PRELIMINARY REPORT OF 050310

last update on Thu Mar 10 10:50:01 GMT 2005

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 2005-03-09 00:00:00 to 2005-03-10 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	26	50	2	2	1
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	26	50	2	2	1
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	26	50	2	2	1
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	26	50	2	2	1

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	36	39	0	1	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	36	39	0	1	0
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	36	39	0	1	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	36	39	0	1	0

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	20050309 043735
H	20050308 050912

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
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☒	☒
☒	☒
☒	☒

4 - Internal calibration Results

No anomalies observed.

4.1 - Daily statistics

4.1.1 - Evolution for WVS

Evolution of cal pulses for WVS
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4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1
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☒

4.2 - Cyclic statistics

4.2.1 - Evolution for WVS

Evolution of cal pulses for WVS
☒

P1a Cyclic statistics

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

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.367947	0.007456	0.014797
7	P1	-3.089506	0.007715	-0.019124
11	P1	-4.694627	0.021906	-0.032082
15	P1	-5.658677	0.030368	-0.015774
19	P1	-3.675274	0.003914	-0.032121
22	P1	-4.519564	0.013020	0.037055
26	P1	-4.950512	0.015400	-0.011847
30	P1	-7.183342	0.017965	-0.049935
3	P1	-15.970439	0.064593	-0.025039
7	P1	-15.523623	0.049119	-0.018613
11	P1	-20.949448	0.271594	-0.091961
15	P1	-11.579026	0.024723	-0.012488
19	P1	-14.269437	0.024645	-0.130616
22	P1	-15.671248	0.312274	0.252105
26	P1	-17.595711	0.230306	-0.001868
30	P1	-17.963165	0.464481	-0.149479

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.110088	0.084647	0.069099
7	P2	-22.301115	0.099740	0.084024
11	P2	-14.476062	0.104542	0.211873
15	P2	-7.050806	0.094150	0.042785
19	P2	-9.641617	0.093898	0.039063
22	P2	-16.937344	0.095152	0.061904
26	P2	-16.449526	0.092887	0.016491
30	P2	-18.877348	0.082297	0.048604

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.166900	0.005248	-0.001908
7	P3	-8.166900	0.005248	-0.001908
11	P3	-8.166900	0.005248	-0.001908
15	P3	-8.166900	0.005248	-0.001908
19	P3	-8.166900	0.005248	-0.001908
22	P3	-8.166900	0.005248	-0.001908
26	P3	-8.166900	0.005248	-0.001908
30	P3	-8.166900	0.005248	-0.001908

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	-2.736144	0.011356	0.039456
7	P1	-3.014457	0.033616	-0.068603
11	P1	-3.988649	0.014508	-0.032931
15	P1	-3.568608	0.016217	-0.050471
19	P1	-3.591655	0.013416	-0.008236
22	P1	-5.744572	0.037555	-0.054882
26	P1	-7.295383	0.025396	0.020860
30	P1	-6.230489	0.039470	0.023472
3	P1	-10.751758	0.052827	0.004829
7	P1	-10.293833	0.144901	-0.169257
11	P1	-12.569077	0.094254	0.008635
15	P1	-11.766104	0.064307	-0.036334
19	P1	-15.571280	0.043189	0.002562
22	P1	-24.382345	1.165741	-0.295986
26	P1	-15.488670	0.163241	0.118191
30	P1	-20.186386	1.052856	-0.091895

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.822540	0.031363	0.088893
7	P2	-22.387178	0.036042	0.071258
11	P2	-10.236639	0.046938	0.211768
15	P2	-4.980750	0.020412	0.021466
19	P2	-6.833397	0.029186	0.030079
22	P2	-7.117265	0.028864	0.070235
26	P2	-23.854488	0.025435	0.030346
30	P2	-21.909283	0.030701	0.060185

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.999894	0.002712	0.000633
7	P3	-7.999804	0.002724	0.000673
11	P3	-7.999773	0.002739	0.000738
15	P3	-7.999932	0.002726	0.000465
19	P3	-7.999787	0.002742	0.000605
22	P3	-7.999839	0.002716	0.000571
26	P3	-7.999804	0.002725	0.000843
30	P3	-7.999856	0.002731	0.001202

4.3 - cal pulses monitoring (all rows)

4.3.1 - Evolution for WVS

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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	0.000468749
	stdev	2.17007e-07
MEAN Q	mean	0.000518771
	stdev	2.29910e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129138
	stdev	0.000995290
STDEV Q	mean	0.129384
	stdev	0.00100642

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005030[890]
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_APM_1PNPDE20050308_141141_000000582035_00211_15796_7743.N1	0	22

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

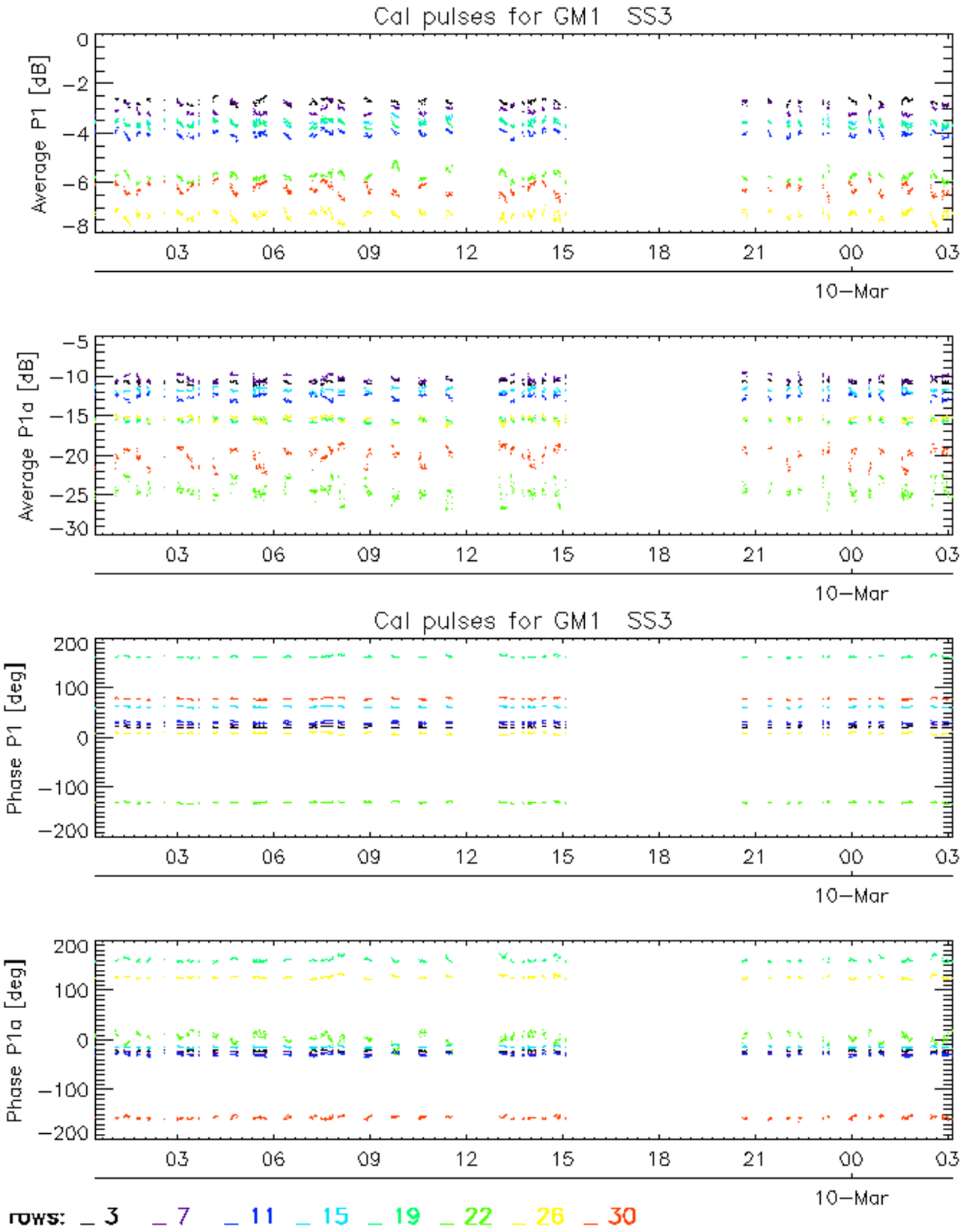
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

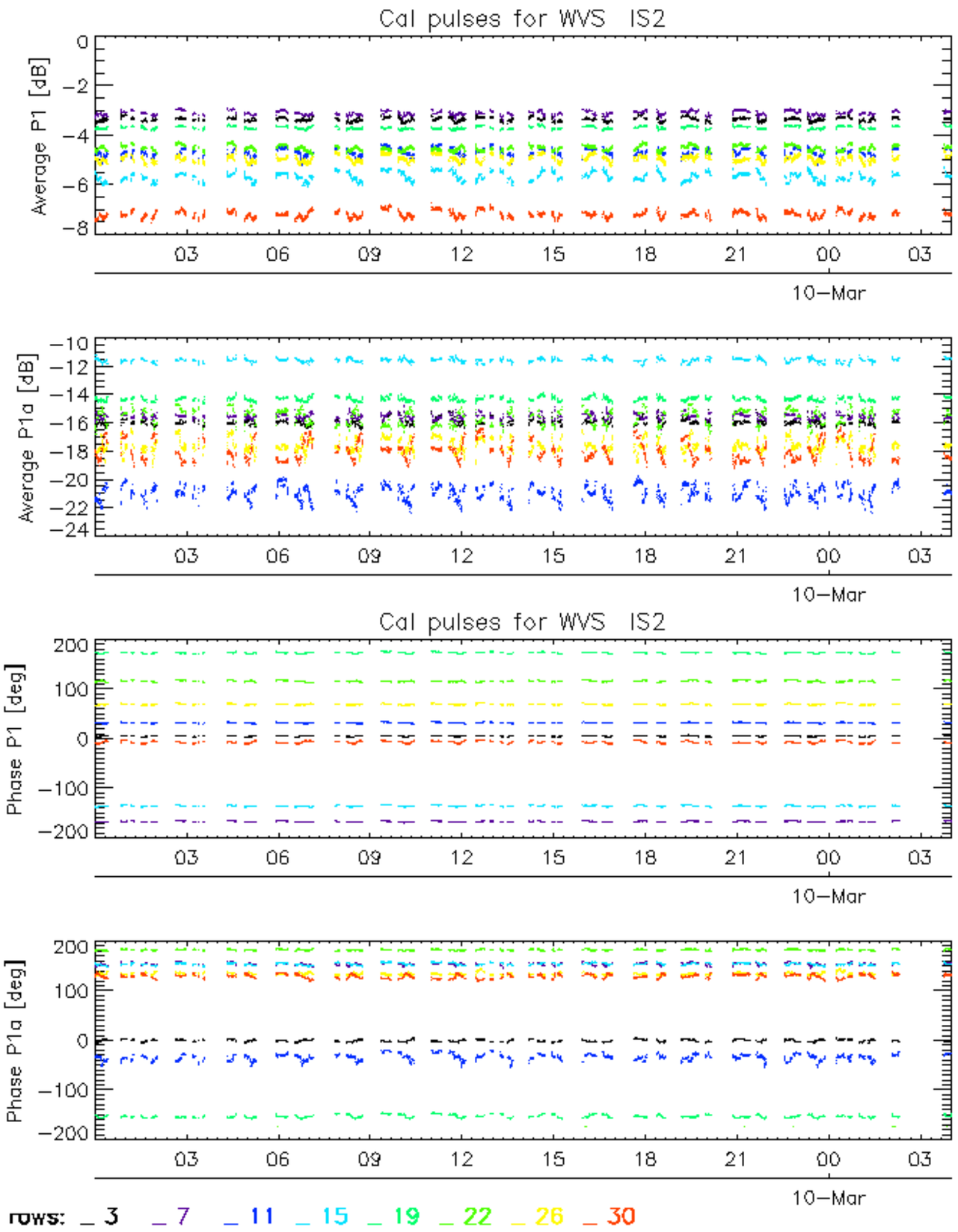
7.5 - Absolute Doppler for GM1

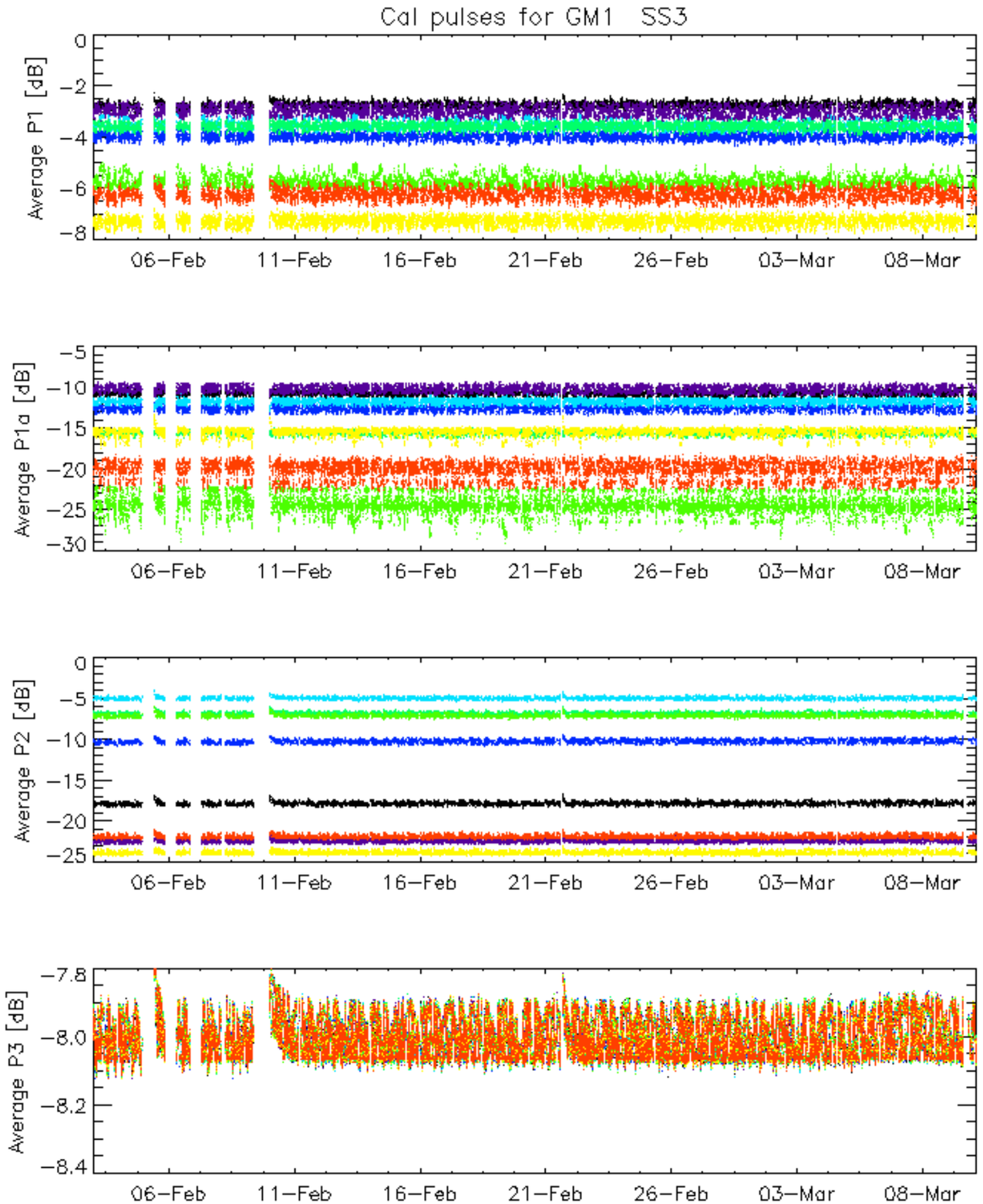
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

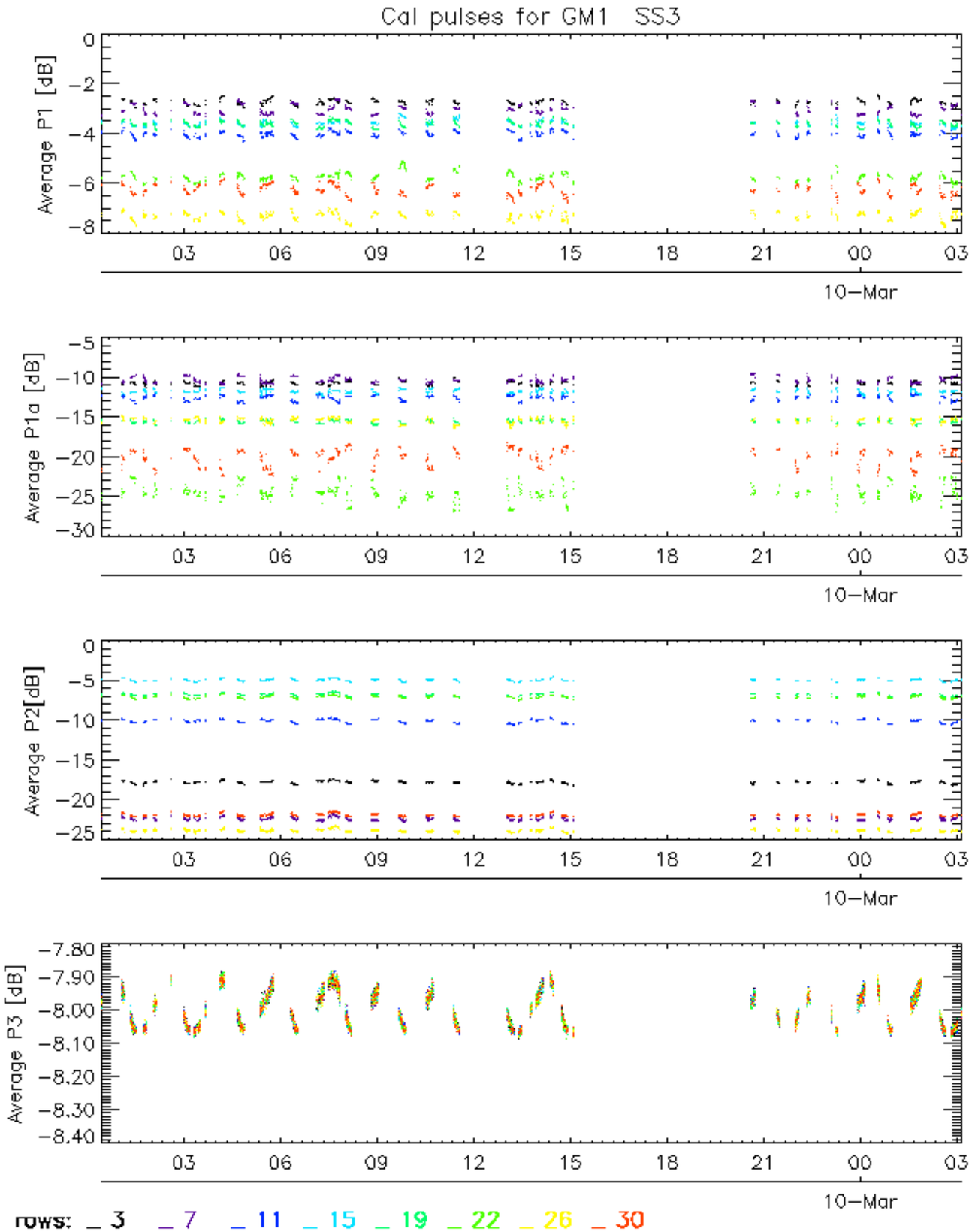
7.6 - Doppler evolution versus ANX for GM1

