REPORT OF 040320

last update on Mon Mar 22 15:42:21 GMT 2004

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

Instrument unavailability from 19-MAR-2003 12:03:47 to 15:00:30

2.2 - Browse Visual Inspection

No anomaly detected on visual inspection.

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 for which calibration offsets are to be applied.
No anomalies observed on available MS products:

Polarisation	Start Time
V	20040319 191350
H	20040319 191230

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

☒

4.2 - Cyclic statistics

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.614445	0.005969	0.048790
7	P1	-3.323998	0.010427	0.058664
11	P1	-4.795962	0.265057	0.490973
15	P1	-5.003971	0.040318	-0.016482
19	P1	-3.347167	0.073395	-0.065030
22	P1	-4.545870	0.070902	-0.064060
24	P1	-5.105628	0.091268	-0.023357
28	P1	-4.575544	0.076837	-0.092491

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.382696	0.081634	-0.026751
7	P2	-22.900803	0.129097	-0.014232
11	P2	-16.031542	0.158714	0.039619
15	P2	-7.179343	0.090206	0.019644
19	P2	-9.479440	0.167713	0.003638
22	P2	-17.680738	0.103400	0.051247
24	P2	-21.037176	0.113906	-0.038034
28	P2	-16.596392	0.087255	-0.000977

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.128279	0.002994	0.007485
7	P3	-8.128277	0.002994	0.007447
11	P3	-8.128271	0.002995	0.007399
15	P3	-8.128272	0.002995	0.007395
19	P3	-8.128279	0.002994	0.007440
22	P3	-8.128289	0.002994	0.007507
24	P3	-8.128299	0.002994	0.007582

28	P3	-8.128195	0.002993	0.008277

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	0.000471245
	stdev	2.34856e-07
MEAN Q	mean	0.000493675
	stdev	2.60106e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127440
	stdev	0.00112118
STDEV Q	mean	0.127673
	stdev	0.00113404

5.3 - Gain imbalance I/Q

6 - Doppler Analysis

6.1 - Unbiased Doppler Error

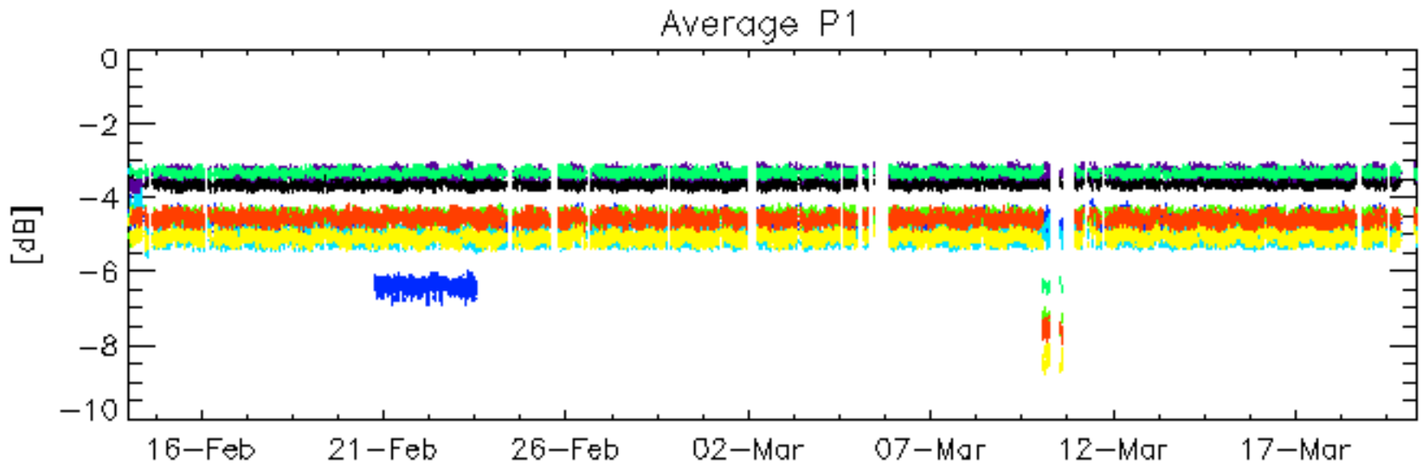
Evolution of unbiased Doppler error (Real - Expected)
Acsending
Descending

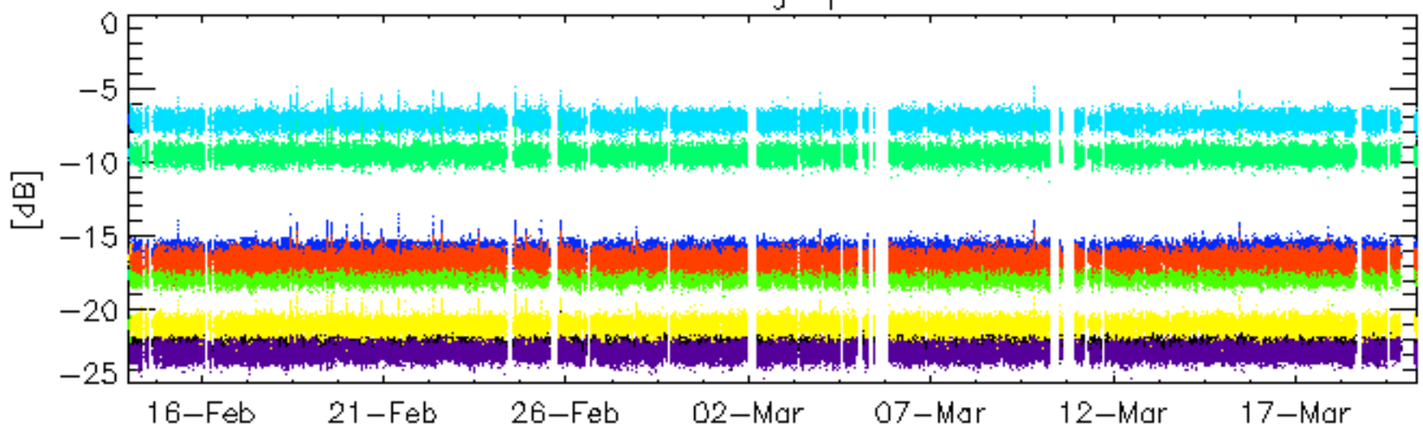
6.2 - Absolute Doppler

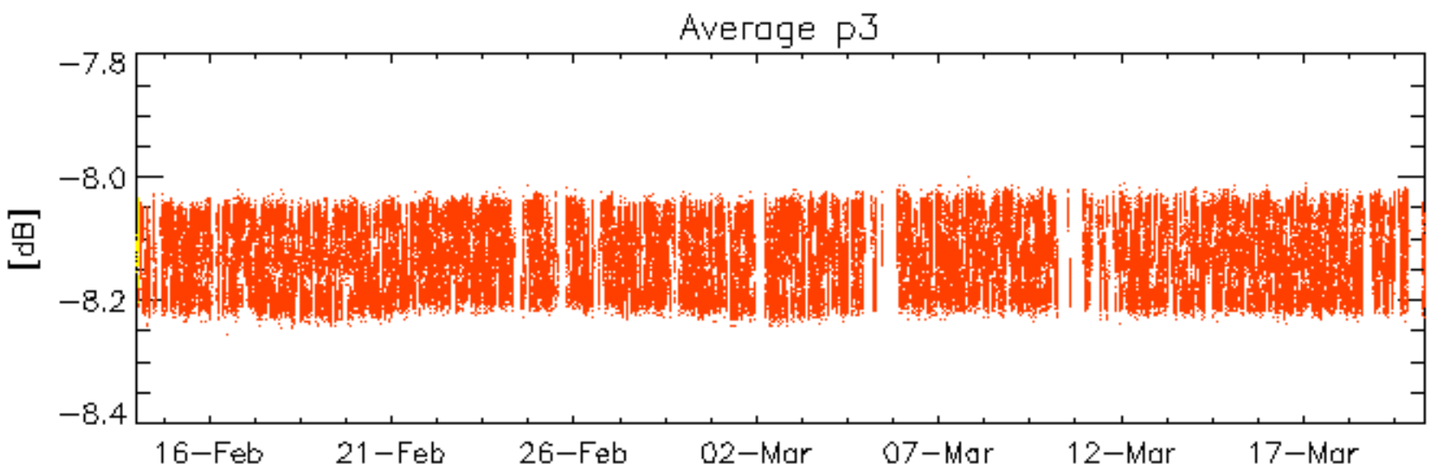
Evolution of Absolute Doppler
Acsending
Descending

6.3 - Doppler evolution versus ANX

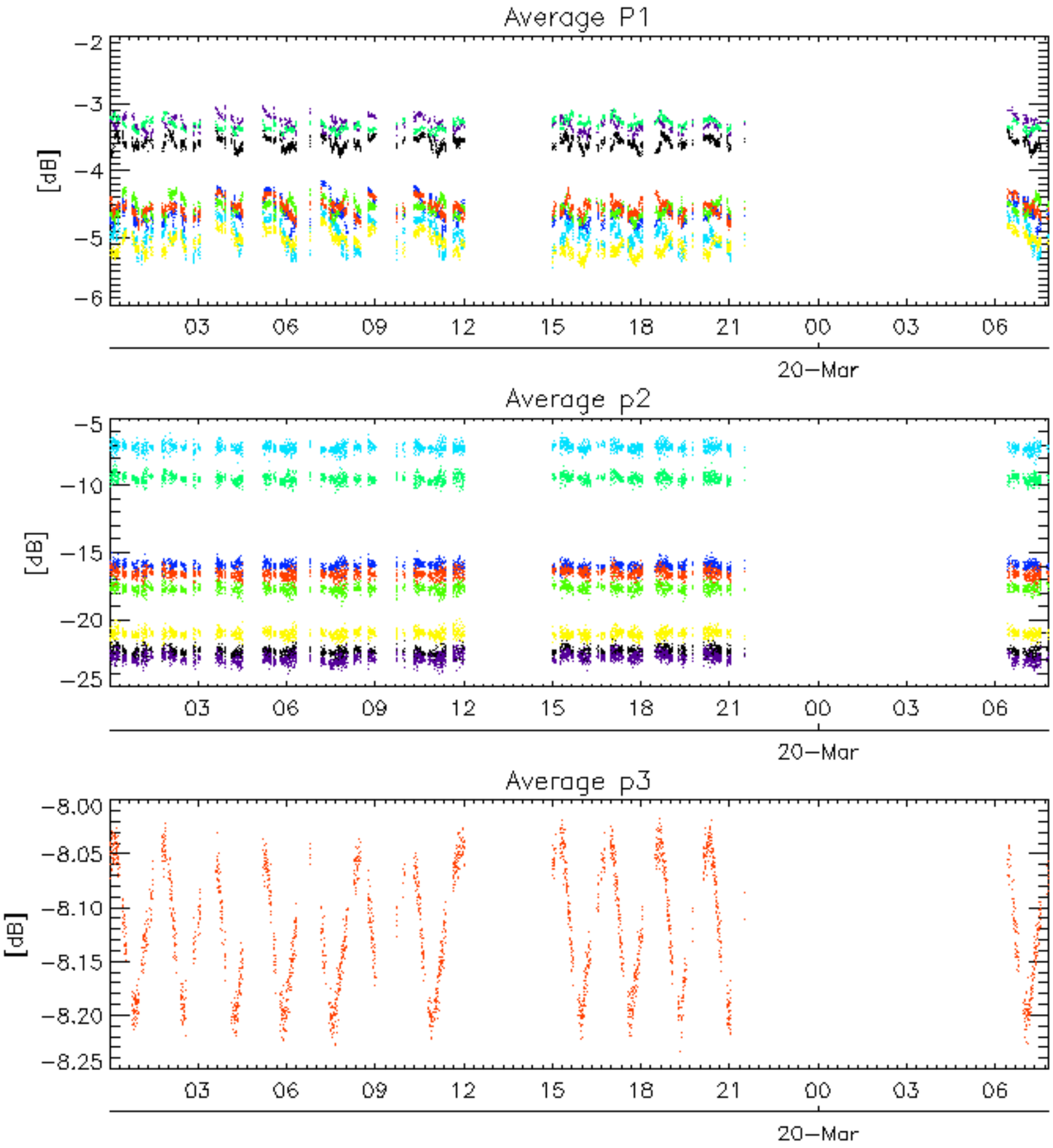
Evolution Doppler error versus ANX
⊠


Average P1
[dB]
0
−2
−4
−6
−8
−10
16−Feb
21−Feb
26−Feb
02−Mar
07−Mar
12−Mar
17−Mar


