REPORT OF 040205

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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

Planned Instrument Unavailabilities due to OCM manoeuvre from 04-Feb-2004 02:40:00 to 04-Feb-2004 08:01:00

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 malfunctionning modules and
to identify modules for which calibration offsets are to be applied.
No MS products available since 02-Feb-2004.

Polarisation	Start Time
V	20040202 195946
H	20040202 195826

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	-3.63760	-22.3917	-8.12851
	stdev	0.00674278	0.0822626	0.00269656

24	mean	-5.13118	-21.0654	-8.12851
	stdev	0.0135356	0.0781647	0.00269656

4.2 - Cyclic statistics

row	stat	AveP1	AveP2	AveP3
3	mean	-3.68425	-22.4842	-8.14939
	stdev	0.00704061	0.0720187	0.00318134
24	mean	-5.23560	-21.1218	-8.14939
	stdev	0.554042	0.0660784	0.00318134

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	0.000425664
	stdev	2.91088e-07
MEAN Q	mean	0.000345953
	stdev	3.38674e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.117906
	stdev	0.00136966

STDEV Q	mean	0.118137
	stdev	0.00138423

5.3 - Gain imbalance I/Q

6 - Wave Doppler Analysis

Discontinuities are visible in the doppler evolution versus ANX, probably due to the occurred OCM manoeuvre.
Doppler analysis performed over the last 35 days.

6.1 - Unbiased Doppler Error

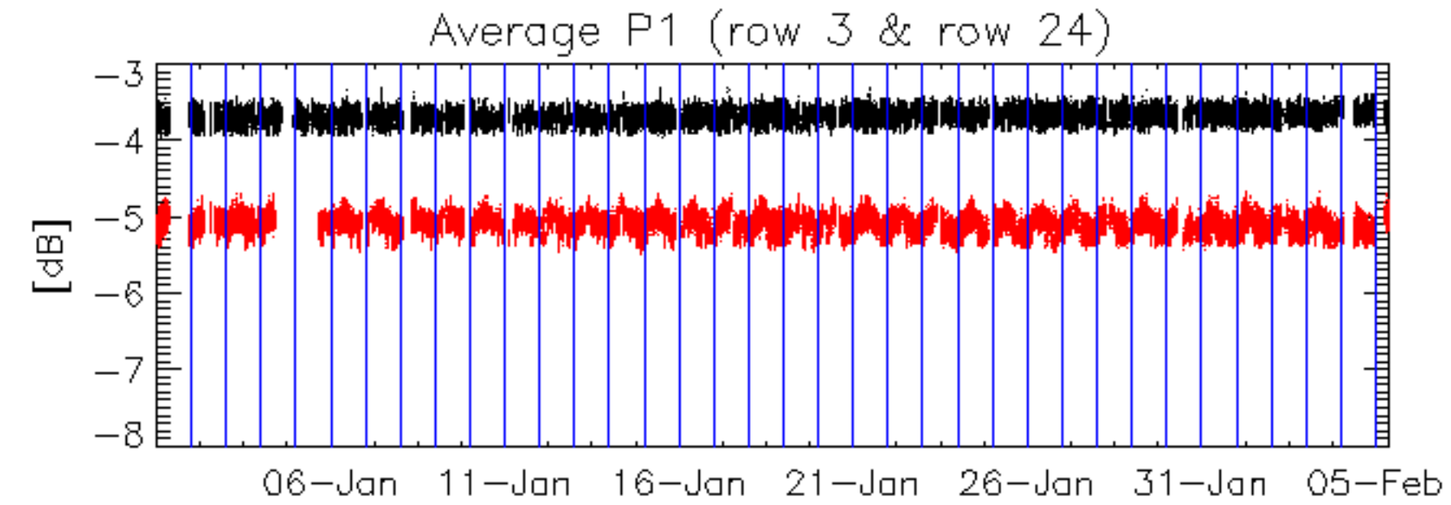
Evolution of unbiased Doppler error (Real - Expected)
Acsending
Descending

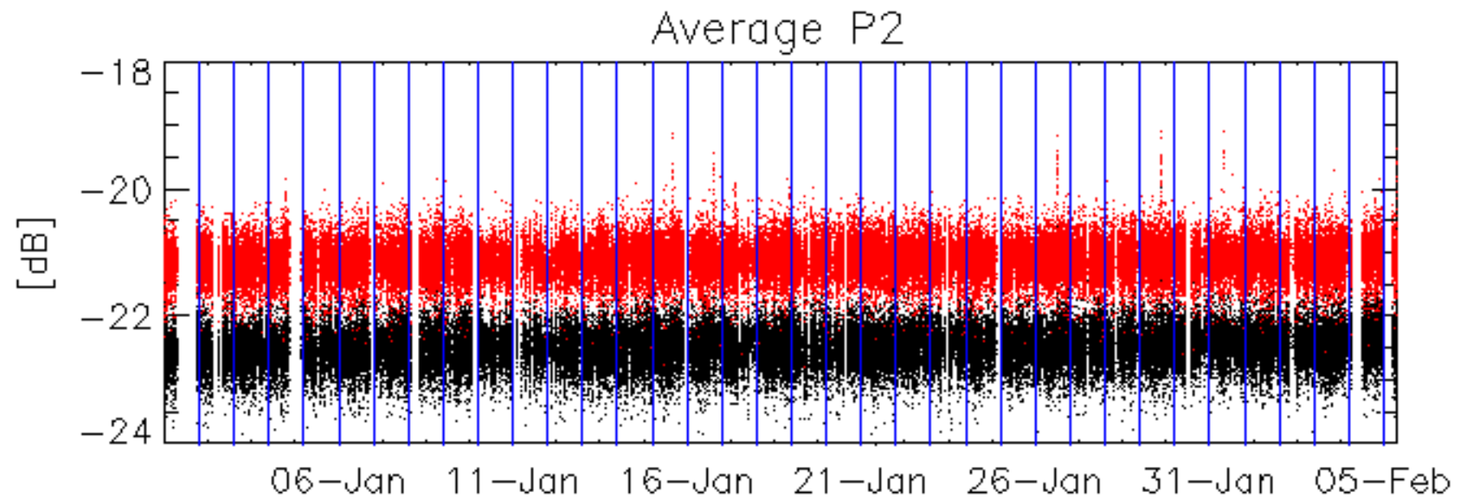
6.2 - Absolute Doppler

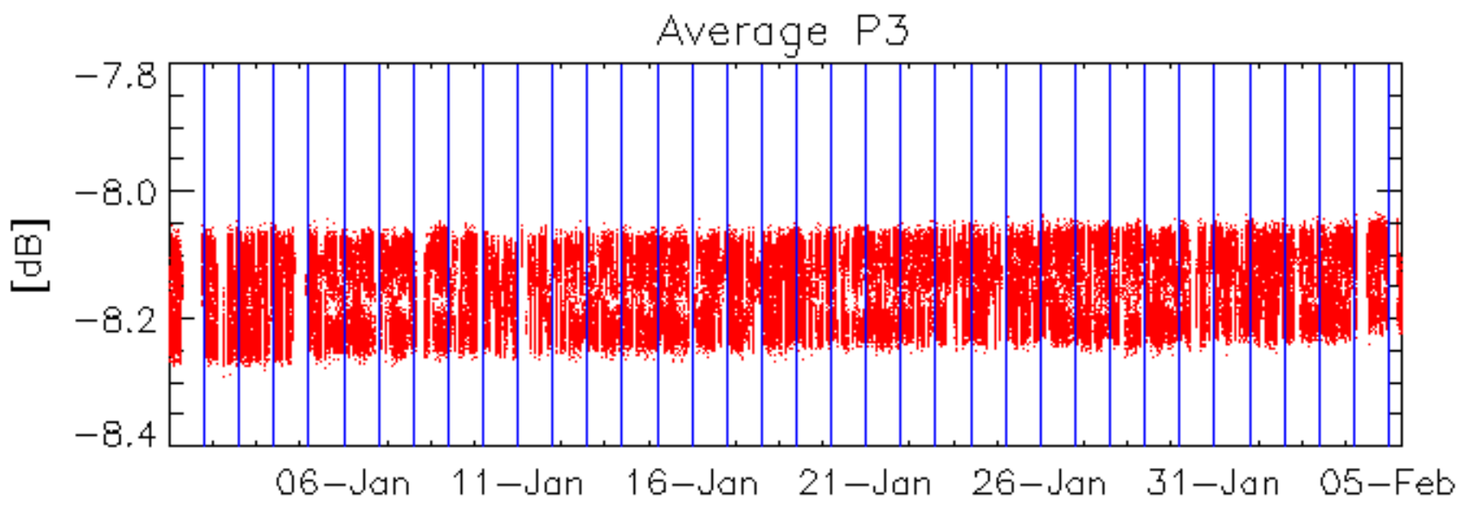
Evolution of Absolute Doppler
Acsending
Descending

