REPORT OF 041119

last update on Fri Nov 19 14:30:26 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 due to ASAR instrument.
Anomalies detected related to acquisition failure.

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 any malfunctionning modules and
to identify modules for which calibration offsets are to be applied.
No MS product available for the reported period.

Polarisation	Start Time
V	20041116 085034
H	20041115 092211

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
☒	☒
☒	☒
☒	☒
☒	☒

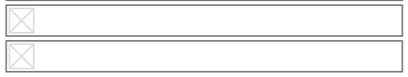
4 - Internal calibration Results

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	-3.474203	0.006507	0.018213
7	P1	-3.355775	0.014659	0.027656
11	P1	-4.601267	0.016390	0.005234
15	P1	-5.663266	0.028912	0.045308
19	P1	-3.594874	0.005411	-0.054649
22	P1	-4.583966	0.014585	-0.010019
26	P1	-4.864458	0.061543	0.007751
30	P1	-7.069022	0.015171	-0.030907
3	P1	-16.027731	0.105459	0.144247

7	P1	-14.076284	0.115885	-0.228926
11	P1	-20.629160	0.202129	-0.234550
15	P1	-11.674528	0.035078	0.071792
19	P1	-14.052915	0.027509	-0.082746
22	P1	-16.236292	0.385938	-0.015927
26	P1	-17.705816	0.730458	0.064033
30	P1	-17.977688	0.273749	0.116029

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.373583	0.089407	-0.022879
7	P2	-22.614063	0.135045	-0.051398
11	P2	-15.075294	0.124573	0.067852
15	P2	-7.147707	0.109701	-0.066156
19	P2	-9.711020	0.126330	-0.016188
22	P2	-17.250305	0.104685	0.030925
26	P2	-16.505693	0.112085	-0.036954
30	P2	-19.054245	0.084733	0.015059

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.200224	0.006243	-0.029378
7	P3	-8.200225	0.006243	-0.029376
11	P3	-8.200226	0.006243	-0.029377
15	P3	-8.200227	0.006243	-0.029380
19	P3	-8.200228	0.006244	-0.029382
22	P3	-8.200229	0.006243	-0.029379
26	P3	-8.200228	0.006244	-0.029383
30	P3	-8.200301	0.006240	-0.029234

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	-2.802192	0.011290	-0.022603
7	P1	-2.952521	0.023454	0.000160
11	P1	-3.896797	0.022378	-0.002776
15	P1	-3.485381	0.027112	0.015099
19	P1	-3.589540	0.012104	-0.007296
22	P1	-5.613463	0.067403	0.066169
26	P1	-6.414692	0.081690	-0.024907
30	P1	-6.258359	0.041162	-0.053728
3	P1	-10.595433	0.052498	-0.007379
7	P1	-10.077155	0.135971	-0.070185
11	P1	-12.348361	0.117757	-0.092367
15	P1	-11.704599	0.065531	-0.061601
19	P1	-15.618771	0.054119	-0.026538
22	P1	-23.944601	1.999517	-0.490140
26	P1	-15.118410	0.473914	-0.132218
30	P1	-20.274971	1.007450	-0.035991

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.055950	0.042260	-0.032235
7	P2	-22.677586	0.032864	0.001924
11	P2	-10.859879	0.037890	0.028174
15	P2	-5.044035	0.030213	-0.065678
19	P2	-6.949483	0.036977	-0.088905
22	P2	-7.364781	0.030831	0.042501
26	P2	-23.934877	0.024244	-0.068946
30	P2	-22.092218	0.019934	-0.008766

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.040710	0.003530	-0.023528

7	P3	-8.040721	0.003538	-0.023529
11	P3	-8.040762	0.003539	-0.023632
15	P3	-8.040670	0.003533	-0.023644
19	P3	-8.040699	0.003534	-0.023788
22	P3	-8.040807	0.003528	-0.023646
26	P3	-8.040773	0.003520	-0.023494
30	P3	-8.040731	0.003545	-0.023500

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	0.000462971
	stdev	2.22663e-07
MEAN Q	mean	0.000536226
	stdev	2.39280e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.126234
	stdev	0.000943581
STDEV Q	mean	0.126453

stdev	0.000951835

5.3 - Gain imbalance I/Q

6 - Doppler Analysis

No anomalies observed in Doppler evolution.
Doppler analysis performed over the last 35 days.

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

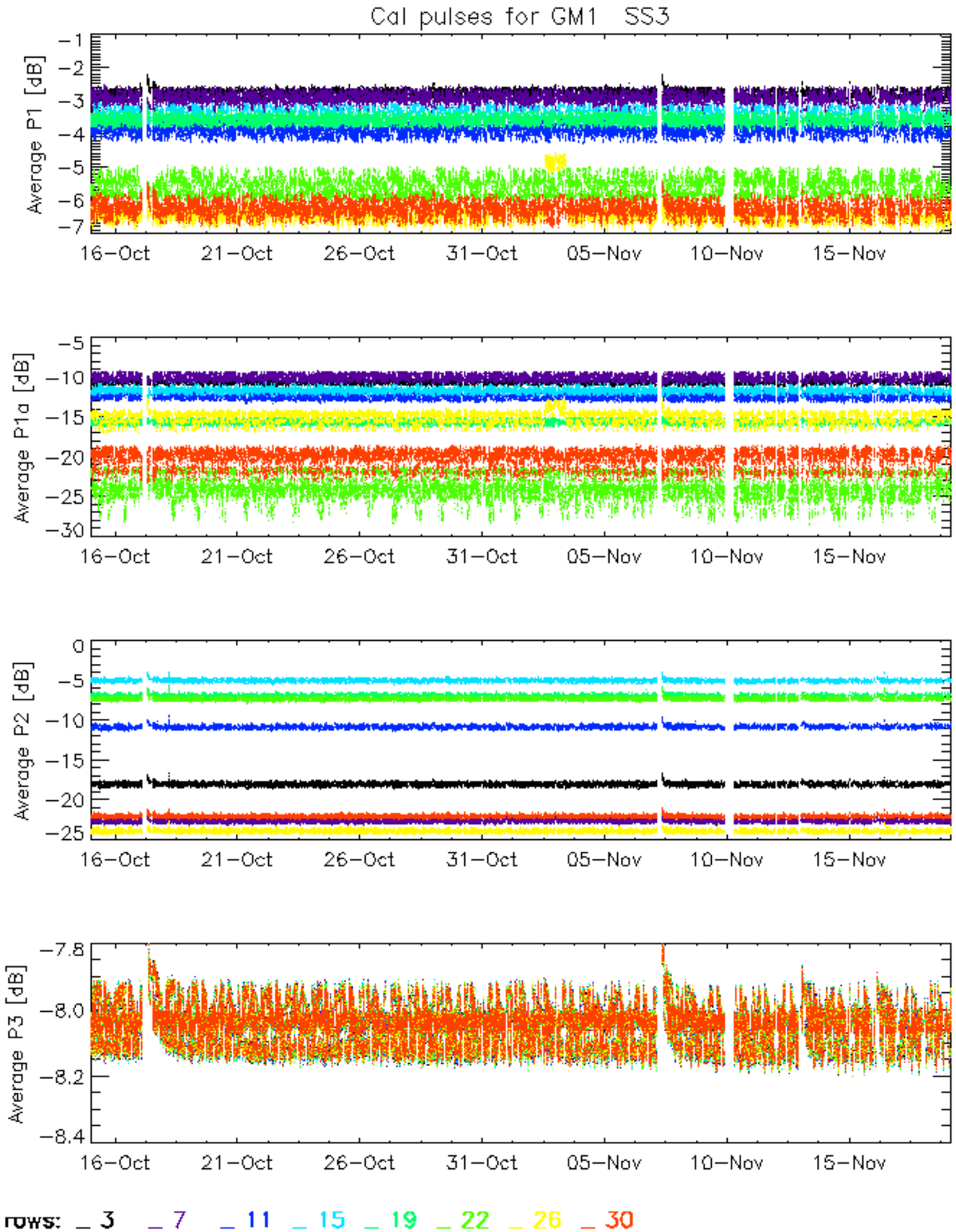
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

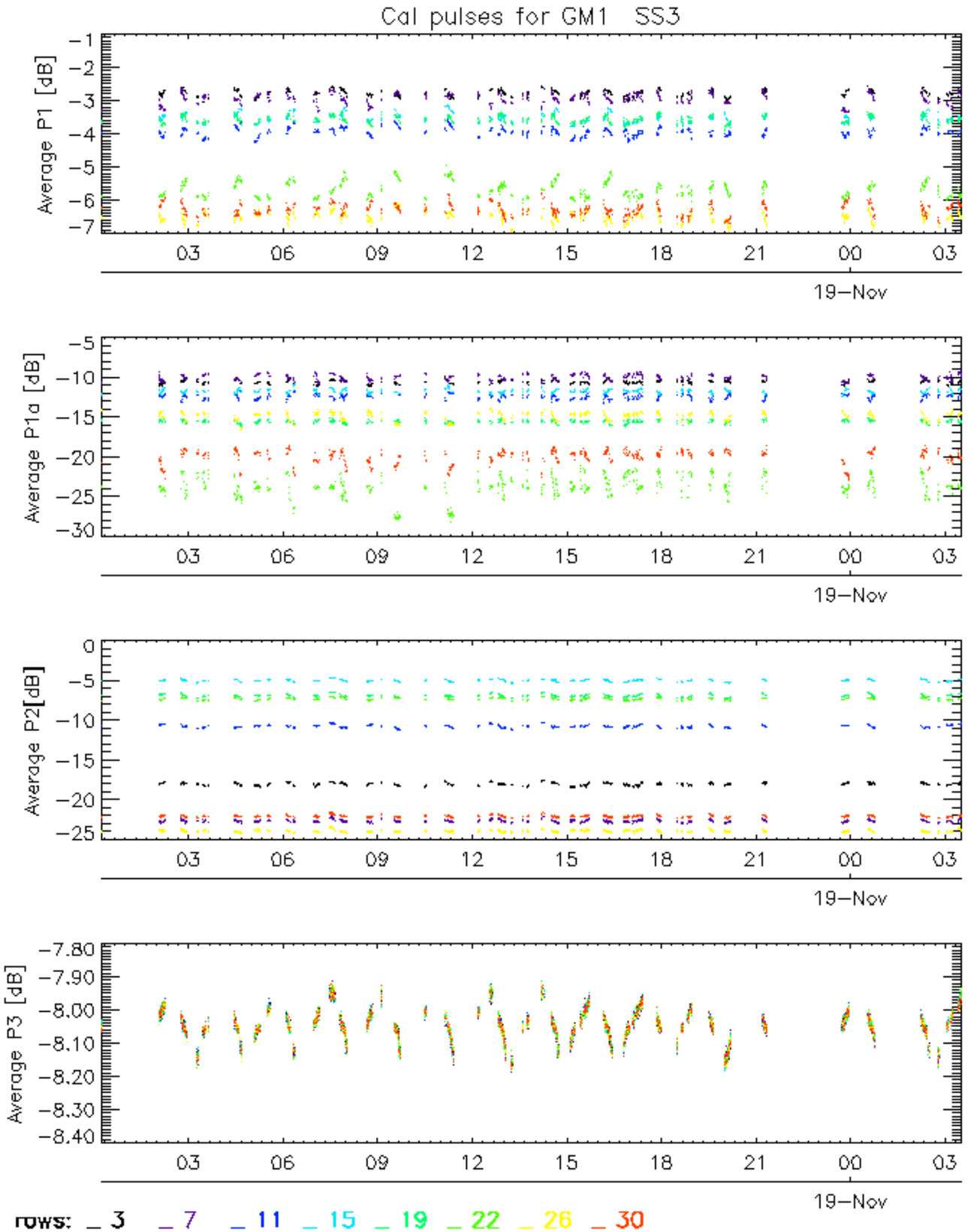
6.5 - Absolute Doppler for GM1

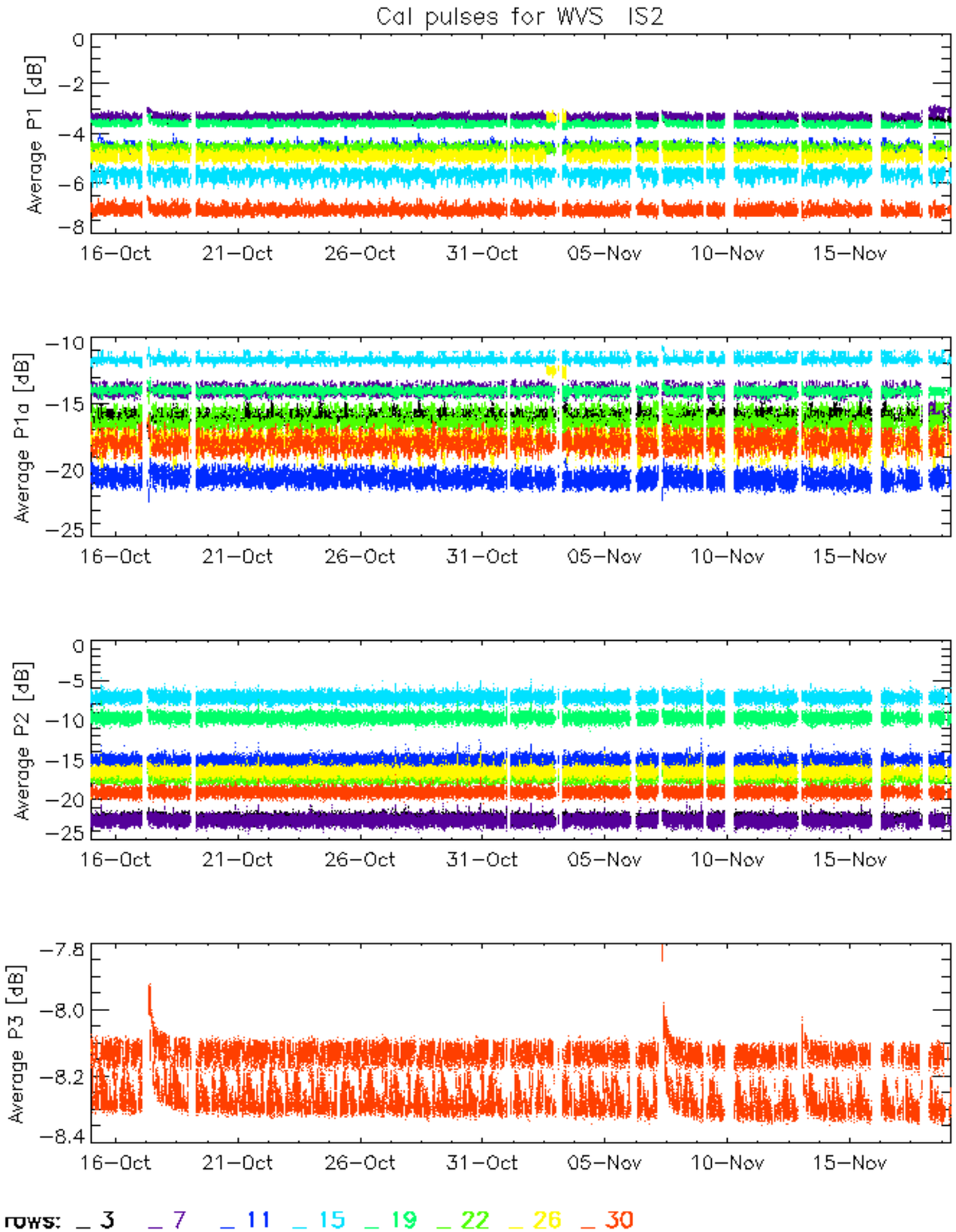
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

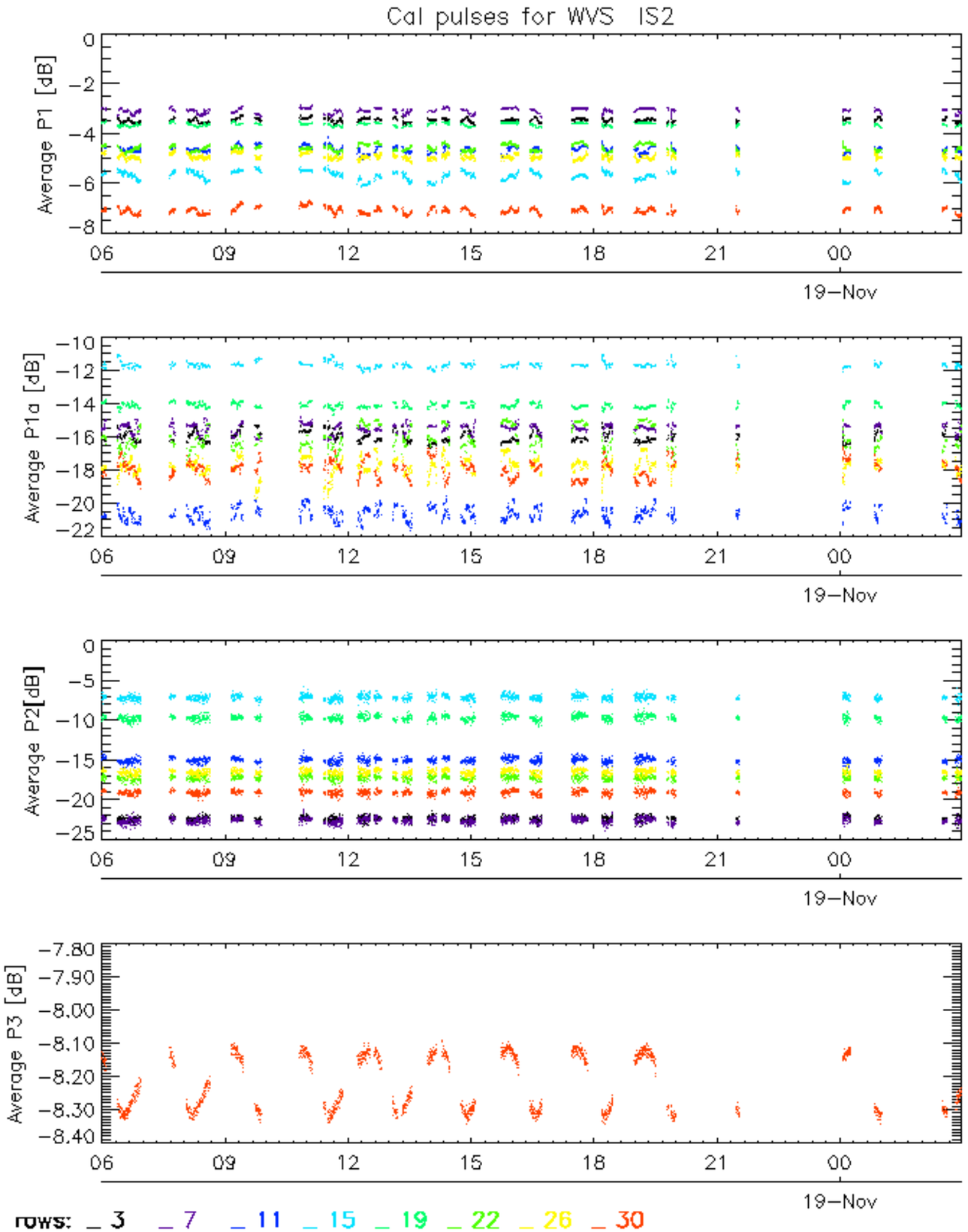
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX
☒


Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
16−Oct
21−Oct
26−Oct
31−Oct
05−Nov
10−Nov
15−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

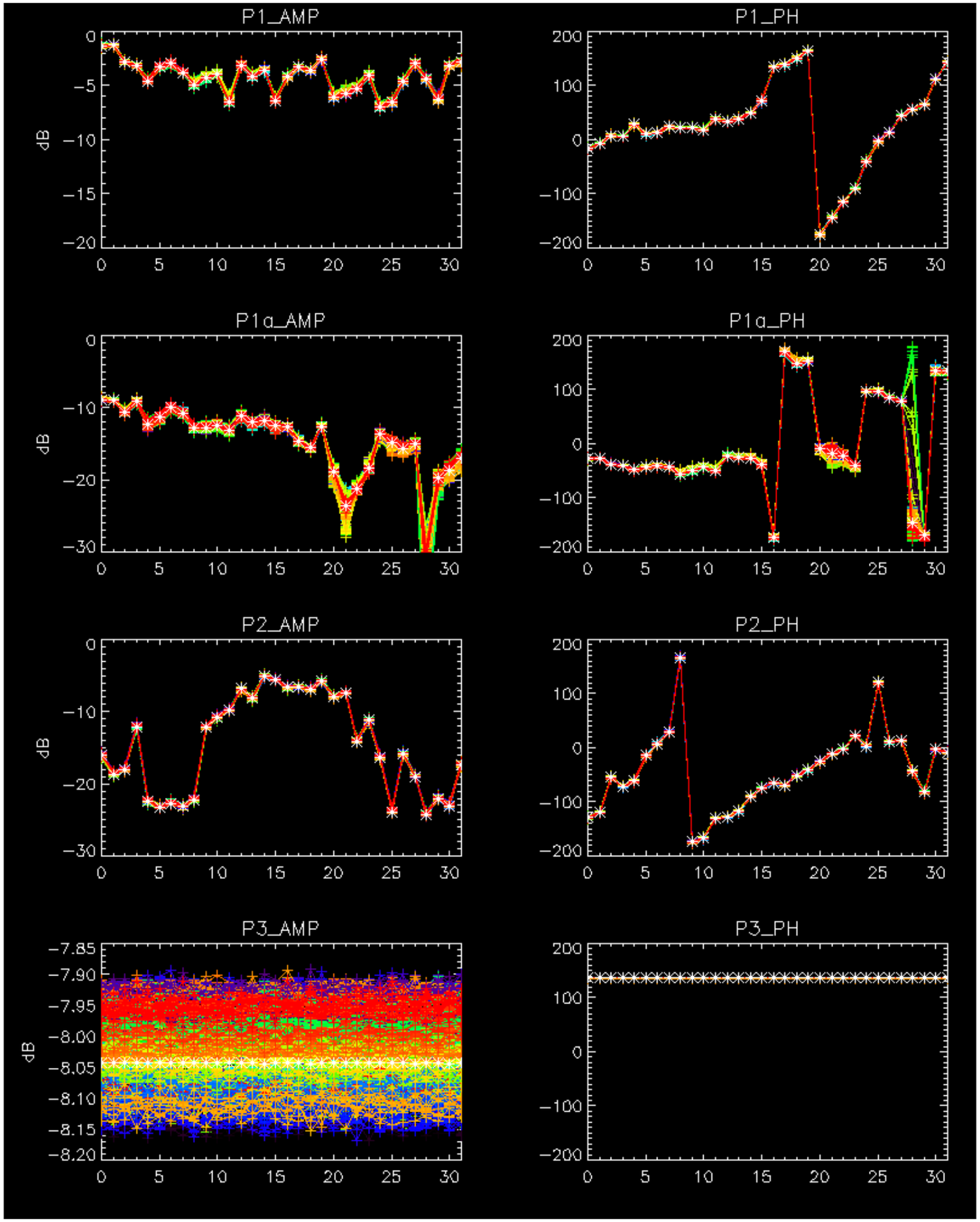

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
19−Nov
Average P1a [dB]
−5
−10
−15
−20
−25
−30
03
06
09
12
15
18
21
00
03
19−Nov
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
03
19−Nov
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
06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

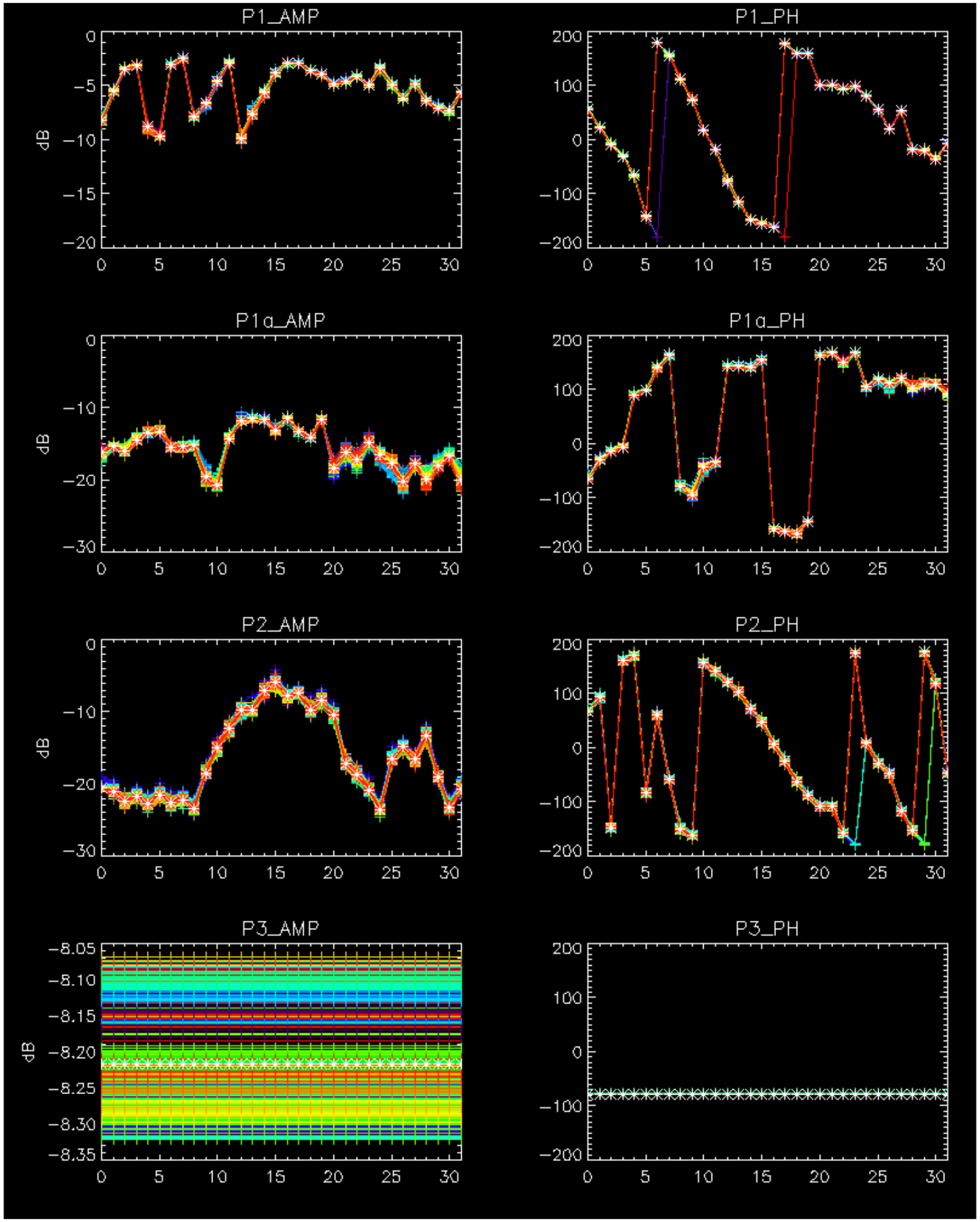

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
16−Oct
21−Oct
26−Oct
31−Oct
05−Nov
10−Nov
15−Nov
Average P1a [dB]
−10
−15
−20
−25
Average P2 [dB]
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
06
09
12
15
18
21
00
19−Nov
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 on available browse products due to ASAR instrument.
Anomalies detected related to acquisition failure.

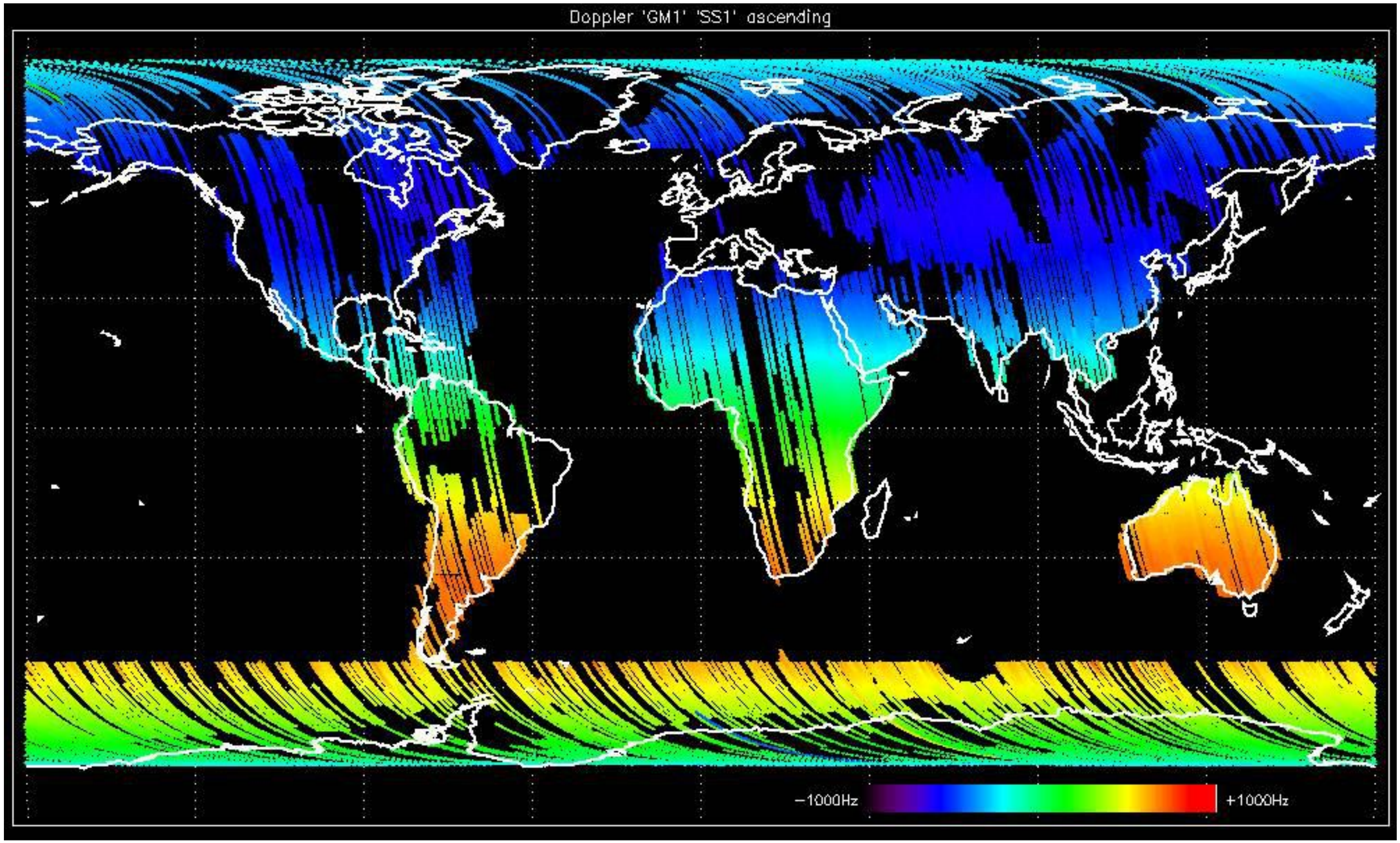
No anomalies observed.

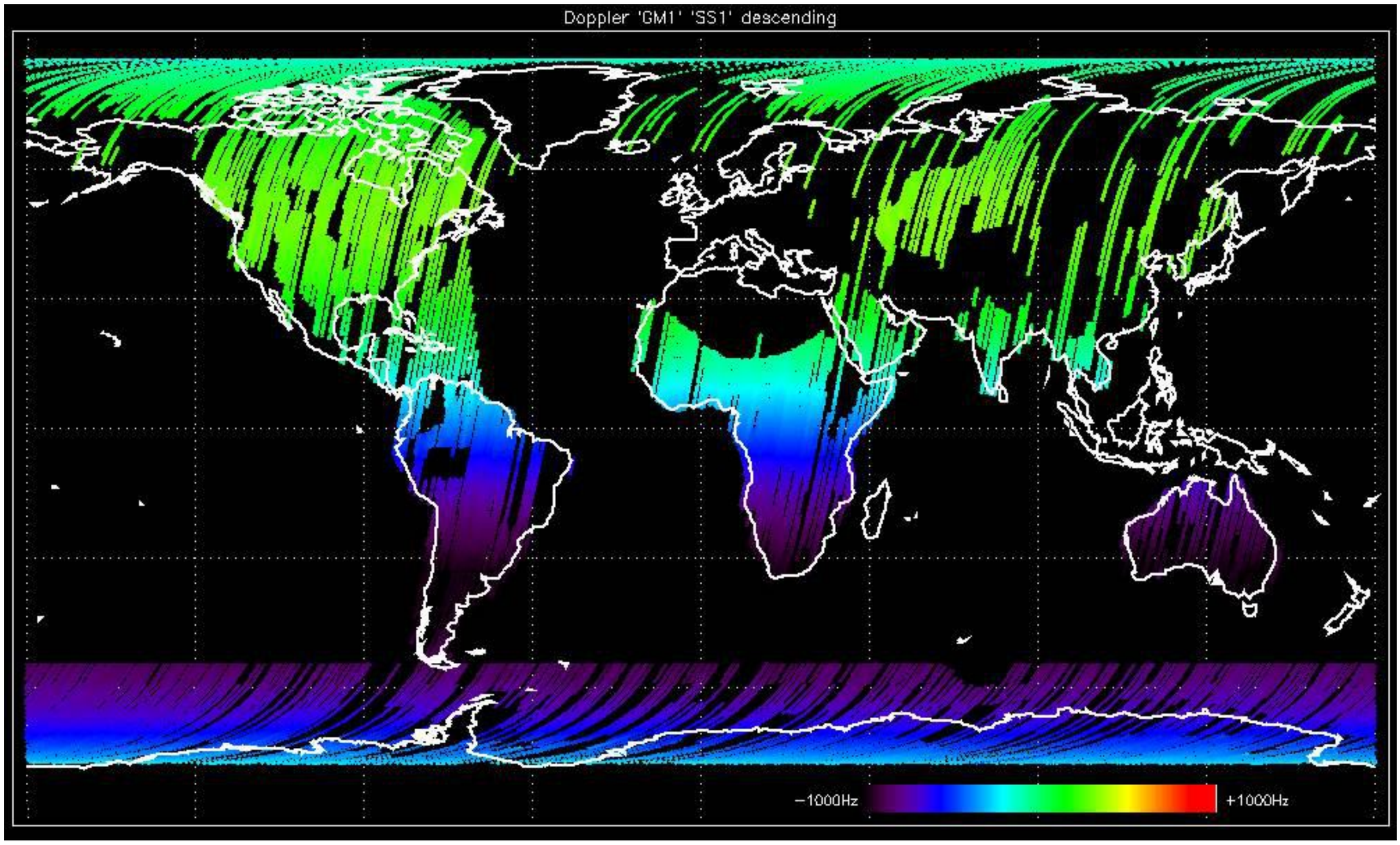

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.85
−7.90
−7.95
−8.00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

