PRELIMINARY REPORT OF 040502

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

last update on Sun May 2 12:40:01 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), 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	20040501 182203
H	20040501 182043

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

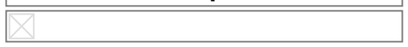
4.1.2 - Evolution for GM1

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	-3.602903	0.076423	-0.145811
7	P1	-3.324503	0.056866	-0.114085
11	P1	-4.622351	0.025630	0.060809
15	P1	-4.967331	0.040199	0.077768
19	P1	-3.358416	0.005653	-0.036421
22	P1	-4.515699	0.014293	0.018166
24	P1	-5.011919	0.015014	0.086533
28	P1	-4.594923	0.013579	0.007800

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.401514	0.080694	-0.018356

7	P2	-22.875731	0.114886	-0.013419
11	P2	-15.867771	0.133235	0.170471
15	P2	-7.159102	0.089074	-0.009543
19	P2	-9.516043	0.138643	0.006651
22	P2	-17.645578	0.094846	0.058056
24	P2	-20.976040	0.101073	0.059100
28	P2	-16.605404	0.081935	-0.002166

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.132519	0.003107	-0.009301
7	P3	-8.132518	0.003107	-0.009320
11	P3	-8.132516	0.003108	-0.009328
15	P3	-8.132524	0.003107	-0.009300
19	P3	-8.132532	0.003106	-0.009255
22	P3	-8.132535	0.003106	-0.009236
24	P3	-8.132542	0.003107	-0.009194
28	P3	-8.132557	0.003103	-0.008724

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	-3.253456	0.321034	-0.223056
7	P1	-2.885445	0.269051	-0.199446
11	P1	-3.815295	0.021003	0.000757
15	P1	-4.032433	0.352340	0.051117
19	P1	-3.247550	0.061829	-0.061397
22	P1	-5.807873	0.042473	0.048367
24	P1	-4.050851	0.090138	-0.023516
28	P1	-2.856729	0.070306	-0.122317

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.106720	0.039719	-0.064547
7	P2	-22.996161	0.027126	0.044763
11	P2	-11.053559	0.183957	-0.045217
15	P2	-4.917942	0.026752	-0.077453
19	P2	-6.820368	0.029450	-0.100676
22	P2	-7.701261	0.027913	-0.015083
24	P2	-11.010044	0.051833	-0.064287
28	P2	-19.020411	0.027337	-0.031573

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.967359	0.003485	-0.012572
7	P3	-7.967373	0.003484	-0.012367
11	P3	-7.967315	0.003481	-0.012182
15	P3	-7.967235	0.003498	-0.012529
19	P3	-7.967321	0.003486	-0.012598
22	P3	-7.967488	0.003477	-0.012657
24	P3	-7.967211	0.003502	-0.012389
28	P3	-7.967198	0.003500	-0.012458

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	0.000482000
	stdev	2.33861e-07
MEAN Q	mean	0.000493534
	stdev	2.67540e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127831
	stdev	0.00114358
STDEV Q	mean	0.128081
	stdev	0.00115657

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

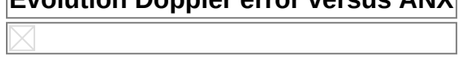
Evolution of Absolute Doppler

Acsending

Descending

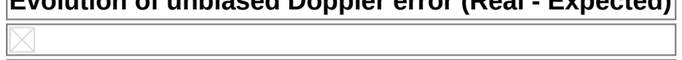
6.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX



6.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)

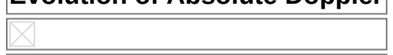


Acsending

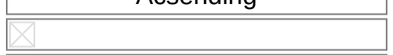
Descending

6.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler



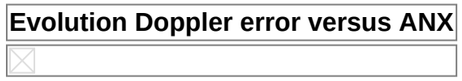
Acsending

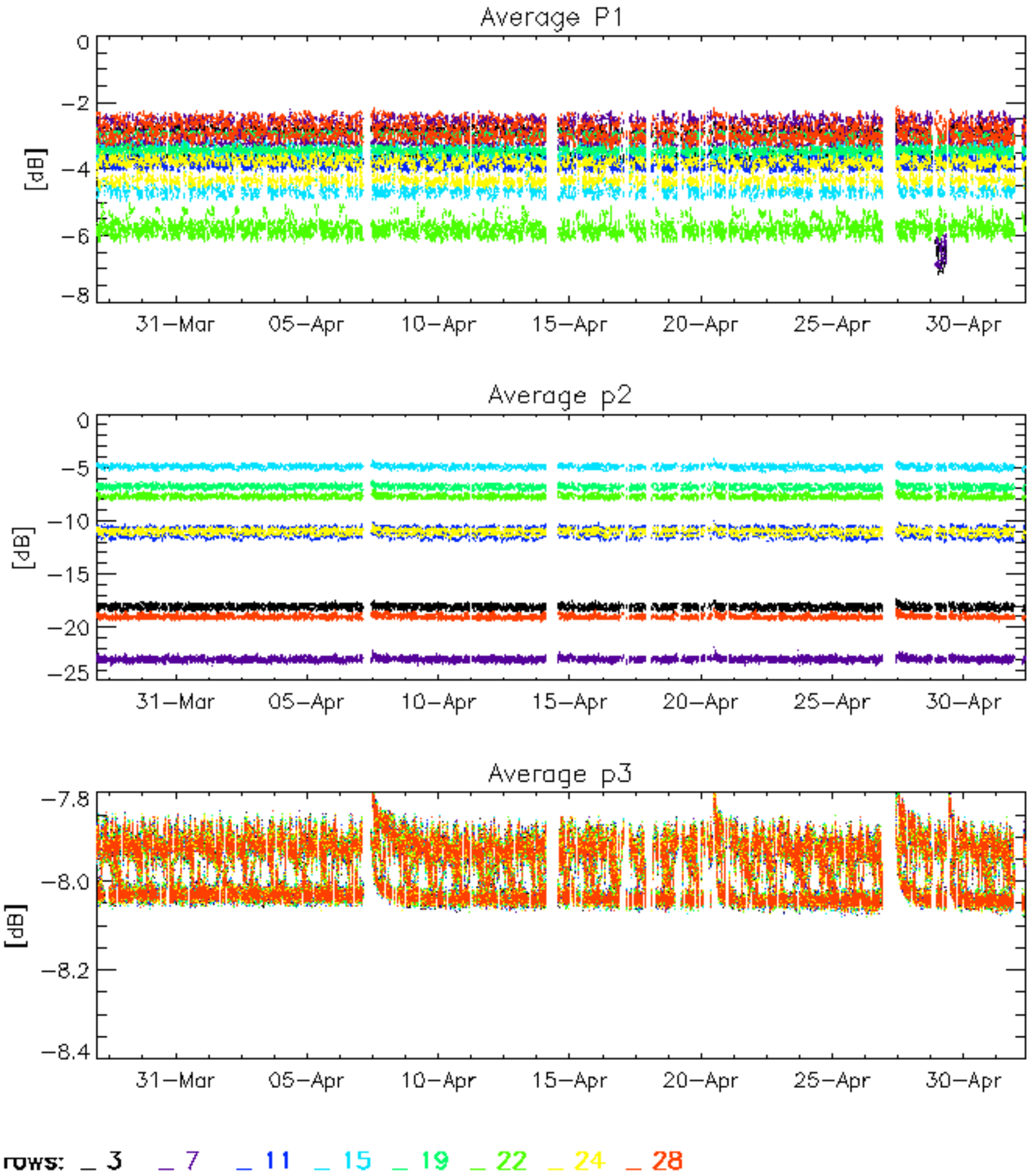


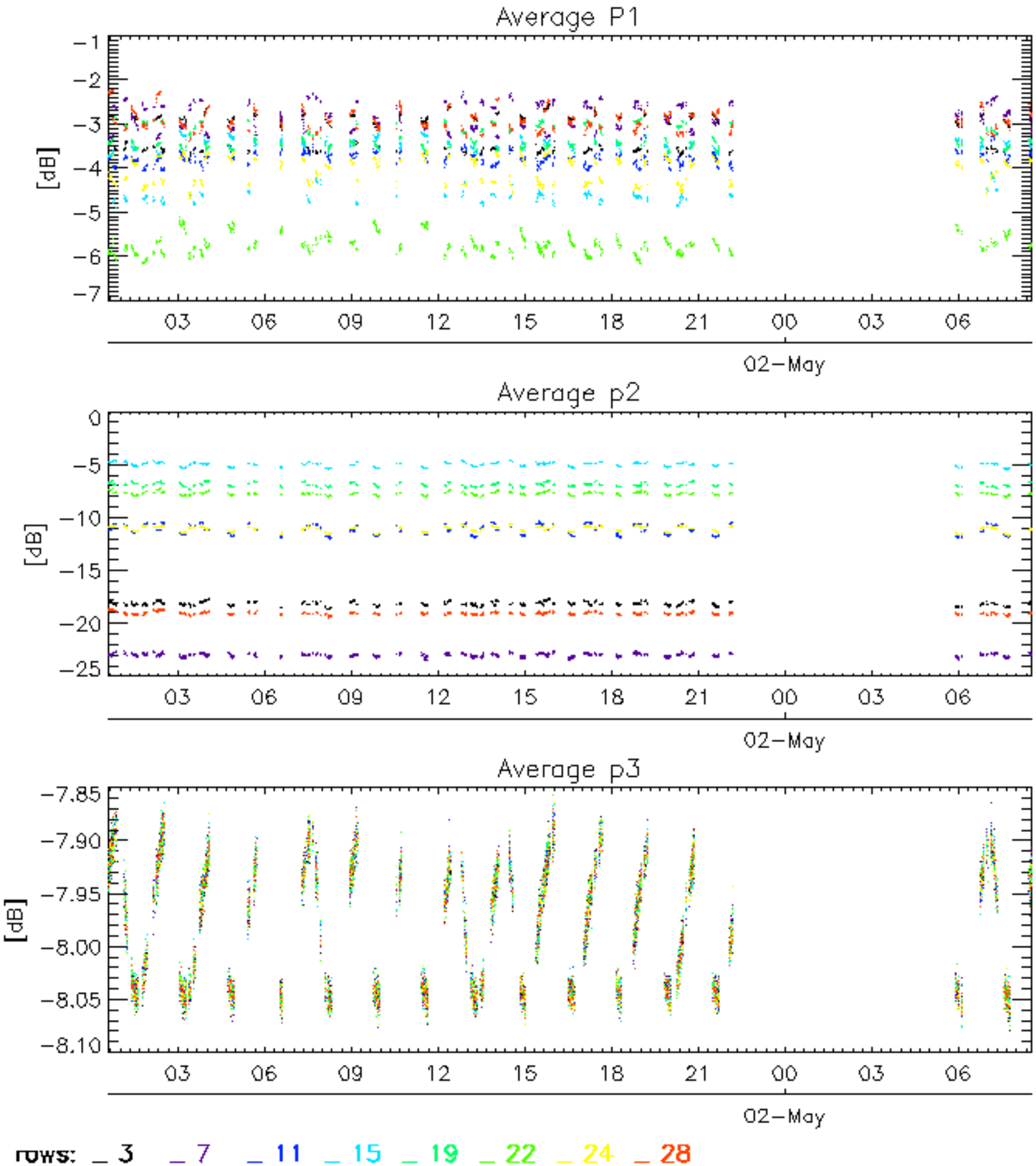
Descending

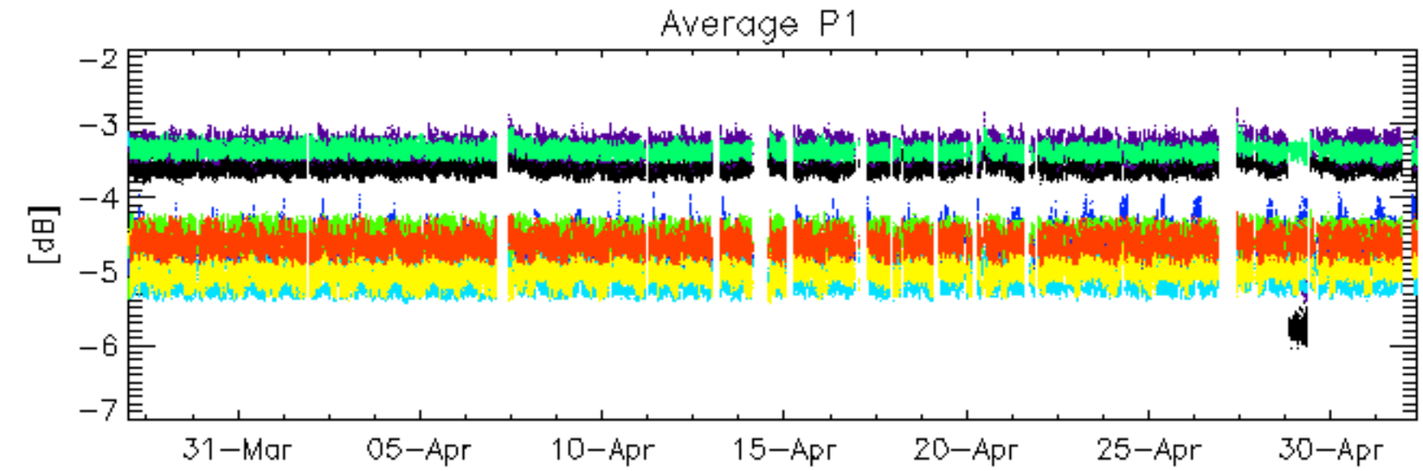
6.6 - Doppler evolution versus ANX for GM1

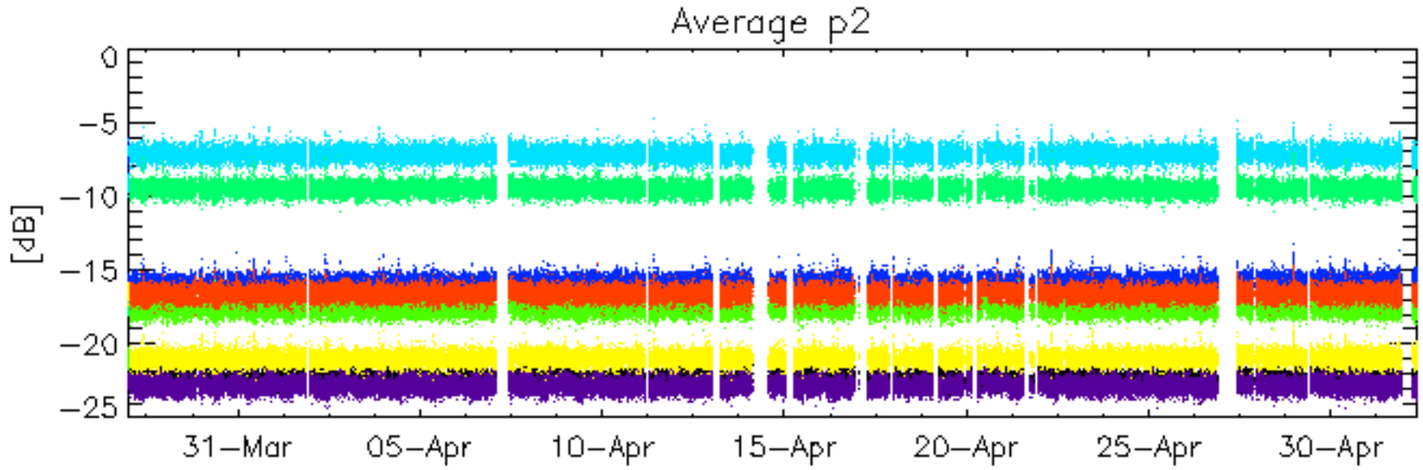
Evolution Doppler error versus ANX

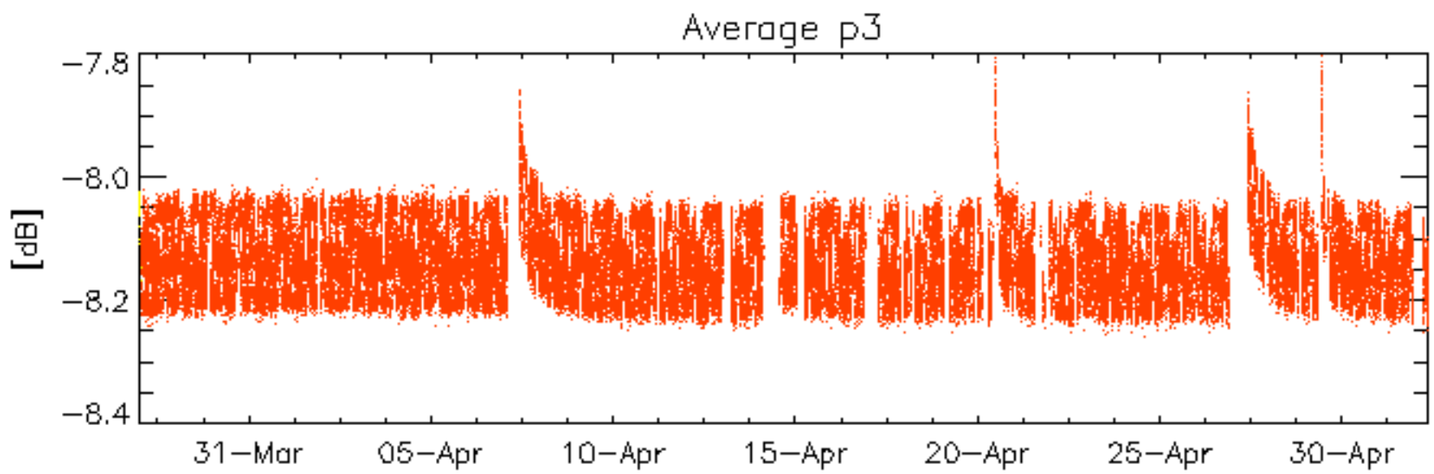



Average P1
0
−2
−4
−6
−8
[dB]
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr
30−Apr
Average p2
0
−5
−10
−15
−20
−25
[dB]
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr
30−Apr
Average p3
−7.8
−8.0
−8.2
−8.4
[dB]
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr
30−Apr
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 28

