PRELIMINARY REPORT OF 041120

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

last update on Sat Nov 20 10:52:34 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	20041116 085034
H	20041119 071543

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


P1a Cyclic statistics

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

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.473418	0.006502	0.018770
7	P1	-3.345972	0.016931	0.080562
11	P1	-4.602699	0.016399	0.002495
15	P1	-5.663874	0.028905	0.045651
19	P1	-3.596692	0.005574	-0.057086
22	P1	-4.582991	0.014822	-0.010858
26	P1	-4.866274	0.062396	-0.006846

30	P1	-7.071274	0.014942	-0.028108
3	P1	-16.026068	0.105016	0.147071
7	P1	-14.125966	0.185231	-0.524817
11	P1	-20.635536	0.204144	-0.226104
15	P1	-11.674338	0.035444	0.066656
19	P1	-14.056650	0.028755	-0.086388
22	P1	-16.225658	0.391826	-0.014315
26	P1	-17.704142	0.728088	0.045845
30	P1	-17.978188	0.273313	0.108585

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.374105	0.089283	-0.022427
7	P2	-22.613865	0.136192	-0.055517
11	P2	-15.071543	0.126763	0.067249
15	P2	-7.148889	0.110555	-0.060223
19	P2	-9.711360	0.131316	-0.012975
22	P2	-17.248627	0.104230	0.034184
26	P2	-16.506895	0.112596	-0.036612
30	P2	-19.053120	0.084830	0.015253

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.201001	0.006289	-0.029150
7	P3	-8.200999	0.006289	-0.029150
11	P3	-8.201002	0.006289	-0.029143
15	P3	-8.201004	0.006289	-0.029148
19	P3	-8.201004	0.006289	-0.029152
22	P3	-8.201007	0.006289	-0.029146
26	P3	-8.201007	0.006289	-0.029153
30	P3	-8.200894	0.006288	-0.029162

4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1

P1a Cyclic statistics

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

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-2.802055	0.011288	-0.019791
7	P1	-2.952098	0.023242	0.003792
11	P1	-3.898711	0.022362	-0.002950
15	P1	-3.486084	0.027197	0.014441
19	P1	-3.589251	0.012105	-0.006335
22	P1	-5.613662	0.067711	0.064399
26	P1	-6.415866	0.081929	-0.040241
30	P1	-6.259542	0.040971	-0.049426
3	P1	-10.595470	0.052304	0.002402
7	P1	-10.076987	0.136002	-0.058989
11	P1	-12.354644	0.117229	-0.087273
15	P1	-11.706770	0.064669	-0.057820
19	P1	-15.618215	0.053862	-0.024909
22	P1	-23.946075	1.999756	-0.455826
26	P1	-15.112514	0.468693	-0.145883
30	P1	-20.270174	1.002662	-0.012775

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.055330	0.041905	-0.035964
7	P2	-22.676184	0.032708	-0.004979
11	P2	-10.856894	0.037584	0.031790
15	P2	-5.043884	0.029947	-0.064648
19	P2	-6.949372	0.036635	-0.086849
22	P2	-7.362882	0.030685	0.039307
26	P2	-23.935553	0.023916	-0.067744
30	P2	-22.091087	0.019745	-0.008372

P3 Cyclic statistics

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

3	P3	-8.041267	0.003514	-0.023342
7	P3	-8.041294	0.003524	-0.023270
11	P3	-8.041325	0.003527	-0.023550
15	P3	-8.041231	0.003518	-0.023384
19	P3	-8.041251	0.003520	-0.023691
22	P3	-8.041333	0.003514	-0.023618
26	P3	-8.041323	0.003506	-0.023407
30	P3	-8.041255	0.003530	-0.023308

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	0.000462728
	stdev	2.23454e-07
MEAN Q	mean	0.000535203
	stdev	2.40370e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.126210
	stdev	0.000947878

STDEV Q	mean	0.126431
	stdev	0.000956169

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

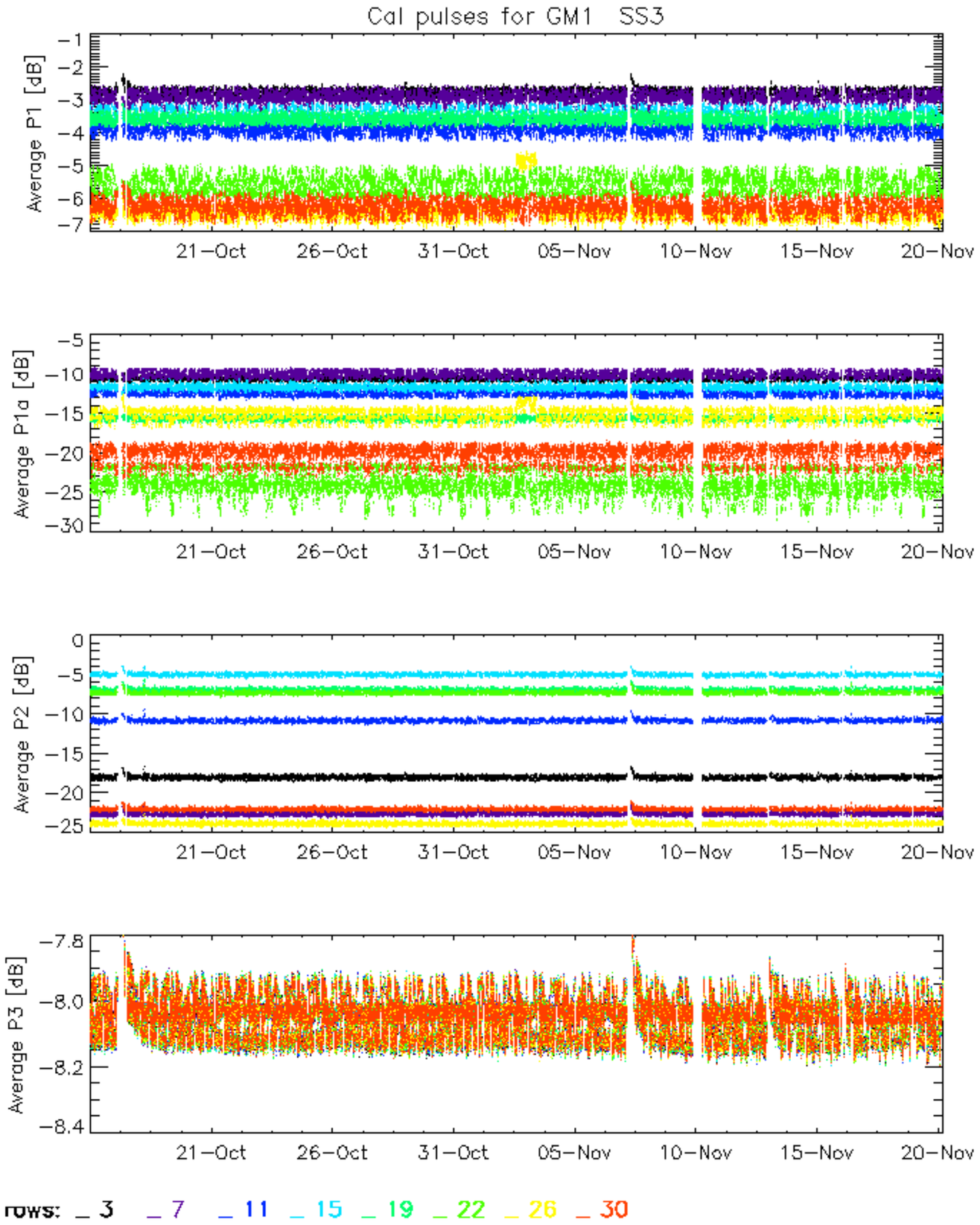
Evolution of Absolute Doppler

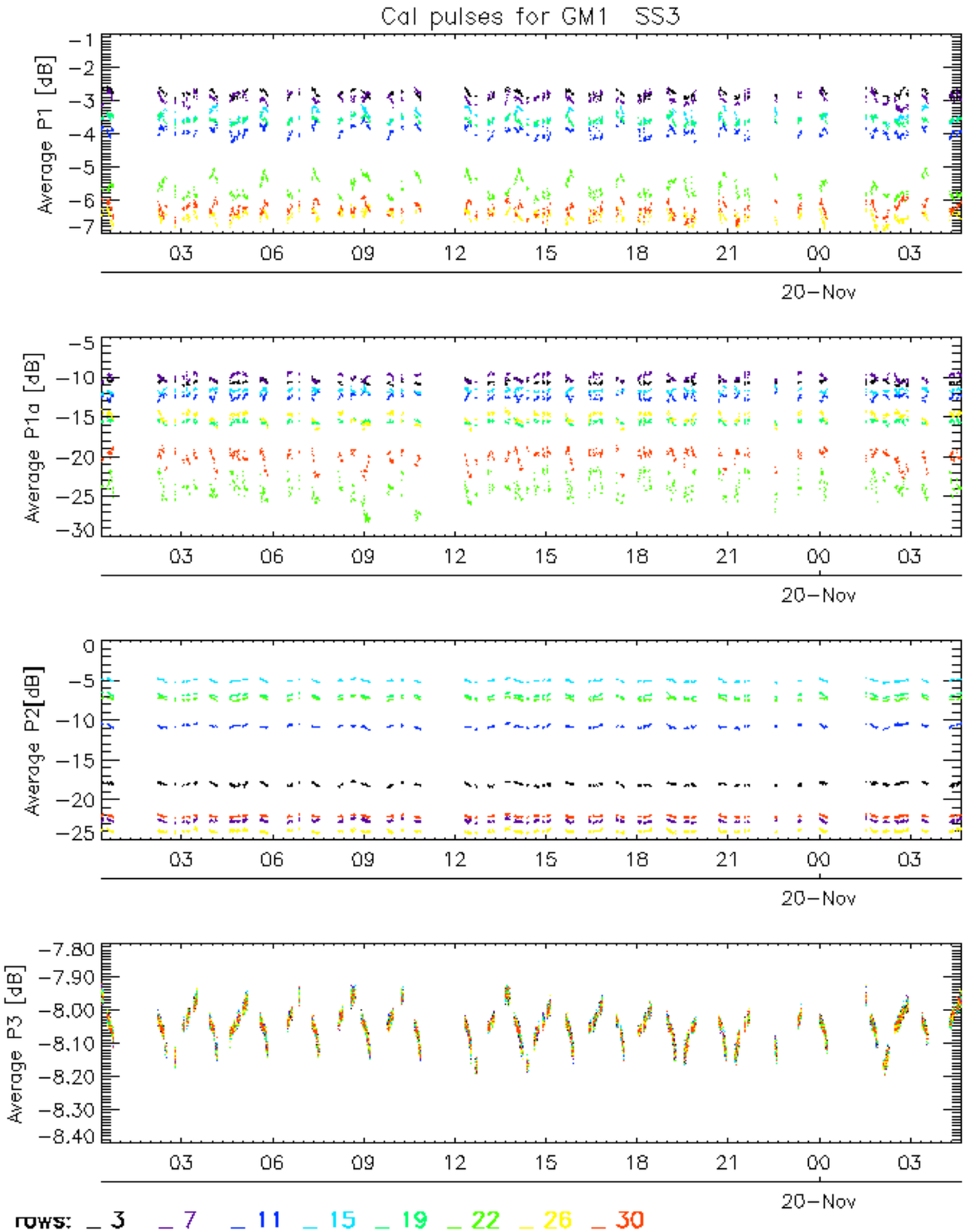
Acsending

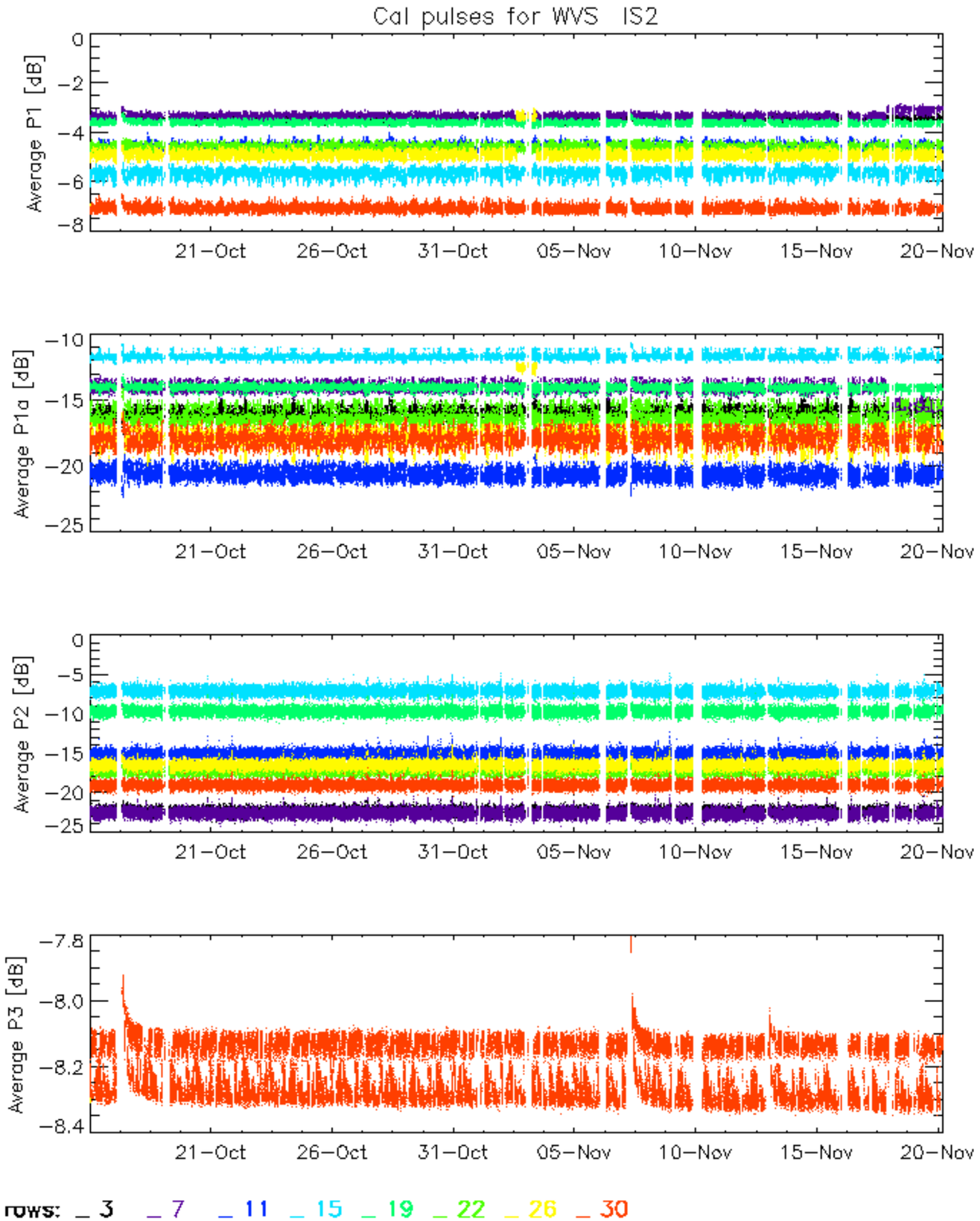
Descending

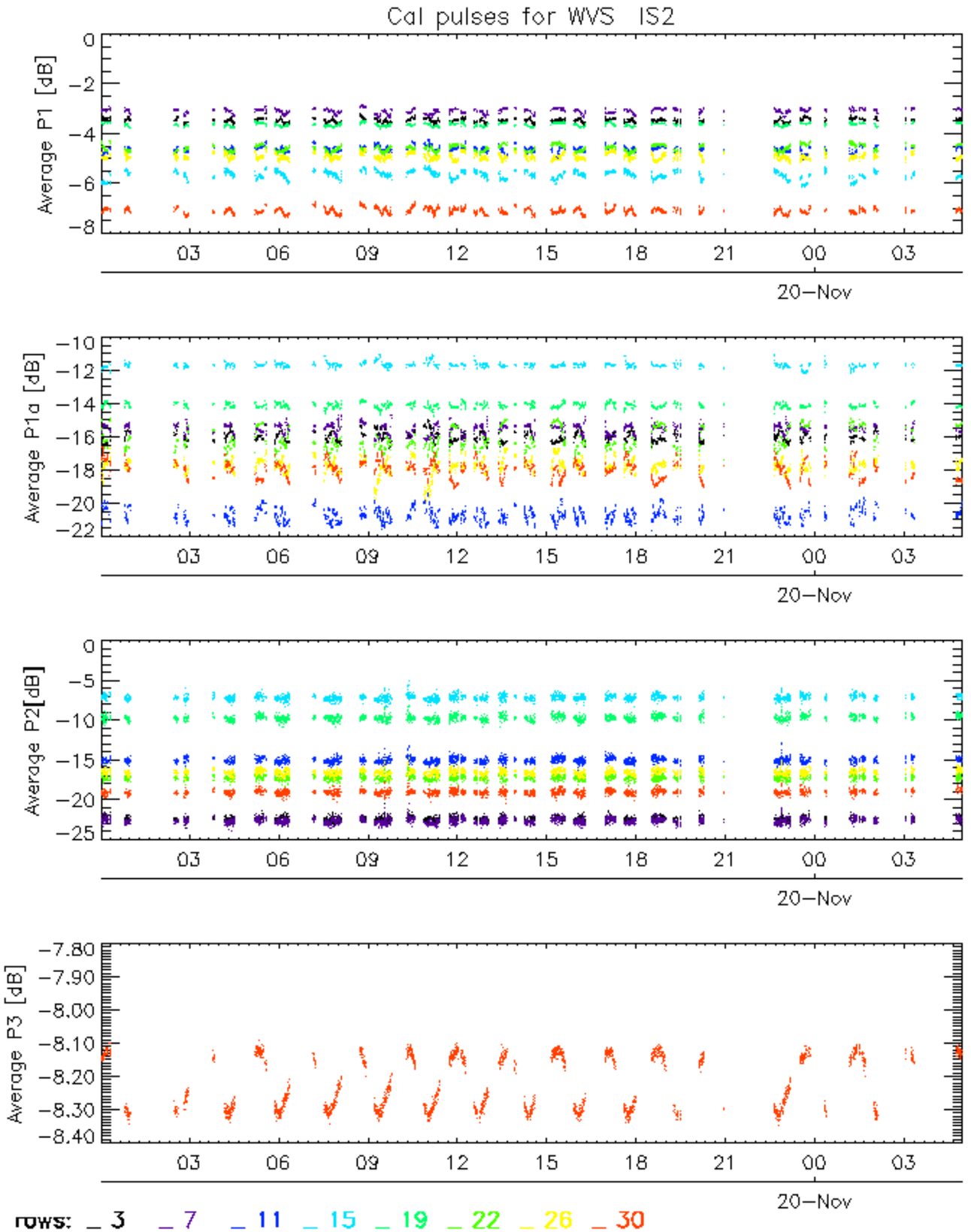
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