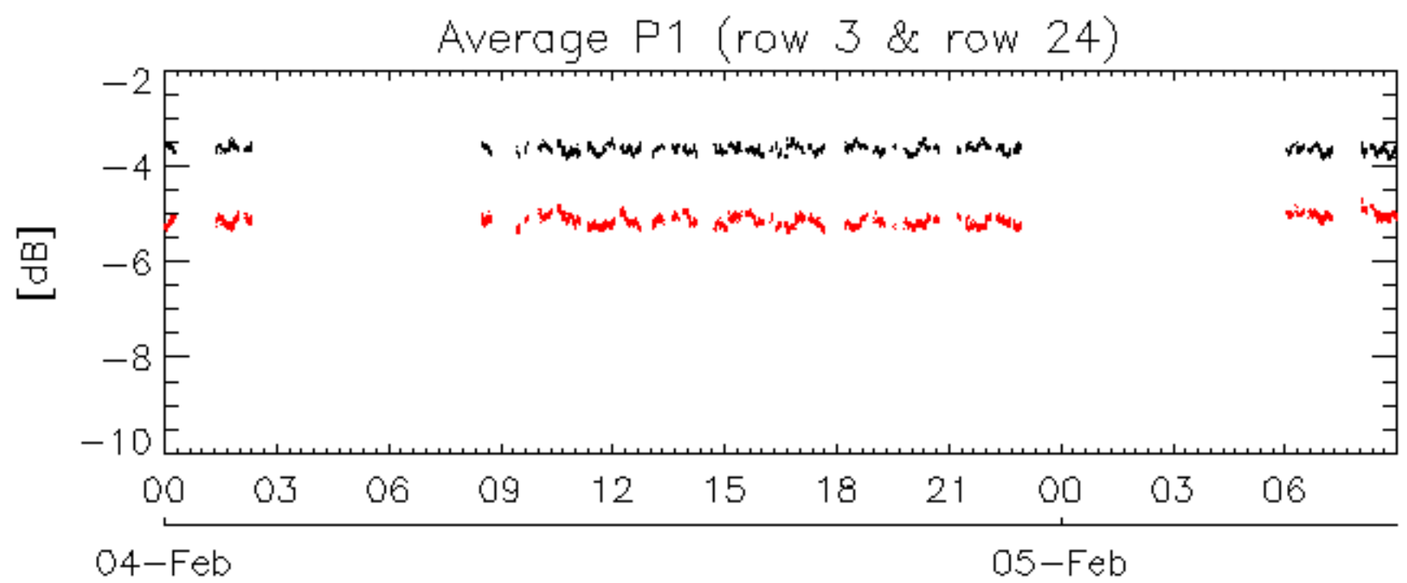
6.3 - Doppler evolution versus ANX

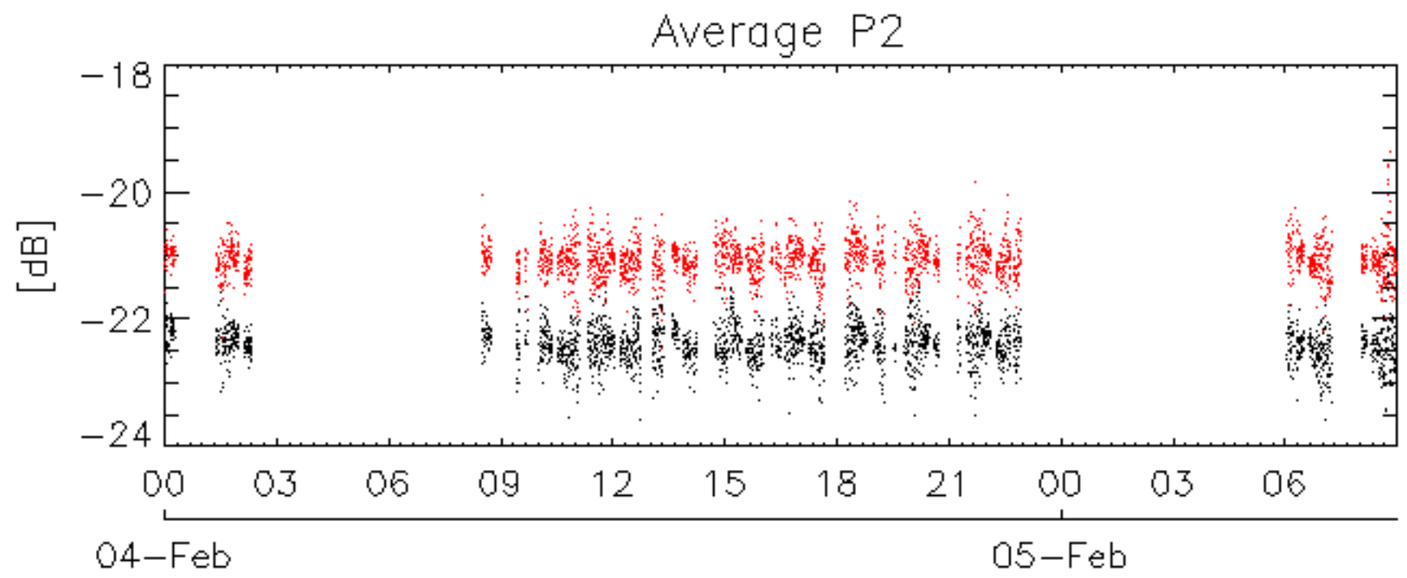
Evolution Doppler error versus ANX

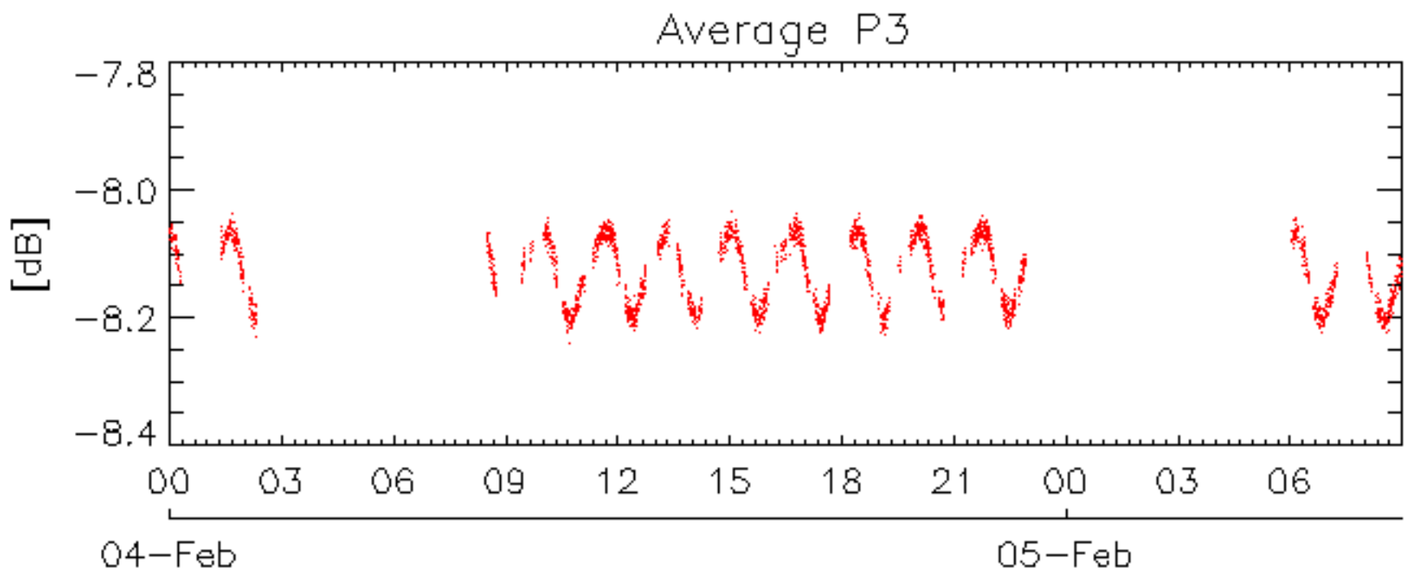

Average P1 (row 3 & row 24)
[dB]
−3
−4
−5
−6
−7
−8
06−Jan
11−Jan
16−Jan
21−Jan
26−Jan
31−Jan
05−Feb


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


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

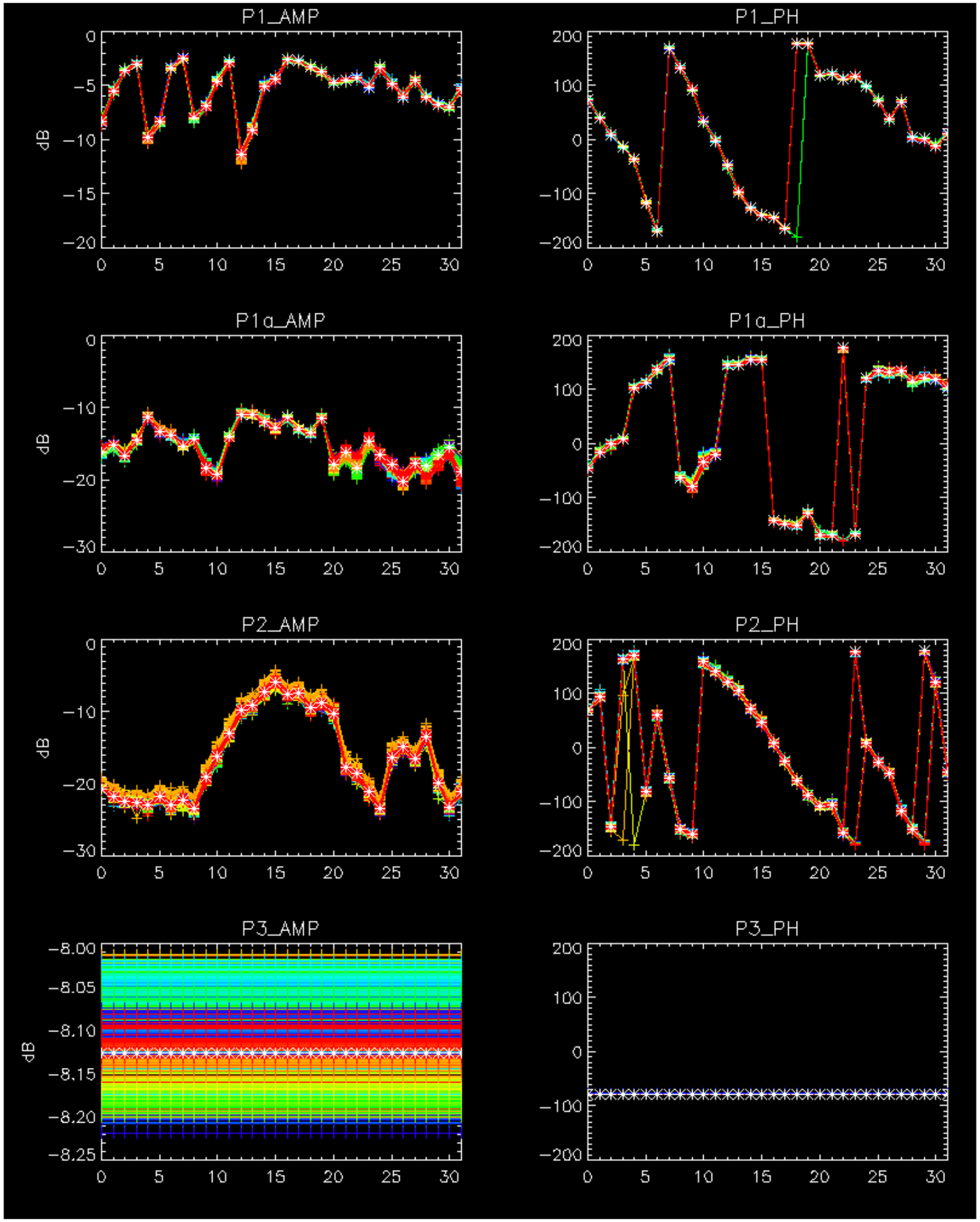

Average P1 (row 3 & row 24)
[dB]
−2
−4
−6
−8
−10
00
03
06
09
12
15
18
21
00
03
06
04−Feb
05−Feb


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


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

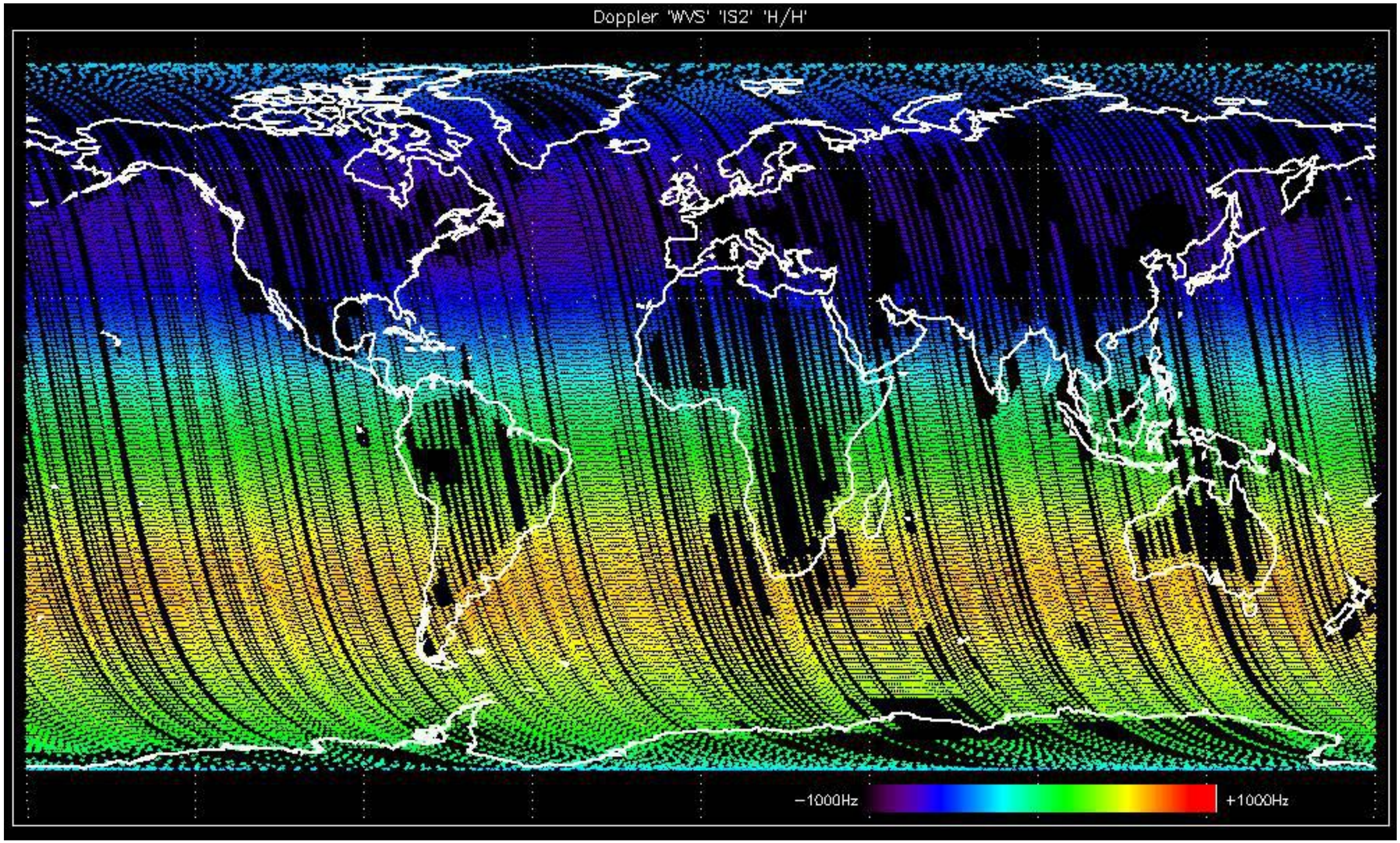
No anomalies observed on available browse products.

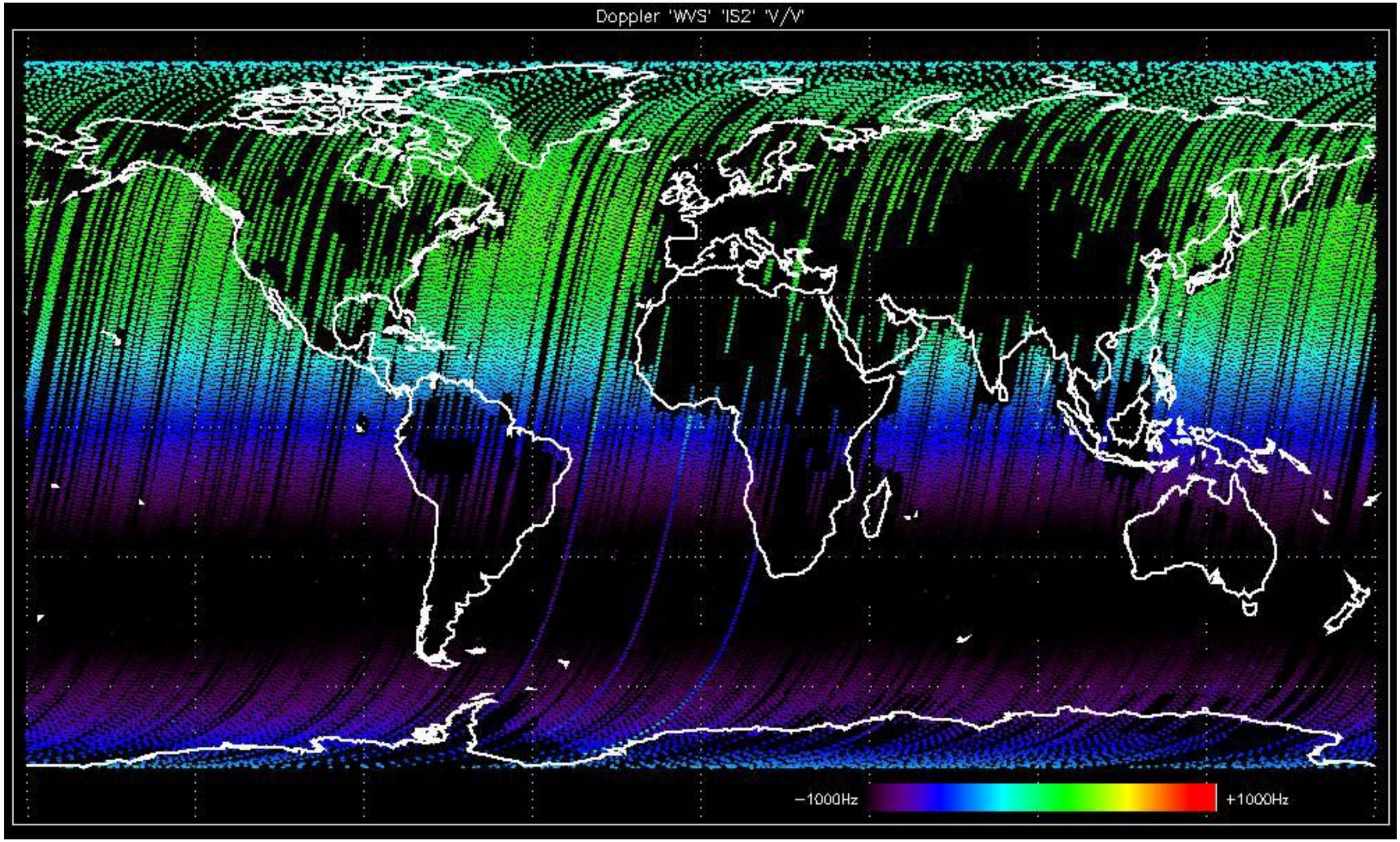
No anomalies observed.

