PRELIMINARY REPORT OF 050309

last update on Wed Mar 9 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 2005-03-08 00:00:00 to 2005-03-09 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	30	3	2	2	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	30	3	2	2	0
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	30	3	2	2	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	30	3	2	2	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	43	40	0	4	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	43	40	0	4	0
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	43	40	0	4	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	43	40	0	4	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	20050307 054049
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

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	-3.368851	0.007494	0.017328
7	P1	-3.088883	0.007721	-0.017007
11	P1	-4.694935	0.021712	-0.038550
15	P1	-5.658885	0.030401	-0.017041
19	P1	-3.674575	0.003926	-0.030182
22	P1	-4.520134	0.013121	0.040753
26	P1	-4.950648	0.015310	-0.012862
30	P1	-7.182985	0.017849	-0.050852
3	P1	-15.971283	0.065291	-0.039433
7	P1	-15.522578	0.049388	-0.013054
11	P1	-20.949568	0.270558	-0.093228
15	P1	-11.579316	0.024912	-0.011631
19	P1	-14.266730	0.024860	-0.134458
22	P1	-15.675637	0.315213	0.265840
26	P1	-17.596716	0.231211	0.007041
30	P1	-17.961523	0.463716	-0.137890

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.112049	0.084974	0.076265
7	P2	-22.303371	0.100336	0.089671
11	P2	-14.481301	0.104487	0.209419
15	P2	-7.052093	0.094662	0.048372
19	P2	-9.642245	0.094231	0.043151
22	P2	-16.939312	0.095590	0.066970
26	P2	-16.449833	0.093195	0.019129
30	P2	-18.878544	0.082358	0.044479

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.167157	0.005273	-0.001104
7	P3	-8.167157	0.005273	-0.001104
11	P3	-8.167157	0.005273	-0.001104
15	P3	-8.167157	0.005273	-0.001104
19	P3	-8.167157	0.005273	-0.001104
22	P3	-8.167157	0.005273	-0.001104
26	P3	-8.167157	0.005273	-0.001104
30	P3	-8.167157	0.005273	-0.001104

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	-2.737379	0.011323	0.043871
7	P1	-3.012874	0.033516	-0.072316
11	P1	-3.987572	0.014474	-0.036083
15	P1	-3.568175	0.016359	-0.060963
19	P1	-3.591485	0.013403	-0.005779
22	P1	-5.744868	0.038027	-0.066735
26	P1	-7.296308	0.025499	0.025828
30	P1	-6.231342	0.039129	0.027365
3	P1	-10.752521	0.052990	0.001068
7	P1	-10.288395	0.145125	-0.173245
11	P1	-12.567974	0.093398	0.002771
15	P1	-11.766088	0.064098	-0.045276
19	P1	-15.571645	0.043293	-0.001298
22	P1	-24.372046	1.170437	-0.287571
26	P1	-15.491014	0.165249	0.146503
30	P1	-20.184748	1.040831	-0.118807

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.826126	0.031219	0.090588
7	P2	-22.389517	0.035930	0.071681
11	P2	-10.243947	0.046650	0.215373
15	P2	-4.981260	0.020411	0.024615
19	P2	-6.834878	0.029185	0.036003
22	P2	-7.119497	0.028729	0.073883
26	P2	-23.855419	0.025256	0.034621
30	P2	-21.910934	0.030457	0.063234

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.000292	0.002692	-0.001105
7	P3	-8.000200	0.002707	-0.001045
11	P3	-8.000165	0.002719	-0.001097
15	P3	-8.000321	0.002708	-0.001331
19	P3	-8.000215	0.002720	-0.001361
22	P3	-8.000232	0.002696	-0.001345
26	P3	-8.000227	0.002705	-0.001181
30	P3	-8.000274	0.002710	-0.000689

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	0.000469422
	stdev	2.17000e-07
MEAN Q	mean	0.000520526
	stdev	2.30112e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129214
	stdev	0.000994209
STDEV Q	mean	0.129460
	stdev	0.00100533

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005030[789]
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

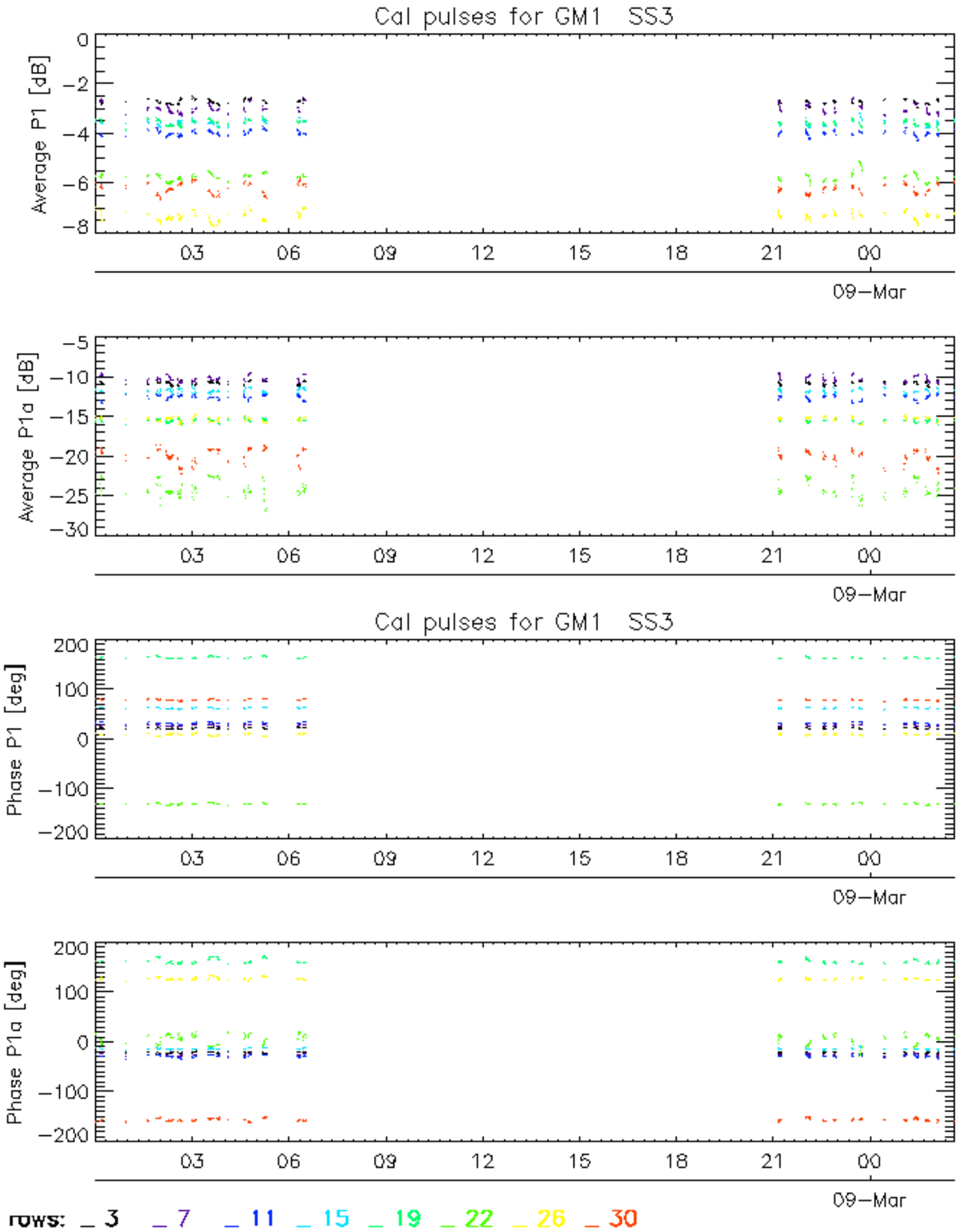
Descending

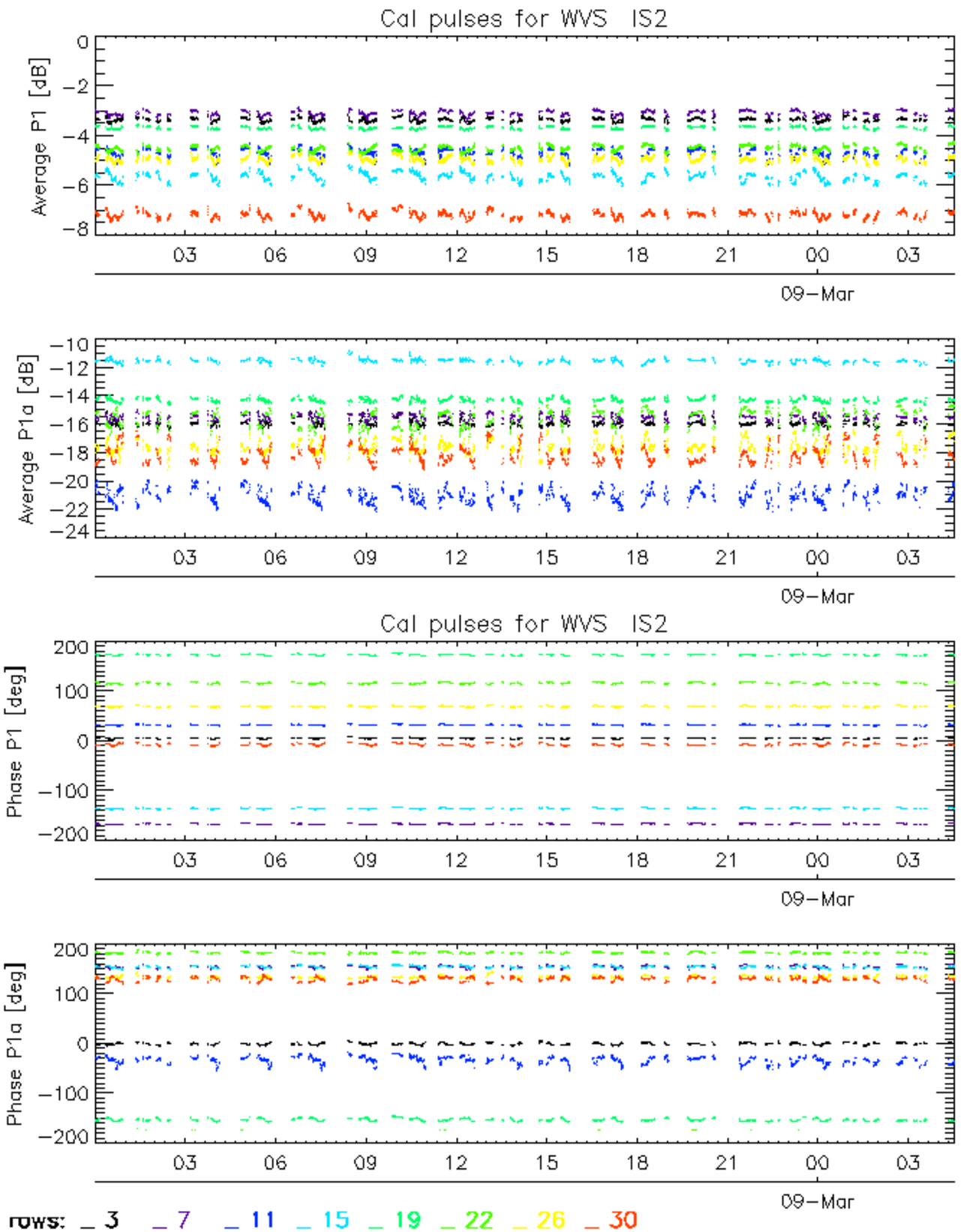
7.5 - Absolute Doppler for GM1

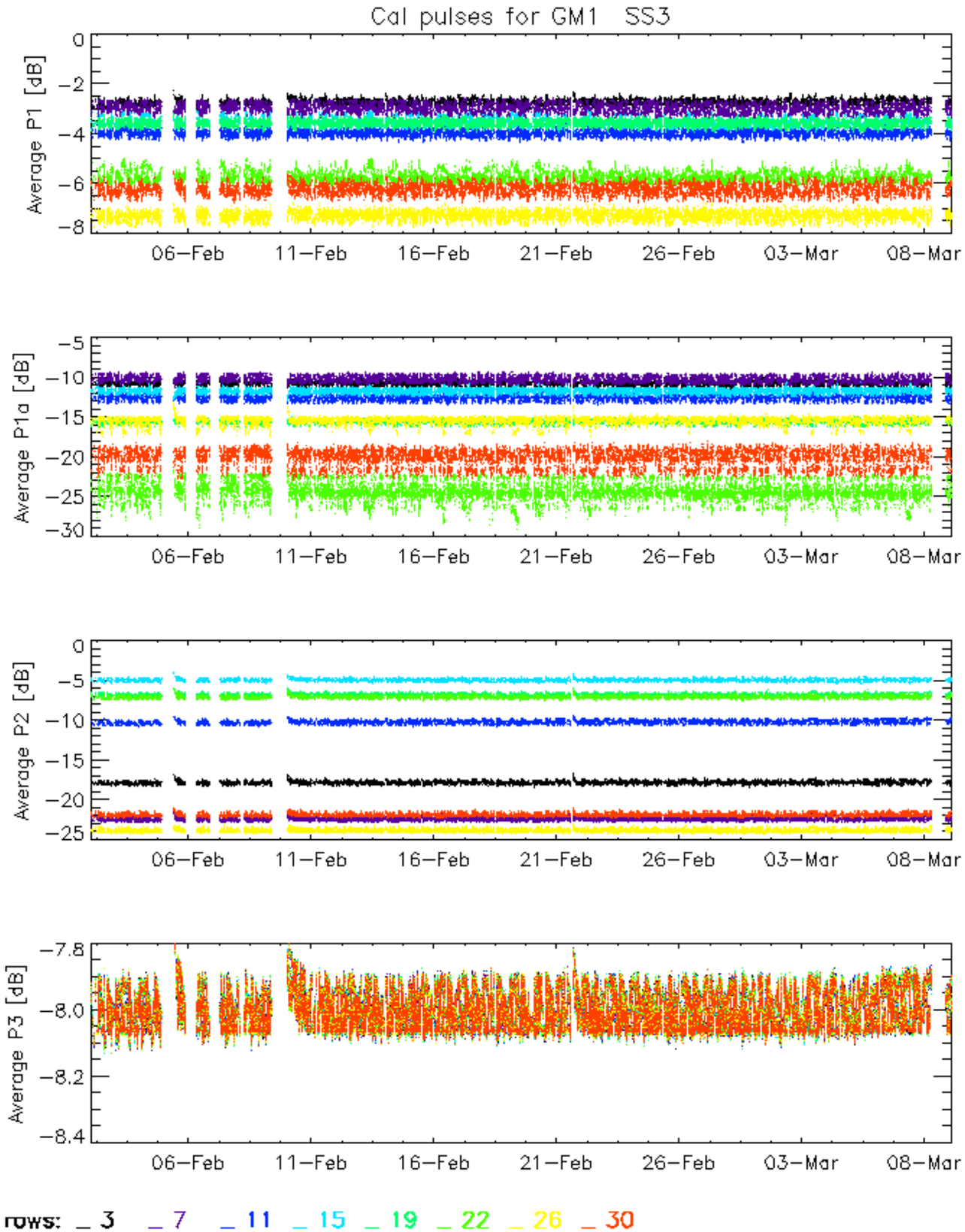
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

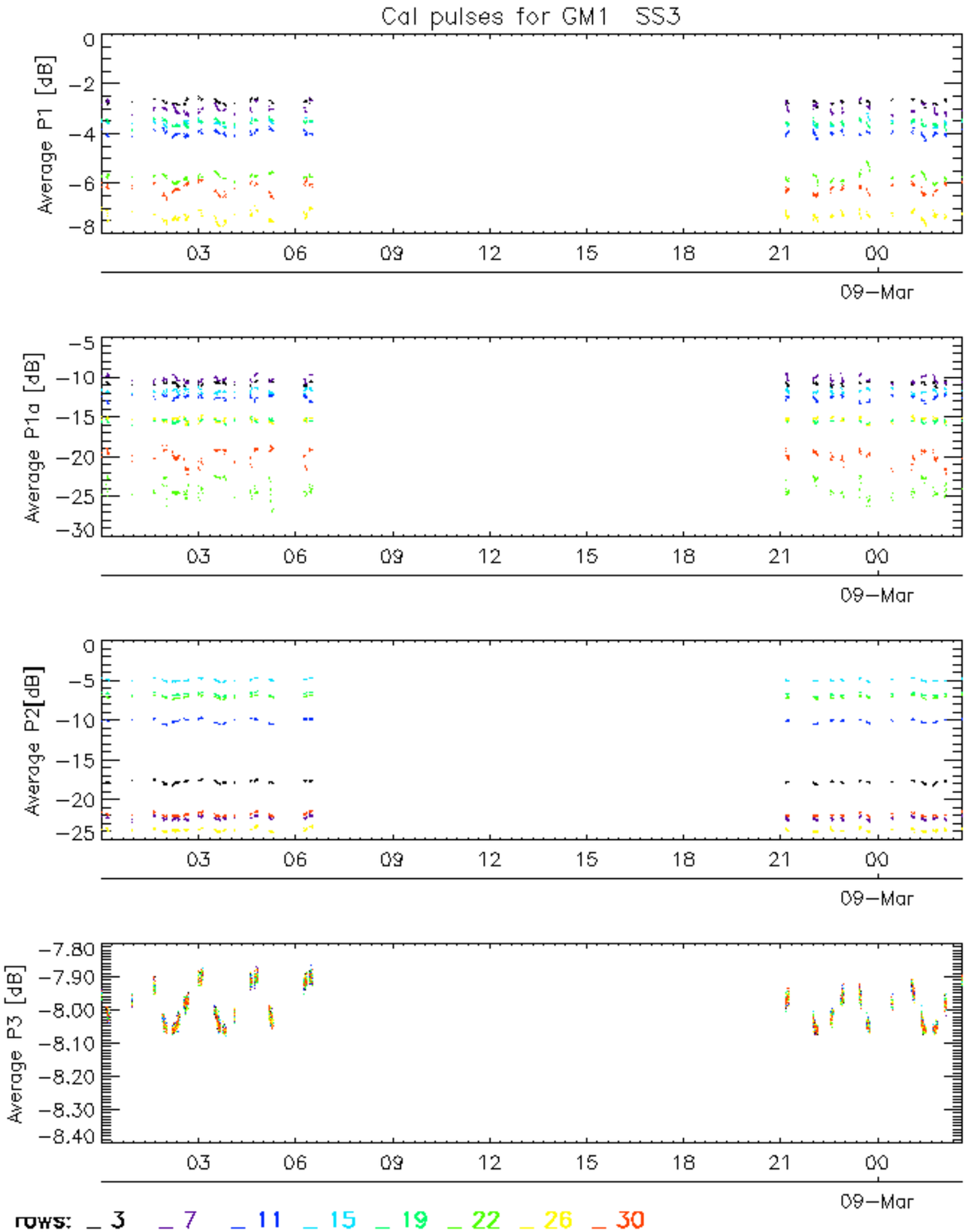
7.6 - Doppler evolution versus ANX for GM1

