PRELIMINARY REPORT OF 061027

last update on Fri Oct 27 16:30:25 GMT 2006

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 2006-10-26 00:00:00 to 2006-10-27 16:30:25

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	35	65	13	6	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	35	65	13	6	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	35	65	13	6	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	35	65	13	6	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	25	42	23	3	1
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	25	42	23	3	1
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	25	42	23	3	1
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	25	42	23	3	1

2.3 - Browse Visual Inspection

No anomalies observed on available browse products

2.4 - Data Analysis

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

3 - Module Stepping Mode

No anomalies observed on available MS products:

Polarisation	Start Time
V	20061027 033423
H	20061026 040600

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	-3.951713	0.010058	-0.020237
7	P1	-3.088601	0.013973	-0.048727
11	P1	-4.100073	0.024329	-0.038941
15	P1	-6.218698	0.015423	-0.064601
19	P1	-3.583554	0.074646	-0.161066
22	P1	-4.641513	0.146599	-0.199258
26	P1	-4.006904	0.140735	-0.108065
30	P1	-5.885377	0.268273	-0.198976
3	P1	-16.602036	0.215314	0.089480
7	P1	-17.129656	0.157650	-0.030504
11	P1	-17.030666	0.403547	-0.199740
15	P1	-12.881937	0.107240	-0.151438
19	P1	-14.756597	0.402708	-0.418035
22	P1	-15.639445	0.490151	-0.046006
26	P1	-15.093948	0.256609	0.040776
30	P1	-17.002026	0.643681	-0.180397

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.829325	0.087617	-0.029152
7	P2	-21.761219	0.097040	0.055831
11	P2	-15.715383	0.109522	0.066049
15	P2	-7.077534	0.108650	-0.023197
19	P2	-9.133403	0.100893	-0.045047
22	P2	-18.152054	0.095511	-0.072775
26	P2	-16.441084	0.105466	-0.074554
30	P2	-19.464542	0.093209	-0.008069

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.204581	0.007029	-0.032952

7	P3	-8.204581	0.007029	-0.032952
11	P3	-8.204581	0.007029	-0.032952
15	P3	-8.204581	0.007029	-0.032952
19	P3	-8.204581	0.007029	-0.032952
22	P3	-8.204581	0.007029	-0.032952
26	P3	-8.204581	0.007048	-0.033096
30	P3	-8.204581	0.007048	-0.033096

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	-3.928552	0.233866	0.300725
7	P1	-2.655719	1.481782	1.145142
11	P1	-2.921260	0.177831	0.394060
15	P1	-3.710576	0.162082	0.387348
19	P1	-3.530116	0.228927	-0.617053
22	P1	-5.091619	0.165027	-0.433330
26	P1	-6.004401	0.422881	-0.769276
30	P1	-5.293233	0.255927	-0.587641
3	P1	-11.771992	0.603941	0.684744
7	P1	-10.197451	1.913615	1.449032
11	P1	-10.473945	0.530614	0.924434
15	P1	-10.955262	0.681682	1.318766
19	P1	-15.810502	4.292177	-2.780509
22	P1	-20.988068	1.730422	-0.811561
26	P1	-15.847181	0.508766	-0.699058
30	P1	-18.046656	0.577971	0.542676

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.345907	0.336629	-0.725154
7	P2	-21.955881	2.022850	-1.872074
11	P2	-10.842023	0.293016	-0.617538
15	P2	-4.891708	0.036657	-0.274333
19	P2	-6.871073	0.070961	-0.223421
22	P2	-8.263662	0.630488	0.273309
26	P2	-24.100895	1.523138	-1.473587
30	P2	-21.847891	0.757539	-0.839480

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.060882	0.003064	-0.089893
7	P3	-8.060719	0.003040	-0.088787
11	P3	-8.060571	0.003031	-0.088601
15	P3	-8.060764	0.003039	-0.088477
19	P3	-8.060695	0.003028	-0.088425
22	P3	-8.060539	0.003033	-0.089801
26	P3	-8.060623	0.003027	-0.093677
30	P3	-8.060665	0.003027	-0.092082

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	0.000563681
	stdev	1.64894e-07
MEAN Q	mean	0.000523261
	stdev	2.15500e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.138461
	stdev	0.00111646
STDEV Q	mean	0.138838
	stdev	0.00113447

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006102[567]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_GM1_1PNPDK20061025_102906_000007612052_00223_24325_7268.N1	0	7
ASA_GM1_1PNPDK20061025_132233_000004652052_00224_24326_7283.N1	0	15
ASA_GM1_1PNPDK20061025_134932_000006282052_00225_24327_7281.N1	0	45

7 - Doppler Analysis

Preliminary report.The data is not yet controled

7.1 - Unbiased Doppler Error for WVS

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

7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler
☒
Acsending
☒
Descending

7.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX
☒

7.4 - Unbiased Doppler Error for GM1

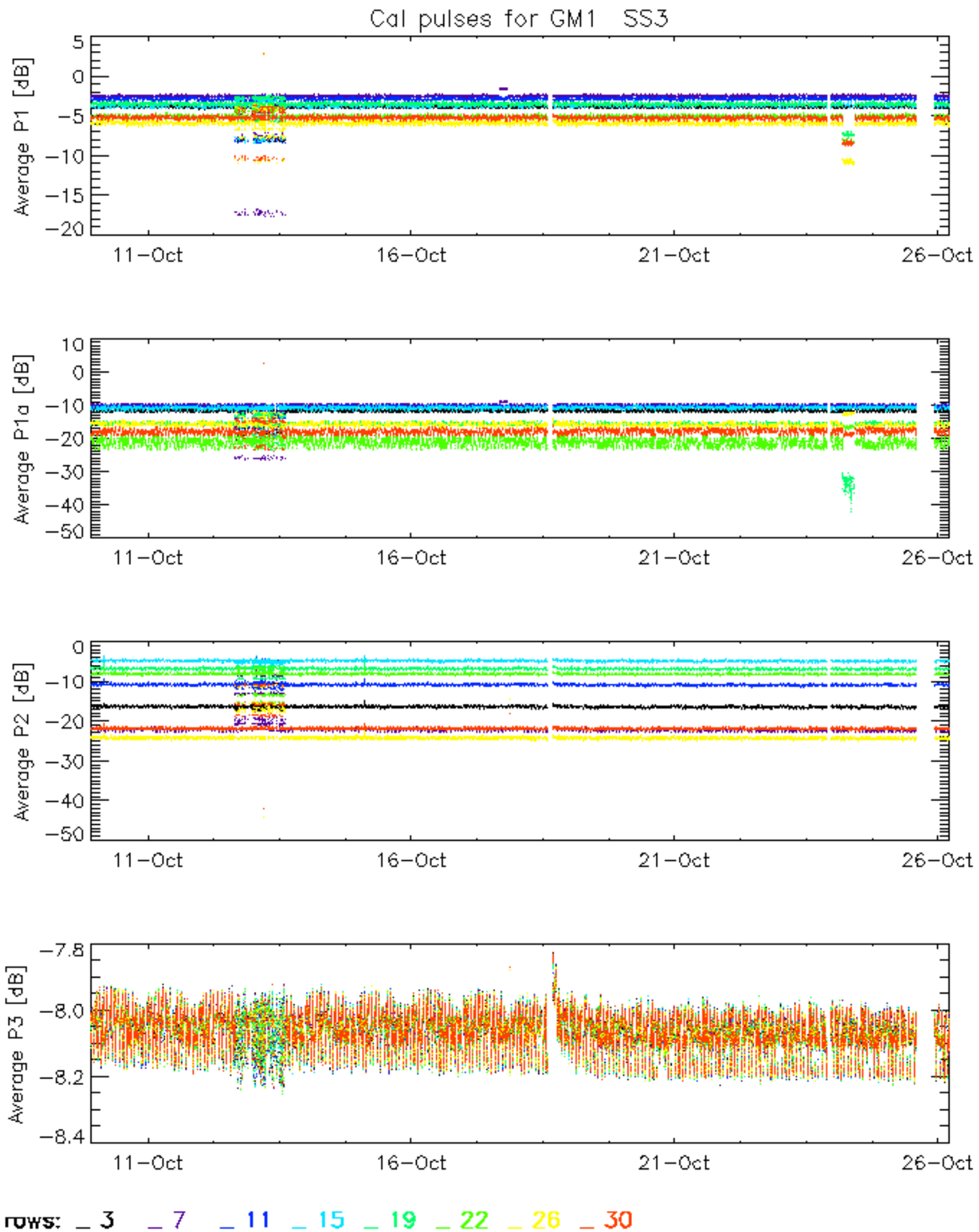
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

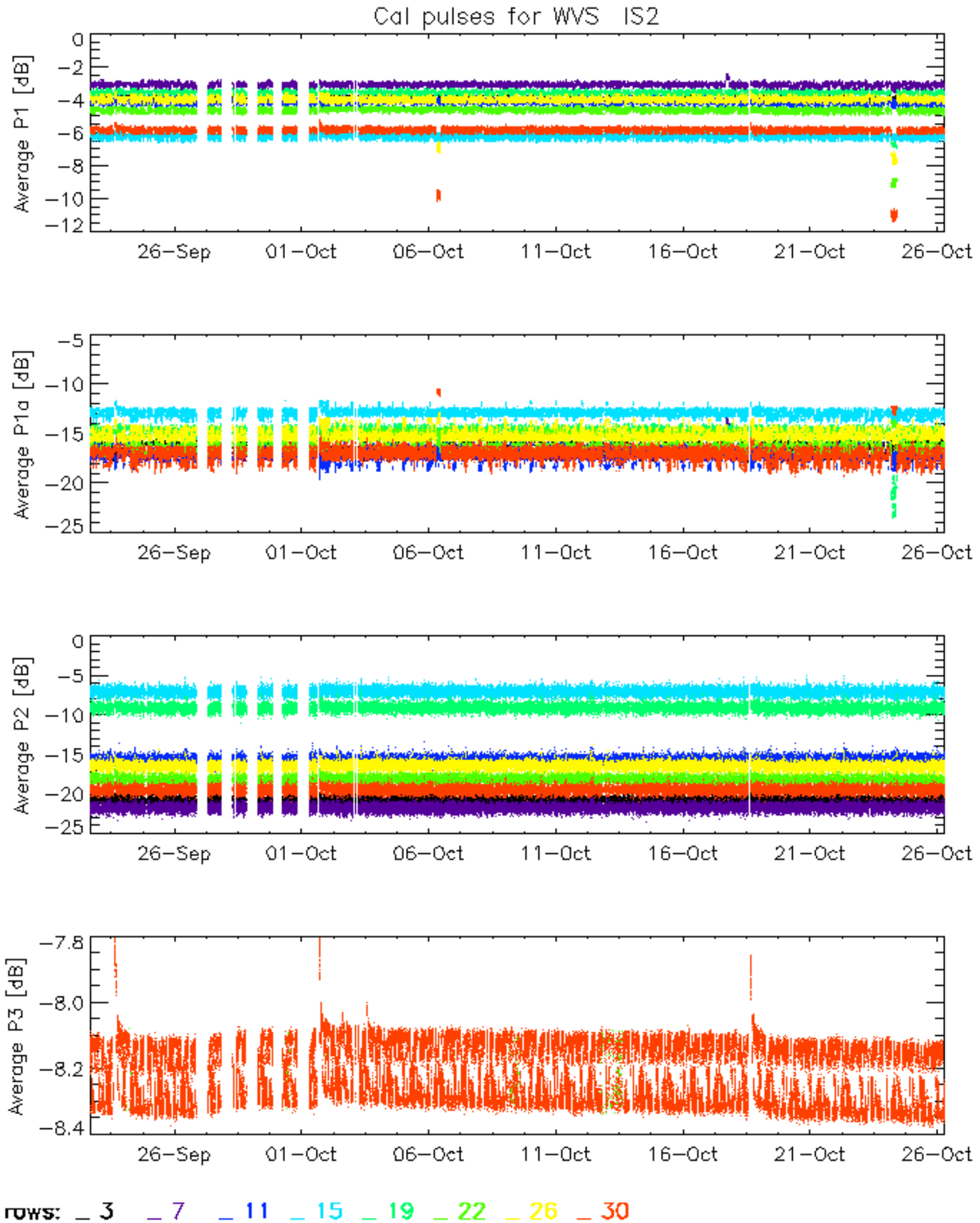
7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler
☒
Acsending
☒
Descending

7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX
☒


Cal pulses for GM1 SS3
Average P1 [dB]
5
0
−5
−10
−15
−20
11−Oct
16−Oct
21−Oct
26−Oct
Average P1a [dB]
10
0
−10
−20
−30
−40
−50
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

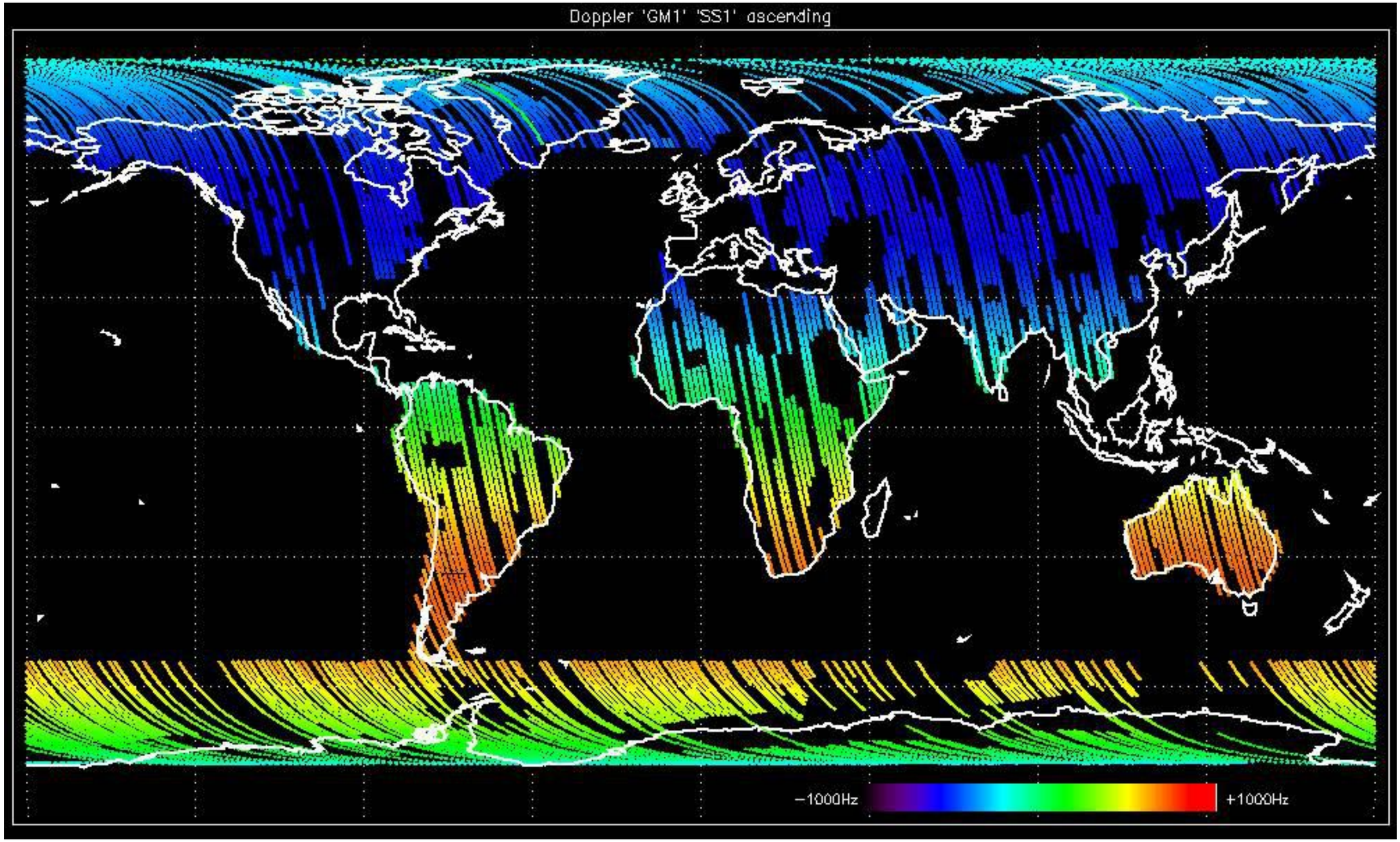

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
26−Sep
01−Oct
06−Oct
11−Oct
16−Oct
21−Oct
26−Oct
Average P1a [dB]
−5
−10
−15
−20
−25
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: 3 7 11 15 19 22 26 30

