REPORT OF 040324

last update on Wed Mar 24 15:19:07 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

ASAR unavailability on 24-MARCH-2004 02:45:17 to 05:39:41

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	20040323 202833
H	20040323 202713

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	-3.608526	0.005972	0.050821
7	P1	-3.317683	0.009430	0.047461
11	P1	-4.795947	0.262899	0.707000
15	P1	-5.007791	0.033992	0.019287
19	P1	-3.348147	0.073004	-0.030485
22	P1	-4.546114	0.070658	-0.014919
24	P1	-5.100831	0.090931	0.026765
28	P1	-4.580171	0.076037	-0.059148

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.381775	0.081800	-0.026863
7	P2	-22.892269	0.127473	-0.018906
11	P2	-16.017323	0.155717	0.049388
15	P2	-7.174385	0.091887	0.013144
19	P2	-9.483863	0.171183	-0.005361
22	P2	-17.673683	0.103291	0.035368
24	P2	-21.033285	0.112666	-0.032308
28	P2	-16.593426	0.087411	-0.013727

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.127655	0.003001	0.008030
7	P3	-8.127653	0.003000	0.007997
11	P3	-8.127653	0.002999	0.007969
15	P3	-8.127647	0.002999	0.007933
19	P3	-8.127648	0.002999	0.007910
22	P3	-8.127647	0.003000	0.007882
24	P3	-8.127639	0.003000	0.007842

28	P3	-8.127509	0.002998	0.008248

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	0.000469153
	stdev	2.36872e-07
MEAN Q	mean	0.000488250
	stdev	2.61457e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127321
	stdev	0.00113159
STDEV Q	mean	0.127556
	stdev	0.00114436

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
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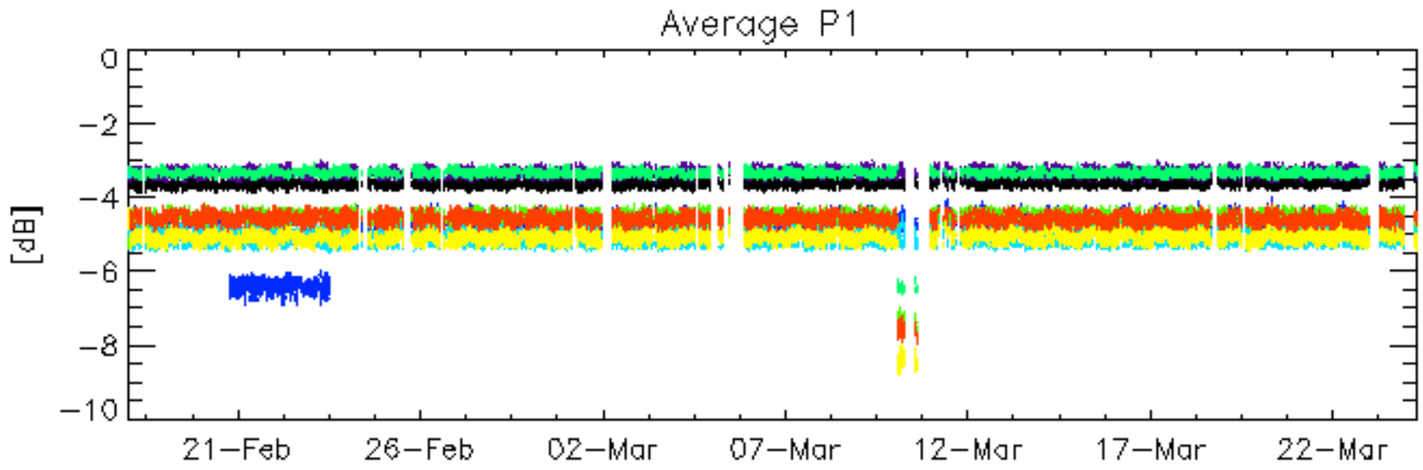
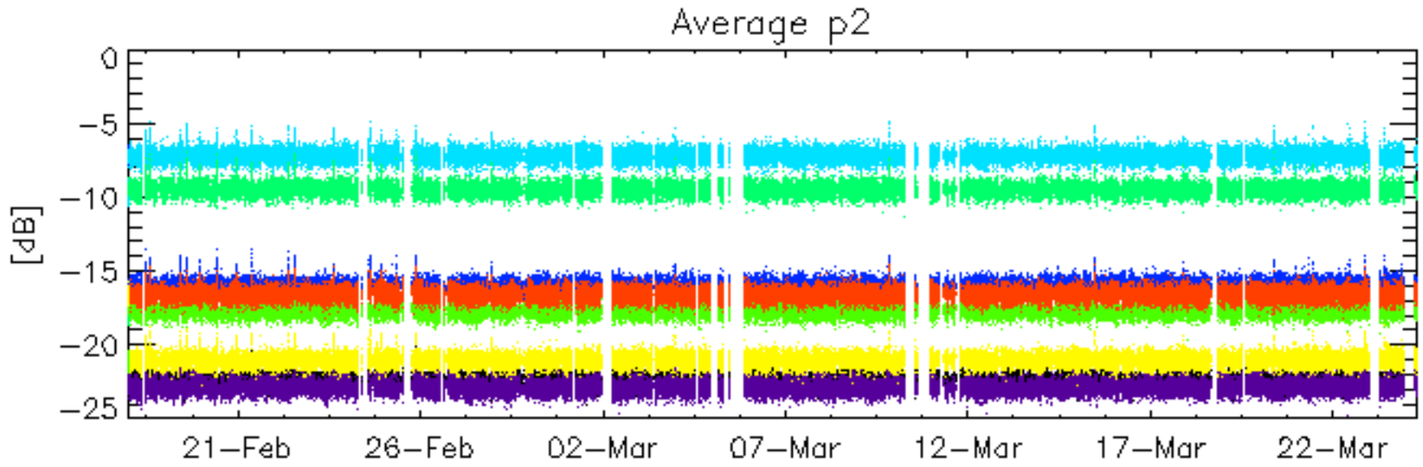
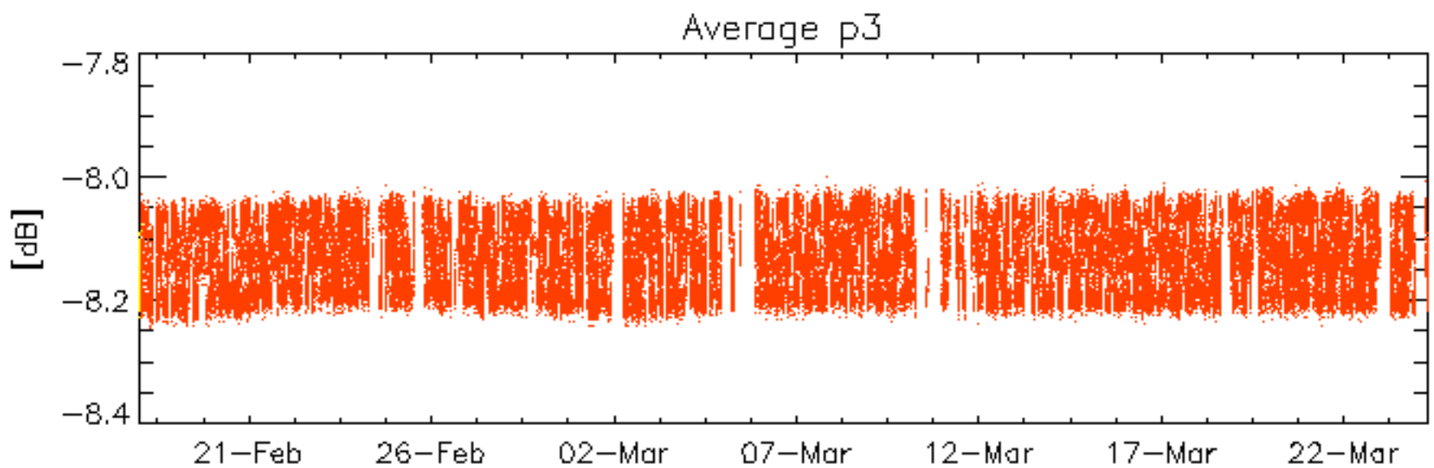
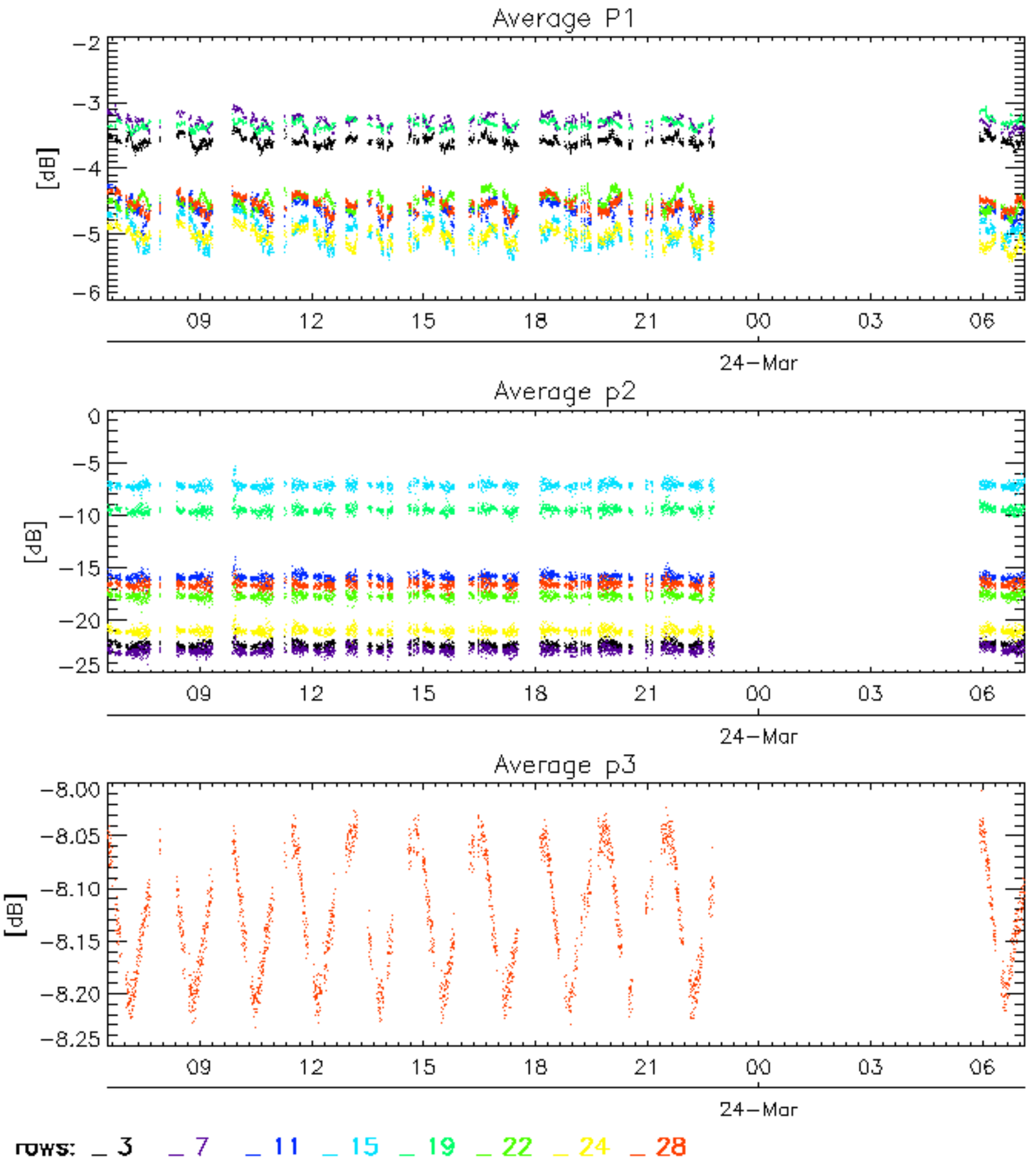
Evolution Doppler error versus ANX
☒





