REPORT OF 040322

last update on Mon Mar 22 15:39:51 GMT 2004

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

Polarisation	Start Time
V	20040321 195112
H	20040321 194952

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	-3.611399	0.006004	0.050776
7	P1	-3.318880	0.009318	0.044652
11	P1	-4.795664	0.262242	0.602033
15	P1	-5.009750	0.034003	0.026612
19	P1	-3.347657	0.072609	-0.049074
22	P1	-4.545448	0.070438	-0.035229
24	P1	-5.102586	0.091062	0.008194
28	P1	-4.578181	0.075963	-0.072937

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.381872	0.081853	-0.026766
7	P2	-22.896996	0.126749	-0.025911
11	P2	-16.024626	0.158528	0.048789
15	P2	-7.176844	0.090414	0.015368
19	P2	-9.482118	0.167757	-0.004449
22	P2	-17.677443	0.104544	0.043239
24	P2	-21.035240	0.113106	-0.034929
28	P2	-16.595827	0.087259	-0.011145

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.127871	0.003002	0.006923
7	P3	-8.127867	0.003003	0.006917
11	P3	-8.127868	0.003003	0.006907
15	P3	-8.127865	0.003003	0.006906
19	P3	-8.127868	0.003003	0.006902
22	P3	-8.127872	0.003003	0.006901
24	P3	-8.127876	0.003003	0.006923

28	P3	-8.127875	0.003000	0.008269

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	0.000471015
	stdev	2.35590e-07
MEAN Q	mean	0.000491247
	stdev	2.60472e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127528
	stdev	0.00113167
STDEV Q	mean	0.127764
	stdev	0.00114458

5.3 - Gain imbalance I/Q

6 - Doppler Analysis

6.1 - Unbiased Doppler Error

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

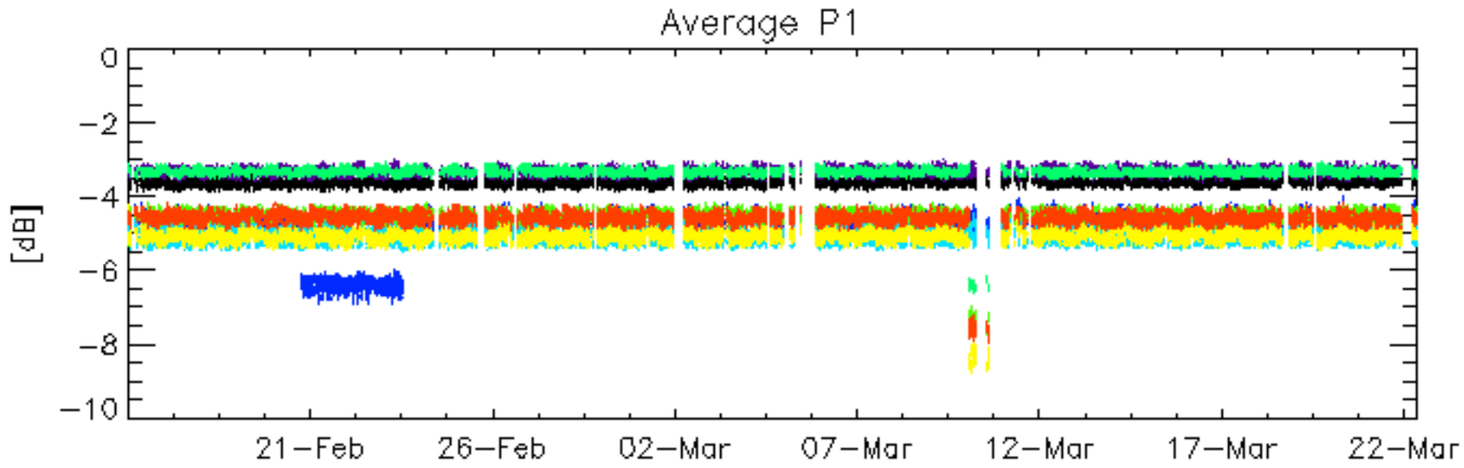
6.2 - Absolute Doppler

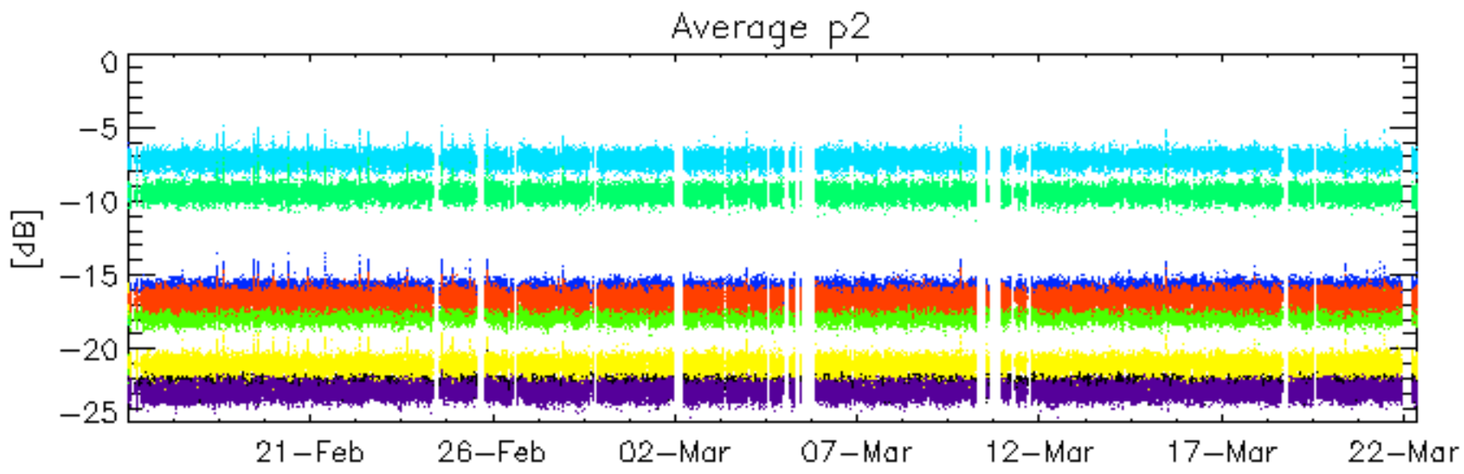
Evolution of Absolute Doppler
Acsending
Descending

