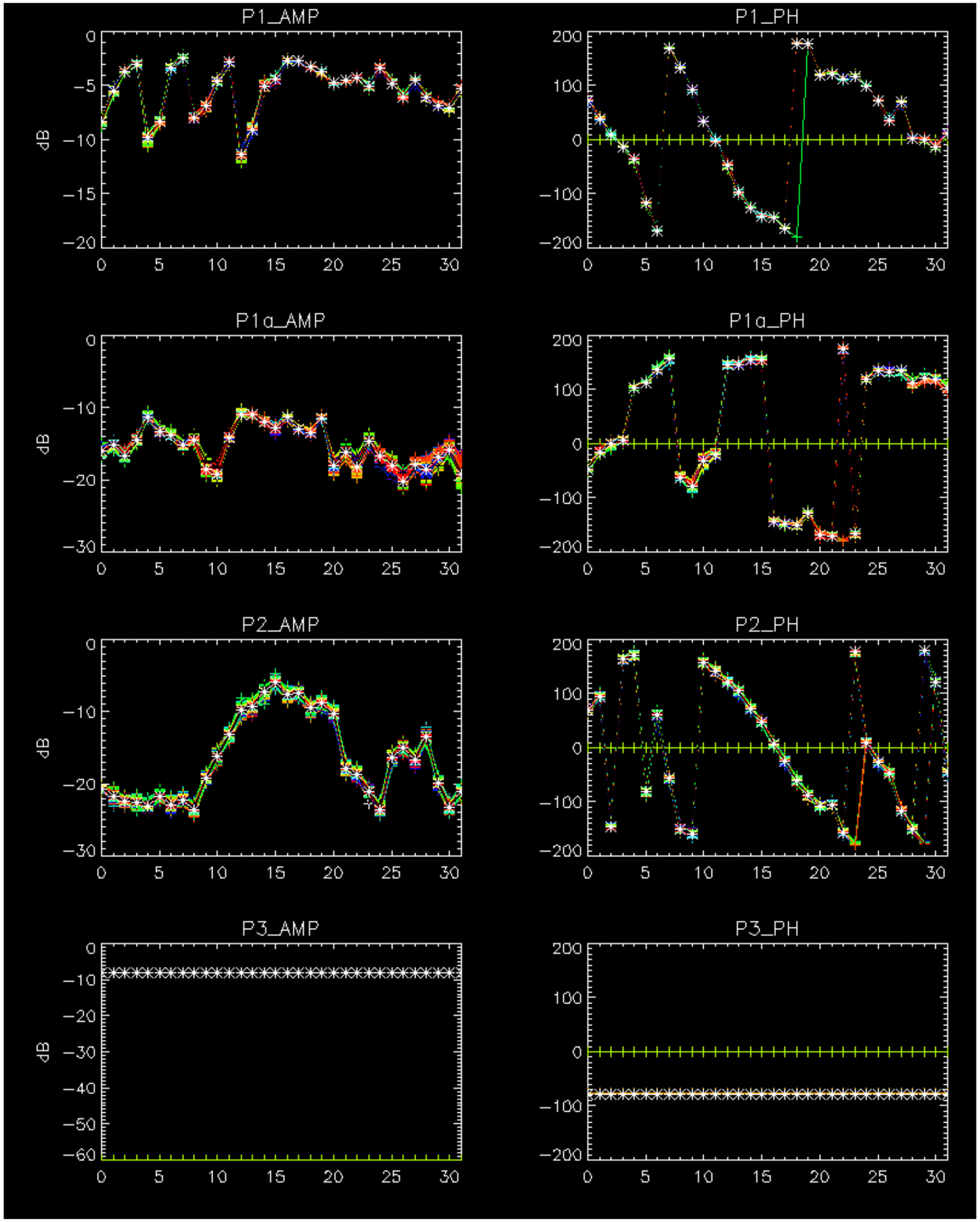

Average P2
[dB]
−18
−20
−22
−24
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan


Average P3
[dB]
−7.8
−8.0
−8.2
−8.4
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan

Average P1 (row 3 & row 24)
[dB]
−2
−4
−6
−8
−10
03
06
09
12
15
18
21
22−Jan
Average P2
[dB]
−18
−20
−22
−24
03
06
09
12
15
18
21
22−Jan
Average P3
[dB]
−7.8
−8.0
−8.2
−8.4
03
06
09
12
15
18
21
22−Jan

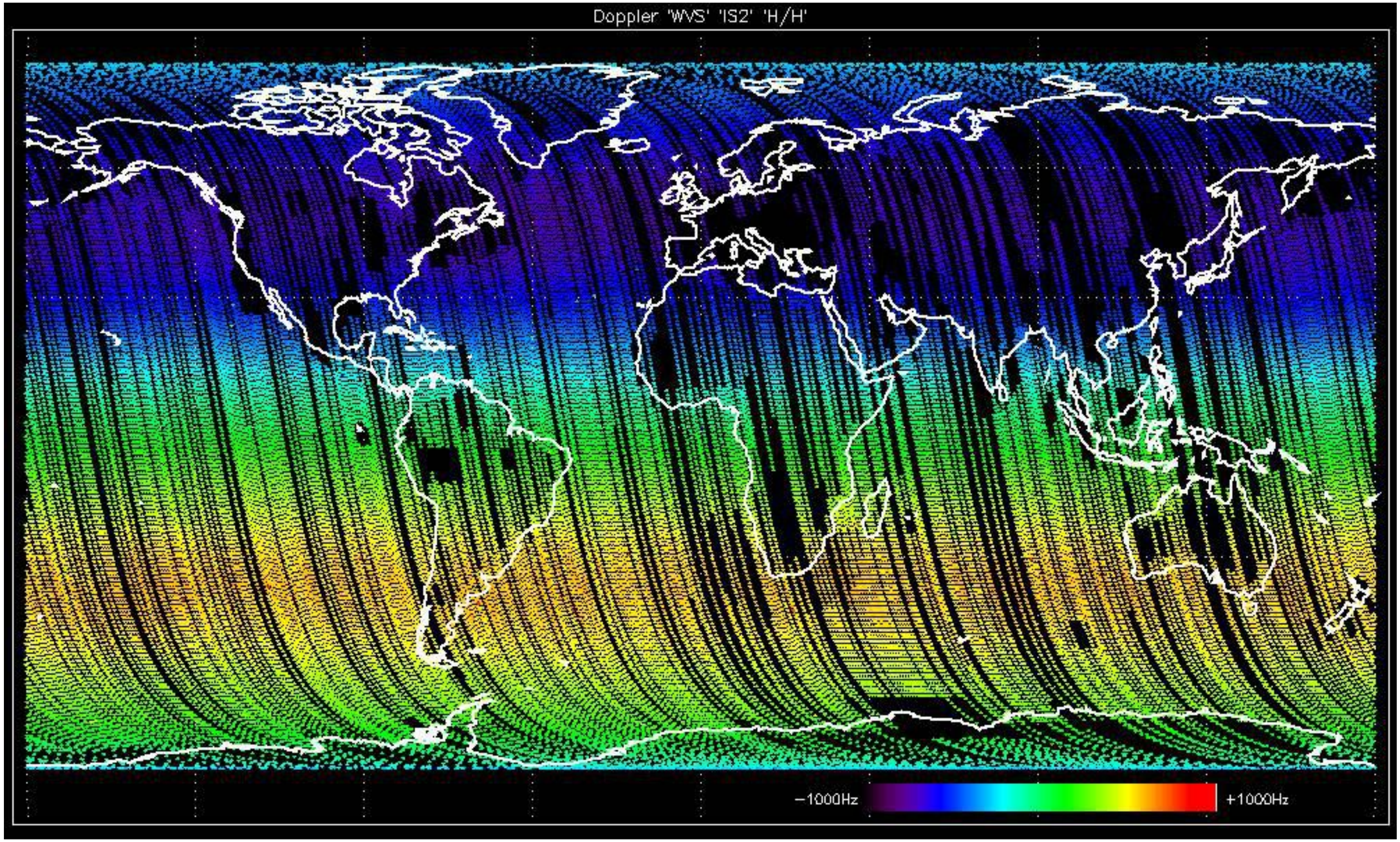
No anomalies observed on available browse products

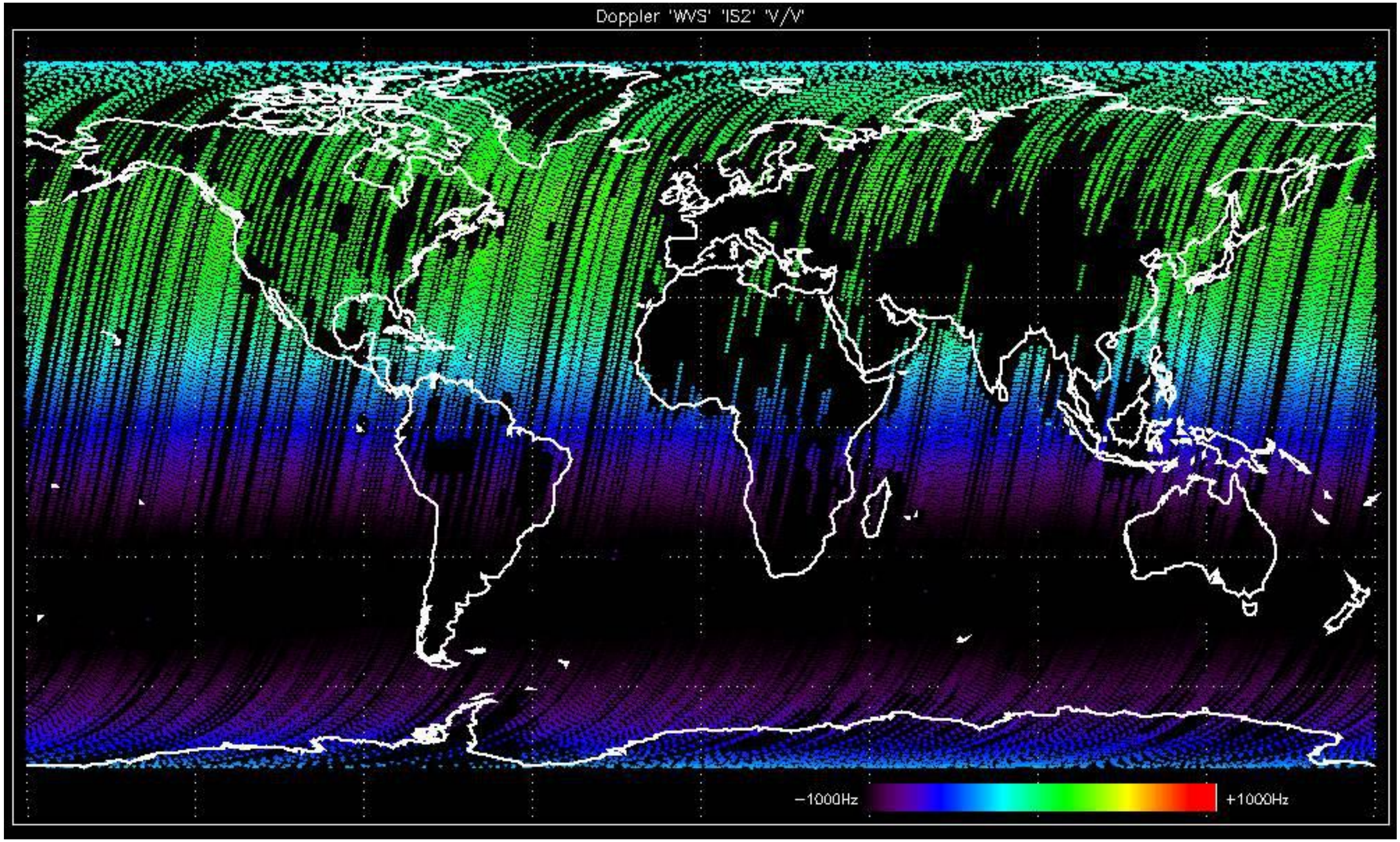
No anomalies observed.