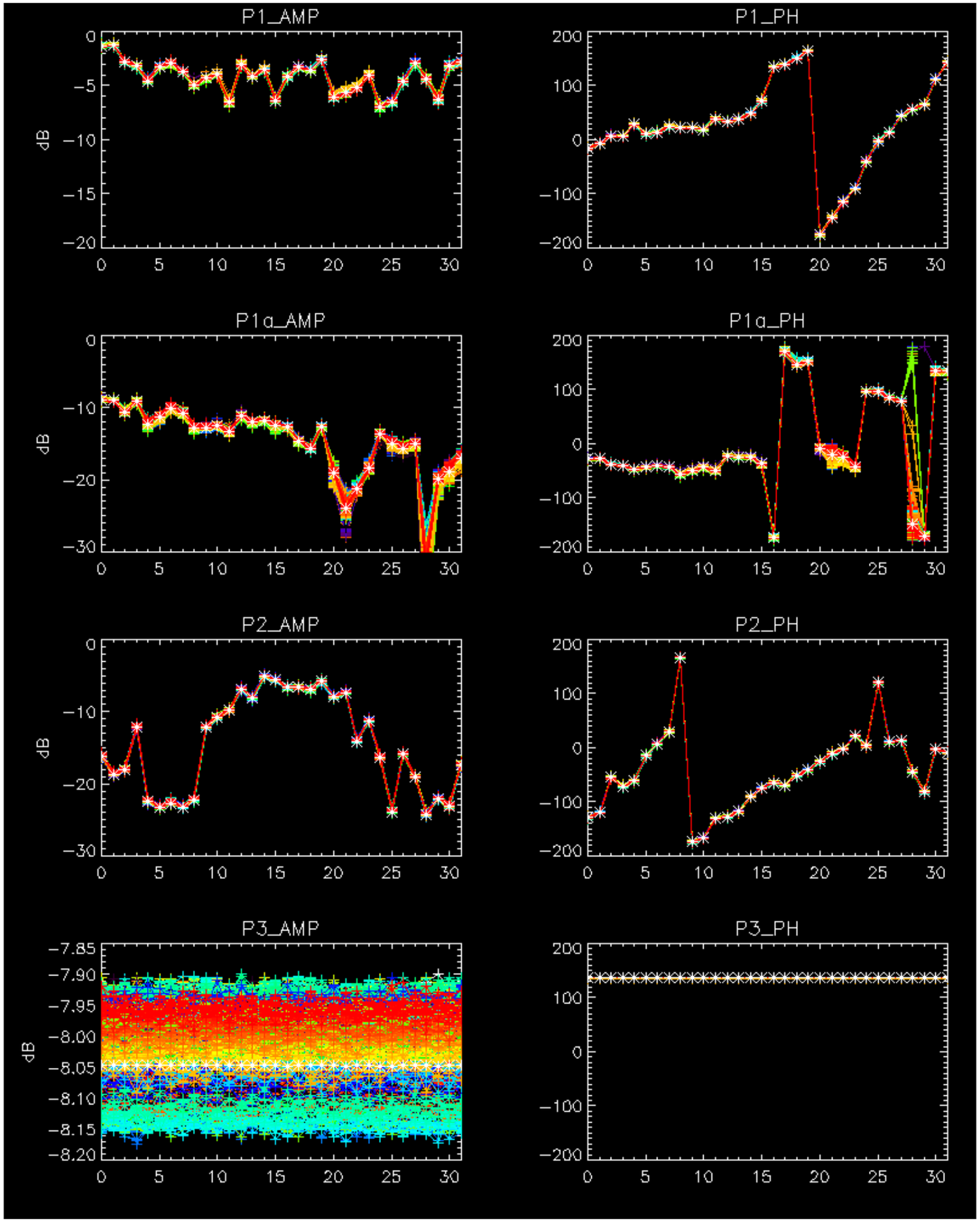


Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
21−Oct
26−Oct
31−Oct
05−Nov
10−Nov
15−Nov
20−Nov
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

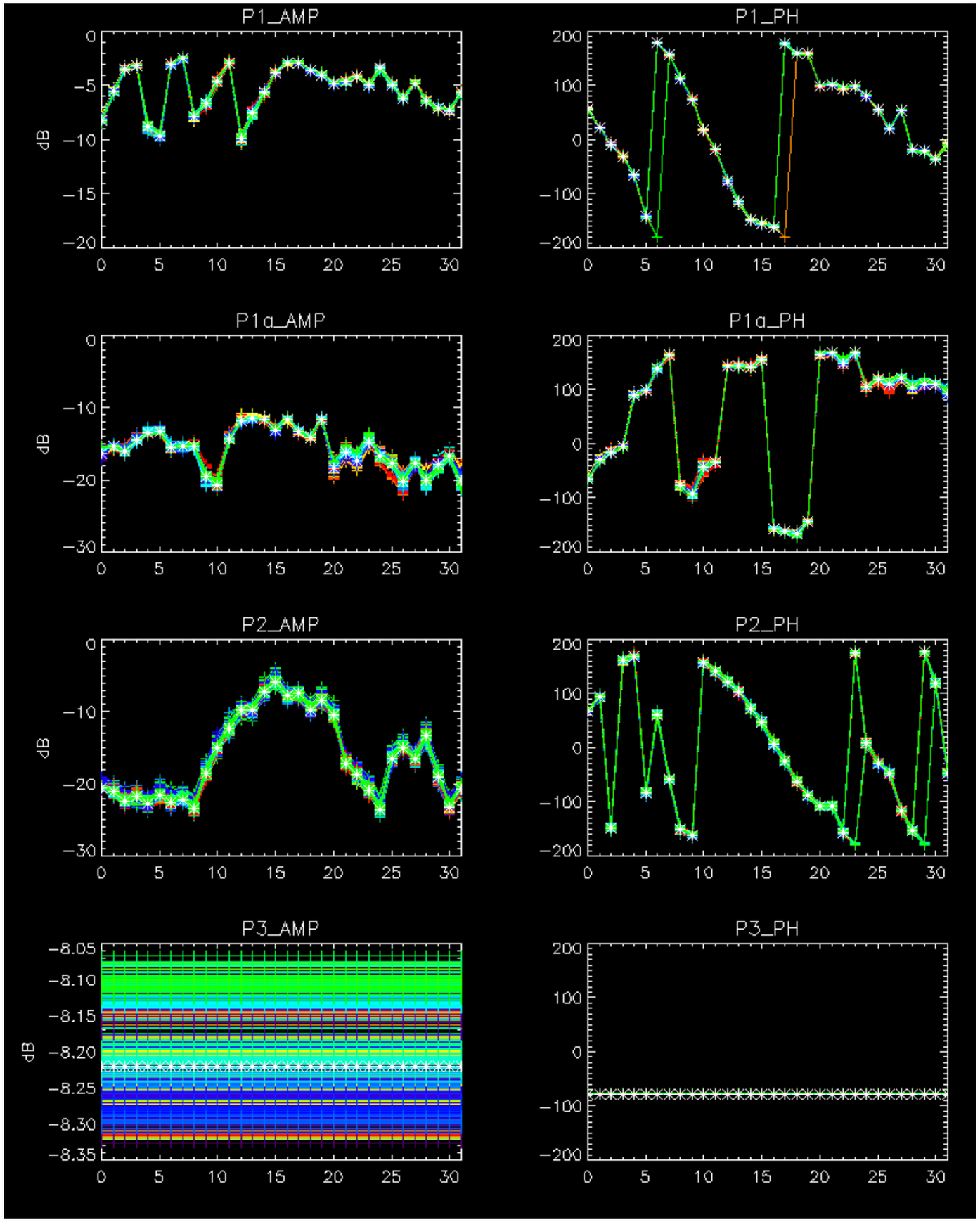

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
20−Nov
Average P1a [dB]
−5
−10
−15
−20
−25
−30
03
06
09
12
15
18
21
00
03
20−Nov
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
03
20−Nov
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
06
09
12
15
18
21
00
03
20−Nov
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
21−Oct
26−Oct
31−Oct
05−Nov
10−Nov
15−Nov
20−Nov
Average P1a [dB]
−10
−15
−20
−25
Average P2 [dB]
−5
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
20−Nov
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
Average P2[dB]
−5
−15
−25
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

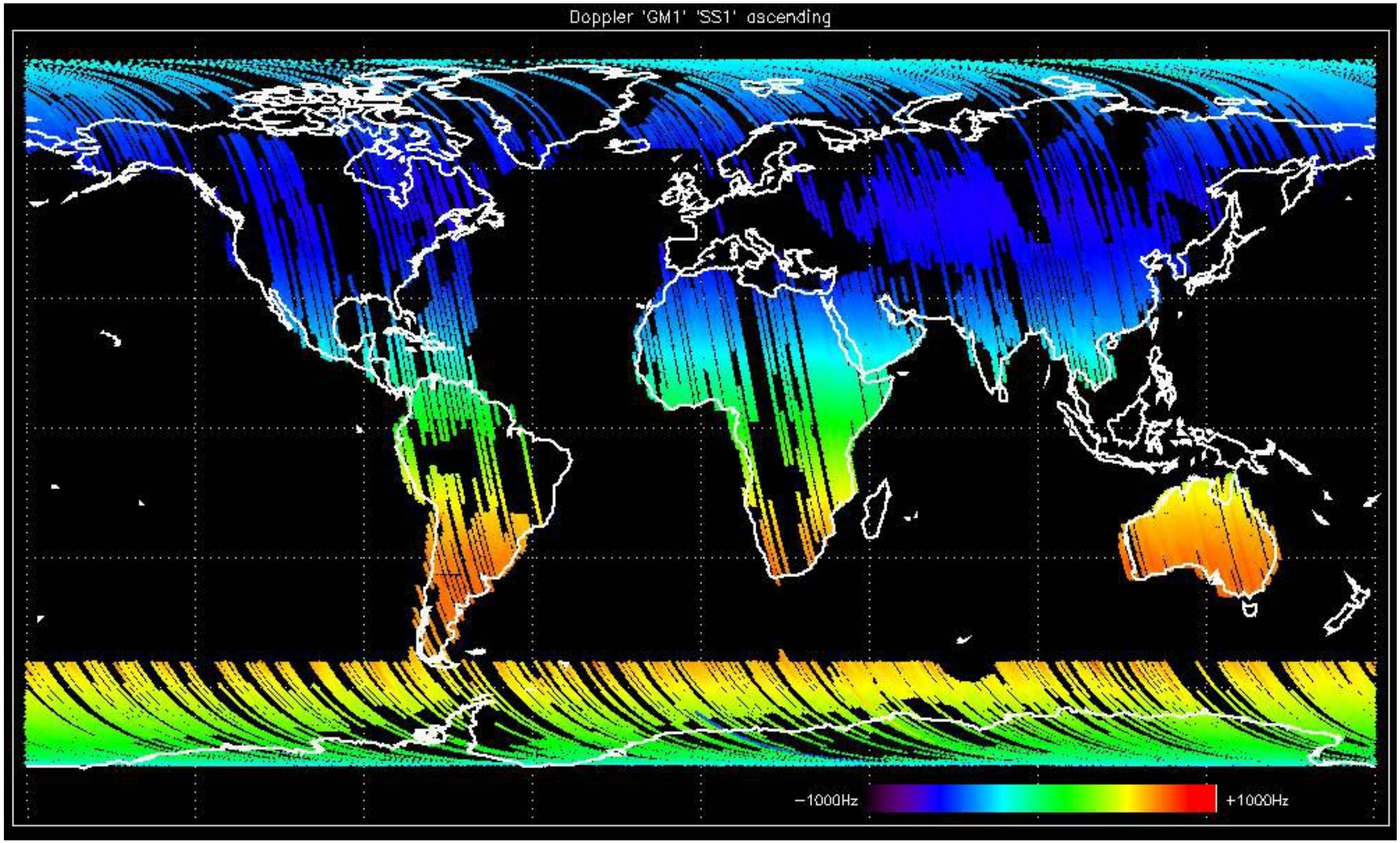
No anomalies observed.

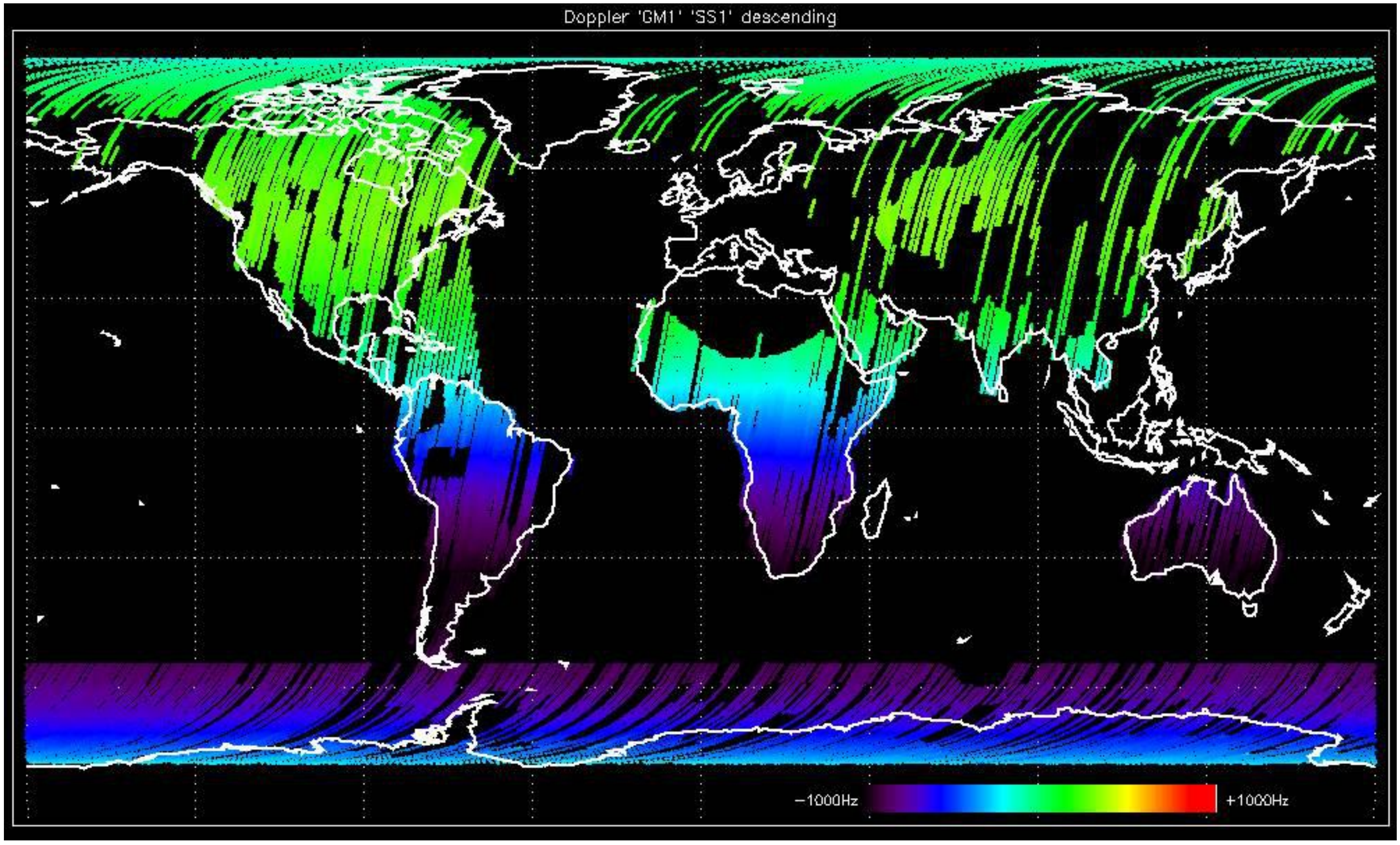

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.85
−7.90
−7.95
−8.00
−8.05
−8.10
−8.15
−8.20
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

