REPORT OF 040504

last update on Tue May 4 15:18:53 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

No anomalies observed on available browse products

2.3 - Data Analysis

-Due to Kiruna Grond link trouble ASAR data is missing

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

3 - Module Stepping Mode

MS of 2004-MAY-03 are missing

Polarisation	Start Time
V	20040502 193101
H	20040502 192941

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.

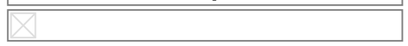
4.1 - Daily statistics

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	-3.602844	0.080139	-0.147820
7	P1	-3.325696	0.059321	-0.105156
11	P1	-4.621233	0.026127	0.071526
15	P1	-4.964606	0.040329	0.091250
19	P1	-3.359921	0.005548	-0.033240
22	P1	-4.516290	0.014258	0.017207
24	P1	-5.009334	0.014973	0.097354
28	P1	-4.594926	0.013680	0.014491

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.401852	0.081105	-0.027220
7	P2	-22.873341	0.116824	-0.026192
11	P2	-15.858944	0.135054	0.173020
15	P2	-7.159193	0.090807	-0.015275

19	P2	-9.517889	0.143650	0.015018
22	P2	-17.643148	0.095358	0.055961
24	P2	-20.971149	0.100876	0.053658
28	P2	-16.603231	0.082626	-0.000811

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.132639	0.003129	-0.009146
7	P3	-8.132638	0.003129	-0.009138
11	P3	-8.132638	0.003128	-0.009148
15	P3	-8.132638	0.003128	-0.009160
19	P3	-8.132638	0.003128	-0.009178
22	P3	-8.132635	0.003128	-0.009190
24	P3	-8.132629	0.003128	-0.009206
28	P3	-8.132492	0.003133	-0.008807

4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1
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P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.253874	0.324637	-0.192958
7	P1	-2.886483	0.274013	-0.207985
11	P1	-3.816047	0.021302	0.002973
15	P1	-4.030067	0.352813	0.092826
19	P1	-3.250522	0.062134	-0.081206
22	P1	-5.804986	0.042996	0.063059
24	P1	-4.050490	0.089747	-0.003314
28	P1	-2.860833	0.069512	-0.120379

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)

3	P2	-18.109741	0.039894	-0.063553
7	P2	-22.993956	0.027155	0.031841
11	P2	-11.055726	0.187495	-0.072365
15	P2	-4.921421	0.027682	-0.088341
19	P2	-6.825584	0.029847	-0.100721
22	P2	-7.701573	0.028086	-0.015454
24	P2	-11.013192	0.053140	-0.077496
28	P2	-19.021971	0.027333	-0.043634

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.968403	0.003524	-0.013751
7	P3	-7.968429	0.003521	-0.013300
11	P3	-7.968349	0.003520	-0.013531
15	P3	-7.968293	0.003537	-0.013642
19	P3	-7.968370	0.003525	-0.013781
22	P3	-7.968544	0.003515	-0.013793
24	P3	-7.968239	0.003542	-0.013545
28	P3	-7.968269	0.003538	-0.013483

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	0.000482320

	stdev	2.32977e-07
MEAN Q	mean	0.000496616
	stdev	2.65764e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127943
	stdev	0.00112953
STDEV Q	mean	0.128191
	stdev	0.00114244

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

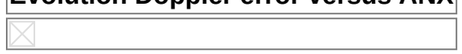
Evolution of Absolute Doppler


Acsending

Descending

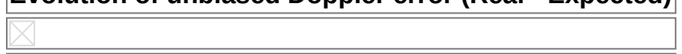
6.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX

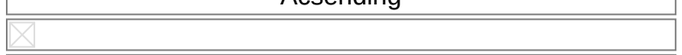


6.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)



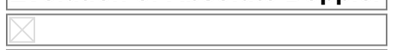
Acsending



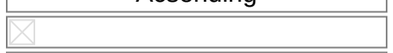
Descending

6.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler



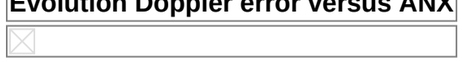
Acsending

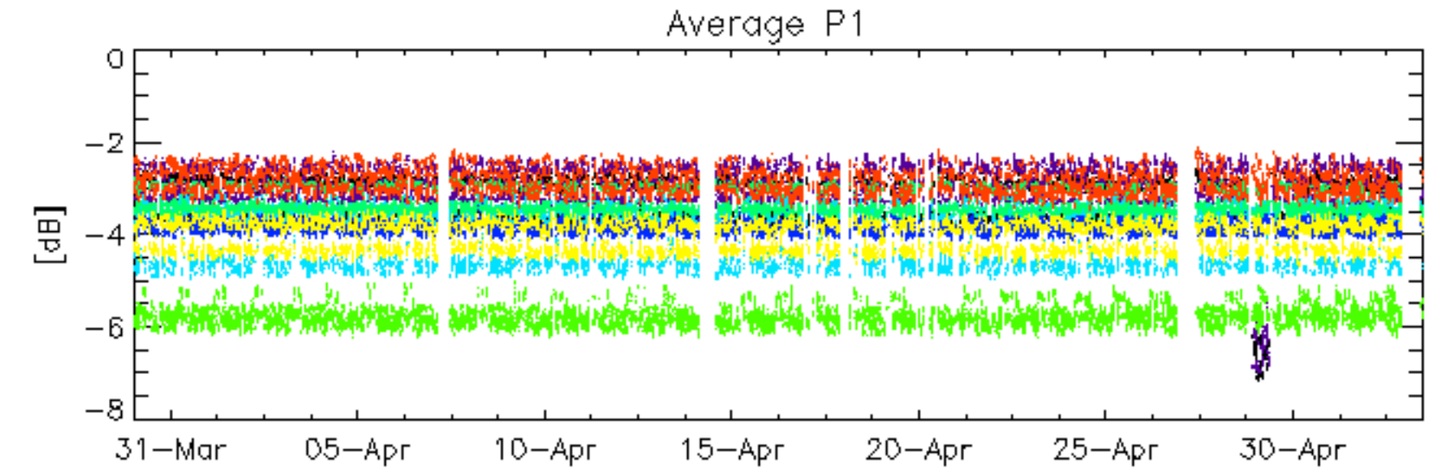


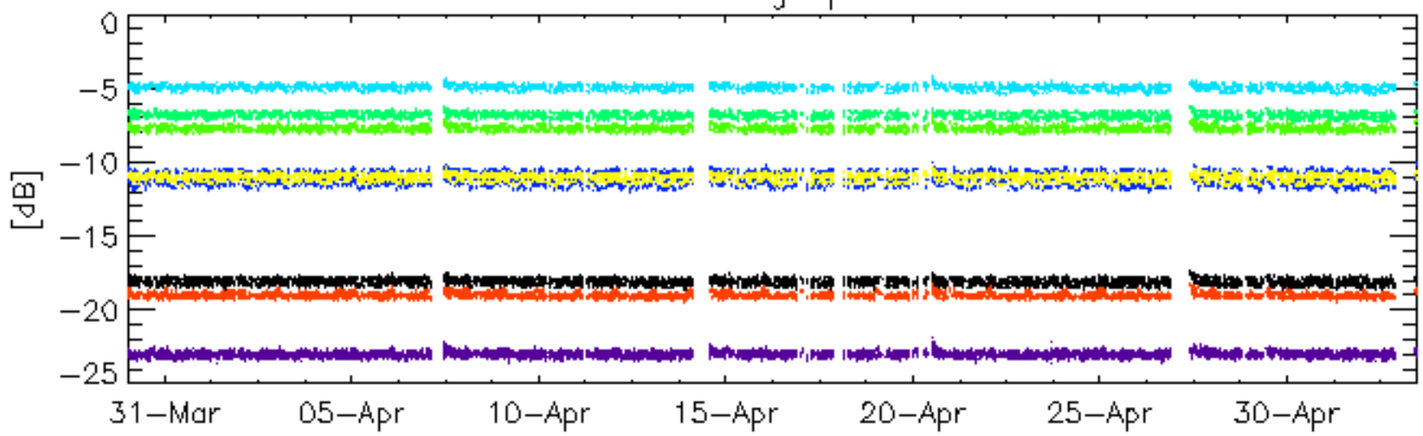
Descending

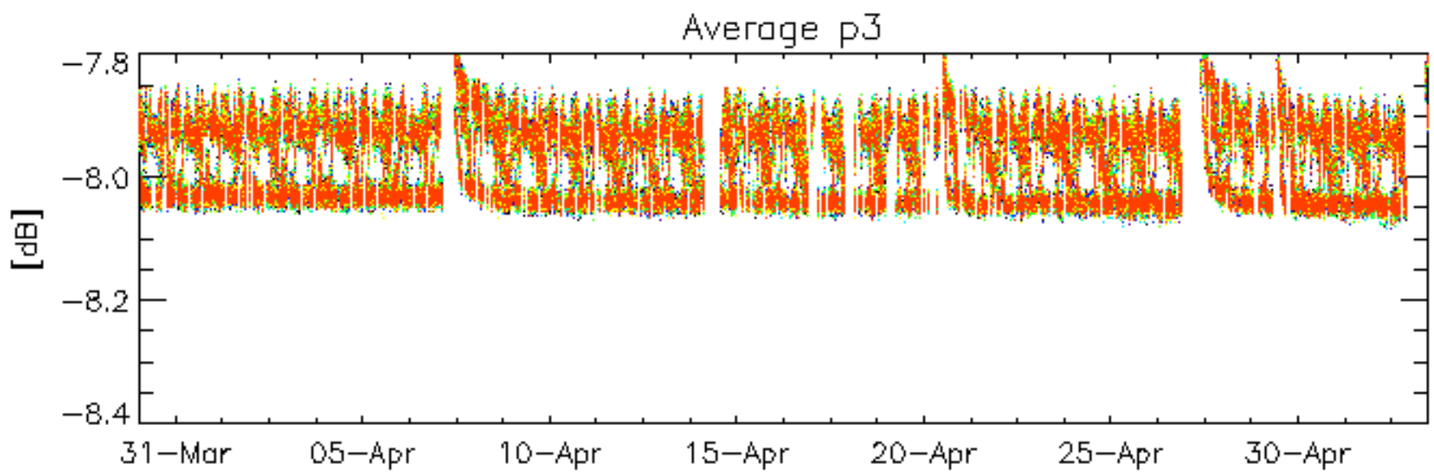
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