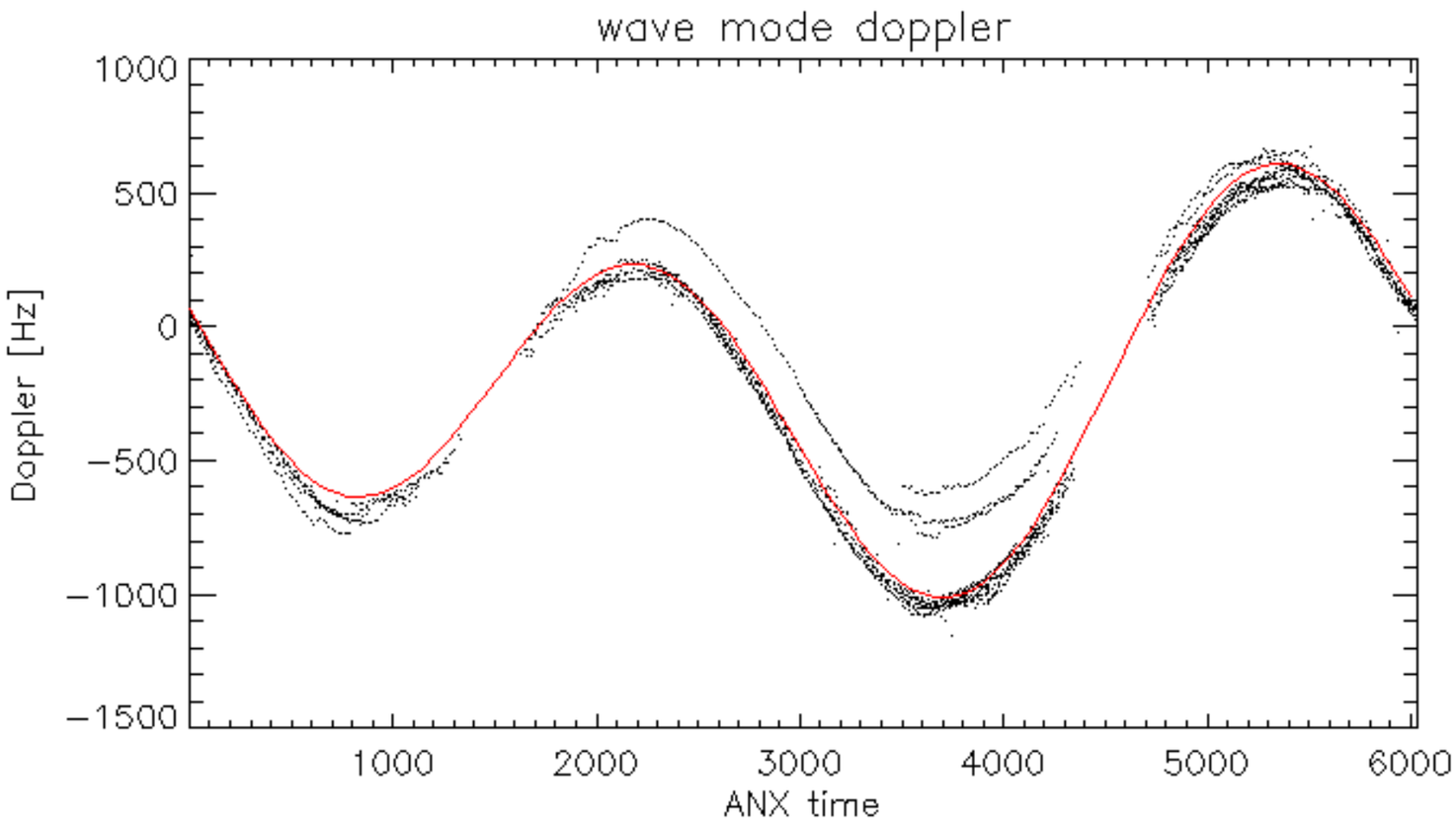

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.00
−8.05
−8.10
−8.15
−8.20
−8.25
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

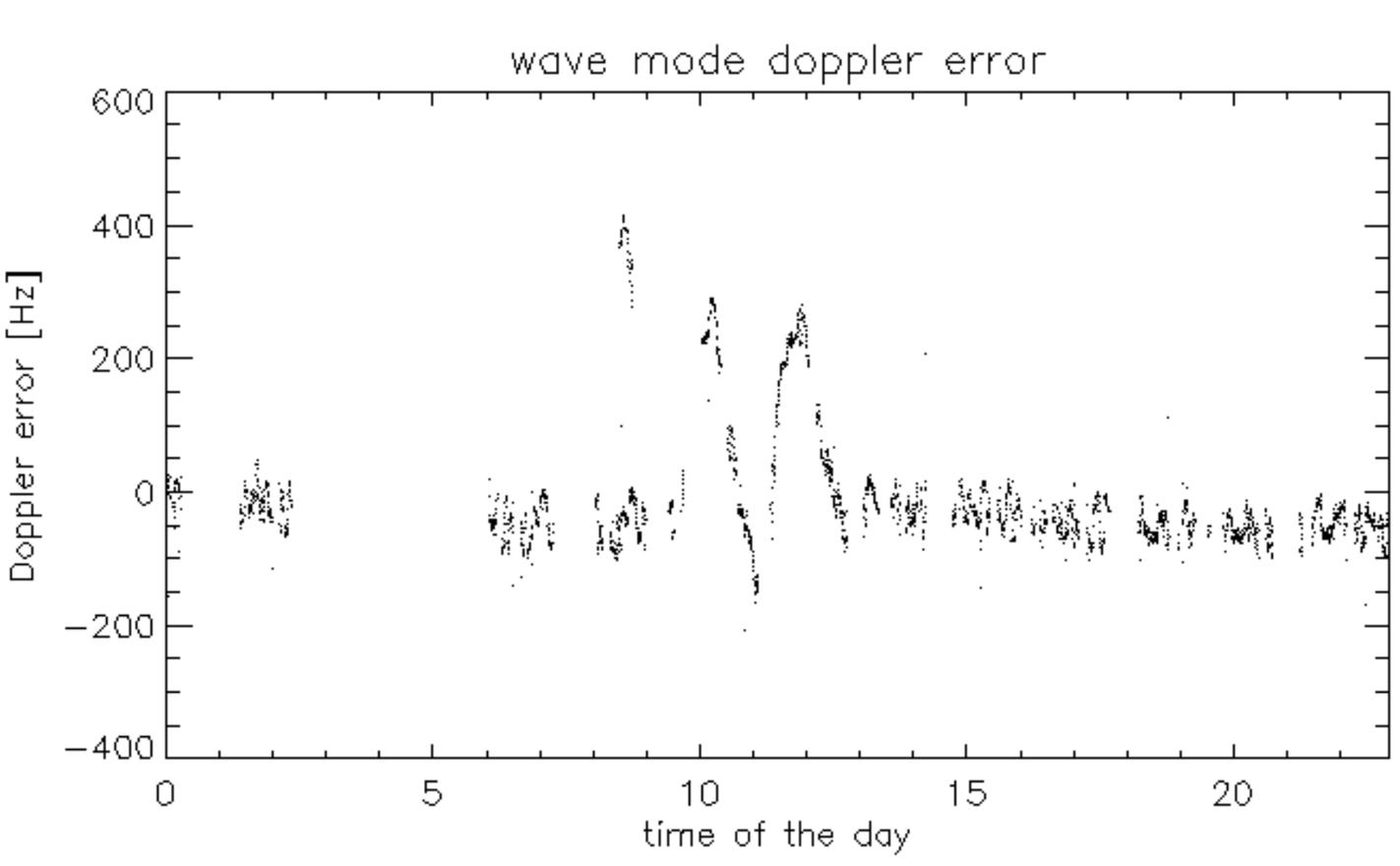
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

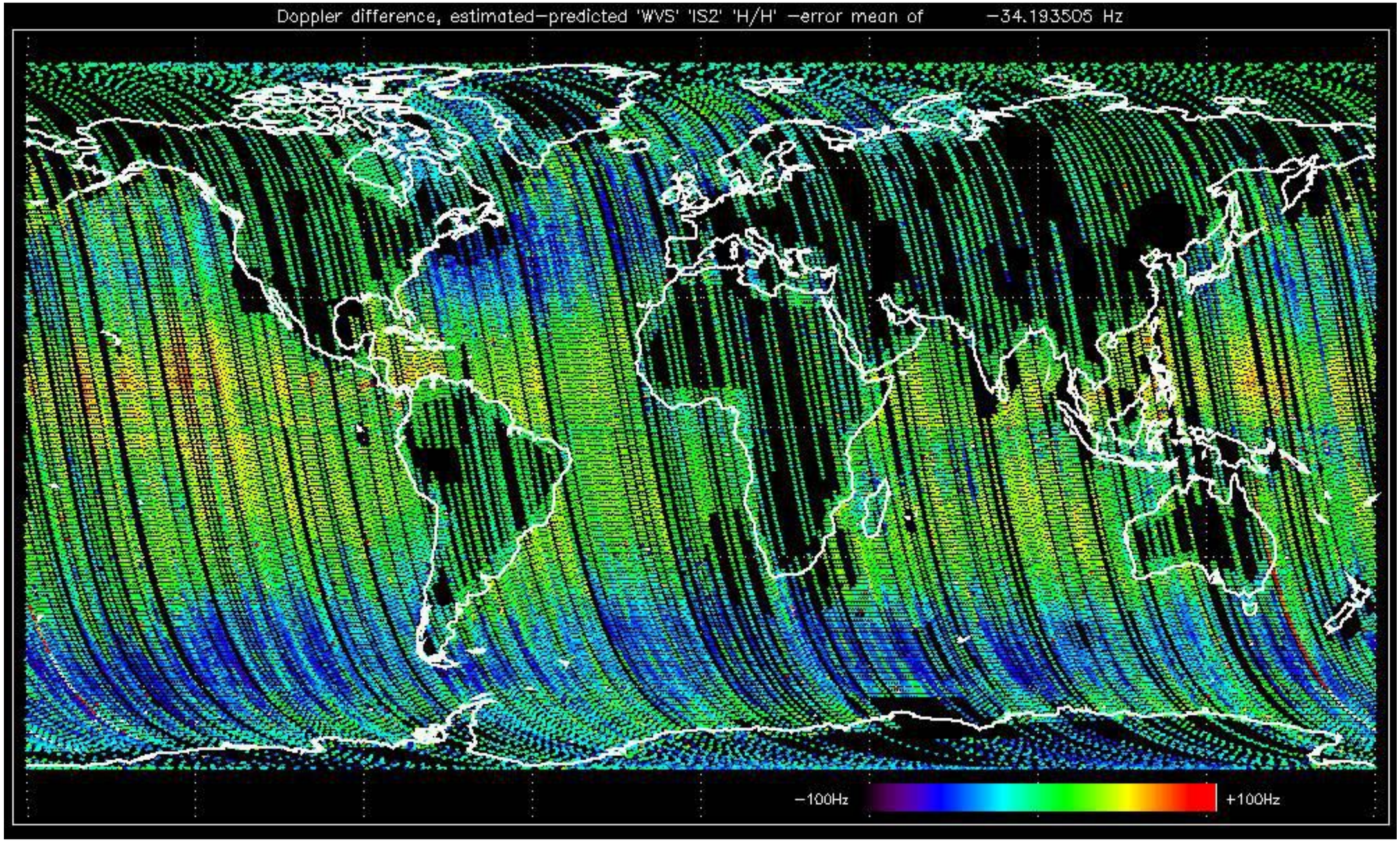
Discontinuities are visible in the doppler evolution versus ANX, probably due to the occurred OCM manoeuvre.
Doppler analysis performed over the last 35 days.

