REPORT OF 040311

last update on Thu Mar 11 12:47:30 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 Antenna reset on 10-MAR-2004 14:36: to 14:41:24 due to OOL identifed on tile E4 on 02:55:05 to 03:00:12.

2.2 - Browse Visual Inspection

No browse product acquired during the anomaly period has been received.

2.3 - Data Analysis

Internal cal pulse analysis of Wave products confirmed the anomaly detected on tile E4.
All rows within the second part of the antenna (rows 17 to 32) are affected by a power drop in Tx of 1.5 to 6dB for P1 depending on the PSU affected.
Anomaly has began on 2004-03-10 01:40:38 and has been stopped by the antenna reset.

-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	20040304 202539
H	20040304 202419

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

Internal cal pulse analysis of Wave products confirmed the anomaly detected on tile E4.
All rows within the second part of the antenna (rows 17 to 32) are affected by a power drop in Tx of 1.5 to 6dB for P1 depending on the PSU affected.

Anomaly has began on 2004-03-10 01:40:38 and has been stopped by the antenna reset.

4.1 - Daily statistics

4.2 - Cyclic statistics

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	0.000466508
	stdev	2.43015e-07
MEAN Q	mean	0.000470080
	stdev	2.76986e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.125771
	stdev	0.00117467
STDEV Q	mean	0.125998
	stdev	0.00118795

5.3 - Gain imbalance I/Q

6 - Wave Doppler Analysis

Preliminary report.The data is not yet controled

6.1 - Unbiased Doppler Error

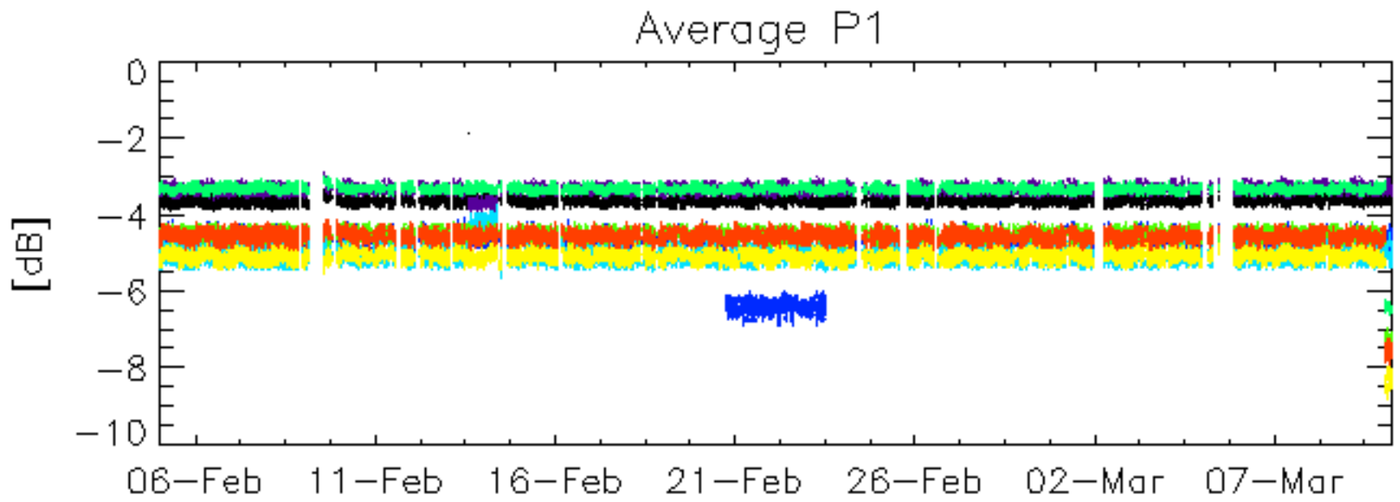
Evolution of unbiased Doppler error (Real - Expected)
Acsending
Descending

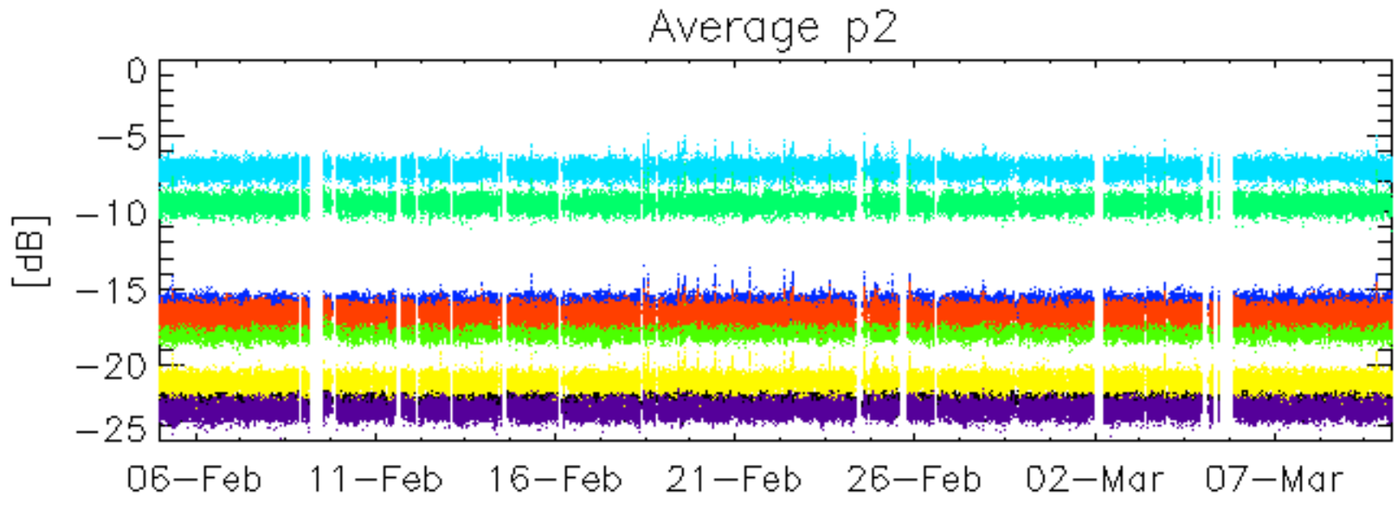
6.2 - Absolute Doppler

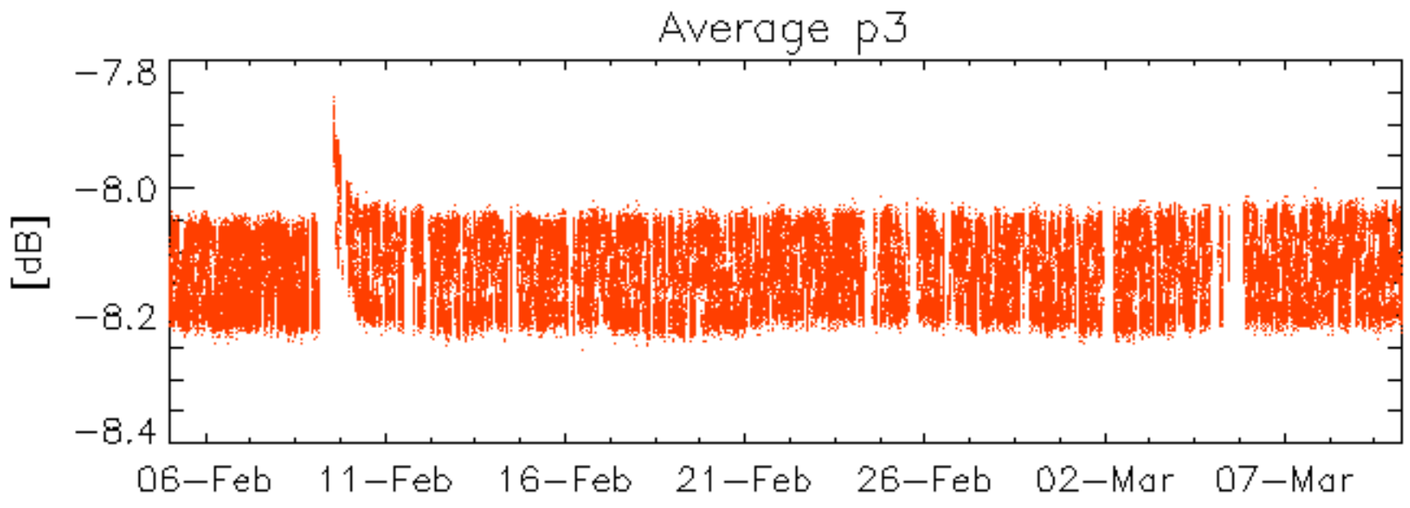
Evolution of Absolute Doppler
Acsending
Descending

