REPORT OF 040216

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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

Starting at 19h36 on 13 february 2004 repeated tile averaged temperature OOLS were reported on tile A1 until 15 feburary 2004 07h50.
Antenna was restarted according to the predefined procedure

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.
MS products are missing.

Polarisation	Start Time
V	20040214 202246
H	20040213 191227

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	-3.64809	-22.4086	-8.13224
	stdev	0.00558979	0.0743773	0.00273921

24	mean	-5.04886	-21.0495	-8.13224
	stdev	0.0119703	0.0708271	0.00273921

4.2 - Cyclic statistics

row	stat	AveP1	AveP2	AveP3
3	mean	-3.66441	-22.4435	-8.14024
	stdev	0.00701918	0.0730731	0.00314719
24	mean	-5.10421	-21.0966	-8.14024
	stdev	0.0151022	0.0681923	0.00314719

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	0.000438163
	stdev	2.78143e-07
MEAN Q	mean	0.000379254
	stdev	3.24034e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.120370
	stdev	0.00134973

STDEV Q	mean	0.120603
	stdev	0.00136471

5.3 - Gain imbalance I/Q

6 - Wave Doppler Analysis

Preliminary report.The data is not yet controled

6.1 - Unbiased Doppler Error

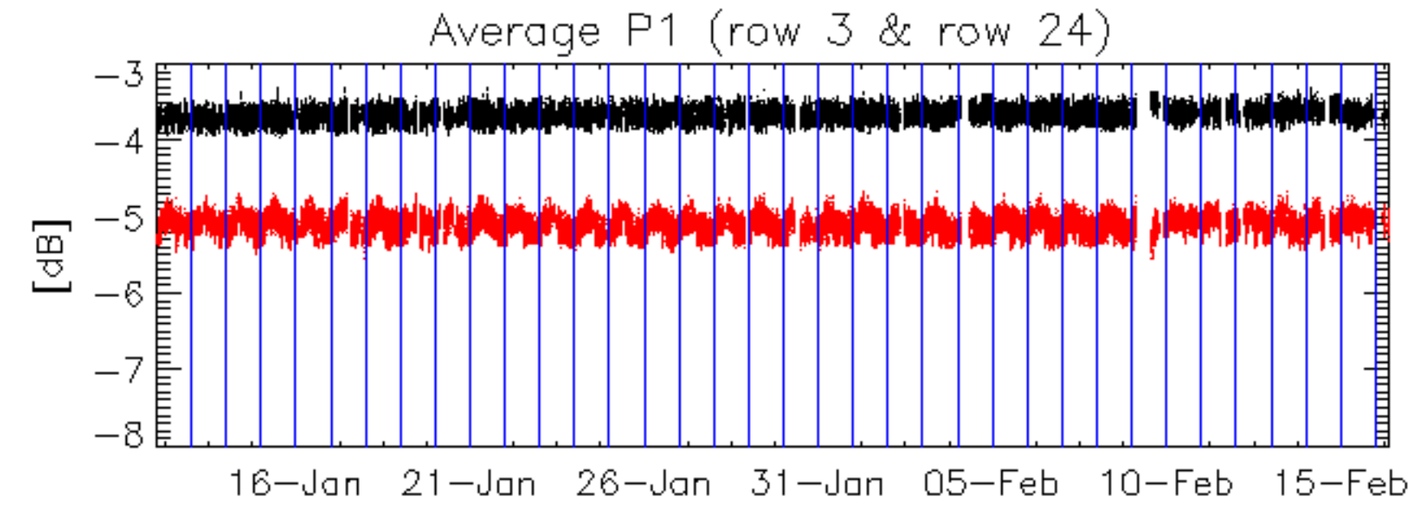
Evolution of unbiased Doppler error (Real - Expected)
Acsending
Descending

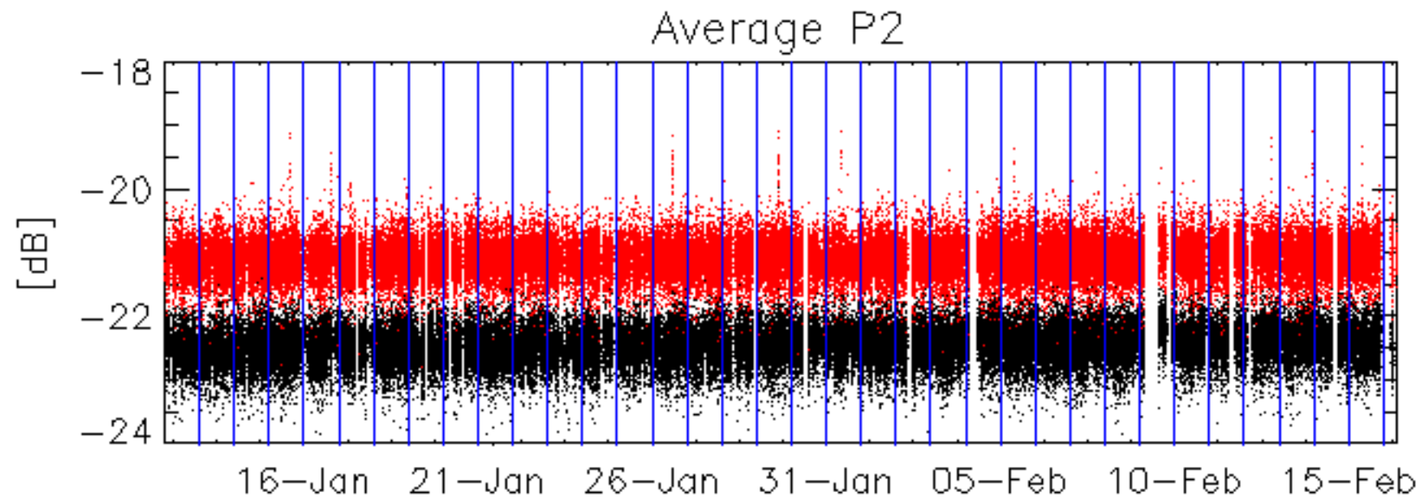
6.2 - Absolute Doppler

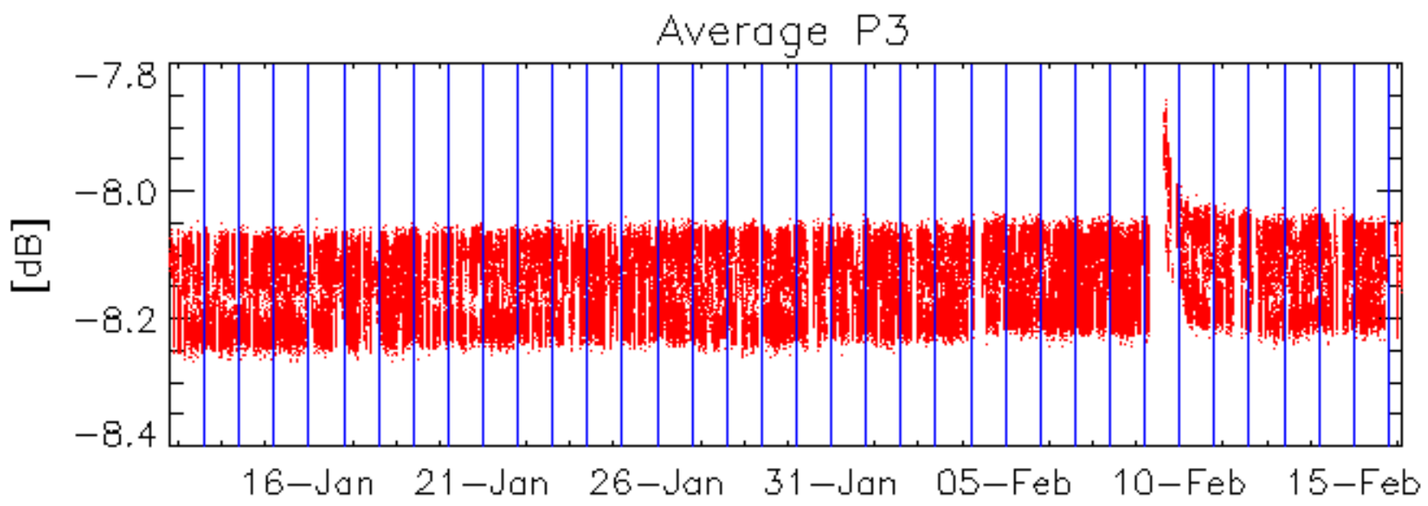
Evolution of Absolute Doppler
Acsending
Descending