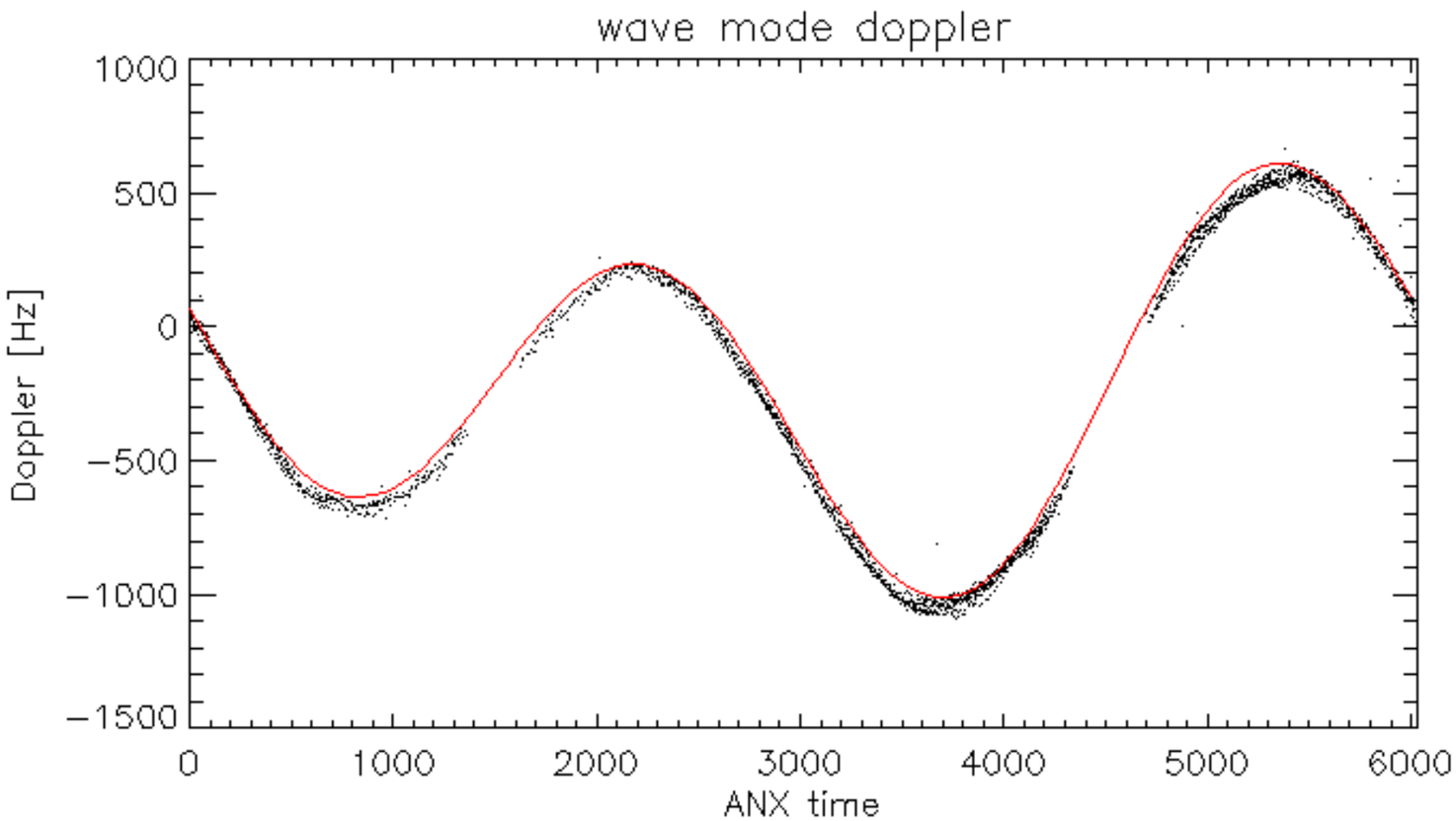

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
0
−10
−20
−30
−40
−50
−60
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

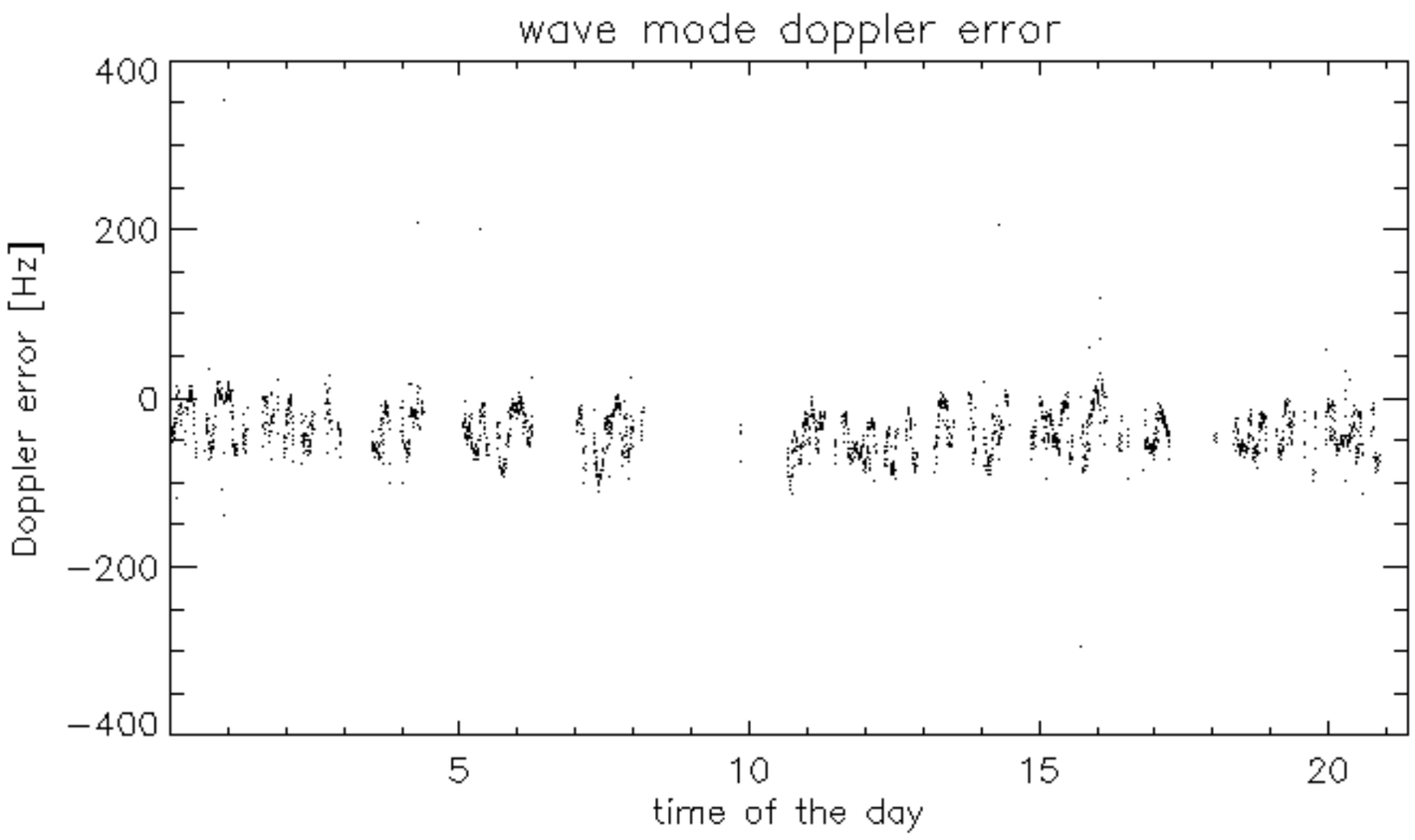
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

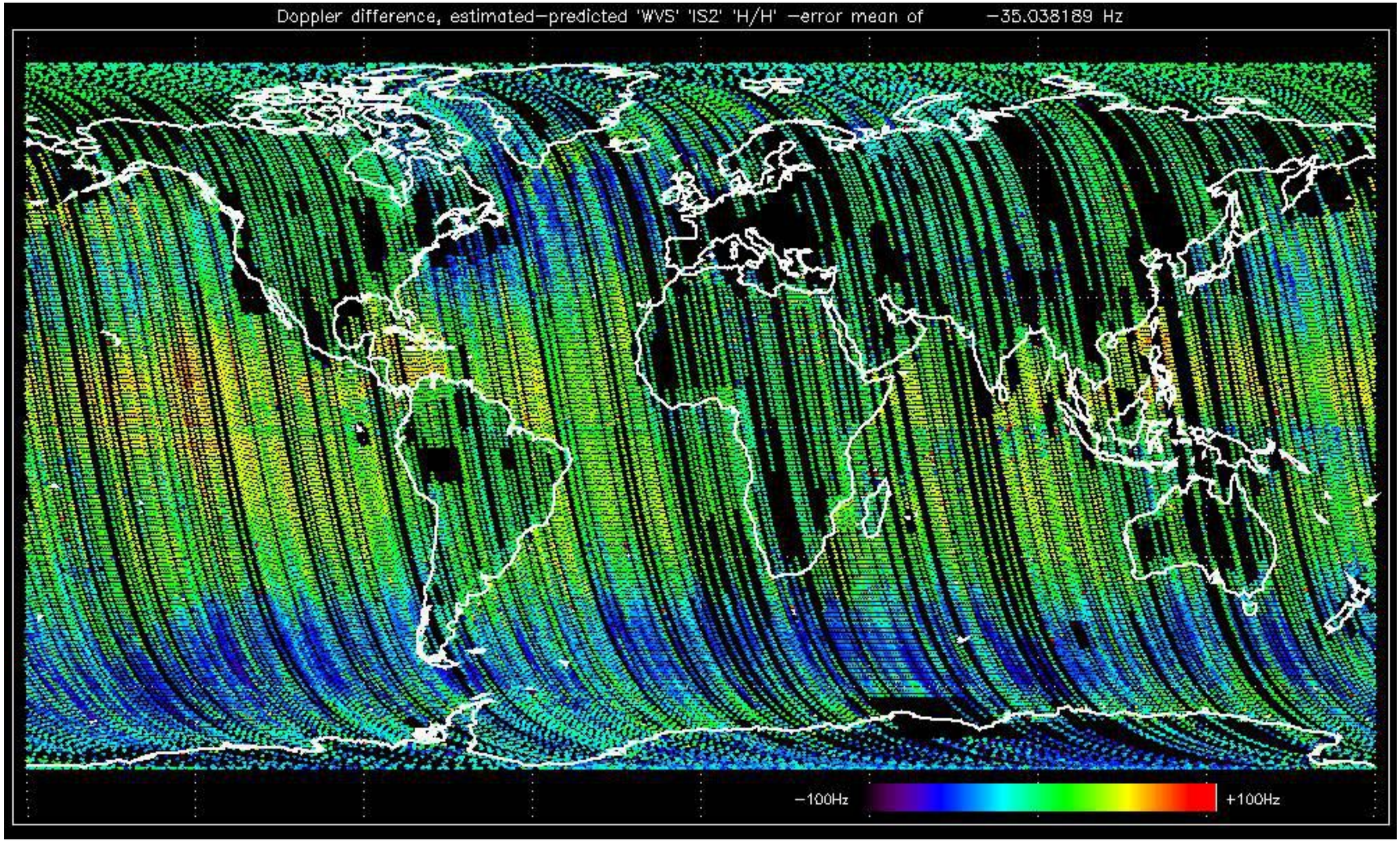
No anomaly observed.