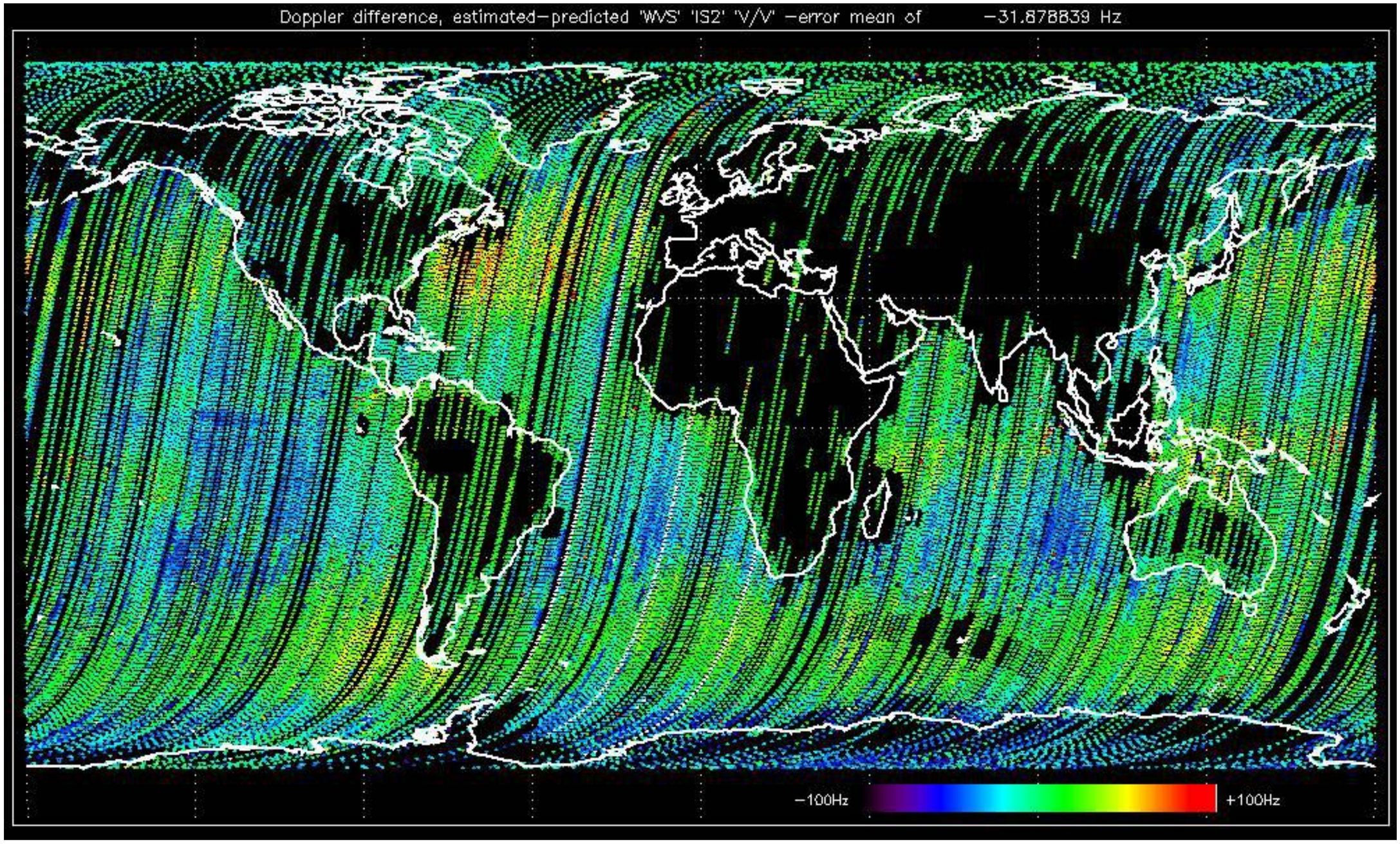

Doppler 'WVS' 'IS2' 'H/H'
−1000Hz
+1000Hz


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

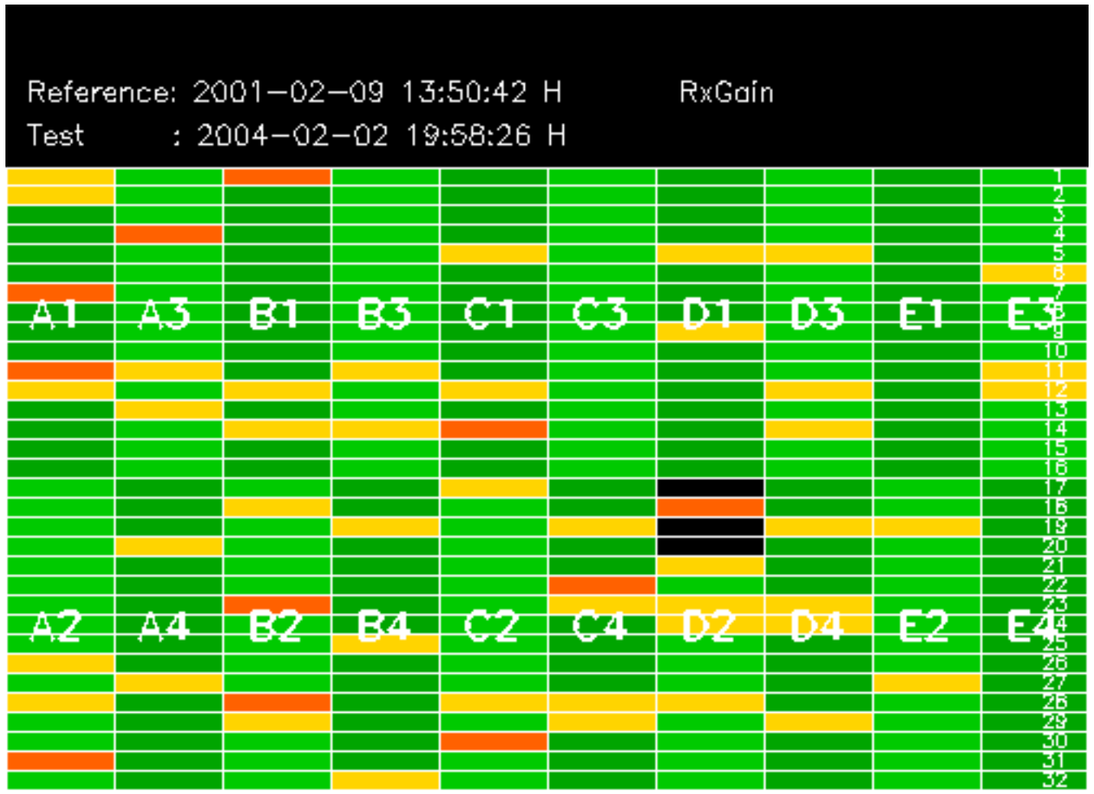

wave mode doppler error
Doppler error [Hz]
600
400
200
0
−200
−400
0
5
10
15
20
time of the day

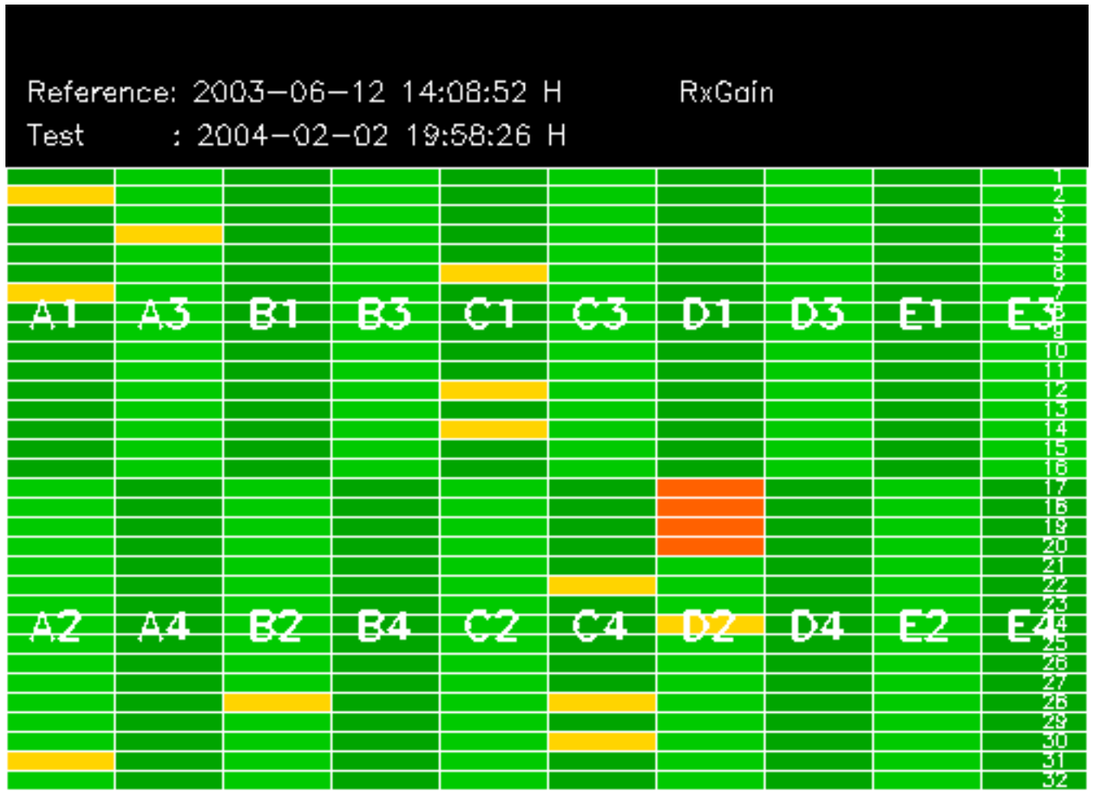

Doppler difference, estimated-predicted 'WVS' 'IS2' 'H/H' -error mean of -34.193505 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' 'V/V' −error mean of −31.878839 Hz
−100Hz
+100Hz

The MS mode provides an internal health check on an individual module basis.
The purpose of this mode is to identify any malfunctionning modules and
to identify modules for which calibration offsets are to be applied.
No MS products available since 02-Feb-2004.

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2004-02-02 19:58:26 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 : 2004-02-02 19:58:26 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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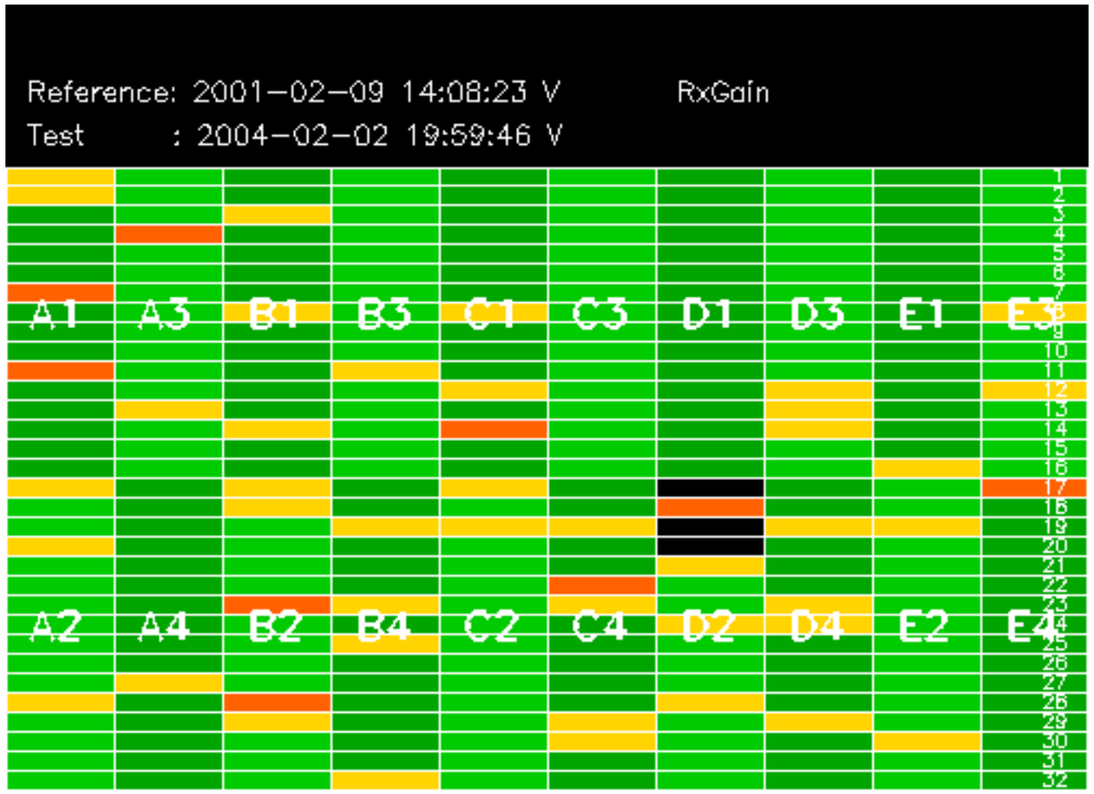
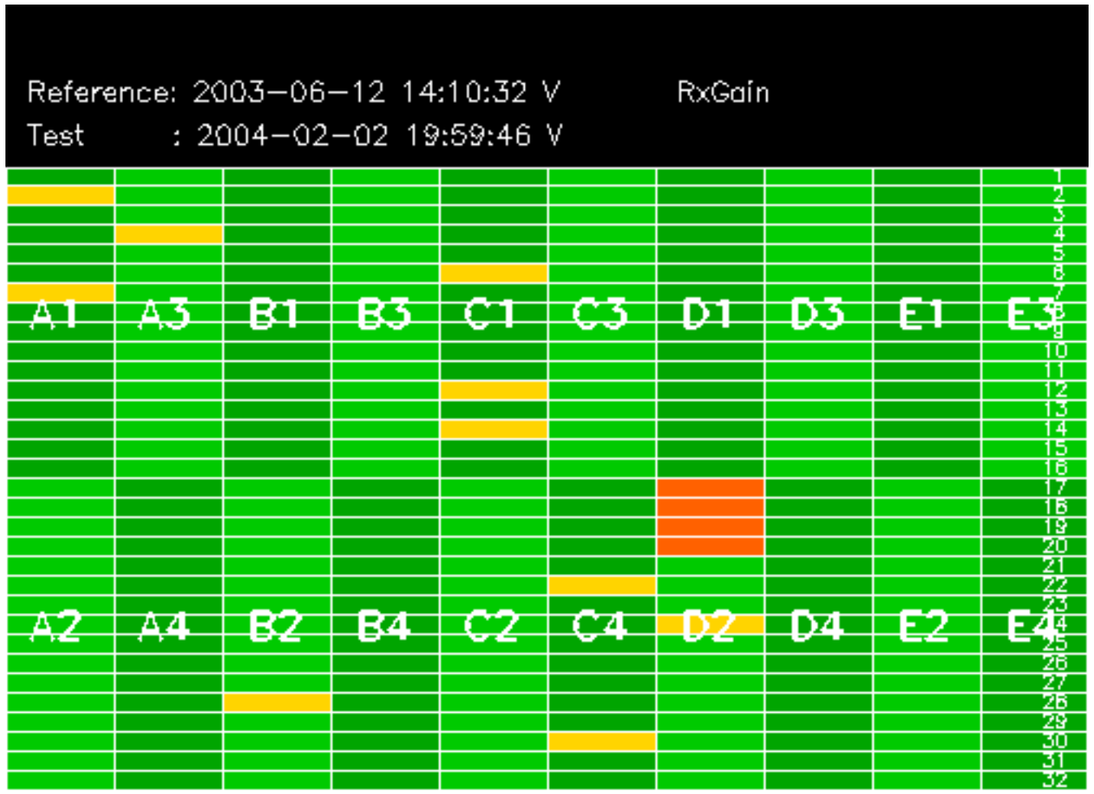