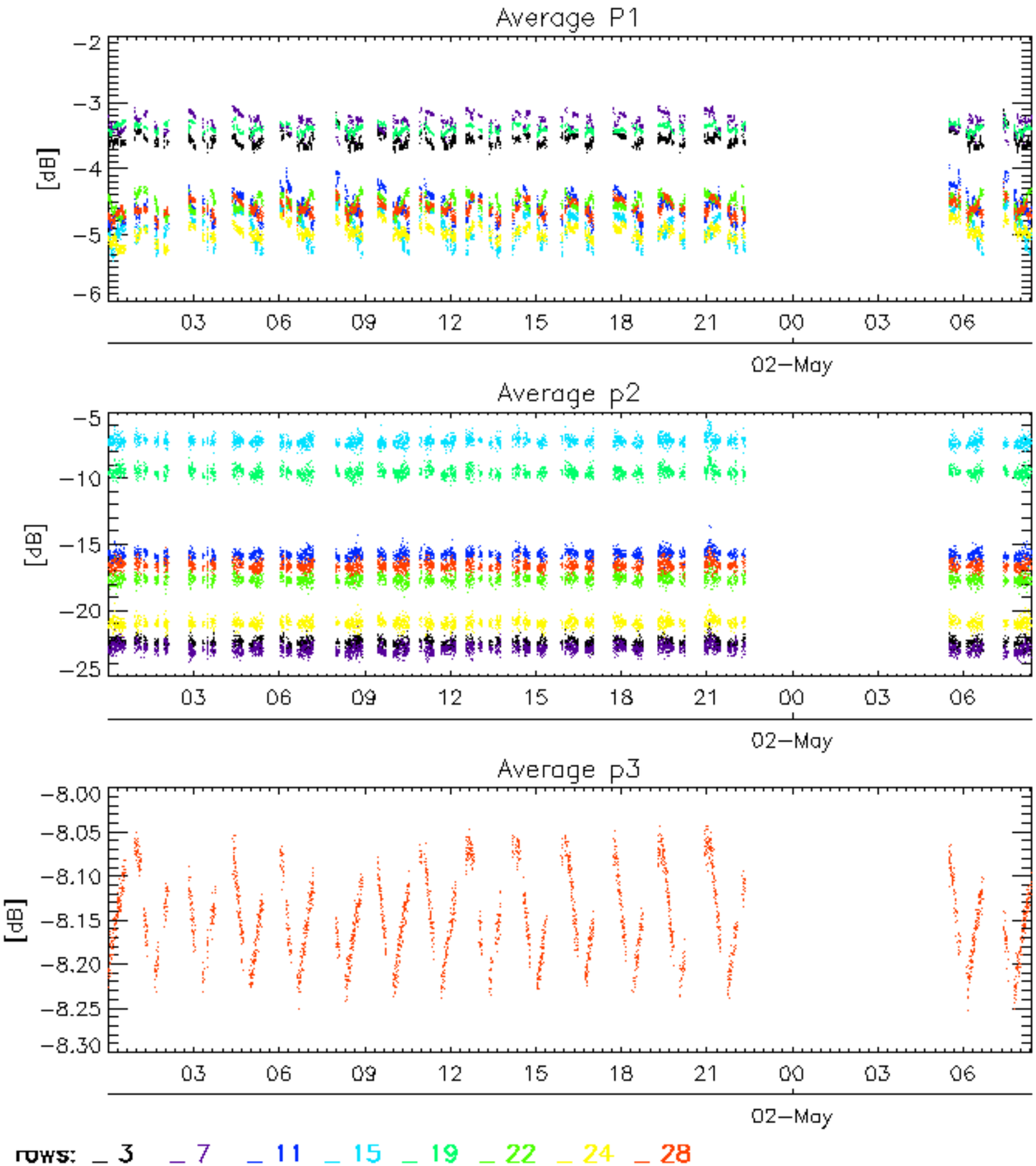

Average P1
[dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
06
02−May
Average p2
[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
03
06
02−May
Average p3
[dB]
−7.85
−7.90
−7.95
−8.00
−8.05
−8.10
03
06
09
12
15
18
21
00
03
06
02−May
rows: 3 7 11 15 19 22 24 28



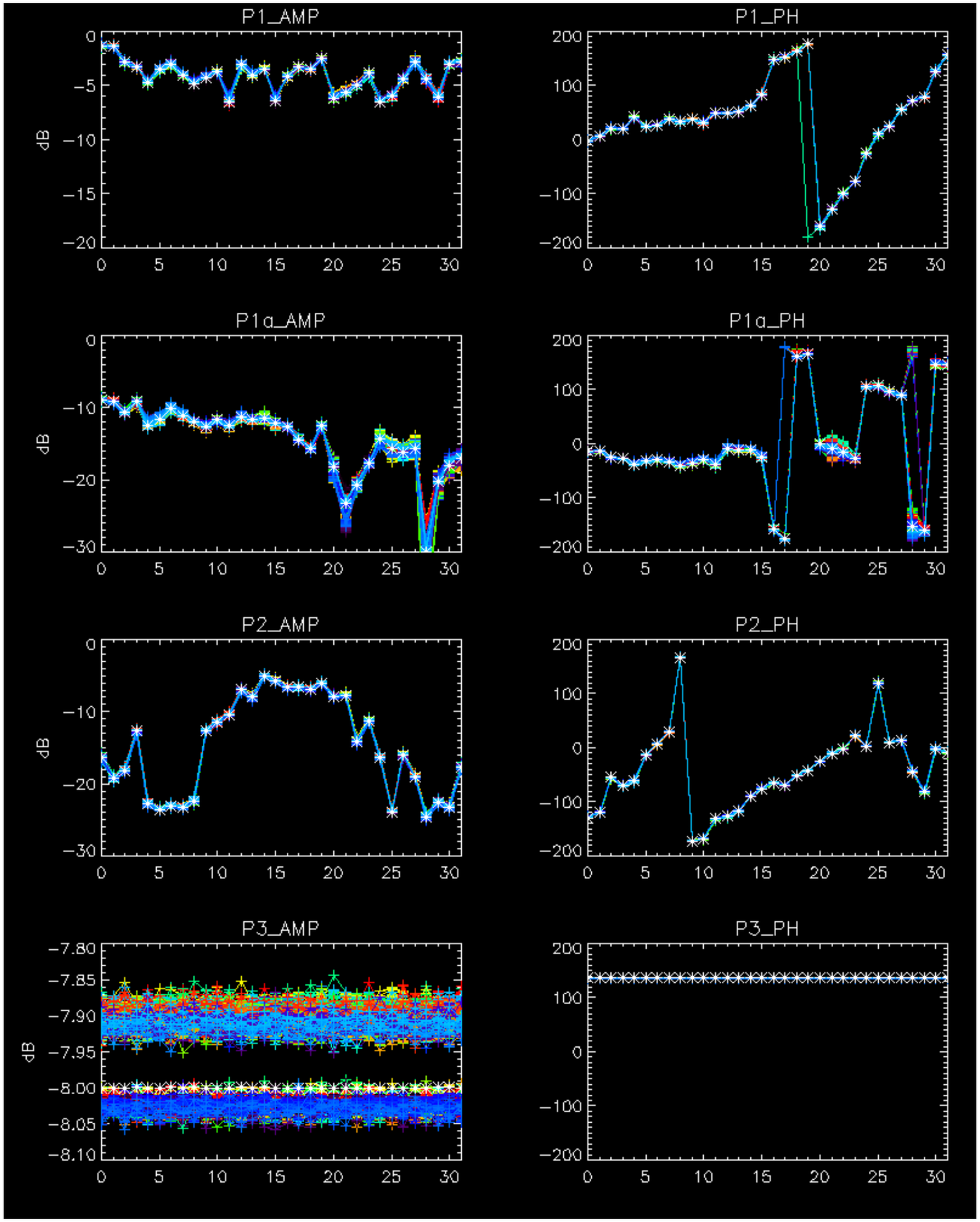


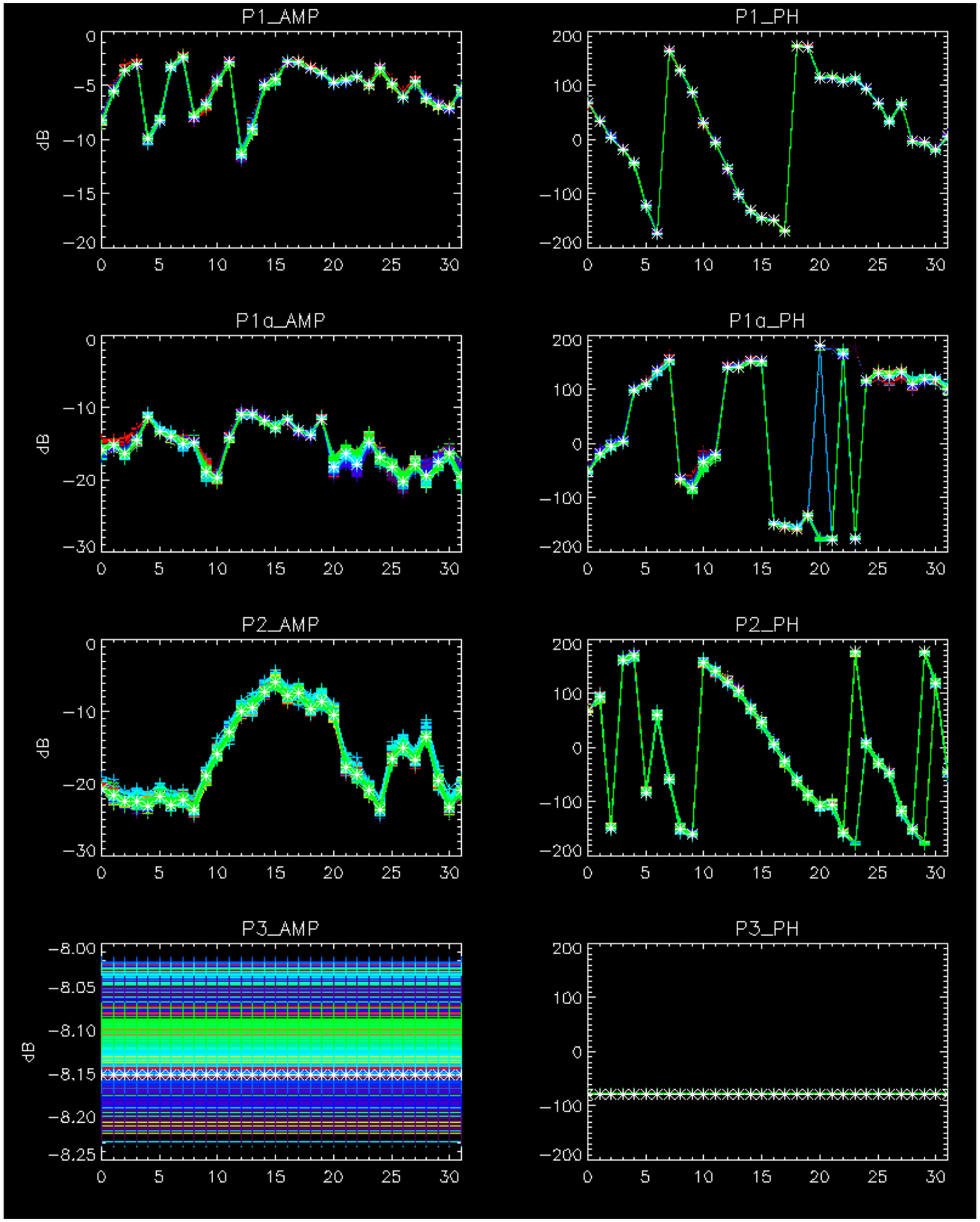


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 28


Average P1
[dB]
−2
−3
−4
−5
−6
03
06
09
12
15
18
21
00
03
06
02−May
Average p2
[dB]
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
03
06
02−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
02−May
rows: 3 7 11 15 19 22 24 28

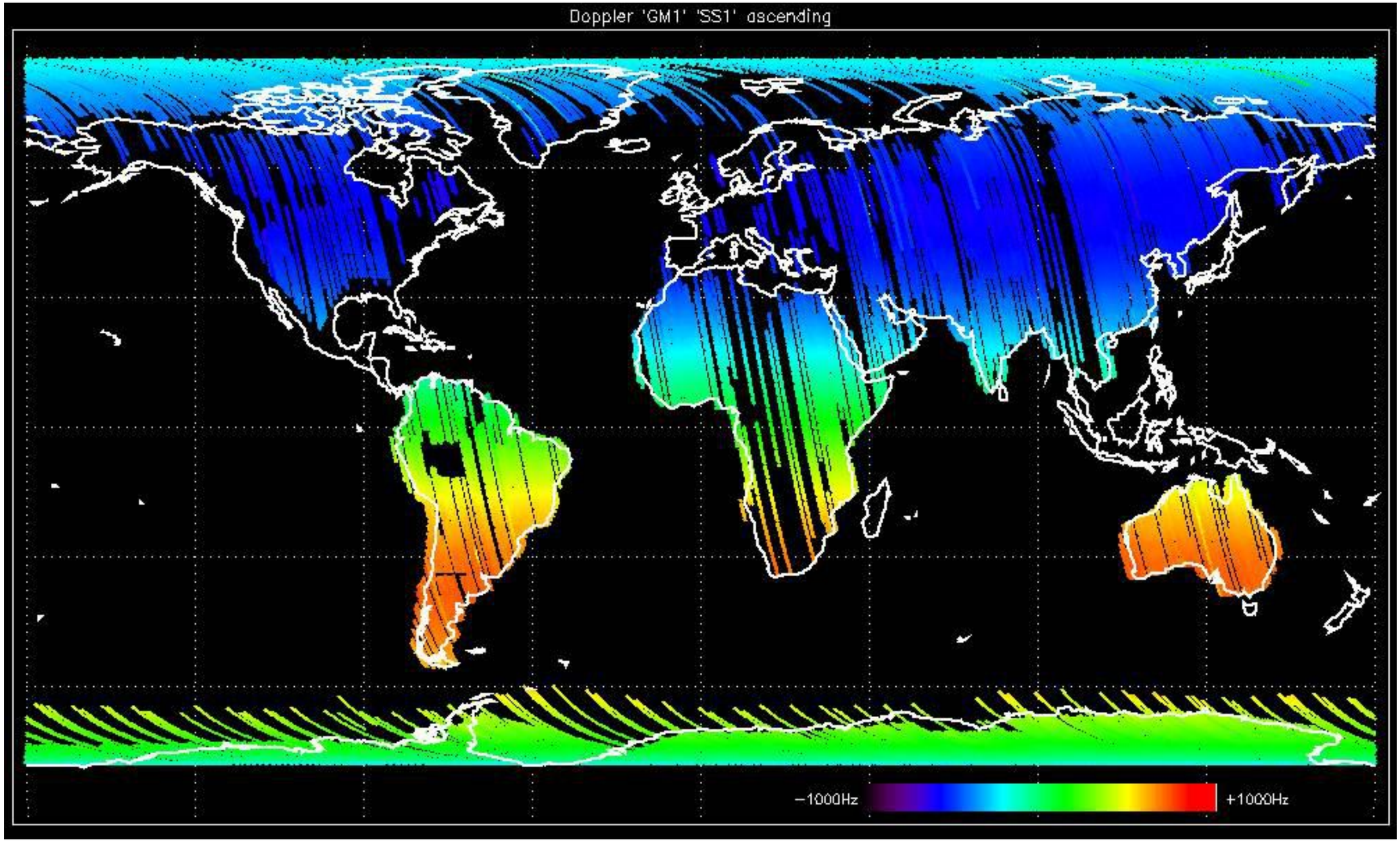
No anomalies observed.

