PRELIMINARY REPORT OF 041016

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

last update on Sat Oct 16 10:50:01 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	20041014 074722
H	20041015 071545

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.

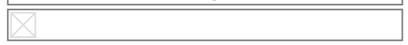
4.1 - Daily statistics

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	-3.477124	0.024140	0.003418
7	P1	-3.346844	0.023250	-0.012058
11	P1	-4.638225	0.035815	0.089227
15	P1	-5.735613	0.079921	0.151189
19	P1	-3.541226	0.078959	0.041136
22	P1	-4.574608	0.109230	0.080415
24	P1	-5.000520	0.121129	0.196182
30	P1	-7.066822	0.145095	0.148462

3	P1	-16.158817	0.408442	0.309978
7	P1	-14.034868	0.065683	-0.047043
11	P1	-20.353958	0.241398	-0.334610
15	P1	-11.738311	0.041862	0.076890
19	P1	-14.073217	1.092894	0.425042
22	P1	-16.078869	0.410716	-0.479963
24	P1	-14.514462	0.282017	-0.289164
30	P1	-18.003633	0.547650	-0.225141

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.326803	0.088916	-0.081299
7	P2	-22.597528	0.121562	-0.053608
11	P2	-15.146079	0.124274	0.069682
15	P2	-7.080554	0.103207	-0.082101
19	P2	-9.600612	0.132872	-0.123705
22	P2	-17.287136	0.108326	0.038741
24	P2	-20.778851	0.090759	-0.051348
30	P2	-19.115498	0.083067	0.103238

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.168067	0.005002	-0.045125
7	P3	-8.168066	0.005002	-0.045123
11	P3	-8.168066	0.005002	-0.045129
15	P3	-8.168066	0.005002	-0.045131
19	P3	-8.168065	0.005002	-0.045132
22	P3	-8.168064	0.005002	-0.045138
24	P3	-8.168059	0.005002	-0.045145
30	P3	-8.167970	0.005000	-0.045417

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	-2.840288	0.048893	0.044158
7	P1	-3.011920	0.101330	0.132131
11	P1	-3.896376	0.065663	0.047424
15	P1	-3.516447	0.081586	0.115919
19	P1	-3.548442	0.096568	0.061120
22	P1	-5.704321	0.136008	0.240755
24	P1	-3.980997	0.058287	0.085081
30	P1	-6.219710	0.091690	0.034843
3	P1	-10.863116	0.184473	0.266996
7	P1	-10.098241	0.174564	0.067416
11	P1	-12.213495	0.129749	-0.142700
15	P1	-11.691497	0.082598	0.060792
19	P1	-15.720549	2.070067	0.693348
22	P1	-23.481695	1.761007	-0.805406
24	P1	-18.068199	0.362053	-0.259838
30	P1	-20.375050	1.230522	-0.030475

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.000458	0.048266	-0.107088
7	P2	-22.708700	0.065593	0.014766
11	P2	-10.875728	0.053117	-0.015509
15	P2	-4.984067	0.029362	-0.100915
19	P2	-6.806900	0.044241	-0.171221
22	P2	-7.397647	0.041127	-0.010399
24	P2	-11.092338	0.054522	-0.126510
30	P2	-22.114672	0.039177	0.014003

P3 Cyclic statistics

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

3	P3	-8.014871	0.003577	-0.034435
7	P3	-8.014830	0.003570	-0.034052
11	P3	-8.014923	0.003557	-0.034375
15	P3	-8.014895	0.003563	-0.034140
19	P3	-8.014924	0.003565	-0.034370
22	P3	-8.014880	0.003570	-0.034317
24	P3	-8.014969	0.003591	-0.034473
30	P3	-8.014850	0.003577	-0.034445

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	0.000482926
	stdev	2.14073e-07
MEAN Q	mean	0.000550697
	stdev	2.33123e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127861
	stdev	0.000941562

STDEV Q	mean	0.128084
	stdev	0.000951148

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

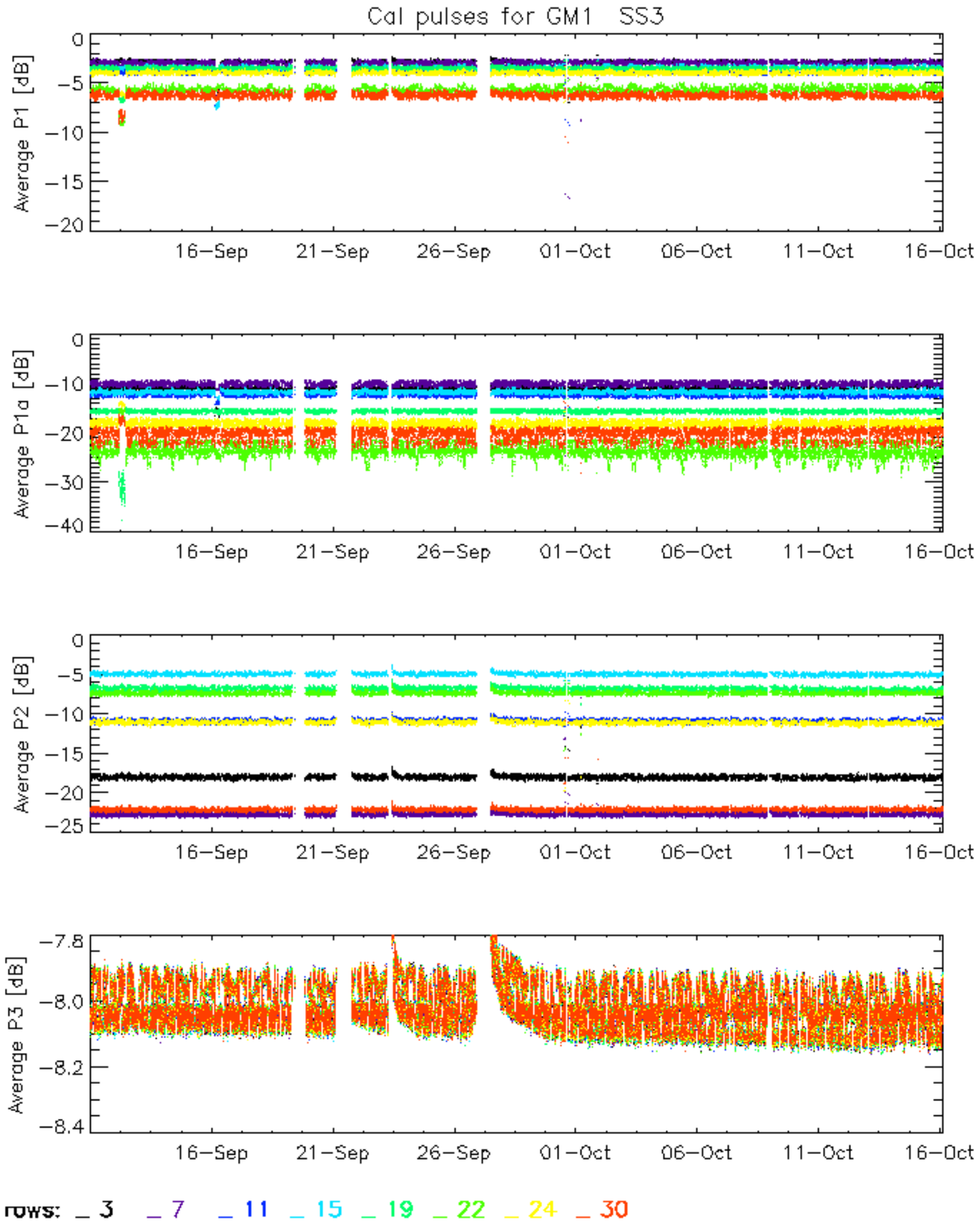
Evolution of Absolute Doppler

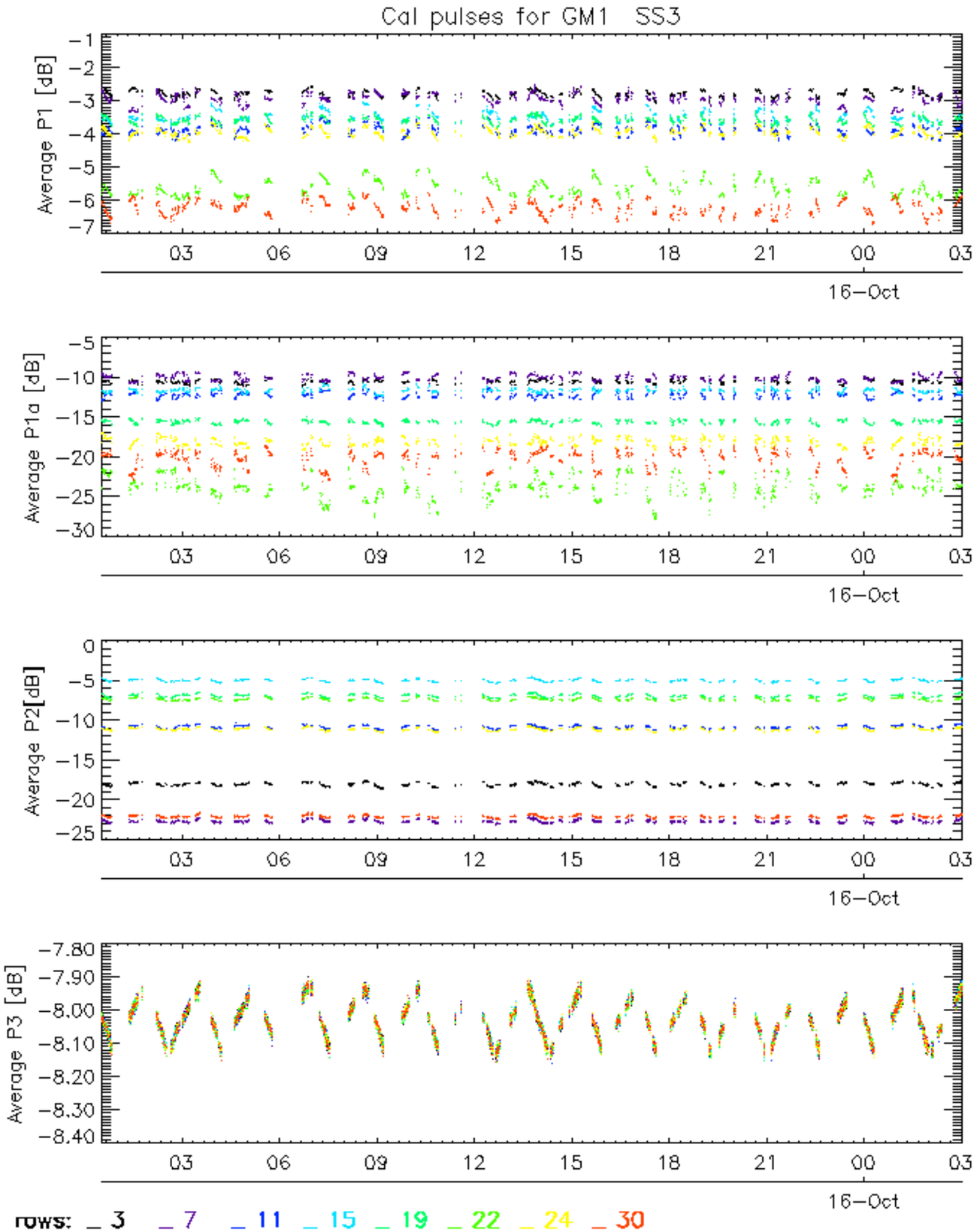
Acsending

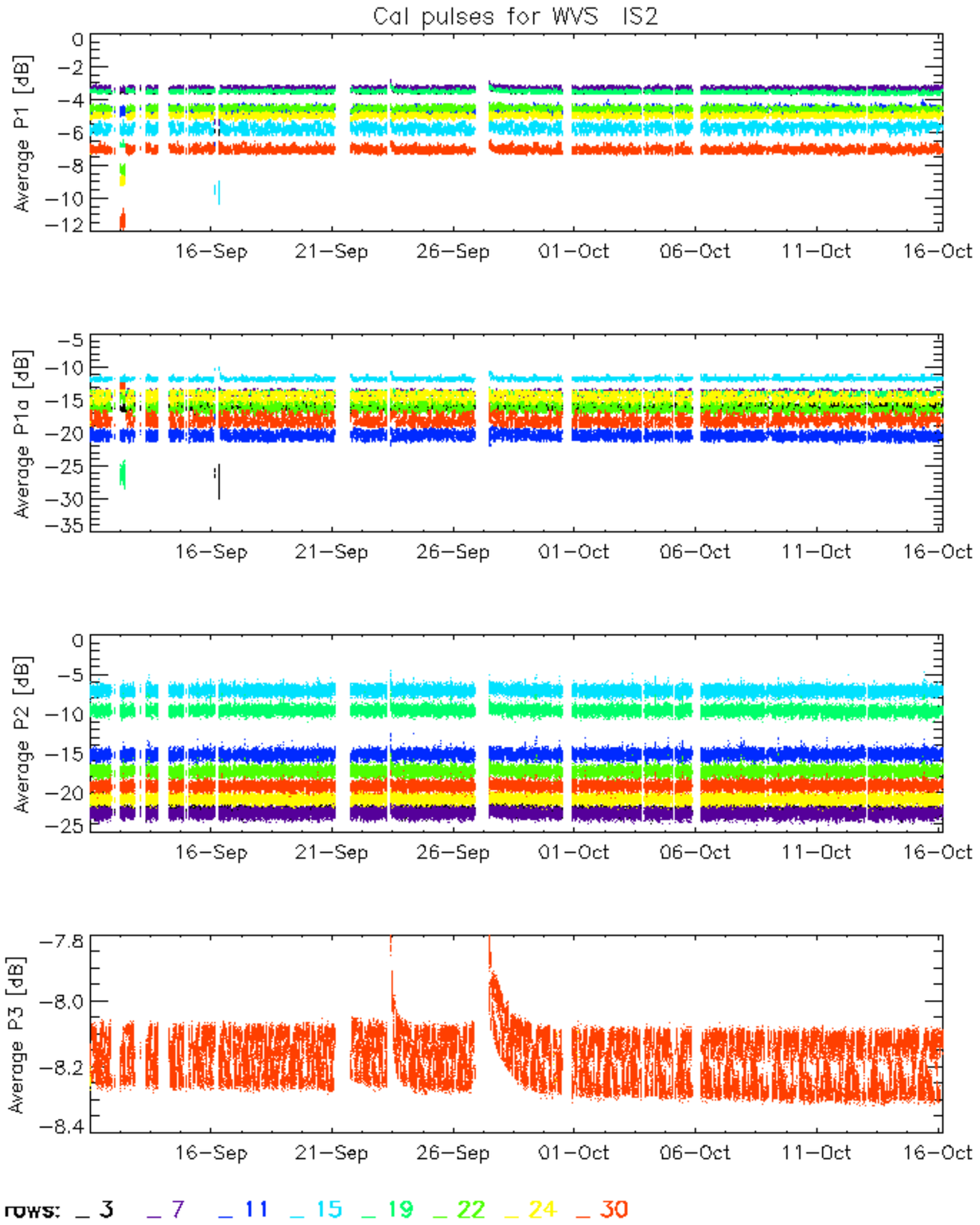
Descending

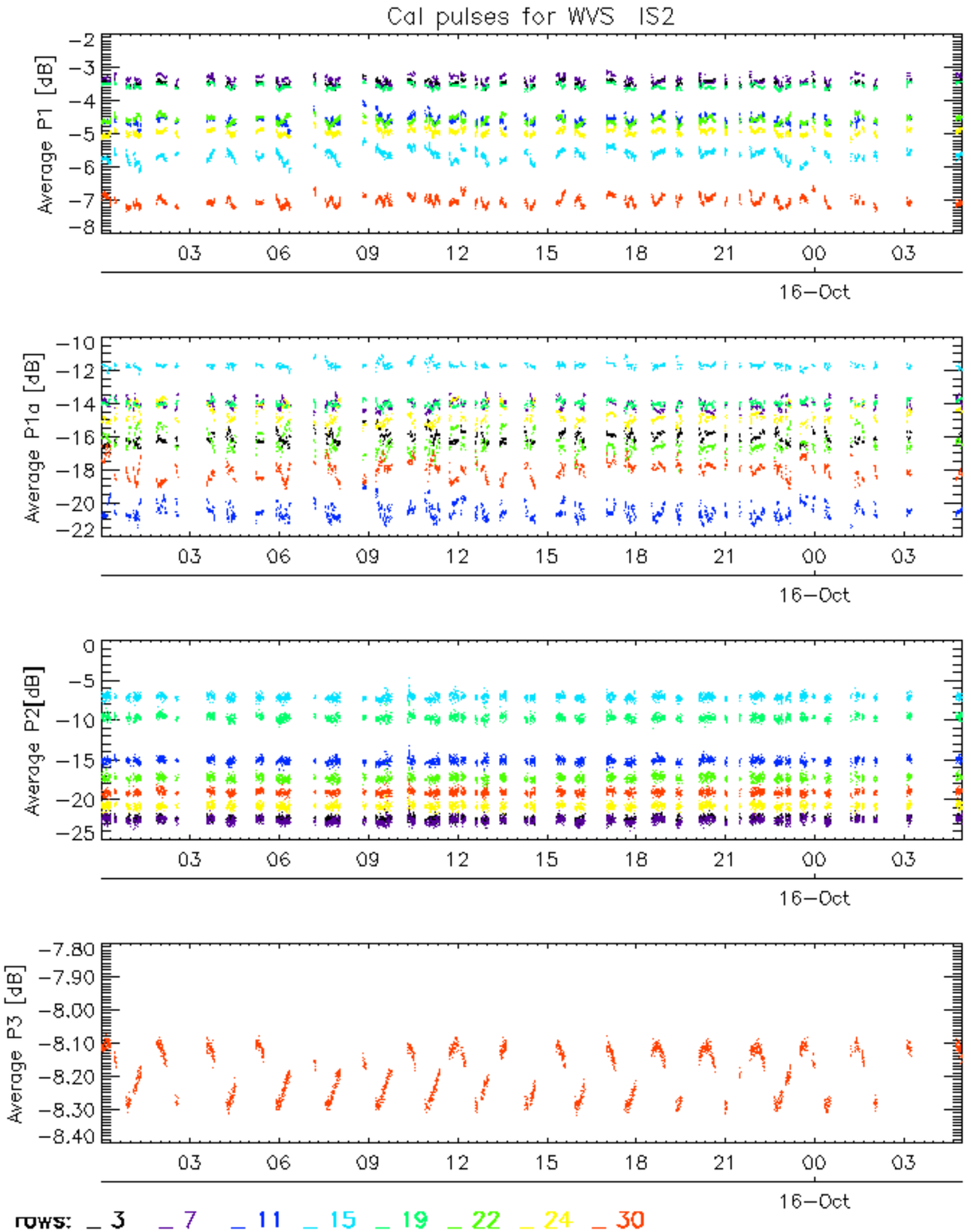
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

