PRELIMINARY REPORT OF 040424

ATTENTION: This report is automatically generated no comments are provided on data analysis

last update on Sat Apr 24 12:40:01 GMT 2004

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

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	20040423 191347
H	20040423 191227

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

4.1.1 - Evolution for WVS

Evolution of cal pulses for WVS

4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1

4.2 - Cyclic statistics

4.2.1 - Evolution for WVS

Evolution of cal pulses for WVS

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.577337	0.005364	0.014337
7	P1	-3.299587	0.010414	0.002195
11	P1	-4.631003	0.022298	0.027671
15	P1	-4.982519	0.038245	0.039360
19	P1	-3.349478	0.005928	-0.041588
22	P1	-4.514998	0.014396	0.003647
24	P1	-5.026666	0.014784	0.058392
28	P1	-4.590370	0.013504	-0.020032

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.397858	0.079868	-0.019143

7	P2	-22.875927	0.121870	-0.036166
11	P2	-15.901943	0.149646	0.121463
15	P2	-7.160147	0.089856	0.008958
19	P2	-9.514278	0.164324	0.030236
22	P2	-17.655396	0.098742	0.050279
24	P2	-20.991850	0.108795	0.029204
28	P2	-16.605480	0.081336	-0.012265

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.131226	0.003053	-0.016324
7	P3	-8.131232	0.003054	-0.016279
11	P3	-8.131229	0.003054	-0.016284
15	P3	-8.131226	0.003053	-0.016318
19	P3	-8.131218	0.003053	-0.016359
22	P3	-8.131214	0.003053	-0.016383
24	P3	-8.131204	0.003053	-0.016420
28	P3	-8.131167	0.003050	-0.016427

4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-4.188338	0.099067	-0.120644
7	P1	-3.411619	0.347011	-0.205062
11	P1	-4.648713	0.072938	0.067361
15	P1	-3.613444	0.511003	-0.264144
19	P1	-2.878465	0.081021	-0.128403
22	P1	-4.689846	0.100743	0.038829
24	P1	-7.074944	0.040612	-0.004848
28	P1	-6.626140	0.114520	0.037759

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.605177	0.245440	0.058532
7	P2	-13.448262	0.193101	0.019070
11	P2	-12.062660	0.145106	0.132990
15	P2	-5.728951	0.023075	-0.030472
19	P2	-6.556052	0.052152	-0.125772
22	P2	-15.012683	0.565182	-0.019811
24	P2	-19.703533	0.042526	0.076501
28	P2	-17.108217	0.058806	-0.024278

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.025000	0.003167	-0.010944
7	P3	-8.025033	0.003166	-0.011000
11	P3	-8.024953	0.003165	-0.010742
15	P3	-8.024917	0.003168	-0.011071
19	P3	-8.024987	0.003172	-0.010992
22	P3	-8.024989	0.003157	-0.011199
24	P3	-8.025015	0.003189	-0.010882
28	P3	-8.024989	0.003193	-0.010996

4.3 - cal pulses monitoring (all rows)

4.3.1 - Evolution for WVS

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4.3.2 - Evolution for GM1

☒

5 - RAW data statistics

No anomalies observed.

5.1 - Input mean I/Q

channel	stat	DSS-B

MEAN I	mean	0.000479013
	stdev	2.38223e-07
MEAN Q	mean	0.000482950
	stdev	2.72055e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127408
	stdev	0.00118365
STDEV Q	mean	0.127660
	stdev	0.00119693

5.3 - Gain imbalance I/Q

6 - Doppler Analysis

Preliminary report.The data is not yet controled

6.1 - Unbiased Doppler Error for WVS

Evolution of unbiased Doppler error (Real - Expected)

Acsending

Descending

6.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler

Acsending

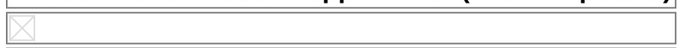
Descending

6.3 - Doppler evolution versus ANX for WVS

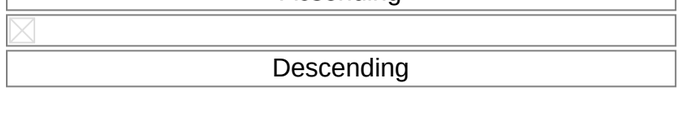
Evolution Doppler error versus ANX

6.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)



