REPORT OF 040330

last update on Tue Mar 30 13:57:31 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	20040329 185927
H	20040329 185807

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	-3.601112	0.005725	0.046404
7	P1	-3.309722	0.009711	0.052300
11	P1	-4.638709	0.018901	0.025153
15	P1	-5.002629	0.036086	0.023596
19	P1	-3.351351	0.072812	0.020448
22	P1	-4.541899	0.070745	0.041948
24	P1	-5.087783	0.091177	0.082451
28	P1	-4.586543	0.075391	-0.007632

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.388720	0.080241	-0.020861
7	P2	-22.892519	0.128798	0.002672
11	P2	-15.996256	0.162239	0.076343
15	P2	-7.173856	0.089741	0.028786
19	P2	-9.494532	0.180974	0.029871
22	P2	-17.674223	0.103478	0.055370
24	P2	-21.028082	0.116373	-0.029941
28	P2	-16.597515	0.084616	-0.018374

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.127210	0.003013	0.003522
7	P3	-8.127211	0.003013	0.003546
11	P3	-8.127207	0.003013	0.003521
15	P3	-8.127196	0.003012	0.003470
19	P3	-8.127190	0.003012	0.003425
22	P3	-8.127191	0.003012	0.003400
24	P3	-8.127178	0.003013	0.003339

28	P3	-8.127021	0.003017	0.004106

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	0.000479633
	stdev	2.33114e-07
MEAN Q	mean	0.000492730
	stdev	2.62904e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127850
	stdev	0.00115531
STDEV Q	mean	0.128090
	stdev	0.00116881

5.3 - Gain imbalance I/Q

6 - Doppler Analysis

6.1 - Unbiased Doppler Error

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

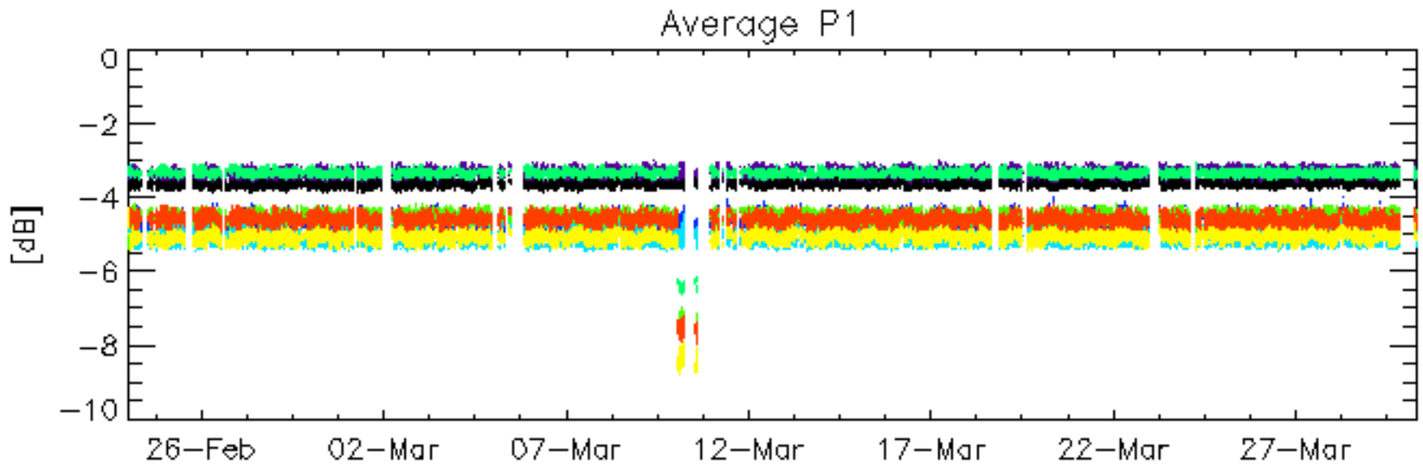
6.2 - Absolute Doppler

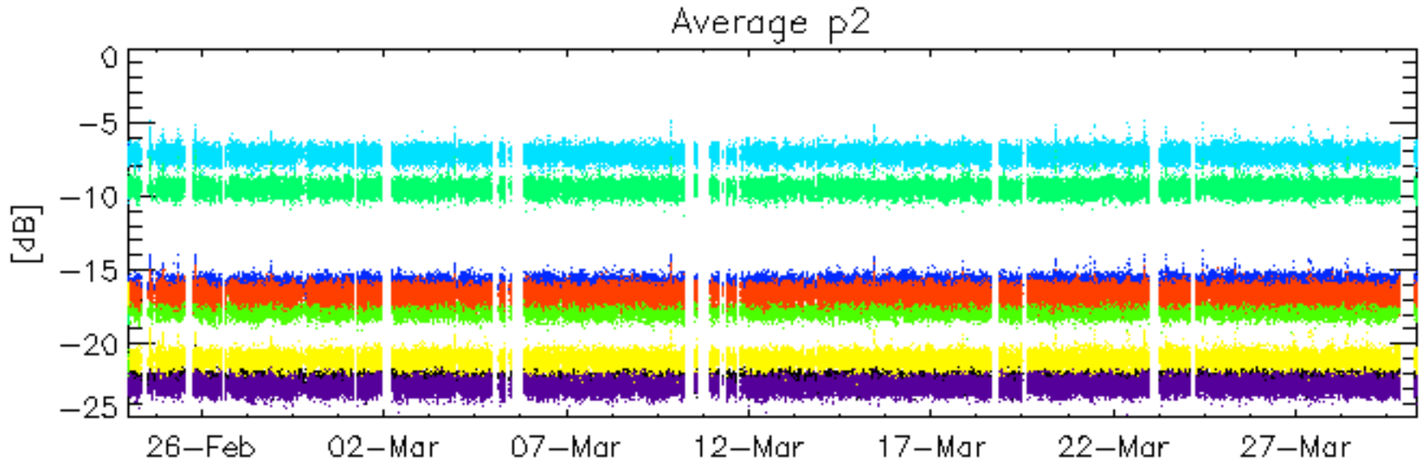
Evolution of Absolute Doppler
Acsending
Descending