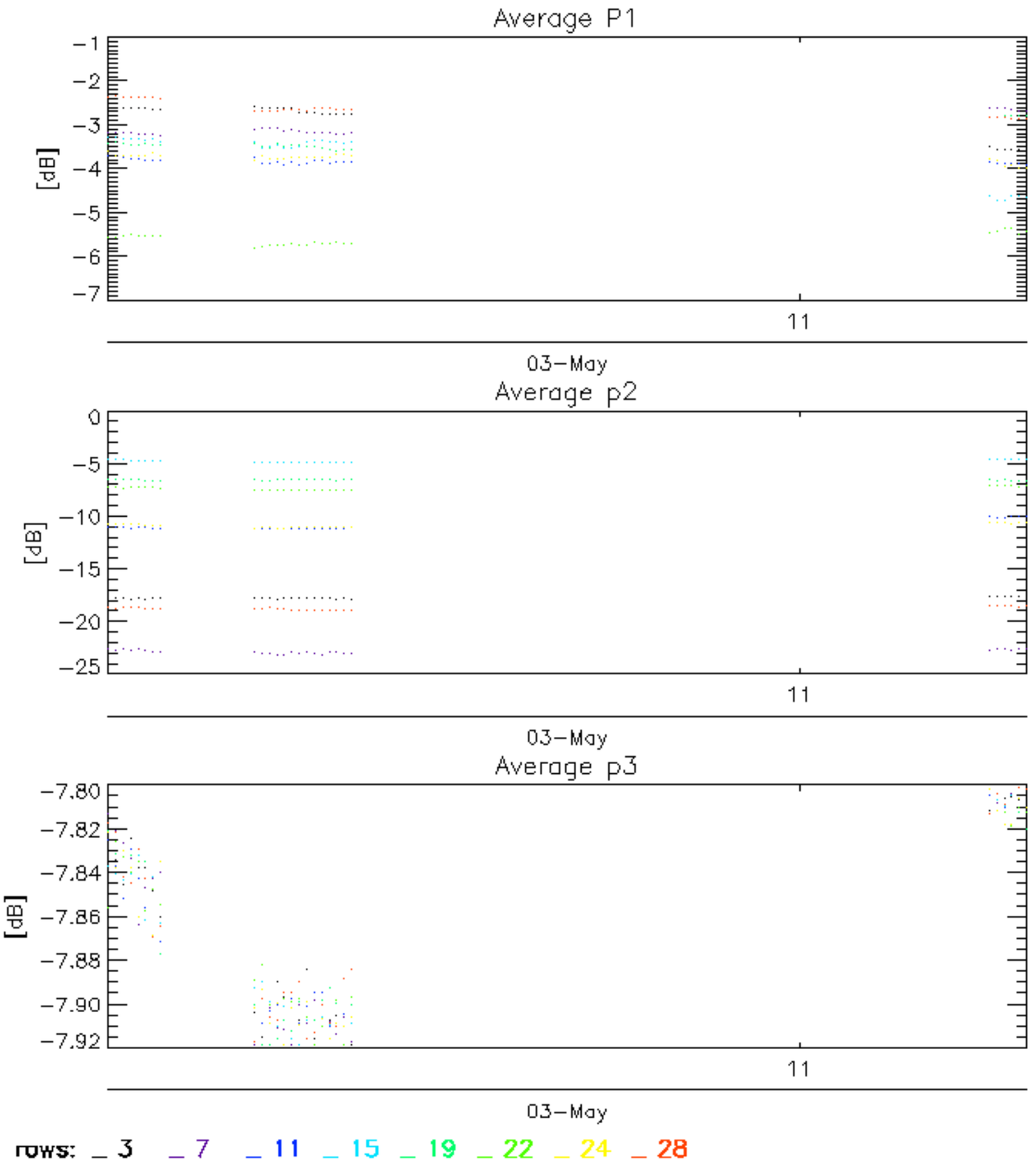


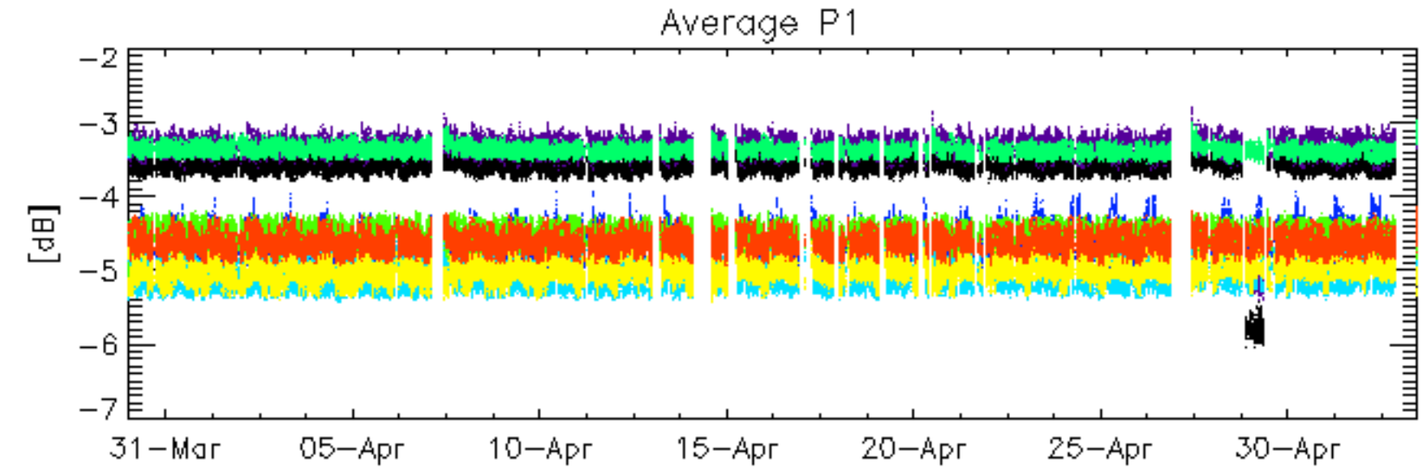


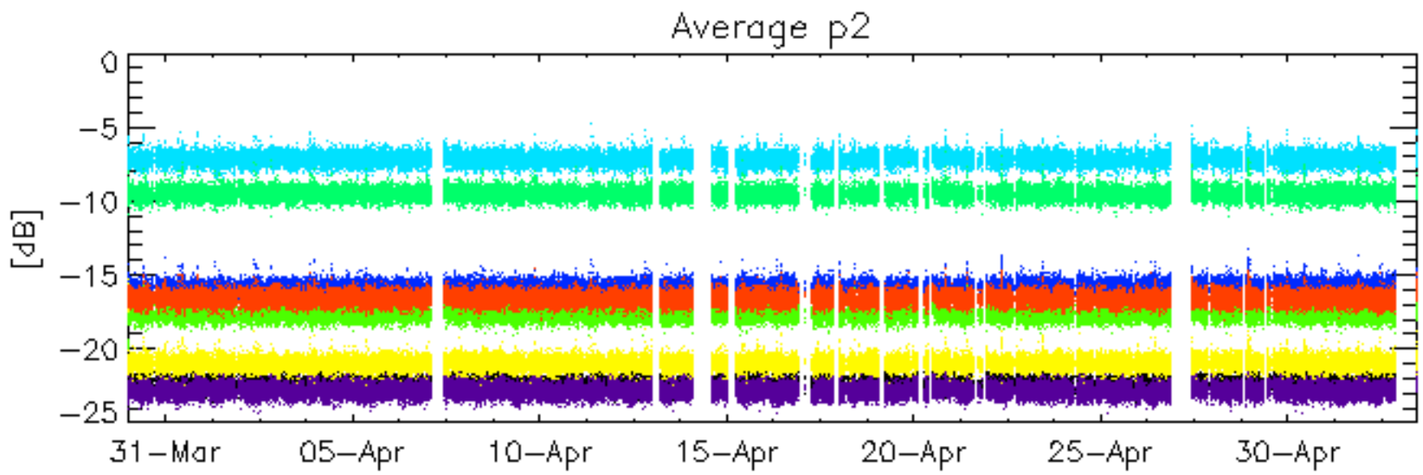


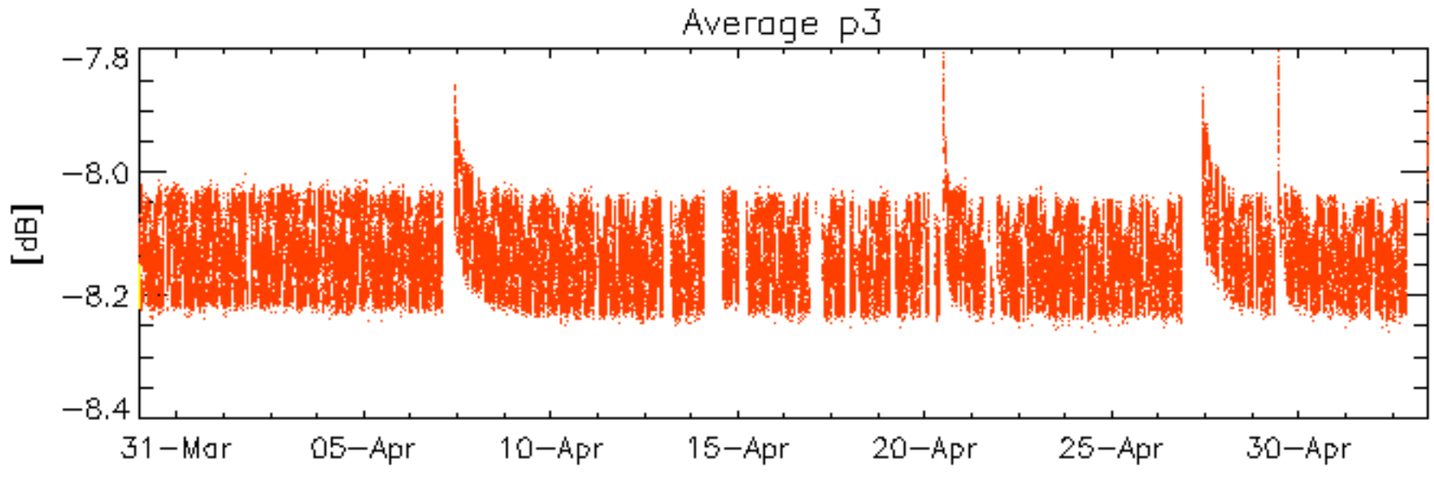


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 28

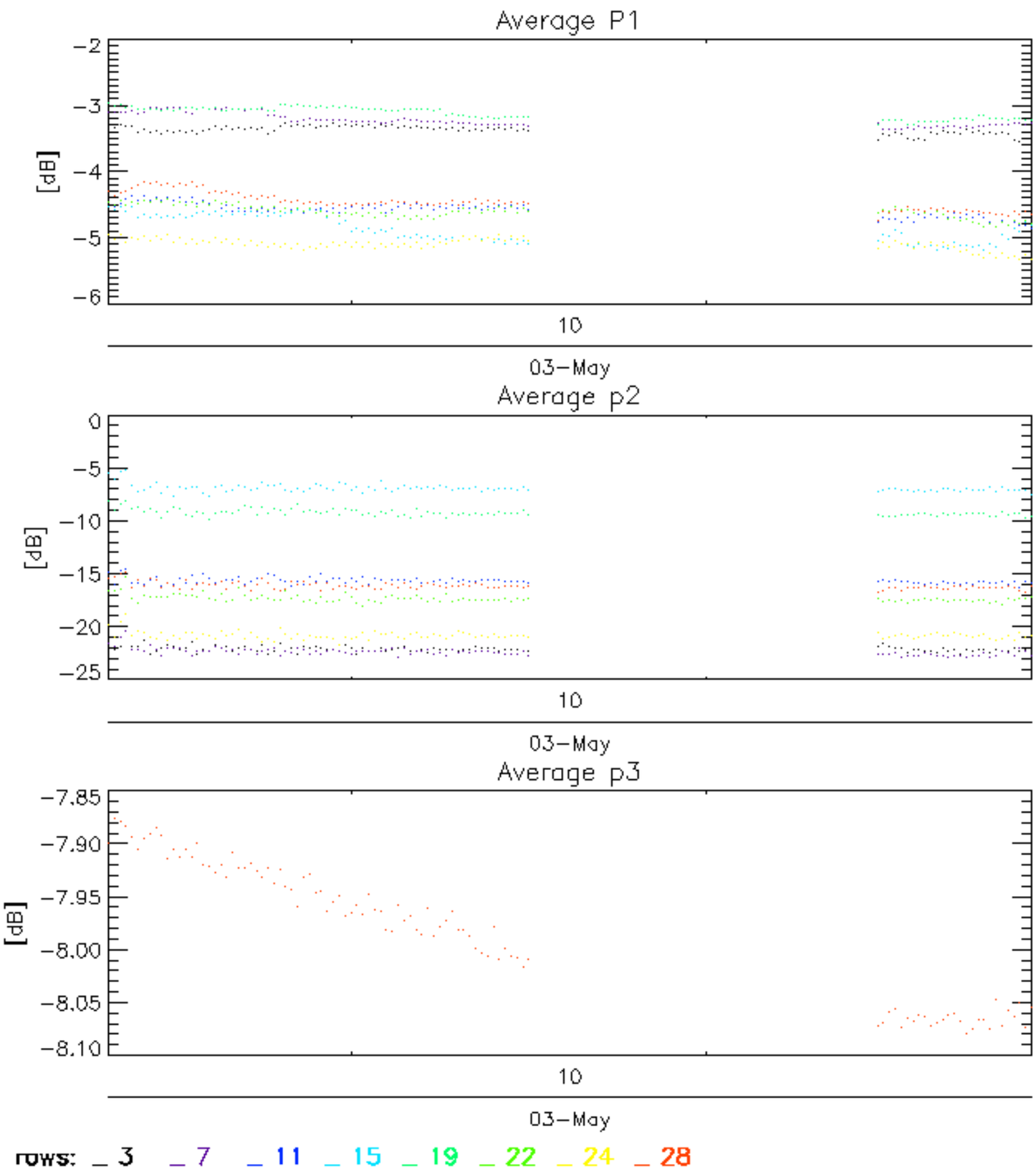

Average P1
[dB]
−1
−2
−3
−4
−5
−6
−7
11
03−May
Average p2
[dB]
0
−5
−10
−15
−20
−25
11
03−May
Average p3
[dB]
−7.80
−7.82
−7.84
−7.86
−7.88
−7.90
−7.92
11
03−May
rows: 3 7 11 15 19 22 24 28





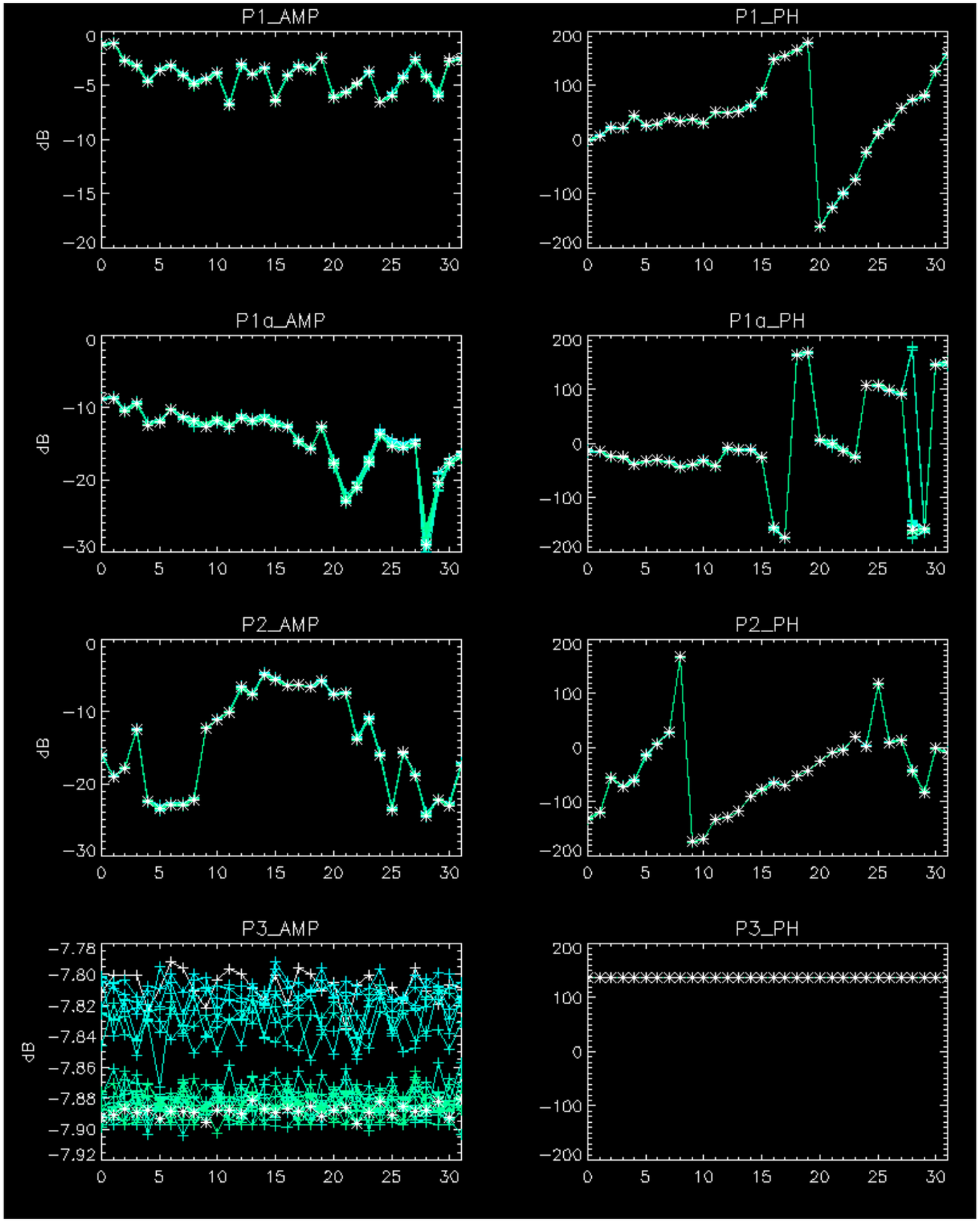


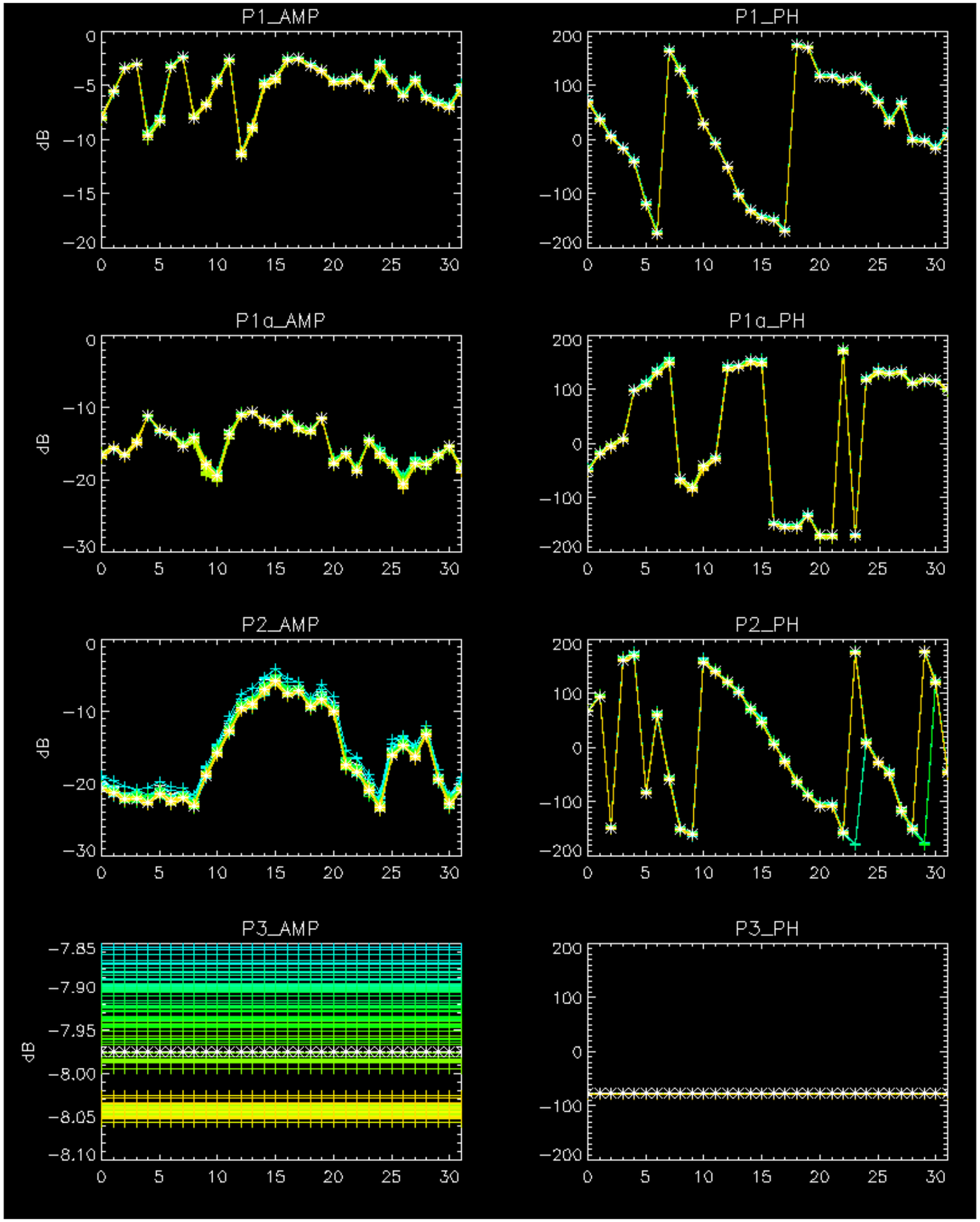
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 28


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

No anomalies observed on available browse products

No anomalies observed.