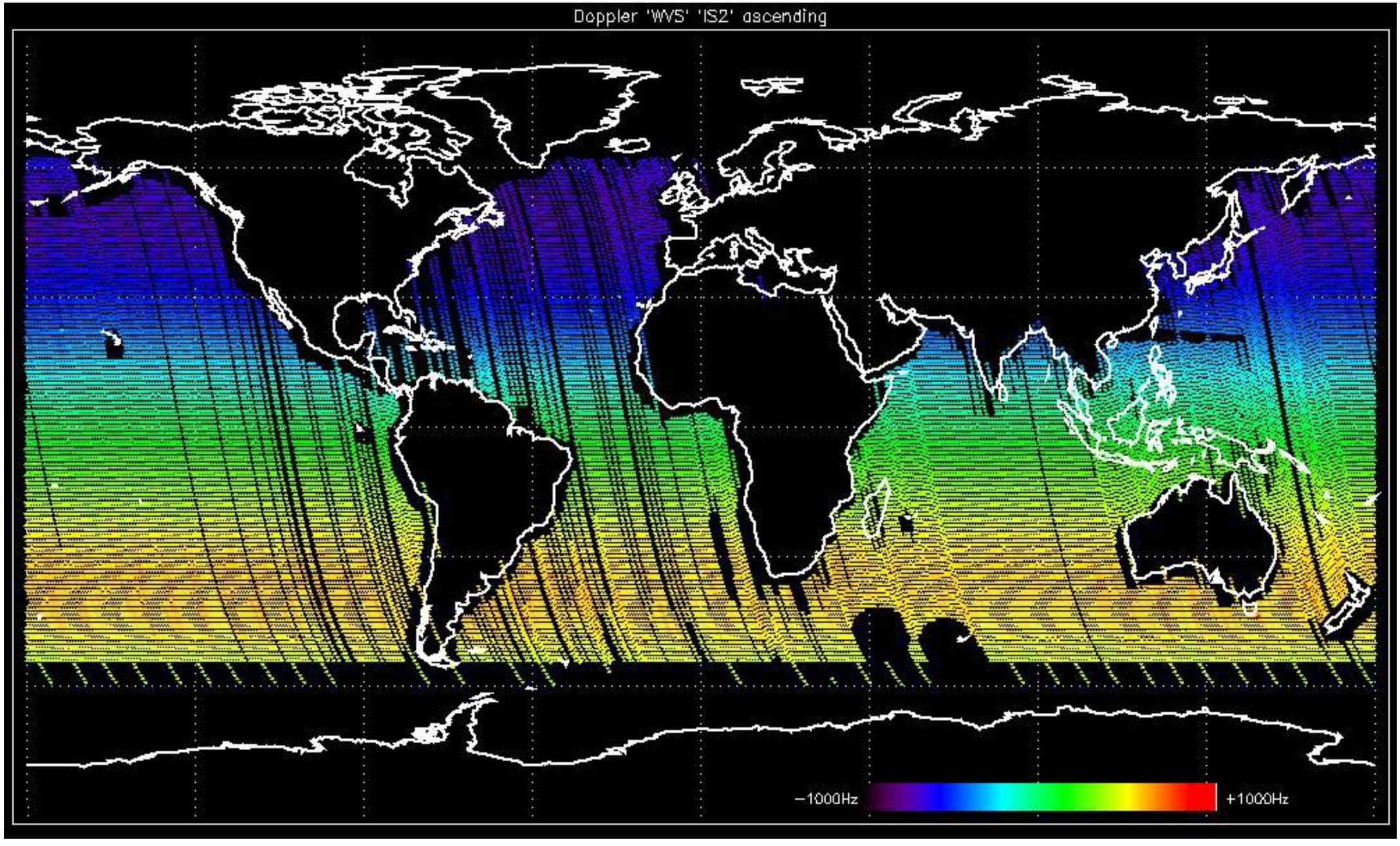

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.05
−8.10
−8.15
−8.20
−8.25
−8.30
−8.35
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

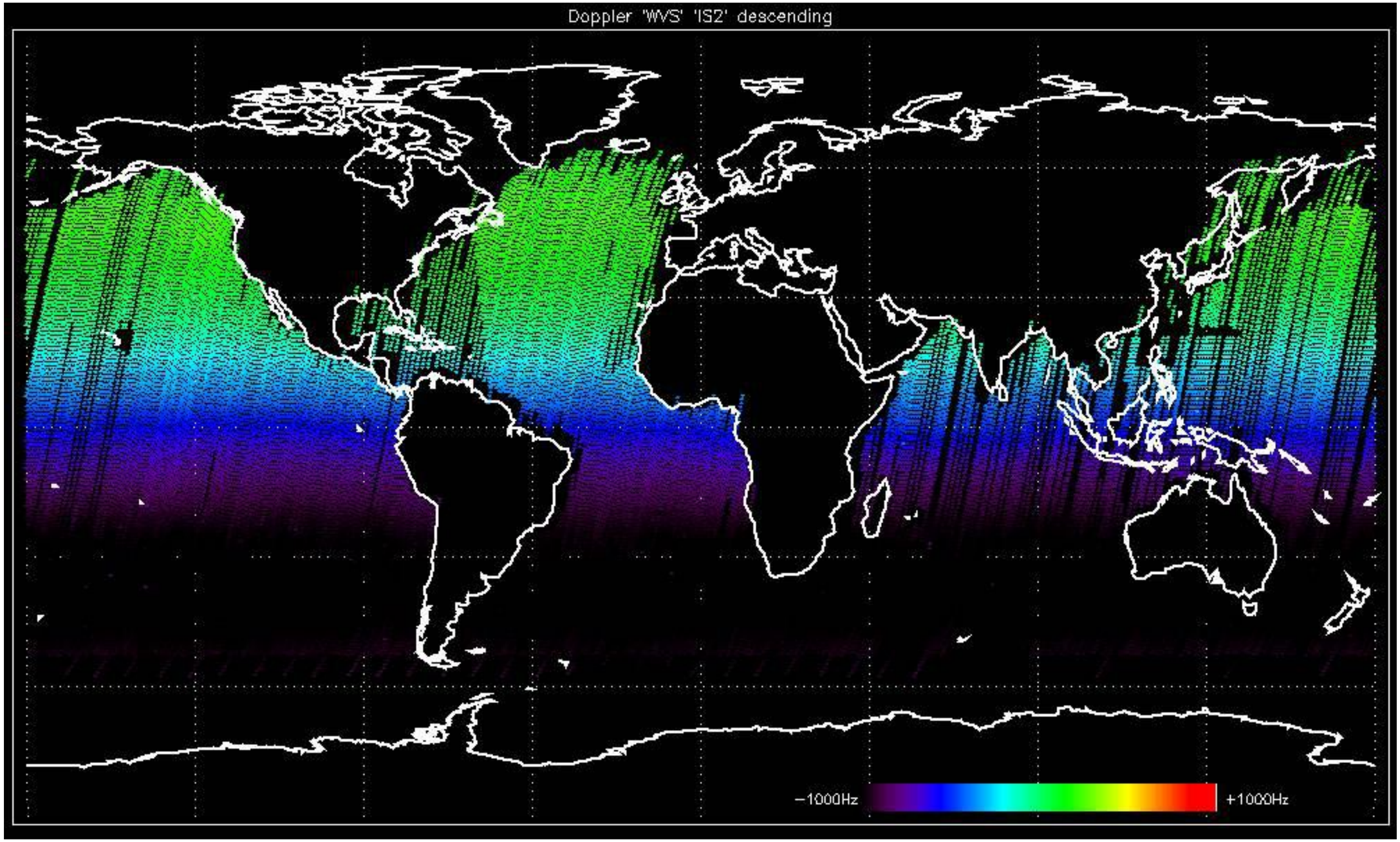
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

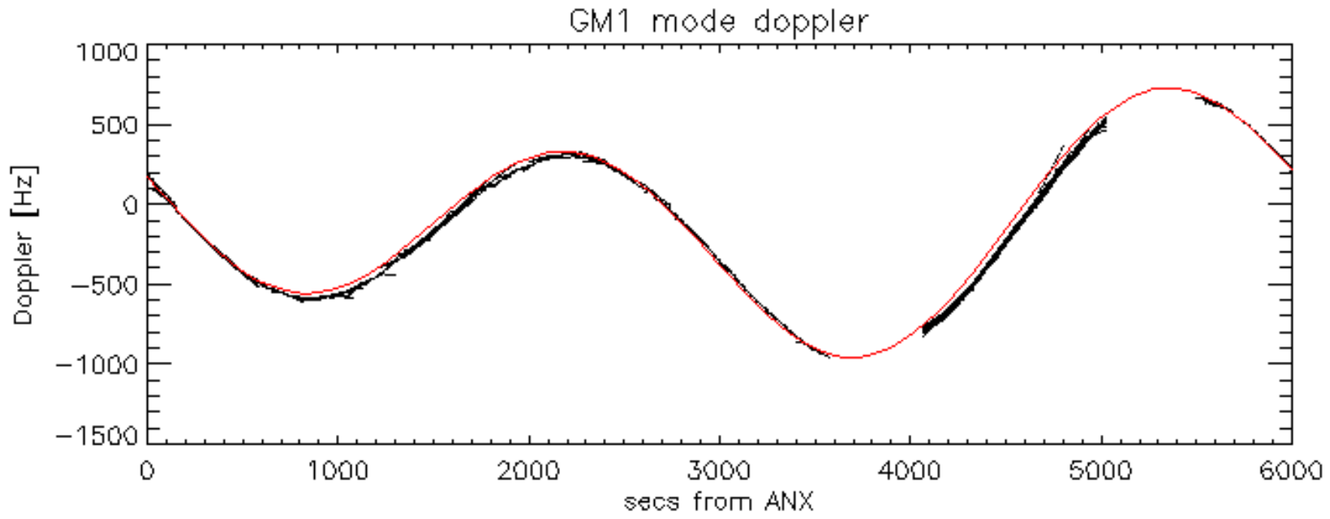
Preliminary report.The data is not yet controled