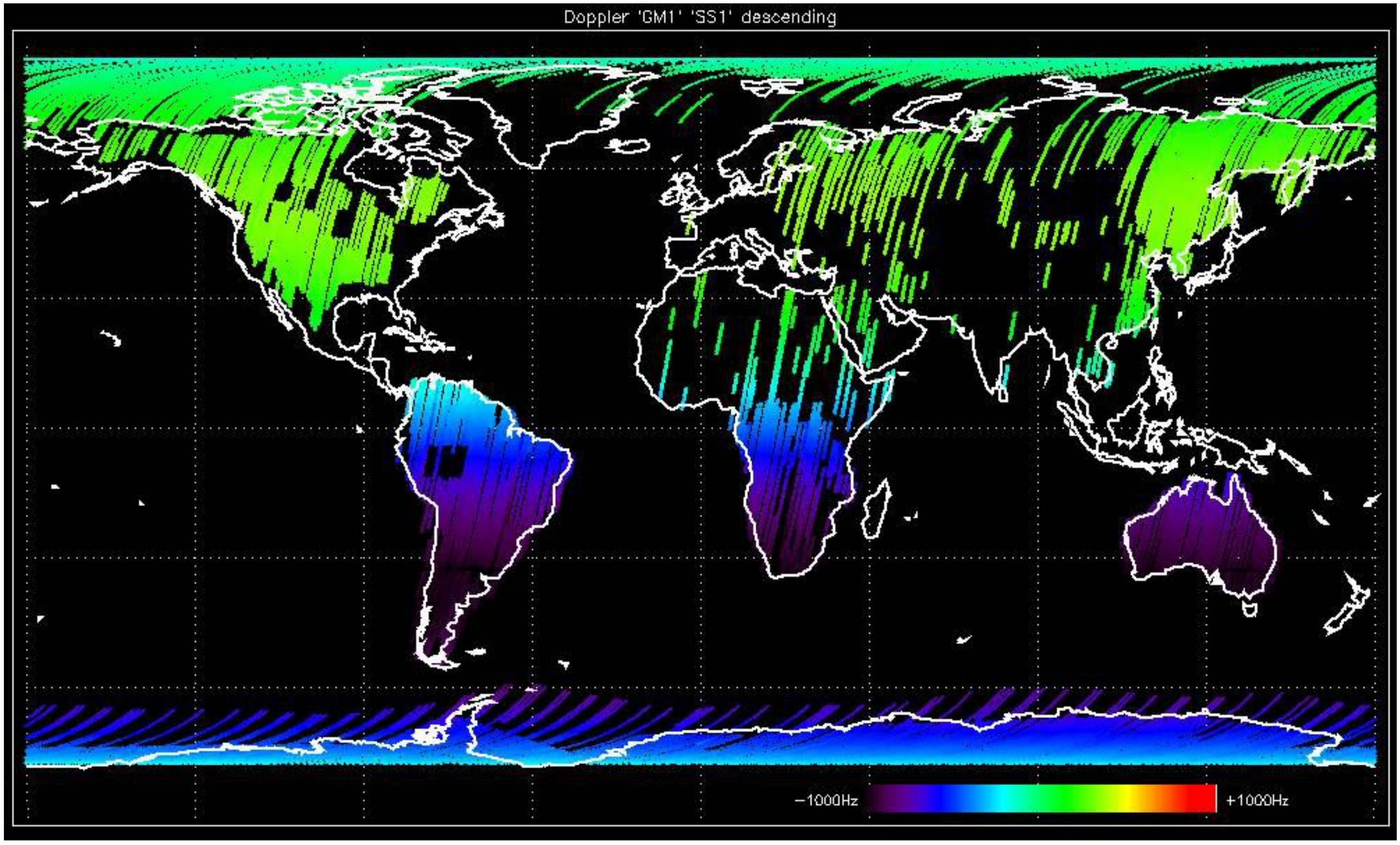

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.80
−7.85
−7.90
−7.95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

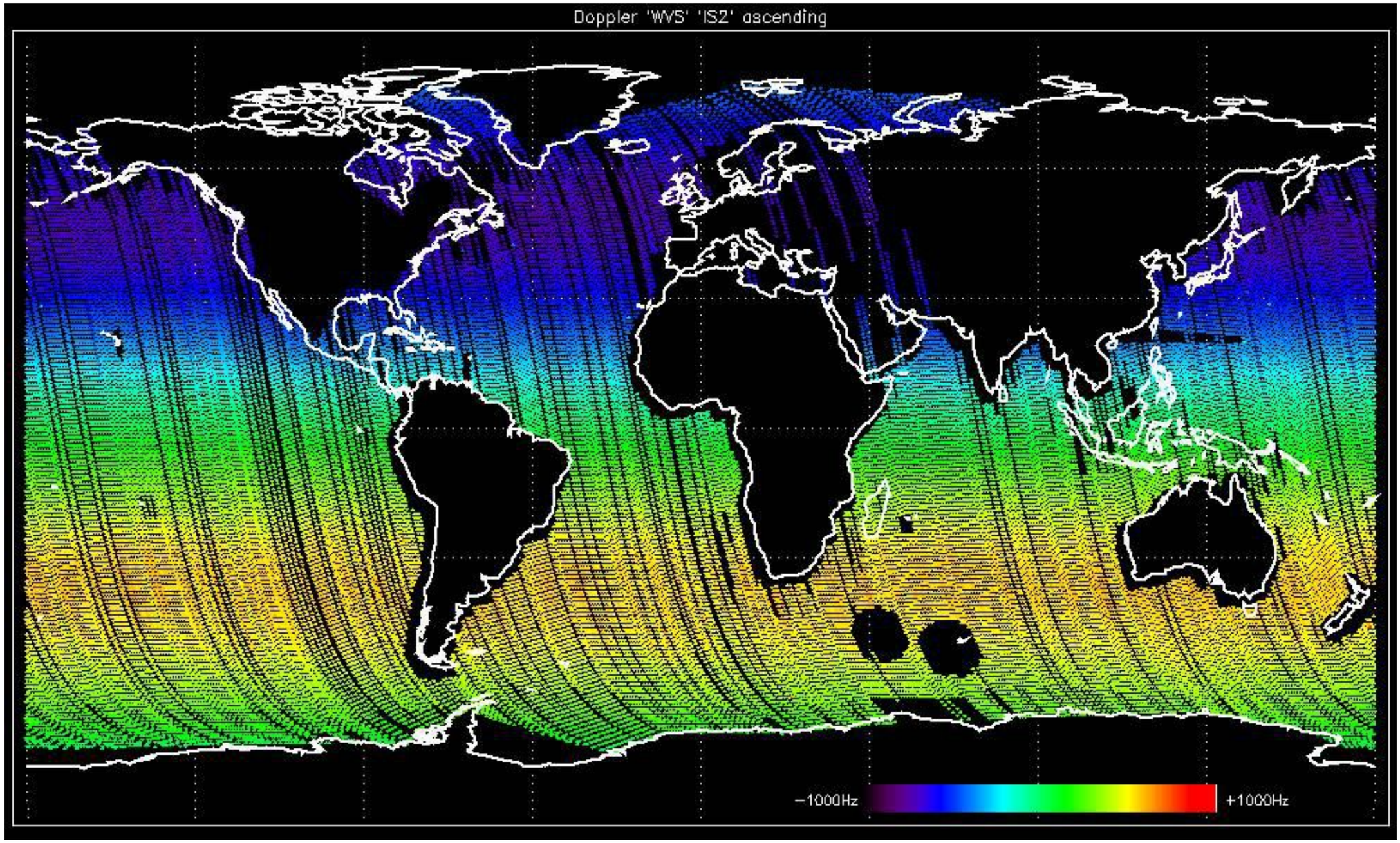

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.00
−8.05
−8.10
−8.15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

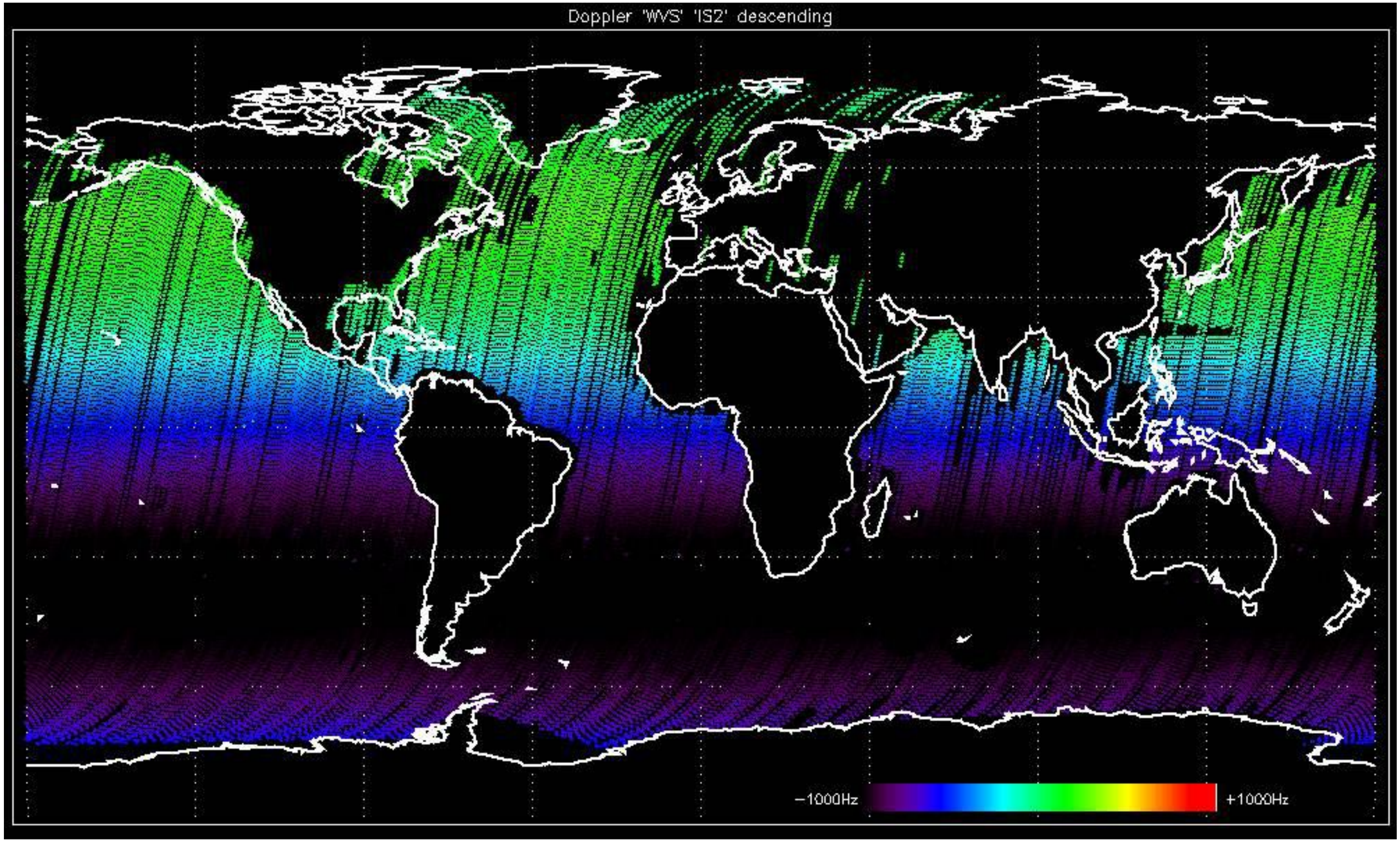
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

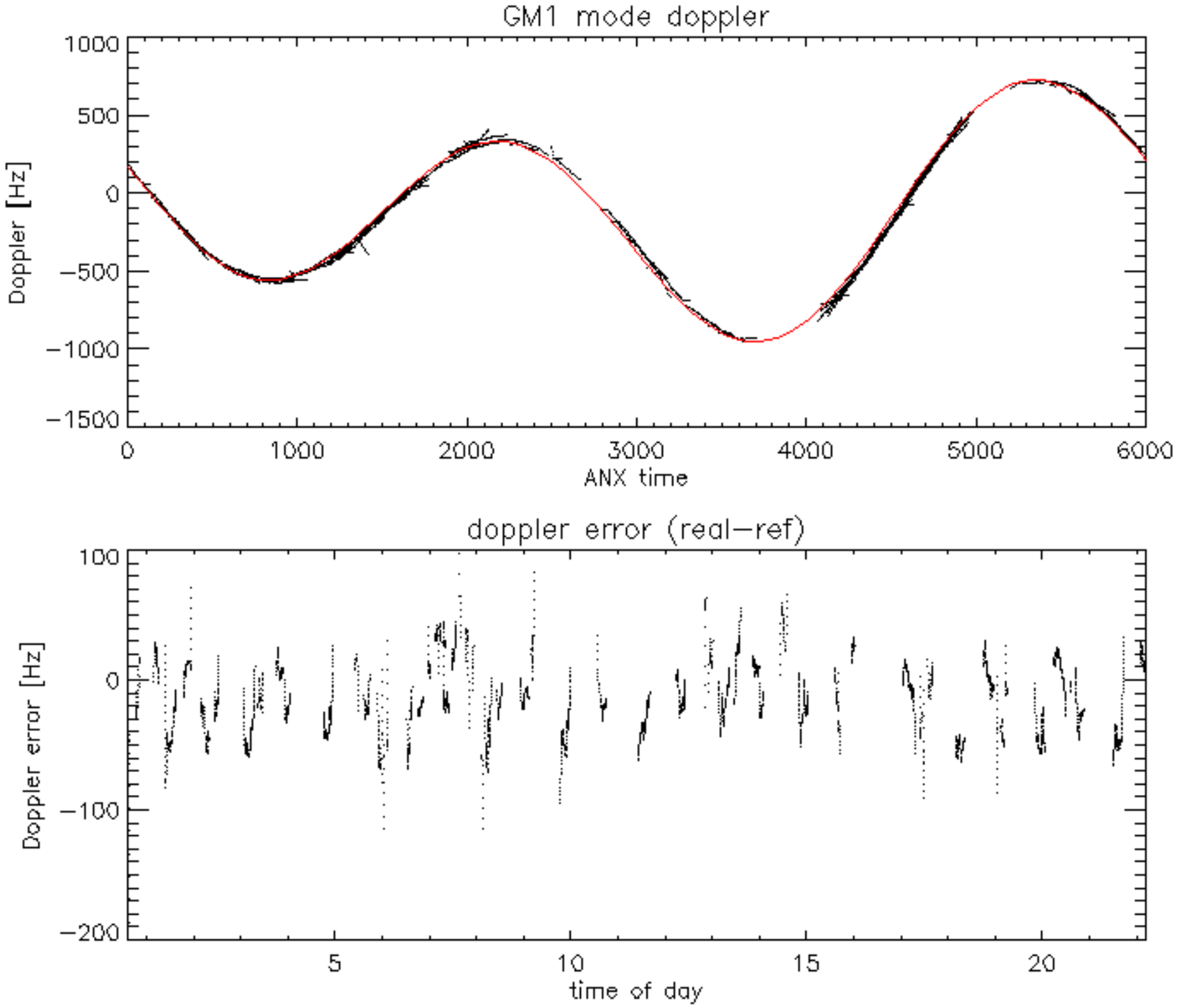
Preliminary report.The data is not yet controled