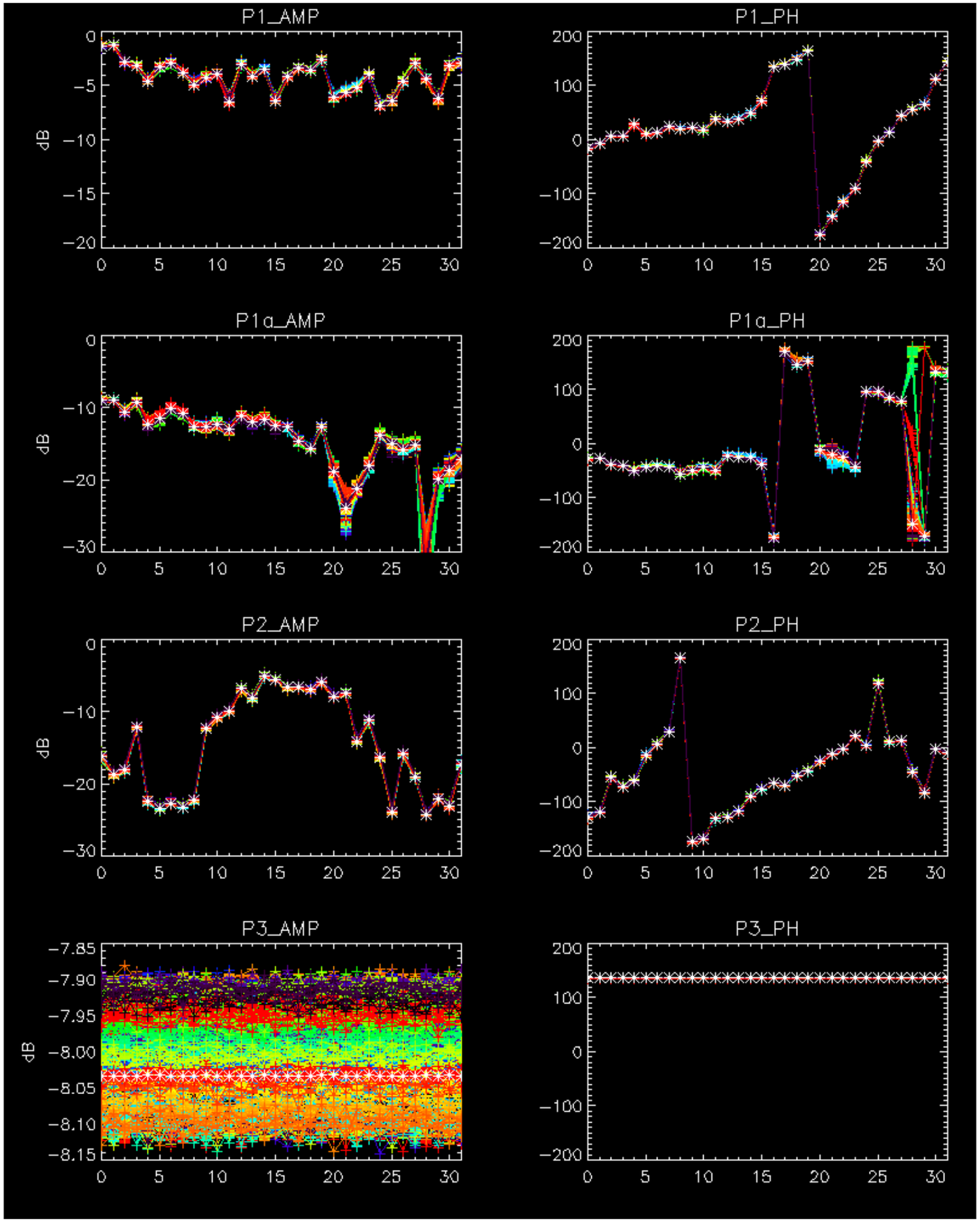


Cal pulses for GM1 SS3
Average P1 [dB]
0
−5
−10
−15
−20
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct
11−Oct
16−Oct
Average P1a [dB]
0
−10
−20
−30
−40
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: 3 7 11 15 19 22 24 30

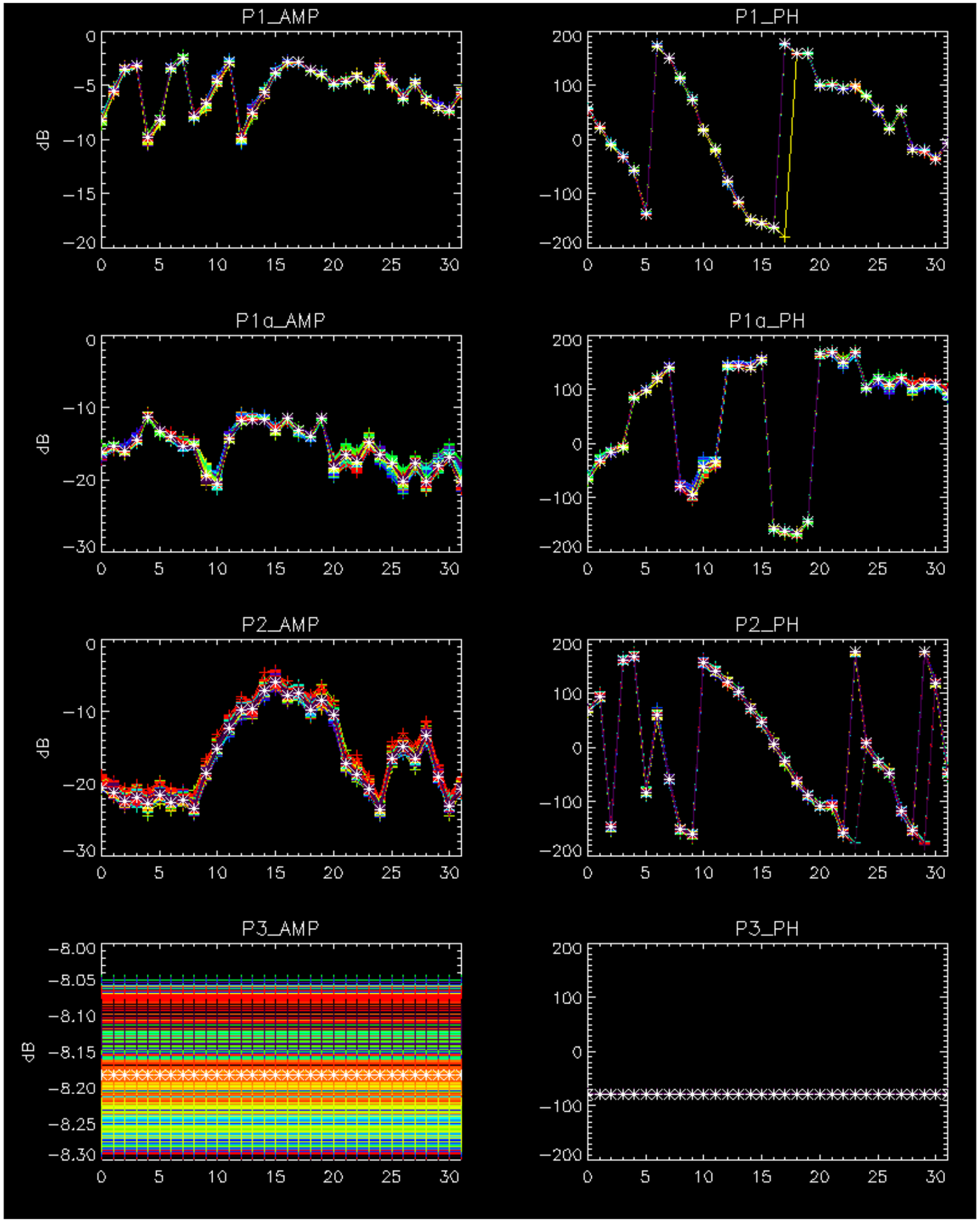

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
16−Oct
Average P1a [dB]
−5
−10
−15
−20
−25
−30
03
06
09
12
15
18
21
00
03
16−Oct
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
03
16−Oct
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
06
09
12
15
18
21
00
03
16−Oct
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct
11−Oct
16−Oct
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
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 _ 24 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−2
−3
−4
−5
−6
−7
−8
03
06
09
12
15
18
21
00
03
16−Oct
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
Average P2[dB]
0
−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 _ 24 _ 30

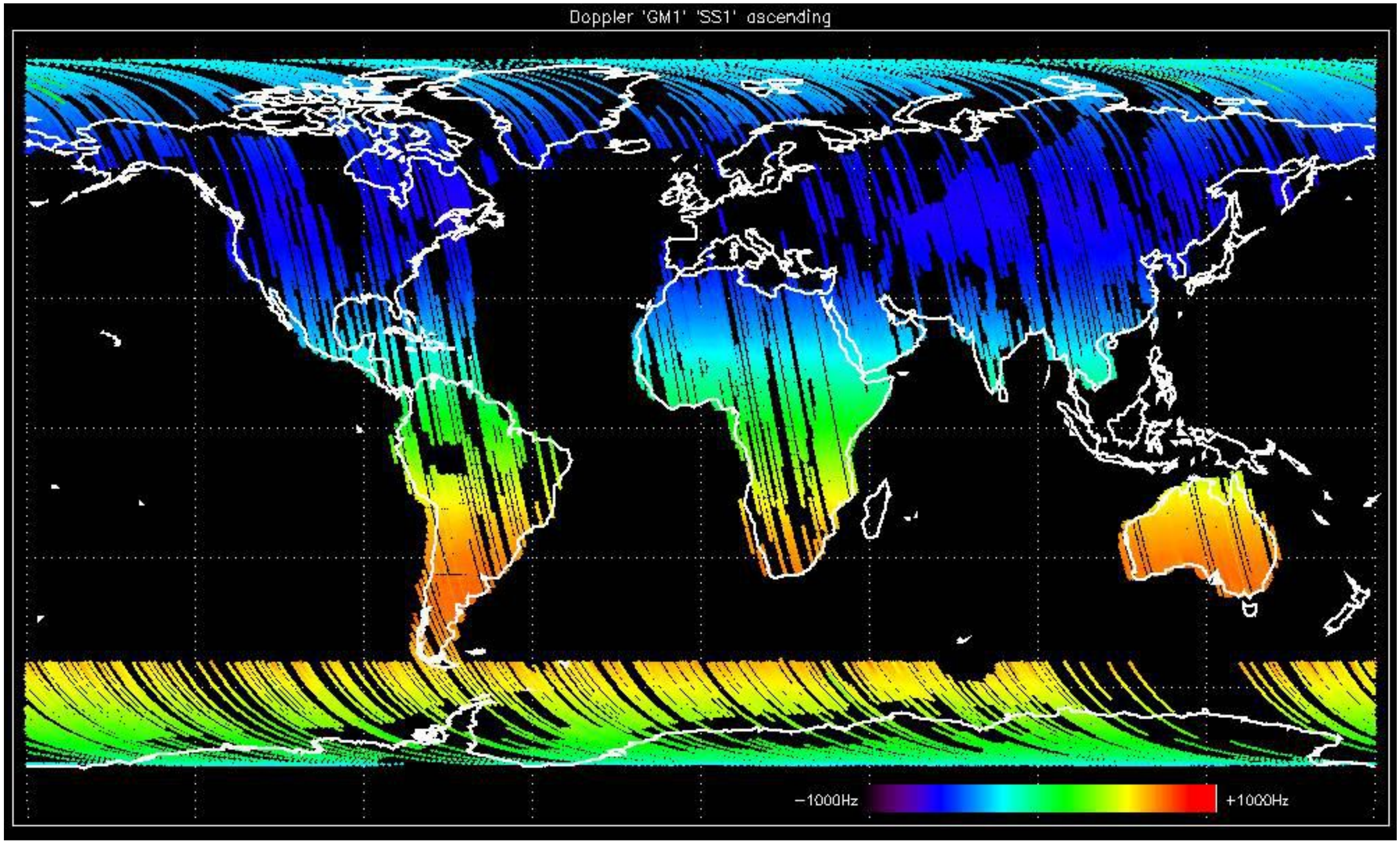
No anomalies observed.

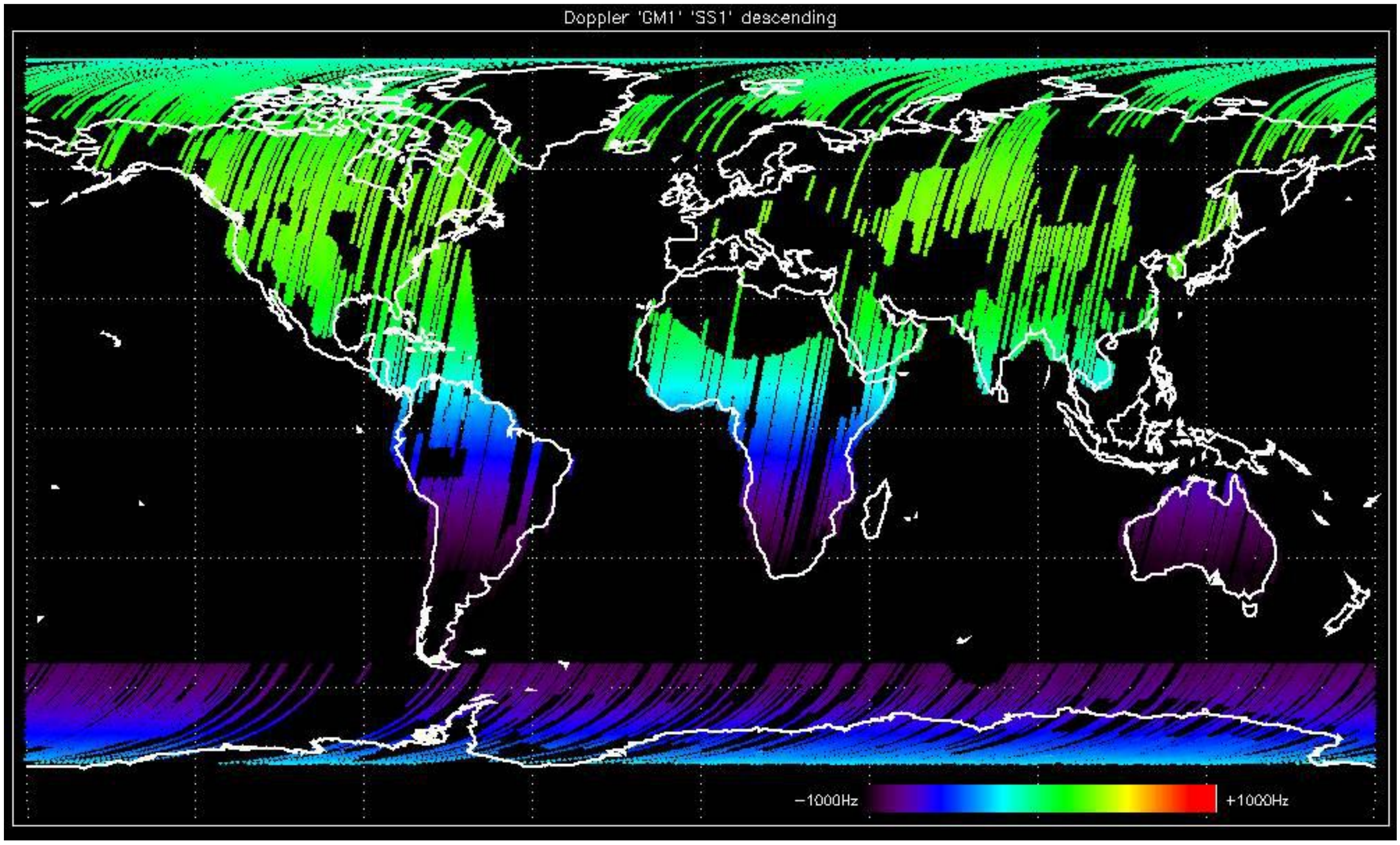

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.85
−7.90
−7.95
−8.00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

