PRELIMINARY REPORT OF 041215

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

last update on Wed Dec 15 11:07:52 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 - Auxiliary files

Summary of the auxiliary files used from 2004-12-14 00:00:00 to 2004-12-15 11:07:52

PDHS-K					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20041027_165251_20021017_130000_20051231_000000	26	47	3	2	2
ASA_INS_AXVIEC20040521_160843_20030211_000000_20041231_000000	26	47	3	2	2
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	26	47	3	2	2
ASA_XCH_AXVIEC20031209_112947_20020301_000000_20041231_000000	26	47	3	2	2

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20041027_165251_20021017_130000_20051231_000000	28	37	5	4	4
ASA_INS_AXVIEC20040521_160843_20030211_000000_20041231_000000	28	37	5	4	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	28	37	5	4	4
ASA_XCH_AXVIEC20031209_112947_20020301_000000_20041231_000000	28	37	5	4	4

2.3 - Browse Visual Inspection

2.4 - 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	20041213 180515
H	20041214 173338

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
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☒

4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1
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☒

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	-3.467598	0.029550	-0.013463
7	P1	-3.154086	0.036872	0.249072
11	P1	-4.629333	0.045979	-0.074474
15	P1	-5.660722	0.034188	-0.043007
19	P1	-3.636320	0.005029	-0.042404
22	P1	-4.580143	0.016290	0.017686
26	P1	-4.924456	0.016448	-0.036628
30	P1	-7.096867	0.014232	-0.041473
3	P1	-15.961542	0.118164	0.034580
7	P1	-15.227947	0.482158	-1.406159
11	P1	-20.700178	0.487792	-0.027053
15	P1	-11.621156	0.089895	0.065651
19	P1	-14.128094	0.030211	-0.086041
22	P1	-16.153490	0.451912	0.187755
26	P1	-17.796457	0.267396	0.008273
30	P1	-17.910940	0.302040	0.042131

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.369425	0.085439	0.016324
7	P2	-22.610958	0.141494	0.043364
11	P2	-14.977252	0.134316	0.149548
15	P2	-7.173232	0.109356	0.014742
19	P2	-9.723053	0.136697	0.040426
22	P2	-17.207367	0.099531	0.055385
26	P2	-16.523869	0.106178	-0.003194

30	P2	-19.004133	0.083178	0.107192

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.210155	0.006917	-0.009378
7	P3	-8.210157	0.006917	-0.009366
11	P3	-8.210172	0.006917	-0.009268
15	P3	-8.210175	0.006918	-0.009249
19	P3	-8.210175	0.006918	-0.009246
22	P3	-8.210176	0.006918	-0.009245
26	P3	-8.210176	0.006918	-0.009252
30	P3	-8.210218	0.006918	-0.010168

4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1
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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	-2.841576	0.111194	-0.099525
7	P1	-2.978461	0.064678	-0.064194
11	P1	-3.931895	0.049680	-0.077938
15	P1	-3.511557	0.078828	-0.086095
19	P1	-3.601099	0.012661	-0.027140
22	P1	-5.602424	0.068352	-0.035053
26	P1	-6.495276	0.023188	-0.045225
30	P1	-6.293705	0.041809	-0.054979
3	P1	-10.631387	0.058764	-0.128679
7	P1	-10.104195	0.153722	0.009857
11	P1	-12.391967	0.201907	-0.003909

15	P1	-11.722152	0.103538	0.033491
19	P1	-15.633156	0.049757	-0.027197
22	P1	-24.142378	2.250050	-0.140997
26	P1	-15.136207	0.409319	0.148071
30	P1	-20.194859	0.977823	0.142487

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.056337	0.036148	0.020976
7	P2	-22.658058	0.027625	0.069506
11	P2	-10.772114	0.033237	0.183280
15	P2	-5.069404	0.024356	-0.009254
19	P2	-6.975196	0.032395	-0.001665
22	P2	-7.334471	0.026228	0.038627
26	P2	-23.961830	0.018381	-0.018795
30	P2	-22.066141	0.017833	0.083108

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.045532	0.002748	-0.000033
7	P3	-8.045547	0.002755	-0.000192
11	P3	-8.045631	0.002745	0.000200
15	P3	-8.045403	0.002756	0.000076
19	P3	-8.045608	0.002756	-0.000070
22	P3	-8.045596	0.002751	0.000020
26	P3	-8.045615	0.002751	-0.000048
30	P3	-8.045493	0.002743	0.000034

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	0.000439916
	stdev	2.42583e-07
MEAN Q	mean	0.000497431
	stdev	2.55468e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.125517
	stdev	0.00100890
STDEV Q	mean	0.125757
	stdev	0.00101823

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

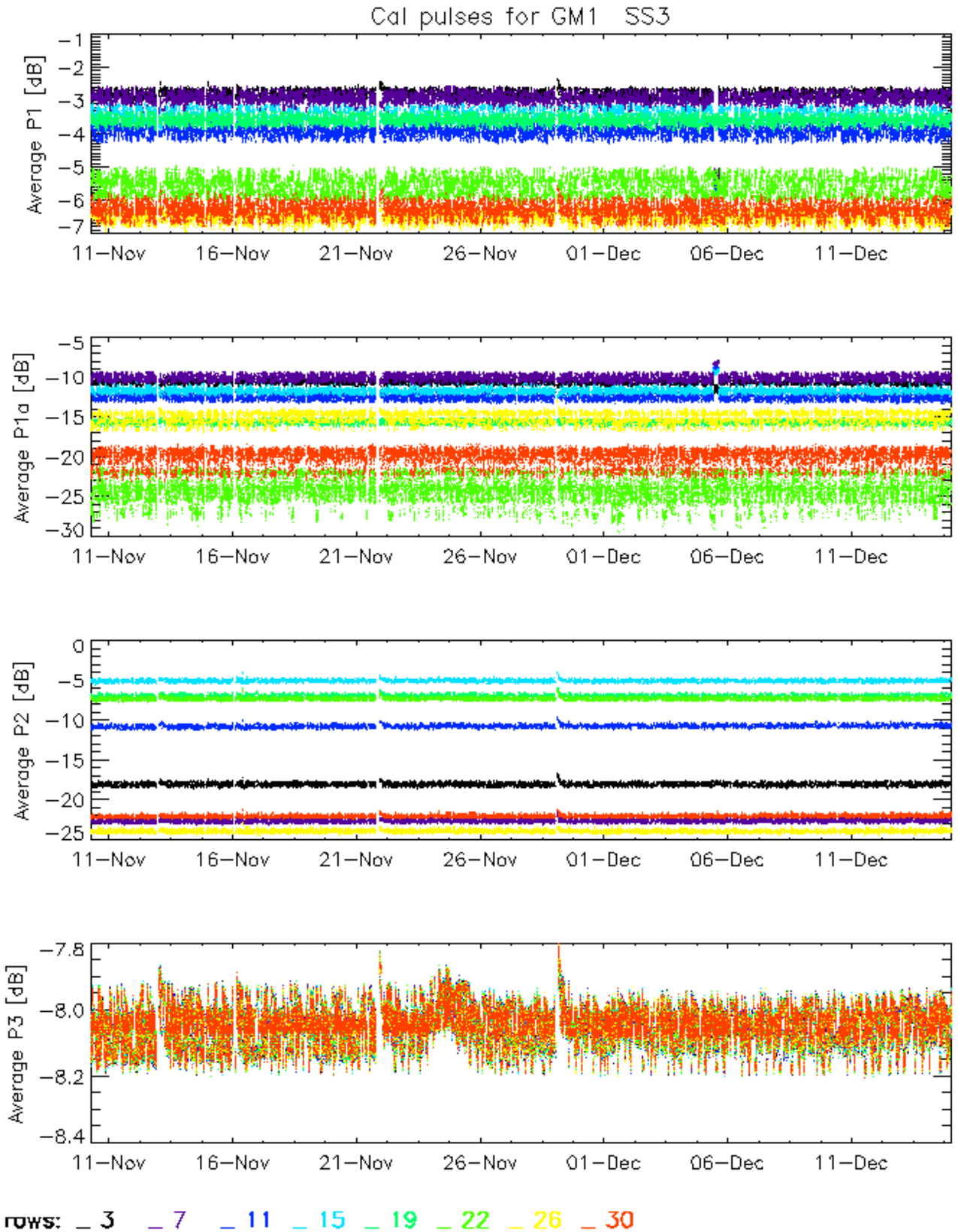
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

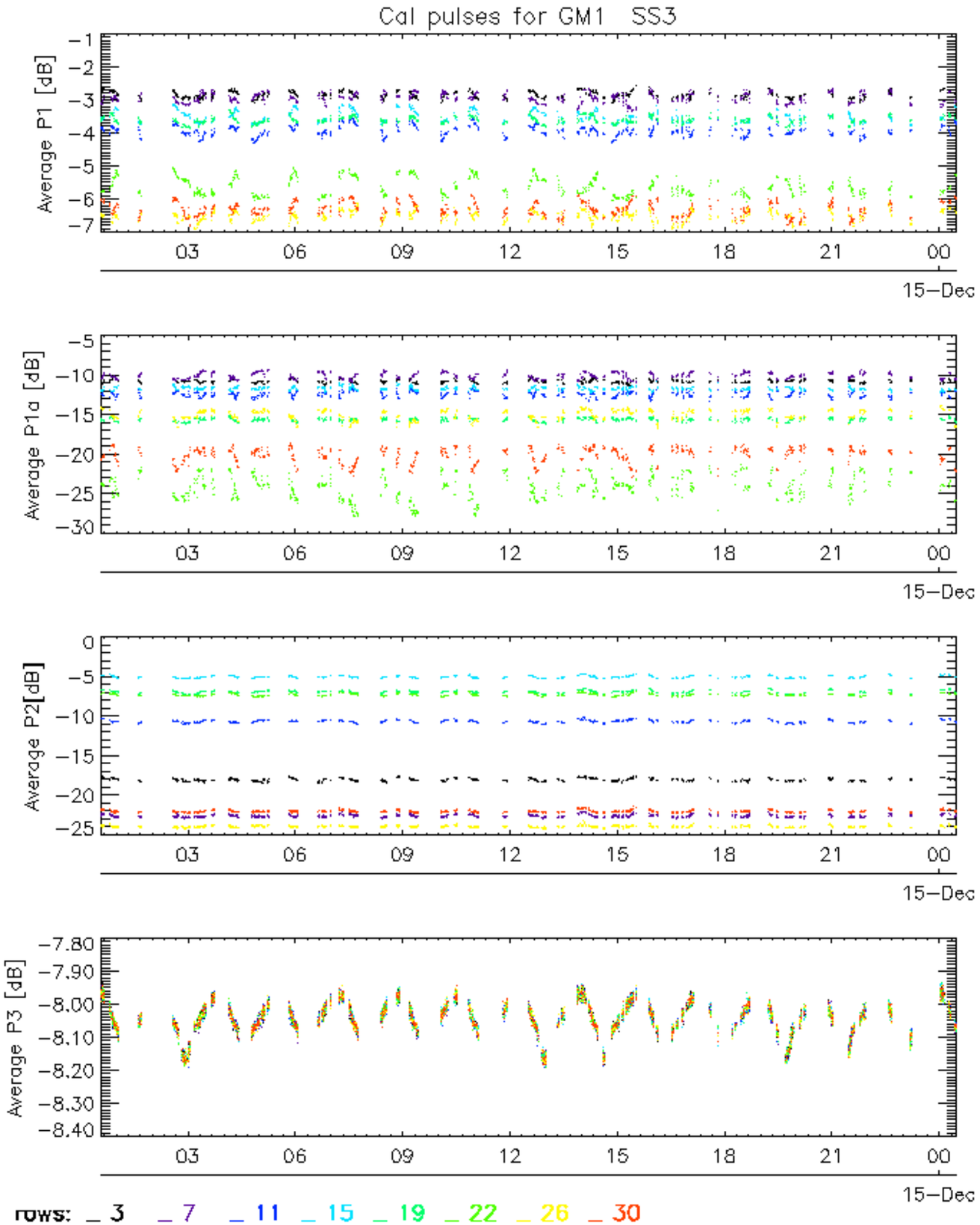
6.5 - Absolute Doppler for GM1

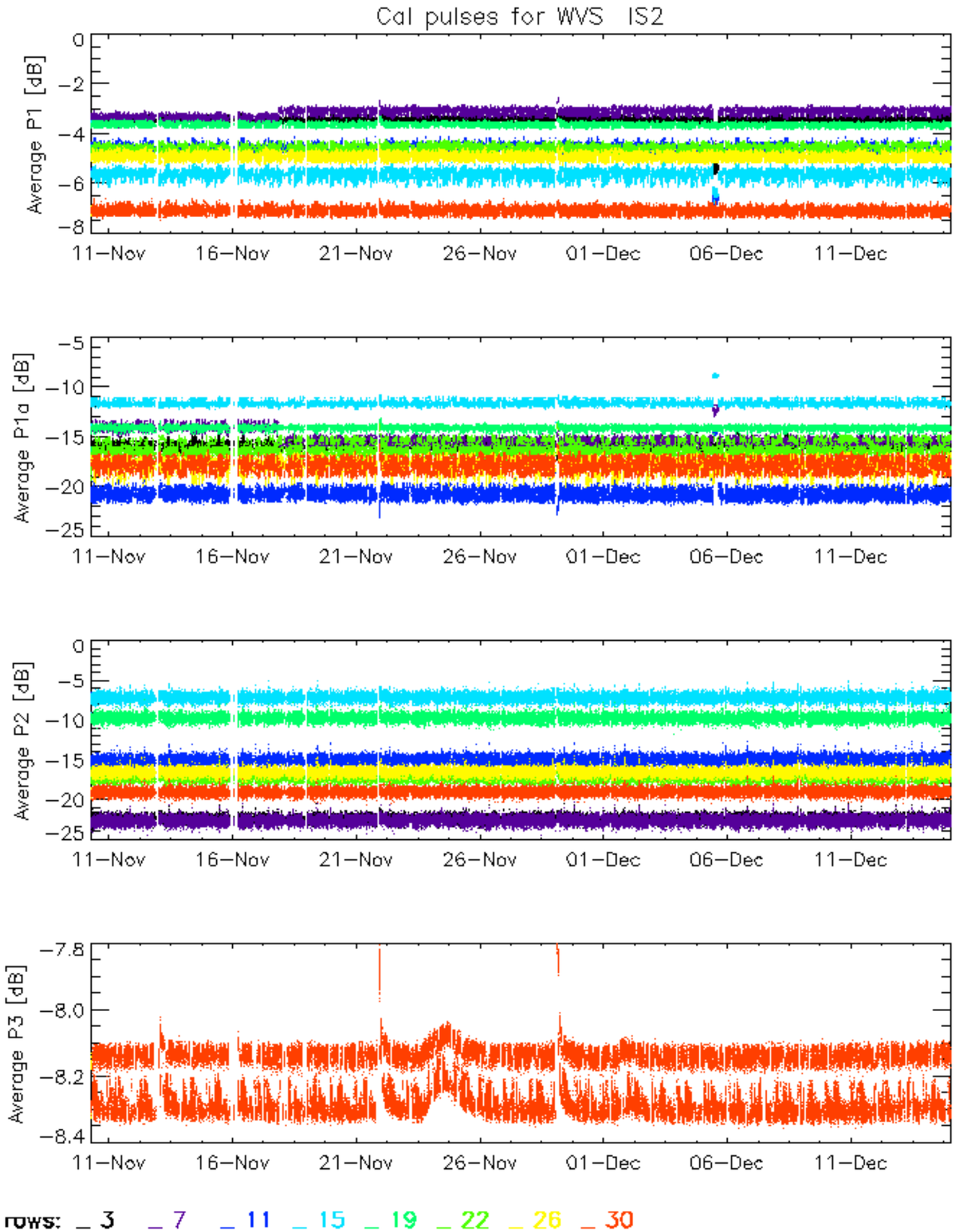
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

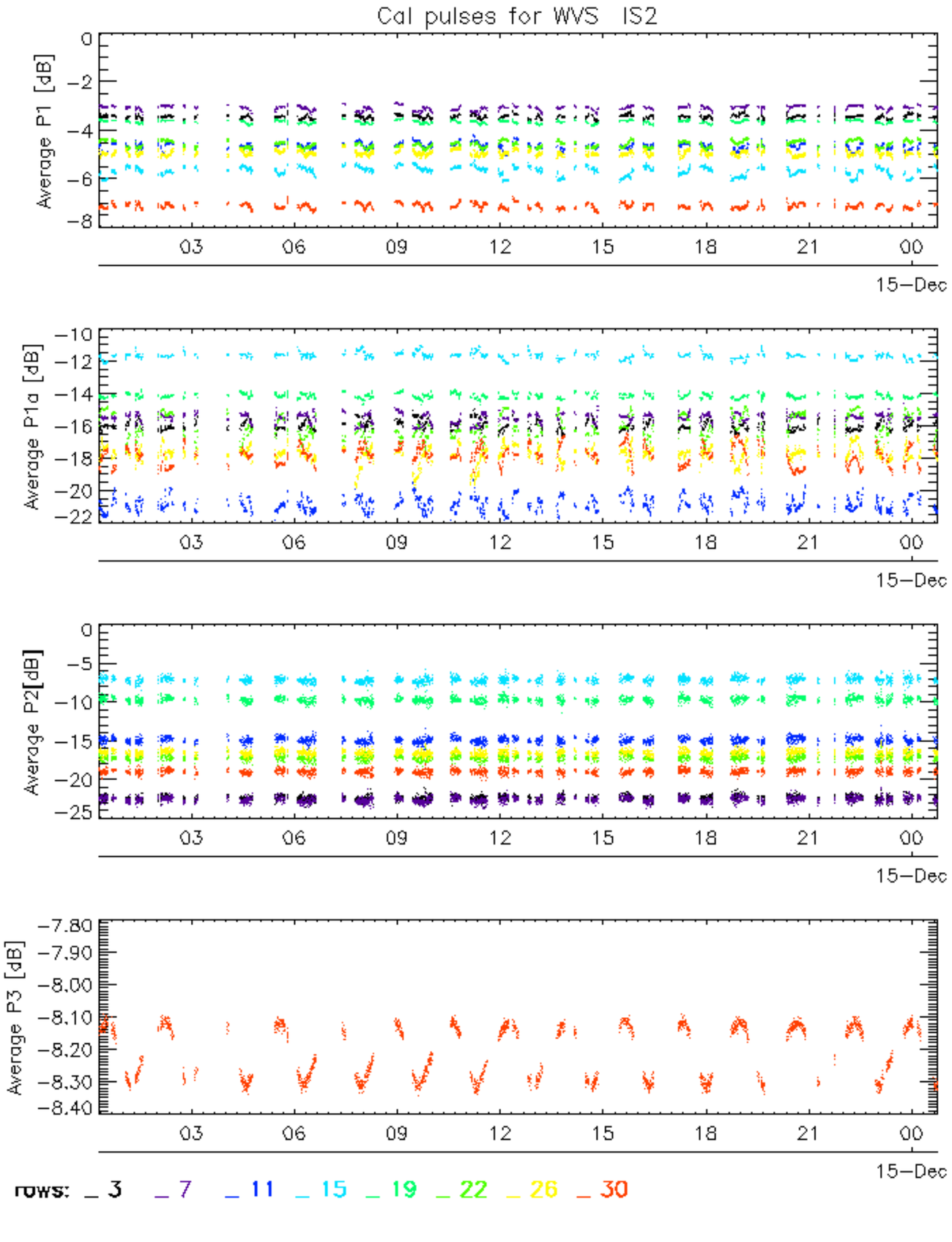
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