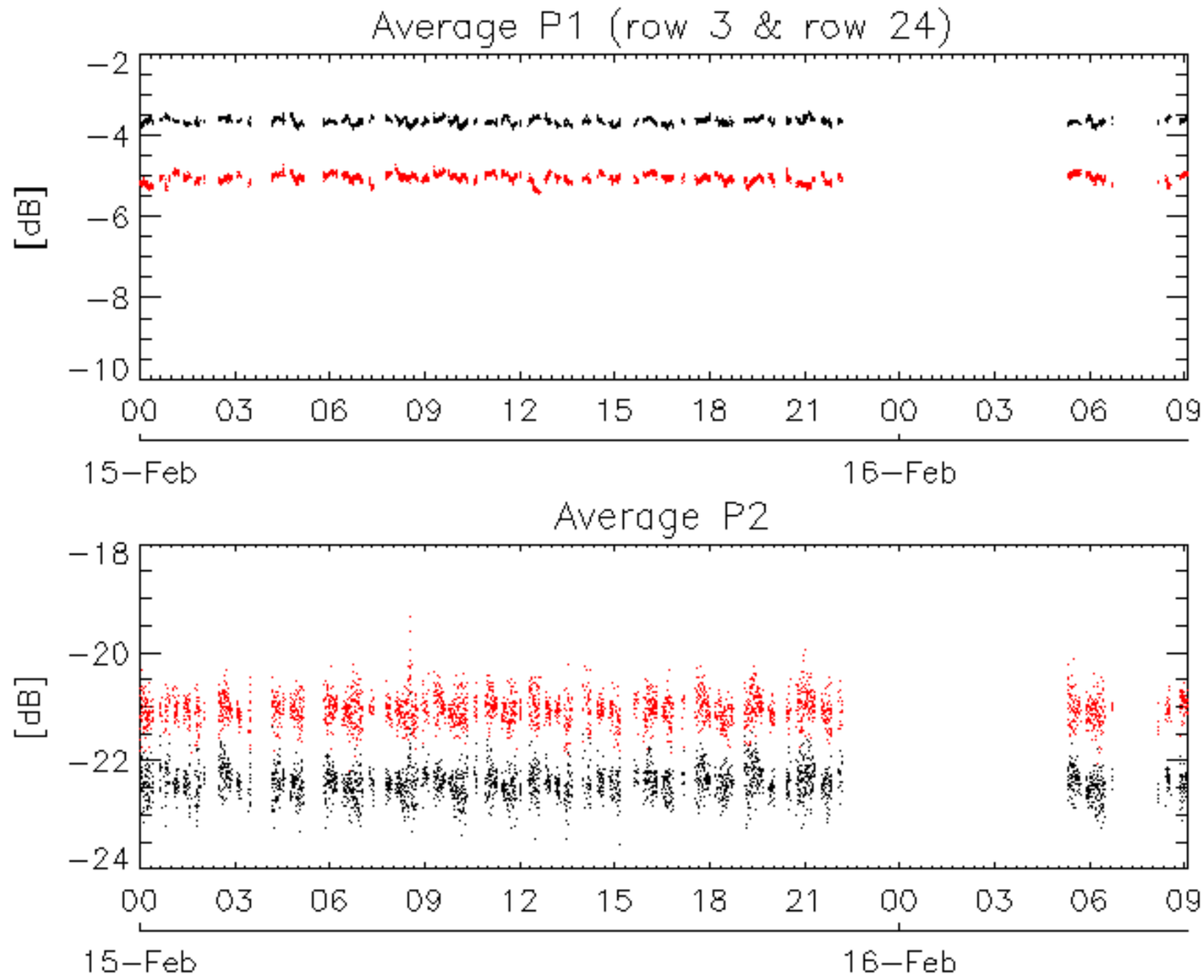
6.3 - Doppler evolution versus ANX

Evolution Doppler error versus ANX


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


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


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

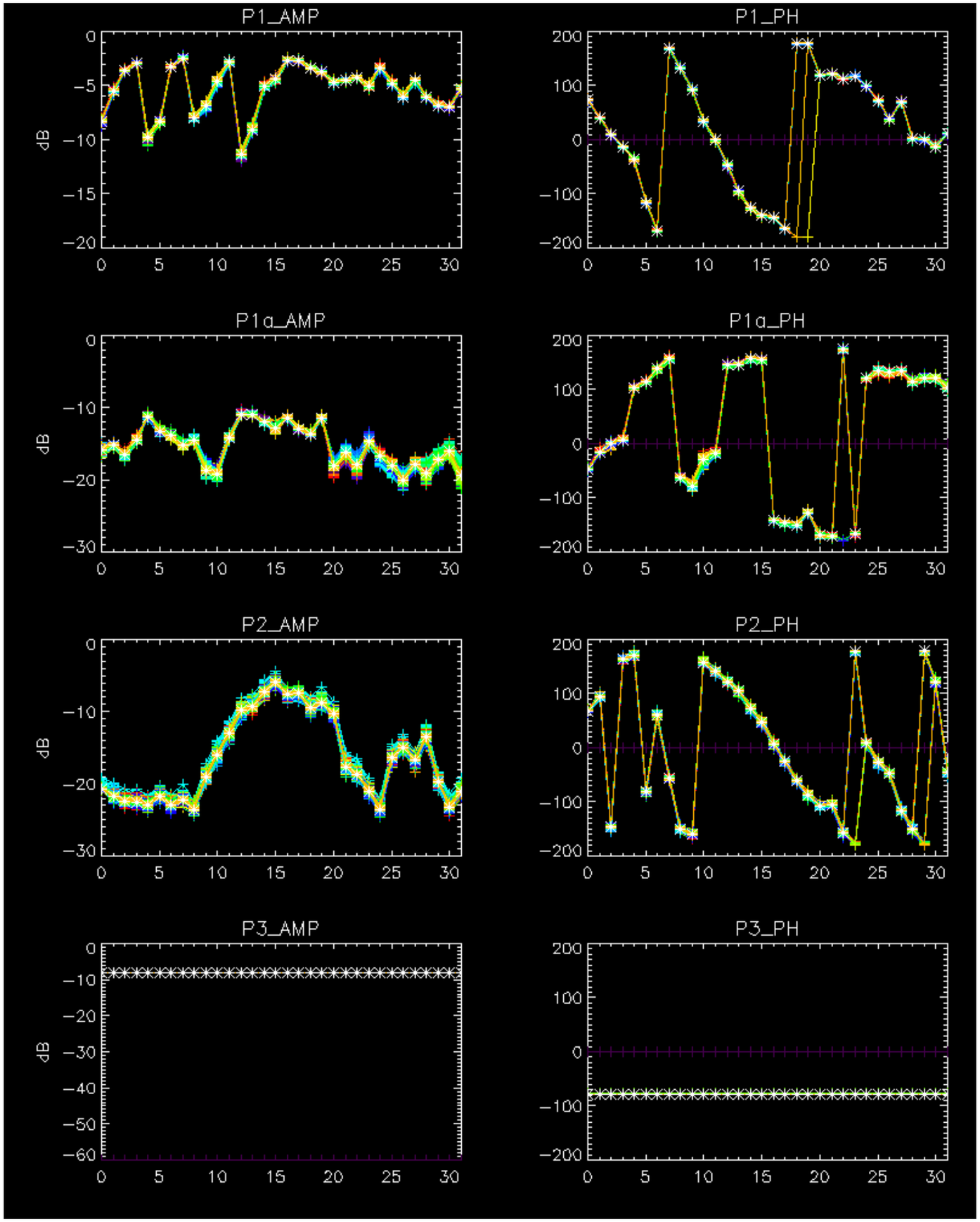

Average P1 (row 3 & row 24)
[dB]
−2
−4
−6
−8
−10
00
03
06
09
12
15
18
21
00
03
06
09
15−Feb
16−Feb

Average P2
[dB]
−18
−20
−22
−24
00
03
06
09
12
15
18
21
00
03
06
09
15−Feb
16−Feb

Average P3
[dB]
−7.8
−8.0
−8.2
−8.4
00
03
06
09
12
15
18
21
00
03
06
09
15−Feb
16−Feb

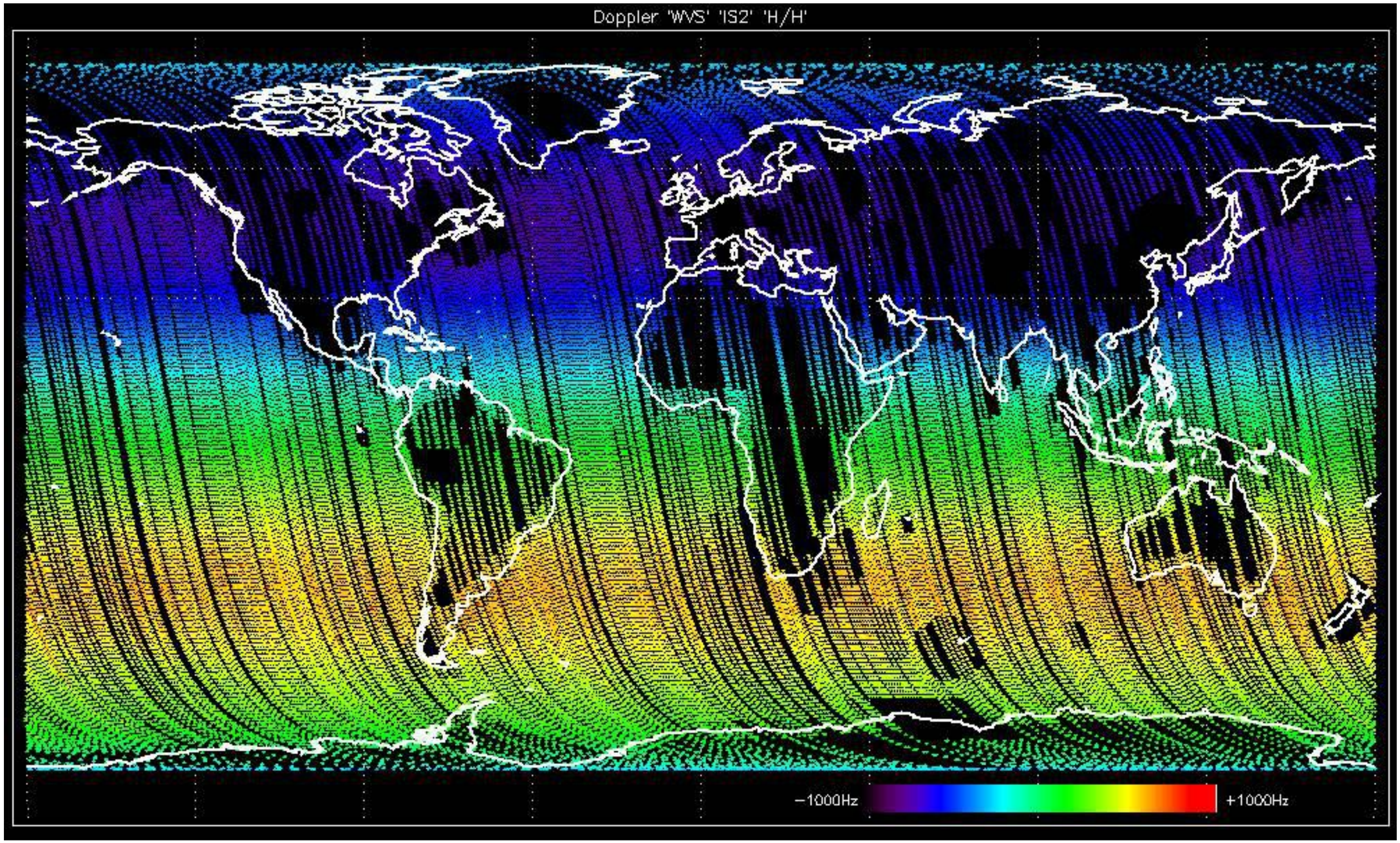
No anomalies observed on available browse products

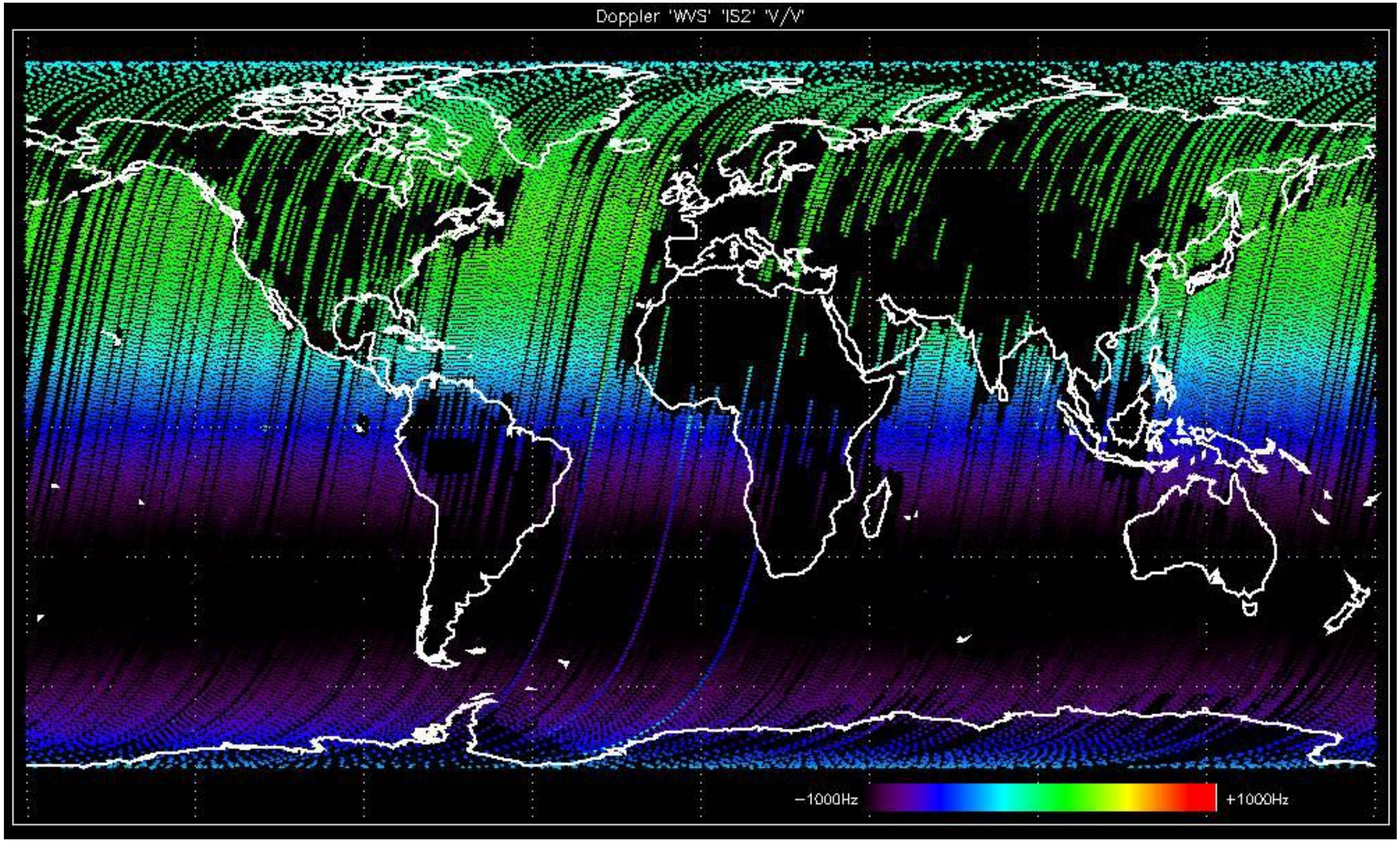
No anomalies observed.