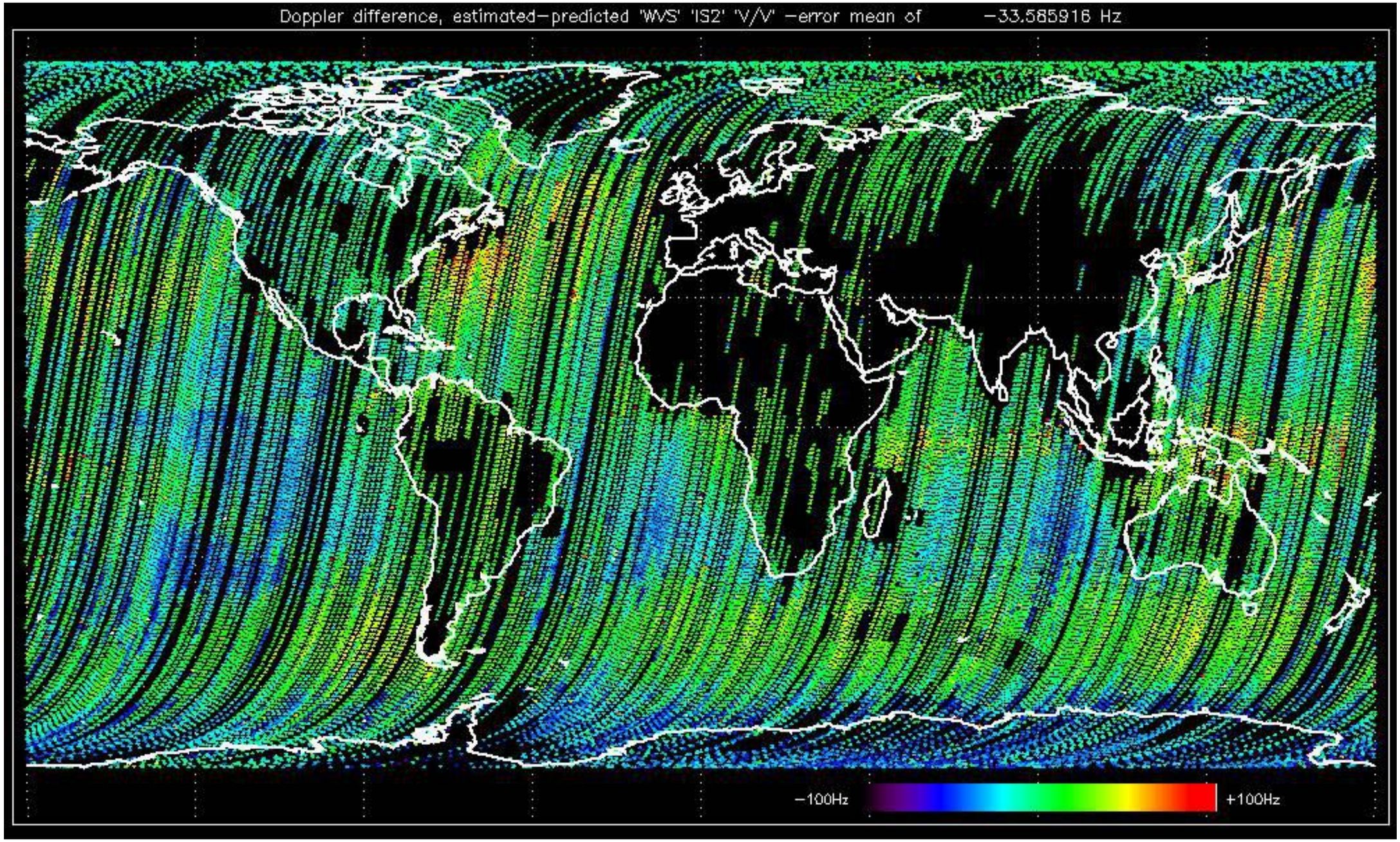

Doppler 'WVS' 'IS2' 'H/H'
−1000Hz
+1000Hz


Doppler 'WVS' 'IS2' 'V/V'
−1000Hz
+1000Hz


wave mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
ANX time

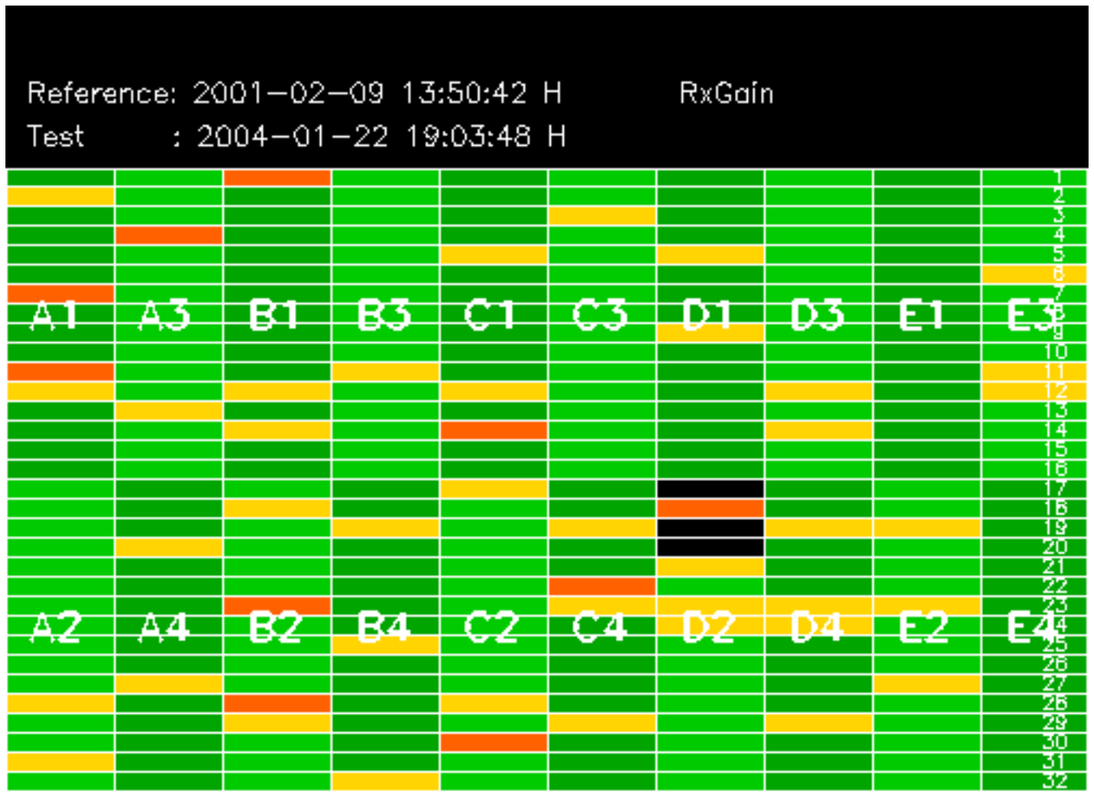

wave mode doppler error
Doppler error [Hz]
400
200
0
−200
−400
5
10
15
20
time of the day