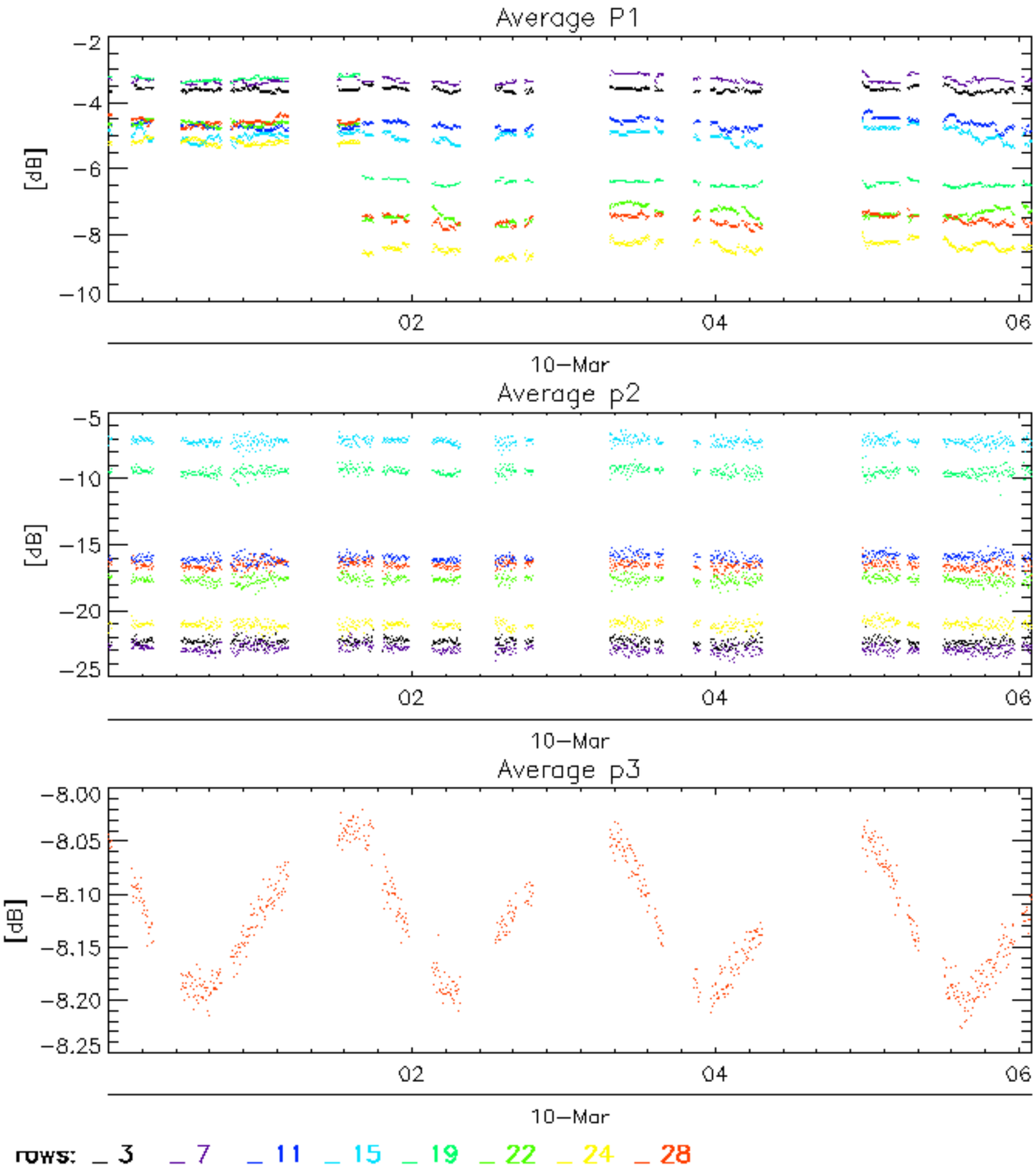
6.3 - Doppler evolution versus ANX

Evolution Doppler error versus ANX



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

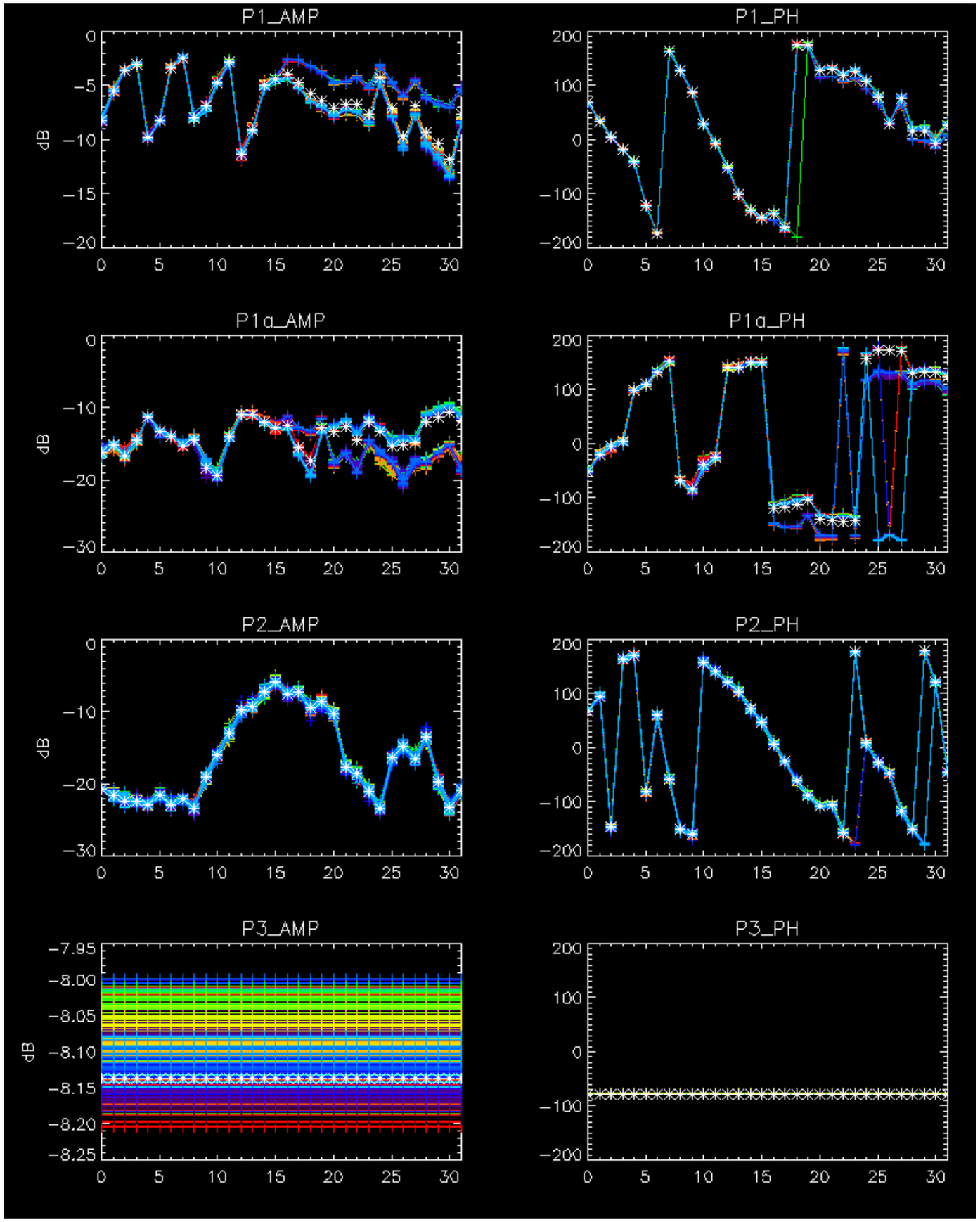

Average p2
0
−5
−10
−15
−20
−25
[dB]
06−Feb
11−Feb
16−Feb
21−Feb
26−Feb
02−Mar
07−Mar


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


Average P1
[dB]
−2
−4
−6
−8
−10
02
04
06
10−Mar
Average p2
[dB]
−5
−10
−15
−20
−25
02
04
06
10−Mar
Average p3
[dB]
−8.00
−8.05
−8.10
−8.15
−8.20
−8.25
02
04
06
10−Mar
rows: 3 7 11 15 19 22 24 28

No browse product acquired during the anomaly period has been received.

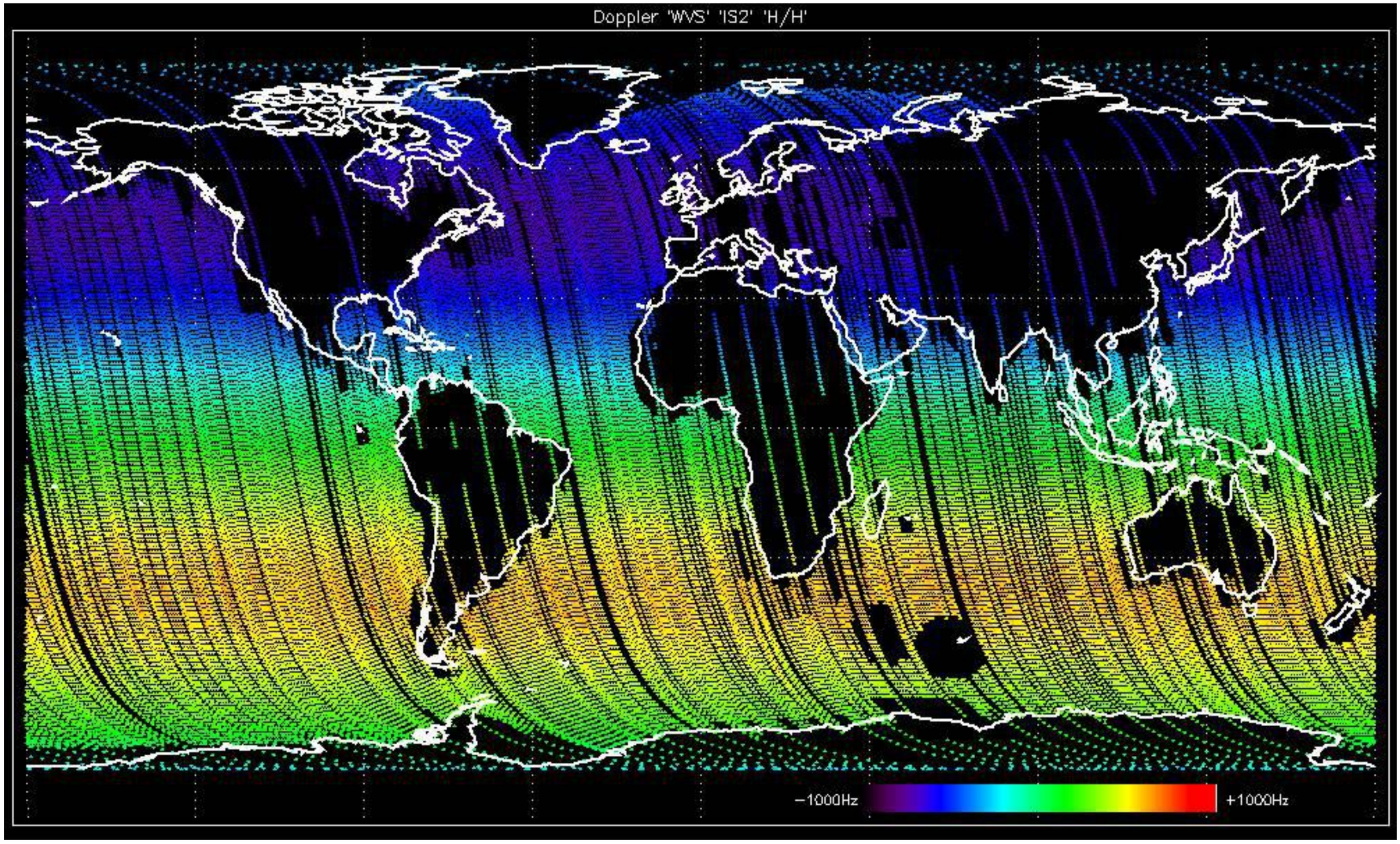
Internal cal pulse analysis of Wave products confirmed the anomaly detected on tile E4.
All rows within the second part of the antenna (rows 17 to 32) are affected by a power drop in Tx of 1.5 to 6dB for P1 depending on the PSU affected.
Anomaly has began on 2004-03-10 01:40:38 and has been stopped by the antenna reset.

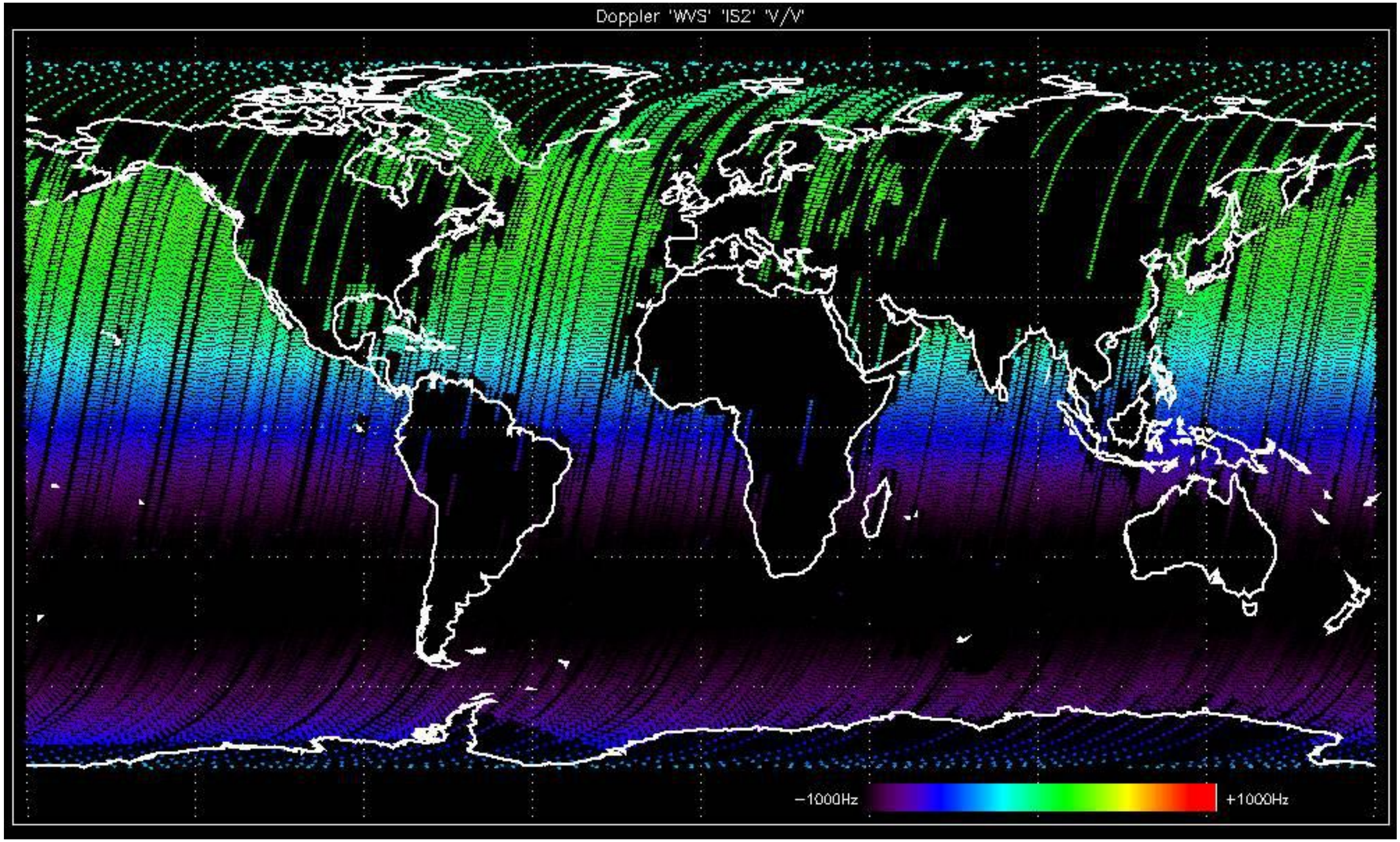

P1_AMP
P1_PH
P1a_AMP
P1a_PH
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