Average p2
[dB]
0
−5
−10
−15
−20
−25
16−Feb
21−Feb
26−Feb
02−Mar
07−Mar
12−Mar
17−Mar

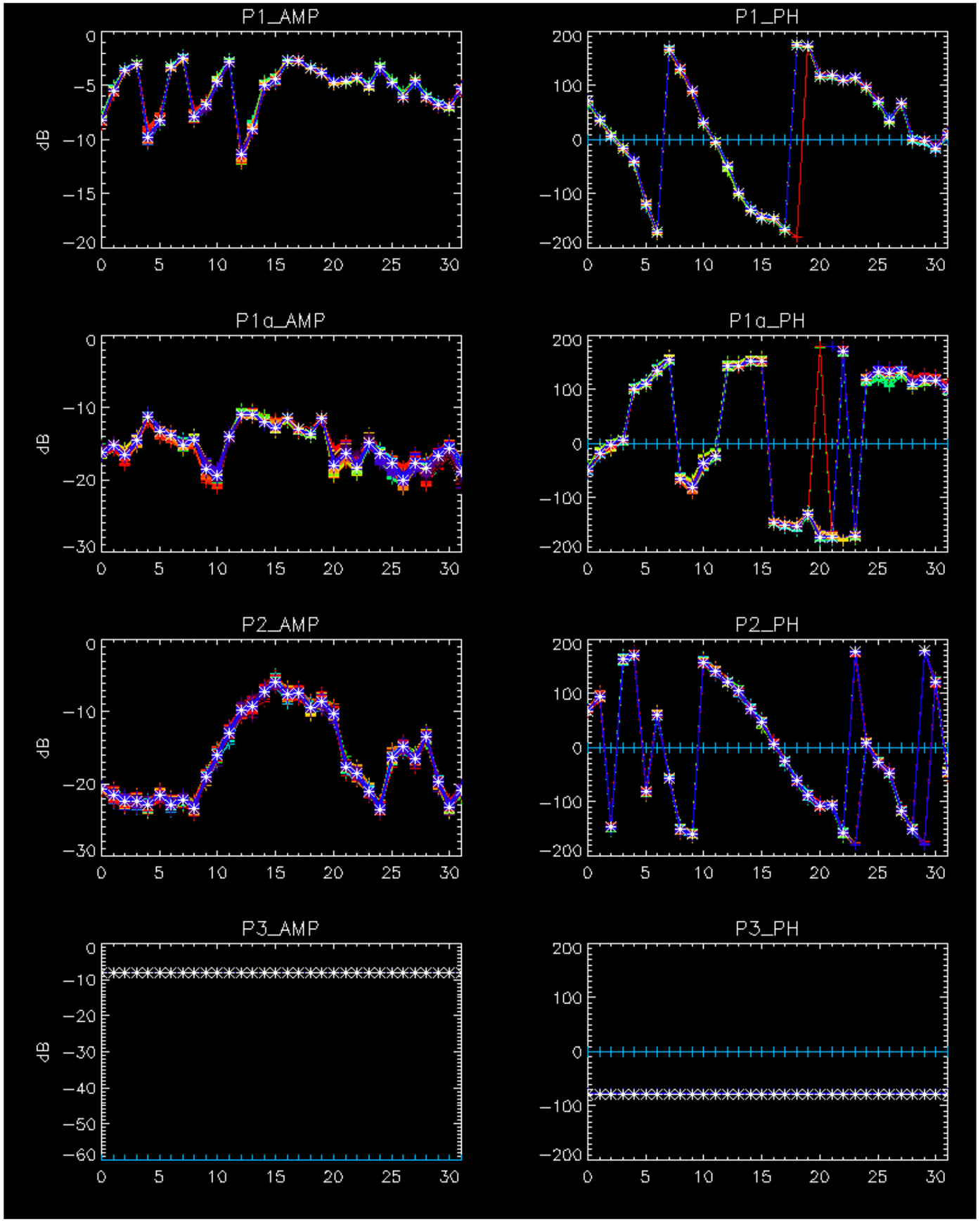

Average p3
[dB]
−7.8
−8.0
−8.2
−8.4
16−Feb
21−Feb
26−Feb
02−Mar
07−Mar
12−Mar
17−Mar


rows: 3 7 11 15 19 22 24 28


Average P1
[dB]
−2
−3
−4
−5
−6
03
06
09
12
15
18
21
00
03
06
20−Mar
Average p2
[dB]
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
03
06
20−Mar
Average p3
[dB]
−8.00
−8.05
−8.10
−8.15
−8.20
−8.25
03
06
09
12
15
18
21
00
03
06
20−Mar
rows: 3 7 11 15 19 22 24 28

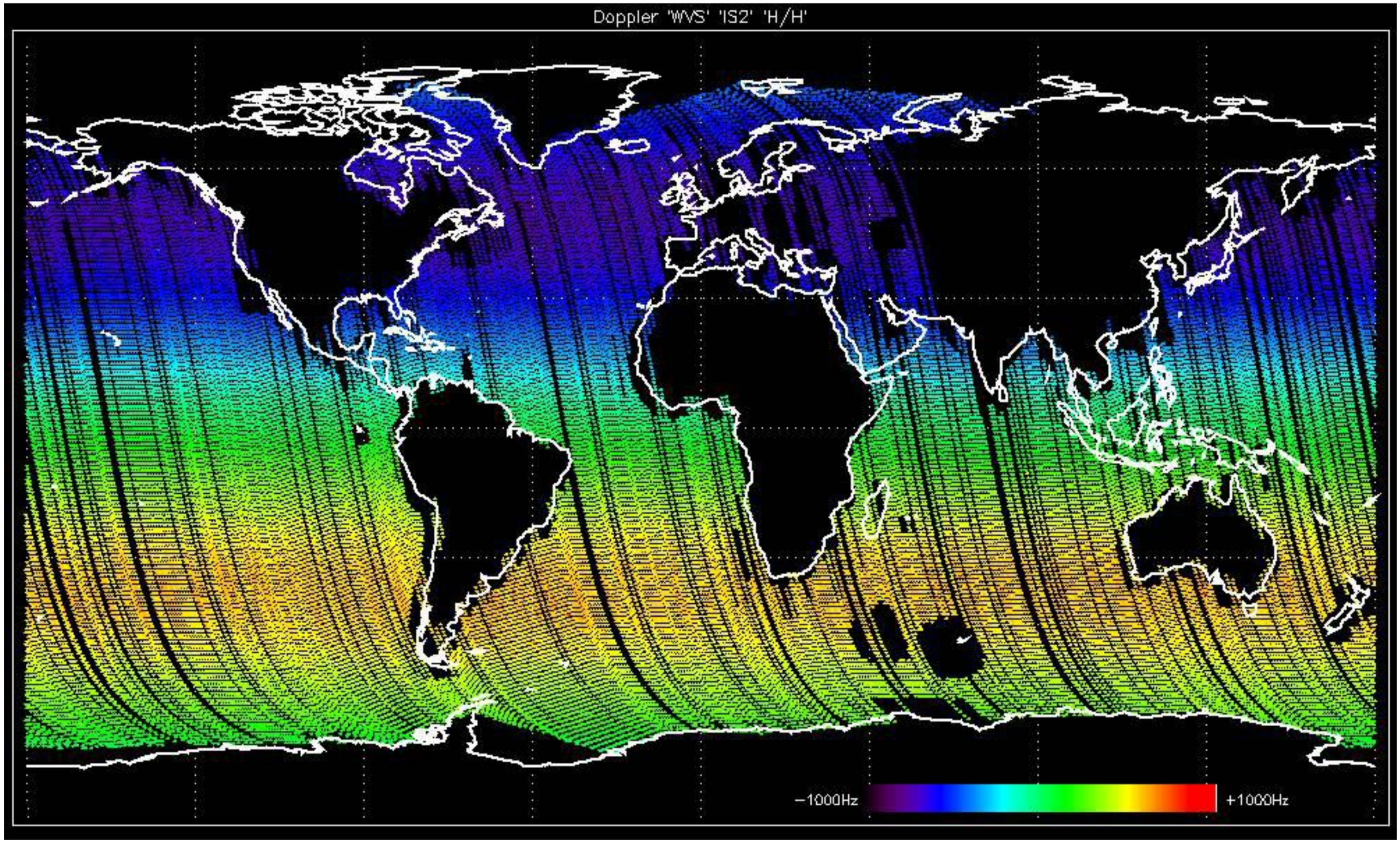
No anomaly detected on visual inspection.

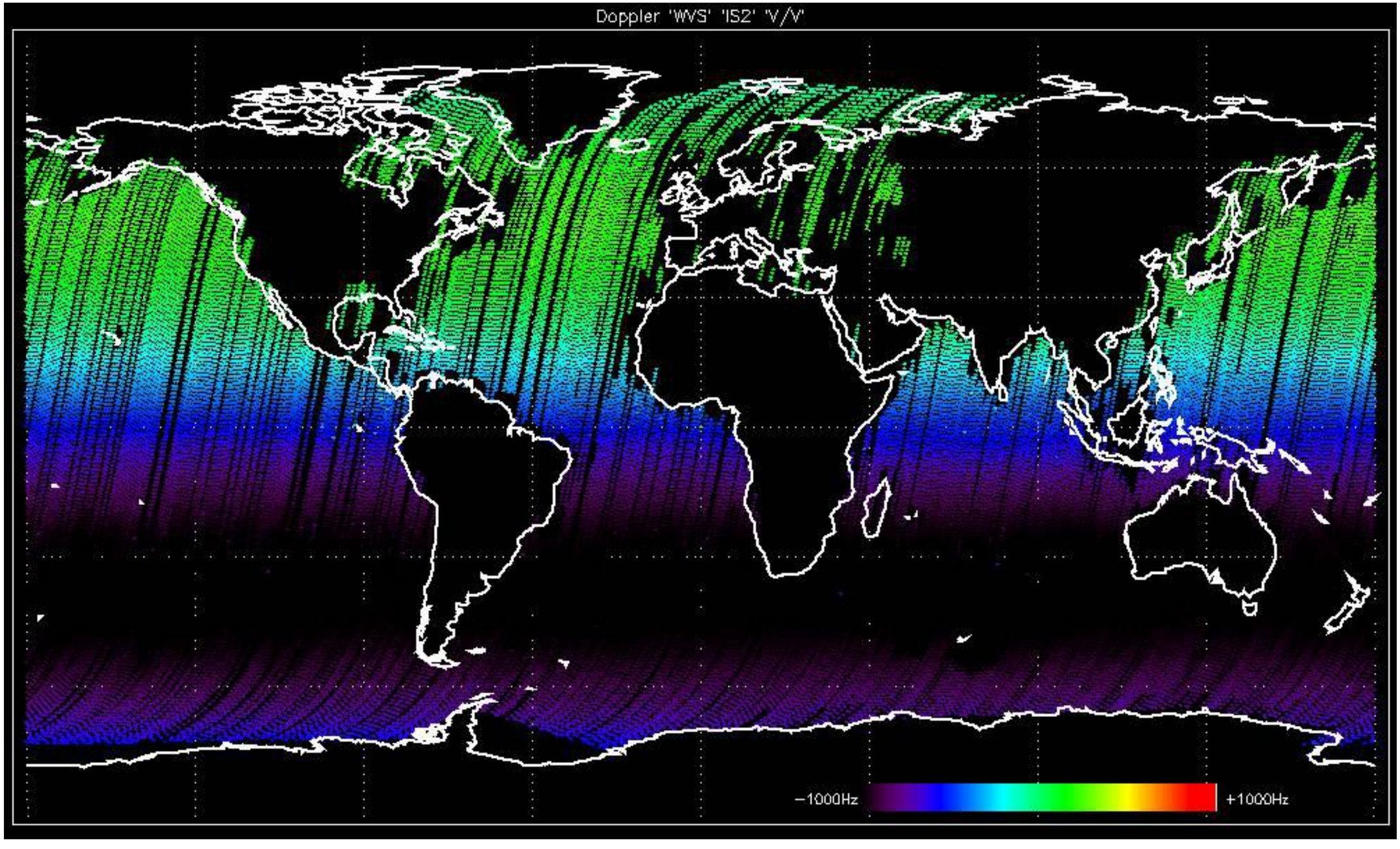
No anomalies observed.