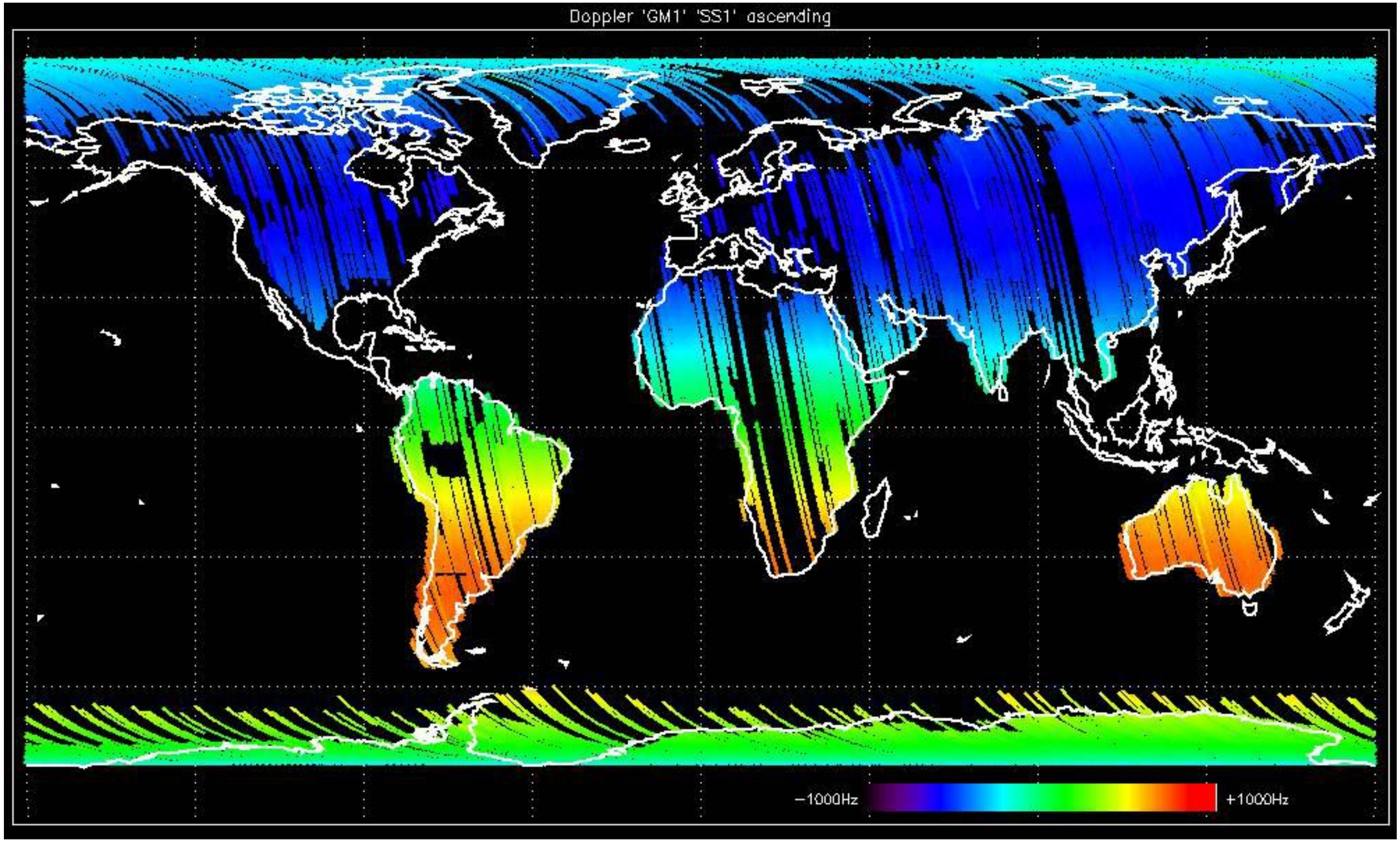

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.78
−7.80
−7.82
−7.84
−7.86
−7.88
−7.90
−7.92
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

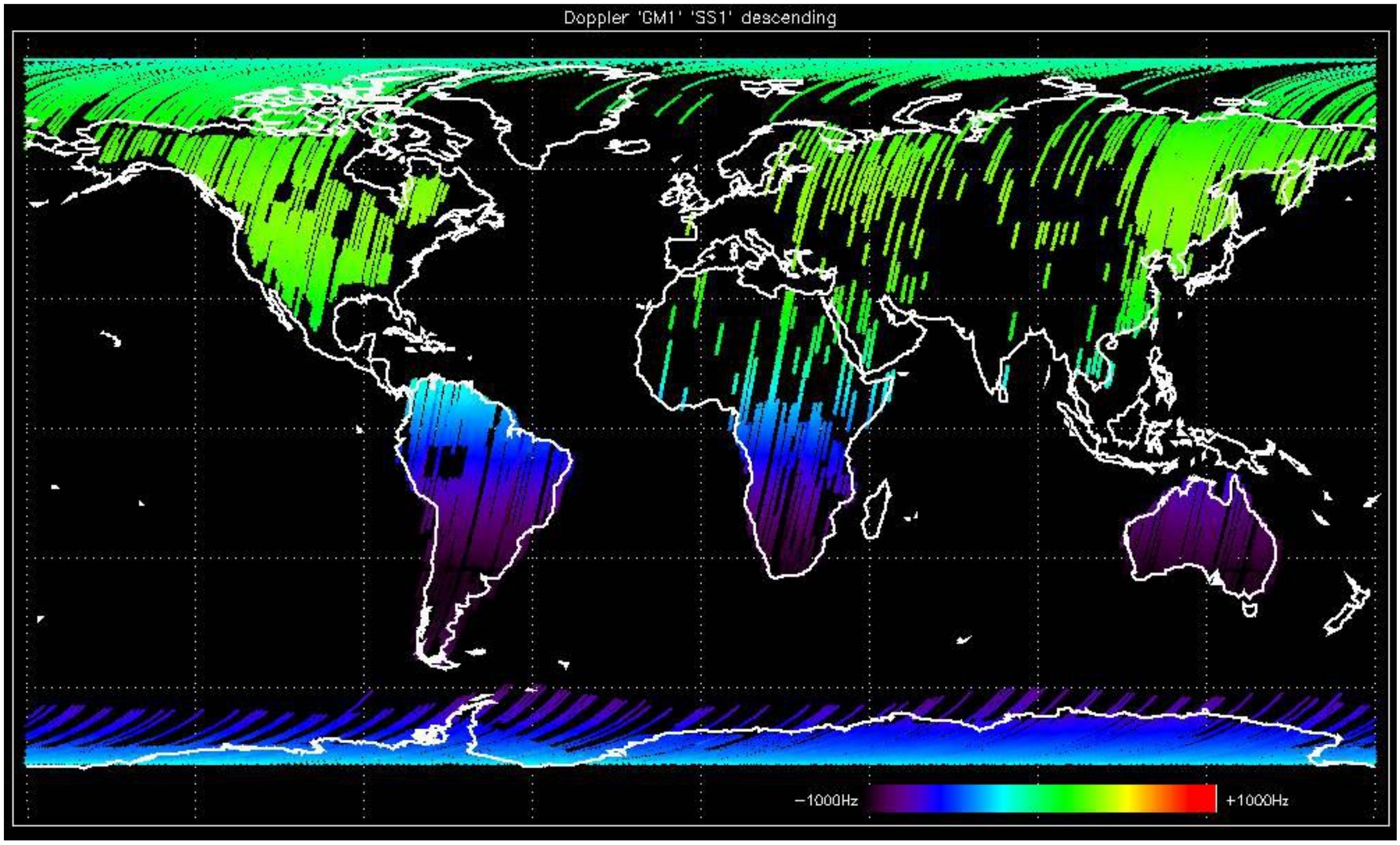

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.85
−7.90
−7.95
−8.00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

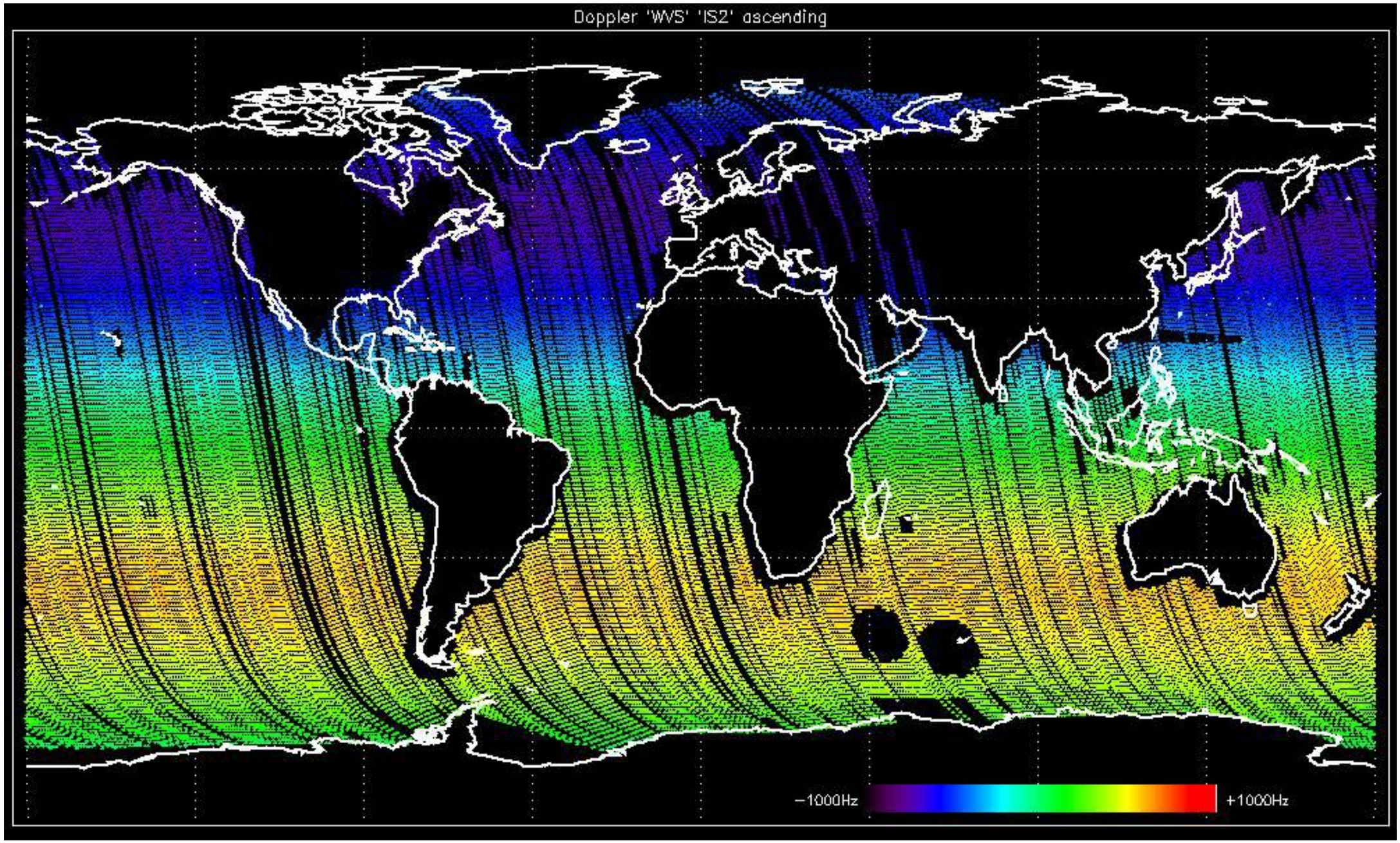
-Due to Kiruna Grond link trouble ASAR data is missing

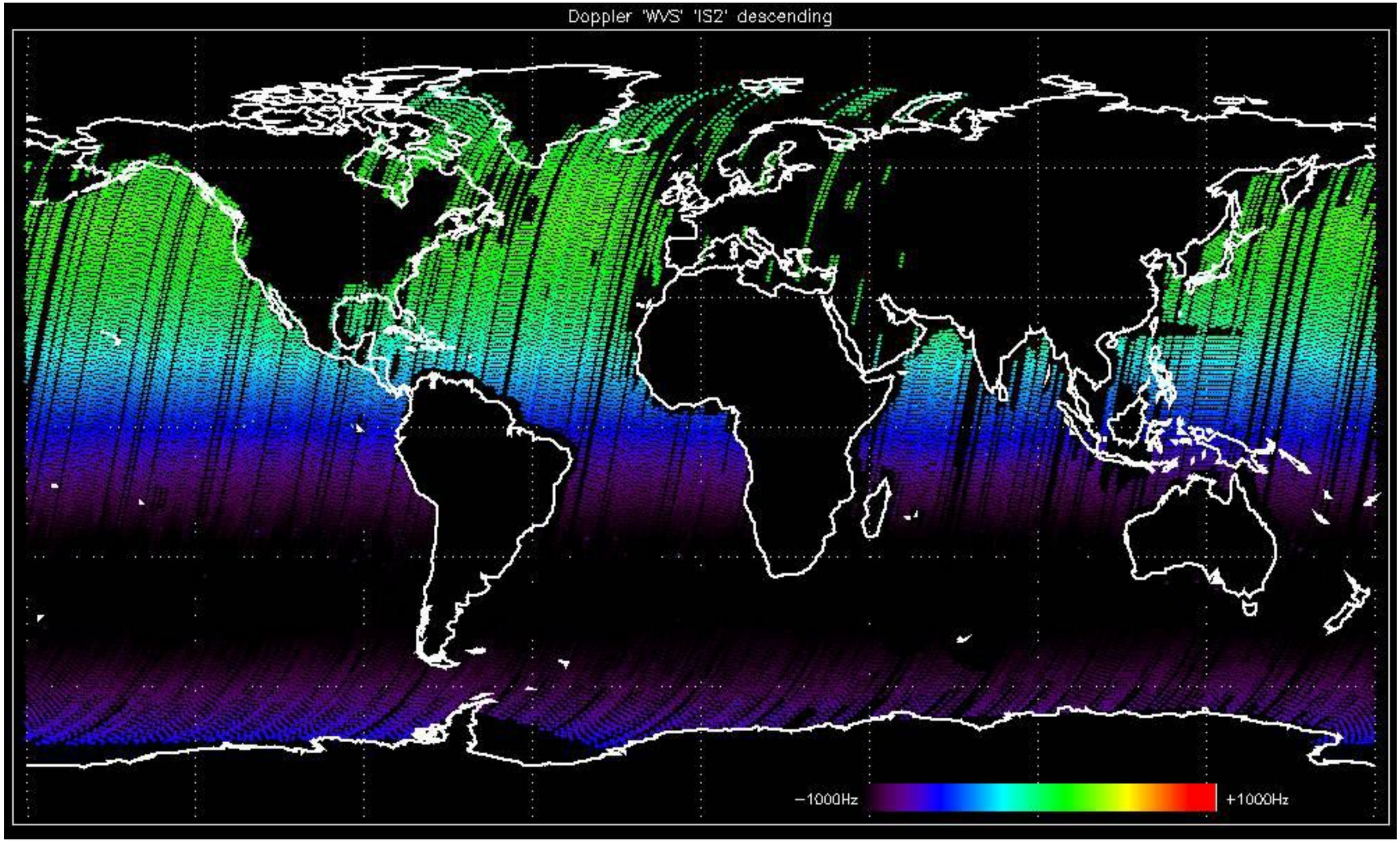
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

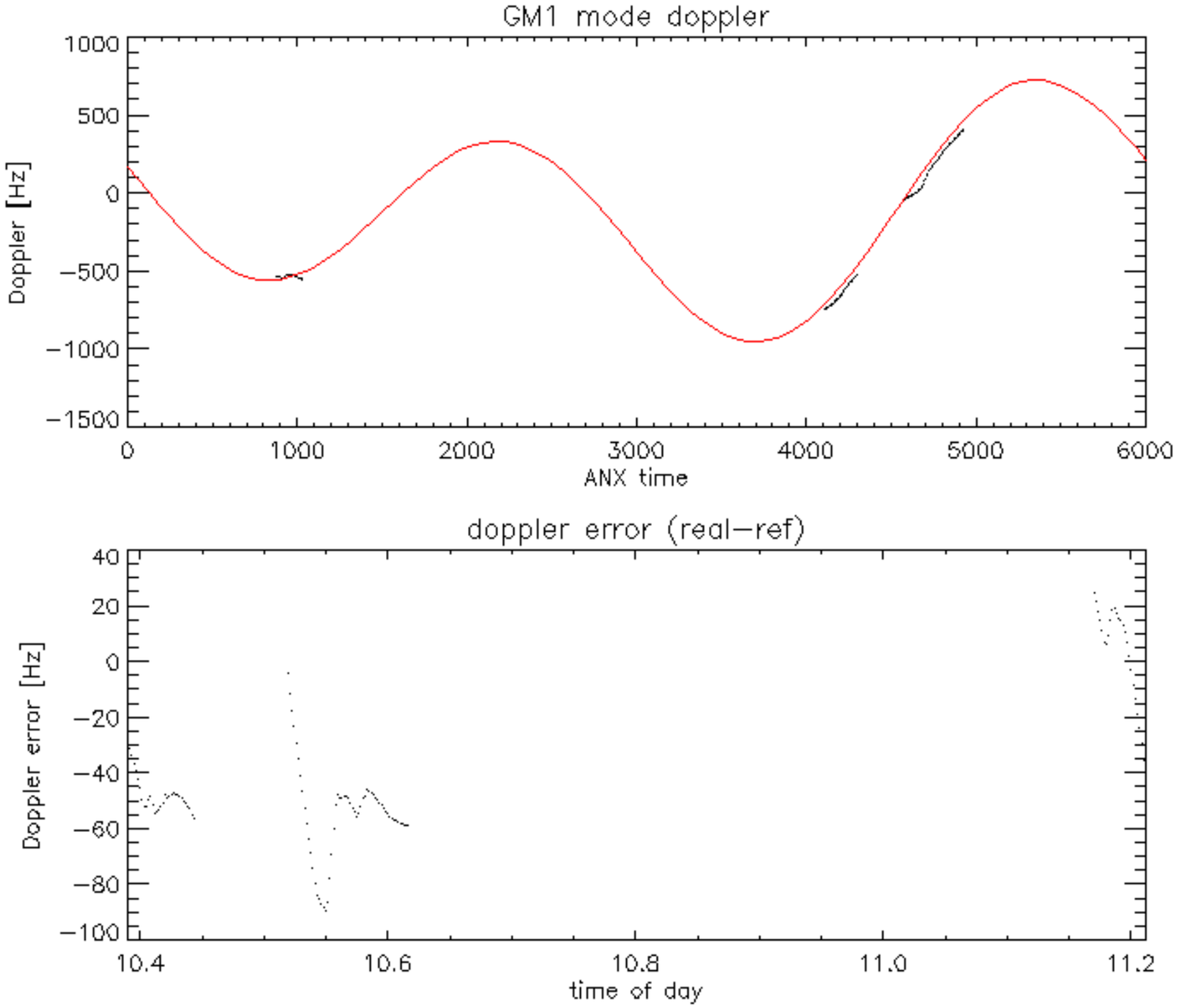
Preliminary report.The data is not yet controled