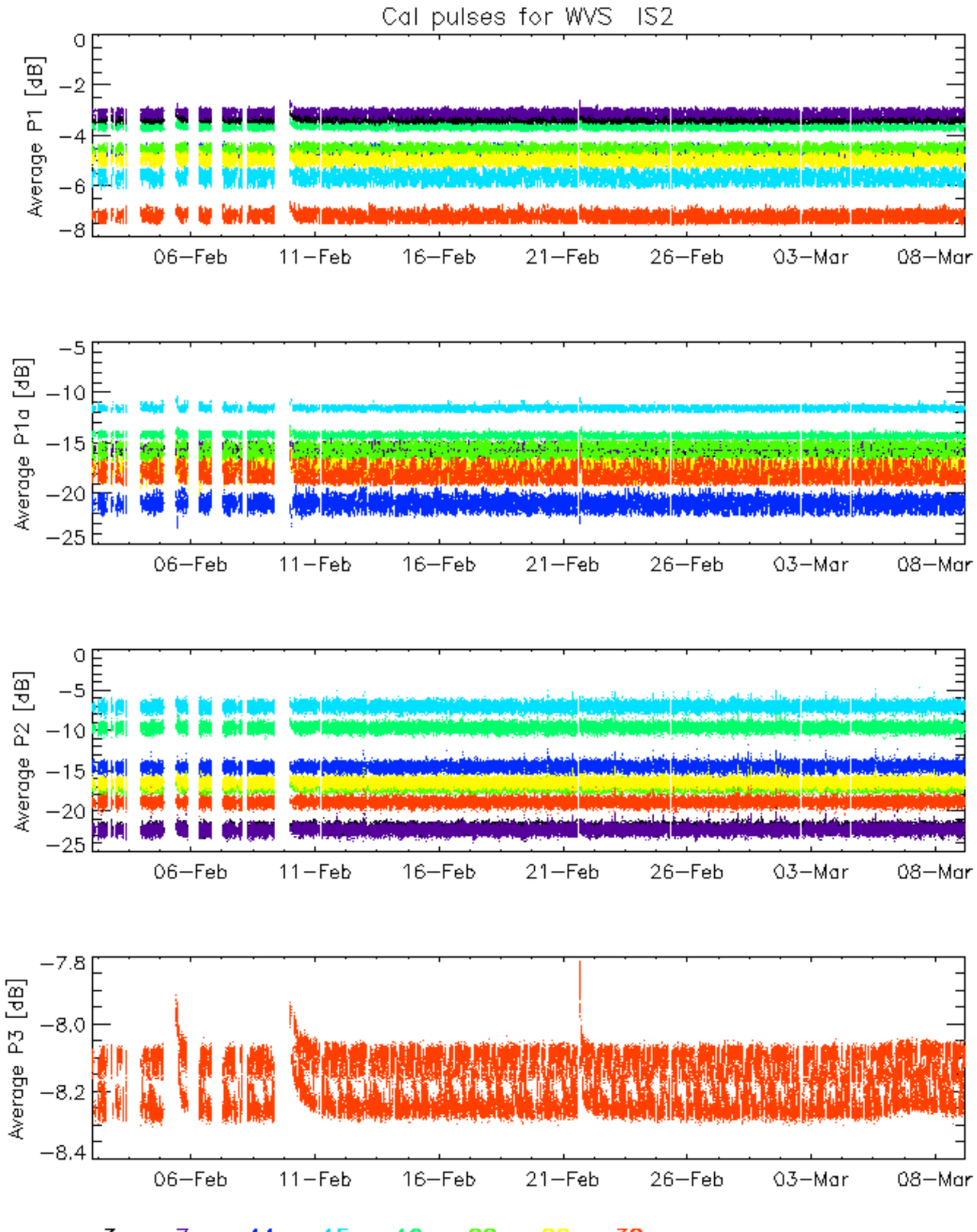
Evolution Doppler error versus ANX
☒

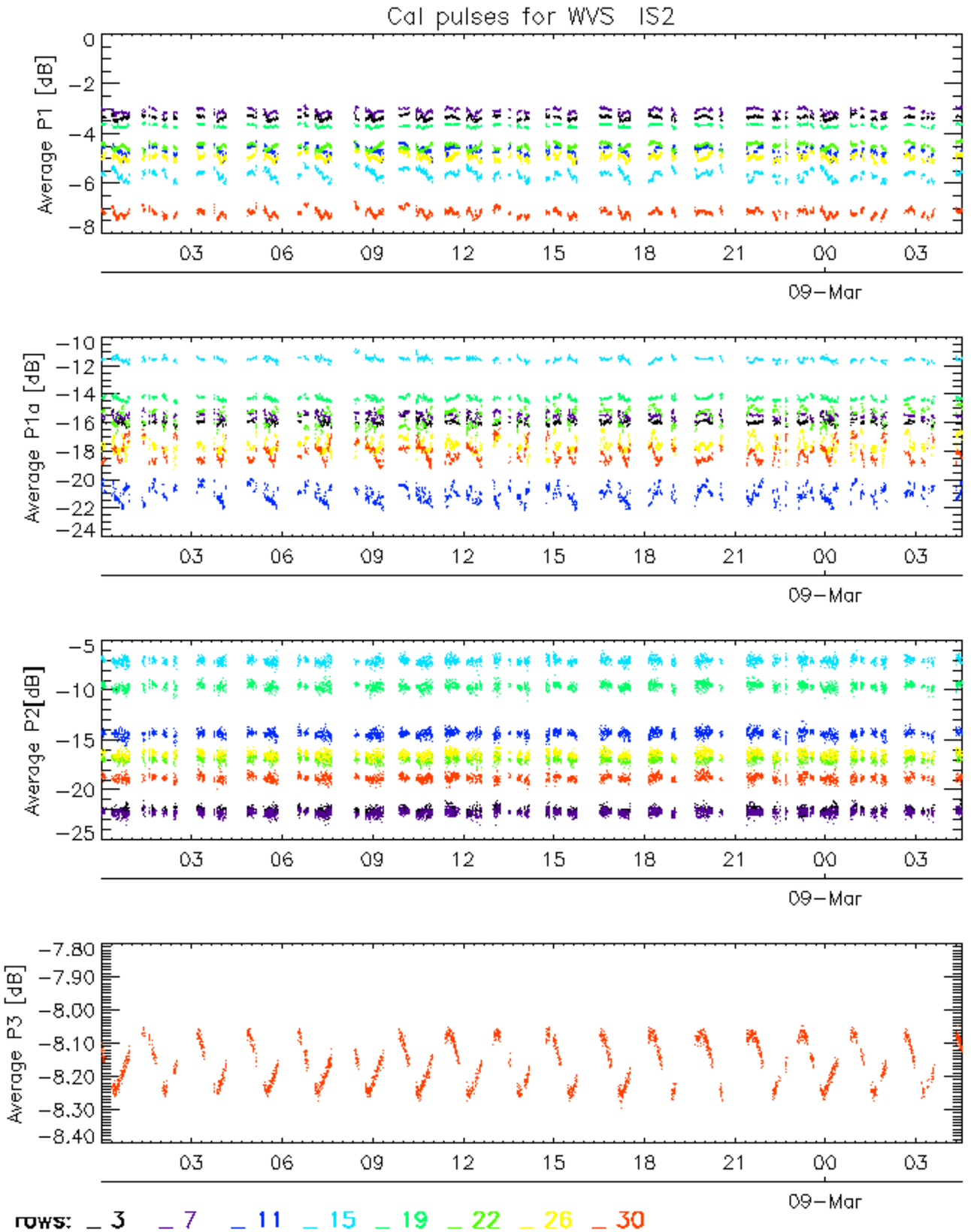

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
09−Mar
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
Phase P1a [deg]
rows: 3 7 11 15 19 22 26 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
09−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

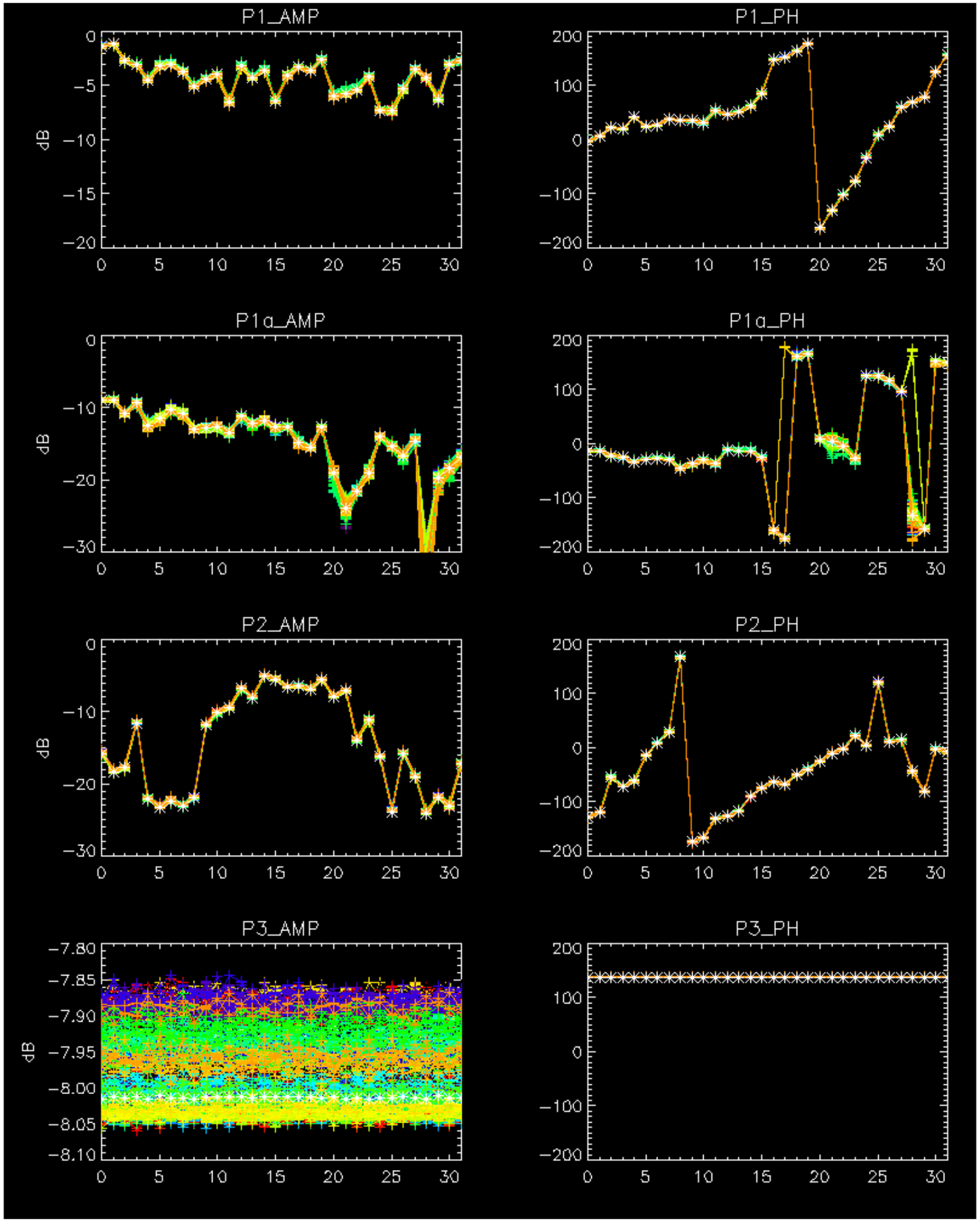

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
06−Feb
11−Feb
16−Feb
21−Feb
26−Feb
03−Mar
08−Mar
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

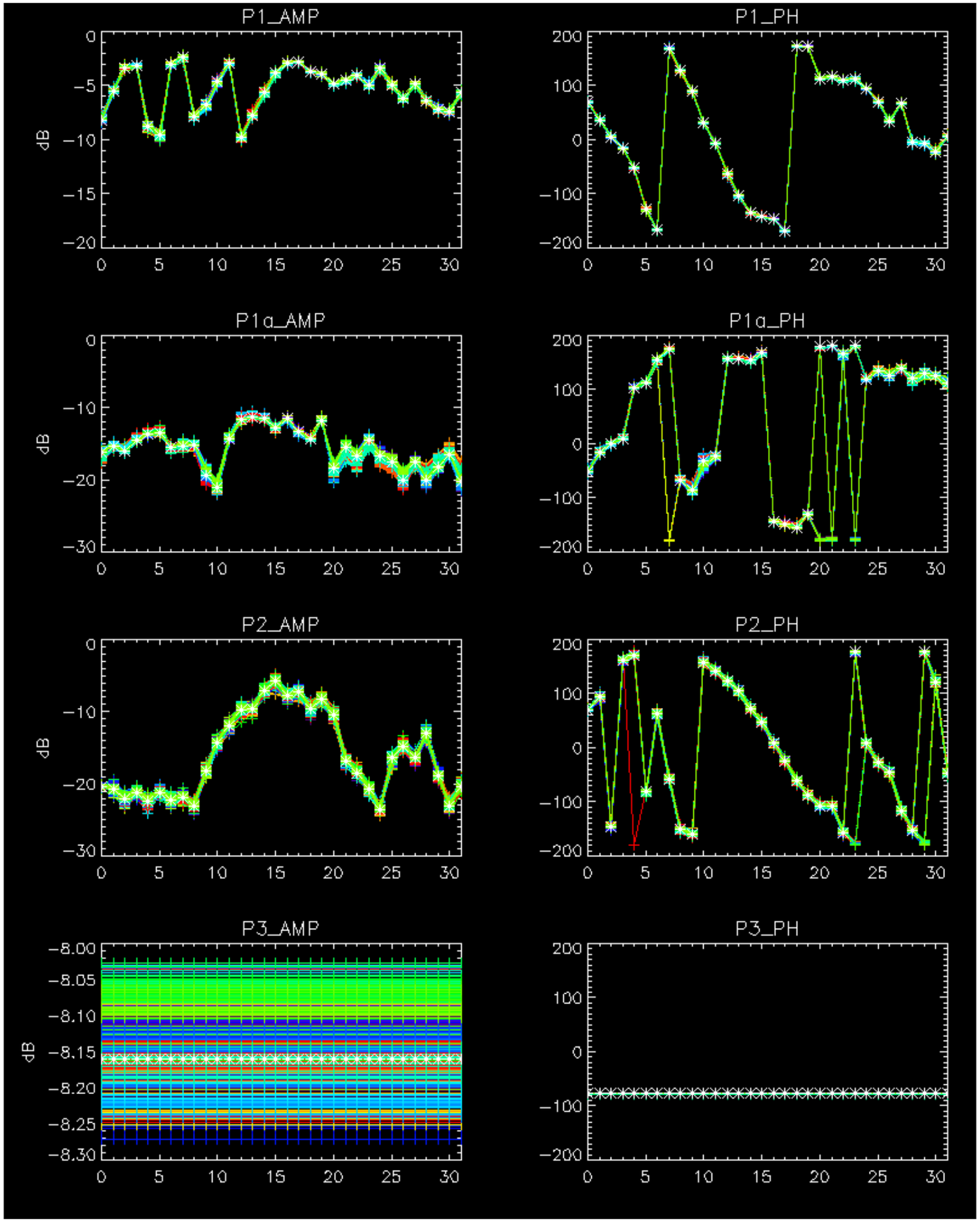

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
09−Mar
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
06−Feb
11−Feb
16−Feb
21−Feb
26−Feb
03−Mar
08−Mar
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


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
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
03
06
09
12
15
18
21
00
03
09−Mar
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

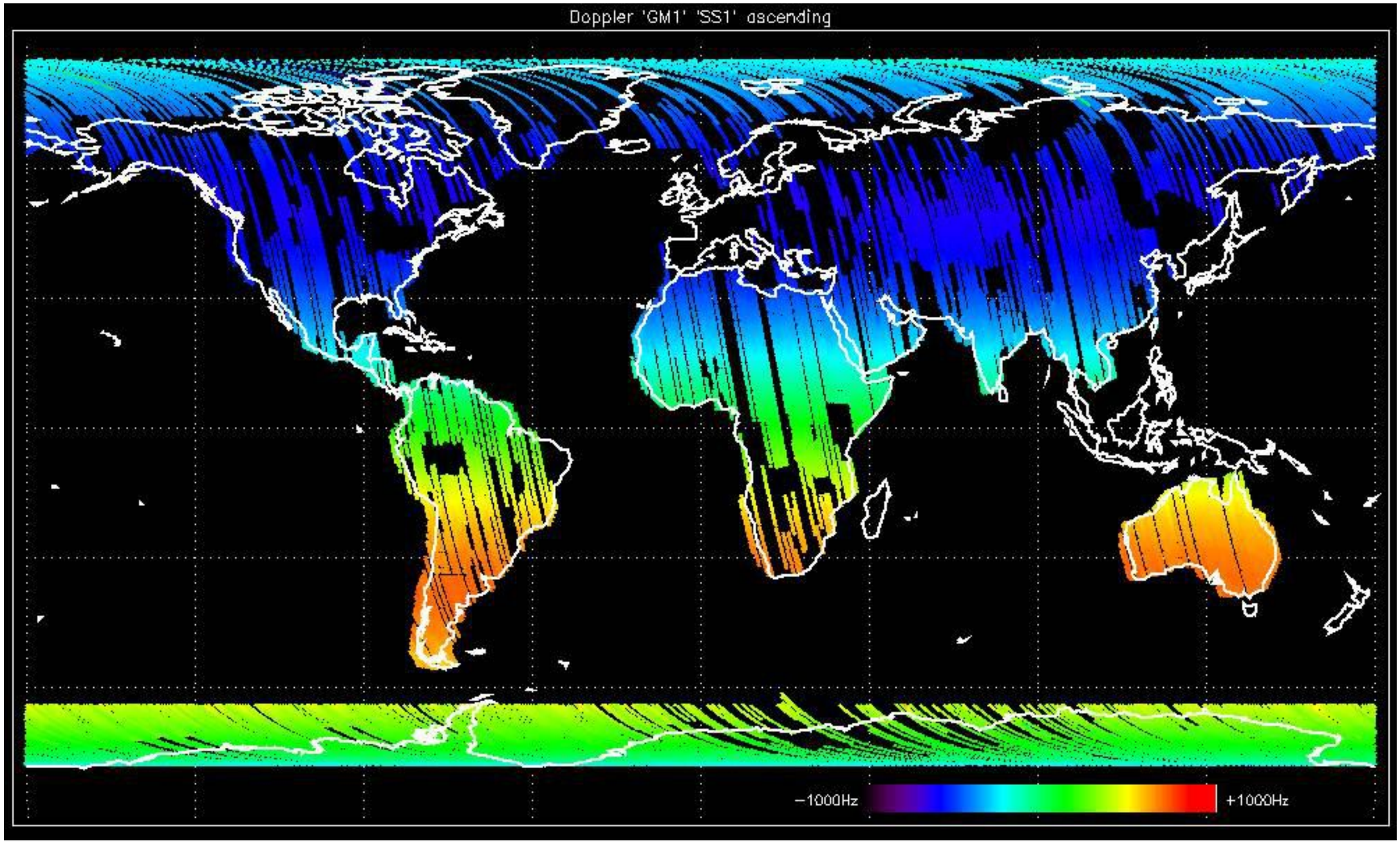
No anomalies observed.

