PRELIMINARY REPORT OF 060531

last update on Wed May 31 16:43:23 GMT 2006

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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 2006-05-30 00:00:00 to 2006-05-31 16:43:23

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	26	39	8	0	7
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	26	39	8	0	7
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	26	39	8	0	7
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	26	39	8	0	7

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	12	16	17	14	26
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	12	16	17	14	26
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	12	16	17	14	26
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	12	16	17	14	26

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

No anomalies observed on available MS products:

Polarisation	Start Time
V	20060530 085029
H	20060531 081852

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	-3.959898	0.017008	0.049989
7	P1	-3.103060	0.017375	-0.065696
11	P1	-4.107934	0.017932	0.002433
15	P1	-6.132121	0.020353	0.009819
19	P1	-3.318308	0.008393	-0.029455
22	P1	-4.518454	0.011277	0.038999
26	P1	-3.988802	0.018798	0.055181
30	P1	-5.748623	0.008051	0.021981
3	P1	-16.582769	0.260862	0.243622
7	P1	-17.121162	0.187504	-0.224418
11	P1	-16.915697	0.313028	-0.048944
15	P1	-13.216195	0.212825	-0.068756
19	P1	-14.256267	0.047037	-0.080442
22	P1	-16.154652	0.384271	-0.058010
26	P1	-15.277865	0.248746	0.054352
30	P1	-17.011971	0.358842	-0.220994

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.216578	0.081842	0.150048
7	P2	-22.099941	0.098971	0.178120
11	P2	-15.942629	0.111259	0.151649
15	P2	-7.162904	0.093014	0.040755
19	P2	-9.164032	0.085283	0.011054
22	P2	-18.117983	0.082841	-0.064698
26	P2	-16.363436	0.088026	-0.049153
30	P2	-19.583361	0.085705	0.092525

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.186515	0.003895	0.033757

7	P3	-8.186515	0.003895	0.033757
11	P3	-8.186515	0.003895	0.033757
15	P3	-8.186515	0.003895	0.033757
19	P3	-8.186515	0.003895	0.033757
22	P3	-8.186515	0.003895	0.033757
26	P3	-8.186515	0.003895	0.033757
30	P3	-8.186515	0.003895	0.033757

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	-3.773883	0.070549	-0.095198
7	P1	-2.607830	0.034547	0.063783
11	P1	-2.864631	0.024864	0.003206
15	P1	-3.493508	0.050871	-0.003296
19	P1	-3.394233	0.013744	-0.016112
22	P1	-5.086572	0.019936	0.041560
26	P1	-5.837746	0.014805	-0.022505
30	P1	-5.188100	0.026098	0.015126
3	P1	-11.612604	0.082974	-0.015219
7	P1	-9.959940	0.056226	0.077986
11	P1	-10.195787	0.087544	0.021995
15	P1	-10.616278	0.148861	-0.022709
19	P1	-15.505378	0.073924	-0.065581
22	P1	-20.880161	1.242330	-0.044382
26	P1	-16.485661	0.352313	0.021419
30	P1	-18.027462	0.387960	0.262237

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.900085	0.062802	0.121252
7	P2	-22.522732	0.120368	0.078247
11	P2	-11.184109	0.042135	0.070412
15	P2	-4.901940	0.043248	-0.014022
19	P2	-6.875021	0.041396	0.014642
22	P2	-8.190952	0.038659	-0.031905
26	P2	-24.100990	0.061255	-0.018982
30	P2	-22.061607	0.049990	0.000530

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.018781	0.004379	0.035325
7	P3	-8.018898	0.004378	0.035051
11	P3	-8.018888	0.004359	0.035108
15	P3	-8.018706	0.004369	0.034817
19	P3	-8.018906	0.004377	0.035107
22	P3	-8.018912	0.004355	0.035093
26	P3	-8.018776	0.004355	0.034365
30	P3	-8.018809	0.004372	0.034686

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	0.000530409
	stdev	1.90242e-07
MEAN Q	mean	0.000513305
	stdev	2.28609e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.134298
	stdev	0.00116838
STDEV Q	mean	0.134637
	stdev	0.00118517

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006053[901]
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_WSM_1PNPDE20060530_071020_000004832048_00106_22204_1609.N1	0	1
ASA_APM_1PNPDE20060530_143046_000000882048_00111_22209_2800.N1	0	21

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

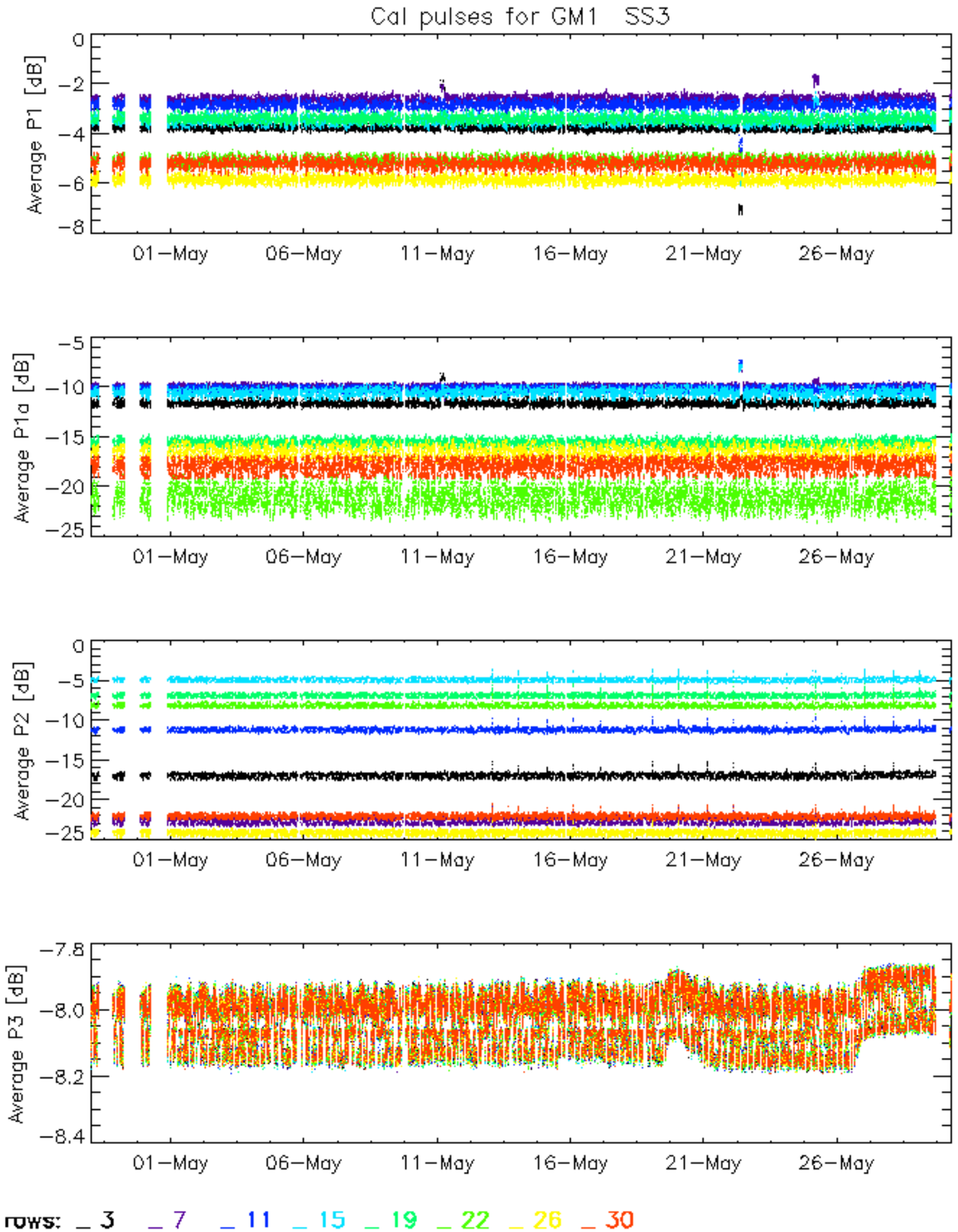
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

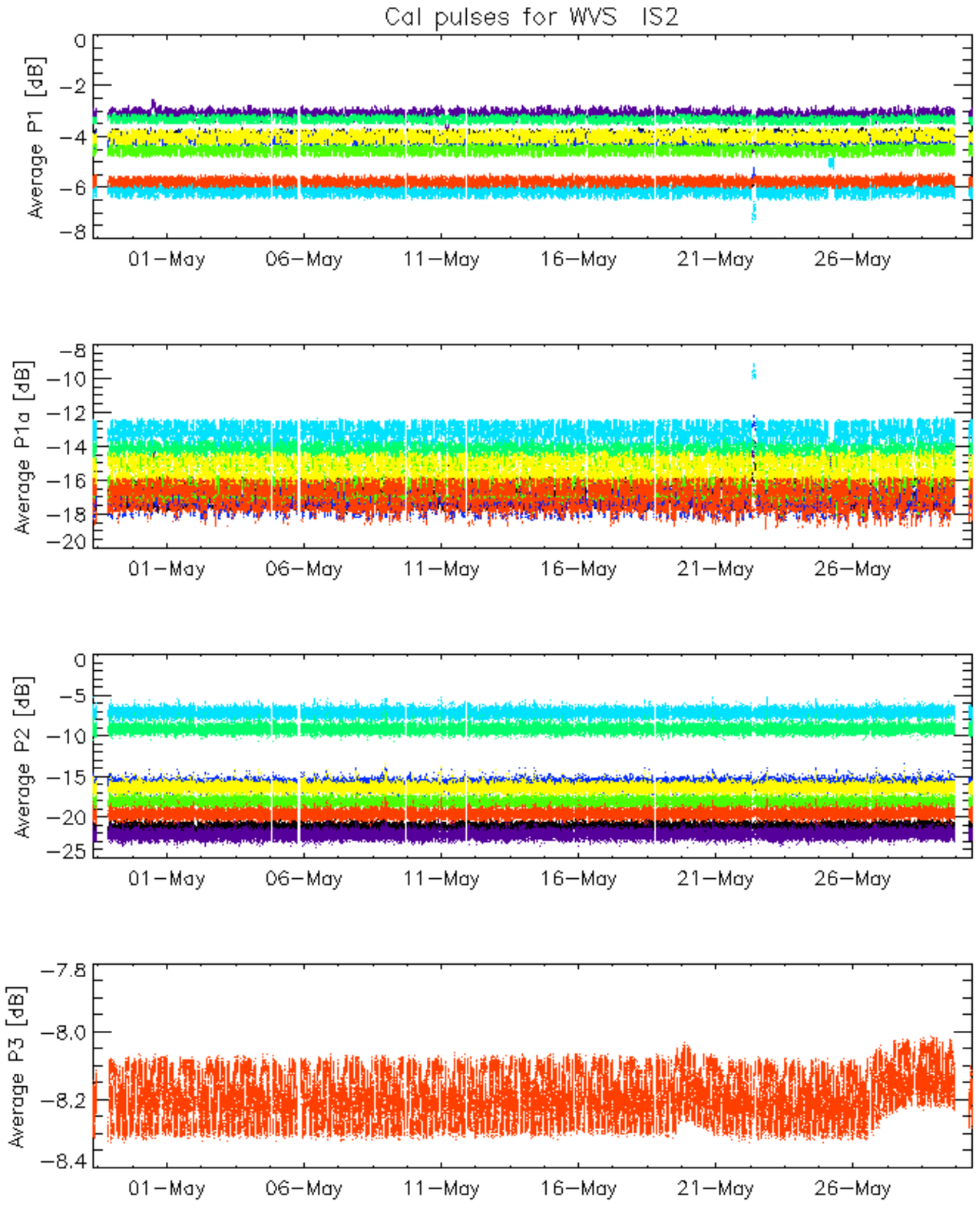
7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler
☒
Acsending
☒
Descending

7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX
☒

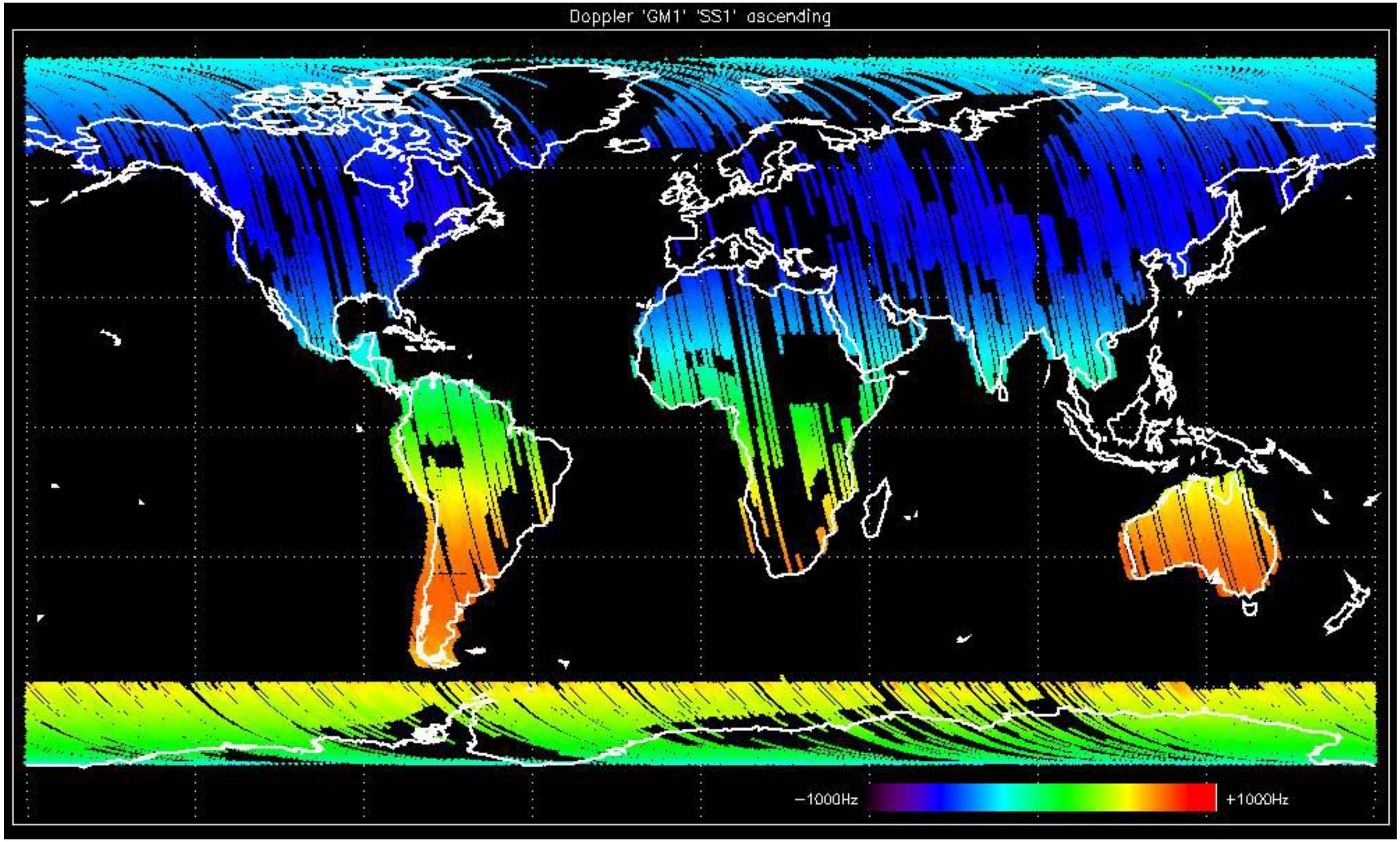

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
01−May
06−May
11−May
16−May
21−May
26−May
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