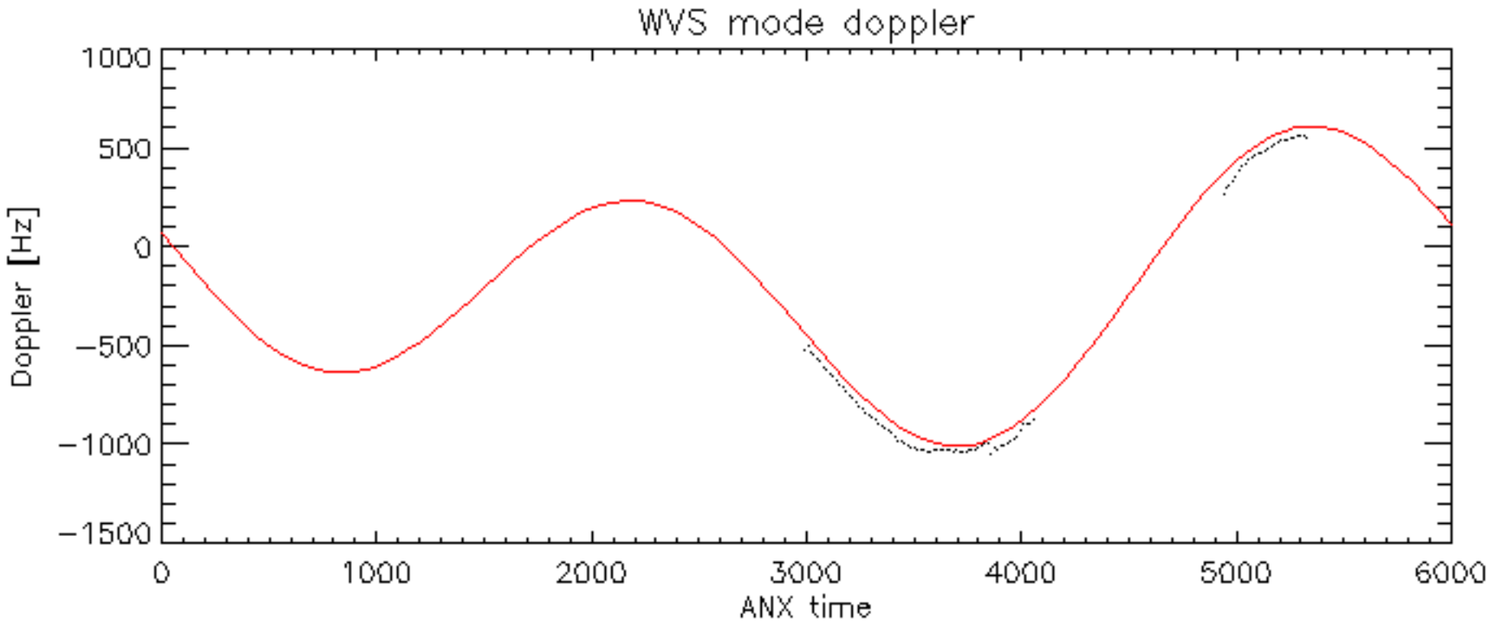

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

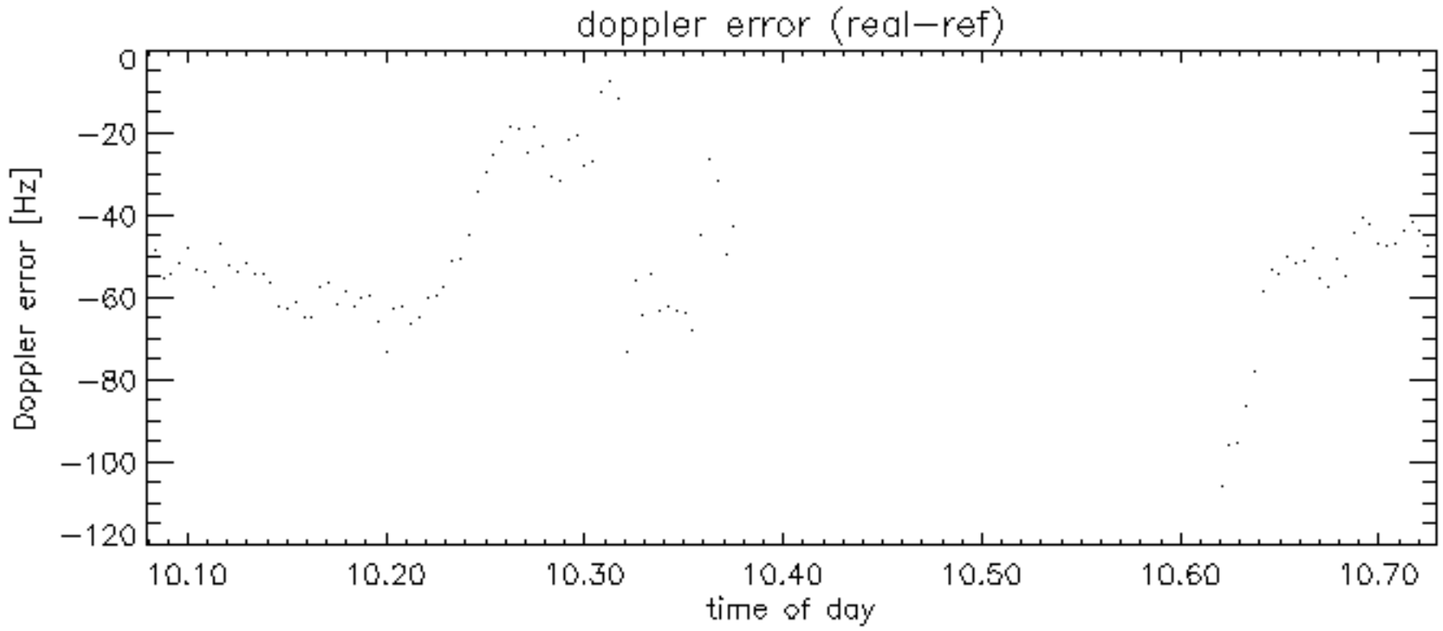

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

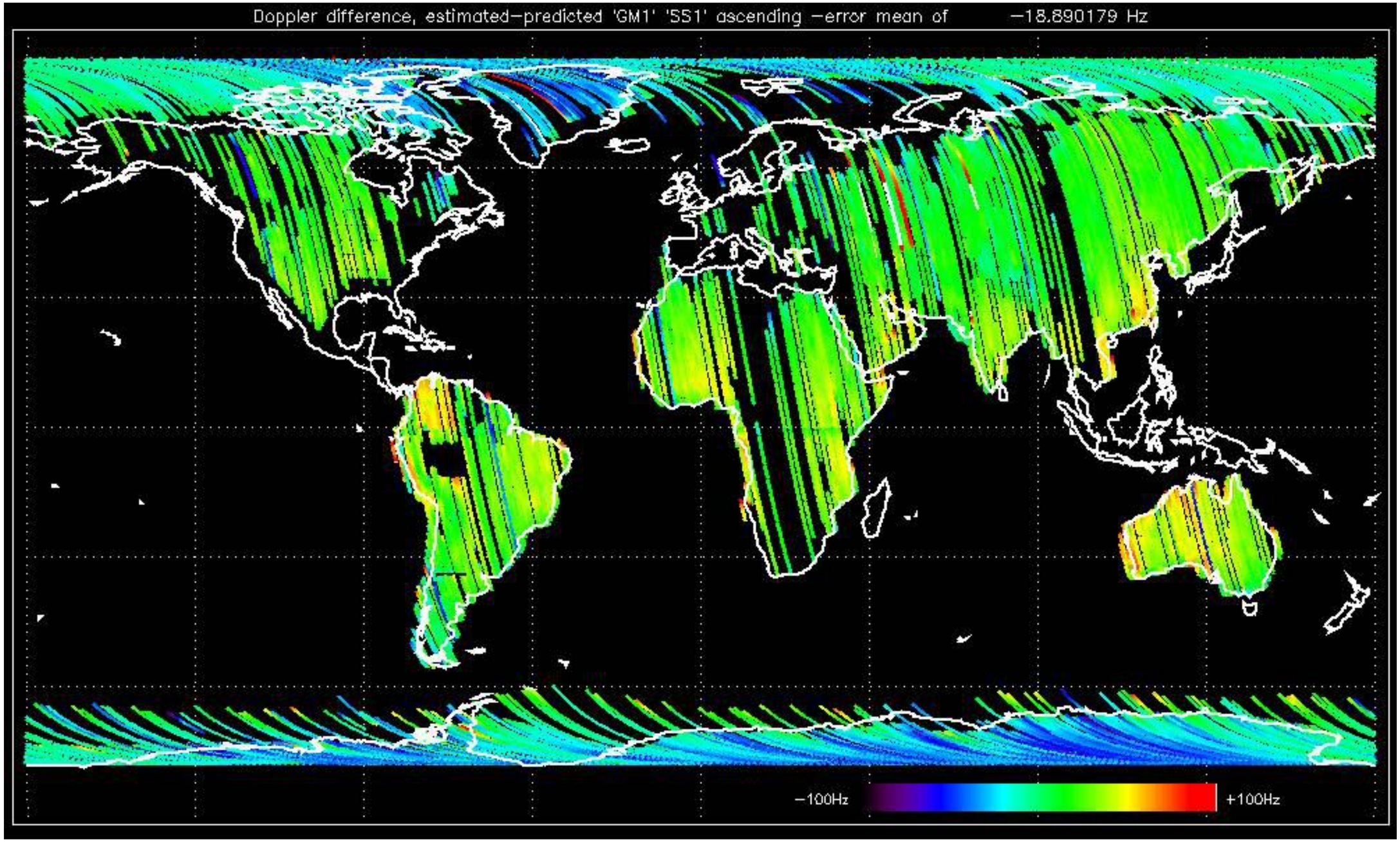

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

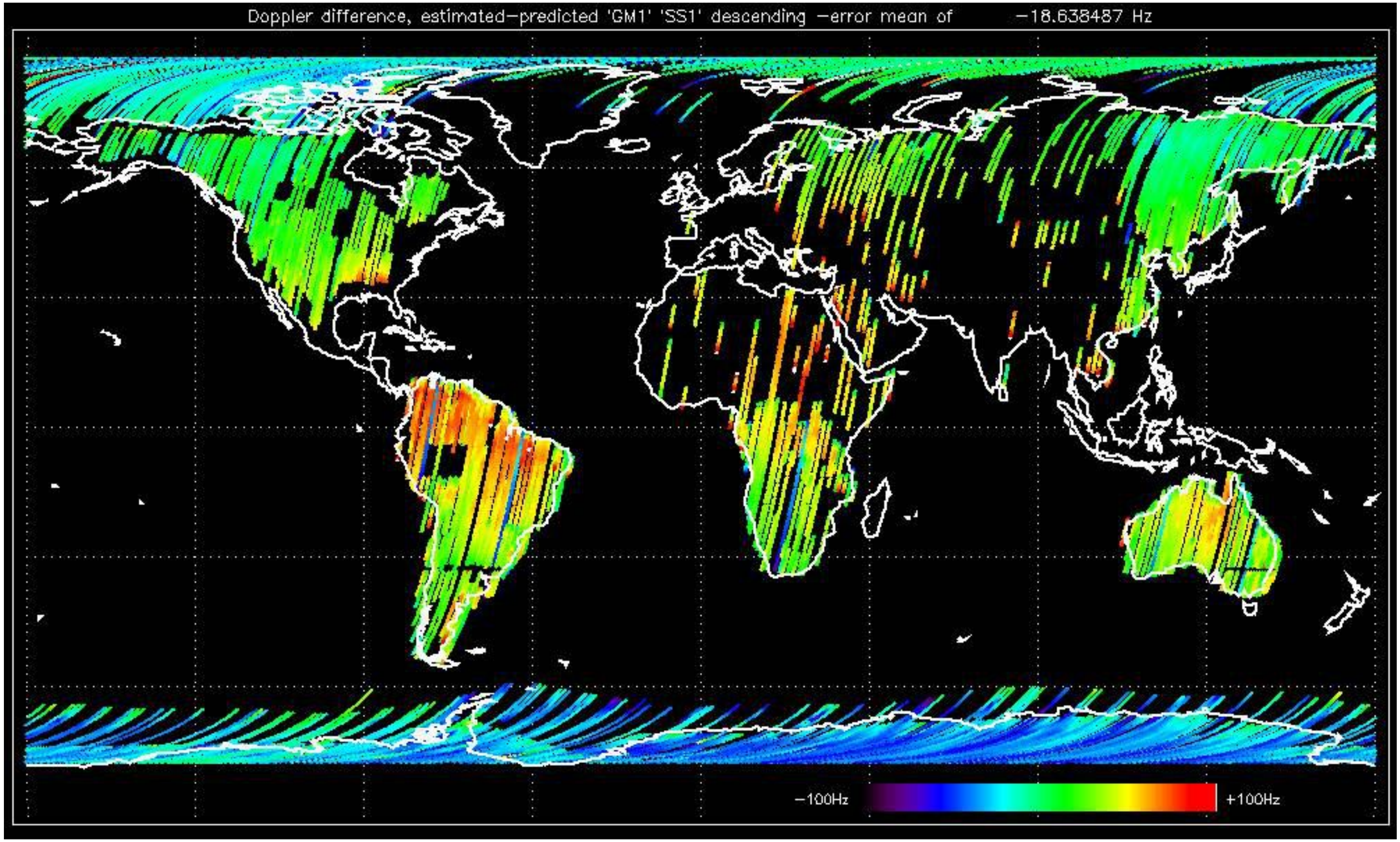

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

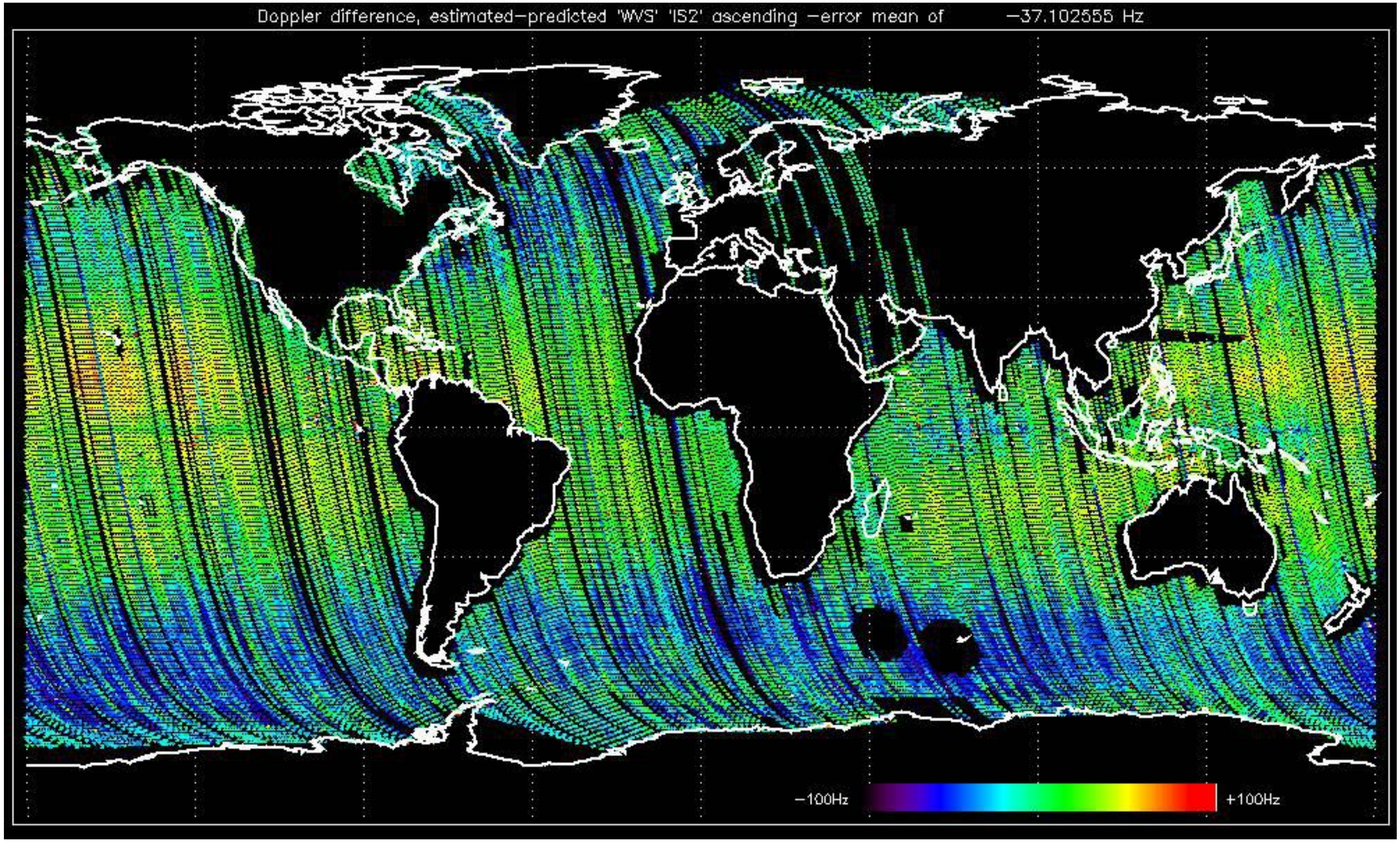

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
ANX time
doppler error (real−ref)
Doppler error [Hz]
40
20
0
−20
−40
−60
−80
−100
10.4
10.6
10.8
11.0
11.2
time of day