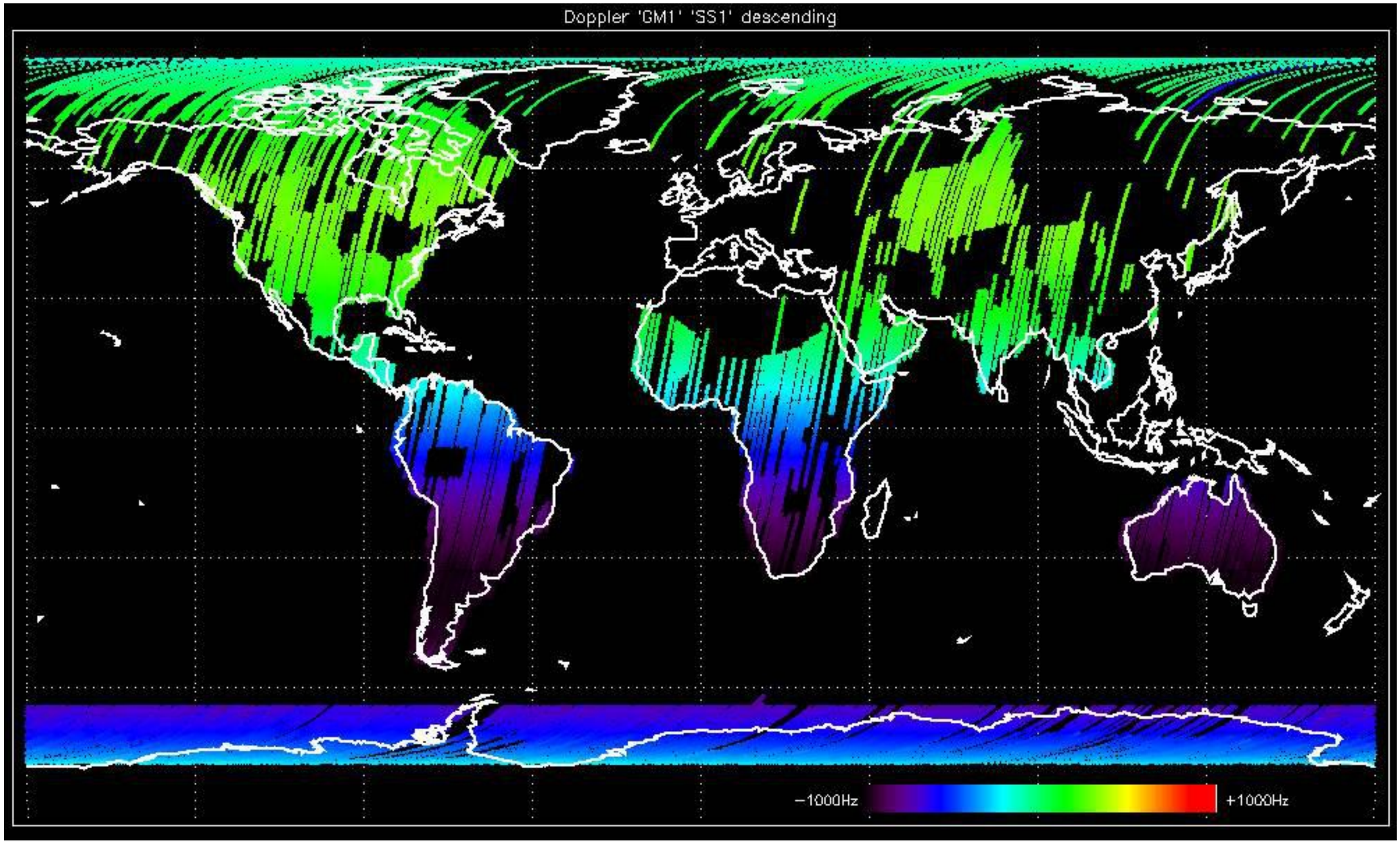

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.80
−7.85
−7.90
−7.95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

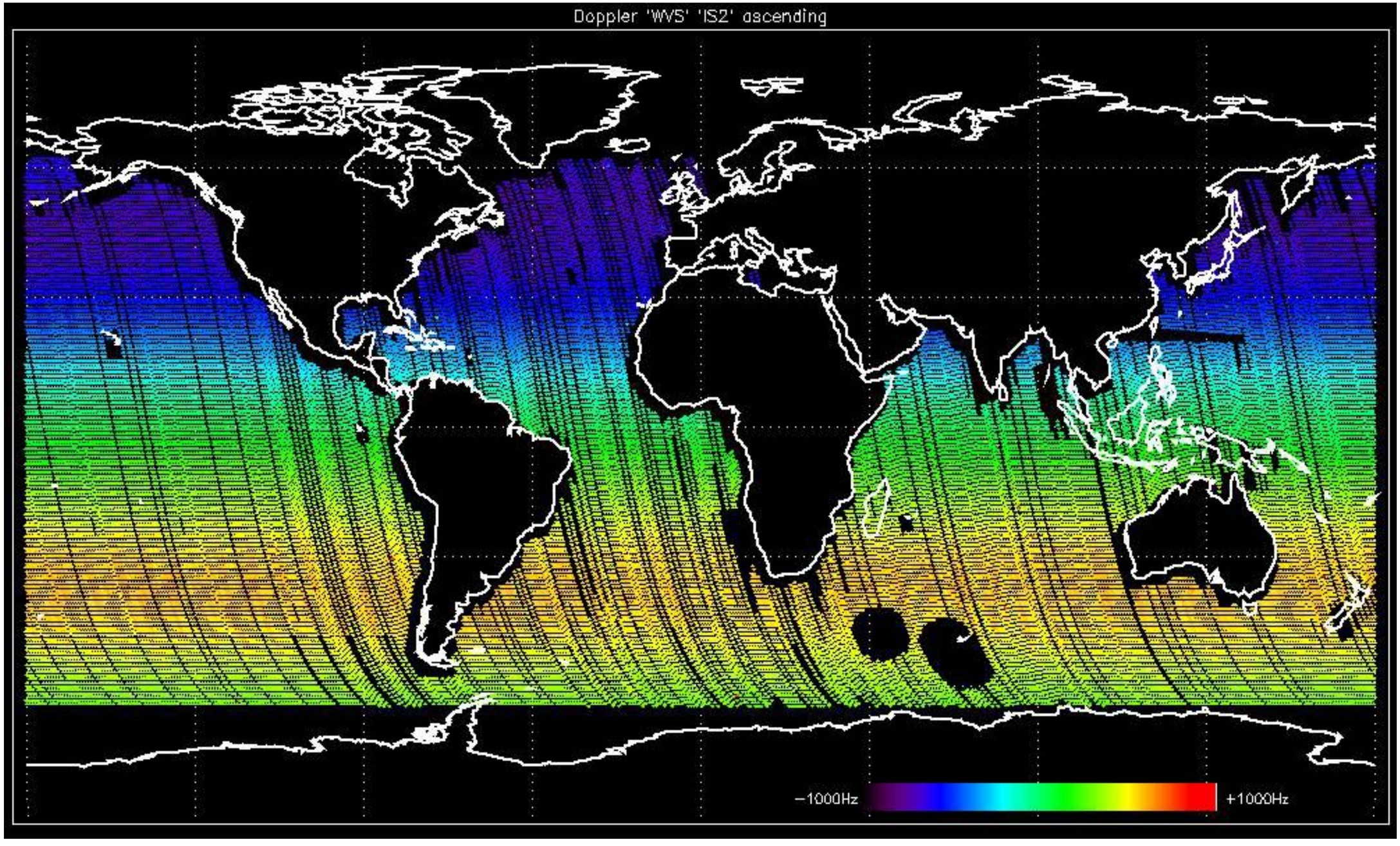

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.00
−8.05
−8.10
−8.15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

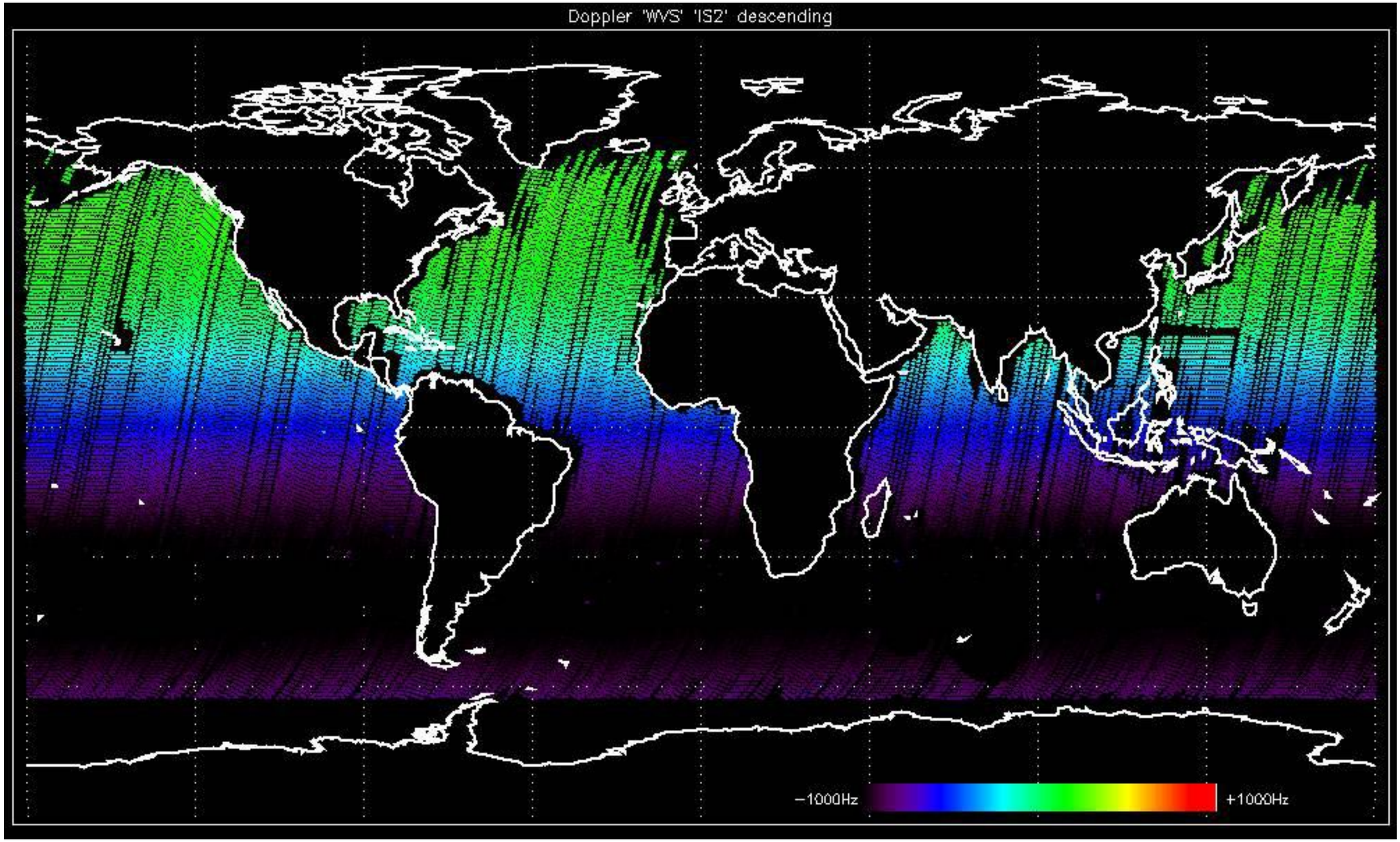
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

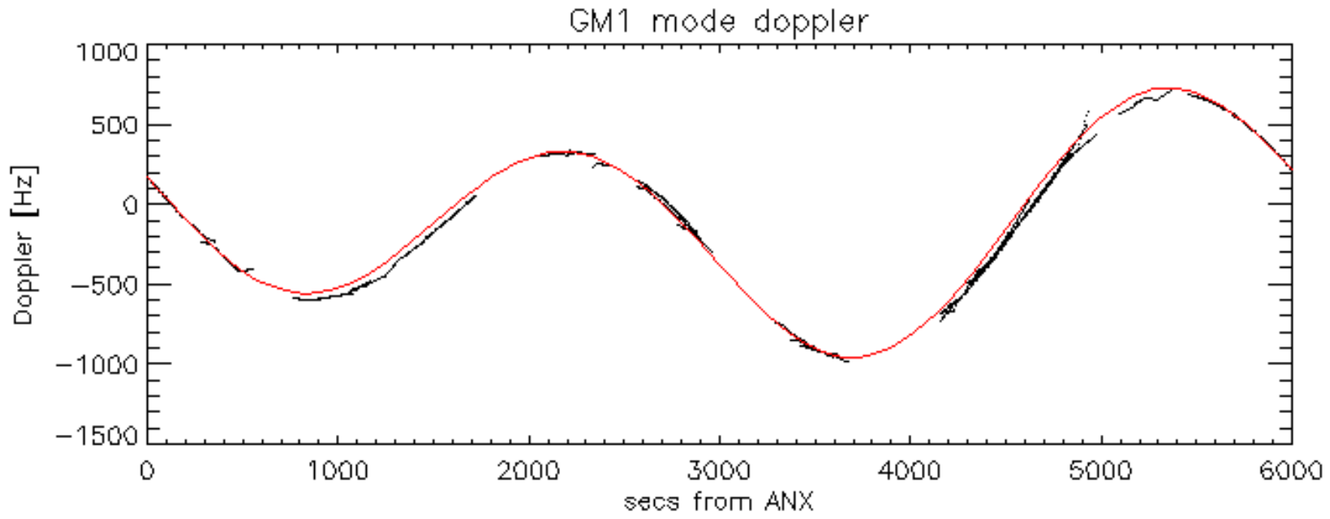
Preliminary report.The data is not yet controled