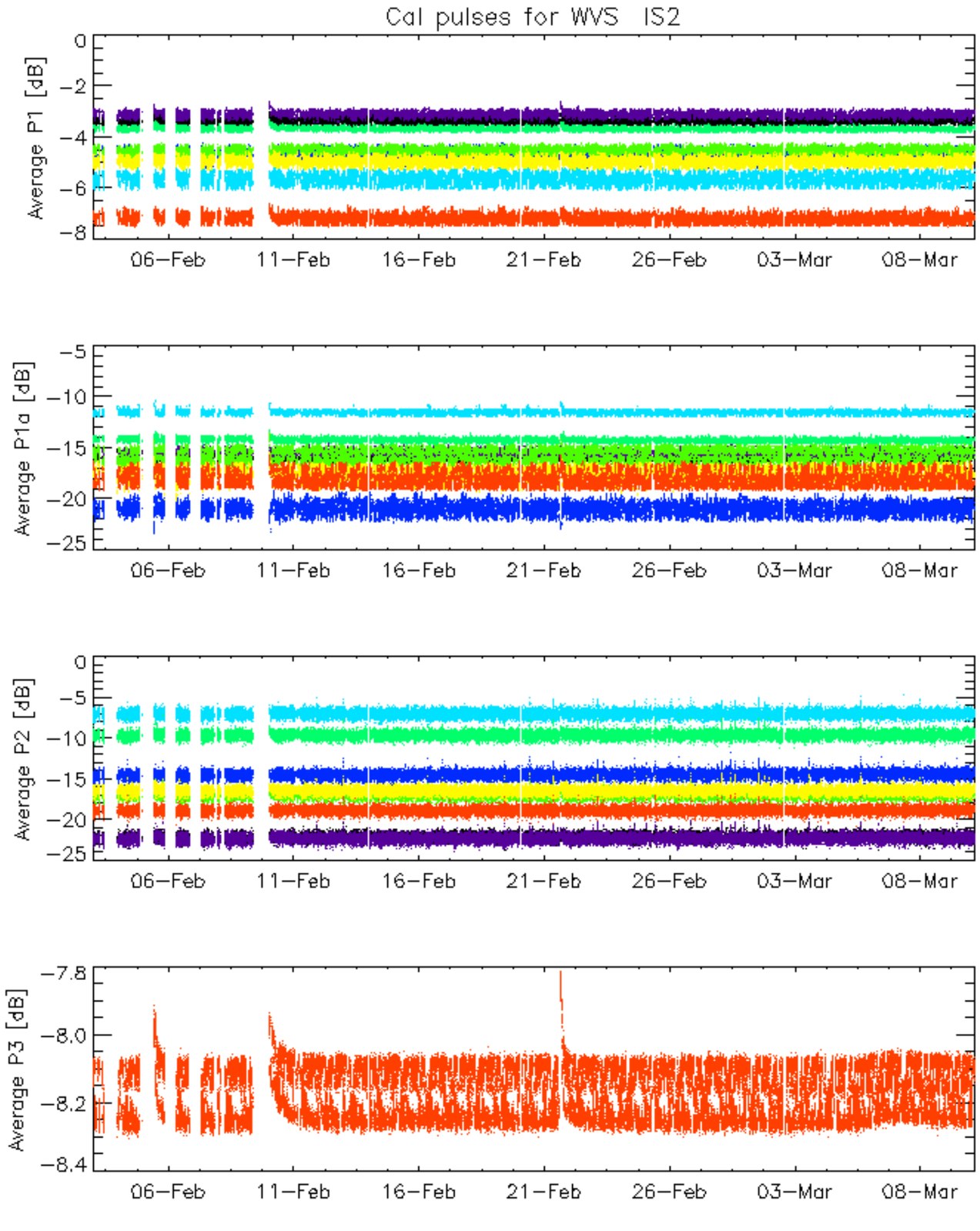
Evolution Doppler error versus ANX
☒

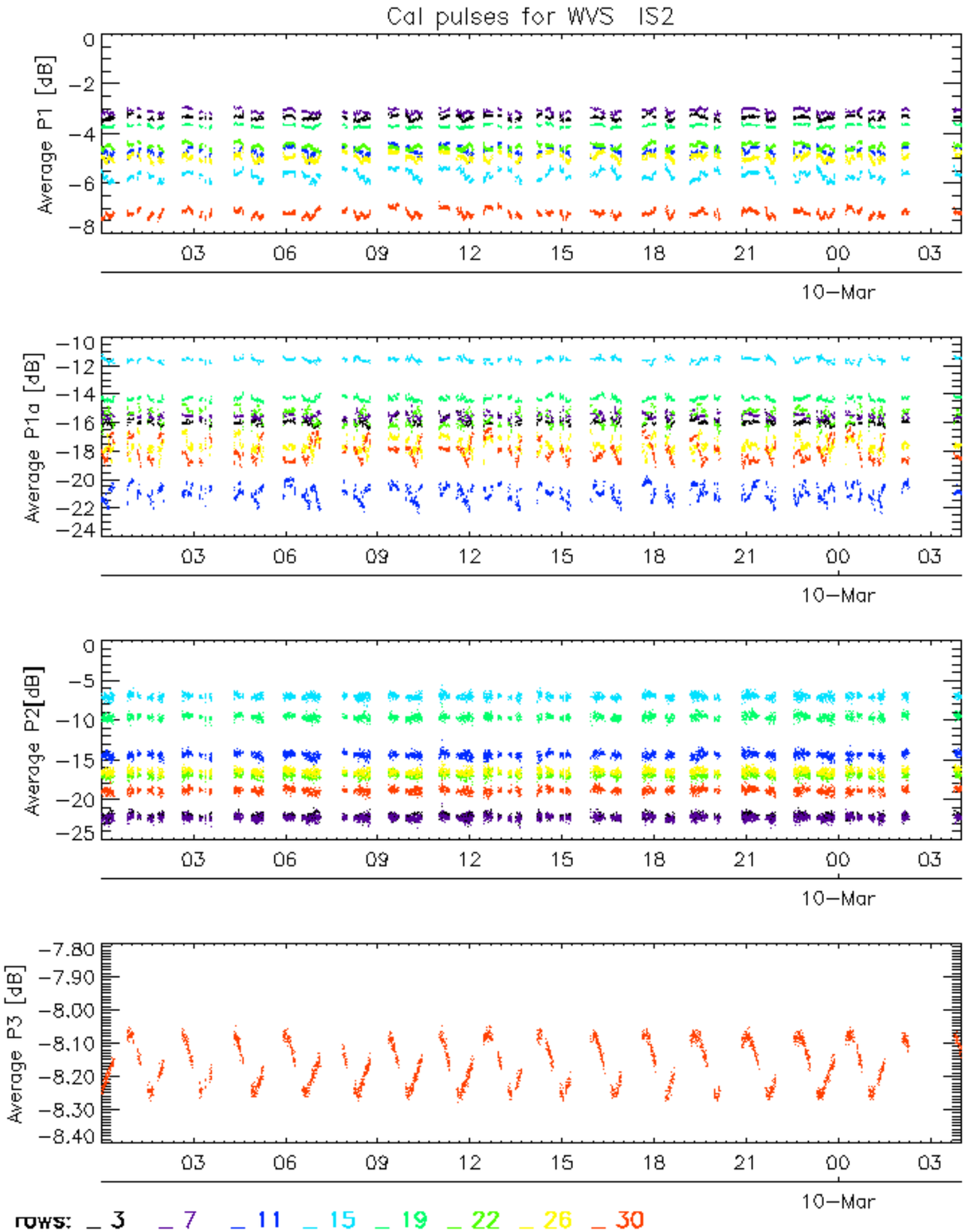

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
10−Mar
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
Phase P1a [deg]
rows: 3 7 11 15 19 22 26 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
10−Mar
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
−24
Cal pulses for WVS IS2
Phase P1 [deg]
200
100
0
−100
−200
Phase P1a [deg]
rows: 3 7 11 15 19 22 26 30

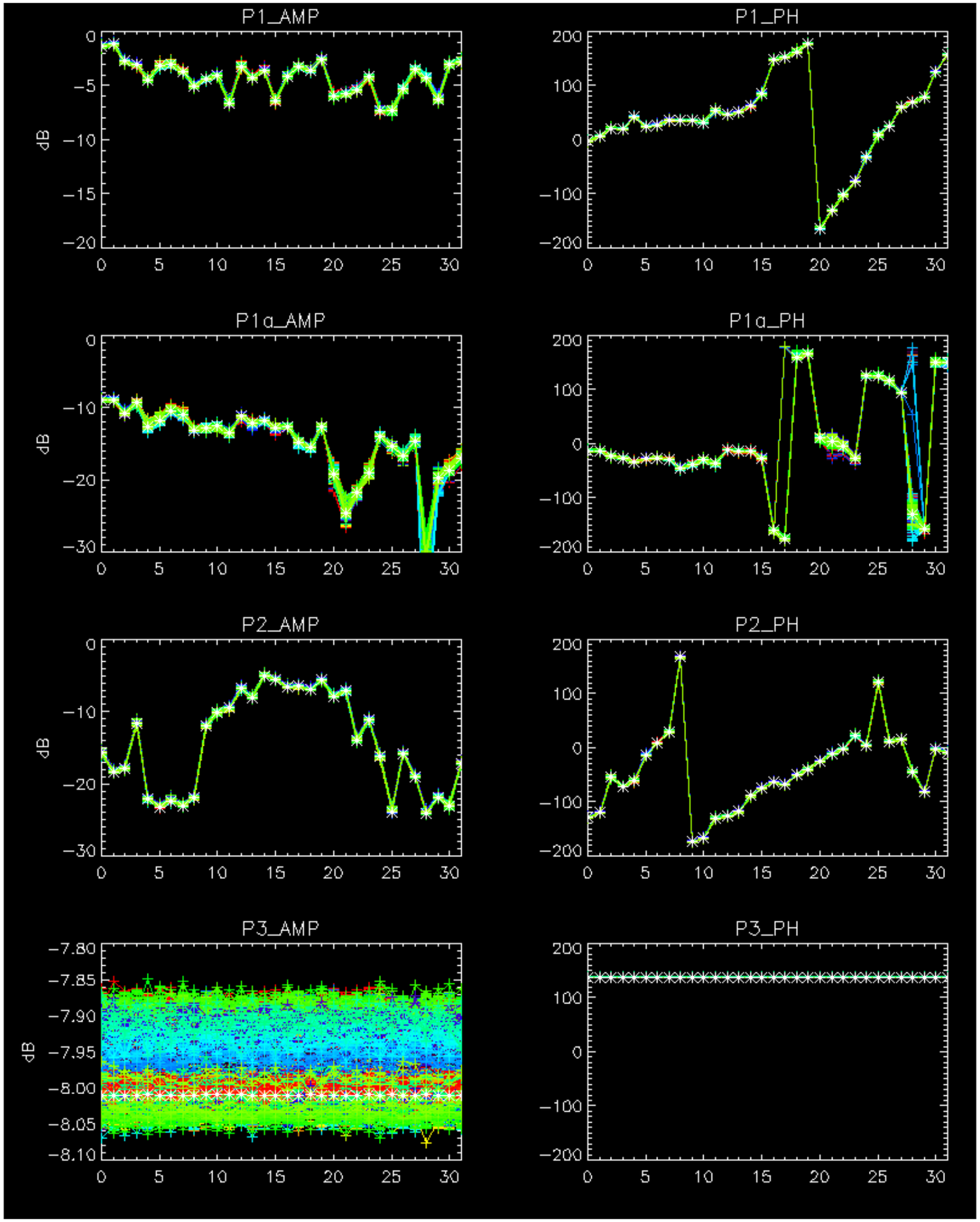

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
06−Feb
11−Feb
16−Feb
21−Feb
26−Feb
03−Mar
08−Mar
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

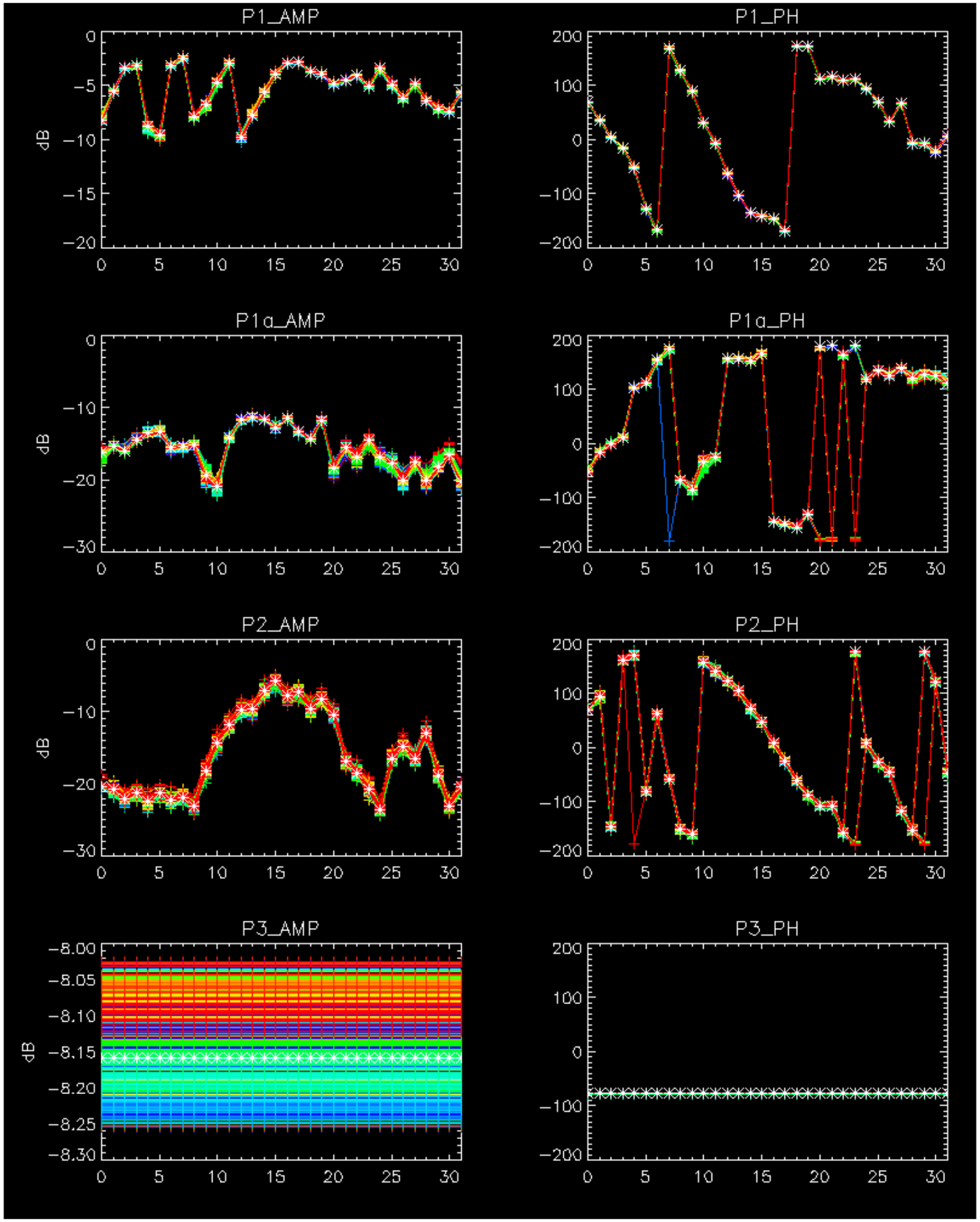

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
10−Mar
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
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
06−Feb
11−Feb
16−Feb
21−Feb
26−Feb
03−Mar
08−Mar
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
10−Mar
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
−24
Average P2[dB]
−5
−10
−15
−20
−25
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: 3 7 11 15 19 22 26 30

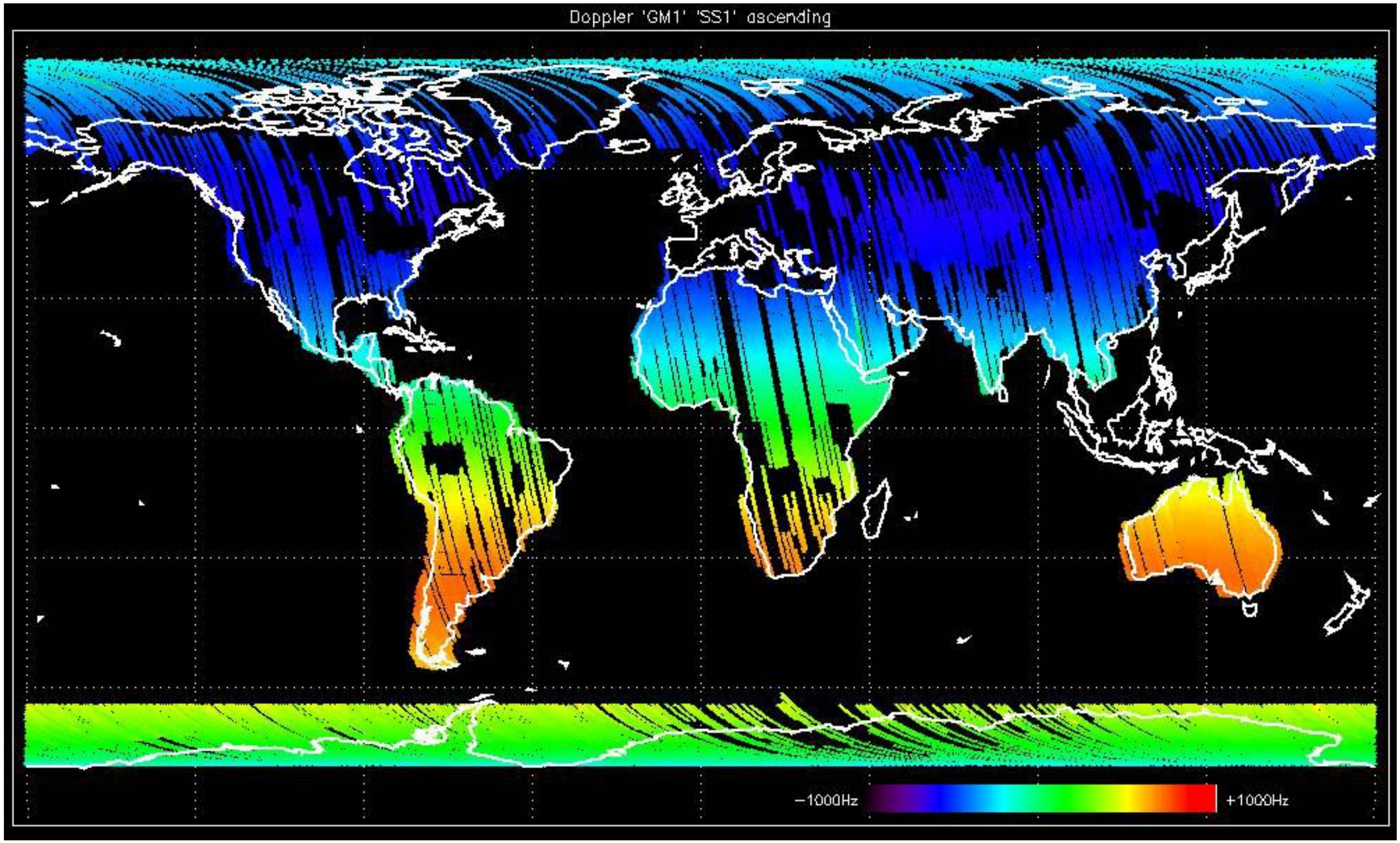
No anomalies observed.