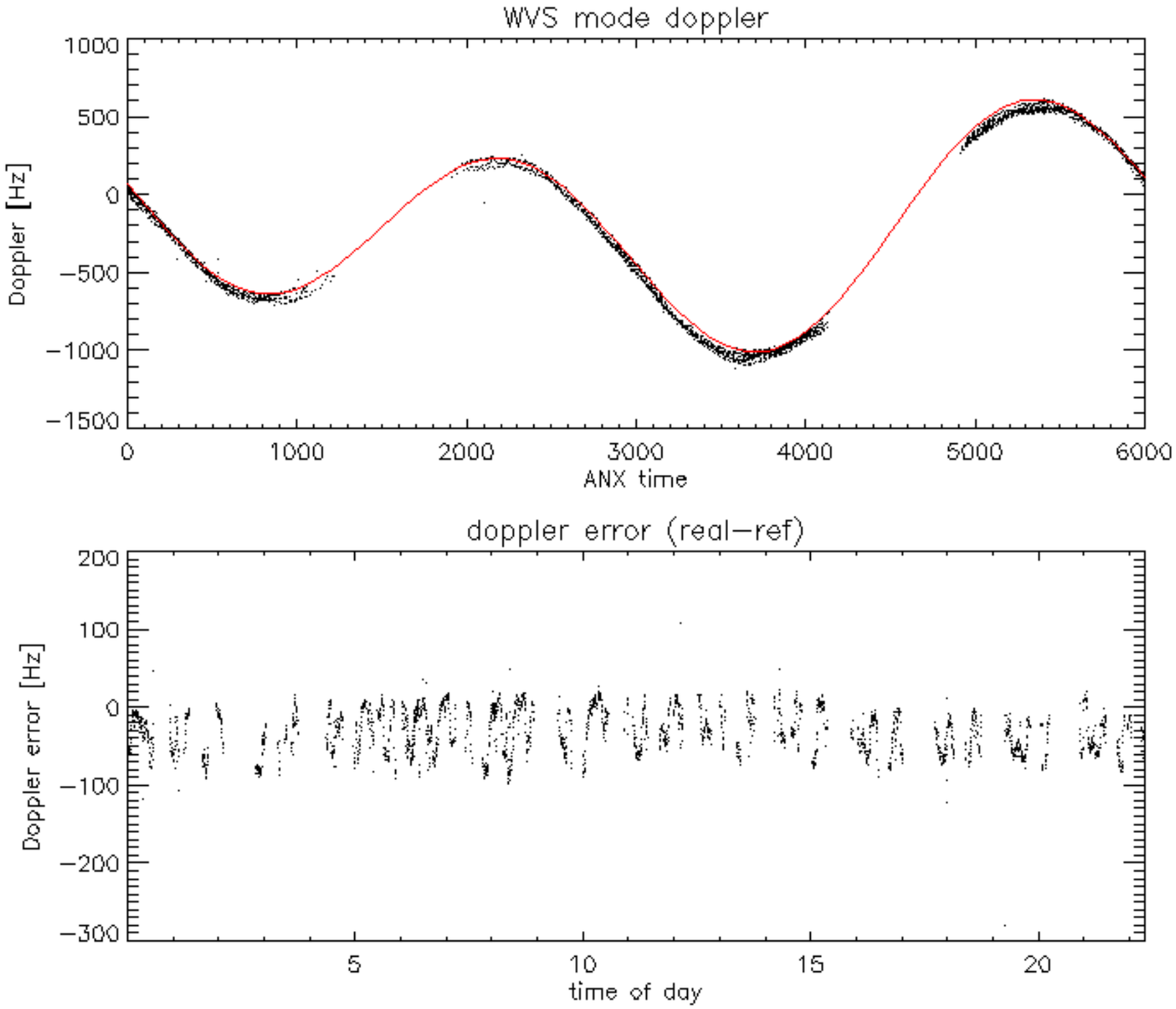

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

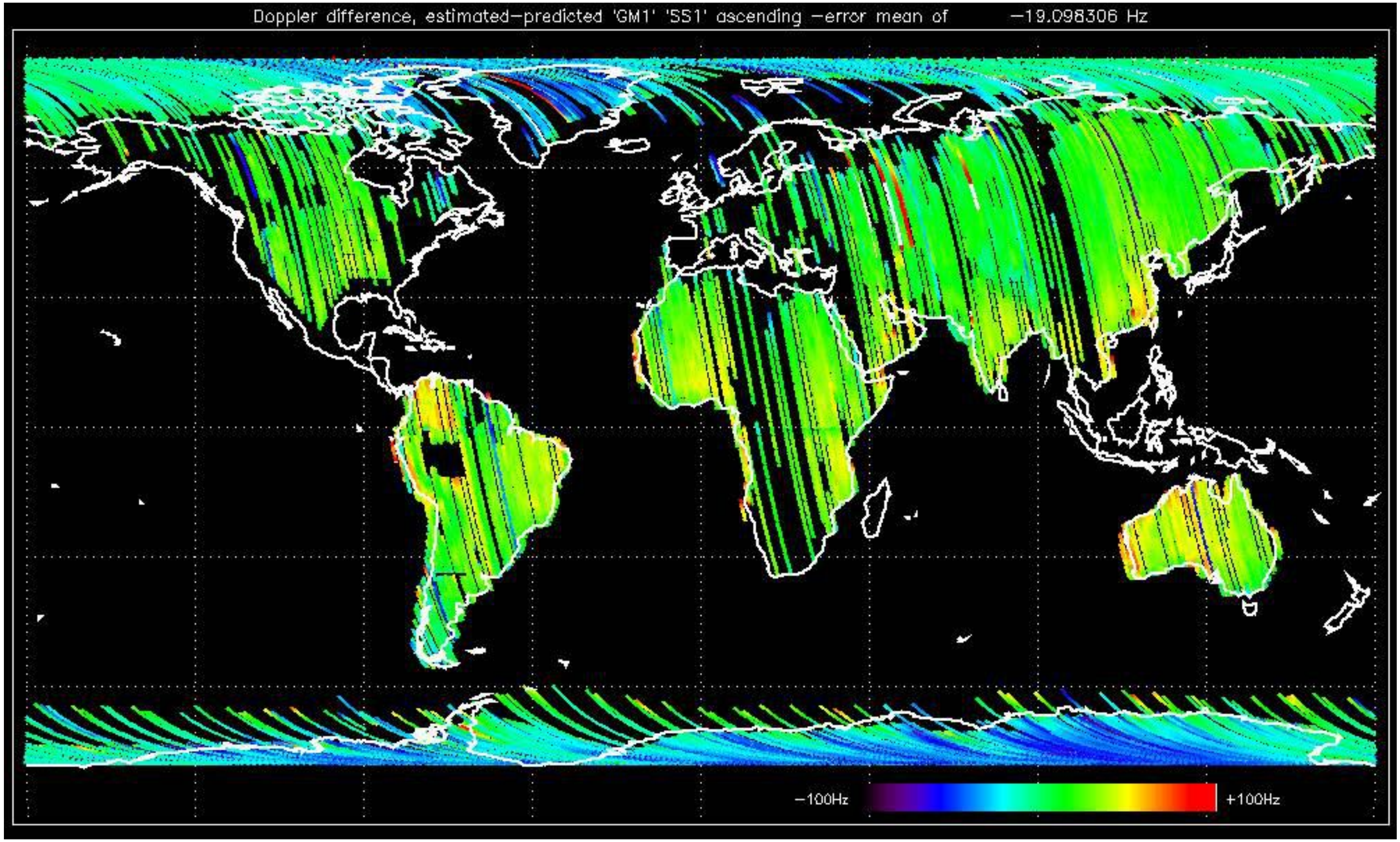

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

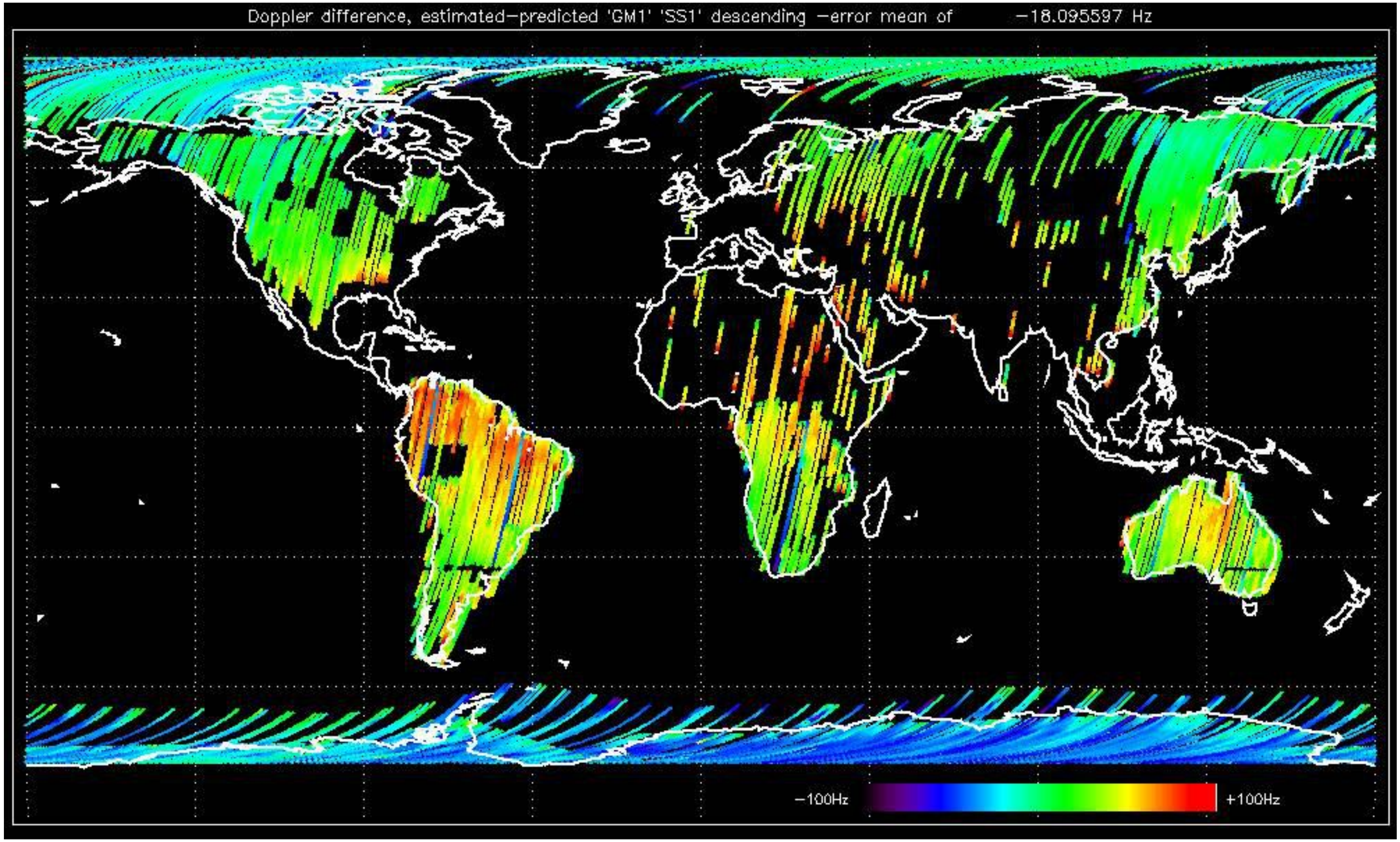

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

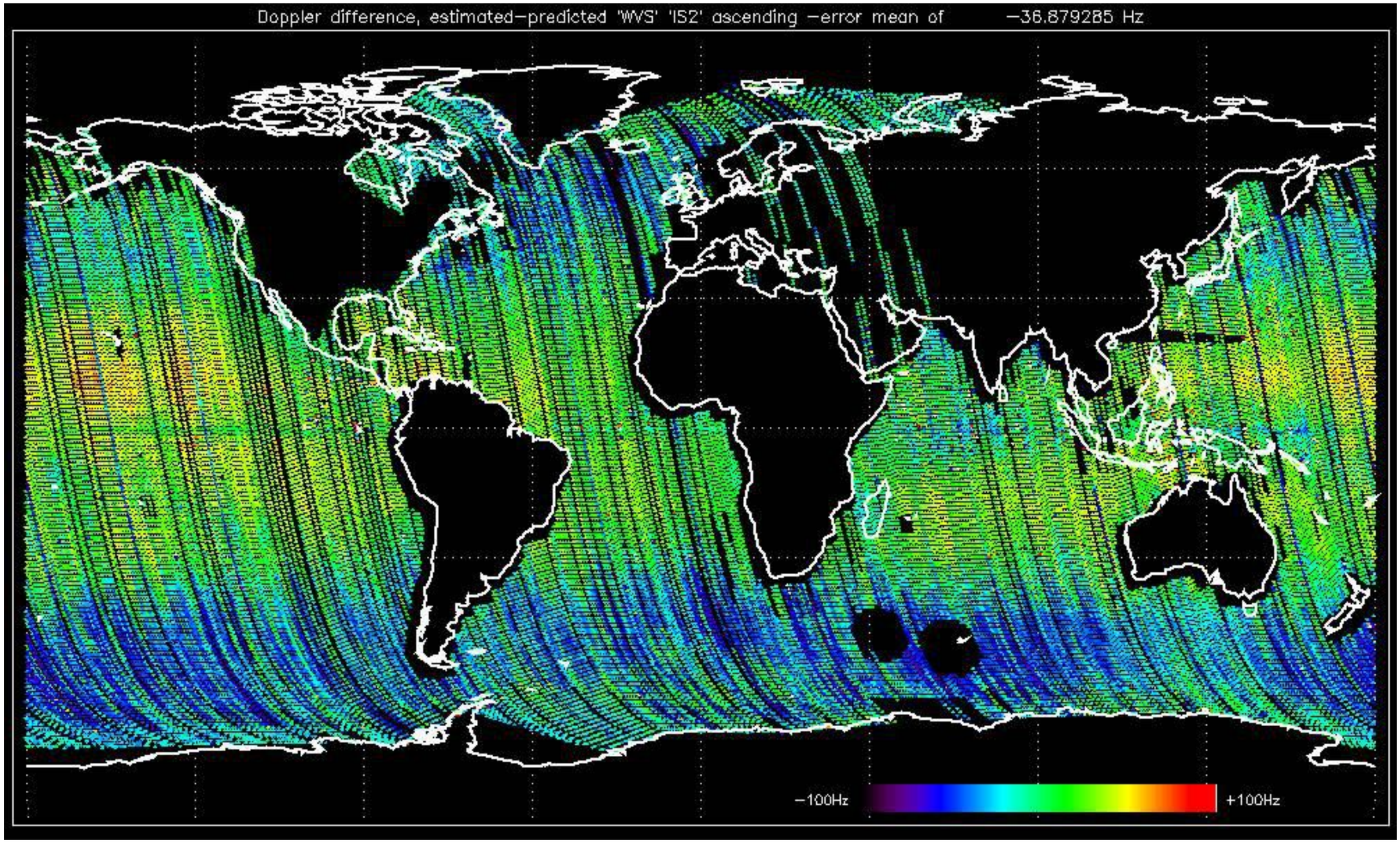

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

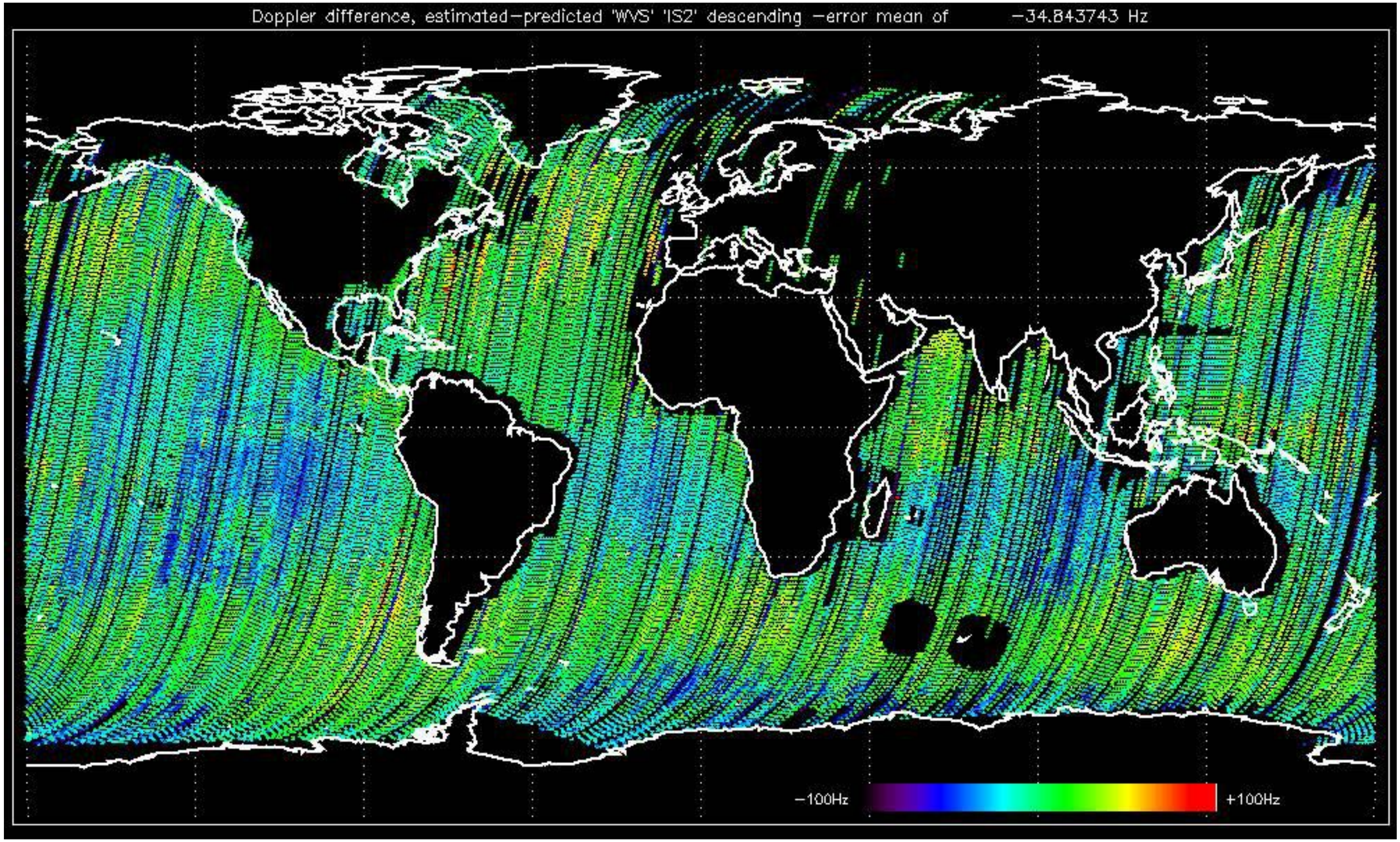

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
ANX time
doppler error (real−ref)
Doppler error [Hz]
100
0
−100
−200
5
10
15
20
time of day


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −19.098306 Hz
−100Hz
+100Hz

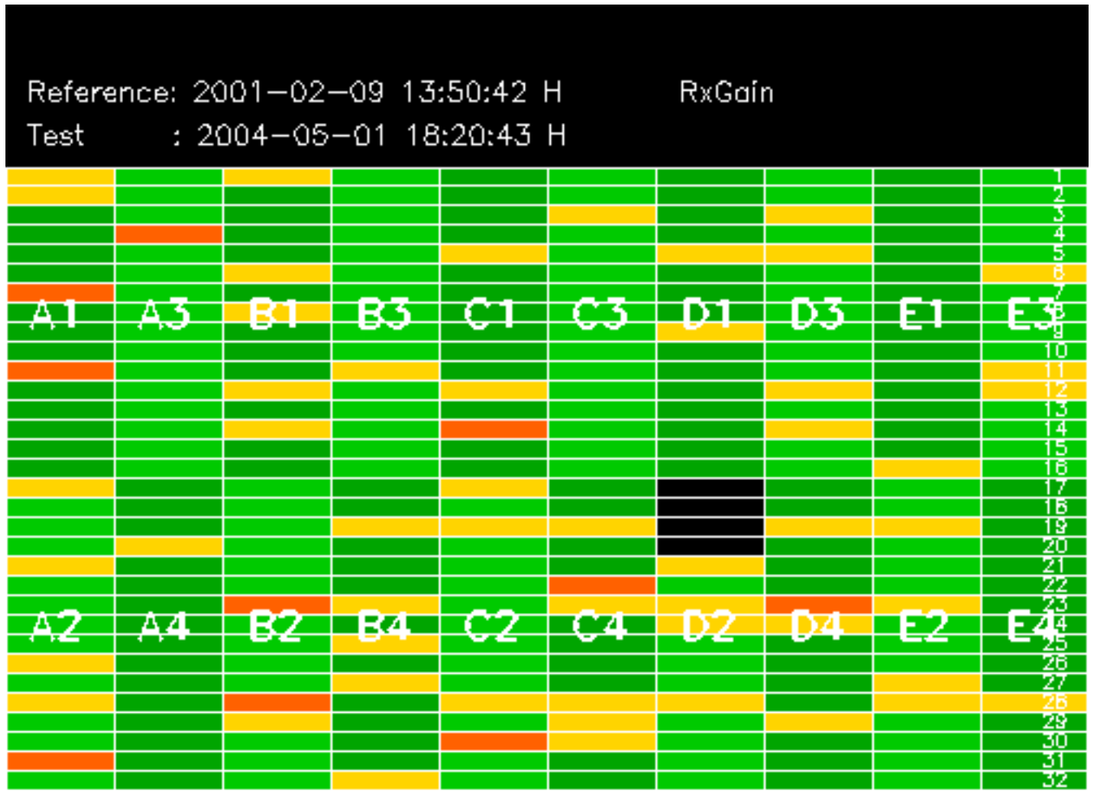