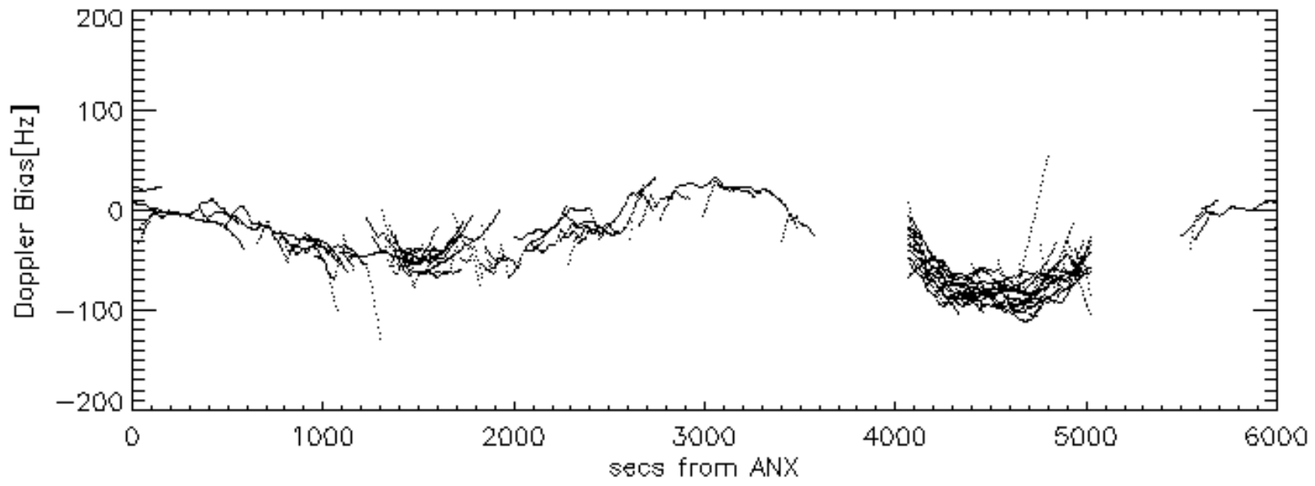

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

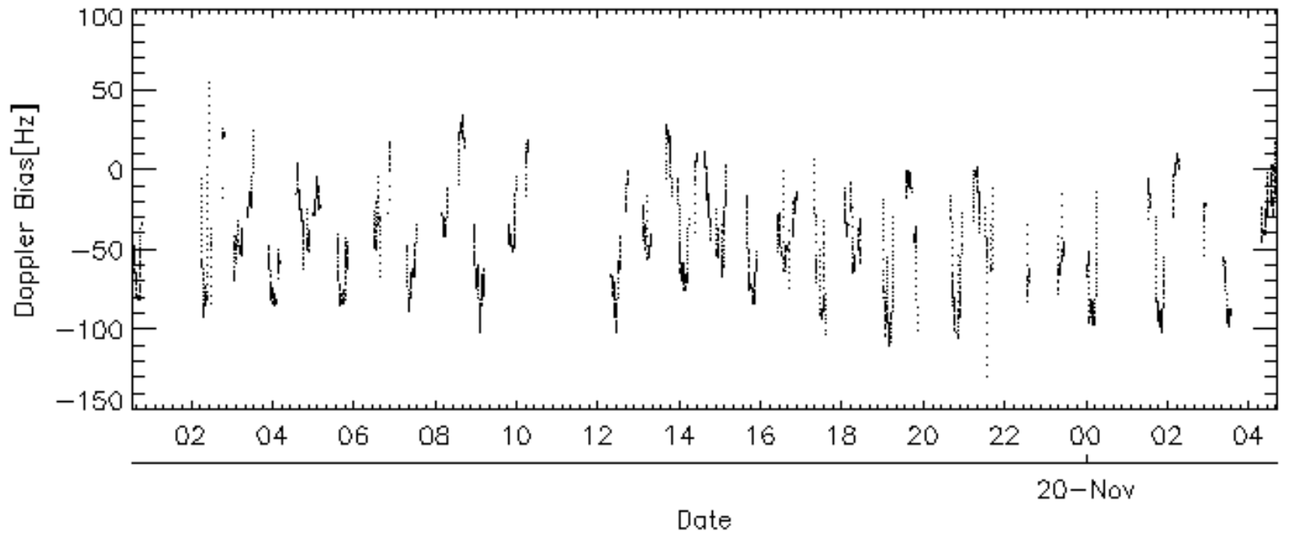

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

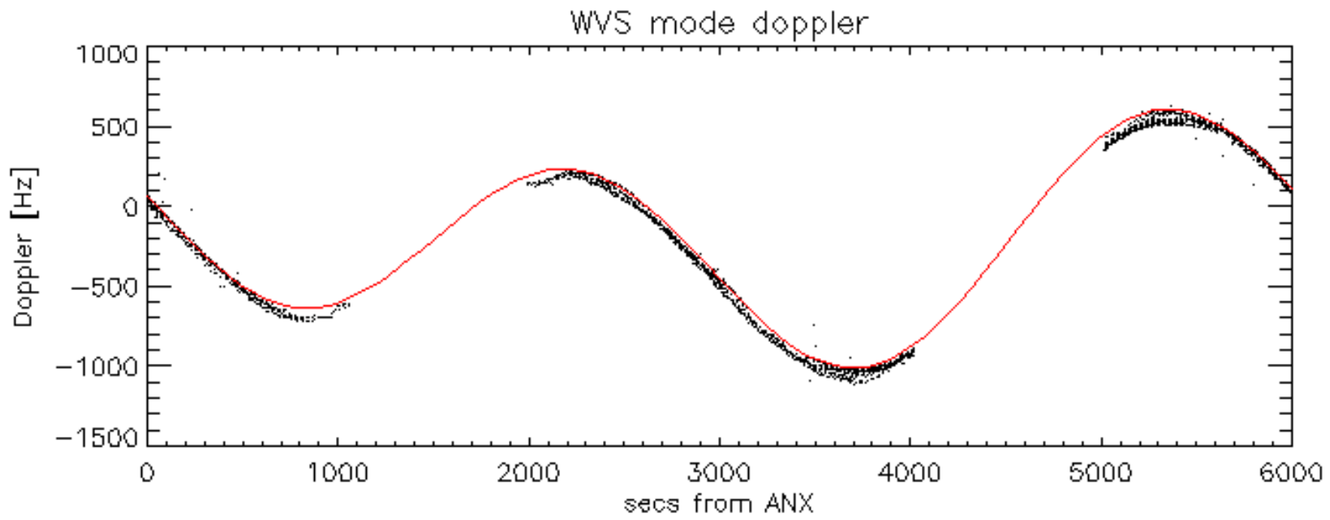

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

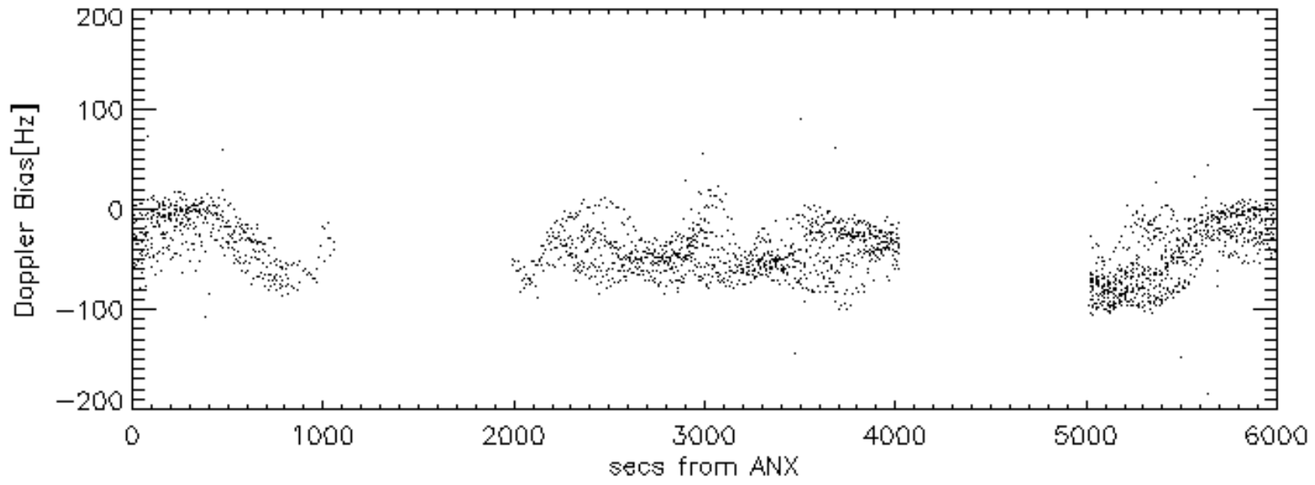

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

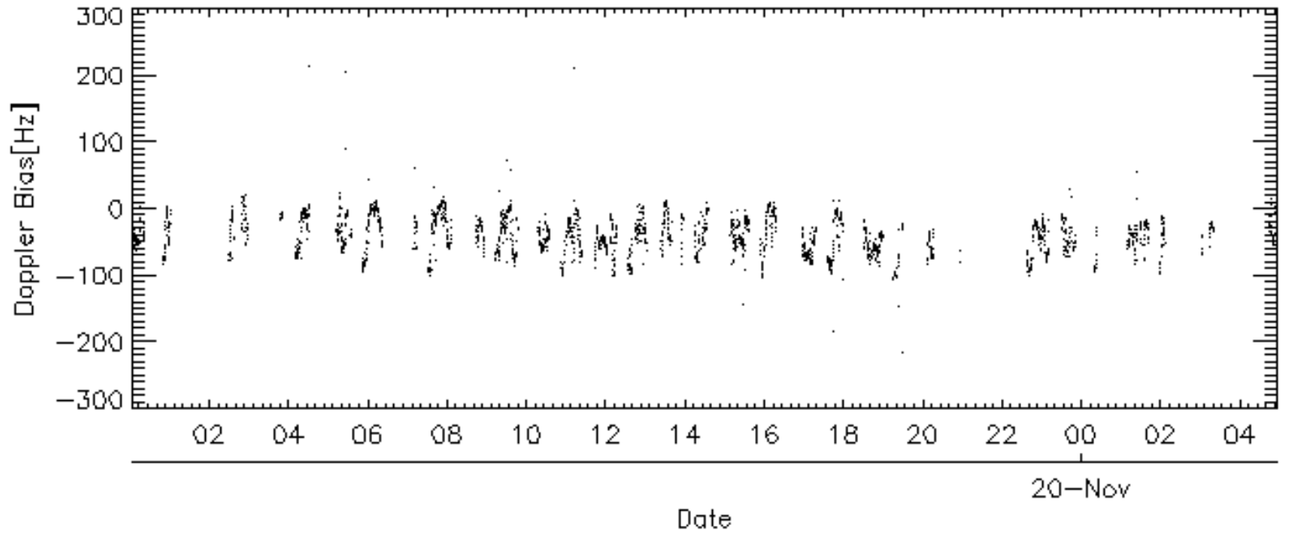

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

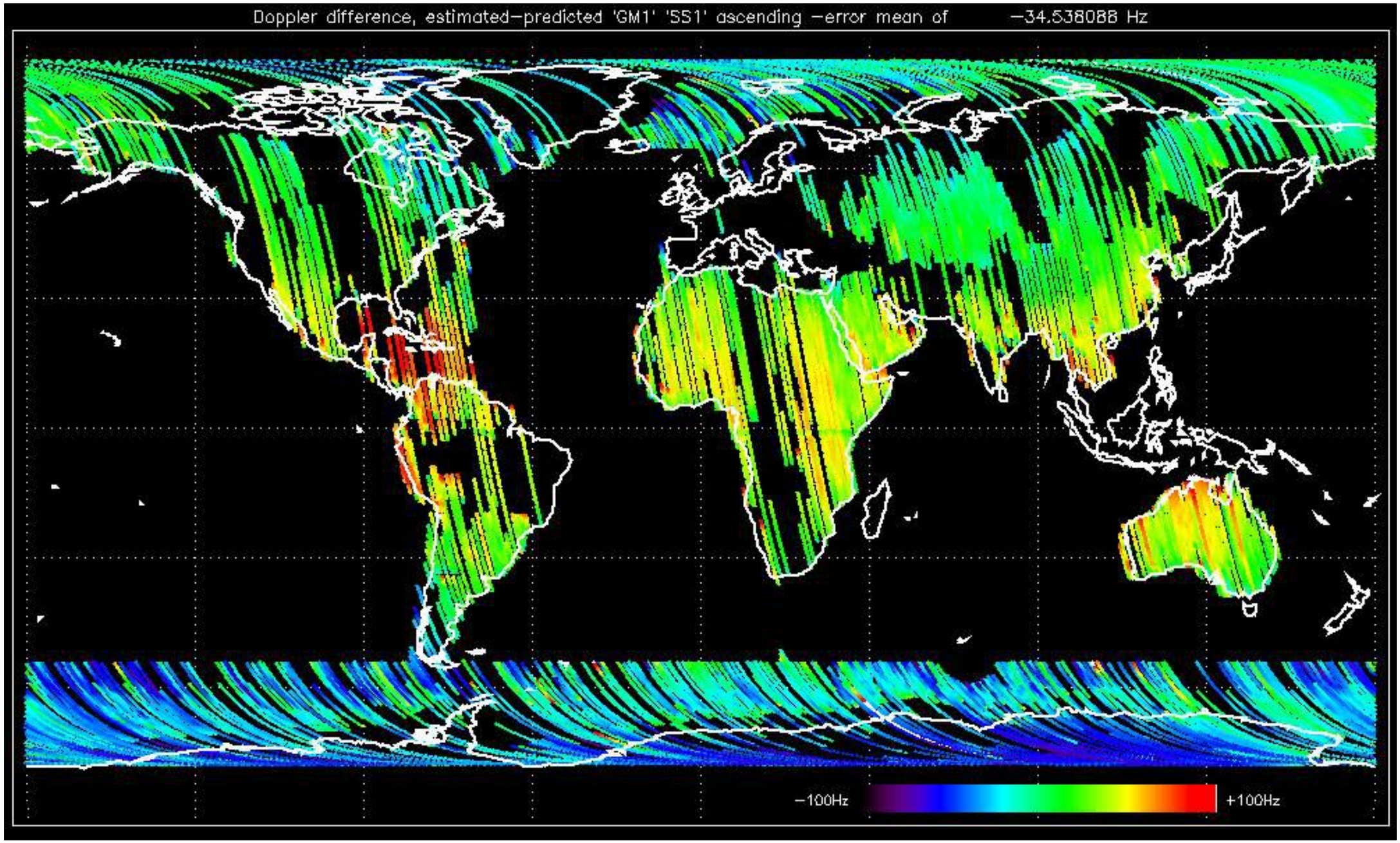

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

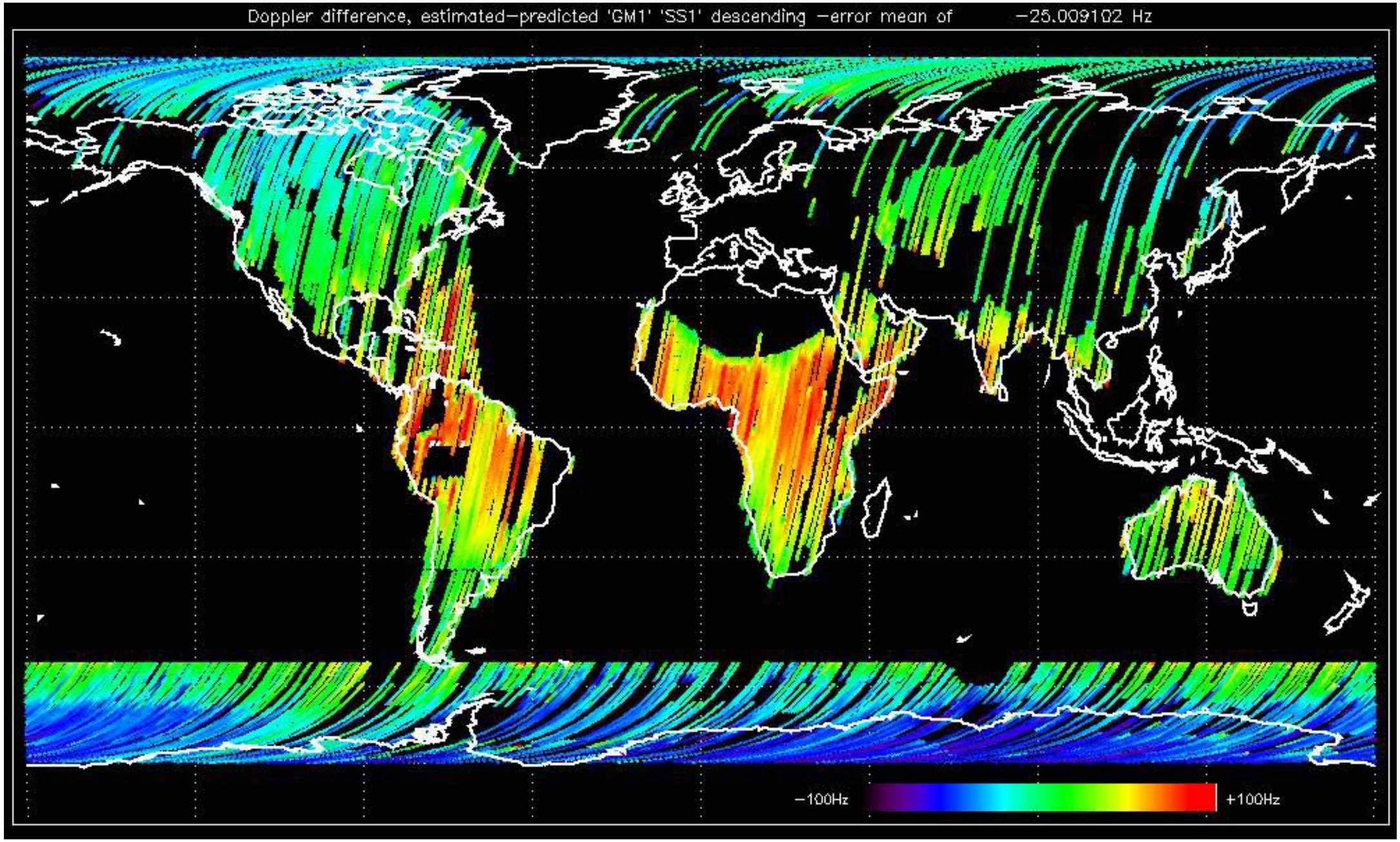

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
04
20−Nov
Date

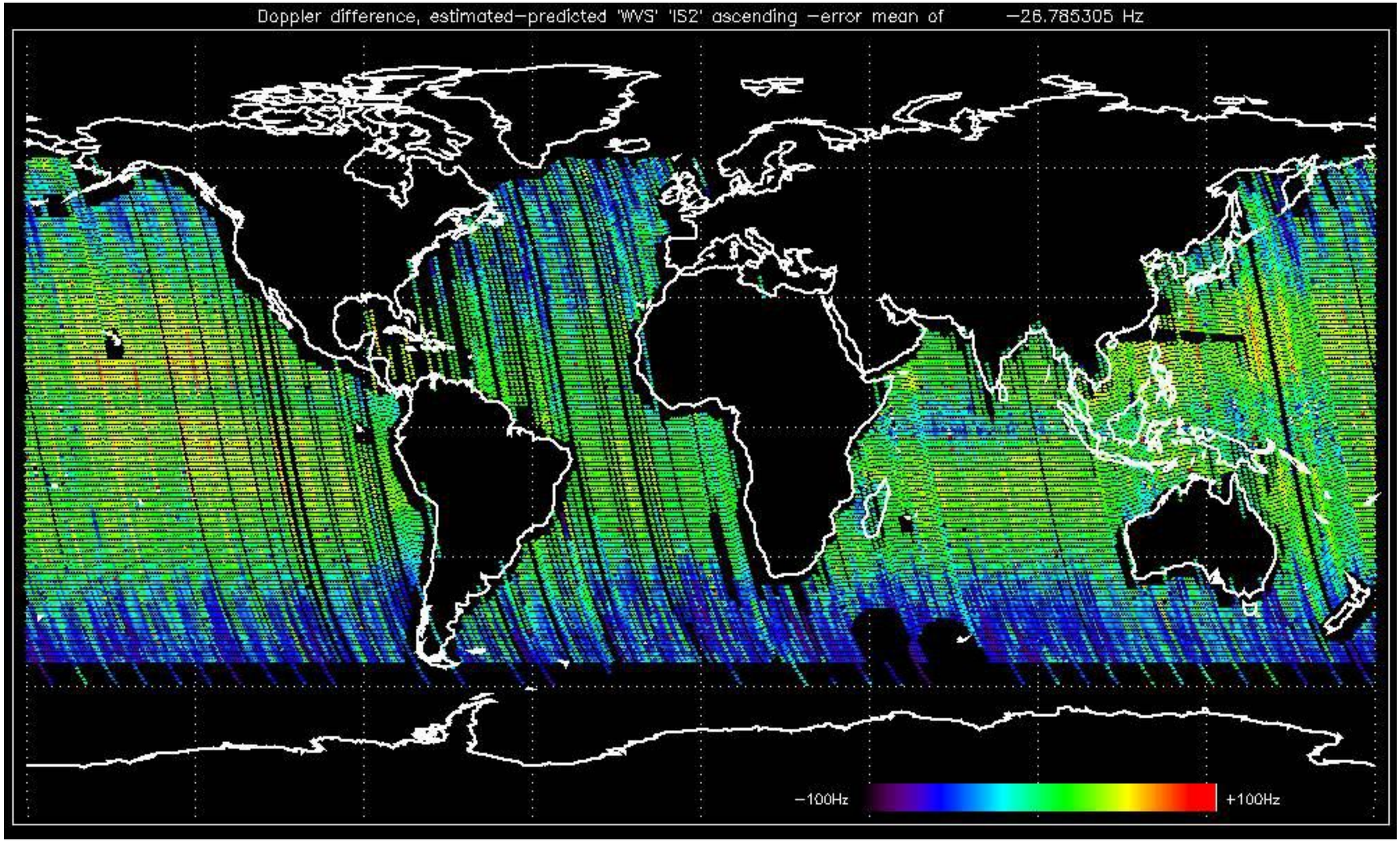

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

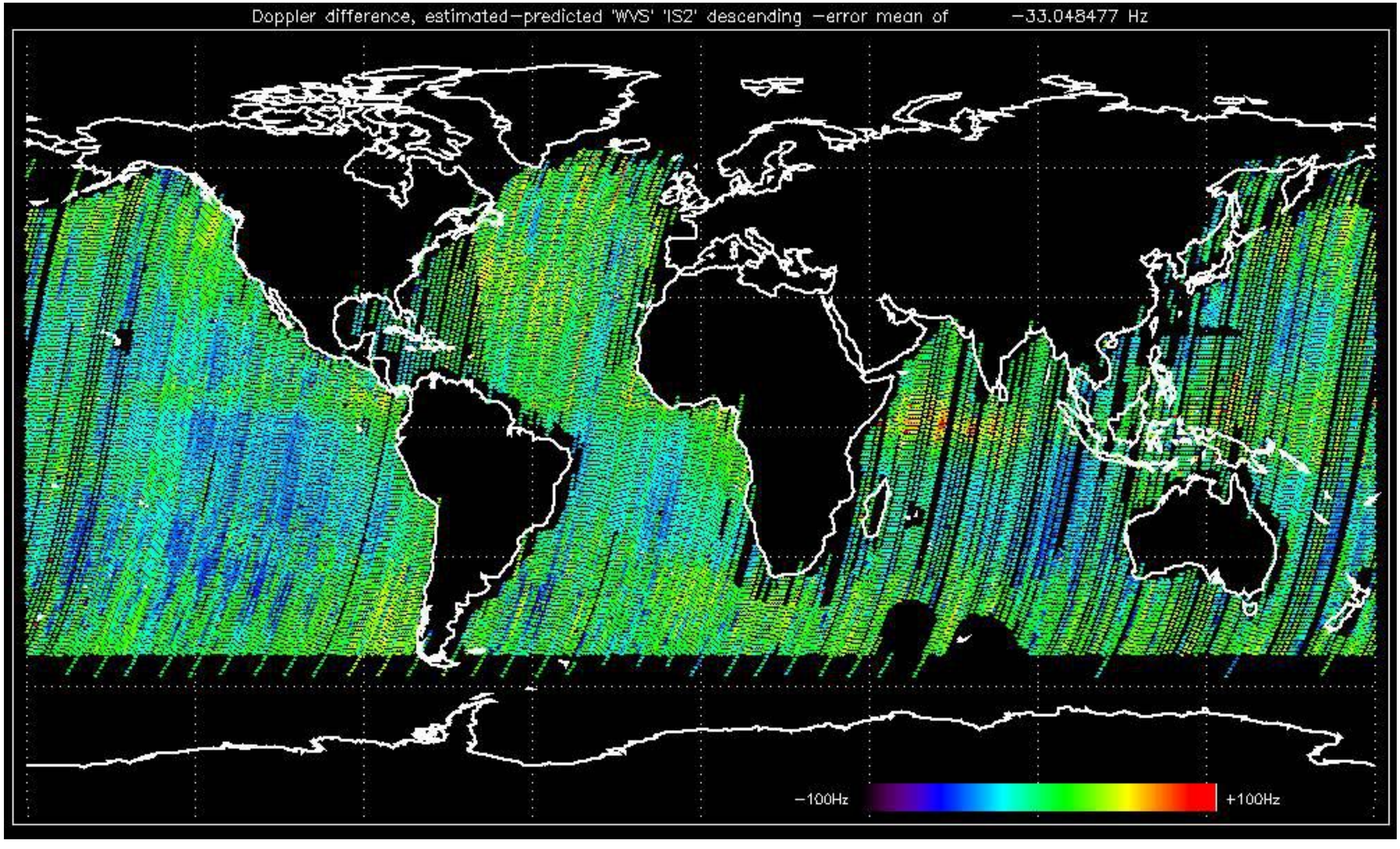

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


Doppler Bias[Hz]
300
200
100
0
−100
−200
−300
02
04
06
08
10
12
14
16
18
20
22
00
02
04
20−Nov
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −34.538088 Hz
−100Hz
+100Hz