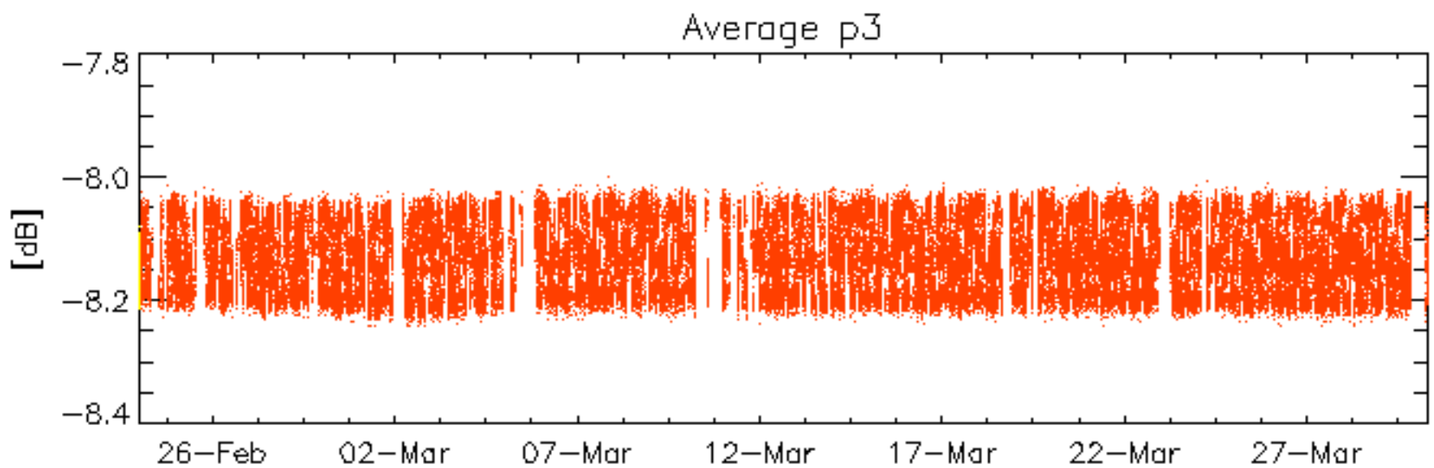
6.3 - Doppler evolution versus ANX

Evolution Doppler error versus ANX
☒

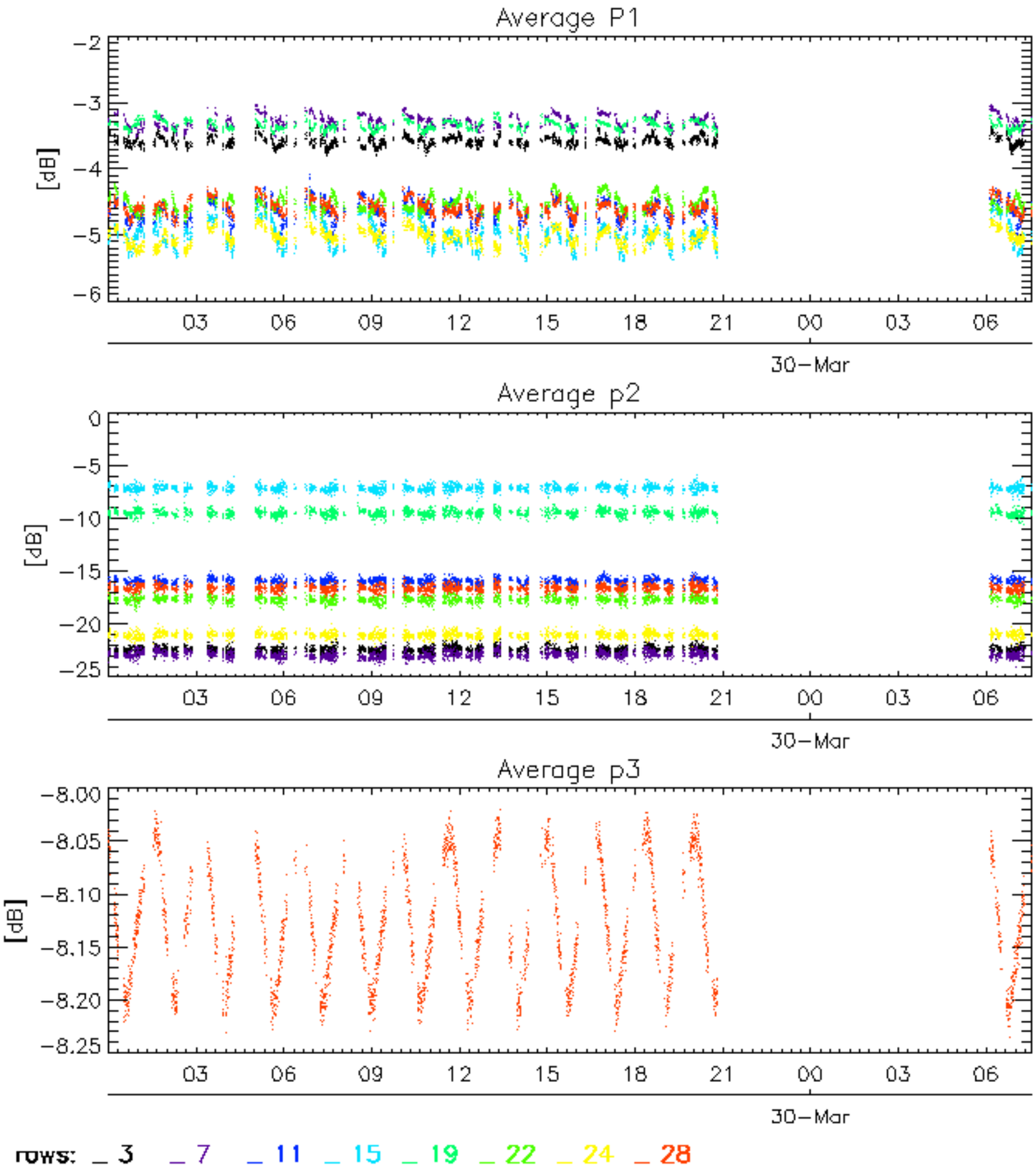
Evolution Doppler error versus ANX
☒





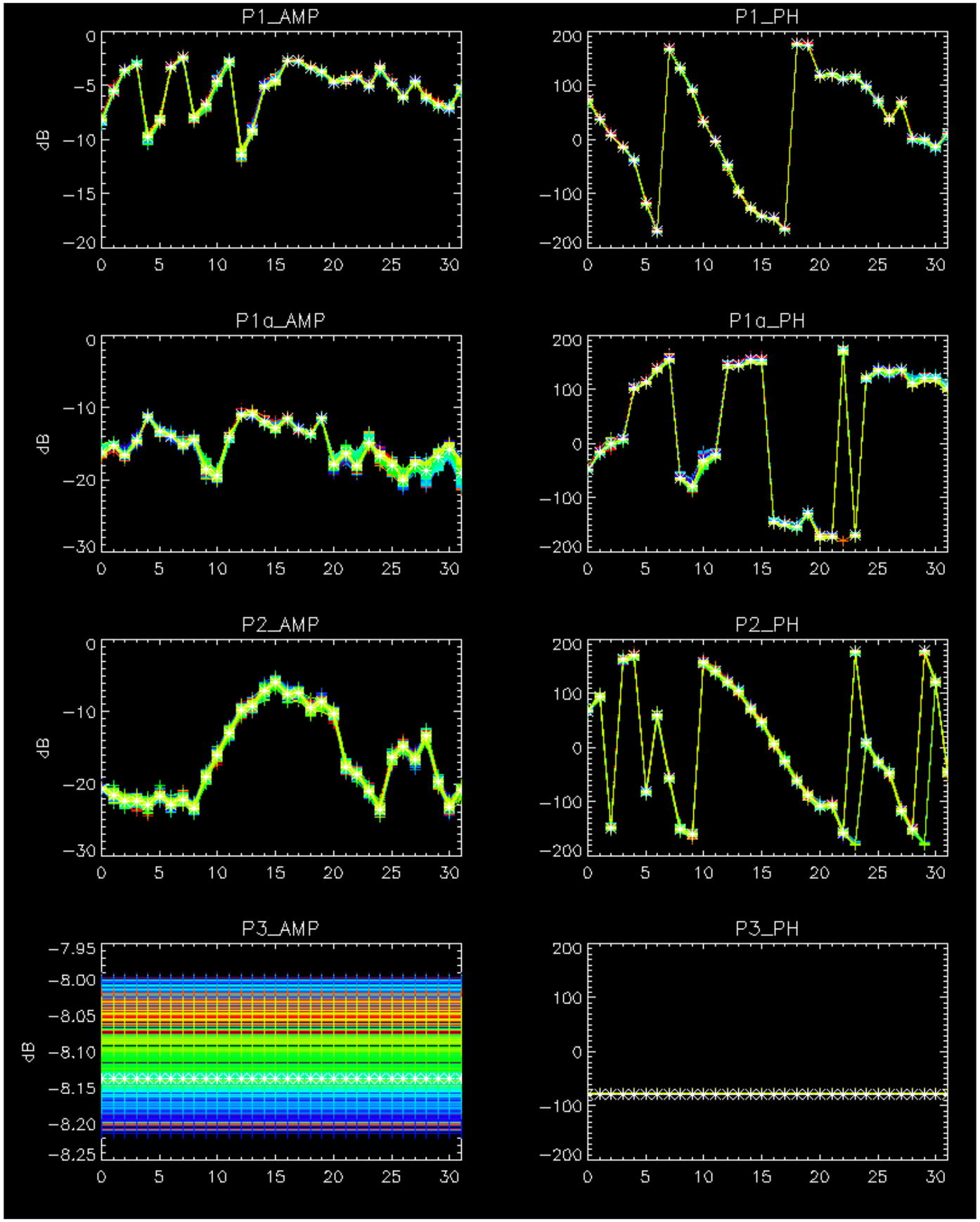


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 28


Average P1
[dB]
−2
−3
−4
−5
−6
03
06
09
12
15
18
21
00
03
06
30−Mar
Average p2
[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
03
06
30−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
30−Mar
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 28

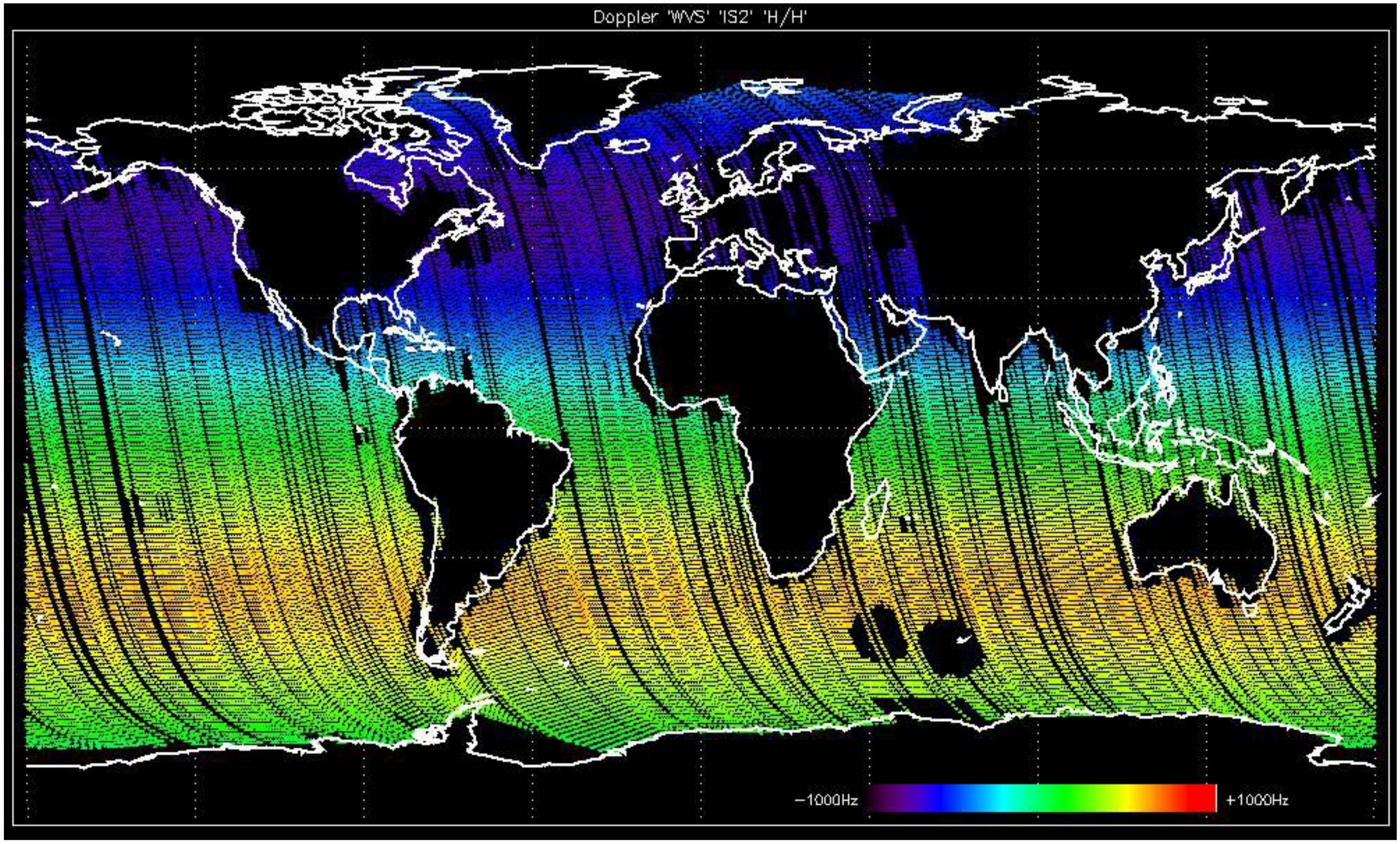
No anomalies observed on available browse products

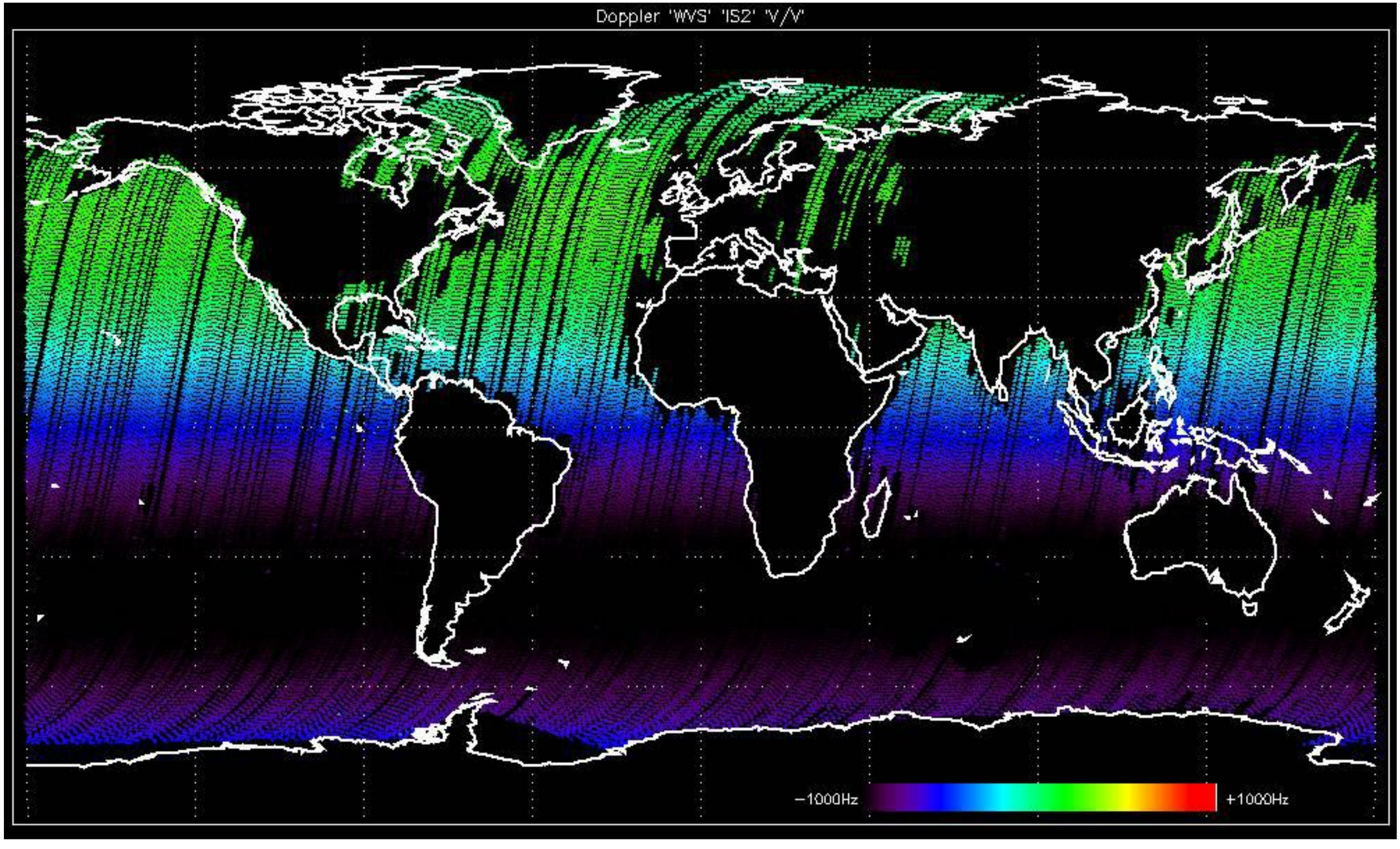
No anomalies observed.

