PRELIMINARY REPORT OF 040423

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

last update on Fri Apr 23 13:02:13 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	20040422 194524
H	20040422 194404

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	-3.577797	0.005378	0.014423
7	P1	-3.299783	0.010583	0.004725
11	P1	-4.632198	0.021907	0.018364
15	P1	-4.983265	0.038436	0.026208
19	P1	-3.347855	0.006342	-0.040827
22	P1	-4.516289	0.014593	0.011402
24	P1	-5.029546	0.015060	0.059549
28	P1	-4.589502	0.013538	-0.026945

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.396452	0.079897	-0.019072

7	P2	-22.873787	0.122296	-0.038631
11	P2	-15.906403	0.153540	0.118419
15	P2	-7.159593	0.089170	0.015336
19	P2	-9.513508	0.164685	0.035319
22	P2	-17.655695	0.099104	0.050061
24	P2	-20.993547	0.112078	0.023983
28	P2	-16.603794	0.081622	-0.012640

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.130470	0.003073	-0.016928
7	P3	-8.130472	0.003074	-0.016931
11	P3	-8.130477	0.003073	-0.016921
15	P3	-8.130490	0.003072	-0.016838
19	P3	-8.130500	0.003072	-0.016766
22	P3	-8.130509	0.003073	-0.016704
24	P3	-8.130507	0.003073	-0.016713
28	P3	-8.130510	0.003065	-0.016265

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	-4.184744	0.099565	-0.121414
7	P1	-3.407955	0.348046	-0.213621
11	P1	-4.650735	0.072421	0.064369
15	P1	-3.607561	0.511069	-0.271265
19	P1	-2.875634	0.080849	-0.127443
22	P1	-4.690663	0.102167	0.042042
24	P1	-7.075409	0.040987	-0.001794
28	P1	-6.625135	0.114631	0.041050

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.604990	0.247478	0.063100
7	P2	-13.448676	0.195310	0.012283
11	P2	-12.063550	0.145065	0.144562
15	P2	-5.727050	0.022896	-0.027572
19	P2	-6.551757	0.052344	-0.123674
22	P2	-15.011925	0.600360	-0.018832
24	P2	-19.704142	0.042732	0.077931
28	P2	-17.105339	0.058742	-0.019607

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.024720	0.003151	-0.010310
7	P3	-8.024747	0.003150	-0.010358
11	P3	-8.024681	0.003150	-0.010105
15	P3	-8.024658	0.003155	-0.010493
19	P3	-8.024705	0.003158	-0.010391
22	P3	-8.024691	0.003143	-0.010503
24	P3	-8.024757	0.003174	-0.010260
28	P3	-8.024733	0.003181	-0.010478

4.3 - cal pulses monitoring (all rows)

4.3.1 - Evolution for WVS

☒

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	0.000478720
	stdev	2.38171e-07
MEAN Q	mean	0.000482425
	stdev	2.72217e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127432
	stdev	0.00118427
STDEV Q	mean	0.127684
	stdev	0.00119757

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

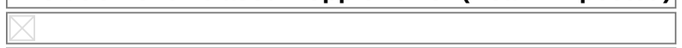
Descending

6.3 - Doppler evolution versus ANX for WVS

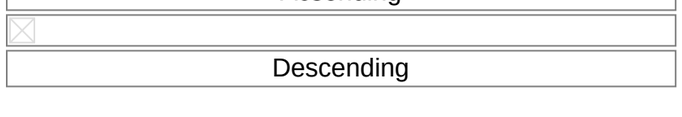
Evolution Doppler error versus ANX

6.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)



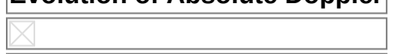
Acsending



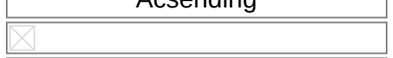
Descending

6.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler



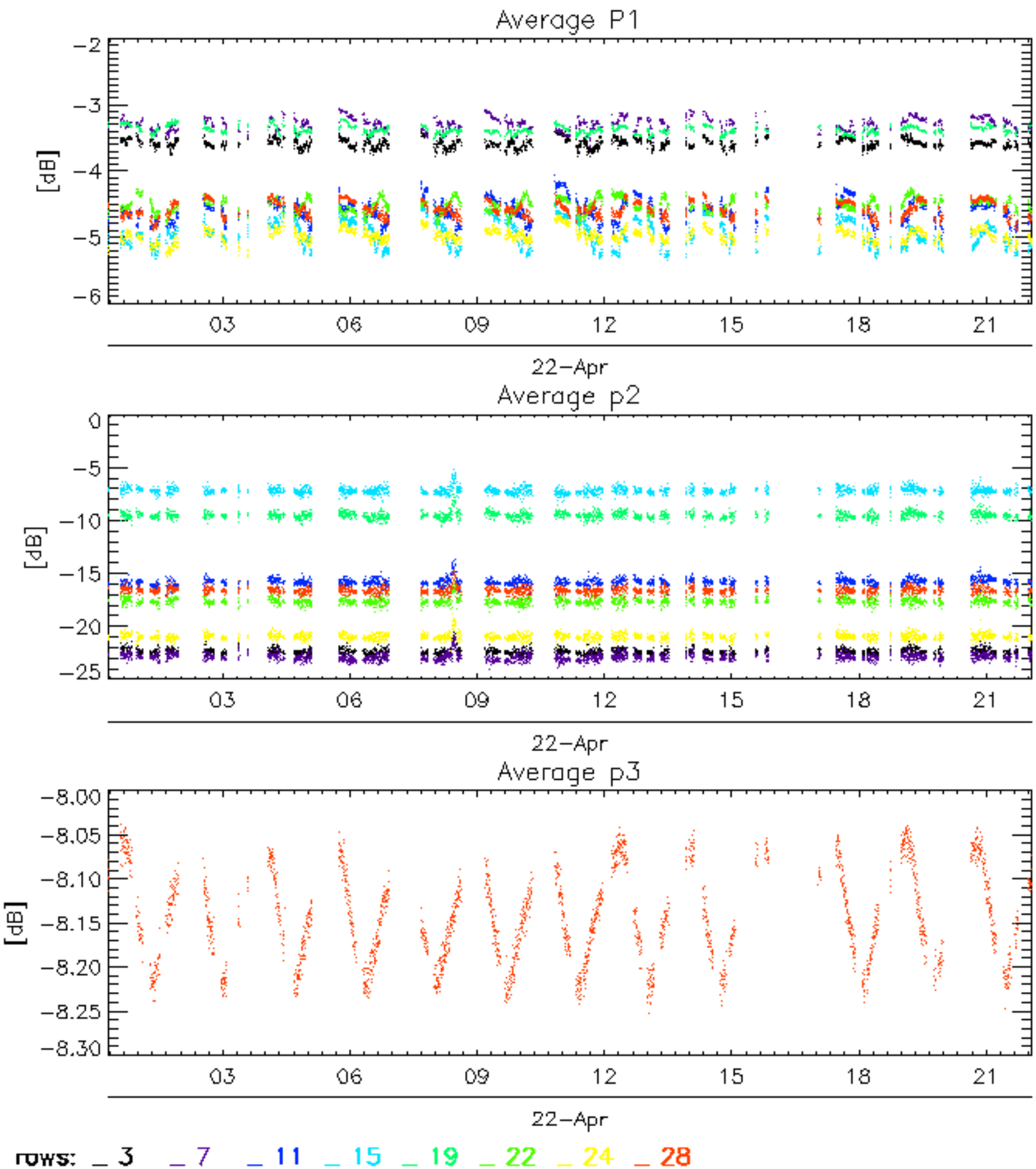
Acsending

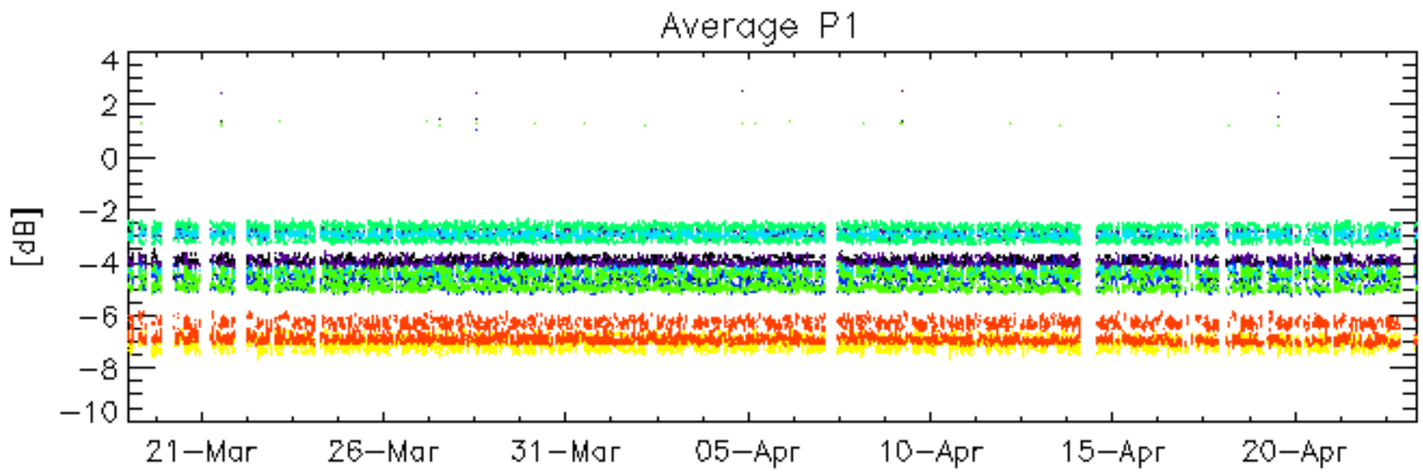


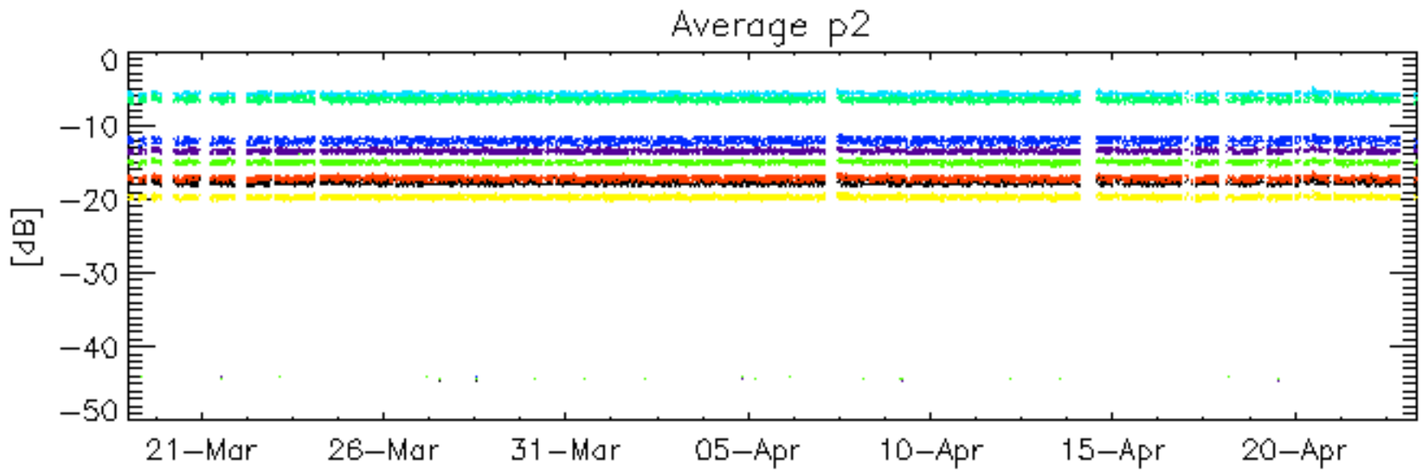
Descending

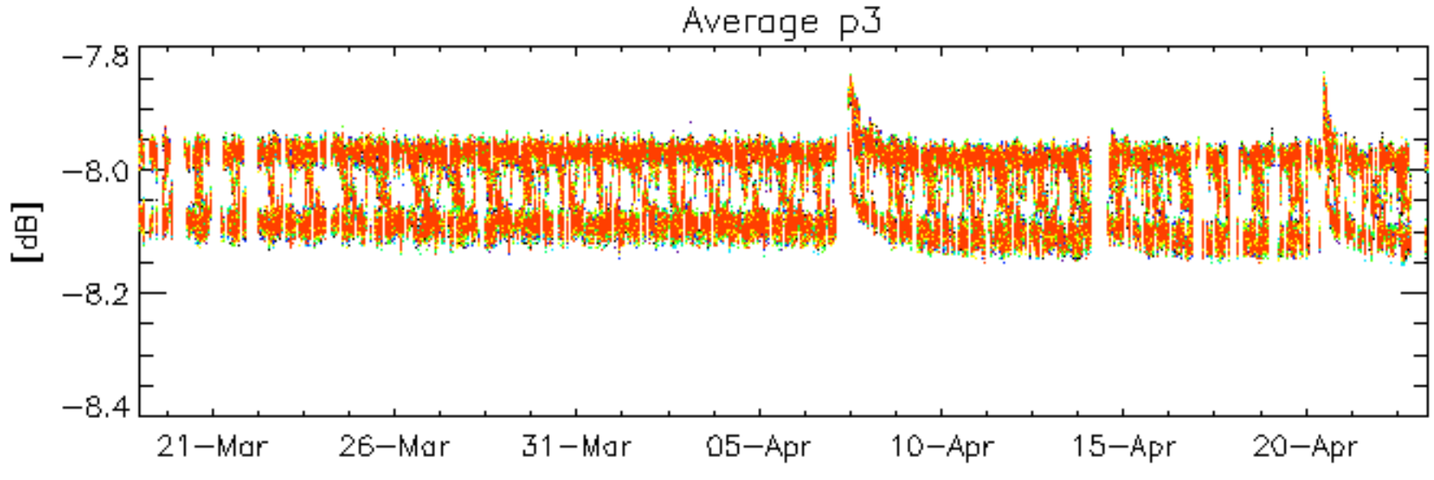
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

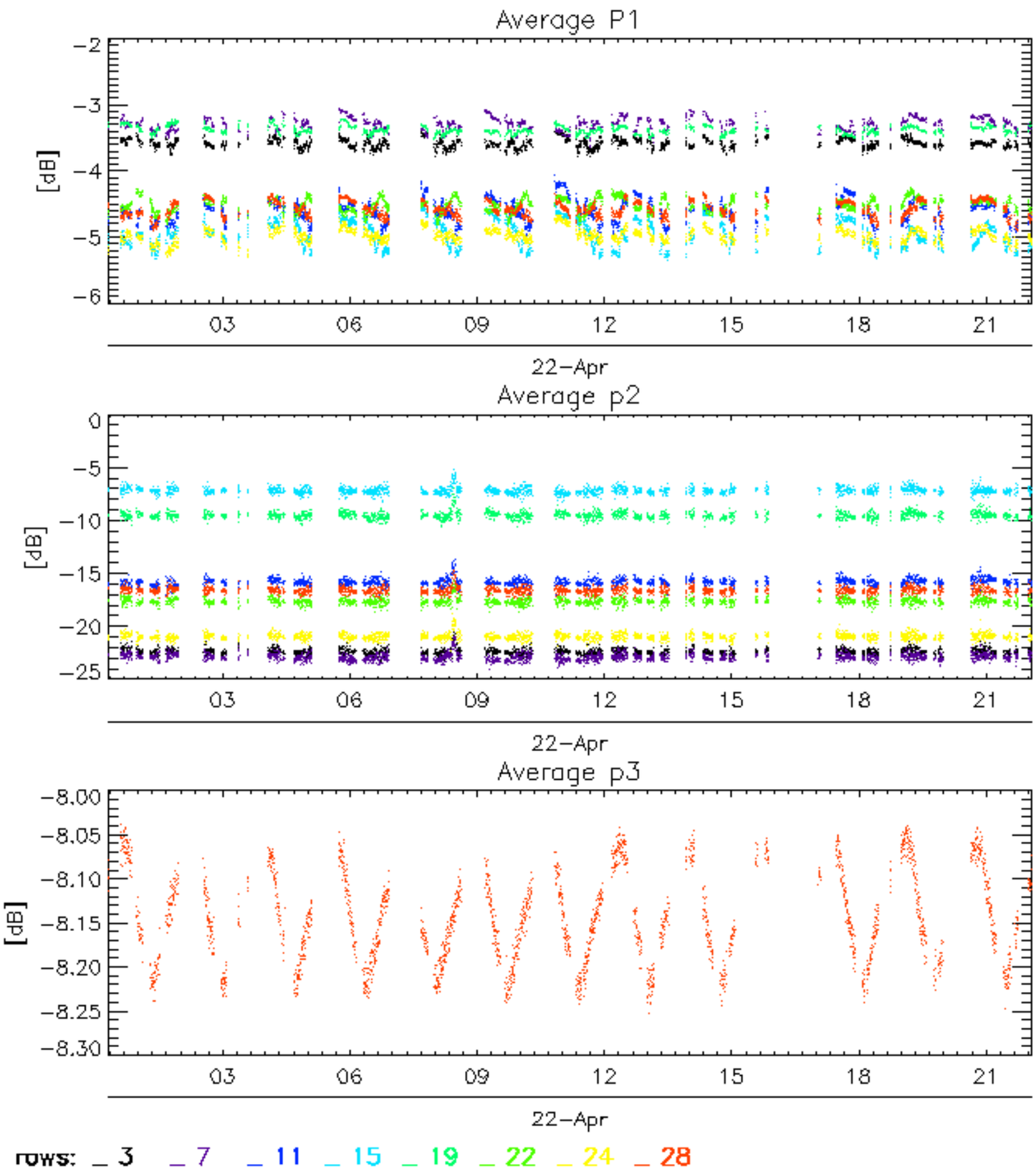

Average P1
[dB]
−2
−3
−4
−5
−6
03
06
09
12
15
18
21
22−Apr
Average p2
[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
22−Apr
Average p3
[dB]
−8.00
−8.05
−8.10
−8.15
−8.20
−8.25
−8.30
03
06
09
12
15
18
21
22−Apr
rows: 3 7 11 15 19 22 24 28