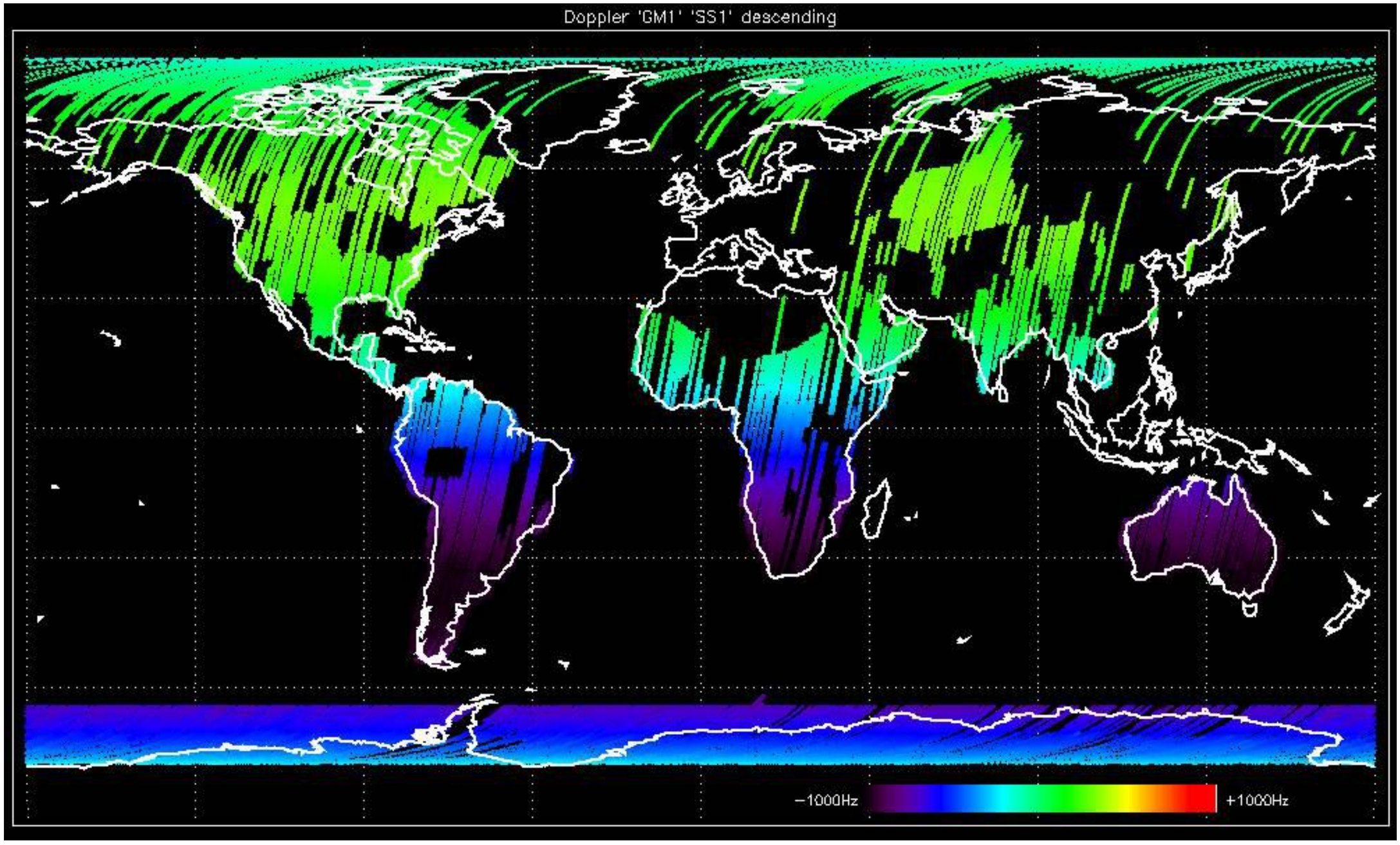

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.80
−7.85
−7.90
−7.95
−8.00
−8.05
−8.10
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

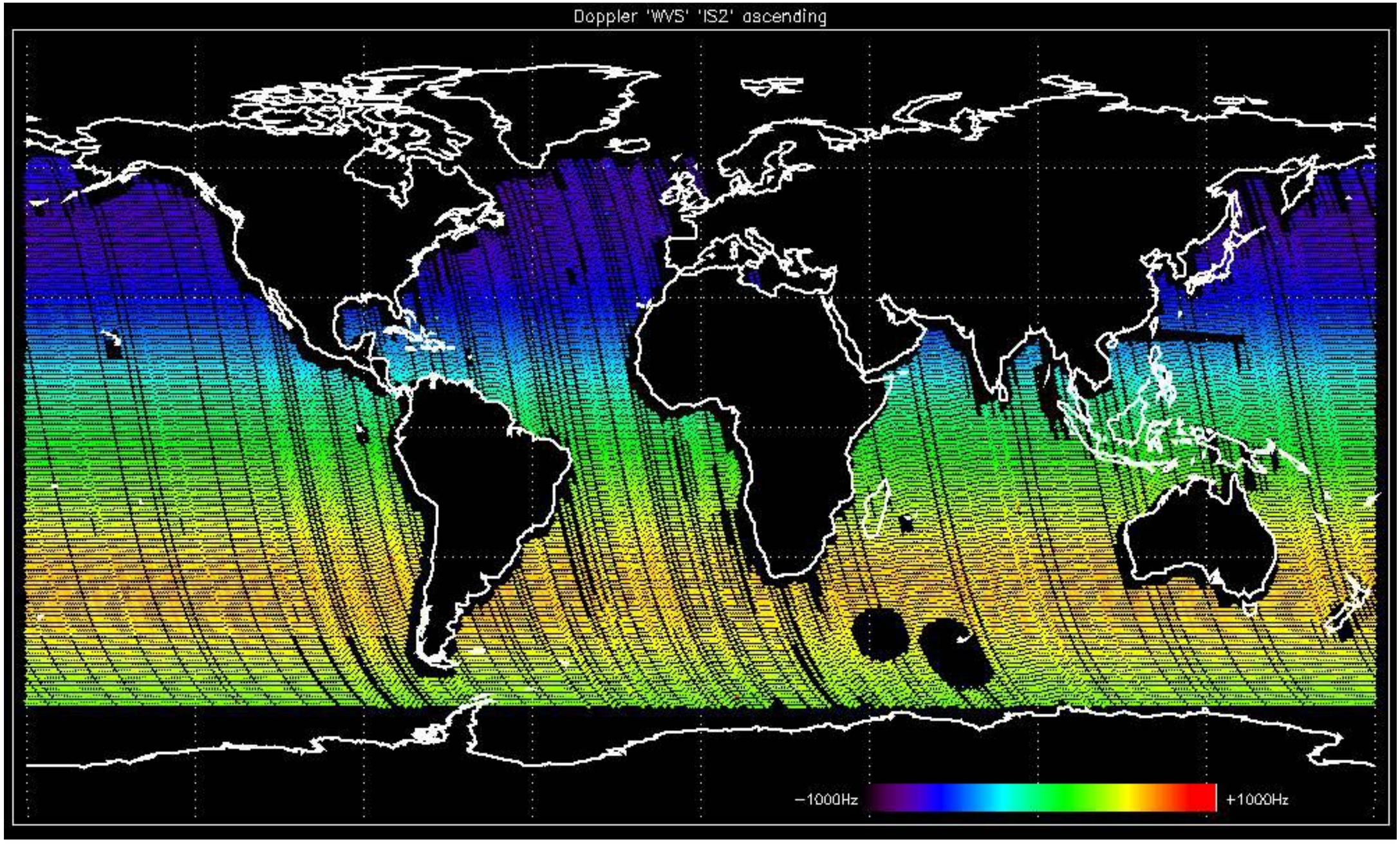

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.00
−8.05
−8.10
−8.15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

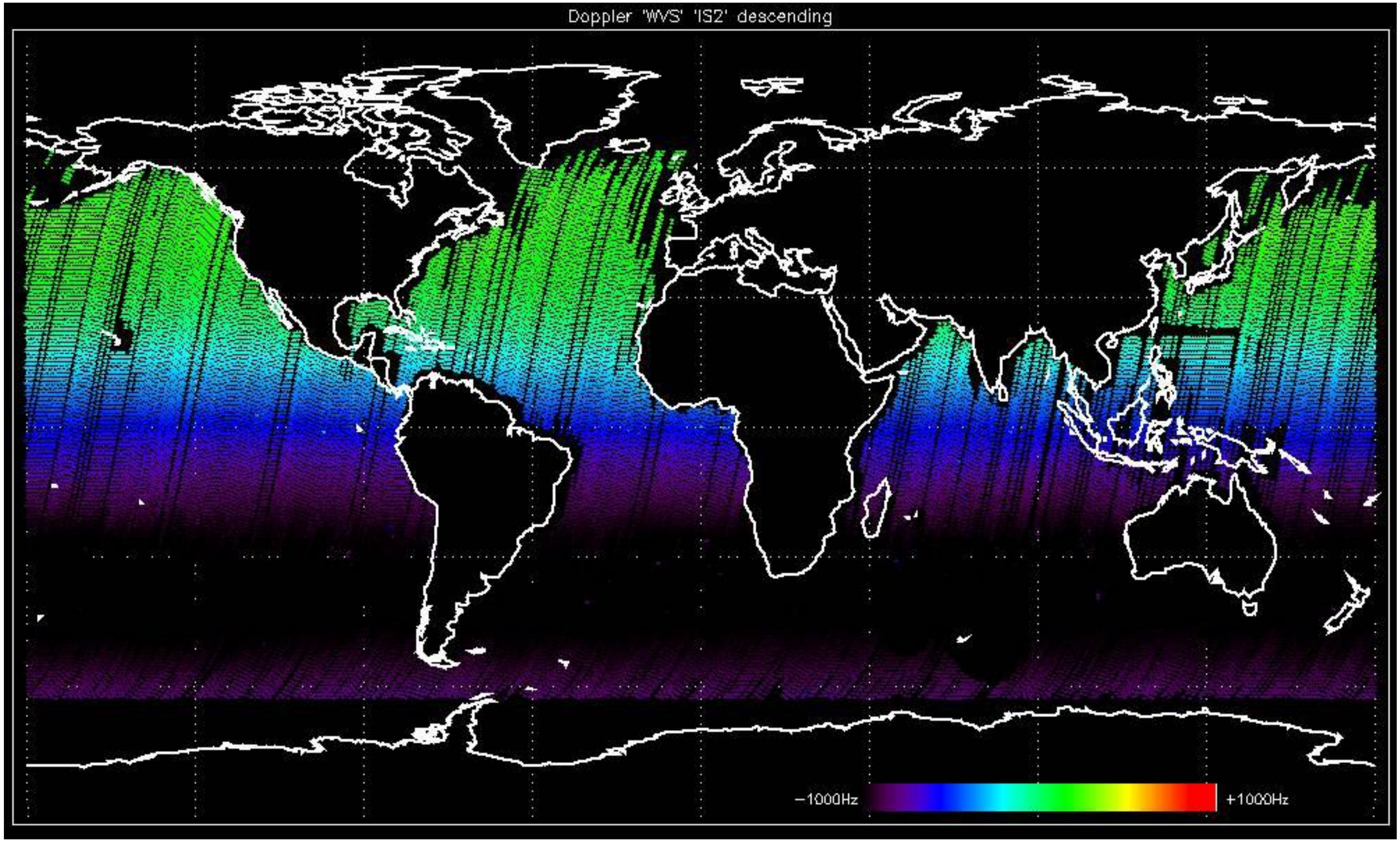
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

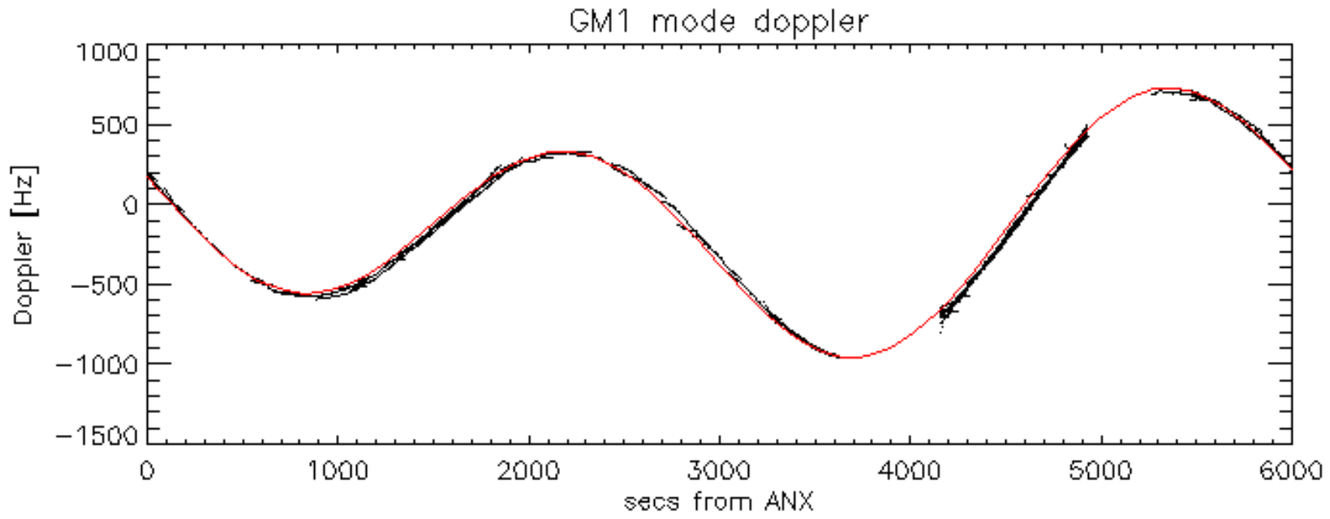
Preliminary report.The data is not yet controled