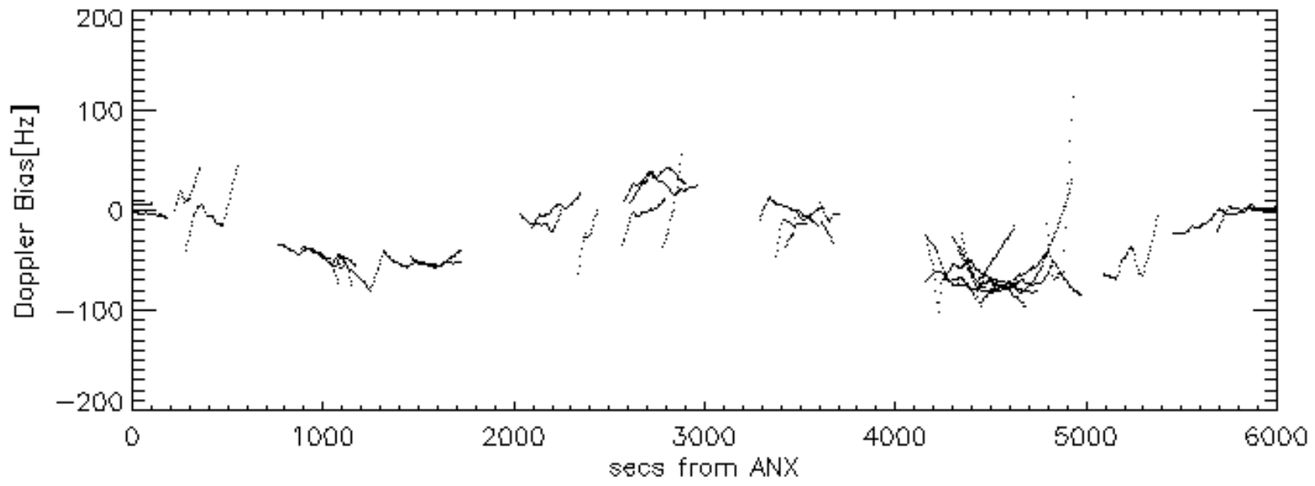

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

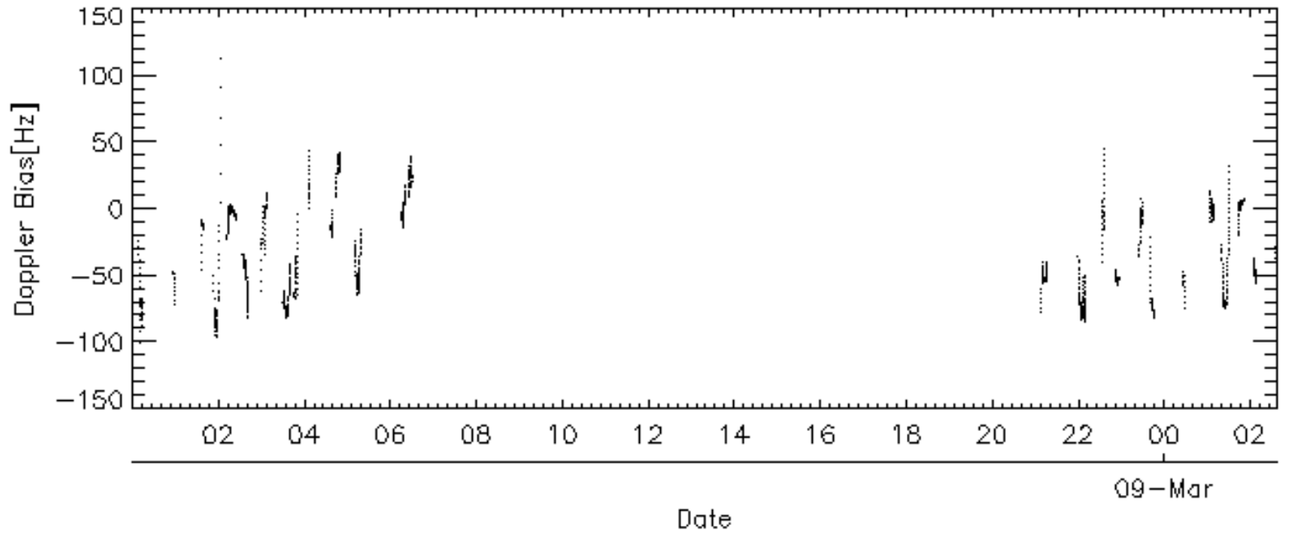

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

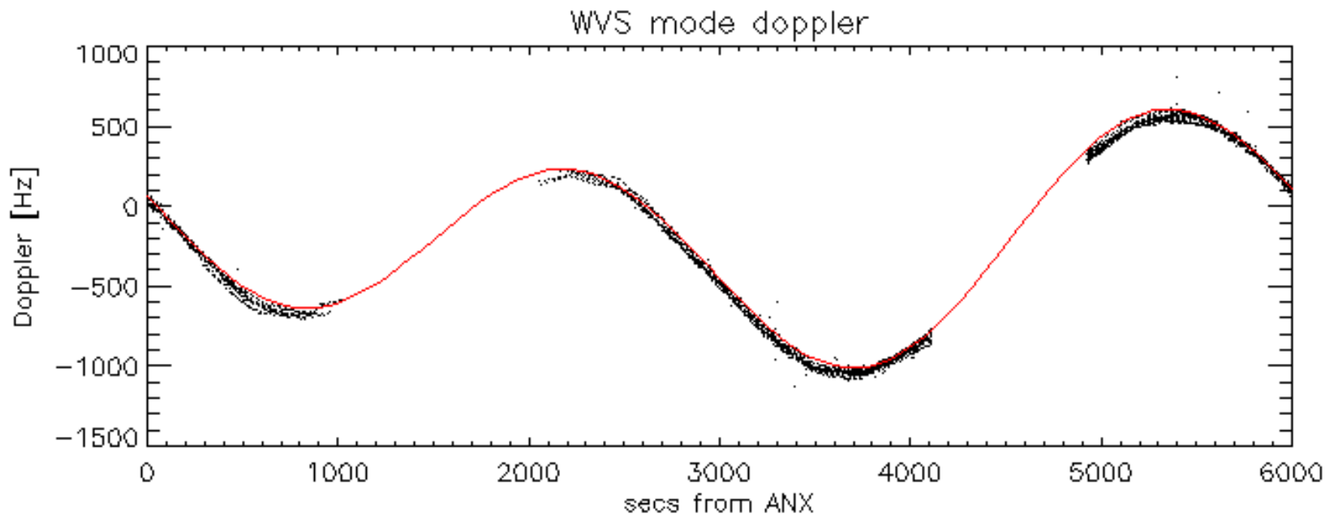

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

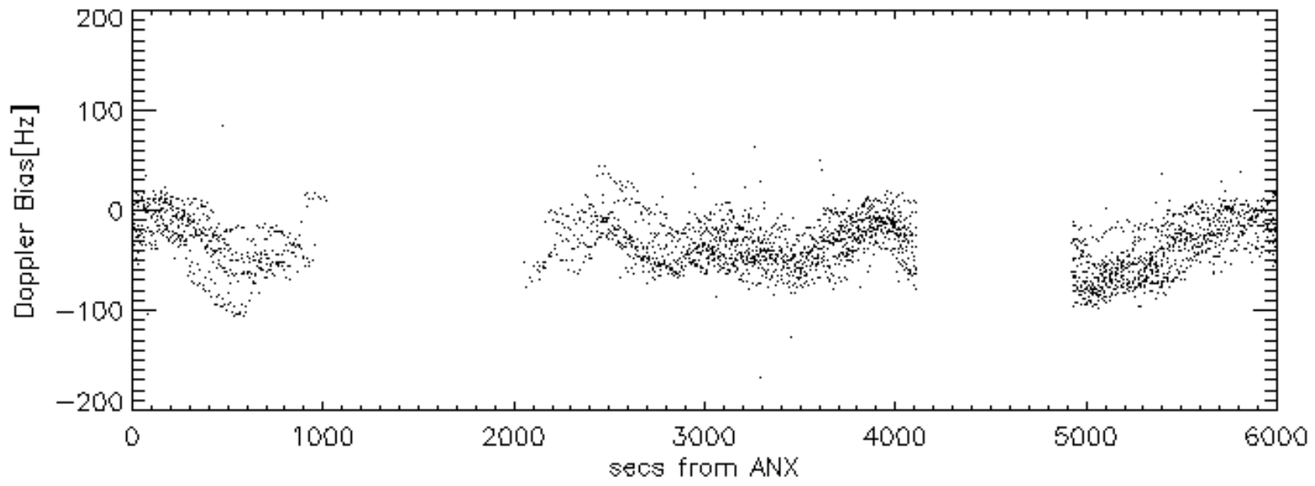

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

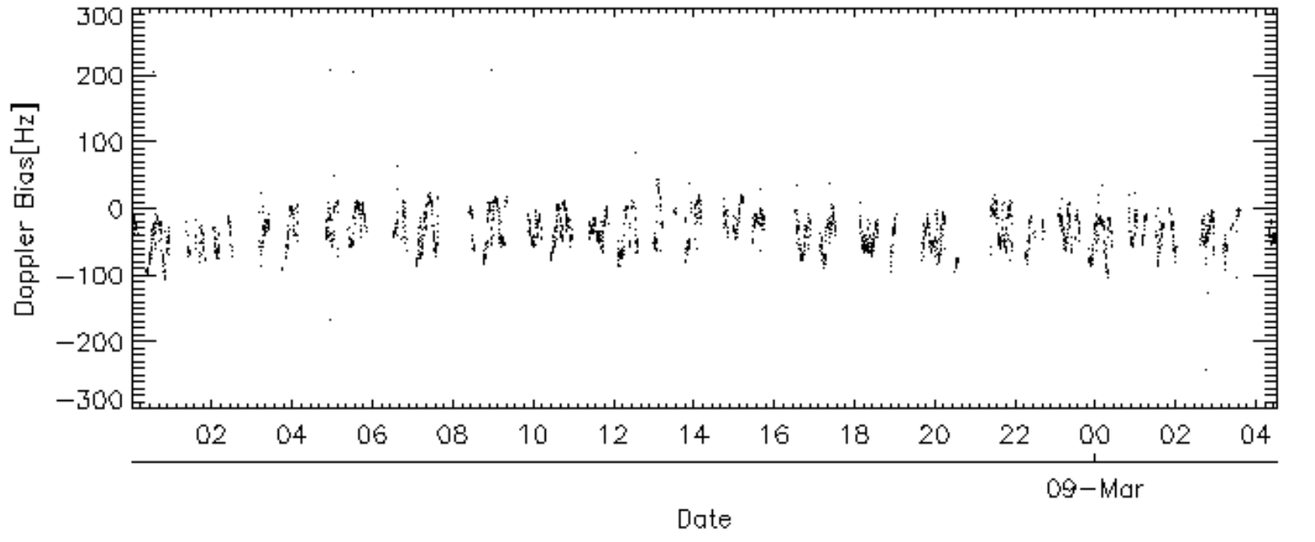

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

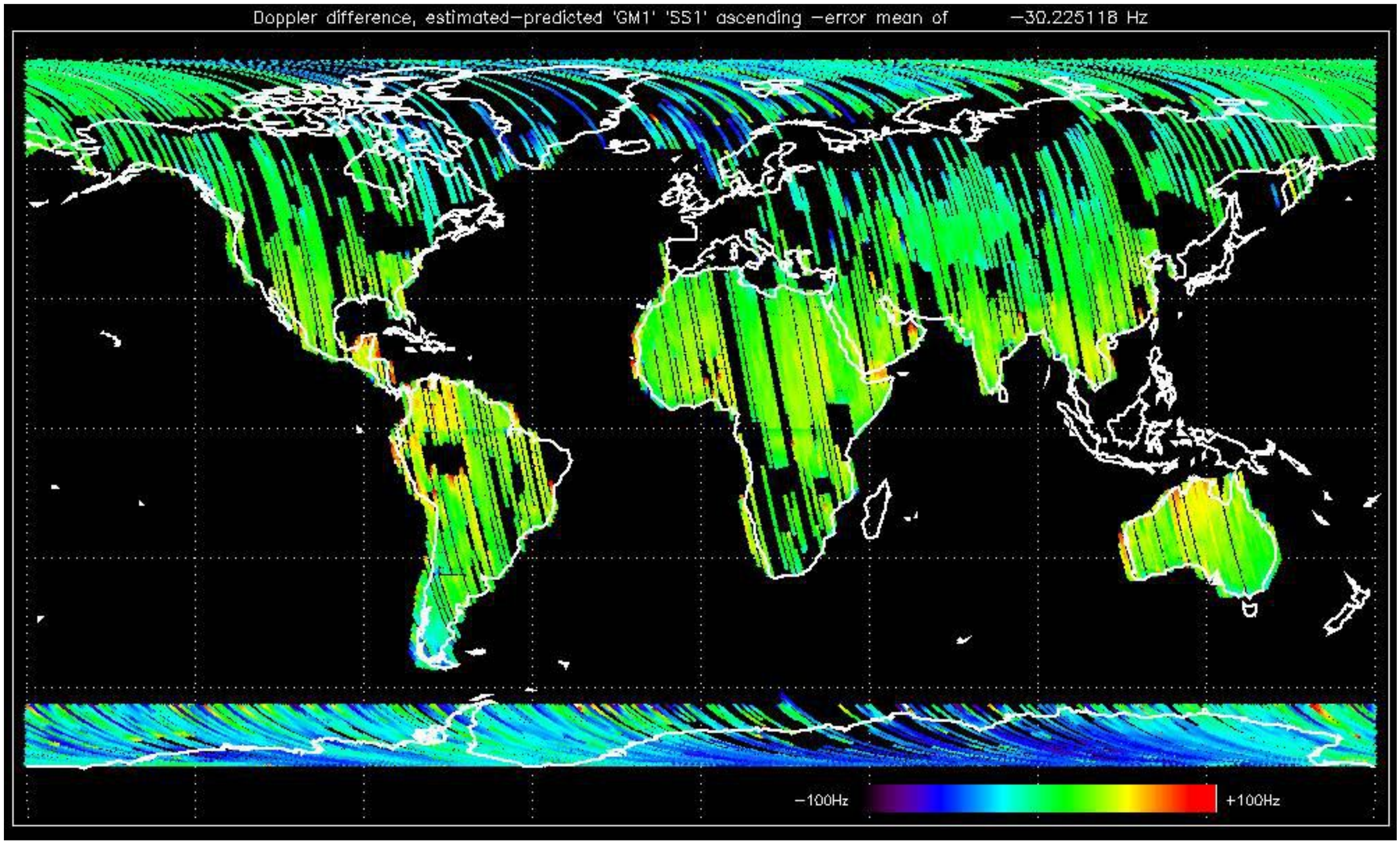

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

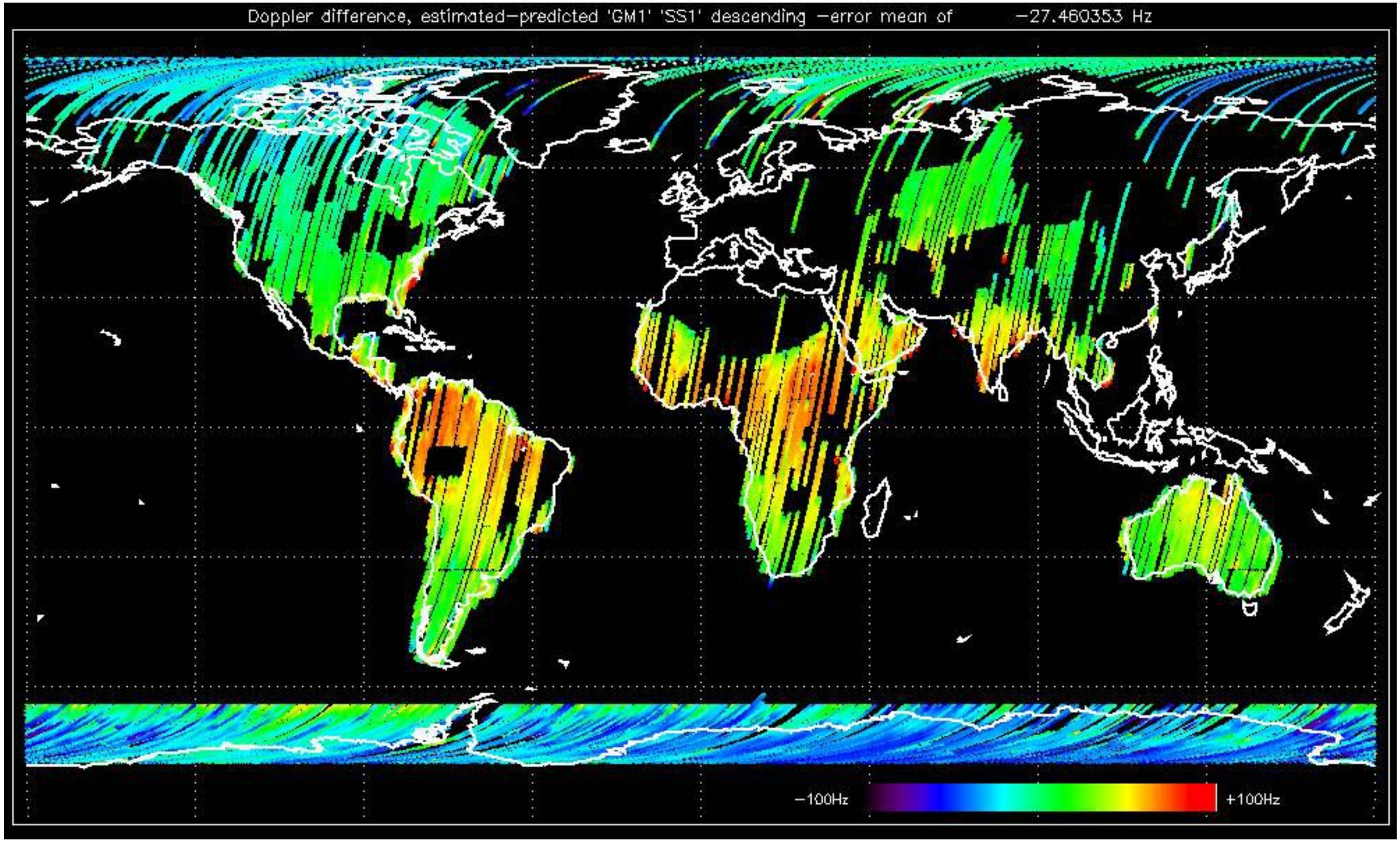

Doppler Bias[Hz]
150
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
09−Mar
Date