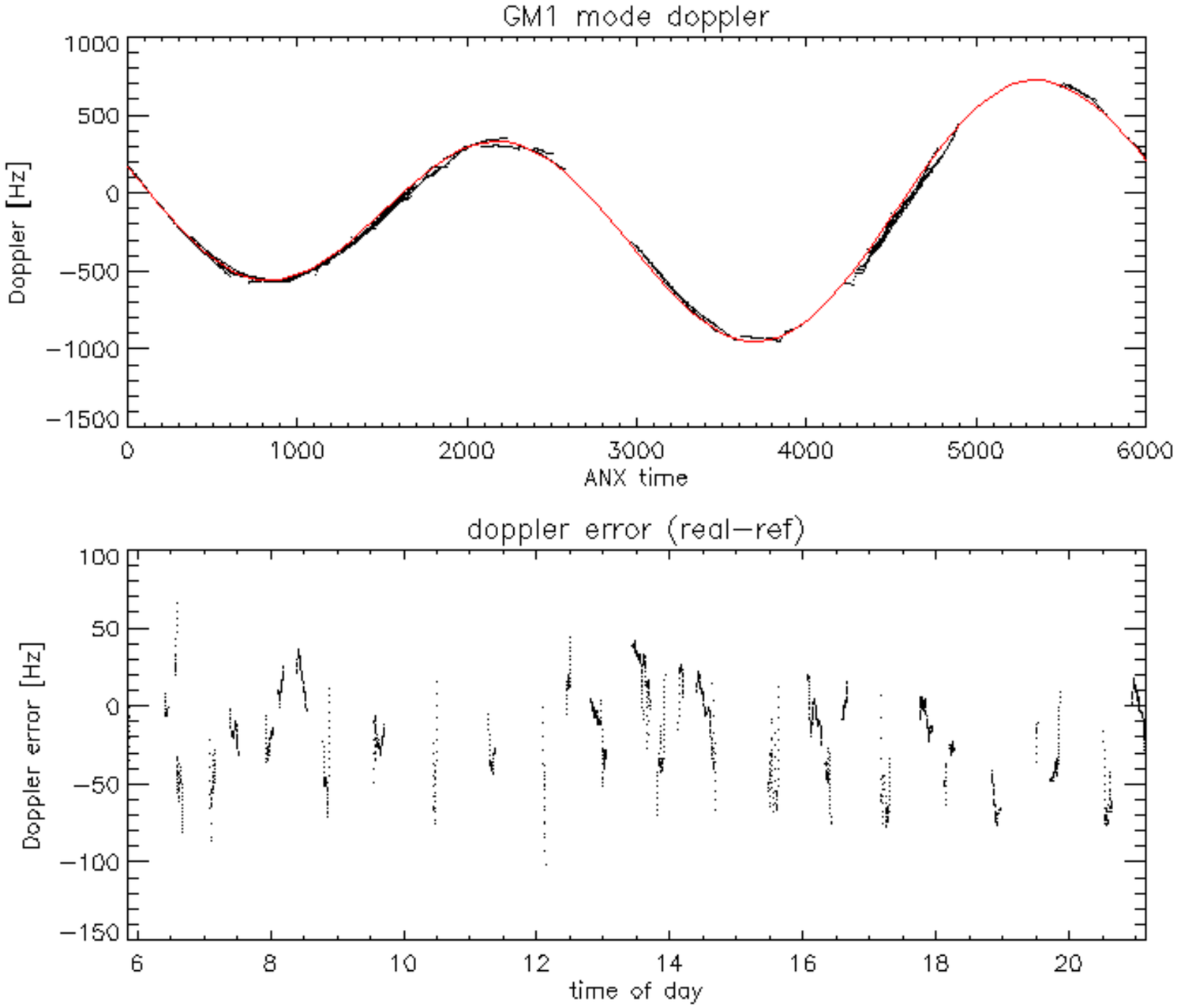

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.95
−8.00
−8.05
−8.10
−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

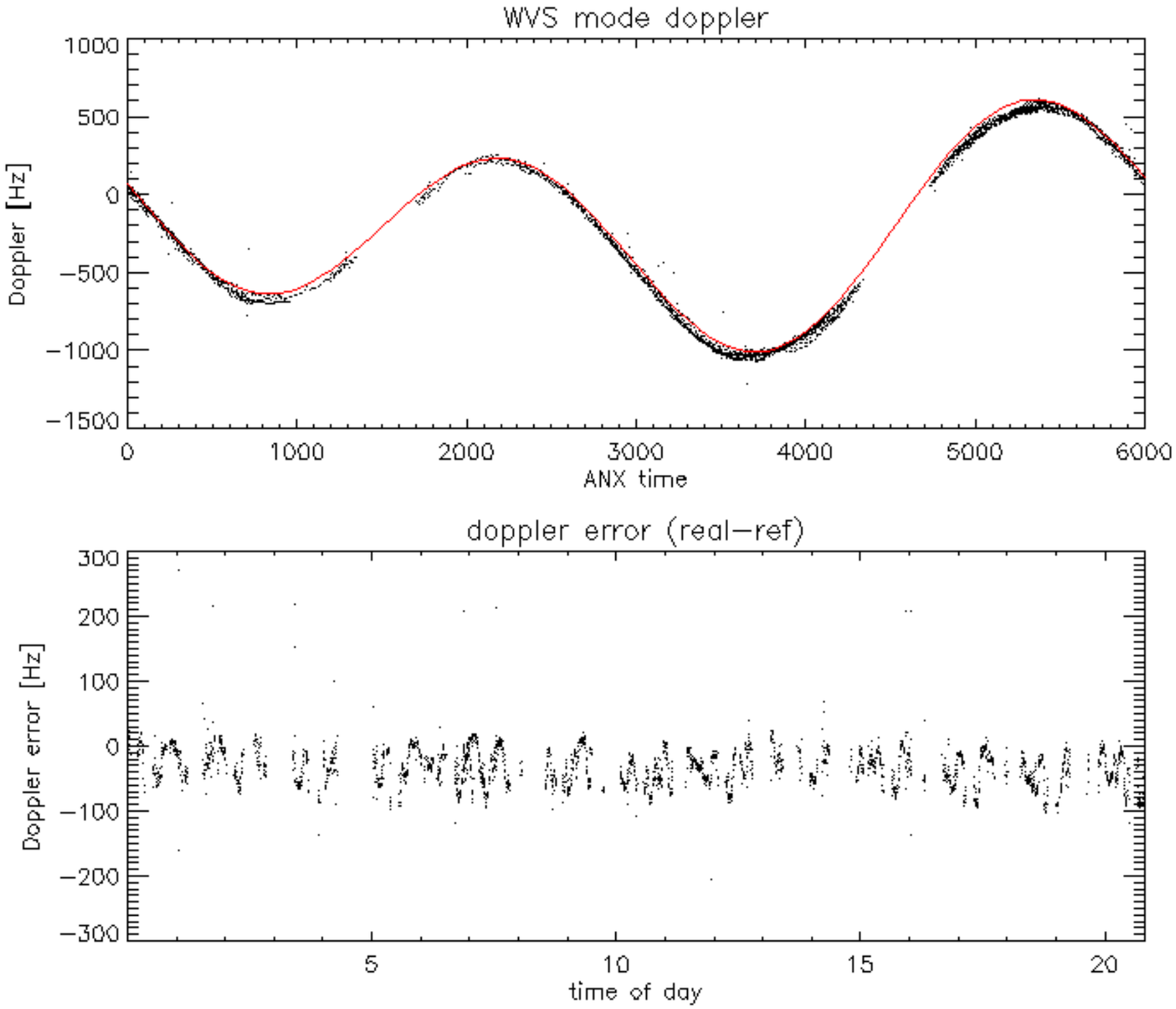
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

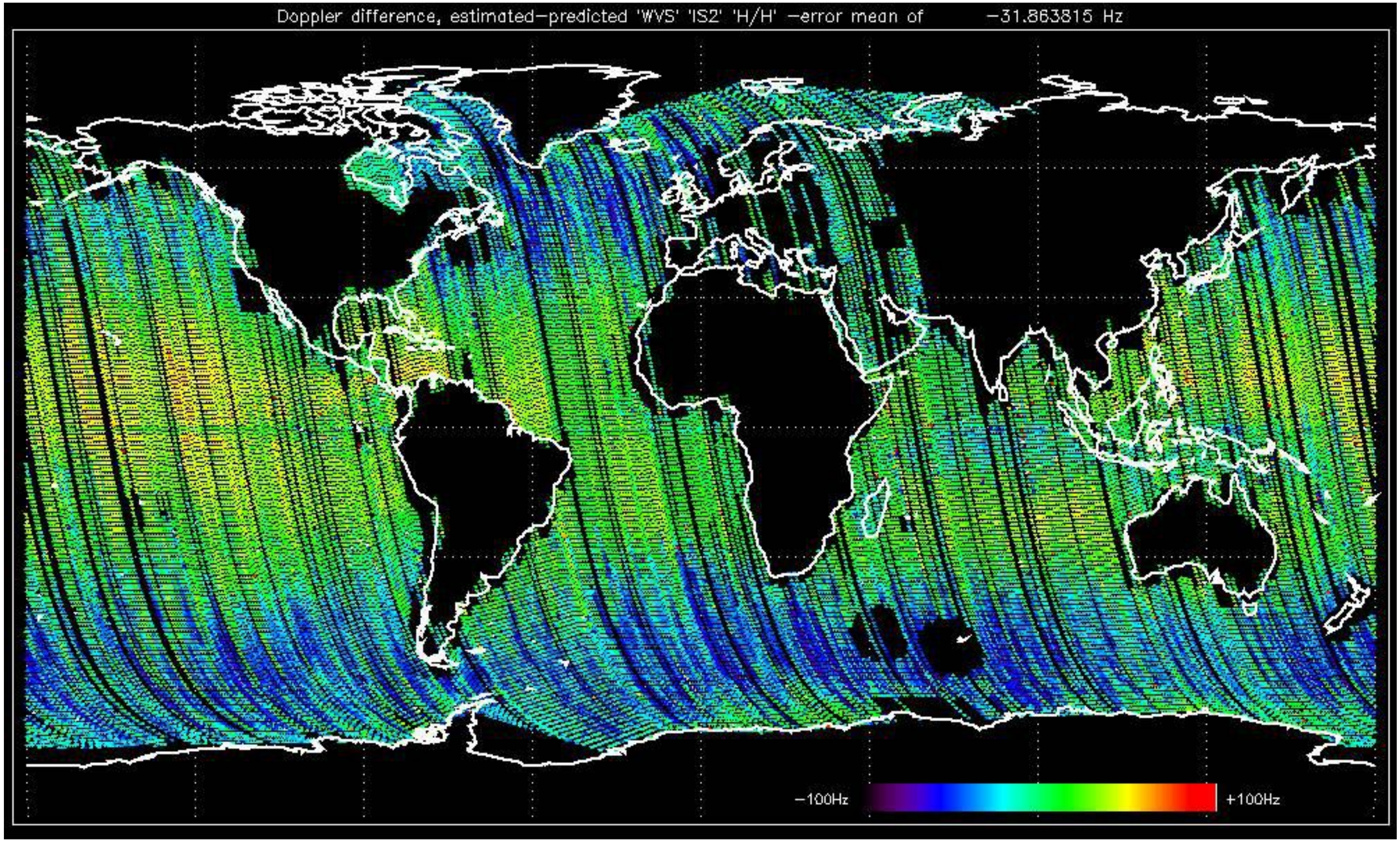
Preliminary report.The data is not yet controled