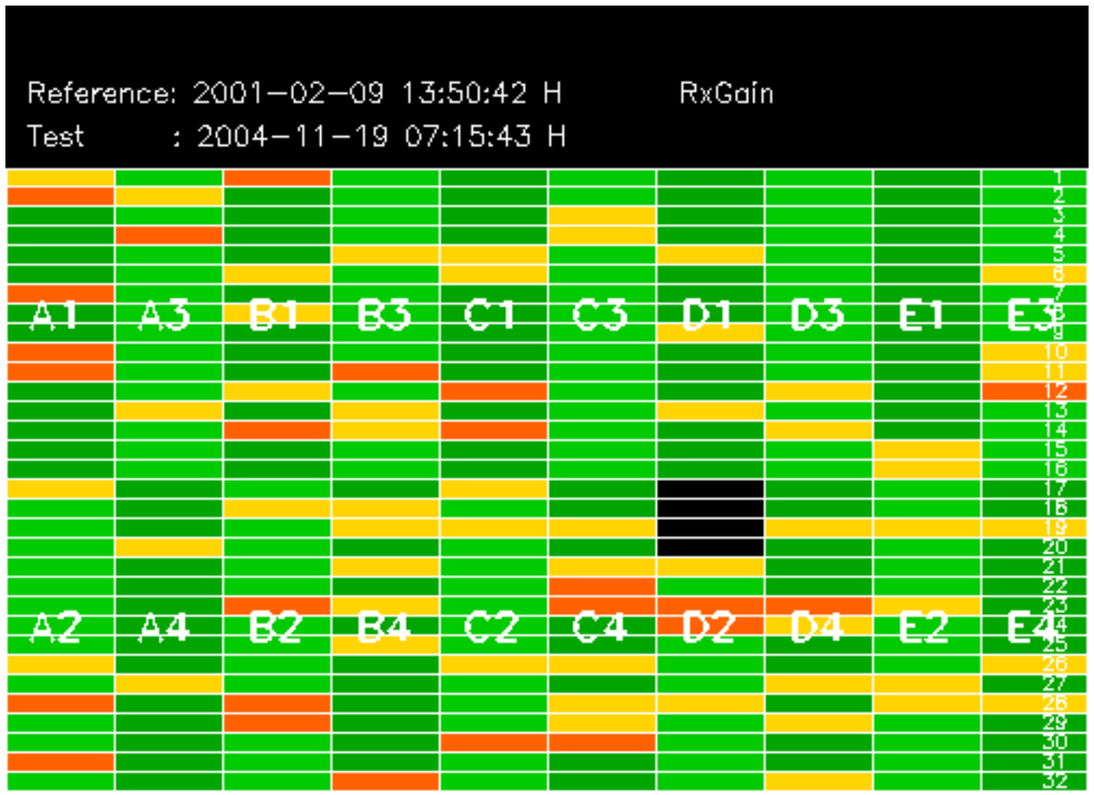

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -25.009102 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −26.785305 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −33.048477 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 : 2004-11-19 07:15:43 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
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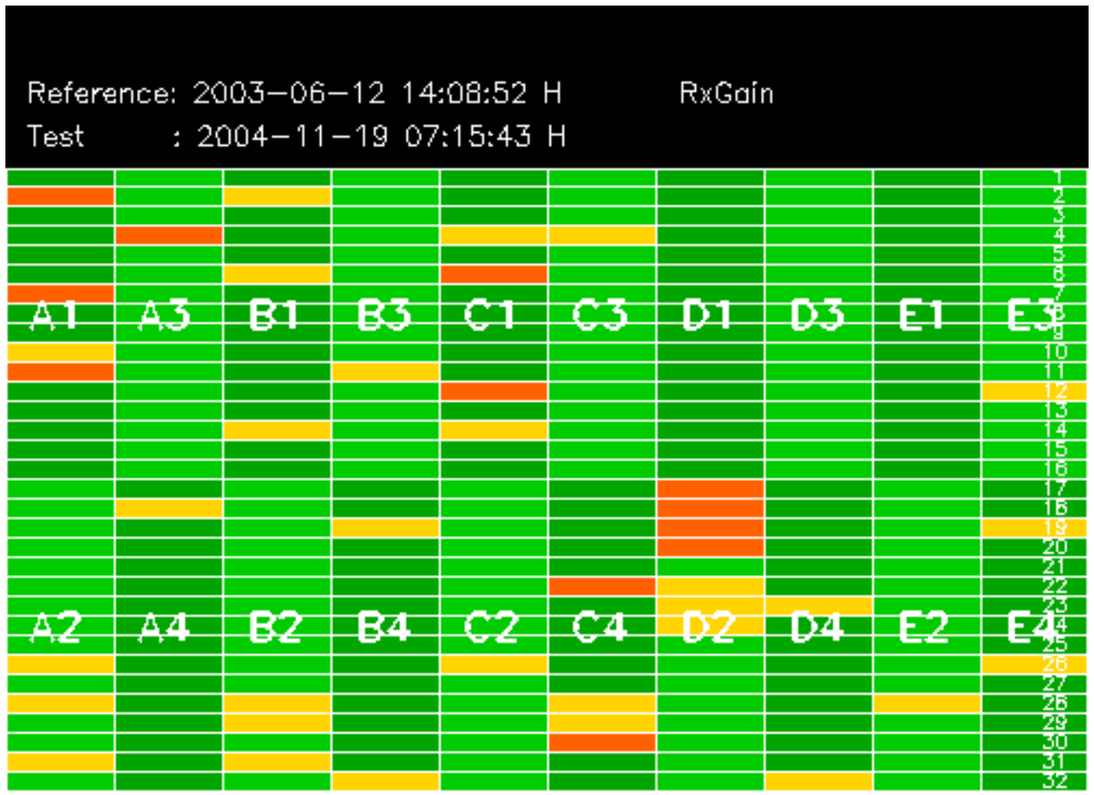
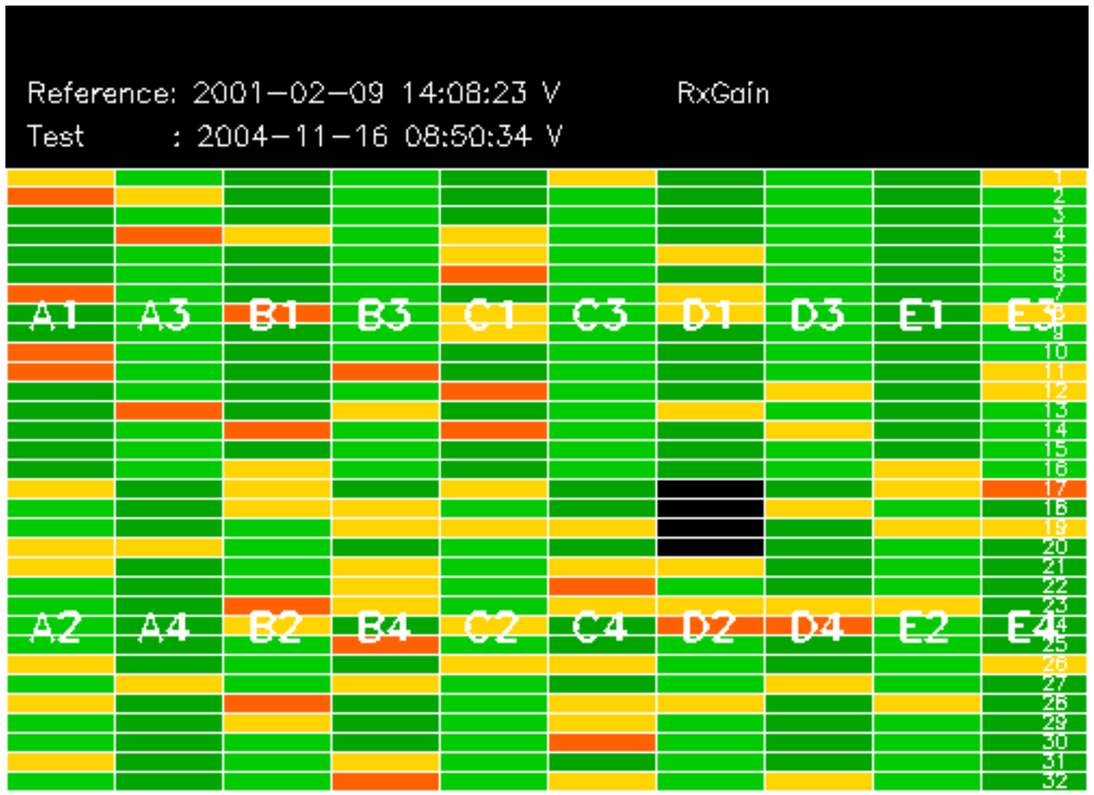
22
23
24
25
26
27
28
29
30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2004-11-19 07:15:43 H
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 14:08:23 V
Test : 2004-11-16 08:50:34 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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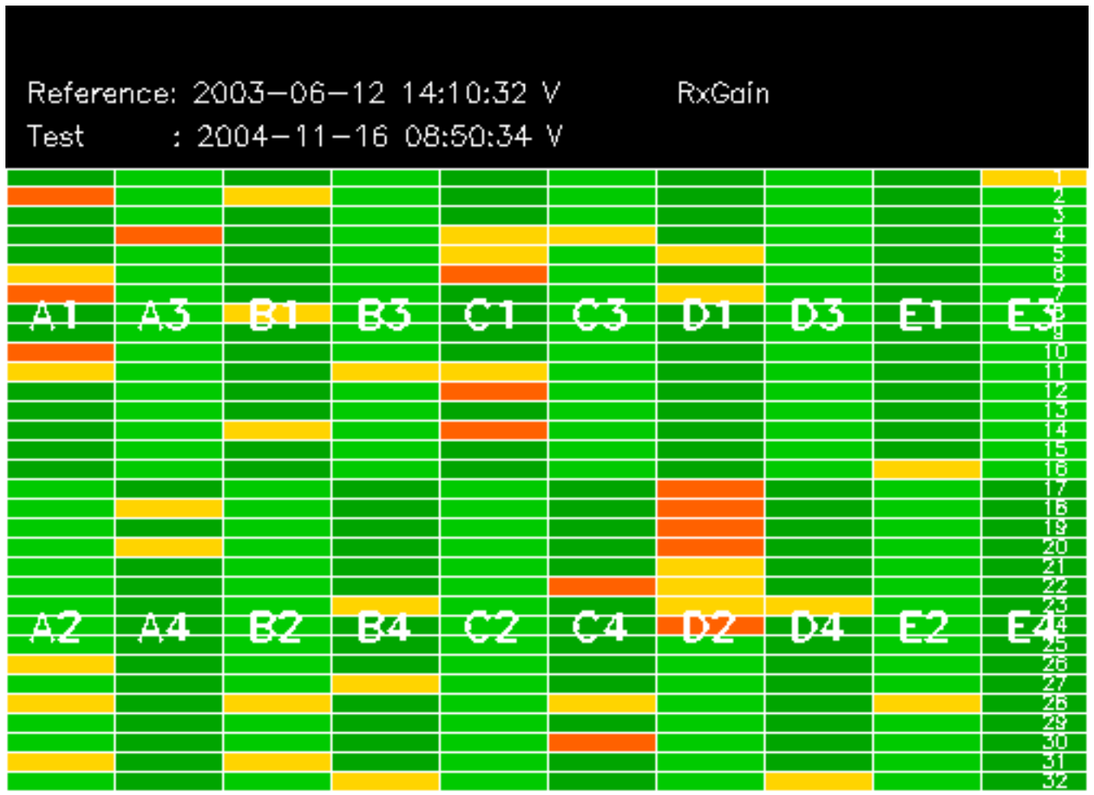
Reference: 2003-06-12 14:10:32 V
Test : 2004-11-16 08:50:34 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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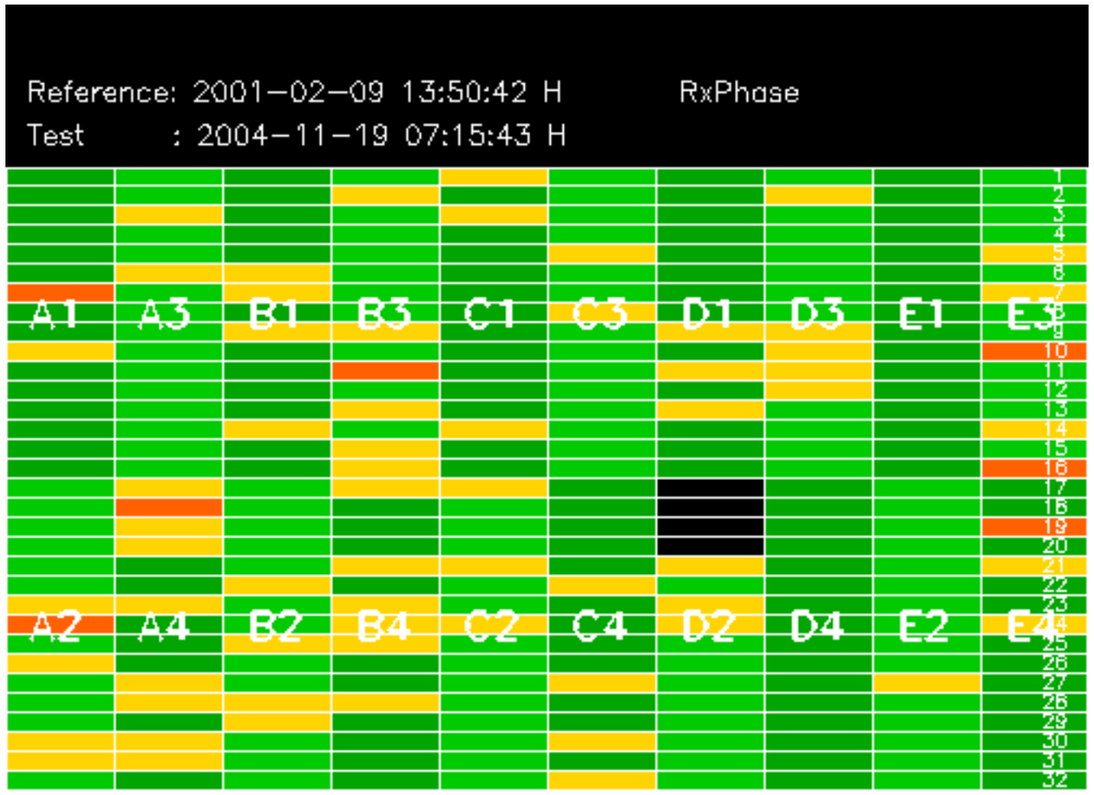
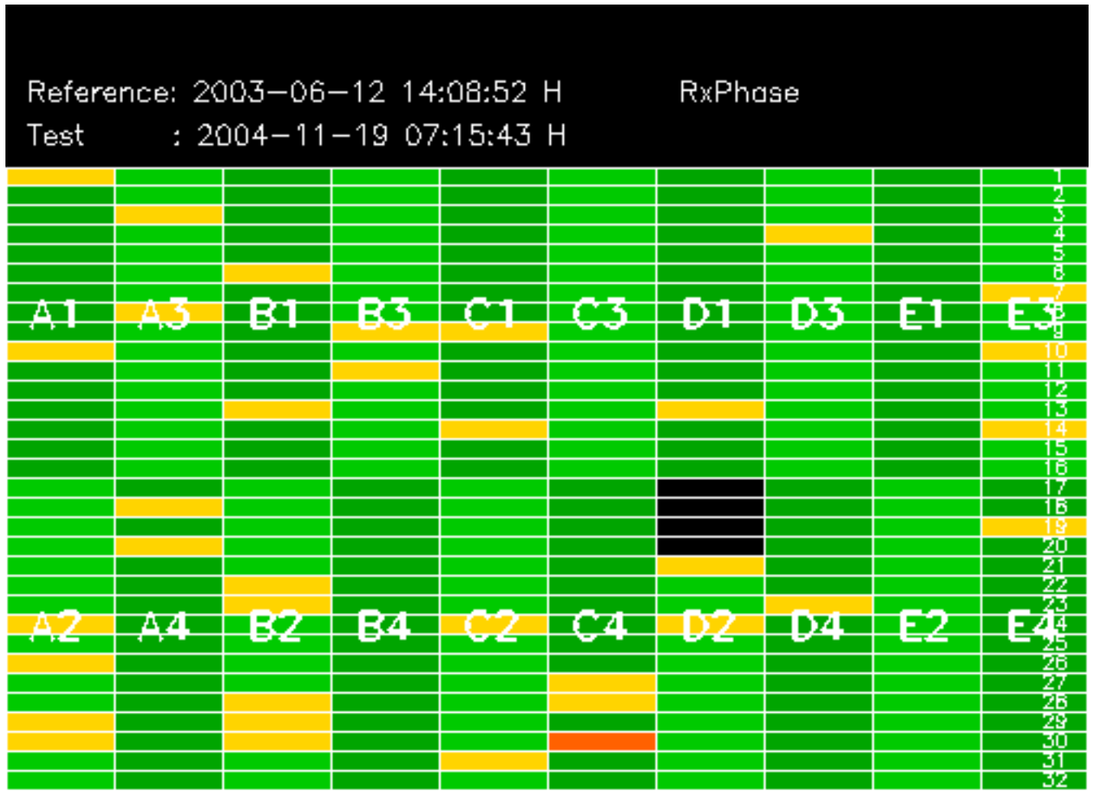
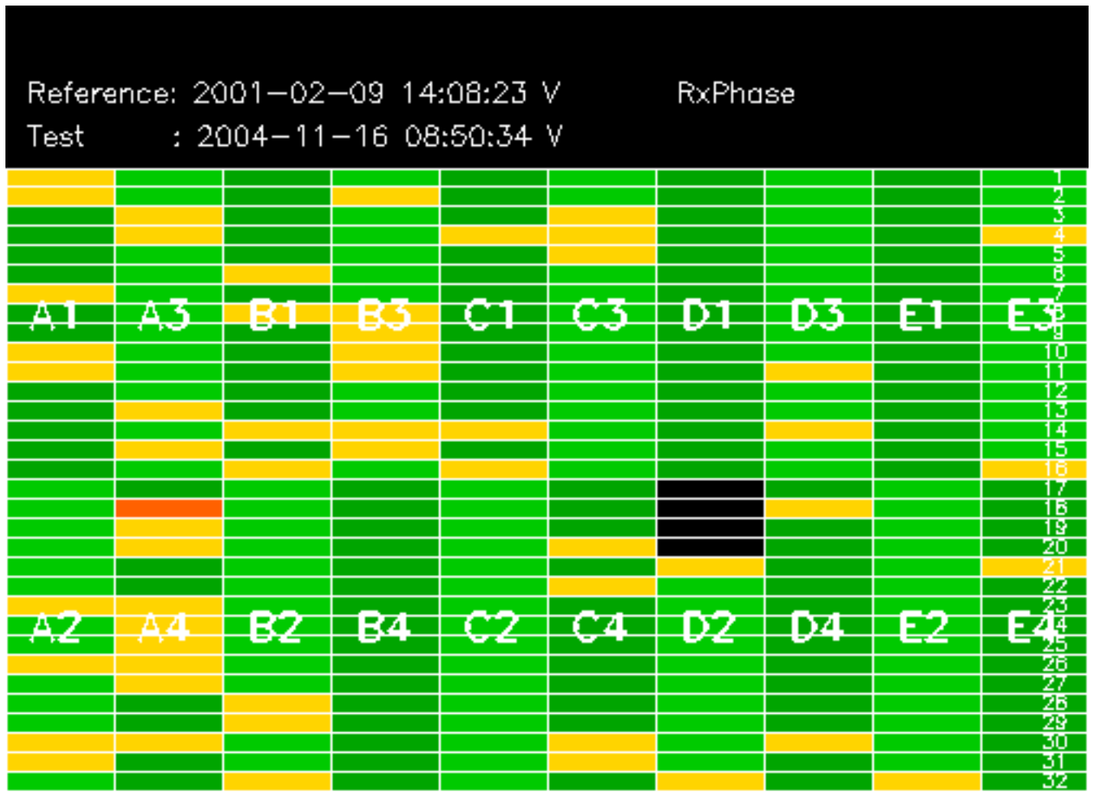
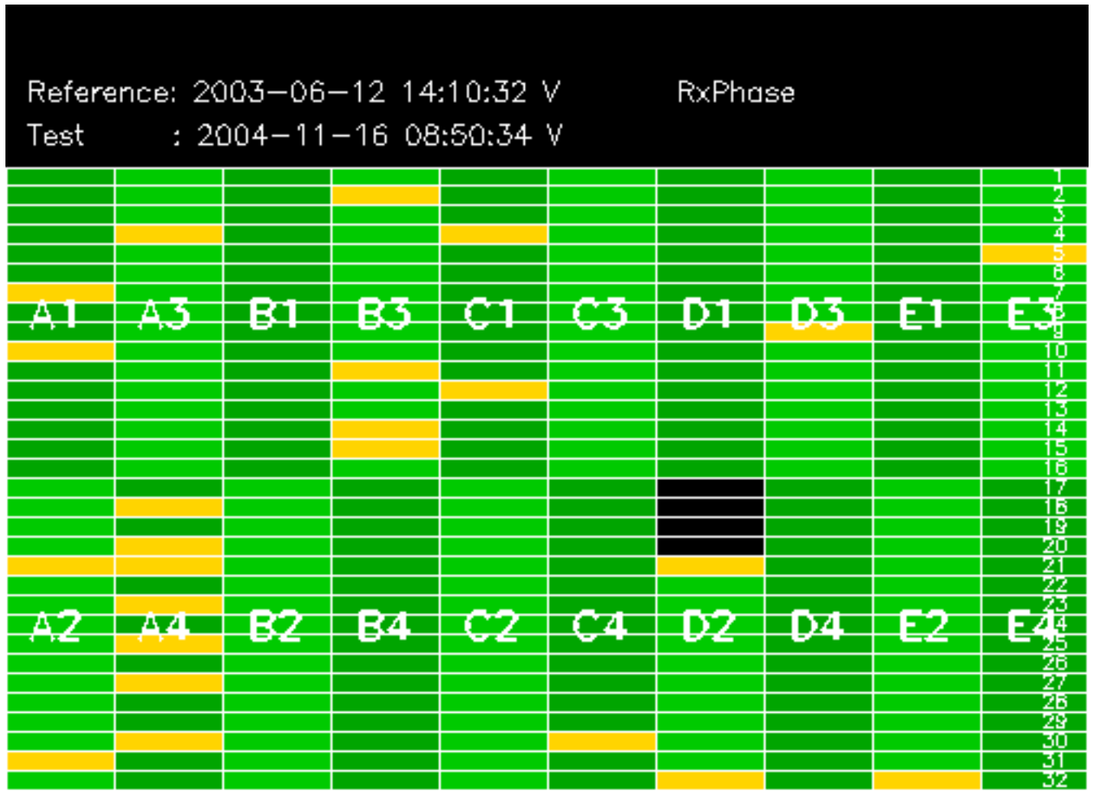