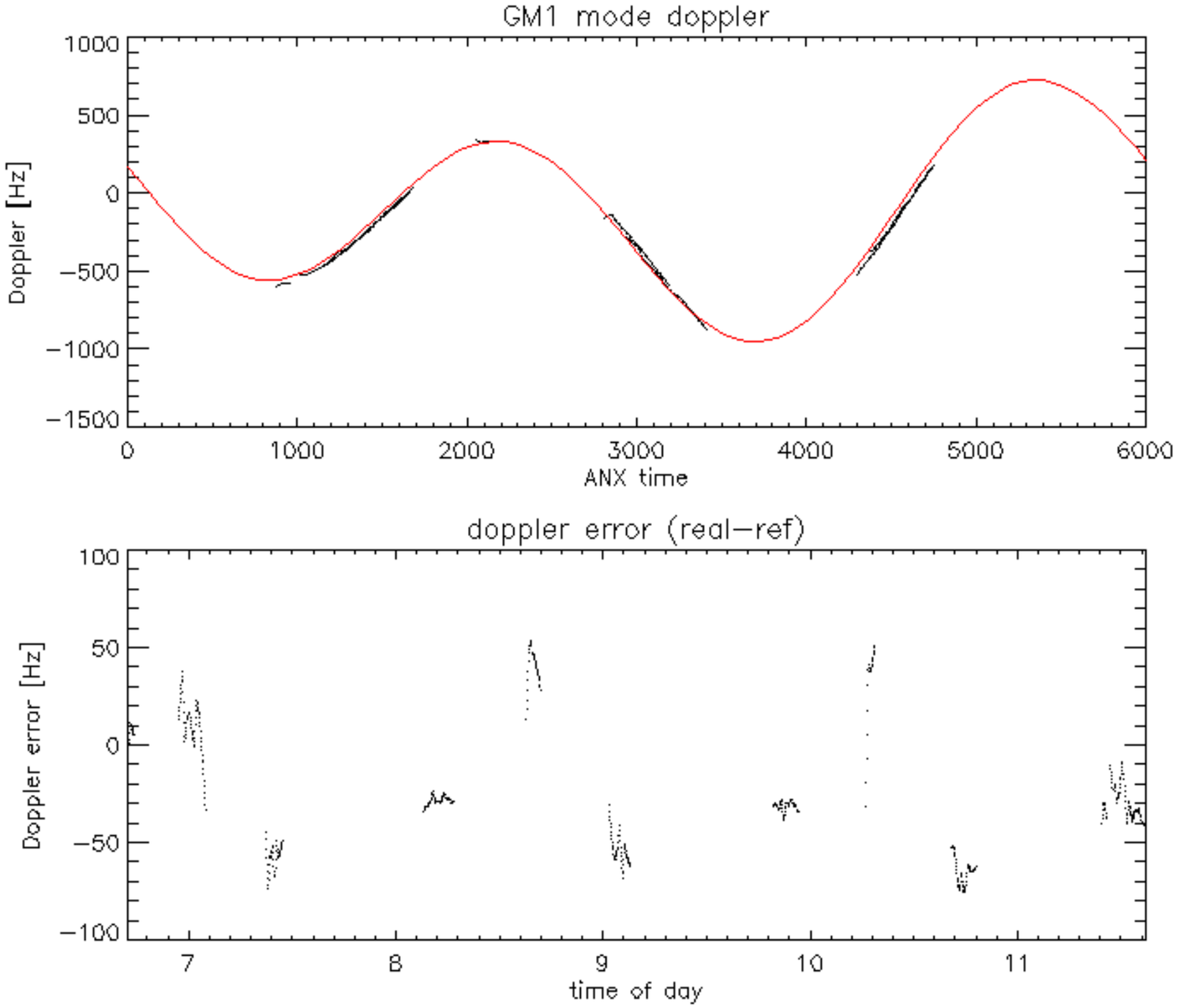

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
0
−10
−20
−30
−40
−50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

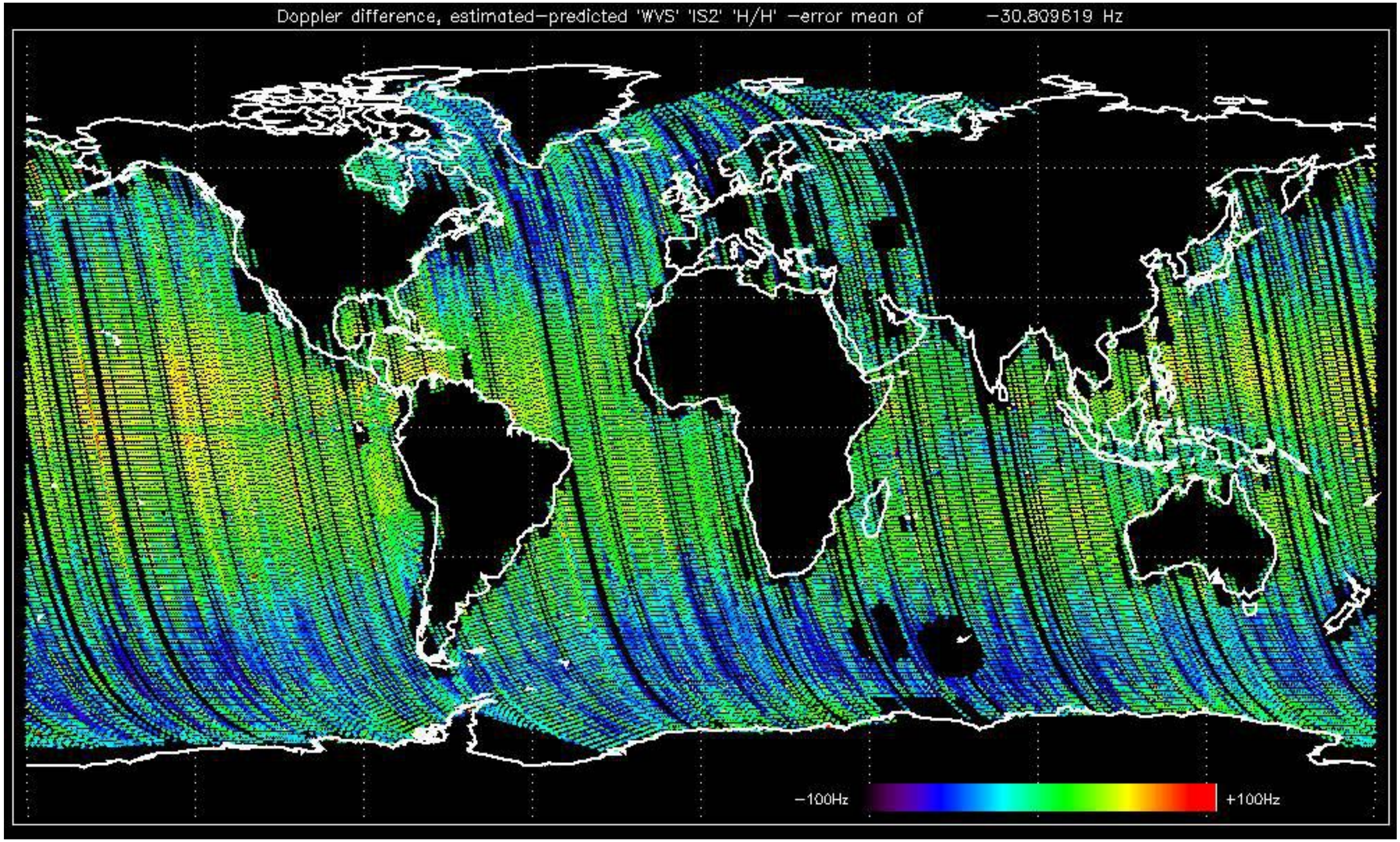
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

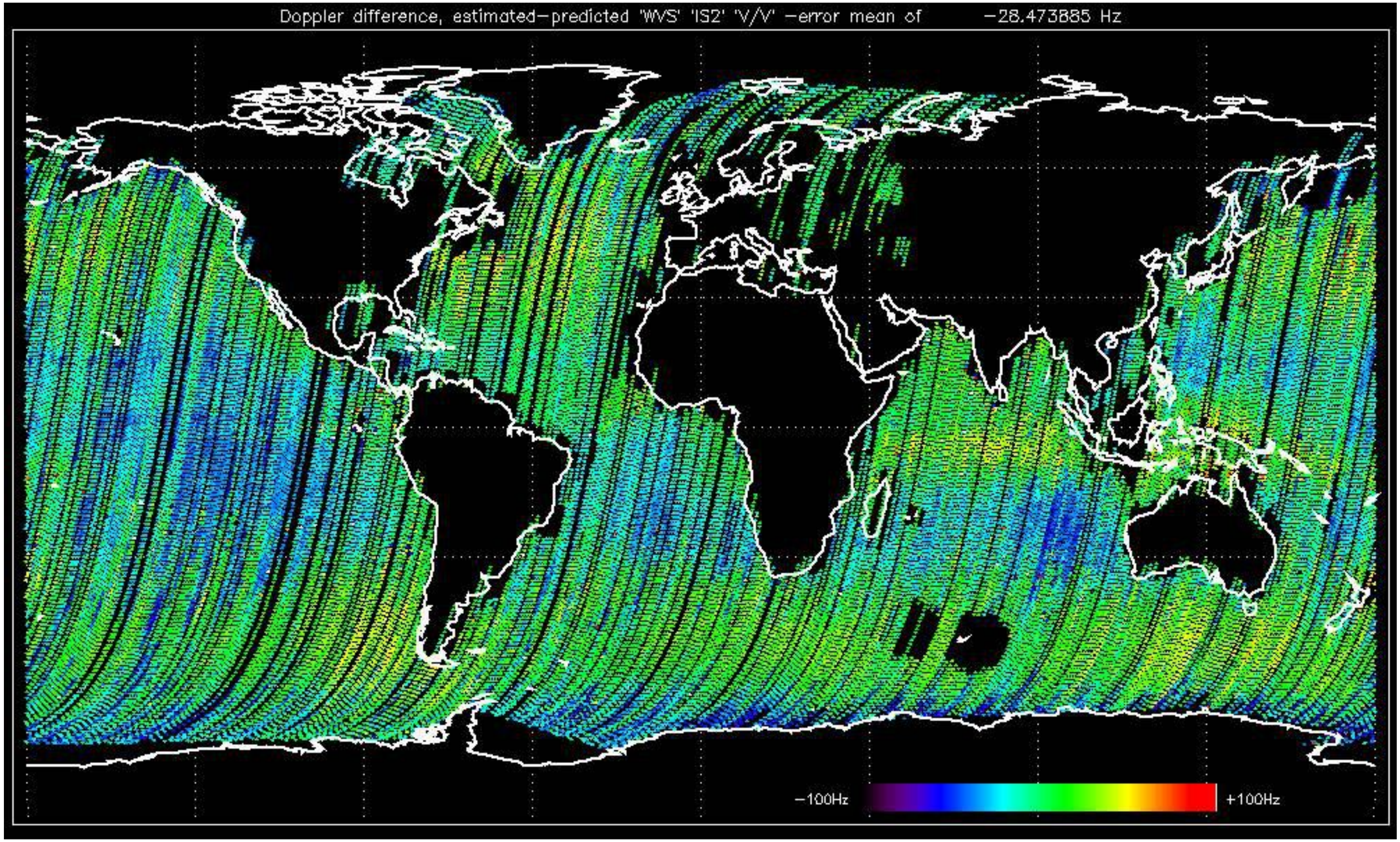
Preliminary report.The data is not yet controled