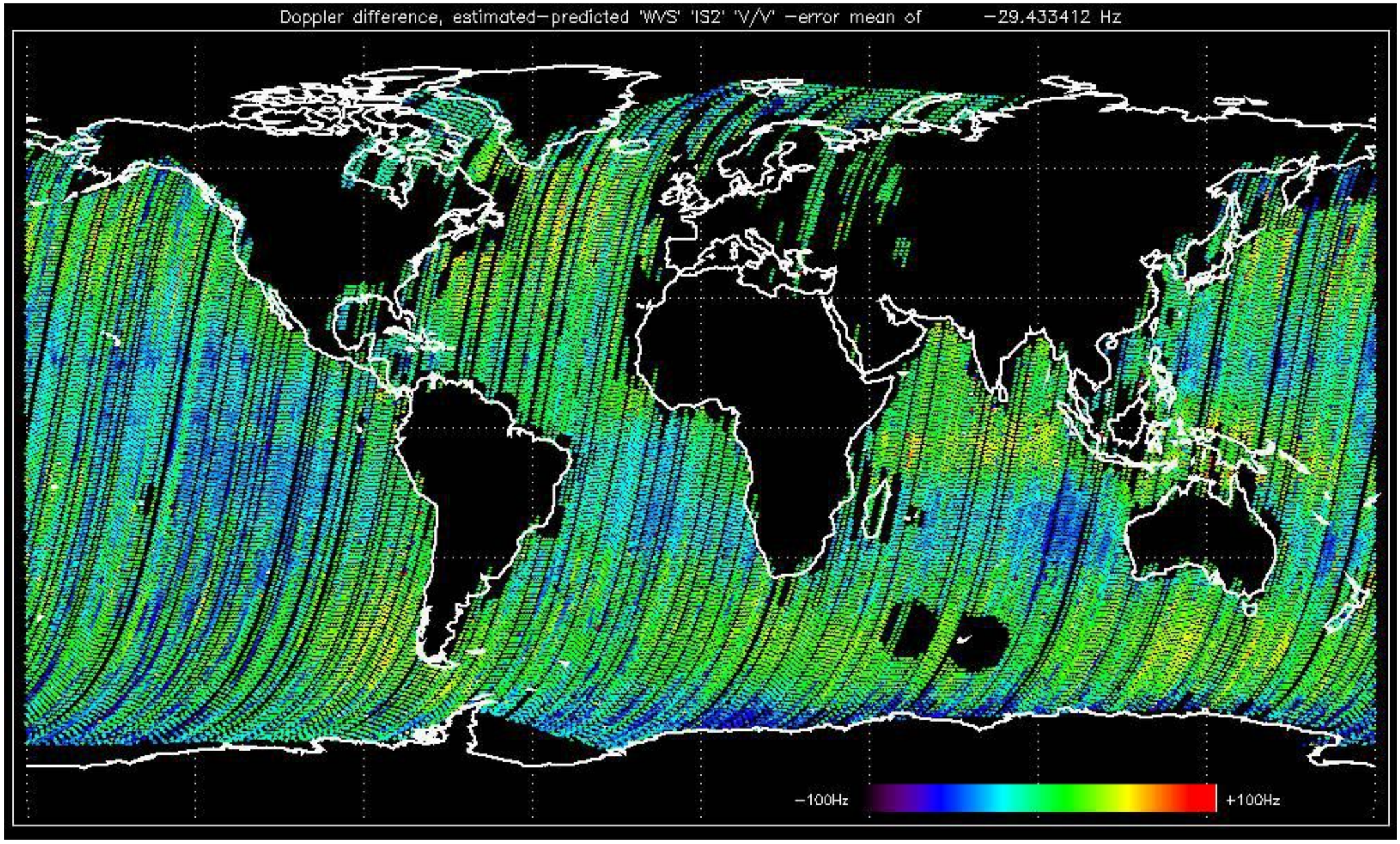

Doppler 'WVS' 'IS2' 'H/H'
−1000Hz
+1000Hz


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
−150
6
8
10
12
14
16
18
20
time of day

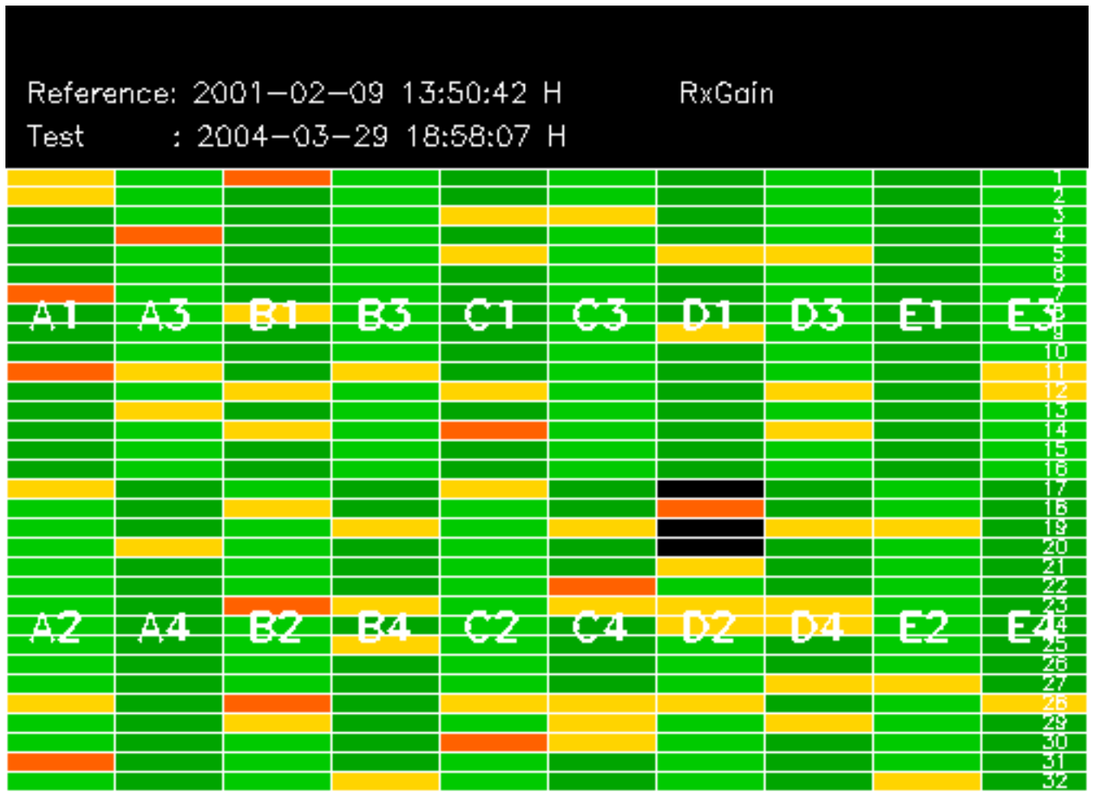

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
ANX time
doppler error (real−ref)
Doppler error [Hz]
300
200
100
0
−100
−200
−300
5
10
15
20
time of day