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-11-19 07:15:43 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-11-19 07:15:43 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 : 2004-11-16 08:50:34 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 : 2004-11-16 08:50:34 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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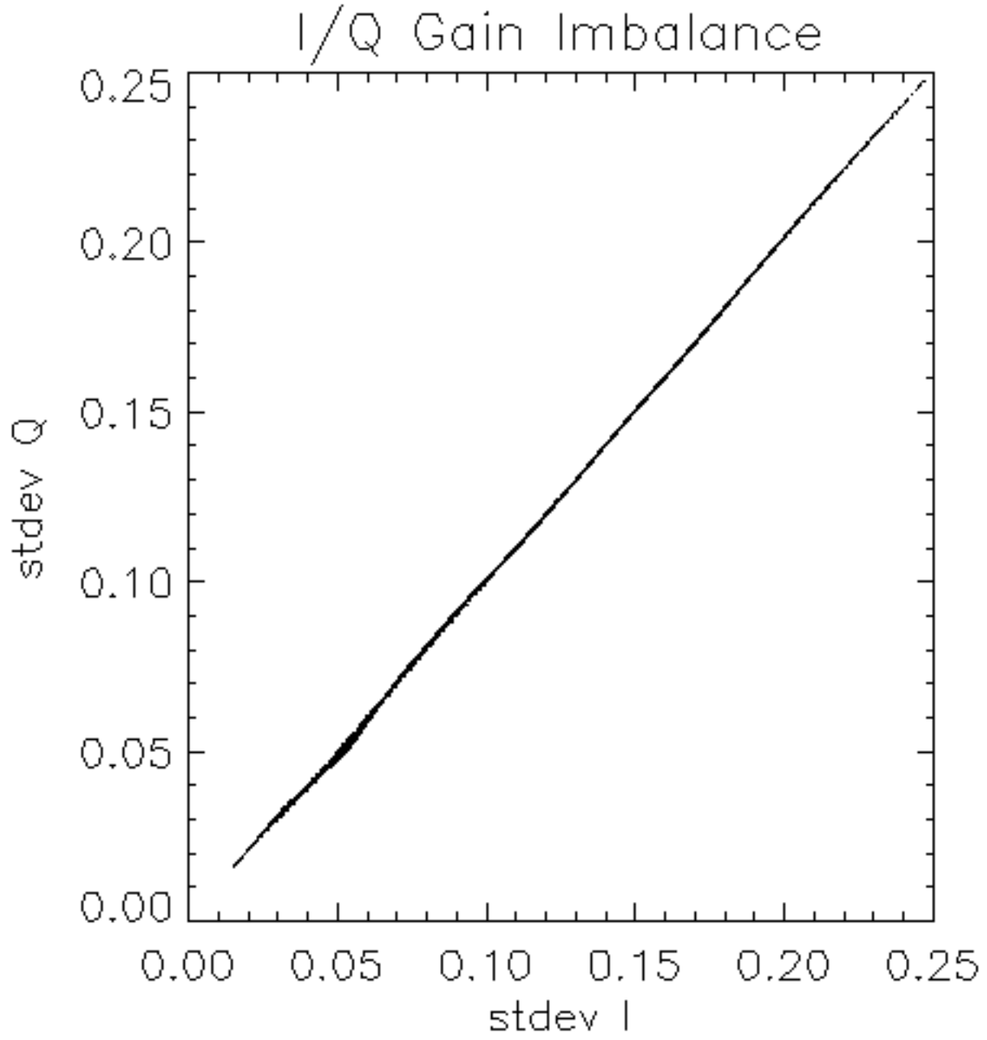
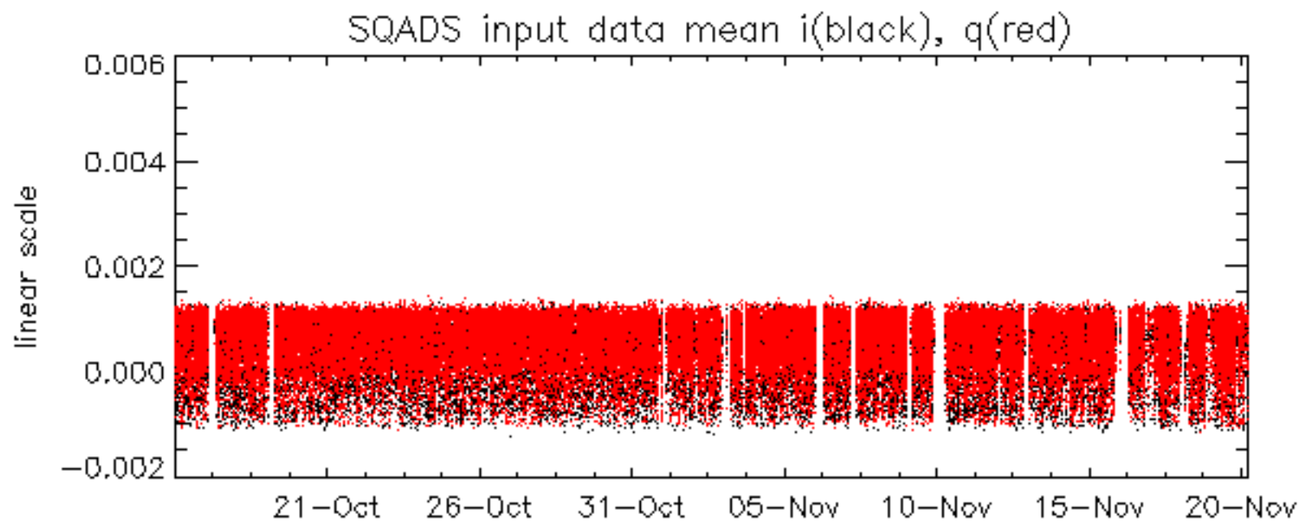
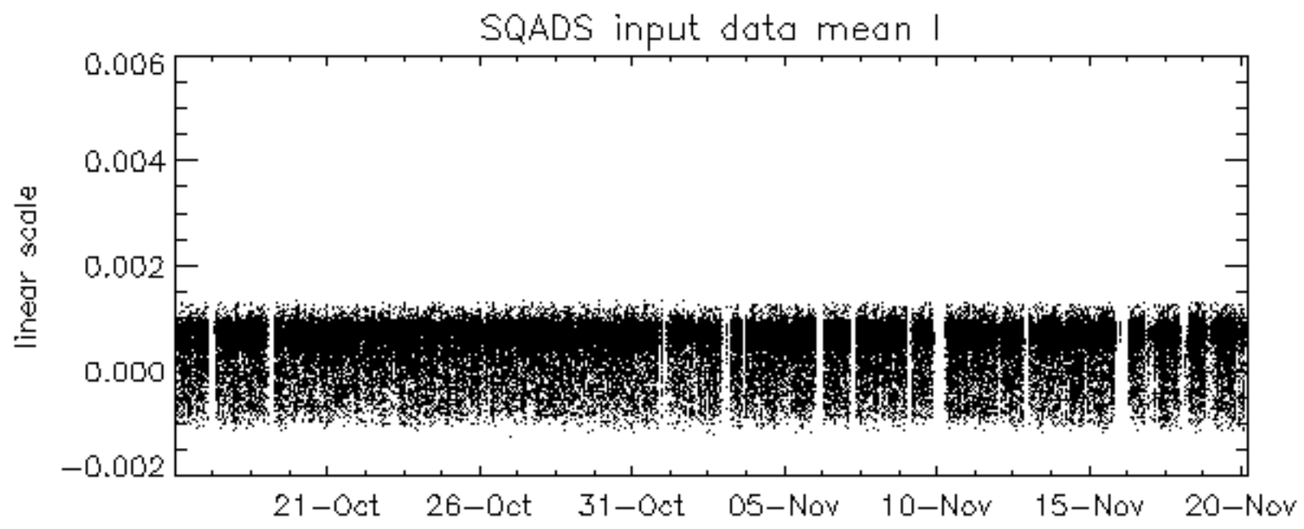
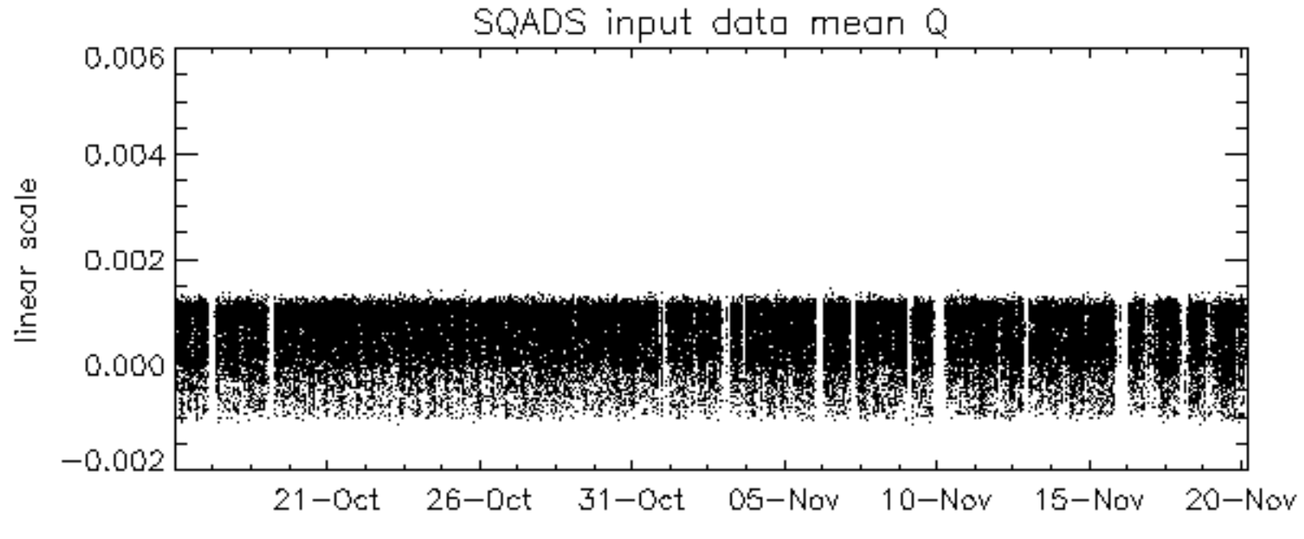
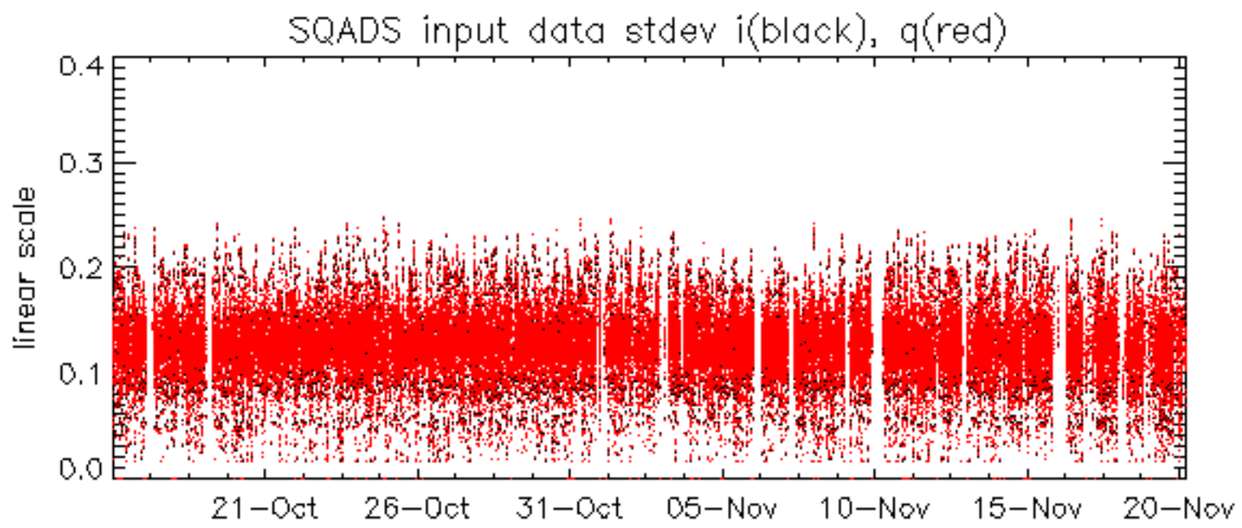
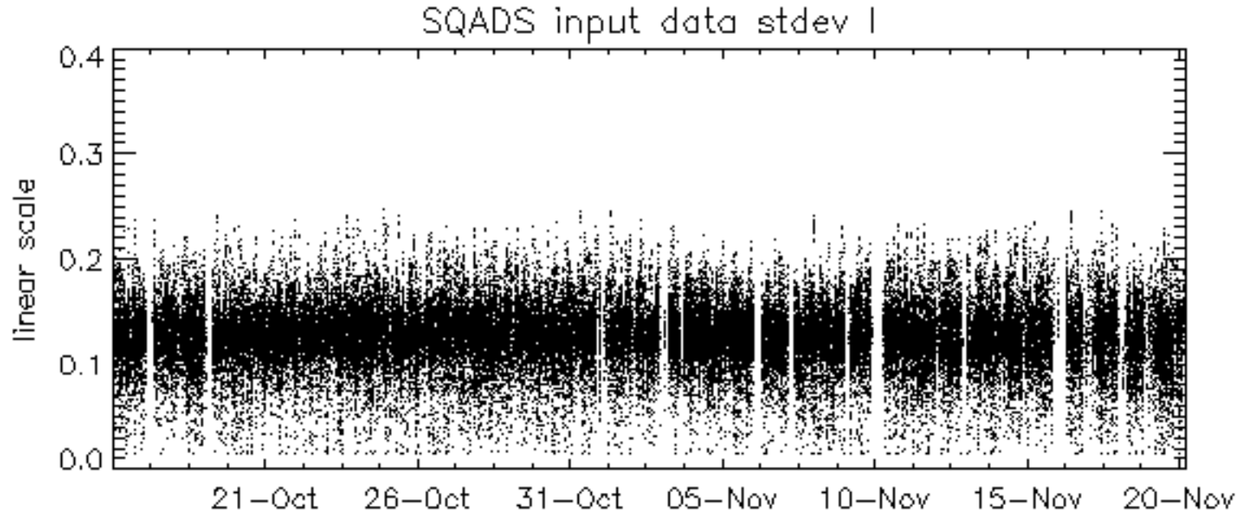

I/Q Gain Imbalance
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

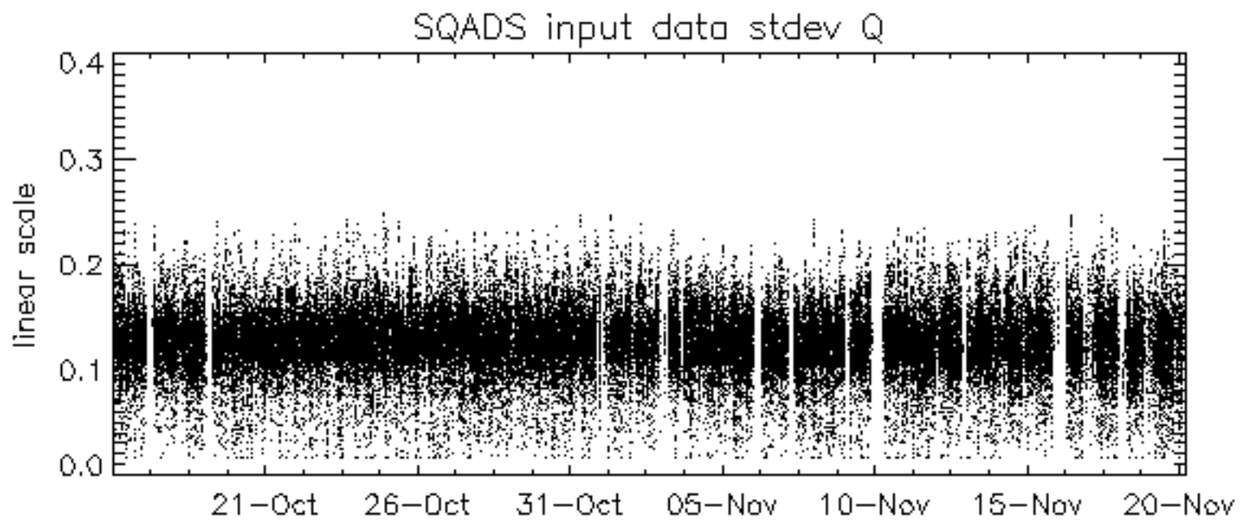

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Oct
26−Oct
31−Oct
05−Nov
10−Nov
15−Nov
20−Nov

