PRELIMINARY REPORT OF 040501

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

last update on Sat May 1 12:40:01 GMT 2004

1 - Introduction

This report is based on the analysis of wave mode level-1 cross spectra (ASA_WVS_1P), global monitoring products (ASA_GM1_1P), which are the available few hours after the acquisition, on the 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	20040430 185340
H	20040430 185220

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.

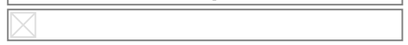
4.1 - Daily statistics

4.1.1 - Evolution for WVS

Evolution of cal pulses for WVS

4.1.2 - Evolution for GM1

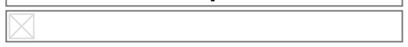
Evolution of cal pulses for GM1



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	-3.603816	0.076167	-0.157962
7	P1	-3.324746	0.056704	-0.127812
11	P1	-4.624204	0.025233	0.055149
15	P1	-4.970047	0.039659	0.071062
19	P1	-3.356839	0.005908	-0.033175
22	P1	-4.515461	0.014426	0.019116
24	P1	-5.014027	0.014913	0.080929
28	P1	-4.594079	0.013648	0.005086

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.400700	0.080528	-0.011154

7	P2	-22.875078	0.114874	-0.006458
11	P2	-15.873233	0.134228	0.164462
15	P2	-7.159148	0.089973	-0.000767
19	P2	-9.515286	0.143224	0.010157
22	P2	-17.646719	0.095643	0.060724
24	P2	-20.978416	0.101967	0.057960
28	P2	-16.604319	0.081769	0.008329

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.132137	0.003122	-0.006973
7	P3	-8.132135	0.003122	-0.006983
11	P3	-8.132133	0.003122	-0.007002
15	P3	-8.132127	0.003122	-0.007017
19	P3	-8.132121	0.003121	-0.007027
22	P3	-8.132115	0.003121	-0.007045
24	P3	-8.132116	0.003121	-0.007055
28	P3	-8.132080	0.003120	-0.007085

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	-3.255007	0.324043	-0.275424
7	P1	-2.886606	0.271454	-0.211952
11	P1	-3.815930	0.020705	-0.010264
15	P1	-4.035117	0.352203	0.010465
19	P1	-3.245108	0.061665	-0.044045
22	P1	-5.810004	0.042023	0.030843
24	P1	-4.050129	0.091031	-0.045117
28	P1	-2.853879	0.070684	-0.119213

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.104664	0.039677	-0.061226
7	P2	-22.997280	0.027140	0.055330
11	P2	-11.051948	0.181809	-0.008560
15	P2	-4.914771	0.025913	-0.062671
19	P2	-6.816581	0.029142	-0.094390
22	P2	-7.700434	0.027912	-0.007368
24	P2	-11.007129	0.050739	-0.045148
28	P2	-19.019428	0.027524	-0.018982

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.966639	0.003469	-0.008802
7	P3	-7.966645	0.003467	-0.008793
11	P3	-7.966609	0.003463	-0.008589
15	P3	-7.966514	0.003481	-0.008865
19	P3	-7.966608	0.003470	-0.008956
22	P3	-7.966761	0.003461	-0.009011
24	P3	-7.966500	0.003484	-0.008741
28	P3	-7.966490	0.003481	-0.008812

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	0.000481572
	stdev	2.35085e-07
MEAN Q	mean	0.000490701
	stdev	2.69089e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127715
	stdev	0.00115666
STDEV Q	mean	0.127966
	stdev	0.00116981

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

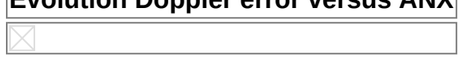
Evolution of Absolute Doppler

Acsending

Descending

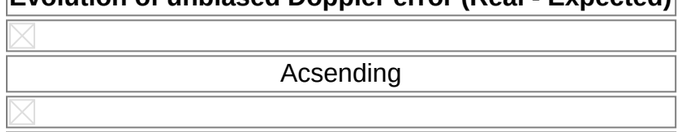
6.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX

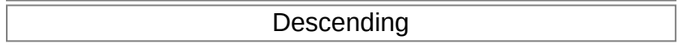


6.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)



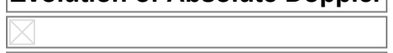
Acsending



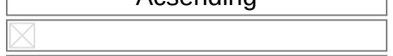
Descending

6.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler



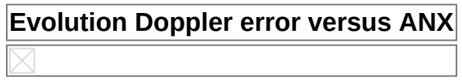
Acsending

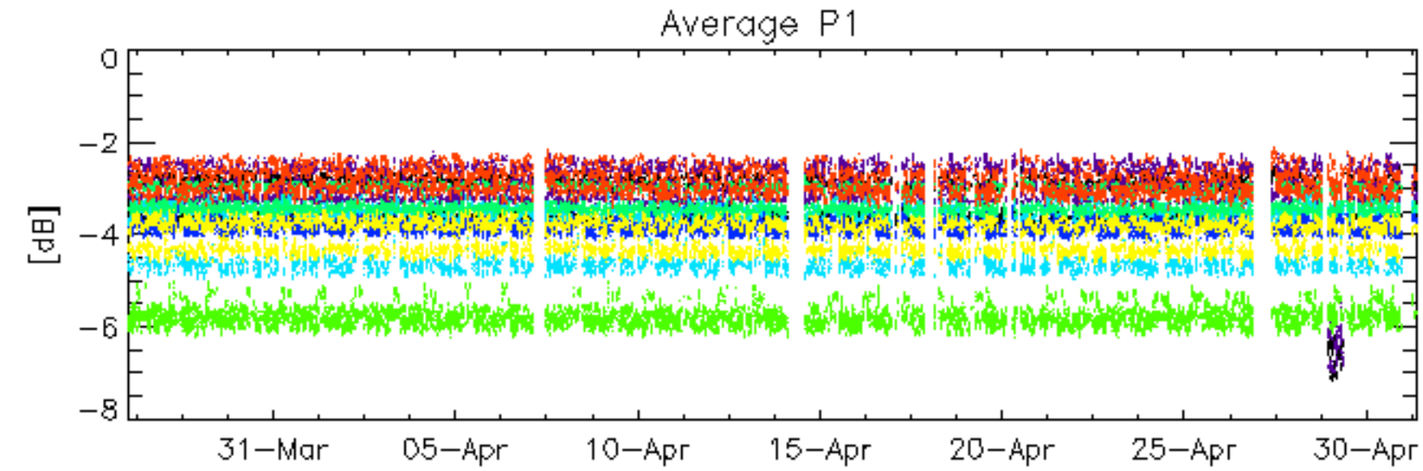


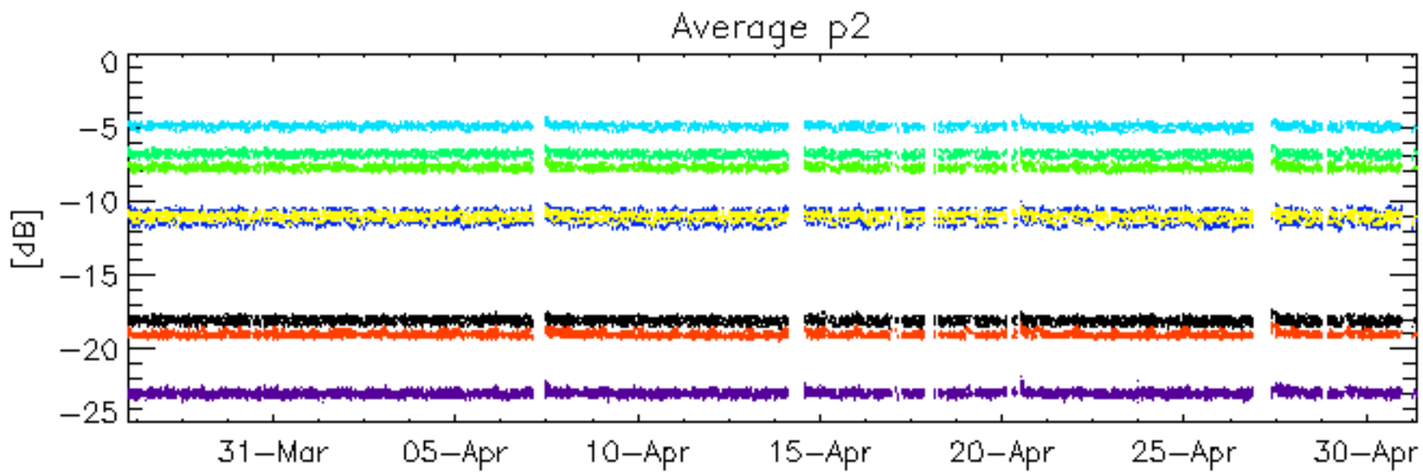
Descending

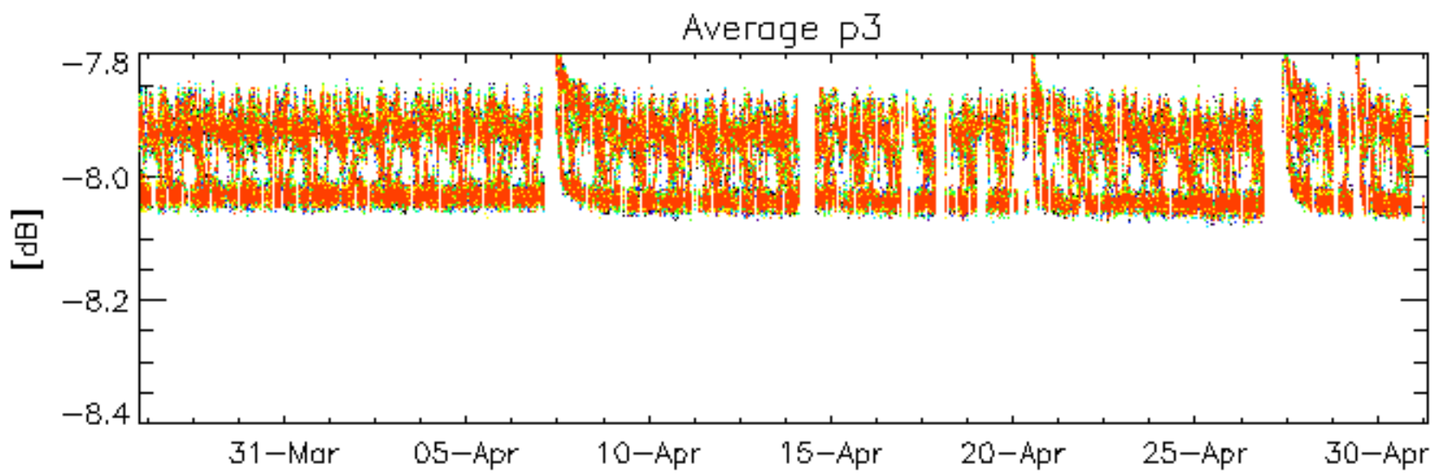
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