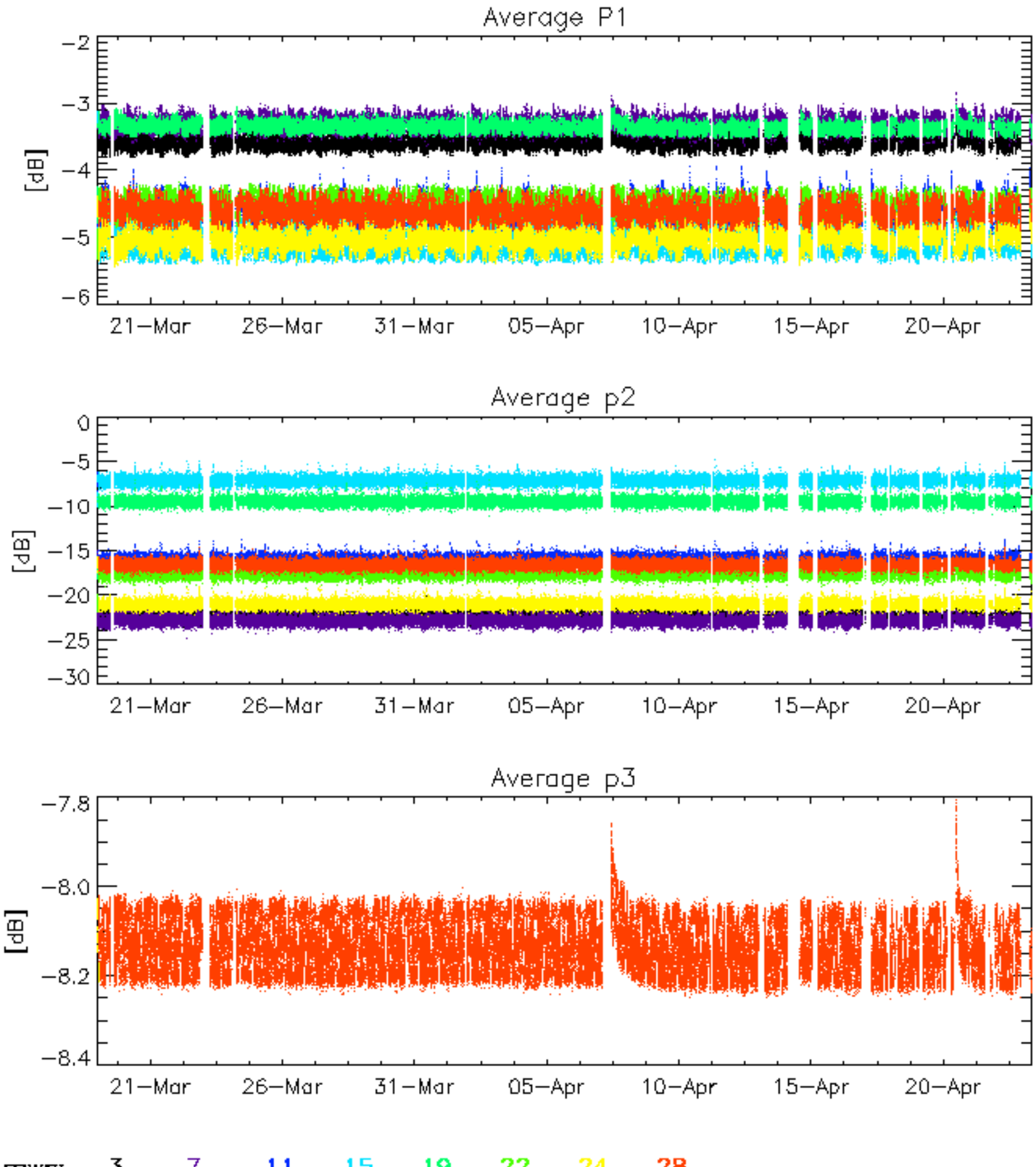




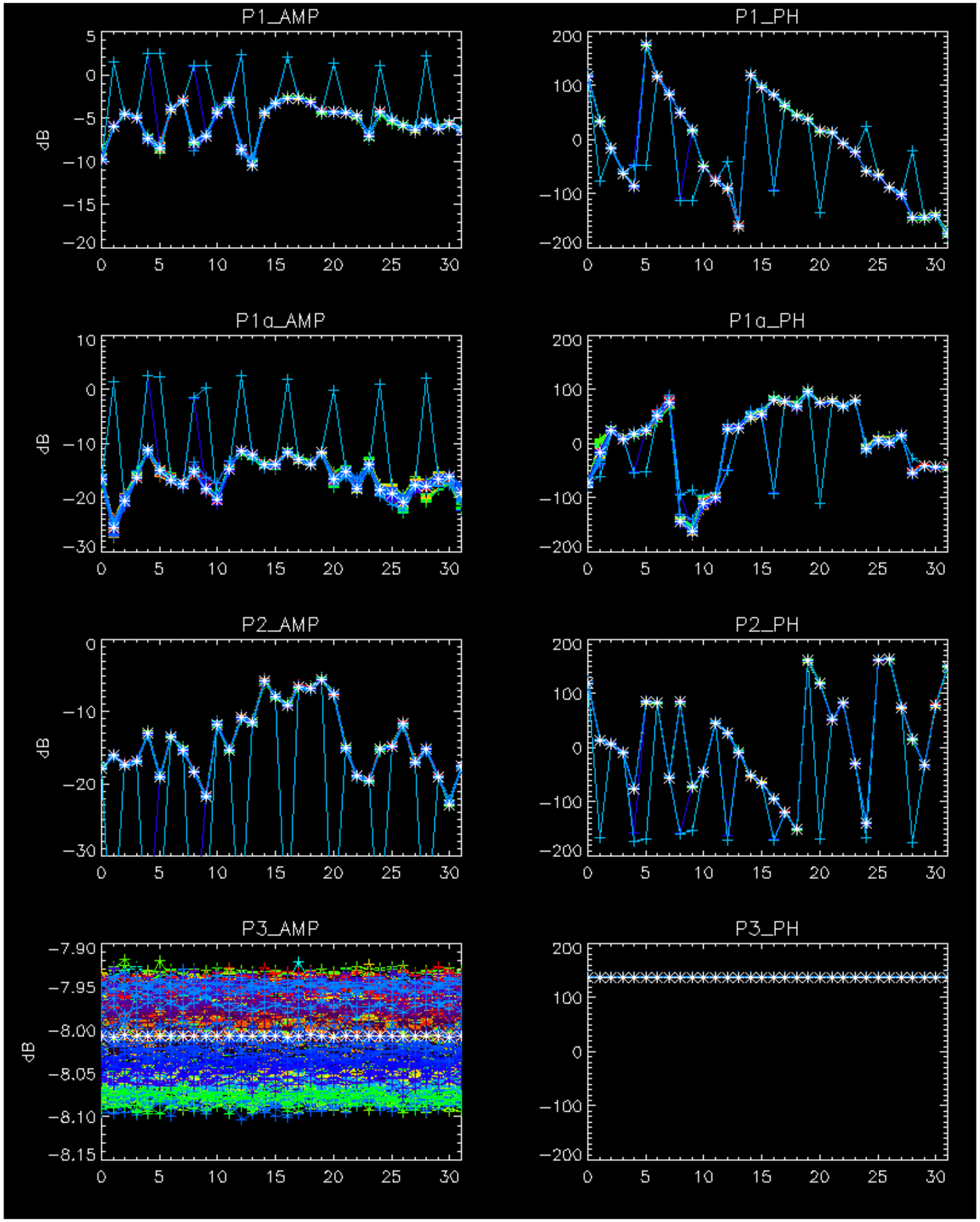


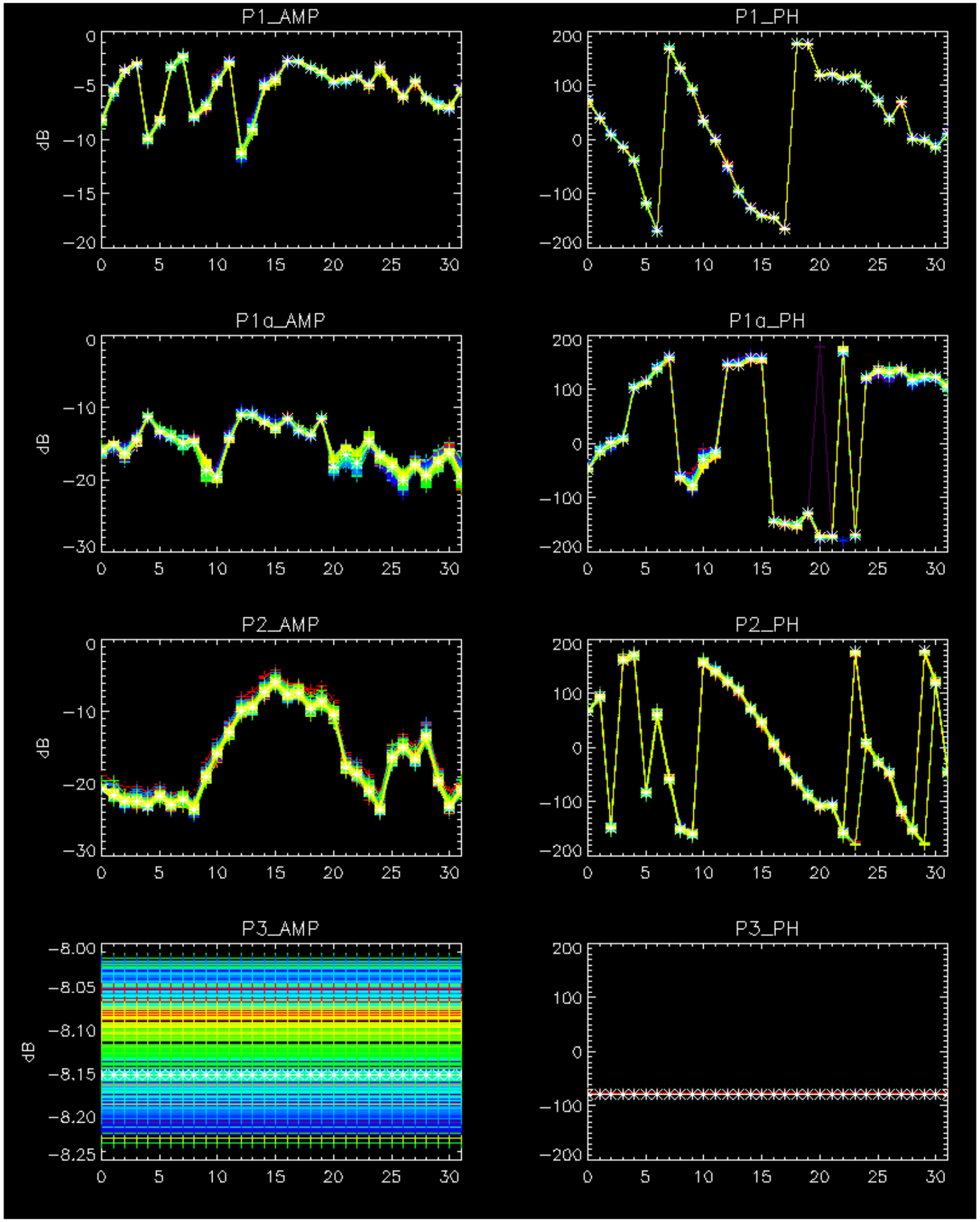
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 28


Average P1
[dB]
−2
−3
−4
−5
−6
03
06
09
12
15
18
21
22−Apr
Average p2
[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
22−Apr
Average p3
[dB]
−8.00
−8.05
−8.10
−8.15
−8.20
−8.25
−8.30
03
06
09
12
15
18
21
22−Apr
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

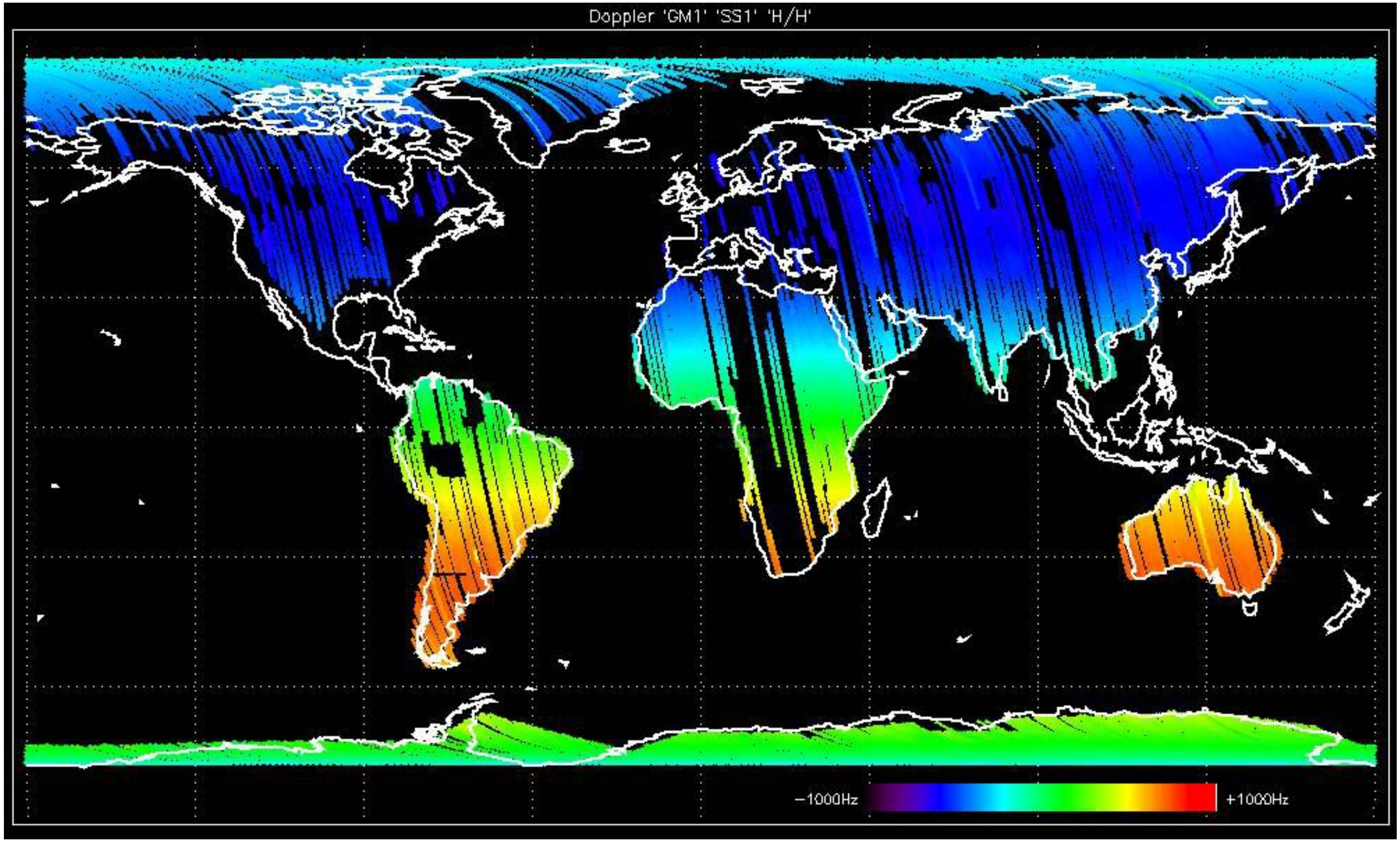
No anomalies observed.