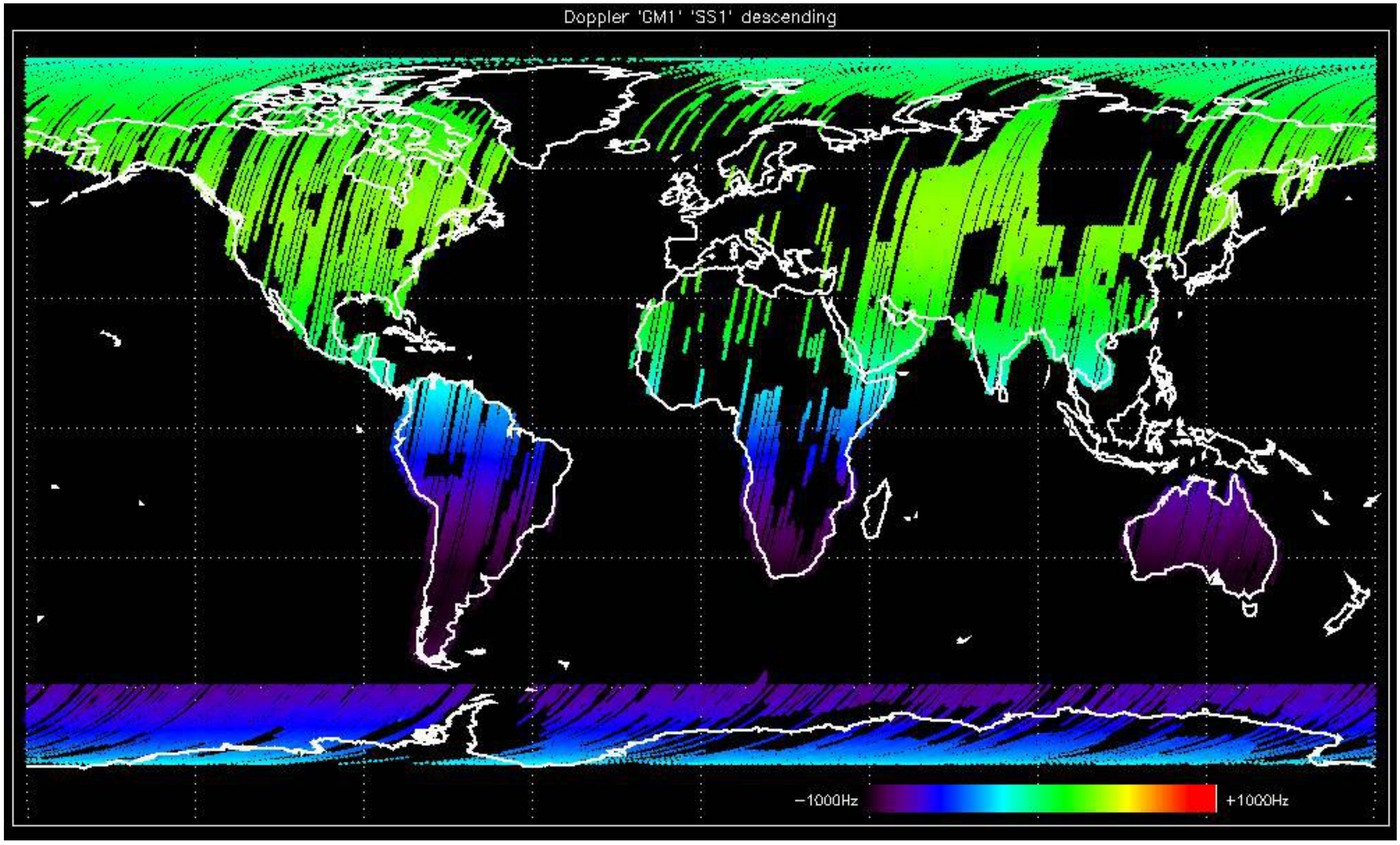

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
01−May
06−May
11−May
16−May
21−May
26−May
Average P1a [dB]
−8
−10
−12
−14
−16
−18
−20
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

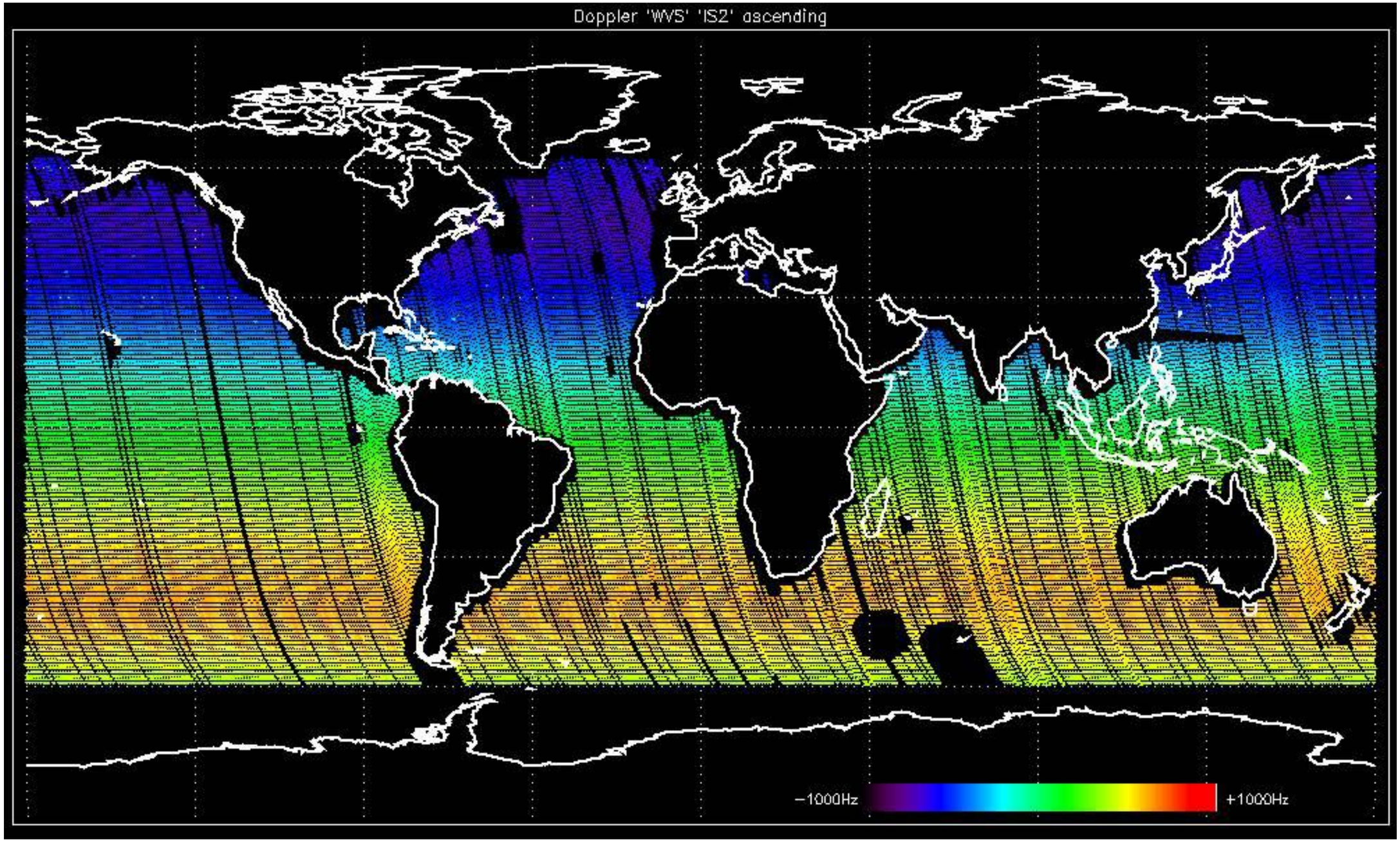
No anomalies observed.

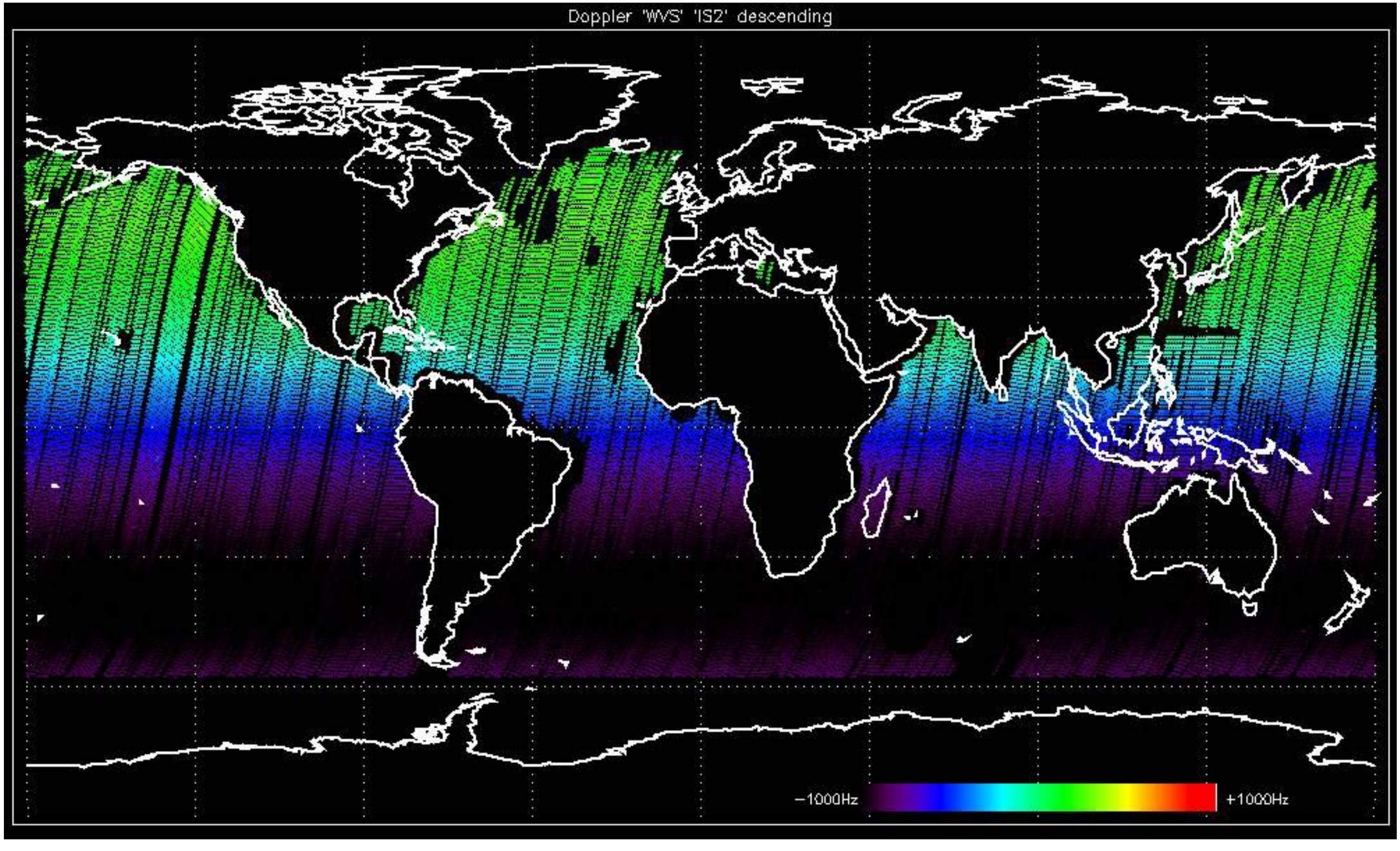
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

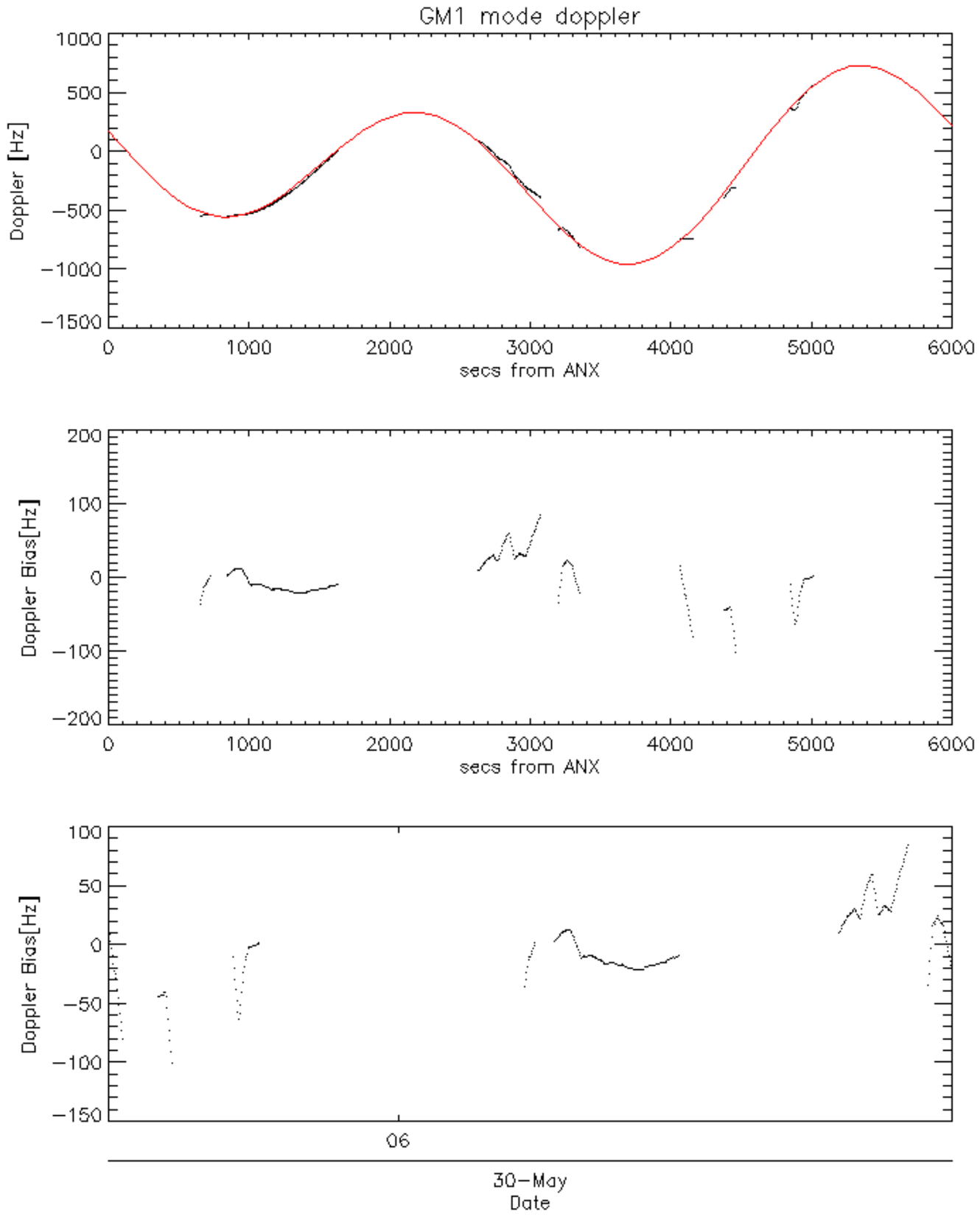
Preliminary report.The data is not yet controled