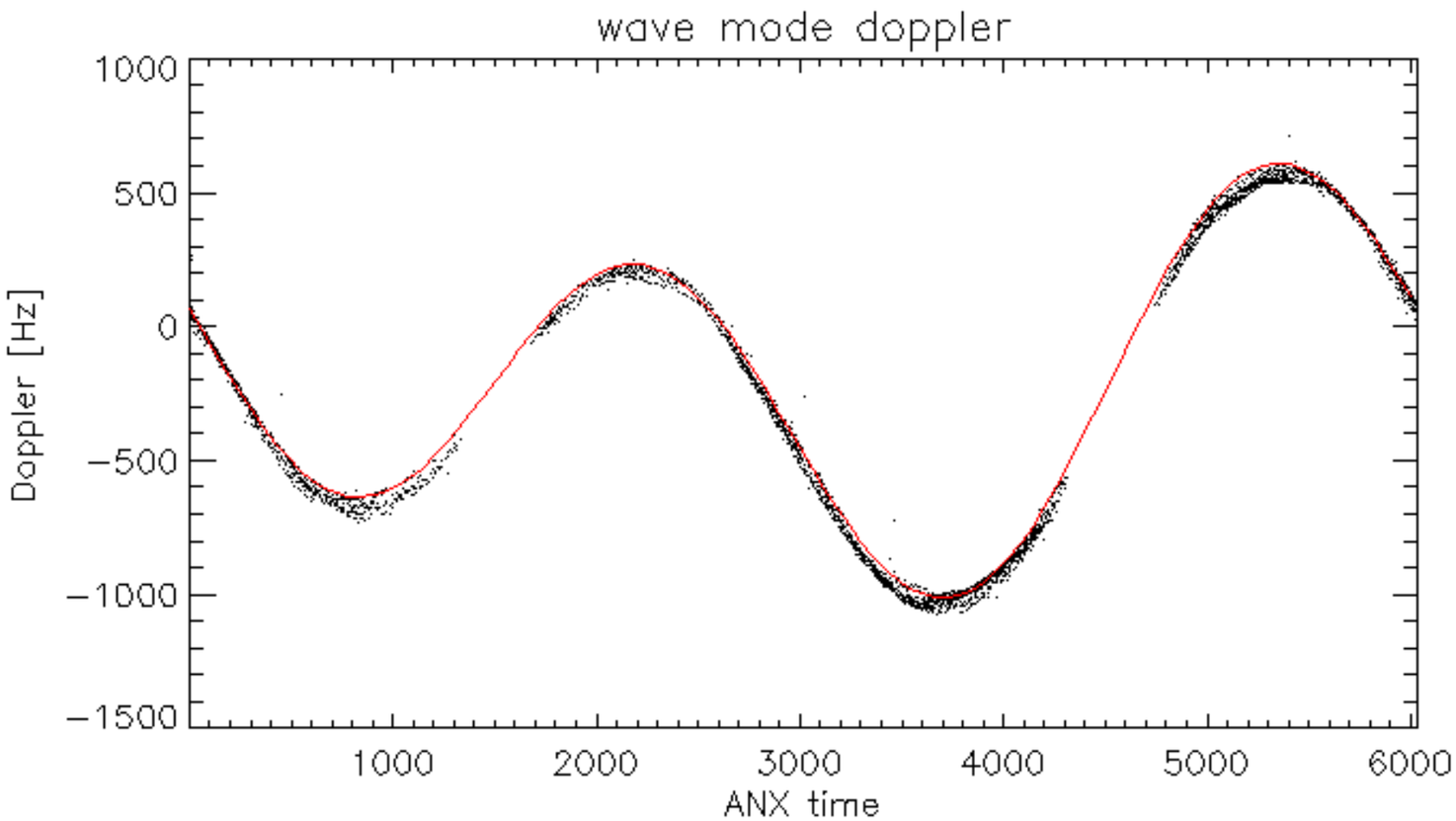

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
0
−10
−20
−30
−40
−50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

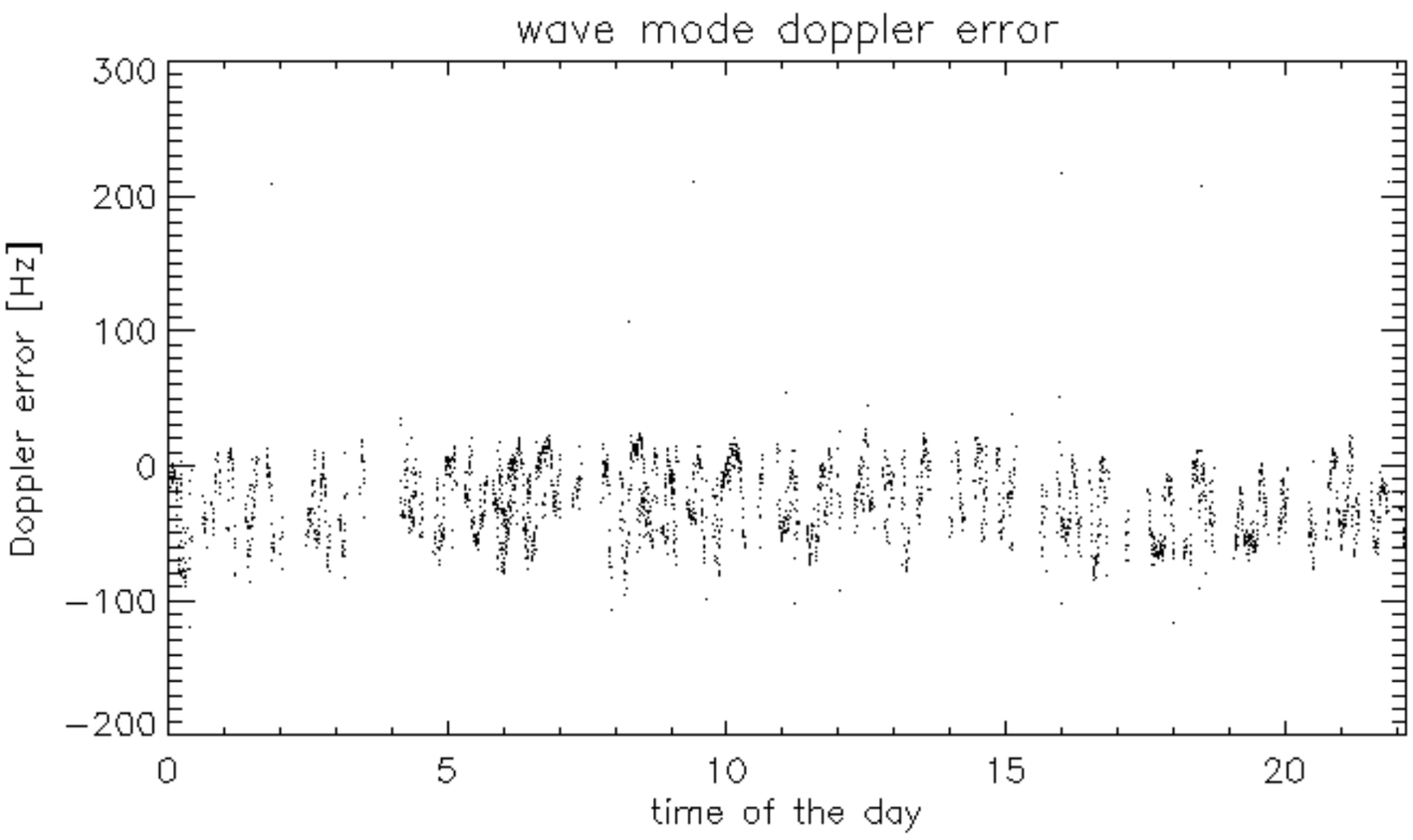
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

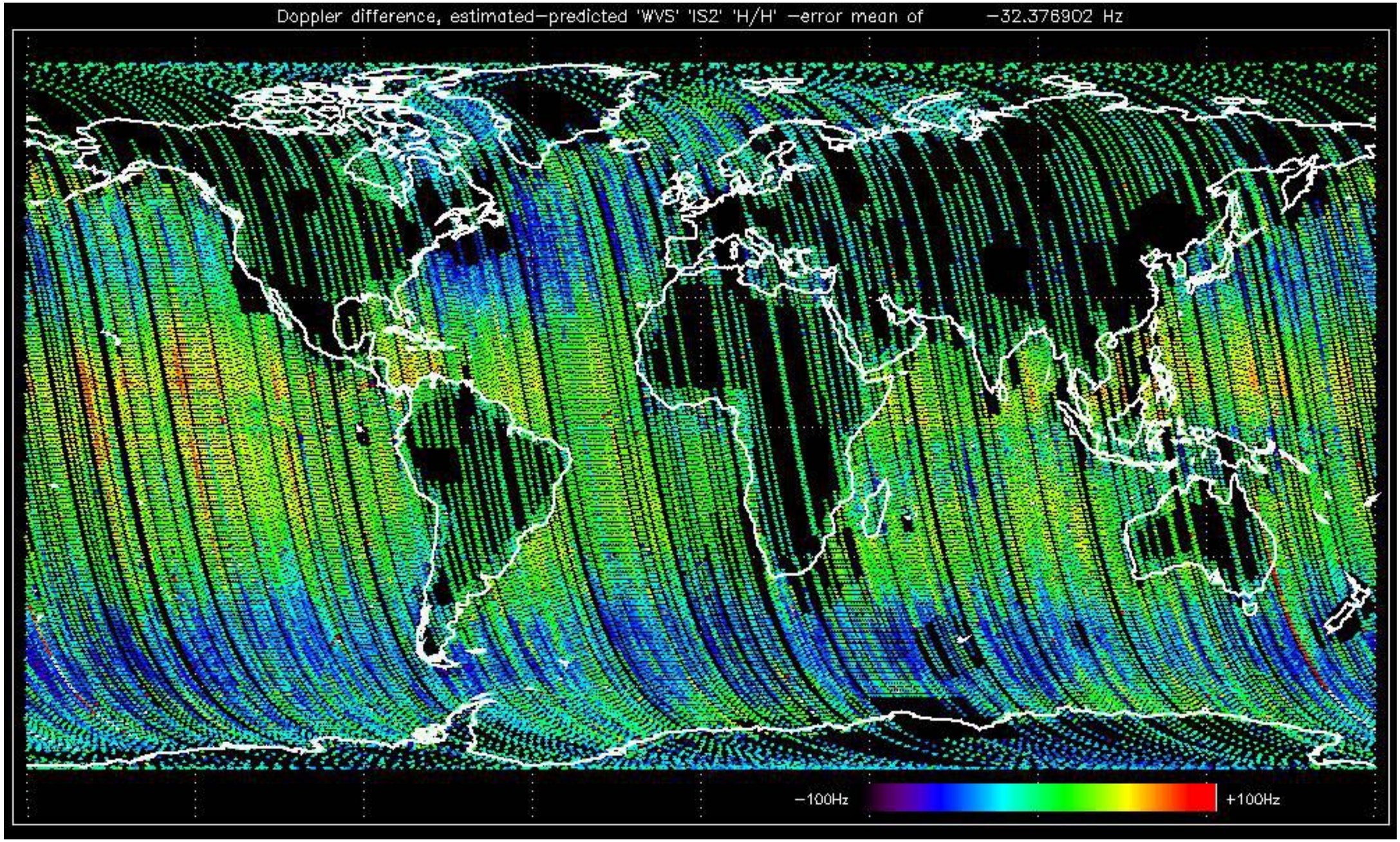
Preliminary report.The data is not yet controled