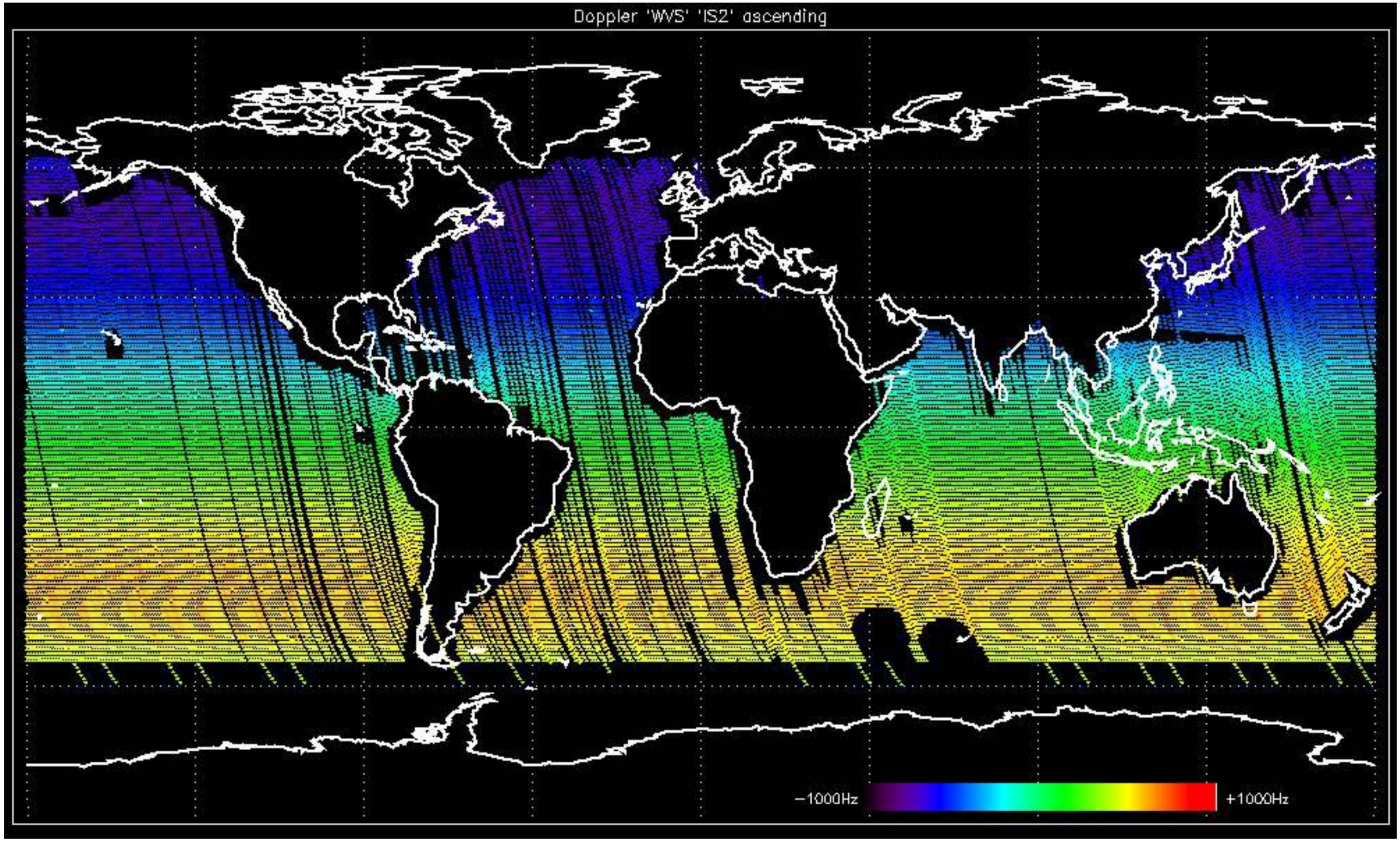

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.05
−8.10
−8.15
−8.20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

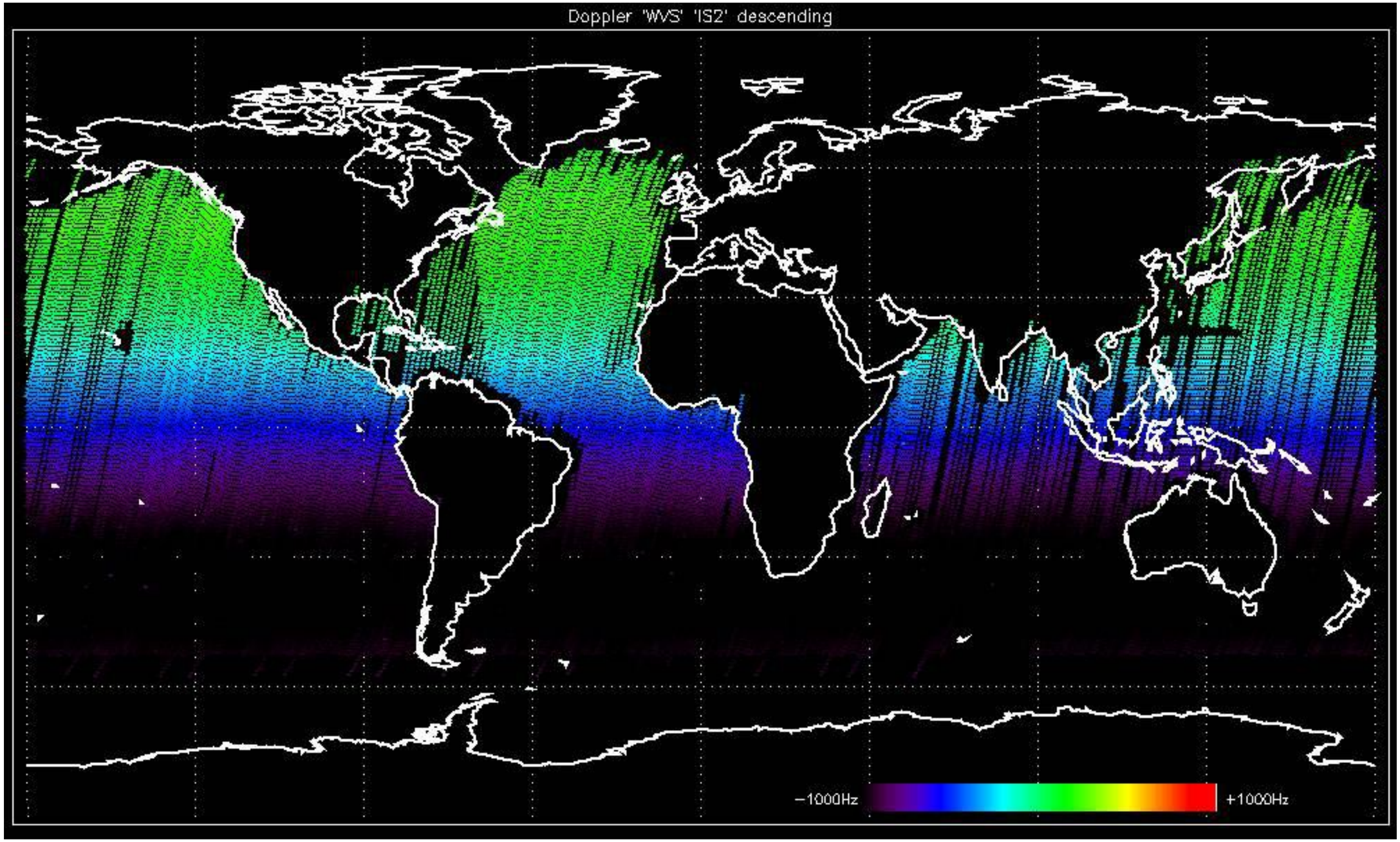
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

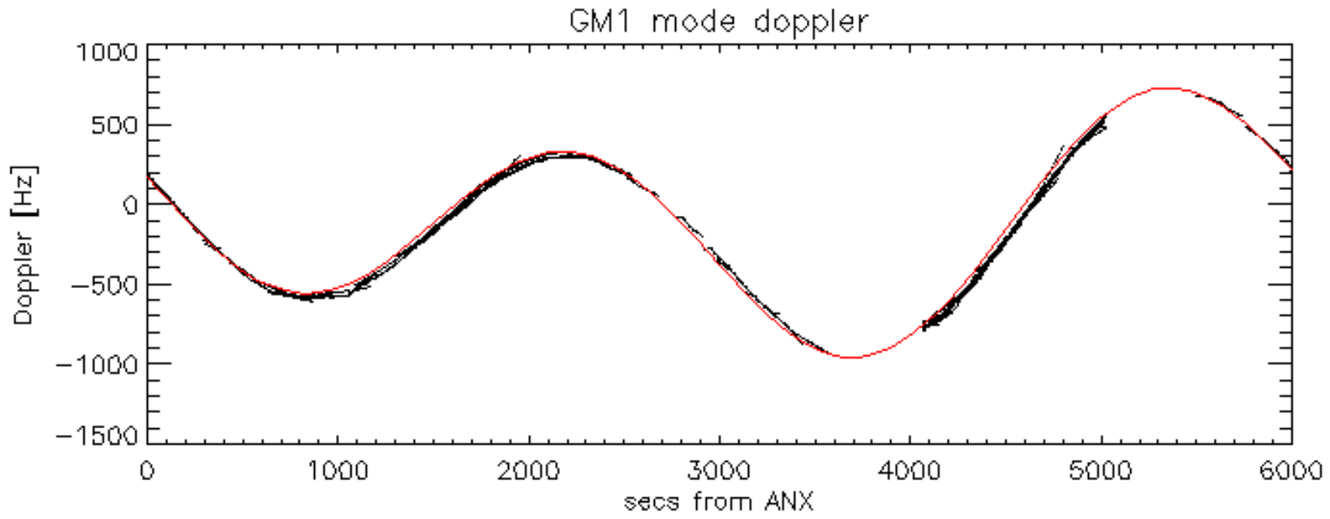
No anomalies observed in Doppler evolution.
Doppler analysis performed over the last 35 days.