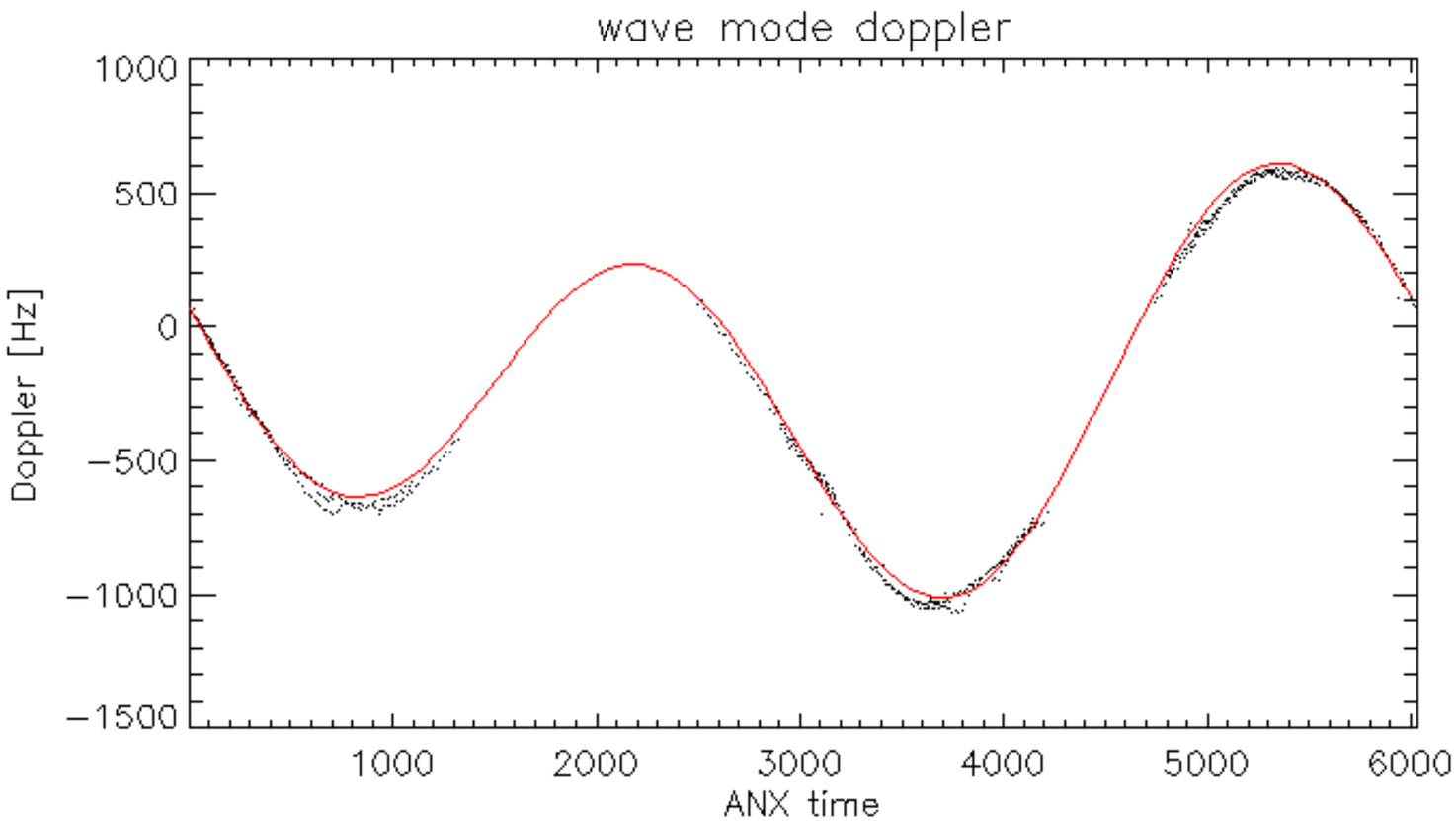
Internal cal pulse analysis of Wave products confirmed the anomaly detected on tile E4.
All rows within the second part of the antenna (rows 17 to 32) are affected by a power drop in Tx of 1.5 to 6dB for P1 depending on the PSU affected.
Anomaly has began on 2004-03-10 01:40:38 and has been stopped by the antenna reset.

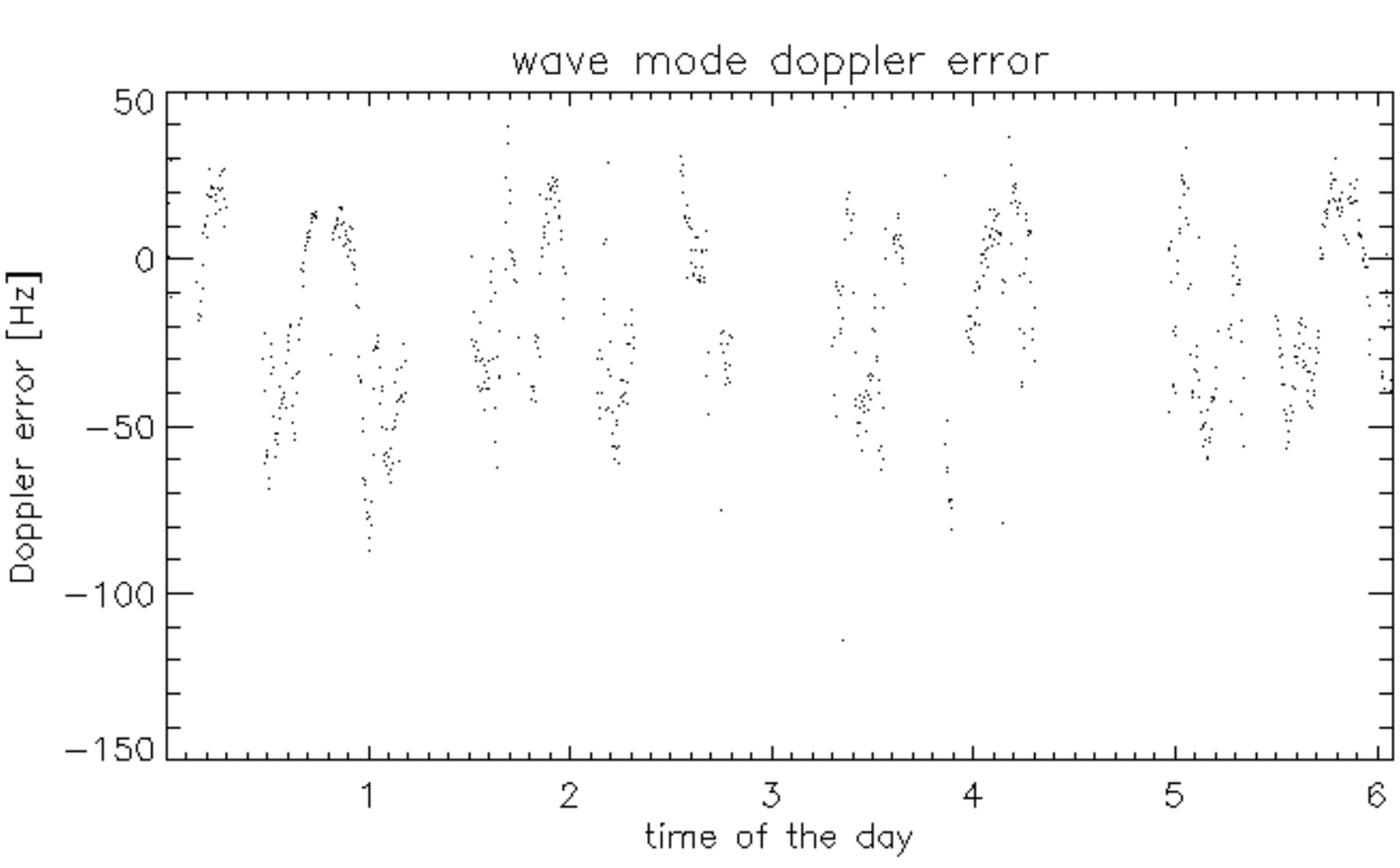
-Stable raw data statistics.
-Nominal Doppler behavior.

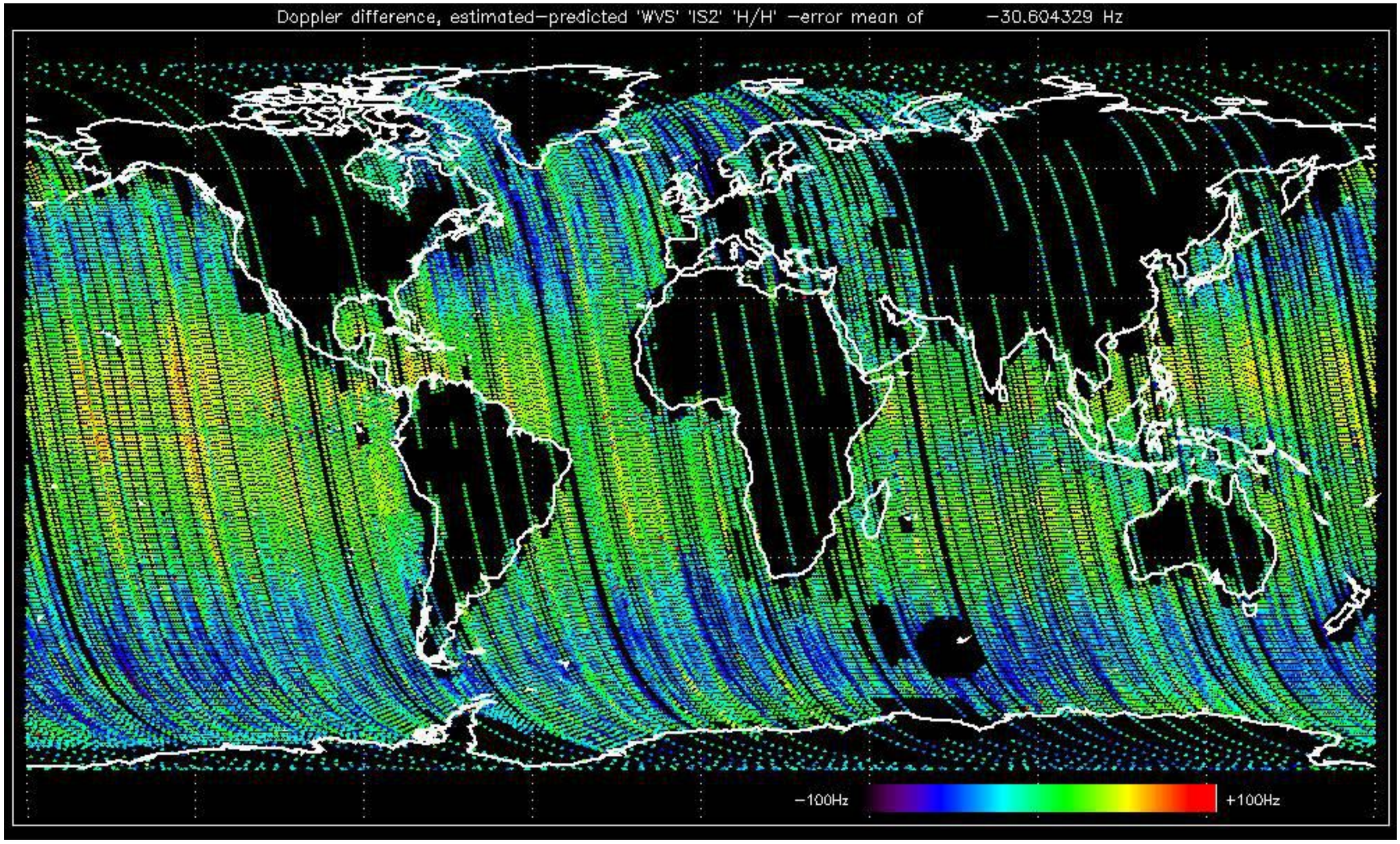
Preliminary report.The data is not yet controled