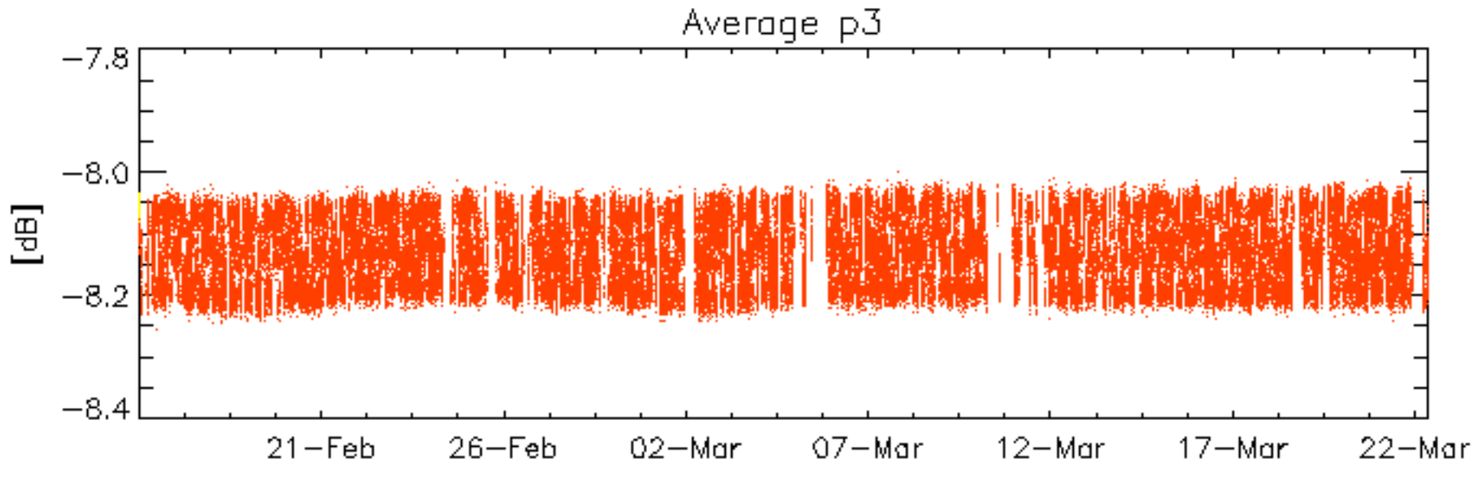
6.3 - Doppler evolution versus ANX

Evolution Doppler error versus ANX
☒

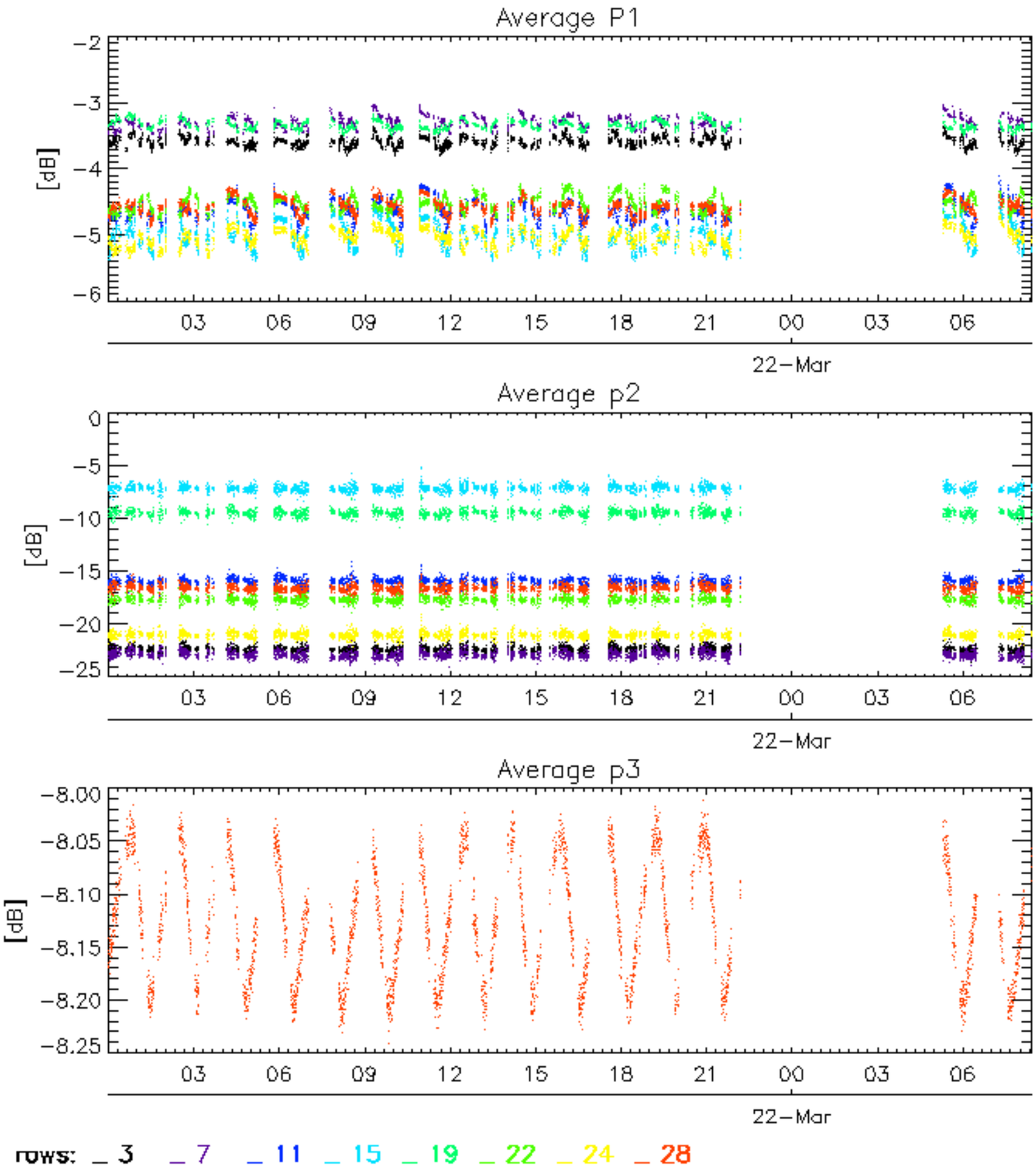
Evolution Doppler error versus ANX
☒





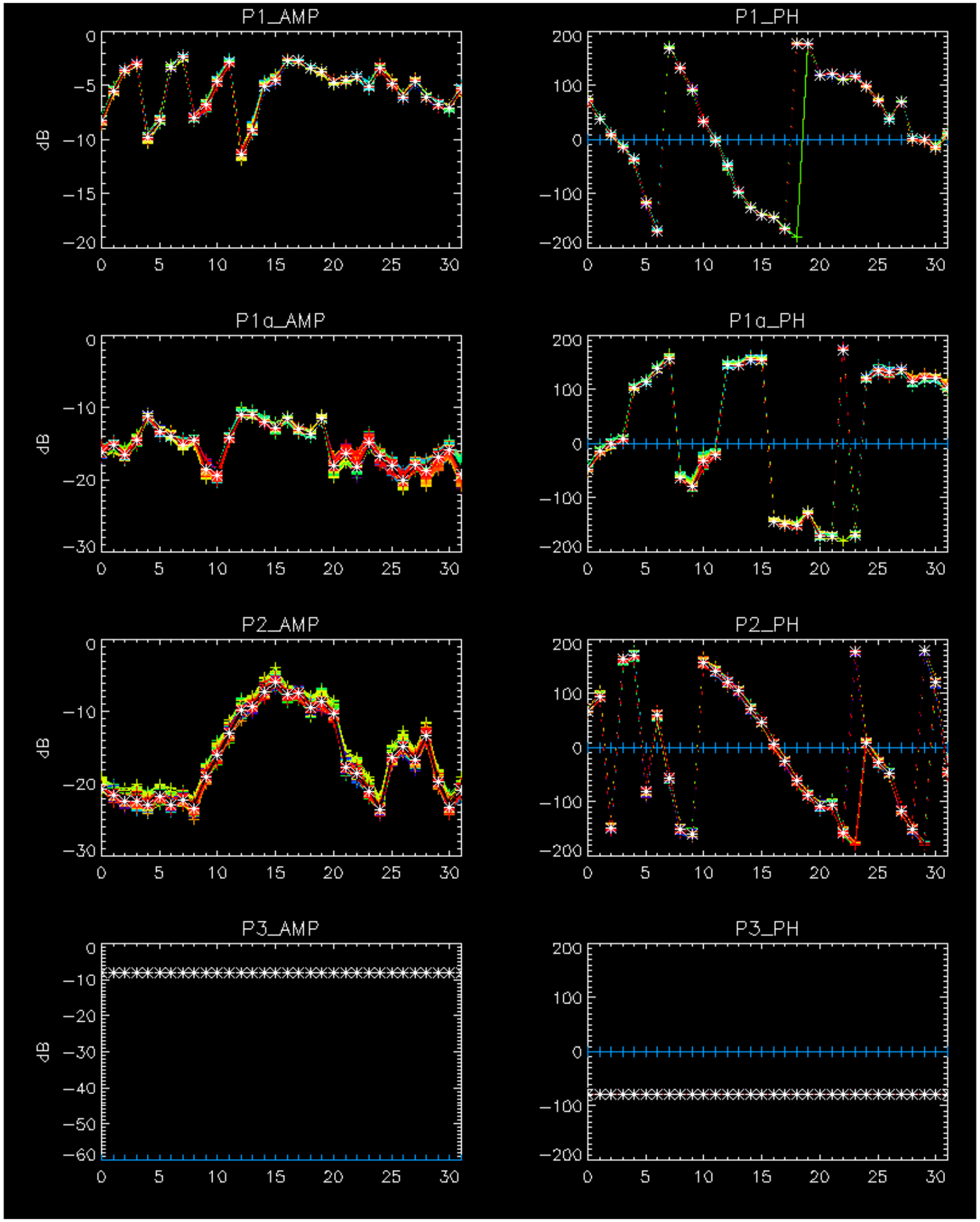


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 28


Average P1
[dB]
−2
−3
−4
−5
−6
03
06
09
12
15
18
21
00
03
06
22−Mar
Average p2
[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
03
06
22−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
22−Mar
rows: 3 7 11 15 19 22 24 28

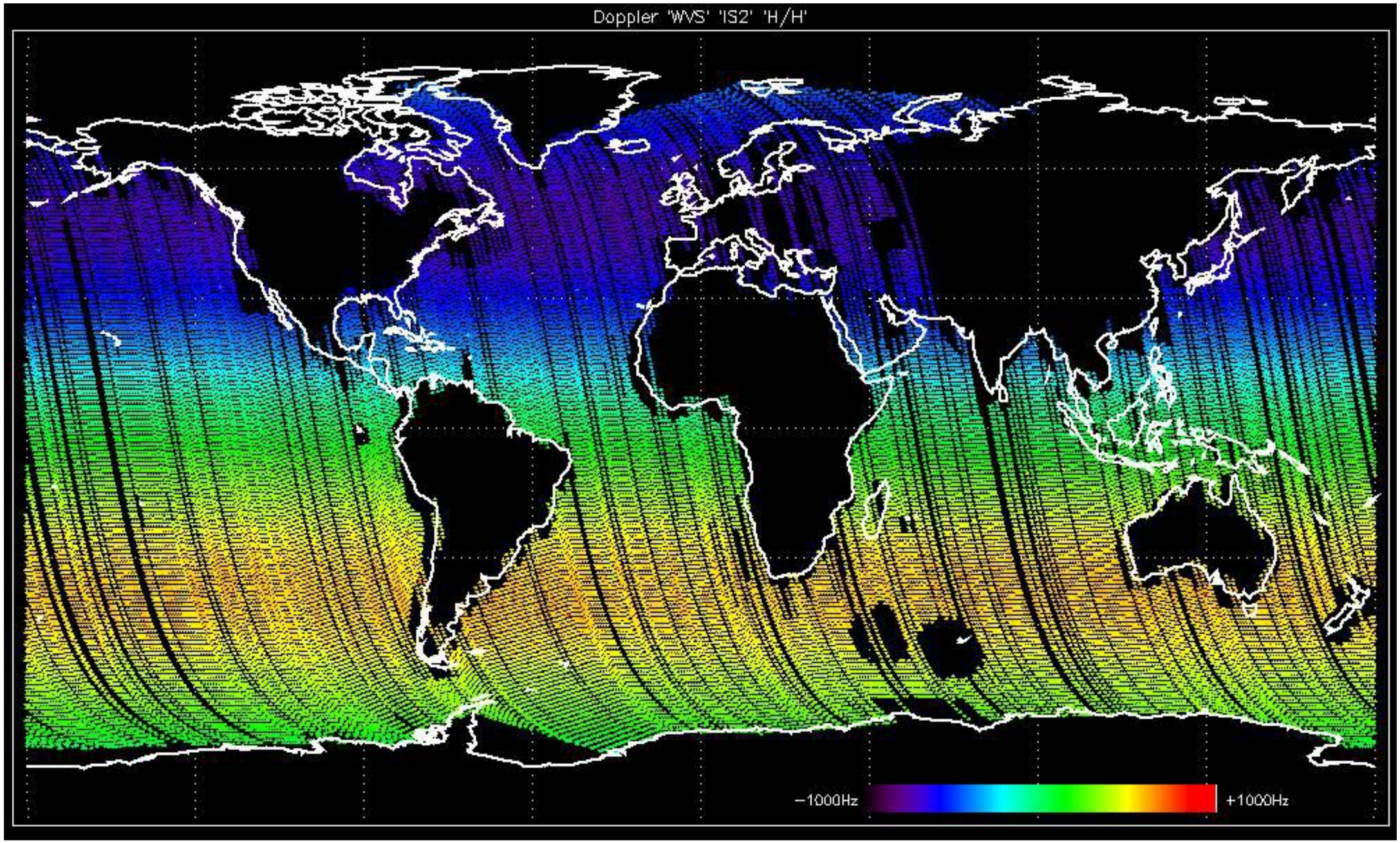
No anomalies observed on available browse products

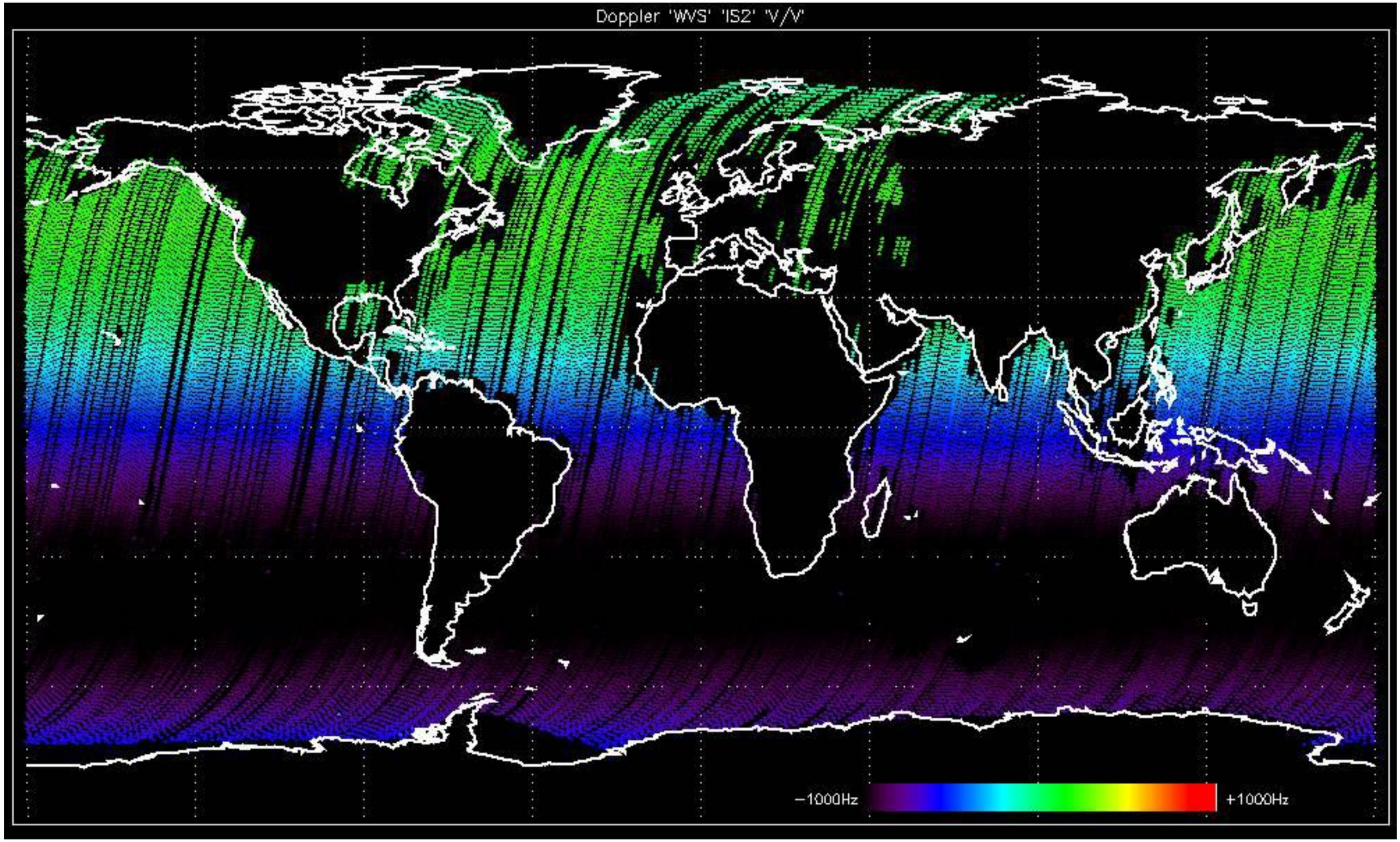
No anomalies observed.