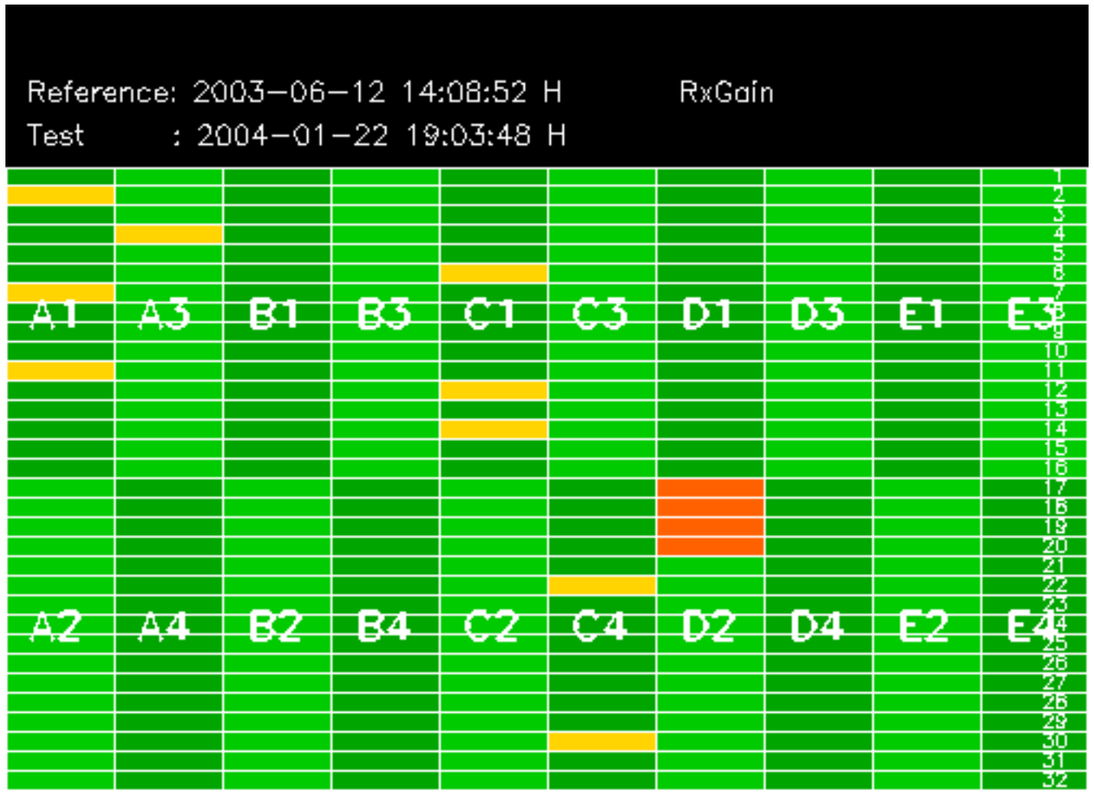

Doppler difference, estimated−predicted 'WVS' 'IS2' 'H/H' −error mean of −35.038189 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' 'V/V' −error mean of −33.585916 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 malfunctionning modules and
to identify modules foe which calibration offsets are to be applied.
No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2004-01-22 19:03:48 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-01-22 19:03:48 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
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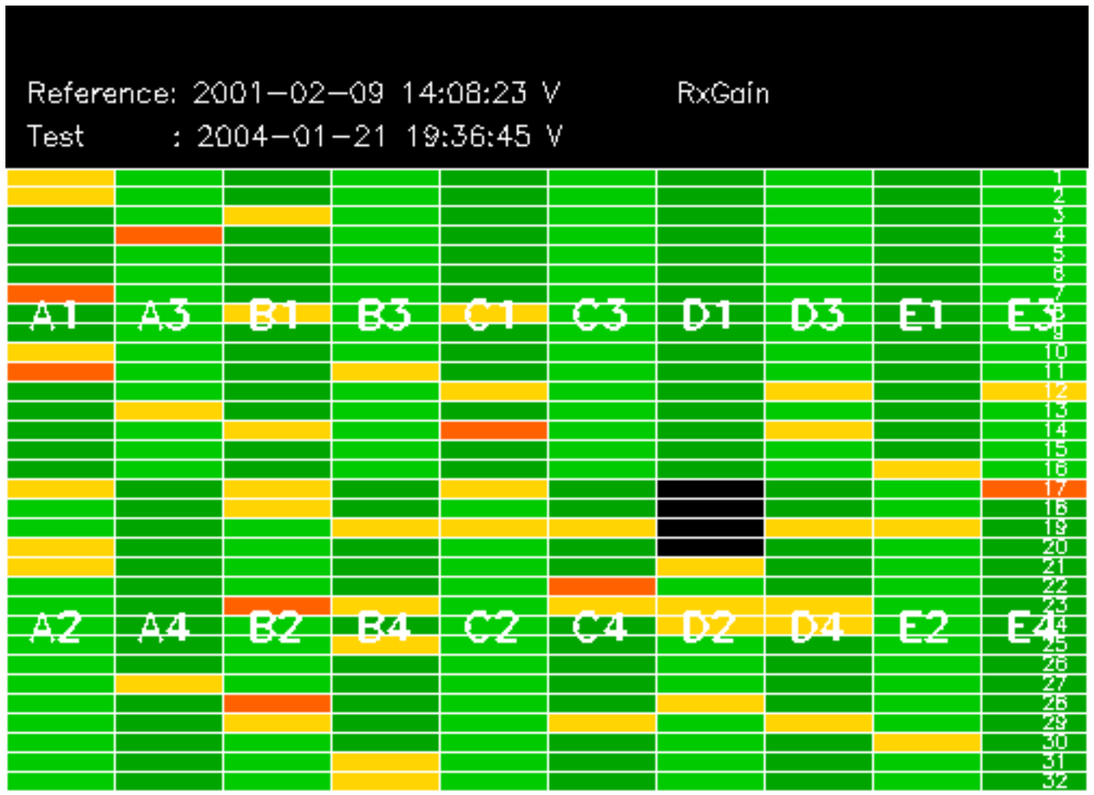