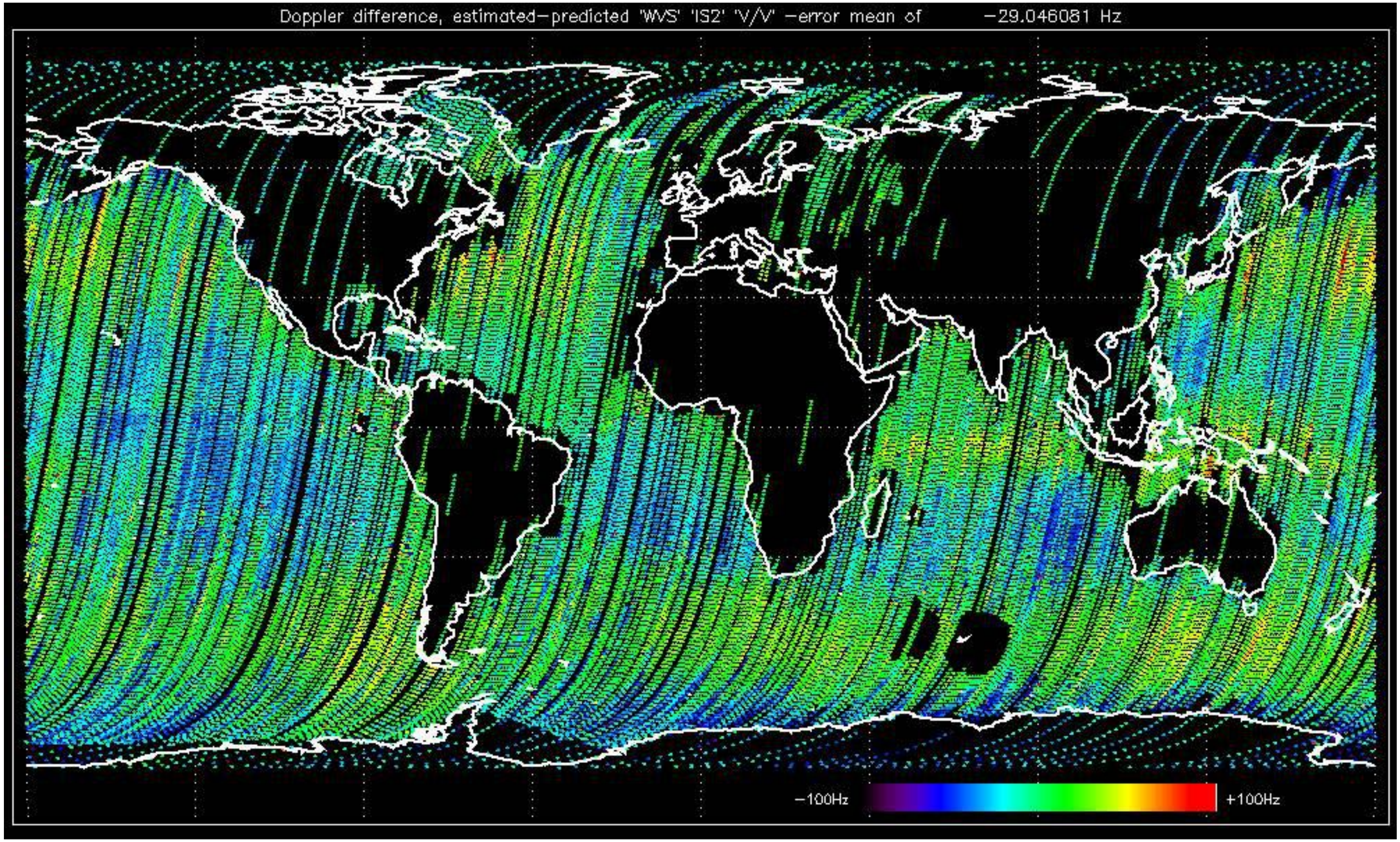

Doppler 'WVS' 'IS2' 'H/H'
−1000Hz
+1000Hz


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


wave mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
1000
2000
3000
4000
5000
6000
ANX time

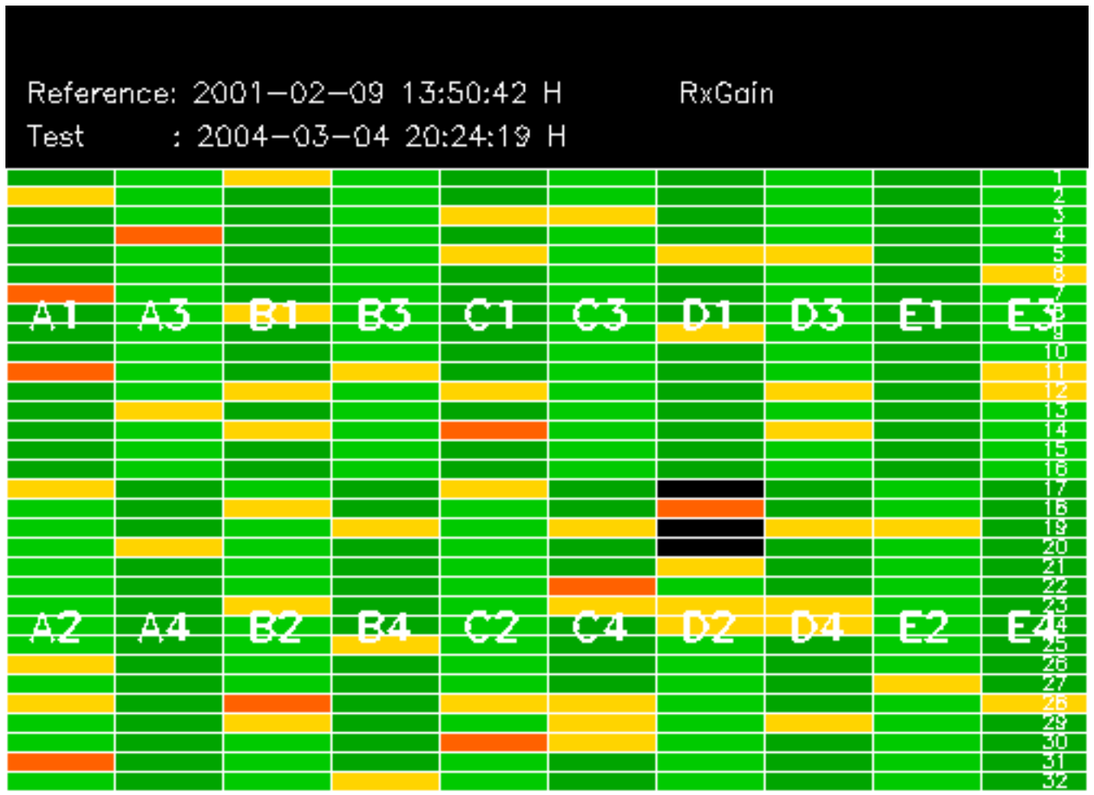

wave mode doppler error
Doppler error [Hz]
50
0
−50
−100
−150
1
2
3
4
5
6
time of the day

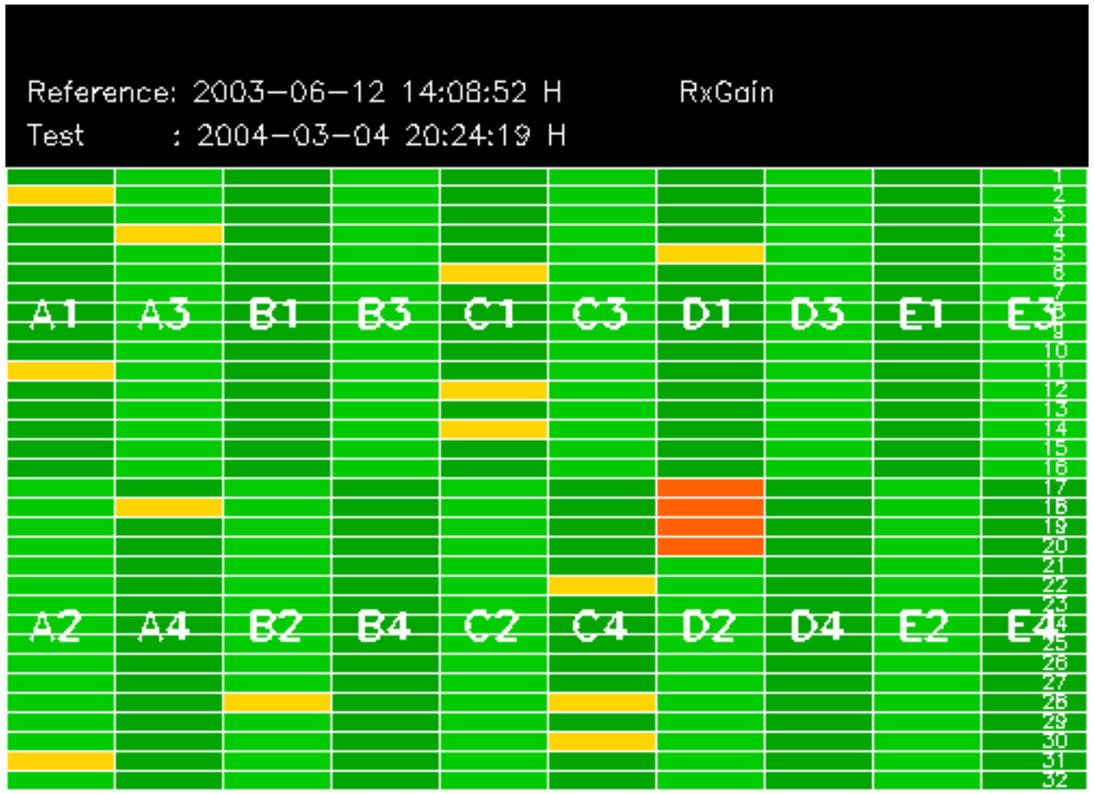

Doppler difference, estimated-predicted 'WVS' 'IS2' 'H/H' -error mean of -30.604329 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' 'V/V' −error mean of −29.046081 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 : 2004-03-04 20:24:19 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 : 2004-03-04 20:24:19 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
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8
9
10
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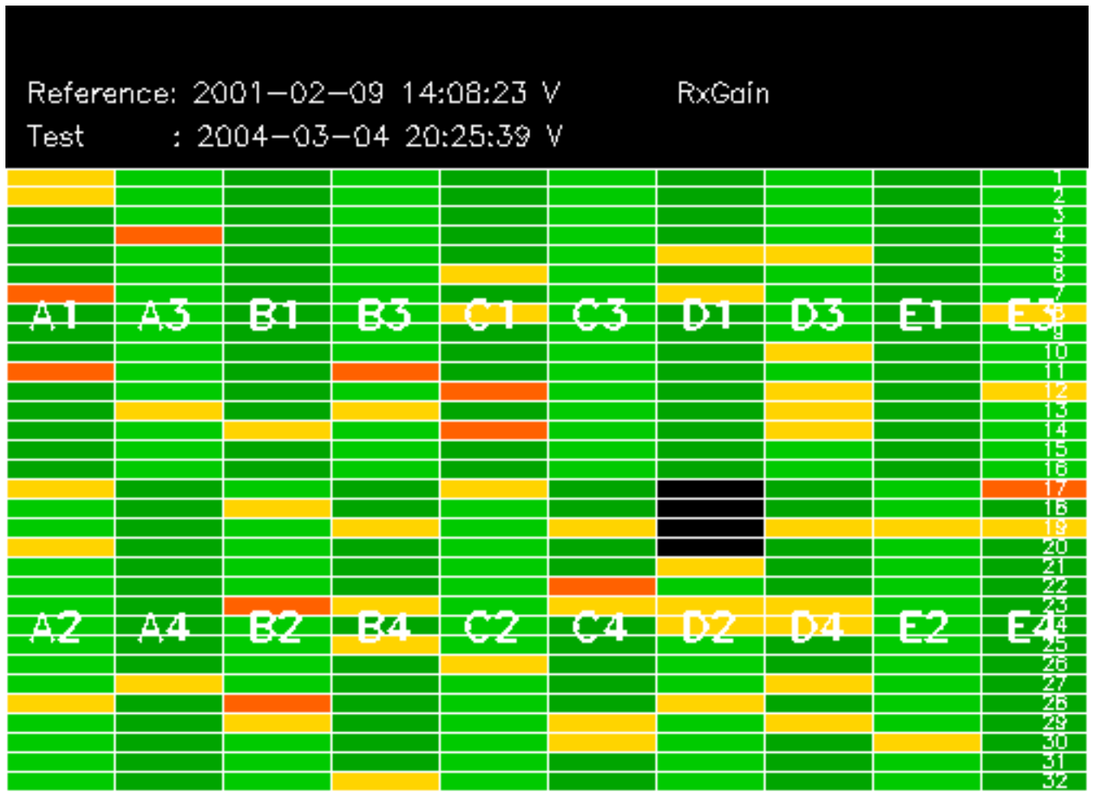
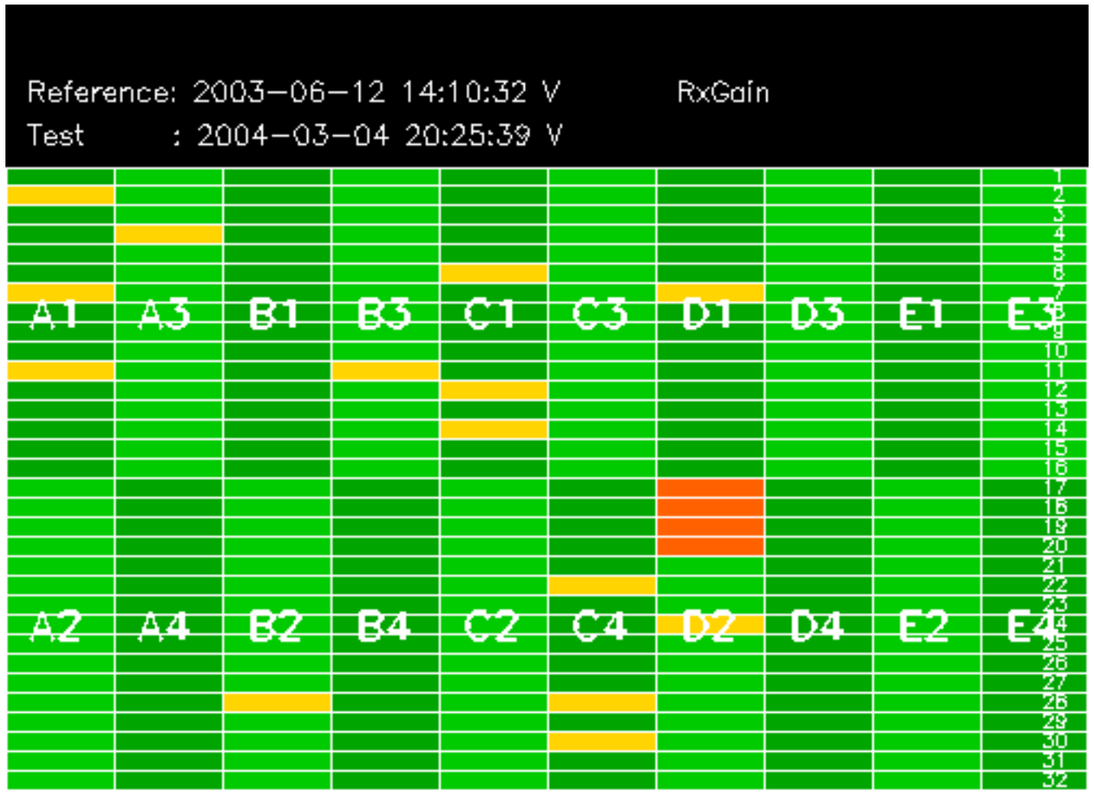
32