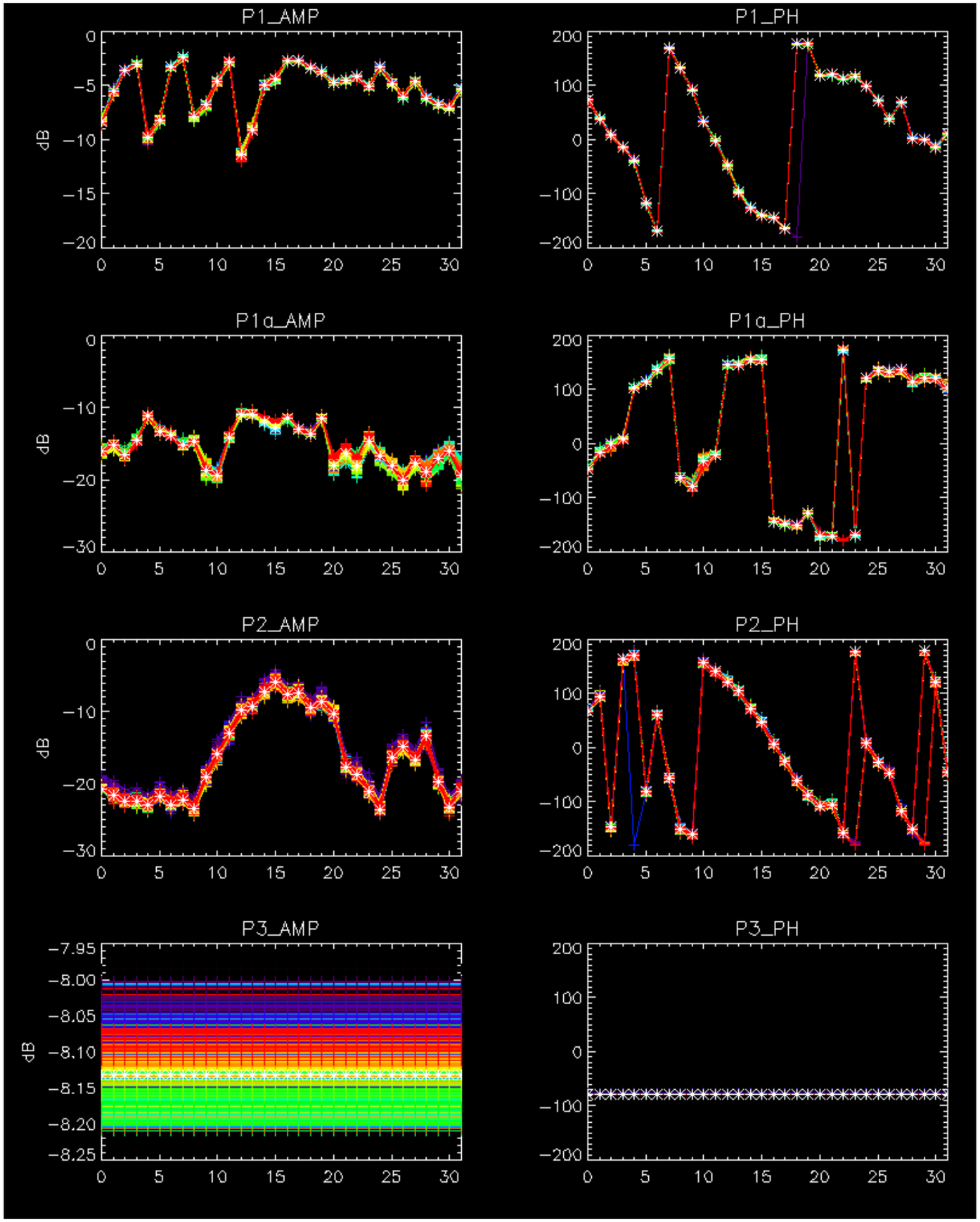


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 28


Average P1
[dB]
−2
−3
−4
−5
−6
09
12
15
18
21
00
03
06
24−Mar
Average p2
[dB]
0
−5
−10
−15
−20
−25
09
12
15
18
21
00
03
06
24−Mar
Average p3
[dB]
−8.00
−8.05
−8.10
−8.15
−8.20
−8.25
09
12
15
18
21
00
03
06
24−Mar
rows: 3 7 11 15 19 22 24 28

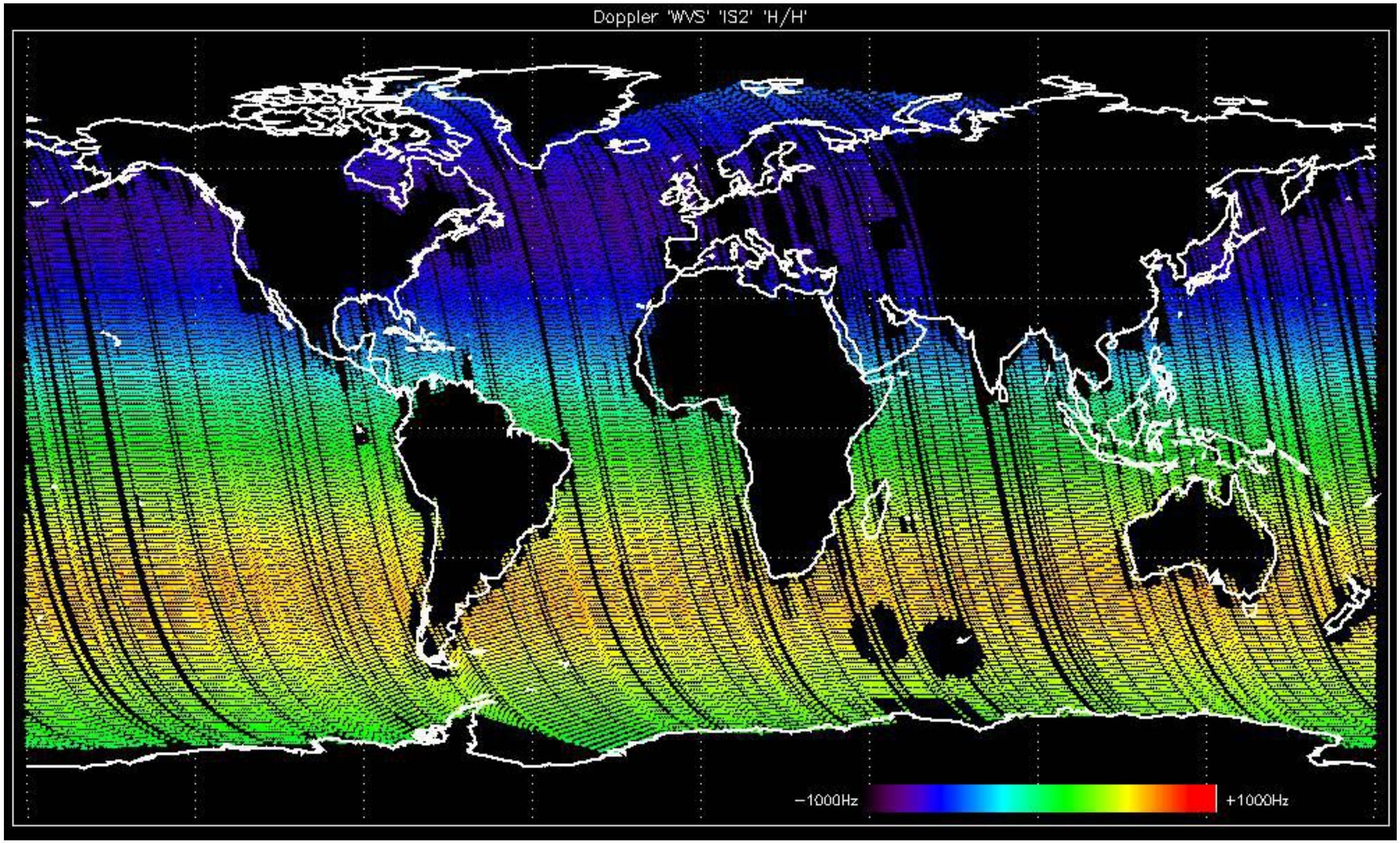
No anomalies observed on available browse products

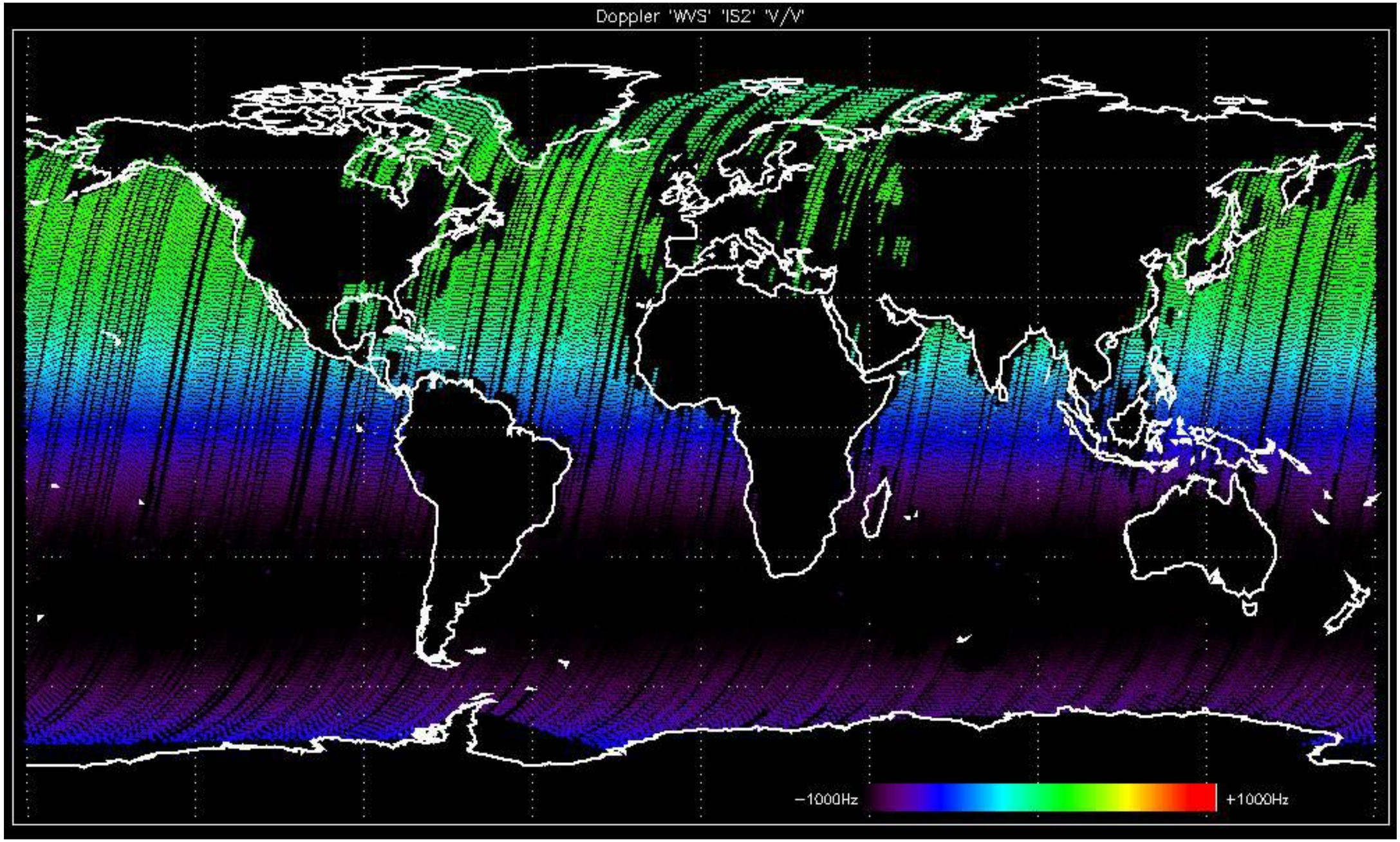
No anomalies observed.