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


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

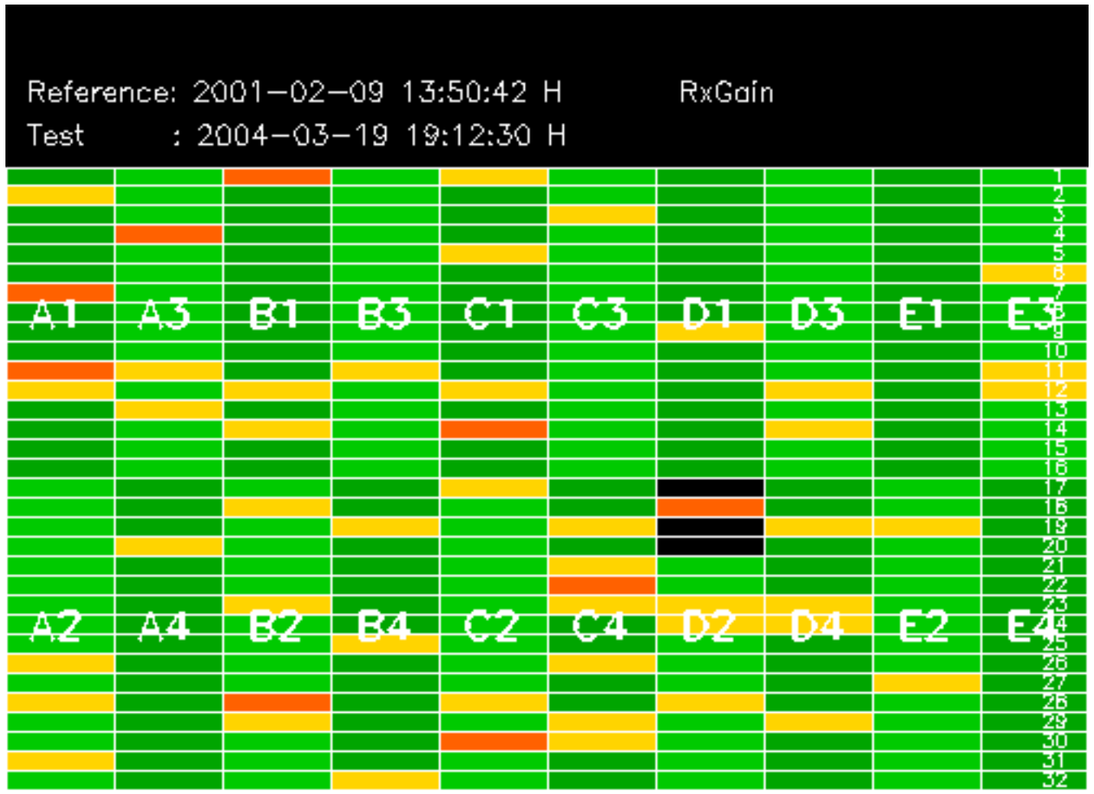

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
ANX time
doppler error (real−ref)
Doppler error [Hz]
100
50
0
−50
−100
7
8
9
10
11
time of day

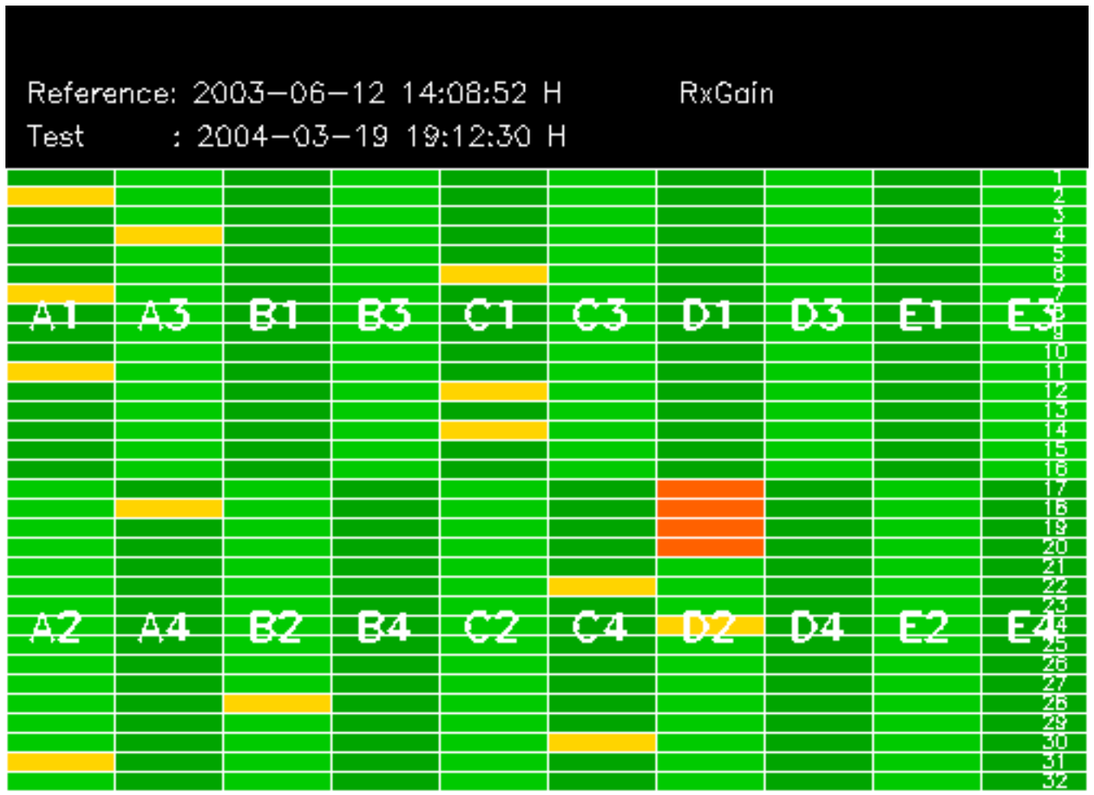

Doppler difference, estimated-predicted 'WVS' 'IS2' 'H/H' -error mean of -30.809619 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' 'V/V' −error mean of −28.473885 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 for 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
RxGain
Test : 2004-03-19 19:12:30 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 : 2004-03-19 19:12:30 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
4
5
6
7
8
9
10
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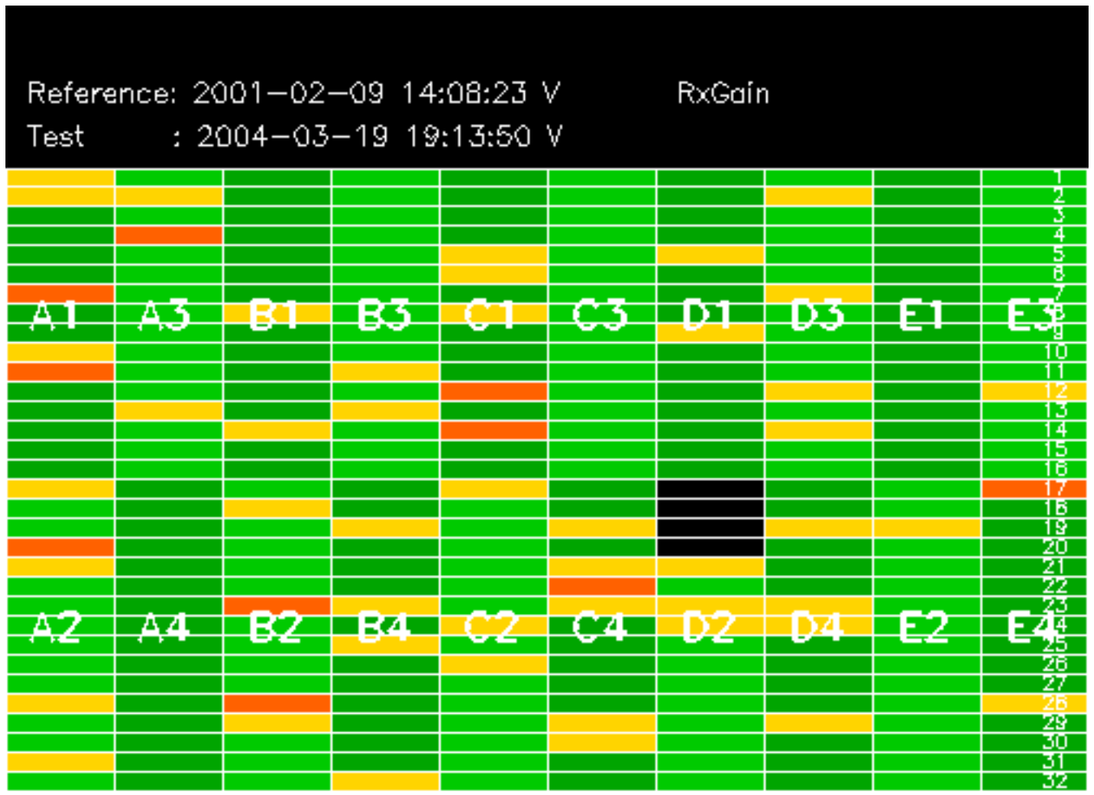
Reference: 2001-02-09 14:08:23 V
Test : 2004-03-19 19:13:50 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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3
4
5
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7
8
9
10
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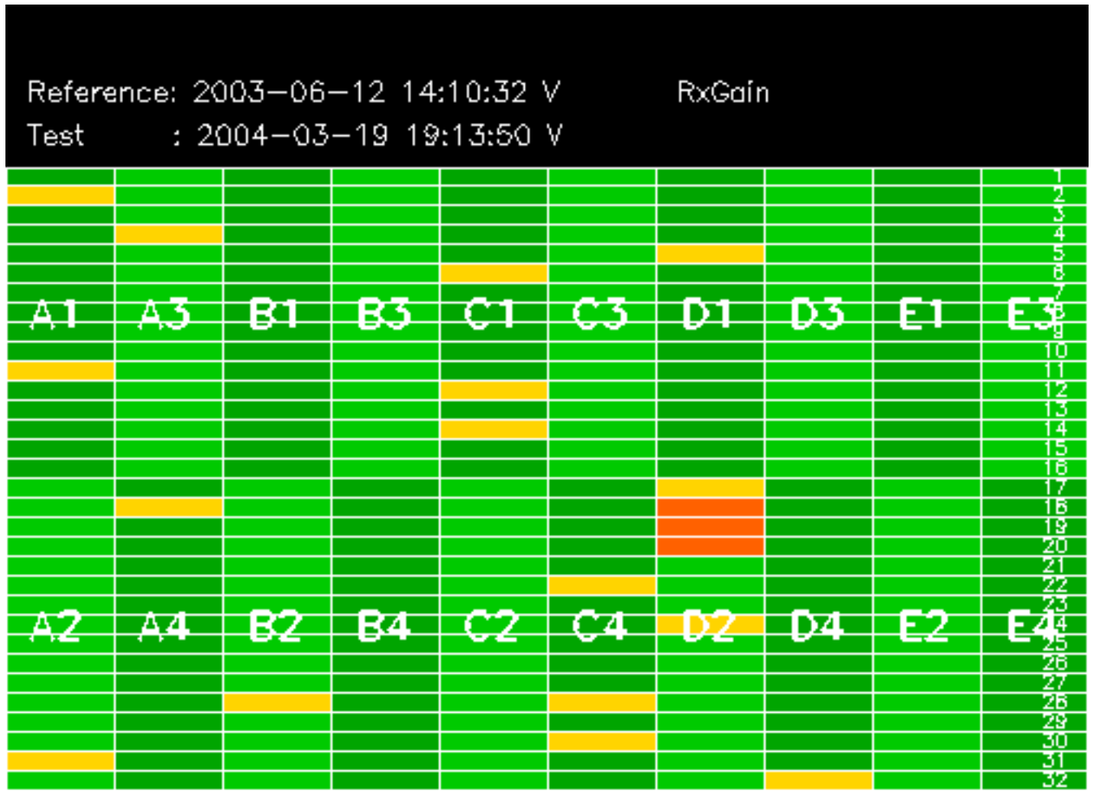
Reference: 2003-06-12 14:10:32 V
Test : 2004-03-19 19:13:50 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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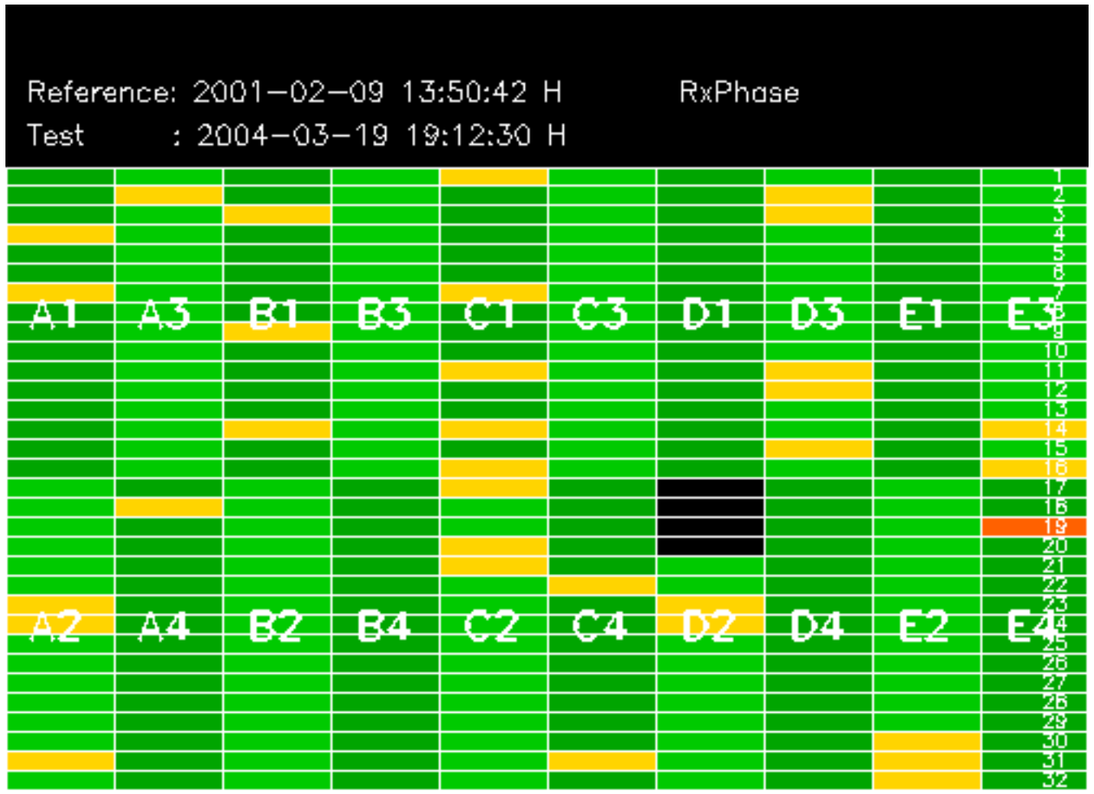
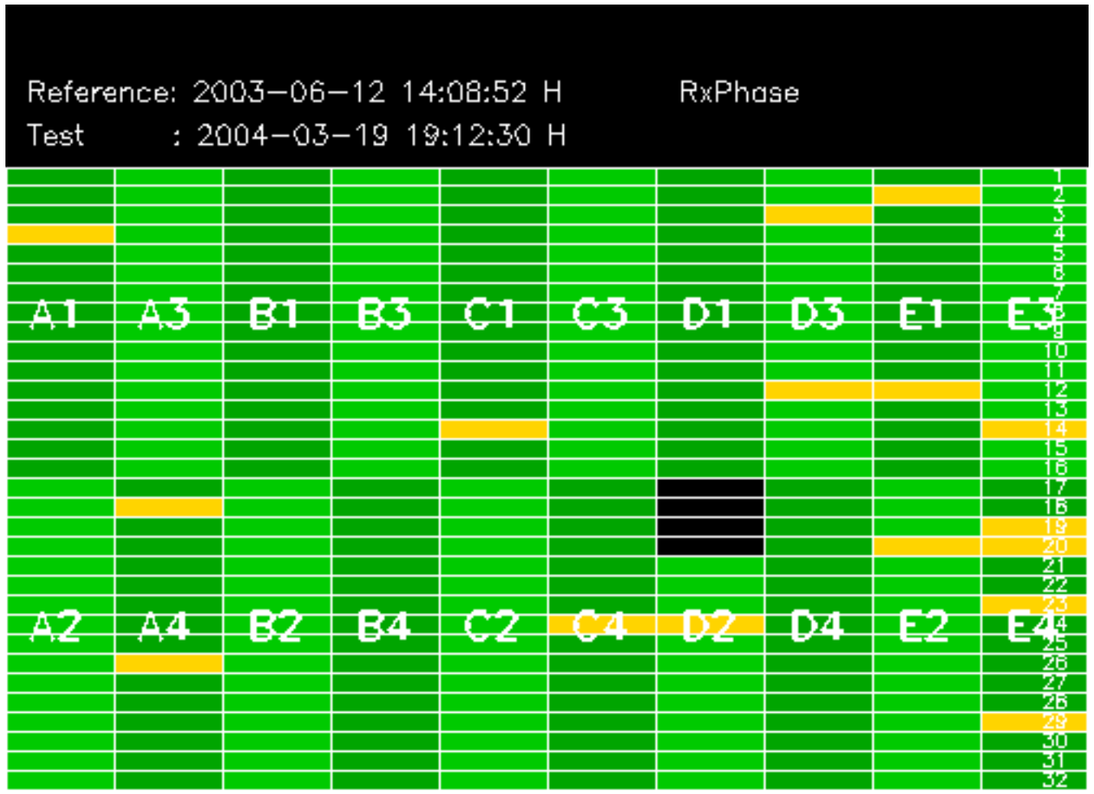