Reference: 2001-02-09 14:08:23 V
Test : 2004-02-02 19:59:46 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-02-02 19:59:46 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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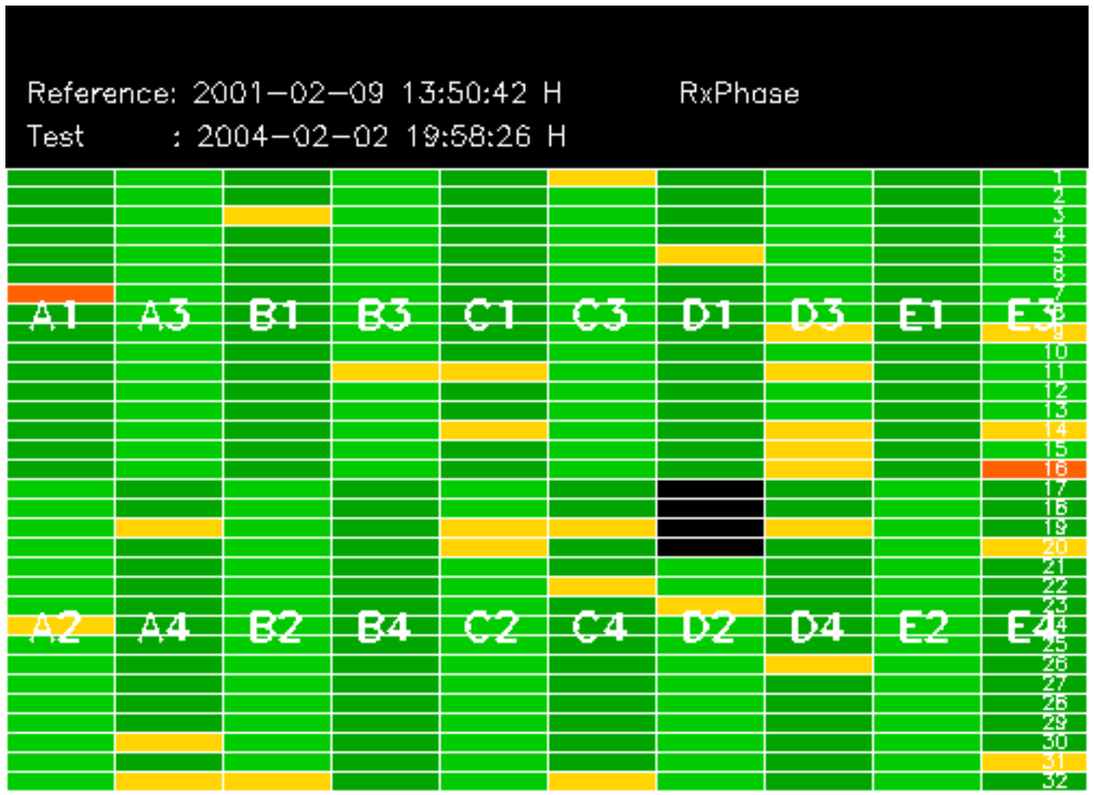
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-02-02 19:58:26 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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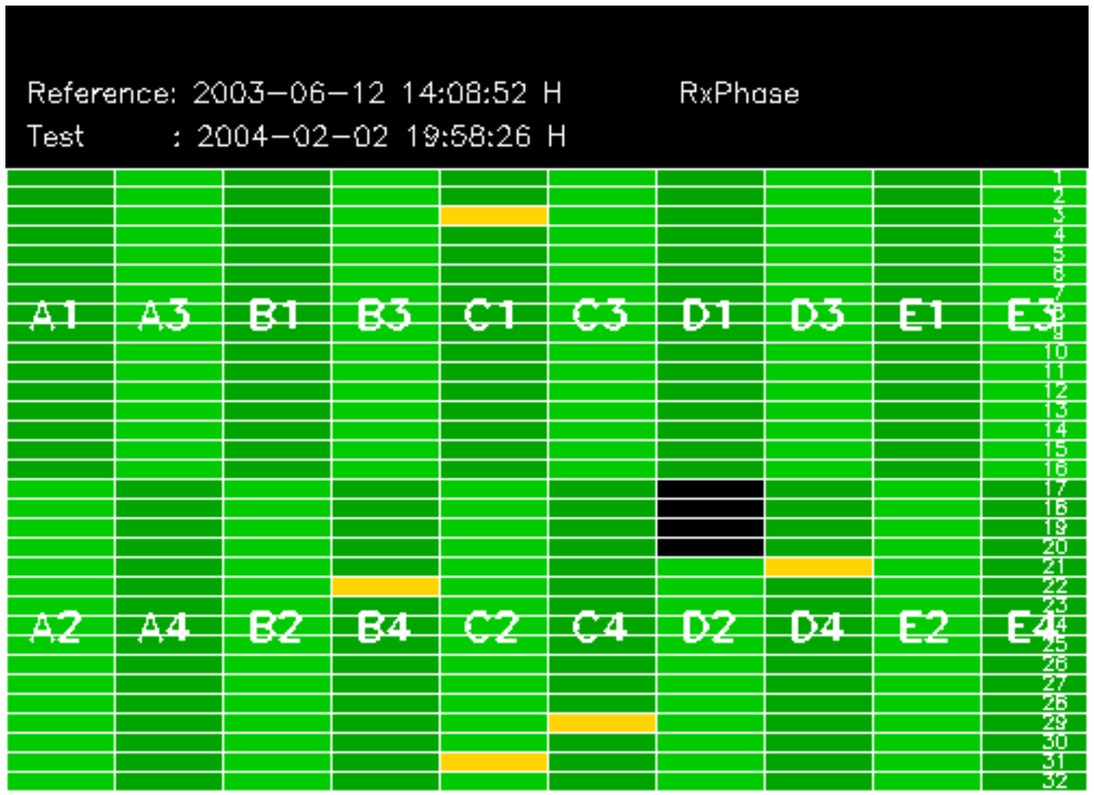
Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2004-02-02 19:58:26 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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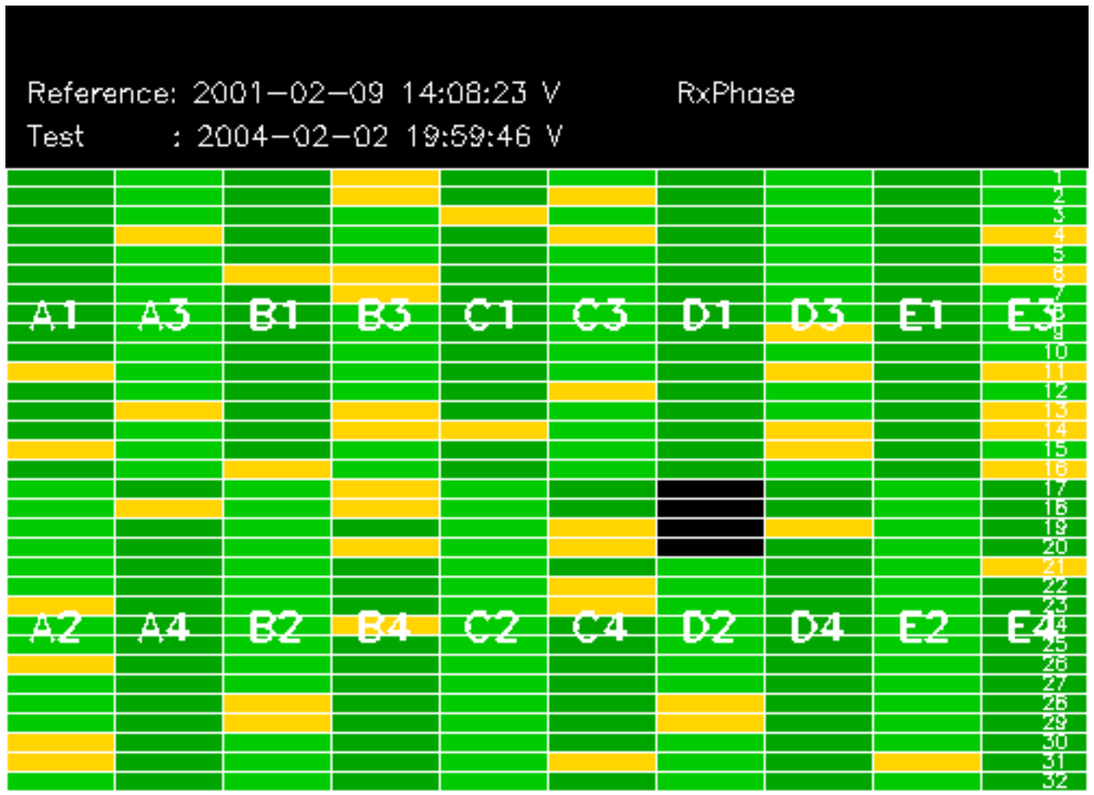