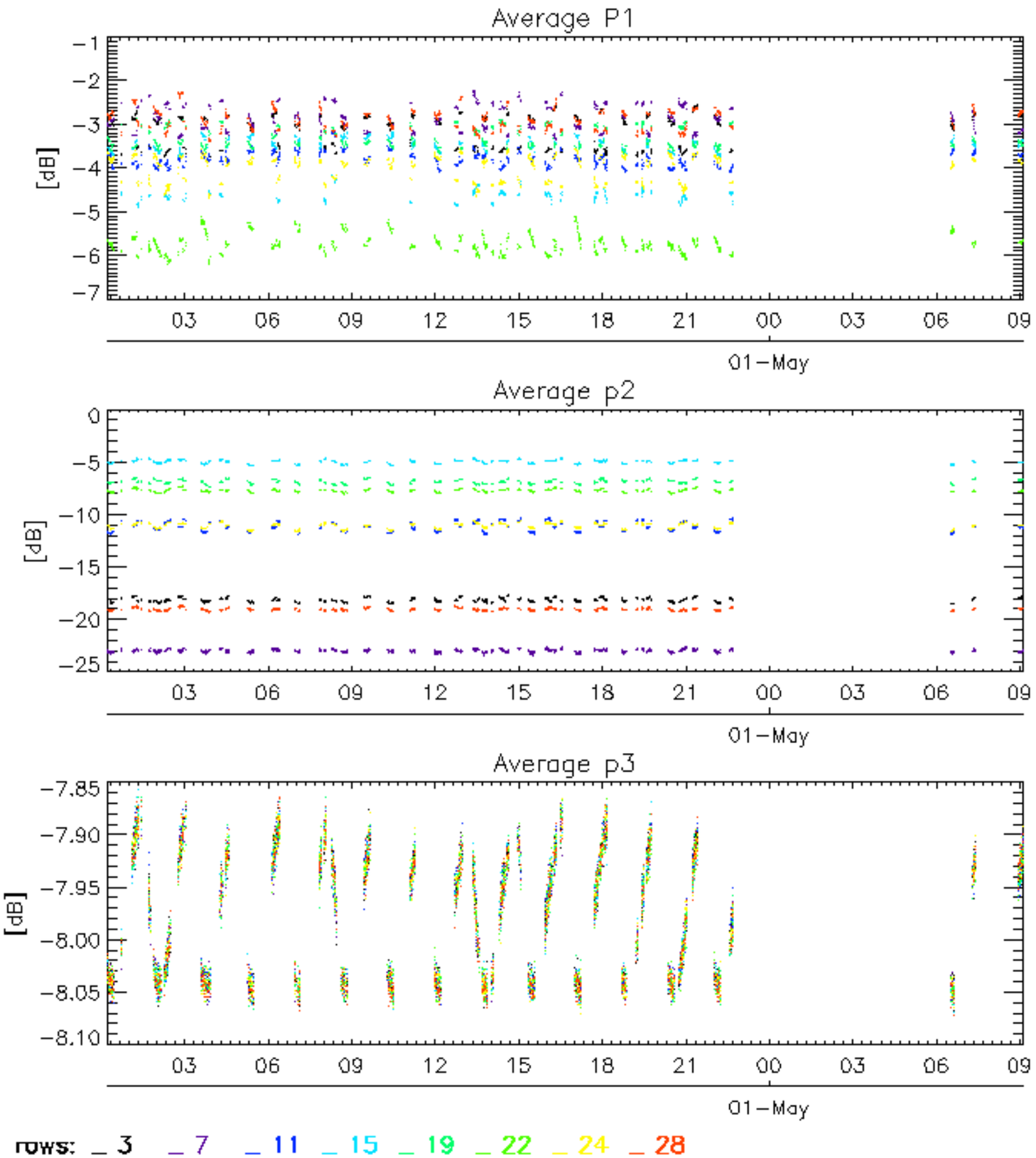


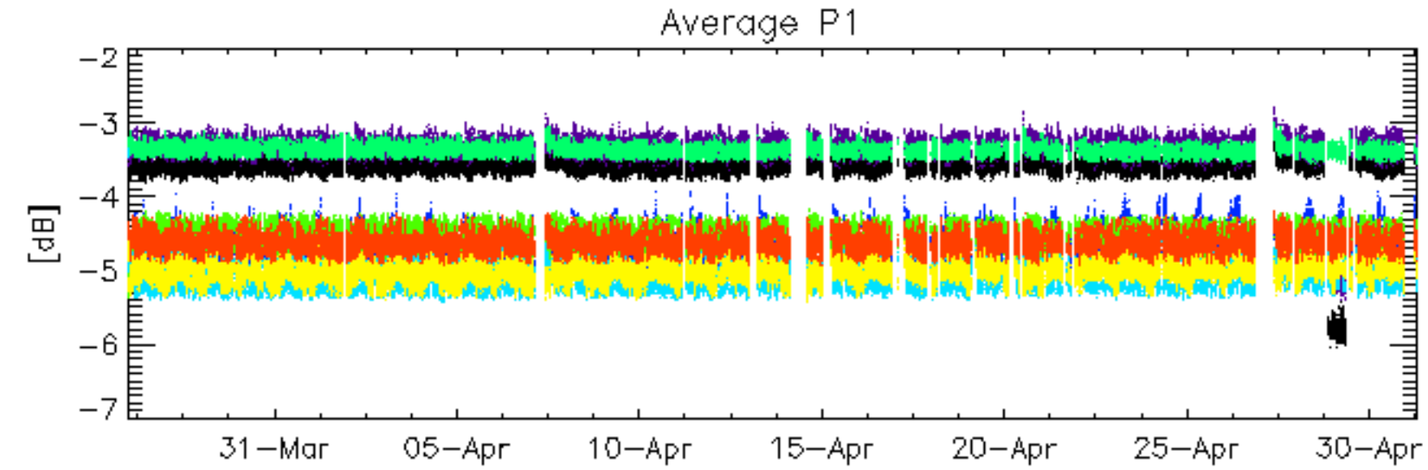


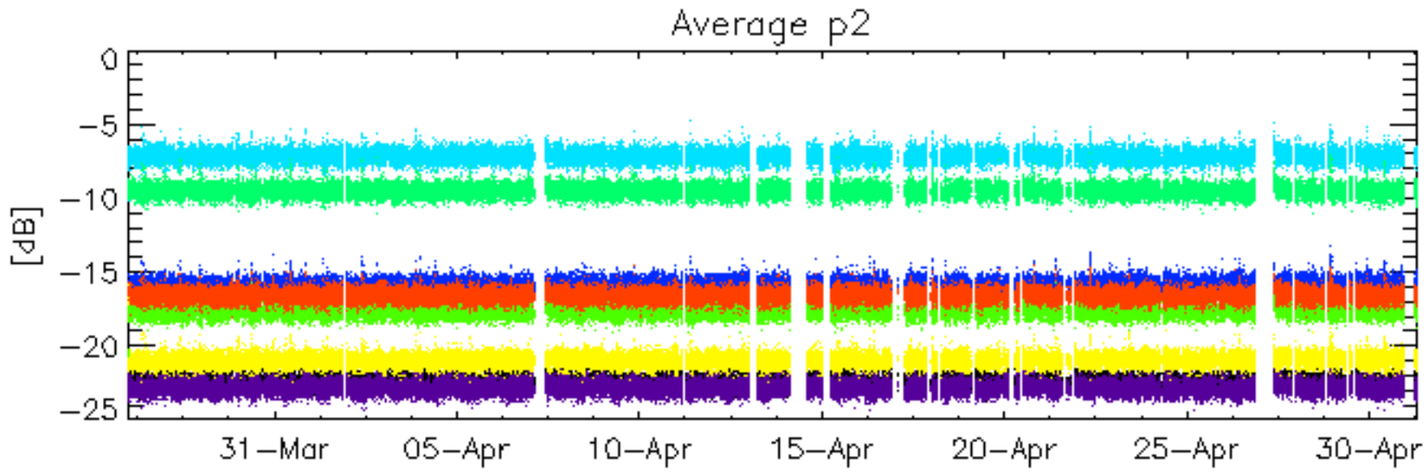


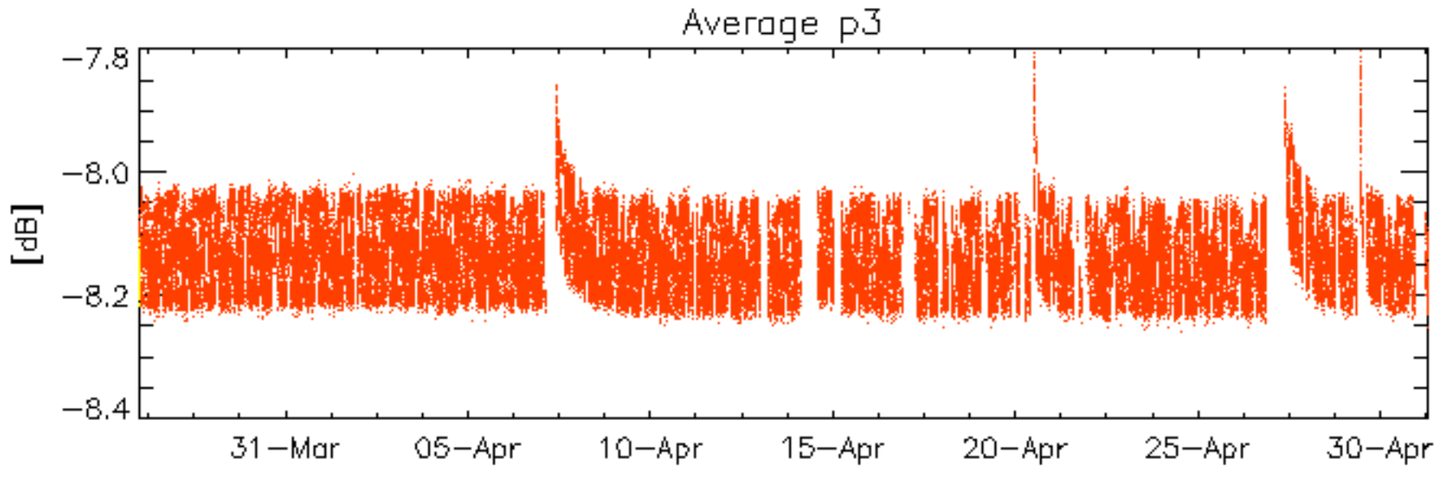


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 28

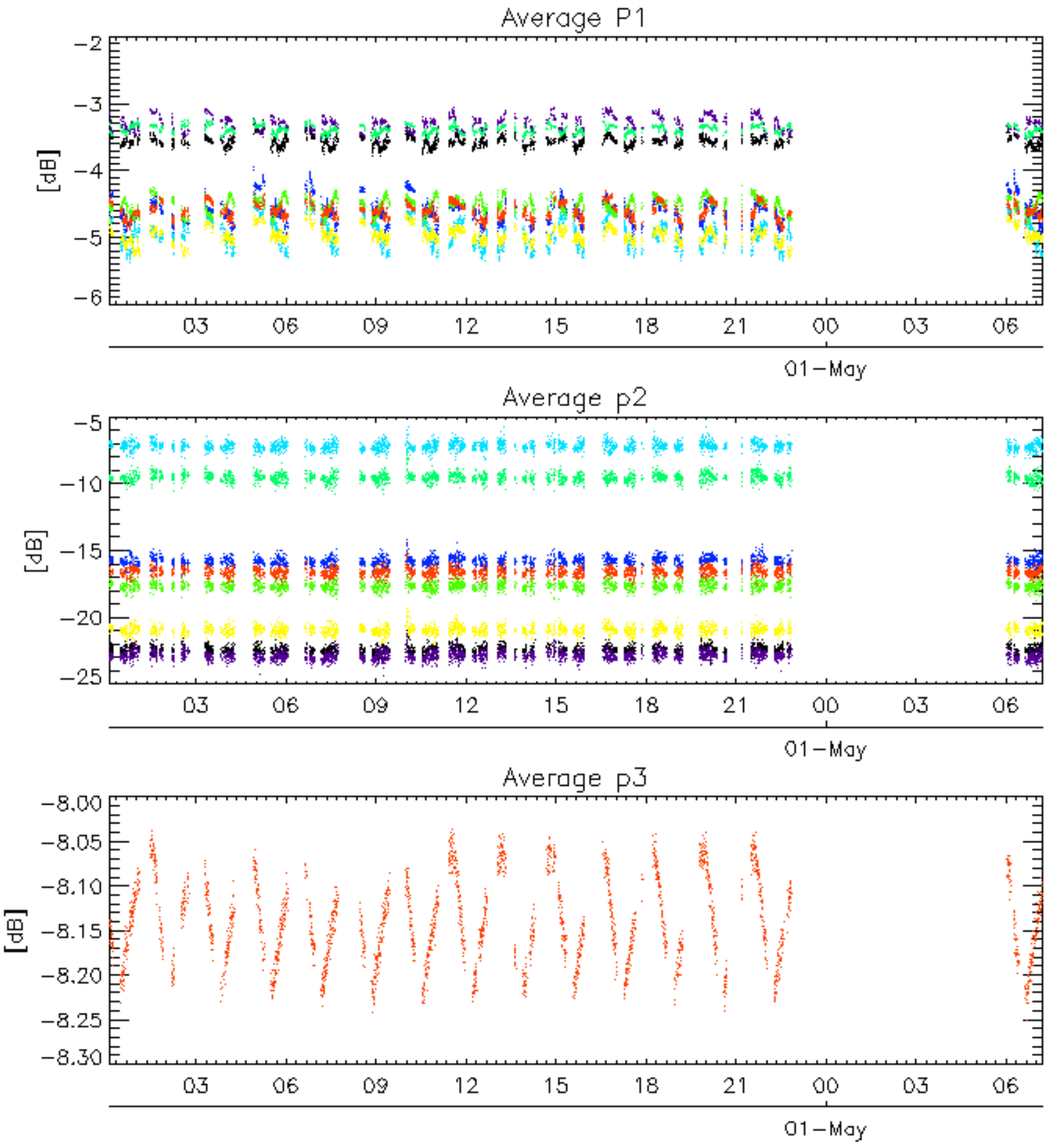

Average P1
[dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
06
09
01−May
Average p2
[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
03
06
09
01−May
Average p3
[dB]
−7.85
−7.90
−7.95
−8.00
−8.05
−8.10
03
06
09
12
15
18
21
00
03
06
09
01−May
rows: 3 7 11 15 19 22 24 28



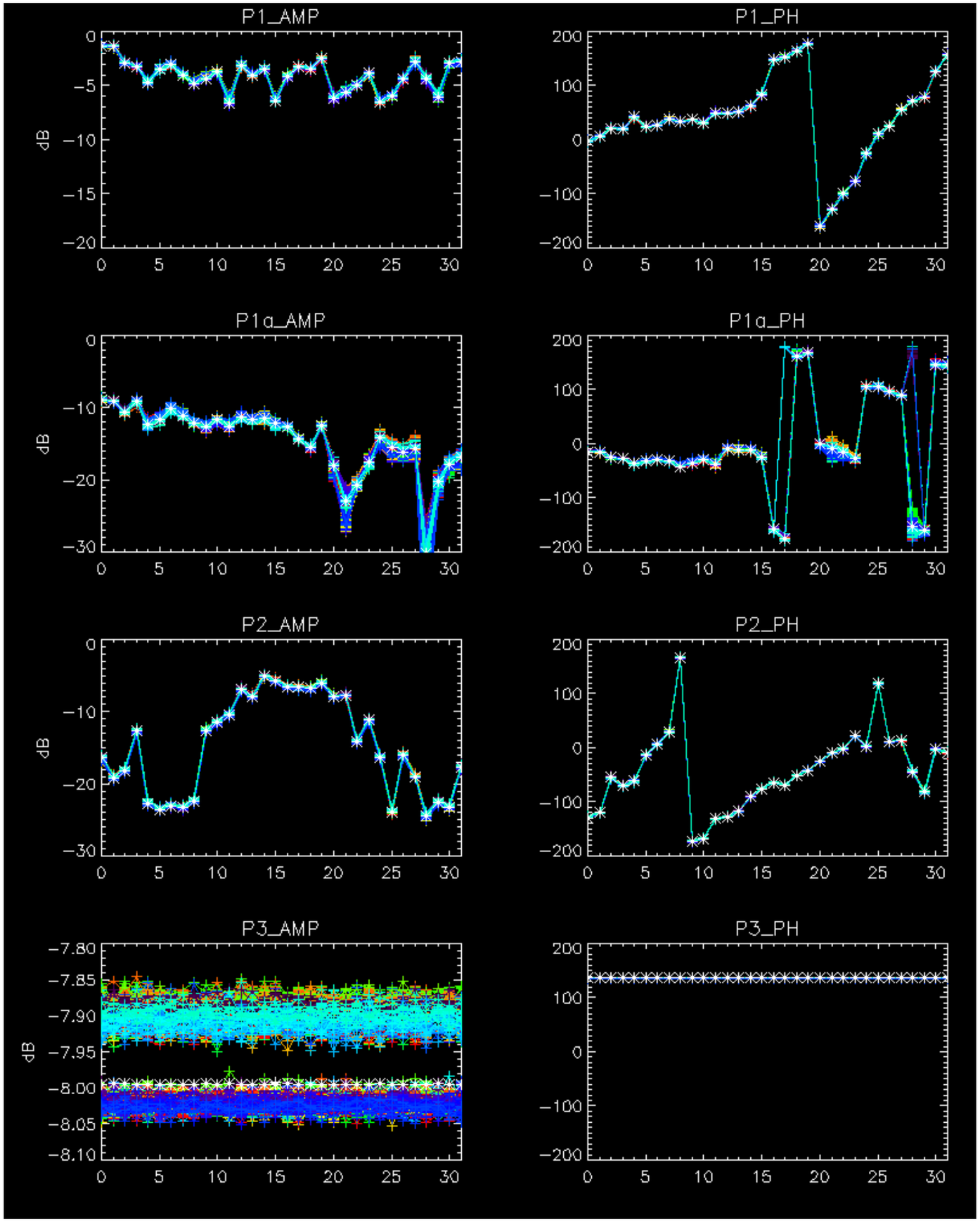


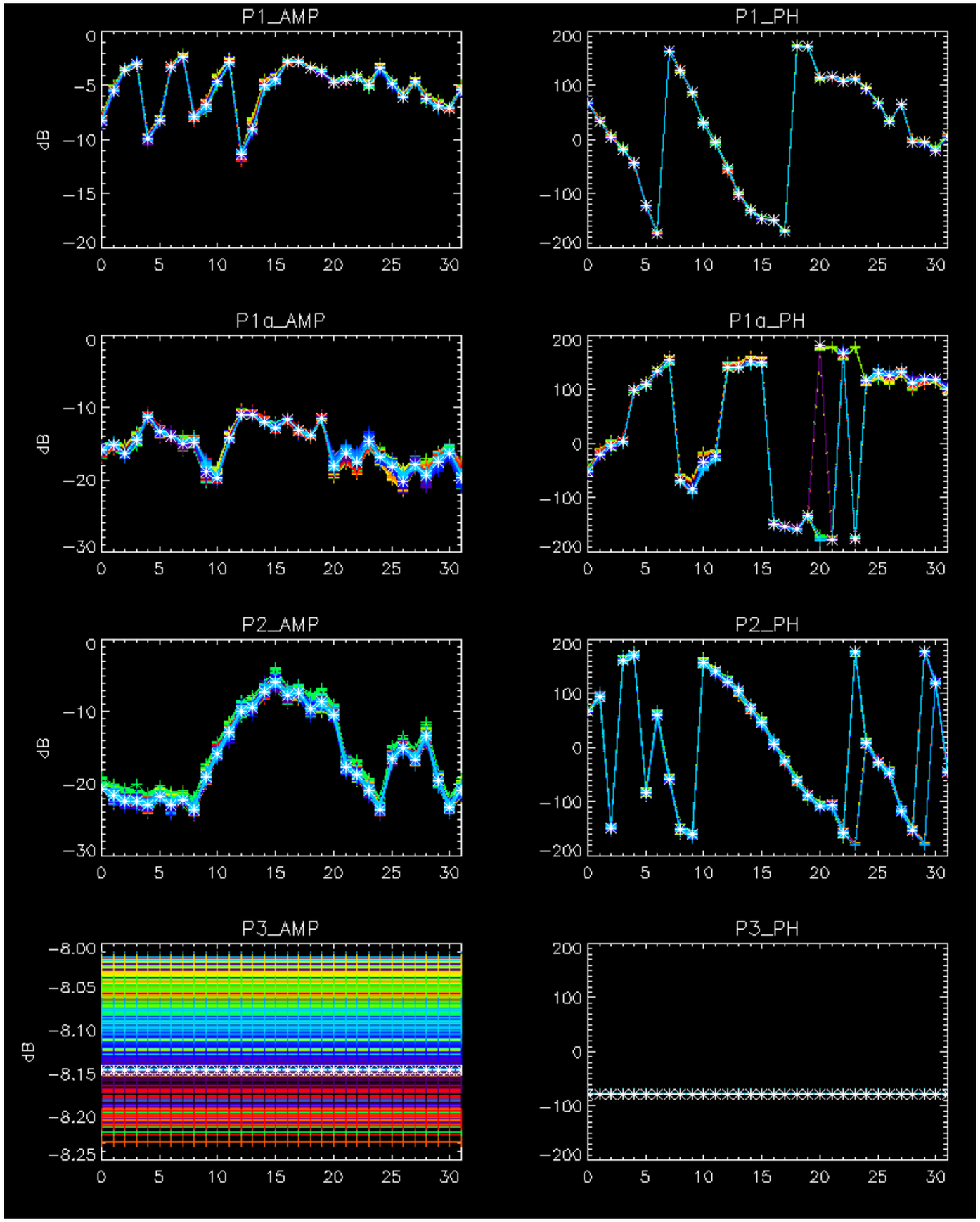


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 28


Average P1
[dB]
−2
−3
−4
−5
−6
03
06
09
12
15
18
21
00
03
06
01−May
Average p2
[dB]
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
03
06
01−May
Average p3
[dB]
−8.00
−8.05
−8.10
−8.15
−8.20
−8.25
−8.30
03
06
09
12
15
18
21
00
03
06
01−May
rows: 3 7 11 15 19 22 24 28