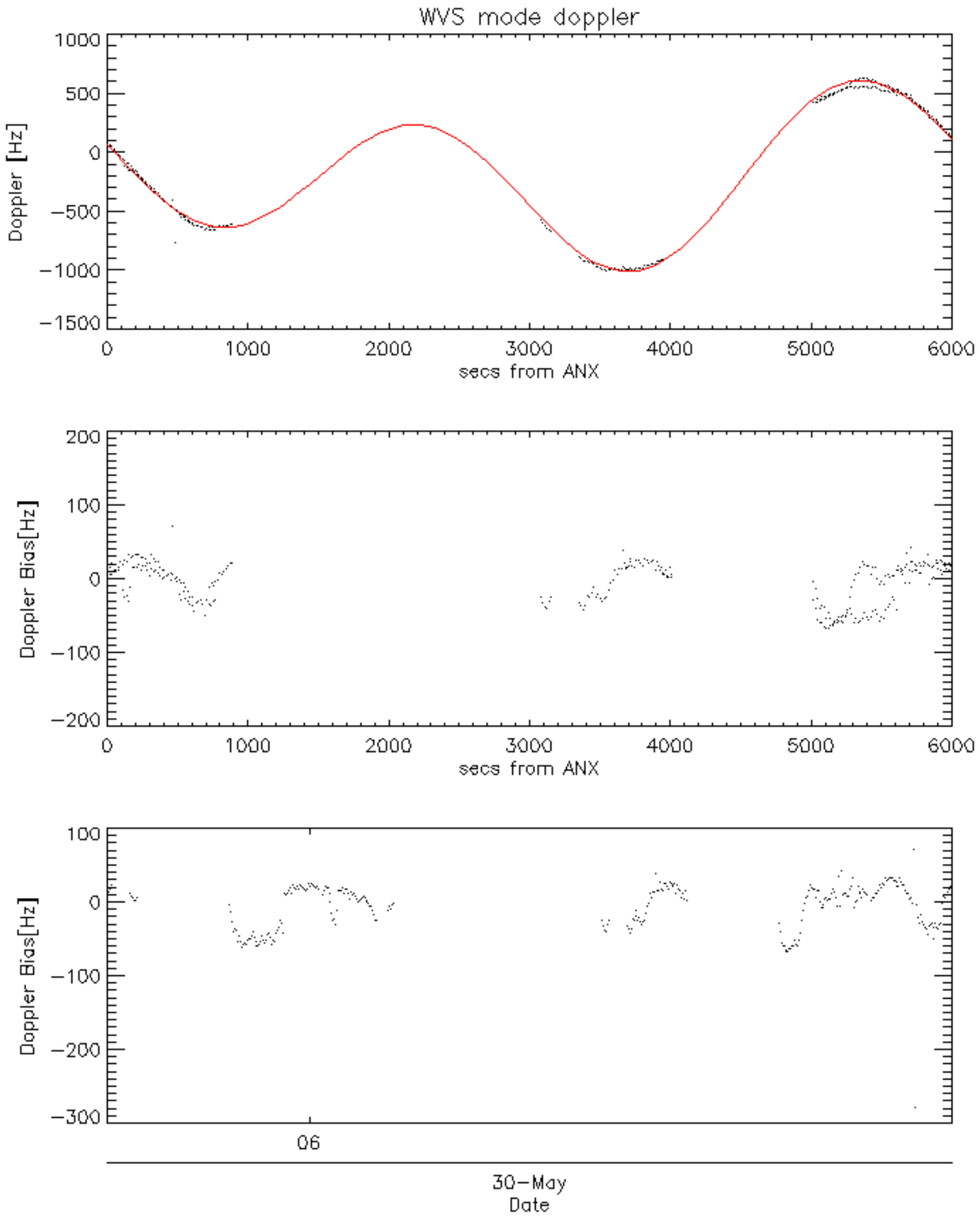

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

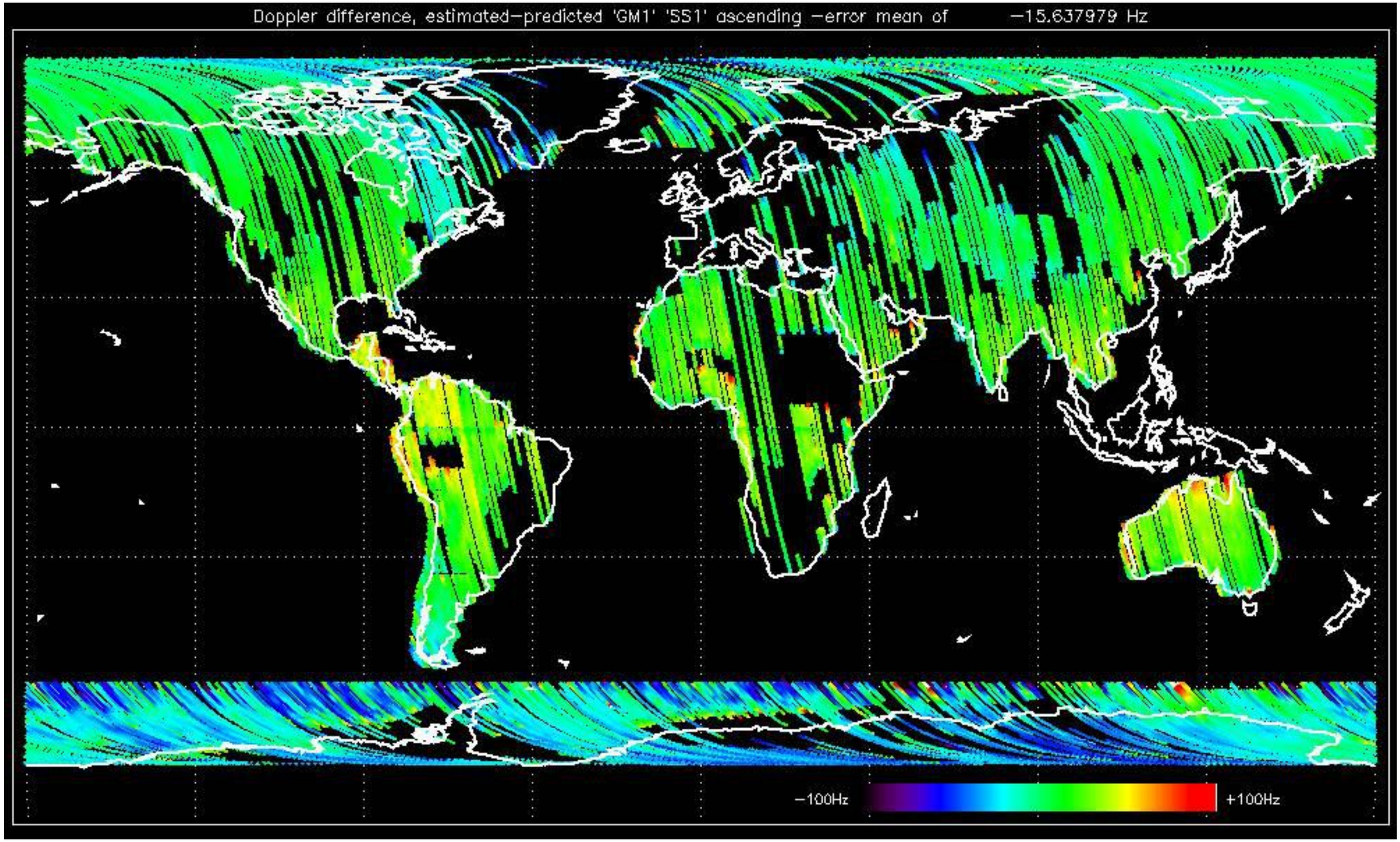

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

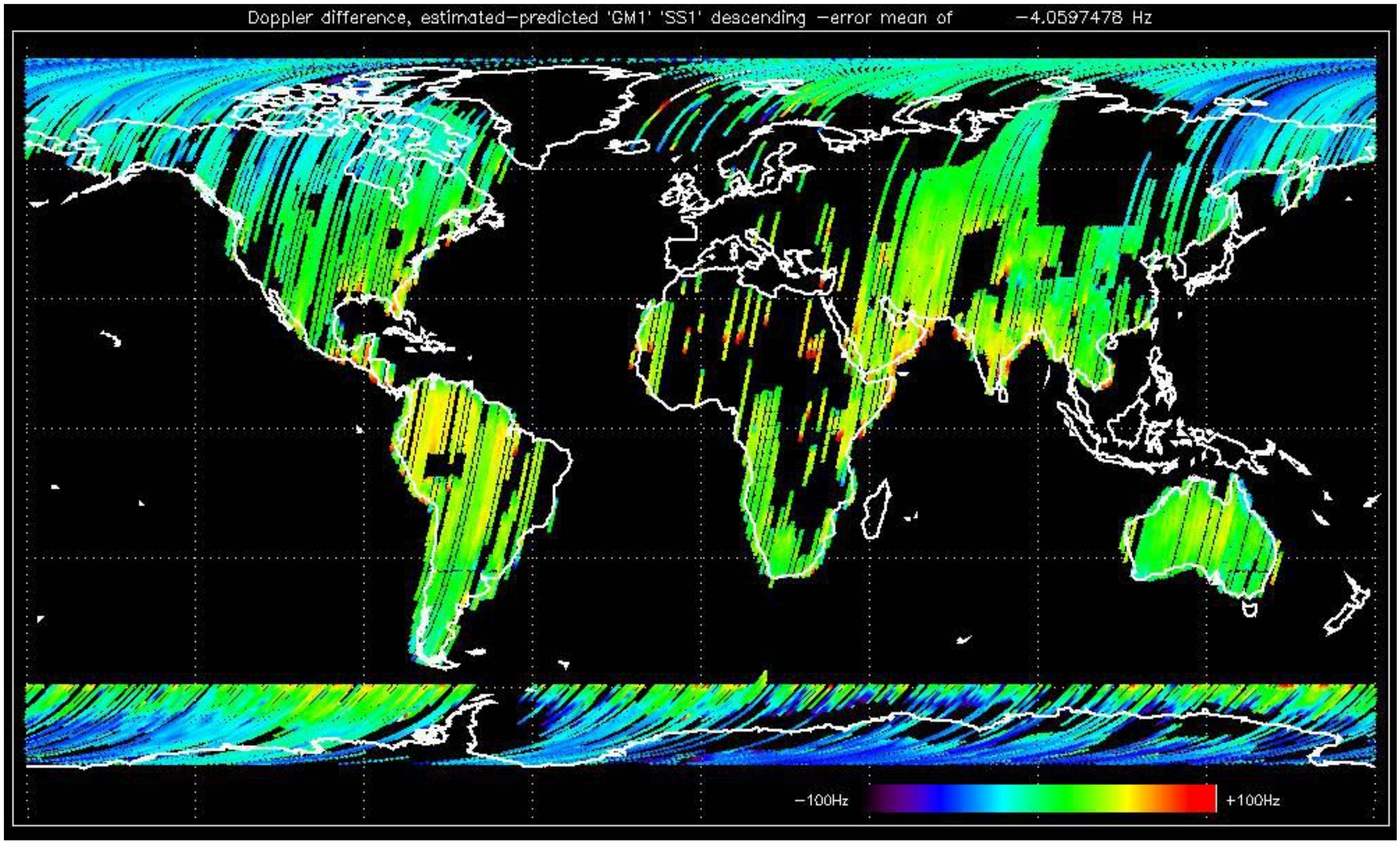

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

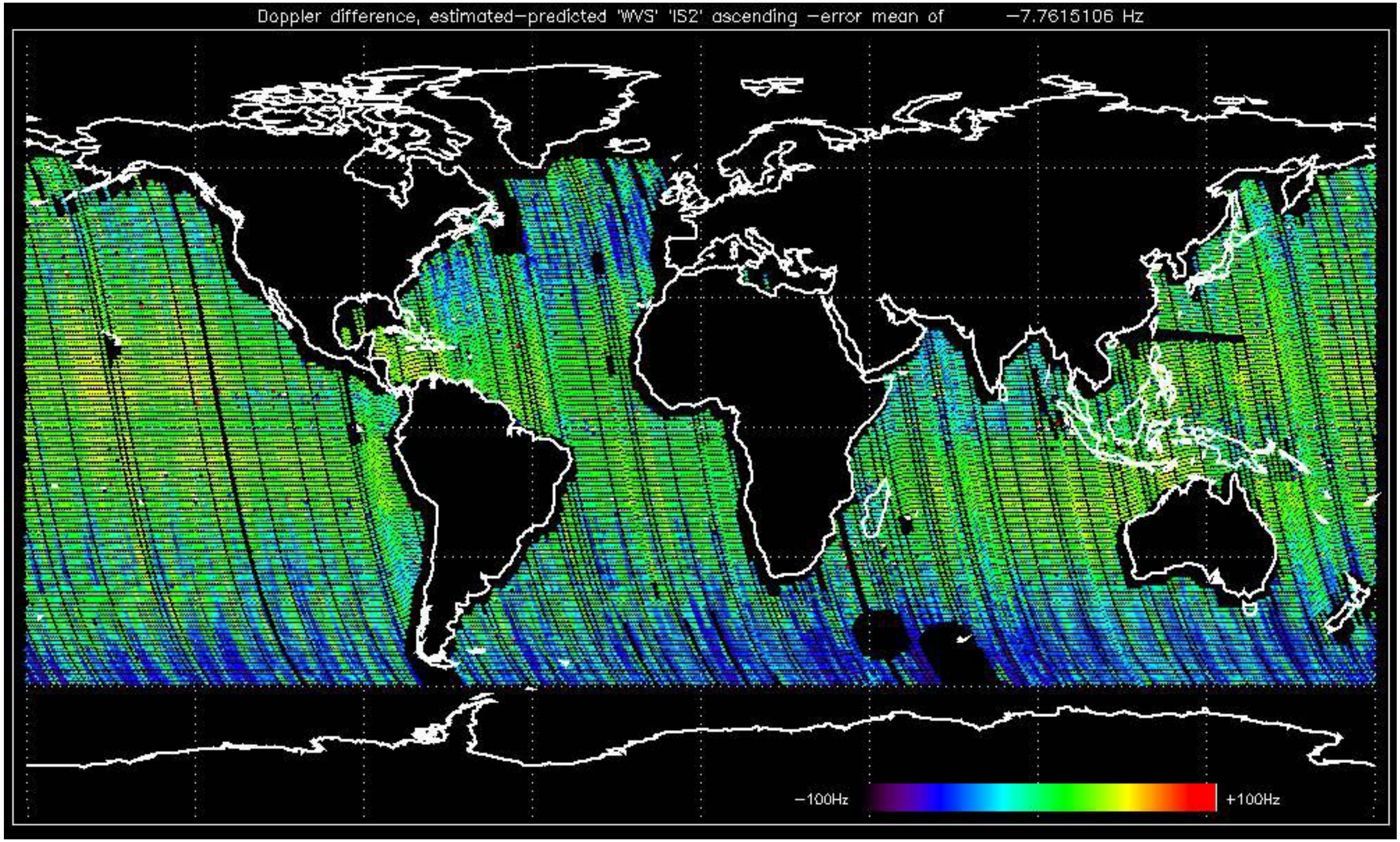

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

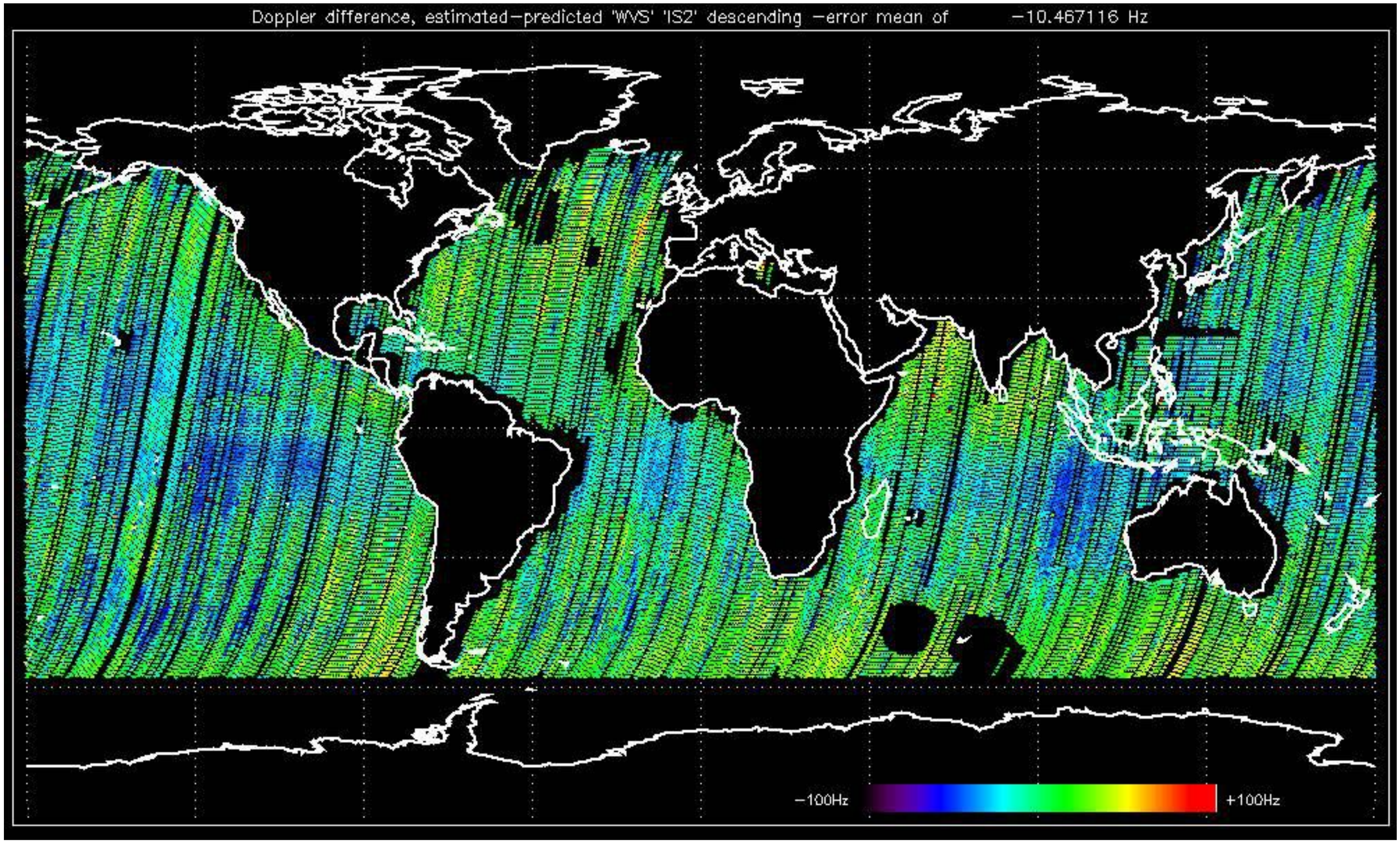

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
100
50
0
−50
−100
−150
06
30−May
Date


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]
100
0
−100
−200
−300
06
30−May
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −15.637979 Hz
−100Hz
+100Hz

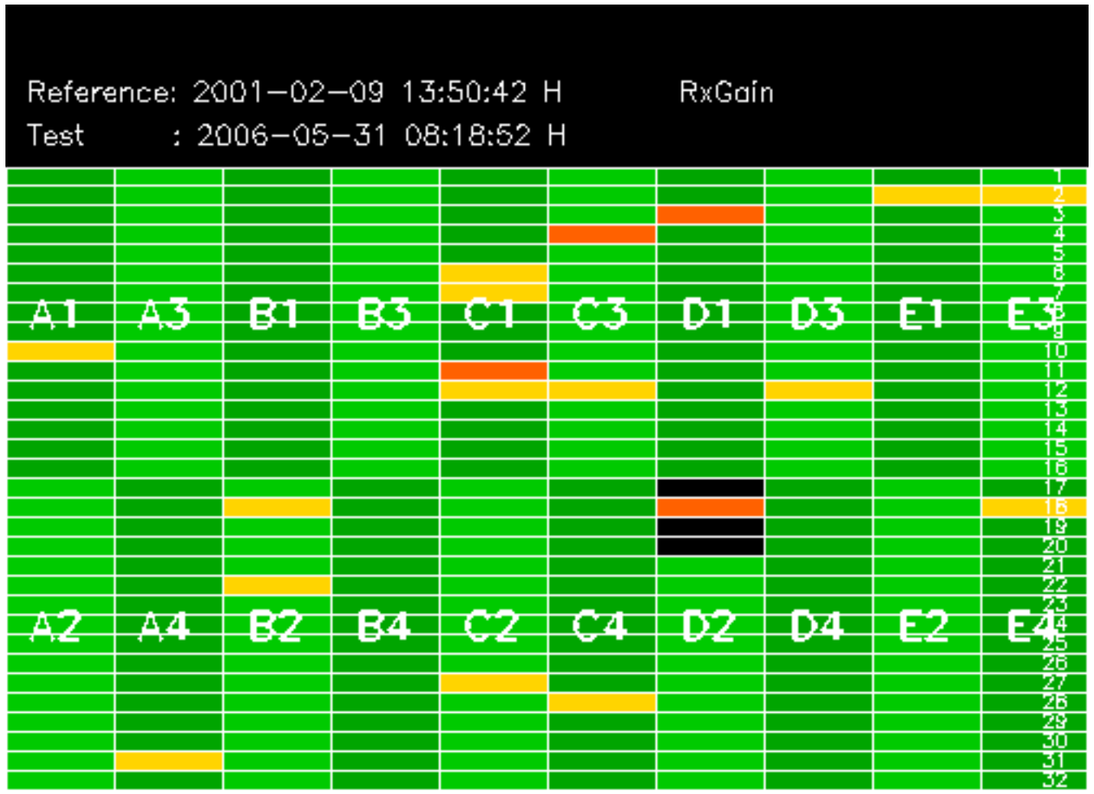

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −4.0597478 Hz
−100Hz
+100Hz

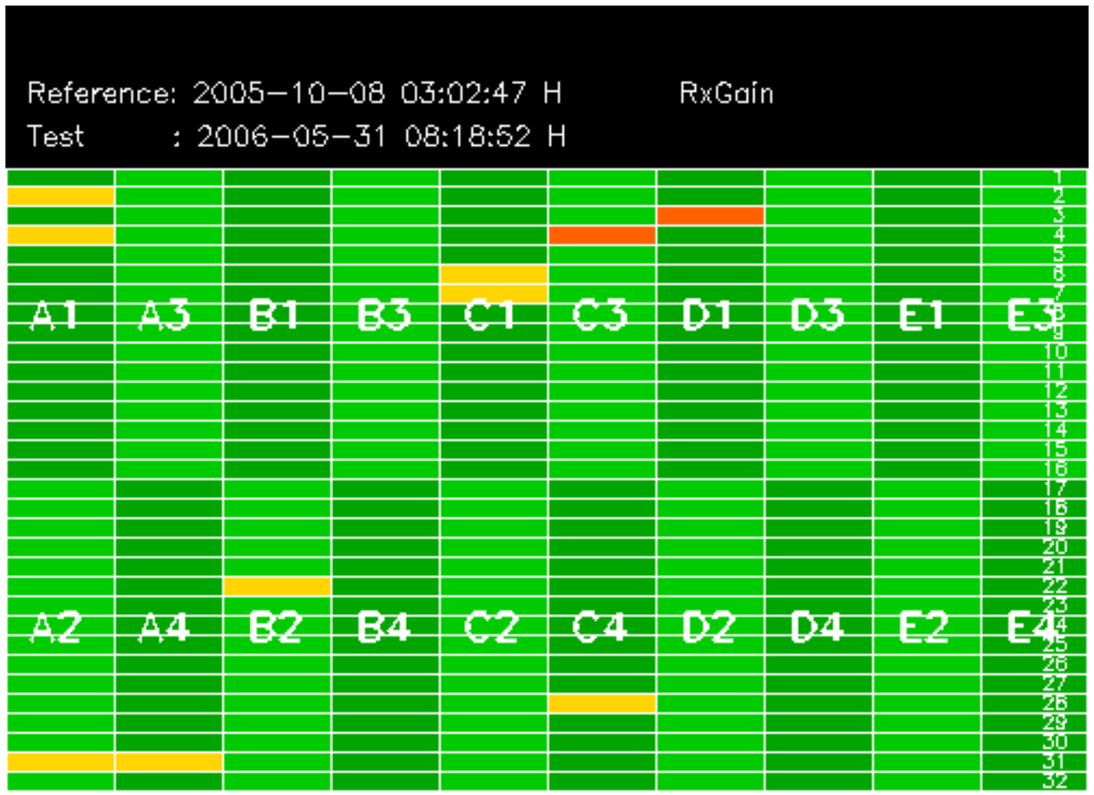