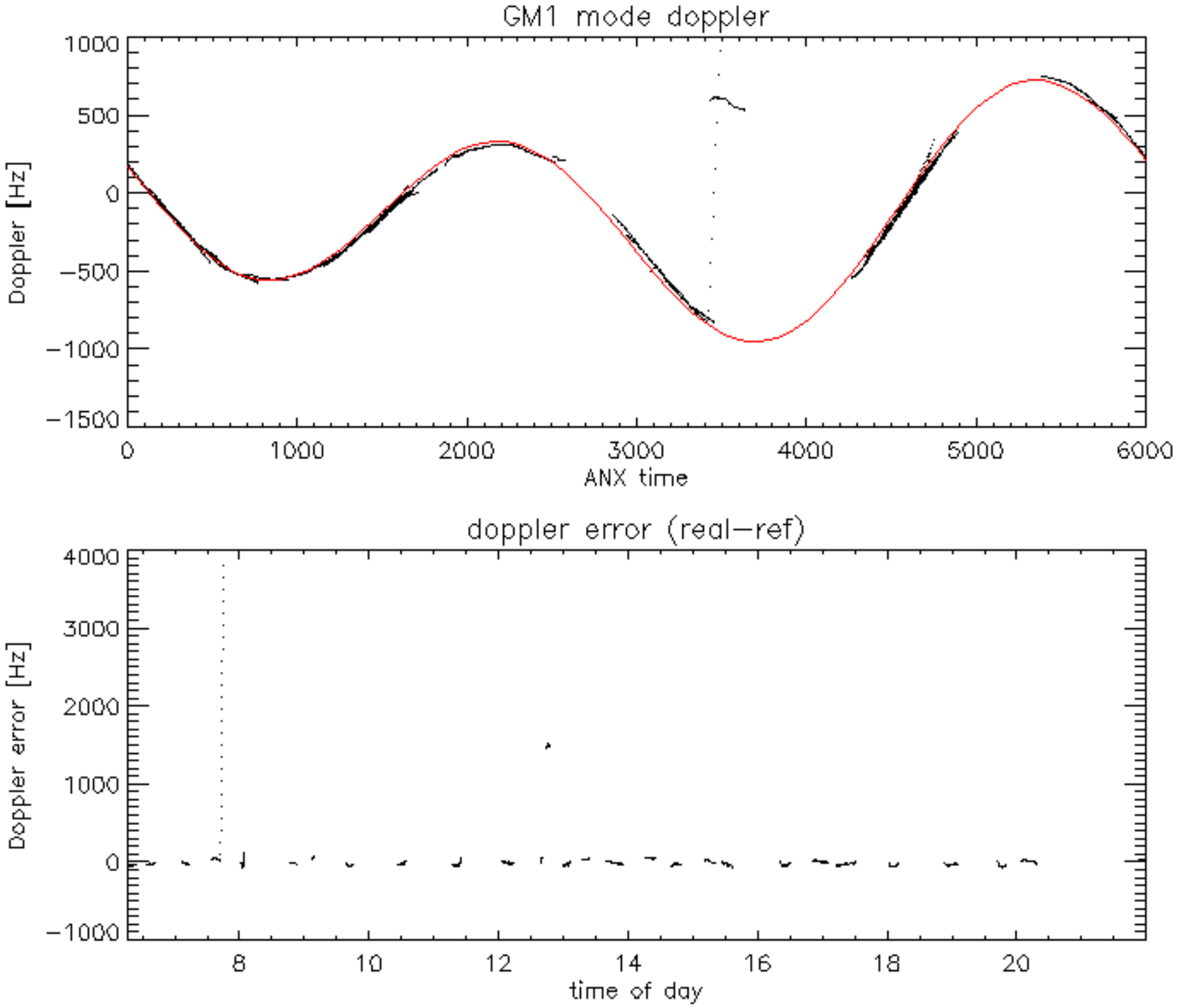

P1_AMP
P1_PH
P1a_AMP
P1a_PH
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

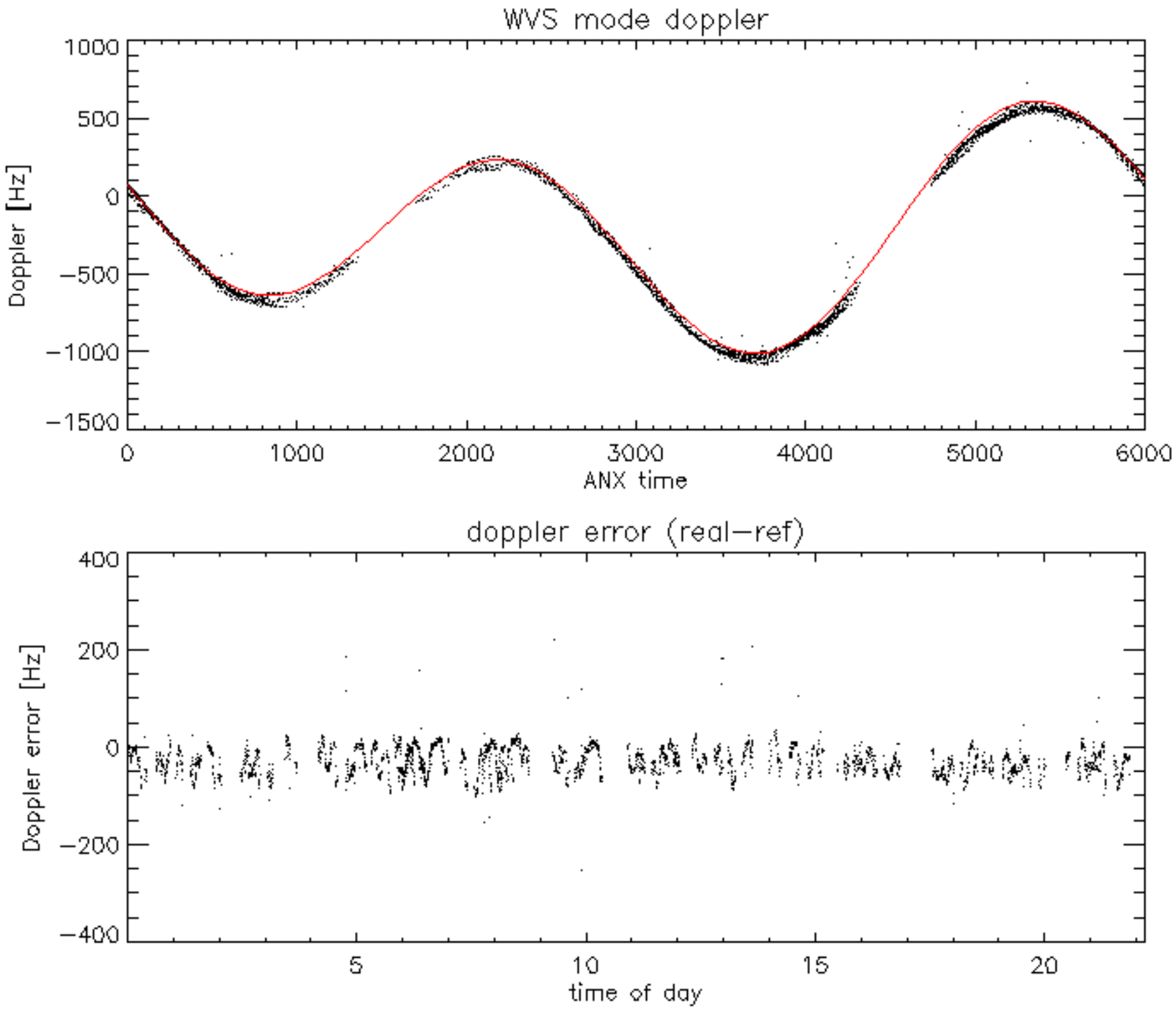
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

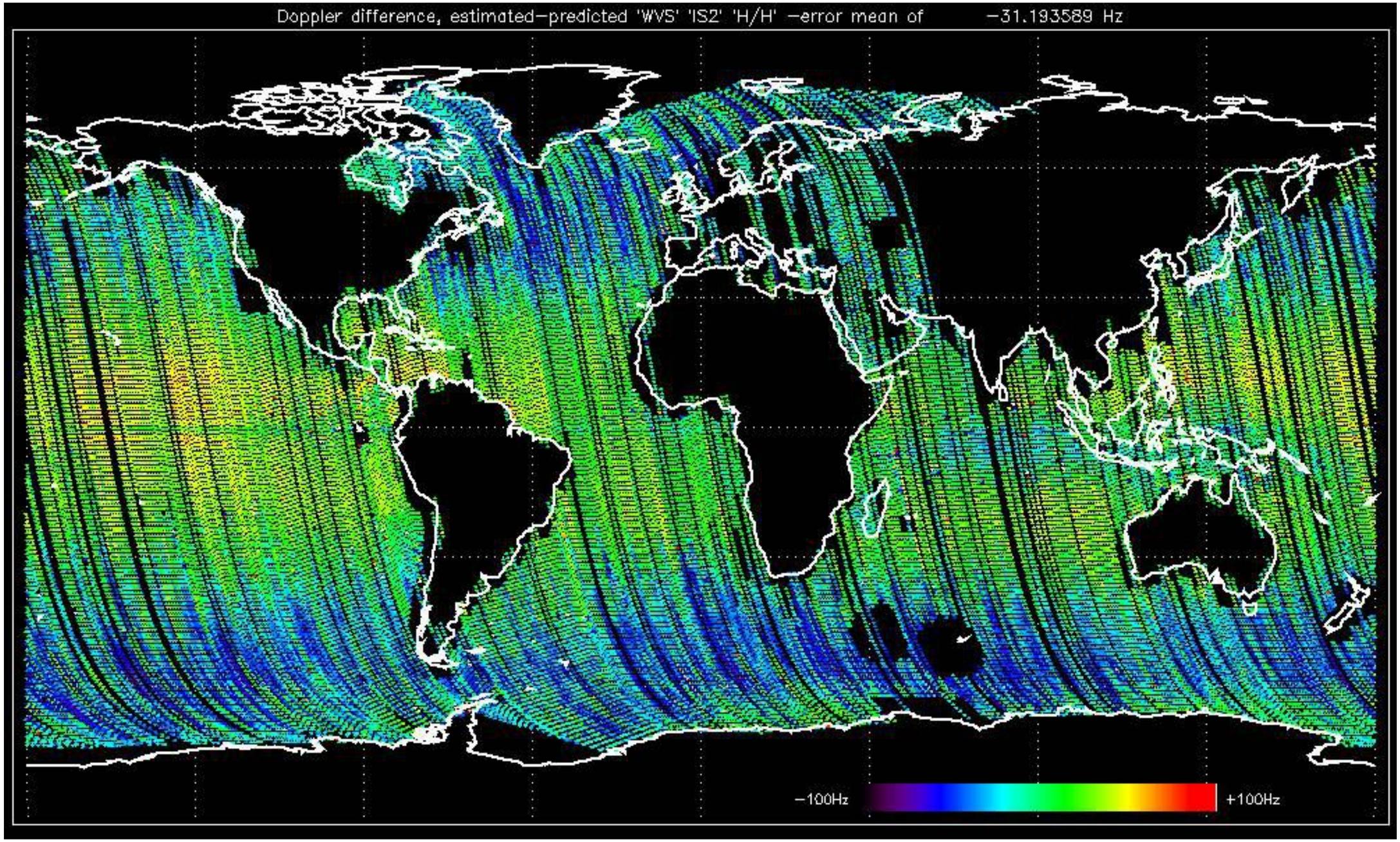
Preliminary report.The data is not yet controled

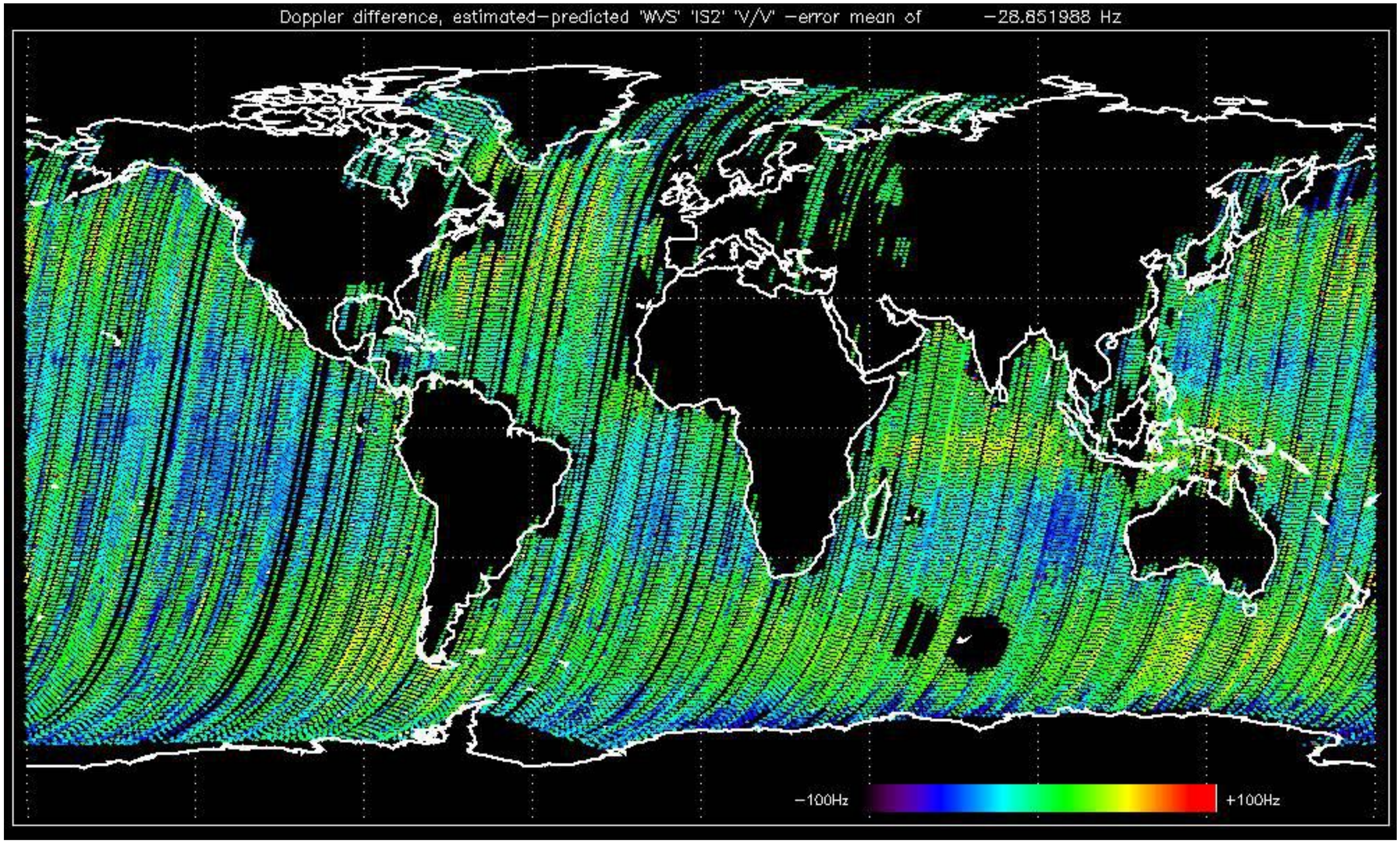

Doppler 'WVS' 'IS2' 'H/H'
−1000Hz
+1000Hz


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]
4000
3000
2000
1000
0
−1000
8
10
12
14
16
18
20
time of day