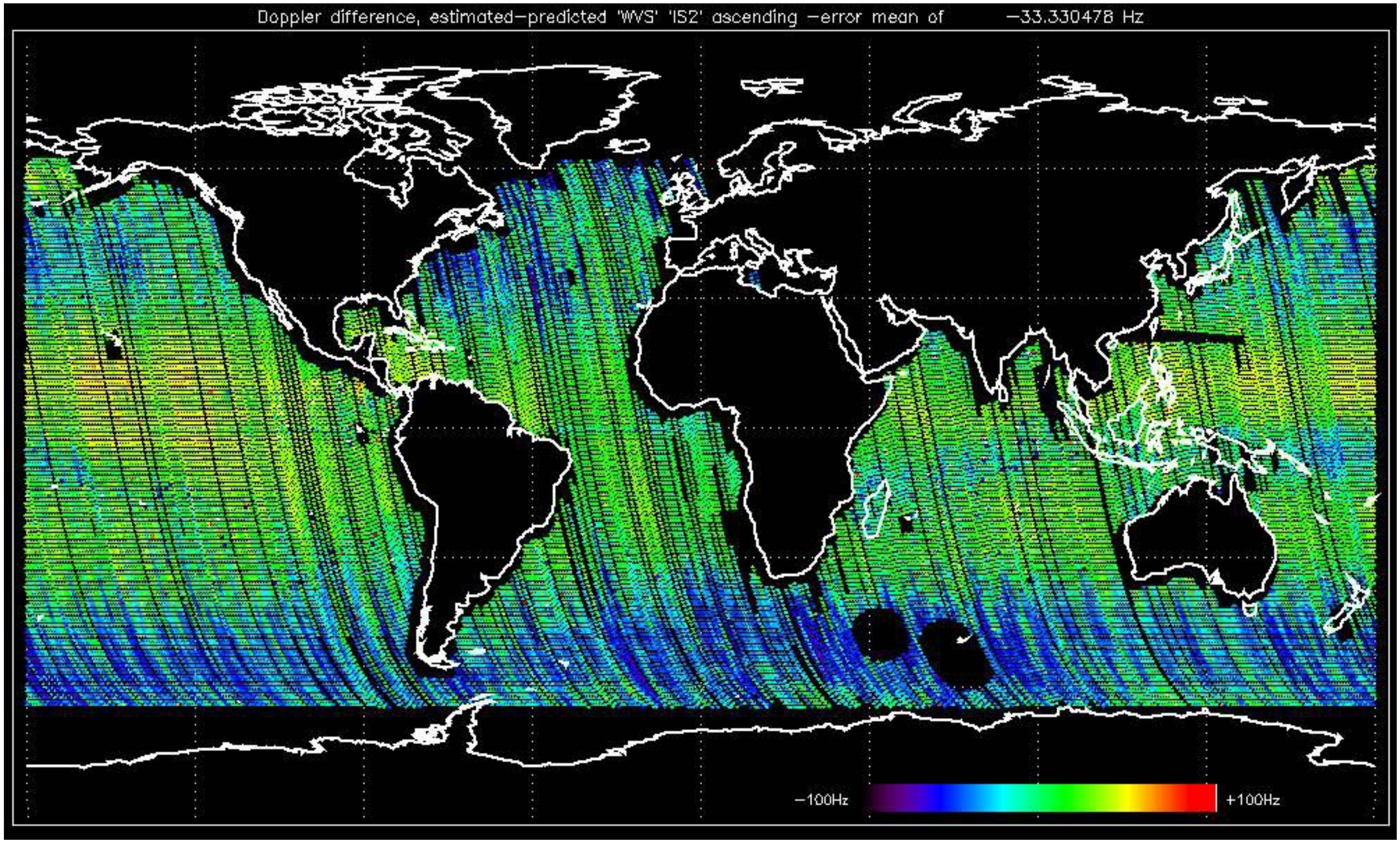

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

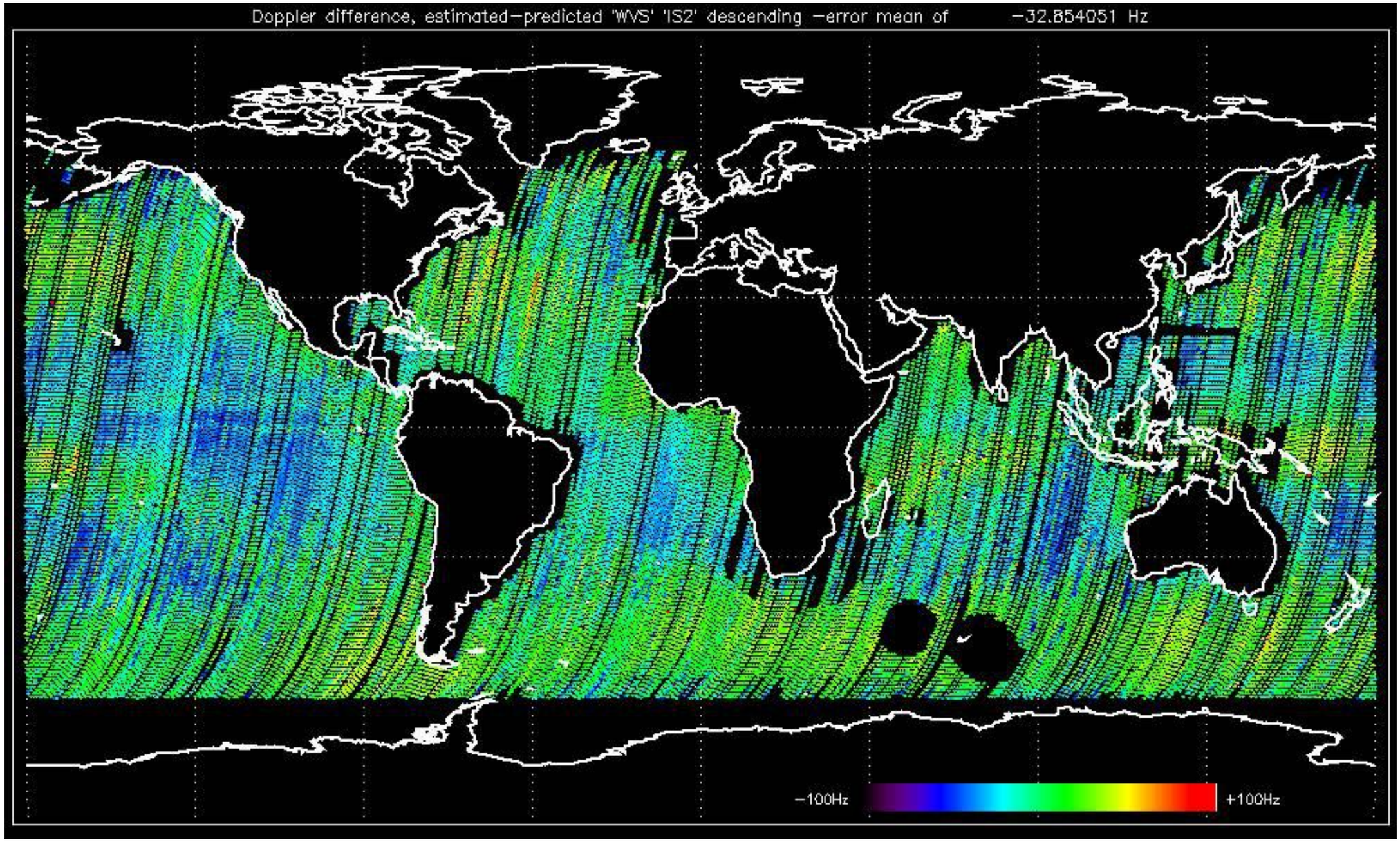

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −30.225118 Hz
−100Hz
+100Hz

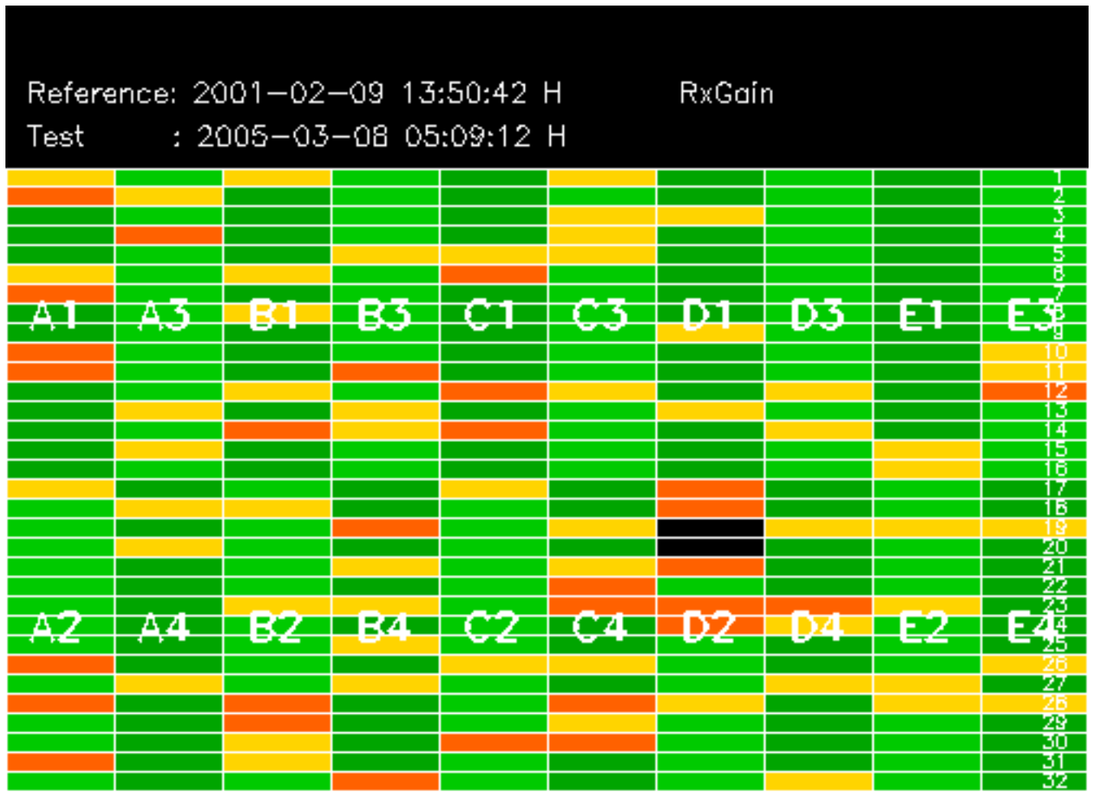

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -27.460353 Hz
-100Hz
+100Hz

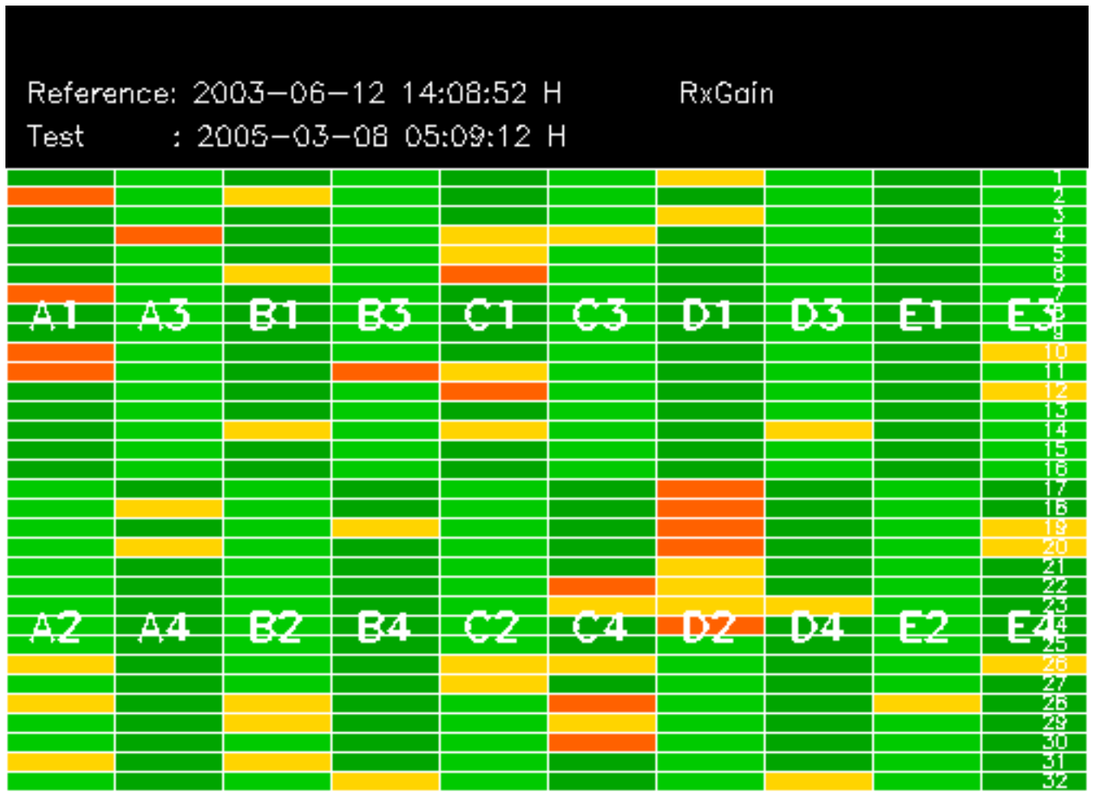

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −33.330478 Hz
−100Hz
+100Hz

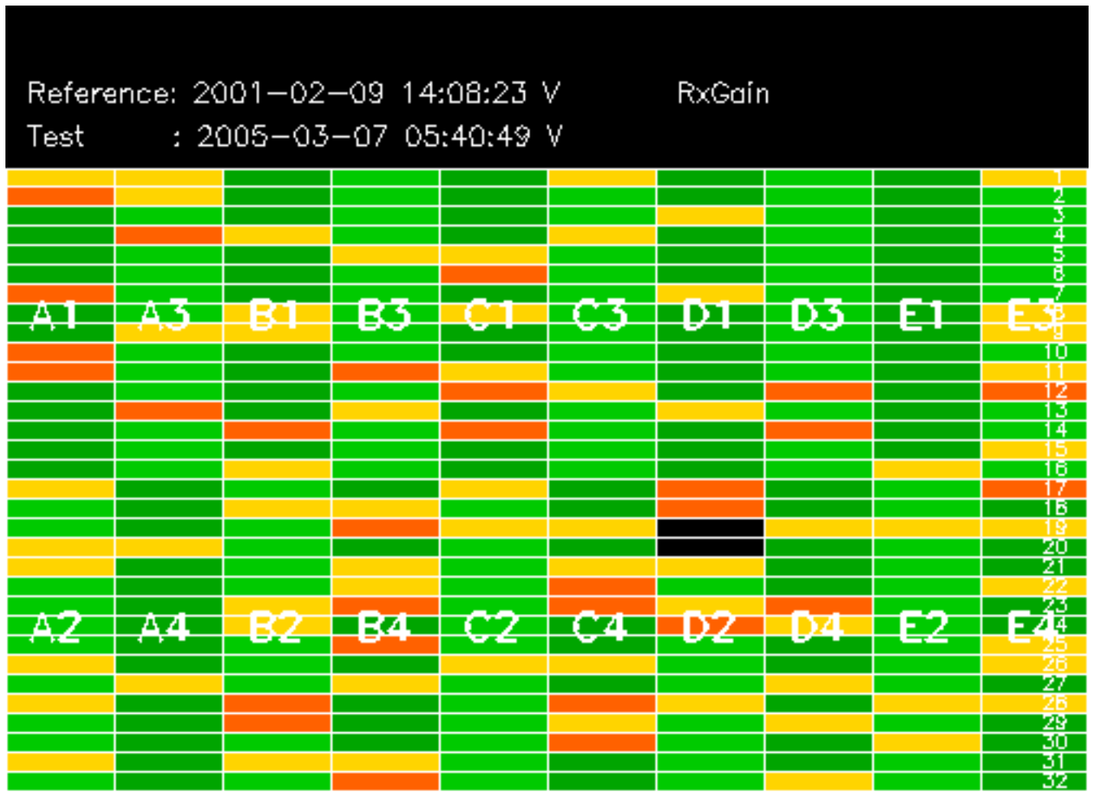

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −32.854051 Hz
−100Hz
+100Hz

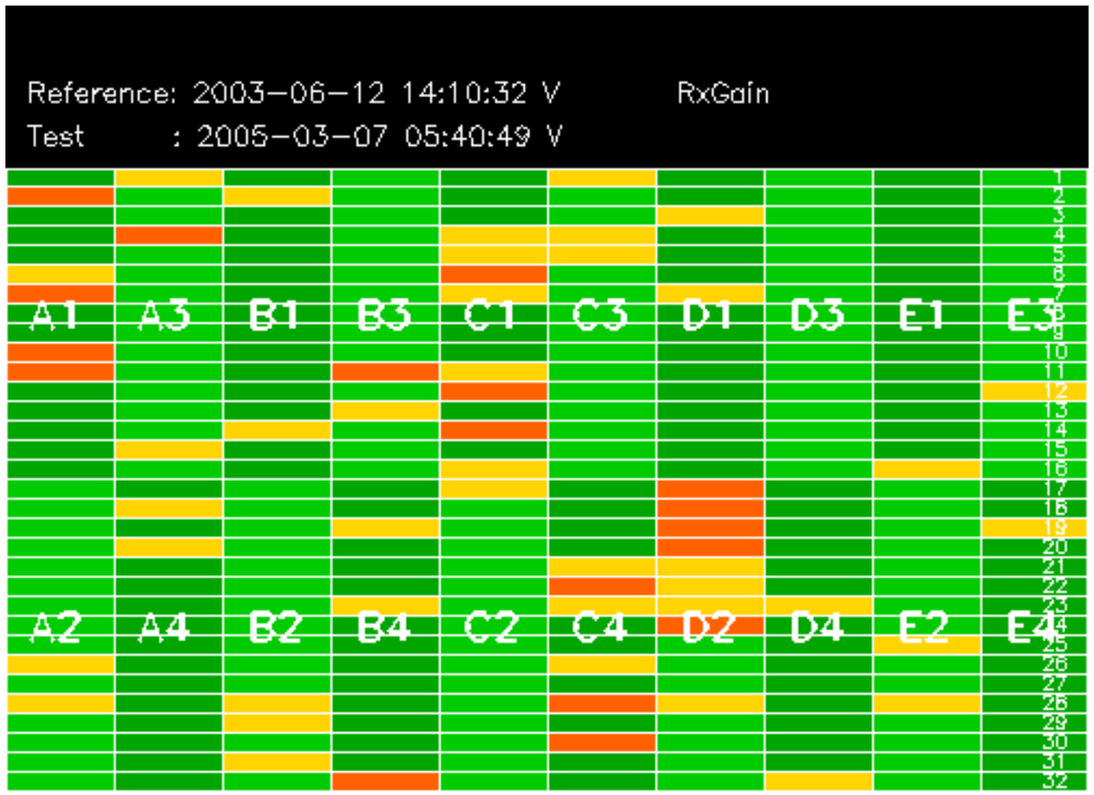
No anomalies observed on available MS products:

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


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


Reference: 2001-02-09 14:08:23 V
Test : 2005-03-07 05:40:49 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 : 2005-03-07 05:40:49 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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8
9
10
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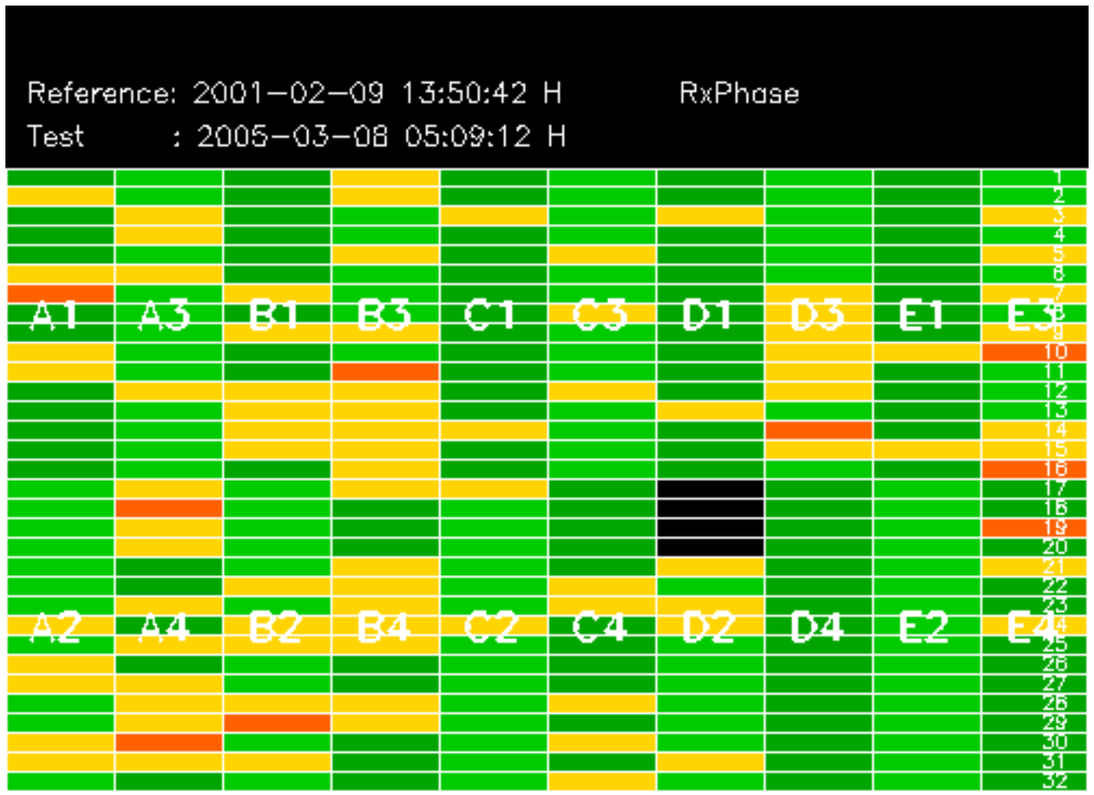
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-03-08 05:09:12 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
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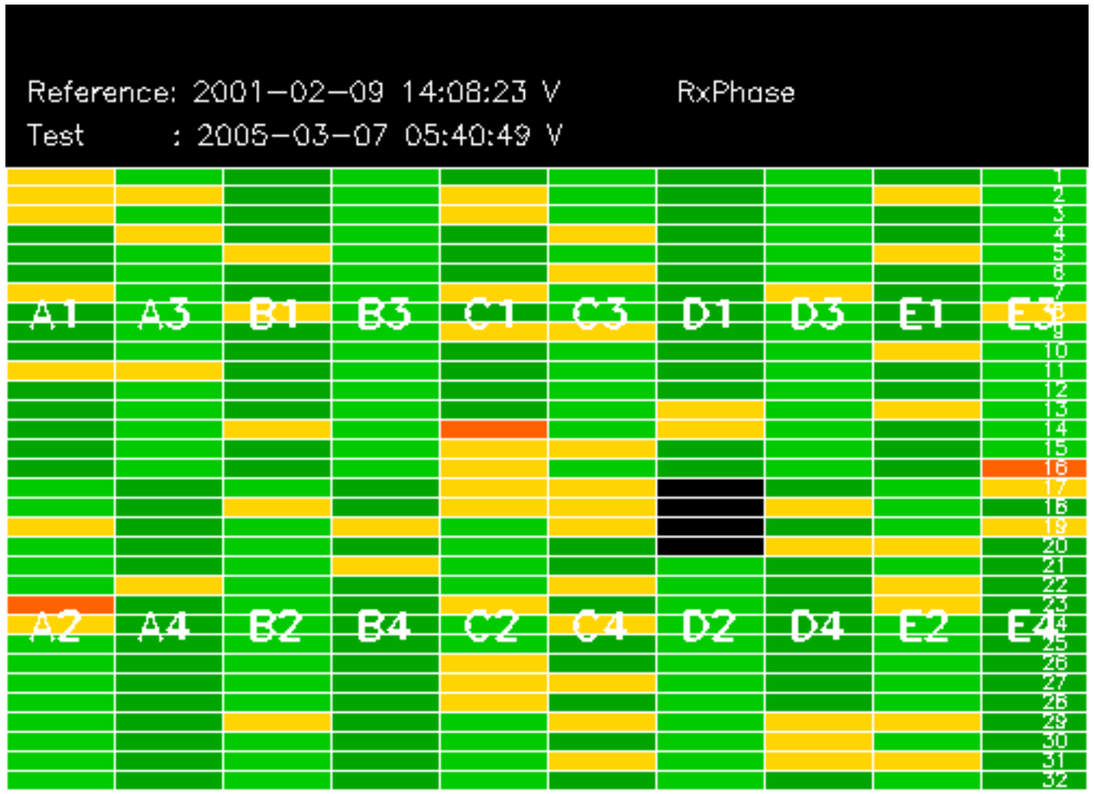
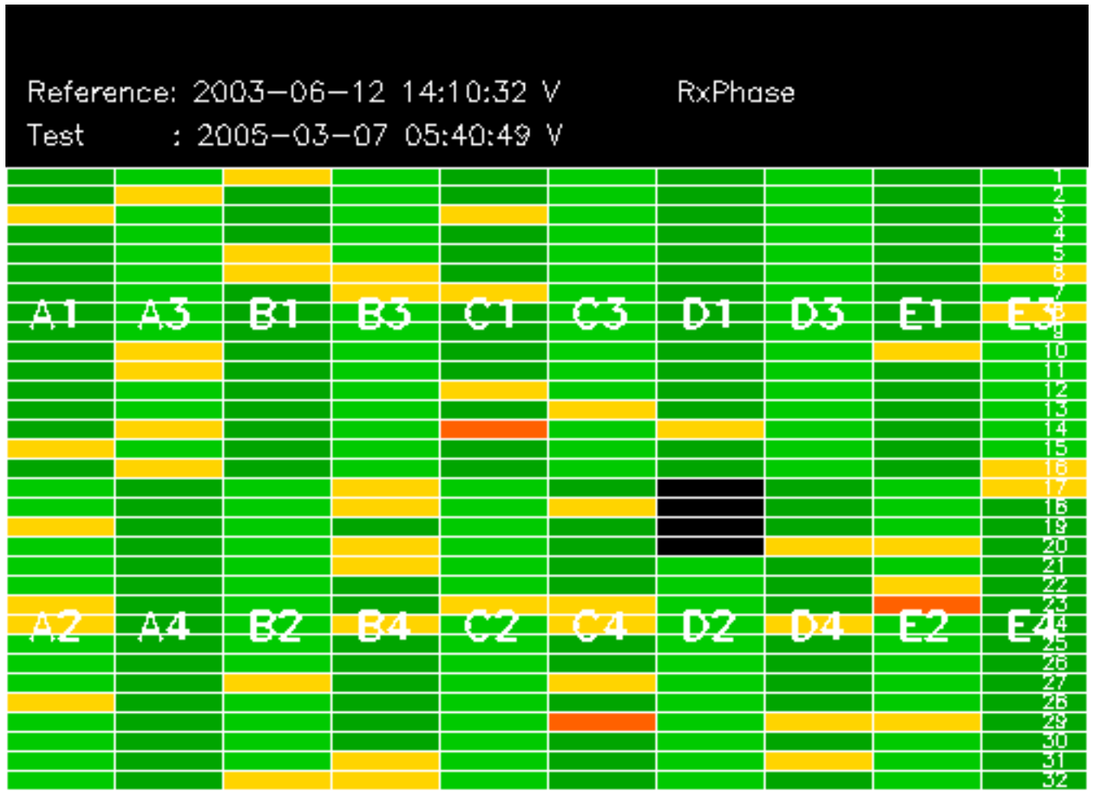
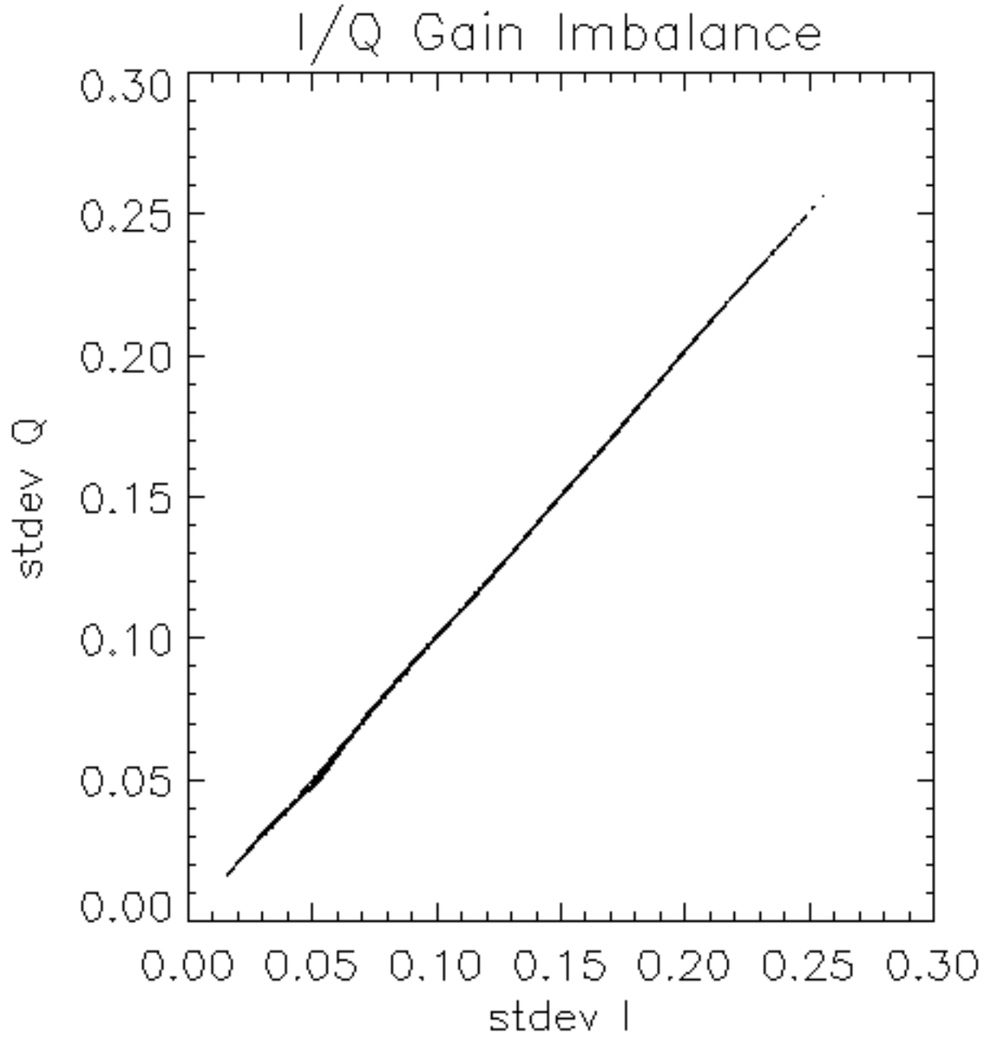
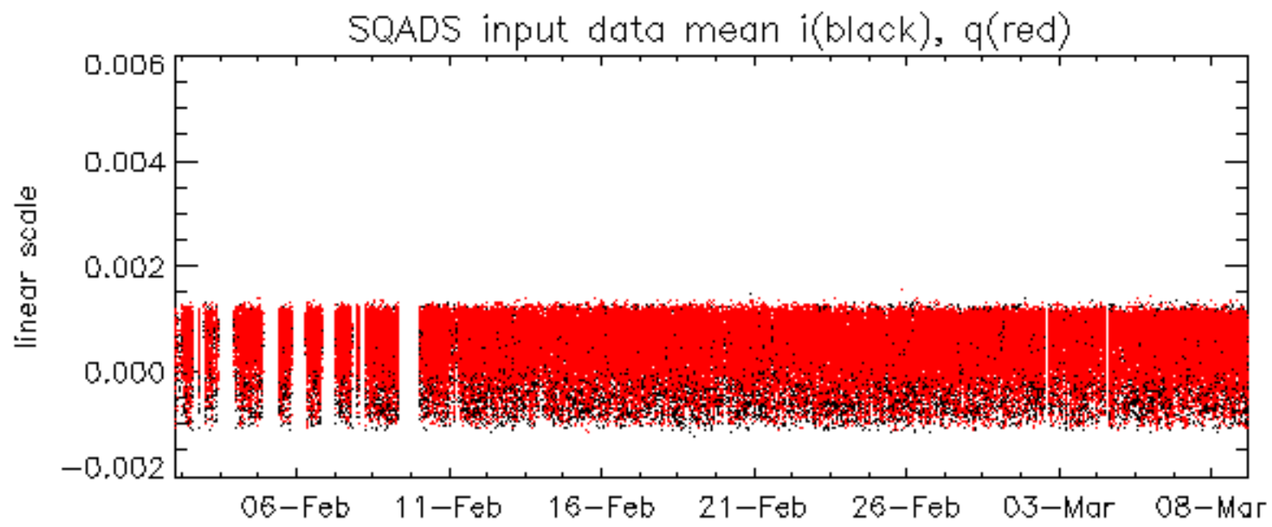
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

