REPORT OF 040414

last update on Wed Apr 14 13:24:26 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 instrument unavailable due to OCM (planned Manoeuvre). 14-APR-2004 02:45:00 / 13:40:00.

2.2 - Browse Visual Inspection

No anomalies observed from browse 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 any malfunctionning modules and
to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

- ASA_MS__0PNPDK20040413_192649_000000152026_00013_11089_0071.N1
- ASA_MS__0PNPDK20040413_192809_000000152026_00013_11089_0070.N1

Polarisation	Start Time
V	20040413 192809
H	20040413 192649

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	-3.582880	0.005461	0.030621
7	P1	-3.302402	0.010117	0.007653
11	P1	-4.635830	0.020864	0.003917
15	P1	-4.991539	0.037621	0.008463
19	P1	-3.361248	0.069434	0.106285
22	P1	-4.539638	0.068816	0.139346
24	P1	-5.065495	0.088832	0.185105
28	P1	-4.603896	0.072321	0.080086

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.394396	0.079245	-0.013220
7	P2	-22.879328	0.124815	0.010390
11	P2	-15.943404	0.158183	0.104275
15	P2	-7.164476	0.089385	0.049604
19	P2	-9.508801	0.175191	0.046615
22	P2	-17.662922	0.099767	0.060087
24	P2	-21.008814	0.114155	0.011965
28	P2	-16.602938	0.081357	-0.019298

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.128015	0.003050	-0.009510
7	P3	-8.128030	0.003049	-0.009387
11	P3	-8.128036	0.003050	-0.009329
15	P3	-8.128036	0.003050	-0.009336
19	P3	-8.128021	0.003049	-0.009396
22	P3	-8.128011	0.003049	-0.009452

24	P3	-8.128009	0.003049	-0.009489
28	P3	-8.127980	0.003047	-0.009233

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	0.000476206
	stdev	2.37804e-07
MEAN Q	mean	0.000482778
	stdev	2.68441e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127691
	stdev	0.00118510
STDEV Q	mean	0.127944
	stdev	0.00119878

5.3 - Gain imbalance I/Q

6 - Doppler Analysis

No anomalies observed in Doppler evolution.
Analysis performed over the last 35 days.

6.1 - Unbiased Doppler Error

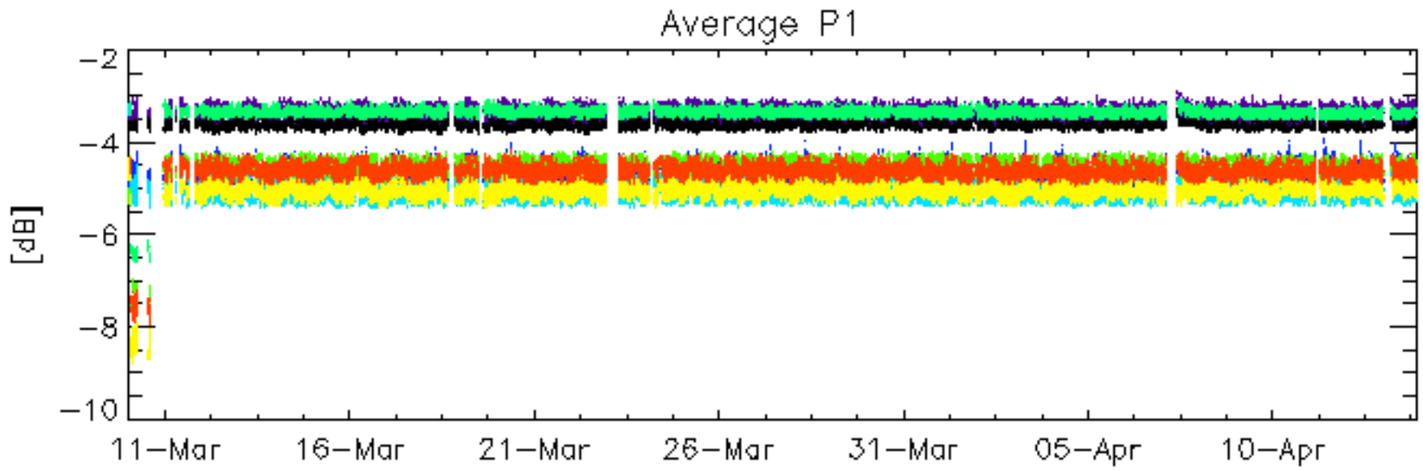
Evolution of unbiased Doppler error (Real - Expected)
Acsending
Descending

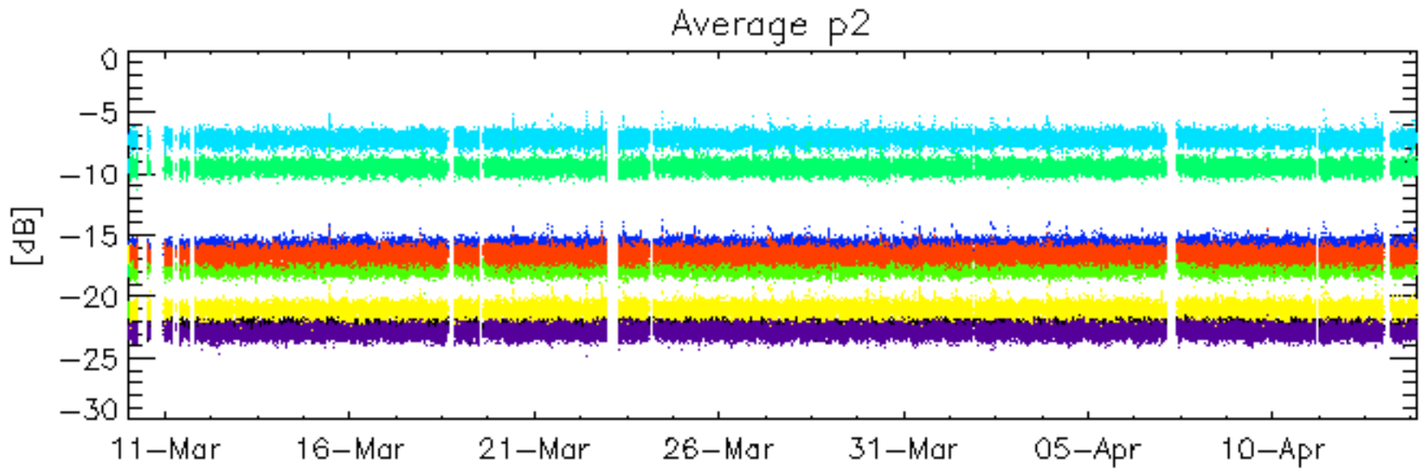
6.2 - Absolute Doppler

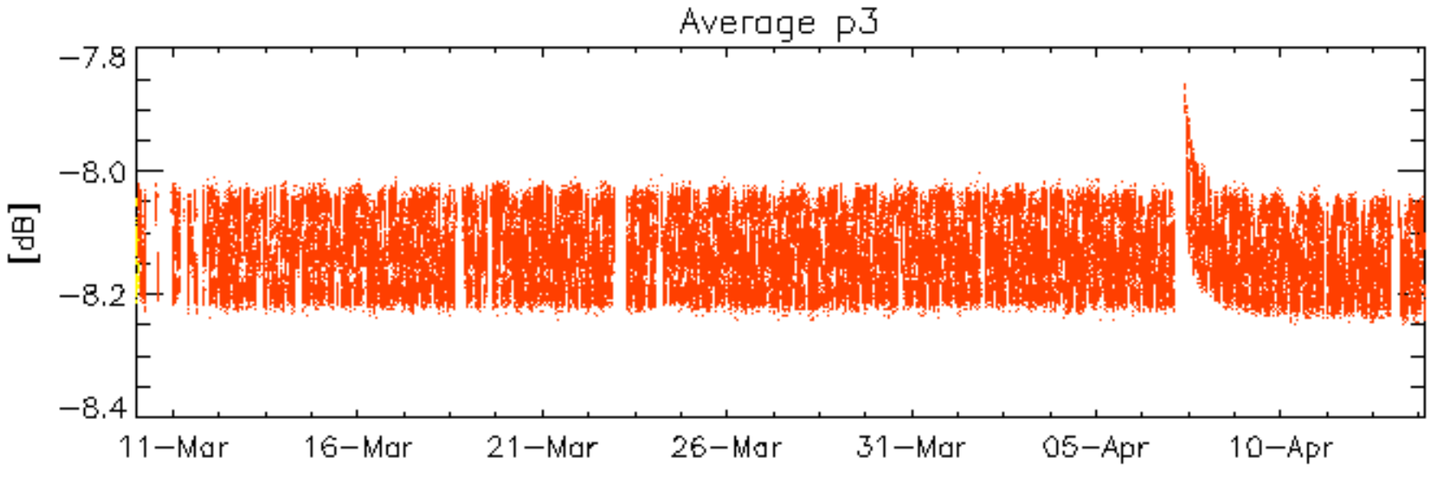
Evolution of Absolute Doppler
Acsending
Descending

6.3 - Doppler evolution versus ANX

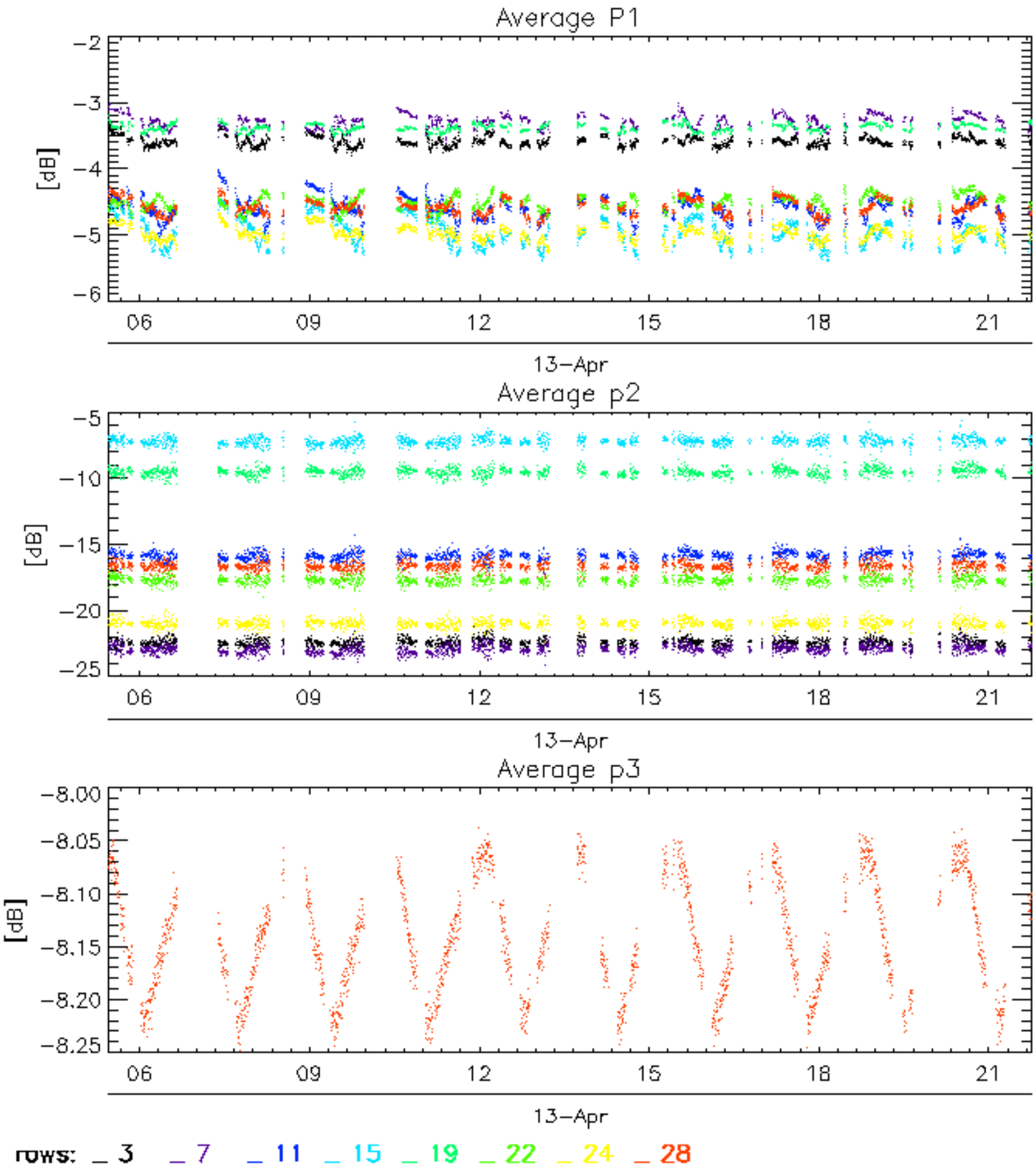
Evolution Doppler error versus ANX
☒
Evolution Doppler error versus ANX
☒