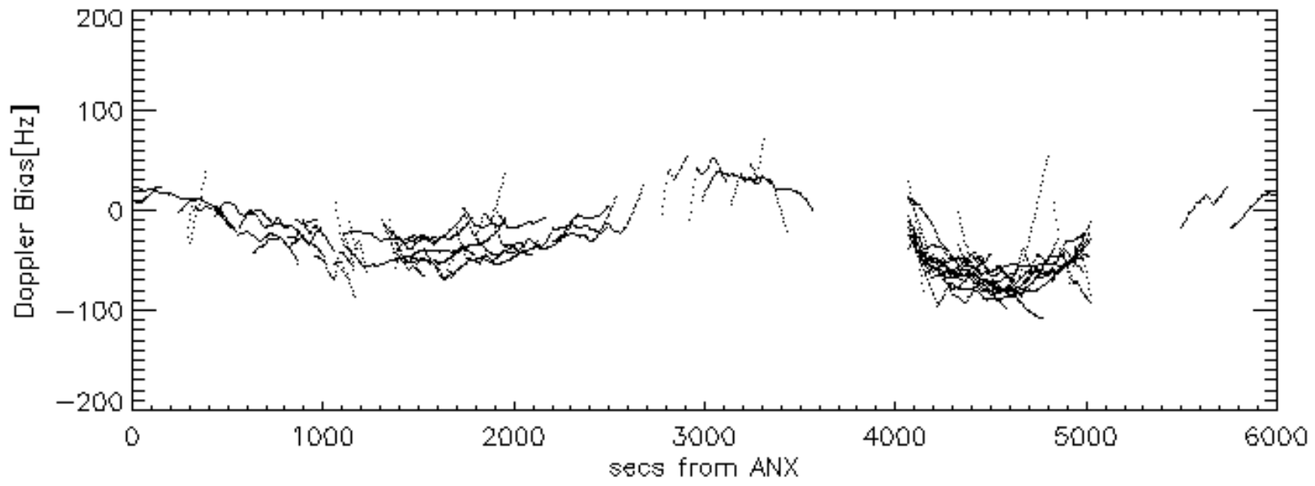

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

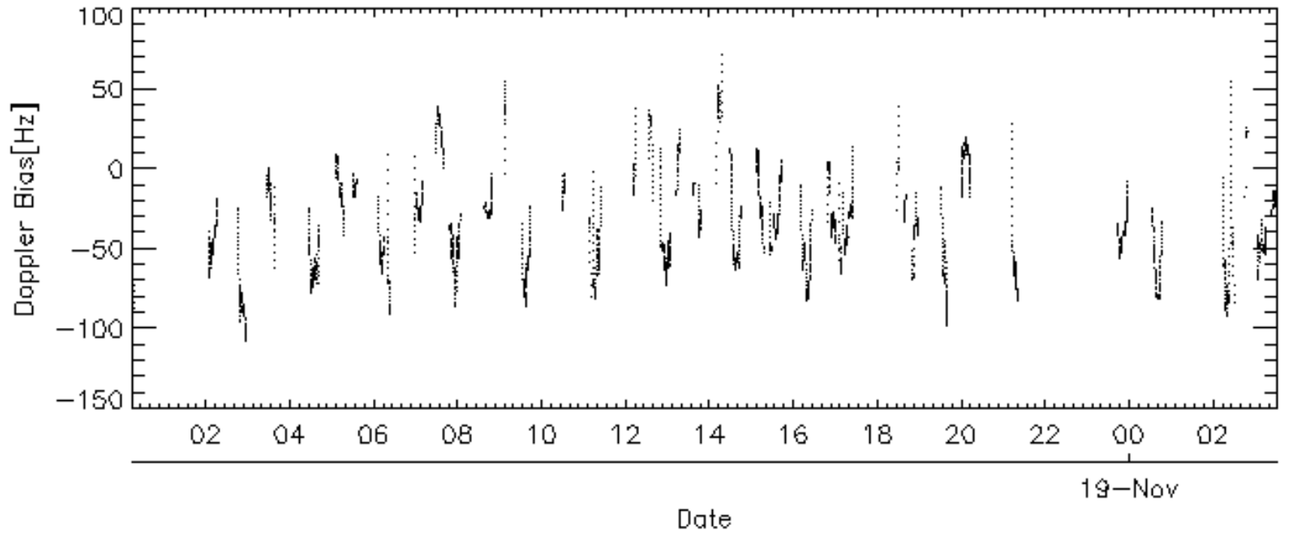

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

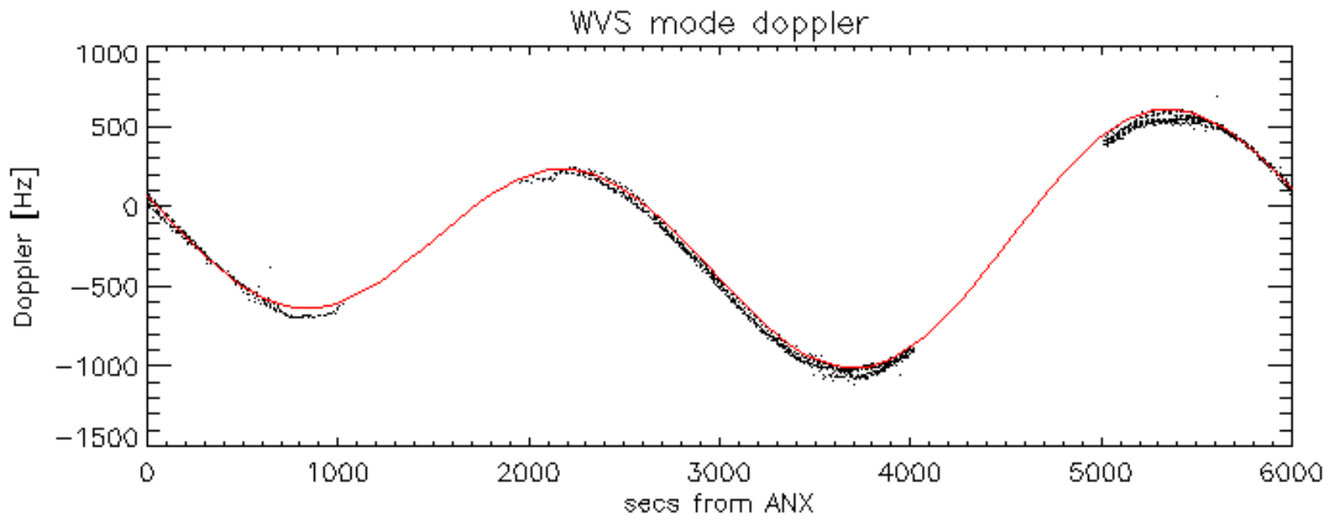

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

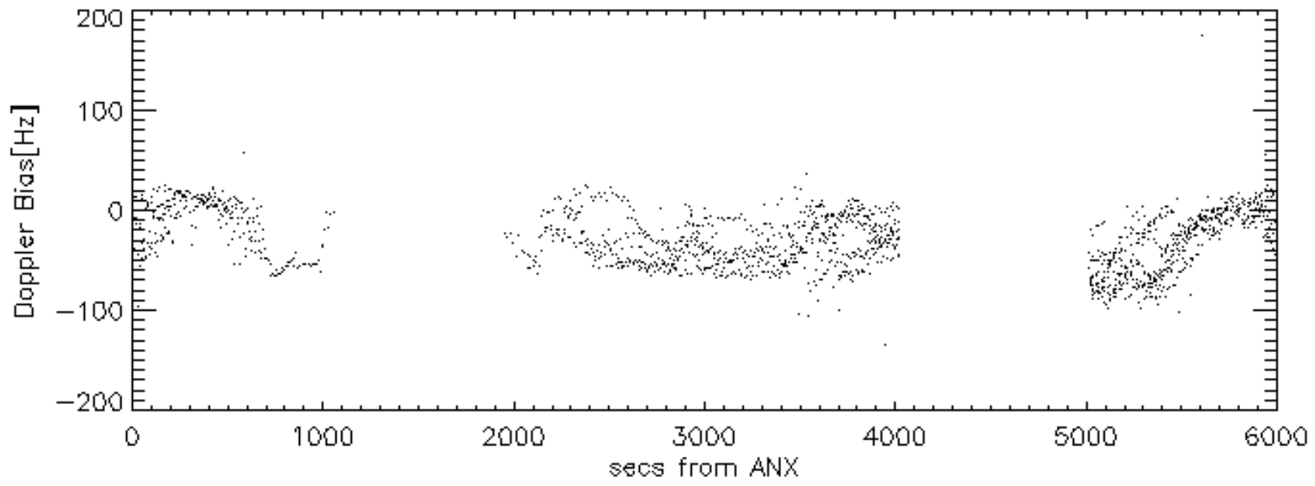

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

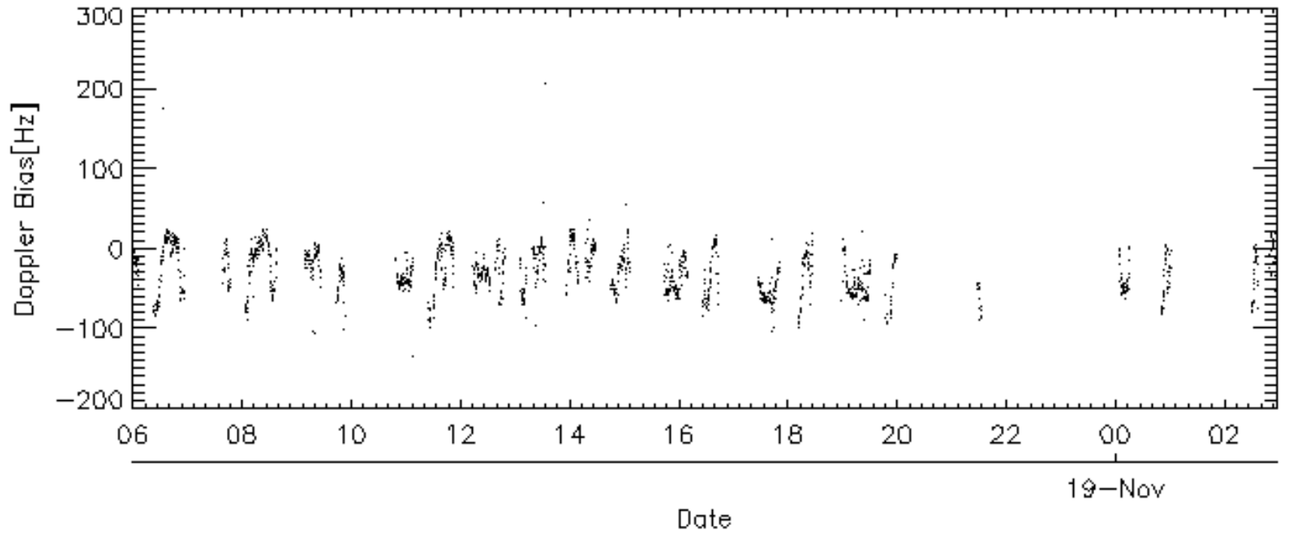

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

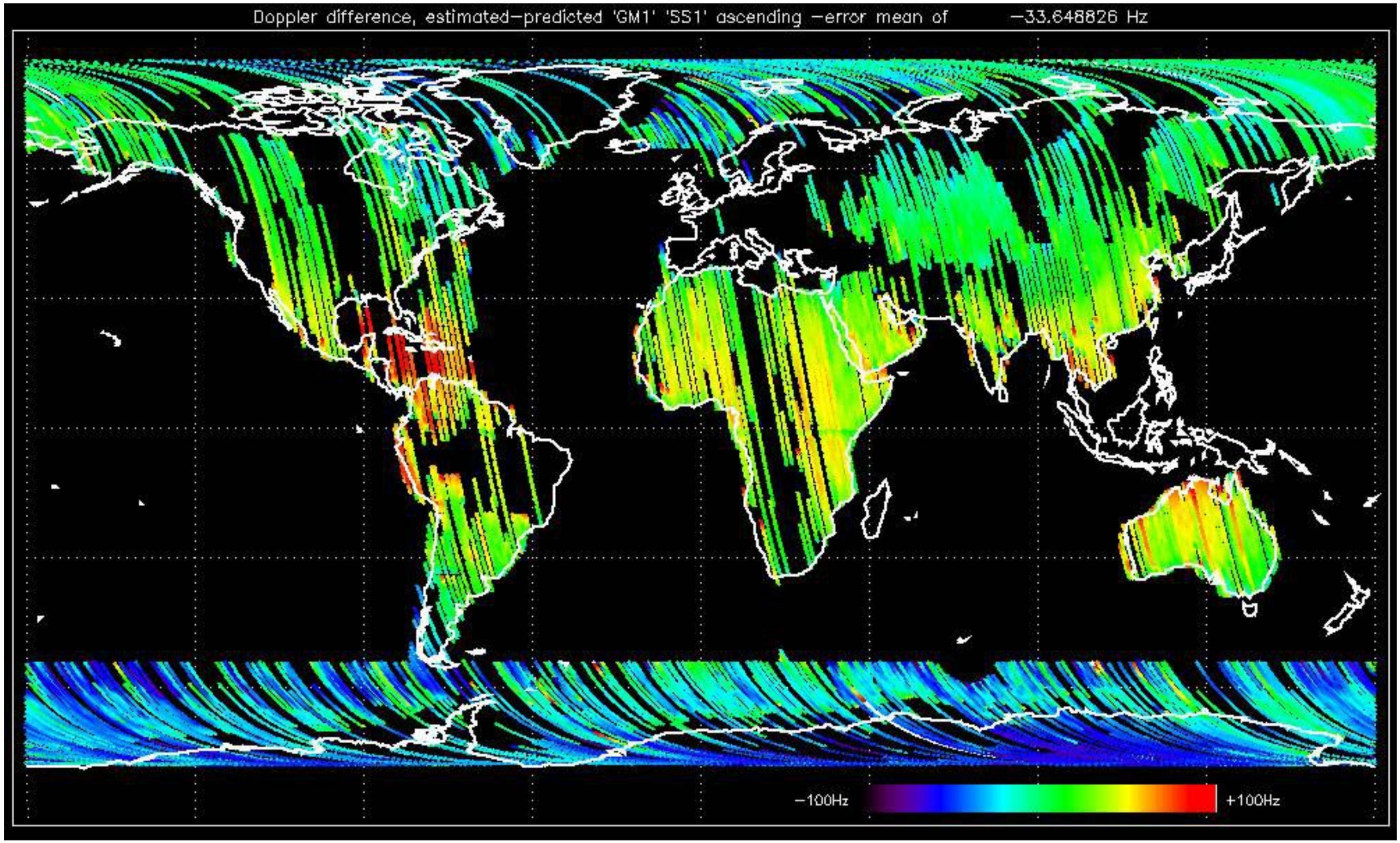

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

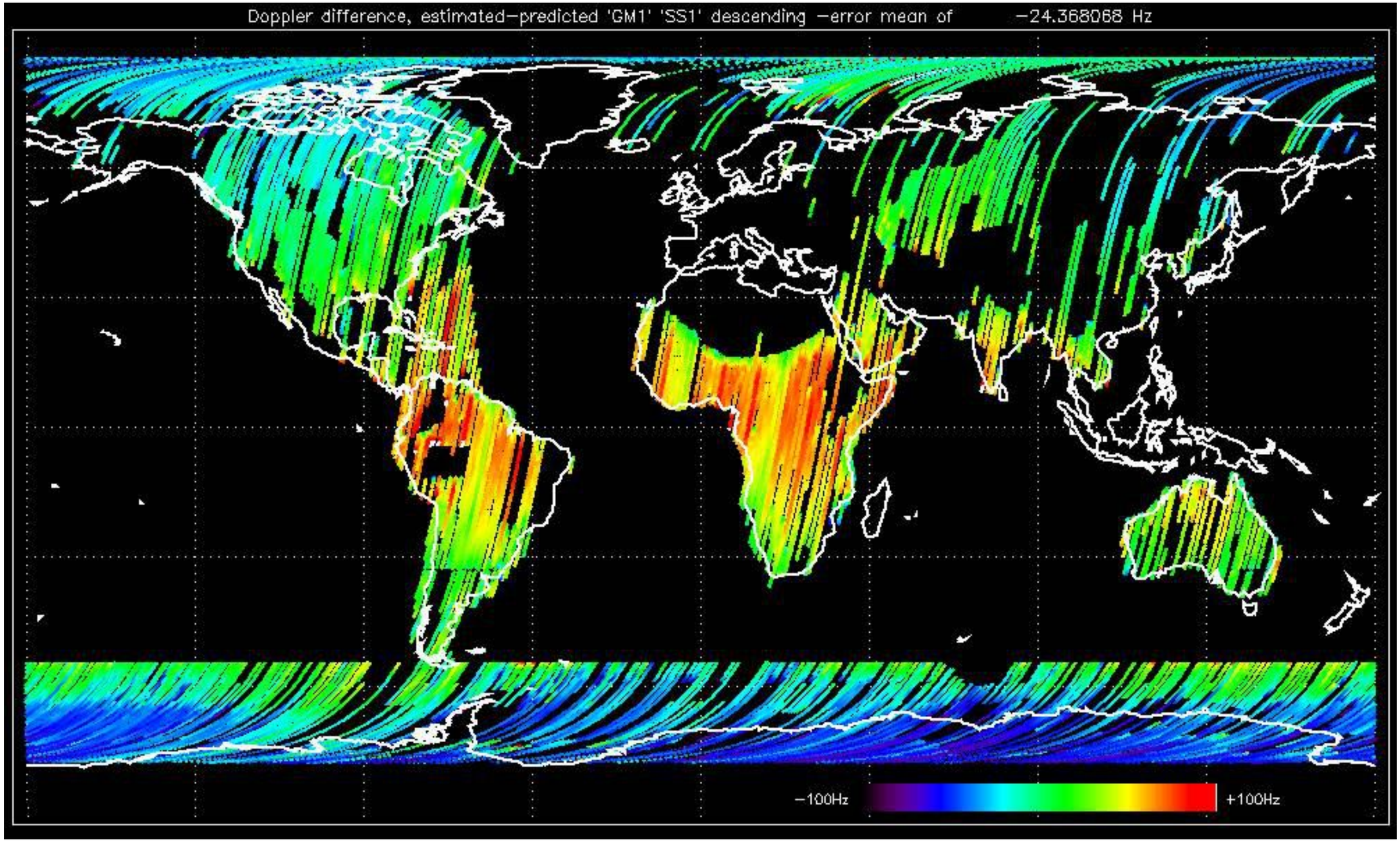

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
19−Nov
Date

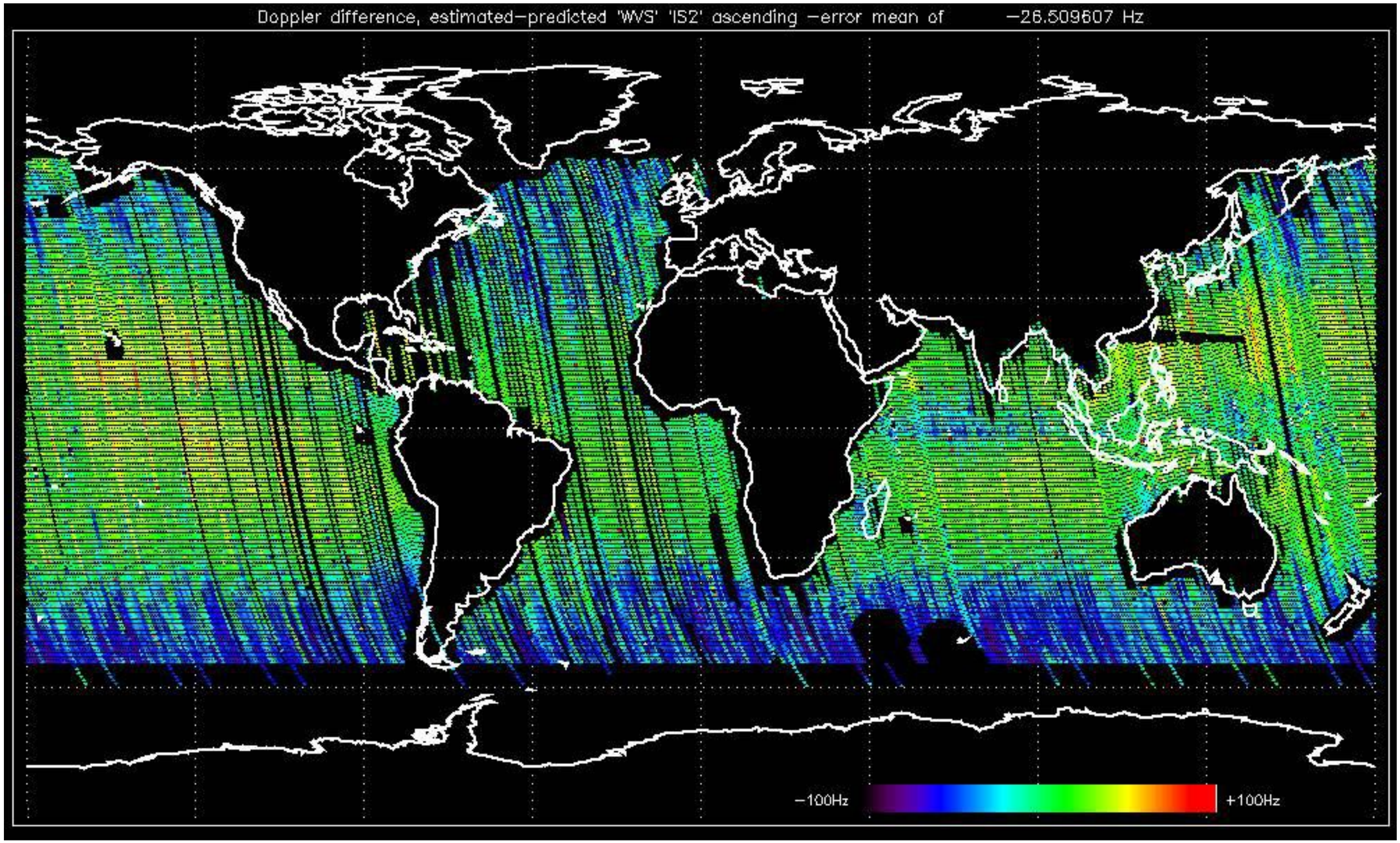

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

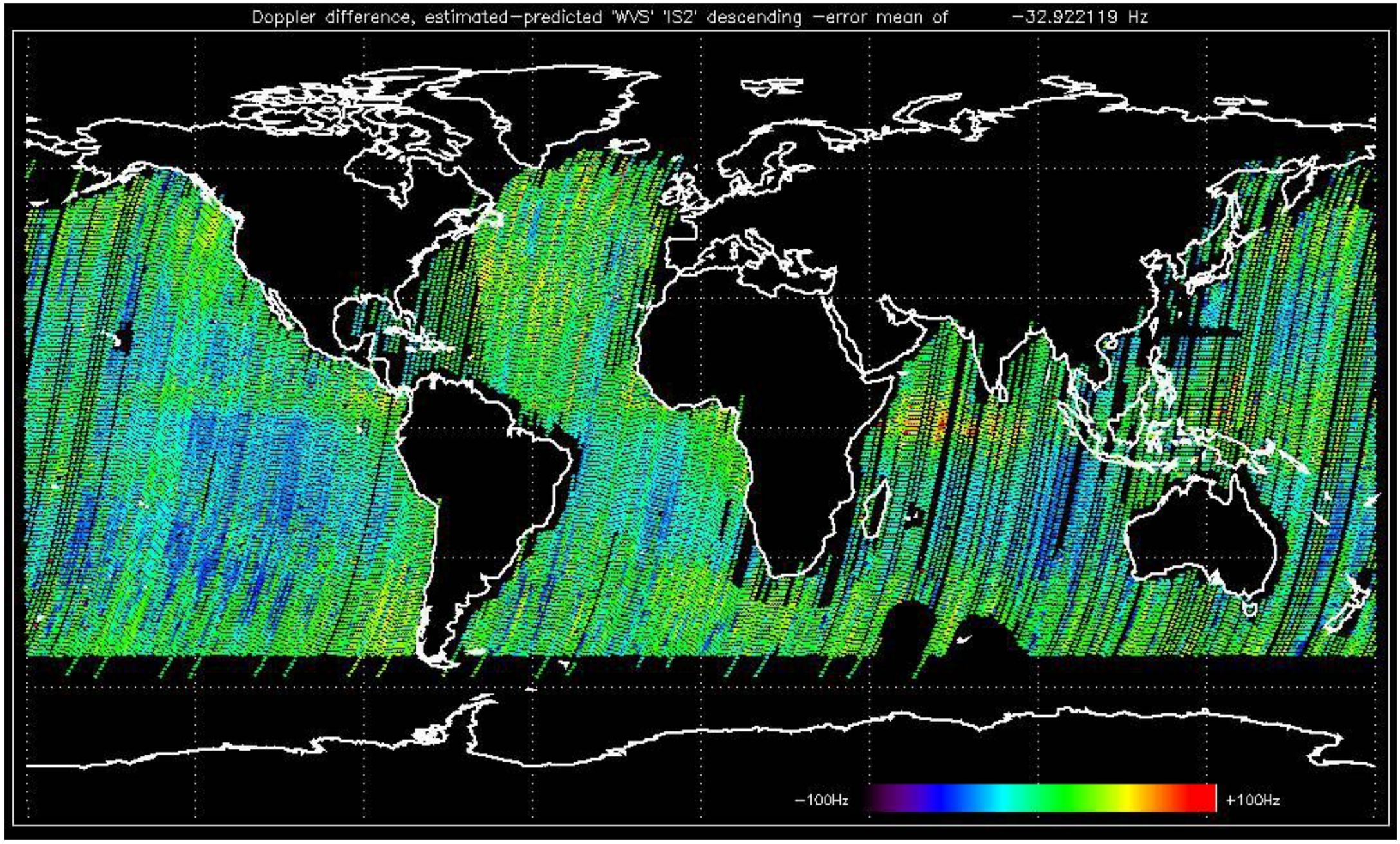

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −33.648826 Hz
−100Hz
+100Hz

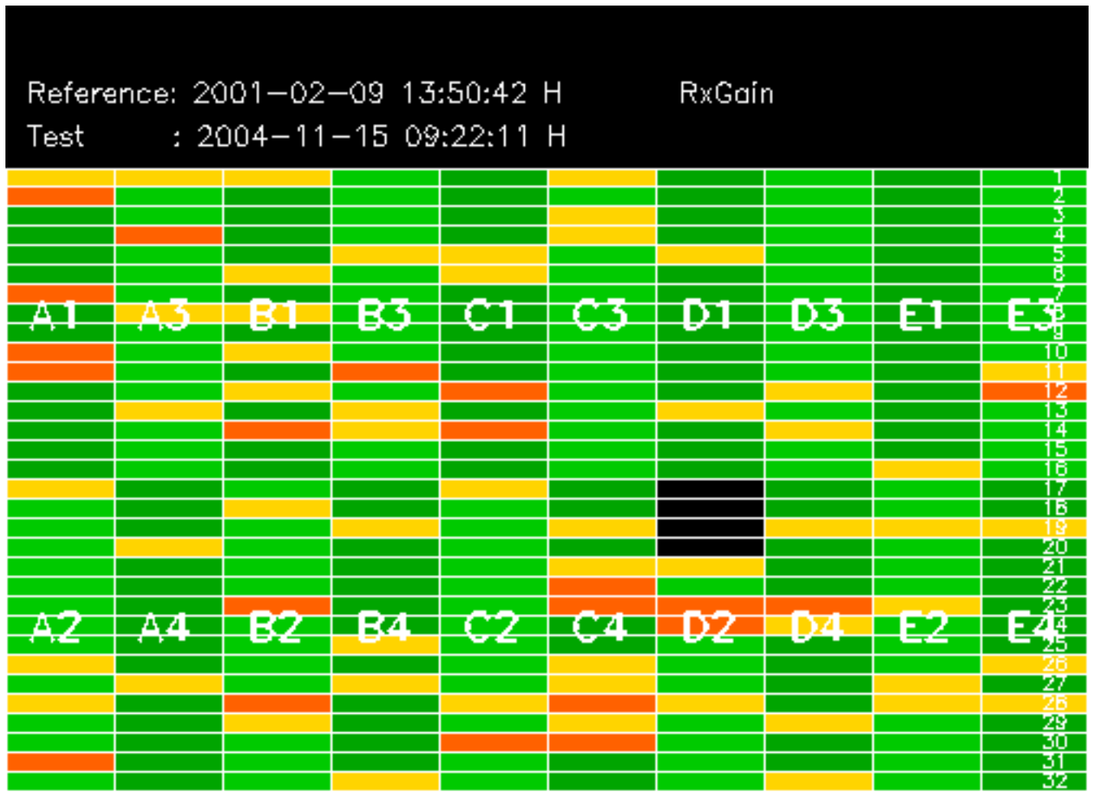

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -24.368068 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −26.509607 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −32.922119 Hz
−100Hz
+100Hz