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −7.7615106 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −10.467116 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2006-05-31 08:18:52 H
RxGain
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 : 2006-05-31 08:18:52 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
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8
9
10
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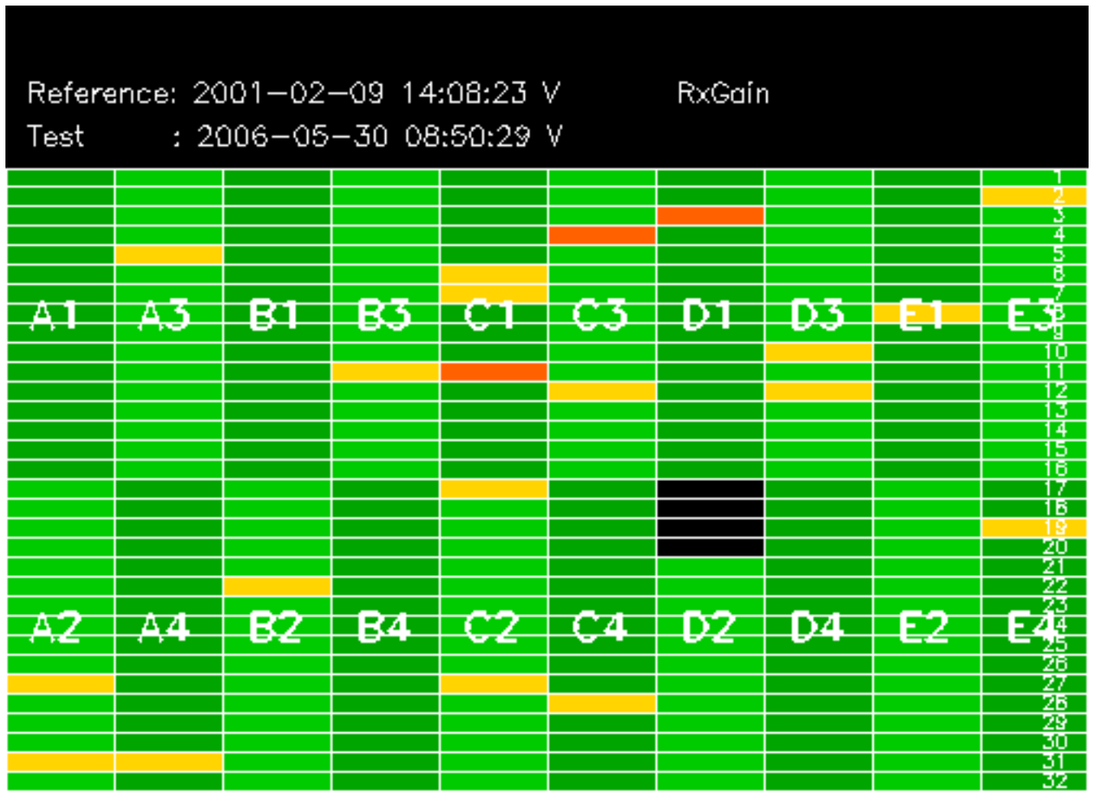
Reference: 2001-02-09 14:08:23 V
Test : 2006-05-30 08:50:29 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
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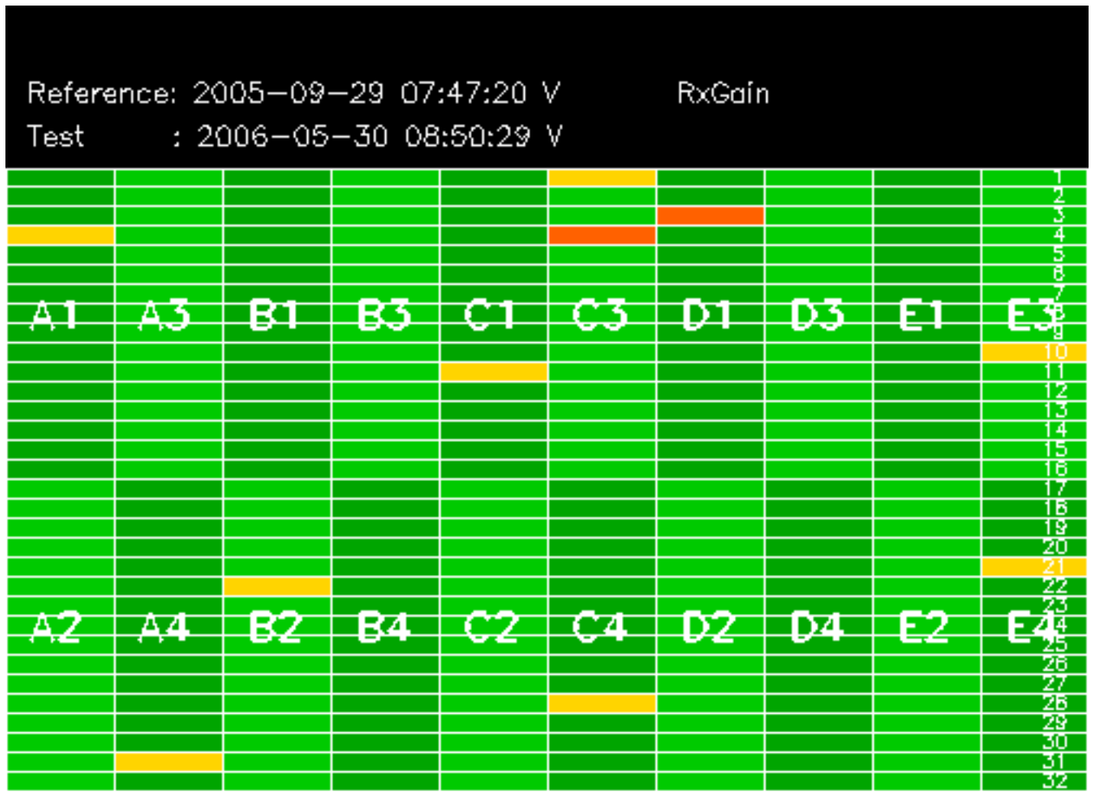
Reference: 2005-09-29 07:47:20 V
Test : 2006-05-30 08:50:29 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
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9
10
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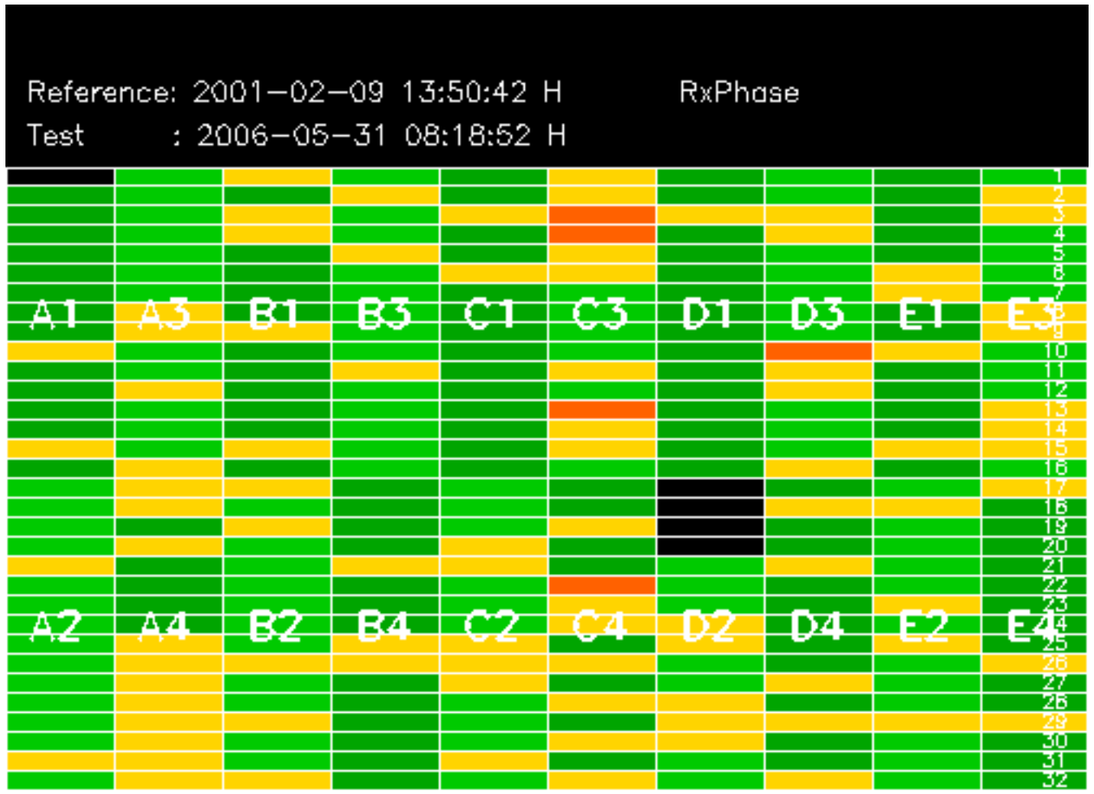
32


Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-05-31 08:18:52 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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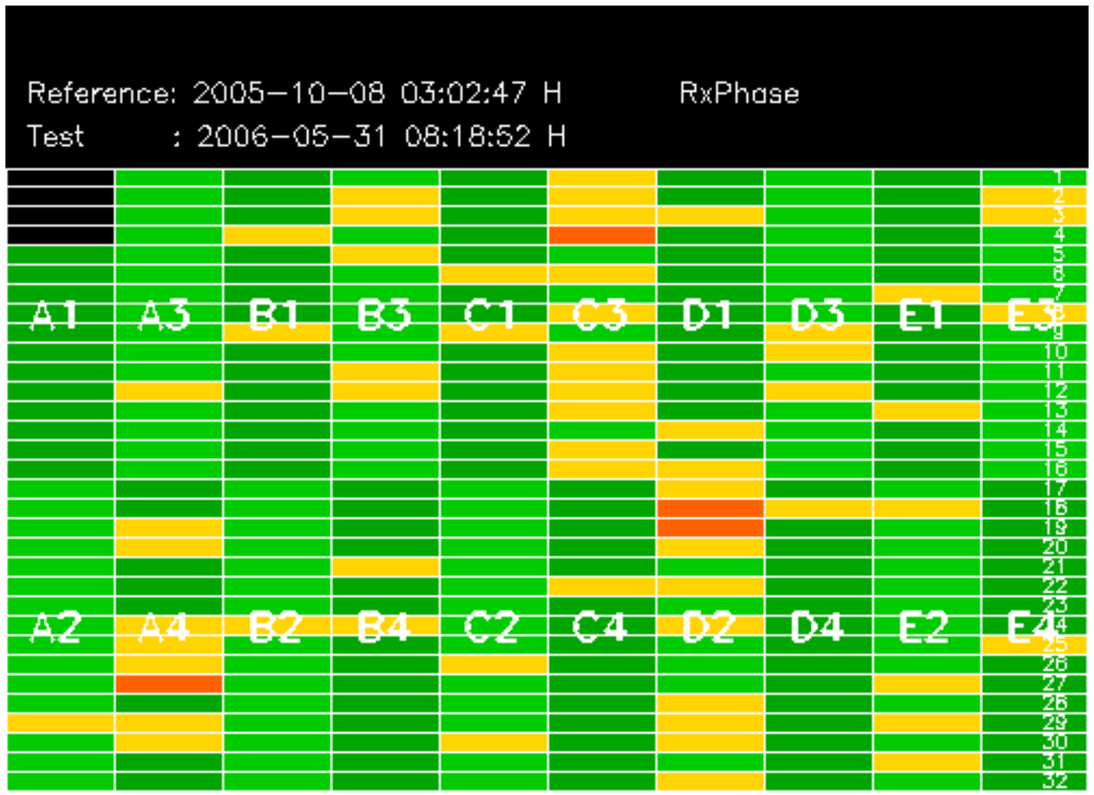
30
31
32


Reference: 2005-10-08 03:02:47 H
RxPhase
Test : 2006-05-31 08:18:52 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
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16
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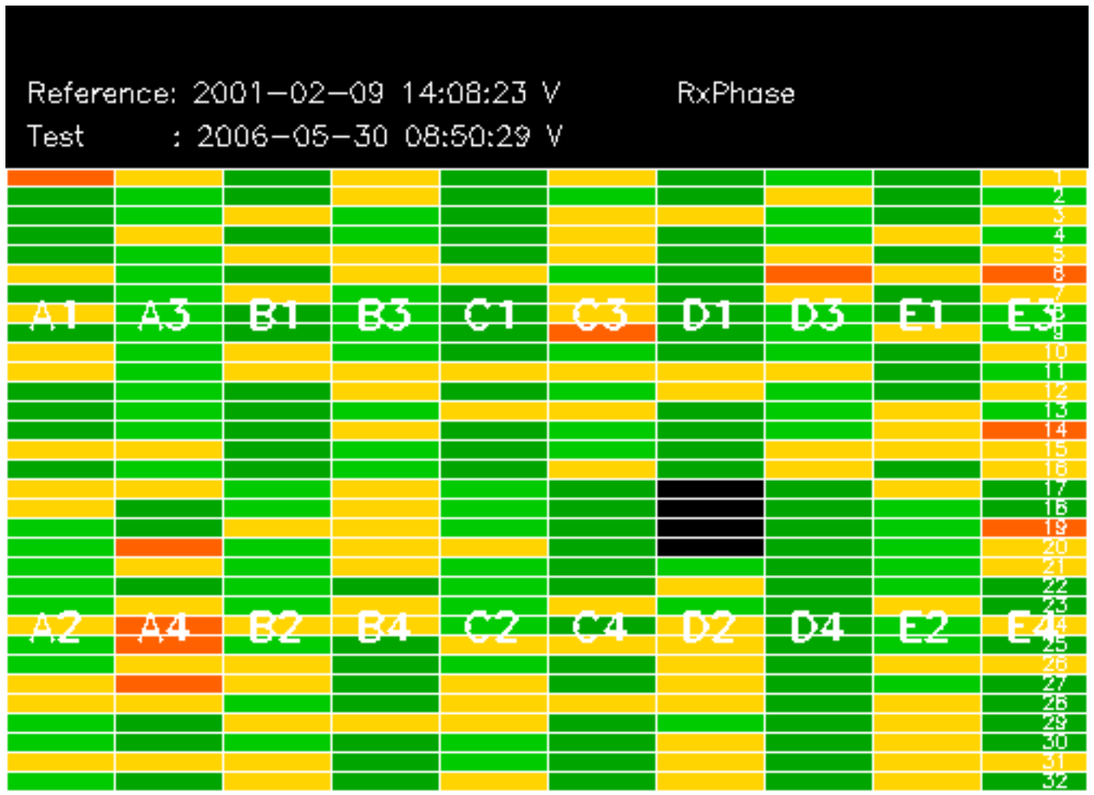
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2006-05-30 08:50:29 V
RxPhase
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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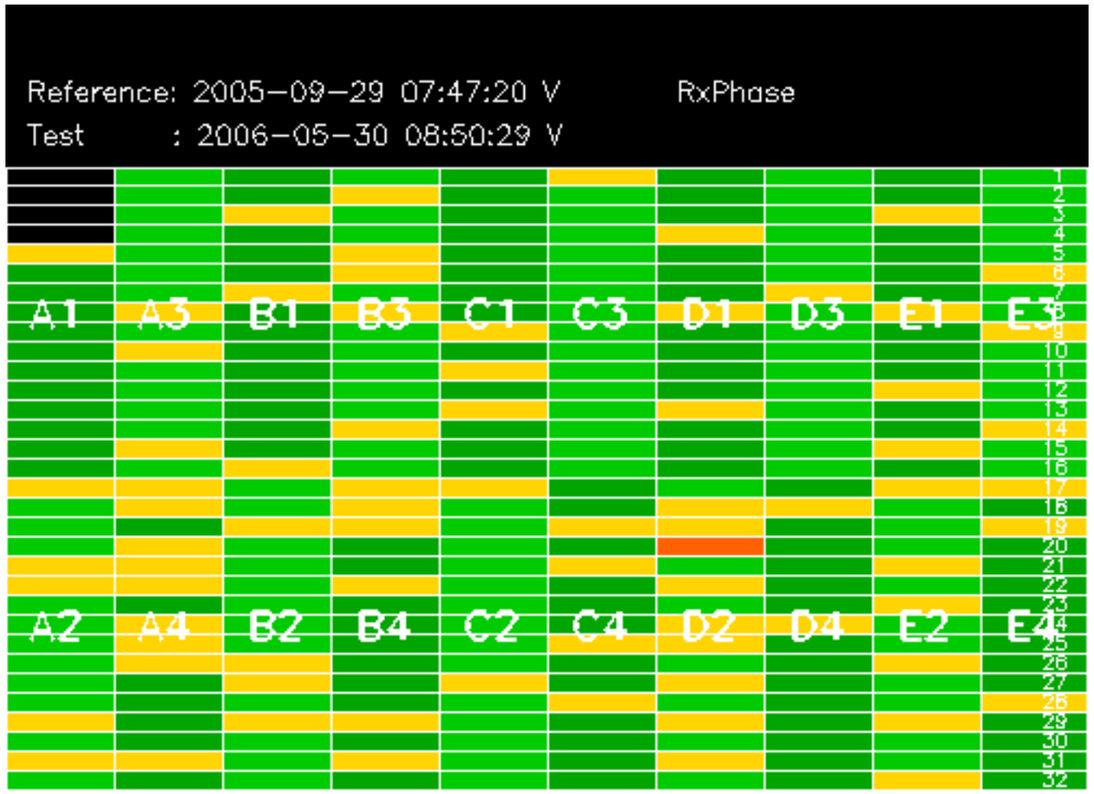
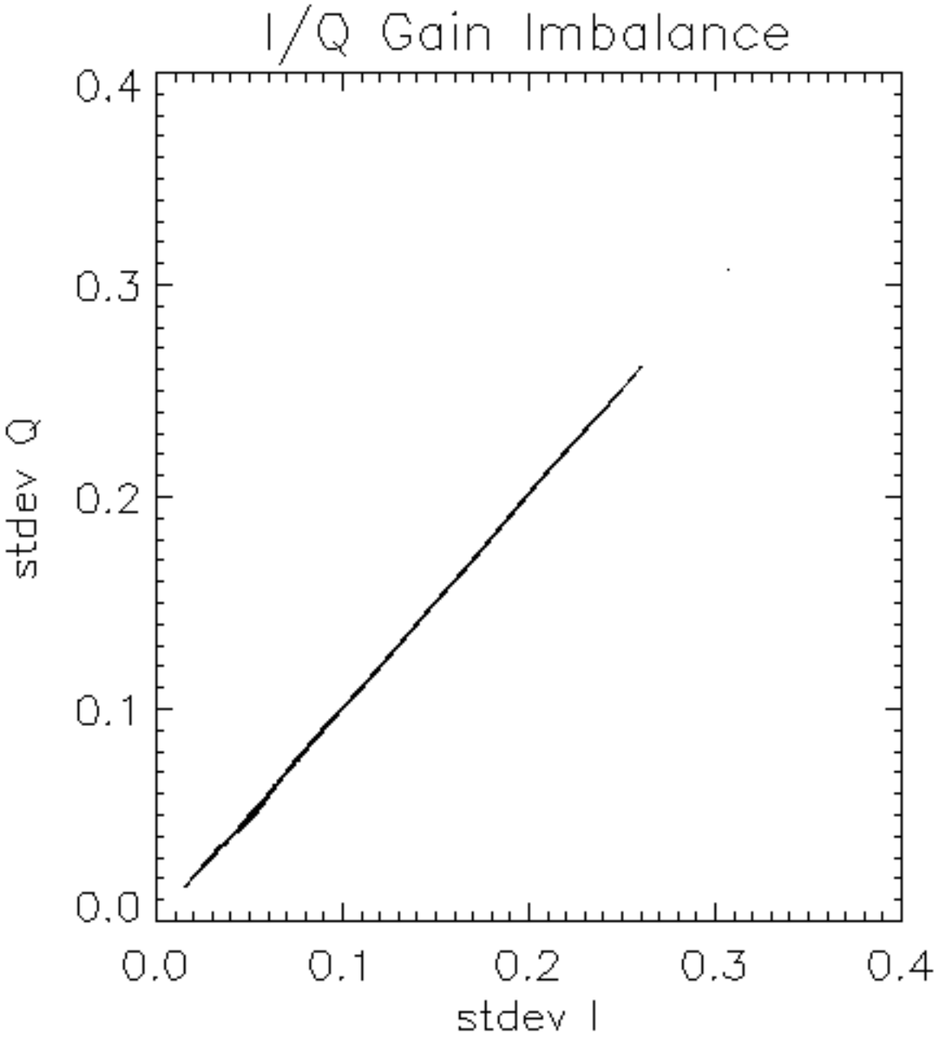
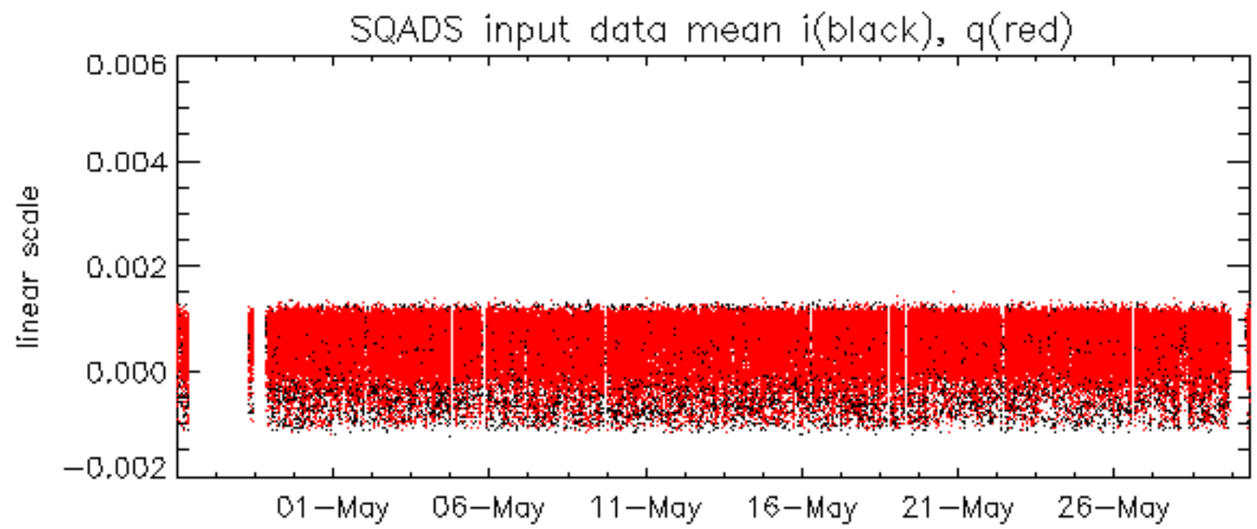
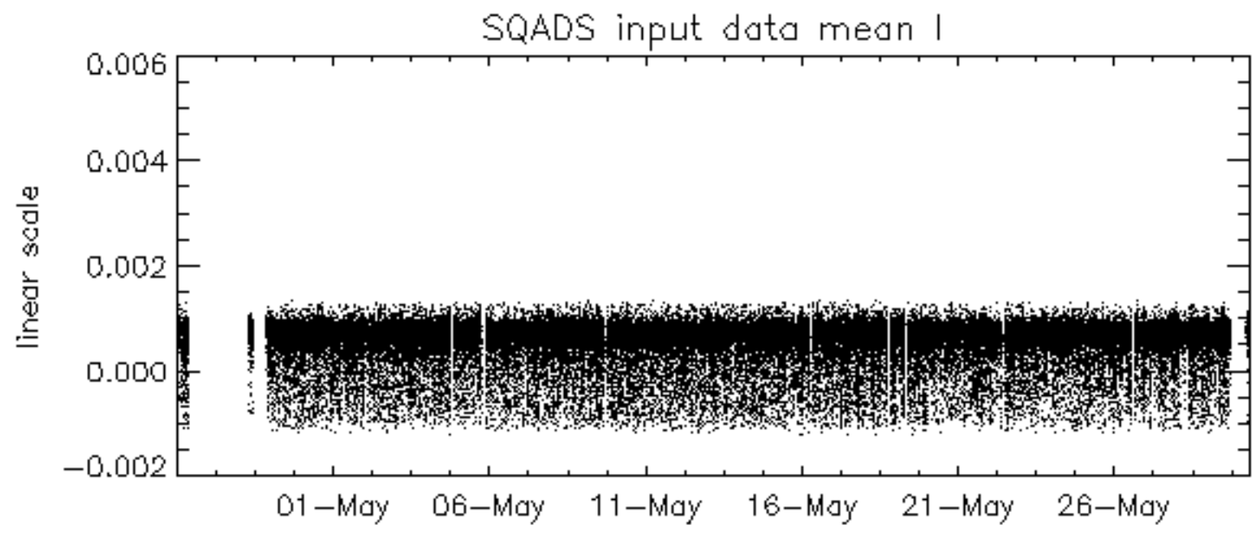
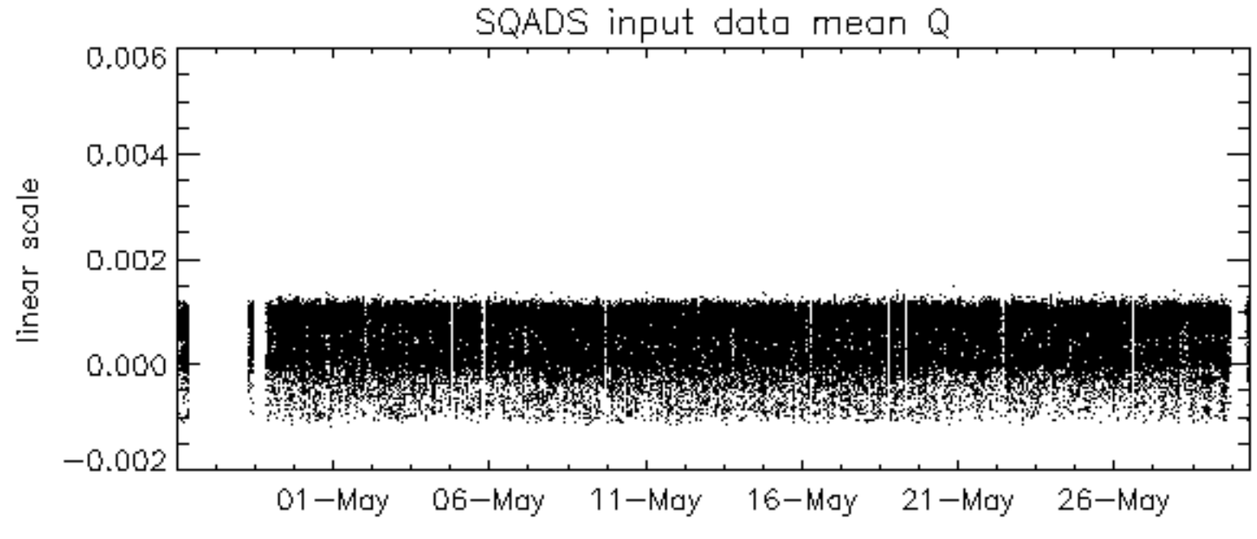
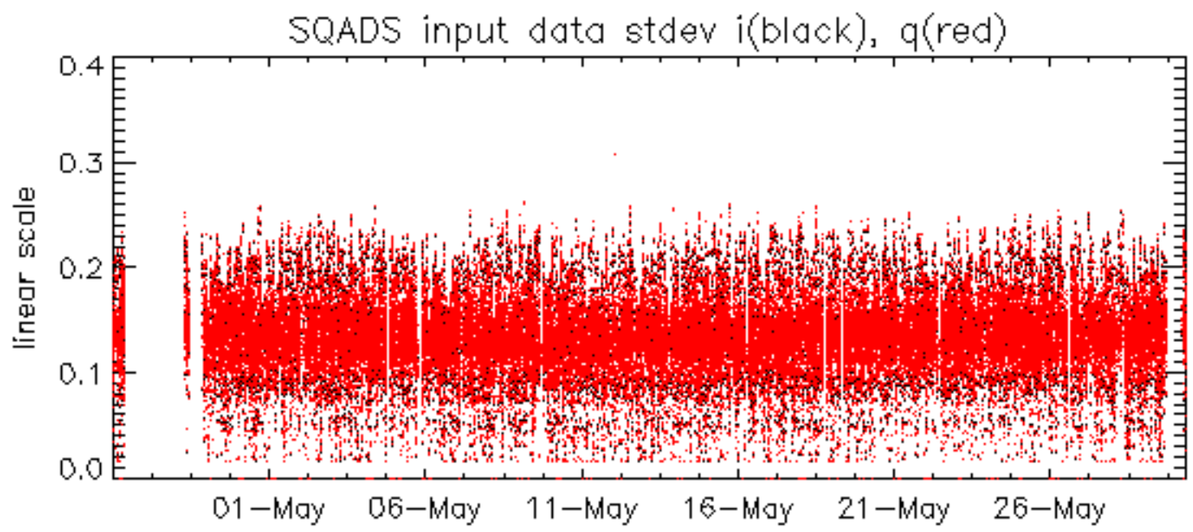