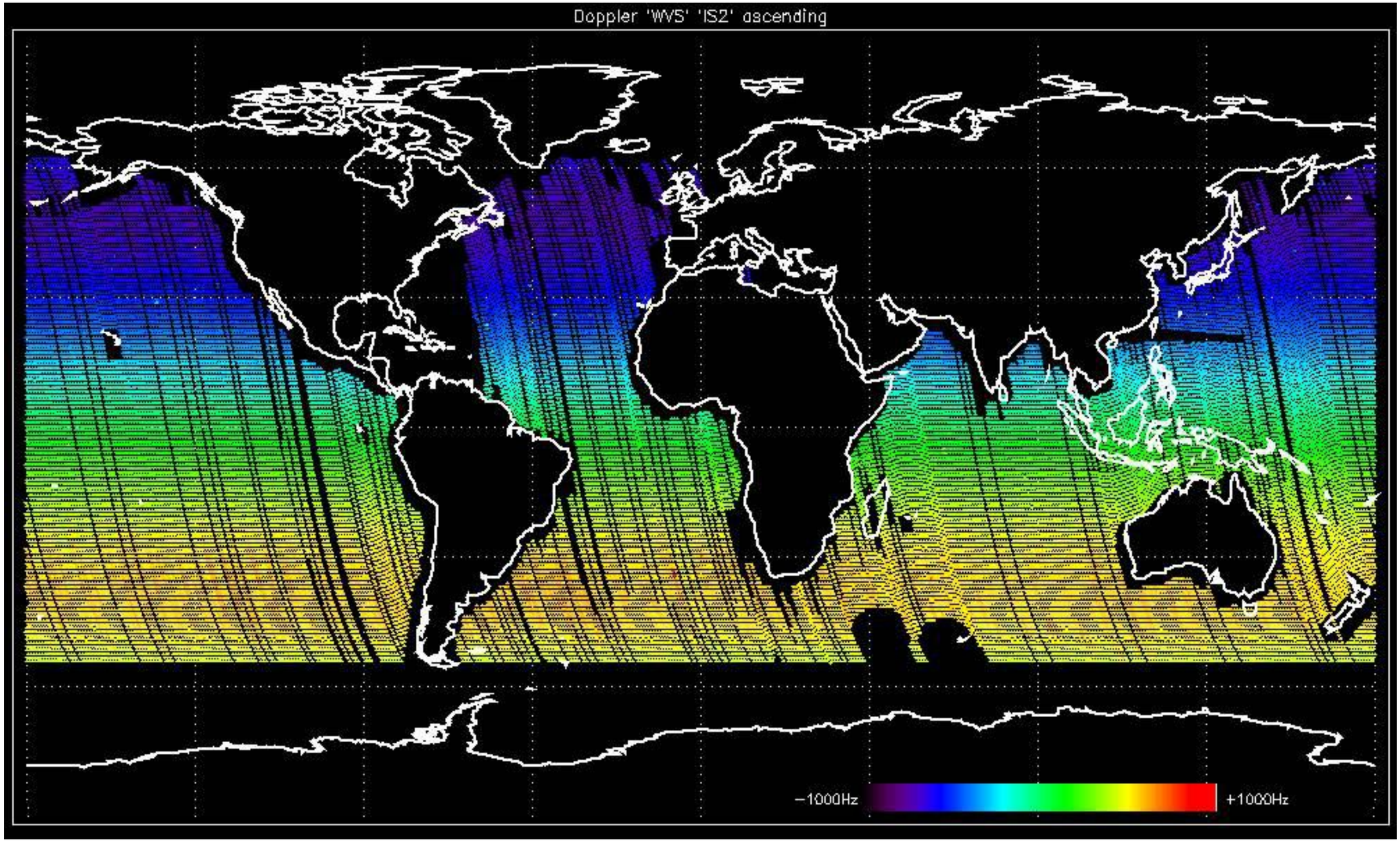

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.00
−8.05
−8.10
−8.15
−8.20
−8.25
−8.30
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

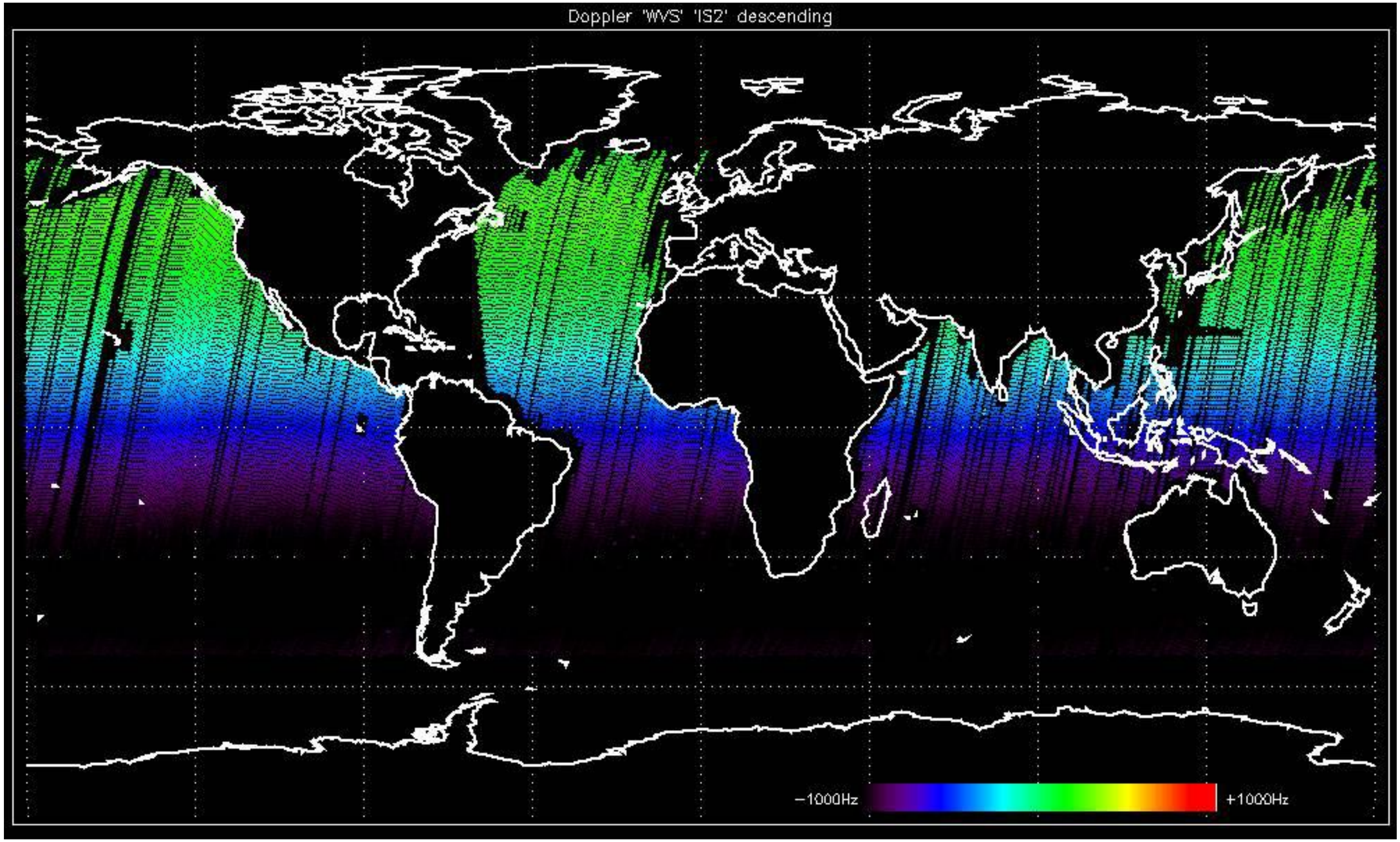
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

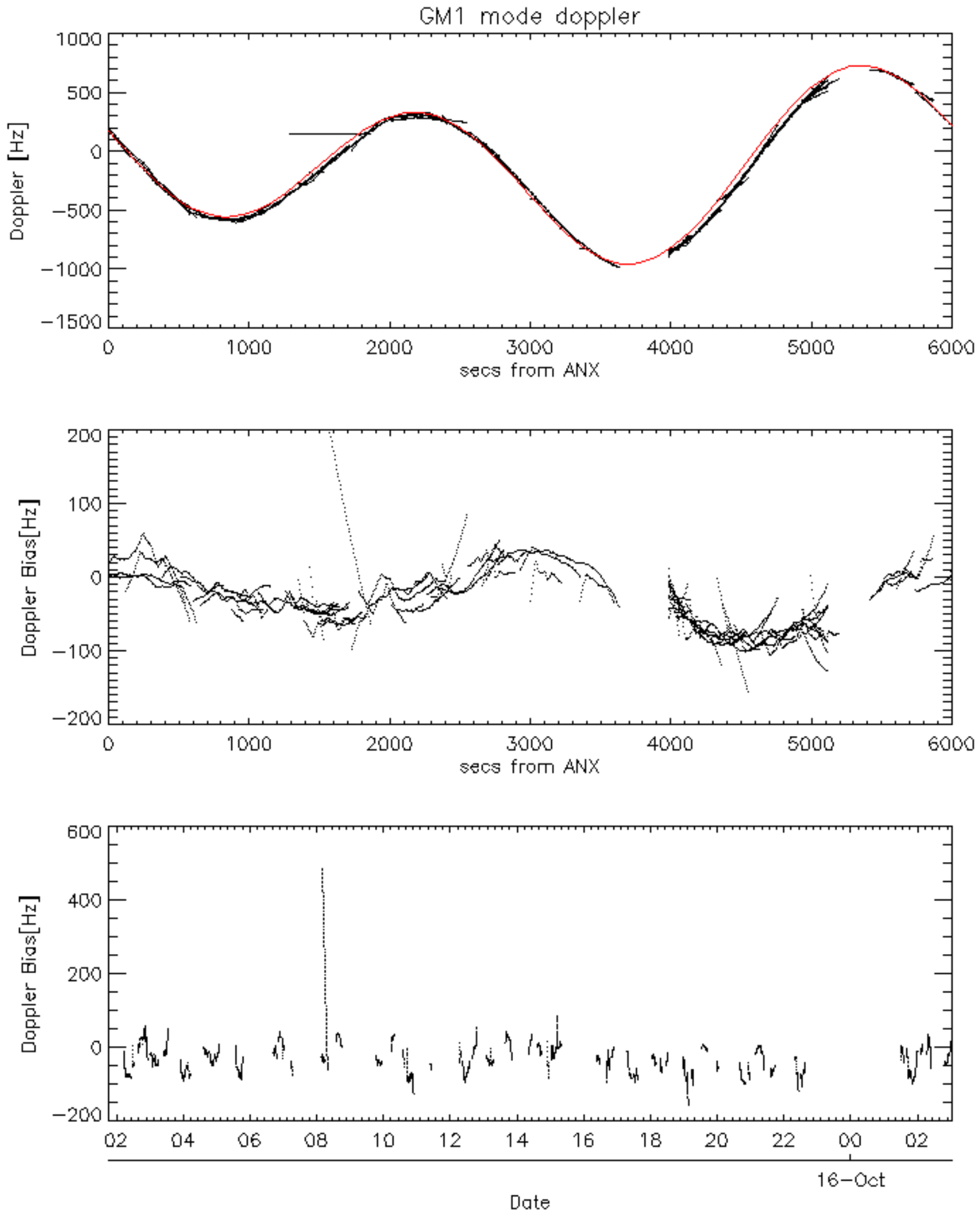
Preliminary report.The data is not yet controled