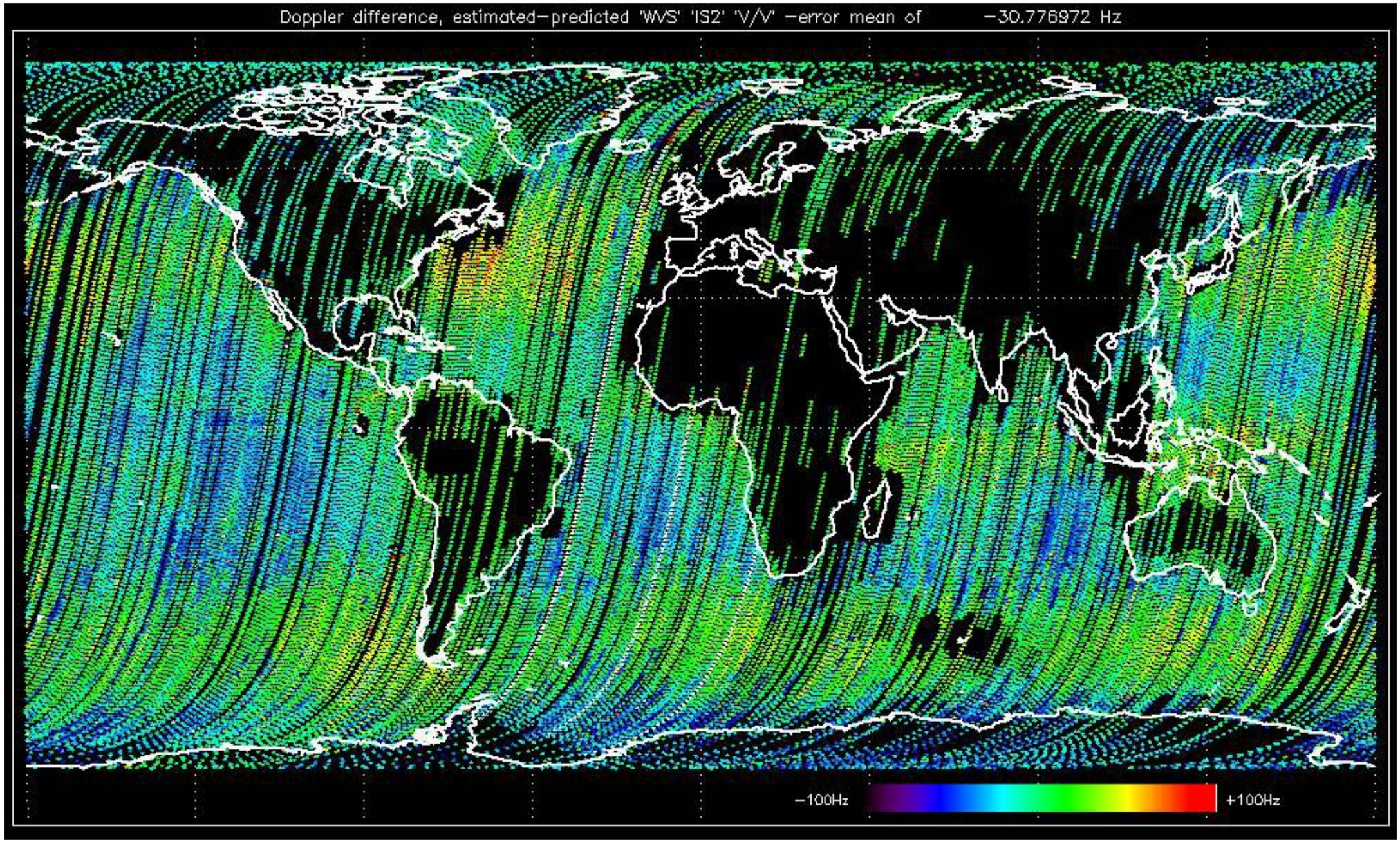

Doppler 'WVS' 'IS2' 'H/H'
−1000Hz
+1000Hz


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


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

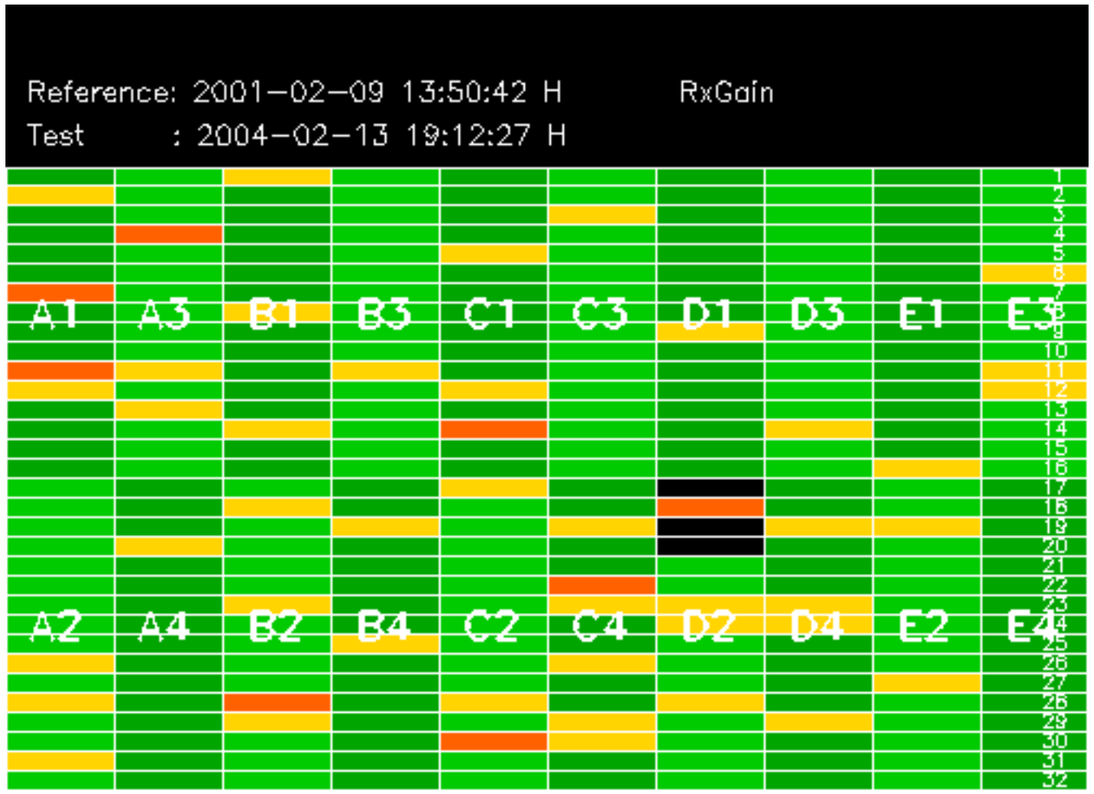

wave mode doppler error
Doppler error [Hz]
300
200
100
0
−100
−200
0
5
10
15
20
time of the day

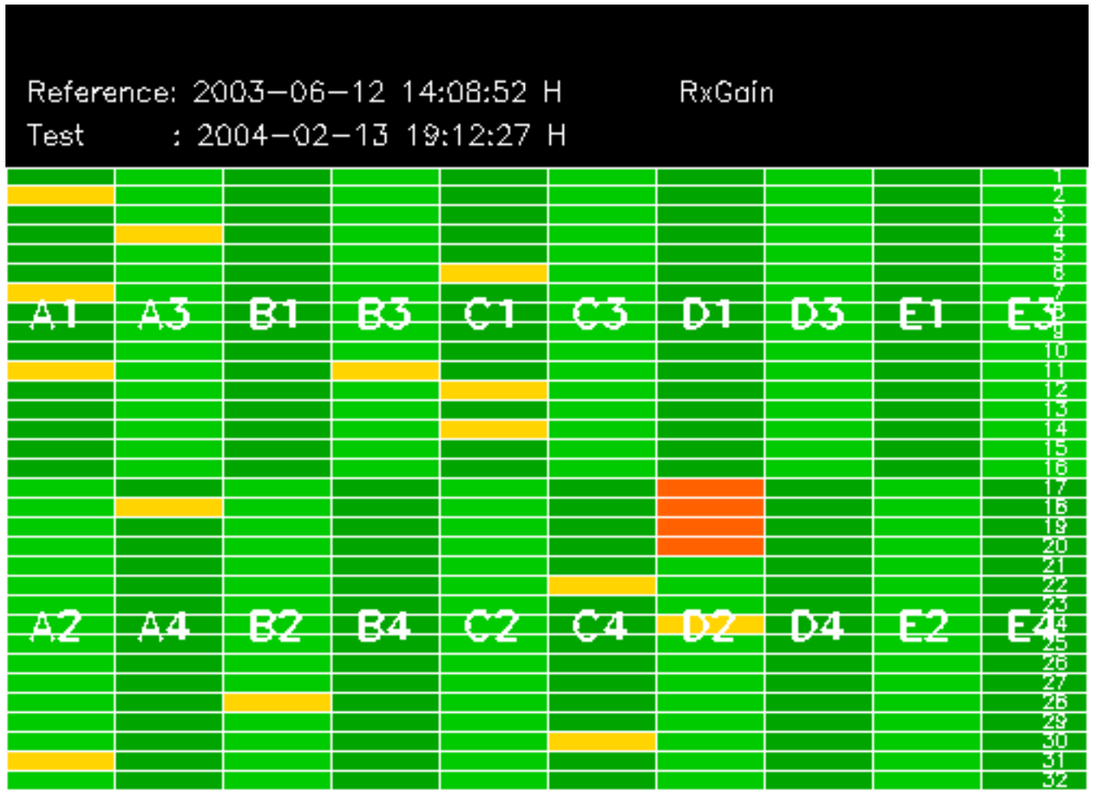

Doppler difference, estimated−predicted 'WVS' 'IS2' 'H/H' −error mean of −32.376902 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' 'V/V' −error mean of −30.776972 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.
MS products are missing.

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2004-02-13 19:12:27 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 : 2004-02-13 19:12:27 H
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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8
9
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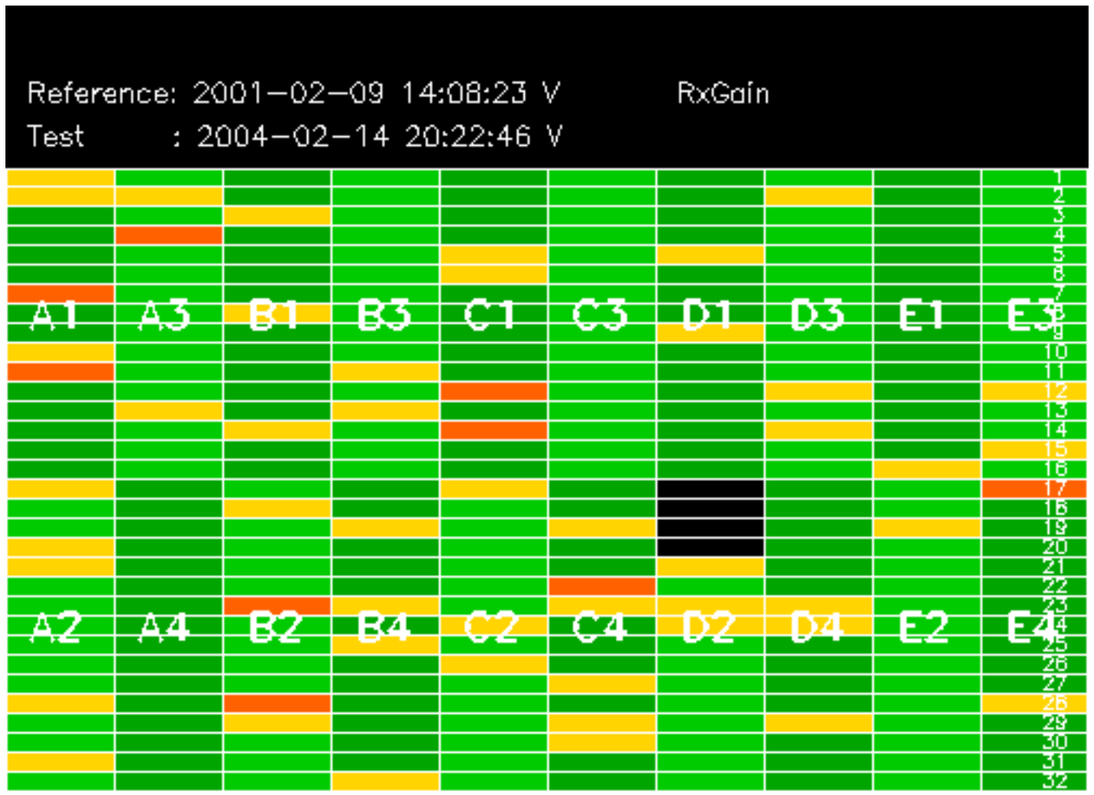
Reference: 2001-02-09 14:08:23 V
Test : 2004-02-14 20:22:46 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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8
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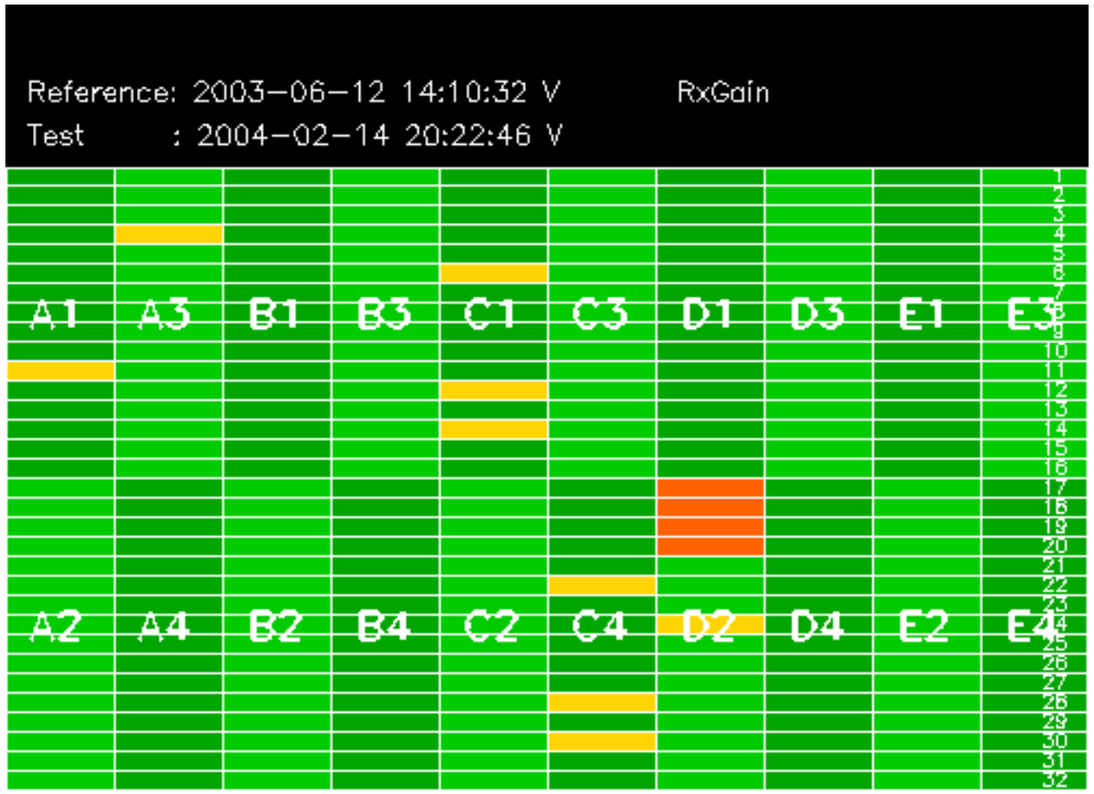
Reference: 2003-06-12 14:10:32 V
Test : 2004-02-14 20:22:46 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
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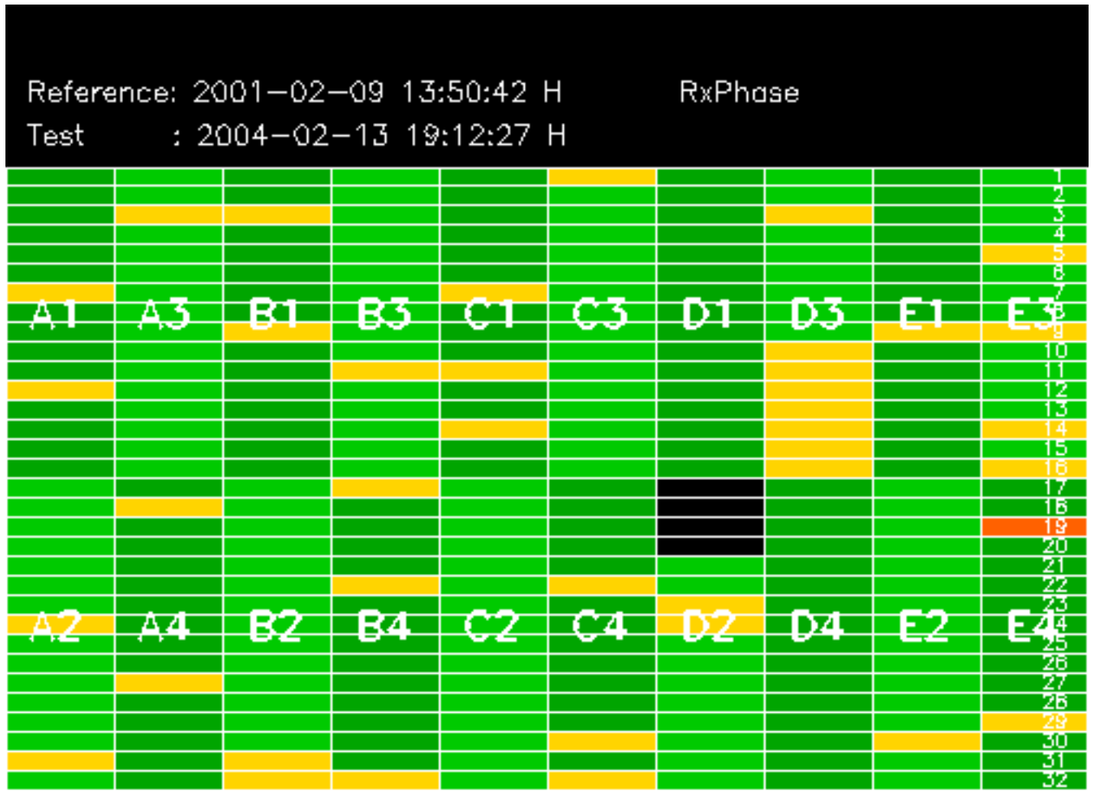
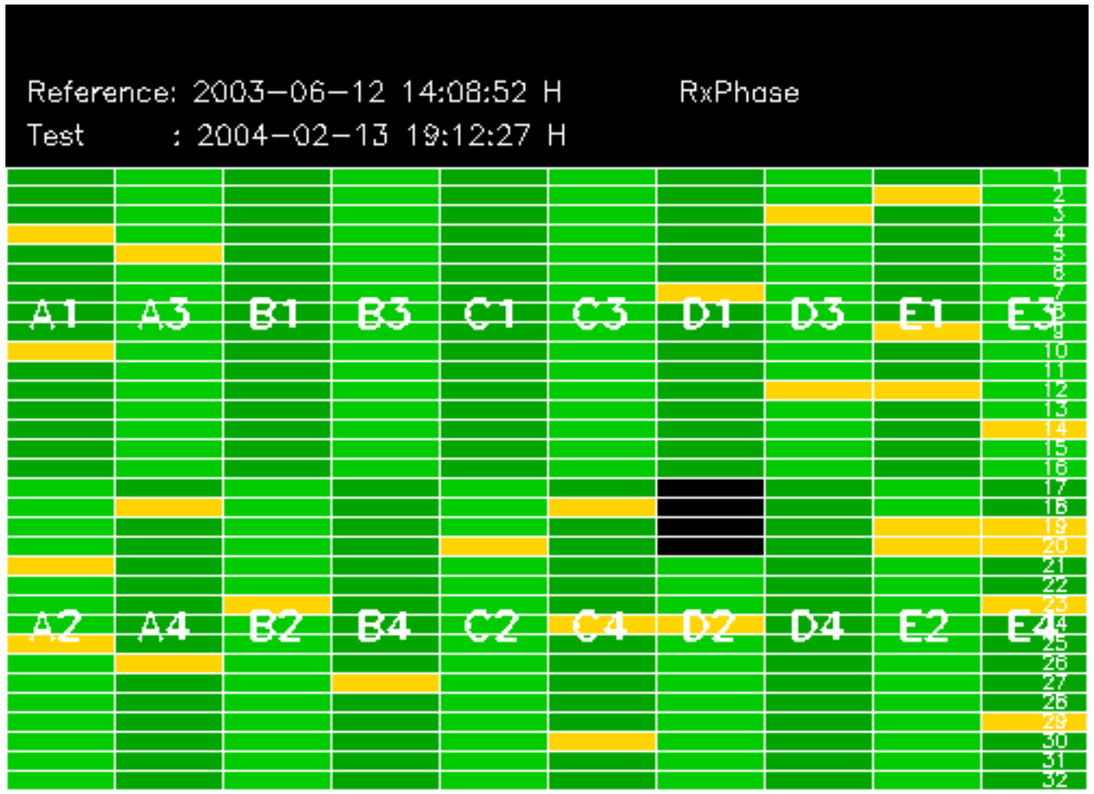
32


Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-02-13 19:12:27 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 : 2004-02-13 19:12:27 H
RxPhase
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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29
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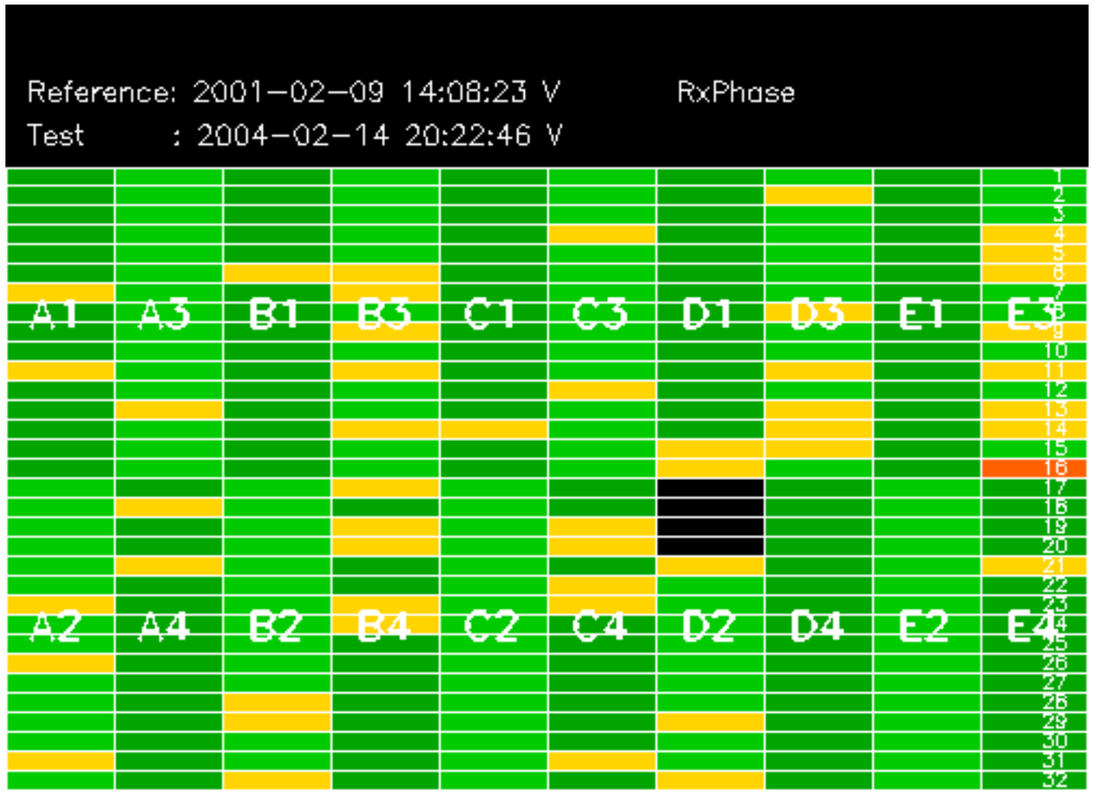
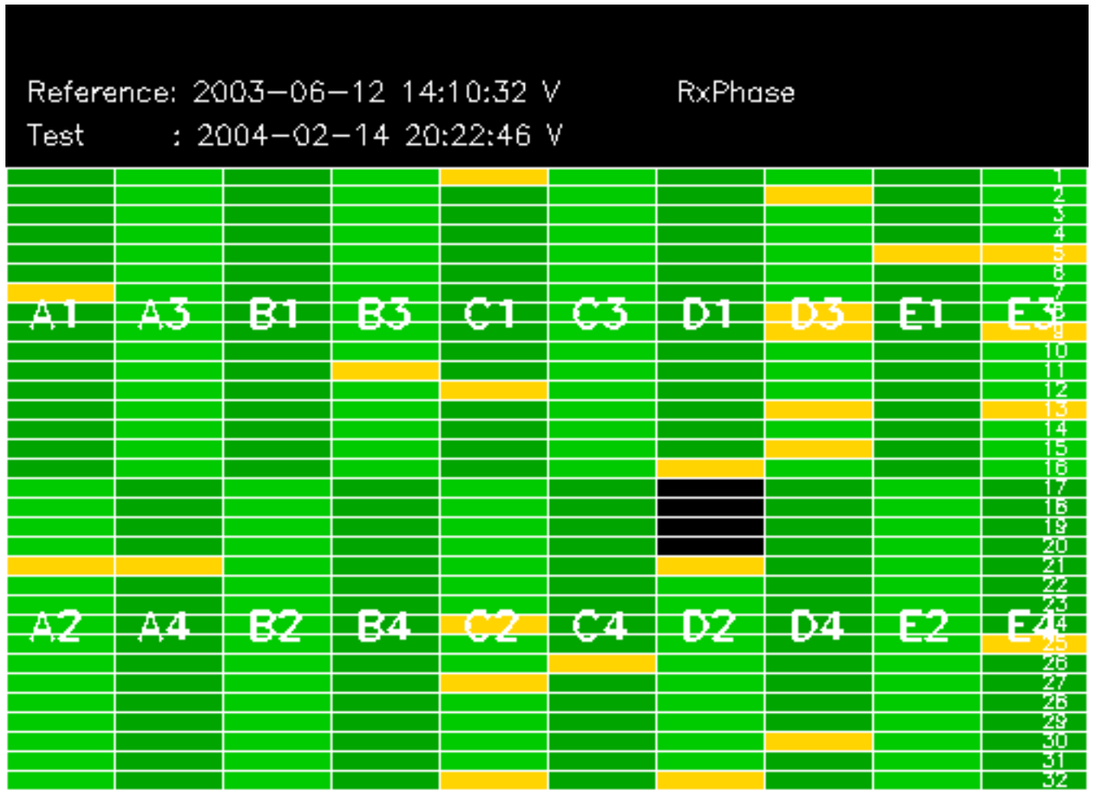
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2004-02-14 20:22:46 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 : 2004-02-14 20:22:46 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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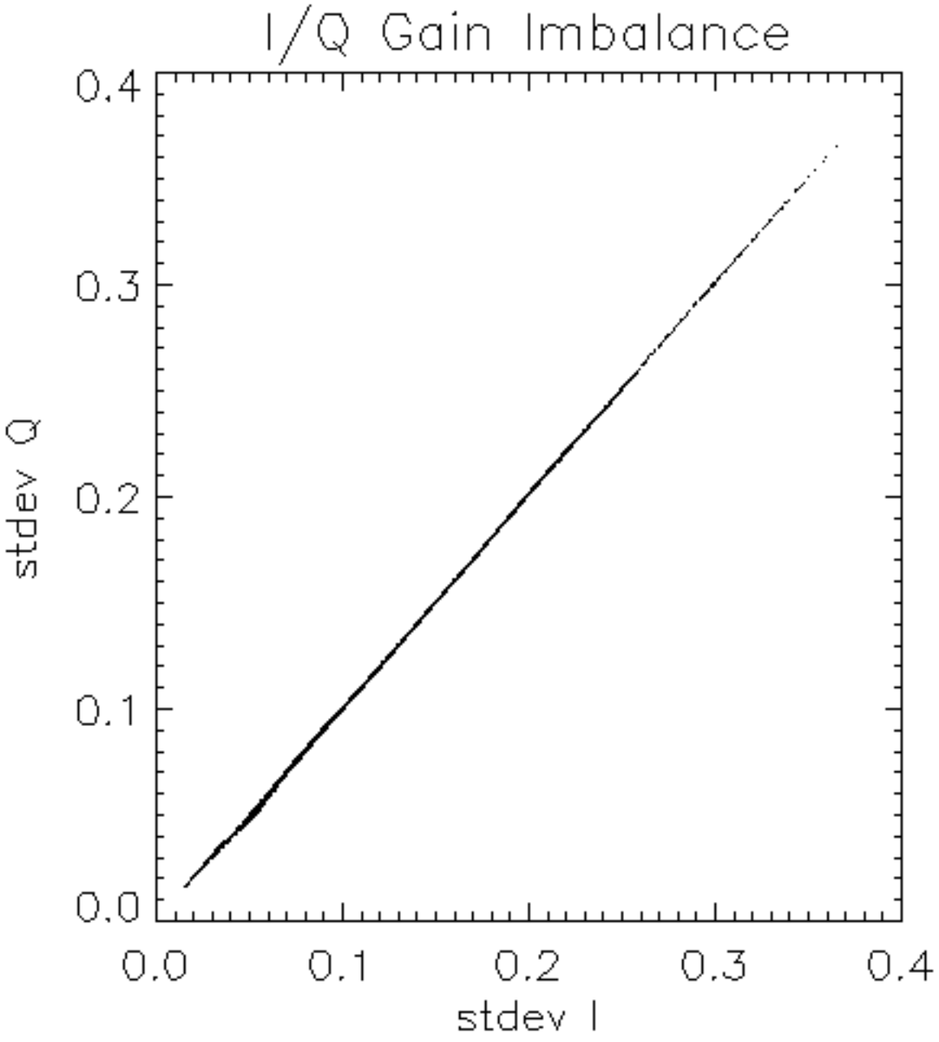
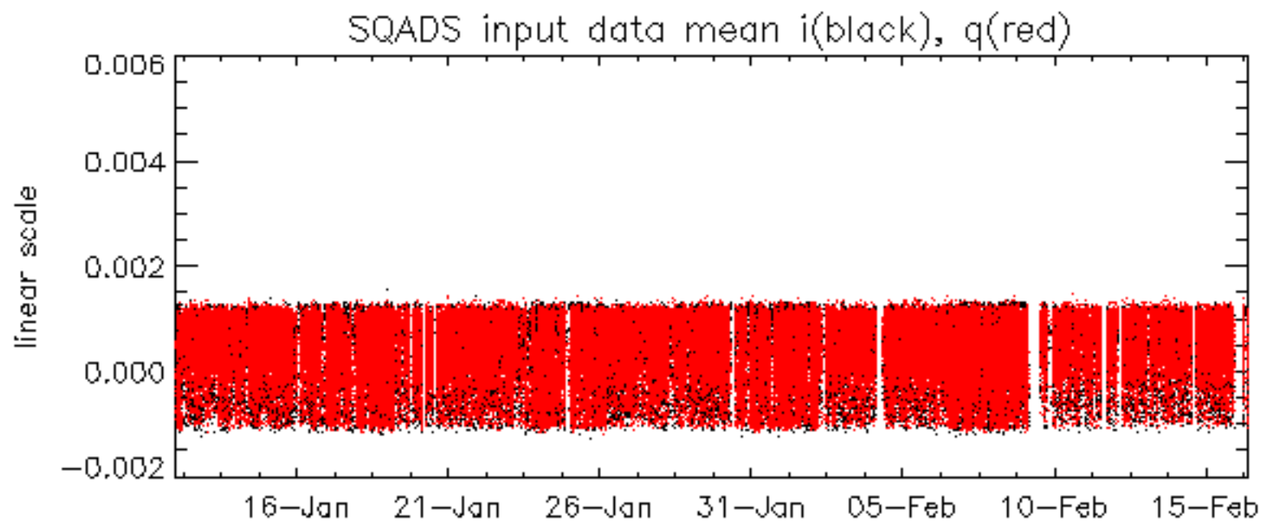
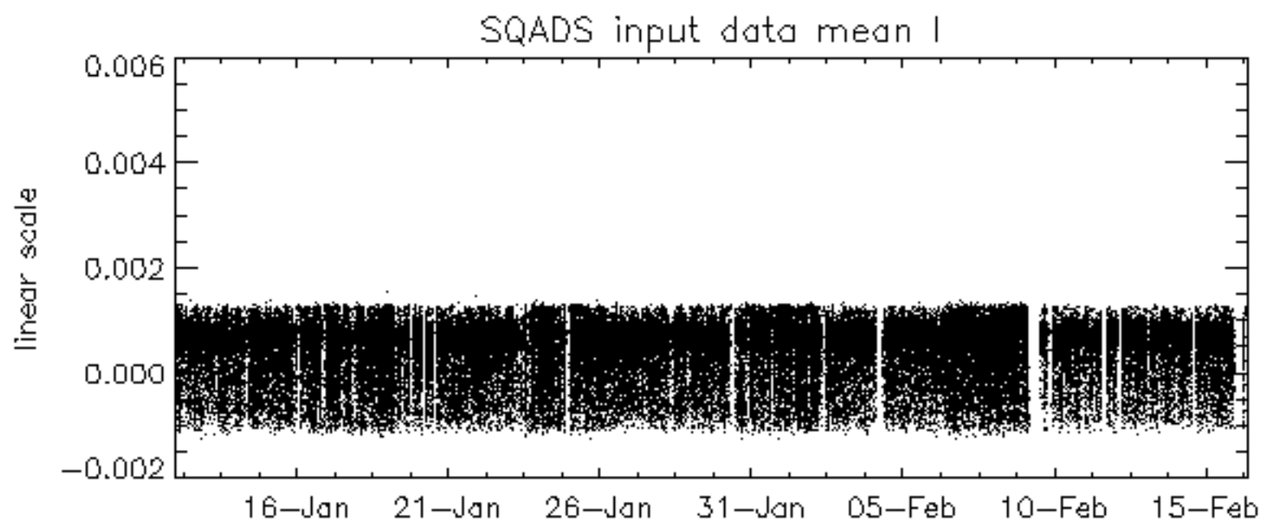
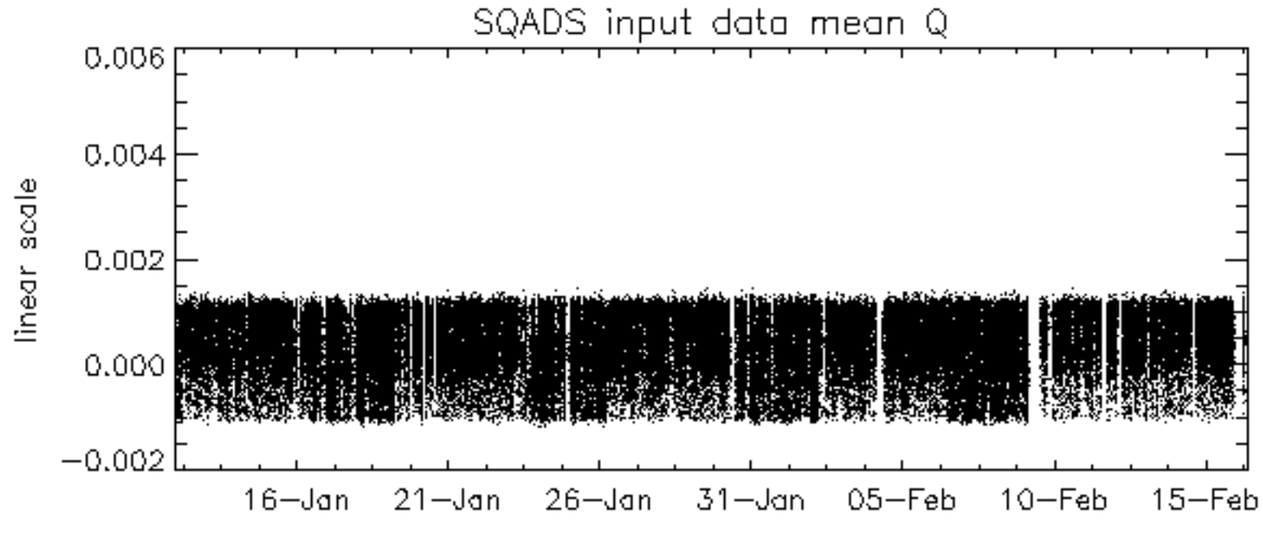
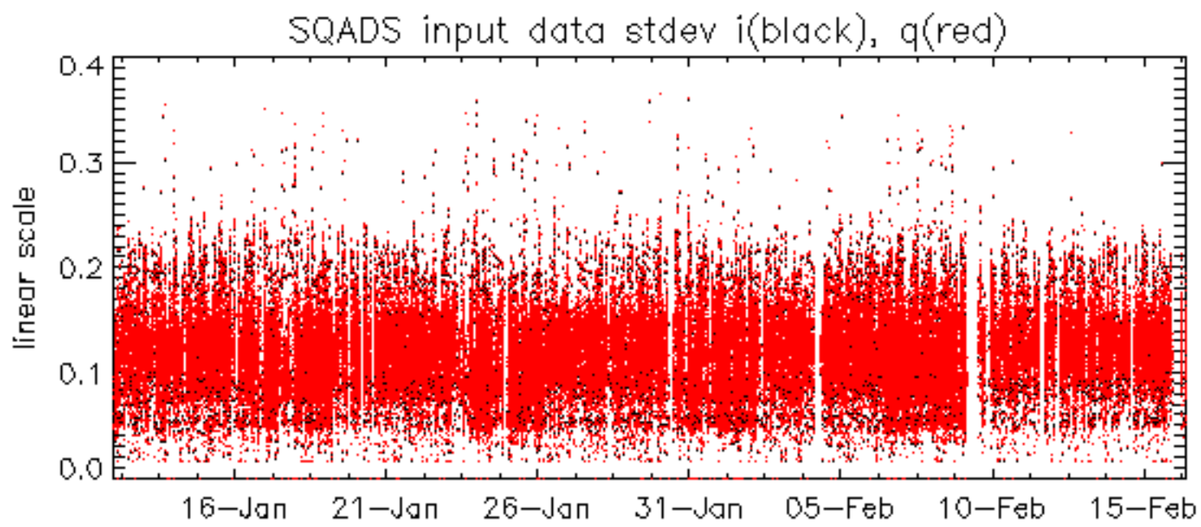
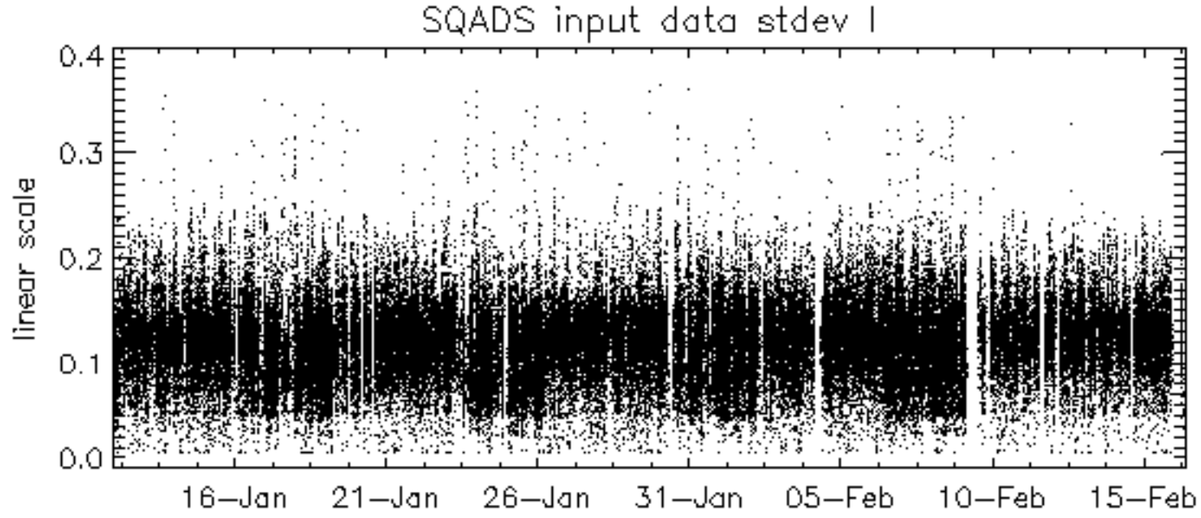