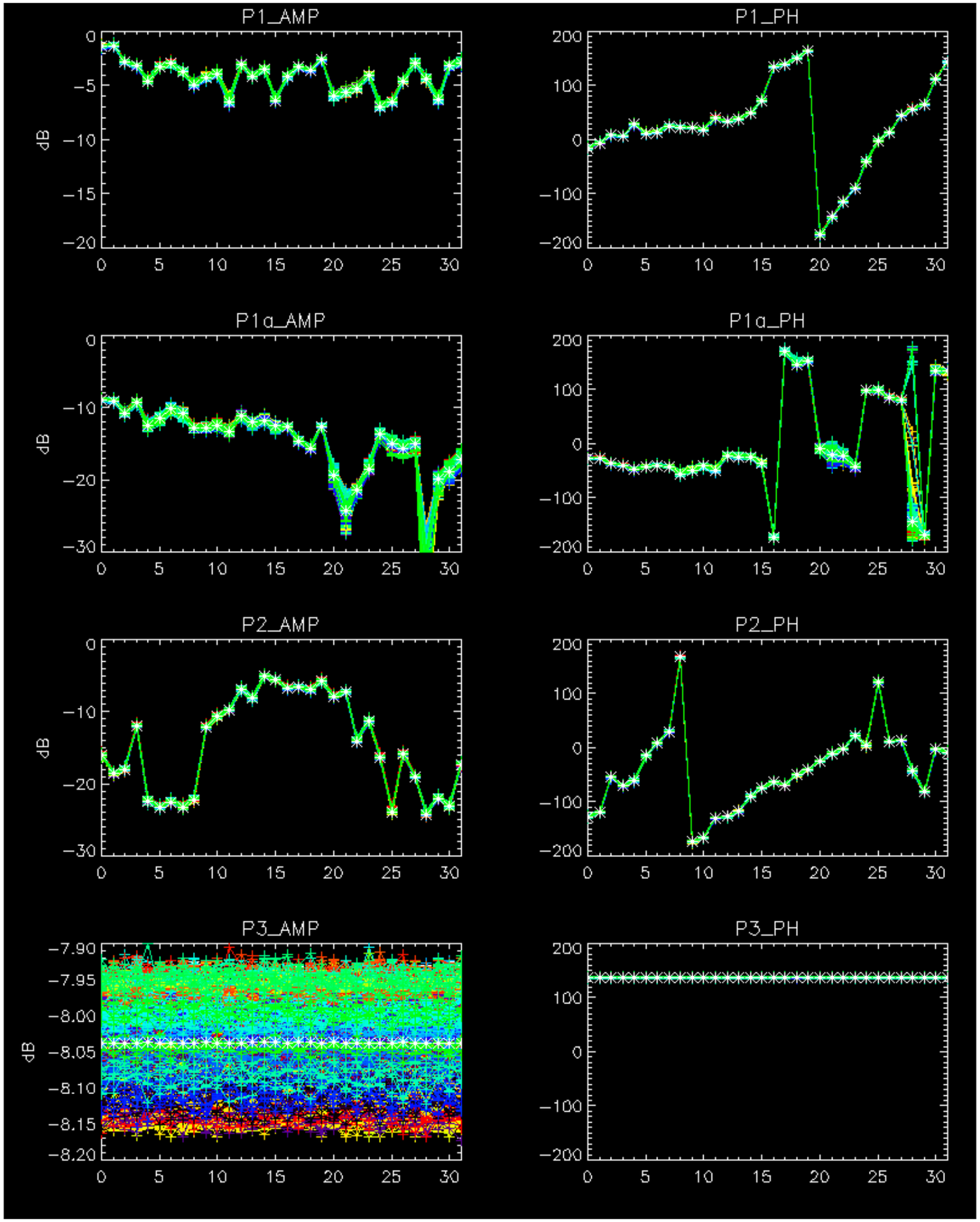

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
11−Nov
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

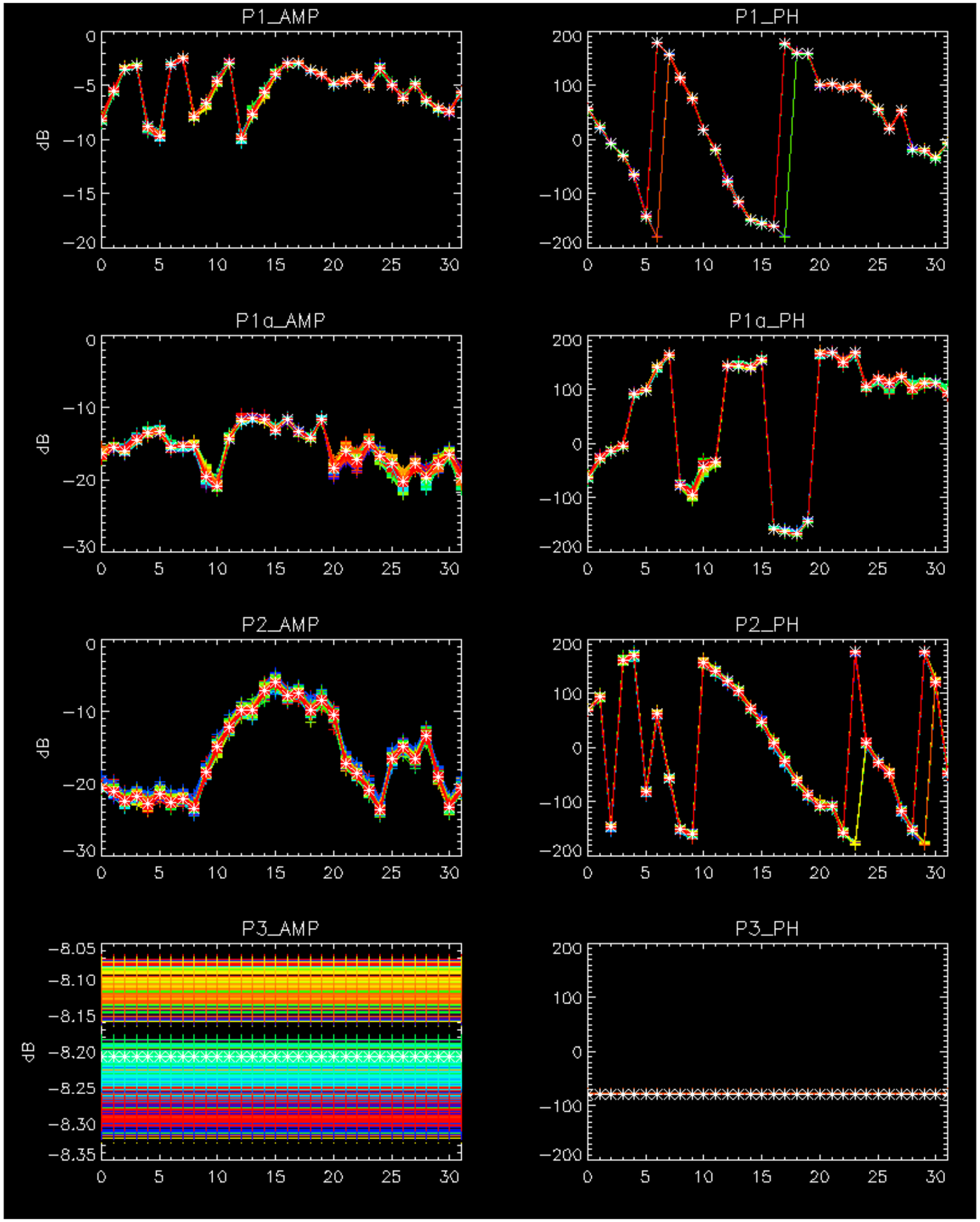

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
15−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
−30
03
06
09
12
15
18
21
00
15−Dec
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
15−Dec
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
06
09
12
15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


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
11−Nov
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
Average P2 [dB]
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
15−Dec
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
Average P2[dB]
−5
−10
−15
−20
−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

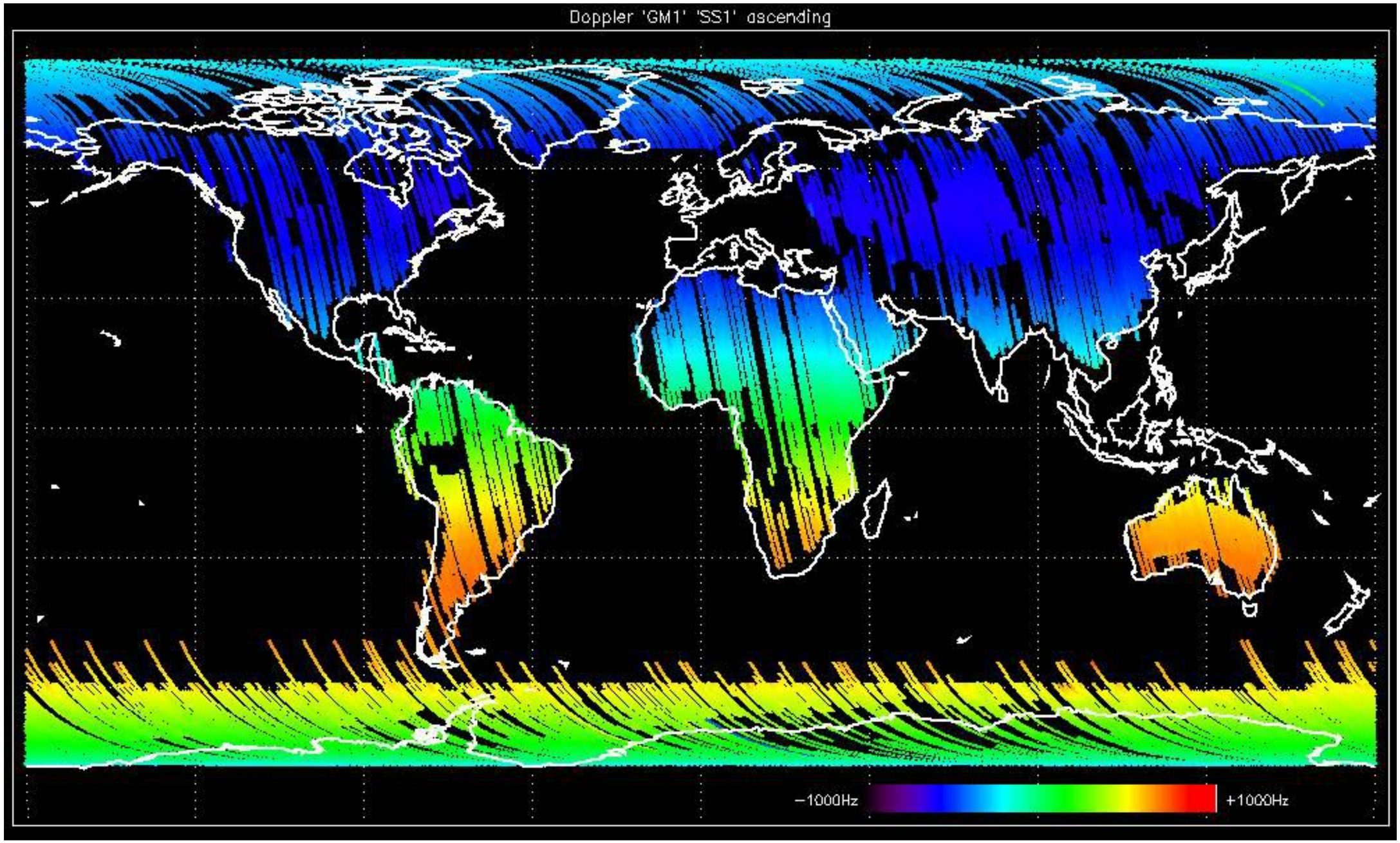
No anomalies observed.

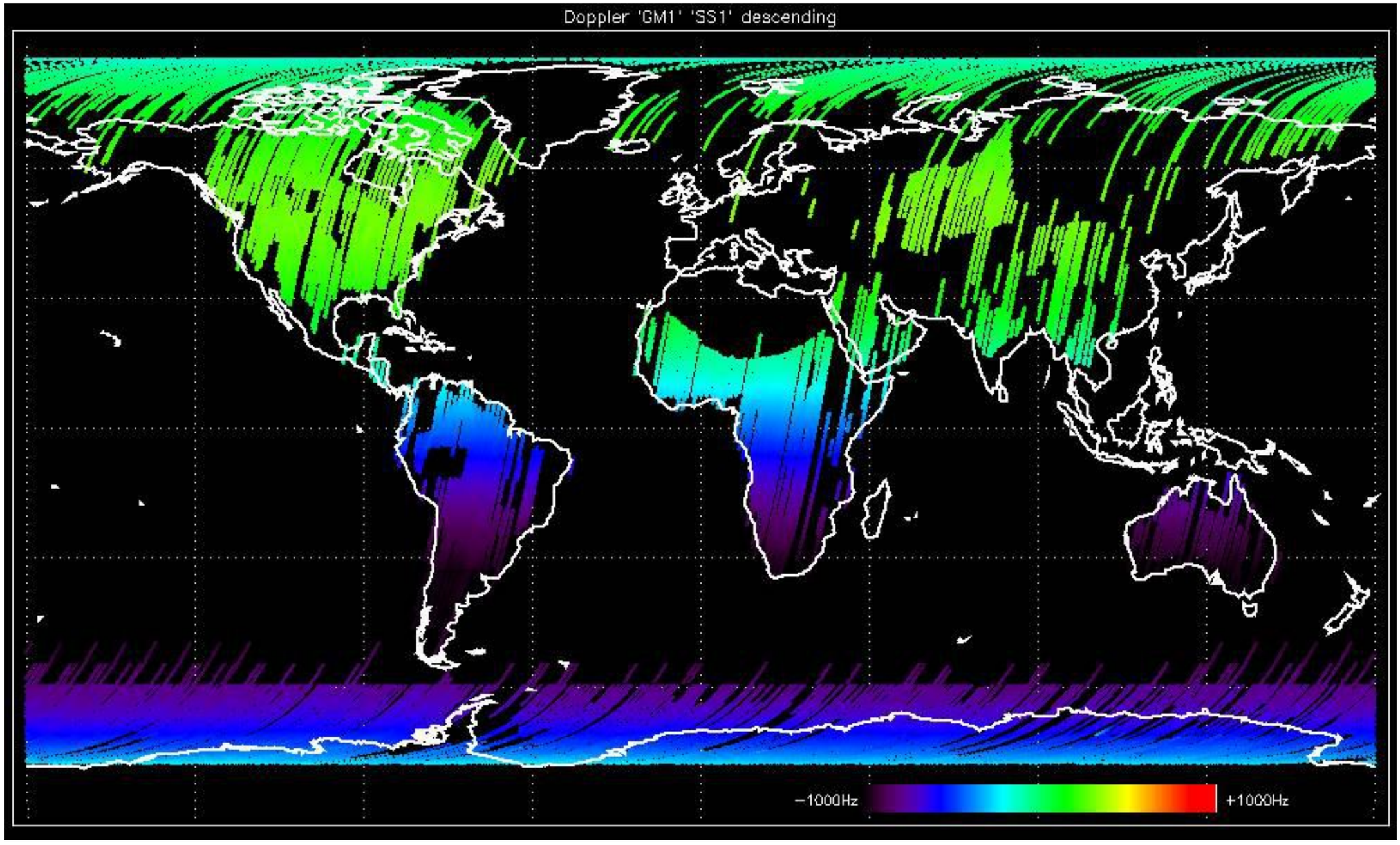

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.90
−7.95
−8.00
−8.05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