Reference: 2001-02-09 14:08:23 V
Test : 2004-02-02 19:59:46 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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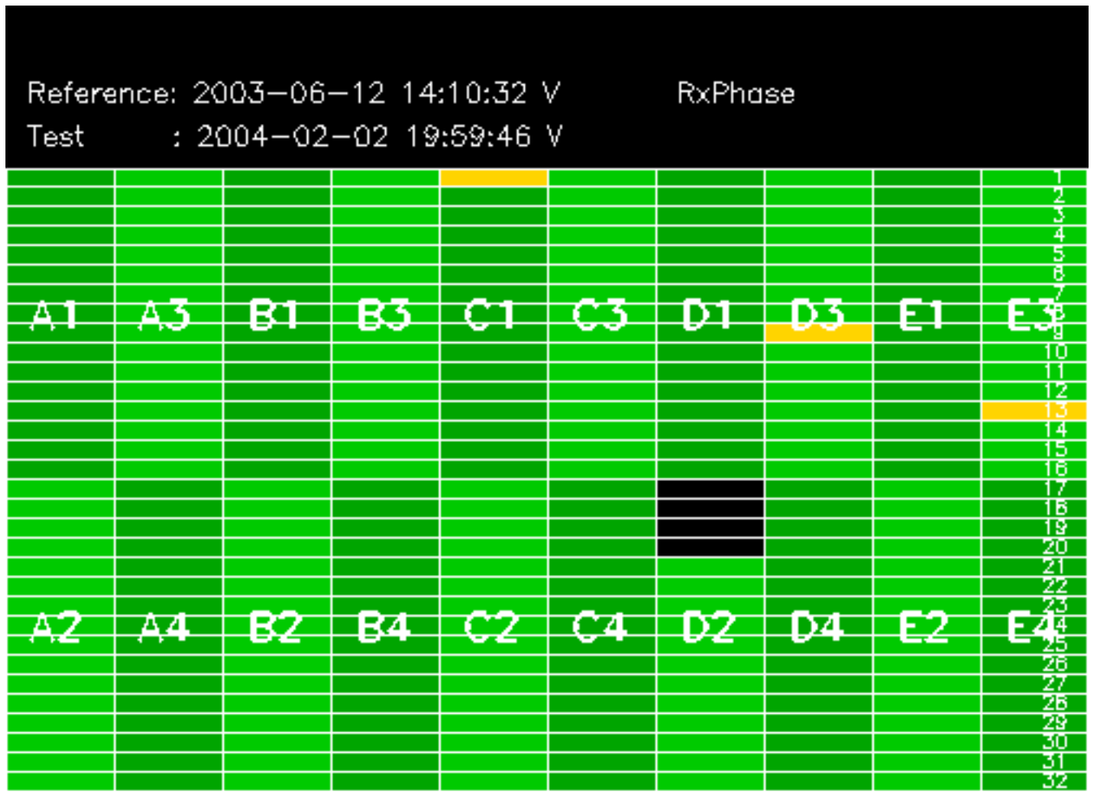
Reference: 2003-06-12 14:10:32 V
Test : 2004-02-02 19:59:46 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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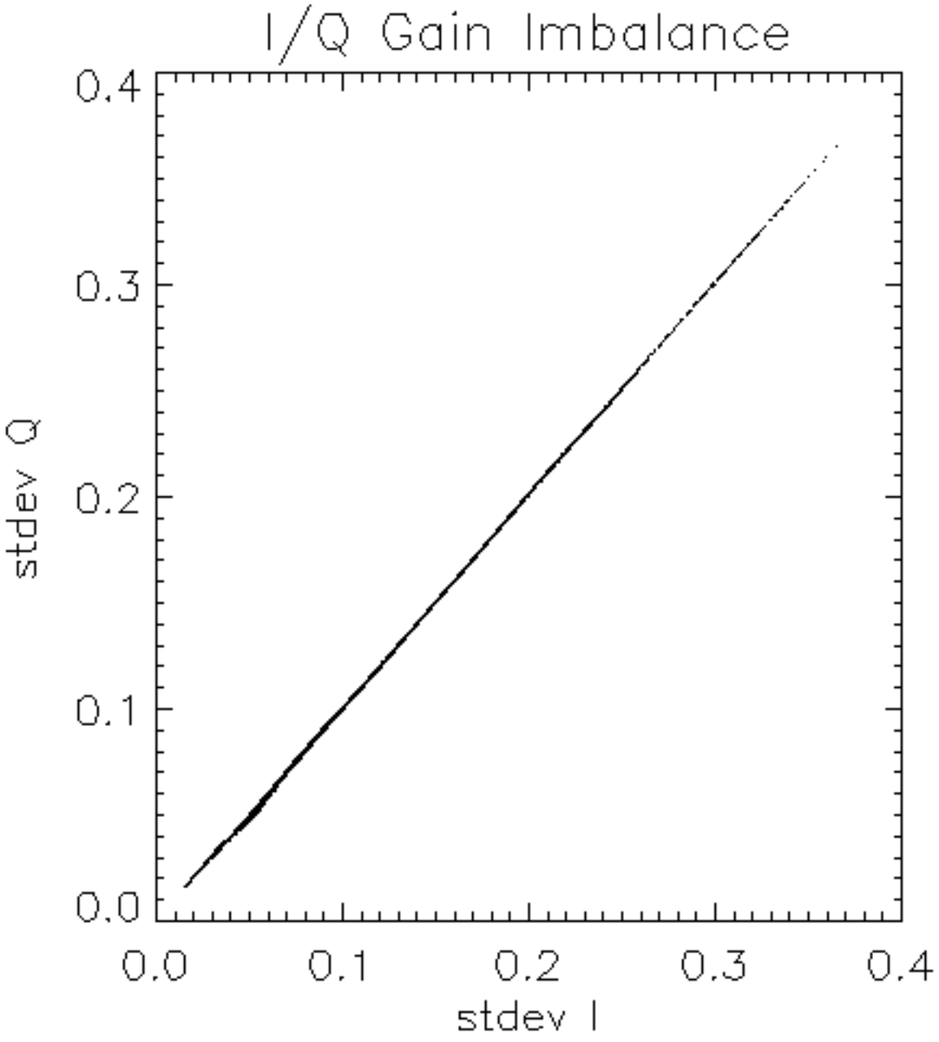
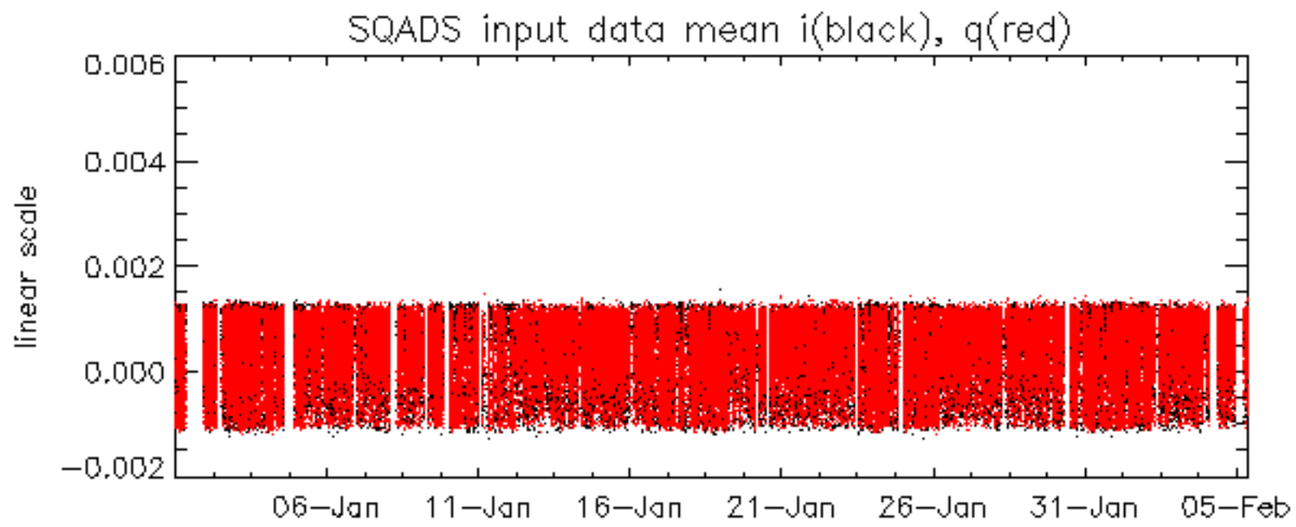
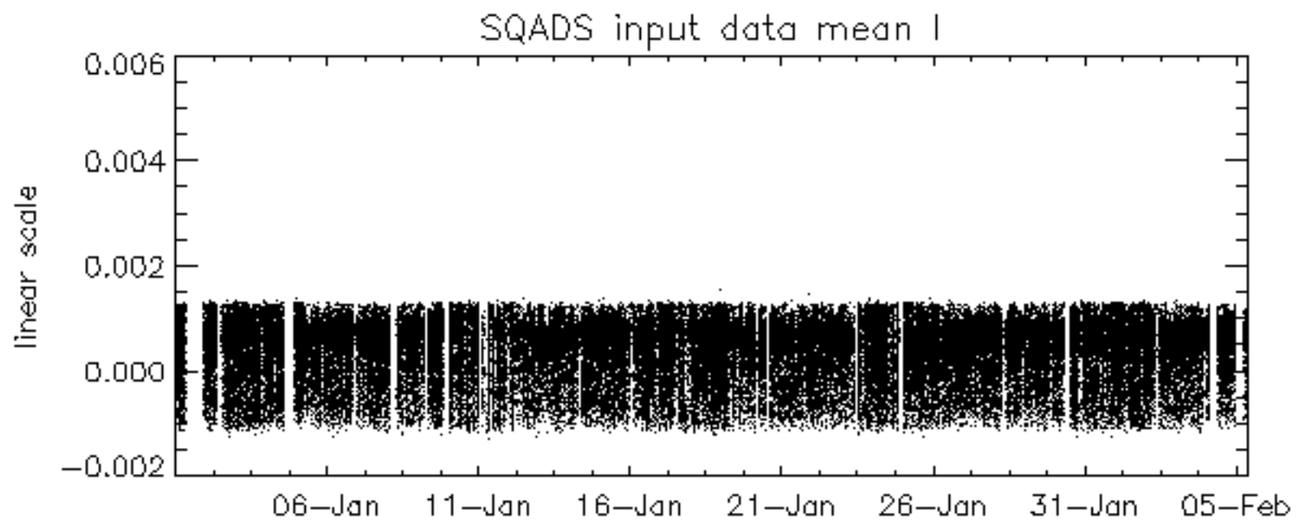
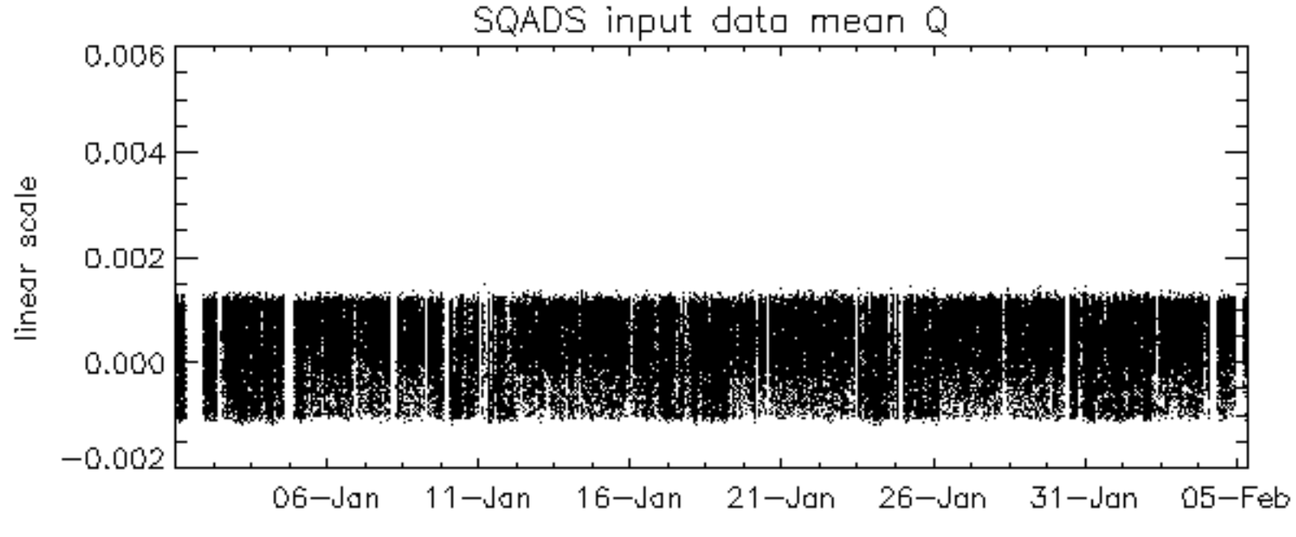
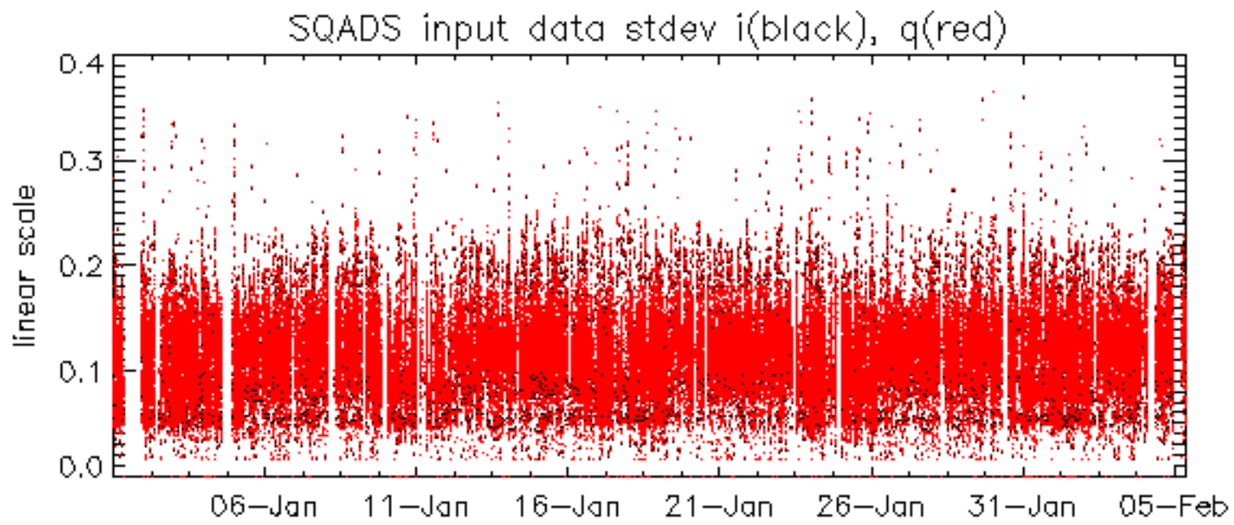
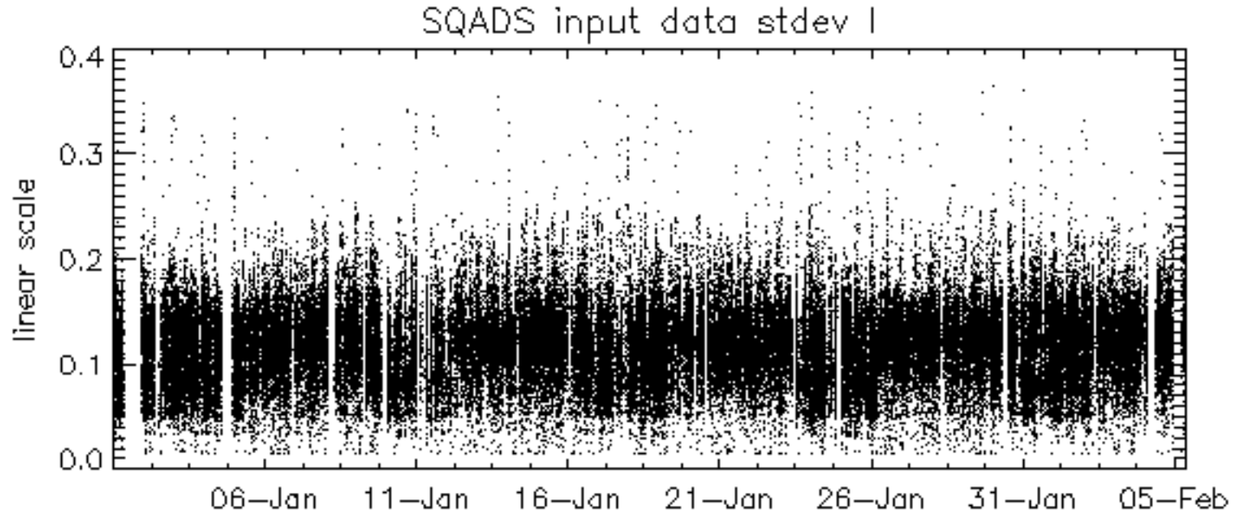