I/Q Gain Imbalance
stdev Q
stdev I
0.0
0.1
0.2
0.3
0.4

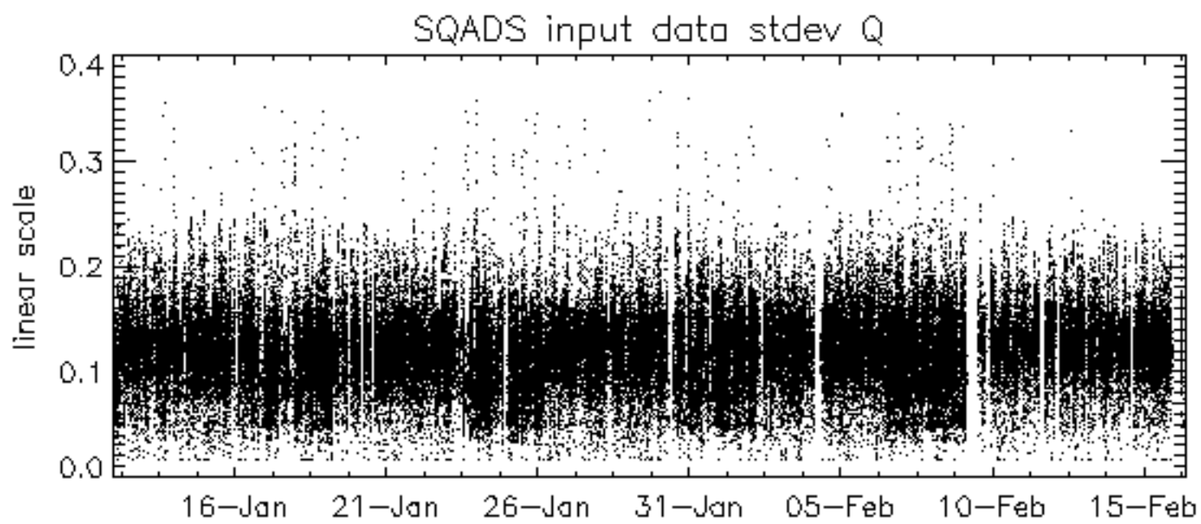

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Jan
21−Jan
26−Jan
31−Jan
05−Feb
10−Feb
15−Feb