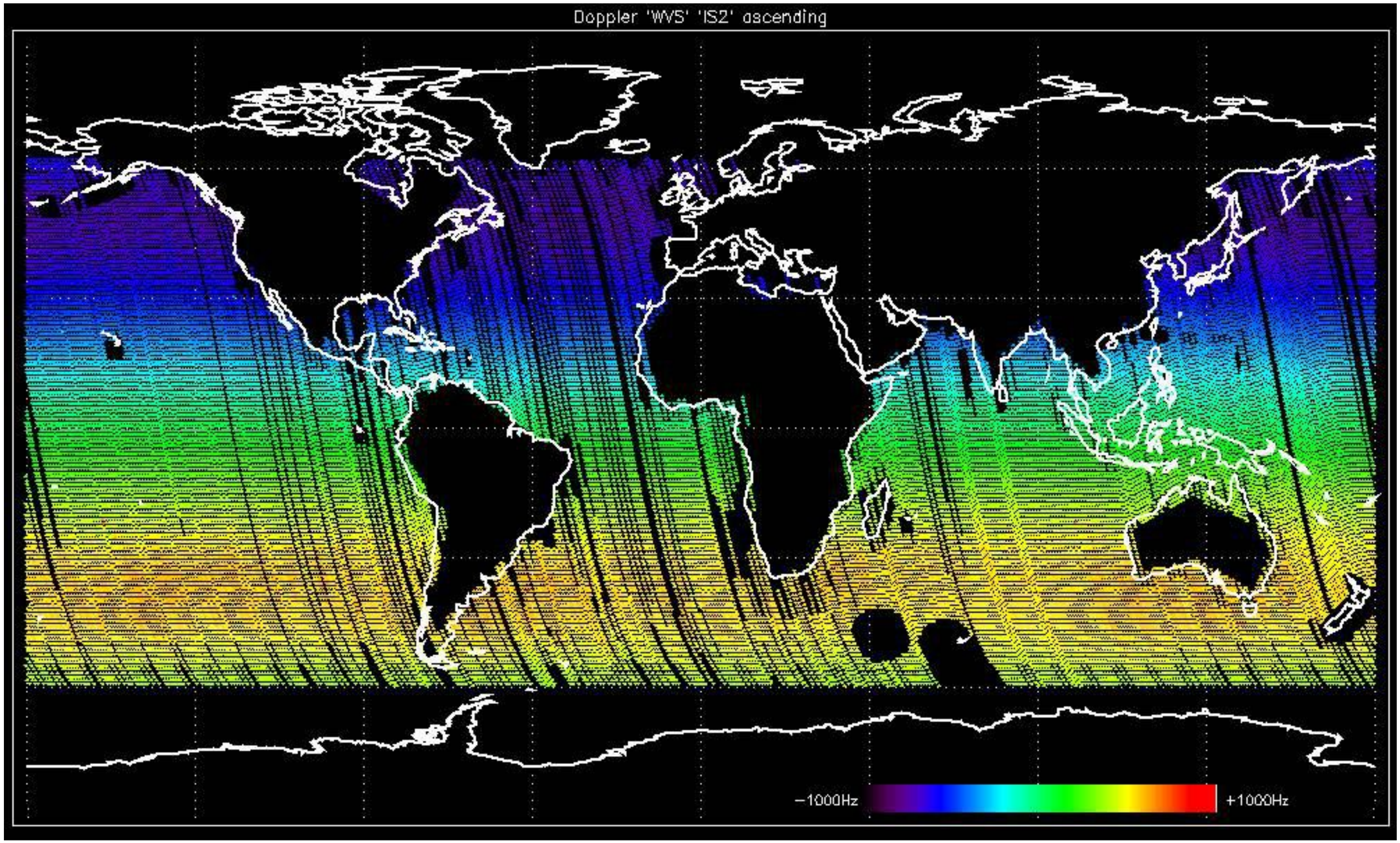

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.05
−8.10
−8.15
−8.20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

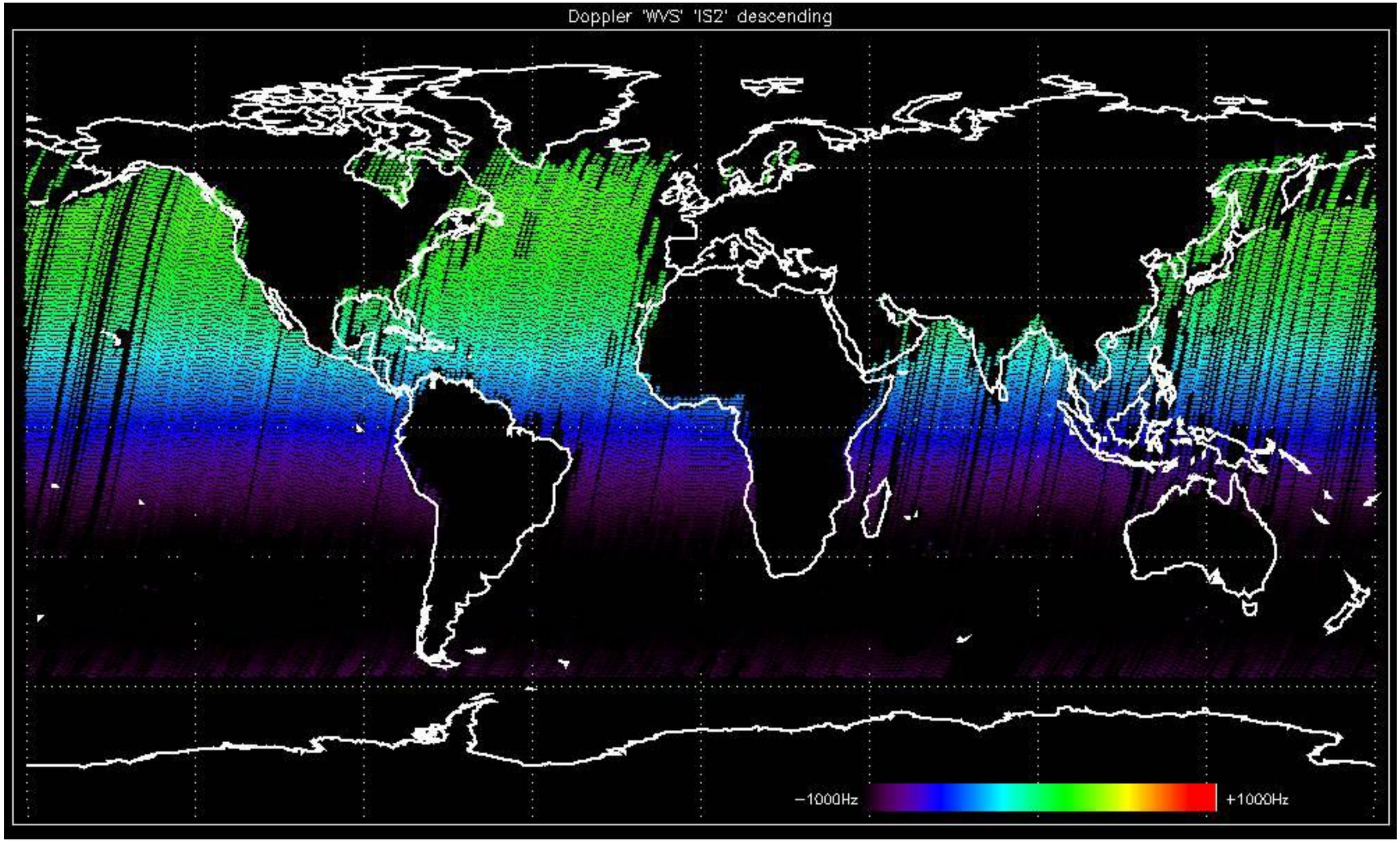
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

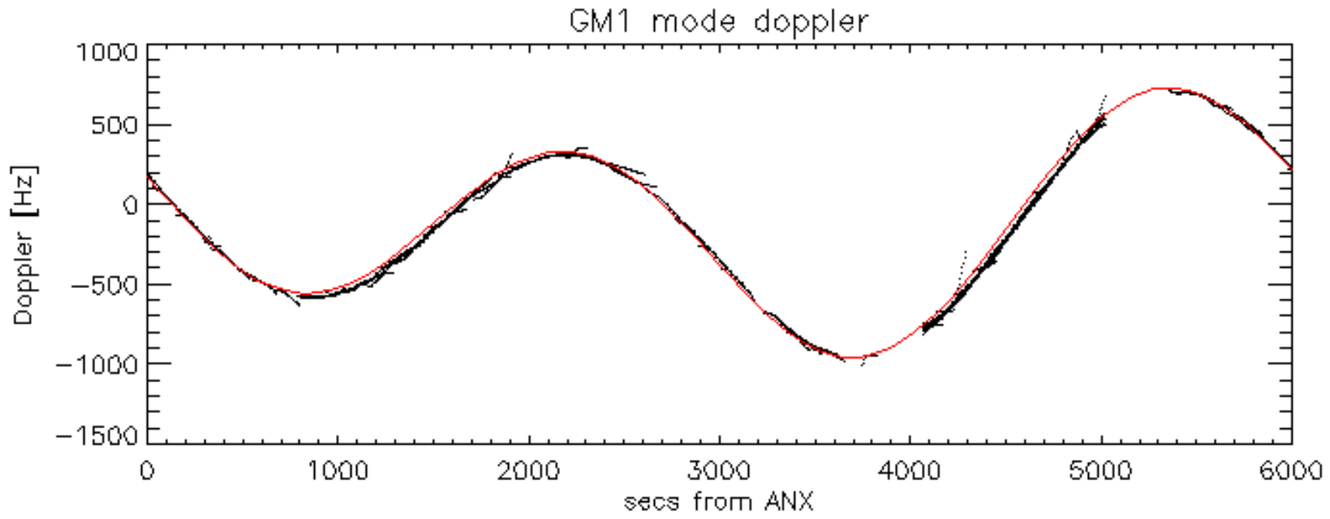
Preliminary report.The data is not yet controled