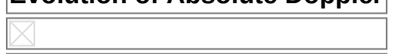
Acsending



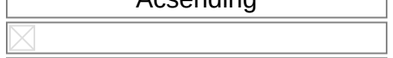
Descending

6.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler



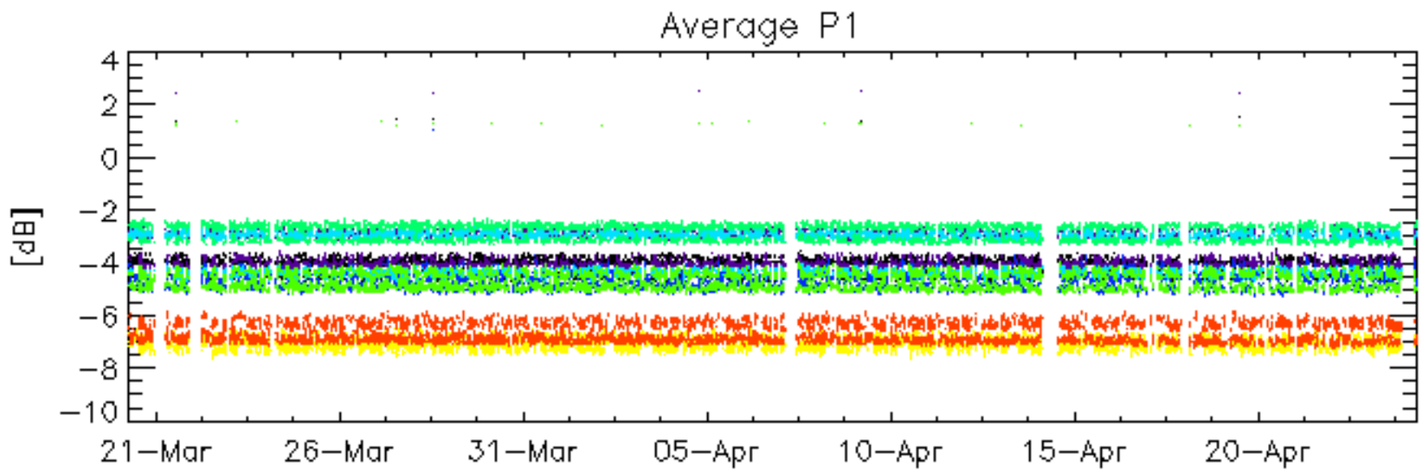
Acsending

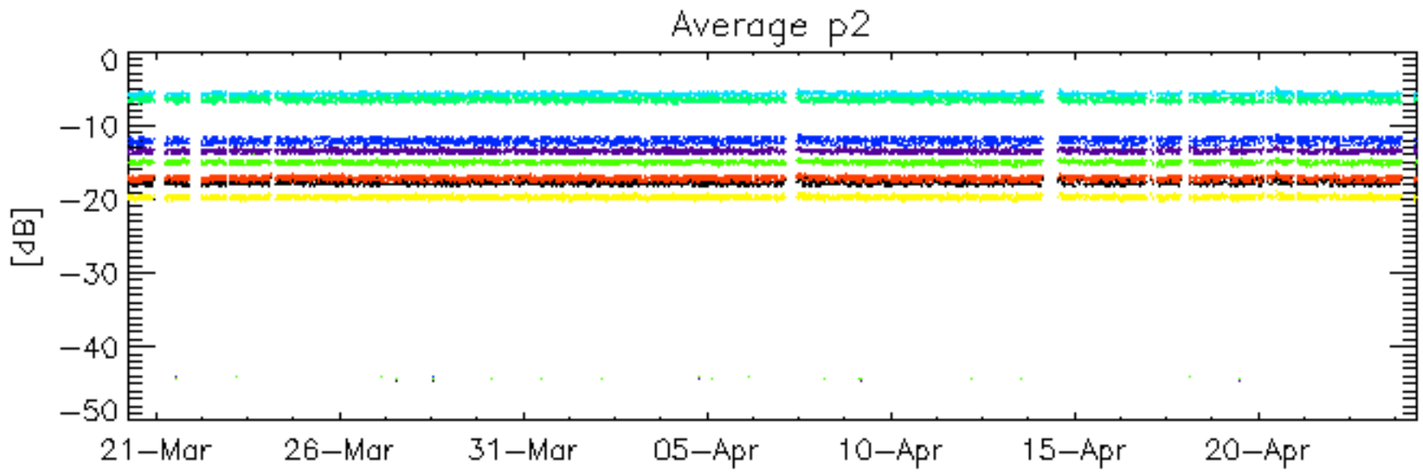


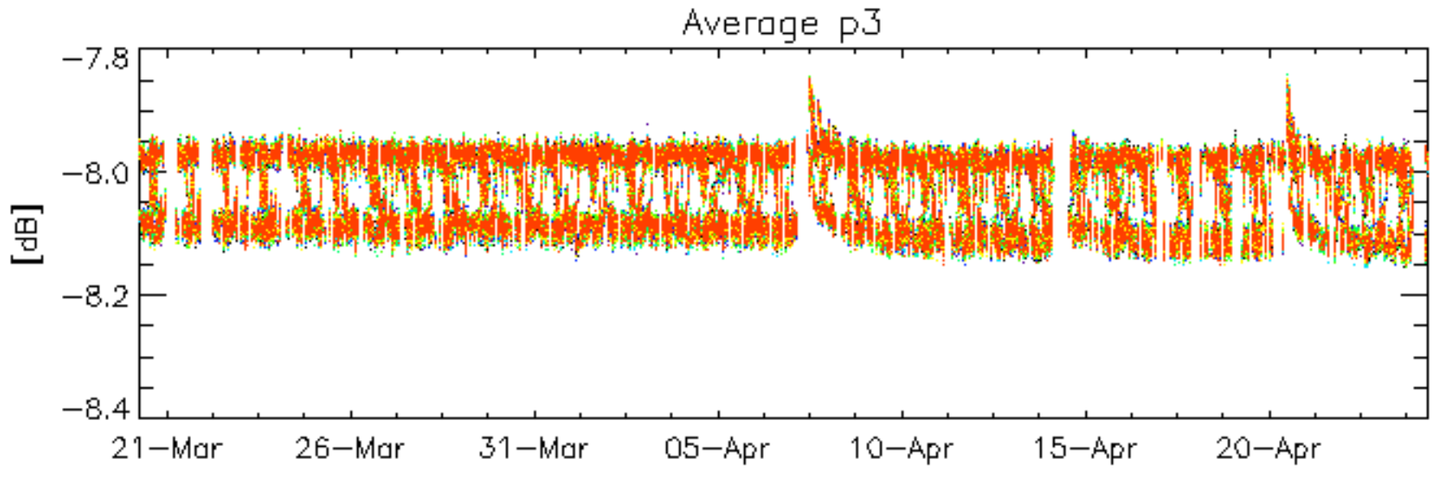
Descending

6.6 - Doppler evolution versus ANX for GM1

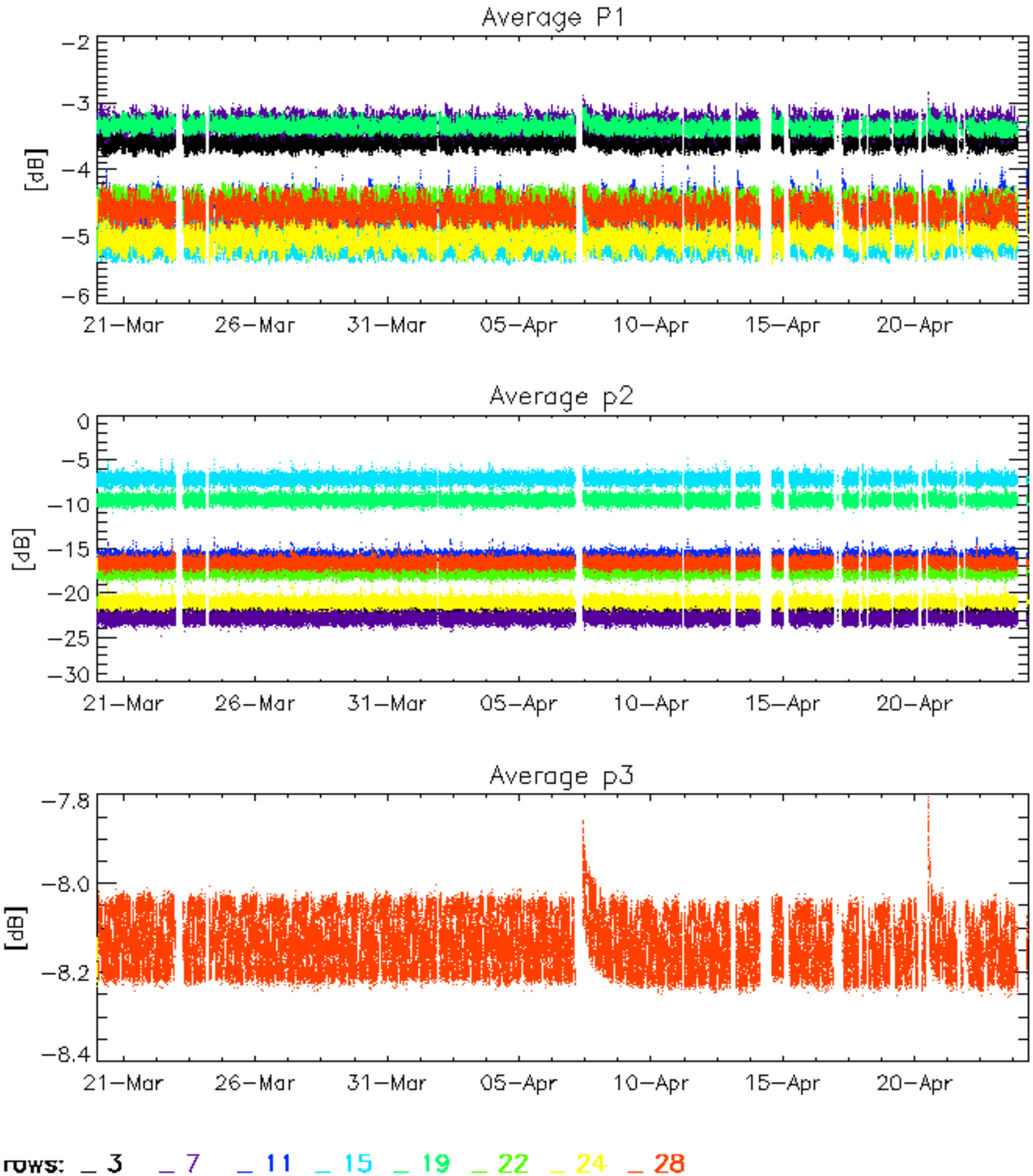
Evolution Doppler error versus ANX



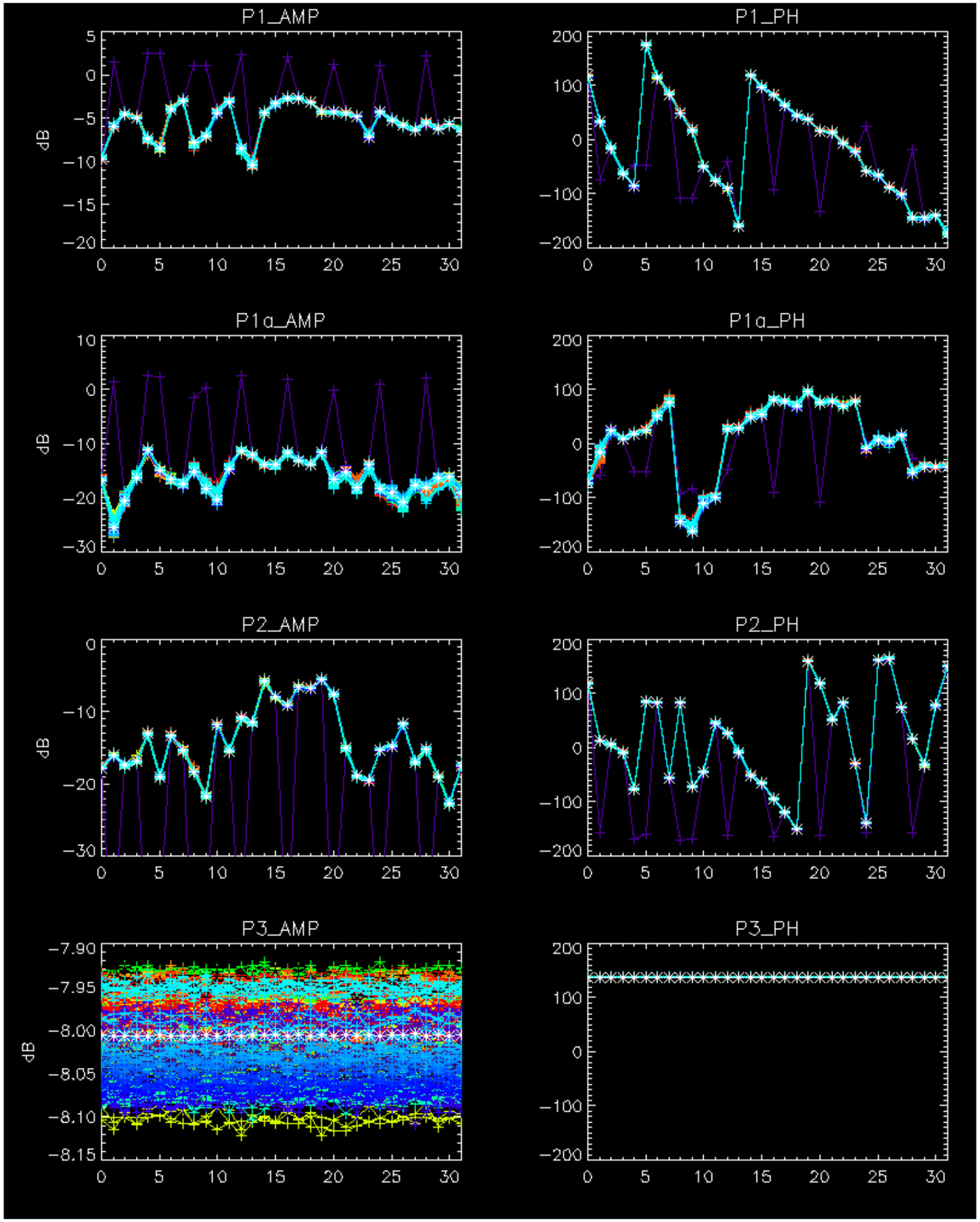


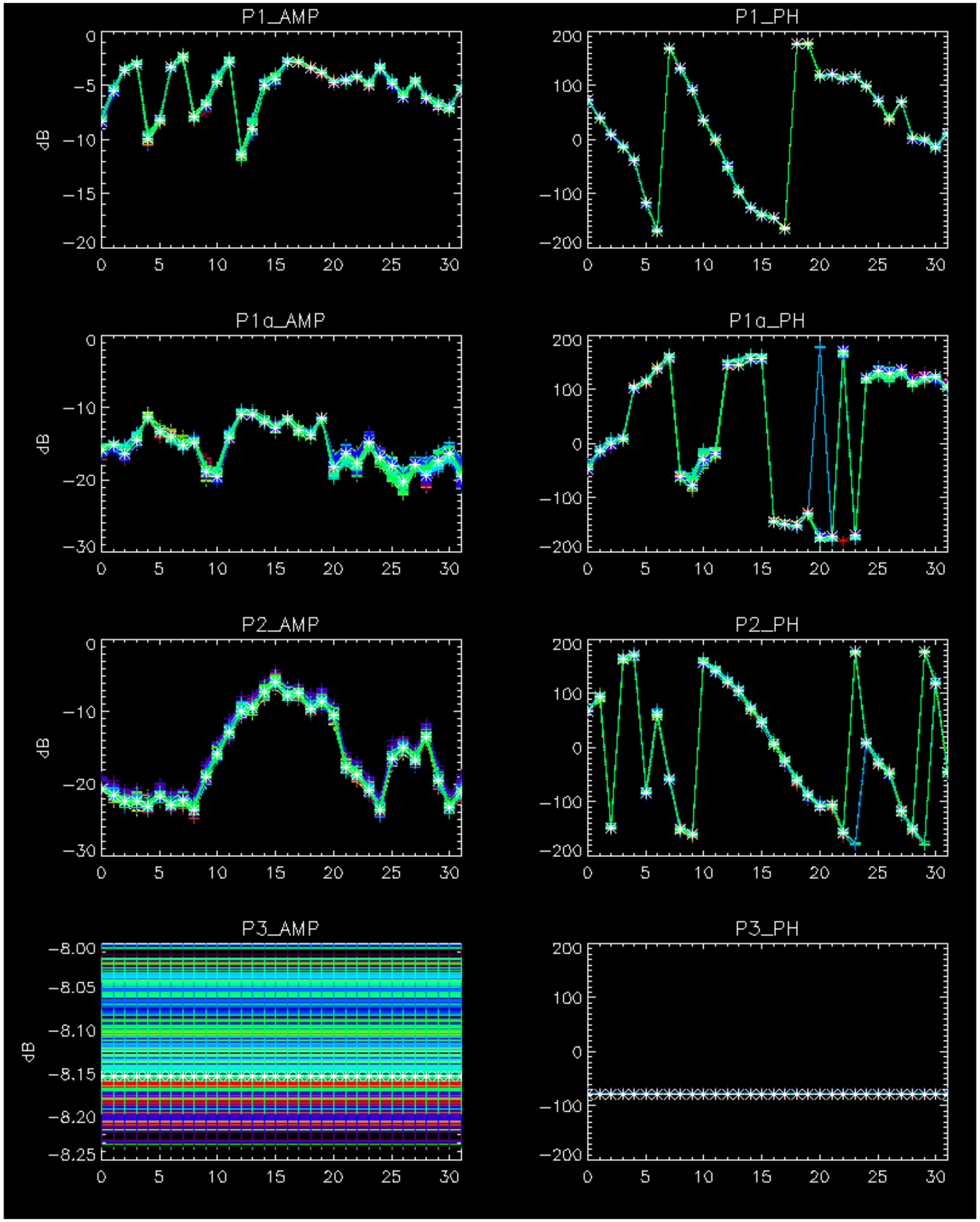


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 28


Average P1
[dB]
−2
−3
−4
−5
−6
21−Mar
26−Mar
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
Average p2
[dB]
0
−5
−10
−15
−20
−25
−30
21−Mar
26−Mar
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
Average p3
[dB]
−7.8
−8.0
−8.2
−8.4
21−Mar
26−Mar
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 28

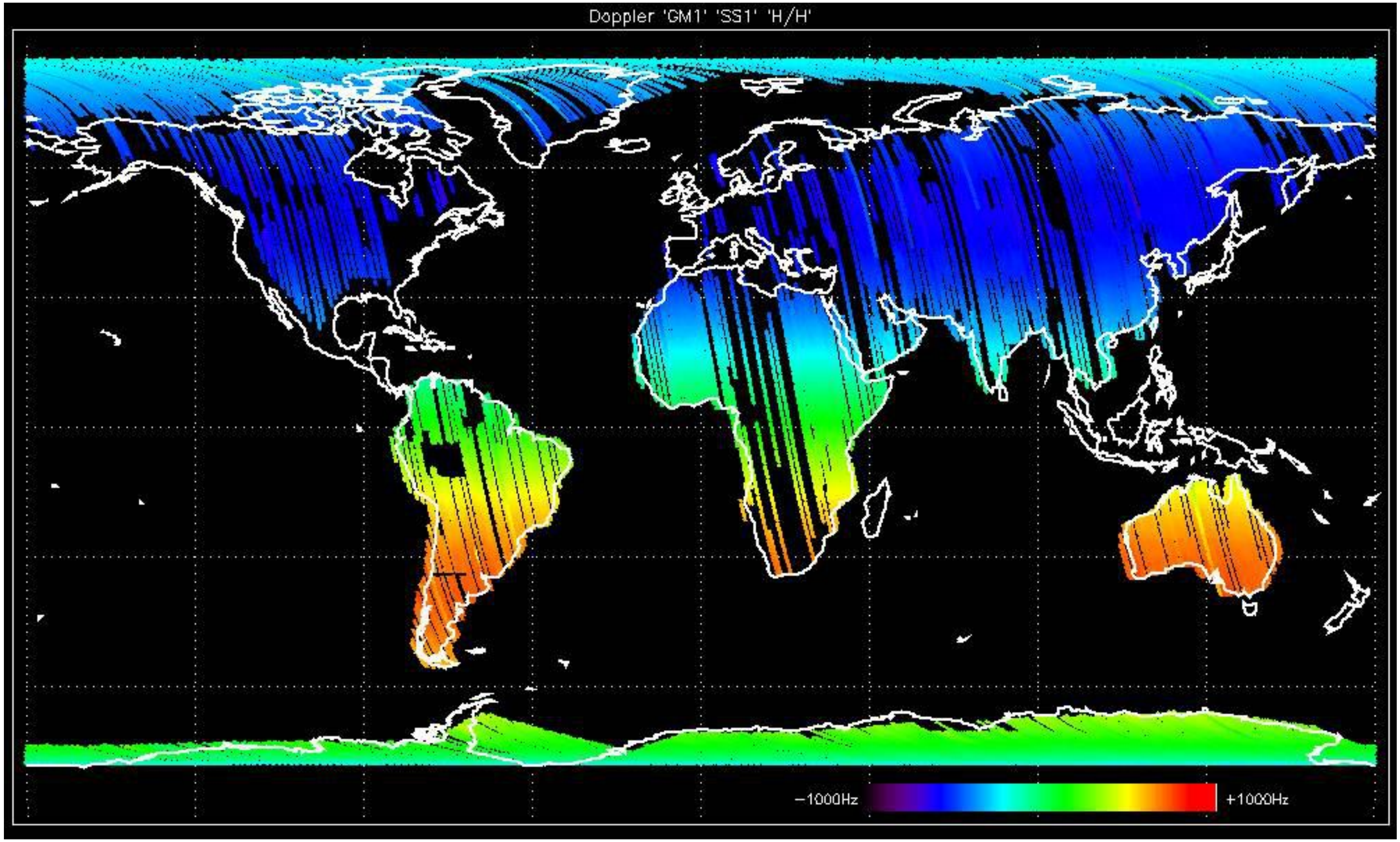
No anomalies observed.