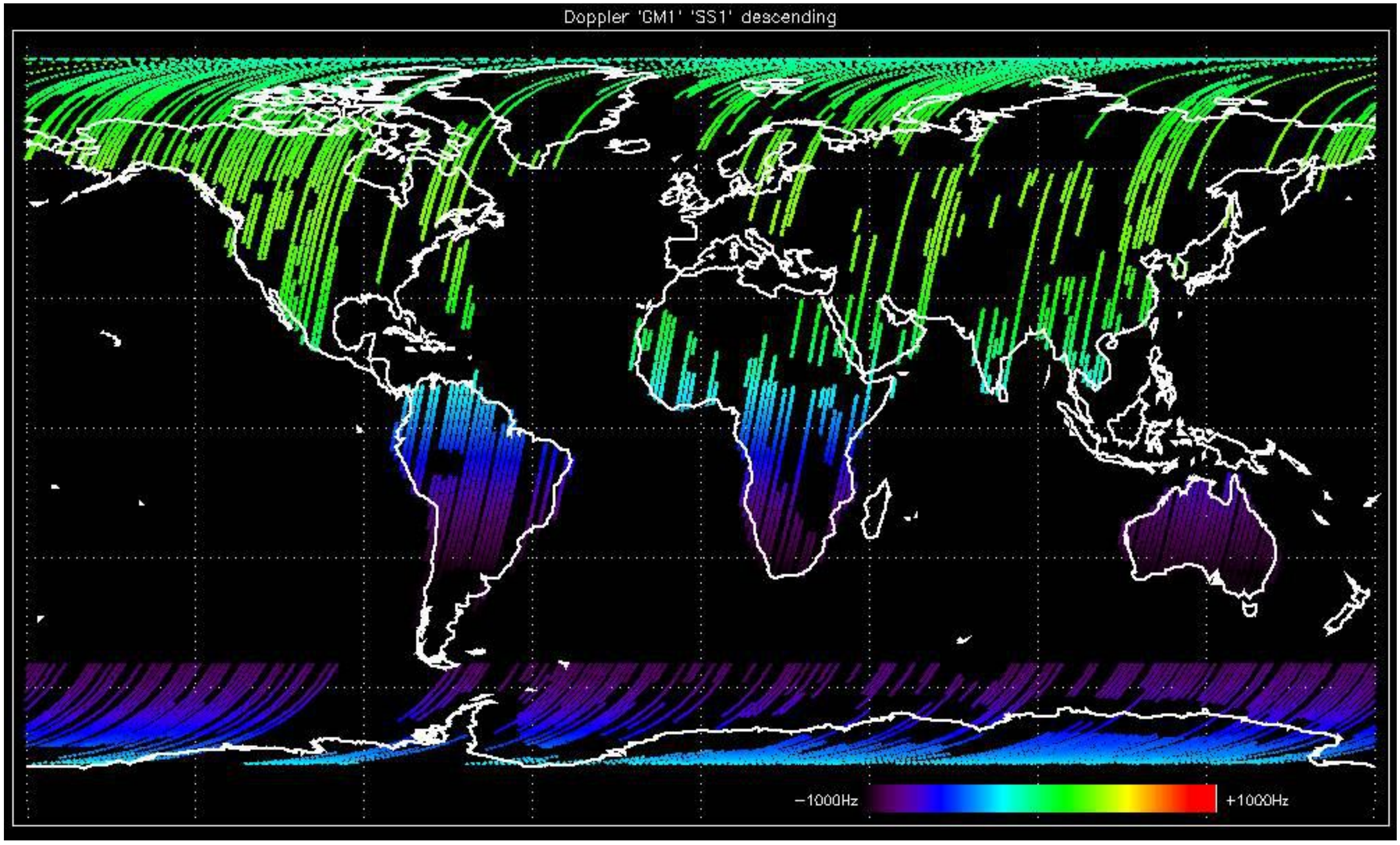
No anomalies observed on available browse products

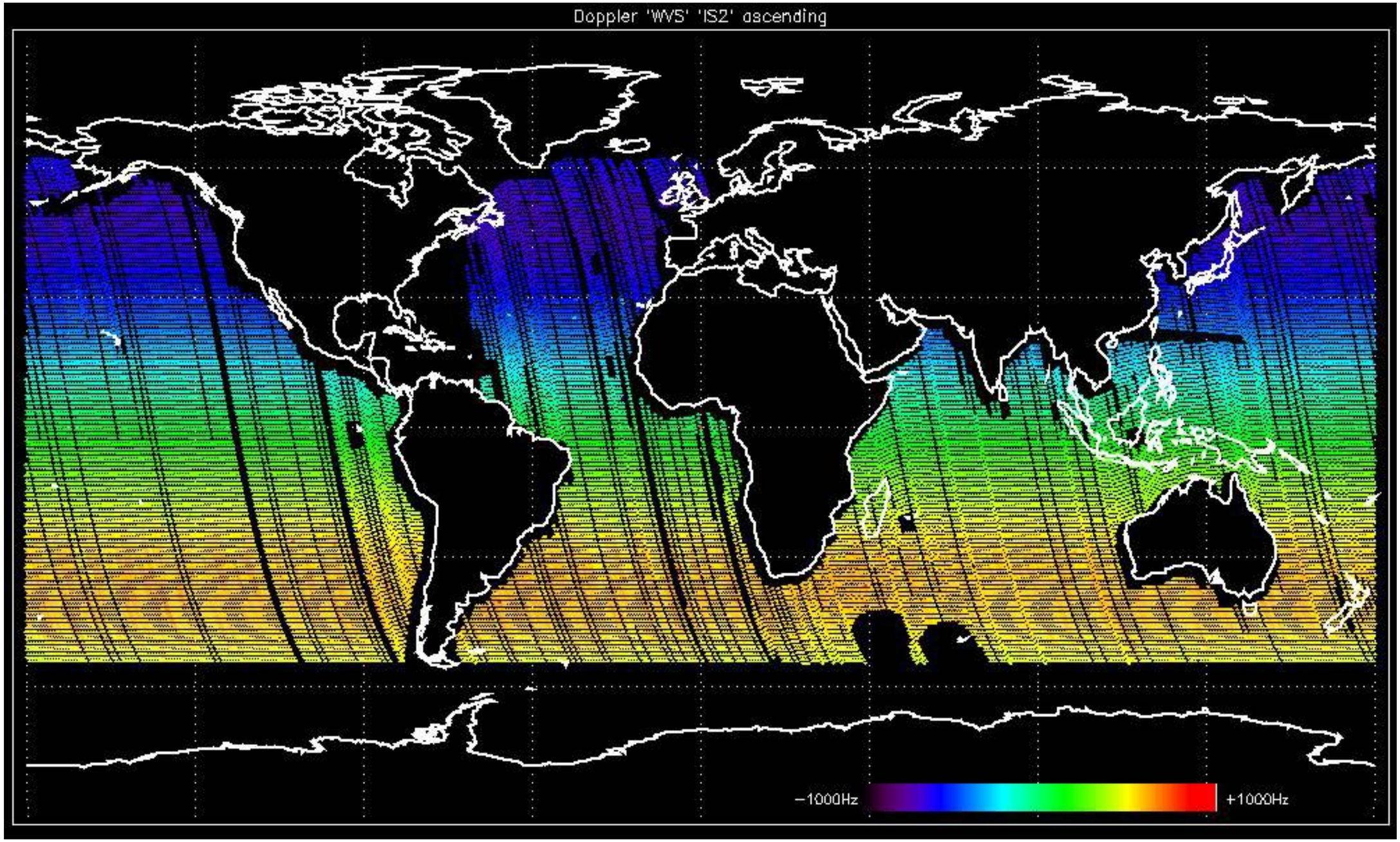
No anomalies observed.

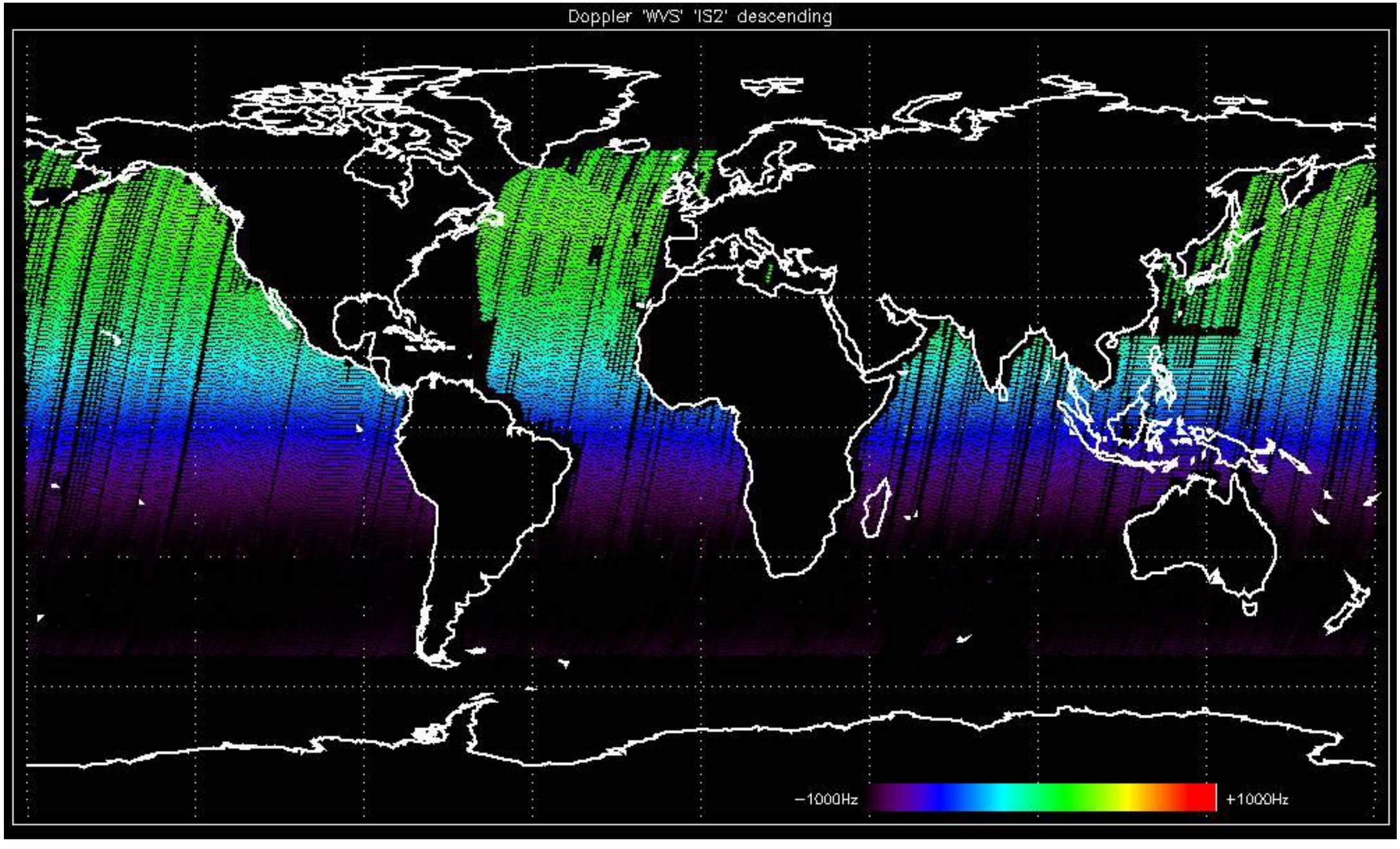
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

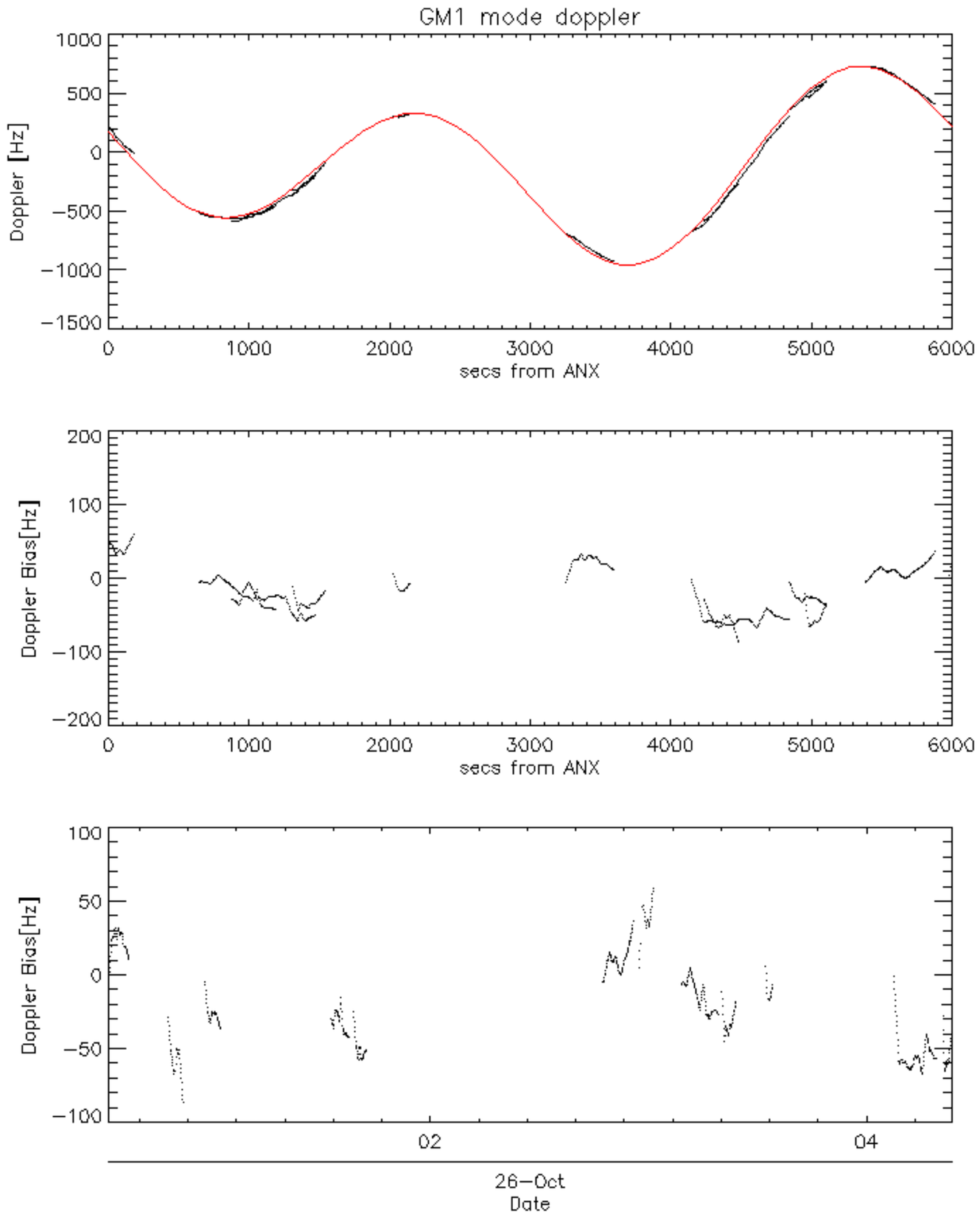
Preliminary report.The data is not yet controled