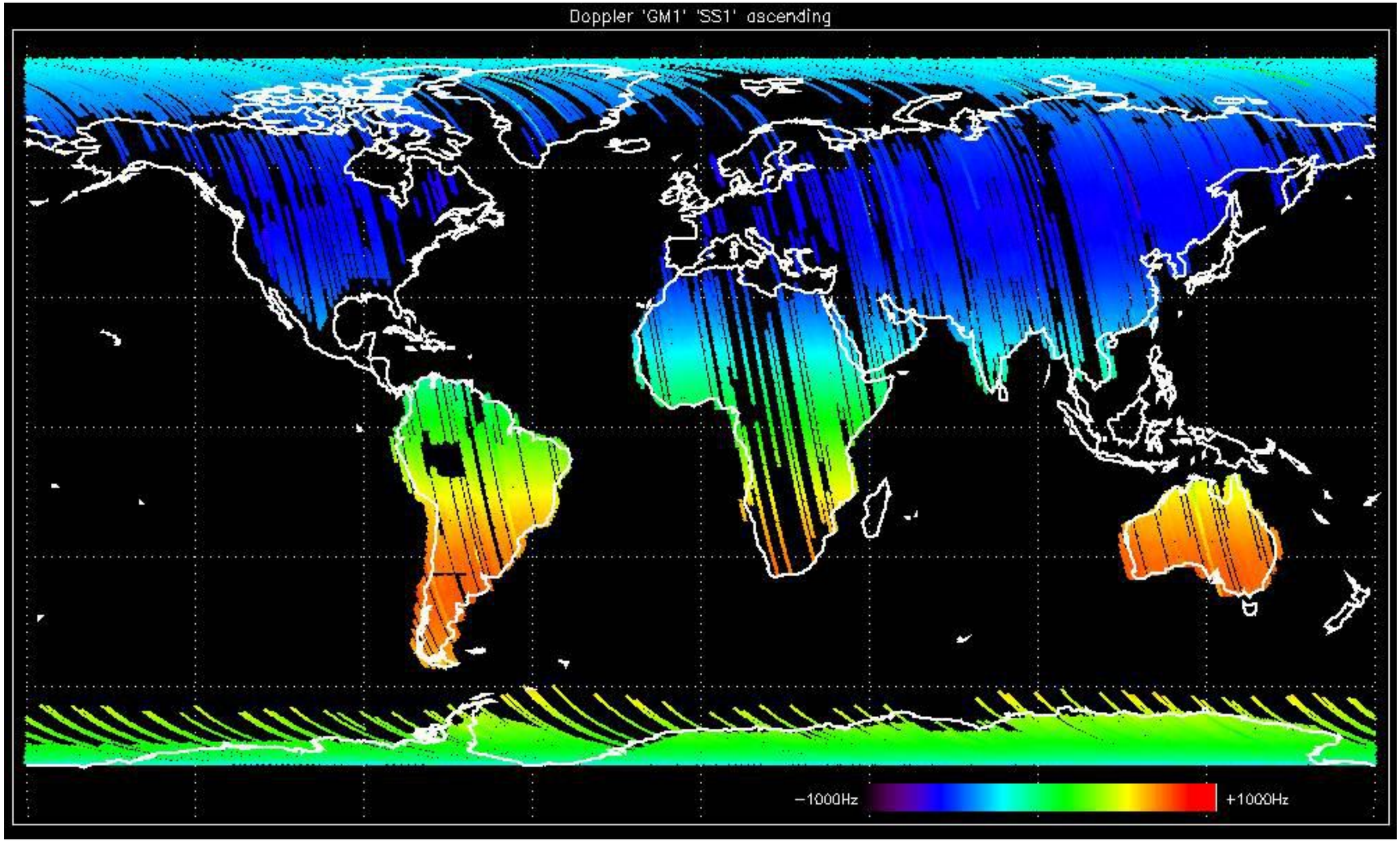
No anomalies observed.

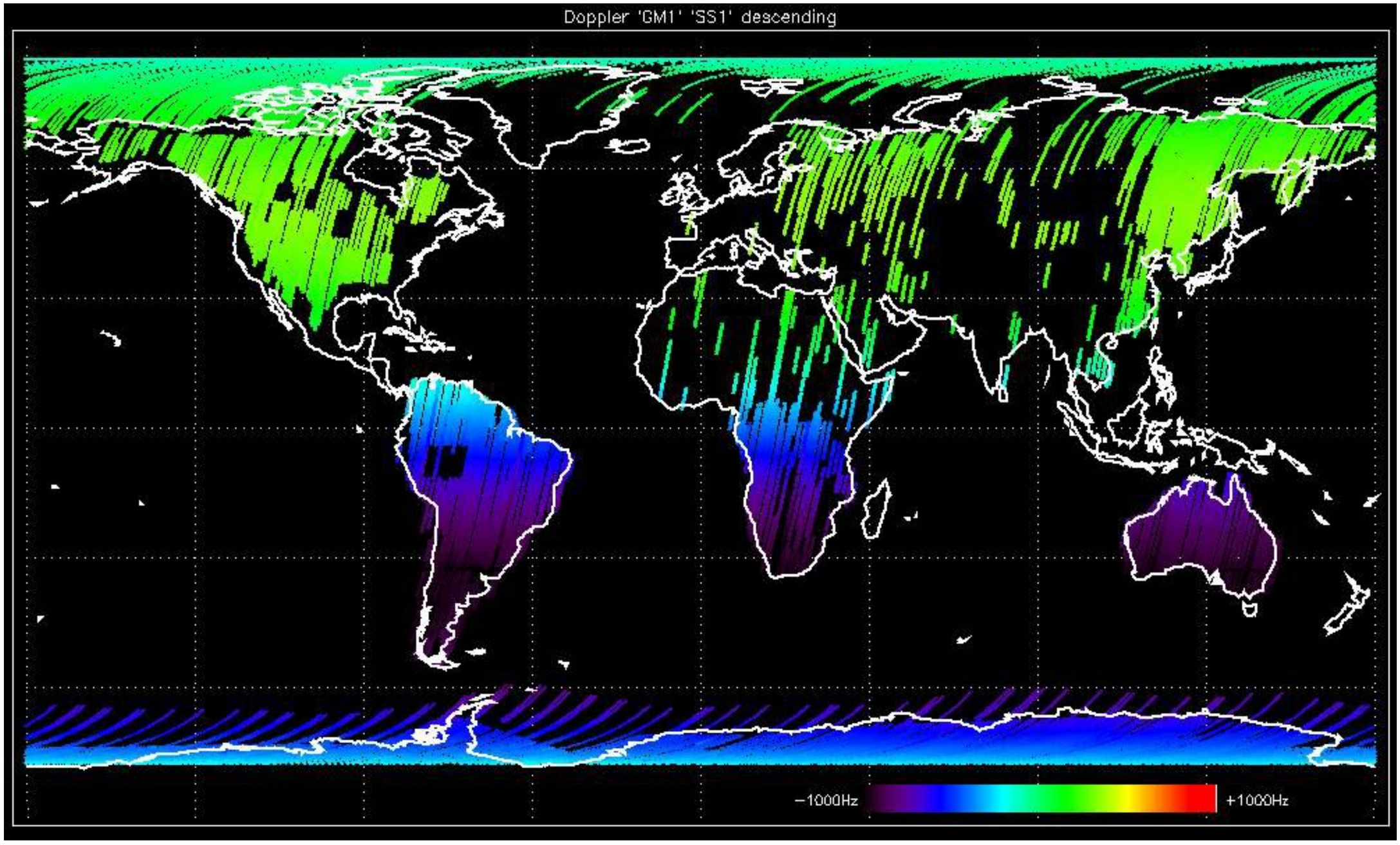

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.80
−7.85
−7.90
−7.95
−8.00
−8.05
−8.10
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

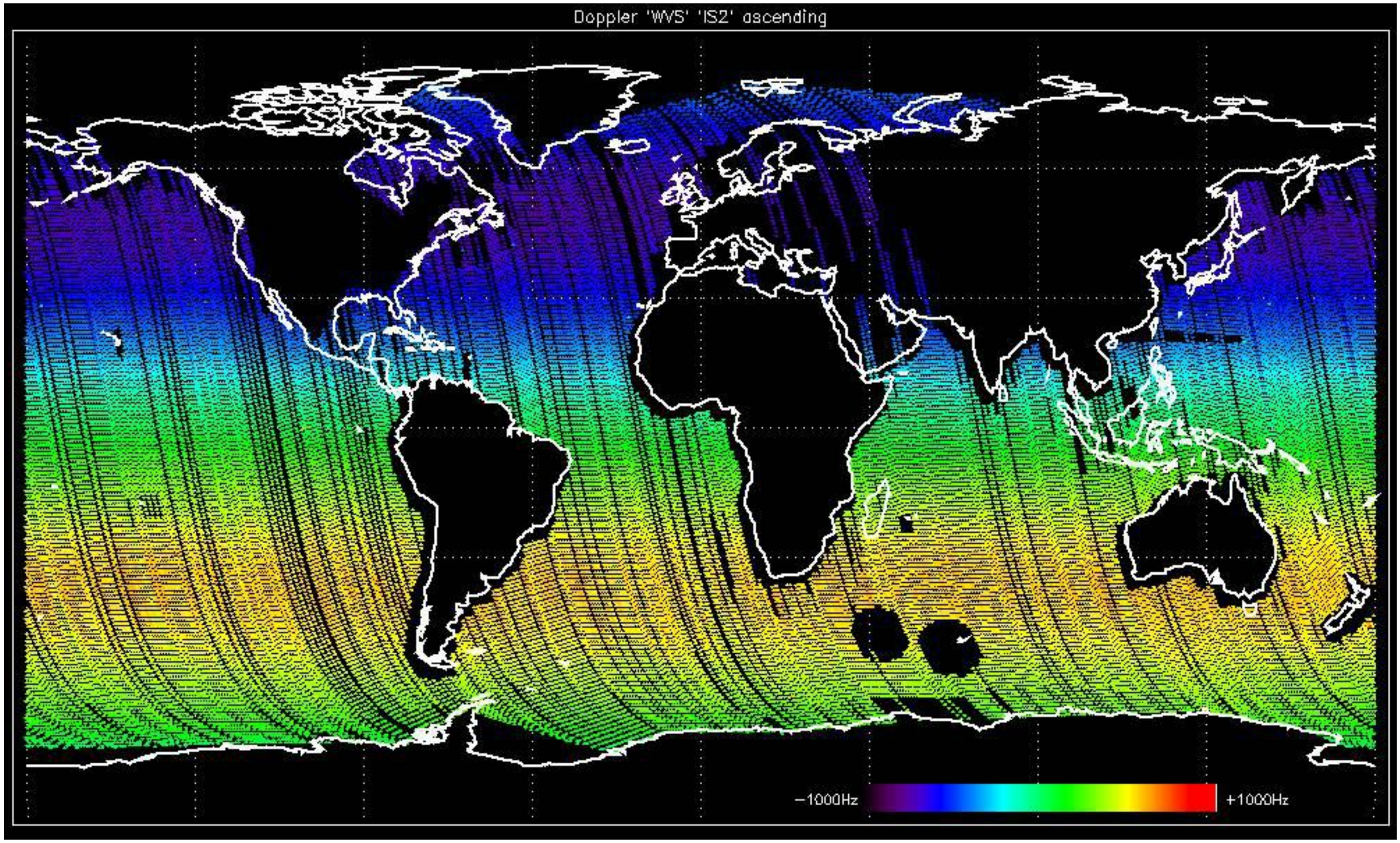

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.00
−8.05
−8.10
−8.15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

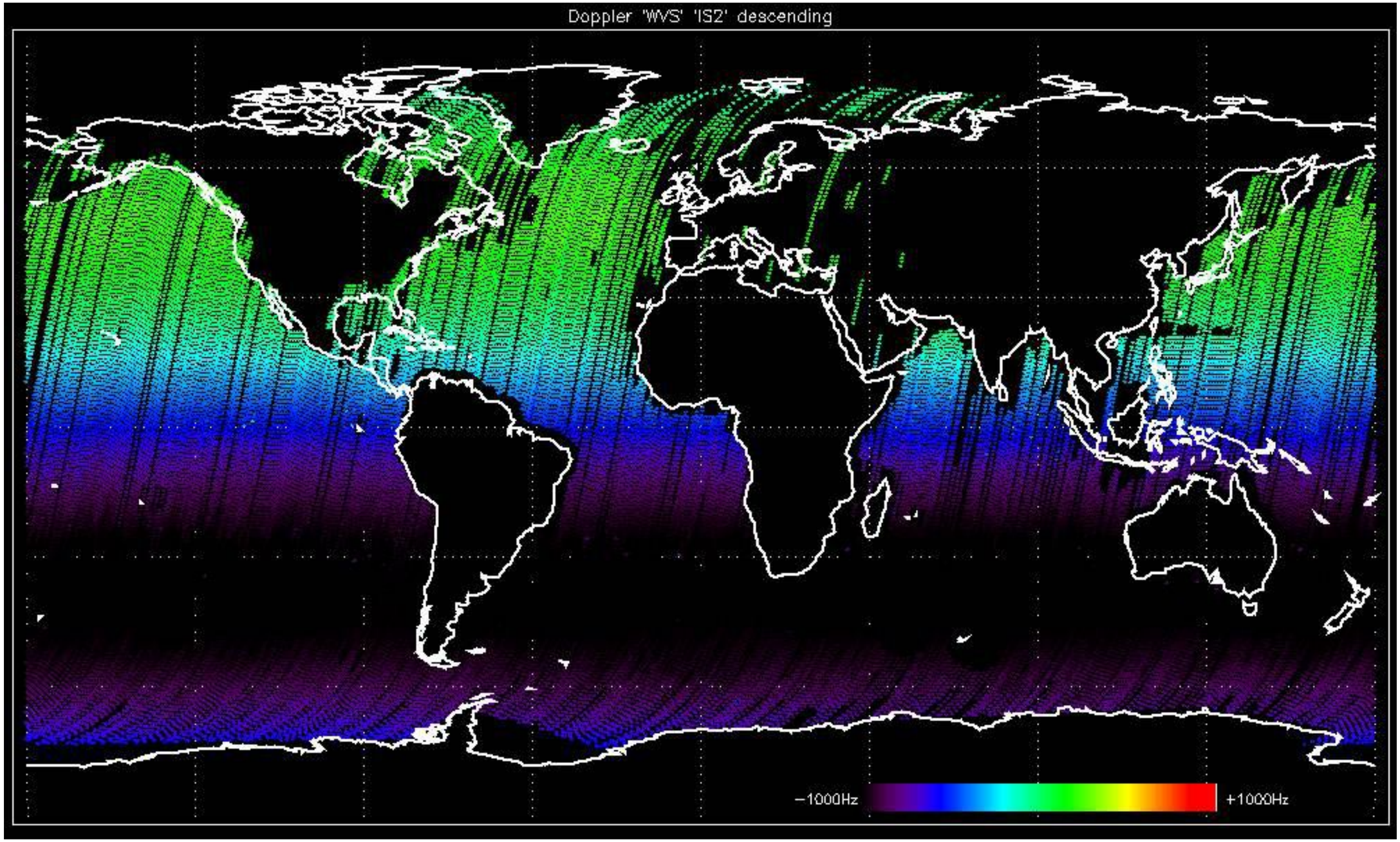
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