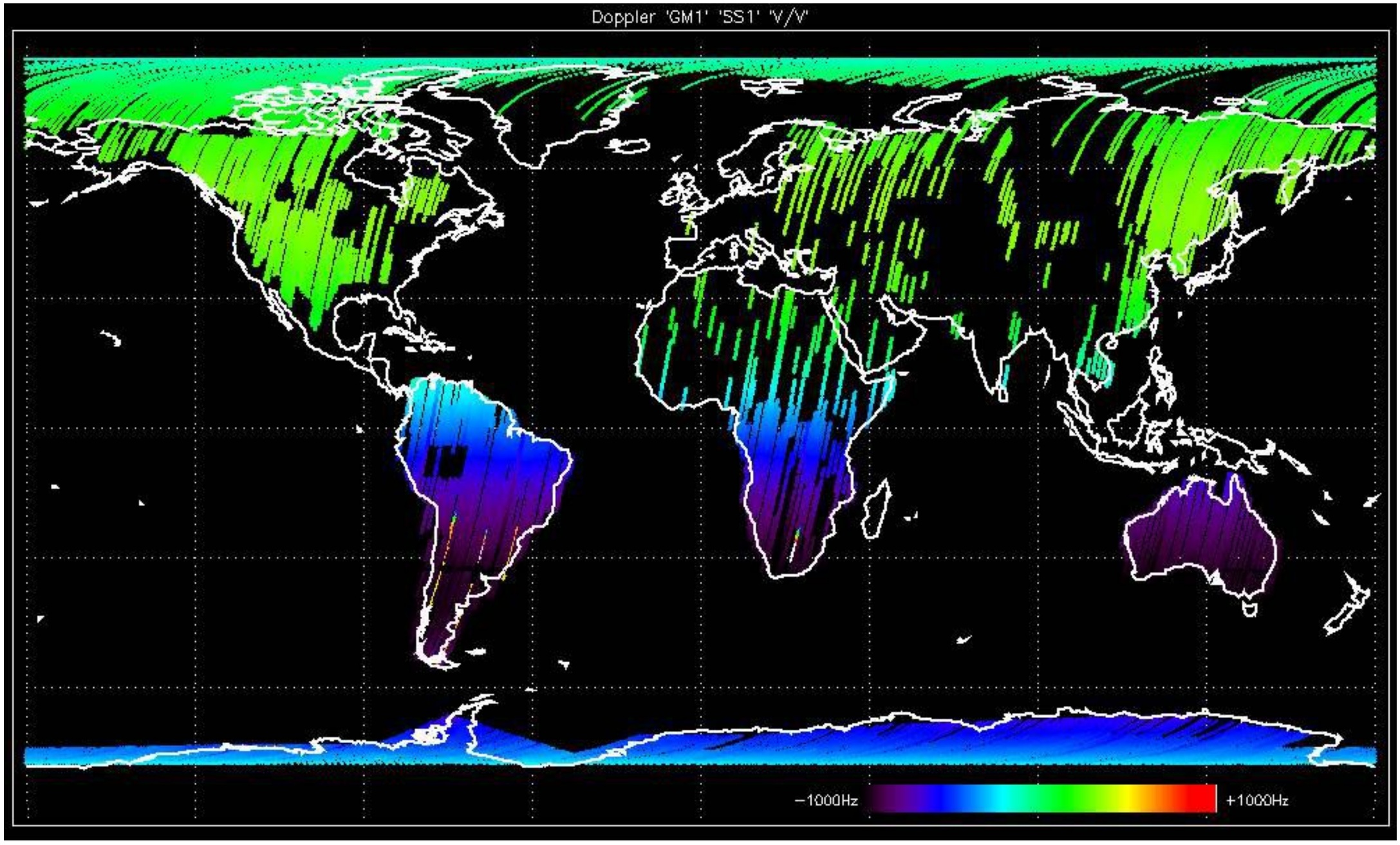

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

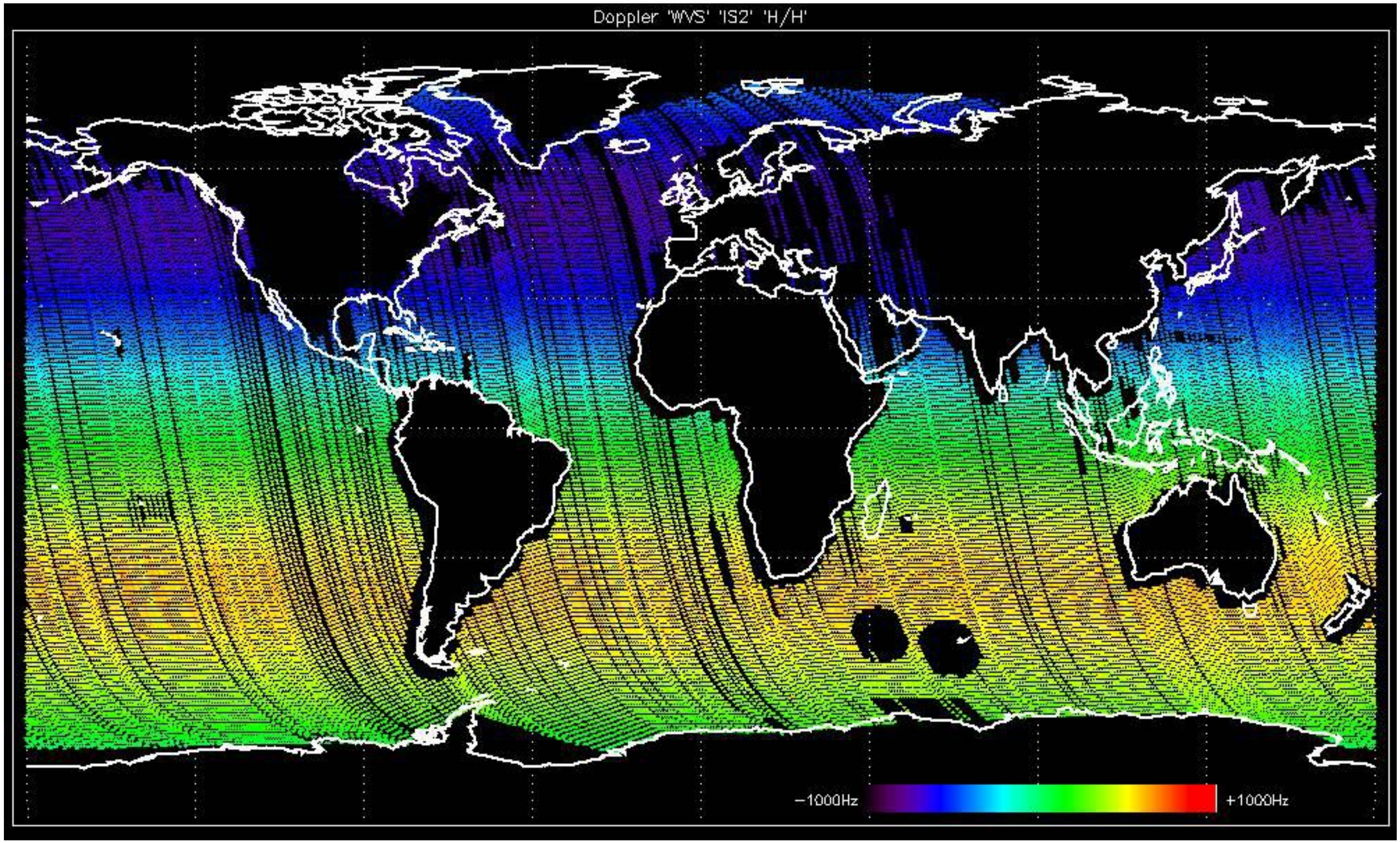

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.00
−8.05
−8.10
−8.15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

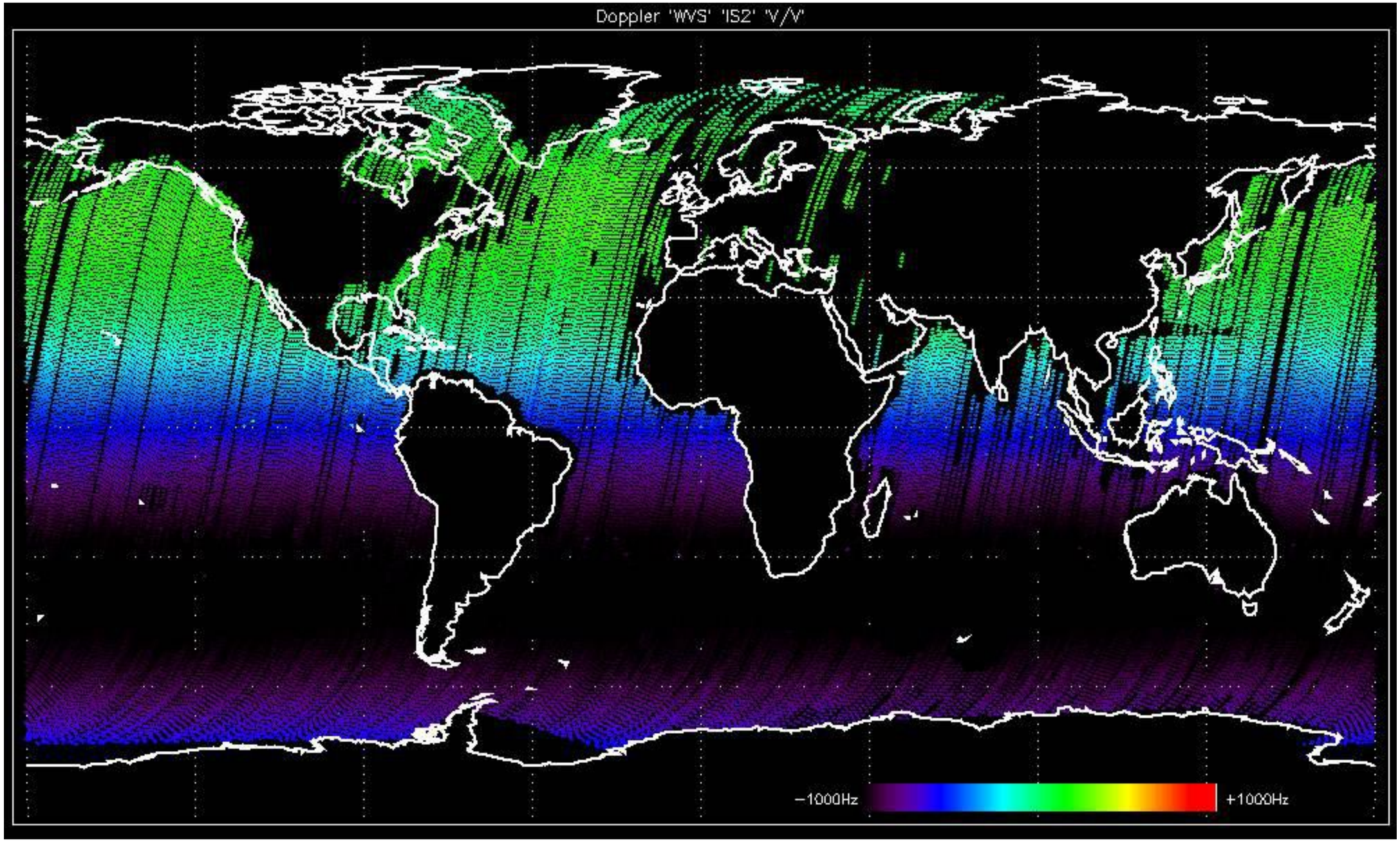
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

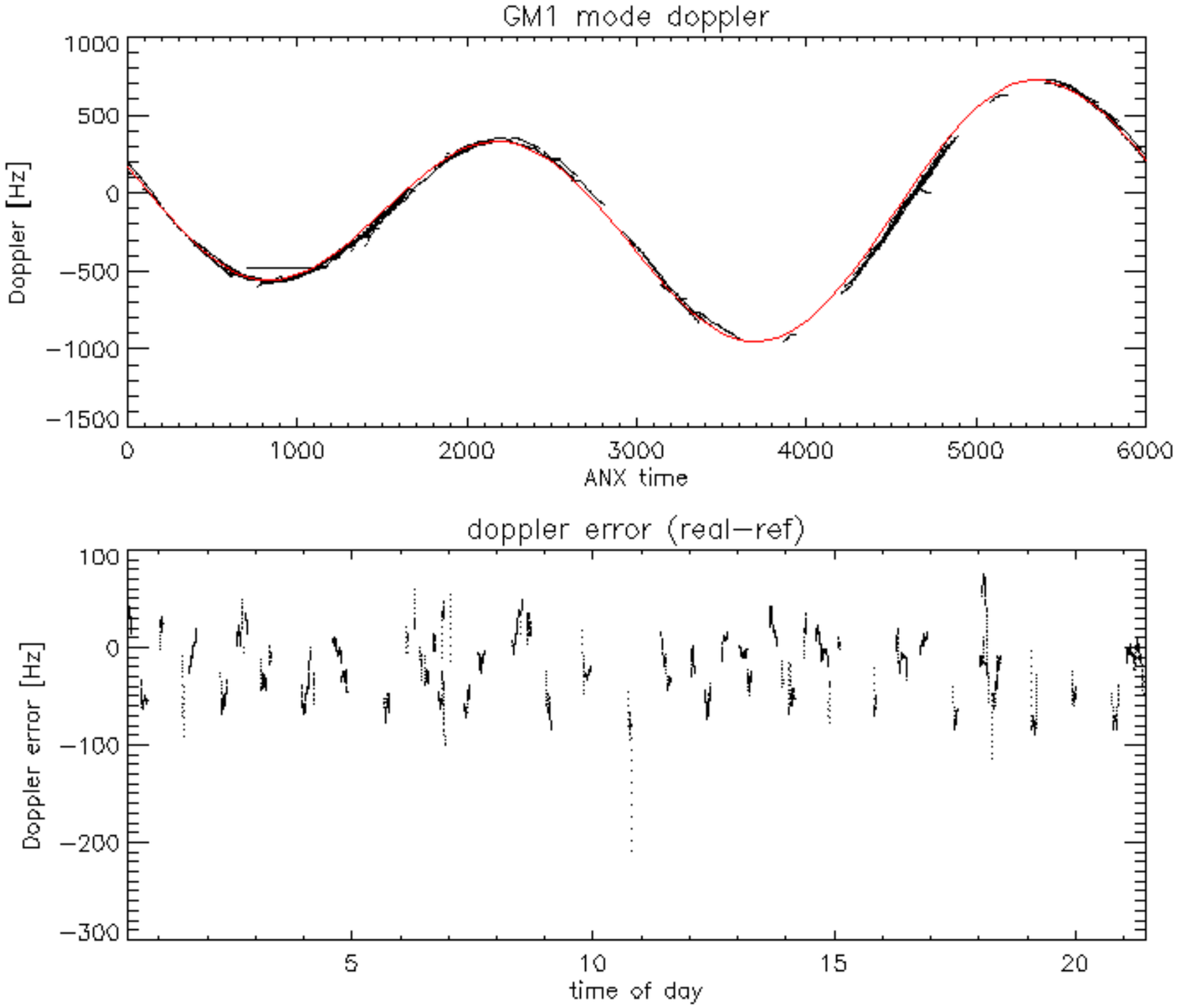
Preliminary report.The data is not yet controled