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

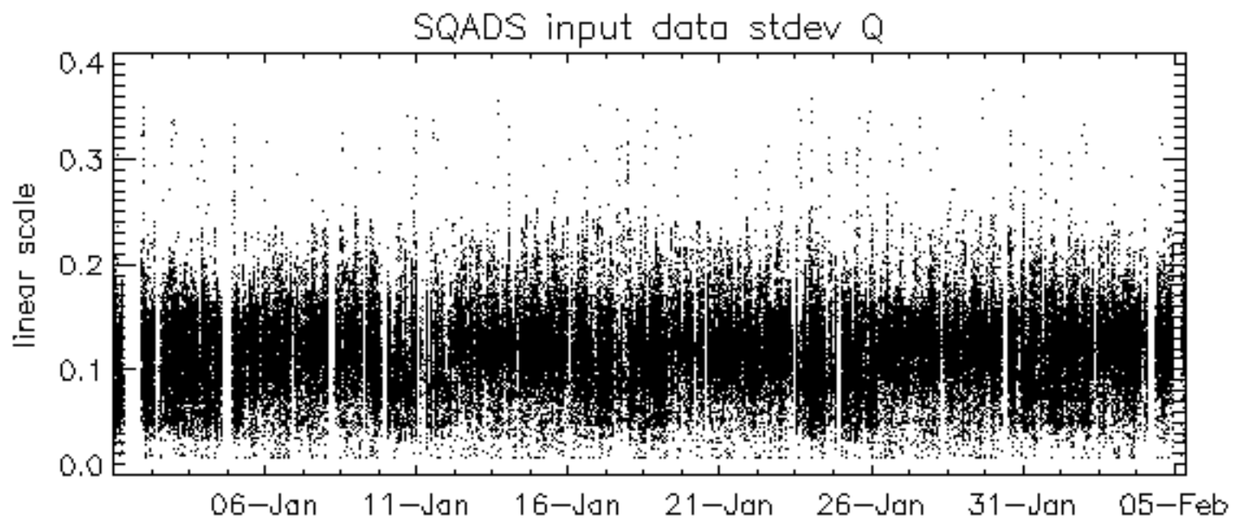

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Jan
11−Jan
16−Jan
21−Jan
26−Jan
31−Jan
05−Feb

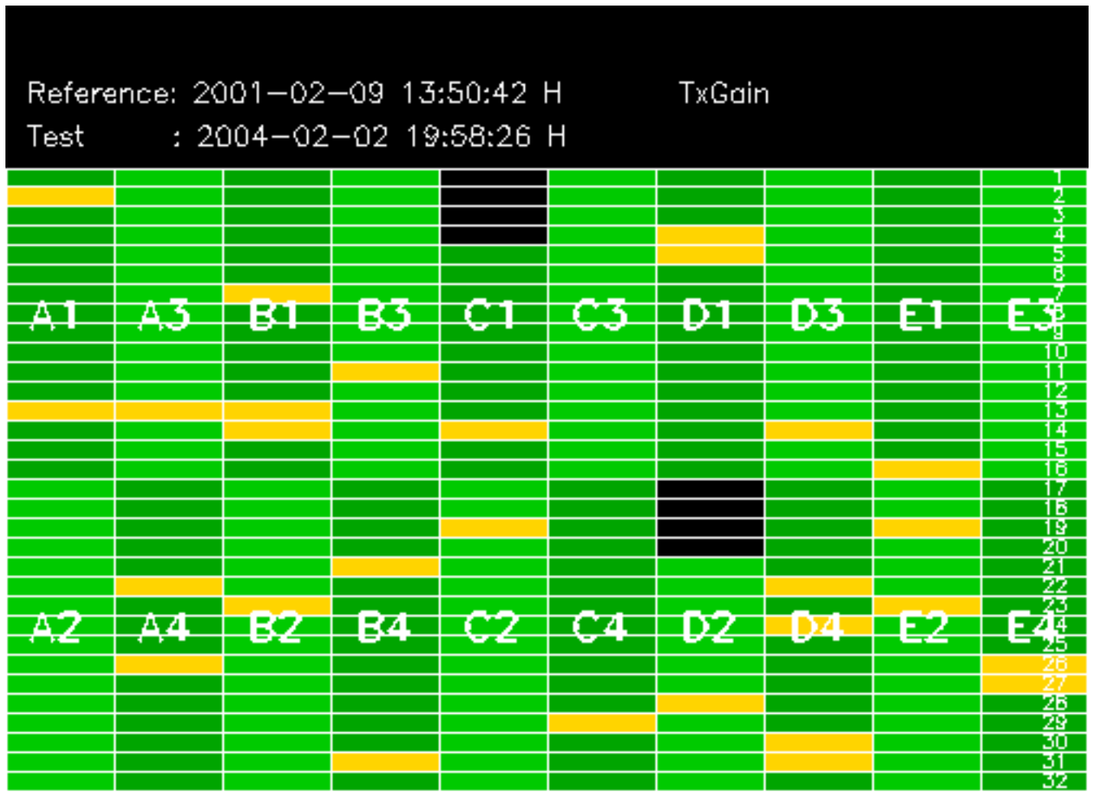

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Jan
11−Jan
16−Jan
21−Jan
26−Jan
31−Jan
05−Feb

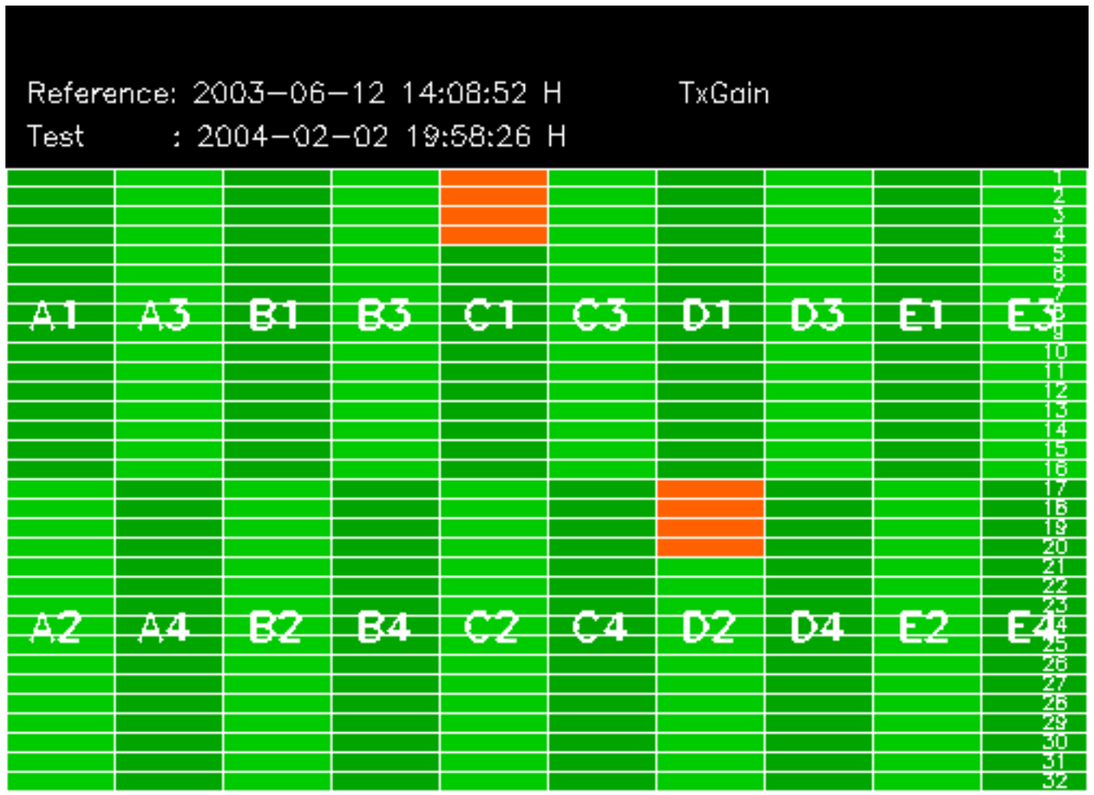

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Jan
11−Jan
16−Jan
21−Jan
26−Jan
31−Jan
05−Feb