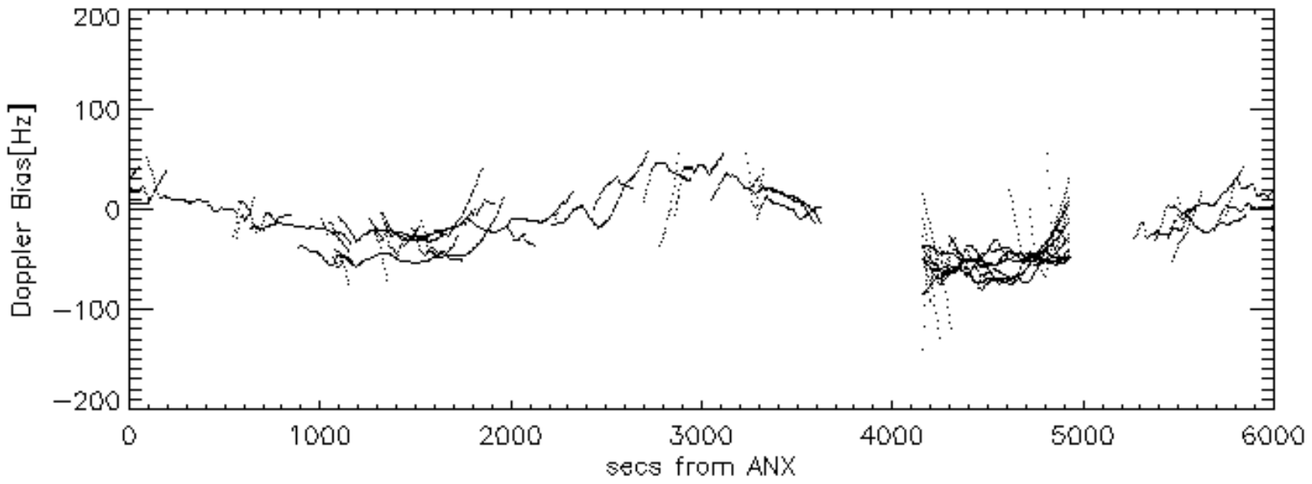

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

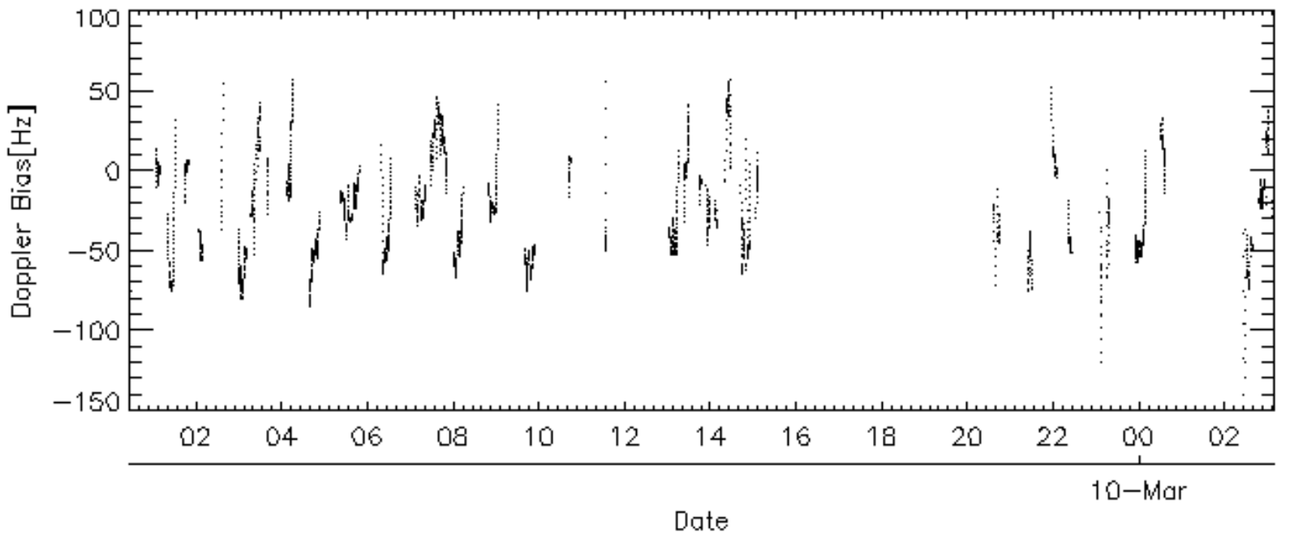

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

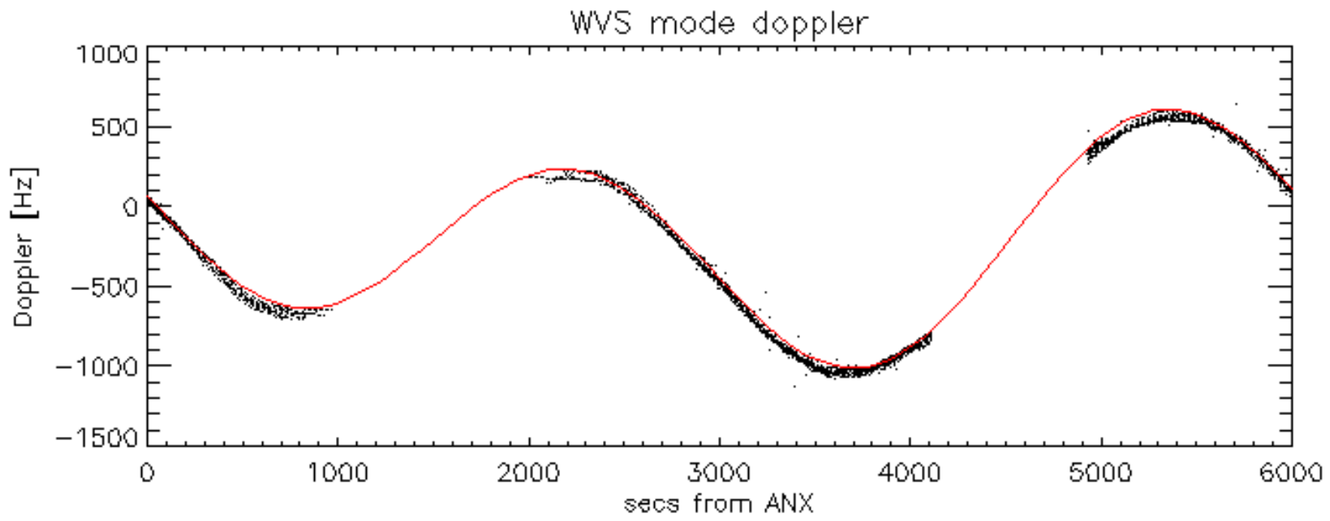

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

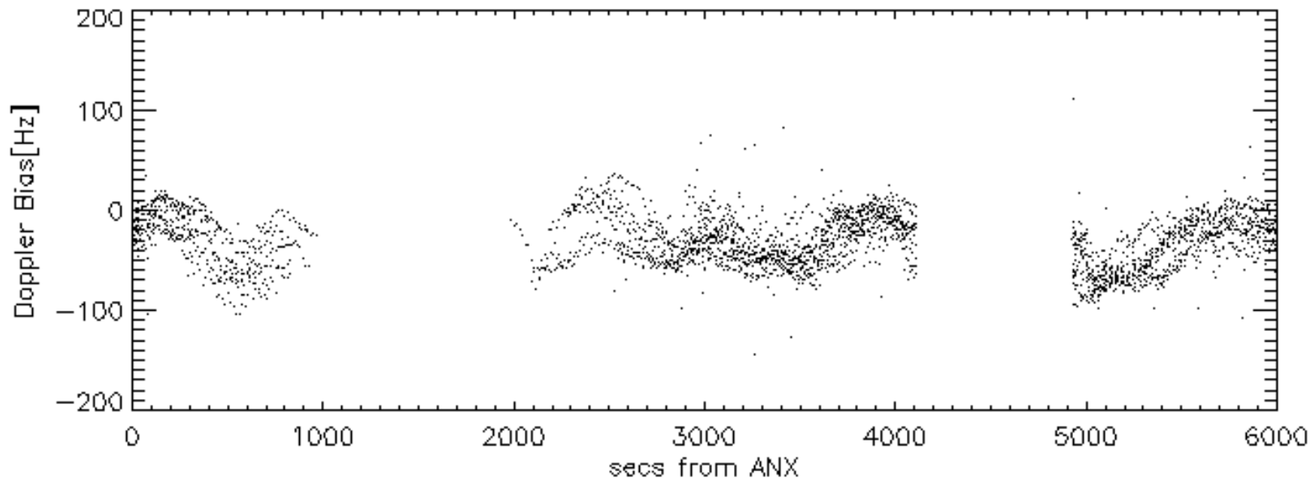

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

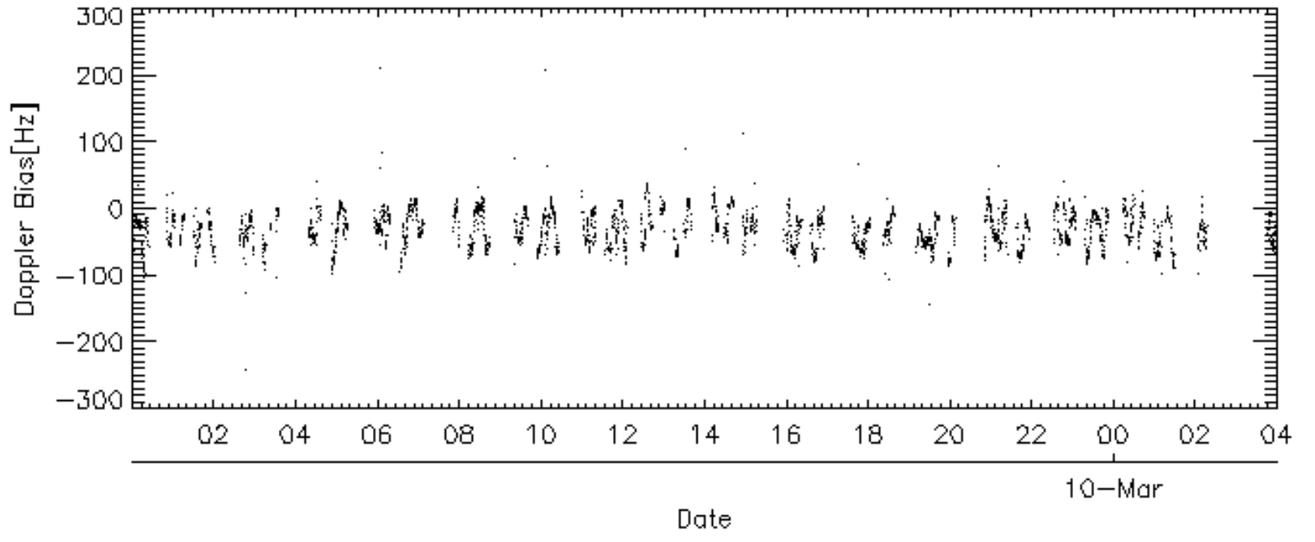

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

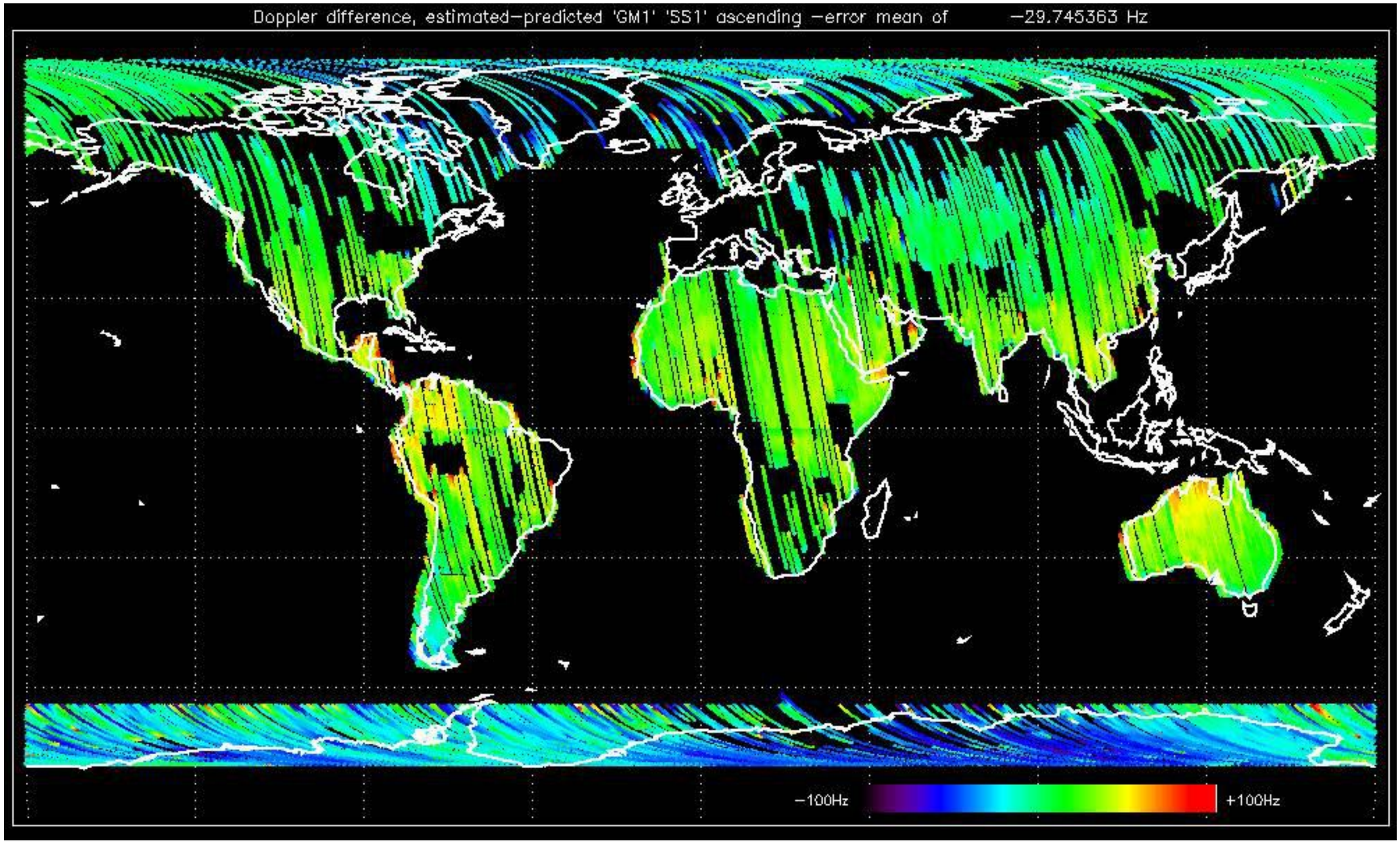

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

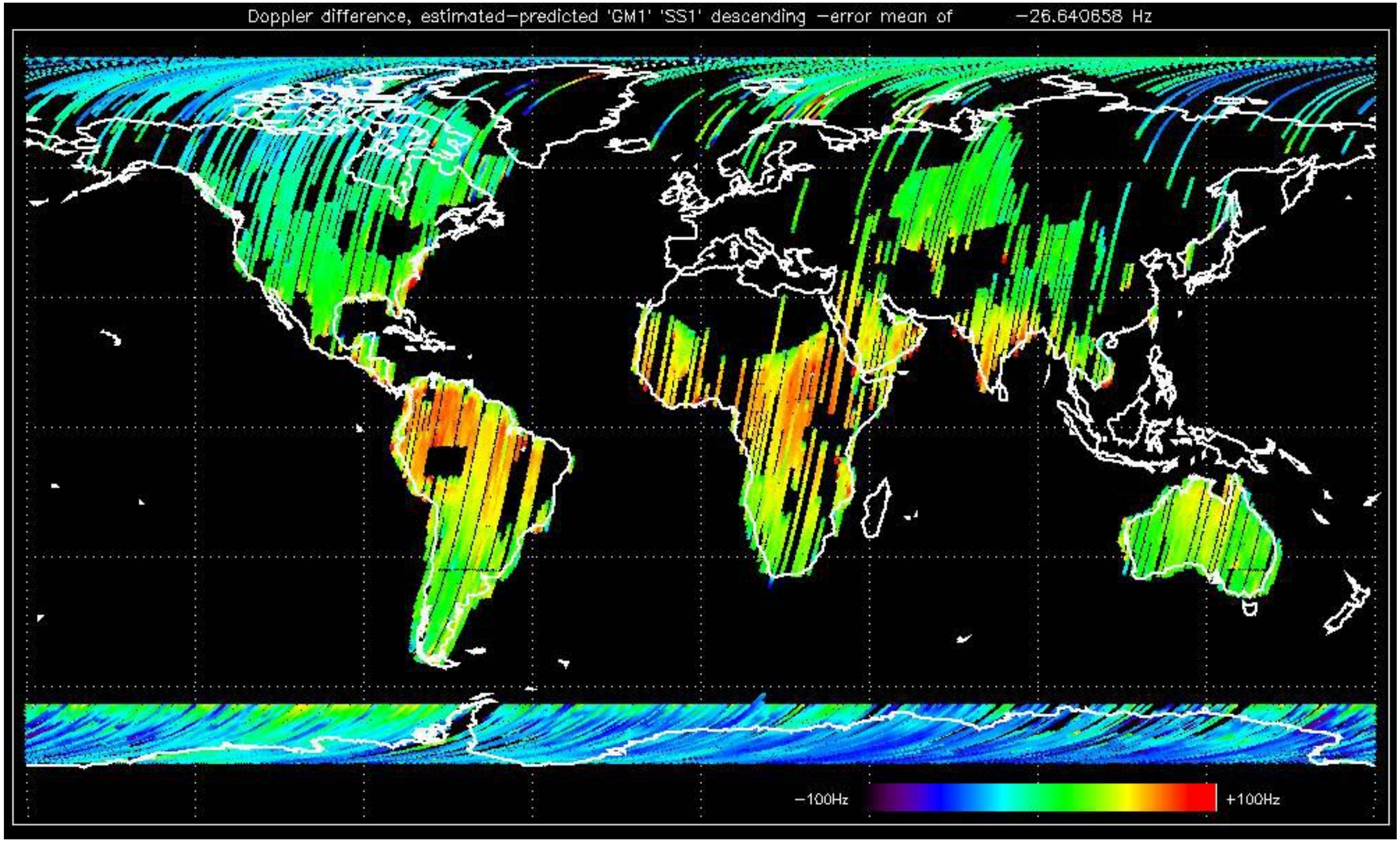

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
10−Mar
Date

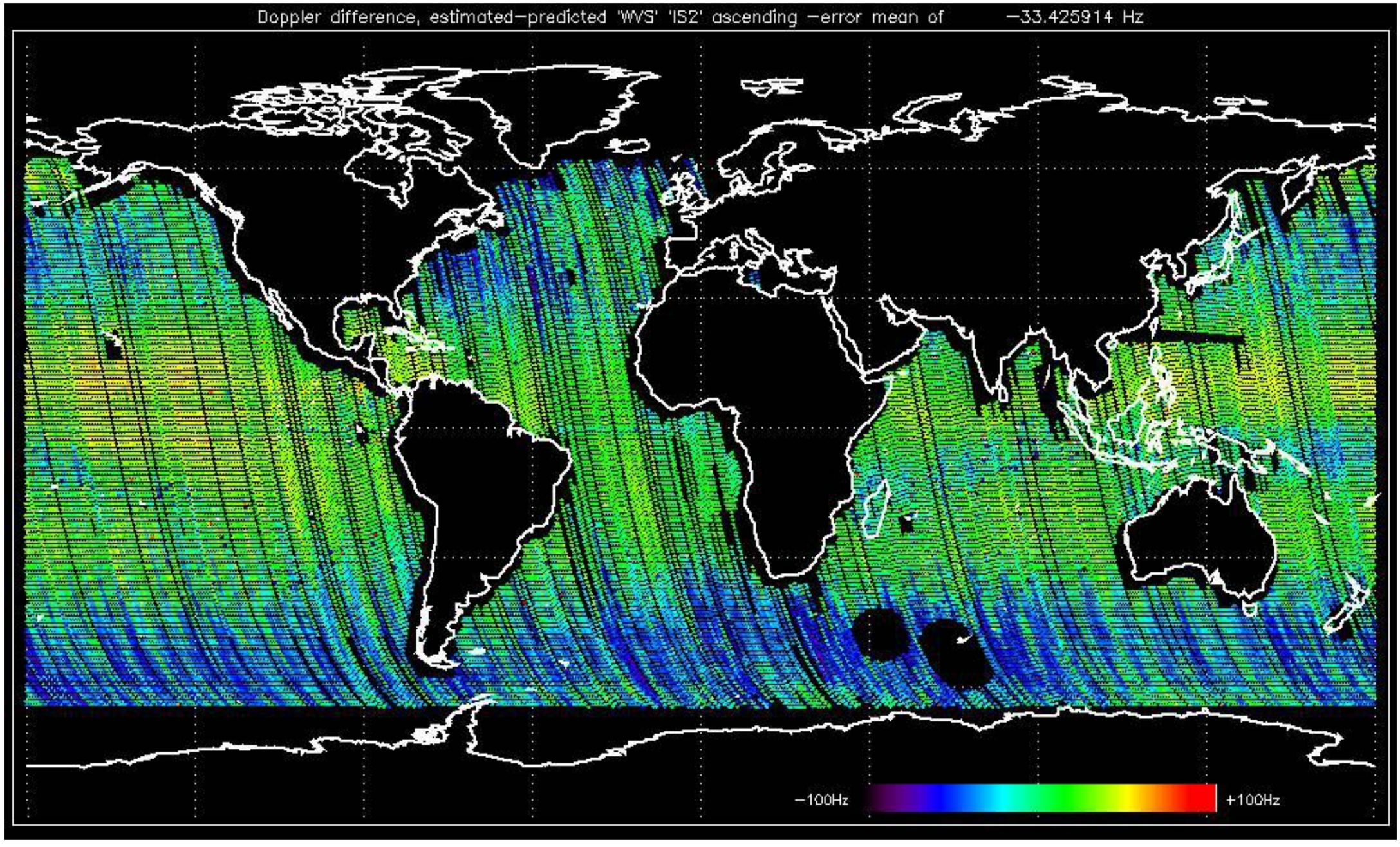

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

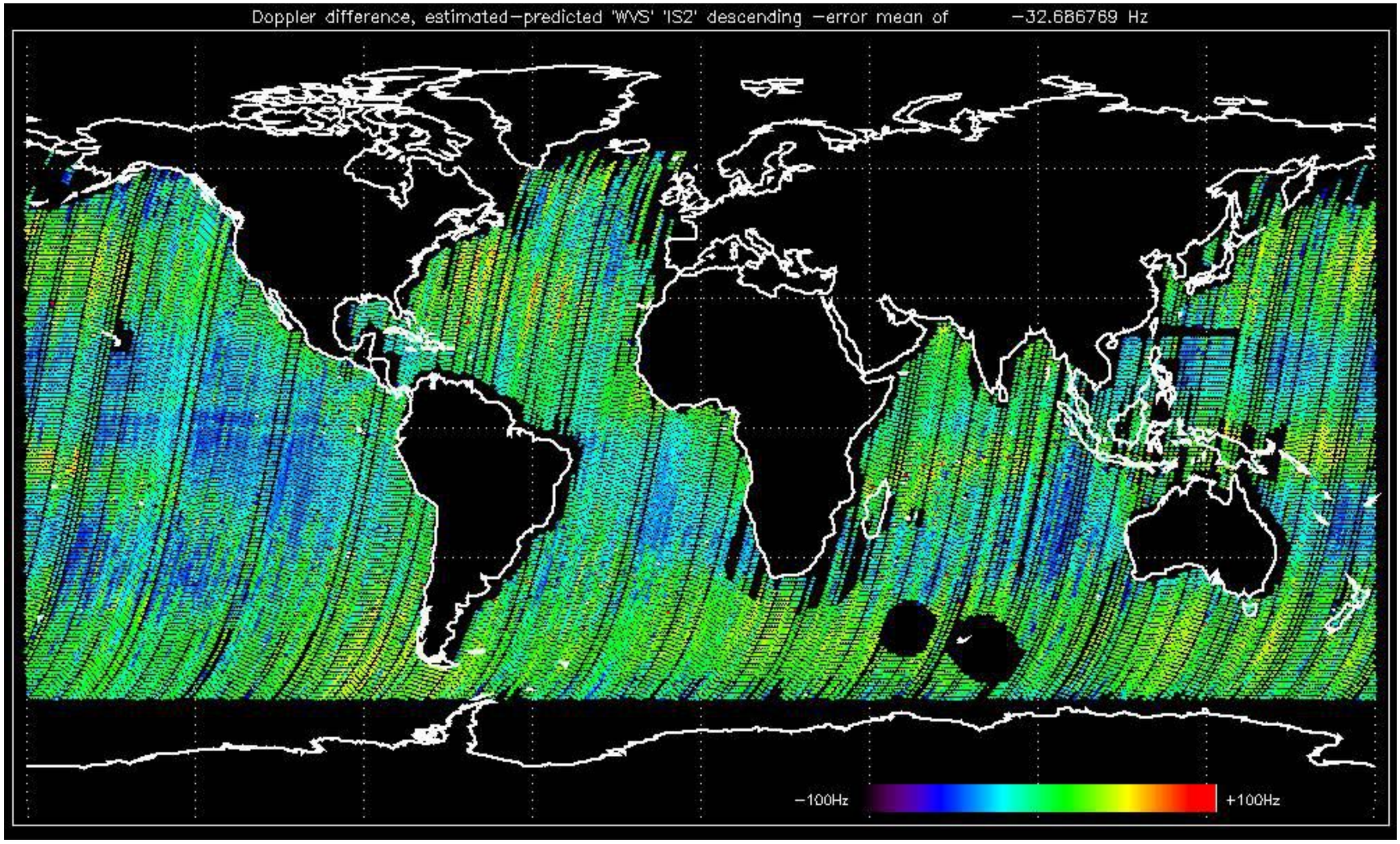

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −29.745363 Hz
−100Hz
+100Hz

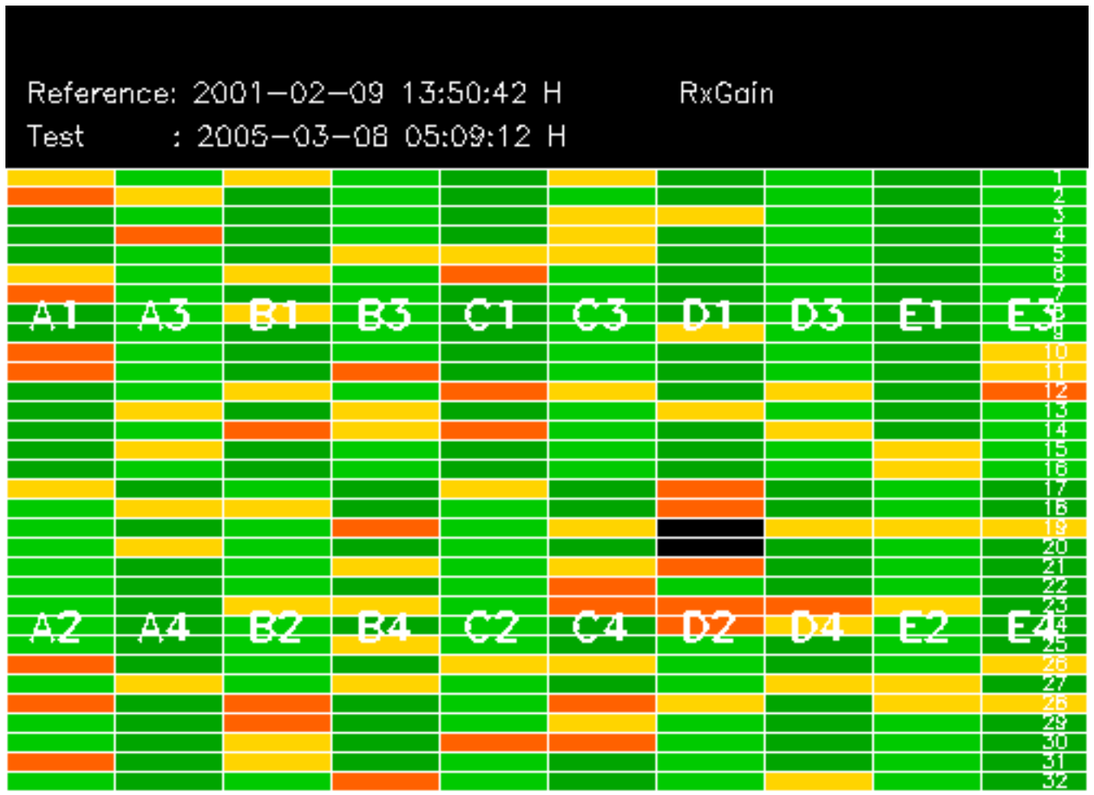