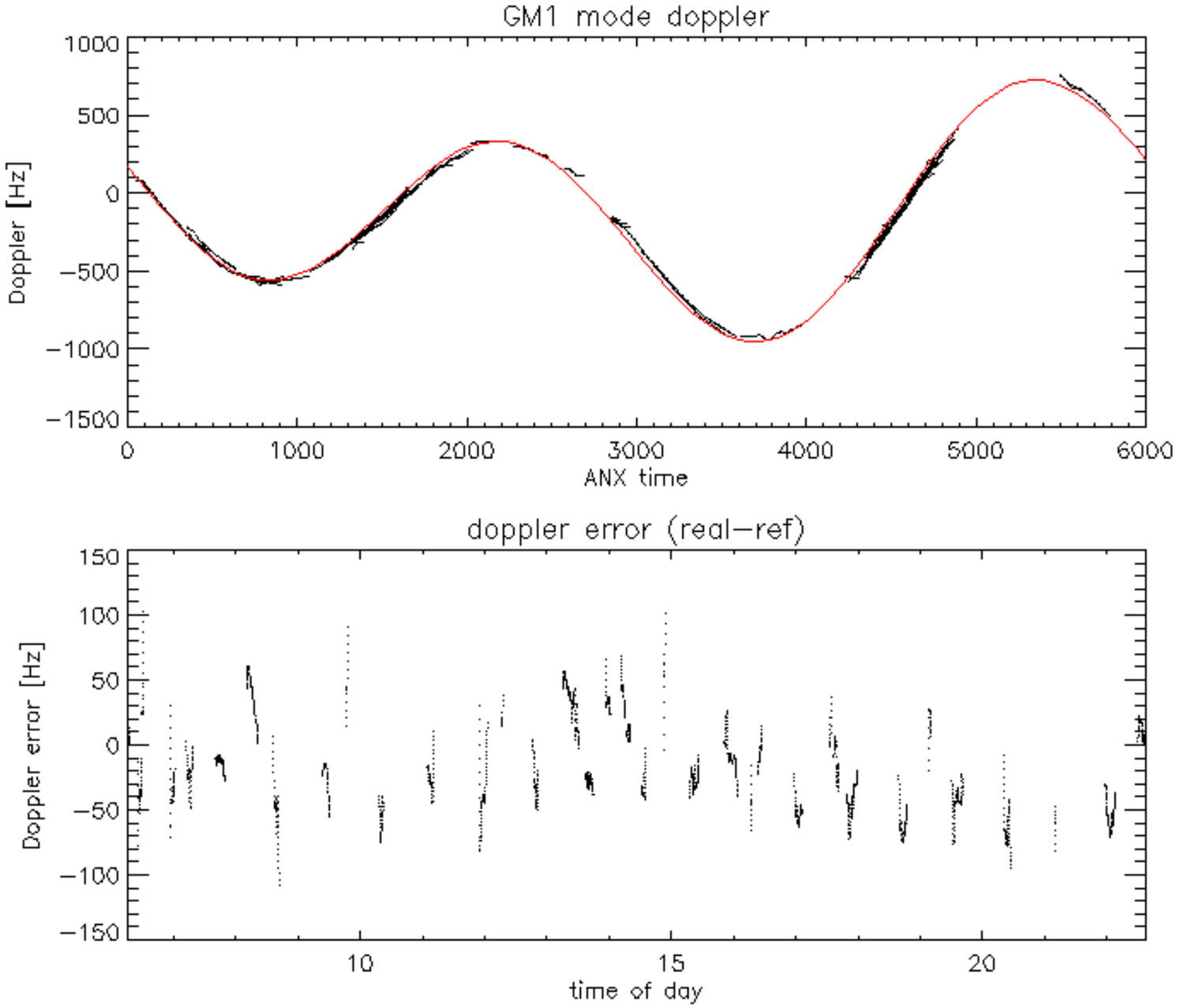

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.95
−8.00
−8.05
−8.10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

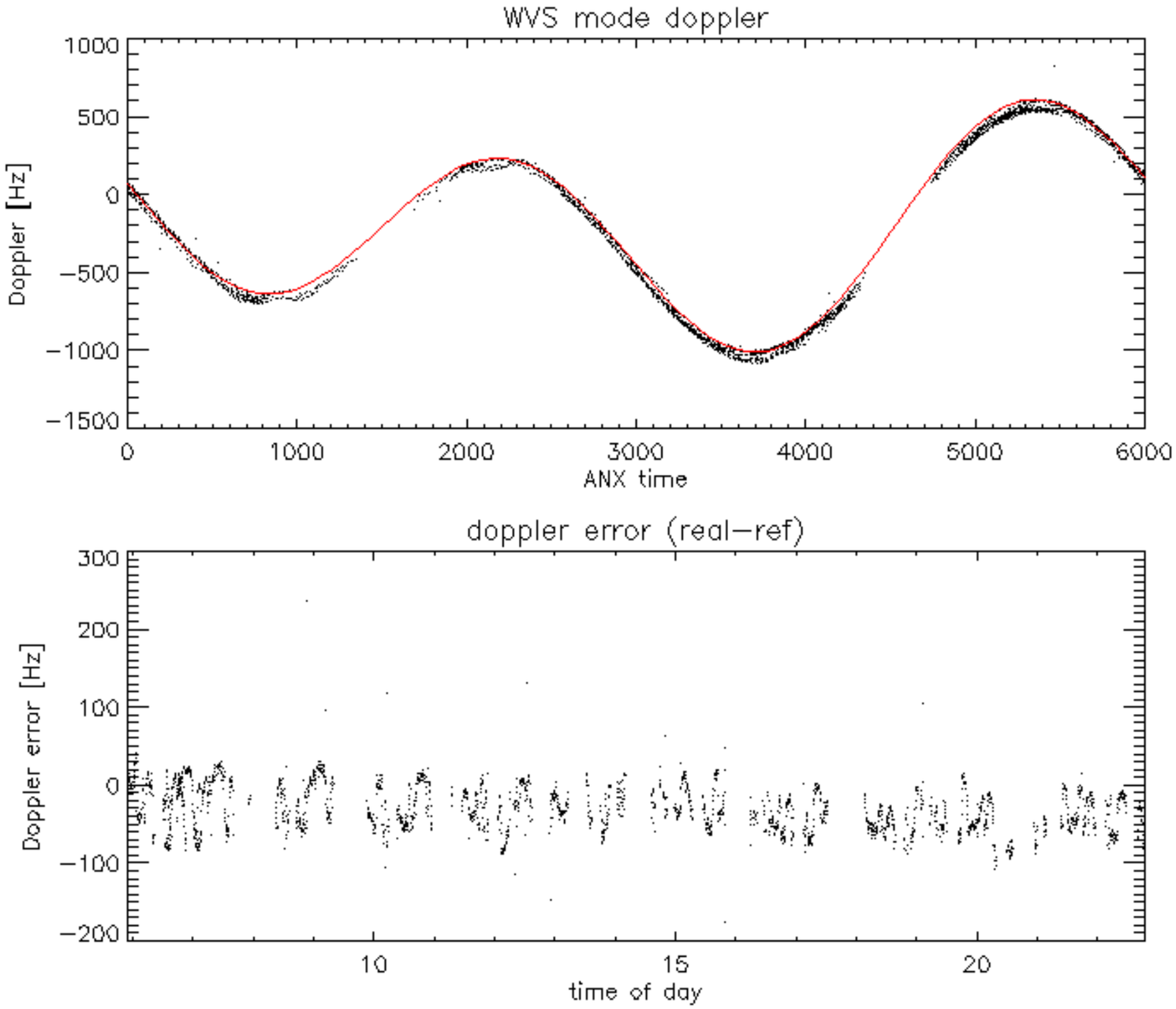
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

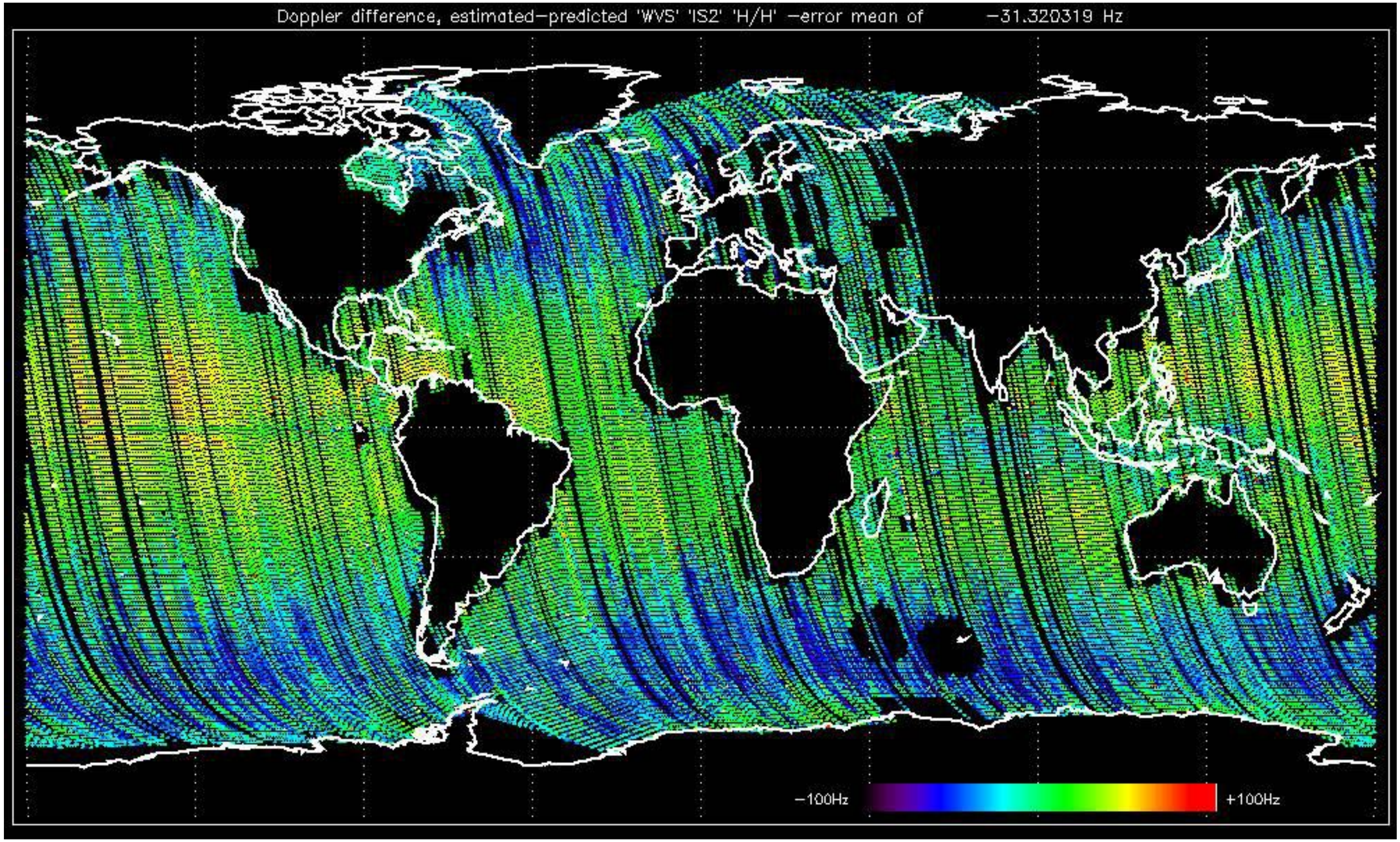
Preliminary report.The data is not yet controled