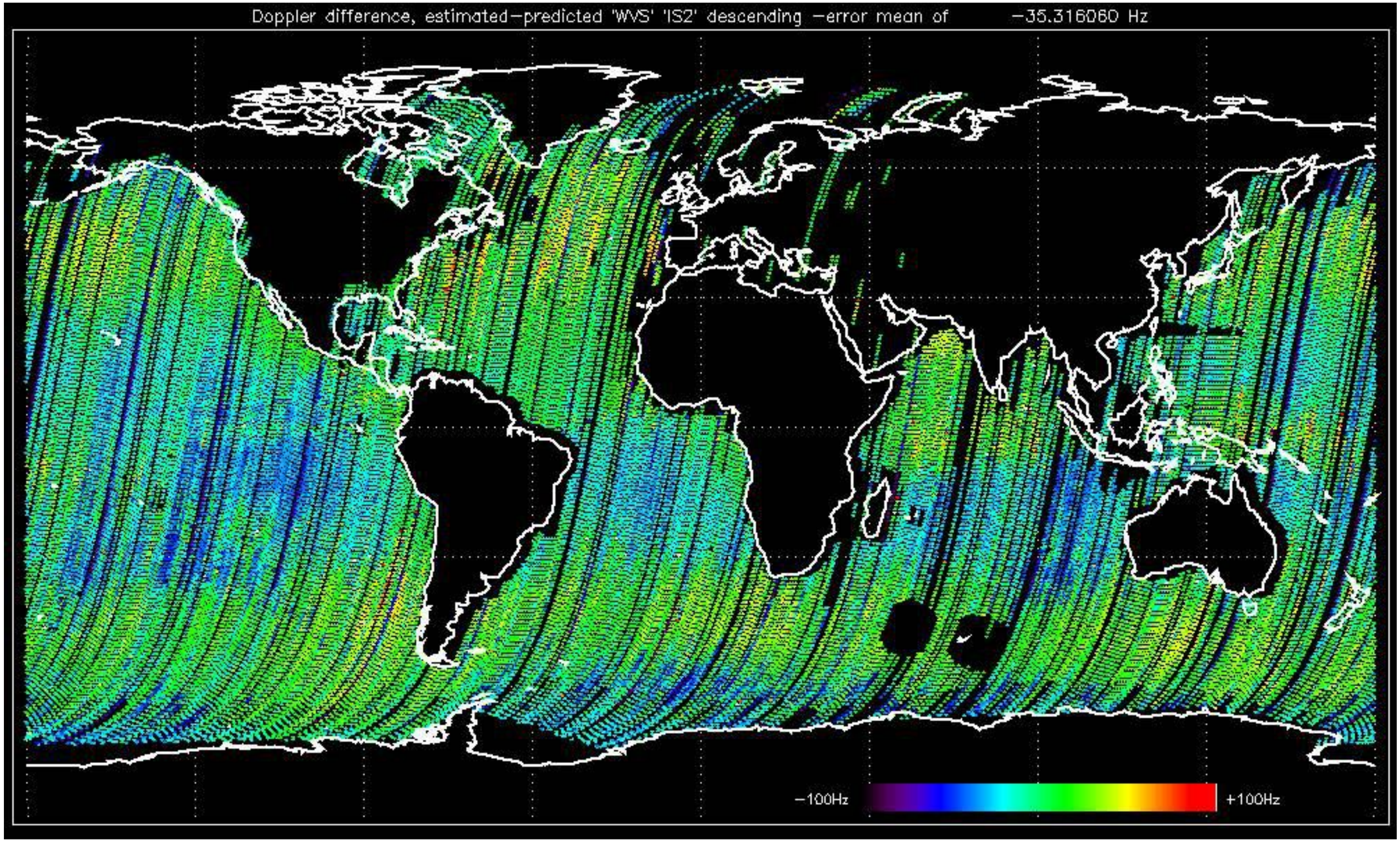

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
ANX time


doppler error (real−ref)
Doppler error [Hz]
0
−20
−40
−60
−80
−100
−120
10.10
10.20
10.30
10.40
10.50
10.60
10.70
time of day


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −18.890179 Hz
−100Hz
+100Hz

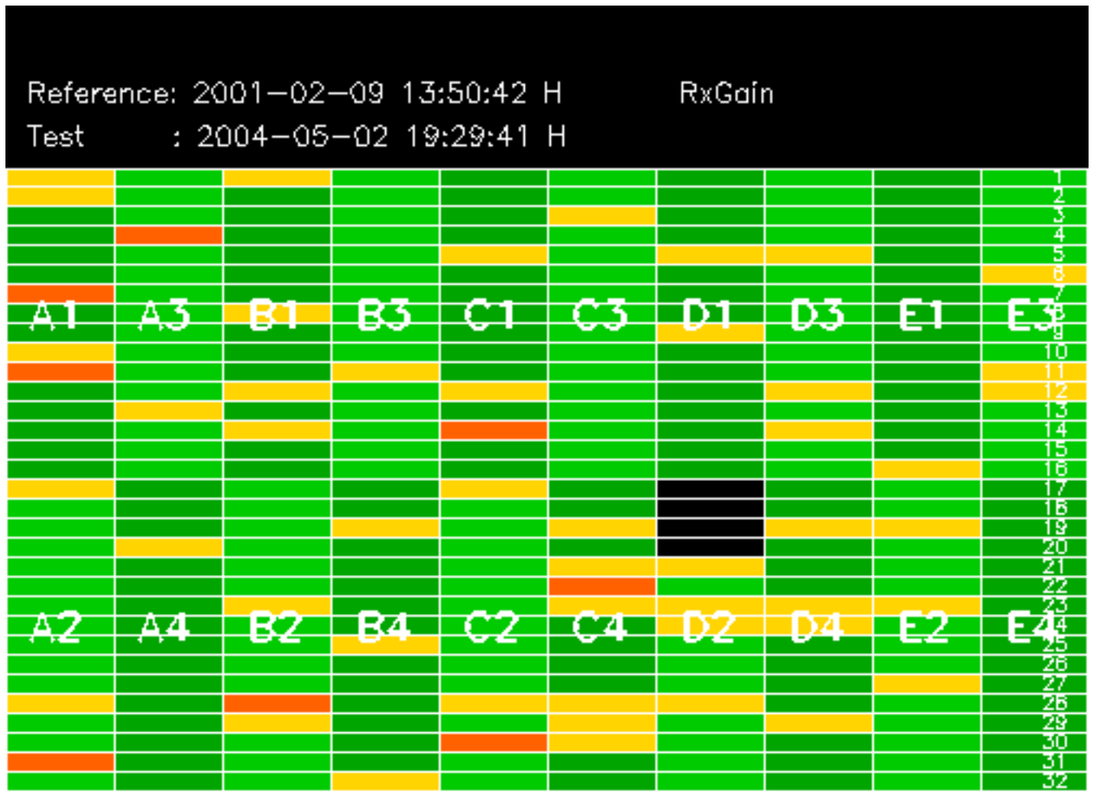

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −18.638487 Hz
−100Hz
+100Hz

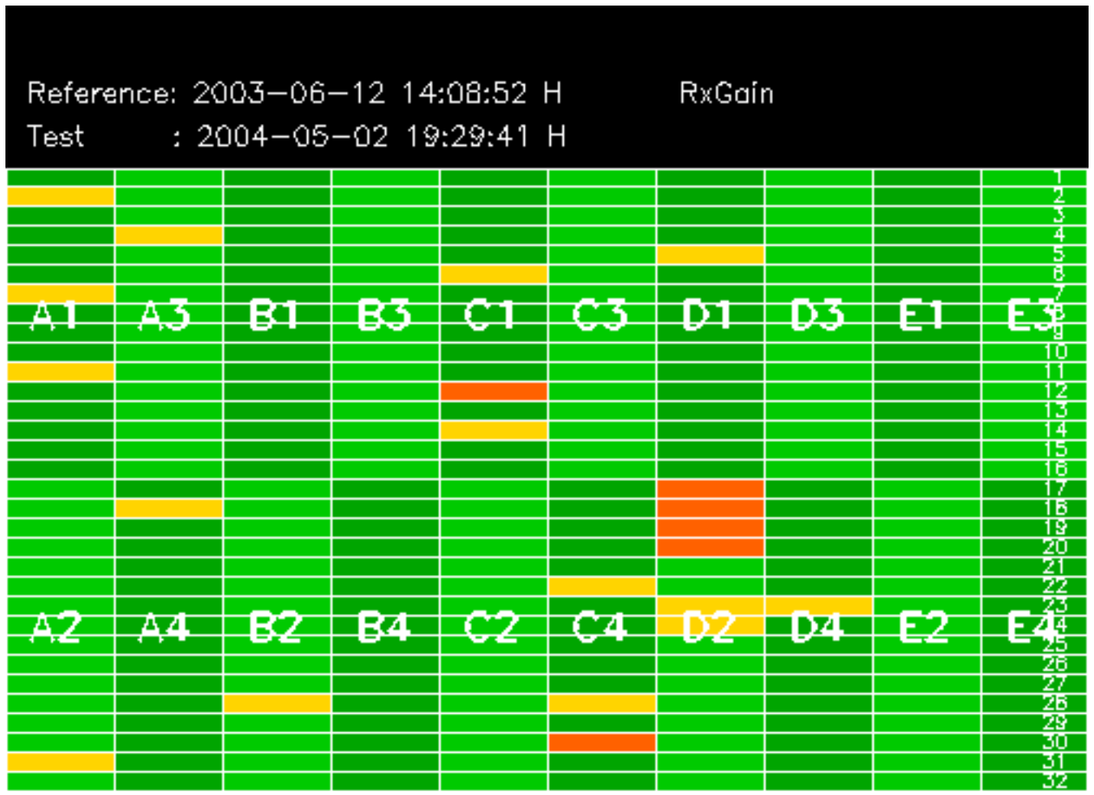

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −37.102555 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −35.316060 Hz
−100Hz
+100Hz