Doppler difference, estimated-predicted 'WVS' 'IS2' 'H/H' -error mean of -31.863815 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' 'V/V' −error mean of −29.433412 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 : 2004-03-29 18:58:07 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
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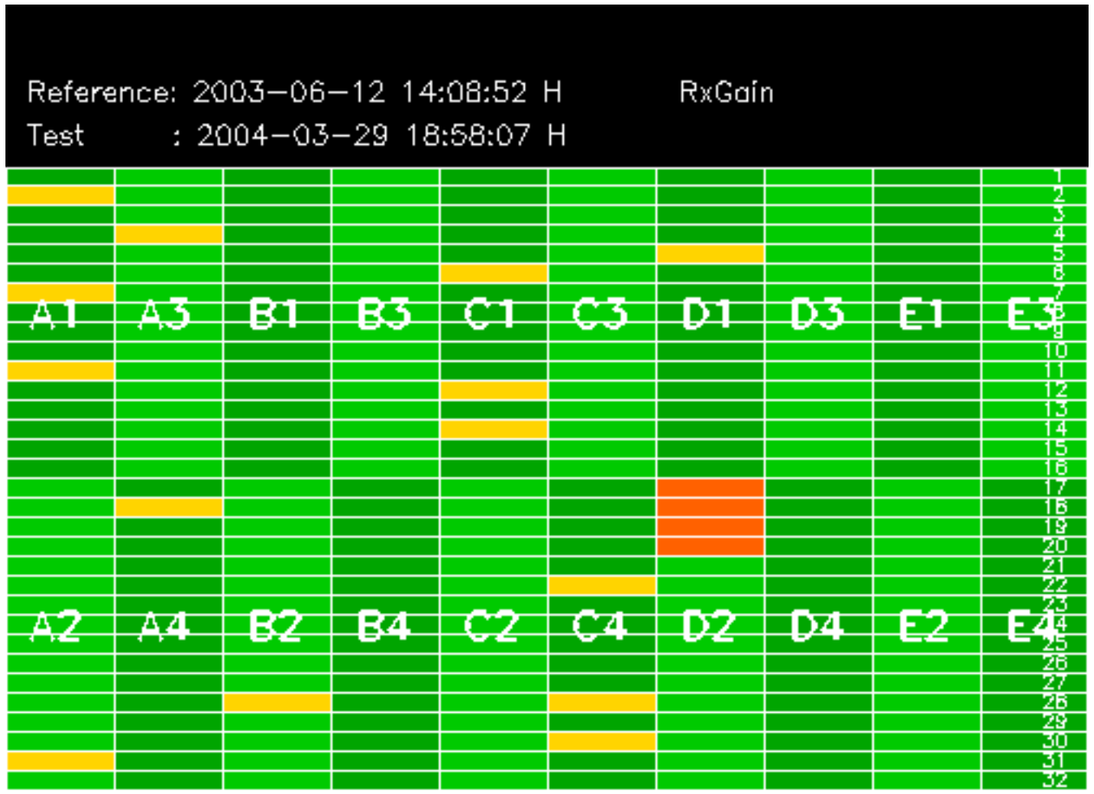
Reference: 2003-06-12 14:08:52 H
Test : 2004-03-29 18:58:07 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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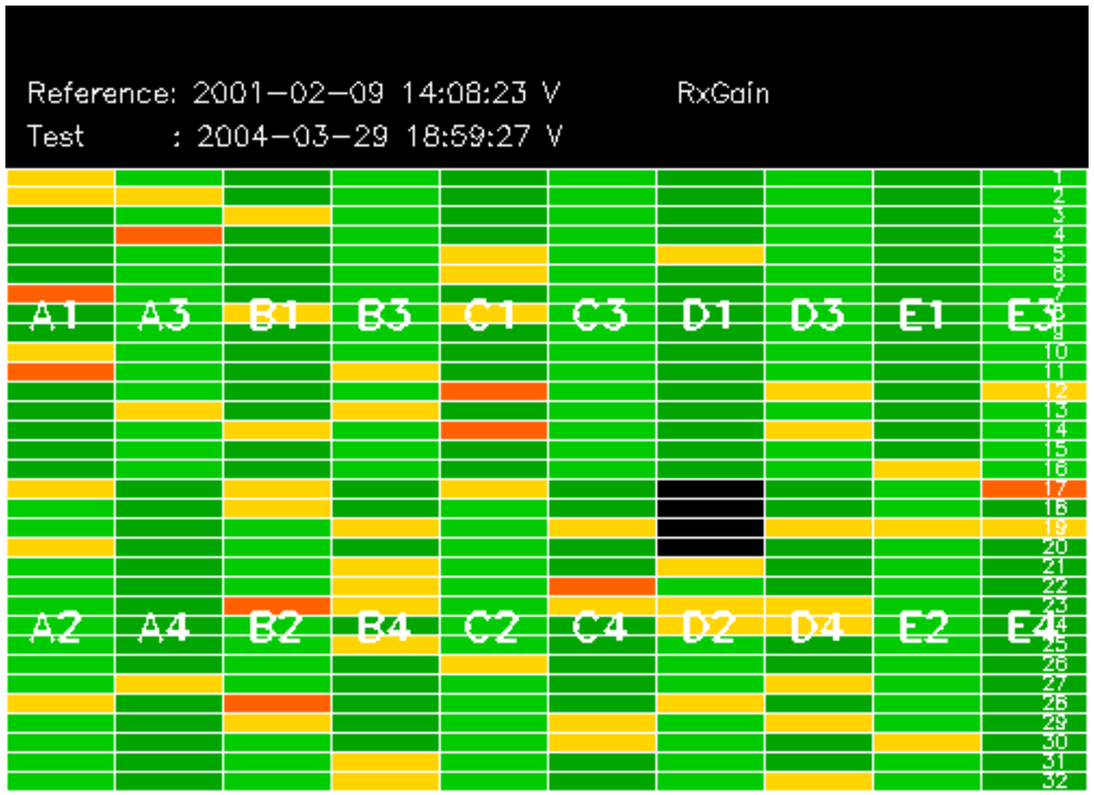
Reference: 2001-02-09 14:08:23 V
Test : 2004-03-29 18:59:27 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
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8
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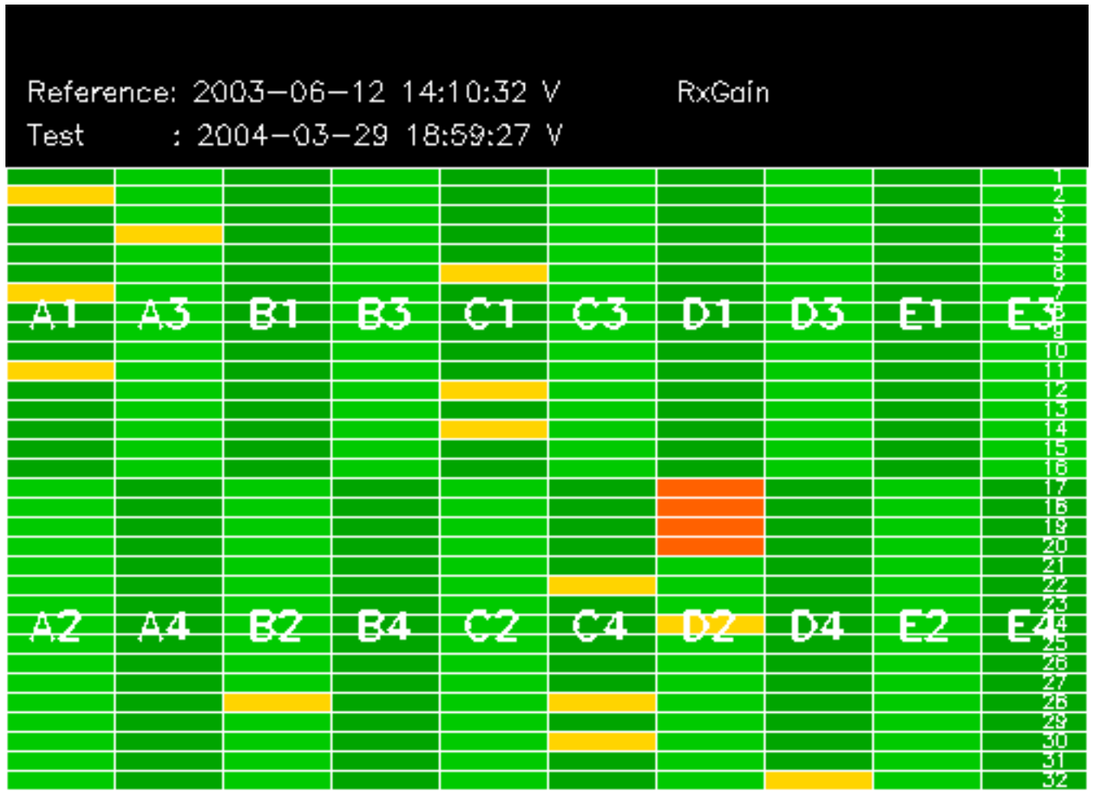
Reference: 2003-06-12 14:10:32 V
Test : 2004-03-29 18:59:27 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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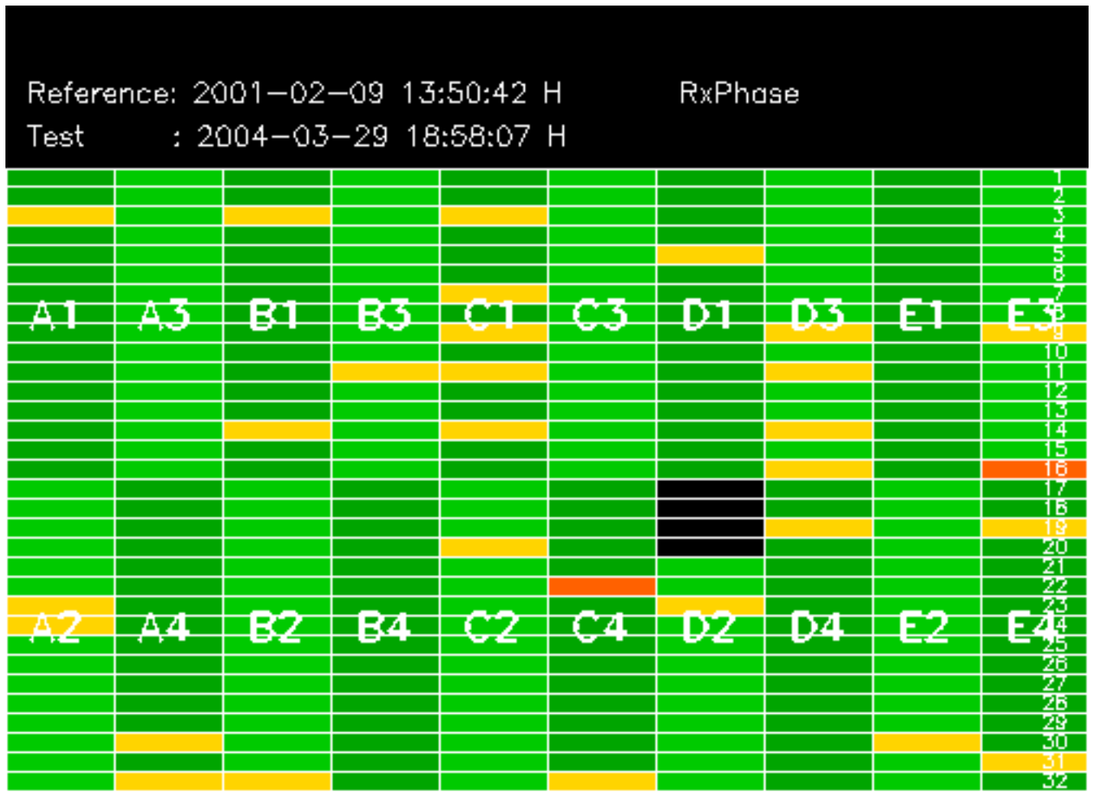
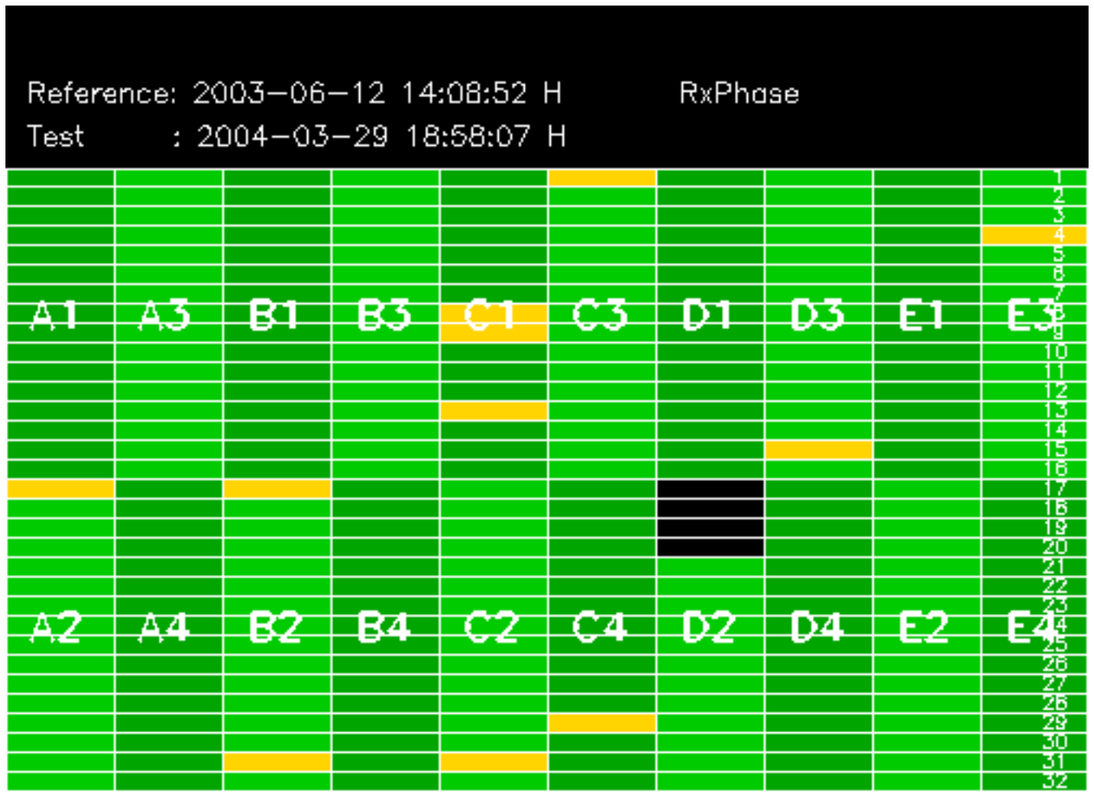
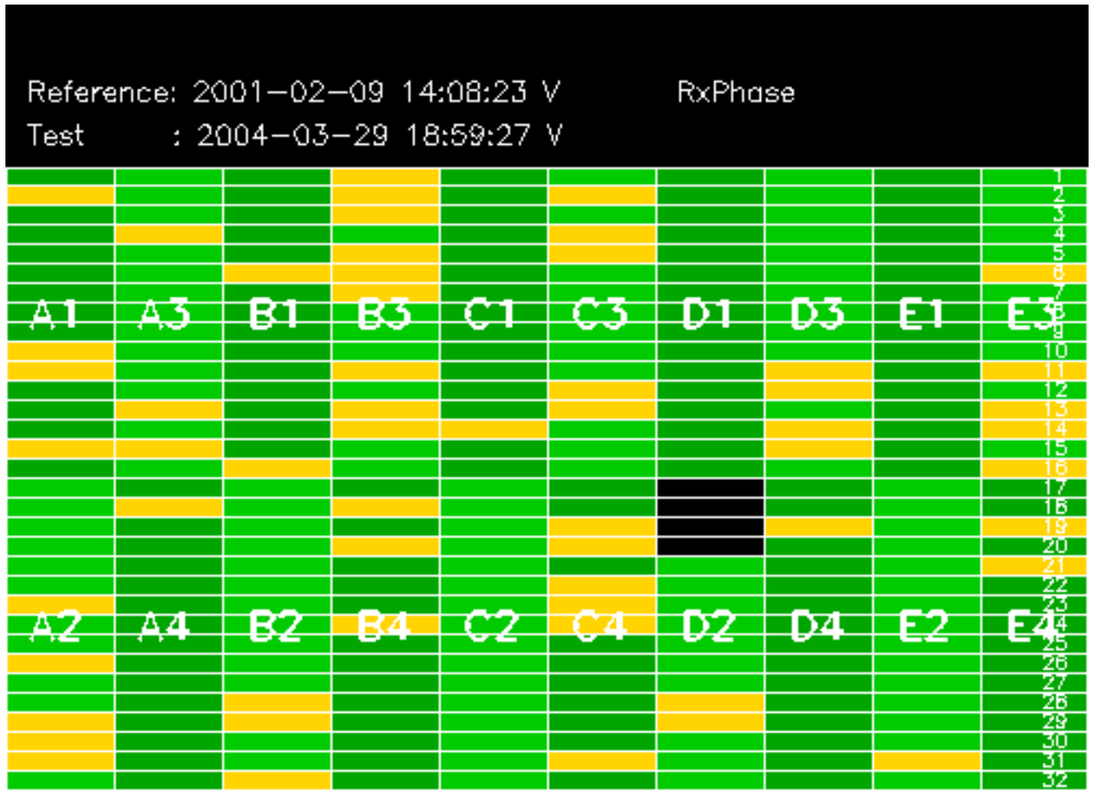