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

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2004-11-15 09:22:11 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
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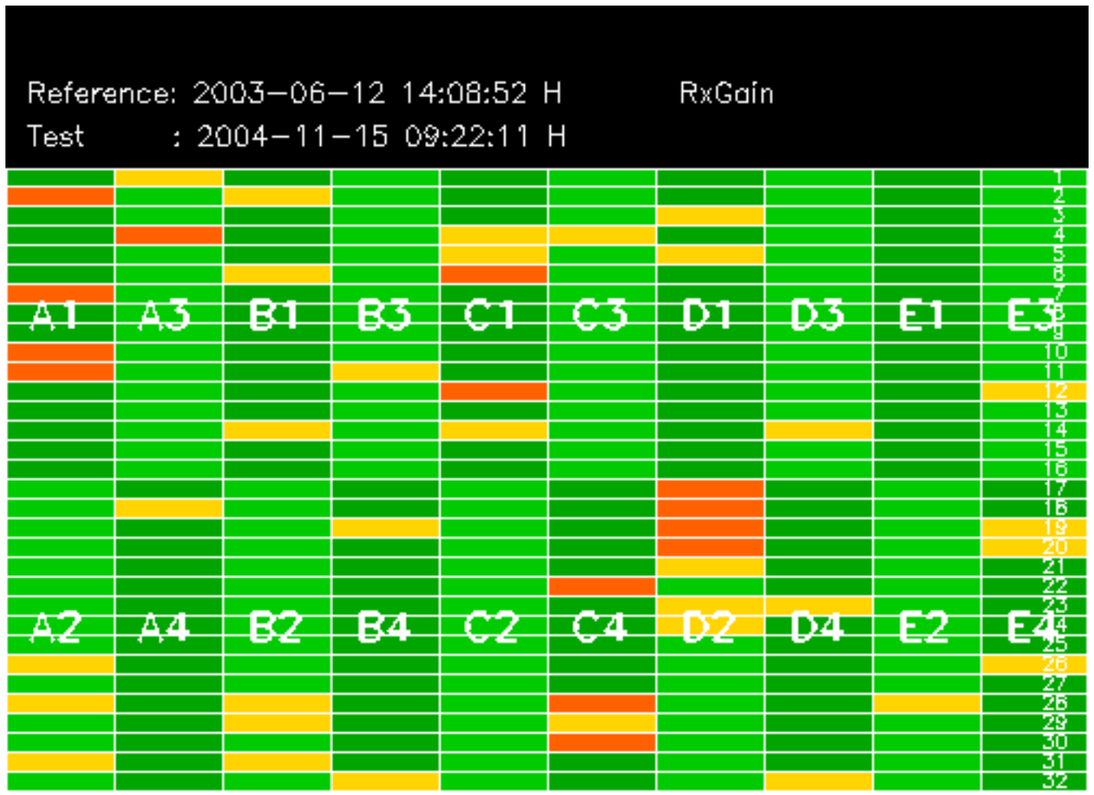
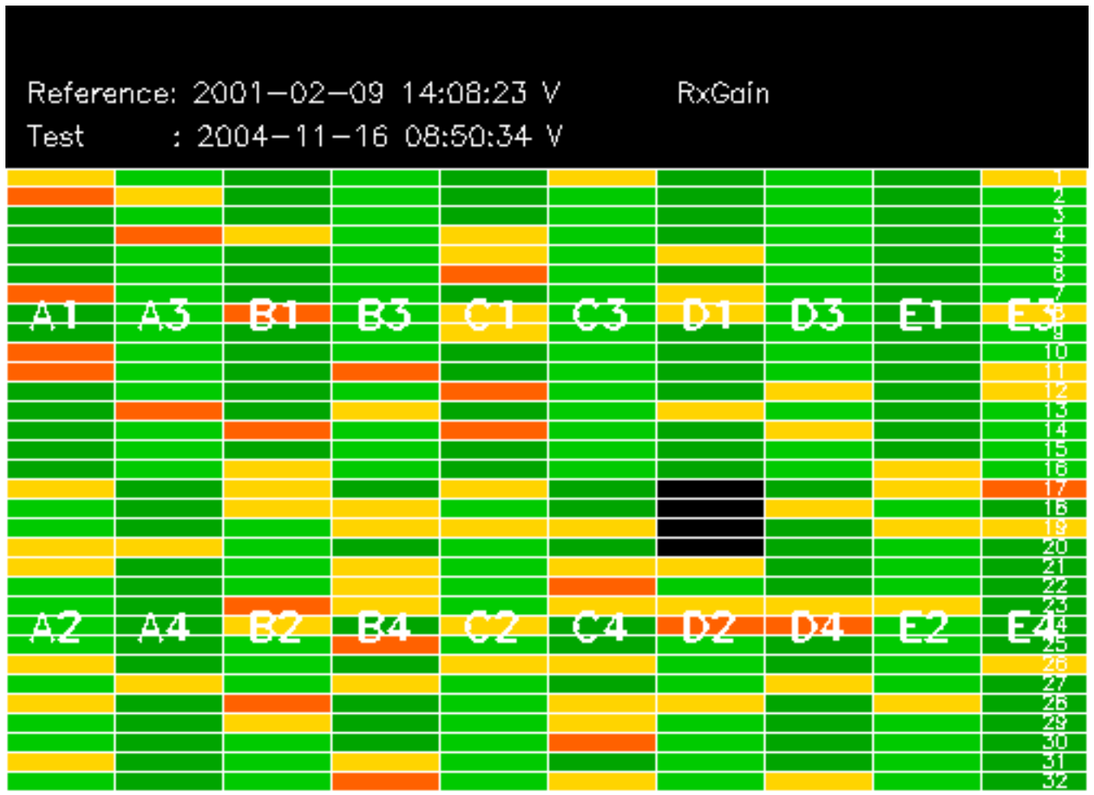
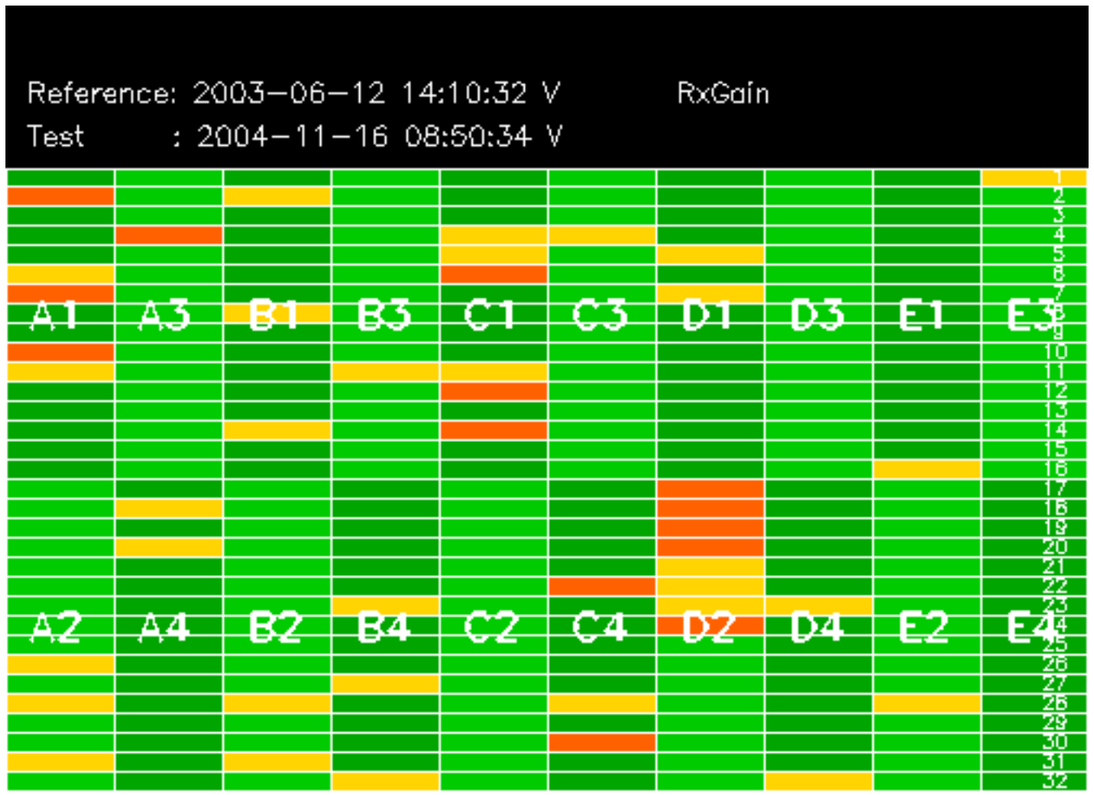
20
21
22
23
24
25
26
27
28
29
30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2004-11-15 09:22:11 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
RxGain
Test : 2004-11-16 08:50:34 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-11-16 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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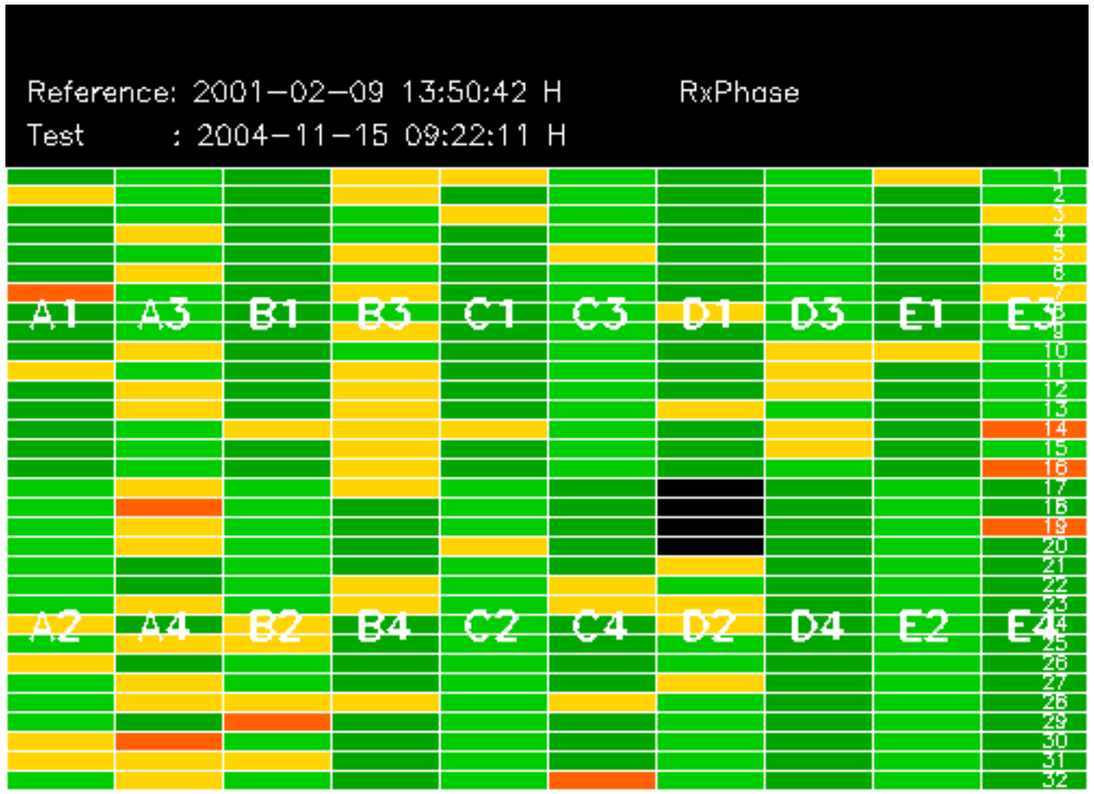
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-11-15 09:22:11 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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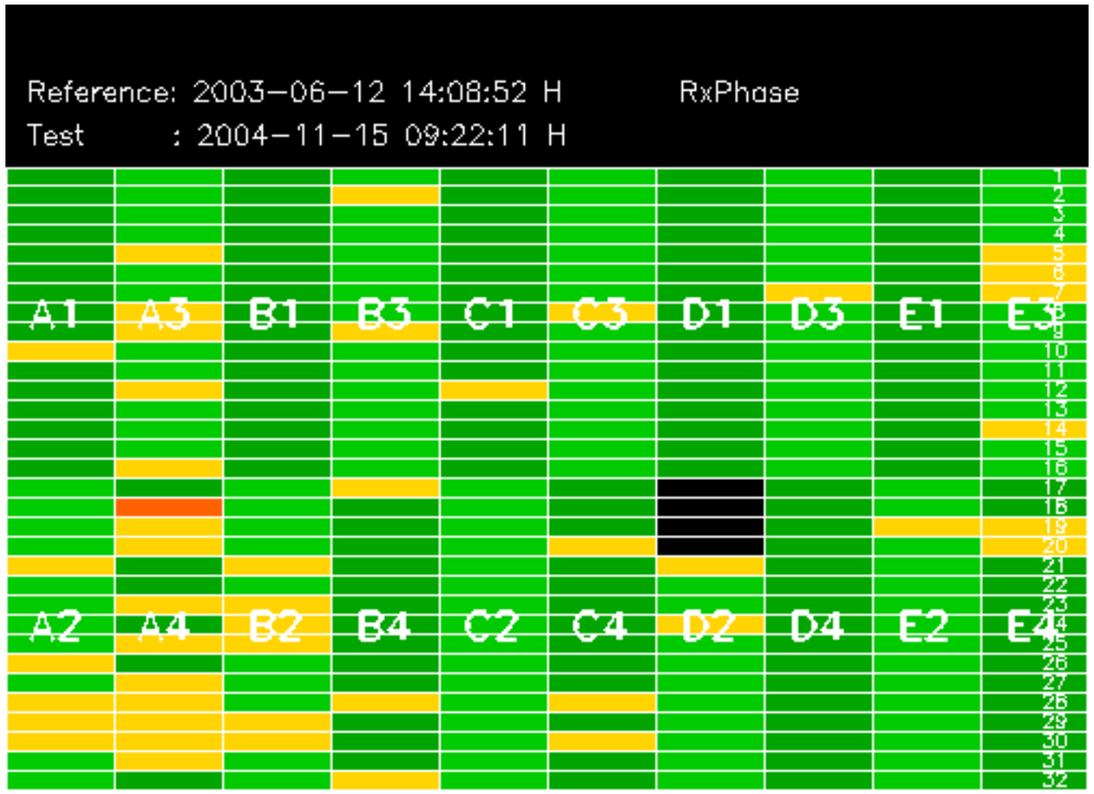
Reference: 2003-06-12 14:08:52 H
Test : 2004-11-15 09:22:11 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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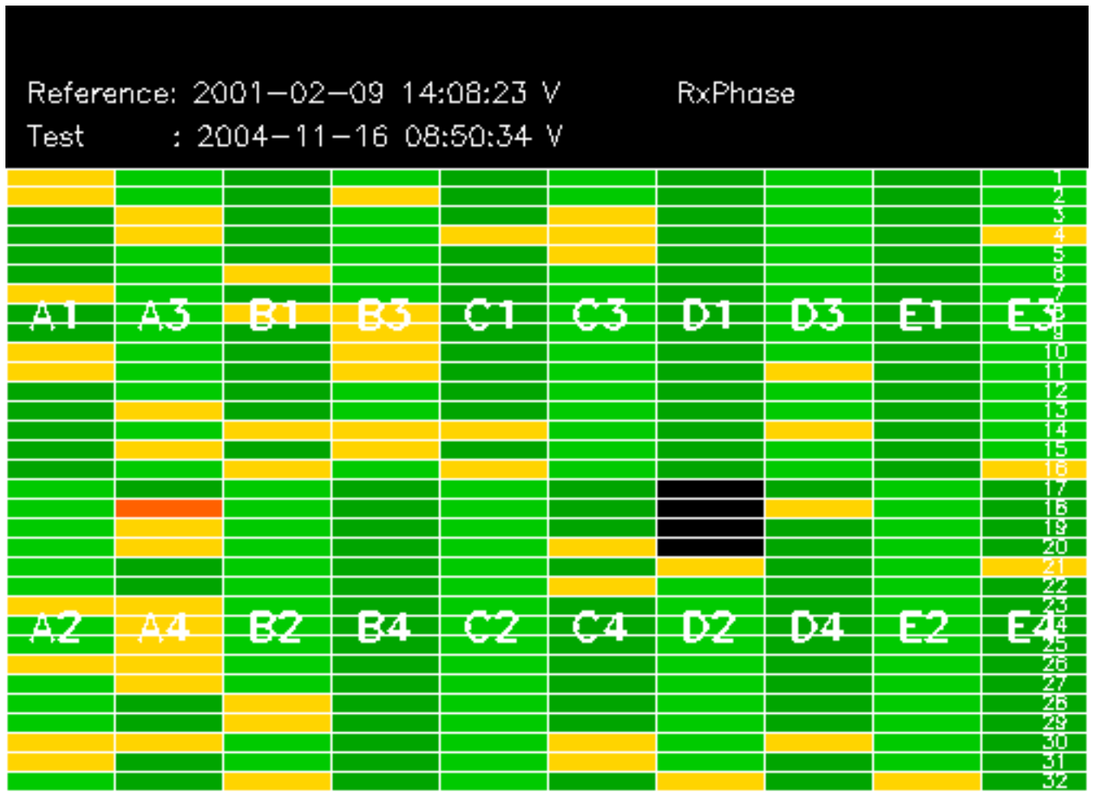
Reference: 2001-02-09 14:08:23 V
Test : 2004-11-16 08:50:34 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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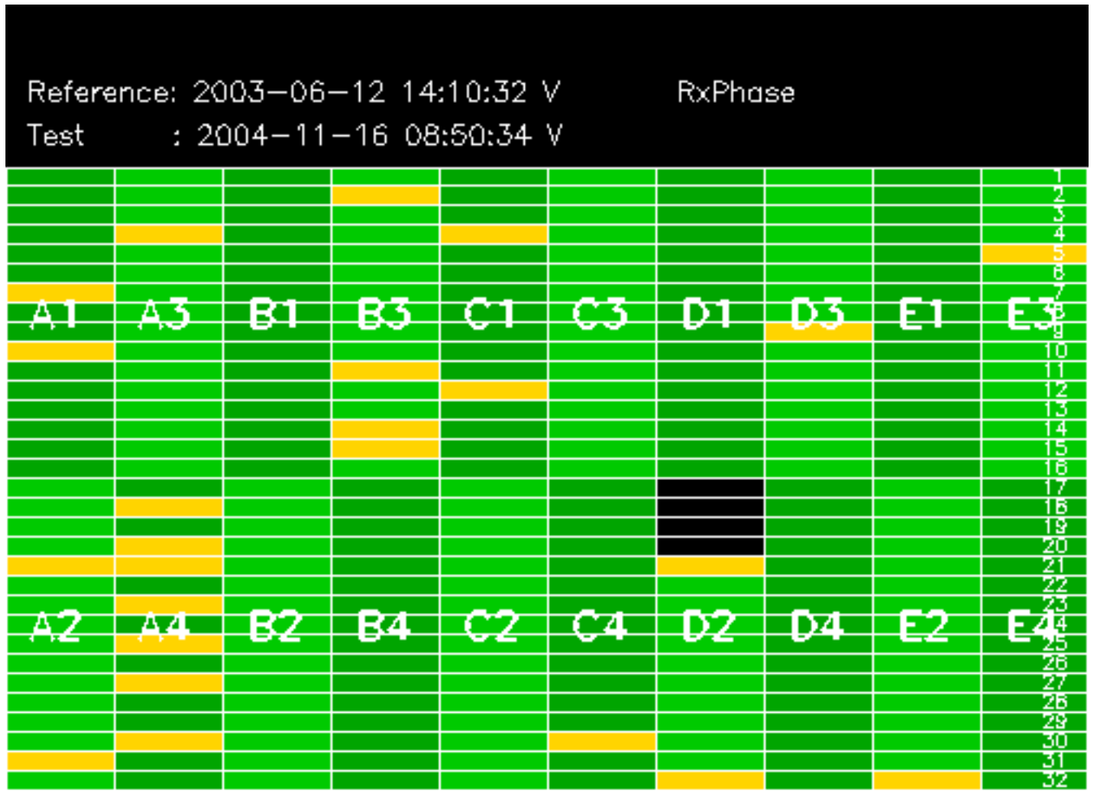
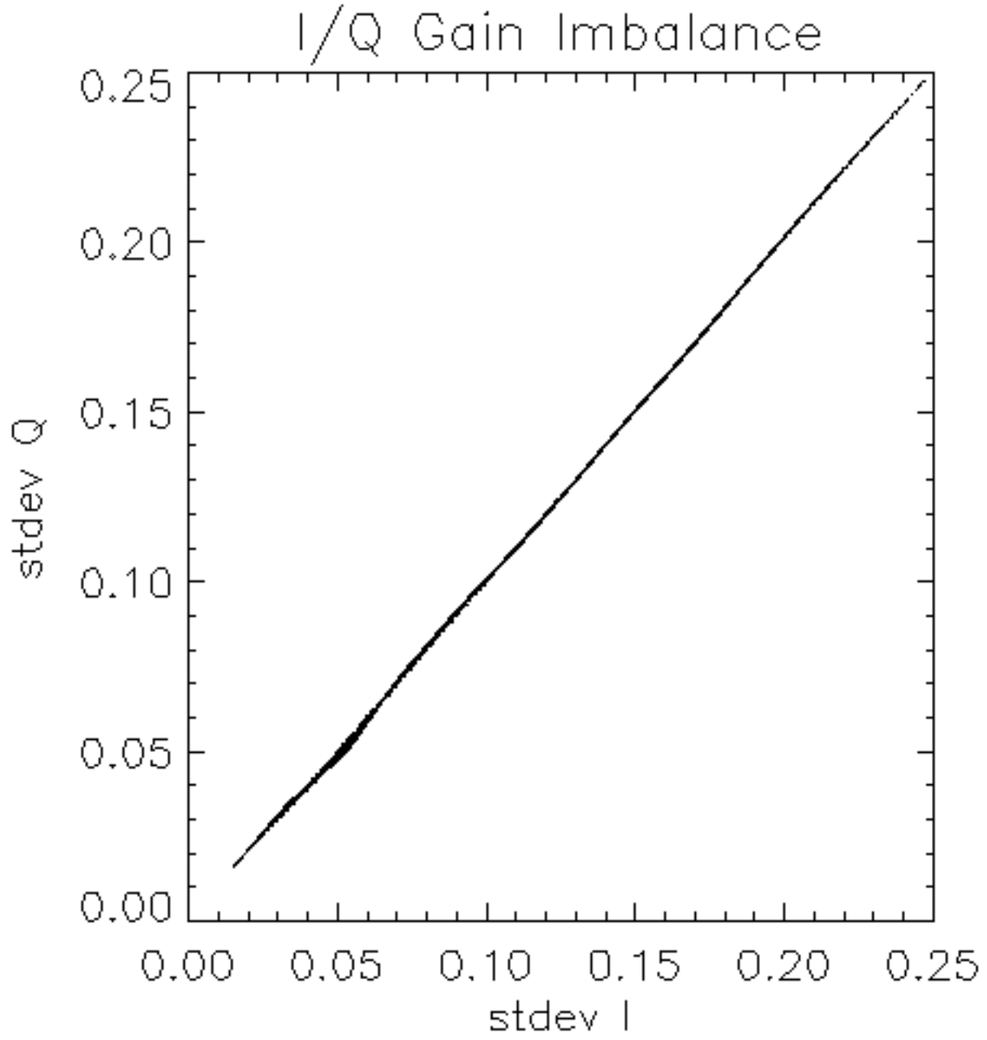
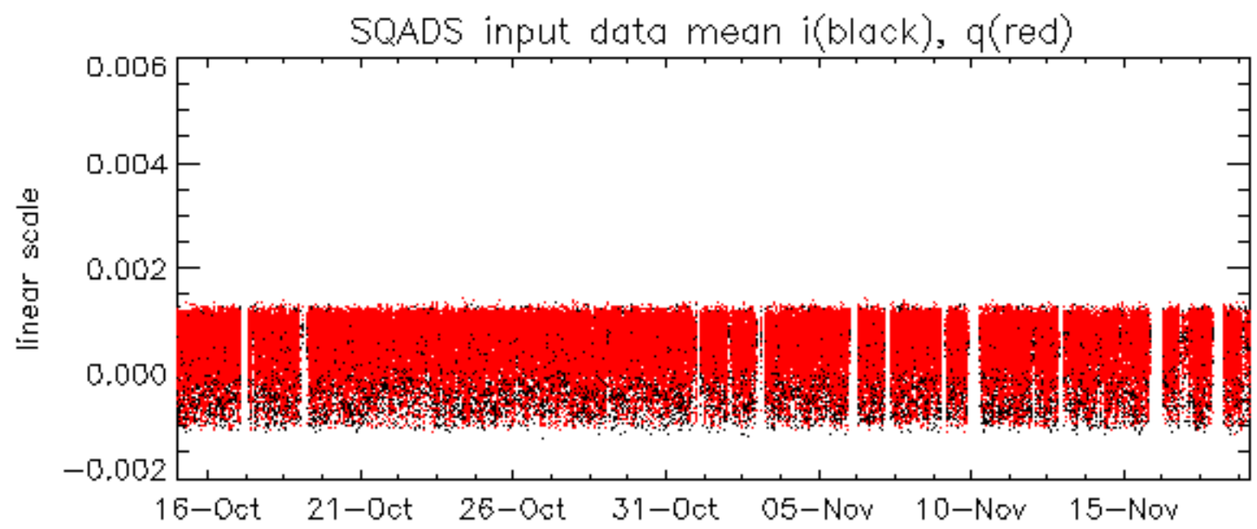
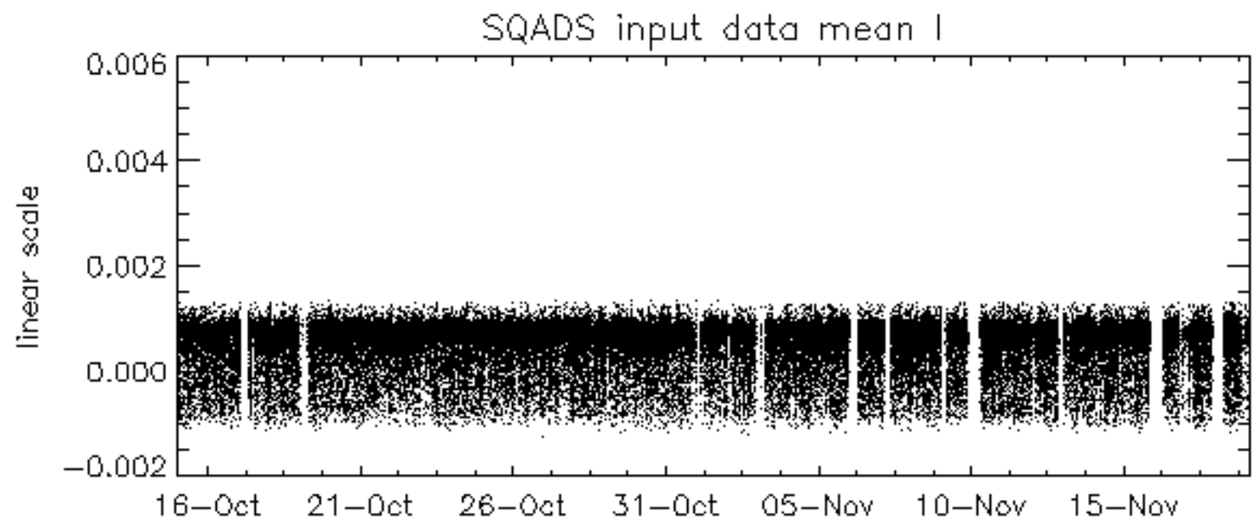
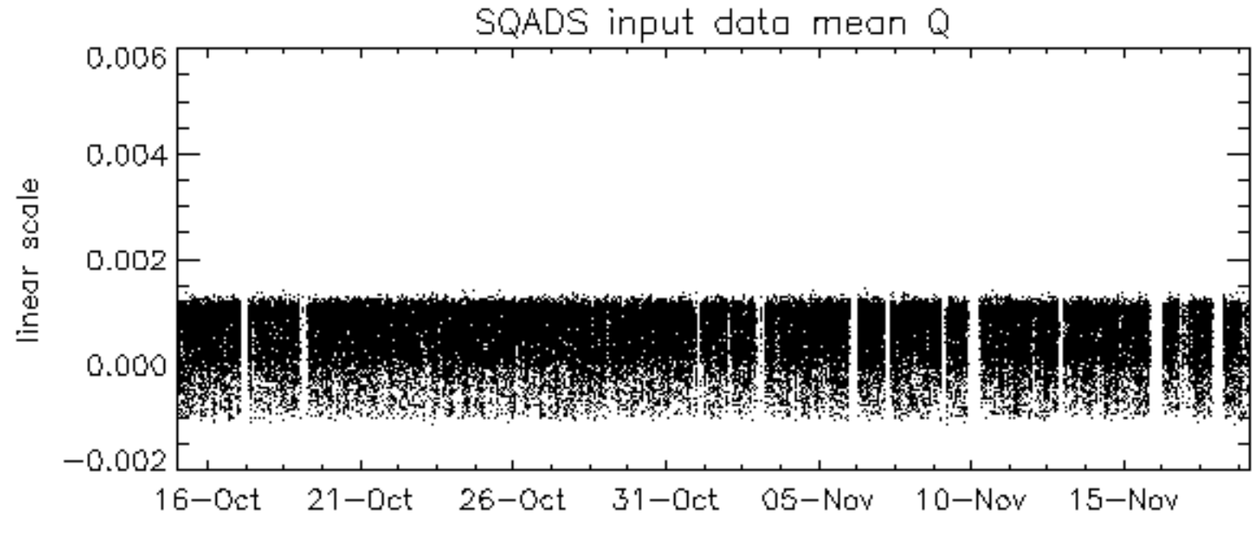
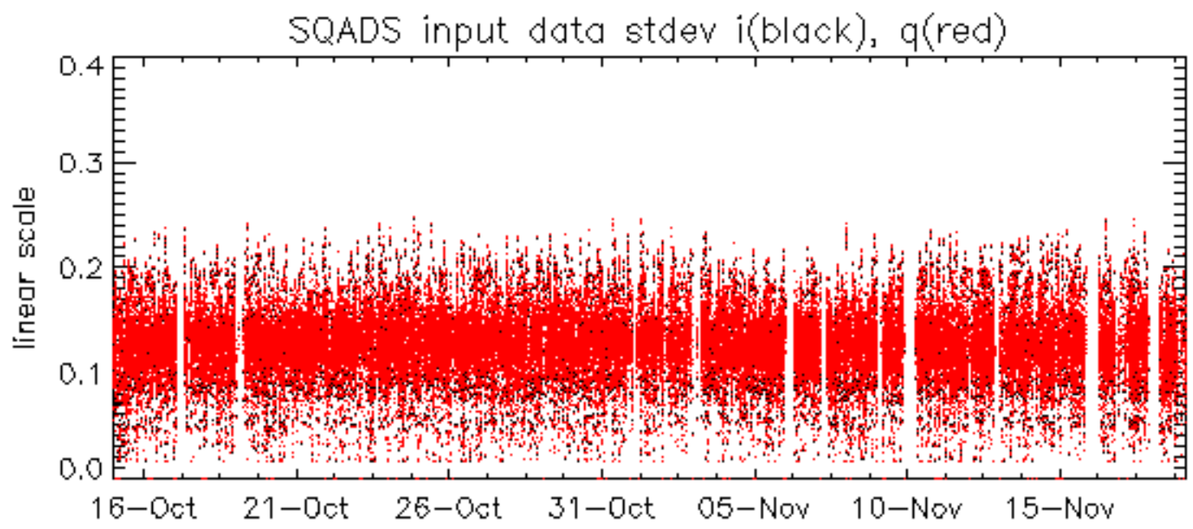