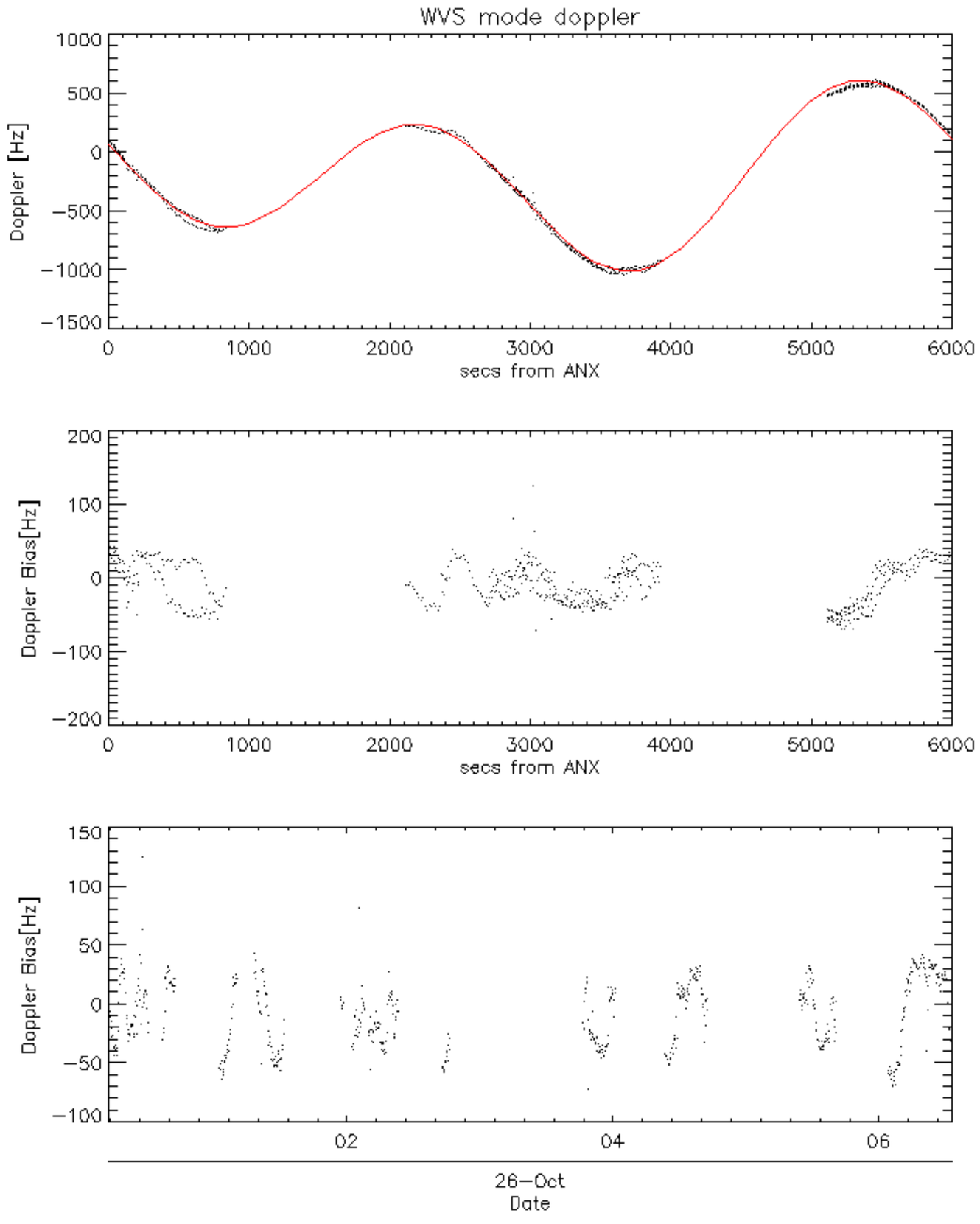

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

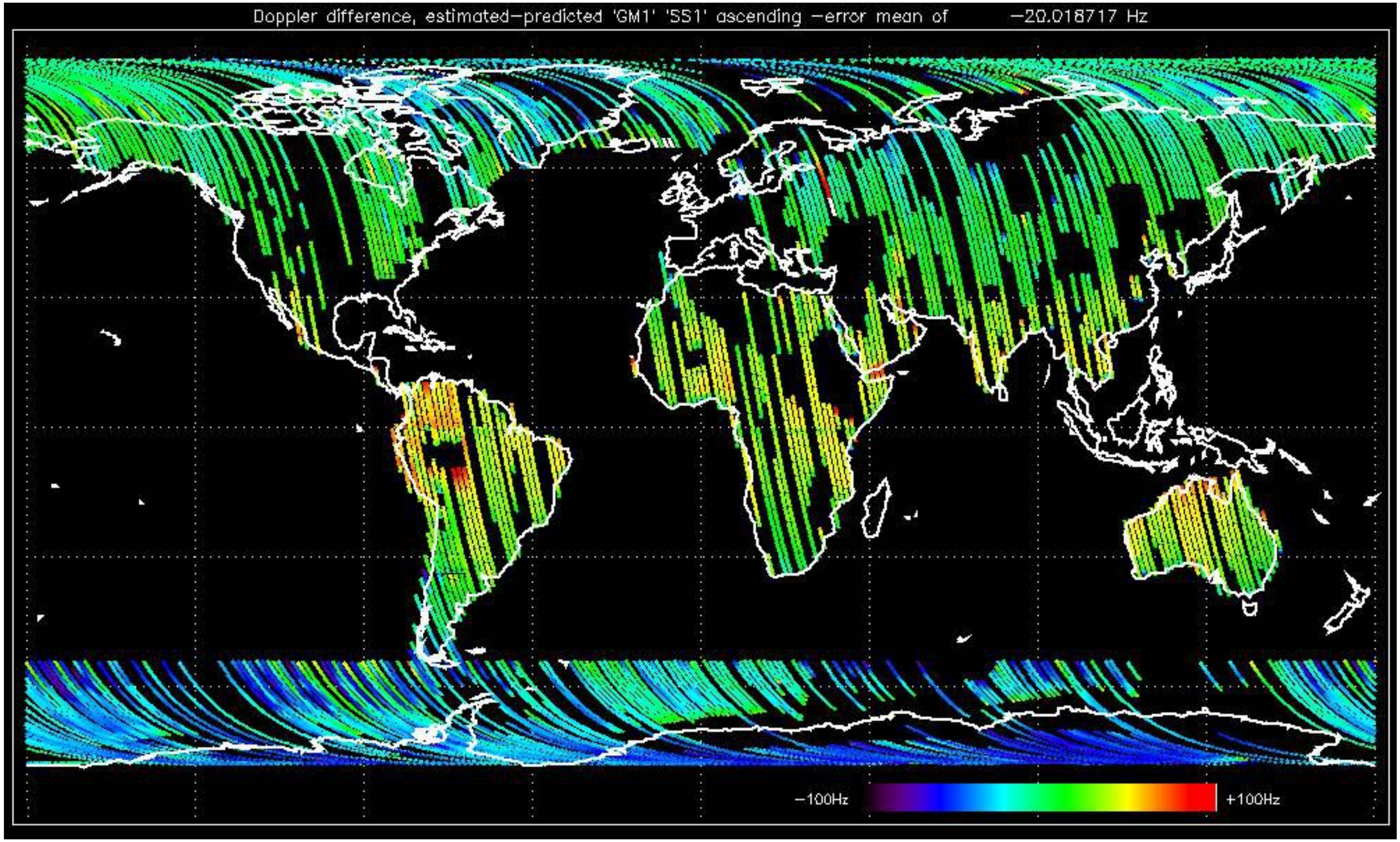

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

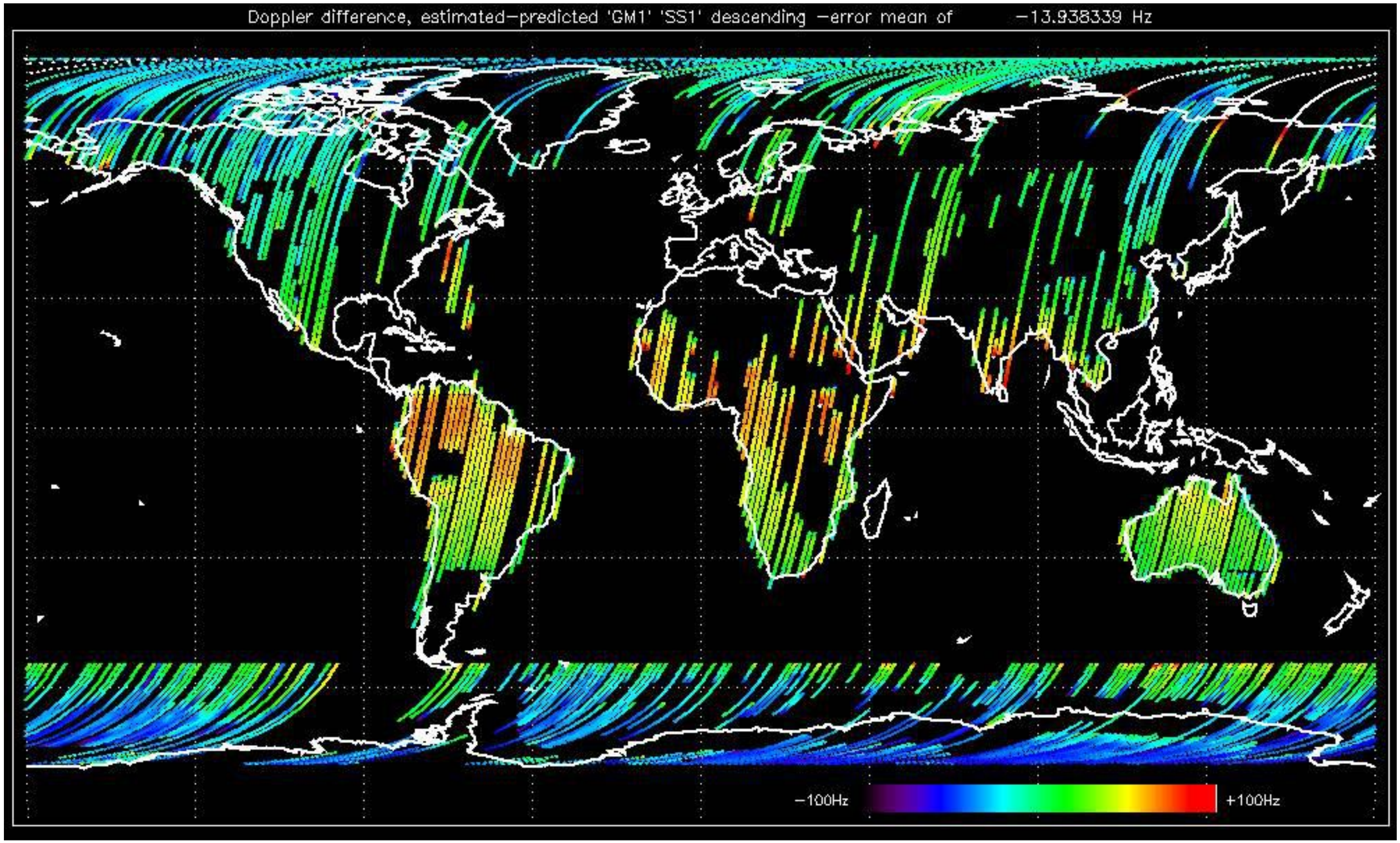

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

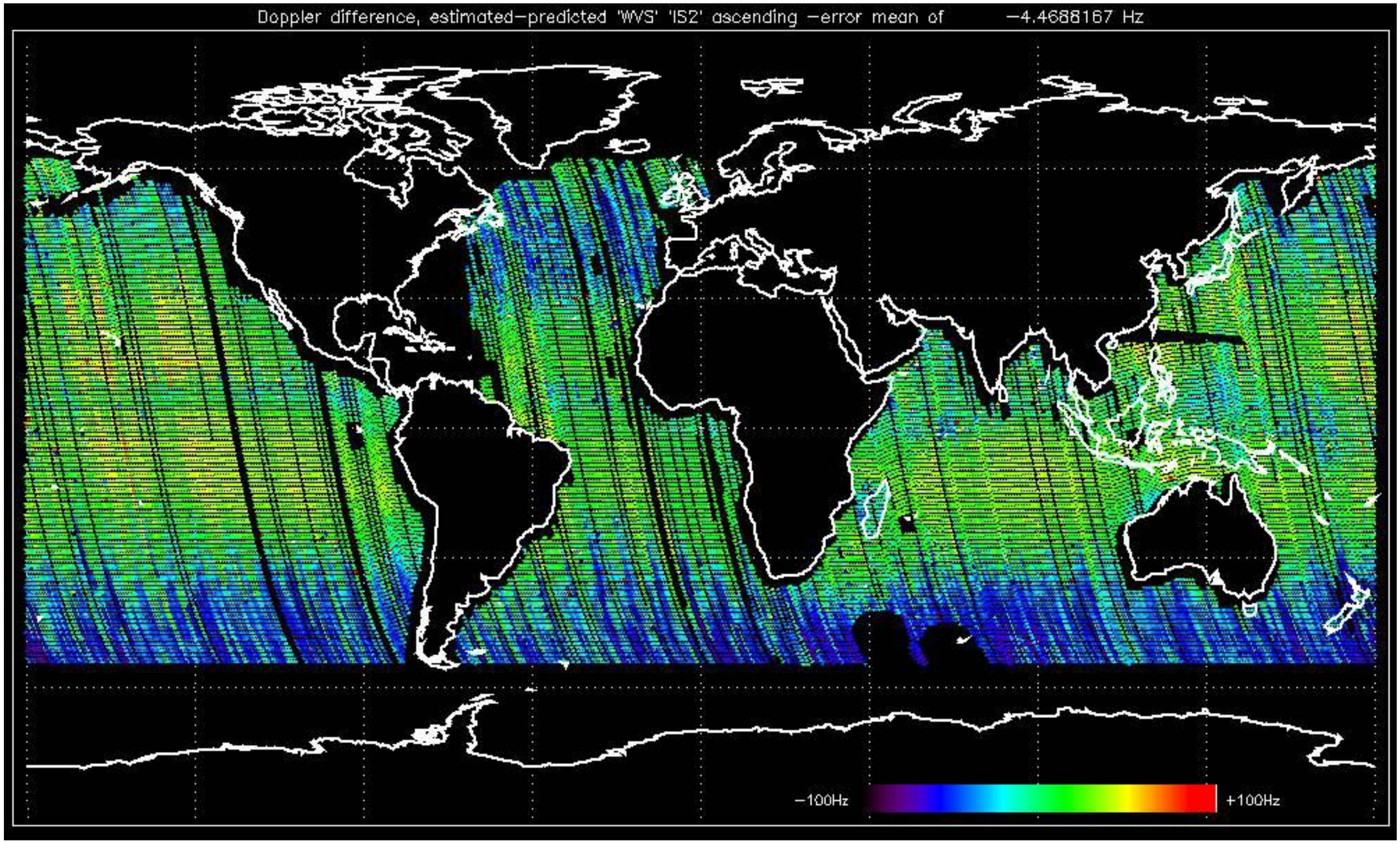

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

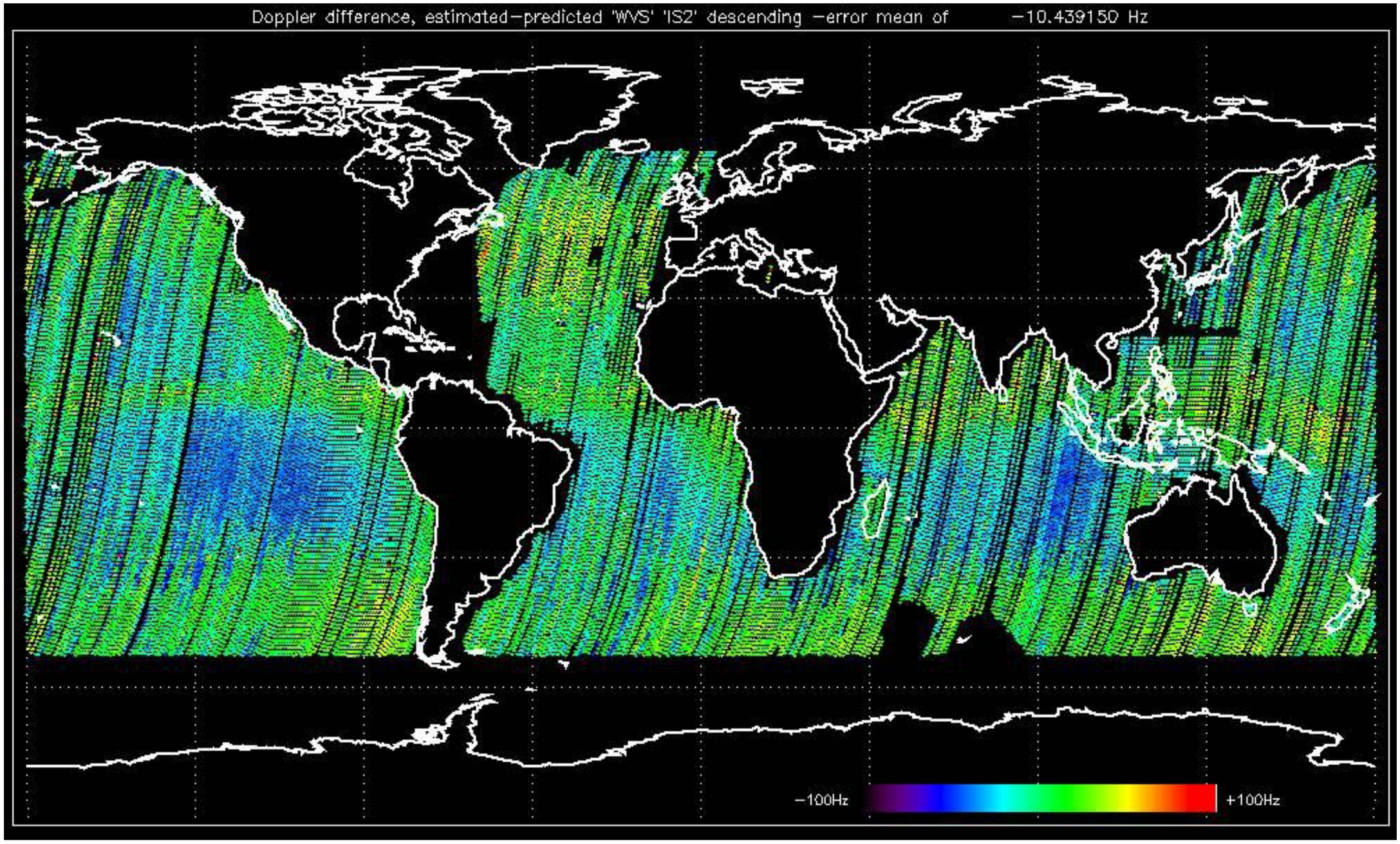

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
100
50
0
−50
−100
02
04
26−Oct
Date


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]
150
100
50
0
−50
−100
02
04
06
26−Oct
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −20.018717 Hz
−100Hz
+100Hz