Reference: 2001-02-09 14:08:23 V
Test : 2004-03-04 20:25:39 V
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 14:10:32 V
Test : 2004-03-04 20:25:39 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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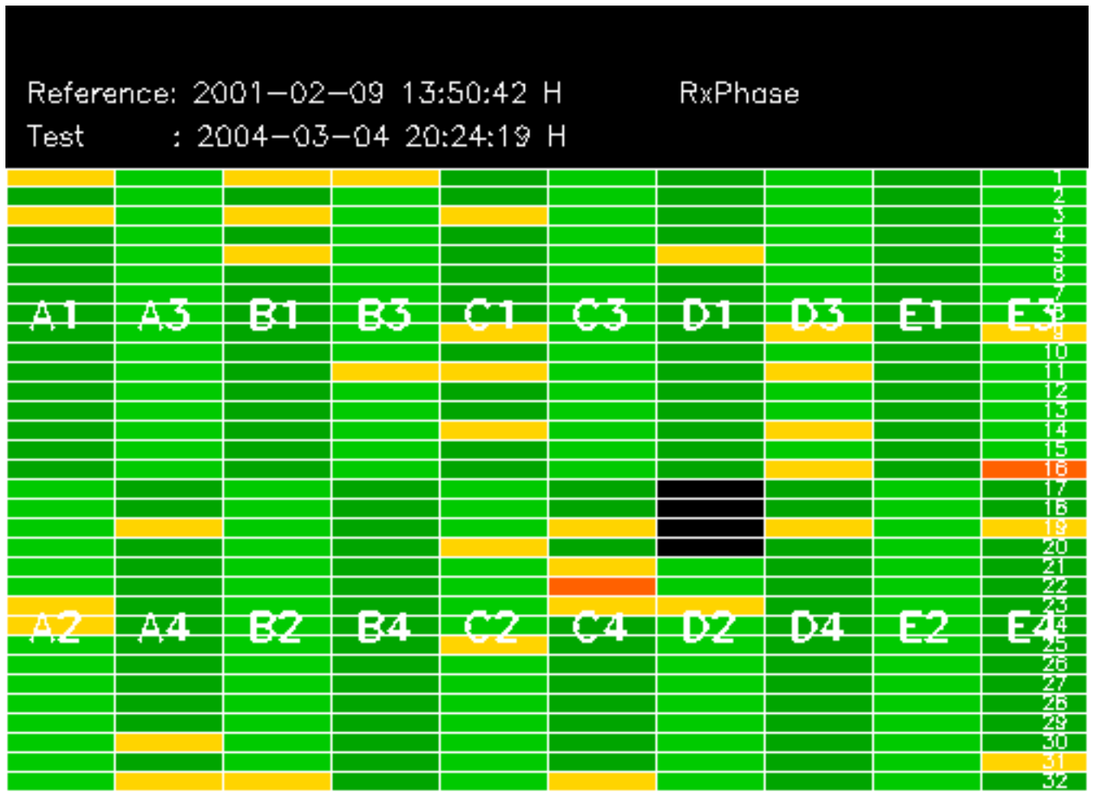
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-03-04 20:24:19 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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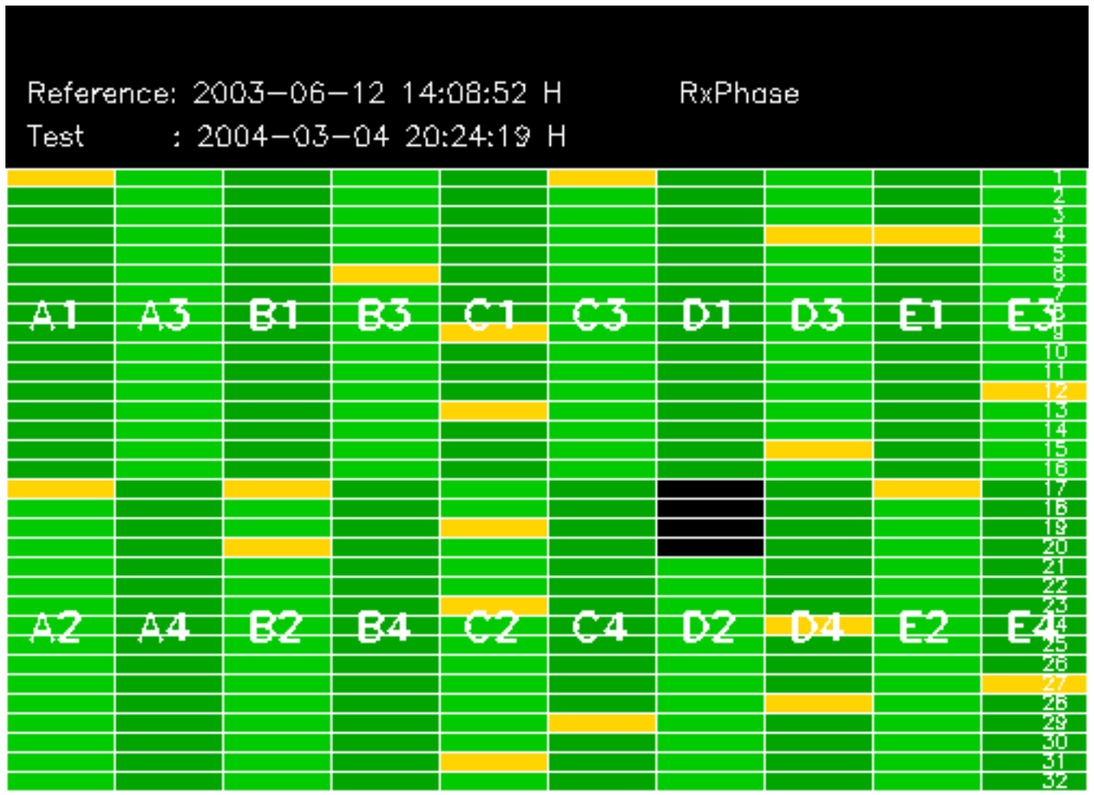
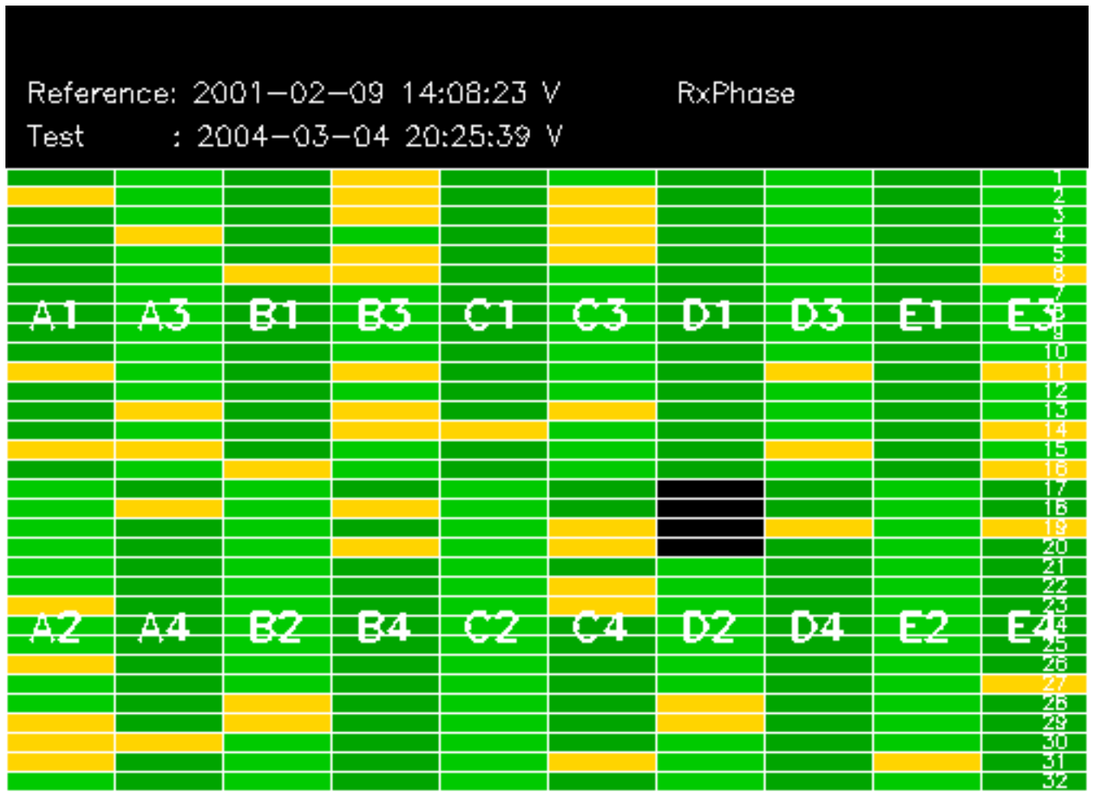