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2004-02-02 19:58:26 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 : 2004-02-02 19:58:26 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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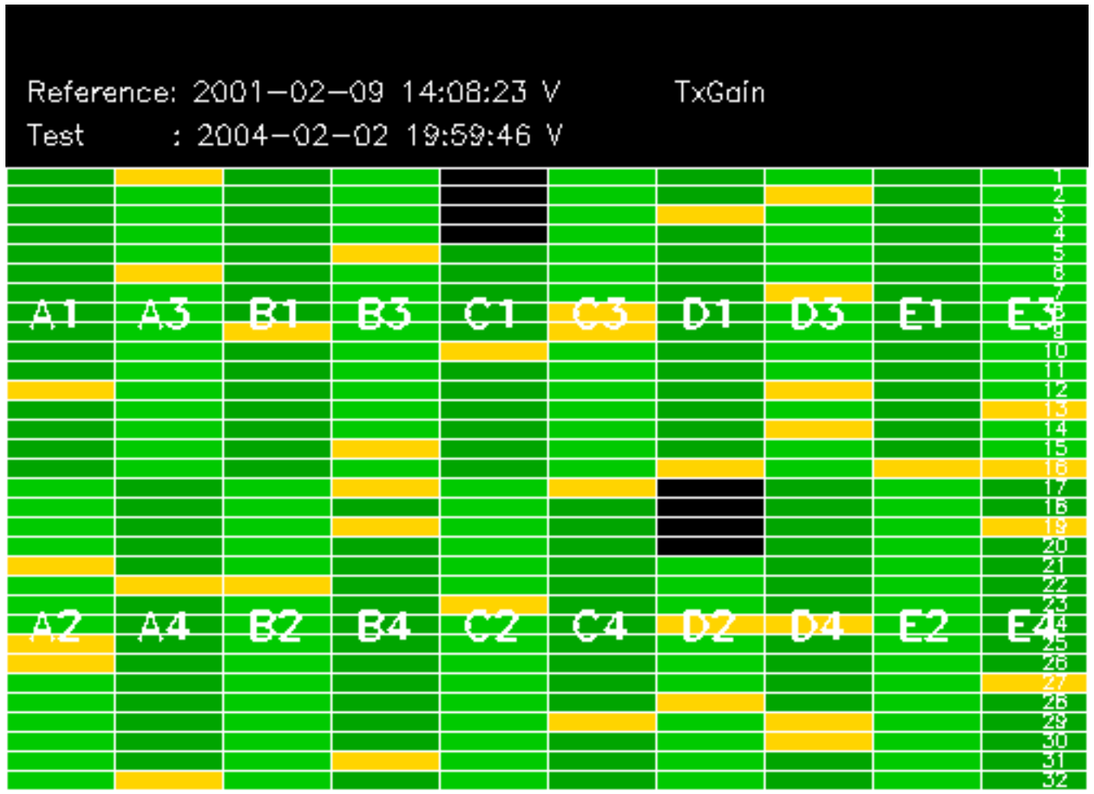
Reference: 2001-02-09 14:08:23 V
Test : 2004-02-02 19:59:46 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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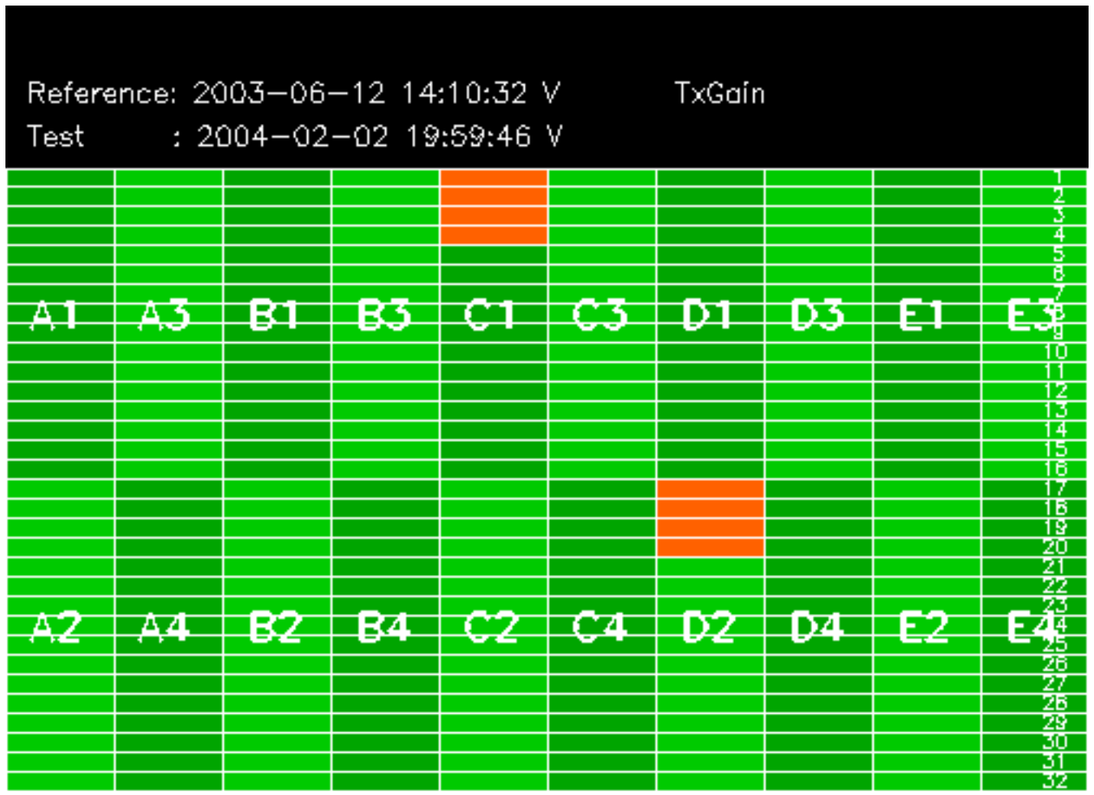
Reference: 2003-06-12 14:10:32 V
Test : 2004-02-02 19:59:46 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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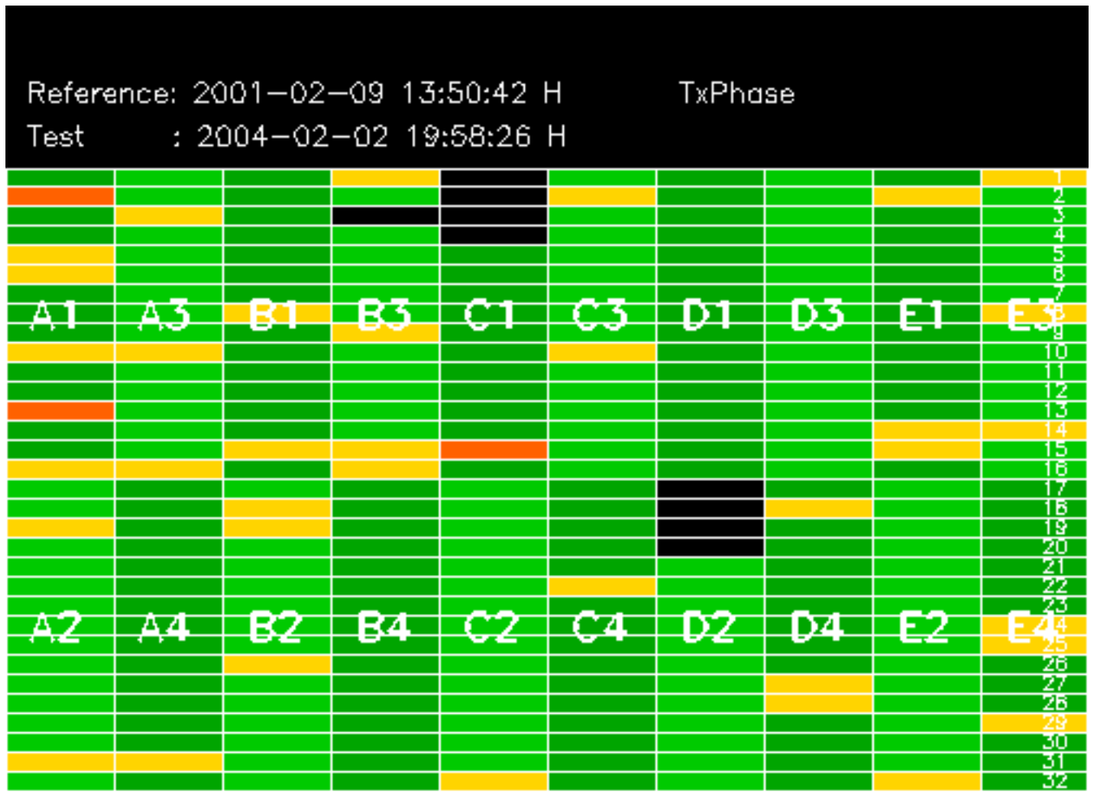
Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-02-02 19:58:26 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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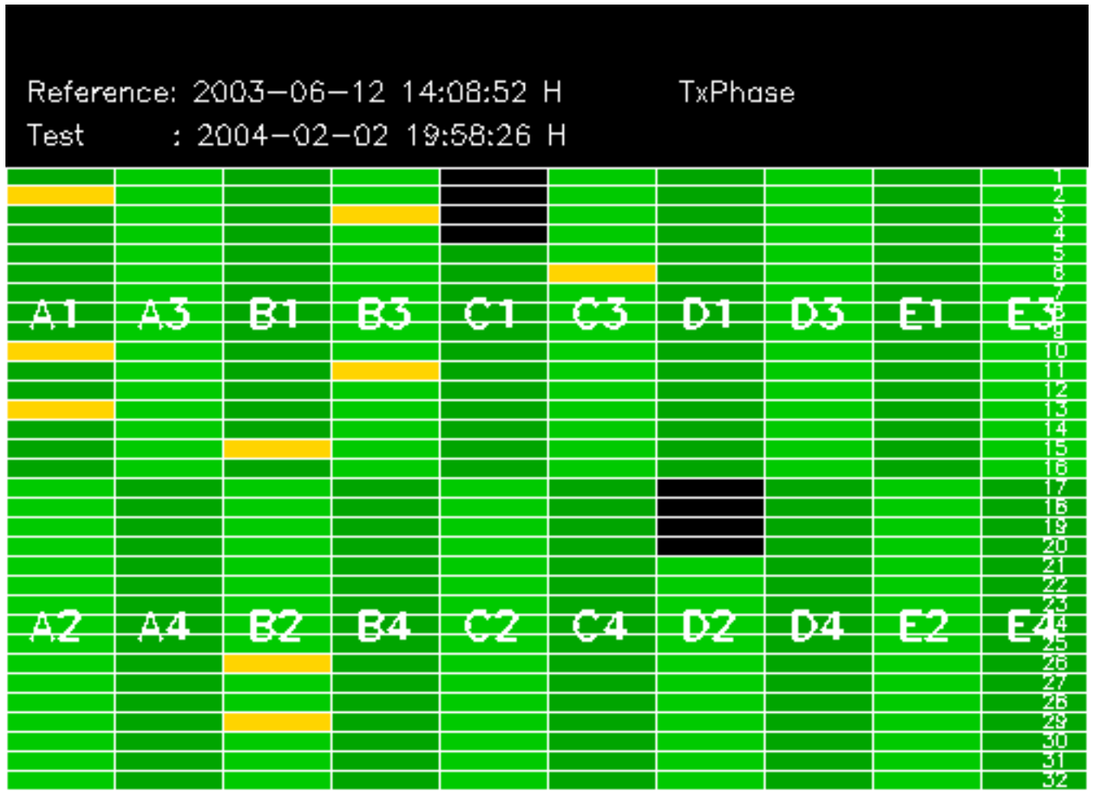
Reference: 2003-06-12 14:08:52 H
Test : 2004-02-02 19:58:26 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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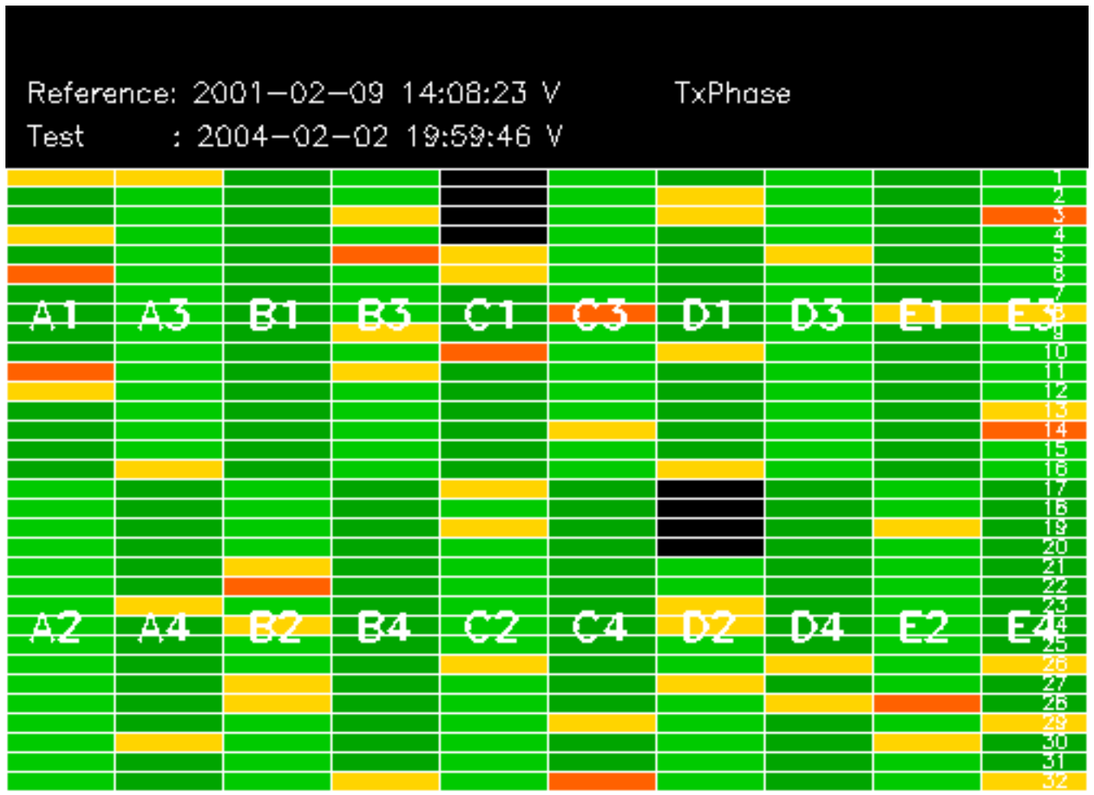
Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2004-02-02 19:59:46 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
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A2
A4
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C4
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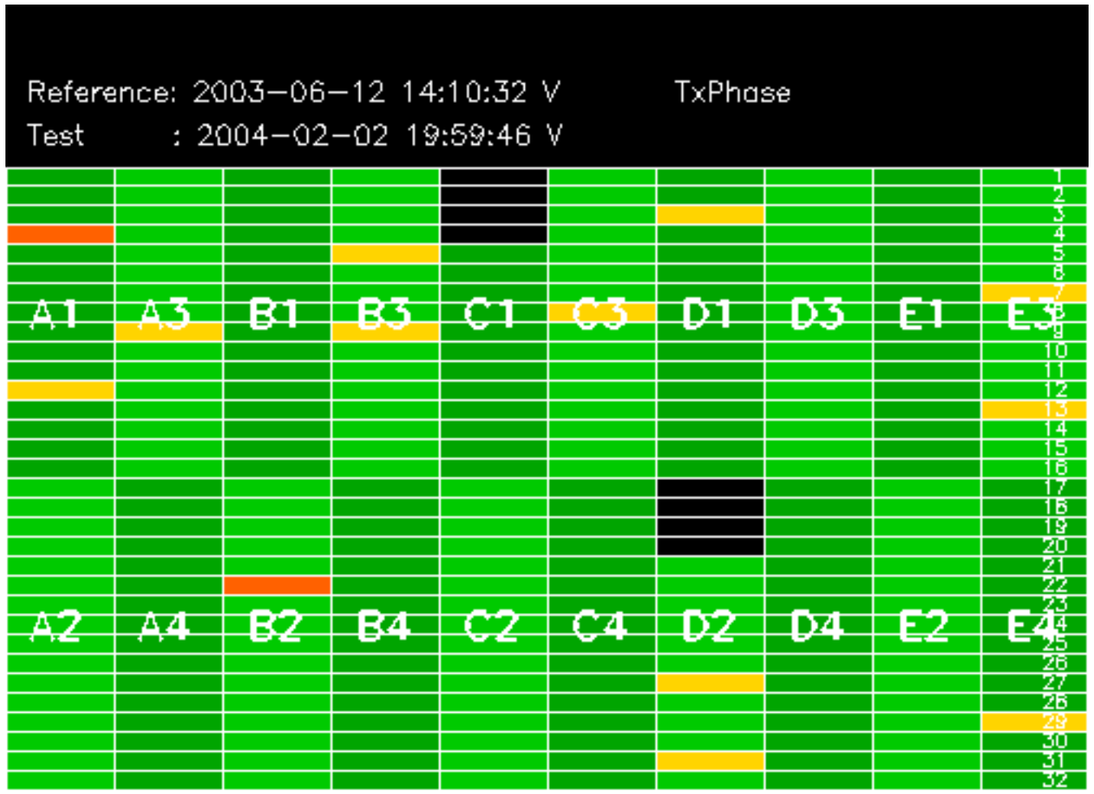
Reference: 2003-06-12 14:10:32 V
Test : 2004-02-02 19:59:46 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
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Planned Instrument Unavailabilities due to OCM manoeuvre from 04-Feb-2004 02:40:00 to 04-Feb-2004 08:01:00