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-03-29 18:58:07 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-03-29 18:58:07 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 : 2004-03-29 18:59:27 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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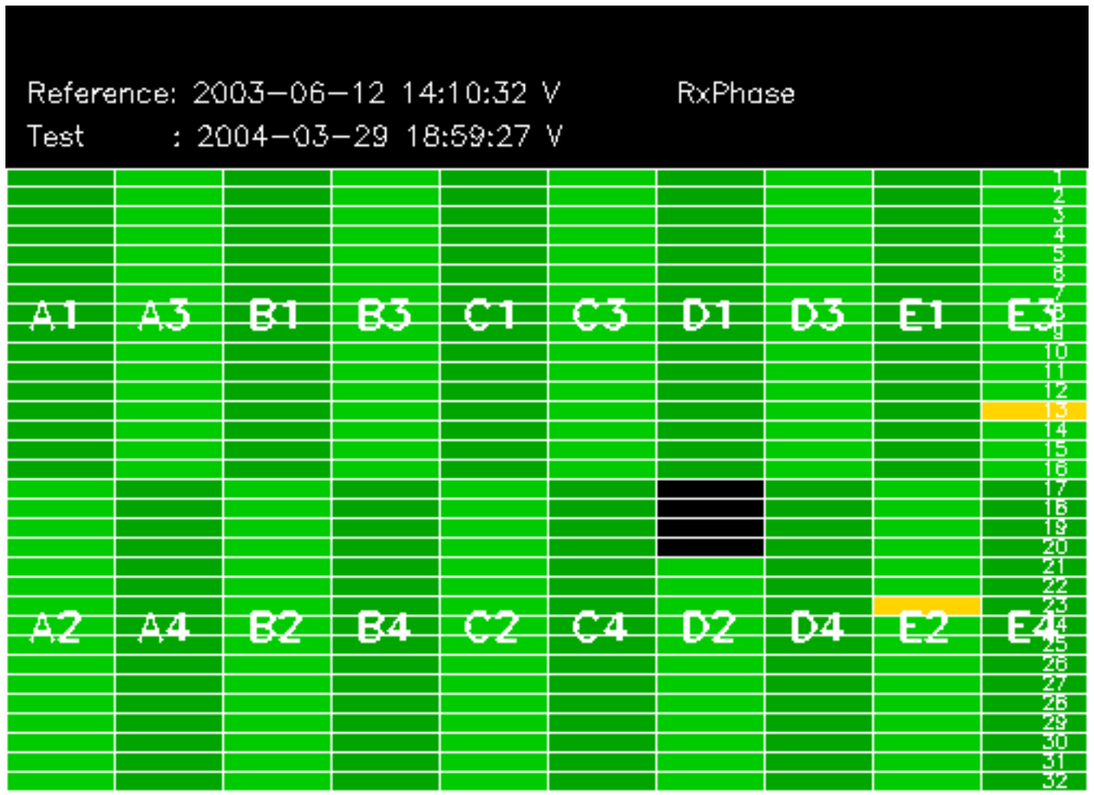
Reference: 2003-06-12 14:10:32 V