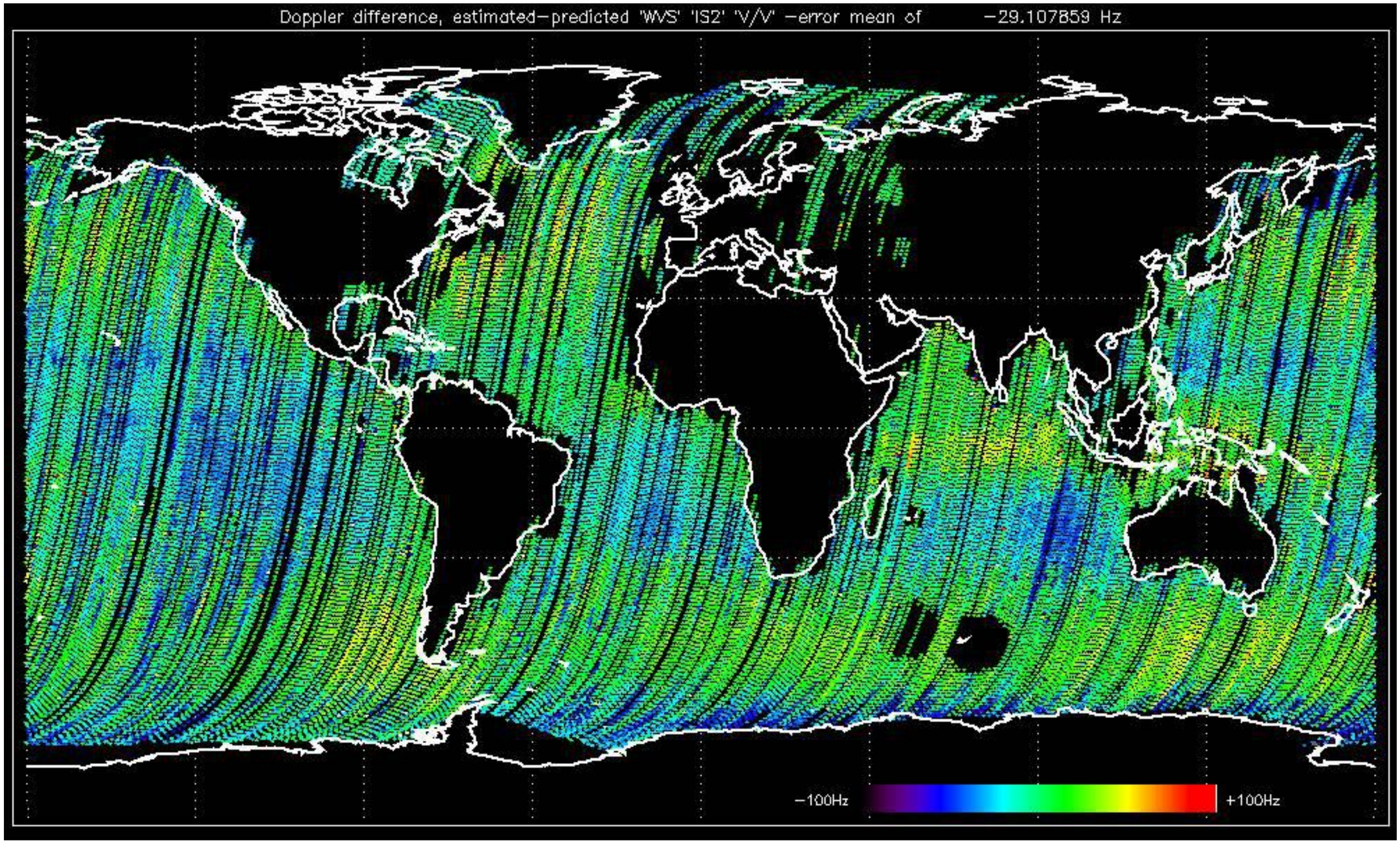

Doppler 'WVS' 'IS2' 'H/H'
−1000Hz
+1000Hz


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]
150
100
50
0
−50
−100
−150
10
15
20
time of day

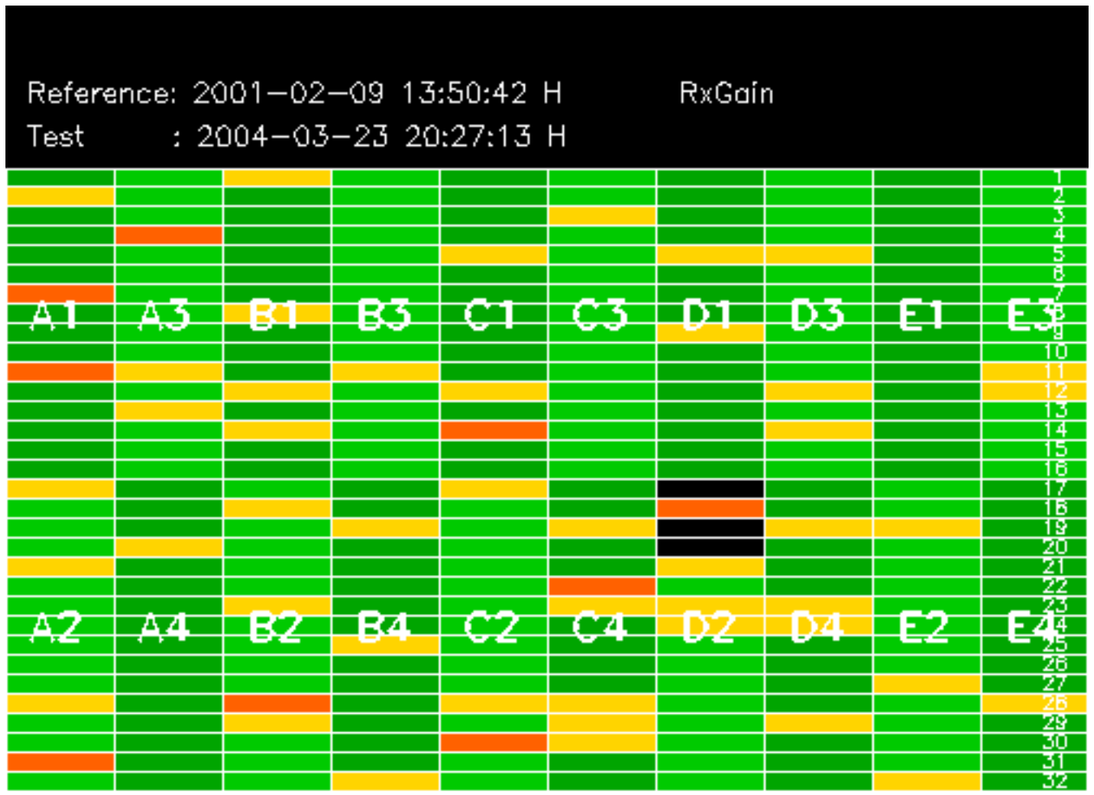

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
ANX time
doppler error (real−ref)
Doppler error [Hz]
300
200
100
0
−100
−200
10
15
20
time of day


Doppler difference, estimated-predicted 'WVS' 'IS2' 'H/H' -error mean of -31.320319 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' 'V/V' −error mean of −29.107859 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 : 2004-03-23 20:27:13 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
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8
9
10
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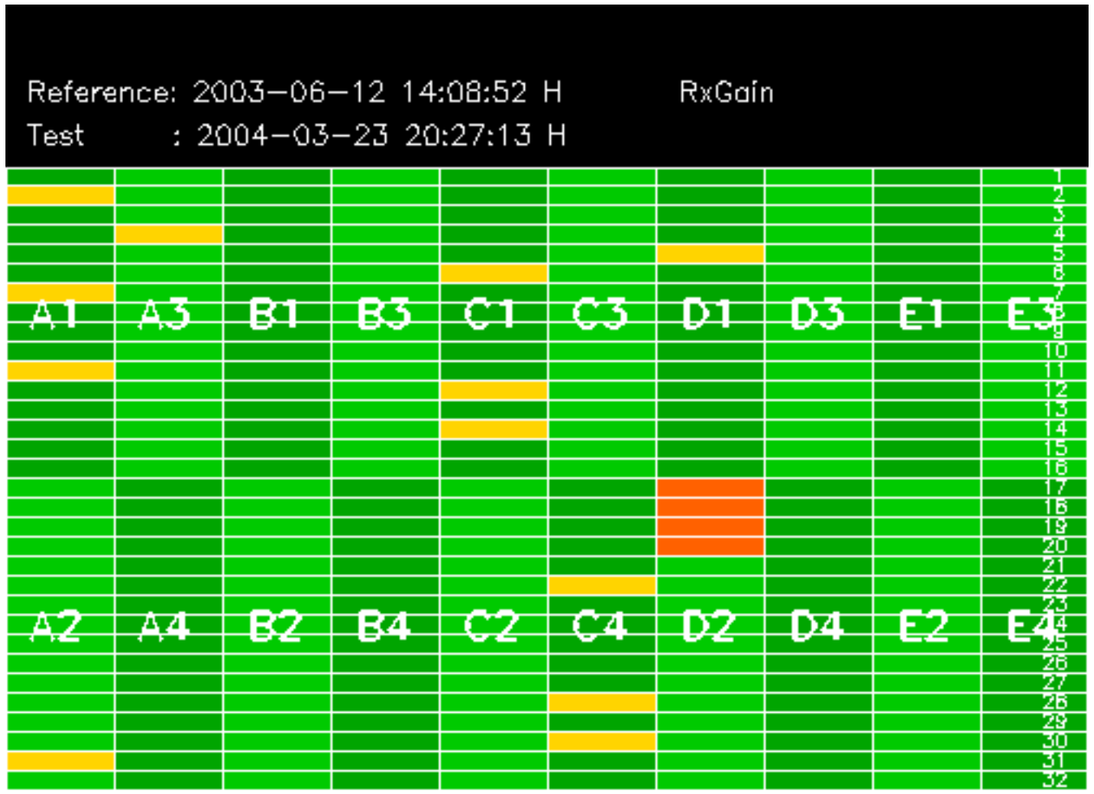
Reference: 2003-06-12 14:08:52 H
Test : 2004-03-23 20:27:13 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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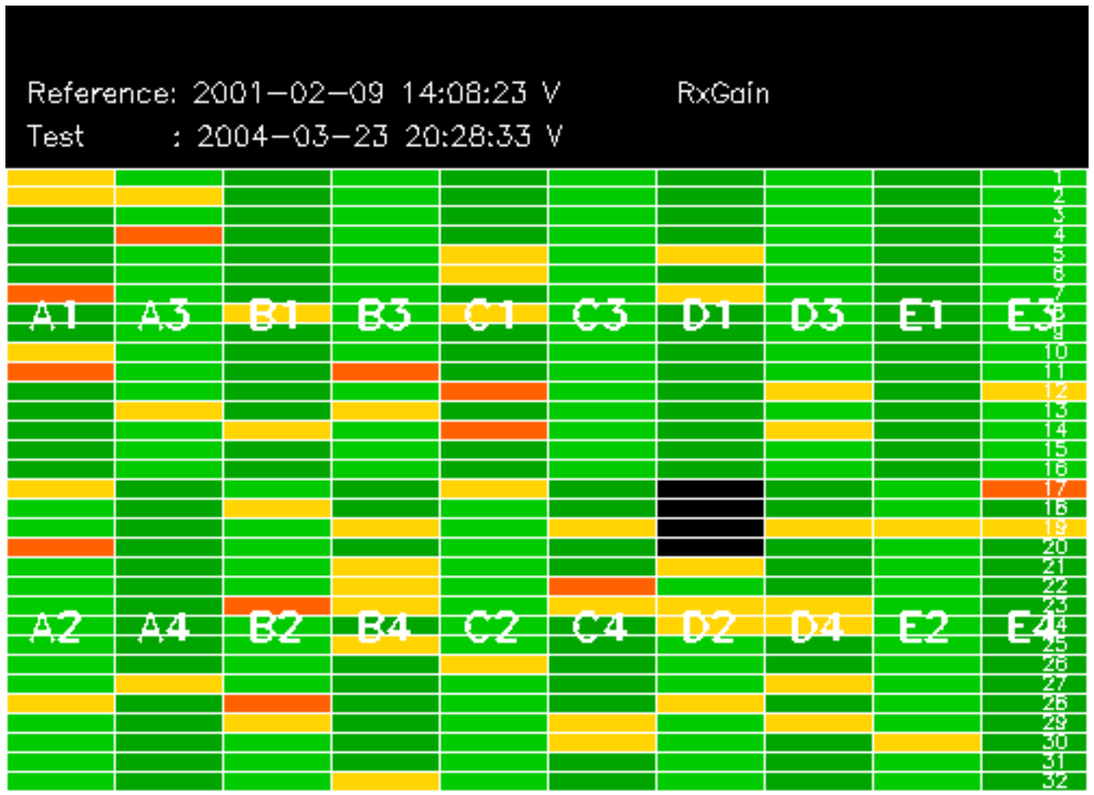
Reference: 2001-02-09 14:08:23 V
Test : 2004-03-23 20:28:33 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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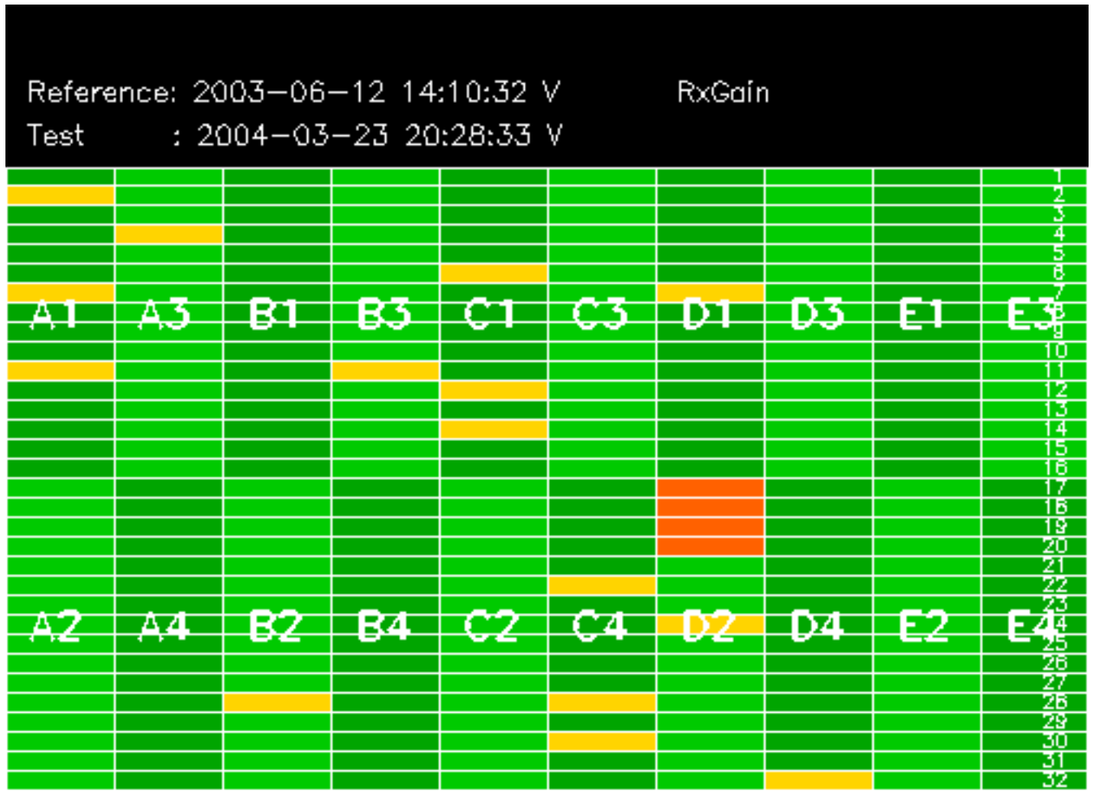
Reference: 2003-06-12 14:10:32 V
Test : 2004-03-23 20:28:33 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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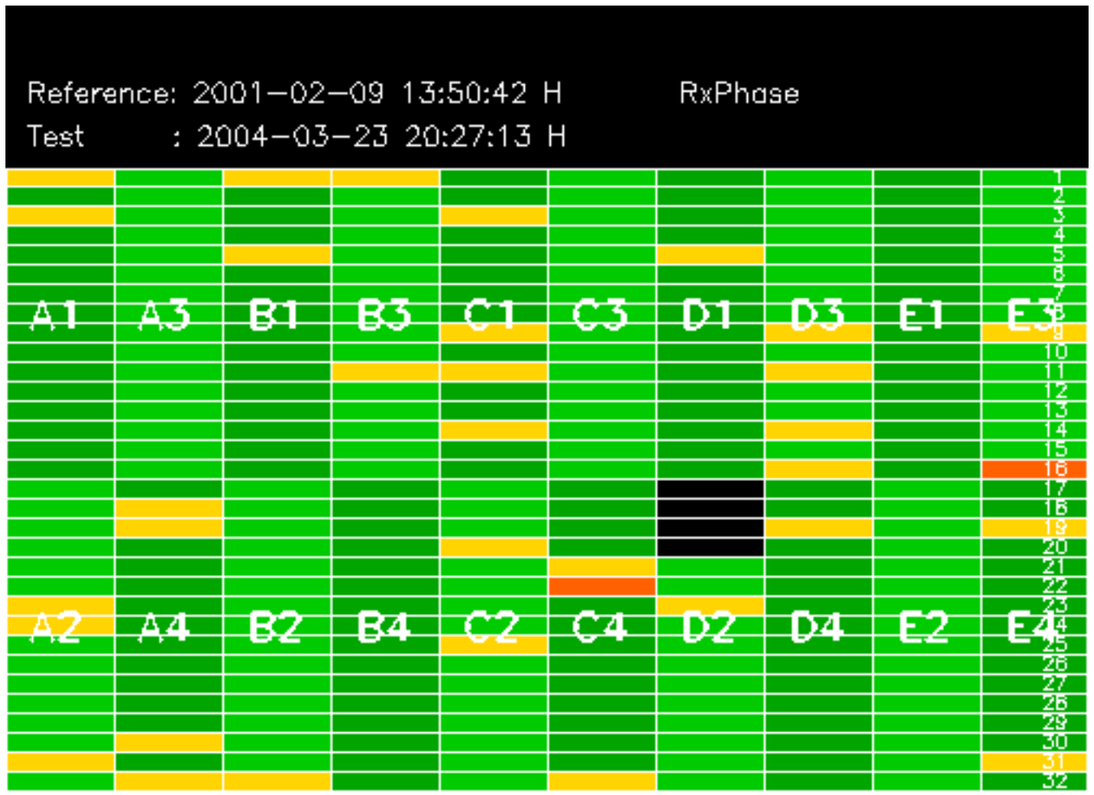
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-03-23 20:27:13 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
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8
9
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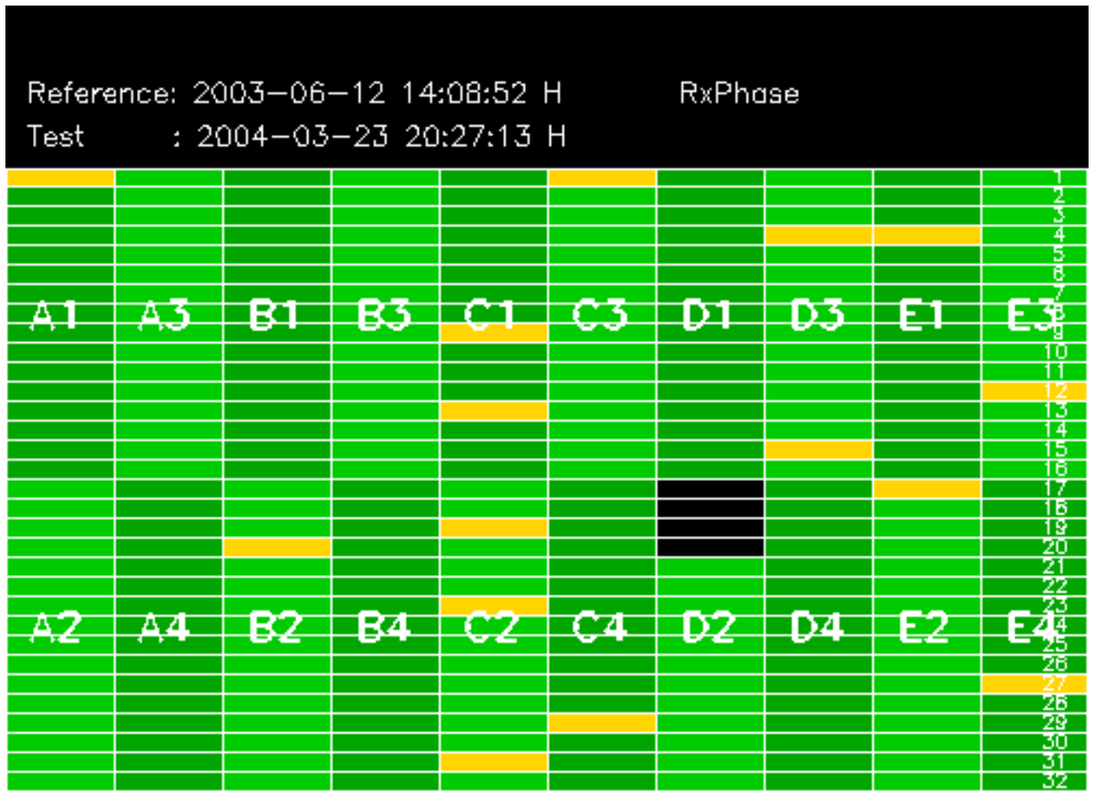
32