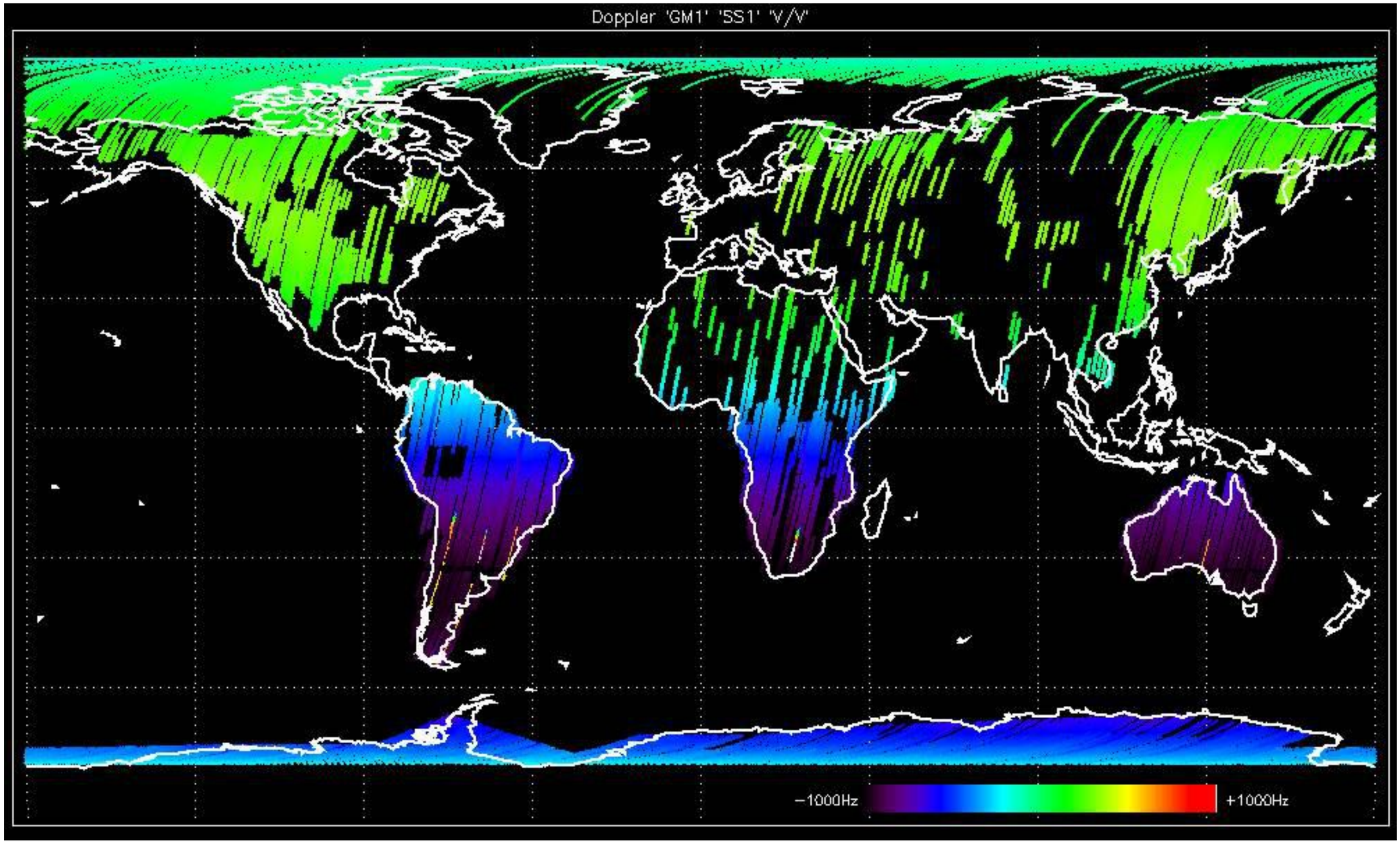

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

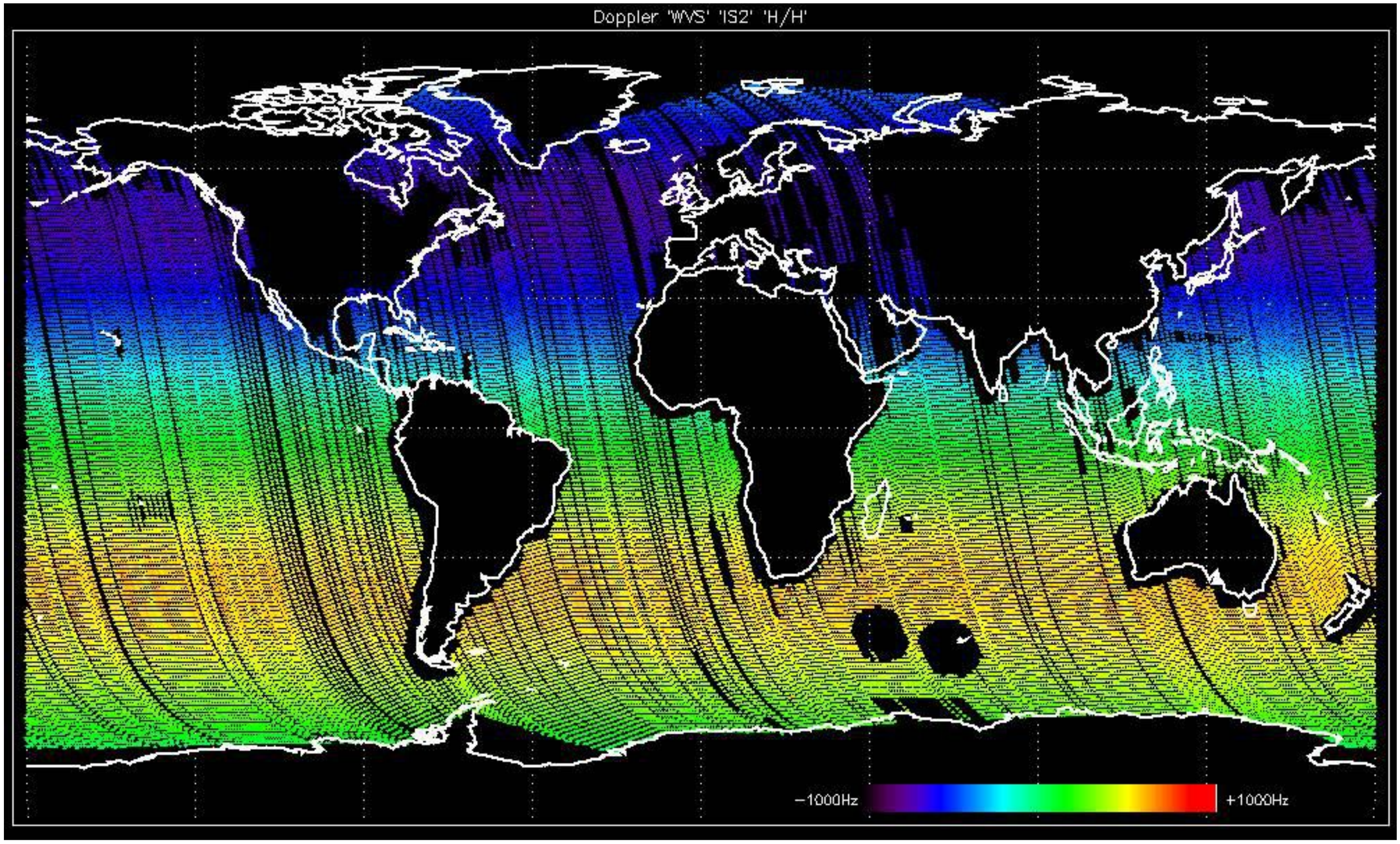

P1_AMP
P1_PH
P1a_AMP
P1a_PH
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

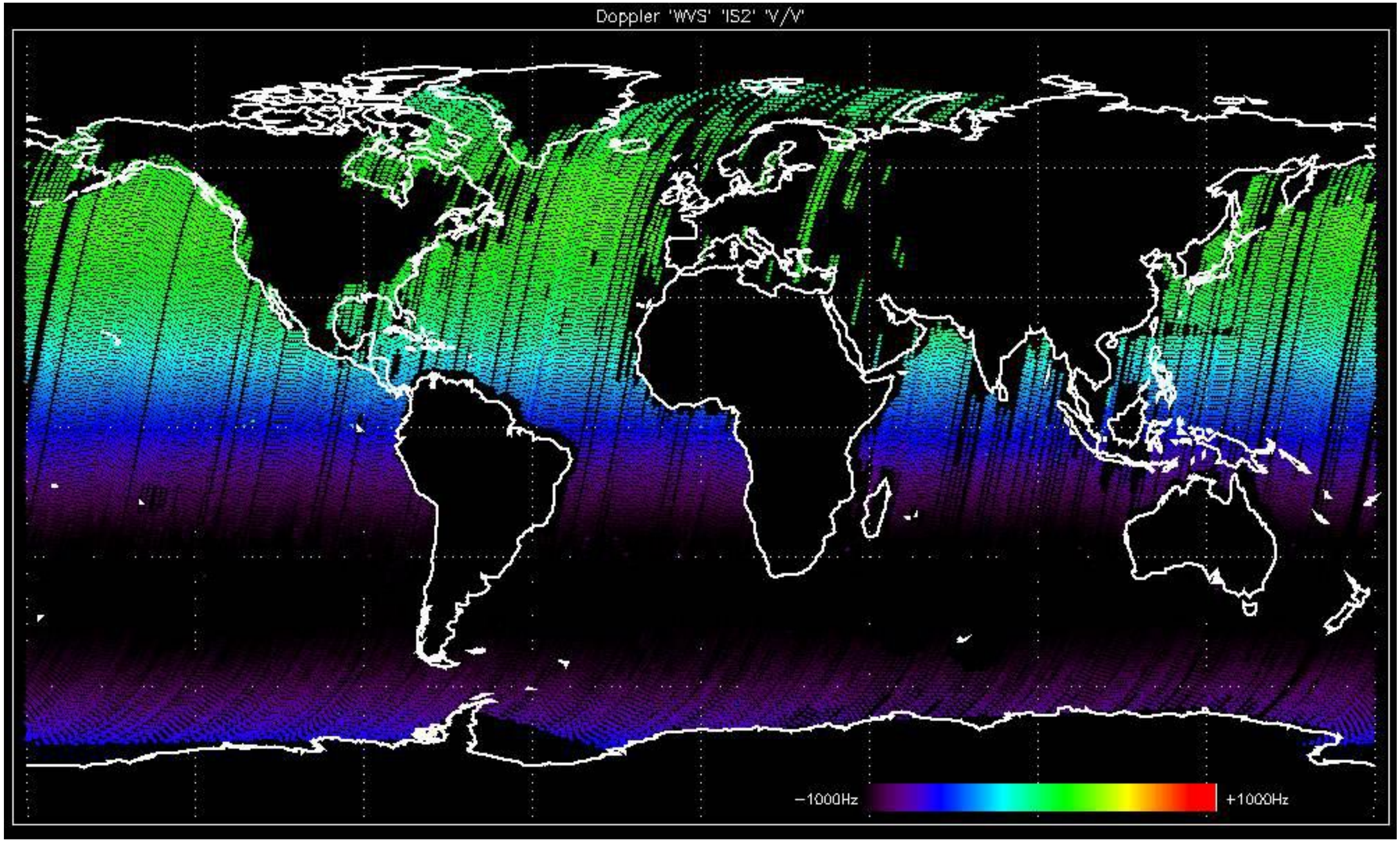
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

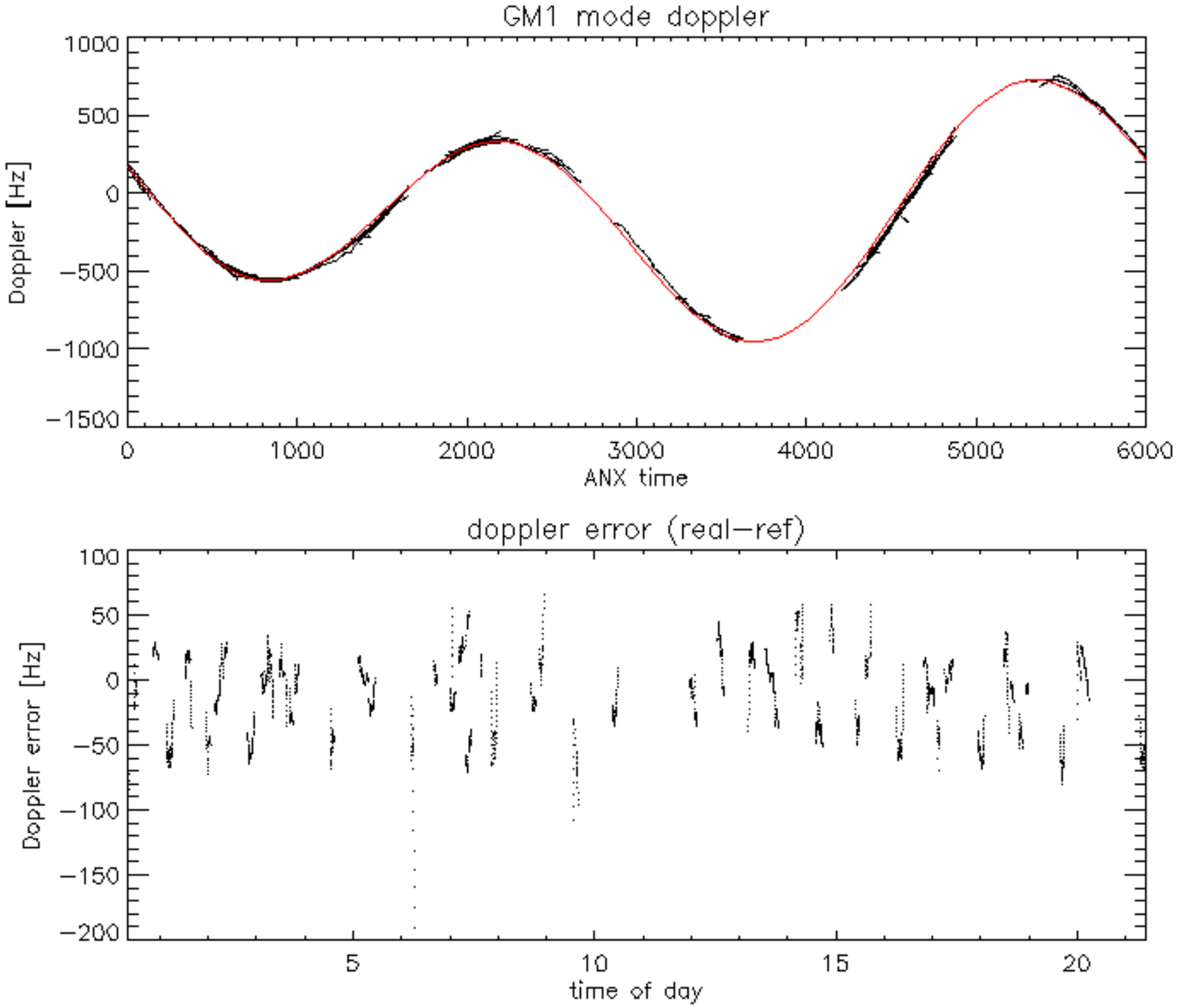
Preliminary report.The data is not yet controled