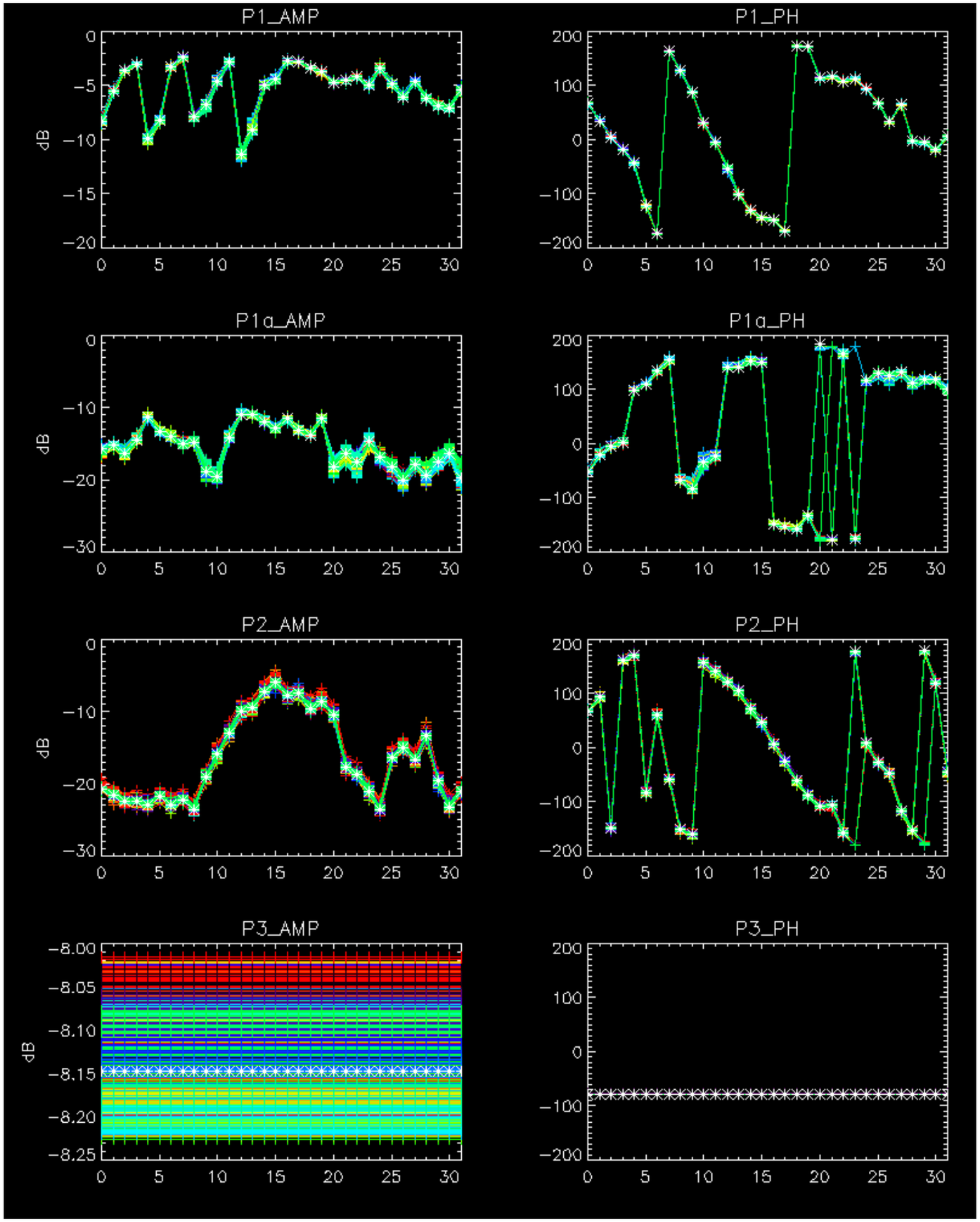


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 28


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

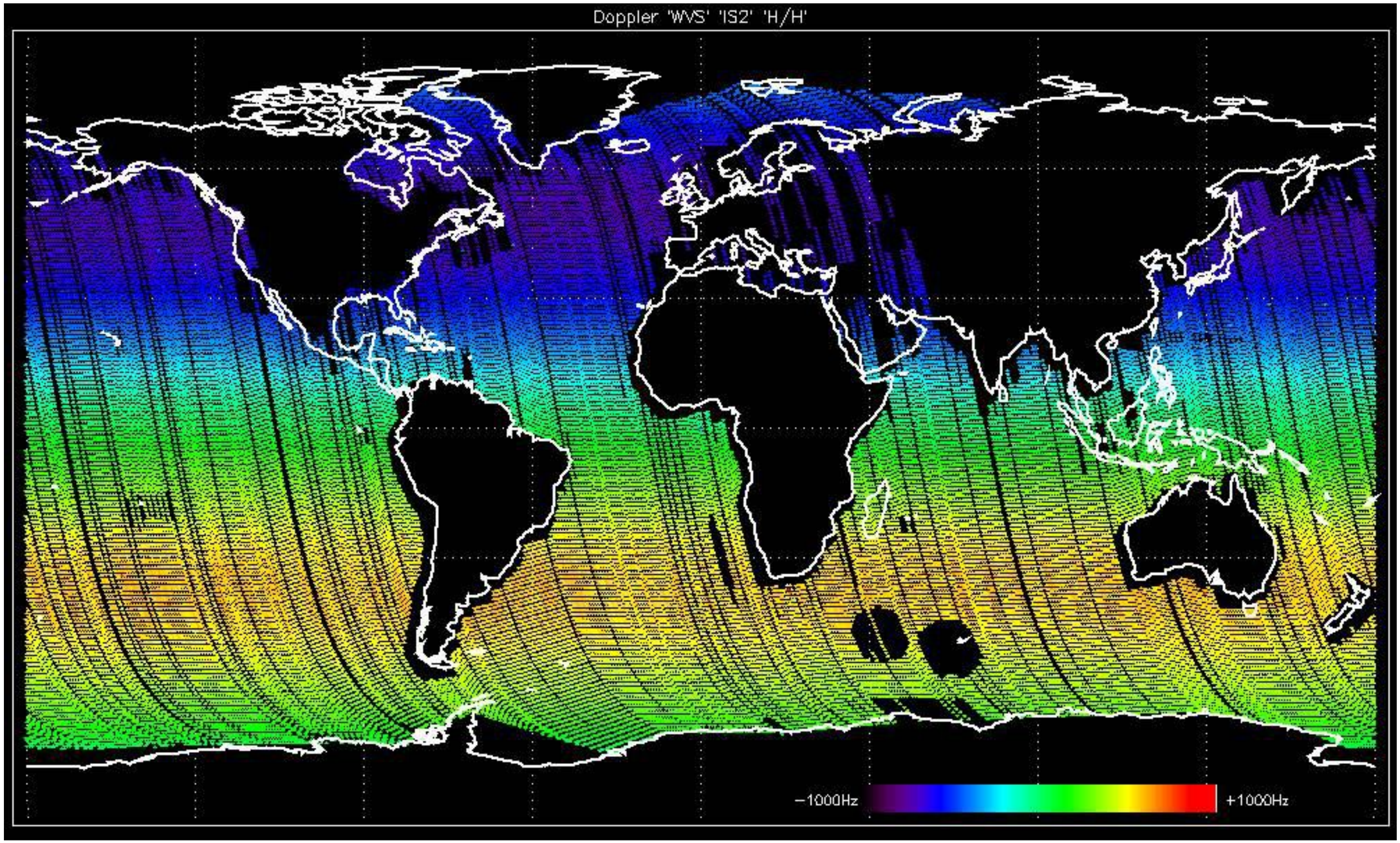
No anomalies observed from browse visual inspection.

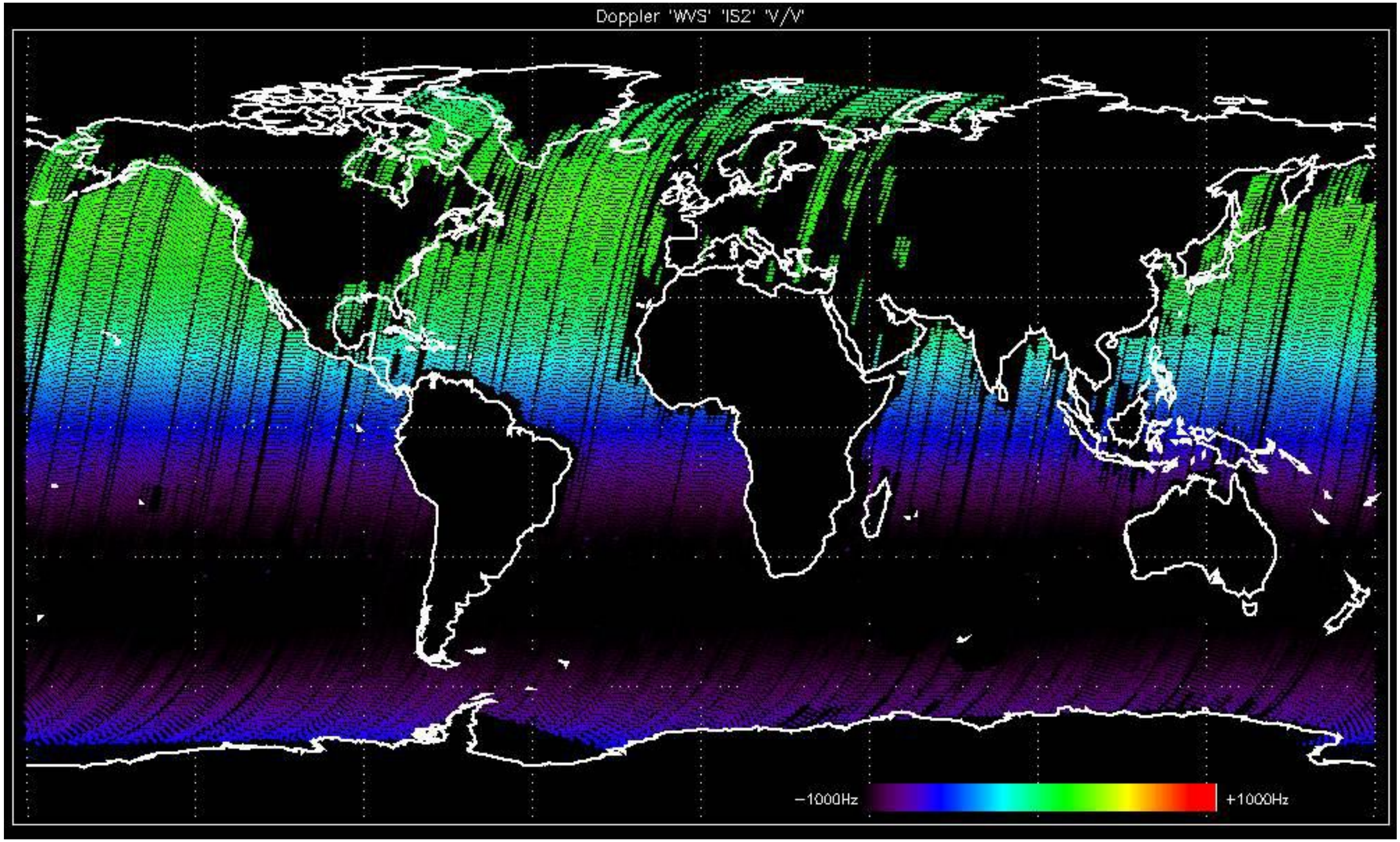
No anomalies observed.