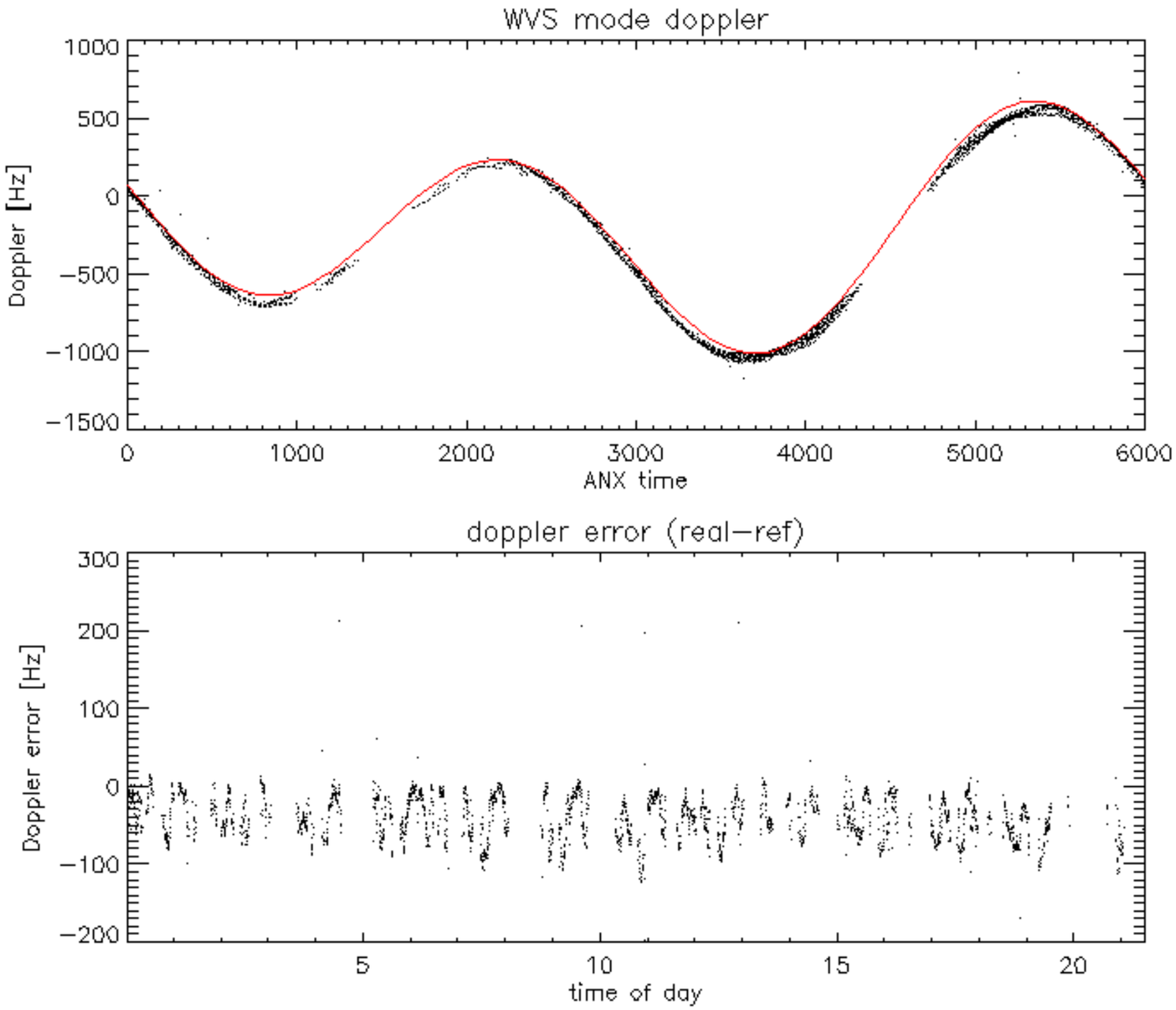

Doppler 'GM1' 'SS1' 'H/H'
−1000Hz
+1000Hz

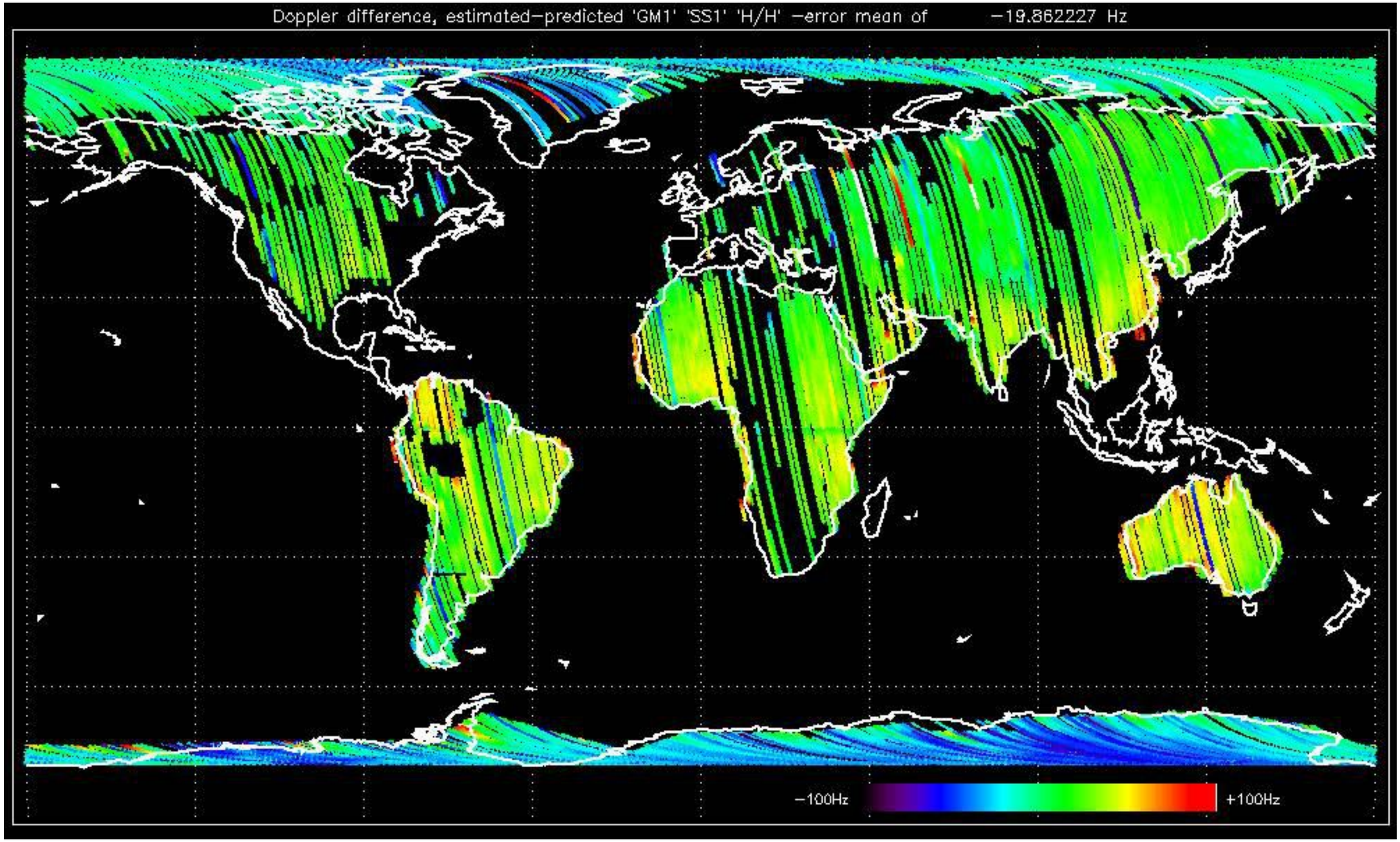

Doppler 'GM1' 'SS1' 'V/V'
−1000Hz
+1000Hz

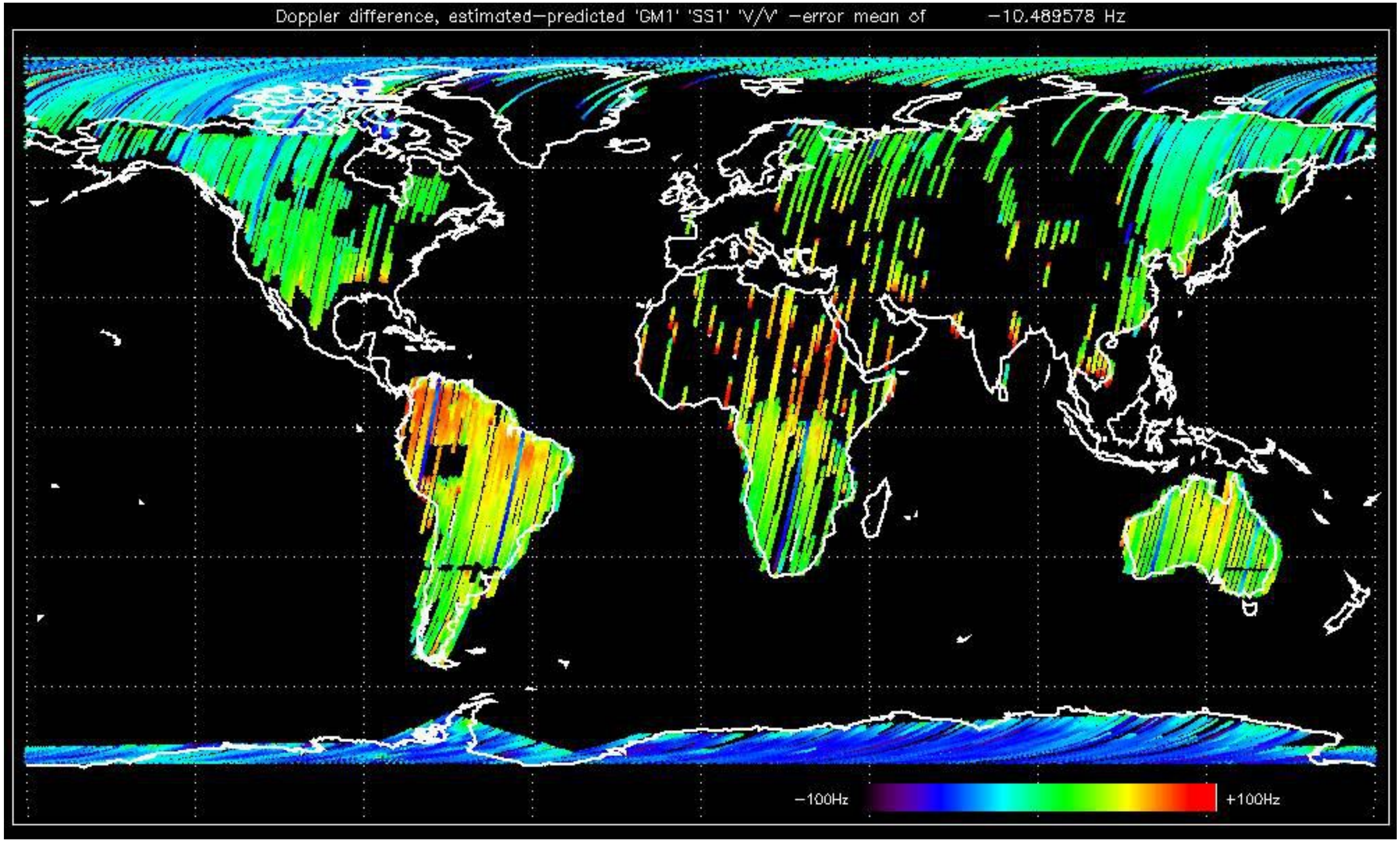

Doppler 'WVS' 'IS2' 'H/H'
−1000Hz
+1000Hz

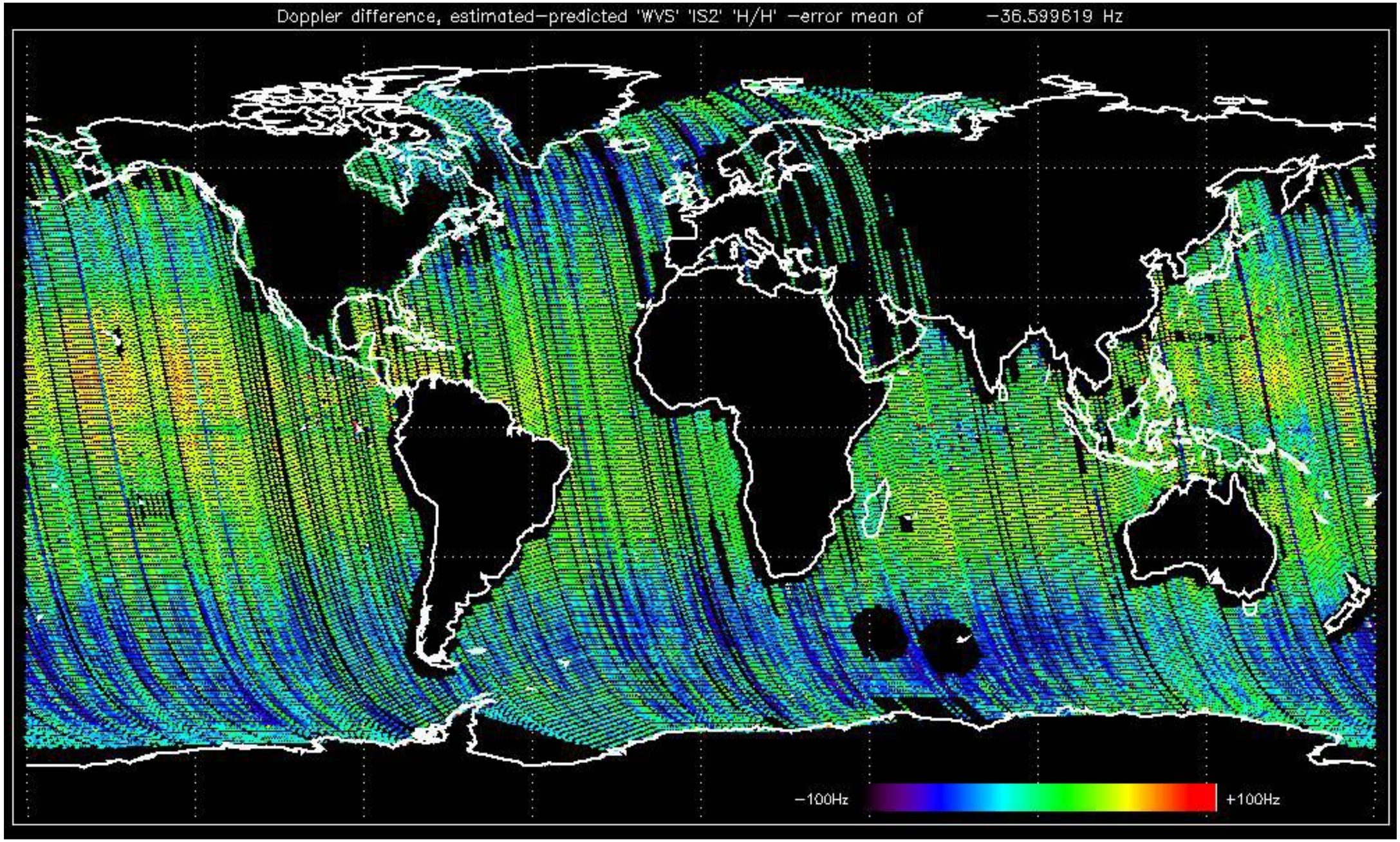

Doppler 'WVS' 'IS2' 'V/V'
−1000Hz
+1000Hz

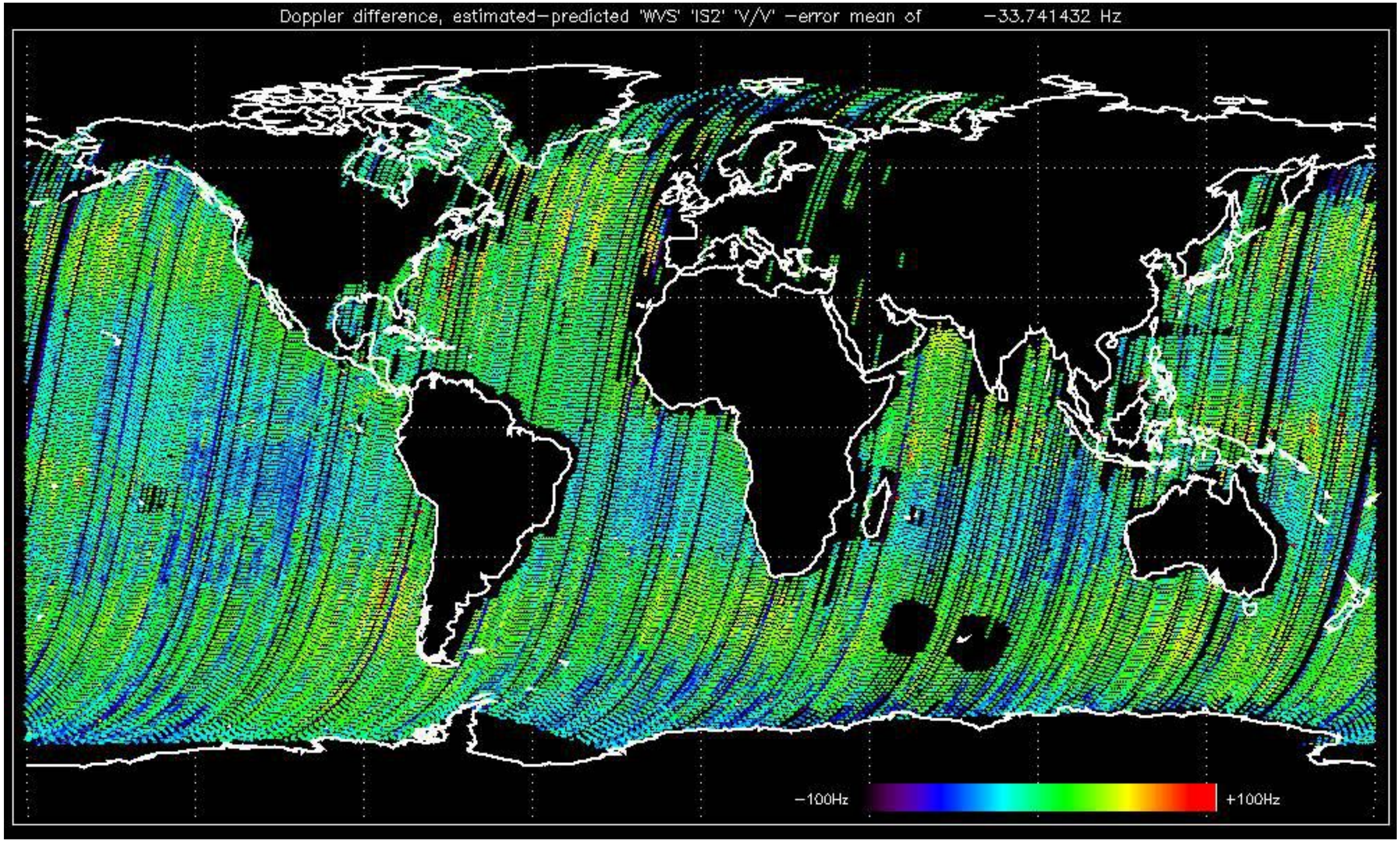

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
ANX time
doppler error (real−ref)
Doppler error [Hz]
100
0
−100
−200
−300
5
10
15
20
time of day


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


Doppler difference, estimated−predicted 'GM1' 'SS1' 'H/H' −error mean of −19.862227 Hz
−100Hz
+100Hz