Reference: 2001-02-09 14:08:23 V
Test : 2004-01-21 19:36:45 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
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8
9
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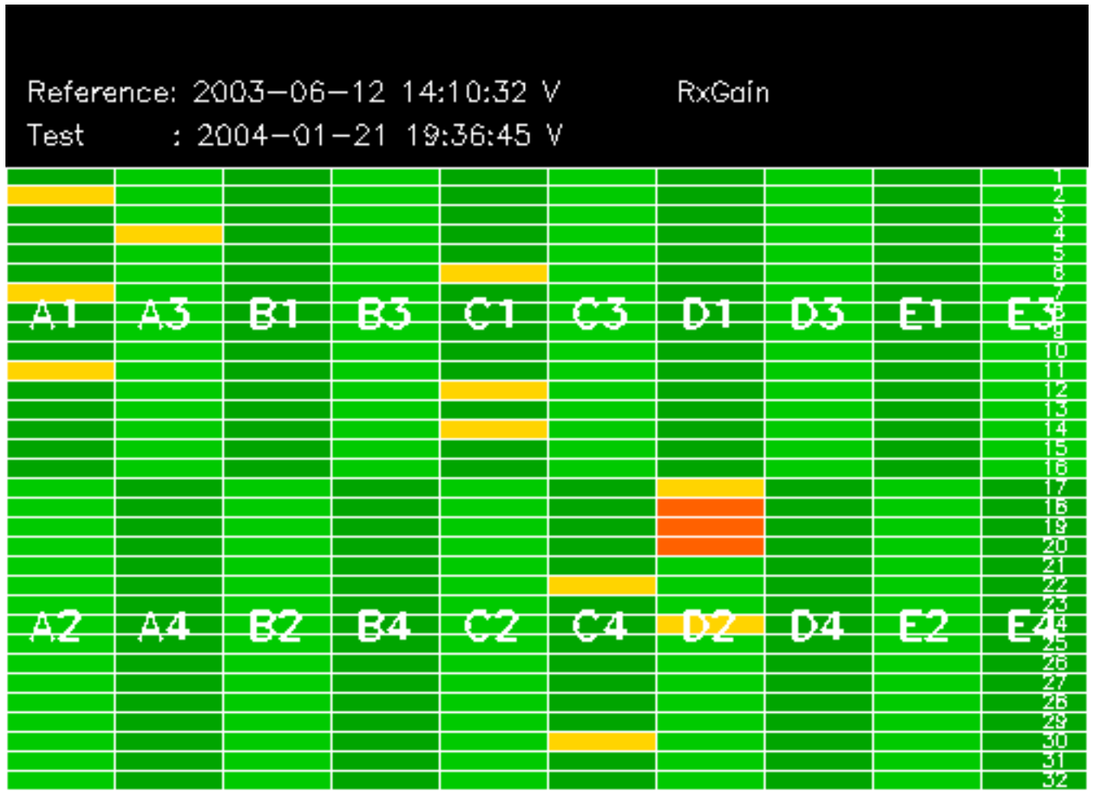
Reference: 2003-06-12 14:10:32 V
Test : 2004-01-21 19:36:45 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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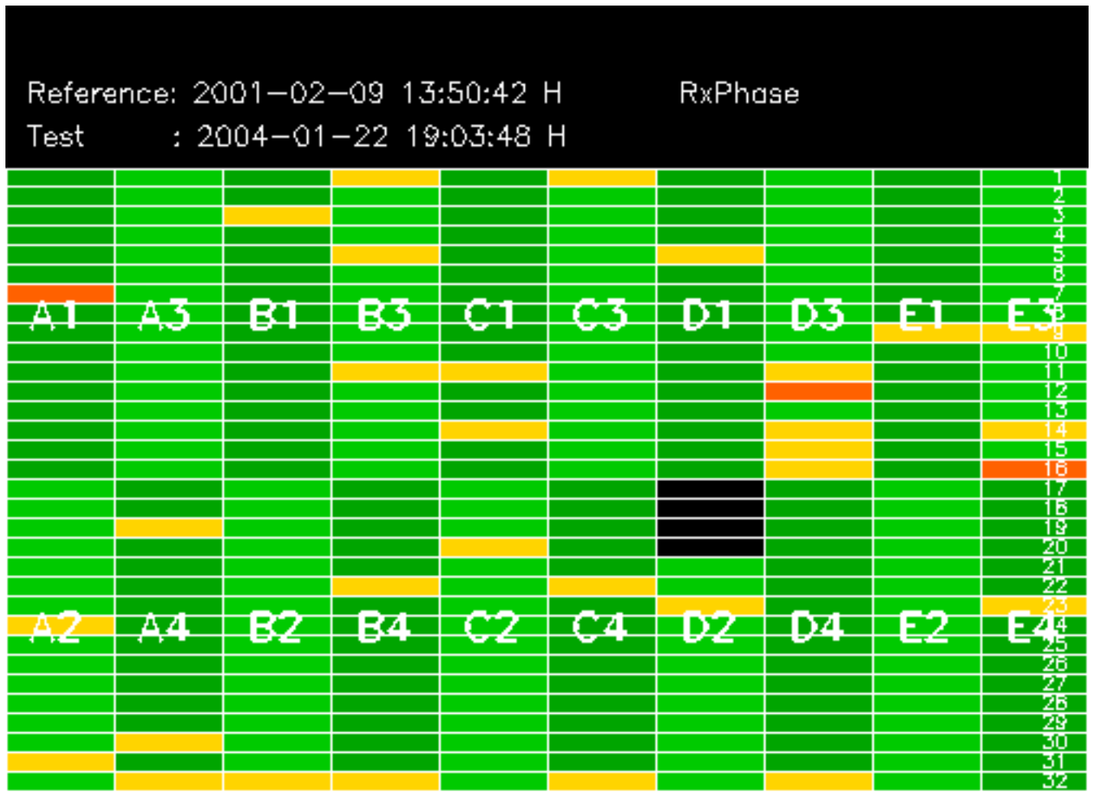
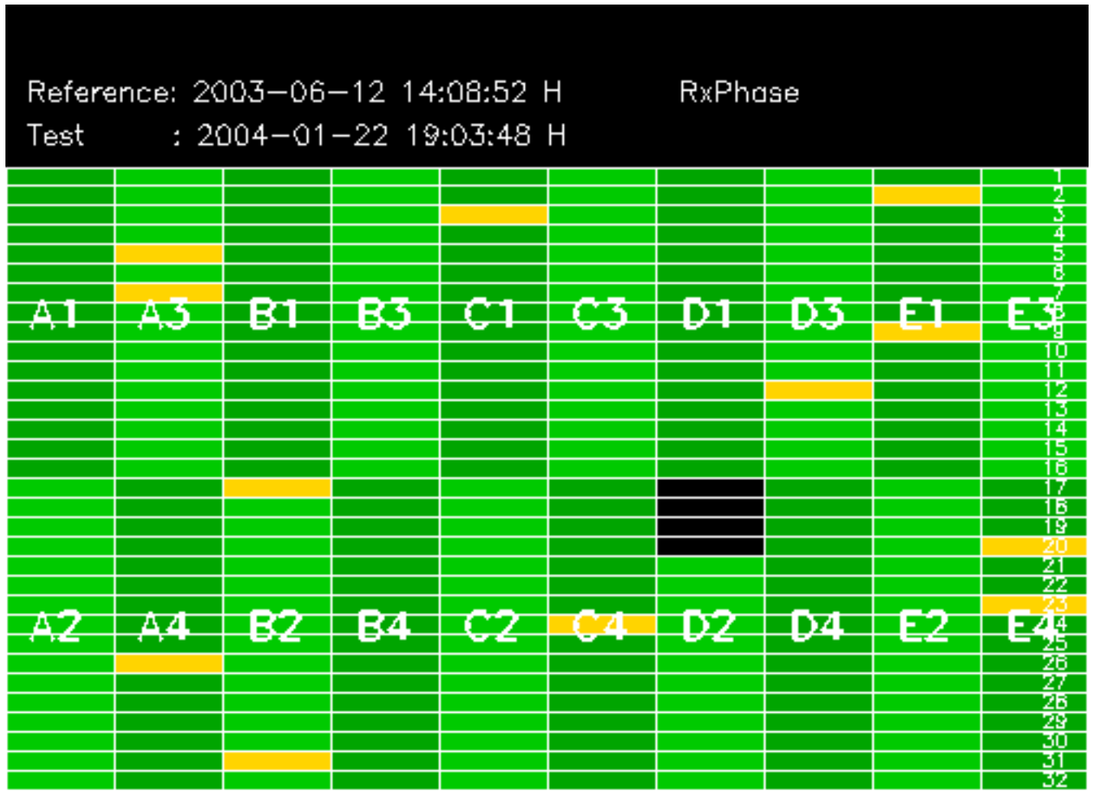
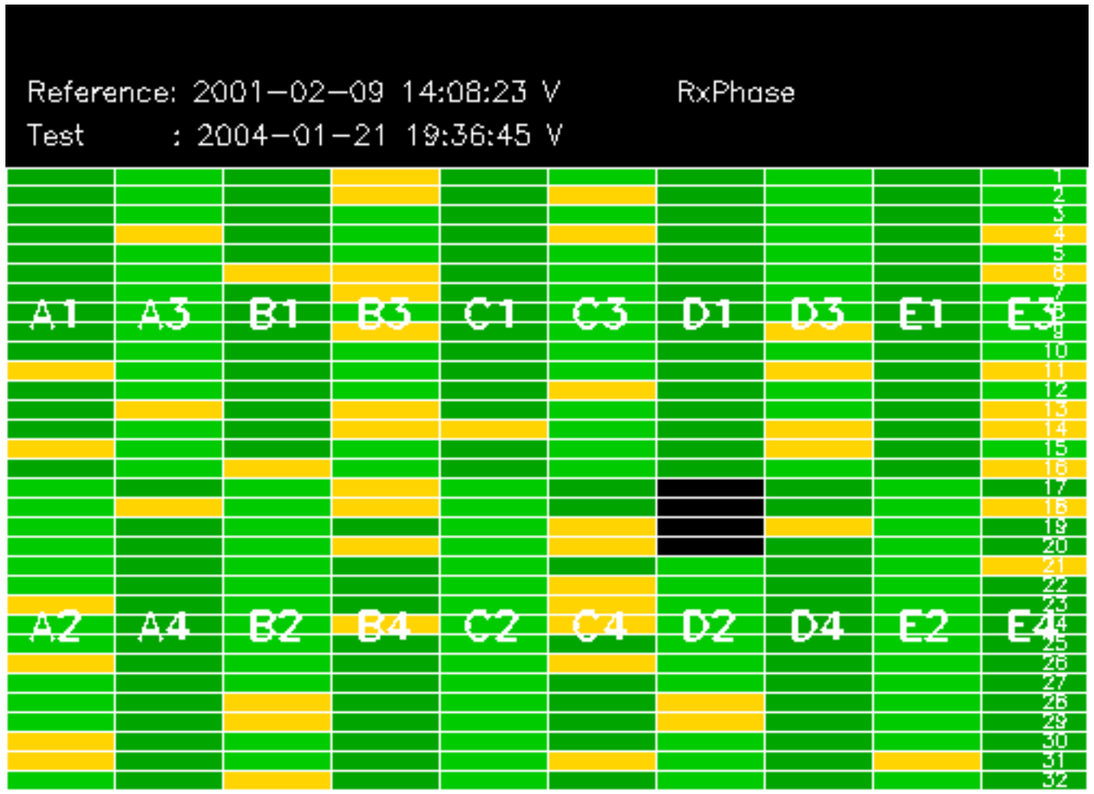
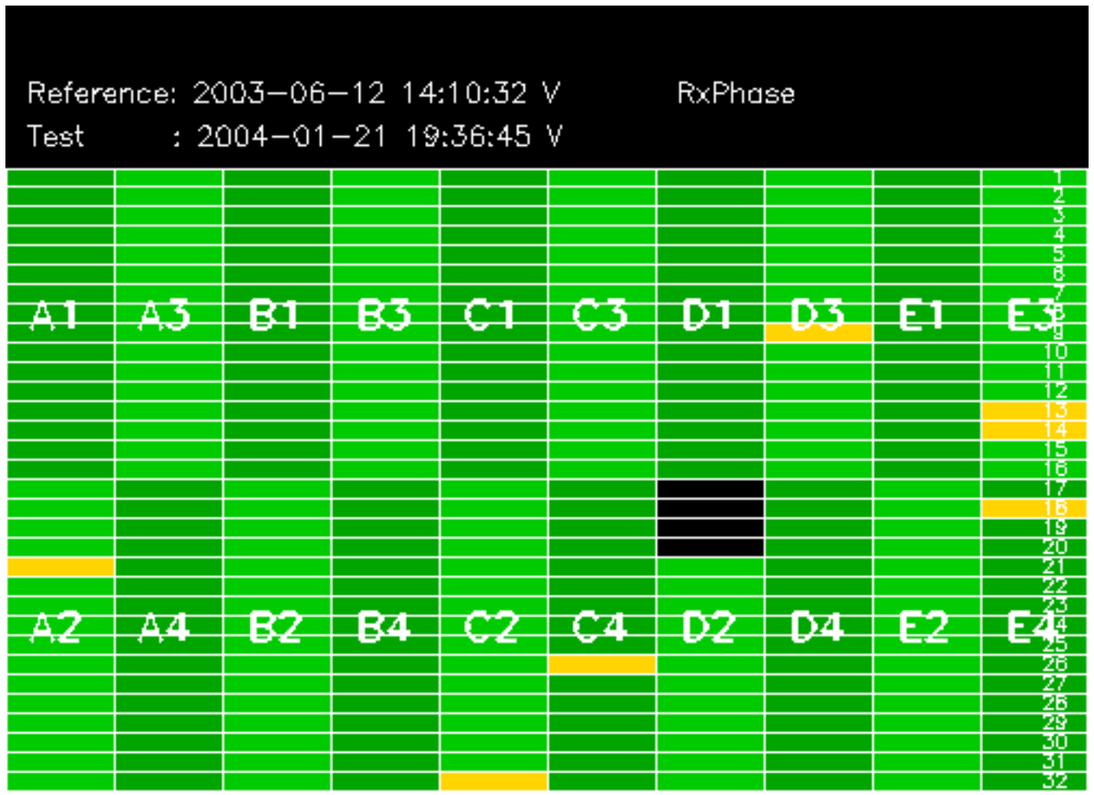