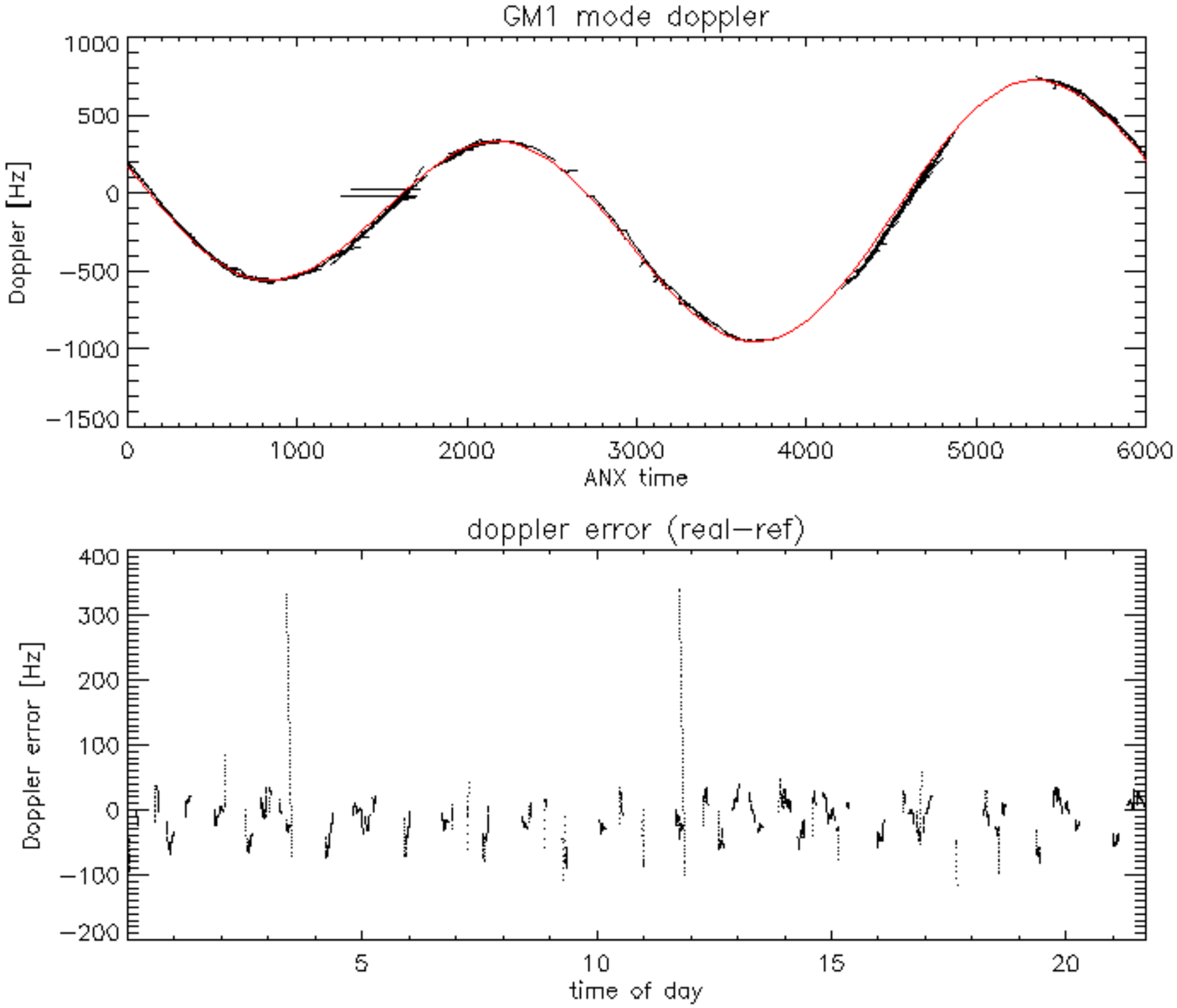

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.00
−8.05
−8.10
−8.15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

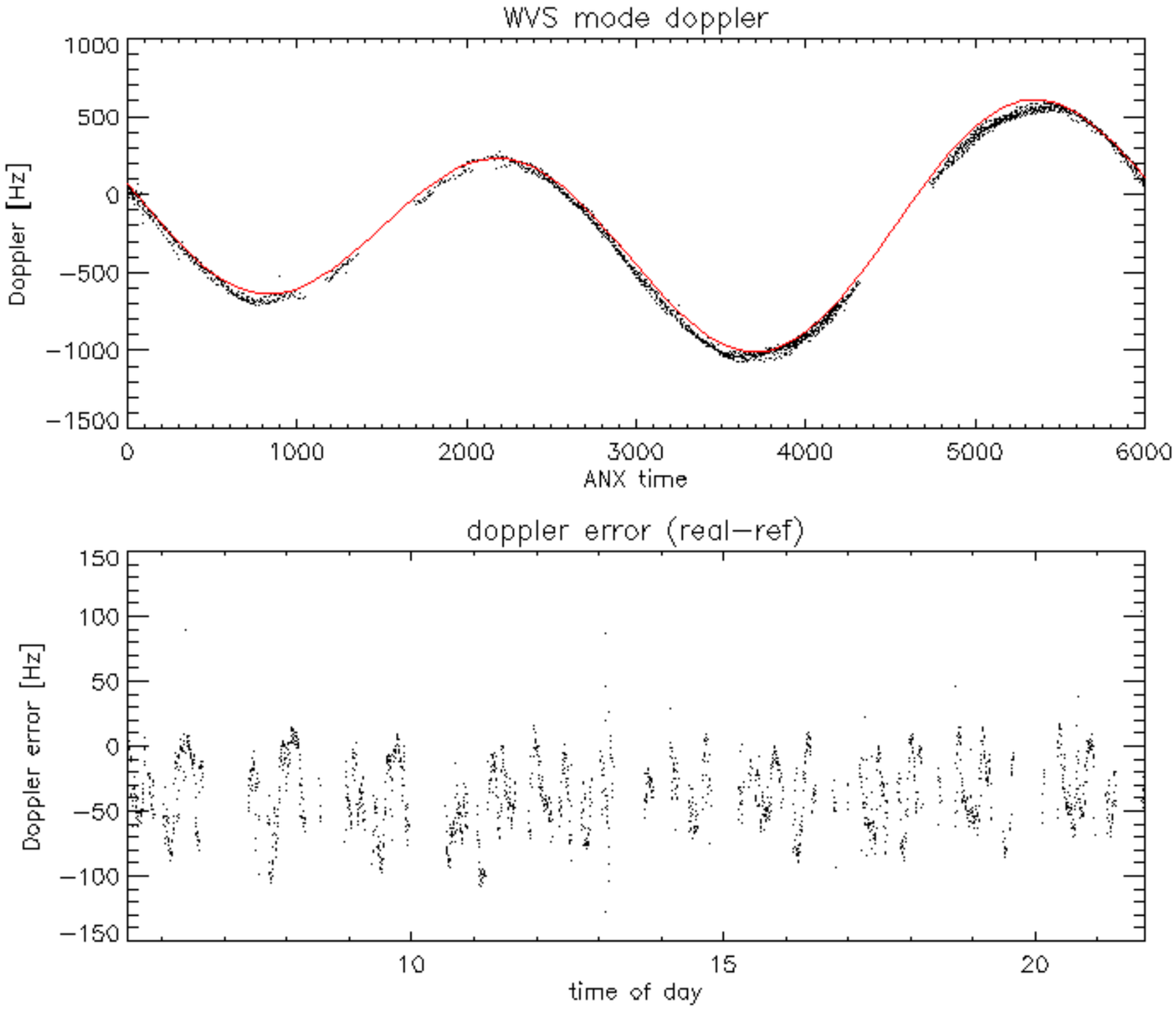
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

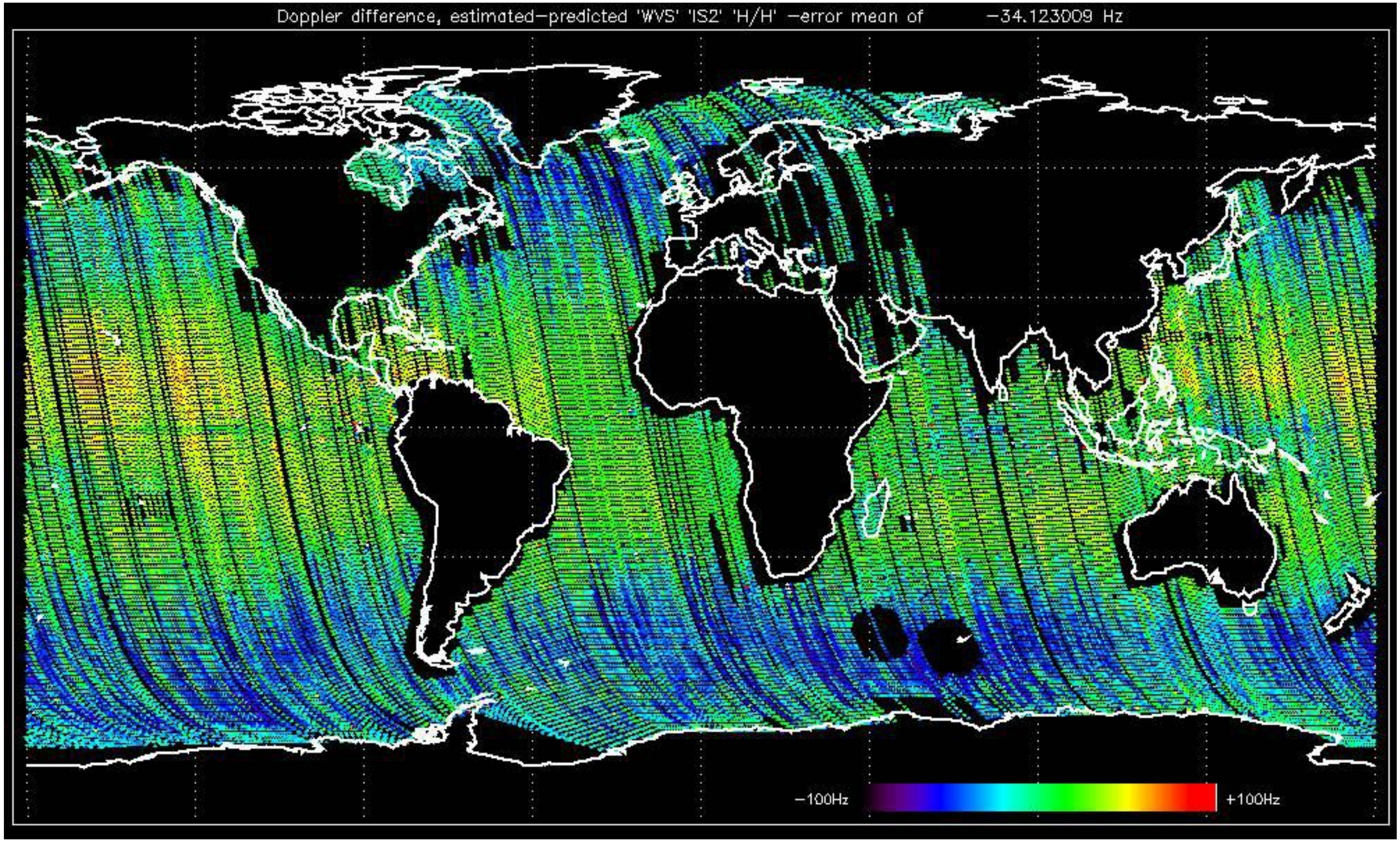
No anomalies observed in Doppler evolution.
Analysis performed over the last 35 days.