Reference: 2003-06-12 14:10:32 V
Test : 2004-11-16 08:50:34 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

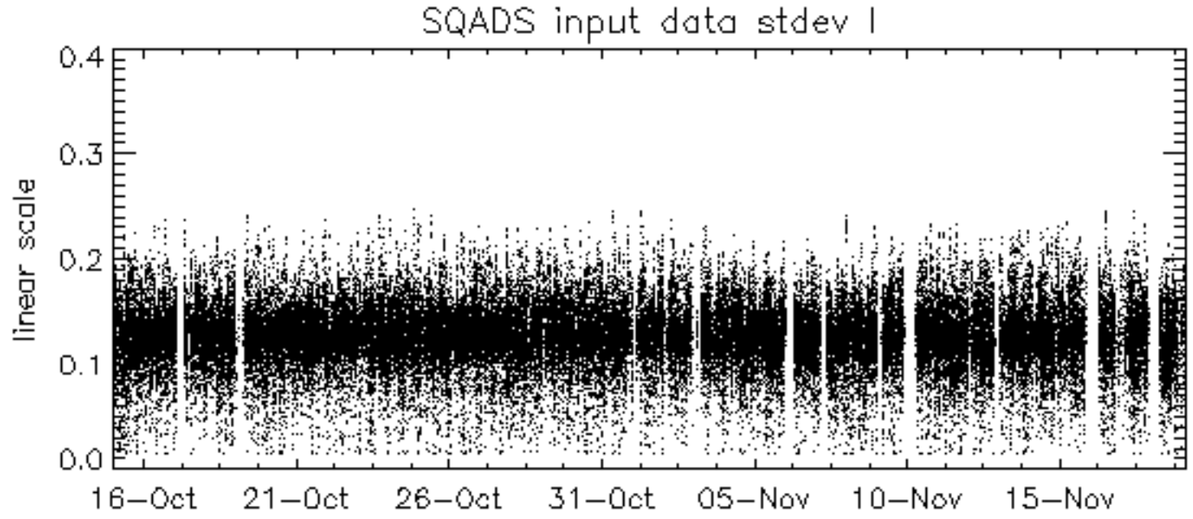

I/Q Gain Imbalance
stdev Q
0.25
0.20
0.15
0.10
0.05
0.00
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