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-03-19 19:12:30 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2004-03-19 19:12:30 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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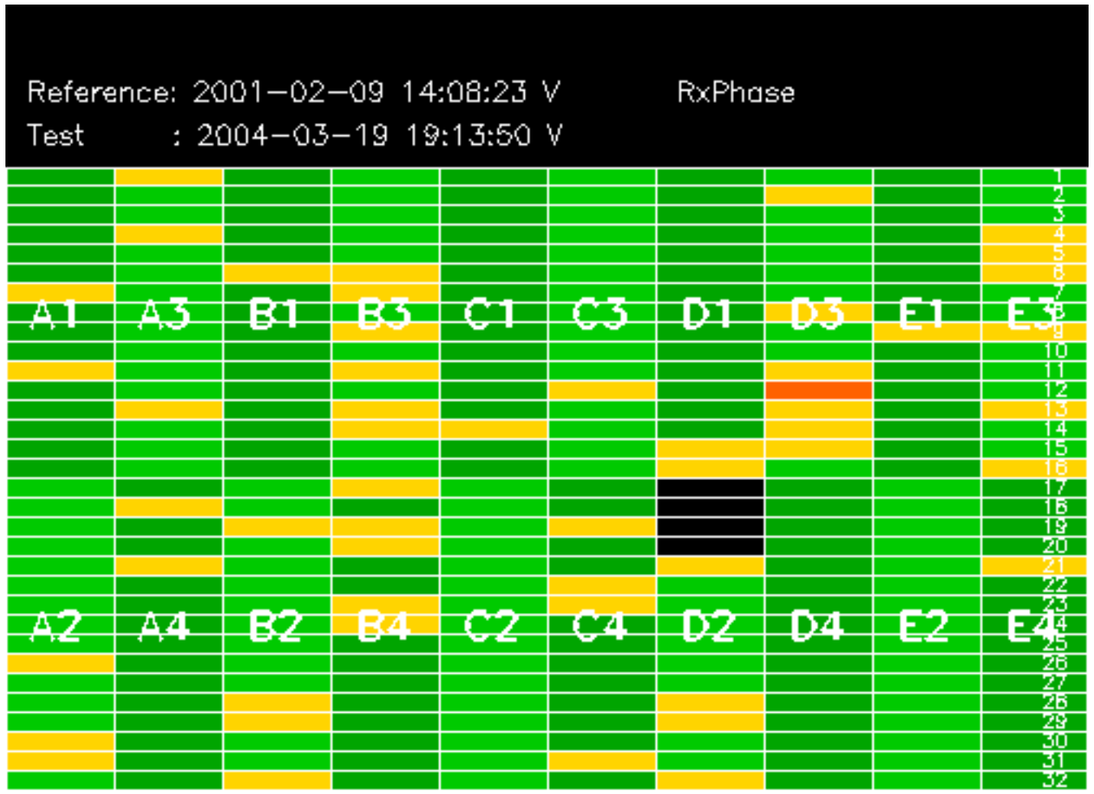
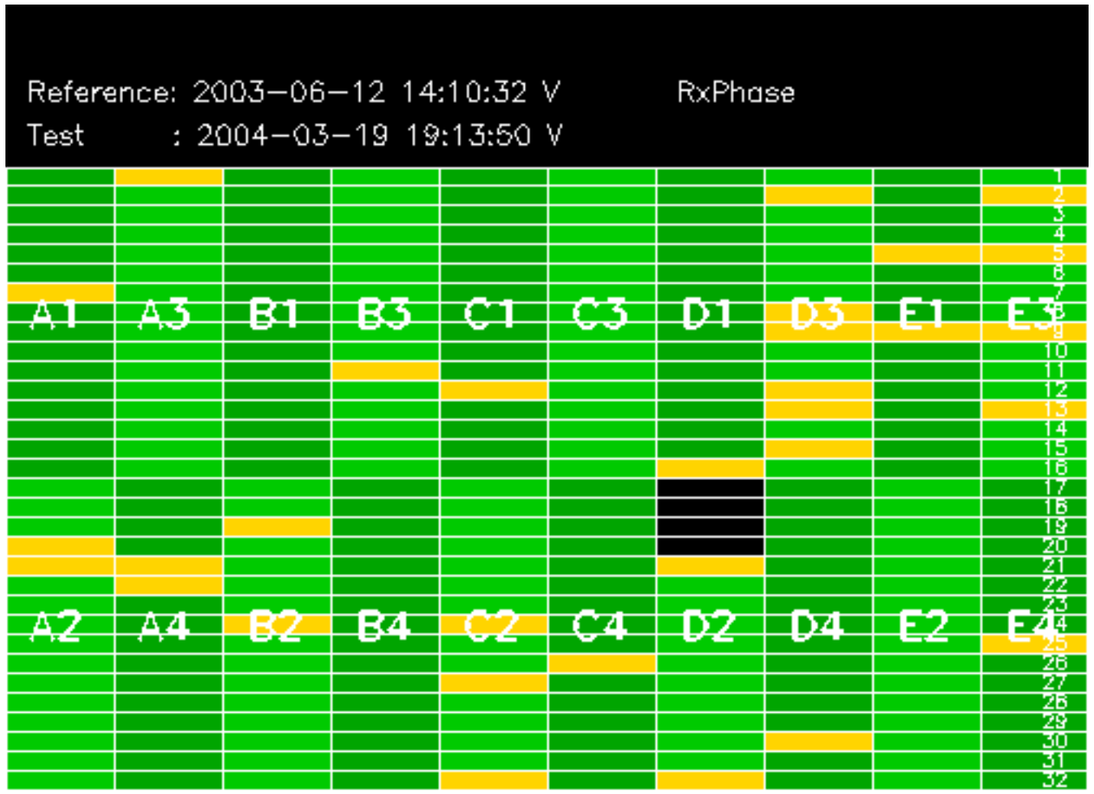