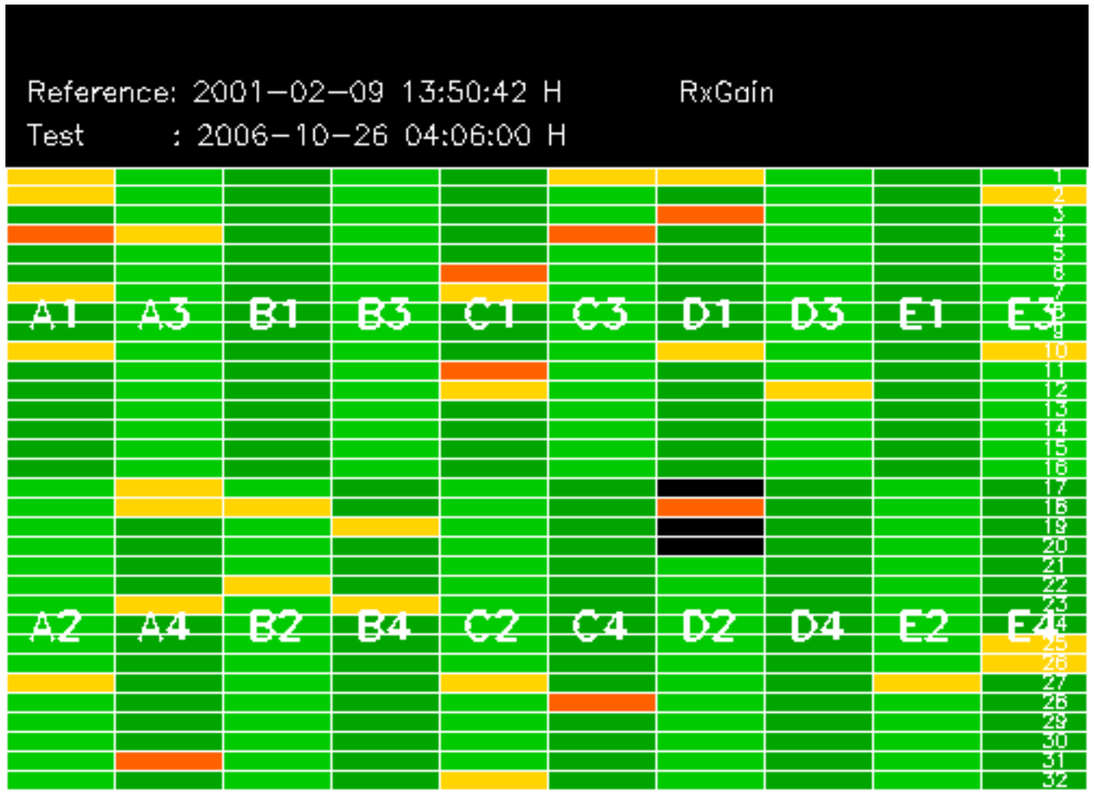

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −13.938339 Hz
−100Hz
+100Hz

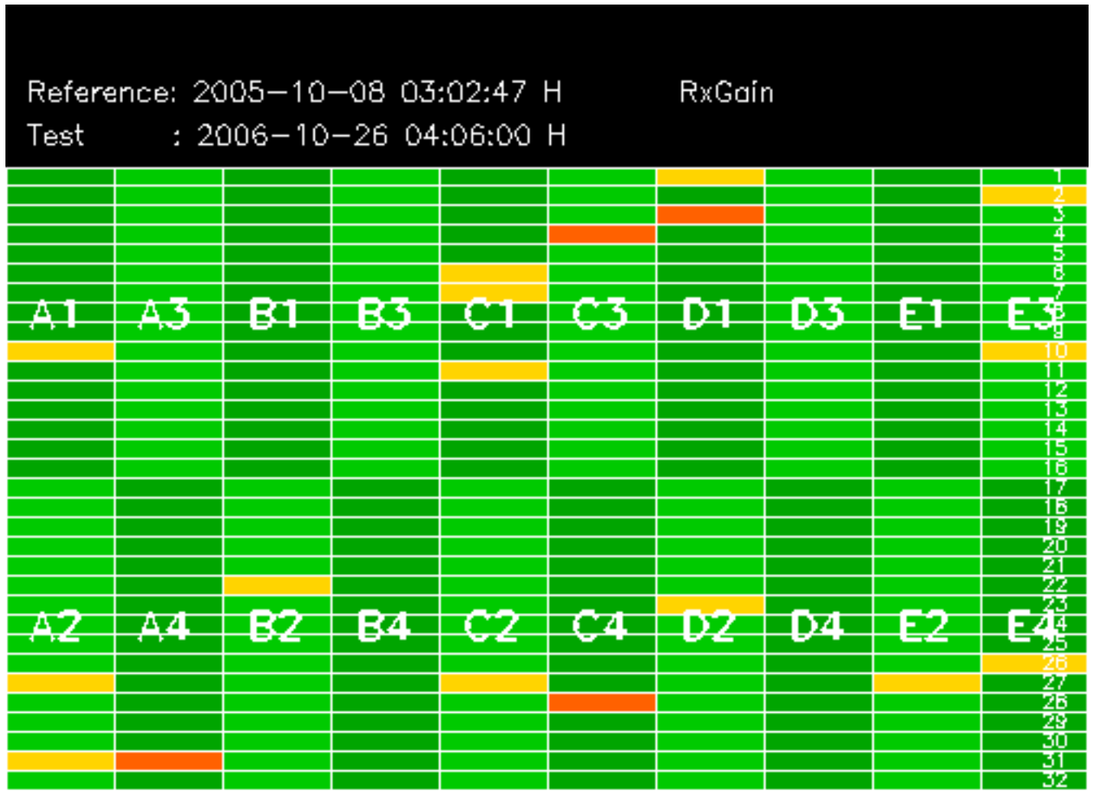

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −4.4688167 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −10.439150 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2006-10-26 04:06:00 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-10-08 03:02:47 H
Test : 2006-10-26 04:06:00 H
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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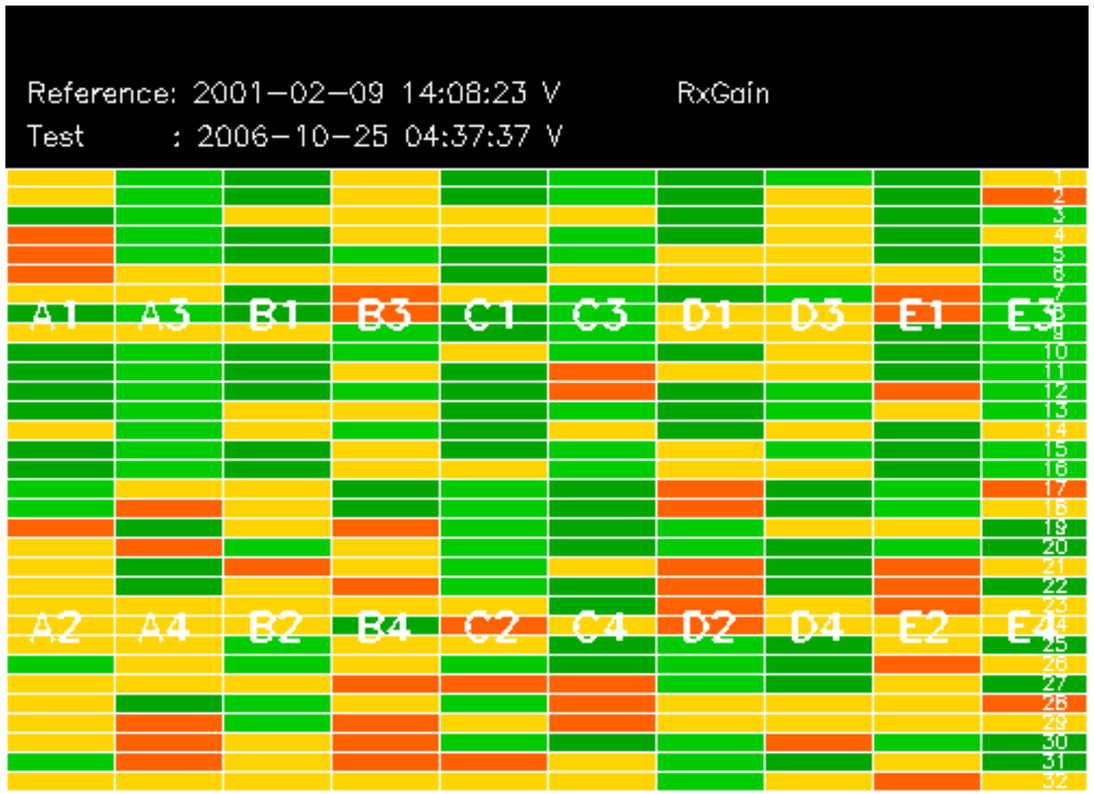
Reference: 2001-02-09 14:08:23 V
Test : 2006-10-25 04:37:37 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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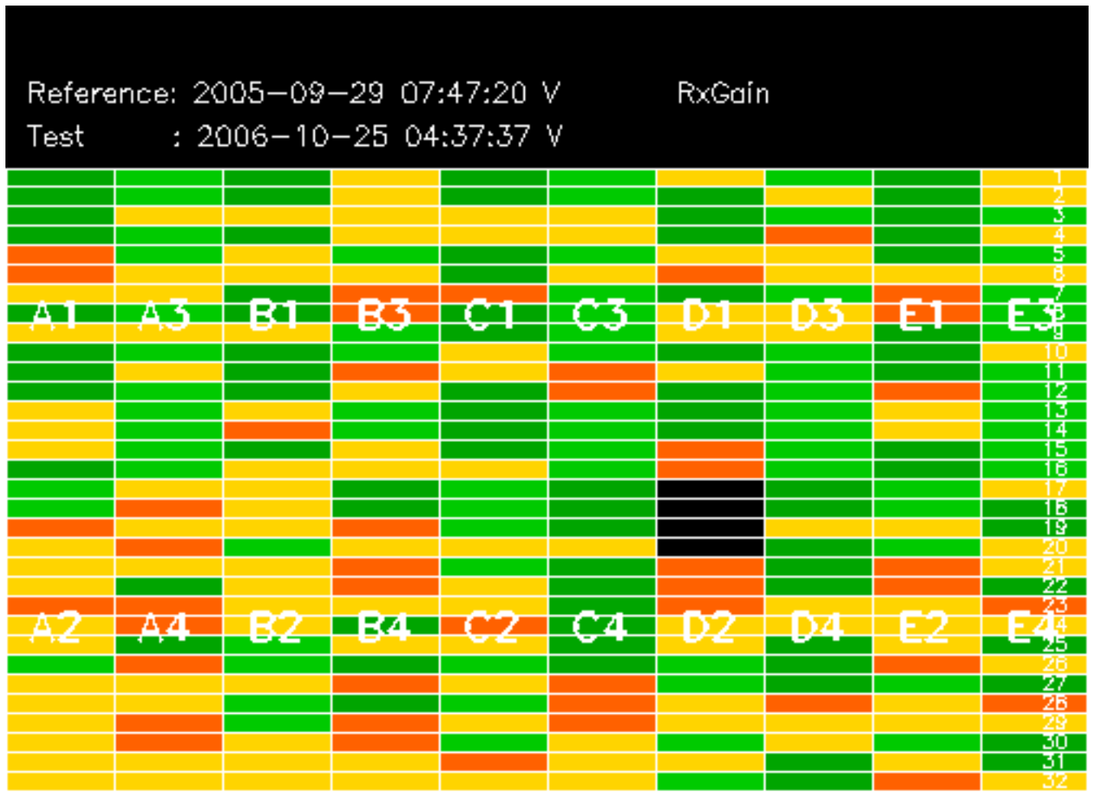
Reference: 2005-09-29 07:47:20 V
Test : 2006-10-25 04:37:37 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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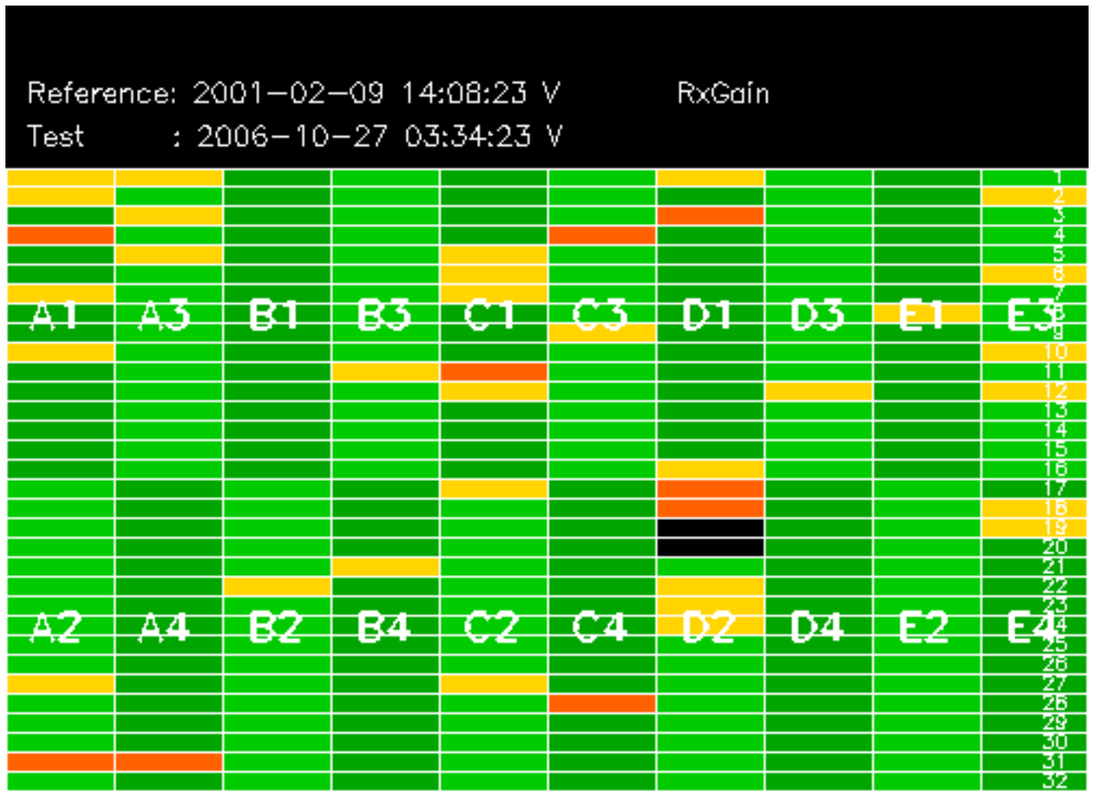
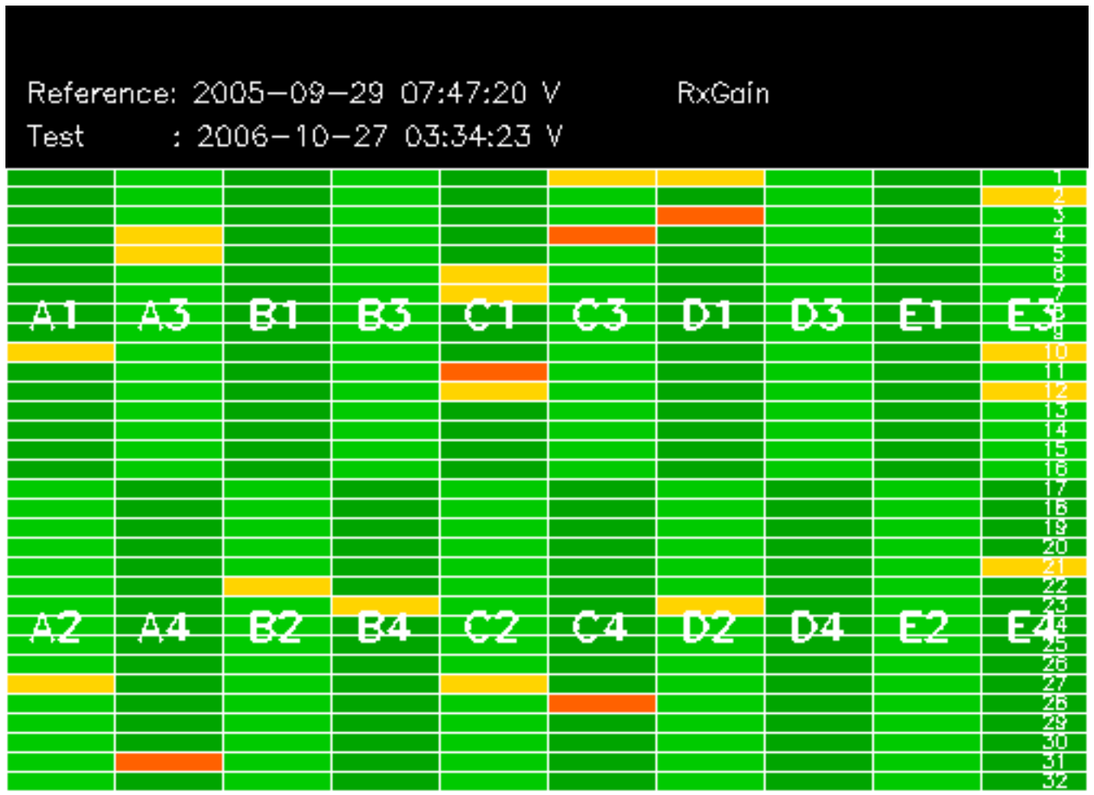

Reference: 2001-02-09 14:08:23 V
Test : 2006-10-27 03:34:23 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-10-27 03:34:23 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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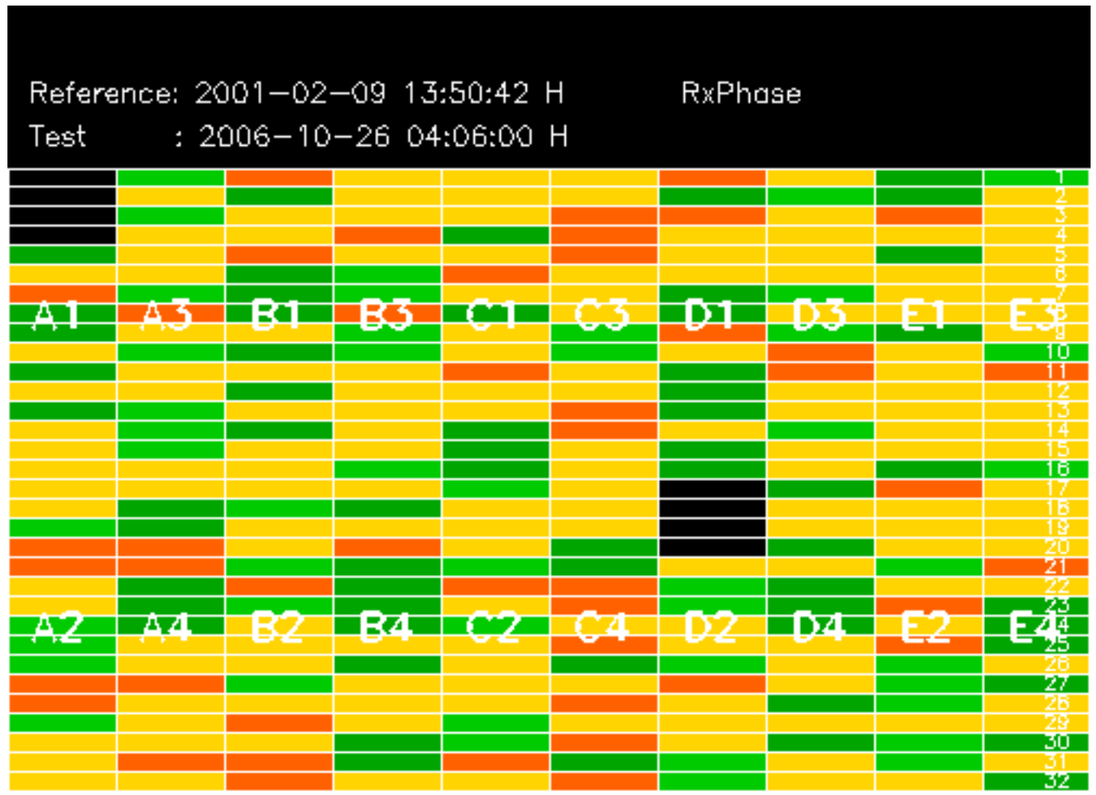
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-10-26 04:06:00 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32