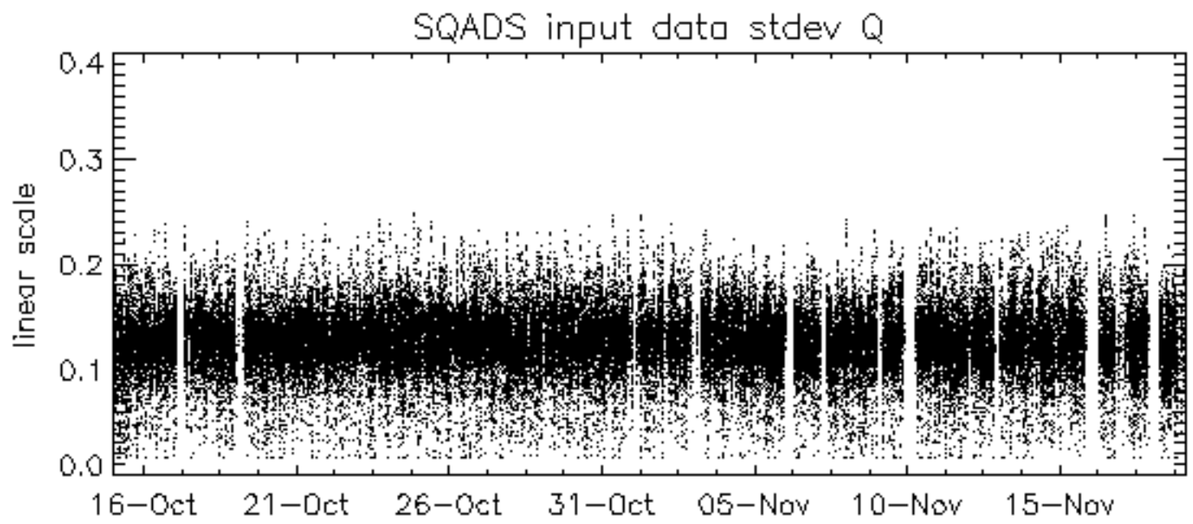

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Oct
21−Oct
26−Oct
31−Oct
05−Nov
10−Nov
15−Nov

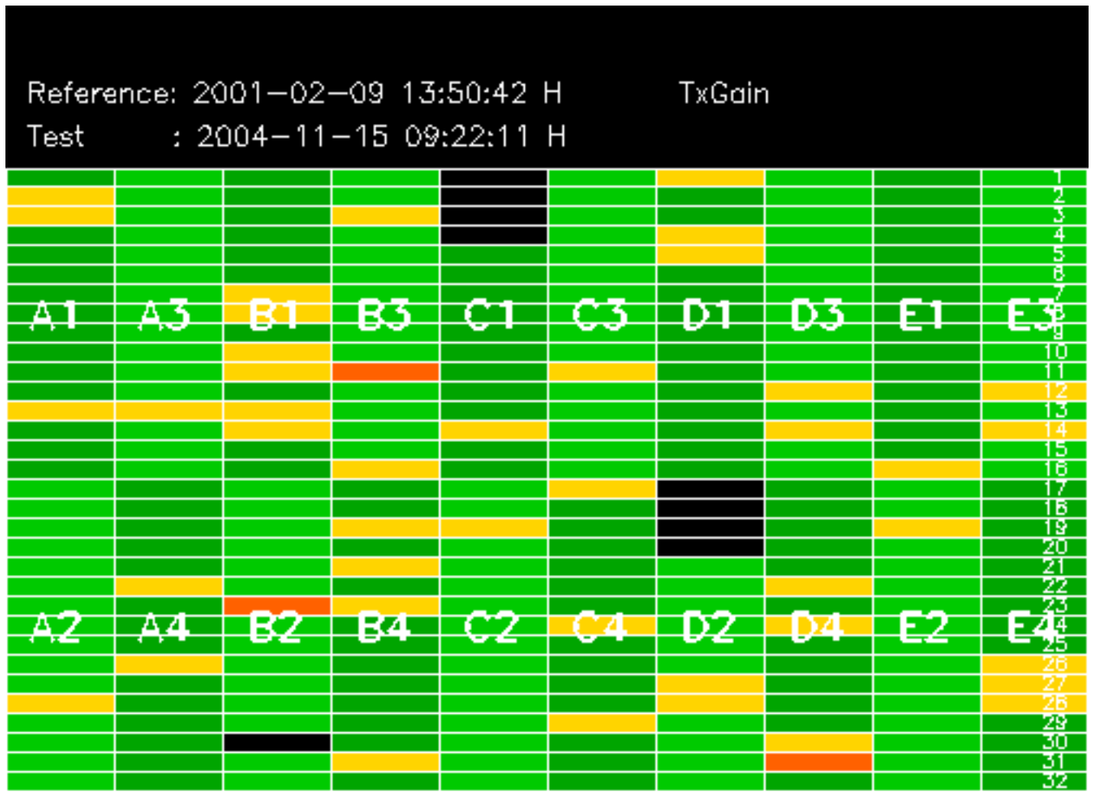

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Oct
21−Oct
26−Oct
31−Oct
05−Nov
10−Nov
15−Nov


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2004-11-15 09:22:11 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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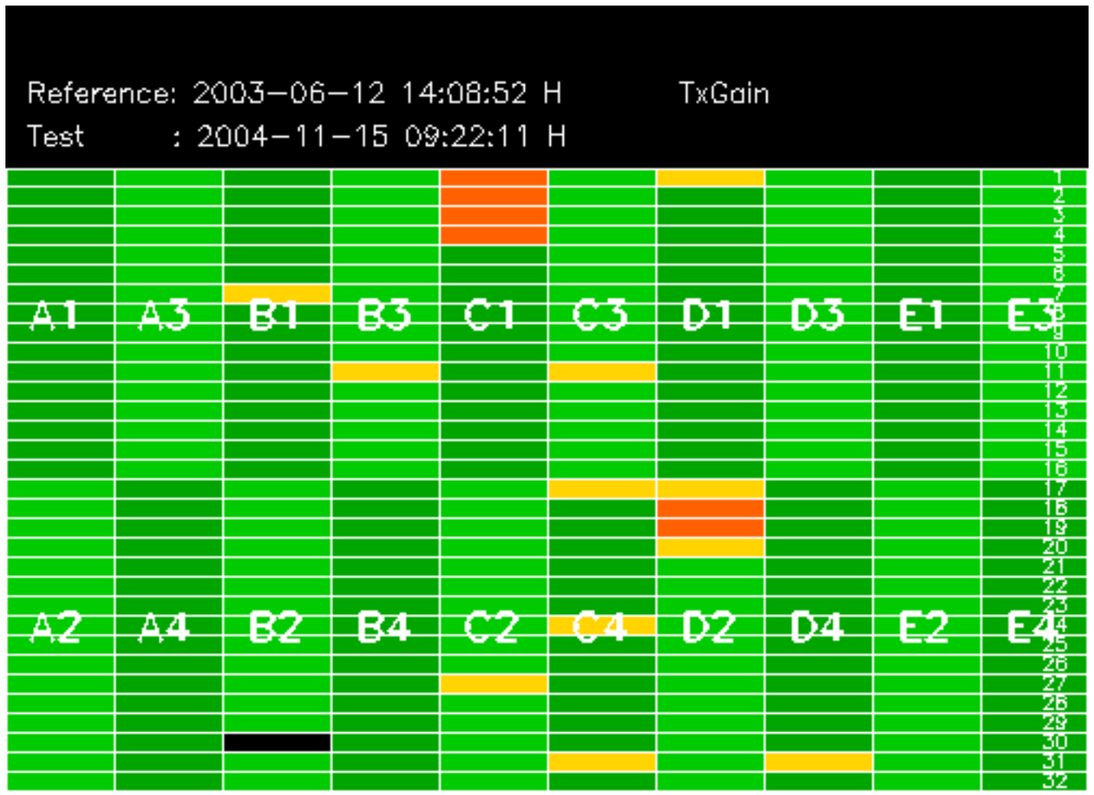
Reference: 2003-06-12 14:08:52 H
Test : 2004-11-15 09:22:11 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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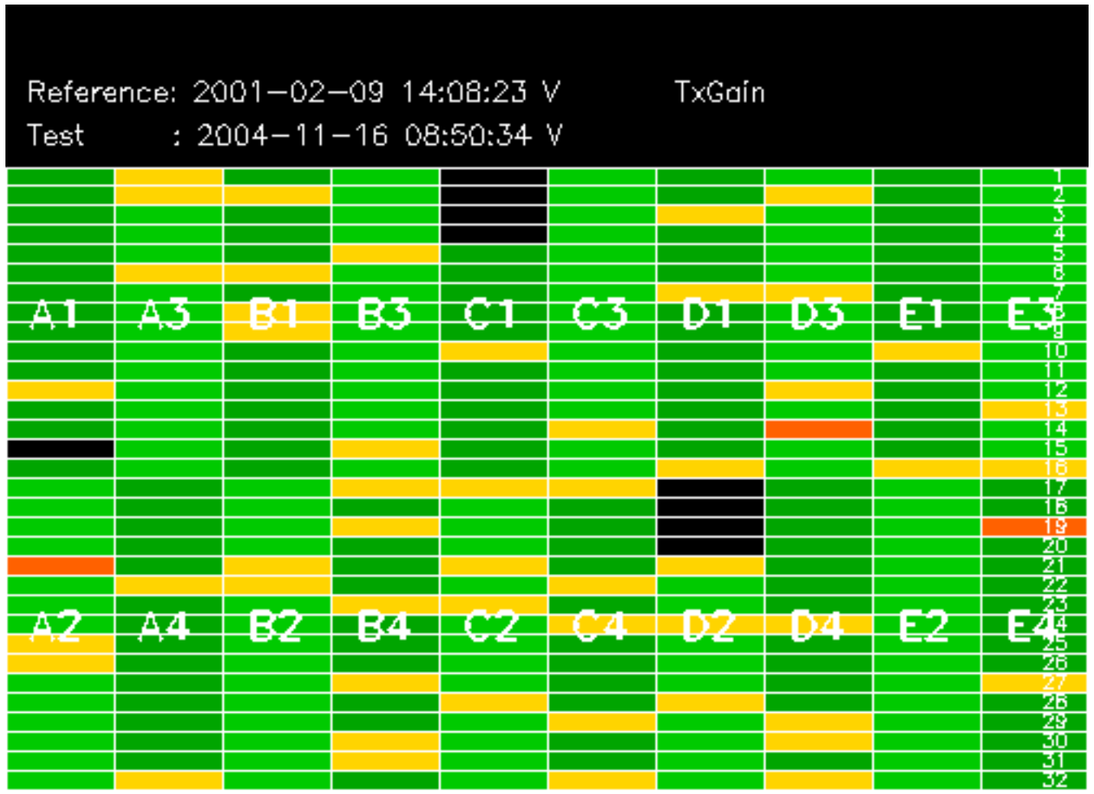
Reference: 2001-02-09 14:08:23 V
Test : 2004-11-16 08:50:34 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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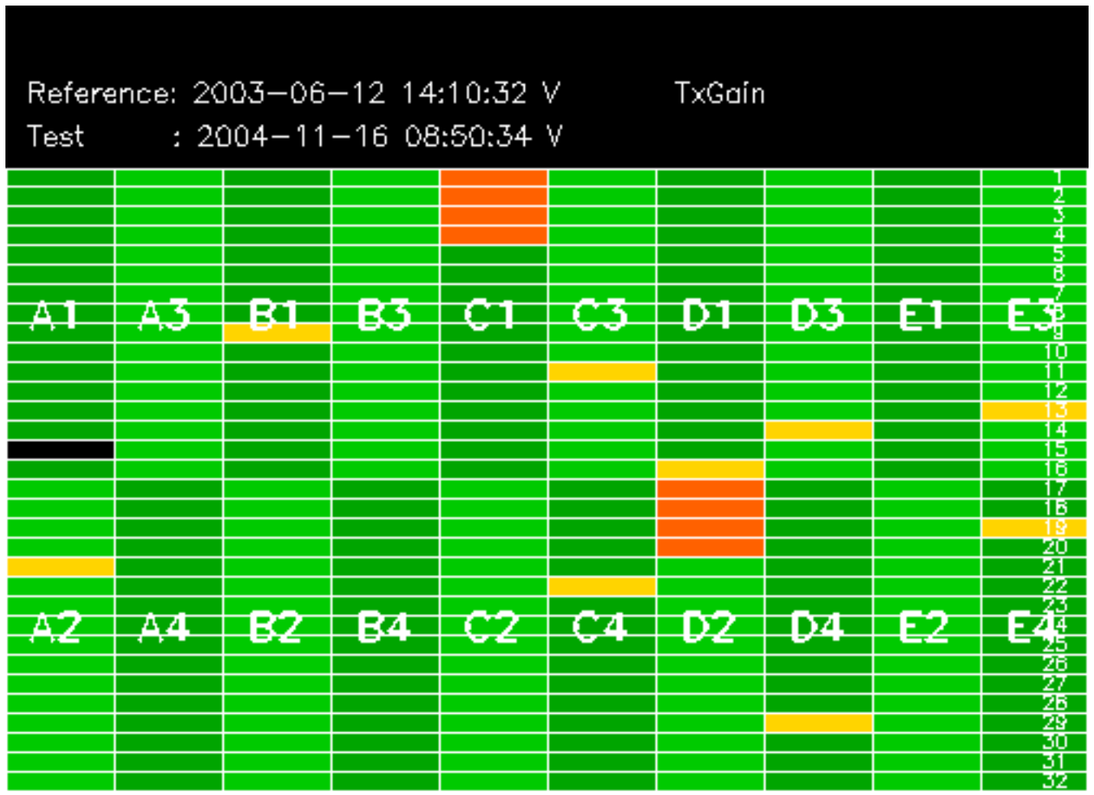
Reference: 2003-06-12 14:10:32 V
Test : 2004-11-16 08:50:34 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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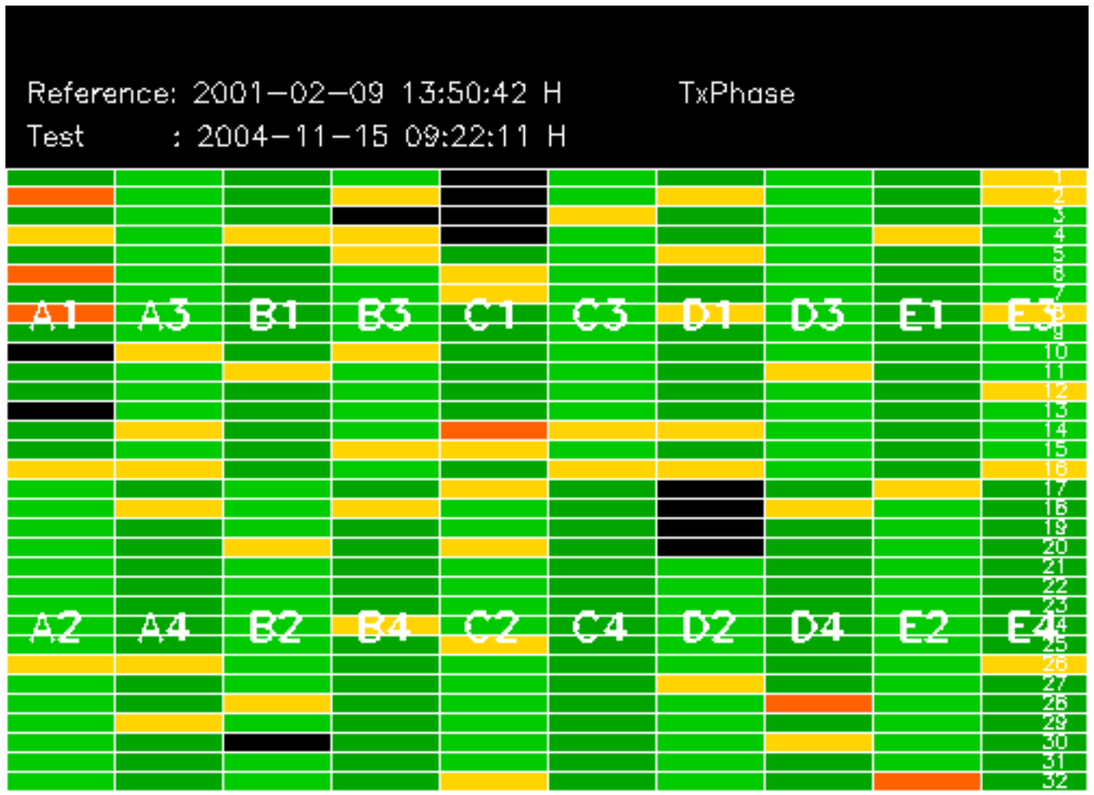
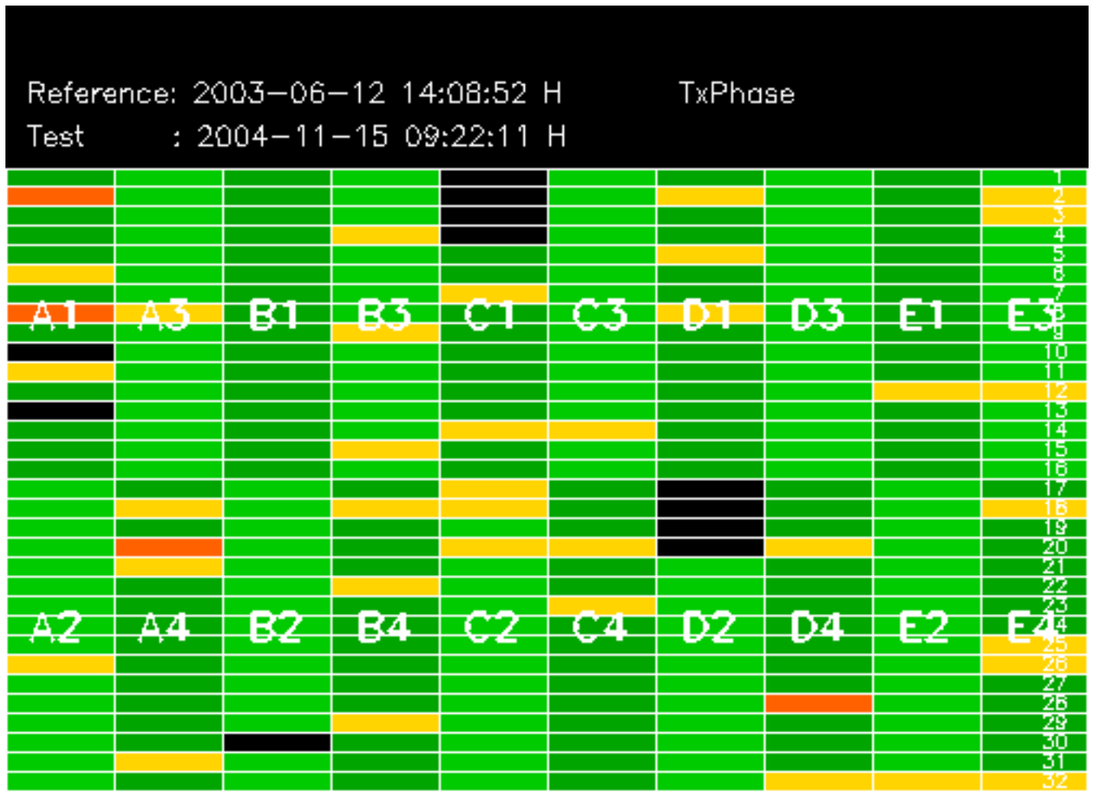
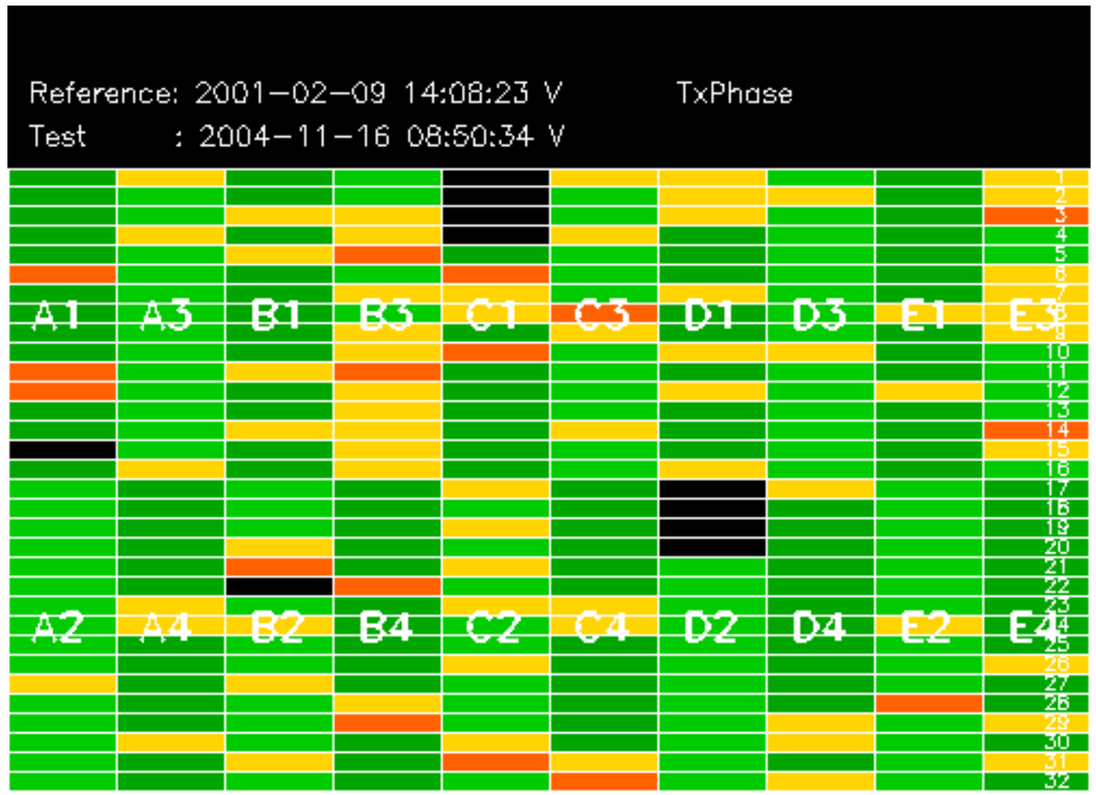

Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-11-15 09:22:11 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-11-15 09:22:11 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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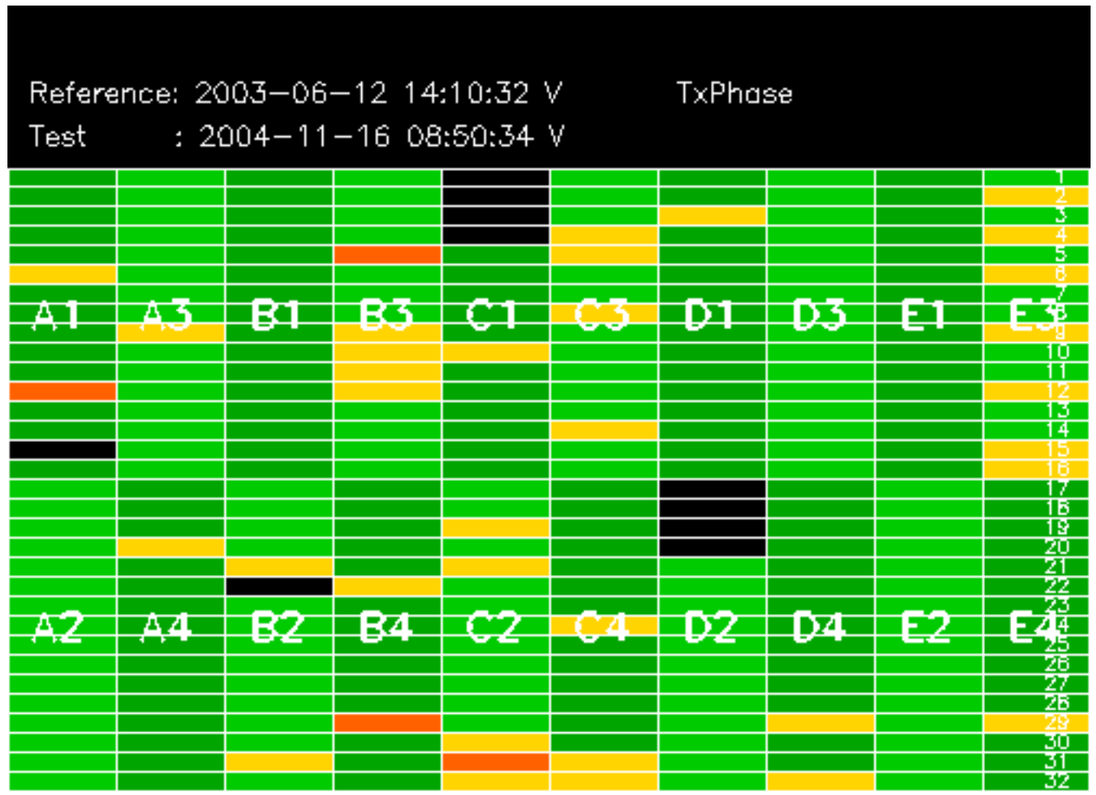
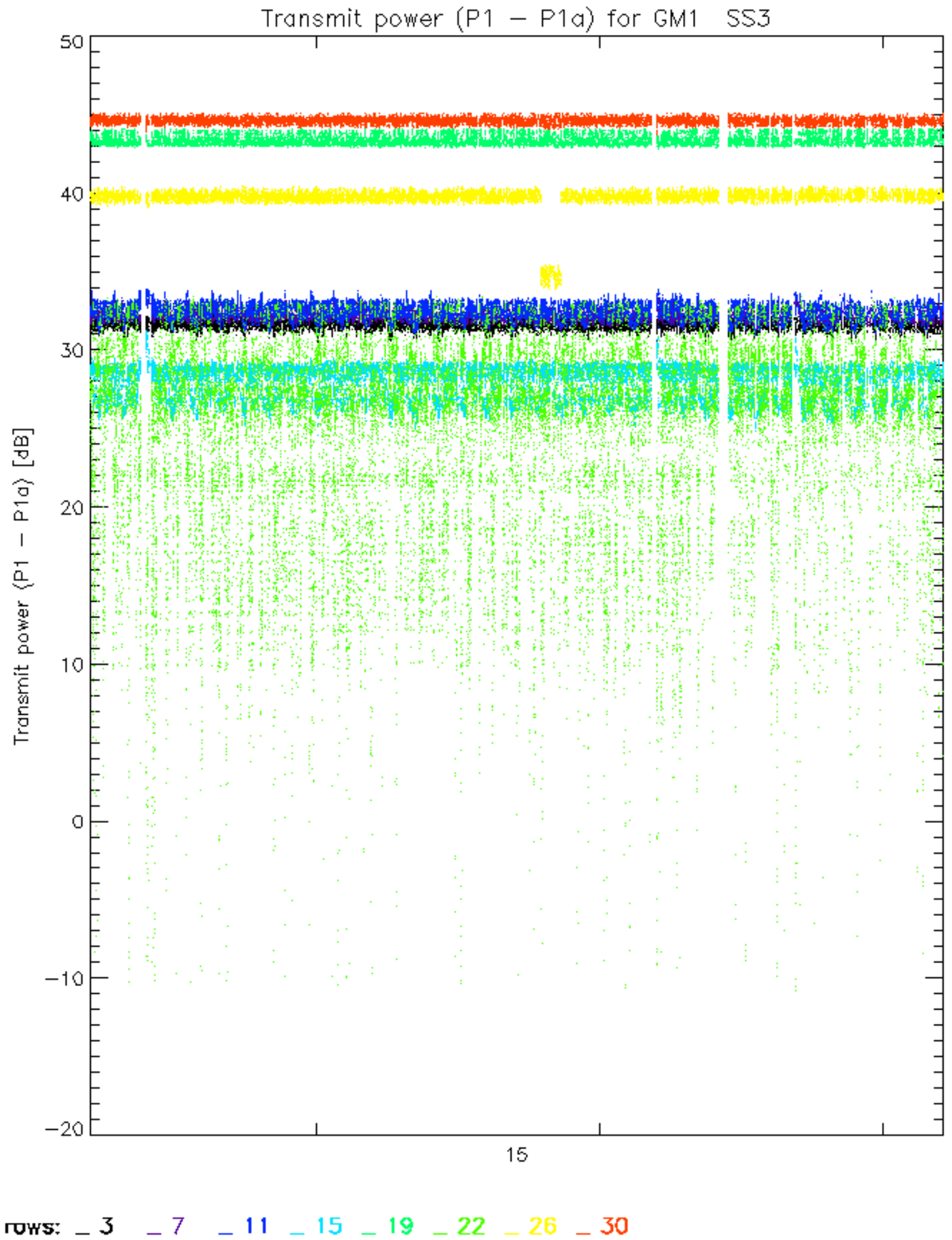
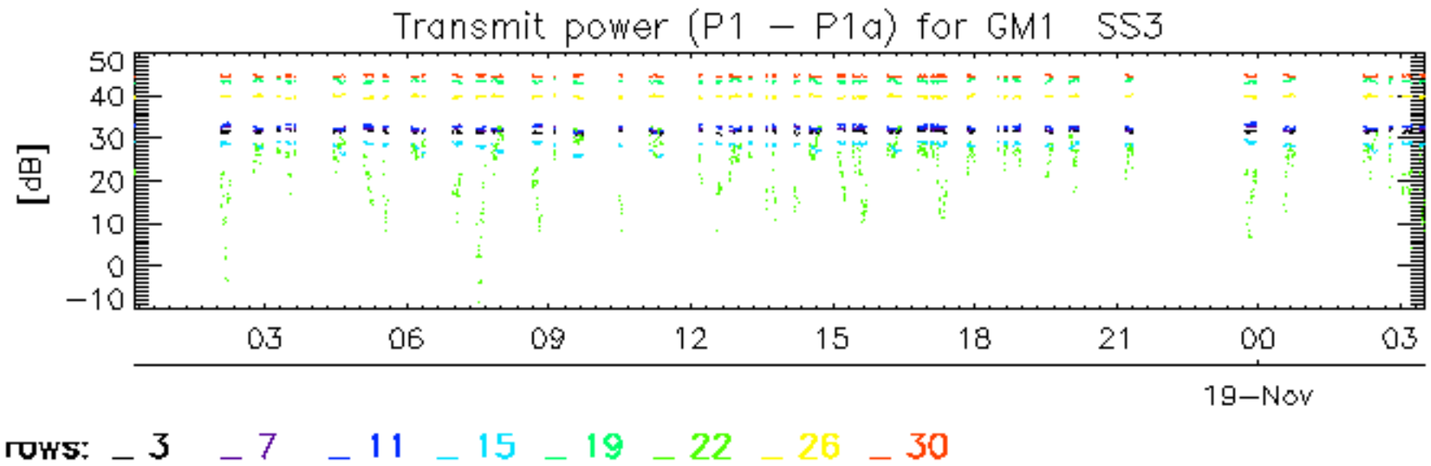
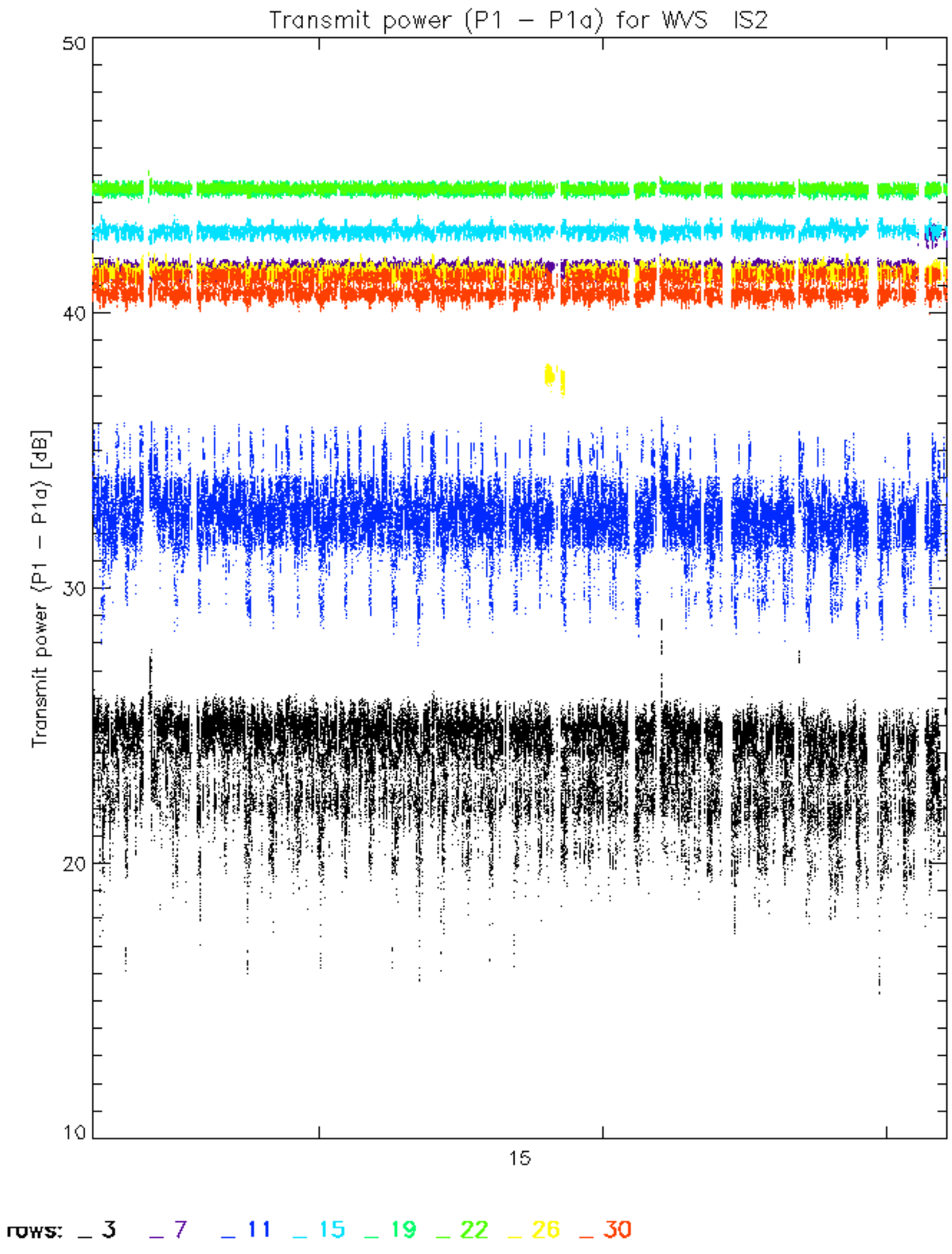
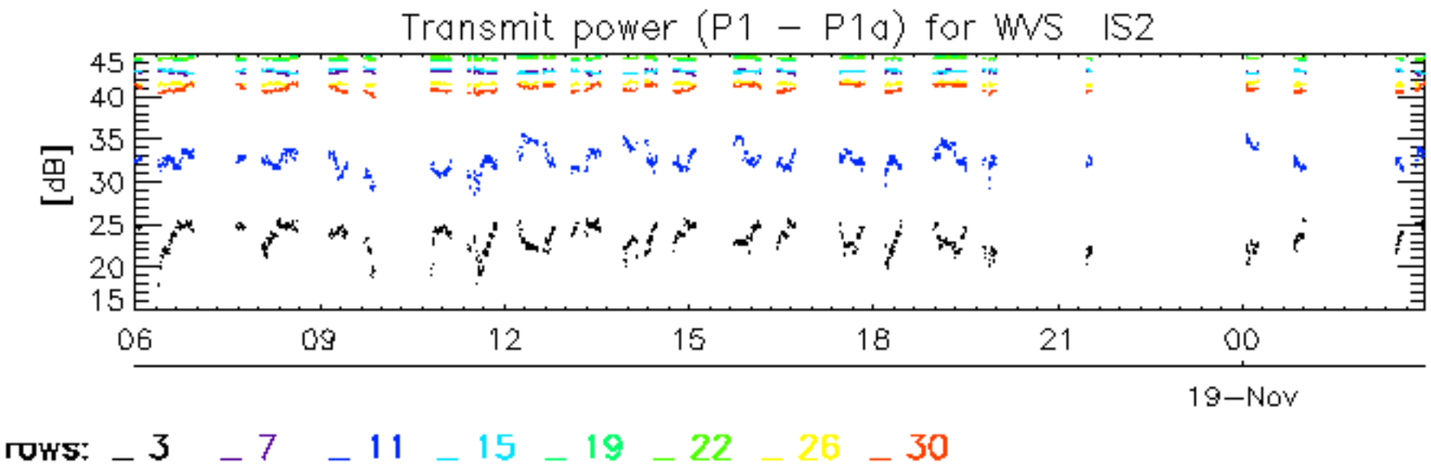

Reference: 2003-06-12 14:10:32 V
Test : 2004-11-16 08:50:34 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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


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

No unavailabilities during the reported period.