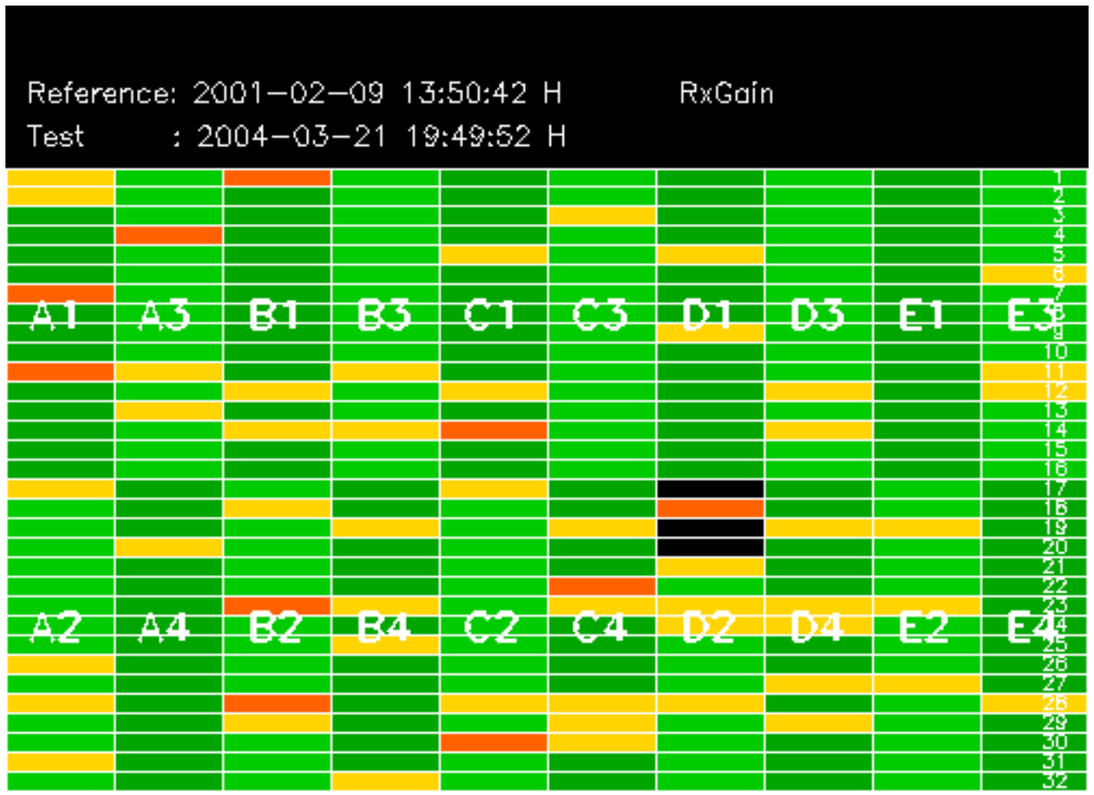

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
ANX time
doppler error (real−ref)
Doppler error [Hz]
400
200
0
−200
−400
5
10
15
20
time of day


Doppler difference, estimated-predicted 'WVS' 'IS2' 'H/H' -error mean of -31.193589 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' 'V/V' −error mean of −28.851988 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
Test : 2004-03-21 19:49:52 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
11
12
13
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16
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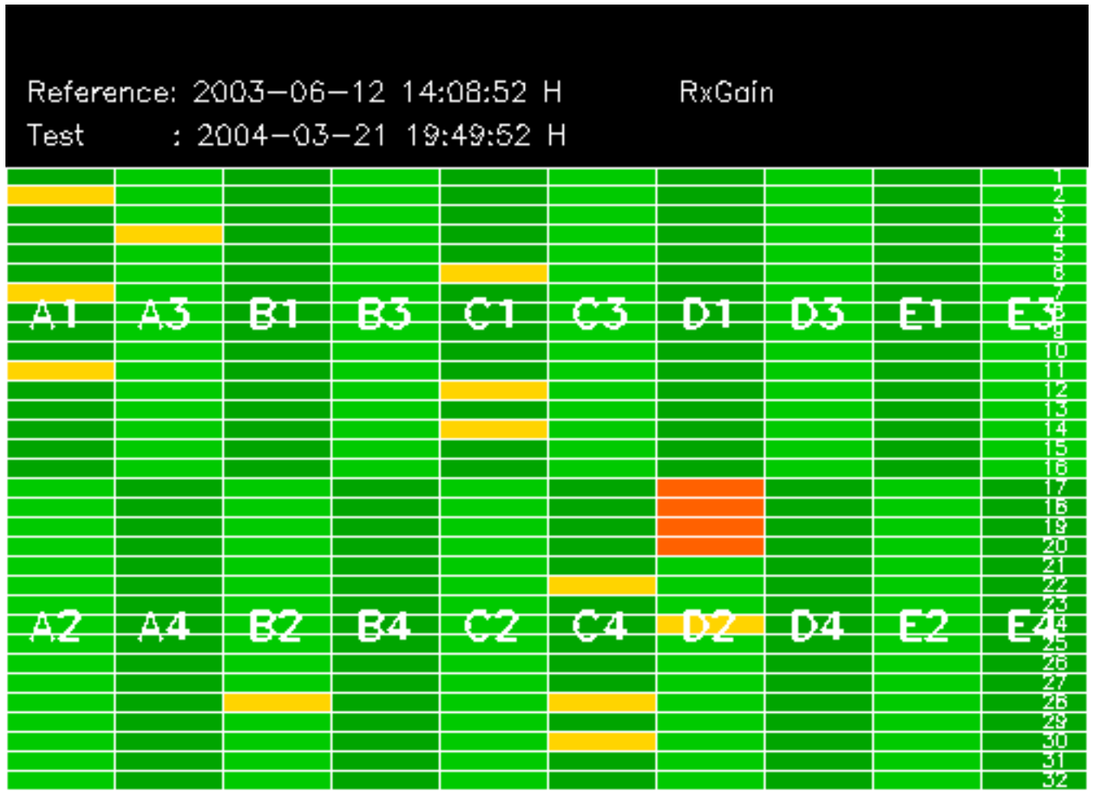
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2004-03-21 19:49:52 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
11
12
13
14
15
16
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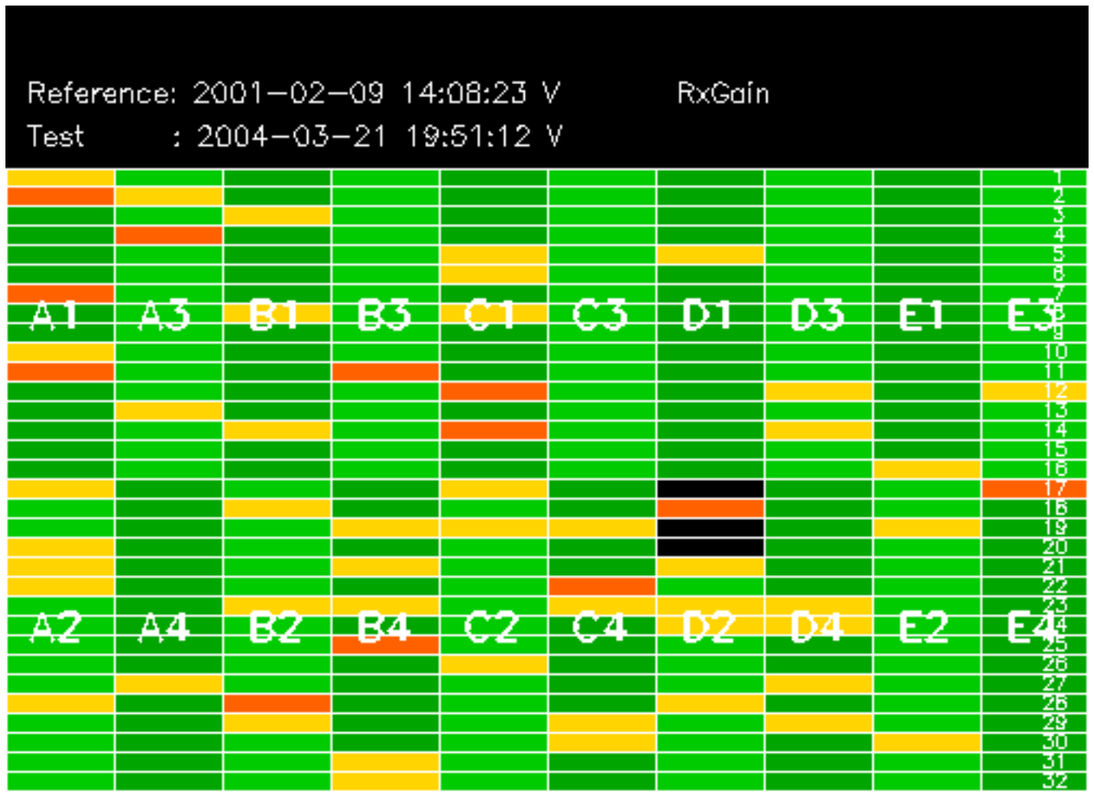
26
27
28
29
30
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2004-03-21 19:51:12 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
5
6
7
8
9
10
11
12
13
14
15
16
17
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24
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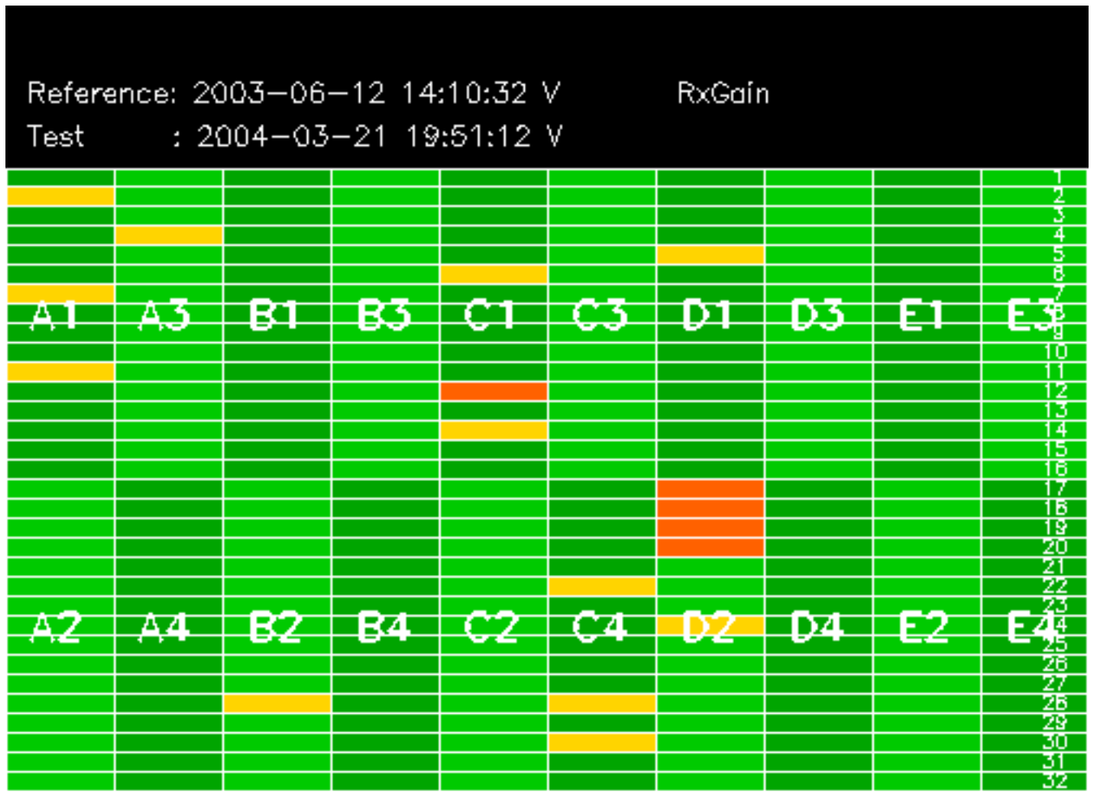
26
27
28
29
30
31
32