Reference: 2005-10-08 03:02:47 H
RxPhase
Test : 2006-10-26 04:06:00 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
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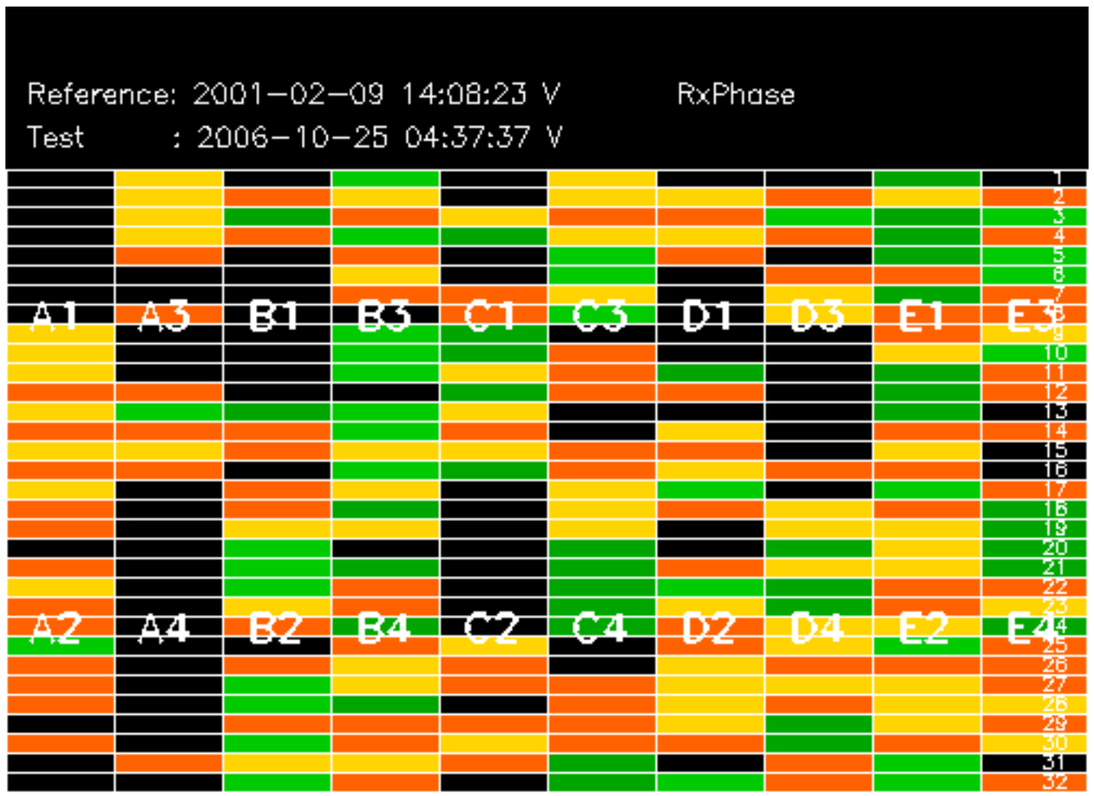
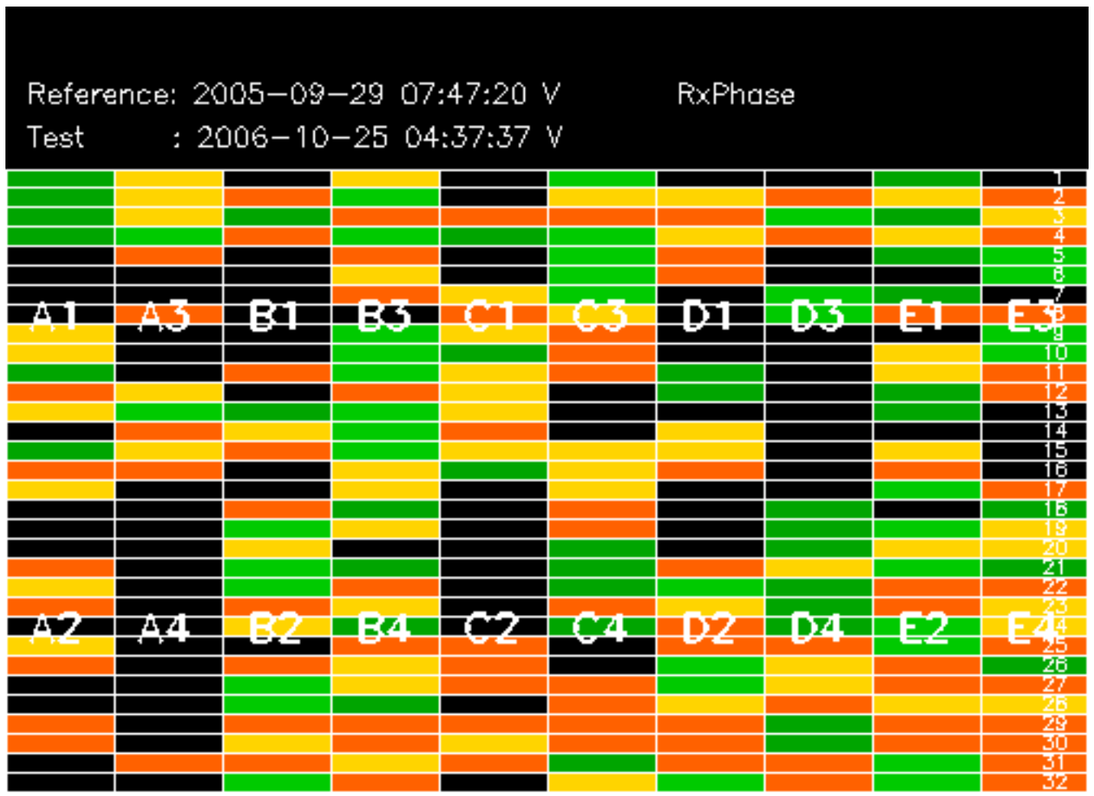
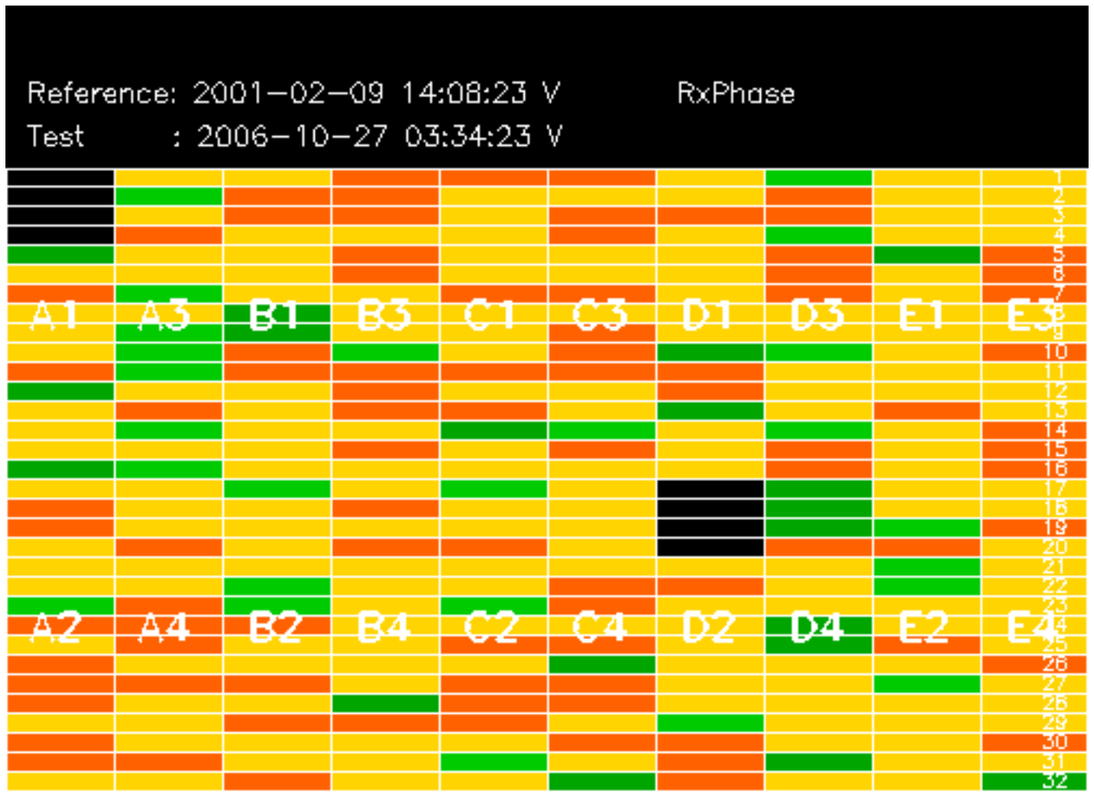
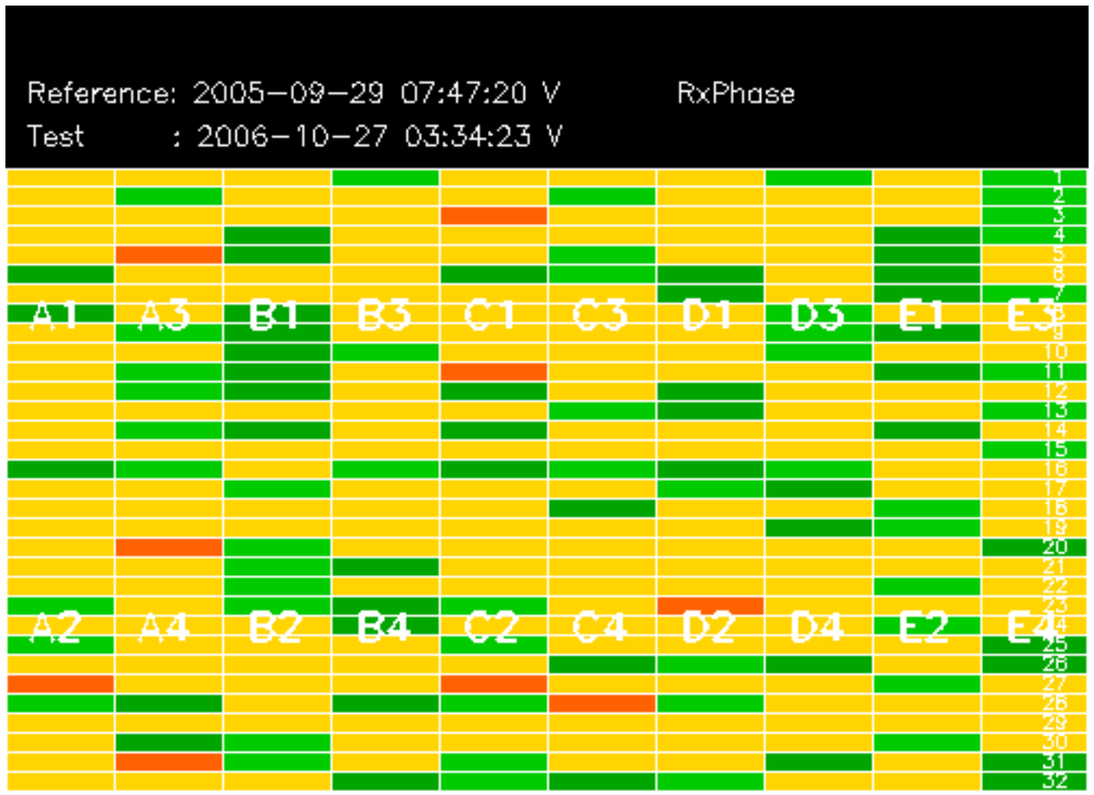

Reference: 2001-02-09 14:08:23 V
RxPhase
Test : 2006-10-25 04:37:37 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-10-25 04:37:37 V
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 : 2006-10-27 03:34:23 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-10-27 03:34:23 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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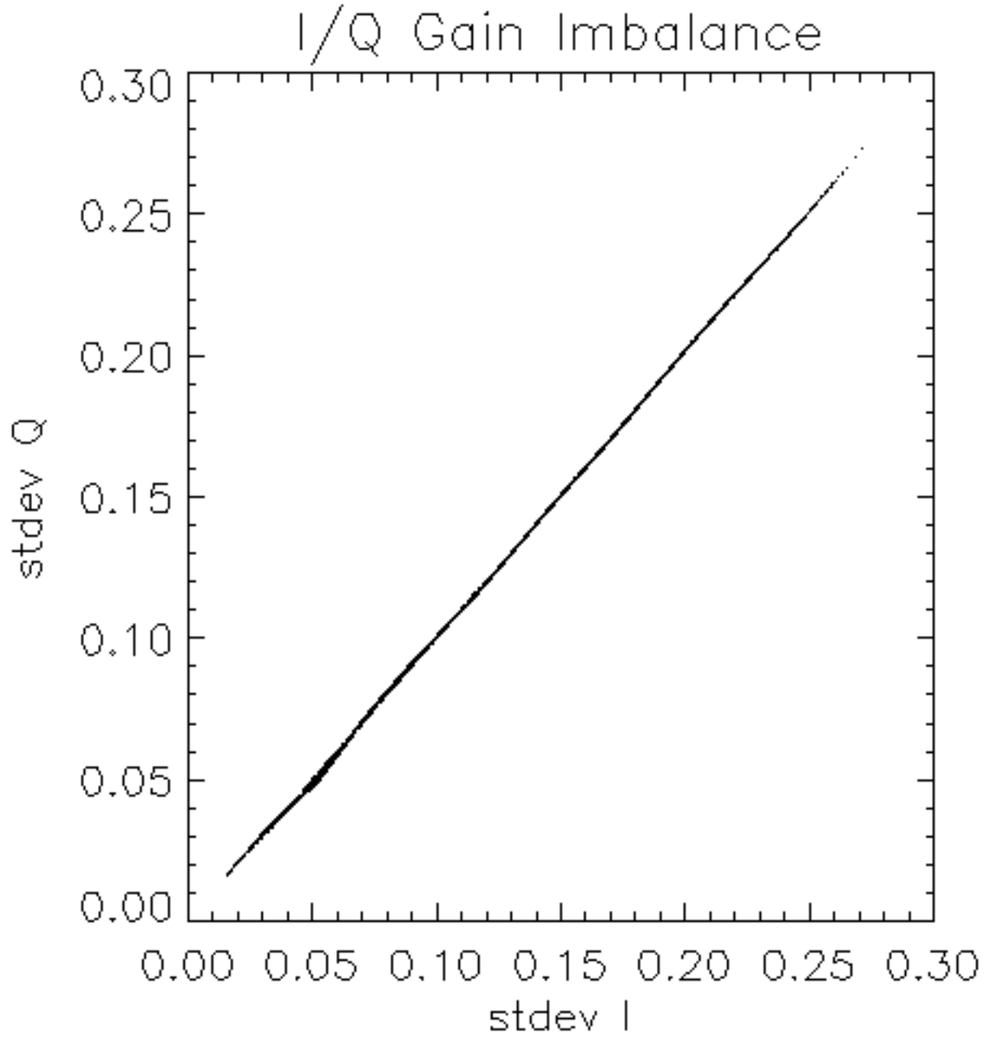
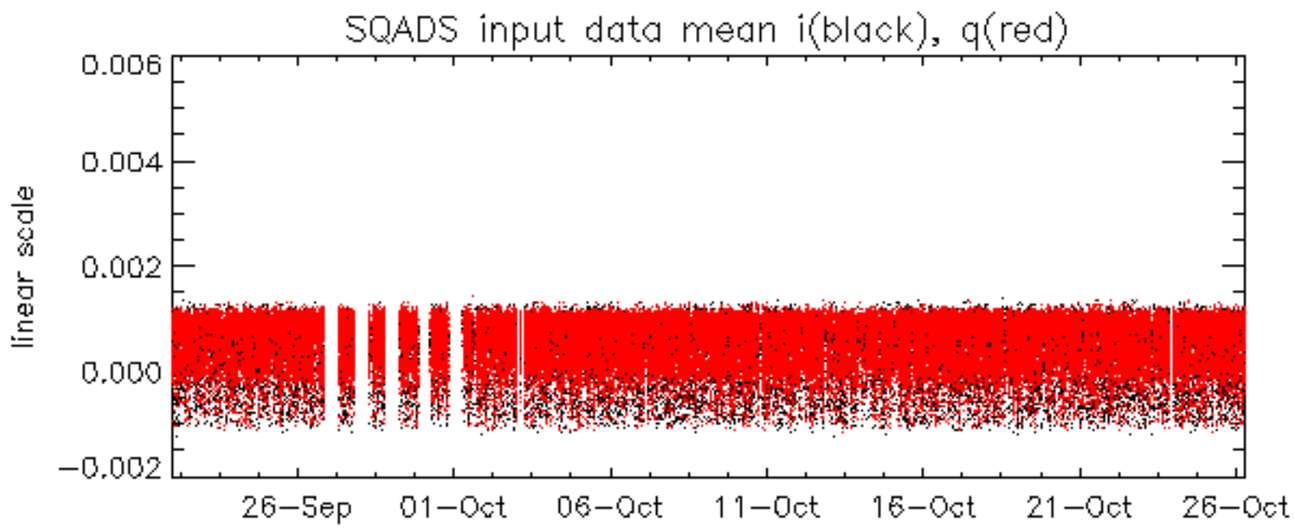
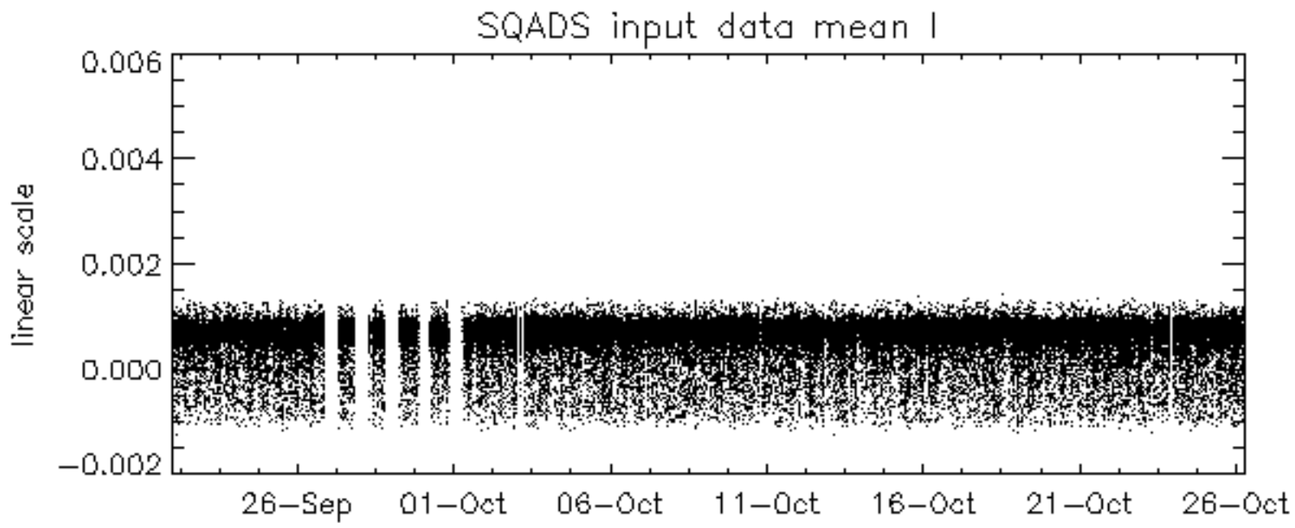
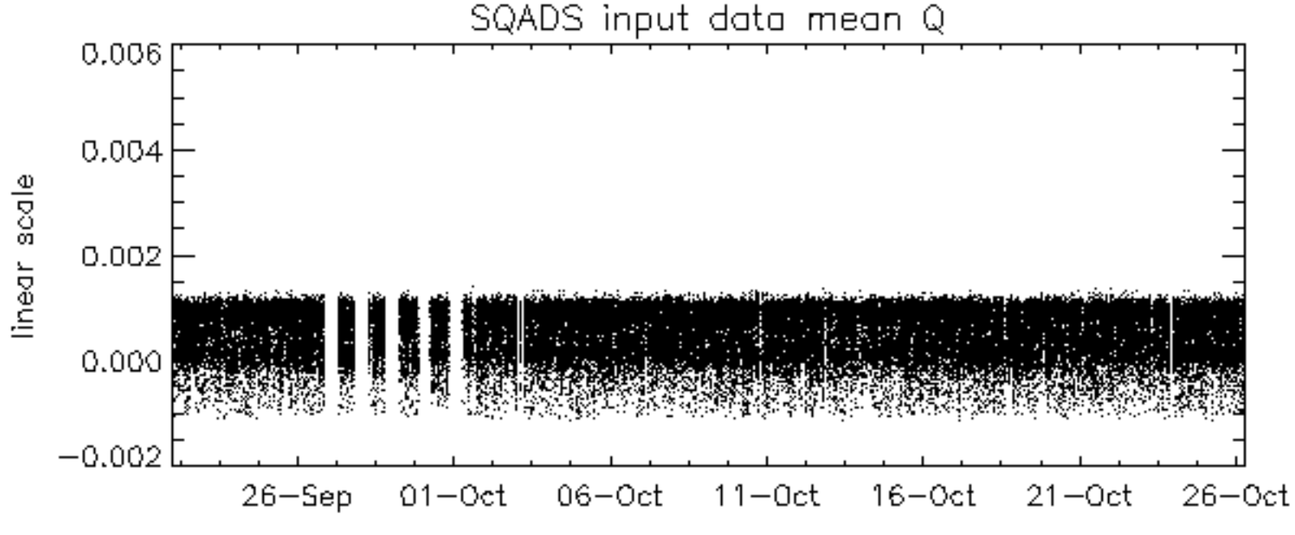
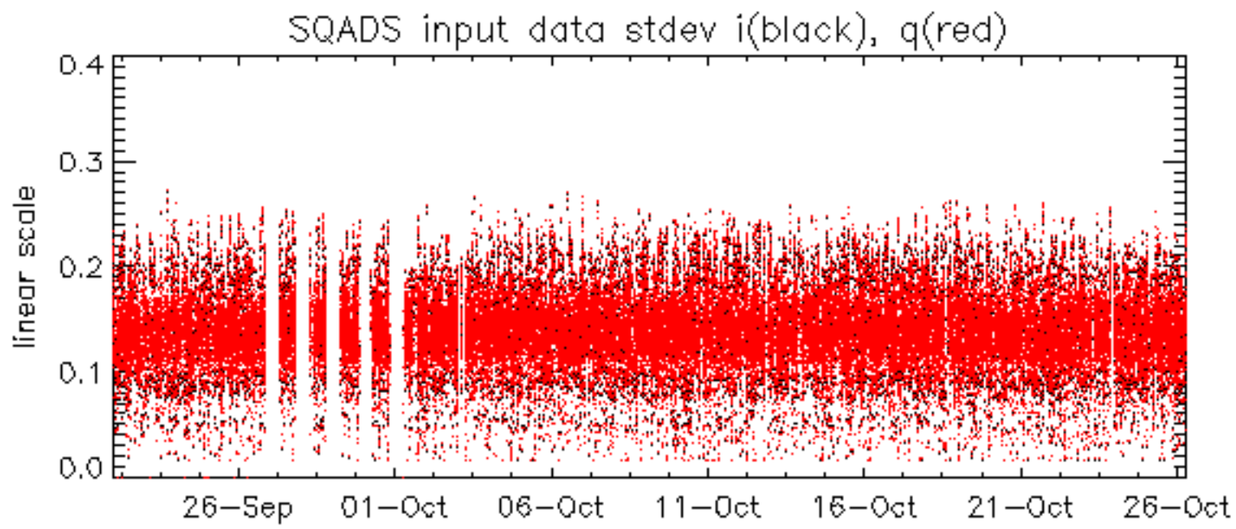
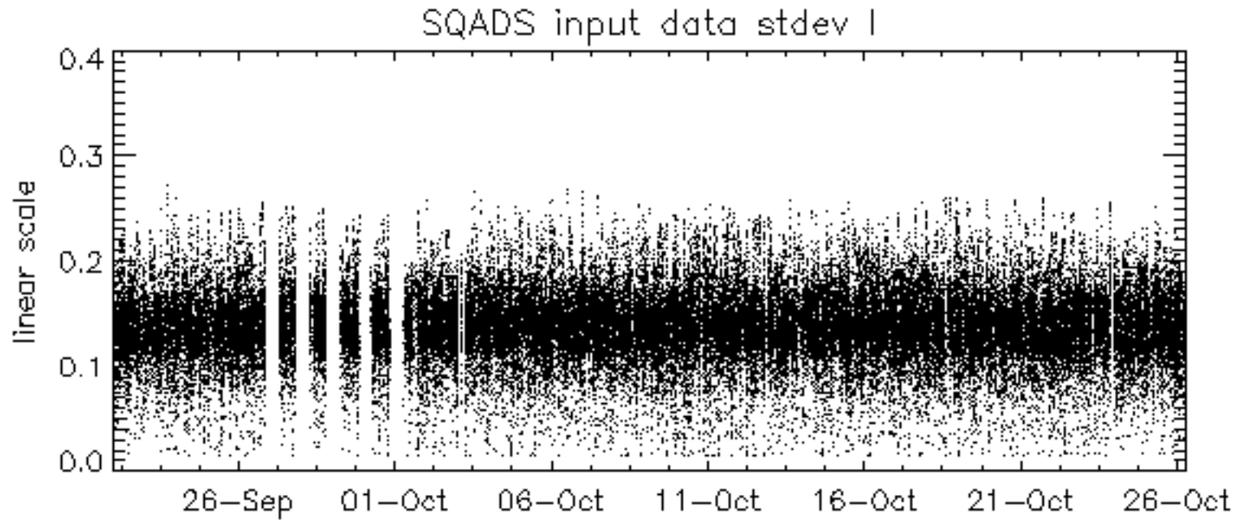