Reference: 2003-06-12 14:08:52 H
Test : 2004-03-23 20:27:13 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
6
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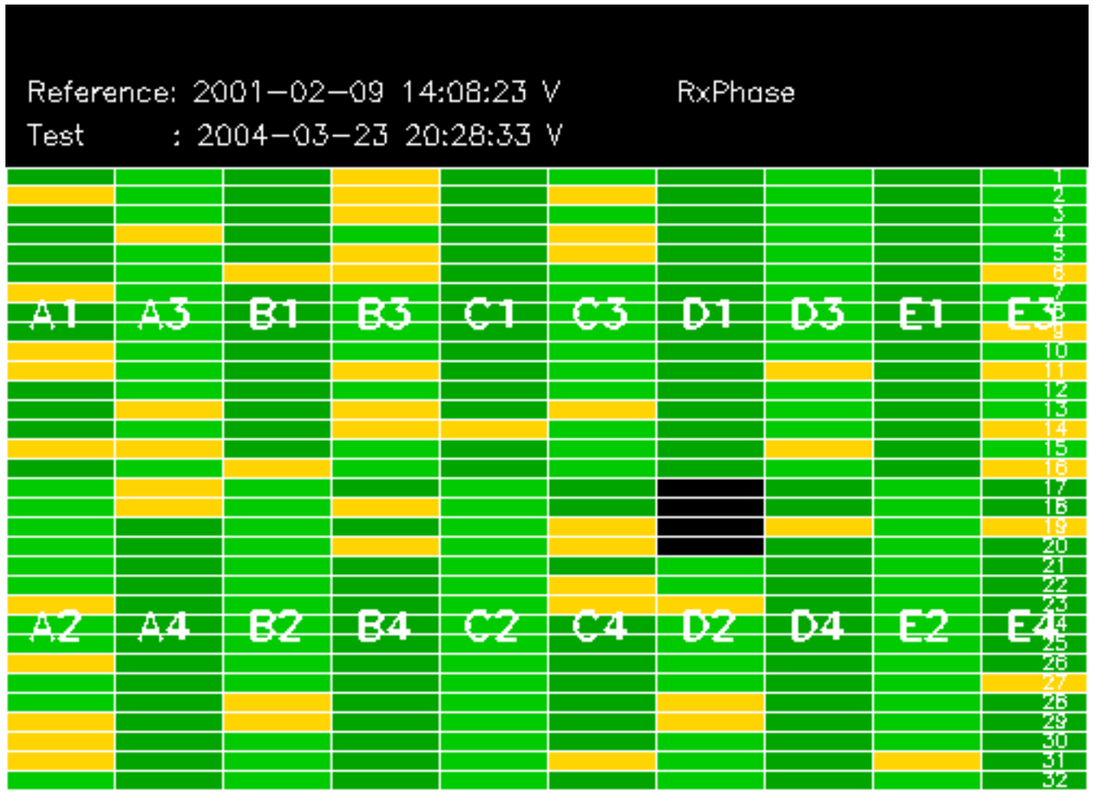
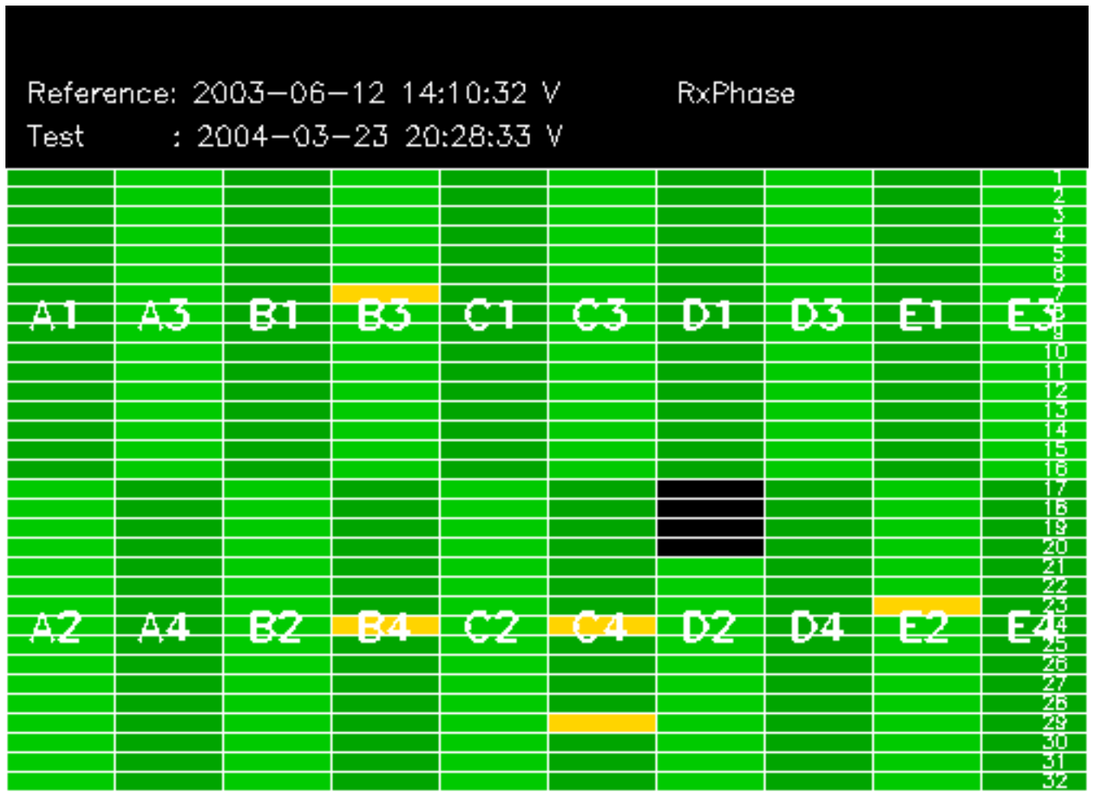