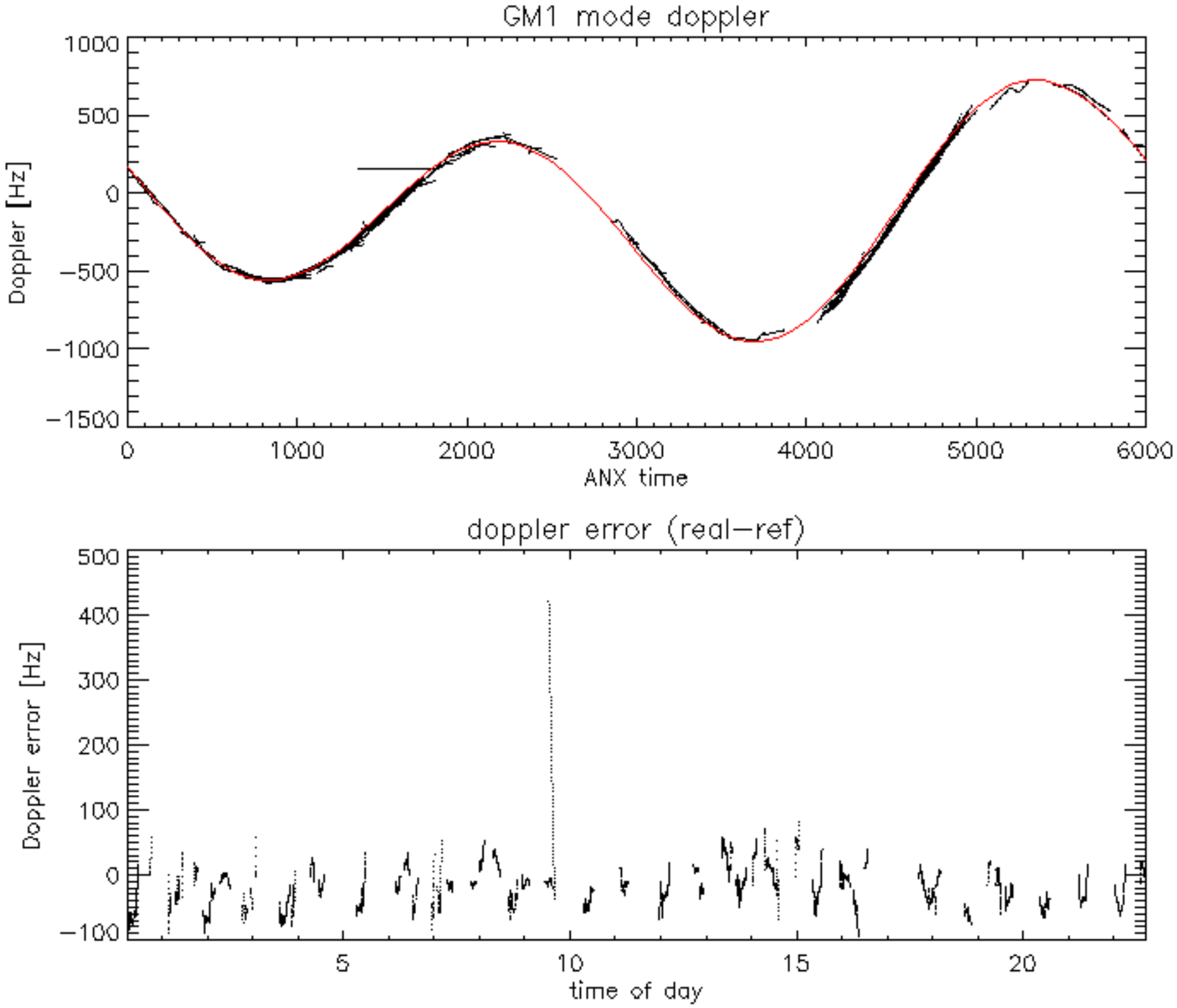
Preliminary report.The data is not yet controled