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

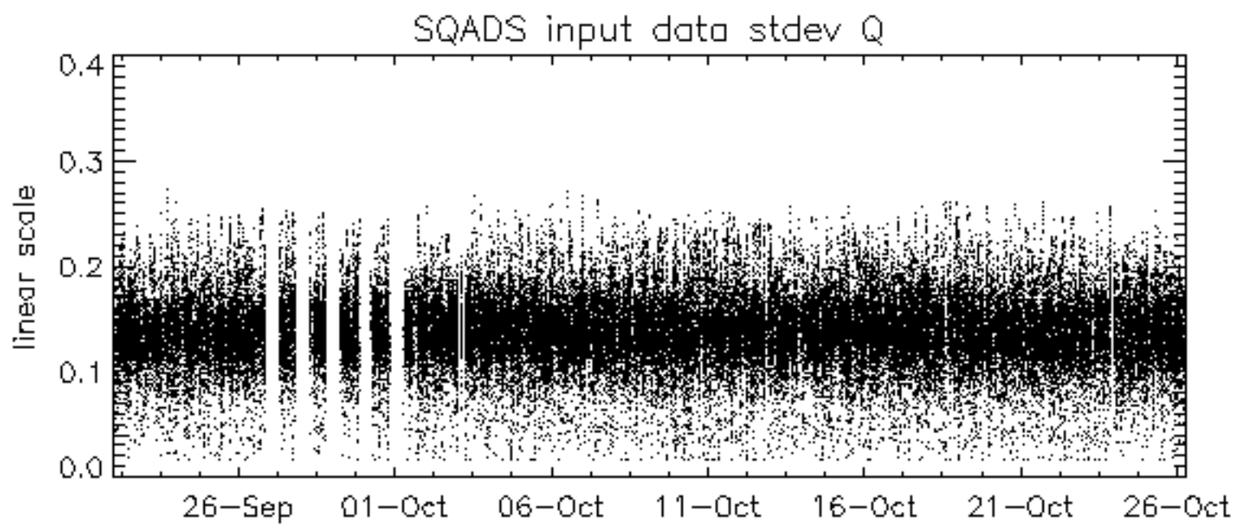

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Sep
01−Oct
06−Oct
11−Oct
16−Oct
21−Oct
26−Oct

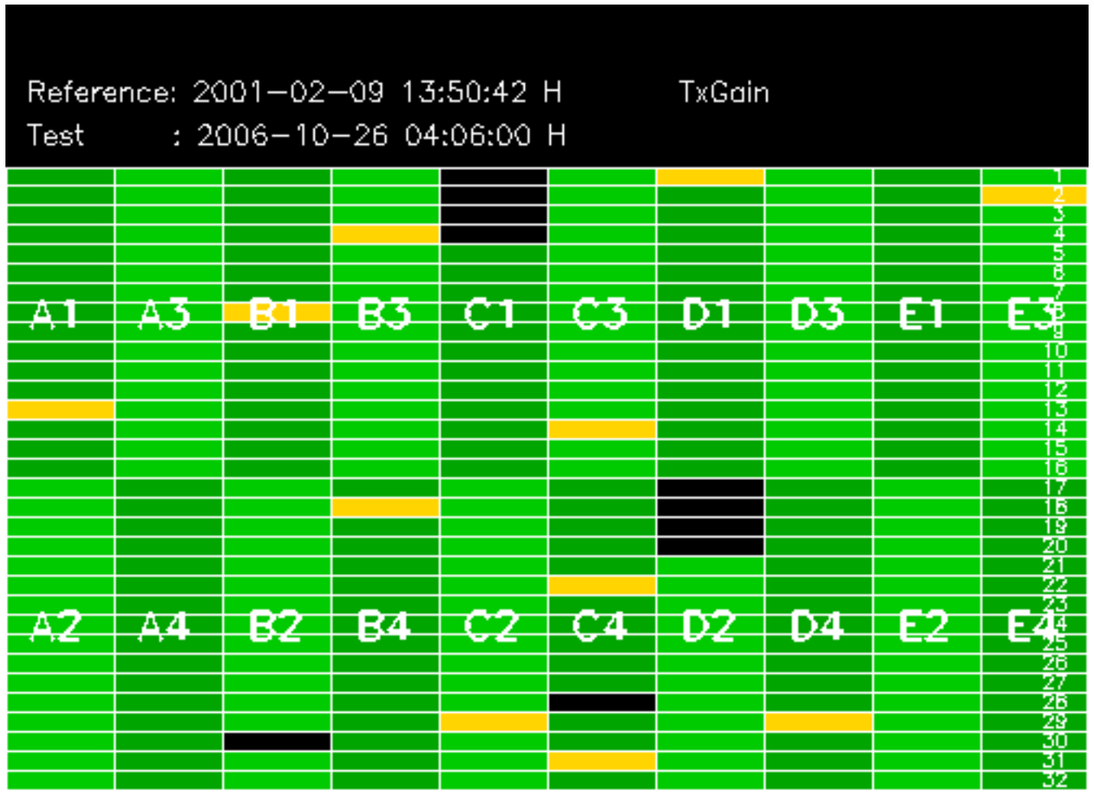

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Sep
01−Oct
06−Oct
11−Oct
16−Oct
21−Oct
26−Oct


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2006-10-26 04:06:00 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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9
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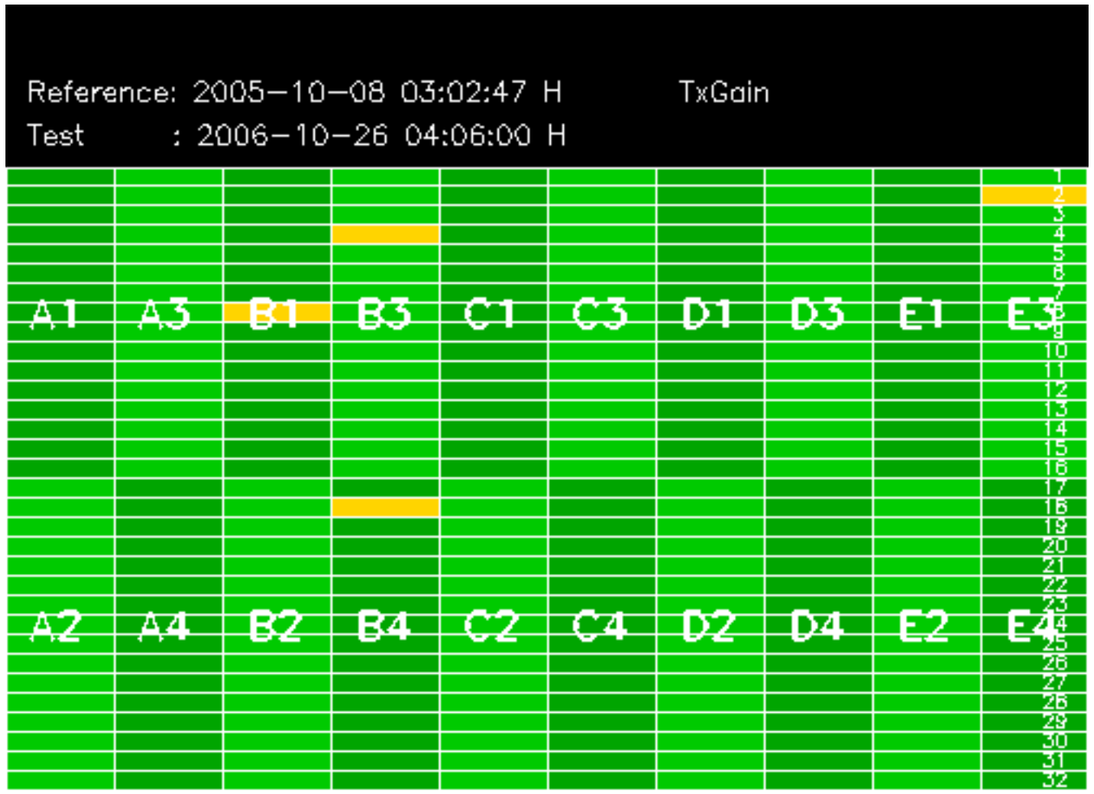
Reference: 2005-10-08 03:02:47 H
Test : 2006-10-26 04:06:00 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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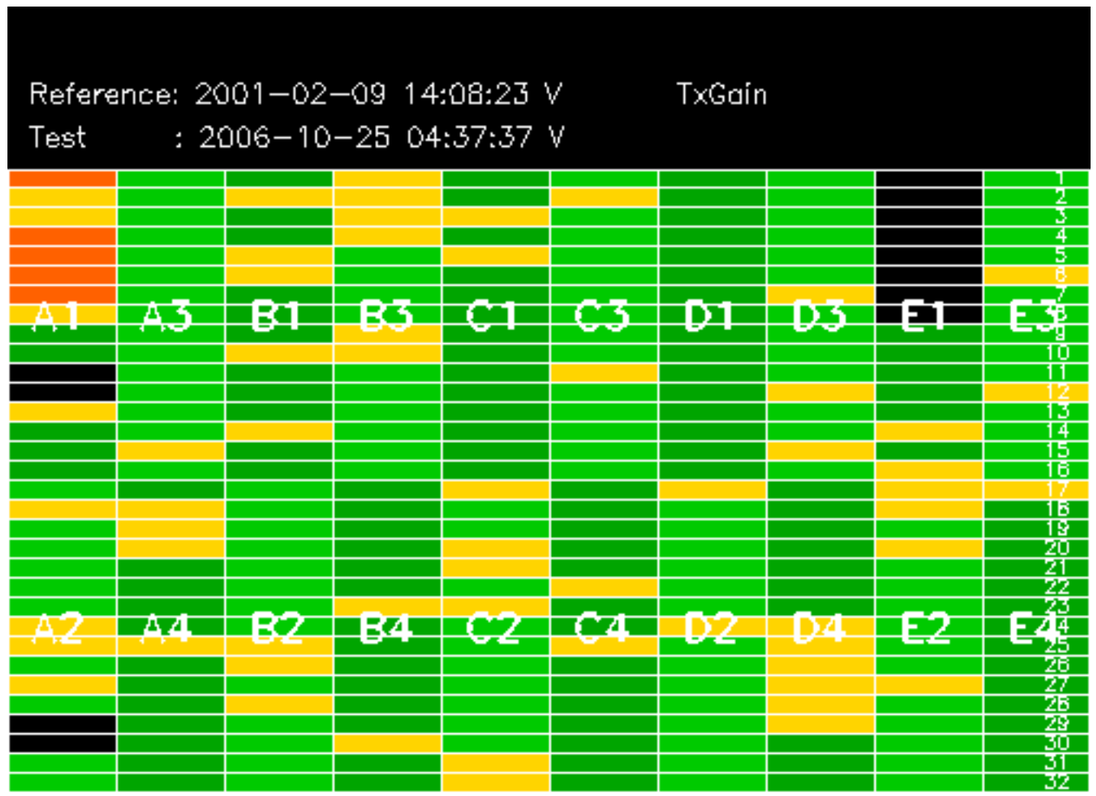
Reference: 2001-02-09 14:08:23 V
Test : 2006-10-25 04:37:37 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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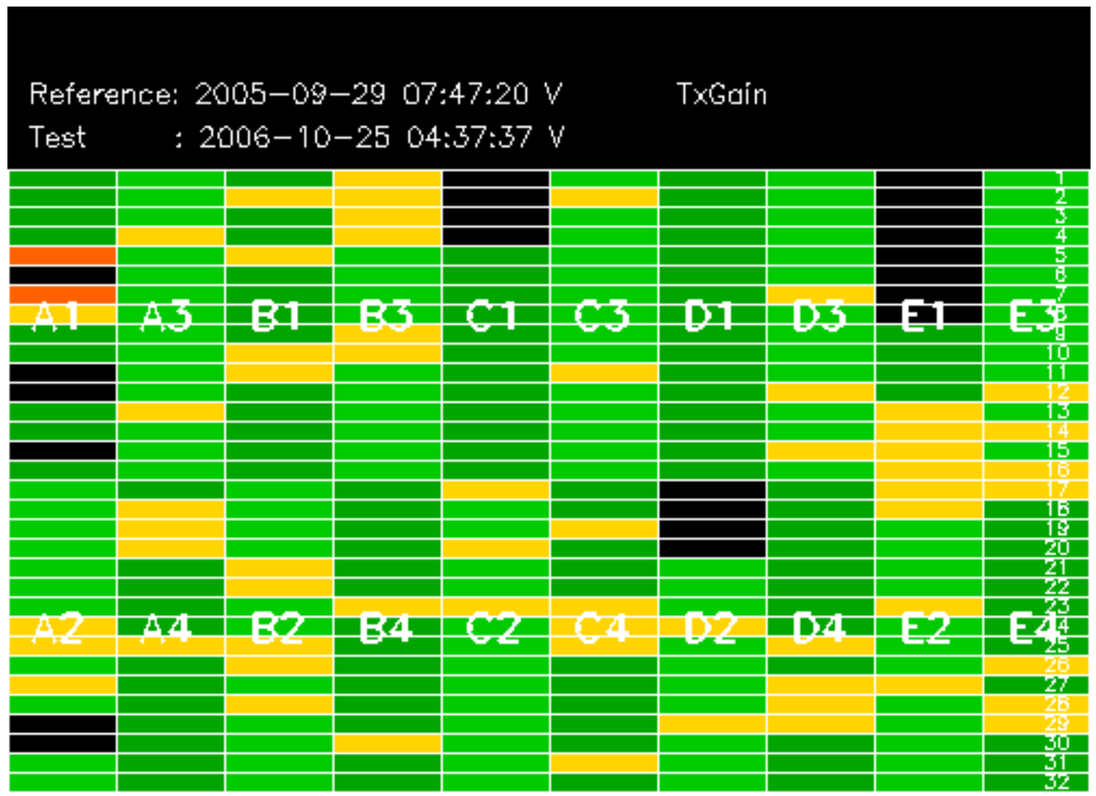
Reference: 2005-09-29 07:47:20 V
Test : 2006-10-25 04:37:37 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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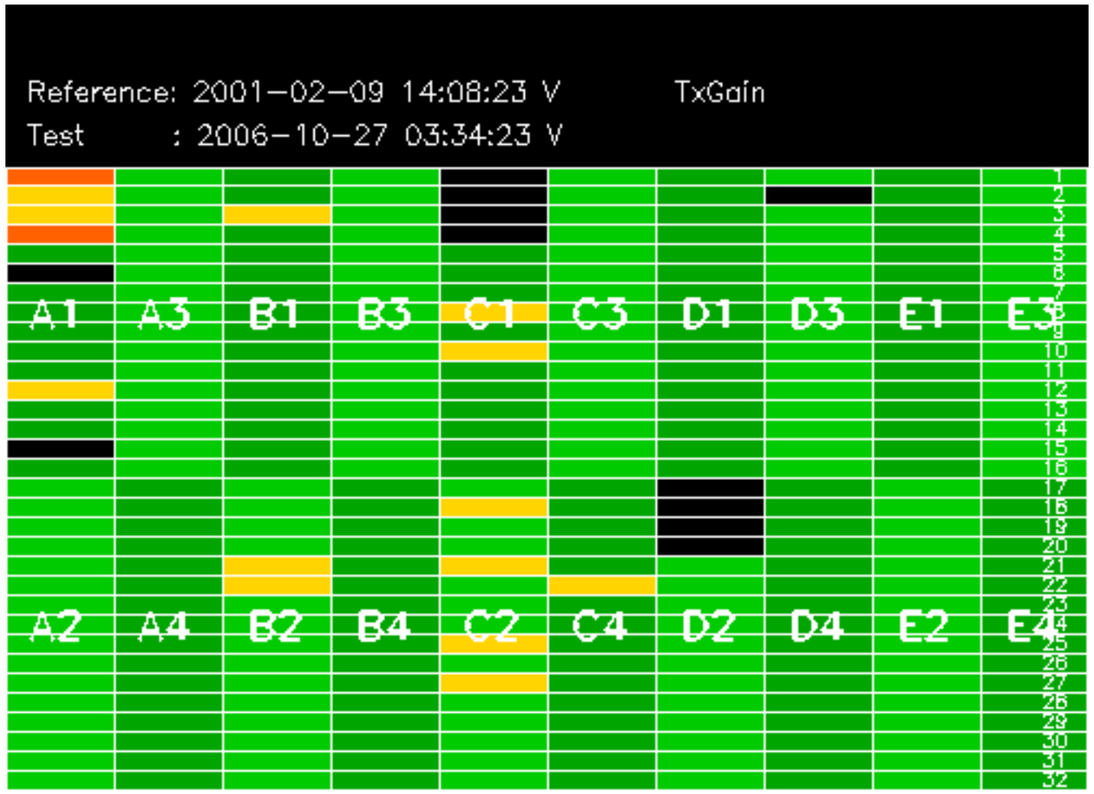
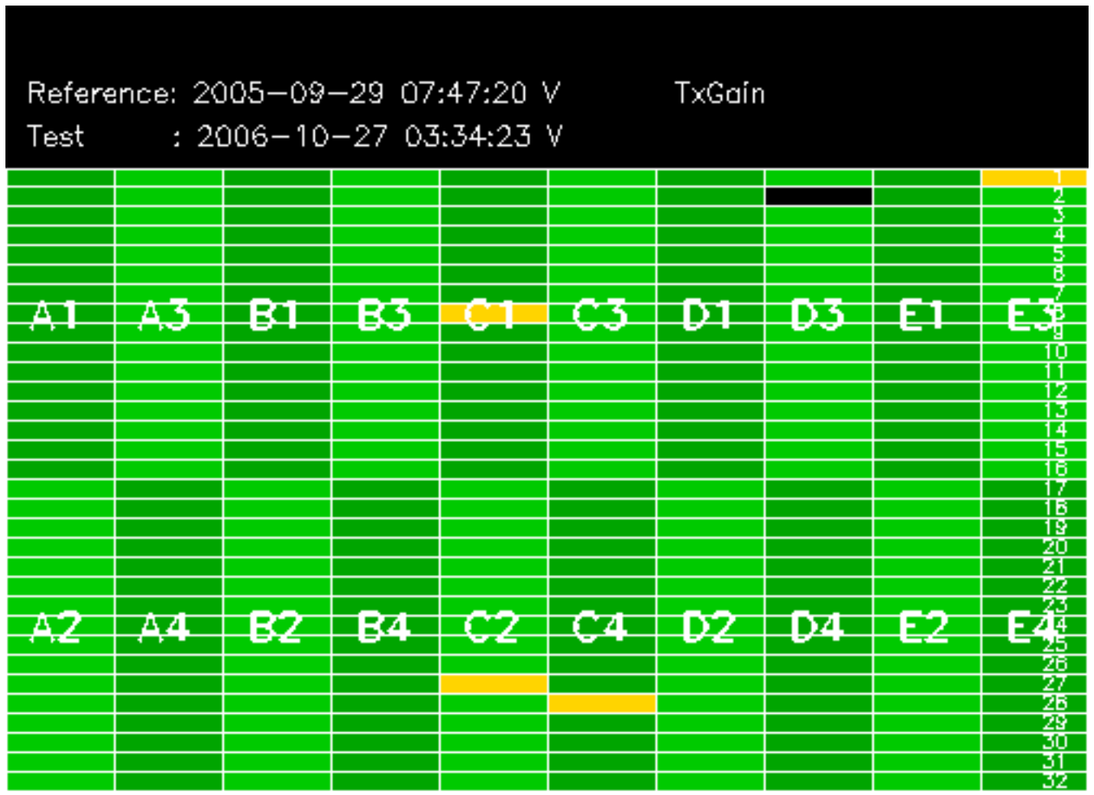