Reference: 2005-09-29 07:47:20 V
Test : 2006-05-30 08:50:29 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

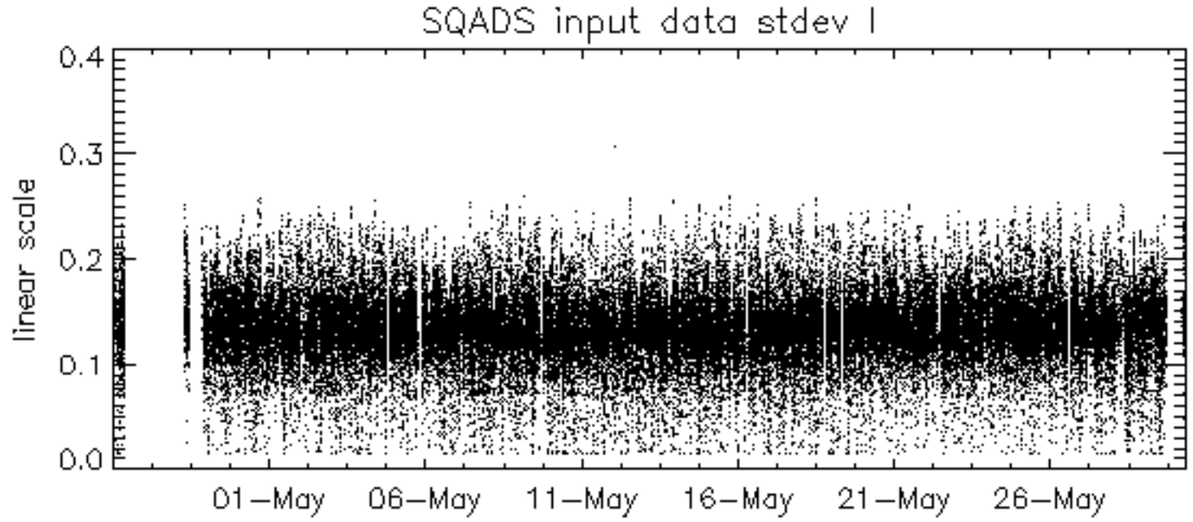

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

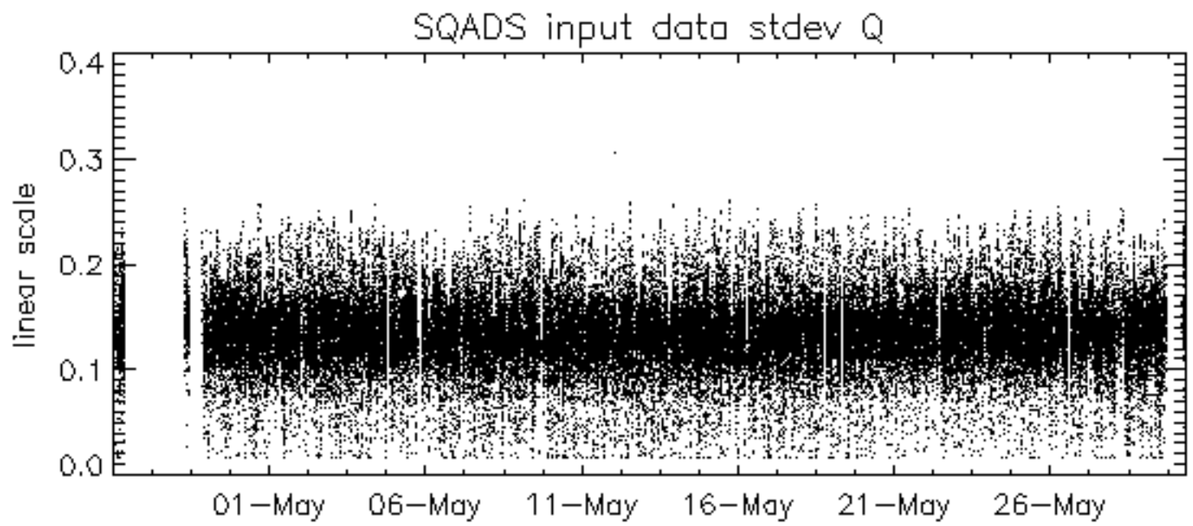

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
01−May
06−May
11−May
16−May
21−May
26−May

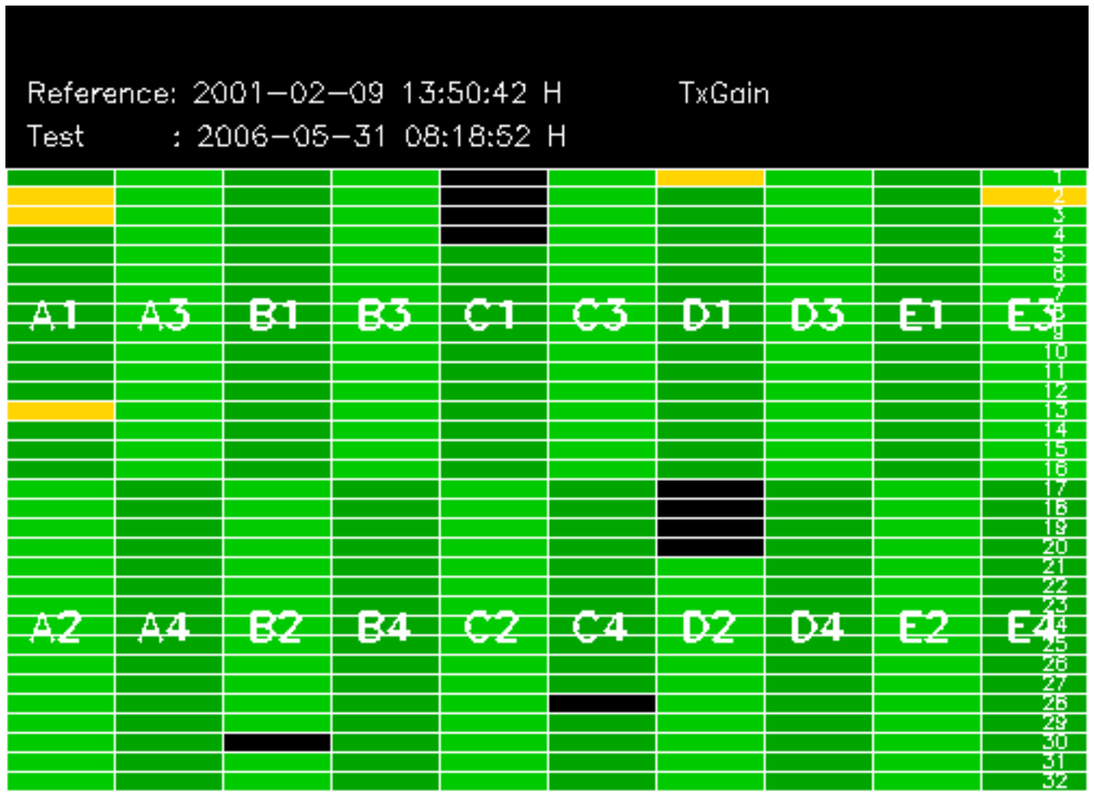

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
01−May
06−May
11−May
16−May
21−May
26−May