Reference: 2001-02-09 14:08:23 V
Test : 2004-03-23 20:28:33 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-03-23 20:28:33 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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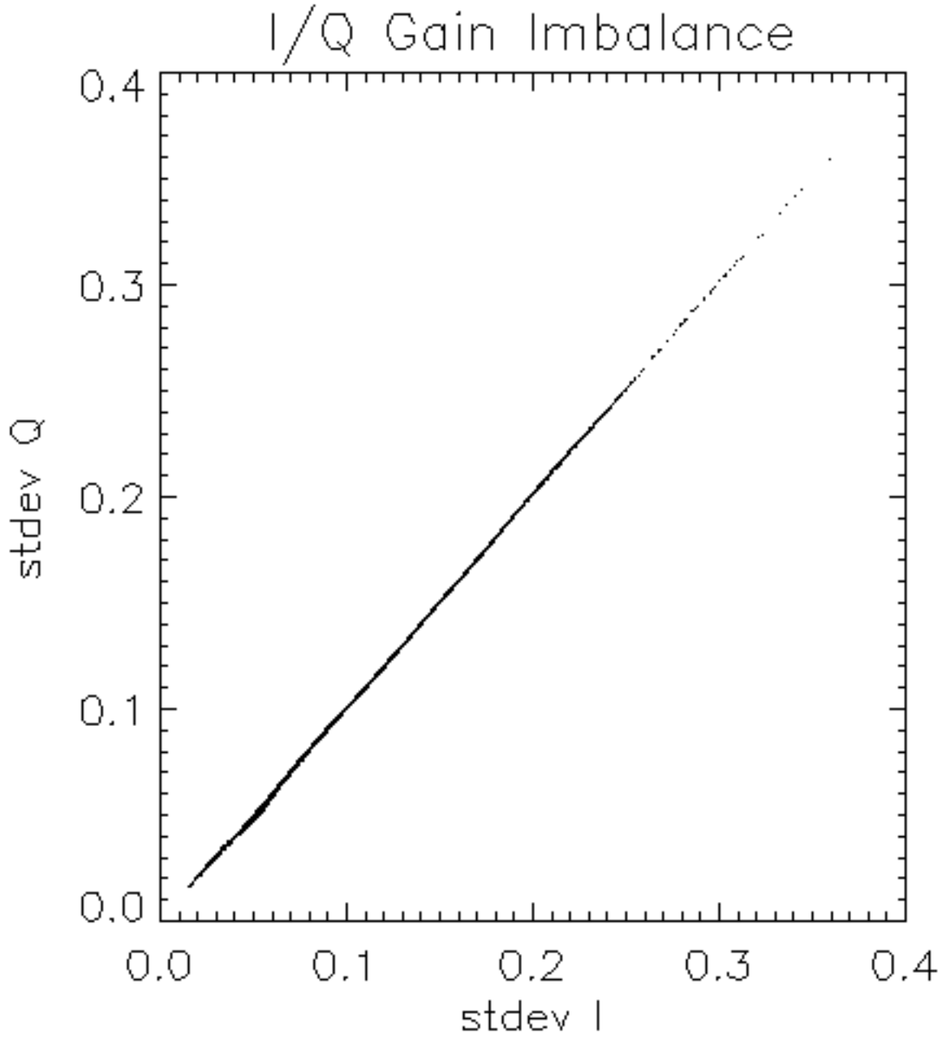
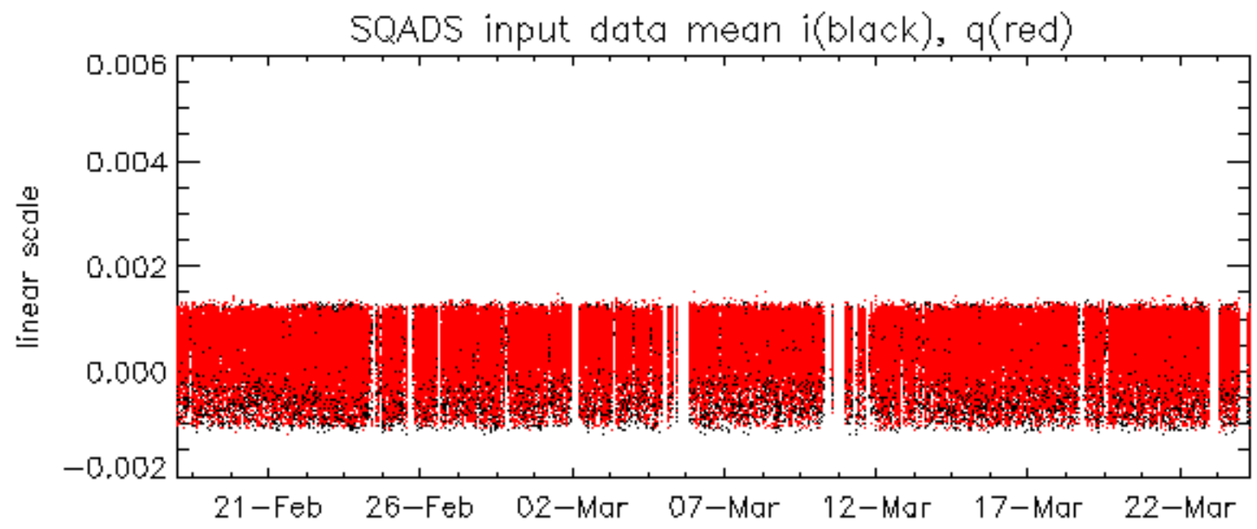
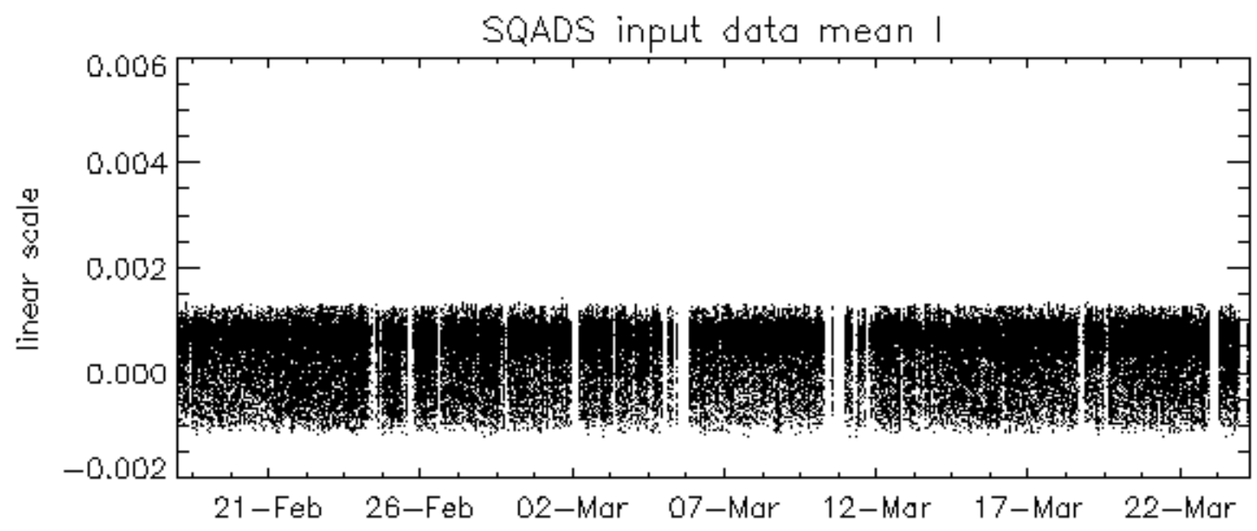
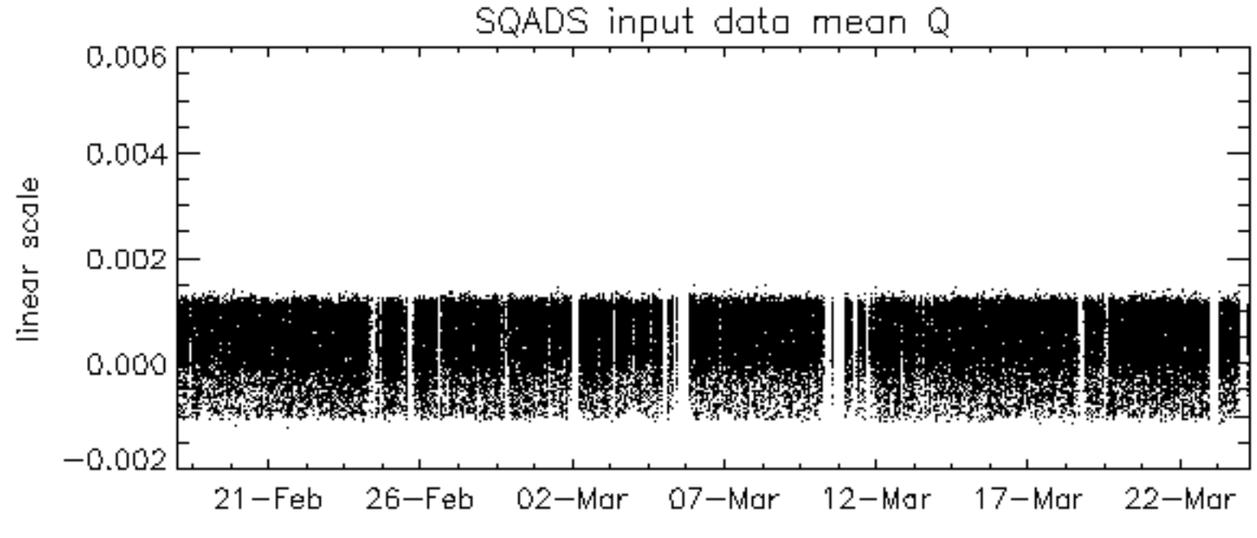
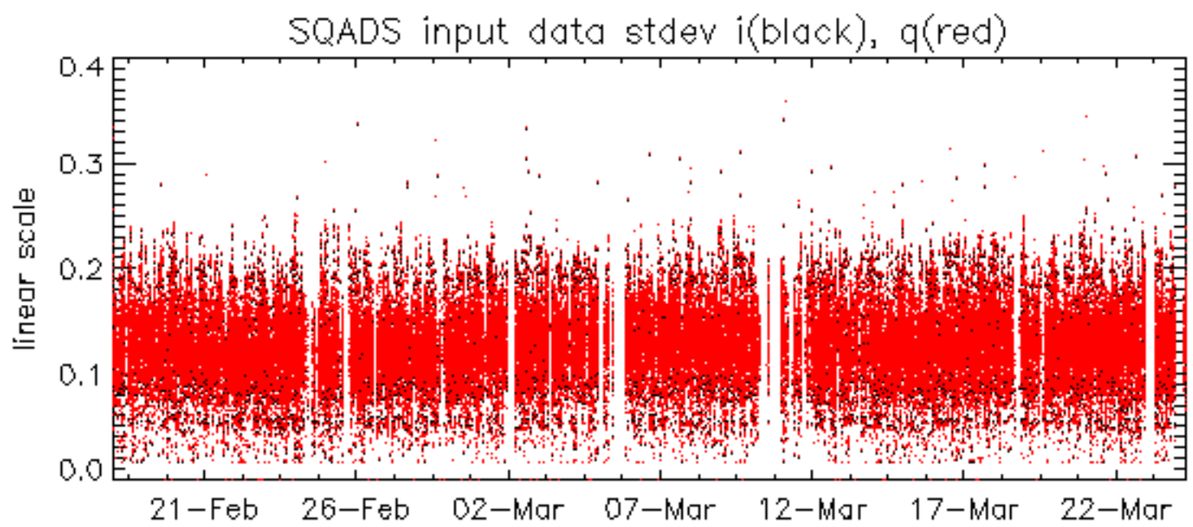
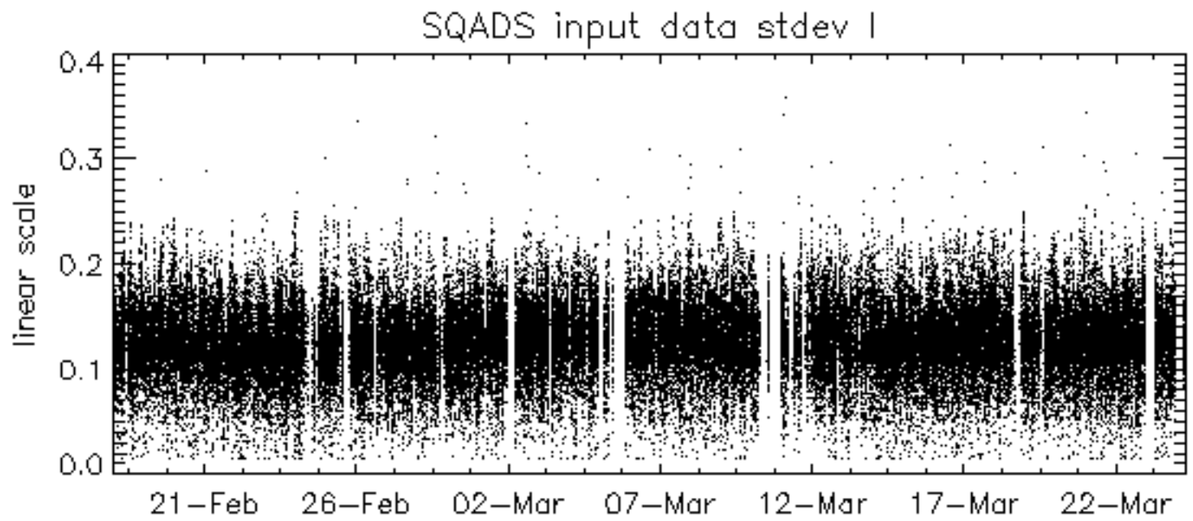