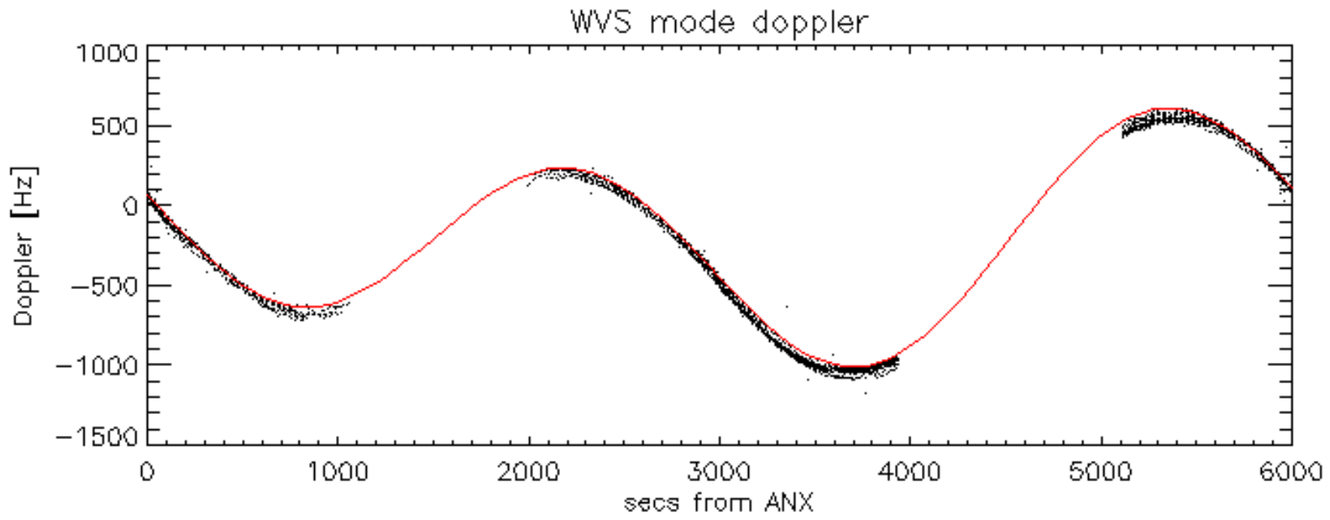

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

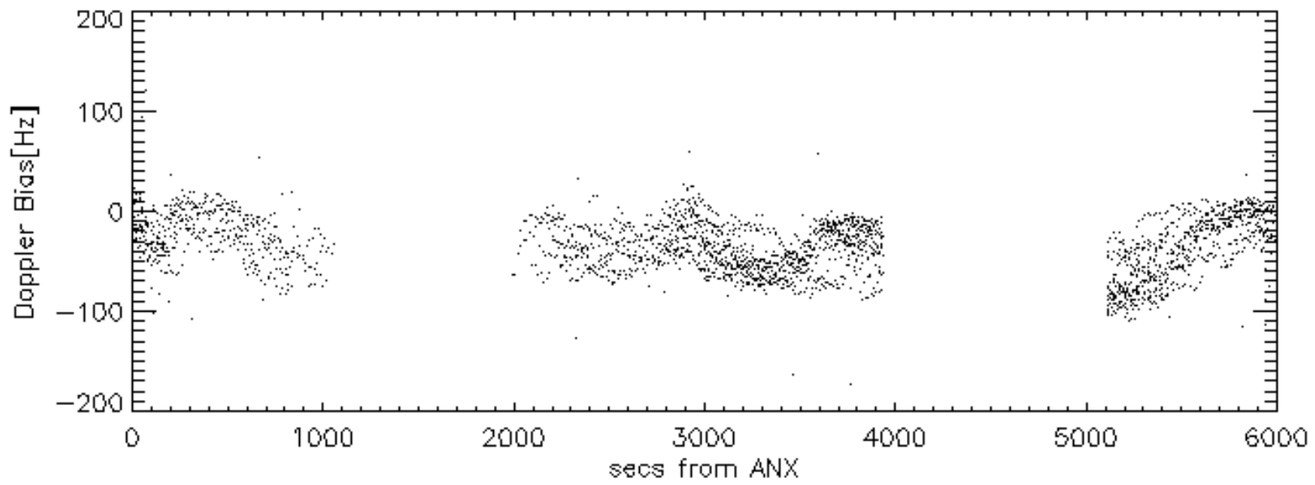

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

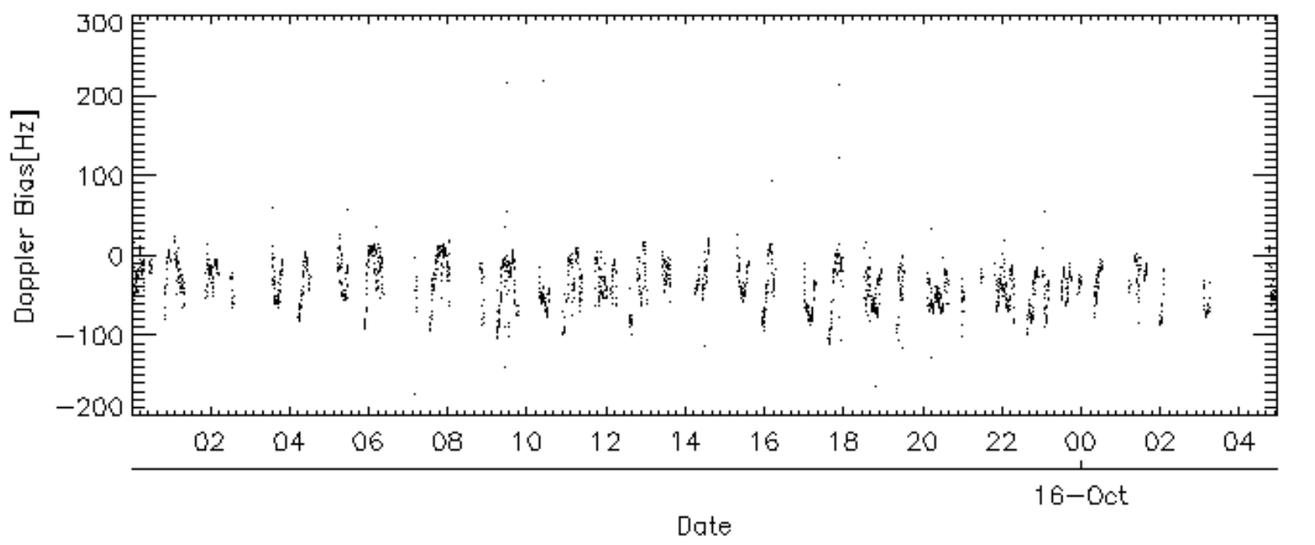

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

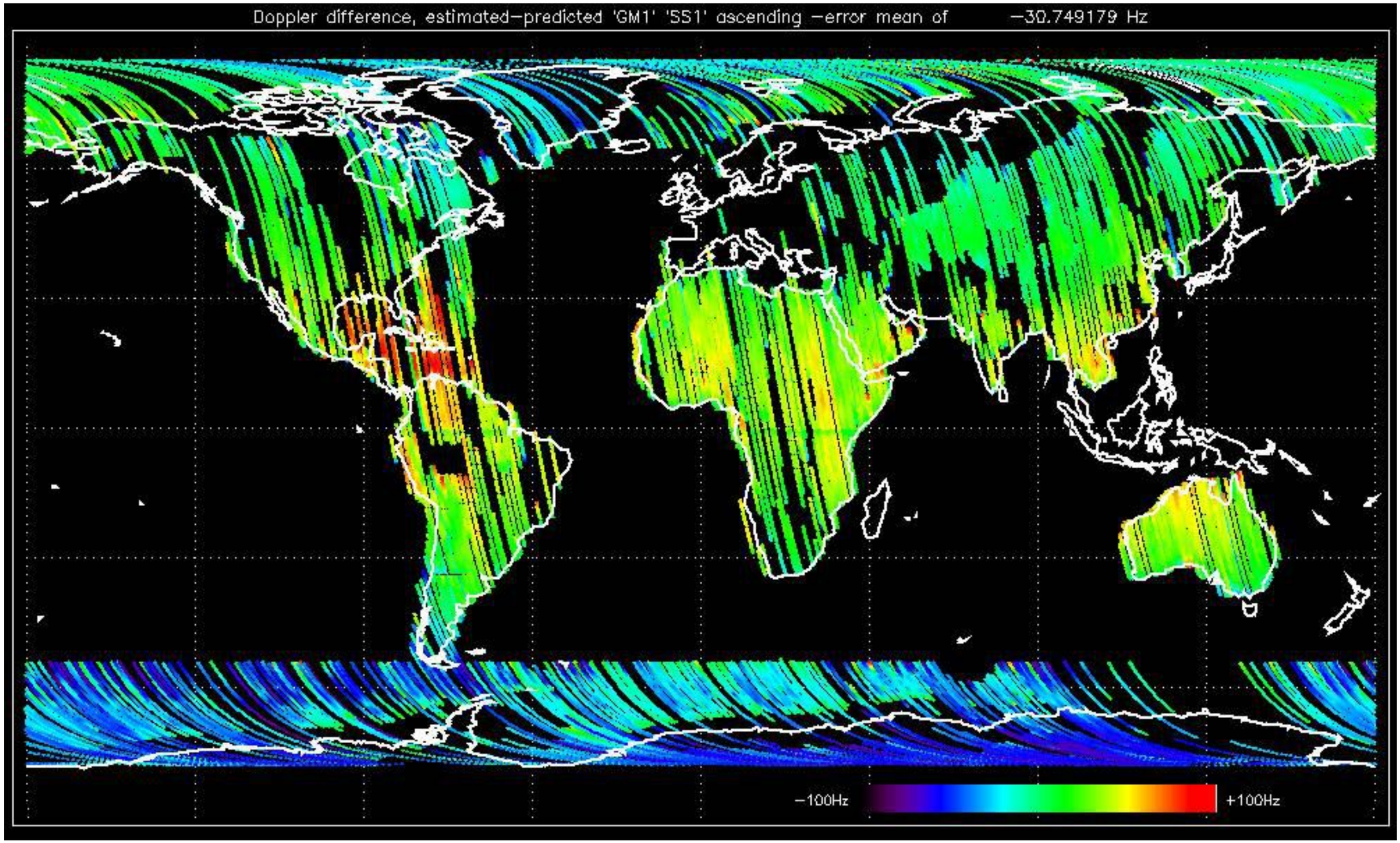

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

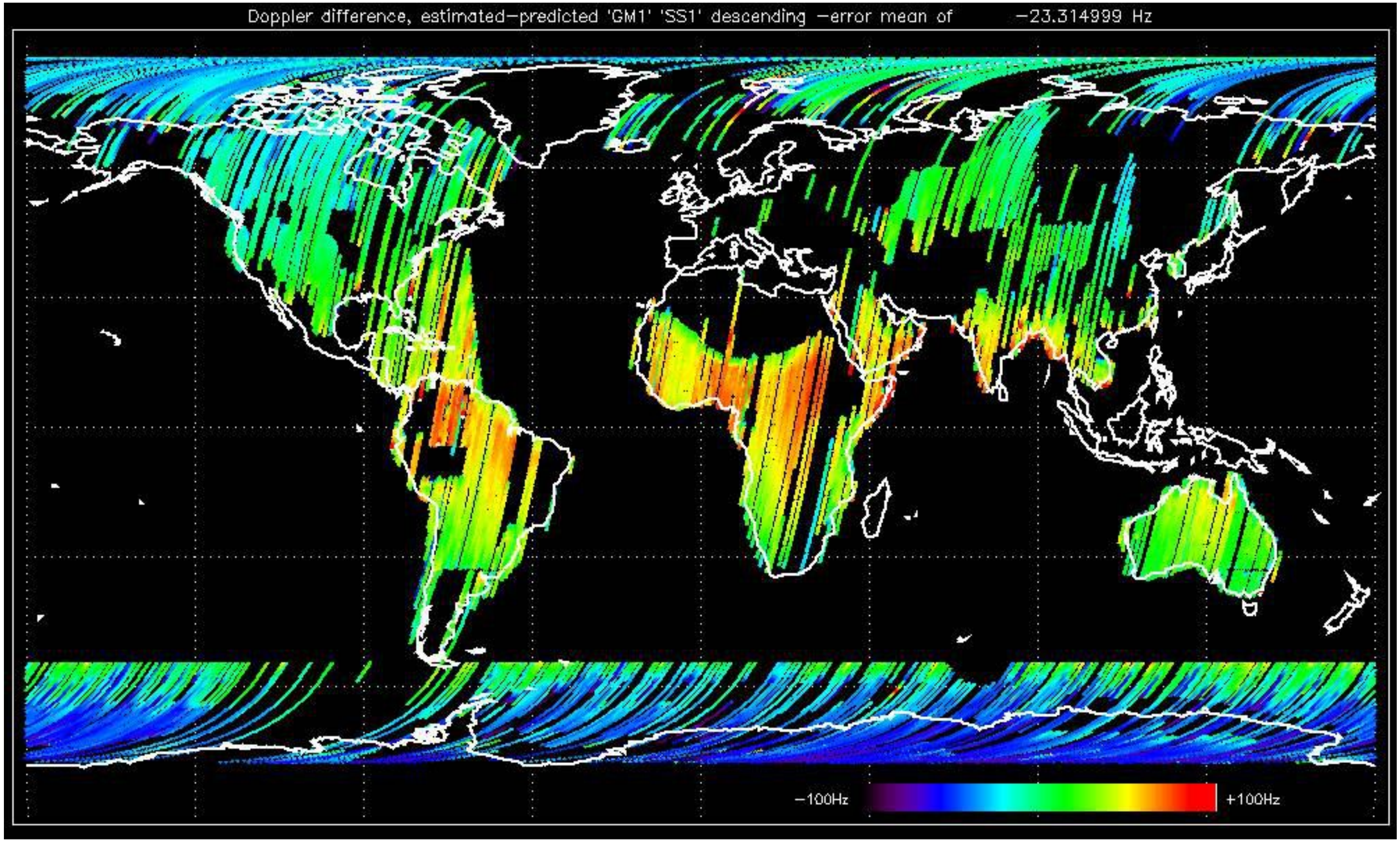

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
600
400
200
0
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
16−Oct
Date

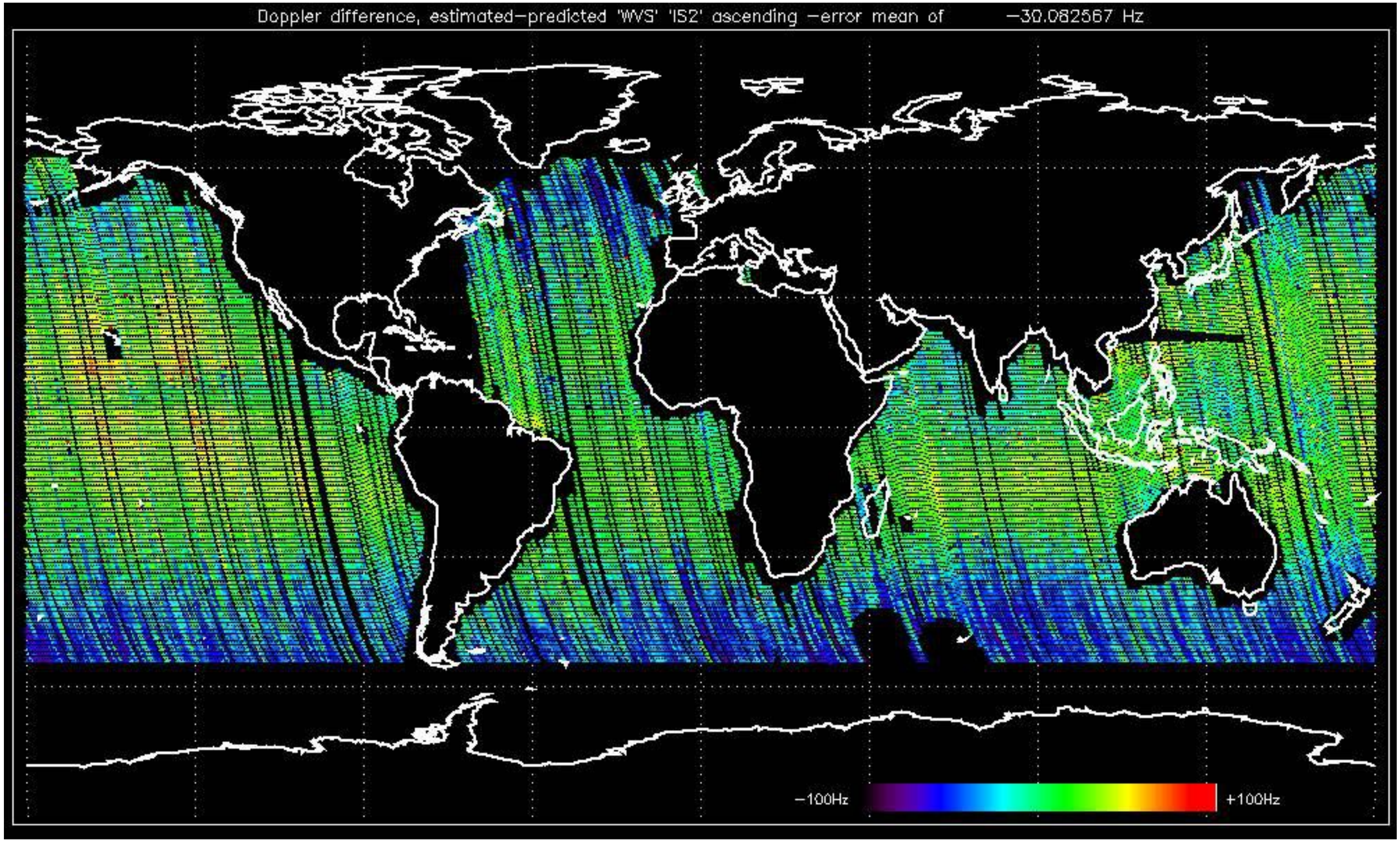

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

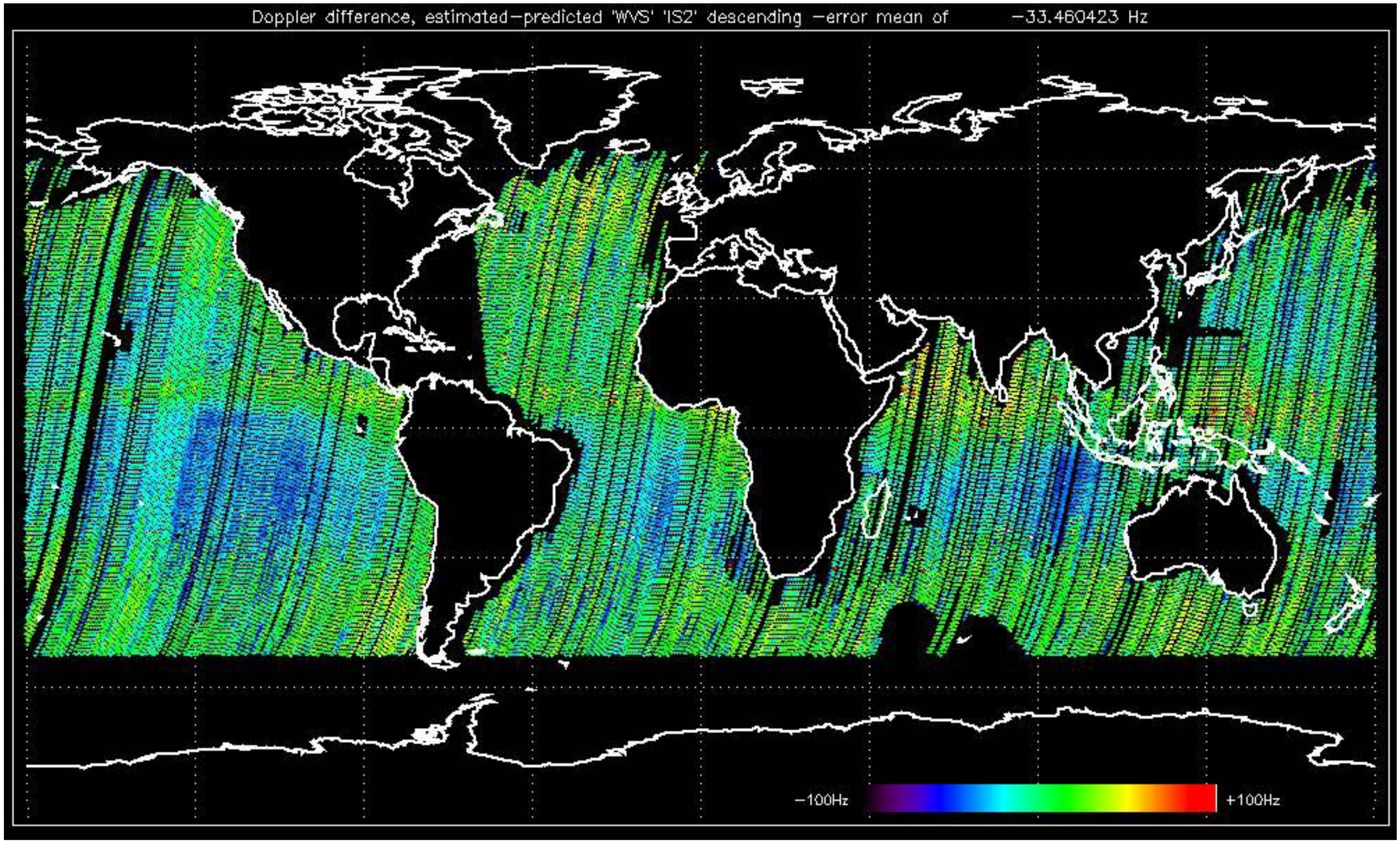

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −30.749179 Hz
−100Hz
+100Hz

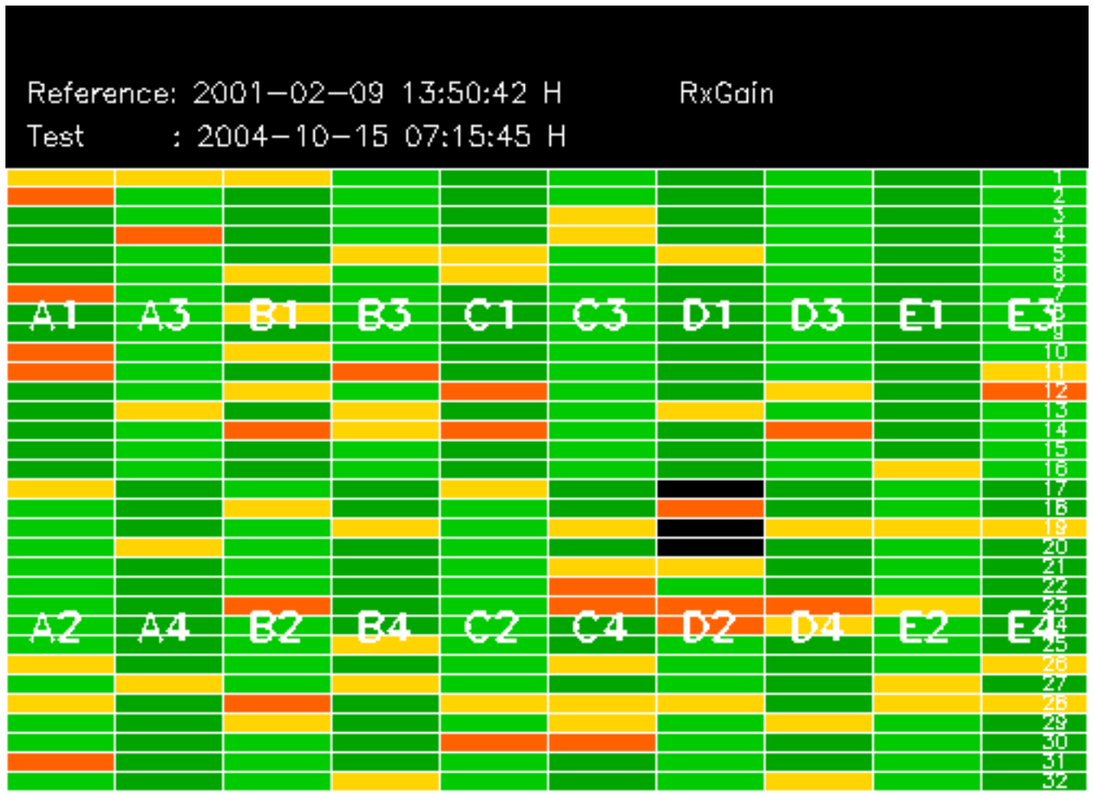

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −23.314999 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −30.082567 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −33.460423 Hz
−100Hz
+100Hz