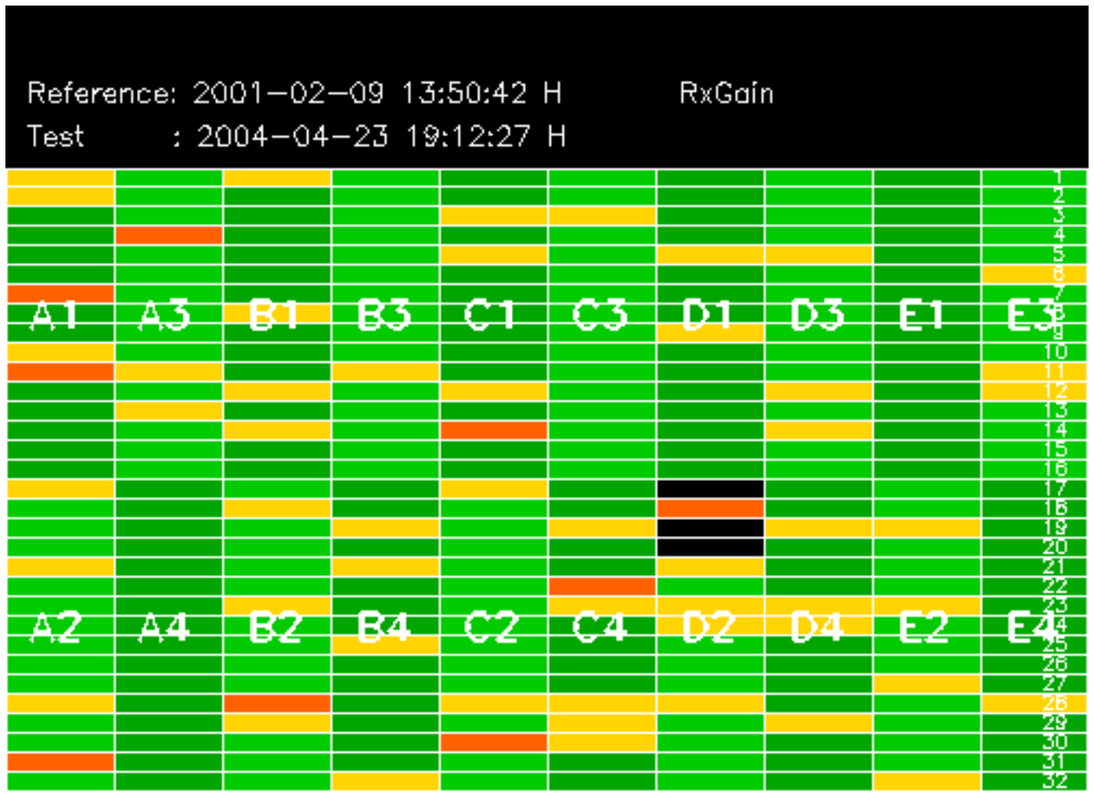

Doppler difference, estimated−predicted 'GM1' 'SS1' 'V/V' −error mean of −10.489578 Hz
−100Hz
+100Hz

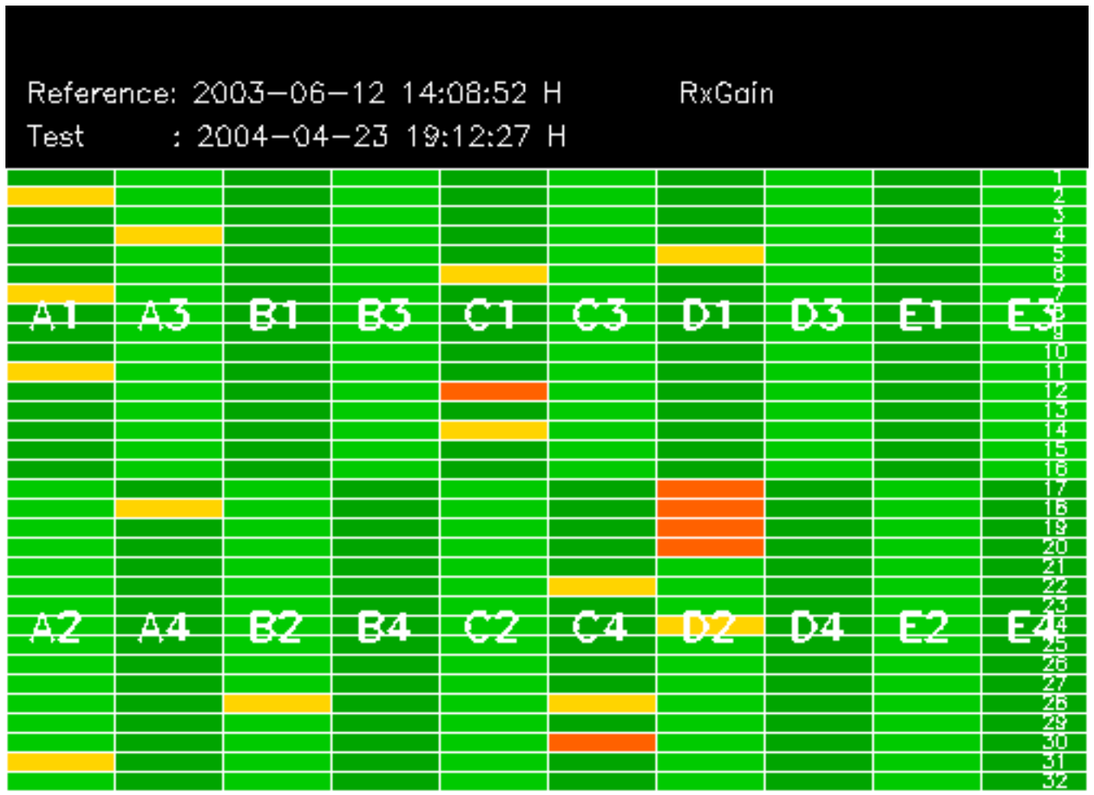

Doppler difference, estimated-predicted 'WVS' 'IS2' 'H/H' -error mean of -36.599619 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' 'V/V' −error mean of −33.741432 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 : 2004-04-23 19:12:27 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 : 2004-04-23 19:12:27 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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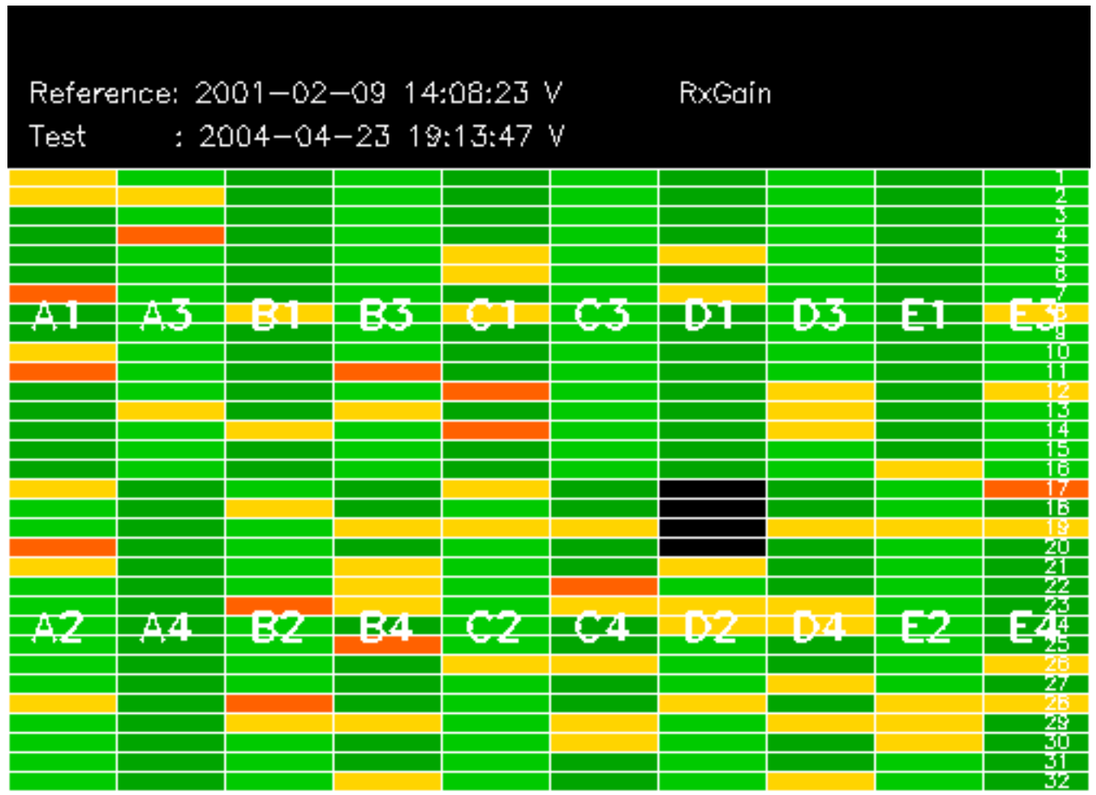
Reference: 2001-02-09 14:08:23 V
Test : 2004-04-23 19:13:47 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
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8
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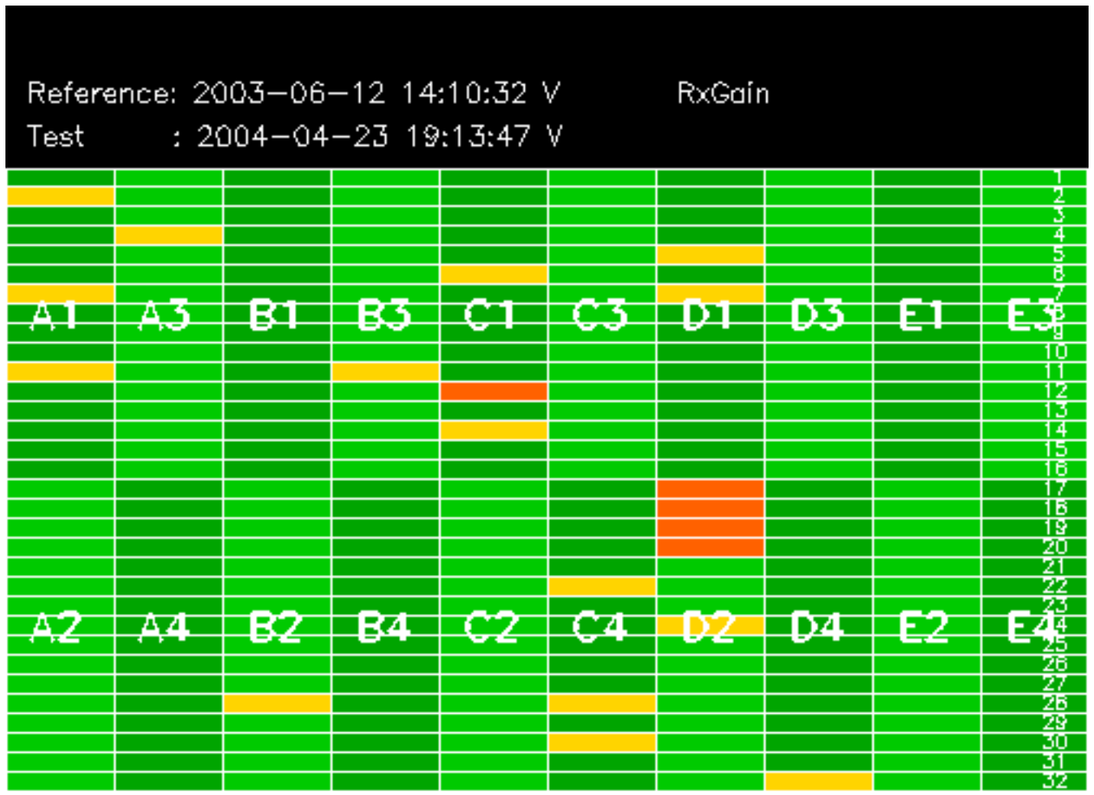
Reference: 2003-06-12 14:10:32 V
Test : 2004-04-23 19:13:47 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
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8
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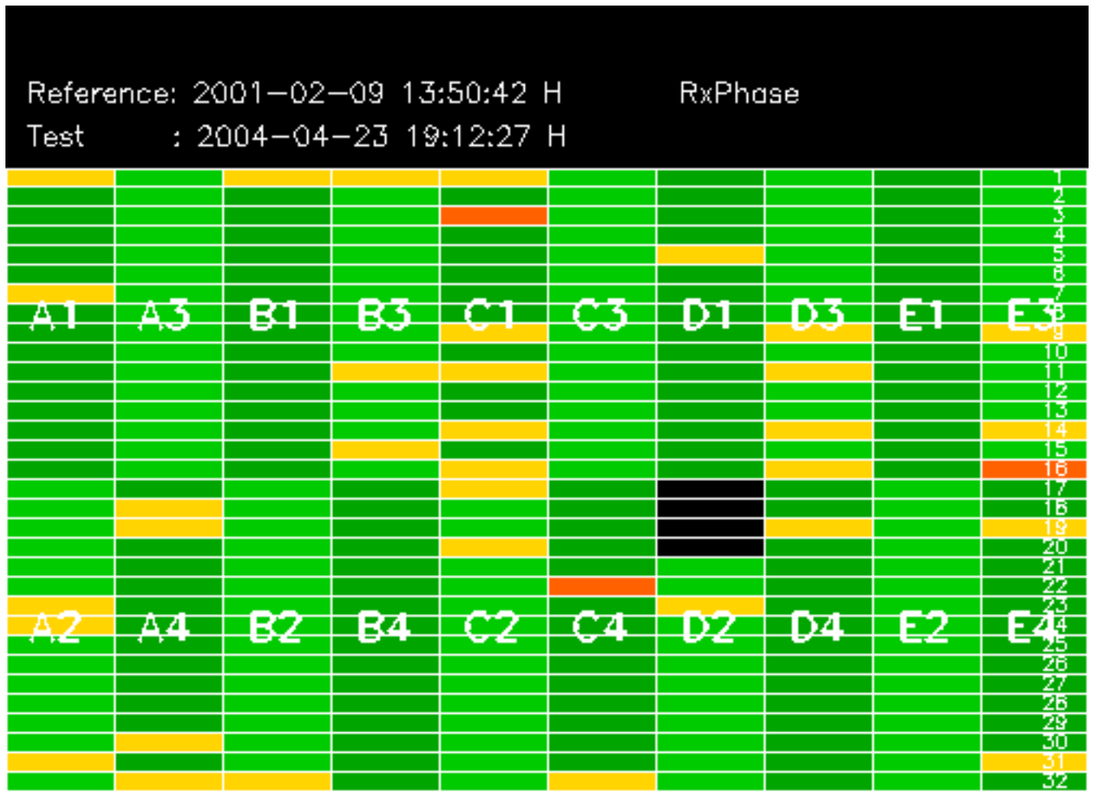
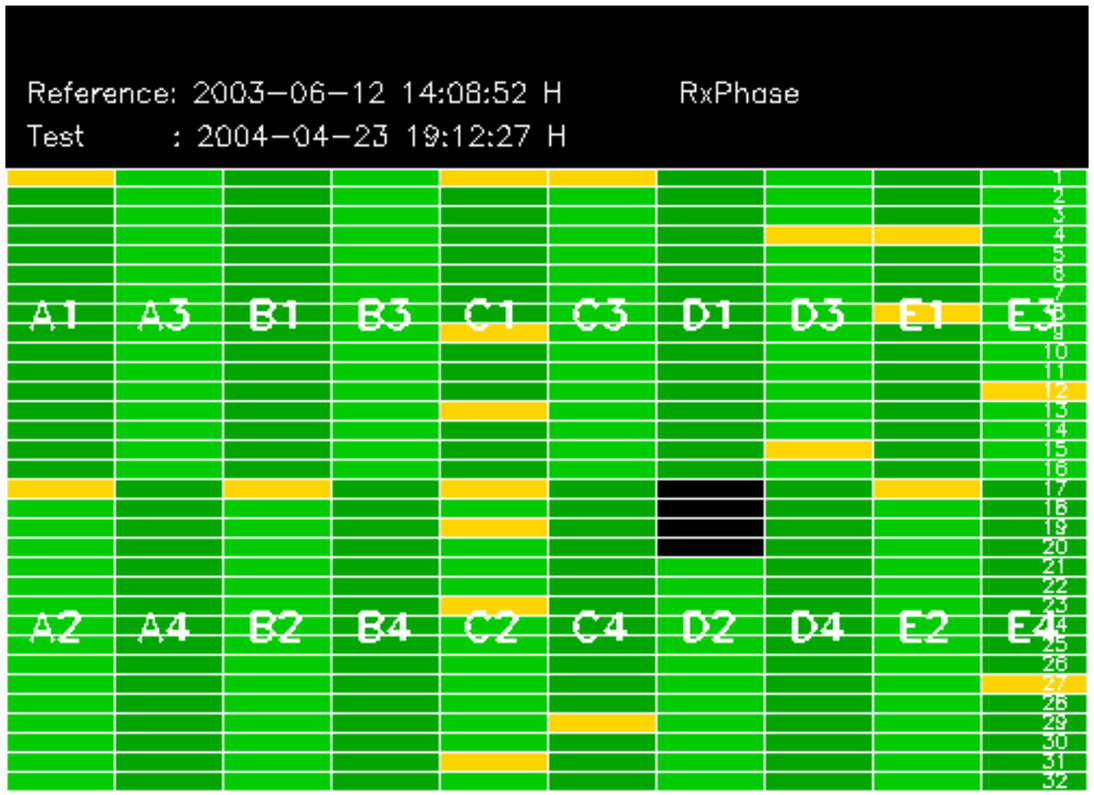
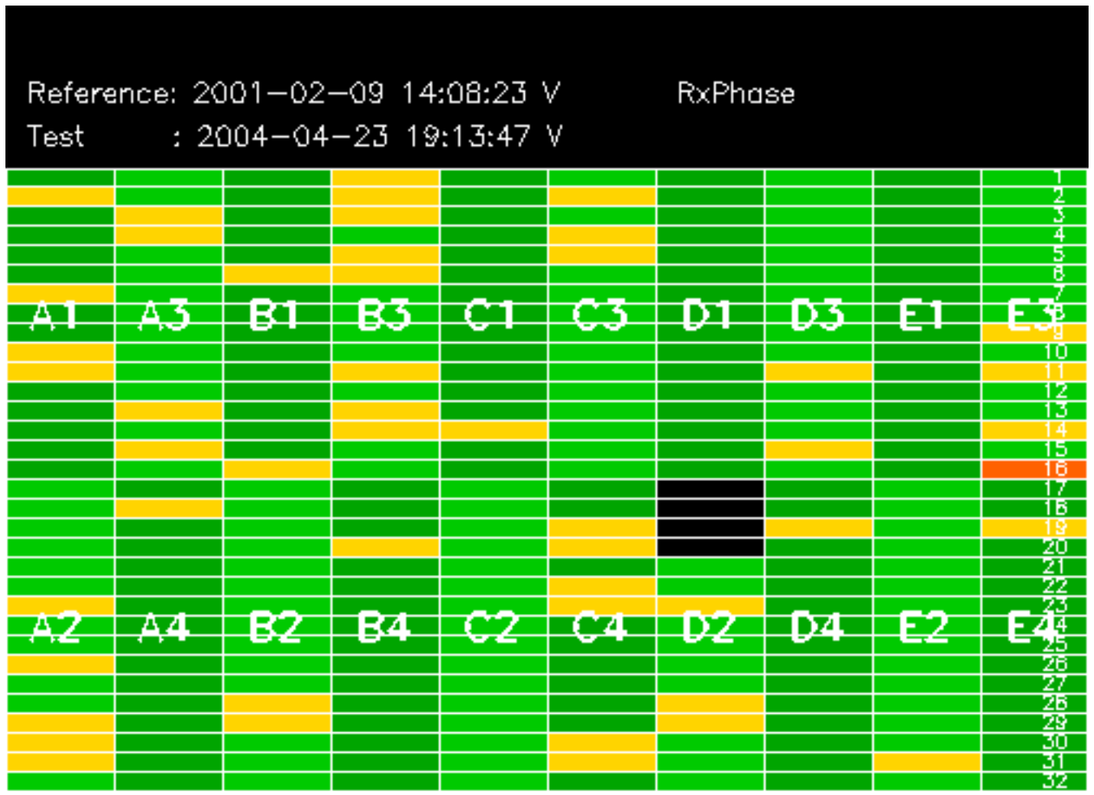