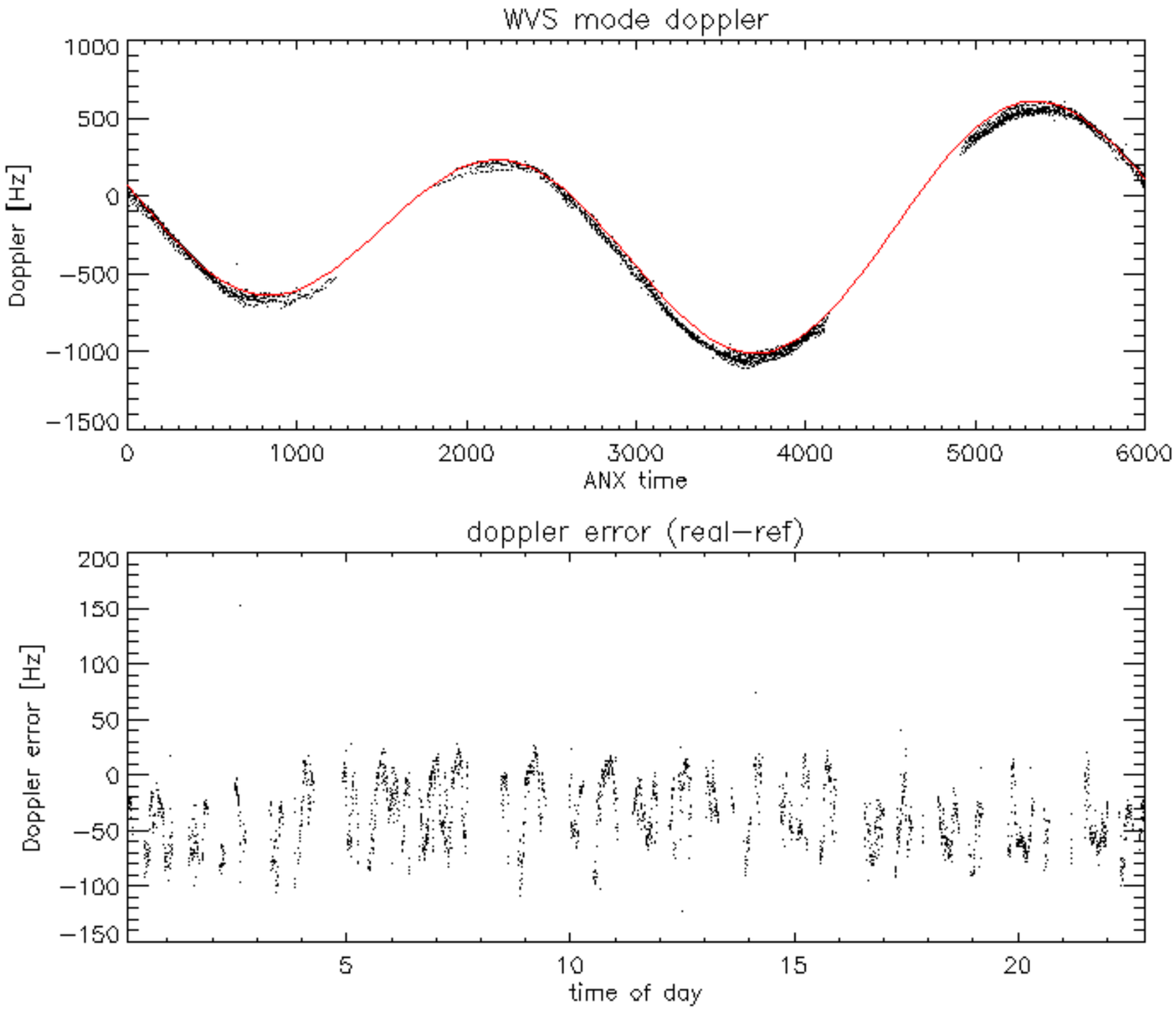

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

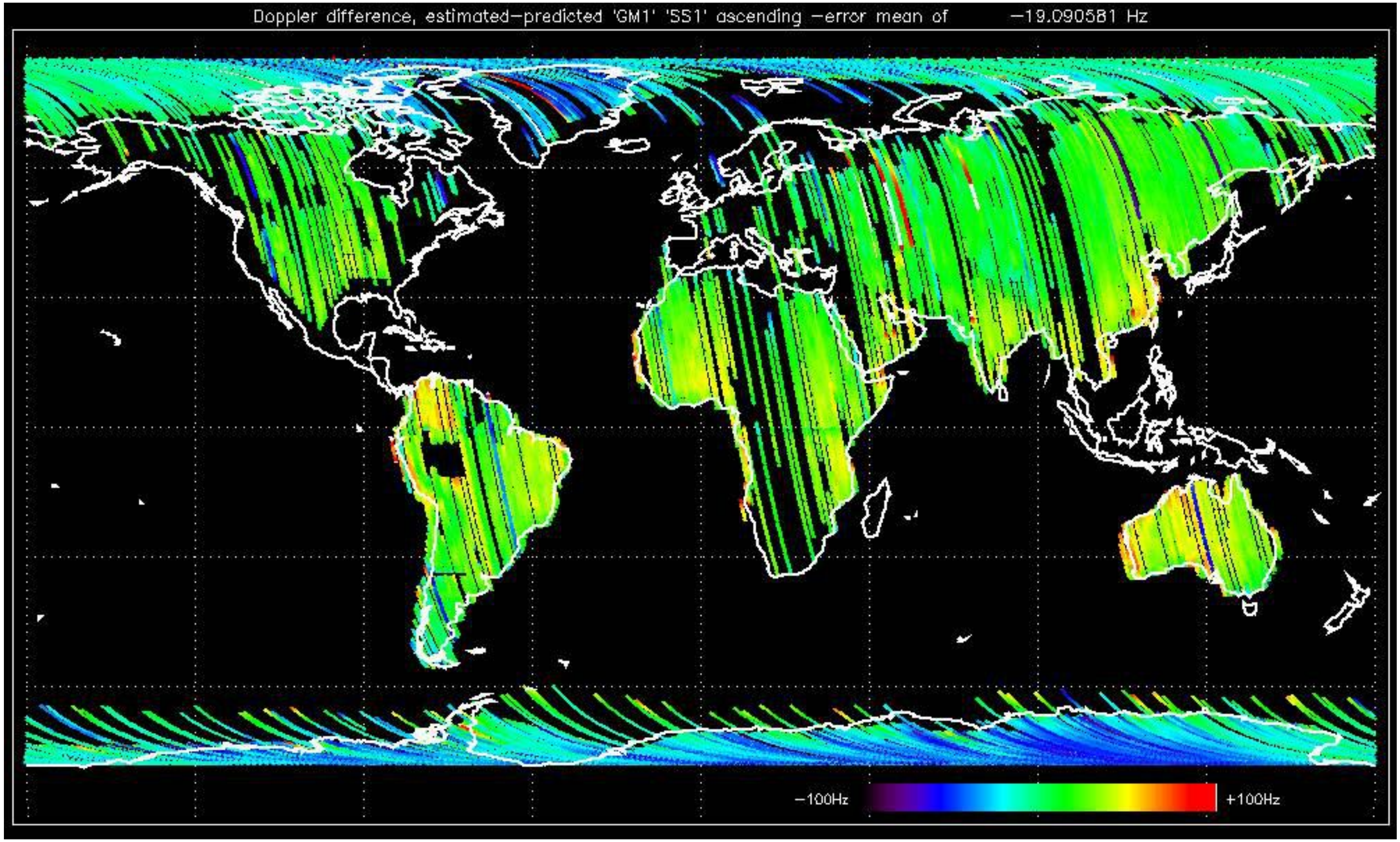

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

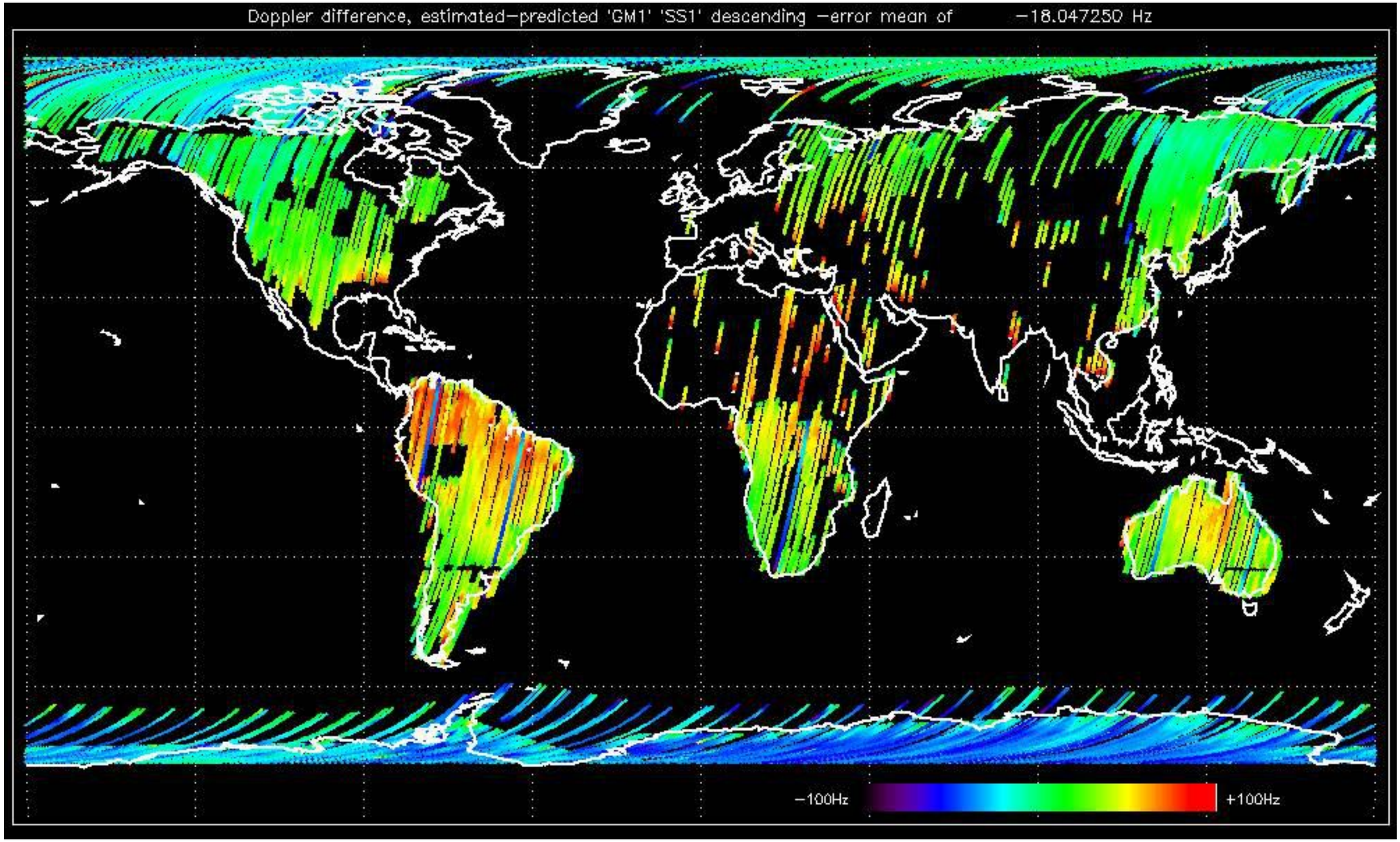

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

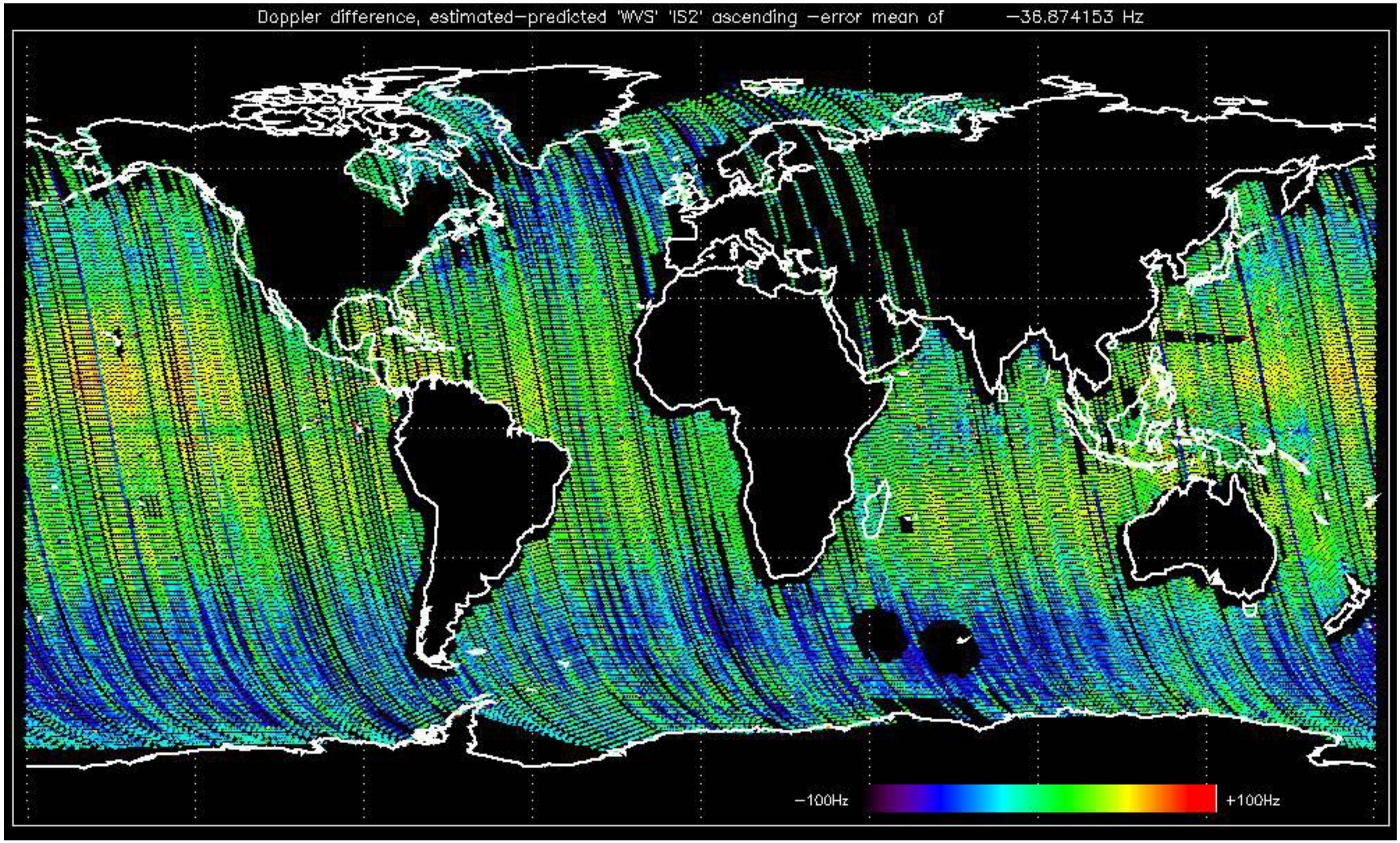

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

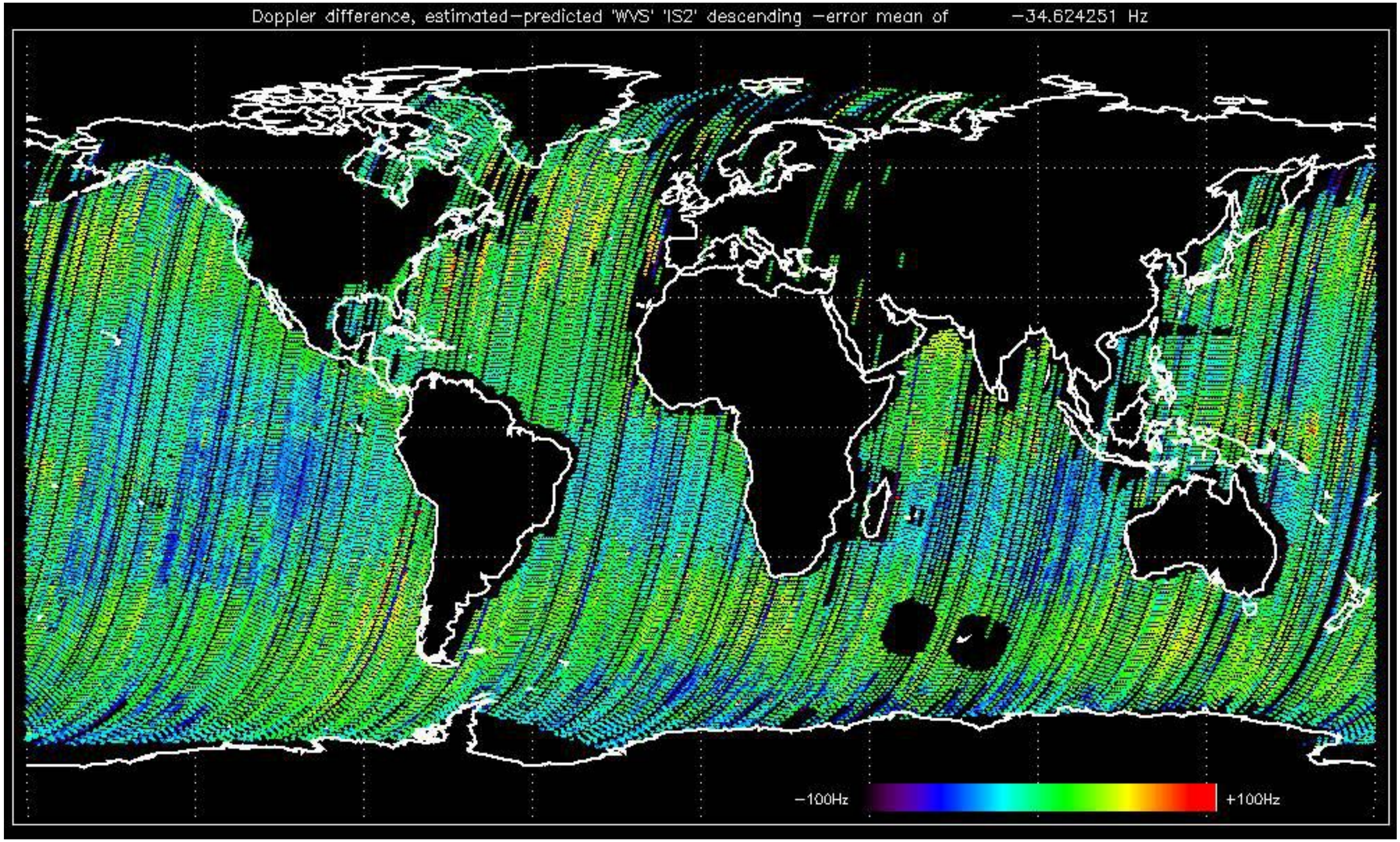

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
ANX time
doppler error (real−ref)
Doppler error [Hz]
500
400
300
200
100
0
−100
5
10
15
20
time of day


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
150
100
50
0
−50
−100
−150
5
10
15
20
time of day


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −19.090581 Hz
−100Hz
+100Hz

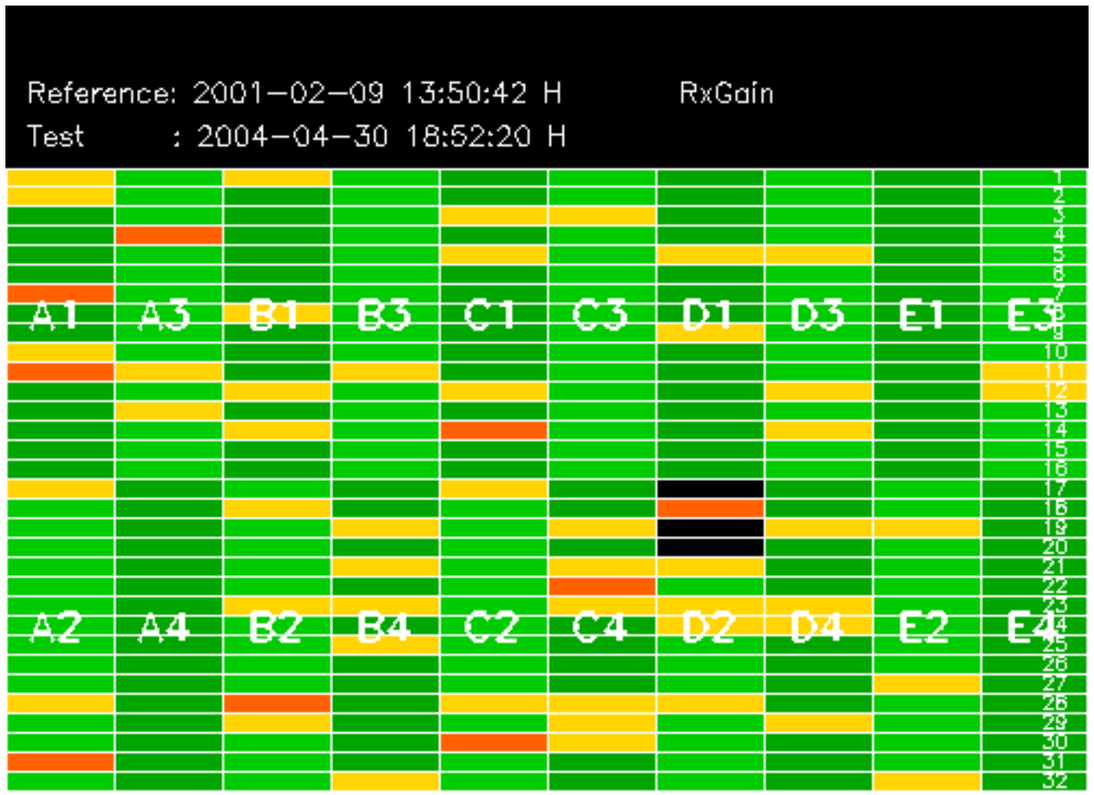

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −18.047250 Hz
−100Hz
+100Hz

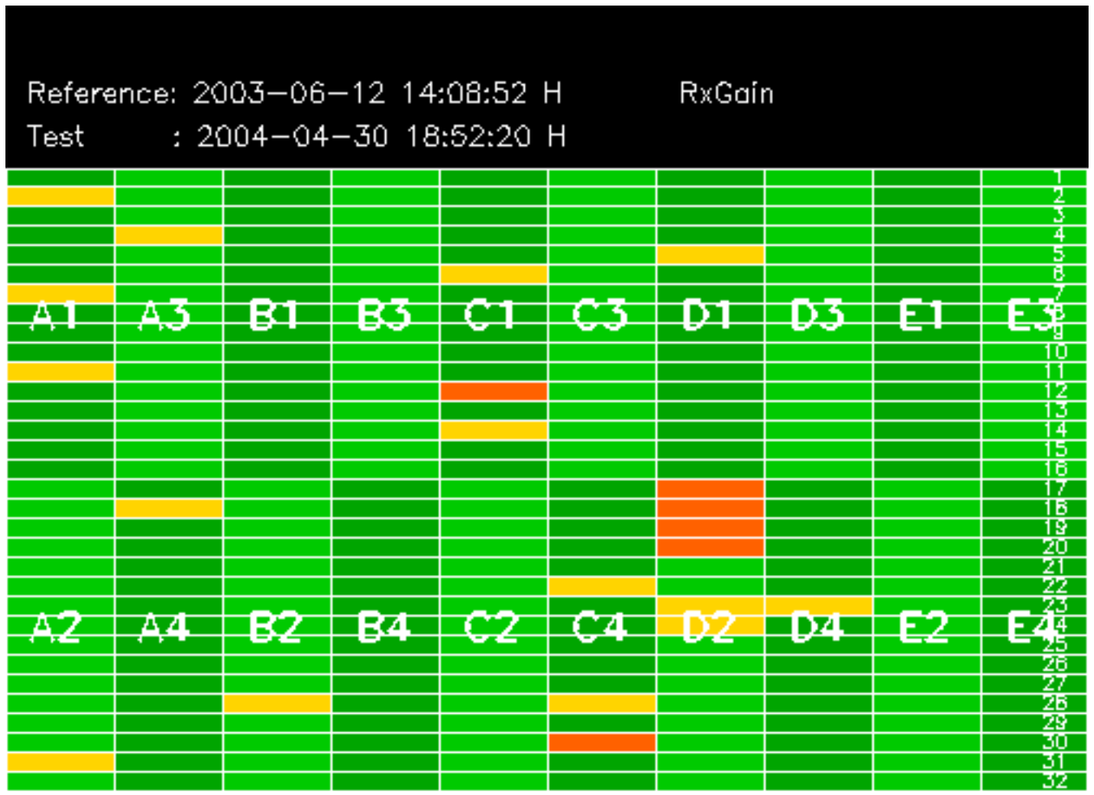

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −36.874153 Hz
−100Hz
+100Hz

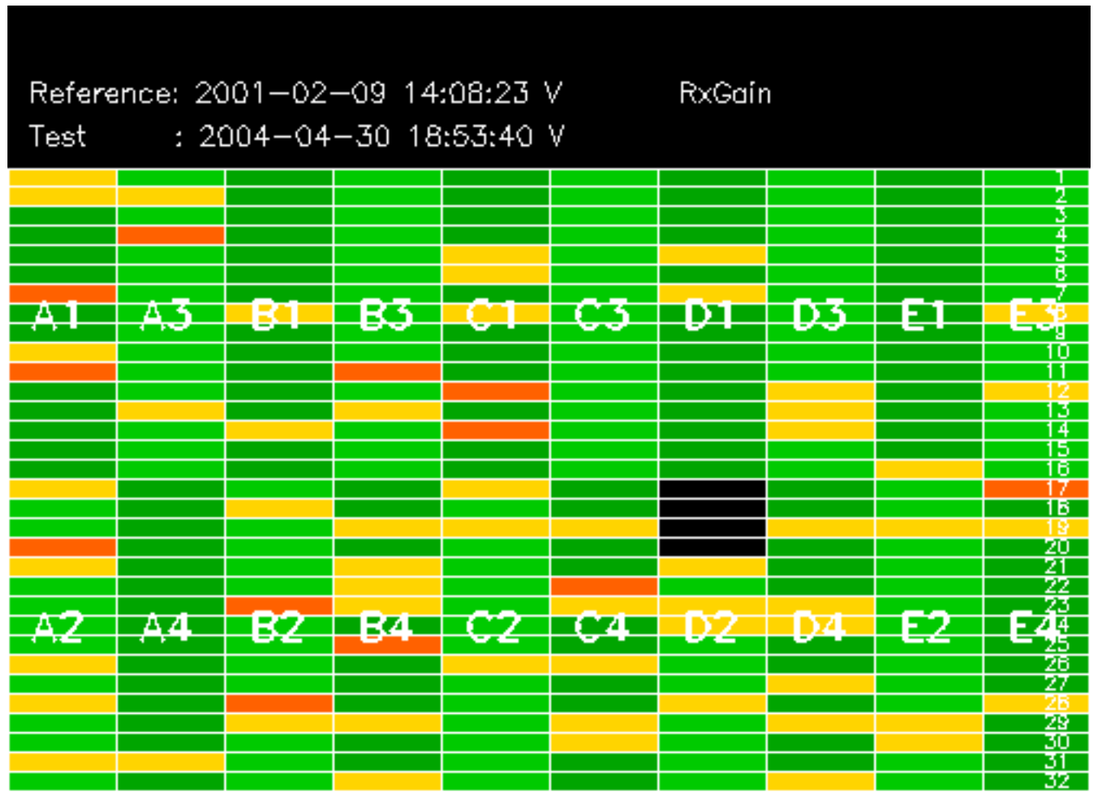

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −34.624251 Hz
−100Hz
+100Hz

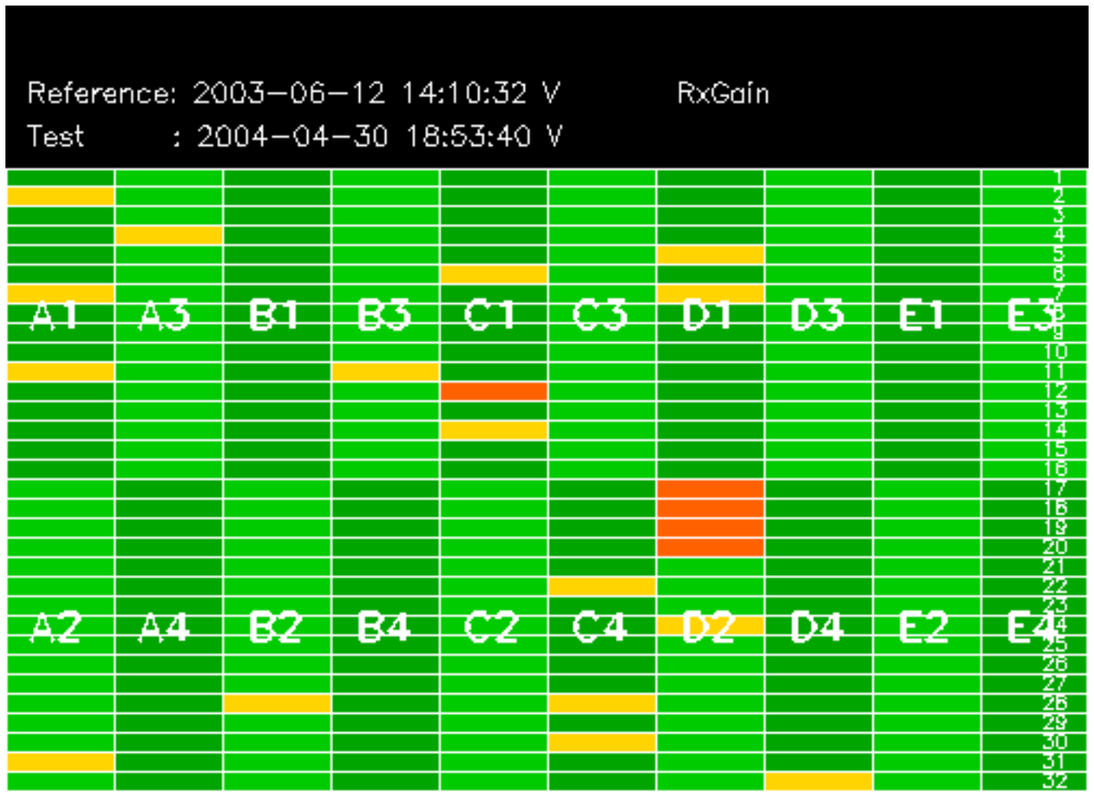
The MS mode provides an internal health check on an individual module basis.
The purpose of this mode is to identify to identify any malfunctionning modules and
to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

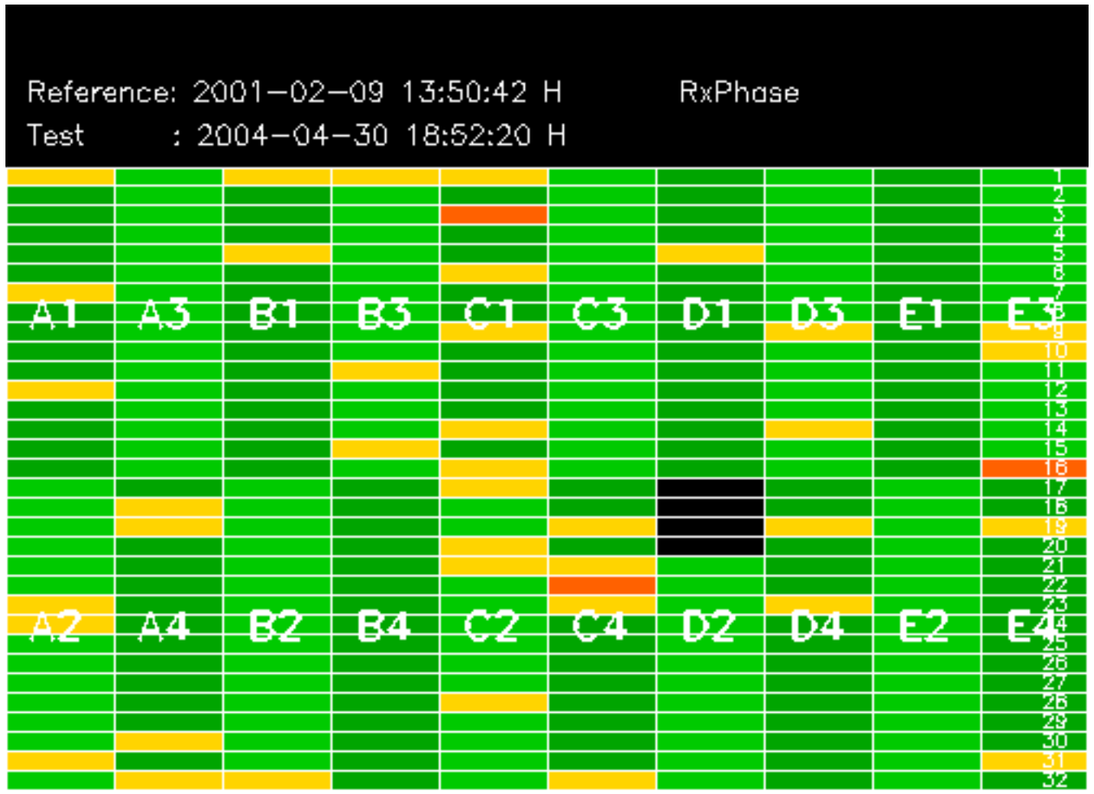
No anomalies observed.