Reference: 2003-06-12 14:10:32 V
Test : 2004-03-21 19:51:12 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
5
6
7
8
9
10
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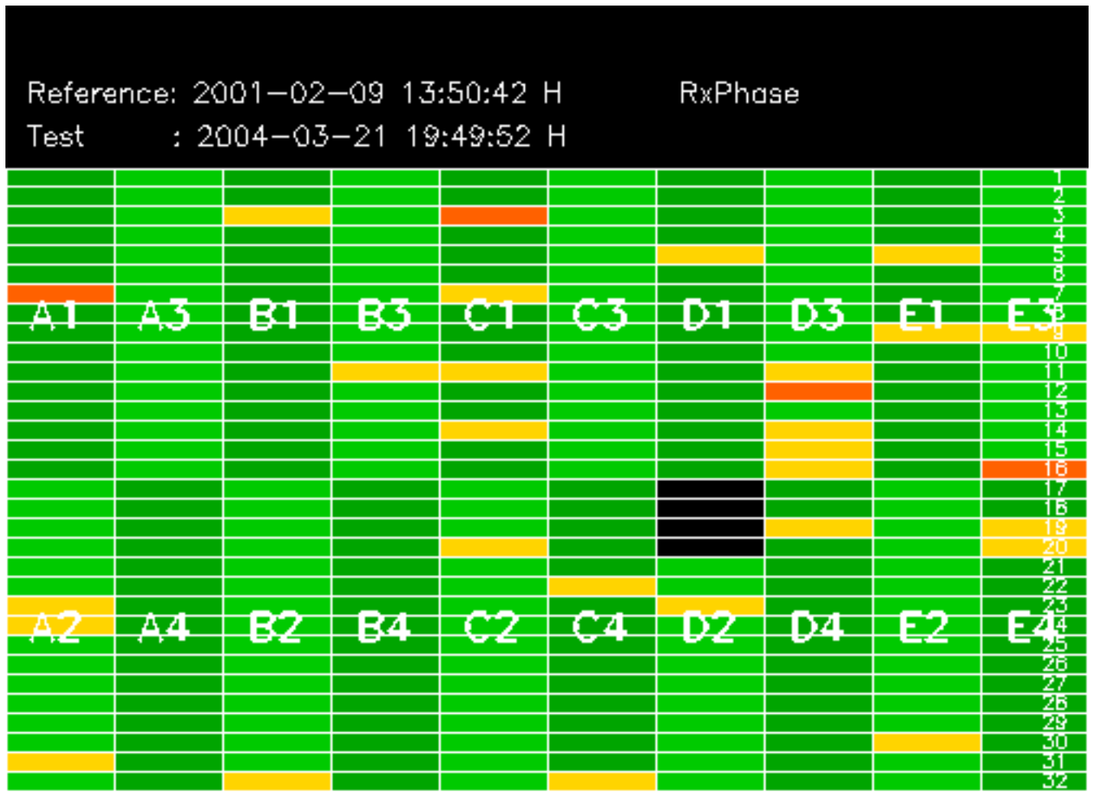
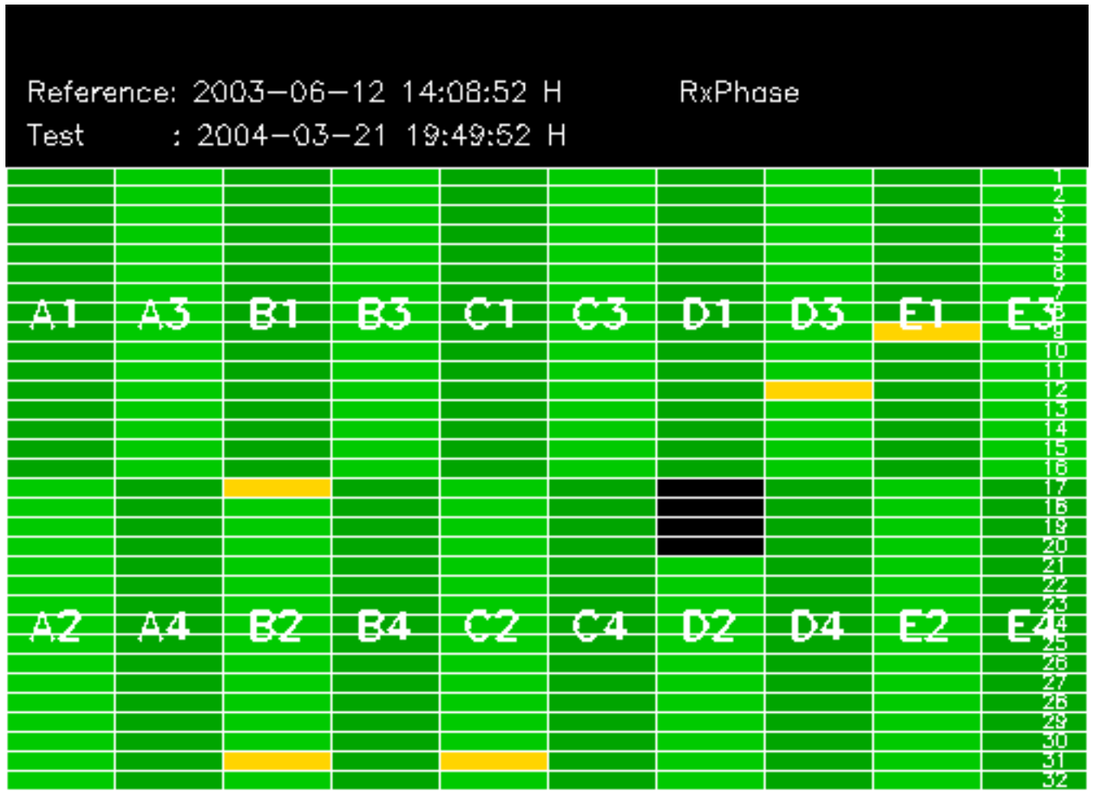
27
28
29
30
31
32


Reference: 2001-02-09 13:50:42 H
Test : 2004-03-21 19:49:52 H
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 14:08:52 H
Test : 2004-03-21 19:49:52 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
4
5
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8
9
10
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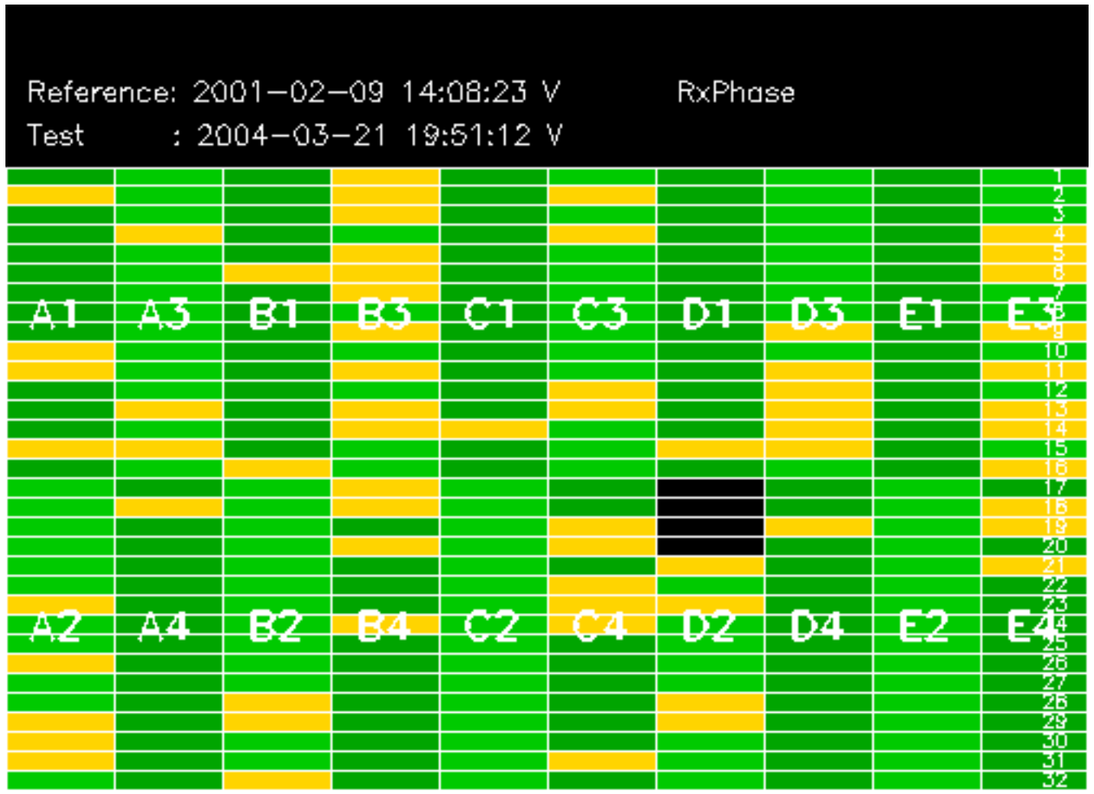
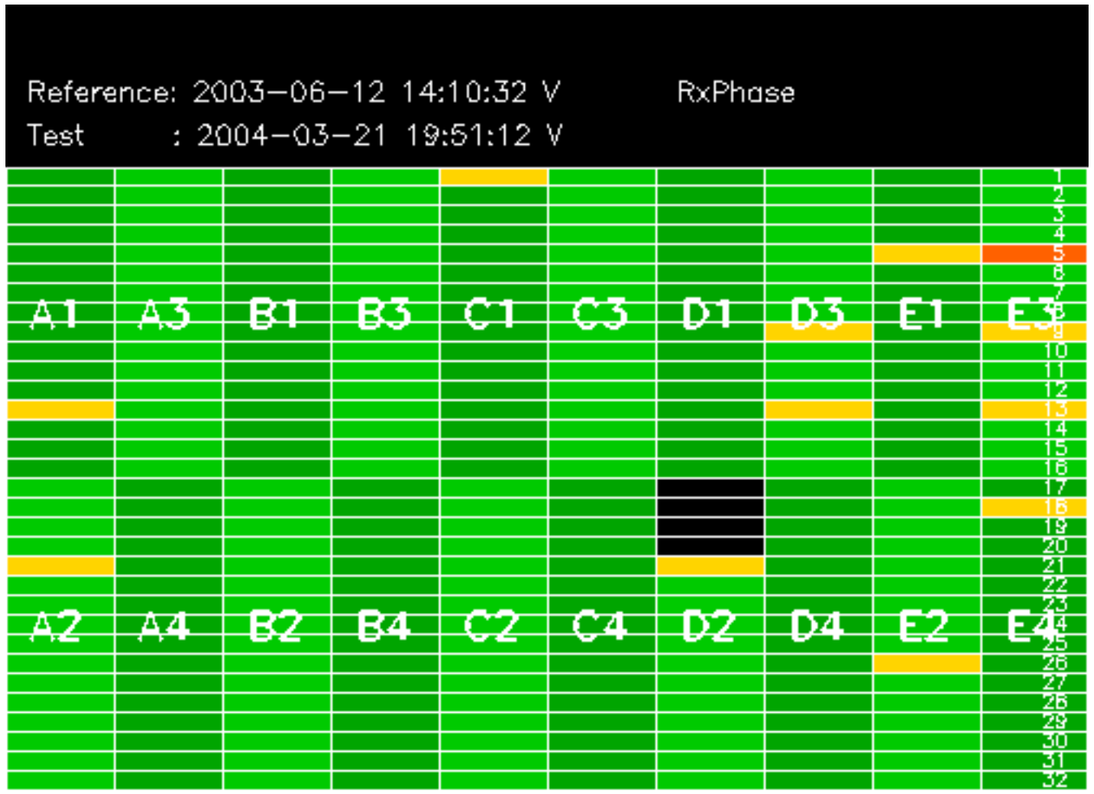
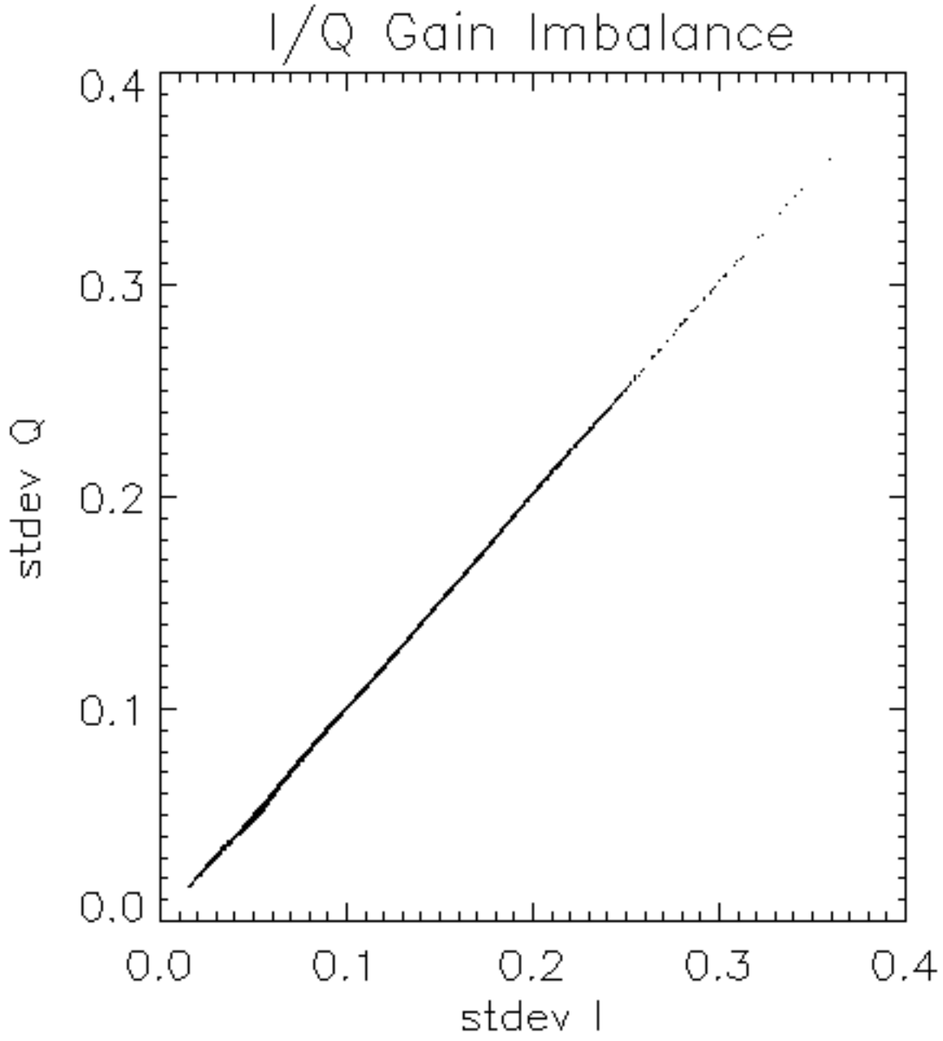
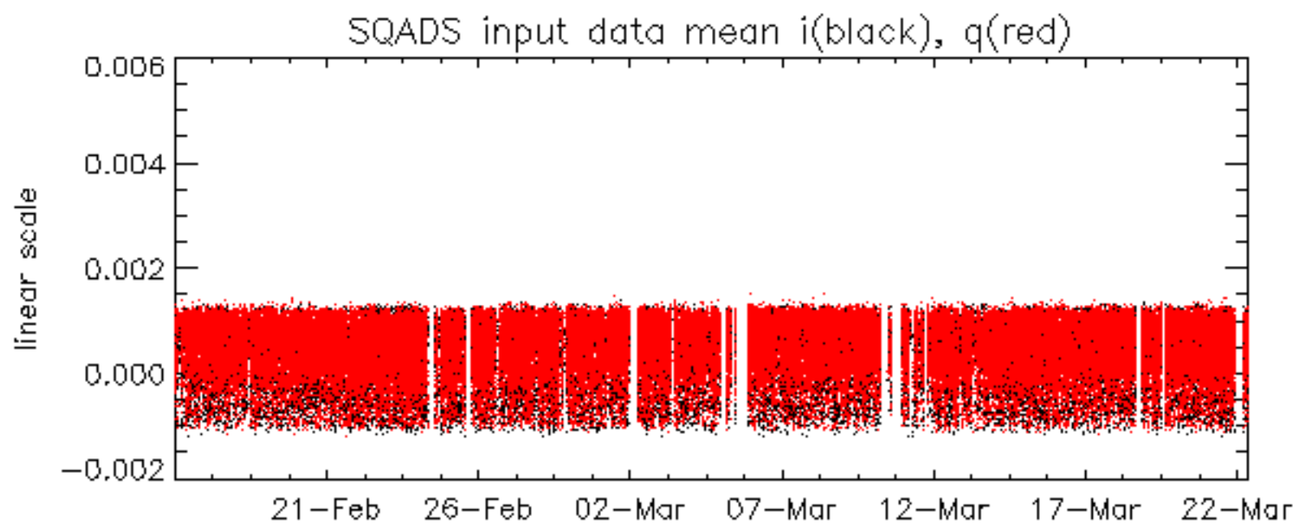
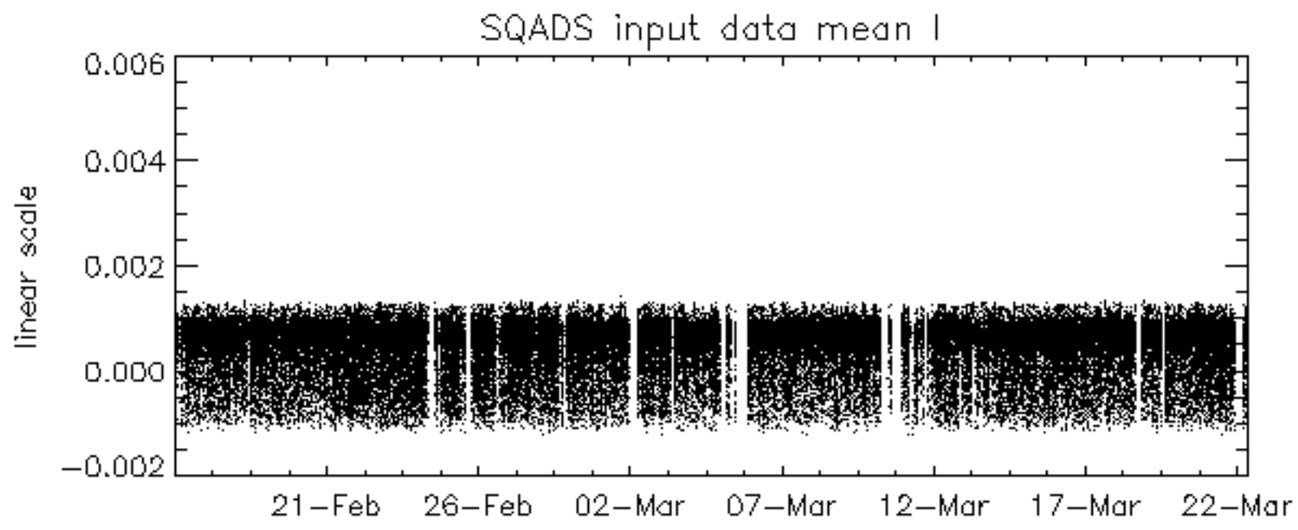
26
27
28
29
30
31
32