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −18.095597 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −36.879285 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −34.843743 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
Test : 2004-05-01 18:20:43 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
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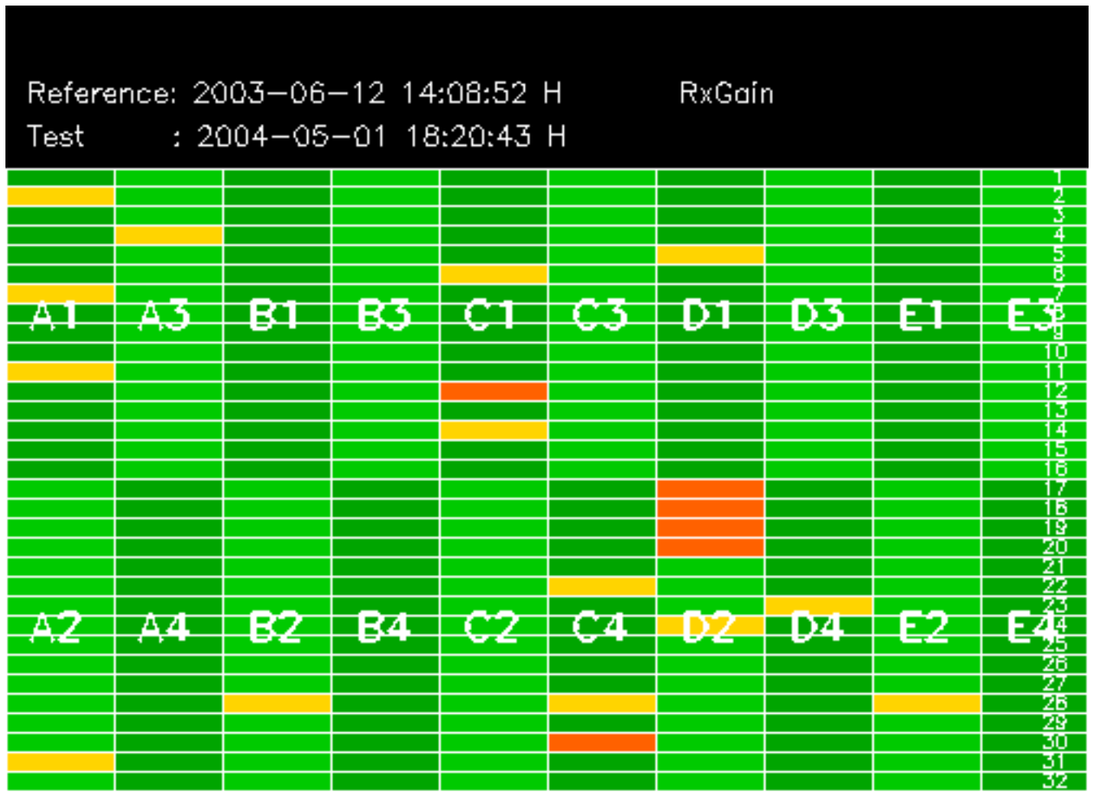
Reference: 2003-06-12 14:08:52 H
Test : 2004-05-01 18:20:43 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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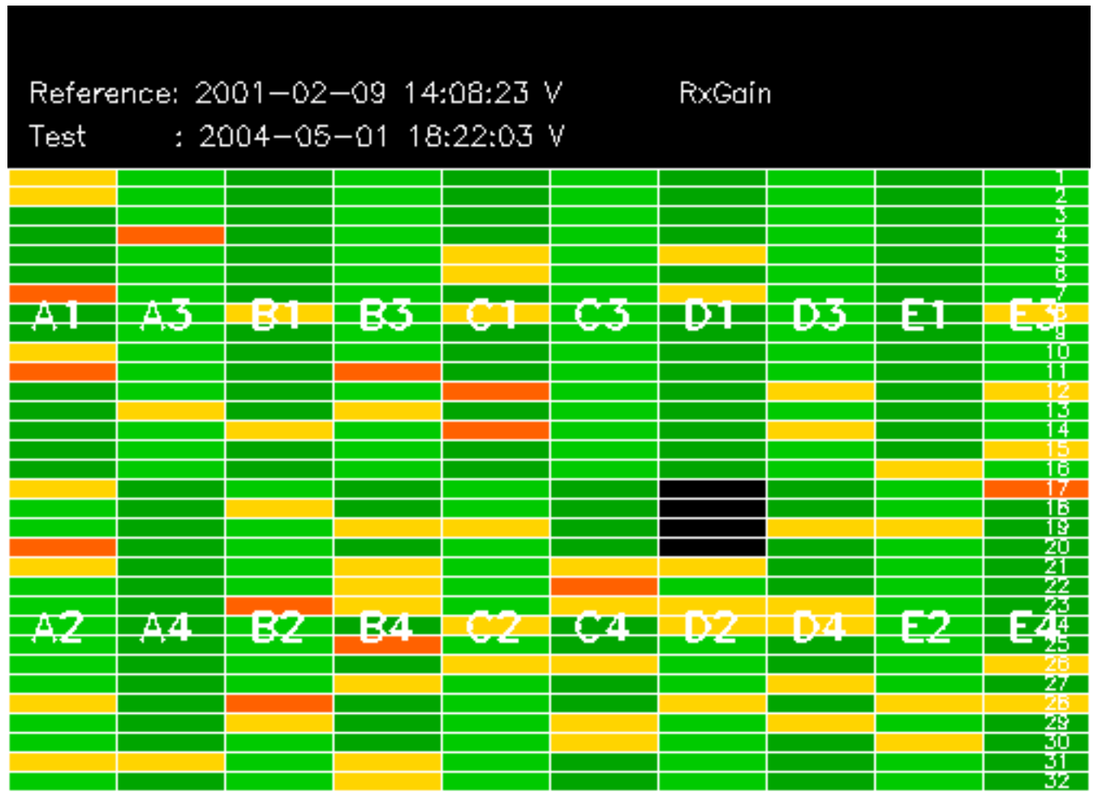
Reference: 2001-02-09 14:08:23 V
Test : 2004-05-01 18:22:03 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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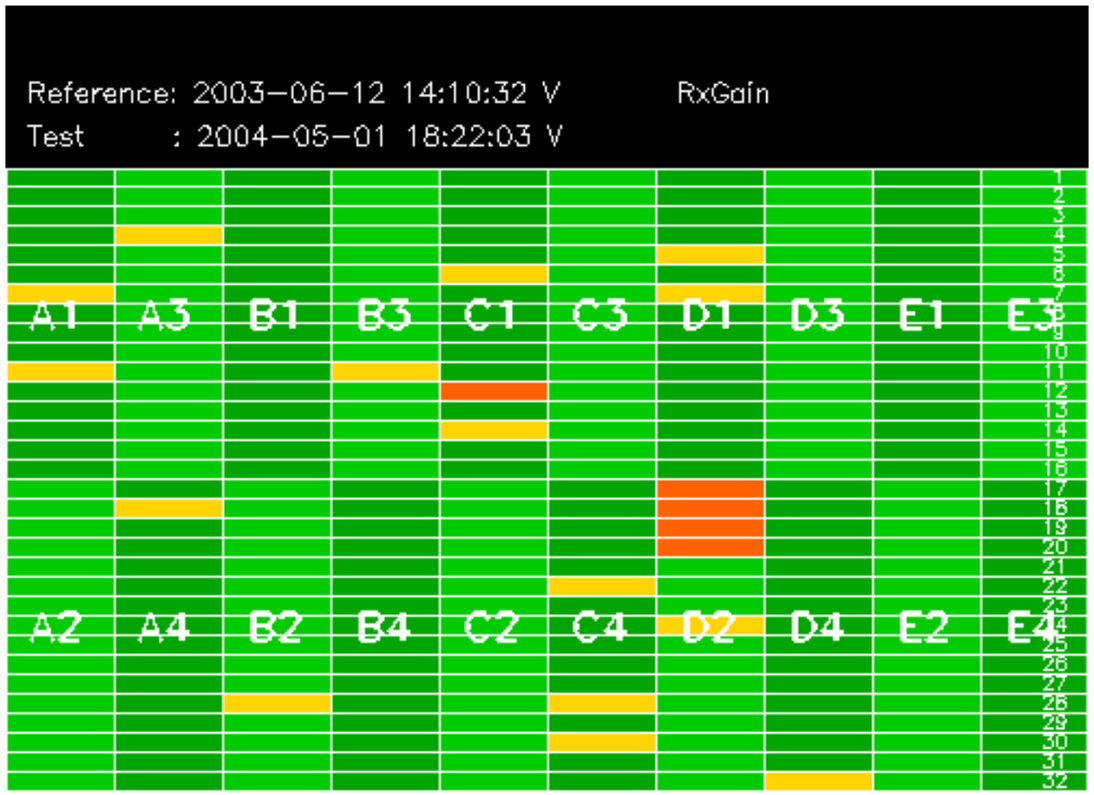
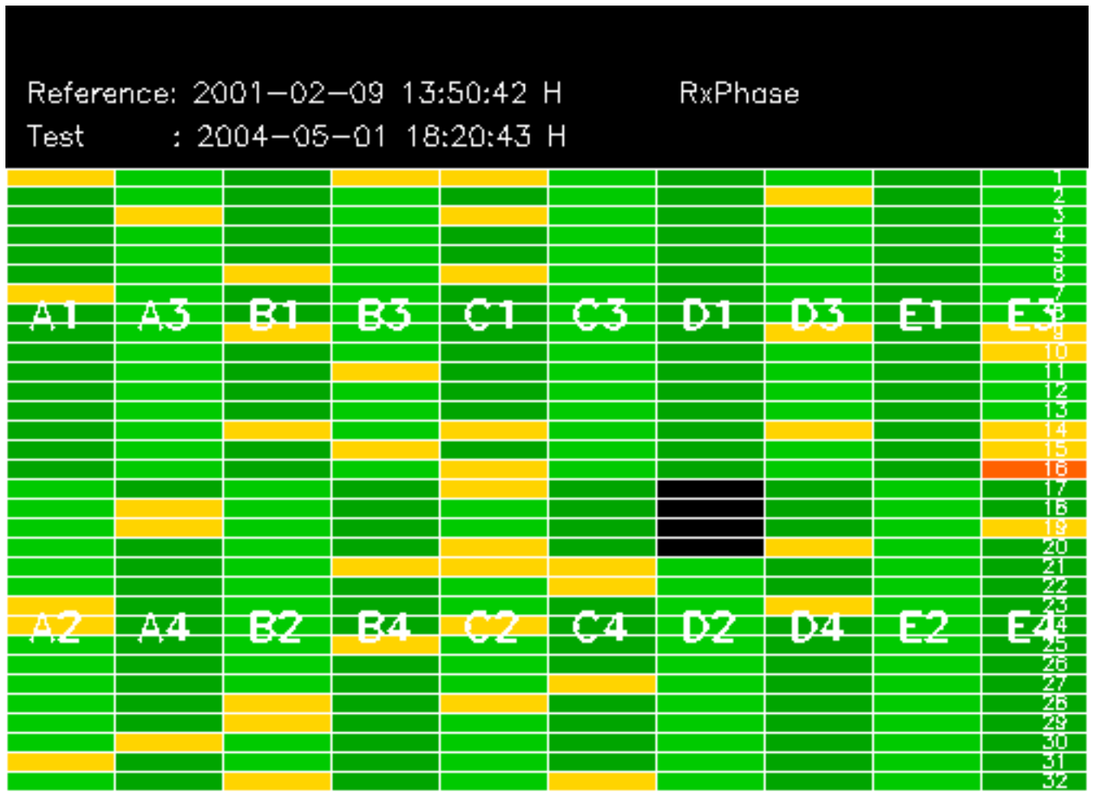
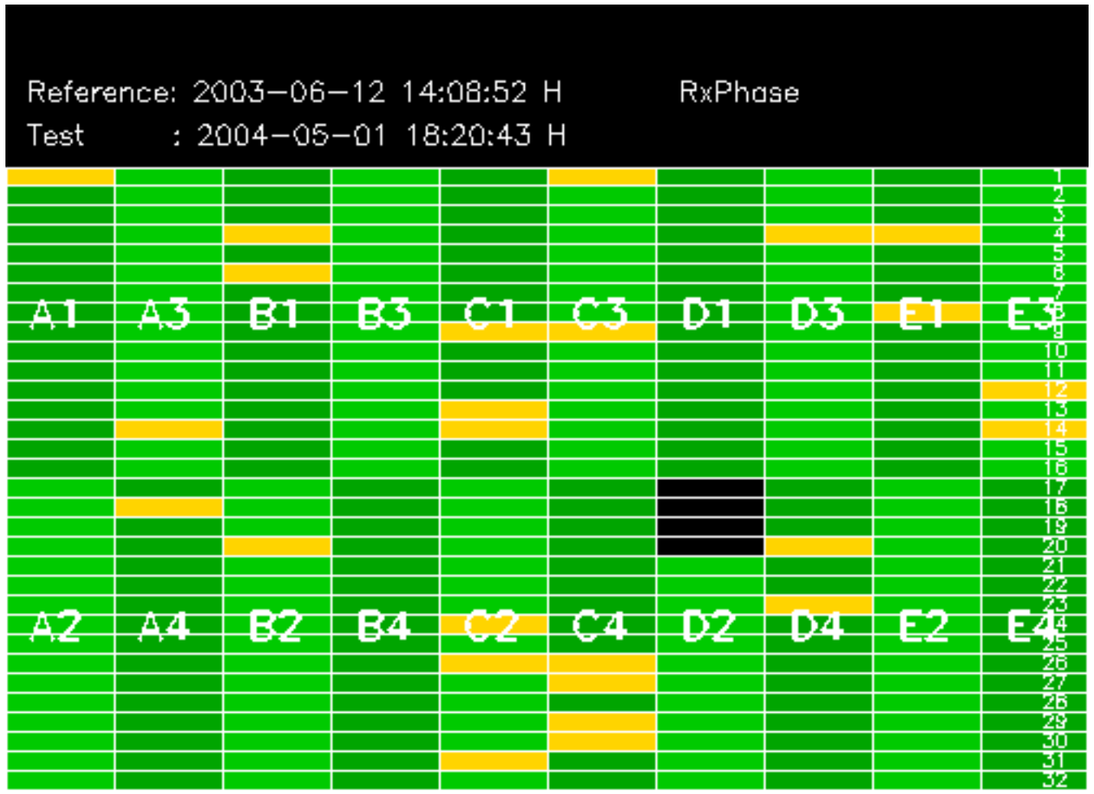