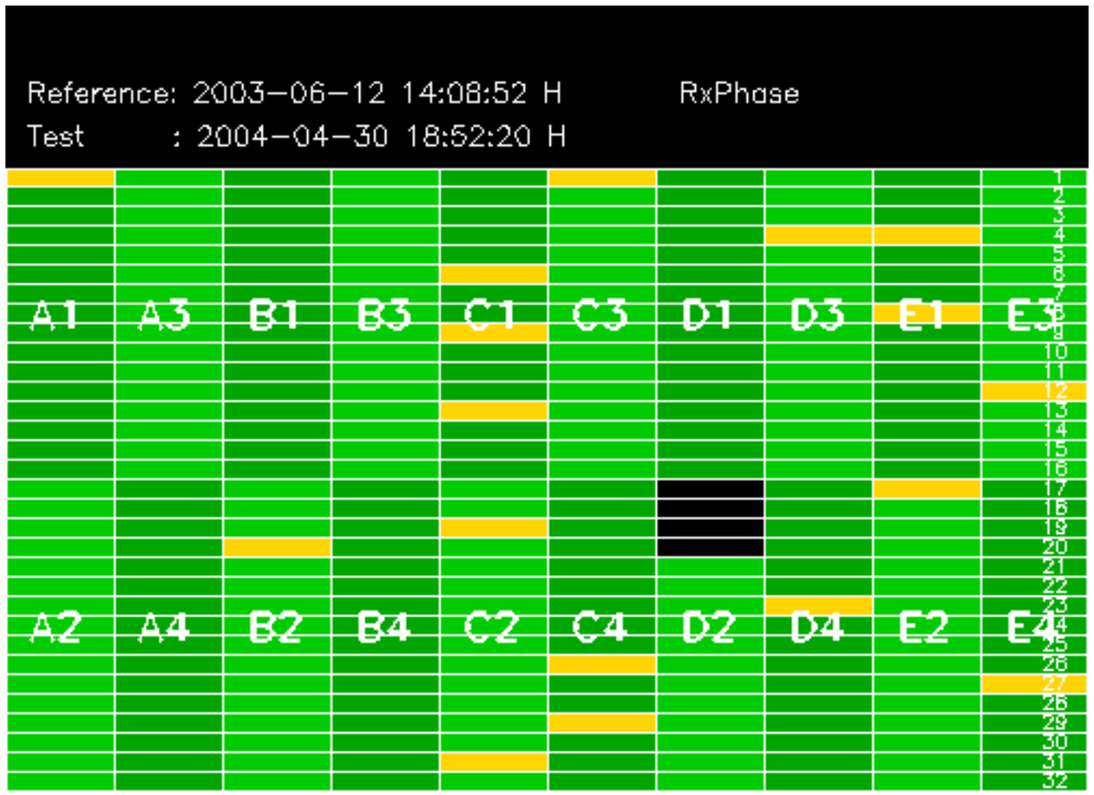

Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2004-04-30 18:52:20 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

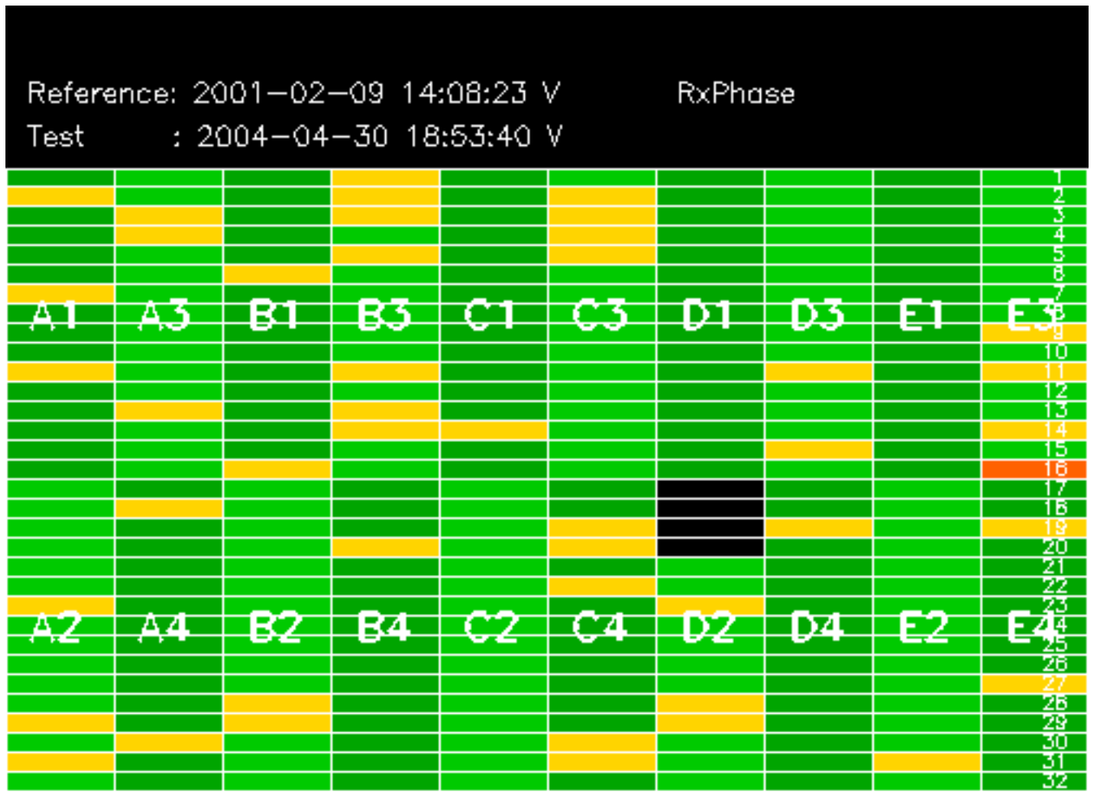

Reference: 2003-06-12 14:08:52 H
Test : 2004-04-30 18:52:20 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

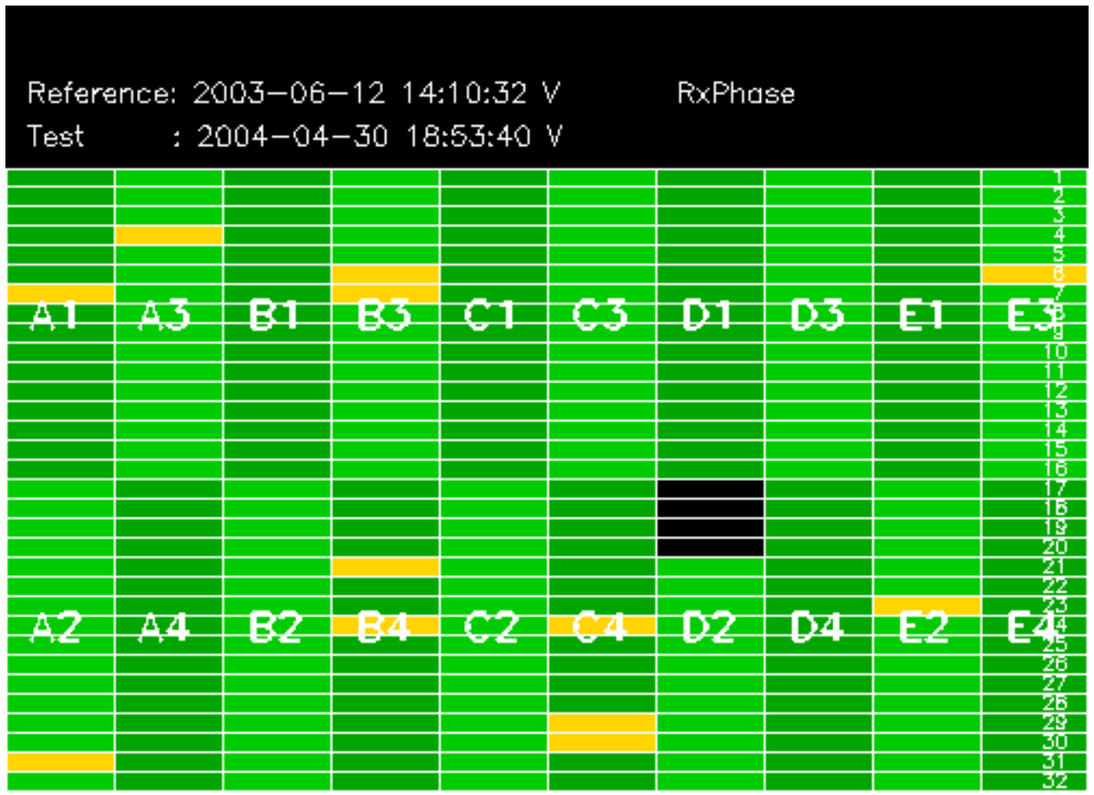

Reference: 2001-02-09 14:08:23 V
Test : 2004-04-30 18:53:40 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

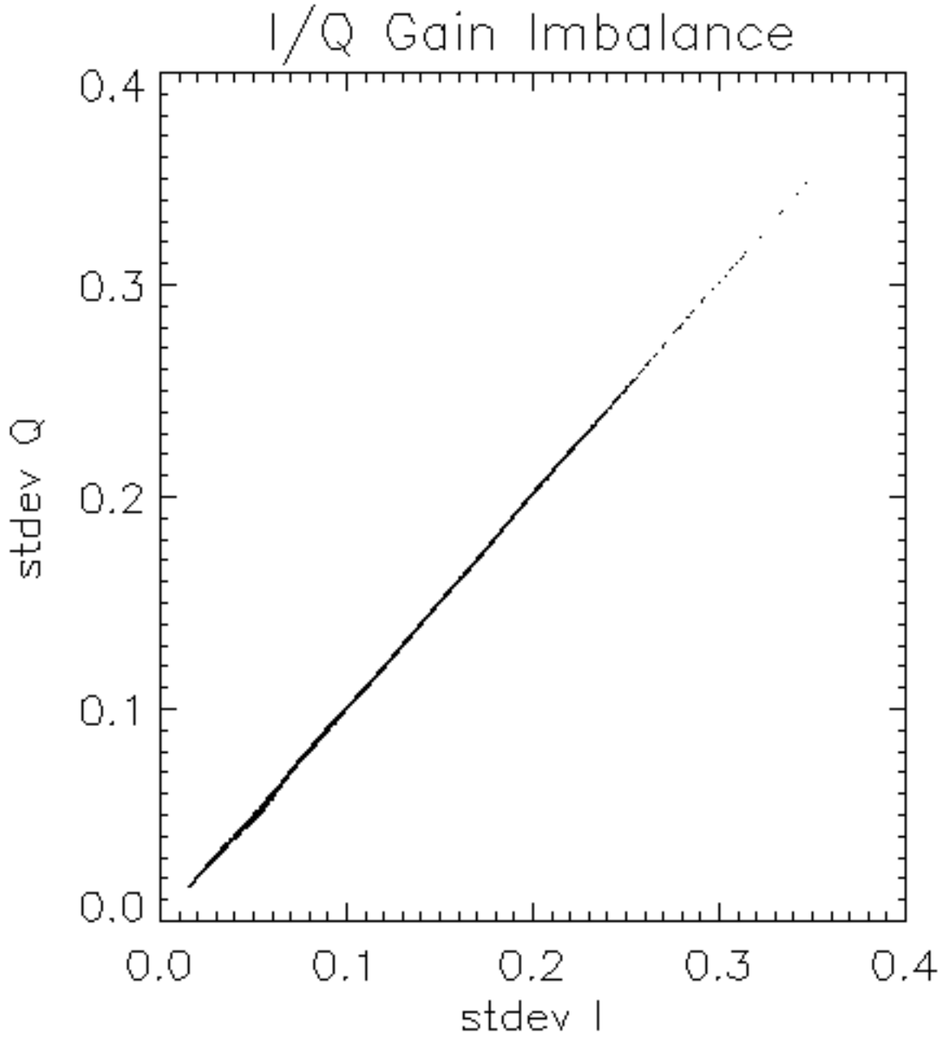

Reference: 2003-06-12 14:10:32 V
Test : 2004-04-30 18:53:40 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

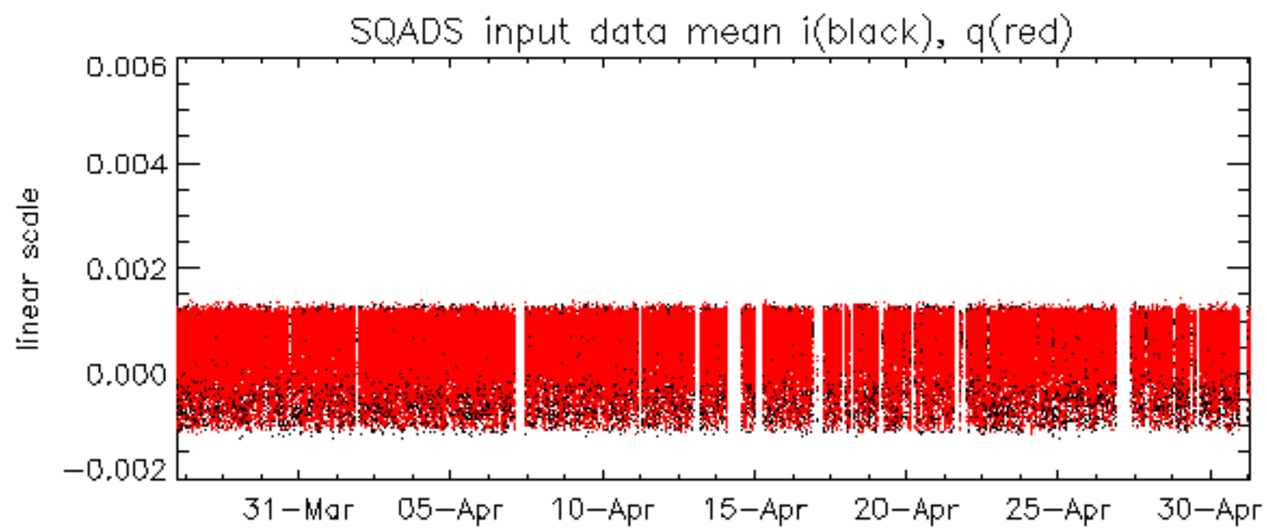

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-04-30 18:52:20 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