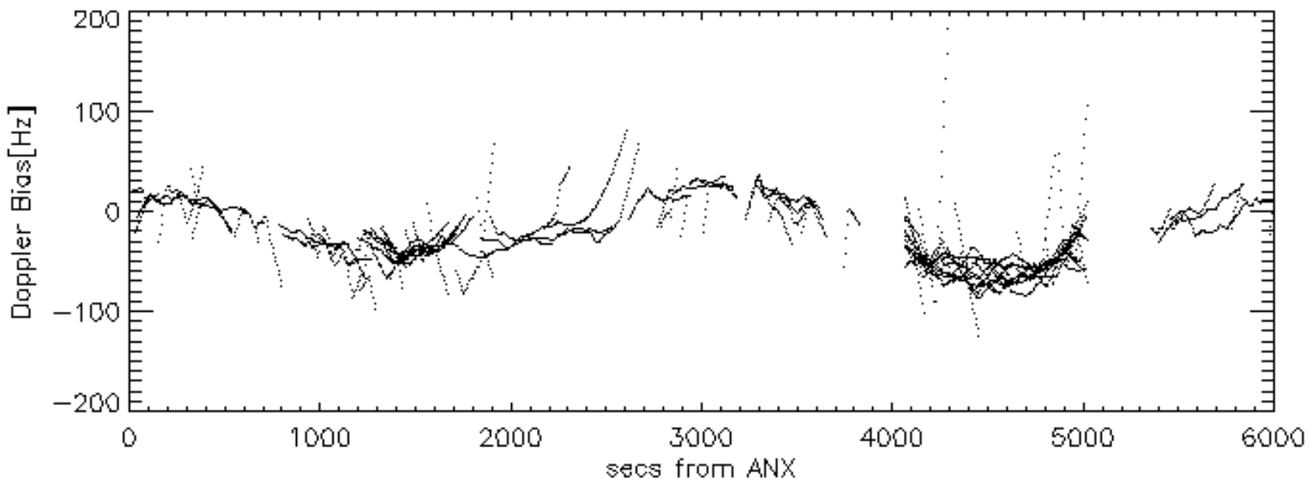

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

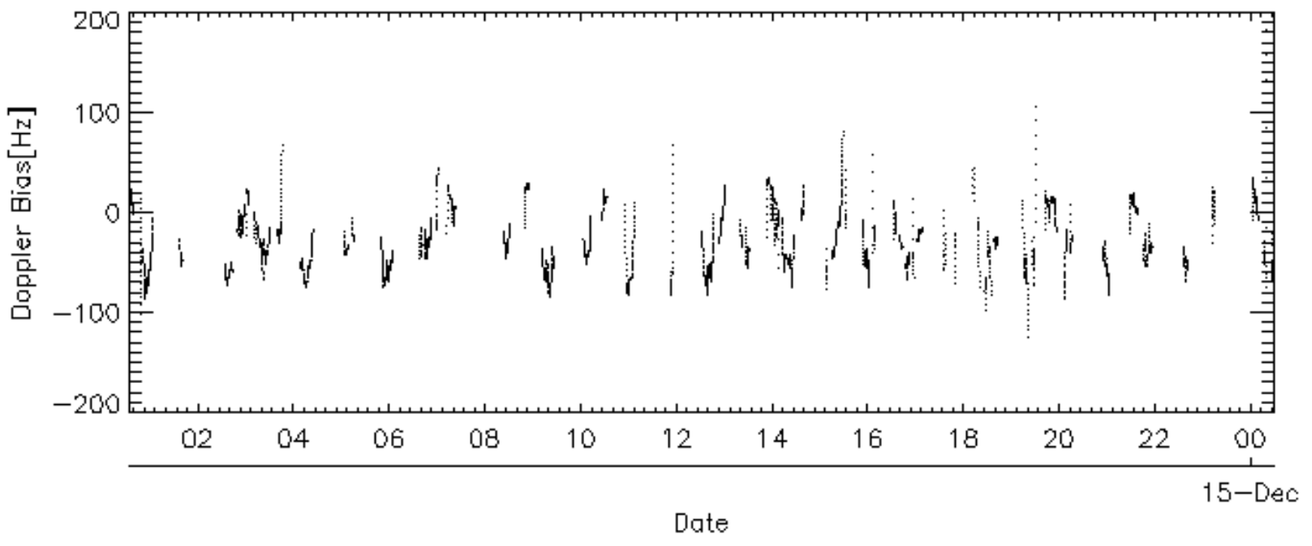

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

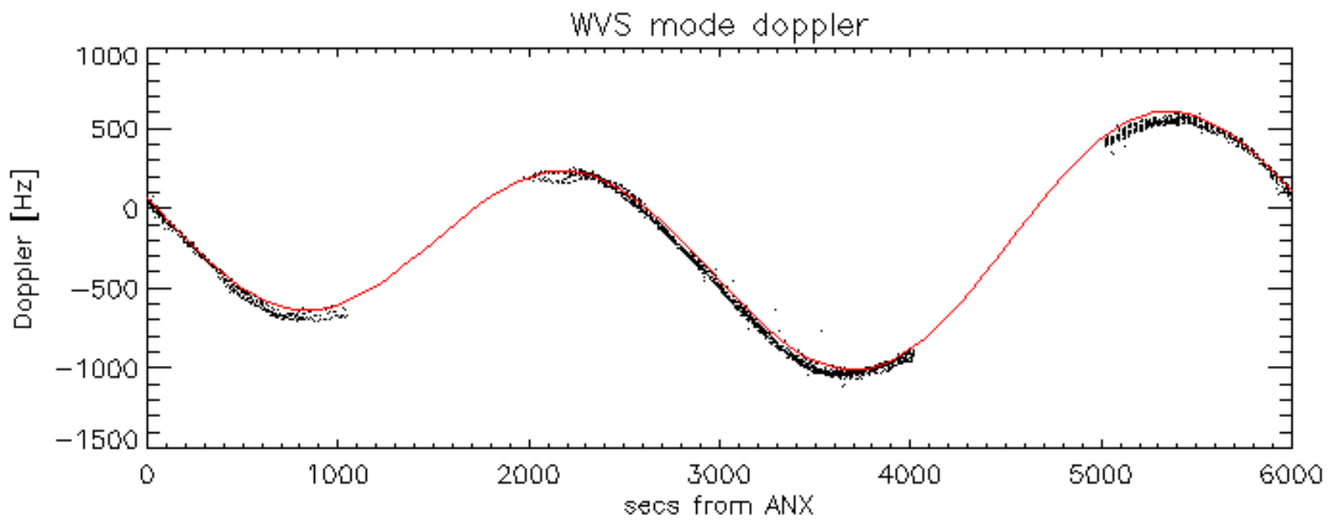

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

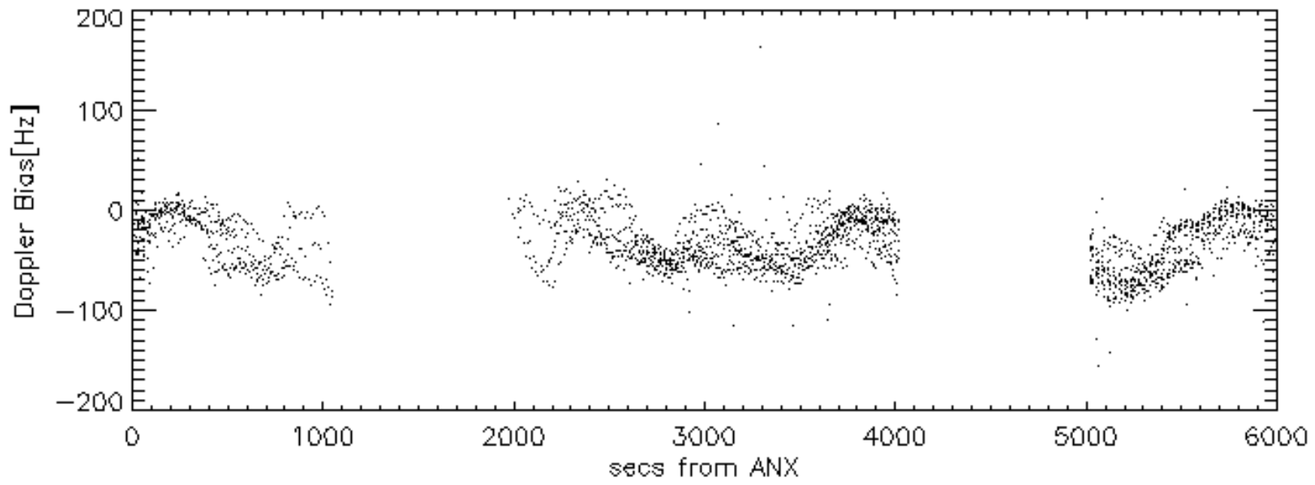

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

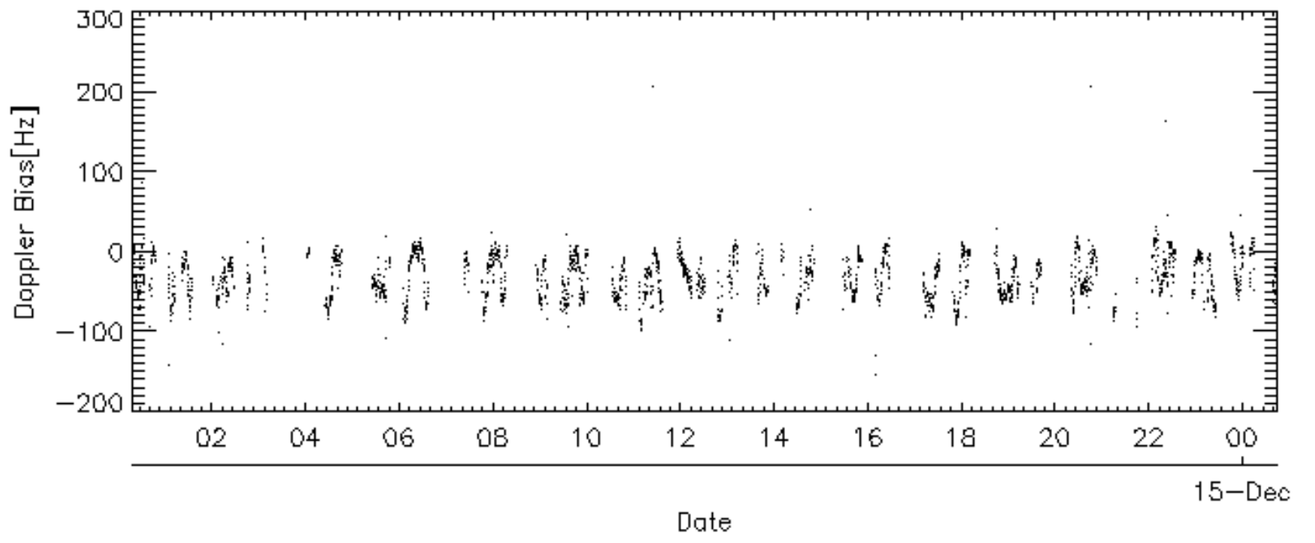

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

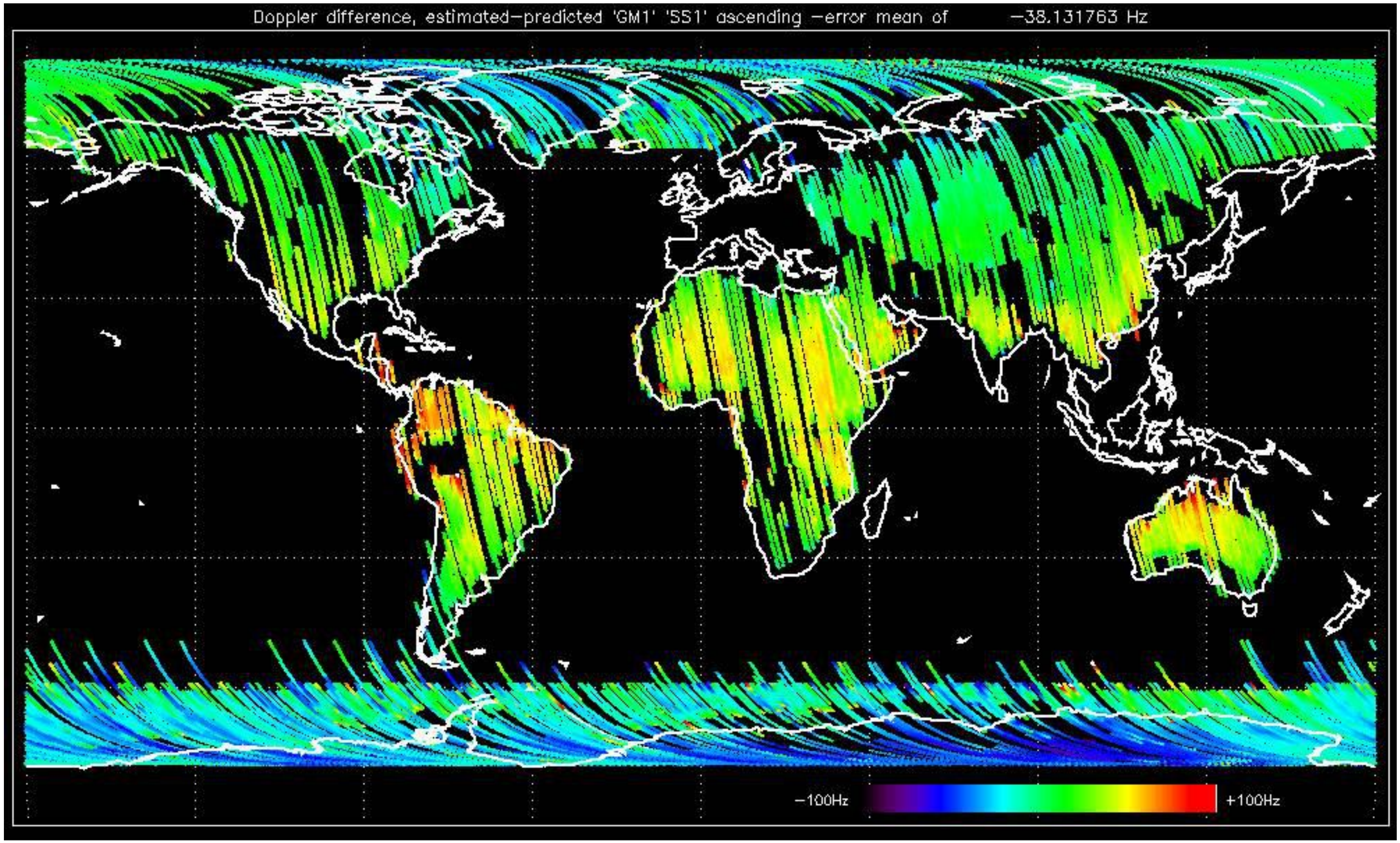

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

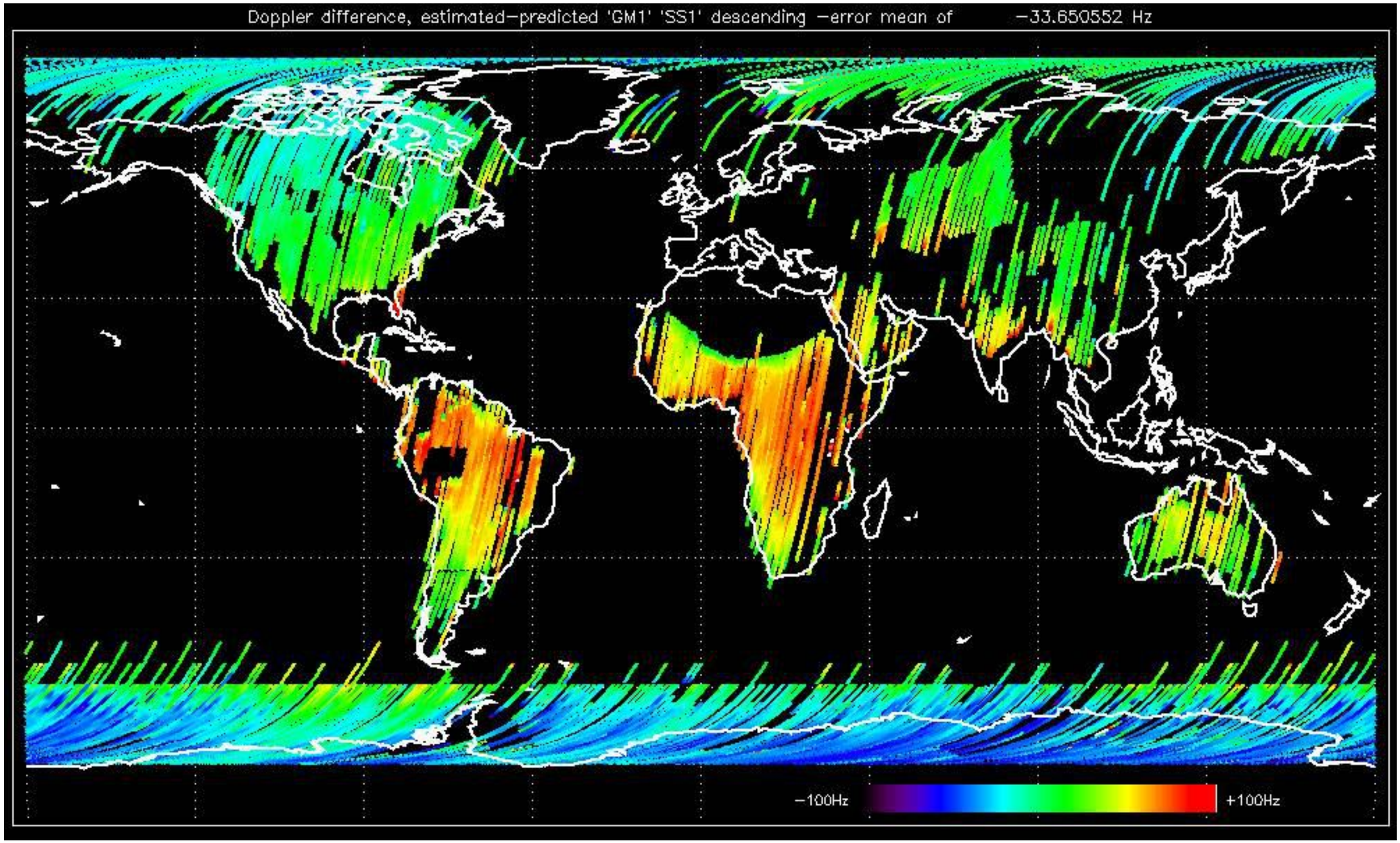

Doppler Bias[Hz]
200
100
0
−100
−200
02
04
06
08
10
12
14
16
18
20
22
00
15−Dec
Date