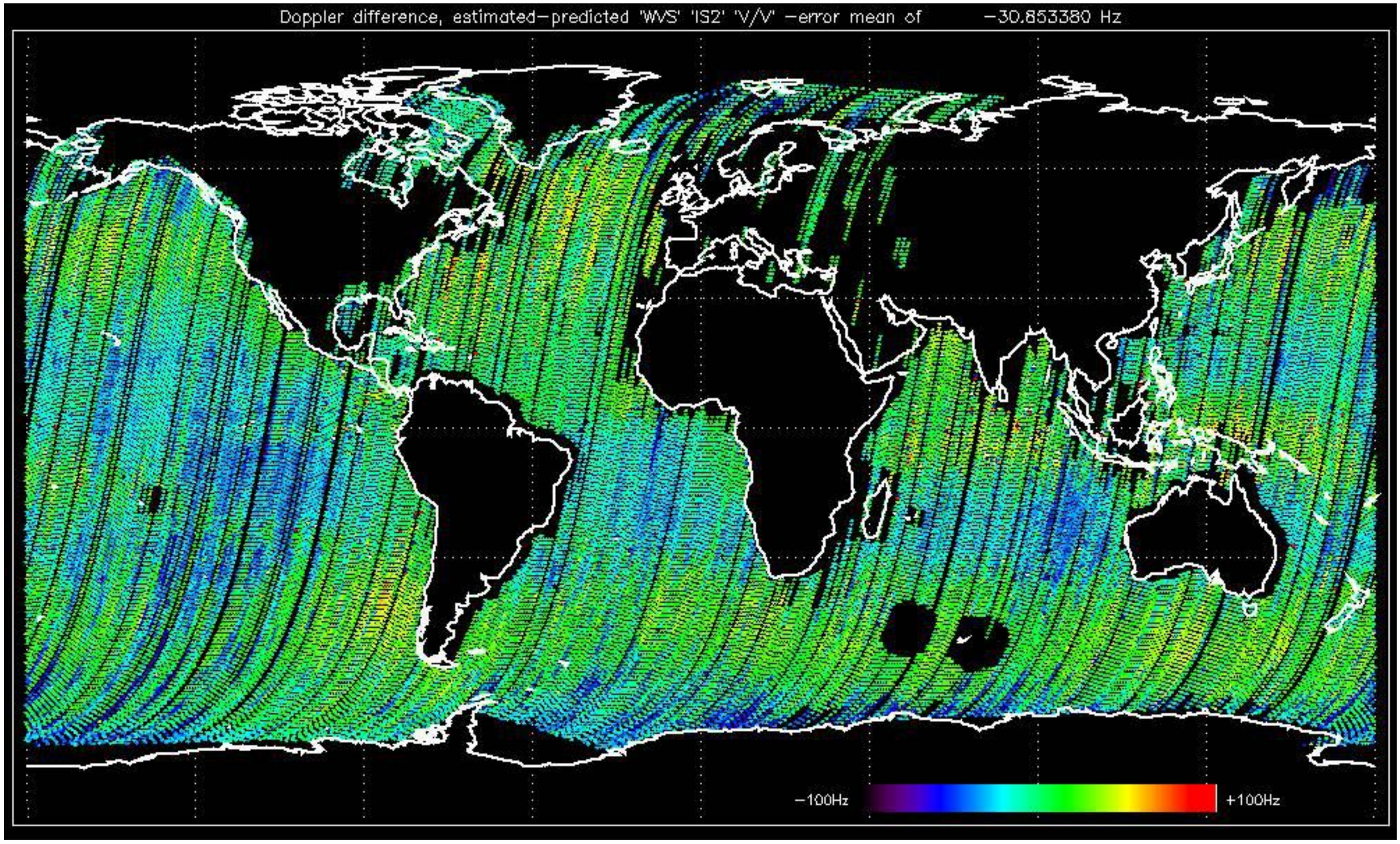

Doppler 'WVS' 'IS2' 'H/H'
−1000Hz
+1000Hz


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]
400
300
200
100
0
−100
−200
5
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]
150
100
50
0
−50
−100
−150
10
15
20
time of day

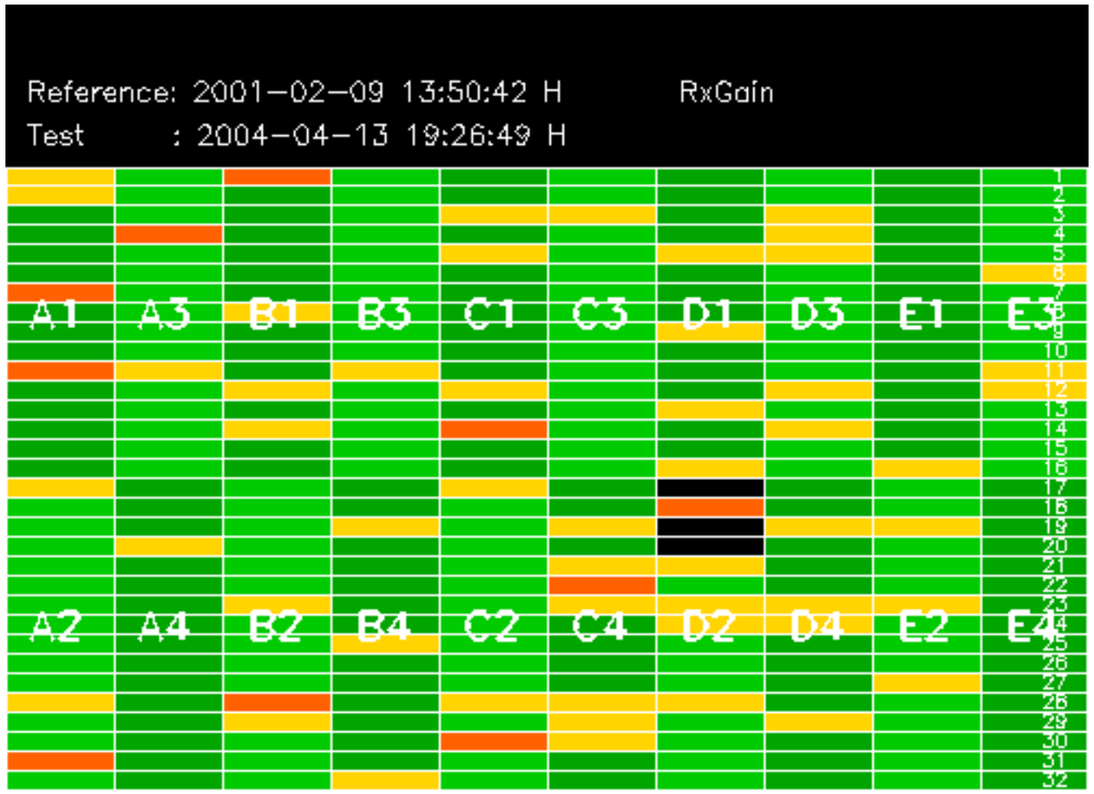

Doppler difference, estimated−predicted 'WVS' 'IS2' 'H/H' −error mean of −34.123009 Hz
−100Hz
+100Hz

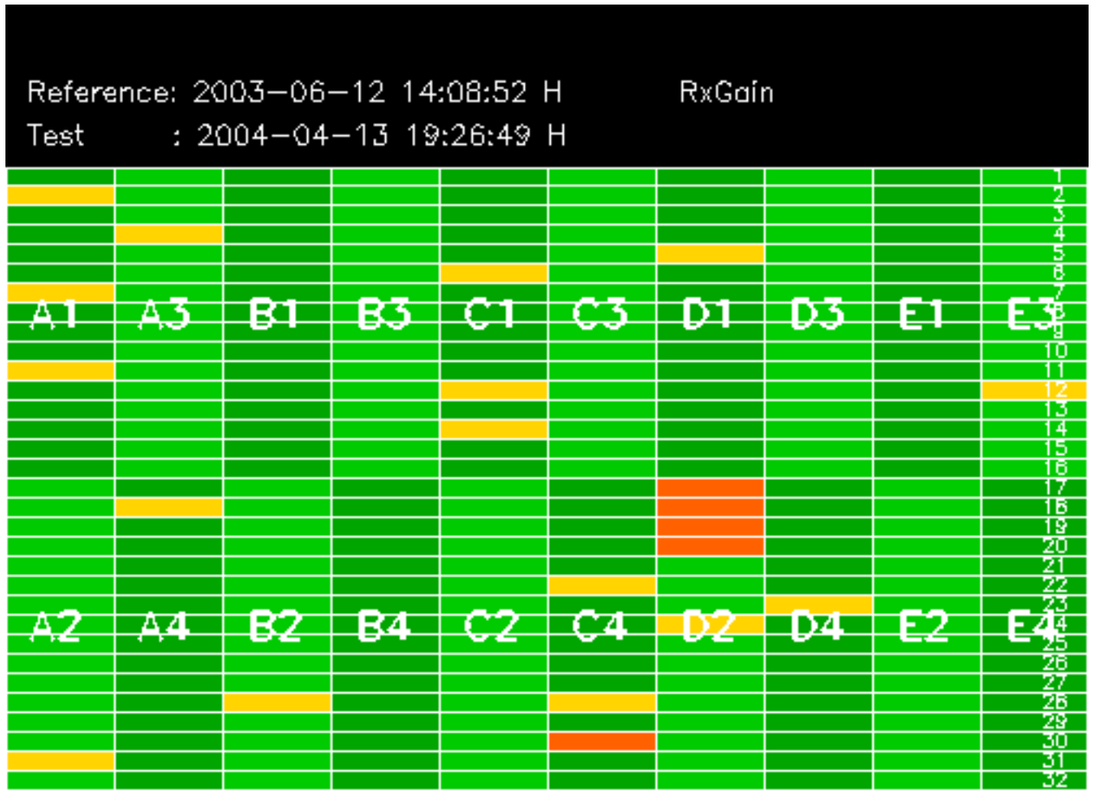

Doppler difference, estimated−predicted 'WVS' 'IS2' 'V/V' −error mean of −30.853380 Hz
−100Hz
+100Hz

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 anomalies observed on available MS products:

- ASA_MS__0PNPDK20040413_192649_000000152026_00013_11089_0071.N1
- ASA_MS__0PNPDK20040413_192809_000000152026_00013_11089_0070.N1