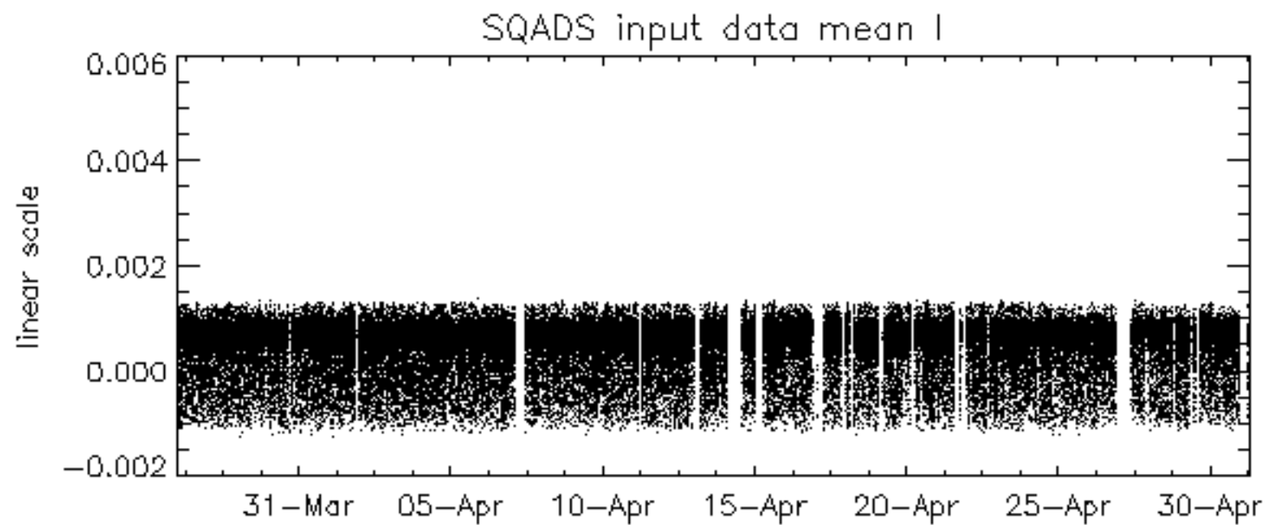

Reference: 2003-06-12 14:08:52 H
Test : 2004-04-30 18:52:20 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

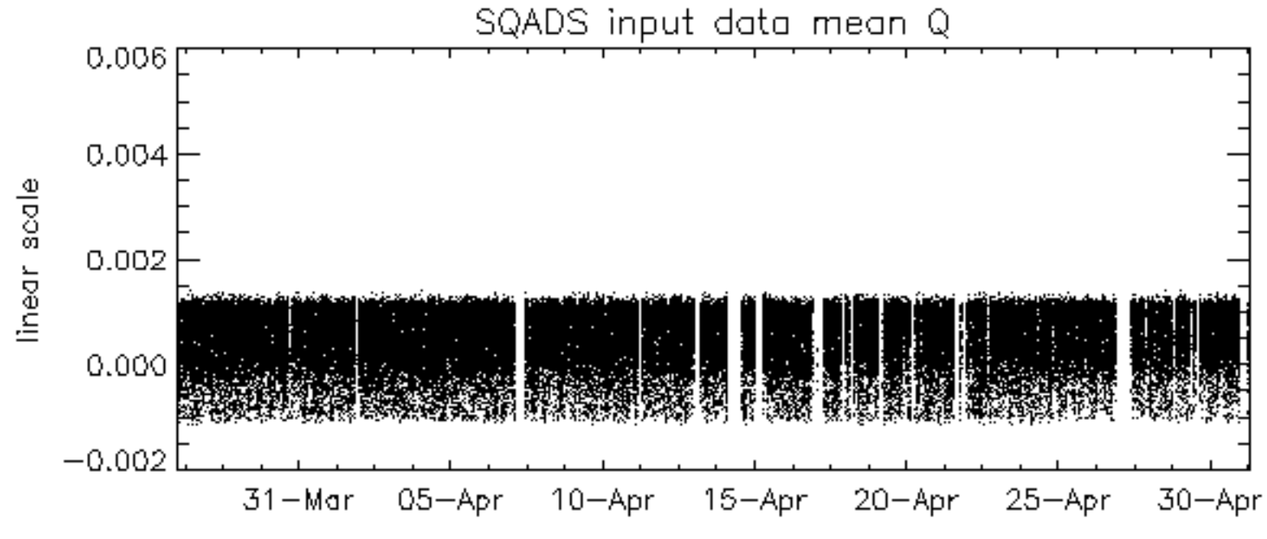

Reference: 2001-02-09 14:08:23 V
Test : 2004-04-30 18:53:40 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

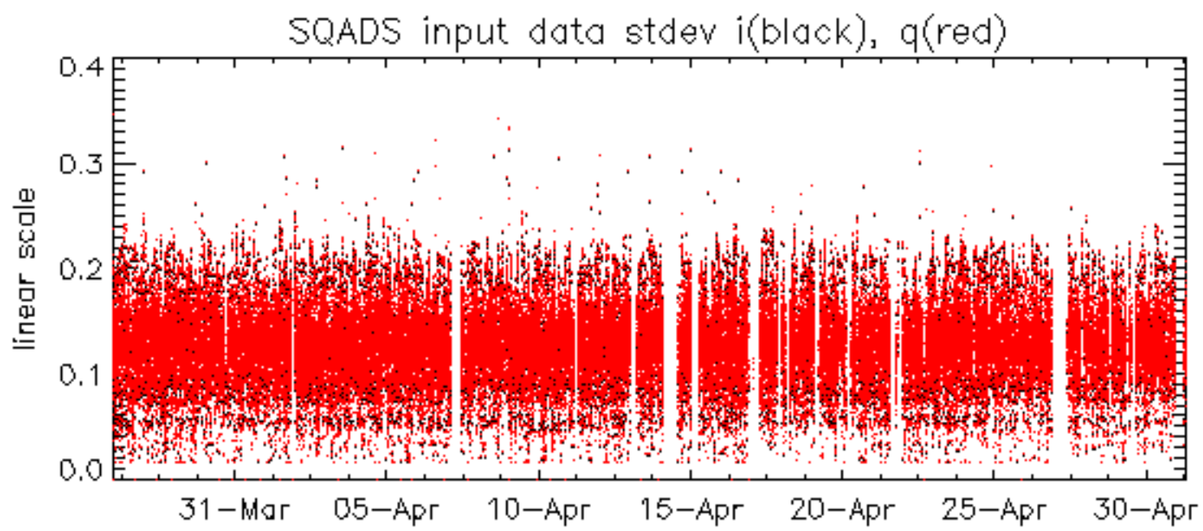

Reference: 2003-06-12 14:10:32 V
Test : 2004-04-30 18:53:40 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