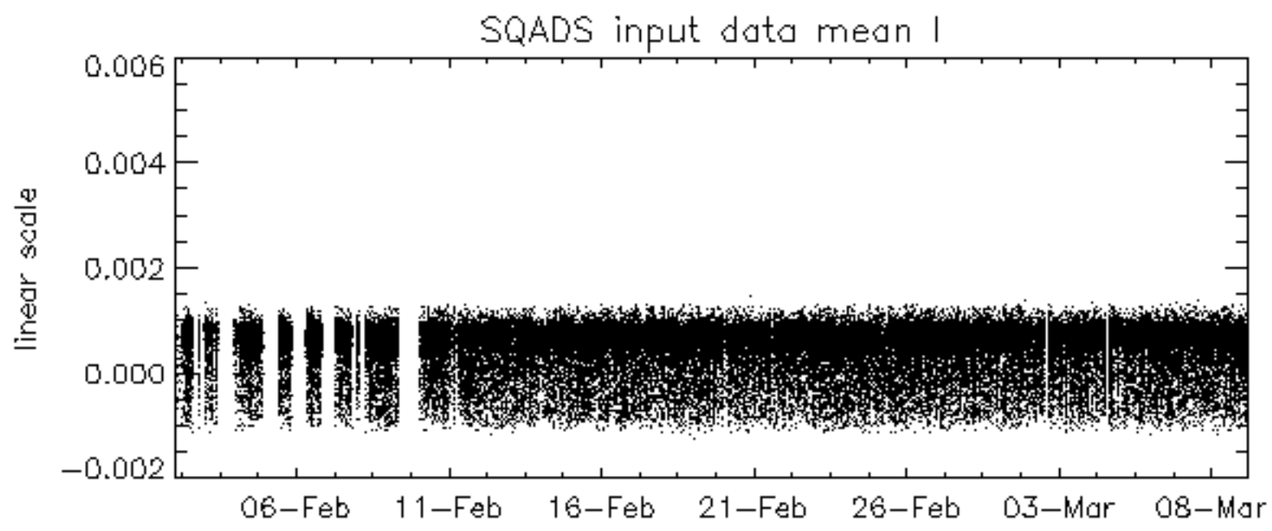

Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2005-03-08 05:09:12 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

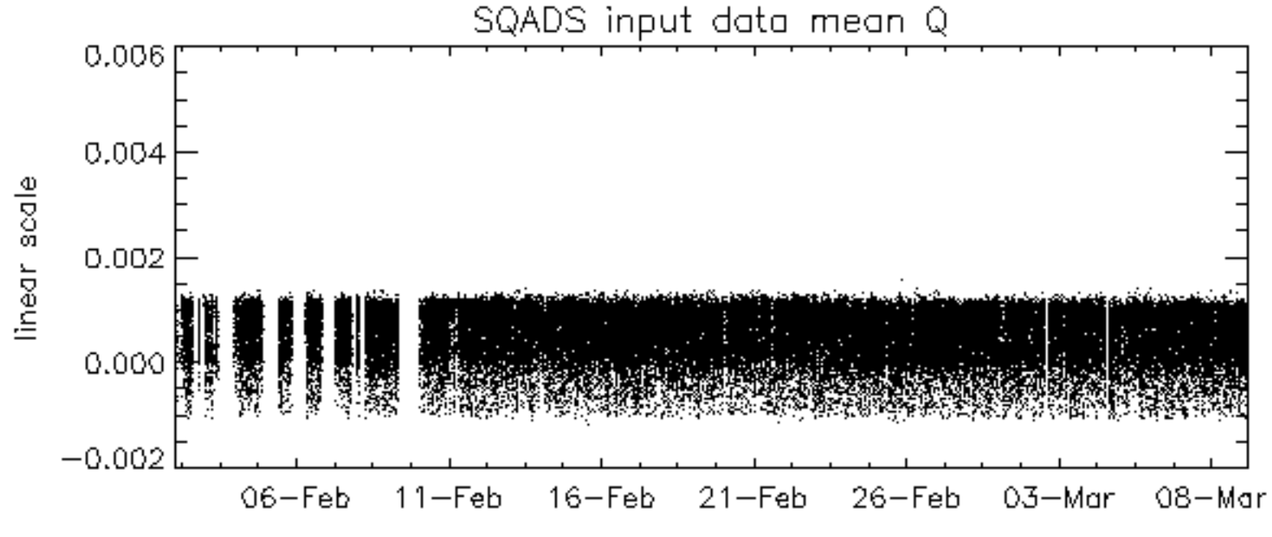

Reference: 2001-02-09 14:08:23 V
Test : 2005-03-07 05:40:49 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

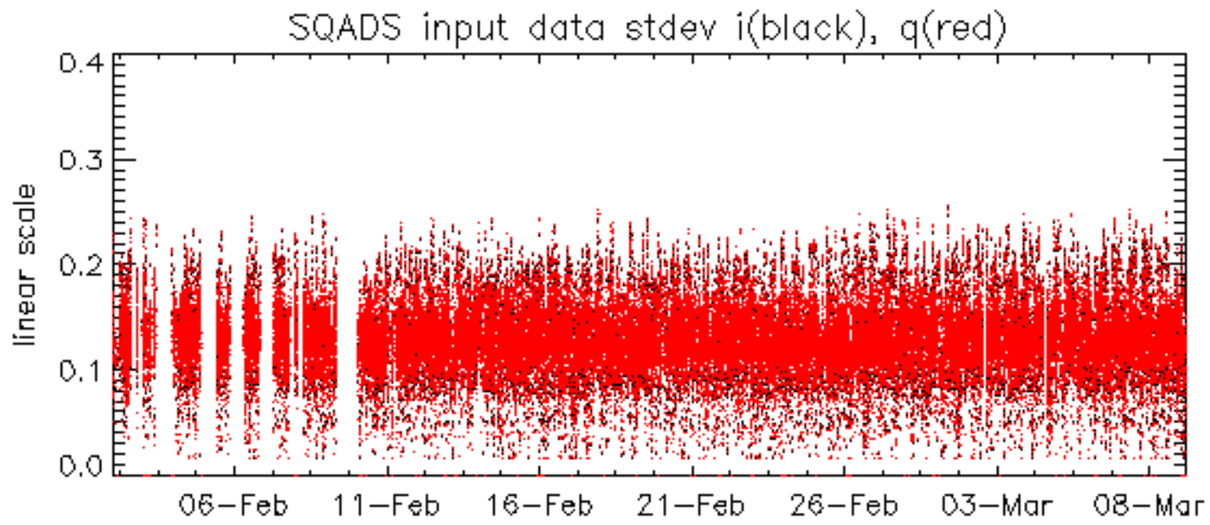

Reference: 2003-06-12 14:10:32 V
Test : 2005-03-07 05:40:49 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

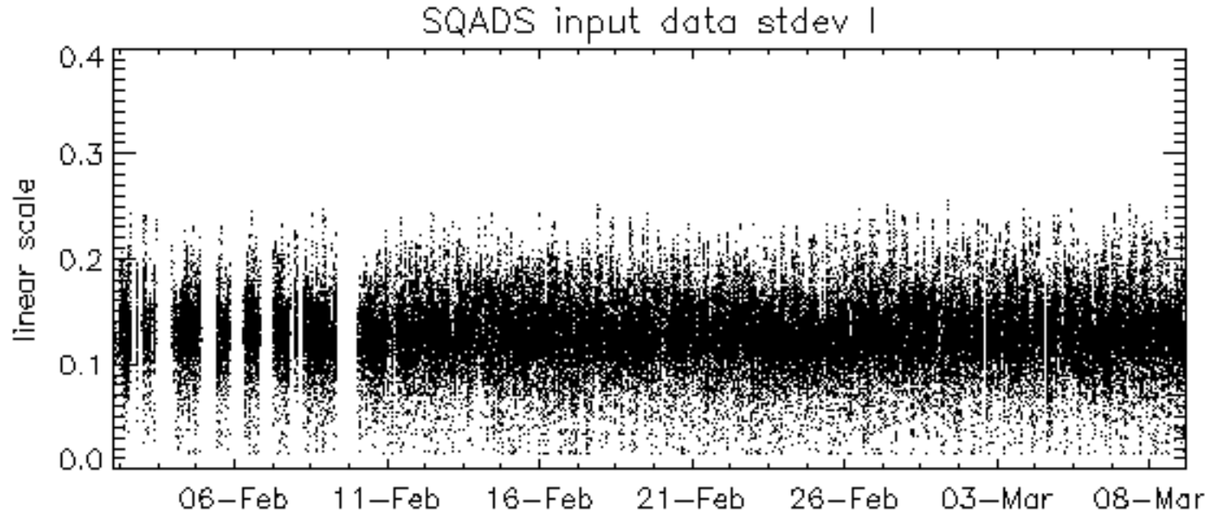

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

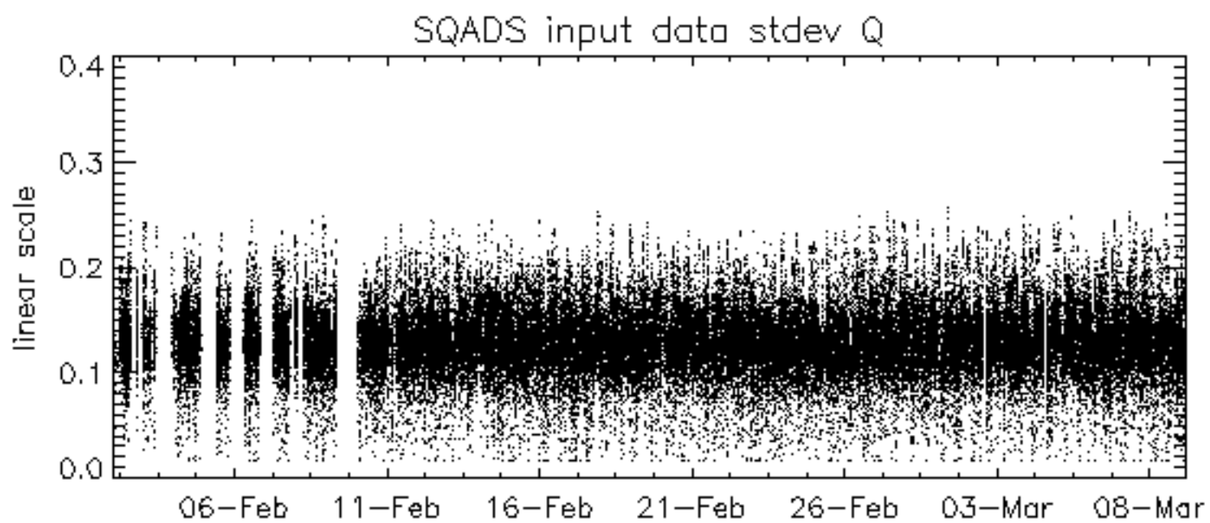

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Feb
11−Feb
16−Feb
21−Feb
26−Feb
03−Mar
08−Mar

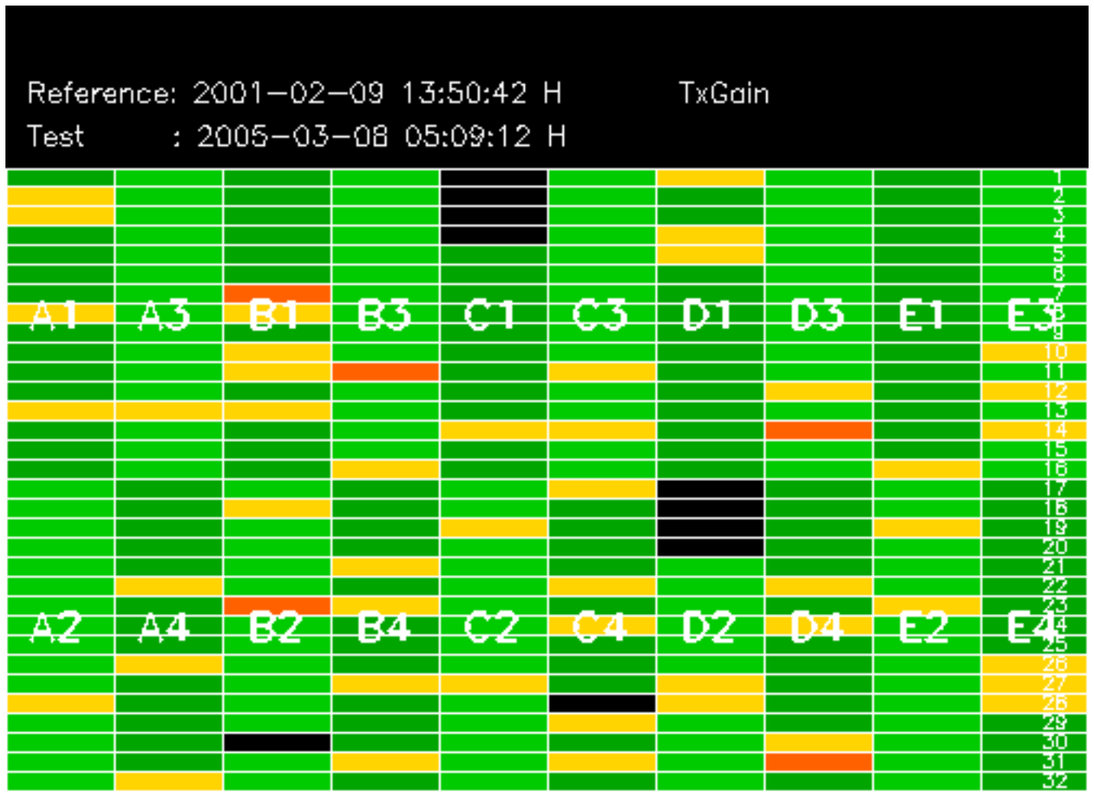

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Feb
11−Feb
16−Feb
21−Feb
26−Feb
03−Mar
08−Mar