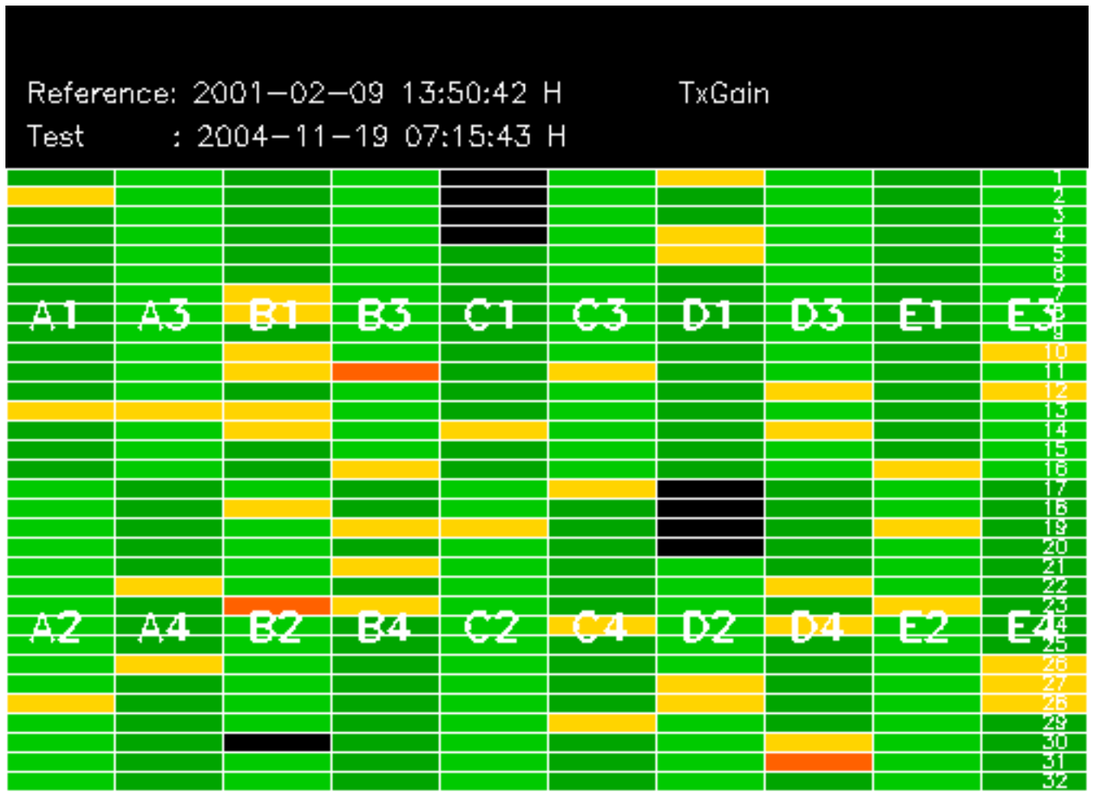

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Oct
26−Oct
31−Oct
05−Nov
10−Nov
15−Nov
20−Nov

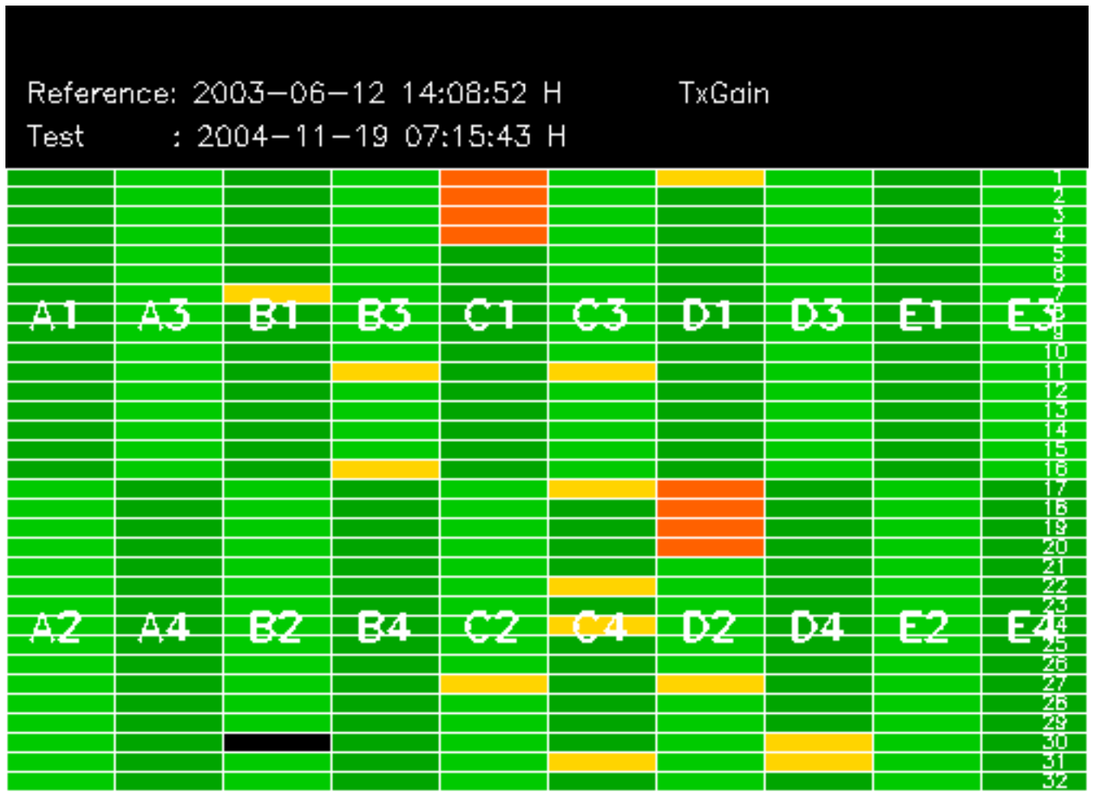

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Oct
26−Oct
31−Oct
05−Nov
10−Nov
15−Nov
20−Nov


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2004-11-19 07:15:43 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 : 2004-11-19 07:15:43 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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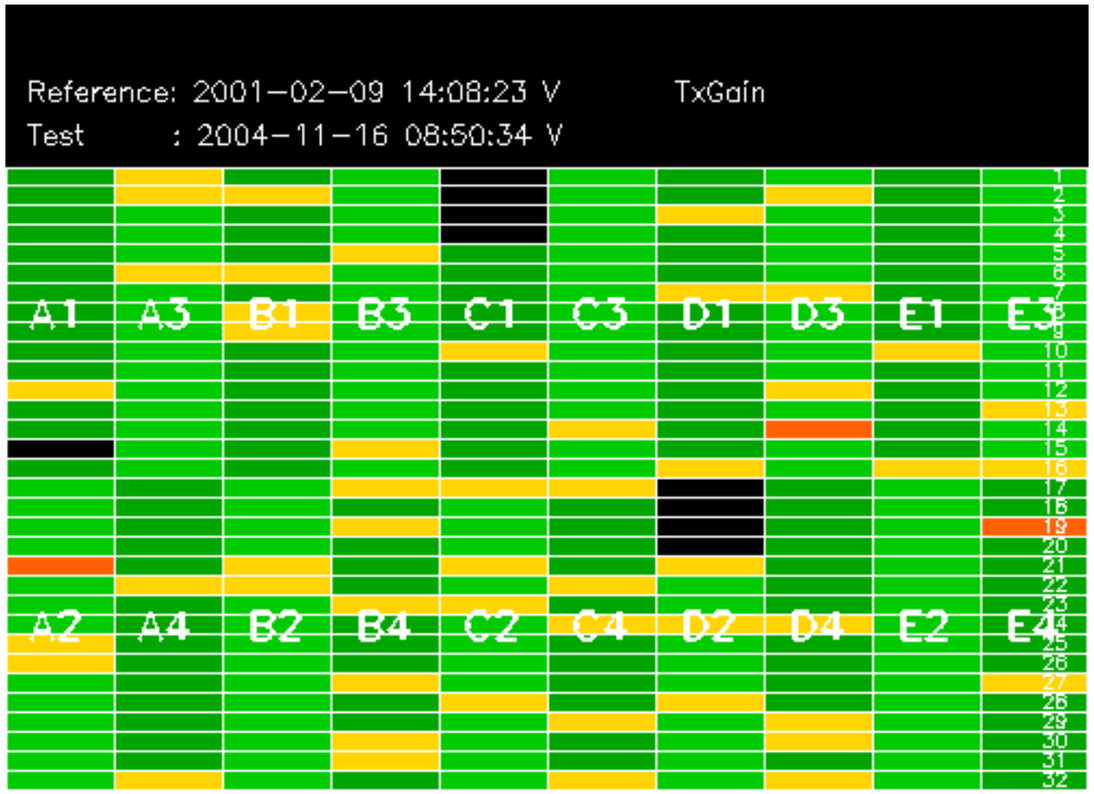
Reference: 2001-02-09 14:08:23 V
Test : 2004-11-16 08:50:34 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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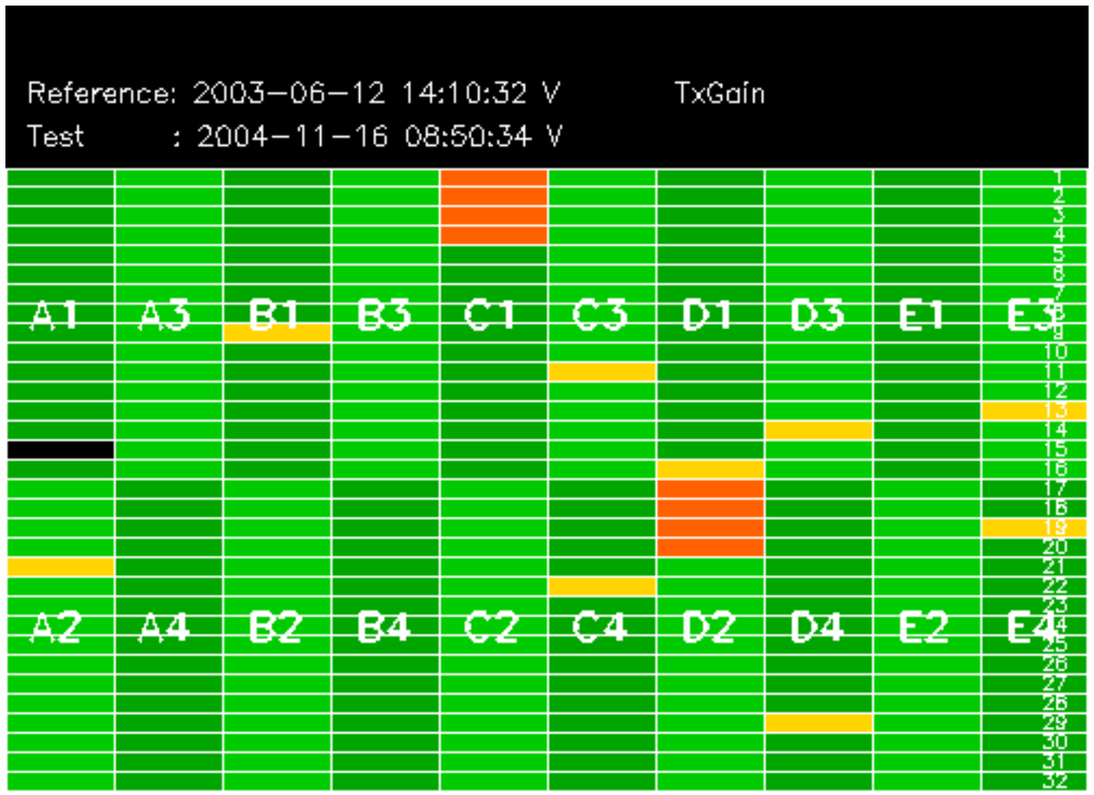
Reference: 2003-06-12 14:10:32 V
Test : 2004-11-16 08:50:34 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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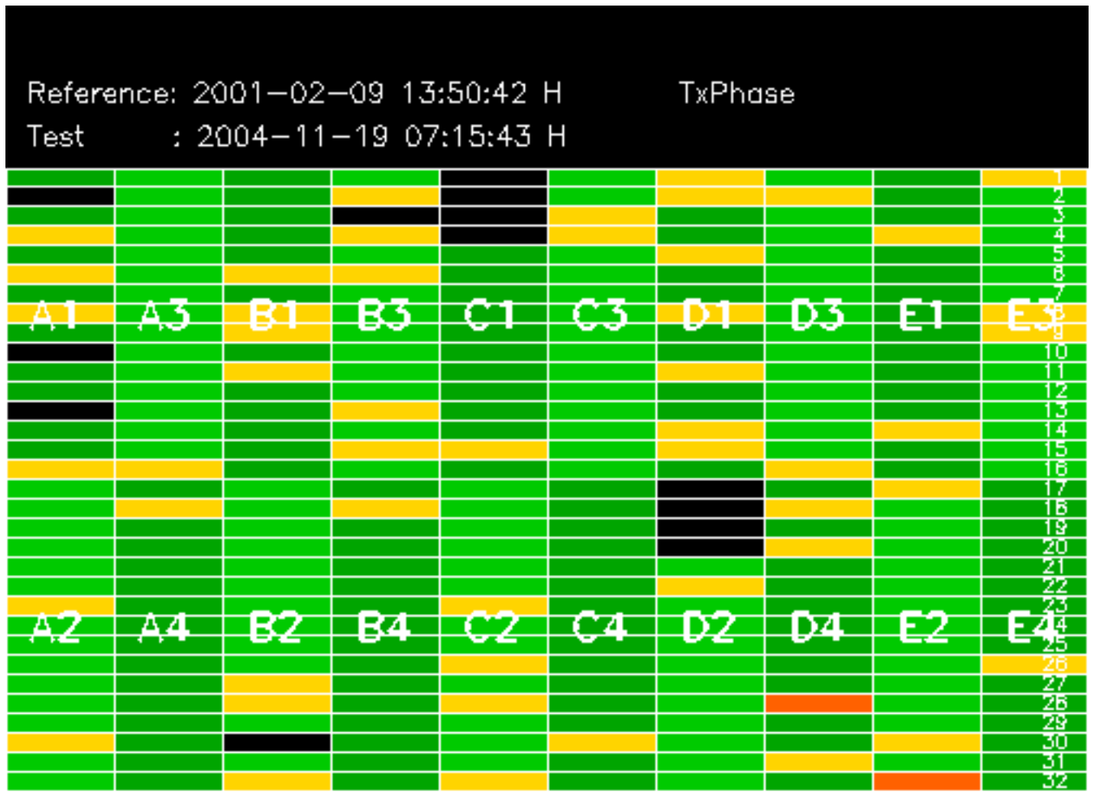
32