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

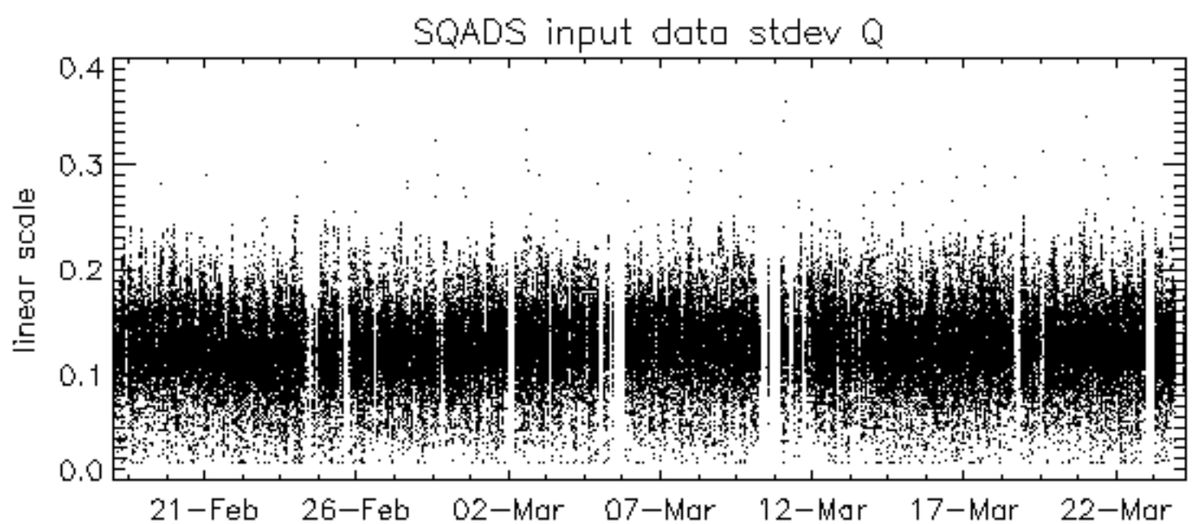

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Feb
26−Feb
02−Mar
07−Mar
12−Mar
17−Mar
22−Mar

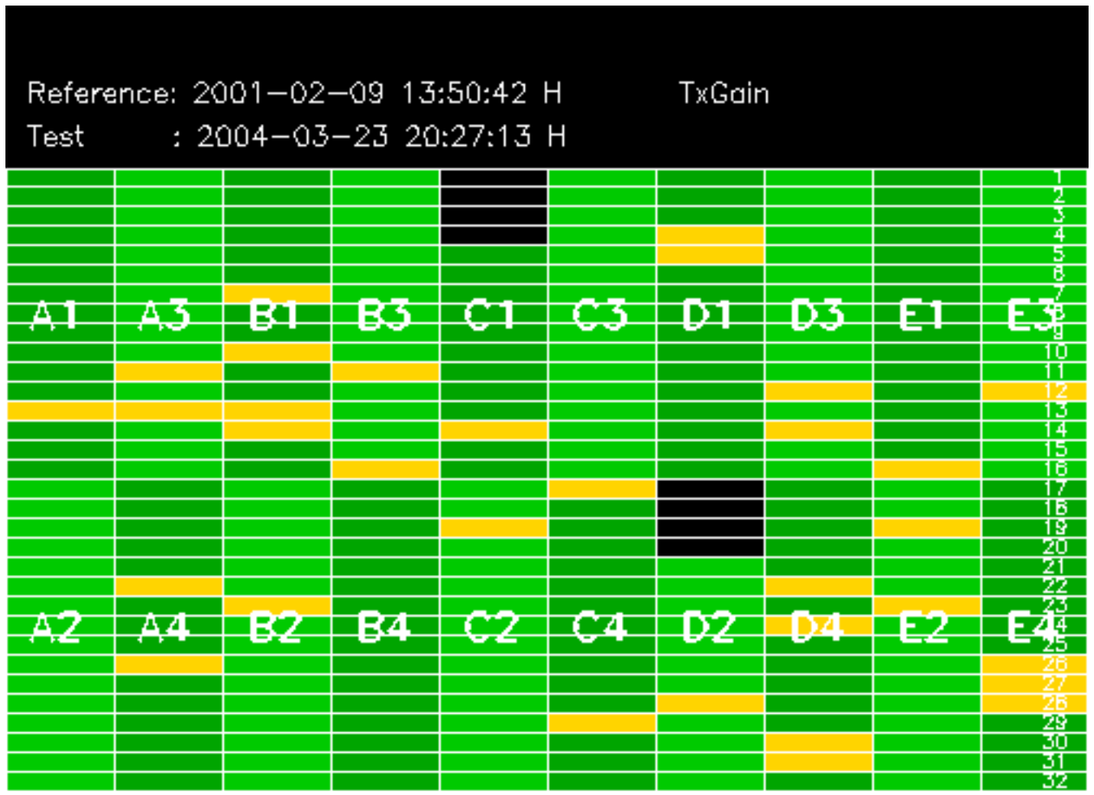

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Feb
26−Feb
02−Mar
07−Mar
12−Mar
17−Mar
22−Mar

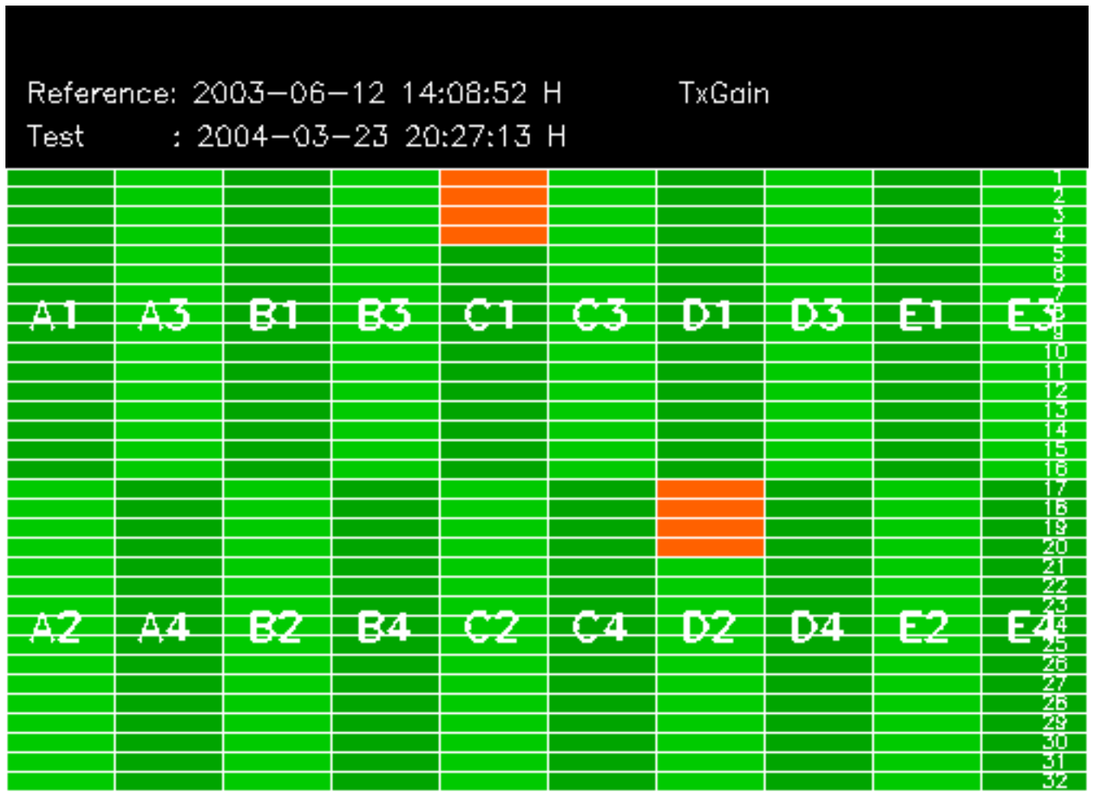

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Feb
26−Feb
02−Mar
07−Mar
12−Mar
17−Mar
22−Mar