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

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2004-10-15 07:15:45 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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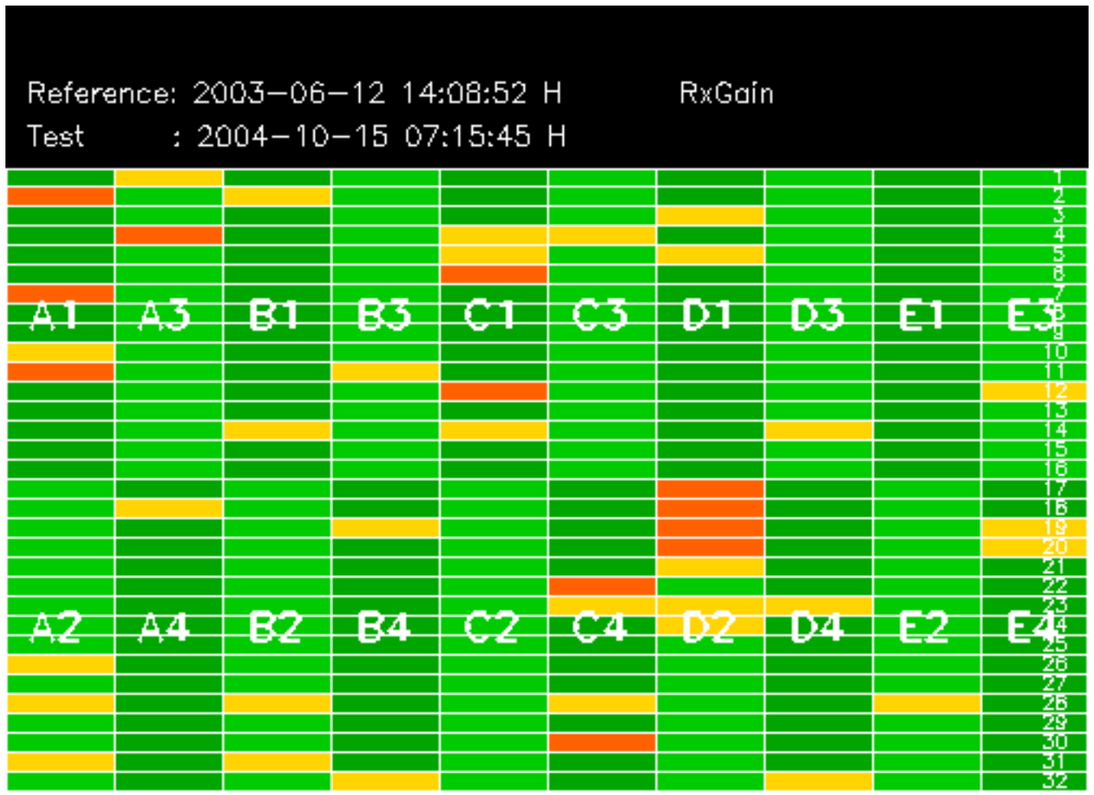
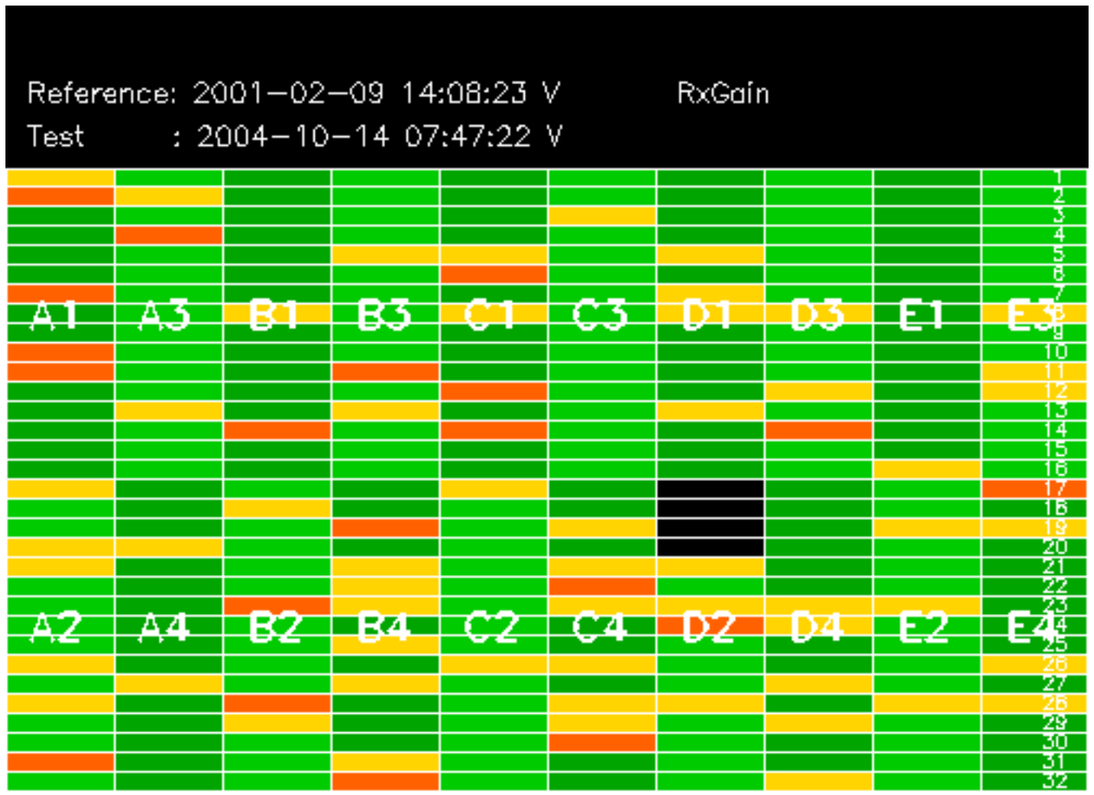
27
28
29
30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2004-10-15 07:15:45 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 : 2004-10-14 07:47:22 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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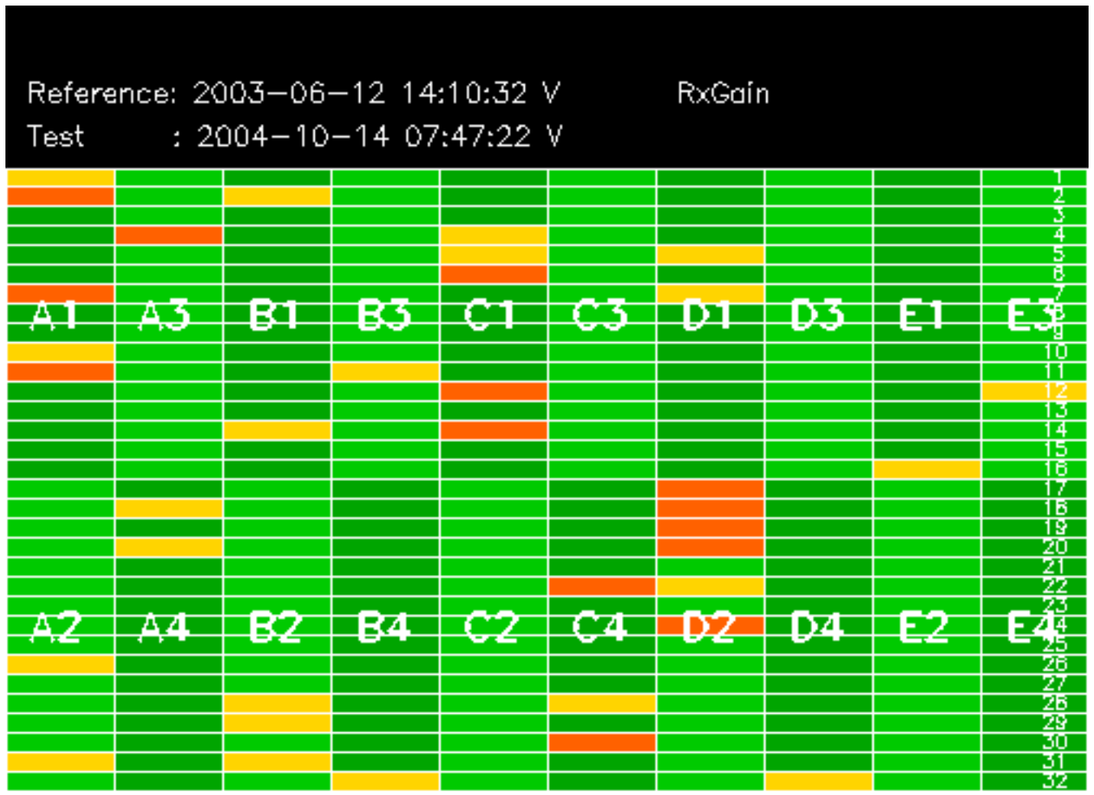
Reference: 2003-06-12 14:10:32 V
Test : 2004-10-14 07:47:22 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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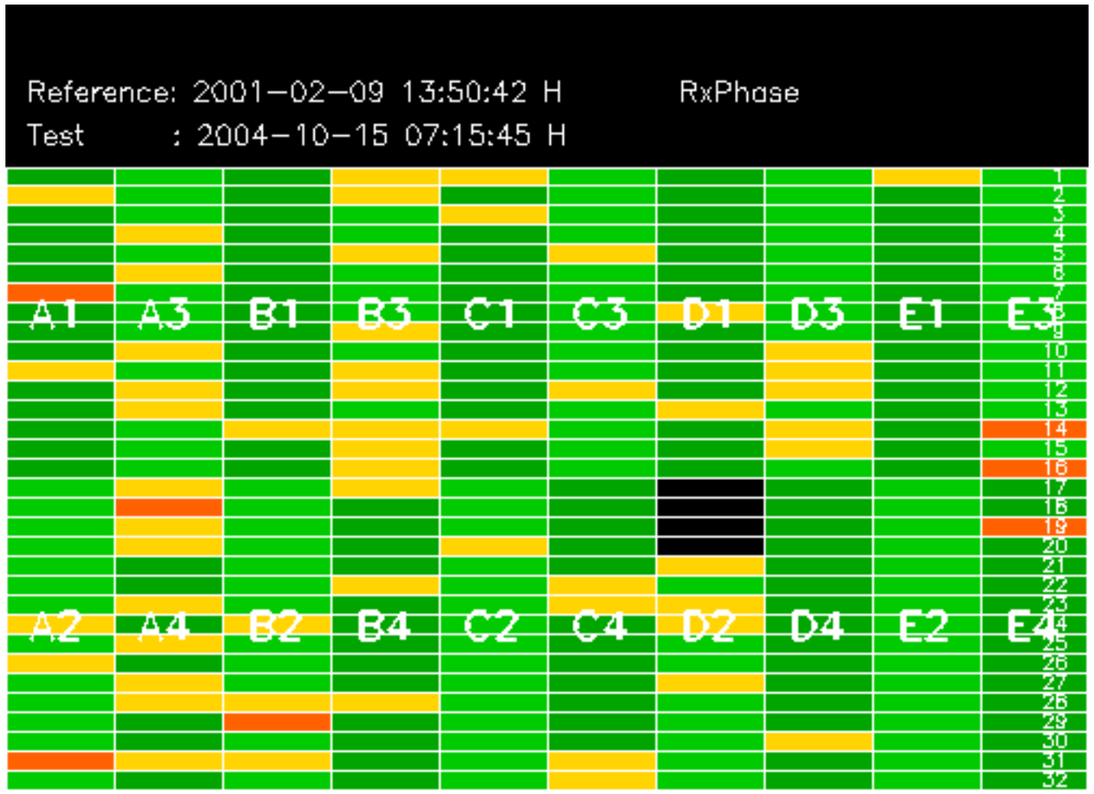
Reference: 2001-02-09 13:50:42 H
Test : 2004-10-15 07:15:45 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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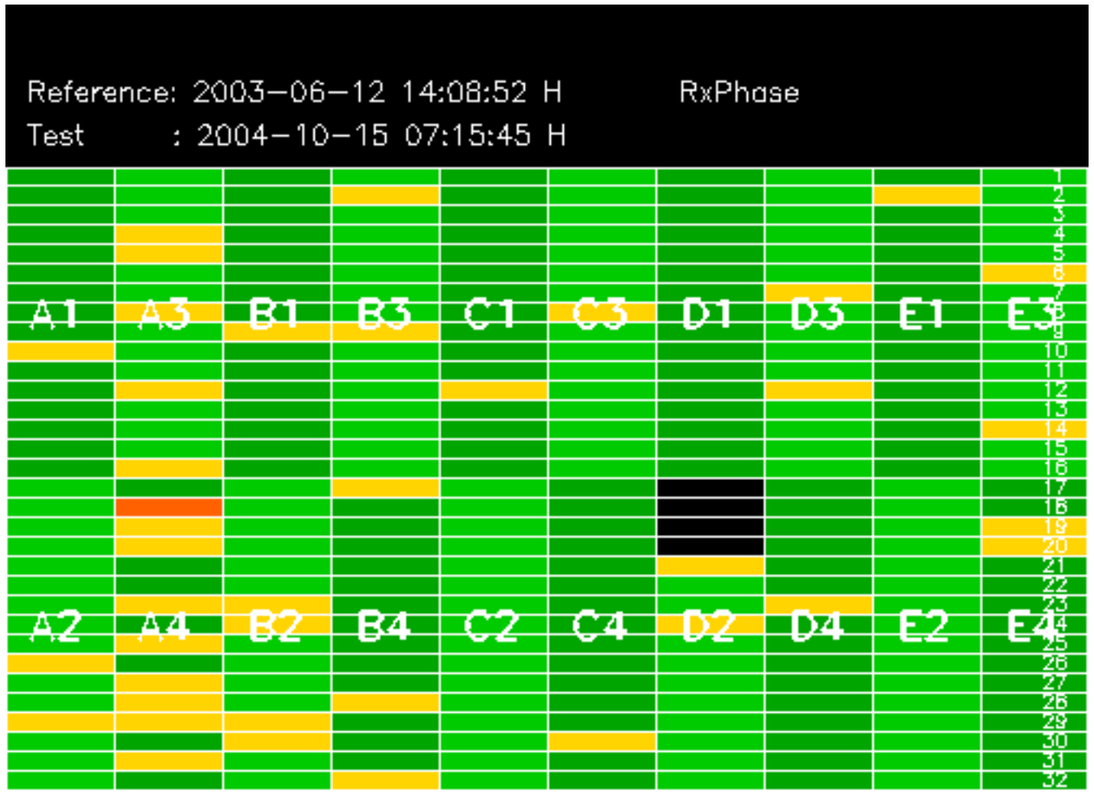