Reference: 2003-06-12 14:08:52 H
Test : 2004-03-04 20:24:19 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-03-04 20:25:39 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
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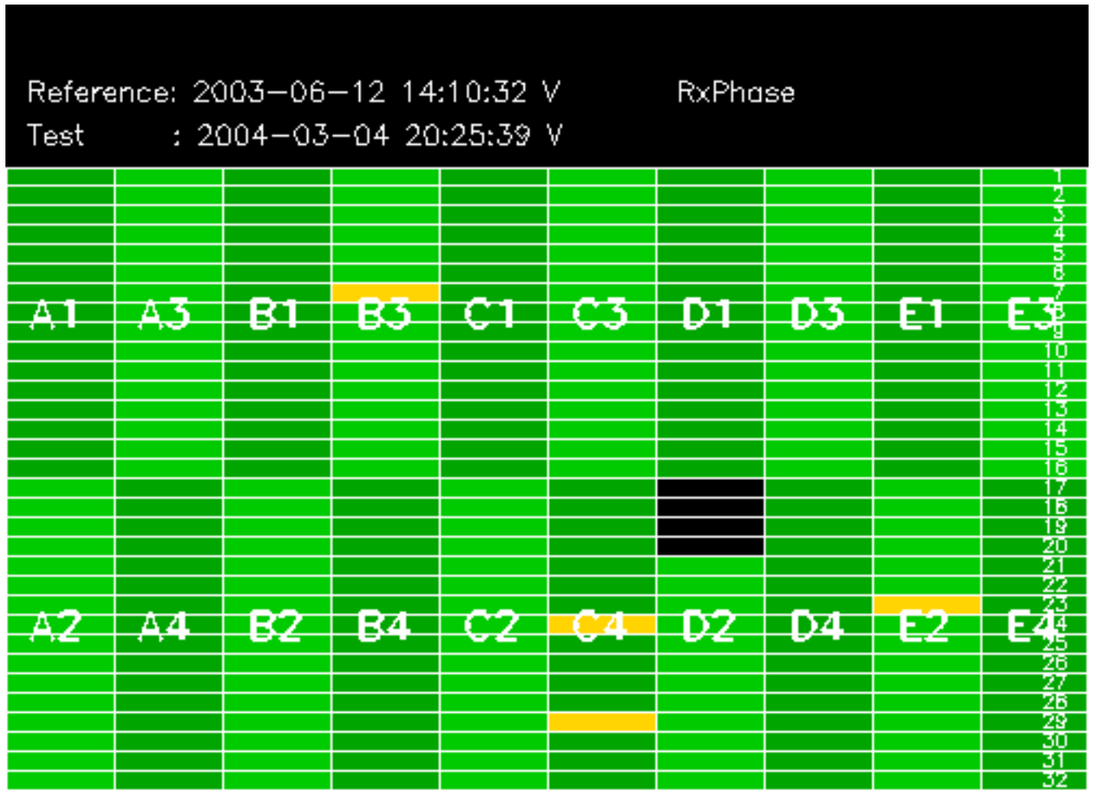
Reference: 2003-06-12 14:10:32 V
Test : 2004-03-04 20:25:39 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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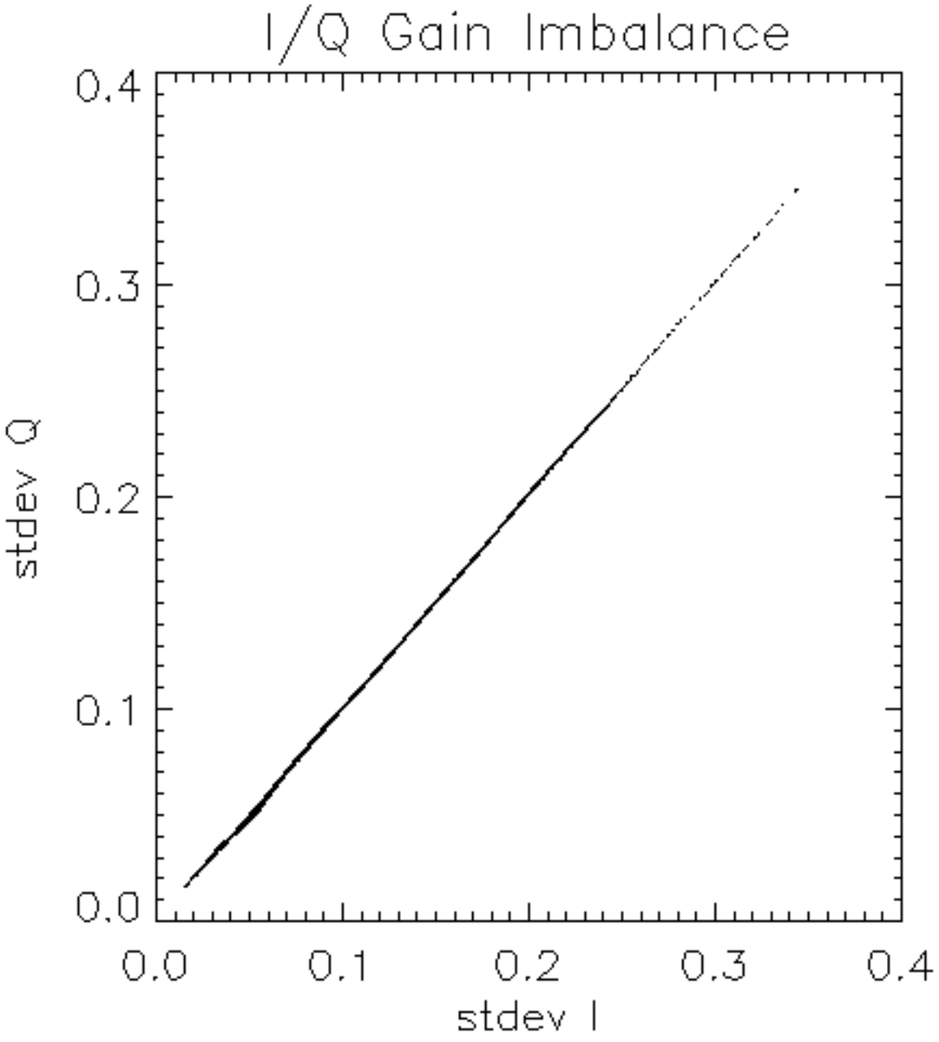
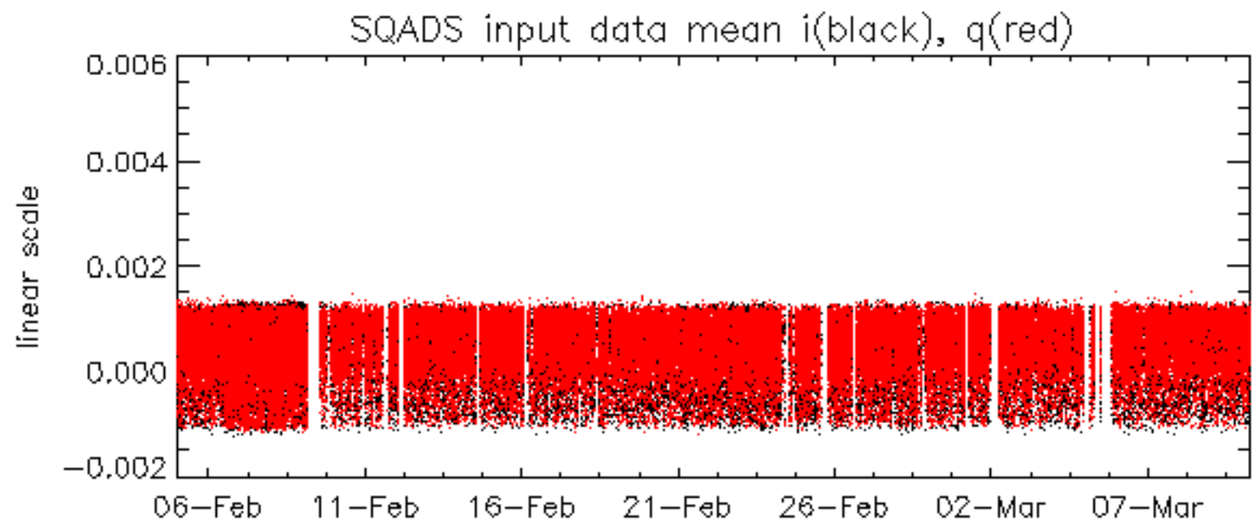
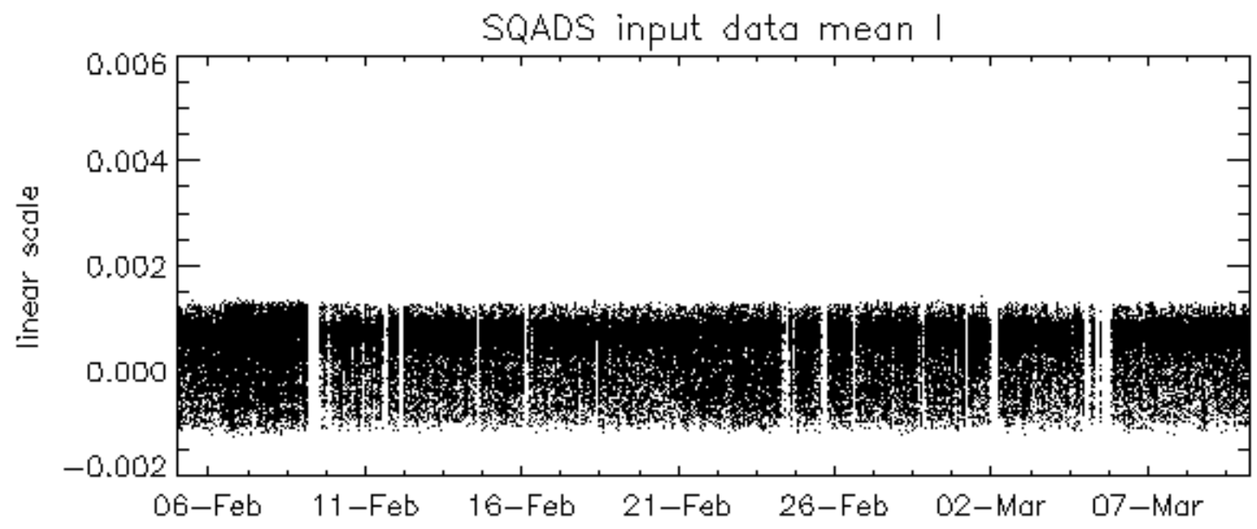
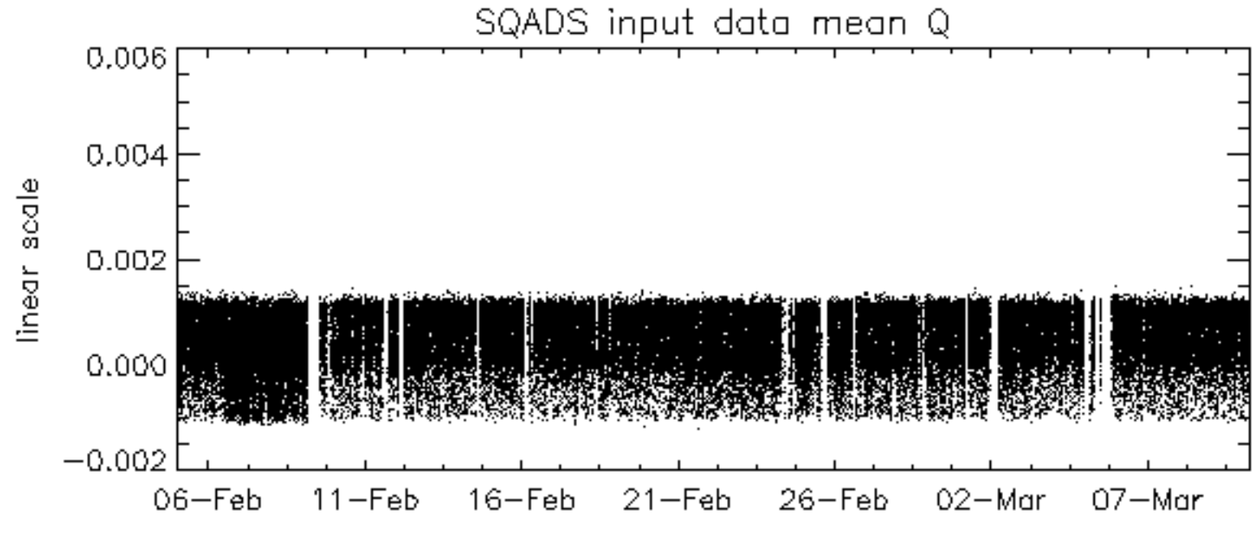
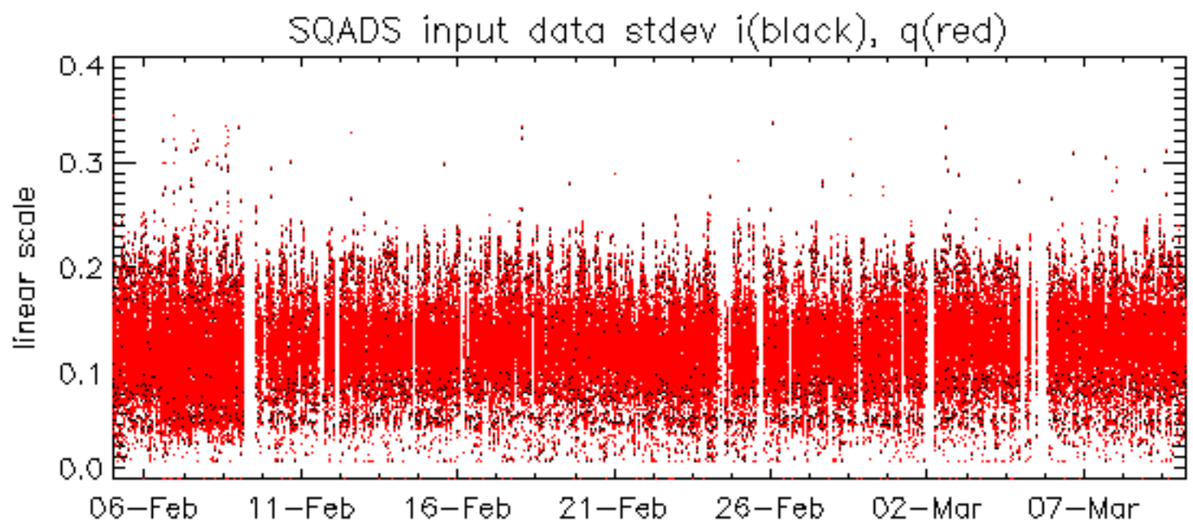
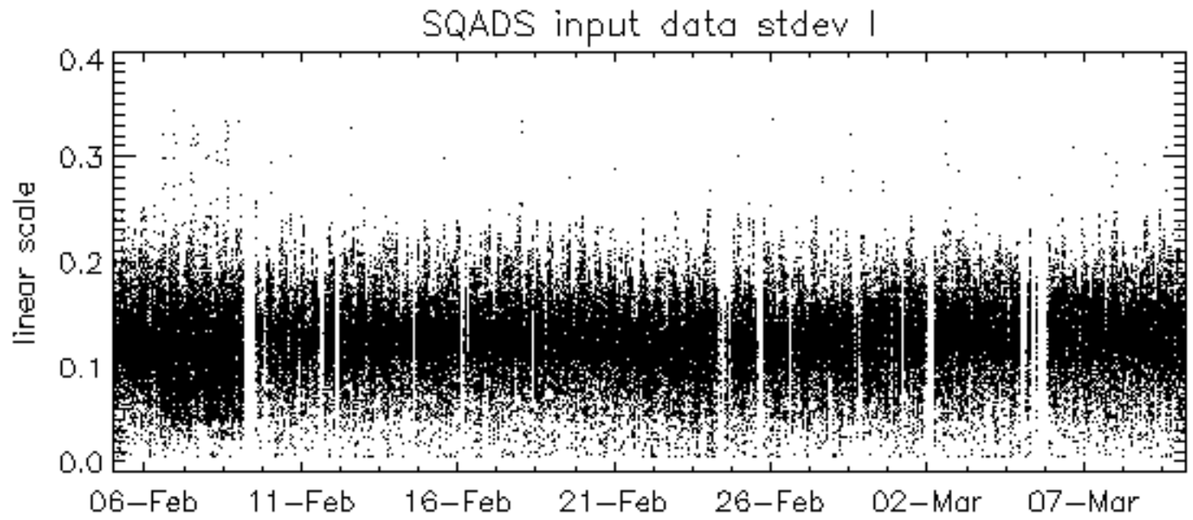