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 : 2004-03-23 20:27:13 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 : 2004-03-23 20:27:13 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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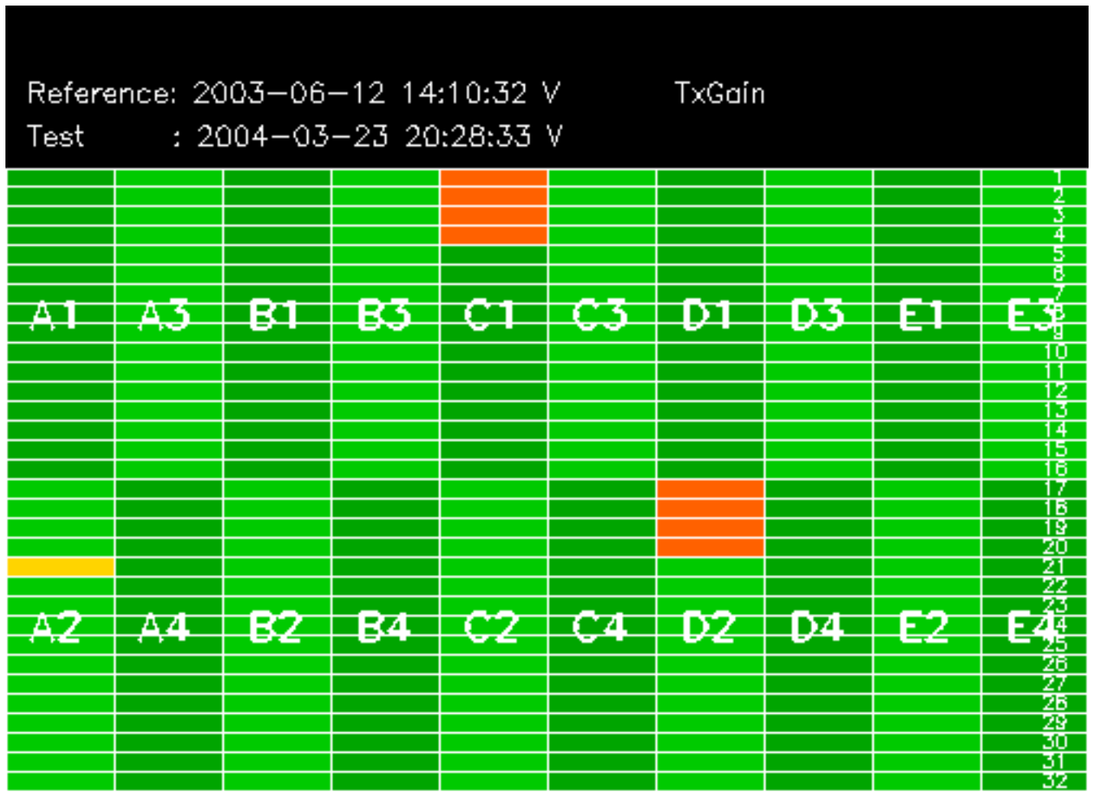
Reference: 2001-02-09 14:08:23 V
Test : 2004-03-23 20:28:33 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-03-23 20:28:33 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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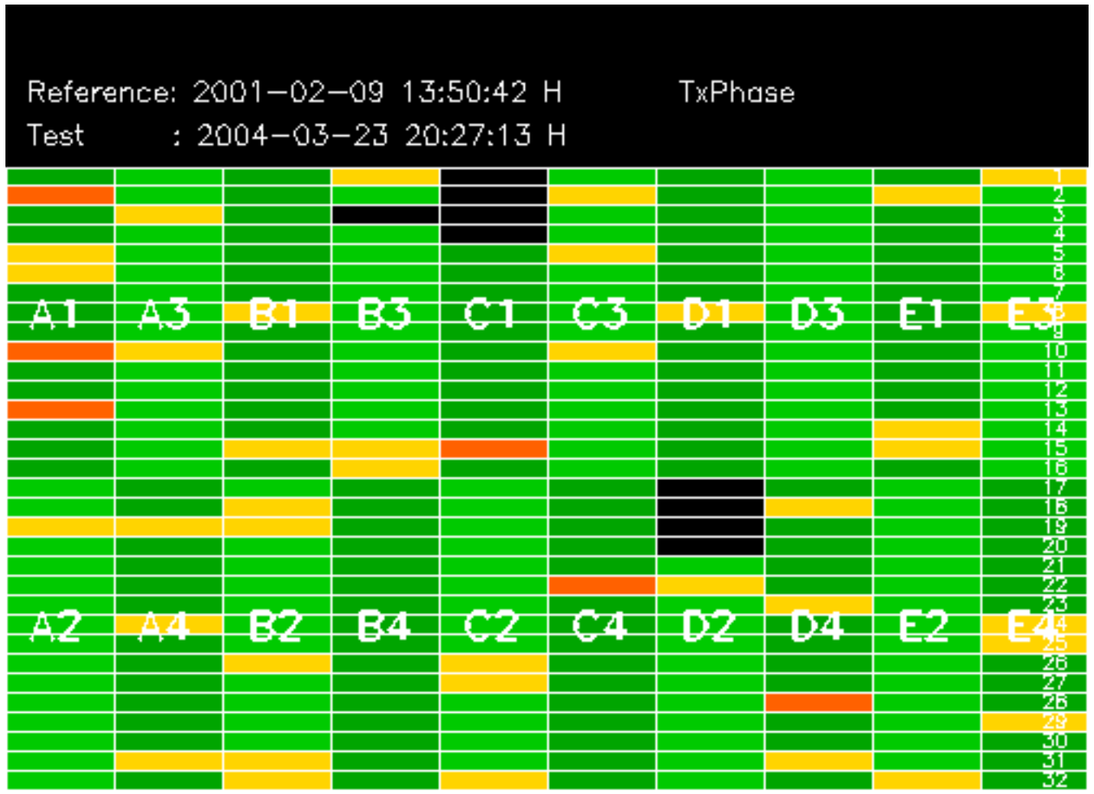
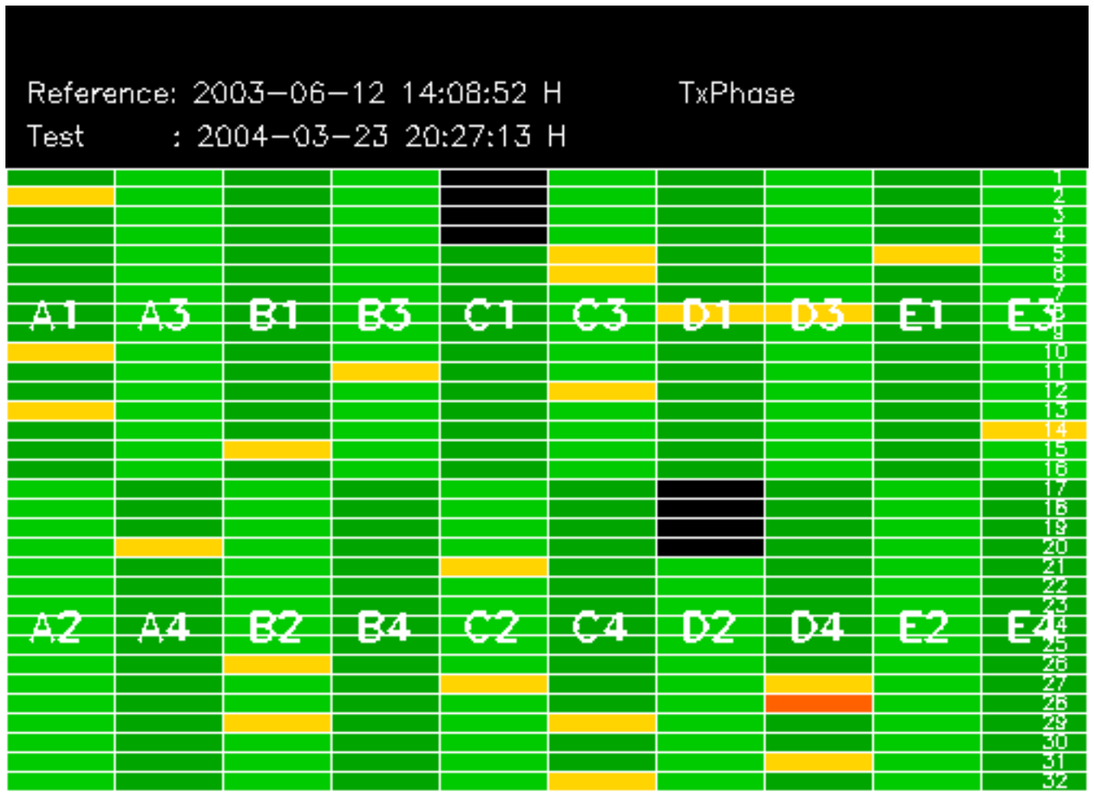

Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-03-23 20:27:13 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-03-23 20:27:13 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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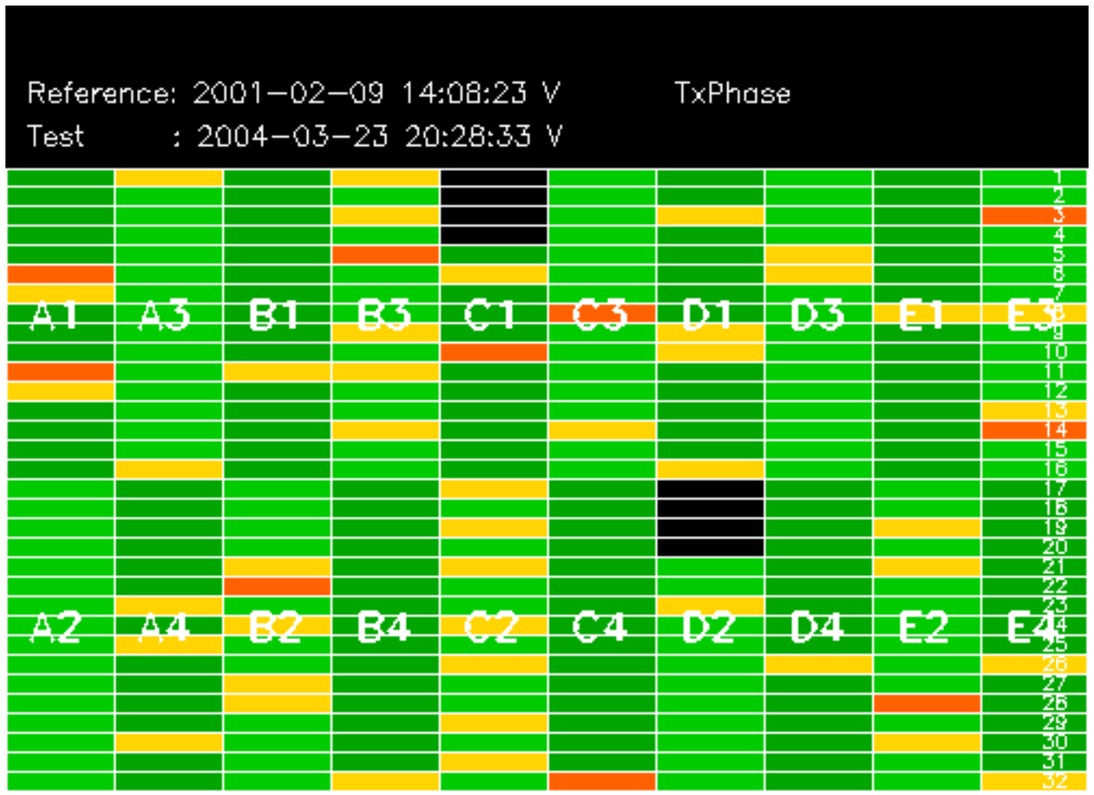
Reference: 2001-02-09 14:08:23 V
Test : 2004-03-23 20:28:33 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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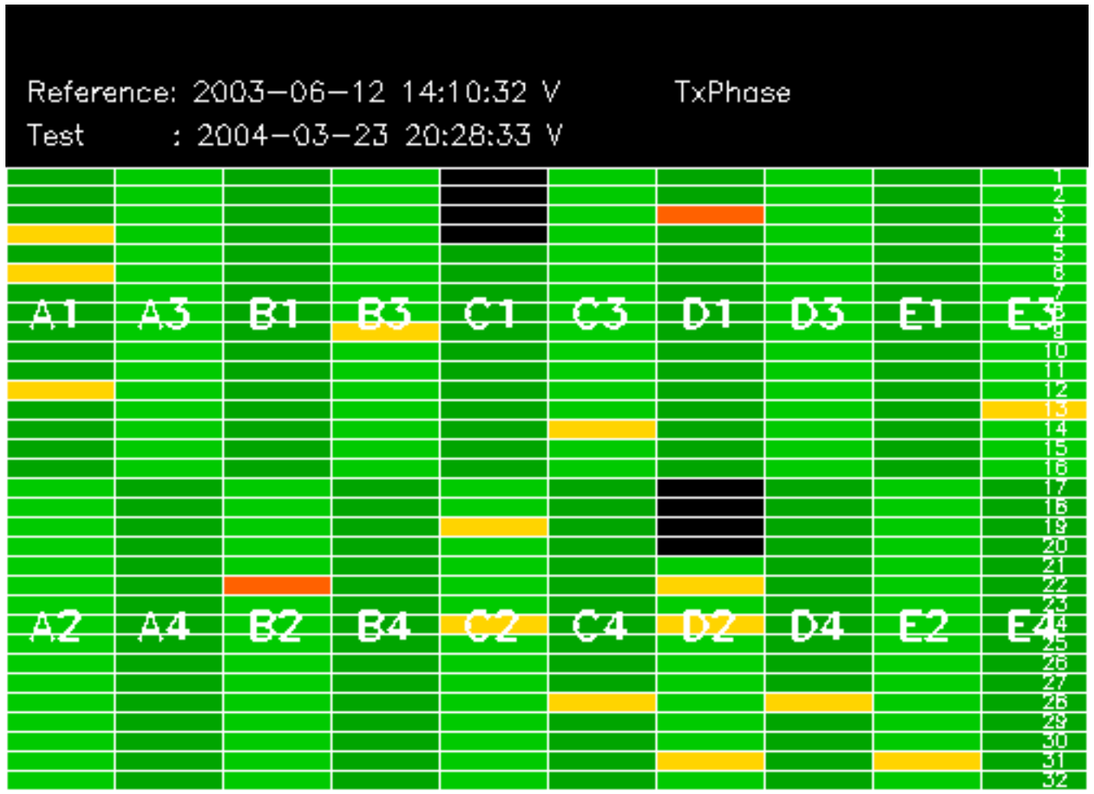
Reference: 2003-06-12 14:10:32 V
Test : 2004-03-23 20:28:33 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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ASAR unavailability on 24-MARCH-2004 02:45:17 to 05:39:41