Reference: 2003-06-12 14:08:52 H
Test : 2004-10-15 07:15:45 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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D4
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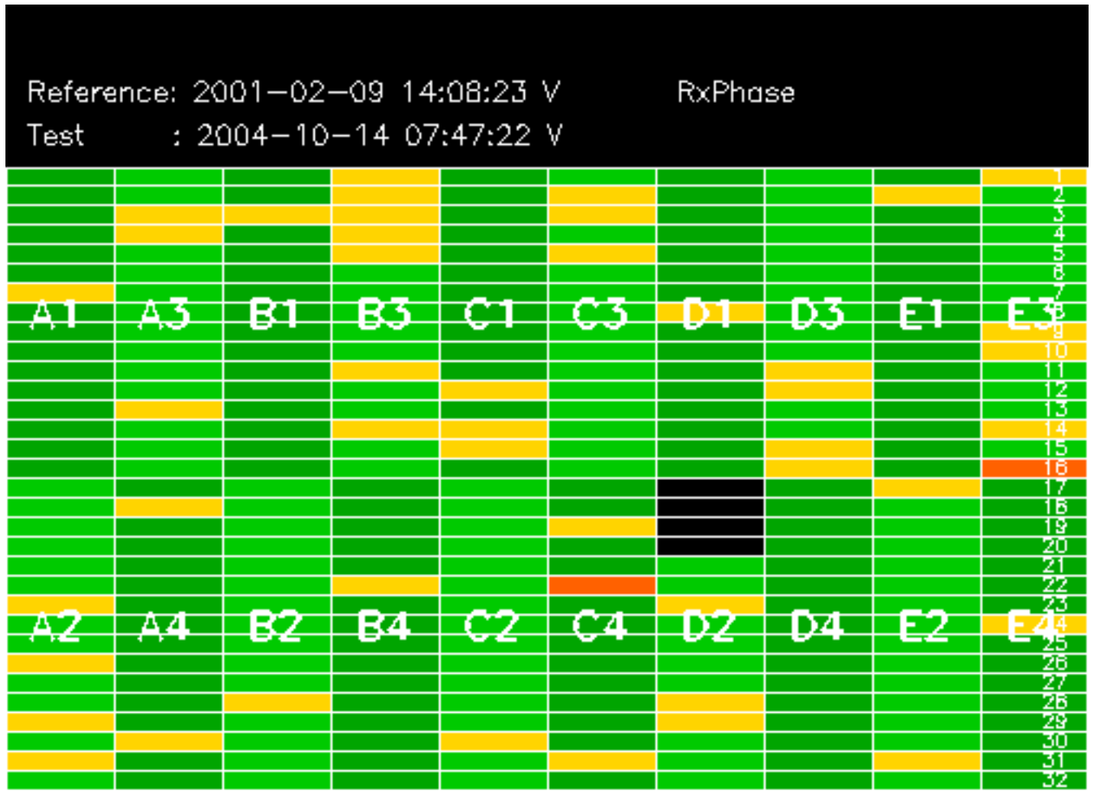
Reference: 2001-02-09 14:08:23 V
Test : 2004-10-14 07:47:22 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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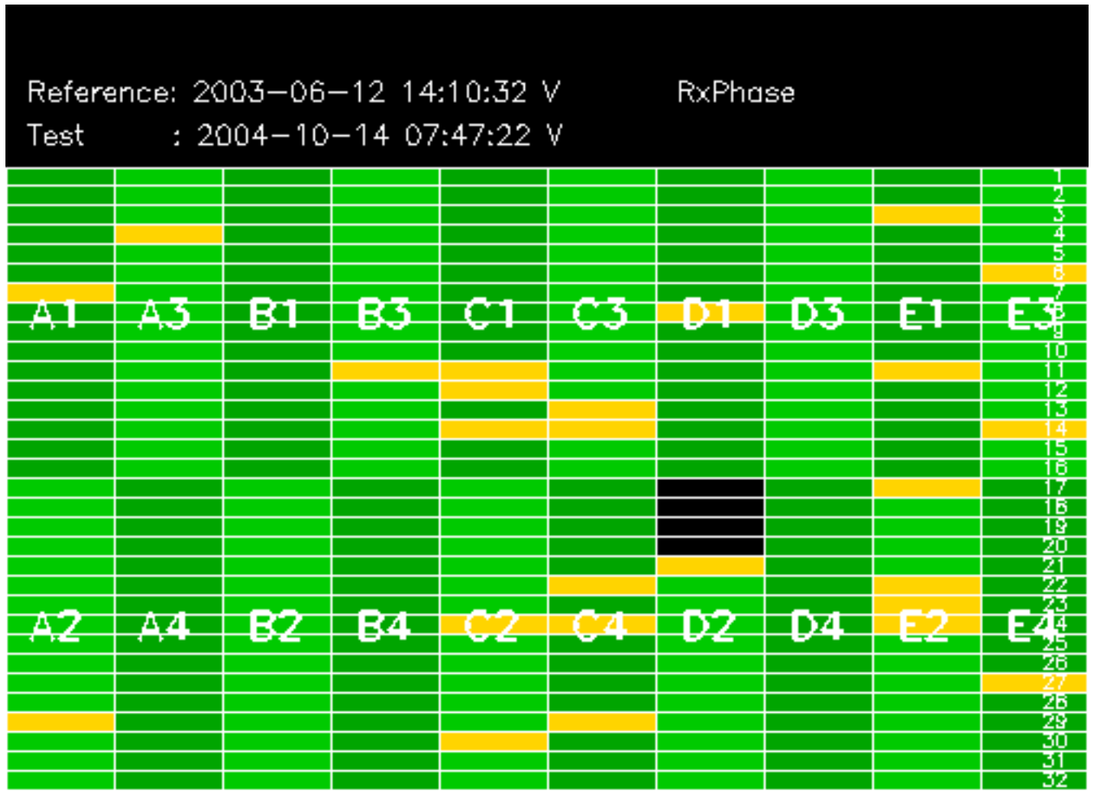
Reference: 2003-06-12 14:10:32 V
Test : 2004-10-14 07:47:22 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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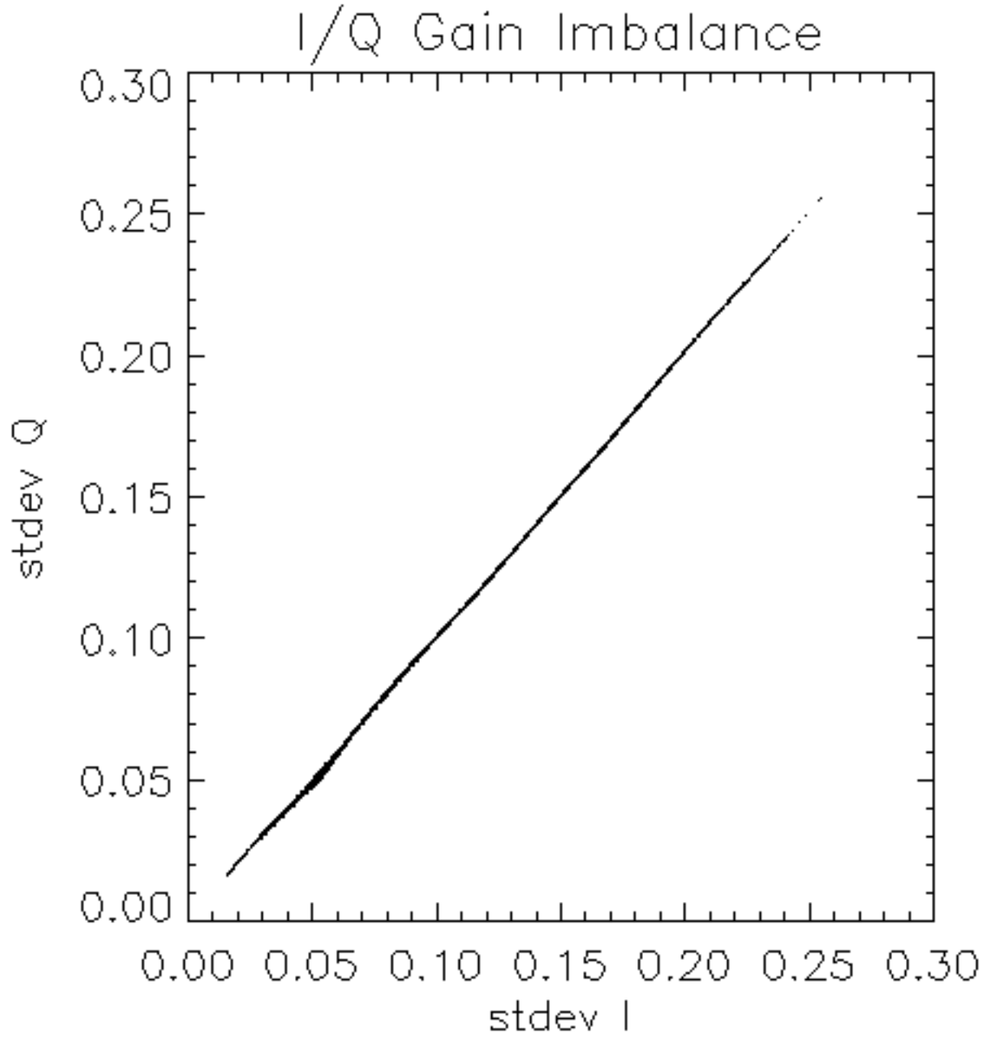
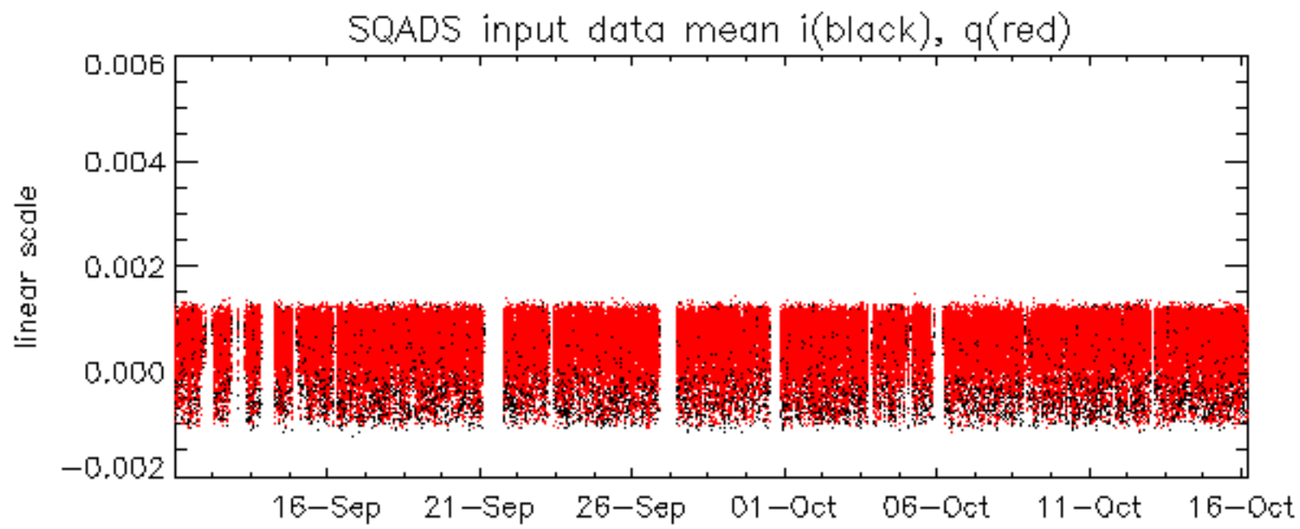
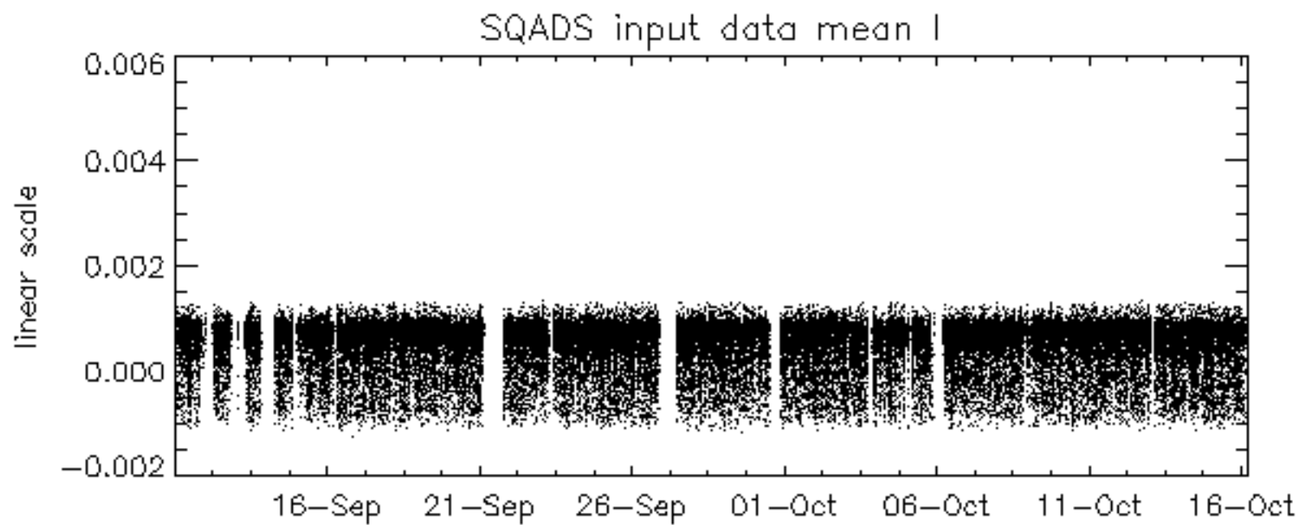
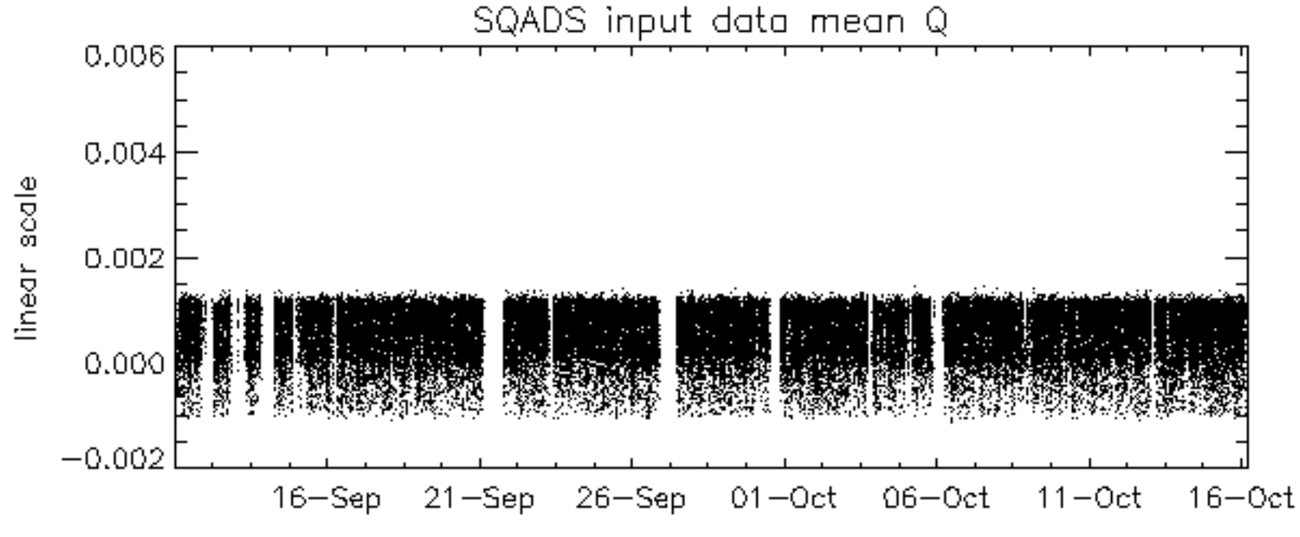
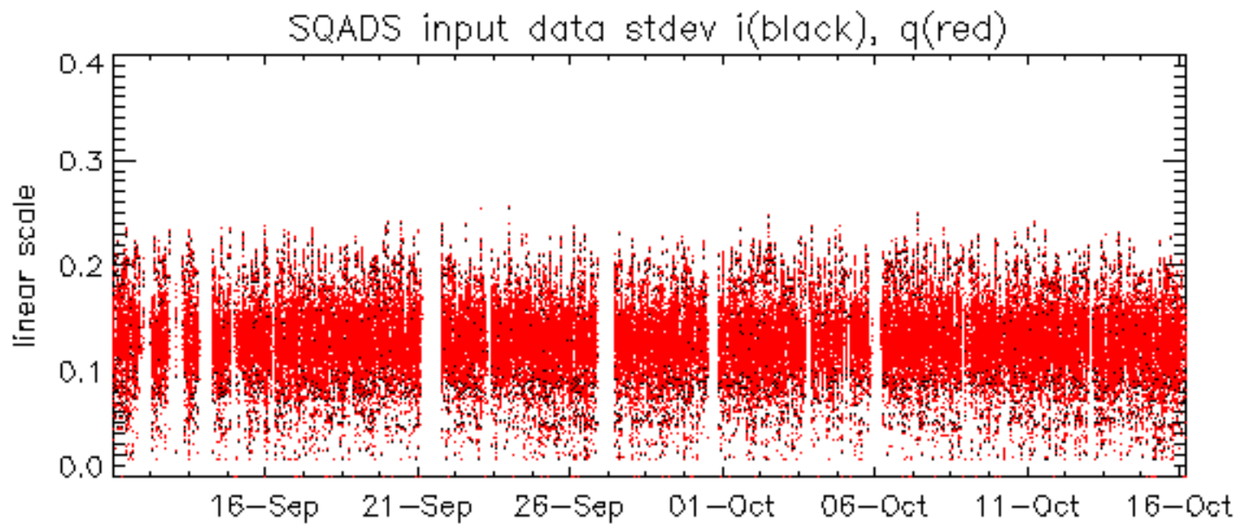
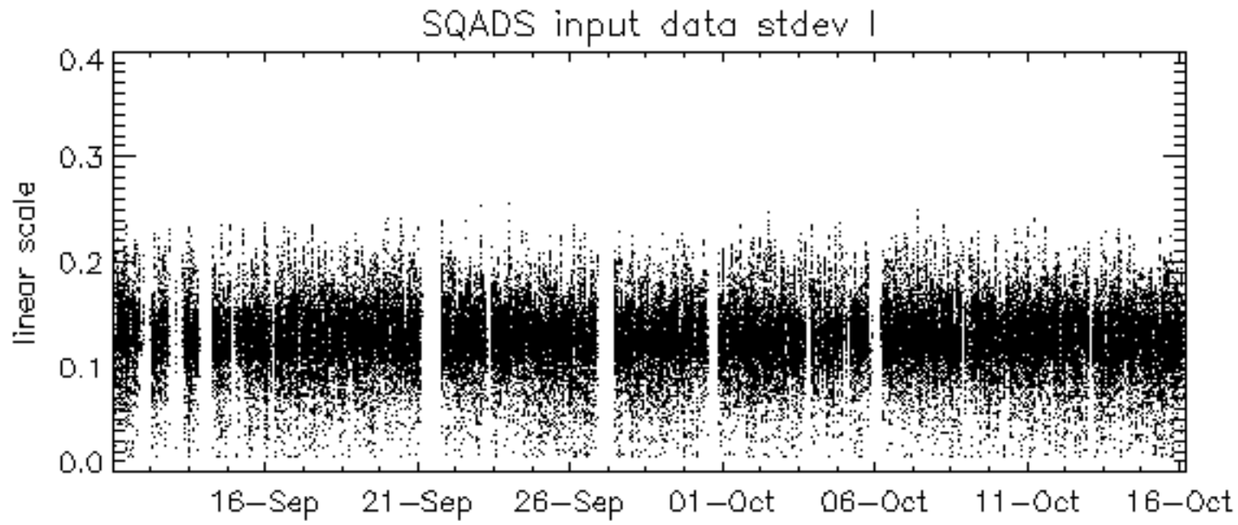