I/Q Gain Imbalance
stdev Q
stdev I
0.0
0.1
0.2
0.3
0.4

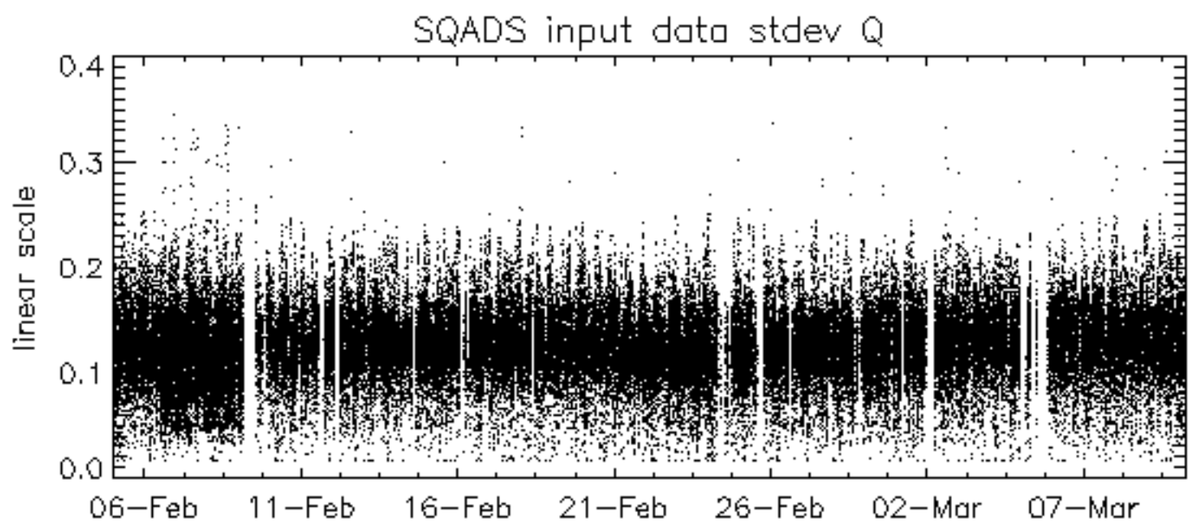

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Feb
11−Feb
16−Feb
21−Feb
26−Feb
02−Mar
07−Mar

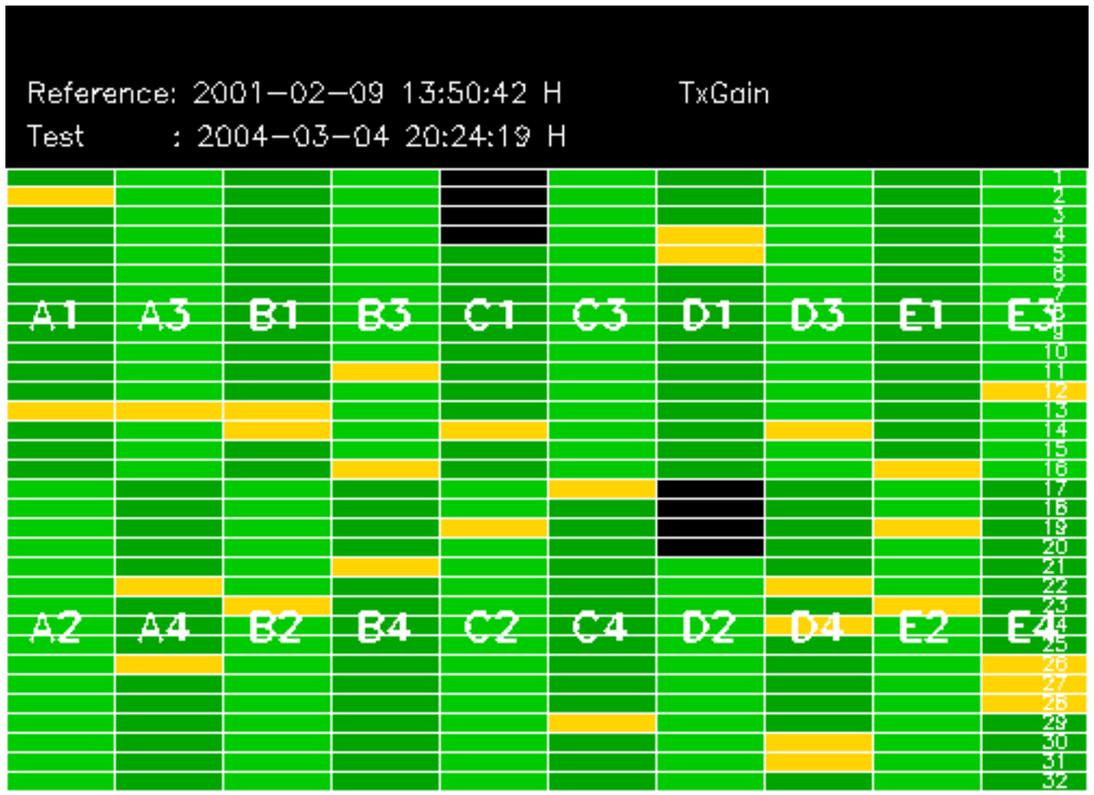

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Feb
11−Feb
16−Feb
21−Feb
26−Feb
02−Mar
07−Mar

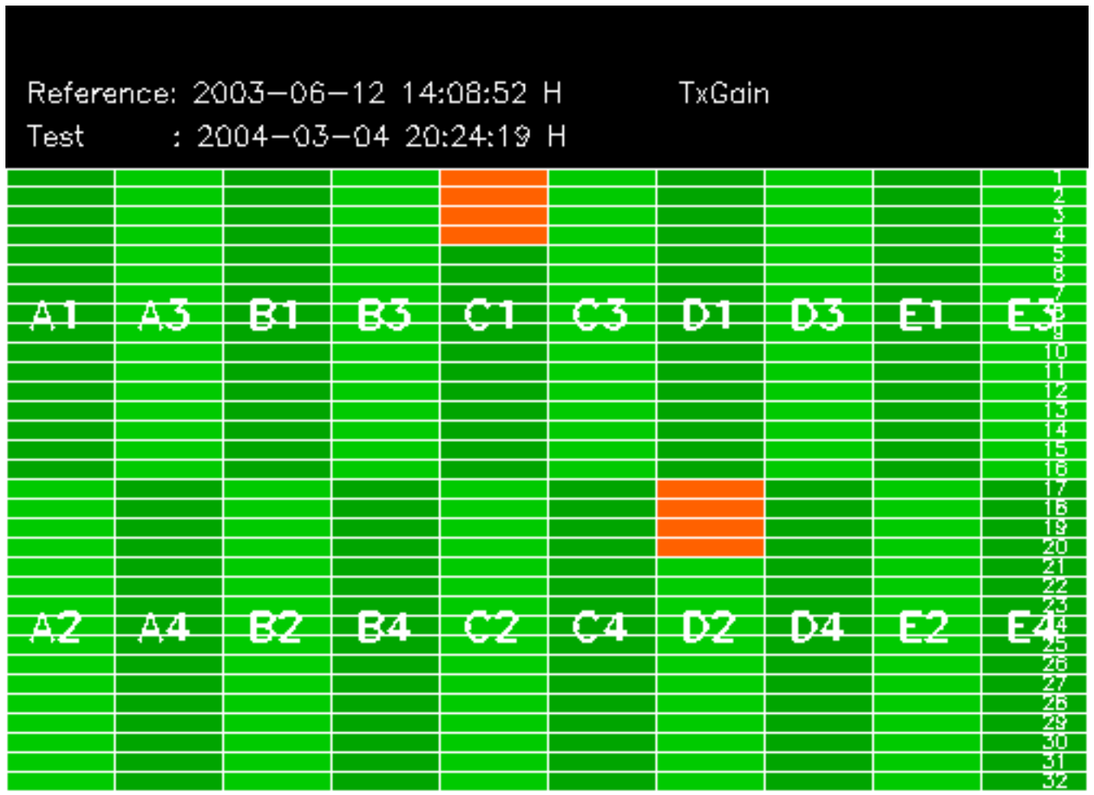

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Feb
11−Feb
16−Feb
21−Feb
26−Feb
02−Mar
07−Mar