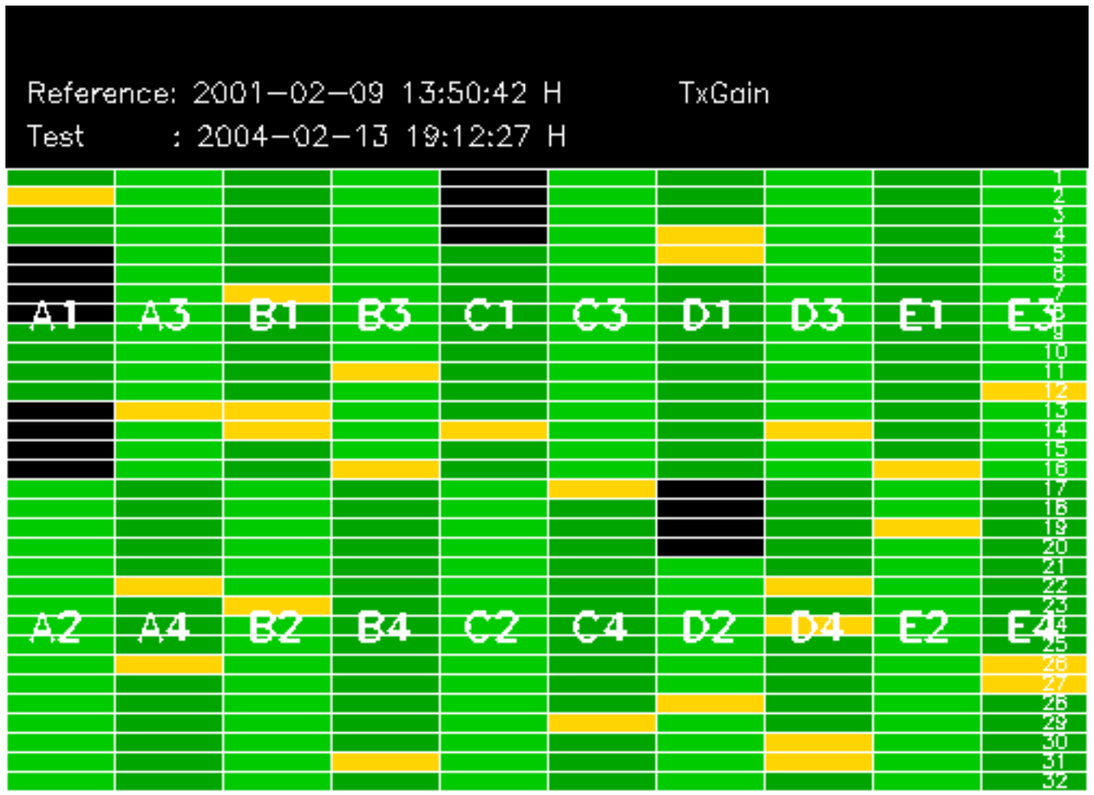

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Jan
21−Jan
26−Jan
31−Jan
05−Feb
10−Feb
15−Feb

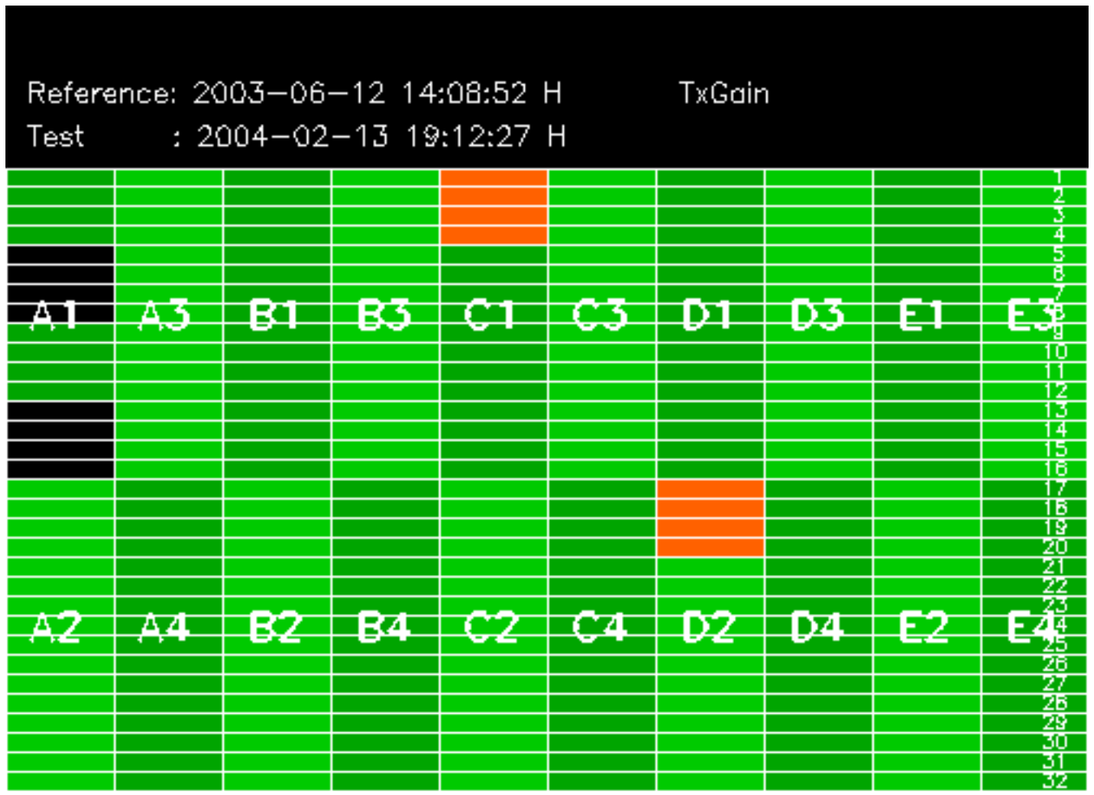

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Jan
21−Jan
26−Jan
31−Jan
05−Feb
10−Feb
15−Feb


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


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
16–Jan
21–Jan
26–Jan
31–Jan
05–Feb
10–Feb
15–Feb


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
16–Jan
21–Jan
26–Jan
31–Jan
05–Feb
10–Feb
15–Feb


Reference: 2001-02-09 13:50:42 H
Test : 2004-02-13 19:12:27 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 : 2004-02-13 19:12:27 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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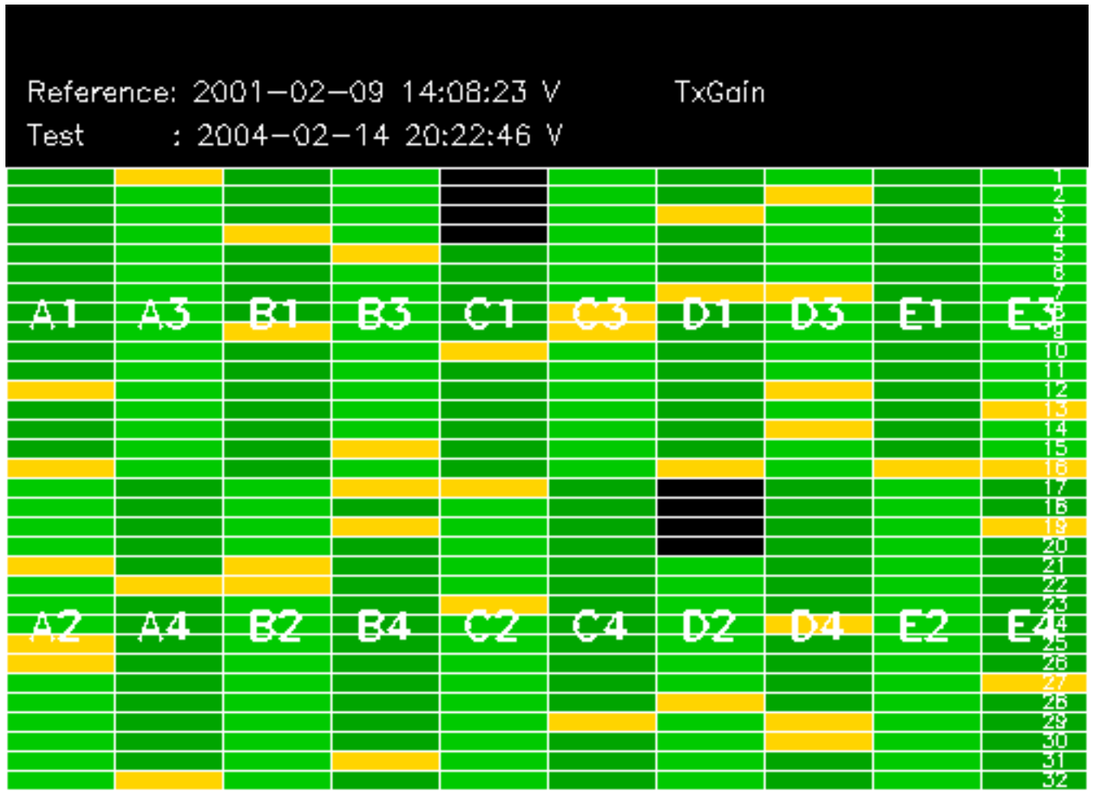
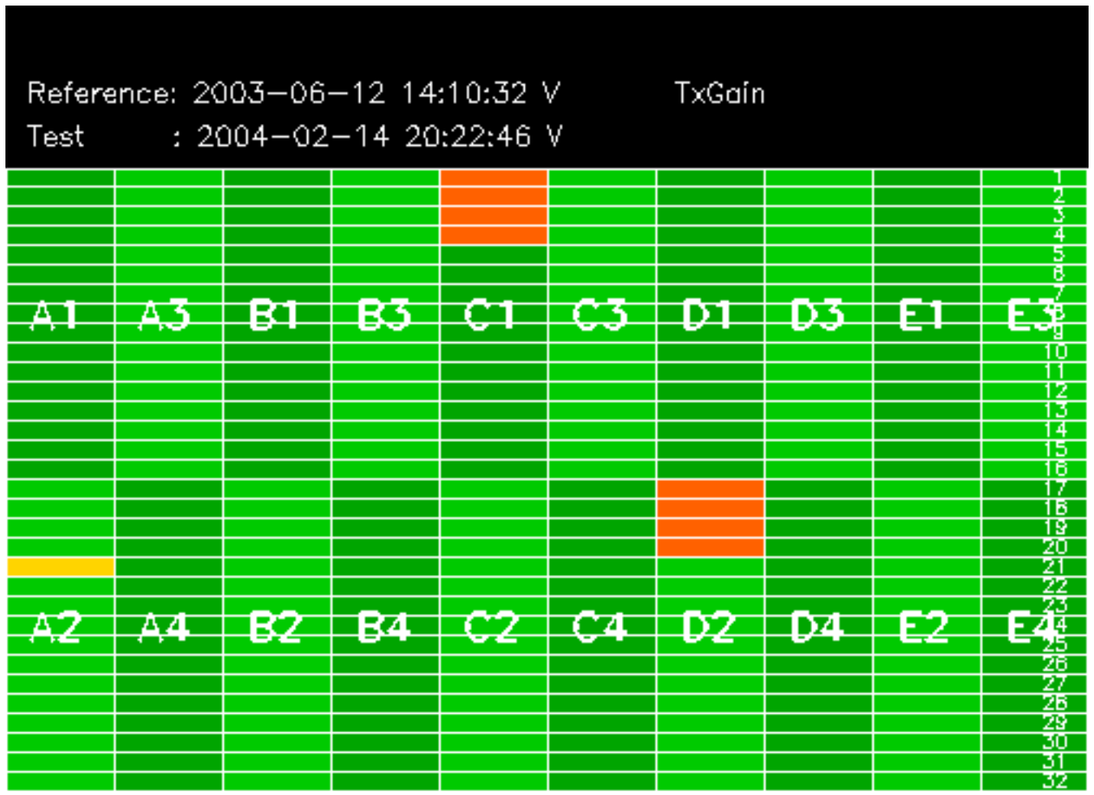