Reference: 2001-02-09 14:08:23 V
Test : 2004-03-19 19:13:50 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-03-19 19:13:50 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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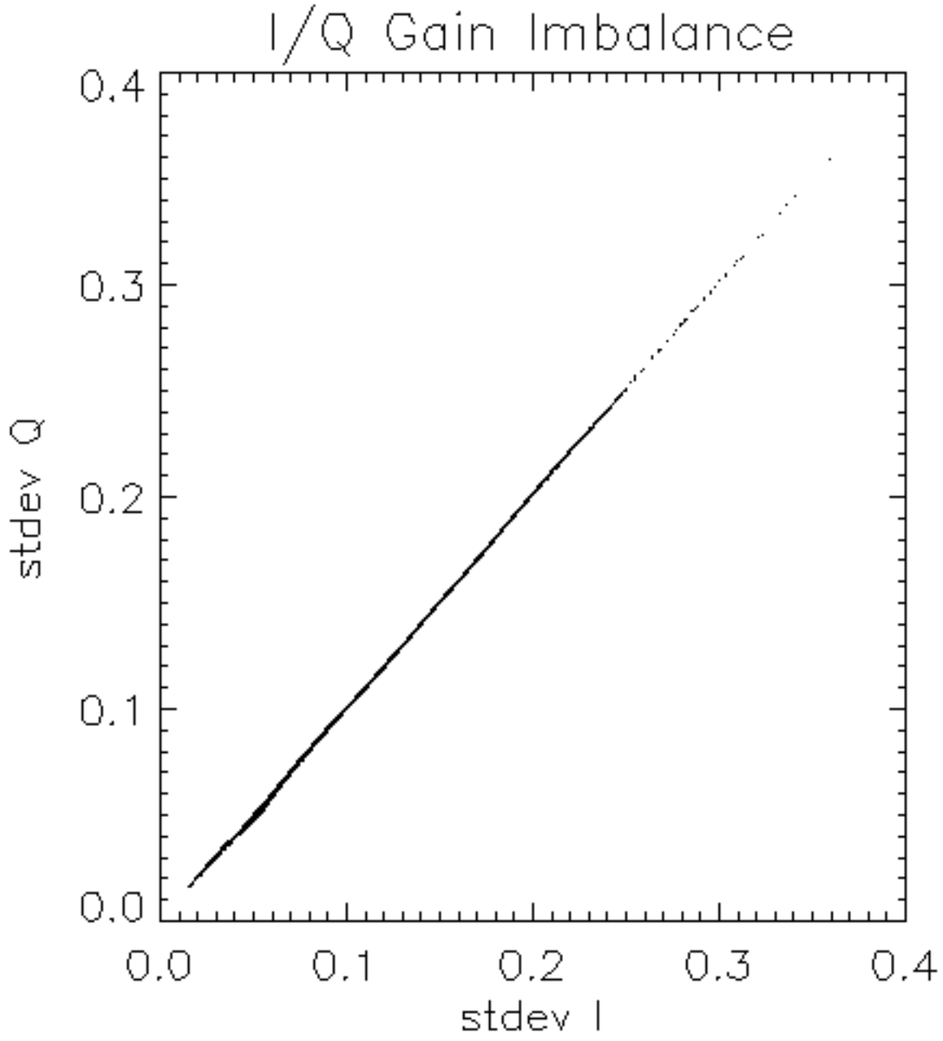
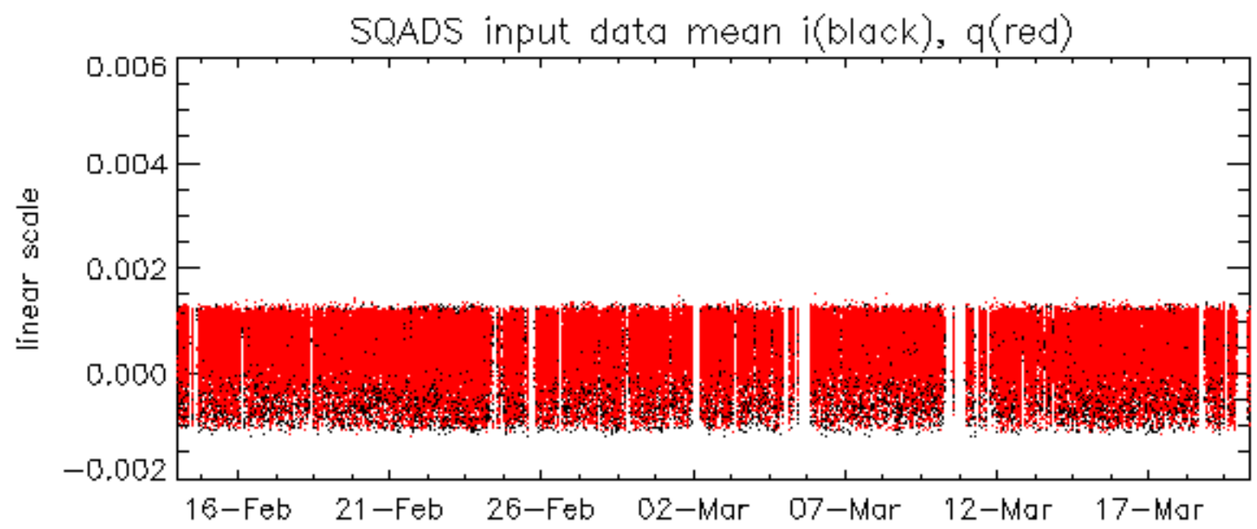
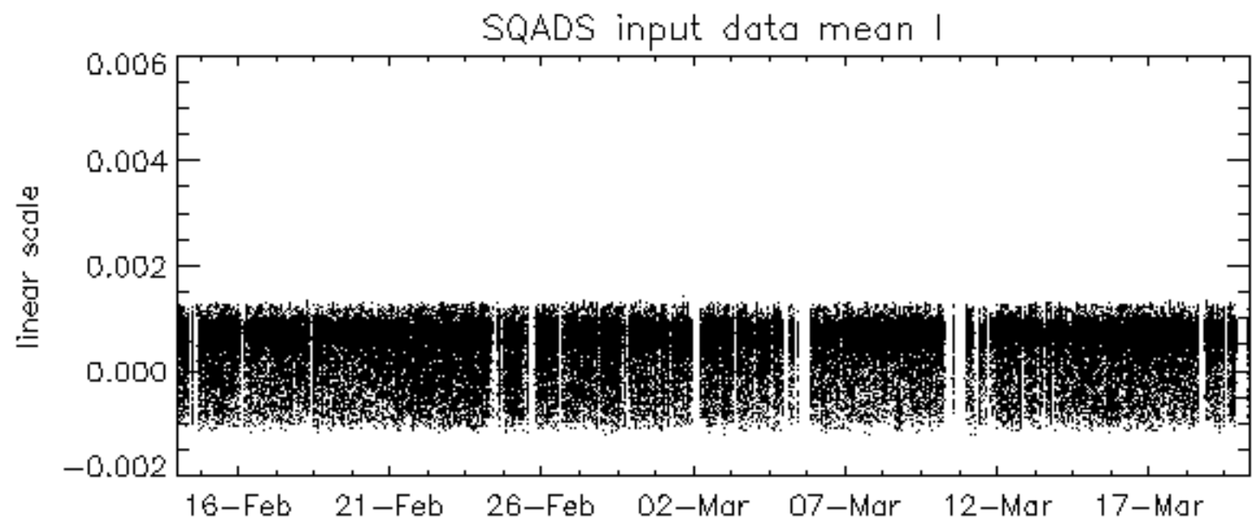
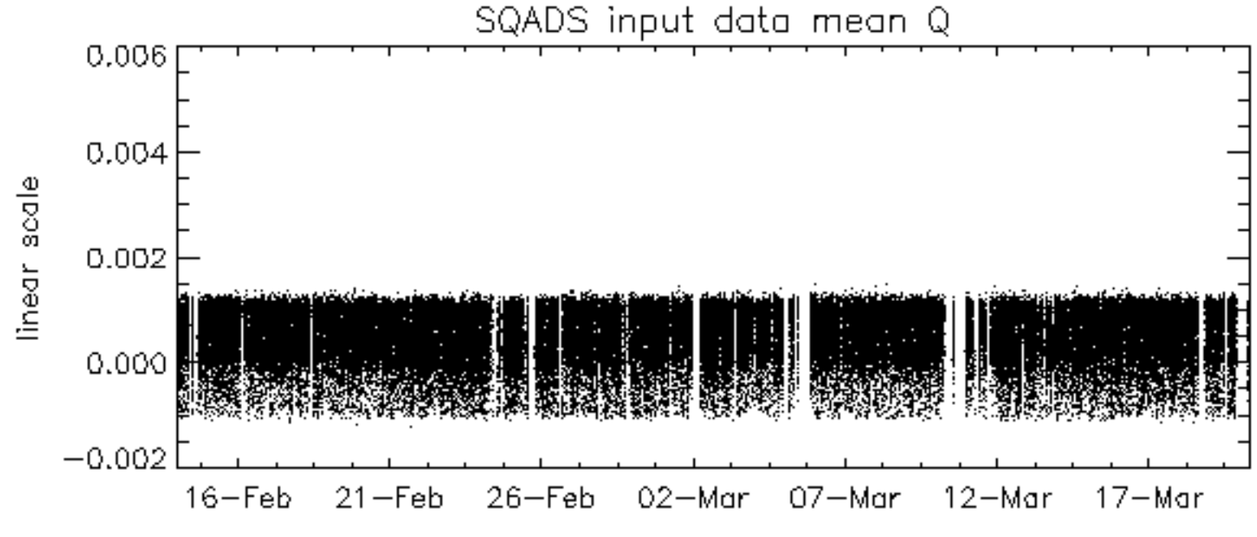
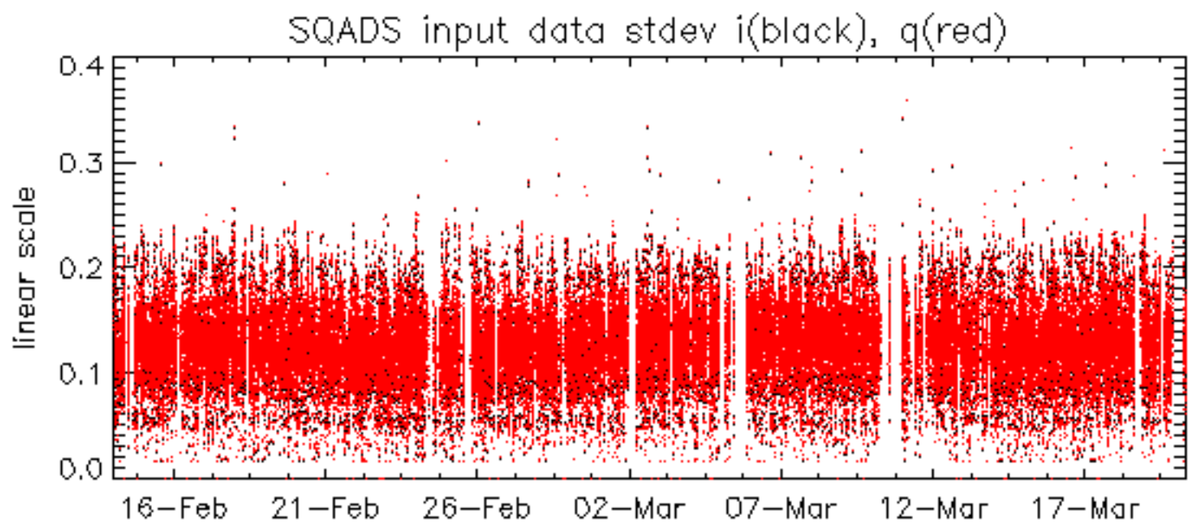
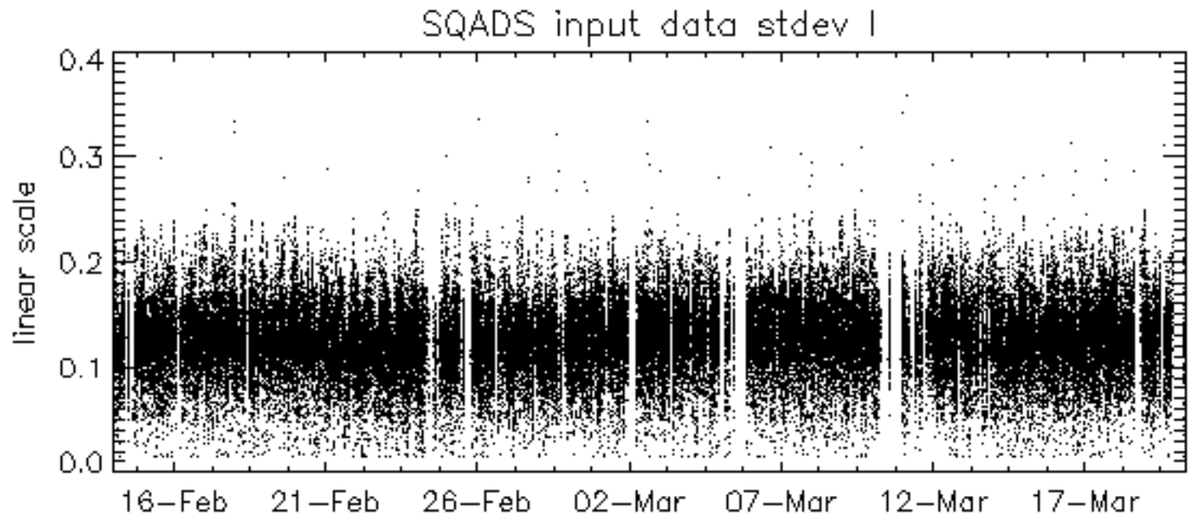

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

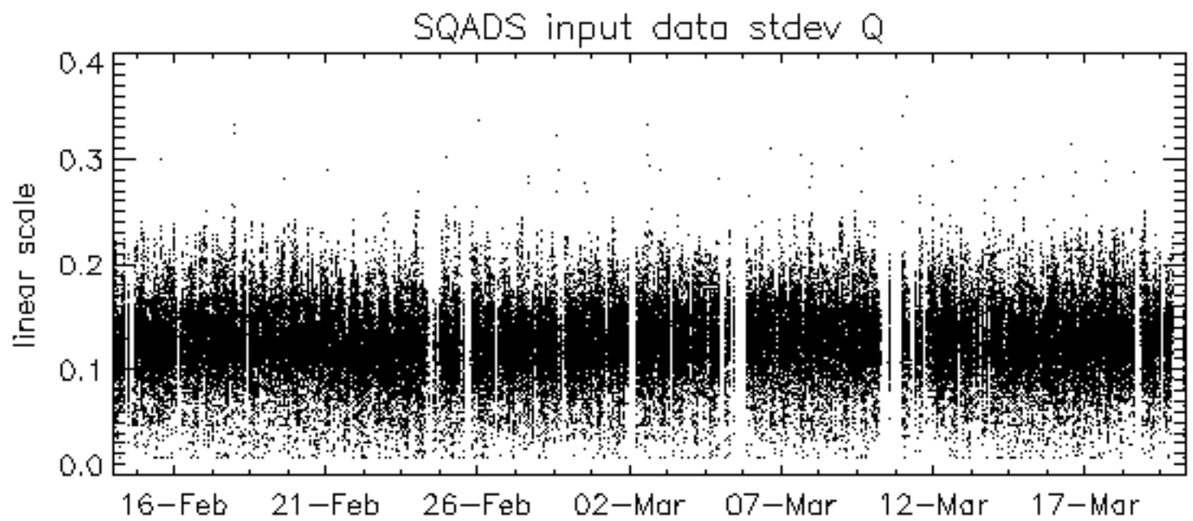

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Feb
21−Feb
26−Feb
02−Mar
07−Mar
12−Mar
17−Mar