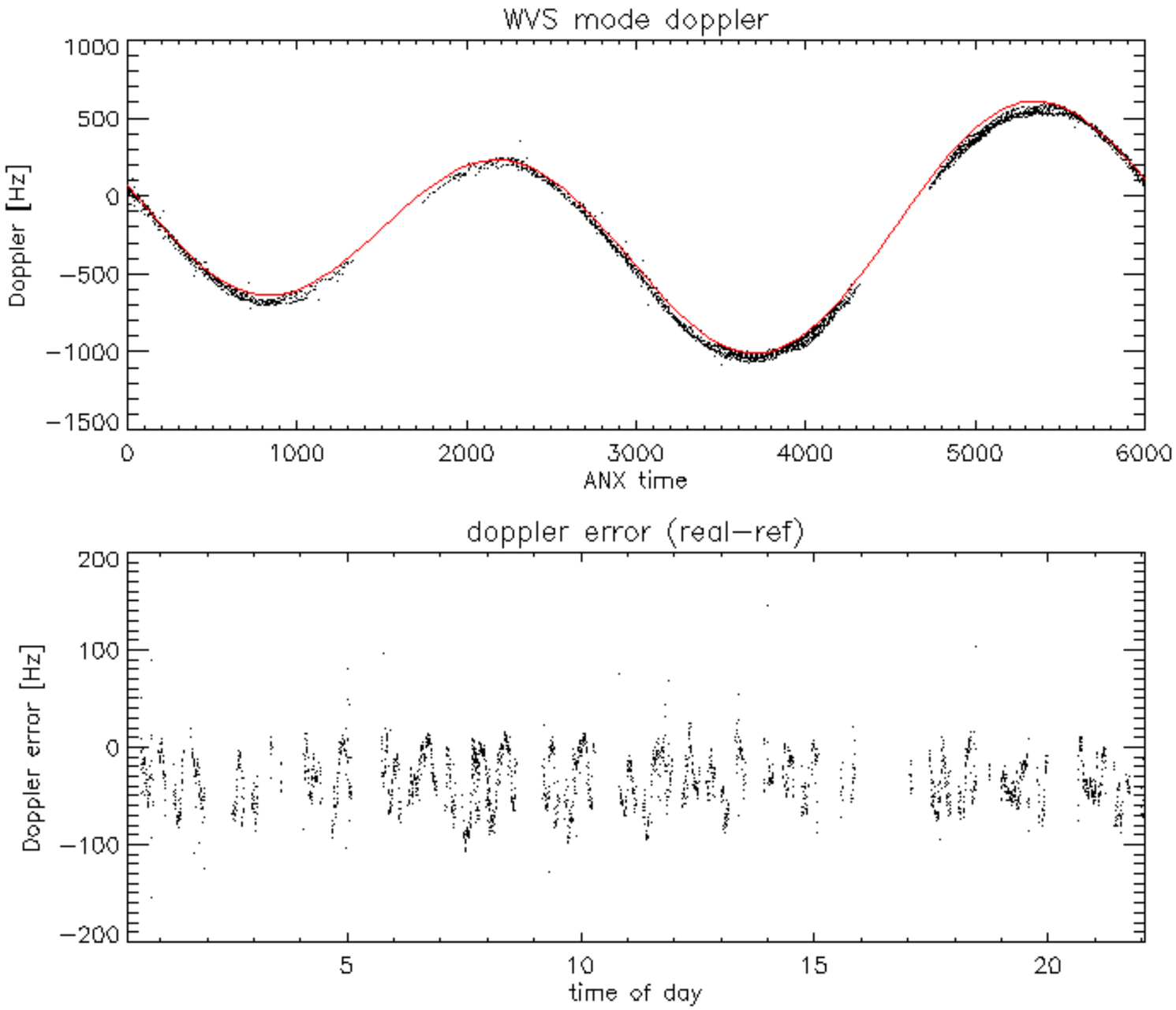

Doppler 'GM1' 'SS1' 'H/H'
−1000Hz
+1000Hz

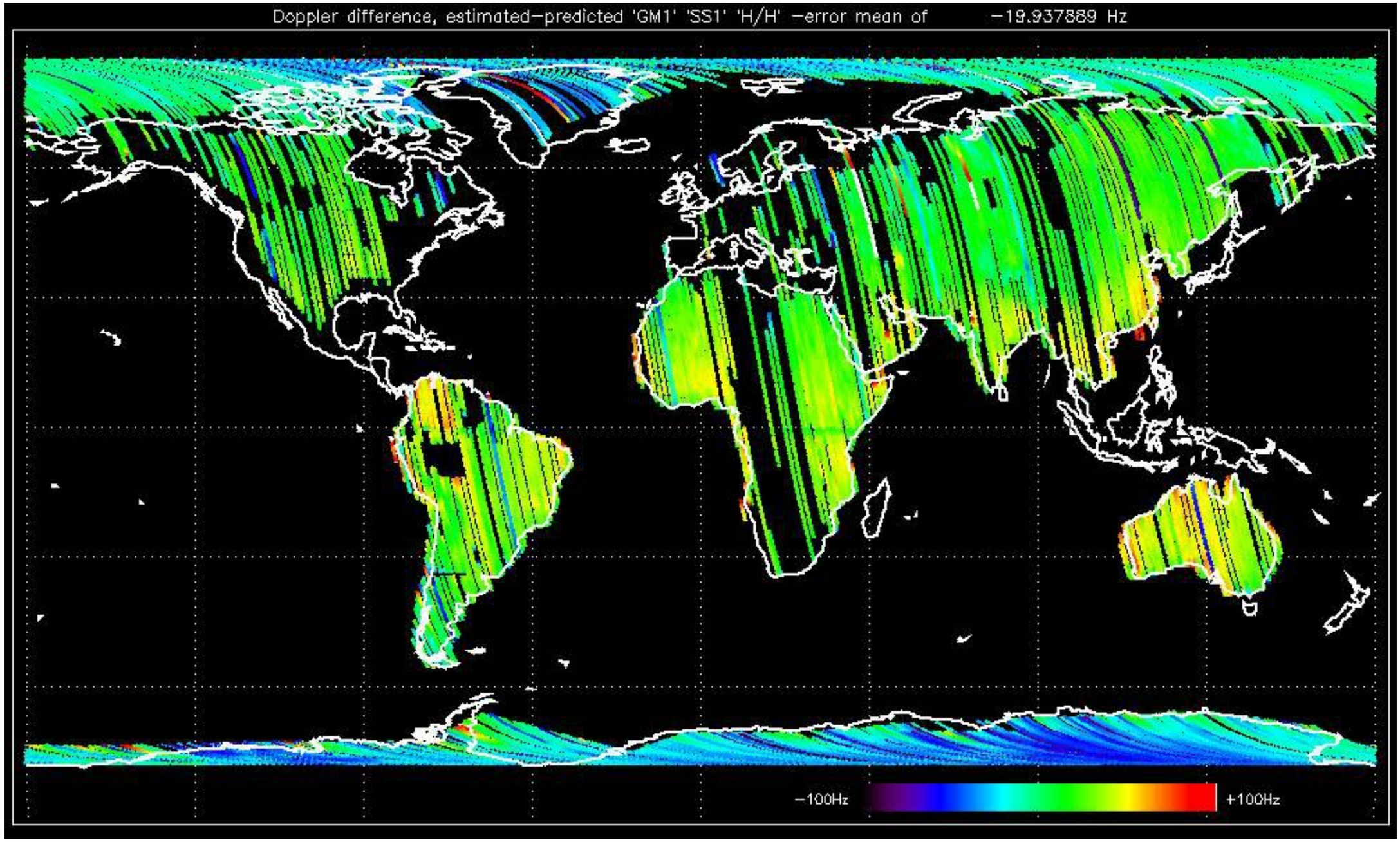

Doppler 'GM1' 'SS1' 'V/V'
−1000Hz
+1000Hz

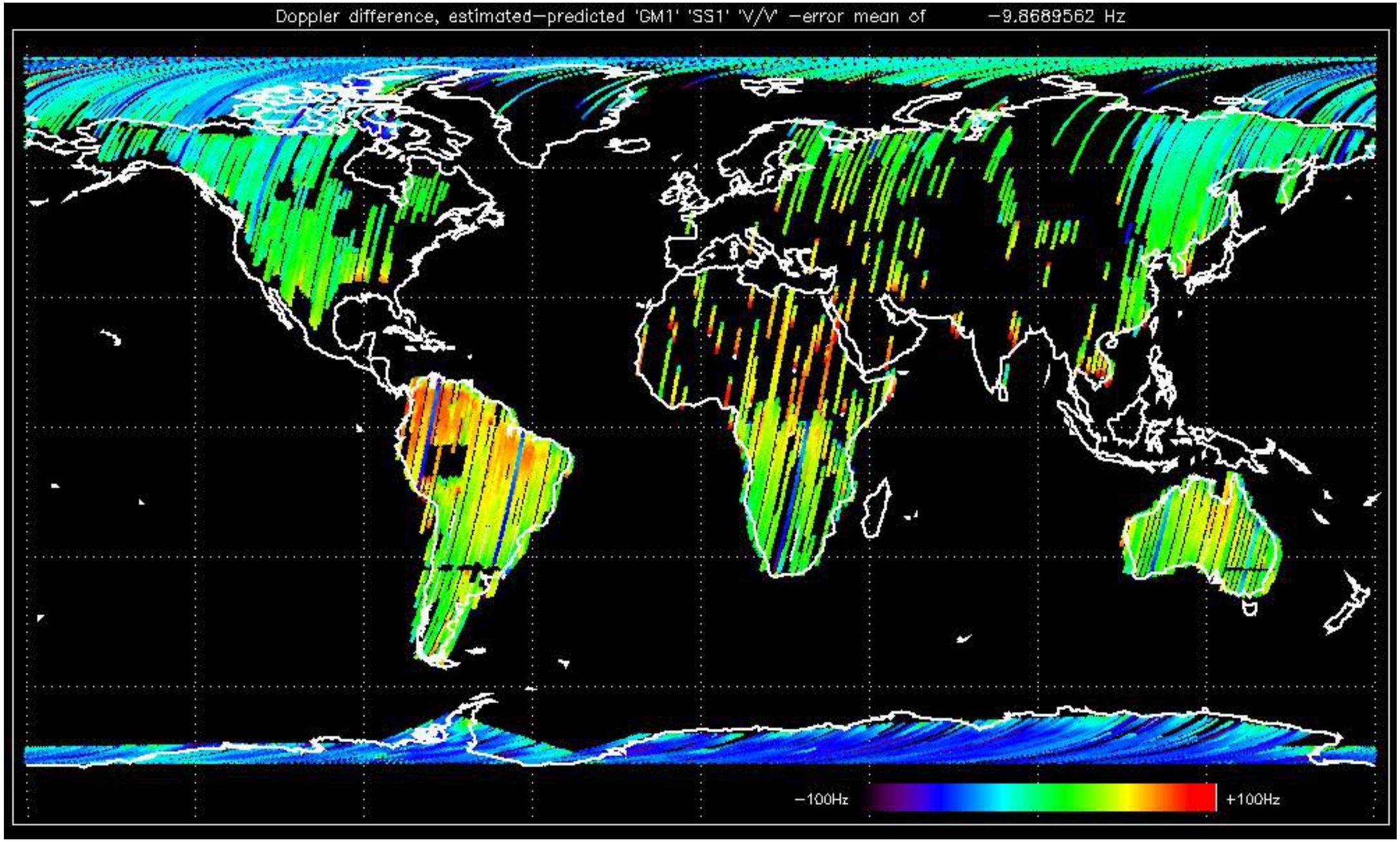

Doppler 'WVS' 'IS2' 'H/H'
−1000Hz
+1000Hz

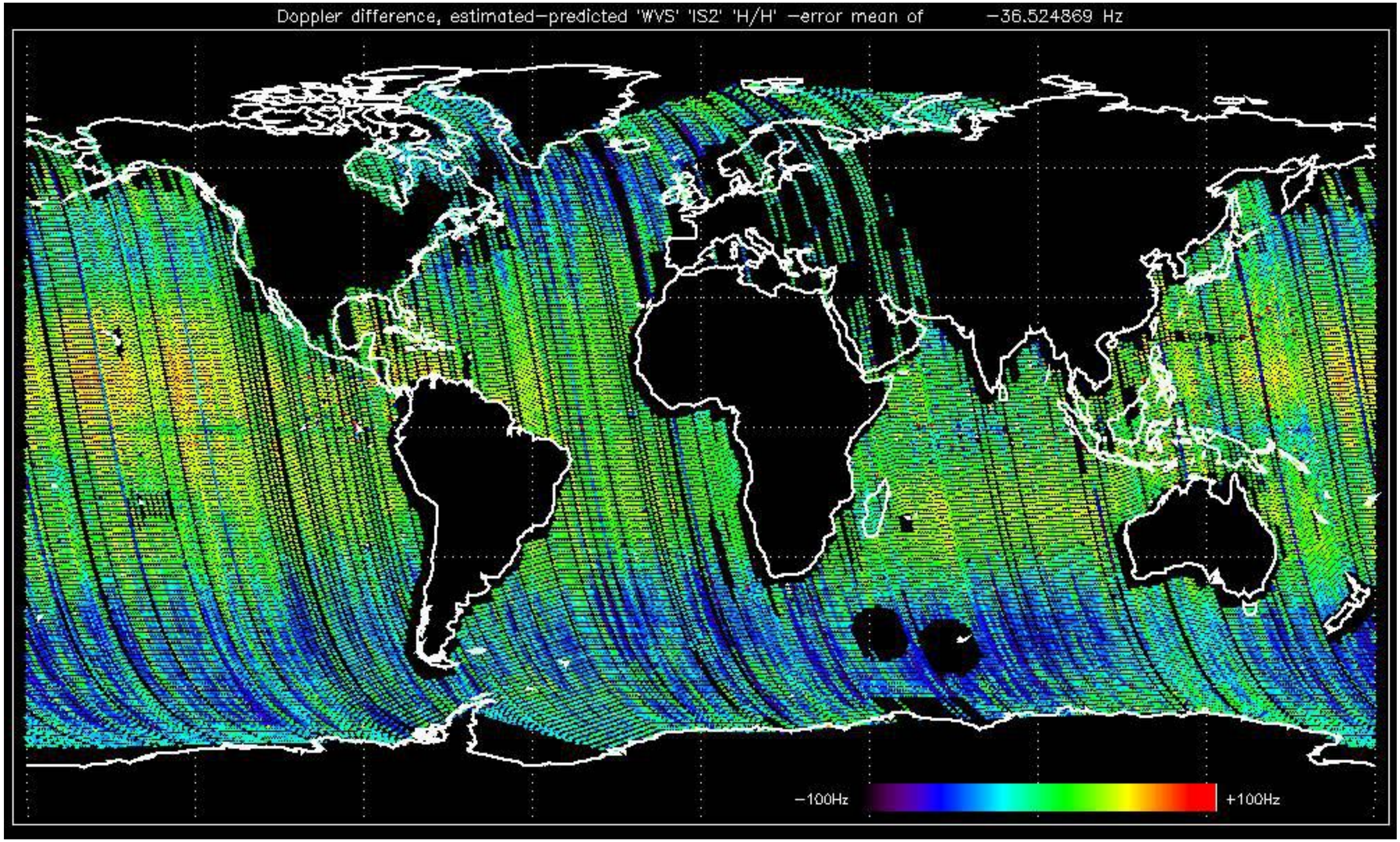

Doppler 'WVS' 'IS2' 'V/V'
−1000Hz
+1000Hz

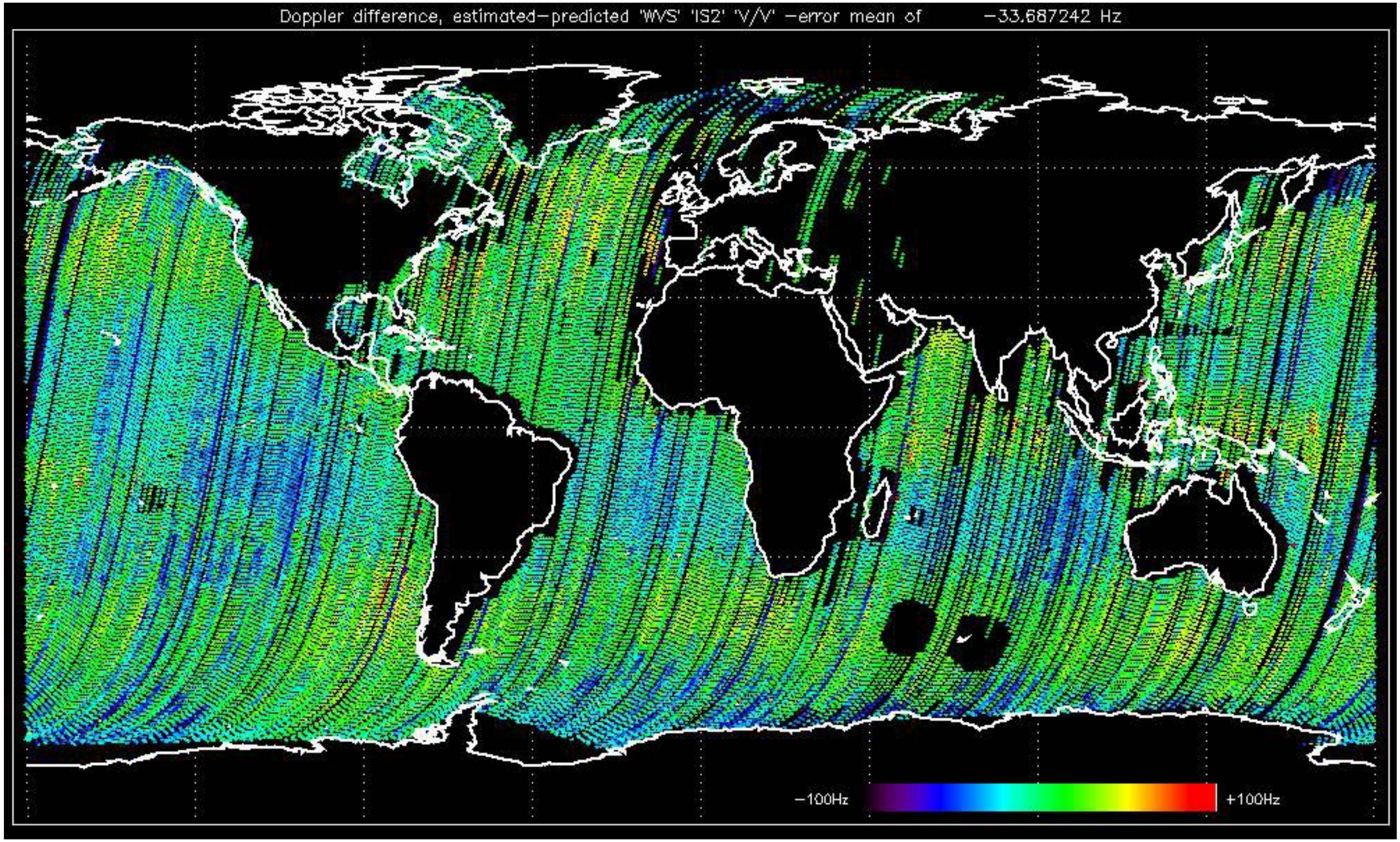

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
ANX time
doppler error (real−ref)
Doppler error [Hz]
100
50
0
−50
−100
−150
−200
5
10
15
20
time of day


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


Doppler difference, estimated−predicted 'GM1' 'SS1' 'H/H' −error mean of −19.937889 Hz
−100Hz
+100Hz

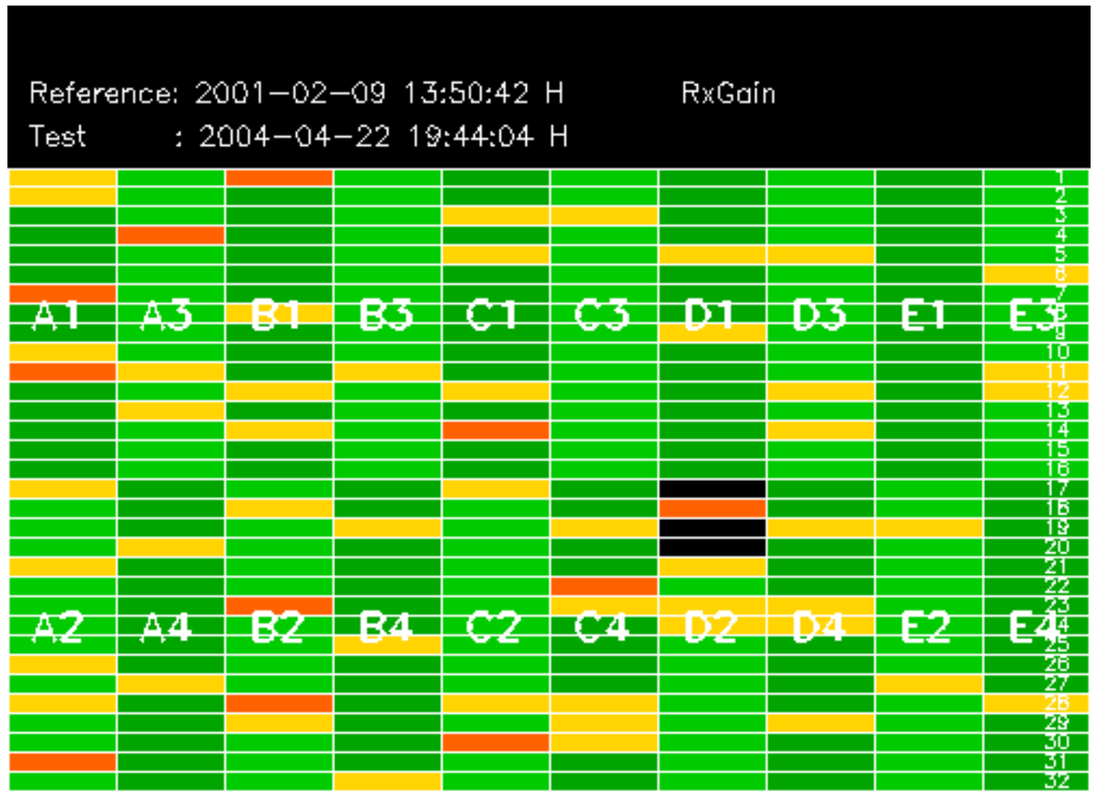

Doppler difference, estimated−predicted 'GM1' 'SS1' 'V/V' −error mean of −9.8689562 Hz
−100Hz
+100Hz

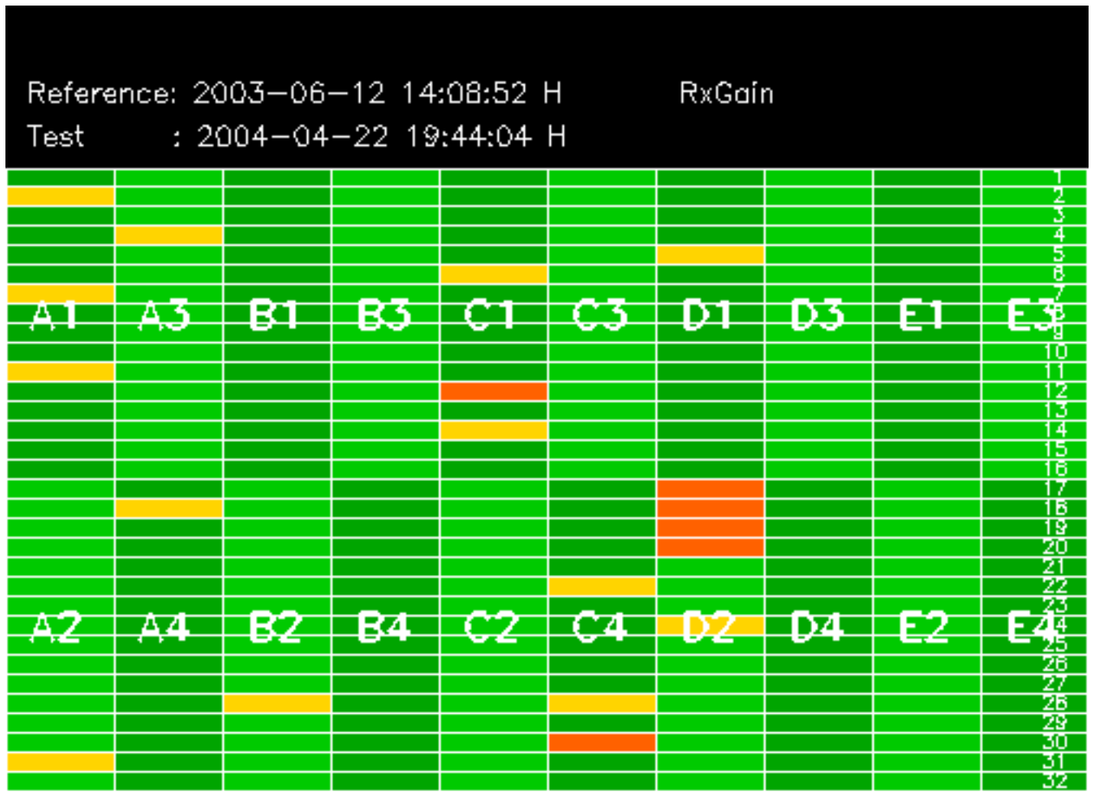