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2004-04-13 19:26:49 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 : 2004-04-13 19:26:49 H
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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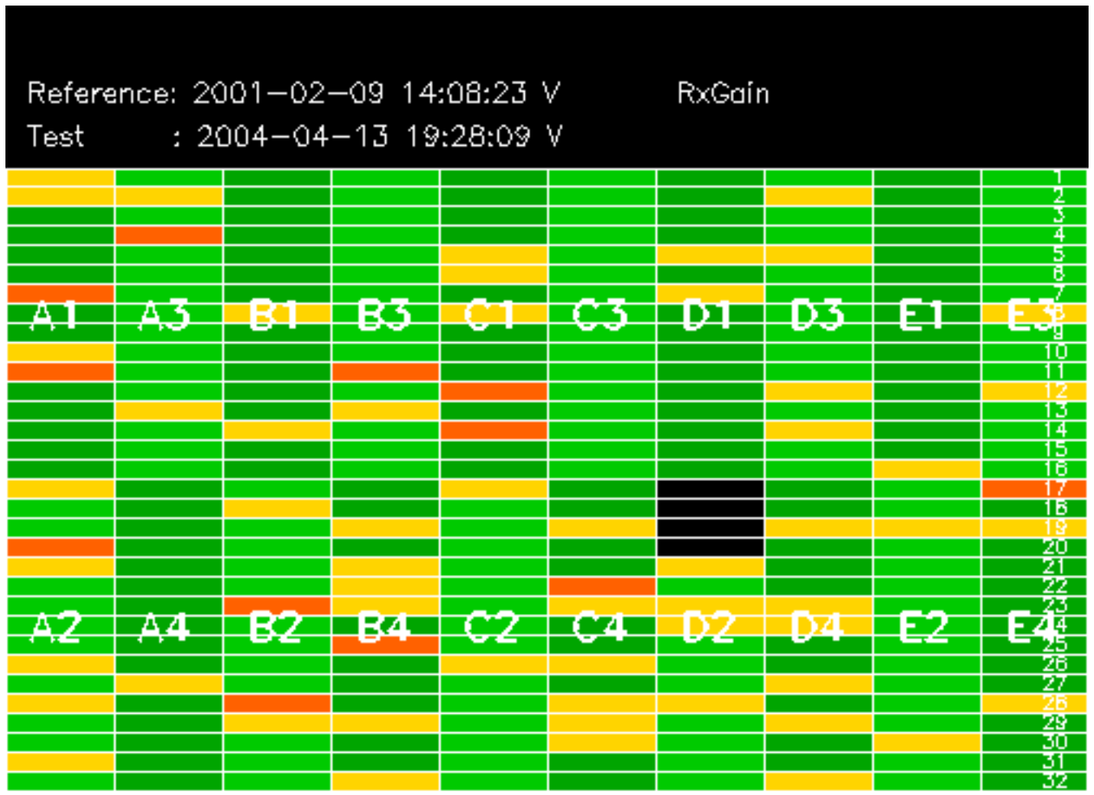
Reference: 2001-02-09 14:08:23 V
Test : 2004-04-13 19:28:09 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
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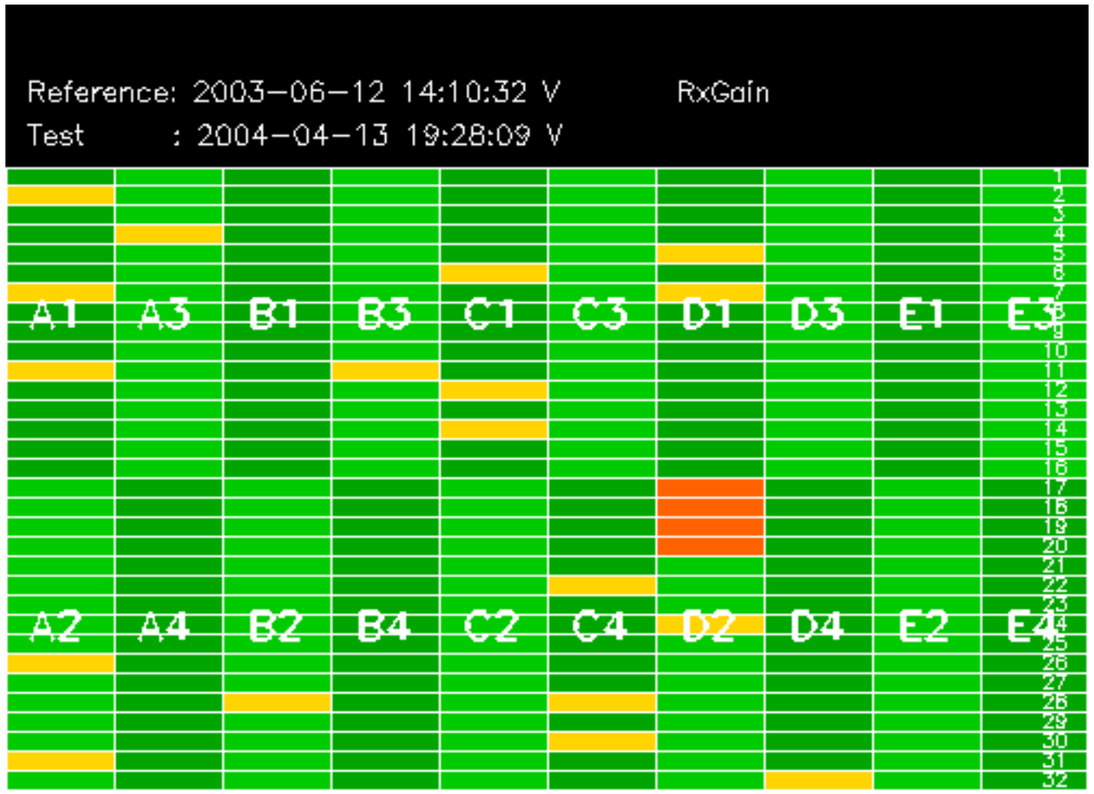
Reference: 2003-06-12 14:10:32 V
Test : 2004-04-13 19:28:09 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
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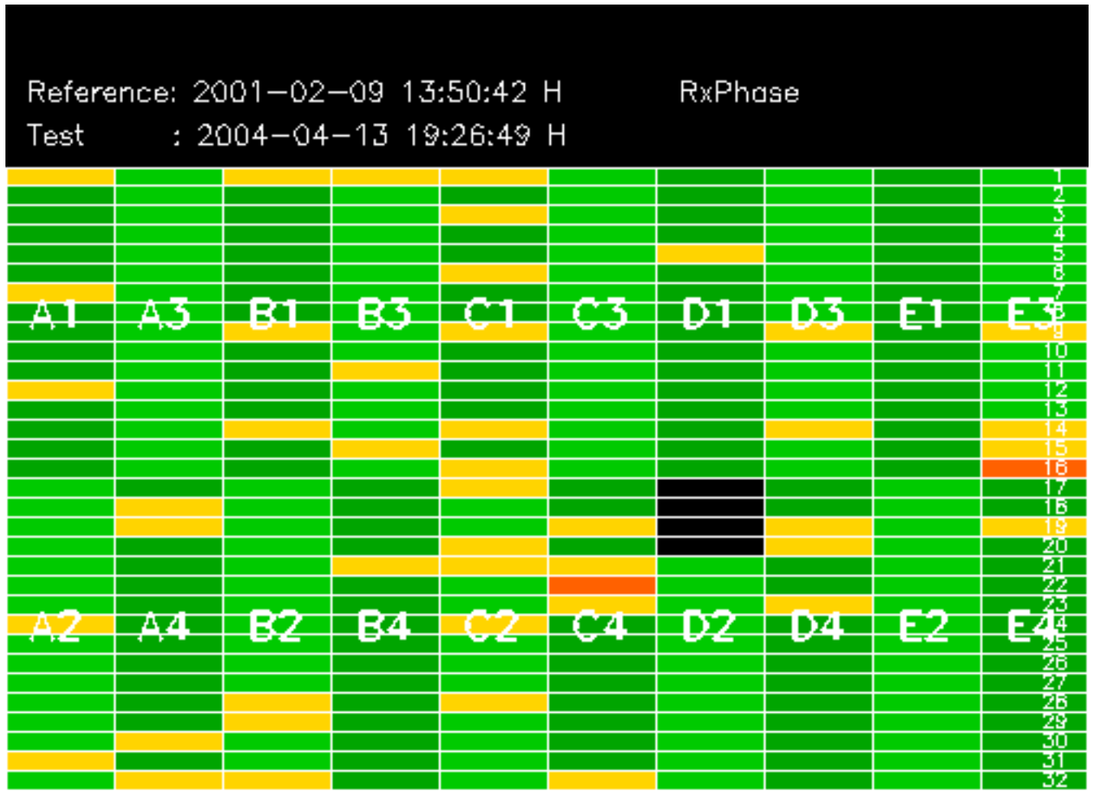
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-04-13 19:26:49 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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9
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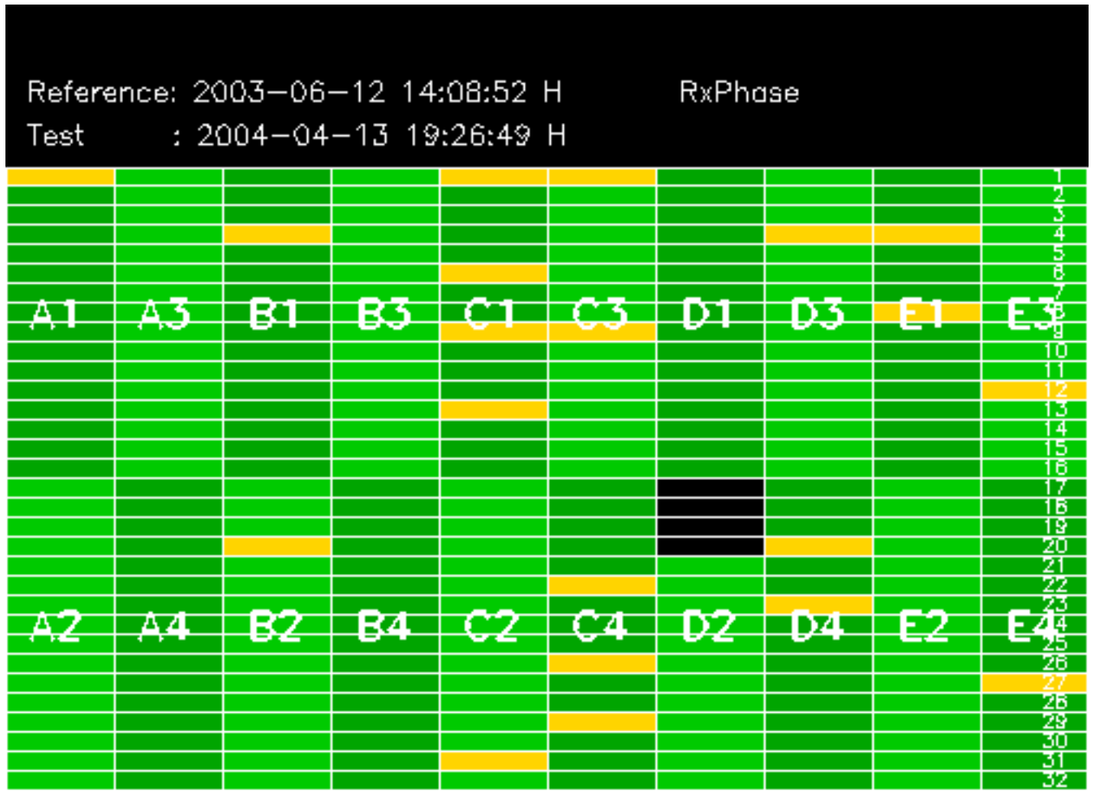
Reference: 2003-06-12 14:08:52 H
Test : 2004-04-13 19:26:49 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
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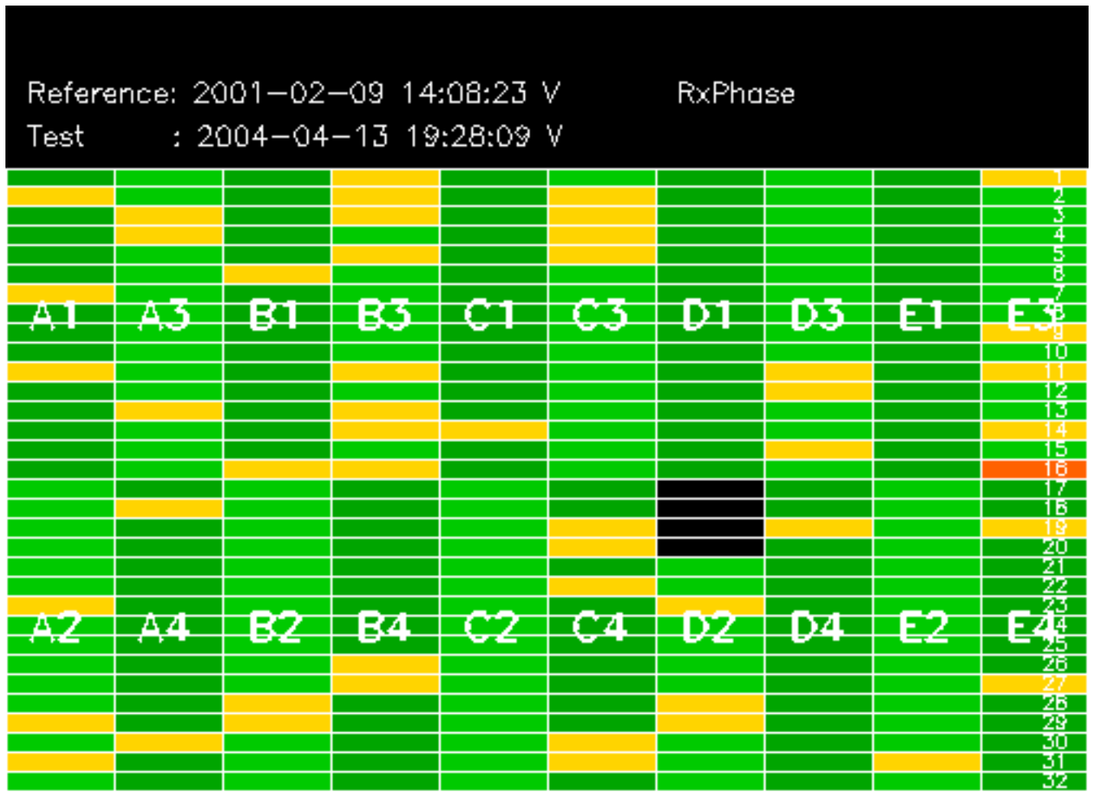
32