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-01-22 19:03:48 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-01-22 19:03:48 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-01-21 19:36:45 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-01-21 19:36:45 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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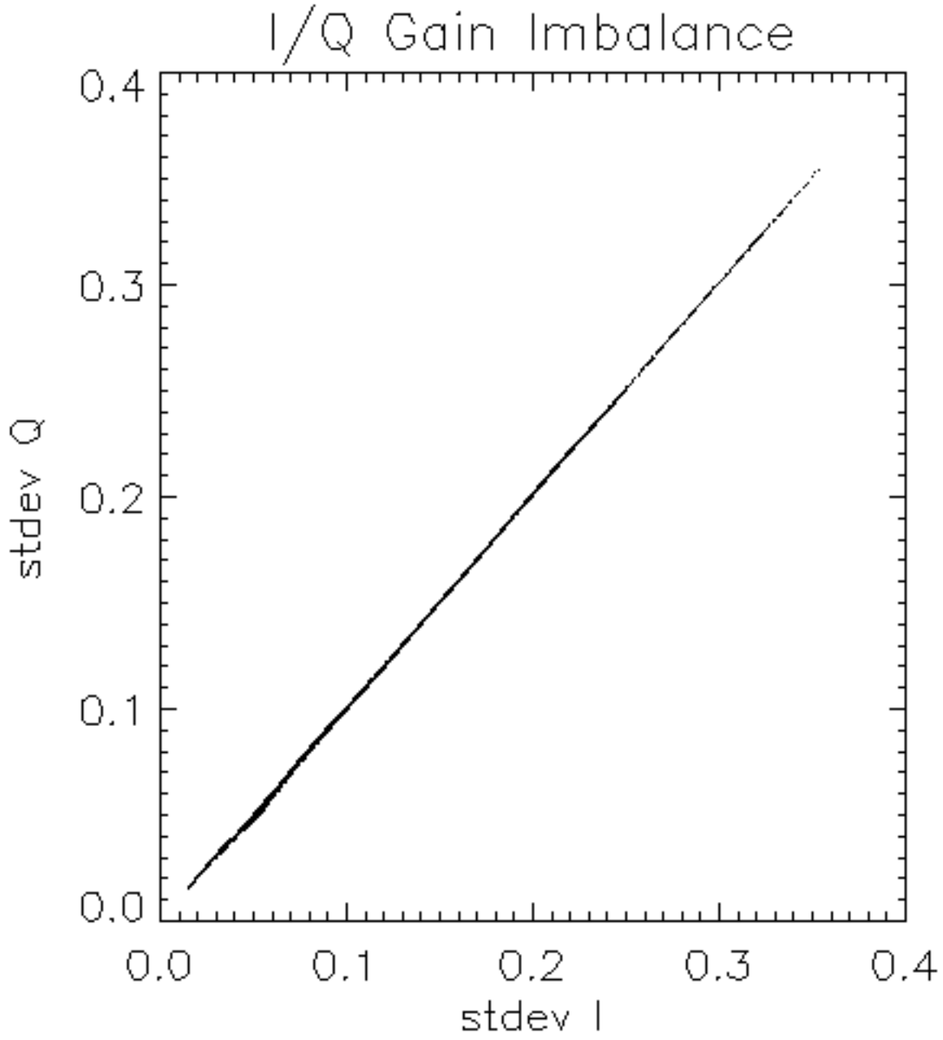
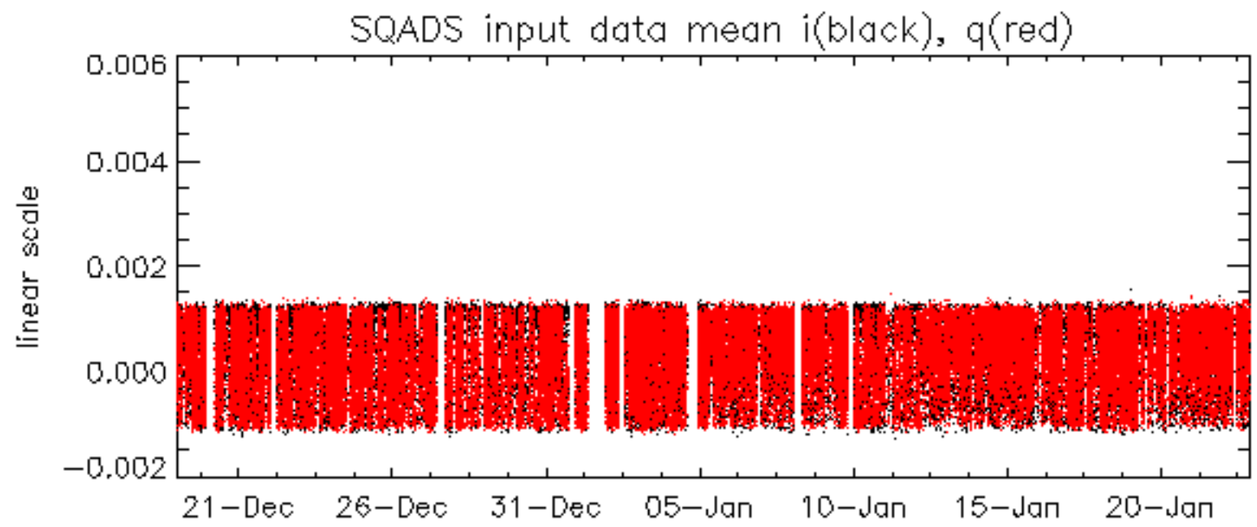
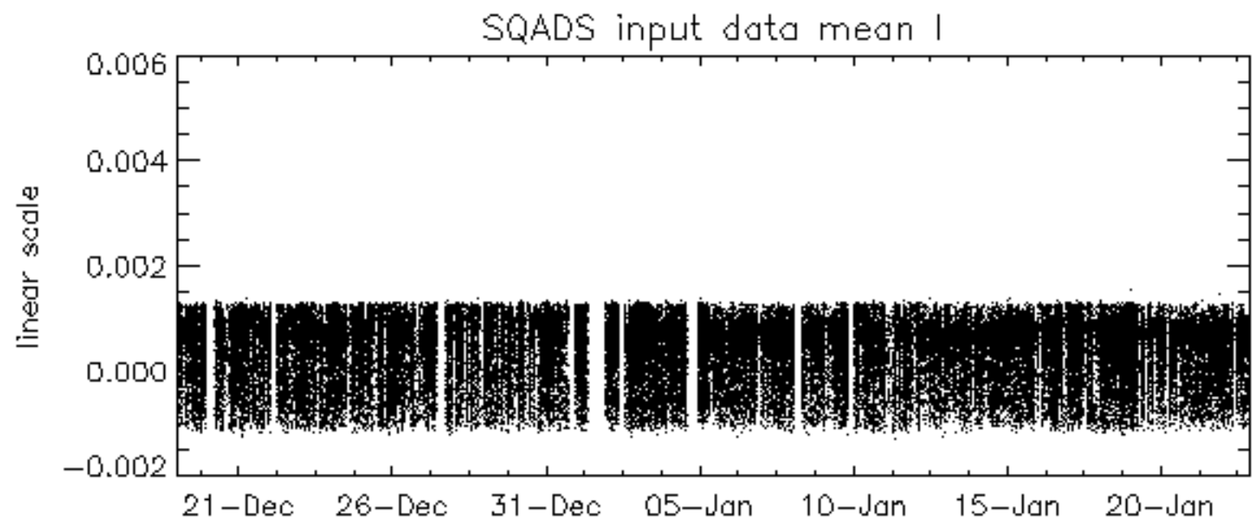
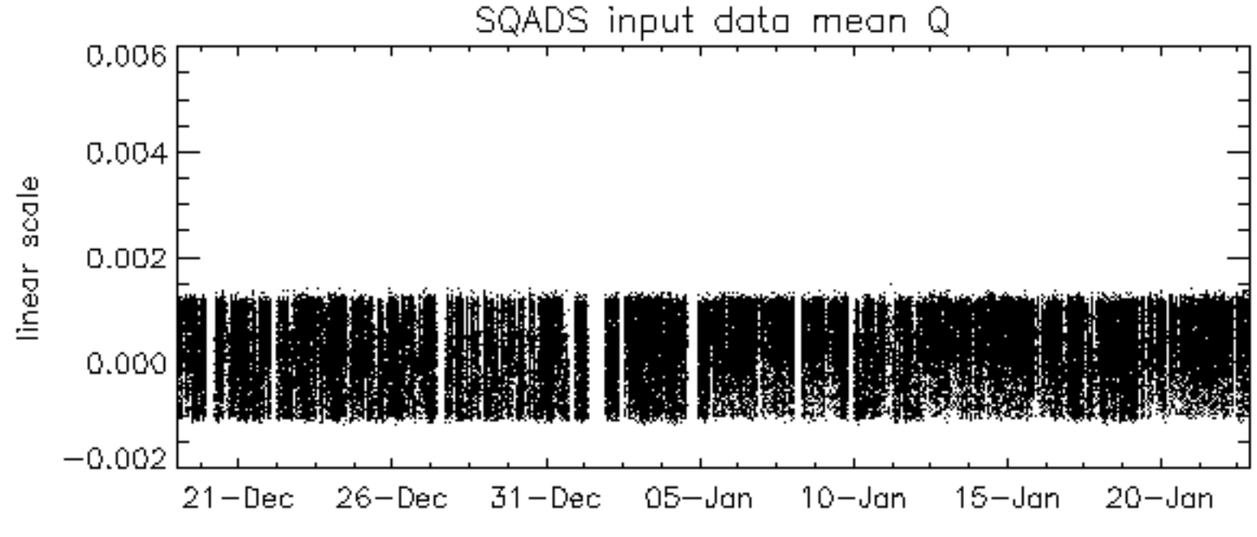
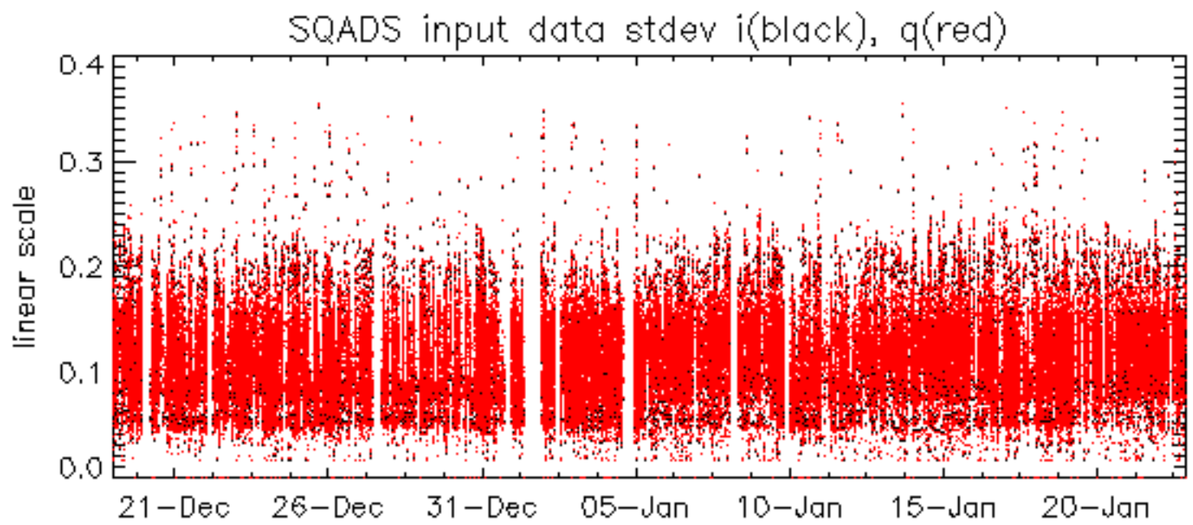
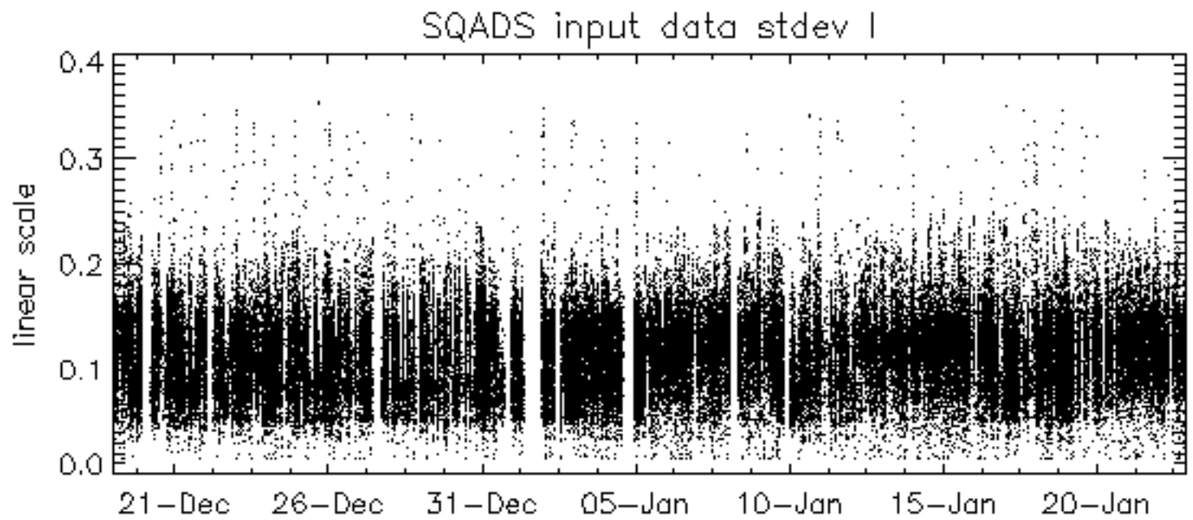