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -26.640658 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −33.425914 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −32.686769 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2005-03-08 05:09:12 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
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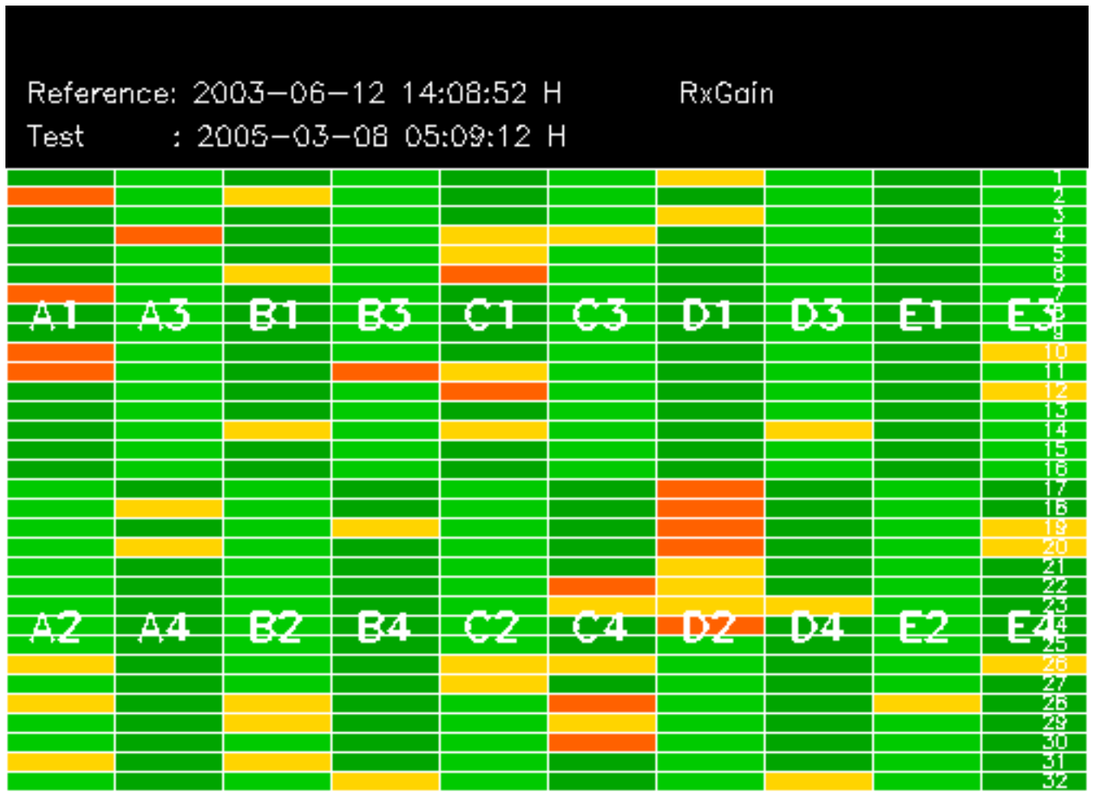
Reference: 2003-06-12 14:08:52 H
Test : 2005-03-08 05:09:12 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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8
9
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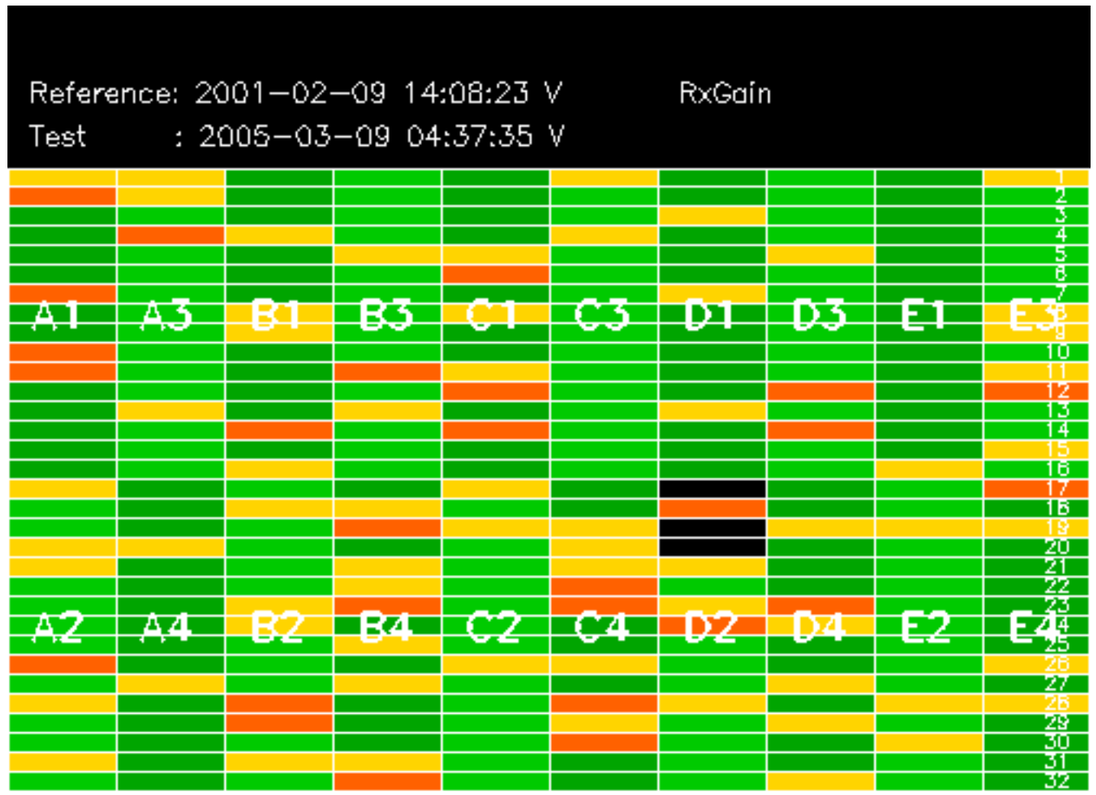
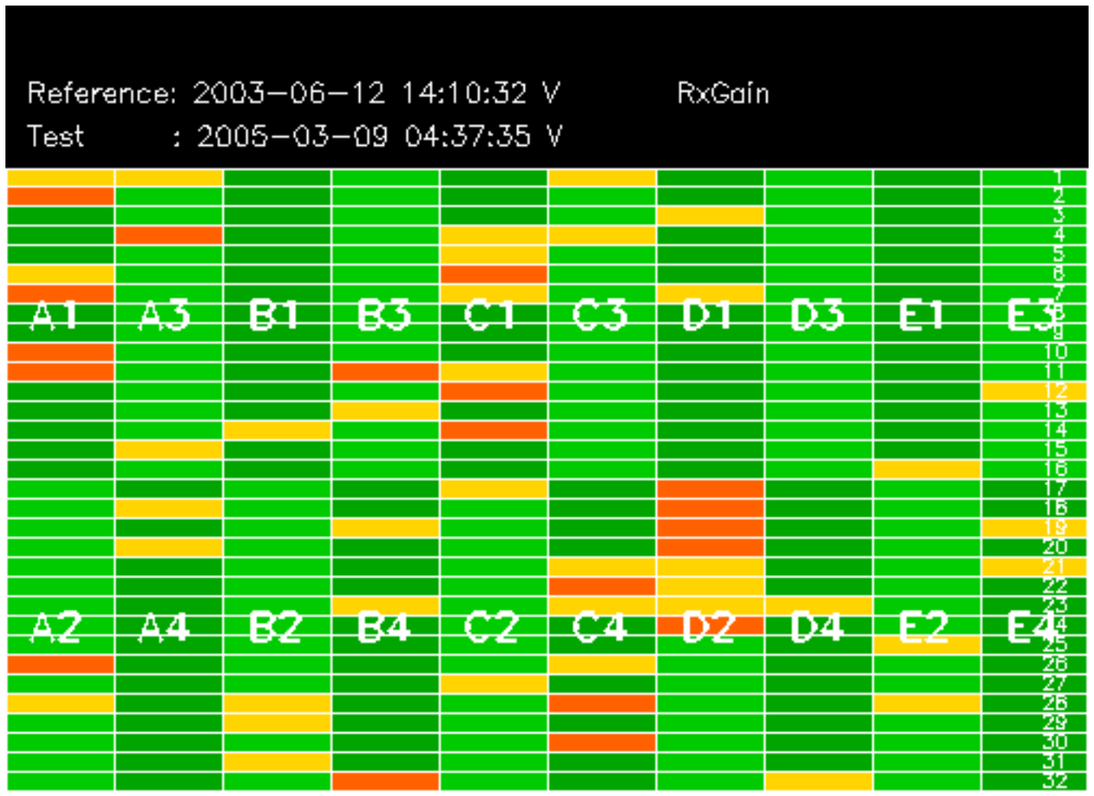
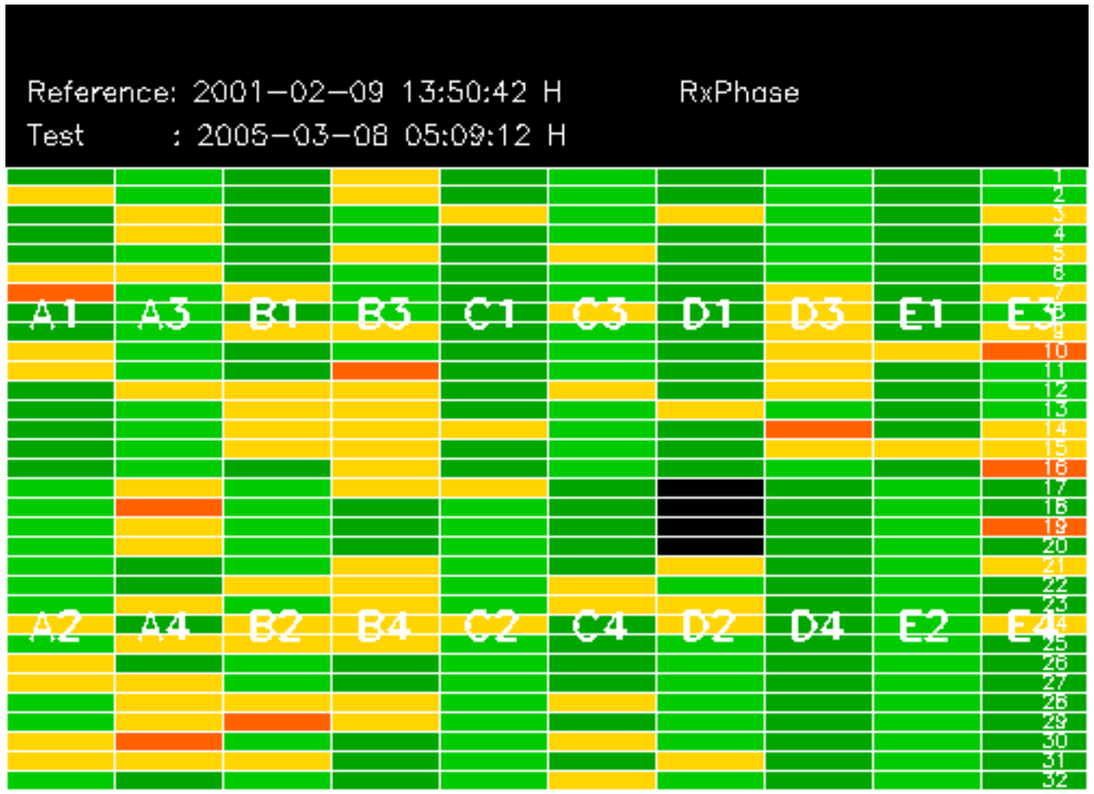

Reference: 2001-02-09 14:08:23 V
Test : 2005-03-09 04:37:35 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-03-09 04:37:35 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-03-08 05:09:12 H
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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8
9
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19
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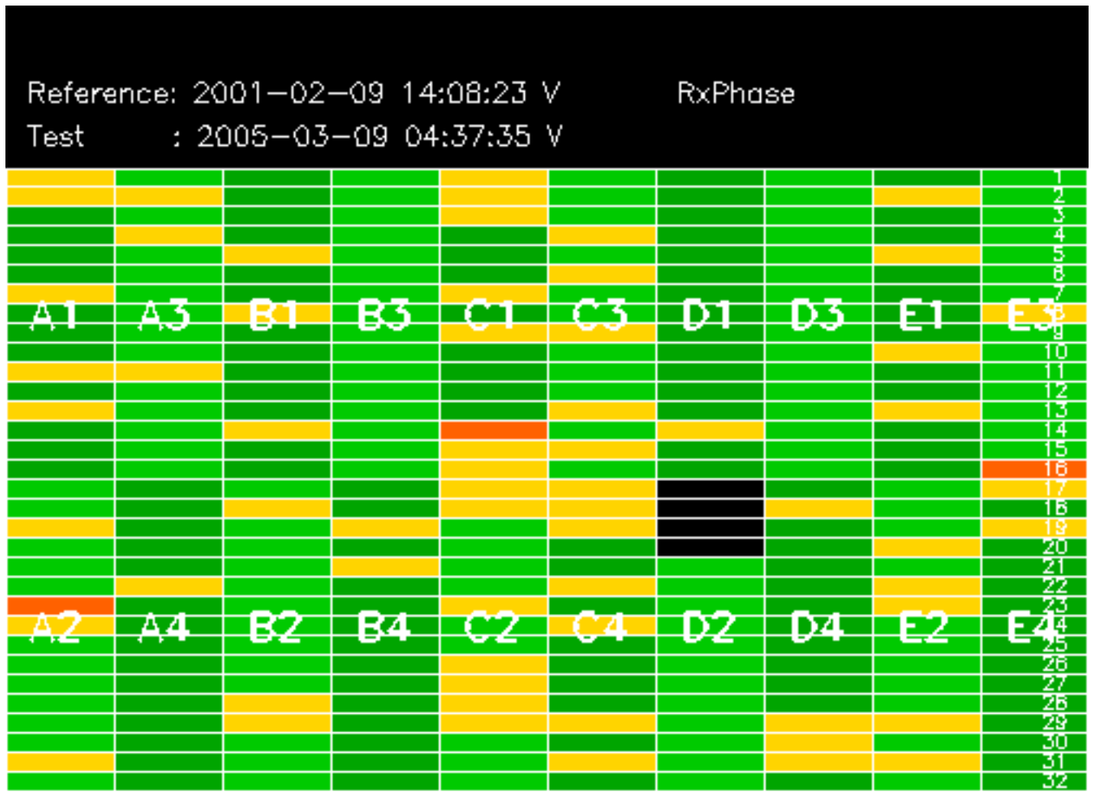
23
24
25
26
27
28
29
30
31
32


Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2005-03-08 05:09:12 H
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 : 2005-03-09 04:37:35 V
RxPhase
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
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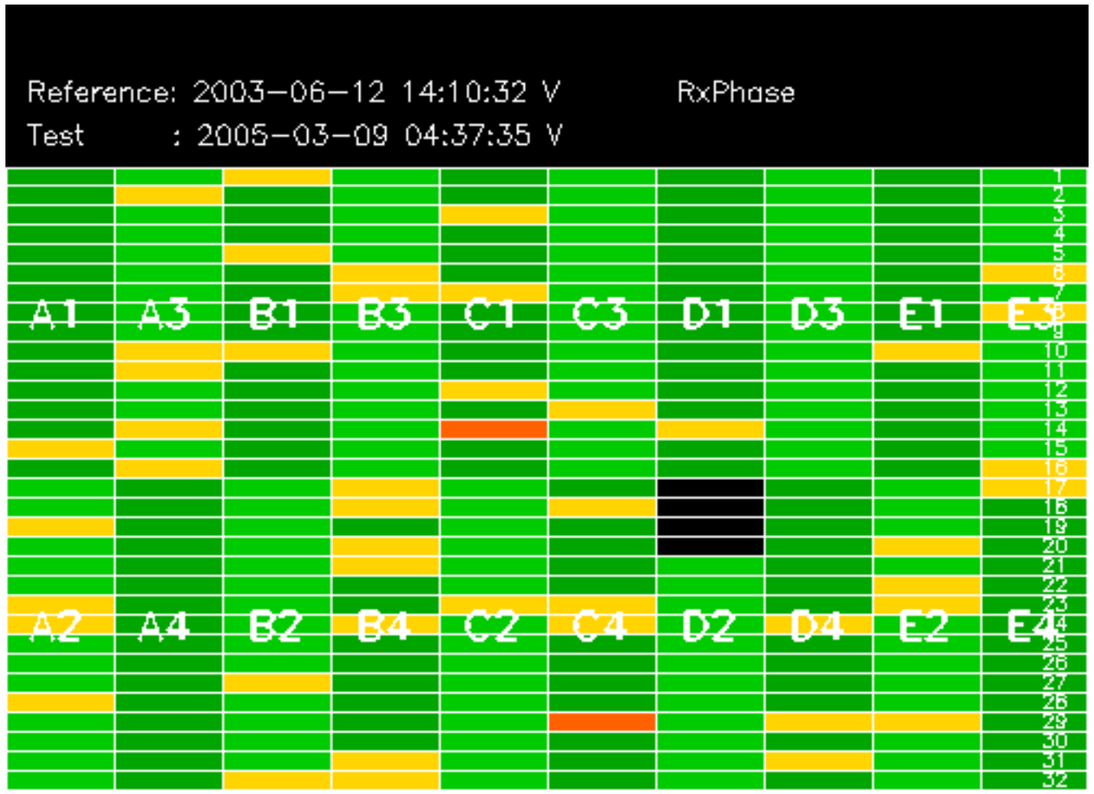
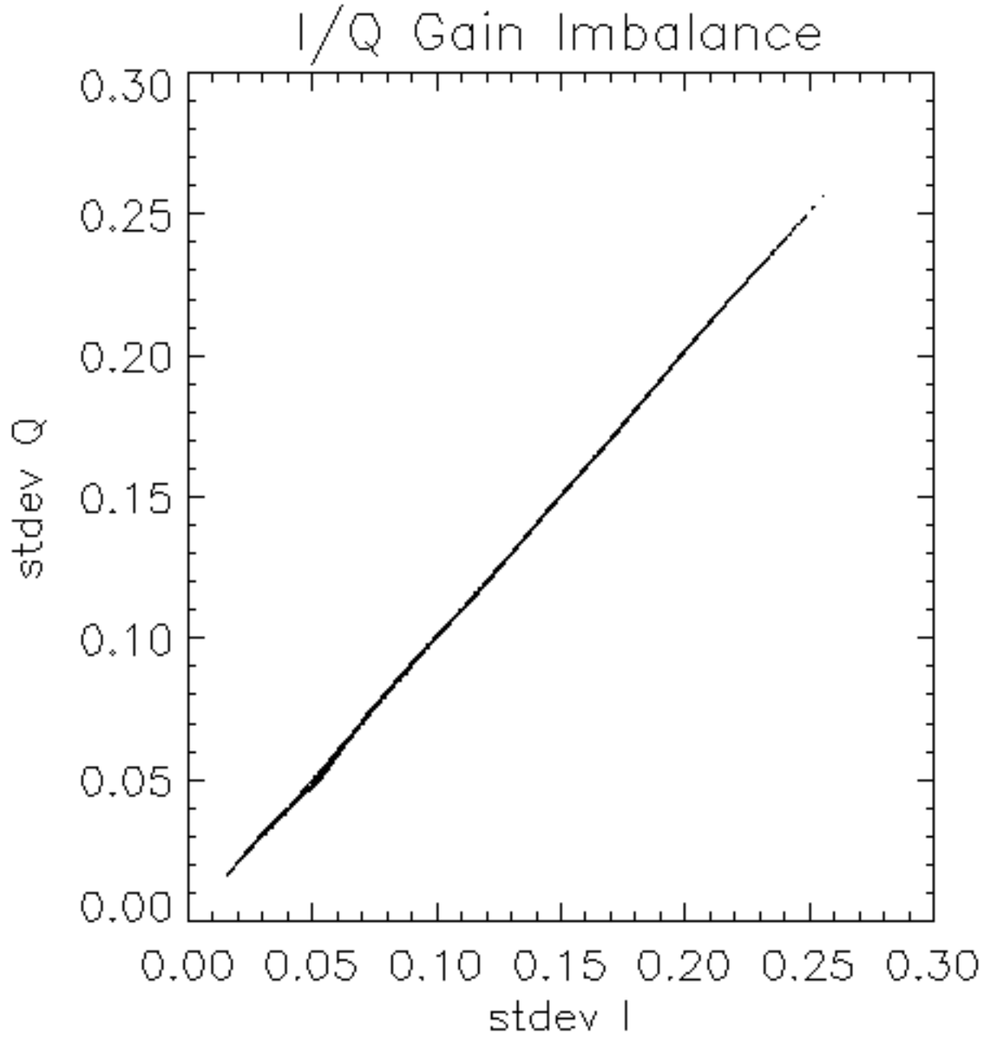
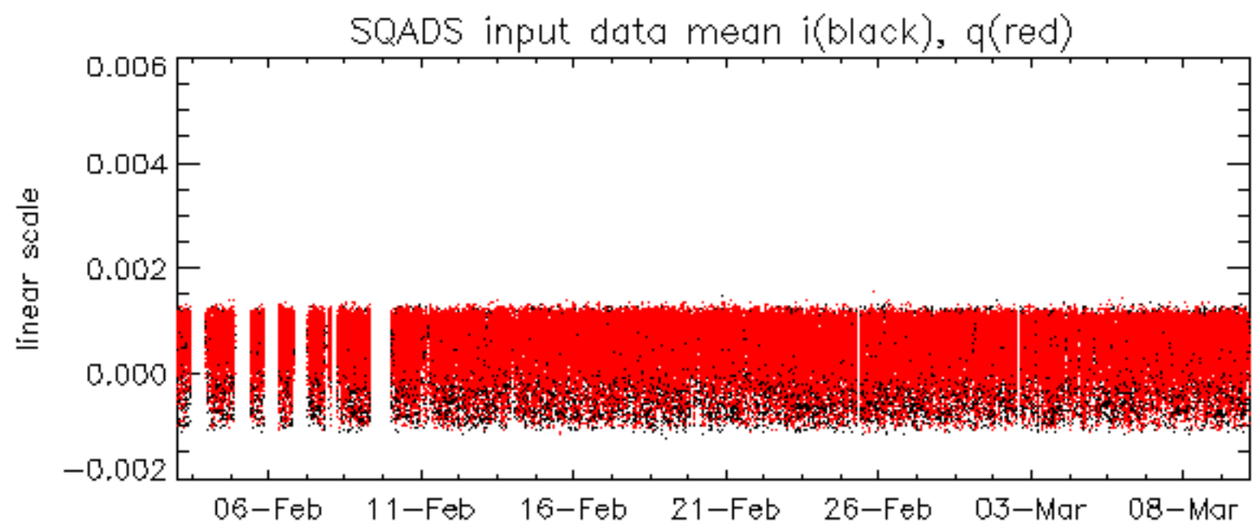
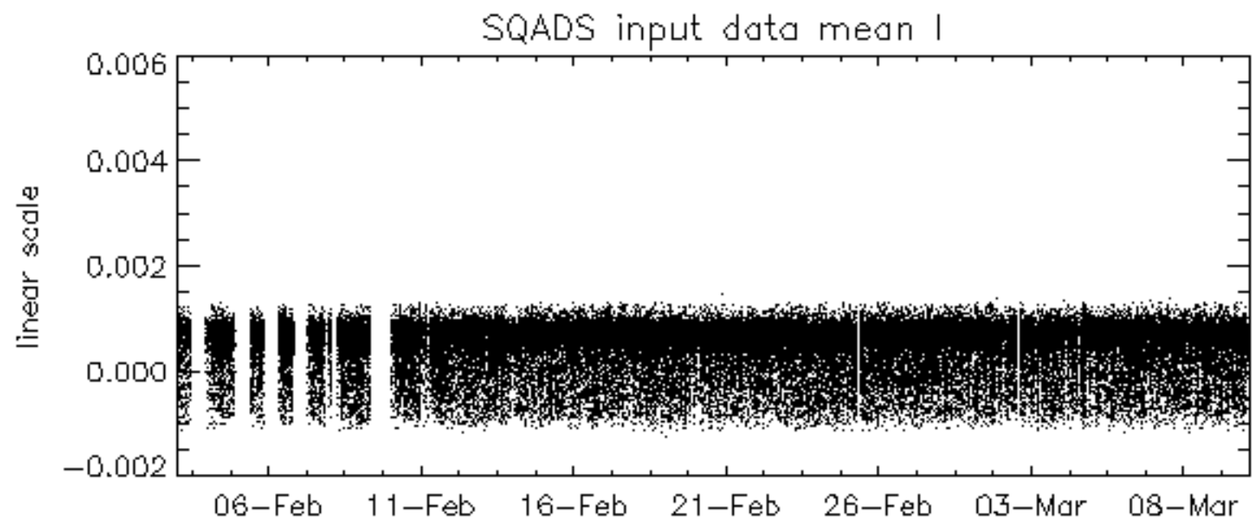
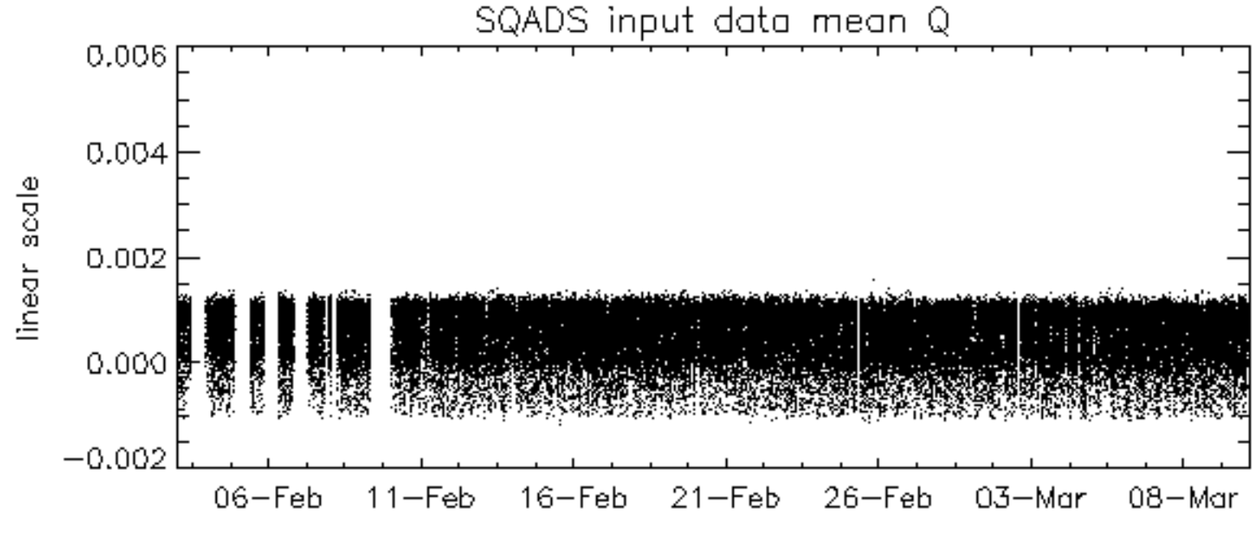
31
32

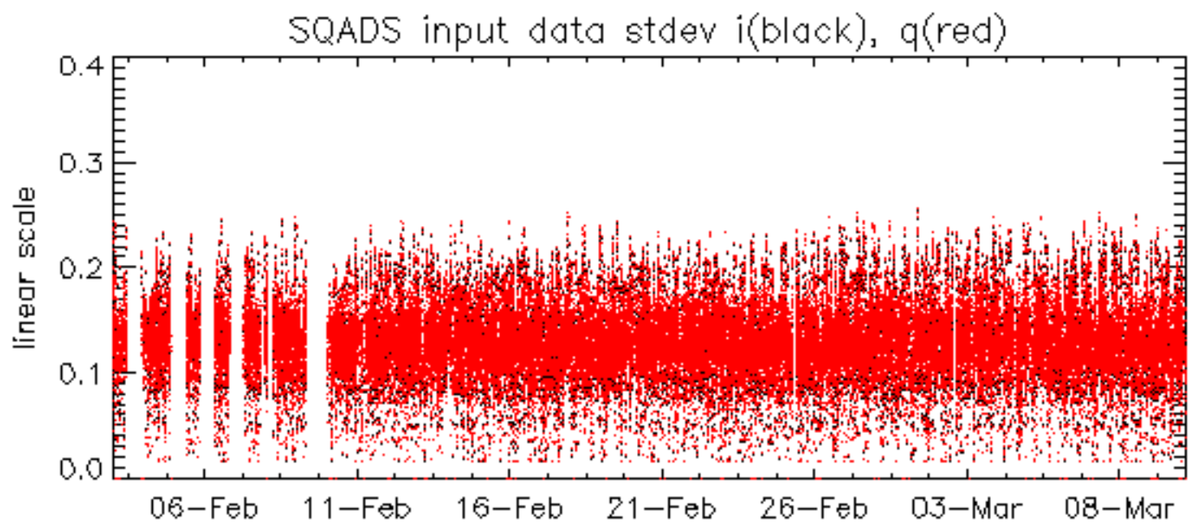

Reference: 2003-06-12 14:10:32 V
Test : 2005-03-09 04:37:35 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

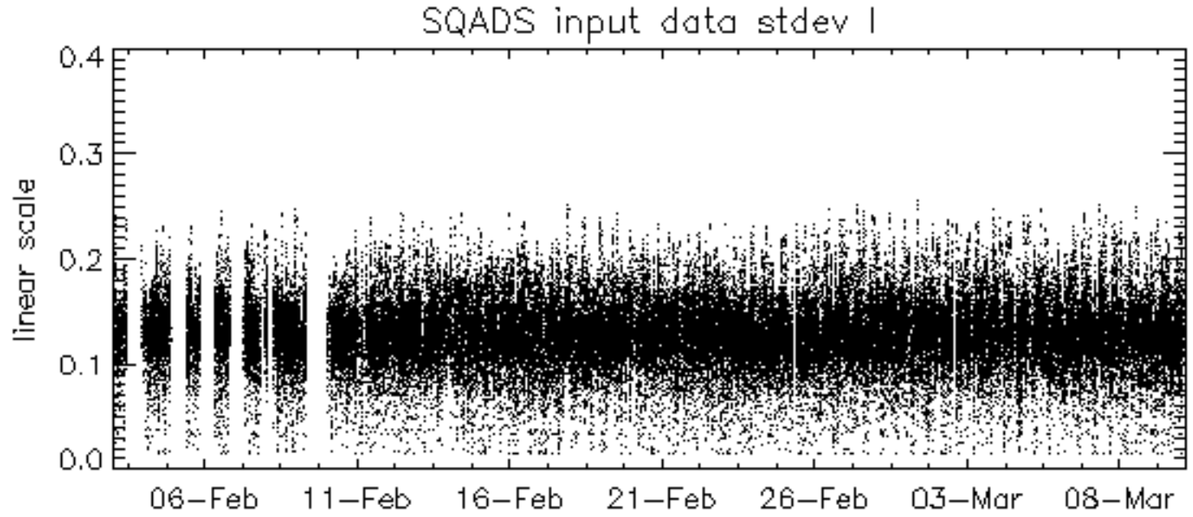

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

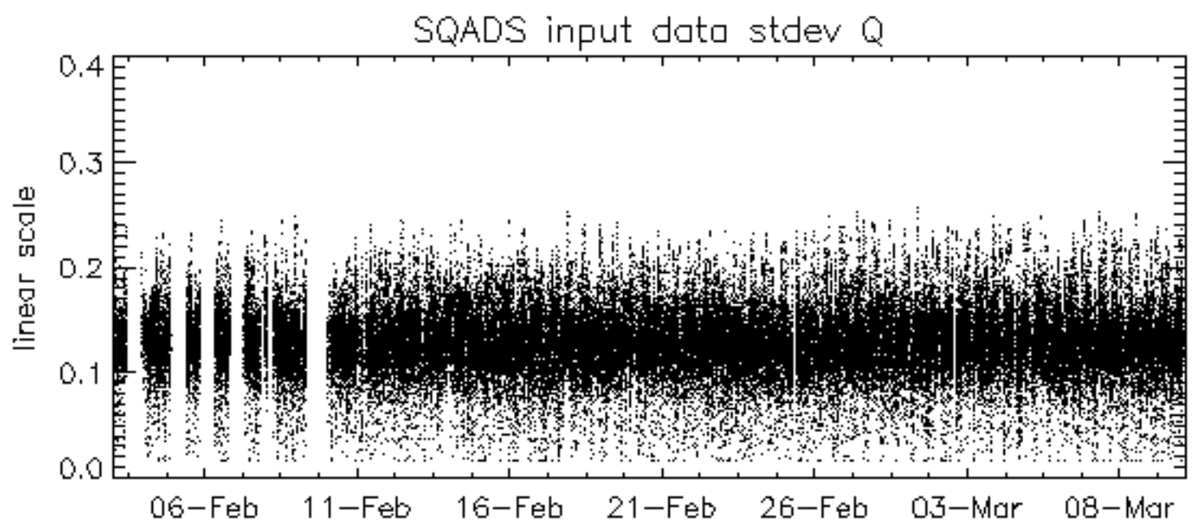

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Feb
11−Feb
16−Feb
21−Feb
26−Feb
03−Mar
08−Mar

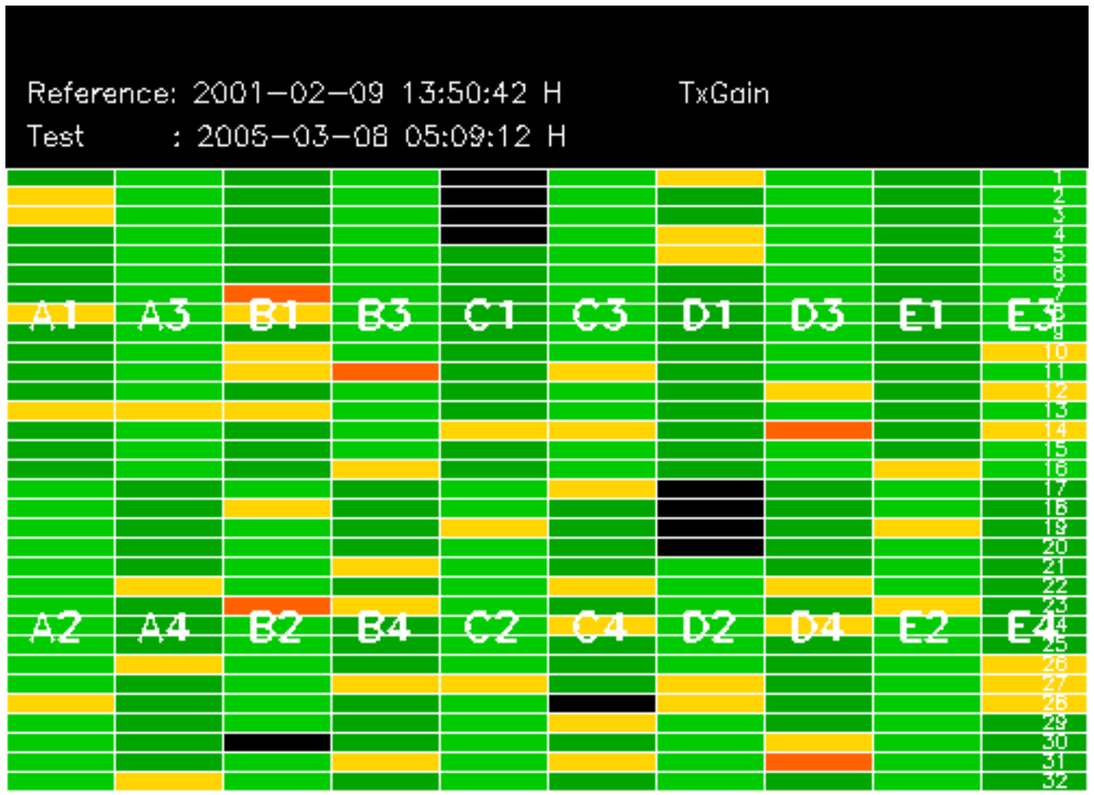

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Feb
11−Feb
16−Feb
21−Feb
26−Feb
03−Mar
08−Mar


SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Feb
11−Feb
16−Feb
21−Feb
26−Feb
03−Mar
08−Mar


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


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
06−Feb
11−Feb
16−Feb
21−Feb
26−Feb
03−Mar
08−Mar


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
06−Feb
11−Feb
16−Feb
21−Feb
26−Feb
03−Mar
08−Mar


Reference: 2001-02-09 13:50:42 H
Test : 2005-03-08 05:09:12 H
TxGain
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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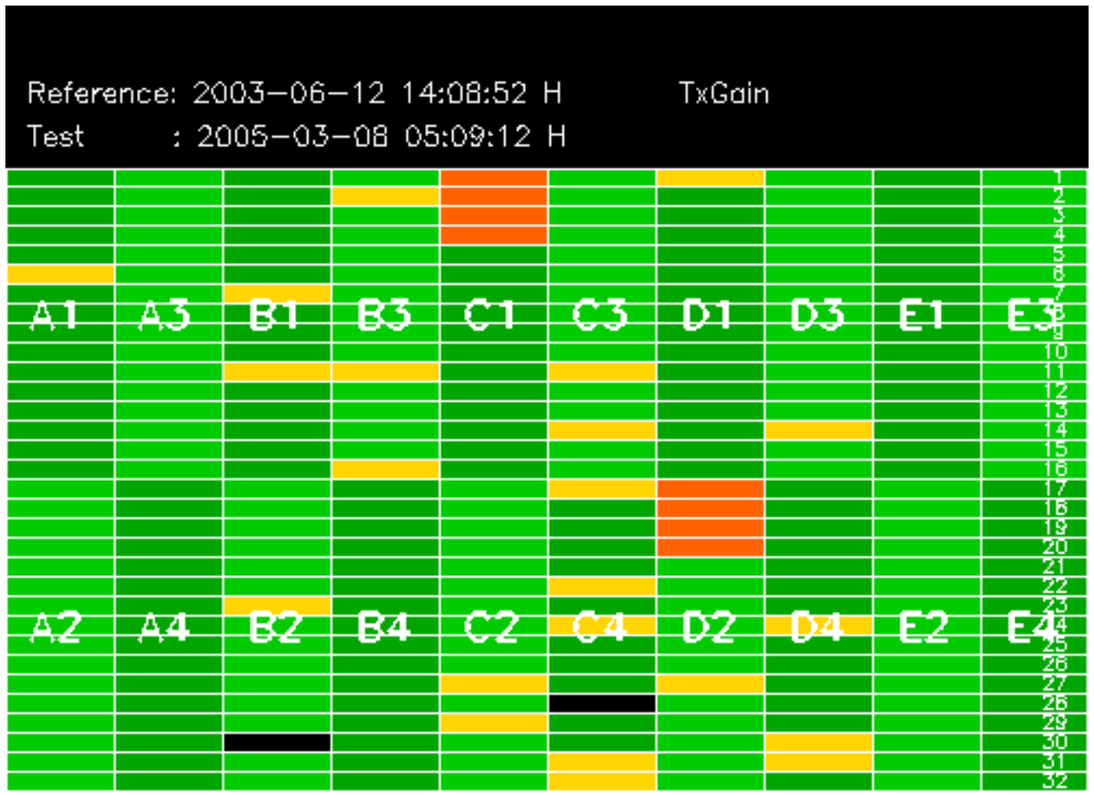
Reference: 2003-06-12 14:08:52 H
Test : 2005-03-08 05:09:12 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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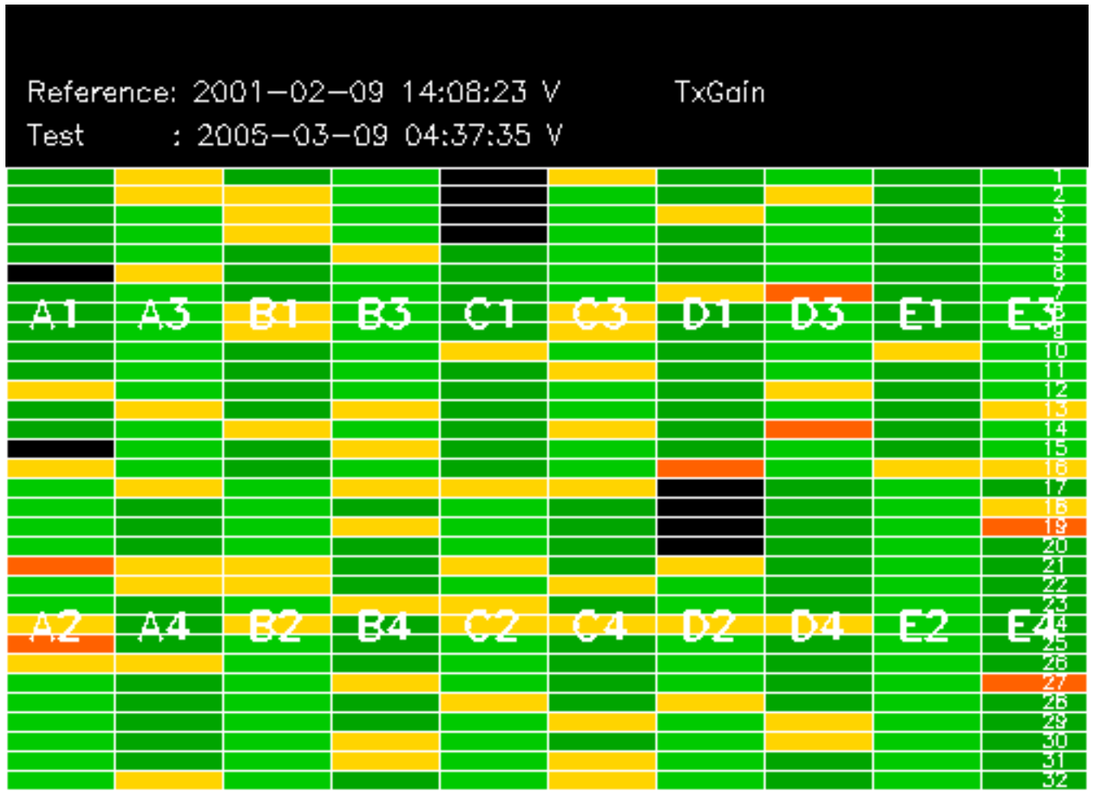
Reference: 2001-02-09 14:08:23 V
Test : 2005-03-09 04:37:35 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-03-09 04:37:35 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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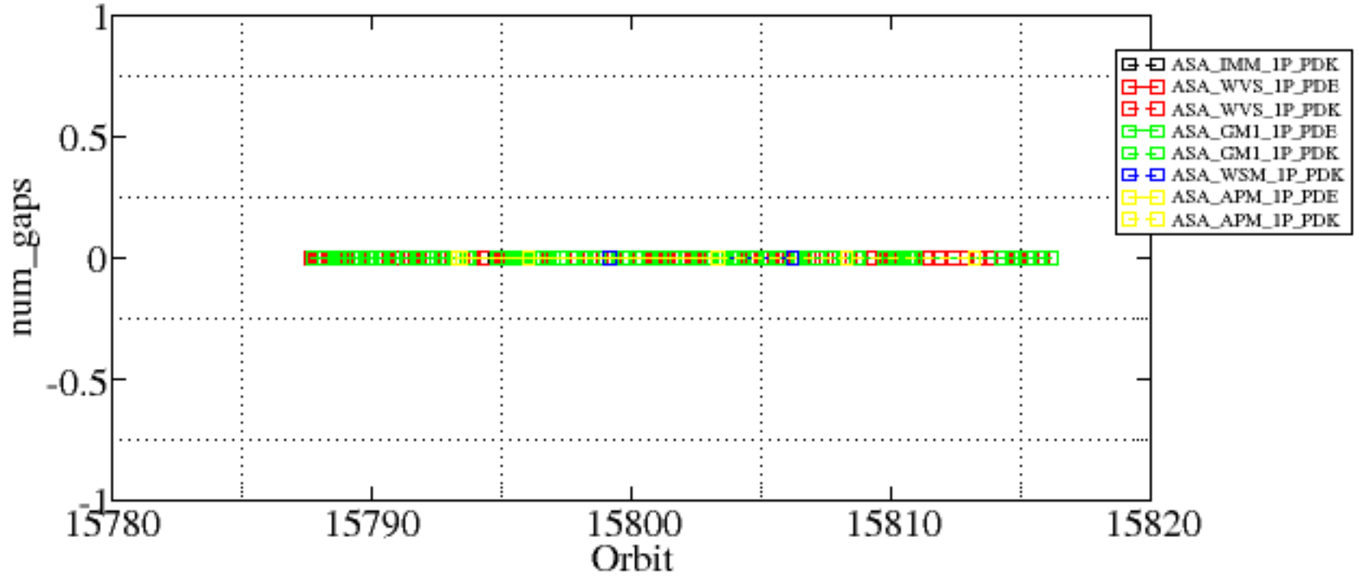
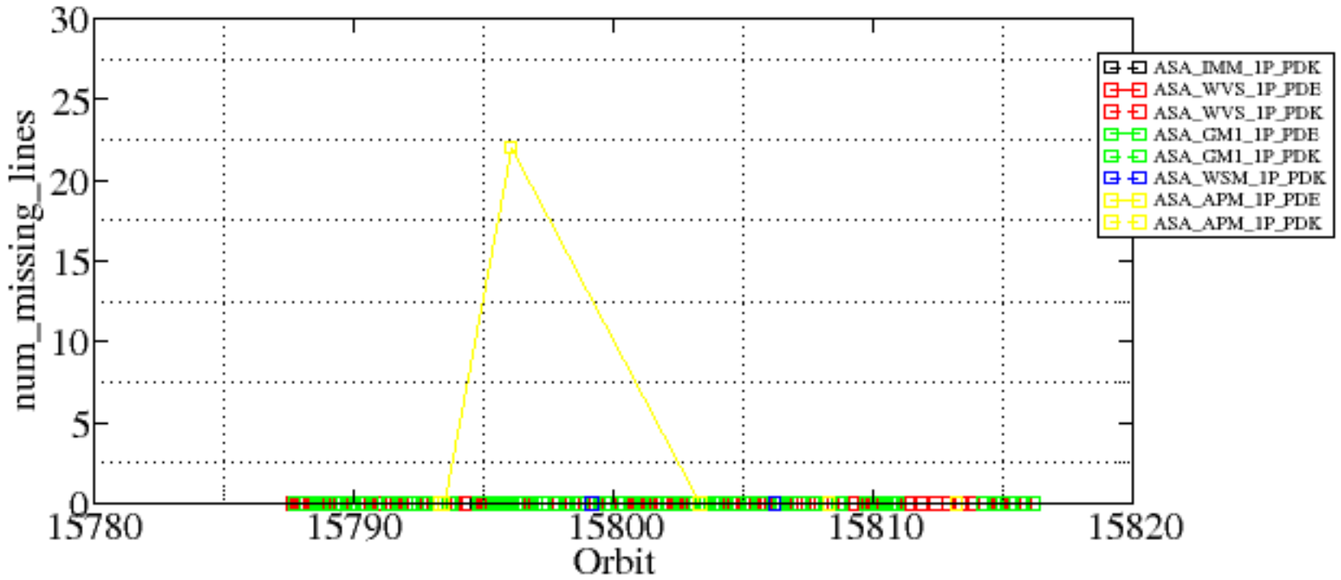
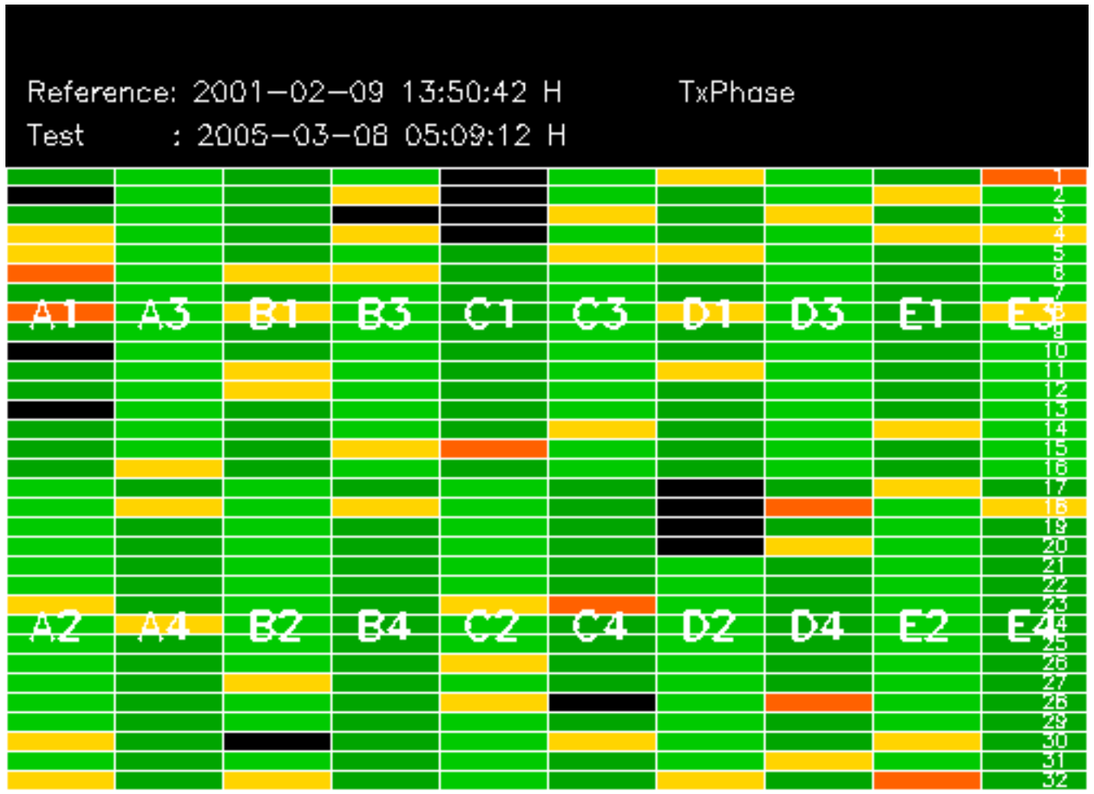
Summary of analysis for the last 3 days 2005030[890]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename   </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_APM_1PNPDE20050308_141141_000000582035_00211_15796_7743.N1 </td> <td>0   </td> <td>22   </td></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
15780
15790
15800
15810
15820
Orbit
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDK
ASA_APM_1P_PDE
ASA_APM_1P_PDK


num_missing_lines
30
25
20
15
10
5
0
15780
15790
15800
15810
15820
Orbit
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDK
ASA_APM_1P_PDE
ASA_APM_1P_PDK


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2005-03-08 05:09:12 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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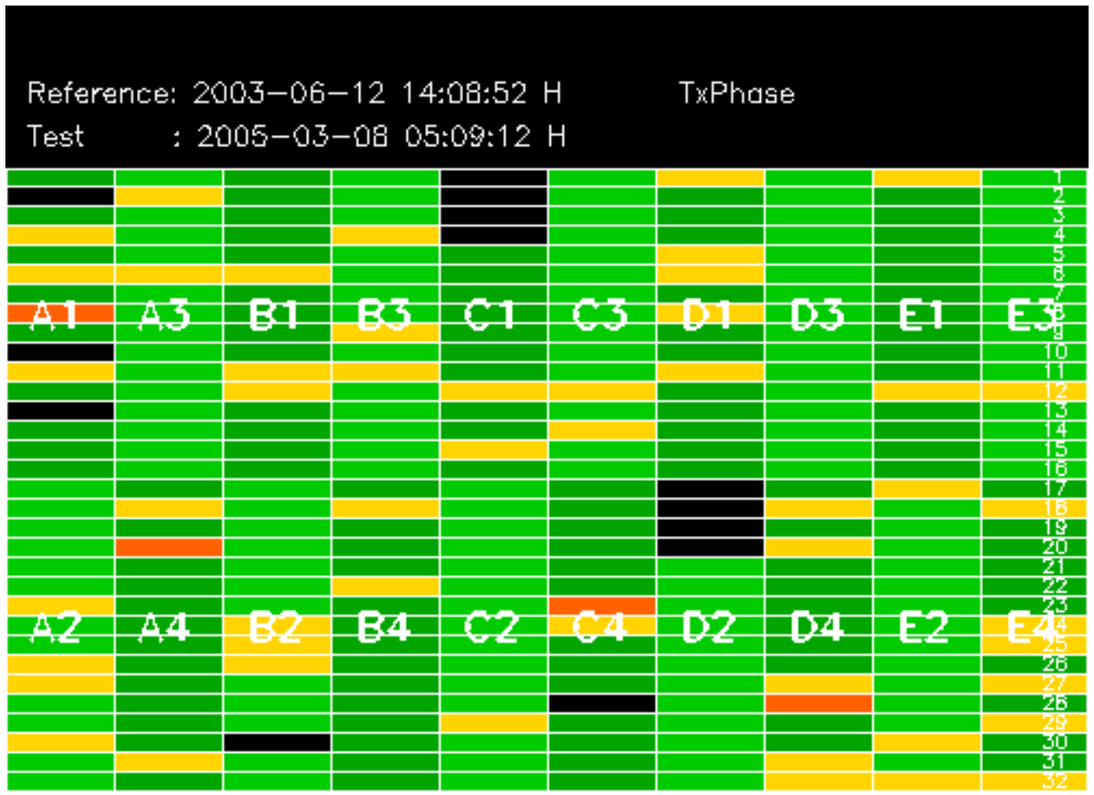
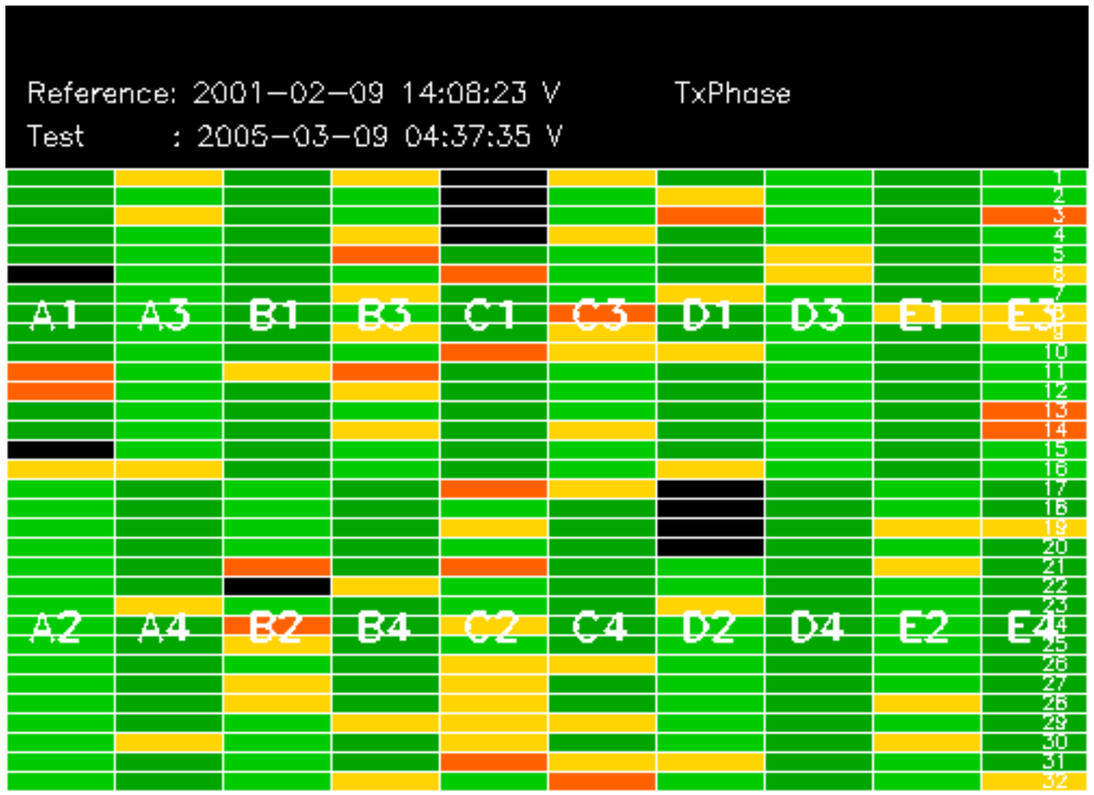