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-04-23 19:12:27 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-04-23 19:12:27 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 : 2004-04-23 19:13:47 V
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
12
13
14
15
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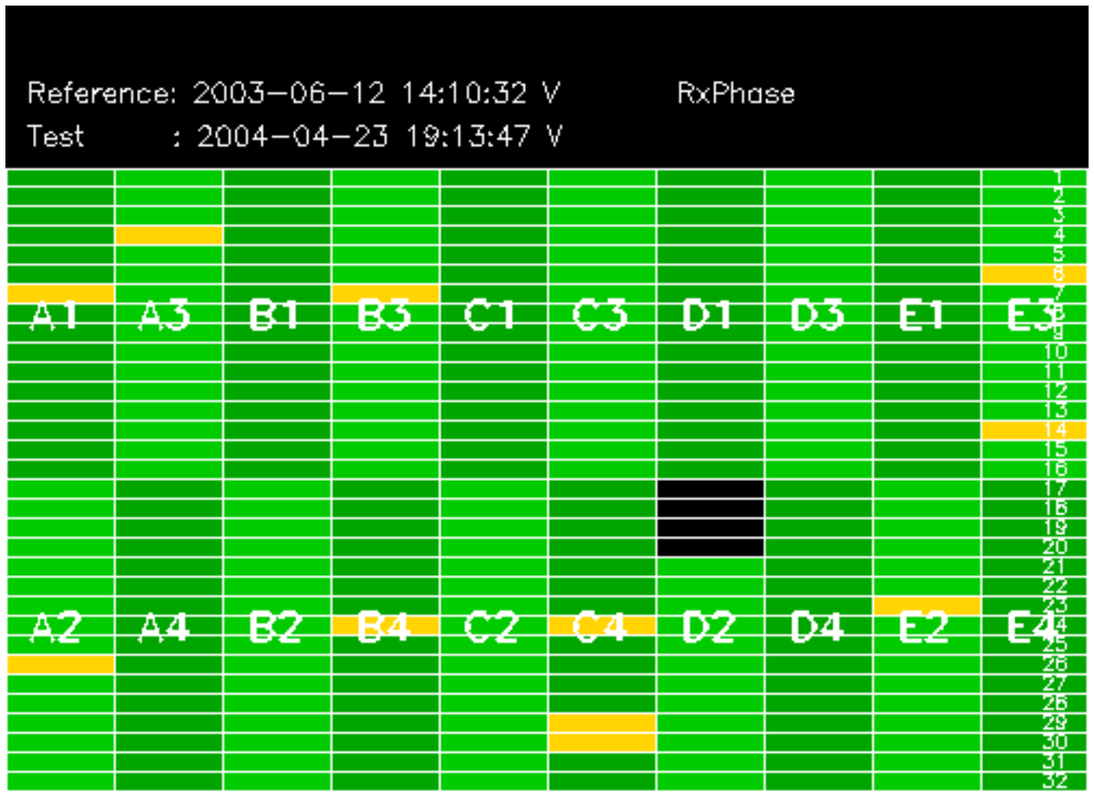
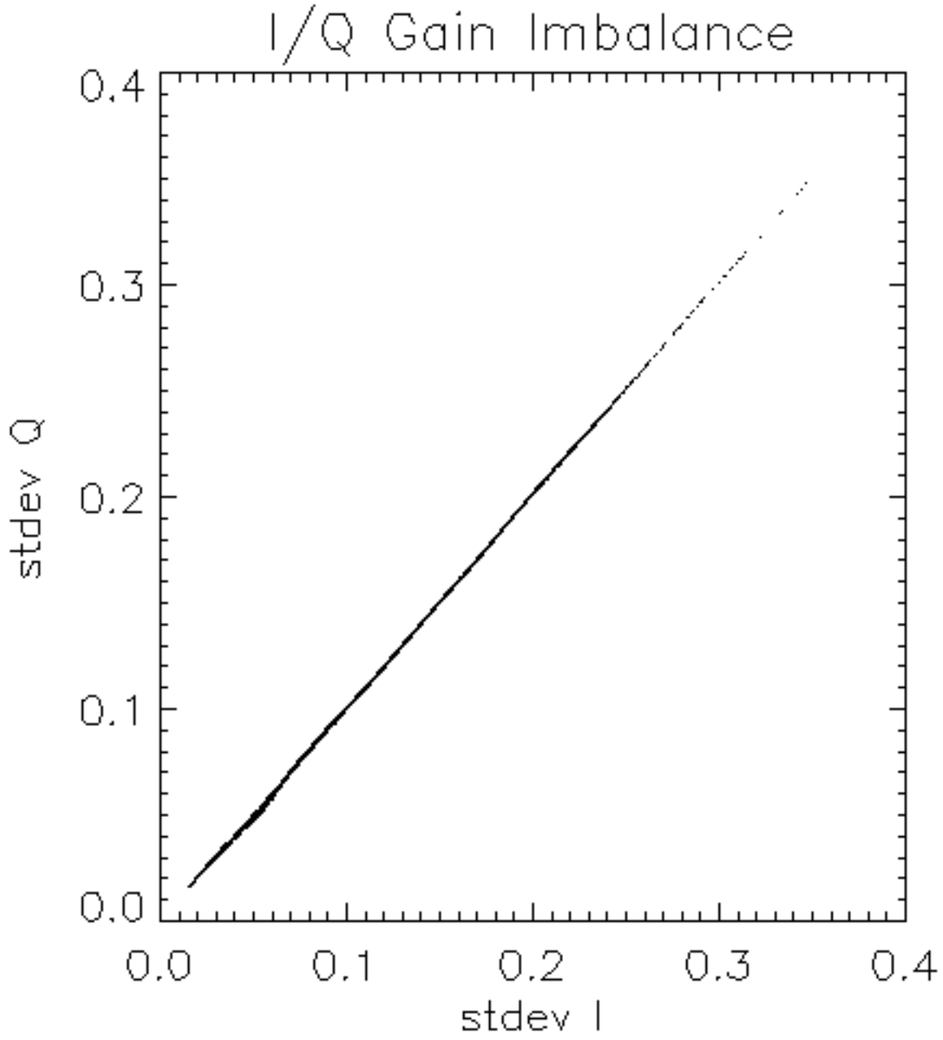
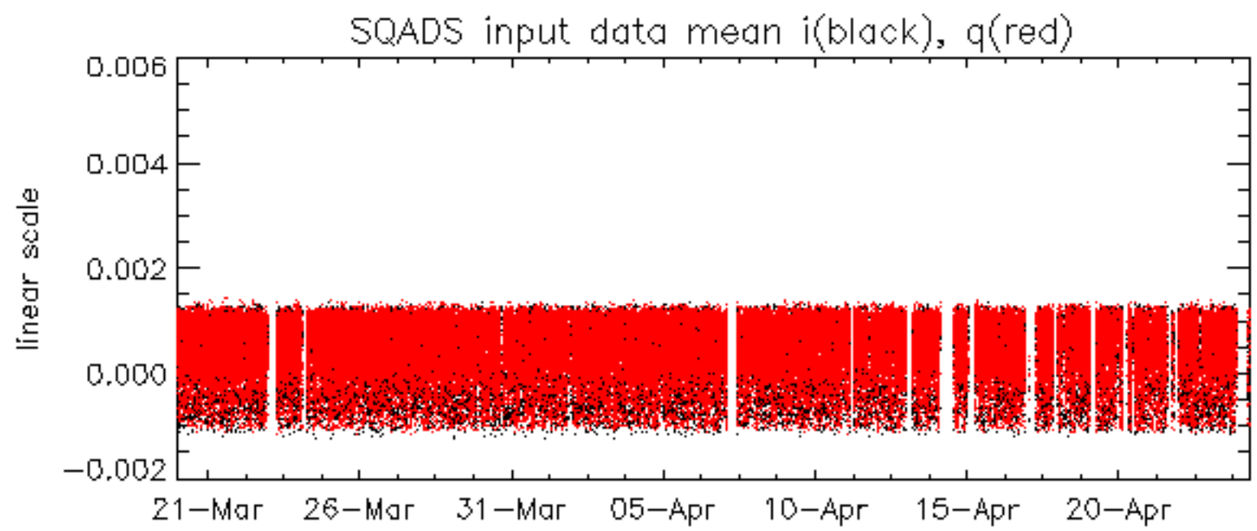
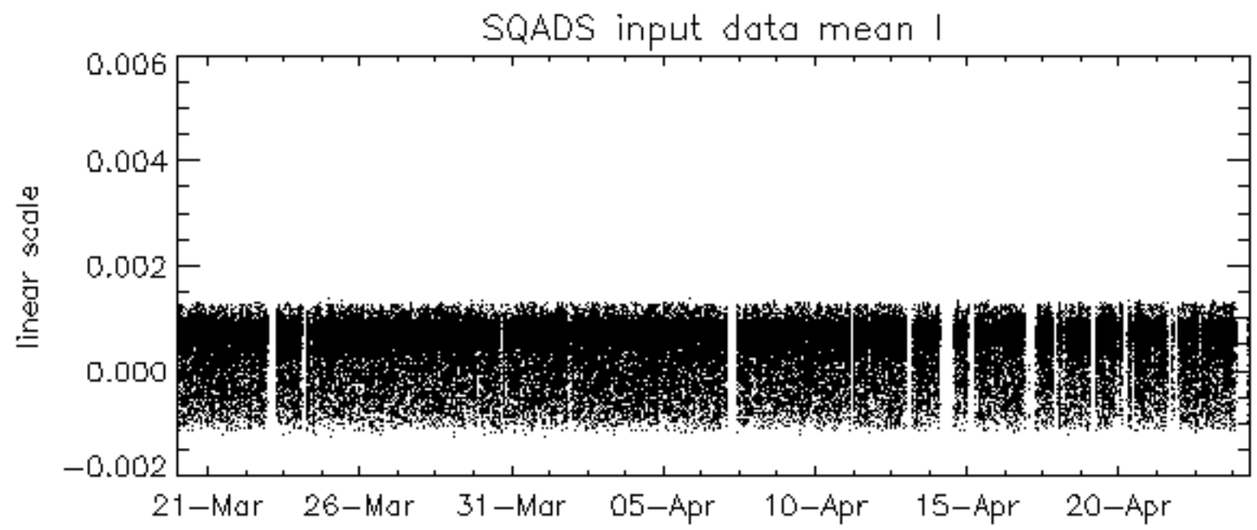
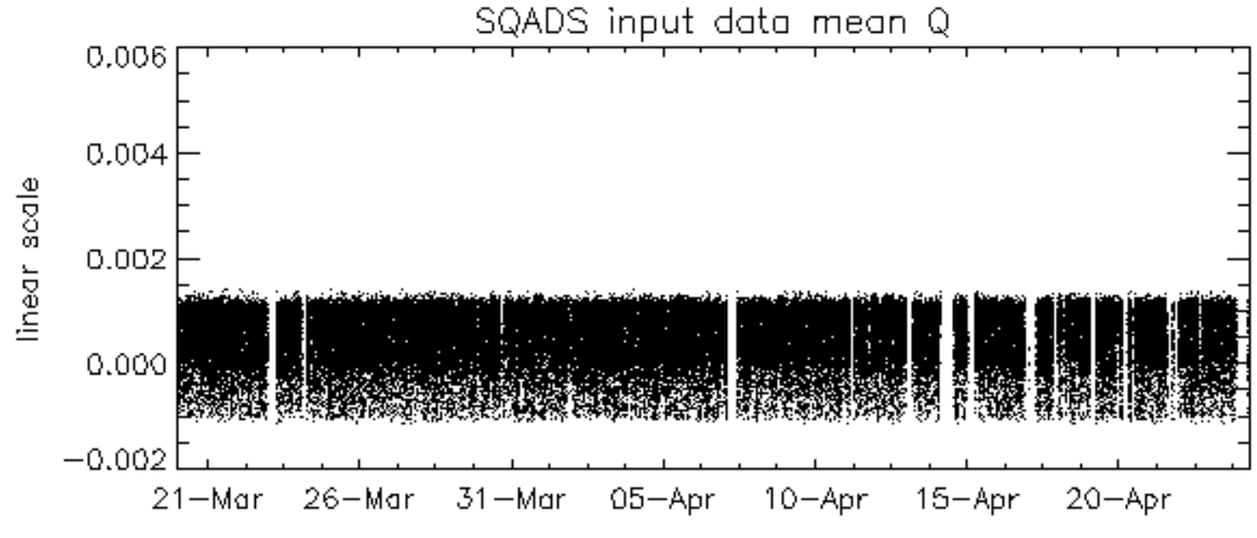
30
31
32