Reference: 2001-02-09 14:08:23 V
Test : 2006-10-27 03:34:23 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-10-27 03:34:23 V
TxGain
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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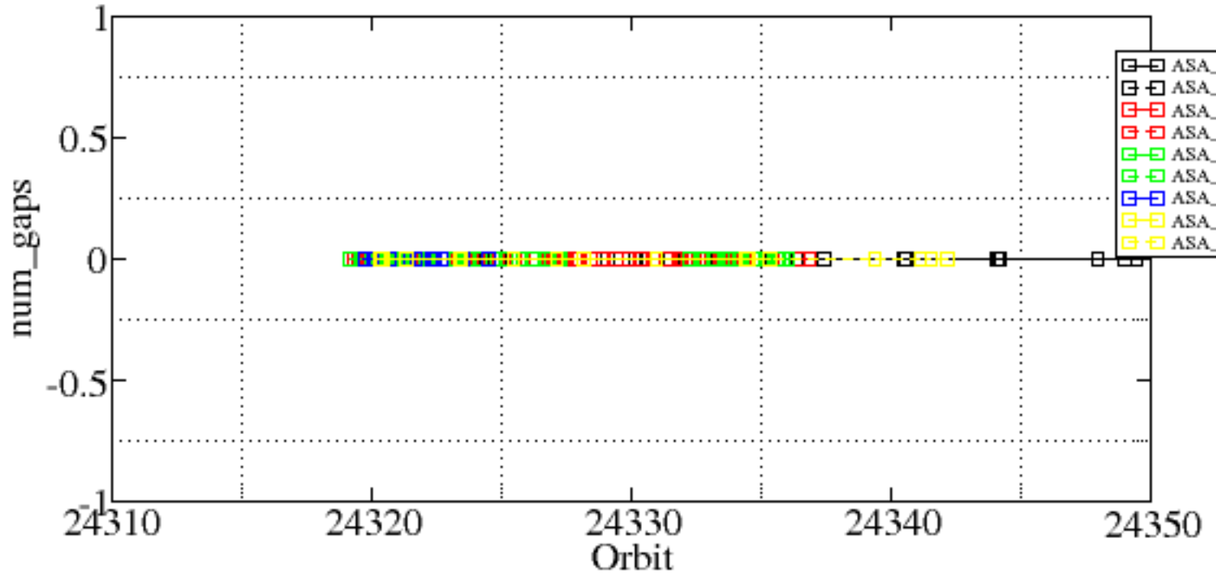
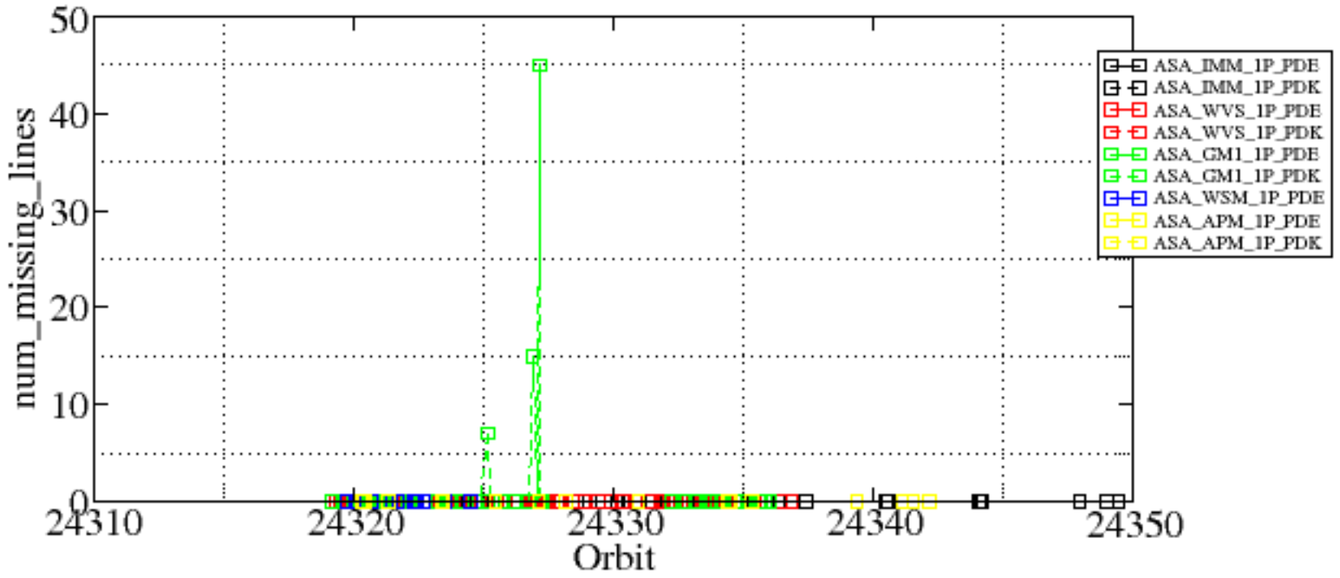
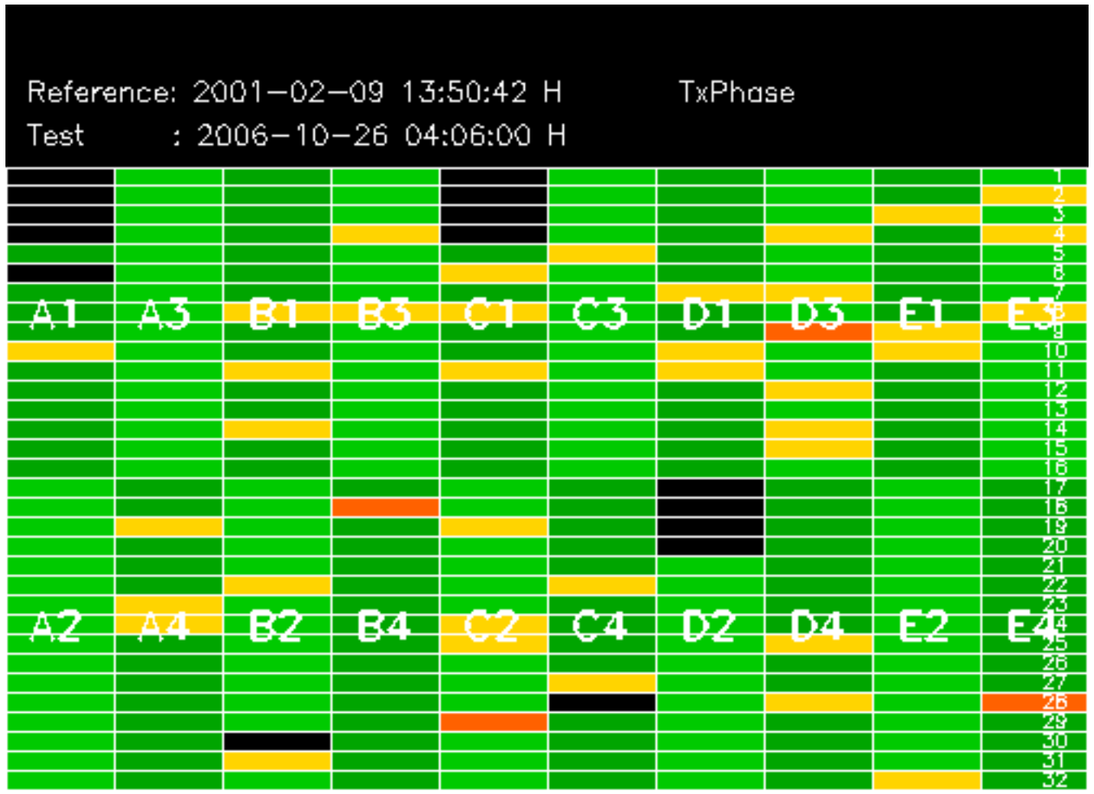
Summary of analysis for the last 3 days 2006102[567]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_GM1_1PNPDK20061025_102906_000007612052_00223_24325_7268.N1 </td> <td>0 </td> <td>7 </td></tr>
<tr> <td>ASA_GM1_1PNPDK20061025_132233_000004652052_00224_24326_7283.N1 </td> <td>0 </td> <td>15 </td></tr>
<tr> <td>ASA_GM1_1PNPDK20061025_134932_000006282052_00225_24327_7281.N1 </td> <td>0 </td> <td>45 </td></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
24310
24320
24330
24340
24350
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDE
ASA_APM_1P_PDE
ASA_APM_1P_PDK


num_missing_lines
50
40
30
20
10
0
24310
24320
24330
24340
24350
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDE
ASA_APM_1P_PDE
ASA_APM_1P_PDK


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2006-10-26 04:06:00 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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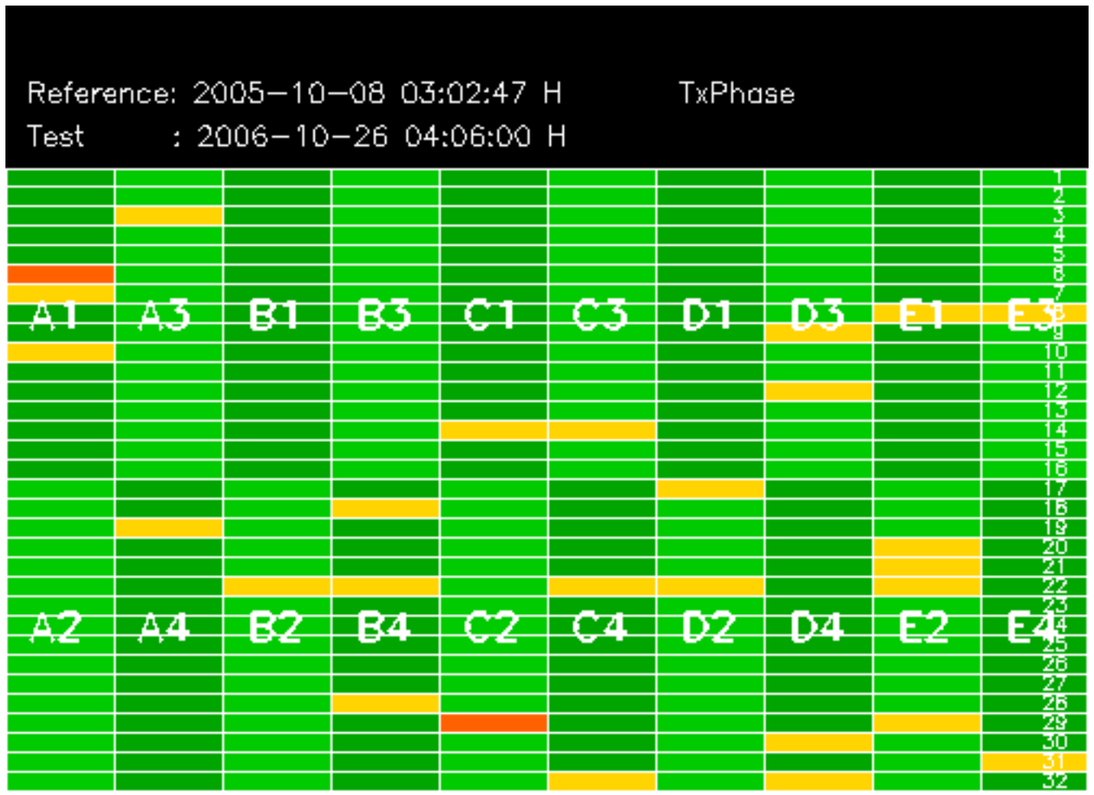
32