Doppler difference, estimated−predicted 'WVS' 'IS2' 'H/H' −error mean of −36.524869 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' 'V/V' −error mean of −33.687242 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 : 2004-04-22 19:44:04 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 : 2004-04-22 19:44:04 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
12
13
14
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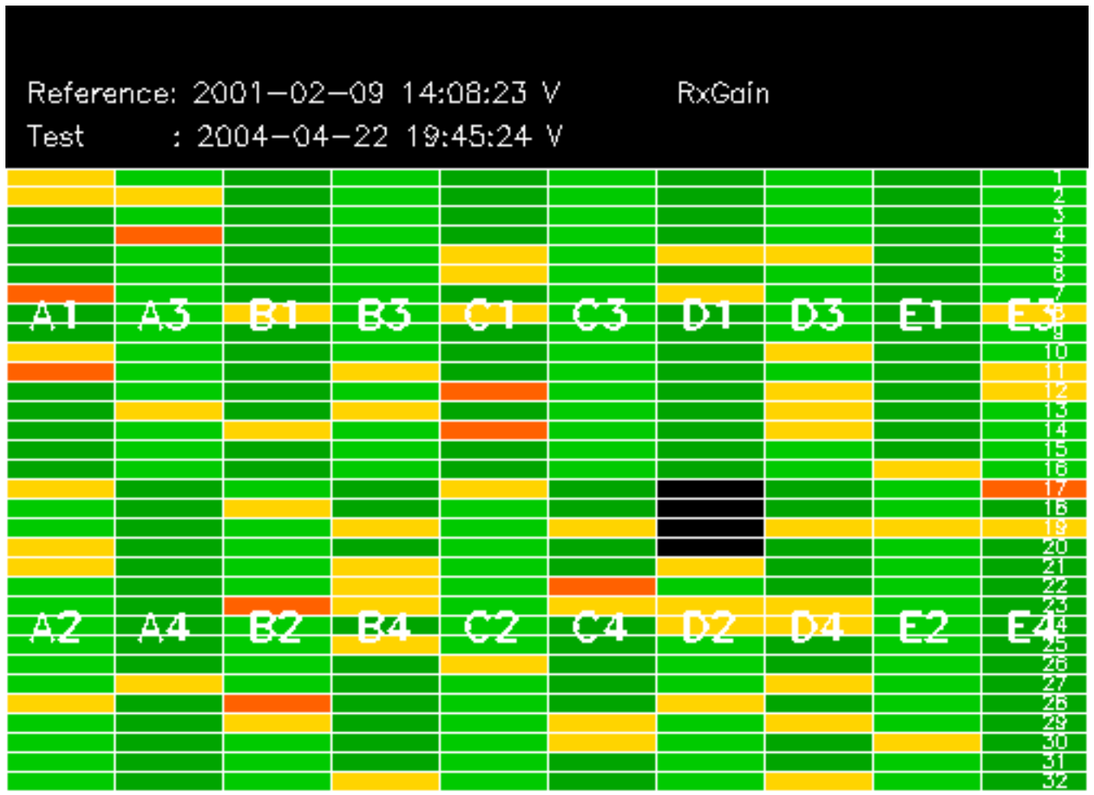
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2004-04-22 19:45:24 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
11
12
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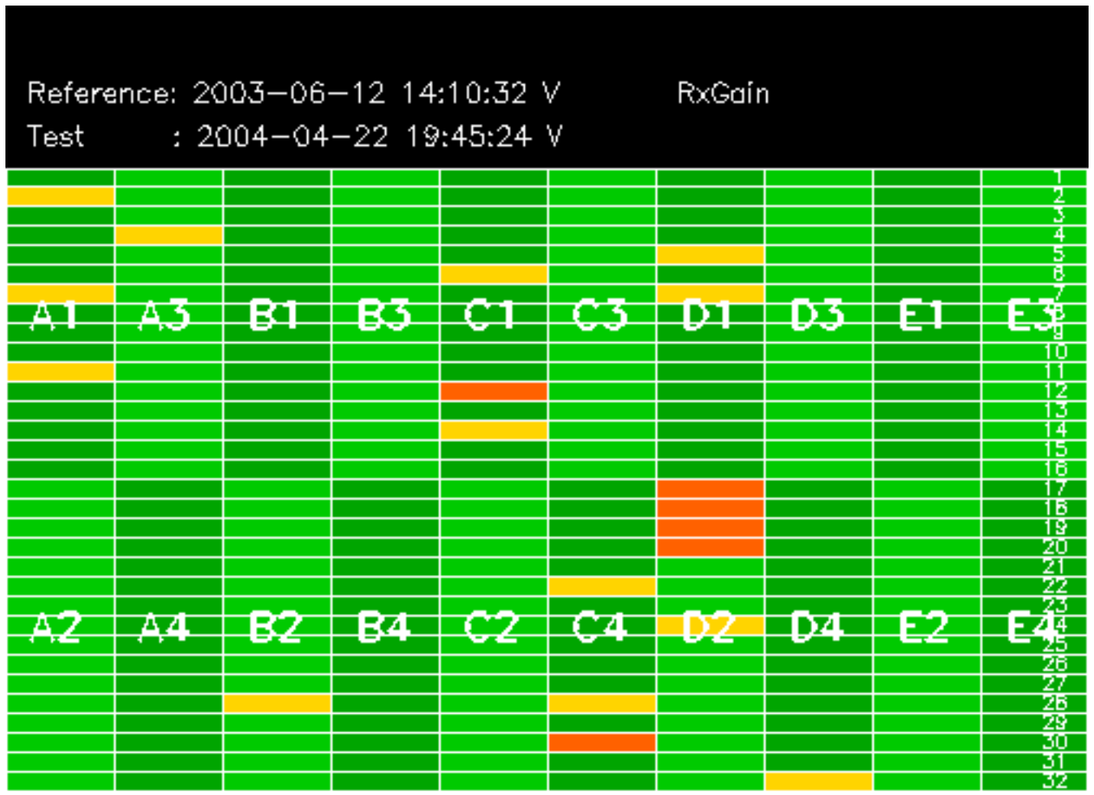
Reference: 2003-06-12 14:10:32 V
Test : 2004-04-22 19:45:24 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
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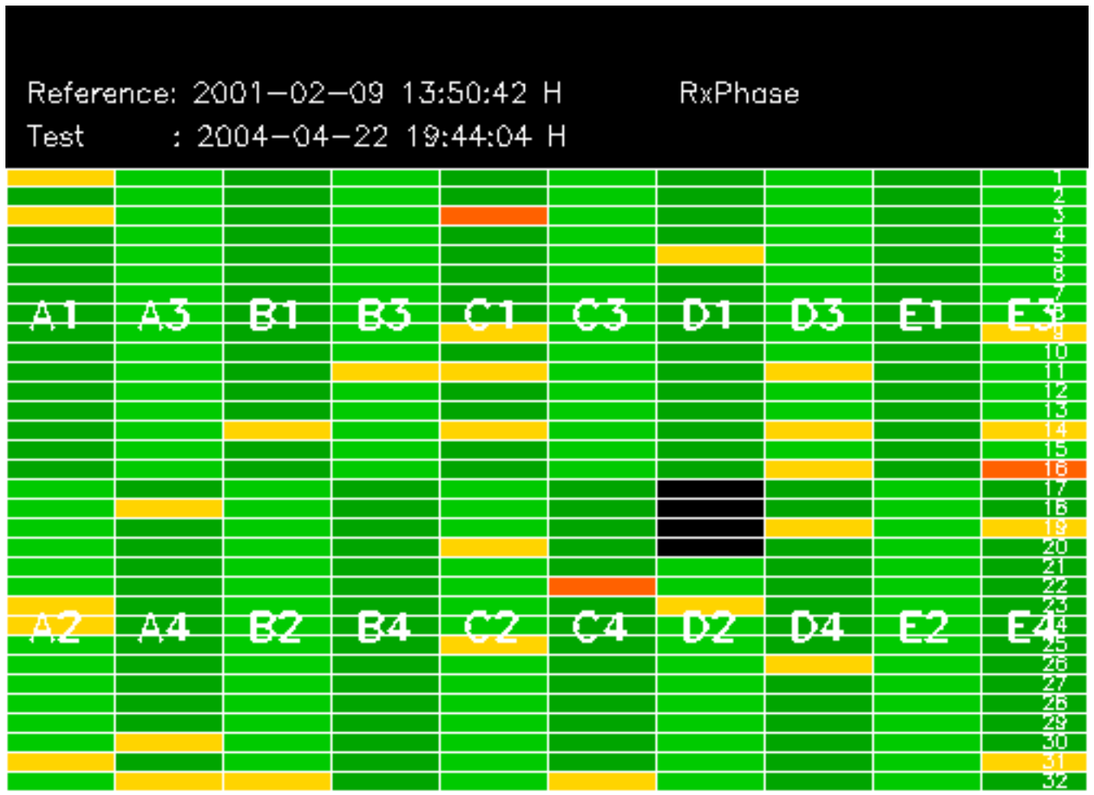
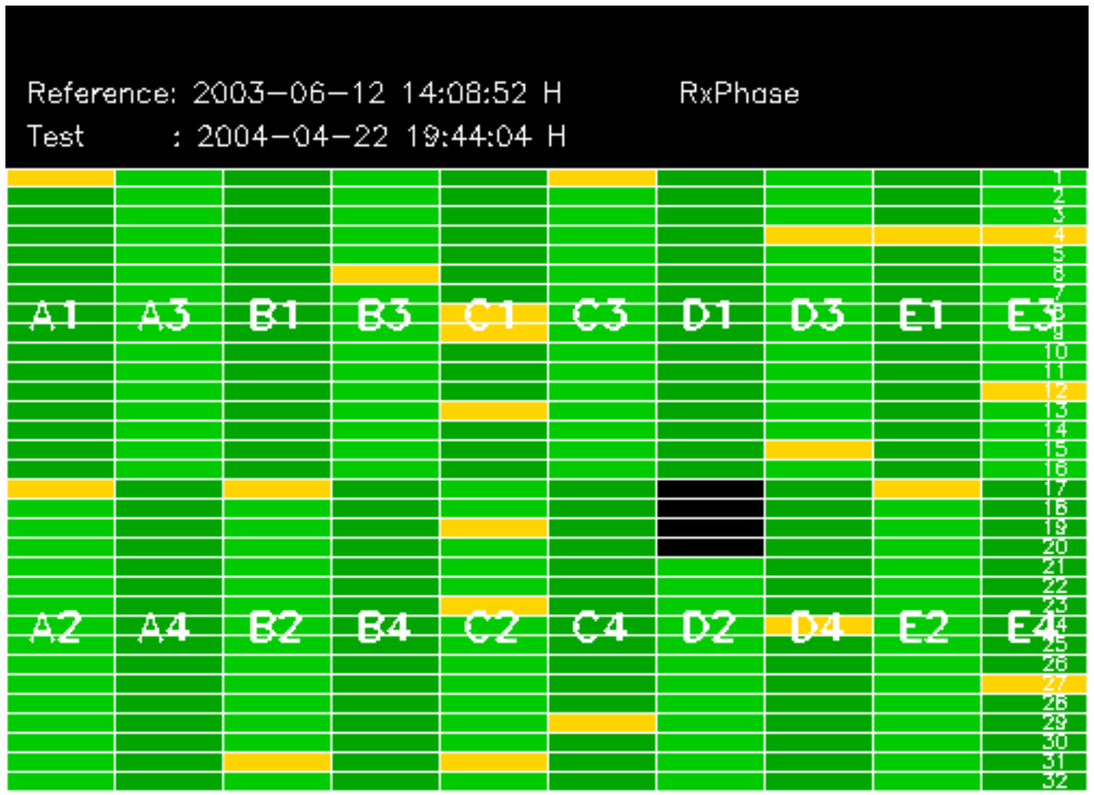
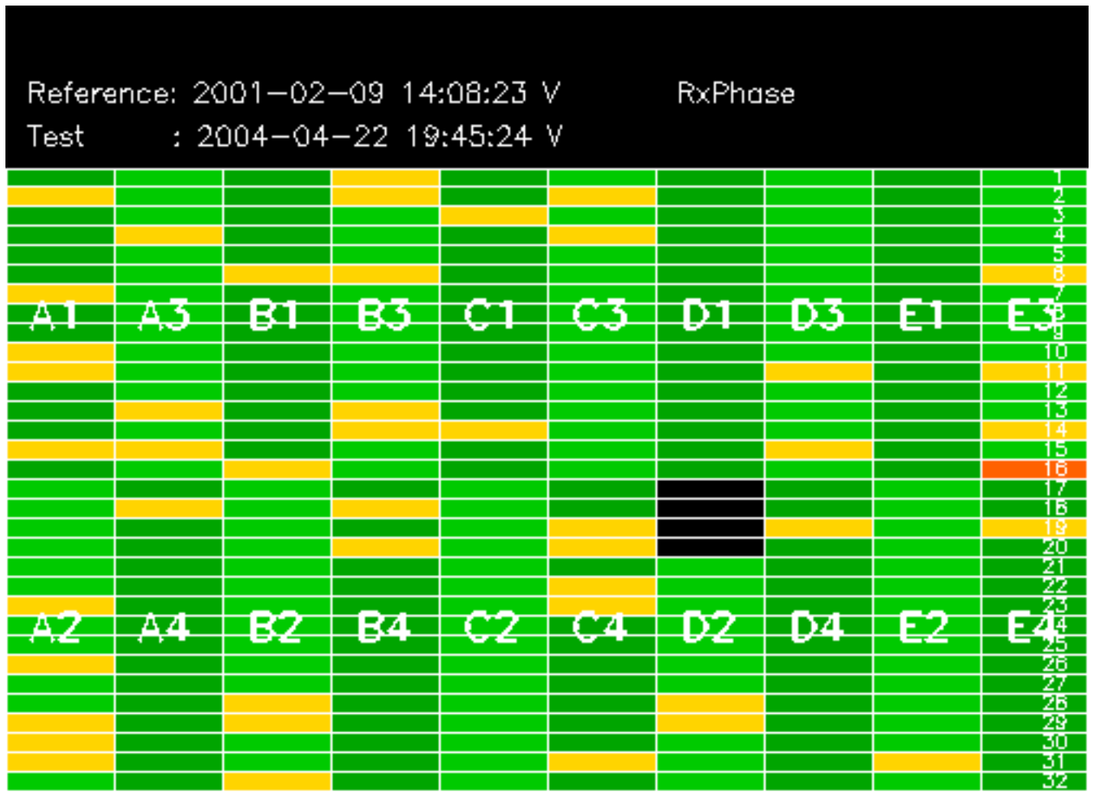
32


Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-04-22 19:44:04 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 : 2004-04-22 19:44:04 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 : 2004-04-22 19:45:24 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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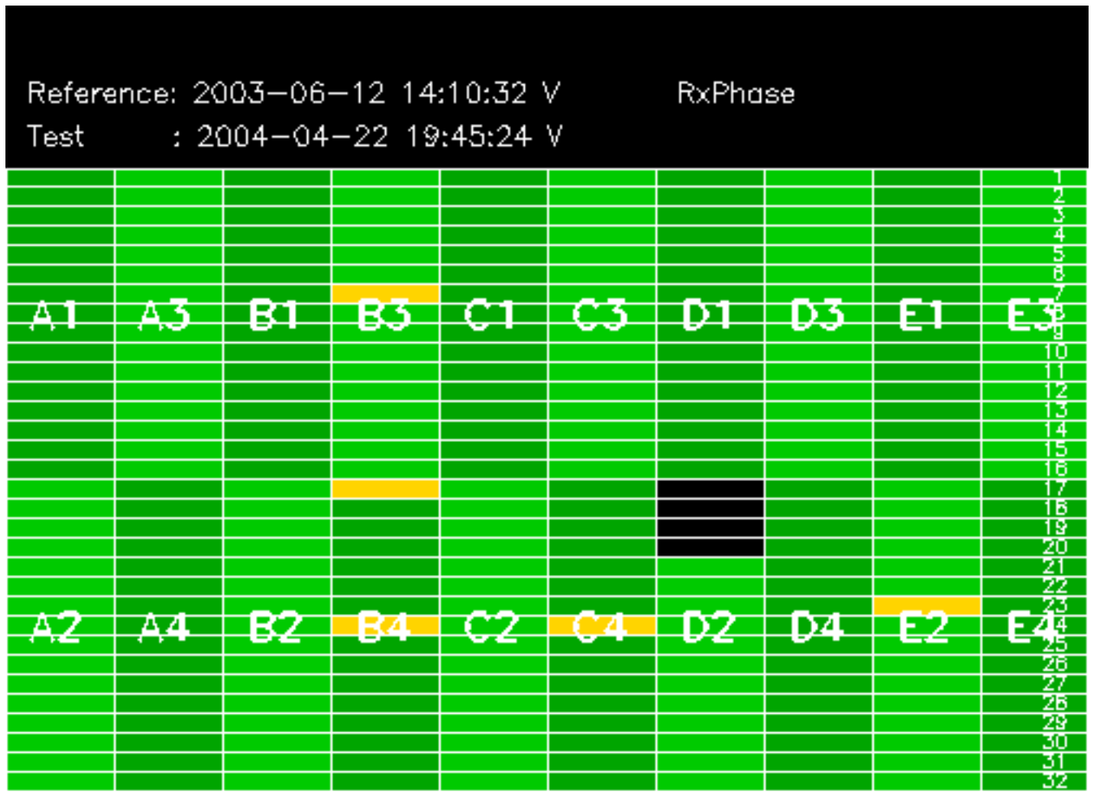
Reference: 2003-06-12 14:10:32 V
Test : 2004-04-22 19:45:24 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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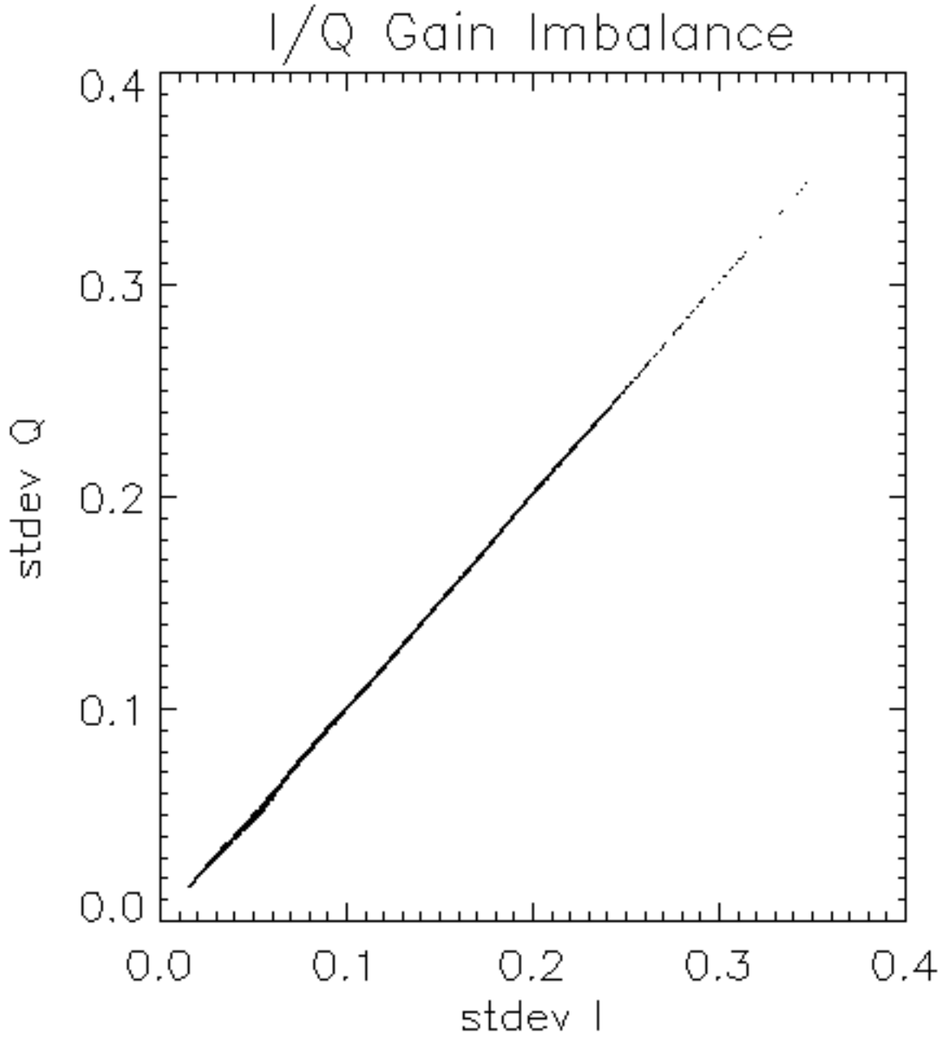
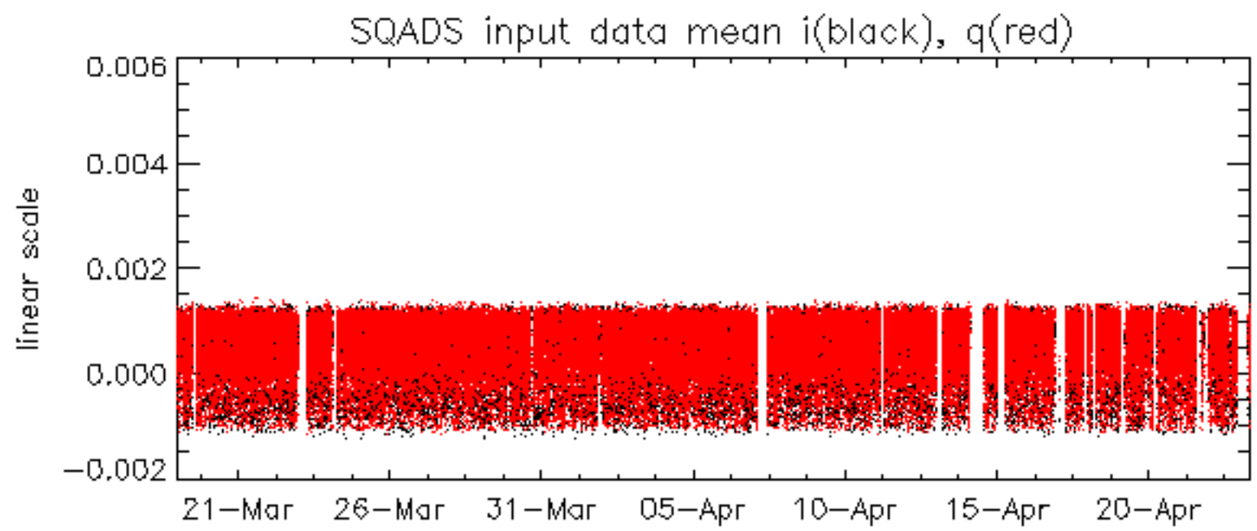
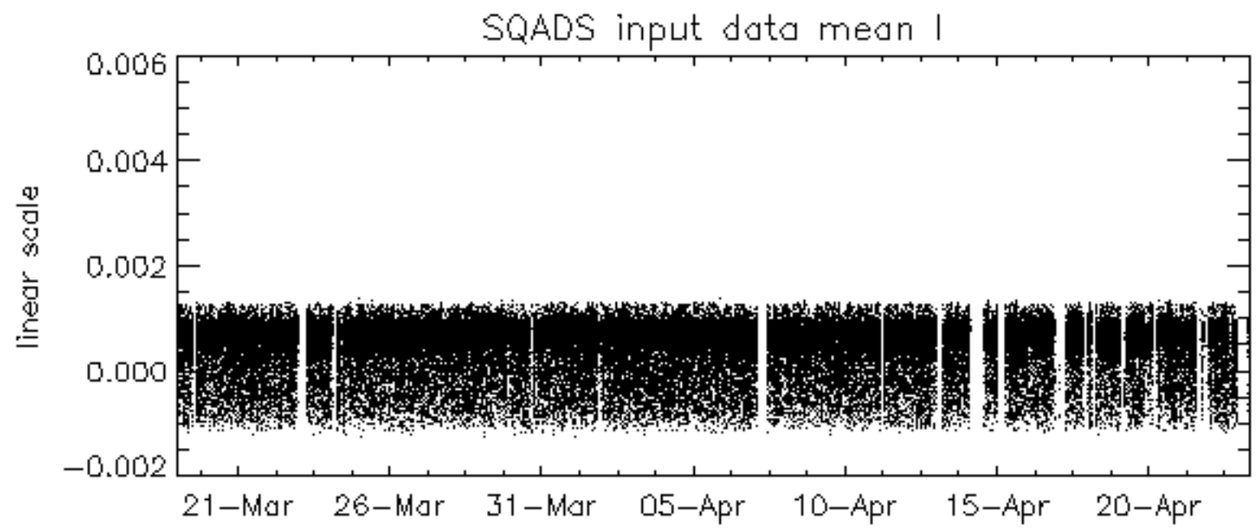
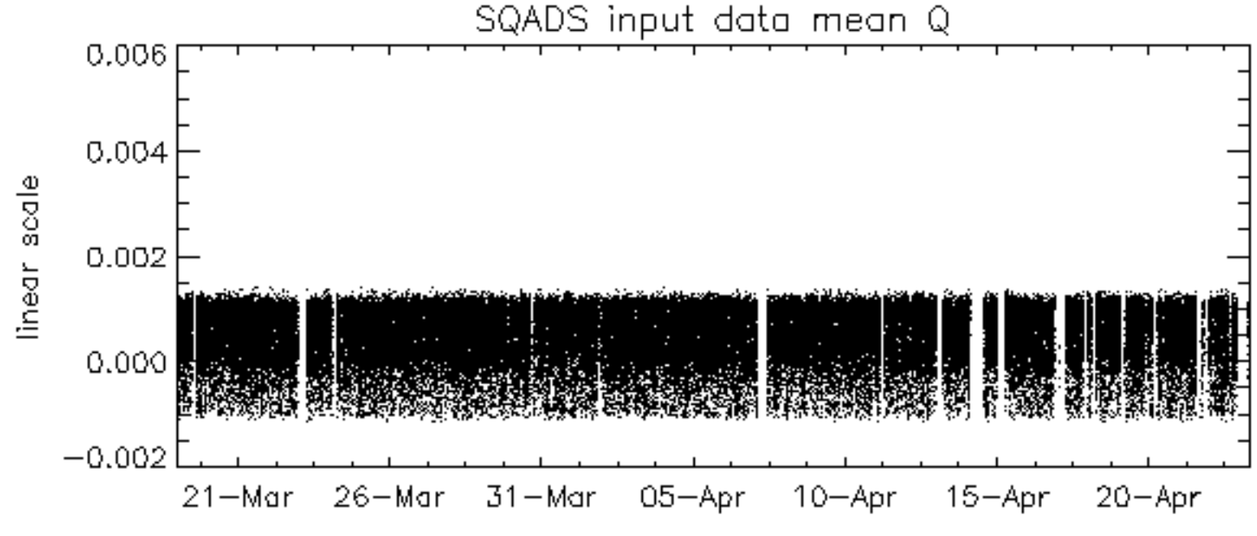