Reference: 2001-02-09 14:08:23 V
Test : 2004-02-14 20:22:46 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-02-14 20:22:46 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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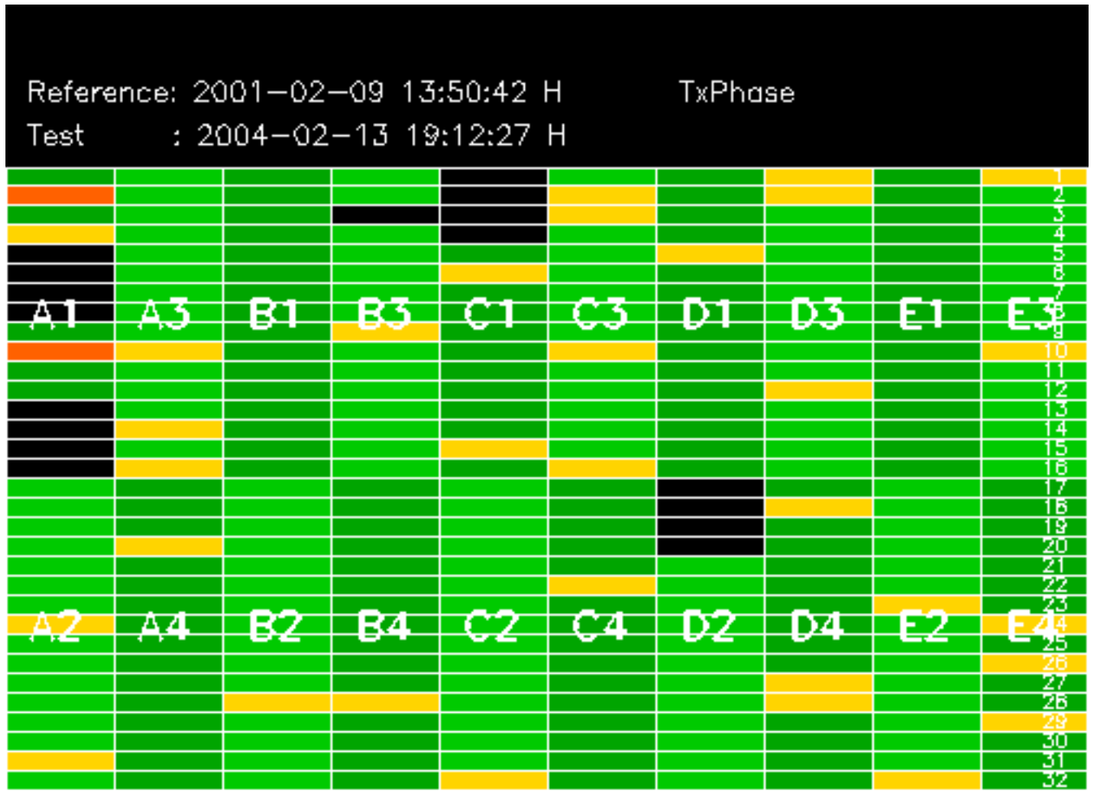
Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-02-13 19:12:27 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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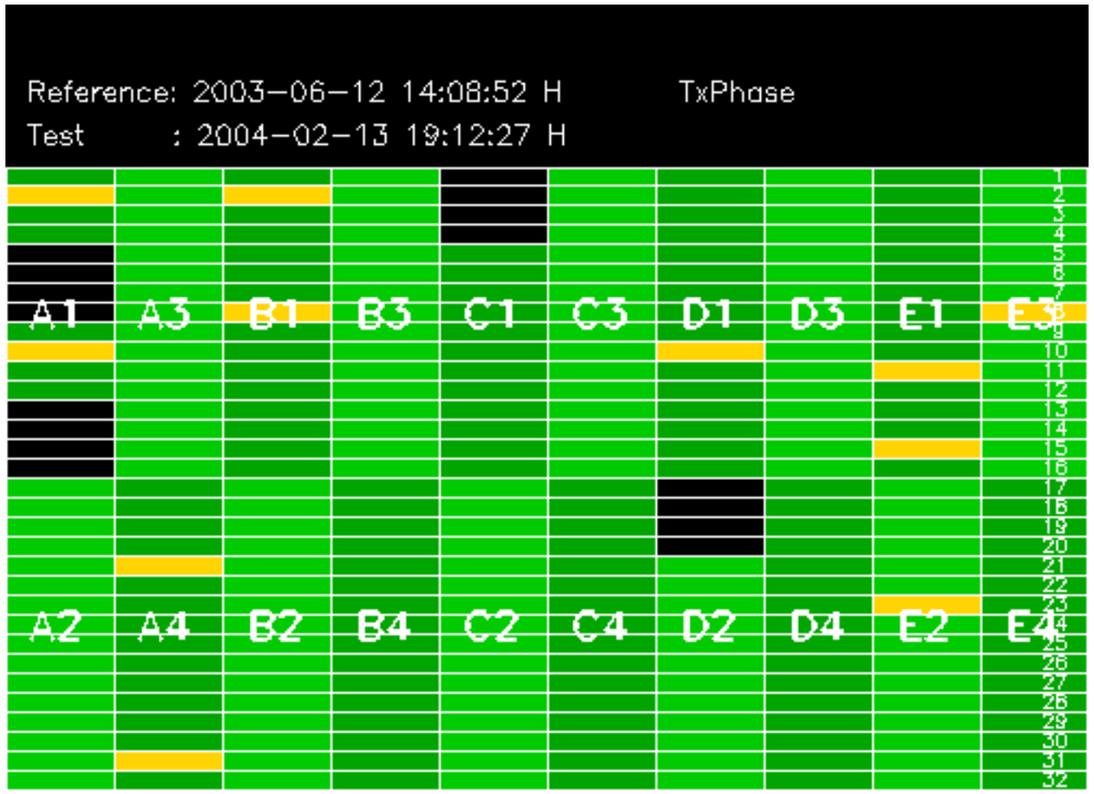
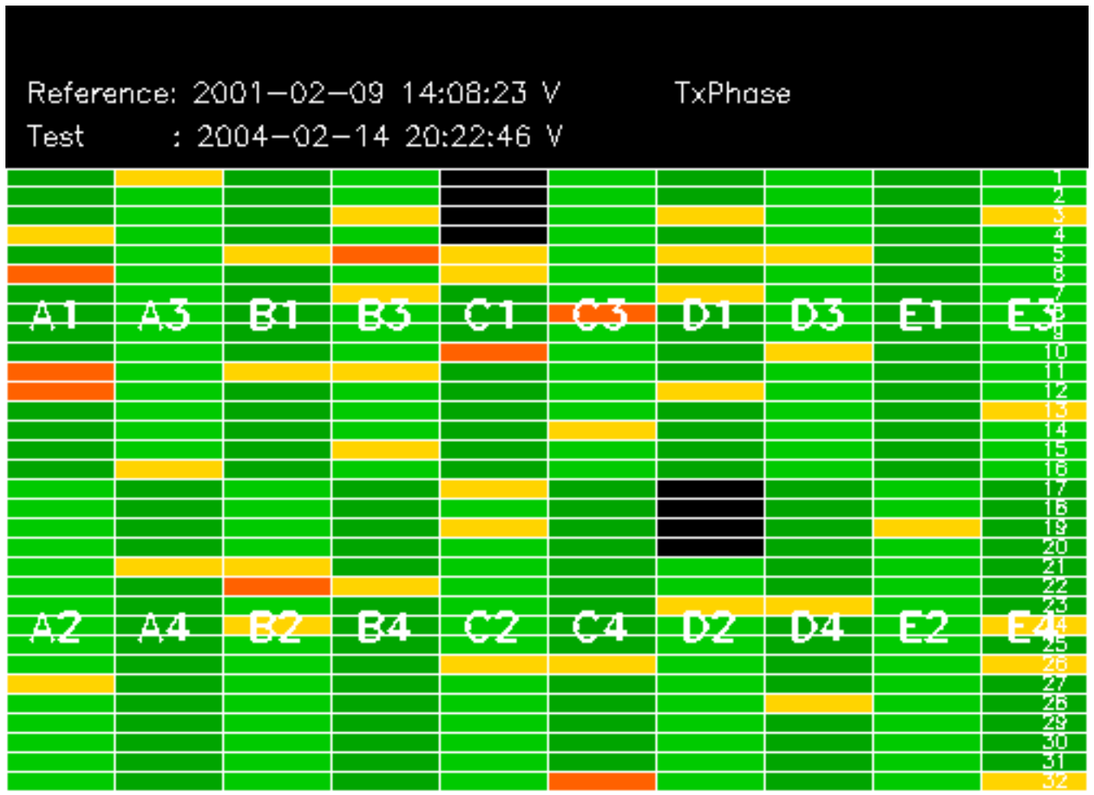

Reference: 2003-06-12 14:08:52 H
Test : 2004-02-13 19:12:27 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-02-14 20:22:46 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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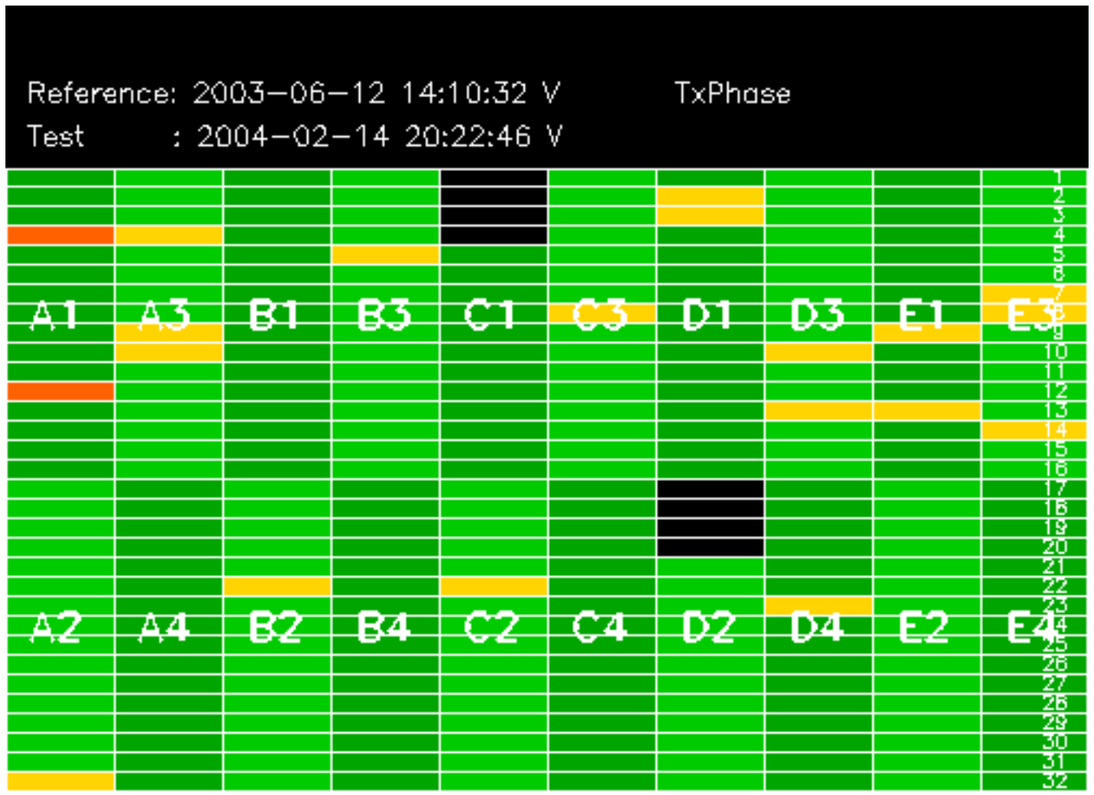
Reference: 2003-06-12 14:10:32 V
Test : 2004-02-14 20:22:46 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

Starting at 19h36 on 13 february 2004 repeated tile averaged temperature OOLS were reported on tile A1 until 15 feburary 2004 07h50.
Antenna was restarted according to the predefined procedure