Reference: 2005-10-08 03:02:47 H
Test : 2006-10-26 04:06:00 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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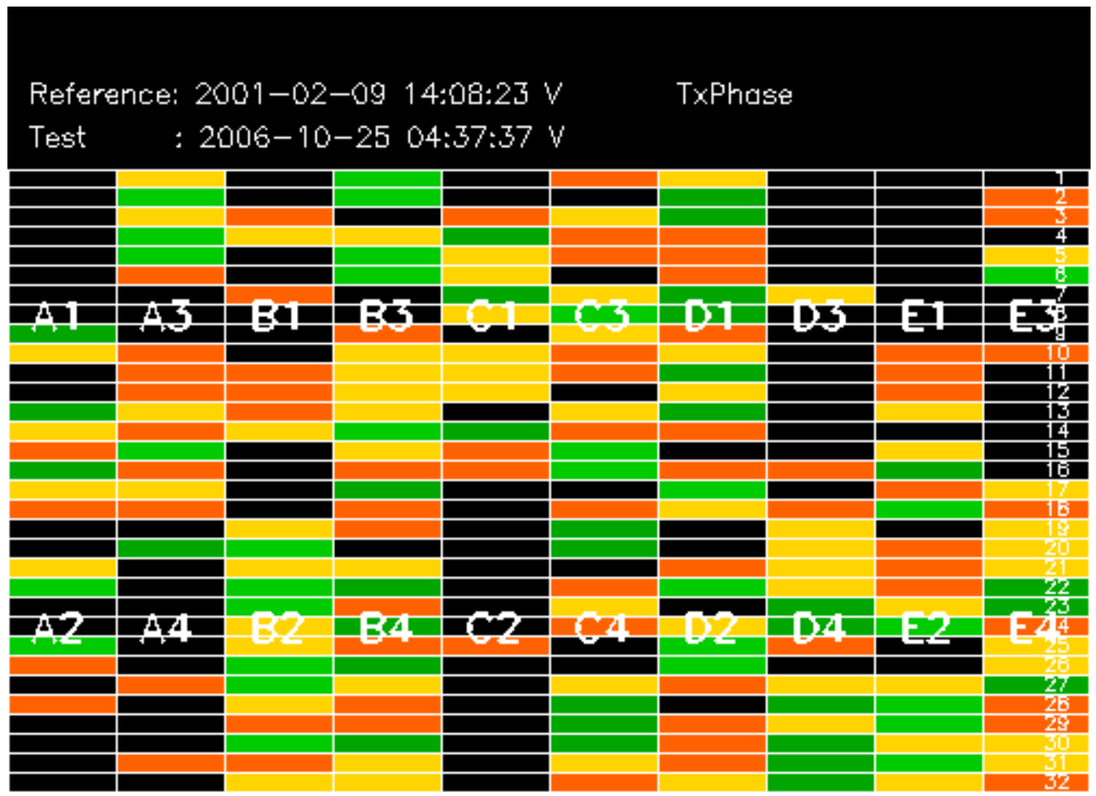
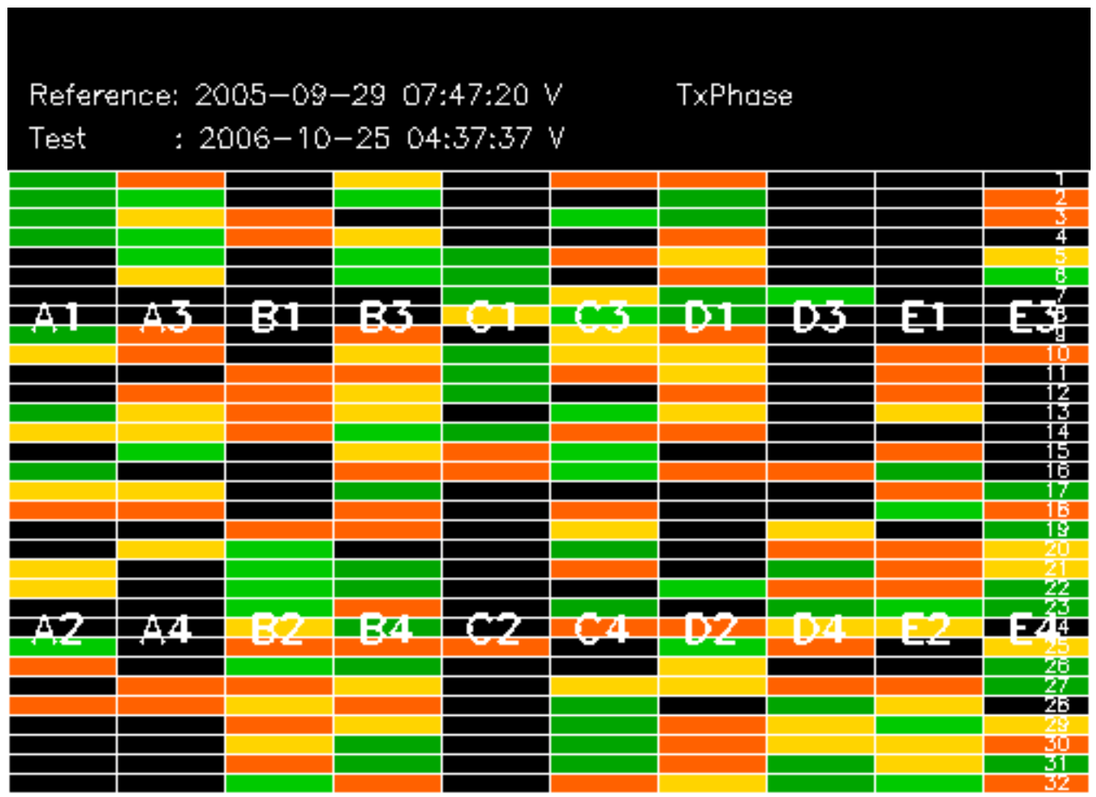
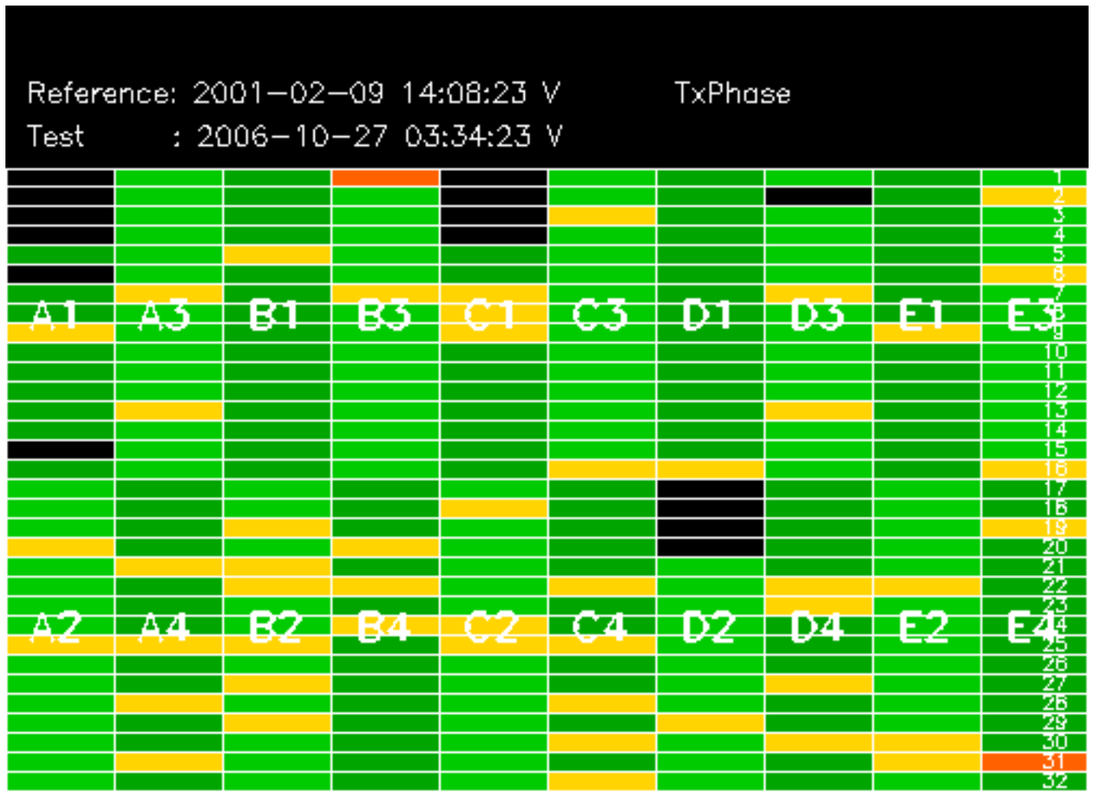

Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2006-10-25 04:37:37 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
TxPhase
Test : 2006-10-25 04:37:37 V
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 : 2006-10-27 03:34:23 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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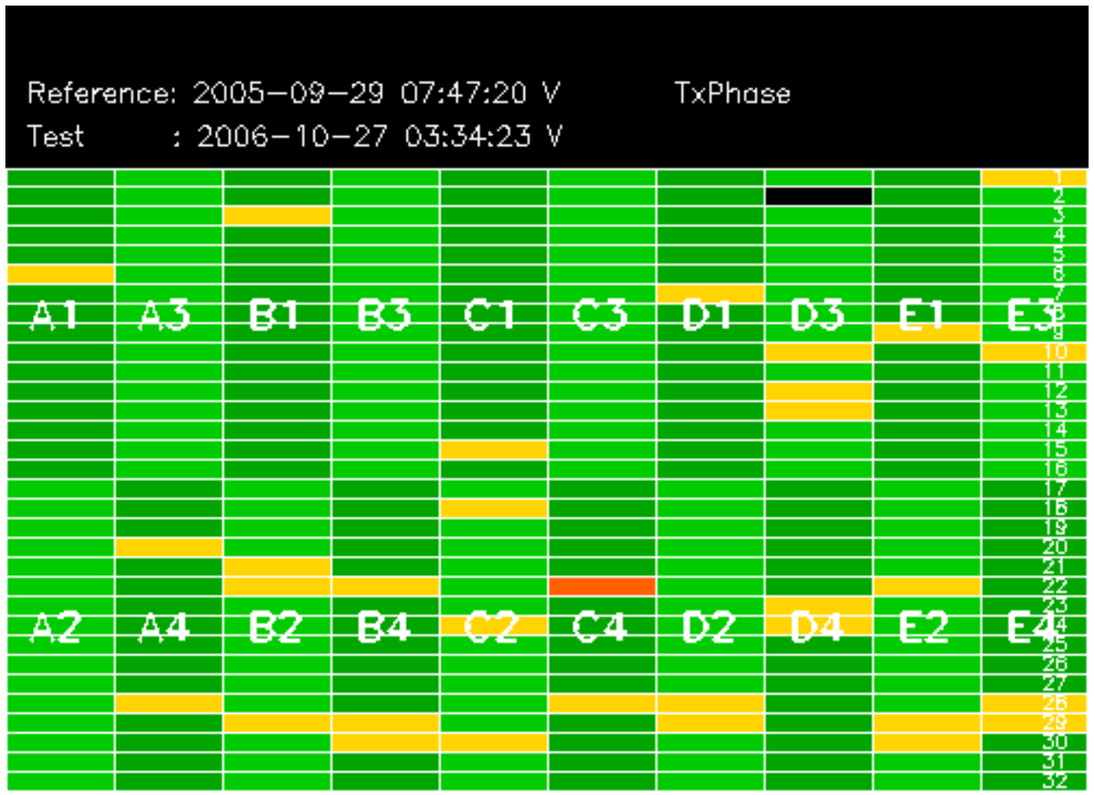
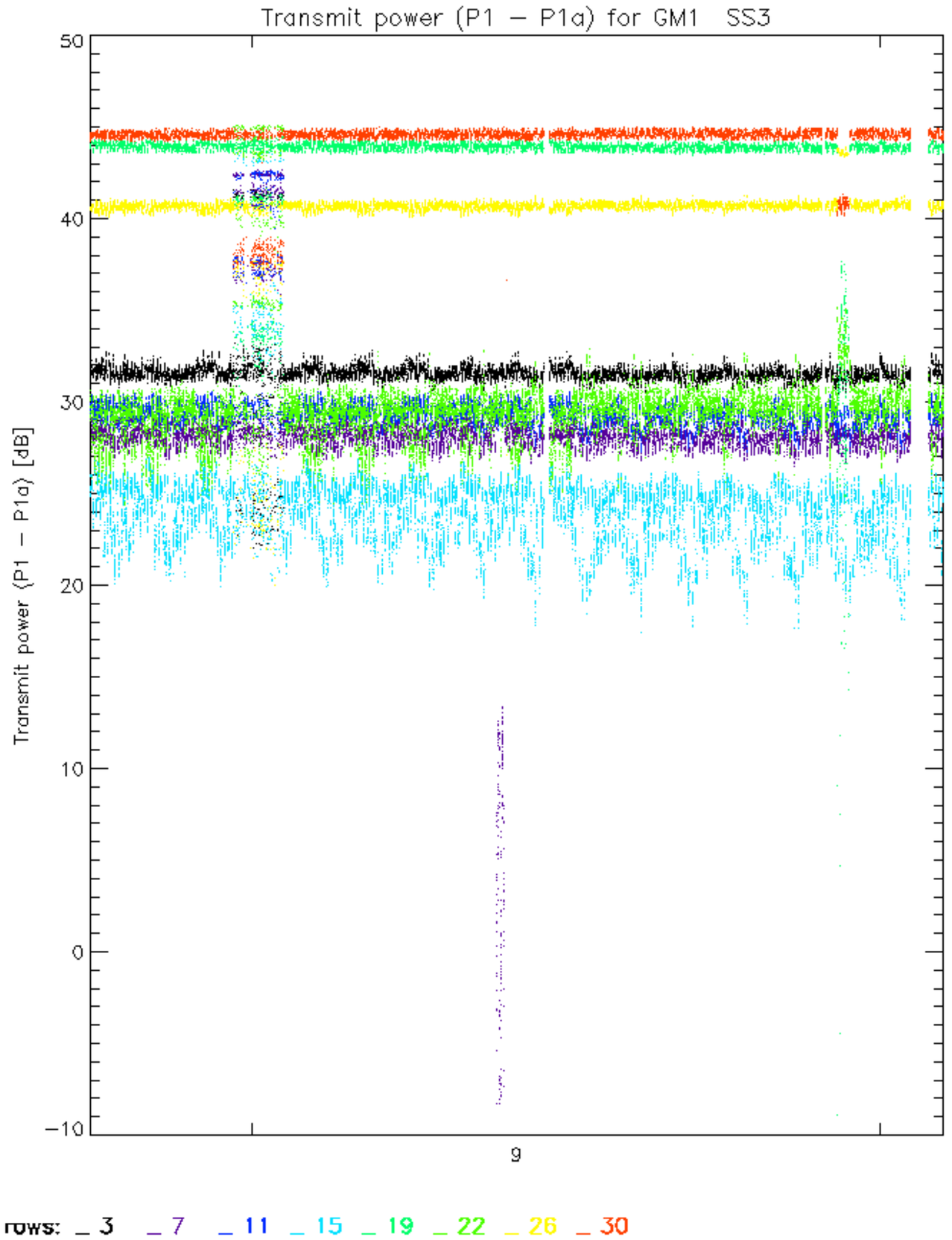
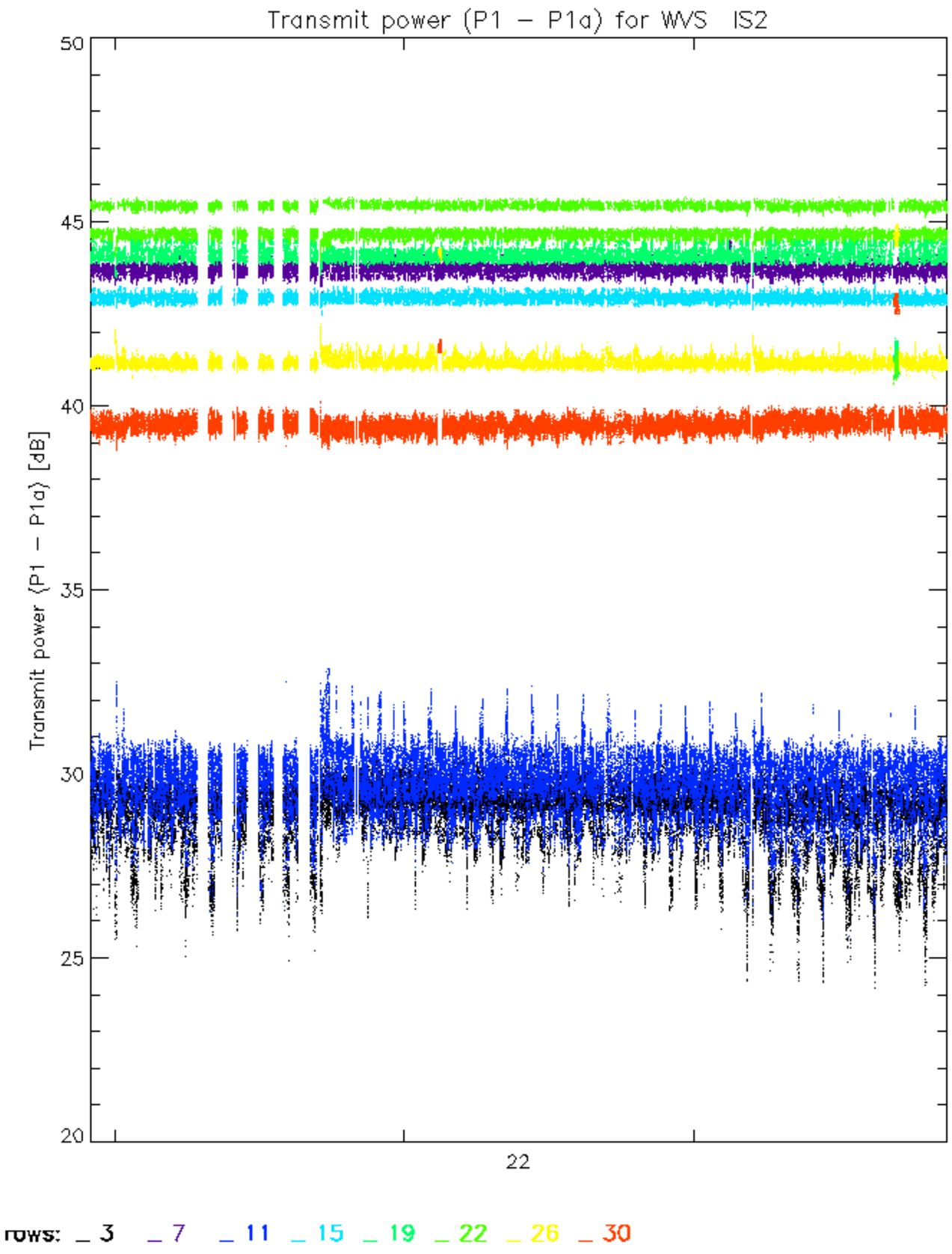

Reference: 2005-09-29 07:47:20 V
Test : 2006-10-27 03:34:23 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
9
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
Transmit power (P1 – P1a) [dB]
50
45
40
35
30
25
20
22
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.