Reference: 2001-02-09 14:08:23 V
Test : 2004-04-13 19:28:09 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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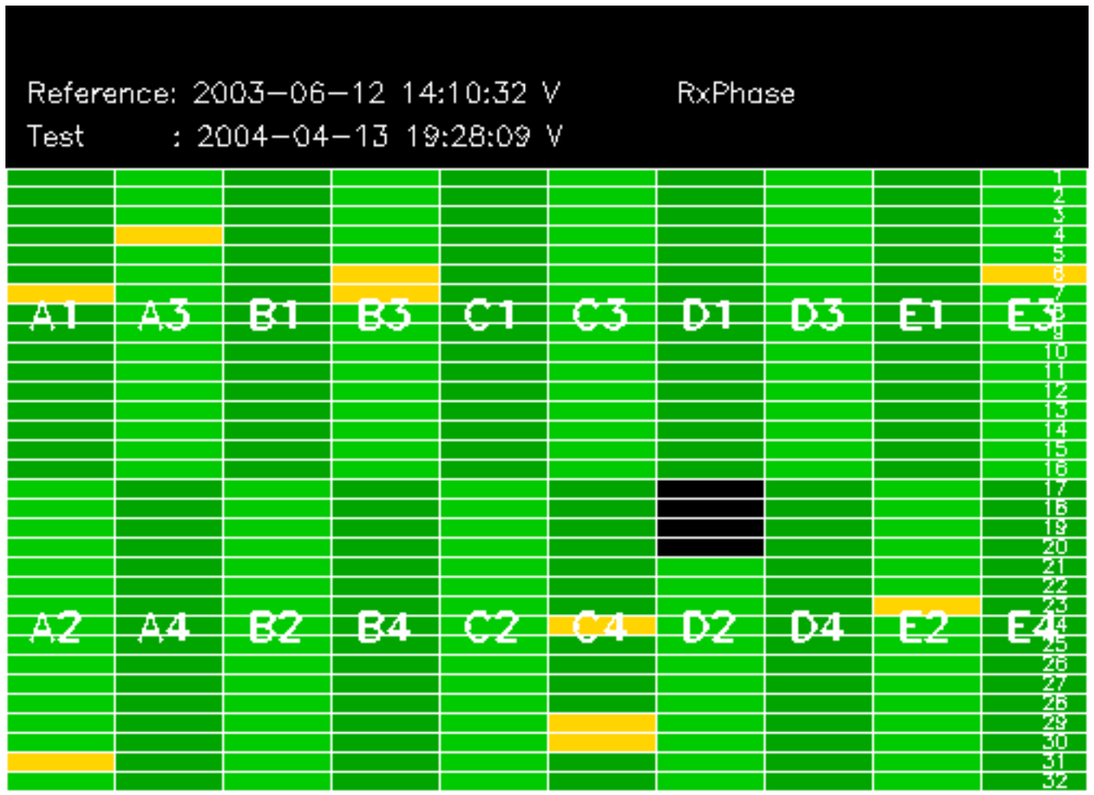
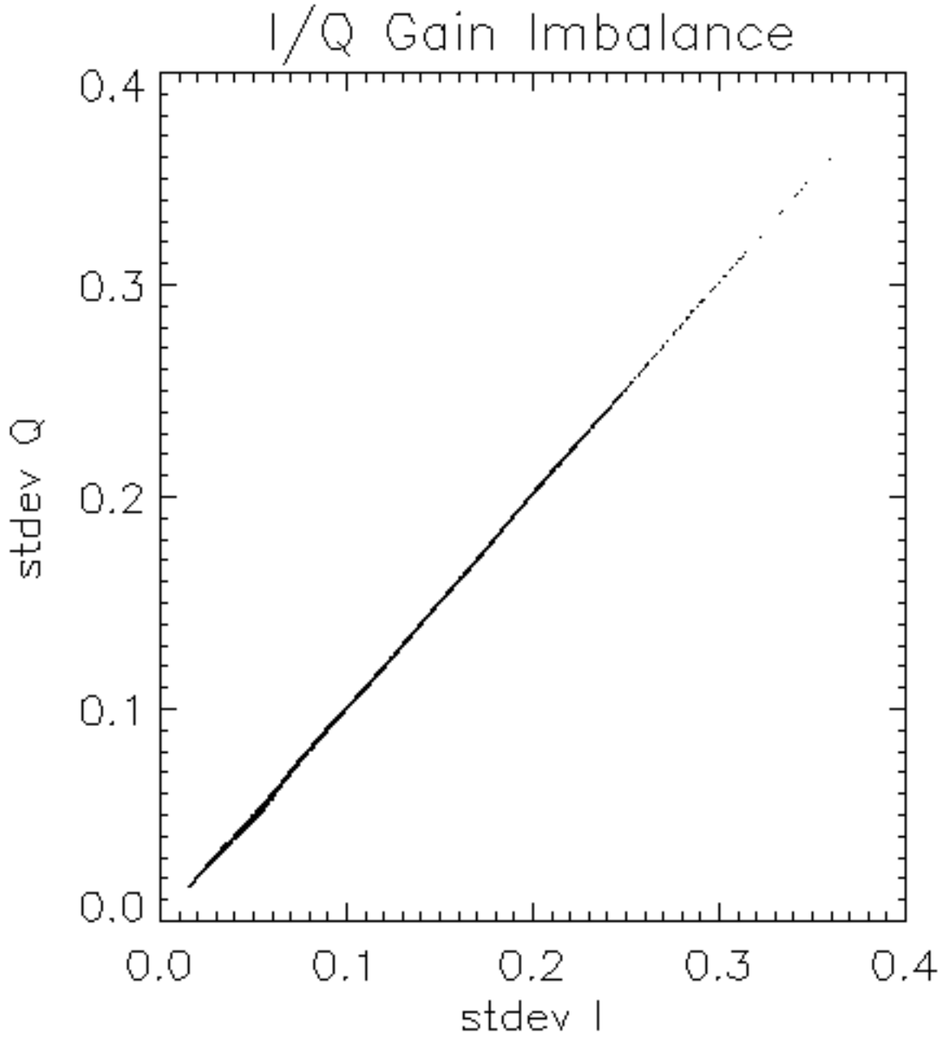
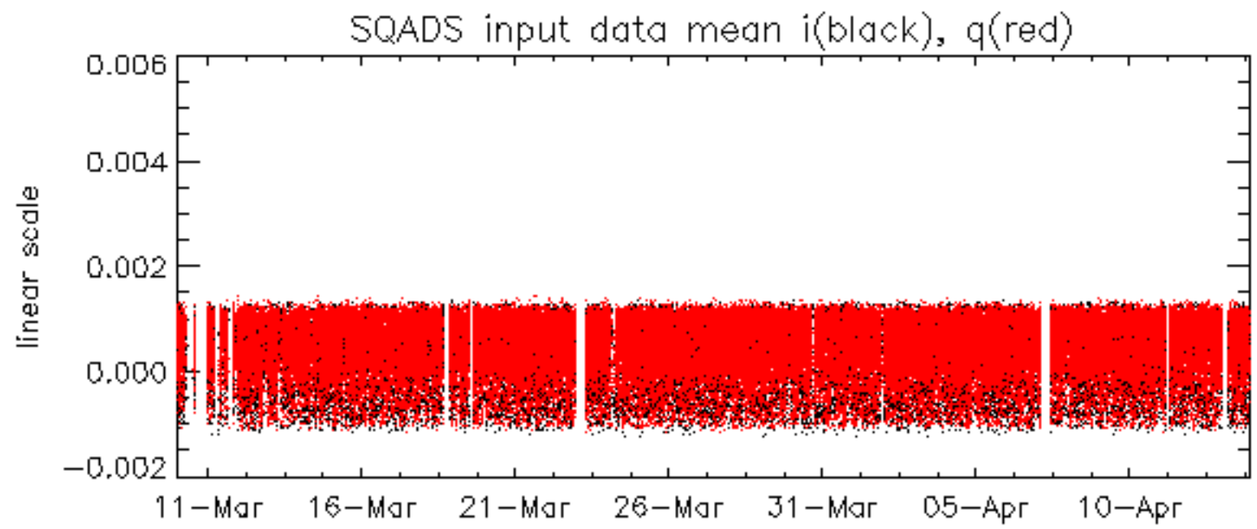
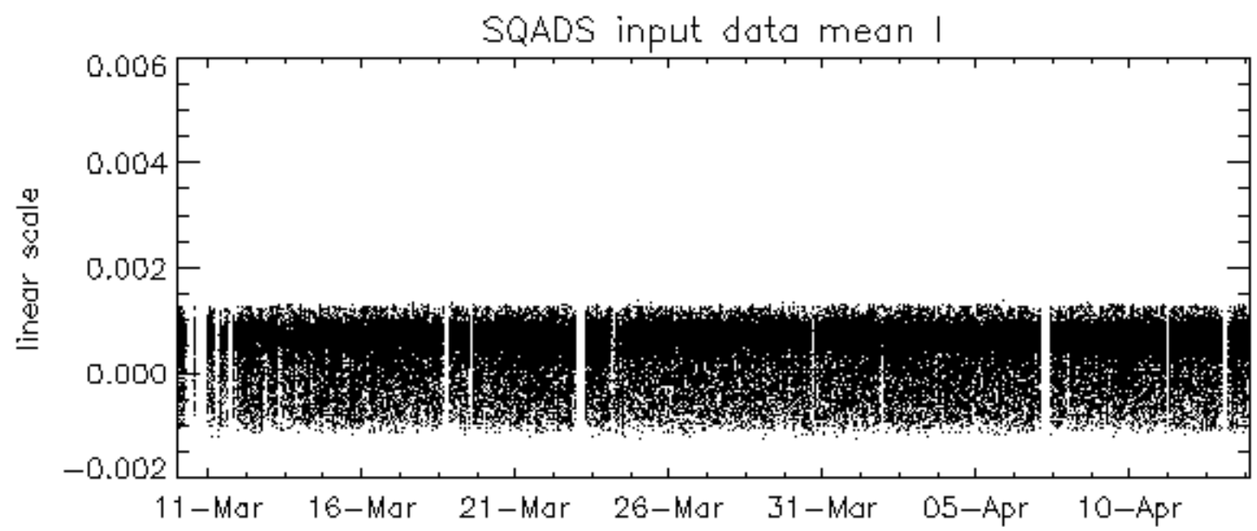
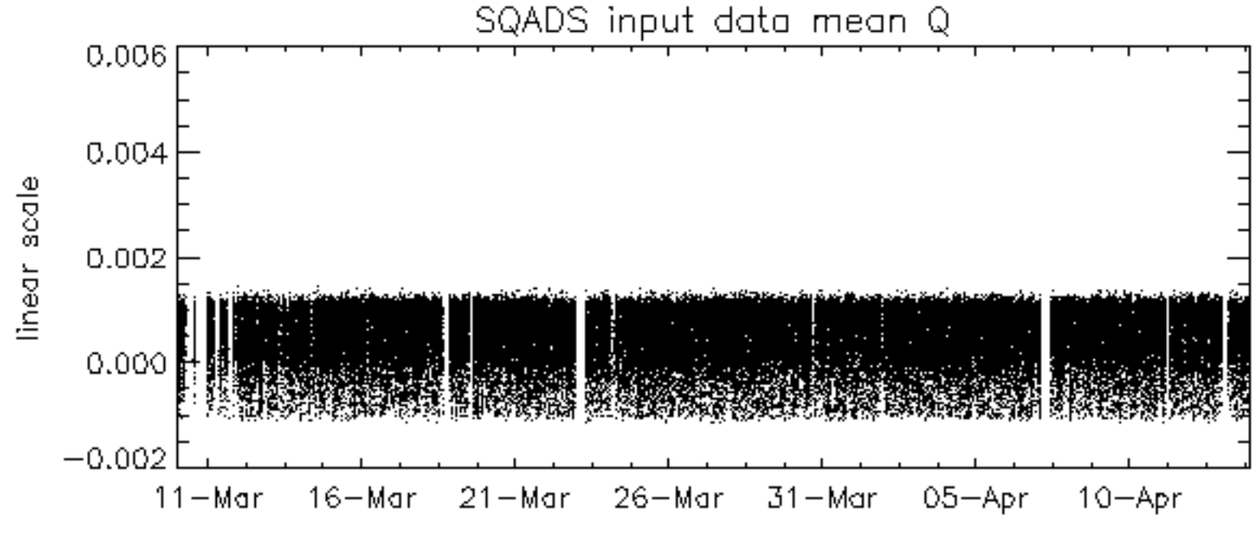
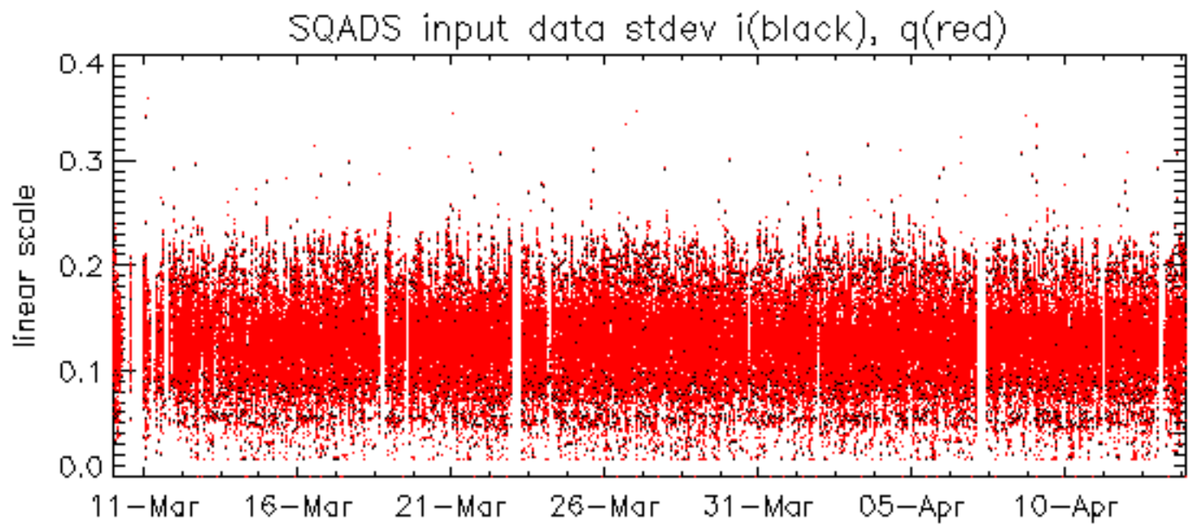

Reference: 2003-06-12 14:10:32 V
Test : 2004-04-13 19:28:09 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