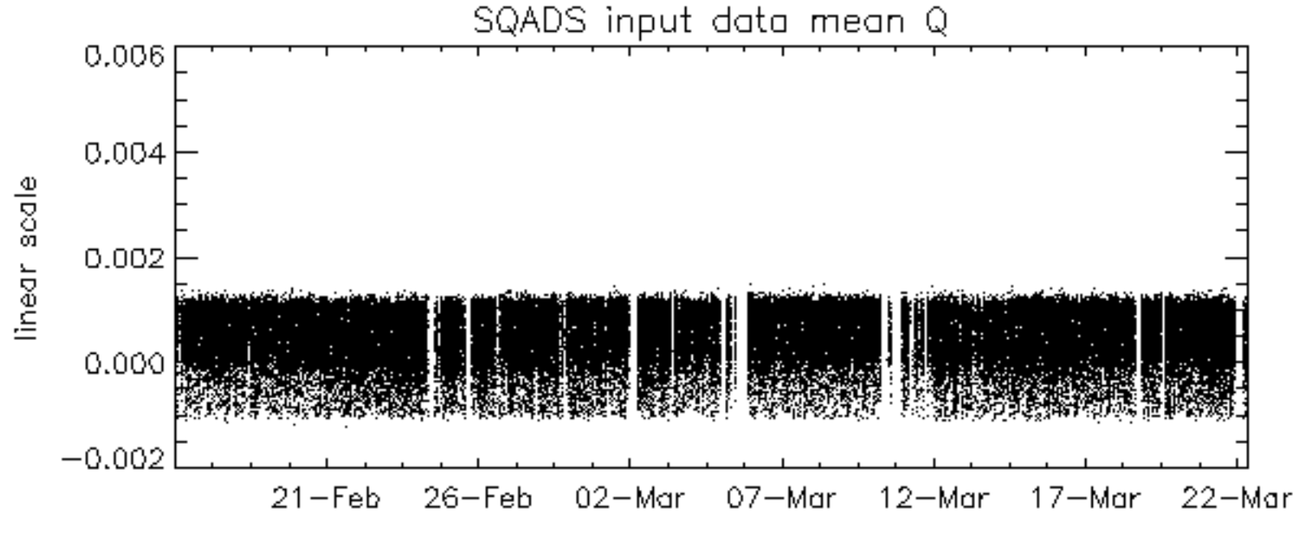

Reference: 2001-02-09 14:08:23 V
Test : 2004-03-21 19:51:12 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

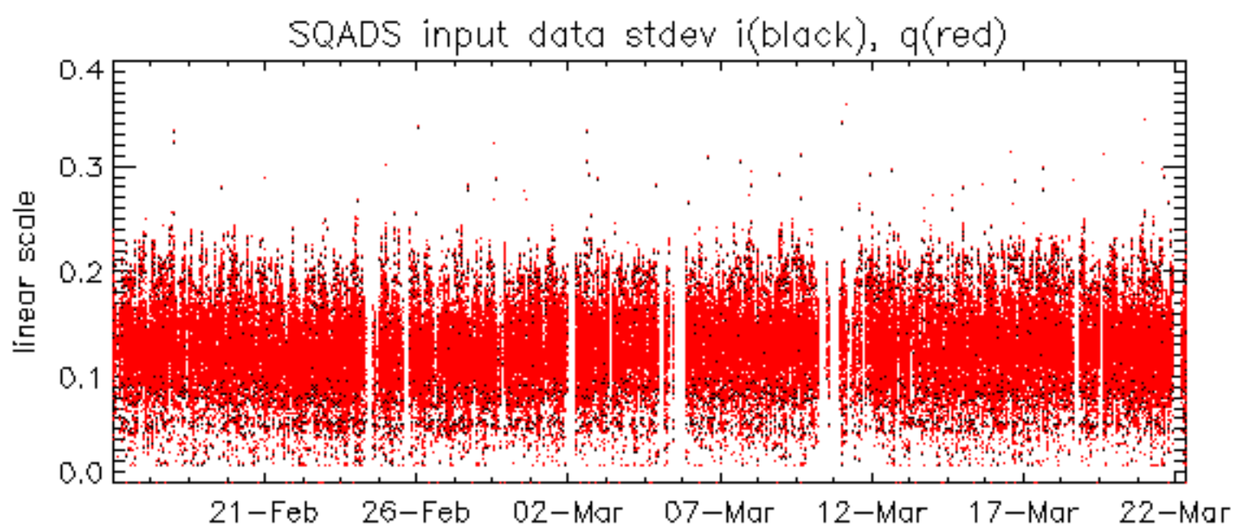

Reference: 2003-06-12 14:10:32 V
Test : 2004-03-21 19:51:12 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