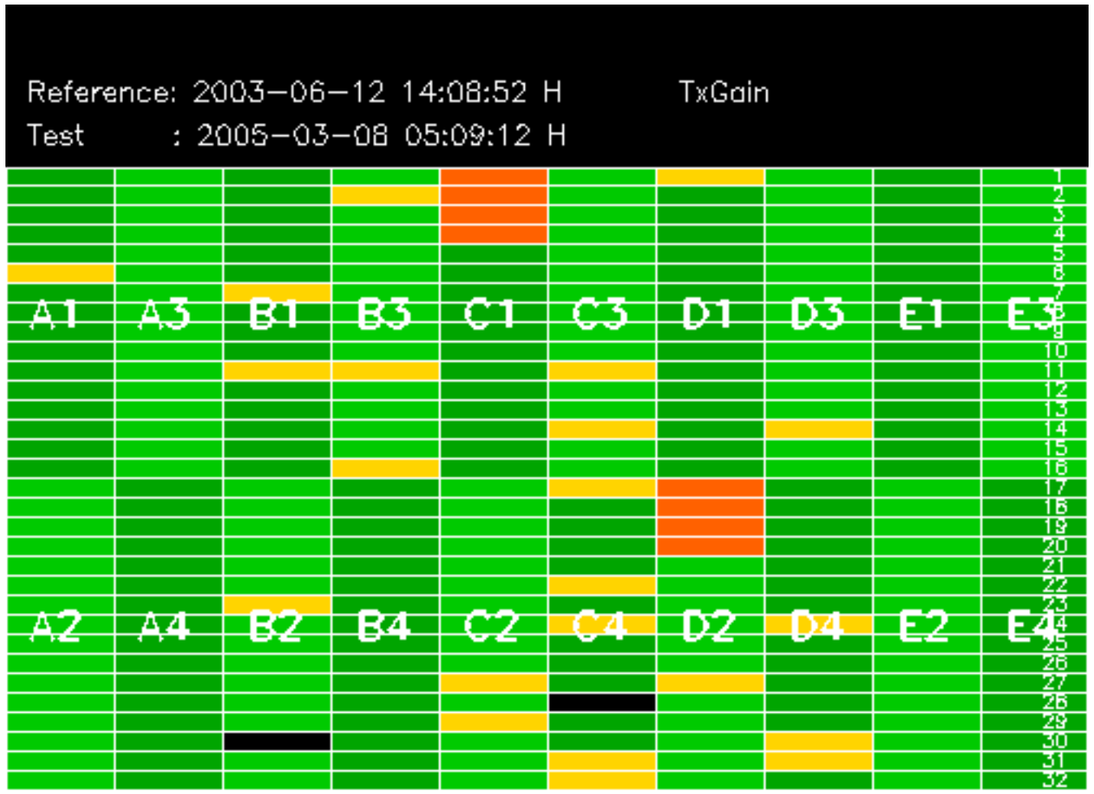

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Feb
11−Feb
16−Feb
21−Feb
26−Feb
03−Mar
08−Mar


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


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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23
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27
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29
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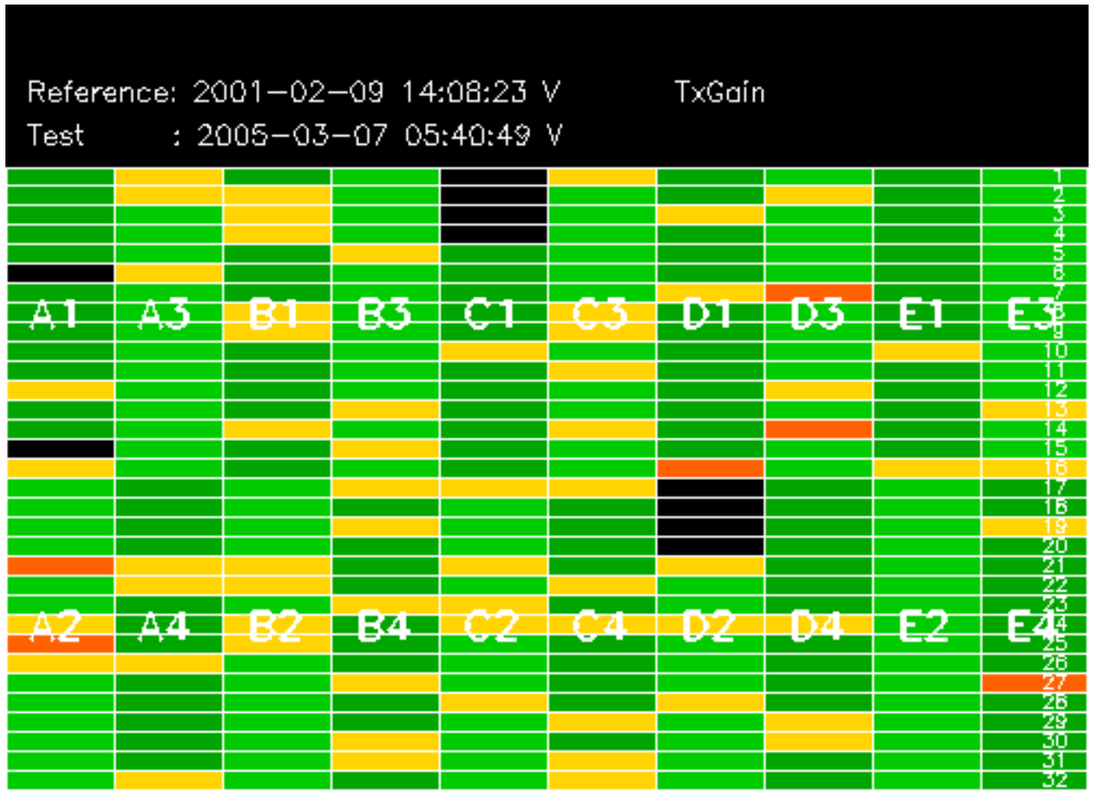
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2005-03-07 05:40:49 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
4
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27
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29
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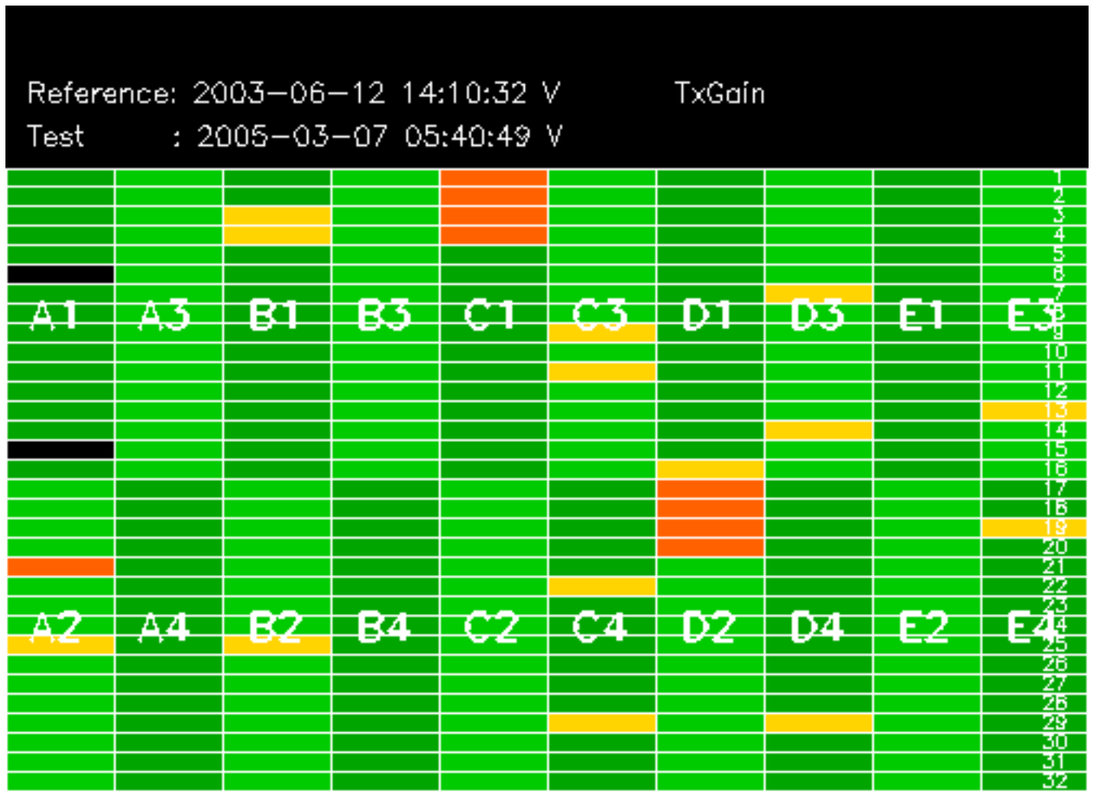
31
32


Reference: 2003-06-12 14:10:32 V
Test : 2005-03-07 05:40:49 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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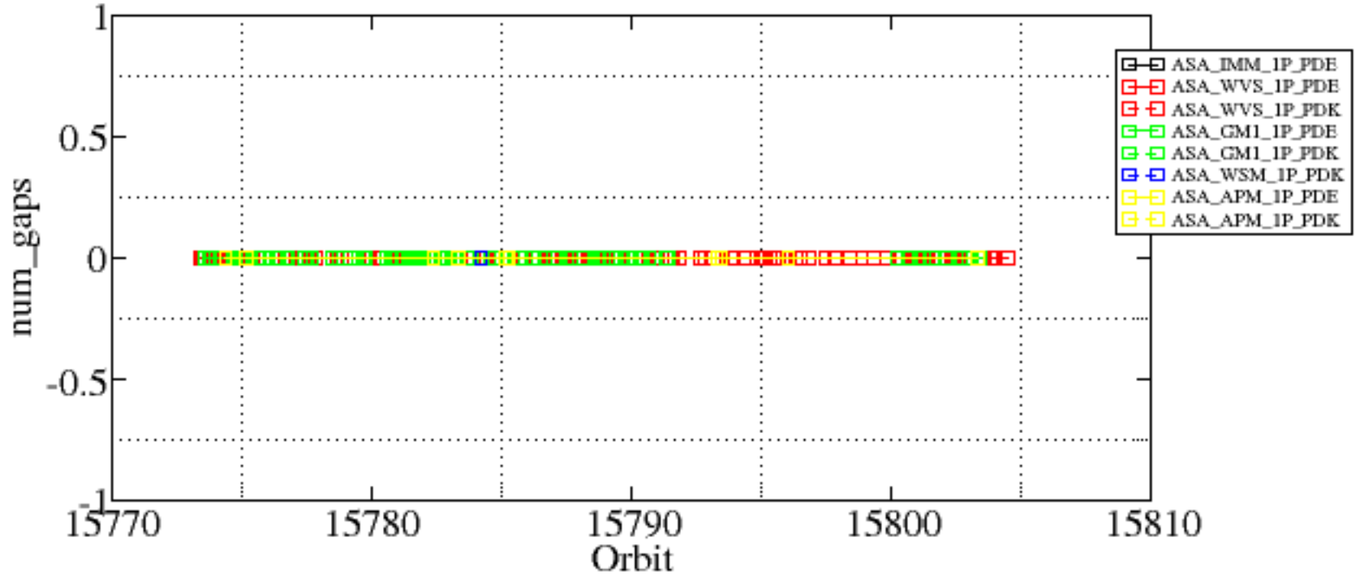
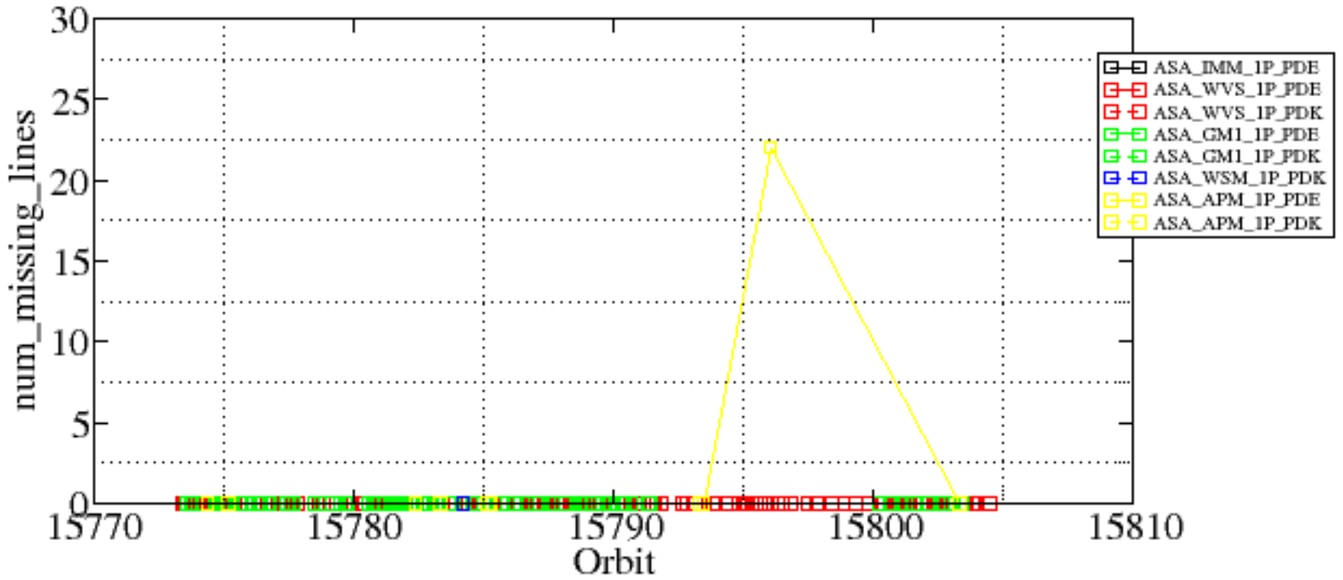
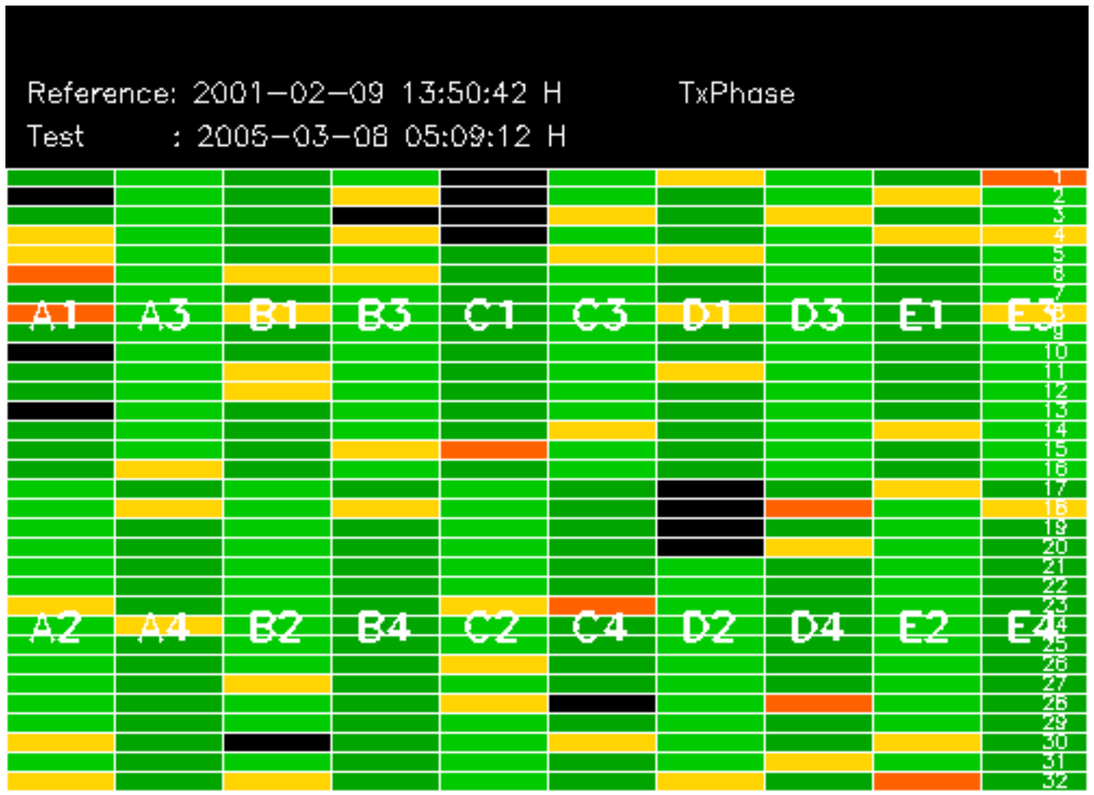
32