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2006-05-31 08:18:52 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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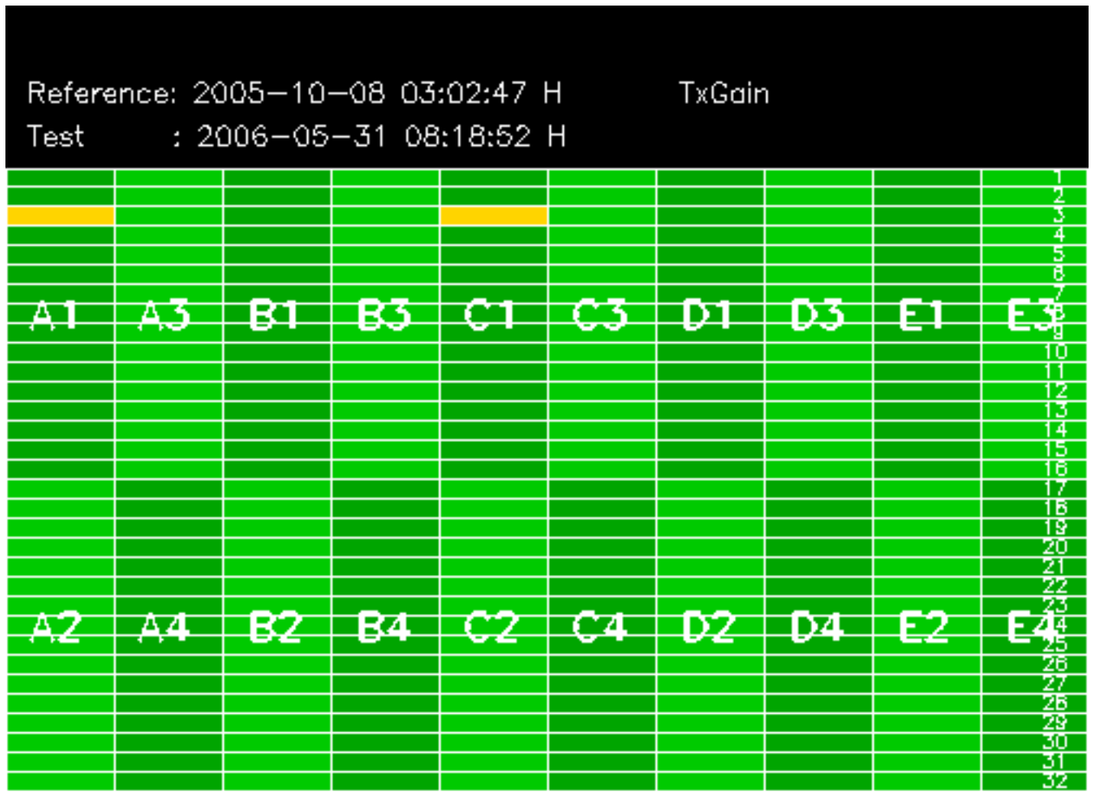
Reference: 2005-10-08 03:02:47 H
Test : 2006-05-31 08:18:52 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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Reference: 2001-02-09 14:08:23 V
Test : 2006-05-30 08:50:29 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
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9
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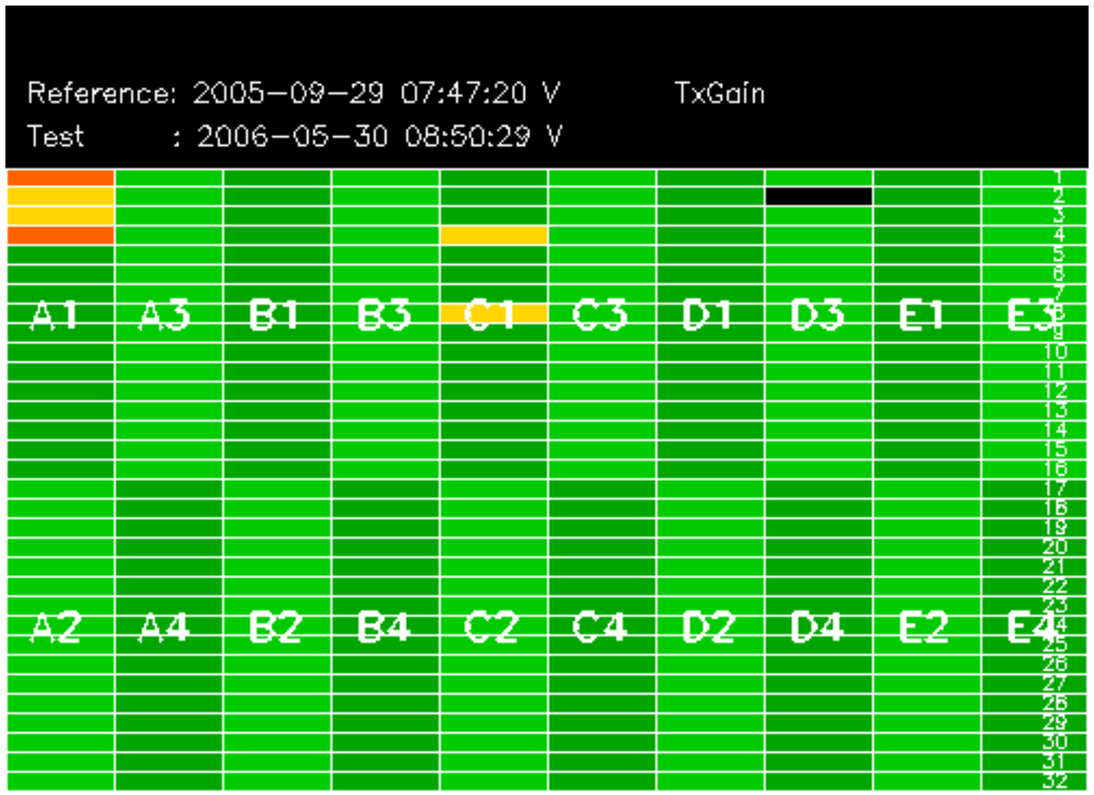
Reference: 2005-09-29 07:47:20 V
Test : 2006-05-30 08:50:29 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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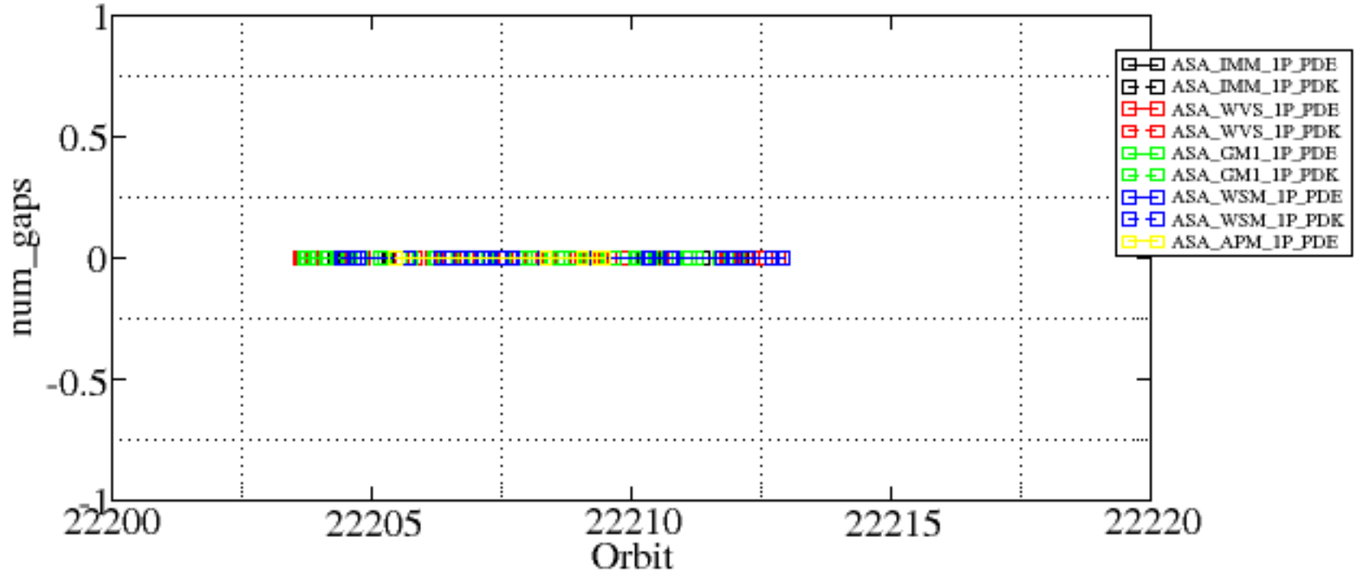
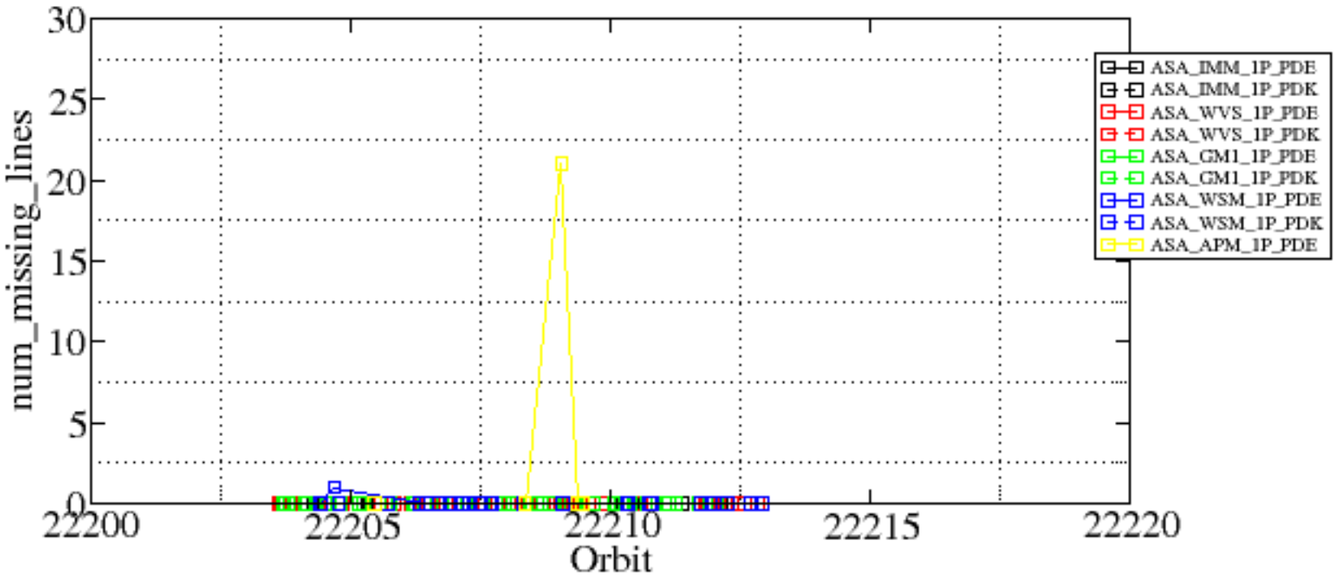
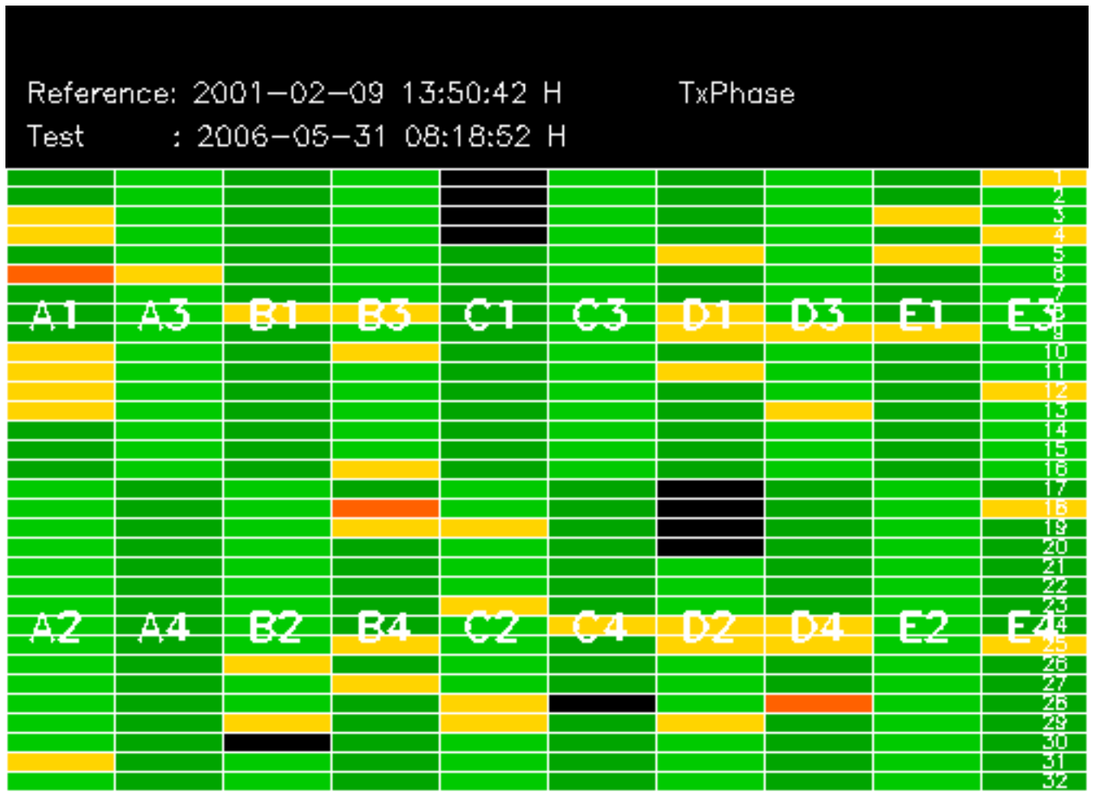
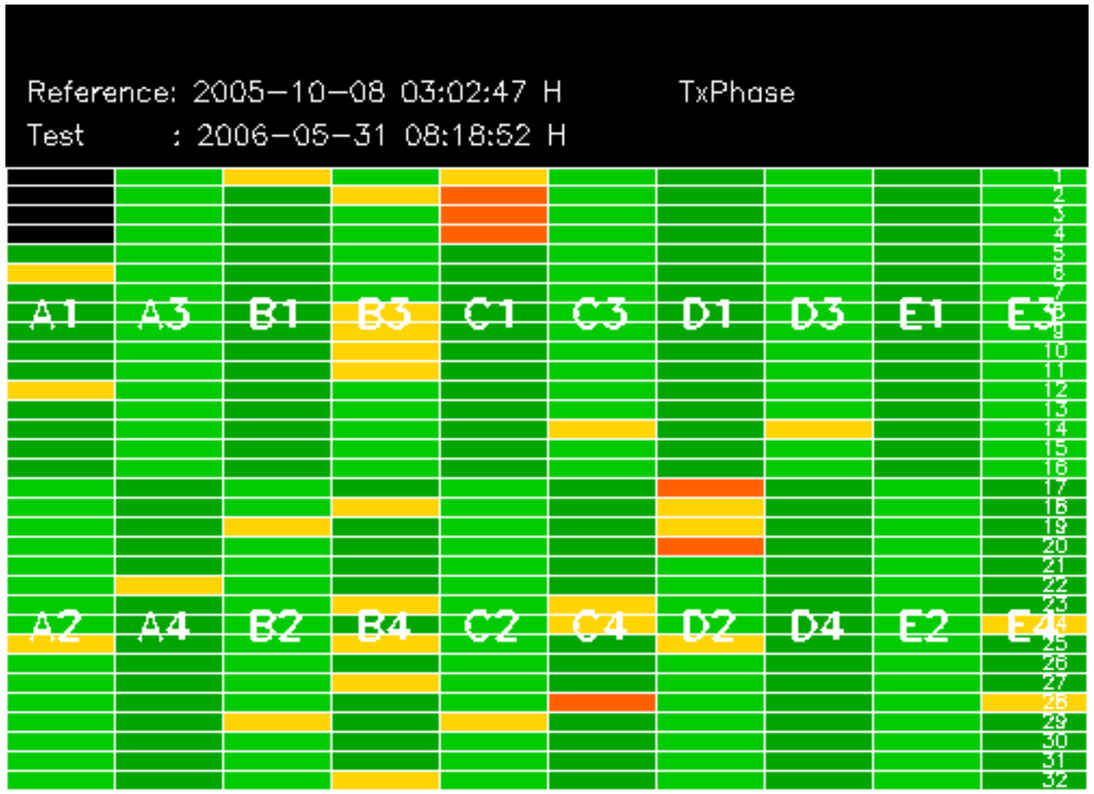
Summary of analysis for the last 3 days 2006053[901]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_WSM_1PNPDE20060530_071020_000004832048_00106_22204_1609.N1 </td> <td>0 </td> <td>1 </td></tr>
<tr> <td>ASA_APM_1PNPDE20060530_143046_000000882048_00111_22209_2800.N1 </td> <td>0 </td> <td>21 </td></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
22200
22205
22210
22215
22220
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_WSM_1P_PDK
ASA_APM_1P_PDE


num_missing_lines
30
25
20
15
10
5
0
22200
22205
22210
22215
22220
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_WSM_1P_PDK
ASA_APM_1P_PDE