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-11-19 07:15:43 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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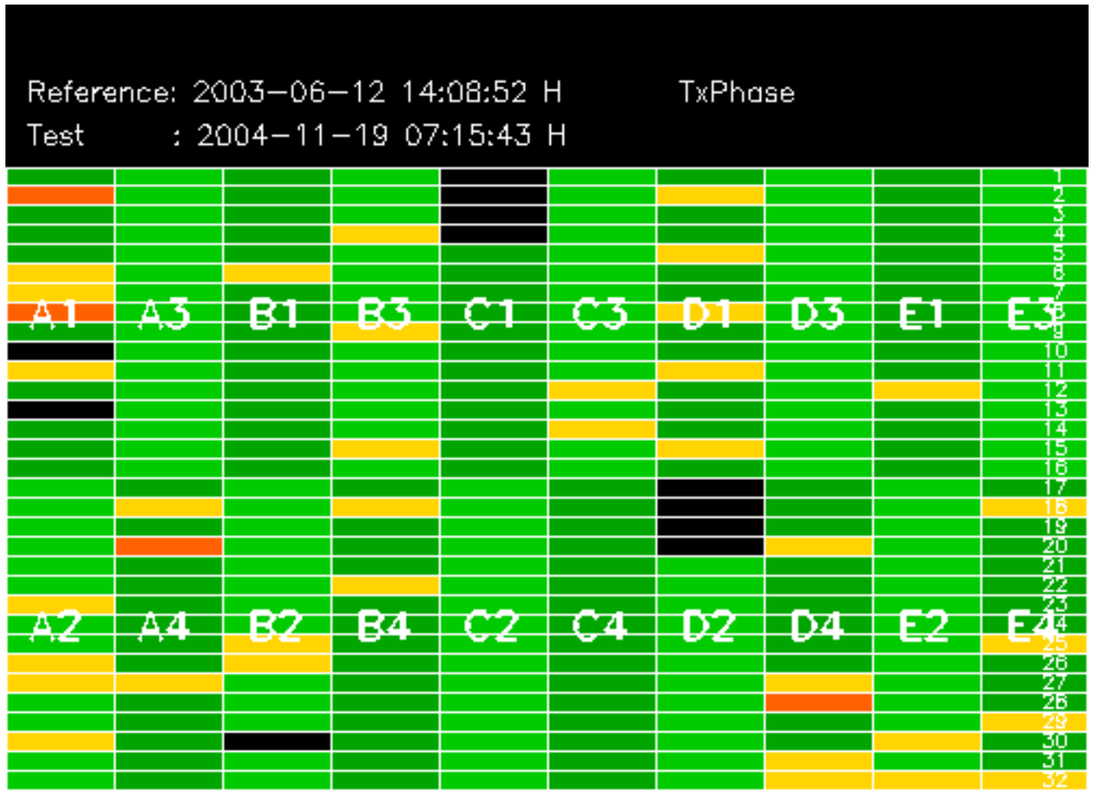
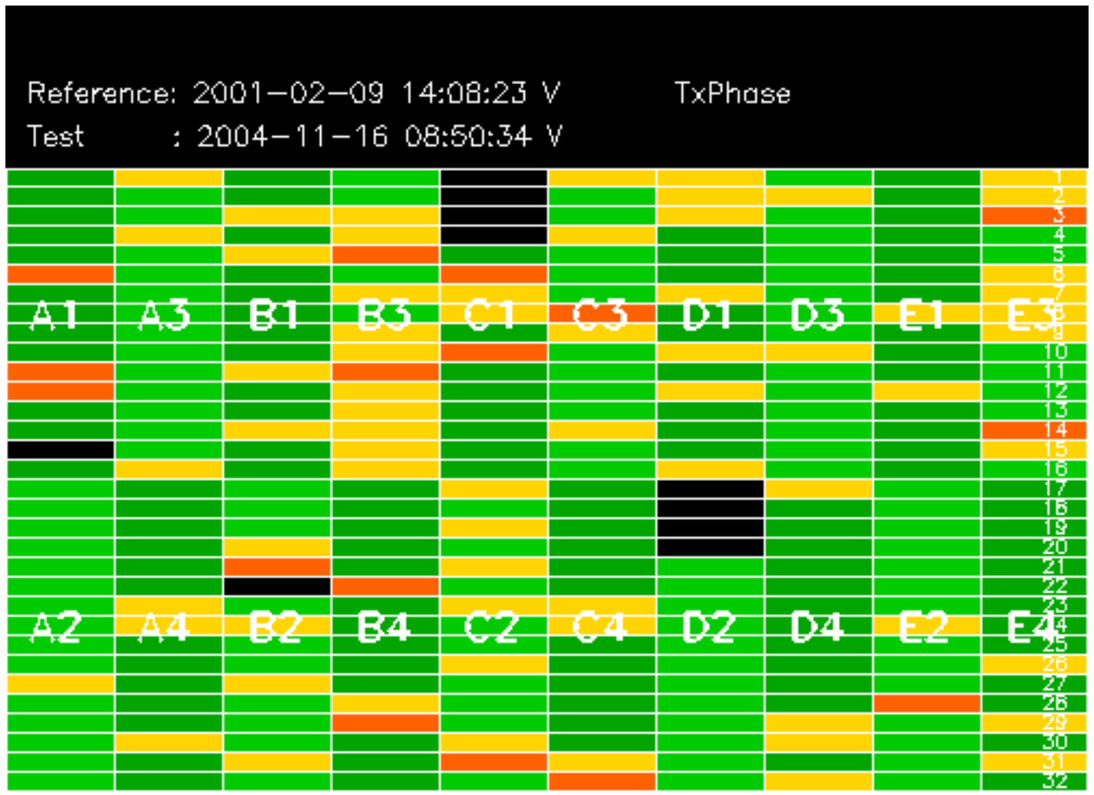

Reference: 2003-06-12 14:08:52 H
Test : 2004-11-19 07:15:43 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2004-11-16 08:50:34 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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D4
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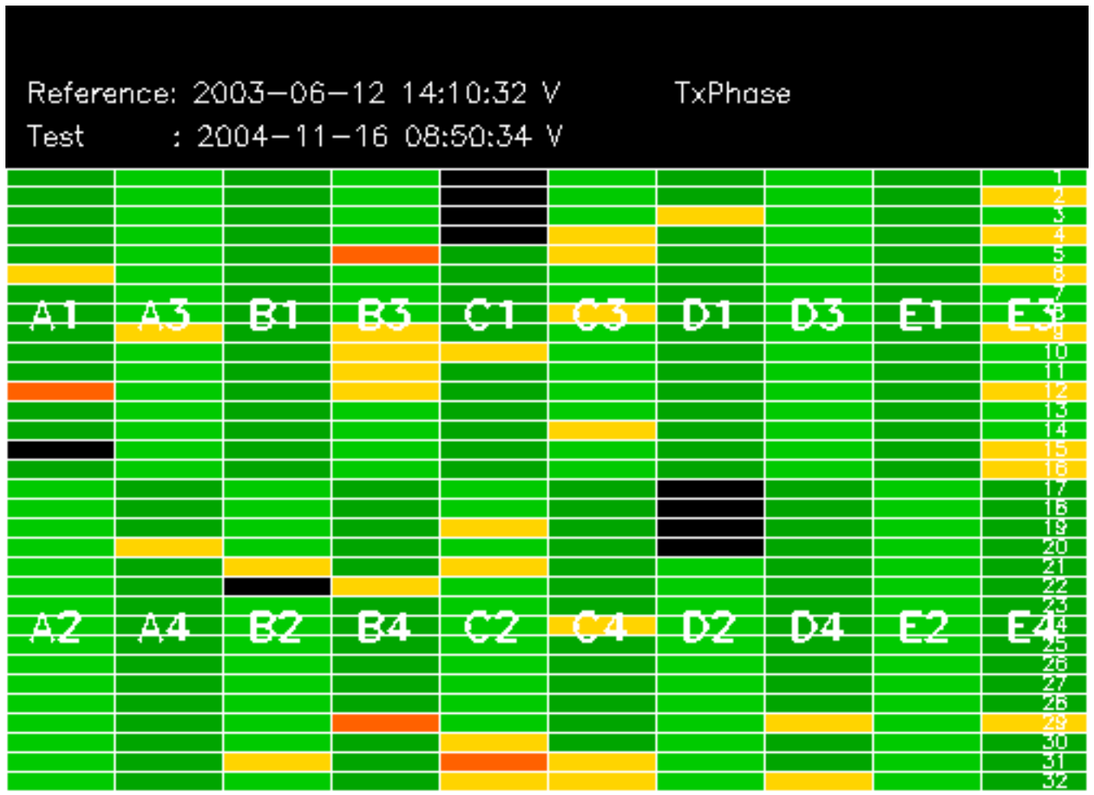
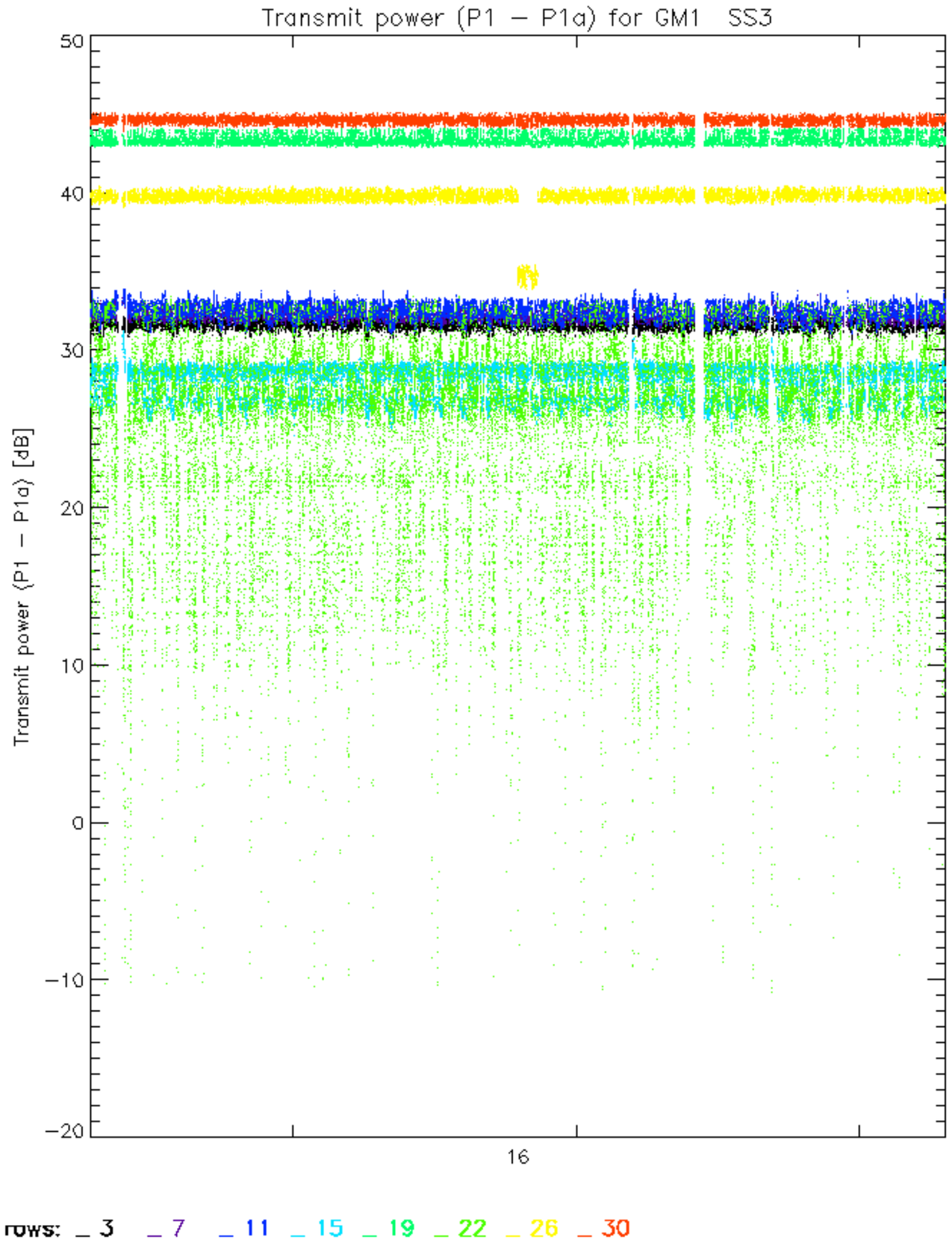
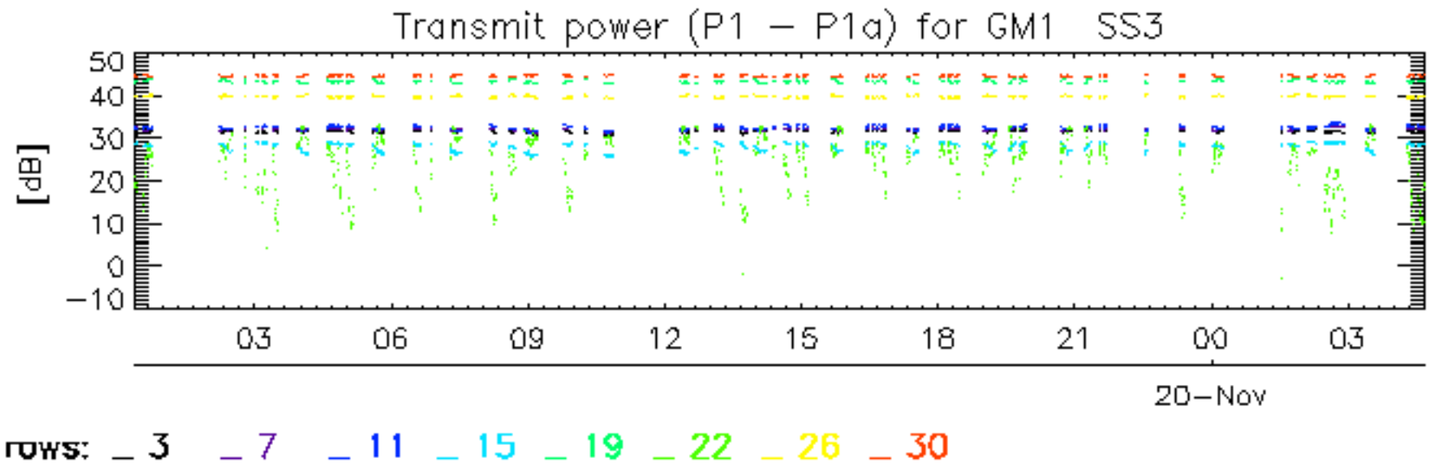
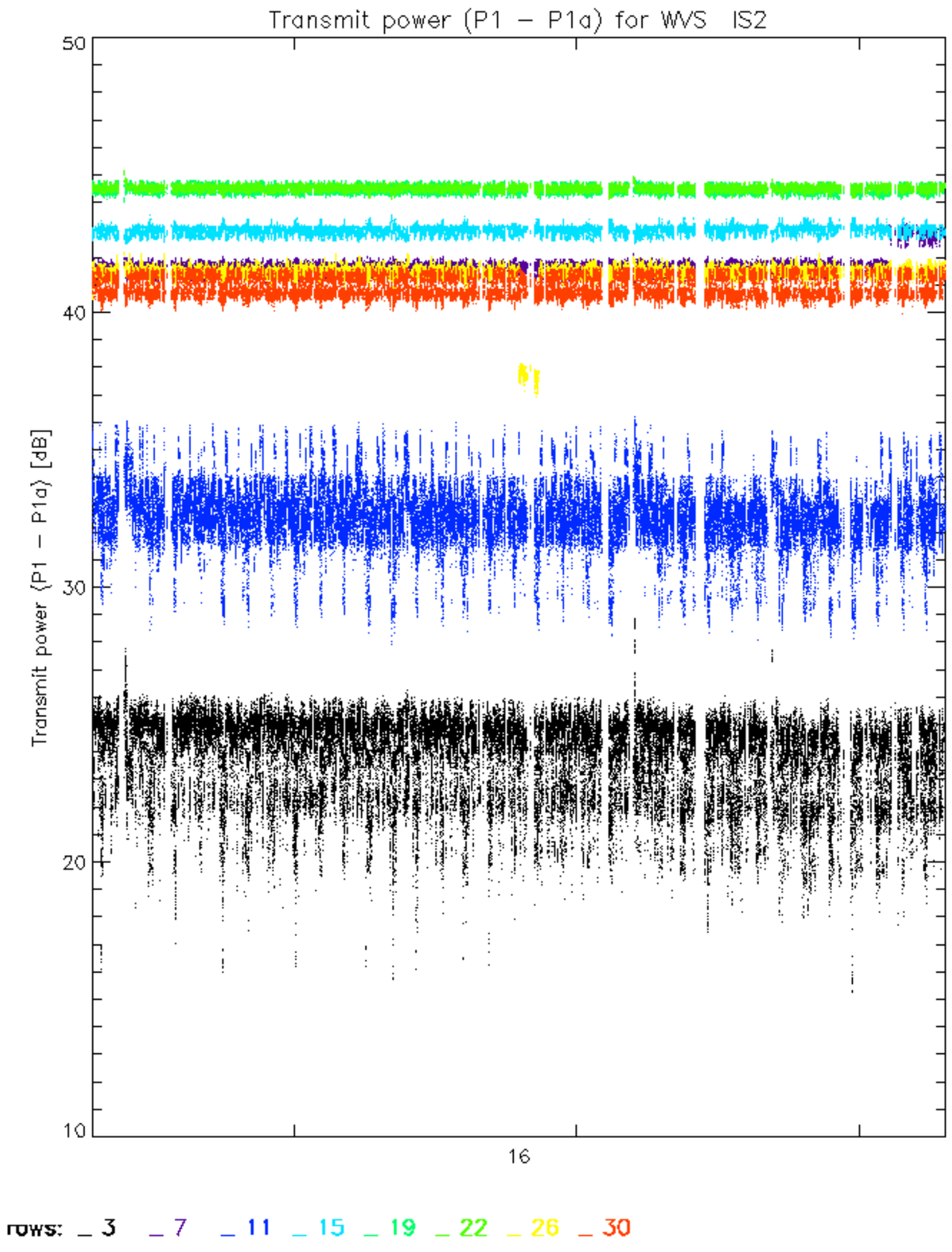
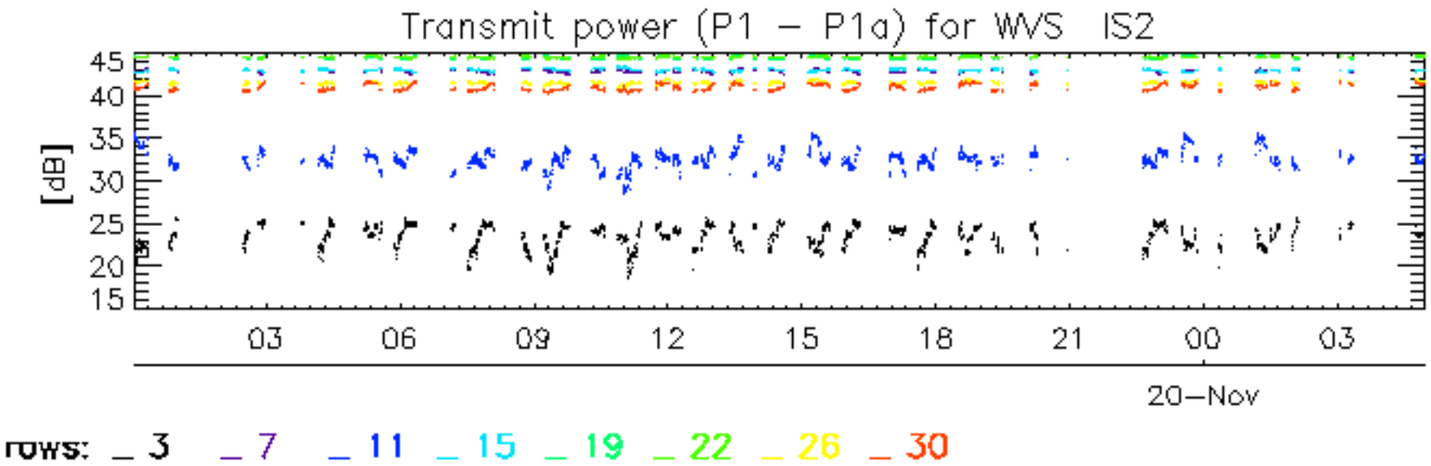

Reference: 2003-06-12 14:10:32 V
Test : 2004-11-16 08:50:34 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
−20
16
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
[dB]
50
40
30
20
10
0
−10
03
06
09
12
15
18
21
00
03
20−Nov
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
16
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Transmit power (P1 – P1a) for WVS IS2
[dB]
45
40
35
30
25
20
15
03
06
09
12
15
18
21
00
03
20–Nov
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.