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

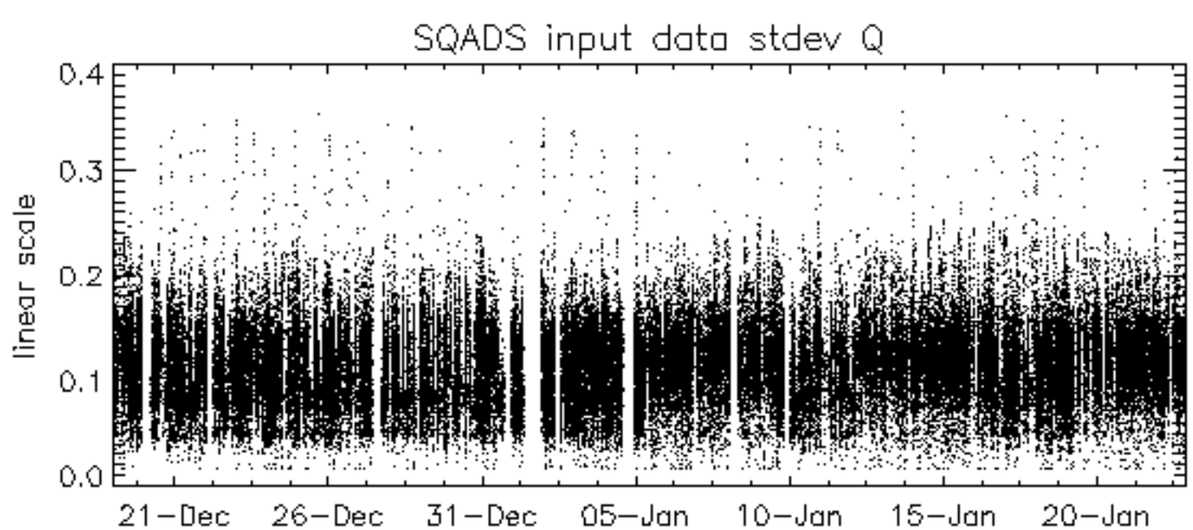

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan

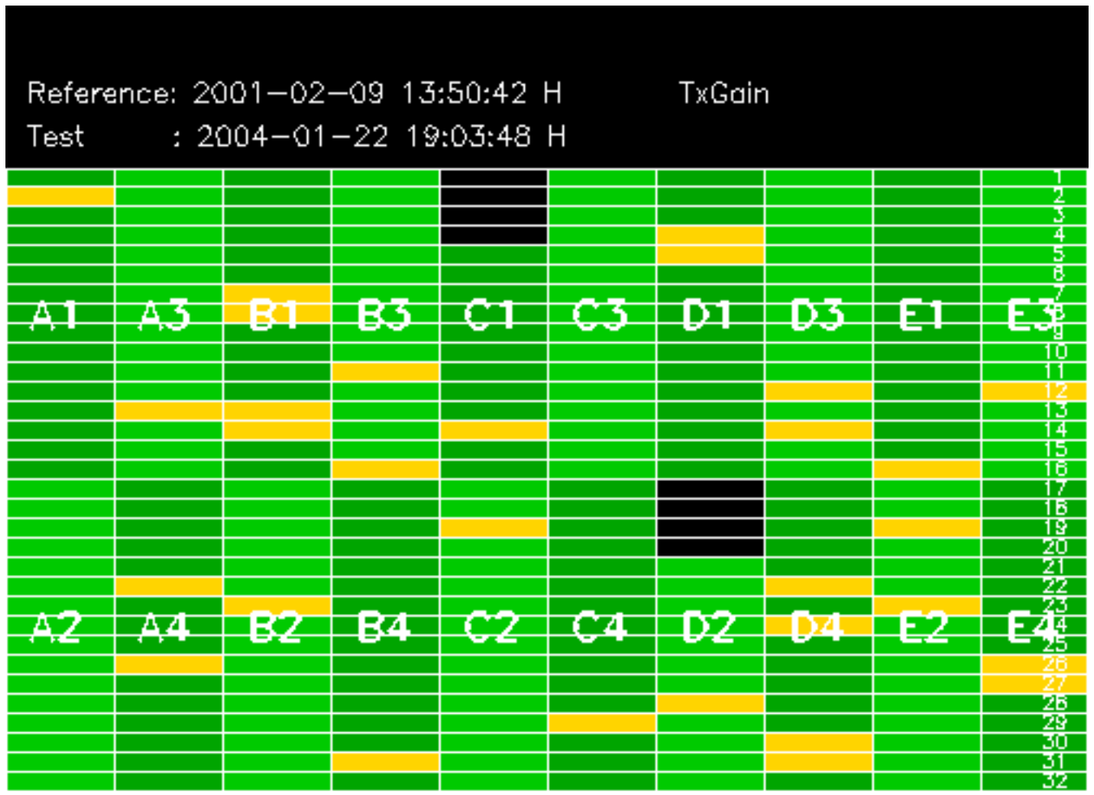

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan

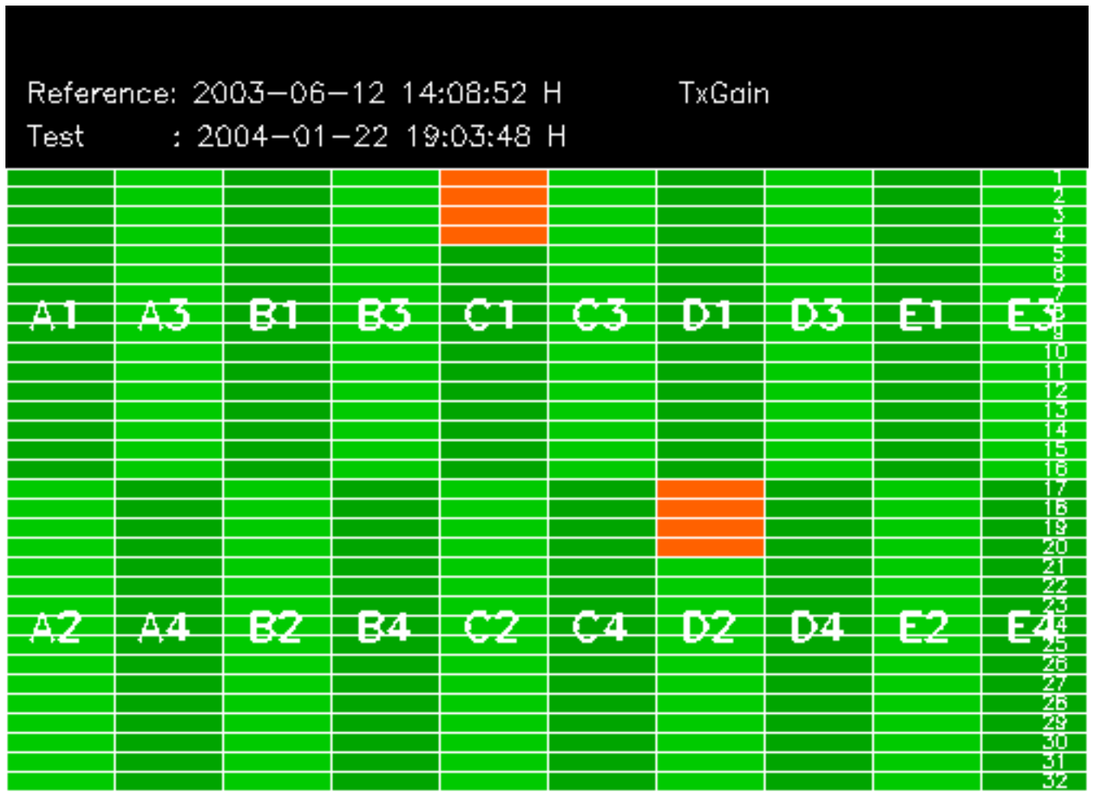

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan


SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan


Reference: 2001-02-09 13:50:42 H
Test : 2004-01-22 19:03:48 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-01-22 19:03:48 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
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9
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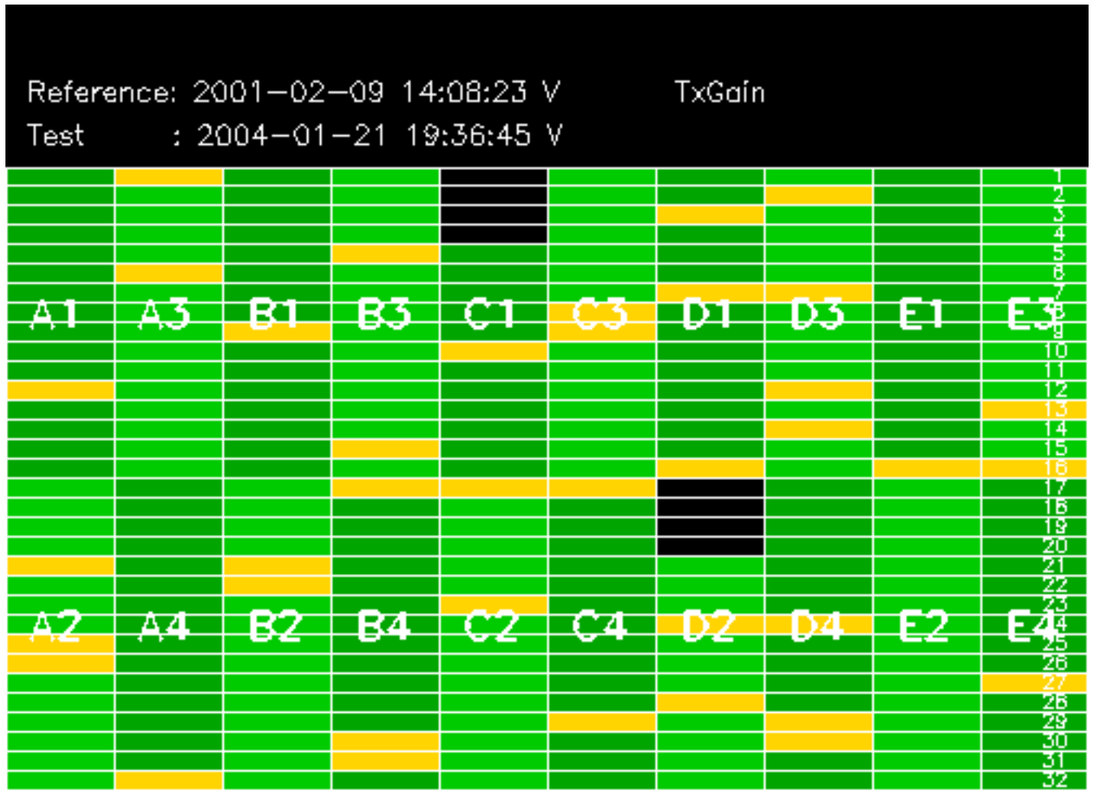
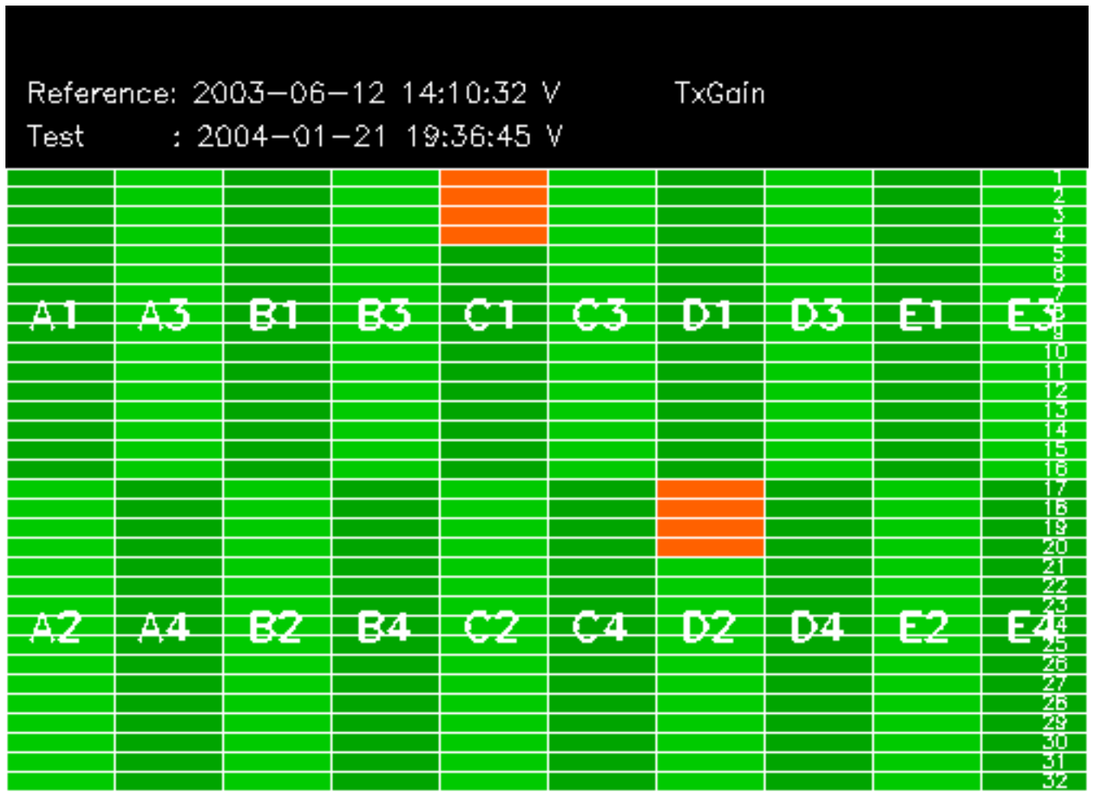
32