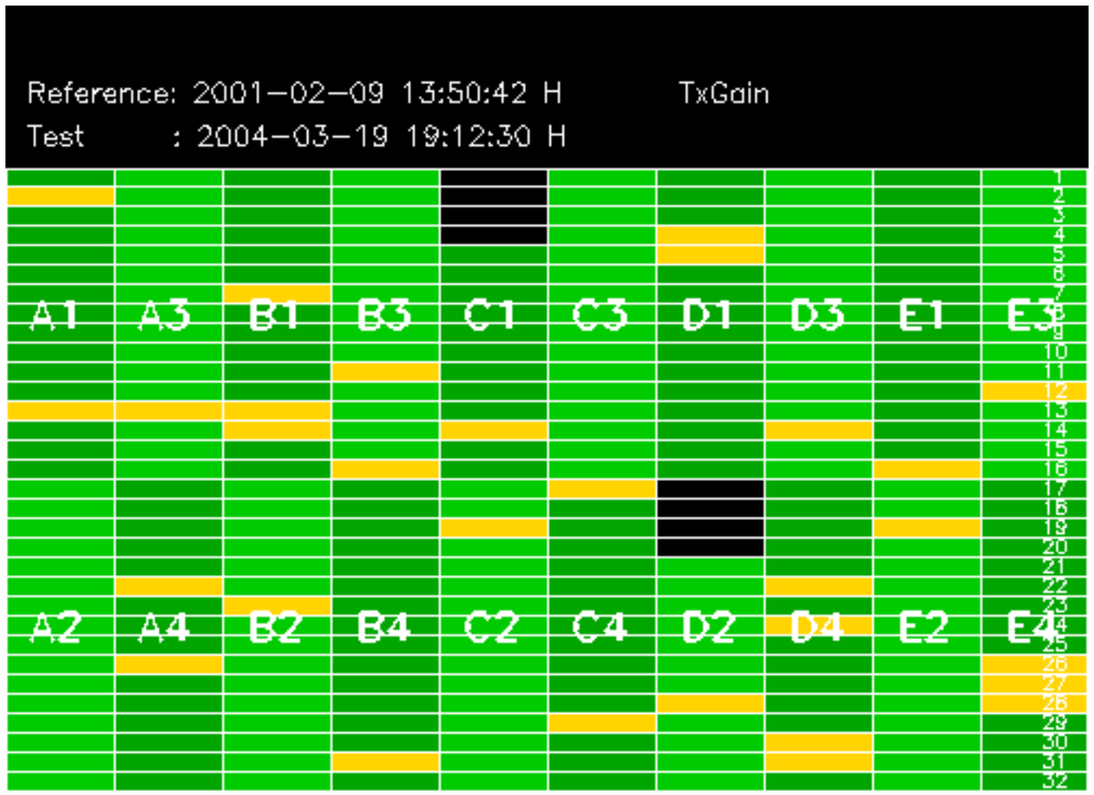

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Feb
21−Feb
26−Feb
02−Mar
07−Mar
12−Mar
17−Mar

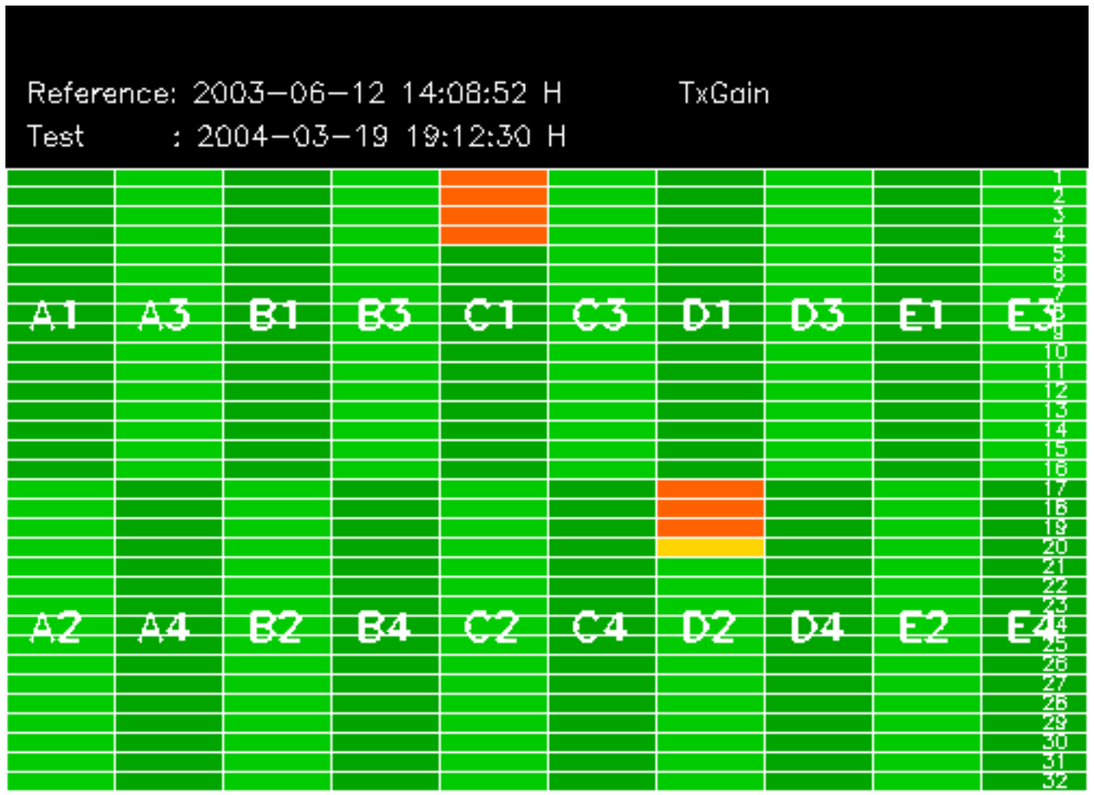

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Feb
21−Feb
26−Feb
02−Mar
07−Mar
12−Mar
17−Mar


SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
16−Feb
21−Feb
26−Feb
02−Mar
07−Mar
12−Mar
17−Mar


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
16−Feb
21−Feb
26−Feb
02−Mar
07−Mar
12−Mar
17−Mar


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
16−Feb
21−Feb
26−Feb
02−Mar
07−Mar
12−Mar
17−Mar