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

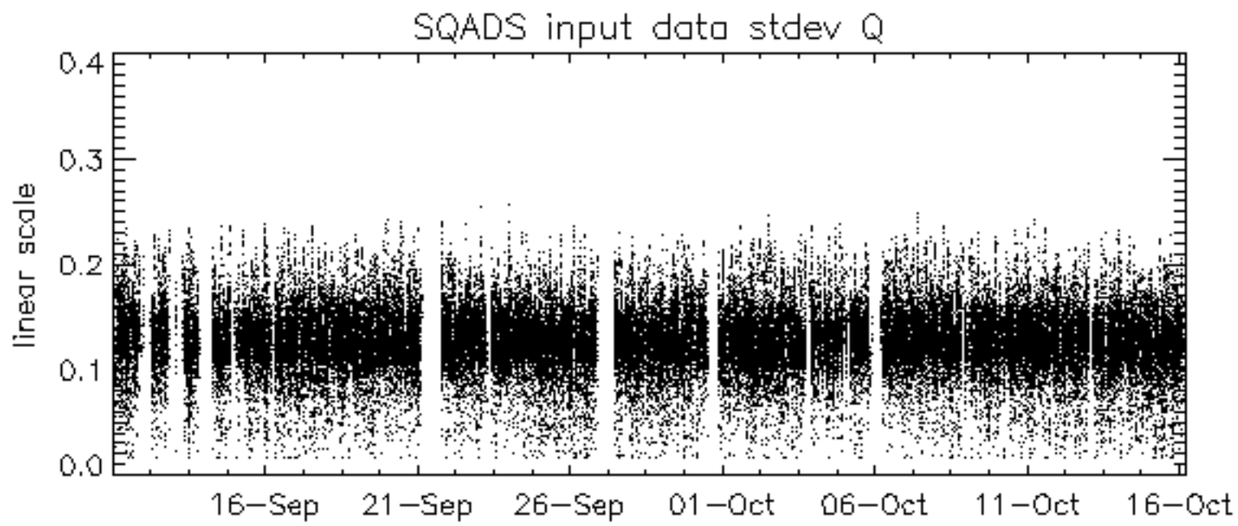

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct
11−Oct
16−Oct

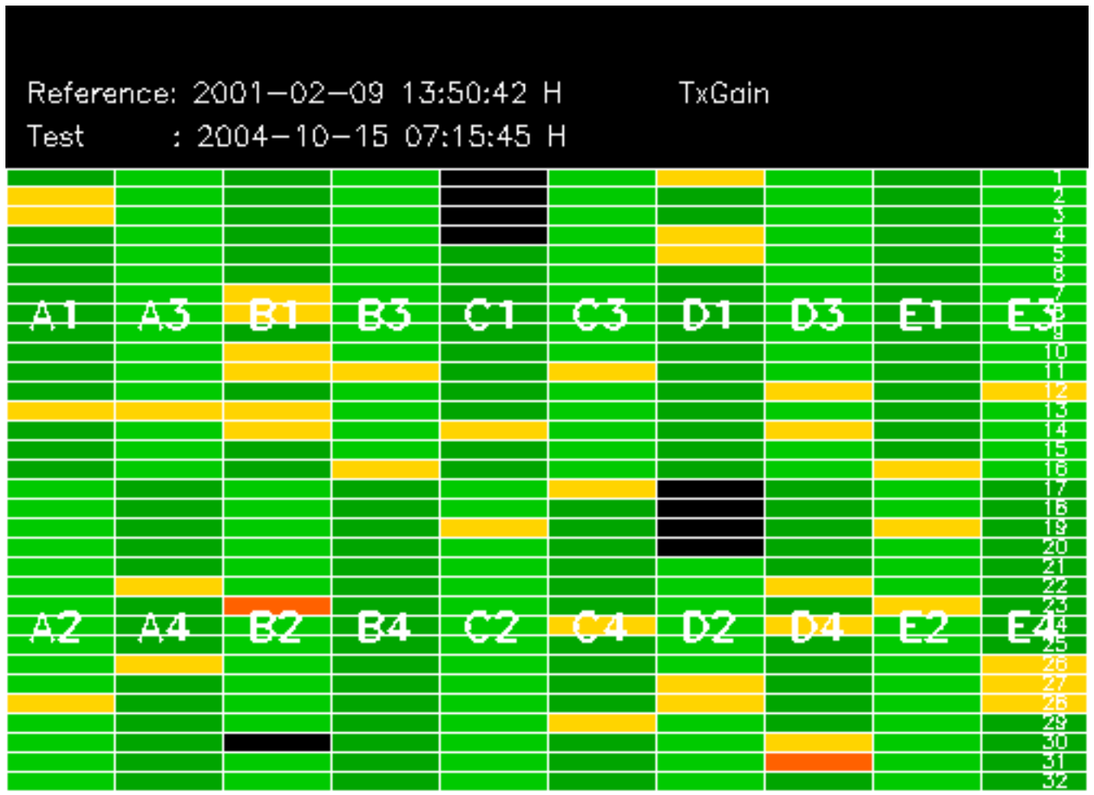

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct
11−Oct
16−Oct


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2004-10-15 07:15:45 H
TxGain
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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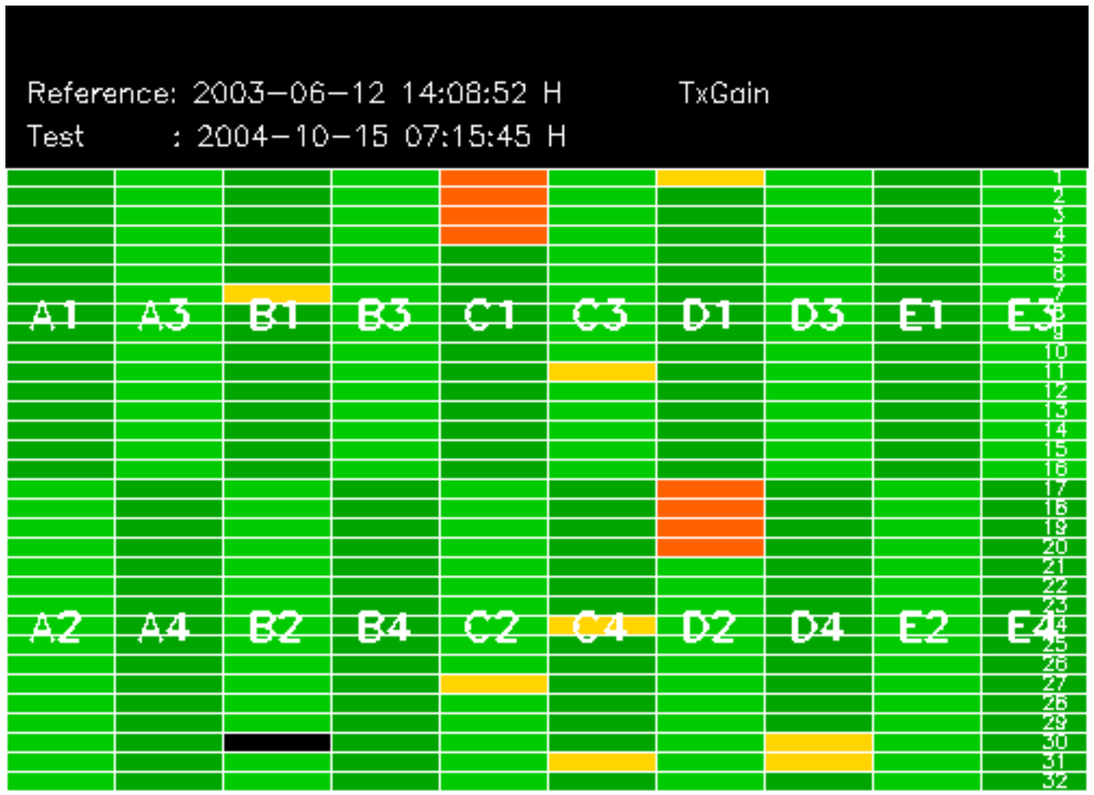
Reference: 2003-06-12 14:08:52 H
Test : 2004-10-15 07:15:45 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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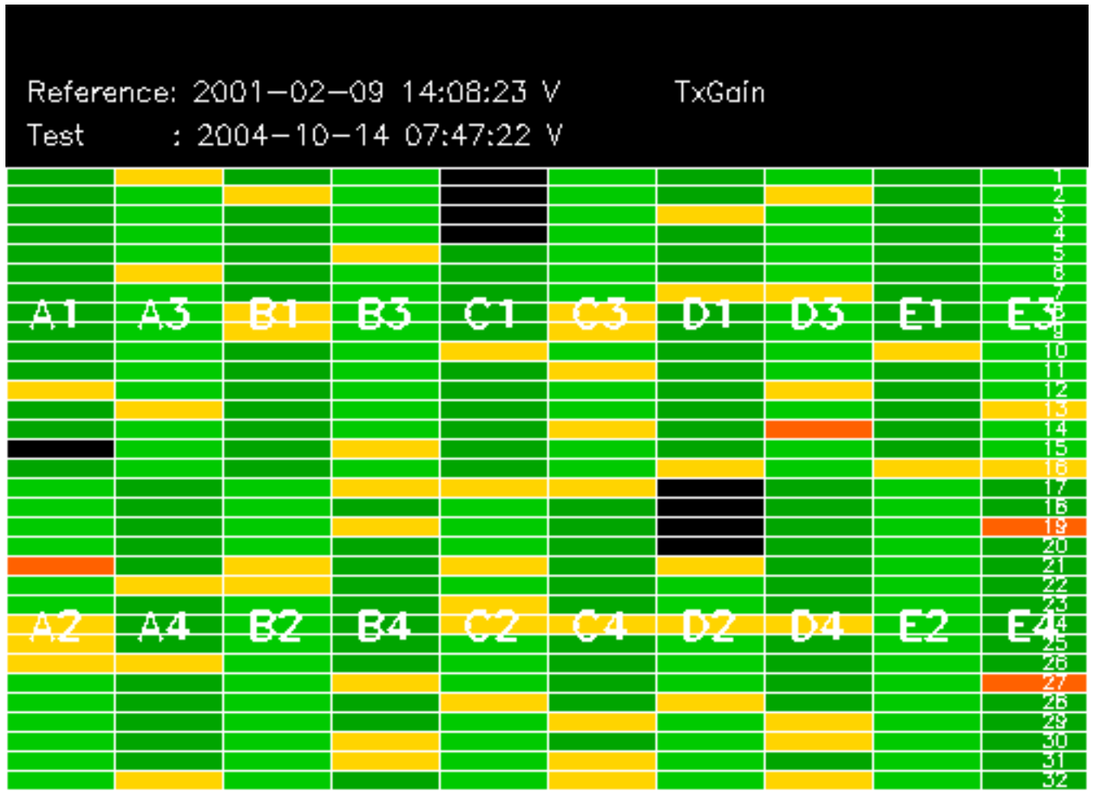
Reference: 2001-02-09 14:08:23 V
Test : 2004-10-14 07:47:22 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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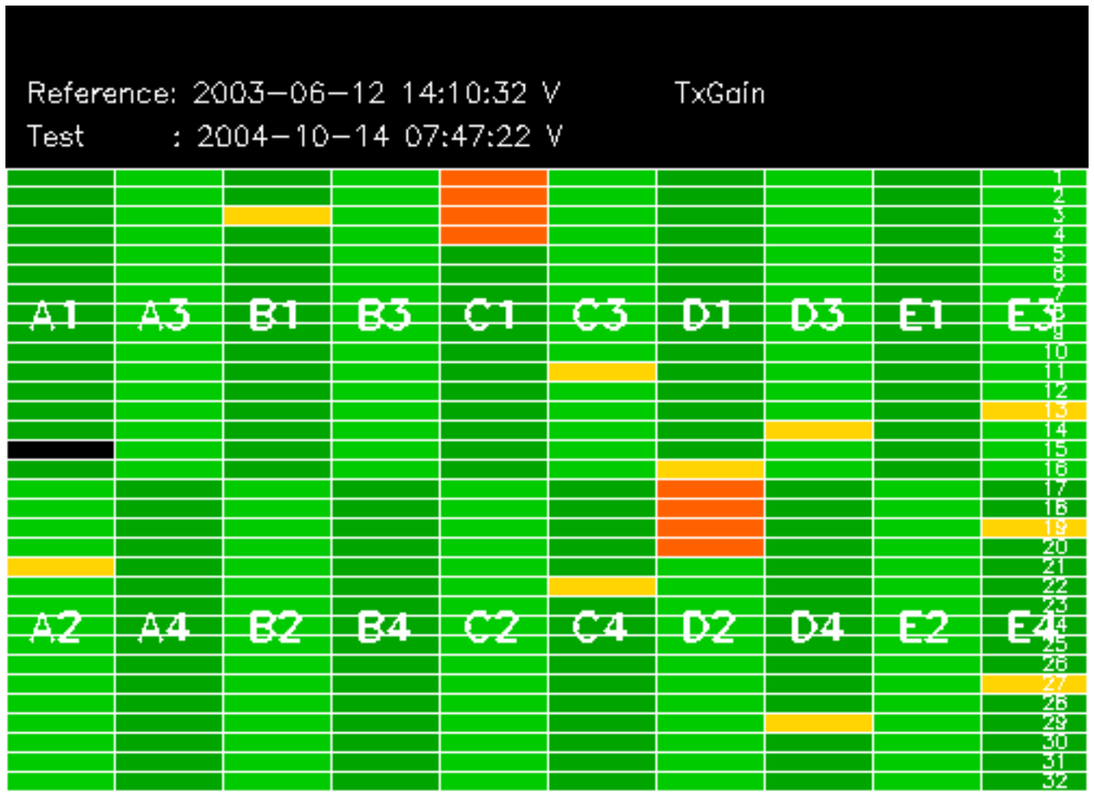
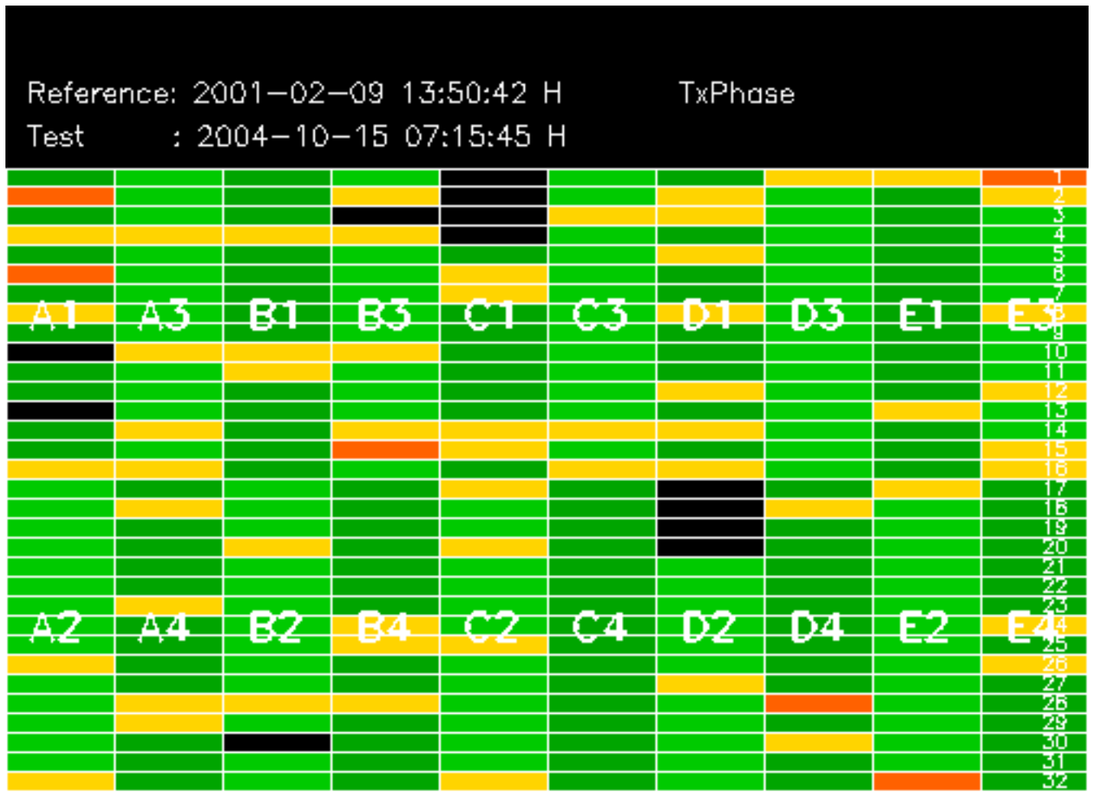