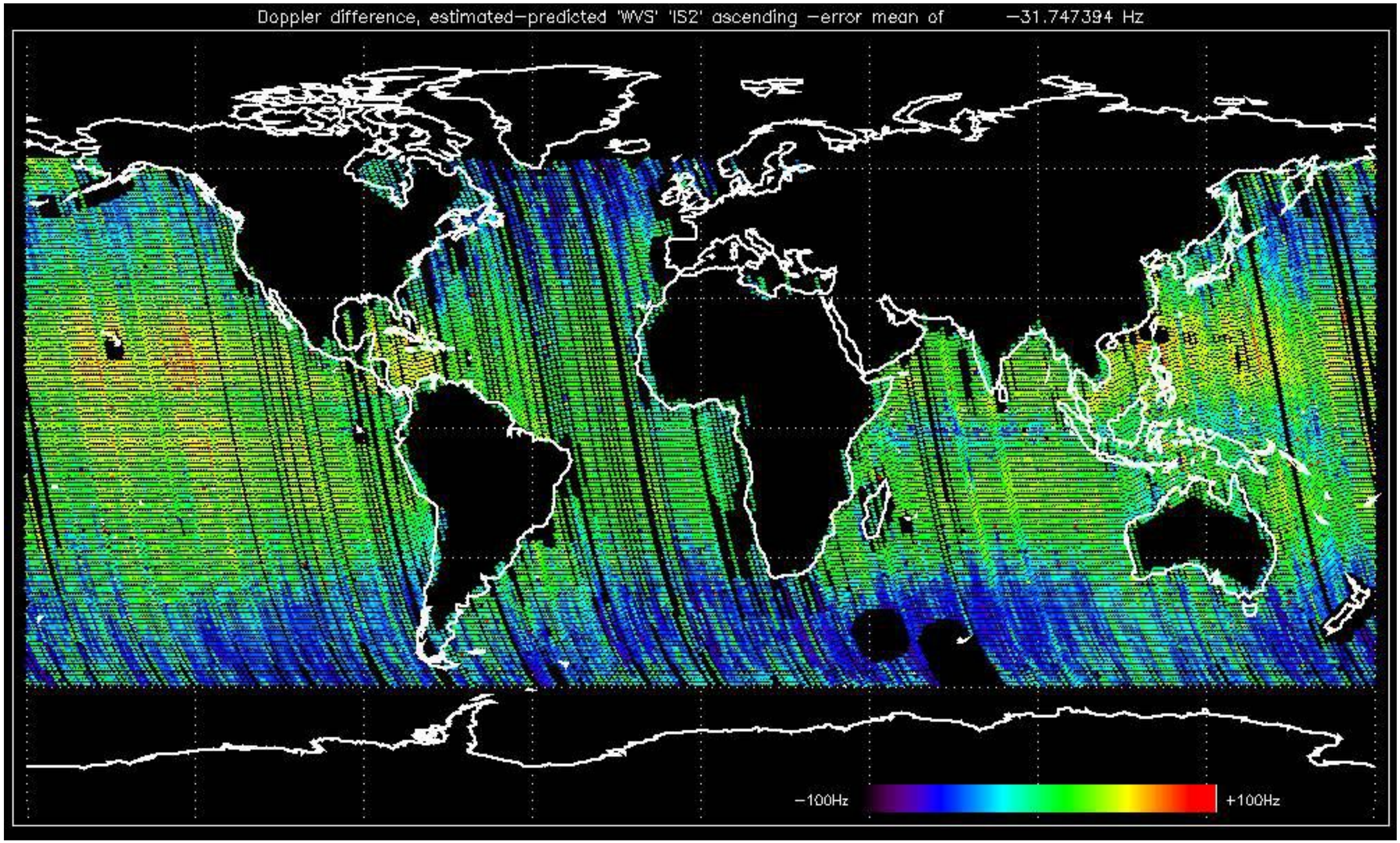

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

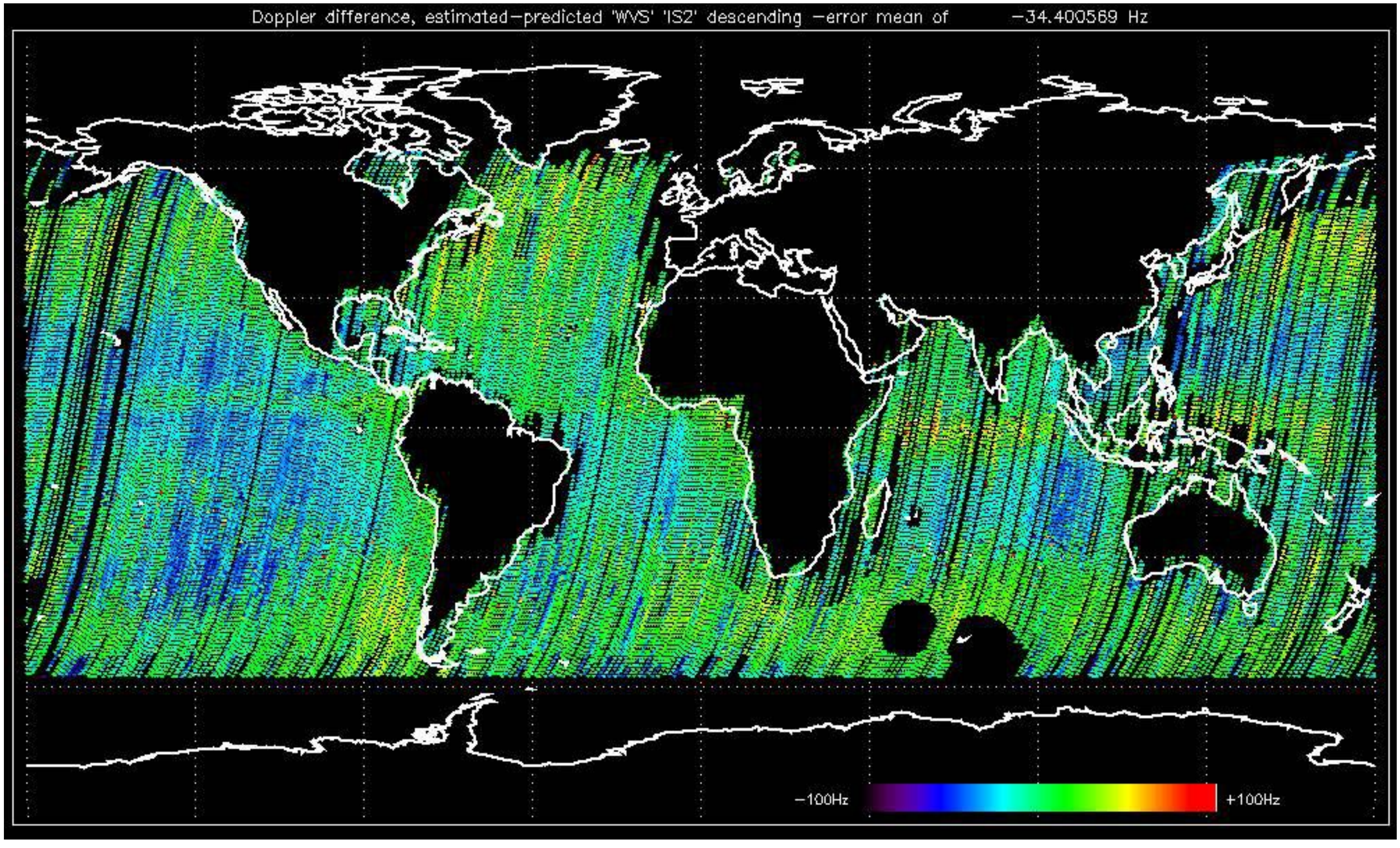

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −38.131763 Hz
−100Hz
+100Hz

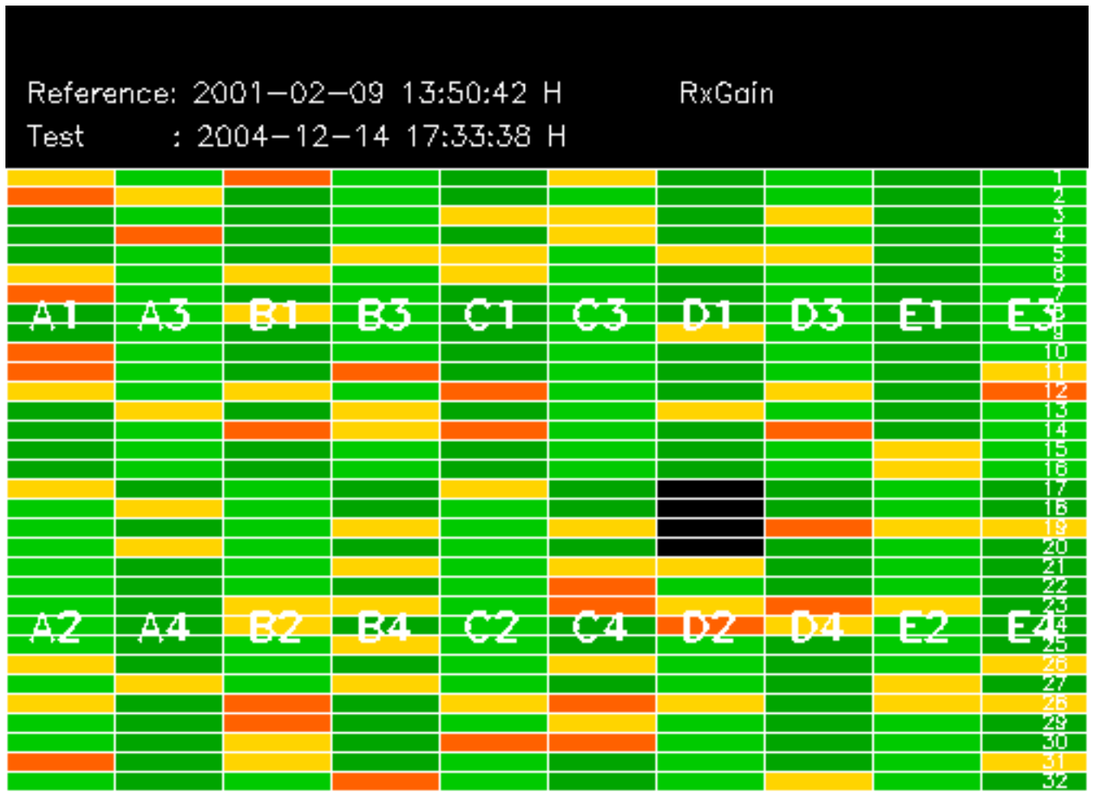

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −33.650552 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −31.747394 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −34.400569 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 : 2004-12-14 17:33:38 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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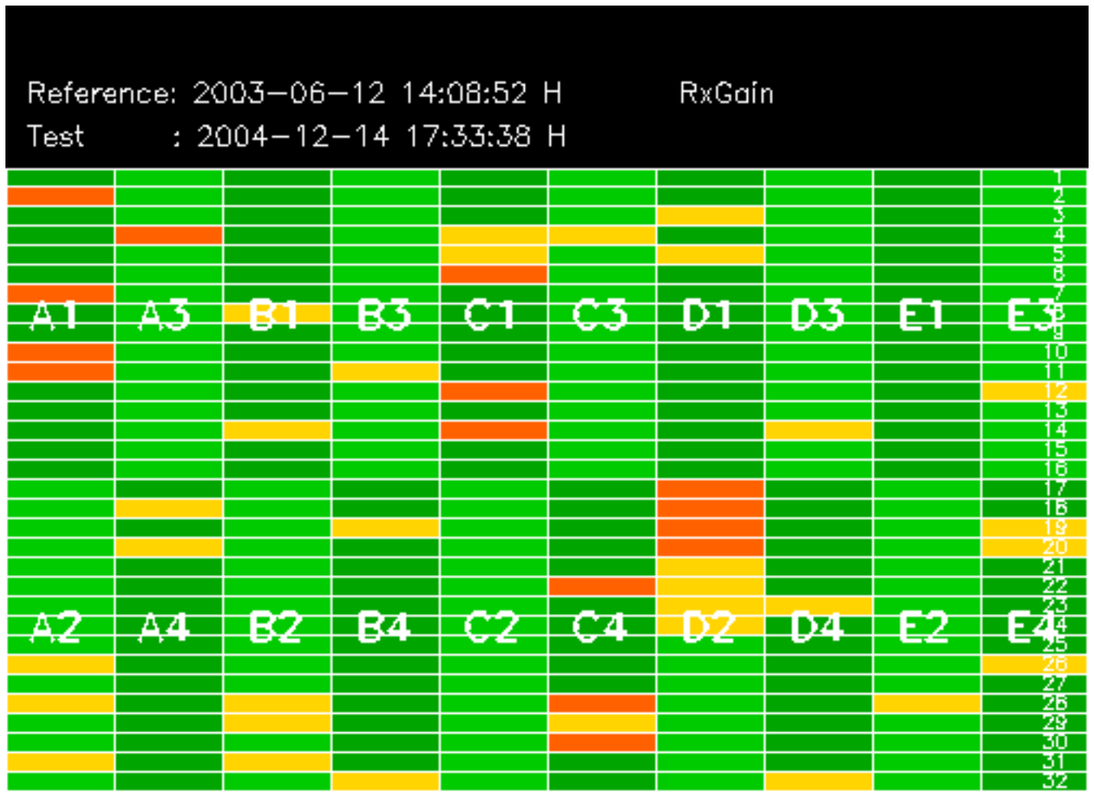
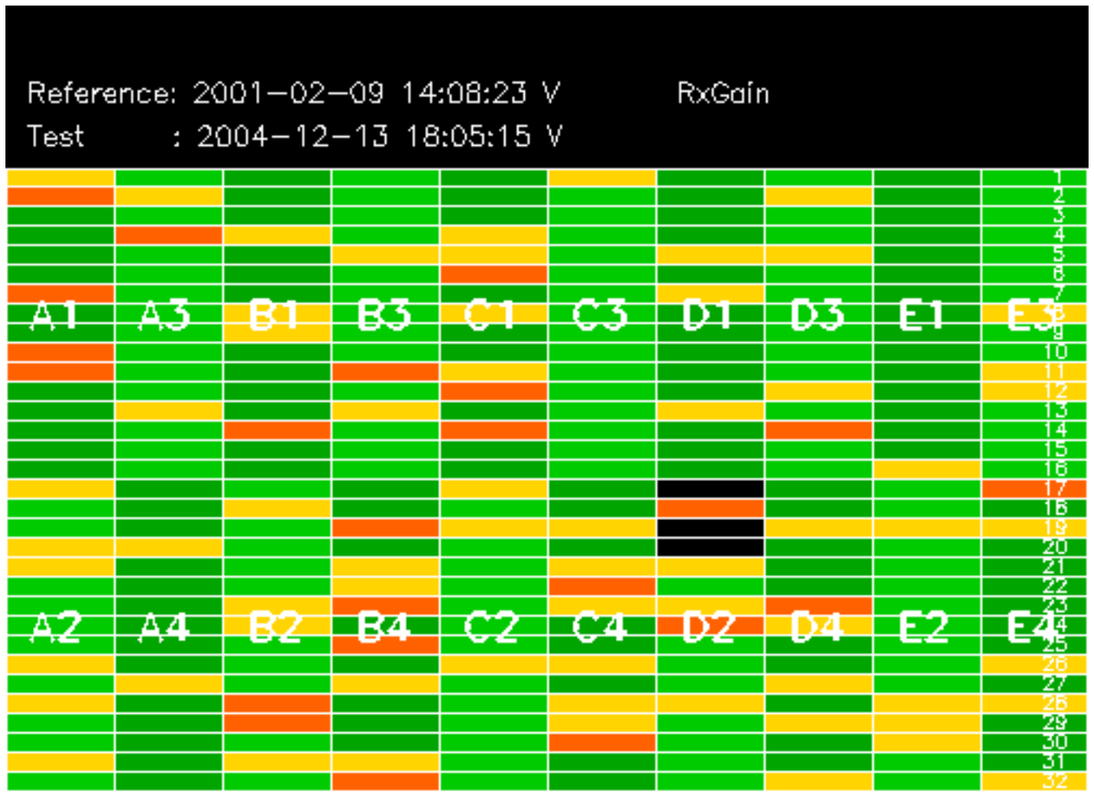

Reference: 2003-06-12 14:08:52 H
Test : 2004-12-14 17:33:38 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-12-13 18:05:15 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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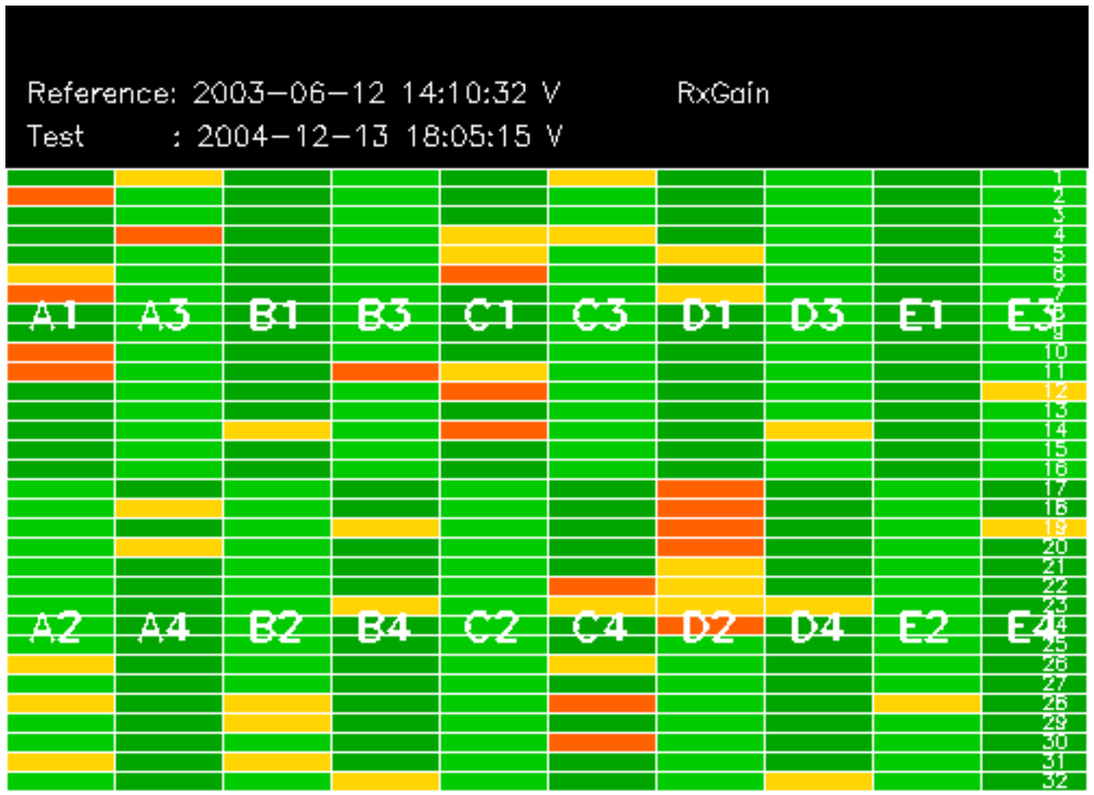
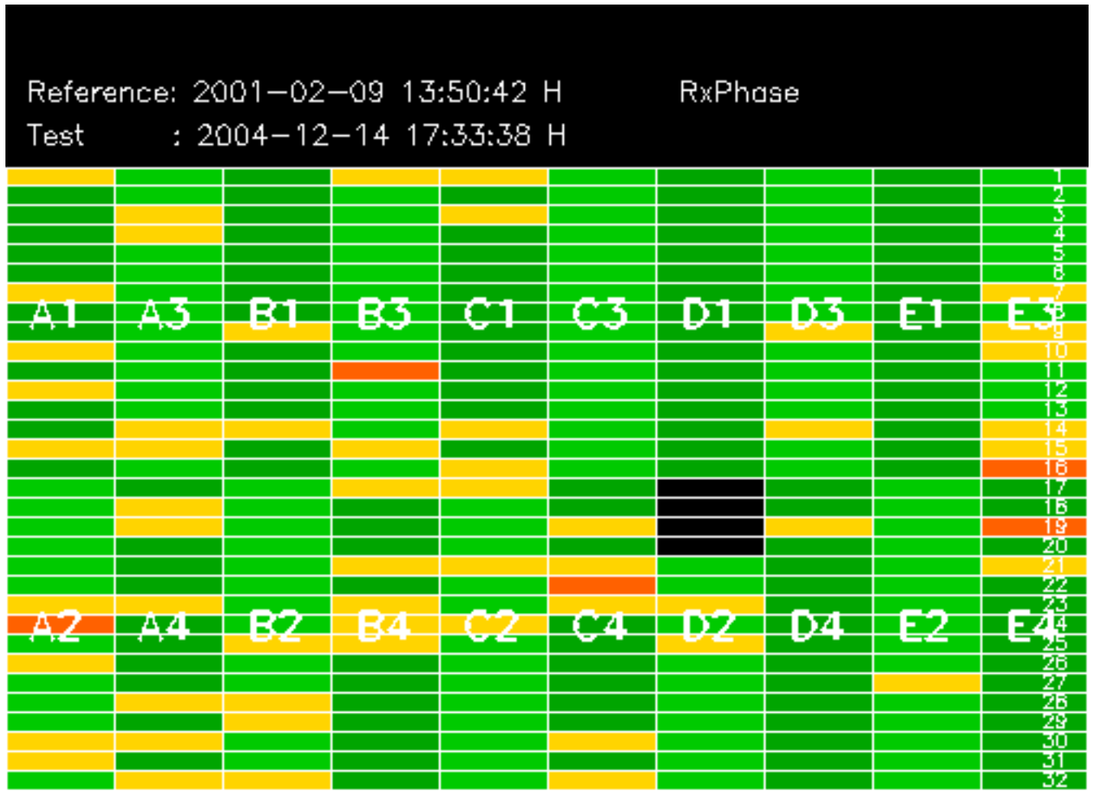

Reference: 2003-06-12 14:10:32 V
Test : 2004-12-13 18:05:15 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-12-14 17:33:38 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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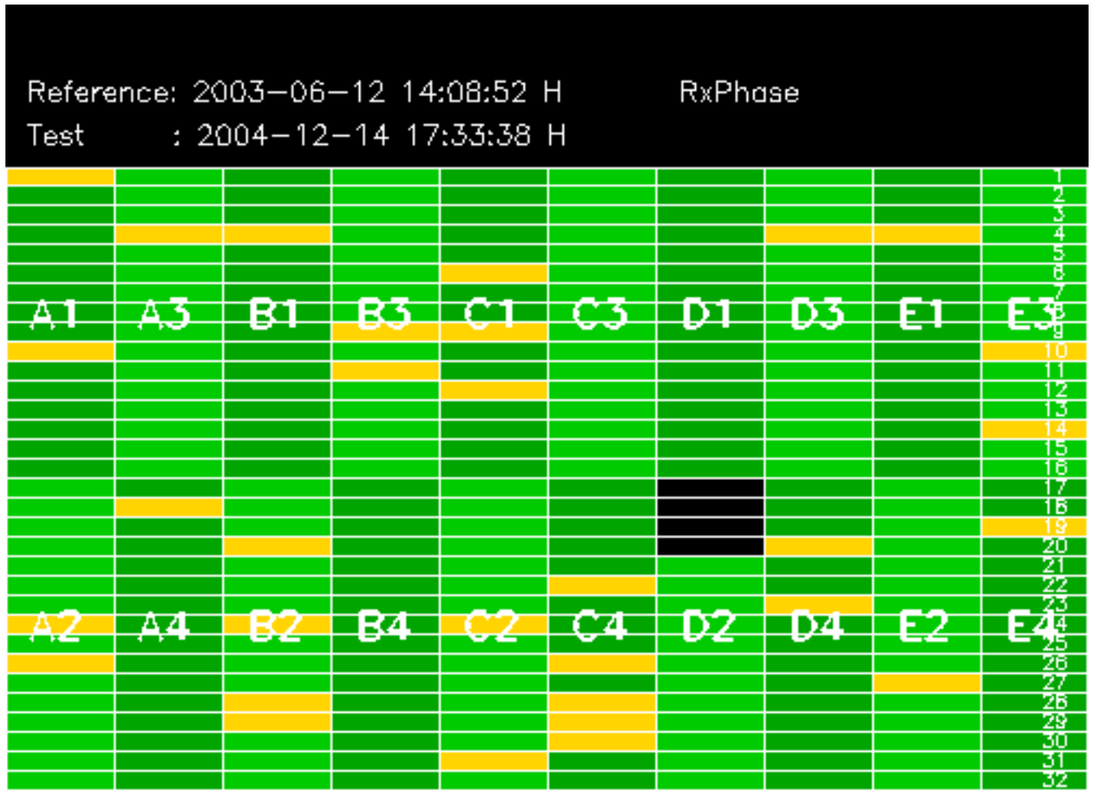
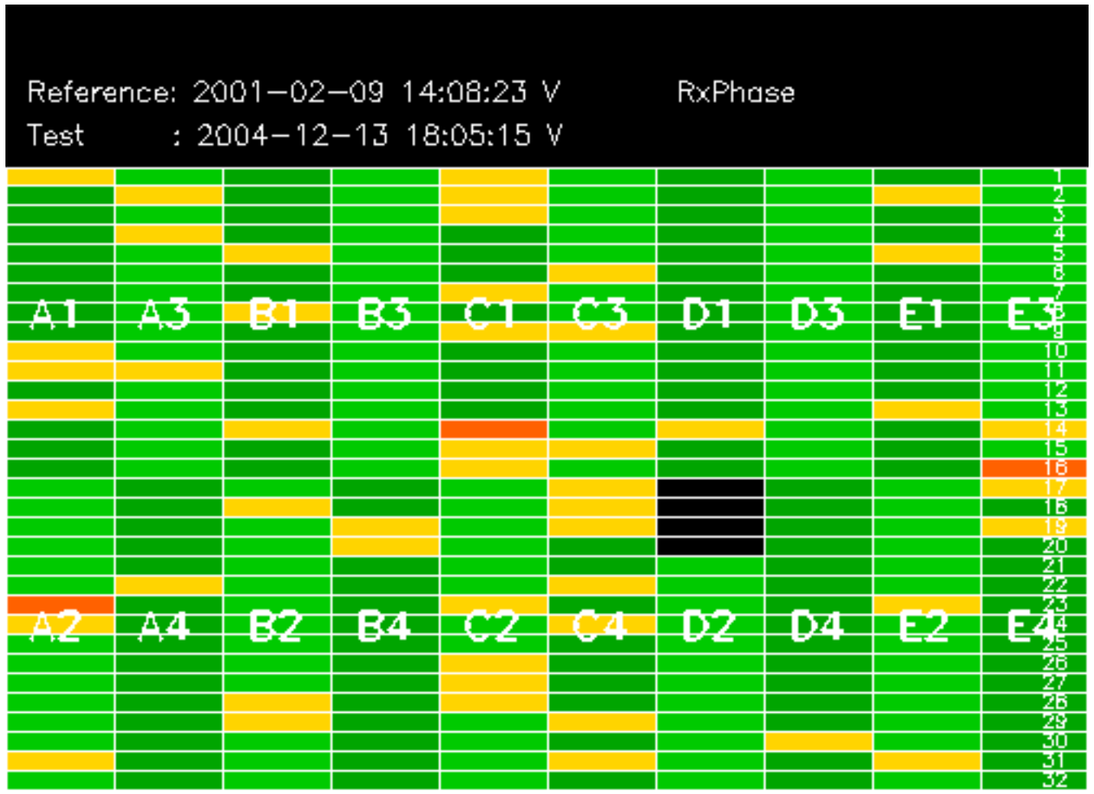