Reference: 2001-02-09 14:08:23 V
Test : 2004-01-21 19:36:45 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-01-21 19:36:45 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
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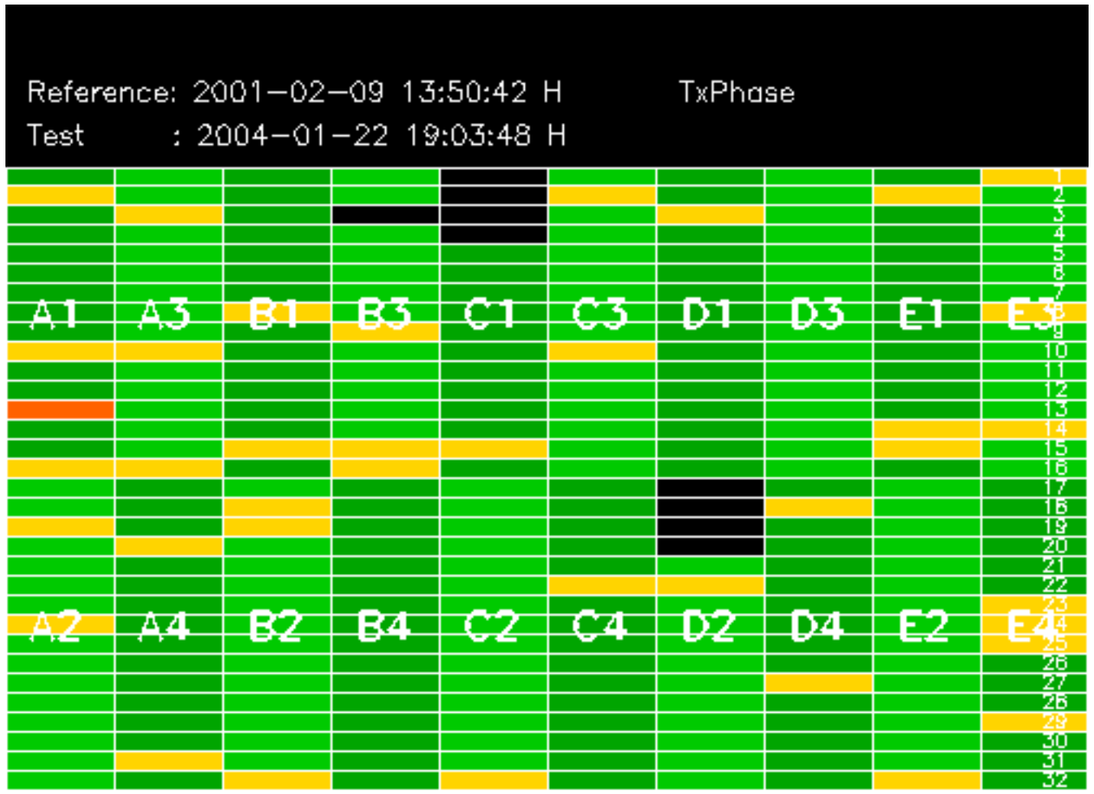
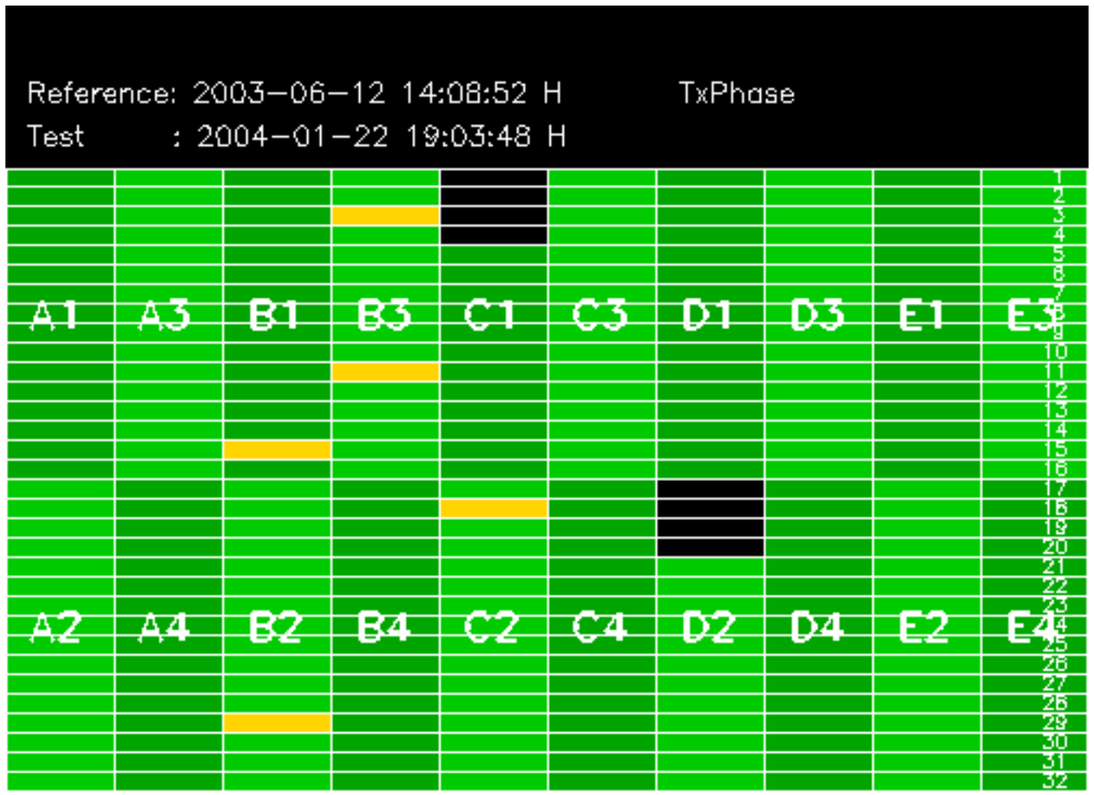

Reference: 2001-02-09 13:50:42 H
Test : 2004-01-22 19:03:48 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-01-22 19:03:48 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
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9
10
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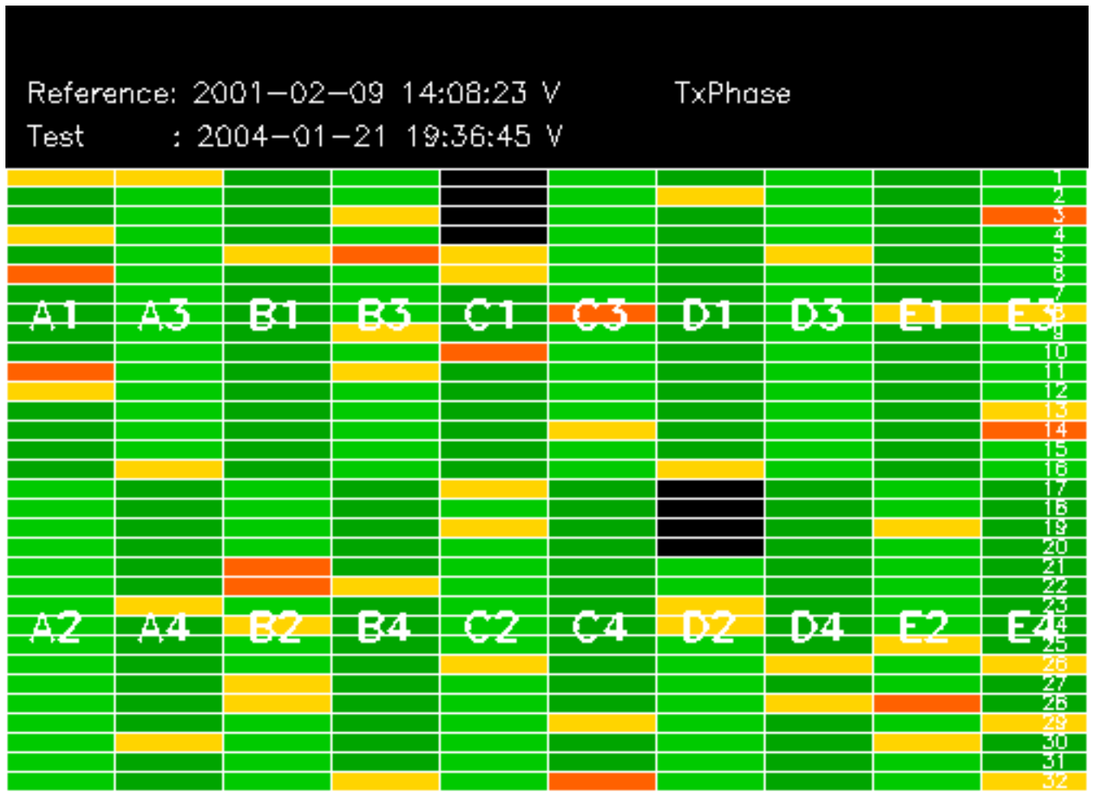
Reference: 2001-02-09 14:08:23 V
Test : 2004-01-21 19:36:45 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

Reference: 2003-06-12 14:10:32 V
Test : 2004-01-21 19:36:45 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

No unavailabilies during the reported period.