Summary of analysis for the last 3 days 2005030[789]
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
15770
15780
15790
15800
15810
Orbit
ASA_IMM_1P_PDE
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
15770
15780
15790
15800
15810
Orbit
ASA_IMM_1P_PDE
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
1
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14
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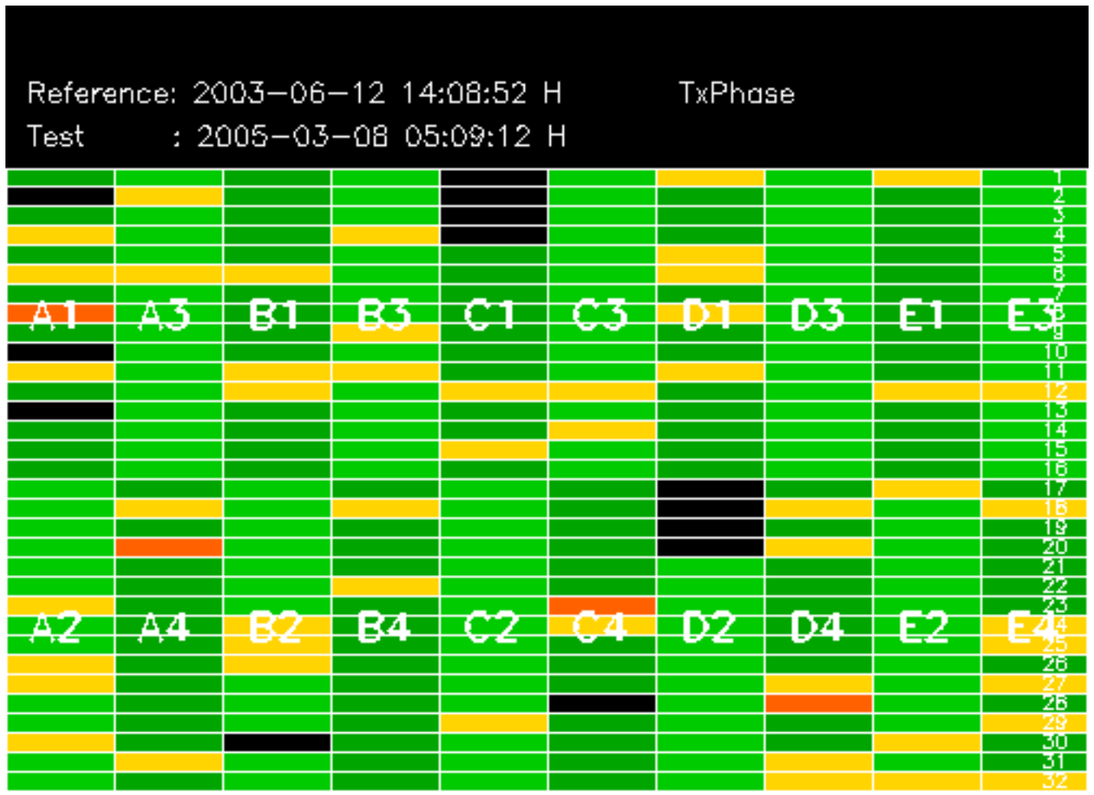
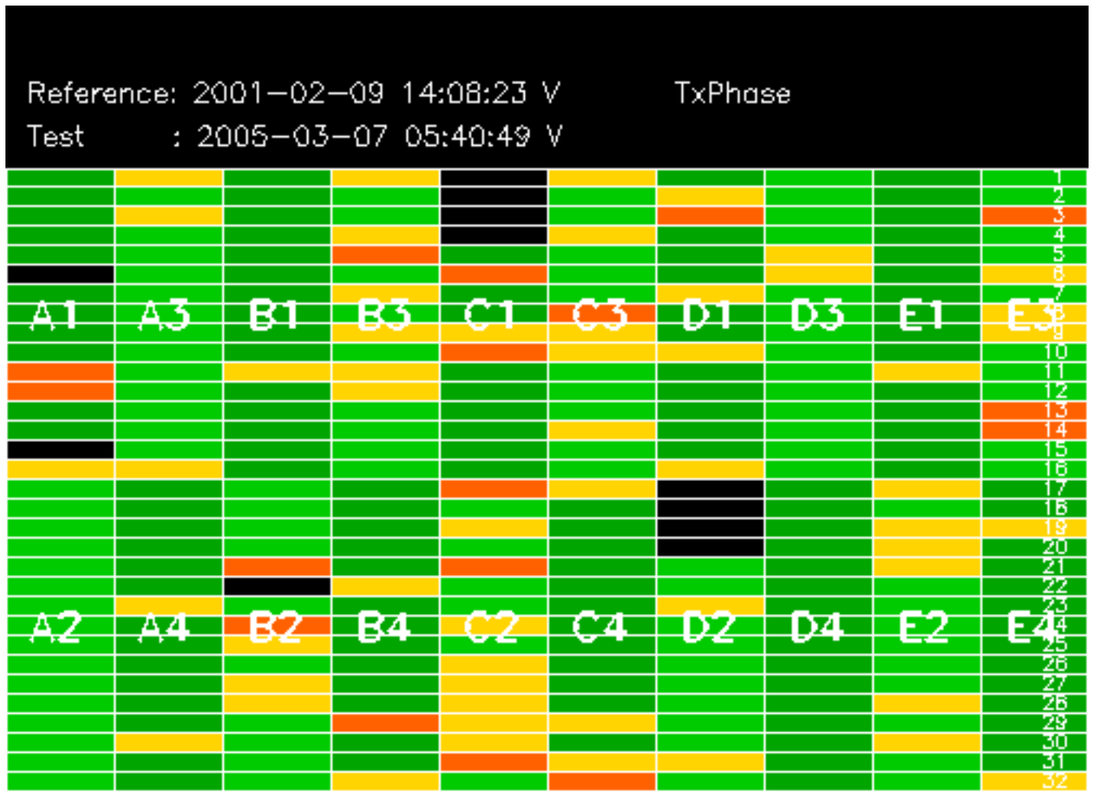
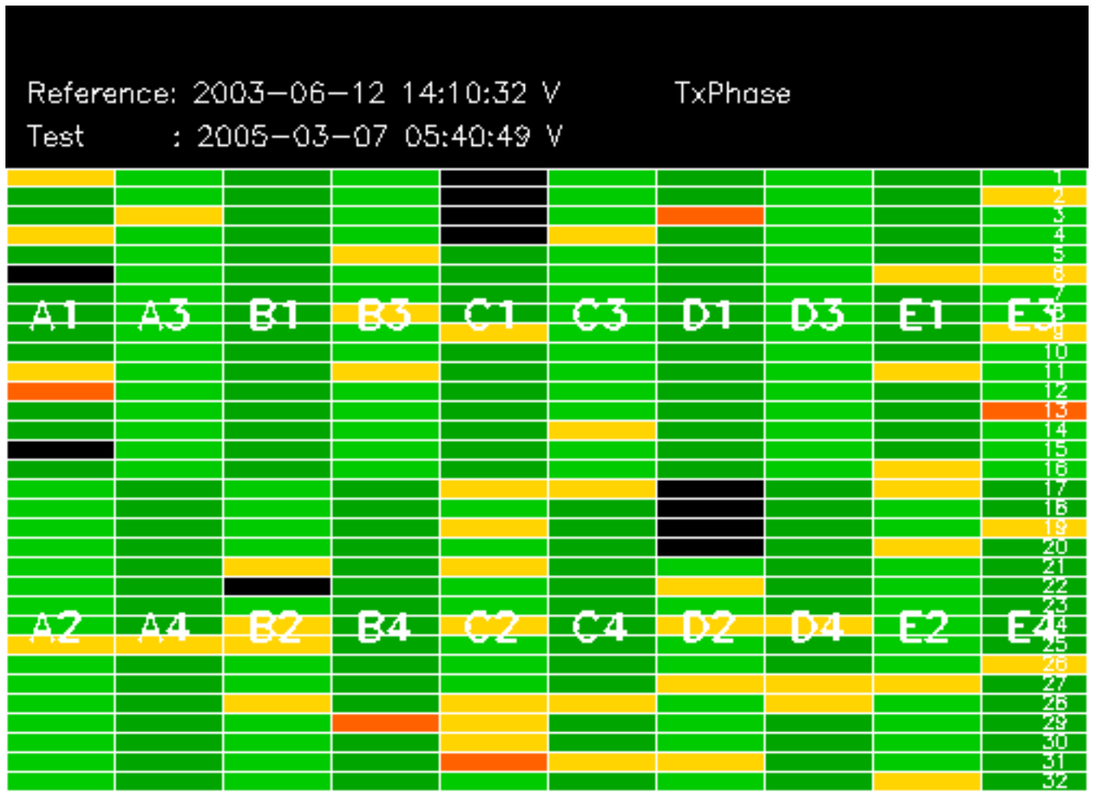
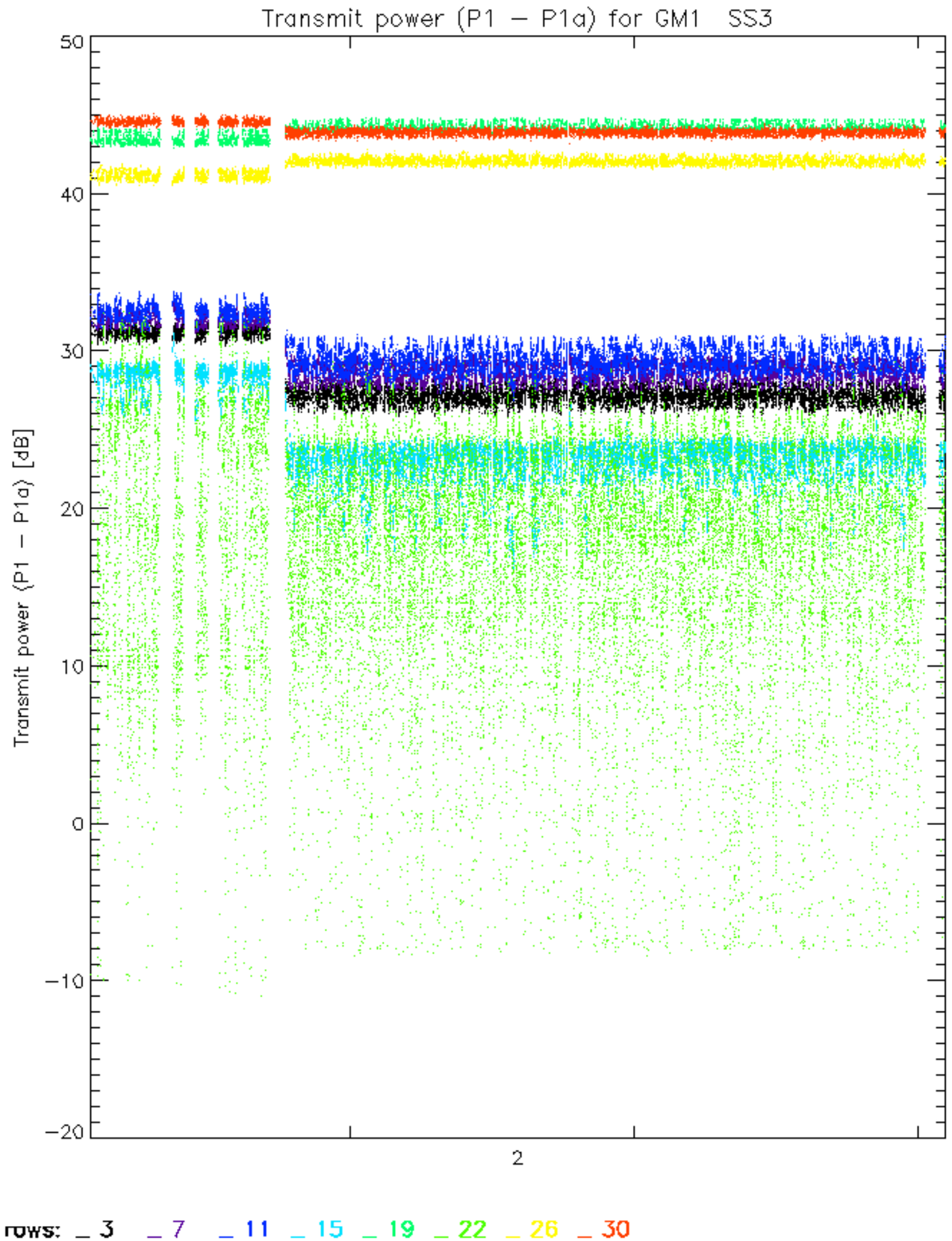
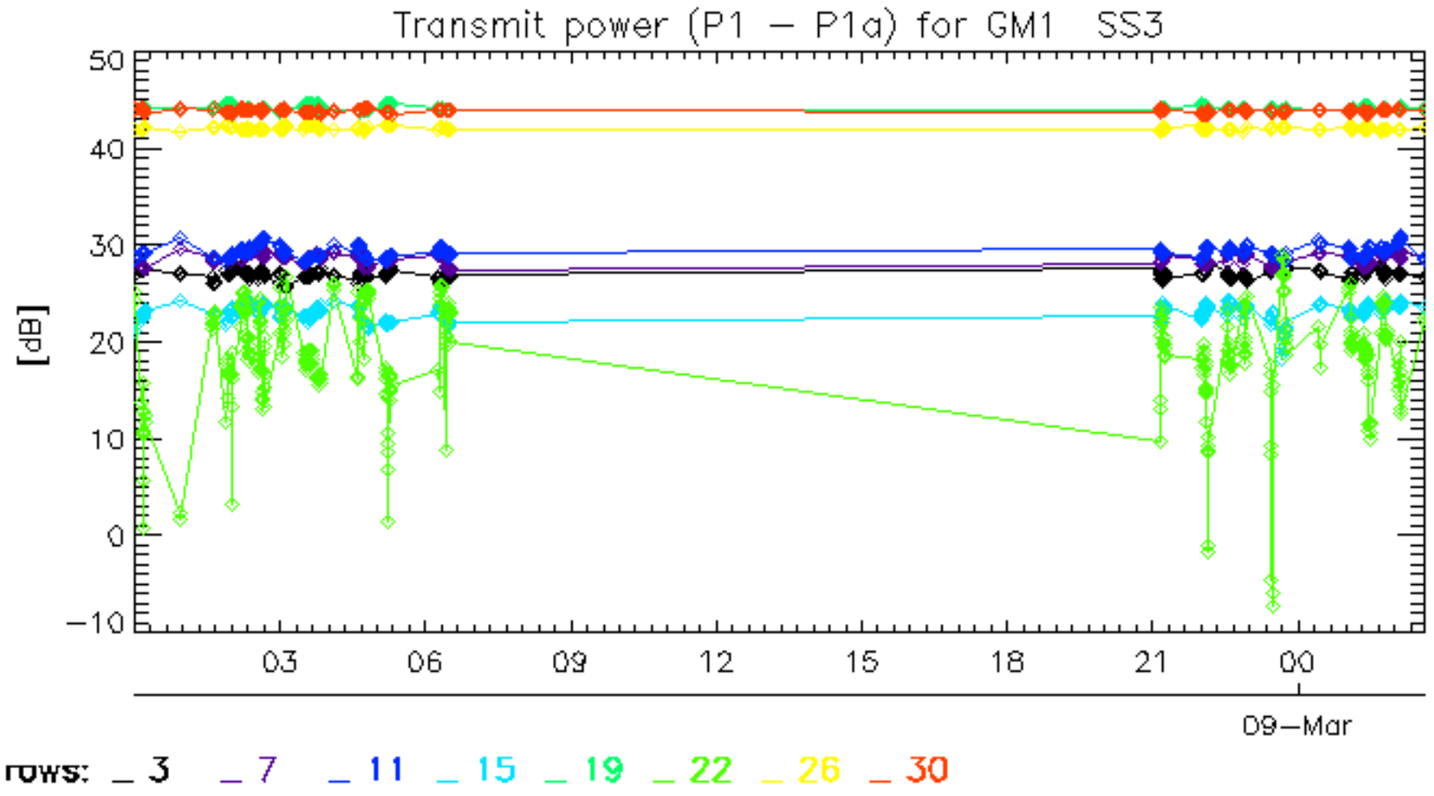
25
26
27
28
29
30
31
32

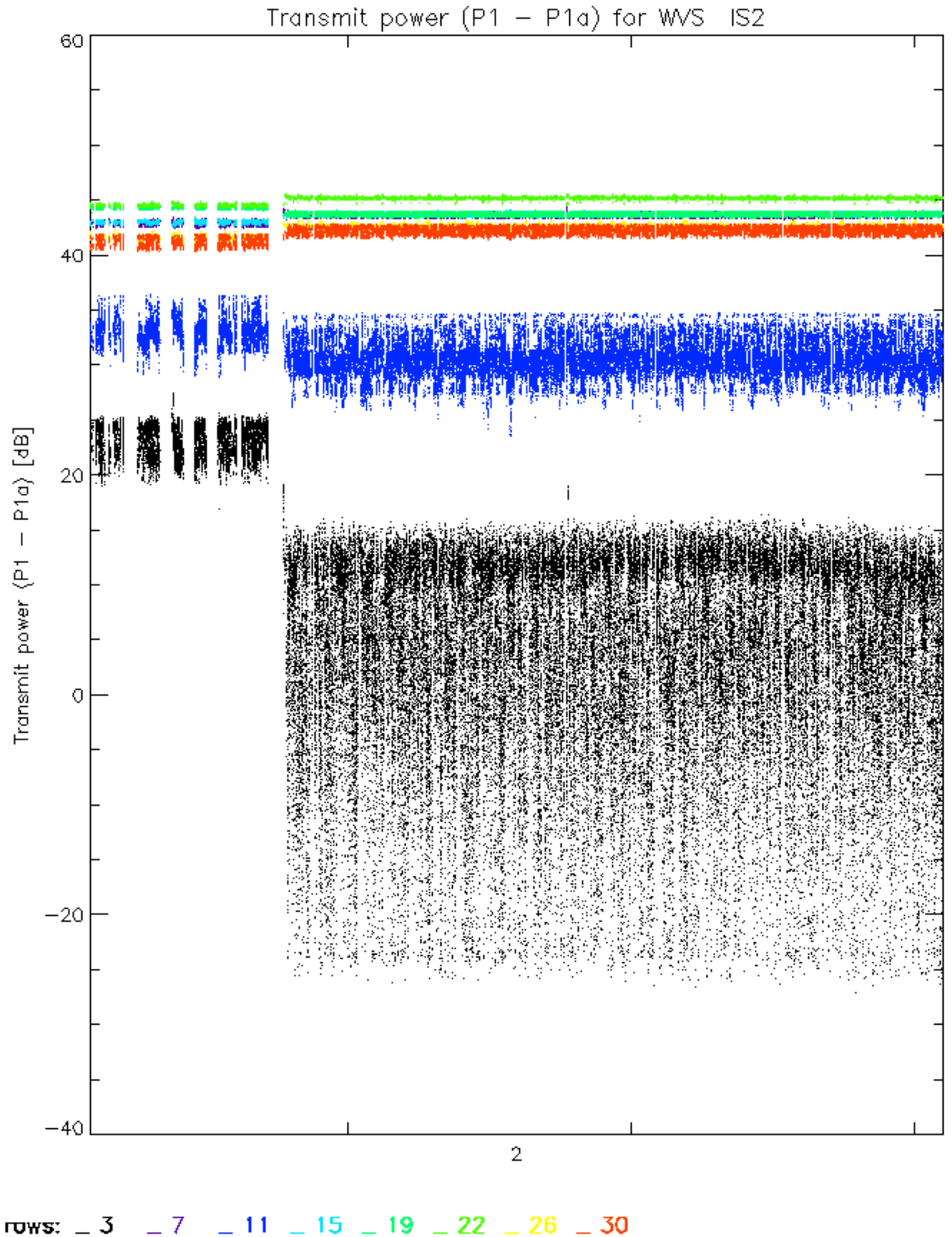

Reference: 2003-06-12 14:08:52 H
Test : 2005-03-08 05:09:12 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

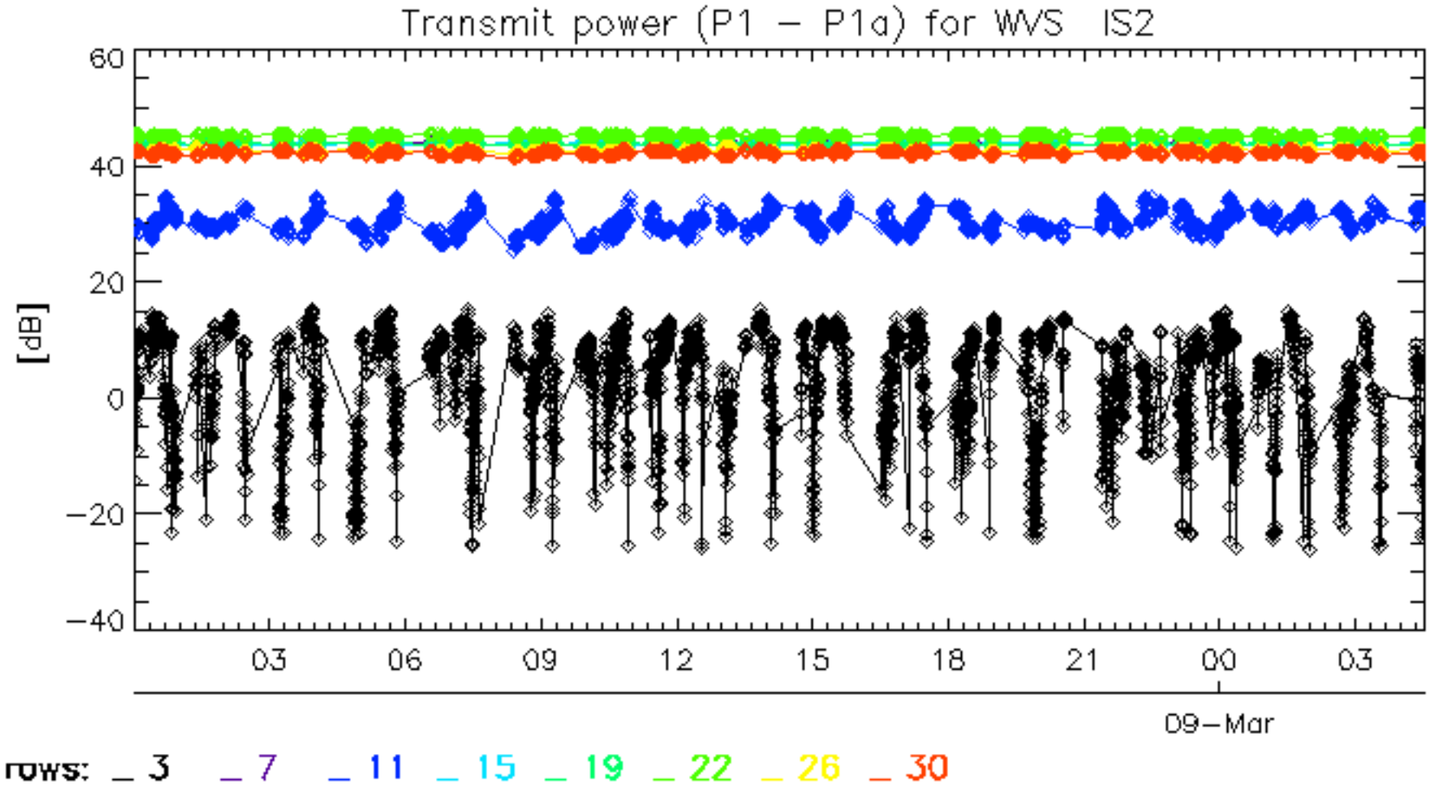

Reference: 2001-02-09 14:08:23 V
Test : 2005-03-07 05:40:49 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-03-07 05:40:49 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
−20
2
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
09–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
2
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
09–Mar
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.