Reference: 2001-02-09 13:50:42 H
Test : 2004-03-19 19:12:30 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 : 2004-03-19 19:12:30 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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8
9
10
11
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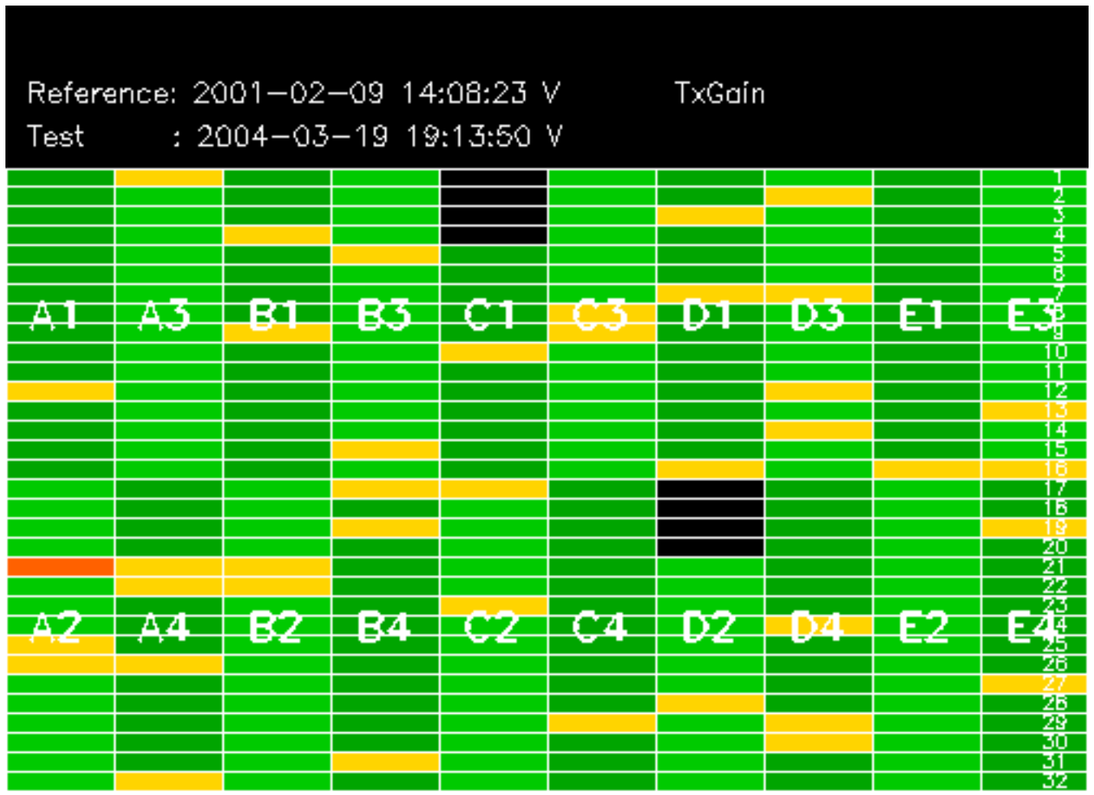
Reference: 2001-02-09 14:08:23 V
Test : 2004-03-19 19:13:50 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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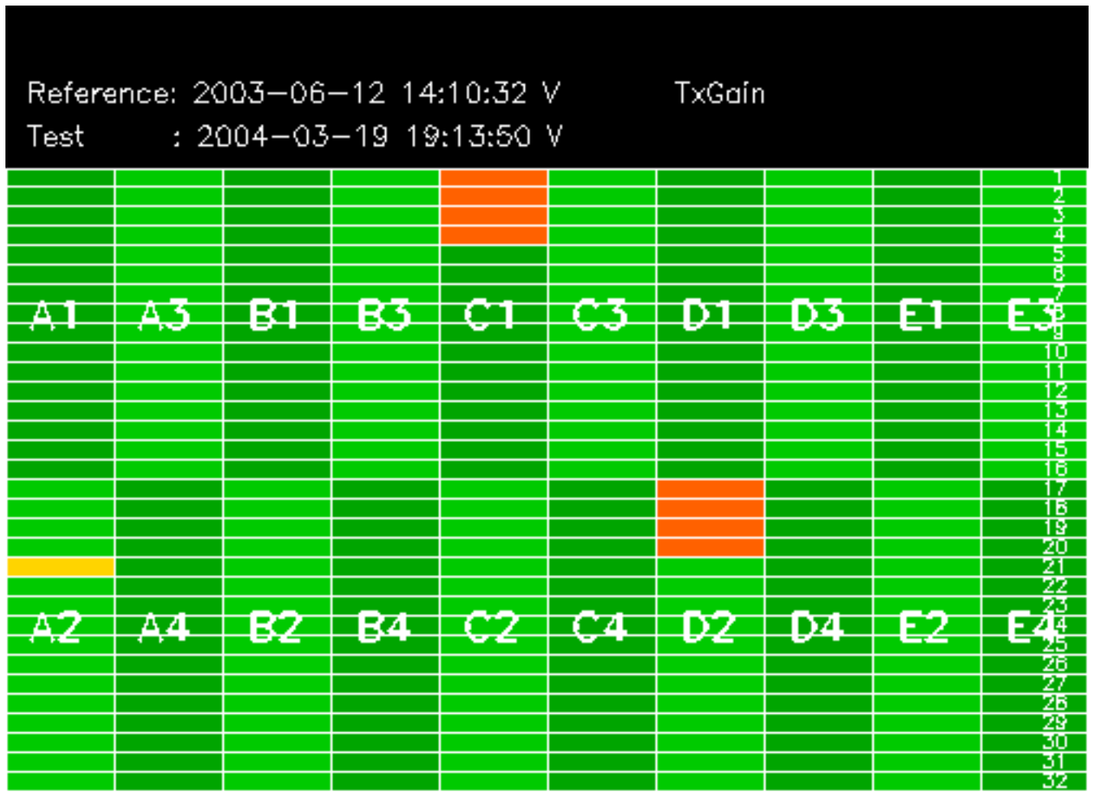
Reference: 2003-06-12 14:10:32 V
Test : 2004-03-19 19:13:50 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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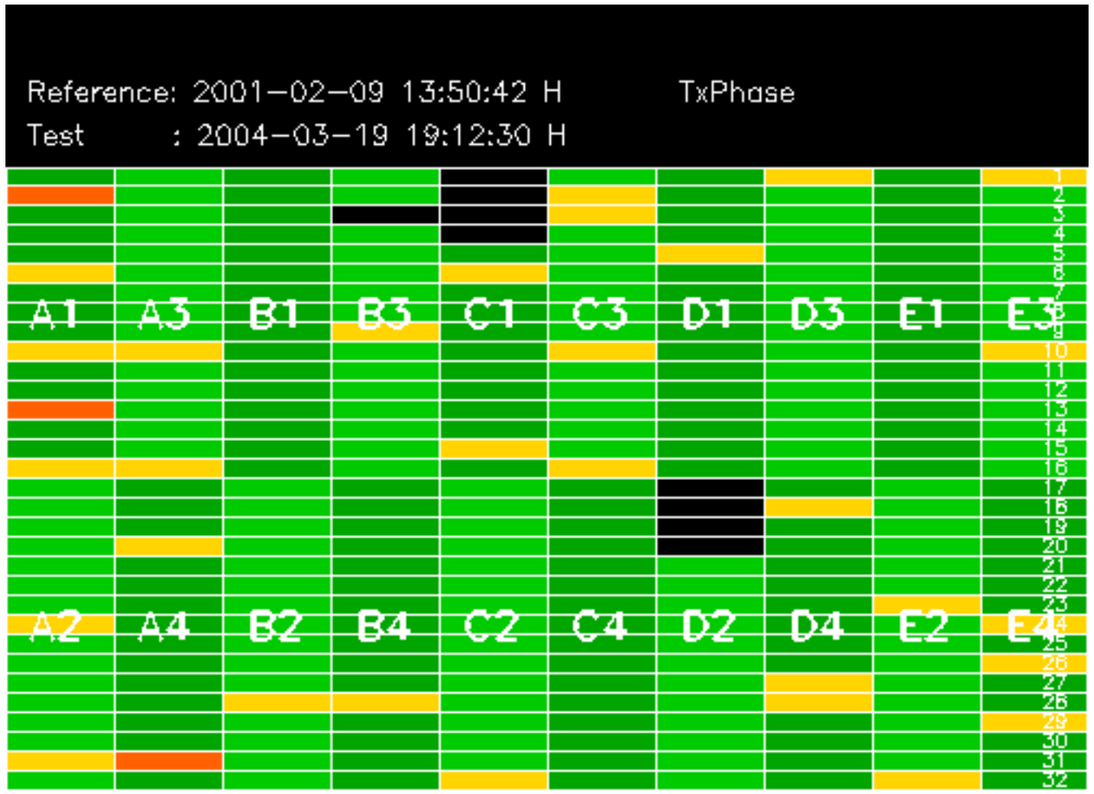
Reference: 2001-02-09 13:50:42 H
Test : 2004-03-19 19:12:30 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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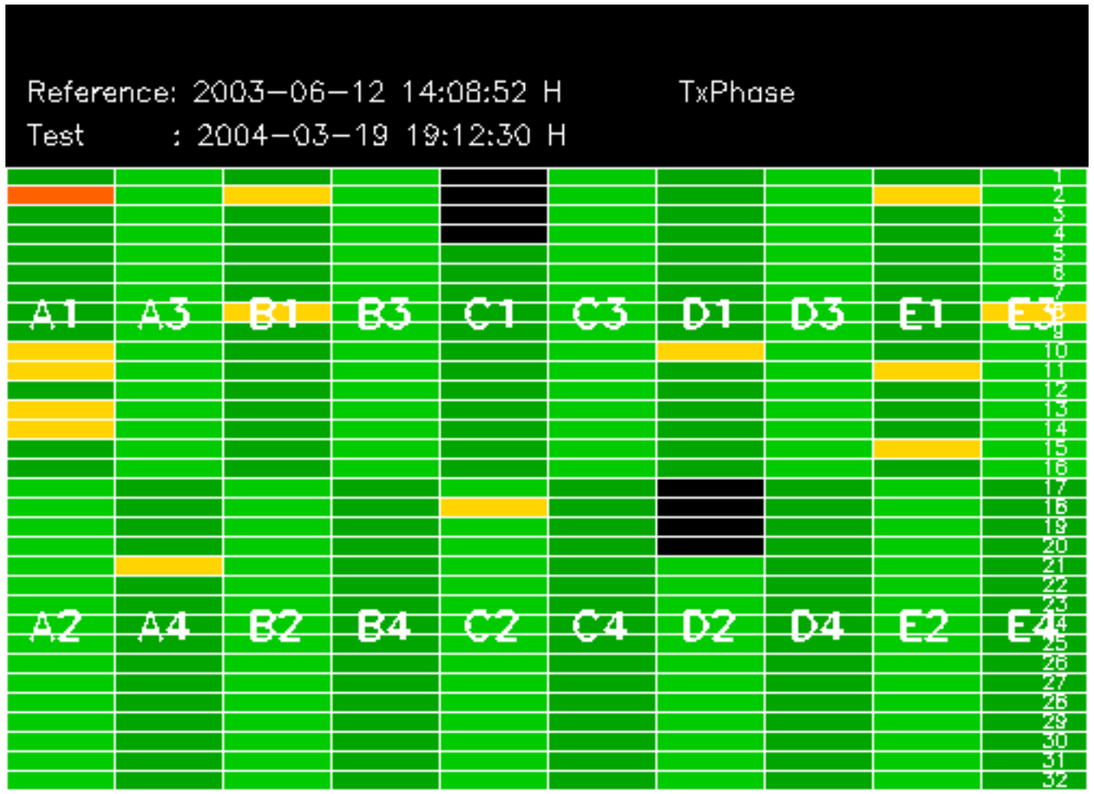
Reference: 2003-06-12 14:08:52 H
Test : 2004-03-19 19:12:30 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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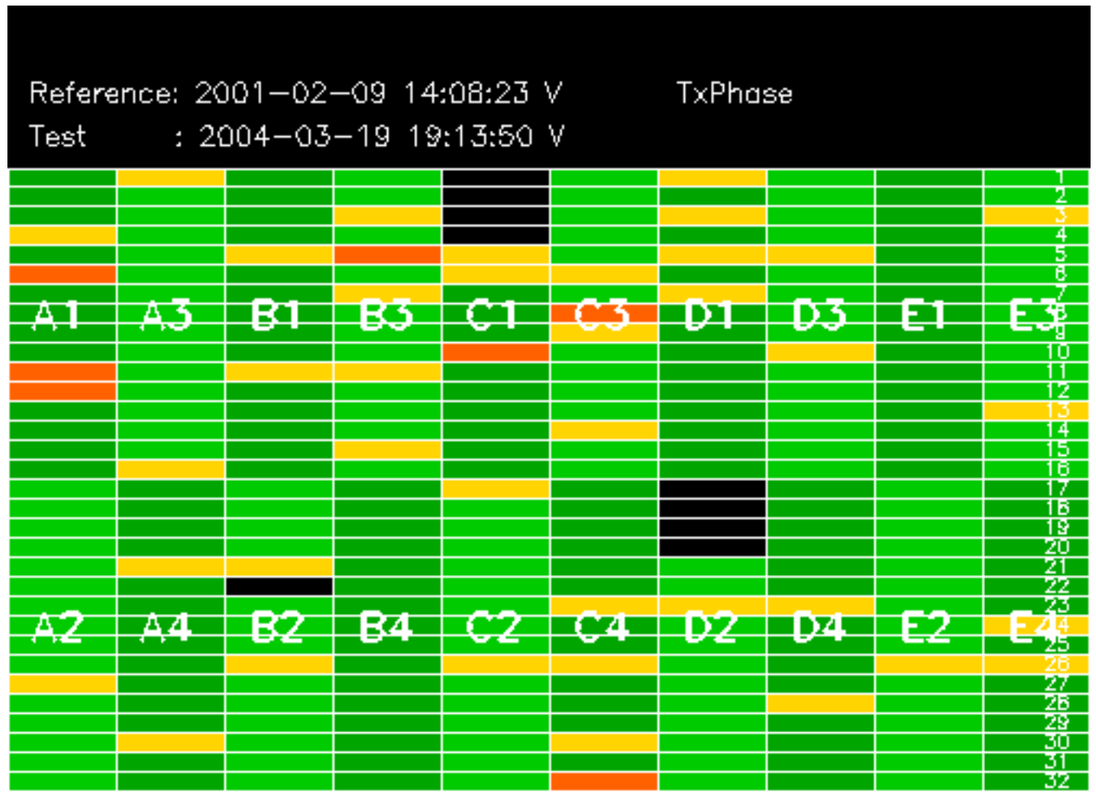
Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2004-03-19 19:13:50 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
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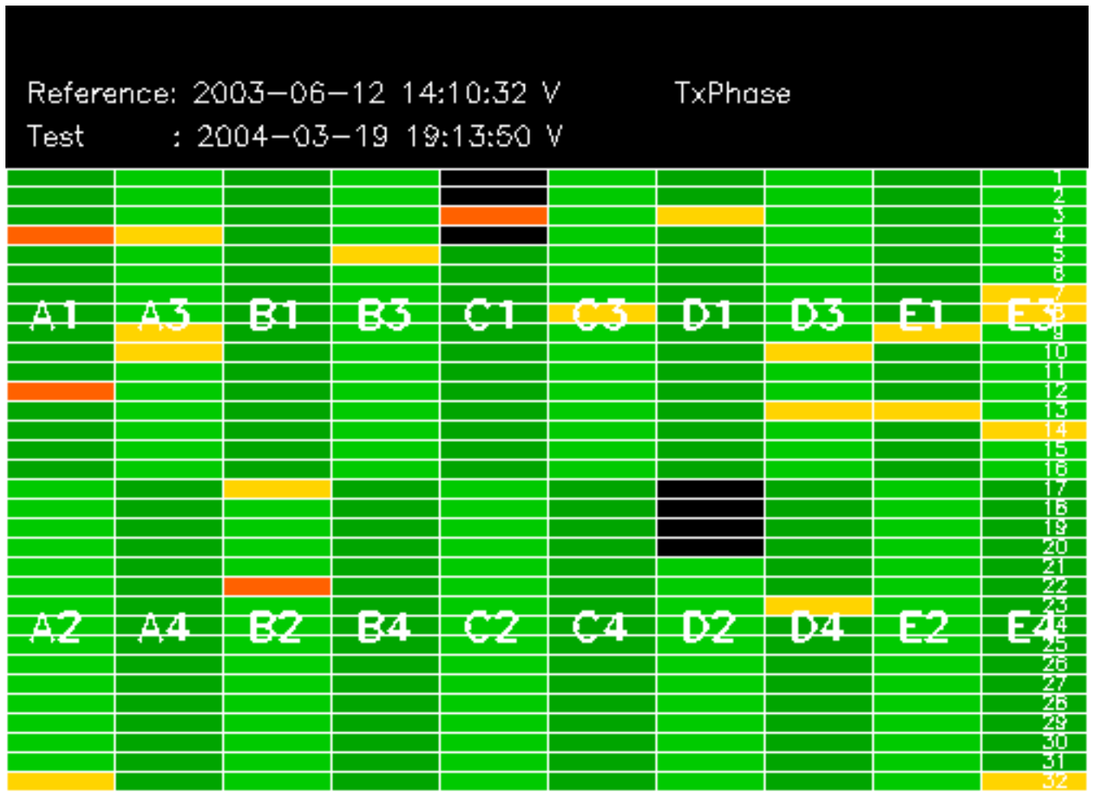
Reference: 2003-06-12 14:10:32 V
Test : 2004-03-19 19:13:50 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
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B4
C2
C4
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Instrument unavailability from 19-MAR-2003 12:03:47 to 15:00:30