MS of 2004-MAY-03 are missing

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2004-05-02 19:29:41 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 : 2004-05-02 19:29:41 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
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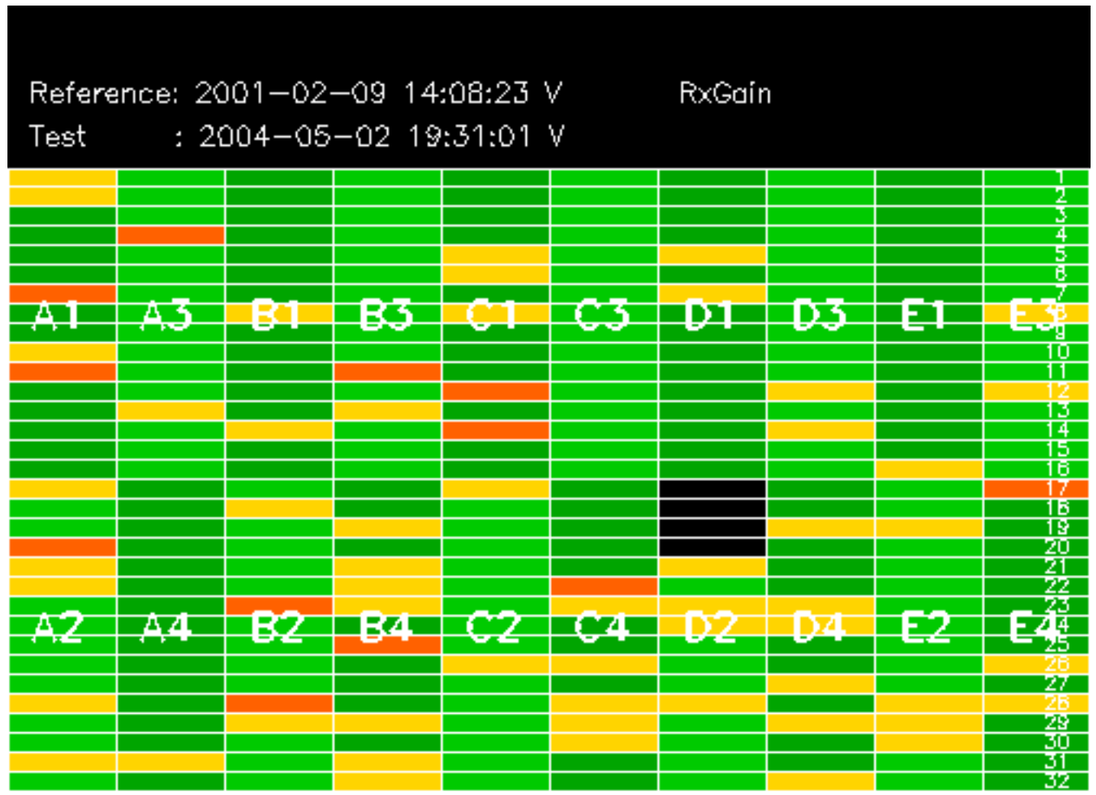
Reference: 2001-02-09 14:08:23 V
Test : 2004-05-02 19:31:01 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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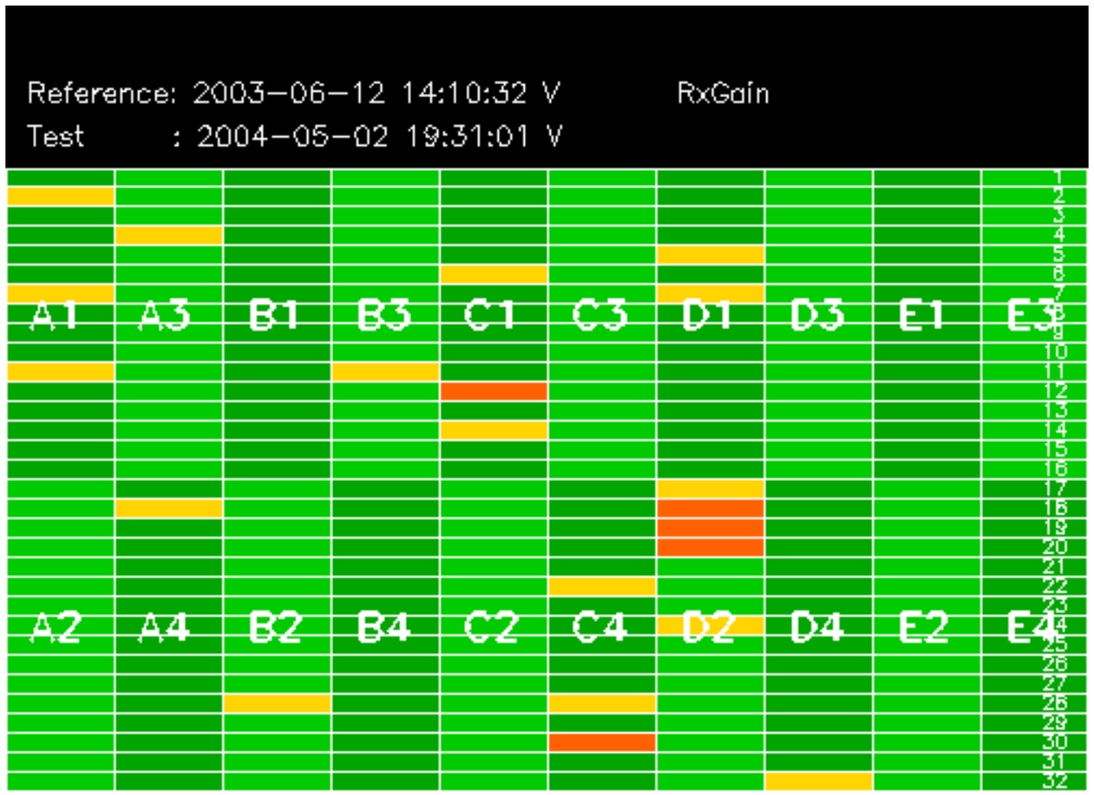
Reference: 2003-06-12 14:10:32 V
Test : 2004-05-02 19:31:01 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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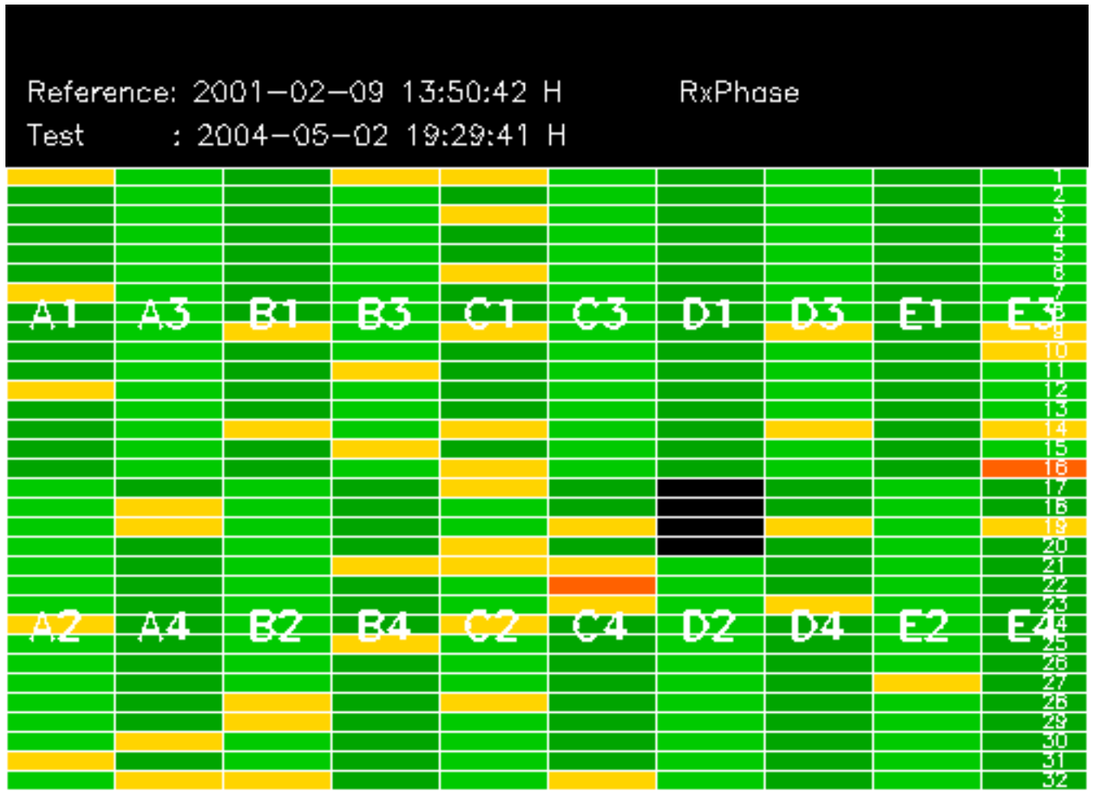
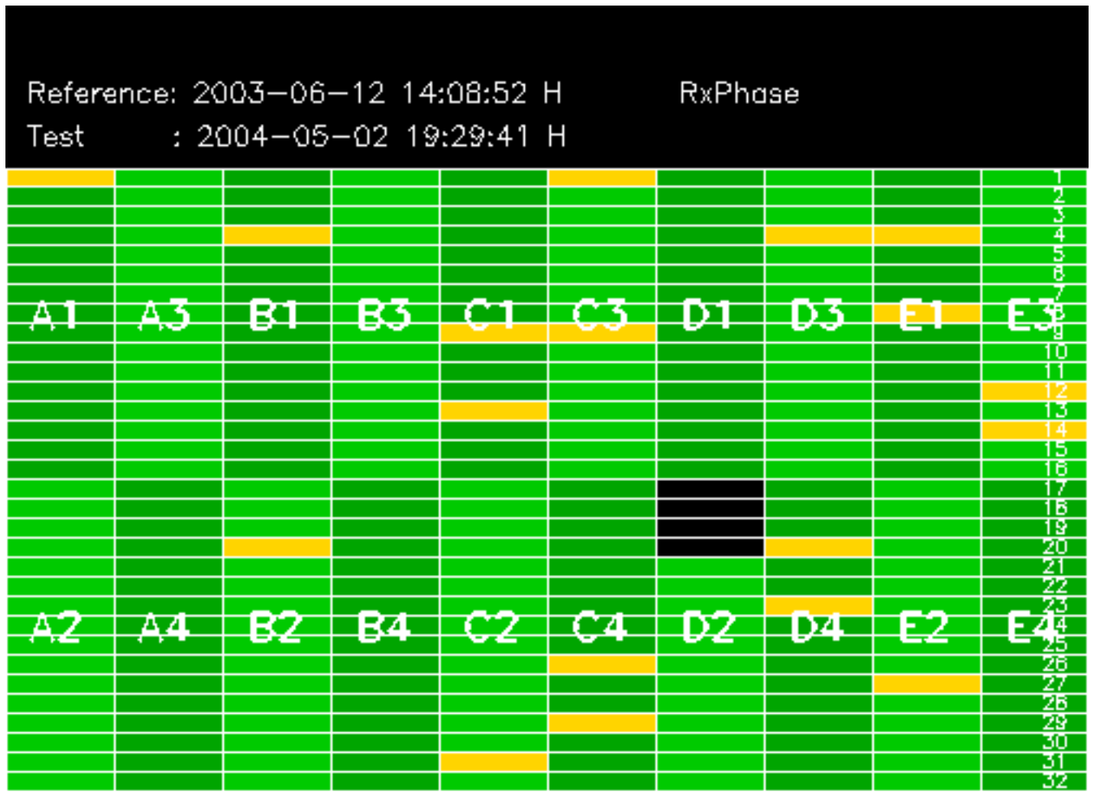