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I


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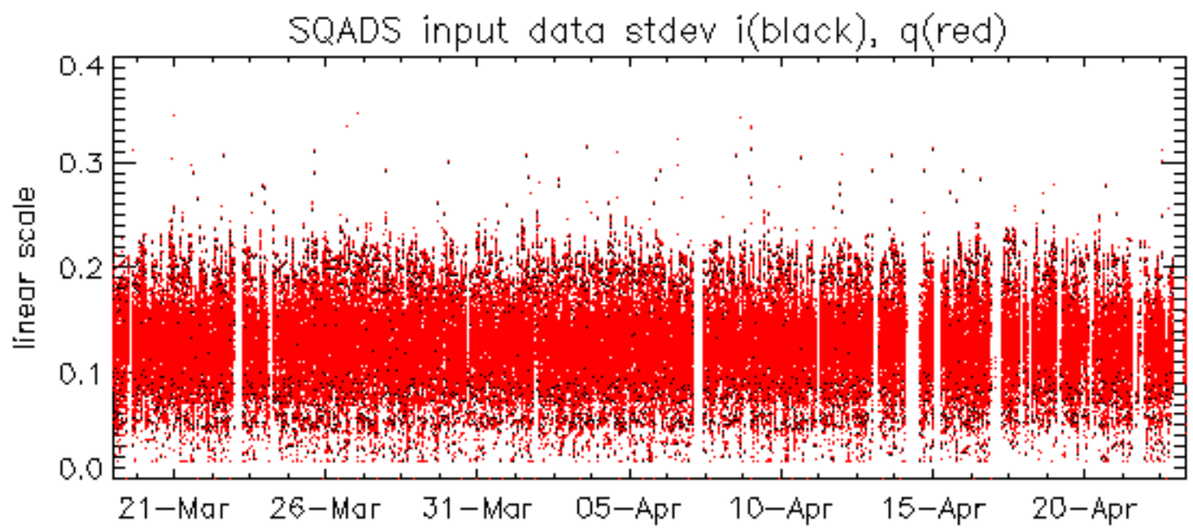
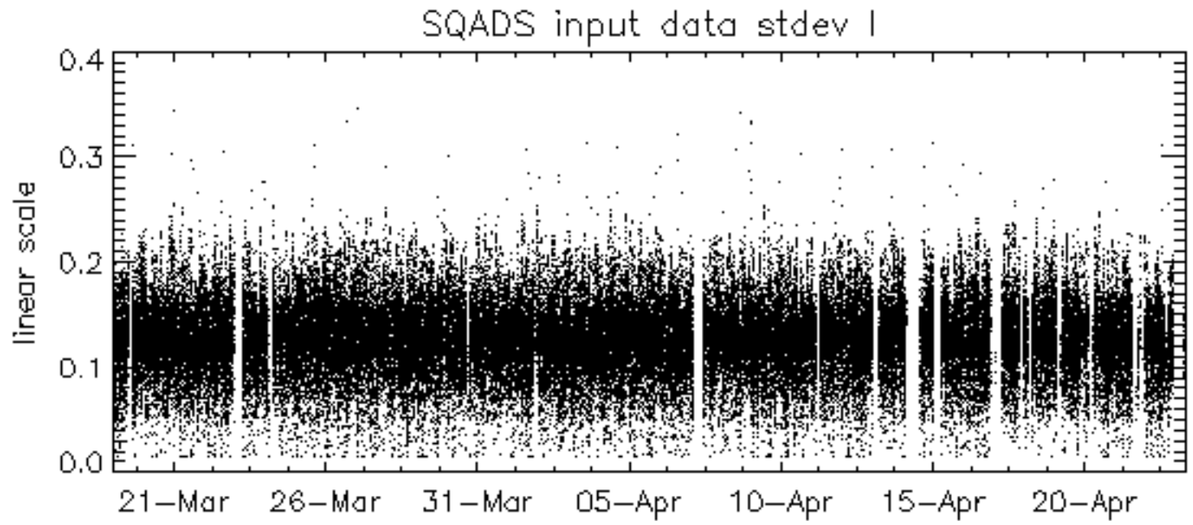
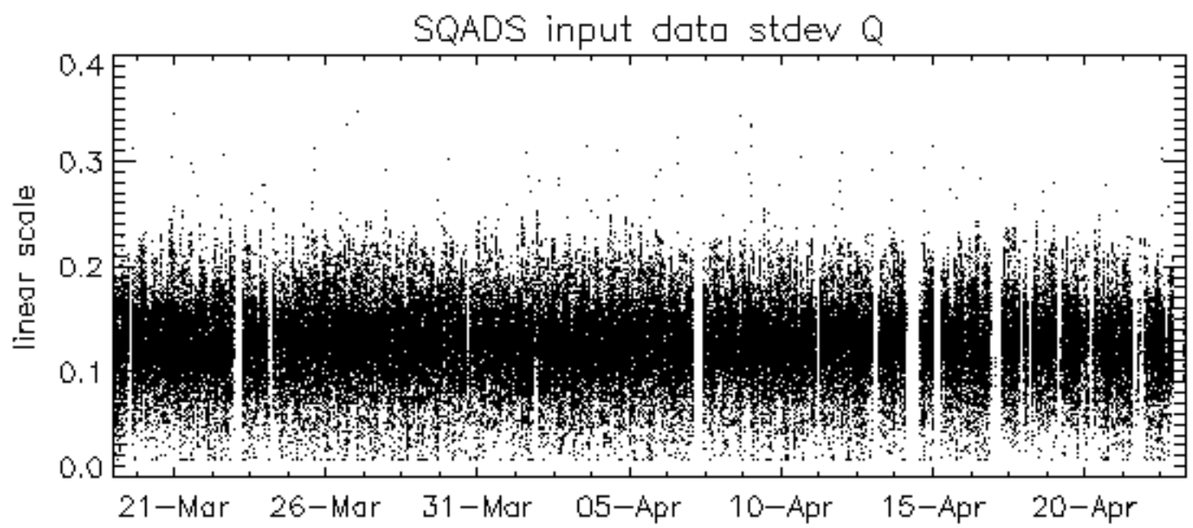
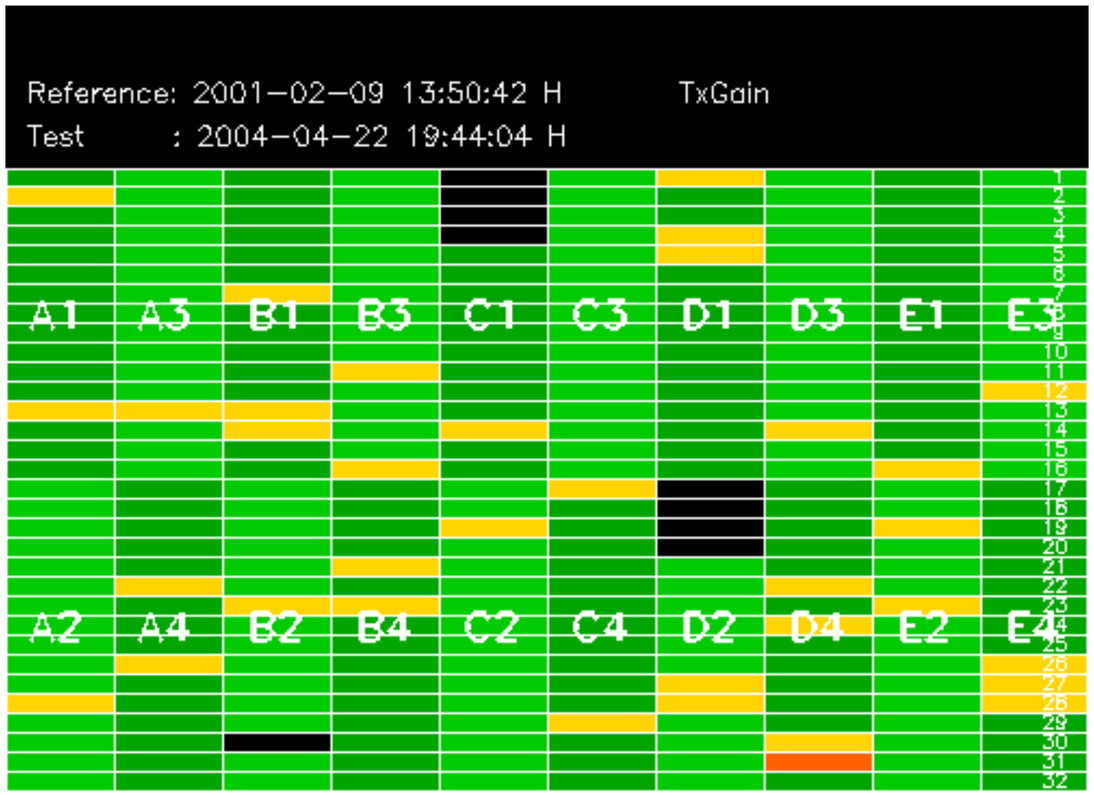
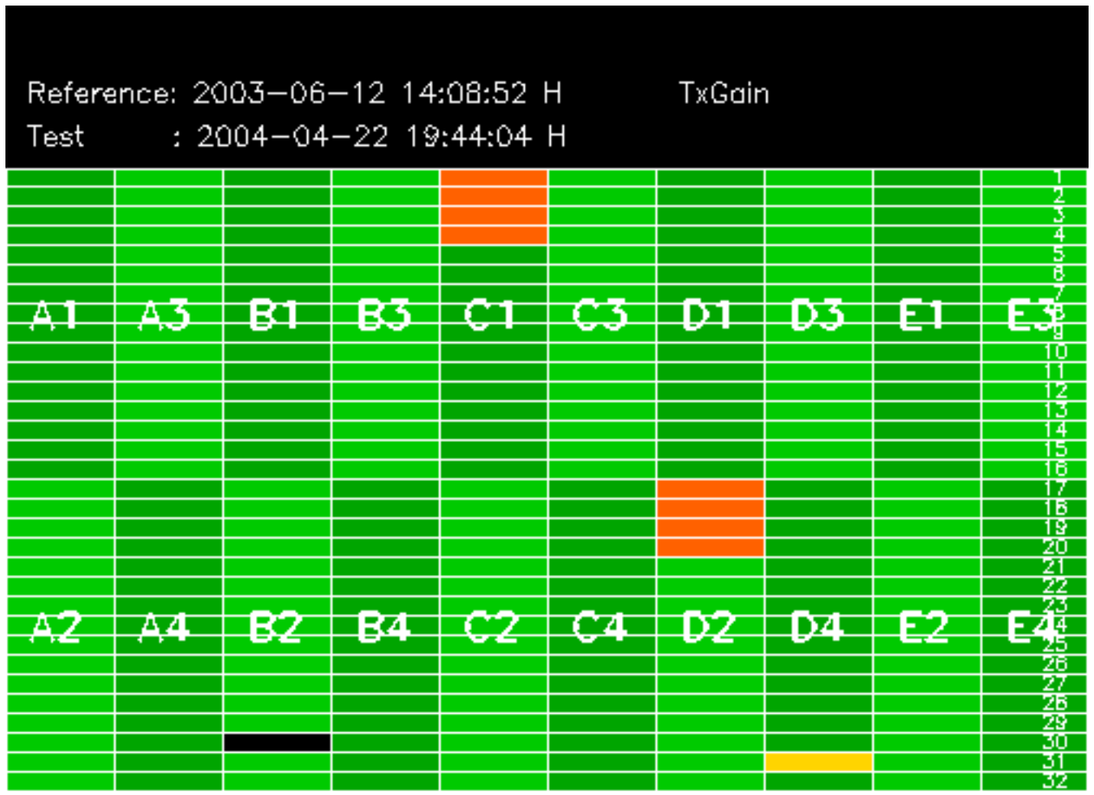

SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
21−Mar
26−Mar
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr


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 : 2004-04-22 19:44:04 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 : 2004-04-22 19:44:04 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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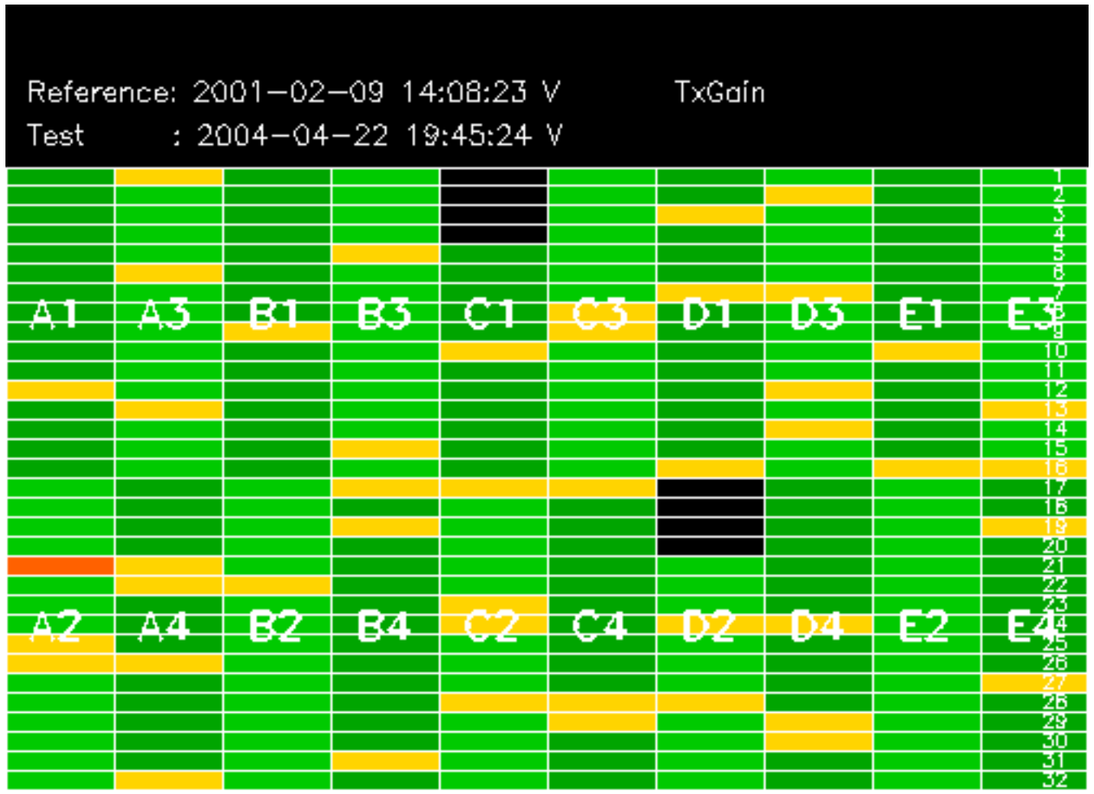
Reference: 2001-02-09 14:08:23 V
Test : 2004-04-22 19:45:24 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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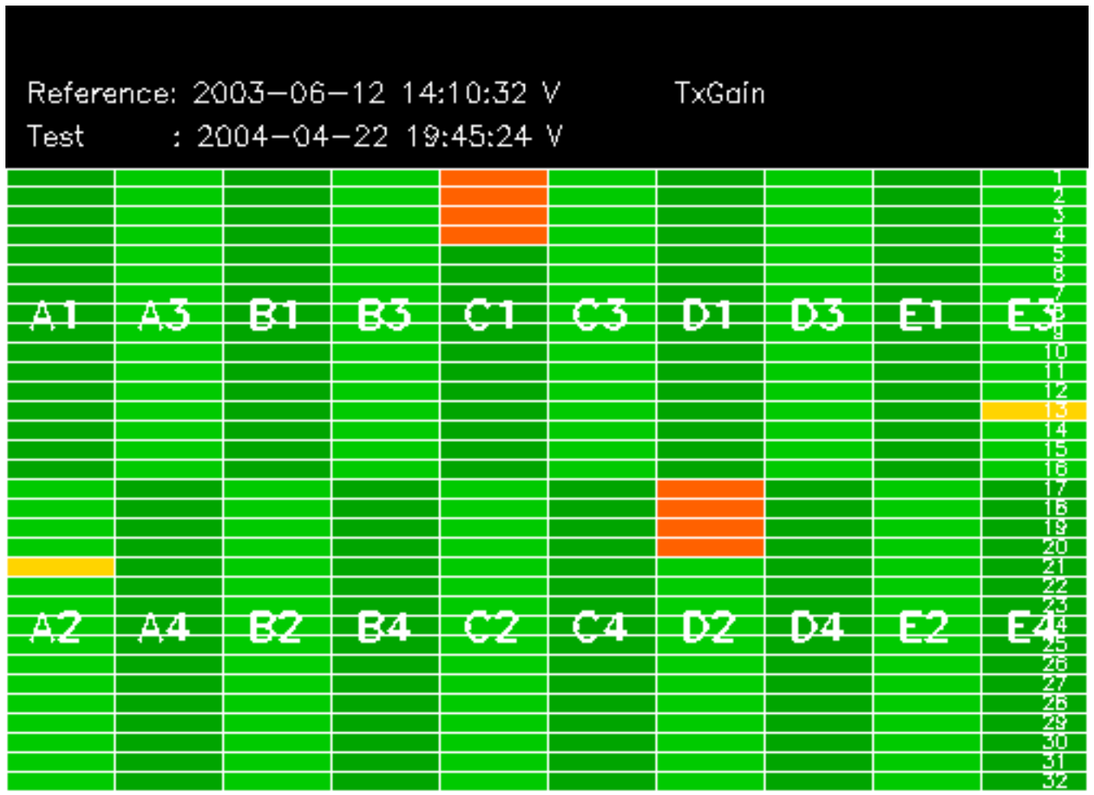
Reference: 2003-06-12 14:10:32 V
Test : 2004-04-22 19:45:24 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
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C4
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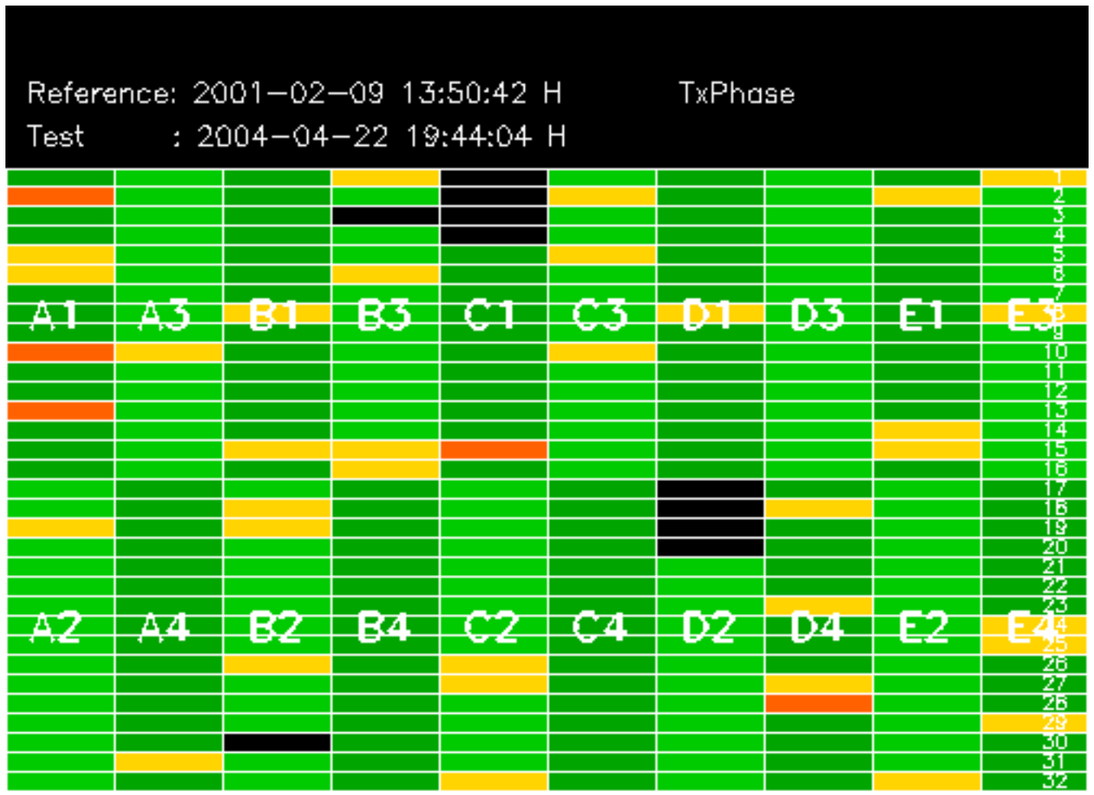
Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-04-22 19:44:04 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
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A2
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B4
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C4
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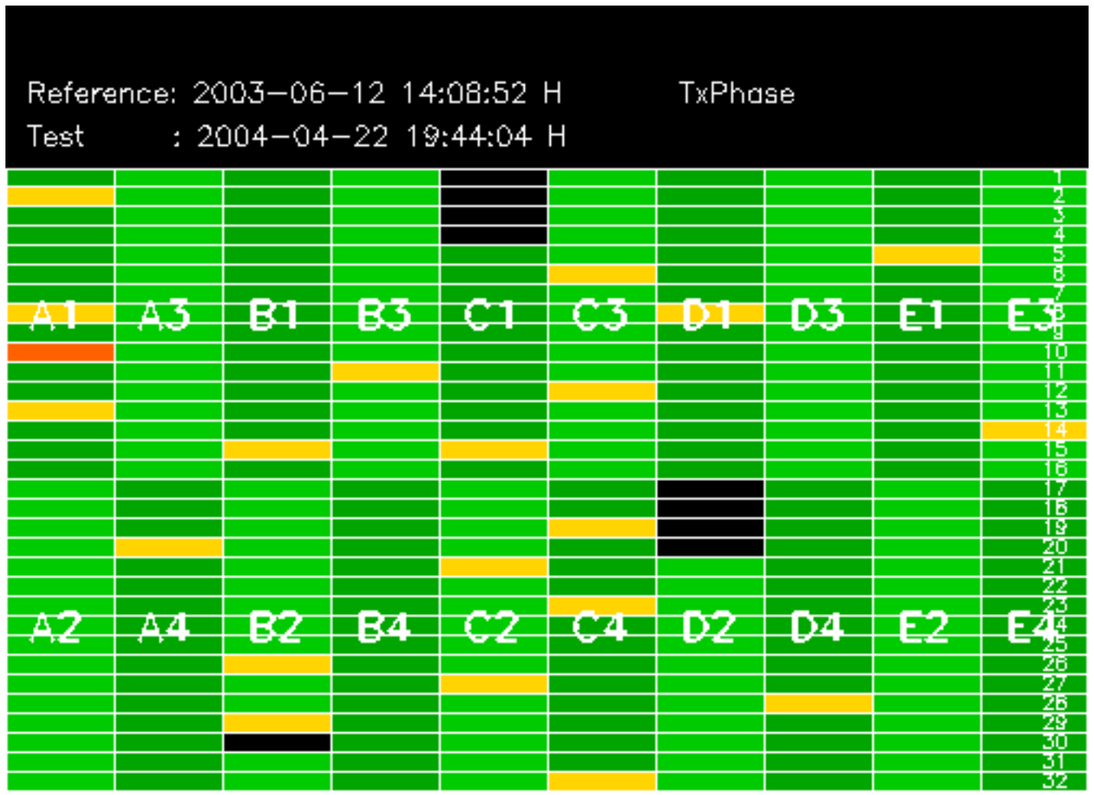
Reference: 2003-06-12 14:08:52 H
Test : 2004-04-22 19:44:04 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
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B4
C2
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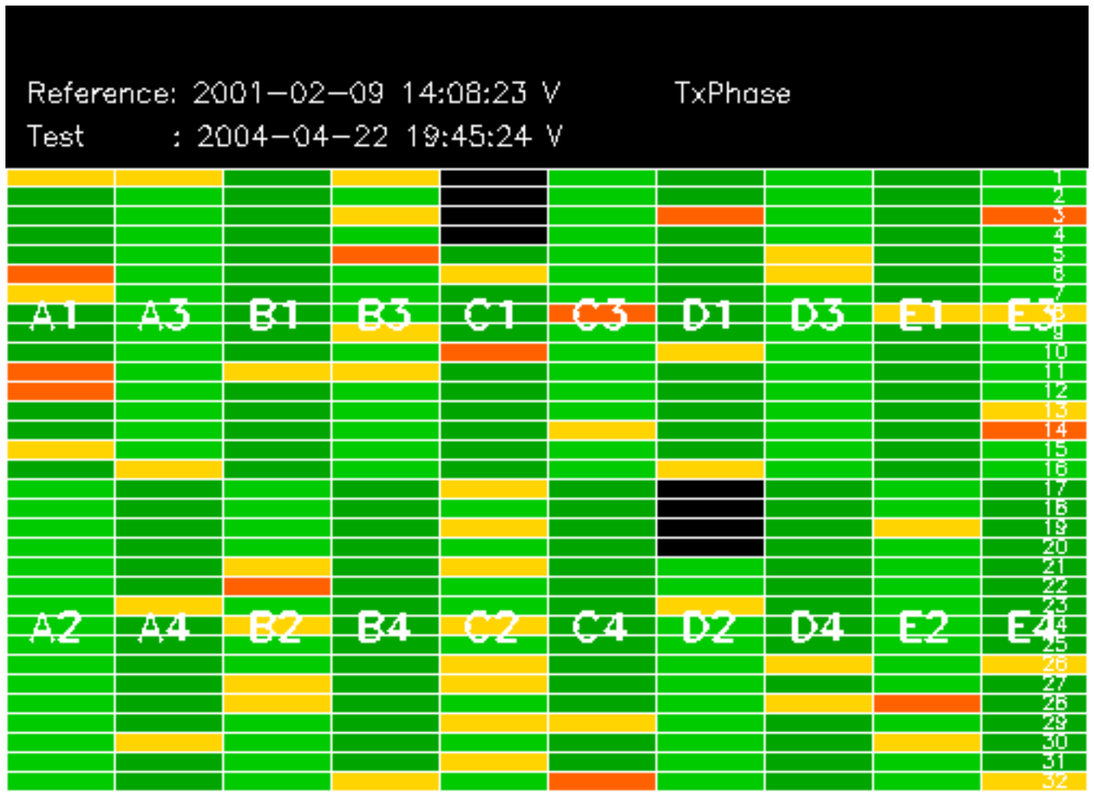
Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2004-04-22 19:45:24 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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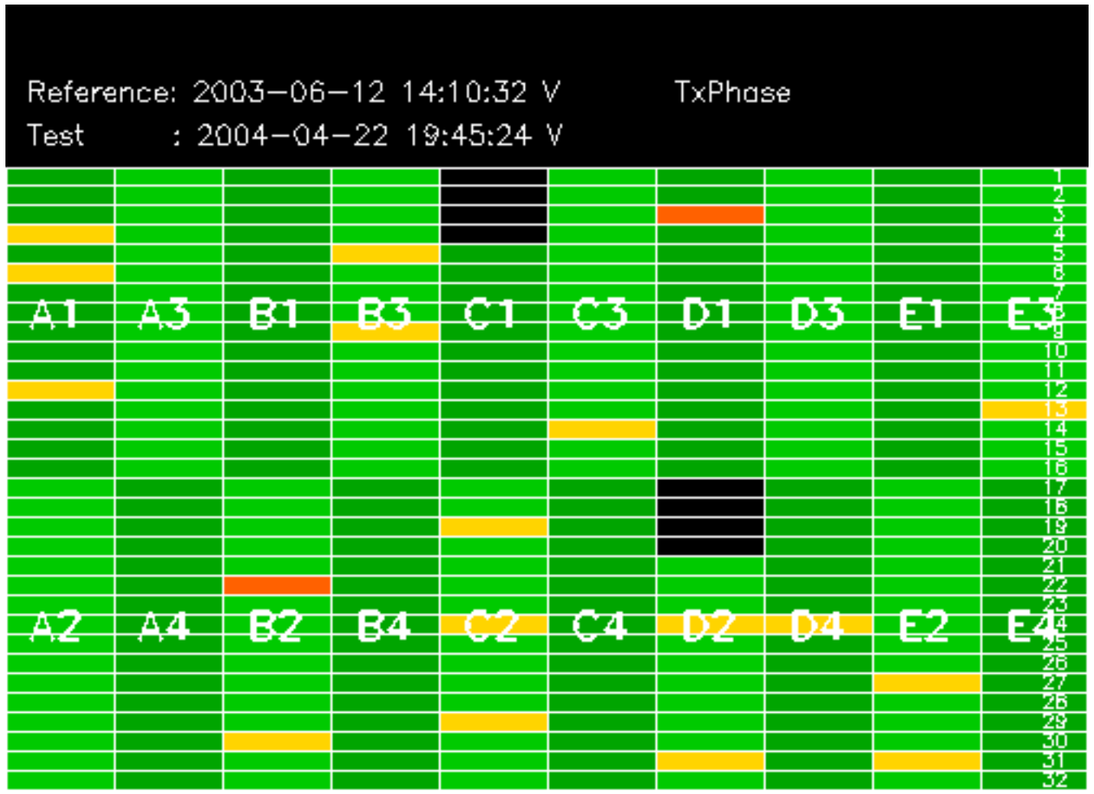
Reference: 2003-06-12 14:10:32 V
Test : 2004-04-22 19:45:24 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
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No unavailabilities during the reported period.