Reference: 2003-06-12 14:10:32 V
Test : 2004-05-01 18:22:03 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-05-01 18:20:43 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 : 2004-05-01 18:20:43 H
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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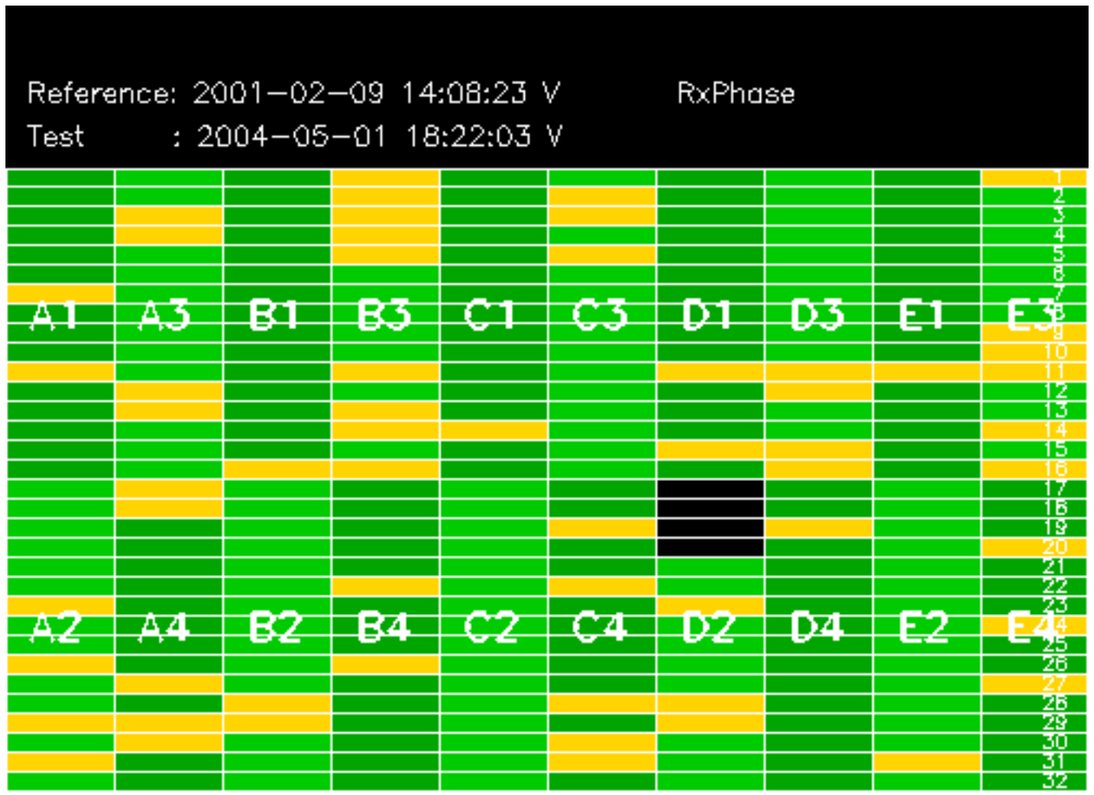
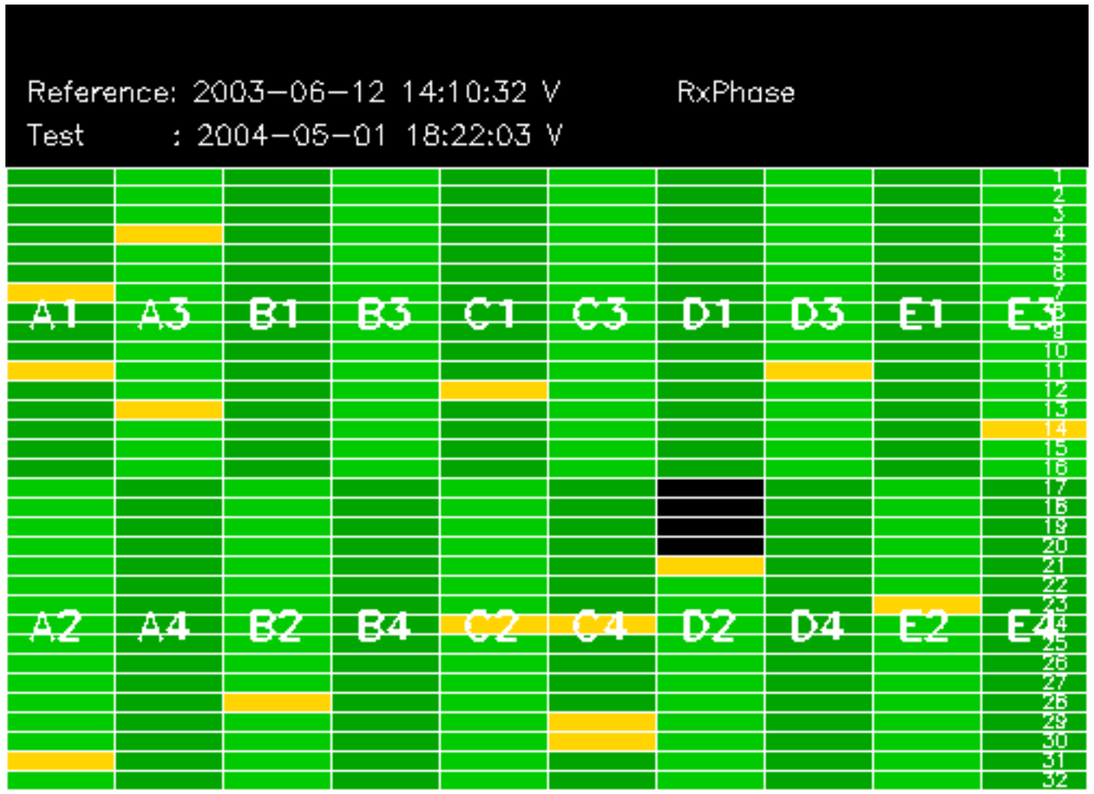
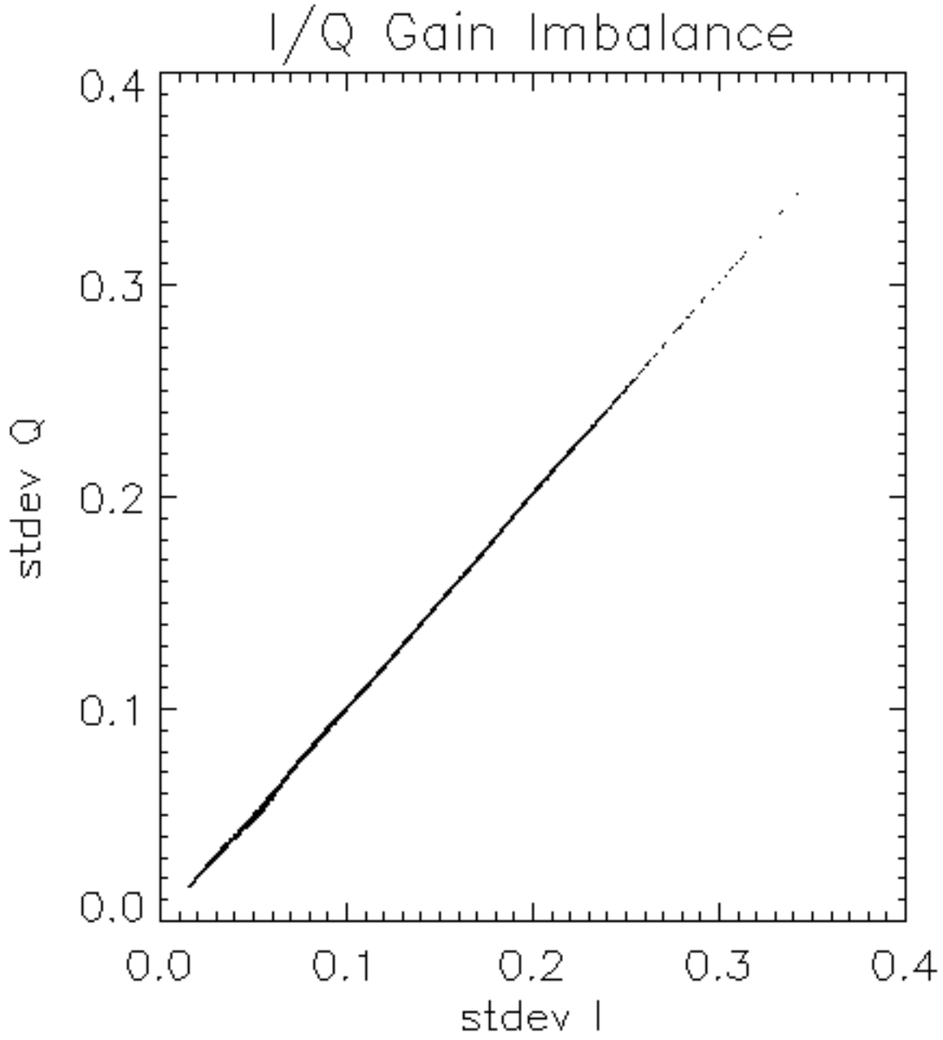
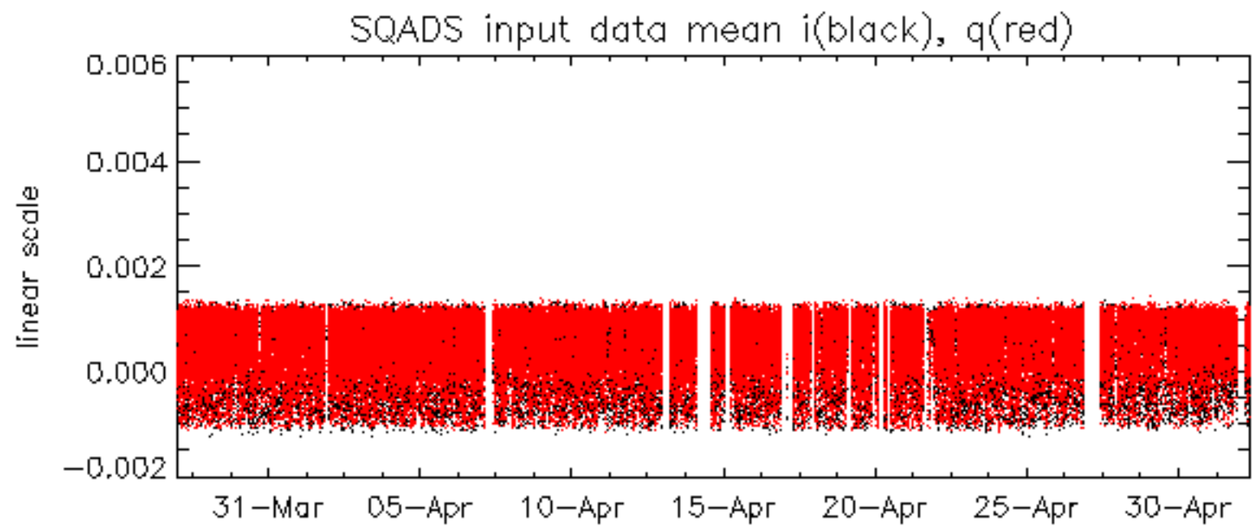
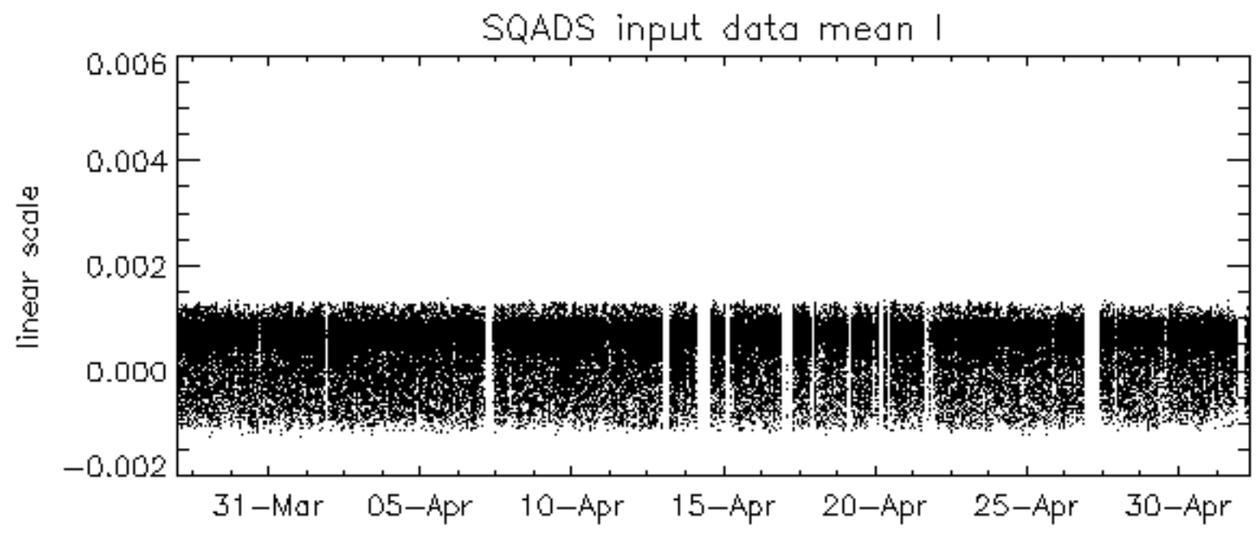
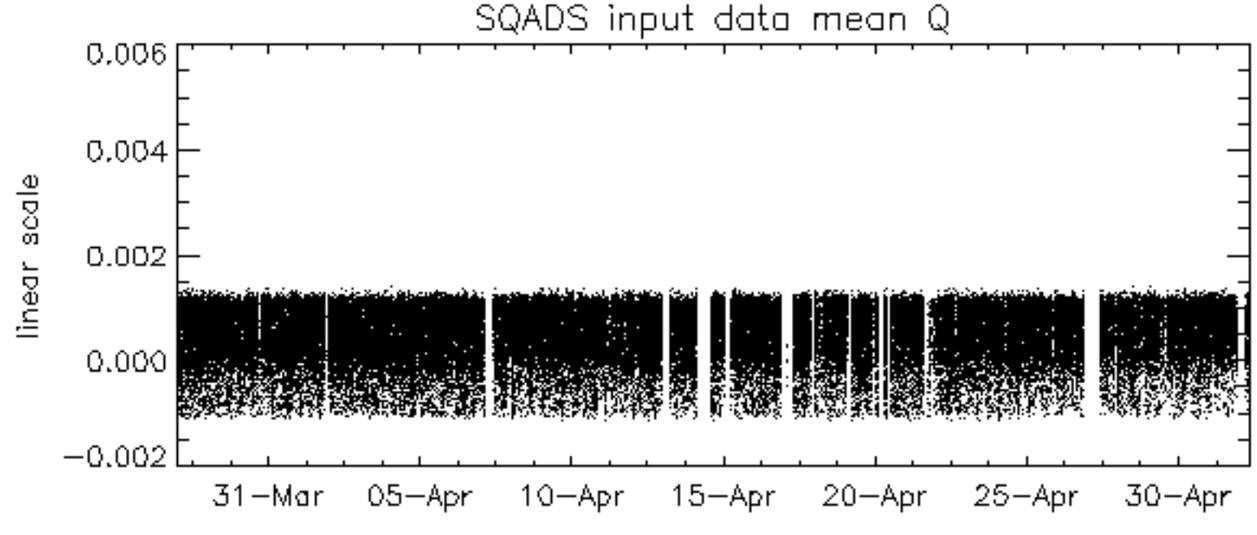