Reference: 2003-06-12 14:08:52 H
Test : 2004-12-14 17:33:38 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-12-13 18:05:15 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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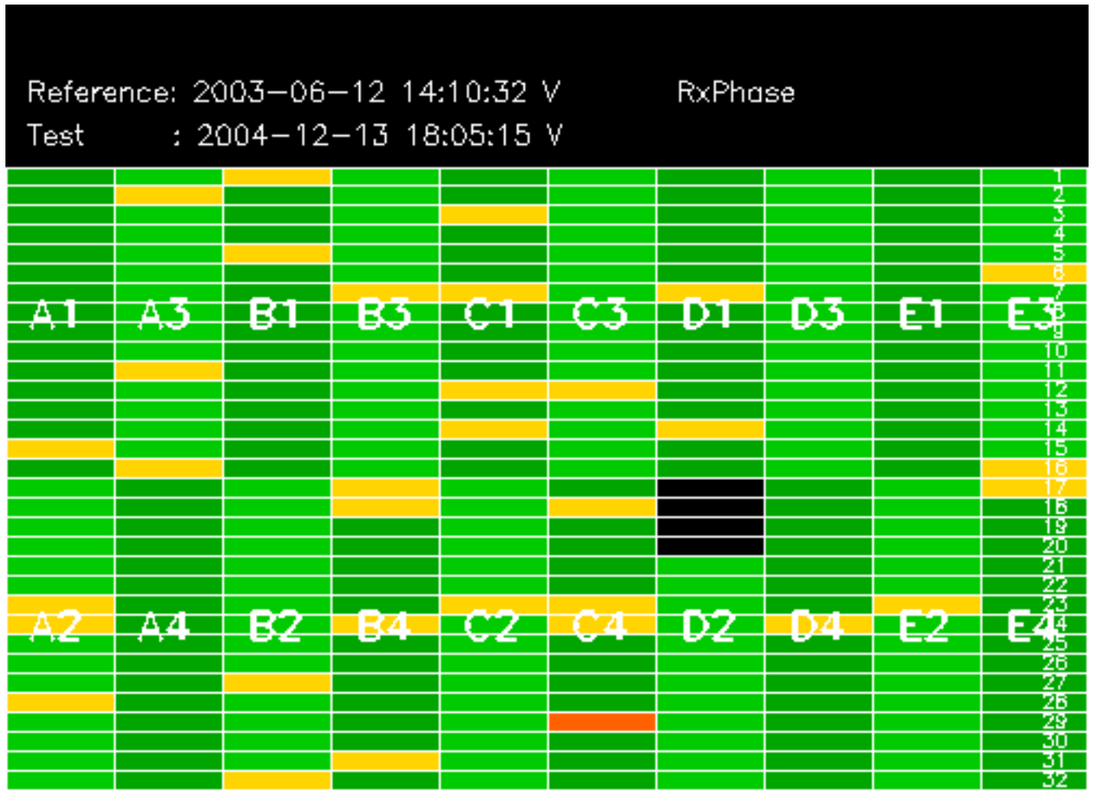
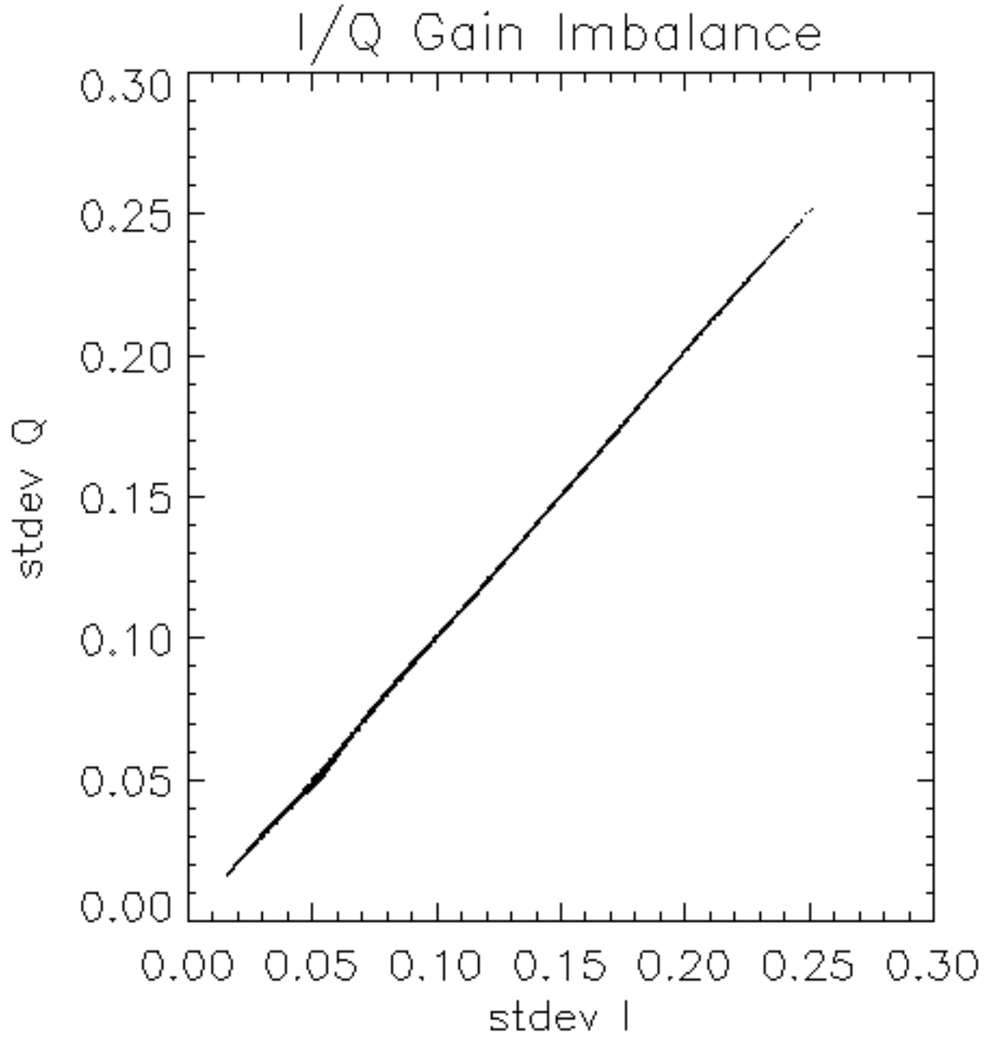
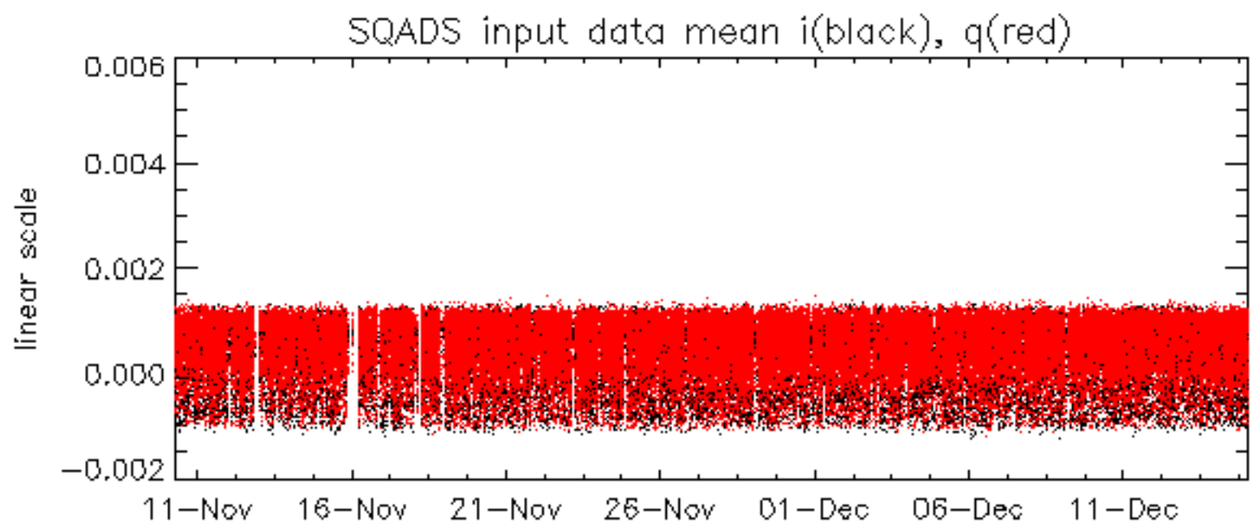
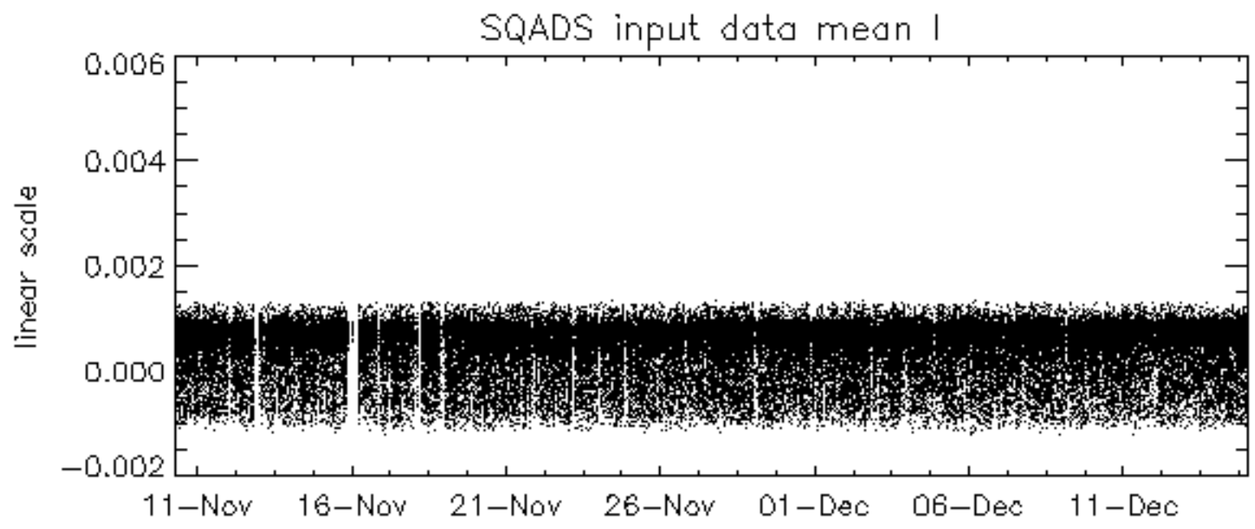
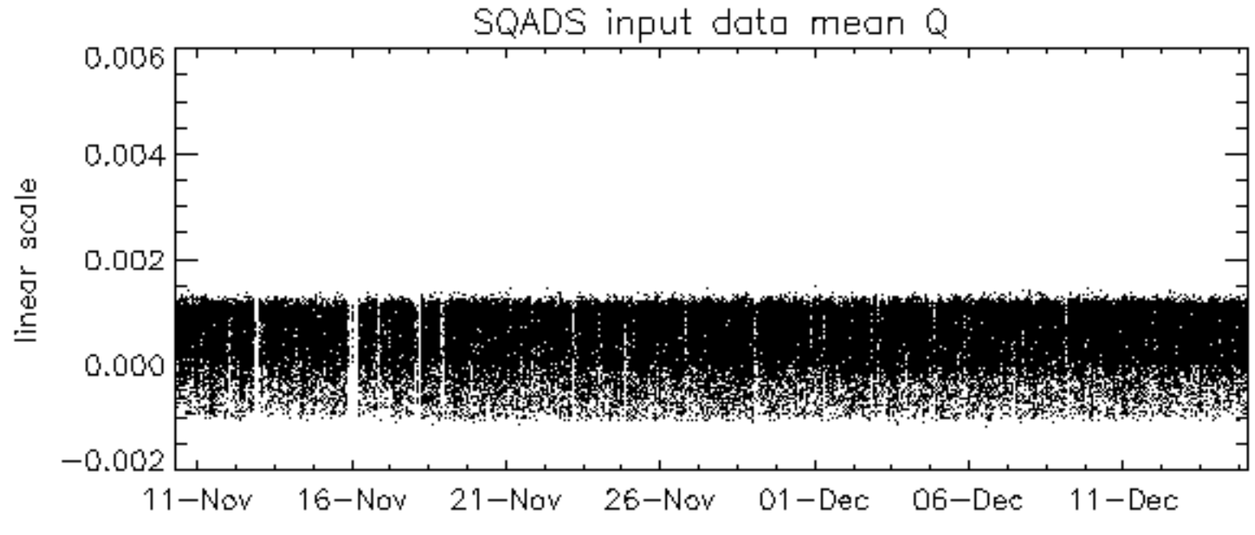
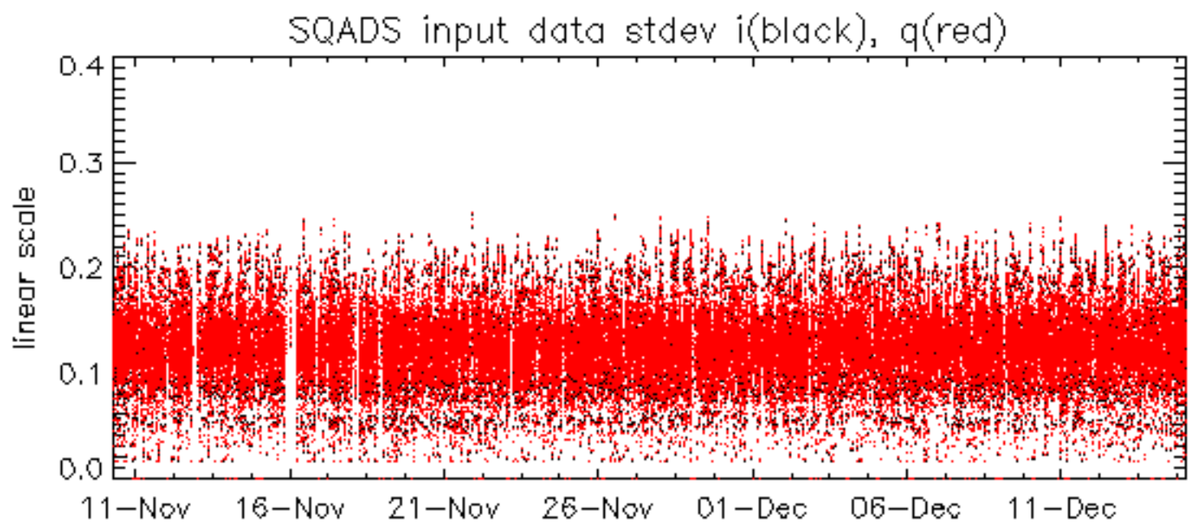

Reference: 2003-06-12 14:10:32 V
Test : 2004-12-13 18:05:15 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

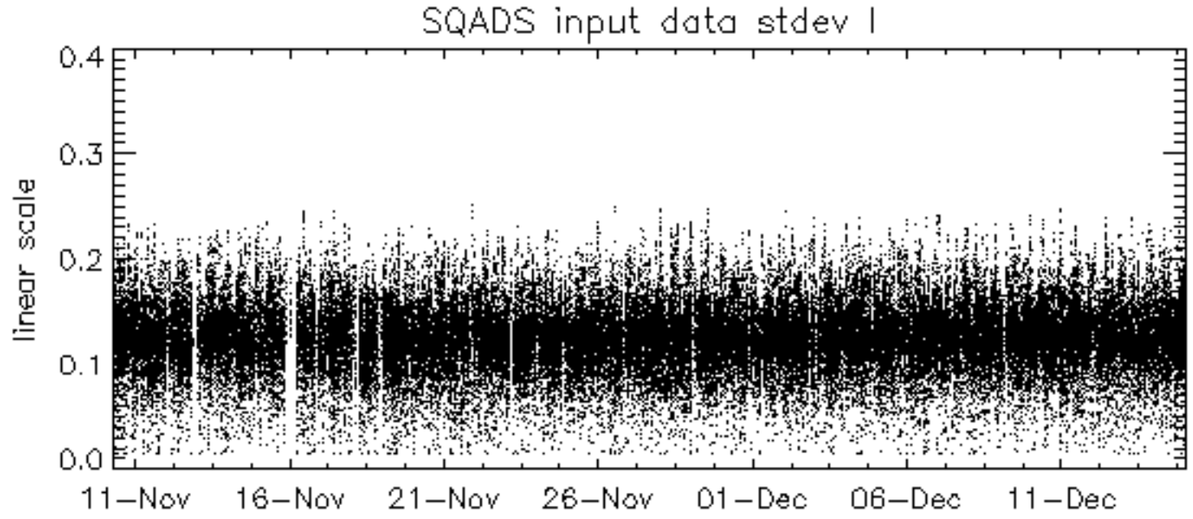

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

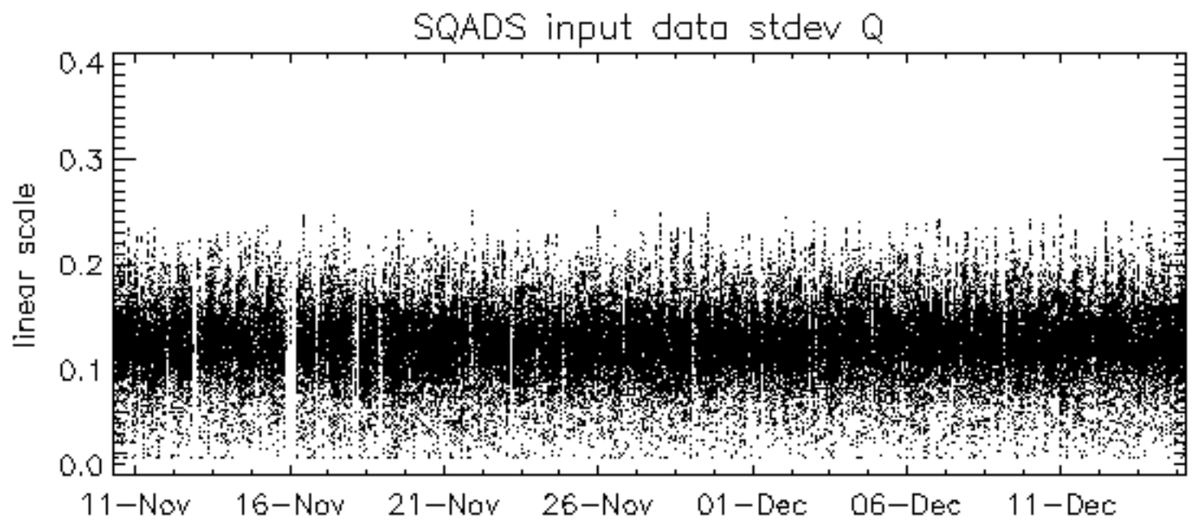

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Nov
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec

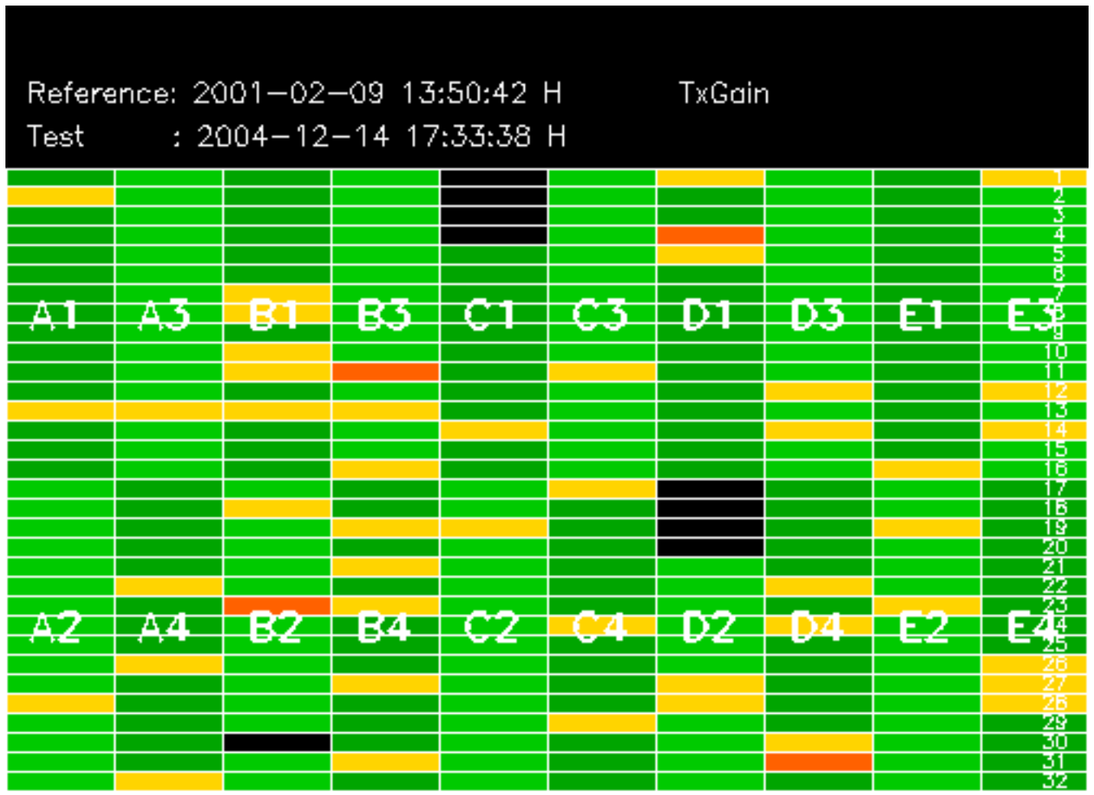

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Nov
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec

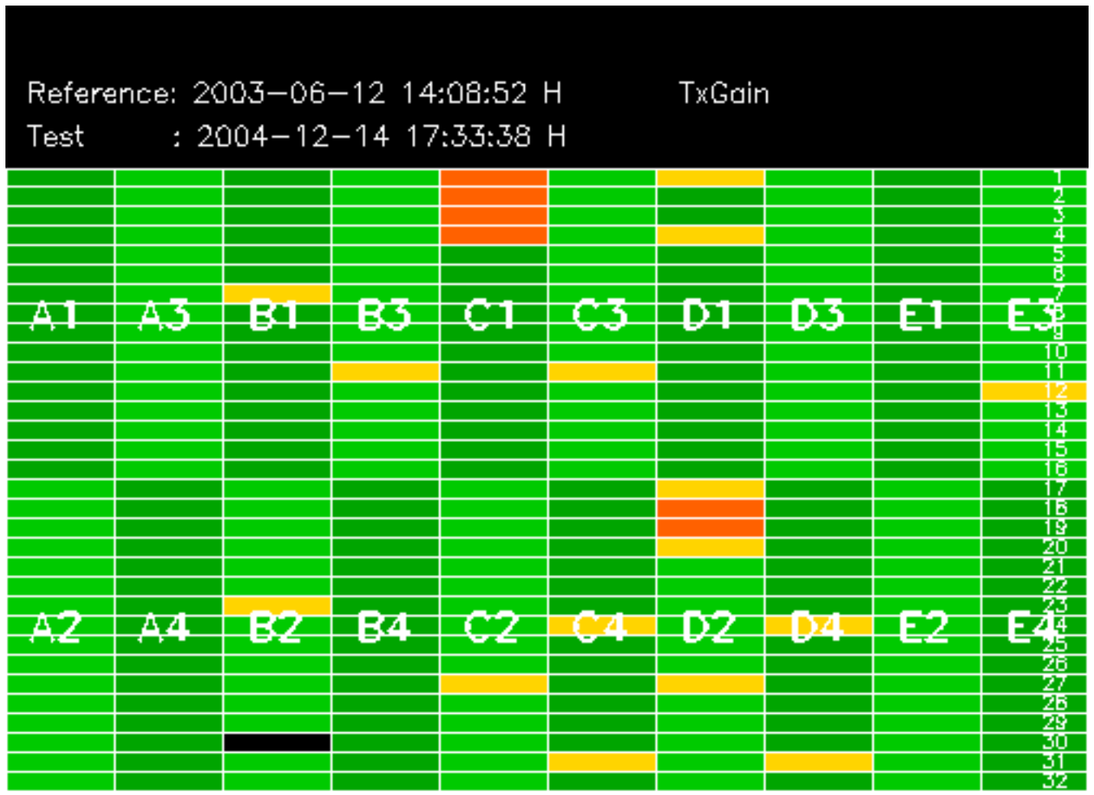

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Nov
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec

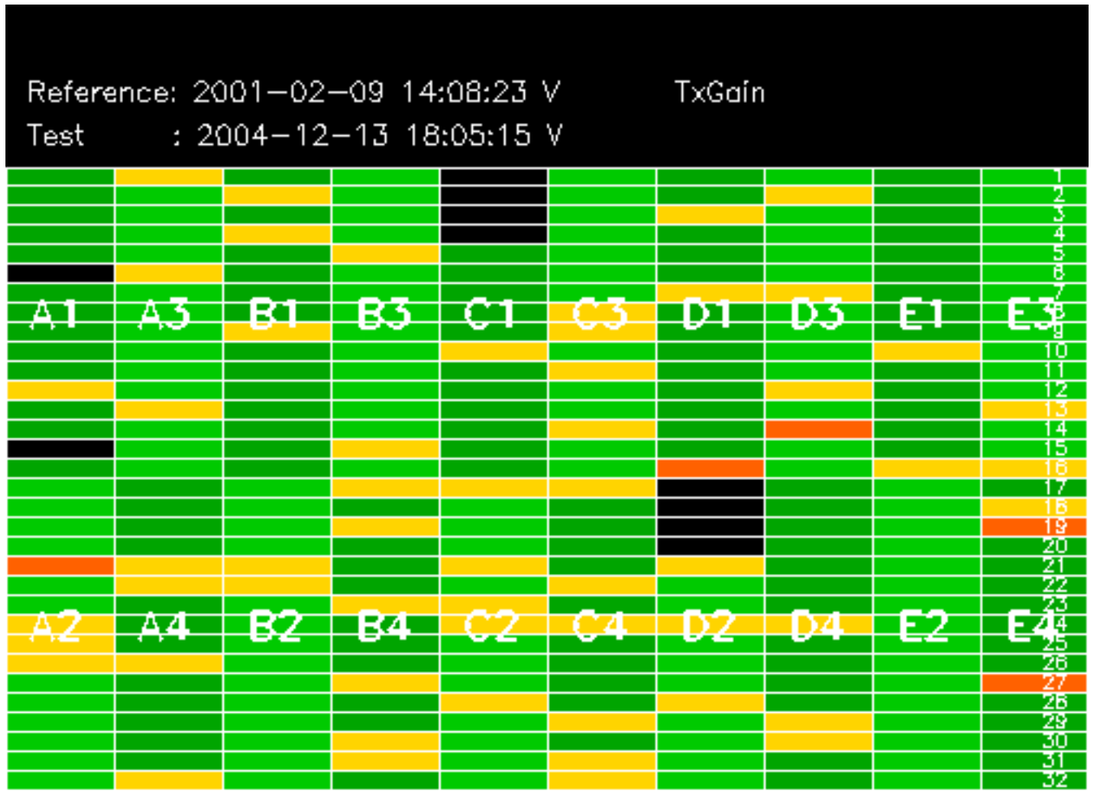

SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
11−Nov
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
11−Nov
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
11−Nov
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec