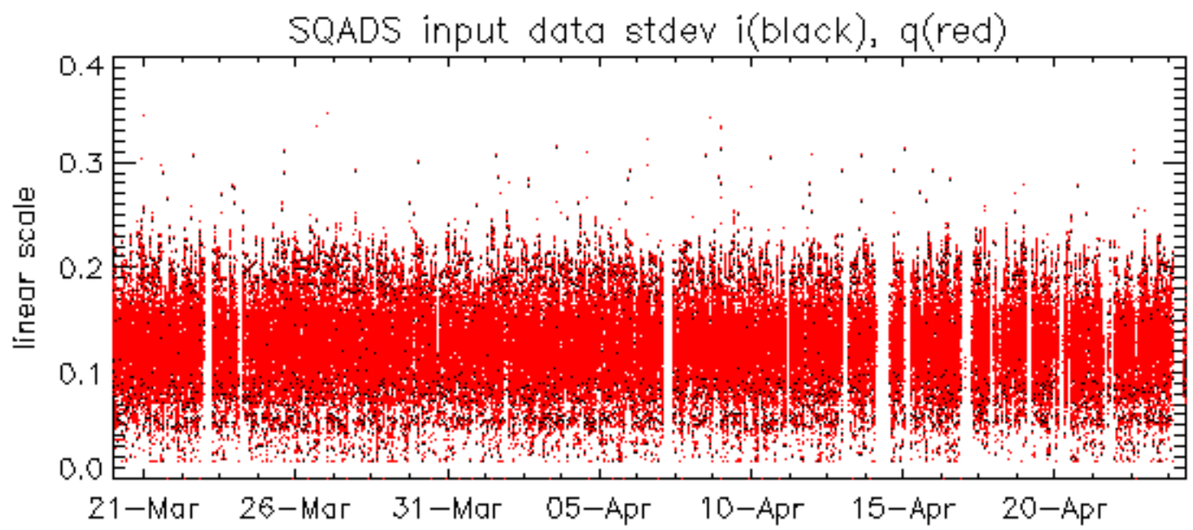

Reference: 2003-06-12 14:10:32 V
Test : 2004-04-23 19:13:47 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

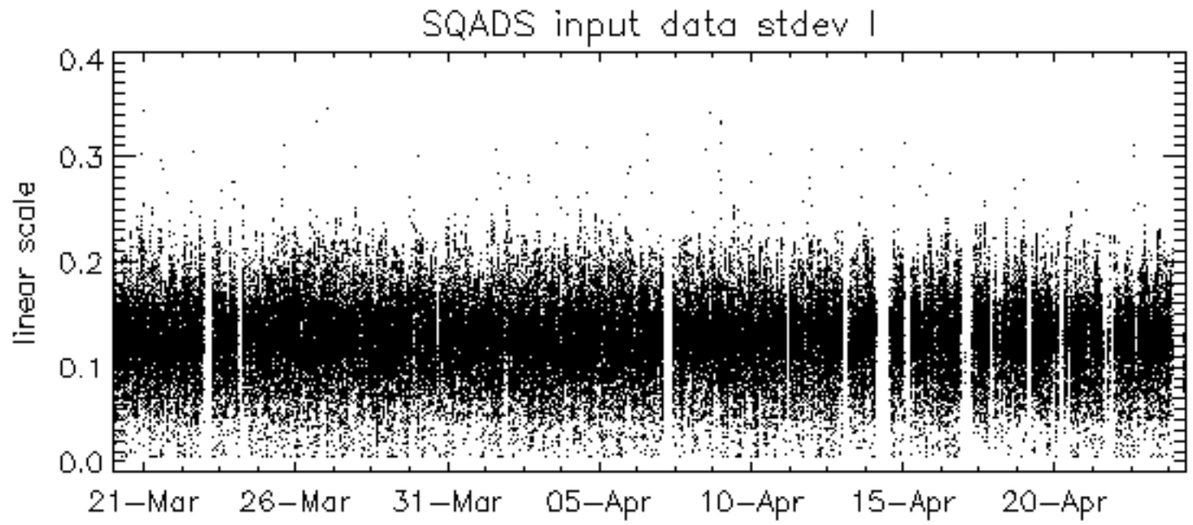

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

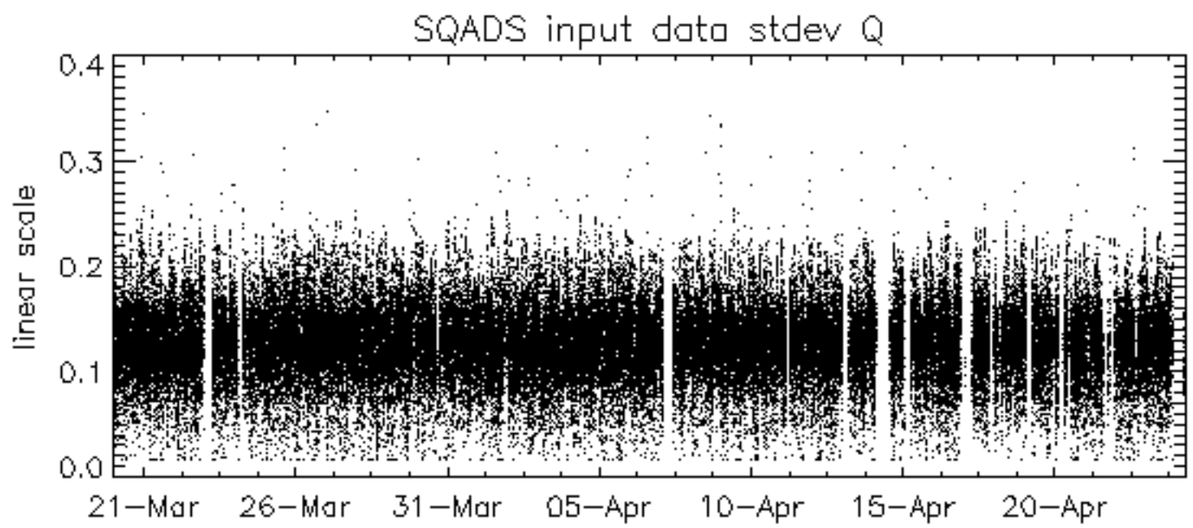

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Mar
26−Mar
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr

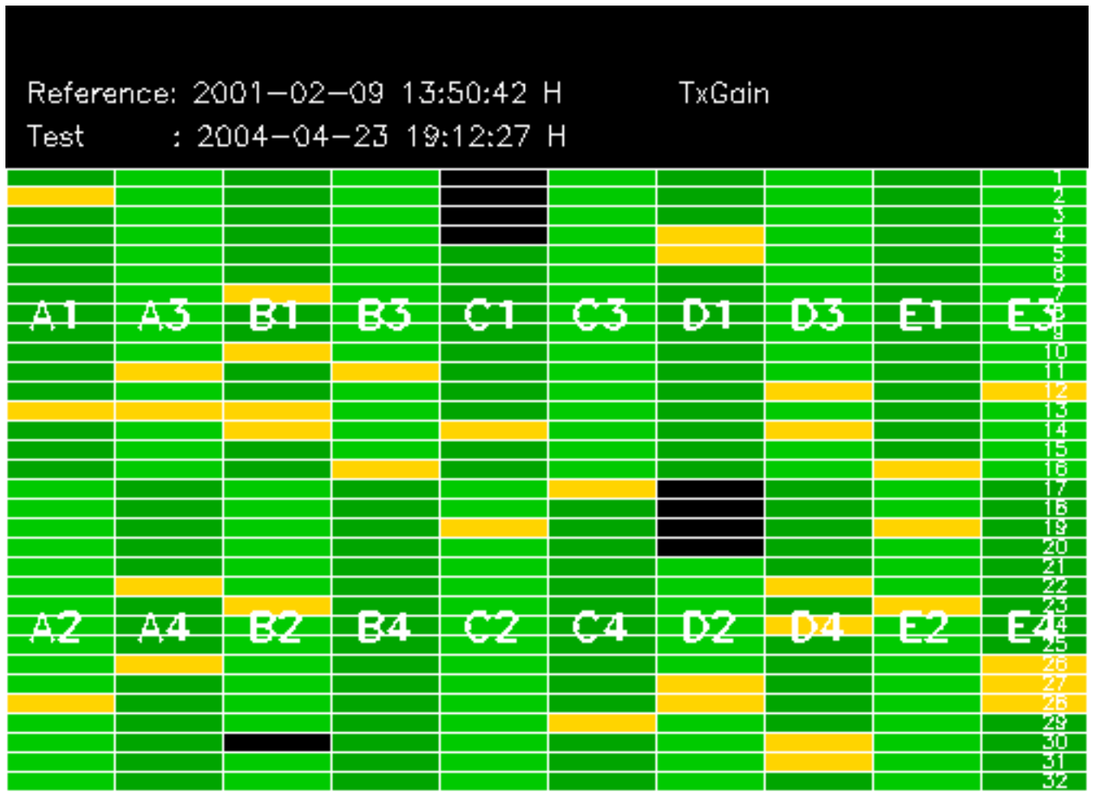

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Mar
26−Mar
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr

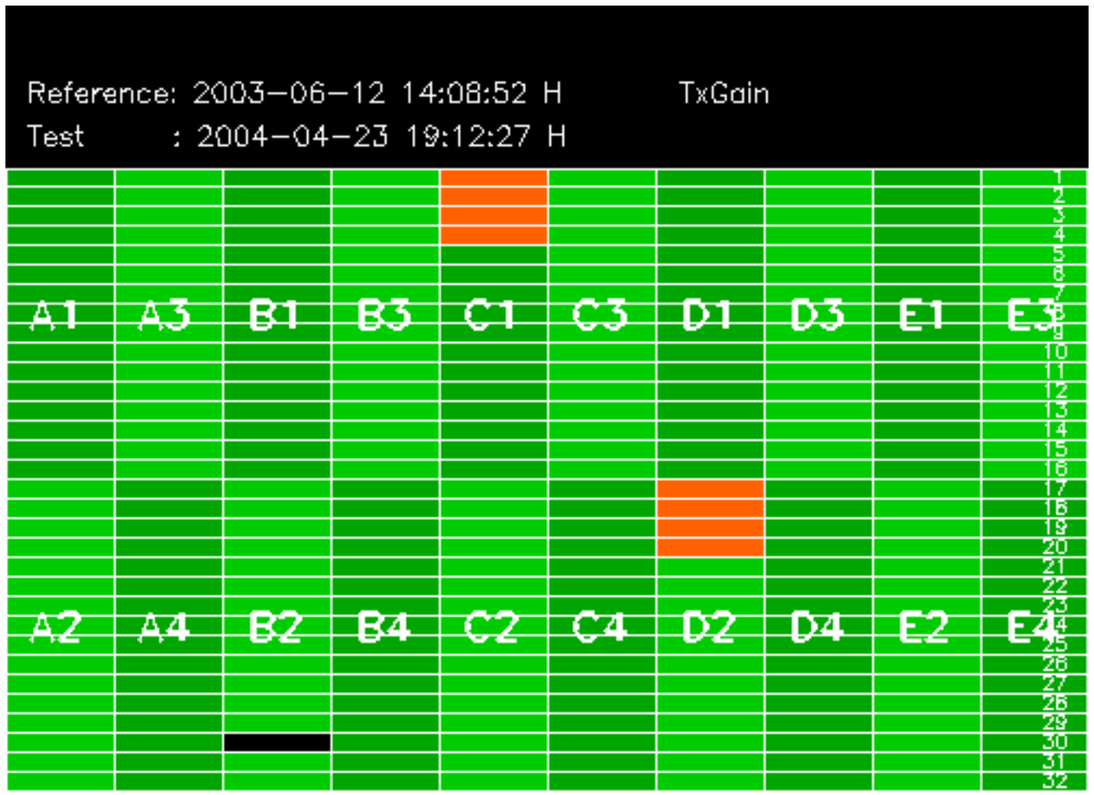

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Mar
26−Mar
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2004-04-23 19:12:27 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 : 2004-04-23 19:12:27 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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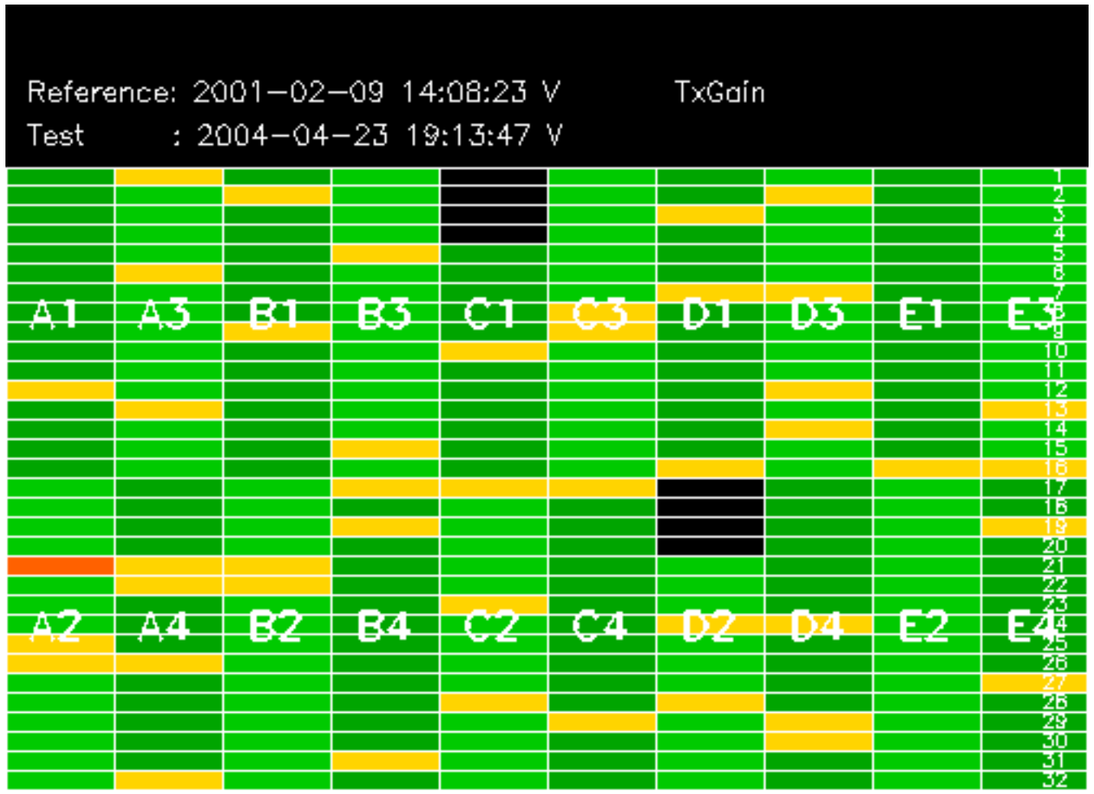
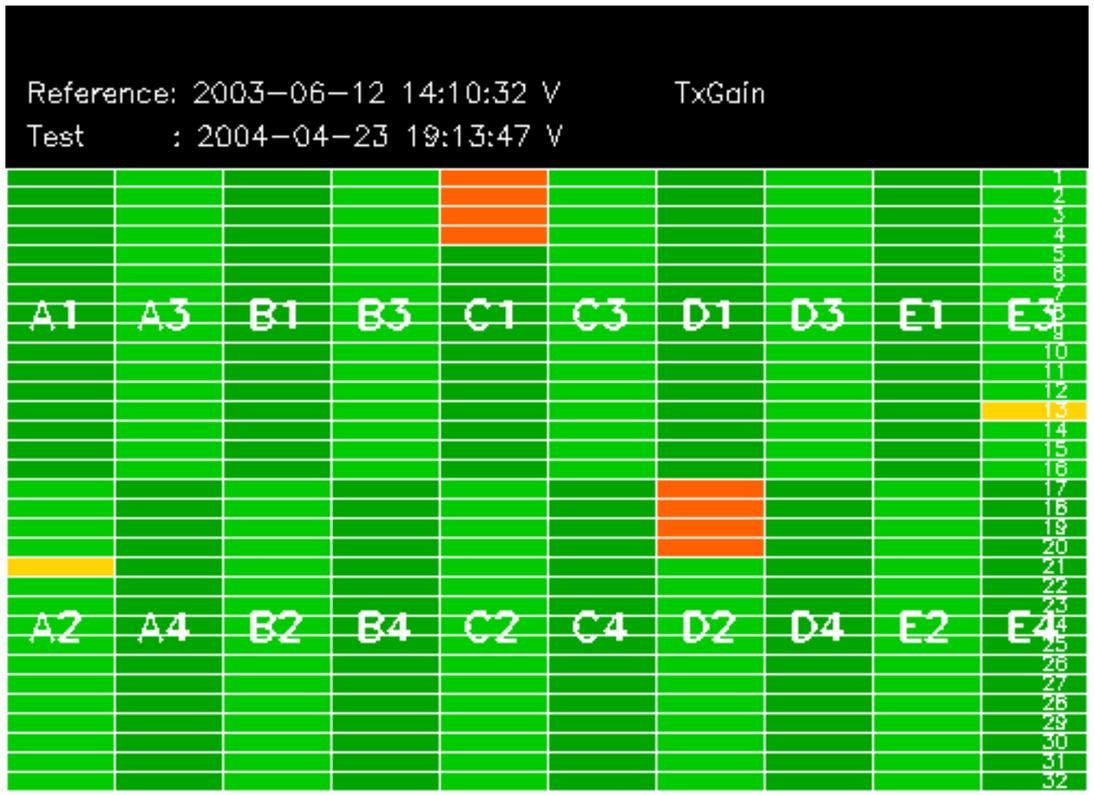

Reference: 2001-02-09 14:08:23 V
Test : 2004-04-23 19:13:47 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-04-23 19:13:47 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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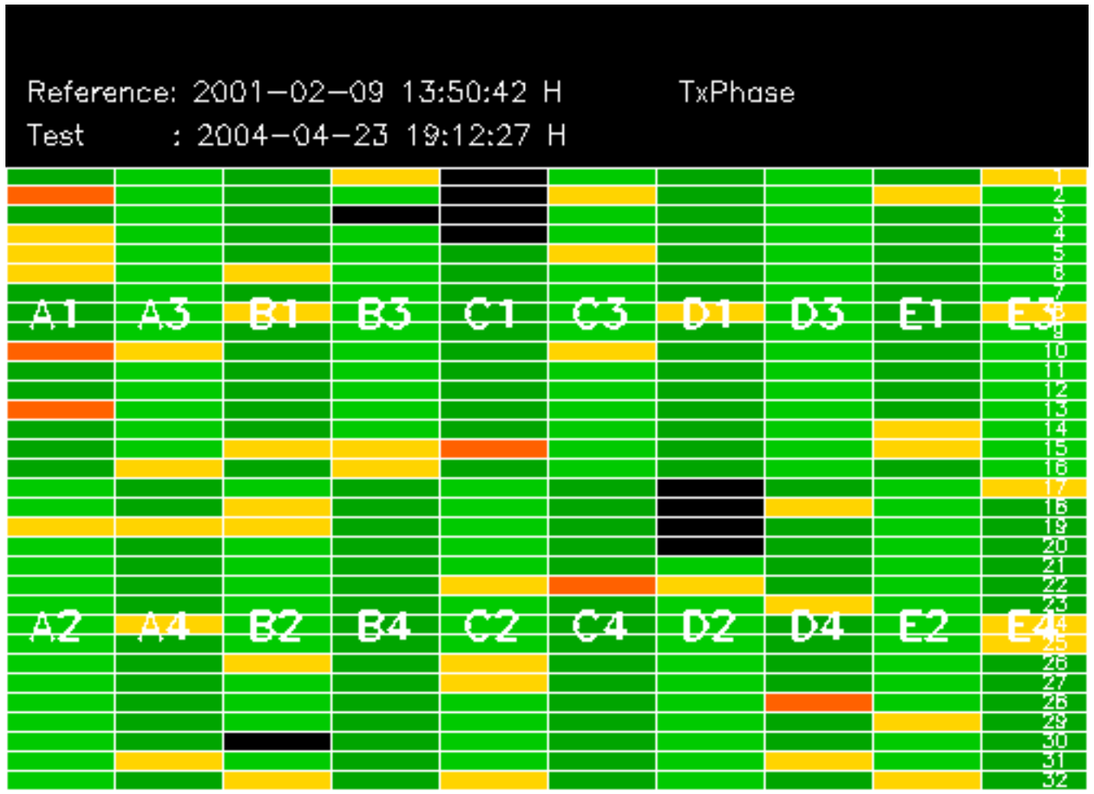
Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-04-23 19:12:27 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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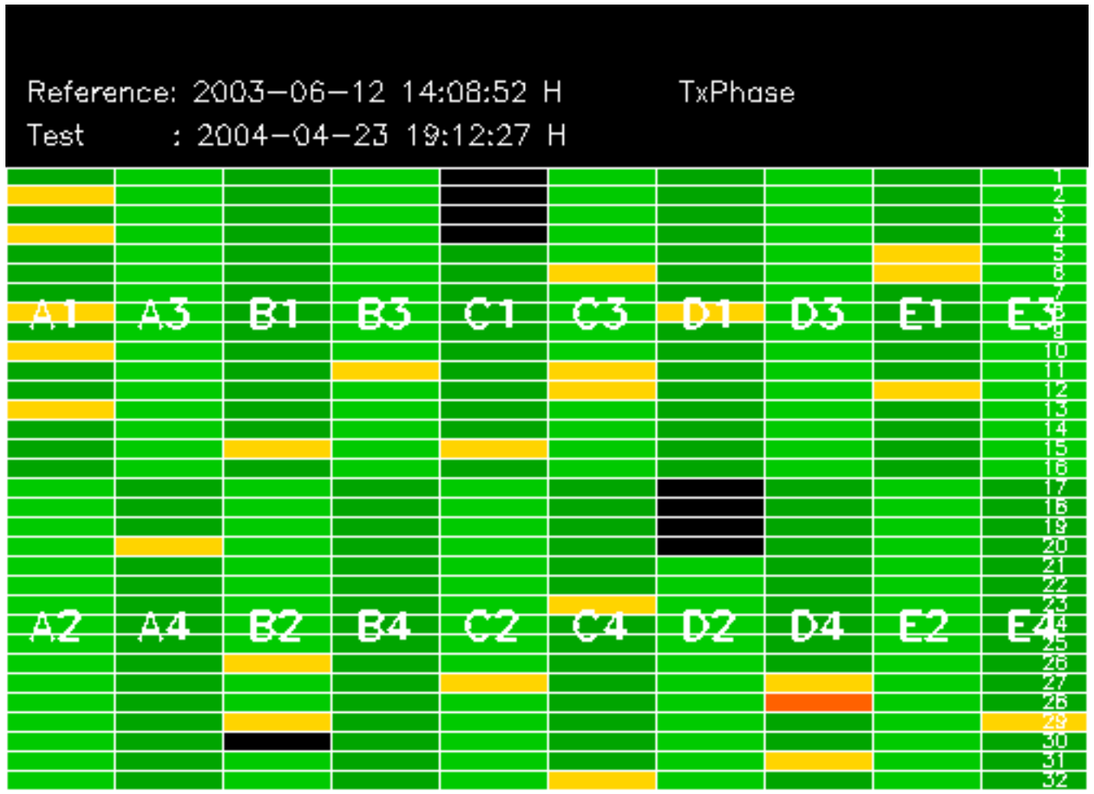
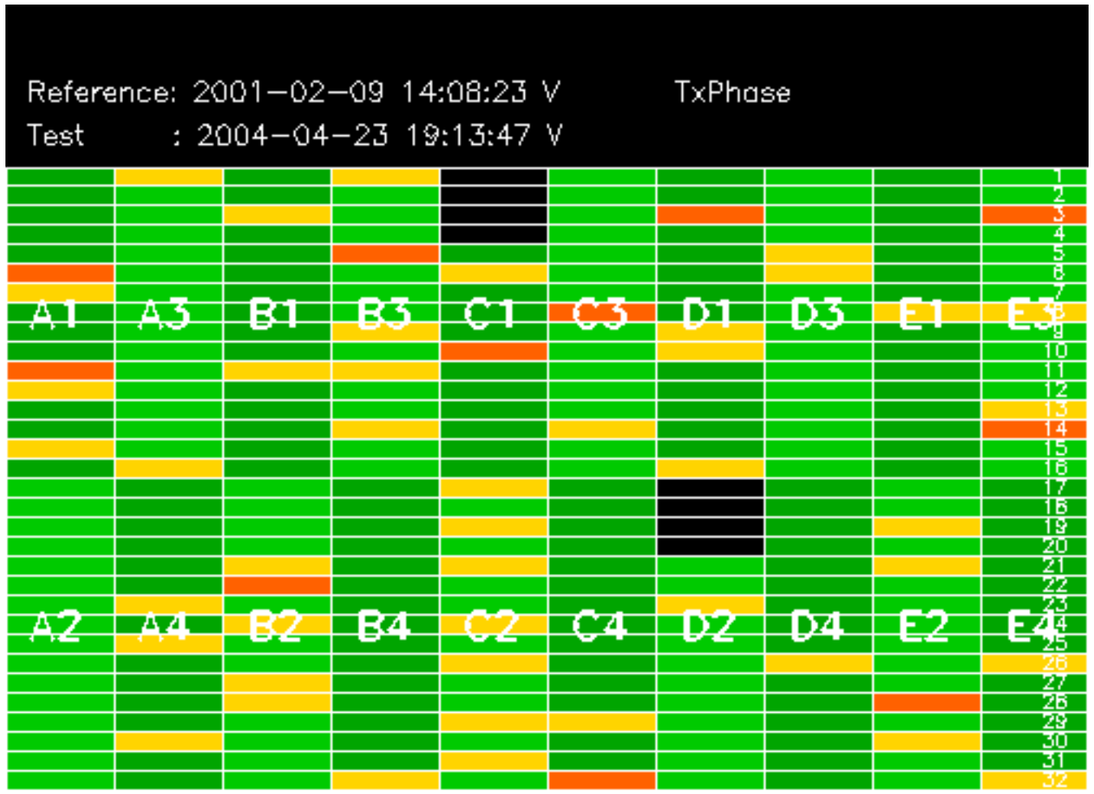

Reference: 2003-06-12 14:08:52 H
Test : 2004-04-23 19:12:27 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-04-23 19:13:47 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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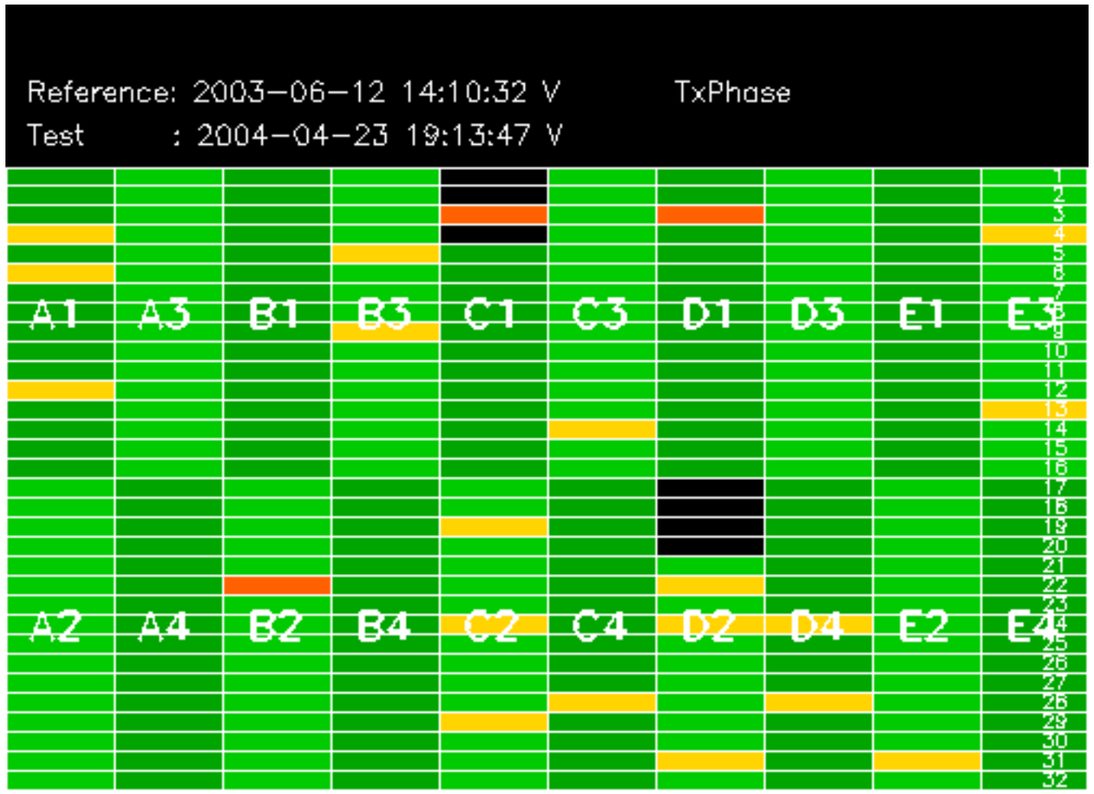
Reference: 2003-06-12 14:10:32 V
Test : 2004-04-23 19:13:47 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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No unavailabilities during the reported period.