Reference: 2003-06-12 14:08:52 H
Test : 2005-03-08 05:09:12 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2005-03-09 04:37:35 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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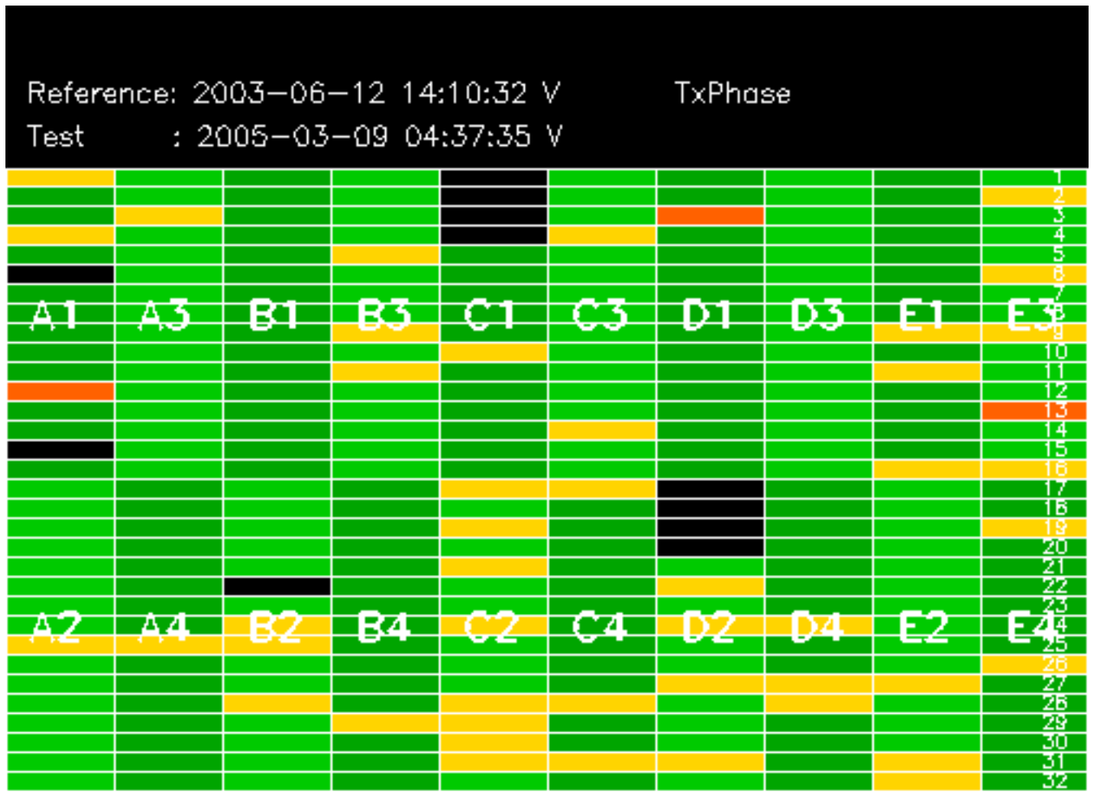
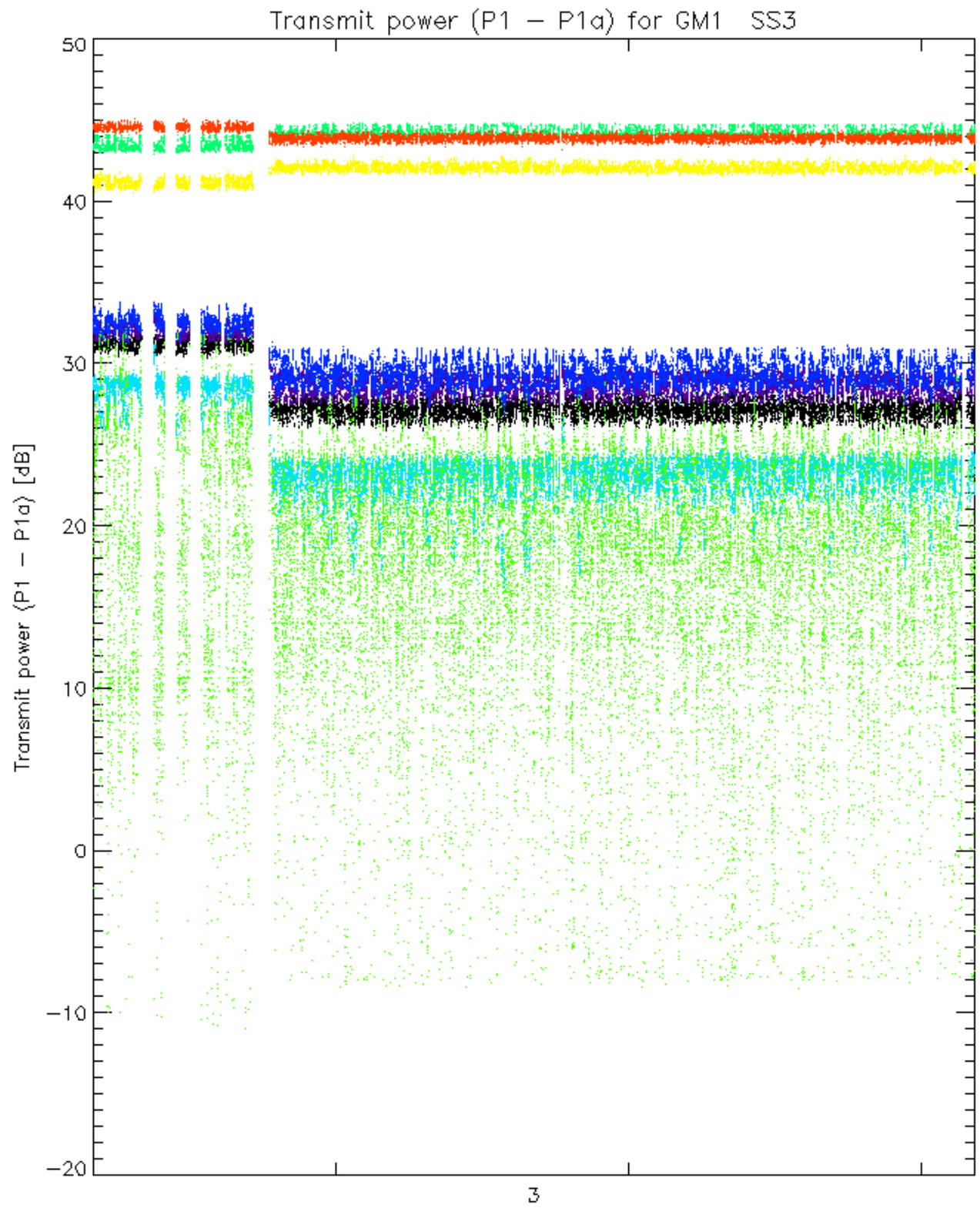
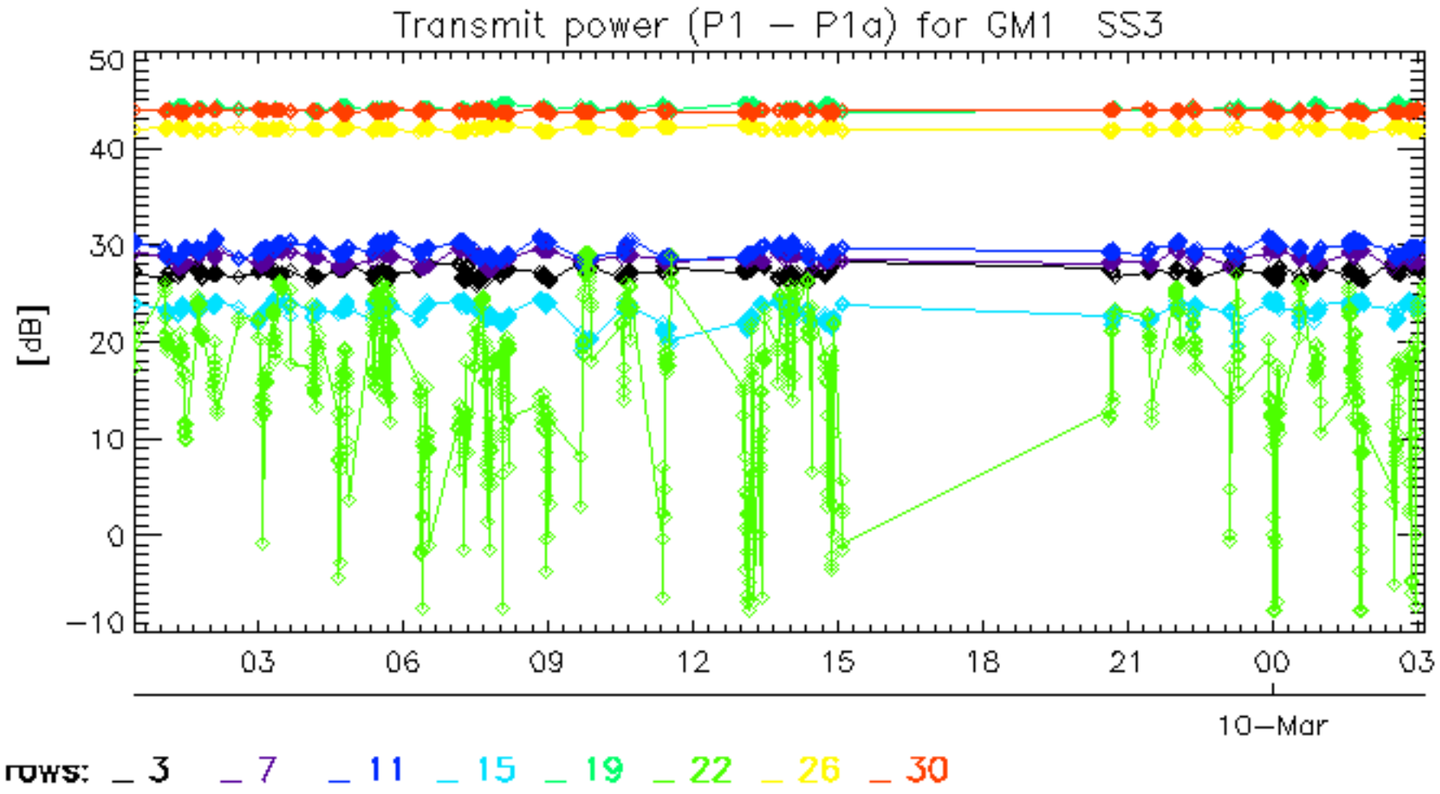
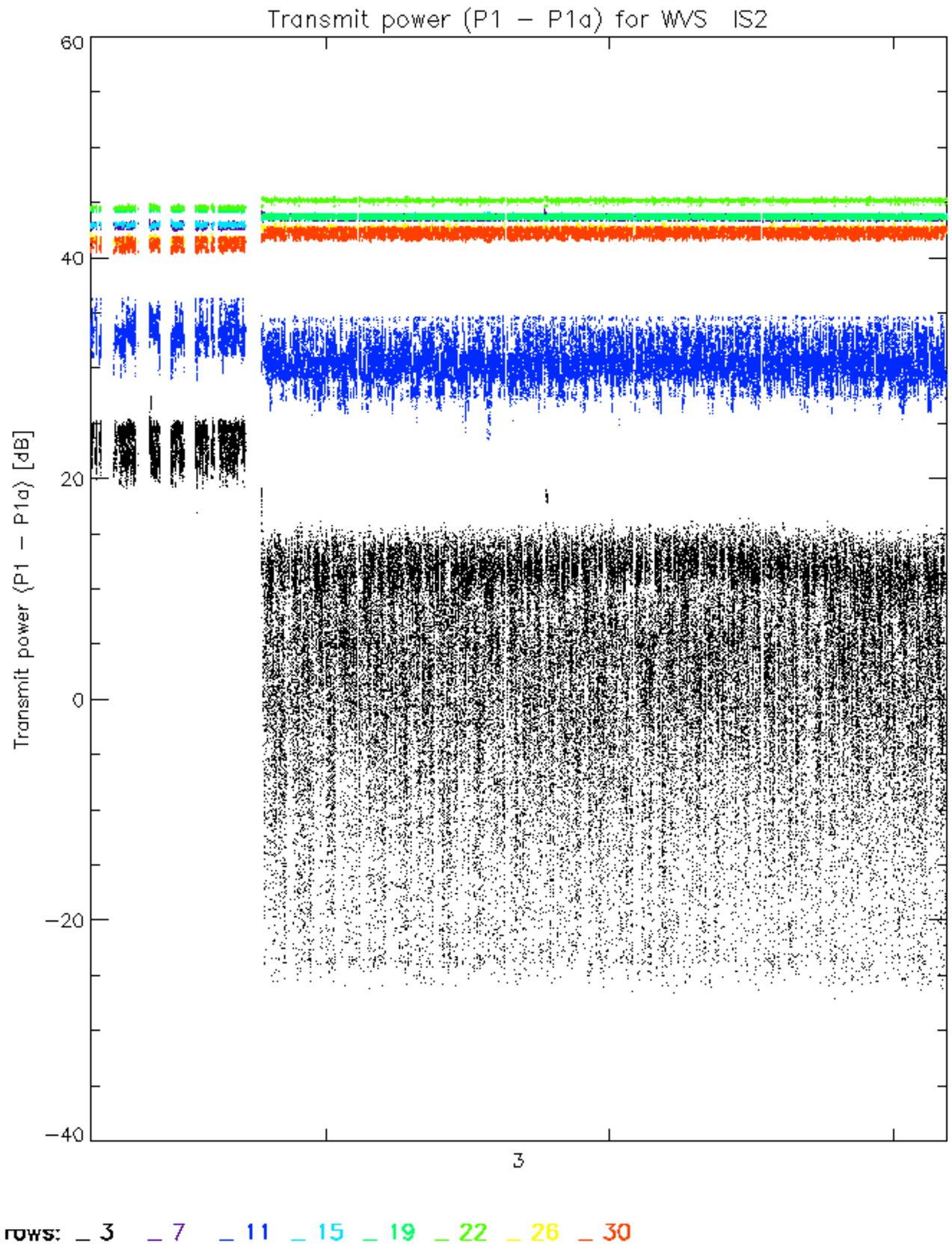
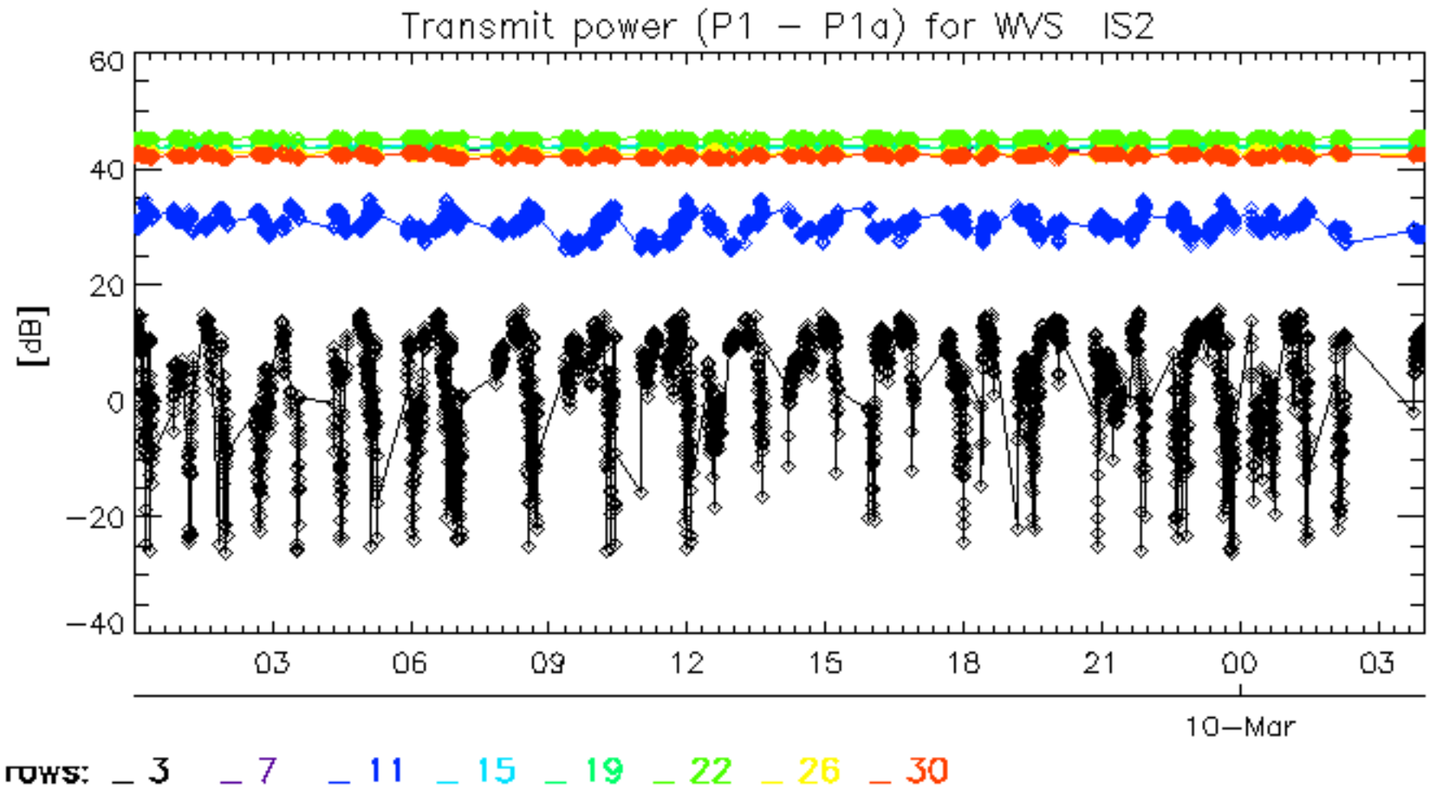

Reference: 2003-06-12 14:10:32 V
Test : 2005-03-09 04:37:35 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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


Transmit power (P1 – P1a) for WVS IS2
60
40
20
0
−20
−40
[dB]
03
06
09
12
15
18
21
00
03
10–Mar
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

No unavailabilities during the reported period.