Test : 2004-03-29 18:59:27 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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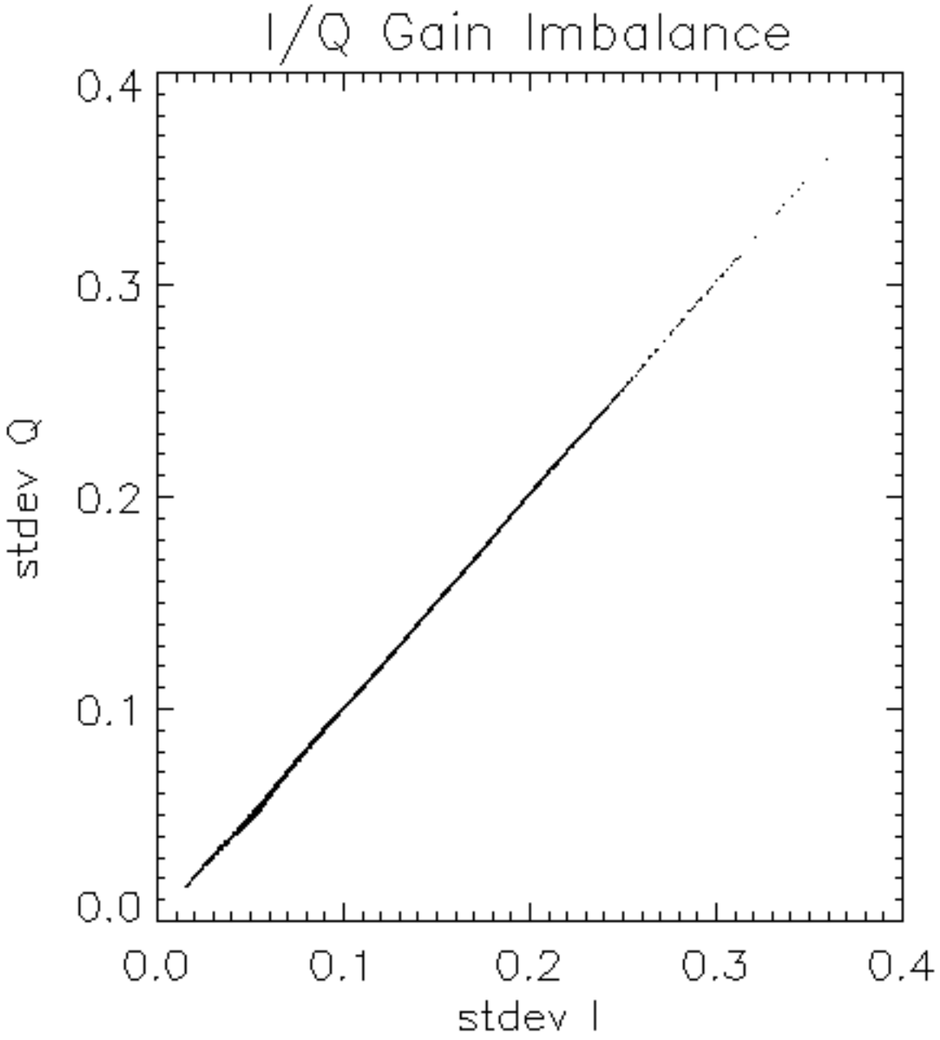
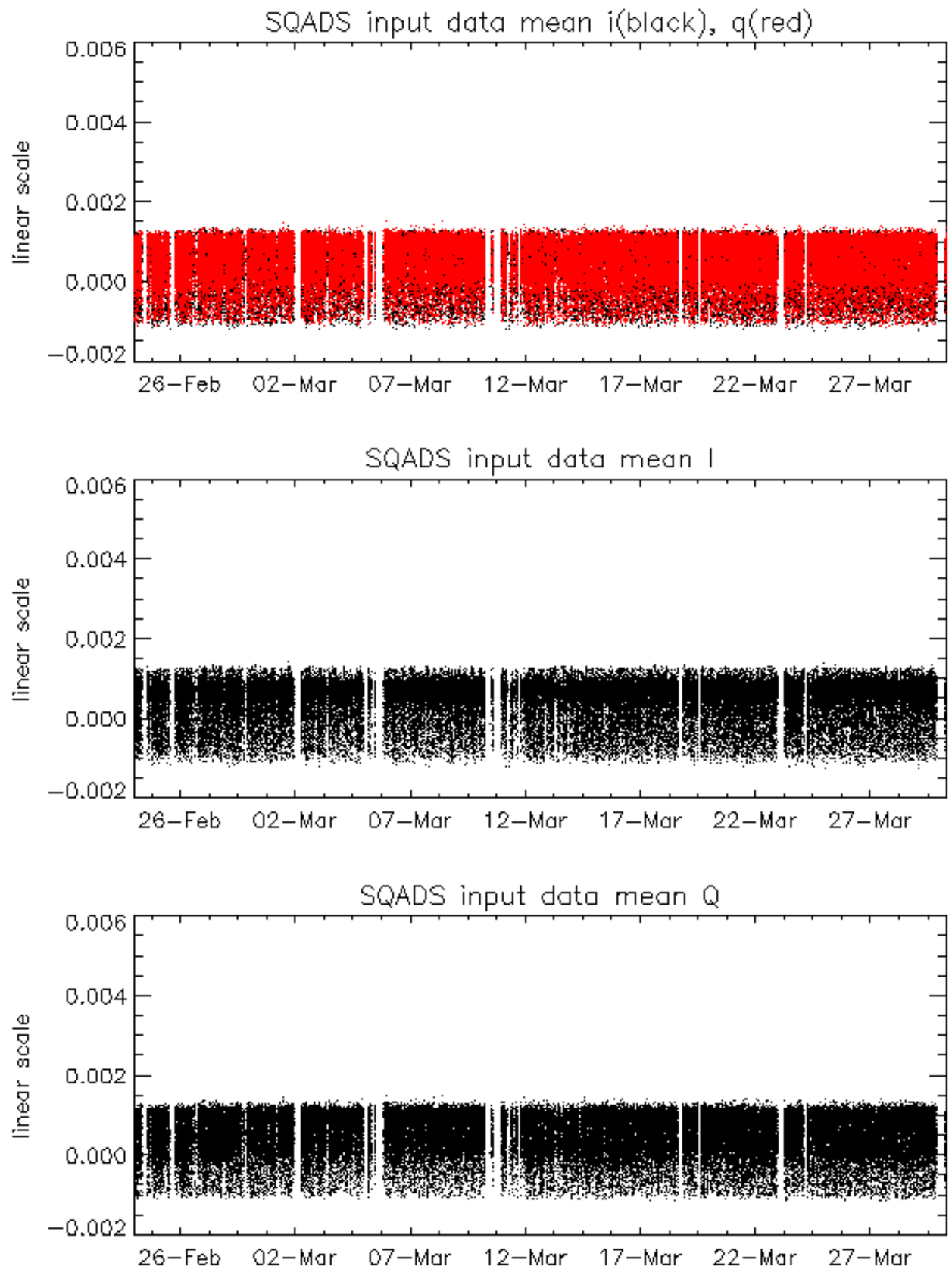
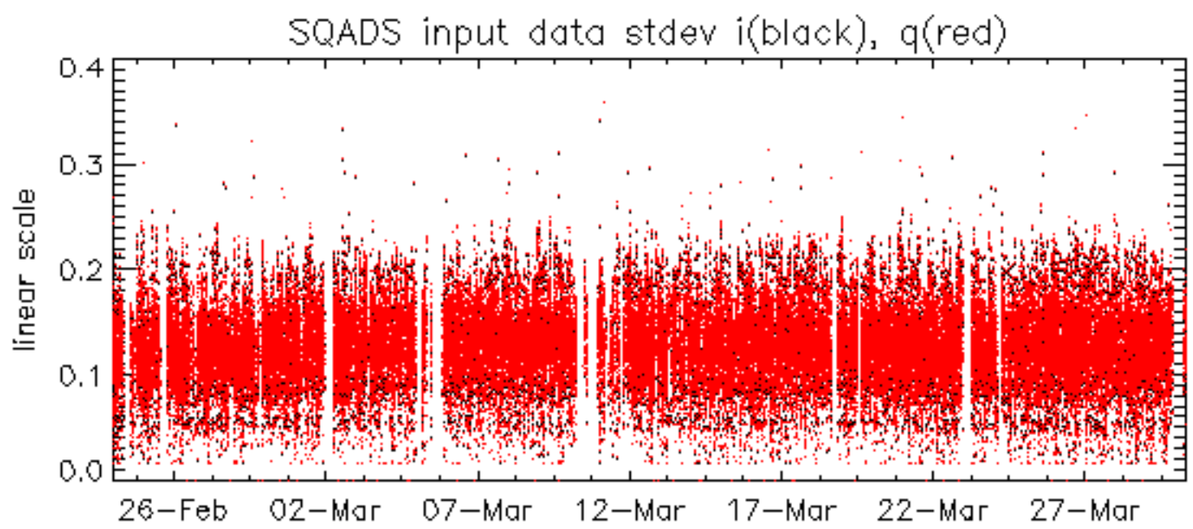
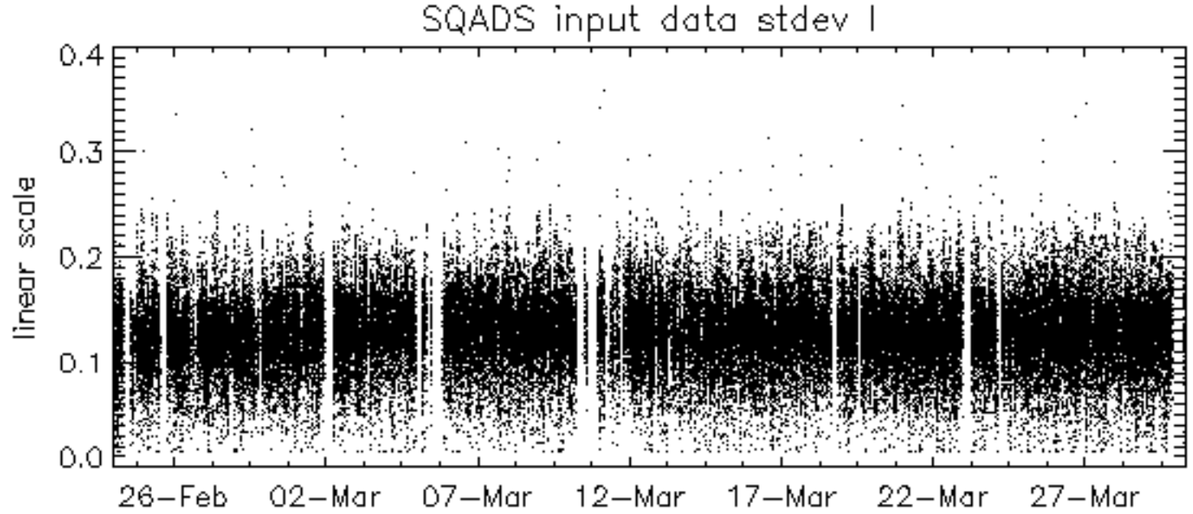
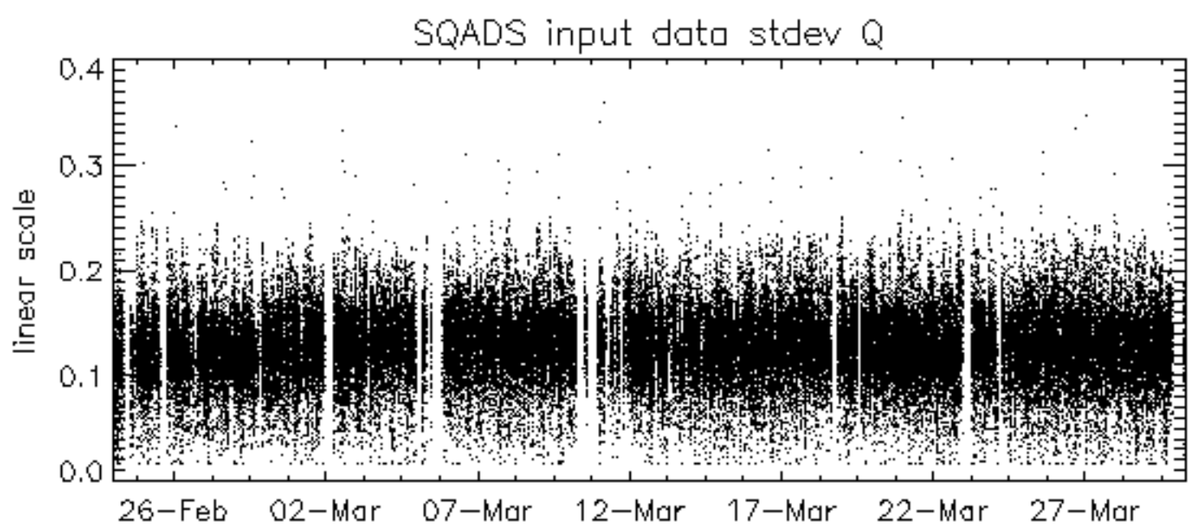
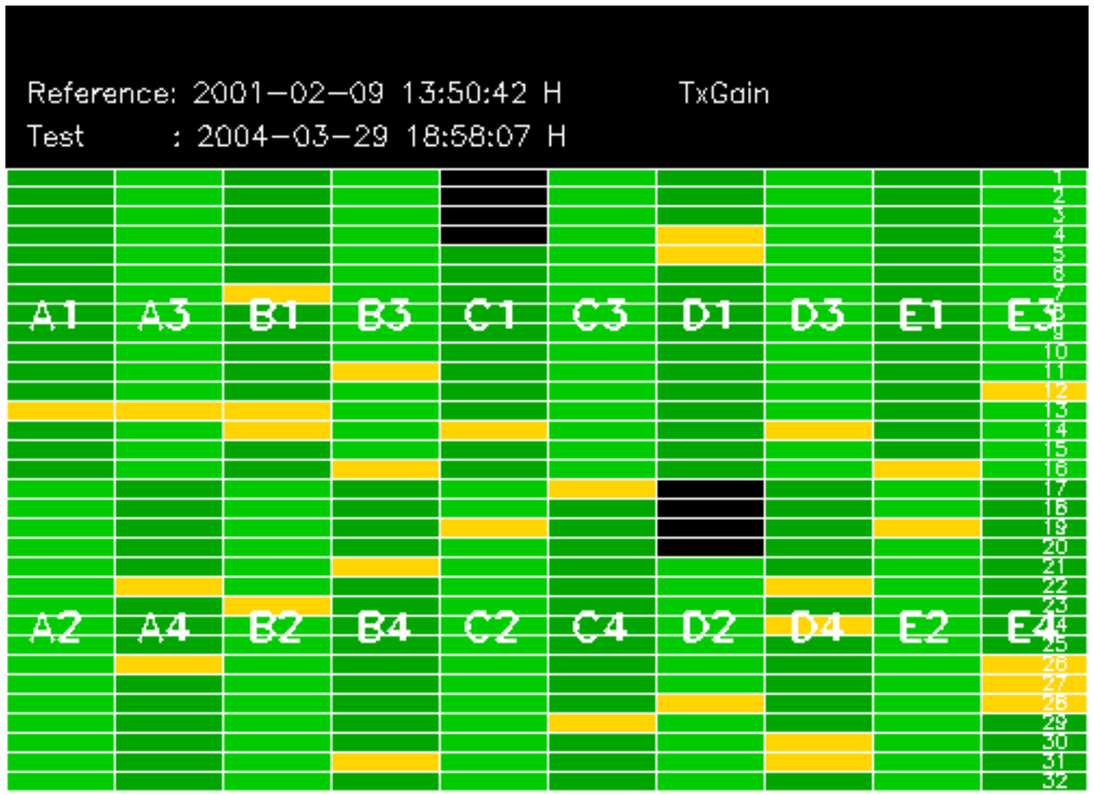