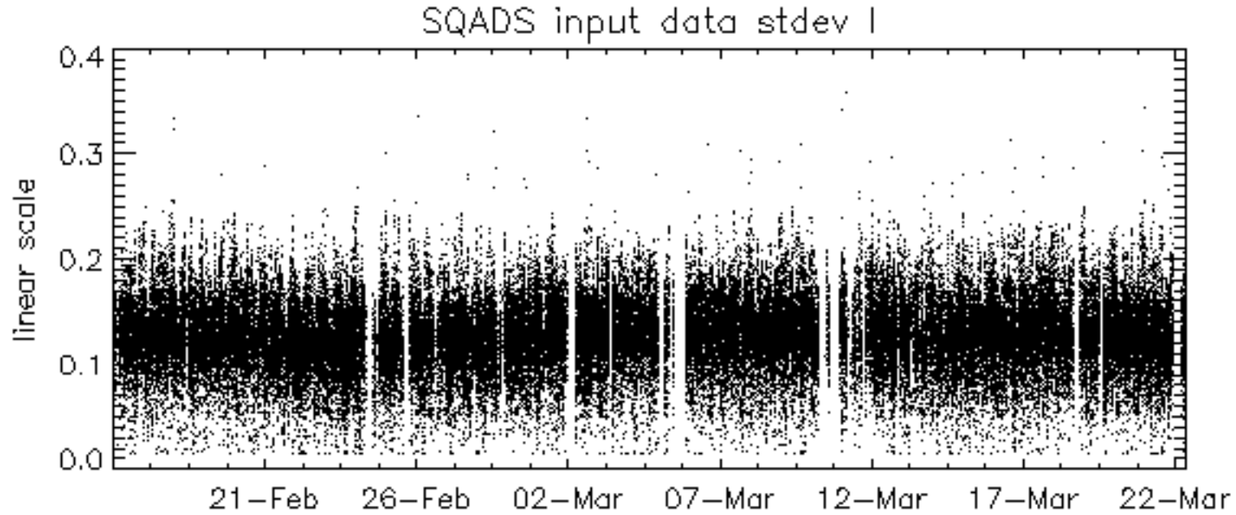

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

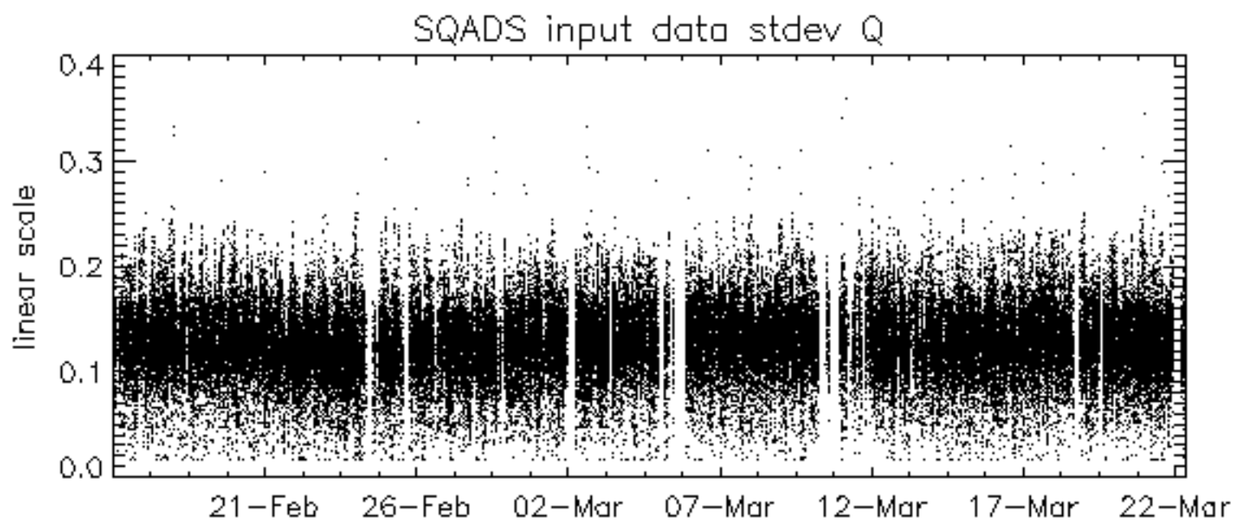

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Feb
26−Feb
02−Mar
07−Mar
12−Mar
17−Mar
22−Mar

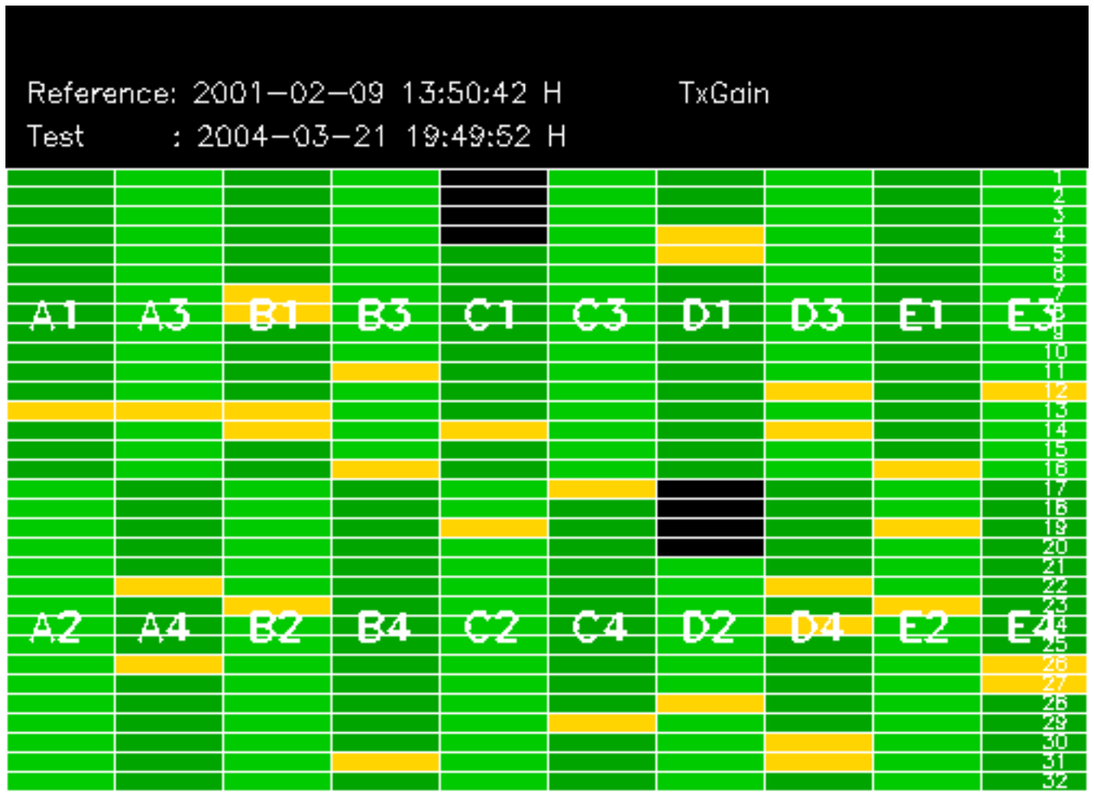

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Feb
26−Feb
02−Mar
07−Mar
12−Mar
17−Mar
22−Mar

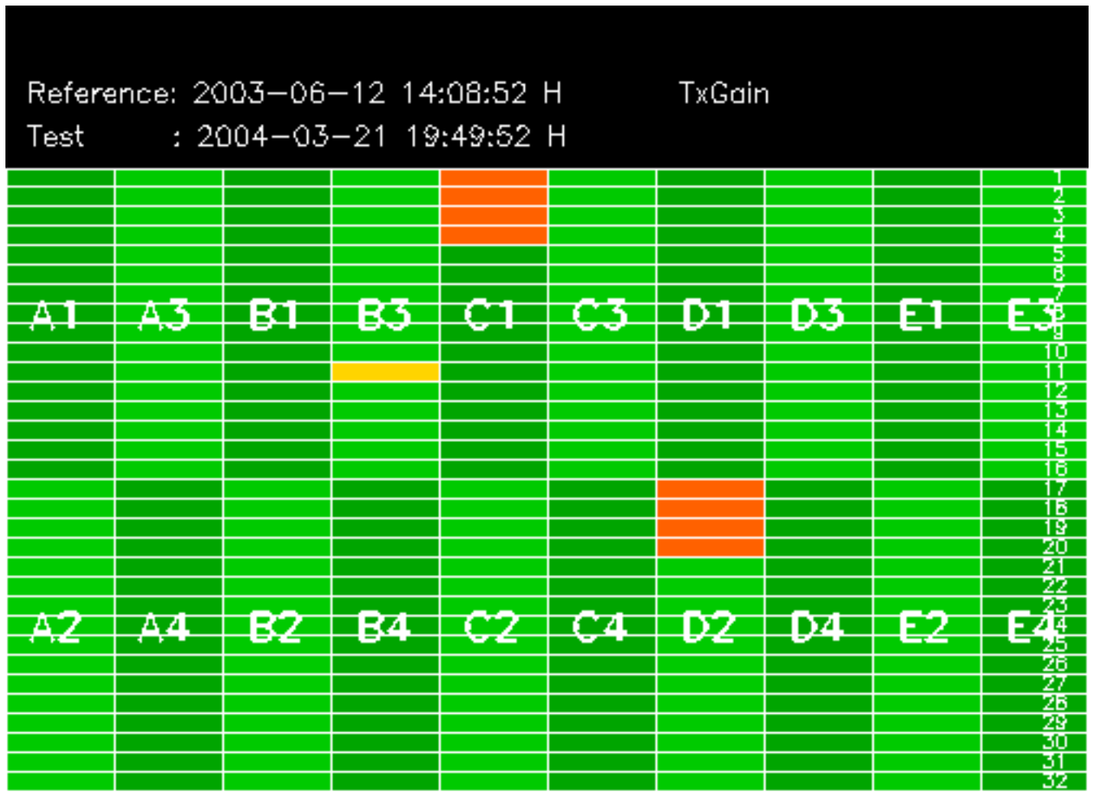

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Feb
26−Feb
02−Mar
07−Mar
12−Mar
17−Mar
22−Mar


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2004-03-21 19:49:52 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 : 2004-03-21 19:49:52 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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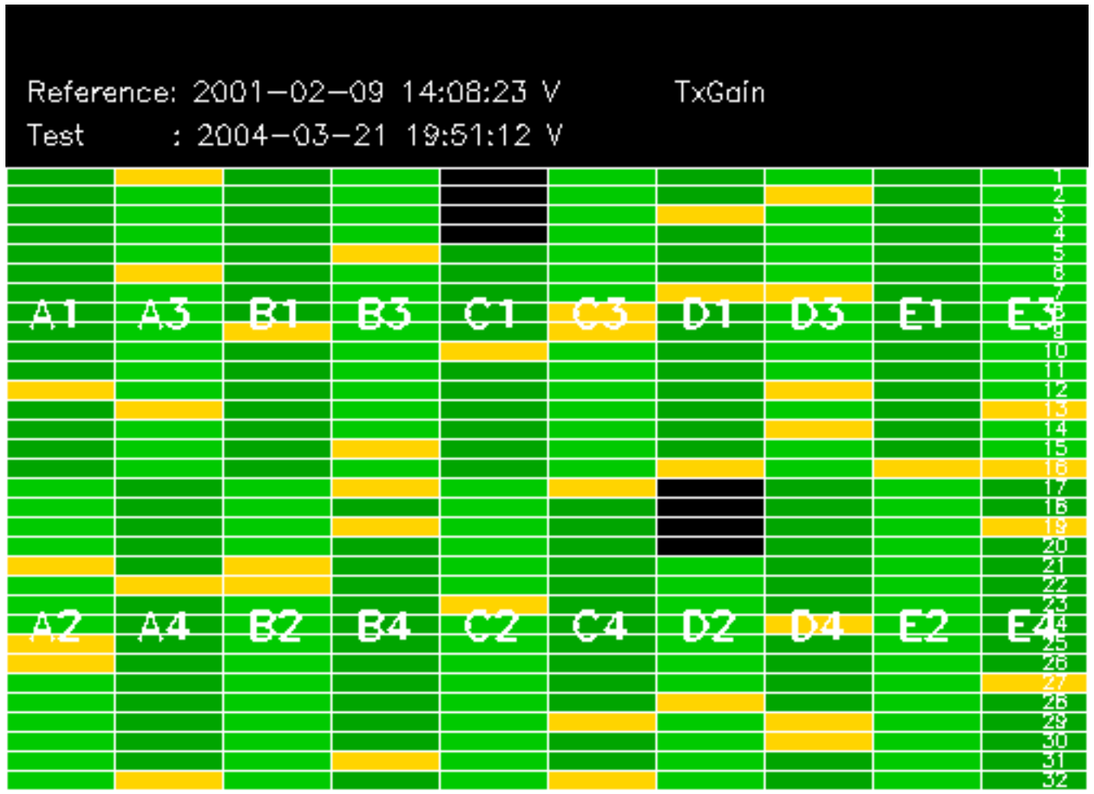
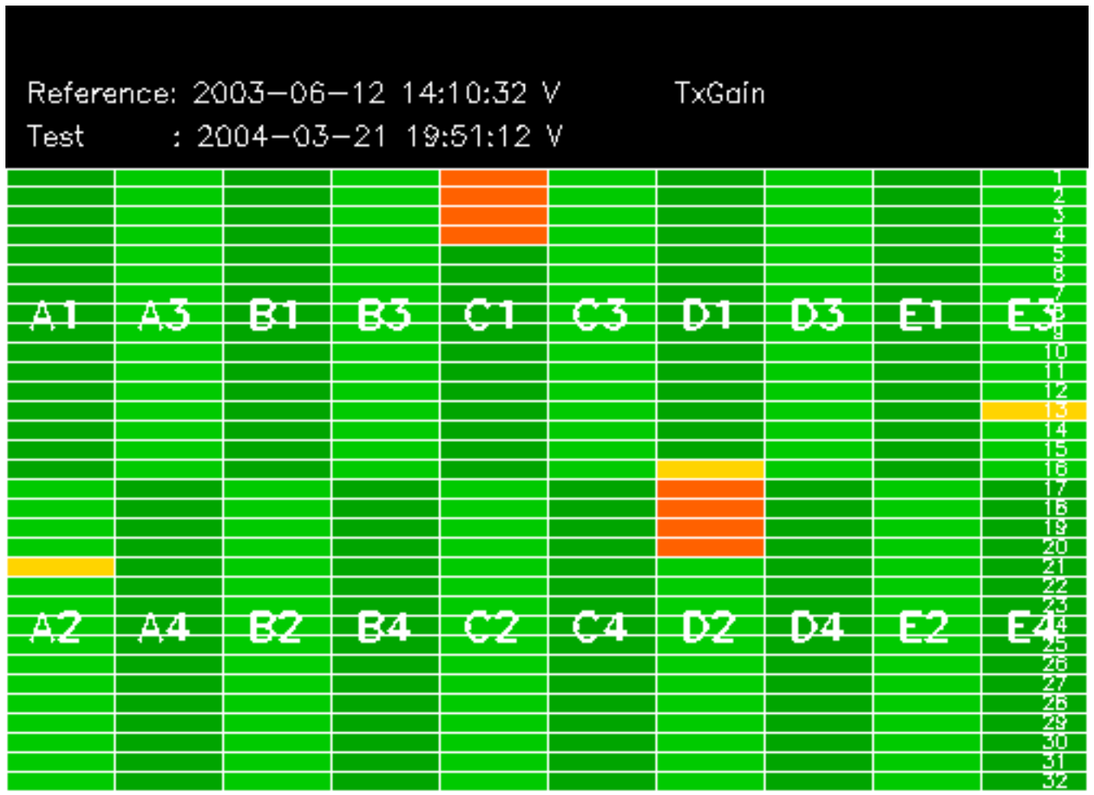