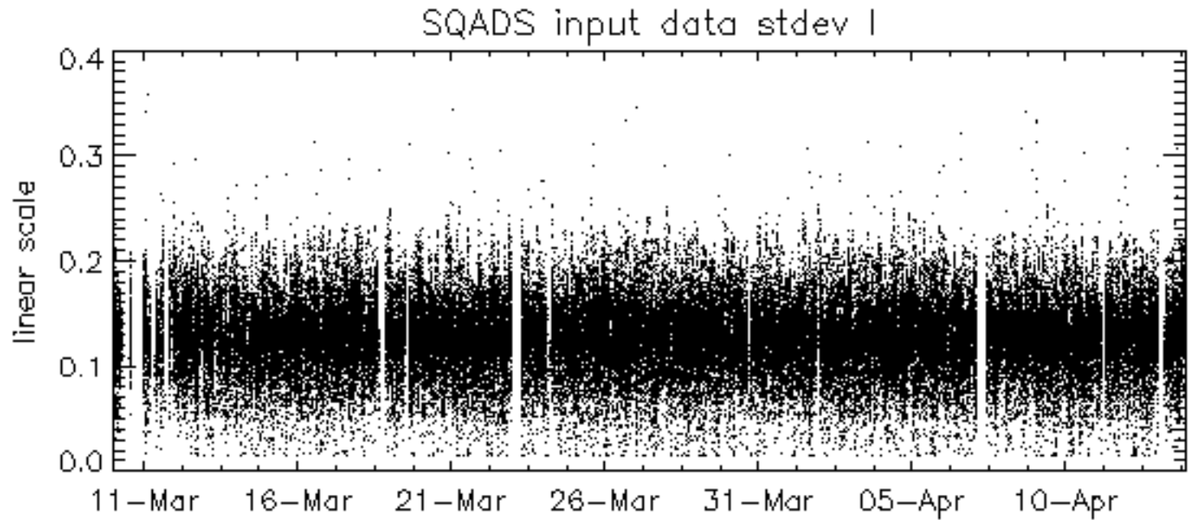

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

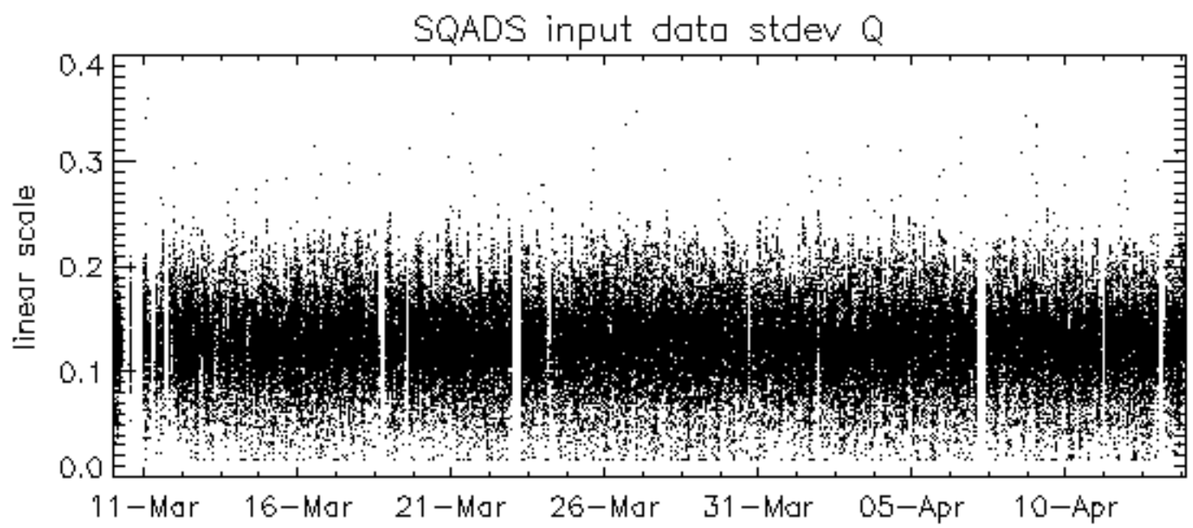

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Mar
16−Mar
21−Mar
26−Mar
31−Mar
05−Apr
10−Apr

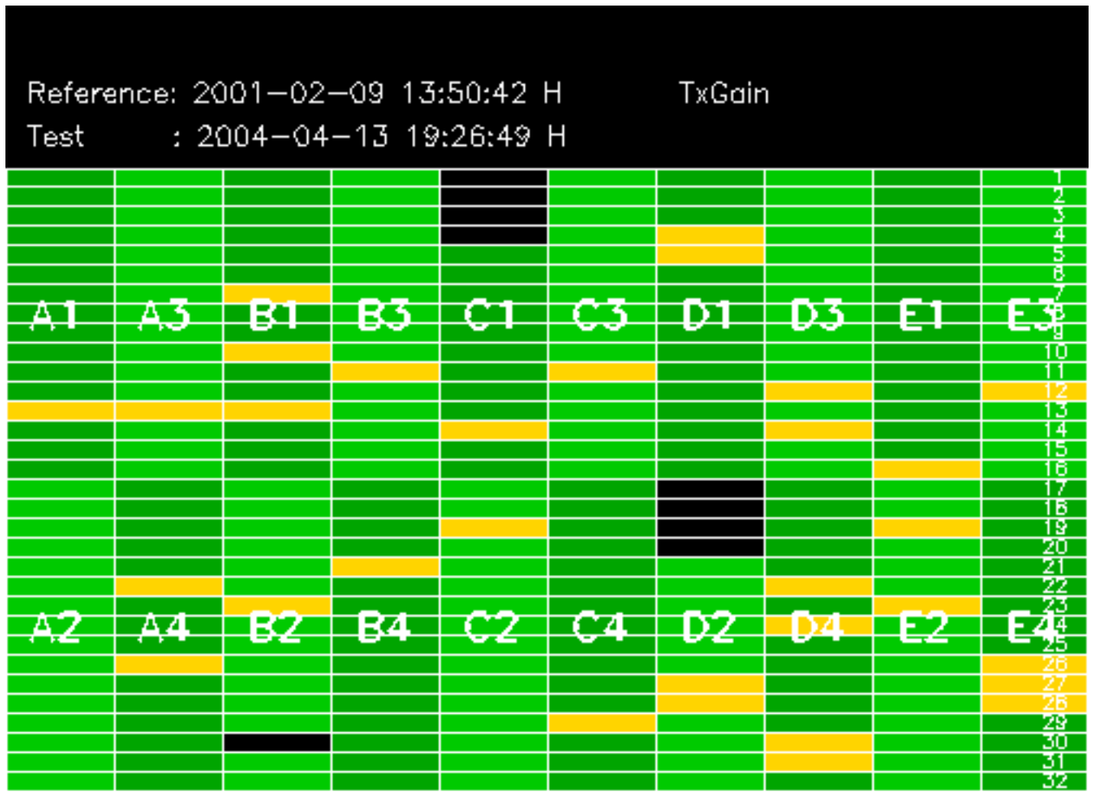

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Mar
16−Mar
21−Mar
26−Mar
31−Mar
05−Apr
10−Apr

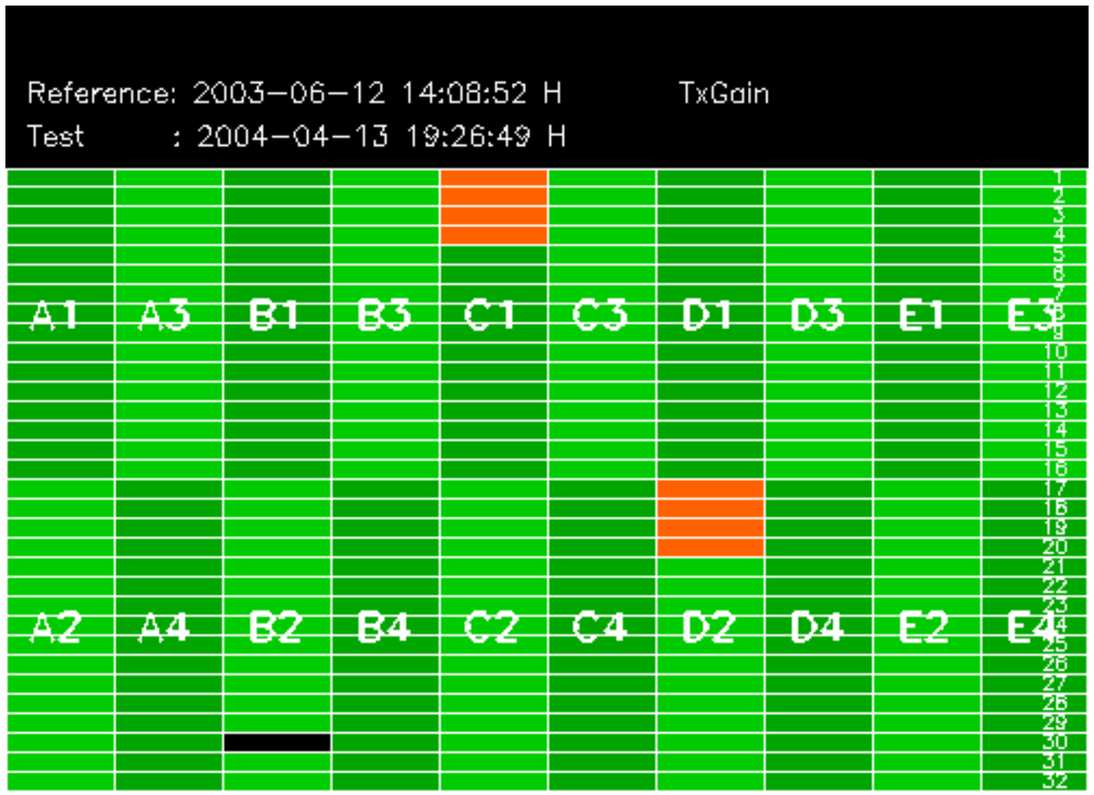

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Mar
16−Mar
21−Mar
26−Mar
31−Mar
05−Apr
10−Apr


SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
11−Mar
16−Mar
21−Mar
26−Mar
31−Mar
05−Apr
10−Apr


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
11−Mar
16−Mar
21−Mar
26−Mar
31−Mar
05−Apr
10−Apr


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
11−Mar
16−Mar
21−Mar
26−Mar
31−Mar
05−Apr
10−Apr