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-05-02 19:29:41 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2004-05-02 19:29:41 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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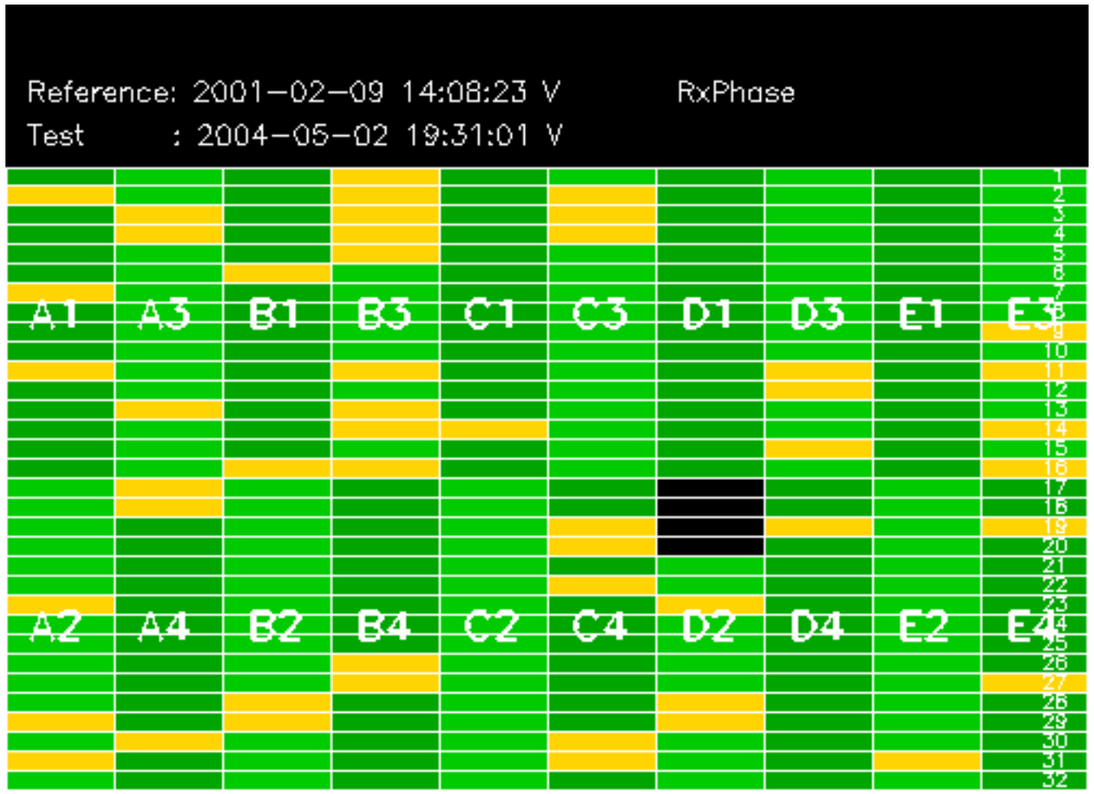
Reference: 2001-02-09 14:08:23 V
Test : 2004-05-02 19:31:01 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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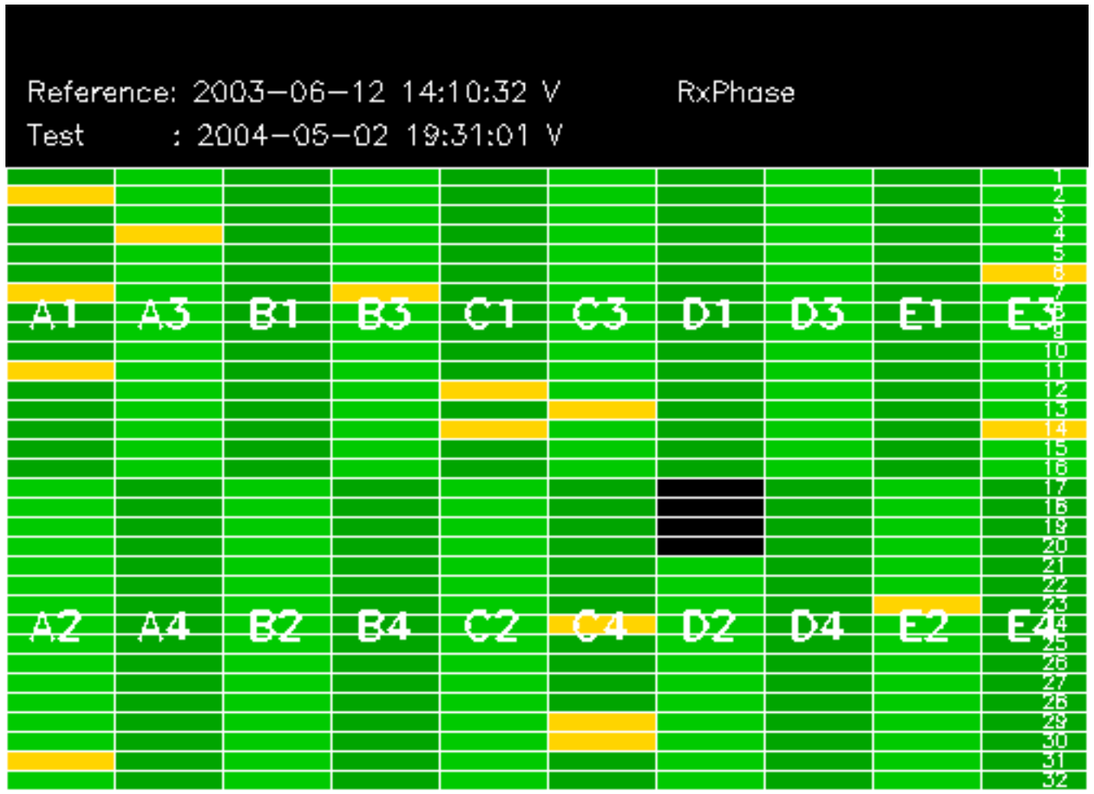
Reference: 2003-06-12 14:10:32 V
Test : 2004-05-02 19:31:01 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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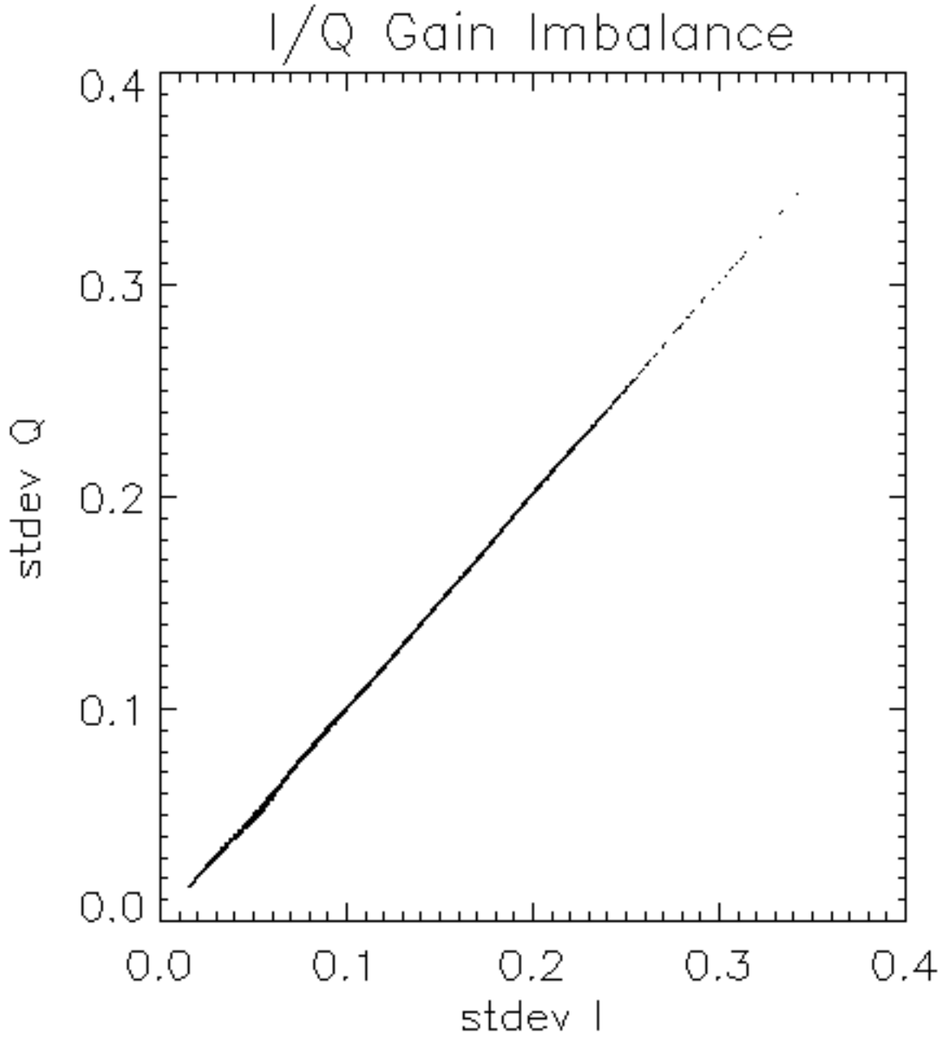
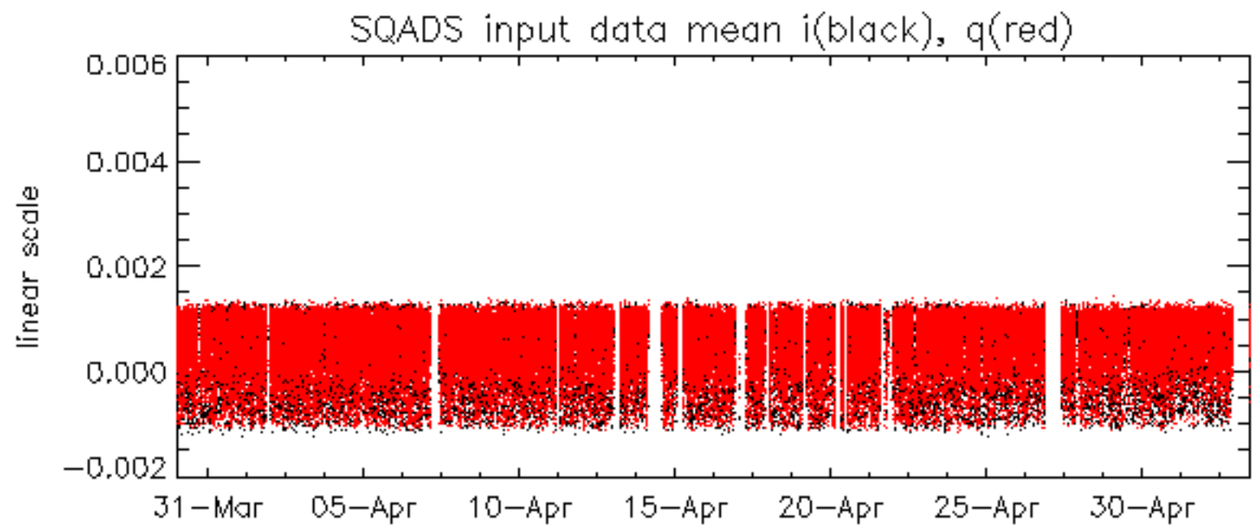
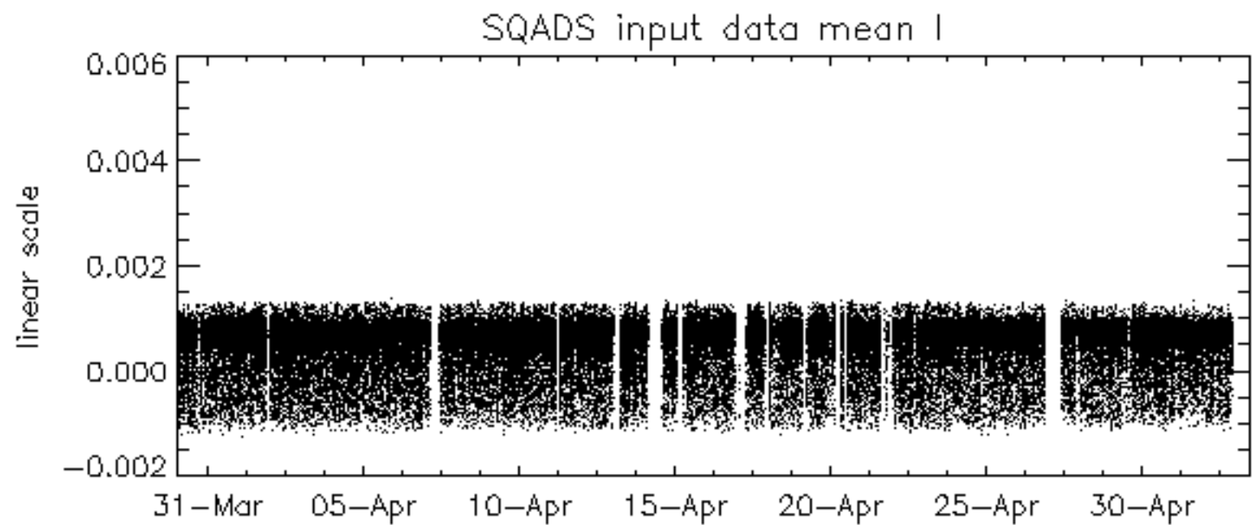
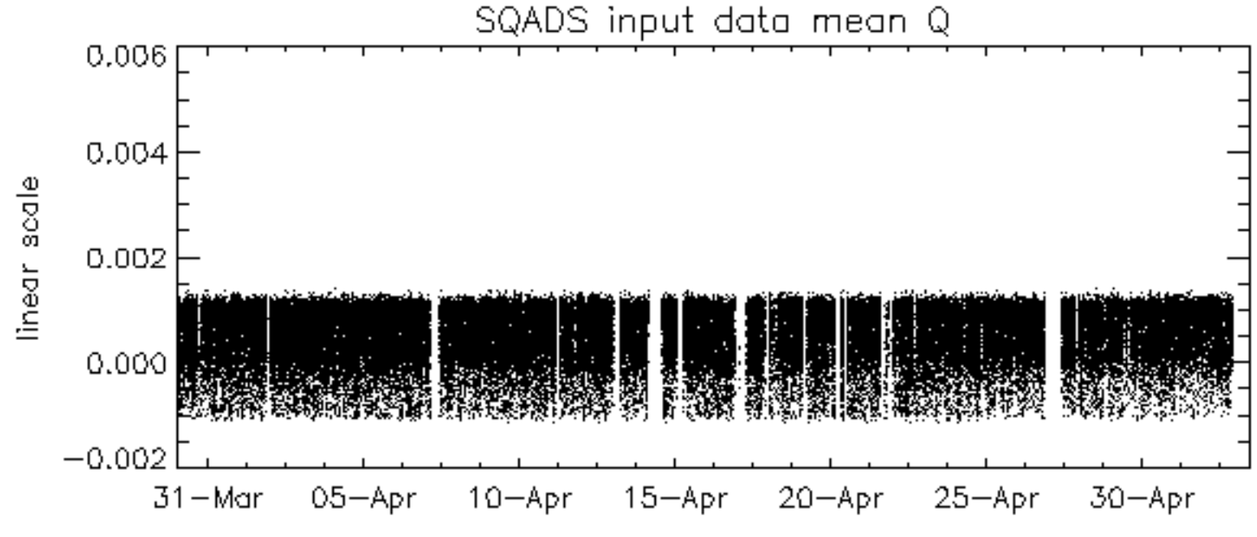
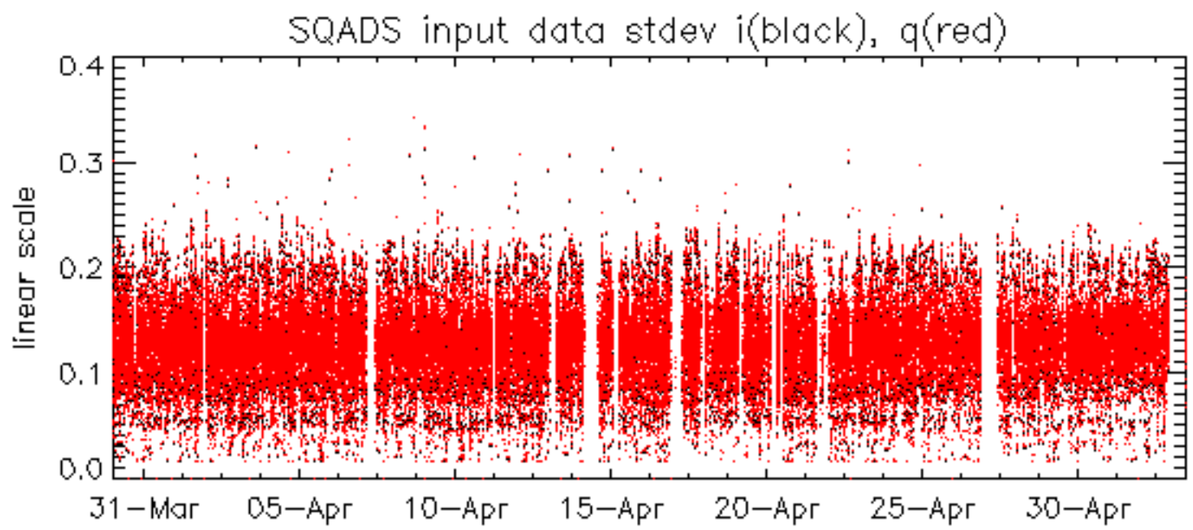
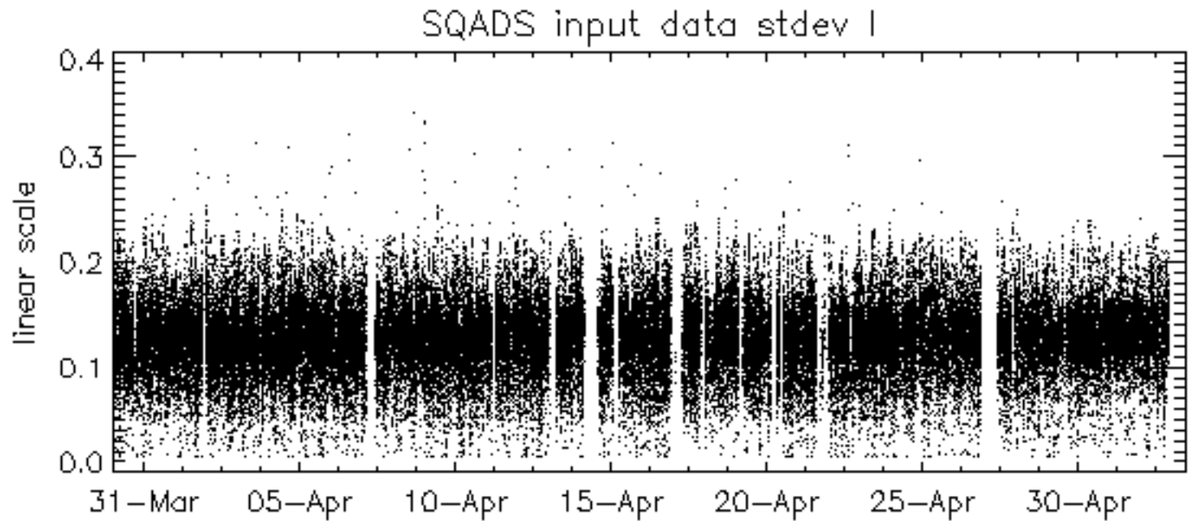