Reference: 2001-02-09 13:50:42 H
Test : 2004-12-14 17:33:38 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 : 2004-12-14 17:33:38 H
TxGain
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 : 2004-12-13 18:05:15 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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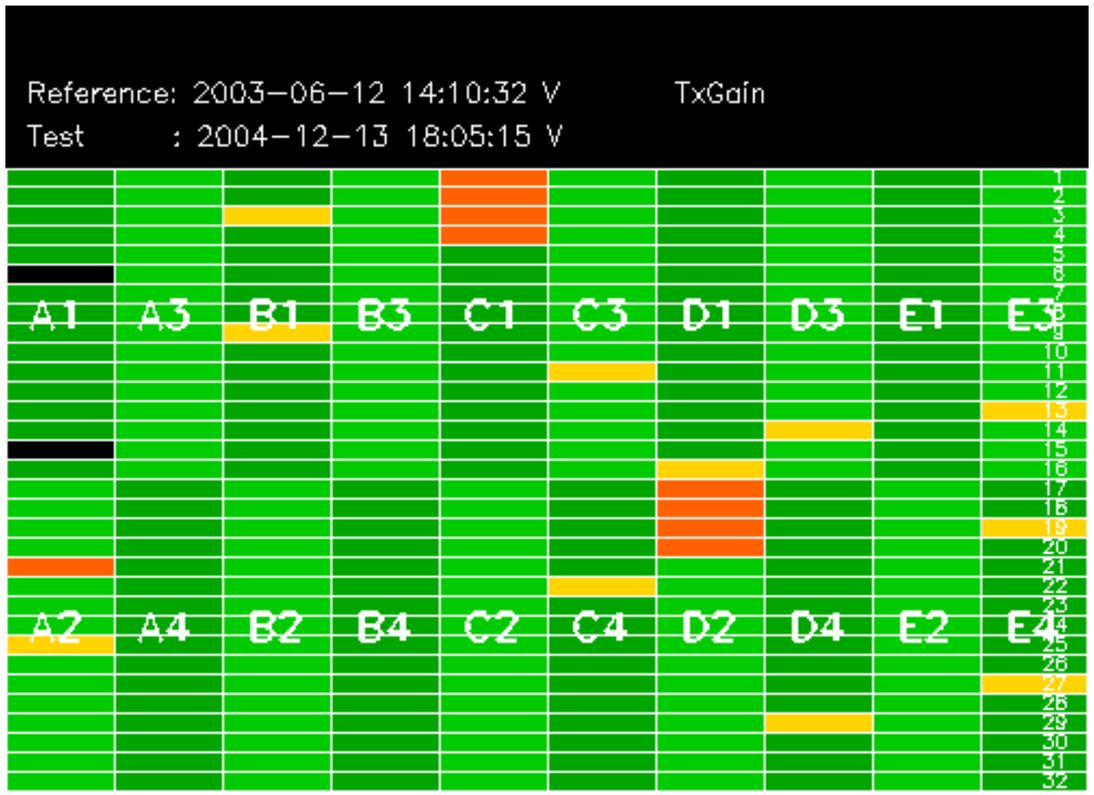
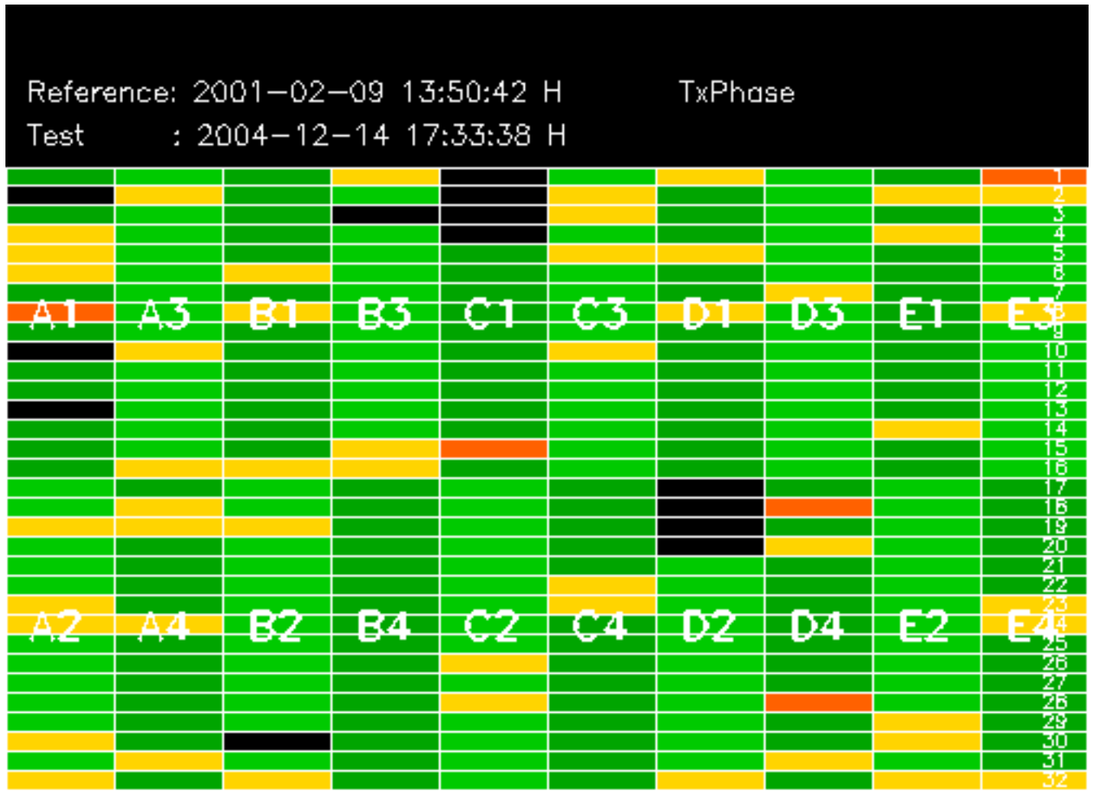
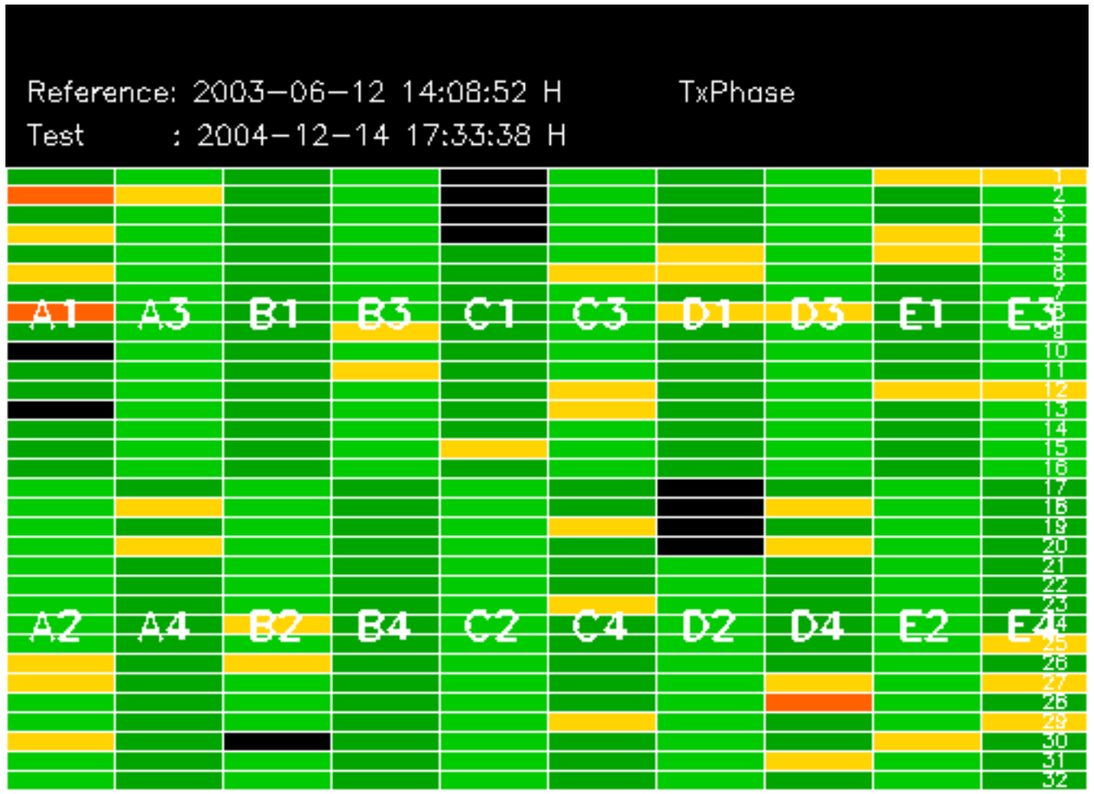
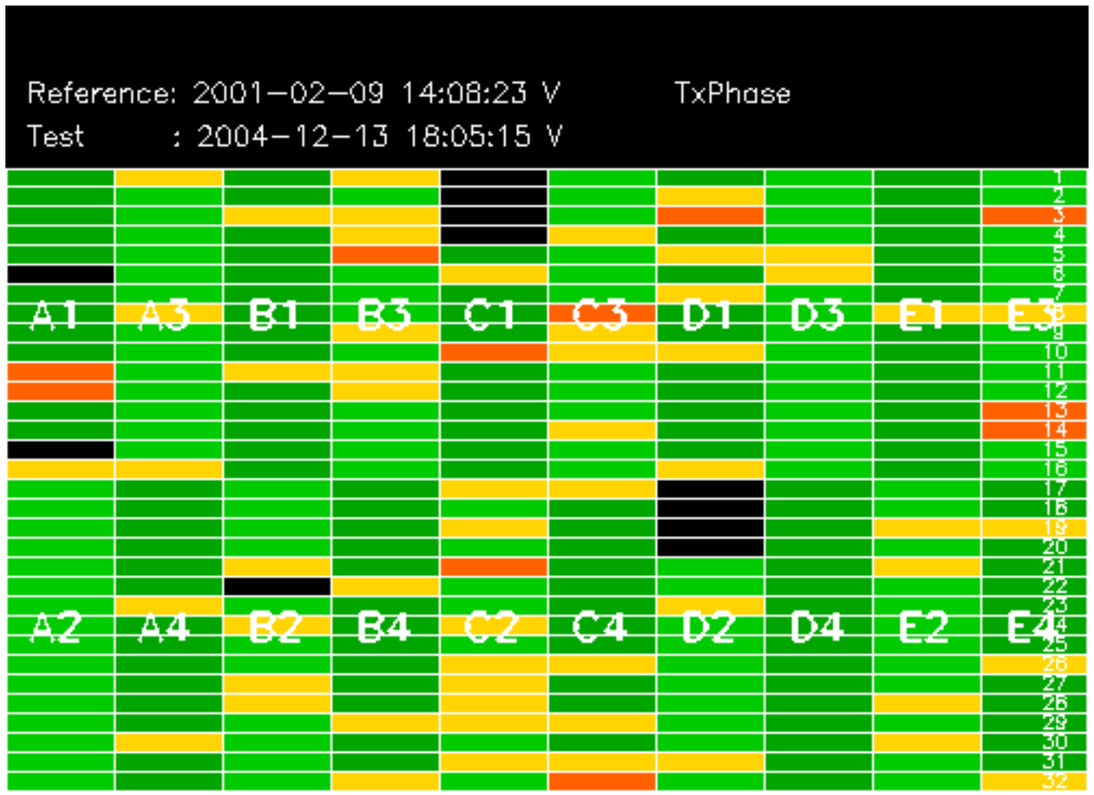
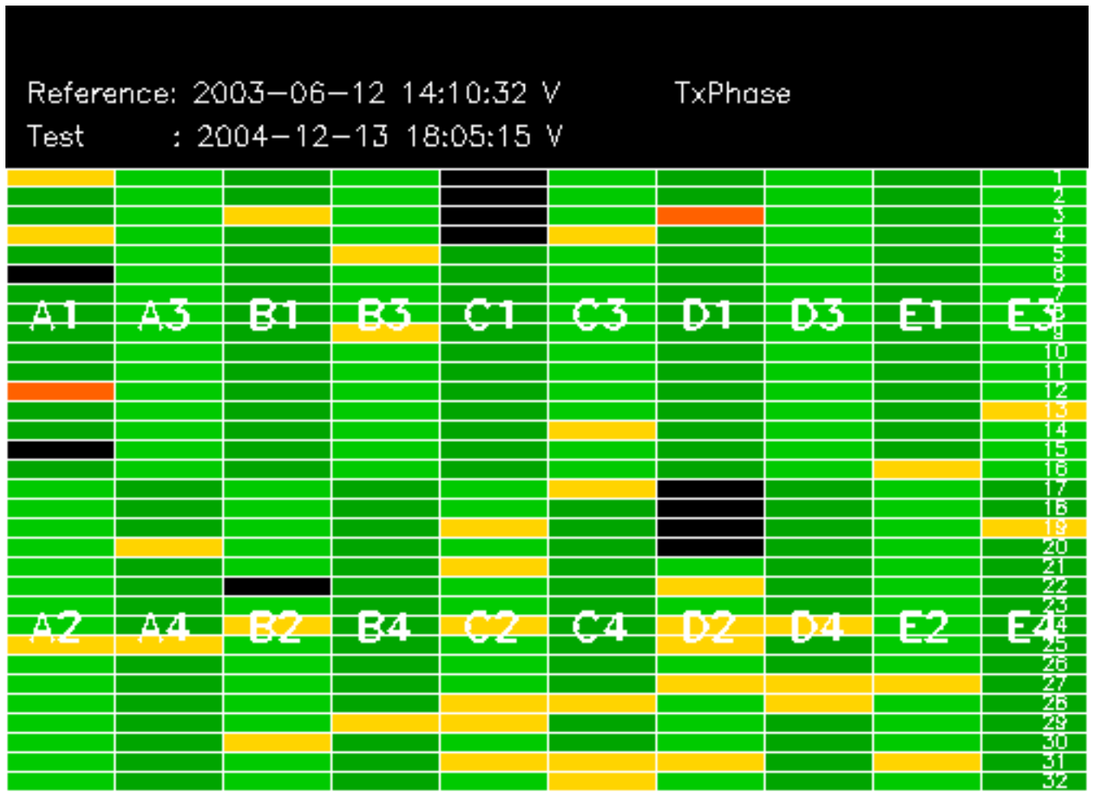
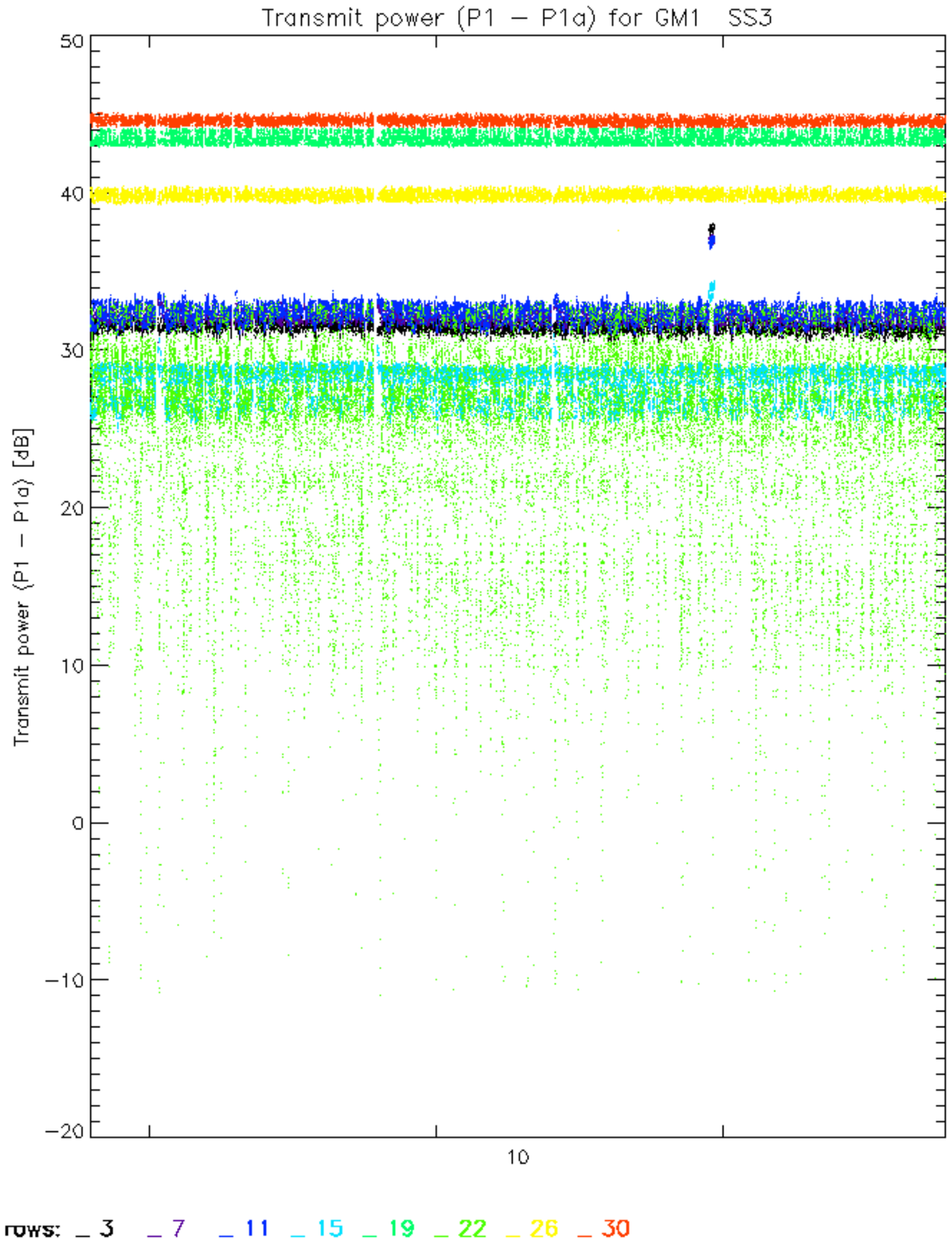

Reference: 2003-06-12 14:10:32 V
Test : 2004-12-13 18:05:15 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

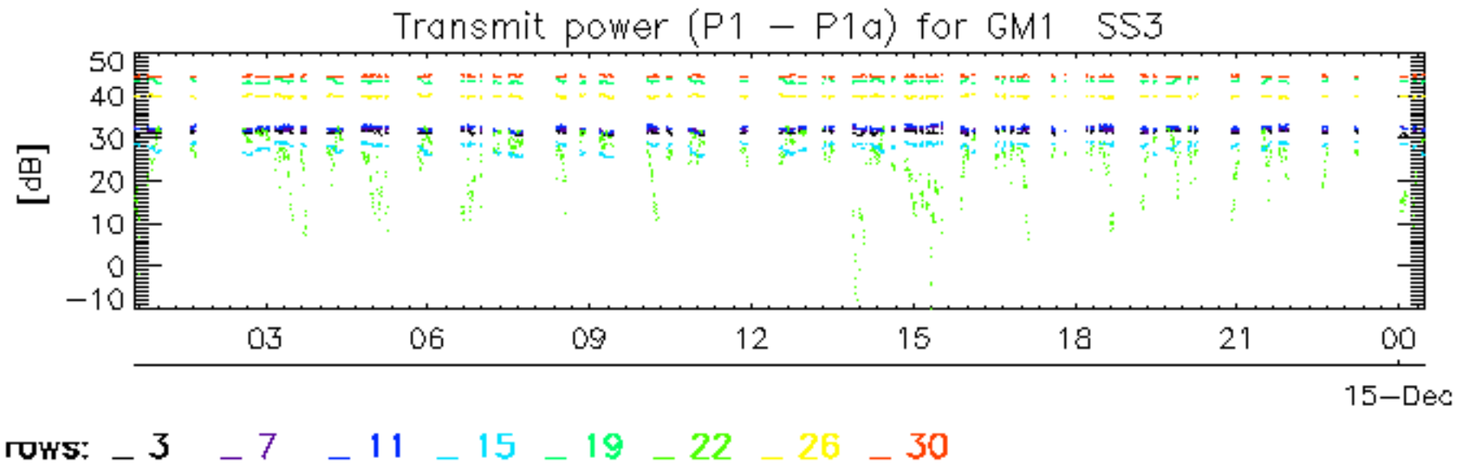

Reference: 2001-02-09 13:50:42 H
Test : 2004-12-14 17:33:38 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

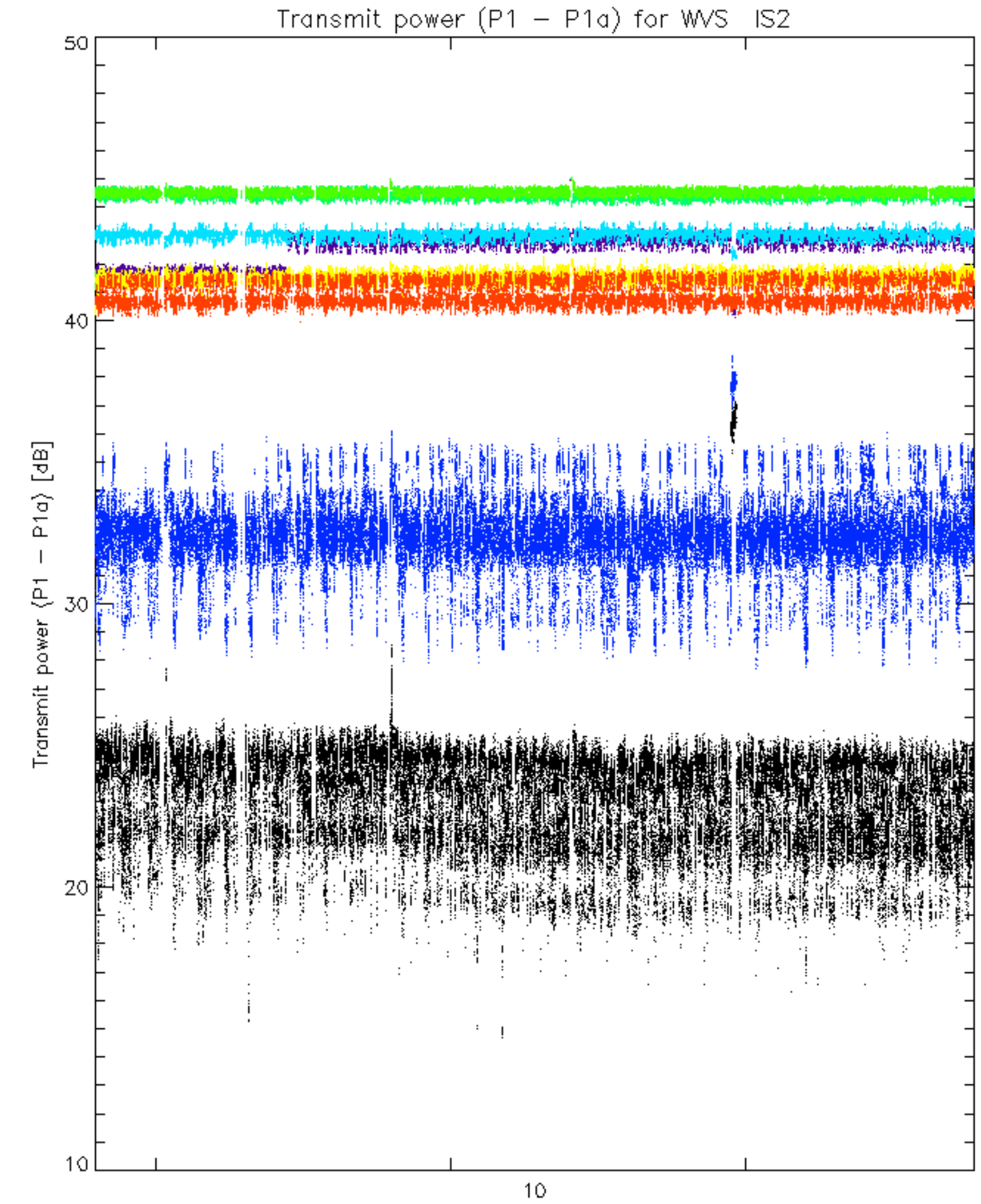

Reference: 2003-06-12 14:08:52 H
Test : 2004-12-14 17:33:38 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

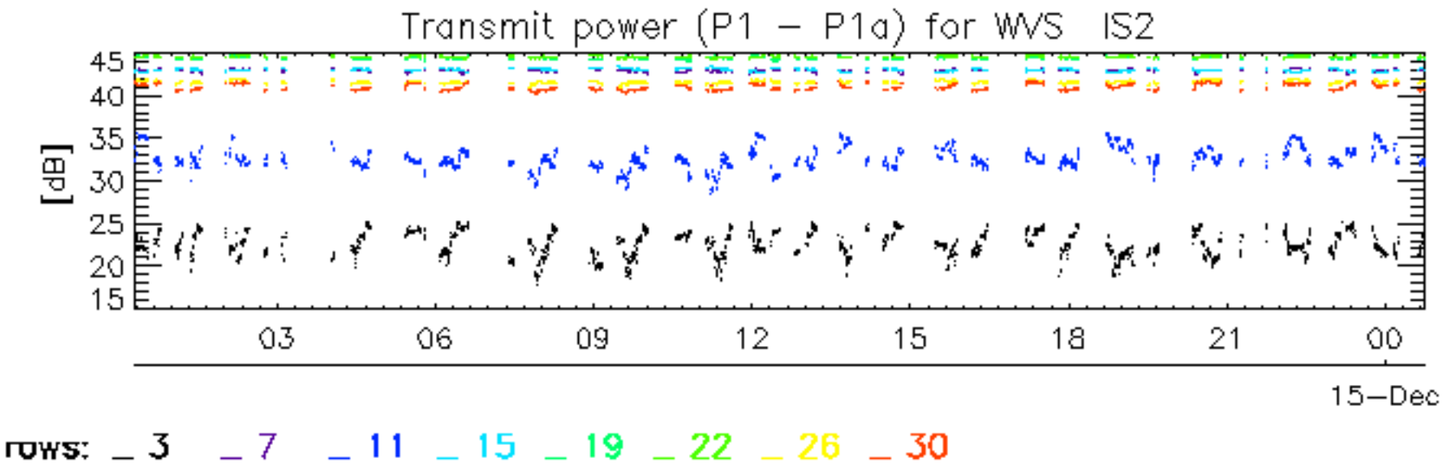

Reference: 2001-02-09 14:08:23 V
Test : 2004-12-13 18:05:15 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-12-13 18:05:15 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
10
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
15–Dec
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
10
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
15–Dec
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.