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2006-05-31 08:18:52 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 : 2006-05-31 08:18:52 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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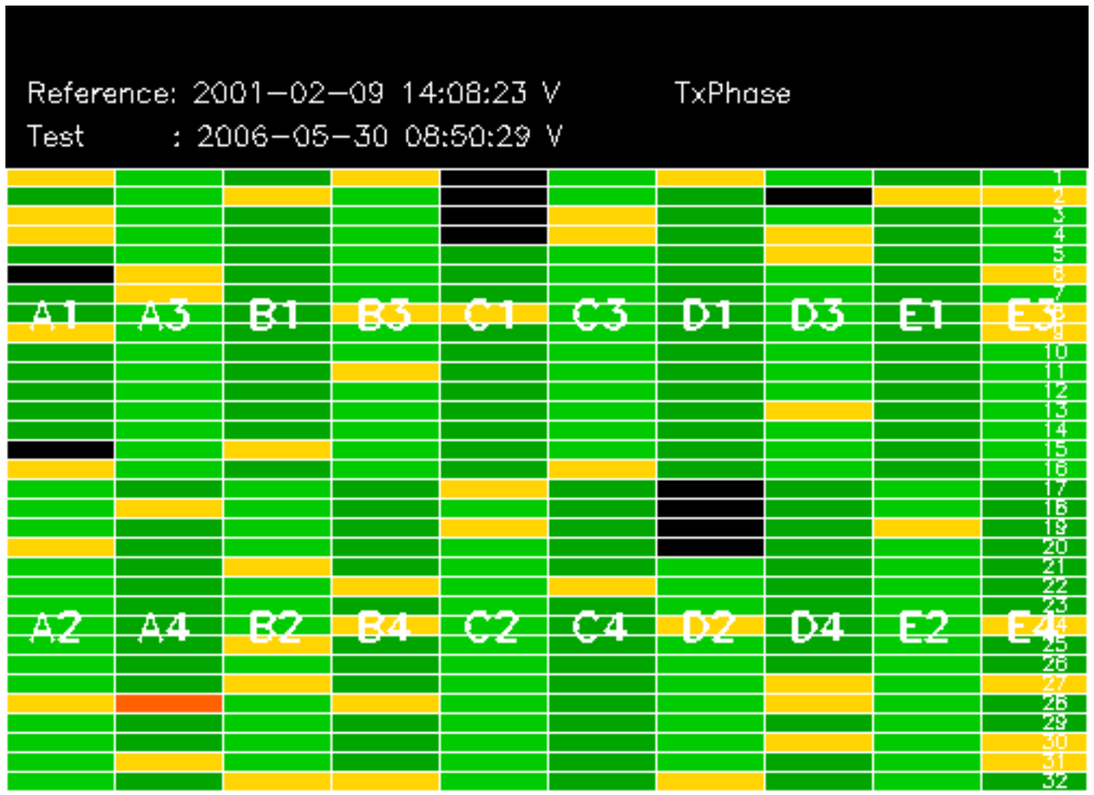
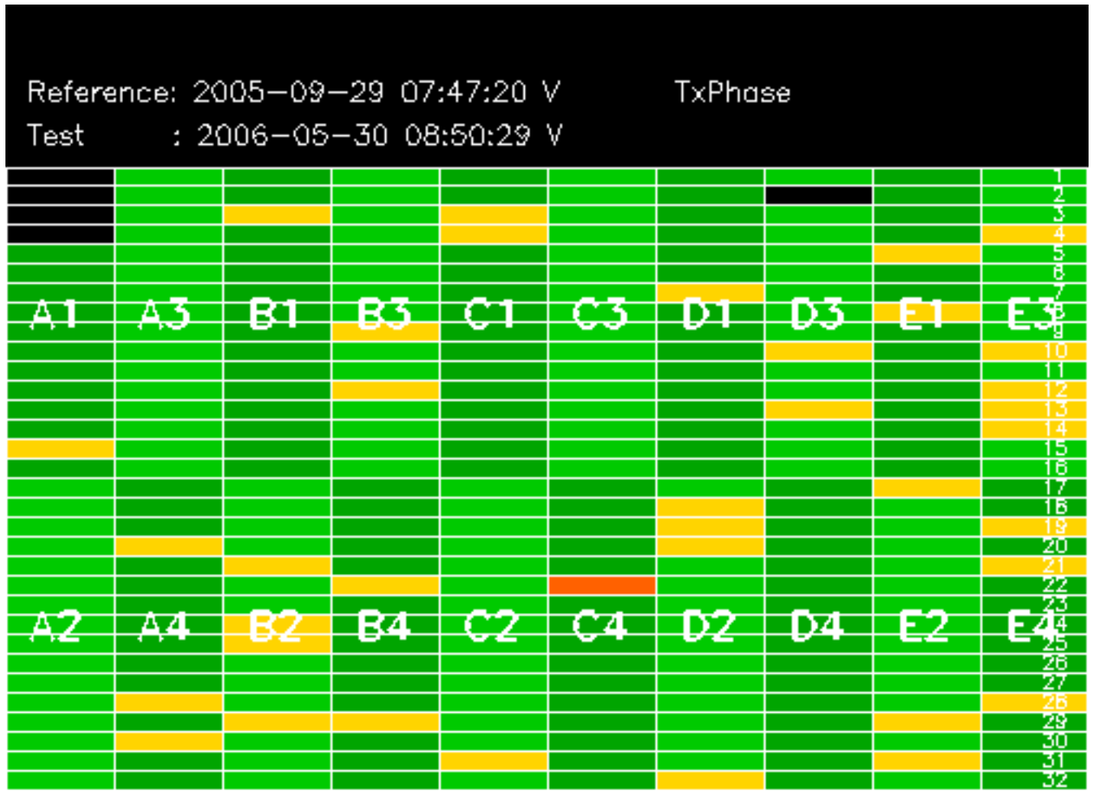

Reference: 2001-02-09 14:08:23 V
Test : 2006-05-30 08:50:29 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-05-30 08:50:29 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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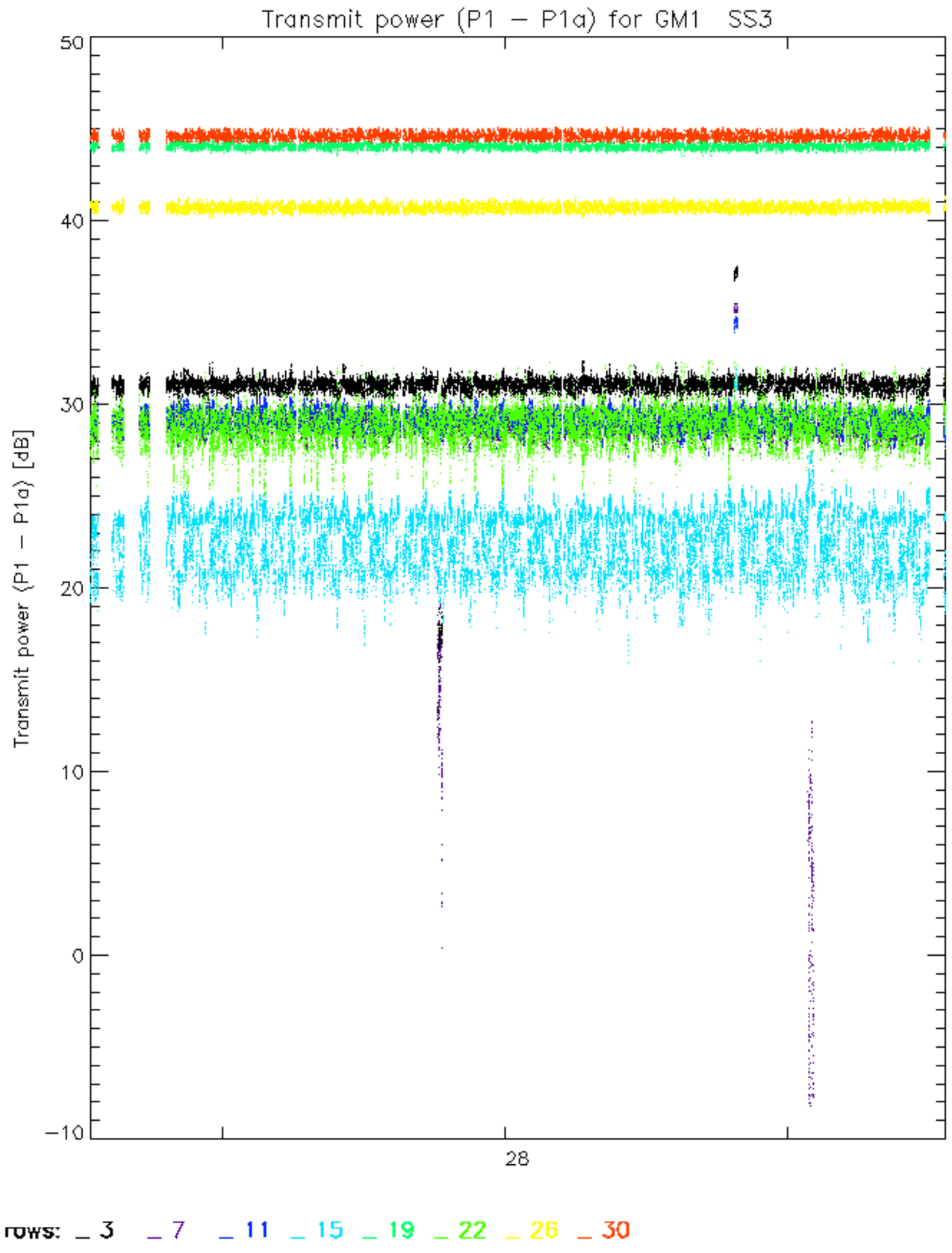
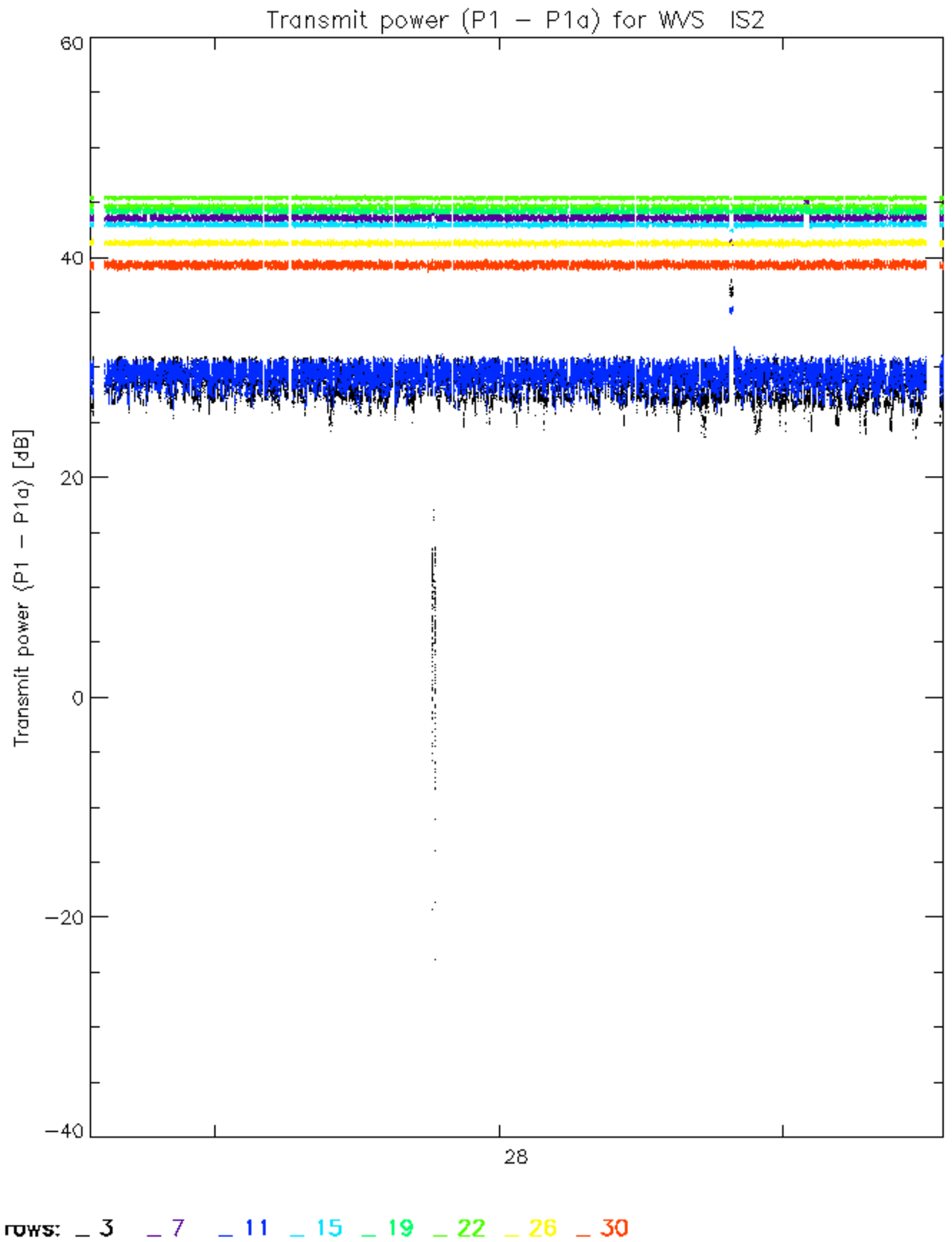

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
28
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
Transmit power (P1 – P1a) [dB]
60
40
20
0
−20
−40
28
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.