I/Q Gain Imbalance
stdev Q
stdev I
0.0
0.1
0.2
0.3
0.4

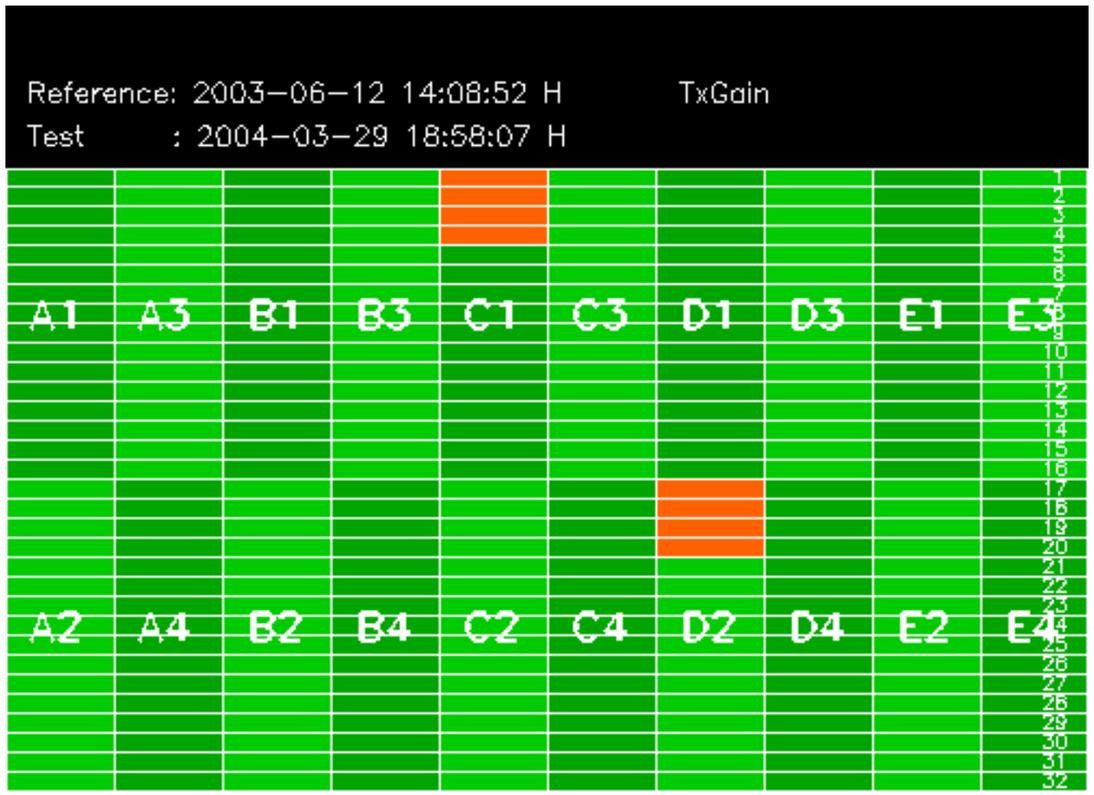

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Feb
02−Mar
07−Mar
12−Mar
17−Mar
22−Mar
27−Mar
SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Feb
02−Mar
07−Mar
12−Mar
17−Mar
22−Mar
27−Mar
SQADS input data mean Q
linear scale
0.006
0.004
0.002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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2004-03-29 18:58:07 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 : 2004-03-29 18:58:07 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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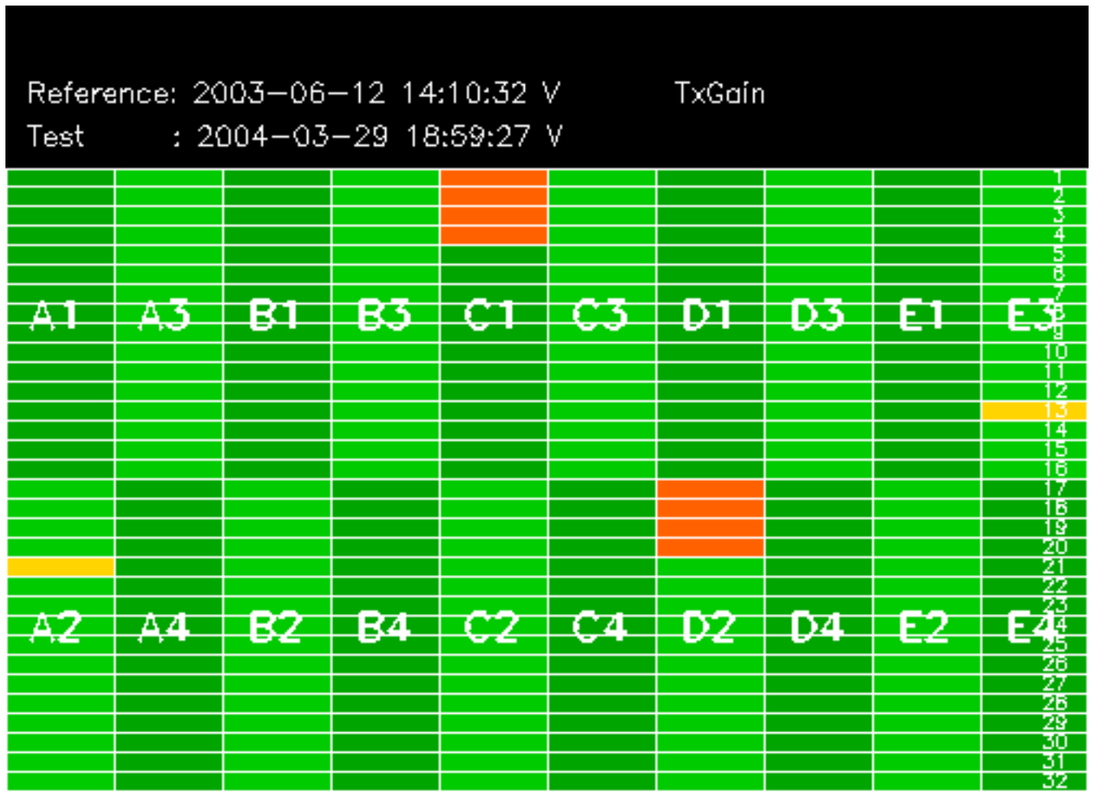
Reference: 2001-02-09 14:08:23 V
Test : 2004-03-29 18:59:27 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-03-29 18:59:27 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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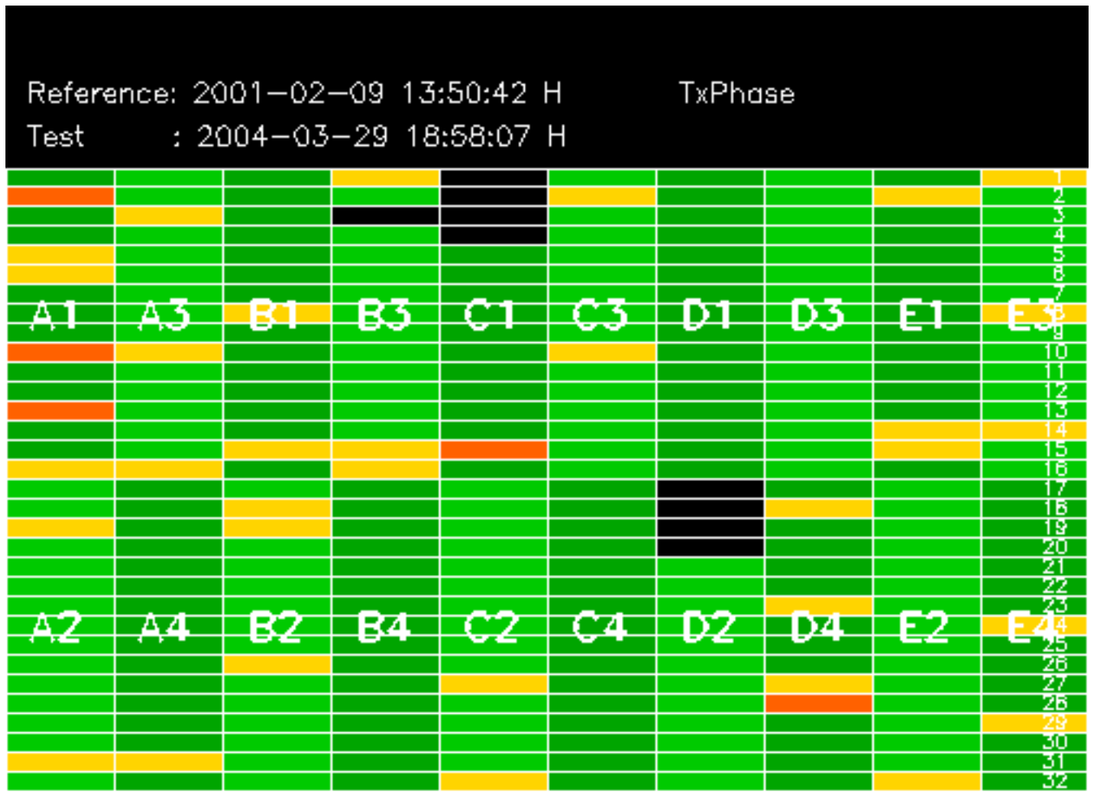
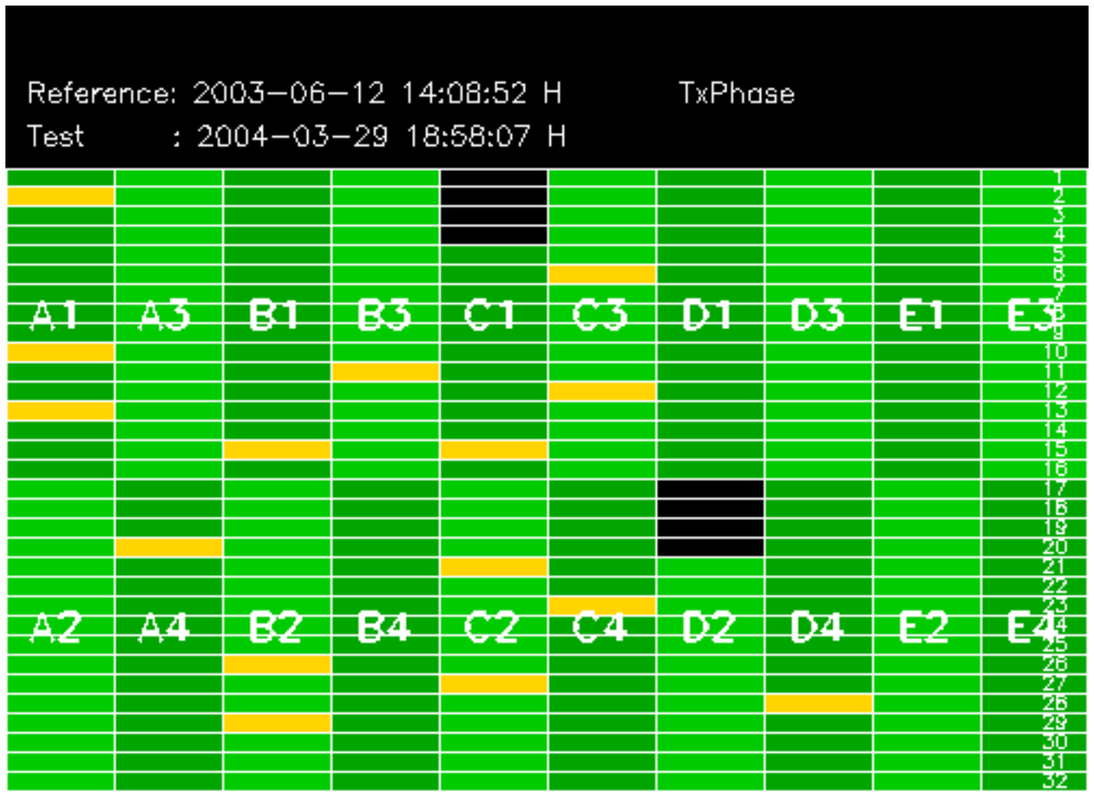

Reference: 2001-02-09 13:50:42 H
Test : 2004-03-29 18:58:07 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-03-29 18:58:07 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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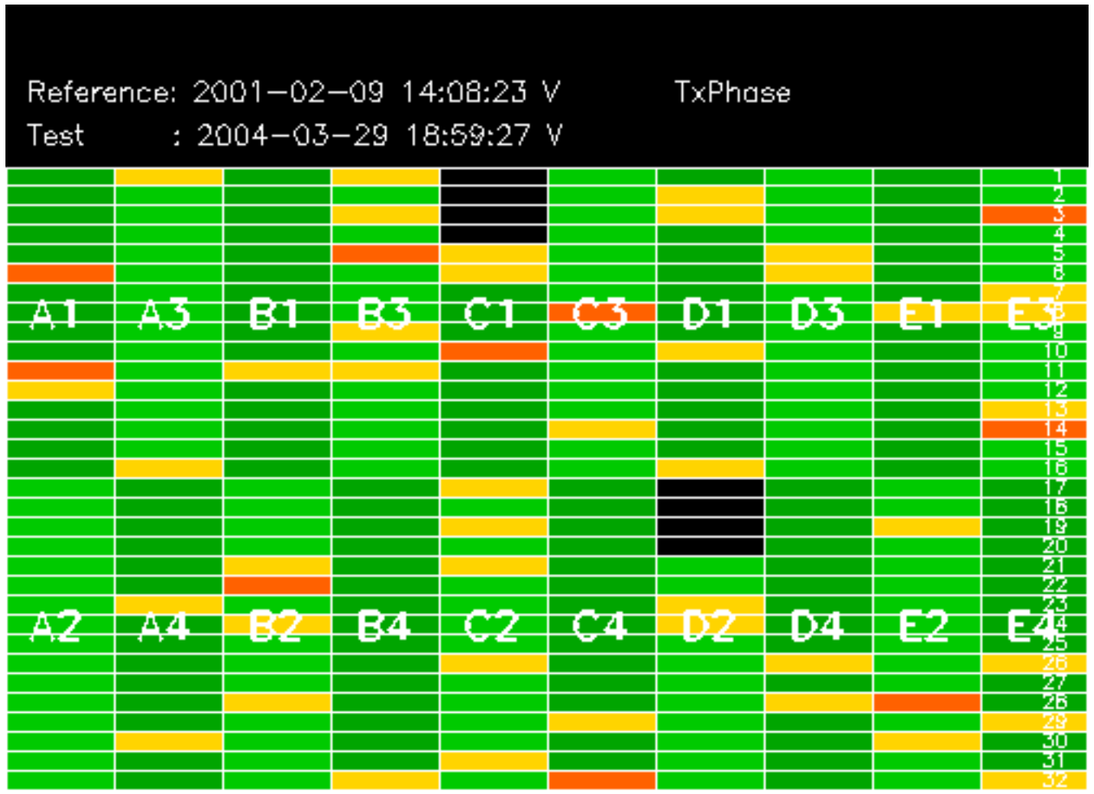
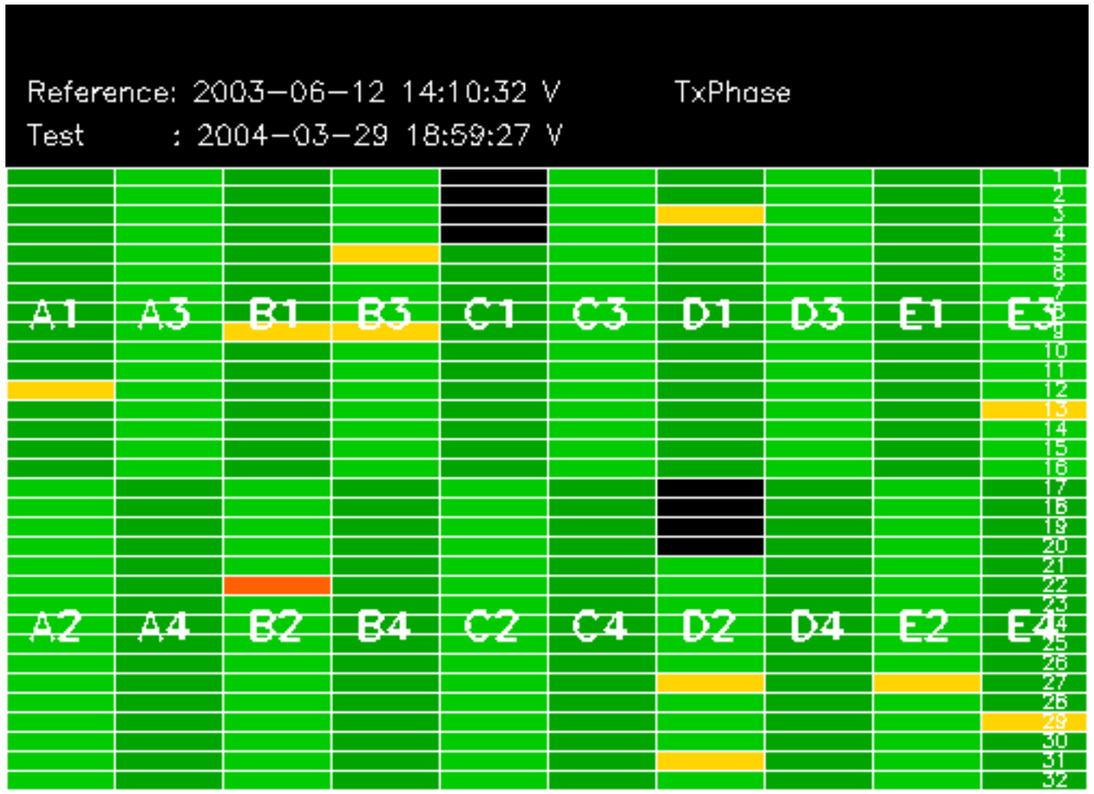

Reference: 2001-02-09 14:08:23 V
Test : 2004-03-29 18:59:27 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-03-29 18:59:27 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

No unavailabilities during the reported period.