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

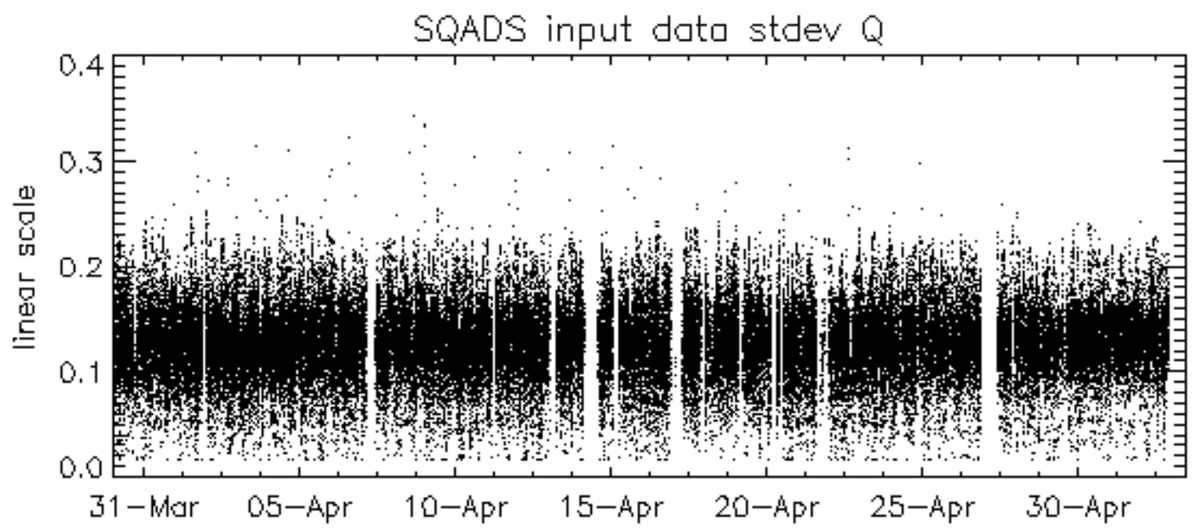

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr
30−Apr

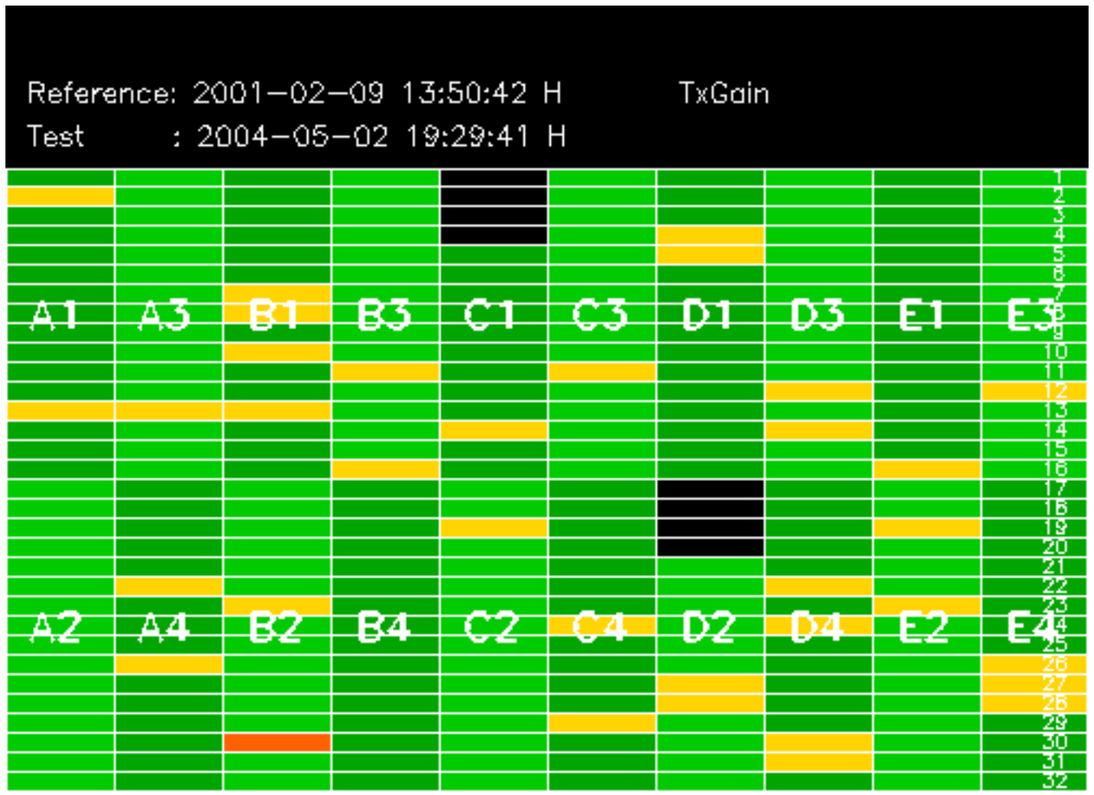

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr
30−Apr

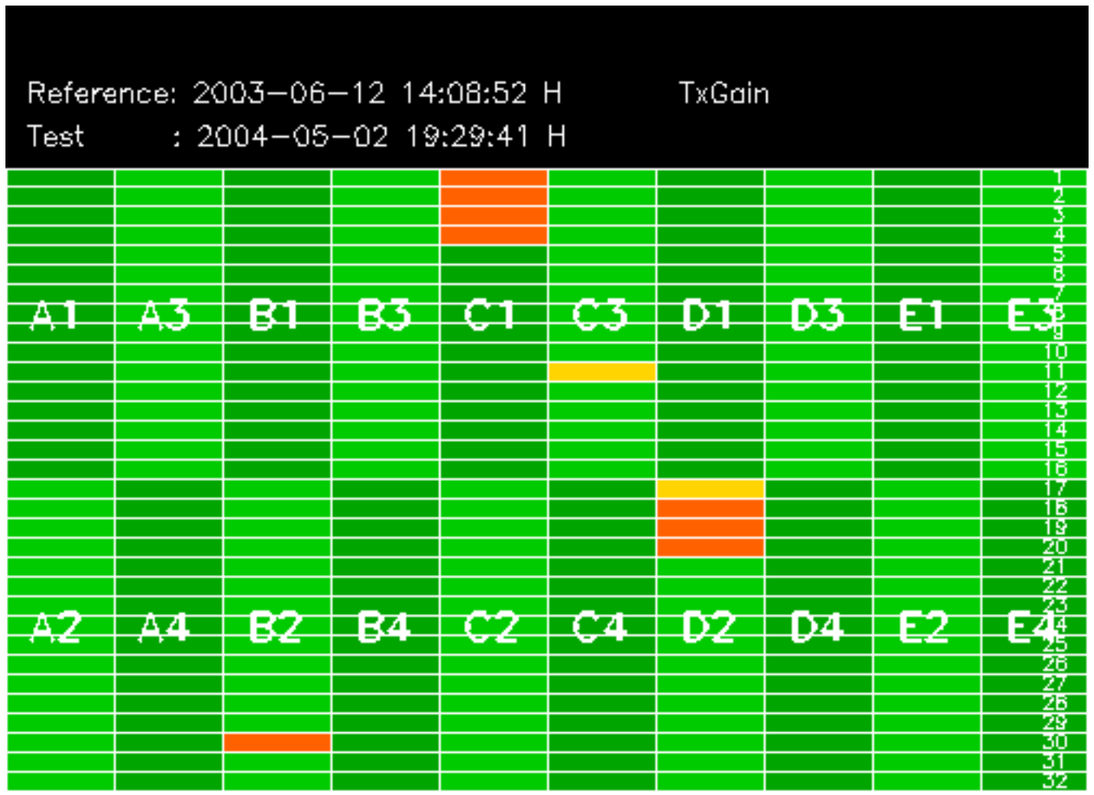

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr
30−Apr


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 : 2004-05-02 19:29:41 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 : 2004-05-02 19:29:41 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
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B4
C2
C4
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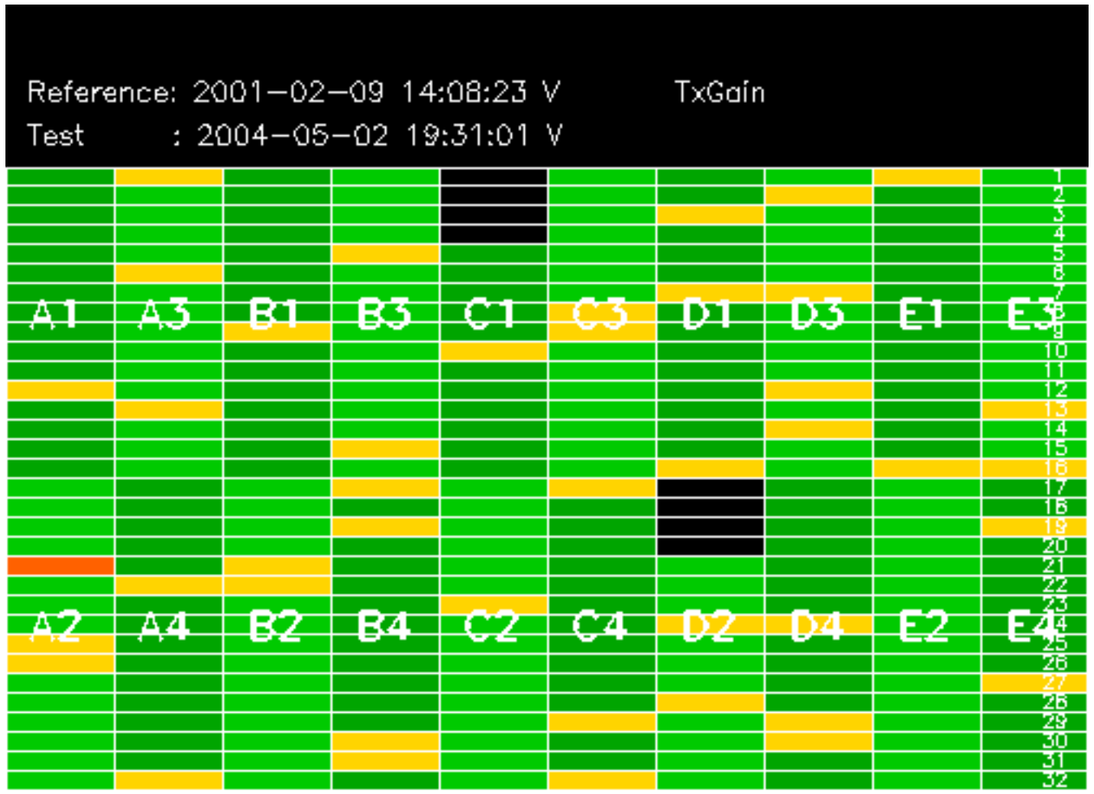
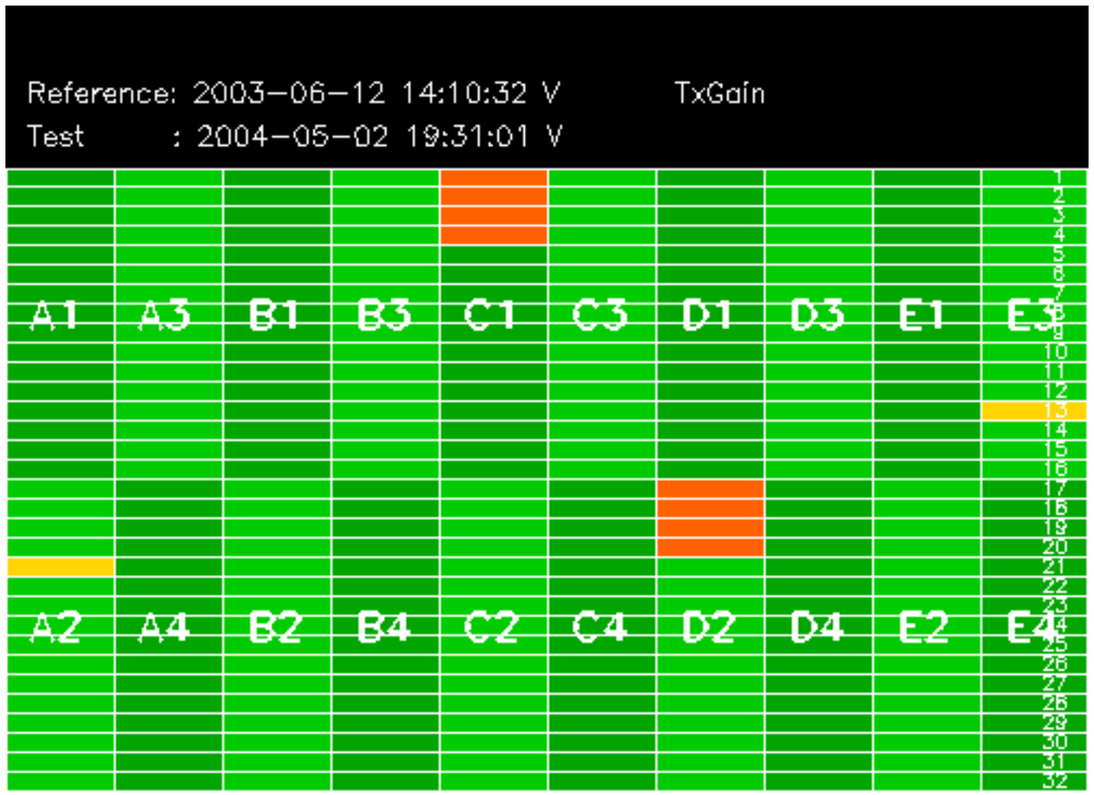

Reference: 2001-02-09 14:08:23 V
Test : 2004-05-02 19:31:01 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-05-02 19:31:01 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
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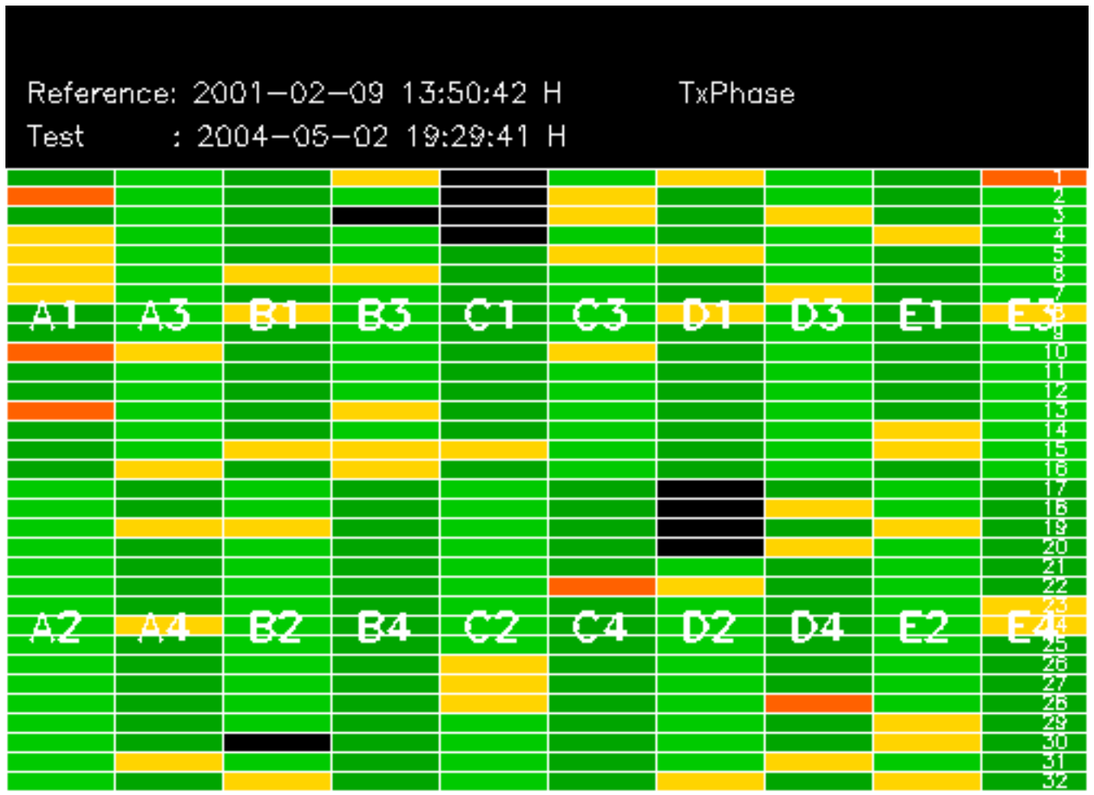
Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-05-02 19:29:41 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
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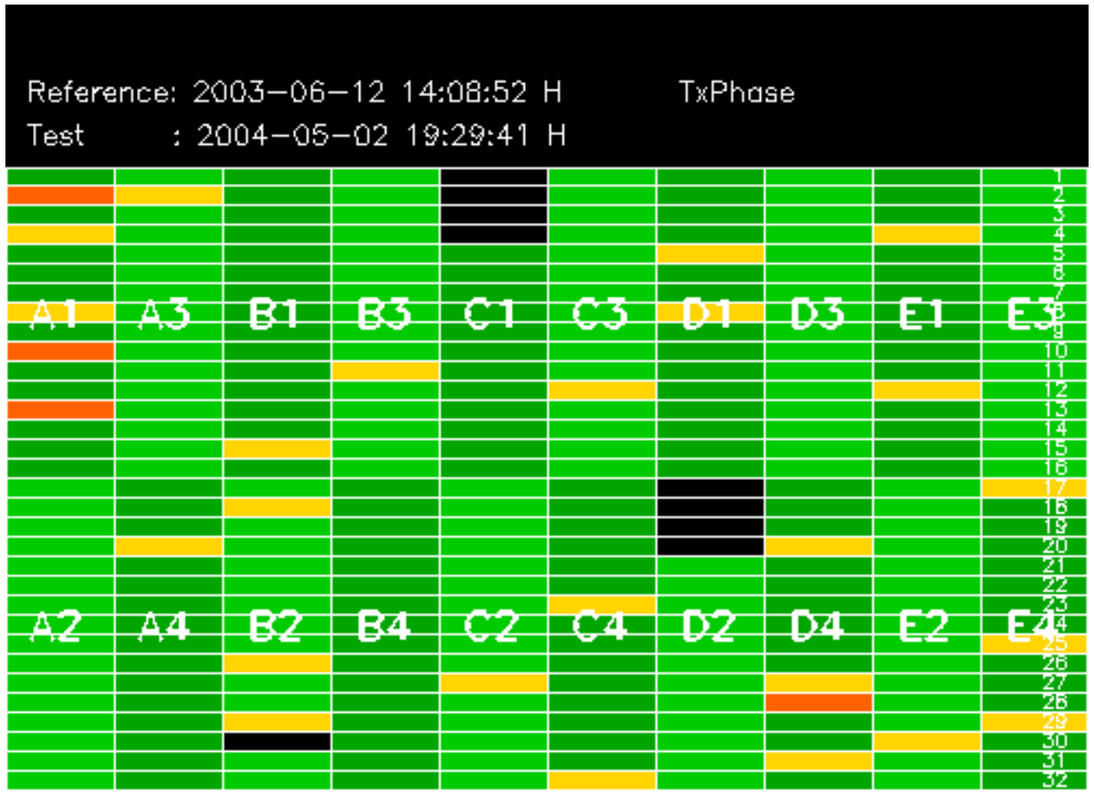
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-05-02 19:29:41 H
TxPhase
A1
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B3
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D1
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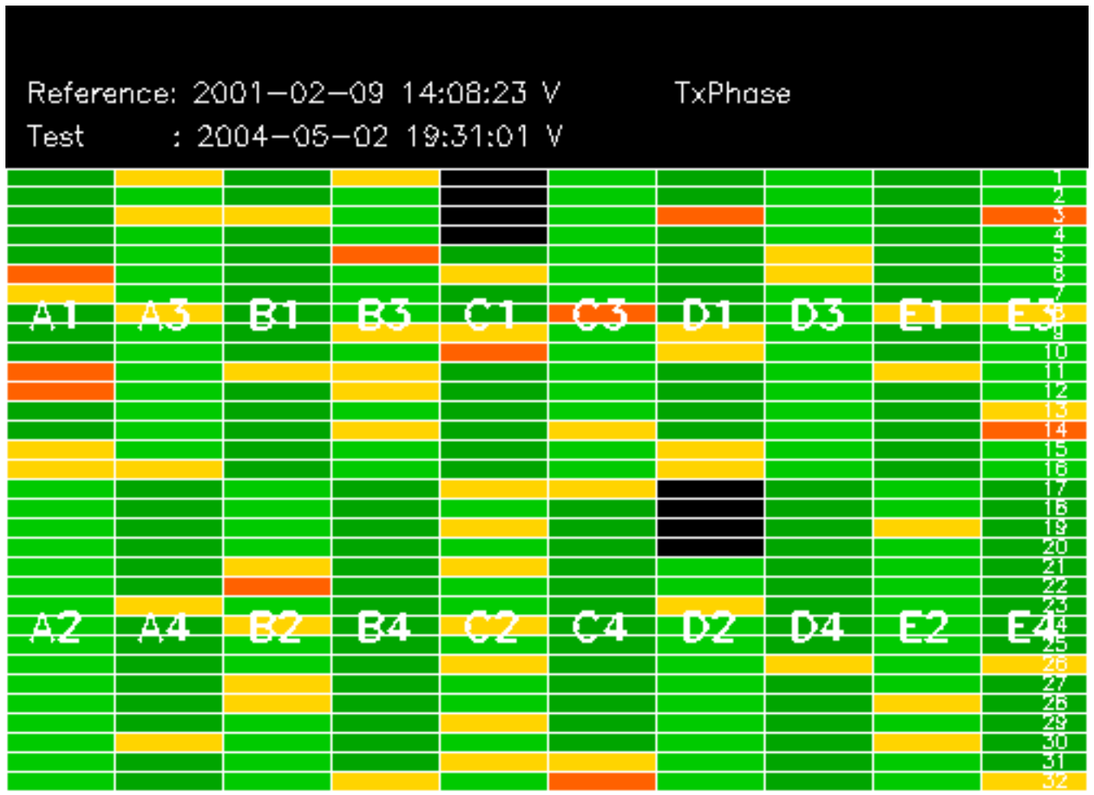
Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2004-05-02 19:31:01 V
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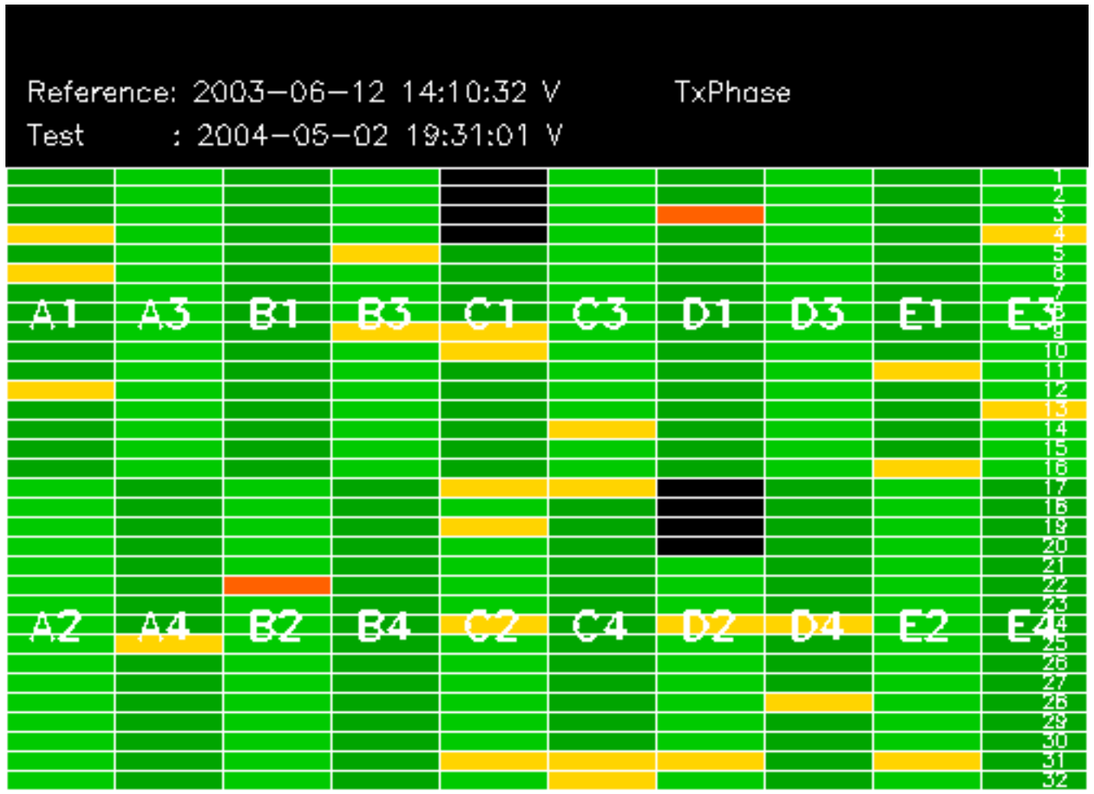
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-05-02 19:31:01 V
TxPhase
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No unavailabilities during the reported period.