Reference: 2003-06-12 14:10:32 V
Test : 2004-10-14 07:47:22 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-10-15 07:15:45 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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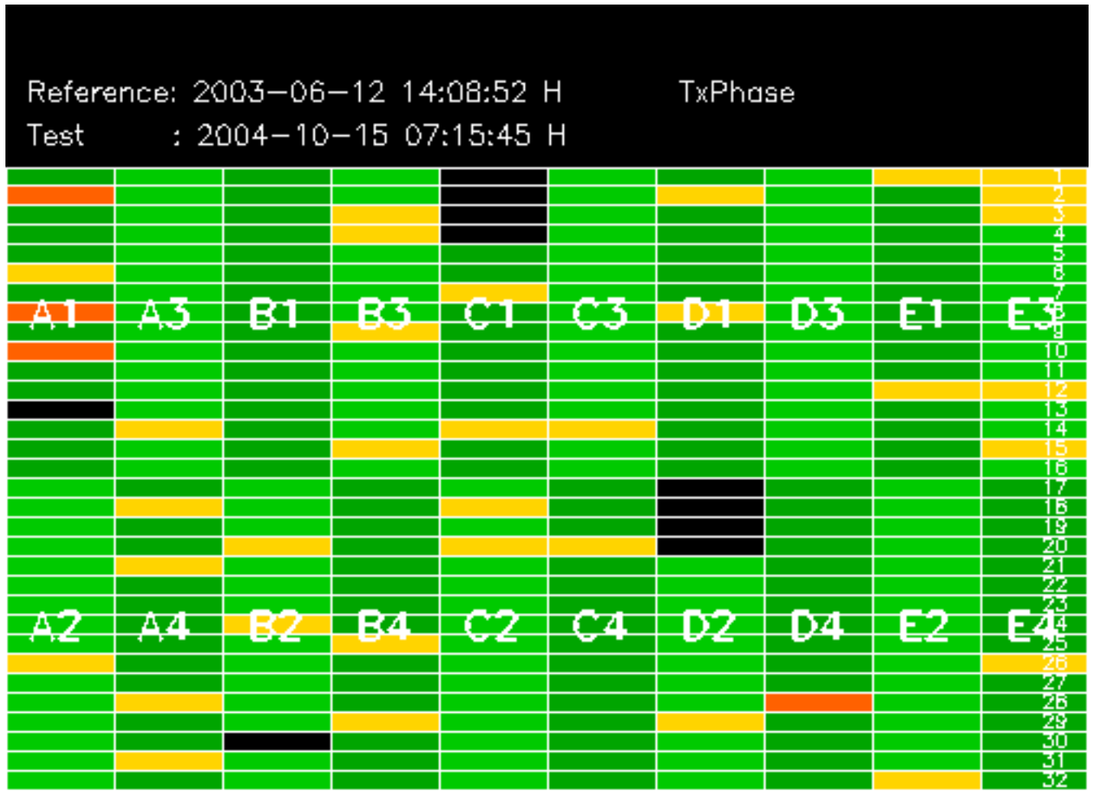
Reference: 2003-06-12 14:08:52 H
Test : 2004-10-15 07:15:45 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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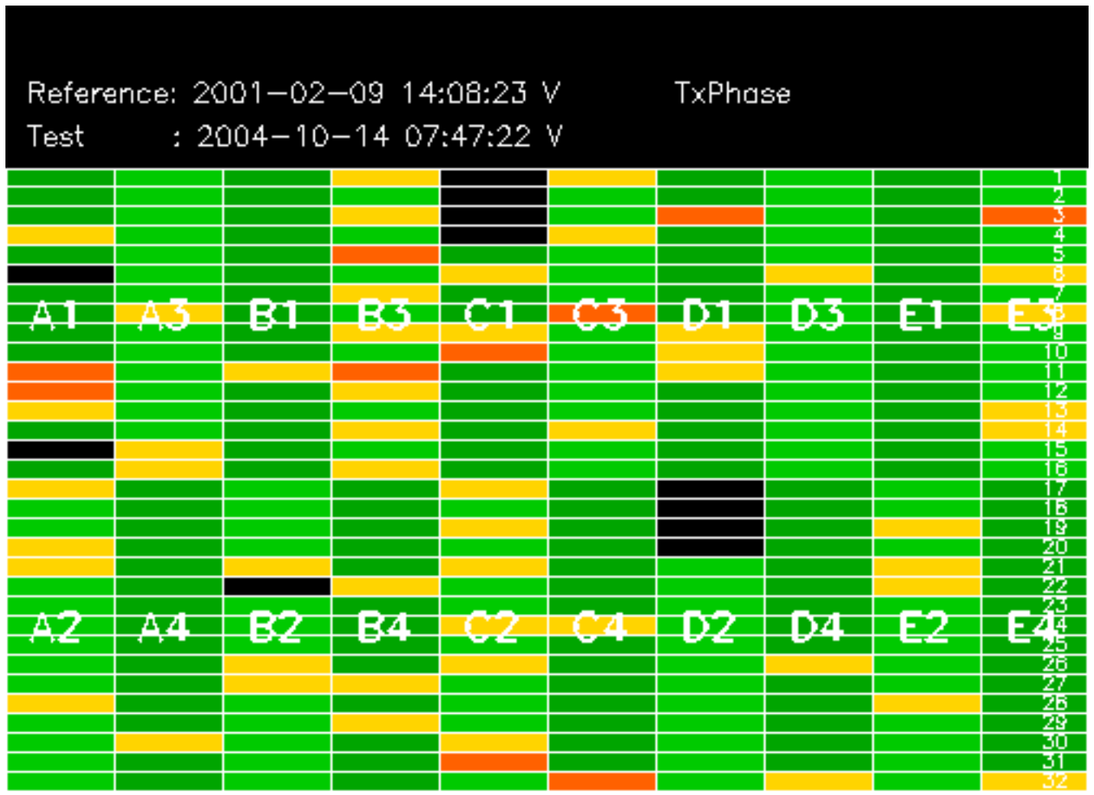
Reference: 2001-02-09 14:08:23 V
Test : 2004-10-14 07:47:22 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
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B4
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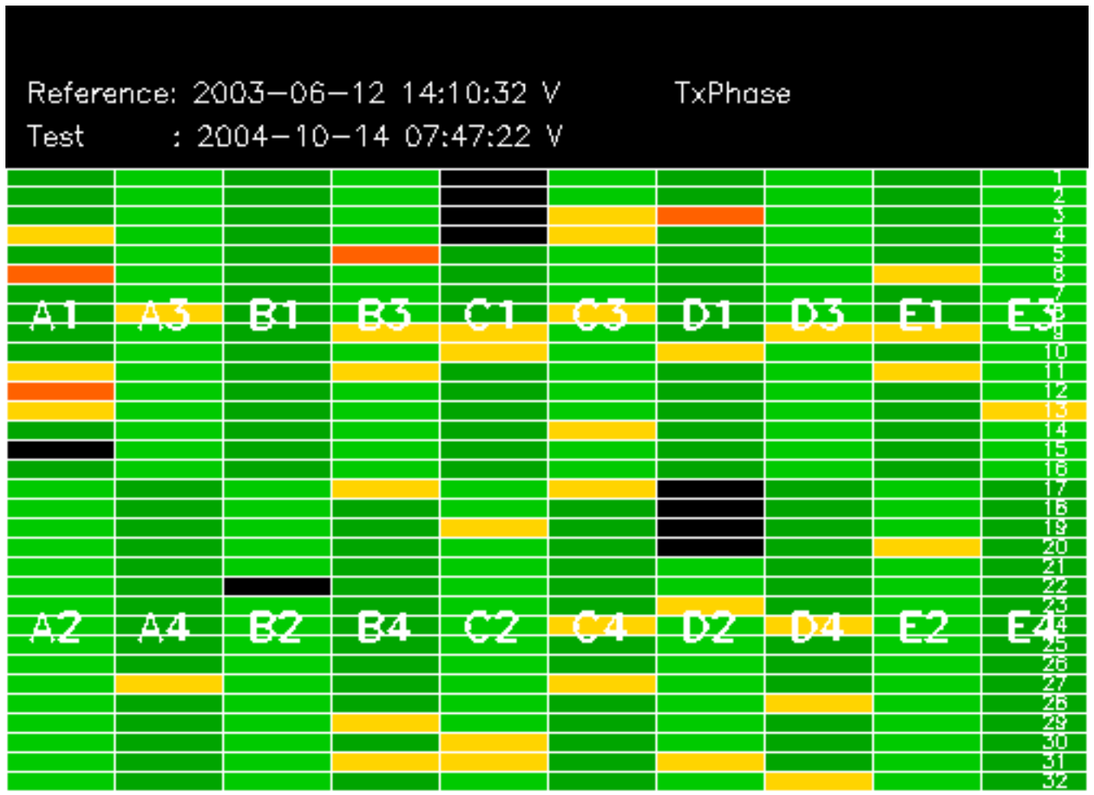
Reference: 2003-06-12 14:10:32 V
Test : 2004-10-14 07:47:22 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
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B4
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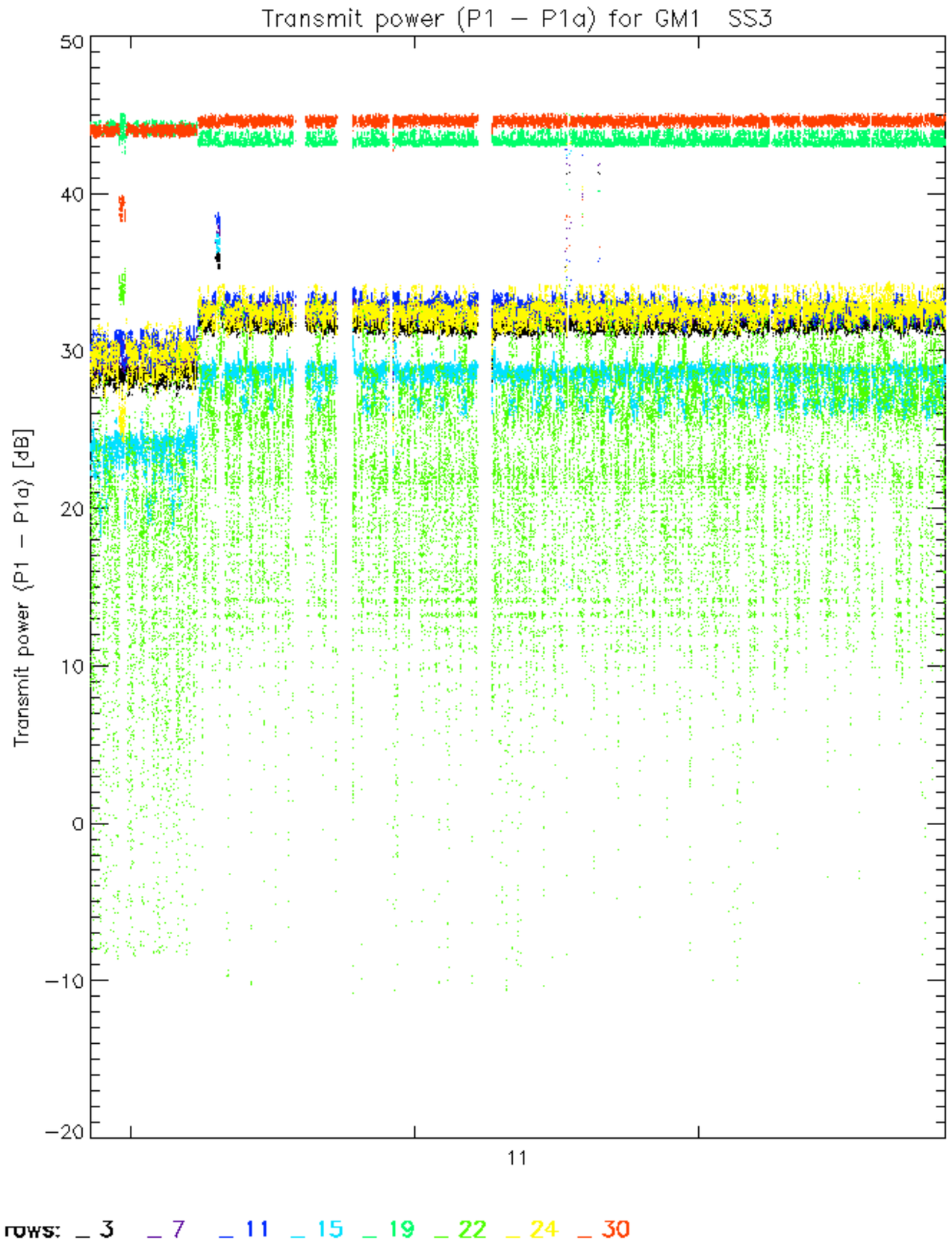
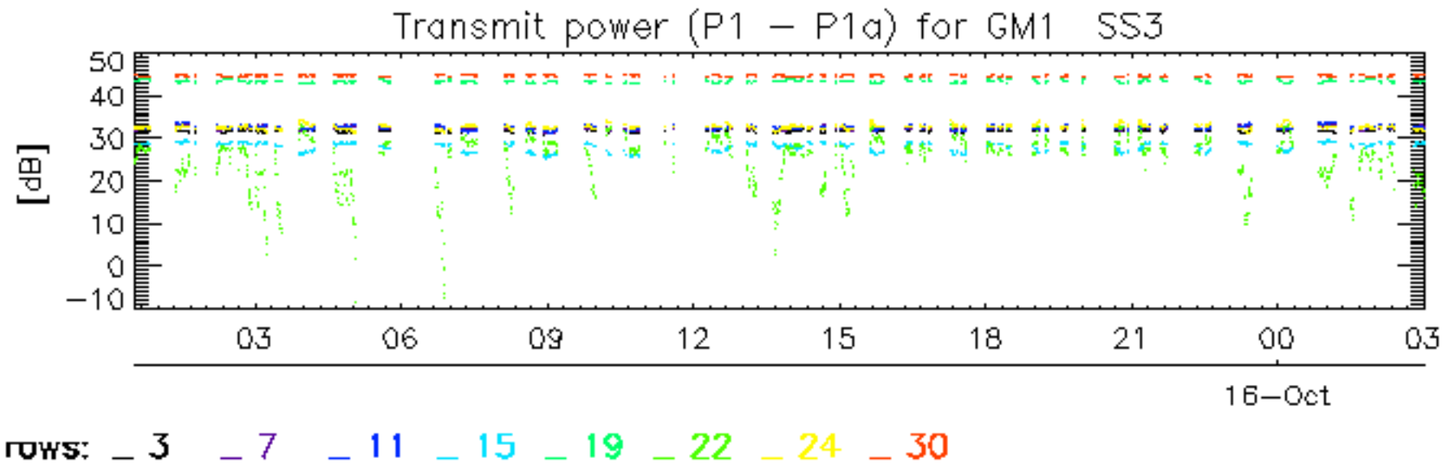
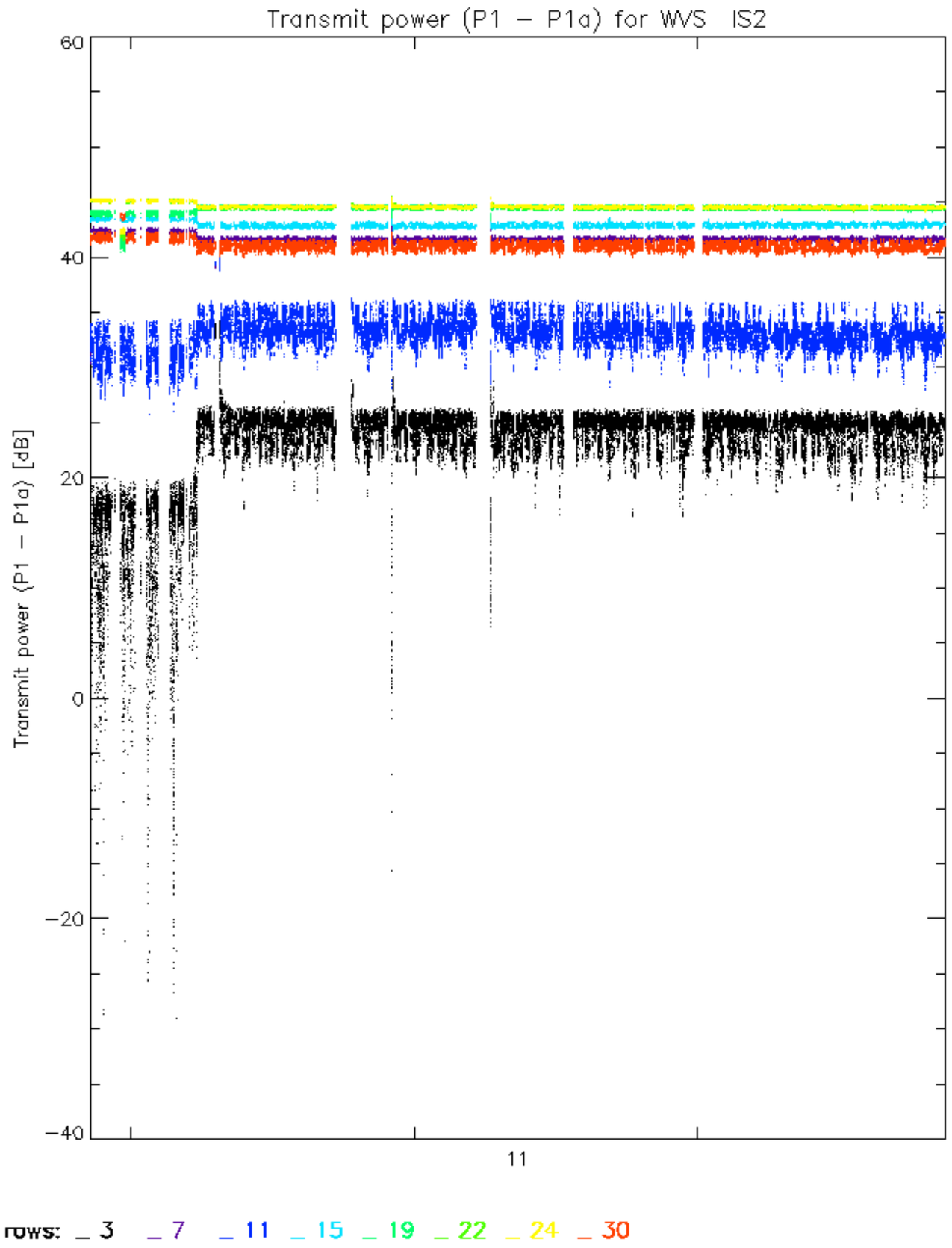
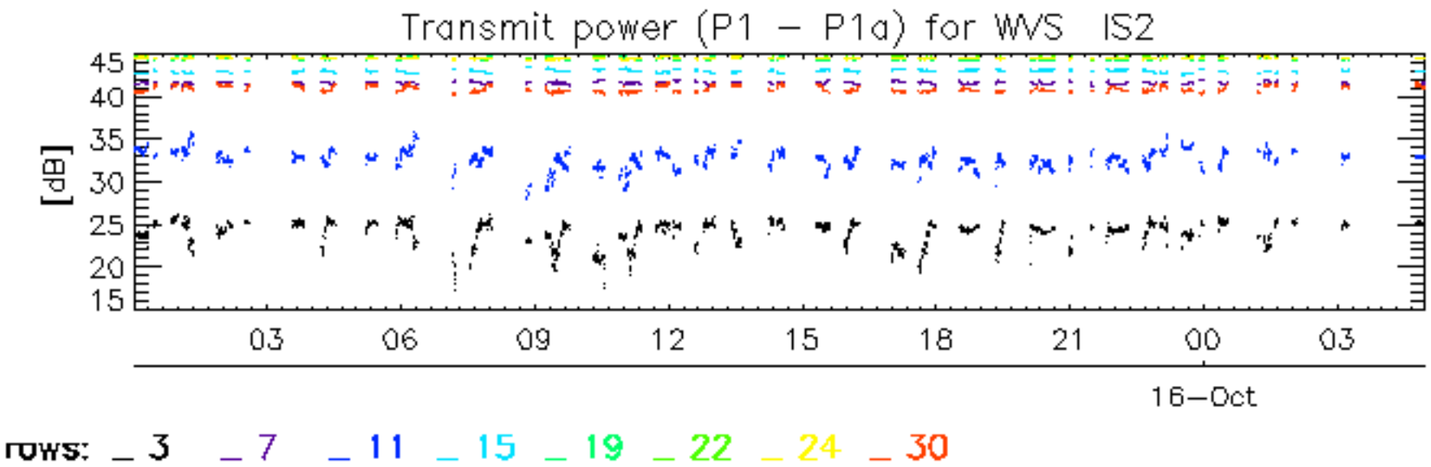

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
−20
11
rows: 3 7 11 15 19 22 24 30


Transmit power (P1 – P1a) for GM1 SS3
[dB]
50
40
30
20
10
0
−10
03
06
09
12
15
18
21
00
03
16–Oct
rows: 3 7 11 15 19 22 24 30


Transmit power (P1 – P1a) for WVS IS2
60
40
20
0
−20
−40
Transmit power (P1 – P1a) [dB]
11
rows: 3 7 11 15 19 22 24 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
16–Oct
rows: 3
7
11
15
19
22
24
30

No unavailabilities during the reported period.