Reference: 2001-02-09 14:08:23 V
Test : 2004-05-01 18:22:03 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

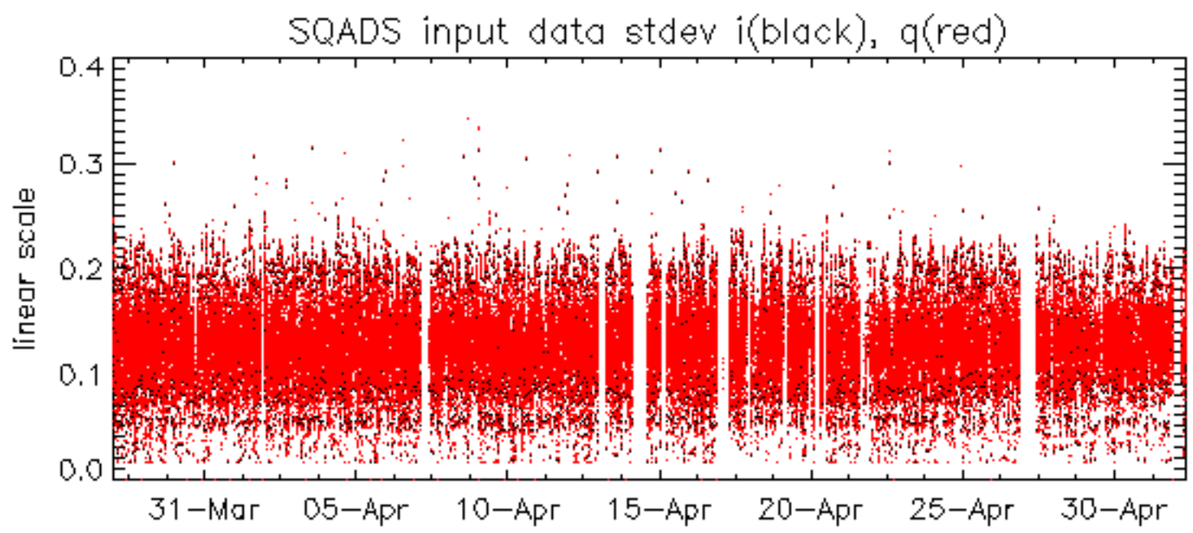

Reference: 2003-06-12 14:10:32 V
Test : 2004-05-01 18:22:03 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