Reference: 2001-02-09 14:08:23 V
Test : 2004-03-21 19:51:12 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-03-21 19:51:12 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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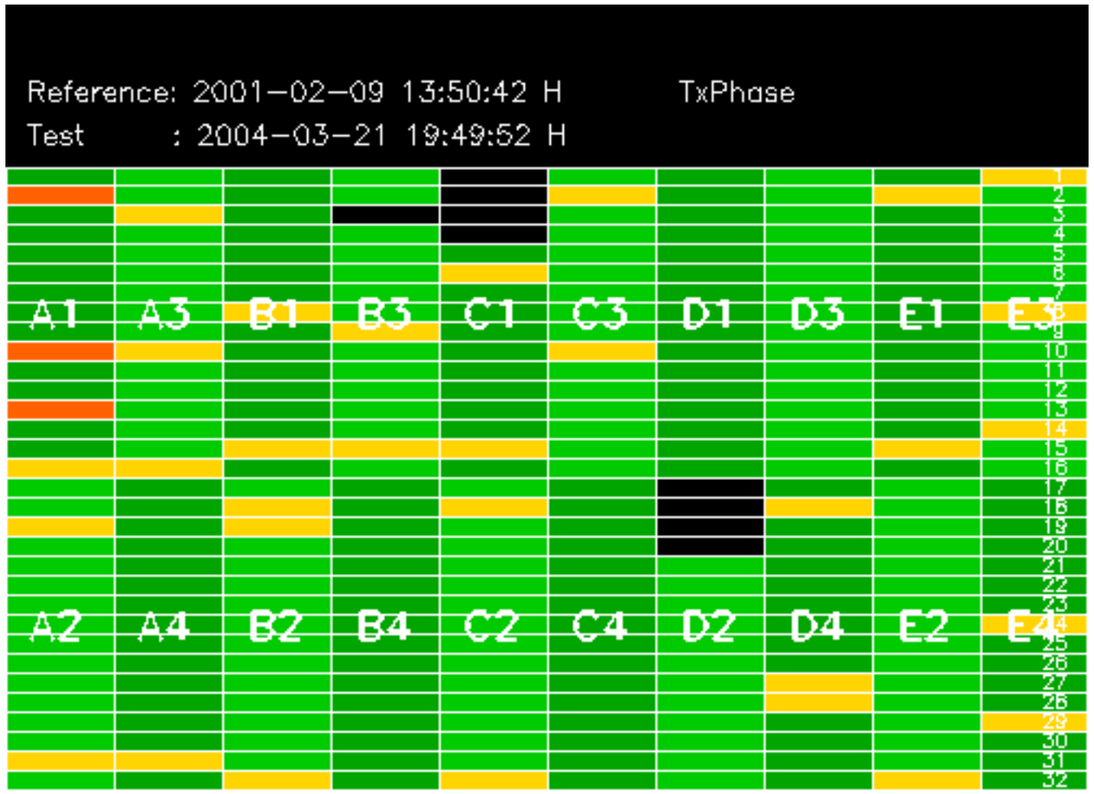
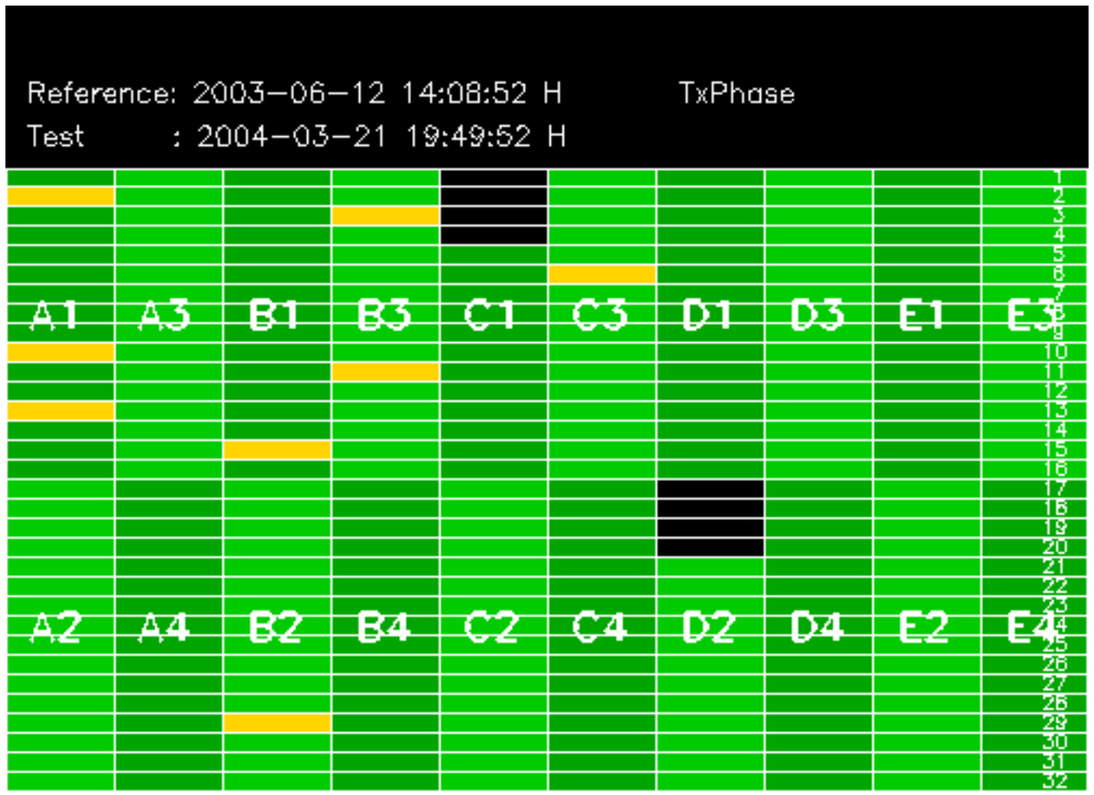

Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-03-21 19:49:52 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-03-21 19:49:52 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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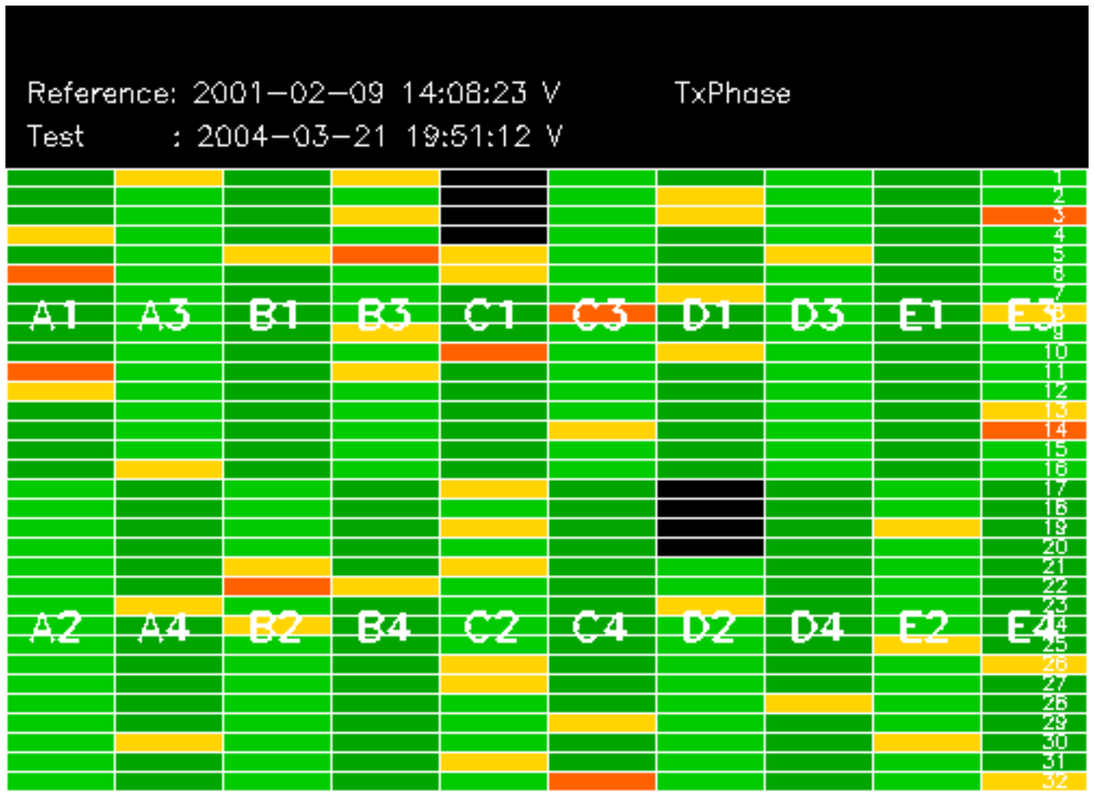
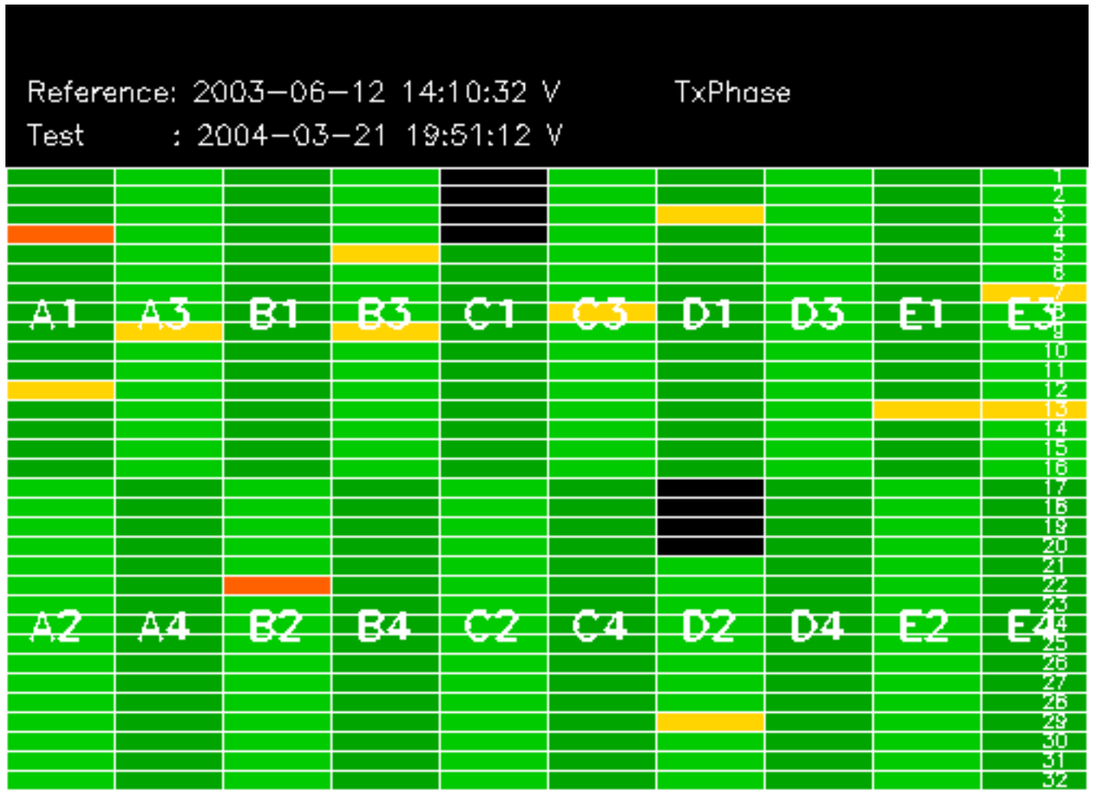

Reference: 2001-02-09 14:08:23 V
Test : 2004-03-21 19:51:12 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-03-21 19:51:12 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
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No unavailabilities during the reported period.