Reference: 2001-02-09 13:50:42 H
Test : 2004-04-13 19:26:49 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 : 2004-04-13 19:26:49 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 : 2004-04-13 19:28:09 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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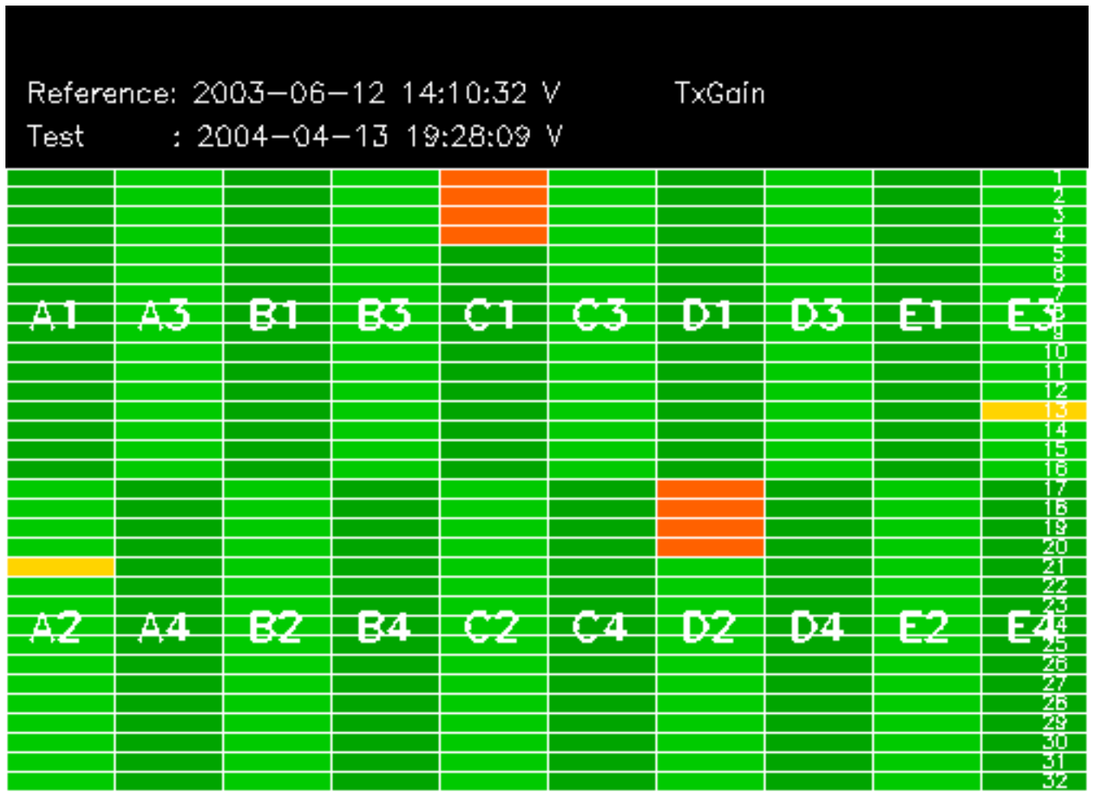
Reference: 2003-06-12 14:10:32 V
Test : 2004-04-13 19:28:09 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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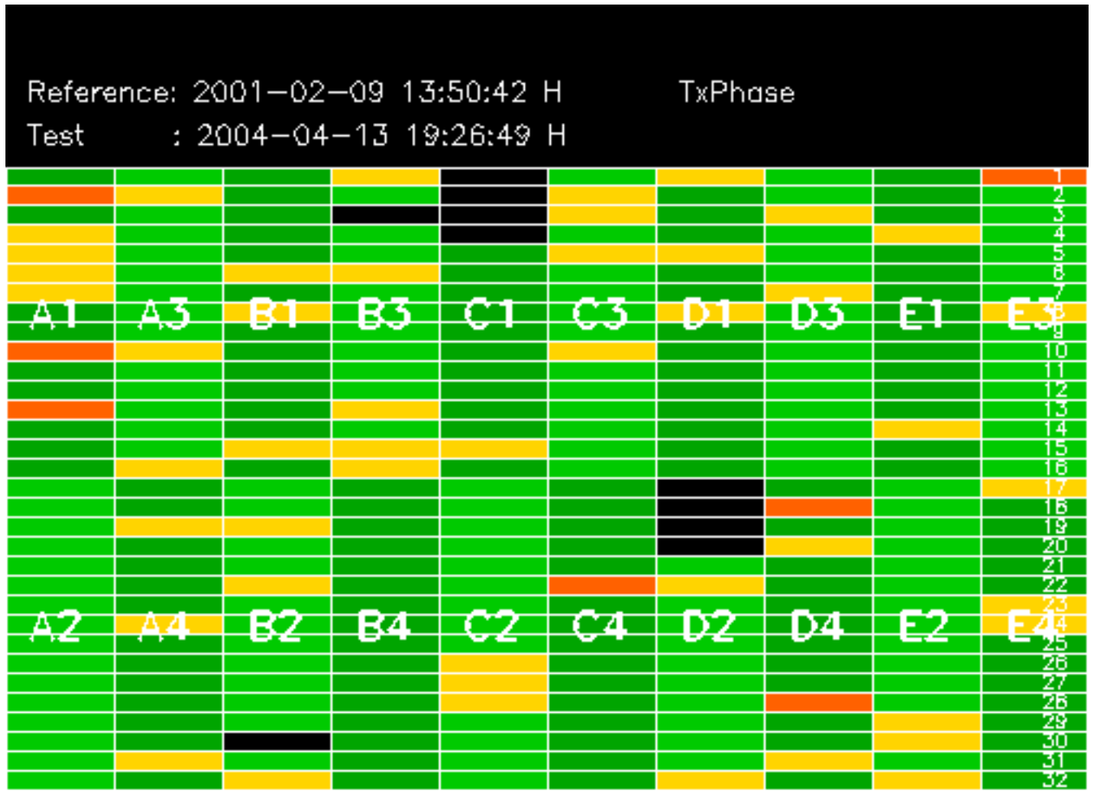
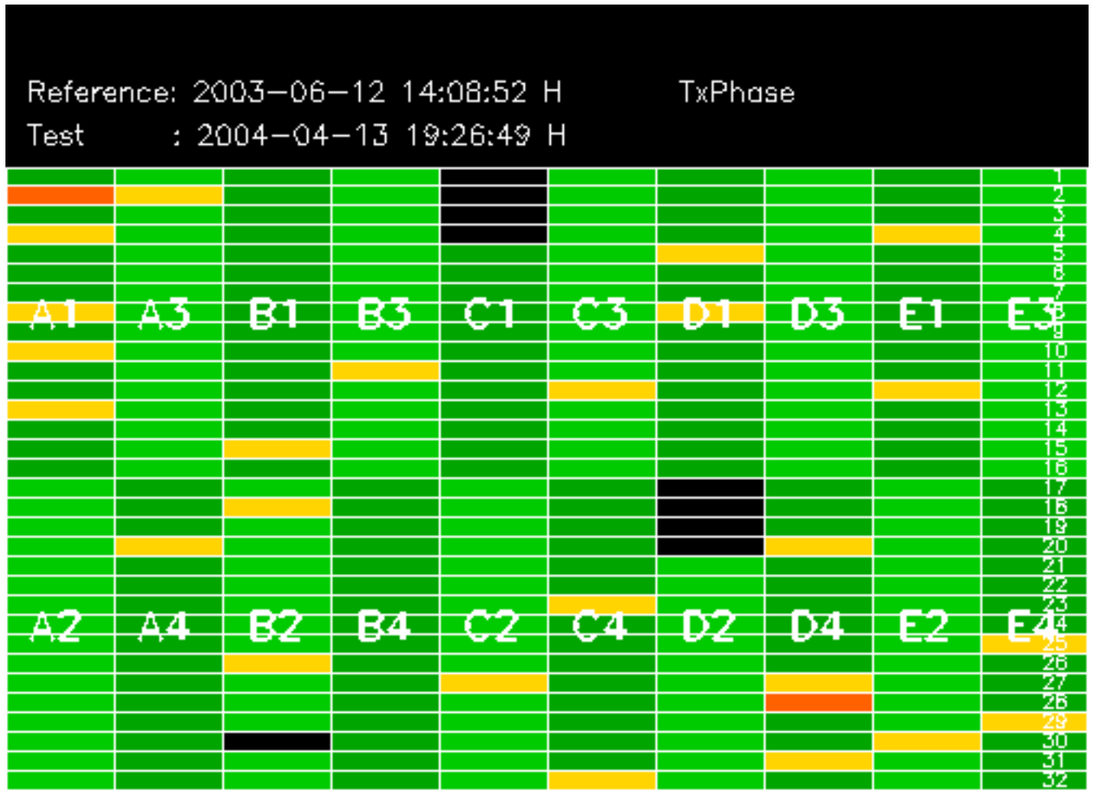
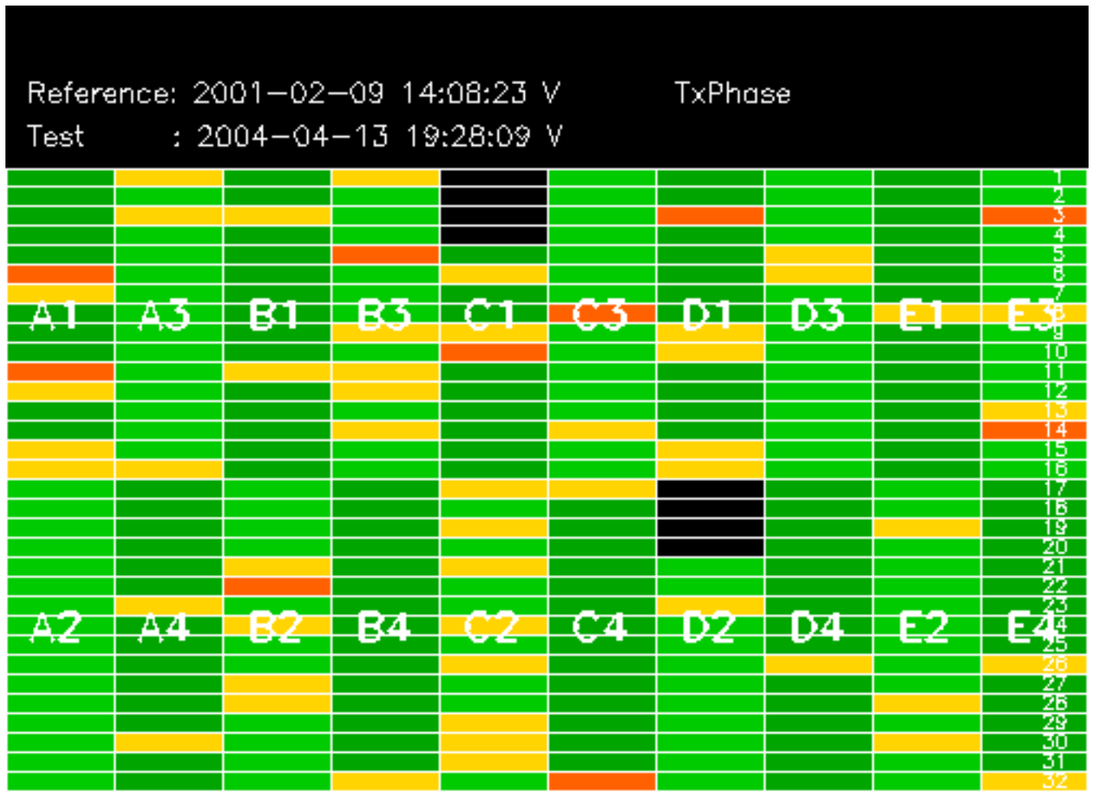

Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-04-13 19:26:49 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-04-13 19:26:49 H
TxPhase
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 : 2004-04-13 19:28:09 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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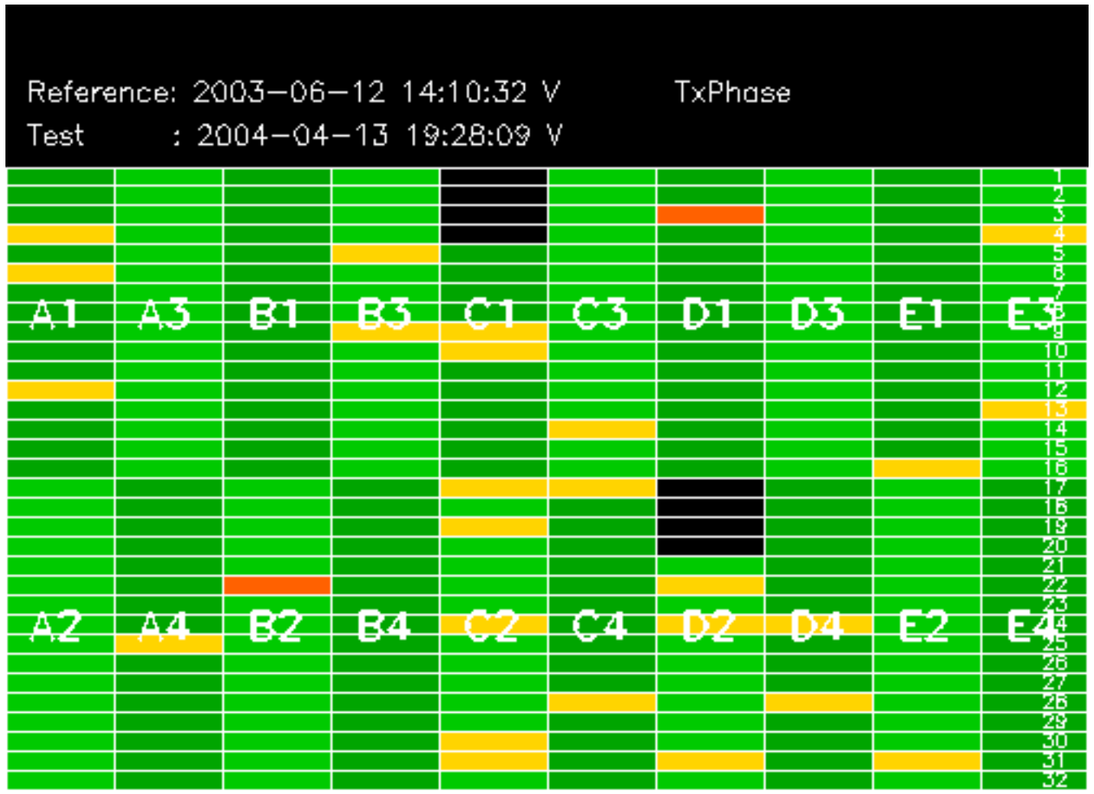
Reference: 2003-06-12 14:10:32 V
Test : 2004-04-13 19:28:09 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
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B4
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C4
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ASAR instrument unavailable due to OCM (planned Manoeuvre). 14-APR-2004 02:45:00 / 13:40:00.