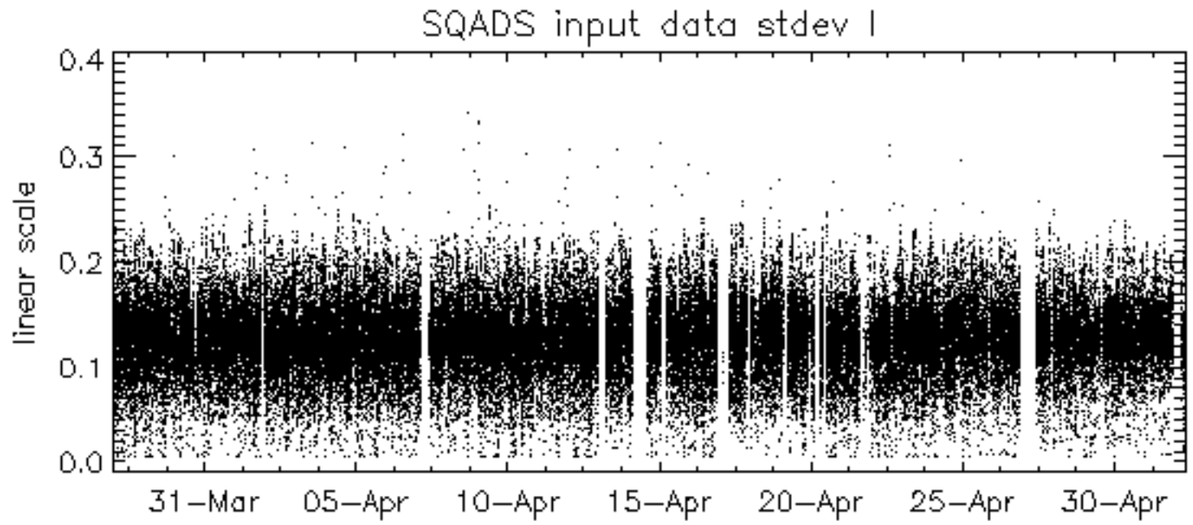

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

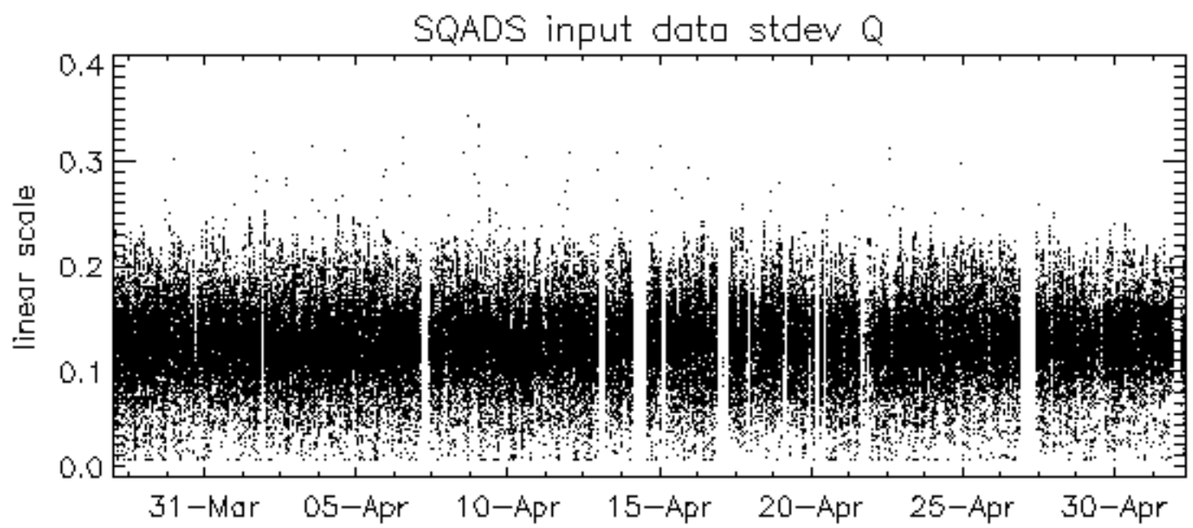

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr
30−Apr

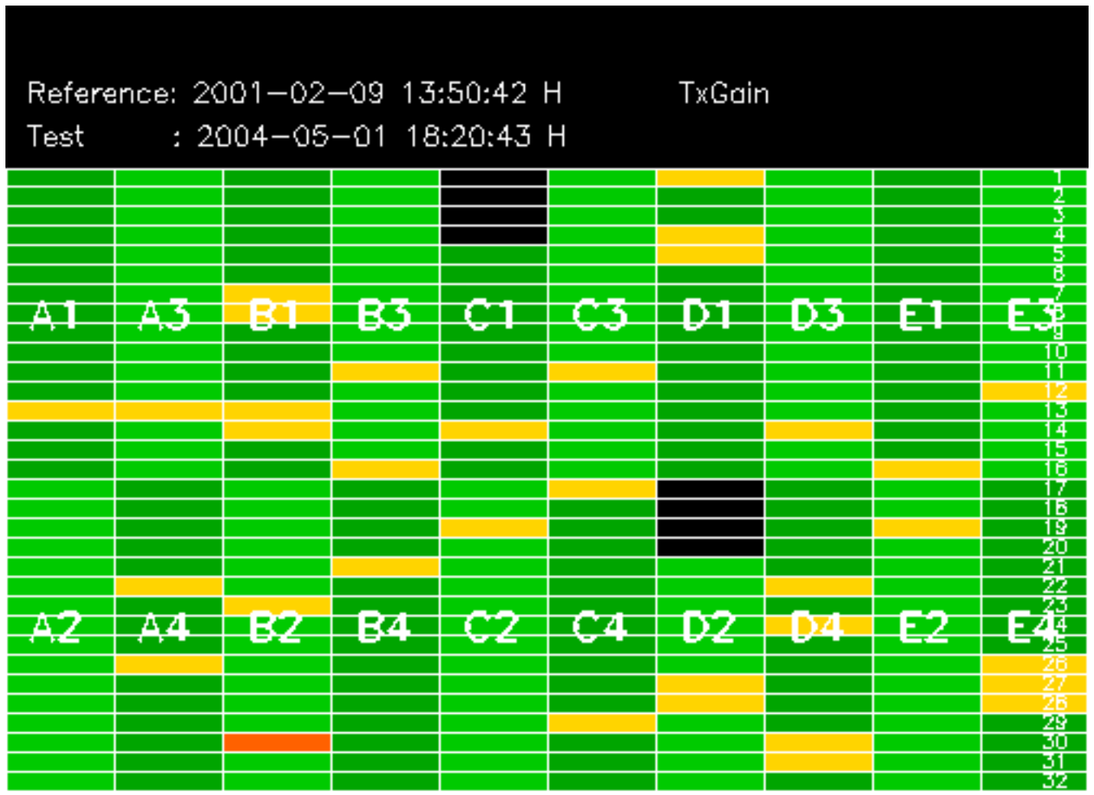

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr
30−Apr

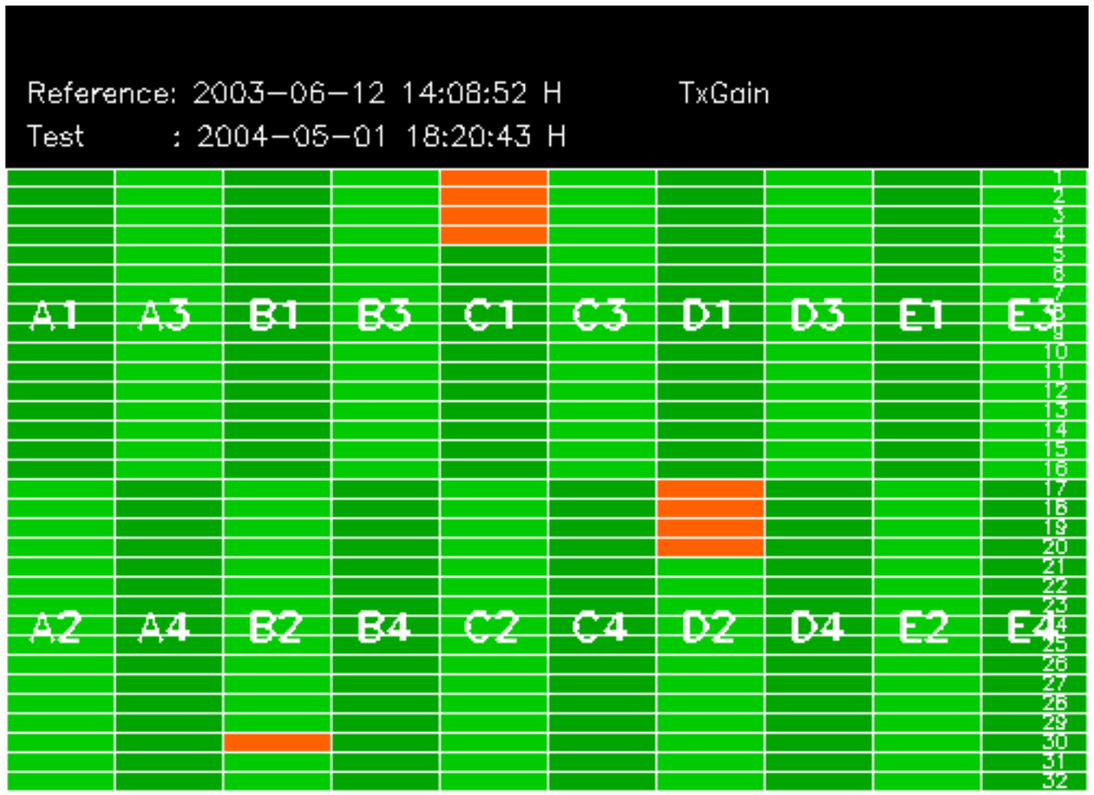

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr
30−Apr


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 : 2004-05-01 18:20:43 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 : 2004-05-01 18:20:43 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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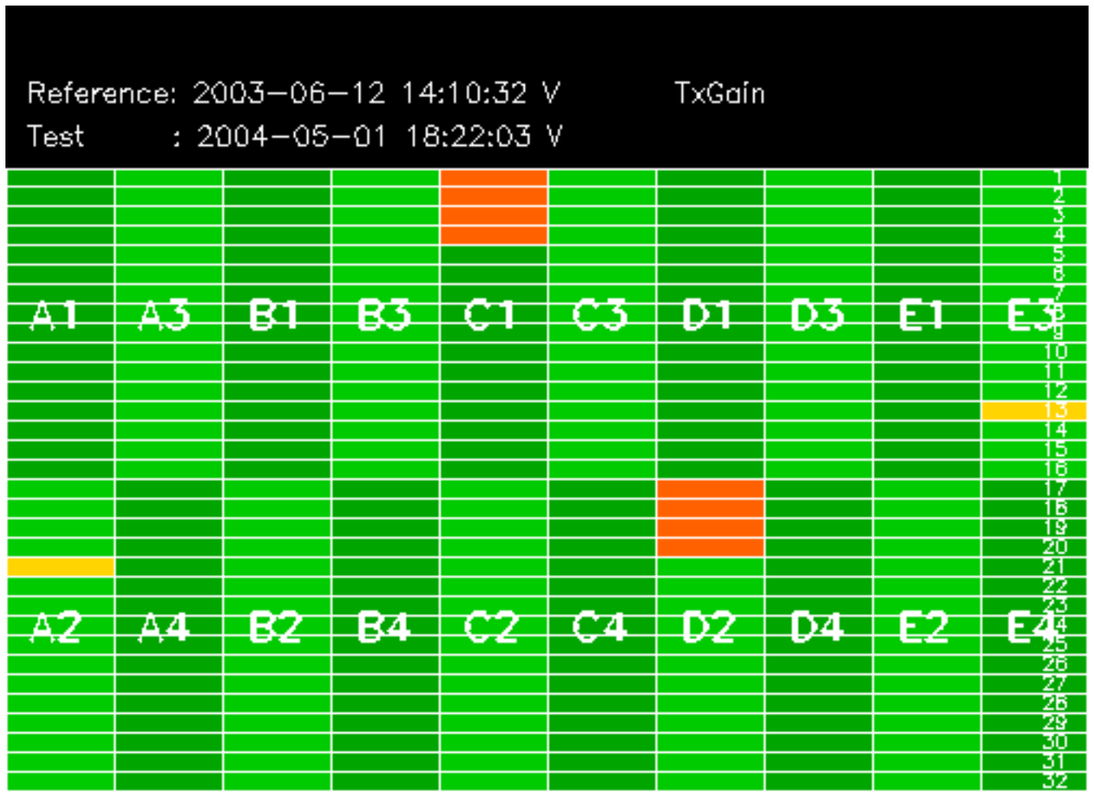
Reference: 2001-02-09 14:08:23 V
Test : 2004-05-01 18:22:03 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-05-01 18:22:03 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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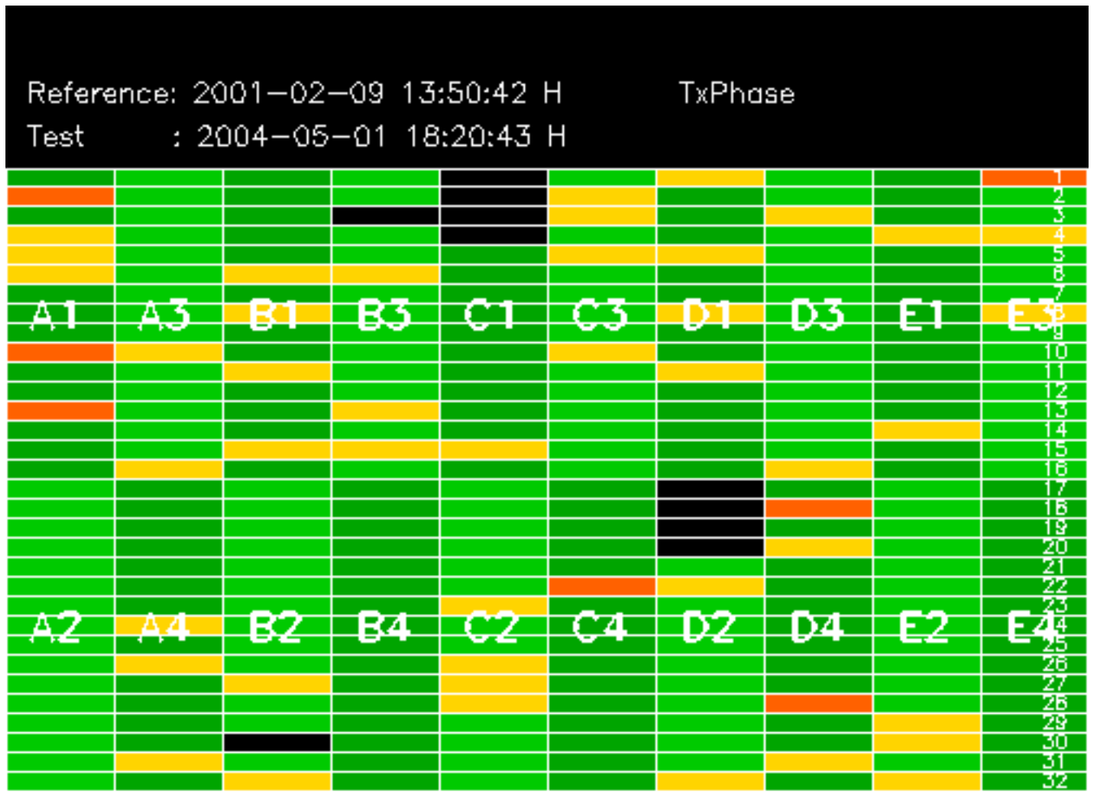
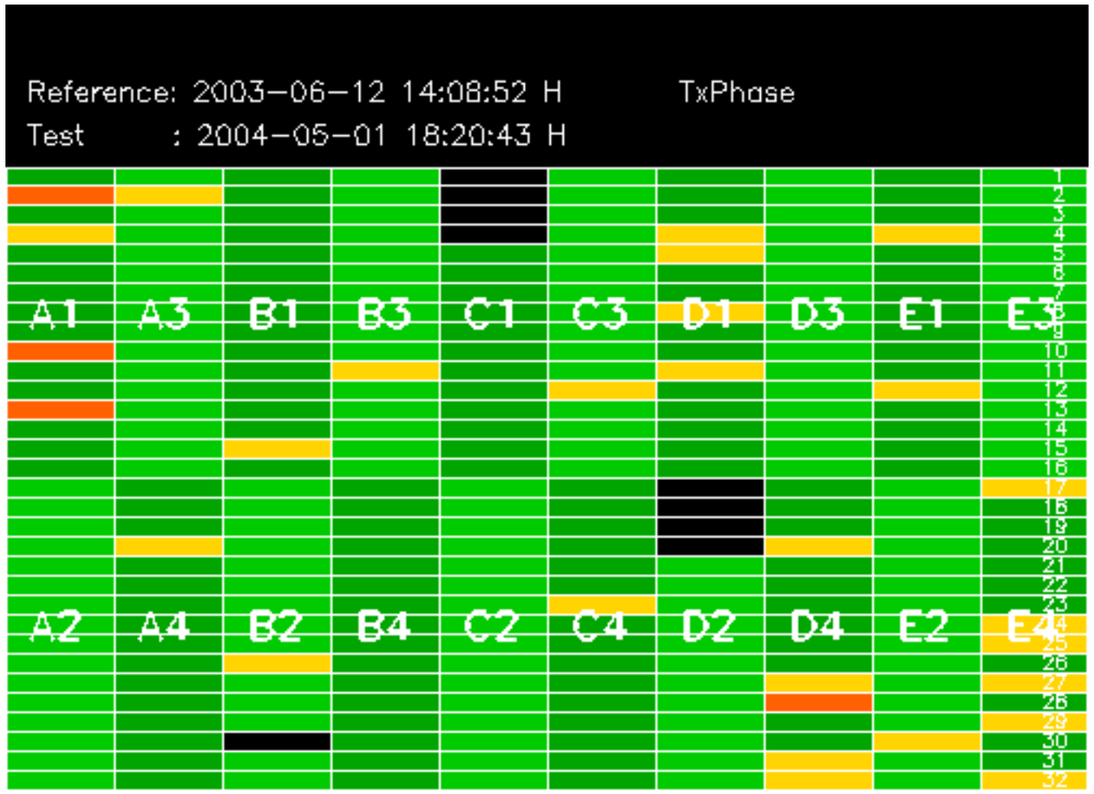

Reference: 2001-02-09 13:50:42 H
Test : 2004-05-01 18:20:43 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-05-01 18:20:43 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
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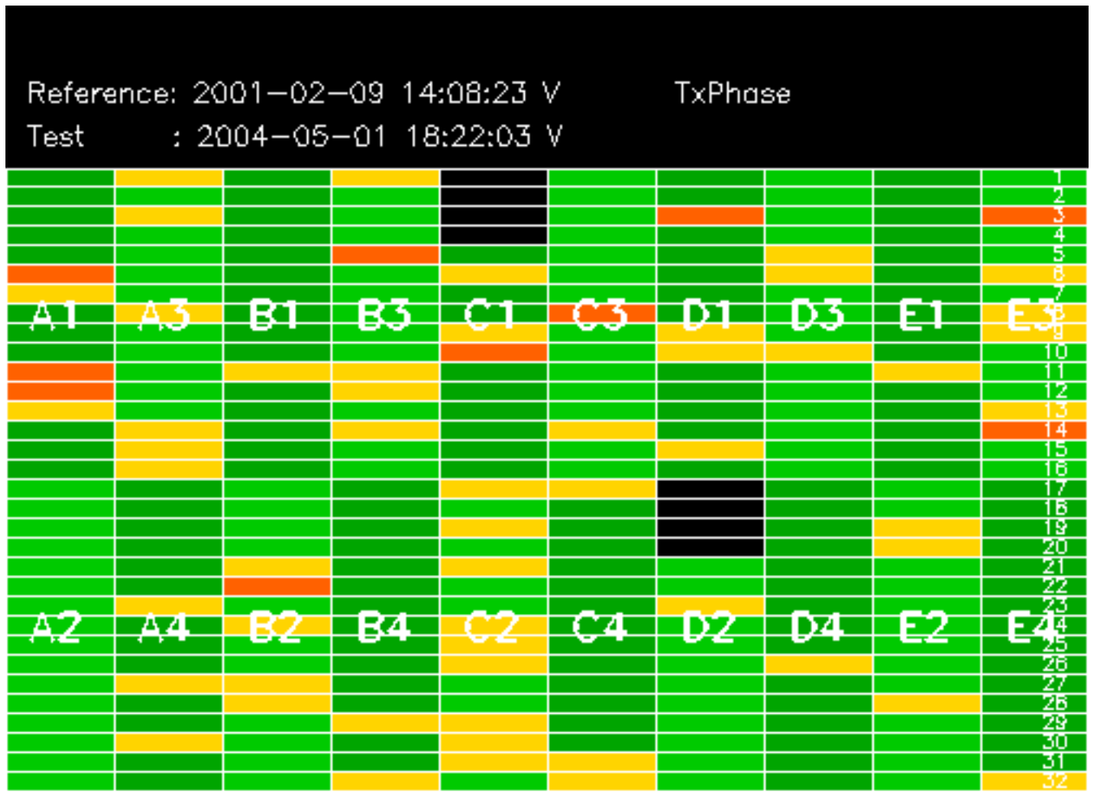
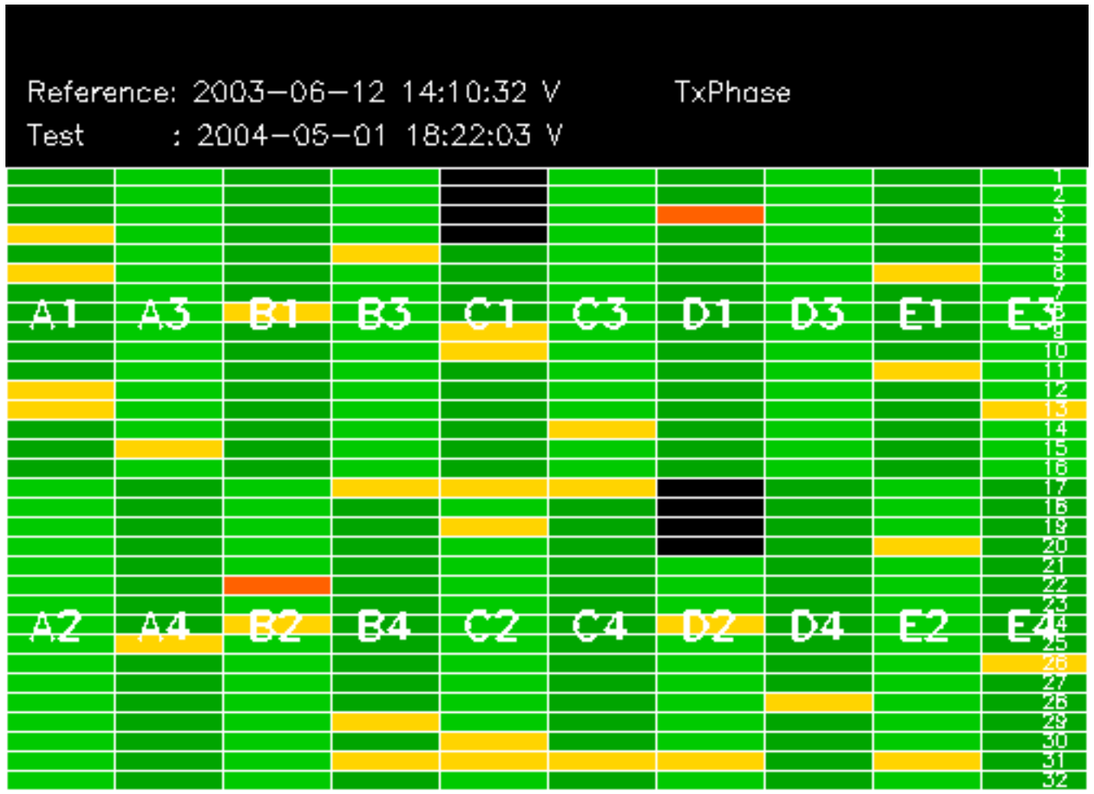
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-05-01 18:22:03 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 : 2004-05-01 18:22:03 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
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No unavailabilities during the reported period.