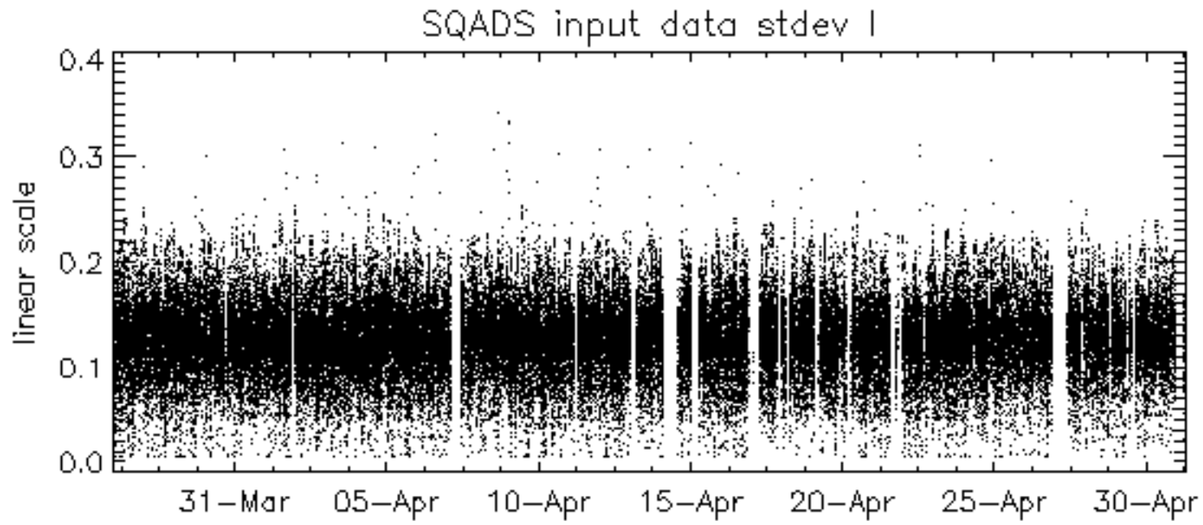

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

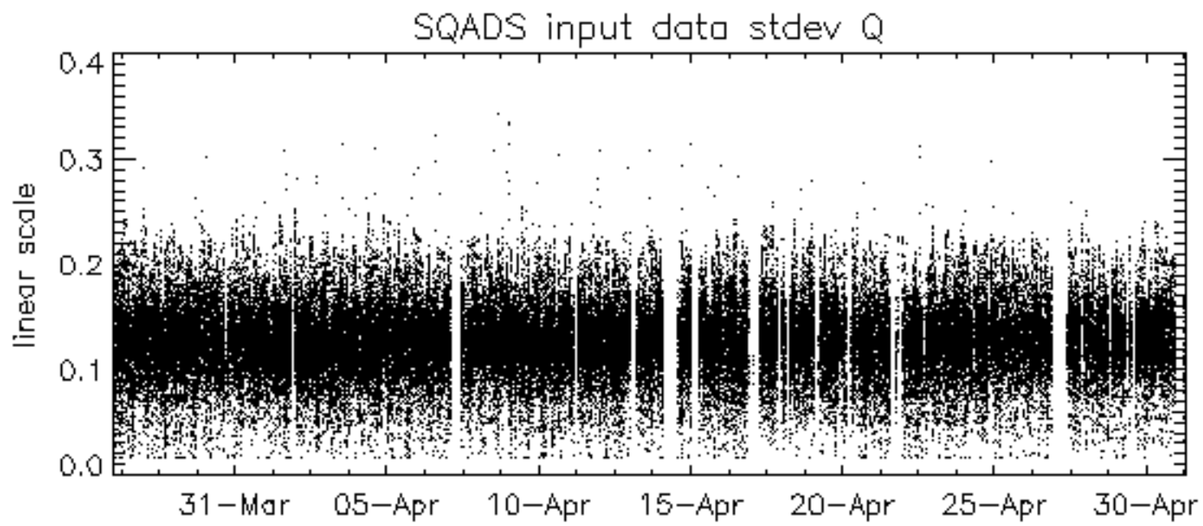

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr
30−Apr

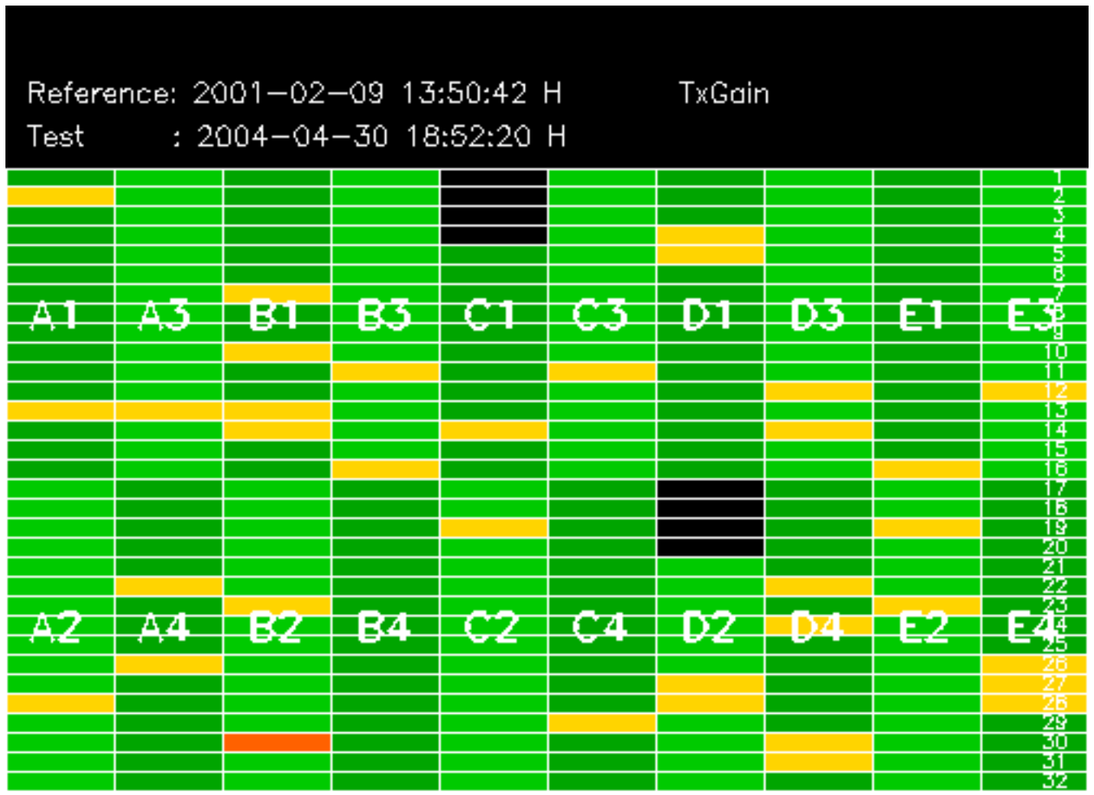

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr
30−Apr

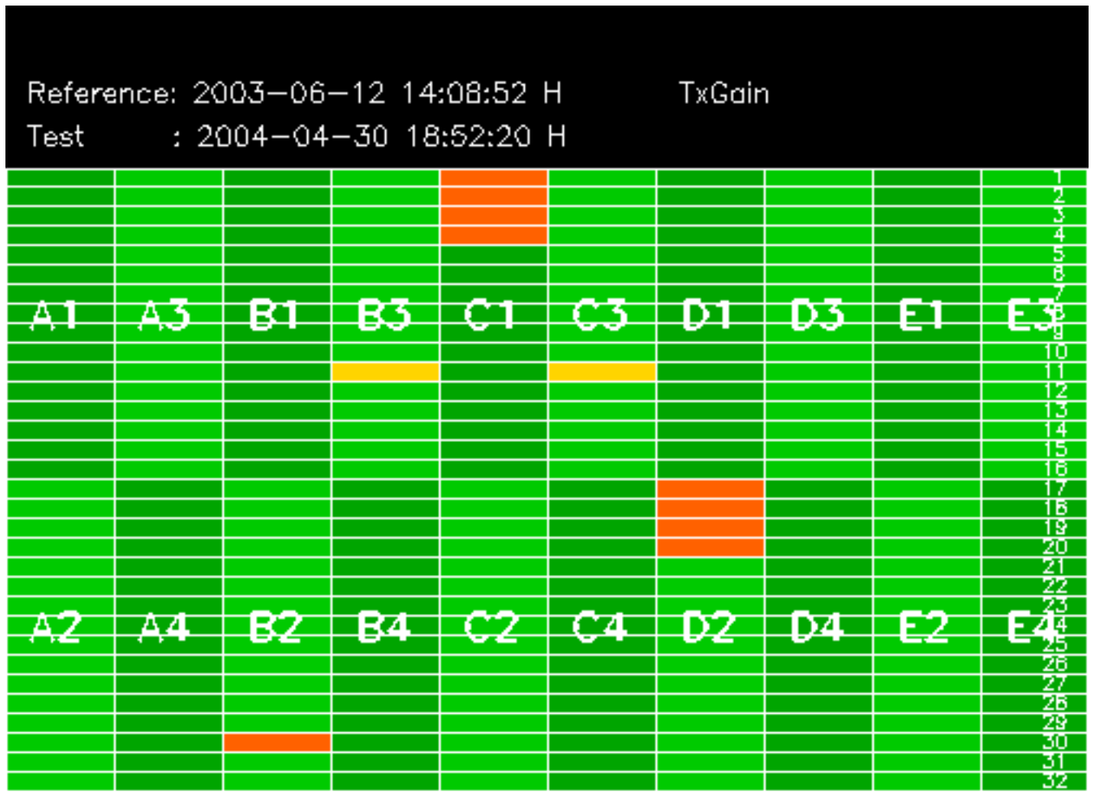

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr
30−Apr

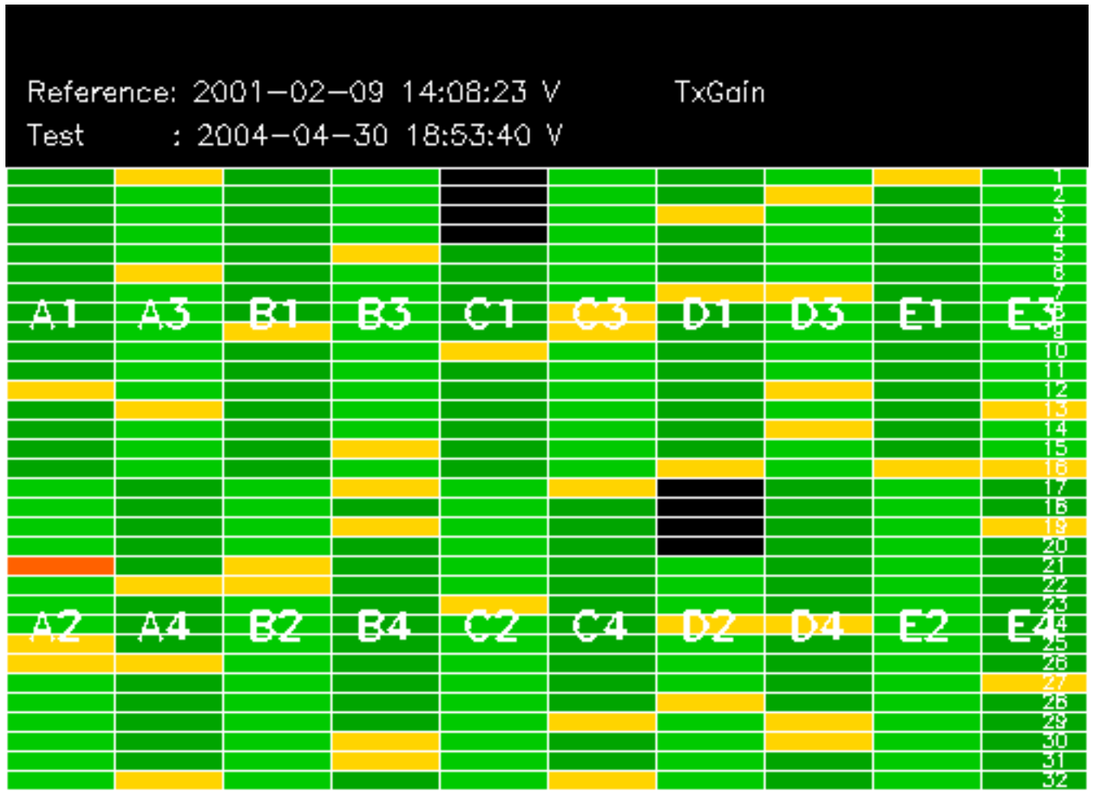

SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr
30−Apr

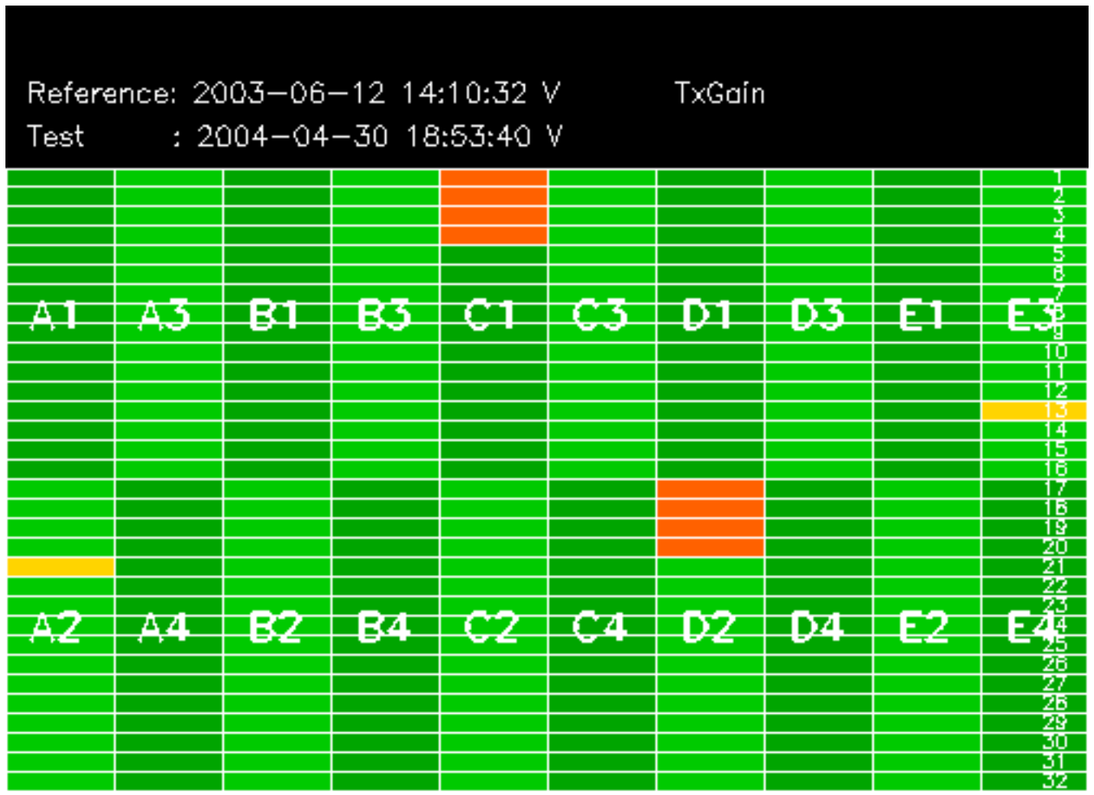

SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr
30−Apr

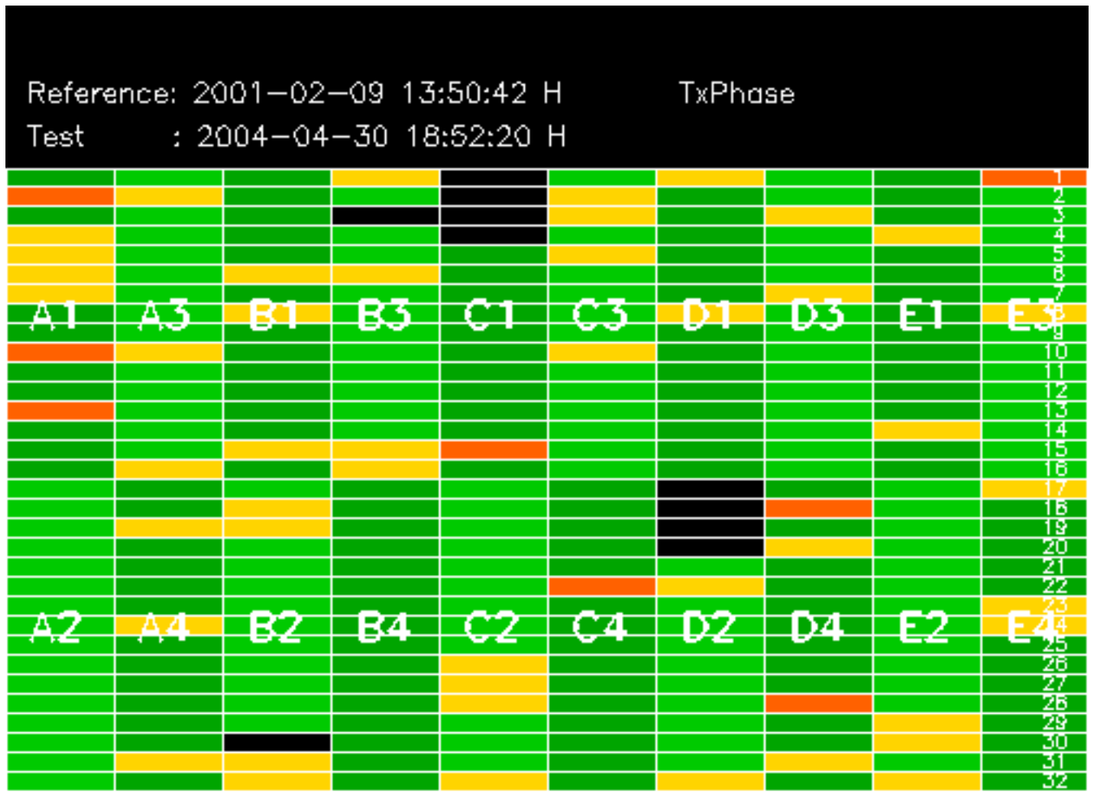

SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr
30−Apr

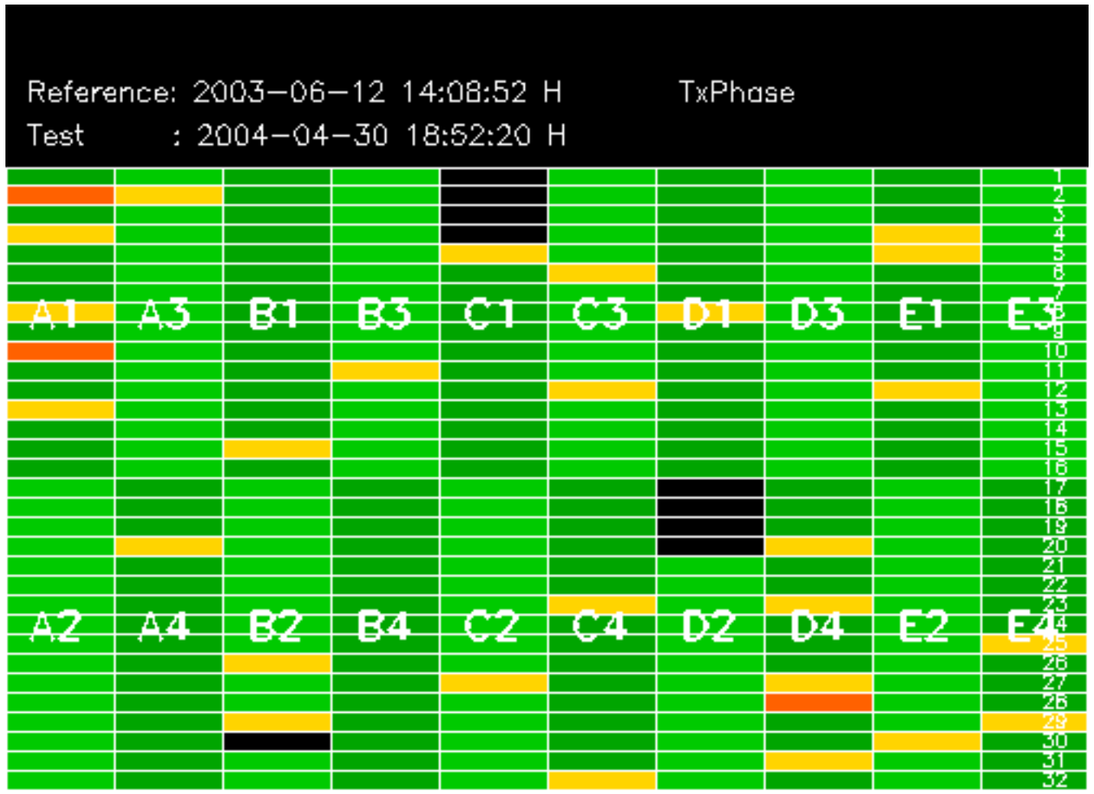

Reference: 2001-02-09 13:50:42 H
Test : 2004-04-30 18:52:20 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

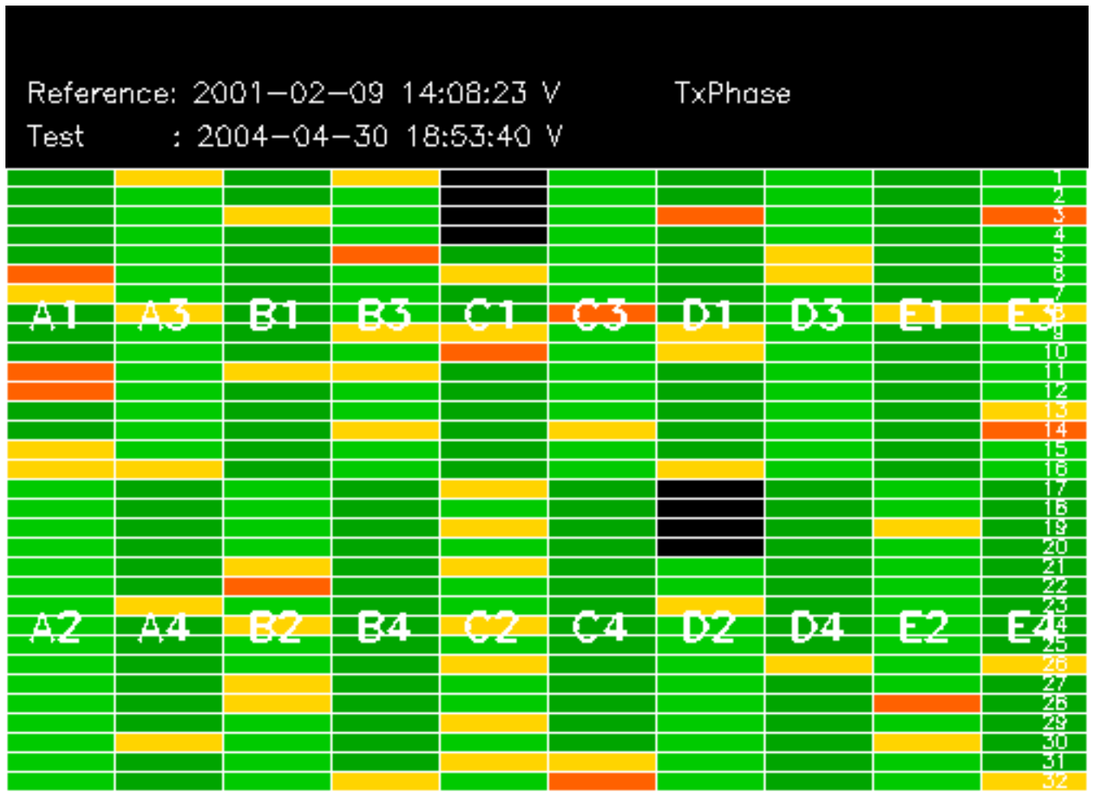

Reference: 2003-06-12 14:08:52 H
Test : 2004-04-30 18:52:20 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

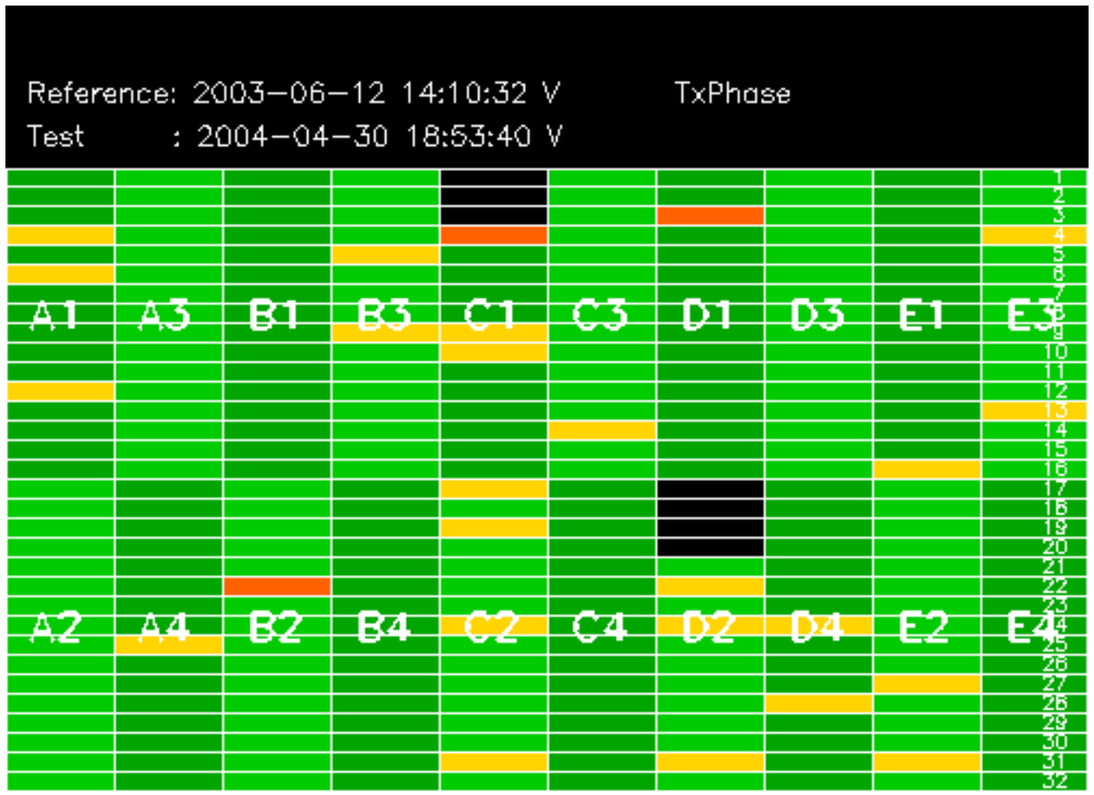

Reference: 2001-02-09 14:08:23 V
Test : 2004-04-30 18:53:40 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-04-30 18:53:40 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
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-04-30 18:52:20 H
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
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2004-04-30 18:52:20 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
TxPhase
Test : 2004-04-30 18:53:40 V
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 : 2004-04-30 18:53:40 V
TxPhase
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
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

No unavailabilities during the reported period.