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2004-03-04 20:24:19 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 : 2004-03-04 20:24:19 H
TxGain
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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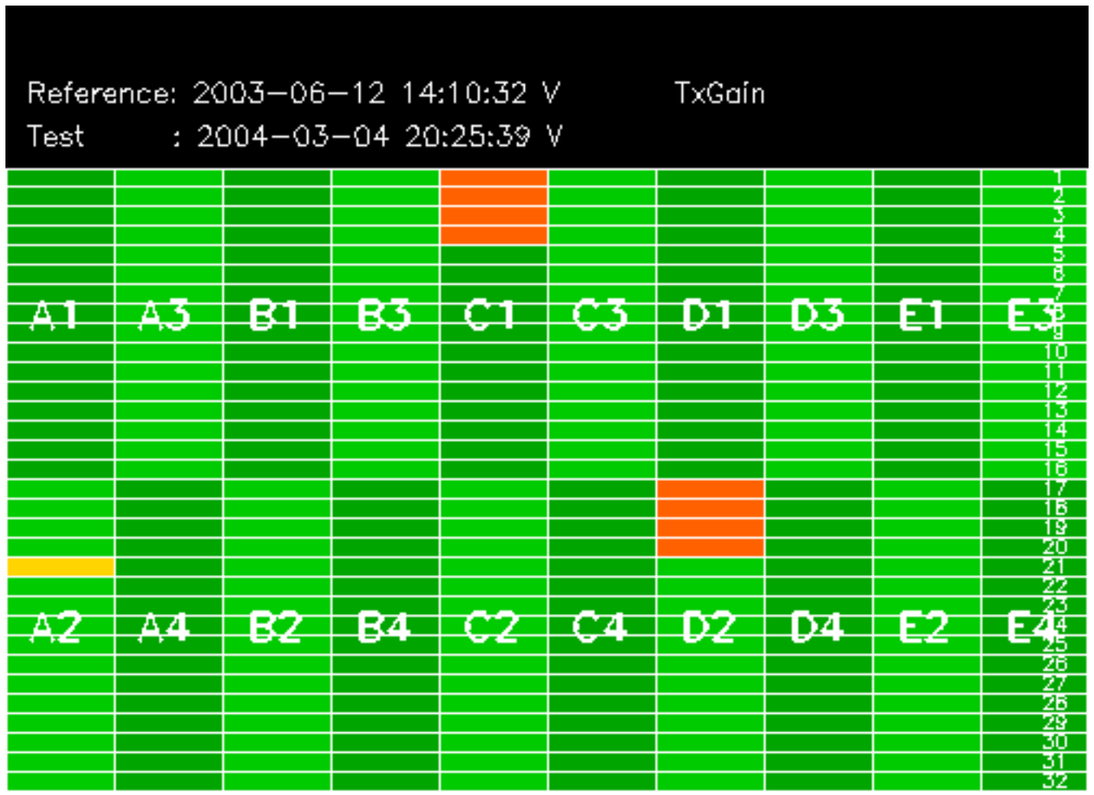
22
23
24
25
26
27
28
29
30
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2004-03-04 20:25:39 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 : 2004-03-04 20:25:39 V
TxGain
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
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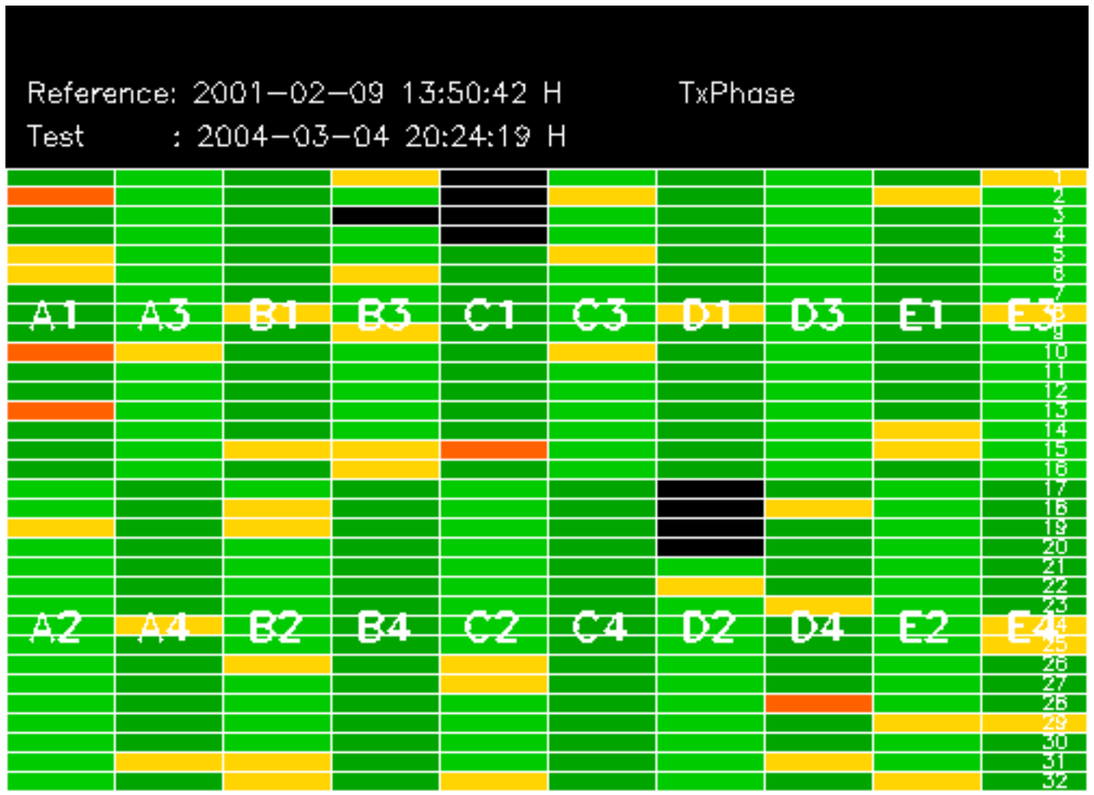
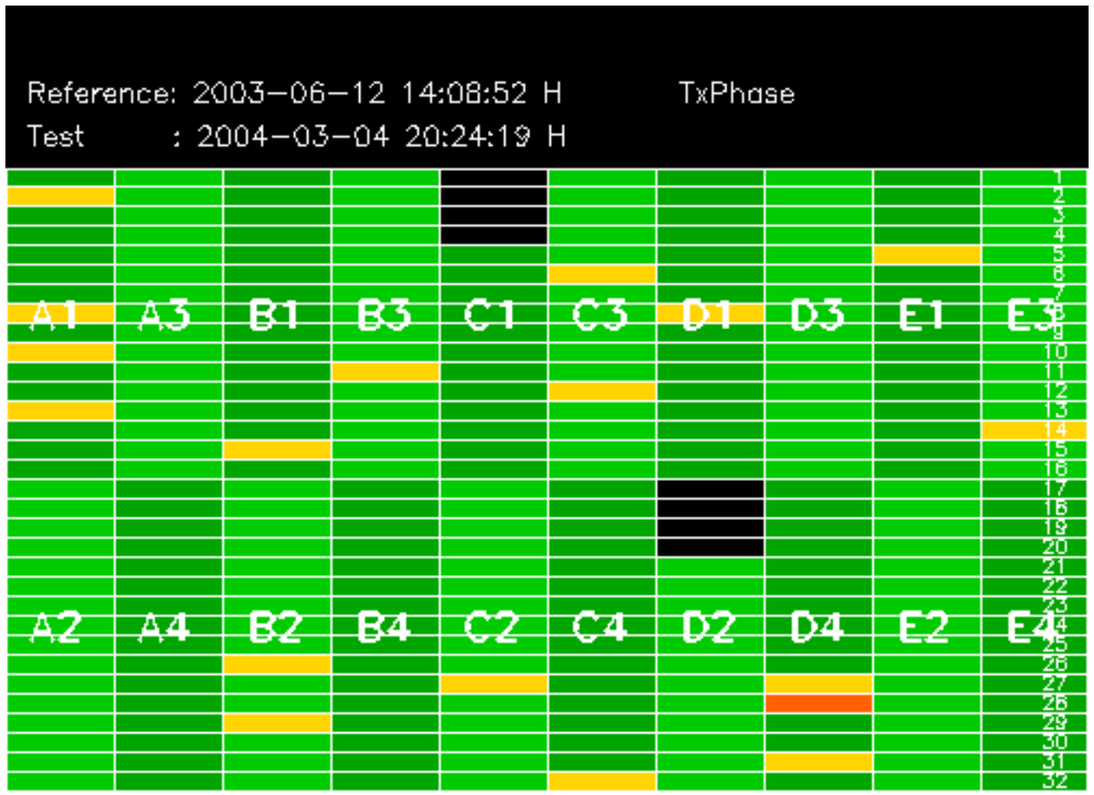

Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-03-04 20:24:19 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-03-04 20:24:19 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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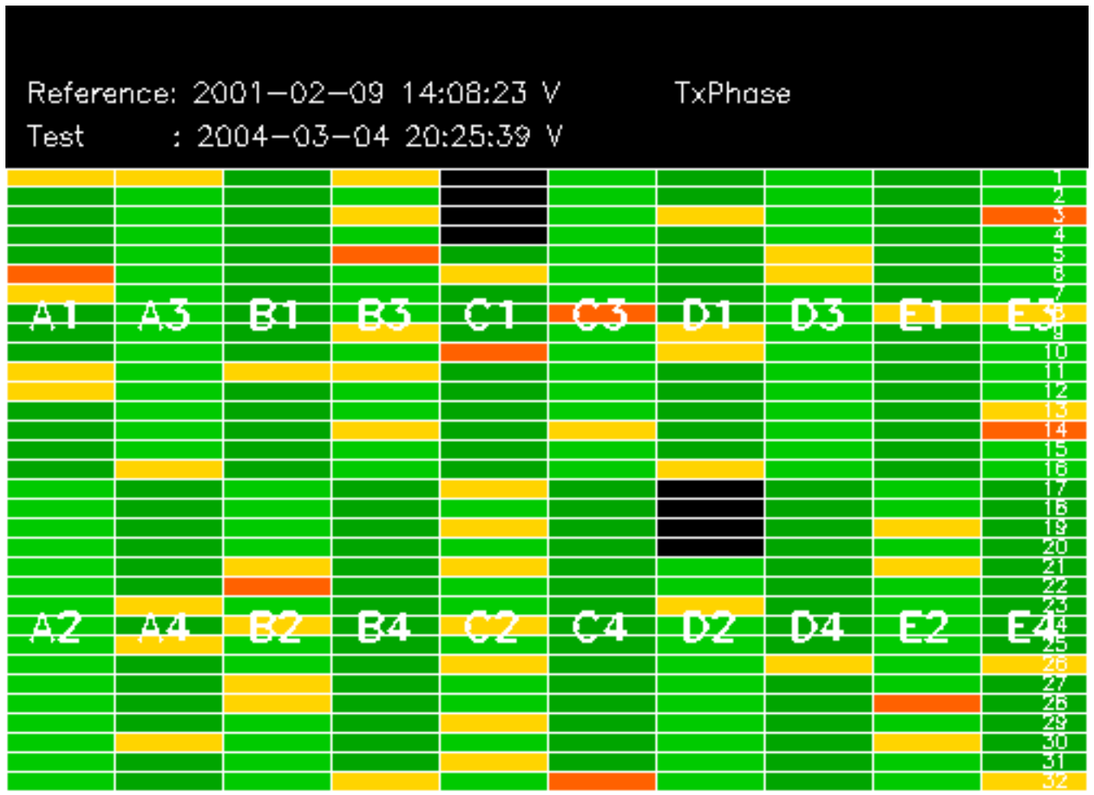
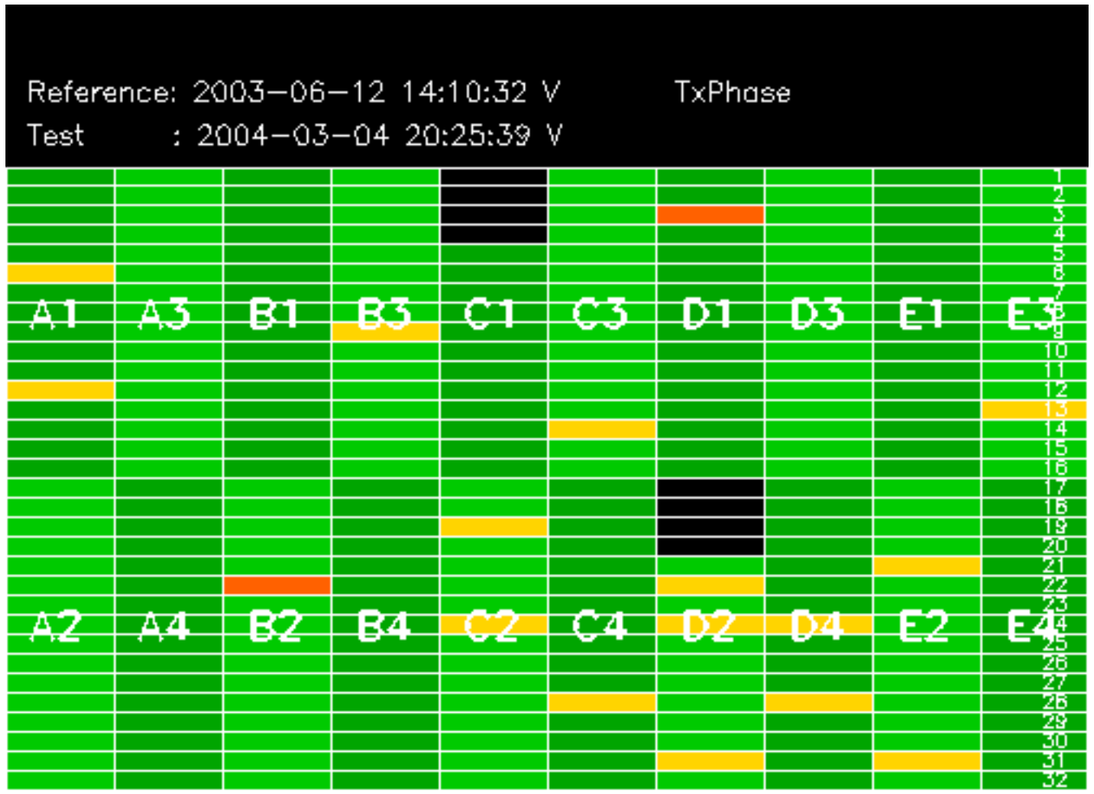

Reference: 2001-02-09 14:08:23 V
Test : 2004-03-04 20:25:39 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-03-04 20:25:39 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

ASAR Antenna reset on 10-MAR-2004 14:36: to 14:41:24 due to OOL identifed on tile E4 on 02:55:05 to 03:00:12.